Selecting and Measuring Pipe & Fittings

Pipe Basics

Have you ever tried to order fittings, pipe, nipples, or valves and had difficulty determining the size? If so, you're not alone. Even experienced maintenance people are sometimes confused by the industry's terminology and method of sizing. Before joining a pipe with a fitting or valve, you need to know the *pipe size*, *thread style*, and *thread type*—the pipe sizes must be the same and the thread types must be compatible in order for two components to fit properly.

Pipe Size and Thread Size

When we provide the size of a pipe or fitting in our catalog, we will call it a pipe size or a thread size.

Pipe size, which is the most common, is not an actual measured size, but rather an industry designation. When people refer to pipe size, they sometimes call it IPS or nominal size. You can determine pipe size by using the sizing guides at the bottom of this page. You can also use a sizing gauge or kit sold separately below.

Thread size is the actual measured diameter of the threads. The most common connections that have a thread size are UN/UNF and metric threads; for these, you can use a ruler to measure the threads.

Thread Style

There are two thread styles: tapered and straight.



Tapered threads, which are the most common type, have a slight taper toward the end of the fitting. When threads are mated and tightened together, they hold the fitting in place and seal the connection.



Straight (parallel) threads maintain the same diameter along their entire length. They're used for mechanical joining and serve one purpose—to hold a fitting in place. Straight threads require a seal to make a tight connection.

Pipe Size Measuring Gauges and Kits

Accurately determine the size of your pipe and fittings with one of these kits. For more gauges, see pages 2278-2280.

Pipe Size Measuring Gauges

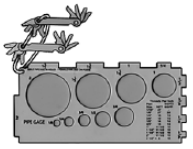

Quickly measure your pipe and fittings. This plastic gauge measures male and female threads in NPT and BSPT pipe sizes 1/8, 1/4, 3/8, 1/2, 3/4, 1, 1 1/4, 1 1/2, and 2. It includes two metal gauges for measuring NPT and BSPT thread pitch.

5887T1 ..... $8.13

Thread Pitch Measuring Kits



You'll get four gauges that measure the pitch of BSPT, BSPP, metric, NPT, and UN/UNF threads; a caliper; and an instruction manual. The gauges and caliper are metal. Furnished in a folding plastic case.

7863K1 ..... $38.58

Pipe Size Kits

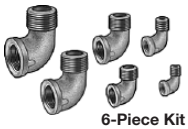

6-Piece Kit

Kits include Type 304 stainless steel 90° elbows that have male threads on one end and female threads on the other end.

No. of Pieces	For Pipe Sizes	NPT Kits		BSPT Kits	
6	1/8, 1/4, 3/8, 1/2, 3/4, 1	7843K5	$19.80	7843K7	$21.40
9	1/8, 1/4, 3/8, 1/2, 3/4, 1, 1 1/4, 1 1/2, 2	7843K6	56.89	7843K8	61.44

How to Measure Threaded Pipe and Fittings

ⓘ To measure larger pipe and fittings up to pipe size 8, go to mcmaster.com and search for **4464KAC**.

How To Measure Pipe and Fittings with Male (External) Threads

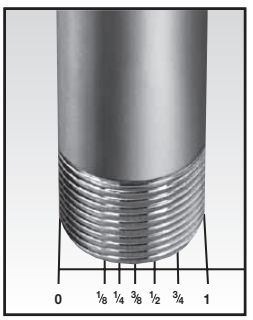

Place the outside edge of the pipe or fitting on the "0" line. The line on the opposite edge gives the pipe size.

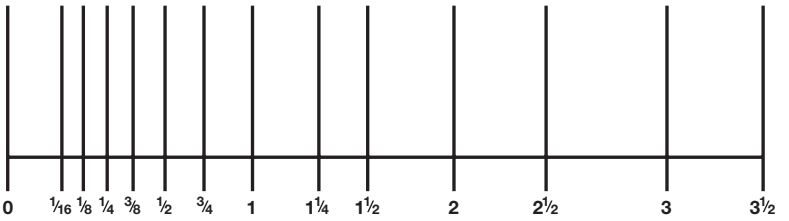

How To Measure Fittings with Female (Internal) Threads

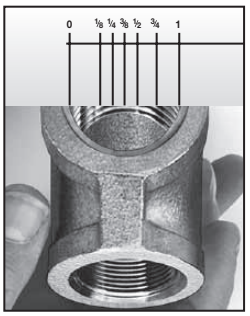

Align the top of the threads on one wall (not the wall itself) with the "0" line. The line that aligns with the top of the threads on the opposite side gives the pipe size.

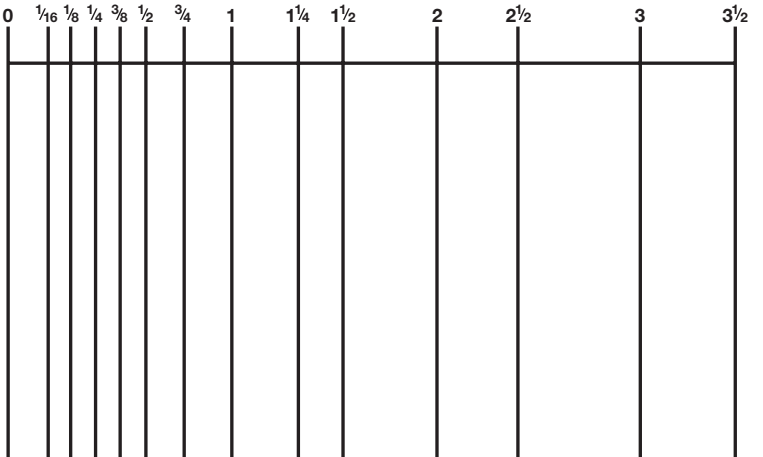

Thread Type Compatibility

In order for two components to fit properly, thread types must be compatible. See the list below for thread types that can be used together.

Thread Type	Compatibility
Tapered Threads	
NPT—National Pipe Taper (Also known as MPT and FPT threads)	Male threads work with female NPT, NPTF, NPSM, NPSH, NPSL, and NPSC. Female threads work with male NPT and NPTF.
NPTF—National Pipe Tapered Fuel (Also known as Dryseal)	Male threads work with female NPTF, NPT, NPSM, and NPSH. Female threads work with male NPTF and NPT.
BSPT—British Standard Pipe Taper (Also known as R threads and 55° Whitworth)	Male threads work with female BSPT and BSPP. Female threads work with male BSPT.
Straight (Parallel) Threads	
BSPP—British Standard Pipe Parallel (Also known as G threads and 55° Whitworth)	Male threads work with female BSPP. Female threads work with male BSPP and BSPT.
NPSM—National Pipe Straight Mechanical	Male threads work with female NPSM and NPSH. Female threads work with male NPSM, NPT, and NPTF.
NPSH—National Pipe Straight Hose	Male threads work with female NPSH. Female threads work with male NPSH, NPT, NPTF, and NPSM.
NPSL—National Pipe Straight Locknut	Threads are female and work with male NPT.
NPSC—National Pipe Straight Coupling	Threads are female and work with male NPT.
NH/NST—National Hose/National Standard Thread	Work with other NH/NST threads.
GHT—Garden Hose Thread	Work with other GHT threads.
UN/UNF—Unified	Work with other UN/UNF threads.
Metric Thread DIN 3852	Work with other DIN 3852 threads.
Metric Thread DIN 3901/3902	Work with other DIN 3901/3902 threads.

NPT (National Pipe Taper) and BSP (British Standard Pipe) Threads

NPT threads are common in the United States, while BSP threads are widely used in many other countries. NPT threads are tapered, while BSP threads come in both tapered (BSPT) and straight/parallel (BSPP) styles.

NPT and BSP threads are not compatible; however, when placed side-by-side, you may not be able to tell them apart. There are two ways to determine if you have NPT threads or BSPT threads.

The first way is by examining the shape and angle of the threads. NPT threads are set at a 60° angle and have flattened peaks and valleys; BSP threads are set at a 55° angle and have rounded peaks and valleys.

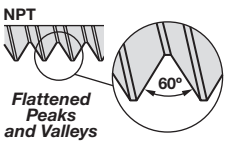

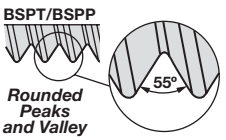

The second way is to find the pitch, which is also known as threads per inch. Either count the number of threads that fall into a 1″ span or use a thread gauge (sold on page 2) for a precise measurement.

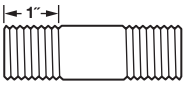

8 Threads per Inch

Pipe Size	Pitch (Threads/Inch) NPT	BSP
1/16	27	___
1/8	27	28
1/4	18	19
3/8	18	19
1/2	14	14
5/8	___	14
3/4	14	14
1	11 1/2	11
1 1/4	11 1/2	11
1 1/2	11 1/2	11
2	11 1/2	11
2 1/2	8	11
3	8	11
3 1/2	8	11
4	8	11
5	8	11
6	8	11
8	8	___

Unthreaded Pipe Dimensions and Schedule

Metal pipe, plastic pipe, and plastic pipe fittings are generally rated by schedule, which refers to the wall thickness. As the Schedule increases, the walls get thicker towards the center for any given pipe size.

Metal pipe fittings are not usually rated by schedule; they are instead rated by the amount of pressure (psi) they can withstand.

Pipe Size	Actual Unthreaded Pipe OD	Thin Wall (Schedule 10) — Our lightest weight pipe.		Standard Wall (Schedule 40) — Most popular choice for all around use.		Thick Wall (Schedule 80) — Designed for high-pressure applications.		Extra-Thick Wall (Schedule 160) — Hefty construction for extreme pressures.		Super-Thick Wall (Schedule XXH) — Use for your most demanding applications.	
		Pipe ID	Wall Thick.	Pipe ID	Wall Thick.	Pipe ID	Wall Thick.	Pipe ID	Wall Thick.	Pipe ID	Wall Thick.
1/8	0.405″	0.307″	0.049″	0.269″	0.068″	0.215″	0.095″	_____	_____	_____	_____
1/4	0.540″	0.410″	0.065″	0.364″	0.088″	0.302″	0.119″	_____	_____	_____	_____
3/8	0.675″	0.545″	0.065″	0.493″	0.091″	0.423″	0.126″	_____	_____	_____	_____
1/2	0.840″	0.674″	0.083″	0.622″	0.109″	0.546″	0.147″	0.464″	0.188″	0.252″	0.294″
3/4	1.050″	0.884″	0.083″	0.824″	0.113″	0.742″	0.154″	0.612″	0.219″	0.434″	0.308″
1	1.315″	1.097″	0.109″	1.049″	0.133″	0.957″	0.179″	0.815″	0.250″	0.599	0.358″
1 1/4	1.660″	1.442″	0.109″	1.380″	0.140″	1.278″	0.191″	1.160″	0.250″	_____	_____
1 1/2	1.900″	1.682″	0.109″	1.610″	0.145″	1.500″	0.200″	1.338″	0.281″	1.100″	0.400″
2	2.375″	2.157″	0.109″	2.067″	0.154″	1.939″	0.218″	1.687″	0.344″	1.503″	0.436″
2 1/2	2.875″	2.635″	0.120″	2.469″	0.203″	2.323″	0.276″	2.125″	0.375″	_____	_____
3	3.500″	3.260″	0.120″	3.068″	0.216″	2.900″	0.300″	2.624″	0.438″	_____	_____
4	4.500″	4.260″	0.120″	4.026″	0.237″	3.826″	0.337″	3.438″	0.531″	_____	_____
5	5.563″	5.295″	0.134″	5.047″	0.258″	4.813″	0.375″	4.313″	0.625″	_____	_____
6	6.625″	6.357″	0.134″	6.065″	0.280″	5.761″	0.432″	5.187″	0.719″	_____	_____
8	8.625″	8.329″	0.148″	7.981″	0.322″	7.625″	0.500″	6.813″	0.906″	_____	_____

ⓘ For a measuring guide for unthreaded pipe and fittings up to pipe size 8, go to mcmaster.com and search for **4347KAC**.

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Stainless Steel Threaded Pipe Fittings CAD

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 150 psi @ 72° F; 150 psi @ 366° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall stainless steel (see pages 6-8)
- Flanges: Use threaded low-pressure stainless steel (see page 8)

Don't confuse these with poor-quality fittings that don't make the grade—these are the highest quality Class 150 low-pressure stainless steel fittings available. Their high quality is proven by the standards they meet: ANSI/MSS SP-114 (for heat treating, material thickness, and marking) and ASTM A351, except hex-socket plugs.

Type 304 stainless steel offers very good corrosion resistance for an economical alternative to Type 316. ***Type 316 stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304.

Connections: NPT, except locknuts are NPSL (National Pipe Straight Locknut) and hex-socket plugs are NPTF (Dryseal); both NPSL and NPTF threads are compatible with NPT threads.

Elbows, Tees, Crosses, and Unions

The ***90° female×male elbows*** are also known as street elbows.








Pipe Size	90° Elbows		90° Elbows, Female×Male		45° Elbows		Tees		Crosses		Unions	
Type 304 Stainless Steel												
1/8	4464K11	$4.90	4464K35	$6.94	4464K23	$6.48	4464K47	$6.91	4464K311	$11.98	4464K483	$13.57
1/4	4464K12	4.90	4464K36	6.94	4464K24	6.48	4464K48	6.91	4464K312	11.98	4464K484	14.12
3/8	4464K13	6.00	4464K37	8.34	4464K25	7.63	4464K49	8.83	4464K313	14.26	4464K485	14.87
1/2	4464K14	6.45	4464K38	10.62	4464K26	8.33	4464K51	9.15	4464K314	17.68	4464K486	14.93
3/4	4464K15	9.21	4464K39	14.73	4464K27	12.23	4464K52	14.66	4464K315	30.22	4464K487	18.98
1	4464K16	13.07	4464K41	22.78	4464K28	15.01	4464K53	18.69	4464K316	40.67	4464K488	28.58
1 1/4	4464K17	24.32	4464K42	34.29	4464K29	23.98	4464K54	37.14	4464K317	52.95	4464K489	49.59
1 1/2	4464K18	30.58	4464K43	40.53	4464K31	28.54	4464K55	46.20	4464K318	65.57	4464K491	56.08
2	4464K19	38.70	4464K44	54.98	4464K32	40.12	4464K56	59.29	4464K319	71.36	4464K492	62.67
2 1/2	4464K121	70.86	4464K127	93.22	4464K124	83.79	4464K141	96.64	4464K144	153.78	4464K493	145.95
3	4464K122	90.27	4464K128	123.66	4464K125	115.47	4464K142	139.35	4464K145	166.13	4464K494	183.24
4	4464K123	150.99	4464K129	180.60	4464K126	154.13	4464K143	188.73	4464K146	239.90	4464K495	253.93
Type 316 Stainless Steel												
1/8	4452K411	5.99	4452K471	8.15	4452K421	7.70	4452K431	7.98	4452K481	14.45	4452K222	15.39
1/4	4452K412	6.13	4452K472	8.14	4452K422	7.70	4452K432	7.98	4452K482	14.45	4452K223	15.39
3/8	4452K413	7.38	4452K473	10.18	4452K423	9.34	4452K433	10.56	4452K483	16.94	4452K224	15.64
1/2	4452K414	8.16	4452K474	12.03	4452K424	10.21	4452K434	11.15	4452K484	21.04	4452K225	17.01
3/4	4452K415	11.88	4452K475	15.79	4452K425	13.43	4452K435	16.43	4452K485	36.74	4452K226	21.55
1	4452K416	14.85	4452K476	25.23	4452K426	16.85	4452K436	20.65	4452K486	44.38	4452K227	32.57
1 1/4	4452K417	25.40	4452K477	37.68	4452K427	26.54	4452K437	41.12	4452K487	64.26	4452K228	56.24
1 1/2	4452K418	33.89	4452K478	42.00	4452K428	31.56	4452K438	49.86	4452K488	80.19	4452K229	64.17
2	4452K419	42.84	4452K479	59.89	4452K429	44.10	4452K439	64.26	4452K489	110.41	4452K231	66.61
2 1/2	4452K611	101.55	4452K617	123.55	4452K614	115.53	4452K621	125.51	4452K624	182.41	4452K232	156.58
3	4452K612	129.27	4452K618	160.16	4452K615	139.36	4452K622	167.19	4452K625	198.66	4452K233	217.72
4	4452K613	168.20	4452K619	201.75	4452K616	183.66	4452K623	204.31	4452K626	286.13	4452K234	324.51

Couplings, Caps, Plugs, and Locknuts

Half couplings are partially threaded; one end has an unthreaded portion that can be welded. ***Plugs*** are hollow, except 1/8-3/8 pipe sizes, which are solid.








Pipe Size	Couplings		Half Couplings		Caps		Square-Head Plugs		Hex-Head Plugs		Locknuts	
Type 304 Stainless Steel												
1/8	4464K351	$2.86	4464K364	$2.09	4464K496	$1.99	4464K231	$1.84	4464K251	$2.00	4464K581	$4.82
1/4	4464K352	3.40	4464K471	2.28	4464K497	2.92	4464K232	2.16	4464K252	2.00	4464K582	4.82
3/8	4464K353	3.93	4464K472	2.43	4464K498	3.41	4464K233	2.87	4464K253	2.49	4464K583	4.82
1/2	4464K354	5.63	4464K473	3.40	4464K499	3.54	4464K234	4.12	4464K254	3.92	4464K584	4.82
3/4	4464K355	7.78	4464K474	4.56	4464K511	4.40	4464K235	4.99	4464K255	4.91	4464K585	5.85
1	4464K356	11.33	4464K475	5.87	4464K512	6.65	4464K236	6.32	4464K256	8.49	4464K586	6.67
1 1/4	4464K357	16.76	4464K476	9.18	4464K513	12.02	4464K237	12.60	4464K257	13.64	4464K587	13.77
1 1/2	4464K358	19.88	4464K477	11.33	4464K514	15.80	4464K238	15.02	4464K258	14.93	4464K588	13.77
2	4464K359	28.03	4464K478	14.44	4464K515	20.14	4464K239	17.76	4464K259	20.63	4464K589	15.17
2 1/2	4464K361	61.57	4464K479	35.03	4464K516	36.36	4464K241	33.86	4464K244	36.98	4464K591	19.13
3	4464K362	74.28	4464K481	48.13	4464K517	50.25	4464K242	42.56	4464K245	50.71	4464K592	24.32
4	4464K363	115.43	4464K482	73.46	4464K518	79.36	4464K243	92.39	4464K246	106.12	4464K593	34.85
Type 316 Stainless Steel												
1/8	4452K111	3.36	4452K138	2.38	4452K235	2.46	4452K121	1.95	4452K141	2.50	4452K671	5.24
1/4	4452K112	3.79	4452K139	2.48	4452K236	3.28	4452K122	2.49	4452K142	2.50	4452K672	5.24
3/8	4452K113	4.46	4452K211	2.82	4452K237	3.87	4452K123	3.29	4452K143	2.83	4452K673	5.24
1/2	4452K114	6.50	4452K212	4.08	4452K238	4.54	4452K124	4.62	4452K144	4.70	4452K674	5.24
3/4	4452K115	8.99	4452K213	5.19	4452K239	5.16	4452K125	5.65	4452K145	5.94	4452K675	6.62

(Continued on following page)

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8″):	0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″	1 5/8″	1 3/4″	2 3/8″	2 3/4″	3 3/8″

i To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Stainless Steel Threaded Pipe Fittings *(Continued from previous page)*

Couplings, Caps, Plugs, and Locknuts (Cont.)

Pipe Size	Couplings	Half Couplings	Caps	Square-Head Plugs	Hex-Head Plugs	Locknuts
Type 316 Stainless Steel (Cont.)						
1	4452K116 $11.98	4452K214 $6.78	4452K241 $7.94	4452K126 $7.08	4452K146 $9.48	4452K676 $7.38
1 1/4	4452K117 19.05	4452K215 10.28	4452K242 15.56	4452K127 16.72	4452K147 16.35	4452K677 15.00
1 1/2	4452K118 22.62	4452K216 13.68	4452K243 19.96	4452K128 18.51	4452K148 19.34	4452K678 15.00
2	4452K119 31.87	4452K217 17.89	4452K244 25.63	4452K129 25.51	4452K149 27.96	4452K679 16.47
2 1/2	4452K135 69.85	4452K218 42.72	4452K245 45.30	4452K131 41.10	4452K151 44.93	4452K681 21.13
3	4452K136 90.23	4452K219 58.20	4452K246 59.36	4452K132 49.96	4452K152 57.66	4452K682 25.95
4	4452K137 119.41	4452K221 89.68	4452K247 96.25	4452K133 102.23	4452K153 120.32	4452K683 41.77

Reducing Couplings and Hex Reducing Bushings



Reducing Couplings

Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)		
Type 304 Stainless Steel				***Type 316 Stainless Steel***			
1/4	1/8	4464K519	$4.21	1/4	1/8	4452K248	$4.78
3/8	1/8	4464K521	4.66	3/8	1/8	4452K249	5.28
3/8	1/4	4464K522	4.83	3/8	1/4	4452K251	5.38
1/2	1/8	4464K523	4.79	1/2	1/8	4452K252	6.39
1/2	1/4	4464K524	4.99	1/2	1/4	4452K253	6.48
1/2	3/8	4464K525	5.19	1/2	3/8	4452K254	6.60
3/4	1/8	4464K526	6.70	3/4	1/8	4452K255	8.15
3/4	1/4	4464K527	6.95	3/4	1/4	4452K256	8.30
3/4	3/8	4464K528	7.21	3/4	3/8	4452K257	8.46
3/4	1/2	4464K529	7.50	3/4	1/2	4452K258	8.62
1	1/8	4464K531	9.16	1	1/8	4452K259	12.58
1	1/4	4464K532	9.49	1	1/4	4452K261	12.79
1	3/8	4464K533	9.86	1	3/8	4452K262	13.01
1	1/2	4464K534	10.25	1	1/2	4452K263	13.24
1	3/4	4464K535	10.68	1	3/4	4452K264	13.48
1 1/4	3/8	4464K536	13.35	1 1/4	3/8	4452K265	16.42
1 1/4	1/2	4464K537	13.85	1 1/4	1/2	4452K266	16.70
1 1/4	3/4	4464K538	14.38	1 1/4	3/4	4452K267	16.99
1 1/4	1	4464K539	14.96	1 1/4	1	4452K268	17.29
1 1/2	3/8	4464K541	19.31	1 1/2	3/8	4452K269	21.90
1 1/2	1/2	4464K542	20.02	1 1/2	1/2	4452K271	22.27
1 1/2	3/4	4464K543	20.79	1 1/2	3/4	4452K272	22.65
1 1/2	1	4464K544	21.62	1 1/2	1	4452K273	23.05
1 1/2	1 1/4	4464K545	22.52	1 1/2	1 1/4	4452K274	23.46
2	1/2	4464K546	32.20	2	1/2	4452K275	36.96
2	3/4	4464K547	33.39	2	3/4	4452K276	37.59
2	1	4464K548	34.68	2	1	4452K277	38.24
2	1 1/4	4464K549	36.06	2	1 1/4	4452K278	38.91
2	1 1/2	4464K551	32.20	2	1 1/2	4452K279	39.60
2 1/2	1	4464K552	62.30	2 1/2	1	4452K281	75.24
2 1/2	1 1/4	4464K553	63.32	2 1/2	1 1/4	4452K282	76.43
2 1/2	1 1/2	4464K554	64.37	2 1/2	1 1/2	4452K283	77.67
2 1/2	2	4464K555	65.47	2 1/2	2	4452K284	78.94
3	1	4464K556	88.71	3	1	4452K285	102.36
3	1 1/4	4464K557	90.17	3	1 1/4	4452K286	103.98
3	1 1/2	4464K558	91.67	3	1 1/2	4452K287	105.66
3	2	4464K571	91.67	3	2	4452K288	107.39
3	2 1/2	4464K572	91.67	3	2 1/2	4452K289	109.18
4	2	4464K573	126.54	4	2	4452K291	155.15
4	2 1/2	4464K574	129.27	4	2 1/2	4452K292	157.40
4	3	4464K575	130.16	4	3	4452K296	181.01



Hex Reducing Bushings, Male×Female

Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)		
Type 304 Stainless Steel				***Type 316 Stainless Steel***			
1/4	1/8	4464K261	$2.75	1/4	1/8	4452K161	$3.09
3/8	1/8	4464K262	3.00	3/8	1/8	4452K162	3.54
3/8	1/4	4464K263	3.00	3/8	1/4	4452K163	3.54
1/2	1/8	4464K264	3.79	1/2	1/8	4452K164	4.16
1/2	1/4	4464K265	3.79	1/2	1/4	4452K165	4.16
1/2	3/8	4464K266	3.79	1/2	3/8	4452K166	4.16
3/4	1/8	4464K267	5.53	3/4	1/8	4452K167	6.16
3/4	1/4	4464K268	5.53	3/4	1/4	4452K168	6.16
3/4	3/8	4464K269	5.53	3/4	3/8	4452K169	6.16
3/4	1/2	4464K271	5.53	3/4	1/2	4452K171	6.16
1	1/8	4464K272	7.70	1	1/8	4452K293	8.23
1	1/4	4464K273	7.70	1	1/4	4452K173	8.78
1	3/8	4464K274	7.70	1	3/8	4452K174	8.78
1	1/2	4464K275	7.70	1	1/2	4452K175	8.78
1	3/4	4464K276	7.70	1	3/4	4452K176	8.78
1 1/4	1/4	4464K278	13.76	1 1/4	1/4	4452K178	17.18
1 1/4	3/8	4464K279	13.76	1 1/4	3/8	4452K294	16.04
1 1/4	1/2	4464K281	13.76	1 1/4	1/2	4452K134	17.18
1 1/4	3/4	4464K282	13.76	1 1/4	3/4	4452K181	17.18
1 1/4	1	4464K151	13.76	1 1/4	1	4452K182	17.18
1 1/2	1/4	4464K153	16.47	1 1/2	1/4	4452K184	20.34
1 1/2	3/8	4464K154	16.47	1 1/2	3/8	4452K295	18.99
1 1/2	1/2	4464K155	16.47	1 1/2	1/2	4452K186	20.34
1 1/2	3/4	4464K156	16.47	1 1/2	3/4	4452K187	20.34
1 1/2	1	4464K157	16.47	1 1/2	1	4452K188	20.34
1 1/2	1 1/4	4464K158	16.47	1 1/2	1 1/4	4452K189	20.34
2	1/4	4464K191	25.13	2	1/4	4452K199	28.86
2	3/8	4464K159	25.13	2	3/8	4452K191	26.95
2	1/2	4464K171	25.13	2	1/2	4452K192	27.40
2	3/4	4464K172	25.13	2	3/4	4452K193	27.87
2	1	4464K173	25.13	2	1	4452K194	28.36
2	1 1/4	4464K174	25.13	2	1 1/4	4452K195	28.87
2	1 1/2	4464K175	25.13	2	1 1/2	4452K196	29.40
2 1/2	1 1/2	4464K192	43.10	2 1/2	1 1/2	4452K158	49.05
2 1/2	2	4464K176	43.10	2 1/2	2	4452K197	49.05
3	1	4464K177	66.06	3	1	4452K198	75.42
3	1 1/2	4464K193	66.06	3	1 1/2	4452K159	72.82
3	2	4464K178	66.06	3	2	4452K154	70.39
3	2 1/2	4464K179	66.06	3	2 1/2	4452K156	71.59
4	2	4464K187	120.18	4	2	4452K157	128.76
4	3	4464K188	120.18	4	3	4452K155	126.61

Hex-Socket Plugs



Pipe Size	Hex Key Size	Type 302 Stainless Steel		Type 316 Stainless Steel		Pipe Size	Hex Key Size	Type 304 Stainless Steel		Type 316 Stainless Steel	
1/16	5/32″	4464K559	$0.93			3/4	9/16″	4464K365	$8.20	4452K545	$10.76
1/8	3/16″	4464K561	.57	4452K541	$0.83	1	5/8″	4464K366	9.93	4452K558	11.88
1/4	1/4″	4464K562	.83	4452K542	1.27	1 1/4	3/4″	4464K367	22.52	4452K547	24.07
3/8	5/16″	4464K563	1.87	4452K543	2.27	1 1/2	1″	4464K368	26.55	4452K548	32.65
1/2	3/8″	4464K564	2.60	4452K544	3.29	2	1″	4464K369	49.50	4452K549	53.46

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Standard-Wall Type 304/304L Stainless Steel Threaded Pipe Nipples and Pipe

CAD



Fully Threaded



Threaded on Both Ends

- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 150 low-pressure stainless steel (see pages 4-5)
- Flanges: Use threaded low-pressure stainless steel (see page 8)

You may know these as Schedule 40 threaded nipples and pipe—they're made of Type 304/304L stainless steel, which offers very good corrosion resistance for an economical alternative to Type 316/316L. They have welded construction, so there's a weld bead on the inside, except 1/8-3/8 pipe sizes are seamless. Meet ASTM A733, ASTM A312, and ANSI/ASME B1.20.1.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.

FULLY THREADED

Pipe Size	Lg.		
1/8	3/4"	4830K111	$1.32
1/4	7/8"	4830K131	1.50
3/8	1"	4830K151	1.79
1/2	1 1/8"	4830K171	2.18
3/4	1 3/8"	4830K191	2.71
1	1 1/2"	4830K221	3.61
1 1/4	1 5/8"	4830K241	4.86
1 1/2	1 3/4"	4830K261	5.61
2	2"	4830K281	8.64
2 1/2	2 1/2"	4830K293	14.97
3	2 5/8"	4830K294	20.78
4	2 7/8"	4830K295	26.72

THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths		2" Lengths		2 1/2" Lengths		3" Lengths		3 1/2" Lengths	
1/8	4830K112	$1.68	4830K113	$1.96	4830K114	$2.25	4830K115	$2.54	4830K143	$2.89
1/4	4830K132	1.79	4830K133	2.14	4830K134	2.50	4830K135	2.86	4830K144	3.32
3/8	4830K152	2.07	4830K153	2.46	4830K154	2.93	4830K155	3.36	4830K145	3.89
1/2	4830K172	2.57	4830K173	3.00	4830K174	3.54	4830K175	4.07	4830K146	4.75
3/4	4830K192	2.86	4830K193	3.32	4830K194	3.93	4830K195	4.54	4830K147	5.29
1			4830K223	4.43	4830K324	5.14	4830K225	5.96	4830K148	6.96
1 1/4					4830K244	6.54	4830K245	7.54	4830K149	8.82
1 1/2					4830K264	7.18	4830K265	8.32	4830K163	9.71
2					4830K284	9.29	4830K285	10.61	4830K164	11.60
2 1/2							4830K296	16.94	4830K165	20.63
3							4830K297	22.66	4830K166	27.50
4									4830K207	35.22

THREADED ON BOTH ENDS

Pipe Size	4" Lengths		4 1/2" Lengths		5" Lengths		5 1/2" Lengths		6" Lengths		6 1/2" Lengths	
1/8	4830K116	$3.18	4830K331	$3.46	4830K117	$3.79	4830K301	$4.07	4830K118	$4.36	4830K253	$5.11
1/4	4830K136	3.71	4830K332	4.07	4830K137	4.46	4830K302	4.82	4830K138	5.18	4830K254	6.11
3/8	4830K156	4.32	4830K333	4.75	4830K157	5.21	4830K303	5.64	4830K158	6.07	4830K255	7.21
1/2	4830K176	5.29	4830K334	5.86	4830K177	6.39	4830K304	6.93	4830K178	7.46	4830K256	8.79
3/4	4830K196	5.89	4830K335	6.50	4830K197	7.07	4830K305	7.68	4830K198	8.29	4830K257	9.71
1	4830K226	7.75	4830K336	8.54	4830K227	9.36	4830K306	10.14	4830K228	10.96	4830K258	11.34
1 1/4	4830K246	9.86	4830K337	10.17	4830K247	10.41	4830K307	11.31	4830K248	12.19	4830K259	14.28
1 1/2	4830K266	10.86	4830K338	11.20	4830K267	11.47	4830K308	12.47	4830K268	13.47	4830K262	15.84
2	4830K286	12.16	4830K339	13.44	4830K287	14.72	4830K309	16.00	4830K288	17.28	4830K263	20.50
2 1/2	4830K276	21.31	4830K341	22.88	4830K277	24.84	4830K311	26.84	4830K278	28.72	4830K273	33.75
3	4830K356	28.28	4830K342	30.70	4830K357	31.28	4830K312	33.78	4830K358	36.28	4830K274	44.22
4	4830K376	35.22	4830K343	38.22	4830K377	41.62	4830K313	45.03	4830K378	48.44	4830K275	49.71
6	4830K209	155.42	4830K235	167.88	4830K236	186.81	4830K237	199.39	4830K238	212.46	4830K326	221.82

Pipe Size	7" Lengths		8" Lengths		9" Lengths		10" Lengths		11" Lengths		12" Lengths	
1/8	4830K183	$5.11	4830K119	$5.68	4830K213	$6.25	4830K121	$6.93	4830K123	$7.50	4830K122	$8.07
1/4	4830K184	6.11	4830K139	6.86	4830K214	7.57	4830K141	8.39	4830K124	9.11	4830K142	9.86
3/8	4830K185	7.21	4830K159	8.07	4830K215	8.96	4830K161	9.93	4830K125	10.07	4830K162	10.90
1/2	4830K186	8.79	4830K179	9.86	4830K216	10.23	4830K181	11.37	4830K126	11.59	4830K182	13.37
3/4	4830K187	9.71	4830K199	10.20	4830K217	10.62	4830K211	11.78	4830K127	12.84	4830K212	13.91
1	4830K188	11.34	4830K229	12.75	4830K218	14.16	4830K231	15.75	4830K128	17.16	4830K232	18.53
1 1/4	4830K189	14.28	4830K249	16.06	4830K219	17.88	4830K251	19.88	4830K129	21.66	4830K252	23.47
1 1/2	4830K201	15.84	4830K269	17.81	4830K282	19.81	4830K271	22.03	4830K314	24.38	4830K272	26.00
2	4830K202	20.50	4830K289	23.06	4830K283	25.62	4830K291	28.50	4830K315	31.06	4830K292	33.62
2 1/2	4830K203	33.75	4830K279	37.62	4830K167	44.27	4830K233	45.91	4830K316	49.78	4830K234	53.69
3	4830K204	44.22	4830K359	46.29	4830K168	48.17	4830K361	51.90	4830K317	54.58	4830K362	58.79
4	4830K205	52.47	4830K379	55.45	4830K169	61.16	4830K381	67.61	4830K318	73.34	4830K382	79.08
6	4830K239	230.66	4830K319	239.31	4830K321	256.79	4830K322	274.29	4830K323	286.28	4830K325	292.40

To Order: Please specify length.

Pipe Size		14" Lengths	16" Lengths	18" Lengths	20" Lengths	22" Lengths	24" Lengths	36" Lengths	48" Lengths	60" Lengths	72" Lengths	120" Lengths
1/8	4813K134	$7.88	$9.00	$10.19	$11.28	$12.41	$13.53	$20.31	$27.12	$33.84	$40.66	$67.75
1/4	4813K135	9.47	10.81	12.12	13.53	14.85	16.25	24.41	32.50	40.62	48.75	81.28
3/8	4813K136	11.53	13.16	14.81	16.47	18.12	19.75	29.56	39.44	49.31	59.22	98.62
1/2	4813K137	15.00	17.15	19.25	21.44	23.59	25.72	38.59	51.41	64.28	77.12	128.56
3/4	4813K138	18.00	20.59	23.19	25.72	28.31	30.88	46.38	61.81	77.28	92.72	141.26
1	4813K139	23.25	26.56	29.91	33.19	36.50	39.81	59.75	79.72	99.59	119.53	159.40
1 1/4	4813K141	29.25	33.41	37.59	41.78	45.97	49.74	75.22	99.74	125.47	150.47	199.74
1 1/2	4813K142	34.50	39.44	44.34	49.31	54.25	59.19	88.72	118.28	147.84	166.97	236.55
2	4813K143	44.97	51.41	57.78	64.25	70.66	77.09	115.62	154.19	171.28	184.95	274.04
2 1/2	4813K144	73.19	83.66	94.09	104.53	115.00	125.44	150.57	199.74	250.93	267.69	407.63
3	4813K145	97.00	110.84	124.78	130.44	139.37	152.06	199.60	266.10	295.71	319.36	483.91
4	4813K146	125.09	142.97	151.35	158.86	165.55	171.57	257.38	305.04	343.16	411.82	612.84
6	4813K147	358.02	394.42	429.98	467.20	503.58	512.91	687.07	810.82			

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



To measure larger pipe sizes, go to mcmaster.com search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Standard-Wall Type 316/316L Stainless Steel Threaded Pipe Nipples and Pipe

- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 150 low-pressure stainless steel (see pages 4-5)
- Flanges: Use threaded low-pressure stainless steel (see page 8)

Made from Type 316/316L stainless steel, which contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L, these threaded nipples and pipe are known as Schedule 40. They have welded construction, so there's a weld bead on the inside, except 1/8-3/8 pipe sizes are seamless. Meet ASTM A733, ASTM A312, and ANSI/ASME B1.20.1.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.

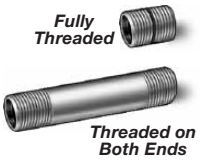

FULLY THREADED

Pipe Size	Lg.		
1/8	3/4"	4548K111	$1.52
1/4	7/8"	4548K131	1.74
3/8	1"	4548K381	2.07
1/2	1 1/8"	4548K171	2.70
3/4	1 3/8"	4548K191	3.44
1	1 1/2"	4548K221	4.70
1 1/4	1 5/8"	4548K241	6.41
1 1/2	1 3/4"	4548K261	7.59
2	2"	4548K281	10.93
2 1/2	2 1/2"	4548K123	19.56
3	2 5/8"	4548K124	26.97
4	2 7/8"	4548K125	35.44

THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths		2" Lengths		2 1/2" Lengths		3" Lengths		3 1/2" Lengths	
1/8	4548K112	$2.00	4548K113	$2.41	4548K114	$2.78	4548K115	$3.19	4548K143	$3.63
1/4	4548K132	2.15	4548K133	2.59	4548K134	3.04	4548K135	3.52	4548K144	4.11
3/8	4548K152	2.52	4548K153	3.04	4548K154	3.59	4548K155	4.15	4548K145	4.85
1/2	4548K172	3.26	4548K173	3.89	4548K174	4.63	4548K175	5.37	4548K146	6.30
3/4	4548K192	3.67	4548K193	4.33	4548K194	5.19	4548K195	6.00	4548K147	7.04
1			4548K223	5.81	4548K224	6.85	4548K225	7.96	4548K148	9.37
1 1/4					4548K244	8.85	4548K245	10.33	4548K149	10.93
1 1/2					4548K264	9.96	4548K265	10.83	4548K151	11.53
2					4548K284	11.77	4548K285	12.72	4548K163	15.00
2 1/2							4548K126	22.38	4548K164	25.91
3							4548K127	29.69	4548K165	34.22
4									4548K397	41.53

THREADED ON BOTH ENDS

Pipe Size	4" Lengths		4 1/2" Lengths		5" Lengths		5 1/2" Lengths		6" Lengths		6 1/2" Lengths	
1/8	4548K116	$4.04	4548K311	$4.41	4548K117	$4.81	4548K331	$5.19	4548K118	$5.59	4548K341	$6.56
1/4	4548K136	4.59	4548K312	5.07	4548K137	5.52	4548K332	6.00	4548K138	6.48	4548K342	7.63
3/8	4548K156	5.41	4548K313	5.96	4548K157	6.52	4548K333	7.07	4548K158	7.63	4548K343	9.07
1/2	4548K176	7.04	4548K314	7.81	4548K177	8.56	4548K334	9.30	4548K178	10.04	4548K344	10.63
3/4	4548K196	7.89	4548K315	8.70	4548K197	9.56	4548K335	10.37	4548K198	11.22	4548K345	11.87
1	4548K226	9.79	4548K316	10.47	4548K227	11.47	4548K336	11.72	4548K228	12.66	4548K346	14.97
1 1/4	4548K246	11.50	4548K317	12.72	4548K247	13.15	4548K337	15.19	4548K248	16.44	4548K347	19.25
1 1/2	4548K266	12.94	4548K318	13.50	4548K267	14.34	4548K338	17.12	4548K268	18.53	4548K348	21.81
2	4548K286	16.81	4548K319	18.66	4548K287	20.50	4548K339	22.31	4548K288	24.16	4548K349	28.62
2 1/2	4548K166	28.72	4548K321	31.19	4548K167	34.00	4548K324	36.81	4548K168	39.62	4548K327	46.59
3	4548K356	37.84	4548K322	39.44	4548K357	43.06	4548K325	46.69	4548K358	50.31	4548K328	55.57
4	4548K376	47.59	4548K323	52.03	4548K377	53.56	4548K326	56.46	4548K378	59.22	4548K329	67.79
6	4548K384	186.42	4548K385	203.45	4548K386	219.83	4548K387	236.54	4548K388	249.02	4548K396	261.42

Pipe Size	7" Lengths		8" Lengths		9" Lengths		10" Lengths		11" Lengths		12" Lengths	
1/8	4548K363	$6.56	4548K119	$7.33	4548K233	$8.11	4548K121	$8.96	4548K421	$9.39	4548K122	$10.52
1/4	4548K364	7.63	4548K139	8.56	4548K234	9.48	4548K141	10.18	4548K422	10.69	4548K142	11.55
3/8	4548K365	9.07	4548K159	10.19	4548K235	10.89	4548K161	11.30	4548K423	11.53	4548K162	12.50
1/2	4548K366	11.00	4548K179	11.97	4548K236	13.30	4548K181	13.87	4548K424	15.12	4548K182	16.38
3/4	4548K367	11.87	4548K199	12.53	4548K237	13.94	4548K211	15.50	4548K425	16.91	4548K212	18.31
1	4548K368	14.97	4548K229	16.88	4548K238	18.75	4548K231	20.87	4548K426	22.78	4548K232	24.69
1 1/4	4548K369	19.25	4548K249	21.72	4548K239	24.19	4548K251	26.97	4548K427	29.44	4548K252	31.91
1 1/2	4548K213	21.81	4548K269	24.62	4548K253	27.41	4548K271	30.53	4548K428	33.34	4548K272	36.12
2	4548K214	28.62	4548K289	32.28	4548K254	35.94	4548K291	40.06	4548K429	43.72	4548K292	47.41
2 1/2	4548K215	46.59	4548K169	49.18	4548K255	52.91	4548K183	55.54	4548K431	58.82	4548K184	75.50
3	4548K216	55.57	4548K359	57.29	4548K256	63.39	4548K361	70.26	4548K432	76.37	4548K362	82.45
4	4548K217	69.62	4548K379	75.97	4548K257	84.16	4548K481	93.37	4548K433	96.45	4548K482	101.71
6	4548K389	273.94	4548K391	287.83	4548K392	306.18	4548K393	329.76	4548K394	353.36	4548K395	376.93

To Order: Please specify length.

Pipe Size		14" Lengths	16" Lengths	18" Lengths	20" Lengths	22" Lengths	24" Lengths	36" Lengths	48" Lengths	60" Lengths	72" Lengths	120" Lengths
1/8	4816K134	$10.08	$11.54	$13.03	$14.43	$15.89	$17.34	$27.23	$34.66	$43.37	$51.94	$86.63
1/4	4816K135	11.03	12.60	14.23	15.78	17.34	18.94	28.40	37.83	47.31	56.80	94.60
3/8	4816K136	13.72	15.69	17.60	19.60	21.58	23.51	35.23	47.03	58.77	70.57	117.60
1/2	4816K137	17.94	20.52	23.89	25.63	28.21	30.74	47.77	63.69	79.57	95.00	139.28
3/4	4816K138	20.91	23.94	26.91	29.89	32.91	35.91	53.83	71.83	89.77	107.74	157.12
1	4816K139	28.49	32.54	36.57	40.71	44.77	48.83	73.23	97.60	122.03	146.43	213.57
1 1/4	4816K141	36.49	41.71	46.91	52.11	57.31	62.54	93.77	125.06	136.75	164.15	273.55
1 1/2	4816K142	43.03	49.17	55.34	61.49	67.63	73.74	110.69	147.60	161.47	193.68	322.82
2	4816K143	56.74	64.86	72.97	81.09	89.17	97.29	130.63	170.20	212.80	255.35	378.31
2 1/2	4816K144	88.26	100.86	106.86	122.56	134.83	146.51	190.23	227.96	256.46	307.70	468.79
3	4816K145	111.31	127.19	143.14	159.00	165.71	171.75	257.62	274.84	306.09	367.27	612.08
4	4816K146	149.56	170.94	177.54	192.30	211.50	230.75	307.67	369.22	394.61	473.59	769.22
6	4816K147	424.11	471.27	519.36	565.64	612.80	658.36	861.95	1,018.56			

Stainless Steel Pipe Nipples & Flanges

For technical drawings and 3-D models, go to mcmaster.com.

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Standard-Wall Stainless Steel Threaded-On-One-End Pipe Nipples



- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 150 low-pressure stainless steel (see pages 4-5)
- Flanges: Use threaded low-pressure stainless steel (see below)

One end of these Schedule 40 nipples is threaded for a quick connection, while the other end is unthreaded for a welded connection. They have welded construction so there is a weld bead on the inside, except 1/8-3/8 pipe sizes are seamless. Meet ASTM A312, ASTM A733, and ANSI/ASME B1.20.1.

Type 304/304L stainless steel offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

Connections: NPT on one end, unthreaded on the other end.

Pipe Size	1" Lengths		1 1/2" Lengths		2" Lengths		2 1/2" Lengths		3" Lengths		4" Lengths		6" Lengths	
Type 304/304L Stainless Steel														
1/8	9157K14	$1.50	9157K28	$1.50	9157K39	$1.75	9157K61	$2.00	9157K49	$2.25	9157K59	$2.83	9157K91	$3.88
1/4	9157K11	1.32	9157K21	1.60	9157K31	1.90	9157K62	2.23	9157K41	2.55	9157K51	3.30	9157K92	4.60
3/8	9157K12	1.57	9157K22	1.85	9157K32	2.20	9157K63	2.58	9157K42	2.98	9157K52	3.85	9157K93	5.40
1/2	9157K13	1.92	9157K23	2.27	9157K33	2.65	9157K64	3.12	9157K43	3.60	9157K53	4.70	9157K94	6.62
3/4	9157K15	2.40	9157K24	2.55	9157K34	2.95	9157K65	3.50	9157K44	4.03	9157K54	5.22	9157K95	7.35
1	—	—	9157K25	3.20	9157K35	3.92	9157K66	4.58	9157K45	5.28	9157K55	6.88	9157K96	9.72
1 1/4	—	—	9157K26	4.30	9157K36	4.97	9157K67	5.80	9157K46	6.70	9157K56	8.75	9157K97	12.38
1 1/2	—	—	9157K27	4.97	9157K37	5.35	9157K68	6.35	9157K47	7.38	9157K57	9.62	9157K98	13.65
2	—	—	—	—	9157K38	7.67	9157K69	8.25	9157K48	9.40	9157K58	12.32	9157K99	17.52
2 1/2	—	—	—	—	—	—	9157K601	15.18	9157K401	17.15	9157K501	21.60	9157K901	29.12
3	—	—	—	—	—	—	9157K602	20.80	9157K402	22.98	9157K502	28.70	9157K902	36.50
4	—	—	—	—	—	—	9157K603	25.81	9157K403	27.10	9157K503	35.73	9157K903	49.10
Type 316/316L Stainless Steel														
1/4	9110T11	1.48	9110T21	1.85	9110T31	2.23	9110T41	2.60	9110T51	3.00	9110T61	3.95	9110T71	5.53
3/8	9110T12	1.77	9110T22	2.15	9110T32	2.60	9110T42	3.07	9110T52	3.55	9110T62	4.62	9110T72	6.55
1/2	9110T13	2.33	9110T23	2.77	9110T33	3.33	9110T43	3.95	9110T53	4.58	9110T63	6.02	9110T73	8.57
3/4	9110T14	2.95	9110T24	3.12	9110T34	3.73	9110T44	4.42	9110T54	5.15	9110T64	6.75	9110T74	9.60
1	—	—	9110T25	4.03	9110T35	4.97	9110T45	5.88	9110T55	6.82	9110T65	9.00	9110T75	12.82
1 1/4	—	—	9110T26	5.50	9110T36	6.42	9110T46	7.58	9110T56	8.85	9110T66	11.65	9110T76	16.65
1 1/2	—	—	9110T27	6.50	9110T37	7.10	9110T47	8.53	9110T57	9.93	9110T67	13.12	9110T77	18.77
2	—	—	—	—	9110T38	10.05	9110T48	11.18	9110T58	12.88	9110T68	17.05	9110T78	24.50
3	—	—	—	—	—	—	9110T49	27.35	9110T59	30.10	9110T69	38.38	9110T79	51.02
4	—	—	—	—	—	—	9110T82	32.68	9110T83	35.95	9110T84	48.27	9110T85	67.55

Low-Pressure Stainless Steel Threaded Flanges

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 150 psi @ 72° F; 150 psi @ 366° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall stainless steel (see pages 6-7 and above)
- Fittings: Use threaded Class 150 low-pressure stainless steel (see pages 4-5)

Create a flange connection to gain easy access to your pipe. Bolt two same-size flanges together with a gasket (not included) to form a tight seal. For gaskets, see pages 3529-3534; for bolts, see pages 3161-3163.

Forged Flanges—These high-strength flanges are also called ANSI flanges and raised-face flanges. Match with another ANSI/raised-face flange of the same size for connection. They meet ASTM A182 and ANSI/ASME B16.5.

Cast Flanges—Also called MSS flanges and flat-face flanges. Match with another MSS/flat-face flange of the same size for connection. Flanges meet ASTM A351 and conform to MSS SP-42 for diameter and bolt holes and MSS SP-51 for thickness.

Types 304 and ***304/304L stainless steel*** offer very good corrosion resistance for an economical alternative to Types 316 and 316/316L.

Types 316 and ***316/316L stainless steel*** contain more nickel and have molybdenum for better resistance to corrosion than Types 304 and 304/304L.

Connections: NPT.



Forged Flanges—Raised surface on the back.

Pipe Size	Flange OD	Bolts Req'd Qty.	Bolts Req'd Dia.		
Type 304/304L Stainless Steel					
1/2	3 1/2"	4	1/2"	44685K11	$24.18
3/4	3 7/8"	4	1/2"	44685K12	29.36
1	4 1/4"	4	1/2"	44685K13	31.82
1 1/4	4 5/8"	4	1/2"	44685K14	41.00
1 1/2	5"	4	1/2"	44685K15	42.09
2	6"	4	5/8"	44685K16	55.34
2 1/2	7"	4	5/8"	44685K17	89.09
3	7 1/2"	4	5/8"	44685K18	86.07
4	9"	8	5/8"	44685K19	119.05
6	11"	8	3/4"	44685K21	199.74
Type 316/316L Stainless Steel					
1/2	3 1/2"	4	1/2"	44695K11	28.00
3/4	3 7/8"	4	1/2"	44695K12	36.35
1	4 1/4"	4	1/2"	44695K13	43.04
1 1/4	4 5/8"	4	1/2"	44695K14	53.27
1 1/2	5"	4	1/2"	44695K15	55.11
2	6"	4	5/8"	44695K16	64.62
2 1/2	7"	4	5/8"	44695K17	111.71
3	7 1/2"	4	5/8"	44695K18	124.09
4	9"	8	5/8"	44695K19	153.26
6	11"	8	3/4"	44695K21	256.50

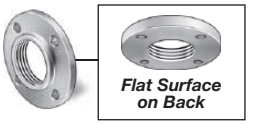

Cast Flanges—Flat surface on the back.

Pipe Size	Flange OD	Bolts Req'd Qty.	Bolts Req'd Dia.		
Type 304 Stainless Steel					
1/2	3 1/2"	4	1/2"	43505K351	$26.12
3/4	3 7/8"	4	1/2"	43505K352	27.55
1	4 1/4"	4	1/2"	43505K353	36.80
1 1/4	4 5/8"	4	1/2"	43505K354	41.78
1 1/2	5"	4	1/2"	43505K355	51.39
2	6"	4	5/8"	43505K356	63.99
2 1/2	7"	4	5/8"	43505K357	69.66
3	7 1/2"	4	5/8"	43505K358	84.90
4	9"	8	5/8"	43505K359	120.13
Type 316 Stainless Steel					
1/2	3 1/2"	4	1/2"	43615K561	29.77
3/4	3 7/8"	4	1/2"	43615K562	33.97
1	4 1/4"	4	1/2"	43615K563	42.83
1 1/4	4 5/8"	4	1/2"	43615K564	48.68
1 1/2	5"	4	1/2"	43615K565	56.48
2	6"	4	5/8"	43615K566	74.02
2 1/2	7"	4	5/8"	43615K567	88.41
3	7 1/2"	4	5/8"	43615K568	103.20
4	9"	8	5/8"	43615K569	154.81

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

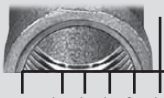

Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8″):	0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″	1 5/8″	1 3/4″	2 3/8″	2 3/4″	3 3/8″

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Stainless Steel Threaded Reducing Flanges

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 150 psi @ 72° F; 150 psi @ 366° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall stainless steel (see pgs. 6-8)
- Fittings: Use threaded Class 150 low-pressure stainless steel (see pages 4-5)

The connecting point is reduced, so you can transition your piping system to a smaller pipe size. Also known as Class 150 and raised-face flanges, bolt one of these forged flanges to your flange (be sure the flange pipe size, flange OD, and number of bolt holes are the same). A gasket is required, but not included. For gaskets, see pages 3531-3534; for bolts, see pages 3161-3163. Meet ASTM A182 and ANSI/ASME B16.5.

Type 304/304L stainless steel offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

Connections: NPT.

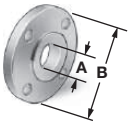

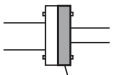

Reducing Flange

Flange Pipe Size	Threaded Pipe Size (A)	Flange OD (B)	Bolts Req'd Qty.	Bolts Req'd Dia.		
Type 304/304L Stainless Steel						
1	1/2	4 1/4″	4	1/2″	44685K141	$53.22
1	3/4	4 1/4″	4	1/2″	44685K142	54.31
1 1/2	1	5″	4	1/2″	44685K143	68.70
2	1	6″	4	5/8″	44685K144	89.98
3	2	7 1/2″	4	5/8″	44685K145	131.52

Flange Pipe Size	Threaded Pipe Size (A)	Flange OD (B)	Bolts Req'd Qty.	Bolts Req'd Dia.		
Type 316/316L Stainless Steel						
1	1/2	4 1/4″	4	1/2″	44695K141	$75.46
1	3/4	4 1/4″	4	1/2″	44695K142	75.46
1 1/2	1	5″	4	1/2″	44695K143	99.74
2	1	6″	4	5/8″	44695K144	124.80
3	2	7 1/2″	4	5/8″	44695K145	163.67

Ultra-Corrosion-Resistant Alloy 20 Threaded Pipe Fittings

- Use with air, water, steam
- Maximum Pressure: Fittings: 300 psi @ 72° F; 150 psi @ 366° F for steam Pipe Nipples: Not rated

Able to resist sulfuric acid, pitting, and stress cracking, Alloy 20 is the superhero of stainless steel fittings. Also called Carpenter 20, it contains more nickel than Type 316, so it is suited for especially corrosive environments.

Fittings—Also known as Class 150 fittings. Meet ANSI/MSS SP-114, ASTM B351, ASTM B473, and ANSI/ASME B1.20.1.

Pipe Nipples—Also known as Schedule 40 and standard-wall threaded nipples. All have seamless construction for unrestricted flow. *Fully threaded* nipples are also called close nipples; they are threaded on each end to the center. Meet ASTM B729 and ANSI/ASME B36.10 and SB729.

Connections: NPT.

Fittings











Pipe Size	90° Elbows		Tees		Couplings		Hex-Head Plugs	
1/2	2698K11	$62.74	2698K16	$81.13	2698K22	$48.00	2698K27	$25.43
3/4	2698K12	84.51	2698K17	95.14	2698K23	69.17	2698K28	34.04
1	2698K13	91.87	2698K18	116.61	2698K24	97.32	2698K29	59.43
1 1/2	2698K14	123.50	2698K19	167.19	2698K25	143.02		
2	2698K15	167.19	2698K21	222.31	2698K26	175.02		

Hex Reducing Bushings, Male×Female

Pipe Size (A)	Pipe Size (B)		
1/2	1/4	2698K31	$34.06
3/4	1/2	2698K32	42.15
1	3/4	2698K33	70.98

Nipples



FULLY THREADED

Pipe Size	Lg.		
1/2	1 1/8″	2698K55	$25.47
3/4	1 3/8″	2698K56	31.13
1	1 1/2″	2698K57	41.74
1 1/2	1 3/4″	2698K58	62.06
2	2″	2698K59	82.43



THREADED ON BOTH ENDS

Pipe Size	2″ Lengths		3″ Lengths		4″ Lengths		6″ Lengths	
1/2	2698K34	$33.23	2698K38	$40.23	2698K44	$51.47	2698K49	$68.40
3/4	2698K35	37.00	2698K39	47.58	2698K45	55.21	2698K51	91.26
1	2698K36	50.25	2698K41	60.00	2698K46	82.74	2698K52	113.86
1 1/2	2698K37	70.87	2698K42	95.58	2698K47	99.55	2698K53	145.83
2			2698K43	119.32	2698K48	128.48	2698K54	189.91

Miniature Stainless Steel Threaded Pipe Fittings

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 500 psi @ 72° F; 100 psi @ 350° F for steam

Our compact fittings are ideal for cramped spaces. All are Type 303 stainless steel, which offers very good corrosion resistance. Meet ASTM A314, A320, and A582.

Connections: NPT (1/16, 1/8, 1/4); metric straight threads (M3 × 0.5, M5 × 0.8, M6 × 1.0, M8 × 1.0); and UN/UNF straight threads (10-32, 1/4″-28). All male straight threads include a fluoroelastomer gasket.



Reducing Adapters, Female×Male

Pipe/Thread Size (A)	Pipe/Thread Size (B)		
1/8	10-32	2684K19	$10.57
1/8	1/16	2684K21	9.93
1/8	M5 × 0.8	2684K26	13.28
1/8	M6 × 1.0	2684K27	13.28
1/8	M8 × 1.0	2684K28	13.28
M6 × 1.0	10-32	2684K29	13.28



Hex Reducing Bushings, Male×Female

Pipe/Thread Size (A)	Thread Size (B)		
1/16	10-32	2684K34	$10.30
1/8	10-32	2684K35	10.30
1/4	10-32	2684K36	12.80
1/4″-28	10-32	2684K33	10.95
M6 × 1.0	10-32	2684K31	10.95
M8 × 1.0	10-32	2684K32	10.95



90° Elbows, Female×Male

Pipe/Thread Size (A)	Pipe/Thread Size (B)		
1/16	1/8	2684K17	$14.30
1/8	1/8	2684K14	14.32
1/8	10-32	2684K18	15.00
1/8	M5 × 0.8	2684K23	15.00
1/8	M8 × 1.0	2684K24	15.00
10-32	1/8	2684K15	14.30
10-32	M5 × 0.8	2684K22	10.85
1/4″-28	1/8	2684K16	14.30
1/4″-28	1/4″-28	2684K13	15.00
M3 × 0.5	M3 × 0.5	2684K11	15.57
M5 × 0.8	M5 × 0.8	2684K12	15.57
M6 × 1.0	10-32	2684K25	15.00

Stainless Steel Pipe Fittings & Nipples

For technical drawings and 3-D models, go to mcmaster.com. CAD

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

British Standard Threaded Low-Pressure Stainless Steel Pipe Fittings

CAD

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 150 psi @ 72° F; 150 psi @ 366° F for steam
- Pipe and Pipe Nipples: Use British standard threaded Schedule 40 stainless steel (see below)

Connect to BSPT pipe with fittings threaded for the job. Also known as Class 150 fittings, they're made from Type 304 stainless steel, which offers very good corrosion resistance. These high-quality fittings, with the exception of hex adapters, meet MSS SP-114 for heat treating, material thickness, and marking.

90° female×male elbows are also known as street elbows. ***Plugs*** are hollow, except 1/8–3/8 pipe sizes are solid.

Connections: BSPT (British Standard Pipe Taper); hex adapters have NPT threads on one end.








Pipe Size	90° Elbows		90° Elbows, Female×Male		45° Elbows		Tees		Crosses		Unions	
1/8	4810T111	$5.52	4810T131	$7.85	4810T121	$6.94	4810T141	$7.39	4810T249	$12.28	4810T161	$18.59
1/4	4810T112	5.77	4810T132	8.21	4810T122	7.25	4810T142	7.73	4810T251	12.81	4810T162	19.43
3/8	4810T113	7.15	4810T133	9.90	4810T123	8.52	4810T143	9.85	4810T252	15.41	4810T163	19.80
1/2	4810T114	7.62	4810T134	11.65	4810T124	9.37	4810T144	10.32	4810T253	18.89	4810T164	21.44
3/4	4810T115	10.91	4810T135	16.15	4810T125	13.71	4810T145	16.41	4810T254	32.26	4810T165	27.16
1	4810T116	15.46	4810T136	27.95	4810T126	16.73	4810T146	20.91	4810T255	47.76	4810T166	40.98
1 1/2	4810T118	36.16	4810T138	48.02	4810T128	31.93	4810T148	51.73	4810T256	64.58	4810T168	80.37
2	4810T229	43.86	4810T232	62.19	4810T231	42.90	4810T233	63.51	4810T257	88.93	4810T238	81.40








Pipe Size	Couplings		Half Couplings		Caps		Square-Head Plugs		Hex-Head Plugs		Hex Adapters, BSPT×NPT	
1/8	4810T151	$3.49	4810T241	$2.43	4810T171	$2.91	4810T181	$2.49	4810T191	$2.63	4810T221	$4.02
1/4	4810T152	4.18	4810T242	2.69	4810T172	4.13	4810T182	2.96	4810T192	2.75	4810T222	6.99
3/8	4810T153	4.87	4810T243	2.89	4810T173	4.87	4810T183	3.92	4810T193	3.39	4810T223	9.11
1/2	4810T154	6.88	4810T244	4.05	4810T174	5.08	4810T184	5.61	4810T194	5.35	4810T224	13.34
3/4	4810T155	9.95	4810T245	5.37	4810T175	6.35	4810T185	6.83	4810T195	6.72	4810T225	17.58
1	4810T156	15.09	4810T246	6.88	4810T176	9.53	4810T186	8.68	4810T196	11.65	4810T226	23.03
1 1/2	4810T158	28.48	4810T247	14.43	4810T178	22.66	4810T188	20.60	4810T198	20.44	4810T228	34.90
2	4810T234	38.39	4810T248	19.75	4810T235	27.60	4810T236	23.25	4810T237	26.99	4810T239	49.58

Hex Reducing Bushings, Male×Female



Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)		
1/4	1/8	4810T201	$3.76	1	1/4	4810T275	$9.27
3/8	1/8	4810T271	3.95	1	3/8	4810T276	9.66
3/8	1/4	4810T202	4.08	1	1/2	4810T277	10.07
1/2	1/8	4810T272	4.96	1	3/4	4810T206	10.54
1/2	1/4	4810T203	4.96	1 1/2	3/4	4810T278	20.68
1/2	3/8	4810T204	5.19	1 1/2	1	4810T279	21.57
3/4	1/4	4810T273	6.99	1 1/2	1 1/4	4810T208	22.55
3/4	3/8	4810T274	7.30	2	1	4810T281	31.55
3/4	1/2	4810T205	7.57	2	1 1/2	4810T282	32.92

Reducing Couplings



Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)		
1/4	1/8	4810T211	$5.77	1	1/4	4810T263	$11.55
3/8	1/8	4810T258	6.41	1	3/8	4810T264	12.04
3/8	1/4	4810T212	5.87	1	1/2	4810T265	12.56
1/2	1/8	4810T259	6.13	1	3/4	4810T216	13.13
1/2	1/4	4810T213	6.08	1 1/2	3/4	4810T266	25.33
1/2	3/8	4810T214	6.35	1 1/2	1	4810T267	26.44
3/4	1/4	4810T261	8.78	1 1/2	1 1/4	4810T218	27.58
3/4	3/8	4810T262	9.16	2	1	4810T268	42.22
3/4	1/2	4810T215	11.70	2	1 1/2	4810T269	44.06

British Standard Threaded Stainless Steel Pipe Nipples and Pipe

CAD

- Use with air, water, oil, natural gas, steam
- Fittings: Use British standard threaded Class 150 low-pressure stainless steel (see above)

You'll get BSPT threads on one or both ends of this Schedule 40 pipe. Made of Type 304/304L stainless steel, which offers very good corrosion resistance. All have welded construction, so there's a weld bead on the inside. Meet ASTM A312.

Fully threaded nipples are also called close nipples; they're threaded on each end to the center.

Connections: BSPT (British Standard Pipe Taper) or NPT.

Fully Threaded



Threaded on Both Ends



FULLY THREADED				THREADED ON BOTH ENDS									
Pipe Size	Lg.			Pipe Size	1 1/2" Lengths		3" Lengths		36" Lengths		48" Lengths		72" Lengths	
BSPT Threads on Both Ends														
1/8	3/4"	2427K11	$1.73	1/8	2427K12	$2.30	2427K13	$3.50	2427K14	$26.56	2427K15	$35.16	2427K16	$52.12
1/4	7/8"	2427K21	1.67	1/4	2427K22	1.97	2427K23	2.90	2427K24	20.80	2427K25	25.72	2427K26	37.88
3/8	1"	2427K31	1.97	3/8	2427K32	2.30	2427K33	3.43	2427K34	24.38	2427K35	32.12	2427K36	47.34
1/2	1 1/8"	2427K41	2.53	1/2	2427K42	2.83	2427K43	4.33	2427K44	31.78	2427K45	41.88	2427K46	58.24
3/4	1 3/8"	2427K51	3.37	3/4	2427K52	3.50	2427K53	5.40	2427K54	40.44	2427K55	53.22	2427K56	73.88
1	1 1/2"	2427K61	4.63	1	_____	___	2427K63	7.30	2427K64	54.12	2427K65	71.21	2427K66	99.25
1 1/2	1 3/4"	2427K71	8.00	1 1/2	_____	___	2427K73	11.73	2427K74	90.09	2427K75	111.69	2427K76	164.56
2	2"	2427K81	10.97	2	_____	___	2427K83	15.07	2427K84	109.72	2427K85	143.56	2427K86	189.65
BSPT Threads on One End, NPT Threads on Other End														
1/8	3/4"	2427K111	2.00	1/8	2427K112	2.60	2427K113	3.80	2427K114	28.88	2427K115	38.22	2427K116	53.32
1/4	7/8"	2427K121	1.97	1/4	2427K122	2.27	2427K123	3.20	2427K124	22.60	2427K125	27.97	2427K126	41.19
3/8	1"	2427K131	2.27	3/8	2427K132	2.60	2427K133	3.73	2427K134	26.50	2427K135	34.91	2427K136	51.44
1/2	1 1/8"	2427K141	2.83	1/2	2427K142	3.13	2427K143	4.63	2427K144	34.53	2427K145	45.53	2427K146	63.32
3/4	1 3/8"	2427K151	3.67	3/4	2427K152	3.80	2427K153	5.70	2427K154	43.97	2427K155	54.44	2427K156	80.29
1	1 1/2"	2427K161	4.93	1	_____	___	2427K163	7.60	2427K164	58.82	2427K165	77.41	2427K166	107.89
1 1/2	1 3/4"	2427K171	8.90	1 1/2	_____	___	2427K173	12.63	2427K174	97.91	2427K175	121.42	2427K176	178.86
2	2"	2427K181	11.97	2	_____	___	2427K183	16.07	2427K184	119.28	2427K185	156.03	2427K186	183.22

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Medium-Pressure Stainless Steel Threaded Pipe Fittings

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 1,000 psi @ 72° F; 650 psi @ 350° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall stainless steel (see pages 6-8)
- Flanges: Use threaded low-pressure stainless steel (see page 8)

Choose these fittings when you want the same high quality found in our low-pressure fittings, but need more strength to handle higher pressures. Also known as Class 1000, these fittings meet ANSI/MSS SP-114 (for heat treating, material thickness, and marking) and ASTM A182.

Type 304 stainless steel offers very good corrosion resistance. ***Type 316 stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304.

Half couplings are partially threaded; one end has an unthreaded portion that can be welded. Connections: NPT.






Pipe Size	Couplings		Half Couplings		Unions		Caps	
Type 304 Stainless Steel								
1/8	4464K211	$3.81	4464K221	$2.11	4464K96	$17.47	4464K84	$3.61
1/4	4464K212	4.10	4464K222	2.57	4464K97	17.47	4464K85	3.64
3/8	4464K213	5.34	4464K223	2.89	4464K98	21.29	4464K86	4.92
1/2	4464K214	7.79	4464K224	4.01	4464K99	26.72	4464K87	5.03
3/4	4464K215	10.37	4464K225	5.44	4464K111	36.48	4464K88	7.30
1	4464K216	17.07	4464K226	9.21	4464K112	53.27	4464K89	10.70
1 1/4	4464K66	23.41	4464K78	12.79	4464K113	96.25	4464K91	25.39
1 1/2	4464K67	29.29	4464K79	17.55	4464K114	110.72	4464K92	31.68
2	4464K68	46.17	4464K81	23.57	4464K115	121.46	4464K93	38.39
2 1/2	4464K147	120.77	4464K161	74.38	4464K167	229.75	4464K164	78.28
3	4464K148	143.22	4464K227	98.00	4464K168	336.53	4464K165	123.72
4	4464K149	227.08	4464K228	153.39	———	———	4464K166	179.19
Type 316 Stainless Steel								
1/8	4452K441	4.74	4452K511	3.09	4452K461★	20.76	4452K451	5.07
1/4	4452K342	5.75	4452K512	3.17	4452K462★	20.76	4452K452	5.07
3/8	4452K343	6.64	4452K313	3.52	4452K463★	25.26	4452K453	6.78
1/2	4452K344	8.97	4452K314	5.07	4452K464★	31.76	4452K454	7.32
3/4	4452K345	12.49	4452K315	7.34	4452K465★	44.77	4452K455	10.71
1	4452K346	20.27	4452K316	11.95	4452K466★	64.58	4452K456	16.42
1 1/4	4452K447	30.79	4452K517	18.10	4452K467★	109.88	4452K457	48.57
1 1/2	4452K448	39.30	4452K518	24.20	4452K468★	128.65	4452K458	53.09
2	4452K449	56.21	4452K519	31.52	4452K469★	166.09	4452K459	62.96
2 1/2	4452K627	148.49	4452K631	95.54	4452K637★	283.55	4452K634	110.42
3	4452K628	184.99	4452K632	110.00	4452K638★	670.86	4452K635	142.88
4	4452K629	262.37	4452K633	172.51	4452K659★	697.74	4452K658	221.85

★ The nut is made from Type 304 stainless steel.



Reducing Couplings

Pipe Size (A)	(B)		
Type 304 Stainless Steel			
1/4	1/8	4464K371	$5.30
3/8	1/8	4464K651	6.25
3/8	1/4	4464K372	6.25
1/2	1/8	4464K434	7.74
1/2	1/4	4464K652	7.74
1/2	3/8	4464K373	7.74
3/4	1/8	4464K435	10.03
3/4	1/4	4464K436	10.03
3/4	3/8	4464K653	10.03
3/4	1/2	4464K374	10.03
1	1/8	4464K437	17.51
1	1/4	4464K438	17.51
1	3/8	4464K439	17.51
1	1/2	4464K654	17.51
1	3/4	4464K375	17.51
1 1/4	1/8	4464K441	33.68
1 1/4	1/4	4464K442	33.68
1 1/4	3/8	4464K443	33.68
1 1/4	1/2	4464K444	33.68
1 1/4	3/4	4464K655	33.68

Pipe Size (A)	(B)		
Type 304 Stainless Steel (Cont.)			
1 1/4	1	4464K376	$33.68
1 1/2	1/8	4464K445	39.38
1 1/2	1/4	4464K446	39.38
1 1/2	3/8	4464K447	39.38
1 1/2	1/2	4464K448	39.38
1 1/2	3/4	4464K131	39.38
1 1/2	1	4464K656	39.38
1 1/2	1 1/4	4464K377	39.38
2	3/8	4464K452	61.42
2	1/2	4464K453	61.42
2	3/4	4464K454	61.42
2	1	4464K132	61.42
2	1 1/4	4464K657	61.42
2	1 1/2	4464K378	61.43
2 1/2	2	4464K394	122.10
3	1	4464K456	191.51
3	2	4464K395	191.51
3	2 1/2	4464K457	191.51
4	2	4464K458	284.77
4	3	4464K396	284.77

Pipe Size (A)	(B)		
Type 316 Stainless Steel			
1/4	1/8	4452K581	$7.83
3/8	1/8	4452K811	9.32
3/8	1/4	4452K582	9.32
1/2	1/8	4452K591	12.68
1/2	1/4	4452K812	12.68
1/2	3/8	4452K583	12.68
3/4	1/8	4452K592	16.18
3/4	1/4	4452K813	16.18
3/4	3/8	4452K814	16.18
3/4	1/2	4452K584	16.18
1	1/8	4452K594	26.80
1	1/4	4452K815	26.80
1	3/8	4452K816	26.80
1	1/2	4452K817	26.80
1	3/4	4452K585	26.80
1 1/4	1/4	4452K596	45.07
1 1/4	3/8	4452K597	45.07
1 1/4	1/2	4452K819	45.07
1 1/4	3/4	4452K598	45.07
1 1/4	1	4452K586	45.07

Pipe Size (A)	(B)		
Type 316 Stainless Steel (Cont.)			
1 1/2	1/8	4452K599	$51.14
1 1/2	1/4	4452K639	51.46
1 1/2	3/8	4452K641	51.79
1 1/2	1/2	4452K642	52.12
1 1/2	3/4	4452K643	52.46
1 1/2	1	4452K822	52.80
1 1/2	1 1/4	4452K587	50.82
2	3/8	4452K646	76.59
2	1/2	4452K647	77.49
2	3/4	4452K648	78.42
2	1	4452K823	79.36
2	1 1/4	4452K649	80.33
2	1 1/2	4452K588	82.34
2 1/2	2	4452K661	190.58
3	1	4452K654	236.83
3	2	4452K589	256.77
3	2 1/2	4452K655	241.86
4	2	4452K657	398.74
4	3	4452K593	352.38

Mil. Spec. Stainless Steel Threaded Hex-Socket Plugs

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 3,000 psi @ 72° F; 600 psi @ 220° F for steam

Made to the stringent military standards of MS-27769, these high-quality plugs are the best you can buy. They are made from Type 347 stainless steel, which offers resistance to corrosion and prolonged heat exposure. Plugs also meet SAE AS4842 and AS71051.

Connections: ANPT (Aeronautical National Pipe Threads), which are more precise than NPT and NPTF threads, yet compatible.

Pipe Size	Hex Key Size		
1/16	5/32"	1725K11	$2.67
1/8	3/16"	1725K12	3.33
1/4	1/4"	1725K13	4.17
3/8	5/16"	1725K14	11.36
1/2	3/8"	1725K15	21.43



How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

High-Pressure Stainless Steel Threaded Pipe Fittings CAD

- Use with air, water, oil, natural gas, steam
- Maximum Pressure:
  Type 304 SS: 2,570 psi @ 72° F;
  1,965 psi @ 350° F for steam, unless noted
  Type 316 SS: 3,000 psi @ 72° F;
  2,810 psi @ 350° F for steam, unless noted
- Pipe Nipples and Pipe: Use threaded Schedule 80 thick-wall stainless steel (see pages 14-15)

It's no wonder these heavy duty fittings are called Class 3000—they have extra-strong forged or bar stock construction that stands up to high-pressure applications. Meet ASTM A182 and ANSI/ASME B16.11, unless noted.

Type 304 stainless steel offers very good corrosion resistance for an economical alternative to Type 316. ***Type 316 stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304.

Connections: NPT.

Elbows, Tees, Crosses, and Unions

90° female×male elbows are also known as street elbows.








Pipe Size	90° Elbows	90° Elbows, Female×Male	45° Elbows	Tees	Crosses	Unions▲
Type 304 Stainless Steel						
1/8	45525K511 $11.84	45525K531 $27.62	45525K521 $21.40	45525K541 $18.00	45525K551 $22.98	45525K591 $35.84
1/4	45525K512 12.57	45525K532 30.28	45525K522 22.26	45525K542 18.51	45525K552 26.47	45525K592 37.73
3/8	45525K513 16.22	45525K533 34.76	45525K523 23.18	45525K543 25.28	45525K553 39.96	45525K593 38.33
1/2	45525K514 20.06	45525K534 37.57	45525K524 29.34	45525K544 27.47	45525K554 59.81	45525K594 39.32
3/4	45525K515 28.97	45525K535 50.32	45525K525 39.99	45525K545 36.30	45525K555 72.81	45525K595 46.97
1	45525K516 41.68	45525K536 69.12	45525K526 55.13	45525K546 62.92	45525K556 108.43	45525K596 67.36
1 1/4	45525K517 58.26	45525K113 115.67	45525K527 72.19	45525K547 89.64	45525K557 150.83	45525K597 101.01
1 1/2	45525K518 97.92	45525K114 182.71	45525K528 91.35	45525K548 122.39	45525K558 218.73	45525K598 114.66
2	45525K519 124.19	——— ———	45525K529 109.85	45525K549 149.37	45525K559 279.56	45525K599 136.63
Type 316 Stainless Steel						
1/8	4443K611 14.24	4443K631 37.08	4443K621 28.50	4443K641 19.45	4443K651 30.12	4443K691 39.60
1/4	4443K612 14.57	4443K632 38.68	4443K622 29.58	4443K642 21.03	4443K652 36.59	4443K692 42.21
3/8	4443K613 19.05	4443K633 42.69	4443K623 36.74	4443K643 30.28	4443K653 50.95	4443K693 46.43
1/2	4443K614 24.31	4443K634 49.70	4443K624 37.57	4443K644 36.27	4443K654 75.02	4443K694 46.53
3/4	4443K615 36.19	4443K635 57.95	4443K625 47.41	4443K645 55.91	4443K655 105.67	4443K695 60.67
1	4443K616 61.56	4443K636 100.82	4443K626 63.18	4443K646 84.24	4443K656 139.08	4443K696 86.74
1 1/4	4443K617 84.74	4443K113 119.01	4443K627 84.74	4443K647 110.42	4443K657 226.01	4443K697 117.00
1 1/2	4443K618 125.87	——— ———	4443K628 117.00	4443K648 157.20	4443K658 295.40	4443K698 145.65
2	4443K619 175.24	——— ———	4443K629 126.94	4443K649 193.48	4443K659 383.45	4443K699 190.57

▲Maximum pressure is 2,915 psi @ 72° F; 2,020 psi @ 350° F for steam. Do not meet ANSI/ASME B16.11.

Couplings, Caps, and Plugs

Half couplings are partially threaded; one end has an unthreaded portion that can be welded. ***Square-head*** and ***hex-head plugs*** are solid.







Pipe Size	Couplings	Half Couplings	Caps	Square-Head Plugs♠	Hex-Head Plugs♠
Type 304 Stainless Steel					
1/8	45525K561 $4.71	45525K571 $3.99	45525K581 $5.59	4464K321 $3.64	4464K331 $2.86
1/4	45525K562 5.16	45525K572 4.09	45525K582 5.73	4464K322 3.96	4464K332 2.91
3/8	45525K563 5.67	45525K573 4.87	45525K583 5.94	4464K323 5.22	4464K333 3.64
1/2	45525K564 7.25	45525K574 5.72	45525K584 7.73	4464K324 6.23	4464K334 4.84
3/4	45525K565 9.63	45525K575 7.81	45525K585 9.66	4464K325 8.40	4464K335 6.82
1	45525K566 16.34	45525K576 13.13	45525K586 18.16	4464K326 12.92	4464K336 11.40
1 1/4	45525K567 36.83	45525K577 21.11	45525K587 26.30	4464K327 29.34	4464K337 22.93
1 1/2	45525K568 42.85	45525K578 27.78	45525K588 33.04	4464K328 31.88	4464K338 28.60
2	45525K569 61.10	45525K579 39.22	45525K589 44.83	4464K329 37.09	4464K339 44.40
2 1/2	45525K161 128.37	45525K171 88.44	45525K181 90.64	4464K181 68.76	4464K184 74.16
3	45525K162 181.59	45525K172 125.11	45525K182 134.50	4464K182 101.84	4464K185 85.97
Type 316 Stainless Steel					
1/8	4443K661 5.14	4443K671 4.43	4443K681 7.53	4443K711 3.77	4443K721 3.32
1/4	4443K662 5.83	4443K672 4.65	4443K682 7.62	4443K712 3.82	4443K722 3.40
3/8	4443K663 6.26	4443K673 5.71	4443K683 8.10	4443K713 5.54	4443K723 5.94
1/2	4443K664 8.69	4443K674 6.77	4443K684 11.02	4443K714 6.77	4443K724 6.09
3/4	4443K665 12.76	4443K675 10.19	4443K685 14.31	4443K715 9.39	4443K725 8.13
1	4443K666 21.40	4443K676 16.10	4443K686 21.96	4443K716 14.04	4443K726 13.32
1 1/4	4443K667 44.57	4443K677 30.60	4443K687 32.88	4443K717 33.87	4443K727 30.50
1 1/2	4443K668 56.15	4443K678 40.82	4443K688 42.64	4443K718 36.75	4443K728 37.77
2	4443K669 69.29	4443K679 52.78	4443K689 66.67	4443K719 47.83	4443K729 50.31
2 1/2	4443K161 166.06	4443K171 110.62	4443K181 137.37	4443K211 75.17	4443K221 84.51
3	4443K162 228.75	4443K172 149.72	4443K182 167.16	4443K212 114.06	4443K222 111.26

♠ Do not meet ANSI/ASME B16.11.

(Continued on following page)

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

High-Pressure Stainless Steel Threaded Pipe Fittings

(Continued from previous page)



Hex Reducing Bushings, Male×Female♠

Pipe Size (A)	Pipe Size (B)		
Type 304 Stainless Steel			
1/4	1/8	4464K381	$4.40
3/8	1/8	4464K641	4.73
3/8	1/4	4464K382	4.84
1/2	1/8	4464K397	6.30
1/2	1/4	4464K642	6.45
1/2	3/8	4464K383	6.60
3/4	1/8	4464K398	8.46
3/4	1/4	4464K399	8.56
3/4	3/8	4464K643	8.66
3/4	1/2	4464K384	8.76
1	1/8	4464K411	12.38
1	1/4	4464K412	12.52
1	3/8	4464K413	12.67
1	1/2	4464K644	12.81
1	3/4	4464K385	12.97
1 1/4	1/8	4464K414	23.69
1 1/4	1/4	4464K415	23.96
1 1/4	3/8	4464K416	24.14
1 1/4	1/2	4464K417	24.52
1 1/4	3/4	4464K645	24.81
1 1/4	1	4464K386	25.11
1 1/2	1/8	4464K418	31.05
1 1/2	1/4	4464K419	31.41
1 1/2	3/8	4464K421	31.78
1 1/2	1/2	4464K422	32.15
1 1/2	3/4	4464K648	32.53
1 1/2	1	4464K646	32.93
1 1/2	1 1/4	4464K387	33.33
2	3/8	4464K425	43.38
2	1/2	4464K426	43.88
2	3/4	4464K427	44.39
2	1	4464K649	44.91
2	1 1/4	4464K647	45.45
2	1 1/2	4464K388	46.00
2 1/2	2	4464K391	82.22
3	1	4464K431	120.41
3	2	4464K392	123.15
3	2 1/2	4464K432	126.01
4	2	4464K433	213.36
4	3	4464K393	216.97
Type 316 Stainless Steel			
1/4	1/8	4443K731	$4.79
3/8	1/8	4443K751	5.25
3/8	1/4	4443K732	5.51
1/2	1/8	4443K411	7.08
1/2	1/4	4443K752	7.26
1/2	3/8	4443K733	7.44
3/4	1/8	4443K412	9.36
3/4	1/4	4443K413	9.47
3/4	3/8	4443K754	9.58
3/4	1/2	4443K734	9.69
1	1/8	4443K414	13.56
1	1/4	4443K415	13.78
1	3/8	4443K416	13.93
1	1/2	4443K757	14.25
1	3/4	4443K735	14.58
1 1/4	1/8	4443K441	31.72
1 1/4	1/4	4443K417	31.03
1 1/4	3/8	4443K418	31.37
1 1/4	1/2	4443K419	31.72
1 1/4	3/4	4443K759	31.72
1 1/4	1	4443K736	32.44
1 1/2	1/8	4443K442	37.59
1 1/2	1/4	4443K443	35.93
1 1/2	3/8	4443K421	36.78
1 1/2	1/2	4443K422	37.18
1 1/2	3/4	4443K423	37.18
1 1/2	1	4443K762	37.59
1 1/2	1 1/4	4443K737	38.45
2	3/8	4443K446	51.22
2	1/2	4443K424	51.79
2	3/4	4443K425	52.38
2	1	4443K426	52.98
2	1 1/4	4443K764	53.60
2	1 1/2	4443K738	54.23
2 1/2	2	4443K427	87.11
3	1	4443K449	126.05
3	2	4443K739	131.91
3	2 1/2	4443K114	131.91
4	2	4443K115	235.40
4	3	4443K553	235.40

♠ Do not meet ANSI/ASME B16.11.



Reducing Couplings

Pipe Size (A)	Pipe Size (B)		
Type 304 Stainless Steel			
1/4	1/8	45525K641	$6.79
3/8	1/8	45525K642	8.45
3/8	1/4	45525K643	8.67
1/2	1/8	45525K115	9.80
1/2	1/4	45525K644	11.21
1/2	3/8	45525K645	12.07
3/4	1/4	45525K313	15.77
3/4	3/8	45525K646	16.19
3/4	1/2	45525K647	16.98
1	1/4	45525K116	18.57
1	1/2	45525K648	23.38
1	3/4	45525K649	23.98
1 1/4	3/4	45525K651	44.11
1 1/4	1	45525K652	45.24
1 1/2	1/2	45525K117	51.98
1 1/2	1	45525K653	57.94
1 1/2	1 1/4	45525K654	59.43
2	1 1/4	45525K655	71.88
2	1 1/2	45525K656	73.47
Type 316 Stainless Steel			
1/4	1/8	4443K741	8.85
3/8	1/8	4443K771	10.33
3/8	1/4	4443K742	10.33
1/2	1/8	4443K116	12.65
1/2	1/4	4443K772	13.78
1/2	3/8	4443K743	13.78
3/4	1/4	4443K313	18.83
3/4	3/8	4443K774	19.07
3/4	1/2	4443K744	19.31
1	1/4	4443K117	28.73
1	1/2	4443K777	31.30
1	3/4	4443K745	31.30
1 1/4	3/4	4443K779	61.87
1 1/4	1	4443K746	61.87
1 1/2	1/2	4443K118	69.24
1 1/2	1	4443K782	69.88
1 1/2	1 1/4	4443K747	71.47
2	1 1/4	4443K784	99.94
2	1 1/2	4443K748	102.21

High-Pressure Stainless Steel Threaded Flanges

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 300 psi @ 72° F; 300 psi @ 300° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 80 thick-wall stainless steel (see pages 14-15)

Commonly called Class 300, ANSI, and raised-face flanges, these high-strength forged flanges provide easy access to your pipe. Bolt two same-size flanges together with a gasket (not included) to form a tight seal. For gaskets, see pages 3531-3534; for bolts, see pages 3161-3163. Flanges meet ASTM A182 and ANSI/ASME B16.5.

Type 304/304L stainless steel offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

Connections: NPT.



Pipe Size	Flange OD	Bolts Required Qty.	Bolts Required Dia.		
Type 304/304L Stainless Steel					
1/2	3 3/4"	4	1/2"	7977K11	$41.19
3/4	4 5/8"	4	5/8"	7977K12	42.84
1	4 7/8"	4	5/8"	7977K13	43.71
1 1/4	5 1/4"	4	5/8"	7977K14	68.44
1 1/2	6 1/8"	4	3/4"	7977K15	69.69
2	6 1/2"	8	5/8"	7977K16	78.86
2 1/2	7 1/2"	8	3/4"	7977K17	135.58
3	8 1/4"	8	3/4"	7977K18	140.96
4	10"	8	3/4"	7977K19	184.04

Pipe Size	Flange OD	Bolts Required Qty.	Bolts Required Dia.		
Type 316/316L Stainless Steel					
1/2	3 3/4"	4	1/2"	7469T31	$44.56
3/4	4 5/8"	4	5/8"	7469T32	56.10
1	4 7/8"	4	5/8"	7469T33	60.10
1 1/4	5 1/4"	4	5/8"	7469T34	83.33
1 1/2	6 1/8"	4	3/4"	7469T35	101.76
2	6 1/2"	8	5/8"	7469T36	108.76
2 1/2	7 1/2"	8	3/4"	7469T37	190.91
3	8 1/4"	8	3/4"	7469T38	194.73
4	10"	8	3/4"	7469T39	250.46

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Stainless Steel Threaded Pipe Nipples and Pipe CAD



Fully Threaded



Threaded on Both Ends

- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 3000 high-pressure stainless steel (see pages 12-13)
- Flanges: Use threaded high-pressure stainless steel (see page 13)

The thick-wall design, which is often called Schedule 80, gives these threaded nipples and pipe the strength to handle high-pressure applications. All have seamless construction for unrestricted flow. Meet ASTM A733, ASTM A312, and ANSI/ASME B1.20.1.

Type 304/304L stainless steel offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.

Type 304/304L Stainless Steel

FULLY THREADED

Pipe Size	Lg.		
1/8	3/4"	46755K11	$3.63
1/4	7/8"	46755K12	4.10
3/8	1"	46755K13	4.80
1/2	1 1/8"	46755K14	5.93
3/4	1 3/8"	46755K15	7.40
1	1 1/2"	46755K16	9.83
1 1/4	1 5/8"	46755K17	12.34
1 1/2	1 3/4"	46755K18	14.28
2	2"	46755K19	22.06
3	2 5/8"	46755K261	51.08
4	2 7/8"	46755K271	65.66

THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths		2" Lengths		2 1/2" Lengths		3" Lengths		3 1/2" Lengths	
1/8	46755K21	$4.57	46755K31	$5.37	46755K121	$6.10	46755K41	$6.93	46755K131	$7.90
1/4	46755K22	4.90	46755K32	5.83	46755K122	6.80	46755K42	7.80	46755K132	9.03
3/8	46755K23	5.67	46755K33	6.73	46755K123	7.93	46755K43	9.13	46755K133	10.60
1/2	46755K24	6.97	46755K34	8.13	46755K124	9.60	46755K44	11.07	46755K134	12.09
3/4	46755K25	7.80	46755K35	9.07	46755K125	10.70	46755K45	11.56	46755K135	13.47
1			46755K36	11.25	46755K126	13.16	46755K46	15.19	46755K136	17.75
1 1/4			46755K37	14.34	46755K127	16.66	46755K47	19.28	46755K137	22.56
1 1/2			46755K38	15.41	46755K128	18.31	46755K48	21.19	46755K138	24.81
2					46755K129	23.75	46755K49	27.03	46755K139	31.72
3							46755K262	55.71	46755K263	63.37
4									46755K272	88.97

THREADED ON BOTH ENDS

Pipe Size	4" Lengths		5" Lengths		6" Lengths		8" Lengths		10" Lengths		12" Lengths	
1/8	46755K51	$8.70	46755K61	$10.27	46755K71	$11.12	46755K81	$14.50	46755K91	$17.66	46755K111	$20.59
1/4	46755K52	10.13	46755K62	11.38	46755K72	13.22	46755K82	17.47	46755K92	21.41	46755K112	25.16
3/8	46755K53	11.06	46755K63	13.28	46755K73	15.50	46755K83	20.62	46755K93	25.34	46755K113	29.78
1/2	46755K54	13.53	46755K64	16.28	46755K74	19.03	46755K84	25.19	46755K94	31.06	46755K114	36.56
3/4	46755K55	15.00	46755K65	18.09	46755K75	21.16	46755K85	27.87	46755K95	34.41	46755K115	40.53
1	46755K56	19.78	46755K66	23.88	46755K76	27.97	46755K86	37.22	46755K96	45.91	46755K116	54.09
1 1/4	46755K57	25.16	46755K67	30.38	46755K77	35.59	46755K87	46.88	46755K97	49.74	46755K117	57.63
1 1/2	46755K58	27.72	46755K68	33.50	46755K78	39.28	46755K88	52.00	46755K98	54.13	46755K118	63.87
2	46755K59	35.44	46755K69	42.94	46755K79	50.41	46755K89	56.66	46755K99	70.03	46755K119	82.61
3	46755K264	69.50	46755K265	76.82	46755K266	89.13	46755K267	106.84	46755K268	129.88	46755K269	138.68
4	46755K273	86.55	46755K274	102.24	46755K275	118.95	46755K276	161.74	46755K277	197.26	46755K278	230.74

To Order: Please specify length.

Pipe Size		14" Lengths	16" Lengths	18" Lengths	20" Lengths	22" Lengths	24" Lengths	36" Lengths	48" Lengths	60" Lengths	72" Lengths	120" Lengths
1/8	48395K61	$15.37	$17.57	$19.80	$21.96	$24.13	$26.38	$39.56	$52.79	$65.96	$79.17	$108.50
1/4	48395K62	18.43	21.07	23.72	26.35	28.98	31.65	47.50	63.28	79.12	89.79	129.78
3/8	48395K63	22.37	25.59	28.81	31.96	35.17	38.40	57.65	76.82	90.76	108.95	157.92
1/2	48395K64	29.17	33.35	41.07	41.67	45.83	54.79	82.17	102.22	127.80	135.33	221.21
3/4	48395K65	35.02	40.04	49.43	49.74	55.04	65.79	92.16	122.91	143.96	159.50	238.34
1	48395K66	45.22	51.91	63.62	64.63	71.07	79.27	118.87	137.13	171.40	205.73	307.38
1 1/4	48395K67	56.89	65.02	80.10	81.26	87.47	99.69	149.56	172.60	215.73	240.38	386.79
1 1/2	48395K68	67.11	76.70	88.18	95.87	103.21	117.60	176.36	203.50	254.38	283.45	440.90
2	48395K69	87.46	99.93	106.40	119.73	131.69	141.89	212.82	223.84	279.81	335.77	554.20
3	48395K81	149.16	170.46	191.79	213.09	234.39	255.70	346.44	461.92	577.40		
4	48395K82	199.74	229.30	257.98	286.64	315.30	343.96	515.96	687.95			

Type 316/316L Stainless Steel

FULLY THREADED

Pipe Size	Lg.		
1/8	3/4"	4475K11	$3.78
1/4	7/8"	4475K12	4.28
3/8	1"	4475K13	5.12
1/2	1 1/8"	4475K14	6.67
3/4	1 3/8"	4475K15	8.50
1	1 1/2"	4475K16	10.88
1 1/4	1 5/8"	4475K17	14.88
1 1/2	1 3/4"	4475K18	17.62
2	2"	4475K19	27.21
3	2 5/8"	4475K251	62.95
4	2 7/8"	4475K271	82.75

THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths		2" Lengths		2 1/2" Lengths		3" Lengths		3 1/2" Lengths	
1/8	4475K21	$4.97	4475K31	$5.94	4475K121	$6.84	4475K41	$7.81	4475K131	$8.97
1/4	4475K22	5.31	4475K32	6.38	4475K122	7.53	4475K42	8.66	4475K132	10.09
3/8	4475K23	6.19	4475K33	7.47	4475K123	8.84	4475K43	10.22	4475K133	11.21
1/2	4475K24	8.00	4475K34	9.53	4475K124	11.38	4475K44	12.41	4475K134	14.56
3/4	4475K26	9.03	4475K35	10.69	4475K125	12.00	4475K45	13.94	4475K135	16.32
1			4475K36	13.47	4475K126	15.88	4475K46	18.50	4475K136	21.74
1 1/4			4475K37	17.41	4475K127	20.56	4475K47	23.94	4475K137	28.18
1 1/2			4475K38	19.24	4475K128	23.06	4475K48	26.91	4475K138	31.71
2					4475K129	30.26	4475K49	34.88	4475K139	41.18
3							4475K252	69.30	4475K253	79.88
4									4475K272	106.79

(Continued on following page)

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

i To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Stainless Steel Threaded Pipe Nipples and Pipe

(Continued from previous page)

Type 316/316L Stainless Steel (Cont.)



THREADED ON BOTH ENDS

Pipe Size	4" Lengths		5" Lengths		6" Lengths		8" Lengths		10" Lengths		12" Lengths	
1/8	4475K51	$9.94	4475K61	$11.15	4475K71	$12.94	4475K81	$16.97	4475K91	$20.76	4475K111	$24.35
1/4	4475K52	11.34	4475K62	12.82	4475K72	15.00	4475K82	19.85	4475K92	24.44	4475K112	28.74
3/8	4475K53	12.53	4475K63	15.12	4475K73	17.71	4475K83	23.59	4475K93	29.09	4475K113	34.29
1/2	4475K54	16.32	4475K64	19.76	4475K74	23.21	4475K84	30.79	4475K94	38.12	4475K114	45.00
3/4	4475K55	18.26	4475K65	22.12	4475K75	26.00	4475K85	34.41	4475K95	42.59	4475K115	50.32
1	4475K56	24.35	4475K66	29.53	4475K76	34.74	4475K86	46.29	4475K96	57.35	4475K116	57.58
1 1/4	4475K57	31.56	4475K67	38.32	4475K77	45.09	4475K87	53.37	4475K97	62.95	4475K117	74.45
1 1/2	4475K58	35.53	4475K68	43.21	4475K78	50.85	4475K88	58.92	4475K98	71.28	4475K118	84.33
2	4475K59	46.21	4475K69	56.26	4475K79	56.38	4475K89	75.33	4475K99	93.50	4475K119	102.88
3	4475K354	88.33	4475K255	99.74	4475K256	109.26	4475K257	147.70	4475K258	181.14	4475K259	212.60
4	4475K273	104.59	4475K274	123.53	4475K275	144.65	4475K276	195.86	4475K277	230.00	4475K278	270.33

To Order: Please specify length.

Pipe Size	14" Lengths	16" Lengths	18" Lengths	20" Lengths	22" Lengths	24" Lengths	36" Lengths	48" Lengths	60" Lengths	72" Lengths	120" Lengths
1/8 — 68045K61	$19.55	$22.35	$23.55	$26.62	$29.26	$31.38	$47.08	$62.77	$78.47	$94.17	$120.71
1/4 — 68045K62	21.38	24.43	25.75	29.10	32.00	34.30	51.48	68.62	85.80	102.92	131.96
3/8 — 68045K63	26.55	30.35	31.98	36.12	39.74	42.62	63.95	85.27	94.73	113.67	163.96
1/2 — 68045K64	44.95	51.42	57.58	61.19	67.31	77.12	102.80	137.07	148.31	177.98	257.07
3/4 — 68045K65	50.77	58.02	64.92	69.07	75.98	87.05	116.00	154.67	167.35	199.74	290.07
1 — 68045K66	69.00	78.88	88.28	93.88	103.29	105.13	136.46	181.96	211.21	236.55	394.22
1 1/4 — 68045K67	87.97	99.74	113.12	119.71	128.60	134.67	174.83	202.05	252.52	303.02	505.02
1 1/2 — 68045K68	104.61	118.67	124.16	131.84	145.02	152.21	206.29	238.42	298.02	357.63	550.20
2 — 68045K69	121.67	127.69	135.35	150.40	165.44	181.29	235.73	314.32	392.88	471.43	725.29
3 — 68045K81	227.26	259.72	292.20	324.66	357.12	389.58	521.77	660.32	749.22	———	———
4 — 68045K83	302.40	345.60	388.80	432.00	448.30	480.00	658.98	797.54	———	———	———

Thick-Wall Smooth-Flow Stainless Steel Threaded Reducing Pipe Nipples

- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded medium-pressure stainless steel (see page 11)
- Flanges: Use threaded high-pressure stainless steel (see page 13)

Also known as swage nipples and Schedule 80 nipples, the walls reduce gradually to provide smoother flow than other types of reducing connections. They're made of Type 304/304L stainless steel, which offers very good corrosion resistance, and have seamless construction for unrestricted flow. Meet MSS SP-95 and ASTM 403 WP.

Connections: NPT.



Pipe Size (A)	(B)	Lg.		
1/2	1/4	2 3/4"	2161K11	$24.75
1/2	3/8	2 3/4"	2161K12	26.96
3/4	1/4	3"	2161K13	29.80
3/4	1/2	3"	2161K14	29.80
1	1/2	3 1/2"	2161K15	37.88
1	3/4	3 1/2"	2161K16	37.88
1 1/4	1	4"	2161K17	68.19
1 1/2	1/2	4 1/2"	2161K18	75.05
1 1/2	3/4	4 1/2"	2161K19	75.05
1 1/2	1	4 1/2"	2161K21	73.20
1 1/2	1 1/4	4 1/2"	2161K22	73.20
2	1/2	6 1/2"	2161K23	181.09
2	3/4	6 1/2"	2161K24	181.09
2	1	6 1/2"	2161K25	171.85
2	1 1/4	6 1/2"	2161K26	174.76
2	1 1/2	6 1/2"	2161K27	177.78

High-Strength Lightweight Titanium Threaded Pipe Fittings

- Use with air, water, oil, natural gas
- Maximum Pressure: 3,000 psi @ 72° F

With excellent strength-to-weight ratio, titanium fittings are approximately 40% lighter than steel. Titanium offers superior corrosion resistance and will stand up to most salt water and chloride applications. Fittings meet ASTM B348. Dimensions conform to ANSI/ASME B16.11.

Half couplings are partially threaded; one end has an unthreaded portion that can be welded.

Connections: NPT.






Pipe Size	Couplings		Half Couplings		Square-Head Plugs		Hex-Head Plugs	
1/4	1961K22	$71.27	1961K27	$62.13	1961K16	$73.37	1961K11	$60.75
3/8	1961K23	75.82	1961K28	65.22	1961K17	79.58	1961K12	66.63
1/2	1961K24	87.07	1961K29	71.77	1961K18	84.10	1961K13	71.43
3/4	1961K25	98.80	1961K31	78.60	1961K19	94.07	1961K14	80.32
1	1961K26	117.86	1961K32	92.43	1961K21	101.60	1961K15	98.85

Stainless Steel Pipe Fittings

For technical drawings and 3-D models, go to mcmaster.com.

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

High-Pressure Stainless Steel Threaded Pipe Outlets

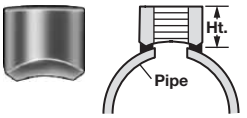

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: See table; 600 psi @ 220° F for steam
- Pipe: Use threaded Schedule 80 thick-wall stainless steel (see pages 14-15)

Also known as branch connectors, use these to create a threaded outlet anywhere on your pipe. Comparable to Thredolet. To install, drill a hole in your pipe to match the fitting's outlet size and weld in place. Meet MSS SP-97 and ANSI/ASME B16.11.

Type 304/304L stainless steel offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

Connections: NPT.

To Order: Please specify pipe size within the range shown below.

Fits Pipe Size Range	Outlet, Pipe Size	Ht.	Max. psi @ 72° F	Type 304/304L Stainless Steel		Type 316/316L Stainless Steel	
1/4 to 36	1/4	3/4"	3,000	4565T31	$28.50	4583T11	$33.24
3/8 to 36	3/8	13/16"	3,000	4565T32	29.13	4583T12	33.98
1/2 to 36	1/2	1"	3,000	4565T33	29.80	4583T13	34.65
3/4 to 36	3/4	1 1/16"	3,000	4565T34	35.54	4583T14	39.07
1 to 36	1	1 5/16"	3,000	4565T35	44.80	4583T15	50.70
1 1/4 to 36	1 1/4	1 5/16"	3,000	4565T36	74.27	4583T16	83.92
1 1/2 to 36	1 1/2	1 3/8"	2,850	4565T37	84.79	4583T17	92.75
2 to 36	2	1 1/2"	2,500	4565T38	96.68	4583T18	106.21

Extreme-Pressure Stainless Steel Threaded Pipe Fittings

- Use with water, oil, steam
- Maximum Pressure: See table; steam is rated @ 300° F

Built tough to handle the pressure of nearly any job. Made of Type 316 stainless steel for excellent resistance to heat and corrosion.

Connections: NPTF (Dryseal), unless noted. NPTF threads are compatible with NPT threads.

Elbows, Tees, and Crosses

Meet ASTM A182. The ***90° female×male elbows*** are also known as street elbows.









Pipe Size	90° Elbows, Female: Max. psi @ 72° F			90° Elbows, Male: Max. psi @ 72° F			90° Elbows, Female×Male: Max. psi @ 72° F			45° Elbows, Female×Male: Max. psi @ 72° F		
1/8	5,000	51205K162	$21.19	6,000	51205K113	$33.73	5,000	51205K279	$21.54	5,000	51205K119	$29.19
1/4	5,000	51205K152	24.63	6,000	51205K112	18.67	5,000	51205K272	28.67	5,000	51205K121	35.25
3/8	4,500	51205K154	34.08	6,000	51205K114	37.15	4,500	51205K274	34.75	4,500	51205K122	94.46
1/2	3,000	51205K156	51.62	6,000	51205K115	43.25	3,000	51205K276	54.60	3,000	51205K123	103.19
3/4	3,000	51205K158	85.12	4,000	51205K116	110.51	3,000	51205K278	99.25	3,000	51205K124	171.84
1	1,800	51205K159	134.65	3,000	51205K117	146.02	1,800	51205K282	163.73	1,800	51205K125	229.22









Pipe Size	Tees, Female: Max. psi @ 72° F			Tees, Female×Female×Male: Max. psi @ 72° F			Tees, Female×Male×Female: Max. psi @ 72° F			Crosses: Max. psi @ 72° F		
1/8	5,000	51205K242	$27.96	5,000	51205K126	$32.10	5,000	51205K165	$38.31	5,000	51205K172	$49.19
1/4	5,000	51205K241	34.06	5,000	51205K127	33.31	5,000	51205K166	33.15	5,000	51205K173	54.81
3/8	4,500	51205K243	47.15	4,500	51205K128	54.19	4,500	51205K167	66.81	4,500	51205K174	90.52
1/2	3,000	51205K245	70.96	3,000	51205K129	79.63	3,000	51205K168	79.79	3,000	51205K175	97.88
3/4	3,000	51205K247	120.22	3,000	51205K131	176.52	3,000	51205K169	178.13	3,000	51205K576	303.18
1	1,800	51205K244	176.24	1,800	51205K164	188.25	1,800	51205K171	194.05	1,800	51205K577	336.70

Plugs with NPTF Threads

All meet ASTM A479. ***Hex-socket plugs*** are solid. ***Hex-head plugs*** are hollow, except the 1/8 pipe size is solid.



Pipe Size	Hex-Socket Plugs: Max. psi @ 72° F	Hex Key Size		
1/8	7,200	3/16"	51205K176	$7.15
1/4	7,200	1/4"	51205K177	6.88
3/8	7,200	5/16"	51205K178	9.04
1/2	7,200	3/8"	51205K179	21.92
3/4	6,600	9/16"	51205K181	33.27
1	5,350	5/8"	51205K208	44.70



Pipe Size	Hex-Head Plugs: Max. psi @ 72° F		
1/8	7,200	51205K392	$5.46
1/4	7,200	51205K391	6.44
3/8	7,200	51205K393	8.37
1/2	7,200	51205K395	12.27
3/4	6,600	51205K396	18.85
1	5,400	51205K425	30.75

Plugs with Straight Threads

All are hollow, have UN/UNF straight threads, and come with a fluoroelastomer seal. Meet ASTM A479.



Thread Size (Actual OD)	Hex-Head Plugs: Max. psi @ 72° F		
3/8"-24	9,000	51205K286	$21.21
7/16"-20	9,000	51205K287	6.38
1/2"-20	7,200	51205K288	13.21
9/16"-18	7,200	51205K289	8.87
3/4"-16	7,200	51205K291	11.98
7/8"-14	7,200	51205K292	23.71
1 1/16"-12	7,200	51205K293	32.85
1 5/16"-12	6,600	51205K294	51.73

(Continued on following page)

How to Measure Female Threaded Fittings— *Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Extreme-Pressure Stainless Steel Threaded Pipe Fittings

(Continued from previous page)

Couplings, Adapters, Nipples, and Bushings

All meet ASTM A479.







Pipe Size (A)	Pipe Size (B)	Hex Couplings Max. psi @ 72° F			Adapters, Female×Male Max. psi @ 72° F			Hex Nipples Max. psi @ 72° F		
1/8	1/8	6,000	51205K182	$12.23	6,550	51205K209	$11.51	7,200	51205K471	$7.63
1/4	1/8	6,000	51205K183	13.90	6,000	51205K187	18.71	7,200	51205K191	10.12
1/4	1/4	6,000	51205K212	13.04	6,000	51205K311	18.52	7,200	51205K132	7.98
3/8	1/8	6,000	51205K184	33.04	5,350	51205K312	17.35	7,200	51205K192	30.37
3/8	1/4	6,000	51205K214	35.96	6,000	51205K313	19.23	7,200	51205K133	12.94
3/8	3/8	6,000	51205K216	18.37	5,350	51205K314	21.96	7,200	51205K135	10.71
1/2	1/8	6,000	51205K217	56.58	6,000	51205K315	44.08	7,750	51205K136	22.03
1/2	1/4	6,000	51205K218	28.35	6,000	51205K317	25.19	7,200	51205K139	17.35
1/2	3/8	6,000	51205K221	43.87	6,000	51205K319	25.98	7,200	51205K137	16.98
1/2	1/2	6,000	51205K223	25.13	6,000	51205K321	25.67	7,200	51205K142	15.87
3/4	1/4	4,800	51205K224	53.04	4,800	51205K322	48.60	6,600	51205K201	38.90
3/4	3/8	4,800	51205K225	103.16	4,650	51205K323	69.70	7,350	51205K143	48.40
3/4	1/2	4,800	51205K226	55.44	4,800	51205K324	35.23	6,600	51205K202	23.56
3/4	3/4	4,800	51205K228	34.73	4,650	51205K325	67.52	6,600	51205K203	23.27
1	3/8	3,600	51205K229	103.16	4,450	51205K326	129.62	5,350	51205K147	72.37
1	1/2	3,600	51205K232	81.61	3,600	51205K188	97.25	5,350	51205K149	82.58
1	3/4	3,600	51205K233	64.58	3,600	51205K327	71.81	5,400	51205K204	77.98
1	1	3,600	51205K231	67.58	4,450	51205K328	87.80	5,400	51205K205	57.54
1 1/4	1	3,000	51205K234	123.80	3,000	51205K189	147.45	3,600	51205K206	146.22
1 1/4	1 1/4	3,000	51205K185	112.60				3,600	51205K207	108.27
1 1/2	1 1/2	2,400	51205K186	193.38				3,600	51205K197	139.24

Hex Reducing Bushings, Male×Female



Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F			Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F			Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F		
1/4	1/8	6,000	51205K342	$10.98	1/2	3/8	6,000	51205K353	$15.02	1	3/8	5,400	51205K198	$71.77
3/8	1/8	6,000	51205K344	11.98	3/4	1/4	6,000	51205K355	20.23	1	1/2	5,400	51205K363	32.60
3/8	1/4	6,000	51205K346	13.19	3/4	3/8	6,000	51205K357	21.19	1	3/4	4,800	51205K365	37.58
1/2	1/8	6,000	51205K348	14.81	3/4	1/2	6,000	51205K359	23.02	1 1/4	1	3,600	51205K199	110.36
1/2	1/4	6,000	51205K351	11.54	1	1/4	5,400	51205K251	79.37	1 1/2	1	3,600	51205K252	168.71

Extreme-Pressure Stainless Steel Threaded Adapters

- Use with water, oil, steam
- Maximum Pressure: See table; steam is 3,000 psi @ 300° F

Change the thread configuration in your extreme-pressure pipe system. Made from Type 316 stainless steel, which offers excellent corrosion resistance.

Connections: BSPP (British Standard Pipe Parallel), NPT, metric, NPTF (Dryseal), or UN/UNF straight threads. Male BSPP threads have a rubber seal bonded to a metal washer; UN/UNF threads have a fluoroelastomer seal.

Female×Male Adapters



BSPP (A)×NPT (B)

Pipe Size	Max. psi @ 72° F		
1/8	7,500	4822T76	$17.08
1/4	6,250	4822T77	18.38
3/8	6,250	4822T78	21.92
1/2	5,000	4822T79	26.50
3/4	4,500	4822T81	45.24
1	4,000	4822T82	79.20



NPT (A)×Metric (B)

Pipe Size (A)	Thread Size (B)	Max. psi @ 72° F		
1/8	M10×1.0	6,000	4822T61	$40.32
1/4	M12×1.5	6,000	4822T62	29.04
1/4	M14×1.5	6,000	4822T63	43.66
1/2	M18×1.5	5,000	4822T64	45.08
1/2	M20×1.5	5,000	4822T47	56.91
1/2	M22×1.5	5,000	4822T68	57.82



NPTF (A)×UN/UNF (B)

Pipe Size (A)	Thread Size (B)	Max. psi @ 72° F		
1/4	3/4"-16	6,000	51205K268	$65.85
1/4	7/16"-20	6,000	51205K265	76.92
1/4	9/16"-18	6,000	51205K266	49.81
3/8	3/4"-16	6,000	51205K269	48.00
3/8	9/16"-18	6,000	51205K267	66.33
1/2	3/4"-16	6,000	51205K271	100.81

Male Adapters



BSPP×NPT

Pipe Size	Max. psi @ 72° F		
1/8	7,500	4822T21	$25.86
1/4	6,250	4822T22	23.47
3/8	6,250	4822T23	26.79
1/2	5,000	4822T24	34.19
3/4	4,500	4822T65	47.71
1	4,000	4822T66	67.71



NPTF (A)×UN/UNF (B)

Pipe Size (A)	Thread Size (B)	Max. psi @ 72° F		
1/4	9/16"-18	6,000	51205K256	$68.12
3/8	3/4"-16	6,000	51205K258	97.87
3/8	9/16"-18	6,000	51205K257	42.87
1/2	3/4"-16	6,000	51205K259	43.23
3/4	1 1/16"-12	6,000	51205K262	105.33
1	1 5/16"-12	5,400	51205K263	90.27

Male Hex Nipples



BSPP×BSPP

Pipe Size	Max. psi @ 72° F		
1/8	7,500	4822T11	$34.52
1/4	6,250	4822T12	34.36
3/8	6,250	4822T13	35.92
1/2	5,000	4822T14	43.31
3/4	4,500	4822T55	62.31
1	3,600	4822T16	85.27

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Precision Extreme-Pressure Stainless Steel Threaded Pipe Fittings CAD

- Use with water, hydraulic oil, natural gas, steam, cryogenic gases (liquid nitrogen), unless noted
- Maximum Pressure: See table; steam is rated @ 300° F, unless noted

While you may know these as instrumentation fittings, we call them precision fittings because they have the most precise threads, tightest tolerances, and highest pressure ratings of all the stainless steel fittings we offer. Plus, the male threads are rolled for extra strength. They're Type 316 stainless steel, which offers excellent resistance to heat and corrosion. Meet ANSI/ASME B1.20.1, B31.1, and B31.3, unless otherwise stated.

Connections: NPT, unless noted.

Elbows, Tees, and Crosses

90° female×male and ***reducing 90° male×female elbows*** are also known as street elbows.



90° Elbows, Female

Pipe Size	Max. psi @ 72° F		
1/16	7,000	48805K121	$35.34
1/8	5,500	48805K92	22.08
1/4	5,600	48805K351	25.18
3/8	5,000	48805K37	35.58
1/2	4,500	48805K391	58.13



90° Elbows, Male

Pipe Size	Max. psi @ 72° F		
1/16	9,100	48805K96	$18.40
1/8	7,500	48805K41	19.47
1/4	7,200	48805K431	28.38
3/8	5,800	48805K451	46.44



90° Elbows, Female×Male

Pipe Size	Max. psi @ 72° F		
1/16	7,000	48805K122	$40.29
1/8	5,500	48805K18	22.27
1/4	5,600	48805K172	24.56
3/8	5,000	48805K19	35.53
1/2	4,500	48805K211	59.65



45° Elbows, Female×Male

Pipe Size	Max. psi @ 72° F		
1/16	10,000	48805K182	$32.33
1/8	5,600	48805K183	39.12
1/4	5,000	48805K184	71.13
3/8	4,500	48805K185	99.60



Reducing 90° Elbows, Male×Female

Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F		
1/8	1/16	7,000	48805K111	$60.35
1/4	1/16	7,000	48805K112	60.35
1/4	1/8	5,500	48805K113	31.50
3/8	1/16	7,000	48805K114	66.42
3/8	1/8	5,500	48805K115	61.47
3/8	1/4	5,600	48805K116	$72.36
1/2	1/8	5,500	48805K117	76.24
1/2	1/4	5,600	48805K118	82.04
1/2	3/8	5,000	48805K119	84.53



Tees, Female

Pipe Size	Max. psi @ 72° F		
1/16	7,000	48805K171	$46.95
1/8	5,500	48805K97	29.09
1/4	5,600	48805K471	31.62
3/8	5,000	48805K49	59.65
1/2	4,500	48805K511	76.73



Tees, Male

Pipe Size	Max. psi @ 72° F		
1/16	10,100	48805K123	$72.26
1/8	9,700	48805K124	23.70
1/4	8,000	48805K125	36.22
3/8	7,600	48805K127	49.82
1/2	6,200	48805K129	70.38



Tees, Female×Female×Male

Pipe Size	Max. psi @ 72° F		
1/16	7,000	48805K145	$54.98
1/8	5,500	48805K98	32.07
1/4	5,600	48805K571	33.16
3/8	5,000	48805K59	61.15
1/2	4,500	48805K611	81.25



Tees, Female×Male×Female

Pipe Size	Max. psi @ 72° F		
1/16	7,000	48805K191	$55.15
1/8	5,500	48805K192	32.92
1/4	5,600	48805K193	34.68
3/8	5,000	48805K194	63.66
1/2	4,500	48805K195	82.53



Crosses

Pipe Size	Max. psi @ 72° F		
1/16	7,000	48805K147	$72.85
1/8	5,500	48805K62	41.89
1/4	5,600	48805K631	54.84
3/8	5,000	48805K65	79.04
1/2	4,500	48805K671	97.62

Plugs, Caps, Hex Reducing Bushings, and Nipples

Hex-socket plugs are hollow. ***Hex-head plugs*** are solid, except 48805K149, which is drilled out on the threaded end. ***Pipe nipples*** are also called close nipples; they're threaded on each end to the center.



Hex-Socket Plugs

Pipe Size	Max. psi @ 72° F	Hex Key Size		
1/16	10,000	5/32"	48805K221	$17.86
1/8	9,100	3/16"	48805K222	8.55
1/4	7,500	1/4"	48805K223	9.95
3/8	7,200	5/16"	48805K224	17.38



Hex-Head Plugs

Pipe Size	Max. psi @ 72° F		
1/16	10,500	48805K149	$5.03
1/8	9,700	48805K94	5.62
1/4	8,000	48805K28	6.55
3/8	7,600	48805K32	8.76
1/2	7,000	48805K341	12.29



Caps

Pipe Size	Max. psi @ 72° F		
1/16	7,500	48805K148	$20.48
1/8	6,400	48805K93	6.85
1/4	6,600	48805K22	10.16
3/8	5,300	48805K24	11.91
1/2	5,200	48805K26	18.04



Hex Reducing Bushings, Male×Female

Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F		
1/8	1/16	6,400	48805K522	$6.71
1/4	1/16	7,500	48805K241	33.76
1/4	1/8	6,000	48805K523	7.76
3/8	1/8	6,400	48805K524	9.29
3/8	1/4	5,300	48805K525	10.21
1/2	1/8	6,600	48805K526	$14.89
1/2	1/4	6,400	48805K527	14.82
1/2	3/8	4,600	48805K528	15.53
3/4	1/4	6,400	48805K242	18.91
3/4	1/2	4,900	48805K243	20.87



Pipe Nipples

Pipe Size	Max. psi @ 72° F	Lg.		
1/16	10,000	3/4"	48805K161	$30.65
1/8	9,100	3/4"	48805K12	5.98
1/4	7,500	1 1/8"	48805K11	7.60
3/8	7,200	1 1/8"	48805K146	9.07
1/2	6,600	1 1/2"	48805K152	13.51

(Continued on following page)

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8″):	0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″	1 5/8″	1 3/4″	2 3/8″	2 3/4″	3 3/8″

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Precision Extreme-Pressure Stainless Steel Threaded Pipe Fittings

(Continued from previous page)

Hex Couplings, Adapters, and Hex Nipples



Hex Couplings

Pipe Size (A)	(B)	Max. psi @ 72° F		
1/16	1/16	7,500	48805K151	$32.07
1/8	1/16	6,400	48805K261	33.49
1/8	1/8	6,400	48805K72	10.53
1/4	1/8	6,600	48805K263	13.65
1/4	1/4	6,600	48805K69	13.44
3/8	1/8	5,300	48805K264	38.86
3/8	1/4	5,300	48805K71	18.75
3/8	3/8	5,300	48805K73	18.75
1/2	1/8	5,200	48805K265	29.01
1/2	1/4	5,200	48805K75	28.93
1/2	3/8	5,200	48805K77	28.22
1/2	1/2	5,200	48805K79	27.09



Adapters, Female×Male

Pipe Size (A)	(B)	Max. psi @ 72° F		
6,400			48805K126	$10.35
6,400			48805K128	8.58
6,600			48805K252	12.43
6,600			48805K36	11.73
5,300			48805K253	17.78
5,300			48805K38	16.65
5,300			48805K42	15.96
5,200			48805K254	25.21
5,200			48805K44	24.33
5,200			48805K46	24.35
5,200			48805K48	24.16



Hex Nipples

Pipe Size (A)	(B)	Max. psi @ 72° F	Lg.		
		10,000	1 1/16″	48805K271	$31.45
		9,100	1 1/16″	48805K272	7.03
		9,100	1 1/16″	48805K88	6.49
		7,500	1 1/4″	48805K86	8.58
		7,200	1 7/16″	48805K81	8.09
		7,200	1 1/4″	48805K82	12.21
		7,200	1 7/16″	48805K831	11.38
		7,200	1 7/16″	48805K851	11.55
		6,600	1 1/2″	48805K84	20.73
		6,600	1 11/16″	48805K871	17.44
		6,600	1 11/16″	48805K891	17.35
		6,600	1 7/8″	48805K911	16.49



LONG HEX NIPPLES

Pipe Size	Max. psi @ 72° F	2″ Lengths		2 1/2″ Lengths		3″ Lengths		4″ Lengths	
1/16	10,000	48805K163	$33.24	48805K164	$33.25	48805K165	$36.67	48805K166	$42.38
1/8	9,100	48805K135	10.80	48805K137	11.67	48805K141	12.38	48805K157	43.31
1/4	7,500	48805K23	11.00	48805K25	14.25	48805K27	16.22	48805K29	19.15
3/8	7,200	48805K136	14.71	48805K138	44.13	48805K142	17.06	48805K143	29.89
1/2	6,600	48805K311	19.85	48805K139	51.98	48805K331	30.02	48805K144	34.32

Adapters with a British Standard Connection

All have NPT threads on one end and British standard threads on the other end. BSPT (British Standard Pipe Taper) threads meet ISO 7/1 and BS21. BSPP (British Standard Pipe Parallel) threads meet ISO 228/1, 228/2, and BS2779. The fittings with male BSPP threads include a rubber seal bonded to a metal washer. *Note:* The ends of the fittings that have BSPT and BSPP threads do not meet ANSI/ASME B1.20.1.



ADAPTERS, MALE

NPT×BSPT

Pipe Size	Max. psi @ 72° F	Lg.		
1/8	9,100	1 1/16″	4092K81	$7.39
1/4	7,500	1 7/16″	4092K32	9.80
3/8	7,200	1 7/16″	4092K83	13.32
1/2	6,600	1 7/8″	4092K84	19.79
3/4	6,400	1 15/16″	4092K85	28.48
1	4,600	2 3/8″	4092K86	51.40

NPT×BSPP

Pipe Size	Max. psi @ 72° F	Lg.		
1/8	5,300	1 1/16″	4092K91★	$9.93
1/4	5,500	1 7/16″	4092K92★	12.54
3/8	4,400	1 1/2″	4092K93★	16.81
1/2	4,000	1 3/4″	4092K94★	26.12
3/4	3,700	1 15/16″	4092K95★	39.87
1	2,800	2 1/4″	4092K96★	70.83



ADAPTERS, FEMALE×MALE

BSPT (A)×NPT (B)

Pipe Size	Max. psi @ 72° F		
1/8	6,100	4092K26	$30.65
1/4	6,200	4092K21	34.40
3/8	5,000	4092K22	36.93
1/2	4,600	4092K23	53.00
3/4	4,300	4092K24	55.89
1	4,100	4092K25	77.38

BSPP (A)×NPT (B)

Pipe Size	Max. psi @ 72° F		
1/8	6,100	4092K56	$30.65
1/4	6,200	4092K51	35.57
3/8	5,000	4092K52	36.93
1/2	4,600	4092K53	49.18
3/4	4,300	4092K54	48.44
1	4,100	4092K55	77.85

NPT (A)×BSPP (B)

Pipe Size	Max. psi @ 72° F		
1/8	6,100	4092K11	$9.45
1/4	6,200	4092K12	13.16
3/8	5,000	4092K13	18.68
1/2	4,600	4092K14	27.39
3/4	4,300	4092K15	47.27
1	4,100	4092K16	90.60

NPT (A)×BSPP (B)

Pipe Size	Max. psi @ 72° F		
1/8	5,300	4092K71★	$13.57
1/4	5,500	4092K72★	17.81
3/8	4,400	4092K73★	22.87
1/2	4,000	4092K74★	35.21
3/4	3,700	4092K75★	68.40
1	2,800	4092K76★	99.99

★ Not for use with cryogenic gases (liquid nitrogen). Max. psi for steam is rated at 230° F.

Stainless Steel Threaded Locknuts with PTFE Seal

- Use with air, water, oil, natural gas
- Maximum Pressure: See table

A built-in seal eliminates the need for PTFE tape and sealants. Thread one of these locknuts onto the male end of your fitting before making a connection. They are Type 303 stainless steel, which offers very good corrosion resistance. Temperature range is –300° to +500° F.

Connections: NPT.

Pipe Size	Max. psi @ 72° F	Width	Thick.		
1/8	10,000	5/8″	3/16″	5530K37	$4.66
1/4	10,000	3/4″	5/16″	5530K38	6.02
3/8	10,000	7/8″	5/16″	5530K39	6.80
1/2	10,000	1 1/8″	5/16″	5530K44	11.24
3/4	5,000	1 5/16″	5/16″	5530K45	14.44
1	5,000	1 5/8″	3/8″	5530K46	24.84
1 1/4	5,000	2″	3/8″	5530K47	27.72
1 1/2	3,000	2 1/4″	3/8″	5530K48	37.02
2	3,000	2 3/4″	7/16″	5530K49	53.28

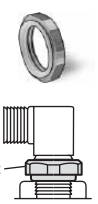

How to Measure Unthreaded Pipe and Butt-Weld Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Thin-Wall Butt-Weld Stainless Steel Unthreaded Pipe Fittings

- Use with air, water, oil, natural gas
- Pipe: Use unthreaded Schedule 10 thin-wall stainless steel (see page 21)

Choose thin-wall fittings, which are also known as Schedule 10, when you need a fitting that's lighter in weight than standard wall. They have beveled ends that, when connected to a pipe, create a trough for a strong weld. Meet MSS SP-43, ASTM A403/403M, and ANSI/ASME B16.9.

Fittings come in two low-carbon materials that are favorable for welding. ***Type 304/304L stainless steel*** offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

Stub ends are for use with the low-pressure easy-access flanges shown on page 24. ***Reducing couplings*** are also known as concentric reducers.

Connections: Butt weld (unthreaded).









Pipe Size	Wall Thick.	90° Elbows, Long Radius (C)			90° Elbows, Short Radius (C)			45° Elbows		Tees	
Type 304/304L Stainless Steel											
1/2	0.083"	1 1/2"	45735K211	$5.33	—	—	—	45735K231	$6.83	45735K251	$18.83
3/4	0.083"	1 1/2"	45735K214	5.44	—	—	—	45735K232	6.96	45735K252	19.01
1	0.109"	1 1/2"	45735K213	6.09	1"	45735K321	$40.04	45735K233	7.68	45735K253	19.20
1 1/4	0.109"	1 7/8"	45735K217	9.36	1 1/4"	45735K131	41.66	45735K237	12.84	45735K257	29.59
1 1/2	0.109"	2 1/4"	45735K215	7.62	1 1/2"	45735K323	42.65	45735K235	7.83	45735K255	19.39
2	0.109"	3"	45735K216	9.17	2"	45735K324	37.43	45735K236	9.36	45735K256	20.89
2 1/2	0.120"	3 3/4"	45735K221	16.54	2 1/2"	45735K132	64.24	45735K241	14.80	45735K261	54.40
3	0.120"	4 1/2"	45735K218	19.58	3"	45735K326	58.75	45735K238	16.97	45735K258	38.30
4	0.120"	6"	45735K219	32.64	4"	45735K327	74.85	45735K239	27.20	45735K259	57.45
6	0.134"	9"	45735K222	87.04	6"	45735K328	135.06	45735K242	58.75	45735K262	131.31
8	0.148"	12"	45735K111	144.16	8"	45735K114	197.61	45735K112	104.40	45735K113	268.73
Type 316/316L Stainless Steel											
1/2	0.083"	1 1/2"	43645K311	6.79	—	—	—	43645K331	8.53	43645K351	23.94
3/4	0.083"	1 1/2"	43645K312	6.79	—	—	—	43645K332	8.70	43645K352	23.94
1	0.109"	1 1/2"	43645K313	7.83	1"	43645K124	54.40	43645K333	9.79	43645K353	23.94
1 1/4	0.109"	1 7/8"	43645K111	13.28	1 1/4"	43645K125	54.88	43645K115	16.98	43645K119	41.34
1 1/2	0.109"	2 1/4"	43645K315	9.57	1 1/2"	43645K126	56.56	43645K335	9.57	43645K355	26.11
2	0.109"	3"	43645K316	11.97	2"	43645K127	49.74	43645K336	11.97	43645K356	26.98
2 1/2	0.120"	3 3/4"	43645K112	20.88	2 1/2"	43645K128	84.96	43645K116	18.72	43645K121	67.44
3	0.120"	4 1/2"	43645K318	25.68	3"	43645K129	79.20	43645K338	22.63	43645K358	49.74
4	0.120"	6"	43645K319	41.34	4"	43645K131	92.38	43645K339	34.82	43645K359	73.11
6	0.134"	9"	43645K113	104.70	6"	43645K132	178.04	43645K117	71.80	43645K122	180.02
8	0.148"	12"	43645K114	194.47	8"	43645K133	250.12	43645K118	132.23	43645K123	358.30





Pipe Size	Wall Thick.	Caps		Stub Ends	
Type 304/304L Stainless Steel					
1/2	0.083"	45735K271	$10.88	45735K291	$13.67
3/4	0.083"	45735K272	14.80	45735K292	14.81
1	0.109"	45735K273	16.10	45735K293	15.95
1 1/4	0.109"	45735K277	40.47	45735K297	35.32
1 1/2	0.109"	45735K275	17.41	45735K295	15.38
2	0.109"	45735K276	15.23	45735K296	18.80
2 1/2	0.120"	45735K281	21.76	45735K311	39.87
3	0.120"	45735K278	18.71	45735K298	26.20
4	0.120"	45735K279	23.94	45735K299	35.32
6	0.134"	45735K282	39.17	45735K312	71.20
8	0.148"	45735K115	73.78	45735K116	112.93
Type 316/316L Stainless Steel					
1/2	0.083"	43645K371	15.67	43645K391	17.66
3/4	0.083"	43645K372	20.89	43645K392	20.51
1	0.109"	43645K373	22.63	43645K393	20.51
1 1/4	0.109"	43645K147	56.58	43645K152	44.42
1 1/2	0.109"	43645K375	24.81	43645K395	19.94
2	0.109"	43645K376	19.58	43645K396	22.78
2 1/2	0.120"	43645K148	24.80	43645K153	48.98
3	0.120"	43645K378	26.11	43645K398	32.47
4	0.120"	43645K379	31.33	43645K399	44.43
6	0.134"	43645K149	52.22	43645K154	87.72
8	0.148"	43645K151	86.74	43645K155	158.53

(Continued on following page)

How to Measure Unthreaded Pipe and Butt-Weld Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.

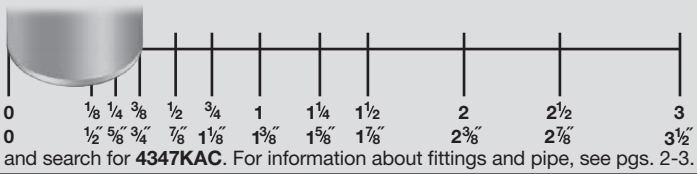

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Thin-Wall Butt-Weld Stainless Steel Unthreaded Pipe Fittings

(Continued from previous page)



Reducing Couplings

Pipe Size (A)	Pipe Size (B)		
Type 304/304L Stainless Steel			
3/4	1/2	45735K411	$11.75
1	1/2	45735K117	16.54
1	3/4	45735K413	14.36
1 1/4	1	45735K414	24.81
1 1/2	1	45735K418	9.14
1 1/2	1 1/4	45735K118	12.62
2	1/2	45735K119	44.82
2	3/4	45735K121	31.76
2	1	45735K423	10.88
2	1 1/4	45735K122	15.24
2	1 1/2	45735K425	10.44
2 1/2	1	45735K123	60.92
2 1/2	1 1/2	45735K424	47.87
2 1/2	2	45735K124	32.64
3	1 1/4	45735K125	58.76
Type 304/304L Stainless Steel (Cont.)			
3	2	45735K432	$14.80
4	1 1/2	45735K126	37.00
4	3	45735K437	15.67
6	2	45735K127	124.34
6	4	45735K438	26.11
8	4	45735K128	95.82
8	6	45735K129	78.70
Type 316/316L Stainless Steel			
3/4	1/2	43645K511	14.36
1	1/2	43645K134	21.32
1	3/4	43645K513	17.41
1 1/4	3/4	43645K156	27.20
1 1/2	1	43645K518	12.19
1 1/2	1 1/4	43645K135	16.98
2	1/2	43645K136	60.06
Type 316/316L Stainless Steel (Cont.)			
2	3/4	43645K137	$41.80
2	1	43645K523	14.80
2	1 1/4	43645K138	19.58
2	1 1/2	43645K525	12.19
2 1/2	1	43645K139	78.34
2 1/2	1 1/2	43645K157	50.77
2 1/2	2	43645K141	38.38
3	1 1/4	43645K142	82.68
3	2	43645K532	18.71
4	1 1/2	43645K143	45.70
4	3	43645K537	20.89
6	2	43645K144	161.64
6	4	43645K158	28.77
8	4	43645K145	119.43
8	6	43645K146	93.42

Thin-Wall Stainless Steel Unthreaded Pipe

- Use with air, water, oil, natural gas
- Fittings: Use butt-weld Schedule 10 thin-wall stainless steel (see page 20 and above)

Thin walls make this pipe, which is also called Schedule 10, lighter in weight than standard-wall pipe. Furnished unthreaded for welded connections, which are less likely to leak than threaded connections. Pipe has welded construction, so there is a weld bead on the inside. Meets ASTM A312 and ANSI/ASME B36.19.

Pipe comes in two low-carbon materials that are favorable for welding. ***Type 304/304L stainless steel*** offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

To Order: Please specify 1-, 3-, or 6-ft. length.



Pipe Size	*Type 304/304L Stainless Steel* 1 ft.	3 ft.	6 ft.	*Type 316/316L Stainless Steel* 1 ft.	3 ft.	6 ft.
1/2	4347K31 $10.70	$21.74	$33.44	4378K51 $13.24	$27.36	$44.13
3/4	4347K32 12.77	25.93	39.90	4378K52 16.03	33.67	53.44
1	4347K33 17.08	38.43	61.00	4378K53 20.63	48.39	79.33
1 1/4	4347K34 19.70	44.32	70.35	4378K54 26.71	62.68	102.75
1 1/2	4347K35 20.58	49.09	79.17	4378K55 27.48	68.69	114.49
2	4347K36 25.38	60.51	97.60	4378K56 33.83	84.57	140.95
2 1/2	4347K37 31.39	76.60	125.58	4378K57 41.92	107.53	182.25
3	4347K38 38.48	93.90	153.94	4378K58 49.97	128.18	217.25
4	4347K39 41.59	109.64	189.04	4378K59 55.28	154.79	276.41
6	4347K41 66.17	174.43	300.75	4378K61 82.26	230.33	411.31

Marine-Rated Butt-Weld Copper-Nickel Unthreaded Pipe Fittings

- Use with air, water, oil, natural gas

Other materials may cower to sea water, but not 90/10 copper-nickel—this corrosion-resistant material is tough enough to handle marine applications. Also known as Class 200 fittings and pipe, all proudly carry the military designation of NAVSEA rated. They are unthreaded for a welded connection, which is less likely to leak than a threaded connection.

Pipe has seamless construction for unrestricted flow. Meets MIL-T-16402K. **To Order:** Please specify 1-, 3-, or 6-ft. length. Connections: Butt weld (unthreaded).







Pipe Size	Wall Thick.	*90° Elbows, Long Radius* (C)		*90° Elbows, Short Radius* (C)		*45° Elbows*	
1	0.065"	2"	1946K11 $38.97	1 1/2"	1946K17 $36.67	1946K24	$59.93
1 1/2	0.072"	2 15/16"	1946K12 65.35	2 3/16"	1946K18 72.80	1946K25	64.92
2	0.083"	3 11/16"	1946K13 77.90	2 11/16"	1946K19 80.77	1946K26	74.83
2 1/2	0.083"	4 5/8"	1946K14 97.62	3 3/8"	1946K21 93.93	1946K27	79.75
3	0.095"	5 3/8"	1946K15 126.92	3 7/8"	1946K22 114.33	1946K28	101.92
4	0.109"	6 15/16"	1946K16 185.25	4 15/16"	1946K23 175.25	1946K29	151.83



Pipe

Pipe Size	Wall Thick.		1 ft.	3 ft.	6 ft.
1	0.065"	1946K51	$20.40	$56.10	$102.00
1 1/2	0.072"	1946K52	33.93	93.30	169.64
2	0.083"	1946K53	50.07	137.70	250.36
2 1/2	0.083"	1946K54	$56.90	$156.48	$284.50
3	0.095"	1946K55	68.14	187.39	340.71
4	0.109"	1946K56	100.87	277.40	504.37

How to Measure Unthreaded Pipe and Butt-Weld Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (nearest 1/8″):	0	1/2″	5/8″	3/4″	7/8″	1 1/8″	1 3/8″	1 5/8″	1 7/8″	2 3/8″	2 7/8″	3 1/2″

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Standard-Wall Butt-Weld Stainless Steel Unthreaded Pipe Fittings

CAD

- Use with air, water, oil, natural gas
- Pipe Nipples and Pipe: Use unthreaded Schedule 40 standard-wall stainless steel (see page 23)
- Flanges: Use unthreaded low-pressure stainless steel (see page 24)

A great choice when you need fittings with thicker walls than thin-wall pipe fittings, yet still want the leak resistance of a welded connection. These fittings, also known as Schedule 40, have beveled ends that, when connected to a pipe, create a trough for a strong weld. Meet MSS SP-43, ASTM A403, and ANSI/ASME B16.9. For butt-weld tube fittings, please see pages 232-233.

Fittings come in two low-carbon materials that are favorable for welding. ***Type 304/304L stainless steel*** offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

Stub ends are for use with the low-pressure easy-access flanges shown on page 24. ***Reducing couplings*** are also known as concentric reducers.

Connections: Butt weld (unthreaded).









Pipe Size	Wall Thick.	90° Elbows, Long Radius (C)		90° Elbows, Short Radius (C)		45° Elbows		Tees	
Type 304/304L Stainless Steel									
1/2	0.109″	1 1/2″	45605K511 $5.95	—	—	45605K551	$8.21	45605K621	$19.71
3/4	0.113″	1 1/2″	45605K512 6.07	—	—	45605K552	8.29	45605K622	19.89
1	0.133″	1 1/2″	45605K513 6.91	1″	45605K211 $31.39	45605K553	8.37	45605K623	20.09
1 1/4	0.140″	1 7/8″	45605K514 10.26	—	—	45605K554	12.13	45605K624	33.47
1 1/2	0.145″	2 1/4″	45605K515 8.16	1 1/2″	45605K213 35.99	45605K555	9.42	45605K625	20.28
2	0.154″	3″	45605K516 11.29	2″	45605K214 43.94	45605K556	11.71	45605K626	21.76
2 1/2	0.203″	3 3/4″	45605K517 23.85	—	—	45605K557	23.85	45605K627	54.40
3	0.216″	4 1/2″	45605K521 30.34	3″	45605K216 56.49	45605K561	21.97	45605K631	43.94
4	0.237″	6″	45605K523 56.49	4″	45605K217 89.97	45605K563	39.59	45605K633	62.77
6	0.280″	9″	45605K525 154.13	—	—	45605K565	98.91	45605K635	141.44
8	0.322″	12″	45605K526 279.24	—	—	45605K527	194.78	45605K528	413.04
Type 316/316L Stainless Steel									
1/2	0.109″	1 1/2″	45555K511 7.36	—	—	45555K551	9.93	45555K621	22.91
3/4	0.113″	1 1/2″	45555K512 7.45	—	—	45555K552	10.01	45555K622	23.11
1	0.133″	1 1/2″	45555K513 8.33	1″	45555K211 40.68	45555K553	10.07	45555K623	23.24
1 1/4	0.140″	1 7/8″	45555K514 12.59	—	—	45555K554	14.13	45555K624	40.68
1 1/2	0.145″	2 1/4″	45555K515 9.88	1 1/2″	45555K213 45.71	45555K555	11.43	45555K625	23.52
2	0.154″	3″	45555K516 13.95	2″	45555K214 60.68	45555K556	14.13	45555K626	25.19
2 1/2	0.203″	3 3/4″	45555K517 28.86	—	—	45555K557	31.18	45555K627	62.99
3	0.216″	4 1/2″	45555K521 37.39	3″	45555K216 71.67	45555K561	26.54	45555K631	50.36
4	0.237″	6″	45555K523 68.97	4″	45555K217 114.28	45555K563	48.42	45555K633	75.56
6	0.280″	9″	45555K525 197.65	—	—	45555K565	117.87	45555K635	190.40
8	0.322″	12″	45555K611 333.26	—	—	45555K612	223.12	45555K613	495.25





Pipe Size	Wall Thick.	Caps		Stub Ends	
Type 304/304L Stainless Steel					
1/2	0.109″	45605K581	$11.71	45605K651	$13.04
3/4	0.113″	45605K582	13.39	45605K652	14.08
1	0.133″	45605K583	16.74	45605K653	17.73
1 1/4	0.140″	45605K584	31.39	45605K654	39.12
1 1/2	0.145″	45605K585	20.92	45605K655	18.25
2	0.154″	45605K586	14.22	45605K656	19.30
2 1/2	0.203″	45605K587	25.94	45605K657	39.64
3	0.216″	45605K591	19.25	45605K661	27.64
4	0.237″	45605K593	27.20	45605K663	39.12
6	0.280″	45605K595	62.77	45605K665	80.84
8	0.322″	45605K529	101.41	45605K531	120.34
Type 316/316L Stainless Steel					
1/2	0.109″	45555K581	14.34	45555K651	16.04
3/4	0.113″	45555K582	18.21	45555K652	19.30
1	0.133″	45555K583	20.93	45555K653	22.43
1 1/4	0.140″	45555K584	38.75	45555K654	49.55
1 1/2	0.145″	45555K585	26.54	45555K655	23.47
2	0.154″	45555K586	18.40	45555K656	24.51
2 1/2	0.203″	45555K587	32.93	45555K657	50.59
3	0.216″	45555K591	24.41	45555K661	34.42
4	0.237″	45555K593	34.87	45555K663	49.02
6	0.280″	45555K595	75.56	45555K665	93.69
8	0.322″	45555K614	135.18	45555K615	153.73



Reducing Couplings

Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)		
Type 304/304L Stainless Steel				***Type 316/316L Stainless Steel***			
3/4	1/2	45605K711	$13.39	3/4	1/2	45555K711	$16.28
1	1/2	45605K111	19.67	1	1/2	45555K111	22.47
1	3/4	45605K716	15.48	1	3/4	45555K716	19.37
1 1/4	3/4	45605K112	46.04	1 1/4	3/4	45555K112	58.11
1 1/4	1	45605K726	22.18	1 1/4	1	45555K717	30.22
1 1/2	1/2	45605K113	38.92	1 1/2	1/2	45555K113	47.27
1 1/2	1	45605K725	10.05	1 1/2	1	45555K725	13.39
1 1/2	1 1/4	45605K114	15.90	1 1/2	1 1/4	45555K114	19.37
2	3/4	45605K115	37.65	2	3/4	45555K115	46.48
2	1	45605K741	14.64	2	1	45555K741	17.05
2	1 1/2	45605K745	11.71	2	1 1/2	45555K745	13.95
2 1/2	1	45605K116	66.96	2 1/2	1	45555K116	81.36
2 1/2	1 1/2	45605K746	52.31	2 1/2	1 1/2	45555K746	65.86
3	1	45605K117	46.04	3	1	45555K117	56.17
3	1 1/4	45605K118	66.96	3	1 1/4	45555K118	81.36
3	1 1/2	45605K119	20.92	3	1 1/2	45555K119	25.17
3	2	45605K762	18.83	3	2	45555K762	22.47
4	1 1/2	45605K121	48.12	4	1 1/2	45555K121	58.11
4	2	45605K122	27.19	4	2	45555K122	32.94
4	3	45605K783	20.92	4	3	45555K783	25.19
6	4	45605K786	54.40	6	4	45555K786	63.92
8	4	45605K123	176.22	8	4	45555K123	249.98
8	6	45605K532	122.95	8	6	45555K616	147.95

How to Measure Unthreaded Flanges—*Example shows pipe size 1/2.*

Pipe size is an industry designation, not the actual size. Place your flange on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your flange, then select the pipe size on the scale that corresponds to your measurement.

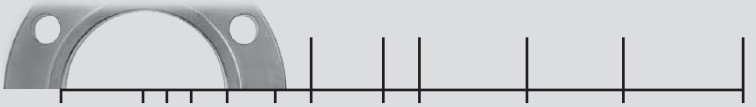

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Standard-Wall Stainless Steel Unthreaded Pipe Nipples

- Use with air, water, oil, natural gas
- Fittings: Use butt-weld Schedule 40 standard-wall stainless steel (see page 22) and socket-weld low-pressure stainless steel (see page 26)
- Flanges: Use unthreaded low-pressure stainless steel (see page 24)

We've cut pipe into short lengths so you won't have to. Also known as Schedule 40 nipples, they have welded construction, so there's a weld bead on the inside. Made of Type 304/304L stainless steel, a low-carbon material that's favorable for welding and offers very good corrosion resistance. Meet ASTM A312.



Pipe Size	1" Lengths		1 1/2" Lengths		2" Lengths		2 1/2" Lengths		3" Lengths		4" Lengths		6" Lengths	
1/8	1947K11	$1.46	1947K12	$1.90	1947K13	$2.20	1947K14	$2.50	1947K15	$2.87	1947K16	$3.57	1947K17	$4.90
1/4	1947K18	1.70	1947K19	2.04	1947K21	2.40	1947K22	2.80	1947K23	3.20	1947K24	4.16	1947K25	5.83
3/8	1947K26	2.00	1947K27	2.34	1947K28	2.80	1947K29	3.27	1947K31	3.76	1947K32	4.87	1947K33	6.83
1/2	1947K34	2.44	1947K35	2.87	1947K36	3.33	1947K37	3.96	1947K38	4.53	1947K39	5.93	1947K41	8.37
3/4	1947K42	3.03	1947K43	3.20	1947K44	3.73	1947K45	4.40	1947K46	5.07	1947K47	6.57	1947K48	9.27
1			1947K49	4.06	1947K51	4.94	1947K52	5.77	1947K53	6.63	1947K54	8.67	1947K55	12.27
1 1/4			1947K56	5.40	1947K57	6.27	1947K58	7.30	1947K59	8.47	1947K61	11.07	1947K62	15.60
1 1/2			1947K63	6.27	1947K64	6.94	1947K65	8.00	1947K66	9.30	1947K67	12.17	1947K68	17.24
2					1947K69	9.67	1947K71	10.43	1947K72	11.84	1947K73	15.57	1947K74	22.10
2 1/2							1947K75	19.17	1947K76	21.67	1947K77	25.56	1947K78	34.47
3							1947K79	26.63	1947K81	27.22	1947K82	33.97	1947K83	43.50
4							1947K84	30.18	1947K85	32.06	1947K86	42.25	1947K87	54.68

Standard-Wall Stainless Steel Unthreaded Pipe



- Use with air, water, oil, natural gas
- Fittings: Use butt-weld Schedule 40 standard-wall stainless steel (see page 22) and socket-weld low-pressure stainless steel (see page 26)
- Flanges: Use unthreaded low-pressure stainless steel (see page 24)

Also called Schedule 40, this pipe is unthreaded for welded connections, which are less likely to leak than threaded connections.

Pipe comes in two low-carbon materials that are favorable for welding. ***Type 304/304L stainless steel*** offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

Welded pipe is constructed with a weld bead on the inside. Meets ASTM A312 and ANSI/ASME B36.19.

Seamless pipe has a smooth interior for unrestricted flow. Meets ASTM A312.

To Order: Please specify 1-, 3-, or 6-ft. length.

Pipe Size	Type 304/304L Stainless Steel 1 ft.	3 ft.	6 ft.	Type 316/316L Stainless Steel 1 ft.	3 ft.	6 ft.
Welded						
1/8	44635K22	$5.70	$10.58	$16.28	44635K71	$16.66	$30.95	$47.61
1/4	44635K23	6.53	12.14	18.67	44635K72	18.62	34.58	53.20
3/8	44635K24	7.79	14.48	22.27	44635K73	20.29	37.68	57.97
1/2	44635K25	7.64	14.20	21.84	44635K74	24.71	45.89	70.60
3/4	44635K26	12.88	23.93	36.81	44635K75	28.28	52.51	80.79
1	44635K27	20.50	38.07	58.57	44635K76	39.56	73.46	113.02
1 1/4	44635K28	23.74	44.08	67.82	44635K77	51.18	95.05	146.23
1 1/2	44635K29	36.54	67.85	104.39	44635K78	59.19	109.93	169.12
2	44635K31	51.26	95.19	146.45	44635K79	77.41	143.77	221.18
2 1/2	44635K32	53.08	98.58	151.66	44635K81	114.22	212.13	326.35
3	44635K33	64.56	119.89	184.45	44635K82	141.32	262.44	403.76
4	44635K34	64.63	155.12	258.53	44635K83	180.45	335.11	515.56
6	44635K35	134.16	249.15	383.31	44635K84	284.08	527.59	811.67
8	44635K11	152.81	339.59	565.98	44635K12	309.54	687.87	1,146.45
Seamless						
1/2	44985K71	22.80	60.11	103.63	45725K81	27.45	72.38	124.79
3/4	44985K72	27.17	71.64	123.51	45725K82	34.77	91.66	158.04
1	44985K73	31.79	83.82	144.51	45725K83	36.87	97.20	167.58
1 1/4	44985K74	41.71	109.96	189.58	45725K84	48.92	128.97	222.36
1 1/2	44985K75	43.15	113.76	196.14	45725K85	51.99	137.05	236.30
2	44985K76	50.33	132.67	228.75	45725K86	69.30	182.69	314.98
2 1/2	44985K77	82.96	218.72	377.11	45725K87	101.71	268.15	462.33
3	44985K78	96.12	253.40	436.89	45725K88	114.52	301.92	520.56
4	44985K79	113.02	297.96	513.72	45725K89	142.50	375.67	647.71
6	44985K81	149.61	415.57	831.15	45725K91	181.39	503.86	1,007.72
8	44985K11	239.30	630.88	1,087.73	45725K11	293.50	773.77	1,334.08

Low-Pressure Stainless Steel Unthreaded Reducing Flanges

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 150 psi @ 72° F; 150 psi @ 366° F for steam
- Pipe Nipples and Pipe: Use unthreaded Schedule 40 standard-wall stainless steel (see above)
- Fittings: Use butt-weld Schedule 40 standard-wall stainless steel (see page 22)

A reduced connecting point allows you to transition to a smaller pipe size. These are also known as slip-on style, Class 150, raised-face flanges. You must weld the flange to your pipe on both sides. To connect, bolt one of these forged flanges to your flange (be sure the flange pipe size, flange OD, and number of bolt holes are the same). A gasket is required, but not included; see pages 3531-3534. For bolts, see pages 3161-3163.

Come in two low-carbon materials that are favorable for welding. ***Type 304/304L stainless steel*** offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

Connections: Slip on (unthreaded).

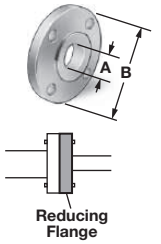

Reducing Flange

Flange Pipe Size	Unthreaded Pipe Size (A)	Flange OD (B)	Bolts Req'd Qty.	Bolts Req'd Dia.		
Type 304/304L Stainless Steel						
2	1	6"	4	5/8"	44685K131	$76.44
3	2	7 1/2"	4	5/8"	44685K132	115.14
4	3	9"	8	5/8"	44685K133	156.74
6	4	11"	8	3/4"	44685K134	229.79
8	6	13 1/2"	8	3/4"	44685K135	410.75

Flange Pipe Size	Unthreaded Pipe Size (A)	Flange OD (B)	Bolts Req'd Qty.	Bolts Req'd Dia.		
Type 316/316L Stainless Steel						
2	1	6"	4	5/8"	44695K131	$103.52
3	2	7 1/2"	4	5/8"	44695K132	164.48
4	3	9"	8	5/8"	44695K133	217.69
6	4	11"	8	3/4"	44695K134	311.36
8	6	13 1/2"	8	3/4"	44695K135	497.15

How to Measure Unthreaded Flanges—*Example shows pipe size 1/2.*

Pipe size is an industry designation, not the actual size. Place your flange on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your flange, then select the pipe size on the scale that corresponds to your measurement.

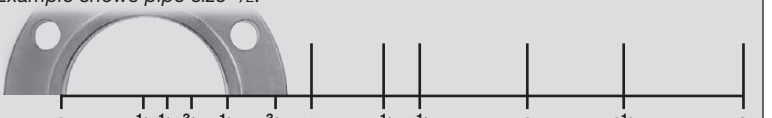

Pipe Size:	0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Stainless Steel Unthreaded Flanges CAD

- Use with air, water, oil, natural gas
- Maximum Pressure: 150 psi @ 72° F
- Pipe Nipples and Pipe: Use unthreaded Schedule 40 standard-wall stainless steel (see page 23)
- Fittings: Use butt-weld Schedule 40 standard-wall stainless steel (see page 22)



Raised Surface on Back (Forged Flanges, except Easy Access) | **Flat Surface on Back (Cast Flanges and Forged Easy Access)**

Gain quick access to your pipe by creating a flange connection. Also called Class 150 flanges, they connect by bolting two same-size flanges together with a gasket (not included). For gaskets, see pages 3529-3534; for bolts, see pages 3161-3163.

Forged flanges are also known as ANSI flanges and raised-face flanges. Match with another ANSI flange of the same size for connection. Meet ASTM A182 and ANSI/ASME B16.5, unless noted. All forged flanges come with a traceable lot number and a material test report.

Cast flanges are also called MSS flanges and flat-face flanges. Match with another MSS flange of the same size for connection. Meet ASTM A341; the *caps* also meet MSS SP-42.

Types 304 and ***304/304L stainless steel*** offer very good corrosion resistance for an economical alternative to Types 316 and 316/316L. ***Types 316*** and ***316/316L stainless steel*** contain more nickel and have molybdenum for better resistance to corrosion than Types 304 and 304/304L. *Types 304/304L* and *316/316L stainless steel* are low-carbon materials that are favorable for welding.

Slip On—Slip the flange onto your pipe and weld. There is no internal stop; you must weld the flange to your pipe on both sides.

Socket Weld—An internal stop supports pipe when welding and prevents the pipe from sliding all the way through.

Butt Weld—Also known as weld-neck flanges. Butt-up the flange to your pipe and weld. The flange neck has a beveled end that, when connected to a pipe, creates a trough for a strong weld.

Easy Access—Commonly called lap-joint flanges. Use these flanges with a stub-end fitting (required, but not included; see page 22). The stub-end fitting is welded to the pipe (not the flange), so they're ideal for pipe that is frequently cleaned or inspected.

Cap—Also known as blind flanges, use these solid flanges to close off the end of a pipe.

Forged Flanges—Raised surface on back, unless noted.











Pipe Size	Flange OD	Bolts Req'd Qty.	Bolts Req'd Dia.	Slip On		Socket Weld		Butt Weld		Easy Access ★		Cap	
Type 304/304L Stainless Steel													
1/2	3 1/2"	4	1/2"	44685K178	$23.85	44685K189	$25.29	44685K211	$27.76	44685K311 ★	$25.13	44685K162	$24.20
3/4	3 7/8"	4	1/2"	44685K179	25.94	44685K191	29.94	44685K212	33.58	44685K312 ★	26.05	44685K163	26.58
1	4 1/4"	4	1/2"	44685K181	27.58	44685K192	31.31	44685K222	36.51	44685K313 ★	30.01	44685K164	28.22
1 1/4	4 5/8"	4	1/2"	44685K182	38.76	44685K193	41.95	44685K223	58.42	44685K314 ★	48.58	44685K165	38.76
1 1/2	5"	4	1/2"	44685K183	38.83	44685K194	44.29	44685K224	51.11	44685K315 ★	41.65	44685K166	40.60
2	6"	4	5/8"	44685K184	48.65	44685K195	58.05	44685K225	54.67	44685K316 ★	50.42	44685K167	49.23
2 1/2	7"	4	5/8"	44685K185	70.89	44685K196	87.76	44685K226	87.44	44685K317 ★	83.94	44685K168	73.63
3	7 1/2"	4	5/8"	44685K186	73.40	44685K197	86.89	44685K227	89.62	44685K318 ★	76.07	44685K169	80.76
4	9"	8	5/8"	44685K187	99.63	44685K198 ♠	120.44	44685K228	136.18	44685K319 ★	101.94	44685K171	112.27
6	11"	8	3/4"	44685K188	152.97	44685K199 ♠	208.34	44685K229	195.21	44685K161 ★	157.97	44685K172	163.89
8	13 1/2"	8	3/4"	44685K173	258.20	44685K174 ♠	369.90	44685K175	349.87	44685K176 ★	288.40	44685K177	295.30
Type 316/316L Stainless Steel													
1/2	3 1/2"	4	1/2"	44695K168	26.03	44695K179	29.67	44695K191	31.92	44695K212 ★	30.82	44695K152	26.76
3/4	3 7/8"	4	1/2"	44695K169	36.83	44695K181	35.38	44695K192	41.03	44695K213 ★	38.13	44695K153	35.85
1	4 1/4"	4	1/2"	44695K171	36.76	44695K182	43.62	44695K193	47.78	44695K214 ★	39.23	44695K154	41.45
1 1/4	4 5/8"	4	1/2"	44695K172	44.61	44695K183	56.38	44695K194	67.83	44695K215 ★	54.55	44695K155	44.28
1 1/2	5"	4	1/2"	44695K173	48.65	44695K184	58.56	44695K195	62.96	44695K216 ★	51.11	44695K156	47.95
2	6"	4	5/8"	44695K174	62.96	44695K185	73.78	44695K196	74.05	44695K217 ★	64.60	44695K157	78.83
2 1/2	7"	4	5/8"	44695K175	87.76	44695K186	96.91	44695K197	99.69	44695K218 ★	98.13	44695K158	100.71
3	7 1/2"	4	5/8"	44695K176	105.31	44695K187	112.28	44695K198	129.78	44695K219 ★	109.16	44695K159	106.98
4	9"	8	5/8"	44695K177	135.25	44695K188 ♠	152.96	44695K199	160.00	44695K221 ★	139.91	44695K161	147.58
6	11"	8	3/4"	44695K178	191.30	44695K189 ♠	281.87	44695K211	246.58	44695K151 ★	183.32	44695K162	214.05
8	13 1/2"	8	3/4"	44695K163	356.31	44695K164 ♠	500.47	44695K165	427.44	44695K166 ★	369.81	44695K167	424.43

★ Have a flat surface on the back. ♠ Does not meet ANSI/ASME B16.5.

Cast Flanges—Flat surface on back.





Pipe Size	Flange OD	Bolts Req'd Qty.	Bolts Req'd Dia.	Slip On		Cap	
Type 304 Stainless Steel							
1/2	3 1/2"	4	1/2"	43505K341	$29.02	43505K381	$32.22
3/4	3 7/8"	4	1/2"	43505K342	30.63	43505K382	34.81
1	4 1/4"	4	1/2"	43505K343	40.86	43505K383	43.21
1 1/4	4 5/8"	4	1/2"	43505K344	46.40	43505K384	55.75
1 1/2	5"	4	1/2"	43505K345	57.10	43505K385	58.58
2	6"	4	5/8"	43505K346	68.13	43505K386	79.53
2 1/2	7"	4	5/8"	43505K347	92.70	43505K387	96.83
3	7 1/2"	4	5/8"	43505K348	99.74	43505K388	106.35





Pipe Size	Flange OD	Bolts Req'd Qty.	Bolts Req'd Dia.	Slip On		Cap	
Type 316 Stainless Steel							
1/2	3 1/2"	4	1/2"	43615K551	$35.56	43615K571	$37.49
3/4	3 7/8"	4	1/2"	43615K552	40.59	43615K572	43.43
1	4 1/4"	4	1/2"	43615K553	51.15	43615K573	51.48
1 1/4	4 5/8"	4	1/2"	43615K554	58.14	43615K574	65.94
1 1/2	5"	4	1/2"	43615K555	67.47	43615K575	72.51
2	6"	4	5/8"	43615K556	87.37	43615K576	96.38
2 1/2	7"	4	5/8"	43615K557	111.46	43615K577	121.45
3	7 1/2"	4	5/8"	43615K558	128.08	43615K578	149.51

How to Measure Unthreaded Pipe and Butt-Weld Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.

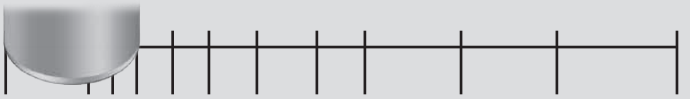

Pipe Size:	0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8″):	0	1/2″	5/8″	3/4″	7/8″	1 1/8″	1 3/8″	1 5/8″	1 7/8″	2 3/8″	2 7/8″	3 1/2″

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Butt-Weld Stainless Steel Unthreaded Pipe Fittings

- Use with air, water, oil, natural gas, steam
- Pipe: Use unthreaded Schedule 80 thick-wall stainless steel (see below)
- Flanges: Use unthreaded high-pressure stainless steel (see page 28)

The strongest butt-weld fittings we offer, these are also known as Schedule 80 fittings. They have beveled ends that, when connected to a pipe, create a trough for a strong weld. Meet ASTM A403.

Type 304/304L stainless steel offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

Connections: Butt weld (unthreaded).






Pipe Size	Wall Thick.	90° Elbows		45° Elbows		Tees		Caps	
Type 304/304L Stainless Steel									
1	0.179″	1739K11	$58.91	1739K15	$63.27	1739K19	$128.73	1739K24	$103.64
1 1/2	0.200″	1739K12	99.27	1739K16	81.82	1739K21	132.00	1739K25	136.62
2	0.218″	1739K13	147.27	1739K17	110.18	1739K22	169.09	1739K26	106.67
3	0.300″	1739K14	198.62	1739K18	157.09	1739K23	268.97	1739K27	163.64
Type 316/316L Stainless Steel									
1	0.179″	1741K11	88.36	1741K15	90.55	1741K19	193.09	1741K24	154.91
1 1/2	0.200″	1741K12	148.36	1741K16	112.36	1741K21	197.45	1741K25	194.12
2	0.218″	1741K13	202.34	1741K17	164.73	1741K22	232.39	1741K26	163.64
3	0.300″	1741K14	288.48	1741K18	216.36	1741K23	360.55	1741K27	225.38

Thick-Wall Stainless Steel Unthreaded Pipe

- Use with air, water, oil, natural gas, steam
- Fittings: Use butt-weld Schedule 80 thick-wall stainless steel (see above) and socket-weld high-pressure stainless steel (see pgs. 26-27)
- Flanges: Use unthreaded high-pressure stainless steel (see page 28)

Also known as Schedule 80 pipe, this pipe has thick walls for superior strength and is seamless for unrestricted flow. It comes unthreaded so you can make welded connections, which are less likely to leak than threaded connections. Meets ASTM A312.

Pipe comes in two low-carbon materials that are favorable for welding. ***Type 304/304L stainless steel*** offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

To Order: Please specify 1-, 3-, or 6-ft. length.



Pipe Size	Type 304/304L Stainless Steel	1 ft.	3 ft.	6 ft.	Type 316/316L Stainless Steel	1 ft.	3 ft.	6 ft.
1/4	4804T11	$31.76	$67.38	$96.25	4815T11	$38.36	$81.38	$116.25
3/8	4804T12	33.24	77.56	110.80	4815T12	40.62	101.55	145.07
1/2	4804T13	33.90	81.36	135.60	4815T13	42.70	109.30	170.78
3/4	4804T14	35.09	87.03	140.37	4815T14	43.76	109.41	182.35
1	4804T15	44.23	108.88	170.12	4815T15	55.78	134.80	232.42
1 1/2	4804T17	63.24	158.11	263.51	4815T17	73.67	192.19	320.32
2	4804T18	84.02	193.90	323.16	4815T18	94.03	235.07	391.78
3	4804T19	105.46	278.03	479.36	4815T19	124.28	327.64	564.89
4	4804T21	129.46	341.31	588.46	4815T21	164.24	432.99	746.53
6	4804T22	230.33	607.23	1,046.94	4815T22	296.97	782.92	1,349.87

High-Pressure Stainless Steel Butt-Weld Pipe Outlets

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: See table; 600 psi @ 220° F for steam
- Pipe: Use unthreaded Schedule 80 thick-wall stainless steel (see above)

Create a tap-off anywhere along your pipe. These outlets are also known as branch connectors and are comparable to Weldolet. To install, drill a hole in your pipe to match the fitting's outlet size and weld in place. Meet MSS SP-97 and ANSI/ASME B16.11.

Fittings come in two low-carbon materials that are favorable for welding. ***Type 304/304L stainless steel*** offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

Connections: Butt weld (unthreaded).

To Order: Please specify pipe size within the range shown below.


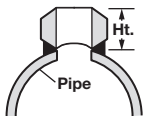

Fits Pipe Size Range	Outlet, Pipe Size	Ht.	Max. psi @ 72° F	Type 304/304L Stainless Steel		Type 316/316L Stainless Steel	
1/4 to 36	1/4	5/8″	3,000	4565T11	$23.87	4583T29	$28.63
3/8 to 36	3/8	3/4″	3,000	4565T12	24.40	4583T31	28.63
1/2 to 36	1/2	3/4″	3,000	4565T13	24.95	4583T32	28.63
3/4 to 36	3/4	7/8″	3,000	4565T14	29.65	4583T33	33.76
1 to 36	1	1 1/16″	3,000	4565T15	38.28	4583T34	44.07
1 1/4 to 36	1 1/4	1 1/4″	3,000	4565T16	60.58	4583T35	69.04
1 1/2 to 36	1 1/2	1 5/16″	2,850	4565T17	69.65	4583T36	83.81
2 to 36	2	1 1/2″	2,500	4565T18	91.69	4583T37	97.62

How to Measure Socket-Weld Unthreaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8″):	0	1/2″	5/8″	3/4″	7/8″	1 1/8″	1 3/8″	1 5/8″	1 7/8″	2 3/8″	2 7/8″	3 1/2″

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Socket-Weld Stainless Steel Unthreaded Pipe Fittings



Unthreaded Socket-Weld Connection

- Use with air, water, oil, natural gas
- Maximum Pressure: 150 psi @ 72° F
- Pipe Nipples and Pipe: Use unthreaded Schedule 40 standard-wall stainless steel (see page 23)
- Flanges: Use unthreaded low-pressure stainless steel (see page 24)

You can be sure these are the highest quality Class 150 fittings available because they all meet ANSI/MSS SP-114 for heat treating, material thickness, and marking. They also meet ASTM A351. They have socket ends that support the pipe during installation; slide your pipe into the fitting and you are ready to weld.

Type 304 stainless steel offers very good corrosion resistance for an economical alternative to Type 316. ***Type 316 stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304.

Connections: Socket weld (unthreaded).







Pipe Size	90° Elbows		45° Elbows		Tees		Unions		Couplings	
Type 304 Stainless Steel										
1/2	4335T32	$7.80	4335T42	$9.59	4335T52	$10.53	4335T72	$21.91	4335T62	$7.03
3/4	4335T33	11.16	4335T43	14.02	4335T53	16.76	4335T73	27.73	4335T63	10.17
1	4335T34	15.81	4335T44	17.11	4335T54	21.37	4335T74	41.84	4335T64	15.41
1 1/4	4335T35	27.73	4335T45	27.37	4335T55	42.47	4335T75	62.90	4335T65	24.51
1 1/2	4335T36	36.92	4335T46	32.57	4335T56	52.82	4335T76	71.13	4335T66	29.12
2	4335T37	46.82	4335T47	45.83	4335T57	62.98	4335T77	85.15	4335T67	41.04
Type 316 Stainless Steel										
1/2	43685K12	10.08	43685K22	12.01	43685K32	13.08	43685K62	24.86	43685K52	8.11
3/4	43685K13	14.65	43685K23	15.81	43685K33	19.31	43685K63	31.54	43685K53	11.74
1	43685K14	18.37	43685K24	19.80	43685K34	24.24	43685K64	47.58	43685K54	17.52
1 1/4	43685K17	31.49	43685K27	31.14	43685K37	48.25	43685K67	71.32	43685K57	27.87
1 1/2	43685K15	42.02	43685K25	37.00	43685K35	58.51	43685K65	80.95	43685K55	33.11
2	43685K16	53.13	43685K26	51.74	43685K36	72.61	43685K66	96.52	43685K56	46.59

High-Pressure Socket-Weld Stainless Steel Unthreaded Pipe Fittings



Unthreaded Socket-Weld Connection

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: Type 304 SS: 2,570 psi @ 72° F; 1,965 psi @ 350° F for steam
- Type 316 SS: 2,915 psi @ 72° F; 1,965 psi @ 350° F for steam
- Pipe: Use unthreaded Schedule 80 thick-wall stainless steel (see page 25)

Also known as Class 3000 fittings, these heavy duty forged fittings stand up to high-pressure applications. They have socket ends that support the pipe during installation; just slide your pipe into the fitting and you are ready to weld. All meet ASTM A182. Meet ANSI/ASME B16.11.

Fittings come in two low-carbon materials that are favorable for welding. ***Type 304/304L stainless steel*** offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

Connections: Socket weld (unthreaded).








Pipe Size	90° Elbows		45° Elbows		Tees		Crosses		Unions		Caps	
Type 304/304L Stainless Steel												
1/8	44965K411	$11.43	44965K421	$24.37	44965K431	$14.90	44965K441	$38.17	44965K471	$38.36	44965K461	$7.30
1/4	44965K412	11.72	44965K422	22.50	44965K432	15.27	44965K442	39.62	44965K472	38.36	44965K462	7.22
3/8	44965K413	15.17	44965K423	22.77	44965K433	18.22	44965K443	46.60	44965K473	41.03	44965K463	8.85
1/2	44965K414	16.80	44965K424	23.06	44965K434	25.31	44965K444	53.74	44965K474	42.05	44965K464	12.52
3/4	44965K415	21.16	44965K425	28.97	44965K435	30.50	44965K445	82.95	44965K475	53.74	44965K465	14.77
1	44965K416	32.74	44965K426	42.13	44965K436	40.61	44965K446	114.73	44965K476	81.05	44965K466	17.92
1 1/2	44965K418	79.29	44965K428	77.36	44965K438	113.82	44965K448	182.31	44965K478	135.68	44965K468	35.23
2	44965K419	109.16	44965K429	112.80	44965K439	144.66	44965K449	223.67	44965K479	169.62	44965K469	52.40
3	44965K42	361.79	44965K43	385.87	44965K44	426.07	—	—	44965K48	444.60	44965K47	130.23
Type 316/316L Stainless Steel												
1/8	45515K111	13.78	45515K131	29.91	45515K151	17.66	45515K171	42.91	45515K241	41.78	45515K221	8.04
1/4	45515K112	14.12	45515K132	28.19	45515K152	17.23	45515K172	52.03	45515K242	42.83	45515K222	8.24
3/8	45515K113	16.18	45515K133	29.75	45515K153	22.58	45515K173	58.05	45515K243	49.62	45515K223	10.06
1/2	45515K114	21.99	45515K134	28.19	45515K154	30.33	45515K174	77.04	45515K244	49.94	45515K224	12.57
3/4	45515K115	28.36	45515K135	36.27	45515K155	37.00	45515K175	105.93	45515K245	65.56	45515K225	15.62
1	45515K116	42.51	45515K136	55.83	45515K156	56.50	45515K176	135.06	45515K246	99.74	45515K226	21.13
1 1/2	45515K118	92.74	45515K138	92.93	45515K158	124.26	45515K178	253.57	45515K248	181.00	45515K228	42.40
2	45515K119	140.98	45515K139	122.46	45515K159	192.01	45515K179	311.59	45515K249	209.40	45515K229	68.69
3	45515K12	444.81	45515K14	498.42	45515K16	493.96	—	—	45515K25	576.33	45515K23	182.97

(Continued on following page)

How to Measure Unthreaded Pipe and Butt-Weld Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.

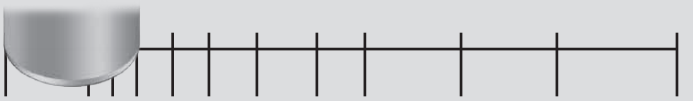

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

High-Pressure Socket-Weld Stainless Steel Unthreaded Pipe Fittings

(Continued from previous page)



Couplings

Pipe Size		
Type 304/304L Stainless Steel		
1/8	44965K451	$7.36
1/4	44965K452	8.16
3/8	44965K453	8.00
1/2	44965K454	9.18
3/4	44965K455	11.59
1	44965K456	20.33
1 1/2	44965K458	40.63
2	44965K459	63.08
3	44965K46	152.94
Type 316/316L Stainless Steel		
1/8	45515K191	9.47
1/4	45515K192	9.98
3/8	45515K193	8.51
1/2	45515K194	11.85
3/4	45515K195	15.84
1	45515K196	22.60
1 1/2	45515K198	62.73
2	45515K199	83.78
3	45515K201	216.40

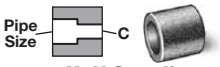

Half Couplings

Pipe Size	Actual ID (C)		
Type 304/304L Stainless Steel			
1/8	1/4"	44965K311	$7.36
1/4	3/8"	44965K312	7.54
3/8	1/2"	44965K313	7.73
1/2	5/8"	44965K314	9.90
3/4	13/16"	44965K315	12.52
1	1 1/16"	44965K316	18.67
1 1/2	1 5/8"	44965K318	41.30
2	2 1/16"	44965K319	61.95
Type 316/316L Stainless Steel			
1/8	1/4"	45515K411	9.60
1/4	3/8"	45515K412	10.44
3/8	1/2"	45515K413	10.70
1/2	5/8"	45515K414	12.73
3/4	13/16"	45515K415	16.91
1	1 1/16"	45515K416	28.70
1 1/2	1 5/8"	45515K418	71.40
2	2 1/16"	45515K419	104.46



Reducing Couplings

Pipe Size (A)	(B)		
Type 304/304L Stainless Steel			
1/4	1/8	44965K482	$9.58
3/8	1/4	44965K483	10.14
1/2	1/4	44965K481	13.08
1/2	3/8	44965K484	13.08
3/4	1/2	44965K485	17.20
1	3/4	44965K486	27.66
1 1/2	1 1/4	44965K488	50.34
2	1 1/2	44965K489	74.15
Type 316/316L Stainless Steel			
1/4	1/8	45515K282	12.21
3/8	1/4	45515K283	12.52
1/2	1/4	45515K281	17.04
1/2	3/8	45515K284	17.04
3/4	1/2	45515K285	24.82
1	3/4	45515K286	33.01
1 1/2	1 1/4	45515K288	80.25
2	1 1/2	45515K289	111.88



Reducing Bushings, Male (A)×Female (B)

Pipe Size (A)	(B)		
Type 304/304L Stainless Steel			
1/4	1/8	44965K492	$8.10
3/8	1/4	44965K493	8.51
1/2	1/4	44965K491	10.97
1/2	3/8	44965K494	10.97
3/4	1/2	44965K495	13.59
1	3/4	44965K496	18.59
1 1/2	1 1/4	44965K498	37.16
2	1 1/2	44965K499	72.14
Type 316/316L Stainless Steel			
1/4	1/8	45515K332	8.66
3/8	1/4	45515K333	11.72
1/2	1/4	45515K331	14.98
1/2	3/8	45515K334	15.33
3/4	1/2	45515K335	19.37
1	3/4	45515K336	28.22
1 1/2	1 1/4	45515K338	52.97
2	1 1/2	45515K339	80.38

High-Strength Socket-Weld Chrome-Moly Unthreaded Pipe Fittings

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: Fittings: 2,310 psi @ 72° F; 1,595 psi @ 350° F for steam; Pipe: Not rated

Stronger and easier to weld than stainless steel and steel, choose high-strength chrome-moly F22 fittings and P22 pipe when you need a material that resists scaling, even in steam applications.

Fittings—Also known as Class 3000, these heavy duty fittings have socket ends that support the pipe during installation; slide the pipe into the fittings and you are ready to weld. Meet ANSI/ASME B16.11.

Pipe—Also called Schedule 80 and thick-wall pipe, all have seamless construction for unrestricted flow.

Connections: Socket weld (unthreaded).









Pipe Size	90° Elbows	Couplings	Caps	Pipe 1-ft. Lengths	Pipe 3-ft. Lengths
1/2	1982K11 $20.30	1982K16 $10.70	1982K22 $10.70	1982K27 $32.28	1982K33 $91.36
3/4	1982K12 25.73	1982K17 16.96	1982K23 16.96	1982K28 38.60	1982K34 99.83
1	1982K13 35.34	1982K18 30.11	1982K24 30.11	1982K29 67.92	1982K35 126.62
1 1/2	1982K14 86.84	1982K19 55.77	1982K25 55.77	1982K31 70.59	1982K36 186.21
2	1982K15 138.50	1982K21 83.41	1982K26 83.41	1982K32 83.08	1982K37 216.36

Extreme-Pressure Socket-Weld Stainless Steel Unthreaded Pipe Fittings

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: See table
- Pipe: Use unthreaded Schedule 160 extra-thick-wall stainless steel (see pg. 28)

Sometimes only the strongest will do—that's where Class 6000 fittings come in. The heavy duty forged construction gives these fittings the highest pressure rating of all the stainless steel fittings we offer. Fittings have socket ends that support the pipe during installation; slide your pipe into the fitting and you are ready to weld. Meet ASTM A182 and ANSI/ASME B16.11.

Type 304/304L stainless steel offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

Connections: Socket weld (unthreaded).











Pipe Size	Max. psi @ 72° F	Max. psi @ 220° F for steam	90° Elbows	45° Elbows	Tees	Couplings	Caps
Type 304/304L Stainless Steel							
1/2	7,700	6,500	2064K11 $46.28	2064K22 $64.21	2064K16 $65.92	2064K27 $22.55	2064K33 $28.84
3/4	7,100	5,900	2064K12 55.76	2064K23 72.90	2064K17 76.09	2064K28 31.76	2064K34 36.47
1	6,400	5,300	2064K13 84.09	2064K24 105.48	2064K18 102.32	2064K29 43.67	2064K35 41.78
1 1/2	4,800	4,000	2064K14 167.71	2064K25 164.60	2064K19 231.72	2064K31 90.22	2064K36 70.02
2	4,700	3,900	2064K15 255.90	2064K26 282.76	2064K21 297.32	2064K32 130.07	2064K37 99.74
Type 316/316L Stainless Steel							
1/2	7,700	6,400	2077K11 58.78	2077K22 84.37	2077K16 77.15	2077K27 31.24	2077K33 34.71
3/4	7,100	5,900	2077K12 77.50	2077K23 93.55	2077K17 95.42	2077K28 40.80	2077K34 42.16
1	6,400	5,300	2077K13 110.08	2077K24 133.02	2077K18 137.31	2077K29 58.07	2077K35 53.79
1 1/2	4,800	3,900	2077K14 197.40	2077K25 201.85	2077K19 266.70	2077K31 138.57	2077K36 104.13
2	4,700	3,800	2077K15 284.22	2077K26 301.07	2077K21 393.28	2077K32 189.24	2077K37 159.13

How to Measure Unthreaded Pipe and Flanges—*Example shows pipe size 3/8 for pipe, pipe size 1/2 for flanges.*

Pipe size is an industry designation, not the actual size. Place your pipe or flange on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe and butt-weld flange, or inside diameter (ID) of your slip-on, socket-weld, and easy-access flange, then select the pipe size on the scale that corresponds to your measurement.





ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Extra-Thick-Wall Stainless Steel Unthreaded Pipe

- Use with air, water, oil, natural gas, steam
- Fittings: Use socket-weld extreme-pressure stainless steel (see page 27)

The extra-thick-wall construction, which is often called Schedule 160, makes this the strongest stainless steel pipe we offer. Pipe is seamless for unrestricted flow. It comes unthreaded so you can make welded connections, which are less likely to leak than threaded connections. Meets ASTM A312.

Type 304 stainless steel offers very good corrosion resistance for an economical alternative to Type 316. ***Type 316 stainless steel*** contains more nickel and has molybdenum for better corrosion resistance than Type 304.



Pipe Size	1-ft. Lengths		3-ft. Lengths		6-ft. Lengths	
Type 304 Stainless Steel						
1/2	2053K11	$20.58	2053K16	$51.46	2053K22	$85.76
3/4	2053K12	35.76	2053K17	89.40	2053K23	149.00
1	2053K13	46.20	2053K18	115.50	2053K24	192.50
1 1/2	2053K14	63.55	2053K19	167.54	2053K25	288.87
2	2053K15	87.15	2053K21	229.75	2053K26	396.12
Type 316 Stainless Steel						
1/2	2057K11	27.05	2057K16	67.61	2057K22	112.69
3/4	2057K12	44.56	2057K17	111.40	2057K23	185.67
1	2057K13	56.42	2057K18	141.06	2057K24	235.10
1 1/2	2057K14	76.84	2057K19	202.58	2057K25	349.28
2	2057K15	109.59	2057K21	288.92	2057K26	498.14

High-Pressure Stainless Steel Unthreaded Flanges

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 300 psi @ 72° F; 300 psi @ 300° F for steam, unless noted
- Pipe: Use unthreaded Schedule 80 thick-wall stainless steel (see page 25)

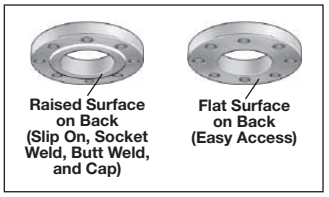

Forged for high strength, these heavy duty flanges are often called Class 300, ANSI, and raised-face flanges (except easy-access, which are called flat-face flanges). Bolt two same-size flanges together with a gasket (not included). For gasket, see pages 3529-3533. For bolts, see pages 3161-3163. Flanges meet MSS SP-6 and SP-25, ASTM A182, and ANSI/ASME B16.5, unless noted. All come with a traceable lot number and a material test report.

Flanges come in two low-carbon materials that are favorable for welding. ***Type 304/304L stainless steel*** offers very good corrosion resistance for an economical alternative to Type 316/316L. ***Type 316/316L stainless steel*** contains more nickel and has molybdenum for better resistance to corrosion than Type 304/304L.

Slip On—Slip the flange onto your pipe and weld. There is no internal stop; you must weld the flange to your pipe on both sides.

Socket Weld—An internal stop supports pipe when welding and prevents it from sliding all the way through.

Butt Weld—Also known as weld-neck flanges. Butt-up the flange to your pipe and weld. The flange neck has a beveled end that, when connected to a pipe, creates a trough for a strong weld.

Easy Access—Commonly called lap-joint flanges. Use these flanges with a stub-end fitting (required, but not included; see page 22). The stub-end fitting is welded to the pipe (not the flange), so they're ideal for pipe that is frequently cleaned or inspected.

Cap—Also known as blind flanges, use these solid flanges to close off the end of a pipe.











Pipe Size	Flange OD	Bolts Req'd Qty.	Bolts Req'd Dia.	Slip On	Socket Weld	Butt Weld	Easy Access	Cap
Type 304/304L Stainless Steel								
1/2	3 3/4"	4	1/2"	4448T251 $34.68	4448T264 $40.96	4448T286 $45.13	4448T297 $39.23	4448T275 $32.40
3/4	4 5/8"	4	5/8"	4448T252 35.83	4448T265 35.83	4448T287 41.76	4448T298 39.23	4448T276 38.45
1	4 7/8"	4	5/8"	4448T253 44.31	4448T266 43.55	4448T288 44.45	4448T299 42.58	4448T277 42.28
1 1/4	5 1/4"	4	5/8"	4448T254 61.05	4448T267 68.29	4448T289 72.42	4448T311 68.85	4448T278 64.05
1 1/2	6 1/8"	4	3/4"	4448T255 72.47	4448T268 64.42	4448T291 74.05	4448T312 79.13	4448T279 67.49
2	6 1/2"	8	5/8"	4448T256 72.07	4448T269 89.53	4448T292 83.62	4448T313 91.31	4448T281 81.65
2 1/2	7 1/2"	8	3/4"	4448T257 138.34	4448T271 143.74	4448T293 133.34	4448T314 147.78	4448T282 119.53
3	8 1/4"	8	3/4"	4448T258 128.54	4448T272 141.18	4448T294 120.12	4448T315 136.27	4448T283 104.95
4	10"	8	3/4"	4448T259 168.82	4448T273♠ 215.47	4448T295 172.97	4448T262 175.25	4448T284 164.22
6	12 1/2"	12	3/4"	4448T261 291.78	4448T274♠ 381.86	4448T296 364.16	4448T263 317.75	4448T285 283.90
Type 316/316L Stainless Steel								
1/2	3 3/4"	4	1/2"	4452T261 44.71	4452T274 46.53	4452T296 44.95	4452T317 43.30	4452T285 38.23
3/4	4 5/8"	4	5/8"	4452T262 46.74	4452T275 48.03	4452T297 54.37	4452T318 48.70	4452T286 46.95
1	4 7/8"	4	5/8"	4452T263 57.11	4452T276 50.32	4452T298 59.76	4452T319 53.13	4452T287 48.50
1 1/4	5 1/4"	4	5/8"	4452T264 77.36	4452T277 77.23	4452T299 94.47	4452T321 73.29	4452T288 87.07
1 1/2	6 1/8"	4	3/4"	4452T265 78.56	4452T278 89.14	4452T311 87.81	4452T322 82.51	4452T289 71.51
2	6 1/2"	8	5/8"	4452T266 98.04	4452T279 98.04	4452T312 107.25	4452T323 98.82	4452T291 74.07
2 1/2	7 1/2"	8	3/4"	4452T267 171.98	4452T281 159.49	4452T313 164.82	4452T324 162.93	4452T292 148.16
3	8 1/4"	8	3/4"	4452T268 154.08	4452T282 189.37	4452T314 158.95	4452T325 162.83	4452T293 168.62
4	10"	8	3/4"	4452T269 220.55	4452T283♠ 265.27	4452T315 259.02	4452T272 229.27	4452T294 212.39
6	12 1/2"	12	3/4"	4452T271 429.56	4452T284♠ 427.93	4452T316 414.74	4452T273 440.71	4452T295 419.63

♠ Does not meet ANSI/ASME B16.5 and is not rated for steam.

How to Measure Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.





To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Brass Threaded Pipe Fittings with Sealant

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 200 psi @ 72° F; 125 psi @ 400° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall brass (see below and page 32)
- Flanges: Use threaded Class 150 low-pressure brass (see page 31)

You don't need to search for your thread sealant—it is already applied to the male threads. Also known as Class 125 fittings, they meet ASTM B584 or B927, as well as ANSI/ASME B16.15 and B1.20.1.

90° female×male elbows are also known as street elbows.

Connections: NPT.








Pipe Size	90° Elbows, Female×Male		45° Elbows, Female×Male		Tees, Female×Female×Male		Adapters, Female×Male		Square-Head Solid Plugs		Square-Socket Solid Plugs	
1/8	2725K11	$13.00							2725K85	$3.98		
1/4	2725K12	13.00	2725K19	$15.35					2725K86	4.15		
3/8	2725K13	13.00	2725K21	15.35	2725K27	$25.02			2725K87	3.68		
1/2	2725K14	13.00	2725K22	15.35	2725K28	32.70	2725K33	$32.78	2725K38	5.30	2725K44	$9.28
3/4	2725K15	17.88	2725K23	22.13	2725K29	42.73	2725K34	45.53	2725K39	7.60	2725K45	9.72
1	2725K16	29.27	2725K24	37.42	2725K31	54.60	2725K35	69.18	2725K41	17.72	2725K46	14.65
1 1/2	2725K17	58.51	2725K25	63.83			2725K36	132.92	2725K42	41.47	2725K47	33.78
2	2725K18	99.15	2725K26	114.57	2725K32	183.72	2725K37	233.08	2725K43	65.73	2725K48	52.02



Hex Reducing Bushings, Male×Female

Pipe Size (A)	(B)			Pipe Size (A)	(B)			Pipe Size (A)	(B)			Pipe Size (A)	(B)		
1/4	1/8	2725K49	$1.89	3/4	3/8	2725K58	$4.85	1 1/4	1/2	2725K78	$21.30	2	1/4	2725K71	$34.13
3/8	1/8	2725K51	2.32	3/4	1/2	2725K59	4.84	1 1/4	3/4	2725K79	19.47	2	1/2	2725K72	34.13
3/8	1/4	2725K52	2.12	1	1/8	2725K61	13.05	1 1/4	1	2725K81	19.47	2	3/4	2725K73	34.13
1/2	1/8	2725K53	3.34	1	1/4	2725K62	13.05	1 1/2	1/4	2725K66	23.58	2	1	2725K74	34.13
1/2	1/4	2725K54	3.02	1	3/8	2725K63	11.12	1 1/2	1/2	2725K67	23.58	2	1 1/4	2725K75	34.13
1/2	3/8	2725K55	3.37	1	1/2	2725K64	11.43	1 1/2	3/4	2725K68	27.68	2	1 1/2	2725K76	34.13
3/4	1/8	2725K56	6.45	1	3/4	2725K65	11.43	1 1/2	1	2725K69	27.67	2 1/2	1	2725K83	86.13
3/4	1/4	2725K57	5.05	1 1/4	3/8	2725K77	24.33	1 1/2	1 1/4	2725K82	23.58	2 1/2	2	2725K84	86.13

Standard-Wall Brass Threaded Pipe Nipples with Sealant

- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 125 low-pressure brass (see above and pages 30-31)
- Flanges: Use threaded Class 150 low-pressure brass (see page 31)

The thread sealant is already applied, so these nipples are ready to get to work. Also known as Schedule 40 threaded nipples and regular nipples, they have seamless construction for unrestricted flow. They meet ASTM B687.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.



FULLY THREADED

Pipe Size	Lg.		
1/8	3/4"	2729K11	$2.18
1/4	7/8"	2729K12	2.34
3/8	1"	2729K13	2.38
1/2	1 1/8"	2729K14	2.78
3/4	1 3/8"	2729K15	3.65
1	1 1/2"	2729K16	5.38
1 1/2	1 3/4"	2729K17	10.52
2	2"	2729K18	16.02

THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths		2" Lengths		2 1/2" Lengths		3" Lengths		3 1/2" Lengths	
1/8	2729K19	$2.30	2729K25	$2.38	2729K33	$2.36	2729K42	$2.66	2729K111	$2.78
1/4	2729K21	2.52	2729K26	2.70	2729K34	2.82	2729K43	3.12	2729K112	3.32
3/8	2729K22	2.60	2729K27	2.73	2729K35	2.96	2729K44	3.62	2729K113	3.88
1/2	2729K23	3.04	2729K28	3.44	2729K36	4.08	2729K45	4.77	2729K114	5.47
3/4	2729K24	3.87	2729K29	4.58	2729K37	5.30	2729K46	6.13	2729K115	6.86
1			2729K31	6.61	2729K38	7.73	2729K47	8.89	2729K116	10.29
1 1/2			2729K32	11.31	2729K39	13.55	2729K48	15.59	2729K117	17.91
2					2729K41	17.28	2729K49	19.97	2729K118	22.99

THREADED ON BOTH ENDS

Pipe Size	4" Lengths		5" Lengths		6" Lengths		8" Lengths		10" Lengths		12" Lengths	
1/8	2729K51	$2.98	2729K59	$3.45	2729K68	$4.04	2729K77	$5.20	2729K119	$7.04	2729K86	$8.09
1/4	2729K52	3.88	2729K61	4.62	2729K69	5.60	2729K78	7.00	2729K121	8.56	2729K87	10.12
3/8	2729K53	4.64	2729K62	5.41	2729K71	6.38	2729K79	8.66	2729K122	10.31	2729K88	12.21
1/2	2729K54	6.27	2729K63	7.50	2729K72	9.12	2729K81	11.84	2729K123	14.53	2729K89	17.27
3/4	2729K55	8.00	2729K64	9.59	2729K73	11.67	2729K82	16.02	2729K124	18.80	2729K91	22.35
1	2729K56	11.58	2729K65	14.26	2729K74	17.05	2729K83	22.73	2729K125	28.13	2729K92	33.53
1 1/2	2729K57	20.30	2729K66	25.25	2729K75	29.99	2729K84	36.66	2729K126	45.43	2729K93	54.20
2	2729K58	26.09	2729K67	32.29	2729K76	35.50	2729K85	47.38	2729K127	58.65	2729K94	69.98

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Brass Threaded Pipe Fittings CAD

- Use with air, drinking (potable) water, oil, natural gas, steam
- Maximum Pressure: 200 psi @ 72° F; 125 psi @ 400° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall brass (see pages 29 and 32)

These low-pressure fittings, also known as Class 125 fittings, meet NSF/ANSI Standard 61 for use with drinking (potable) water, except where noted. They also meet ASTM B584 or B927, as well as ANSI/ASME B16.15 and B1.20.1, except flanges and where noted.

The ***90° female×male elbows*** are also called street elbows. ***Reducing bushings*** are also known as face bushings.

Connections: NPT, except locknuts have NPSL (National Pipe Straight Locknut) threads, which are compatible with NPT threads.








Pipe Size	90° Elbows		90° Elbows with Support		90° Elbows, Female×Male		45° Elbows		45° Elbows, Female×Male		Wyes	
1/8	4429K169	$6.83			4429K159	$9.07	4429K269	$8.34				
1/4	4429K161	6.80	4429K483	$27.26	4429K151	9.08	4429K261	8.34	4429K651	$10.77	4429K368	$25.49
3/8	4429K162	6.80	4429K484	27.26	4429K152	9.08	4429K262	8.34	4429K652	10.77	4429K361	25.49
1/2	4429K163	6.80	4429K485	27.26	4429K153	9.08	4429K263	8.34	4429K653	10.77	4429K362	25.49
3/4	4429K164	9.07			4429K154	12.48	4429K264	11.85	4429K654	15.53	4429K363	34.47
1	4429K165	14.78			4429K155	20.46	4429K265	20.24	4429K655	26.25	4429K364	57.22
1 1/4	4429K166	23.91			4429K156	37.50	4429K266	32.17	4429K656	40.59	4429K365	95.37
1 1/2	4429K167	29.60			4429K157	39.58	4429K267	39.12	4429K657	49.74	4429K366	132.93
2	4429K168	46.16			4429K158	67.10	4429K268	62.67	4429K658	90.93	4429K367	225.44
2 1/2	4429K431	111.66			4429K437	126.59	4429K434	119.08			4429K444	407.35
3	4429K432	170.55			4429K438	185.82	4429K435	184.15			4429K445	611.06
4	4429K433	345.29										








Pipe Size	Tees		Tees, Female×Female×Male		Crosses		Unions		Couplings		Adapters, Female×Male	
1/8	4429K259	$7.97			4429K359	$16.72	4429K211♥	$16.02	4429K119	$5.70		
1/4	4429K251	7.97			4429K351	16.72	4429K212	19.37	4429K111	5.70		
3/8	4429K252	7.97	4429K325	$16.67	4429K352	16.72	4429K213	19.37	4429K112	5.70		
1/2	4429K253	7.97	4429K326	21.80	4429K353	16.72	4429K214	19.37	4429K113	5.70	4429K298	$25.64
3/4	4429K254	11.33	4429K327	28.49	4429K354	23.87	4429K215	26.58	4429K114	7.99	4429K299	35.61
1	4429K255	20.50	4429K328	42.70	4429K355	39.42	4429K216	40.23	4429K115	13.62	4429K321	54.11
1 1/4	4429K256	35.20	4429K329	61.53	4429K356	64.32	4429K217	55.30	4429K116	22.75	4429K322	96.83
1 1/2	4429K257	38.50			4429K357	75.99	4429K218	65.87	4429K117	29.60	4429K323	103.94
2	4429K258	63.81	4429K331	143.68	4429K358	151.96	4429K219	90.04	4429K118	47.27	4429K324	182.28
2 1/2	4429K447	151.92			4429K451	322.88	4429K221♥	167.51	4429K454	80.55		
3	4429K448	232.28			4429K452	459.61	4429K222♥	258.76	4429K455	111.66		
4	4429K449	567.74			4429K453	973.13			4429K456	221.68		

♥ Does not meet ANSI/ASME B16.15.







Pipe Size	Caps		Square-Head Hollow Plugs		Square-Head Solid Plugs		Square-Socket Solid Plugs		Locknuts♠	
1/8	4429K149	$4.52			4429K311	$1.14			4429K121	$1.32
1/4	4429K171	4.52			4429K312	2.14			4429K122	1.53
3/8	4429K142	4.52	4429K281	$2.71	4429K313	3.25			4429K123	2.00
1/2	4429K143	4.52	4429K282	2.93	4429K314	4.18	4429K191	$6.52	4429K124	2.91
3/4	4429K144	5.70	4429K283	3.70	4429K315	5.28	4429K192	6.83	4429K125	4.27
1	4429K145	10.32	4429K316	7.15	4429K287	6.65	4429K193	10.28	4429K126	6.40
1 1/4	4429K146	18.18	4429K317	10.64	4429K288	10.34	4429K396	18.90	4429K127	10.37
1 1/2	4429K147	23.87	4429K318	13.56	4429K289	16.03	4429K194	23.75	4429K128	13.47
2	4429K148	39.56	4429K319	21.37	4429K291	23.62	4429K195	36.51	4429K129	21.37
2 1/2	4429K457	75.94	4429K284	31.40	4429K467	59.28	4429K397	78.01	4429K464★	28.24
3	4429K458	117.43	4429K285	49.91	4429K468	92.57	4429K196	110.65	4429K465★	73.45
4	4429K459	215.78	4429K286	93.40	4429K469	170.39	4429K197	267.24	4429K466★	149.24

♠ Does not meet ANSI/ASME B16.15 or B1.20.1. ★ Does not meet NSF/ANSI Standard 61 for use with drinking (potable) water.

90° Reducing Elbows



Pipe Size (A)	(B)			Pipe Size (A)	(B)			Pipe Size (A)	(B)			Pipe Size (A)	(B)		
1/4	1/8	4429K131	$10.14	3/4	1/4	4429K136	$12.98	1 1/4	3/4	4429K172	$34.59	2	1	4429K177	$74.84
3/8	1/8	4429K132	10.14	3/4	3/8	4429K137	12.98	1 1/4	1	4429K173	34.59	2	1 1/4	4429K178	74.84
3/8	1/4	4429K133	10.14	3/4	1/2	4429K138	12.98	1 1/2	3/4	4429K174	41.96	2	1 1/2	4429K179	74.84
1/2	1/4	4429K134	10.92	1	1/2	4429K139	22.75	1 1/2	1	4429K175	41.96	2 1/2	2	4429K181	132.71
1/2	3/8	4429K135	10.92	1	3/4	4429K141	22.75	1 1/2	1 1/4	4429K176	41.96	3	2	4429K182	204.13

(Continued on following page)

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

i To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Brass Threaded Pipe Fittings

(Continued from previous page)



Right-Angle Reducing Tees

Pipe Size (A)	Pipe Size (B)		
1/2	1/4	4429K227	$12.78
1/2	3/8	4429K332	11.31
1/2	3/4	4429K231	15.18
3/4	1/2	4429K233	14.27
3/4	1	4429K237	32.92
3/4	1 1/4	4429K382	49.48
1	1/2	4429K239	33.35
1	3/4	4429K241	32.28
1	1 1/2	4429K385	72.20
1 1/4	1/2	4429K383	45.26
1 1/4	3/4	4429K337	46.02
1 1/4	1	4429K336	46.82
1 1/2	1/2	4429K343	63.45
1 1/2	3/4	4429K386	64.54
1 1/2	1	4429K342	62.39
2	3/4	4429K344	101.52
2	1	4429K392	103.24
2	1 1/2	4429K391	102.37

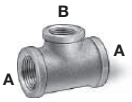

Inline Reducing Tees

Pipe Size (A)	Pipe Size (B)		
1/4	1/8	4429K223	$11.87
3/8	1/4	4429K224	11.87
3/8	1/2	4429K225	14.04
1/2	1/4	4429K226	11.87
1/2	3/8	4429K377	11.31
1/2	3/4	4429K228	15.24
3/4	1/4	4429K229	14.27
3/4	3/8	4429K333	13.60
3/4	1/2	4429K232	14.27
3/4	1	4429K234	32.92
1	1/4	4429K235	30.91
1	1/2	4429K236	30.91
1	3/4	4429K238	30.92
1	1 1/2	4429K334	72.27
1 1/4	1/2	4429K242	42.14
1 1/4	3/4	4429K381	41.97
1 1/4	1	4429K379	$41.97
1 1/4	1 1/2	4429K378	72.24
1 1/2	1/2	4429K384	57.85
1 1/2	3/4	4429K341	57.85
1 1/2	1	4429K339	57.85
1 1/2	2	4429K338	111.00
2	1/2	4429K389	94.13
2	3/4	4429K243	94.13
2	1	4429K244	94.13
2	1 1/4	4429K388	94.13
2	1 1/2	4429K387	94.13
2 1/2	3/4	4429K393	197.83
2 1/2	1 1/2	4429K346	197.01
2 1/2	2	4429K345	196.19
3	1	4429K348	295.78
3	2	4429K347	274.25



Reducing Couplings

Pipe Size (A)	Pipe Size (B)		
1/4	1/8	4429K731	$6.80
3/8	1/8	4429K349	6.48
3/8	1/4	4429K732	6.80
1/2	1/8	4429K733	8.41
1/2	1/4	4429K734	6.80
1/2	3/8	4429K736	6.80
3/4	1/4	4429K738	9.07
3/4	3/8	4429K735	9.07
3/4	1/2	4429K737	9.07
1	1/4	4429K371	16.14
1	3/8	4429K751	16.95
1	1/2	4429K741	14.76
1	3/4	4429K742	14.76
1 1/4	1/2	4429K372	32.87
1 1/4	3/4	4429K761	32.30
1 1/4	1	4429K743	32.37
1 1/2	1/2	4429K752	$41.06
1 1/2	3/4	4429K746	41.05
1 1/2	1	4429K744	37.50
1 1/2	1 1/4	4429K745	37.50
2	1/2	4429K373	62.58
2	3/4	4429K749	63.50
2	1	4429K762	63.50
2	1 1/4	4429K763	58.21
2	1 1/2	4429K748	58.21
2 1/2	1 1/4	4429K764	106.85
2 1/2	1 1/2	4429K374	97.51
2 1/2	2	4429K747	97.98
3	2	4429K765	125.52
3	2 1/2	4429K766	125.52
4	2	4429K376	289.11
4	3	4429K375	289.11

Reducing Bushings, Male×Female



Pipe Size (A)	Pipe Size (B)		
1/4	1/8	4429K521	$3.20
3/8	1/4	4429K522	3.19
1/2	3/8	4429K524	3.46
3/4	1/2	4429K527	4.46



Hex Reducing Bushings, Male×Female

Pipe Size (A)	Pipe Size (B)		
1/4	1/8	4429K411	$1.74
3/8	1/8	4429K471	1.68
3/8	1/4	4429K412	2.01
1/2	1/8	4429K421	2.68
1/2	1/4	4429K422	2.46
1/2	3/8	4429K413	3.37
3/4	1/8	4429K439	5.74
3/4	1/4	4429K423	4.77
3/4	3/8	4429K418	4.33
3/4	1/2	4429K414	4.40
1	1/8	4429K271	9.15
1	1/4	4429K461	9.01
1	3/8	4429K272	9.15
1	1/2	4429K424	7.97
1	3/4	4429K415	7.96
1 1/4	1/8	4429K295	13.10
1 1/4	1/4	4429K292	13.01
1 1/4	3/8	4429K273	17.08
1 1/4	1/2	4429K462	14.90
1 1/4	3/4	4429K472	13.62
1 1/4	1	4429K416	13.60
1 1/2	1/8	4429K293	15.23
1 1/2	1/4	4429K429	19.93
1 1/2	3/8	4429K294	13.10
1 1/2	1/2	4429K436	$17.88
1 1/2	3/4	4429K425	19.34
1 1/2	1	4429K426	19.34
1 1/2	1 1/4	4429K417	19.34
2	1/8	4429K296	19.16
2	1/4	4429K274	23.95
2	3/8	4429K297	16.17
2	1/2	4429K463	23.91
2	3/4	4429K441	24.25
2	1	4429K473	23.87
2	1 1/4	4429K474	23.87
2	1 1/2	4429K427	23.87
2 1/2	3/4	4429K394	40.80
2 1/2	1	4429K442	59.90
2 1/2	1 1/4	4429K475	57.71
2 1/2	1 1/2	4429K395	40.80
2 1/2	2	4429K428	57.70
3	1	4429K275	86.14
3	1 1/4	4429K276	86.14
3	1 1/2	4429K443	94.95
3	2	4429K476	85.79
3	2 1/2	4429K477	85.79
3 1/2	3	4429K277	183.57
4	3 1/2	4429K478	221.61

Flanges

Also known as Class 150 flanges, these have a flat surface on the back. Bolt two same-size flanges together with a gasket (not included) to create easy access to your pipe. They meet ANSI/ASME B16.24. For gaskets, see pages 3529-3530; for bolts, see page 3168.

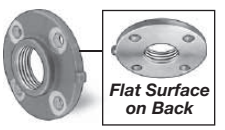

Pipe Size	Flange OD	Bolts Req'd Qty.	Bolts Req'd Dia.		
1/2	3 1/2"	4	1/2"	4429K551	$60.00
3/4	3 7/8"	4	1/2"	4429K552	90.50
1	4 1/4"	4	1/2"	4429K553	79.05
1 1/4	4 5/8"	4	1/2"	4429K554	98.03
1 1/2	5"	4	1/2"	4429K555	111.97
2	6"	4	5/8"	4429K556	$136.78
2 1/2	7"	4	5/8"	4429K557	186.53
3	7 1/2"	4	5/8"	4429K558	221.85
4	9"	8	5/8"	4429K559	294.73

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Standard-Wall Brass Threaded Pipe Nipples and Pipe CAD



Fully Threaded

Threaded on Both Ends

- Use with air, drinking (potable) water, oil, natural gas, steam
- Fittings: Use threaded Class 125 low-pressure brass (see pages 29-31)
- Flanges: Use threaded Class 150 low-pressure brass (see page 31)

Our threaded brass nipples and pipe are also known as Schedule 40 and regular nipples and pipe. Pipe nipples and pipe meet NSF/ANSI 61 Standard for use with drinking (potable) water. They have seamless construction for unrestricted flow. Meet ASTM B687.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.

FULLY THREADED

Pipe Size	Lg.		
1/8	3/4"	4568K111	$1.41
1/4	7/8"	4568K131	1.66
3/8	1"	4568K151	1.72
1/2	1 1/8"	4568K171	2.29
3/4	1 3/8"	4568K191	3.32
1	1 1/2"	4568K221	4.89
1 1/4	1 5/8"	4568K241	7.17
1 1/2	1 3/4"	4568K261	9.56
2	2"	4568K281	14.56
2 1/2	2 1/2"	4568K301	35.41
3	2 5/8"	4568K311	48.16
4	2 7/8"	4568K321	72.43

THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths		2" Lengths		2 1/2" Lengths		3" Lengths		3 1/2" Lengths	
1/8	4568K112	$1.60	4568K113	$1.71	4568K114	$1.96	4568K115	$2.11	4568K116	$2.27
1/4	4568K132	1.93	4568K133	2.17	4568K134	2.35	4568K135	2.77	4568K136	3.02
3/8	4568K152	2.02	4568K153	2.47	4568K154	2.68	4568K155	3.29	4568K156	3.53
1/2	4568K172	2.65	4568K173	3.13	4568K174	3.71	4568K175	4.34	4568K176	4.97
3/4	4568K199	3.52	4568K192	4.16	4568K193	4.82	4568K194	5.57	4568K195	6.24
1	—	—	4568K222	6.01	4568K223	7.03	4568K224	8.08	4568K225	9.35
1 1/4	—	—	4568K242	8.41	4568K243	9.49	4568K244	11.24	4568K245	13.15
1 1/2	—	—	4568K262	10.28	4568K263	12.32	4568K264	14.17	4568K265	16.28
2	—	—	—	—	4568K282	15.71	4568K283	18.15	4568K284	20.90
2 1/2	—	—	—	—	—	—	4568K302	37.02	4568K303	41.93
3	—	—	—	—	—	—	4568K312	49.74	4568K313	56.60
4	—	—	—	—	—	—	4568K322	73.57	4568K323	82.59

THREADED ON BOTH ENDS

Pipe Size	4" Lengths		4 1/2" Lengths		5" Lengths		5 1/2" Lengths		6" Lengths		6 1/2" Lengths	
1/8	4568K117	$2.56	4568K331	$2.89	4568K119	$3.14	4568K351	$3.38	4568K122	$3.61	4568K391	$4.32
1/4	4568K137	3.53	4568K138	3.83	4568K139	4.20	4568K352	4.52	4568K142	5.09	4568K392	5.83
3/8	4568K157	4.22	4568K158	4.49	4568K159	4.92	4568K353	5.34	4568K162	5.80	4568K393	7.03
1/2	4568K177	5.70	4568K334	6.18	4568K179	6.82	4568K354	7.48	4568K182	8.29	4568K394	9.61
3/4	4568K196	7.27	4568K335	7.90	4568K198	8.72	4568K355	9.53	4568K211	10.61	4568K395	12.42
1	4568K226	10.53	4568K336	11.73	4568K228	12.96	4568K356	14.21	4568K231	15.50	4568K396	18.09
1 1/4	4568K246	14.80	4568K337	16.41	4568K248	18.09	4568K357	19.78	4568K251	21.58	4568K397	25.48
1 1/2	4568K266	18.45	4568K338	20.75	4568K268	22.95	4568K358	25.08	4568K271	27.26	4568K398	29.35
2	4568K285	23.72	4568K339	26.47	4568K287	29.35	4568K359	29.66	4568K289	32.27	4568K399	37.77
2 1/2	4568K304	46.63	4568K341	49.74	4568K305	55.01	4568K361	59.24	4568K306	64.87	4568K411	73.90
3	4568K314	63.73	4568K342	70.07	4568K315	77.09	4568K362	83.76	4568K316	91.06	4568K412	106.25
4	4568K324	94.20	4568K343	101.75	4568K325	109.51	4568K363	113.84	4568K326	125.71	4568K413	144.31

Pipe Size	7" Lengths		8" Lengths		9" Lengths		10" Lengths		11" Lengths		12" Lengths	
1/8	4568K371	$4.32	4568K124	$4.73	4568K511	$5.81	4568K125	$6.40	4568K711	$6.93	4568K126	$7.35
1/4	4568K372	5.83	4568K144	6.36	4568K512	7.08	4568K145	7.78	4568K712	8.47	4568K146	9.20
3/8	4568K373	7.03	4568K164	7.87	4568K513	9.31	4568K165	9.37	4568K713	10.22	4568K166	11.10
1/2	4568K374	9.61	4568K184	10.76	4568K514	11.95	4568K185	13.21	4568K714	14.44	4568K186	15.70
3/4	4568K375	12.42	4568K213	14.56	4568K515	15.50	4568K214	17.09	4568K715	18.63	4568K215	20.32
1	4568K376	18.09	4568K233	20.66	4568K516	23.04	4568K234	25.57	4568K716	27.59	4568K235	30.48
1 1/4	4568K377	25.48	4568K253	28.85	4568K517	31.52	4568K254	32.88	4568K717	37.63	4568K255	39.32
1 1/2	4568K378	29.35	4568K273	33.33	4568K518	37.32	4568K274	41.30	4568K718	45.29	4568K275	49.27
2	4568K379	37.77	4568K292	43.07	4568K519	48.02	4568K293	53.32	4568K719	57.62	4568K294	63.62
2 1/2	4568K381	73.90	4568K307	84.87	4568K611	94.20	4568K308	101.42	4568K811	112.17	4568K309	116.90
3	4568K382	106.25	4568K317	115.00	4568K612	125.92	4568K318	139.70	4568K812	151.91	4568K319	167.32
4	4568K383	144.31	4568K327	163.70	4568K613	183.07	4568K328	202.46	4568K813	221.88	4568K329	238.87

To Order: Please specify length.

Pipe Size		14" Lengths	16" Lengths	18" Lengths	20" Lengths	22" Lengths	24" Lengths	36" Lengths	48" Lengths	60" Lengths	72" Lengths
1/8	4512K45	$8.07	$9.22	$10.10	$11.51	$12.69	$13.43	$20.21	$26.99	$33.61	$40.34
1/4	4512K46	10.06	11.49	12.58	14.35	15.81	16.75	25.17	33.56	41.97	50.36
3/8	4512K85	12.15	13.88	15.12	17.38	19.09	20.26	30.34	40.52	50.71	60.86
1/2	4512K48	17.21	19.68	21.50	24.58	27.06	28.73	43.11	57.41	71.87	86.22
3/4	4512K49	22.28	25.44	27.83	31.80	34.97	37.15	55.77	74.35	92.92	111.49
1	4512K75	33.37	38.15	41.84	47.68	52.44	55.77	83.50	111.44	123.85	148.63
1 1/4	4512K76	46.76	53.42	58.60	66.79	73.45	78.07	117.03	138.74	173.42	208.13
1 1/2	4512K77	58.56	66.93	73.32	83.65	92.05	97.75	130.39	173.84	217.27	273.79
2	4512K78	75.61	86.42	94.69	97.21	106.92	112.19	168.33	224.45	252.47	302.93
2 1/2	4512K79	131.66	150.46	162.59	188.08	206.88	216.81	293.08	390.78	569.16	574.68

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8″):	0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″	1 5/8″	1 3/4″	2 3/8″	2 3/4″	3 3/8″

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Chrome-Plated Brass Threaded Pipe Fittings

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 200 psi @ 72° F; 125 psi @ 400° F for steam
- Pipe Nipples: Use threaded Schedule 40 standard-wall chrome-plated brass (see below)

The polished chrome plating not only looks great but also improves corrosion resistance. Commonly called Class 125, these brass fittings meet ASTM B456. They also meet ASTM B584 or B16 (except reducing bushings), as well as ANSI/ASME B16.15 (except unions and locknuts).

The ***90° female×male elbows*** are also known as street elbows. ***Square-head plugs*** are solid. ***Reducing bushings*** are also known as face bushings.

Connections: NPT.



Pipe Size	90° Elbows		90° Elbows, Female×Male		45° Elbows		45° Elbows, Female×Male		Tees		Crosses	
1/8	9162K111	$15.57	9162K131	$20.85	9162K121	$19.17	9162K211	$23.06	9162K141	$18.30	9162K151	$32.74
1/4	9162K112	15.83	9162K132	21.20	9162K122	19.50	9162K212	23.42	9162K142	18.61	9162K152	33.22
3/8	9162K113	16.10	9162K133	21.57	9162K123	19.83	9162K213	23.80	9162K143	18.93	9162K153	33.71
1/2	9162K114	16.39	9162K134	21.95	9162K124	20.18	9162K214	24.19	9162K144	19.26	9162K154	34.21
3/4	9162K115	20.37	9162K135	28.02	9162K125	25.49	9162K215	33.26	9162K145	25.37	9162K155	48.12
1	9162K116	33.14	9162K136	37.83	9162K126	35.67	9162K216	46.12	9162K146	37.83	9162K156	69.24



Pipe Size	Unions		Couplings		Caps		Square-Head Plugs		Locknuts	
1/8	9162K471	$33.50	9162K311	$13.01	9162K161	$8.42	9162K191	$8.68	9162K181	$7.23
1/4	9162K472	33.95	9162K312	13.23	9162K162	8.54	9162K192	8.77	9162K182	7.31
3/8	9162K473	34.41	9162K313	13.46	9162K163	8.66	9162K193	8.87	9162K183	7.39
1/2	9162K474	34.88	9162K314	13.70	9162K164	8.78	9162K194	13.46	9162K184	10.17
3/4	9162K475	47.06	9162K315	19.05	9162K165	13.54	9162K195	16.20	9162K185	12.20
1	9162K476	62.10	9162K316	30.51	9162K166	15.93	9162K196	22.01	9162K186	18.30



Reducing Bushings, Male×Female

Pipe Size (A)	Pipe Size (B)		
1/4	1/8	9162K241	$3.75
3/8	1/4	9162K243	3.81
1/2	3/8	9162K244	5.40
3/4	3/8	9162K245	7.64
3/4	1/2	9162K246	7.75



Reducing Couplings

Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)		
1/4	1/8	9162K261	$16.10	3/4	1/4	9162K271	$23.13
3/8	1/4	9162K263	16.39	3/4	3/8	9162K265	20.37
1/2	1/8	9162K262	17.27	3/4	1/2	9162K266	20.37
1/2	1/4	9162K267	15.07	1	1/2	9162K272	37.55
1/2	3/8	9162K264	16.20	1	3/4	9162K269	37.92



Hex Reducing Bushings, Male×Female

Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)		
1/4	1/8	9162K221	$3.87	3/4	1/4	9162K232	$13.18
3/8	1/8	9162K222	4.00	3/4	3/8	9162K225	13.86
3/8	1/4	9162K223	4.13	3/4	1/2	9162K226	14.10
1/2	1/8	9162K227	12.97	1	1/4	9162K233	17.71
1/2	1/4	9162K228	10.33	1	1/2	9162K234	18.00
1/2	3/8	9162K224	11.11	1	3/4	9162K229	19.05
3/4	1/8	9162K231	12.97				

Standard-Wall Chrome-Plated Brass Threaded Pipe Nipples

- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 125 low-pressure chrome-plated brass (see above)

Also known as Schedule 40 and regular nipples, these are brass with a polished chrome plating that provides extra corrosion resistance. They are threaded and have seamless construction for unrestricted flow. Meet ASTM B43, B456, and B687.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.



FULLY THREADED

Pipe Size	Lg.		
1/8	3/4″	9176K111	$5.32
1/4	7/8″	9176K112	5.98
3/8	1″	9176K113	4.21
1/2	1 1/8″	9176K114	5.21
3/4	1 3/8″	9176K115	11.46
1	1 1/2″	9176K116	15.19

THREADED ON BOTH ENDS

Pipe Size	1 1/2″ Lengths		2″ Lengths		3″ Lengths		3 1/2″ Lengths		4″ Lengths	
1/8	9176K121	$5.98	9176K131	$6.42	9176K141	$7.86	9176K221	$9.21	9176K151	$9.53
1/4	9176K122	6.92	9176K132	7.78	9176K142	9.88	9176K222	12.11	9176K152	12.67
3/8	9176K123	4.75	9176K133	5.67	9176K143	7.59	9176K223	9.35	9176K153	9.78
1/2	9176K124	5.97	9176K134	7.14	9176K144	9.95	9176K224	12.44	9176K154	12.94
3/4	9176K125	12.11	9176K135	14.53	9176K145	19.34	9176K225	24.02	9176K155	25.21
1			9176K136	18.64	9176K146	24.79	9176K226	28.66	9176K156	32.22

THREADED ON BOTH ENDS

Pipe Size	4 1/2″ Lengths		5″ Lengths		6″ Lengths		8″ Lengths		10″ Lengths		12″ Lengths	
1/8	9176K231	$11.65	9176K161	$11.69	9176K171	$13.53	9176K181	$17.71	9176K191	$21.34	9176K211	$25.01
1/4	9176K232	15.49	9176K162	15.64	9176K172	18.25	9176K182	23.80	9176K192	29.03	9176K212	34.27
3/8	9176K233	11.83	9176K163	12.10	9176K173	14.25	9176K183	21.54	9176K193	25.64	9176K213	30.35
1/2	9176K234	15.41	9176K164	15.86	9176K174	18.82	9176K184	27.78	9176K194	34.08	9176K214	40.45
3/4	9176K235	30.33	9176K165	30.99	9176K175	36.73	9176K185	49.71	9176K195	60.61	9176K215	72.02
1	9176K236	35.91	9176K166	39.64	9176K176	47.20	9176K186	63.02	9176K196	77.83	9176K216	92.67

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Thick-Wall Brass Threaded Pipe Fittings CAD

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 400 psi @ 72° F; 250 psi @ 400° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall brass (see pages 29 and 32) or threaded Schedule 80 thick-wall brass (see below)

Also known as Class 250 fittings, these threaded brass fittings have thicker walls to withstand higher pressures than the low-pressure fittings on pages 30-31. All meet ASTM B584, as well as ANSI/ASME B.16.15 and B1.20.1.

Connections: NPT.









Pipe Size	90° Elbows	45° Elbows	Tees	Crosses	Unions	Couplings	Caps
1/4	9152K11 $17.34	—	9152K76 $27.17	—	9152K61 $39.70	9152K51 $21.35	—
3/8	9152K12 17.34	—	9152K31 27.17	—	9152K62 45.37	9152K52 21.35	—
1/2	9152K13 25.42	—	9152K32 30.64	9152K77 $52.31	9152K63 39.70	9152K53 25.51	9152K71 $29.90
3/4	9152K14 34.30	9152K21 $36.17	9152K33 49.86	9152K41 76.21	9152K64 56.29	9152K54 37.73	9152K72 37.73
1	9152K15 51.02	9152K22 63.36	9152K34 68.03	9152K42 119.58	9152K65 87.07	9152K55 57.26	9152K73 57.26
1 1/4	9152K16 91.46	9152K23 95.93	9152K35 125.91	9152K43 153.67	9152K66 121.08	9152K56 82.93	9152K74 82.21
1 1/2	9152K17 123.48	9152K24 131.51	9152K36 164.55	9152K44 237.42	9152K67 126.44	9152K57 105.17	9152K78 103.28
2	9152K18 205.65	9152K25 214.50	9152K37 239.02	9152K45 383.87	9152K68 199.70	9152K58 152.18	9152K75 152.18

Thick-Wall Brass Threaded Pipe Nipples and Pipe CAD



Fully Threaded



Threaded on Both Ends

- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 250 low-pressure brass (see above)

You may know these as Schedule 80 and extra-heavy pipe nipples and pipe—they have thicker walls than standard-wall pipe to handle high-pressure applications. All have seamless construction for unrestricted flow. Meet ASTM B43. Lengths up to 12" also meet ASTM B687 and ANSI/ASME B1.20.1.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.

FULLY THREADED

Pipe Size	Lg.		
1/8	3/4"	9149K11	$3.51
1/4	7/8"	9149K12	4.11
3/8	1"	9149K13	4.26
1/2	1 1/8"	9149K14	5.69
3/4	1 3/8"	9149K15	8.22
1	1 1/2"	9149K16	12.09
1 1/4	1 5/8"	9149K17	18.25
1 1/2	1 3/4"	9149K18	23.73
2	2"	9149K19	36.14
2 1/2	2 1/2"	9149K491	90.26

THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths		2" Lengths		2 1/2" Lengths		3" Lengths		3 1/2" Lengths	
1/8	9149K21	$3.96	9149K31	$4.29	9149K41	$4.85	9149K51	$5.24	9149K71	$5.66
1/4	9149K22	4.76	9149K32	5.39	9149K42	5.84	9149K52	6.85	9149K72	7.47
3/8	9149K23	5.06	9149K33	6.13	9149K43	6.64	9149K53	8.13	9149K73	8.78
1/2	9149K24	6.58	9149K34	7.74	9149K44	9.20	9149K54	10.81	9149K74	12.36
3/4	9149K25	8.75	9149K35	10.33	9149K45	12.00	9149K55	13.81	9149K75	15.51
1	—	—	9149K36	14.92	9149K46	17.42	9149K56	20.04	9149K76	23.22
1 1/4	—	—	9149K37	20.84	9149K47	23.58	9149K57	27.90	9149K77	32.66
1 1/2	—	—	9149K38	25.54	9149K48	30.61	9149K58	35.16	9149K78	40.37
2	—	—	—	—	9149K49	39.03	9149K59	45.04	9149K79	51.83
2 1/2	—	—	—	—	—	—	9149K591	94.37	9149K791	106.90

THREADED ON BOTH ENDS

Pipe Size	4" Lengths		5" Lengths		6" Lengths		8" Lengths		10" Lengths		12" Lengths	
1/8	9149K61	$6.34	9149K81	$7.77	9149K91	$8.99	9149K26	$11.76	9149K121	$15.84	9149K131	$18.28
1/4	9149K62	8.78	9149K82	10.39	9149K92	12.65	9149K27	15.81	9149K122	19.29	9149K132	22.80
3/8	9149K63	10.45	9149K83	12.21	9149K93	14.35	9149K28	19.53	9149K123	23.25	9149K133	27.54
1/2	9149K64	14.14	9149K84	16.91	9149K94	20.57	9149K29	26.70	9149K124	32.78	9149K134	39.03
3/4	9149K65	18.04	9149K85	21.64	9149K95	26.35	9149K39	34.74	9149K125	42.42	9149K135	50.46
1	9149K66	26.11	9149K86	32.21	9149K96	38.43	9149K111	51.27	9149K126	60.04	9149K136	71.59
1 1/4	9149K67	36.77	9149K87	44.87	9149K97	53.62	9149K112	67.79	9149K127	83.81	9149K137	99.74
1 1/2	9149K68	45.82	9149K88	56.95	9149K98	64.01	9149K113	84.99	9149K128	105.30	9149K138	119.19
2	9149K69	58.92	9149K89	68.91	9149K99	82.29	9149K114	109.78	9149K129	128.99	9149K139	153.87
2 1/2	9149K691	118.84	9149K891	133.08	9149K991	156.91	9149K115	205.30	9149K141	239.51	9149K142	283.12

Pipe Size	18" Lengths		24" Lengths		36" Lengths		48" Lengths		60" Lengths		72" Lengths	
1/8	5085T11	$31.10	5085T21	$41.50	5085T31	$62.31	5085T41	$83.00	5085T51	$103.81	5085T61	$113.29
1/4	5085T12	38.63	5085T22	51.50	5085T32	77.26	5085T42	103.03	5085T52	117.08	5085T62	140.48
3/8	5085T13	46.73	5085T23	62.31	5085T33	93.42	5085T43	113.18	5085T53	141.50	5085T63	169.82
1/2	5085T14	66.14	5085T24	88.23	5085T34	120.23	5085T44	160.33	5085T54	199.74	5085T64	215.99
3/4	5085T15	85.52	5085T25	103.73	5085T35	155.61	5085T45	207.45	5085T55	232.88	5085T65	279.43
1	5085T16	116.70	5085T26	155.57	5085T36	209.51	5085T46	279.38	5085T56	349.22	5085T66	425.90
1 1/4	5085T17	163.38	5085T27	217.90	5085T37	293.44	5085T47	391.26	5085T57	489.08	5085T67	586.90
1 1/2	5085T18	202.55	5085T28	242.53	5085T38	363.72	5085T48	484.96	5085T58	606.23	5085T68	685.52
2	5085T19	234.77	5085T29	312.98	5085T39	469.47	5085T49	625.99	5085T59	737.38	5085T69	884.80

How to Measure Female Threaded Fittings— *Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Medium-Pressure Plated Brass Threaded Pipe Fittings

- Use with air, water, oil, natural gas
- Maximum Pressure: 1,000 psi @ 72° F

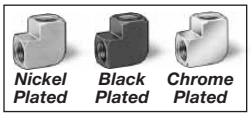

Plating offers more than just good looks—it also provides long life in corrosive environments.

The ***90° female×male elbows*** are also called street elbows. ***Hex-head plugs*** are hollow. ***Hex-socket plugs*** are hollow, except chrome-plated plugs, which are solid. ***Fully threaded nipples*** are also called close nipples; they are threaded on each end to the center.

Nickel plating has better corrosion resistance than unplated brass. ***Black zinc plating*** has a shiny finish that offers more corrosion resistance than nickel plating and stands up to salt spray applications. ***Chrome plating*** is applied over a nickel base coat, giving these fittings a mirror-like finish that has better corrosion resistance than nickel- and black-plated fittings. **To Order:** Please specify nickel, black, or chrome plating.

Connections: NPTF (Dryseal), which are compatible with NPT.



90° Elbows

Pipe Size		Nickel	Black	Chrome
1/8	2743K11	$3.47	$3.94	$5.34
1/4	2743K12	4.68	5.28	8.23
3/8	2743K13	5.54	6.41	8.23
1/2	2743K14	9.45	10.97	14.19



90° Elbows, Female×Male

	Nickel	Black	Chrome
2743K16	$4.27	$4.62	$6.00
2743K17	4.74	5.28	6.97
2743K18	7.04	7.53	10.37
2743K19	11.34	12.47	16.15



45° Elbows, Female×Male

	Nickel	Black	Chrome
2743K31	$3.58	$4.35	$5.64
2743K32	4.49	5.17	7.11
2743K33	5.90	6.06	7.57
2743K34	9.08	8.84	11.70



Tees

Pipe Size		Nickel	Black	Chrome
1/8	2743K41	$4.11	$4.62	$6.11
1/4	2743K42	5.12	6.06	7.66
3/8	2743K43	6.43	7.34	9.89
1/2	2743K44	9.98	11.69	15.72



Tees, Female×Female×Male

	Nickel	Black	Chrome
2743K51	$4.07	$4.42	$5.93
2743K52	5.76	6.28	8.34
2743K53	8.40	9.31	12.81
2743K54	12.43	13.81	17.97



Caps

	Nickel	Black	Chrome
2743K85	$2.80	$3.19	$3.85
2743K97	3.50	3.98	5.03
2743K98	7.40	8.52	10.26
2743K99	8.63	9.53	11.23



Hex Couplings

Pipe Size		Nickel	Black	Chrome
1/8	2743K61	$2.40	$2.77	$3.79
1/4	2743K62	3.07	3.53	4.87
3/8	2743K63	3.60	4.14	5.70
1/2	2743K64	5.14	5.64	7.77



Hex-Head Plugs

	Nickel	Black	Chrome
2743K71	$1.98	$2.36	$2.87
2743K72	2.19	2.71	3.19
2743K73	2.65	3.02	3.84
2743K74	3.42	3.97	4.70



Hex-Socket Plugs

Hex Key Size		Nickel	Black	Chrome
3/16"	2743K81	$2.13	$2.26	$3.09
1/4"	2743K82	2.55	2.70	3.72
5/16"	2743K83	3.29	3.79	5.25
3/8"	2743K84	3.29	3.79	5.43



Adapters, Female×Male

Pipe Size (A)	(B)		Nickel	Black	Chrome
1/8	1/8	2743K21	$2.06	$2.82	$3.28
1/4	1/8	2743K22	2.62	3.21	4.00
1/4	1/4	2743K23	2.93	3.35	4.51
3/8	1/8	2743K24	5.92	6.56	8.36
3/8	1/4	2743K25	3.38	4.30	5.35
3/8	3/8	2743K26	3.86	4.82	5.95
1/2	1/4	2743K27	5.37	6.11	7.92
1/2	3/8	2743K28	5.29	6.24	7.86
1/2	1/2	2743K29	5.28	6.45	8.18



Hex Reducing Nipples

Pipe Size (A)	(B)		Nickel	Black	Chrome
1/4	1/8	2743K36	$2.52	$3.09	$2.73
3/8	1/8	2743K37	4.27	5.48	6.13
3/8	1/4	2743K38	2.99	3.76	4.74
1/2	1/8		—	—	—
1/2	1/4	2743K39	4.80	5.52	7.62
1/2	3/8		—	—	—



Hex Reducing Bushings, Male×Female

	Nickel	Black	Chrome
2743K91	$1.95	$2.46	$4.02
2743K92	2.62	3.02	4.13
2743K93	2.24	2.46	3.52
2743K94	3.39	3.99	5.37
2743K95	3.16	3.34	4.60
2743K96	2.83	2.99	4.10



Hex Nipples

Pipe Size		Nickel	Black	Chrome
1/8	2743K86	$2.22	$2.56	$3.23
1/4	2743K87	2.62	2.99	3.81
3/8	2743K88	3.10	3.54	4.51
1/2	2743K89	4.43	5.14	6.07



Fully Threaded Nipples

Pipe Size	Lg.		Nickel	Black	Chrome
1/8	3/4"	2743K76	$1.79	$2.06	$2.76
1/4	7/8"	2743K77	2.06	2.37	3.29
3/8	1"	2743K78	2.28	2.63	3.68
1/2	1 1/8"	2743K79	3.47	3.79	5.02



NIPPLES, THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths			2" Lengths		
	Nickel	Black	Chrome	Nickel	Black	Chrome
1/8	2743K56 $2.34	$2.71	$3.47	2743K46 $2.87	$3.35	$4.24
1/4	2743K57 2.73	3.29	4.05	2743K47 3.04	3.63	4.50
3/8	2743K58 3.33	3.57	4.54	2743K48 4.13	5.28	5.92
1/2	2743K59 4.49	5.66	6.44	2743K49 5.14	6.20	7.43

Pipe Size	3" Lengths			4" Lengths		
	Nickel	Black	Chrome	Nickel	Black	Chrome
1/8	2743K35 $3.35	$3.85	$4.98	2743K66 $5.19	$5.97	$7.70
1/4	2743K45 3.98	4.58	5.76	2743K67 7.41	7.99	9.74
3/8	2743K55 6.44	7.26	8.76	2743K68 9.57	10.27	12.32
1/2	2743K65 8.11	8.98	10.82	2743K69 11.00	12.64	15.42

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Medium-Pressure Brass Threaded Pipe Fittings

- Use with air, water, oil, natural gas
- Maximum Pressure: 1,000 psi @ 72° F

A great choice when you want brass fittings that can handle moderate pressure, but you don't want to break the bank.

90° female×male elbows are also called street elbows. ***Reducing bushings*** are also called face bushings. ***Through-wall couplings*** are also called bulkhead fittings and panel-mount couplings; they include a nut and a lockwasher. ***Fully threaded nipples***, also called close nipples, are threaded on each end to the center.

Connections: NPT.








Pipe Size	90° Elbows, Female		90° Elbows, Male		90° Elbows, Female×Male		45° Elbows, Female×Male		Tees		Tees, Female×Female×Male	
1/8	50785K35	$2.83	50785K122	$2.62	50785K41	$1.85	50785K81	$3.53	50785K75	$3.73	50785K219	$2.81
1/4	50785K36	4.04	50785K123	4.62	50785K43	2.50	50785K82	4.00	50785K72	6.00	50785K222	4.90
3/8	50785K37	4.63	50785K124	7.85	50785K44	4.38	50785K83	4.60	50785K73	7.15	50785K223	7.21
1/2	50785K38	8.12	50785K125	10.19	50785K45	7.53	50785K84	6.77	50785K74	13.27	50785K224	12.81
3/4	50785K39	15.97	—	—	50785K46	14.11	50785K333	15.20	50785K76	16.47	50785K339	25.69
1/4 × 1/8	—	—	—	—	50785K42♥	4.10	—	—	—	—	—	—

♥ Female end is 1/4 pipe size, male end is 1/8 pipe size.








Pipe Size	Tees, Female×Male×Female		Crosses		Unions		Hex Couplings		Caps		Locknuts	
1/8	50785K321	$3.52	50785K232	$8.79	50785K242	$19.24	50785K91	$1.23	50785K161	$0.91	50785K141	$1.77
1/4	50785K322	5.69	50785K233	9.57	50785K243	18.36	50785K92	1.50	50785K162	1.38	50785K142	2.44
3/8	50785K323	7.58	50785K234	13.48	50785K244	18.41	50785K93	2.81	50785K163	1.81	50785K143	3.04
1/2	50785K324	10.41	50785K235	22.20	50785K245	27.80	50785K94	3.46	50785K164	2.55	50785K144	3.74
3/4	50785K216	19.89	50785K236	37.96	50785K246	32.60	50785K95	5.42	50785K165	4.50	50785K145	4.40





Pipe Size	SQUARE-HEAD PLUGS Hollow		SQUARE-HEAD PLUGS Solid		HEX-HEAD PLUGS Hollow		HEX-HEAD PLUGS Solid	
1/8	50785K131	$1.20	50785K252	$0.87	50785K21	$0.82	50785K334	$1.04
1/4	50785K132	1.77	50785K253	1.20	50785K22	1.27	50785K335	1.69
3/8	50785K133	2.88	50785K254	1.58	50785K23	1.85	50785K336	2.55
1/2	50785K255	7.21	50785K135	5.38	50785K24	2.81	50785K337	3.69
3/4	50785K256	10.40	50785K136	8.58	50785K521	4.90	50785K338	6.77
1	50785K134	12.58	—	—	50785K332	12.35	—	—

Hex-Socket Solid Plugs

Pipe Size	Hex Key Size		
1/16	5/32"	50785K267	$0.59
1/8	3/16"	50785K112	.77
1/4	1/4"	50785K113	1.23
3/8	5/16"	50785K114	1.38
1/2	3/8"	50785K115	2.58
3/4	9/16"	50785K116	4.73



Slotted-Head Solid Plugs

Pipe Size		
1/8	50785K137	$1.12
1/4	50785K138	1.73
3/8	50785K139	2.35



Reducing Bushings

Pipe Size (A)	(B)		
3/8	1/4	50785K262	$1.93
1/2	3/8	50785K264	1.73
3/4	1/2	50785K265	2.73



Hex Reducing Bushings, Male×Female

Pipe Size (A)	(B)		
1/8	1/16	50785K259	$2.38
1/4	1/8	50785K61	1.04
3/8	1/8	50785K62	1.85
3/8	1/4	50785K63	1.31
1/2	1/8	50785K64	2.88
1/2	1/4	50785K65	2.54
1/2	3/8	50785K66	2.08
3/4	1/8	50785K67	6.92
3/4	1/4	50785K68	$5.35
3/4	3/8	50785K69	4.35
3/4	1/2	50785K71	3.46
1	1/4	50785K85	12.00
1	3/8	50785K77	11.54
1	1/2	50785K78	10.88
1	3/4	50785K79	8.85



Adapters, Female×Male

Pipe Size (A)	(B)		
1/8	1/8	50785K25	$1.19
1/4	1/8	50785K26	1.58
1/4	1/4	50785K27	2.27
3/8	1/8	50785K612	4.10
3/8	1/4	50785K28	2.73
3/8	3/8	50785K617	3.12
1/2	1/4	50785K614	5.38
1/2	3/8	50785K29	4.23
1/2	1/2	50785K31	4.83
3/4	1/2	50785K626	7.85
3/4	3/4	50785K331	11.23



Reducing Couplings

Pipe Size (A)	(B)		
1/4	1/8	50785K181	$1.85
3/8	1/8	50785K182	4.04
3/8	1/4	50785K183	2.69
1/2	1/8	50785K184	4.35
1/2	1/4	50785K185	4.15
1/2	3/8	50785K186	3.88
3/4	1/2	50785K187	7.27



Through-Wall Couplings

Pipe Size (A)	Thread Size (B)	Hole Size in Wall		
1/8	5/8"-18	5/8"	50785K272	$5.96
1/4	3/4"-16	3/4"	50785K273	8.23
3/8	1"-14	1"	50785K274	11.23
1/2	1 1/8"-14	1 1/8"	50785K275	16.59

(Continued on following page)

How to Measure Female Threaded Fittings— *Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Medium-Pressure Brass Threaded Pipe Fittings *(Continued from previous page)*



Hex Nipples

Pipe Size		
1/8	5485K21	$1.40
1/4	5485K22	2.30
3/8	5485K23	3.28
1/2	5485K24	5.30
3/4	5485K25	7.90
1	5485K26	16.76



Hex Reducing Nipples

Pipe Size (A)	(B)		
1/8	1/16	5485K37	$6.74
1/4	1/8	5485K31	2.28
3/8	1/8	5485K35	4.20
3/8	1/4	5485K32	2.70
1/2	1/4	5485K36	5.23
1/2	3/8	5485K33	4.75
3/4	1/2	5485K34	9.20



Fully Threaded Nipples

Pipe Size	Lg.		
1/16	5/8"	50785K268	$3.40
1/8	3/4"	50785K151	.86
1/4	7/8"	50785K152	1.14
3/8	1"	50785K153	1.98
1/2	1 1/8"	50785K154	2.35
3/4	1 5/16"	50785K155	5.07



PIPE NIPPLES, THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths		2" Lengths	
1/16	50785K257	$3.48	50785K258	$3.88
1/8	50785K11	1.78	50785K171	2.06
1/4	50785K12	1.67	50785K172	2.45
3/8	50785K13	2.39	50785K173	3.91
1/2	50785K14	3.43	50785K174	4.58
3/4	50785K15	5.33	50785K175	5.69

Fittings with Thread Sealant

There's no need to search for your thread sealant—we've applied it to the male threads for you.









Pipe Size	90° Elbows, Female×Male		45° Elbows, Female×Male		Tees, Female×Female×Male		Tees, Female×Male×Female	
1/8	50785K411	$2.46	50785K811	$4.23	50785K225	$3.74	50785K325	$4.76
1/4	50785K431	3.37	50785K821	5.41	50785K226	6.67	50785K326	7.08
3/8	50785K441	5.80	50785K831	6.52	50785K227	10.04	50785K327	9.52
1/2	50785K451	9.69	50785K841	9.54	50785K228	17.40	50785K328	13.46
3/4	50785K461	15.75	50785K282	22.62	50785K284	25.09	50785K283	20.17
1/4×1/8	50785K916♥	6.29						

♥ Female end is 1/4 pipe size, male end is 1/8 pipe size.



Square-Head Hollow Plugs

Pipe Size		
1/8	50785K287	$1.38
1/4	50785K288	2.50
3/8	50785K289	3.62
1/2	50785K341	8.27
3/4	50785K342	17.67
1	50785K292	21.21



Hex-Head Hollow Plugs

50785K917	$1.23
50785K221	1.67
50785K231	2.55
50785K241	3.96
50785K166	6.62
50785K298	20.87



Hex-Socket Plugs

Pipe Size	Hex Key Size		
1/16	5/32"	50785K167	$0.77
1/8	3/16"	50785K918	1.24
1/4	1/4"	50785K213	1.79
3/8	5/16"	50785K214	2.57
1/2	3/8"	50785K215	3.80
3/4	9/16"	50785K117	6.73



Hex Reducing Bushings, Male×Female

Pipe Size (A)	(B)		
1/8	1/16	50785K159	$3.09
1/4	1/8	50785K611	1.65
3/8	1/8	50785K621	2.53
3/8	1/4	50785K631	1.81
1/2	1/8	50785K641	3.67
1/2	1/4	50785K919	3.53

Pipe Size (A)	(B)		
1/2	3/8	50785K661	$3.06
3/4	1/8	50785K671	15.17
3/4	1/4	50785K681	6.89
3/4	3/8	50785K691	5.52
3/4	1/2	50785K711	5.21



Adapters, Female×Male

Pipe Size (A)	(B)		
1/8	1/8	50785K251	$2.00
1/4	1/8	50785K261	2.53
1/4	1/4	50785K271	3.17
3/8	1/8	50785K613	6.38
3/8	1/4	50785K281	3.77
3/8	3/8	50785K618	4.37
1/2	1/4	50785K615	6.31
1/2	3/8	50785K291	6.62
1/2	1/2	50785K311	9.31
3/4	1/2	50785K627	11.68
3/4	3/4	50785K299	14.40



Hex Nipples

Pipe Size		
1/8	5485K217	$2.14
1/4	5485K221	3.45
3/8	5485K231	4.14
1/2	5485K241	6.47
3/4	5485K251	10.26
1	5485K252	17.31



Hex Reducing Nipples

Pipe Size (A)	(B)		
1/8	1/16	5485K371	$7.90
1/4	1/8	5485K312	3.00
3/8	1/8	5485K351	8.21
3/8	1/4	5485K321	3.50
1/2	1/4	5485K361	6.14
1/2	3/8	5485K331	5.83
3/4	1/2	5485K341	11.09



Fully Threaded Nipples

Pipe Size	Lg.		
1/16	5/8"	50785K168	$4.42
1/8	3/4"	50785K201	1.68
1/4	7/8"	50785K202	2.20
3/8	1"	50785K203	3.11
1/2	1 1/8"	50785K204	3.74
3/4	1 5/16"	50785K205	7.09



PIPE NIPPLES, THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths		2" Lengths	
1/16	50785K157	$4.52	50785K158	$5.16
1/8	50785K911	3.44	50785K207	3.30
1/4	50785K912	3.24	50785K208	3.39
3/8	50785K913	3.98	50785K209	5.05
1/2	50785K915	5.07	50785K211	6.75

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

British Standard Threaded Medium-Pressure Nickel-Plated Brass Pipe Fittings

CAD

- Use with air and water
- Maximum Pressure: See table

Use these fittings for an easy connection to other British Standard threads. All are nickel-plated brass (unless noted), which offers more resistance to corrosion than unplated brass. Meet ISO 7.1 and ISO 228 Class A, (unless noted). ***90° female×male elbows*** are also called street elbows. ***Hex-socket plugs*** are solid.

Connections: BSPP (British Standard Pipe Parallel) or BSPT (British Standard Pipe Taper). The male BSPP threads have a rubber seal bonded to a metal washer.








Pipe Size	Max. psi @ 72° F	90° Elbows, BSPP Female		90° Elbows, BSPT Male		90° Elbows, BSPP Female × BSPT Male		Tees, BSPP Female		Tees, BSPT Male		Tees, BSPP Female × BSPT Male × BSPP Female	
1/8	2,900	4860K431	$8.54	4860K411	$8.35	4860K421	$8.54	4860K451	$9.88	4860K441	$9.88	4860K461	$10.43
1/4	2,100	4860K432	11.83	4860K412	10.86	4860K422	11.83	4860K452	14.06	4860K442	14.06	4860K462	14.06
3/8	1,450	4860K433	15.02	4860K413	15.02	4860K428▲	14.39	4860K453	19.61	4860K443	19.59	4860K463	19.59
1/2	1,450	4860K434	24.63	4860K414	23.66	4860K424	23.65	4860K454	34.91	_____	___	4860K464	34.30
3/4	1,750	4860K435	31.49	4860K415	31.04	4860K425	31.49	4860K455	40.29	_____	___	_____	___

▲Does not meet ISO 7.1 or ISO 228 Class A.





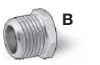

Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F	Hex Couplings, BSPP Female		Hex Nipples, BSPP Male		Hex Nipples, BSPT Male		Hex Bushings, BSPP Male × BSPP Female		Hex Bushings, BSPT Male × BSPP Female	
1/8	1/8	2,900	4860K671	$4.85	4860K601	$4.03	4860K631	$3.43	4860K651	$4.94	_____	___
1/4	1/8	2,100	4860K672	6.60	4860K602	5.51	4860K632	4.85	4860K653	5.43	4860K691	$4.40
1/4	1/4	2,100	4860K673	6.34	4860K603	5.51	4860K633	5.74	4860K654	6.31	_____	___
3/8	1/8	1,450	4860K674	7.68	4860K604	6.60	4860K634	5.65	4860K656	6.97	4860K692	5.15
3/8	1/4	1,450	4860K675	9.32	4860K605	6.80	4860K635	6.34	4860K657	6.37	4860K593	4.86
3/8	3/8	1,450	4860K676	8.54	4860K606	7.69	4860K636	6.34	4860K658	9.57	_____	___
1/2	1/4	1,450	4860K681	10.86	4860K607	9.92	4860K637	9.32	4860K662	9.22	4860K694	7.88
1/2	3/8	1,450	4860K682	13.60	4860K608	9.91	4860K638	9.88	4860K663	9.03	4860K695	7.26
1/2	1/2	1,450	4860K683	14.51	4860K619	12.34	4860K639	9.88	4860K664	15.51	_____	___
3/4	1/2	1,750	_____	___	4860K622	18.49	_____	___	4860K666	17.77	4860K696	12.74





Pipe Size	Max. psi @ 72° F	Hex-Socket Plugs, BSPP Male: Hex Key Size			Hex-Socket Plugs, BSPT Male: Hex Key Size			Caps, BSPP	
1/8	2,900	5 mm	4860K125	$3.74	5 mm	4860K131	$1.89	4860K175	$3.03
1/4	2,100	6 mm	4860K126	5.11	6 mm	4860K132	2.92	4860K176	4.85
3/8	1,450	8 mm	4860K127	5.76	8 mm	4860K133	3.26	4860K177	7.26
1/2	1,450	10 mm	4860K128	9.77	10 mm	4860K134	6.09	4860K178	11.39
3/4	1,750	_____	_____	___	12 mm	4860K135★	16.91	_____	___

★Made of plain brass.

British Standard Threaded Medium-Pressure Brass Pipe Fittings

CAD

- Use with air and water
- Maximum Pressure: See table

Take the challenge out of connecting different thread styles. All are brass and meet ISO 7.1 and ISO 228 Class A.

Square-head plugs are hollow.

Connections: BSPT (British Standard Pipe Taper), BSPP (British Standard Pipe Parallel), or NPT.

ADAPTERS





Pipe Size	Max. psi @ 72° F	BSPT Male × NPT Male		BSPP Female × NPT Male		NPT Female × BSPT Male	
1/8	2,900	4860K611	$6.63	4860K151	$5.69	4860K141	$4.99
1/4	2,100	4860K612	9.06	4860K152	7.59	4860K142	7.57
3/8	1,450	4860K613	11.23	4860K153	16.60	4860K143	12.11
1/2	1,450	4860K614	17.71	4860K154	24.29	4860K144	17.66
3/4	1,750	4860K615	37.63	4860K155	34.00	4860K145	36.74



SQUARE-HEAD PLUGS, BSPT MALE

Pipe Size	Max. psi @ 72° F			Pipe Size	Max. psi @ 72° F		
1/8	1,000	4860K315	$8.05	1/2	1,000	4860K318	$15.08
1/4	1,000	4860K316	12.63	3/4	1,000	4860K319	19.20
3/8	1,000	4860K317	13.98				

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

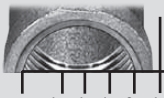

Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

High-Pressure Brass Threaded Pipe Fittings

- Use with air, water, oil, natural gas
- Maximum Pressure: See table

Not your average brass pipe fittings—these have the strength to handle high-pressure applications. All meet SAE J476 and ANSI/ASME B1.20.3; they also meet ASTM B16 and B453, or ASTM B124.

90° female×male elbows are also known as street elbows. ***Hex-head plugs*** are hollow, except the 1/8 pipe size is solid.

Connections: NPTF (Dryseal), which are compatible with NPT.



90° Elbows, Female

Pipe Size	Max. psi @ 72° F		
1/8	3,200	4757T21	$8.66
1/4	3,200	4757T22	12.86
3/8	3,000	4757T23	14.32
1/2	1,900	4757T24	17.20
3/4	1,900	4757T25	32.74
1	1,200	4757T141	74.94



90° Elbows, Male

Max. psi @ 72° F		
3,900	4757T11	$11.06
3,900	4757T12	13.76
3,900	4757T13	16.72
3,900	4757T14	29.52
2,600	4757T15	44.86



90° Elbows, Female×Male

Max. psi @ 72° F		
3,200	4757T31	$6.24
3,200	4757T32	8.82
3,000	4757T33	11.34
1,900	4757T34	15.00
1,900	4757T35	31.76
1,200	4757T142	61.03



45° Elbows, Female×Male

Max. psi @ 72° F		
3,200	4757T131	$6.56
3,200	4757T132	11.62
2,900	4757T133	15.38
1,900	4757T134	19.82
1,900	4757T135	25.26



Tees, Female

Pipe Size	Max. psi @ 72° F		
1/8	3,200	4757T41	$9.76
1/4	3,200	4757T42	12.84
3/8	3,000	4757T43	20.98
1/2	1,900	4757T44	21.54
3/4	1,900	4757T45	48.96
1	1,200	4757T149	74.74



Tees, Male

Max. psi @ 72° F		
3,900	4757T151	$14.20
3,900	4757T152	14.96
3,900	4757T153	18.26
3,900	4757T154	37.82



Tees, Female×Female×Male

Max. psi @ 72° F		
3,200	4757T51	$15.86
3,200	4757T52	18.50
3,000	4757T53	27.84
1,900	4757T54	31.52



Tees, Female×Male×Female

Max. psi @ 72° F		
3,200	4757T155	$16.80
3,200	4757T156	16.10
3,000	4757T157	28.62
1,900	4757T158	36.58



Crosses

Pipe Size	Max. psi @ 72° F		
1/8	3,200	4757T159	$31.86
1/4	3,200	4757T161	20.74
3/8			
1/2	1,900	4757T162	49.74
3/4			
1			



Hex-Head Plugs

Max. psi @ 72° F		
3,900	4757T71	$1.52
3,900	4757T72	2.44
3,900	4757T73	3.38
3,900	4757T74	5.62
3,500	4757T75	9.36
3,000	4757T163	20.40



Hex Couplings

Pipe Size (A)	(B)	Max. psi @ 72° F		
1/8	1/8	3,900	4757T61	$4.16
1/4	1/8	3,900	4757T144	8.32
1/4	1/4	3,900	4757T62	7.22
3/8	1/8	3,900	4757T145	25.00
3/8	1/4	3,900	4757T146	13.88
3/8	3/8	3,900	4757T63	15.58
1/2	1/4	3,200	4757T147	18.74
1/2	3/8	3,200	4757T148	30.88
1/2	1/2	3,200	4757T64	12.82
3/4	3/4	2,600	4757T65	20.62



Hex Nipples

Pipe Size (A)	(B)	Max. psi @ 72° F	Lg.		
1/8	1/8	3,900	1 1/16"	4757T81	$2.88
1/4	1/8	3,900	1 1/4"	4757T176	4.86
1/4	1/4	3,900	1 7/16"	4757T82	3.34
3/8	1/8	3,900	1 7/16"	4757T177	10.98
3/8	1/4	3,900	1 7/16"	4757T178	6.06
3/8	3/8	3,900	1 7/16"	4757T83	4.96
1/2	1/4	3,200	1 11/16"	4757T181	10.56
1/2	3/8	3,200	1 11/16"	4757T179	6.28
1/2	1/2	3,200	1 7/8"	4757T84	6.42
3/4	3/4	2,600	1 15/16"	4757T85	11.16



Adapters, Female×Male

Pipe Size (A)	(B)	Max. psi @ 72° F		
1/4	1/8	3,900	4757T121	$7.00
1/4	1/4	3,900	4757T165	8.46
3/8	1/4	3,900	4757T122	6.82
3/8	3/8	3,900	4757T166	7.92
1/2	1/8	3,200	4757T164	27.74
1/2	1/4	3,200	4757T123	14.26
1/2	3/8	3,200	4757T124	14.16
1/2	1/2	3,200	4757T167	13.68
3/4	1/4	2,600	4757T125	35.28
3/4	1/2	2,600	4757T126	21.88



LONG HEX NIPPLES

Pipe Size	Max. psi @ 72° F	1 1/2" Lengths		2" Lengths		3" Lengths	
1/8	3,900	4757T57	$8.22	4757T67	$19.11	4757T77	$11.02
1/4	3,900	4757T58	20.98	4757T68	6.26	4757T78	10.24
1/2	3,900					4757T79	18.08

Hex Reducing Bushings, Male×Female

Pipe Size (A)	(B)	Max. psi @ 72° F		
1/4	1/8	3,900	4757T91	$2.84
3/8	1/8	3,900	4757T168	3.72
3/8	1/4	3,900	4757T92	4.48
1/2	1/8	3,200	4757T169	6.76
1/2	1/4	3,200	4757T93	$4.86
1/2	3/8	3,200	4757T94	5.22
3/4	1/4	3,700	4757T95	9.66
3/4	3/8	3,700	4757T171	9.82
3/4	1/2	3,300	4757T96	$8.98
1	3/8	3,000	4757T172	14.50
1	1/2	3,000	4757T173	15.40
1	3/4	2,700	4757T174	13.64



How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Precision High-Pressure Brass Threaded Pipe Fittings CAD

- Use with air, water, oil, natural gas, steam, oxygen, nitrogen, argon
- Maximum Pressure: See table; 1,560 psi @ 300° F for steam

Also called instrumentation fittings, precision fittings have the most precise threads and tightest tolerances of all the brass fittings we offer. Plus, the male threads are rolled for extra strength. All have extra-strong forged or bar stock construction to handle high-pressure applications. Meet ANSI/ASME B1.20.1, B31.1, and B31.3.

Connections: NPT, BSPT (British Standard Pipe Taper), or BSPP (British Standard Pipe Parallel).

Elbows, Tees, and Crosses

90° female×male elbows are also known as street elbows.



90° Elbows, Female

Pipe Size	Max. psi @ 72° F		
1/8	2,900	9171K11	$13.73
1/4	3,000	9171K12	14.26
3/8	2,700	9171K13	22.53
1/2	2,500	9171K14	25.93
3/4	2,000	9171K15	41.52



90° Elbows, Male

Max. psi @ 72° F		
5,000	9171K21	$11.95
4,100	9171K22	13.40
4,000	9171K23	17.00
3,100	9171K24	25.29
3,400	9171K25	41.22



90° Elbows, Female×Male

Max. psi @ 72° F		
2,900	9171K16	$13.60
3,000	9171K17	15.49
2,700	9171K18	23.16
2,500	9171K19	24.51
2,000	9171K36	42.76



45° Elbows, Female×Male

Max. psi @ 72° F		
2,900	9171K81	$7.75
3,000	9171K82	10.18
2,700	9171K83	31.81
2,500	9171K84	37.83
2,000	9171K85	43.71



Reducing 90° Elbows, Male×Female

Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F		
1/8	1/16	3,800	9171K144	$79.58
1/4	1/16	3,800	9171K145	79.45
1/4	1/8	2,900	9171K146	25.37
3/8	1/16	3,800	9171K147	83.35
3/8	1/8	2,900	9171K148	84.64

Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F		
3/8	1/4	3,000	9171K149	$66.49
1/2	1/8	2,900	9171K151	86.08
1/2	1/4	3,000	9171K152	84.86
1/2	3/8	2,700	9171K153	86.17



Tees, Female

Pipe Size	Max. psi @ 72° F		
1/8	2,900	9171K26	$18.67
1/4	3,000	9171K27	18.44
3/8	2,700	9171K28	28.96
1/2	2,500	9171K29	32.93
3/4	2,000	9171K97	53.50



Tees, Male

Pipe Size	Max. psi @ 72° F		
1/8	5,000	9171K155	$17.61
1/4	4,100	9171K156	19.42
3/8	4,000	9171K157	24.20
1/2	3,100	9171K158	31.72
3/4	3,400	9171K154	90.14



Tees, Female×Female×Male

Max. psi @ 72° F		
2,900	9171K31	$18.42
3,000	9171K32	18.82
2,700	9171K33	29.10
2,500	9171K34	33.14
2,000	9171K35	84.83



Tees, Female×Male×Female

Max. psi @ 72° F		
2,900	9171K86	$19.38
3,000	9171K87	19.04
2,700	9171K88	29.55
2,500	9171K89	34.69
2,000	9171K91	84.83



Crosses

Max. psi @ 72° F		
2,900	9171K92	$25.80
3,000	9171K93	32.22
2,700	9171K94	111.72
2,500	9171K95	49.82
2,000	9171K96	159.85

Plugs, Caps, and Bushings

Hex-head plugs are hollow. ***Hex-socket plugs*** are solid.



Hex-Head Plugs

Pipe Size	Max. psi @ 72° F		
1/8	5,600	9171K46	$3.35
1/4	4,100	9171K47	4.18
3/8	4,000	9171K48	5.02
1/2	3,900	9171K49	6.85
3/4	3,800	9171K45	9.60



Hex-Socket Plugs

Pipe Size	Max. psi @ 72° F	Hex Key Size		
1/8	5,600	3/16"	9171K251	$3.15
1/4	4,100	1/4"	9171K252	3.40
3/8	4,000	5/16"	9171K253	27.95



Caps

Pipe Size	Max. psi @ 72° F		
1/8	4,000	9171K241	$4.15
1/4	4,300	9171K242	5.02
3/8	3,500	9171K243	7.40
1/2	3,600	9171K244	10.02
3/4	3,000	9171K245	29.41



Hex Reducing Bushings, Male×Female

Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F		
1/8	1/16	2,900	9171K51	$25.09
1/4	1/8	3,600	9171K52	4.82
3/8	1/8	4,000	9171K53	6.42

Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F		
3/8	1/4	3,000	9171K54	$6.51
1/2	1/8	3,900	9171K55	8.49
1/2	1/4	3,900	9171K56	7.35

Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F		
1/2	3/8	2,800	9171K57	$7.53
3/4	1/2	2,800	9171K58	10.24

(Continued on following page)

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8″):	0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″	1 5/8″	1 3/4″	2 3/8″	2 3/4″	3 3/8″

i To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Precision High-Pressure Brass Threaded Pipe Fittings

(Continued from previous page)

Couplings, Adapters, and Nipples

Fully threaded pipe nipples, also called close nipples, are threaded on each end to the center.



Hex Couplings

Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F		
1/8	1/16	4,000	9171K69	$27.15
1/8	1/8	4,000	9171K71	5.58
1/4	1/8	4,300	9171K72	8.56
1/4	1/4	4,300	9171K73	7.95
3/8	1/8	3,500	9171K79	25.82
3/8	1/4	3,500	9171K74	10.67
3/8	3/8	3,500	9171K75	9.80
1/2	1/4	3,600	9171K76	14.60
1/2	3/8	3,600	9171K77	14.36
1/2	1/2	3,600	9171K78	13.29
3/4	1/2	3,000	9171K98	20.05
3/4	3/4	3,000	9171K99	21.13



Adapters, Female×Male

Max. psi @ 72° F		
4,000	9171K231	$6.76
4,000	9171K61	4.78
4,300	9171K62	6.85
4,300	9171K63	6.67
3,500	9171K232	9.07
3,500	9171K64	8.56
3,500	9171K65	8.29
3,600	9171K66	12.67
3,600	9171K67	12.62
3,600	9171K68	12.42
3,000	9171K233	17.64
—	—	—



Hex Nipples

Max. psi @ 72° F	Lg.		
5,600	1 1/16″	9171K211	$5.02
5,600	1 1/16″	9171K212	4.09
4,100	1 1/4″	9171K213	5.36
4,100	1 7/16″	9171K214	5.64
4,000	1 1/4″	9171K215	7.40
4,000	1 7/16″	9171K216	6.98
4,000	1 7/16″	9171K217	6.85
3,900	1 11/16″	9171K219	10.24
3,900	1 11/16″	9171K221	9.80
3,900	1 7/8″	9171K222	8.82
3,800	1 15/16″	9171K223	13.05
3,800	1 15/16″	9171K224	12.85



Fully Threaded Pipe Nipples

Pipe Size	Max. psi @ 72° F	Lg.		
1/8	5,600	3/4″	9171K111	$4.38
1/4	4,100	1 1/8″	9171K112	4.96
3/8	4,000	1 1/8″	9171K113	6.62
1/2	3,900	1 1/2″	9171K114	7.95
3/4	3,800	1 1/2″	9171K115	36.59



LONG HEX NIPPLES

Pipe Size	Max. psi @ 72° F	2″ Lengths		2 1/2″ Lengths		3″ Lengths		4″ Lengths	
1/8	5,600	9171K121	$5.53	9171K131	$8.78	9171K135	$8.96	9171K139	$79.46
1/4	4,100	9171K122	6.42	9171K132	6.96	9171K136	8.76	9171K141	11.25
3/8	4,000	9171K123	8.33	9171K133	78.43	9171K137	79.57	9171K142	84.31
1/2	3,900	9171K124	15.71	9171K134	82.03	9171K138	16.83	9171K143	27.76

Adapters with British Standard Connections



ADAPTERS, MALE BSPT×NPT

Pipe Size	Max. psi @ 72° F		
1/8	5,600	9171K159	$5.85
1/4	4,100	9171K161	8.13
3/8	4,000	9171K162	9.09
1/2	3,900	9171K163	12.70
3/4	3,800	9171K164	29.05



ADAPTERS, FEMALE×MALE

BSPT (A)×NPT (B)

Pipe Size	Max. psi @ 72° F		
1/8	3,200	9171K165	$30.76
1/4	3,300	9171K166	31.31
3/8	2,600	9171K167	31.74
1/2	2,400	9171K168	33.93
3/4	2,300	9171K169	47.86

BSPP (A)×NPT (B)

Pipe Size	Max. psi @ 72° F		
1/8	3,200	9171K171	$30.67
1/4	3,300	9171K172	31.33
3/8	2,600	9171K173	31.74
1/2	2,400	9171K174	33.93
3/4	2,300	9171K175	47.86

Easy-Install Brass Threaded Pipe Fittings

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 1,000 psi @ 72° F; 1,000 psi @ 250° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall brass (see pages 29 and 32)

Keep your pipe wrench in your tool chest—you can install and remove these brass fittings with your socket wrench or hex key. And because they're compact, they require less clearance than traditional elbows.

Connections: NPTF (Dryseal), which is compatible with NPT.

Socket-Wrench Elbows



Pipe Size	Socket Wrench Size	90° Elbows, Female	
1/16	9/16″	5021T11	$4.56
1/8	3/4″	5021T12	3.97
1/4	7/8″	5021T14	4.46
3/8	1″	5021T16	6.14
1/2	1 1/4″	5021T18	10.25

Hex-Key Elbows





Pipe Size	Hex Key Size	90° Elbows, Female		90° Elbows, Male×Female	
1/16	1/4″	5021T31	$6.11	5021T51	$6.11
1/8	5/16″	5021T32	5.12	5021T52	5.12
1/4	3/8″	5021T34	5.23	5021T54	5.23
3/8	1/2″	5021T36	8.27	5021T56	8.27
1/2	1/2″	5021T38	13.11	5021T58	13.11

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Miniature Brass Threaded Pipe Fittings

- Use with air and water
- Maximum Pressure: See table

At less than an inch long, you won't find a better fitting for your miniature pipe system. ***Nickel-plated brass*** fittings offer better corrosion resistance than unplated brass. For miniature brass barbed fittings, see page 172.

Swivel elbows, ***swivel tees***, and ***swivel adapters*** rotate 360° for tightening in confined spaces.

Connections: UN/UNF (10-32 straight thread size) and NPT (1/16, 1/8, and 1/4 pipe sizes). Male ends with 10-32 thread size have a Buna-N gasket, except the through-wall couplings where all have a locknut and washer. ***Also Available:*** Replacement Buna-N gaskets in packages of 25; please ask for 5454K21.

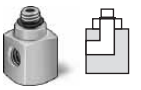

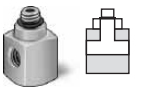





Female Thread Size	Male Thread/ Pipe Size	Max. psi @ 72° F	Pkg. Qty.	90° Elbows, Female×Male	Pkg.	Tees, Female×Male×Female	Pkg.	Crosses, Male×Female on Three Sides	Pkg.	Adapters, Female×Male	Pkg.
Brass											
10-32	10-32	1,000	10	5454K58	$12.36	5454K59	$12.36	5454K82	$12.36	5454K88	$10.67
10-32	1/8	1,000	5	5454K83	6.60	5454K84	7.00	—	—	—	—
Nickel-Plated Brass											
10-32	10-32	1,000	10	5483T62	13.29	5483T64	13.29	5483T65	13.29	5483T81	11.86
10-32	1/8	1,000	5	5483T61	7.45	5483T63	7.83	—	—	—	—

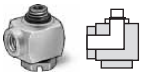

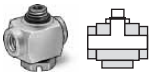



Female Thread/ Pipe Size	Male Thread Size	Max. psi @ 72° F	Pkg. Qty.	90° Swivel Elbows, Female×Male	Pkg.	Swivel Tees, Female×Male×Female	Pkg.	Swivel Adapters, Female×Male	Pkg.
Brass									
10-32	10-32	150	5	5454K78	$12.84	5454K79	$12.40	5454K68	$11.57
1/8	10-32	150	5	—	—	—	—	5454K69	12.90
Nickel-Plated Brass									
10-32	10-32	150	5	5483T11	13.20	5483T12	12.55	5483T21	12.04
1/8	10-32	150	5	—	—	—	—	5483T22	14.58







Thread Size	Max. psi @ 72° F	Pkg. Qty.	Hex Couplings	Pkg.	Hex Nipples	Pkg.	Slotted-Head Plugs	Pkg.
Brass								
10-32	150	10	5454K71	$5.16	5454K72	$6.60	5454K81	$3.62
Nickel-Plated Brass								
10-32	150	10	5483T31	6.08	5483T32	8.21	5483T15	5.56



Through-Wall Couplings

Thread/ Pipe Size (A)	Thread Size (B)	Required Hole Size	Max. psi @ 72° F	Pkg. Qty.		Pkg.
Brass						
10-32	15/32"-32	1/2"	1,000	5	5454K85	$8.96
1/8	3/4"-20	13/16"	1,000	1	5454K86	4.17
1/4	3/4"-20	13/16"	1,000	1	5454K87	4.54
Nickel-Plated Brass						
10-32	15/32"-32	1/2"	1,000	5	5483T91	9.60
1/8	3/4"-20	13/16"	1,000	2	5483T92	10.09
1/4	3/4"-20	13/16"	1,000	2	5483T93	11.18



Hex Bushings, Male×Female

Male Pipe Size (A)	Female Thread/ Pipe Size (B)	Max. psi @ 72° F	Pkg. Qty.		Pkg.
Brass					
1/16	10-32	1,000	10	5454K93	$8.46
1/8	10-32	1,000	10	5454K44	7.84
1/4	10-32	1,000	10	5454K54	11.69
1/4	1/8	1,000	10	5454K57	16.43
Nickel-Plated Brass					
1/8	10-32	1,000	10	5483T72	9.67
1/4	1/8	1,000	5	5483T74	9.24

Super-Corrosion-Resistant Copper-Nickel Threaded Pipe Fittings

- Use with air, water, oil, natural gas
- Maximum Pressure: Fittings: 400 psi @ 72° F; 200 psi @ 425° F for steam; Pipe Nipples: Not rated

Need a pipe fitting that can stand up to salt water better than brass? Our corrosion-resistant 90/10 copper-nickel has what it takes to handle marine applications.

Elbows and ***tees*** meet ANSI/ASME B16.3.

Fully threaded nipples are also called Schedule 40, standard-wall, and close nipples; they are threaded on each end to the center. All have seamless construction for unrestricted flow. Meet ASTM B466 and B1.20.1.

Connections: NPT.









Pipe Size	90° Elbows		Tees		Couplings		Fully Threaded Nipples Lg.	
1/4	2626K11	$64.28	2626K14	$55.85	2626K21	$36.25	7/8"	2626K17 $30.42
1/2	2626K12	76.70	2626K15	90.20	2626K22	45.35	1 1/8"	2626K18 33.32
3/4	2626K13	76.12	2626K16	107.95	2626K23	59.55	1 3/8"	2626K19 39.20

Bronze Pipe Fittings & Brass Nipples

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

i To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

British Standard Threaded Low-Pressure Bronze Pipe Fittings

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 200 psi @ 72° F; 125 psi @ 400° F for steam
- Pipe Nipples: Use British Standard threaded Schedule 40 standard-wall brass (see below)

BSPT threads on these fittings and flanges allow easy connection to other BSPT threads. Also known as Class 125 fittings or Class 150 flanges, they're made of bronze, which is compatible with brass. All meet ASTM B584. They also meet ANSI/ASME B16.15, except unions and flanges. The threads meet BS21.

Connections: BSPT (British Standard Pipe Taper).

Fittings








Pipe Size	90° Elbows	45° Elbows	Tees	Unions	Couplings	Caps
1/8	4978K101 ... $7.06	4978K111 ... $7.81	4978K121 ... $9.87	4978K161 ... $25.12	4978K131 ... $7.06	4978K141 ... $5.26
1/4	4978K102 ... 7.06	4978K112 ... 7.81	4978K122 ... 9.87	4978K162 ... 25.12	4978K132 ... 7.06	4978K142 ... 5.26
3/8	4978K103 ... 7.06	4978K113 ... 7.81	4978K123 ... 9.87	4978K163 ... 25.12	4978K133 ... 7.06	4978K143 ... 5.26
1/2	4978K104 ... 10.74	4978K114 ... 9.87	4978K124 ... 12.40	4978K164 ... 27.35	4978K134 ... 8.90	4978K144 ... 7.06
3/4	4978K105 ... 14.47	4978K115 ... 14.47	4978K125 ... 17.80	4978K165 ... 37.83	4978K135 ... 11.71	4978K145 ... 9.38
1	4978K106 ... 22.35	4978K116 ... 24.50	4978K126 ... 31.69	4978K166 ... 49.74	4978K136 ... 17.80	4978K146 ... 14.60
1 1/4	4978K107 ... 35.53	4978K117 ... 39.14	4978K127 ... 44.40	4978K167 ... 67.73	4978K137 ... 27.83	4978K147 ... 22.30
1 1/2	4978K108 ... 44.40	4978K118 ... 49.05	4978K128 ... 61.10	4978K168 ... 79.99	4978K138 ... 37.83	4978K148 ... 30.11
2	4978K109 ... 66.72	4978K119 ... 73.44	4978K129 ... 92.41	4978K169 ... 114.33	4978K139 ... 57.46	4978K149 ... 51.07



Reducing Couplings

Pipe Size (A)	Pipe Size (B)		
1/4	1/8	4978K211	$7.58
3/8	1/4	4978K212	7.58
1/2	1/8	4978K213	10.95
1/2	1/4	4978K214	9.51
1/2	3/8	4978K215	9.51
3/4	1/4	4978K216	15.64
3/4	3/8	4978K217	14.08
3/4	1/2	4978K218	14.08
1	1/2	4978K219	23.46
1	3/4	4978K221	$23.46
1 1/4	3/4	4978K222	37.83
1 1/4	1	4978K223	37.83
1 1/2	3/4	4978K224	53.87
1 1/2	1	4978K225	47.82
1 1/2	1 1/4	4978K226	47.82
2	1	4978K227	73.92
2	1 1/4	4978K228	65.59
2	1 1/2	4978K229	65.59



Hex Reducing Bushings, Male×Female

Pipe Size (A)	Pipe Size (B)		
1/2	1/8	4978K171	$6.70
1/2	1/4	4978K172	5.61
1/2	3/8	4978K173	5.61
3/4	1/4	4978K174	9.38
3/4	3/8	4978K175	7.81
3/4	1/2	4978K176	7.81
1	1/2	4978K177	11.71
1	3/4	4978K178	11.71
1 1/4	3/4	4978K179	19.98
1 1/4	1	4978K181	$19.98
1 1/2	1/4	4978K182	31.21
1 1/2	1/2	4978K183	31.21
1 1/2	3/4	4978K184	31.21
1 1/2	1	4978K185	25.60
1 1/2	1 1/4	4978K186	25.60
2	1	4978K188	45.61
2	1 1/4	4978K189	37.83
2	1 1/2	4978K191	37.83

Flanges

Bolt two same-size flanges together with a gasket (not included) to create easy access to your pipe. The surface on the back side is flat. For gaskets, see pages 3529-3530; for bolts, see page 3168-3169.

Pipe Size	Flange OD	Bolts Req'd Qty.	Bolts Req'd Dia.		
1/2	3 1/2"	4	1/2"	4978K194	$59.88
3/4	3 7/8"	4	1/2"	4978K195	80.07
1	4 1/4"	4	1/2"	4978K196	105.60
1 1/4	4 5/8"	4	1/2"	4978K197	138.94
1 1/2	5"	4	1/2"	4978K198	160.28
2	6"	4	5/8"	4978K199	233.34

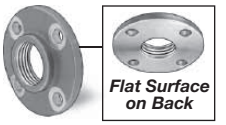

British Standard Threaded Brass Pipe Nipples

- Use with air, water, oil, natural gas, steam
- Fittings and Flanges: Use British Standard threaded low-pressure bronze (see above)

Connect BSPT threads to other BSPT threads or adapt BSPT threads to NPT threads. They're also known as Schedule 40, standard-wall, and regular pipe nipples. They have seamless construction for unrestricted flow. Meet ASTM B687. The BSPT threads also meet BS21; NPT threads also meet ANSI/ASME B1.20.1.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: BSPT (British Standard Pipe Taper) or NPT.



FULLY THREADED

Pipe Size	Lg.		
BSPT Threads on Both Ends			
1/8	3/4"	4824K111	$2.81
1/4	7/8"	4824K112	3.29
3/8	1"	4824K113	3.39
1/2	1 1/8"	4824K114	4.53
3/4	1 3/8"	4824K115	6.55
1	1 1/2"	4824K116	9.64
1 1/4	1 5/8"	4824K117	14.55
1 1/2	1 3/4"	4824K118	18.92
2	2"	4824K119	28.81
BSPT Threads on One End, NPT Threads on Other End			
1/8	3/4"	5832T111	2.79
1/4	7/8"	5832T112	3.26
3/8	1"	5832T113	3.38
1/2	1 1/8"	5832T114	4.51
3/4	1 3/8"	5832T115	6.48
1	1 1/2"	5832T116	9.57

THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths	2" Lengths	3" Lengths	4" Lengths	6" Lengths
BSPT Threads on Both Ends					
1/8	4824K121 ... $3.16	4824K131 ... $3.43	4824K151 ... $4.17	4824K171 ... $5.06	4824K191 ... $6.56
1/4	4824K122 ... 3.78	4824K132 ... 4.31	4824K152 ... 5.45	4824K172 ... 6.99	4824K192 ... 9.23
3/8	4824K123 ... 4.04	4824K133 ... 4.88	4824K153 ... 6.46	4824K173 ... 8.31	4824K193 ... 10.48
1/2	4824K124 ... 5.24	4824K134 ... 6.15	4824K154 ... 8.62	4824K174 ... 11.26	4824K194 ... 15.03
3/4	4824K125 ... 6.94	4824K135 ... 8.22	4824K155 ... 10.99	4824K175 ... 14.38	4824K195 ... 20.97
1	_____ ... ___	4824K136 ... 11.88	4824K156 ... 15.95	4824K176 ... 20.81	4824K196 ... 30.63
1 1/4	_____ ... ___	4824K137 ... 16.62	4824K157 ... 22.26	4824K177 ... 29.28	4824K197 ... 42.74
1 1/2	_____ ... ___	4824K138 ... 20.36	4824K158 ... 28.01	4824K178 ... 36.50	4824K198 ... 53.91
2	_____ ... ___	_____ ... ___	4824K159 ... 35.88	4824K179 ... 46.96	4824K199 ... 68.57
BSPT Threads on One End, NPT Threads on Other End					
1/8	5832T121 ... 3.14	5832T131 ... 3.38	5832T141 ... 4.14	5832T151 ... 5.01	5832T161 ... 7.11
1/4	5832T122 ... 3.77	5832T132 ... 4.27	5832T142 ... 5.43	5832T152 ... 6.95	5832T162 ... 10.02
3/8	5832T123 ... 3.99	5832T133 ... 4.86	5832T143 ... 6.44	5832T153 ... 8.26	5832T163 ... 11.34
1/2	5832T124 ... 5.22	5832T134 ... 6.13	5832T144 ... 8.56	5832T154 ... 11.19	5832T164 ... 16.29
3/4	5832T125 ... 6.92	5832T135 ... 8.18	5832T145 ... 10.93	5832T155 ... 14.26	5832T165 ... 20.84
1	_____ ... ___	5832T136 ... 11.81	5832T146 ... 15.86	5832T156 ... 20.66	5832T166 ... 30.42

How to Measure Unthreaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

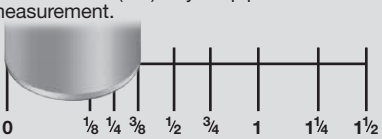

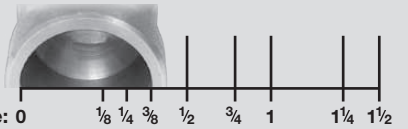

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Socket-End Bronze Unthreaded Pipe Fittings CAD


Unthreaded Socket-End Connection

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 200 psi @ 72° F; 200 psi @ 425° F for steam
- Pipe Nipples and Pipe: Use unthreaded Schedule 40 standard-wall brass (see below)

You may know these as Silbraze fittings—snap a silver ring (required, sold separately) into the fitting and braze them to your brass pipe for a strong, leak-resistant connection. These fittings have socket ends that support the pipe during installation. They are made of bronze, which is compatible with brass. Meet MIL-F-1183.

Connections: Socket end (unthreaded).

Fittings







Pipe Size	90° Elbows, Long Radius (C)			90° Elbows, Short Radius (C)			45° Elbows	
1/2	1 3/4"	2190K6	$33.00	1"	2190K1	$13.36	2190K34	$27.17
3/4	2"	2190K7	35.36	1 3/16"	2190K2	17.37	2190K35	15.36
1	2 5/16"	2190K8	44.00	1 7/16"	2190K3	19.46	2190K36	18.27
1 1/2	3 1/8"	2190K9	63.27	1 13/16"	2190K4	33.95	2190K37	30.45
2	3 1/4"	2190K11	76.27	2 1/8"	2190K5	47.45	2190K38	42.18









Pipe Size	Tees		Unions		Couplings		Caps	
1/2	2190K12	$29.90	2190K28	$35.91	2190K23	$24.91	2190K17	$34.92
3/4	2190K13	36.81	2190K29	46.28	2190K24	27.18	2190K18	55.92
1	2190K14	45.73	2190K31	56.64	2190K25	18.09	2190K19	67.36
1 1/2	2190K15	81.73	2190K32	102.00	2190K26	39.45	2190K21	70.82
2	2190K16	83.82	2190K33	148.09	2190K27	42.63	2190K22	73.42

Flanges


Flat Surface on Back

Flanges have a flat surface on the back. Bolt two same-size flanges together with a gasket (not included) to create easy access to your pipe. For gaskets, see pages 3529-3530; for bolts, see page 3168-3169.

Pipe Size	Flange OD	Bolts Req'd Qty.	Bolts Req'd Dia.		
1/2	3 1/2"	4	1/2"	2190K39	$77.64
3/4	3 7/8"	4	1/2"	2190K41	94.17
1	4 1/4"	4	1/2"	2190K42	74.82
1 1/2	5"	4	1/2"	2190K43	93.82
2	6"	4	5/8"	2190K44	129.00

Silver Brazing Rings



One ring is required for every connection.

Pipe Size		
1/2	2190K45	$1.52
3/4	2190K46	2.12
1	2190K47	2.89
1 1/2	2190K48	5.18
2	2190K49	5.91

Standard-Wall Brass Threaded-On-One-End Pipe Nipples CAD



- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 125 low-pressure brass (see pages 29-31) and socket-end bronze (see above)
- Flanges: Use threaded Class 150 low-pressure brass (see page 31) and socket-end bronze (see above)

One end of these Schedule 40 nipples is threaded, while the other is unthreaded. They're brass and have seamless construction for unrestricted flow. Meet ASTM B687.

Connections: NPT on one end; unthreaded on the other end.

Pipe Size	1" Lengths		1 1/2" Lengths		2" Lengths		3" Lengths		4" Lengths	
1/4	9580K11	$2.02	9580K21	$2.32	9580K31	$2.65	9580K41	$3.35	9580K51	$4.31
3/8	9580K12	2.08	9580K22	2.47	9580K32	3.02	9580K42	3.98	9580K52	5.13
1/2	9580K13	2.77	9580K23	3.23	9580K33	3.80	9580K43	5.28	9580K53	6.91
3/4	_____	____	9580K24	4.28	9580K34	5.07	9580K44	6.76	9580K54	8.84
1	_____	____	_____	____	9580K35	7.30	9580K45	9.80	9580K55	12.79
1 1/4	_____	____	_____	____	9580K36	10.19	9580K46	13.66	9580K56	18.01
1 1/2	_____	____	_____	____	9580K37	12.52	9580K47	17.22	9580K57	22.41
2	_____	____	_____	____	9580K38	17.70	9580K48	22.05	9580K58	28.83

Standard-Wall Brass Unthreaded Pipe CAD



- Use with air, water, oil, natural gas, steam
- Fittings and Flanges: Use socket-end bronze (see above)

Also called Schedule 40 and regular pipe, this brass pipe has seamless construction for unrestricted flow. It's unthreaded for brazed connections, which are less likely to leak than threaded connections. Meet ASTM B43.

To Order: Please specify 1-, 3-, or 6-ft. length.

Pipe Size		1 ft.	3 ft.	6 ft.
1/8	4501K11	$6.11	$16.88	$29.10
1/4	4501K12	8.88	24.53	42.30
3/8	4501K13	12.03	33.23	57.29
1/2	4501K14	17.77	49.08	84.62
3/4	4501K15	23.72	65.50	112.93
1	4501K16	30.70	84.80	146.20
1 1/4	4501K17	43.22	119.36	205.79
1 1/2	4501K18	50.86	140.48	242.21
2	4501K19	67.21	185.63	320.06

Aluminum Pipe Fittings & Nipples

How to Measure Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

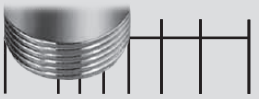

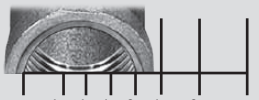

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Medium-Pressure Aluminum Threaded Pipe Fittings

- Use with air, water, oil
- Maximum Pressure: 500 psi @ 72° F

A blue anodized finish on these aluminum fittings provides more corrosion resistance and a harder surface than plain aluminum.

90° female×male elbows are also known as street elbows.

Connections: NPT.








Pipe Size	90° Elbows		90° Elbows, Female×Male		45° Elbows, Female×Male		Tees		Hex Couplings		Hex Nipples	
1/8	3861T11	$19.47	3861T21	$19.47	3861T41	$19.47	3861T51	$4.56	3861T61	$4.56	3861T81	$3.49
1/4	3861T12	32.77	3861T22	22.79	3861T42	22.79	3861T52	22.79	3861T62	5.23	3861T82	5.23
3/8	3861T13	34.40	3861T23	32.78	3861T43	32.78	3861T53	32.78	3861T63	8.75	3861T83	9.14
1/2	3861T14	38.60	3861T24	32.78	3861T44	32.78	3861T54	39.88	3861T64	14.24	3861T84	11.79

High-Pressure Aluminum Threaded Pipe Fittings

- Use with air and water
- Maximum Pressure: 3,000 psi @ 72° F, except unions are 1,500 psi @ 72° F
- Pipe Nipples: Use threaded Schedule 80 thick-wall aluminum (see below)

Don't let the light weight fool you—these aluminum fittings have super-strong forged or bar stock construction for the highest pressure ratings of all the aluminum fittings we offer. They're also known as Class 3000 fittings. All meet Fed. Spec. QQ-A-200/8 and ANSI/ASME B1.20.1. They also meet ANSI/ASME B16.11, except wyes and unions.

Connections: NPT.

Elbows, Wyes, Tees, and Crosses

All meet ASTM B247. The ***90° female×male elbows*** are also known as street elbows.






Pipe Size	90° Elbows		90° Elbows, Female×Male		45° Elbows		Tees	
1/4	3867T11	$16.39	3867T31	$40.96	3867T21	$19.65	3867T41	$19.67
1/2	3867T12	28.11	3867T32	61.20	3867T22	32.73	3867T42	35.60
3/4	3867T13	41.43	3867T33	89.15	3867T23	42.22	3867T43	50.64
1	3867T14	55.29	3867T34	137.07	3867T24	70.33	3867T44	84.51

Unions, Couplings, Caps, Plugs, and Bushings

All meet ASTM B221. ***Square-head plugs*** and ***hex-head plugs*** are solid. ***Half couplings*** are partially threaded; one end has an unthreaded portion that can be welded.








Pipe Size	Unions		Couplings		Half Couplings		Caps		Square-Head Plugs		Hex-Head Plugs	
1/4	3867T511	$89.09	3867T61	$13.49	3867T71	$11.05	3867T81	$15.42	3867T55	$15.22	3867T65	$17.35
1/2	3867T521	132.50	3867T62	17.73	3867T72	13.49	3867T82	20.23	3867T56	15.22	3867T66	17.35
3/4	3867T531	155.34	3867T63	21.20	3867T73	15.91	3867T83	24.96	3867T57	16.38	3867T67	18.80
1	3867T541	198.30	3867T64	34.69	3867T74	23.23	3867T84	38.09	3867T58	19.28	3867T68	21.20

Reducing Couplings



Pipe Size (A)	Pipe Size (B)		
1/2	1/4	3867T75	$20.23
3/4	1/2	3867T76	24.96
1	1/2	3867T77	38.09
1	3/4	3867T78	38.09

Hex Reducing Bushings, Male×Female



Pipe Size (A)	Pipe Size (B)		
1/2	1/4	3867T91	$30.55
3/4	1/2	3867T92	38.31
1	1/2	3867T93	43.85
1	3/4	3867T94	43.85

Thick-Wall Aluminum Threaded Pipe Nipples

- Use with air, water, oil
- Fittings: Use threaded Class 3000 high-pressure aluminum (see above)

Also known as Schedule 80 nipples, these are made of aluminum for a high strength-to-weight ratio. They have seamless construction for unrestricted flow. Meet ASTM B241 and ANSI/ASME B1.20.1.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.



FULLY THREADED

Pipe Size	Lg.		
1/4	7/8"	2155K11	$3.19
1/2	1 1/8"	2155K17	2.41
3/4	1 3/8"	2155K24	3.95
1	1 1/2"	2155K31	2.64



THREADED ON BOTH ENDS

Pipe Size	2" Lengths		3" Lengths		4" Lengths		6" Lengths		12" Lengths	
1/4	2155K12	$6.48	2155K13	$9.53	2155K14	$12.63	2155K15	$18.75	2155K16	$37.23
1/2	2155K18	3.78	2155K19	5.47	2155K21	7.16	2155K22	10.54	2155K23	20.82
3/4	2155K25	5.26	2155K26	7.65	2155K27	10.05	2155K28	14.85	2155K29	29.40
1	2155K32	3.36	2155K33	4.48	2155K34	5.60	2155K35	7.86	2155K36	14.11

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Aluminum Threaded Pipe Fittings CAD

- Use with air, water, oil
- Maximum Pressure: 150 psi @ 72° F for fittings; 125 psi @ 72° F for flanges
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall aluminum (see page 48)

The lightweight champion of low-pressure pipelines, aluminum offers a high strength-to-weight ratio along with excellent corrosion resistance. For best performance, do not tighten more than a 1/4-turn past hand tight.

Connections: NPT, except locknuts are NPSL (National Pipe Straight Locknut); NPSL threads are compatible with NPT threads.

Fittings

Also known as Class 150 fittings. The ***90° female x male elbows*** are also called street elbows. ***Half couplings*** are threaded and have a square cut end that can be welded. ***Square-head plugs*** and ***square-socket plugs*** are solid.








Pipe Size	90° Elbows		90° Elbows, Female x Male		45° Elbows		45° Elbows, Female x Male		180° Bends		Tees	
1/8	44705K266	$4.66	44705K155	$7.62	44705K156	$4.77					44705K333	$4.83
1/4	44705K278	5.46	44705K113	8.40	44705K157	6.22					44705K344	6.51
3/8	44705K289	6.69	44705K114	9.42	44705K158	7.50					44705K345	8.13
1/2	44705K295	8.13	44705K115	12.56	44705K17	9.47	44705K196	$13.44	44705K479	$29.89	44705K346	10.54
3/4	44705K296	10.26	44705K128	15.07	44705K174	11.73	44705K197	15.90	44705K481	38.24	44705K347	10.93
1	44705K297	12.02	44705K13	16.66	44705K175	13.22	44705K198	17.47	44705K482	48.74	44705K348	13.74
1 1/4	44705K298	14.24	44705K138	18.83	44705K176	15.33	44705K199	20.00	44705K483	57.86	44705K349	17.73
1 1/2	44705K299	17.57	44705K139	25.81	44705K177	18.75	44705K209	29.20	44705K484	67.92	44705K351	21.36
2	44705K314	25.76	44705K149	33.12	44705K178	30.02	44705K225	42.05	44705K485	99.22	44705K352	39.71
2 1/2	44705K315	49.82	44705K152	61.88	44705K192	43.18	44705K226	74.41			44705K353	73.86
3	44705K325	67.52	44705K154	98.07	44705K194	81.30					44705K355	106.95
4	44705K329	120.59	44705K492	156.33	44705K195	135.95					44705K356	220.09
6	44705K422	256.91			44705K423	270.46						








Pipe Size	Crosses		Unions		Couplings		Half Couplings		Caps		Locknuts	
1/8	44705K254	$7.74	44705K239	$15.20	44705K36	$2.37	44705K316	$1.76	44705K372	$2.94		
1/4	44705K256	9.31	44705K242	16.96	44705K368	2.48	44705K317	1.86	44705K373	3.84	44705K412	$4.54
3/8	44705K257	12.10	44705K243	18.83	44705K369	2.56	44705K318	1.95	44705K374	4.24	44705K413	5.30
1/2	44705K258	16.16	44705K244	20.99	44705K52	2.69	44705K319	2.03	44705K375	5.34	44705K414	5.92
3/4	44705K259	17.28	44705K245	22.11	44705K56	2.83	44705K32	2.10	44705K376	5.87	44705K415	7.87
1	44705K261	17.57	44705K246	27.55	44705K58	3.31	44705K321	2.51	44705K377	6.10	44705K416	10.35
1 1/4	44705K262	26.67	44705K247	31.30	44705K89	4.40	44705K322	3.31	44705K378	8.67	44705K417	11.28
1 1/2	44705K263	35.17	44705K248	39.87	44705K99	6.32	44705K323	4.74	44705K379	12.02	44705K418	15.28
2	44705K264	64.79	44705K249	54.14	44705K371	8.93	44705K324	6.70	44705K381	16.22	44705K419	20.48
2 1/2	44705K265	100.10	44705K251	85.36	44705K153	16.26	44705K326	12.21	44705K357	29.63	44705K331	34.00
3	44705K267	136.99	44705K252	131.30	44705K172	18.72	44705K327	14.10	44705K358	34.16	44705K332	56.41
4	44705K268	201.70	44705K253	271.57	44705K227	33.95	44705K328	25.46	44705K359	55.92		
6					44705K451	183.91	44705K421	137.96	44705K438	119.44		




Pipe Size	Square-Head Plugs		Square-Socket Plugs	
1/8	44705K382	$2.67		
1/4	44705K383	3.07		
3/8	44705K384	3.39	44705K334	$5.25
1/2	44705K385	3.82	44705K335	5.66
3/4	44705K386	4.27	44705K336	6.32
1	44705K387	5.39	44705K337	7.78
1 1/4	44705K388	7.52	44705K338	10.53
1 1/2	44705K389	8.27	44705K339	11.62
2	44705K411	9.14	44705K341	12.80
2 1/2	44705K237	27.71	44705K342	36.94
3	44705K241	33.74	44705K343	44.98
4	44705K255	54.69	44705K354	70.89
6	44705K478	94.57		



Hex Reducing Bushings, Male x Female

Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)		
1/4	1/8	44705K279	$2.94	1 1/2	1/2	44705K443	$11.31
3/8	1/8	44705K393	3.74	1 1/2	3/4	44705K396	11.31
3/8	1/4	44705K281	3.74	1 1/2	1	44705K294	11.31
1/2	1/8	44705K439	4.32	1 1/2	1 1/4	44705K286	11.31
1/2	1/4	44705K394	4.32	2	3/4	44705K444	16.72
1/2	3/8	44705K282	4.32	2	1	44705K287	16.72
3/4	1/4	44705K395	5.23	2	1 1/4	44705K397	16.72
3/4	3/8	44705K292	5.23	2	1 1/2	44705K288	16.72
3/4	1/2	44705K283	5.23	2 1/2	1	44705K445	23.97
1	1/4	44705K441	5.84	3	1 1/2	44705K446	35.49
1	1/2	44705K293	5.84	3	2	44705K291	35.49
1	3/4	44705K284	5.84	3	2 1/2	44705K447	35.49
1 1/4	3/4	44705K442	9.55	4	2	44705K448	63.59
1 1/4	1	44705K285	9.55	4	3	44705K449	63.59

(Continued on following page)

How to Measure Female Threaded Fittings— *Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8″):	0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″	1 5/8″	1 3/4″	2 3/8″	2 3/4″	3 3/8″

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Aluminum Threaded Pipe Fittings

(Continued from previous page)

Fittings (Cont.)



Reducing 90° Elbows

Pipe Size (A)	Pipe Size (B)		
1/2	1/4	44705K424	$9.90
1/2	3/8	44705K425	9.90
3/4	1/2	44705K426	14.40
1	1/2	44705K427	19.94
1	3/4	44705K428	19.94
1 1/4	1	44705K429	25.36
1 1/2	1	44705K431	$29.89
1 1/2	1 1/4	44705K432	29.89
2	1 1/2	44705K433	52.27
3	2	44705K434	113.72
3	2 1/2	44705K435	113.72
4	3	44705K436	194.42



Reducing Couplings

Pipe Size (A)	Pipe Size (B)		
1/4	1/8	44705K269	$6.74
3/8	1/8	44705K391	7.41
3/8	1/4	44705K271	7.41
1/2	1/4	44705K392	8.13
1/2	3/8	44705K272	8.13
3/4	1/4	44705K486	8.82
3/4	1/2	44705K273	8.82
1	1/2	44705K487	9.66
1	3/4	44705K274	$9.66
1 1/4	1	44705K275	14.69
1 1/2	1	44705K488	19.74
1 1/2	1 1/4	44705K276	19.74
2	1 1/2	44705K277	26.37
3	2	44705K489	60.39
4	3	44705K491	120.28

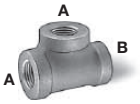

Right-Angle Reducing Tees

Pipe Size (A)	Pipe Size (B)		
1/2	3/4	44705K454	$19.34
1/2	1	44705K458	25.39
3/4	1/2	44705K455	19.34
3/4	1	44705K459	25.39
1	3/4	44705K461	25.39
1	1 1/2	44705K467	41.41
1 1/2	3/4	44705K466	41.41
2	1 1/2	44705K473	69.88



Inline Reducing Tees

Pipe Size (A)	Pipe Size (B)		
1/2	1/4	44705K452	$13.87
1/2	3/4	44705K453	19.34
3/4	3/8	44705K456	19.34
3/4	1/2	44705K457	19.34
1	1/2	44705K462	25.39
1	1 1/2	44705K463	41.41
1 1/4	3/4	44705K464	33.58
1 1/4	1	44705K465	33.58
1 1/2	1/2	44705K468	$41.41
1 1/2	3/4	44705K469	41.41
1 1/2	1	44705K471	41.41
1 1/2	2	44705K472	73.38
2	3/4	44705K474	69.88
2	1	44705K475	69.88
3	2	44705K476	170.13
4	2	44705K477	269.66

Flanges



Pipe Sizes 1/2 to 2 1/2



Pipe Sizes 3 to 6



Also known as Class 125 flanges. Bolt two same-size flanges together with a gasket (not included) to create easy access to your pipe. The surface on the back is flat. Flanges in pipe sizes 1 and larger meet ANSI/ASME B16.1. For gaskets, see pages 3529-3530; for bolts, see page 3169.

Pipe Size	Flange OD	Bolts Required Qty.	Bolts Required Dia.		
1/2	3 1/2″	4	1/2″	44705K228	$15.22
3/4	3 7/8″	4	1/2″	44705K229	16.77
1	4 1/4″	4	1/2″	44705K231	17.60
1 1/4	4 5/8″	4	1/2″	44705K232	20.48
1 1/2	5″	4	1/2″	44705K233	28.16
2	6″	4	5/8″	44705K234	$37.58
2 1/2	7″	4	5/8″	44705K235	47.12
3	7 1/2″	4	5/8″	44705K236	51.84
4	9″	8	5/8″	44705K238	72.91
6	11″	8	3/4″	44705K437	110.14

British Standard Threaded Low-Pressure Aluminum Pipe Fittings

- Use with air, water, oil
- Maximum Pressure: 150 psi @ 72° F

The BSPT threads on these lightweight aluminum fittings allow easy connection to other BSPT threads. For best performance, do not tighten more than a 1/4-turn past hand tight.

90° female×male elbows are also known as street elbows. ***Square-head plugs*** are solid.

Connections: BSPT (British Standard Pipe Taper).

Also Available: Pipe nipples with BSPT threads on one end and NPT threads on the other. For fully threaded nipples, which are also called close nipples, please ask for 2744K1 and specify pipe size from the list below. For nipples that are threaded on both ends, please ask for 2744K2 and specify pipe size from the list below and nipple length: 1 1/2″, 2″, or 3″.











Pipe Size	90° Elbows	90° Elbows, Female×Male	Tees	Couplings	Square-Head Plugs
1/8	2617K11 $5.85	2617K19 $9.59	2617K28 $6.09	2617K37 $2.96	2617K46 $3.37
1/4	2617K12 6.87	2617K21 10.55	2617K29 8.19	2617K38 3.11	2617K47 3.84
3/8	2617K13 8.42	2617K22 11.85	2617K31 10.22	2617K39 3.22	2617K48 4.28
1/2	2617K14 10.22	2617K23 15.80	2617K32 13.25	2617K41 3.39	2617K49 4.82
3/4	2617K15 12.89	2617K24 18.96	2617K33 13.74	2617K42 3.57	2617K51 5.38
1	2617K16 15.11	2617K25 20.94	2617K34 17.26	2617K43 4.17	2617K52 6.78
1 1/2	2617K17 22.09	2617K26 32.45	2617K35 26.85	2617K44 7.95	2617K53 10.40
2	2617K18 32.40	2617K27 41.64	2617K36 49.92	2617K45 11.22	2617K54 11.46



Hex Reducing Bushings, Male×Female

Pipe Size (A)	Pipe Size (B)		
1/4	1/8	2617K55	$3.70
3/8	1/4	2617K56	4.70
1/2	1/4	2617K58	5.43
1/2	3/8	2617K57	5.43
3/4	1/2	2617K59	6.59
1	3/4	2617K61	6.49
1 1/2	1	2617K62	14.23
2	1 1/2	2617K63	21.03

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Standard-Wall Aluminum Threaded Pipe Nipples and Pipe CAD

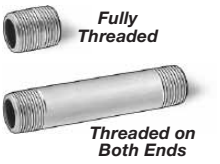

- Use with air, water, oil
- Fittings: Use threaded Class 150 low-pressure aluminum (see pages 46-47)
- Flanges: Use threaded low-pressure aluminum (see page 47)

They're so light, it's hard to believe these are Schedule 40 nipples and pipe. They're made of aluminum, which offers a high strength-to-weight ratio and very good corrosion resistance. They have seamless construction for unrestricted flow. Meet ASTM B241.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.

FULLY THREADED

Pipe Size	Lg.		
1/8	3/4"	44665K111	$1.35
1/4	7/8"	44665K131	1.49
3/8	1"	44665K151	1.82
1/2	1 1/8"	44665K171	2.24
3/4	1 3/8"	44665K191	3.04
1	1 1/2"	44665K221	3.20
1 1/4	1 5/8"	44665K241	3.37
1 1/2	1 3/4"	44665K261	4.06
2	2"	44665K281	7.09
2 1/2	2 1/2"	44665K278	15.21
3	2 5/8"	44665K315	18.88
4	2 7/8"	44665K324	26.10

THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths		2" Lengths		2 1/2" Lengths		3" Lengths		3 1/2" Lengths	
1/8	44665K161	$1.16	44665K113	$1.35	44665K121	$1.52	44665K115	$1.72	44665K141	$1.91
1/4	44665K167	1.52	44665K133	1.75	44665K122	2.05	44665K135	2.31	44665K142	2.61
3/8	44665K184	1.85	44665K153	2.21	44665K123	2.61	44665K155	2.97	44665K143	3.43
1/2	44665K211	2.44	44665K173	2.81	44665K124	3.30	44665K175	3.83	44665K144	4.46
3/4	44665K217	3.20	44665K193	3.20	44665K125	3.80	44665K195	4.39	44665K145	5.12
1	—	—	44665K223	3.46	44665K126	4.06	44665K225	4.65	44665K146	5.41
1 1/4	—	—	44665K243	3.80	44665K127	4.19	44665K245	4.79	44665K147	5.54
1 1/2	—	—	44665K263	4.39	44665K128	5.12	44665K265	5.74	44665K148	6.63
2	—	—	—	—	44665K129	8.28	44665K285	9.11	44665K149	10.56
2 1/2	—	—	—	—	—	—	44665K295	16.73	44665K152	18.64
3	—	—	—	—	—	—	44665K305	20.39	44665K154	22.87
4	—	—	—	—	—	—	44665K325	28.15	44665K326	29.87

THREADED ON BOTH ENDS

Pipe Size	4" Lengths		4 1/2" Lengths		5" Lengths		5 1/2" Lengths		6" Lengths		6 1/2" Lengths	
1/8	44665K117	$2.08	44665K621	$2.24	44665K308	$2.41	44665K162	$2.57	44665K119	$2.74	44665K163	$2.84
1/4	44665K137	2.94	44665K622	3.20	44665K318	3.46	44665K168	3.70	44665K139	3.99	44665K169	4.12
3/8	44665K157	3.80	44665K623	4.19	44665K328	4.55	44665K185	4.95	44665K159	5.31	44665K186	5.48
1/2	44665K177	5.02	44665K624	5.51	44665K338	6.04	44665K212	6.57	44665K179	7.06	44665K213	7.33
3/4	44665K197	5.74	44665K625	6.34	44665K348	6.93	44665K218	7.52	44665K199	8.09	44665K219	8.41
1	44665K227	6.11	44665K626	6.70	44665K358	7.29	44665K234	7.89	44665K229	8.48	44665K235	8.81
1 1/4	44665K247	6.24	44665K627	6.83	44665K368	7.42	44665K251	8.02	44665K249	8.65	44665K252	8.94
1 1/2	44665K267	7.36	44665K628	8.09	44665K369	8.81	44665K256	9.54	44665K269	10.23	44665K257	10.63
2	44665K287	11.75	44665K629	12.90	44665K379	14.09	44665K273	15.28	44665K289	16.43	44665K274	17.06
2 1/2	44665K297	20.16	44665K631	20.82	44665K389	22.37	44665K279	23.89	44665K299	25.41	44665K311	26.40
3	44665K307	24.88	44665K632	26.86	44665K399	28.88	44665K316	28.21	44665K259	30.05	44665K319	31.47
4	44665K317	30.35	44665K327	32.98	44665K409	35.57	44665K329	38.17	44665K239	40.76	44665K331	42.33
6	44665K335	183.77	44665K336	191.94	44665K337	218.25	44665K339	225.96	44665K341	233.75	44665K342	241.48

Pipe Size	7" Lengths		8" Lengths		9" Lengths		10" Lengths		11" Lengths		12" Lengths	
1/8	44665K164	$3.10	44665K411	$3.46	44665K165	$3.96	44665K511	$4.36	44665K166	$4.85	44665K541	$5.18
1/4	44665K181	4.46	44665K412	4.83	44665K182	5.74	44665K512	6.27	44665K183	6.58	44665K542	6.93
3/8	44665K187	5.94	44665K413	6.73	44665K188	7.62	44665K513	8.38	44665K189	9.34	44665K543	10.06
1/2	44665K214	7.89	44665K414	8.91	44665K215	10.16	44665K514	11.15	44665K216	12.38	44665K544	13.40
3/4	44665K231	9.07	44665K415	10.23	44665K232	11.65	44665K515	12.77	44665K233	14.26	44665K545	15.35
1	44665K236	9.47	44665K416	10.72	44665K237	12.18	44665K516	13.40	44665K238	14.88	44665K546	16.07
1 1/4	44665K253	9.64	44665K417	10.89	44665K254	12.41	44665K517	13.63	44665K255	15.18	44665K547	16.34
1 1/2	44665K258	11.45	44665K418	12.97	44665K271	14.72	44665K518	16.20	44665K272	18.02	44665K548	19.44
2	44665K275	18.38	44665K419	18.88	44665K276	23.66	44665K519	25.97	44665K277	26.43	44665K549	28.51
2 1/2	44665K312	28.41	44665K501	29.42	44665K313	33.43	44665K531	36.72	44665K314	40.85	44665K551	44.08
3	44665K321	33.88	44665K502	38.05	44665K322	43.57	44665K532	47.32	44665K323	53.25	44665K552	56.99
4	44665K332	45.59	44665K503	51.59	44665K333	58.62	44665K533	64.48	44665K334	66.00	44665K553	71.22
6	44665K343	249.22	44665K344	264.71	44665K345	280.18	44665K346	295.68	44665K347	311.54	44665K349	326.65

To Order: Please specify length.

Pipe Size		14" Lengths	16" Lengths	18" Lengths	20" Lengths	22" Lengths	24" Lengths	36" Lengths	48" Lengths	60" Lengths	72" Lengths	120" Lengths
1/8	5038K361	$5.64	$6.46	$7.24	$8.05	$8.87	$9.65	$13.46	$19.33	$24.16	$26.94	$48.33
1/4	5038K371	8.15	9.30	10.47	11.68	12.83	13.97	20.09	27.98	34.94	40.19	69.88
3/8	5038K381	10.90	12.43	13.97	15.53	17.07	18.62	30.87	37.26	46.55	62.15	93.14
1/2	5038K391	14.45	16.53	18.59	20.67	22.72	24.76	35.51	49.57	61.94	71.45	123.91
3/4	5038K411	16.60	18.95	21.33	23.71	26.08	28.45	37.83	56.90	71.11	76.15	142.23
1	5038K421	17.35	19.85	22.33	24.80	27.27	29.78	39.28	59.53	74.43	79.05	148.87
1 1/4	5038K431	17.72	20.21	22.76	25.28	27.79	30.32	44.47	60.64	75.82	89.55	151.61
1 1/2	5038K441	21.01	23.99	27.00	29.99	32.98	35.99	51.05	71.99	89.94	102.40	179.94
2	5038K451	33.73	38.53	43.33	48.15	52.98	57.75	74.43	115.50	144.40	149.86	288.77
2 1/2	5038K461	52.11	56.31	60.08	65.10	71.60	89.28	96.67	178.55	223.21	267.86	374.85
3	5038K471	59.40	67.90	75.79	84.88	93.35	115.47	129.68	230.96	288.71	303.12	509.18
4	5038K481	79.94	91.34	102.80	114.21	125.64	156.65	180.43	313.27	342.65	411.18	685.29

How to Measure Unthreaded Pipe and Butt-Weld Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.

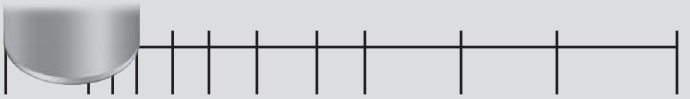

Pipe Size:	0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"

i To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Thin-Wall Quick-Weld Aluminum Unthreaded Pipe Fittings



Unthreaded Quick-Weld Connection

- Use with air, water, oil
- Pipe: Use unthreaded Schedule 10 thin-wall aluminum (see below)

Often called bell-end fittings, these are made of 6061 or 6063 aluminum and have bell-shaped ends that support the pipe for quicker and easier welding than butt-weld fittings. Meet ASTM B361.

Couplings are designed to slip over pipe, so they do not have bell-shaped ends. Connections: Quick weld (unthreaded).











Pipe Size	Wall Thick.	90° Elbows (C)		45° Elbows		Tees		Couplings	
1/2	0.083"	1 7/8"	4657T11	$29.10	4657T31	$23.51	4657T51	$65.64	4657T21	$12.34
3/4	0.083"	1 9/16"	4657T12	32.56	4657T32	25.47	4657T52	68.92	4657T22	13.48
1	0.109"	1 15/16"	4657T13	39.92	4657T33	28.73	4657T53	78.12	4657T23	14.86
1 1/2	0.109"	2 7/8"	4657T14	50.68	4657T34	40.88	4657T54	90.25	4657T24	18.60
2	0.109"	3 11/16"	4657T15	63.90	4657T35	49.58	4657T55	82.98	4657T25	21.60
2 1/2	0.120"	4 1/2"	4657T16	93.62	4657T36	73.12	4657T56	110.77	4657T26	25.92
3	0.120"	5 3/8"	4657T17	79.08	4657T37	68.33	4657T57	126.35	4657T27	30.35
4	0.120"	6 7/8"	4657T18	106.60	4657T38	82.56	4657T58	150.93	4657T28	49.30

Reducing Couplings

Pipe Size (A)	Pipe Size (B)		
3/4	1/2	4657T71	$33.24
1	3/4	4657T72	37.42
1 1/2	1	4657T73	43.53
2	1 1/2	4657T74	57.26
3	2	4657T75	68.69
4	3	4657T76	121.73

Thin-Wall Butt-Weld Aluminum Unthreaded Pipe Fittings

- Use with air, water, oil

Commonly called Schedule 10, here are the thinnest and lightest aluminum fittings and pipe we offer. All are unthreaded so you can make welded connections, which are less likely to leak than threaded connections.

Elbows and ***reducing couplings*** are 6061 aluminum and have beveled ends that, when connected to a pipe, create a trough for a strong weld. Meet ASTM B361 and ANSI/ASME B16.9. *Reducing couplings* are also called concentric reducers.

Pipe is 6061 or 6063 aluminum and has seamless construction for unrestricted flow. Meets ASTM B241. **To Order:** Please specify 1-, 3-, or 6-ft. length.

Connections: Butt weld (unthreaded).







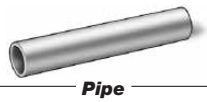

Pipe Size	Wall Thick.▲	90° Elbows (C)		45° Elbows		Reducing Couplings (A)	(B)		Pipe 1 ft.	3 ft.	6 ft.
1/2	0.083"	1 1/2"	4672T11	$54.88	4672T21	$90.79	3/4	1/2	4672T61	$87.35	4561T1	$15.38	$38.46	$76.92
3/4	0.083"	1 1/2"	4672T67	43.54	4672T68	75.96	1	3/4	4672T62	87.35	4561T2	16.46	41.14	82.28
1	0.109"	1 1/2"	4672T13	39.73	4672T23	67.19	1 1/2	1	4672T63	79.76	4561T3	15.44	38.60	77.21
1 1/4	0.109"	1 7/8"	4672T14	51.09	4672T24	91.71	2	1 1/2	4672T64	53.43	4561T4	15.43	38.57	77.14
1 1/2	0.109"	2 1/4"	4672T15	43.52	4672T25	62.44	3	2	4672T65	77.86	4561T5	15.92	39.80	79.60
2	0.109"	3"	4672T16	51.09	4672T26	65.37	4	3	4672T66	83.56	4561T6	22.58	45.16	90.33
2 1/2	0.120"	3 3/4"	4672T17	88.08	4672T27	112.07					4561T7	27.86	55.71	111.42
3	0.120"	4 1/2"	4672T18	88.97	4672T28	88.97					4561T8	29.48	58.95	117.90
4	0.120"	6"	4672T19	144.15	4672T29	128.89					4561T9	38.36	76.72	153.44

▲Wall thickness is measured at the beveled ends.

Standard-Wall Butt-Weld Aluminum Unthreaded Pipe Fittings

- Use with air, water, oil
- Pipe: Use unthreaded Schedule 40 standard-wall aluminum (see page 50)
- Flanges: Use unthreaded low-pressure aluminum (see page 50)

Choose these fittings when you need thicker walls than the thin-wall fittings, yet still want the leak resistance of a welded connection. Also known as Schedule 40, they have beveled ends that, when connected to a pipe, create a trough for a strong weld. All are 6061 aluminum and meet ANSI/ASME B16.9.

Reducing couplings are also called concentric reducers.

Connections: Butt weld (unthreaded).











Pipe Size	Wall Thick.	90° Elbows (C)		45° Elbows		Tees		Caps	
1/2	0.109"	1 1/2"	43485K119	$40.76	43485K149	$72.04	43485K169	$117.07	43485K189	$146.46
3/4	0.113"	1 1/2"	43485K121	41.19	43485K151	72.63	43485K171	118.02	43485K191	147.83
1	0.133"	1 1/2"	43485K122	30.27	43485K152	54.88	43485K172	119.22	43485K192	149.23
1 1/4	0.140"	1 7/8"	43485K123	39.73	43485K153	73.37	43485K173	150.92	43485K193	232.45
1 1/2	0.145"	2 1/4"	43485K124	34.06	43485K154	49.20	43485K174	123.47	43485K194	127.19
2	0.154"	3"	43485K125	39.73	43485K155	52.99	43485K175	101.68	43485K195	99.86
2 1/2	0.203"	3 3/4"	43485K126	70.81	43485K156	88.97	43485K176	220.45	43485K196	152.62
3	0.216"	4 1/2"	43485K127	70.81	43485K157	70.81	43485K177	162.79	43485K197	125.29
4	0.237"	6"	43485K131	123.47	43485K161	108.95	43485K181	220.45	43485K201	125.49

Reducing Couplings

Pipe Size (A)	Pipe Size (B)		
3/4	1/2	43485K111	$69.70
1	3/4	43485K112	69.70
1 1/2	1	43485K113	63.64
2	1 1/2	43485K114	42.63
3	2	43485K115	62.12
4	3	43485K116	66.67

How to Measure Unthreaded Pipe and Flanges—*Example shows pipe size 3/8 for pipe, pipe size 1/2 for flanges.*

Pipe size is an industry designation, not the actual size. Place your pipe or flange on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe and butt-weld flange, or inside diameter (ID) of your slip-on flange, then select the pipe size on the scale that corresponds to your measurement.

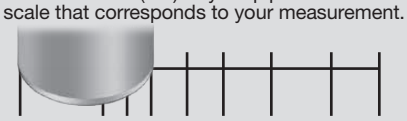



To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC.** For information about fittings and pipe, see pgs. 2-3.

Standard-Wall Aluminum Unthreaded Pipe



- Use with air, water, oil
- Fittings: Use butt-weld Schedule 40 standard-wall aluminum (see pg. 49)
- Flanges: Use unthreaded low-pressure aluminum (see below)

Also known as Schedule 40, this is the most popular style of pipe. This 6061 aluminum pipe is unthreaded so you can make welded connections, which are less likely to leak than threaded connections. It has seamless construction for unrestricted flow. Meets ASTM B241.

To Order: Please specify 1-, 3-, or 6-ft. length.

Pipe Size		1 ft.	3 ft.	6 ft.
1/8	5038K151	$6.30	$14.54	$24.23
1/4	5038K161	7.09	16.36	27.27
3/8	5038K171	14.54	33.55	55.91
1/2	5038K181	16.73	38.60	64.33
3/4	5038K221	$17.82	$41.13	$68.55
1	5038K261	19.92	42.68	71.14
1 1/4	5038K271	20.95	48.35	80.59
1 1/2	5038K281	23.96	55.30	92.17
2	5038K321	$30.75	$70.95	$118.25
2 1/2	5038K331	47.43	85.69	153.01
3	5038K341	63.73	115.12	205.58
4	5038K351	84.47	152.60	272.50

Low-Pressure Aluminum Unthreaded Flanges

- Use with air, water, oil
- Maximum Pressure: 150 psi @ 72° F
- Pipe: Use unthreaded Schedule 40 standard-wall aluminum (see above)
- Fittings: Use butt-weld Schedule 40 standard-wall aluminum (see page 49)

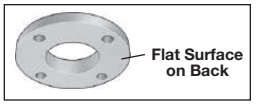

Aluminum flanges, which are also known as Class 125, allow easy access to your pipe. Bolt two same-size flanges together with a gasket (not included). They're made of 356 aluminum and have a flat surface on back. Flanges meet the dimensional requirements of ANSI/ASME B16.1. For gaskets, see pages 3529-3530; for bolts, see page 3169.

Slip On—Slip the flange onto your pipe and weld. There is no internal stop; you must weld the flange to your pipe on both sides.

Butt Weld—Also known as weld-neck flanges. Butt up the flange to your pipe and weld. The flange neck has a beveled end that, when connected to a pipe, creates a trough for a strong weld.

Cap—Also known as blind flanges, use these solid flanges to close off the end of a pipe.





Pipe Size	Flange OD	Bolts Required Qty.	Bolts Required Dia.	Slip On		Butt Weld		Cap	
1/2	3 1/2"	4	1/2"	44705K37	$15.22	44705K543	$35.20	44705K531	$20.72
3/4	3 7/8"	4	1/2"	44705K38	16.77	44705K544	44.86	44705K532	25.55
1	4 1/4"	4	1/2"	44705K361	17.60	44705K545	49.26	44705K533	30.69
1 1/4	4 5/8"	4	1/2"	44705K362	20.48	44705K546	57.74	44705K534	34.08
1 1/2	5"	4	1/2"	44705K363	28.16	44705K547	63.98	44705K535	42.54
2	6"	4	5/8"	44705K364	37.58	44705K548	71.66	44705K536	52.82
2 1/2	7"	4	5/8"	44705K365	47.12	44705K549	84.53	44705K537	59.58
3	7 1/2"	4	5/8"	44705K366	51.84	44705K551	101.36	44705K538	75.69
4	9"	8	5/8"	44705K367	72.91	44705K552	115.53	44705K539	98.42
6	11"	8	3/4"	44705K542	110.14	44705K553	175.64	44705K541	147.23

Thick-Wall Butt-Weld Aluminum Unthreaded Pipe Fittings

- Use with air, water, oil

The thick walls, which are also known as Schedule 80, ensure you're getting the strongest unthreaded aluminum fittings and pipe we offer. All are made of 6061 aluminum.

Elbows, ***tees***, and ***reducing couplings*** have beveled ends that, when connected to a pipe, create a trough for a strong weld. Meet ASTM B361 and ANSI/ASME B16.9. The *reducing couplings* are also called concentric reducers.

Pipe has seamless construction for unrestricted flow. **To Order:** Please specify 1-, 3-, or 6-ft. length. Connections: Butt weld (unthreaded).







Pipe Size	Wall Thick.	90° Elbows (C)		45° Elbows		Tees	
1/2	0.147"	1 1/2"	4684T11	4684T21	$172.85	4684T31	$265.56
3/4	0.154"	1 1/2"	4684T12	4684T22	172.85	4684T32	268.00
1	0.179"	1 1/2"	4684T13	4684T23	125.31	4684T33	270.48
1 1/4	0.191"	1 7/8"	4684T14	4684T24	172.85		
1 1/2	0.200"	2 1/4"	4684T15	4684T25	112.35	4684T35	277.82
2	0.218"	3"	4684T16	4684T26	121.00	4684T36	237.42
2 1/2	0.276"	3 3/4"	4684T17	4684T27	211.73	4684T37	503.64
3	0.300"	4 1/2"	4684T18	4684T28	168.52	4684T38	388.13
4	0.337"	6"	4684T19	4684T29	254.38	4684T39	508.02

Reducing Couplings Pipe Size (A)	(B)		
3/4	1/2	4684T61	$72.12
1	3/4	4684T62	72.12
1 1/2	1	4684T63	86.54
2	1 1/2	4684T64	63.46
3	2	4684T65	93.75
4	3	4684T66	117.45

Pipe



Pipe Size		1 ft.	3 ft.	6 ft.
1/2	4559T1	$32.63	$75.30	$125.50
3/4	4559T2	32.84	75.79	126.31
1	4559T3	21.77	50.24	83.74
1 1/4	4559T4	22.60	52.15	86.92
1 1/2	4559T5	26.88	62.04	103.40
2	4559T6	$39.74	$91.70	$152.84
2 1/2	4559T7	61.92	142.90	238.16
3	4559T8	70.43	162.54	270.90
4	4559T9	90.06	207.83	346.38

How to Measure Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

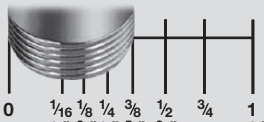

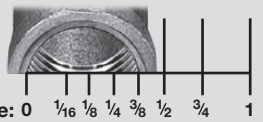

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

FM-Approved Low-Pressure Black Iron Threaded Pipe Fittings

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 125 psi @ 72° F; 125 psi @ 353° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall black steel (see pages 55-56)
- Flanges: Use threaded low-pressure black iron and steel (see pg. 56)

A strike of a hammer is all it takes to break open a water line in an emergency. Also called Class 125, these black cast iron fittings are a great choice for fire protection applications because they're more brittle than malleable iron and steel fittings. All are FM approved, UL and C-UL listed, and meet ASTM A126 and ANSI/ASME B1.20.1. They also meet ANSI/ASME B16.4 or B16.14, except off-center reducing couplings. They can be used interchangeably with black malleable iron and black steel.

Off-center reducing couplings, also called eccentric reducers, connect one pipe to another of a smaller diameter with the centers offset.

Connections: NPT.



Pipe Size	90° Elbows		45° Elbows		Tees	
1/2	68115K21	$4.08	68115K31	$6.24	68115K41	$6.36
3/4	68115K22	4.25	68115K32	6.28	68115K42	7.42
1	68115K23	5.03	68115K33	6.95	68115K43	7.54
1 1/4	68115K24	7.14	68115K34	9.90	68115K44	12.04
1 1/2	68115K25	9.88	68115K35	16.41	68115K45	15.65
2	68115K26	15.44	68115K36	18.93	68115K46	21.80
2 1/2	68115K27	32.89	68115K37	43.76	68115K47	50.34
3	68115K28	53.86	68115K38	69.31	68115K48	77.25
4	68115K49	89.88	68115K51	129.69	68115K52	135.61



Hex Reducing Bushings, Male×Female

Pipe Size (A)	(B)		
1 1/4	3/8	44605K284	$5.01
1 1/4	1/2	44605K283	4.63
1 1/4	3/4	44605K296	4.07
1 1/2	3/8	44605K289	7.90
1 1/2	1/2	44605K288	5.30
1 1/2	3/4	44605K287	5.30
1 1/2	1	44605K286	4.65
2	1/2	44605K295	8.41
2	3/4	44605K294	6.67
2	1	44605K293	6.36
2	1 1/4	44605K292	6.36
2 1/2	1 1/2	44605K411	10.18
3	2	44605K412	11.81
3	2 1/2	44605K413	13.70
4	3	44605K414	26.65



Reducing Couplings

Pipe Size (A)	(B)		
3/4	1/2	68115K53	$11.41
1	1/2	68115K11	5.83
1	3/4	68115K12	7.73
1 1/4	3/4	68115K54	17.12
1 1/4	1	68115K13	20.03
1 1/2	1	68115K55	25.20
1 1/2	1 1/4	68115K14	25.20
2	1/2	68115K58	36.59
2	3/4	68115K57	32.96
2	1	68115K15	29.35
2	1 1/4	68115K56	34.44
2	1 1/2	68115K16	32.95
2 1/2	2	68115K17	46.83
3	1 1/2	68115K59	79.51
3	2	68115K18	57.41



Off-Center Reducing Couplings

Pipe Size (A)	(B)		
3/4	1/2	68115K62	$21.33
1	1/2	68115K66	22.39
1	3/4	68115K64	23.03
1 1/4	1/2	68115K73	36.79
1 1/4	3/4	68115K71	33.34
1 1/4	1	68115K67	34.30
1 1/2	1/2	68115K81	46.33
1 1/2	3/4	68115K78	48.64
1 1/2	1	68115K77	48.64
1 1/2	1 1/4	68115K75	46.51
2	1	68115K85	63.49
2	1 1/4	68115K84	60.46
2	1 1/2	68115K82	61.68



Inline Reducing Tees

Pipe Size (A)	(B)		
3/4	1/2	68115K61	$10.31
1	1/2	68115K65	7.43
1	3/4	68115K63	8.93
1 1/4	1/2	68115K68	11.88
1 1/4	3/4	68115K72	12.91
1 1/4	1	68115K69	11.90
1 1/2	1/2	68115K83	15.52
1 1/2	3/4	68115K79	16.76
1 1/2	1	68115K76	15.52
1 1/2	1 1/4	68115K74	22.07
2	1/2	68115K96	21.99
2	3/4	68115K94	21.99
2	1	68115K92	21.99
2	1 1/4	68115K89	21.96
2	1 1/2	68115K86	23.21

Low-Pressure Black Iron Threaded Pipe Fittings

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 125 psi @ 72° F; 125 psi @ 353° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall black steel (see pages 55-56)
- Flanges: Use threaded low-pressure black iron and steel (see page 56)

Also known as Class 125, these fittings are made of black cast iron and can be used interchangeably with black malleable iron and black steel; however, cast iron is the most brittle of the three. Fittings are UL listed and meet ASTM A126 and ANSI/ASME B1.20.1; they also meet ANSI/ASME B16.4 or B16.14.

Square-head plugs are hollow; ***square-socket plugs*** are solid.

Connections: NPT.







Pipe Size	Caps		Square-Head Plugs		Square-Socket Plugs	
3/4	44605K105	$2.94				
1	44605K106	3.77	44605K226	$1.88	44605K236	$2.60
1 1/4	44605K107	4.51	44605K227	2.64	44605K237	2.84
1 1/2	44605K108	6.26	44605K228	3.52	44605K238	4.08
2	44605K109	8.51	44605K229	5.00	44605K239	7.72
2 1/2	44605K206	11.27	44605K337	9.60	44605K341	12.29
3			44605K338	10.61	44605K342	19.32
4			44605K339	18.50	44605K343	20.07



Hex Reducing Bushings, Male×Female

Pipe Size (A)	(B)		
1	1/4	44605K255	$3.24
1	3/8	44605K254	3.24
1	1/2	44605K253	3.24
1	3/4	44605K252	3.68

Low-Pressure Steel Threaded Pipe Plugs with Magnet

- Use with air, water, natural gas, steam
- Maximum Pressure: 150 psi @ 72° F; 150 psi @ 250° F for steam

A bar or disc magnet is bonded to one end of these steel plugs to grab metal shavings before they become a problem. Plugs are solid.

Connections: ***Square-head*** and ***hex-socket plugs*** have NPTF (Dryseal) threads, which are compatible with NPT threads. ***Hex-head plugs*** have metric straight threads.



Square-Head Plugs

Pipe Size		
1/8	1072A16	$4.88
1/4	1072A11	4.48
3/8	1072A12	2.32
1/2	1072A13	2.84
3/4	1072A14	3.76
1	1072A15	8.86



Hex-Socket Plugs

Hex Key Size		
3/16"	1072A26	$4.96
1/4"	1072A21	5.24
5/16"	1072A22	2.20
3/8"	1072A23	3.00
9/16"	1072A24	4.32
5/8"	1072A25	6.08



Hex-Head Plugs

Thread Size (Actual OD)		
M12×1.25	1072A31	$10.48
M14×1.25	1072A32	15.40
M14×1.5	1072A33	9.36
M18×1.5	1072A34	7.88

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Black Iron and Steel Threaded Pipe Fittings CAD

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 150 psi @ 72° F; 150 psi @ 350° F for steam, except locknuts
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall black steel (see pages 55-56)
- Flanges: Use threaded low-pressure black iron and steel (see pg. 56)

A popular choice for low-pressure plumbing applications, these Class 150 fittings are black malleable iron or black steel. They can be used interchangeably with low-pressure black cast iron.

Connections: NPT compatible or NPT. The fittings with NPT-compatible threads are fully threaded couplings in pipe sizes 1/8-2, which have NPSC (National Pipe Straight Coupling) threads, and locknuts, which have NPSL (National Pipe Straight Locknut) threads.

Elbows, Wyes, Tees, Crosses, Unions, Couplings, and Adapters

UL listed (unless noted) and meet ANSI/ASME B1.20.1. They also meet ANSI/ASME B16.3 or B16.39, except adapters. The ***90° female × male elbows*** are also known as street elbows. ***180° bends*** are also called U-bends. ***Unions*** have a brass seal, which is also called a seat, that conforms to uneven surfaces. ***Couplings*** are threaded on each end with an unthreaded space in the middle.








Pipe Size	90° Elbows		90° Elbows, Female × Male		45° Elbows		45° Elbows, Female × Male		180° Bends		Wyes	
1/8	44605K111	$2.70	44605K131	$3.90	44605K129	$3.98	44605K141	$6.13				
1/4	44605K112	2.64	44605K132	3.90	44605K121	3.98	44605K149	4.99				
3/8	44605K113	2.64	44605K133	3.90	44605K122	3.98	44605K142	5.17			44605K351	$9.63
1/2	44605K114	1.83	44605K134	3.78	44605K123	3.02	44605K143	4.22	44605K563	$30.67	44605K353	9.06
3/4	44605K115	2.21	44605K135	3.77	44605K124	3.74	44605K144	6.37	44605K564	19.88	44605K354	12.02
1	44605K116	3.83	44605K136	5.35	44605K125	4.70	44605K145	7.42	44605K565★	18.47	44605K355	15.72
1 1/4	44605K117	6.32	44605K137	8.32	44605K126	8.32	44605K146	12.84	44605K566	37.63	44605K356	27.17
1 1/2	44605K118	8.32	44605K138	11.13	44605K127	10.29	44605K147	16.55	44605K567	63.70	44605K357	37.96
2	44605K119	14.34	44605K139	18.09	44605K128	15.56	44605K148	27.83	44605K568	66.12	44605K359	59.07
2 1/2	44605K11	31.93	44605K31	45.85	44605K21	45.03					44605K361	144.68
3	44605K12	46.73	44605K32	67.19	44605K22	58.49					44605K362	200.04
4	44605K13	96.35	44605K33	128.32	44605K23	110.10					44605K363	377.94
6	44605K297	300.73			44605K531	390.15						

★ Not UL listed.








Pipe Size	Tees		Tees, Female × Female × Male		Crosses		Unions		Couplings		Adapters, Female × Male	
1/8	44605K151	$4.07			44605K38	$10.91	44605K191★	$14.00	44605K662	$3.80		
1/4	44605K152	3.83	44605K401	$7.67	44605K168	8.69	44605K192	12.95	44605K182	3.28		
3/8	44605K153	3.83	44605K402	8.54	44605K34	9.00	44605K193	8.93	44605K183	3.28		
1/2	44605K154	2.44	44605K403	7.06	44605K161	9.24	44605K194	8.08	44605K184	2.53	44605K312	$5.64
3/4	44605K155	3.51	44605K404	8.73	44605K162	11.19	44605K195	9.29	44605K185	2.96	44605K313	8.32
1	44605K156	6.01	44605K405	11.54	44605K163	13.78	44605K196	12.10	44605K186	4.43	44605K314	12.00
1 1/4	44605K157	9.73	44605K406	19.05	44605K164	22.37	44605K197	17.36	44605K187	5.75	44605K661★	13.80
1 1/2	44605K158	12.10	44605K407	29.70	44605K165	27.72	44605K198	21.65	44605K188	7.76		
2	44605K159	20.62	44605K408	54.69	44605K167	45.58	44605K199	25.17	44605K189	11.50		
2 1/2	44605K51	44.46			44605K35	94.75	44605K91	72.00	44605K81	31.73		
3	44605K52	65.50			44605K36	131.46	44605K92	86.68	44605K82★	42.89		
4	44605K53	146.13			44605K37	261.77	44605K93	217.36	44605K83★	82.93		
6	44605K533	418.91										

★ Not UL listed.

Caps and Fully Threaded Couplings

Caps in pipe sizes 1-6 meet ANSI/ASME B16.3 and B1.20.1. ***Fully threaded couplings*** are also known as merchant couplings; they meet ASTM A53 and A865.



Caps

Pipe Size			Pipe Size	
1/8	44605K171	$0.63	1 1/2	44605K656	$5.49
1/4	44605K172	.74	2	44605K657	8.00
3/8	44605K173	1.14	2 1/2	44605K658	18.23
1/2	44605K174	1.67	3	44605K391	27.09
3/4	44605K201	2.98	4	44605K392	46.44
1	44605K654	3.02	6	44605K536	190.49
1 1/4	44605K655	3.99			



Fully Threaded Couplings

Pipe Size			Pipe Size	
1/8	46685K261	$1.62	1 1/4	46685K267	$6.52
1/4	46685K262	2.24	1 1/2	46685K268	8.26
3/8	46685K263	2.69	2	46685K269	11.83
1/2	46685K264	2.86	2 1/2	46685K271	33.67
3/4	46685K265	3.65	3	46685K272	42.01
1	46685K266	5.10	4	46685K273	74.47

(Continued on following page)

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8″):	0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″	1 5/8″	1 3/4″	2 3/8″	2 3/4″	3 3/8″

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Black Iron and Steel Threaded Pipe Fittings

(Continued from previous page)

Locknuts, Plugs, and Bushings

Locknuts are not rated for pressure. They meet ANSI/ASME B16.14. ***Square-head***, ***square-socket***, and ***hex-socket plugs*** are solid. ***Reducing bushings*** are also known as face bushings; they meet ANSI/ASME B16.14.









Pipe Size	Locknuts		Square-Head Plugs		Square-Socket Plugs		Hex-Socket Plugs Hex Key Size		
1/8	44605K433	$2.39	44605K221	$0.12	44605K672	$0.12	3/16″	44605K231	$0.19
1/4	44605K434	2.20	44605K222	.18	44605K673	.20	1/4″	44605K232	.18
3/8	44605K211	3.05	44605K223	.28	44605K674	.25	5/16″	44605K233	.22
1/2	44605K212	2.61	44605K224	.50	44605K675	.42	3/8″	44605K234	.38
3/4	44605K213	2.85	44605K225	.84	44605K676	.55	9/16″	44605K235	.67
1	44605K214	5.46	44605K663	2.19	44605K677	1.80	5/8″	44605K667	1.70
1 1/4	44605K215	4.49	44605K664	14.18	44605K678	5.17	3/4″	44605K668	5.00
1 1/2	44605K216	6.31	44605K665	14.96	44605K679	10.34	1″	44605K669	8.72
2	44605K217	10.46	44605K666	23.95	44605K681	15.61	1″	44605K671	10.90



Hex Reducing Bushings, Male×Female

Pipe Size (A)	(B)			Pipe Size (A)	(B)		
1/4	1/8	44605K241	$0.63	1	1/2	44605K368	$3.17
3/8	1/8	44605K243	.74	1	3/4	44605K369	3.12
3/8	1/4	44605K242	.74	1 1/4	1/2	44605K621	3.29
1/2	1/8	44605K246	1.14	1 1/4	3/4	44605K622	3.29
1/2	1/4	44605K245	1.14	1 1/4	1	44605K281	4.07
1/2	3/8	44605K244	1.14	1 1/2	3/4	44605K623	5.88
3/4	1/8	44605K319	3.39	1 1/2	1	44605K624	5.88
3/4	1/4	44605K344	3.22	1 1/2	1 1/4	44605K285	5.17
3/4	3/8	44605K345	3.30	2	1	44605K625	9.23
3/4	1/2	44605K346	2.97	2	1 1/4	44605K626	9.23
1	1/8	44605K347	4.82	2	1 1/2	44605K291	6.51
1	1/4	44605K348	4.16	2 1/2	2	44605K398	10.02
1	3/8	44605K349	4.28	4	3 1/2	44605K409	35.86



Reducing Bushings, Male×Female

Pipe Size (A)	(B)		
1/4	1/8	44605K256	$0.63
3/8	1/8	44605K388	.83
3/8	1/4	44605K257	.74
1/2	1/8	44605K261	1.06
1/2	1/4	44605K259	1.10
1/2	3/8	44605K258	1.14
3/4	1/8	44605K396	1.74
3/4	1/4	44605K264	1.77
3/4	3/8	44605K263	1.80
3/4	1/2	44605K262	1.86
1	1/4	44605K268	2.87
1	3/8	44605K267	2.92
1	1/2	44605K266	2.98
1	3/4	44605K265	3.04

Reducing Tees

All are UL listed and meet ANSI/ASME B16.3 and B1.20.1.



Right-Angle Reducing Tees

Pipe Size (A)	(B)			Pipe Size (A)	(B)		
3/8	1/2	44605K513	$6.51	1	1 1/2	44605K518	$17.37
1/2	1/4	44605K512★	4.37	1	2	44605K644★	30.82
1/2	3/8	44605K373	6.51	1 1/4	1/2	44605K634	14.54
1/2	3/4	44605K449	5.57	1 1/4	3/4	44605K632	13.17
1/2	1	44605K381	7.80	1 1/4	1 1/2	44605K637	23.30
3/4	1/2	44605K448	6.26	1 1/2	3/4	44605K519	17.37
3/4	1	44605K378	7.25	1 1/2	1	44605K521	17.37
3/4	1 1/4	44605K633	14.54	1 1/2	1 1/4	44605K636	26.19
3/4	1 1/2	44605K517★	29.12	1 1/2	2	44605K641	26.61
1	1/4	44605K516	7.95	2	1	44605K522	27.09
1	1/2	44605K379	7.80	2	1 1/4	44605K643	29.09
1	3/4	44605K377	7.95	2	1 1/2	44605K466	29.31
1	1 1/4	44605K629	12.78	2	3	44605K527	78.47

★ Not UL listed.



Inline Reducing Tees

Pipe Size (A)	(B)			Pipe Size (A)	(B)		
3/8	1/2	44605K511	$5.69	1 1/2	1	44605K382	$13.81
1/2	1/4	44605K372	4.16	1 1/2	1 1/4	44605K459	17.09
1/2	3/8	44605K371	5.34	2	1/2	44605K465	22.06
1/2	3/4	44605K451	6.26	2	3/4	44605K464	21.65
1/2	1	44605K628★	10.24	2	1	44605K463	21.65
3/4	1/4	44605K375	6.03	2	1 1/4	44605K639	23.30
3/4	3/8	44605K468	6.67	2	1 1/2	44605K383	23.30
3/4	1/2	44605K374	5.43	2 1/2	3/4	44605K649★	64.96
3/4	1	44605K455	8.26	2 1/2	1	44605K648★	67.45
1	1/4	44605K627★	8.68	2 1/2	1 1/4	44605K647★	67.45
1	3/8	44605K453	9.63	2 1/2	1 1/2	44605K646★	67.45
1	1/2	44605K452	6.85	2 1/2	2	44605K645★	57.84
1	3/4	44605K376	6.85	3	3/4	44605K653★	75.61
1	1 1/4	44605K635	15.16	3	1	44605K524	77.63
1 1/4	1/2	44605K458	12.48	3	1 1/4	44605K652	78.52
1 1/4	3/4	44605K457	10.94	3	1 1/2	44605K651	77.10
1 1/4	1	44605K456	11.86	3	2	44605K525	74.17
1 1/2	1/2	44605K462	14.62	3	2 1/2	44605K526	88.10
1 1/2	3/4	44605K461	13.81	4	3	44605K683★	166.31

★ Not UL listed.

Dual Reducing Tees

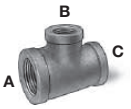

Pipe Size (A)	(B)	(C)		
1	1/2	3/4	44605K454	$7.84
1 1/4	3/4	1	44605K631	12.78
1 1/2	3/4	1 1/4	44605K638	17.37
2	1	1 1/2	44605K467	26.61

(Continued on following page)

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8″):	0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″	1 5/8″	1 3/4″	2 3/8″	2 3/4″	3 3/8″

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Black Iron and Steel Threaded Pipe Fittings CAD

(Continued from previous page)

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 150 psi @ 72° F; 150 psi @ 350° F for steam, except locknuts
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall black steel (see pages 55-56)
- Flanges: Use threaded low-pressure black iron and steel (see pg. 56)

A popular choice for low-pressure plumbing applications, these Class 150 fittings are black malleable iron or black steel. They can be used interchangeably with low-pressure black cast iron.

Connections: NPT for all of the fittings listed below.

Reducing Elbows and Couplings

All are UL listed and meet ANSI/ASME B16.3 and B1.20.1. ***90° female×male elbows*** are also known as street elbows.



90° Reducing Elbows

Pipe Size (A)	(B)			Pipe Size (A)	(B)			Pipe Size (A)	(B)		
1/4	1/8	44605K415	$5.25	1	3/4	44605K421	$4.61	2	3/4	44605K443	$19.06
3/8	1/8	44605K364	7.14	1 1/4	1/2	44605K437	10.09	2	1	44605K442	17.97
3/8	1/4	44605K416	3.71	1 1/4	3/4	44605K425	8.63	2	1 1/4	44605K441	17.97
1/2	1/4	44605K417	3.58	1 1/4	1	44605K423	7.74	2	1 1/2	44605K428	15.81
1/2	3/8	44605K418	3.49	1 1/2	1/2	44605K439	14.62	2 1/2	1 1/2	44605K446	45.96
3/4	1/4	44605K365	5.45	1 1/2	3/4	44605K438	12.49	2 1/2	2	44605K445	43.41
3/4	3/8	44605K435	5.01	1 1/2	1	44605K427	10.92	3	2	44605K447	67.36
3/4	1/2	44605K419	3.58	1 1/2	1 1/4	44605K426	10.92	3	2 1/2	44605K366	79.31
1	3/8	44605K436	9.78	2	1/2	44605K444	15.10	4	3	44605K367	130.34
1	1/2	44605K422	4.97								



90° Reducing Elbows, Female×Male

Pipe Size (A)	(B)		
1/2	3/8	44605K571	$5.46
3/4	1/2	44605K572	8.15
1	3/4	44605K573	7.67
1 1/4	3/4	44605K575	18.57
1 1/4	1	44605K574	11.03
1 1/2	1	44605K576	16.20
1 1/2	1 1/4	44605K577	20.21
2	1 1/2	44605K578	28.27



Reducing Couplings

Pipe Size (A)	(B)			Pipe Size (A)	(B)			Pipe Size (A)	(B)		
1/4	1/8	44605K269	$3.46	1	3/8	44605K279	$6.51	2	1/2	44605K333	$16.16
3/8	1/8	44605K384	4.32	1	1/2	44605K278	5.30	2	3/4	44605K331	13.95
3/8	1/4	44605K271	3.46	1	3/4	44605K277	5.17	2	1	44605K329	13.18
1/2	1/8	44605K385	3.49	1 1/4	1/2	44605K323	7.80	2	1 1/4	44605K328	13.95
1/2	1/4	44605K273	3.14	1 1/4	3/4	44605K322	6.65	2	1 1/2	44605K327	12.18
1/2	3/8	44605K272	2.97	1 1/4	1	44605K321	6.65	2 1/2	1	44605K541	35.16
3/4	1/8	44605K386	4.13	1 1/2	1/2	44605K326	9.92	2 1/2	1 1/4	44605K542	35.16
3/4	1/4	44605K276	3.96	1 1/2	3/4	44605K317	11.19	2 1/2	1 1/2	44605K543	33.23
3/4	3/8	44605K275	3.96	1 1/2	1	44605K325	9.75	2 1/2	2	44605K318	28.00
3/4	1/2	44605K274	3.32	1 1/2	1 1/4	44605K324	8.41	3	1	44605K545	44.58
1	1/4	44605K387	6.81								

Pipe Size (A)	(B)			Pipe Size (A)	(B)		
3	1 1/4	44605K546	$45.41	3	1 1/2	44605K547	43.77
3	2	44605K332	36.25	3	2 1/2	44605K334	42.33
4	1 1/2	44605K582	102.66	4	2	44605K335	80.99
4	2 1/2	44605K584	96.08	4	3	44605K336	84.23
4	3 1/2	44605K586	129.89	6	4	44605K682	224.84

Standard-Wall Steel Threaded Pipe Nipple Assortments

- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 125 low-pressure black iron (see page 51) or threaded Class 150 low-pressure black iron and steel (see pg. 52-above)
- Flanges: Use threaded low-pressure black iron and steel (see page 56)

Each assortment includes a range of different pipe nipple lengths in both fully threaded and threaded-on-both-ends styles. All meet ASTM A53 and A733, as well as ANSI/ASME B1.20.1.

Fully threaded nipples are also called close nipples; they're threaded on each end to the center and vary in length from 7/8″ to 2″ depending on the pipe size.

Galvanized steel offers better corrosion resistance than black steel.

Connections: NPT.



25-Nipple Assortment

Pipe Size	Total No. of Nipples	Fully Threaded	No. of Nipples Threaded on Both Ends, Length 1 1/2″	2″	2 1/2″	3″	3 1/2″	4″	4 1/2″	5″	5 1/2″	6″	Black Steel		Galvanized Steel	
1/4	100	20	10	15	10	10	5	10	5	5	5	5	4561K11	$209.11	4561K21	$261.42
3/8	100	20	10	15	10	10	5	10	5	5	5	5	4561K12	184.78	4561K22	253.56
1/2	66	6	6	6	6	6	6	6	6	6	6	6	4561K33	119.64	4561K43	149.36
1/2	100	20	10	15	10	10	5	10	5	5	5	5	4561K13	139.67	4561K23	170.93
3/4	66	6	6	6	6	6	6	6	6	6	6	6	4561K34	112.02	4561K44	149.65
3/4	100	20	10	15	10	10	5	10	5	5	5	5	4561K14	166.73	4561K24	208.16
1	30	3	—	3	3	3	3	3	3	3	3	3	4561K36	88.92	4561K46	110.91
1	75	15	—	12	5	12	3	12	3	3	5	5	—	—	4561K25	226.18
1	75	15	—	15	10	12	5	5	4	3	3	3	4561K15	183.87	—	—
1 1/4	25	5	—	5	3	2	2	2	1	2	1	2	—	—	4561K76	102.38
1 1/4	25	6	—	4	3	2	2	2	1	2	1	2	4561K56	83.46	—	—
1 1/2	25	5	—	5	3	2	2	2	1	2	1	2	4561K57	102.42	4561K77	123.11
2	25	6	—	—	3	3	2	3	1	3	1	3	4561K58	144.88	4561K78	176.56

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Standard-Wall Black Steel Threaded Pipe Nipples and Pipe


Fully Threaded


Threaded on Both Ends

- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 125 low-pressure black iron (see page 51) or threaded Class 150 low-pressure black iron and steel (see pages 52-54)
- Flanges: Use threaded low-pressure black iron and steel (see page 56)

Black steel is the most popular choice for pipe nipples and pipe in low-pressure plumbing applications. Also known as Schedule 40, all have a welded construction, so there's a weld bead on the inside. Meet ASTM A53 and A733, as well as ANSI/ASME B1.20.1.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.

FULLY THREADED

Pipe Size	Lg.		
1/8	3/4"	44615K411	$0.97
1/4	7/8"	44615K412	1.15
3/8	1"	44615K413	1.17
1/2	1 1/8"	44615K414	1.01
3/4	1 3/8"	44615K415	1.12
1	1 1/2"	44615K416	1.67
1 1/4	1 5/8"	44615K417	2.13
1 1/2	1 3/4"	44615K418	2.60
2	2"	44615K419	3.57
2 1/2	2 1/2"	44615K111	11.22
3	2 5/8"	44615K121	13.28
4	2 7/8"	44615K131	20.05
6	3 1/8"	44615K138	54.37

THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths		2" Lengths		2 1/2" Lengths		3" Lengths		3 1/2" Lengths	
1/8	44615K421	$1.18	44615K431	$1.17	44615K441	$1.35	44615K451	$1.35	44615K551	$1.67
1/4	44615K422	1.24	44615K432	1.24	44615K442	1.60	44615K452	1.60	44615K552	1.82
3/8	44615K423	1.34	44615K433	1.34	44615K443	1.73	44615K453	1.73	44615K553	2.01
1/2	44615K424	1.01	44615K434	1.01	44615K444	1.17	44615K454	1.17	44615K554	1.43
3/4	44615K425	1.24	44615K435	1.24	44615K445	1.37	44615K455	1.37	44615K555	1.73
1			44615K436	1.81	44615K446	1.94	44615K456	1.94	44615K556	2.41
1 1/4			44615K437	2.37	44615K447	2.55	44615K457	2.55	44615K557	2.98
1 1/2			44615K438	2.83	44615K448	3.15	44615K458	3.15	44615K558	3.56
2					44615K449	4.10	44615K459	4.10	44615K559	4.95
2 1/2							44615K112	11.53	44615K561	13.55
3							44615K122	14.47	44615K562	17.16

THREADED ON BOTH ENDS

Pipe Size	4" Lengths		4 1/2" Lengths		5" Lengths		5 1/2" Lengths		6" Lengths		6 1/2" Lengths	
1/8	44615K461	$1.67	44615K141	$3.16	44615K471	$3.16	44615K155	$3.47	44615K481	$3.47	44615K171	$4.78
1/4	44615K462	1.82	44615K142	2.79	44615K472	2.79	44615K156	3.27	44615K482	3.27	44615K172	5.03
3/8	44615K463	2.01	44615K143	2.93	44615K473	2.93	44615K157	3.28	44615K483	3.28	44615K173	5.74
1/2	44615K464	1.43	44615K144	1.67	44615K474	1.67	44615K158	1.87	44615K484	1.87	44615K174	3.37
3/4	44615K465	1.73	44615K145	2.18	44615K475	2.18	44615K159	2.46	44615K485	2.46	44615K175	4.12
1	44615K466	2.41	44615K146	2.85	44615K476	2.85	44615K161	3.34	44615K486	3.34	44615K176	5.44
1 1/4	44615K467	2.98	44615K147	3.60	44615K477	3.60	44615K162	4.27	44615K487	4.27	44615K177	6.90
1 1/2	44615K468	3.56	44615K148	4.32	44615K478	4.32	44615K163	4.99	44615K488	4.99	44615K178	7.88
2	44615K469	4.95	44615K149	5.73	44615K479	5.73	44615K164	6.67	44615K489	6.67	44615K179	11.25
2 1/2	44615K113	13.55	44615K151	14.83	44615K114	14.83	44615K165	15.48	44615K115	15.48	44615K181	19.73
3	44615K123	17.16	44615K152	18.92	44615K124	18.92	44615K166	20.57	44615K125	20.57	44615K182	27.73
4	44615K132	23.23	44615K154	26.50	44615K133	26.50	44615K168	28.35	44615K134	28.35	44615K183	32.73
6	44615K139	57.14	44615K326	63.98	44615K189	63.98	44615K169	70.96	44615K188	70.96	44615K184	85.51

Pipe Size	7" Lengths		8" Lengths		9" Lengths		10" Lengths		11" Lengths		12" Lengths	
1/8	44615K191	$4.78	44615K521	$4.78	44615K311	$5.46	44615K531	$5.46	44615K331	$5.60	44615K541	$5.60
1/4	44615K192	5.03	44615K522	5.03	44615K312	5.94	44615K532	5.94	44615K332	6.55	44615K542	6.55
3/8	44615K193	5.74	44615K523	5.74	44615K313	6.44	44615K533	6.44	44615K333	7.30	44615K543	7.30
1/2	44615K194	3.37	44615K524	3.37	44615K314	4.03	44615K534	4.03	44615K334	4.79	44615K544	4.79
3/4	44615K195	4.12	44615K525	4.12	44615K315	4.76	44615K535	4.76	44615K335	5.28	44615K545	5.28
1	44615K196	5.44	44615K526	5.44	44615K316	6.40	44615K536	6.40	44615K336	7.38	44615K546	7.38
1 1/4	44615K197	6.90	44615K527	6.90	44615K317	8.28	44615K537	8.28	44615K337	9.37	44615K547	9.37
1 1/2	44615K198	7.88	44615K528	7.88	44615K318	9.25	44615K538	9.25	44615K338	10.65	44615K548	10.65
2	44615K199	11.25	44615K529	11.25	44615K319	13.22	44615K539	13.22	44615K339	15.23	44615K549	15.23
2 1/2	44615K211	19.73	44615K116	19.73	44615K321	21.73	44615K117	21.73	44615K341	24.62	44615K118	24.62
3	44615K212	27.73	44615K126	27.73	44615K322	31.15	44615K127	31.15	44615K342	34.55	44615K128	34.55
4	44615K213	32.73	44615K135	32.73	44615K323	35.48	44615K136	35.48	44615K343	38.82	44615K137	38.83
6	44615K214	85.51	44615K185	85.51	44615K324	99.07	44615K186	99.07	44615K344	116.61	44615K187	116.61

To Order: Please specify length.

Pipe Size		14" Lengths	16" Lengths	18" Lengths	20" Lengths	22" Lengths	24" Lengths	36" Lengths	48" Lengths	60" Lengths	72" Lengths	126" Lengths
1/8	4457K441	$5.74	$6.55	$7.05	$8.20	$8.64	$9.54	$11.67	$15.26	$17.78	$18.27	$43.91
1/4	4457K442	6.64	7.57	8.26	8.88	9.41	10.22	14.30	16.85	22.12	25.55	51.64
3/8	4457K443	7.37	8.06	8.98	10.10	11.10	12.48	15.91	18.76	22.31	28.75	51.83
1/2	4457K444	5.27	6.05	6.70	7.57	7.97	8.80	12.13	15.90	18.43	22.66	36.56
3/4	4457K445	6.24	7.12	8.31	8.88	9.41	10.64	14.72	19.60	24.03	27.63	43.37
1	4457K446	8.40	9.58	10.71	12.00	12.62	14.00	19.46	25.39	31.99	34.00	60.19
1 1/4	4457K447	11.06	12.62	13.60	15.77	16.67	18.34	28.35	33.81	37.86	45.17	79.34
1 1/2	4457K448	12.35	14.12	15.56	17.67	18.62	20.98	29.84	37.02	45.30	53.36	87.17
2	4457K449	18.25	20.89	24.06	26.12	26.58	28.68	38.85	50.76	62.77	79.19	113.17
2 1/2	4457K451	28.25	32.26	33.26	38.79	42.67	45.84	66.49	85.21	99.71	108.76	171.07
3	4457K452	36.25	41.41	46.62	50.87	53.11	55.96	93.26	101.77	127.20	152.65	220.10
4	4457K453	42.02	48.02	51.09	56.74	62.31	68.14	102.21	123.88	154.87	185.83	318.25
6	4457K454	141.28	161.42	180.16	192.18	204.90	220.20	330.30	451.69	564.64	667.32	747.47

Black Steel Pipe Nipples, Pipe & Flanges

For technical drawings and 3-D models, go to mcmaster.com. CAD

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Standard-Wall Black Steel Threaded-On-One-End Pipe Nipples and Pipe



- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 125 low-pressure black iron (see page 51) or threaded Class 150 low-pressure black iron and steel (see pages 52-54)
- Flanges: Use threaded low-pressure black iron and steel (see below)

Turn to these nipples and pipe when you need a threaded connection on one end and an unthreaded connection on the other. Also known as Schedule 40, they are made of black steel, which is the most common material for low-pressure plumbing applications. All have welded construction, so there's a weld bead on the inside. They meet ASTM A53 and A733, as well as ANSI/ASME B1.20.1.

Connections: NPT on one end, unthreaded on the other end.

Pipe Size	1 1/2" Lengths		2" Lengths		3" Lengths		4" Lengths	
1/8	7753K111	$1.72	7753K121	$1.72	7753K131	$1.99	7753K141	$2.35
1/4	7753K112	1.82	7753K122	1.82	7753K132	2.35	7753K142	2.69
3/8	7753K113	1.92	7753K123	1.92	7753K133	2.52	7753K143	2.97
1/2	7753K114	1.57	7753K124	1.57	7753K134	1.82	7753K144	2.21
3/4	7753K115	1.82	7753K125	1.82	7753K135	2.17	7753K145	2.52
1	7753K116	2.52	7753K126	2.80	7753K136	2.97	7753K146	3.71
1 1/2	———	———	7753K128	4.30	7753K138	4.83	7753K148	5.42
2	———	———	7753K129	5.60	7753K139	6.34	7753K149	7.59

Pipe Size	6" Lengths		12" Lengths		36" Lengths		60" Lengths	
1/8	7753K151	$5.14	7753K161	$8.22	7750K24	$13.39	7750K27	$20.47
1/4	7753K152	4.83	7753K162	9.73	7750K25	16.45	7750K28	25.44
3/8	7753K153	4.83	7753K163	10.39	7750K26	18.32	7750K29	25.68
1/2	7753K154	2.90	7753K164	8.83	7750K391	14.90	7750K431	22.94
3/4	7753K155	3.75	7753K165	9.77	7750K392	18.28	7750K432	29.93
1	7753K156	5.21	7753K166	13.51	7750K393	24.28	7750K433	39.82
1 1/2	7753K158	7.63	7753K168	19.68	7750K395	37.61	7750K435	62.67
2	7753K159	10.29	7753K169	28.04	7750K396	48.77	7750K436	81.28
2 1/2	7753K171	16.05	7750K317	27.59	7750K397	82.78	7750K437	137.95
3	7753K172	21.33	7750K318	38.71	7750K398	116.14	7750K438	193.57
4	7753K173	29.42	7750K319	47.14	7750K399	141.37	7750K439	235.61

Low-Pressure Black Iron and Steel Threaded Flanges

- Use with air, water, oil, natural gas, steam
- Maximum Pressure:
  Steel: 150 psi @ 72° F; 150 psi @ 350° F for steam
  Iron: 125 psi @ 72° F; 125 psi @ 350° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall black steel (see page 55 and above)
- Fittings: Use threaded Class 125 low-pressure black iron (see page 51) or threaded Class 150 low-pressure black iron and steel (see pages 52-54)

A flange connection allows easy access to your pipe. Bolt two same-size flanges together with a gasket (not included). For an installation set that includes a gasket and bolts, see page 3534. For gaskets, see pages 3529-3534; for bolts, see pages 3150-3153.

Steel flanges are forged for extra strength. Also called raised-face flanges, they have a raised surface on the back. Meet MSS SP-25, ASTM A105, and ANSI/ASME B16.5.

Iron flanges are brittle, so they can be quickly opened in a fire emergency with the strike of a sledge hammer. Also known as flat-face flanges, these have a flat surface on the back. They're FM approved and meet ASTM A126, as well as ANSI/ASME B16.1 and B1.20.1. They are also UL listed, except the flange in 3/4 pipe size.

Connections: NPT.

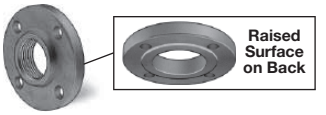

Pipe Size	Flange OD	Bolts Required Qty.	Bolts Required Dia.		
Steel					
1/2	3 1/2"	4	1/2"	68095K226	$16.88
3/4	3 7/8"	4	1/2"	68095K121	19.56
1	4 1/4"	4	1/2"	68095K122	19.52
1 1/4	4 5/8"	4	1/2"	68095K123	23.12
1 1/2	5"	4	1/2"	68095K124	24.31
2	6"	4	5/8"	68095K125	22.88
2 1/2	7"	4	5/8"	68095K126	32.42
3	7 1/2"	4	5/8"	68095K127	33.57
4	9"	8	5/8"	68095K128	46.55
5	10"	8	3/4"	68095K222	68.18
6	11"	8	3/4"	68095K129	64.09
8	13 1/2"	8	3/4"	68095K223	121.61

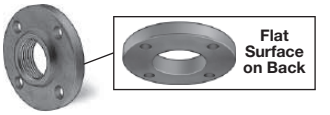

Pipe Size	Flange OD	Bolts Required Qty.	Bolts Required Dia.		
Iron					
3/4	3 7/8"	4	1/2"	68185K111	$36.41
1	4 1/4"	4	1/2"	68185K112	27.82
1 1/4	4 5/8"	4	1/2"	68185K113	33.30
1 1/2	5"	4	1/2"	68185K114	30.77
2	6"	4	5/8"	68185K115	30.71
2 1/2	7"	4	5/8"	68185K116	35.91
3	7 1/2"	4	5/8"	68185K117	46.28
4	9"	8	5/8"	68185K118	62.35
5	10"	8	3/4"	68185K131	88.08
6	11"	8	3/4"	68185K132	99.66
8	13 1/2"	8	3/4"	68185K133	138.80

Pipe Nipples and Couplings with Right-Hand and Left-Hand Threads

- Use with air, water, oil, natural gas, steam

Threads run clockwise (right hand) on one end and counterclockwise (left hand) on the other. When you use your wrench to turn, connections on both ends draw in at the same time.

Pipe nipples are also known as right/left pipe nipples and Schedule 40 pipe nipples. They're made of steel and have welded construction, so there's a weld bead on the inside. Meet ASTM A53 and A733, as well as ANSI/ASME B1.20.1.

Couplings are malleable iron. Meet ASTM A197, as well as ANSI/ASME B16.3 and B1.20.1.

Connections: NPT.

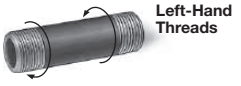

PIPE NIPPLES

Pipe Size	4" Lengths		6" Lengths	
1/8	7748K161	$7.03	7748K201	$15.27
1/4	7748K162	8.07	7748K202	14.49
3/8	7748K163	8.90	7748K203	14.40
1/2	7748K164	6.31	7748K204	8.22
3/4	7748K165	7.29	7748K205	10.76
1	7748K166	10.53	7748K206	14.79
1 1/2	7748K168	15.66	7748K208	19.69
2	7748K169	21.69	7748K209	29.41



COUPLINGS

Pipe Size		
1/2	5498T11	$6.37
3/4	5498T12	7.15
1	5498T13	10.60
1 1/2	5498T14	17.16
2	5498T15	22.96

BSPT Iron Pipe Fittings & Steel Pipe

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

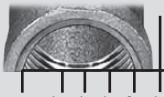

Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8″):	0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″	1 5/8″	1 3/4″	2 3/8″	2 3/4″	3 3/8″

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

British Standard Threaded Low-Pressure Iron Pipe Fittings

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 150 psi @ 72° F; 150 psi @ 366° F for steam
- Pipe Nipples: Use British standard threaded Schedule 40 steel (see below)

Also known as Class 150, these malleable iron fittings have BSPT threads for connecting to BSPT pipe. They come in your choice of black iron, which is the most popular material for low-pressure plumbing applications, and galvanized iron for increased corrosion resistance. They meet ASTM A197 and EN 10226.

Unions have a brass seal, which is also called a seat, that conforms to uneven surfaces. ***Square-head plugs*** are hollow. ***BSPT×NPT adapters*** allow you to connect BSPT threads to NPT threads. The end with BSPT threads meets ASME BS21 and is marked with paint. The end with NPT threads meets ANSI/ASME B1.20.1.

Connections: BSPT (British Standard Pipe Taper); adapters also have NPT threads on one end.

Pipe Size	90° Elbows		45° Elbows		Tees		Unions		Couplings		Caps	
Black Iron												
1/4	4778K102	$3.00	4778K112	$3.29	4778K122	$3.74	4778K162	$12.27	4778K132	$2.25	4778K142	$2.08
3/8	4778K103	3.00	4778K113	3.29	4778K123	3.74	4778K163	12.27	4778K133	2.25	4778K143	2.08
1/2	4778K104	3.20	4778K114	3.20	4778K124	3.44	4778K164	12.27	4778K134	2.20	4778K144	2.08
3/4	4778K105	3.89	4778K115	4.04	4778K125	4.94	4778K165	15.74	4778K135	2.70	4778K145	2.55
1	4778K106	5.99	4778K116	5.99	4778K126	7.79	4778K166	18.40	4778K136	4.49	4778K146	3.59
1 1/4	4778K107	8.99	4778K117	9.74	4778K127	11.68	4778K167	20.44	4778K137	6.44	4778K147	5.24
1 1/2	4778K108	11.98	4778K118	11.98	4778K128	14.98	4778K168	27.26	4778K138	7.79	4778K148	6.89
2	4778K109	18.04	4778K119	17.97	4778K129	18.72	4778K169	40.89	4778K139	12.13	4778K149	9.59
2 1/2	4778K11	22.47	4778K12	26.74	4778K13	34.23	4778K17	58.41	4778K14	16.05	4778K15	14.63
Galvanized Iron												
1/4	4888K102	3.15	4888K112	3.45	4888K122	3.92	4888K162	12.85	4888K132	2.35	4888K142	2.20
3/8	4888K103	3.14	4888K113	3.45	4888K123	3.80	4888K163	12.85	4888K133	2.35	4888K143	2.20
1/2	4888K104	3.40	4888K114	3.43	4888K124	3.88	4888K164	13.60	4888K134	2.32	4888K144	2.20
3/4	4888K105	4.16	4888K115	4.24	4888K125	5.18	4888K165	16.42	4888K135	2.88	4888K145	2.72
1	4888K106	6.28	4888K116	6.28	4888K126	8.16	4888K166	19.35	4888K136	4.71	4888K146	3.77
1 1/2	4888K108	12.55	4888K118	12.55	4888K128	15.75	4888K168	28.56	4888K138	8.16	4888K148	7.25
2	4888K109	18.83	4888K119	18.83	4888K129	19.61	4888K169	42.84	4888K139	12.71	4888K149	10.04

Pipe Size	Square-Head Plugs		BSPT×NPT Adapters	
Black Iron				
1/4	4778K152	$1.80	_____	____
3/8	4778K153	1.80	_____	____
1/2	4778K154	1.80	4778K194	$19.93
3/4	4778K155	2.25	4778K195	22.80
1	4778K156	3.00	4778K196	21.06
1 1/4	4778K157	4.49	4778K197	27.17
1 1/2	4778K158	5.24	4778K198	30.11
2	4778K159	7.49	4778K199	34.50
2 1/2	4778K16	10.70	_____	____
Galvanized Iron				
1/4	4888K152	1.88	_____	____
3/8	4888K153	1.84	_____	____
1/2	4888K154	1.92	4888K194	20.13
3/4	4888K155	2.40	4888K195	20.90
1	4888K156	3.14	4888K196	23.16
1 1/2	4888K158	5.49	4888K198	32.89
2	4888K159	7.85	4888K199	38.96

Reducing Couplings

Pipe Size (A)	(B)		
Black Iron			
1/4	1/8	4778K192	$2.33
3/8	1/4	4778K223	2.33
3/4	1/2	4778K221	3.27
1	1/2	4778K224	4.36
1	3/4	4778K227	4.36
1 1/4	1/2	4778K232	6.16
1 1/4	3/4	4778K234	6.41
1 1/4	1	4778K236	6.67
1 1/2	1/2	4778K239	7.34
1 1/2	3/4	4778K241	7.48
1 1/2	1	4778K243	7.63
1 1/2	1 1/4	4778K245	7.79
2	1/2	4778K248	11.14
2	3/4	4778K252	11.36
2	1	4778K254	11.58
2	1 1/4	4778K255	11.82
2	1 1/2	4778K256	12.07

Pipe Size (A)	(B)		
Galvanized Iron			
1/4	1/8	4888K192	$2.72
3/8	1/4	4888K223	2.72
3/4	1/2	4888K221	3.44
1	1/2	4888K224	4.59
1	3/4	4888K227	4.66
1 1/2	1/2	4888K239	7.69
1 1/2	3/4	4888K241	7.84
1 1/2	1	4888K243	8.00
1 1/2	1 1/4	4888K245	8.16
2	1/2	4888K248	11.67
2	3/4	4888K252	11.90
2	1	4888K254	12.14
2	1 1/4	4888K255	12.38
2	1 1/2	4888K256	12.64

British Standard Threaded Steel Pipe Nipples

- Use with air, water, oil, natural gas, steam
- Fittings: Use British standard threaded Class 150 low-pressure iron (see above)

BSPT threads on both ends allow quick connections to BSPT fittings. Also called Schedule 40, these nipples are black steel. They have welded construction, so there's a weld bead on the inside, except the fully threaded nipples in 2″ pipe size, which are seamless. Meet ASTM A53 and A733, as well as EN 10226.

Fully threaded nipples are also called close nipples.

Connections: BSPT (British Standard Pipe Taper).

Also Available: Galvanized steel nipples, which offer increased corrosion resistance over black steel. Please ask for 4859K1 and specify nipple style (fully threaded or threaded on both ends), pipe size, and length from the choices below.

Fully Threaded



Threaded on Both Ends



FULLY THREADED

Pipe Size	Lg.		
1/2	1 1/8″	4788K414	$3.87
3/4	1 3/8″	4788K415	4.47
1	1 1/2″	4788K416	6.48
1 1/4	1 5/8″	4788K417	8.34
1 1/2	1 3/4″	4788K418	8.04
2	2″	4788K419	13.98

THREADED ON BOTH ENDS

Pipe Size	1 1/2″ Lengths		2″ Lengths		3″ Lengths		4″ Lengths		6″ Lengths	
1/2	4788K424	$3.87	4788K434	$3.87	4788K454	$4.62	4788K464	$5.61	4788K484	$7.32
3/4	4788K425	4.62	4788K435	4.62	4788K455	5.43	4788K465	6.48	4788K485	9.60
1	_____	____	4788K436	7.14	4788K456	7.59	4788K466	9.45	4788K486	13.14
1 1/4	_____	____	4788K437	9.00	4788K457	9.60	4788K467	10.17	4788K487	16.77
1 1/2	_____	____	4788K438	9.90	4788K458	11.13	4788K468	13.98	4788K488	19.44
2	_____	____	_____	____	4788K459	16.08	4788K469	19.32	4788K489	26.16

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Galvanized Iron and Steel Threaded Pipe Fittings CAD

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 150 psi @ 72° F; 150 psi @ 350° F for steam, except locknuts
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall galvanized steel (see page 61)
- Flanges: Use threaded low-pressure galvanized steel (see page 62)

Galvanizing provides the extra rust and corrosion resistance you need. Also known as Class 150, these fittings are malleable iron or steel and can be used interchangeably with low-pressure zinc-plated iron.

Connections: NPT compatible or NPT. The fittings with NPT-compatible threads are fully threaded couplings in pipe sizes 1/8-2, which have NPSC (National Pipe Straight Coupling) threads, and locknuts, which have NPSL (National Pipe Straight Locknut) threads.

Elbows, Wyes, Tees, Crosses, Unions, Couplings, and Adapters

UL listed (unless noted) and meet ASTM A197 and ANSI/ASME B1.20.1. They also meet ANSI/ASME B16.3 or B16.39, except adapters. The ***90° female×male elbows*** are also known as street elbows. ***180° bends*** are also called U-bends. ***Unions*** have a brass or copper seal, which is also called a seat, that conforms to uneven surfaces. ***Couplings*** are threaded on each end with an unthreaded space in the middle.








Pipe Size	90° Elbows		90° Elbows, Female×Male		45° Elbows		45° Elbows, Female×Male		180° Bends		Wyes	
1/8	4638K139	$4.09	4638K229	$5.34	4638K239	$6.01	4638K142	$7.78				
1/4	4638K131	3.73	4638K221	5.17	4638K231	5.09	4638K143	7.18				
3/8	4638K132	3.73	4638K222	5.17	4638K232	5.69	4638K144	7.67			4638K321	$11.71
1/2	4638K133	2.40	4638K223	5.28	4638K233	3.80	4638K145	5.81			4638K322	10.51
3/4	4638K134	2.95	4638K224	5.28	4638K234	5.46	4638K146	9.21	4638K299	$27.07	4638K323	16.45
1	4638K135	5.46	4638K225	7.06	4638K235	6.17	4638K147	11.81	4638K385	27.31	4638K324	23.51
1 1/4	4638K136	8.64	4638K226	11.86	4638K236	11.53	4638K148	17.72			4638K325	37.65
1 1/2	4638K137	11.27	4638K227	14.89	4638K237	13.54	4638K149	21.46	4638K556	82.64	4638K326	52.93
2	4638K138	18.47	4638K228	25.10	4638K238	20.04	4638K157	35.34	4638K557	85.79	4638K327	85.14
2 1/2	4638K151	48.32	4638K241	72.60	4638K244	69.72					4638K328	218.47
3	4638K152	79.67	4638K242	105.66	4638K245	101.40					4638K329	340.65
4	4638K153	139.93	4638K243	206.63	4638K246	169.99					4638K331	534.51
6	4638K396	466.18			4638K397	637.13						








Pipe Size	Tees		Tees, Female×Female×Male		Crosses		Unions		Couplings		Adapters, Female×Male	
1/8	4638K129	$5.78			4638K429	$17.83	4638K402★	$17.36				
1/4	4638K121	4.87	4638K366	$13.75	4638K421	20.32	4638K731	18.13	4638K112	$4.46		
3/8	4638K122	4.87	4638K367	15.38	4638K422	18.46	4638K732	12.13	4638K113	4.61		
1/2	4638K123	3.11	4638K368	14.56	4638K423	12.81	4638K733	11.07	4638K114	3.52	4638K389	$11.09
3/4	4638K124	5.13	4638K369	13.95	4638K424	15.61	4638K734	12.72	4638K115	4.06	4638K386	16.58
1	4638K125	8.29	4638K371	17.66	4638K425	21.54	4638K735	16.66	4638K116	6.65	4638K387	20.79
1 1/4	4638K126	13.17	4638K372	29.44	4638K426	32.38	4638K736	24.08	4638K117	9.38	4638K712★	17.54
1 1/2	4638K127	16.37	4638K373	44.88	4638K427	37.88	4638K737	29.18	4638K118	10.65		
2	4638K128	26.60	4638K374	85.94	4638K428	71.75	4638K738	33.54	4638K119	15.57		
2 1/2	4638K154	74.90			4638K435	191.84	4638K741★	116.52	4638K171	47.68		
3	4638K155	87.83			4638K436	211.99	4638K742★	163.08	4638K172	63.72		
4	4638K156	207.78			4638K437	435.02	4638K219★	295.31	4638K173	135.34		
6	4638K398	569.85										

★ Not UL listed.

Caps and Fully Threaded Couplings

Caps in pipe sizes 1-6 are UL listed and meet ASTM A153, as well as ANSI/ASME B16.3 and B1.20.1. ***Fully threaded couplings*** are also known as merchant couplings; they meet ASTM A53, A865, and B633.


Pipe Sizes 1/8-3/4


Pipe Sizes 1-6



Caps

Pipe Size			Pipe Size		
1/8	4638K251	$0.66	1 1/2	4638K779	$7.71
1/4	4638K252	.77	2	4638K781	10.79
3/8	4638K253	1.19	2 1/2	4638K782	31.35
1/2	4638K254	1.94	3	4638K262	37.99
3/4	4638K296	3.25	4	4638K263	83.94
1	4638K777	4.57	6	4638K497	258.74
1 1/4	4638K778	6.01			

Fully Threaded Couplings

Pipe Size			Pipe Size		
1/8	46685K461	$1.98	1 1/4	46685K467	$7.86
1/4	46685K462	2.58	1 1/2	46685K468	9.75
3/8	46685K463	3.30	2	46685K469	14.60
1/2	46685K464	3.50	2 1/2	46685K471	36.76
3/4	46685K465	4.39	3	46685K472	48.79
1	46685K466	6.14	4	46685K473	86.00

(Continued on following page)

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8″):	0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″	1 5/8″	1 3/4″	2 3/8″	2 3/4″	3 3/8″

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Galvanized Iron and Steel Threaded Pipe Fittings

(Continued from previous page)

Locknuts, Plugs, and Bushings

Locknuts are not rated for pressure; they meet ANSI/ASME B16.14. ***Square-head***, ***square-socket***, and ***hex-socket plugs*** are solid and meet SAE J531. ***Reducing bushings*** are also known as face bushings; they meet ANSI/ASME B16.14.









Pipe Size	Locknuts		Square-Head Plugs		Square-Socket Plugs		Hex-Socket Plugs (Hex Key Size)	
1/8			4638K821	$0.16	4638K714	$0.18	3/16″	4638K511 $0.14
1/4	4638K612	$2.92	4638K822	.24	4638K715	.21	1/4″	4638K512 .20
3/8	4638K613	3.73	4638K823	.40	4638K716	.27	5/16″	4638K513 .24
1/2	4638K614	3.02	4638K824	.67	4638K717	.43	3/8″	4638K514 .44
3/4	4638K615	3.54	4638K825	1.02	4638K718	.68	9/16″	4638K515 .80
1	4638K616	6.43	4638K834	4.60	4638K719	2.16	5/8″	4638K516 1.85
1 1/4	4638K617	6.17	4638K835	13.20	4638K721	6.78	3/4″	4638K517 3.88
1 1/2	4638K618	8.01	4638K836	15.20	4638K722	13.10	1″	4638K518 8.72
2	4638K619	14.11	4638K837	24.80	4638K723	21.96	1″	4638K519 13.20



Hex Reducing Bushings, Male×Female

Pipe Size (A)	(B)			Pipe Size (A)	(B)		
1/4	1/8	4638K651	$0.79	1	1/2	4638K548	$7.35
3/8	1/8	4638K653	.90	1	3/4	4638K549	6.83
3/8	1/4	4638K652	.93	1 1/4	1/2	4638K724	4.60
1/2	1/8	4638K636	1.44	1 1/4	3/4	4638K725	4.71
1/2	1/4	4638K635	1.47	1 1/4	1	4638K335	7.36
1/2	3/8	4638K654	1.49	1 1/2	3/4	4638K726	7.59
3/4	1/8	4638K541	7.15	1 1/2	1	4638K727	7.74
3/4	1/4	4638K542	6.95	1 1/2	1 1/4	4638K337	8.87
3/4	3/8	4638K543	7.76	2	1	4638K728	11.43
3/4	1/2	4638K544	5.94	2	1 1/4	4638K729	11.54
1	1/8	4638K545	9.55	2	1 1/2	4638K743	11.66
1	1/4	4638K546	8.11	2 1/2	2	4638K552	21.43
1	3/8	4638K547	8.15	4	3 1/2	4638K554	60.13



Reducing Bushings, Male×Female

Pipe Size (A)	(B)		
1/4	1/8	4638K351	$0.73
3/8	1/8	4638K353	.86
3/8	1/4	4638K352	.90
1/2	1/8	4638K356	1.28
1/2	1/4	4638K355	1.33
1/2	3/8	4638K354	1.39
3/4	1/8	4638K361	1.88
3/4	1/4	4638K359	1.92
3/4	3/8	4638K358	1.96
3/4	1/2	4638K357	2.00
1	1/4	4638K365	3.15
1	3/8	4638K364	3.22
1	1/2	4638K363	3.28
1	3/4	4638K362	3.35

Reducing Tees

All are UL listed and meet ASTM A153, as well as ANSI/ASME B16.3 and B1.20.1.

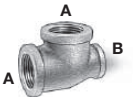

Right-Angle Reducing Tees

Pipe Size (A)	(B)			Pipe Size (A)	(B)		
3/8	1/2	4638K523	$10.62	1	1 1/2	4638K528	$24.70
1/2	1/4	4638K522	8.85	1	2	4638K713	33.74
1/2	3/8	4638K176	9.41	1 1/4	1/2	4638K757	19.70
1/2	3/4	4638K211	12.19	1 1/4	3/4	4638K755	18.47
1/2	1	4638K184	12.52	1 1/4	1 1/2	4638K761	34.23
3/4	1/2	4638K189	8.14	1 1/2	3/4	4638K529	24.70
3/4	1	4638K182	12.07	1 1/2	1	4638K531	24.70
3/4	1 1/4	4638K756	21.43	1 1/2	1 1/4	4638K759	34.23
3/4	1 1/2	4638K527	36.05	1 1/2	2	4638K764	34.25
1	1/4	4638K526	16.21	2	1	4638K532	34.91
1	1/2	4638K183	12.52	2	1 1/4	4638K765	40.32
1	3/4	4638K181	12.52	2	1 1/2	4638K281	34.91
1	1 1/4	4638K753	18.86	2	3	4638K537	128.39

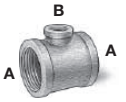

Inline Reducing Tees

Pipe Size (A)	(B)			Pipe Size (A)	(B)		
3/8	1/2	4638K521	$9.22	1 1/2	1	4638K185	$19.20
1/2	1/4	4638K175	5.97	1 1/2	1 1/4	4638K275	24.04
1/2	3/8	4638K174	7.23	2	1/2	4638K276	31.23
1/2	3/4	4638K187	8.53	2	3/4	4638K277	28.03
1/2	1	4638K752	14.33	2	1	4638K278	27.50
3/4	1/4	4638K178	7.62	2	1 1/4	4638K763	33.00
3/4	3/8	4638K188	7.67	2	1 1/2	4638K186	33.00
3/4	1/2	4638K265	7.14	2 1/2	3/4	4638K771	102.70
3/4	1	4638K177	12.28	2 1/2	1	4638K769	98.99
1	1/4	4638K751	13.94	2 1/2	1 1/4	4638K768	102.70
1	3/8	4638K212	12.78	2 1/2	1 1/2	4638K767	103.30
1	1/2	4638K213	10.02	2 1/2	2	4638K766	92.77
1	3/4	4638K179	10.02	3	3/4	4638K774	169.36
1	1 1/4	4638K758	20.25	3	1	4638K534	121.40
1 1/4	1/2	4638K266	16.42	3	1 1/4	4638K773	128.39
1 1/4	3/4	4638K271	15.54	3	1 1/2	4638K772	125.94
1 1/4	1	4638K272	15.54	3	2	4638K535	121.40
1 1/2	1/2	4638K273	20.29	3	2 1/2	4638K536	139.91
1 1/2	3/4	4638K274	19.20	4	3	4638K775	307.12

Dual Reducing Tees

Pipe Size (A)	(B)	(C)		
1	1/2	3/4	4638K264	$12.52
1 1/4	3/4	1	4638K754	19.70
1 1/2	3/4	1 1/4	4638K762	24.70
2	1	1 1/2	4638K279	32.97

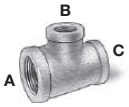

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How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Galvanized Iron and Steel Threaded Pipe Fittings CAD

(Continued from previous page)

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 150 psi @ 72° F; 150 psi @ 350° F for steam, except locknuts
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall galvanized steel (see page 61)
- Flanges: Use threaded low-pressure galvanized steel (see page 62)

Galvanizing provides the extra rust and corrosion resistance you need. Also known as Class 150, these fittings are malleable iron or steel and can be used interchangeably with low-pressure zinc-plated iron.

Connections: NPT for all of the fittings listed below.

Reducing Elbows and Couplings

All are UL listed and meet ASTM A153, as well as ANSI/ASME B16.3 and B1.20.1. The ***90° female×male elbows*** are also known as street elbows.



90° Reducing Elbows

Pipe Size (A)	(B)		
1/4	1/8	4638K191	$6.59
3/8	1/8	4638K391	14.22
3/8	1/4	4638K192	5.97
1/2	1/4	4638K193	5.17
1/2	3/8	4638K194	4.42
3/4	1/4	4638K392	11.72
3/4	3/8	4638K282	7.08
3/4	1/2	4638K195	5.13
1	3/8	4638K283	12.40
1	1/2	4638K197	6.99
1	3/4	4638K196	$6.58
1 1/4	1/2	4638K284	14.06
1 1/4	3/4	4638K199	13.27
1 1/4	1	4638K198	11.04
1 1/2	1/2	4638K285	18.74
1 1/2	3/4	4638K286	17.65
1 1/2	1	4638K312	17.83
1 1/2	1 1/4	4638K311	18.01
2	1/2	4638K287	24.25
2	3/4	4638K288	$25.02
2	1	4638K289	24.53
2	1 1/4	4638K291	23.64
2	1 1/2	4638K295	25.34
2 1/2	1 1/2	4638K292	77.87
2 1/2	2	4638K293	69.89
3	2	4638K294	110.33
3	2 1/2	4638K393	127.03
4	3	4638K394	261.33

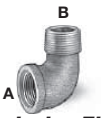

90° Reducing Elbows, Female×Male

Pipe Size (A)	(B)		
1/2	3/8	4638K341	$8.56
3/4	1/2	4638K342	11.10
1	3/4	4638K343	13.54
1 1/4	3/4	4638K345	27.52
1 1/4	1	4638K344	19.37
1 1/2	1	4638K346	23.16
1 1/2	1 1/4	4638K347	24.23
2	1 1/2	4638K348	41.17



Reducing Couplings

Pipe Size (A)	(B)		
1/4	1/8	4638K451	$4.57
3/8	1/8	4638K431	7.50
3/8	1/4	4638K452	4.57
1/2	1/8	4638K432	5.41
1/2	1/4	4638K454	4.10
1/2	3/8	4638K453	4.27
3/4	1/8	4638K433	5.94
3/4	1/4	4638K457	5.19
3/4	3/8	4638K456	5.19
3/4	1/2	4638K455	4.56
1	1/4	4638K434	10.80
1	3/8	4638K461	$9.88
1	1/2	4638K459	7.61
1	3/4	4638K458	7.06
1 1/4	1/2	4638K464	12.63
1 1/4	3/4	4638K463	9.84
1 1/4	1	4638K462	9.65
1 1/2	1/2	4638K468	14.89
1 1/2	3/4	4638K467	12.69
1 1/2	1	4638K466	12.69
1 1/2	1 1/4	4638K465	11.98
2	1/2	4638K474	$21.49
2	3/4	4638K485	20.73
2	1	4638K472	17.30
2	1 1/4	4638K471	18.30
2	1 1/2	4638K469	17.30
2 1/2	1	4638K441	69.80
2 1/2	1 1/4	4638K442	81.94
2 1/2	1 1/2	4638K443	63.80
2 1/2	2	4638K214	48.28
3	1	4638K445	84.78
3	1 1/4	4638K446	$84.78
3	1 1/2	4638K447	80.20
3	2	4638K215	60.64
3	2 1/2	4638K216	61.92
4	1 1/2	4638K492	210.70
4	2	4638K217	138.82
4	2 1/2	4638K494	162.51
4	3	4638K218	138.82
4	3 1/2	4638K496	213.06
6	4	4638K776	380.83

Low-Pressure Zinc-Plated Iron Threaded Pipe Fittings CAD

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 125 psi @ 72° F; 125 psi @ 353° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall galvanized steel (see page 61)
- Flanges: Use threaded low-pressure galvanized steel (see page 62)

Zinc plating on these cast iron fittings provides better rust and corrosion resistance than you'll get with black iron and steel. Also called Class 125 fittings, they can be used interchangeably with galvanized iron and steel. They're UL listed and meet ASTM A126 and ANSI/ASME B1.20.1; they also meet ANSI/ASME B16.4 or B16.14.

Square-head plugs are hollow; ***square-socket plugs*** are solid.

Connections: NPT.







Pipe Size	Caps		Square-Head Plugs		Square-Socket Plugs	
3/4	4638K255	$3.22	4638K923	$2.48	4638K332	$2.28
1	4638K256	4.83	4638K926	2.68	4638K333	2.88
1 1/4	4638K257	6.85	4638K927	3.64	4638K334	4.36
1 1/2	4638K258	8.05	4638K928	4.84	4638K338	5.60
2	4638K259	12.88	4638K929	7.24	4638K336	9.88
2 1/2	4638K261	21.85	4638K931	12.44	4638K267	20.72
3	———	———	4638K932	15.32	4638K268	29.44
4	———	———	4638K933	29.44	4638K269	49.00



Hex Reducing Bushings, Male×Female

Pipe Size (A)	(B)		
1	1/4	4638K665	$3.54
1	3/8	4638K664	3.61
1	1/2	4638K663	3.68
1	3/4	4638K662	4.40
1 1/4	3/8	4638K569	4.42
1 1/4	1/2	4638K568	4.51
1 1/4	3/4	4638K567	4.60
1 1/4	1	4638K566	5.72
1 1/2	3/8	4638K575	5.42
1 1/2	1/2	4638K574	5.49
1 1/2	3/4	4638K573	5.64
1 1/2	1	4638K572	$5.76
1 1/2	1 1/4	4638K571	6.44
2	1/2	4638K581	8.42
2	3/4	4638K582	8.59
2	1	4638K578	8.76
2	1 1/4	4638K577	10.82
2	1 1/2	4638K576	11.04
2 1/2	1 1/2	4638K158	16.80
3	2	4638K247	23.41
3	2 1/2	4638K248	23.88
4	3	4638K249	41.36

Galvanized Steel Pipe Nipples & Pipe

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8″):	0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″	1 5/8″	1 3/4″	2 3/8″	2 3/4″	3 3/8″

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Standard-Wall Galvanized Steel Threaded Pipe Nipples and Pipe



Fully Threaded



Threaded on Both Ends

- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 150 low-pressure galvanized iron and steel (see pages 58-60)
- Flanges: Use threaded low-pressure galvanized steel (see page 62)

Galvanized steel pipe nipples and pipe provide very good corrosion resistance in low-pressure plumbing applications. Also known as Schedule 40, all have welded construction, so there's a weld bead on the inside. Meet ASTM A53 and A733, as well as ANSI/ASME B1.20.1.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.

FULLY THREADED

Pipe Size	Lg.		
1/8	3/4″	4549K511	$1.34
1/4	7/8″	4549K931	1.62
3/8	1″	4549K551	1.77
1/2	1 1/8″	4549K571	1.49
3/4	1 3/8″	4549K591	1.84
1	1 1/2″	4549K611	2.55
1 1/4	1 5/8″	4549K631	3.36
1 1/2	1 3/4″	4549K651	4.01
2	2″	4549K671	5.62
2 1/2	2 1/2″	4549K681	16.70
3	2 5/8″	4549K691	19.97
4	2 7/8″	4549K711	29.88
6	3 1/8″	4549K714	156.26

THREADED ON BOTH ENDS

Pipe Size	1 1/2″ Lengths		2″ Lengths		2 1/2″ Lengths		3″ Lengths		3 1/2″ Lengths	
1/8	4549K512	$1.58			4549K514	$2.06	4549K515	$2.35	4549K211	$2.55
1/4	4549K532	1.72	4549K533	$1.97	4549K534	2.29	4549K535	2.53	4549K212	2.56
3/8	4549K552	1.96	4549K553	2.08	4549K554	2.45	4549K555	2.74	4549K213	2.82
1/2	4549K572	1.60	4549K573	1.76	4549K574	1.89	4549K575	2.05	4549K214	2.05
3/4	4549K592	1.96	4549K593	2.12	4549K594	2.28	4549K595	2.38	4549K215	2.50
1			4549K612	3.04	4549K613	3.22	4549K614	3.44	4549K216	3.62
1 1/4			4549K632	3.60	4549K633	3.97	4549K634	4.25	4549K217	4.39
1 1/2			4549K652	4.37	4549K653	4.94	4549K654	5.06	4549K218	5.63
2					4549K672	6.01	4549K873	6.69	4549K219	7.13
2 1/2							4549K883	18.53	4549K221	18.58
3							4549K893	22.72	4549K222	22.96

THREADED ON BOTH ENDS

Pipe Size	4″ Lengths		4 1/2″ Lengths		5″ Lengths		5 1/2″ Lengths		6″ Lengths		6 1/2″ Lengths	
1/8	4549K517	$2.86										
1/4	4549K537	3.06	4549K3	$4.17	4549K539	$4.27	4549K4	$4.62	4549K542	$4.79	4549K722	$7.99
3/8	4549K557	3.29	4549K5	4.52	4549K559	4.67	4549K6	5.03	4549K562	5.19	4549K723	8.10
1/2	4549K577	2.46	4549K7	2.69	4549K579	3.00	4549K8	3.11	4549K582	3.42	4549K724	5.39
3/4	4549K597	2.93	4549K9	3.30	4549K599	3.64	4549K11	3.97	4549K602	4.38	4549K725	6.90
1	4549K616	4.15	4549K12	4.57	4549K618	5.06	4549K13	5.18	4549K621	5.77	4549K726	8.76
1 1/4	4549K636	5.08	4549K14	5.67	4549K638	6.27	4549K15	6.58	4549K641	7.32	4549K727	10.71
1 1/2	4549K656	6.43	4549K16	7.03	4549K658	7.84	4549K17	7.88	4549K661	8.77	4549K728	12.30
2	4549K875	8.19	4549K18	9.45	4549K877	10.47	4549K19	10.98	4549K679	12.22	4549K729	17.95
2 1/2	4549K885	21.52	4549K21	21.54	4549K887	22.87	4549K22	23.74	4549K689	26.33	4549K731	30.72
3	4549K895	26.69	4549K23	29.94	4549K897	31.04	4549K24	31.65	4549K699	32.90	4549K732	42.92
4	4549K905	34.70	4549K25	38.59	4549K907	40.95	4549K26	42.72	4549K709	45.82	4549K733	51.33
6	4549K906	164.43	4549K28	184.09	4549K908	193.78	4549K27	204.00	4549K708	214.74	4549K734	234.17

Pipe Size	7″ Lengths		8″ Lengths		9″ Lengths		10″ Lengths		11″ Lengths		12″ Lengths	
1/4	4549K742	$7.99	4549K544	$8.40	4549K762	$9.29	4549K545	$9.78	4549K782	$10.32	4549K546	$10.87
3/8	4549K743	8.10	4549K564	8.52	4549K763	9.64	4549K565	10.15	4549K783	10.69	4549K566	11.25
1/2	4549K744	5.39	4549K584	5.93	4549K764	6.42	4549K585	7.09	4549K795	7.29	4549K586	8.08
3/4	4549K745	6.90	4549K604	7.62	4549K765	7.65	4549K605	8.43	4549K785	8.60	4549K606	9.50
1	4549K746	8.75	4549K623	9.63	4549K766	9.99	4549K624	11.01	4549K786	11.63	4549K625	12.87
1 1/4	4549K747	10.71	4549K643	11.85	4549K767	12.83	4549K644	14.10	4549K787	15.39	4549K645	16.39
1 1/2	4549K748	12.30	4549K663	13.52	4549K768	14.34	4549K664	15.81	4549K788	16.39	4549K665	18.09
2	4549K749	17.95	4549K682	19.79	4549K769	20.98	4549K683	23.10	4549K789	24.07	4549K784	26.58
2 1/2	4549K751	30.72	4549K692	33.93	4549K771	35.00	4549K693	38.61	4549K791	39.17	4549K794	43.16
3	4549K752	42.92	4549K702	44.22	4549K772	48.98	4549K703	50.43	4549K792	55.03	4549K804	56.71
4	4549K753	51.33	4549K712	56.64	4549K773	59.51	4549K713	65.60	4549K793	67.71	4549K814	69.45
6	4549K754	234.17	4549K716	245.88	4549K774	259.00	4549K715	265.02	4549K796	273.56	4549K815	279.26

To Order: Please specify length.

Pipe Size		14″ Lengths	16″ Lengths	18″ Lengths	20″ Lengths	22″ Lengths	24″ Lengths	36″ Lengths	48″ Lengths	60″ Lengths	72″ Lengths	126″ Lengths
1/4	4499K212	$10.76	$12.31	$14.26	$14.45	$14.91	$17.07	$22.50	$29.57	$35.33	$41.25	$89.32
3/8	4499K213	11.14	12.71	15.16	15.90	16.21	18.40	24.41	32.21	38.68	45.22	92.45
1/2	4499K214	7.62	8.71	11.25	11.51	12.50	14.49	19.71	25.28	31.23	36.80	63.14
3/4	4499K215	8.93	10.21	13.30	13.66	14.84	17.17	24.24	31.62	38.62	46.87	74.90
1	4499K216	12.12	13.86	17.26	17.86	18.13	20.04	26.71	35.32	44.54	53.13	92.93
1 1/4	4499K217	16.05	18.33	22.73	23.62	26.03	30.38	36.21	47.77	59.61	80.56	119.34
1 1/2	4499K218	17.10	19.53	25.75	26.83	29.55	34.43	48.70	64.83	78.92	89.98	135.25
2	4499K219	25.33	28.64	35.08	36.28	39.90	46.45	62.90	78.46	89.63	114.38	187.74
2 1/2	4499K221	40.86	40.13	41.61	58.33	58.59	58.74	84.68	110.70	136.58	162.56	225.28
3	4499K222	53.53	55.08	58.46	76.49	78.47	80.41	122.97	160.89	212.48	230.56	319.67
4	4499K223	65.84	70.56	75.41	94.07	103.51	113.56	156.20	203.06	245.78	263.34	426.56
6	4499K224	239.71	255.39	278.15	298.21	309.05	352.36	426.67	526.22	563.95	610.85	889.06

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Low-Pressure Zinc-Plated Steel Threaded Pipe Fittings with Sealant CAD

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 150 psi @ 72° F; 150 psi @ 366° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall galvanized steel (see page 61)
- Flanges: Use threaded low-pressure galvanized steel (see below)

Save yourself the time and trouble it takes to apply sealant—these fittings come with it already applied to the male threads. Also known as Class 150, they have a zinc-plated finish for extra protection from corrosion.

Plugs are solid and meet SAE J531. ***Hex reducing bushings*** meet ANSI/ASME B16.14.

Connections: NPTF (Dryseal), which are compatible with NPT threads.





Pipe Size	Square-Head Plugs		Square-Socket Plugs		Hex-Socket Plugs Hex Key Size		
1/8	1162T31	$0.28	1162T44	$0.23	3/16"	1162T37	$0.23
1/4	1162T32	.37	1162T45	.31	1/4"	1162T38	.31
3/8	1162T33	.54	1162T46	.35	5/16"	1162T39	.35
1/2	1162T34	.86	1162T47	.53	3/8"	1162T41	.57
3/4	1162T35	1.22	1162T48	.82	9/16"	1162T42	.87
1	1162T36	4.99	1162T49	2.29	5/8"	1162T43	2.49



Hex Reducing Bushings, Male×Female

Pipe Size (A)	Pipe Size (B)		
1/4	1/8	1162T51	$1.16
3/8	1/4	1162T52	1.38
1/2	1/4	1162T53	1.96
1/2	3/8	1162T54	1.96
3/4	1/4	1162T55	2.97
3/4	1/2	1162T56	2.97

Low-Pressure Galvanized Steel Threaded Flanges CAD





Raised Surface on Back

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 150 psi @ 72° F; 150 psi @ 350° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 40 standard-wall galvanized steel (see page 61)
- Fittings: Use threaded Class 150 low-pressure galvanized iron and steel (see pages 58-60)

Galvanized for extra protection from corrosion, these steel flanges are also known as Class 150. Use them to create easy access to your pipe by bolting two same-size flanges together with a gasket (not included). For an installation set that includes a gasket and bolts, see page 3534. For gaskets, see pages 3531-3534; for bolts, see pages 3150-3153. Flanges meet ASTM A105 and A123, as well as ANSI/ASME B16.5.

Connections: NPT.

Pipe Size	Flange OD	Bolts Req'd Qty.	Bolts Req'd Dia.		
1/2	3 1/2"	4	1/2"	7551K119	$10.10
3/4	3 7/8"	4	1/2"	7551K121	24.80
1	4 1/4"	4	1/2"	7551K122	28.06
1 1/4	4 5/8"	4	1/2"	7551K123	37.70
1 1/2	5"	4	1/2"	7551K124	33.00
2	6"	4	5/8"	7551K125	36.26
2 1/2	7"	4	5/8"	7551K126	$57.40
3	7 1/2"	4	5/8"	7551K127	55.80
4	9"	8	5/8"	7551K128	78.20
5	10"	8	3/4"	7551K129	115.91
6	11"	8	3/4"	7551K131	115.91
8	13 1/2"	8	3/4"	7551K133	229.51

Standard-Wall Threaded Pipe Nipples for Joining Dissimilar Metals CAD



- Use in water applications where copper meets iron or steel
- Maximum Pressure: 150 psi @ 72° F
- Maximum Temperature: 225° F

A nonconductive plastic sleeve prevents destructive electrolytic corrosion (the electrical current generated between dissimilar metals that causes corrosion) when connecting different metals. Made of galvanized steel, these threaded nipples have welded construction, so there's a weld bead on the inside. Not for use in heating systems that use hot liquids or gas. Meet ANSI/ASME B1.20.1.

Connections: NPT.

Note: When connecting iron pipe to copper tube, use a socket-end to pipe adapter (see 5520K21 to K26 on page 241).

Pipe Size	Lg.		
1/2	3"	7819K41	$3.54
3/4	3"	7819K42	3.69
1	4"	7819K43	7.63
1 1/4	4"	7819K44	10.83
1 1/2	4"	7819K45	13.97
2	4"	7819K46	19.11

Medium-Pressure Threaded Pipe Unions for Joining Dissimilar Metals CAD

- Use with air, water, oil, natural gas
- Maximum Pressure: 250 psi @ 72° F
- Maximum Temperature: 180° F

Need to connect different metals in your piping or plumbing system? These unions have a Buna-N gasket with a plastic insulator that inhibits destructive electrolytic corrosion (electrical current generated between dissimilar metals that causes corrosion).

Connections: NPT (threaded) or female solder (tube).



Female Threaded End×Female Solder End

Pipe Size (A)	Tube Size (B)♣	Actual Tube OD		
Iron to Copper				
1/2	1/2"	5/8"	4838K1	$10.62
3/4	1/2"	5/8"	4838K2	12.49
3/4	3/4"	7/8"	4838K3	15.84
1	3/4"	7/8"	4838K4	22.18
1	1"	1 1/8"	4838K5	21.71
1 1/4	1 1/4"	1 3/8"	4838K6	37.20
1 1/2	1 1/2"	1 5/8"	4838K7	55.93
2	2"	2 1/8"	4838K8	77.41

♣ Tube size is an accepted industry designation, not an actual size.



Female Threaded on Both Ends

Pipe Size		Pipe Size	
Iron to Brass		*Iron to Galvanized Iron*	
1/2	4838K74 $25.51	1/2	4838K81 $18.02
3/4	4838K75 28.06	3/4	4838K82 20.80
1	4838K76 41.07	1	4838K83 25.88
1 1/4	4838K77 66.91	1 1/4	4838K84 36.36
1 1/2	4838K78 85.42	1 1/2	4838K85 59.68
2	4838K79 113.51	2	4838K86 84.02

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Medium-Pressure Iron Threaded Pipe Fittings

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 300 psi @ 72° F; 300 psi @ 550° F for steam, except unions are 230 psi @ 550° F
- Pipe Nipples and Pipe: Use threaded Schedule 80 thick-wall steel (see pages 64-65)
- Flanges: Use threaded medium-pressure steel (see page 67)

Also known as Class 300 pipe fittings, these black malleable iron fittings have thicker walls than low-pressure fittings, so they can withstand higher pressures. They are UL listed and meet ANSI/ASME B.1.20.1. They also meet ASTM A126 or A197, as well as ANSI/ASME B16.3, B16.14, or B16.39.

90° female×male elbows are also known as street elbows. Connections: NPT.








Pipe Size	90° Elbows		90° Elbows, Female×Male		90° Union Elbows		45° Elbows		45° Elbows, Female×Male		Tees	
1/4	4627K211	$9.03	4627K231	$10.70			4627K221	$13.47			4627K251	$11.40
3/8	4627K212	8.03	4627K232	12.01	4627K339	$53.74	4627K222	13.47			4627K252	12.06
1/2	4627K213	10.40	4627K233	14.00	4627K301	53.59	4627K223	14.98	4627K243	$24.61	4627K253	15.37
3/4	4627K214	11.78	4627K234	19.88	4627K302	56.87	4627K224	16.66	4627K244	26.88	4627K254	16.57
1	4627K215	15.03	4627K235	23.31	4627K341	60.09	4627K225	18.43	4627K245	31.52	4627K255	19.94
1 1/4	4627K216	21.94	4627K236	32.05			4627K226	29.54	4627K246	38.54	4627K256	28.58
1 1/2	4627K217	25.86	4627K237	39.60			4627K227	38.51	4627K247	56.66	4627K257	33.33
2	4627K218	37.21	4627K238	61.64			4627K228	58.18	4627K248	96.41	4627K258	49.18







Pipe Size	Crosses		Unions		Couplings		Square-Head Plugs		Round Caps	
1/4			4627K289	$19.52	4627K151	$8.16			4627K171	$8.23
3/8			4627K291	19.75	4627K152	8.16			4627K172	8.23
1/2	4627K263	$42.04	4627K292	15.99	4627K153	9.10	4627K333	$1.45	4627K173	8.16
3/4	4627K264	50.44	4627K295	17.70	4627K154	10.48	4627K334	4.38	4627K174	10.30
1	4627K265	55.02	4627K296	23.12	4627K155	11.98	4627K335	4.67	4627K275	13.74
1 1/4	4627K266	54.86	4627K297	36.96	4627K156	14.23	4627K336	5.37	4627K276	15.22
1 1/2	4627K267	94.63	4627K298	38.72	4627K157	21.33	4627K337	7.62	4627K277	22.23
2	4627K268	103.04	4627K299	47.97	4627K158	30.71	4627K338	9.83	4627K278	30.89



90° Reducing Elbows

Pipe Size (A)	(B)		
3/8	1/4	4627K311	$18.23
1/2	3/8	4627K312	18.92
3/4	1/2	4627K313	13.94
1	1/2	4627K315	29.19
1	3/4	4627K316	28.38
1 1/4	3/4	4627K317	51.20
1 1/4	1	4627K318	35.66
1 1/2	1	4627K319	56.30
1 1/2	1 1/4	4627K314	56.30
2	1 1/2	4627K321	67.81



Inline Reducing Tees

Pipe Size (A)	(B)		
1/2	1/4	4627K322	$16.13
1/2	3/8	4627K323	25.58
3/4	1/4	4627K324	39.57
3/4	1/2	4627K325	24.07
1	1/4	4627K326	35.05
1	1/2	4627K327	29.42
1	3/4	4627K328	29.42
1 1/4	3/4	4627K329	39.17
1 1/2	1	4627K331	47.66
2	1 1/2	4627K332	68.71



Reducing Couplings

Pipe Size (A)	(B)		
3/8	1/4	4627K135	$10.79
1/2	1/4	4627K137	12.98
1/2	3/8	4627K136	12.98
3/4	3/8	4627K139	18.53
3/4	1/2	4627K138	13.27
1	1/4	4627K145	22.20
1	3/8	4627K144	22.20
1	1/2	4627K143	16.17
1	3/4	4627K142	15.85
1 1/4	3/4	4627K187	21.66
1 1/4	1	4627K186	$20.88
1 1/2	1/2	4627K193	34.40
1 1/2	3/4	4627K192	29.70
1 1/2	1	4627K191	28.59
1 1/2	1 1/4	4627K189	32.52
2	3/4	4627K197	49.64
2	1	4627K196	41.47
2	1 1/4	4627K195	50.70
2	1 1/2	4627K194	41.10

Easy-Alignment Steel Threaded Pipe Couplings

- Use with air, water, oil, natural gas
- Maximum Pressure: 300 psi @ 72° F
- Pipe Nipples and Pipe: Use threaded Schedule 80 thick-wall steel (see pages 64-65) and threaded Schedule 160 extra-thick-wall steel or galvanized steel (see pages 67-68)

Each end has a short unthreaded space before the threads start—this space acts as a pilot when threading onto long lengths of pipe. Also known as API (American Petroleum Institute) line couplings, they meet API 5-L standards, as well as ASTM A53 and A105.

Galvanized steel offers better corrosion resistance than black steel.

Connections: NPT.



Pipe Size	Black Steel		Galvanized Steel	
1/8	43245K121	$5.16	43245K361	$5.57
1/4	43245K122	6.79	43245K362	7.33
3/8	43245K123	7.37	43245K363	8.12
1/2	43245K124	10.02	43245K364	11.96
3/4	43245K125	10.71	43245K365	12.79
1	43245K126	13.61	43245K366	16.45
1 1/4	43245K127	21.84	43245K367	25.27
1 1/2	43245K129	21.84	43245K368	25.27
2	43245K131	33.23	43245K369	42.06
3	43245K132	49.80	43245K371	57.80

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Smooth-Flow Steel Threaded Reducing Pipe Nipples CAD



- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 300 medium-pressure iron (see page 63)
- Flanges: Use threaded medium-pressure steel (see page 67)

The walls reduce gradually to provide smoother flow than other types of reducing connections. Also called swage nipples and Schedule 80 nipples, they're zinc-plated steel and have seamless construction for unrestricted flow. They meet MSS SP-95, ASTM A234-WPB, and ANSI/ASME B1.20.1.

Connections: NPT.

Pipe Size (A)	(B)	Lg.		
1/4	1/8	2 1/4"	7818K231	$15.03
3/8	1/4	2 1/2"	7818K232	13.21
1/2	1/8	2 3/4"	7818K233	15.03
1/2	1/4	2 3/4"	7818K211	12.39
1/2	3/8	2 3/4"	7818K212	12.39
3/4	1/4	3"	7818K213	18.34
3/4	1/2	3"	7818K214	14.07
1	1/8	3 1/2"	7818K234	24.85
1	1/4	3 1/2"	7818K235	$21.81
1	3/8	3 1/2"	7818K236	21.81
1	1/2	3 1/2"	7818K215	17.39
1	3/4	3 1/2"	7818K216	17.39
1 1/4	1/2	4"	7818K217	27.03
1 1/4	3/4	4"	7818K218	27.03
1 1/4	1	4"	7818K219	25.76
1 1/2	1/2	4 1/2"	7818K221	34.50
1 1/2	3/4	4 1/2"	7818K222	$34.50
1 1/2	1	4 1/2"	7818K223	30.17
1 1/2	1 1/4	4 1/2"	7818K224	30.17
2	1/2	6 1/2"	7818K225	61.94
2	3/4	6 1/2"	7818K226	61.94
2	1	6 1/2"	7818K227	49.00
2	1 1/4	6 1/2"	7818K228	51.98
2	1 1/2	6 1/2"	7818K229	49.00

Thick-Wall Welded Steel Threaded Pipe Nipples and Pipe CAD



- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 300 medium-pressure iron (see page 63)
- Flanges: Use threaded medium-pressure steel (see page 67)

Also known as Schedule 80 nipples and pipe, these are made of black steel, which is the most popular material for low-pressure plumbing applications. All have a welded construction, so there's a weld bead on the inside. Meet ASTM A53 and A733, as well as ANSI/ASME B1.20.1.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.

FULLY THREADED

Pipe Size	Lg.		
1/8	3/4"	4550K111	$2.02
1/4	7/8"	4550K131	2.26
3/8	1"	4550K151	2.32
1/2	1 1/8"	4550K171	2.15
3/4	1 3/8"	4550K191	2.47
1	1 1/2"	4550K221	3.64
1 1/4	1 5/8"	4550K241	4.47
1 1/2	1 3/4"	4550K261	5.60
2	2"	4550K281	7.65

THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths	2" Lengths	2 1/2" Lengths	3" Lengths	3 1/2" Lengths
1/8	4550K112 $2.31	4550K113 $2.31	4550K114 $2.68	4550K115 $2.68	4550K311 $3.46
1/4	4550K132 2.64	4550K133 2.65	4550K134 3.45	4550K135 3.45	4550K312 3.74
3/8	4550K152 2.95	4550K153 2.94	4550K154 3.47	4550K155 3.47	4550K313 4.13
1/2	4550K172 2.14	4550K173 2.14	4550K174 2.60	4550K175 2.60	4550K314 3.09
3/4	4550K192 2.47	4550K193 2.47	4550K194 2.97	4550K195 2.97	4550K315 3.52
1	_____ ___	4550K222 4.08	4550K223 4.23	4550K224 4.23	4550K316 5.04
1 1/4	_____ ___	4550K242 4.79	4550K243 5.26	4550K244 5.26	4550K317 6.57
1 1/2	_____ ___	4550K262 6.04	4550K263 6.52	4550K264 6.52	4550K318 7.87
2	_____ ___	_____ ___	4550K282 8.63	4550K283 8.63	4550K319 9.91

THREADED ON BOTH ENDS

Pipe Size	4" Lengths	4 1/2" Lengths	5" Lengths	5 1/2" Lengths	6" Lengths	6 1/2" Lengths
1/8	4550K117 $3.46	4550K411 $6.29	4550K119 $6.29	4550K511 $6.86	4550K122 $6.86	_____ ___
1/4	4550K137 3.74	4550K412 5.93	4550K139 5.93	4550K512 6.73	4550K142 6.73	4550K612 $11.35
3/8	4550K157 4.13	4550K413 5.93	4550K159 5.93	4550K513 6.75	4550K162 6.75	4550K613 12.62
1/2	4550K177 3.09	4550K414 3.52	4550K179 3.52	4550K514 3.99	4550K182 3.99	4550K614 7.63
3/4	4550K197 3.52	4550K415 4.37	4550K199 4.37	4550K515 5.18	4550K212 5.18	4550K615 8.93
1	4550K226 5.03	4550K416 6.02	4550K228 6.02	4550K516 7.12	4550K231 7.12	4550K616 12.01
1 1/4	4550K246 6.57	4550K417 8.10	4550K248 8.10	4550K517 9.12	4550K251 9.12	4550K617 15.12
1 1/2	4550K266 7.87	4550K418 9.13	4550K268 9.13	4550K518 10.49	4550K271 10.49	4550K618 17.47
2	4550K285 9.91	4550K419 12.25	4550K287 12.25	4550K519 14.14	4550K289 14.14	4550K619 24.28

Pipe Size	7" Lengths	8" Lengths	9" Lengths	10" Lengths	11" Lengths	12" Lengths
1/8	4550K711 $9.09	4550K124 $9.09	4550K811 $10.51	4550K125 $10.51	4550K911 $11.05	4550K126 $11.11
1/4	4550K712 11.35	4550K144 11.35	4550K812 12.05	4550K145 12.05	4550K912 13.31	4550K146 13.31
3/8	4550K713 12.62	4550K164 12.62	4550K813 13.74	4550K165 13.74	4550K913 14.48	4550K166 14.48
1/2	4550K714 7.63	4550K184 7.63	4550K814 8.65	4550K185 8.65	4550K914 9.94	4550K186 9.94
3/4	4550K715 8.93	4550K214 8.93	4550K815 10.41	4550K215 10.41	4550K915 11.79	4550K216 11.79
1	4550K716 12.01	4550K233 12.01	4550K816 14.40	4550K234 14.40	4550K916 15.69	4550K235 15.69
1 1/4	4550K717 15.12	4550K253 15.12	4550K817 17.47	4550K254 17.47	4550K917 20.12	4550K255 20.12
1 1/2	4550K718 17.47	4550K273 17.47	4550K818 20.09	4550K274 20.09	4550K918 24.28	4550K275 24.30
2	4550K719 24.28	4550K292 24.28	4550K819 28.27	4550K293 28.27	4550K919 32.63	4550K294 32.63

To Order: Please specify length.

Pipe Size		14" Lengths	16" Lengths	18" Lengths	20" Lengths	22" Lengths	24" Lengths	36" Lengths	48" Lengths	60" Lengths	72" Lengths	126" Lengths
1/8	4500K441	$12.09	$13.18	$13.74	$15.77	$17.38	$18.41	$26.62	$40.88	$44.40	$55.16	$78.50
1/4	4500K442	13.50	14.75	15.59	17.67	19.41	20.88	31.20	41.63	57.82	62.49	88.89
3/8	4500K443	14.97	16.33	17.01	19.59	21.54	21.93	34.09	50.47	56.75	72.49	96.94
1/2	4500K444	9.67	10.55	11.22	12.62	14.49	16.66	24.92	29.94	41.60	44.94	66.76
3/4	4500K445	11.57	12.67	13.35	15.17	16.64	17.78	26.62	35.54	49.37	53.32	75.85
1	4500K446	17.06	19.51	20.44	23.37	24.15	24.52	36.77	49.00	61.27	78.21	104.55
1 1/4	4500K447	20.76	22.66	23.64	27.14	29.85	31.52	47.23	66.98	83.78	90.46	134.40
1 1/2	4500K448	26.76	30.59	31.62	35.12	40.26	42.21	56.93	80.74	100.91	109.02	152.27
2	4500K449	33.82	36.94	38.27	40.74	43.13	44.36	73.23	97.65	122.02	137.70	204.60

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

i To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Seamless Steel Threaded Pipe Nipples and Pipe



Fully Threaded



Threaded on Both Ends

- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 300 medium-pressure iron (see page 63)
- Flanges: Use threaded medium-pressure steel (see page 67)

Seamless construction provides unrestricted flow. Also known as Schedule 80, these nipples and pipe are made of black steel, which is the most popular material for low-pressure plumbing applications. Meet ASTM A53, A106, and A733, as well as ANSI/ASME B1.20.1.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.

FULLY THREADED

Pipe Size	Lg.		
1/8	3/4"	7727K101	$2.78
1/4	7/8"	7727K131	3.27
3/8	1"	7727K161	3.53
1/2	1 1/8"	7727K191	1.80
3/4	1 3/8"	7727K221	2.03
1	1 1/2"	7727K251	2.87
1 1/4	1 5/8"	7727K281	3.61
1 1/2	1 3/4"	7727K311	4.34
2	2"	7727K341	5.16
2 1/2	2 1/2"	7727K371	17.13
3	2 5/8"	7727K401	21.60
4	2 7/8"	7727K431	30.77

THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths		2" Lengths		2 1/2" Lengths		3" Lengths		3 1/2" Lengths	
1/8	7727K102	$2.94	7727K103	$3.17	7727K104	$3.44	7727K105	$3.82	7727K106	$4.17
1/4	7727K132	3.34	7727K133	3.69	7727K134	4.02	7727K135	4.48	7727K136	4.97
3/8	7727K162	3.68	7727K163	4.02	7727K164	4.52	7727K165	5.08	7727K166	5.59
1/2	7727K192	1.92	7727K193	2.11	7727K194	2.33	7727K195	2.56	7727K196	2.91
3/4	7727K222	2.17	7727K223	2.27	7727K224	2.57	7727K225	2.86	7727K226	3.26
1	—	—	7727K253	3.05	7727K254	3.26	7727K255	3.82	7727K256	4.23
1 1/4	—	—	7727K283	3.75	7727K284	4.13	7727K285	4.80	7727K286	5.24
1 1/2	—	—	7727K313	4.59	7727K314	4.99	7727K315	5.75	7727K316	6.27
2	—	—	—	—	7727K344	5.78	7727K345	6.73	7727K346	7.23
2 1/2	—	—	—	—	—	—	7727K375	17.94	7727K376	19.31
3	—	—	—	—	—	—	7727K405	22.84	7727K406	24.40

THREADED ON BOTH ENDS

Pipe Size	4" Lengths		5" Lengths		6" Lengths		8" Lengths		10" Lengths		12" Lengths	
1/8	7727K107	$4.63	7727K109	$6.91	7727K111	$7.94	7727K113	$9.08	7727K115	$10.30	7727K117	$11.51
1/4	7727K137	5.51	7727K139	8.50	7727K141	9.58	7727K143	10.90	7727K145	12.13	7727K147	13.31
3/8	7727K167	6.09	7727K169	8.92	7727K171	10.16	7727K173	11.66	7727K175	13.17	7727K177	14.69
1/2	7727K197	3.20	7727K199	4.05	7727K201	4.77	7727K203	7.23	7727K205	8.32	7727K207	9.42
3/4	7727K227	3.58	7727K229	4.46	7727K231	5.16	7727K233	7.87	7727K235	9.13	7727K237	10.39
1	7727K257	4.73	7727K259	5.95	7727K261	6.80	7727K263	10.75	7727K265	12.33	7727K267	14.16
1 1/4	7727K287	5.86	7727K289	7.40	7727K291	8.50	7727K293	13.53	7727K295	15.83	7727K297	18.23
1 1/2	7727K317	7.02	7727K319	8.87	7727K321	9.98	7727K323	15.82	7727K325	18.41	7727K327	20.96
2	7727K347	8.08	7727K349	10.20	7727K351	11.66	7727K353	18.39	7727K355	21.42	7727K357	24.47
2 1/2	7727K377	20.03	7727K379	22.54	7727K381	24.69	7727K383	29.54	7727K385	34.38	7727K387	39.07
3	7727K407	25.83	7727K409	29.16	7727K411	32.05	7727K413	39.50	7727K415	45.85	7727K417	51.59
4	7727K437	34.83	7727K439	39.97	7727K441	43.54	7727K443	53.06	7727K445	61.60	7727K447	70.27

To Order: Please specify length.

Pipe Size		14" Lengths	16" Lengths	18" Lengths	20" Lengths	22" Lengths	24" Lengths	36" Lengths	48" Lengths	60" Lengths	72" Lengths
1/8	5016T111	$13.42	$15.35	$18.07	$20.08	$22.09	$23.02	$34.52	$43.84	$54.80	$69.05
1/4	5016T112	15.53	17.74	19.97	22.19	24.40	26.62	39.94	53.24	66.55	79.86
3/8	5016T113	17.47	19.98	22.80	28.16	27.44	29.93	44.93	55.89	67.02	101.36
1/2	5016T114	11.20	12.77	14.28	15.97	17.60	19.20	22.42	37.67	47.06	56.47
3/4	5016T115	12.13	14.73	17.02	18.90	19.53	20.78	31.20	41.60	51.95	62.34
1	5016T116	19.81	21.50	22.99	25.54	26.68	28.33	38.70	56.65	70.81	77.41
1 1/4	5016T117	21.28	26.64	28.54	29.60	32.56	36.47	53.28	74.38	84.17	109.40
1 1/2	5016T118	24.47	27.96	29.61	34.22	40.25	41.93	60.87	83.87	110.29	121.73
2	5016T119	30.34	33.12	35.82	38.56	45.90	48.93	66.07	97.86	110.13	132.15
2 1/2	5016T121	50.70	59.09	62.83	66.00	72.60	78.13	119.36	148.82	188.48	210.96
3	5016T122	60.18	68.78	77.38	86.84	95.84	103.17	154.75	185.70	232.14	278.56
4	5016T123	81.98	101.71	107.17	119.08	130.99	140.53	183.72	252.96	287.46	344.95

Thick-Wall Steel Threaded-On-One-End Pipe Nipples



- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 300 medium-pressure iron (see page 63)
- Flanges: Use threaded medium-pressure steel (see page 67)

These handy black steel nipples have one threaded end and one unthreaded end. All have welded construction, so there's a weld bead on the inside. They meet ASTM A53 and A733, as well as ANSI/ASME B1.20.1.

Connections: NPT on one end, unthreaded on the other end.

Pipe Size	1 1/2" Lengths		2" Lengths		3" Lengths		4" Lengths		6" Lengths		12" Lengths	
1/8	5081T11	$3.36	5081T12	$3.36	5081T13	$3.86	5081T14	$5.01	5081T15	$10.00	5081T16	$16.14
1/4	5081T17	3.60	5081T18	3.60	5081T19	4.70	5081T21	5.20	5081T22	9.21	5081T23	18.24
3/8	5081T24	4.07	5081T25	4.07	5081T26	4.78	5081T27	5.67	5081T28	9.21	5081T29	19.87
1/2	5081T31	2.91	5081T32	2.91	5081T33	3.52	5081T34	4.17	5081T35	5.43	5081T36	13.60
3/4	5081T37	3.36	5081T38	3.36	5081T39	4.07	5081T41	4.78	5081T42	7.09	5081T43	16.14
1	5081T44	5.01	5081T45	5.01	5081T46	5.72	5081T47	6.90	5081T48	9.77	5081T49	21.42
1 1/2	5081T51	8.23	5081T52	8.27	5081T53	8.82	5081T54	10.79	5081T55	14.38	5081T56	33.28
2	—	—	5081T58	10.47	5081T59	11.84	5081T61	13.60	5081T62	19.37	5081T63	44.76

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

High-Pressure Black Steel Threaded Pipe Fittings CAD

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 3,000 psi @ 72° F, except plugs are rated 6,000 psi @ 72° F
- Pipe Nipples and Pipe: Use threaded Schedule 160 extra-thick-wall black steel (see page 67)
- Flanges: Use threaded extreme-pressure steel (see page 70)

The thick walls on these Class 3000 forged steel fittings stand up to high pressures. All meet ASTM A105 and ANSI/ASME B1.20.1; also meet ANSI/ASME B16.11, except the unions, lug unions, and low-profile couplings.

90° female×male elbows are also called street elbows. ***Unions*** meet MSS SP-83. ***Lug unions*** have two, three, or four lugs depending on their size. ***Half couplings*** are partially threaded; one end has an unthreaded portion that can be welded. ***Plugs*** are solid.

Connections: NPT.







Pipe Size	90° Elbows		90° Elbows, Female×Male		45° Elbows		Tees		Crosses	
1/8	4513K211	$5.48	—	—	4513K221	$6.96	4513K241	$6.67	4513K251	$24.69
1/4	4513K11	5.37	4513K31	$8.04	4513K21	6.82	4513K41	6.52	4513K51	23.29
3/8	4513K12	5.37	4513K32	7.75	4513K22	6.82	4513K42	6.52	4513K52	24.69
1/2	4513K13	4.11	4513K33	7.75	4513K23	6.72	4513K43	5.87	4513K53	15.93
3/4	4513K14	5.16	4513K34	9.79	4513K24	7.76	4513K44	7.93	4513K54	21.03
1	4513K15	7.67	4513K35	12.54	4513K25	10.15	4513K45	10.03	4513K55	27.91
1 1/4	4513K16	14.00	4513K36	22.71	4513K26	14.03	4513K46	19.46	4513K56	36.98
1 1/2	4513K17	18.06	4513K37	25.90	4513K27	20.14	4513K47	22.70	4513K57	49.27
2	4513K18	21.93	4513K38	37.35	4513K28	26.22	4513K48	27.70	4513K58	66.42
2 1/2	4513K212	61.25	—	—	4513K222	61.26	4513K242	75.07	4513K252	162.62
3	4513K213	88.23	—	—	4513K223	95.98	4513K243	134.90	4513K253	197.38
4	4513K214	196.85	—	—	4513K224	175.56	4513K244	206.03	4513K254	280.59






Pipe Size	Couplings		Half Couplings		Low-Profile Couplings		Caps	
1/8	4513K261	$2.14	4513K271	$1.13	—	—	4513K281	$2.04
1/4	4513K61	2.09	4513K71	1.09	4513K411	$2.38	4513K81	2.02
3/8	4513K62	2.09	4513K72	1.13	4513K412	2.33	4513K82	2.02
1/2	4513K63	1.72	4513K73	1.05	4513K413	2.33	4513K83	1.96
3/4	4513K64	2.24	4513K74	1.50	4513K414	2.69	4513K84	2.74
1	4513K65	3.89	4513K75	2.04	4513K415	3.42	4513K85	4.20
1 1/4	4513K66	6.49	4513K76	3.73	4513K416	5.40	4513K86	6.75
1 1/2	4513K67	8.39	4513K77	4.96	4513K417	6.62	4513K87	8.07
2	4513K68	10.06	4513K78	6.67	4513K418	9.10	4513K88	11.16
2 1/2	4513K262	24.89	4513K272	14.58	4513K419	18.60	4513K282	28.98
3	4513K263	44.38	4513K273	27.84	4513K421	28.66	4513K283	53.39
4	4513K264	83.24	4513K274	48.64	4513K422	34.94	4513K284	67.37






Pipe Size	Unions		Lug Unions		Square-Head Plugs		Hex-Head Plugs	
1/8	4513K291	$8.62	—	—	4513K423	$0.91	4513K321	$0.76
1/4	4513K91	8.44	—	—	4513K424	.91	4513K322	.76
3/8	4513K92	8.59	—	—	4513K425	.95	4513K323	.79
1/2	4513K93	7.30	4513K112	$38.09	4513K426	1.00	4513K324	.79
3/4	4513K94	8.93	4513K113	42.66	4513K427	1.25	4513K325	1.47
1	4513K95	11.20	4513K114	55.92	4513K428	1.91	4513K326	2.08
1 1/4	4513K96	17.77	4513K115	88.89	4513K429	3.94	4513K327	3.53
1 1/2	4513K97	21.19	4513K116	93.57	4513K431	4.49	4513K328	5.02
2	4513K98	27.11	4513K117	106.62	4513K432	7.10	4513K329	7.79
2 1/2	4513K292	67.19	4513K312	199.74	4513K433	17.53	4513K331	18.72
3	4513K293	79.10	4513K313	262.55	4513K434	27.68	4513K332	29.05
4	—	—	4513K314	490.98	4513K435	43.73	4513K333	47.80



Hex Reducing Bushings, Male×Female

Pipe Size (A)	(B)			Pipe Size (A)	(B)		
1/4	1/8	4513K341	$1.23	1	3/4	4513K349	$2.53
3/8	1/8	4513K342	1.25	1 1/4	1	4513K351	4.13
3/8	1/4	4513K343	1.25	1 1/2	1 1/4	4513K352	4.76
1/2	1/4	4513K344	1.26	2	1	4513K353	7.14
1/2	3/8	4513K345	1.26	2	1 1/2	4513K354	7.14
3/4	3/8	4513K346	1.55	2 1/2	2	4513K355	21.50
3/4	1/2	4513K347	1.55	3	2 1/2	4513K356	31.37
1	1/2	4513K348	2.53	4	3	4513K357	67.97



Reducing Couplings

Pipe Size (A)	(B)			Pipe Size (A)	(B)		
1/4	1/8	4513K151	$3.28	1	3/4	4513K162	$5.64
3/8	1/8	4513K153	3.42	1 1/4	1	4513K166	9.26
3/8	1/4	4513K152	3.42	1 1/2	1 1/4	4513K171	9.65
1/2	1/4	4513K155	3.49	2	1	4513K178	14.00
1/2	3/8	4513K154	3.49	2	1 1/2	4513K179	14.00
3/4	3/8	4513K158	4.06	2 1/2	2	4513K181	52.57
3/4	1/2	4513K157	4.06	3	2 1/2	4513K182	69.52
1	1/2	4513K163	5.64	4	3	4513K183	102.57

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 5/8	1 3/4	2 3/8	2 3/4	3 3/8

i To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Steel Threaded Pipe Plugs

- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 300 medium-pressure iron (see page 63)
- Flanges: Use threaded medium-pressure steel (see below)

The hollow center allows fluid to put pressure on the threads for a tight seal. Also called bull plugs, these heavy duty plugs are made from Schedule 80 pipe and are galvanized for corrosion resistance. Meet MSS SP-95 and ASTM A234-WPB, as well as ANSI/ASME B1.20.1, B31.1, and B31.3.

Connections: NPT.

Pipe Size	Lg.		
1/8	2"	1109T11	$10.15
1/4	2"	1109T12	9.38
3/8	2 1/4"	1109T13	10.15
1/2	2 1/2"	1109T14	10.66
3/4	2 3/4"	1109T15	10.97
1	3"	1109T16	12.89
1 1/4	3 1/4"	1109T17	20.17
1 1/2	3 1/2"	1109T18	19.46
2	4"	1109T19	37.51



Pipe Sizes 1/2 to 1



Pipe Sizes 1/8 to 3/8 and 1 1/4 to 2

Medium-Pressure Steel Threaded Flanges

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 300 psi @ 72° F; 300 psi @ 300° F for steam
- Fittings: Use threaded Class 300 medium-pressure iron (see page 63)
- Pipe Nipples and Pipe: Use threaded Schedule 80 thick-wall steel (see pgs. 64-65)

Forged for strength, these black steel flanges are also called Class 300 and raised-face flanges. Bolt two same-size flanges together with a gasket (not included) to create easy access to your pipe. For gaskets, see pages 3531-3533; for bolts, see pages 3150-3153. Meet ASTM A105 and ANSI/ASME B16.5.

Connections: NPT.

Pipe Size	Flange OD	*Bolts Req'd* Qty.	Dia.		
1/2	3 3/4"	4	1/2"	6806K226	$19.64
3/4	4 5/8"	4	5/8"	6806K121	23.18
1	4 7/8"	4	5/8"	6806K122	23.62
1 1/4	5 1/4"	4	5/8"	6806K123	29.00
1 1/2	6 1/8"	4	3/4"	6806K124	34.06
2	6 1/2"	8	5/8"	6806K125	30.00
2 1/2	7 1/2"	8	3/4"	6806K126	49.42
3	8 1/4"	8	3/4"	6806K127	52.51
4	10"	8	3/4"	6806K128	68.31
5	11"	8	3/4"	6806K222	118.35
6	12 1/2"	12	3/4"	6806K129	165.00
8	15"	12	7/8"	6806K223	292.31



Raised Surface on Back

Extra-Thick-Wall Black Steel Threaded Pipe Nipples and Pipe

- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 3000 high-pressure black steel (see page 66)
- Flanges: Use threaded extreme-pressure steel (see page 70)

Ready for rugged service, these strong steel nipples and pipe are also known as Schedule 160. They have seamless construction for unrestricted flow. Meet ASTM A53, A106, and A733, as well as ANSI/ASME B1.20.1.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.



Fully Threaded

Threaded on Both Ends

FULLY THREADED

Pipe Size	Lg.		
1/2	1 1/8"	7733K101	$4.98
3/4	1 3/8"	7733K131	7.17
1	1 1/2"	7733K161	10.15
1 1/4	1 5/8"	7733K191	12.68
1 1/2	1 3/4"	7733K221	15.38
2	2"	7733K251	17.39
2 1/2	2 1/2"	7733K281	55.55
3	2 5/8"	7733K311	70.08
4	2 7/8"	7733K341	89.88

THREADED ON BOTH ENDS

Pipe Size	*1 1/2" Lengths*		*2" Lengths*		*2 1/2" Lengths*		*3" Lengths*	
1/2	7733K102	$5.33	7733K103	$5.85	7733K104	$6.43	7733K105	$7.10
3/4	7733K132	7.66	7733K133	8.06	7733K134	9.11	7733K135	10.13
1	____	____	7733K163	10.75	7733K164	11.50	7733K165	13.48
1 1/4	____	____	7733K193	13.27	7733K194	14.56	7733K195	16.96
1 1/2	____	____	7733K223	16.23	7733K224	17.64	7733K225	20.31
2	____	____	____	____	7733K254	19.62	7733K255	22.80
2 1/2	____	____	____	____	____	____	7733K285	58.25
3	____	____	____	____	____	____	7733K315	74.11

THREADED ON BOTH ENDS

Pipe Size	*4" Lengths*		*5" Lengths*		*6" Lengths*		*8" Lengths*		*10" Lengths*	
1/2	7733K107	$8.86	7733K109	$11.27	7733K111	$13.19	7733K113	$19.18	7733K115	$22.06
3/4	7733K137	12.63	7733K139	15.77	7733K141	18.19	7733K143	26.59	7733K145	30.86
1	7733K167	16.69	7733K169	21.02	7733K171	24.00	7733K173	36.37	7733K175	41.64
1 1/4	7733K197	20.69	7733K199	26.11	7733K201	30.02	7733K203	45.70	7733K205	53.46
1 1/2	7733K227	24.80	7733K229	31.34	7733K231	35.27	7733K233	53.46	7733K235	62.16
2	7733K257	27.41	7733K259	34.59	7733K261	39.56	7733K263	62.40	7733K265	72.72
2 1/2	7733K287	64.99	7733K289	73.17	7733K294	80.18	7733K293	95.92	7733K295	111.59
3	7733K317	83.83	7733K319	94.71	7733K321	104.06	7733K323	115.42	7733K325	133.91
4	7733K347	101.75	7733K349	116.54	7733K351	127.22	7733K353	155.06	7733K355	179.93

Pipe Size	*12" Lengths*		*18" Lengths*		*24" Lengths*		*36" Lengths*	
1/2	7733K117	$24.94	5225T34	$41.24	5225T35	$49.89	5225T36	$74.83
3/4	7733K147	35.14	5225T42	54.68	5225T43	70.27	5225T44	94.86
1	7733K177	47.85	5225T49	71.78	5225T51	95.70	5225T52	129.20
1 1/4	7733K207	61.85	5225T57	98.83	5225T58	111.32	5225T59	166.98
1 1/2	7733K237	70.87	5225T65	101.84	5225T66	127.56	5225T67	183.30
2	7733K267	83.01	5225T73	112.07	5225T74	149.43	5225T75	203.77
2 1/2	7733K297	126.83	5225T81	171.23	5225T82	197.67	____	____
3	7733K327	150.66	5225T88	205.44	5225T89	273.92	____	____
4	7733K357	186.61	5225T96	279.91	5225T97	373.22	____	____

Galvanized Steel Pipe Fittings & Nipples

For technical drawings and 3-D models, go to mcmaster.com. CAD

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

High-Pressure Galvanized Steel Threaded Pipe Fittings

CAD

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 3,000 psi @ 72° F
- Pipe Nipples: Use threaded Schedule 160 extra-thick-wall galvanized steel (see below)

Forged for strength, these thick-wall fittings are also known as Class 3000. They are galvanized, so they have better corrosion resistance than black steel. All meet ASTM A105 and ANSI/ASME B1.20.1. They also meet ANSI/ASME B16.11, except the unions.

90° female×male elbows are also called street elbows. ***Unions*** meet MSS SP-83. ***Half couplings*** are partially threaded; one end has an unthreaded portion that can be welded. ***Hex-head plugs*** are solid.

Connections: NPT.







Pipe Size	90° Elbows		90° Elbows, Female×Male		45° Elbows		Tees		Crosses	
1/8	7739K101	$7.43	7739K111	$19.00	7739K121	$9.43	7739K131	$9.02	7739K201	$32.17
1/4	7739K102	7.27	7739K112	10.45	7739K122	9.24	7739K132	8.84	7739K202	31.56
3/8	7739K103	7.27	7739K113	10.08	7739K123	9.24	7739K133	8.84	7739K203	31.56
1/2	7739K104	5.58	7739K114	10.08	7739K124	9.11	7739K134	7.96	7739K204	21.59
3/4	7739K105	7.00	7739K115	12.73	7739K125	10.10	7739K135	10.32	7739K205	26.88
1	7739K106	9.98	7739K116	16.99	7739K126	13.75	7739K136	13.59	7739K206	37.81
1 1/4	7739K107	18.96	7739K117	29.03	7739K127	19.01	7739K137	24.88	7739K207	50.11
1 1/2	7739K108	24.47	7739K118	35.09	7739K128	25.75	7739K138	29.03	7739K208	66.76
2	7739K109	28.03	7739K119	50.62	7739K129	35.53	7739K139	37.54	7739K209	90.00







Pipe Size	Unions		Couplings		Half Couplings		Caps		Hex-Head Plugs	
1/8	7739K171	$13.56	7739K141	$2.89	7739K151	$1.50	7739K161	$2.82	7739K181	$1.06
1/4	7739K172	13.29	7739K142	2.83	7739K152	1.47	7739K162	2.73	7739K182	1.03
3/8	7739K173	13.46	7739K143	2.83	7739K153	1.53	7739K163	2.73	7739K183	1.08
1/2	7739K174	11.43	7739K144	2.33	7739K154	1.42	7739K164	2.66	7739K184	1.08
3/4	7739K175	13.99	7739K145	3.03	7739K155	2.04	7739K165	3.71	7739K185	2.00
1	7739K176	18.29	7739K146	5.28	7739K156	2.79	7739K166	5.69	7739K186	2.81
1 1/4	7739K177	27.36	7739K147	8.79	7739K157	5.05	7739K167	9.15	7739K187	4.78
1 1/2	7739K178	32.63	7739K148	10.92	7739K158	6.72	7739K168	10.50	7739K188	6.80
2	7739K179	44.24	7739K149	13.63	7739K159	9.03	7739K169	15.12	7739K189	10.13



Hex Reducing Bushings, Male×Female

Pipe Size (A)	(B)			Pipe Size (A)	(B)		
1/4	1/8	7739K211	$1.74	1	1/2	7739K195	$3.43
3/8	1/8	7739K212	1.67	1	3/4	7739K196	3.43
3/8	1/4	7739K192	1.67	1 1/4	1	7739K197	5.59
1/2	1/4	7739K213	1.71	1 1/2	1 1/4	7739K198	6.45
1/2	3/8	7739K193	1.71	2	1	7739K215	9.68
3/4	3/8	7739K214	2.11	2	1 1/2	7739K199	9.68
3/4	1/2	7739K194	2.11	2 1/2	2	7739K216	27.48



Reducing Couplings

Pipe Size (A)	(B)			Pipe Size (A)	(B)		
1/4	1/8	7739K221	$4.44	1	1/2	7739K228	$7.16
3/8	1/8	7739K222	4.54	1	3/4	7739K229	7.16
3/8	1/4	7739K223	4.54	1 1/4	1	7739K231	12.05
1/2	1/4	7739K224	4.64	1 1/2	1 1/4	7739K232	13.08
1/2	3/8	7739K225	4.64	2	1	7739K233	18.97
3/4	3/8	7739K226	5.51	2	1 1/2	7739K234	18.97
3/4	1/2	7739K227	5.51	2 1/2	2	7739K235	71.23

Extra-Thick-Wall Galvanized Steel Threaded Pipe Nipples

CAD



Fully Threaded



Threaded on Both Ends

- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 3000 high-pressure galvanized steel (see above)

Designed for high-pressure applications, these strong nipples are also known as Schedule 160. They are galvanized for better corrosion resistance than black steel and have seamless construction for unrestricted flow. Meet ASTM A106B, A53, and A733, as well as ANSI/ASME B1.20.1.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.

FULLY THREADED

Pipe Size	Lg.		
1/2	1 1/8"	7736K113	$9.97
3/4	1 3/8"	7736K114	14.34
1	1 1/2"	7736K115	20.30
1 1/4	1 5/8"	7736K116	25.36
1 1/2	1 3/4"	7736K117	30.75
2	2"	7736K118	34.78

THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths		2" Lengths		3" Lengths		4" Lengths		6" Lengths	
1/2	7736K123	$10.67	7736K133	$11.71	7736K153	$14.20	7736K163	$17.72	7736K183	$26.38
3/4	7736K124	15.33	7736K134	16.12	7736K154	20.25	7736K164	25.26	7736K184	36.37
1			7736K135	21.49	7736K155	26.95	7736K165	33.37	7736K185	47.99
1 1/4			7736K136	26.54	7736K156	33.93	7736K166	41.38	7736K186	60.04
1 1/2			7736K137	32.46	7736K157	40.62	7736K167	49.60	7736K187	70.53
2					7736K158	45.60	7736K168	54.83	7736K188	79.12

Steel Plugs, Unions, Locknuts & Outlets

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8″):	0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″	1 5/8″	1 3/4″	2 3/8″	2 3/4″	3 3/8″

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

High-Pressure Zinc-Plated Steel Threaded Hex-Socket Plugs

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: See table



Put an end to costly, messy leaks. An O-ring seal provides a dependable no-leak connection. Use in hydraulic systems and where vibration, temperature variations, and pressure spikes are a concern. Plugs are made of zinc-plated steel and are solid. They're interchangeable with standard SAE J514 straight-thread fittings. Meet SAE J1926 and ASTM B633.

Plugs with a ***Buna-N seal*** have a temperature range of –20° to 200° F. Plugs with a ***fluoroelastomer seal*** have a temperature range of –4° to 400° F.

Connections: UN/UNF straight threads.

Thread Size (Actual OD)	Max. psi @ 72° F	Hex Key Size	*With Buna-N Seal*		*With Fluoroelastomer Seal*	
5/16″-24	5,500	1/8″	4835K21	$1.68	4835K41	$1.93
7/16″-20	5,000	3/16″	4835K23	1.80	4835K43	2.04
9/16″-18	4,000	1/4″	4835K25	1.96	4835K45	2.18
3/4″-16	3,500	5/16″	4835K26	2.32	4835K46	2.43
7/8″-14	2,750	3/8″	4835K27	2.44	4835K47	2.53
1 1/16″-12	2,250	9/16″	4835K28	2.57	4835K48	2.62
1 5/16″-12	2,000	5/8″	4835K31	5.32	4835K51	5.71
1 5/8″-12	1,625	3/4″	4835K32	14.20	4835K52	18.21
1 7/8″-12	1,250	3/4″	4835K33	19.23	4835K53	24.75

Flush-Mount High-Pressure Steel Threaded Hex-Socket Plugs

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 5,000 psi @ 72° F



Precision machined with a 7/8″ taper, these steel plugs not only install flush, but also withstand higher pressure than standard steel plugs. Plugs are solid. Meet ASTM A574 and ANSI/ASME B1.20.3. Temperature range is –100° to 450° F.

Choose ***PTFE-coated*** plugs for corrosion resistance.

Connections: NPTF (Dryseal), which is compatible with NPT.

Pipe Size	Hex Key Size	*Uncoated*		*PTFE Coated*	
1/16	5/32″	4534K39	$0.37	4534K29	$1.17
1/8	3/16″	4534K41	.43	4534K11	1.22
1/4	1/4″	4534K42	.60	4534K12	1.96
3/8	5/16″	4534K43	.93	4534K13	2.19
1/2	3/8″	4534K44	$1.67	4534K14	$5.78
3/4	9/16″	4534K45	3.21	4534K15	7.52
1	5/8″	4534K46	13.29	—	—
1 1/4	3/4″	4534K47	18.20	—	—

Seal-Tight High-Pressure Steel Threaded Pipe Unions

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 3,000 psi @ 100° F; 1,500 psi @ 700° F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 160 extra-thick-wall black steel (see page 67)



Rather than the standard metal-to-metal seal you get on other pipe unions, these heavy duty forged steel unions have a special gasket that provides a seal-tight joint in high-pressure applications. The gasket is Type 304 stainless steel with a graphite filler. A Type 316 stainless steel retainer protects the seal from overtightening during installation. Meet MSS SP-83, ASTM A105, and ANSI/ASME B1.20.1. Temperature range is –20° to 700° F.

Connections: NPT.

Pipe Size			Pipe Size		
1/2	4690K11	$62.63	1 1/4	4690K14	$147.98
3/4	4690K12	71.13	1 1/2	4690K15	166.86
1	4690K13	92.20	2	4690K16	203.60

High-Pressure Steel Threaded Locknuts with PTFE Seal

- Use with air, water, oil, natural gas
- Maximum Pressure: See table





No need for PTFE tape and sealants—these locknuts have a built-in seal for high-pressure applications. They're made of zinc-plated steel for corrosion resistance. Screw one onto your fitting before making a connection. Rounded corners prevent overtightening during installation. Temperature range is –100° to 500° F.

Connections: NPT.

Pipe Size	Max. psi @ 72° F	Width	Thick.		
1/8	10,000	5/8″	3/16″	5530K14	$2.12
1/4	10,000	3/4″	5/16″	5530K16	2.66
3/8	10,000	7/8″	5/16″	5530K18	2.90
1/2	10,000	1 1/8″	5/16″	5530K19	3.70
3/4	5,000	1 5/16″	5/16″	5530K21	4.54
1	5,000	1 5/8″	3/8″	5530K23	6.76
1 1/4	5,000	2″	3/8″	5530K25	10.58
1 1/2	3,000	2 1/4″	3/8″	5530K27	11.24
2	3,000	2 3/4″	7/16″	5530K29	33.20

High-Pressure Steel Threaded Pipe Outlets

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 3,000 psi @ 72° F
- Pipe: Use threaded Schedule 160 extra-thick-wall black steel (see page 67)

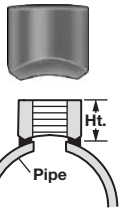

Create a threaded outlet anywhere on your pipe. Also known as branch connectors, they're made of heavy duty forged steel. Comparable to Thredolet. To install, drill a hole in your pipe to match the fitting's outlet size and weld in place. Meet MSS SP-97, ASTM A105, and ANSI/ASME B16.9, B16.11, and B31.

Connections: NPT.

To Order: Please specify pipe size within the range shown.

Fits Pipe Size Range	Outlet, Pipe Size	Ht.			
1/4 to 36	1/4	3/4″		4587K51	$5.87
3/8 to 36	3/8	13/16″		4587K52	5.87
1/2 to 36	1/2	1″		4587K53	5.84
3/4 to 36	3/4	1 1/16″		4587K54	6.73
1 to 36	1	1 5/16″		4587K55	7.84
1 1/4 to 36	1 1/4	1 3/8″		4587K56	11.28
1 1/2 to 36	1 1/2	1 3/8″		4587K57	11.28
2 to 36	2	1 1/2″		4587K28	12.85

Steel Pipe Fittings, Nipples & Flanges

For technical drawings and 3-D models, go to mcmaster.com. CAD

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Extreme-Pressure Steel Threaded Pipe Fittings

CAD

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 6,000 psi @ 72° F
- Pipe Nipples and Pipe: Use threaded Schedule XXH super-thick-wall steel (see below)
- Flanges: Use threaded extreme-pressure steel (see below)

With the thickest walls of all our threaded fittings, these super-tough Class 6000 forged black steel fittings handle the highest pressure. They meet ASTM A105 and ANSI/ASME B1.20.1; they also meet ANSI/ASME B16.11, except unions.

Half couplings are partially threaded; one end has an unthreaded portion that can be welded.

Connections: NPT.








Pipe Size	90° Elbows		Tees		Unions		Couplings		Half Couplings		Caps	
1/4	43455K12	$14.84	43455K21	$26.23	43455K31	$19.80	43455K38	$4.69	43455K41	$4.27	43455K51	$6.64
3/8	43455K19	15.09	43455K22	31.48	43455K32	19.65	43455K39	4.85	43455K42	4.65	43455K52	6.90
1/2	43455K13	7.85	43455K43	10.76	43455K93	17.29	43455K63	4.09	43455K73	2.98	43455K83	5.89
3/4	43455K14	9.99	43455K44	14.55	43455K94	19.60	43455K64	4.67	43455K74	3.15	43455K84	7.07
1	43455K15	12.81	43455K45	25.14	43455K95	25.36	43455K65	6.26	43455K75	4.07	43455K85	7.53
1 1/2	43455K17	33.56	43455K47	43.48	43455K97	49.34	43455K67	12.94	43455K77	11.39	43455K87	19.51
2	43455K18	51.40	43455K48	71.47	43455K98	87.01	43455K68	19.21	43455K78	20.75	43455K88	23.19

Super-Thick-Wall Steel Pipe Nipples and Pipe

CAD


Fully Threaded


Threaded on Both Ends


Threaded on One End

- Use with air, water, oil, natural gas, steam
- Fittings: Use threaded Class 6000 extreme-pressure steel (see above)
- Flanges: Use threaded extreme-pressure steel (see below)

Super duty nipples and pipe, also known as Schedule XXH, have the thickest walls available. They are black steel and have seamless construction for unrestricted flow. Meet ASTM A106B and A733, as well as ANSI/ASME B1.20.1

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: NPT.

FULLY THREADED

Pipe Size	Lg.		
1/2	1 1/8"	6850T11	$4.72
3/4	1 3/8"	6850T17	6.80
1	1 1/2"	6850T24	9.62
1 1/2	1 3/4"	6850T31	14.56
2	2"	6850T37	16.44

THREADED ON BOTH ENDS

Pipe Size	1 1/2" Lengths		2" Lengths		3" Lengths		4" Lengths	
1/2	6850T12	$5.04	6850T13	$5.54	6850T14	$6.72	6850T15	$8.40
3/4	6850T18	7.24	6850T19	7.64	6850T21	9.58	6850T22	11.96
1	———	———	6850T26	10.20	6850T27	12.76	6850T28	15.78
1 1/2	———	———	6850T33	15.34	6850T34	19.22	6850T35	23.50
2	———	———	———	———	6850T41	21.60	6850T42	28.20

THREADED ON BOTH ENDS

Pipe Size	6" Lengths		12" Lengths		18" Lengths		24" Lengths		36" Lengths	
1/2	6850T16	$12.48	6850T67	$22.06	6880T11	$40.52	6880T12	$50.68	6880T13	$70.16
3/4	6850T23	17.22	6850T68	31.08	6880T14	50.36	6880T25	67.10	6880T16	86.22
1	6850T29	22.72	6850T69	42.32	6880T15	74.22	6880T26	91.42	6880T17	137.12
1 1/2	6850T36	33.38	6850T71	62.68	6880T18	101.54	6880T19	135.40	6880T21	184.64
2	6850T43	37.46	6850T72	73.46	6880T22	129.10	6880T23	167.82	6880T24	205.55

THREADED ON ONE END

Pipe Size	1 1/2" Lengths		2" Lengths		3" Lengths		4" Lengths		6" Lengths	
1/2	6850T44	$5.51	6850T45	$6.03	6850T46	$7.32	6850T47	$9.15	6850T48	$12.34
3/4	6850T49	7.91	6850T51	8.31	6850T52	10.45	6850T53	13.05	6850T54	18.72
1	———	———	6850T55	11.11	6850T56	13.93	6850T57	17.24	6850T58	24.79
1 1/2	———	———	6850T59	16.72	6850T61	18.95	6850T62	25.62	6850T63	36.42
2	———	———	———	———	6850T64	26.09	6850T65	31.33	6850T66	45.27

Extreme-Pressure Steel Threaded Flanges

CAD

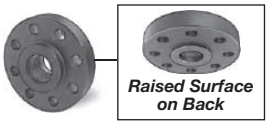
Raised Surface on Back

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 3,700 psi @ 72° F; 3,200 psi @ 350° F for steam
- Fittings: Use threaded Class 6000 extreme-pressure steel (see above)
- Pipe Nipples and Pipe: Use threaded Schedule XXH super-thick-wall steel (see above)

Take one look at these hefty flanges and you'll have no doubt they are the strongest available. Also called Class 1500 flanges, they're made of heavy duty forged black steel and have a raised surface on the back. Bolt two same-size flanges together with a gasket (not included) to create easy access to your pipe. For gaskets, see page 3533; for bolts, see pages 3150-3153. Flanges meet MSS SP-6, MSS SP-25, ASTM A105, and ANSI/ASME B16.5.

Connections: NPT.

Pipe Size	Flange OD	Bolts Required Qty.	Bolts Required Dia.		
1/2	4 3/4"	4	3/4"	1153T41	$103.50
3/4	5 1/8"	4	3/4"	1153T42	105.21
1	5 7/8"	4	7/8"	1153T43	108.00
1 1/4	6 1/4"	4	7/8"	1153T44	$147.26
1 1/2	7"	4	1"	1153T45	114.93
2	8 1/2"	8	7/8"	1153T46	117.23

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

British Standard and Metric Threaded High-Pressure Steel Pipe Fittings

- Use with air, water, oil
- Maximum Pressure: See table

Make high-pressure connections between BSPT, BSPP, NPT, and metric threads. Fittings are made of zinc-plated steel for corrosion resistance.

Swivel adapters rotate 360° for tightening in confined spaces. ***Through-wall nipples*** are also called panel-mount couplings and bulkhead fittings. ***Hex-head plugs*** with BSPT threads are solid; plugs with BSPP threads are hollow.

Connections: BSPT (British Standard Pipe Taper), BSPP (British Standard Pipe Parallel), NPT, or metric straight threads. Male BSPP threads have a rubber seal.

Adapters and Pipe Nipples



Pipe Size (A)	Pipe Size (B)	BSPT Male×NPT Male Max. psi @ 72° F			BSPT Male×BSPT Male Max. psi @ 72° F			BSPP Male×NPT Male Max. psi @ 72° F			BSPP Male×BSPP Male Max. psi @ 72° F		
1/8	1/8	5,100	4936K611	$10.80	5,100	4936K511	$7.78	5,100	4936K411	$2.86	5,100	4936K211	$2.83
1/4	1/8	6,500	4936K612	9.11	5,100	4936K512	13.39	5,100	4936K412	2.70	5,100	4936K212	4.55
1/4	1/4	6,500	4936K713	11.03	6,500	4936K513	8.22	6,500	4936K413	3.30	6,500	4936K213	3.83
3/8	1/4	5,500	4936K715	12.06	5,500	4936K515	8.77	5,500	4936K415	5.17	5,500	4936K215	3.94
3/8	3/8	5,500	4936K716	12.55	5,500	4936K516	8.64	5,500	4936K416	3.55	5,500	4936K216	4.11
1/2	1/4	—	—	—	4,500	4936K518	9.58	4,500	4936K418	8.00	4,500	4936K218	5.75
1/2	3/8	—	—	—	4,500	4936K519	9.58	4,500	4936K419	6.27	4,500	4936K219	5.17
1/2	1/2	4,500	4936K721	12.80	4,500	4936K521	9.53	4,500	4936K421	4.11	4,500	4936K221	5.39
3/4	1/2	—	—	—	3,500	4936K528	15.61	3,500	4936K428	11.44	3,500	4936K228	7.92
3/4	3/4	3,500	4936K731	19.22	3,500	4936K531	14.91	3,500	4936K431	6.72	3,500	4936K231	7.69
1	3/4	—	—	—	3,000	4936K537	23.15	3,000	4936K437	16.94	3,000	4936K237	13.97
1	1	3,000	4936K738	28.12	3,000	4936K538	23.22	3,000	4936K438	13.00	3,000	4936K238	13.22



Pipe Size (A)	Pipe Size (B)	BSPP Female×NPT Male Max. psi @ 72° F			BSPP Female×BSPP Male Max. psi @ 72° F			NPT Female×BSPT Male Max. psi @ 72° F			NPT Female×BSPP Male Max. psi @ 72° F		
1/8	1/8	5,100	4936K613	$15.70	4,500	4936K386	$5.11	3,500	4936K408	$9.61	5,100	4936K117	$3.30
1/8	1/4	6,500	4936K614	13.74	4,500	4936K387	4.83	6,500	4936K615	11.16	5,100	4936K118	4.25
1/4	1/4	6,500	4936K137	5.39	4,500	4936K388	9.03	3,500	4936K148	10.17	6,500	4936K119	3.64
1/4	3/8	5,500	4936K138	8.50	4,500	4936K389	9.28	—	—	—	5,500	4936K122	4.25
1/4	1/2	4,500	4936K141	12.61	—	—	—	4,500	4936K442	13.00	4,500	4936K125	11.20
3/8	3/8	5,500	4936K139	7.36	4,500	4936K391	9.47	3,500	4936K149	11.78	5,500	4936K123	6.95
3/8	1/2	4,500	4936K142	8.81	3,500	4936K393	11.56	—	—	—	4,500	4936K126	7.20
1/2	1/2	4,500	4936K143	9.03	3,500	4936K394	8.00	3,500	4936K151	14.67	4,500	4936K127	7.19
1/2	3/4	3,500	4936K144	14.58	3,500	4936K395	14.66	3,500	4936K444	14.34	3,500	4936K131	16.03
3/4	3/4	3,500	4936K145	13.41	3,500	4936K401	7.64	3,500	4936K152	17.58	3,500	4936K132	12.17
3/4	1	3,000	4936K146	23.45	3,000	4936K404	24.33	3,000	4936K445	26.80	3,000	4936K447	41.55
1	1	3,000	4936K147	22.50	3,000	4936K448	24.25	3,500	4936K407	24.82	3,000	4936K136	19.06



NPT Female (A)×Metric Male (B)

Pipe Size	Thread Size (Actual OD)	Max. psi @ 72° F			Pipe Size	Thread Size (Actual OD)	Max. psi @ 72° F			Pipe Size	Thread Size (Actual OD)	Max. psi @ 72° F		
1/8	M10×1.0	3,500	4936K153	$10.75	3/8	M18×1.5	3,500	4936K157	$7.84	1/2	M22×1.5	3,150	4936K452	$14.23
1/4	M12×1.5	3,500	4936K154	6.10	1/2	M16×1.5	3,500	4936K158	20.97	3/4	M27×2.0	2,750	4936K453	20.88
1/4	M14×1.5	3,500	4936K155	7.02	1/2	M18×1.5	3,500	4936K159	8.03	1	M33×2.0	2,250	4936K454	32.12
3/8	M16×1.5	3,500	4936K156	8.08	1/2	M20×1.5	3,250	4936K451	19.58					

Swivel Adapters



Pipe Size	Max. psi @ 72° F	BSPP Female Swivel× NPT Male		BSPP Female Swivel× BSPP Male	
1/4	3,500	4936K375	$10.78	4936K369	$6.56
3/8	3,500	4936K376	10.94	4936K371	7.34
1/2	3,500	4936K377	15.14	4936K372	9.75
3/4	3,500	4936K378	19.77	4936K373	12.72
1	3,000	4936K279	29.55	4936K446	24.14

Through-Wall Nipples



Pipe Size	BSPP Male×BSPP Male Max. psi @ 72° F		
1/4	6,500	4936K198	$7.00
3/8	5,500	4936K201	9.25
1/2	4,500	4936K204	11.78
3/4	3,500	4936K208	16.23
1	3,000	4936K341	24.70

Hex-Head Plugs





Pipe Size	BSPT Male Max. psi @ 72° F			BSPP Male Max. psi @ 72° F		
1/8	3,500	4936K184	$3.72	3,500	4936K176	$2.65
1/4	3,500	4936K185	3.86	3,500	4936K177	3.06
3/8	3,500	4936K186	5.42	3,500	4936K178	3.03
1/2	3,500	4936K187	5.23	3,500	4936K179	4.56
5/8	3,500	4936K188	7.58	3,500	4936K181	6.57
3/4	3,500	4936K189	8.89	3,000	4936K182	7.69
1	3,000	4936K195	13.11	3,000	4936K449	14.87

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

i To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Compact Extreme-Pressure Steel Threaded Pipe Fittings CAD

- Use with air, water, hydraulic oil
- Maximum Pressure: See table

Heavy duty forged or bar stock construction gives these little fittings a lot of might. Made of zinc-plated steel for corrosion resistance. Meet ASTM A108 or A576.

Connections: NPTF (Dryseal), which are compatible with NPT threads, or UN/UNF straight threads.

NPTF Connections

90° female×male elbows are also known as street elbows. ***Square-head plugs*** are hollow. ***Hex-head plugs*** are solid, except pipe sizes 3/4 and 1 are hollow. ***Hex-socket plugs*** are solid.



90° Elbows, Female

Pipe Size	Max. psi @ 72° F		
1/8	5,000	50925K118	$4.04
1/4	5,000	50925K151	5.09
3/8	4,500	50925K153	6.07
1/2	3,000	50925K155	9.57
3/4	3,000	50925K157	15.40
1	1,800	50925K159	23.86



90° Elbows, Male

Pipe Size	Max. psi @ 72° F		
1/8	6,000	50925K117	$3.83
1/4	6,000	50925K111	4.17
3/8	6,000	50925K113	5.44
1/2	6,000	50925K114	7.88
3/4	4,000	50925K115	11.94
1	3,000	50925K116	22.70



90° Elbows, Female×Male

Pipe Size	Max. psi @ 72° F		
1/8	5,000	50925K119	$3.98
1/4	5,000	50925K271	4.14
3/8	4,500	50925K273	5.61
1/2	3,000	50925K275	9.09
3/4	3,000	50925K277	14.38
1	1,800	50925K279	24.01



45° Elbows, Female

Pipe Size	Max. psi @ 72° F		
1/8	____	____	____
1/4	5,000	50925K173	$6.68
3/8	4,500	50925K174	9.15
1/2	3,000	50925K175	12.90
3/4	3,000	50925K176	20.66
1	1,800	50925K177	28.08



45° Elbows, Female×Male

Pipe Size	Max. psi @ 72° F		
1/8	5,000	50925K178	$4.15
1/4	5,000	50925K179	5.57
3/8	4,500	50925K181	7.06
1/2	3,000	50925K182	10.23
3/4	3,000	50925K183	14.98
1	1,800	50925K184	25.64



Tees, Female

Pipe Size	Max. psi @ 72° F		
1/8	5,000	50925K121	$5.71
1/4	5,000	50925K239	6.13
3/8	4,500	50925K242	8.47
1/2	3,000	50925K244	12.82
3/4	3,000	50925K246	20.32
1	1,800	50925K248	28.44



Tees, Male

Pipe Size	Max. psi @ 72° F		
1/8	6,000	50925K519	$27.23
1/4	6,000	50925K521	12.66
3/8	6,000	50925K522	27.47
1/2	6,000	50925K523	33.15
3/4	4,000	50925K524	37.55
1	3,000	50925K552	67.60



Tees, Female×Female×Male

Pipe Size	Max. psi @ 72° F		
1/8	5,000	50925K196	$5.23
1/4	5,000	50925K197	6.38
3/8	4,500	50925K198	8.49
1/2	3,000	50925K199	14.19
3/4	3,000	50925K201	23.95
1	1,800	50925K202	35.14



Tees, Female×Male×Female

Pipe Size	Max. psi @ 72° F		
1/8	5,000	50925K189	$7.89
1/4	5,000	50925K191	6.02
3/8	4,500	50925K192	10.05
1/2	3,000	50925K193	14.17
3/4	3,000	50925K194	24.15
1	1,800	50925K195	34.27



Crosses

Pipe Size	Max. psi @ 72° F		
1/8	5,000	50925K203	$15.66
1/4	5,000	50925K204	11.38
3/8	4,500	50925K205	14.17
1/2	3,000	50925K206	21.70
3/4	3,000	50925K207	31.60
1	1,800	50925K208	56.27



Square-Head Plugs

Pipe Size	Max. psi @ 72° F		
1/8	6,000	50925K525	$0.45
1/4	6,000	50925K526	.64
3/8	6,000	50925K527	.83
1/2	6,000	50925K528	1.28
3/4	6,000	50925K529	1.81
1	5,500	50925K531	7.74



Hex-Head Plugs

Pipe Size	Max. psi @ 72° F		
1/8	6,000	50925K209	$0.64
1/4	6,000	50925K389	.73
3/8	6,000	50925K392	.87
1/2	6,000	50925K394	1.36
3/4	5,500	50925K382	3.13
1	4,500	50925K384	5.00



Hex-Socket Plugs

Pipe Size	Max. psi @ 72° F	Hex Key Size		
1/8	6,000	3/16"	50925K231	$1.21
1/4	6,000	1/4"	50925K381	1.58
3/8	6,000	5/16"	50925K383	1.92
1/2	6,000	3/8"	50925K385	2.53
3/4	5,500	9/16"	50925K387	4.61

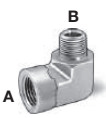

Reducing 90° Elbows, Female×Male

Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F		
1/4	1/8	5,000	50925K511	$8.38
3/8	1/4	4,500	50925K513	12.11
1/2	3/8	3,000	50925K515	19.09
3/4	1/2	3,000	50925K517	33.95



Reducing 90° Elbows, Male×Female

Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F		
1/4	1/8	5,000	50925K512	$8.66
3/8	1/4	5,000	50925K514	7.81
1/2	3/8	4,500	50925K516	8.87
3/4	1/2	3,000	50925K518	15.87



Hex Reducing Bushings, Male×Female

Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F		
1/4	1/8	6,000	50925K341	$1.60
3/8	1/8	6,000	50925K343	1.79
3/8	1/4	6,000	50925K345	1.50
1/2	1/8	6,000	50925K347	3.85
1/2	1/4	6,000	50925K349	2.16
1/2	3/8	6,000	50925K352	$2.36
3/4	1/4	5,500	50925K354	3.23
3/4	3/8	5,500	50925K356	2.89
3/4	1/2	5,000	50925K358	3.11
1	1/4	4,500	50925K532	18.62
1	3/8	4,500	50925K361	$5.44
1	1/2	4,500	50925K362	4.92
1	3/4	4,000	50925K364	4.81
1 1/4	1	3,000	50925K266	9.88

(Continued on following page)

How to Measure Female Threaded Fittings— *Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/4	3/8	1/2	5/8	3/4	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Compact Extreme-Pressure Steel Threaded Pipe Fittings *(Cont. from previous page)*

NPTF Connections (Cont.)







Pipe Size (A)	Pipe Size (B)	Hex Couplings: Max. psi @ 72° F			Adapters, Female×Male: Max. psi @ 72° F			Hex Nipples: Max. psi @ 72° F		
1/8	1/8	6,000	50925K232	$2.46	6,000	50925K128	$6.53	6,000	50925K257	$1.27
1/4	1/8	6,000	50925K233	3.98	6,000	50925K251	2.73	6,000	50925K258	2.04
1/4	1/4	6,000	50925K211	2.42	6,000	50925K129	5.70	6,000	50925K131	1.29
3/8	1/8	6,000	50925K234	6.02	6,000	50925K163	9.96	6,000	50925K259	3.25
3/8	1/4	6,000	50925K213	3.63	6,000	50925K312	3.64	6,000	50925K133	2.00
3/8	3/8	6,000	50925K215	3.48	6,000	50925K164	8.57	6,000	50925K134	1.85
1/2	1/8	5,000	50925K549	45.89	5,000	50925K314	6.83	—	—	—
1/2	1/4	5,000	50925K217	5.66	5,000	50925K316	5.38	6,000	50925K138	3.74
1/2	3/8	5,000	50925K219	5.11	5,000	50925K318	4.53	6,000	50925K136	3.31
1/2	1/2	5,000	50925K222	4.96	5,000	50925K165	17.23	6,000	50925K141	2.46
3/4	1/4	—	—	—	4,000	50925K321	11.27	5,500	50925K281	25.10
3/4	3/8	—	—	—	2,500	50925K282	23.13	2,500	50925K285	16.48
3/4	1/2	4,000	50925K225	8.30	4,000	50925K323	6.49	5,500	50925K142	4.30
3/4	3/4	4,000	50925K227	7.61	4,000	50925K166	18.21	5,500	50925K149	4.06
1	1/2	3,000	50925K551	44.69	3,000	50925K325	17.06	—	—	—
1	3/4	—	—	—	3,000	50925K326	11.65	4,500	50925K261	8.04
1	1	3,000	50925K229	10.65	2,000	50925K283	21.88	4,500	50925K148	6.36
1 1/4	1	—	—	—	2,500	50925K256	24.83	3,000	50925K267	18.15
1 1/4	1 1/4	2,500	50925K236	24.04	—	—	—	3,000	50925K268	12.81
1 1/2	1 1/2	2,000	50925K237	43.05	—	—	—	3,000	50925K265	19.76

NPTF×UN/UNF Connections

The male UN/UNF threads have a Buna-N O-ring for a tight seal.

NPTF Female×UN/UNF Male Adapters



Pipe Size (A)	Thread Size (B)	Max. psi @ 72° F		
1/8	7/16"-20	6,000	50925K172	$3.64
1/8	9/16"-18	6,000	50925K533	16.25
1/4	7/16"-20	6,000	50925K186	5.00
1/4	9/16"-18	6,000	50925K451	2.29
1/4	3/4"-16	6,000	50925K452	3.73
1/4	7/8"-14	5,000	50925K453	2.94
3/8	9/16"-18	6,000	50925K187	5.21
3/8	3/4"-16	6,000	50925K188	2.64
3/8	7/8"-14	5,000	50925K368	3.19
3/8	1 1/16"-12	5,000	50925K535	6.32
1/2	9/16"-18	5,000	50925K534	17.45
1/2	3/4"-16	5,000	50925K454	4.06
1/2	7/8"-14	5,000	50925K457	4.00
1/2	1 1/16"-12	5,000	50925K459	4.94
1/2	1 3/16"-12	5,000	50925K462	12.77
1/2	1 5/16"-12	5,000	50925K464	7.96
3/4	7/8"-14	4,000	50925K458	7.15
3/4	1 1/16"-12	4,000	50925K461	5.54
3/4	1 3/16"-12	4,000	50925K463	8.98
3/4	1 5/16"-12	4,000	50925K465	7.36
1	1 5/16"-12	3,000	50925K536	10.06
1	1 5/8"-12	3,000	50925K537	15.34
1	1 7/8"-12	3,000	50925K538	21.74

UN/UNF Female×NPTF Male Adapters



Thread Size (A)	Pipe Size (B)	Max. psi @ 72° F		
1/2"-20	1/8	6,000	50925K539	$14.02
9/16"-18	1/4	6,000	50925K541	5.99
9/16"-18	3/8	6,000	50925K542	16.11
9/16"-18	1/2	6,000	50925K544	18.16
3/4"-16	3/8	5,000	50925K543	5.80
3/4"-16	1/2	5,000	50925K545	17.07
7/8"-14	1/2	4,500	50925K546	18.40
1 1/16"-12	3/4	4,500	50925K547	23.23
1 5/16"-12	1	3,500	50925K548	22.04

NPTF Male×UN/UNF Male Adapters



Pipe Size (A)	Thread Size (B)	Max. psi @ 72° F		
1/8	7/16"-20	6,000	50925K327	$4.06
1/4	9/16"-18	6,000	50925K328	3.57
3/8	9/16"-18	6,000	50925K329	4.45
3/8	3/4"-16	6,000	50925K331	4.32
1/2	3/4"-16	6,000	50925K332	7.36
1/2	7/8"-14	6,000	50925K333	5.59
3/4	1 1/16"-12	5,000	50925K342	8.15
1	1 5/16"-12	4,500	50925K344	10.32

UN/UNF Connections

All have a Buna-N O-ring for a tight seal. ***Hex-head plugs*** are hollow. ***Hex-socket plugs*** are solid.

Hex-Head Plugs



Thread Size	Max. psi @ 72° F		
5/16"-24	7,500	50925K336	$1.64
3/8"-24	7,500	50925K337	1.55
7/16"-20	7,500	50925K411	1.06
1/2"-20	6,000	50925K413	1.36
9/16"-18	6,000	50925K415	1.13
3/4"-16	6,000	50925K417	1.52
7/8"-14	6,000	50925K419	2.04
1 1/16"-12	6,000	50925K422	3.13
1 3/16"-12	5,500	50925K424	5.85
1 5/16"-12	5,500	50925K425	4.36

Hex-Socket Plugs



Thread Size	Max. psi @ 72° F	Hex Key Size		
5/16"-24	6,000	1/8"	50925K338	$0.96
3/8"-24	6,000	5/32"	50925K339	1.08
7/16"-20	6,000	3/16"	50925K431	.89
1/2"-20	6,000	7/32"	50925K433	1.22
9/16"-18	6,000	1/4"	50925K435	1.08
3/4"-16	6,000	5/16"	50925K437	1.49
7/8"-14	6,000	3/8"	50925K439	1.90
1 1/16"-12	6,000	9/16"	50925K442	3.04
1 3/16"-12	5,500	9/16"	50925K443	4.19
1 5/16"-12	5,500	5/8"	50925K444	4.44

How to Measure Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

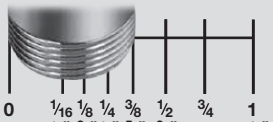

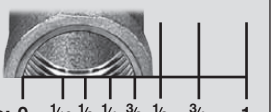

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Precision Compact Extreme-Pressure Steel Threaded Pipe Fittings

- Use with air, water, hydraulic oil, natural gas
- Maximum Pressure: See table

Also called instrumentation fittings, these have precise threads, tight tolerances, and high pressure ratings. Plus, the male threads are rolled for extra strength. They have heavy duty forged or bar stock steel construction and are zinc plated for corrosion resistance. Meet ASTM A108 or A576, as well as ANSI/ASME B31.1, B31.3, and B1.20.1. ***90° female x male elbows*** are also called street elbows. ***Hex-head plugs*** are solid. ***Hex-socket plugs*** are hollow. Connections: NPT.









90° Elbows, Female

Pipe Size	Max. psi @ 72° F		
1/8	5,900	5232T113	$5.90
1/4	6,000	5232T115	17.40
3/8	5,300	5232T117	17.78
1/2	4,800	5232T119	28.83
3/4	3,700	5232T411	36.62

90° Elbows, Male

Max. psi @ 72° F		
9,700	5232T412	$6.58
8,000	5232T413	8.04
7,600	5232T414	9.42
6,200	5232T415	12.48
6,800	5232T416	17.98

90° Elbows, Female x Male

Max. psi @ 72° F		
5,900	5232T127	$5.10
6,000	5232T129	20.10
5,300	5232T131	9.22
4,800	5232T133	29.00
3,700	5232T417	25.19

45° Elbows, Female

Max. psi @ 72° F		
____	____	____
6,000	5232T418	$9.88
5,300	5232T419	13.44
4,800	5232T421	20.36
3,700	5232T422	31.33









45° Elbows, Female x Male

Pipe Size	Max. psi @ 72° F		
1/8	5,900	5232T423	$6.42
1/4	6,000	5232T424	7.94
3/8	5,300	5232T425	10.62
1/2	4,800	5232T426	16.98
3/4	3,700	5232T427	23.72

Tees, Female

Max. psi @ 72° F		
5,900	5232T241	$8.44
6,000	5232T243	24.18
5,300	5232T245	40.33
4,800	5232T247	44.98
3,700	5232T428	31.51

Tees, Female x Female x Male

Max. psi @ 72° F		
5,900	5232T429	$10.46
6,000	5232T431	27.34
5,300	5232T432	16.80
4,800	5232T433	24.63
3,700	5232T434	33.84

Tees, Female x Male x Female

Max. psi @ 72° F		
5,900	5232T435	$13.60
6,000	5232T436	11.02
5,300	5232T437	16.30
4,800	5232T438	24.63
3,700	5232T439	34.65







Crosses

Pipe Size	Max. psi @ 72° F		
1/16	____	____	____
1/8	5,900	5232T441	$23.86
1/4	6,000	5232T442	16.54
3/8	5,300	5232T443	31.68
1/2	4,800	5232T444	36.82
3/4	3,700	5232T445	47.15

Hex-Head Plugs

Max. psi @ 72° F		
10,000	5232T446	$20.96
9,100	5232T227	4.00
7,500	5232T229	4.24
7,200	5232T231	5.96
6,600	5232T233	6.56
6,400	5232T447	10.00

Hex-Socket Plugs

Max. psi @ 72° F		
10,500	5232T448	$1.71
9,700	5232T449	2.36
8,000	5232T451	3.15
7,600	5232T452	3.88
7,000	5232T453	4.96
____	____	____



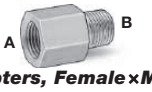



Hex Couplings

Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F		
1/8	1/8	6,800	5232T311	$4.28
1/4	1/8	7,000	5232T313	5.16
1/4	1/4	7,000	5232T315	7.36
3/8	1/8	5,600	5232T317	7.72
3/8	1/4	5,600	5232T319	4.72
3/8	3/8	5,600	5232T321	6.68
1/2	1/4	5,500	5232T325	12.56
1/2	3/8	5,500	5232T327	9.84
1/2	1/2	5,500	5232T329	9.58
3/4	1/4	____	____	____
3/4	1/2	4,600	5232T454	17.50
1	1/2	4,800	5232T455	48.59
1	3/4	____	____	____

Adapters, Female x Male

Max. psi @ 72° F		
____	____	____
7,000	5232T347	$7.16
7,000	5232T349	6.40
____	____	____
5,600	5232T353	7.36
____	____	____
5,500	5232T359	11.40
5,500	5232T361	10.26
____	____	____
4,600	5232T456	16.83
4,600	5232T367	13.72
4,800	5232T369	28.42
4,800	5232T457	19.60

Hex Nipples

Max. psi @ 72° F		
9,700	5232T312	$4.06
8,000	5232T314	4.64
8,000	5232T316	4.84
7,600	5232T318	4.68
7,600	5232T322	7.46
7,600	5232T324	7.26
7,000	5232T328	8.32
7,000	5232T332	7.72
7,000	5232T334	8.50
____	____	____
6,800	5232T458	13.46
____	____	____
____	____	____

Hex Reducing Bushings, Male x Female



Pipe Size (A)	Pipe Size (B)	Max. psi @ 72° F		
1/8	1/16	6,000	5232T459	$21.52
1/4	1/8	6,400	5232T377	4.64
3/8	1/8	6,800	5232T379	6.56
3/8	1/4	5,600	5232T381	6.76
1/2	1/8	6,800	5232T461	8.76
1/2	1/4	7,000	5232T385	$6.76
1/2	3/8	4,900	5232T387	6.76
3/4	1/4	6,800	5232T462	9.64
3/4	3/8	5,600	5232T463	9.64
3/4	1/2	5,200	5232T391	9.10
1	1/4	4,900	5232T464	$15.28
1	3/8	4,900	5232T465	10.46
1	1/2	4,900	5232T393	10.26
1	3/4	4,500	5232T466	15.10

How to Measure Unthreaded Pipe and Butt-Weld Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Standard-Wall Butt-Weld Steel Unthreaded Pipe Fittings

- Use with air, water, oil, natural gas, steam
- Pipe Nipples and Pipe: Use unthreaded Schedule 40 standard-wall steel (see below and page 76)
- Flanges: Use unthreaded low-pressure steel (see page 76)

Get the leak resistance of a welded connection combined with the strength of black steel. Also known as Schedule 40, these fittings have beveled ends that, when connected to a pipe, create a trough for a strong weld. Meet ASTM A234 and ANSI/ASME B16.9.

180° bends are also known as U-bends. ***Stub ends*** are for use with the low-pressure easy-access flanges on page 76. ***Centered reducing couplings***, also called concentric reducers, connect one pipe to another pipe of a smaller diameter with the centers lined up. ***Off-center reducing couplings***, also known as eccentric reducers, connect one pipe to another pipe of a smaller diameter with the centers offset.

Connections: Butt weld (unthreaded).









Pipe Size	Wall Thick.	90° Elbows, Long Radius (C)			90° Elbows, Short Radius (C)			45° Elbows		180° Bends (C)		
1/2	0.109"	1 1/2"	43425K111	$12.14	—	—	—	43425K112	$12.91	3"	43425K113	$104.65
3/4	0.113"	1 1/2"	43425K121	12.25	—	—	—	43425K122	13.02	2 1/4"	43425K123	105.46
1	0.133"	1 1/2"	43425K131	12.35	1"	43425K137	$19.48	43425K132	13.13	3"	43425K133	106.29
1 1/4	0.140"	1 7/8"	43425K141	12.46	1 1/4"	43425K147	19.65	43425K142	13.24	3 3/4"	43425K143	107.12
1 1/2	0.145"	2 1/4"	43425K151	12.56	1 1/2"	43425K157	19.81	43425K152	13.35	4 1/2"	43425K153	107.97
2	0.154"	3"	43425K161	16.98	2"	43425K167	25.83	43425K162	16.57	6"	43425K163	108.84
2 1/2	0.203"	3 3/4"	43425K171	20.57	2 1/2"	43425K177	41.37	43425K172	19.85	7 1/2"	43425K173	109.72
3	0.216"	4 1/2"	43425K181	25.11	3"	43425K187	48.55	43425K182	20.57	9"	43425K183	125.63
4	0.237"	6"	43425K211	41.37	4"	43425K217	63.62	43425K212	37.07	12"	43425K213	174.13
6	0.280"	9"	43425K231	91.24	6"	43425K237	162.70	43425K232	72.94	18"	43425K233	358.56
8	0.322"	12"	43425K241	166.74	8"	43425K247	256.96	43425K242	117.57	24"	43425K243	770.54







Pipe Size	Wall Thick.	Tees		Caps		Stub Ends	
1/2	0.109"	43425K114	$39.98	43425K116	$14.93	43425K115	$40.67
3/4	0.113"	43425K124	40.32	43425K126	15.06	43425K125	41.01
1	0.133"	43425K134	40.66	43425K136	15.18	43425K135	49.74
1 1/4	0.140"	43425K144	41.01	43425K146	15.31	43425K145	50.46
1 1/2	0.145"	43425K154	41.36	43425K156	15.45	43425K155	49.88
2	0.154"	43425K164	42.31	43425K166	16.51	43425K165	60.65
2 1/2	0.203"	43425K174	56.44	43425K176	17.37	43425K175	75.83
3	0.216"	43425K184	62.90	43425K186	17.51	43425K185	69.97
4	0.237"	43425K214	88.25	43425K216	25.34	43425K215	91.30
6	0.280"	43425K234	146.73	43425K236	43.27	43425K235	132.65
8	0.322"	43425K244	244.16	43425K246	65.48	43425K245	148.76

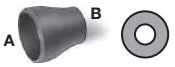

Centered Reducing Couplings

Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)		
3/4	1/2	43425K411	$38.85	2	1 1/2	43425K473	$25.69
1	1/2	43425K417	39.49	2 1/2	2	43425K481	32.28
1	3/4	43425K415	39.49	3	1 1/4	43425K495	52.04
1 1/4	1/2	43425K443	40.15	3	1 1/2	43425K493	32.94
1 1/4	3/4	43425K441	40.15	3	2	43425K491	28.66
1 1/4	1	43425K419	40.15	3	2 1/2	43425K482	26.68
1 1/2	1/2	43425K471	40.49	4	2	43425K499	41.83
1 1/2	3/4	43425K449	40.49	4	2 1/2	43425K483	41.83
1 1/2	1	43425K447	40.83	4	3	43425K497	34.25
1 1/2	1 1/4	43425K445	40.83	6	3	43425K486	86.96
2	3/4	43425K479	55.01	6	4	43425K487	71.81
2	1	43425K477	35.57	8	4	43425K488	117.30
2	1 1/4	43425K475	25.69	8	6	43425K489	94.20

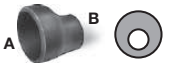

Off-Center Reducing Couplings

Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)		
3/4	1/2	43425K511	$52.62	2	1 1/2	43425K573	$32.94
1	1/2	43425K517	53.49	2 1/2	2	43425K581	38.21
1	3/4	43425K515	53.49	3	1 1/4	43425K595	177.87
1 1/4	1/2	43425K543	54.38	3	1 1/2	43425K593	51.05
1 1/4	3/4	43425K541	54.38	3	2	43425K591	44.79
1 1/4	1	43425K519	54.38	3	2 1/2	43425K582	41.83
1 1/2	1/2	43425K571	54.83	4	2	43425K599	66.54
1 1/2	3/4	43425K549	55.30	4	2 1/2	43425K583	57.64
1 1/2	1	43425K547	55.30	4	3	43425K597	54.68
1 1/2	1 1/4	43425K545	54.83	6	3	43425K586	170.85
2	3/4	43425K579	146.95	6	4	43425K587	109.01
2	1	43425K577	53.36	8	4	43425K588	242.32
2	1 1/4	43425K575	53.36	8	6	43425K589	138.98

Standard-Wall Steel Unthreaded Pipe

- Use with air, water, oil, natural gas, steam
- Fittings: Use butt-weld Schedule 40 standard-wall steel (see above)
- Flanges: Use unthreaded low-pressure steel (see page 76)

Also called Schedule 40, this unthreaded black steel pipe has welded construction, so there's a weld bead on the inside. Meets ASTM A53 and A733.

To Order: Please specify 1-, 3-, or 5-ft. length.



Pipe Size		1 ft.	3 ft.	5 ft.	Pipe Size		1 ft.	3 ft.	5 ft.	Pipe Size		1 ft.	3 ft.	5 ft.
1/2	7750K131	$5.73	$14.90	$22.92	1 1/2	7750K135	$12.53	$37.60	$62.67	4	7750K139	$47.13	$141.38	$235.63
3/4	7750K132	5.99	18.26	29.93	2	7750K136	16.26	48.77	81.28	6	7750K141	100.24	300.73	501.22
1	7750K133	7.96	24.28	39.81	2 1/2	7750K137	27.59	82.78	137.96	8	7750K142	350.02	437.53	583.37
1 1/4	7750K134	10.48	31.44	52.40	3	7750K138	38.71	116.14	193.57					

Steel Pipe Nipples, Flanges & Fittings

For technical drawings and 3-D models, go to mcmaster.com.

How to Measure Unthreaded Flanges—*Example shows pipe size 1/2.*

Pipe size is an industry designation, not the actual size. Place your flange on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your flange, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/8″	1/4″	3/8″	1/2″	3/4″	1″	1 1/4″	1 1/2″	2″	2 1/2″	3″
ID (nearest 1/8″):	0	1/2″	5/8″	3/4″	7/8″	1 1/8″	1 3/8″	1 5/8″	1 7/8″	2 3/8″	2 7/8″	3 1/2″

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Standard-Wall Steel Unthreaded Pipe Nipples



- Use with air, water, oil, natural gas, steam
- Fittings: Use butt-weld Schedule 40 standard-wall steel (see page 75)
- Flanges: Use unthreaded low-pressure steel (see below)

Keep these nipples on hand for those times when a short piece of pipe is all you need. Also called Schedule 40 nipples, they're black steel and have welded construction, so there's a weld bead on the inside. Meet ASTM A733.

Pipe Size	1″ Lengths		1 1/2″ Lengths		2″ Lengths		3″ Lengths		4″ Lengths		6″ Lengths		8″ Lengths	
1/8	1120T11	$2.12	1120T12	$2.15	1120T13	$2.15	1120T14	$2.48	1120T15	$2.98	1120T16	$6.23	1120T17	$8.60
1/4	1120T18	2.18	1120T19	2.21	1120T21	2.21	1120T22	2.85	1120T23	3.29	1120T24	5.92	1120T25	9.08
3/8	1120T26	2.60	1120T27	2.44	1120T28	2.44	1120T29	3.10	1120T31	3.65	1120T32	5.85	1120T33	10.42
1/2	1120T34	1.79	1120T35	1.81	1120T36	1.81	1120T37	2.15	1120T38	2.56	1120T39	3.35	1120T41	6.02
3/4	1120T42	2.18	1120T43	2.21	1120T44	2.21	1120T45	2.52	1120T46	3.10	1120T47	4.42	1120T48	7.38
1	———	———	1120T49	3.50	1120T51	3.29	1120T52	3.46	1120T53	4.31	1120T54	6.02	1120T55	9.85
1 1/4	———	———	1120T56	4.92	1120T57	4.31	1120T58	4.58	1120T59	5.42	1120T61	7.67	1120T62	12.40
1 1/2	———	———	1120T63	5.27	1120T64	5.12	1120T65	5.69	1120T66	6.40	1120T67	8.94	1120T68	14.21
2	———	———	1120T69	5.56	1120T71	7.21	1120T72	7.21	1120T73	8.69	1120T74	11.71	1120T75	19.62

Low-Pressure Steel Unthreaded Flanges

- Use with air, water, oil, natural gas, steam (unless noted)
- Maximum Pressure: 150 psi @ 72° F; 150 psi @ 350° F for steam
- Pipe Nipples and Pipe: Use unthreaded Schedule 40 standard-wall steel (see page 75 and above)
- Fittings: Use butt-weld Schedule 40 standard-wall steel (see page 75)



For easy access to your pipe, create a flange connection. Also called Class 150 flanges, they connect by bolting two same-size flanges together with a gasket (not included). For an installation set that includes a gasket and bolts, see page 3534. For gaskets, see pages 3529-3534; for bolts, see pages 3150-3153. Flanges are black steel and meet MSS SP-25, ASTM A105, and ANSI/ASME B16.5, unless noted. All come with a traceable lot number and a material test report.

Slip On—Slip the flange onto your pipe and weld. There is no internal stop; you must weld the flange to your pipe on both sides.

Socket Weld—An internal stop supports pipe when welding and prevents the pipe from sliding all the way through.

Butt Weld—Also called weld-neck flanges. Butt-up the flange to your pipe and weld. The flange neck has a beveled end that, when connected to a pipe, creates a trough for a strong weld.

Easy Access—Commonly called lap-joint flanges. Use these flanges with stub-end fittings (required, but not included; see page 75). The stub-end fitting is welded to the pipe (not the flange), so they're ideal for pipe that is frequently cleaned or inspected.

Cap—Also known as blind flanges, use these solid flanges to close off the end of a pipe.









Pipe Size	Flange OD	Bolts Req'd Qty.	Bolts Req'd Dia.	Slip On		Socket Weld		Butt Weld		Easy Access		Cap	
1/2	3 1/2″	4	1/2″	68095K398	$16.49	68095K412	$17.50	68095K415	$20.80	68095K422	$16.49	68095K418	$16.49
3/4	3 7/8″	4	1/2″	68095K344	17.54	68095K354	17.95	68095K364	20.80	68095K385	18.60	68095K375	17.54
1	4 1/4″	4	1/2″	68095K345	17.54	68095K355	17.95	68095K365	22.99	68095K386	18.60	68095K376	19.08
1 1/4	4 5/8″	4	1/2″	68095K346	21.25	68095K356	23.70	68095K367	26.58	68095K387	23.12	68095K377	20.13
1 1/2	5″	4	1/2″	68095K347	23.04	68095K357	23.59	68095K368	27.85	68095K388	22.08	68095K378	21.02
2	6″	4	5/8″	68095K348	21.75	68095K358	23.71	68095K369	28.01	68095K389	22.91	68095K379	23.23
2 1/2	7″	4	5/8″	68095K349	27.67	68095K359	33.62	68095K371	33.62	68095K391	32.89	68095K381	34.89
3	7 1/2″	4	5/8″	68095K351	27.98	68095K361	33.40	68095K372	33.94	68095K392	27.93	68095K382	31.31
4	9″	8	5/8″	68095K352	40.73	68095K362■	44.69	68095K373	49.18	68095K393	43.91	68095K383	42.09
5	10″	8	3/4″	68095K396	49.78	68095K399■	61.05	68095K413	69.38	68095K419	63.24	68095K416	53.69
6	11″	8	3/4″	68095K353	58.87	68095K363■	65.29	68095K374	70.87	68095K394	59.65	68095K384	67.33
8	13 1/2″	8	3/4″	68095K397	95.20	68095K411■	125.18	68095K414	115.68	68095K421	100.75	68095K417	107.11

■ Does not meet ANSI/ASME B16.5 and is not rated for use with steam.

Low-Pressure Iron Pipe Fittings with Flanged Ends

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 150 psi @ 72° F; 125 psi @ 353° F for steam
- Pipe Nipples and Pipe: Use unthreaded Schedule 40 standard-wall steel (see page 75 and above)
- Flanges: Use unthreaded low-pressure steel (see above)

Get rid of the middleman in your pipeline—these black cast iron fittings give you the shape and connection you want with fewer pieces to join. They're UL listed and FM approved, and because cast iron is brittle, they can be quickly opened in a fire emergency with the strike of a sledge hammer. Bolt the flanged end to another same-size flange, pump, or valve; a gasket is required, but not included. For an installation set that includes a gasket and bolts, see page 3534. For gaskets, see pages 3529-3534; for bolts see pages 3150-3153. Fittings meet Fed. Spec. WW-F-406, ASTM A126 and B307, and ANSI/ASME B1.20.1 and B16.1.

Centered reducing couplings are also known as concentric reducers.





Pipe Size	Flange OD	Bolts Req'd Qty.	Bolts Req'd Dia.	90° Elbows		45° Elbows		Tees	
2	6″	4	5/8″	1117T11	$198.95	1117T15	$276.74	1117T24	$217.83
2 1/2	7″	4	5/8″	1117T12	215.20	1117T16	295.16	1117T25	294.00
3	7 1/2″	4	5/8″	1117T13	179.61	1117T17	287.03	1117T26	222.35
4	9″	8	5/8″	1117T14	222.14	1117T18	323.07	1117T27	312.21

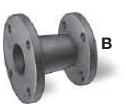

Centered Reducing Couplings

Pipe Size (A)	(B)		
2 1/2	2	1117T19	$415.54
3	2	1117T22	347.88
3	2 1/2	1117T21	361.00
4	3	1117T23	390.87

How to Measure Unthreaded Pipe and Butt-Weld Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.

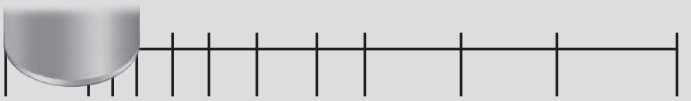

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Butt-Weld Steel Unthreaded Pipe Fittings

- Use with air, water, oil, natural gas, steam
- Pipe: Use unthreaded Schedule 80 thick-wall steel (see page 79)
- Flanges: Use unthreaded medium-pressure steel (see below)

Also known as Schedule 80 fittings, these are the strongest butt-weld black steel fittings we offer. They have beveled ends that, when connected to a pipe, create a trough for a strong weld. Meet ASTM A234.

Centered reducing couplings are also known as concentric reducers.

Connections: Butt weld (unthreaded).











Pipe Size	Wall Thick.	90° Elbows, Long Radius (C)		90° Elbows, Short Radius (C)		45° Elbows		180° Bends (C)		Tees	
1/2	0.147"	1 1/2"	4981T11 $44.10	—	—	4981T51	$17.53	—	—	—	—
3/4	0.154"	1 1/2"	4981T12 44.10	—	—	4981T52	48.92	—	—	4981T92	$99.96
1	0.179"	1 1/2"	4981T13 21.54	1"	4981T33 $49.74	4981T53	22.05	—	—	4981T93	39.94
1 1/4	0.191"	1 7/8"	4981T14 21.54	1 1/4"	4981T34 50.65	4981T54	22.24	—	—	4981T94	40.61
1 1/2	0.200"	2 1/4"	4981T15 21.80	1 1/2"	4981T35 51.08	4981T55	22.42	4 1/2"	4981T85 $178.50	4981T95	41.31
2	0.218"	3"	4981T16 21.80	2"	4981T36 73.26	4981T56	22.81	6"	4981T86 179.93	4981T96	45.57
2 1/2	0.276"	3 3/4"	4981T17 30.67	2 1/2"	4981T37 73.86	4981T57	49.00	7 1/2"	4981T87 181.38	4981T97	75.95
3	0.300"	4 1/2"	4981T18 39.28	3"	4981T38 74.48	4981T58	29.40	9"	4981T88 251.71	4981T98	70.81
4	0.337"	6"	4981T19 62.48	4"	4981T39 118.55	4981T59	46.38	12"	4981T89 289.38	4981T99	110.72
6	0.432"	9"	4981T21 152.93	6"	4981T41 263.24	4981T61	118.79	18"	4981T67 799.26	4981T23	202.18



Caps

Pipe Size	Wall Thick.		
1/2	0.147"	4981T43	$36.51
3/4	0.154"	4981T44	36.81
1	0.179"	4981T45	37.12
1 1/4	0.191"	4981T46	19.26
1 1/2	0.200"	4981T47	19.26
2	0.218"	4981T48	17.23
2 1/2	0.276"	4981T49	23.57
3	0.300"	4981T63	26.36
4	0.337"	4981T64	35.74
6	0.432"	4981T65	70.31



Centered Reducing Couplings

Pipe Size (A)	(B)		
1 1/2	1	4981T119	$39.54
2	3/4	4981T122	79.14
2	1	4981T123	37.51
2	1 1/4	4981T124	35.74
2	1 1/2	4981T125	29.91
2 1/2	2	4981T126	40.81
3	1 1/4	4981T127	65.17
3	1 1/2	4981T128	45.62

Pipe Size (A)	(B)		
3	2	4981T129	$34.22
3	2 1/2	4981T131	34.22
4	2	4981T132	55.37
4	2 1/2	4981T133	49.98
4	3	4981T134	43.85
6	3	4981T135	114.99
6	4	4981T136	98.40

Medium-Pressure Steel Unthreaded Flanges

- Use with air, water, oil, natural gas, steam
- Max. Pressure: 300 psi @ 72° F; 300 psi @ 300° F for steam
- Pipe: Use unthreaded Schedule 80 thick-wall steel (see page 79)
- Fittings: Use butt-weld Schedule 80 thick-wall steel (see above) and socket-weld high-pressure steel (see page 78)



Gain access to your pipe without disassembling your line. Also called Class 300 flanges, they have heavy duty forged construction for superior strength. Connect by bolting two same-size flanges together with a gasket (not included). For gaskets, see pages 3529-3534; for bolts, see pages 3150-3153. Flanges are black steel and meet ASTM A105 and ANSI/ASME B16.5. All come with a traceable lot number and a material test report.

Slip On—Slip the flange onto your pipe and weld. There is no internal stop; you must weld the flange to your pipe on both sides.

Socket Weld—An internal stop supports pipe when welding and prevents the pipe from sliding all the way through.

Butt Weld—Also known as weld-neck flanges. Butt-up the flange to your pipe and weld. The flange neck has a beveled end that, when connected to a pipe, creates a trough for a strong weld.

Easy Access—Commonly called lap-joint flanges. Use these flanges with stub-end fittings (required, but not included; see page 75). The stub-end fitting is welded to the pipe (not the flange), so they're ideal for pipe that is frequently cleaned or inspected.

Cap—Also known as blind flanges, use these solid flanges to close off the end of a pipe.











Pipe Size	Flange OD	Bolts Req'd Qty.	Bolts Req'd Dia.	Slip On		Socket Weld		Butt Weld		Easy Access		Cap	
1/2	3 3/4"	4	1/2"	6806K339	$19.03	6806K343	$19.69	6806K346	$19.69	6806K353	$19.13	6806K349	$18.40
3/4	4 5/8"	4	5/8"	6806K277	17.73	6806K287	21.58	6806K297	23.00	6806K327	18.31	6806K317	20.94
1	4 7/8"	4	5/8"	6806K278	21.73	6806K288	22.40	6806K298	25.94	6806K328	22.40	6806K318	21.03
1 1/4	5 1/4"	4	5/8"	6806K279	21.78	6806K289	30.02	6806K299	36.02	6806K329	23.96	6806K319	25.47
1 1/2	6 1/8"	4	3/4"	6806K281	28.78	6806K291	34.82	6806K311	35.69	6806K331	32.93	6806K321	29.29
2	6 1/2"	8	5/8"	6806K282	28.53	6806K292	29.53	6806K312	34.87	6806K332	34.31	6806K322	29.07
2 1/2	7 1/2"	8	3/4"	6806K283	43.24	6806K293	49.98	6806K313	48.89	6806K333	45.98	6806K323	41.76
3	8 1/4"	8	3/4"	6806K284	46.04	6806K294	50.55	6806K314	54.95	6806K334	50.48	6806K324	47.55
4	10"	8	3/4"	6806K285	57.78	6806K295	76.05	6806K315	68.11	6806K335	74.01	6806K325	66.69
5	11"	8	3/4"	6806K337	112.55	6806K341	134.64	6806K344	114.43	6806K351	113.39	6806K347	114.89
6	12 1/2"	12	3/4"	6806K286	111.20	6806K296	189.43	6806K316	120.62	6806K336	122.66	6806K326	109.84
8	15"	12	7/8"	6806K338	145.68	6806K342	236.93	6806K345	176.60	6806K352	175.01	6806K348	175.01

Steel Flange Adapters & Pipe Fittings

For technical drawings and 3-D models, go to mcmaster.com.

How to Measure Unthreaded Pipe and Flanges—*Example shows pipe size 3/8 for pipe, pipe size 1/2 for flanges.*

Pipe size is an industry designation, not the actual size. Place your pipe or flange on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe and butt-weld flange neck, or inside diameter (ID) of your slip-on, socket-weld, and easy-access flange, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
OD (to nearest 1/8"):	0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"



Pipe Size:	0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
ID (to nearest 1/8"):	0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

DIN Steel Unthreaded Flange Adapters

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 230 psi @ 72° F; 180 psi @ 300° F for steam
- Pipe Nipples and Pipe: Use unthreaded Schedule 40 standard-wall steel (see pgs. 75-76)
- Fittings: Use butt-weld Schedule 40 standard-wall steel (see page 75)

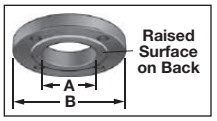

Made to DIN EN standards, these flanges provide a smooth transition between your standard-wall (Schedule 40) pipe or fittings and another DIN EN flange connection. Flanges have heavy duty forged construction for superior strength. Bolt two same-size flanges together with a gasket (not included). For gaskets, see page 3534; for bolts, see pages 3157-3159. Meet DIN 2527, 2633, or 86030, as well as EN 1092-1.

Slip On—Slip the flange onto your pipe and weld on both sides of your pipe.

Butt Weld—Also known as weld-neck flanges. Butt-up the flange to your pipe and weld. The flange neck has a beveled end that, when connected to a pipe, creates a trough for a strong weld.

Cap—Also known as blind flanges, use these solid flanges to close off the end of a pipe.





Flange Size	Pipe Size (A)	Flange OD (B)	Bolts Req'd Qty.	Bolts Req'd Dia.	Slip On		Butt Weld		Cap	
DIN 25	1	115 mm	4	M12	1132T19	$16.57	1132T11	$16.87	1132T15	$17.93
DIN 50	2	165 mm	4	M16	1132T21	35.52	1132T12	37.44	1132T16	42.00
DIN 80	3	200 mm	8	M16	1132T22	50.62	1132T13	49.28	1132T17	62.60
DIN 100	4	220 mm	8	M16	1132T23	57.28	1132T14	55.94	1132T18	74.16

High-Pressure Socket-Weld Steel Unthreaded Pipe Fittings



- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 3,000 psi @ 72° F
- Pipe: Use unthreaded Schedule 80 thick-wall steel (see page 79)

Also known as Class 3000, these heavy duty black steel pipe fittings have forged construction that stands up to high pressures. Meet ASTM A105; also meet ANSI/ASME B16.11, except unions meet MSS SP-83 and reducing bushings meet MSS SP-79.

Connections: Socket weld (unthreaded).








Pipe Size	90° Elbows		45° Elbows		Tees		Crosses		Unions		Caps	
1/8	45005K111	$8.99	45005K131	$9.04	45005K151	$9.93	45005K171	$20.00	45005K251	$12.25	45005K231	$5.47
1/4	45005K112	8.99	45005K132	9.04	45005K152	9.93	45005K172	24.00	45005K252	12.25	45005K232	5.47
3/8	45005K113	8.99	45005K133	9.04	45005K153	9.93	45005K173	29.62	45005K253	12.25	45005K233	5.47
1/2	45005K114	5.02	45005K134	6.68	45005K154	6.21	45005K174	22.56	45005K254	10.27	45005K234	3.32
3/4	45005K115	5.22	45005K135	7.77	45005K155	7.60	45005K175	23.30	45005K255	11.98	45005K235	3.87
1	45005K116	6.70	45005K136	10.16	45005K156	10.32	45005K176	25.25	45005K256	15.44	45005K236	5.88
1 1/4	45005K117	12.89	45005K137	13.93	45005K157	15.86	45005K177	34.25	45005K257	24.90	45005K237	6.92
1 1/2	45005K118	14.97	45005K138	17.07	45005K158	21.02	45005K178	49.32	45005K258	26.97	45005K238	9.62
2	45005K119	22.02	45005K139	27.46	45005K159	30.34	45005K179	71.06	45005K259	38.82	45005K239	14.83
2 1/2	45005K121	62.59	45005K141	72.10	45005K161	87.15	45005K181	150.81	45005K261	97.88	45005K241	80.68
3	45005K122	108.10	45005K142	108.93	45005K162	189.43	45005K182	199.74	45005K262	118.00	45005K242	83.37
4	45005K123	237.89	45005K143	214.66	45005K163	279.42					45005K243	112.87



Couplings

Pipe Size		
1/8	45005K191	$6.86
1/4	45005K192	5.71
3/8	45005K193	5.71
1/2	45005K194	2.64
3/4	45005K195	3.42
1	45005K196	3.77
1 1/4	45005K197	6.67
1 1/2	45005K198	7.38
2	45005K199	11.79
2 1/2	45005K201	26.37
3	45005K202	59.28
4	45005K203	89.14

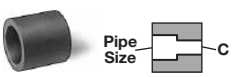

Half Couplings

Pipe Size	Actual ID (C)		
1/8	1/4"	45005K211	$5.86
1/4	3/8"	45005K212	5.86
3/8	1/2"	45005K213	5.86
1/2	5/8"	45005K214	2.99
3/4	13/16"	45005K215	3.05
1	1 1/16"	45005K216	4.07
1 1/4	1 3/8"	45005K217	8.22
1 1/2	1 5/8"	45005K218	8.20
2	2 1/16"	45005K219	11.88
2 1/2	2 7/16"	45005K221	108.67
3	3 1/16"	45005K222	115.78
4	4 1/16"	45005K223	132.34



Reducing Couplings

Pipe Size (A)	(B)		
1/4	1/8	45005K301	$14.59
3/8	1/8	45005K302	15.38
3/8	1/4	45005K303	15.38
1/2	1/4	45005K304	9.37
1/2	3/8	45005K305	9.37
3/4	3/8	45005K306	9.38
3/4	1/2	45005K307	9.38
1	1/2	45005K308	13.09
1	3/4	45005K309	13.09
1 1/4	1	45005K311	16.72
1 1/2	1 1/4	45005K312	17.92
2	1	45005K313	19.82
2	1 1/2	45005K314	19.82
2 1/2	2	45005K315	63.60
3	2 1/2	45005K316	114.68
4	3	45005K317	117.18



Reducing Bushings, Male (A) × Female (B)

Pipe Size (A)	(B)		
1/4	1/8	45005K271	$11.92
1/2	1/4	45005K273	5.09
1/2	3/8	45005K272	5.09
3/4	1/4	45005K276	6.21
3/4	3/8	45005K275	6.21
3/4	1/2	45005K274	6.21
1	1/2	45005K278	6.80
1	3/4	45005K277	6.80
1 1/4	1	45005K279	7.98
1 1/2	1 1/4	45005K281	9.97
2	1	45005K283	13.65
2	1 1/2	45005K282	13.65

How to Measure Socket-Weld Unthreaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

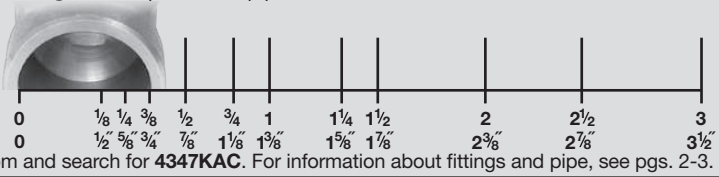

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Steel Unthreaded Pipe

- Use with air, water, oil, natural gas, steam
- Fittings: Use butt-weld Schedule 80 thick-wall steel (see page 77) and socket-weld high-pressure steel (see page 78)
- Flanges: Use unthreaded medium-pressure steel (see page 77)

Thick walls and seamless construction result in superior strength and unrestricted flow. Also known as Schedule 80, this black steel pipe meets ASTM A53, A106, and A733.

To Order: Please specify 1-, 3-, or 6-ft. length.



Pipe Size		1 ft.	3 ft.	6 ft.
1/8	7972K31	$22.69	$67.03	$103.13
1/4	7972K32	26.25	77.55	119.30
3/8	7972K33	28.88	85.34	131.29
1/2	7972K34	18.56	54.83	84.36
3/4	7972K35	$18.61	$55.00	$84.61
1	7972K36	25.40	75.06	115.47
1 1/4	7972K37	32.72	96.67	148.72
1 1/2	7972K38	37.57	111.01	170.79
2	7972K39	$43.86	$129.58	$199.35
2 1/2	7972K41	70.02	206.88	318.28
3	7972K42	84.76	250.42	385.26
4	7972K43	115.45	341.10	524.77

Extreme-Pressure Socket-Weld Steel Unthreaded Pipe Fittings

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 6,000 psi @ 72° F
- Pipe: Use unthreaded Schedule XXH super-thick-wall steel (see below)
- Flanges: Use unthreaded extreme-pressure steel (see below)

Looking for the strongest steel fittings we offer? Also known as Class 6000, these heavy duty forged black steel fittings handle extreme pressure. Meet ASTM A105; they also meet ANSI/ASME B16.11, except unions.

Connections: Socket weld (unthreaded).


Unthreaded Socket-Weld Connection







Pipe Size	90° Elbows	Tees	Unions	Couplings	Caps
1/2	43665K114 $6.49	43665K154 $10.14	43665K254 $17.81	43665K194 $4.00	43665K234 $5.35
3/4	43665K115 7.47	43665K155 11.69	43665K255 20.70	43665K195 4.42	43665K235 7.79
1	43665K116 10.27	43665K156 14.62	43665K256 30.01	43665K196 5.57	43665K236 8.27
1 1/4	43665K117 17.00	43665K157 32.10	43665K257 46.41	43665K197 14.61	43665K237 19.21
1 1/2	43665K118 22.82	43665K158 37.75	43665K258 54.45	43665K198 14.61	43665K238 25.11
2	43665K119 33.47	43665K159 47.85	43665K259 102.55	43665K199 20.94	43665K239 37.24

Super-Thick-Wall Steel Unthreaded Pipe

- Use with air, water, oil, natural gas, steam
- Fittings: Use socket-weld Class 6000 extreme-pressure steel (see above)
- Flanges: Use unthreaded extreme-pressure steel (see below)

The strongest black steel pipe we offer, this pipe is also known as Schedule XXH. It has seamless construction for unrestricted flow. Meets ASTM A106B and A733.



Pipe Size	1-ft. Lengths	2-ft. Lengths	3-ft. Lengths
1/2	1155T11 $29.03	1155T16 $52.34	1155T22 $77.14
3/4	1155T12 40.89	1155T17 73.76	1155T23 110.60
1	1155T13 55.68	1155T18 100.40	1155T24 150.60
1 1/2	1155T14 82.47	1155T19 148.70	1155T25 202.76
2	1155T15 96.66	1155T21 184.55	1155T26 225.71

Extreme-Pressure Steel Unthreaded Flanges

- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 3,700 psi @ 72° F; 3,200 psi @ 350° F for steam
- Pipe: Use unthreaded Schedule XXH super-thick-wall steel (see above)
- Fittings: Use unthreaded socket-weld extreme-pressure (Class 6000) steel (see above)


Raised Surface on Back

Flange connections give you access to your pipe without having to disassemble the line. Also called Class 1500 flanges, they are black steel and have heavy duty forged construction for superior strength. Connect by bolting two same-size flanges together with a gasket (not included). For gaskets, see pg. 3533; for bolts, see pgs. 3150-3153. Flanges meet MSS SP-6 and SP-25, as well as ASTM A105 and ANSI/ASME B16.5. All come with a traceable lot number and a material test report.

Slip On—Slip the flange onto your pipe and weld. There is no internal stop; you must weld the flange to your pipe on both sides.

Socket Weld—An internal stop supports pipe when welding and prevents the pipe from sliding all the way through.

Butt Weld—Also called weld-neck flanges. Butt-up the flange to your pipe and weld. The flange neck has a beveled end that, when connected to a pipe, creates a trough for a strong weld.

Cap—Also known as blind flanges, use these solid flanges to close off the end of a pipe.







Pipe Size	Flange OD	Bolts Req'd Qty.	Bolts Req'd Dia.	Slip On	Socket Weld	Butt Weld	Cap
1/2	4 3/4"	4	3/4"	1139T45 $96.86	1139T58 $101.62	1139T38 $80.06	1139T52 $100.59
3/4	5 1/8"	4	3/4"	1139T46 101.62	1139T59 113.18	1139T39 80.18	1139T53 102.98
1	5 7/8"	4	7/8"	1139T47 105.00	1139T61 118.28	1139T41 87.38	1139T54 105.98
1 1/4	6 1/4"	4	7/8"	1139T48 109.50	1139T62 122.74	1139T42 98.74	1139T55 111.34
1 1/2	7"	4	1"	1139T49 111.70	1139T63 119.54	1139T43 94.74	1139T56 109.14
2	8 1/2"	8	7/8"	1139T51 114.46	1139T64 125.80	1139T44 103.50	1139T57 115.30

How to Measure Unthreaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size: 0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
OD (to nearest 1/8"): 0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"



Pipe Size: 0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
ID (to nearest 1/8"): 0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

High-Pressure Steel Socket-Weld Pipe Outlets

CAD



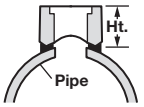

- Use with air, oil, natural gas, steam
- Maximum Pressure: 3,000 psi @ 72° F
- Pipe: Use unthreaded Schedule 80 thick-wall black steel (see page 79)

Also called branch connectors, these outlets create a tap off anywhere along your pipe. They're comparable to Sockolet. To install, drill a hole in your pipe to match the fitting's outlet size and weld in place. They're heavy duty forged steel and meet MSS SP-97 and ASTM A105, as well as ANSI/ASME B16.9, B16.11, and B31.

Connections: Socket weld (unthreaded).

To Order: Please specify pipe size within the range shown.

Fits Pipe Size Range	Outlet, Pipe Size	Ht.		
1/4 to 36	1/4	3/4"	4587K61	$9.29
3/8 to 36	3/8	7/8"	4587K62	8.57
1/2 to 36	1/2	1"	4587K63	8.15
3/4 to 36	3/4	1 1/8"	4587K64	8.34
1 to 36	1	1 3/8"	4587K65	9.17
1 1/4 to 36	1 1/4	1 3/8"	4587K66	13.62
1 1/2 to 36	1 1/2	1 3/8"	4587K67	13.62
2 to 36	2	1 1/2"	4587K68	14.05

Seal-Tight High-Pressure Steel Socket-Weld Pipe Unions

CAD



- Use with air, water, oil, natural gas, steam
- Maximum Pressure: 3,000 psi @ 100° F; 1,500 psi @ 700° F for steam
- Pipe: Use unthreaded Schedule XXH super-thick-wall steel (see page 79)

A Type 304 stainless steel gasket with a graphite filler gives these forged steel unions a tight seal under high pressures. They also have a Type 316 stainless steel retainer that protects the seal from overtightening during installation. Meet MSS SP-83, ASTM A105, and ANSI/ASME B1.20.1. Temperature range is –20° to 700° F.

Connections: Socket weld (unthreaded).

Pipe Size		
1/2	4690K17	$62.63
3/4	4690K18	71.13
1	4690K19	92.20
1 1/4	4690K21	147.98
1 1/2	4690K22	166.86
2	4690K23	203.60

Grooved-End Iron Unthreaded Pipe Fittings and Pipe

CAD

- Use with air and water, unless otherwise stated
- Maximum Pressure: Fittings and Couplings: 750 psi @ 72° F; Pipe: Not rated



Grooved ends on these fittings connect with a coupling for an easy way to install and maintain piping systems. All are UL listed and FM approved.

Elbows, tees, caps, and ***adapters*** are ductile iron and covered with orange enamel. Meet ASTM A536.

Couplings have a two-piece housing that can remain intact for installation. Housings are covered with orange enamel. They have zinc-plated nuts and bolts. Meet ASTM A536. Couplings *with EPDM gasket* are for use with water. Temperature range is –30° to 250° F. Couplings *with nitrile gasket* are for use with air and oil. Temperature range is –20° to 180° F.

Standard-wall pipe is also known as Schedule 40. It is black steel and has welded construction, so there's a weld bead on the inside.







Pipe Size	90° Elbows		Tees		Caps	
2	5723T11	$38.03	5723T14	$58.93	5723T17	$32.15
3	5723T12	67.23	5723T15	80.90	5723T18	32.15
4	5723T13	73.13	5723T16	122.95	5723T19	34.55





Adapters, Grooved×NPT Male

Pipe Size (A)	(B)		
3	2	5723T21	$52.50
4	2	5723T22	63.75
4	3	5723T23	78.48

Couplings

For Pipe Size	For Pipe OD	With EPDM Gasket		Replacement EPDM Gasket		With Nitrile Gasket		Replacement Nitrile Gasket	
2	2 3/8"	5723T321	$34.78	5723T324	$28.77	5723T327	$34.78	5723T331	$28.77
3	3 1/2"	5723T322	46.16	5723T325	36.42	5723T328	46.16	5723T332	36.42
4	4 1/2"	5723T323	64.58	5723T326	45.86	5723T329	64.58	5723T333	45.86

STANDARD-WALL PIPE







Pipe Size	Lg.	Grooved on Both Ends		Grooved on One End, Male NPT Threaded on Other End		Grooved on One End, Unthreaded on Other End	
2	2 ft.	4139K142	$70.54	4139K141	$70.54	4139K143	$70.54
2	4 ft.	4139K242	92.76	4139K241	92.76	4139K243	92.76
2	5 ft.	4139K342	103.84	4139K341	103.84	4139K343	103.84
3	2 ft.	4139K152	131.33	4139K151	131.33	4139K153	131.33
3	4 ft.	4139K252	176.09	4139K251	176.09	4139K253	176.09
3	5 ft.	4139K352	198.51	4139K351	198.51	4139K353	198.51
4	2 ft.	4139K162	181.34	4139K161	181.34	4139K163	181.34
4	4 ft.	4139K262	221.43	4139K261	221.43	4139K263	221.43
4	5 ft.	4139K362	249.06	4139K361	249.06	4139K363	249.06

How to Measure Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
OD (to nearest 1/8"): 0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"



Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
ID (to nearest 1/8"): 0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

About Plastic Pipe Fittings and Pipe

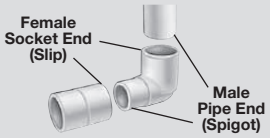

Unthreaded pipe fittings generally come with either a female socket end (slip) or a male pipe end (spigot) connection.

Both primer and cement (sold on page 3466) are required to connect unthreaded plastic pipe fittings to pipe. After applying the primer and cement, slide the pipe end into the socket end.

Plastic pipe fittings are not rated for pressure; however, you can use the pressure rating for the plastic pipe as a reference.

Applications	Fittings	Pages
Cold Drinking Water	Standard-Wall White PVC	82-84
	Thick-Wall Dark Gray PVC	88-90, 92-94
Cold and Hot Drinking Water	Thick-Wall Light Gray CPVC	96-99
Water Drainage	Drain, Waste, and Vent Standard-Wall White PVC	85-86
Gasoline	High-Strength White Nylon	95
Chemicals	Thick-Wall Black Polypropylene	100-102
	Chemical-Resistant Thick-Wall Red PVDF	102
	Corrosion-Resistant Thick-Wall White PFA	102-103
High Temperatures	High-Temperature Thick-Wall White PTFE	103
Outdoor Use	UV-Resistant Standard-Wall PVC	81

Warning: Never use plastic pipe fittings and pipe with compressed air or gas.

UV-Resistant Standard-Wall PVC Pipe Fittings and Pipe

Pipe Fittings:
- Meet NSF/ANSI 61 Standard for use with drinking (potable) water
- Maximum Temperature: 140° F

Pipe:
- Use with water; does not meet NSF/ANSI Standard 61
- Maximum Temperature: 140° F

Go ahead and use these Schedule 40 pipe fittings and pipe outdoors—the PVC has an additive that protects it from the damaging effects of ultraviolet light. PVC is rigid and corrosion resistant; it is the most popular choice for low-pressure plumbing applications.

Fittings meet ASTM D2466.

Pipe meets ASTM D1784.

Connections: Fittings are unthreaded socket end (female), unthreaded pipe end (male), or threaded (NPT); pipe is unthreaded. Connect unthreaded fittings to pipe using a PVC primer and cement (see series 74605A on page 3466).

Unthreaded Socket End (Female)—Beige






Pipe Size	90° Elbows		45° Elbows		Tees		Couplings	
1/2	4738T11	$2.17	4738T21	$3.00	4738T31	$2.70	4738T41	$2.23
3/4	4738T12	2.70	4738T22	3.90	4738T32	3.20	4738T42	3.00
1	4738T13	4.50	4738T23	4.70	4738T33	6.30	4738T43	4.50
1 1/2	4738T14	9.73	4738T24	9.17	4738T34	12.47	4738T44	6.90
2	4738T15	13.50	4738T25	13.07	4738T35	16.53	4738T45	10.50

Male to Unthreaded Socket End (Female)—Beige



Reducing Bushings, Pipe End (A) x Socket End (B)

Pipe Size (A)	Pipe Size (B)		
3/4	1/2	4738T51	$2.37
1	3/4	4738T53	3.43
1 1/2	1	4738T55	5.87
2	1	4738T56	7.23
2	1 1/2	4738T57	7.23



Adapters, Threaded x Socket End

Pipe Size		
3/4	4738T82	$2.37
1	4738T83	3.00
1 1/2	4738T84	5.10
2	4738T85	8.26

Unthreaded Pipe—Black



Pipe Size	Max. psi @ 72° F	5 ft.		10 ft.	
1/2	300	5065K32	$18.36	5065K35	$34.65
3/4	240	5065K33	24.61	5065K36	46.43
1	220	5065K34	36.55	5065K37	68.96
1 1/2	170	5065K38	59.08	5065K41	111.47
2	140	5065K39	79.72	5065K42	142.90

Cut-to-Angle Standard-Wall White PVC Unthreaded Pipe Elbows

- Use with water
- Maximum Temperature: 140° F
- Pipe: Use unthreaded Schedule 40 standard-wall white PVC (see page 84)

These two-piece elbows can be cut to any angle you need, so you'll always have the right one on hand. They have molded cutting guides at 22 1/2°, 33 3/4°, 45°, 56 1/4°, 67 1/2°, 78 3/4°, and 90° angles; they also come with a template for custom angles. After cutting, bond the removable socket end to the cut piece with a PVC primer and cement (see series 74605A on page 3466). Elbows are PVC, which is strong and corrosion resistant. They meet ASTM D2466.

Connections: Socket end (female).



Pipe Size		
1 1/2	4747T11	$5.35
2	4747T12	6.71
3	4747T13	18.88
4	4747T14	24.69

How to Measure Unthreaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size: 0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
OD (to nearest 1/8"): 0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"

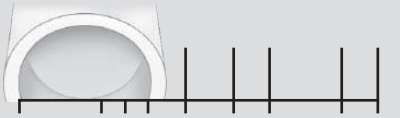

Pipe Size: 0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
ID (to nearest 1/8"): 0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about pipe size, see pgs. 2-3.

Standard-Wall White PVC Pipe Fittings CAD

- Meet NSF/ANSI Standard 61 for use with drinking (potable) water
- Maximum Temperature: 140° F
- Pipe: Use unthreaded Schedule 40 standard-wall white PVC (see page 84)

Offering corrosion resistance, strength, and rigidity, these Schedule 40 PVC pipe fittings are the most common choice for plastic fittings in low-pressure plumbing applications. All meet ASTM D1784; they also meet ASTM D2466, except the pipe extenders and inside connectors.

Connections: Unthreaded socket end (female), unthreaded pipe end (male), or threaded (NPT). Connect unthreaded fittings to pipe using a PVC primer and cement (see series 74605A on pg. 3466).

Unthreaded Socket End (Female)

Unions have a Buna-N (nitrile) O-ring, except pipe sizes 2 1/2, 4, and 6 have an EPDM O-ring.








Pipe Size	90° Elbows		90° Long Elbows		45° Elbows		22 1/2° Elbows		Side-Outlet Elbows		Tees	
3/8	4880K108	$1.53									4880K109	$1.17
1/2	4880K21	.30	4880K588■	$2.82	4880K31	$0.50	4880K701	$0.87	4880K631	$1.65	4880K41	.38
3/4	4880K22	.35	4880K589■	3.23	4880K32	.78	4880K702	1.35	4880K632	2.25	4880K42	.44
1	4880K23	.61	4880K591■	5.30	4880K33	.94	4880K703	1.62	4880K633	2.88	4880K43	.81
1 1/4	4880K24	1.08	4880K592■	5.76	4880K34	1.31	4880K704	2.26			4880K44	1.27
1 1/2	4880K25	1.16	4880K593■	6.22	4880K35	1.64	4880K713	2.83	4880K634	3.16	4880K45	1.54
2	4880K26	1.82	4880K594■	7.50	4880K36	2.14	4880K714	3.70	4880K635	4.39	4880K46	2.25
2 1/2	4880K103	4.89	4880K595	50.46	4880K113	4.90	4880K715	7.94			4880K123	5.83
3	4880K27	5.22	4880K596	71.08	4880K37	6.78	4880K716	12.32			4880K47	7.66
4	4880K28	9.34	4880K597	92.54	4880K38	12.16	4880K717	22.13			4880K48	13.86
6	4880K101	27.71	4880K598	130.08	4880K111	28.05	4880K718	43.72			4880K121	42.40
8	4880K102	69.51	4880K599	237.41	4880K112	65.71	4880K712	105.14			4880K122	98.37
10	4880K173	195.59			4880K115	354.81	4880K719	159.67			4880K124	223.19

■ Fitting is thick-wall (Schedule 80); it is compatible with standard-wall and thick-wall pipe.







Pipe Size	Wyes		Crosses		Unions		Couplings		Caps	
3/8							4880K114	$0.55	4880K69	$0.62
1/2	4880K636	$1.59	4880K241	$1.16	4880K301	$2.99	4880K71	.20	4880K51	.27
3/4	4880K637	2.49	4880K242	1.93	4880K302	3.40	4880K72	.27	4880K52	.32
1	4880K638	3.48	4880K243	2.41	4880K303	3.50	4880K73	.48	4880K53	.50
1 1/4	4880K639	5.35	4880K244	3.18	4880K304	8.86	4880K74	.67	4880K54	.71
1 1/2	4880K641	5.66	4880K245	3.60	4880K305	9.23	4880K75	.71	4880K55	.78
2	4880K642	16.98	4880K246	4.68	4880K306	12.44	4880K76	1.09	4880K56	.94
2 1/2	4880K643	31.06	4880K247	8.86	4880K307	24.40	4880K133	2.41	4880K143	2.99
3	4880K644	22.89	4880K248	10.86	4880K312	25.97	4880K77	3.77	4880K57	3.26
4	4880K645	43.17	4880K249	16.11	4880K309	41.90	4880K78	4.80	4880K58	5.83
6	4880K646	91.34	4880K253	444.18	4880K311	93.09	4880K131	13.55	4880K141	13.98
8	4880K647	146.91	4880K254	572.15			4880K132	25.30	4880K142	32.78
10							4880K135	81.01	4880K987	78.16

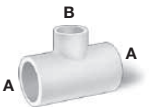

Inline Reducing Tees

Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)		
3/8	1/2	4880K402	$1.20	1 1/2	3/4	4880K976	$2.45	3	1	4880K583	$8.34
1/2	3/4	4880K501	.93	1 1/2	1	4880K977	2.45	3	2	4880K982	8.32
1/2	1	4880K502	1.73	2	1/2	4880K507	2.41	4	1	4880K584	13.86
3/4	1/2	4880K971	.50	2	3/4	4880K508	2.41	4	2	4880K585	13.86
3/4	1	4880K503	1.66	2	1	4880K509	2.41	4	3	4880K983	13.86
1	1/2	4880K973	.86	2	1 1/2	4880K978	2.41	6	2	4880K586	43.55
1	3/4	4880K974	.94	2	3	4880K581	15.39	6	3	4880K587	43.55
1	1 1/2	4880K504	2.87	2	4	4880K582	27.07	6	4	4880K984	42.40
1	2	4880K505	4.03	2 1/2	1 1/4	4880K979	5.82	8	6	4880K985	98.37
1 1/2	1/2	4880K506	2.82	2 1/2	2	4880K981	5.82	10	8	4880K986	215.79

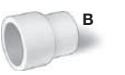

Reducing Couplings

Pipe Size (A)	Pipe Size (B)		
3/4	1/2	4880K681	$0.50
1	3/4	4880K682	.86
1 1/4	1	4880K683	1.44
1 1/2	1 1/4	4880K684	1.53
2	1 1/2	4880K685	2.43
3	2	4880K686	10.28
4	3	4880K687	12.84
6	4	4880K688	16.95
8	6	4880K689	40.51
10	8	4880K911	155.49

(Continued on following page)

How to Measure Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.





To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Standard-Wall White PVC Pipe Fittings

(Continued from previous page)

Unthreaded Pipe End (Male) to Unthreaded Socket End (Female)



90° Elbows, Male × Female

Pipe Size		
1/2	4880K771	$0.86
3/4	4880K772	1.06
1	4880K773	1.82
1 1/4	4880K774	2.18
1 1/2	4880K775	2.41
2	4880K776	4.65
2 1/2	4880K601	6.55
3	4880K602	8.08
4	4880K603	18.18
6	4880K604	43.95
8	4880K605	112.43
10	4880K606	291.43



Hex Reducing Bushings, Male (A) × Female (B)

Pipe Size (A)	Pipe Size (B)		
1/2	1/4	4880K921■	$0.67
1/2	3/8	4880K922★	.58
3/4	1/2	4880K313	.36
1	1/2	4880K314	.67
1	3/4	4880K315	.67
1 1/4	1/2	4880K171	.89
1 1/4	3/4	4880K317	.89
1 1/4	1	4880K318	.89
1 1/2	1/2	4880K319	.95
1 1/2	3/4	4880K333	.95
1 1/2	1	4880K334	.95
1 1/2	1 1/4	4880K335	.95
2	1/2	4880K172	2.07
2	3/4	4880K337	$1.57
2	1	4880K338	1.57
2	1 1/4	4880K339	1.57
2	1 1/2	4880K512	1.57
2 1/2	3/4	4880K923	2.19
2 1/2	1	4880K513	3.33
2 1/2	1 1/4	4880K514	2.97
2 1/2	1 1/2	4880K515	2.97
2 1/2	2	4880K516	2.97
3	1/2	4880K924	4.96
3	3/4	4880K925	3.23
3	1	4880K517	4.37
3	1 1/4	4880K518	4.37
3	1 1/2	4880K519	$4.37
3	2	4880K612	3.71
3	2 1/2	4880K613	3.71
4	2	4880K614	9.14
4	2 1/2	4880K616	9.14
4	3	4880K615	9.14
6	2	4880K181	22.63
6	3	4880K926	14.03
6	4	4880K183	22.63
8	3	4880K927	53.55
8	4	4880K185	78.88
8	6	4880K186	74.82
10	8	4880K928★	124.37

■ Fitting is thick-wall (Schedule 80); it is compatible with standard-wall and thick-wall pipe.
★ Not hex shaped; end is round.

Unthreaded Pipe End (Male)

Plugs are hollow and fit inside fittings with a female socket end. **Pipe extenders** are handy when your pipe is too short to accept a fitting. One end slides into the pipe, while the other end adds length to the pipe. **Inside connectors** allow you to connect two lengths of pipe.



Plugs

Pipe Size		
3/8	4880K841	$0.82
1/2	4880K842	.67
3/4	4880K843	.78
1	4880K844★	.94
1 1/4	4880K845	1.25
1 1/2	4880K846★	1.59
2	4880K847	1.98
2 1/2	4880K848	3.37
3	4880K849	4.46
4	4880K851	7.93
6	4880K852	12.98
8	4880K853★	101.15
10	4880K854★	199.74

★ Not hex shaped; end is round.



Pipe Extenders

Pipe Size	Extend. Lg. (C)		
1/2	13/16"	4880K731	$2.47
3/4	13/16"	4880K732	4.06
1	1"	4880K733	5.15
1 1/4	1 1/16"	4880K734	5.09
1 1/2	1 1/4"	4880K735	5.80
2	1 1/4"	4880K736	6.42
2 1/2	1 7/8"	4880K737	7.65
3	2"	4880K738	17.89
4	2 1/8"	4880K739	21.07
6	4"	4880K741	62.67
8	5"	4880K742	125.89

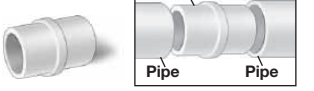

Inside Connectors

For Pipe Size		
1	4880K785	$5.15
1 1/2	4880K786	5.80
2	4880K787	6.42
3	4880K788	20.16
4	4880K789	23.94

Unthreaded Pipe End (Male) to NPT Threaded



Adapters, Unthreaded Male × Threaded Male

Pipe Size		
1/2	4880K651	$0.56
3/4	4880K652	.63
1	4880K653	1.09
1 1/4	4880K654	1.35
1 1/2	4880K655	1.81
2	4880K656	2.22



Hex Reducing Bushings, Unthreaded Male (A) × Threaded Female (B)

Pipe Size (A)	Pipe Size (B)		
1/2	1/8	4880K821	$0.67
1/2	1/4	4880K199	.67
1/2	3/8	4880K822	.67
3/4	1/4	4880K823	.67
3/4	1/2	4880K201	.50
1	1/4	4880K825	.94
1	3/8	4880K826■	.94
1	1/2	4880K202	.81
1	3/4	4880K203	.81
1 1/4	1/2	4880K204	1.25
1 1/4	3/4	4880K205	1.25
1 1/4	1	4880K206	1.25
1 1/2	1/4	4880K828	1.66
1 1/2	1/2	4880K207	$1.44
1 1/2	3/4	4880K208	1.44
1 1/2	1	4880K209	1.44
1 1/2	1 1/4	4880K211	1.44
2	1/2	4880K212	1.93
2	3/4	4880K213	1.93
2	1	4880K214	1.93
2	1 1/4	4880K215	1.93
2	1 1/2	4880K216	1.93
2 1/2	1/2	4880K829■	3.23
2 1/2	3/4	4880K831	2.26
2 1/2	1	4880K217	2.80
2 1/2	1 1/4	4880K218	2.80
2 1/2	1 1/2	4880K219	$2.80
2 1/2	2	4880K221	2.80
3	1	4880K222	3.23
3	1 1/4	4880K223	3.23
3	1 1/2	4880K228	3.23
3	2	4880K229	3.23
3	2 1/2	4880K224	3.23
4	2	4880K231	5.66
4	2 1/2	4880K225	5.66
4	3	4880K233	5.66
6	2	4880K833	18.63
6	3	4880K834	25.03
6	4	4880K235	20.71

■ Fitting is thick-wall (Schedule 80); it is compatible with standard-wall and thick-wall pipe.

(Continued on following page)

How to Measure Unthreaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size: 0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
OD (to nearest 1/8"): 0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"
ID (to nearest 1/8"): 0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about pipe size, see pgs. 2-3.

Standard-Wall White PVC Pipe Fittings *(Continued from previous page)*

- Meet NSF/ANSI Standard 61 for use with drinking (potable) water
- Maximum Temperature: 140° F
- Pipe: Use unthreaded Schedule 40 standard-wall white PVC (see below)

Offering corrosion resistance, strength, and rigidity, these Schedule 40 PVC pipe fittings are the most common choice for plastic fittings in low-pressure plumbing applications. All meet ASTM D1784 and D2466.

Connections: Unthreaded socket end (female), unthreaded pipe end (male), or threaded (NPT). Connect unthreaded fittings to pipe using a PVC primer and cement (see series 74605A on pg. 3466).

Unthreaded Socket End (Female) to NPT Threaded








Pipe Size	90° Elbows		90° Elbows, Female × Male		Tees		Adapters, Female		Adapters, Female × Male	
1/2	4880K321	$0.38	4880K621	$0.67	4880K392	$0.50	4880K81	$0.35	4880K61	$0.27
3/4	4880K322	.44	4880K622	.78	4880K393	.78	4880K82	.44	4880K62	.30
1	4880K323	.81	4880K623	1.31	4880K394	1.44	4880K83	.50	4880K63	.55
1 1/4	4880K324	1.36	4880K624	1.82	4880K395	2.30	4880K84	.78	4880K64	.67
1 1/2	4880K325	1.51	4880K625	1.91	4880K396	2.99	4880K85	.90	4880K65	.90
2	4880K326	3.90	4880K626	4.69	4880K397	3.79	4880K86	1.20	4880K66	1.17
2 1/2	4880K327	7.58	____	____	4880K398	10.94	4880K153	3.04	4880K163	3.46
3	4880K328	11.36	4880K627	15.93	4880K399	11.53	4880K87	4.07	4880K67	4.45
4	4880K329	17.22	____	____	4880K401	17.63	4880K88	5.30	4880K68	5.07
6	4880K331	50.25	____	____	____	____	4880K151	19.52	4880K161	13.20
8	____	____	____	____	____	____	4880K152	34.34	4880K162	54.56

Reducing Adapters, Female (A) × Male (B)



Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)		
3/8	1/2	4880K431	$0.55	1	3/4	4880K434	$0.78	1 1/2	1	4880K446	$2.06	2 1/2	2	4880K443	$4.41
1/2	3/4	4880K433	.50	1	1 1/4	4880K437	2.06	1 1/2	1 1/4	4880K438	2.06	3	2 1/2	4880K444	4.69
3/4	1/2	4880K432	.55	1 1/4	1	4880K436	1.82	1 1/2	2	4880K442	2.83	4	3	4880K445	6.71
3/4	1	4880K435	1.67	1 1/4	1 1/2	4880K439	2.48	2	1 1/2	4880K441	2.48	8	6	4880K449	117.72

NPT Threaded

Unions have a Buna-N (nitrile) O-ring, except pipe sizes 3, 4, and 6 have an EPDM O-ring. **Pipe outlets** are also known as branch connectors; use a PVC primer and cement to secure into position, then drill a hole through the fitting and pipe.




Pipe Size	Unions		Caps	
3/8	____	____	4880K801	$1.21
1/2	4880K371	$3.35	4880K802	.58
3/4	4880K372	4.92	4880K803	.67
1	4880K373	6.00	4880K804	1.01
1 1/4	4880K374	10.30	4880K805	1.20
1 1/2	4880K375	10.52	4880K806	1.25
2	4880K376	12.93	4880K807	2.21
2 1/2	4880K377	24.10	4880K808	3.26
3	4880K378	31.05	4880K809	4.27
4	4880K379	41.86	4880K811	5.89
6	4880K793	93.02	4880K812	16.82
8	____	____	4880K813	149.22



Hex Reducing Bushings, Male (A) × Female (B)

Pipe Size (A)	Pipe Size (B)			Pipe Size (A)	Pipe Size (B)		
3/8	1/4	4880K342	$1.44	1 1/4	1	4880K353	$1.86
1/2	1/8	4880K671	1.66	1 1/2	1/2	4880K354	2.25
1/2	1/4	4880K343	1.44	1 1/2	3/4	4880K355	2.25
1/2	3/8	4880K344	1.44	1 1/2	1	4880K356	2.25
3/4	1/4	4880K345	.90	1 1/2	1 1/4	4880K357	2.25
3/4	3/8	4880K346	.90	2	3/4	4880K674	2.77
3/4	1/2	4880K347	.90	2	1	4880K358	2.41
1	1/4	4880K672■	1.44	2	1 1/4	4880K359	2.41
1	1/2	4880K348	1.25	2	1 1/2	4880K361	2.41
1	3/4	4880K349	1.25	2 1/2	2	4880K363	6.61
1 1/4	1/2	4880K351	1.86	3	2	4880K362	7.82
1 1/4	3/4	4880K352	1.86	4	2	4880K676■	28.27

■ Fitting is thick-wall (Schedule 80); it is compatible with standard-wall and thick-wall pipe.

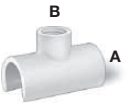

Pipe Outlets

For Pipe Size (A)	Outlet, Pipe Size (B)		
1/2	1/8	4880K118	$0.67
1/2	1/2	4880K116	.67
3/4	1/8	4880K119	.89
3/4	1/2	4880K105	1.17
3/4	3/4	4880K104	1.39
1	1/2	4880K106	2.10
1	3/4	4880K107	2.10
1	1	4880K117	1.94

Standard-Wall White PVC Unthreaded Pipe



- Meets NSF/ANSI Standard 61 for use with drinking (potable) water
- Maximum Temperature: 140° F
- Fittings: Use Schedule 40 standard-wall white PVC (see pages 82-83 and above)

PVC is good for low-pressure plumbing applications. It offers good corrosion resistance, strength, and rigidity. Also known as Schedule 40 pipe, it meets ASTM D1784 and D1785. 1/4" and 3/8" pipe are dark gray.

Connect pipe to fittings using a PVC primer and cement (see series 74605A on page 3466).

Also Available: Standard-wall black ABS unthreaded pipe for drain, waste, and vent applications. Please ask for 1608T2 and specify pipe size (1 1/2, 2, or 3) and length (5 ft. or 10 ft.). For standard-wall black ABS pipe fittings, see page 85.

Pipe Size	Max. psi @ 73° F	5 ft.			10 ft.		Pipe Size	Max. psi @ 73° F	5 ft.			10 ft.	
1/4	780	48925K21	$4.35		48925K41	$6.69	2	280	48925K96	$9.42		48925K16	$14.28
3/8	620	48925K22	5.85		48925K42	9.00	2 1/2	300	48925K99	18.55		48925K19	28.11
1/2	600	48925K91	2.73		48925K11	4.13	3	260	48925K97	19.70		48925K17	29.85
3/4	480	48925K92	3.25		48925K12	4.92	4	220	48925K98	27.01		48925K18	40.92
1	450	48925K93	5.27		48925K13	7.98	6	180	48925K25	47.43		48925K45	81.78
1 1/4	370	48925K94	7.08		48925K14	10.73	8	160	48925K26	77.00		48925K46	132.76
1 1/2	330	48925K95	7.12		48925K15	10.79	10	140	48925K27	103.67		48925K47	178.75

How to Measure Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

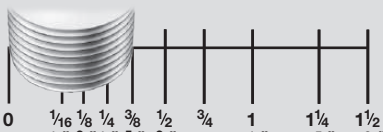

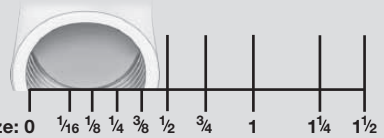

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Drain, Waste, and Vent Standard-Wall White PVC Pipe Fittings

- Use with water
- Maximum Temperature: 140° F
- Pipe: Use unthreaded Schedule 40 standard-wall white PVC (see page 84)

When it comes to gravity-flow applications, these are our most popular fittings. They're also known as Schedule 40 fittings and can be used with other standard-wall pipe fittings and pipe. All meet ASTM D1784 and D2665.

Connections: Unthreaded socket end (female), unthreaded pipe end (male), threaded (NPT), or unthreaded tube end. Connect unthreaded fittings to pipe using a PVC primer and cement (see series 74605A on page 3466).

Also Available: Standard-wall black ABS pipe fittings for drain, waste, and vent applications. They offer good resistance to chemicals, such as ammonium chloride and sodium hydroxide. Please ask for 1608T1 and specify the equivalent part number from the choices listed below. For standard-wall black ABS pipe, see page 84.

Unthreaded Socket End (Female)

Easy-align flanges have a ring that swivels for easy bolt alignment.



90° Elbows

Pipe Size		
1 1/4	2389K26	$7.57
1 1/2	2389K27	2.15
2	2389K28	3.39
3	2389K29	9.97
4	2389K31	15.25



90° Long Elbows

2389K112	$4.98
2389K113	5.57
2389K114	12.69
2389K115	18.83



45° Elbows

2389K37	$4.95
2389K38	2.11
2389K39	3.03
2389K41	8.92
2389K42	13.67



Tees

2389K15	$13.60
2389K16	10.79
2389K17	25.25



Sanitary Tees

2389K216	$7.59
2389K22	3.75
2389K23	5.53
2389K24	15.15
2389K25	20.95



Couplings

2389K671	$4.72
2389K68	1.05
2389K69	1.39
2389K71	4.80
2389K72	8.58



Wyes

Pipe Size		
1 1/4	2389K36	$9.67
1 1/2	2389K32	7.09
2	2389K33	6.73
3	2389K34	16.61
4	2389K35	25.63



Long Turn Wyes

2389K47	$9.09
2389K48	9.71
2389K49	19.61
2389K51	38.43



Double Wyes

2389K512	$15.34
2389K513	17.72
2389K514	28.01
2389K515	56.81



Reducing Sanitary Tees

Pipe Size (A)	(B)	
2	1 1/2	2389K45 $4.88
3	1 1/2	2389K14 10.59
4	2	2389K46 17.93



Reducing Couplings

Pipe Size (A)	(B)	
2	1 1/2	2389K73 $3.10
3	1 1/2	2389K74 9.11
3	2	2389K75 7.00
4	2	2389K7 13.88
4	3	2389K76 14.74



P-Traps with Union

Pipe Size		
1 1/4	2389K82	$38.17
1 1/2	2389K83	9.52
2	2389K84	15.55



Drum Traps with Plug

Pipe Size		
1 1/2	2389K86	$22.66

Flanges







Pipe Size (A)	(B)	Flange OD	Bolts Required Qty.	Bolts Required Dia.	Straight	Easy Align	45° Easy Align
4	3	7"	6	3/16"			2389K9 $9.60
4	3	7"	8	1/4"	2389K91 $8.47		
4	4	7"	8	1/4"	2389K88 10.45	2389K89 $20.47	

Unthreaded Socket End (Female) to Unthreaded Pipe End (Male)



90° Elbows, Female × Male

Pipe Size		
1 1/4	2389K211	$11.07
1 1/2	2389K212	2.79
2	2389K213	4.23
3	2389K214	10.68
4	2389K215	15.63



45° Elbows, Female × Male

2389K311	$6.98
2389K312	2.03
2389K313	3.21
2389K314	8.44
2389K315	14.46



22 1/2° Elbows, Female × Male

2389K412	$8.07
2389K413	8.65
2389K414	13.60
2389K415	15.43

Unthreaded Pipe End (Male) to Unthreaded Socket End (Female)



Reducing Bushings, Male (A) × Female (B)

Pipe Size (A)	(B)		
1 1/2	1 1/4	2389K5	$4.03
2	1 1/2	2389K52	1.77
3	1 1/2	2389K56	8.52
3	2	2389K53	$4.45
4	2	2389K55	14.80
4	3	2389K54	7.57

Unthreaded Socket End (Female) to Tube End

P-Traps with Union, Female (A) × Tube End (B)



Pipe Size (A)	Tube OD (B)	
1 1/2	1 1/2"	2389K85 $10.45

Trap Adapters, Female (A) × Tube End (B)



Pipe Size (A)	Tube OD (B)		
1 1/4	1 1/4"	2389K43	$3.29
1 1/2	1 1/2"	2389K57	3.65
2	2"	2389K44	5.93

(Continued on following page)

How to Measure Unthreaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

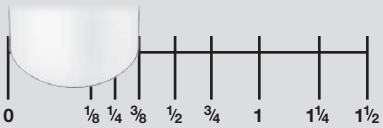

Pipe Size: 0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
OD (to nearest 1/8"): 0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"

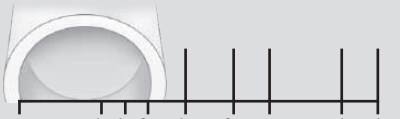

Pipe Size: 0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
ID (to nearest 1/8"): 0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Drain, Waste, and Vent Standard-Wall White PVC Pipe Fittings

(Continued from previous page)

- Use with water
- Maximum Temperature: 140° F
- Pipe: Use unthreaded Schedule 40 standard-wall white PVC (see page 84)

When it comes to gravity-flow applications, these are our most popular fittings. They're also known as Schedule 40 fittings and can be used with other standard-wall pipe fittings and pipe. All meet ASTM D1784 and D2665.

Connections: Unthreaded socket end (female), unthreaded pipe end (male), or threaded (NPT). Connect unthreaded fittings to pipe using a PVC primer and cement (see series 74605A on page 3466).

Also Available: Standard-wall black ABS pipe fittings for drain, waste, and vent applications. They offer good resistance to chemicals, such as ammonium chloride and sodium hydroxide. Please ask for 1608T1 and specify the equivalent part number from the choices listed below. For standard-wall black ABS pipe, see page 84.

Unthreaded Socket End (Female) to NPT Threaded

Adapters, Female x Male



Pipe Size		
1 1/4	2389K58	$5.22
1 1/2	2389K59	2.01
2	2389K61	2.61
3	2389K62	7.45
4	2389K63	16.49

Adapters, Female



Pipe Size		
1 1/4	2389K66	$10.45
1 1/2	2389K64	1.93
2	2389K65	3.28
3	2389K67	8.80

NPT Threaded

Square-Head Plugs



Pipe Size		
1 1/4	2389K761	$2.27
1 1/2	2389K77	1.83
2	2389K78	2.03
3	2389K79	3.63
4	2389K81	5.35

Unthreaded Pipe End (Male) to NPT Threaded (Female)

Adapters, Male x Female



Pipe Size		
1 1/4	2389K911	$3.29
1 1/2	2389K92	$2.43
2	2389K93	$3.15
3	2389K94	$8.85
4	2389K95	$14.53

Standard-Wall Clear PVC Pipe Fittings

- Meet NSF/ANSI Standard 61 for use with drinking (potable) water
- Maximum Temperature: 140° F
- Pipe: Use unthreaded Schedule 40 standard-wall clear PVC (see page 87)

Just as strong, rigid, and corrosion resistant as white PVC, but these fittings are clear so you can see what's flowing through your line. Standard-wall fittings are also known as Schedule 40. They are made from FDA-compliant resins and meet ASTM D2466 and D2467.

Connections: Unthreaded socket end (female) or threaded (NPT). Connect unthreaded fittings to pipe using a PVC primer and cement (see series 74605A on page 3466).

Unthreaded Socket End (Female)











Pipe Size	90° Elbows		45° Elbows		Tees		Couplings		Caps	
1/4	9161K101 ♣	$9.16	9161K71 ♣	$14.71	9161K111 ♣	$11.27	9161K121 ♣	$6.15	9161K151 ♣	$8.27
3/8	9161K102	9.16	9161K72 ♣	14.71	9161K112	11.27	9161K122 ♣	6.15	9161K152 ♣	8.27
1/2	9161K21	6.91	9161K73	11.17	9161K31	8.48	9161K41	4.58	9161K153	6.16
3/4	9161K22	7.57	9161K74	17.24	9161K32	9.68	9161K42	6.16	9161K154	7.12
1	9161K23	13.73	9161K75	20.72	9161K33	18.13	9161K43	10.71	9161K155	11.28
1 1/4	9161K24	24.20	9161K76	29.31	9161K34	28.48	9161K44	14.60	9161K161	15.69
1 1/2	9161K25	25.70	9161K77	36.54	9161K35	34.55	9161K45	15.69	9161K156	17.24
2	9161K26	40.74	9161K78	47.64	9161K36	50.19	9161K46	24.46	9161K157	20.79
3	9161K27	116.77	9161K79	151.70	9161K37	171.34	9161K47	75.70	9161K158	58.93
4	9161K28	198.61	9161K81	258.86	9161K38	294.68	9161K48	109.29	9161K159	117.58

♣ Fitting is thick-wall (Schedule 80); it is compatible with standard-wall and thick-wall pipe.

Unthreaded Socket End (Female) to NPT Threaded

The threads on the **female adapters** are reinforced with a stainless steel collar.



Adapters, Female ♣

Pipe Size			Pipe Size		
1/4	9161K131	$12.92	1 1/4	9161K54	$17.00
3/8	9161K132	12.92	1 1/2	9161K55	19.93
1/2	9161K51	7.65	2	9161K56	26.86
3/4	9161K52	9.59	3	9161K57	81.99
1	9161K53	11.07	4	9161K58	113.02



Adapters, Female x Male

Pipe Size			Pipe Size		
3/8	9161K142	$8.27	1 1/2	9161K65	$19.91
1/2	9161K61	6.16	2	9161K66	25.98
3/4	9161K62	6.91	3	9161K67	112.55
1	9161K63	12.15	4	9161K68	143.55
1 1/4	9161K64	14.66			

♣ Fitting is thick-wall (Schedule 80); it is compatible with standard-wall and thick-wall pipe.

How to Measure Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

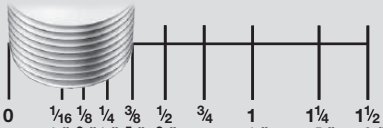

Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"

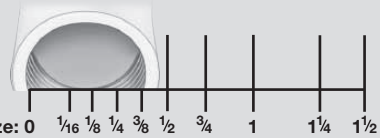

Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Standard-Wall Clear PVC Unthreaded Pipe

- Meets NSF/ANSI Standard 61 for use with drinking (potable) water
- Maximum Temperature: 140° F
- Fittings: Use unthreaded Schedule 40 standard-wall clear PVC (see page 86)

Clear pipe offers optimum visibility, so you can see what is flowing through your line. Also called Schedule 40 pipe, this PVC pipe is strong and corrosion resistant. It is made from FDA-compliant resins and meets ASTM D1784 and D1785.

Connect pipe to unthreaded fittings using a PVC primer and cement (see series 74605A on page 3466).



Pipe Size	Max. psi @ 73° F	2 ft.		4 ft.		8 ft.	
1/4	390			49035K21	$4.50	49035K81	$7.26
3/8	310			49035K22	6.08	49035K82	9.81
1/2	300			49035K23	9.08	49035K83	14.65
3/4	240			49035K24	12.16	49035K84	19.61
1	220	49035K45	$10.73	49035K25	17.99	49035K85	29.01
1 1/4	180	49035K46	13.68	49035K26	22.93	49035K86	36.98
1 1/2	170	49035K47	16.38	49035K27	27.45	49035K87	44.28
2	140	49035K48	22.04	49035K28	36.94	49035K88	59.58
3	130	49035K49	43.76	49035K31	68.60	49035K91	118.27
4	110	49035K51	65.90	49035K33	103.30	49035K93	178.10
6	90	49035K52	113.90	49035K35	178.55	49035K95	307.84
8	80	49035K53	149.65	49035K36	250.77	49035K96	404.46
10	70	49035K54	240.87	49035K37	403.62	49035K97	651.00

Flexible Standard-Wall Clear PVC Unthreaded Pipe

- Use with water
- Maximum Temperature: 140° F
- Fittings: Use unthreaded Schedule 40 standard-wall clear PVC (see page 86)

Bend this pipe around objects—fewer connections reduces installation time and also reduces turbulence in pipelines. Also known as Schedule 40, this corrosion-resistant PVC pipe is clear, so you can see what's flowing through your line. It's made from FDA-compliant resins and meets 3-A sanitary requirements.

Connect pipe to unthreaded fittings using a PVC primer and cement (see series 74605A on page 3466).



Pipe Size	Max. psi @ 72° F	5 ft.		10 ft.	
1/2	65	4805K51	$11.91	4805K61	$20.53
3/4	55	4805K52	15.98	4805K62	27.55
1	50	4805K53	23.50	4805K63	40.52

Pipe Size	Max. psi @ 72° F	5 ft.		10 ft.	
1 1/2	45	4805K54	$37.91	4805K64	$65.37
2	40	4805K55	50.76	4805K65	87.52

Underground Sewer and Drain PVC Pipe Fittings and Pipe

- Use with water
- Maximum Temperature: 140° F

With thinner walls than Schedule 40 fittings and pipe, these are lighter in weight and have more space on the inside for greater flow. Commonly used underground for gravity-flow sewer and drain applications, but can be used above ground as well. They are made of PVC, which is strong and corrosion resistant.

Fittings are only compatible with the 2426K series pipe. Also known as SDR 35, fittings are white and meet ASTM D2729 and D3034.

Pipe is only compatible with the 9102K series fittings. It is white and meets ASTM D2729. The *4 1/2-ft. lengths* have plain ends; *10-ft. lengths* are belled on one end for easy connection.

Connections: Fittings are unthreaded socket end (female) or threaded (NPT); pipe is unthreaded. Connect unthreaded fittings to pipe using a PVC primer and cement (see series 74605A on page 3466).

Unthreaded Socket End (Female)













Actual ID	Trade Size	90° Elbows		90° Long Elbows		45° Elbows		Tees		Sanitary Tees		Wyes	
3.25"	3	9102K121	$2.98	9102K113	$3.03	9102K133	$2.18	9102K153	$3.12	9102K163	$6.15	9102K183	$5.04
4.215"	4	9102K122	3.90	9102K114	3.84	9102K134	2.85	9102K154	3.95	9102K164	6.54	9102K184	5.99
6.275"	6	9102K123	12.08	9102K116	21.71	9102K136	12.33	9102K156	15.23	9102K165	46.63	9102K186	24.30

Unthreaded Socket End (Female)





Actual ID	Trade Size	Couplings		Caps	
3.25"	3	9102K233	$1.88	9102K223	$1.53
4.215"	4	9102K234	2.18	9102K224	1.82
6.275"	6	9102K236	7.46	9102K226	6.71



Reducing Couplings

Actual ID (A)	Actual ID (B)		
4.215"	3.25"	9102K243	$3.45
6.275"	4.215"	9102K264	9.88

NPT Threaded to Unthreaded Pipe End (Male)

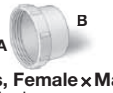

Adapters, Female x Male

Pipe Size (A)	Actual ID (B)	Trade Size (B)		
3	3.25"	3	9102K353	$3.51
4	4.215"	4	9102K354	3.40

Unthreaded Pipe



Actual OD	Trade Size	4 1/2 ft.		10 ft.	
3.25"	3	2426K24	$8.36	2426K92	$14.67
4.215"	4	2426K25	8.93	2426K93	15.67
6.275"	6	2426K27	18.27	2426K95	32.05

NPT Threaded (Male)

Square-Head Plugs



Pipe Size		
3	9102K333	$2.18
4	9102K334	2.80
6	9102K335	13.22

How to Measure Unthreaded Socket-End Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement



Pipe Size:	0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Dark Gray PVC Unthreaded Pipe Fittings and Flanges

- Meet NSF/ANSI Standard 61 for use with drinking (potable) water
- Maximum Temperature: 140° F
- Pipe: Use unthreaded Schedule 80 thick-wall dark gray PVC (see page 90)

With thicker walls than standard-wall fittings, these Schedule 80 fittings have more strength to handle heavy duty applications. PVC is a durable material that's rigid and corrosion resistant.

Connections: Unthreaded socket end (female) or unthreaded pipe end (male). Connect fittings to pipe using a PVC primer and cement (see series 74605A on page 3466).

Socket End (Female)

All meet ASTM D2467. **Unions** have a fluoroelastomer O-ring, except it is EPDM on pipe sizes 2 1/2, 4, and 6. **Union adapters** have an EPDM O-ring. **Centered reducing couplings** are also known as concentric reducers. **Off-center reducing couplings** are also known as eccentric reducers.








Pipe Size	90° Elbows		90° Long Elbows		45° Elbows		22 1/2° Elbows		Tees		Wyes	
1/4	4881K281	$1.15	—	—	4881K311	$2.95	—	—	4881K47	$3.26	—	—
3/8	4881K29	1.18	—	—	4881K39	3.06	—	—	4881K49	3.26	—	—
1/2	4881K21	1.20	4881K381	$3.56	4881K31	2.25	4881K161	$3.17	4881K41	3.38	4881K181	$5.91
3/4	4881K22	1.53	4881K382	4.61	4881K32	3.43	4881K162	4.84	4881K42	3.41	4881K182	6.21
1	4881K23	2.47	4881K383	7.43	4881K33	5.15	4881K163	7.25	4881K113	4.42	4881K183	9.94
1 1/4	4881K24	3.29	4881K384	9.82	4881K34	6.03	4881K164	9.23	4881K114	10.65	4881K184	13.72
1 1/2	4881K25	3.53	4881K385	10.55	4881K35	7.14	4881K165	10.91	4881K115	10.65	4881K185	13.72
2	4881K26	4.27	4881K386	11.51	4881K36	9.25	4881K166	12.72	4881K116	13.32	4881K186	28.26
2 1/2	4881K261	9.83	4881K387	96.77	4881K361	18.54	4881K167	35.18	4881K121	14.48	4881K187	163.01
3	4881K27	11.21	4881K388	105.57	4881K37	22.56	4881K168	32.60	4881K117	18.10	4881K188	115.01
4	4881K28	14.96	4881K389	118.38	4881K38	31.92	4881K169	58.58	4881K48	20.97	4881K189	94.75
6	4881K282	33.45	4881K391	174.72	4881K312	40.20	4881K171	73.75	4881K118	48.87	4881K191	116.47
8	4881K283	80.10	—	—	4881K313	75.72	4881K172	140.03	4881K119	113.35	4881K193	171.77
10	4881K285	231.09	—	—	4881K314	166.82	4881K123	248.18	4881K122	241.41	—	—





Pipe Size	Crosses		Couplings		Caps	
1/4	4881K321	$17.86	4881K711	$3.04	4881K521	$2.53
3/8	—	—	4881K79	3.18	4881K59	2.53
1/2	4881K322	17.86	4881K71	2.17	4881K51	2.12
3/4	4881K323	18.80	4881K72	2.92	4881K52	2.23
1	4881K324	22.01	4881K73	3.02	4881K53	3.96
1 1/4	4881K325	26.41	4881K74	4.58	4881K54	4.78
1 1/2	4881K326	25.82	4881K75	4.93	4881K55	4.78
2	4881K327	35.25	4881K76	5.30	4881K56	9.45
2 1/2	4881K328	48.07	4881K762	11.46	4881K561	14.88
3	4881K329	59.95	4881K77	13.16	4881K57	17.42
4	4881K331	104.31	4881K78	16.48	4881K58	29.37
6	4881K332	398.74	4881K712	27.86	4881K522	53.72
8	4881K333	565.62	4881K713	32.95	4881K523	83.75
10	—	—	4881K714	110.42	4881K524	79.97



Unions

Pipe Size		
1/4	4881K68	$8.00
3/8	4881K69	8.19
1/2	4881K61	3.35
3/4	4881K62	5.57
1	4881K63	6.37
1 1/4	4881K64	11.20
1 1/2	4881K65	12.69
2	4881K66	17.20
2 1/2	4881K43	33.10
3	4881K67	28.18
4	4881K44	53.61
6	4881K45	112.39



Union Adapters, DIN to Pipe Size★

DIN Size (A), mm	Pipe Size (B)		
20	1/2	5460K11	$8.70
25	3/4	5460K12	11.08
32	1	5460K13	12.67
40	1 1/4	5460K14	25.12
50	1 1/2	5460K15	28.44
63	2	5460K16	38.57
110	4	5460K18	99.26

★ The DIN-size end is actual ID and does not meet ASTM D2467 and is not Schedule 80.

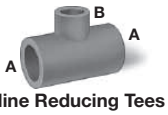

Inline Reducing Tees

Pipe Size (A)	(B)		
3/4	1/2	4881K141	$2.49
1	1/2	4881K142	3.60
1	3/4	4881K143	3.60
1 1/4	1	4881K144	7.45
1 1/2	1/2	4881K156	9.68
1 1/2	3/4	4881K145	7.45
1 1/2	1	4881K146	7.82
1 1/2	1 1/4	4881K147	7.82
2	1/2	4881K157	9.01
2	3/4	4881K158	9.01
2	1	4881K148	9.91
2	1 1/2	4881K149	9.91
2 1/2	1 1/2	4881K159	11.76
2 1/2	2	4881K151	11.76
3	1 1/2	4881K173	16.52
3	2	4881K152	16.52
3	2 1/2	4881K174	20.24
4	2	4881K176	20.97
4	3	4881K153	26.69
6	3	4881K178	39.10
6	4	4881K154	56.25
8	4	4881K112	348.98
8	6	4881K155	84.96

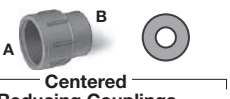

Centered Reducing Couplings

Pipe Size (A)	(B)		
3/4	1/2	4881K131	$2.55
1	1/2	4881K741	3.39
1	3/4	4881K132	3.72
1 1/4	1	4881K133	7.56
1 1/2	1 1/4	4881K134	9.78
2	1/2	4881K742	10.36
2	3/4	4881K743	10.58
2	1	4881K744	10.81
2	1 1/4	4881K745	11.05
2	1 1/2	4881K135	8.93
2 1/2	2	4881K746	13.26
3	1	4881K747	30.33
3	1 1/2	4881K748	30.33
3	2	4881K136	19.93
3	2 1/2	4881K749	34.84
4	2	4881K751	46.57
4	3	4881K137	29.51
6	2	4881K752	104.76
6	3	4881K753	100.75
6	4	4881K138	60.19
8	4	4881K755	216.36
8	6	4881K139	118.70
10	6	4881K754	270.23

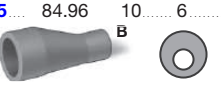

Off-Center Reducing Couplings

Pipe Size (A)	(B)		
1	3/4	4881K451	$35.72
1 1/4	1	4881K452	28.31
1 1/2	1 1/4	4881K453	29.41
2	1	4881K454	41.92
2	1 1/2	4881K455	37.19
3	2	4881K456	$33.62
4	2	4881K457	91.81
4	3	4881K458	69.44
6	4	4881K459	103.78
8	6	4881K461	125.47

(Continued on following page)

How to Measure Unthreaded Pipe and Pipe-End Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.

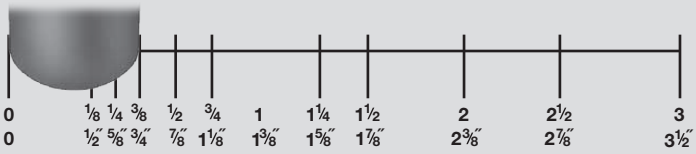

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Dark Gray PVC Unthreaded Pipe Fittings and Flanges

(Continued from previous page)

Pipe End (Male) to Socket End (Female)

All meet ASTM D2467.






Pipe Size	90° Elbows, Male × Female		45° Elbows, Male × Female		22½° Elbows, Male × Female		Tees, Male × Female × Female	
1/2	4881K341	$1.79	4881K371	$2.69	4881K771	$2.96	4881K531	$5.03
3/4	4881K342	2.28	4881K372	4.11	4881K772	4.55	4881K532	5.28
1	4881K343	3.68	4881K373	6.16	4881K773	7.16	4881K533	6.60
1 1/4	4881K344	4.92	4881K374	7.84	4881K774	8.91	4881K534	16.31
1 1/2	4881K345	5.28	4881K375	9.27	4881K775	10.10	4881K535	16.31
2	4881K346	6.37	4881K376	10.82	4881K776	12.72	4881K536	20.39
2 1/2	_____	____	4881K393	14.26	4881K777	33.20	_____	____
3	4881K347	16.09	4881K377	27.65	4881K778	36.44	_____	____
4	4881K348	24.44	4881K378	49.79	4881K779	64.09	_____	____
6	4881K349	69.57	4881K379	73.75	4881K782	91.09	_____	____
8	4881K351	174.31	4881K392	145.39	4881K783	179.04	_____	____



Hex Reducing Bushings, Male (A) × Female (B)

Pipe Size (A)	(B)			Pipe Size (A)	(B)			Pipe Size (A)	(B)			Pipe Size (A)	(B)		
3/8	1/4	4881K611	$2.05	1 1/2	1 1/4	4881K623	$4.11	3	3/4	4881K684	$20.23	4	3	4881K675	$20.34
1/2	1/4	4881K616	2.17	2	1/2	4881K624	5.87	3	1	4881K651	14.69	6	1	4881K689	39.52
1/2	3/8	4881K612	1.91	2	3/4	4881K625	5.87	3	1 1/4	4881K661	14.69	6	1 1/4	4881K656	41.61
3/4	1/2	4881K613	.69	2	1	4881K645	5.87	3	1 1/2	4881K662	14.69	6	1 1/2	4881K657	41.61
1	3/8	4881K679	4.76	2	1 1/4	4881K646	5.86	3	2	4881K663	15.39	6	2	4881K674	25.98
1	1/2	4881K614	1.93	2	1 1/2	4881K649	6.09	3	2 1/2	4881K665	16.16	6	3	4881K676	28.02
1	3/4	4881K615	2.00	2 1/2	1/2	4881K681	15.18	4	1/2	4881K654	32.00	6	4	4881K677	23.94
1 1/4	1/2	4881K618	3.02	2 1/2	3/4	4881K682	15.18	4	3/4	4881K685	32.00	8	2	4881K691	110.38
1 1/4	3/4	4881K619	3.01	2 1/2	1	4881K647	9.70	4	1	4881K686	32.00	8	3	4881K658	121.41
1 1/4	1	4881K617	3.13	2 1/2	1 1/4	4881K648	9.70	4	1 1/4	4881K655	32.00	8	4	4881K692	84.33
1 1/2	1/2	4881K621	3.92	2 1/2	1 1/2	4881K652	9.70	4	1 1/2	4881K687	32.00	8	6	4881K678	54.06
1 1/2	3/4	4881K622	4.12	2 1/2	2	4881K653	10.18	4	2	4881K666	20.34	10	6	4881K693	107.78
1 1/2	1	4881K626	4.27	3	1/2	4881K683	20.89	4	2 1/2	4881K688	24.93	10	8	4881K694	117.08

Flanges

Flanges are also known as Class 150 flanges. Bolt two same-size flanges together with a rubber flange gasket to form a tight seal. For gaskets see page 3529; for bolts, see page 3170.

Socket end flanges meet ASTM D2467.

Easy-align flanges are also called Van Stone flanges; they have a ring that swivels for easy bolt hole alignment. They meet ASTM D2467.

Cap flanges are also called blind flanges; they close off the end of a pipe.





Pipe Size	Flange OD	Bolts Required Qty.	Bolts Required Dia.	Socket End (Female)		Easy-Align Socket End (Female)		Cap	
1/2	3 1/2"	4	1/2"	4881K212	$6.54	4881K231	$6.01	4881K962	$10.96
3/4	3 7/8"	4	1/2"	4881K213	7.01	4881K232	6.75	4881K963	11.75
1	4 1/4"	4	1/2"	4881K214	7.79	4881K233	7.51	4881K964	16.05
1 1/4	4 5/8"	4	1/2"	4881K215	8.03	4881K234	7.74	4881K965	19.70
1 1/2	5"	4	1/2"	4881K216	8.19	4881K235	7.90	4881K966	19.70
2	6"	4	5/8"	4881K217	10.92	4881K236	10.52	4881K967	29.44
2 1/2	7"	4	5/8"	4881K223	14.79	4881K242	18.09	4881K968	47.97
3	7 1/2"	4	5/8"	4881K218	16.32	4881K238	16.32	4881K969	57.89
4	9"	8	5/8"	4881K219	20.67	4881K239	20.64	4881K971	72.11
6	11"	8	3/4"	4881K221	32.50	4881K241	26.31	4881K972	87.64
8	13 1/2"	8	3/4"	4881K224	71.28	4881K237	41.55	4881K973	109.69

UV-Resistant Thick-Wall Black PVC Unthreaded Pipe

- Use with water
- Maximum Temperature: 140° F

This PVC pipe is made with a UV inhibitor, so you can use it outdoors. Also called Schedule 80 pipe, it has thicker walls than standard-wall pipe to handle heavy duty applications. PVC is a durable material that's rigid and corrosion resistant. Pipe meets ASTM D1784.

Connect pipe to unthreaded fittings using a PVC primer and cement (see series 74605A on page 3466).

Pipe Size	Max. psi @ 72° F	4 ft.			8 ft.	
1/4	570	5066K38	$10.11	5066K41	$19.44	
3/8	460	5066K32	13.67	5066K46	26.30	
1/2	420	5066K33	19.76	5066K47	38.01	
3/4	340	5066K34	27.20	5066K48	52.31	
1	320	5066K35	40.42	5066K49	77.75	
1 1/2	240	5066K36	67.62	5066K51	123.55	
2	200	5066K37	94.07	5066K52	171.88	



How to Measure Unthreaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size: 0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
OD (nearest 1/8"): 0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"

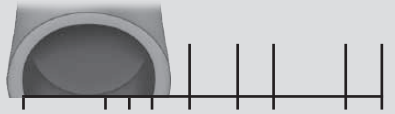

Pipe Size: 0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
ID (nearest 1/8"): 0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Dark Gray PVC Unthreaded Pipe



- Meets NSF/ANSI Standard 61 for use with drinking (potable) water
- Maximum Temperature: 140°F
- Fittings and Flanges: Use unthreaded Schedule 80 thick-wall dark gray PVC (see pages 88-89)

The thick walls make this Schedule 80 pipe stronger than standard-wall PVC pipe. Use it in heavy duty applications. PVC is a durable material that's rigid and corrosion resistant. Pipe meets ASTM D1784 and D1785.

Connect pipe to unthreaded fittings using a PVC primer and cement (see series 74605A on page 3466).

Pipe Size	Max. psi @ 73°F	5 ft.		10 ft.		Pipe Size	Max. psi @ 73°F	5 ft.		10 ft.	
1/4	1,130	48855K41	$4.90	48855K51	$7.42	2	400	48855K26	$16.66	48855K16	$25.25
3/8	920	48855K29	6.78	48855K19	10.27	2 1/2	420	48855K31	24.61	48855K54	42.43
1/2	850	48855K21	3.86	48855K11	5.85	3	370	48855K27	29.90	48855K17	51.55
3/4	690	48855K22	4.75	48855K12	7.92	4	320	48855K28	43.70	48855K18	75.34
1	630	48855K23	6.99	48855K13	10.59	6	280	48855K42	80.25	48855K52	138.36
1 1/4	520	48855K24	9.60	48855K14	14.55	8	250	48855K43	115.85	48855K53	199.74
1 1/2	470	48855K25	12.04	48855K15	18.24	10	230	48855K44	153.00	48855K55	263.80

Thick-Wall Clear PVC Unthreaded Pipe



- Meets NSF/ANSI Standard 61 for use with drinking (potable) water
- Maximum Temperature: 140°F
- Fittings and Flanges: Use unthreaded Schedule 80 thick-wall dark gray PVC (see pages 88-89)

See what's flowing through your pipe at a glance—this PVC pipe is clear for optimum visibility. Also known as Schedule 80 pipe, it has thicker walls than standard-wall PVC pipe, so it is stronger to handle heavy duty applications. Pipe is made from FDA-compliant resins. It meets ASTM D1784 and D1785.

Connect pipe to unthreaded fittings using a PVC primer and cement (see series 74605A on page 3466).

Pipe Size	Max. psi @ 73°F	2 ft.		4 ft.		8 ft.	Pipe Size	Max. psi @ 73°F	2 ft.		4 ft.		8 ft.
1/4	570	4740K61	$4.21	4740K41	$6.82	4740K18	$11.37	1 1/2	240	4740K66	$24.09	4740K47	$39.07	4740K25	$65.11
3/8	460	4740K62	5.80	4740K42	9.41	4740K19	15.68	2	200	4740K67	33.35	4740K48	54.08	4740K26	90.13
1/2	420	4740K63	7.56	4740K43	12.25	4740K21	20.42	2 1/2	210	4740K68	53.05	4740K49	86.02	4740K27	143.37
3/4	340	4740K71	10.20	4740K44	16.55	4740K22	27.58	3	190	4740K69	58.21	4740K51	94.39	4740K28	157.32
1	320	4740K64	14.39	4740K45	23.33	4740K23	38.89	4	160	4740K72	82.87	4740K52	130.85	4740K31	218.09
1 1/4	260	4740K65	20.71	4740K46	33.59	4740K24	55.98	6	140	4740K73	170.78	4740K53	249.92	4740K32	416.53

Barbed Dark Gray PVC Pipe Fittings

- Meet NSF/ANSI Standard 61 for use with drinking (potable) water
- Maximum Temperature: 140°F
- Pipe: Use flexible polyethylene (see page 91)

Easier to connect than other types of plastic pipe fittings, these fittings have a barbed end that slides into flexible polyethylene pipe. Secure fittings with a worm-drive clamp (sold on page 302). Also called insert fittings, all are made of rigid, corrosion-resistant PVC and meet ASTM D1784 and D2609.

Connections: Barbed or threaded (NPT).

Barbed









Pipe Size	Barb OD	Max. psi @ 73°F	90° Elbows		Tees		Couplings		Plugs	
1/2	0.65"	200	48315K31	$1.88	48315K61	$2.06	48315K81	$0.96	48315K11	$1.71
3/4	0.85"	200	48315K32	2.30	48315K62	2.22	48315K82	1.15	48315K12	1.77
1	1.08"	200	48315K33	2.54	48315K63	2.90	48315K83	1.20	48315K13	2.40
1 1/4	1.41"	200	48315K34	2.85	48315K64	4.52	48315K84	1.77	48315K14	3.05
1 1/2	1.65"	160	48315K35	3.35	48315K65	5.13	48315K85	2.11	48315K15	3.31
2	2.11"	160	48315K36	4.68	48315K66	10.12	48315K86	3.98	48315K16	5.84

Inline Reducing Tees

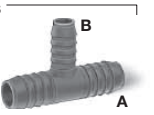

Pipe Size (A)	Pipe Size (B)	Max. psi @ 73°F		
3/4	1	200	48315K17	$6.40
1	3/4	200	48315K27	2.97
1 1/4	1	200	48315K18	3.88
1 1/2	1	160	48315K28	6.77

Reducing Couplings

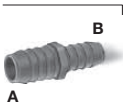

Pipe Size (A)	Pipe Size (B)	Max. psi @ 73°F		
3/4	1/2	200	48315K71	$1.56
1	1/2	200	48315K72	2.15
1	3/4	200	48315K73	1.60
1 1/4	1	200	48315K74	2.54
1 1/2	1	160	48315K75	3.83
2	1 1/2	160	48315K76	4.80

Barbed to NPT Threaded





Pipe Size	Barb OD	Max. psi @ 73°F	90° Elbows, Barbed x Male		Adapters, Barbed x Male	
1/2	0.65"	200	48315K41	$2.36	48315K91	$0.94
3/4	0.85"	200	48315K42	3.27	48315K92	1.15
1	1.08"	200	48315K43	4.29	48315K93	1.19
1 1/4	1.41"	200	48315K44	5.70	48315K94	1.88
1 1/2	1.65"	160	48315K45	7.58	48315K95	2.11
2	2.11"	160	48315K46	11.95	48315K96	4.04



90° Reducing Elbows, Barbed (A) x Female (B)

Pipe Size (A)	Pipe Size (B)	Max. psi @ 73°F		
3/4	1/2	200	48315K51	$2.17
1	1/2	200	48315K52	2.30
1	3/4	200	48315K53	2.67
1 1/4	1	200	48315K54	3.95
1 1/2	1	160	48315K55	4.49
2	1 1/2	160	48315K56	7.98

How to Measure Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

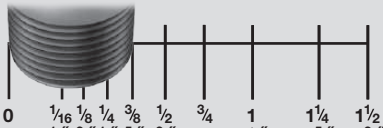

Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"

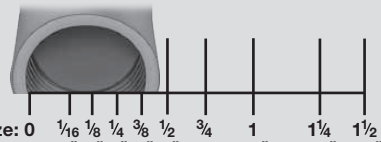

Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Barbed Light Gray Polypropylene and White Nylon Pipe Fittings

- Meet NSF/ANSI Standard 14 for use with drinking (potable) water
- Maximum Temperature: Polypropylene: 120° F; Nylon: 150° F
- Pipe: Use flexible polyethylene (see below)

Also known as insert fittings, these are easier to connect than other types of plastic pipe fittings. Slide the barbed end into flexible polyethylene pipe and secure with a worm-drive clamp (sold on page 302). For polypropylene and nylon barbed tube fittings, see pages 162-165 and 168-169; for barbed hose fittings, see page 318. These fittings meet ASTM D2609.

Polypropylene has good strength and is more flexible than PVC and nylon. Do not use oil-based sealants on the threads.

Nylon is a great choice when your application requires excellent strength and resistance to impact. Connections: Barbed or threaded (NPT).

Barbed







Pipe Size	Barb OD	Max. psi @ 73°F	90° Elbows		Tees		Couplings	
Polypropylene								
1/2	0.65"	60	4885K31	$1.12	4885K41	$1.20	4885K21	$0.60
3/4	0.85"	60	4885K32	1.31	4885K42	1.23	4885K22	.67
1	1.08"	60	4885K33	1.43	4885K43	1.45	4885K23	.76
1 1/4	1.41"	60	4885K34	1.63	4885K44	2.33	4885K24	1.20
1 1/2	1.65"	60	4885K35	1.97	4885K45	2.72	4885K25	1.41
2	2.11"	60	4885K56	2.39	4885K46	4.94	4885K26	2.04
Nylon								
1/2	0.65"	60	43535K11	1.64	43535K51	1.95	43535K61	1.02
3/4	0.85"	60	43535K12	2.08	43535K52	2.55	43535K62	1.14
1	1.08"	60	43535K13	2.26	43535K53	3.53	43535K63	1.52
1 1/4	1.41"	60	43535K14	3.64	43535K54	5.86	43535K64	2.53
1 1/2	1.65"	60	43535K15	5.04	43535K55	7.45	43535K65	3.24
2	2.11"	60	43535K16	7.53	43535K56	10.03	43535K66	4.22

Barbed to NPT Threaded (Male)





Pipe Size	Barb OD	Max. psi @ 73°F	90° Elbows		Adapters	
Polypropylene						
1/2	0.65"	60	4885K61	$1.22	4885K11	$0.57
3/4	0.85"	60	4885K62	1.65	4885K12	.64
1	1.08"	60	4885K63	2.22	4885K13	.77
1 1/4	1.41"	60	4885K64	2.97	4885K14	1.26
1 1/2	1.65"	60	4885K65	3.42	4885K15	1.38
2	2.11"	60	_____	____	4885K16	2.01
Nylon						
1/2	0.65"	60	43535K21	2.46	43535K71	1.01
3/4	0.85"	60	43535K22	3.80	43535K72	1.18
1	1.08"	60	43535K23	4.45	43535K73	1.55
1 1/4	1.41"	60	43535K24	6.48	43535K74	2.53
1 1/2	1.65"	60	43535K25	7.25	43535K75	3.24
2	2.11"	60	_____	____	43535K76	4.21

Flexible Black Polyethylene Unthreaded Pipe for Barbed Fittings



- Meet NSF/ANSI Standard 61 for use with drinking (potable) water
- Maximum Temperature: 140° F
- Fittings: Use barbed fittings (see page 90 and above)

You'll get the flexibility of tubing in this strong and bendable pipe. Made of high-density polyethylene (HDPE), it meets ASTM D2239 and D3350, and it's BOCA approved. Pipe can be cut to length with a knife.

Connect pipe to barbed pipe fittings with a worm-drive clamp (sold on page 302).

Pipe Size	Max. psi @ 73° F	5-ft. Straights		10-ft. Coils		25-ft. Coils		100-ft. Coils	
1/2	160	4884K56	$11.33	4884K96	$16.01	4884K76	$21.48	4884K61	$39.06
3/4	160	4884K51	13.58	4884K91	20.37	4884K71	30.87	4884K62	61.74
1	160	4884K52	16.68	4884K92	26.07	4884K72	52.14	4884K63	104.28
1 1/4	160	4884K53	21.56	4884K93	34.13	4884K73	89.81	4884K64	179.63
1 1/2	160	4884K54	24.15	4884K94★	45.88	4884K74	120.75	4884K65	241.50
2	160	4884K55	39.66	4884K95★	75.36	4884K75	198.32	4884K66	396.65

★ Cannot be coiled; comes straight.

Thick-Wall Dark Gray PVC Pipe Fittings with Reinforced Threads

- Meet NSF/ANSI Standard 61 for use with drinking (potable) water
- Maximum Temperature: 140° F
- Pipe Nipples and Pipe: Use threaded Schedule 80 thick-wall dark gray PVC (see page 94)

Take the worry out of over-tightening PVC pipe fittings—these have a stainless steel collar to support the female threads and keep them from cracking. Also known as Schedule 80 fittings, they meet ASTM D1784 and D2467. **Unions** have an EPDM O-ring.

Connections: Threaded (NPT) or unthreaded socket end (female). Connect socket-end fittings to pipe using a PVC primer and cement (see series 74605A on page 3466).

NPT Threaded (Female)



Couplings

Pipe Size		
1/2	9174K21	$4.92
3/4	9174K22	7.00
1	9174K23	7.48
1 1/4	9174K24	9.32
1 1/2	9174K25	20.63
2	9174K26	21.63

Unthreaded Socket End (Female) to NPT Threaded (Female)







Pipe Size	Tees		Unions		Adapters	
1/4	_____	____	9174K41	$20.13	9174K31	$7.45
3/8	_____	____	9174K42	20.13	9174K32	7.45
1/2	9174K11	$10.75	9174K43	11.09	9174K33	4.15
3/4	_____	____	9174K44	15.20	9174K34	6.03
1	9174K12	17.85	9174K45	19.84	9174K35	8.96
1 1/4	_____	____	9174K46	37.92	9174K36	14.48
1 1/2	_____	____	9174K47	46.79	9174K37	17.83
2	_____	____	9174K48	71.13	9174K38	31.09





Pipe Size (A)	Pipe Size (B)	Inline Reducing Tees		Reducing Adapters	
1/2	1/4	9174K61	$10.75	_____	____
1/2	3/4	_____	____	9174K51	$6.03
3/4	1/4	9174K62	13.96	_____	____
3/4	1/2	9174K63	13.96	9174K52	6.03
3/4	1	_____	____	9174K53	8.96
1	1/2	_____	____	9174K54	8.96
1	3/4	_____	____	9174K55	8.96
1 1/2	1	9174K64	25.80	_____	____

How to Measure Unthreaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
OD (to nearest 1/8"):	0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"

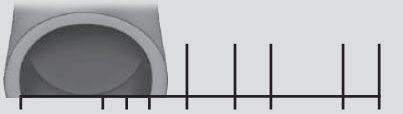

Pipe Size:	0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
ID (to nearest 1/8"):	0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Dark Gray PVC Pipe Fittings and Flanges CAD

- Meet NSF/ANSI Standard 61 for use with drinking (potable) water, except where noted
- Maximum Temperature: 140° F, except reducing pipe nipples are 110° F
- Pipe Nipples and Pipe: Use unthreaded and threaded Schedule 80 thick-wall PVC (see pages 90 and 94)

Choose threaded PVC fittings for quick connections without the need for primer and cement. Also known as Schedule 80 fittings and flanges, they have thicker walls than the standard-wall versions to handle heavy duty applications. PVC is a durable material that's rigid and corrosion resistant. All meet ASTM D1784 and D2467.

Connections: Threaded (NPT), unthreaded pipe end (male), or unthreaded socket end (female). Connect unthreaded fittings to pipe using a PVC primer and cement (see series 74605A on page 3466).

NPT Threaded

Unions have a fluoroelastomer O-ring, except pipe sizes 1/4, 3/8, 2 1/2, and 6 have an EPDM O-ring. **Hex-head** plugs are hollow.













Pipe Size	90° Elbows		45° Elbows		Tees		Unions		Couplings		Caps	
1/4	4596K121	$2.86	4596K18	$5.81	4596K321	$3.42	4596K83	$10.53	4596K51	$2.50	4596K39	$2.55
3/8	4596K122	2.86	4596K19	5.81	4596K322	3.58	4596K84	10.53	4596K69	3.10	4596K41	2.43
1/2	4596K12	2.67	4596K22	4.28	4596K32	3.76	4596K62	4.96	4596K52	2.33	4596K42	2.55
3/4	4596K13	3.33	4596K23	4.60	4596K33	4.18	4596K63	6.96	4596K53	3.33	4596K43	2.86
1	4596K14	4.18	4596K24	5.78	4596K34	8.80	4596K64	9.24	4596K54	3.57	4596K44	3.60
1 1/4	4596K15	4.51	4596K25	8.82	4596K35	9.33	4596K65	15.89	4596K55	4.42	4596K45	4.29
1 1/2	4596K16	6.40	4596K26	11.08	4596K36	10.79	4596K66	19.66	4596K56	9.37	4596K46	4.90
2	4596K17	7.20	4596K27	14.94	4596K37	11.60	4596K67	25.84	4596K57	9.84	4596K47	9.63
2 1/2	4596K125	25.50	4596K21	25.01	4596K31	35.75	4596K85	49.50	4596K61	18.97	4596K38	17.51
3	4596K123	34.79	4596K28	40.23	4596K325	37.33	4596K68	65.55	4596K58	26.29	4596K48	20.61
4	4596K124	61.22	4596K29	57.72	4596K326	60.67	4596K86	77.03	4596K59	38.52	4596K49	30.71
6	—	—	—	—	4596K327	266.35	4596K89	221.47	4596K88	147.95	—	—



Hex-Head Plugs

Pipe Size		
1/4	4596K71	$2.21
3/8	4596K72	2.21
1/2	4596K73	1.96
3/4	4596K74	2.04
1	4596K75	2.50
1 1/4	4596K76	3.69
1 1/2	4596K77	4.48
2	4596K78	4.60
2 1/2	4596K79	11.69
3	4596K81	13.64
4	4596K82	22.47
6	4596K87	38.68



Reducing Pipe Nipples

Pipe Size (A)	(B)		
3/4	1/2	4596K651■	$4.23
1	3/4	4596K652■	5.63
1 1/4	1	4596K653■	6.03
1 1/2	1	4596K655■	6.50
1 1/2	1 1/4	4596K654■	6.50
2	1 1/2	4596K656■	8.30

■Does not meet NSF/ANSI Standard; not for use with drinking (potable) water.



Hex Reducing Bushings, Male (A) × Female (B)

Pipe Size (A)	(B)		
1/4	1/8	4596K408	$4.68
3/8	1/4	4596K401	3.82
1/2	1/4	4596K402	4.01
1/2	3/8	4596K403	4.21
3/4	1/4	4596K404	2.98
3/4	3/8	4596K405	3.13
3/4	1/2	4596K414	2.58
1	1/4	4596K407	5.06
1	3/8	4596K413	3.68
1	1/2	4596K416	3.85
1	3/4	4596K418	4.04
1 1/4	1/2	4596K422	3.90
1 1/4	3/4	4596K424	4.08
1 1/4	1	4596K426	4.29
1 1/2	1/2	4596K427	5.08
1 1/2	3/4	4596K428	$4.62
1 1/2	1	4596K434	4.84
1 1/2	1 1/4	4596K436	5.08
2	1/2	4596K437	6.77
2	3/4	4596K439	6.93
2	1	4596K438	7.10
2	1 1/4	4596K444	7.45
2	1 1/2	4596K446	7.45
2 1/2	2	4596K445	10.09
3	1 1/2	4596K447	13.05
3	2	4596K448	13.37
3	2 1/2	4596K443	13.70
4	2	4596K409	31.48
4	3	4596K449	27.77

Unthreaded Socket End (Female) to NPT Threaded

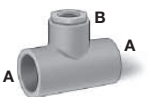

Inline Reducing Tee, Unthreaded Female (A) × Threaded Female (B)

Pipe Size (A)	(B)		
3/4	1/2	4596K211	$5.85
1	1/2	4596K212	6.08
1	3/4	4596K213	7.81
1 1/4	1/2	4596K238	8.95
1 1/4	3/4	4596K239	8.95
1 1/4	1	4596K214	17.76
1 1/2	1/2	4596K215	11.07
1 1/2	3/4	4596K216	11.07
1 1/2	1	4596K217	11.07
1 1/2	1 1/4	4596K218	11.07
2	1/2	4596K219	$12.65
2	3/4	4596K221	12.65
2	1	4596K222	16.83
2	1 1/4	4596K241	16.83
2	1 1/2	4596K223	23.46
2 1/2	1/2	4596K242	29.13
2 1/2	3/4	4596K243	29.13
2 1/2	1	4596K244	29.13
2 1/2	1 1/2	4596K224	29.13
2 1/2	2	4596K225	32.52
3	1/2	4596K245	$22.84
3	3/4	4596K246	22.84
3	1	4596K247	27.47
3	1 1/4	4596K248	27.47
3	1 1/2	4596K226	27.47
3	2	4596K227	35.07
3	2 1/2	4596K228	49.33
4	1/2	4596K249	40.19
4	3/4	4596K251	40.19
4	1	4596K252	$40.19
4	1 1/4	4596K253	40.19
4	1 1/2	4596K229	40.19
6	1	4596K254	93.52
6	2	4596K232	93.52
6	3	4596K233	130.56
6	4	4596K234	136.79
8	2	4596K235	440.00
8	4	4596K236	231.73

(Continued on following page)

How to Measure Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.





To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Dark Gray PVC Pipe Fittings and Flanges *(Continued from previous page)*

Unthreaded Socket End (Female) to NPT Threaded (Cont.)

Unions have a fluoroelastomer O-ring, except pipe sizes 1/4, 2 1/2, 3, 4, and 6 have an EPDM O-ring. **PVC-to-brass adapters** meet ANSI/ASME B1.20.1. They have a molded-in brass threaded insert that allows you to transition your pipeline from PVC to brass or copper; the female threads also have a stainless steel reinforcement collar.











Pipe Size	90° Elbows		Tees		Unions		Adapters, Female		Adapters, Female × Male	
1/4	4596K621	$5.62	4596K631	$9.31	4596K658	$9.48	4596K843	$3.53	_____	_____
1/2	4596K622	4.32	4596K632	4.90	4596K641	4.96	4596K844	1.95	4596K854	$2.44
3/4	4596K623	5.31	4596K633	6.34	4596K642	6.94	4596K845	2.91	4596K855	2.69
1	4596K624	5.50	4596K634	7.42	4596K643	9.23	4596K846	4.28	4596K856	4.66
1 1/4	4596K625	6.34	4596K635	7.93	4596K644	17.63	4596K847	6.93	4596K857	5.44
1 1/2	4596K626	7.56	4596K636	10.90	4596K645	18.33	4596K848	7.73	4596K858	7.82
2	4596K627	9.79	4596K637	13.44	4596K646	28.22	4596K849	11.40	4596K859	11.32
2 1/2	_____	____	_____	____	4596K647	69.84	4596K851	21.28	4596K861	11.69
3	4596K628	27.37	4596K638	20.85	4596K648	92.76	4596K852	20.27	4596K862	12.97
4	4596K629	51.61	4596K639	33.95	4596K649	106.61	4596K853	34.84	4596K863	23.08
6	4596K657	119.75	_____	____	4596K659	215.37	4596K864	59.74	4596K865	62.84
8	_____	____	_____	____	_____	____	_____	____	4596K866	142.58
10	_____	____	_____	____	_____	____	_____	____	4596K867	170.64





Pipe Size	PVC-to-Brass Adapters, Female ■		PVC-to-Brass Adapters, Female × Male	
1/2	46695K71	$33.30	4596K672	$21.98
3/4	46695K73	47.81	4596K673	33.16
1	46695K74	82.40	4596K674	53.91
1 1/4	46695K75	116.31	4596K675	90.82
1 1/2	46695K76	152.79	4596K676	120.50
2	46695K77	189.25	4596K677	149.70

■ Does not meet NSF/ANSI 61 Standard; not for use with drinking (potable) water.



90° Reducing Elbows, Unthreaded (A) × Threaded (B)

Pipe Size (A)	Pipe Size (B)		
3/4	1/2	4596K667	$3.06
1	1/2	4596K668	4.90
1	3/4	4596K669	4.90

Unthreaded Pipe End (Male) to NPT Threaded



Adapters, Unthreaded Male × Threaded Male

Pipe Size		
1/2	4596K661	$3.04
3/4	4596K662	4.48
1	4596K663	6.62
1 1/4	4596K671	6.45
1 1/2	4596K665	8.01
2	4596K666	9.32



Hex Reducing Bushings, Unthreaded Male (A) × Threaded Female (B)

Pipe Size (A)	Pipe Size (B)		
3/8	1/4	4596K711	$1.75
1/2	1/8	4596K712	2.28
1/2	1/4	4596K713	1.75
1/2	3/8	4596K714	2.28
3/4	1/4	4596K715	1.51
3/4	3/8	4596K716	1.51
3/4	1/2	4596K821	1.21
1	1/8	4596K868	2.15
1	3/8	4596K869	2.15
1	1/2	4596K822	1.83
1	3/4	4596K823	1.93
1 1/4	1/2	4596K717	3.72
1 1/4	3/4	4596K824	3.72
1 1/4	1	4596K825	3.91
1 1/2	1/8	4596K718	6.07
1 1/2	1/4	4596K719	$5.76
1 1/2	1/2	4596K826	4.67
1 1/2	3/4	4596K827	4.90
1 1/2	1	4596K828	4.67
1 1/2	1 1/4	4596K829	4.90
2	1/2	4596K831	5.45
2	3/4	4596K832	5.58
2	1	4596K833	5.71
2	1 1/4	4596K834	5.85
2	1 1/2	4596K835	6.00
2 1/2	1/2	4596K871	14.14
2 1/2	3/4	4596K872	14.00
2 1/2	1	4596K721	14.14
2 1/2	1 1/4	4596K873	14.14
2 1/2	1 1/2	4596K722	$14.14
2 1/2	2	4596K836	11.54
3	3/4	4596K874	26.18
3	1	4596K723	26.18
3	1 1/4	4596K875	26.18
3	1 1/2	4596K876	26.18
3	2	4596K837	20.43
3	2 1/2	4596K838	21.36
4	1 1/2	4596K877	50.59
4	2	4596K839	26.74
4	2 1/2	4596K879	40.21
4	3	4596K841	27.77
6	2	4596K724	46.32
6	4	4596K842	31.99

Threaded Flanges

Also known as Class 150 flanges, bolt two of these same-size flanges together with a gasket to form a tight seal. For gaskets, see pages 3529-3530; for bolts, see page 3170.



Pipe Size	Flange OD	Bolts Required Qty.	Bolts Required Dia.		
1/2	3 1/2"	4	1/2"	4596K152	$7.56
3/4	3 7/8"	4	1/2"	4596K153	8.86
1	4 1/4"	4	1/2"	4596K154	9.70
1 1/4	4 5/8"	4	1/2"	4596K155	12.16
1 1/2	5"	4	1/2"	4596K156	13.27
2	6"	4	5/8"	4596K157	$13.57
2 1/2	7 1/16"	4	5/8"	4596K161	26.41
3	7 1/2"	4	5/8"	4596K158	27.18
4	9"	8	5/8"	4596K159	51.07

How to Measure Male Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
OD (to nearest 1/8″):	0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″	1 5/8″	1 3/4″	2 3/8″	2 3/4″	3 3/8″

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Dark Gray PVC Threaded Pipe Nipples



- Maximum Temperature: 110° F
- Fittings and Flanges: Use threaded Schedule 80 thick-wall dark gray PVC (see pages 92-93)

With threads at one or both ends, these pipe nipples quickly connect to threaded fittings and flanges without the need for primer and cement. Also known as Schedule 80 nipples, they have thicker walls than the standard-wall nipples to handle heavy duty applications. All meet ASTM D1784, D1785, and D2467.

Fully threaded nipples are also called close nipples; they are threaded on each end to the center.

Connections: Threaded (NPT) or unthreaded.

Fully Threaded

Pipe Size	Max. psi @ 73° F	Lg.		
1/4	565	7/8″	4882K11	$1.33
3/8	460	1″	4882K12	1.44
1/2	420	1 1/8″	4882K13	.67
3/4	340	1 3/8″	4882K14	.74
1	315	1 1/2″	4882K15	1.07
1 1/4	260	1 5/8″	4882K16	1.26
1 1/2	235	1 3/4″	4882K17	1.44
2	200	2″	4882K18	2.89
2 1/2	210	2 1/2″	4882K193	6.52
3	185	2 5/8″	4882K19	7.63
4	160	2 7/8″	4882K191	9.93
6	140	3 1/8″	4882K192	73.31

Threaded on Both Ends

Pipe Size	Max. psi @ 73° F		1 1/2″	2″	2 1/2″	3″	3 1/2″
1/4	565	4882K711	$1.44	$1.63	$1.85	$1.96	$2.15
3/8	460	4882K712	1.59	1.81	2.04	2.33	2.56
1/2	420	4882K713	.74	.81	1.37	.93	1.59
3/4	340	4882K714	____	.81	1.67	1.15	1.85
1	315	4882K715	____	1.22	2.15	1.33	2.48
1 1/4	260	4882K716	____	1.67	2.00	1.78	3.33
1 1/2	235	4882K717	____	1.81	1.78	2.04	4.00
2	200	4882K718	____	____	3.04	3.33	4.89
2 1/2	210	4882K719	____	____	____	7.00	7.63
3	185	4882K721	____	____	____	8.19	8.89

Threaded on Both Ends

Pipe Size	Max. psi @ 73° F		4″	4 1/2″	5″	5 1/2″	6″	7″	8″	10″	12″
1/4	565	4882K711	$2.33	$2.56	$2.67	$2.89	$3.07	$4.00	$4.37	$4.56	$5.15
3/8	460	4882K712	2.81	3.04	3.19	3.41	3.59	4.56	5.33	6.00	6.07
1/2	420	4882K713	1.07	1.78	1.22	1.89	1.26	3.19	3.33	3.63	4.04
3/4	340	4882K714	1.26	2.33	1.48	2.56	1.56	3.41	3.63	4.37	5.04
1	315	4882K715	1.56	2.96	1.81	3.19	1.96	4.33	4.59	5.26	6.41
1 1/4	260	4882K716	1.89	3.74	2.15	4.26	2.41	5.30	5.81	6.70	7.96
1 1/2	235	4882K717	2.41	4.74	2.78	5.30	3.07	6.70	7.15	8.19	9.81
2	200	4882K718	3.85	5.70	4.48	6.41	5.00	8.07	8.93	10.33	12.33
2 1/2	210	4882K719	8.00	8.59	9.07	9.63	10.07	12.89	12.89	16.00	18.04
3	185	4882K721	9.52	10.30	10.89	11.63	12.30	14.30	16.93	19.63	22.41
4	160	4882K722	12.19	13.15	14.11	16.15	16.15	20.04	20.07	26.00	30.00
6	140	4882K723	80.60	87.94	87.94	97.74	97.71	106.86	106.86	138.20	146.57

Threaded on One End

Pipe Size	Max. psi @ 73° F		2″		3″		4″		6″		10″		12″
1/4	565	9173K31	$1.76	9173K51	$2.16	9173K71	$2.56	9173K511	$3.32	9173K311	$4.80	9173K411	$6.08
3/8	460	9173K32	1.76	9173K52	2.56	9173K72	3.04	9173K512	3.88	9173K312	6.32	9173K412	6.67
1/2	420	9173K33	1.36	9173K53	1.56	9173K73	1.80	9173K513	2.12	9173K313	3.84	9173K413	4.36
3/4	340	9173K34	1.68	9173K54	1.92	9173K74	2.24	9173K514	2.96	9173K314	4.60	9173K414	5.44
1	315	9173K35	2.16	9173K55	2.48	9173K75	2.92	9173K515	3.60	9173K315	5.56	9173K415	6.92
1 1/4	260	9173K36	2.80	9173K56	3.32	9173K76	3.84	9173K516	4.84	9173K316	7.08	9173K416	8.60
1 1/2	235	9173K37	3.16	9173K57	3.92	9173K77	4.72	9173K517	5.88	9173K317	8.64	9173K417	10.60
2	200	9173K38	3.24	9173K58	4.76	9173K78	5.72	9173K518	7.84	9173K318	10.88	9173K418	12.33
2 1/2	210	_____	____	9173K59	7.56	9173K79	8.68	9173K519	10.88	9173K319	16.88	9173K419	19.48
3	185	_____	____	9173K61	8.88	9173K81	10.28	9173K621	13.28	9173K321	20.68	9173K421	24.20
4	160	_____	____	_____	____	9173K82	13.16	9173K622	17.44	9173K322	27.44	9173K422	32.40
6	140	_____	____	_____	____	9173K83	80.31	9173K623	97.71	9173K323	134.94	9173K423	146.57

Thick-Wall Dark Gray PVC Threaded Pipe



- Maximum Temperature: 110° F
- Fittings and Flanges: Use threaded Schedule 80 thick-wall dark gray PVC (see pages 92-93)

This Schedule 80 pipe comes threaded on both ends, so you can quickly connect it to fittings and flanges without the need for primer and cement. They have thicker walls than the standard-wall pipe to handle heavy duty applications. All meet ASTM D1784, D1785, and D2467.

Connections: Threaded (NPT).

Pipe Size	Max. psi @ 73° F		2 ft.		3 ft.		5 ft.
1/4	565	4687T11	$10.01	4687T31	$15.31	4687T51	$29.45
3/8	460	4687T12	10.75	4687T32	16.44	4687T52	31.62
1/2	420	4687T13	4.01	4687T33	6.13	4687T53	11.78
3/4	340	4687T14	5.58	4687T34	7.67	4687T54	13.95
1	315	4687T15	7.90	4687T35	10.86	4687T55	19.75
1 1/4	260	4687T16	10.67	4687T36	14.67	4687T56	26.68
1 1/2	235	4687T17	13.15	4687T37	18.08	4687T57	32.88
2	200	4687T18	17.20	4687T38	23.66	4687T58	43.01
2 1/2	210	4687T19	24.05	4687T39	39.16	4687T59	55.94
3	185	4687T21	29.81	4687T41	48.52	4687T61	69.32
4	160	4687T22	41.72	4687T42	52.85	4687T62	92.72
6	140	4687T23	173.70	4687T43	280.56	_____	_____

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8″):	0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″	1 5/8″	1 3/4″	2 3/8″	2 3/4″	3 3/8″

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Clear PVC Threaded Pipe Nipples

- Maximum Temperature: 110° F
- Fittings and Flanges: Use threaded Schedule 80 thick-wall dark gray PVC (see pages 92-93)

See what's flowing through your line with these clear PVC pipe nipples. Also called Schedule 80 nipples, they're thicker than the standard-wall versions to handle heavy duty applications. They meet ASTM D1784, D1785, and D2467.

Fully threaded nipples are also known as close nipples; they're threaded on each end to the center.

Connections: Threaded (NPT).



Fully Threaded



Threaded on Both Ends

Fully Threaded

Pipe Size	Max. psi @ 73° F	Lg.		
1/2	210	1 1/8″	4677T11	$1.62
3/4	170	1 3/8″	4677T12	2.66
1	160	1 1/2″	4677T13	4.28
1 1/2	120	1 3/4″	4677T14	8.35
2	100	2″	4677T15	13.22
3	95	2 5/8″	4677T16	36.35
4	80	2 7/8″	4677T17	50.92

Threaded on Both Ends

Pipe Size	Max. psi @ 73° F	3″		4″		6″	
1/2	210	4677T21	$4.31	4677T31	$5.76	4677T41	$8.61
3/4	170	4677T22	5.83	4677T32	7.76	4677T42	11.63
1	160	4677T23	8.56	4677T33	11.43	4677T43	17.12
1 1/2	120	4677T24	12.73	4677T34	16.97	4677T44	25.47
2	100	4677T25	19.86	4677T35	26.45	4677T45	39.67
3	95	4677T26	39.90	4677T36	48.48	4677T46	64.60
4	80	_____	___	4677T37	62.98	4677T47	94.47

High-Strength White Nylon Threaded Pipe Fittings

- Use with water, oil, soap solutions, acetone, gasoline (unless noted)
- Temperature Range: 32° to 167° F, unless noted

Choose nylon for its high strength and impact resistance. These fittings are semi-clear white, unless indicated otherwise.

High-pressure hex-reducing bushings are red. *Note:* Do not use PTFE tape with these bushings.

Connections: Threaded (NPT).













Pipe Size	Max. psi @ 72° F	90° Elbows		90° Elbows, Female × Male		Tees		Couplings		Hex-Head Plugs		Hex Nipples	
1/8	75	_____	___	_____	___	_____	___	_____	___	48335K151	$0.70	_____	___
1/4	75	_____	___	48335K111	$4.74	48335K131	$7.63	_____	___	48335K152	1.25	48335K171	$0.81
3/8	75	_____	___	48335K112	3.36	_____	___	_____	___	48335K153	1.29	48335K172	.94
1/2	75	48335K102	$4.01	48335K113	4.01	48335K132	5.07	48335K142	$4.31	48335K154	.88	48335K173	.97
3/4	75	48335K103	4.51	48335K115	4.94	48335K133	6.99	48335K143	4.16	48335K155	.92	48335K174	1.11
1	75	48335K104	6.39	48335K116	7.66	48335K134	8.86	48335K144	5.78	48335K156	1.09	48335K175	1.77
1 1/4	75	48335K105	9.47	48335K117	8.74	48335K135	13.40	48335K145	8.88	48335K157	1.66	48335K176	3.13
1 1/2	75	48335K106	10.26	48335K118	14.17	48335K136	13.60	48335K146	10.23	_____	___	48335K177	4.43
2	75	48335K107	16.46	48335K119	16.94	48335K137	18.54	48335K147	14.08	_____	___	48335K178	5.43



Hex Reducing Bushings, Male (A) × Female (B)

Pipe Size (A)	(B)	Max. psi @ 72° F		
1/4	1/8	75	48335K201	$1.26
3/8	1/8	75	48335K202	1.41
3/8	1/4	75	48335K203	1.38
1/2	1/4	75	48335K205	1.36
1/2	3/8	75	48335K206	1.43
3/4	1/8	75	48335K207	1.72
3/4	1/4	75	48335K208	1.46
3/4	3/8	75	48335K209	1.56
3/4	1/2	75	48335K211	1.52
1	1/2	75	48335K212	2.10
1	3/4	75	48335K213	$1.71
1 1/4	3/4	75	48335K214	3.03
1 1/4	1	75	48335K215	2.90
1 1/2	3/4	75	48335K216	3.42
1 1/2	1	75	48335K217	3.29
1 1/2	1 1/4	75	48335K218	2.93
2	1	75	48335K222	16.54
2	1 1/2	75	48335K219	4.01
3	2	75	48335K221	10.38



High-Pressure Hex Reducing Bushings ★, Male (A) × Female (B)

Pipe Size (A)	(B)	Max. psi @ 72° F		
3/8	1/4	500	4837K11	$2.09
1/2	3/8	500	4837K12	2.17
3/4	1/2	500	4837K13	2.23
1	3/4	500	4837K14	4.00
1 1/4	1	500	4837K15	6.29
1 1/2	1 1/4	250	4837K26	6.42
2	1 1/2	250	4837K27	8.15
2 1/2	2	250	4837K28	12.72

★ For water use only. Maximum temperature is 180° F; not rated for minimum temperature.

Hex Reducing Nipples

Pipe Size (A)	(B)	Max. psi @ 72° F		
3/8	1/4	75	48335K161	$1.25
1/2	1/4	75	48335K165 ■	1.25
1/2	3/8	75	48335K162 ■	$1.33
3/4	3/8	75	48335K166	2.17
3/4	1/2	75	48335K167	$1.33
1 1/4	1	75	48335K169	2.55

■ Not hex shaped; center is square.

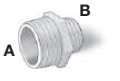

Miniature High-Strength White Nylon Threaded Pipe Fittings

- Use with water, oil, soap solutions, acetone
- Temperature Range: 0° to 175° F

These tiny fittings fit into tight spaces. They're made of nylon, which offers high strength and impact resistance.

Connections: 10-32 and 1/4″-28 are UNF straight threads; 1/16 is a threaded pipe size (NPT).







Thread/ Pipe Size	Max. psi @ 72° F	Couplings		Hex-Head Plugs		Hex Nipples	
10-32	125	8316T29	$2.48	8316T33	$0.38	8316T44	$0.38
1/16	125	_____	___	8316T34	.76	_____	___
1/4″-28	125	8316T32	7.76	8316T35	.62	_____	___

How to Measure Unthreaded Socket-End Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"

i To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Light Gray CPVC Unthreaded Pipe Fittings and Flanges

- Use with hot water; meet NSF/ANSI Standard 61 for use with drinking (potable) water
- Maximum Temperature: 200° F
- Pipe: Use unthreaded Schedule 80 thick-wall light gray CPVC (see page 97)

CPVC is a durable, corrosion-resistant material that handles higher temperatures than PVC in heavy duty applications. These are also known as Schedule 80 fittings and flanges. They meet ASTM D1784 and F439.

Connections: Unthreaded socket end (female) or unthreaded pipe end (male). Connect fittings to pipe using a CPVC primer and cement (see series 74605A on page 3466).

Socket End (Female)

Unions have a fluoroelastomer O-ring, except pipe sizes 3/8, 2 1/2, 4, and 6 have an EPDM O-ring. **Off-center reducing couplings** are also known as eccentric reducers. **Centered reducing couplings** are also known as concentric reducers.













Pipe Size	90° Elbows		90° Long Elbows		45° Elbows		22 1/2° Elbows		Tees		Wyes	
1/4	6826K41	$5.38			6826K31	$8.00			6826K61	$5.68		
3/8	6826K51	6.31			6826K98	9.38			6826K99	5.80		
1/2	6826K12	2.11	6826K331	$4.86	6826K22	2.58	6826K221	$3.57	6826K32	4.94	6826K241	$6.71
3/4	6826K13	2.69	6826K332	6.28	6826K23	3.72	6826K222	5.13	6826K33	5.03	6826K242	6.94
1	6826K14	4.28	6826K333	10.07	6826K24	5.93	6826K223	8.17	6826K34	6.17	6826K243	11.69
1 1/4	6826K15	7.39	6826K334	13.31	6826K25	9.31	6826K224	16.04	6826K35	10.40	6826K244	17.70
1 1/2	6826K16	8.25	6826K335	14.30	6826K26	9.55	6826K225	16.48	6826K36	11.91	6826K245	19.03
2	6826K17	9.95	6826K336	17.32	6826K27	10.72	6826K226	18.48	6826K37	13.26	6826K246	46.59
2 1/2	6826K101	22.93			6826K103	21.89	6826K227	105.92	6826K105	32.46	6826K252	298.60
3	6826K18	25.96	6826K337	149.63	6826K28	28.14	6826K228	48.53	6826K38	33.76	6826K247	208.86
4	6826K19	46.75	6826K338	185.09	6826K29	38.63	6826K229	66.61	6826K39	44.93	6826K248	220.82
6	6826K102	78.28	6826K339	248.15	6826K104	99.16	6826K231	186.55	6826K106	97.43	6826K249	302.23
8	6826K182	164.20			6826K183	176.84	6826K232	468.92	6826K167	204.20	6826K251	821.06









Pipe Size	Crosses		Unions		Couplings		Caps	
1/4	6826K271	$24.22	6826K97	$8.21	6826K89 ★	$5.73	6826K95	$4.41
3/8			6826K611	16.64	6826K94 ★	6.71	6826K96	4.49
1/2	6826K272	24.70	6826K62	7.10	6826K42	2.23	6826K52	3.47
3/4	6826K273	26.00	6826K63	7.67	6826K43	3.11	6826K53	4.94
1	6826K274	28.82	6826K64	9.22	6826K44	4.19	6826K54	7.00
1 1/4	6826K275	30.84	6826K65	18.64	6826K45	6.28	6826K55	6.83
1 1/2	6826K276	33.51	6826K66	18.99	6826K46	6.32	6826K56	7.09
2	6826K277	43.47	6826K67	31.47	6826K47	7.35	6826K57	7.77
2 1/2	6826K278	57.95	6826K138	78.49	6826K107	16.36	6826K109	27.17
3	6826K279	73.80	6826K68	67.94	6826K48 ★	17.77	6826K58	29.78
4	6826K281	119.85	6826K69	114.36	6826K49 ★	23.29	6826K59	30.27
6	6826K282	662.79	6826K21	254.12	6826K108 ★	54.84	6826K111	83.48
8	6826K283	1,101.41			6826K168 ★	123.52	6826K169	371.35

★ No hex in the center.

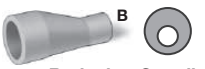

Off-Center Reducing Couplings

Pipe Size (A)	(B)		
1	3/4	6826K291	$36.60
1 1/4	1	6826K292	39.77
1 1/2	1 1/4	6826K293	41.66
2	1	6826K294	56.99
2	1 1/2	6826K295	50.64
2 1/2	1 1/2	6826K296	86.28
2 1/2	2	6826K297	61.27
3	1	6826K298	134.74
3	1 1/2	6826K299	126.55
3	2	6826K301	82.04
4	1	6826K302	207.89
4	2	6826K303	183.36
4	3	6826K304	118.67

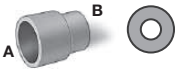

Centered Reducing Couplings

Pipe Size (A)	(B)		
3/4	1/2	6826K141	$5.83
1	1/2	6826K142	9.74
1	3/4	6826K143	8.31
1 1/4	1/2	6826K144	21.88
1 1/4	3/4	6826K145	22.31
1 1/4	1	6826K146	19.03
1 1/2	1/2	6826K147	21.28
1 1/2	3/4	6826K148	21.70
1 1/2	1	6826K149	22.13
1 1/2	1 1/4	6826K151	18.87
2	1/2	6826K192	29.27
2	3/4	6826K152	28.69
2	1	6826K153	29.27
2	1 1/4	6826K154	$29.27
2	1 1/2	6826K155	24.96
2 1/2	2	6826K156	33.33
3	2	6826K157	45.94
4	2	6826K158	80.33
4	2 1/2	6826K159	80.33
4	3	6826K161	54.87
6	2	6826K262	193.19
6	3	6826K163	197.15
6	4	6826K164	103.74
8	4	6826K265	301.02
8	6	6826K166	154.06

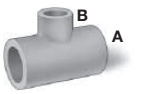

Inline Reducing Tees

Pipe Size (A)	(B)		
3/4	1/2	6826K311	$7.35
1	1/2	6826K312	14.90
1	3/4	6826K313	8.47
1 1/4	1/2	6826K326	34.17
1 1/4	1	6826K314	29.16
1 1/2	1/2	6826K327	30.46
1 1/2	3/4	6826K315	30.46
1 1/2	1	6826K316	30.46
1 1/2	1 1/4	6826K317	30.46
2	1/2	6826K328	36.27
2	3/4	6826K329	36.27
2	1	6826K318	36.27
2	1 1/2	6826K319	20.63
2 1/2	1/2	6826K365	$41.66
2 1/2	3/4	6826K366	41.66
2 1/2	1	6826K367	41.66
2 1/2	2	6826K321	43.13
3	3/4	6826K368	91.71
3	1 1/2	6826K369	74.03
3	2	6826K322	74.03
3	2 1/2	6826K383	74.03
4	2	6826K384	93.56
4	3	6826K323	93.56
6	3	6826K385	381.51
6	4	6826K324	240.23
8	6	6826K325	236.38

(Continued on following page)

How to Measure Unthreaded Pipe and Pipe-End Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.

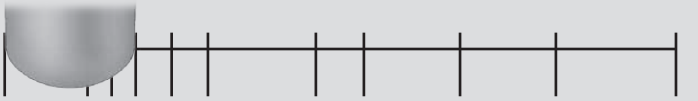

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Light Gray CPVC Unthreaded Pipe Fittings and Flanges

(Continued from previous page)

Pipe End (Male) to Socket End (Female)






Pipe Size	90° Elbows, Male × Female		45° Elbows, Male × Female		22½° Elbows, Male × Female		Tees, Male × Female × Female	
1/2	6826K341	$3.10	6826K353	$3.02	6826K411	$4.06	6826K201	$7.25
3/4	6826K342	3.94	6826K354	4.36	6826K412	6.32	6826K202	7.38
1	6826K343	6.28	6826K355	6.95	6826K413	9.89	6826K203	9.03
1 1/4	6826K344	13.55	6826K356	13.64	6826K414	12.39	6826K204	19.06
1 1/2	6826K345	15.13	6826K357	13.99	6826K415	17.82	6826K205	21.84
2	6826K346	18.26	6826K358	15.71	6826K416	22.47	6826K206	24.31
2 1/2	6826K347	36.87	6826K359	34.76	6826K417	41.26	_____	____
3	6826K348	50.74	6826K361	41.24	6826K418	59.93	_____	____
4	6826K349	91.37	6826K362	56.62	6826K419	76.85	_____	____
6	6826K351	183.60	6826K363	205.21	6826K421	253.43	_____	____
8	6826K352	374.42	6826K364	355.78	6826K422	442.77	_____	____



Hex Reducing Bushings, Male (A) × Female (B)

Pipe Size (A)	(B)			Pipe Size (A)	(B)			Pipe Size (A)	(B)			Pipe Size (A)	(B)		
3/8	1/4	6826K187	$4.23	1 1/4	3/4	6826K216	$7.83	2	1	6826K125	$11.43	3	2	6826K128	$21.21
1/2	1/4	6826K188	4.43	1 1/4	1	6826K217	7.25	2	1 1/4	6826K126	10.59	4	2	6826K134	22.55
1/2	3/8	6826K189	4.66	1 1/2	1/2	6826K218	8.86	2	1 1/2	6826K127	10.99	4	3	6826K132	23.46
3/4	1/2	6826K212	2.38	1 1/2	3/4	6826K219	7.91	2 1/2	1	6826K194	16.39	6	2	6826K135	72.32
1	3/8	6826K193	9.48	1 1/2	1	6826K121	8.20	2 1/2	2	6826K129	13.92	6	3	6826K136	73.76
1	1/2	6826K213	3.51	1 1/2	1 1/4	6826K122	8.52	3	1	6826K195	31.09	6	4	6826K137	49.97
1	3/4	6826K214	3.69	2	1/2	6826K123	10.59	3	1 1/2	6826K131	21.21	8	6	6826K184	137.09
1 1/4	1/2	6826K215	9.33	2	3/4	6826K124	13.61								

Flanges

Also known as Class 150 flanges, bolt two same-size flanges together with a rubber flange gasket to form a tight seal. For gaskets see page 3529; for bolts see page 3170.

Easy-align flanges are also called Van Stone flanges; they have a ring that swivels for easy bolt hole alignment.

Cap flanges are also called blind flanges; they close off the end of a pipe.





Pipe Size	Flange OD	Bolts Required Qty.	Bolts Required Dia.	Socket End (Female)		Easy-Align Socket End (Female)		Cap	
1/2	3 1/2"	4	1/2"	6826K112	$9.38	6826K171	$9.44	6826K371	$16.49
3/4	3 7/8"	4	1/2"	6826K113	9.59	6826K172	9.65	6826K372	17.87
1	4 1/4"	4	1/2"	6826K114	9.98	6826K173	10.54	6826K373	22.28
1 1/4	4 5/8"	4	1/2"	6826K115	10.66	6826K174	11.18	6826K374	25.20
1 1/2	5"	4	1/2"	6826K116	11.83	6826K175	12.43	6826K375	20.05
2	6"	4	5/8"	6826K117	14.32	6826K176	15.05	6826K376	21.07
2 1/2	7"	4	5/8"	6826K191	28.48	6826K177	42.04	6826K377	56.07
3	7 1/2"	4	5/8"	6826K118	29.78	6826K178	30.03	6826K378	39.63
4	9"	8	5/8"	6826K119	40.24	6826K179	40.55	6826K379	53.68
6	11"	8	3/4"	6826K133	68.55	6826K181	69.10	6826K381	90.04
8	13 1/2"	8	3/4"	6826K185	251.64	6826K186	148.52	6826K382	167.02

Thick-Wall Light Gray CPVC Unthreaded Pipe

- Use with hot water; meets NSF/ANSI Standard 61 for use with drinking (potable) water
- Maximum Temperature: 200° F
- Fittings and Flanges: Use unthreaded Schedule 80 thick-wall light gray CPVC (see page 96 and above)

Choose this CPVC pipe over PVC for high-temperature, heavy duty applications. CPVC is a durable material that's rigid and corrosion resistant. Also called Schedule 80 pipe, it meets ASTM D1784 and F441.

Connect pipe to unthreaded fittings using a CPVC primer and cement (see series 74605A on page 3466).



Pipe Size	Max. psi @ 73° F	2 ft.		5 ft.		10 ft.	
1/4	1,130	6803K71	$7.54	6803K61	$11.62	6803K21	$20.39
3/8	920	6803K72	10.38	6803K51	15.99	6803K11	28.05
1/2	850	6803K73	5.64	6803K52	8.68	6803K12	15.23
3/4	690	6803K74	7.64	6803K53	11.78	6803K13	20.66
1	630	6803K75	11.25	6803K54	17.33	6803K14	30.41
1 1/4	520	6803K76	14.24	6803K55	23.87	6803K15	41.87
1 1/2	470	6803K77	18.82	6803K56	29.00	6803K16	50.87
2	400	6803K78	26.05	6803K57	40.13	6803K17	70.41
2 1/2	420	6803K79	39.69	6803K62	61.14	6803K22	107.27
3	370	6803K81	53.21	6803K58	81.97	6803K18	143.81
4	320	6803K82	77.78	6803K59	119.83	6803K19	210.22
6	280	6803K83	137.63	6803K63	212.02	6803K23	371.96
8	250	6803K84	209.26	6803K64	322.37	6803K24	565.56

How to Measure Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

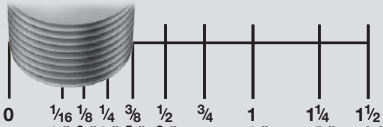

Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"

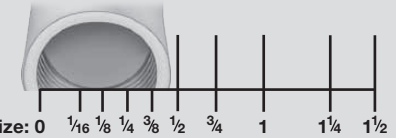

Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Light Gray CPVC Pipe Fittings and Flanges CAD

- Use with hot water; meet NSF/ANSI Standard 61 for use with drinking (potable) water
- Maximum Temperature: 200° F
- Pipe Nipples: Use threaded Schedule 80 thick-wall light gray CPVC (see page 99)

Because the threaded ends don't require primer and cement, you'll get fast connections with these Schedule 80 fittings and flanges. They're made of CPVC, a material that's rigid and corrosion resistant. CPVC can handle higher temperatures than PVC in heavy duty applications. All meet ASTM D1784 and F439.

Connections: Threaded (NPT), unthreaded pipe end (male), or unthreaded socket end (female). Connect unthreaded fittings to pipe using a CPVC primer and cement (see series 74605A on page 3466).

NPT Threaded

Unions have a fluoroelastomer O-ring, except pipe sizes 1/4, 2 1/2, 3, 4, and 6 have an EPDM O-ring. **Hex-head plugs** are hollow.













Pipe Size	90° Elbows		45° Elbows		Tees		Unions		Couplings		Hex-Head Plugs	
1/4	4589K28	$6.63	4589K38	$8.81	4589K11	$12.88	4589K13	$18.71	4589K58	$8.44	4589K151	$3.61
3/8	4589K21	5.65	4589K31	7.51	4589K41	10.97	4589K71	12.92	4589K51	7.19	4589K152	4.23
1/2	4589K22	3.28	4589K32	7.12	4589K42	8.78	4589K72	7.58	4589K52	5.93	4589K111	3.13
3/4	4589K23	4.91	4589K33	6.26	4589K43	12.66	4589K73	13.39	4589K53	7.65	4589K112	3.97
1	4589K24	6.89	4589K34	8.60	4589K44	13.63	4589K74	19.95	4589K54	8.70	4589K113	6.53
1 1/4	4589K25	10.61	4589K35	11.76	4589K45	13.70	4589K75	36.56	4589K55	11.52	4589K114	9.86
1 1/2	4589K26	11.42	4589K36	11.76	4589K46	14.40	4589K76	38.02	4589K56	12.37	4589K115	8.18
2	4589K27	15.30	4589K37	15.53	4589K47	15.99	4589K77	42.98	4589K57	11.68	4589K116	11.14
2 1/2	4589K29	69.61	4589K39	71.92	4589K108	78.60	4589K141	87.67	4589K59	30.70	4589K119	22.17
3	4589K104	74.65	4589K106	77.69	4589K48	91.20	4589K142	158.57	4589K16	35.74	4589K117	16.20
4	4589K105	106.19	4589K107	108.63	4589K49	180.04	4589K143	184.61	4589K17	72.85	4589K118	18.76
6							4589K144	376.05	4589K203	208.92	4589K155	59.16



Caps

Pipe Size		
1/4	4589K12	$5.26
3/8	4589K61	4.48
1/2	4589K62	3.86
3/4	4589K63	6.38
1	4589K64	8.93
1 1/4	4589K65	12.73
1 1/2	4589K66	13.05
2	4589K67	18.80
2 1/2	4589K121	63.76
3	4589K68	57.06
4	4589K69	82.89



Hex Reducing Bushings, Male (A) x Female (B)

Pipe Size (A)	(B)		
3/8	1/4	4589K14	$7.88
1/2	1/4	4589K109	7.88
1/2	3/8	4589K153	7.88
3/4	1/4	4589K154	8.69
3/4	3/8	4589K123	8.69
3/4	1/2	4589K78	3.19
1	1/4	4589K124	9.20
1	3/8	4589K125	9.38
1	1/2	4589K79	5.12
1	3/4	4589K91	5.37
1 1/4	1/2	4589K92	$10.15
1 1/4	3/4	4589K93	10.67
1 1/4	1	4589K94	8.13
1 1/2	1/2	4589K15	15.06
1 1/2	3/4	4589K95	12.23
1 1/2	1	4589K96	12.84
1 1/2	1 1/4	4589K97	9.80
2	1/2	4589K126	16.33
2	3/4	4589K127	16.65
2	1	4589K98	13.52
2	1 1/4	4589K99	$14.21
2	1 1/2	4589K81	12.74
2 1/2	2	4589K128	27.31
3	1 1/2	4589K129	52.80
3	2	4589K101	36.74
3	2 1/2	4589K131	53.86
4	2	4589K102	60.71
4	3	4589K103	63.14
6	4	4589K156	303.72

Unthreaded Pipe End (Male) to NPT Threaded



Adapters, Male

Pipe Size		
1/2	4589K184	$4.11
3/4	4589K185	5.11
1	4589K186	8.65
1 1/4	4589K187	9.82
1 1/2	4589K188	10.84
2	4589K189	12.69



Hex Reducing Bushings, Male (A) x Female (B)

Pipe Size (A)	(B)		
3/8	1/4	4589K211	$3.34
1/2	1/4	4589K213	3.34
1/2	3/8	4589K214	3.34
3/4	1/4	4589K215	6.55
3/4	1/2	4589K217	1.72
1	1/2	4589K218	2.19
1	3/4	4589K219	$2.19
1 1/4	1	4589K222	7.07
1 1/2	1/2	4589K223	8.71
1 1/2	3/4	4589K224	8.71
1 1/2	1	4589K225	8.71
1 1/2	1 1/4	4589K226	8.71
2	3/4	4589K228	$21.07
2	1	4589K229	11.97
2	1 1/4	4589K231	11.97
2	1 1/2	4589K232	21.07
2 1/2	1 1/2	4589K254	33.46
4	2	4589K237	86.41

NPT Threaded Flanges

Also known as Class 150 flanges, bolt two same-size flanges together with a gasket to form a tight seal. For gaskets, see pages 3529-3530; for bolts, see page 3170.

Pipe Size	Flange OD	Bolts Required Qty.	Bolts Required Dia.		
1/2	3 1/2"	4	1/2"	4589K82	$13.11
3/4	3 7/8"	4	1/2"	4589K83	13.83
1	4 1/4"	4	1/2"	4589K84	15.08
1 1/4	4 5/8"	4	1/2"	4589K85	19.26
1 1/2	5"	4	1/2"	4589K86	20.39
2	6"	4	5/8"	4589K87	$20.76
2 1/2	7"	4	5/8"	4589K132	49.40
3	7 1/2"	4	5/8"	4589K88	33.44
4	9"	8	5/8"	4589K89	51.99



(Continued on following page)

How to Measure Unthreaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

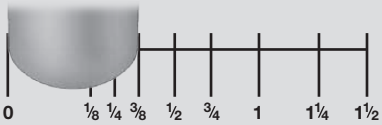

Pipe Size: 0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
OD (to nearest 1/8"): 0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"

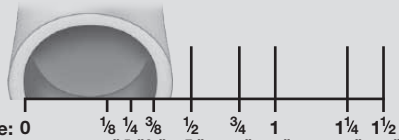

Pipe Size: 0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
ID (to nearest 1/8"): 0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about pipe size, see pgs. 2-3.

Thick-Wall Light Gray CPVC Pipe Fittings and Flanges *(Continued from previous page)*

Unthreaded Socket End (Female) to NPT Threaded

Unions have an EPDM O-ring.











Pipe Size	90° Elbows		Tees		Unions		Adapters, Female		Adapters, Female×Male	
1/4	4589K172	$5.59	4589K161	$14.70	____	____	6826K71	$7.27	____	____
3/8	4589K173	5.59	____	____	____	____	6826K81	8.52	____	____
1/2	4589K174	3.71	4589K162	14.70	4589K191	$12.44	6826K79	3.60	6826K91	$2.88
3/4	4589K175	4.36	4589K163	19.61	4589K192	22.00	6826K72	3.80	6826K92	3.51
1	4589K176	5.71	4589K164	24.52	4589K193	30.34	6826K73	8.79	6826K93	5.91
1 1/4	4589K177	8.36	4589K165	28.82	4589K194	57.80	6826K74	8.99	6826K84	8.71
1 1/2	4589K178	12.67	4589K166	28.82	4589K195	57.80	6826K75	10.48	6826K85	11.78
2	4589K179	16.26	4589K167	36.18	4589K196	65.34	6826K76	18.06	6826K86	15.97
2 1/2	____	____	____	____	4589K197	93.60	6826K82	27.71	6826K83	34.84
3	4589K181	34.47	4589K168	43.14	4589K198	125.48	6826K77	56.85	6826K87	46.82
4	4589K182	65.19	4589K169	81.04	4589K199	144.75	6826K78	94.63	6826K88	79.16
6	4589K183	164.21	4589K171	330.97	4589K201	292.43	6826K781	196.93	6826K881	166.30

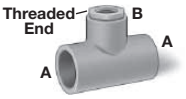

Inline Reducing Tees

Pipe Size (A)	(B)		
3/4	1/2	4589K241	$9.12
1	1/2	4589K242	18.30
1	3/4	4589K243	18.30
1 1/2	3/4	4589K245	46.65
1 1/2	1	4589K246	46.65
2	1	4589K248	58.54
2	1 1/2	4589K249	58.54
4	2	4589K253	217.85

Thick-Wall Light Gray CPVC Threaded Pipe Nipples and Pipe

- Use with hot water
- Maximum Temperature: 200° F
- Fittings and Flanges: Use threaded Schedule 80 thick-wall light gray CPVC (see pages 98 and above)

CPVC is rigid and corrosion-resistant like PVC, but CPVC can stand up to higher temperatures in heavy duty applications. Also known as Schedule 80 pipe nipples and pipe, they're threaded, so they don't require a primer and cement to make a connection. All meet ASTM D1784, D2467, and F439.

Fully threaded nipples are also called close nipples; they're threaded on each end to the center.

Connections: Threaded (NPT) or unthreaded.

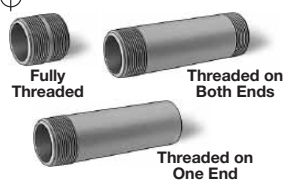

Fully Threaded

Pipe Size	Max. psi @ 73° F	Lg.		
1/4	565	7/8"	6810K111	$1.30
3/8	460	1"	6810K11	1.44
1/2	420	1 1/8"	6810K12	1.35
3/4	340	1 3/8"	6810K13	1.62
1	315	1 1/2"	6810K14	2.37
1 1/4	260	1 5/8"	6810K15	2.50
1 1/2	235	1 3/4"	6810K16	2.90
2	200	2"	6810K17	4.82
2 1/2	210	2 1/2"	6810K24	10.27
3	185	2 5/8"	6810K18	12.87
4	160	2 7/8"	6810K19	16.55

Threaded on Both Ends

Pipe Size	Max. psi @ 73° F		1 1/2"	2"	2 1/2"	3"
1/4	565	6810K751	$1.47	$1.68	$1.80	$1.98
3/8	460	6810K752	1.56	1.76	2.20	2.28
1/2	420	6810K753	1.44	1.57	1.52	1.65
3/4	340	6810K754	____	1.98	1.90	2.12
1	315	6810K755	____	2.50	2.70	2.80
1 1/4	260	6810K756	____	____	3.50	3.88
1 1/2	235	6810K757	____	____	4.10	4.62
2	200	6810K758	____	____	5.17	5.90
2 1/2	210	6810K759	____	____	____	9.33
3	185	6810K761	____	____	____	11.60

Threaded on Both Ends

Pipe Size	Max. psi @ 73° F		4"	5"	6"	8"	10"	12"	24"	36"	60"
1/4	565	6810K751	$2.35	$2.61	$3.18	$4.87	$5.67	$6.49	$15.65	$23.55	$45.45
3/8	460	6810K752	2.61	3.28	3.76	5.49	6.49	7.52	18.45	28.00	53.45
1/2	420	6810K753	2.25	2.34	2.58	4.60	5.37	6.04	9.40	12.70	24.25
3/4	340	6810K754	2.52	3.03	3.55	5.58	6.58	8.05	12.33	16.63	29.33
1	315	6810K755	3.48	3.98	4.78	7.47	8.87	10.71	14.68	23.18	41.23
1 1/4	260	6810K756	4.72	5.29	6.45	9.82	11.86	14.21	23.18	31.88	58.43
1 1/2	235	6810K757	5.65	6.57	7.92	12.07	14.48	17.34	27.35	39.00	71.38
2	200	6810K758	7.33	8.50	9.88	15.92	18.00	21.54	38.93	54.75	98.60
2 1/2	210	6810K759	14.13	16.71	19.26	26.05	29.39	33.53	58.83	94.83	152.22
3	185	6810K761	16.55	17.17	22.92	31.44	36.72	42.98	78.30	110.53	196.53
4	160	6810K762	21.34	22.37	29.57	39.69	48.22	53.10	94.91	148.38	195.50
6	140	6810K763	76.62	83.58	92.88	111.44	131.32	156.24	249.36	365.29	____

Threaded on One End

Pipe Size	Max. psi @ 73° F		2"	3"	4"	6"	12"
1/4	565	6810K211	$1.64	$2.00	$2.45	$3.21	$6.52
3/8	460	6810K212	2.00	2.55	3.09	4.18	8.39
1/2	420	6810K213	1.51	1.83	2.27	2.86	6.09
3/4	340	6810K214	2.00	2.34	2.80	3.94	8.06
1	315	6810K215	2.49	3.11	3.86	5.29	10.79
1 1/4	260	6810K216	4.09	4.29	5.23	7.14	14.27

Pipe Size	Max. psi @ 73° F		2"	3"	4"	6"	12"
1 1/2	235	6810K217	$4.82	$5.11	$6.26	$8.77	$17.45
2	200	6810K218	4.82	6.54	8.11	11.49	23.12
2 1/2	210	6810K219	____	10.86	14.09	19.21	36.18
3	185	6810K221	____	13.49	17.73	24.58	46.79
4	160	6810K222	____	____	22.91	32.18	61.82
6	140	6810K223	____	____	116.09	140.73	193.47

How to Measure Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"

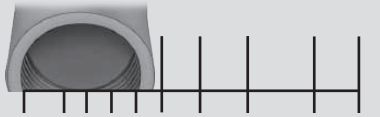

Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Black Polypropylene Threaded Pipe Fittings and Flanges

- Use with water, fertilizers, soap solutions, calcium chloride, sodium chloride, except unions are for use with water only
- Temperature Range: –20° to 150° F, except unions are 40° to 180° F
- Pipe: Use threaded Schedule 80 thick-wall black polypropylene (see page 101)

Excellent strength and chemical resistance are only part of this story—these Schedule 80 fittings and flanges also resist UV light and are inert to moisture. They're made of lightweight fiberglass-reinforced polypropylene.

Unions have Type 316 stainless steel reinforcing collars to support the threads and a fluoroelastomer O-ring. **Hex-head plugs** are hollow. **Hex nipples** have a hex in the center, except pipe size 3 has grip ridges. **Flanges** are also called Class 150 flanges; bolt two same-size flanges together with a gasket to form a tight seal (see pages 3529-3530 for gaskets and page 3170 for bolts).

Connections: Threaded (NPT). The use of thread sealant is recommended (see 4586K9 on page 3470); use of pipe tape is not recommended.








Pipe Size	Max. psi @ 70° F	90° Elbows		90° Elbows, Female × Male		45° Elbows, Female × Male		Tees		Crosses		Unions	
3/8	150	46885K101	$3.97	46885K121	$3.75			46885K151	$3.94				
1/2	150	46885K102	3.59	46885K122	3.75			46885K152	4.25			4883K91	$49.97
3/4	150	46885K103	3.87	46885K123	4.00	46885K133	$6.50	46885K153	4.50	46885K173	$18.34	4883K92	54.22
1	150	46885K104	4.62	46885K124	4.75	46885K134	9.56	46885K154	6.50	46885K174	18.34	4883K93	66.87
1 1/4	150	46885K105	5.75	46885K125	6.03	46885K135	11.81	46885K155	7.50	46885K175	27.38		
1 1/2	150	46885K106	9.00	46885K126	9.34	46885K136	12.59	46885K156	10.75	46885K176	27.38	4883K94	97.08
2	150	46885K107	10.75	46885K127	11.06	46885K137	14.94	46885K157	13.34	46885K177	33.47	4883K95	151.51
3	150	46885K108	54.59	46885K128	56.28	46885K138	56.51	46885K158	58.26				





Pipe Size	Max. psi @ 70° F	Couplings		Caps		Hex-Head Plugs	
3/8	150	46885K181	$4.09				
1/2	150	46885K182	4.09	46885K202	$5.33	46885K212	$2.79
3/4	150	46885K183	4.09	46885K203	5.42	46885K213	2.83
1	150	46885K184	4.72	46885K204	5.50	46885K214	2.88
1 1/4	150	46885K185	6.34	46885K205	6.25	46885K215	2.92
1 1/2	150	46885K186	10.53	46885K206	7.88	46885K216	4.56
2	150	46885K187	12.00	46885K207	9.09	46885K217	4.56
3	150	46885K188	33.97	46885K208	32.53	46885K218	18.00

Reducing Couplings



Pipe Size (A)	Pipe Size (B)	Max. psi @ 70° F		
1	3/4	150	46885K221	$6.16
1 1/2	1	150	46885K222	10.34
1 1/2	1 1/4	150	46885K223	10.34
2	1/2	150	46885K228	11.03
2	1	150	46885K224	11.03
2	1 1/4	150	46885K225	11.03
2	1 1/2	150	46885K226	11.03
3	2	150	46885K227	39.19

Hex Reducing Bushings, Male (A) × Female (B)



Pipe Size (A)	Pipe Size (B)	Max. psi @ 70° F		Pipe Size (A)	Pipe Size (B)	Max. psi @ 70° F	
3/8	1/4	150	46885K251 $2.67	1 1/4	3/4	150	46885K263 $2.94
1/2	1/4	150	46885K252 2.67	1 1/4	1	150	46885K264 2.94
1/2	3/8	150	46885K253 2.71	1 1/2	3/4	150	46885K265 3.75
3/4	1/8	150	46885K254 2.71	1 1/2	1	150	46885K266 3.75
3/4	1/4	150	46885K255 2.75	1 1/2	1 1/4	150	46885K267 3.75
3/4	3/8	150	46885K256 2.75	2	3/4	150	46885K268 4.09
3/4	1/2	150	46885K257 2.79	2	1	150	46885K271 4.09
1	1/8	150	46885K258 2.88	2	1 1/4	150	46885K272 4.09
1	1/4	150	46885K259 2.92	2	1 1/2	150	46885K273 4.09
1	1/2	150	46885K261 2.92	3	1 1/2	150	46885K274 17.19
1	3/4	150	46885K262 2.94	3	2	150	46885K275 17.19
1 1/4	3/8	150	46885K269 2.88	4	3	150	46885K276 26.66

Reducing Hex Nipples



Pipe Size (A)	Pipe Size (B)	Max. psi @ 70° F		
1/2	3/8	150	46885K301	$2.03
3/4	1/2	150	46885K302	2.19
1	1/2	150	46885K303	2.81
1	3/4	150	46885K304	2.62
1 1/4	3/4	150	46885K305	3.00
1 1/4	1	150	46885K306	2.75
1 1/2	1	150	46885K307	3.22
1 1/2	1 1/4	150	46885K308	2.88
2	1 1/4	150	46885K309	3.87
2	1 1/2	150	46885K311	3.22
3	2	150	46885K312	13.09

Pipe Nipples, Threaded On Both Ends



Pipe Size	Max. psi @ 70° F	4"		6"	
3/4	150	46825K35	$2.75	46825K37	$3.19
1	150	46825K45	2.88	46825K47	3.56
1 1/4	150	46825K55	3.56	46825K57	4.00
1 1/2	150	46825K65	7.66	46825K67	8.94
2	150	46825K75	8.81	46825K77	10.31
3	150	46825K85	19.75	46825K87	25.44

Hex Nipples



Pipe Size	Max. psi @ 70° F		
3/8	150	46825K11	$1.25
1/2	150	46825K21	1.38
3/4	150	46825K31	1.44
1	150	46825K41	2.00
1 1/4	150	46825K51	2.00
1 1/2	150	46825K61	3.69
2	150	46825K71	4.25
3	150	46825K81	13.16

Flanges



Pipe Size	Flange OD	Bolts Required Qty.	Bolts Required Dia.	Max. psi @ 70° F		
1	4 1/4"	4	1/2"	150	46885K291	$13.56
1 1/2	5"	4	1/2"	150	46885K292	26.09
2	6"	4	5/8"	150	46885K293	30.41
3	7 1/2"	4	5/8"	150	46885K294	48.62
4	9"	8	5/8"	150	46885K295	94.00

Swivel Adapters, Female × Male



Pipe Size	Max. psi @ 70° F		
1	75	46885K391	$16.38
1 1/2	75	46885K392	20.00
2	75	46885K393	22.47

How to Measure Unthreaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

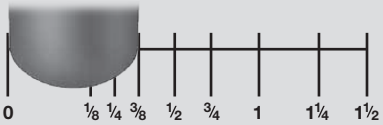



To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Black Polypropylene Threaded Pipe

- Use with water, oil, fertilizers, calcium chloride, sodium chloride
- Maximum Temperature: 180° F
- Fittings and Flanges: Use threaded Schedule 80 thick-wall black polypropylene (see page 100)

Not only does polypropylene offer excellent strength and chemical resistance, it's also resistant to UV light and inert to moisture. Also known as Schedule 80 pipe, it meets ASTM D4101 and ANSI B1.20.1.

Connections: Threaded (NPT).



Pipe Size	Max. psi @ 73° F	2 ft.		3 ft.	
1/4	20	8798T11	$14.61	8798T31	$21.80
1/2	20	8798T12	13.65	8798T32	20.38
3/4	20	8798T13	15.73	8798T33	23.48
1	20	8798T14	17.32	8798T34	25.85
1 1/4	20	8798T15	24.11	8798T35	35.98
1 1/2	20	8798T16	25.33	8798T36	37.80
2	20	8798T17	31.77	8798T37	47.42
3	20	8798T18	63.38	8798T38	94.60
4	20	8798T19	85.44	8798T39	127.52

CPVC Laboratory Pipe Fittings and Pipe for Corrosive Waste

- Use with water, ammonium hydroxide, sulfuric acid, hydrochloric acid, nitric acid, salt water
- Temperature Range: 40° to 200° F

Before you pour anything down the drain, be sure your gravity-flow system can handle it. These drain, waste, and vent fittings are made of specially formulated, corrosion-resistant CPVC. The material is IAPMO (International Association of Plumbing and Mechanical Officials) approved, ABS (American Bureau of Shipping) listed, and meets UL 94V0 for flame retardance. Fittings and pipe meet ASTM F2618 standards.

Connections: Unthreaded socket end (female), unthreaded pipe (male), and threaded (NPT). Connect unthreaded fittings to pipe using the cement sold separately below; cement is yellow and is IAPMO approved to ASTM F2618 and F493 standards.

Unthreaded Socket End (Female)








Pipe Size	90° Elbows		45° Elbows		Tees		Wyes		Couplings		P-Traps	
1 1/2	1621T13	$21.88	1621T17	$21.49	1621T15	$27.19	1621T22	$27.71	1621T19	$17.09	1621T24	$42.66
2	1621T14	27.19	1621T18	26.19	1621T16	32.56	1621T23	38.87	1621T21	21.33	1621T25	59.53

Unthreaded Socket End (Female)

Reducing Couplings



Pipe Size (A)	Pipe Size (B)		
2	1 1/2	1621T26	$33.45

Cement



Size		
1 pt.	1621T27	$41.37
1 qt.	1621T28	55.15

Unthreaded Socket End (Female) to NPT Threaded (Female)

Adapters, Female



Pipe Size		
1 1/2	1621T11	$13.44
2	1621T12	18.32

Unthreaded Pipe



Pipe Size	2 ft.		4 ft.		8 ft.	
1 1/2	1621T51	$20.48	1621T52	$40.96	1621T53	$68.27
2	1621T54	28.30	1621T55	56.60	1621T56	94.34

Snap-Lock Black Polyethylene Pipe Fittings and Pipe

- Use for water drainage
- Temperature: Not rated

The snap-together design makes it easy to connect fittings to pipe for gravity-flow drainage applications. Made of high-density polyethylene, these stand up to freeze/thaw cycles and won't corrode, crack, or crumble unless exposed to direct sunlight or driven over by heavy equipment. All meet ASTM F405 and exceed specifications contained in the Soil Conservation Service (SCS) Engineering Practice Standard for subsurface drains.

Pipe is corrugated inside and out, making it strong and bendable. **Off-center adapter** has a tapered opening that can be adjusted to fit both pipe sizes 3 and 4. **Nonperforated pipe** is ideal for flowing drainage to one area, while the **perforated pipe** has slits along its entire length that allow drainage to be dispersed.







Pipe Size	90° Elbows		Tees		Wyes		Couplings		Caps	
3	44845K61	$11.20	44845K63	$8.93	44845K65	$10.60	44845K69	$3.33	44845K67	$4.47
4	44845K21	10.03	44845K23	8.93	44845K25	11.73	44845K29	3.33	44845K27	3.33



Adapters

Pipe Size	Style	Opening Wd.	Opening Ht.		
3	Centered	3 3/8"	2"	44845K81	$4.80
4	Off-Center	3"	2"	44845K41	5.03




Pipe Size	Nonperforated Pipe 10 ft.		Nonperforated Pipe 100 ft.		Perforated Pipe 10 ft.		Perforated Pipe 100 ft.	
3	44845K91	$7.88	44845K93	$60.60	44845K51	$7.88	44845K55	$60.60
4	44845K95	10.41	44845K97	80.05	44845K71	10.41	44845K75	80.05

How to Measure Unthreaded Pipe and Pipe-End Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or fitting, then select the pipe size on the scale that corresponds to your measurement.

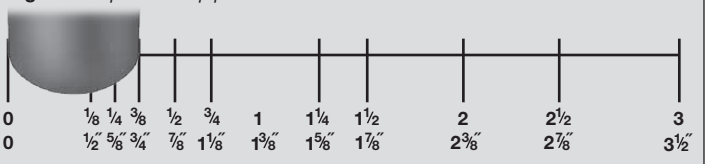

i To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Thick-Wall Black Polypropylene Unthreaded Pipe



- Use with water, alkalies, solvents
- Temperature Range: –20° to 180° F

This Schedule 80 polypropylene pipe has excellent strength and chemical resistance. It's also resistant to UV light and inert to moisture. It meets ASTM D4101.

Also Available: Polypropylene pipe in metric sizes: 20, 25, 32, 50, and 63 mm. The metric size is the actual OD. Pipe is light gray and comes in 8-ft. lengths. It has a maximum pressure of 150 psi @ 73° F and a temperature range of 32° to 212° F. Please ask for 45435K2 and specify metric size.

Pipe Size	Max. psi @ 73° F	2 ft.		5 ft.		10 ft.	
1/2	410	———	———	9159K81	$20.94	9159K91	$32.22
3/4	330	———	———	9159K82	25.33	9159K92	38.97
1	310	9159K16	$17.60	9159K83	38.14	9159K93	58.68
1 1/4	200	9159K17	21.60	43415K35	43.20	9159K97	72.00
1 1/2	230	9159K26	22.30	9159K84	48.32	9159K94	74.34
2	200	9159K27	27.35	9159K85	59.26	9159K95	91.17
3	190	9159K36	50.88	43415K39	110.84	9159K96	181.71

Chemical-Resistant Thick-Wall Red PVDF Threaded Pipe Fittings and Pipe

- Use with water, salt water, solvents, chlorine, bromine
- Temperature Range: Fittings and Flanges: 40° to 280° F; Pipe and Nipples: Up to 280° F

These fittings are an excellent choice for corrosive chemicals. All are made of PVDF (polyvinylidene fluoride), which is comparable to Kynar. The material meets UL 94V0 for flame retardance, as well as ASTM D3222.

Unions have a fluoroelastomer O-ring. **Flanges** are also called Class 150 flanges; bolt two same-size flanges together with a gasket to form a tight seal (see pgs. 3529-3524 for gaskets; see page 3170 for bolts).

Connections: Fittings and pipe nipples are threaded (NPT); pipe is unthreaded.






Pipe Size	90° Elbows		Tees		Unions		Couplings	
1/2	4415K313	$33.47	4415K333	$40.41	4415K363	$75.78	4415K343	$29.89
3/4	4415K314	39.08	4415K334	46.51	4415K364	98.72	4415K344	33.46
1	4415K315	56.55	4415K335	69.40	4415K365	141.79	4415K345	46.33
1 1/2	4415K316	92.69	4415K336	113.85	4415K366	218.92	4415K346	60.56
2	4415K317	127.94	4415K337	172.58	4415K367	272.81	4415K347	100.10



Pipe Nipples, Threaded On Both Ends

Pipe Size	Max. psi @ 72° F		2"	4"
1/2	290	4415K11	$13.88	$24.31
3/4	230	4415K12	16.57	29.13
1	210	4415K18	23.27	41.56
1 1/2	160	4415K19	38.65	69.45
2	140	4415K21	46.23	86.42



Hex Reducing Bushings, Male (A) × Female (B)

Pipe Size (A)	(B)		
3/4	1/2	4415K393	$31.99
1	1/2	4415K394	32.27
1	3/4	4415K395	33.46
1 1/2	1	4415K396	54.18
2	1 1/2	4415K397	103.22



Flanges

Pipe Size	Flange OD	Bolts Required Qty.	Dia.		
1/2	3 1/2"	4	1/2"	4415K373	$57.59
3/4	3 7/8"	4	1/2"	4415K374	71.63
1	4 1/4"	4	1/2"	4415K375	109.35
1 1/2	5"	4	1/2"	4415K376	142.70
2	6"	4	5/8"	4415K377	230.04



Unthreaded Pipe

Pipe Size	Max. psi @ 72° F		2 ft.	5 ft.
1/2	290	4415K31	$92.31	$119.88
3/4	230	4415K32	121.99	158.43
1	210	4415K38	173.73	206.82
1 1/2	160	4415K39	255.39	304.04
2	130	4415K41	315.03	375.04

Corrosion-Resistant Thick-Wall White PFA Threaded Pipe Fittings

- Use with water, acetic acid, salt water, alcohols, oil
- Maximum Temperature: 200° F for 1/8 and 1/4 pipe sizes; 150° F for 3/8, 1/2, and 3/4 pipe sizes

PFA (perfluoroalkoxy) is nonreactive to most chemicals and solvents. It offers a super-smooth surface for swift flow. These crack-resistant fittings are an alternative to PTFE when you want a high-purity material but don't require the extreme temperature range. The material is made with FDA-compliant resins and meets 3-A (dairy) requirements.

90° female × male elbows are also known as street elbows. **Unions** have a PVDF locknut; 3/4 pipe size also has a fluoroelastomer O-ring.

Connections: Threaded (NPT). The use of PTFE tape is recommended (see page 3470).








Pipe Size	Max. psi @ 72° F	90° Elbows		90° Elbows, Female × Male		Tees		Unions		Couplings		Hex-Head Plugs	
1/8	125	45505K115	$30.36	45505K125	$28.87	45505K175	$41.73	45505K185★	$73.38	45505K135	$26.73	45505K195	$15.22
1/4	125	45505K116	35.18	45505K126	39.27	45505K176	47.27	45505K186★	75.27	45505K136	30.09	45505K196	16.31
3/8	125	45505K117	49.36	45505K127	50.27	45505K177	52.91	45505K187★	100.73	45505K137	38.82	45505K197	17.53
1/2	100	45505K118	57.64	45505K128	57.64	45505K178	63.73	45505K188	119.82	45505K138	46.73	45505K198	24.25
3/4	75	45505K119	77.55	45505K129	77.45	45505K179	98.45	45505K189	160.64	45505K139	63.73	45505K199	28.00

★ Maximum psi @ 72° F is 100.

(Continued on following page)

How to Measure Threaded Pipe and Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"

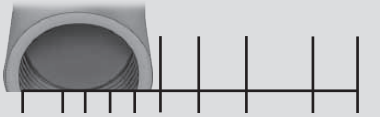

Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"

To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Corrosion-Resistant Thick-Wall White PFA Threaded Pipe Fittings

(Continued from previous page)



Hex Nipples

Pipe Size	Max. psi @ 72°F		
1/8	125	45505K316	$16.36
1/4	125	45505K322	17.73
3/8	125	45505K326	20.58
1/2	100	45505K336	25.64
3/4	75	45505K342	27.45



Pipe Size (A)	Pipe Size (B)	Max. psi @ 72°F	Hex Reducing Nipples	
1/4	1/8	125	45505K318	$17.00
3/8	1/4	125	45505K324	19.87
1/2	1/4	100	45505K328	24.67
1/2	3/8	100	45505K334	25.18
3/4	1/2	75	45505K338	26.91



Reducing Adapters, Male (A) × Female (B)	
45505K154	$31.09
45505K156	34.55
45505K157	36.18
45505K158	36.18
45505K159	60.45

High-Temperature Thick-Wall White PTFE Threaded Pipe Fittings

- Use with water, deionized water, oil, hydrochloric acid, solvents, methylene chloride
- Temperature Range: –450° to 550°F

When high purity and extreme temperature resistance are critical, rely on PTFE. These fittings have a super-smooth surface and superior corrosion resistance. They're nonreactive to most chemicals and meet ASTM D1710.

Flanges are also known as Class 150 flanges. Bolt two same-size flanges together to create a tight seal (see pages 3529-3530 for gaskets; see page 3170 for bolts). **Fully threaded pipe nipples**, also called close nipples, are threaded on each end to the center.

Connections: Threaded (NPT), barbed, or unthreaded.











Pipe Size	Max. psi @ 72°F	90° Elbows		Tees		Couplings		Caps		Plugs	
1/8	110	45375K112	$29.19	45375K162	$38.89	45375K182	$24.18	45375K212	$33.97	45375K252	$20.11
1/4	90	45375K113	34.86	45375K163	43.59	45375K183	27.81	45375K213	38.35	45375K253	22.74
3/8	65	45375K114	48.81	45375K164	61.01	45375K184	39.33	45375K214	47.58	45375K254	28.03
1/2	60	45375K115	65.70	45375K165	81.86	45375K185	53.10	45375K215	53.60	45375K255	31.64
3/4	50	45375K116	95.20	45375K166	119.36	45375K186	70.06	45375K216	74.12	45375K256	42.66
1	37	45375K117	154.64	45375K167	184.63	45375K187	84.64	45375K217	106.91	45375K257	57.64





Pipe Size (A)	Pipe Size (B)	Max. psi @ 72°F	Reducing Bushings, Male (A) × Female (B)		Reducing Couplings	
1/4	1/8	90	45375K314	$27.93	45375K341	$38.98
3/8	1/8	65	45375K315	38.27	45375K343	55.46
3/8	1/4	65	45375K316	37.00	45375K344	52.31
1/2	1/4	60	45375K317	50.66	45375K345	74.86
1/2	3/8	60	45375K318	47.91	45375K346	70.66
3/4	3/8	50	45375K319	65.01	45375K347	97.95
3/4	1/2	50	45375K321	61.42	45375K348	93.19
1	1/2	37	45375K322	79.24	45375K349	117.41
1	3/4	37	45375K323	74.84	45375K351	112.58



Pipe Nipples, Fully Threaded

Pipe Size	Max. psi @ 72°F	Lg.	
1/8	110	3/4"	45375K611 $27.43
1/4	90	7/8"	45375K621 29.70
3/8	65	1"	45375K631 32.91
1/2	60	1 1/8"	45375K641 36.47
3/4	50	1 3/8"	45375K651 38.50
1	37	1 1/2"	45375K661 47.14



Flanges

Pipe Size	Flange OD	Max. psi @ 72°F	Bolts Required Qty.	Bolts Required Dia.		
1/2	3 1/2"	60	4	1/2"	45375K811	$108.31
3/4	3 7/8"	50	4	1/2"	45375K812	111.71
1	4 1/4"	37	4	1/2"	45375K813	118.36



Pipe Nipples, Threaded On Both Ends

Pipe Size	Max. psi @ 72°F		1 1/2"	2"	3"
1/8	110	45375K21	$27.43	$36.57	$36.57
1/4	90	45375K22	29.70	39.59	39.59
3/8	65	45375K23	32.91	43.87	43.87
1/2	60	45375K24	36.47	48.62	48.62
3/4	50	45375K25	51.35	38.50	51.35
1	37	45375K26	———	47.14	62.84



Adapters, Male (A) × Barbed End (B)

Pipe Size (A)	Pipe Size (B)	Max. psi @ 72°F		
1/8	1/8	110	45375K521	$41.58
1/4	1/4	90	45375K523	56.55
1/4	3/8	65	45375K524	45.18
1/2	3/8	60	45375K527	82.30
1/2	1/2	60	45375K528	76.24
1	1	37	45375K533	122.06



Unthreaded Pipe

Pipe Size	Max. psi @ 72°F		2 ft.	4 ft.	8 ft.
1/8	110	45375K11	$24.83	$49.66	$82.76
1/4	90	45375K12	31.27	62.54	104.23
3/8	65	45375K13	47.91	95.81	159.69
1/2	60	45375K14	69.83	141.84	218.22
3/4	50	45375K15	80.13	162.77	250.42
1	37	45375K16	106.68	193.97	323.28

Flexible Couplings and Fittings for Pipe

- Use with air and water in drain, waste, and vent applications
- Temperature Range: –40° to +120° F
- Maximum Pressure @ 72° F: 4.3 psi
- Pipe: Use on unthreaded aluminum, cast iron, rigid PVC, rigid CPVC, ductile iron, steel, and stainless steel

Use these couplings and fittings to connect rigid pipes of the same or different materials. Body is flexible PVC and bands are 300 series stainless steel bands. All couplings and fittings meet ASTM D5926 and the codes set by ICC-ES (International Code Council Evaluation Service).

Couplings and ***reducing couplings*** are CSA certified and meet ASTM C1173 for underground use. Vacuum rating is 30″ Hg @ 72° F.

90° elbows, ***tees***, and ***caps*** are not for underground use. Not rated for vacuum.

Also Available: Fittings with Type 316 stainless steel bands where marked with a ◆. They offer extra corrosion resistance. Please ask for 4693K1 and the specify corresponding part number from the table.

Couplings



For Pipe OD	For Pipe Size	Lg.		
1.050″	3/4″	2 3/8″	4511K61	$7.35
1.315″	1″	2 3/8″	4511K62	7.35
1.660″	1 1/4″	3 1/2″	4511K71 ◆	4.10
1.900″	1 1/2″	3 7/16″	4511K73 ◆	4.38
2.375″	2″	3 1/2″	4511K75 ◆	4.71
3.500″	3″	4″	4511K78 ◆	6.37
4.500″	4″	4″	4511K82 ◆	7.97
5.563″	5″	4″	4511K58	13.50
6.625″	6″	5 3/4″	4511K83 ◆	17.05
8.625″	8″	6″	4511K84 ◆	26.23
10.750″	10″	5 7/8″	4511K87	39.39
12.750″	12″	6 5/16″	4511K89 ◆	45.96
15.000″	15″	10″	4511K69	67.20
18.000″	18″	9 7/8″	4511K92	148.74

Reducing Couplings



For Pipe Size			Lg.		
1 1/2″	×	1 1/4″	3 1/2″	4511K72	$4.55
2″	×	1 1/4″	3 1/2″	4511K23★	7.09
2″	×	1 1/2″	3 7/16″	4511K74	4.98
3″	×	1 1/2″	3 7/8″	4511K53	8.30
3″	×	2″	4″	4511K77 ◆	5.89
4″	×	1 1/2″	4″	4511K54 ◆	12.11
4″	×	2″	3 7/8″	4511K26 ◆	11.12
4″	×	3″	4″	4511K81 ◆	8.59
5″	×	3″	3 7/8″	4511K56	17.73
5″	×	4″	4″	4511K57	15.00
6″	×	3″	5 3/4″	4511K59★	24.24
6″	×	4″	5 3/4″	4511K86 ◆	20.02
6″	×	5″	5 3/4″	4511K63	21.20
8″	×	4″	6″	4511K64★	43.36
8″	×	6″	6″	4511K65	31.67
10″	×	8″	6″	4511K66 ◆	43.14
12″	×	10″	6 3/8″	4511K67	50.91

★ Size is reduced with a sleeve.

90° Elbows



For Pipe OD	For Pipe Size		
1.900″	1 1/2″	4511K11	$16.57
2.375″	2″	4511K12	17.60
3.500″	3″	4511K13	26.14
4.500″	4″	4511K14	39.01

Tees



For Pipe OD	For Pipe Size		
1.900″	1 1/2″	4511K31	$20.71
2.375″	2″	4511K32	22.41
3.500″	3″	4511K33	34.25
4.500″	4″	4511K34	48.15

Caps



For Pipe OD	For Pipe Size		
1.900″	1 1/2″	4511K41	$2.80
2.375″	2″	4511K42	3.27
3.500″	3″	4511K43	4.15
4.500″	4″	4511K44	5.31

Flexible Couplings for Plastic Pipe and Fittings

- Use with air and water in drain, waste, and vent applications
- Temperature Range: –40° to +120° F
- Maximum Pressure @ 72° F: 4.3 psi
- Pipe and Fittings: Use on rigid PVC pipe and fittings and corrugated polyethylene pipe

Here are easy solutions to difficult connections. These couplings have a flexible PVC body with 300 series stainless steel bands. They meet ASTM D5926.

Socket End to Socket End and ***Pipe End to Socket End***—If your rigid plastic pipe becomes damaged, these couplings allow you to create a new hassle-free connection without disassembling your entire system. *Socket-end to socket-end couplings* connect two socket-end (female) fittings without using a pipe. *Pipe-end to socket-end couplings* connect a pipe to a socket-end (female) fitting. To install both styles, simply cut out the damaged pipe, slide the coupling over the ends of the fittings or pipe, and tighten the bands. For installation in close quarters, you can cut the length down to either 3″ or 2″. Vacuum rating is 30″ Hg @ 72° F.

Pipe End to Corrugated Pipe—Ideal for storm and drainage systems, use these couplings to connect a rigid plastic pipe to a corrugated polyethylene pipe. To install, slide the coupling over the ends of the two pipes and tighten the bands; a groove in the coupling matches the groove in corrugated pipe. Not rated for vacuum.

Socket End to Socket End

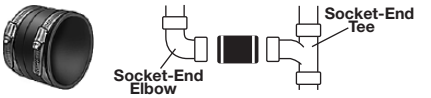

For Pipe OD	For Pipe Size	Coupling ID	Lg.		
1.900″	1 1/2″	2.26″	4″	46775K81	$9.17
2.375″	2″	2.70″	4″	46775K82	9.88
3.500″	3″	3.94″	4″	46775K83	13.35
4.500″	4″	5.01″	4″	46775K84	16.72

Pipe End to Socket End

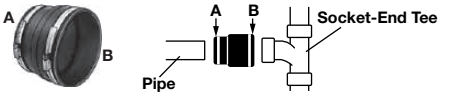

For Pipe OD	For Pipe Size	Coupling ID, (A) × (B)	Lg.		
1.900″	1 1/2″	1.97″ × 2.26″	4″	46775K71	$9.17
2.375″	2″	2.40″ × 2.69″	4″	46775K72	9.88
3.500″	3″	3.49″ × 3.9″	4″	46775K73	13.35
4.500″	4″	4.50″ × 4.92″	4″	46775K74	16.72

Pipe End to Corrugated Pipe

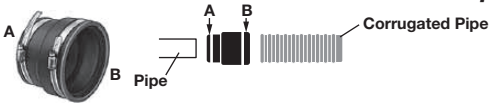

For Pipe OD	For Pipe Size	Coupling ID, (A) × (B)	Lg.		
3.500″	3″	3.44″ × 3.57″	4″	46775K91	$14.01
4.500″	4″	4.29″ × 4.76″	4″	46775K92	17.57
6.625″	6″	6.50″ × 6.83″	6″	46775K93	34.44
8.625″	8″	8.42″ × 9.76″	6″	46775K94	52.94

Low-Pressure Cut-to-Length Couplings for Pipe



Coupling with Clamp

- Use with water in drain, waste, and vent applications; not for use with compressed air or gas
- Temperature Range: –13° to +140° F
- Maximum Pressure: See table
- Pipe: Use on steel and rigid PVC

Connect two pipes that are up to 100 feet apart—simply cut the coupling to the length you need and attach a clamp (sold separately) to each end. Use couplings to connect rigid pipes of the same or different materials. They fit standard-wall (Schedule 40) and thick-wall (Schedule 80) pipe.

Couplings are flexible PVC. They're weatherproof and ozone resistant. **To Order:** Please order in increments of 5 ft. up to the full coil length of 100 ft.

Clamps are corrosion-resistant galvanized steel. You'll need one clamp for each connecting point.



For Pipe OD	For Pipe Size	Bend Radius	Max. psi @ 72° F	Vacuum @ 72° F	Couplings Per Ft. 1-99	Couplings Per Ft. 100-Up	Clamps Each	
2.375″	2″	3 1/2″	15	29.8″ Hg	52265K71	$4.62	$3.73	52265K81	$17.89
3.500″	3″	7″	15	29.8″ Hg	52265K72	8.18	6.61	52265K82	19.05
4.500″	4″	9″	15	28″ Hg	52265K73	11.52	9.31	52265K83	22.33

For information about selecting and measuring pipe and fittings, see pages 2-3.

Low-Pressure Type 304 Stainless Steel Couplings for Pipe



- Use with air and water; also use in drain, waste, and vent applications
- Temperature Range: 0° to +180° F
- Maximum Pressure @ 72° F: 15 psi
- Pipe: Use on aluminum, cast iron, steel, stainless steel, and rigid PVC

Also known as no-hub couplings, these couplings are rigid and corrosion resistant. They're made from Type 304 stainless steel with a one-piece molded neoprene sleeve; the sleeve has a stop in the center. Connect rigid pipes of the same or different materials. Couplings meet ASTM A666 and C564 and the 94-20 codes set by ICC-ES (International Code Council Evaluation Service).

For Pipe to Pipe Connections

For Pipe Size	Lg.		
1½" × 1½"	3"	6820K21	$15.61
2" × 1½"	3"	6820K41	20.18
2" × 2"	3"	6820K22	16.23
3" × 2"	3"	6820K42	25.33
3" × 3"	3"	6820K23	17.62
4" × 3"	3"	6820K43	$26.96
4" × 4"	3"	6820K24	19.89
5" × 5"	4"	6820K25	38.43
6" × 6"	4"	6820K26	43.08
8" × 8"	4"	6820K28	72.89

For Pipe to Copper Tube Connections

For Pipe Size × Tube Size▲	Lg.		
2" × 2"	3"	6820K35	$19.07
3" × 3"	3"	6820K36	21.47
4" × 4"	3"	6820K37	26.42

▲ Tube size is the accepted designation of the copper tubing industry, not the actual OD.

Low-Pressure Couplings for Pipe and Tubing

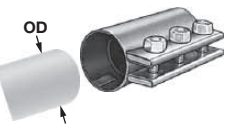

- Use with air, glass, plastic pellets, resins, and wood chips; not for use with liquids
- Temperature Range: With Neoprene Gasket: –50° to +180° F With Silicone Gasket: –103° to +500° F
- Maximum Pressure @ 72° F: 20 psi
- Pipe and Tubing: Use on aluminum, copper, cast iron, ductile iron, steel, stainless steel, rigid PVC, and rigid CPVC

Join two pieces of rigid pipe or tubing of the same or different materials for use in low-pressure air and vacuum conveying systems, as well as in gravity-flow systems. Couplings are galvanized steel with zinc-plated steel nuts and bolts; the gasket is protected by a Type 304 stainless steel inner sleeve (unless noted) and a stainless steel strip that provides an escape route for electrostatic buildup when used in a fully grounded system. Vacuum rating is 29.9" Hg @ 72° F.

Note: Measure the OD of your pipe or tubing and select the coupling that's closest in size to the OD dimension below.

For Pipe/ Tube OD	For Pipe Size	Lg.	No. of Bolts	With Neoprene Gasket		With Silicone Gasket	
0.840"	½"	2"	2	4487K21■	$29.51	4615K21■	$41.26
1.050"	¾"	2"	2	4487K22■	30.04	4615K22■	44.00
1.315"	1"	4"	2	4487K23■	15.74	4615K23■	23.22
1.500"	___	6"	3	4487K43	19.26	4615K43	29.92
1.660"	1¼"	6"	3	4487K24	20.78	4615K24	30.86
1.750"	___	6"	3	4487K44	20.30	4615K44	30.20
1.900"	1½"	6"	3	4487K25	20.47	4615K25	30.92
2.000"	___	6"	3	4487K45	20.78	4615K45	30.04
2.125"	___	6"	3	4487K54	21.67	4615K54	32.90
2.250"	___	6"	3	4487K56	21.95	4615K56	33.28
2.375"	2"	6"	3	4487K26	22.26	4615K26	34.38
2.500"	___	6"	3	4487K46	22.62	4615K46	34.48
2.875"	2½"	6"	3	4487K27	23.77	4615K27	36.42
3.000"	___	6"	3	4487K48	$24.36	4615K48	$40.60
3.500"	3"	6"	3	4487K28	26.52	4615K28	45.86
4.000"	3½"	8"	4	4487K51	35.28	4615K51	60.84
4.500"	4"	6"	3	4487K31	31.70	4615K31	49.88
5.000"	4½"	6"	3	4487K32	33.94	4615K32	59.68
5.563"	5"	8"	4	4487K33	45.08	4615K33	86.90
6.000"	___	8"	4	4487K11	46.28	4615K11	92.34
6.625"	6"	8"	4	4487K12	49.90	4615K12	99.60
8.000"	___	10"	4	4487K18	84.03	4615K18	156.42
8.625"	8"	10"	4	4487K14	85.93	4615K14	161.41
10.000"	___	10"	4	4487K64	90.02	4615K64	164.02
10.750"	10"	10"	4	4487K65	92.29	4615K65	170.94

■ Does not include a stainless steel inner sleeve to protect the gasket.

Low-Pressure Quick-Lock Couplings for Pipe and Tubing

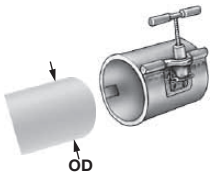

- Use with air, dust, grains, pellets, and powders; not for use with liquids
- Temperature Range: –30° to +180° F
- Maximum Pressure @ 72° F: 15 psi
- Pipe and Tubing: Use on aluminum, copper, cast iron, ductile iron, steel, stainless steel, rigid PVC, and rigid CPVC

A simple turn of the T-handle will tighten and loosen these couplings, so you can quickly disassemble and reassemble your lines without tools. Use couplings to connect pieces of rigid pipe or tubing of the same or different materials. They're ideal for use in gravity-flow systems and low-pressure air and vacuum conveying systems. Couplings are Type 304 stainless steel with a tan gum rubber gasket that's FDA compliant. They also have a metal strip that provides an escape route for electrostatic buildup when used in a fully grounded system. Vacuum rating is 29.9" Hg @ 72° F.

Note: Measure the OD of your pipe or tubing and select the coupling that's closest in size to the OD dimension below.

For Pipe/ Tube OD	For Pipe Size	Lg.		
1.500"	___	4"	6815K41	$41.33
1.660"	1¼"	4"	6815K42	42.17
1.900"	1½"	4"	6815K44	43.76
2.000"	___	4"	6815K45	44.80
2.250"	___	4"	6815K47	46.59
2.375"	2"	4"	6815K48	48.16
2.500"	___	4"	6815K49	49.42
2.875"	2½"	4"	6815K52	52.89
3.000"	___	4"	6815K53	54.46
3.250"	___	4"	6815K54	$56.45
3.500"	3"	4"	6815K56	59.72
4.000"	3½"	4"	6815K58	64.85
4.500"	4"	4"	6815K64	68.43
5.000"	___	4"	6815K65	71.57
6.000"	___	4"	6815K71	81.23
6.625"	6"	4"	6815K75	86.18
8.000"	___	4"	6815K77	108.95
8.625"	8"	4"	6815K79	119.87

Medium-Pressure Compression Couplings for Copper Tubing

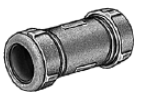

- Use with water; not for use with air or gas
- Temp. Range: 32° to 180° F
- Max. Pressure @ 72° F: 125 psi

For leak-resistant connections on copper tubing without threading or soldering, try these brass couplings. Simply slide your tube into the coupling and turn the end nuts until hand tight plus a quarter turn—this compresses the gasket for a tight seal. You may need to tighten over time. All have an EPDM gasket that permits moderate movement and misalignment of tube ends. Not rated for vacuum.

For Tube OD	For Tube Size▲	Lg.		
⅝"	½"	2 9/16"	4562K171	$7.07
⅝"	½"	4 3/4"	4562K181	9.77
⅞"	¾"	2 13/16"	4562K172	9.47
⅞"	¾"	4 29/32"	4562K182	12.68
1⅛"	1"	3 1/4"	4562K173	14.15
1⅛"	1"	5 3/16"	4562K183	$19.63
1⅜"	1¼"	2 27/32"	4562K174	16.00
1⅜"	1¼"	4 7/8"	4562K184	23.03
1⅝"	1½"	3 3/32"	4562K175	22.03
1⅝"	1½"	4 29/32"	4562K185	32.90

▲ Tube size is the accepted designation of the copper tubing industry, not the actual OD.

Medium-Pressure Compression Couplings for Pipe

Stainless Steel and Carbon Steel

- Use with air, antifreeze, and water; not for natural gas or steam
- Temperature Range: –60° to +260° F
- Maximum Pressure @ 72° F: 200 psi
- Pipe: Use on aluminum, steel, stainless steel, and rigid CPVC

Black and Galvanized Malleable Iron

- Use with water; not for compressed air, gas, or steam
- Temperature Range: –20° to +180° F
- Maximum Pressure @ 72° F: 125 psi
- Pipe: Use on steel and rigid PVC

PVC

- Use with water; not for compressed air, gas, or steam
- Temperature Range: –20° to +125° F
- Maximum Pressure @ 72° F: 150 psi
- Pipe: Use on steel and rigid PVC

Get quick, liquid-tight connections on rigid pipe of the same or different material without threading, welding, or gluing. Simply slide pipe into the coupling and turn the end nuts until hand tight. You may need to tighten over time. Not rated for vacuum.

All have a Buna-N (nitrile) gasket that permits moderate movement and misalignment of pipe ends.

Type 304 stainless steel couplings provide excellent corrosion resistance. They meet ASTM A312-03 and ANSI B36.19.

Carbon steel couplings are strong and durable with poor corrosion resistance. They meet ASTM A53-04 and ANSI B36.10.

Malleable iron couplings have fair corrosion resistance. *Black malleable iron* couplings meet ASTM A197; *galvanized malleable iron* couplings meet ASTM A153 and A197.

PVC couplings are light in weight and more economical than the metal couplings.






For Pipe OD	For Pipe Size	Type 304 Stainless Steel Lg.			Carbon Steel Lg.			Black Malleable Iron Lg.			Galvanized Malleable Iron Lg.		
0.675″	3/8″	—	—	—	—	—	—	—	—	—	2 1/2″	4562K109	$4.72
0.840″	1/2″	3 1/2″	4486K111	$47.41	3 1/2″	9187K111	$21.25	4 1/4″	4562K221	$6.67	3″	4562K111	5.82
1.050″	3/4″	3 1/2″	4486K121	71.96	3 1/2″	9187K121	23.75	4 7/16″	4562K222	8.60	3 5/16″	4562K112	7.76
1.315″	1″	3 5/8″	4486K131	79.86	3 5/8″	9187K131	25.63	4 3/4″	4562K223	11.38	3 1/2″	4562K113	10.01
1.660″	1 1/4″	3 5/8″	4486K141	93.22	3 5/8″	9187K141	30.33	4 3/4″	4562K224	14.15	3 5/8″	4562K114	12.22
1.900″	1 1/2″	4″	4486K151	113.47	4″	9187K151	41.51	5 3/16″	4562K226	15.82	3 5/8″	4562K115	14.73
2.375″	2″	4 5/16″	4486K161	154.16	4 5/16″	9187K161	45.43	5 3/8″	4562K228	24.16	4 1/16″	4562K116	21.12
3.500″	3″	—	—	—	—	—	—	—	—	—	4 3/4″	4562K118	51.40



PVC

For Pipe OD	For Pipe Size	Lg.			For Pipe OD	For Pipe Size	Lg.			For Pipe OD	For Pipe Size	Lg.	
0.840″	1/2″	4 7/8″	4562K131	$1.94	1.660″	1 1/4″	6 1/2″	4562K134	$4.64	3.500″	3″	10 3/4″	4562K138	$21.95
1.050″	3/4″	5 5/8″	4562K132	2.75	1.900″	1 1/2″	6 5/8″	4562K135	5.79	4.500″	4″	12″	4562K139	30.35
1.315″	1″	5 3/4″	4562K133	3.17	2.375″	2″	7 3/4″	4562K136	7.74					

Medium-Pressure Vibration-Resistant Couplings for Pipe



- Use with air, alkalies, diluted acids, salts, and water
- Temperature Range: –4° to +200° F
- Maximum Pressure @ 72° F: 232 psi
- Pipe: Use on aluminum, steel, stainless steel, and rigid PVC

Perfect for high-vibration areas, these couplings have teeth that bite into the pipe's surface to prevent the pipe from pulling out. They can also accommodate up to 5° misalignment between pipes. Use them to connect rigid pipes of the same or different materials. Couplings are Type 316 stainless steel with an EPDM gasket that's FDA compliant. Meet ASTM 1476 (Type 2, Class 2). Vacuum rating is 28″ Hg @ 72° F.

For Pipe OD	For Pipe Size	Lg.	No. of Bolts			For Pipe OD	For Pipe Size	Lg.	No. of Bolts		
1.050″	3/4″	1 13/16″	1	2397K11	$62.00	2.375″	2″	3″	1	2397K15	$95.87
1.315″	1″	1 13/16″	1	2397K12	65.73	2.875″	2 1/2″	3 11/16″	2	2397K16	122.22
1.660″	1 1/4″	2 3/8″	1	2397K13	78.00	3.500″	3″	3 11/16″	2	2397K17	134.65
1.900″	1 1/2″	2 3/8″	1	2397K14	81.87	4.500″	4″	3 11/16″	2	2397K18	149.10

High-Pressure Couplings for Pipe



Coupling with Two Bolts



Coupling with Four Bolts

- Use with drinking (potable) water, bases, mild acids, and salt solutions
- Temperature Range: –20° to +180° F
- Maximum Pressure @ 72° F: 500 psi
- Pipe: Use on cast iron, steel, and rigid PVC

Choose these heavy duty steel couplings for high-pressure applications. Use them to connect rigid pipes of the same or different materials. To install, center the coupling over two pipe ends and tighten the bolts with a wrench. Couplings allow limited expansion and contraction; they do not restrain side-to-side movement. Vacuum rating is 15″ Hg @ 72° F.

All couplings have a Buna-N (nitrile) gasket and meet AWWA (American Water Works Association) C-219 standards. Those ***with two bolts*** also meet ASTM A307 and A536, and those ***with three to six bolts*** also meet ASTM A53, A513, and A715. All couplings meet NSF/ANSI Standard 61 for use with drinking (potable) water in all states as of January 1, 2010.

For Pipe OD	For Pipe Size	Lg.	No. of Bolts			For Pipe OD	For Pipe Size	Lg.	No. of Bolts		
0.840″	1/2″	7″	2	5542K51	$39.27	3.500″	3″	6″	3	5542K57	$106.54
1.050″	3/4″	7″	2	5542K52	44.92	4.500″	4″	6″	4	5542K61	134.62
1.315″	1″	7″	2	5542K53	46.48	5.563″	5″	8″	4	5542K62	178.15
1.660″	1 1/4″	7″	2	5542K54	48.67	6.625″	6″	6″	6	5542K63	182.06
1.900″	1 1/2″	7″	2	5542K55	58.10	8.625″	8″	6″	6	5542K64	214.75
2.380″	2″	8″	2	5542K56	74.44						

For information about selecting and measuring pipe and fittings, see pages 2-3.

Deep-Freeze Plug Kits for Pipe

Create a temporary ice plug in your pipe so you can make repairs without draining the line—great for sprinkler systems and anywhere draining is not practical. These kits freeze the standing water (or other fluid with a similar freezing point) that's in your line, eliminating the need to refill or reheat and preventing air-lock problems that can occur.

Simply wrap a jacket (included) around your pipe at an upstream location near the point of repair and inject CO_2 (not included) into the jacket. After use, the CO_2 evaporates and the ice plug melts, so there's little to clean up. Use on steel, iron, copper, and plastic pipe.

Kits include up to three jackets, one or two unfilled cylinders for CO_2, a 10-ft. high-pressure hose, fittings, insulated work gloves, rubber mallet, timing log, safety glasses, carrying case, and instructions.



Kits

Fits Pipe Sizes	Jacket Sizes Included	Unfilled CO_2 Cylinders No. Included	Cap.		
3/8"-1 1/2"	3/8"-3/4", 3/4"-1 1/2"	1	20 lbs.	4893K71	$595.00
3/8"-3"	3/8"-3/4", 3/4"-1 1/2", 1 1/2"-3"	2	20 lbs.	4893K77	914.83
3/4"-1 1/2"	3/4"-1 1/2"	1	20 lbs.	4893K73	507.00

Replacement Jackets

Fits Pipe Sizes	Lg.		
3/8"- 3/4"	8"	4893K31	$105.55
3/4"-1 1/2"	12"	4893K33	115.55
1 1/2"-3"	14"	4893K35	216.43

Low-Pressure Repair Clamps for Pipe and Tubing

- Use with air, water, and waste water
- Temperature Range: –50° to +180° F
- Maximum Pressure @ 72° F: 15 psi
- Pipe and Tubing: Use on aluminum, cast iron, ductile iron, steel, stainless steel, rigid PVC, and rigid CPVC

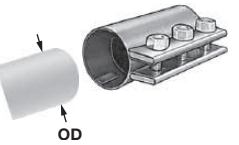

Repair pinholes, punctures, and cracks in low-pressure systems. Couplings are Type 304 stainless steel with a neoprene gasket and zinc-plated steel nuts, bolts, and washers. They also have a zinc-plated steel strip that bridges the opening between the bolts to provide complete coverage. Vacuum rating is 29.9" Hg @ 72° F.

Note: Measure the OD of your pipe or tubing and select the coupling that is closest in size to the OD dimension below.

For Pipe/ Tube OD	For Pipe Size	4" Length No. of Bolts			6" Length No. of Bolts			8" Length No. of Bolts			12" Length No. of Bolts		
2.000"	—	2	4481K861	$41.37	3	4481K241	$51.14	4	4481K311	$59.50	6	4481K611	$80.43
2.375"	2"	2	4481K781	39.91	3	4481K111	52.54	4	4481K331	61.33	6	4481K631	82.83
3.000"	—	2	4481K941	43.90	3	4481K281	51.58	4	4481K411	72.36	6	4481K711	93.42
3.500"	3"	2	4481K791	52.75	3	4481K121	64.90	4	4481K431	74.95	6	4481K731	98.07
4.000"	—	2	4481K981	54.16	3	4481K321	73.01	4	4481K451	80.08	6	4481K751	112.88
4.500"	4"	2	4481K811	56.91	3	4481K131	73.01	4	4481K471	83.61	6	4481K771	126.95
6.000"	—	2	4481K221	56.91	3	4481K361	85.28	4	4481K531	100.80	6	4481K831	153.14
6.625"	6"	2	4481K821	77.56	3	4481K141	94.05	4	4481K551	105.16	6	4481K851	157.93

Medium-Pressure Adjustable-Diameter Repair Clamps for Pipe

- Use with: See table
- Temperature Range: –20° to +180° F
- Maximum Pressure: See table
- Pipe:
  For Water: Use on aluminum, stainless steel, and rigid PVC;
  For Natural Gas: Use on ductile iron and steel

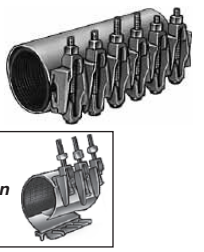

If your pipe's OD has changed over time due to corrosion or build up, these clamps are adjustable to accommodate the variance. They have one-piece Type 304 stainless steel construction and a full-circle Buna-N (nitrile) gasket. Vacuum rating is 15" Hg @ 72° F for pinholes; vacuum is not rated for other repairs.

With Type 304 Stainless Steel Lugs, Bolts, and Nuts— Repair pinholes, cracks, and full-circle breaks in your water pipe. Use these under water and anywhere corrosion is a concern; also use them with air. Clamps meet NSF/ANSI Standard 61 for use with drinking (potable) water.

With Ductile Iron Lugs and Alloy Steel Bolts and Nuts— Use clamps *for water* to repair pinholes, cracks, and full-circle breaks; they meet NSF/ANSI Standard 61 for use with drinking (potable) water. Use clamps *for natural gas* to repair holes and cracks (do not use for full-circle breaks).

For Pipe OD Range	For Pipe Size	Max. psi @ 72° F	7 1/2" Length No. of Bolts			12 1/2" Length No. of Bolts			15" Length No. of Bolts		
With Type 304 Stainless Steel Lugs, Bolts, and Nuts											
For Water											
2.70"- 3.00"	2 1/2"	150	2	9252K11	$103.22	3	9252K31	$169.06	4	9252K51	$194.46
3.46"- 3.70"	3"	150	2	9252K12	112.48	3	9252K32	175.48	4	9252K52	197.73
4.45"- 4.73"	4"	125	2	9252K13	124.52	3	9252K33	194.16	4	9252K53	207.56
6.56"- 6.96"	6"	125	2	9252K15	143.84	3	9252K35	235.72	4	9252K55	236.13
With Ductile Iron Lugs and Alloy Steel Bolts and Nuts											
For Water											
2.35"- 2.63"	2"	250	3	4488K313	82.84	5	4488K413	147.04	6	4488K513	169.14
2.70"- 3.00"	2 1/2"	250	3	4488K314	89.96	5	4488K414	154.90	6	4488K514	181.24
3.46"- 3.70"	3"	250	3	4488K315	98.44	5	4488K415	163.32	6	4488K515	193.88
3.73"- 4.00"	3 1/2"	250	3	4488K316	100.84	5	4488K416	168.06	6	4488K516	199.74
4.45"- 4.73"	4"	225	3	4488K317	108.10	5	4488K417	182.54	6	4488K517	214.02
5.22"- 5.62"	5"	225	3	4488K319	114.52	5	4488K419	197.34	6	4488K519	225.56
6.56"- 6.96"	6"	225	3	4488K322	129.24	5	4488K422	208.20	6	4488K522	234.28
8.54"- 8.94"	8"	200	3	4488K324	153.12	5	4488K424	236.06	6	4488K524	281.52
10.64"-11.04"	10"	175	3	4488K325	188.26	5	4488K425	281.35	6	4488K525	340.35
For Natural Gas											
2.35"- 2.63"	2"	100	3	4584K241	84.84	5	4584K441	150.54	6	4584K641	173.16
3.46"- 3.70"	3"	100	3	4584K261	100.78	5	4584K461	167.20	6	4584K661	198.50
4.45"- 4.73"	4"	100	3	4584K281	110.68	5	4584K481	186.88	6	4584K681	217.88
6.56"- 6.96"	6"	100	3	4584K311	132.32	5	4584K511	213.16	6	4584K711	239.86
8.54"- 8.94"	8"	100	3	4584K331	156.76	5	4584K531	251.34	6	4584K731	272.51
10.64"-11.04"	10"	100	3	4584K351	194.38	5	4584K551	272.35	6	4584K751	348.45

Repair Clamps

For information about selecting and measuring pipe and fittings, see pages 2-3.

Medium-Pressure Single-Hole Repair Clamps for Pipe

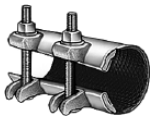



- Use with air, drinking (potable) water, and natural gas
- Temperature Range: –20° to +180° F
- Maximum Pressure: See table
- Pipe: Use on aluminum, cast iron, and steel; also rigid PVC for water applications only

Also called patch clamps, use to repair pinholes, punctures, and small splits in a pipe without having to disassemble your system. All have one-piece construction, unless noted, and meet NSF/ANSI Standard 61 for use with drinking (potable) water. They are Type 304 stainless steel with a Buna-N (nitrile) gasket, ductile iron lugs, and steel nuts and bolts. Vacuum rating is 15″ Hg @ 72° F for pinholes; vacuum is not rated for other repairs.

Also Available: Items marked with a ♠ can also be furnished with an EPDM gasket for hot water and steam applications up to 300° F. Please ask for 4570K1 and specify the pipe size.

For Pipe OD	For Pipe Size	Max. psi @ 72° F: For Water	Max. psi @ 72° F: For Natural Gas	3″ Length: No. of Bolts			6″ Length: No. of Bolts			9″ Length: No. of Bolts			12″ Length: No. of Bolts		
0.840″	½″	150	100	1	4570K111♠	$12.69	2	4570K131	$23.40	—	—	—	—	—	—
1.050″	¾″	150	100	1	4570K112♠	12.93	2	4570K132	24.12	—	—	—	—	—	—
1.315″	1″	150	100	1	4570K113♠	14.12	2	4570K133	25.69	—	—	—	—	—	—
1.660″	1¼″	150	100	1	4570K114	14.52	2	4570K134♠	27.07	—	—	—	—	—	—
1.900″	1½″	150	100	1	4570K115	15.60	2	4570K135♠	29.38	—	—	—	—	—	—
2.375″	2″	150	100	1	4570K116	17.05	2	4570K136♠	30.88	3	4570K56	$47.31	4	4570K76	$62.81
2.875″	2½″	150	100	1	4570K117	21.36	2	4570K137♠	42.62	3	4570K57	63.38	4	4570K77	85.69
3.500″	3″	150	100	1	4570K118	22.33	2	4570K138♠	45.14	3	4570K58	74.24	4	4570K78	101.00
4.000″	3½″	150	100	1	4570K119	24.12	2	4570K139	46.79	3	4570K59	74.69	4	4570K79	102.07
4.500″	4″	150	100	1	4570K121	25.93	2	4570K141♠	48.10	3	4570K61	90.05	4	4570K81	120.57
5.563″	5″	100	60	1	4570K122	29.38	2	4570K142	58.29	3	4570K62	98.57	4	4570K82	131.74
6.625″	6″	100	60	1	4570K151	30.88	2	4570K161	60.57	3	4570K63♠	102.07	4	4570K83	136.79
8.625″	8″	100	60	1	4570K152	36.29	2	4570K162	70.48	3	4570K64♠	111.24	4	4570K84	173.12
10.750″	10″	50	25	2	4570K153★	66.76	4	4570K163★	138.26	6	4570K65♠★	198.22	8	4570K85★	254.48
12.750″	12″	50	25	2	4570K154★	76.45	4	4570K164★	148.19	6	4570K66★	217.19	8	4570K86♠★	265.84

★ Two-piece design.

Medium-Pressure Multi-Hole Repair Clamps for Pipe and Copper Tube

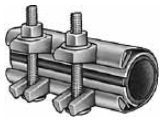

- Use with air and drinking (potable) water
- Temperature Range: –20° to +180° F
- Maximum Pressure @ 72° F: Air: 100 psi; Water: 150 psi
- Pipe: Use on steel and rigid PVC

Repair multiple pinholes, punctures, splits, and full-circle breaks on air and water lines. These clamps are also a great choice when you want to add support to corroded pipe. Clamps slip over pipe, so there's no need to disassemble your system. All have one-piece Type 304 stainless steel construction with ductile iron lugs and galvanized steel nuts and bolts. They also have a full-circle Buna-N (nitrile) gasket that meets NSF/ANSI Standard 61 for use with drinking (potable) water as of October 1, 2010. Vacuum rating is 15″ Hg @ 72° F.

For Pipe/ Tube OD	For Pipe Size	3″ Length: No. of Bolts			6″ Length: No. of Bolts		
For Pipe							
0.840″	½″	1	50245K14	$43.88	2	50245K15	$93.48
1.050″	¾″	1	50245K16	44.45	2	50245K17	93.98
1.315″	1″	1	50245K24	47.02	2	50245K25	94.69
1.660″	1¼″	1	50245K26	48.21	2	50245K27	95.83
1.900″	1½″	1	50245K28	49.52	2	50245K29	97.69
2.375″	2″	1	50245K34	53.93	2	50245K35	100.75
For Copper Tubing							
1.13″	—	1	50245K18	46.33	2	50245K19	94.21

High-Pressure Hinged Repair Clamps for Pipe



- Use with water, antifreeze, diesel fuel, natural gas, and oil
- Temperature Range: –20° to +250° F
- Maximum Pressure: See table
- Pipe: Use on cast iron and steel

Often called emergency clamps, use these high-pressure clamps to repair pinholes, punctures, and splits in pipe. Not for full-circle breaks. Clamps have a hinged design that opens wide and closes over the pipe, so there's no need to disassemble your system. They are ductile iron with a Buna-N (nitrile) gasket and electroplated steel bolts. Not rated for vacuum.

For Pipe OD	For Pipe Size	Max. psi @ 72° F	Lg.	No. of Bolts		
0.840″	½″	600	3¼″	2	4577K51	$39.37
1.050″	¾″	600	3¼″	2	4577K52	49.50
1.315″	1″	600	3½″	2	4577K53	50.62
1.660″	1¼″	600	3¾″	2	4577K54	52.88
1.900″	1½″	600	4″	2	4577K55	56.25
2.375″	2″	600	4¼″	2	4577K56	61.88
2.875″	2½″	600	4½″	2	4577K57	$75.38
3.500″	3″	500	4¾″	2	4577K58	83.25
4.500″	4″	500	6″	2	4577K61	131.62
6.625″	6″	400	8″	3	4577K64	277.20
8.625″	8″	300	9⅞″	3	4577K65	351.00
10.750″	10″	200	11⅞″	4	4577K66	736.36

High-Pressure Two-Piece Repair Clamps for Pipe



4″ Length

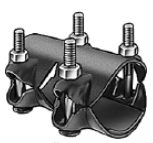

8″ Length

- Use with water, antifreeze, diesel fuel, natural gas, and oil
- Temperature Range: –20° to +250° F
- Maximum Pressure: See table
- Pipe: Use on cast iron and steel

Providing the highest pressure rating of all the repair clamps we offer, these also have a two-piece design that makes installation easy. Just position the two clamp halves over the damaged pipe and secure the bolts—there's no need to disassemble your system. Clamps are 3/16″ thick steel plate with zinc-plated steel nuts and bolts. Not rated for vacuum. Not for full-circle breaks.

4″ Length— Repair small holes caused by pitting. Furnished with a cone-shaped Buna-N (nitrile) gasket.

8″ Length— Use to repair corrosion spots and splits. Furnished with a Buna-N (nitrile) strip gasket that runs the full length of the clamp.

For Pipe OD	For Pipe Size	4″ Length: Max. psi @ 72° F	4″ Length: No. of Bolts			8″ Length: Max. psi @ 72° F	8″ Length: No. of Bolts		
4.500″	4″	1,000	2	6822K311	$89.14	500	4	6822K411	$135.75
6.625″	6″	1,000	2	6822K331	105.67	500	4	6822K431	148.17
8.625″	8″	1,000	2	6822K341	119.21	400	4	6822K441	176.13

For information about selecting and measuring pipe and fittings, see pages 2-3.

Saddle Taps for Metal-to-Plastic Pipe

- Use with drinking (potable) water; not for use with compressed air or gas
- Maximum Temperature: 140° F
- Maximum Pressure @ 72° F: 2″, 3″, and 4″ pipe sizes: 235 psi; 6″ pipe size: 200 psi
- Pipe: Use on aluminum, cast iron, ductile iron, steel, stainless steel, rigid PVC, and rigid CPVC

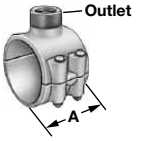

With Threaded NPT Outlet

Create additional outlets, connections, and transitions from metal pipe to PVC pipe. Saddles are PVC with an EPDM gasket and zinc-plated steel nuts, bolts, and washers. They have a two-piece design for quick, easy installation and come with your choice of a socket end (unthreaded) outlet or a threaded NPT outlet. All meet NSF/ANSI Standard 61 for use with drinking (potable) water. Vacuum rating is 26″ Hg @ 72° F.

To install, shut down your line and drill a hole in the pipe where you want to create a connection. Position the saddle over the hole so the gasket and lip are fully engaged with the hole, and secure with the nuts, bolts, and washers.

For Pipe OD	For Pipe Size	Outlet Pipe Size	Lg. (A)	Required Hole Size in Pipe		
Schedule 40 with Socket End (Unthreaded) Outlet*—*White						
3.500″	3″	1½″	4⅛″	2¼″	4763K21	$39.53
3.500″	3″	2″	4⅛″	2¼″	4763K22	39.53
4.500″	4″	1½″	4⅛″	1¾″	4763K27	50.62
4.500″	4″	2″	4⅛″	2¼″	4763K28	50.62
4.500″	4″	3″	5⁷⁄₁₆″	3″	4763K31	68.90
6.625″	6″	2″	4⅛″	2¼″	4763K82	90.79
Schedule 40 with Threaded NPT Outlet*—*White						
2.375″	2″	½″	2⁷⁄₁₆″	¾″	4763K51	34.15
2.375″	2″	¾″	2⁷⁄₁₆″	⅞″	4763K52	34.15
2.375″	2″	1″	2⁷⁄₁₆″	1⅛″	4763K53	34.15
4.500″	4″	¾″	3″	1⅛″	4763K64	59.51
4.500″	4″	1″	3″	1⅛″	4763K65	59.51
6.625″	6″	2″	4⅛″	2¼″	4763K85	99.29

For Pipe OD	For Pipe Size	Outlet Pipe Size	Lg. (A)	Required Hole Size in Pipe		
Schedule 80 with Threaded NPT Outlet*—*Dark Gray						
2.375″	2″	½″	2⁷⁄₁₆″	¾″	4849K51	$33.76
2.375″	2″	¾″	2⁷⁄₁₆″	⅞″	4849K52	33.76
2.375″	2″	1″	2⁷⁄₁₆″	1⅛″	4849K53	33.76
3.500″	3″	½″	3″	⅞″	4849K56	44.48
3.500″	3″	¾″	3″	⅞″	4849K57	44.48
3.500″	3″	1″	3″	1⅛″	4849K58	44.48
3.500″	3″	1½″	4⅛″	2¼″	4849K61	44.48
4.500″	4″	½″	3″	1⅛″	4849K63	55.49
4.500″	4″	¾″	3″	1⅛″	4849K64	55.49
4.500″	4″	1″	3″	1⅛″	4849K65	55.49
4.500″	4″	1½″	4⅛″	1¾″	4849K67	55.49
4.500″	4″	2″	4⅛″	2¼″	4849K68	55.49
6.625″	6″	2″	4⅛″	2¼″	4849K82	92.49

Flexible Saddle Taps for Pipe

- Use with drain, waste, and vent applications
- Temperature Range: –4° to +110° F

Easily tap-off a new connection on a wide range of pipe sizes. These flexible saddles are PVC with three 300 series stainless steel clamps. To install, shut down your line and drill a hole in the pipe where you want to create a connection. Position the saddle over the hole and tighten the clamps to a minimum of 60 in./lbs. torque. Not rated for pressure or vacuum.

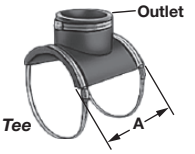



For Pipe Size	Outlet Pipe Size	Required Hole Size in Pipe	Tees Lg. (A)			Wyes Lg. (A)		
6″-36″	4″	4⅛″	10″	48545K15	$84.75	14″	48545K19	$105.42
6″-36″	6″	5½″	12½″	48545K17	111.98	16″	48545K21	136.63

Saddle Taps for Steel Pipe

- Use with air and drinking (potable) water
- Temperature Range: –20° to +180° F
- Maximum Pressure @ 72° F: Air: 100 psi; Water: 150 psi
- Pipe: Use on steel



Quickly tap into existing pipelines for branch lines, air and vacuum valves, and other equipment. Saddles have a taper-seal gasket with wraparound bands that provide nearly 360° contact with pipe. As bands are tightened, pressure is uniformly distributed around the pipe for maximum support. Clamps are ductile iron with a blue epoxy coating; they have a Buna-N (nitrile) gasket and galvanized steel threaded bands, nuts, and washers. They meet NSF/ANSI Standard 61 for use with drinking (potable) water. Vacuum rating is 15″ Hg @ 72° F.

To install, shut down your line and position the saddle over the area where you want to create a connection. Secure with the bands, nuts, and washers, then drill a hole in the pipe.

Note: The required hole size (the hole size you will need to drill) is the same size as the threaded outlet pipe size.

For Pipe OD	For Pipe Size	Lg. (A)	Threaded Outlet Pipe Size ½″ NPT		¾″ NPT		1″ NPT		1¼″ NPT		1½″ NPT		2″ NPT	
1.900″	1½″	3¼″	4572K211■	$40.33	4572K221■	$40.36	4572K231■	$40.33						
2.375″	2″	3¼″	4572K212	40.50	4572K222	40.50	4572K232	40.50	4572K241	$42.55	4572K251	$42.55		
3.500″	3″	3¼″	4572K213	42.45	4572K223	48.21	4572K233	48.21	4572K242	62.48	4572K252	62.50	4572K261♣	$67.52
4.500″	4″	3⅝″	4572K214	54.71	4572K224	54.69	4572K234	54.69	4572K243	69.19	4572K253	69.19	4572K262▲	71.38
6.625″	6″	3⅝″	4572K215	59.60	4572K225	59.60	4572K235	59.60	4572K244	74.14	4572K254	74.14	4572K263▲	76.26
8.625″	8″	3⅝″	4572K216	63.45	4572K226	72.07	4572K236	72.05	4572K245	92.38	4572K255	92.38	4572K264▲	93.38

■ Also fits 1¼″ pipe size with a pipe OD of 1.660″. ♣ Length is 4¼″. ▲ Length is 5⁵⁄₁₆″.

Pipe Blinds

Also called paddle blinds, just slip a blind between two Class 150 flanges to temporarily block the flow while you work downstream.

Steel blinds have a 7″ long handle and meet ASTM A36.

PTFE-coated blinds have a Type 304 stainless steel core and are ideal for corrosive applications. Handle length varies from 2¾″ long for 4739K21 to 5″ long for 4739K26. Blinds meet ASTM D4894 and are FDA compliant.



PTFE Coated

Steel

For Pipe Size	OD	Thick.		
1″	2½″	¼″	4730K22	$18.18
1½″	3¼″	¼″	4730K24	20.00
2″	4″	¼″	4730K25	20.41
2½″	4¾″	¼″	4730K26	21.67
3″	5¼″	¼″	4730K27	22.22
4″	6¾″	¼″	4730K28	$24.00
6″	8⅝″	½″	4730K29	61.43
8″	10⅞″	⅝″	4730K52	115.00
10″	13¼″	⅝″	4730K53	125.45
12″	16″	⅝″	4730K54	150.00

PTFE-Coated Stainless Steel

For Pipe Size	OD	Thick.		
1″	2⅝″	⅛″	4739K21	$34.78
1½″	3⅜″	⅛″	4739K22	40.52
2″	4⅛″	⅛″	4739K23	47.14
3″	5⅜″	⅛″	4739K24	60.75
4″	6⅞″	⅛″	4739K25	71.77
6″	8¾″	³⁄₁₆″	4739K26	96.37

About Expansion Joints

Reduce stress, vibration, and noise in piping systems by providing a point of flexibility to absorb movement.

How to Measure Your Expansion Joint: If you are replacing an existing expansion joint in your piping system and do not know the pipe size you need, there are two methods for determining size.

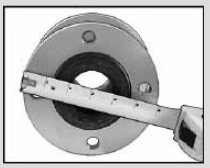

First, look for an etched stamp on the edge of the flange that indicates pipe size. If etching is unreadable, use the second method—measure the outside diameter of the flange and match it to the Flange OD specification in the table. Each pipe size has a standard flange OD. The example shows a 6″ flange OD, which corresponds to a pipe size 2.

If you do not have a flange on your existing joint, measure the outside diameter of your pipe and match it to the For Pipe OD specification listed in the tables.

Expansion Joint Movement: Expansion joints are rated for three types of movement; however, they can only move one way at a time. For example, if the expansion joint has moved to an offset position, it must go back to its original position before it can compress or expand.

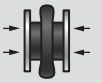

Compress is when the distance between the connections is shortened.

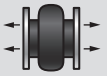

Expand is when the distance between the connections is lengthened



Offset is the distance when connections are moved off center.

Expansion Joints with Easy-Align Flanged Ends



Standard



High Vibration

General Purpose Neoprene:
- Use with water, grain alcohol, non-abrasive slurry
- Temperature Range: –10° to 225°F
- Maximum Pressure: 225 psi @ 72°F
- Vacuum: 26″ Hg @ 72°F

High-Temperature EPDM:
- Use with water, alcohol
- Temperature Range: –20° to 250°F
- Maximum Pressure: 225 psi @ 72°F
- Vacuum: 26″ Hg @ 72°F

The flanged ends on these expansion joints rotate for easy bolt hole alignment during installation. The flanges are made of zinc-plated steel; they'll mate with a same-size flat-surface Class 150 flange without the need for a gasket. All have a flexible neoprene or EPDM body that's nylon-reinforced for added strength.

Standard joints have a single-bulb design, which is the most popular.

High-vibration joints have a double-bulb design, which handles more vibration and movement than standard joints.

Flange OD	Pipe Size	O'all Lg.	Maximum Movement: Compress	Expand	Offset	No. of Bolt Holes	General Purpose Neoprene with Threaded Bolt Holes: Bolt Hole Size			General Purpose Neoprene with Unthreaded Bolt Holes: Bolt Hole Size			High-Temperature EPDM with Unthreaded Bolt Holes: Bolt Hole Size		
Standard															
5″	1½	6″	½″	⅜″	½″	4	½″-13	9175K32	$56.00	⅝″	9175K13	$41.67	⅝″	9175K52	$56.00
6″	2	6″	½″	⅜″	½″	4	⅝″-11	9175K33	56.00	¾″	9175K14	49.69	¾″	9175K53	56.00
7″	2½	6″	½″	⅜″	½″	4	⅝″-11	9175K34	74.00	¾″	9175K15	64.48	¾″	9175K54	74.00
7½″	3	6″	½″	⅜″	½″	4	⅝″-11	9175K35	82.00	¾″	9175K16	79.38	¾″	9175K55	82.00
9″	4	6″	¾″	½″	½″	8	⅝″-11	9175K36	102.00	¾″	9175K17	97.40	¾″	9175K56	102.00
10″	5	6″	¾″	½″	½″	8	¾″-10	9175K37	118.00	⅞″	9175K18	126.56	⅞″	9175K57	118.00
11″	6	6″	¾″	½″	½″	8	¾″-10	9175K38	156.00	⅞″	9175K19	160.00	⅞″	9175K58	156.00
13½″	8	6″	¾″	½″	½″	8	¾″-10	9175K39	224.00	⅞″	9175K23	236.15	⅞″	9175K59	224.00
16″	10	8″	1″	⅝″	¾″	12	⅞″-9	9175K21	292.45	1″	9175K24	319.50	1″	9175K61	310.00
19″	12	8″	1″	⅝″	¾″	12	⅞″-9	9175K22	358.93	1″	9175K25	458.70	1″	9175K62	402.75
High Vibration															
5″	1½	7″	2″	1 3/16″	1¾″	4	½″-13	6819K61	68.75	⅝″	6819K26	64.36	⅝″	6819K81	68.75
6″	2	7″	2″	1 3/16″	1¾″	4	⅝″-11	6819K62	77.08	¾″	6819K27	72.11	¾″	6819K82	77.08
7″	2½	7″	2″	1 3/16″	1¾″	4	⅝″-11	6819K63	95.83	¾″	6819K28	93.16	¾″	6819K83	95.83
7½″	3	7″	2″	1 3/16″	1¾″	4	⅝″-11	6819K64	110.42	¾″	6819K29	114.34	¾″	6819K84	110.42
9″	4	9″	2″	1⅜″	1 9/16″	8	⅝″-11	6819K65	150.00	¾″	6819K31	148.82	¾″	6819K85	150.00
10″	5	9″	2″	1⅜″	1 9/16″	8	¾″-10	6819K66	177.08	⅞″	6819K52	206.05	⅞″	6819K86	177.08
11″	6	9″	2″	1⅜″	1 9/16″	8	¾″-10	6819K67	245.83	⅞″	6819K53	252.24	⅞″	6819K87	245.83
13½″	8	13″	2⅜″	1⅜″	1⅜″	8	¾″-10	6819K68	347.92	⅞″	6819K54	328.16	⅞″	6819K88	347.92
16″	10	13″	2⅜″	1⅜″	1⅜″	12	⅞″-9	6819K69	426.92	1″	6819K55	423.77	1″	6819K89	426.92
19″	12	13″	2⅜″	1⅜″	1⅜″	12	⅞″-9	6819K71	566.67	1″	6819K56	515.50	1″	6819K91	566.67

Expansion Joints with Sealing Flanged Ends



Grease-Resistant Neoprene w/Buna-N Liner:
- Use with grease, water, ethylene glycol, hydraulic fluid
- Temp. Range: –65° to 225°F
- Max. Pressure: 210 psi @72°F
- Vacuum: 30″ Hg @ 72°F

General Purpose Neoprene:
- Use with water, grain alcohol, non-abrasive slurry
- Temp. Range: –20° to 225°F
- Max. Pressure: 190 psi @ 72°F
- Vacuum: 26″ Hg @ 72°F

Easy-Flex EPDM:
- Use with water, alcohol
- Temp. Range: –20° to 250°F
- Max. Pressure: 225 psi @ 72°F
- Vacuum: 24″ Hg @ 72°F

You'll get a tighter seal than with other expansion joints because the flanges on these are molded into the body for a wide sealing surface. Each flange is supported by a zinc-plated steel split-ring backup plate. Flanges will mate with a same-size Class 150 flange. The joint bodies have a single-bulb design.

Grease-resistant neoprene with Buna-N liner and **general purpose neoprene** joints are for use on metal pipe systems. The body is reinforced with cord for added strength.

Easy-flex EPDM joints are specially designed for use on plastic pipe systems. They have a softer construction that takes less force to move than joints for metal pipe systems.

Flange OD	Pipe Size	O'all Lg.	Unthreaded Bolt Holes: No.	Size	Maximum Movement: Compress	Expand	Offset	Grease-Resistant Neoprene/Buna-N		General Purpose Neoprene		Easy-Flex EPDM	
5″	1½	6″	4	⅝″	1¼″	⅝″	9/16″					4528K41	$242.31
6″	2	6″	4	¾″	1¼″	⅝″	9/16″	4528K52	$159.62	4528K82	$253.85	4528K42	253.85
7″	2½	6″	4	¾″	1¼″	⅝″	9/16″	4528K53	194.23	4528K83	263.46	4528K43	263.46
7½″	3	6″	4	¾″	1¼″	⅝″	9/16″	4528K54	225.00	4528K84	265.38	4528K44	265.38
9″	4	6″	8	¾″	1¼″	⅝″	9/16″	4528K55	290.38	4528K85	321.15	4528K45	321.15
10″	5	6″	8	⅞″	1¼″	⅝″	9/16″	4528K56	326.92	4528K86	388.46		
11″	6	6″	8	⅞″	1¼″	⅝″	9/16″	4528K57	396.15	4528K87	421.15	4528K46	415.38
13½″	8	6″	8	⅞″	1¼″	⅝″	9/16″	4528K58	476.36	4528K88	536.84	4528K47	494.74

Chemical-Resistant Expansion Joints with Flanged Ends



- Use with water, ethylene glycol, hydrochloric acid
- Temperature Range: 0° to 400° F
- Maximum Pressure: 138 psi @ 72° F
- Vacuum: 29.9″ Hg @ 72° F

The PTFE body on these expansion joints has a super-smooth surface that stands up to corrosive chemicals and higher temperatures better than a rubber body. The triple-bulb design provides excellent vibration absorption. Made of iron and coated with a rust inhibitor, the flanges mate with a same-size, Class 150 flange without the need for a gasket. Limit rods attached to the flanges prevent overextension.

Flange OD	Pipe Size	O'all Lg.	Threaded Bolt Holes No.	Threaded Bolt Holes Size	Maximum Movement Compress	Maximum Movement Expand	Maximum Movement Offset		
5″	1½	2″	4	½″-13	½″	½″	¼″	3501K81	$281.03
6″	2	2¾″	4	5/8″-11	¾″	¾″	⅜″	3501K82	363.79
7″	2½	3 3/16″	4	5/8″-11	¾″	¾″	⅜″	3501K83	377.59
7½″	3	3 5/8″	4	5/8″-11	1″	1″	½″	3501K84	433.33
9″	4	3 5/8″	8	5/8″-11	1″	1″	½″	3501K85	570.00
11″	6	4″	8	¾″-10	1⅛″	1⅛″	9/16″	3501K87	801.67

High-Temperature Expansion Joints with Easy-Align Flanged Ends



- Use with water, air, steam, natural gas, oil
- Temperature Range: –20° to 800° F
- Maximum Pressure: 150 psi @ 72° F
- Vacuum: 29″ Hg @ 72° F

These joints have a corrosion-resistant Type 304 stainless steel body and steel flanges for higher heat tolerance than other joints. The flanges rotate for easy bolt hole alignment during installation; they'll mate with a same-size, flat-surface Class 150 flange (gasket required, but not included; see pages 3529-3534).

Liners are Type 304 stainless steel. Slide one into the expansion joint to provide a smooth interior for unobstructed flow.

Flange OD	Pipe Size	O'all Lg.	Unthreaded Bolt Holes No.	Unthreaded Bolt Holes Size	Maximum Movement Compress	Maximum Movement Expand	Maximum Movement Offset	Expansion Joints		Liners	
6″	2	6″	4	¾″	15/16″	5/16″	⅜″	9413K61	$244.05	9413K41	$117.50
7″	2½	6″	4	¾″	15/16″	5/16″	5/16″	9413K62	276.19	9413K42	127.77
7½″	3	6″	4	¾″	15/16″	5/16″	¼″	9413K63	291.67	9413K43	140.00
9″	4	6″	8	¾″	15/16″	5/16″	3/16″	9413K64	338.10	9413K44	157.60
10″	5	6″	8	⅞″	15/16″	5/16″	3/16″	9413K65	397.62	9413K45	185.00
11″	6	6″	8	⅞″	15/16″	5/16″	⅛″	9413K66	440.48	9413K46	206.00
13½″	8	6″	8	⅞″	1″	⅜″	⅛″	9413K67	603.57	9413K47	236.00
16″	10	8″	12	1″	1¼″	⅜″	⅛″	9413K68	703.64	9413K48	292.00
19″	12	8″	12	1″	1¼″	⅜″	⅛″	9413K69	775.44	9413K49	338.00

High-Temperature Expansion Joints with Butt-Weld Ends



- Use with water, oil, air, steam, natural gas
- Temperature Range: –20° to 800° F
- Maximum Pressure: 150 psi @ 72° F
- Vacuum: 29″ Hg @ 72° F

The high-temperature tolerance of Type 321 stainless steel is combined with a leak-resistant welded connection. These joints have steel butt-weld ends that can be welded to unthreaded pipe or another butt-weld fitting.

For Pipe OD	Pipe Size	O'all Lg.	Maximum Movement Compress	Maximum Movement Expand	Maximum Movement Offset		
3.5″	3	5″	⅜″	3/16″	1/16″	5254K11	$269.50
4.5″	4	6″	5/8″	¼″	1/16″	5254K12	288.17
5.563″	5	7½″	5/8″	¼″	1/16″	5254K13	350.10
6.625″	6	9″	13/16″	⅜″	1/16″	5254K14	417.86
8.625″	8	8½″	13/16″	⅜″	1/16″	5254K15	515.36
10.75″	10	9½″	13/16″	7/16″	1/16″	5254K16	627.91

Slip-On Expansion Joints with Clamps



- Use with water, oil, petroleum, sewage, sludge, calcium chloride, sodium carbonate (20% in water)
- Temperature Range: Abrasion-Resistant Neoprene: –20° to 225° F High-Temperature Silicone: –75° to 500° F
- Maximum Pressure: 150 psi @ 72° F
- Vacuum: 20″ Hg @ 72° F

Slip these joints over your pipe ends and tighten the band clamps. A triple-bulb design provides excellent vibration absorption and reinforcing rings support the joints during pressure surges and vacuum applications. The band clamps are 300 series stainless steel with steel bolts.

Abrasion-resistant neoprene joints are reinforced with nylon.

High-temperature silicone joints are reinforced with fiberglass.

For Pipe OD	Pipe Size	O'all Lg.	Maximum Movement Compress	Maximum Movement Expand	Maximum Movement Offset	Abrasion-Resistant Neoprene		High-Temperature Silicone	
2.375″	2	7″	1″	½″	1⅛″	5428K14	$244.93	54345K21	$357.22
2.875″	2½	7″	1″	½″	1⅛″	5428K16	249.67	54345K22	350.58
3.5″	3	7″	1″	½″	1⅛″	5428K18	262.98	54345K23	354.91
4.5″	4	7″	1″	½″	1⅛″	5428K25	304.47	54345K25	450.87
5.563″	5	7″	1″	½″	1⅛″	5428K29	313.53	54345K27	446.18
6.625″	6	7″	1″	½″	1⅛″	5428K33	359.71	54345K28	513.09
8.625″	8	7″	1″	½″	1⅛″	5428K37	376.73	54345K29	533.93
10.75″	10	7″	1″	½″	1⅛″	5428K41	416.02	54345K31	586.56
12.75″	12	7″	1″	½″	1⅛″	5428K45	433.07	54345K32	635.20

Low-Pressure Slip-On Expansion Joints with Clamps



- Use with water and air in drain, waste, and vent systems
- Temperature Range: –30° to 130° F intermittent
- Maximum Pressure: 4.3 psi @ 72° F

Designed for vertical use in drain, waste, and vent systems, these PVC joints slip over the ends of pipes. They have a single-bulb design and internal stops that ensure pipe is in the proper position. The band clamps are corrosion-resistant Type 301 stainless steel.

For Pipe OD	Pipe Size	O'all Lg.	Maximum Movement Compress	Maximum Movement Expand		
1.9″	1½	4″	½″	1½″	48345K25	$12.65
2.375″	2	4″	½″	1½″	48345K26	14.36
3.5″	3	4″	½″	1½″	48345K27	15.55
4.5″	4	4″	½″	1½″	48345K28	19.56

Through-Wall Fittings

For technical drawings and 3-D models, go to mcmaster.com.

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your female threaded fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

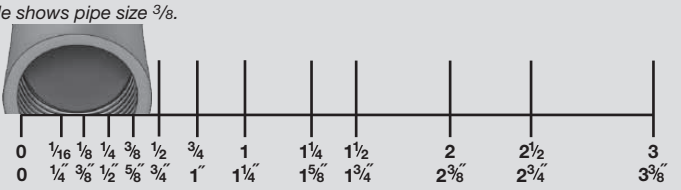

Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 5/8"	1 3/4"	2 3/8"	2 3/4"	3 3/8"

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

About Through-Wall Fittings

Through-wall fittings, also known as bulkhead fittings, allow you to make inlets and outlets in walls, tanks, and panels for faucets, pipes, and spigots. To install in a tank, first depressurize and drain the tank. Cut a hole, then slide the fitting into the hole from the inside of the tank, and tighten the nut from the outside. If the fitting has a gasket, it should be on the inside of the tank.

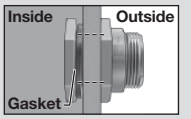

Through-Wall Fittings



Cold Water PVC:
- Temp. Range: 40° to 140°F

Hot Water CPVC:
- Temp. Range: 40° to 180°F

Chemical-Resistant Polypropylene:
- Use with hydrochloric and phosphoric acid
- Temp. Range: 40° to 180°F

Oil-Resistant Polyethylene:
- Use with water, ethylene glycol, hydraulic oil
- Temp. Range: –20° to 140°F

High-Temperature PTFE:
- Use with oil, gasoline, diesel
- Temp. Range: –75° to 400°F

Corrosion-Resistant Type 316 Stainless Steel:
- Use with water, fertilizers (not rated for steam)
- Temp. Range: –20° to 300°F

Mount these fittings through a hole in your wall, tank, or panel to serve as an inlet or outlet for faucets, pipes, and spigots. They're for use on curved and flat surfaces. Each comes with an EPDM gasket, except the PTFE fittings have an FEP-encapsulated silicone O-ring. They are vacuum rated to 29" Hg @ 72°F, except polyethylene and Type 316 stainless steel are not rated for vacuum.

Connections: NPT threaded or unthreaded socket end (female).

Pipe Size	Wall Requirements: Hole Size	Wall Requirements: Max. Thick.	Lg.	Max. psi @ 72°F		
NPT Threaded Female on Both Ends						
Cold Water PVC—Dark gray						
1/2	1 3/8"	1 1/16"	2 3/4"	150	36895K161	$18.79
1/2	1 3/8"	2 1/16"	3 3/4"	150	36895K121	18.32
3/4	1 5/8"	1 1/16"	2 7/8"	150	36895K162	20.61
3/4	1 5/8"	2 1/16"	3 7/8"	150	36895K122	20.05
1	1 7/8"	1 1/16"	2 7/8"	150	36895K163	22.32
1	1 7/8"	2 1/16"	3 7/8"	150	36895K123	21.92
1 1/4	2 5/8"	2"	4"	150	36895K124	29.64
1 1/2	2 5/8"	1"	3"	150	36895K164	32.25
1 1/2	2 5/8"	2"	4"	150	36895K125	31.48
2	3 1/4"	1"	3 1/4"	150	36895K165	42.94
2	3 1/4"	2"	4 1/4"	150	36895K126	41.88
3	4 1/2"	2 1/8"	4 5/8"	150	36895K127	73.20
4	5 3/4"	2 7/16"	5 3/4"	150	36895K128	125.39
6	8 1/16"	3 1/4"	8"	150	36895K129	272.13
Hot Water CPVC—Light gray						
1/2	1 3/8"	2 1/16"	3 3/4"	150	36895K151	24.79
3/4	1 5/8"	2 1/16"	3 7/8"	150	36895K152	28.95
1	1 7/8"	2 1/16"	3 7/8"	150	36895K153	31.91
1 1/2	2 5/8"	2"	4"	150	36895K155	48.93
2	3 1/4"	2"	4 1/4"	150	36895K156	61.11
Chemical-Resistant Polypropylene—Semi-clear white						
1/2	1 3/8"	2 1/16"	3 3/4"	150	36895K141	23.91
3/4	1 5/8"	2 1/16"	3 7/8"	150	36895K142	29.09
1	1 7/8"	2 1/16"	3 7/8"	150	36895K143	37.77
1 1/4	2 5/8"	2"	4"	150	36895K144	47.90
1 1/2	2 5/8"	2"	4"	150	36895K145	47.90
2	3 1/4"	2"	4 1/4"	150	36895K146	74.58
3	4 1/2"	2 1/8"	4 5/8"	150	36895K147	132.50
4	5 3/4"	2 7/16"	5 3/4"	150	36895K148	249.68
Oil-Resistant Polyethylene—Black						
3/4	1 11/16"	7/16"	1 5/8"	150	3736K2	13.77
1	2 5/8"	9/16"	1 3/4"	150	3736K3	19.60
1 1/4	2 5/8"	9/16"	1 3/4"	150	3736K5	19.60
1 1/2	2 5/8"	9/16"	1 3/4"	150	3736K4	19.60
2	3 1/4"	9/16"	1 7/8"	150	3736K6	31.50

Pipe Size	Wall Requirements: Hole Size	Wall Requirements: Max. Thick.	Lg.	Max. psi @ 72°F		
NPT Threaded Female on Both Ends (Cont.)						
High-Temperature PTFE—White						
1/2	1 1/2"	5/8"	2 1/8"	60	1282K44	$230.60
3/4	1 13/16"	3/4"	2 1/2"	50	1282K45	266.33
1	2 1/16"	3/4"	2 1/2"	35	1282K46	337.88
2	3 1/8"	7/8"	2 7/8"	30	1282K48	481.53
Corrosion-Resistant Type 316 Stainless Steel						
3/8	1"	5/16"	1 5/16"	150	6696K58	86.54
1/2	1 3/8"	1/2"	1 9/16"	150	6696K59	114.70
3/4	1 5/8"	3/4"	1 13/16"	150	6696K61	134.36
1	2 1/4"	1 3/8"	2 7/8"	150	6696K62	163.57
1 1/4	2 1/4"	1 3/8"	2 3/8"	150	6696K63	163.57
1 1/2	3"	1 3/8"	2 5/8"	150	6696K64	205.47
2	3"	1 3/8"	2 5/8"	150	6696K65	205.47
2	3 1/4"	1 3/4"	3 1/8"	150	6696K66	216.85
3	4 3/8"	1 11/16"	2 13/16"	150	6696K67	332.28
Unthreaded Socket End Female to NPT Threaded Female						
Cold Water PVC—Dark gray						
1/2	1 3/8"	2 1/16"	3 3/4"	150	36895K111	14.03
3/4	1 5/8"	2 1/16"	3 7/8"	150	36895K112	15.73
1	1 7/8"	2 1/16"	3 7/8"	150	36895K113	18.18
1 1/4	2 5/8"	2"	4"	150	36895K114	22.77
1 1/2	2 5/8"	2"	4"	150	36895K115	22.77
2	3 1/4"	2"	4 1/4"	150	36895K116	34.03
3	4 1/2"	2 1/8"	4 5/8"	150	36895K117	62.63
4	5 3/4"	2 7/16"	5 3/4"	150	36895K118	111.82
6	8 1/16"	3 1/4"	8"	150	36895K119	272.13
Hot Water CPVC—Light gray						
1/2	1 3/8"	2 1/16"	3 3/4"	150	36895K831	18.97
3/4	1 5/8"	2 1/16"	3 7/8"	150	36895K832	22.57
1	1 7/8"	2 1/16"	3 7/8"	150	36895K833	25.95
1 1/4	2 5/8"	2"	4"	150	36895K838	36.31
1 1/2	2 5/8"	2"	4"	150	36895K834	35.40
2	3 1/4"	2"	4 1/4"	150	36895K835	50.15
3	4 1/2"	2 1/8"	4 5/8"	150	36895K836	86.51
4	5 3/4"	2 7/16"	5 3/4"	150	36895K837	132.17
6	8 1/16"	3 1/4"	8"	150	36895K839	376.83

Swivel Through-Wall Fittings



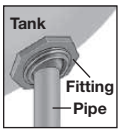

- Use with water and ethylene glycol
- Temperature Range: 40° to 140°F

Fittings swivel to compensate for misaligned and angled connections. Mount them through a hole in your wall, tank, or panel to serve as an inlet or outlet. Use them on curved and flat surfaces. They adjust from the outside of the tank, so there is no need to drain your tank to make adjustments. Fittings are PVC and come with a PTFE seal and an EPDM gasket. They are vacuum rated to 29" Hg @ 72°F.

Connections: NPT threaded.

Pipe Size	Wall Requirements: Hole Size	Wall Requirements: Max. Thick.	Lg.	Max. psi @ 72°F		
3/4	3 1/4"	7/8"	2 9/16"	75	3766K21	$135.22
1	3 1/4"	1 1/2"	2 9/16"	75	3766K12	140.19
1 1/2	4 1/2"	11/16"	2 1/2"	75	3766K23	205.57
2	4 1/2"	1 1/8"	2 1/2"	75	3766K14	212.57
3	5 3/4"	1 11/16"	3 1/4"	75	3766K15	328.96

How to Measure Unthreaded Socket-End Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your unthreaded socket-end fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
ID (to nearest 1/8"):	0	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"

To measure larger pipe sizes, go to mcmaster.com and search for **4347KAC**. For information about fittings and pipe, see pgs. 2-3.

Through-Wall Fittings for Drinking (Potable) Water

Cold Water PVC:
- Temperature Range: 40° to 140° F

Hot Water CPVC:
- Temperature Range: 40° to 200° F

All of these fittings meet NSF/ANSI Standard 61 so you can create an inlet or outlet for drinking water on your wall, tank, or panel. They come with a neoprene gasket and are for use on curved and flat surfaces.

Connections: NPT threaded or unthreaded socket end (female).



Pipe Size	Wall Requirements: Hole Size	Max. Thick.	Lg.	Max. psi @ 72° F		
NPT Threaded Female on Both Ends						
Cold Water PVC—Dark gray						
1/4	1 1/16"	1/2"	2 1/2"	150	3773K116	$30.34
3/8	1 3/16"	1/2"	2 1/2"	150	3773K117	30.34
1/2	1 1/2"	3/4"	2 15/16"	150	3773K41	30.34
3/4	1 3/4"	3/4"	2 15/16"	150	3773K42	33.27
1	2"	13/16"	3 5/16"	150	3773K43	36.39
1 1/4	2 3/8"	13/16"	3 3/8"	150	3773K44	48.52
1 1/2	2 3/4"	13/16"	3 9/16"	150	3773K45	52.89
2	3 3/8"	1 3/16"	4 1/8"	150	3773K46	69.64
3	4 5/8"	2"	5 1/2"	150	3773K47	121.34
4	5 1/2"	1 1/4"	5"	150	3773K119	209.88
6	8"	2 1/16"	5"	150	3773K121	383.18
Hot Water CPVC—Light gray						
1/4	1 1/16"	1/2"	2 1/2"	150	3773K124	42.46
3/8	1 3/16"	1/2"	2 1/2"	150	3773K125	42.46
1/2	1 1/2"	3/4"	2 15/16"	150	3773K81	42.46
3/4	1 3/4"	3/4"	2 15/16"	150	3773K82	49.02
1	2"	13/16"	3 5/16"	150	3773K83	53.62
1 1/4	2 3/8"	13/16"	3 3/8"	150	3773K84	75.71
1 1/2	2 3/4"	13/16"	3 9/16"	150	3773K85	82.75
2	3 3/8"	1 3/16"	4 1/8"	150	3773K86	103.14
4	5 1/2"	1 1/4"	5"	150	3773K126	252.00

Pipe Size	Wall Requirements: Hole Size	Max. Thick.	Lg.	Max. psi @ 72° F		
Unthreaded Socket End Female to NPT Threaded Female						
Cold Water PVC—Dark gray						
1/4	1 1/16"	1/2"	2 1/2"	150	3773K122	$22.59
3/8	1 3/16"	1/2"	2 1/2"	150	3773K123	22.59
1/2	1 1/2"	3/4"	2 15/16"	150	3773K61	22.59
3/4	1 3/4"	3/4"	2 15/16"	150	3773K62	25.76
1	2"	13/16"	3 5/16"	150	3773K63	28.61
1 1/4	2 3/8"	13/16"	3 3/8"	150	3773K64	34.48
1 1/2	2 3/4"	13/16"	3 5/8"	150	3773K65	37.83
2	3 3/8"	1 3/16"	4 1/8"	150	3773K66	56.07
3	4 5/8"	2"	5 1/2"	150	3773K67	103.14
4	5 1/2"	1 1/4"	5"	150	3773K68	187.53
6	8"	2 1/16"	5"	150	3773K69	332.09
Hot Water CPVC—Light gray						
1/4	1 1/16"	1/2"	2 1/2"	150	3773K127	31.79
3/8	1 3/16"	1/2"	2 1/2"	150	3773K128	31.79
1/2	1 1/2"	3/4"	2 15/16"	150	3773K91	31.79
3/4	1 3/4"	3/4"	2 15/16"	150	3773K92	37.82
1	2"	13/16"	3 5/16"	150	3773K93	42.46
1 1/2	2 3/4"	13/16"	3 5/8"	150	3773K95	58.96
2	3 3/8"	1 3/16"	4 1/8"	150	3773K96	83.24
4	5 1/2"	1 1/4"	5"	150	3773K129	224.01

Miniature Through-Wall Fittings

General Purpose Acetal:
- Use with air, water, ethylene glycol
- Temp. Range: –40° to 180° F

Abrasion-Resistant Nylon:
- Use with air, water
- Temp. Range: –40° to 200° F

High-Temperature PTFE:
- Use with oil, hydraulic oil, gasoline, diesel
- Temp. Range: –75° to 400° F

High-Pressure Brass:
- Use with air, water, hydraulic oil
- Temp. Range: –65° to 250° F



Create a small inlet or outlet. Fittings do not have a gasket, unless otherwise noted.

General purpose acetal fittings are vacuum rated to 25" Hg @ 72° F. Mount them through a hole in your curved wall or panel. *White* fittings are made from FDA-compliant resins.

Abrasion-resistant nylon fittings can be mounted through a hole in your curved wall or panel.

High-temperature PTFE fittings are vacuum rated to 29.9" Hg @ 72° F. They come with an FEP-encapsulated silicone gasket. Mount them through a hole in your flat or curved wall or panel.

High-pressure brass fittings come with a steel lock washer. Mount them through a hole in your flat or curved wall or panel.

Connections: Thread sizes 10-32 and 1/4"-28 are UNF female straight threads; pipe sizes are NPT female.

Thread/ Pipe Size	Wall Requirements: Hole Size	Max. Thick.	Lg.	Max. psi @ 72° F		
General Purpose Acetal—White						
10-32	1/2"	5/16"	9/16"	120	8674T41	$9.97
1/4"-28	1/2"	5/16"	9/16"	120	8674T42	10.62
1/16	1/2"	5/16"	9/16"	120	8674T43	10.62
General Purpose Acetal—Black						
1/8	5/8"	1/8"	1"	125	8674T54	11.88
1/4	3/4"	1/4"	1 1/4"	125	8674T55	12.88
3/8	7/8"	5/16"	1 5/8"	125	8674T56	12.88
Abrasion-Resistant Nylon—White						
1/16	7/16"	5/8"	1 7/16"	125	8671T21	8.33
1/8	1/2"	11/16"	1 5/8"	125	8671T22	8.93

Thread/ Pipe Size	Wall Requirements: Hole Size	Max. Thick.	Lg.	Max. psi @ 72° F		
Abrasion-Resistant Nylon—White (Cont.)						
1/4	5/8"	11/16"	1 3/4"	125	8671T23	$9.52
3/8	1"	3/4"	2 1/8"	125	8671T24	23.69
High-Temperature PTFE—White						
1/4	1 3/16"	1/2"	1 3/4"	90	1282K42	160.17
3/8	1 1/4"	1/2"	1 3/4"	65	1282K43	198.92
High-Pressure Brass						
1/8	5/8"	15/16"	1 1/2"	1,000	8682T21	11.12
1/4	3/4"	9/16"	15/16"	1,000	8682T22	10.50
3/8	1"	11/16"	1 5/16"	1,000	8682T23	15.12
1/2	1 1/8"	5/8"	1 1/2"	1,000	8682T24	16.59

Through-Wall Fittings with Compression Pipe Connections

- Use with water, hydraulic oil, lye, ethylene glycol
- Temperature Range: –35° to 180° F

For use with unthreaded pipe, these fittings have compression connections for a liquid-tight seal. To make a connection, insert the pipe and turn the end nuts until hand tight. Mount them through a hole in your tank, panel, or wall to serve as an inlet or outlet. They absorb vibration and provide flexibility to reduce stress. Fittings are black glass-filled polypropylene and come with two rubber gaskets.

Connections: Compression.



Pipe Size	Wall Requirements: Hole Size	Max. Thick.	Lg.	For Curved Walls		For Flat Walls	
1/2	2 3/16"	3/8"	3 11/16"	3770K41	$43.69	3770K31	$43.69
3/4	2 3/16"	3/8"	3 11/16"	3770K42	43.69	3770K32	43.69
1	2 3/16"	3/8"	3 11/16"	3770K43	43.69	3770K33	43.69
2	3 3/16"	1/2"	3 7/16"	3770K44	52.00	3770K34	52.00
3	4 7/16"	3/4"	3 9/16"	3770K45	88.22	3770K35	88.22

How to Measure Male Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your male threaded fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Type 316 Stainless Steel Bolt-On Through-Wall Fittings

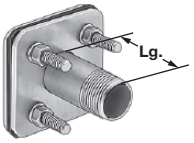

Male Connection

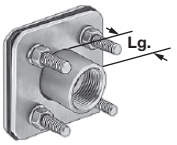

Female Connection

- Use with water, air, ethylene glycol, sodium carbonate, seawater
- Temperature Range: –40° to 225° F

Bolt these corrosion-resistant fittings through your wall, tank, or panel to create an inlet or outlet. Once installed, they can be tightened and adjusted from the outside—no need to drain contents to make adjustments. They have four Type 316 stainless steel bolts and an EPDM gasket.

Connections: NPT.

Pipe Size	Square Size	Wall Requirements: Hole Size	Wall Requirements: Max. Thick.	Lg.		
Male Connection						
1/2	3 1/2"	7/8"	1"	2 7/16"	3765K21	$120.00
3/4	3 1/2"	1 1/16"	1"	2 7/16"	3765K22	124.44
1	3 1/2"	1 5/16"	1"	2 7/16"	3765K23	128.89
1 1/2	4"	1 15/16"	1"	2 7/16"	3765K24	148.89
2	4 1/2"	2 3/8"	1"	2 7/16"	3765K25	171.11
Female Connection						
1/2	3 1/2"	1 1/16"	1"	13/16"	3765K31	122.22
3/4	3 1/2"	1 1/4"	1"	15/16"	3765K32	126.67
1	3 1/2"	1 9/16"	1"	1 1/16"	3765K33	131.11
1 1/2	4"	2 3/16"	1"	1 5/16"	3765K34	155.56
2	4 1/2"	2 5/8"	1"	1 5/8"	3765K35	186.67

Weld-On Fittings for Flat Tanks



Surface Weld



Easy Weld

Weld these fittings onto the flat surface of any tank, pressure vessel, or drum to create a permanent inlet or outlet connection.

Surface Weld—Fittings have a flat mounting surface that can be positioned freely over the hole.

Easy Weld—An extended lip fits tightly into the hole to keep the fitting steady during welding.

Steel fittings are for use with water, oil, hydraulic oil, gasoline, and diesel fuel. *Surface-weld* fittings meet ASME SA105 and SA181-70. *Easy-weld* fittings conform to ASME Boiler and Pressure Vessel Code, Section II; they also meet ASTM A181 and ANSI/ASME B1.20.1.

Type 316 stainless steel fittings offer excellent corrosion resistance. Use them with water, oil, hydraulic oil, gasoline, and diesel.

Lightweight aluminum fittings are made from 6061 aluminum. Use with water. They meet ASTM B221.

Marine-grade aluminum fittings are made from 5086 aluminum. They're tough enough to handle salt water. Also use them with water, oil, hydraulic oil, gasoline, and diesel. They meet ASTM B221.

Connections: NPT.

Pipe Size	Required Hole Size in Wall	OD	Ht.		
Surface-Weld Steel					
1/4	3/4"	1 1/4"	5/16"	12555K51	$6.78
3/8	15/16"	1 1/4"	3/8"	12555K52	9.18
1/2	1 1/8"	1 1/2"	1/2"	12555K53	4.31
3/4	1 3/8"	1 3/4"	5/8"	12555K54	4.31
1	1 11/16"	2 1/8"	5/8"	12555K55	4.75
1 1/4	2"	2 1/2"	3/4"	12555K56	6.58
1 1/2	2 3/8"	3"	3/4"	12555K57	9.93
2	2 7/8"	3 1/2"	13/16"	12555K58	10.05
2 1/2	3 1/2"	4 1/4"	1"	12555K59	14.96
3	4 1/8"	4 3/4"	1"	12555K61	16.88
4	5 1/8"	5 3/4"	13/16"	12555K62	31.70
Easy-Weld Steel					
1/8	15/16"	1 5/16"	1/4"	12555K79	3.16
1/8	15/16"	1 1/2"	5/16"	12555K69	3.70
1/4	15/16"	1 5/16"	1/4"	12555K81	2.48
1/4	15/16"	1 1/2"	5/16"	12555K71	3.70
3/8	15/16"	1 5/16"	1/4"	12555K82	3.20
3/8	15/16"	1 1/2"	5/16"	12555K72	3.23
1/2	1 1/8"	1 5/8"	1/4"	12555K83	3.55
1/2	1 1/8"	1 3/4"	3/8"	12555K73	3.23
3/4	1 5/16"	1 15/16"	5/16"	12555K84	3.92
3/4	1 3/8"	2 1/8"	7/16"	12555K74	4.00
1	1 5/8"	2 3/8"	1/2"	12555K75	5.40
1	1 11/16"	2 1/4"	5/16"	12555K85	5.38
1 1/4	2"	2 9/16"	5/16"	12555K86	8.60
1 1/4	2"	2 11/16"	1/2"	12555K76	5.70
1 1/2	2 1/4"	2 13/16"	5/16"	12555K87	8.28
1 1/2	2 1/4"	3"	1/2"	12555K77	7.83
2	2 5/8"	3 3/8"	3/8"	12555K88	8.32
2	2 5/8"	3 1/2"	9/16"	12555K78	10.12
2 1/2	3 1/8"	4 1/16"	13/16"	12555K89	13.28
3	3 5/8"	4 5/8"	13/16"	12555K91	14.02
4	4 11/16"	5 13/16"	1"	12555K92	20.68

Pipe Size	Required Hole Size in Wall	OD	Ht.		
Easy-Weld Type 316 Stainless Steel					
1/4	15/16"	1 1/2"	5/16"	1145K51	$25.52
3/8	15/16"	1 1/2"	5/16"	1145K52	28.42
1/2	1 1/8"	1 3/4"	3/8"	1145K53	31.68
3/4	1 3/8"	2 1/8"	7/16"	1145K54	35.06
1	1 5/8"	2 3/8"	1/2"	1145K55	36.82
1 1/4	2"	2 11/16"	1/2"	1145K56	74.68
1 1/2	2 1/4"	3"	1/2"	1145K57	53.56
2	2 5/8"	3 1/2"	9/16"	1145K58	56.80
2 1/2	3 1/8"	4 1/16"	13/16"	1145K59	103.73
3	3 5/8"	4 5/8"	13/16"	1145K61	107.06
4	4 7/8"	5 3/4"	15/16"	1145K62	93.20
Easy-Weld Lightweight Aluminum					
1/8	7/8"	1 5/16"	1/4"	8694T41	5.69
1/4	7/8"	1 5/16"	1/4"	8694T42	8.00
3/8	1 3/16"	1 7/16"	1/4"	8694T43	11.38
1/2	1 1/8"	1 5/8"	1/4"	8694T44	13.07
3/4	1 5/16"	2"	1/4"	8694T45	17.38
1	1 11/16"	2 1/4"	1/4"	8694T46	20.69
1 1/4	1 15/16"	2 9/16"	5/16"	8694T47	35.42
1 1/2	2 1/4"	2 15/16"	5/16"	8694T48	39.67
2	2 5/8"	3 3/8"	5/16"	8694T49	49.58
3	3 11/16"	4 5/8"	3/4"	8694T51	108.00
4	4 3/4"	5 13/16"	7/8"	8694T52	122.00
Easy-Weld Marine-Grade Aluminum					
1/8	7/8"	1 5/16"	1/4"	8694T11	10.31
1/4	7/8"	1 5/16"	1/4"	8694T12	14.51
3/8	1 3/16"	1 7/16"	1/4"	8694T13	20.62
1/2	1 1/8"	1 5/8"	1/4"	8694T14	23.69
3/4	1 5/16"	2"	1/4"	8694T15	29.64
1	1 11/16"	2 1/4"	1/4"	8694T16	35.29
1 1/4	1 15/16"	2 9/16"	5/16"	8694T17	43.04
1 1/2	2 1/4"	2 15/16"	5/16"	8694T18	52.51
2	2 5/8"	3 3/8"	5/16"	8694T19	64.07
2 1/2	3 3/16"	4 1/16"	3/4"	8694T21	83.29
3	3 11/16"	4 5/8"	3/4"	8694T22	126.00
4	4 3/4"	5 13/16"	7/8"	8694T23	152.00

How to Measure Female Threaded Fittings—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place your female threaded fitting on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

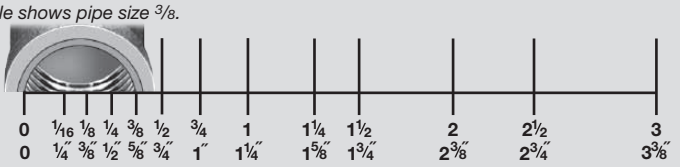

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about fittings and pipe, see pgs. 2-3.

Reducing Tank Fittings

- Use with water, air, steam, oil, hydraulic oil, gasoline, diesel fuel

Screw one of these fittings into a threaded hole on a wall, tank, or panel to reduce the size of an inlet or outlet. You can also use these as a reducer in piping installations.

Connections: NPT.



Pipe Size Male (A)	Female (B)		
General Purpose Iron			
1 1/2	1/2	6850K28	$11.27
1 1/2	3/4	6850K27	11.11
1 1/2	1	6850K29	11.26
2	3/8	6850K11	17.46
2	1/2	6850K12	11.07
2	3/4	6850K13	11.07
2	1	6850K14	11.07
2	1 1/4	6850K43	11.07
General Purpose Iron (Cont.)			
2	1 1/2	6850K16	$11.07
2 1/2	2	6850K44	17.29
3	1	6850K35	50.41
3	1 1/2	6850K18	24.31
3	2	6850K19	19.25
4	1	6850K41	33.10
4	2	6850K25	22.61
4	2 1/2	6850K31	$63.93
4	3	6850K26	33.12
Corrosion-Resistant Type 304 Stainless Steel			
2	1/2	6850K32	39.92
2	3/4	6850K33	39.92
2	1	6850K34	41.58
4	2	6850K36	117.17

Weld-On Fittings for Curved Tanks

- Use with water, oil, hydraulic oil, diesel fuel, gasoline



These fittings are curved to fit the contour of a rounded tank.

Connections: NPTF, except steel fittings with pipe sizes 1 1/4 to 2 are NPSC; both NPTF and NPSC threads are compatible with NPT.

Pipe Size	Required Hole Size in Wall	OD	Ht.	For Tank Dia.		
General Purpose Steel						
3/4	1 1/8"	2 3/16"	5/16"	20"	1698T11	$2.62
1 1/4	1 11/16"	2 13/16"	1/4"	36"	1698T12	3.16
1 1/2	1 15/16"	3 1/4"	1/4"	36"	1698T13	3.53
2	2 7/16"	3 11/16"	3/16"	26 1/2"	1698T14	3.56
Lightweight Aluminum						
1 1/4	1 3/4"	2 13/16"	1/4"	36"	1698T21	5.85
1 1/2	2"	3 1/4"	1/4"	36"	1698T22	6.72
Corrosion-Resistant Type 316L Stainless Steel						
3/4	1 1/8"	2 3/8"	1/4"	20"	1698T31	9.52
1	1 3/8"	2 5/16"	3/16"	20"	1698T32	10.12
1 1/2	2 1/16"	3 1/4"	1/4"	21"	1698T33	18.98

Quick-Access Swivel Joints

- Use with air, hydraulic fluid, mineral oils, lubrication oils, ethylene glycol
- Temperature Range: –20° to 225° F

By unscrewing the nut, you can perform maintenance on these steel joints without removing them from your line. They swivel 360° for occasional rotation, but are not designed for continuous rotational movement. Joints come with a Buna-N seal.

Connections: NPT.





Pipe Size	Max. psi @ 72° F	Straight Lg.			90° Elbow	
1/2	1,000	3 7/8"	6821K32	$236.93	6821K42	$253.53
3/4	1,000	4 3/8"	6821K33	247.49	6821K43	268.62
1	1,000	4 3/8"	6821K34	262.58	6821K44	289.75
1	6,000	4 3/8"	6821K54	316.91	6821K64	356.15
1 1/4	1,000	5 1/8"	6821K35	280.69	6821K45	306.35
1 1/4	6,000	5 1/8"	6821K55	362.18	6821K65	391.48
1 1/2	1,000	5 3/4"	6821K36	377.27	6821K46	418.02
2	1,000	6 3/8"	6821K37	540.88	6821K47	702.73

Compact Swivel 90° Elbows



A B C D

- Temperature Range: –20° to 250° F

Smaller than our other swivel joints, these 90° elbows are designed for tight spaces. They swivel 360° for occasional rotation, but are not designed for continuous rotational movement. All come with a Buna-N seal. Vacuum rating is 28" Hg @ 72° F for steel and 29" Hg @ 72° F for Type 316 stainless steel and brass, unless noted. Connections: NPT female, except *Style A* is NPT male × female.

	Pipe Size	Lg.	Max. psi @ 72° F		
General Purpose Steel—Use with water, air, ethylene glycol					
A	1/8	1 7/16"	250	9519K69	$30.24
A	1/4	2 1/16"	250	9519K71	33.78
A	3/8	2 1/16"	250	9519K72	35.76
A	1/2	2 11/16"	250	9519K73	43.87
Corrosion-Resistant Type 316 Stainless Steel—Use with water, air, diesel, fuel oil, ethylene glycol					
B	1/4	2 1/2"	3,000	9393K65★	129.47
B	3/8	2 1/2"	3,000	9393K61	111.11
B	1/2	2 1/2"	2,500	9393K62	111.11
C	3/4	3 1/4"	1,250	9393K63	182.71
High-Speed Brass—Use with water, air, diesel, fuel oil, ethylene glycol					
C	3/4	3 5/16"	1,250	9392K54	127.16
D	1/4	1 9/16"	3,000	9392K51	46.91
D	3/8	2 3/16"	3,000	9392K52	46.91
D	1/2	2 3/16"	2,500	9392K53	72.84

★ Vacuum rating is 28" Hg @ 72° F.

Swivel Joints

- Temperature Range: –20° to 225° F

Allow movement to your rigid metal piping system. These joints swivel 360° for occasional rotation, but are not designed for continuous rotational movement. They come with two rows of ball bearings, a Buna-N O-ring, and a pressure grease fitting. Vacuum rating is 29" Hg @ 72° F.

Connections: NPT.





Pipe Size	Max. psi @ 72° F	Straight Lg.			90° Elbow	
Lightweight Aluminum—Use with water, ethylene glycol						
1	125	4 5/16"	53785K33	$182.69	53785K43	$186.54
1 1/2	125	4 5/8"	53785K34	178.85	53785K44	213.46
2	125	5 11/16"	53785K36	288.46	53785K46	288.46
3	125	6 5/8"	53785K38	353.85	53785K48	367.31
Medium-Pressure Bronze—Use with water						
1	300	4 5/16"	53845K44	240.38	53845K54	255.77
1 1/2	300	4 5/8"	53845K46	253.85	53845K56	271.15
2	300	5 11/16"	53845K48	407.69	53845K58	413.46
General Purpose Iron—Use with water, ethylene glycol						
1	600	3 15/16"	53775K12	188.46	53775K52	190.38
1 1/2	600	4 5/8"	53775K14	201.92	53775K54	211.54
2	600	5 11/16"	53775K16	273.08	53775K56	280.77
3	600	6 5/8"	53775K18	399.85	53775K58	432.69
Corrosion-Resistant Type 316 Stainless Steel—Use with water, natural gas, ethylene glycol						
1	1,000	3 15/16"	53965K84	535.85	53965K34	566.04
1 1/2	1,000	4 5/8"	53965K89	815.09	53965K39	835.85
High-Pressure Steel—Use with water, natural gas, ethylene glycol						
2	6,000	6 3/8"	54065K41	662.62	54065K42	824.47

Rotating Joints

How to Measure Male Pipe Size Threads—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place the male threads of your joint on the scale to determine the pipe size. You can also measure the outside diameter (OD) of the male threads, then select the pipe size on the scale that corresponds to your measurement.

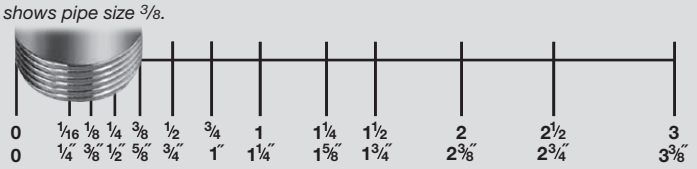

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about selecting pipe size, see pages 2-3.

About Rotating Joints

Rotating joints transfer hot and cold materials from your supply line to a continuously revolving drum, roller, or other rotating equipment.

One-Way Flow

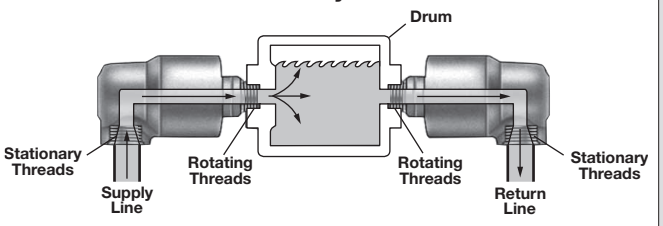

Use one-way joints in pairs; one joint serves as a supply line, while the other serves as a return line.

Two-Way Flow

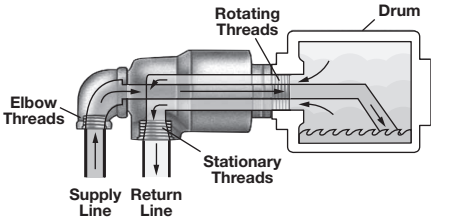

Use two-way joints when you need the supply line and return line to be on the same side of the drum.

For Counterclockwise Rotating Drums

If your drum rotates counterclockwise as you face the connecting end, you should select a rotating joint with right-hand threads.

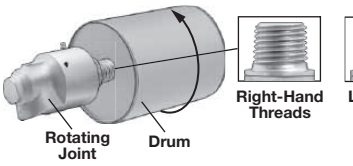

For Clockwise Rotating Drums

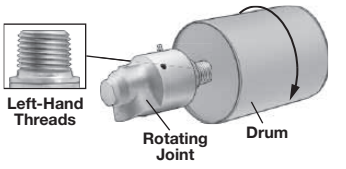

If your drum rotates clockwise as you face the connecting end, you should select a rotating joint with left-hand threads.

One-Way Flow Rotating Joints



General Purpose Iron and High-Speed Brass

General Purpose Iron:
- Use with water, oil, steam
- Temperature Range: –20° to 375°F
- Maximum Pressure: Water: 250 psi @ 72°F; Oil: 100 psi @ 72°F; Steam: 150 psi @ 365°F

High-Speed Brass:
- Use with water, oil, intermittent steam (up to 20% of operating time)
- Max. Temperature: 250°F
- Maximum Pressure: Water: 750 psi @ 72°F; Oil: 100 psi @ 72°F; Steam: 15 psi @ 250°F

Corrosion-Resistant 300 Series Stainless Steel:
- Use with water, air, oil, steam
- Temperature Range: Water: –40° to 300°F; Oil: –40° to 395°F; Steam: up to 350°F
- Maximum Pressure: Water: 750 psi @ 72°F; Air: 300 psi @ 72°F; Oil: 100 psi @ 72°F; Steam: 120 psi @ 350°F
- Vacuum: 25" Hg @ 72°F



Corrosion-Resistant 300 Series Stainless Steel

Use these joints in pairs—one joint serves as the supply line while the other serves as the return. All have right-hand rotating threads for drums and rollers that rotate counterclockwise. They have one or two precision ball bearings, a seal, and a stainless steel rotating shaft, except the general purpose iron joints have a steel rotating shaft.

Connections: NPT, except 5/8"-18 threads are UNF straight threads.

Also Available: Rotating joints with left-hand rotating threads for drums and rollers that rotate clockwise. Please ask for 5275K2 and specify the corresponding joint part number below.

Threads, Pipe Size: Rotating	Stationary	Max. rpm	Body Dia.	Lg.		
General Purpose Iron						
1/4	1/4	700	1 3/4"	4 3/8"	5278K51	$221.79
3/8	3/8	700	1 3/4"	4 3/8"	5278K52	176.38
1/2	1/2	700	2 3/8"	5"	5278K53	207.21
3/4	3/4	700	2 1/2"	5 1/2"	5278K54	254.22
1	1	700	3"	6 1/8"	5278K55	288.23
1 1/4	1 1/4	700	3 3/4"	9 1/16"	5278K66	448.64
1 1/2	1 1/2	700	4 1/8"	9 11/16"	5278K67	535.60
2	2	700	5 7/8"	11 3/4"	5278K68	805.70
High-Speed Brass						
3/8	3/8	1,500	1 3/4"	3 15/16"	5275K412	150.38
1/2	1/2	1,500	2 1/4"	4 13/16"	5275K422	174.90
1/2	3/4	1,500	2 7/8"	5 9/16"	5275K432	209.23
High-Speed Brass (Cont.)						
5/8"-18	3/8	3,500	1 3/4"	3 15/16"	5275K612	$150.97
3/4	3/4	1,500	2 7/8"	5 9/16"	5275K442	209.23
1	1	1,500	3 1/4"	6 13/16"	5275K452	287.69
1 1/4	1 1/2	1,500	4 1/4"	8 1/2"	5275K462	492.02
1 1/2	1 1/2	1,500	4 1/4"	8 1/2"	5275K472	492.02
Corrosion-Resistant 300 Series Stainless Steel						
3/8	3/8	1,000★	1 9/16"	4"	9177K512	228.19
1/2	1/2	1,000★	2 1/16"	4 3/4"	9177K522	228.19
3/4	3/4	1,000★	2 5/16"	5 1/4"	9177K532	261.96
1	1	1,000★	3 1/8"	6 3/16"	9177K542	347.08
1 1/4	1 1/4	1,000★	3 1/2"	7 1/2"	9177K552	495.28
1 1/2	1 1/2	1,000★	4"	8 3/8"	9177K562	653.95
2	2	1,000★	4 3/8"	9 1/2"	9177K572	909.47

★ Maximum speed is 550 rpm for air.

High-Temperature One-Way Flow Rotating Joints

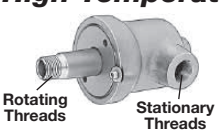

- Use with oil, steam
- Temperature Range: Oil: –20° to 600°F; Steam: Up to 450°F
- Maximum Pressure: Oil: 100 psi @ 72°F; Steam: 175 psi @ 377°F

These iron joints are built to handle hot oil or steam. They have right-hand rotating threads for drums and rollers that rotate counterclockwise. They're painted with a high-temperature gold enamel and include a bearing, seal, and nickel-plated steel rotating shaft.

Connections: NPT.

Threads, Pipe Size: Rotating	Stationary	Max. rpm	Body Dia.	Lg.	For Oil		For Steam	
1	1	600	4 1/2"	7 1/8"	9189K142	$369.97	9189K442	$283.93

How to Measure Female Pipe Size Threads—*Example shows pipe size 3/8.*

Pipe size is an industry designation, not the actual size. Place the female threads of your joint on the scale to determine the pipe size. You can also measure the inside diameter (ID) of your joint, then select the pipe size on the scale that corresponds to your measurement.

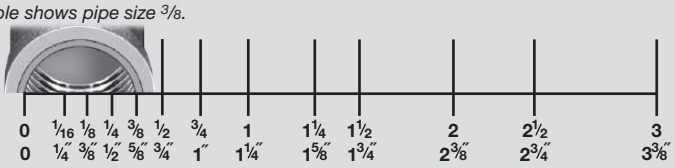

ⓘ To measure larger pipe sizes, go to mcmaster.com and search for **4464KAC**. For information about selecting pipe size, see pgs. 2-3.

Compact One-Way Flow Rotating Joints

- Use with air, hydraulic oil
- Temperature Range: –20° to 250° F
- Vacuum: 28″ Hg @ 72° F

Bigger is not always better—especially when you need a rotating joint for small air and hydraulic applications. These aluminum joints have right-hand rotating threads for drums and rollers that rotate counterclockwise. They come with a seal and a steel rotating shaft.

Connections: NPT or UNF straight threads.



Threads, Pipe/Thread Size Rotating	Stationary	Max. rpm	Max. psi @ 72° F for Oil■	Body Dia.	Lg.		
With NPT Rotating Threads							
1/8	1/8	1,500	1,000	1 1/8″	2 13/16″	6827K41	$127.50
1/4	1/4	1,500	1,000	1 5/8″	3 3/16″	6827K42	168.37
1/4	3/8	1,500	500	1 11/16″	3 15/16″	6827K43	179.81
3/8	3/8	1,500	500	1 11/16″	3 15/16″	6827K44	179.81
1/2	1/2	1,500	750	2 1/4″	4 9/16″	6827K45	217.40
3/4	3/4	1,500	1,000	2 7/8″	5 1/8″	6827K46	220.67
1	1	1,500	1,000	3 1/4″	6 3/16″	6827K47	313.85
With Straight Rotating Threads							
3/8″-24	1/8	3,500	1,000	1 1/8″	2 13/16″	6827K81	127.50
5/8″-18	1/4	3,500	1,000	1 5/8″	3 3/16″	6827K82	168.37
5/8″-18	3/8	3,500	500	1 11/16″	3 15/16″	6827K83	179.81
3/4″-16	1/2	3,500	750	2 1/4″	4 7/16″	6827K84	217.40
1″-14	3/4	3,500	1,000	2 7/8″	5″	6827K85	220.67

■ Maximum pressure for air is 150 psi @ 72° F.

High-Pressure One-Way Flow Rotating Joints

- Use with water, hydraulic oil
- Temperature Range: –4° to 248° F

Designed for slow-speed, high-pressure hydraulic applications, these joints are made of nickel-plated steel. All have right-hand rotating threads for drums and rollers that rotate counterclockwise. They come with a bearing, seal, and nickel-plated steel rotating shaft.

Connections: NPT.

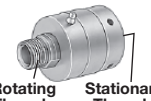

Threads, Pipe Size Rotating	Stationary	Max. rpm	Max. psi @ 72° F	Body Dia.	Lg.		
1/4	1/4	80	5,075	1 3/8″	2 5/8″	1122K101	$138.34
3/8	3/8	80	5,075	1 1/2″	2 3/4″	1122K102	192.50
1/2	1/2	80	4,350	2 1/16″	3 1/8″	1122K103	234.68
3/4	3/4	80	4,350	2 1/4″	3 1/2″	1122K104	303.57
1	1	80	3,625	2 1/2″	3 3/4″	1122K105	322.00
1 1/2	1 1/2	80	2,900	3 3/8″	4 9/16″	1122K107	475.19
2	2	80	2,900	4″	4 13/16″	1122K108	601.38

Rotating Joint Manifolds

- Use with air
- Temperature Range: –30° to 250° F
- Maximum Pressure: 220 psi @ 72° F
- Vacuum: 28″ Hg @ 72° F

Supply air to two different rotating objects from a stationary supply with this manifold. The connections are sealed with a Buna-N O-ring to allow different pressures and/or vacuum to be supplied simultaneously through the outlets.

Connections: NPT.



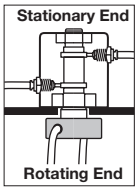

Threads, Pipe Size Rotating	Stationary	Max. rpm	Body Dia.	Lg.		
1/8	1/8	100	2 7/16″	3 1/16″	9233K12	$326.84

Two-Way Flow Rotating Joints

General Purpose Iron:
- Use with water, oil, steam
- Temperature Range: –20° to 375° F
- Maximum Pressure: Water: 250 psi @ 72° F; Oil: 100 psi @ 72° F; Steam: 150 psi @ 365° F

High-Speed Brass:
- Use with water, oil, intermittent steam (up to 20% of operating time)
- Max. Temperature: 250° F
- Maximum Pressure: Water: 750 psi @ 72° F; Oil: 100 psi @ 72° F; Steam: 15 psi @ 250° F

Corrosion-Resistant 300 Series SS:
- Use with water, air, oil, steam
- Temperature Range: Water: –40° to 300° F; Oil: –40° to 395° F; Steam: up to 350° F
- Maximum Pressure: Water: 750 psi @ 72° F; Air: 300 psi @ 72° F; Oil: 100 psi @ 72° F; Steam: 120 psi @ 350° F
- Vacuum: 25″ Hg @ 72° F



General Purpose Iron and High-Speed Brass



Corrosion-Resistant 300 Series SS

One joint serves as both the supply line and the return. All have right-hand rotating threads for drums and rollers that rotate counterclockwise. They have one or two precision ball bearings, a seal, and a stainless steel rotating shaft, except the general purpose iron joints have a steel rotating shaft.

Connections: NPT.

Also Available: Rotating joints with left-hand rotating threads for drums and rollers that rotate clockwise. Please ask for 5275K3 and specify the corresponding joint part number below.

Threads, Pipe Size Rotating	Stationary	Elbow	Max. rpm	Body Dia.	Lg.		
General Purpose Iron							
1/2	1/2	1/2	700	2 3/8″	7 1/4″	5278K71	$215.10
3/4	3/4	1/2	700	2 1/2″	7 3/4″	5278K72	275.77
1	1	1/2	700	3″	8 1/2″	5278K73	339.86
1 1/4	1 1/4	1/2	700	3 3/4″	10 5/8″	5278K84	505.91
1 1/2	1 1/2	3/4	700	4 1/8″	11 3/8″	5278K85	585.07
2	2	1	700	5 7/8″	13 7/8″	5278K86	856.69
High-Speed Brass							
3/8	3/8	1/4	1,500	1 3/4″	4 13/16″	5275K512	173.27
1/2	1/2	3/8	1,500	2 1/4″	5 7/8″	5275K522	201.06
1/2	3/4	1/2	1,500	2 7/8″	6 3/4″	5275K532	240.29
3/4	3/4	1/2	1,500	2 7/8″	6 3/4″	5275K542	240.29

★ Maximum speed is 550 rpm for air.

Threads, Pipe Size Rotating	Stationary	Elbow	Max. rpm	Body Dia.	Lg.		
High-Speed Brass (Cont.)							
1	1	1/2	1,500	3 1/4″	8 5/16″	5275K552	$325.29
1 1/4	1 1/4	3/4	1,500	3 9/16″	9 3/8″	5275K562	425.00
1 1/2	1 1/2	3/4	1,500	4 1/4″	10 5/16″	5275K572	542.69
Corrosion-Resistant 300 Series Stainless Steel							
3/8	3/8	3/8	1,000★	1 9/16″	5 1/4″	9177K612	222.08
1/2	1/2	3/8	1,000★	2 1/16″	5 15/16″	9177K622	250.48
3/4	3/4	1/2	1,000★	2 5/16″	6 1/2″	9177K632	303.29
1	1	1/2	1,000★	3 1/8″	7 1/2″	9177K642	382.88
1 1/4	1 1/4	3/4	1,000★	3 1/2″	9 1/16″	9177K652	627.90
1 1/2	1 1/2	3/4	1,000★	4″	9 15/16″	9177K662	666.01
2	2	3/4	1,000★	4 3/8″	11″	9177K672	1,030.07

About Plastic and Rubber Tubing

Clarity—An indicator of how easy it is to see what's flowing inside of your tubing.



Clear—You can see through the tubing.



Semi-Clear—You can see there's something in the tubing, but the view is limited.



Opaque—You cannot see what's in the tubing.

Flexibility—A general indicator of how bendable tubing is, this characteristic takes many factors into account, including bend radius, wall hardness, material, and diameter. Tubing can have a hard wall and still be flexible.



Very Flexible—Bends easily.



Flexible—Good for gradual bends.



Rigid—Does not bend.

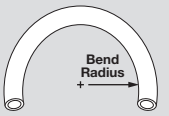

Bend Radius—A specific indicator of how bendable tubing is, bend radius is the point to which you can bend tubing without damaging it. It is measured from the center of the bend to the edge of the tubing. The smaller the measurement, the better the bend.

We've put together a **bend radius sample pack** that includes seven pieces of tubing, each labeled with its bend radius: 5/8", 1 3/4", 3 1/8", 5", 6", 8", and unbendable.

3077K4 ..... $24.85

Material Sample Packs—Contain 3" long pieces of tubing for each of the materials listed.

Polyurethane, PVC, Polypropylene, Polyethylene, and EVA **3077K1** $3.58
Nylon, PTFE, PVDF, and PEEK **3077K2** 10.65
Latex, Silicone, Buna-N, Viton® Fluoroelastomer, Neoprene, Gum, and Blended Rubber **3077K3** 7.30

Hardness—Hardness indicates the firmness of tubing. It is measured on a Durometer A, Durometer D, or Rockwell R scale. The higher the number, the harder the tubing.

We've assembled a **tubing hardness sample pack** that includes nine pieces of 3" long tubing, each labeled with its hardness; Durometer 35A, 40A, 55A, 65A, 74A, 85A, 43D-55D, 65D, and Rockwell R120.

3077K5 ..... $11.41

Tubing Application Guide

	Soft Tubing	Firm Tubing	Hard Tubing
	 • Use with barbed fittings. • Durometer is 30-74A.	 • Use with barbed, compression, and push-to-connect fittings. • Durometer is 75-95A or 22-44D.	 • Use with compression and push-to-connect fittings. • Hardness is Durometer 96-110A, Durometer 45-81D, or Rockwell R50-130.
	Page	Page	Page
Best Clarity	Masterkleer PVC Clear 119	Abrasion-Resistant PVC/Polyurethane Clear 134	FEP Clear ..... 145 Crack-Resistant PFA Clear 147
Most Flexible	High-Flex White PVC ..... 126 Super-Soft Latex Rubber 127	Choose-a-Color PVC 134	Flexible Nylon 141
General Purpose (Air and Water)	Masterkleer PVC Clear ..... 119 Super-Soft Latex Rubber 127	Choose-a-Color PVC 134	Choose-a-Color Flexible Nylon 140
Drinking Water	———	High-Pressure Versilon Polyurethane Clear Tubing for Drinking Water 136	Polyethylene for Drinking Water 139
Food and Beverage	Tygon PVC Clear ..... 120 High-Temperature White Silicone Rubber 129	Abrasion-Resistant PVC/Polyurethane Clear ..... 134 Large-Diameter Thin-Wall Polyurethane Clear 137	Hard PVC Clear ..... 143 Flexible White PVDF 147
Sanitary (Dairy)	PVC Clear 119	Large-Diameter Thin-Wall Polyurethane Clear 137	Flexible White PVDF 147
High Purity	Cleaned and Bagged High-Purity Silicone Rubber 130	———	High-Purity Hard PFA Clear 146
Chemical Resistance	Laboratory Tygon PVC Clear ..... 123 Ultra-Chemical-Resistant Versilon PVC Clear 124	Low-Temperature Tygon Clear ..... 124 High-Temperature Viton® Fluoroelastomer 134	Extreme-Temperature PTFE and Teflon® PTFE ..... 144 White Teflon® FEP 145
Fuel and Lubricant	Clear Yellow PVC ..... 123 Yellow Tygon PVC 123	———	Nylon Clear for Fuels 141
High Temperature	High-Temperature Silicone Rubber 128	High-Temperature Viton® Fluoroelastomer 134	Extreme-Temperature PTFE and Teflon® PTFE 144
High Pressure	High-Pressure PVC ..... 121 High-Pressure White Silicone Rubber 129	High-Pressure White EVA 139	Flexible High-Pressure White Nylon 141
High Vacuum	Vacuum-Rated PVC Clear for Food, Beverage, and Dairy ..... 122 Durable Beige Rubber Vacuum-Rated for Food and Beverage 133	Abrasion-Resistant/Self-Retracting Choose-a-Color Polyurethane 135	High-Pressure/Vacuum Polyethylene for Chemicals 142
Abrasion Resistance	Abrasion-Resistant Gum Rubber 127	Abrasion-Resistant Black Neoprene Rubber 134	Abrasion-Resistant White ETFE 143
UV Resistance	UV-Resistant Black Versilon PVC 125	Low-Temperature White EVA 139	Choose-a-Color FEP ..... 145 High-Strength White PVDF 147
For Metering Pumps	High-Flex Tygon PVC Clear ..... 126 High-Purity White Silicone Rubber for Metering Pumps 130	———	———

Masterkleer PVC Clear Tubing

- Very flexible
- Soft (Durometer 65A)
- Temperature Range: -40° to 160° F
- Use with barbed fittings

This general purpose PVC tubing is an economical choice for air and water applications. Tubing can be sterilized with steam (autoclaving) and gas.

Choose-a-color tubing is clear with a tint, so you can identify different lines in your system.



Clear

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
1/32"	3/32"	1/32"	1/4"	70	25, 50, 100	5233K91	$0.22
1/16"	1/8"	1/32"	1/4"	70	25, 50, 100	5233K51	.15
3/32"	5/32"	1/32"	1/2"	40	25, 50, 100	5233K92	.25
1/8"	1/4"	1/16"	1/4"	60	25, 50, 100	5233K52	.13
5/32"	7/32"	1/32"	3/4"	25	25, 50, 100	5233K93	.28
3/16"	5/16"	1/16"	1/2"	45	25, 50, 100	5233K53	.20
3/16"	3/8"	3/32"	1/2"	60	25, 50, 100	5233K54	.33
3/16"	7/16"	1/8"	1/4"	75	25, 50, 100	5233K55	.49
1/4"	3/8"	1/16"	1"	35	25, 50, 100	5233K56	.24
1/4"	7/16"	3/32"	3/4"	45	25, 50, 100	5233K57	.41
1/4"	1/2"	1/8"	1/2"	60	25, 50, 100	5233K58	.58
5/16"	7/16"	1/16"	1 1/4"	30	25, 50, 100	5233K59	.29
5/16"	1/2"	3/32"	1"	40	25, 50, 100	5233K62	.58
3/8"	1/2"	1/16"	1 3/4"	25	25, 50, 100	5233K63	.31
3/8"	9/16"	3/32"	1 1/4"	35	25, 50, 100	5233K64	.56
3/8"	5/8"	1/8"	1"	45	10, 25, 50, 100	5233K65	.77
7/16"	9/16"	1/16"	2 1/4"	20	25, 50, 100	5233K43	.41
7/16"	5/8"	3/32"	1 3/4"	30	10, 25, 50, 100	5233K44	.63
1/2"	5/8"	1/16"	2 3/4"	20	25, 50, 100	5233K66	.42
1/2"	11/16"	3/32"	2"	25	10, 25, 50, 100	5233K67	.65
1/2"	3/4"	1/8"	1 3/4"	35	10, 25, 50, 100	5233K68	.99
1/2"	13/16"	5/32"	1 1/2"	40	10, 25, 50, 100	5233K84	1.31
9/16"	3/4"	3/32"	2 1/2"	25	10, 25, 50, 100	5233K86	.78
5/8"	13/16"	3/32"	3"	20	10, 25, 50, 100	5233K87	.86
5/8"	7/8"	1/8"	2 1/4"	30	10, 25, 50, 100	5233K69	1.15
3/4"	1"	1/8"	3 1/4"	25	10, 25, 50, 100	5233K71	1.25
3/4"	1 1/16"	5/32"	2 3/4"	30	10, 25, 50, 100	5233K88	1.47
3/4"	1 1/8"	3/16"	2 1/4"	30	5, 10, 25, 50, 100	5233K45	1.83
3/4"	1 1/4"	1/4"	2"	40	5, 10, 25, 50, 100	5233K46	2.58
Inch (Cont.)							
7/8"	1 1/8"	1/8"	4"	20	10, 25, 50, 100	5233K47	$1.31
1"	1 1/4"	1/8"	5"	20	10, 25, 50	5233K72	1.36
1"	1 3/8"	3/16"	3 3/4"	25	5, 10, 25, 50	5233K73	2.31
1"	1 1/2"	1/4"	3"	35	2, 5, 10, 25, 50	5233K48	3.26
1 1/4"	1 5/8"	3/16"	5 1/2"	20	2, 5, 10, 25, 50	5233K74	3.45
1 1/4"	1 3/4"	1/4"	4 1/4"	30	2, 5, 10, 25, 50	5233K75	3.88
1 1/2"	1 7/8"	3/16"	7 1/4"	20	2, 5, 10, 25, 50	5233K76	3.77
1 1/2"	2"	1/4"	5 3/4"	25	2, 5, 10, 25, 50	5233K77	4.21
1 3/4"	2 1/4"	1/4"	7 1/2"	20	2, 5, 10, 25, 50	5233K78	5.17
2"	2 3/8"	3/16"	12"	15	2, 5, 10, 20	5233K49	5.63
2"	2 1/2"	1/4"	9 1/4"	20	2, 5, 10, 25, 50	5233K79	6.42
2 1/2"	3"	1/4"	13 1/4"	15	1, 2, 5, 10, 20	5233K82	7.86
3"	3 1/2"	1/4"	18"	10	1, 2, 5, 10, 20	5233K83	10.05
Metric—Dimensions in millimeters (except lengths)							
1	2	0.5	8	50	25, 50, 100	5233K111	.19
2	4	1	12	50	25, 50, 100	5233K112	.23
3	5	1	16	40	25, 50, 100	5233K113	.28
4	6	1	18	30	25, 50, 100	5233K116	.31
5	8	1.5	26	35	25, 50, 100	5233K117	.43
6	9	1.5	28	30	25, 50, 100	5233K121	.51
6	10	2	32	40	25, 50, 100	5233K122	.59
7	10	1.5	32	30	25, 50, 100	5233K125	.61
8	12	2	40	30	10, 25, 50	5233K126	.79
9	13	2	42	30	10, 25, 50	5233K129	.89
10	14	2	42	25	10, 25, 50	5233K131	.92
12	16	2	50	20	10, 25, 50	5233K133	.98
18	23	2.5	70	15	5, 10, 25	5233K134	1.69
20	25	2.5	78	15	5, 10, 25	5233K135	1.75

Choose a Color

To Order: Please specify blue, green, orange, or red.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	1/8"	1/32"	1/4"	60	25, 50	9117T8	$0.51
1/8"	1/4"	1/16"	1/4"	60	10, 25, 50, 100	9117T1	1.03
1/4"	3/8"	1/16"	1"	35	5, 10, 25, 50, 100	9117T2	1.64
5/16"	7/16"	1/16"	1 1/2"	25	5, 10, 25, 50	9117T7	1.63
3/8"	1/2"	1/16"	1 3/4"	25	2, 5, 10, 25, 50, 100	9117T3	$3.15
1/2"	3/4"	1/8"	1 3/4"	35	2, 5, 10, 25, 50, 100	9117T4	3.55
5/8"	7/8"	1/8"	2 1/2"	25	2, 5, 10, 25, 50	9117T6	5.10
3/4"	1"	1/8"	3"	25	2, 5, 10, 25, 50	9117T5	5.63

PVC Clear Tubing for Food, Beverage, and Dairy

- Very flexible
- Soft (Durometer 70A)
- Temperature Range: -10° to 170° F
- Use with barbed fittings

With a nonabsorbing surface, this tubing is easy to clean and won't impart tastes or odors to the fluid passing through it. It is made of FDA listed materials, is 3-A certified, and meets NSF/ANSI Standard 51 for food contact. Tubing can be sterilized with steam (autoclaving), gas, and chemicals.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	1/8"	1/32"	1/2"	65	25, 50, 100	5231K311	$0.17
1/16"	3/16"	1/16"	3/4"	80	25, 50, 100	5231K947	.20
3/32"	5/32"	1/32"	3/4"	55	25, 50, 100	5231K315	.20
1/8"	3/16"	1/32"	3/4"	45	25, 50, 100	5231K948	.17
1/8"	1/4"	1/16"	1 1/4"	65	25, 50, 100	5231K321	.27
5/32"	7/32"	1/32"	1"	40	25, 50, 100	5231K949	.20
5/32"	9/32"	1/16"	1 1/4"	60	25, 50, 100	5231K951	.24
3/16"	1/4"	1/32"	1 1/4"	30	25, 50, 100	5231K952	.21
3/16"	5/16"	1/16"	1 1/2"	50	25, 50, 100	5231K325	.30
3/16"	7/16"	1/8"	2"	80	10, 25, 50, 100	5231K953	.68
1/4"	3/8"	1/16"	1 3/4"	45	25, 50, 100	5231K331	.34
1/4"	7/16"	3/32"	2"	55	25, 50, 100	5231K335	.53
1/4"	1/2"	1/8"	2 1/2"	70	10, 25, 50, 100	5231K341	.76
5/16"	7/16"	1/16"	2"	40	25, 50, 100	5231K345	.43
5/16"	9/16"	1/8"	2 3/4"	60	10, 25, 50, 100	5231K351	.86
5/16"	5/8"	5/32"	3"	65	10, 25, 50, 100	5231K954	.87
3/8"	1/2"	1/16"	2 1/2"	30	25, 50, 100	5231K355	.45
3/8"	9/16"	3/32"	2 3/4"	45	10, 25, 50, 100	5231K361	.72
3/8"	5/8"	1/8"	3"	55	10, 25, 50, 100	5231K365	$1.01
7/16"	11/16"	1/8"	3 1/4"	45	10, 25, 50, 100	5231K955	.91
1/2"	5/8"	1/16"	3"	25	10, 25, 50, 100	5231K371	.67
1/2"	11/16"	3/32"	3 1/4"	35	10, 25, 50, 100	5231K451	.99
1/2"	3/4"	1/8"	3 3/4"	40	10, 25, 50, 100	5231K375	1.13
5/8"	7/8"	1/8"	4 1/4"	35	10, 25, 50, 100	5231K381	1.29
11/16"	15/16"	1/8"	4 1/2"	35	10, 25, 50	5231K944	1.41
3/4"	1"	1/8"	5"	30	10, 25, 50	5231K385	1.49
7/8"	1 1/8"	1/8"	5 1/2"	30	5, 10, 25, 50	5231K945	1.66
1"	1 1/4"	1/8"	6 1/4"	25	5, 10, 25, 50	5231K391	1.93
1"	1 3/8"	3/16"	6 3/4"	35	5, 10, 25, 50	5231K395	2.92
1"	1 1/2"	1/4"	7 1/2"	40	2, 5, 10, 25, 50	5231K946	3.90
1 1/4"	1 1/2"	1/8"	7 1/2"	20	5, 10, 25, 50	5231K431	2.58
1 1/4"	1 5/8"	3/16"	8"	30	2, 5, 10, 25, 50	5231K411	3.57
1 1/2"	1 7/8"	3/16"	9 1/4"	25	2, 5, 10, 25, 50	5231K435	4.57
1 1/2"	2"	1/4"	10"	35	2, 5, 10, 25, 50	5231K415	5.78
2"	2 1/2"	1/4"	12 1/2"	25	1, 2, 5, 10, 25, 50	5231K421	9.82

Tygon PVC Clear Tubing



Air and Water
- Formulation: B-44-3
- Very flexible
- Soft (Durometer 65A)
- Temperature Range: -30° to 160° F
- Use with barbed fittings

Food, Beverage, and Dairy
- Formulation: B-44-4X
- Very flexible
- Soft (Durometer 65A)
- Temperature Range: -30° to 160° F
- Use with barbed fittings

The nonabsorbing surface provides improved flow and drainage. It can be sterilized with steam (autoclaving) and gas.

Food, beverage, and dairy tubing is made from FDA listed materials. Material is 3-A certified and meets NSF/ANSI Standard 51 for food contact.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.	Air and Water	Per Ft.	Food, Beverage, and Dairy	Per Ft.
1/32"	3/32"	1/32"	1/8"	100	25, 50	_____	___	6546T23	$0.17
1/16"	1/8"	1/32"	1/4"	60	25, 50	6516T11	$0.23	6546T33	.26
1/16"	3/16"	1/16"	1/8"	100	10, 25, 50	6516T62	.63	6546T93	.71
3/32"	5/32"	1/32"	3/8"	40	25, 50	6516T13	.29	6546T34	.29
3/32"	7/32"	1/16"	1/4"	70	10, 25, 50	6516T52	.89	_____	___
1/8"	3/16"	1/32"	1/2"	30	25, 50	6516T43	.35	6546T24	.35
1/8"	1/4"	1/16"	3/8"	60	10, 25, 50	6516T14	.81	6546T11	.86
5/32"	7/32"	1/32"	3/4"	25	25, 50	6516T15	.55	6546T41	.55
5/32"	9/32"	1/16"	1/2"	50	10, 25, 50	6516T16	1.25	6546T42	1.25
3/16"	1/4"	1/32"	1"	25	25, 50	6516T17	.55	6546T43	.55
3/16"	5/16"	1/16"	5/8"	40	10, 25, 50	6516T18	1.32	6546T12	1.32
3/16"	3/8"	3/32"	1/2"	60	5, 10, 25, 50	6516T53	2.37	_____	___
3/16"	7/16"	1/8"	3/8"	70	2, 5, 10, 25, 50	6516T19	3.24	_____	___
1/4"	5/16"	1/32"	1 5/8"	15	10, 25, 50	6516T54	.68	_____	___
1/4"	3/8"	1/16"	1"	30	5, 10, 25, 50	6516T21	1.45	6546T13	1.61
1/4"	7/16"	3/32"	3/4"	45	5, 10, 25, 50	6516T22	2.88	6546T47	2.88
1/4"	1/2"	1/8"	5/8"	60	2, 5, 10, 25, 50	6516T23	3.49	6546T14	3.49
5/16"	7/16"	1/16"	1 3/8"	25	5, 10, 25, 50	6516T24	2.07	6546T15	2.07
5/16"	1/2"	3/32"	1"	40	2, 5, 10, 25, 50	6516T55	3.03	6546T75	2.88
5/16"	9/16"	1/8"	7/8"	50	2, 5, 10, 25, 50	6516T25	3.64	6546T71	3.64
3/8"	1/2"	1/16"	1 3/4"	25	5, 10, 25, 50	6516T26	2.16	6546T16	2.15
3/8"	9/16"	3/32"	1 3/8"	30	2, 5, 10, 25, 50	6516T27	3.11	6546T74	3.11
3/8"	5/8"	1/8"	1 1/8"	40	2, 5, 10, 25, 50	6516T28	4.50	6546T17	4.50
7/16"	11/16"	1/8"	1 3/8"	35	2, 5, 10, 25, 50	6516T45	4.95	_____	___
1/2"	5/8"	1/16"	2 1/8"	15	2, 5, 10, 25, 50	_____	___	6546T18	2.93
1/2"	5/8"	1/16"	2 7/8"	15	2, 5, 10, 25, 50	6516T29	2.63	_____	___
1/2"	11/16"	3/32"	2 1/8"	25	2, 5, 10, 25, 50	6516T46	4.06	6546T26	4.06
1/2"	3/4"	1/8"	1 3/4"	30	2, 5, 10, 25, 50	6516T31	5.55	6546T19	4.99
1/2"	13/16"	5/32"	1 1/2"	40	2, 5, 10, 25, 50	_____	___	6546T76	5.99
5/8"	13/16"	3/32"	3"	20	2, 5, 10, 25, 50	_____	___	6546T77	4.19
5/8"	7/8"	1/8"	2 3/8"	25	2, 5, 10, 25, 50	6516T32	5.85	6546T21	5.45
11/16"	15/16"	1/8"	2 7/8"	25	2, 5, 10, 25, 50	6516T47	5.81	_____	___
3/4"	1"	1/8"	3 1/4"	25	2, 5, 10, 25, 50	6516T33	5.55	6546T22	6.17
3/4"	1 1/8"	3/16"	2 3/8"	30	1, 2, 5, 10, 25, 50	_____	___	6546T78	9.62
3/4"	1 1/4"	1/4"	2"	40	1, 2, 5, 10, 25, 50	_____	___	6546T79	13.70
7/8"	1 1/8"	1/8"	4 1/8"	20	2, 5, 10, 20, 25, 50	6516T48	6.86	6546T27	6.86
1"	1 1/4"	1/8"	5 1/8"	20	2, 5, 10, 20, 25, 50	6516T34	7.72	6546T51	7.72
1"	1 3/8"	3/16"	3 3/4"	25	1, 2, 5, 10, 20, 25, 50	6516T35	12.19	6546T54	12.19
1"	1 1/2"	1/4"	3"	30	1, 2, 5, 10, 20, 25, 50	6516T36	13.93	6546T56	13.93
1 1/8"	1 3/8"	1/8"	6 1/4"	15	1, 2, 5, 10, 25, 50	_____	___	6546T81	8.55
1 1/4"	1 1/2"	1/8"	7 3/8"	15	1, 2, 5, 10, 20, 25, 50	6516T49	9.41	_____	___
1 1/4"	1 5/8"	3/16"	5 1/2"	20	1, 2, 5, 10, 20, 25, 50	6516T37	11.96	6546T59	11.96
1 1/4"	1 3/4"	1/4"	4 3/8"	25	1, 2, 5, 10, 25, 50	6516T56	16.72	_____	___
1 1/2"	1 7/8"	3/16"	7 1/4"	15	1, 2, 5, 10, 20, 25, 50	6516T51	14.10	_____	___
1 1/2"	2"	1/4"	5 7/8"	25	1, 2, 5, 10, 20, 25, 50	6516T38	19.49	6546T63	19.49
1 3/4"	2 1/4"	1/4"	7 1/2"	20	1, 2, 5, 10, 25, 50	6516T57	21.89	_____	___
2"	2 1/2"	1/4"	9 3/8"	15	1, 2, 5, 10, 20, 25, 50	6516T39	26.06	6546T66	26.06
2"	3"	1/2"	5 1/2"	30	1, 2, 5, 10, 20	6516T58	44.82	_____	___
2 1/4"	2 3/4"	1/4"	11 1/4"	15	1, 2, 5, 10, 20	6516T59	28.47	_____	___
2 1/2"	3"	1/4"	13 3/8"	15	1, 2, 5, 10, 20	_____	___	6546T82	31.12
3"	3 1/2"	1/4"	18"	10	1, 2, 5, 10, 20	_____	___	6546T83	36.12

High-Pressure Tygon PVC Clear Tubing for Food, Beverage, and Dairy

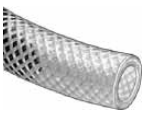

- Formulation: B-44-4X I.B.
- Very flexible
- Soft (Durometer 65A)
- Temperature Range: -30° to 160° F
- Use with barbed fittings

This tubing has a polyester braid reinforcement for extra strength in high-pressure applications. It also holds up under lower temperatures than standard PVC tubing. It is made of FDA listed materials, is 3-A certified, and meets NSF/ANSI Standard 51 for food contact. It can be sterilized with gas.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/4"	7/16"	3/32"	1 1/2"	250	5, 10, 25, 50	6534T31	$2.48
3/8"	5/8"	1/8"	1 1/8"	170	2, 5, 10, 25, 50	6534T22	3.85
1/2"	3/4"	1/8"	2 1/8"	200	2, 5, 10, 25, 50	6534T33	4.59
5/8"	7/8"	1/8"	2 3/8"	160	2, 5, 10, 25, 50	6534T34	7.21
3/4"	1"	1/8"	3 1/4"	140	2, 5, 10, 20, 25, 50	6534T35	6.39
1"	1 3/8"	3/16"	3 3/4"	100	1, 2, 5, 10, 20, 25, 50	6534T36	12.12
1 1/4"	1 5/8"	3/16"	5 1/2"	85	1, 2, 5, 10, 20, 25, 50	6534T41	17.07
1 1/2"	2"	1/4"	5 7/8"	75	1, 2, 5, 10, 20, 25, 50	6534T27	24.05
2"	2 3/4"	3/8"	6 7/8"	60	1, 2, 5, 10, 20	6534T28	45.44
3"	3 3/4"	3/8"	13 1/4"	40	1, 2, 5, 10, 20	6534T29	72.65

High-Pressure PVC Tubing

- Very flexible
- Soft (Durometer 70A)
- Temperature Range: 25° to 150° F
- Use with barbed fittings

A polyester braid is embedded into the walls of this tubing, giving it the strength to withstand higher pressures than other PVC tubing. Use with air and water. It can be sterilized with steam (autoclaving) and gas.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Clear							
1/8"	21/64"	7/64"	1 1/4"	350	25, 50, 100	5238K718	$0.69
3/16"	3/8"	3/32"	1 3/4"	250	10, 25, 50, 100	52375K11	.59
3/16"	13/32"	7/64"	1 1/2"	350	25, 50, 100	5238K728	.46
1/4"	7/16"	3/32"	2"	250	10, 25, 50, 100	52375K12	.63
1/4"	1/2"	1/8"	1 3/4"	350	25, 50, 100	5238K738	.56
5/16"	17/32"	7/64"	2 1/2"	250	10, 25, 50, 100	52375K22	.72
5/16"	9/16"	1/8"	2 1/4"	270	10, 25, 50, 100	5238K558	.80
3/8"	19/32"	7/64"	3"	220	10, 25, 50, 100	52375K13	.87
3/8"	5/8"	1/8"	2 3/4"	270	10, 25, 50, 100	5238K748	.98
1/2"	3/4"	1/8"	4"	200	10, 25, 50, 100	52375K14	1.05
1/2"	13/16"	5/32"	3 1/2"	250	10, 25, 50, 100	5238K758	1.34
5/8"	7/8"	1/8"	5"	200	10, 25, 50, 100	52375K15	1.31
5/8"	1"	3/16"	4 1/2"	220	5, 10, 25, 50, 100	5238K588	2.10
3/4"	1 1/32"	9/64"	6"	150	5, 10, 25, 50, 100	52375K16	1.78
3/4"	1 1/8"	3/16"	5 1/2"	200	5, 10, 25, 50, 100	5238K768	2.06
Clear (Cont.)							
1"	1 19/64"	5/32"	8"	120	5, 10, 25, 50, 100	52375K17	$2.45
1"	1 3/8"	3/16"	7 1/2"	150	2, 5, 10, 25, 50, 100	5238K778	3.28
1 1/4"	1 5/8"	3/16"	10"	100	2, 5, 10, 25, 50, 100	52375K18	3.43
1 1/4"	1 3/4"	1/4"	9"	120	2, 5, 10, 25, 50, 100	5238K798	4.01
1 1/2"	1 15/16"	7/32"	12"	100	2, 5, 10, 25, 50, 100	52375K19	4.22
1 1/2"	2"	1/4"	11"	100	2, 5, 10, 25, 50, 100	5238K788	5.33
2"	2 1/2"	1/4"	16"	75	2, 5, 10, 25, 50, 100	52375K21	6.10
Opaque White							
1/2"	3/4"	1/8"	4"	200	10, 25, 50, 100	5238K111	1.24
3/4"	1 1/32"	9/64"	6"	150	5, 10, 25, 50, 100	5238K112	2.46
1"	1 19/64"	5/32"	8"	120	5, 10, 25, 50, 100	5238K113	3.02
Opaque Gray							
1/2"	3/4"	1/8"	4"	200	10, 25, 50, 100	5238K114	1.45
3/4"	1 1/32"	9/64"	6"	150	5, 10, 25, 50, 100	5238K115	2.34
1"	1 19/64"	5/32"	8"	120	5, 10, 25, 50, 100	5238K116	3.00

High-Pressure Clear PVC Tubing for Food, Beverage, and Dairy

- Very flexible
- Soft (Durometer 70A)
- Temperature Range: 25° to 150° F
- Use with barbed fittings

A polyester braid reinforcement gives this tubing the strength to handle higher pressures than other PVC tubing. Tubing is made of FDA listed materials. It is 3-A certified and meets NSF/ANSI Standard 51 for food contact. Sterilize with steam (autoclaving) and gas.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
1/8"	21/64"	7/64"	1 1/4"	350	25, 50, 100	5238K618	$0.58
3/16"	3/8"	3/32"	1 3/4"	250	10, 25, 50, 100	52375K31	.65
3/16"	13/32"	7/64"	1 1/2"	350	10, 25, 50, 100	5238K628	.70
1/4"	7/16"	3/32"	2"	250	10, 25, 50, 100	52375K32	.67
1/4"	1/2"	1/8"	1 3/4"	350	10, 25, 50, 100	5238K638	.84
5/16"	17/32"	7/64"	2 1/2"	250	25, 50, 100	52375K42	.49
5/16"	9/16"	1/8"	2 1/4"	270	10, 25, 50, 100	5238K868	.93
3/8"	19/32"	7/64"	3"	220	10, 25, 50, 100	52375K33	.92
3/8"	5/8"	1/8"	2 3/4"	270	10, 25, 50, 100	5238K648	1.03
1/2"	3/4"	1/8"	4"	200	10, 25, 50, 100	52375K34	1.11
1/2"	13/16"	5/32"	3 1/2"	250	5, 10, 25, 50, 100	5238K658	1.54
5/8"	7/8"	1/8"	5"	200	10, 25, 50, 100	52375K35	1.38
5/8"	1"	3/16"	4 1/2"	220	5, 10, 25, 50, 100	5238K759	2.29
3/4"	1 1/32"	9/64"	6"	150	5, 10, 25, 50, 100	52375K36	1.88
3/4"	1 1/8"	3/16"	5 1/2"	200	5, 10, 25, 50, 100	5238K668	2.72
1"	1 19/64"	5/32"	8"	120	5, 10, 25, 50, 100	52375K37	2.59
1"	1 3/8"	3/16"	7 1/2"	150	2, 5, 10, 25, 50, 100	5238K678	3.59
1 1/4"	1 5/8"	3/16"	10"	100	2, 5, 10, 25, 50, 100	52375K38	3.22
1 1/4"	1 3/4"	1/4"	9"	120	2, 5, 10, 25, 50, 100	5238K688	4.63
1 1/2"	1 15/16"	7/32"	12"	100	2, 5, 10, 25, 50, 100	52375K39	4.45
1 1/2"	2"	1/4"	11"	100	2, 5, 10, 25, 50, 100	5238K698	6.15
2"	2 1/2"	1/4"	16"	75	2, 5, 10, 25, 50, 100	52375K41	6.42
Metric—Dimensions in millimeters (except lengths)							
4	9	2.5	35	250	10, 25, 50, 100	52015K11	.74
6	11	2.5	50	250	10, 25, 50, 100	52015K13	.85
8	13.5	2.75	65	250	10, 25, 50, 100	52015K15	1.03
10	16	3	80	220	10, 25, 50, 100	52015K17	1.15
12	18	3	95	200	10, 25, 50, 100	52015K19	1.25
19	26	3.5	150	150	5, 10, 25, 50, 100	52015K21	2.32

High-Pressure/Vacuum-Rated PVC Clear Tubing for Food, Beverage, and Dairy

- Very flexible
- Soft (Durometer 70A)
- Temperature Range: 15° to 150° F
- Use with barbed fittings

A combination of yarn reinforcement and steel wire prevents tubing walls from collapsing under vacuum up to 29" Hg @ 72° F, and provides support in high-pressure applications. Tubing is made of FDA listed materials and is 3-A certified. It meets NSF/ANSI Standard 51 for food contact. It can be sterilized with steam (autoclaving) and gas.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/2"	29/32"	13/64"	2"	250	2, 5, 10, 25, 50	9118T1	$3.37
3/4"	1 3/16"	7/32"	2 1/2"	220	2, 5, 10, 25, 50	9118T2	5.30
1"	1 7/16"	7/32"	3 1/2"	220	2, 5, 10, 25, 50	9118T3	6.67
1 1/4"	1 25/32"	17/64"	4 1/2"	170	1, 2, 5, 10, 25	9118T4	10.69
1 1/2"	2 1/32"	17/64"	5 1/2"	170	1, 2, 5, 10, 25	9118T5	12.68
2"	2 19/32"	19/64"	7"	150	1, 2, 5, 10, 25	9118T6	17.71

Vacuum-Rated PVC Clear Tubing for Food, Beverage, and Dairy



- Very flexible
- Soft (Durometer 70A)
- Temperature Range: 25° to 150° F
- Use with barbed fittings

A steel wire prevents tubing walls from collapsing under vacuum up to 29″ Hg @ 72° F, and provides support in high-pressure applications. Tubing is made of FDA listed materials and is 3-A certified. Tubing meets NSF/ANSI Standard 51 for food contact. It can be sterilized with steam (autoclaving) and gas.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/4″	7/16″	3/32″	1″	150	10, 25, 50, 100	5393K41	$1.08
1/4″	1/2″	1/8″	1″	250	10, 25, 50, 100	5393K31	1.17
3/8″	9/16″	3/32″	1 1/2″	100	10, 25, 50, 100	5393K42	1.70
3/8″	5/8″	1/8″	1 1/2″	150	10, 25, 50, 100	5393K32	1.63
1/2″	3/4″	1/8″	2″	100	10, 25, 50, 100	5393K43	2.24
1/2″	13/16″	5/32″	2″	150	5, 10, 25, 50, 100	5393K33	2.51
5/8″	7/8″	1/8″	2 1/2″	100	5, 10, 25, 50, 100	5393K44	2.67
5/8″	1″	3/16″	2 1/2″	150	5, 10, 25, 50, 100	5393K34	3.22
3/4″	1″	1/8″	3″	70	5, 10, 25, 50, 100	5393K45	3.62
3/4″	1 1/8″	3/16″	3″	150	5, 10, 25, 50, 100	5393K35	3.68
1″	1 5/16″	5/32″	4″	70	5, 10, 25, 50, 100	5393K46	3.71
1″	1 3/8″	3/16″	4″	100	2, 5, 10, 25, 50, 100	5393K36	4.60
1 1/4″	1 5/8″	3/16″	5″	70	2, 5, 10, 25, 50	5393K47	5.65
1 1/4″	1 3/4″	1/4″	5″	100	2, 5, 10, 20, 25, 50	5393K37	7.82
1 1/2″	1 7/8″	3/16″	6″	50	2, 5, 10, 25, 50	5393K48	6.26
1 1/2″	2″	1/4″	6″	100	1, 2, 5, 10, 20, 25, 50	5393K38	9.26
2″	2 3/8″	3/16″	8″	50	1, 2, 5, 10, 20, 25, 50	5393K49	9.06
2″	2 1/2″	1/4″	8″	100	1, 2, 5, 10, 20, 25, 50	5393K39	12.93
2 1/4″	2 3/4″	1/4″	9″	50	1, 2, 5, 10, 20, 25, 50	5393K53	13.22
2 1/2″	3″	1/4″	10″	50	1, 2, 5, 10, 20, 25, 50	5393K51	18.08
3″	3 1/2″	1/4″	12″	50	1, 2, 5, 10, 20, 25, 50	5393K52	20.86

PVC Clear Tubing with Fittings Attached for Food, Beverage, and Dairy



Male NPT Threaded

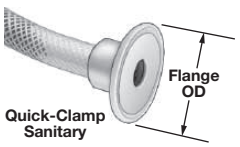

Quick-Clamp Sanitary

- Flexible
- Soft (Durometer 70A)
- Temperature Range: -20° to 150° F

A fitting is attached to one or both ends of this tubing for sanitary flange or pipe connections. Tubing ends that have no fitting attached can be used with a barbed fitting (sold separately on pages 165-167). Tubing has a nylon braid reinforcement that provides extra strength in high-pressure applications. It is nonabsorbing, so it will not impart tastes or odors to your product. It is 3-A certified and made of FDA listed materials. It can be sterilized with gas and radiation.

To Order: Please specify 12″, 18″, 24″, 30″, 36″, 42″, 48″, 54″, or 60″ length.

Tube ID	Tube OD	Max. psi @ 72° F	Pipe Size		12″	36″	60″
Male NPT Threaded Fittings on Both Ends							
1/4″	1/2″	350	1/4	9115T51	$122.33	$134.33	$146.33
1/2″	3/4″	250	1/2	9115T61	122.67	151.95	181.23
3/4″	1 1/8″	200	3/4	9115T71	128.67	165.87	203.07
Male NPT Threaded Fitting on One End, No Fitting on Other End							
1/4″	1/2″	350	1/4	9115T75	78.53	90.29	102.05
1/2″	3/4″	250	1/2	9115T76	88.42	117.70	146.98
3/4″	1 1/8″	200	3/4	9115T77	93.00	130.44	167.88

Tube ID	Tube OD	Max. psi @ 72° F	Flange OD		12″	36″	60″
Quick-Clamp Sanitary Fittings on Both Ends							
1/2″	3/4″	250	1.984″	9115T21	$122.67	$151.95	$181.23
3/4″	1 1/8″	200	1.984″	9115T31	128.67	165.87	203.07
1″	1 3/8″	150	1.984″	9115T41	134.92	186.28	237.64
Quick-Clamp Sanitary Fitting on One End, No Fitting on Other End							
1/2″	3/4″	250	1.984″	9115T78	99.83	129.11	158.39
3/4″	1 1/8″	200	1.984″	9115T79	102.17	139.37	176.57
1″	1 3/8″	150	1.984″	9115T81	106.33	157.93	209.53

Smooth-Flow Tygon Clear Tubing for Food and Beverage



Standard

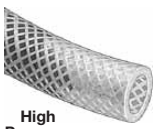

High Pressure

- Formulation: Standard: 2475 High Pressure: 2475 I.B.
- Very flexible
- Soft (Durometer 70A)
- Temperature Range: -90° to 120° F
- Use with barbed fittings

The tubing's smooth interior resists material buildup and is easy to clean. It is nonabsorbing, so it won't impart tastes or odors to your product. It is made of FDA listed materials. Tubing can be sterilized with gas and radiation. Vacuum rating is 29″ Hg @ 72° F, unless noted.

High-pressure tubing has a polyester-braid reinforcement for extra strength to handle higher pressures than nonreinforced tubing.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Standard							
1/16″	3/16″	1/16″	1/8″	85	10, 25, 50	5466K31	$1.46
1/8″	1/4″	1/16″	1/4″	50	5, 10, 25, 50	5466K32	2.04
3/16″	5/16″	1/16″	1/2″	40	5, 10, 25, 50	5466K33	2.46
1/4″	3/8″	1/16″	3/4″	30	5, 10, 25, 50	5466K34	2.38
5/16″	7/16″	1/16″	1 1/4″	15	5, 10, 25, 50	5466K35	3.05
3/8″	1/2″	1/16″	1 3/4″	20	5, 10, 25, 50	5466K36★	3.33
1/2″	3/4″	1/8″	1 1/2″	25	2, 5, 10, 25, 50	5466K37	6.73
5/8″	7/8″	1/8″	2 1/4″	25	2, 5, 10, 20, 25, 50	5466K38	7.79
3/4″	1″	1/8″	3 1/4″	20	2, 5, 10, 20, 25, 50	5466K39	8.34
1″	1 3/8″	3/16″	3″	20	1, 2, 5, 10, 20	5466K41	14.30
High Pressure							
1/4″	1/2″	1/8″	1/4″	220	2, 5, 10, 25, 50	5624K51	5.19
3/8″	5/8″	1/8″	1″	210	2, 5, 10, 25, 50	5624K52	6.33
1/2″	3/4″	1/8″	1 1/4″	230	2, 5, 10, 20, 25, 50	5624K53	7.68
5/8″	7/8″	1/8″	1 3/4″	130	2, 5, 10, 20, 25, 50	5624K54	8.82
3/4″	1 1/16″	5/32″	2 1/4″	130	2, 5, 10, 20, 25, 50	5624K55	9.58
1″	1 3/8″	3/16″	3 1/2″	120	1, 2, 5, 10, 20, 25	5624K56	16.79

★ Vacuum rating is 25″ Hg @ 72° F.

For information about the chemical compatibility of tubing, go to mcmaster.com and search for the part number.

Clear Yellow PVC Tubing for Fuels and Lubricants

- Very flexible
- Soft (Durometer 65A)
- Temperature Range: -10° to 120° F
- Use with barbed fittings



This economical tubing can be used intermittently with petroleum-based products without becoming hard or brittle. Use with gasoline, heating oil, diesel fuel, and fuel oil; it is not for use with ethanol-based gasoline. Tubing is clear with a yellow tint, so you can easily monitor flow.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
5/64"	9/64"	1/32"	1/2"	40	25, 50, 100	5187K71	$0.29
3/32"	3/16"	3/64"	3/4"	50	25, 50, 100	5187K72	.30
1/8"	1/4"	1/16"	1"	60	25, 50, 100	5187K61	.41
3/16"	5/16"	1/16"	1 1/4"	45	25, 50, 100	5187K62	.55
1/4"	3/8"	1/16"	1 1/2"	40	25, 50, 100	5187K63	.65
5/16"	7/16"	1/16"	1 3/4"	35	10, 25, 50, 100	5187K64	.77
3/8"	1/2"	1/16"	2"	30	10, 25, 50, 100	5187K65	.92
3/8"	5/8"	1/8"	2 1/2"	40	10, 25, 50, 100	5187K73	1.46
7/16"	9/16"	1/16"	2 1/4"	20	10, 25, 50, 100	5187K74	.91
7/16"	5/8"	3/32"	2 1/2"	40	10, 25, 50, 100	5187K66	1.15
1/2"	5/8"	1/16"	2 1/2"	20	10, 25, 50, 100	5187K75	1.00
1/2"	3/4"	1/8"	3"	40	5, 10, 25, 50, 100	5187K67	1.90
5/8"	7/8"	1/8"	3 1/2"	30	5, 10, 25, 50, 100	5187K68	2.18
3/4"	1"	1/8"	4"	30	5, 10, 25, 50	5187K69	2.48

Yellow Tygon PVC Tubing for Fuels and Lubricants

- Formulation: F-4040-A
- Very flexible
- Soft (Durometer 55A)
- Temperature Range: -30° to 160° F
- Use with barbed fittings



Not only will this tubing stay flexible when used with gasoline and other petroleum-based products, it also withstands lower temperatures than other fuel and lubricant tubing. It is also for use with hydraulic fluid and other oils. Tubing is semi-clear yellow, so it gives you a limited view of what's flowing through your line.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
5/64"	9/64"	1/32"	1/4"	40	10, 25, 50	5552K43	$0.82
3/32"	3/16"	3/64"	1/4"	50	10, 25, 50	5552K22	.83
1/8"	1/4"	1/16"	1/4"	50	10, 25, 50	5552K23	.84
3/16"	5/16"	1/16"	1/2"	35	10, 25, 50	5552K24	1.34
1/4"	3/8"	1/16"	1"	30	5, 10, 25, 50	5552K25	1.53
5/16"	7/16"	1/16"	1 1/4"	25	5, 10, 25, 50	5552K26	1.97
3/8"	1/2"	1/16"	1 3/4"	20	5, 10, 25, 50	5552K27	2.29
3/8"	5/8"	1/8"	1"	35	2, 5, 10, 25, 50	5552K32	4.78
7/16"	9/16"	1/16"	2 1/4"	15	2, 5, 10, 25, 50	5552K33	3.02
1/2"	5/8"	1/16"	2 3/4"	15	2, 5, 10, 25, 50	5552K28	3.11
1/2"	3/4"	1/8"	1 3/4"	30	2, 5, 10, 25, 50	5552K42	5.64
5/8"	7/8"	1/8"	2 1/2"	25	2, 5, 10, 25, 50	5552K31	6.41
3/4"	1"	1/8"	3 1/4"	20	2, 5, 10, 20, 25	5552K29	7.24

Laboratory Tygon PVC Clear Tubing for Chemicals

- Formulation: E-3603
- Very flexible
- Soft (Durometer 55A)
- Temperature Range: -20° to 160° F
- Use with barbed fittings

The super-smooth interior resists product buildup better than standard PVC tubing. Use with acetic acid, chlorine, coolant, deionized water, hydrogen peroxide, nitric acid, and sulfuric acid. It can be used with metering (peristaltic) pumps. Tubing can be sterilized with steam (autoclaving) and gas.



Standard

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
1/32"	3/32"	1/32"	1/8"	65	25, 50	5155T11	$0.24
1/16"	1/8"	1/32"	1/4"	35	25, 50	5155T12	.29
1/16"	3/16"	1/16"	1/8"	65	10, 25, 50	5155T13	.73
3/32"	5/32"	1/32"	3/8"	25	25, 50	5155T14	.36
3/32"	7/32"	1/16"	1/4"	45	10, 25, 50	5155T15	1.03
1/8"	3/16"	1/32"	1/2"	20	25, 50	5155T16	.40
1/8"	1/4"	1/16"	3/8"	35	10, 25, 50	5155T17	.90
5/32"	7/32"	1/32"	3/8"	15	10, 25, 50	5155T18	.68
5/32"	9/32"	1/16"	1/2"	30	10, 25, 50	5155T19	1.30
3/16"	1/4"	1/32"	1"	10	10, 25, 50	5155T21	.64
3/16"	5/16"	1/16"	5/8"	25	5, 10, 25, 50	5155T22	1.40
3/16"	3/8"	3/32"	1/2"	35	5, 10, 25, 50	5155T23	2.52
3/16"	7/16"	1/8"	3/8"	45	5, 10, 25, 50	5155T24	3.44
1/4"	5/16"	1/32"	1 5/8"	10	10, 25, 50	5155T25	.87
1/4"	3/8"	1/16"	1"	20	5, 10, 25, 50	5155T26	1.55
1/4"	7/16"	3/32"	3/4"	25	5, 10, 25, 50	5155T27	3.06
1/4"	1/2"	1/8"	1/2"	35	2, 5, 10, 25, 50	5155T28	3.52
5/16"	7/16"	1/16"	1 3/8"	15	5, 10, 25, 50	5155T29	2.19
5/16"	1/2"	3/32"	1"	20	2, 5, 10, 25, 50	5155T31	3.19
5/16"	9/16"	1/8"	7/8"	30	2, 5, 10, 25, 50	5155T32	3.85
5/16"	5/8"	5/32"	3/4"	35	2, 5, 10, 25, 50	5155T33	5.44
3/8"	1/2"	1/16"	1 1/2"	10	5, 10, 25, 50	5155T34	2.06
3/8"	9/16"	3/32"	1 3/8"	20	2, 5, 10, 25, 50	5155T35	3.29
3/8"	5/8"	1/8"	1 1/8"	25	2, 5, 10, 25, 50	5155T36	3.86
7/16"	9/16"	1/16"	2 1/4"	10	2, 5, 10, 25, 50	5155T37	3.00
7/16"	5/8"	3/32"	1 3/4"	15	2, 5, 10, 25, 50	5155T38	3.71
1/2"	5/8"	1/16"	2 7/8"	10	2, 5, 10, 25, 50	5155T39	3.10
1/2"	11/16"	3/32"	2 1/4"	15	2, 5, 10, 25, 50	5155T41	4.31
1/2"	3/4"	1/8"	1 1/2"	20	2, 5, 10, 25, 50	5155T42	5.16
Inch (Cont.)							
1/2"	13/16"	5/32"	1 1/2"	20	2, 5, 10, 25, 50	5155T43	$7.15
9/16"	3/4"	3/32"	2 1/2"	10	2, 5, 10, 25, 50	5155T44	4.62
9/16"	13/16"	1/8"	2"	15	2, 5, 10, 25, 50	5155T45	5.99
5/8"	13/16"	3/32"	3"	10	2, 5, 10, 25, 50	5155T46	5.13
5/8"	7/8"	1/8"	2 3/8"	15	2, 5, 10, 25, 50	5155T47	6.53
11/16"	7/8"	3/32"	3 1/2"	10	2, 5, 10, 25, 50	5155T48	5.44
3/4"	1"	1/8"	3 1/4"	10	2, 5, 10, 25, 50	5155T49	7.36
3/4"	1 1/8"	3/16"	2 3/8"	20	1, 2, 5, 10, 25, 50	5155T61	10.70
3/4"	1 1/4"	1/4"	2"	25	1, 2, 5, 10, 25, 50	5155T62	15.21
7/8"	1 1/8"	1/8"	4 1/8"	10	1, 2, 5, 10, 25, 50	5155T63	7.63
7/8"	13/16"	5/32"	3 1/2"	15	1, 2, 5, 10, 25, 50	5155T64	9.80
1"	1 1/4"	1/8"	4 3/4"	10	1, 2, 10, 20, 25, 50	5155T65	8.58
1"	1 3/8"	3/16"	4"	15	1, 2, 10, 20, 25, 50	5155T66	13.55
1"	1 1/2"	1/4"	3"	20	1, 2, 10, 20, 25, 50	5155T67	16.34
1 1/8"	1 1/2"	3/16"	4 1/2"	10	1, 2, 5, 10, 25, 50	5155T68	14.99
1 1/4"	1 1/2"	1/8"	7 7/8"	10	1, 2, 5, 10, 25, 50	5155T69	10.46
1 1/4"	1 5/8"	3/16"	5 1/2"	10	1, 2, 10, 20, 25, 50	5155T71	15.59
1 1/2"	1 7/8"	3/16"	7 1/4"	10	1, 2, 5, 10, 25, 50	5155T72	18.39
1 1/2"	2"	1/4"	5 7/8"	10	1, 2, 10, 20, 25, 50	5155T73	25.42
1 3/4"	2 1/4"	1/4"	7 1/2"	10	1, 2, 5, 10, 25, 50	5155T74	27.33
2"	2 1/2"	1/4"	9 3/8"	10	1, 2, 10, 20, 25, 50	5155T75	32.54
Metric—Dimensions in millimeters (except lengths)							
2	4	1	7	40	25, 49	5186T11	.65
3	5	1	13	30	10, 25, 49	5186T12	1.67
4	6	1	16	25	10, 25, 49	5186T13	1.58
5	8	1.5	19	30	5, 10, 25, 49	5186T14	1.84
6	9	1.5	22	25	5, 10, 25, 49	5186T15	2.10
8	12	2	29	25	2, 5, 10, 25, 49	5186T16	3.09

Vacuum Rated—29" Hg @ 72° F

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
3/16"	9/16"	3/16"	1/4"	65	2, 5, 10, 25, 50	5188T11	$6.18
1/4"	5/8"	3/16"	1/2"	50	2, 5, 10, 25, 50	5188T12	6.30
3/8"	7/8"	1/4"	5/8"	45	1, 2, 5, 10, 20, 25, 50	5188T14	11.11
1/2"	1 1/8"	5/16"	7/8"	45	1, 2, 5, 10, 20, 25, 50	5188T15	14.46
5/8"	1 3/8"	3/8"	1"	40	1, 2, 5, 10, 20, 25, 50	5188T16	$20.96
3/4"	1 1/2"	3/8"	1 1/2"	35	1, 2, 5, 10, 20, 25, 50	5188T17	22.21
1"	2"	1/2"	1 7/8"	35	1, 2, 5, 10, 20, 25, 50	5188T18	41.91

ⓘ For information about the chemical compatibility of tubing, go to mcmaster.com and search for the part number.

PVC Clear Tubing for Chemicals



- Very flexible
- Soft (Durometer 60A)
- Temperature Range: -20° to 160° F
- Use with barbed fittings

Use this general purpose PVC tubing with a wide range of chemicals, including bleach, deionized water, and nitric acid. It can be used in metering (peristaltic) pump applications. Tubing can be sterilized with gas and chemicals.

Standard

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
1/16"	1/8"	1/32"	1/2"	45	25, 50, 100	5231K124	$0.17
1/16"	3/16"	1/16"	3/4"	60	25, 50, 100	5231K957	.29
3/32"	5/32"	1/32"	1/2"	40	25, 50, 100	5231K134	.20
1/8"	1/4"	1/16"	1"	50	25, 50, 100	5231K144	.28
5/32"	7/32"	1/32"	3/4"	30	25, 50, 100	5231K958	.27
5/32"	9/32"	1/16"	1"	40	25, 50, 100	5231K959	.35
3/16"	1/4"	1/32"	1"	25	25, 50, 100	5231K961	.31
3/16"	5/16"	1/16"	1 1/4"	35	25, 50, 100	5231K155	.31
3/16"	7/16"	1/8"	1 3/4"	60	10, 25, 50, 100	5231K962	.80
1/4"	3/8"	1/16"	1 1/2"	30	25, 50, 100	5231K161	.34
1/4"	7/16"	3/32"	1 3/4"	40	25, 50, 100	5231K165	.55
1/4"	1/2"	1/8"	2"	45	10, 25, 50, 100	5231K171	.76
5/16"	7/16"	1/16"	1 3/4"	25	25, 50, 100	5231K175	.43
5/16"	9/16"	1/8"	2 1/4"	40	10, 25, 50, 100	5231K181	.87
3/8"	1/2"	1/16"	2"	20	25, 50, 100	5231K185	.46
3/8"	9/16"	3/32"	2 1/4"	30	10, 25, 50, 100	5231K196	.72
3/8"	5/8"	1/8"	2 1/2"	40	10, 25, 50, 100	5231K217	1.01
1/2"	5/8"	1/16"	2 1/2"	20	10, 25, 50, 100	5231K227	.70
1/2"	3/4"	1/8"	3"	30	10, 25, 50, 100	5231K237	1.13
5/8"	7/8"	1/8"	3 1/2"	25	10, 25, 50, 100	5231K246	1.30
3/4"	1"	1/8"	4"	20	10, 25, 50	5231K261	1.51
Inch (Cont.)							
1"	1 1/4"	1/8"	5"	15	5, 10, 25, 50	5231K265	$1.95
1"	1 3/8"	3/16"	5 1/2"	25	2, 5, 10, 25, 50	5231K271	2.95
1"	1 1/2"	1/4"	6"	30	2, 5, 10, 25, 50	5231K956	3.94
1 1/4"	1 5/8"	3/16"	6 1/2"	20	2, 5, 10, 25, 50	5231K275	3.62
1 1/2"	2"	1/4"	8"	20	2, 5, 10, 25, 50	5231K282	5.71
2"	2 1/2"	1/4"	10"	15	2, 5, 10, 25, 50	5231K291	9.92
Metric—Dimensions in millimeters (except lengths)							
1	2	0.5	8	45	25, 50, 100	51825K41	.21
2	4	1	16	45	25, 50, 100	51825K42	.28
4	6	1	24	30	25, 50, 100	51825K43	.33
5	8	1.5	32	30	25, 50, 100	51825K45	.49
6	9	1.5	36	30	10, 25, 50, 100	51825K56	.63
6	10	2	40	35	10, 25, 50, 100	51825K46	.65
7	10	1.5	40	25	10, 25, 50, 100	51825K47	.71
8	12	2	48	30	10, 25, 50, 100	51825K48	.90
9	13	2	52	25	10, 25, 50, 100	51825K49	.98
10	14	2	56	25	10, 25, 50, 100	51825K51	1.05
12	16	2	64	20	10, 25, 50, 100	51825K52	1.07
18	23	2.5	92	20	5, 10, 25, 50	51825K53	1.74
20	25	2.5	100	15	5, 10, 25, 50	51825K54	1.90

Vacuum Rated—29" Hg @ 72° F

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
3/16"	9/16"	3/16"	2 1/4"	60	10, 25, 50	55525K11	$1.30
1/4"	5/8"	3/16"	2 1/2"	55	5, 10, 25, 50	55525K12	1.72
3/8"	7/8"	1/4"	3 1/2"	50	2, 5, 10, 25, 50	55525K13	2.99
1/2"	1 1/8"	5/16"	4 1/2"	50	2, 5, 10, 25, 50	55525K14	4.69
5/8"	1 3/8"	3/8"	5 1/2"	55	2, 5, 10, 25, 50	55525K15	$7.81
3/4"	1 1/2"	3/8"	6"	45	1, 2, 5, 10, 20, 25	55525K16	8.37
1"	2"	1/2"	8"	45	1, 2, 5, 10, 20, 25	55525K17	18.77

Low-Temperature Tygon Clear Tubing for Chemicals



- Formulation: 2375
- Very flexible
- Firm (Durometer 75A)
- Temperature Range: -100° to 130° F
- Use with barbed fittings

Use this tubing for low-temperature applications reaching -100° F. Use with acetic acid, bleach, hydrochloric acid, hydrogen peroxide, and isopropyl alcohol. It can be sterilized with gas and radiation.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	1/8"	1/32"	1/4"	40	10, 25, 50	5103K42	$1.01
1/16"	3/16"	1/16"	1/8"	65	10, 25, 50	5103K31	1.03
3/32"	5/32"	1/32"	1/4"	25	10, 25, 50	5103K43	1.02
1/8"	1/4"	1/16"	1/4"	40	5, 10, 25, 50	5103K32	1.43
5/32"	7/32"	1/32"	1/4"	20	10, 25, 50	5103K44	1.43
3/16"	5/16"	1/16"	1/2"	30	5, 10, 25, 50	5103K33	1.59
1/4"	3/8"	1/16"	3/4"	25	5, 10, 25, 50	5103K34	1.77
5/16"	7/16"	1/16"	1 1/4"	20	5, 10, 25, 50	5103K35	$2.18
3/8"	1/2"	1/16"	1 1/2"	15	5, 10, 25, 50	5103K36	2.24
3/8"	5/8"	1/8"	1"	25	2, 5, 10, 25, 50	5103K45	4.90
1/2"	3/4"	1/8"	1 1/2"	25	2, 5, 10, 25, 50	5103K37	5.09
5/8"	7/8"	1/8"	2 1/2"	20	2, 5, 10, 25, 50	5103K38	6.69
3/4"	1"	1/8"	2 3/4"	15	2, 5, 10, 20, 25, 50	5103K39	7.23
1"	1 3/8"	3/16"	3 1/4"	15	1, 2, 5, 10, 20, 25	5103K41	12.48

Ultra-Chemical-Resistant Versilon PVC Clear Tubing



- Formulation: SE-200
- Very flexible
- Soft (Durometer 65A)
- Temperature Range: -30° to 160° F
- Use with barbed fittings

Formerly known as Tygon, this tubing is lined with FEP (fluorinated ethylene propylene) for better chemical resistance than PVC alone. Use with acetic acid, bleach, hydraulic fluid, isopropyl alcohol, and gasoline. Sterilize with gas.

ID	OD	Wall	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	1/8"	1/32"	100	5, 10, 25, 50	6519T16	$1.51
1/8"	1/4"	1/16"	85	5, 10, 25, 50	6519T11	1.92
3/16"	5/16"	1/16"	75	2, 5, 10, 25, 50	6519T12	2.85
1/4"	3/8"	1/16"	55	2, 5, 10, 25, 50	6519T13	3.30
3/8"	9/16"	3/32"	50	2, 5, 10, 25, 50	6519T14	$5.20
1/2"	3/4"	1/8"	45	2, 5, 10, 20, 25, 50	6519T15	5.81
3/4"	1"	1/8"	30	1, 2, 5, 10, 25, 50	6519T17	8.98

Gray PVC Tubing for Water Drain Lines

- Very flexible
- Soft (Durometer 70A)
- Temperature Range: 25° to 150° F
- Use with barbed fittings



Commonly used in ice machines and other water applications, this tubing is treated to protect against degradation caused by bacteria, yeast, fungi, and mold. Tubing is semi-clear gray. It can be sterilized with steam (autoclaving).

ID	OD	Wall	Bend Radius	Lengths, ft.		Per Ft.
3/8"	5/8"	1/8"	4 1/2"	10, 25, 50, 100	8354K11	$1.28
1/2"	3/4"	1/8"	6"	10, 25, 50, 100	8354K12	1.35
5/8"	7/8"	1/8"	8"	5, 10, 25, 50, 100	8354K13	1.76
3/4"	1"	1/8"	9"	5, 10, 25, 50, 100	8354K14	1.95
1"	1 1/4"	1/8"	12"	5, 10, 25, 50, 100	8354K15	2.70

UV-Resistant PVC Clear Tubing

- Very flexible
- Firm (Durometer 85A)
- Temperature Range: -10° to 220° F
- Use with barbed fittings



A rare combination of UV resistance and clarity means this tubing protects light-sensitive fluid while allowing you to monitor flow. Use with air and water. Tubing can be sterilized with gas and chemicals.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/8"	1/4"	1/16"	1/4"	120	25, 50, 100	1487T1	$0.37
1/4"	3/8"	1/16"	3/4"	65	25, 50, 100	1487T2	.46
3/8"	1/2"	1/16"	1 1/2"	45	10, 25, 50	1487T3	.79
1/2"	3/4"	1/8"	1 1/2"	65	5, 10, 25	1487T4	1.84
3/4"	1"	1/8"	3"	45	5, 10, 25	1487T5	2.20

UV-Resistant Black PVC Tubing

- Very flexible
- Soft (Durometer 70A)
- Temperature Range: -10° to 170° F
- Use with barbed fittings

This tubing won't degrade when exposed to UV light. Use with air and water. It can be sterilized with steam (autoclaving) and gas.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	1/8"	1/32"	1/2"	65	25, 50, 100	5231K31	$0.16
3/32"	5/32"	1/32"	3/4"	55	25, 50, 100	5231K32	.17
3/32"	7/32"	1/16"	1"	60	25, 50, 100	5231K33	.22
1/8"	1/4"	1/16"	1 1/4"	65	25, 50, 100	5231K81	.27
5/32"	9/32"	1/16"	1 1/4"	50	25, 50, 100	5231K34	.24
3/16"	1/4"	1/32"	1 1/4"	30	25, 50, 100	5231K35	.20
3/16"	5/16"	1/16"	1 1/2"	50	25, 50, 100	5231K82	.29
3/16"	3/8"	3/32"	1 3/4"	70	25, 50, 100	5231K36	.39
1/4"	3/8"	1/16"	1 3/4"	45	25, 50, 100	5231K83	.34
1/4"	7/16"	3/32"	2"	55	25, 50, 100	5231K37	.46
1/4"	1/2"	1/8"	2 1/2"	70	10, 25, 50, 100	5231K84	.76
5/16"	7/16"	1/16"	2"	40	25, 50, 100	5231K85	.44
3/8"	1/2"	1/16"	2 1/2"	30	25, 50, 100	5231K6	$0.44
3/8"	5/8"	1/8"	3"	55	10, 25, 50, 100	5231K7	1.07
1/2"	5/8"	1/16"	3"	25	10, 25, 50, 100	5231K88	.68
1/2"	3/4"	1/8"	3 3/4"	40	10, 25, 50, 100	5231K89	1.28
5/8"	7/8"	1/8"	4 1/4"	35	5, 10, 25, 50, 100	5231K91	1.58
3/4"	1"	1/8"	5"	30	5, 10, 25, 50	5231K92	2.04
1"	1 1/4"	1/8"	6 1/4"	25	5, 10, 25, 50	5231K93	2.36
1 1/2"	2"	1/4"	10"	35	2, 5, 10, 25, 50	5231K94	7.01
2"	2 1/2"	1/4"	12 1/2"	25	1, 2, 5, 10, 20, 25	5231K95	11.91
2 1/2"	3"	1/4"	15"	20	1, 2, 5, 10, 20, 25	5231K96	16.89
3"	3 1/2"	1/4"	17 1/2"	20	1, 2, 5, 10	5231K97	19.71

UV-Resistant Black Versilon PVC Tubing

- Formulation: R-3400
- Very flexible
- Soft (Durometer 65A)
- Temperature Range: -5° to 160° F
- Use with barbed fittings

Formerly known as Tygon, this tubing is more flexible than standard PVC tubing. It withstands exposure to UV light without deteriorating. Use with air and water.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	1/8"	1/32"	1/4"	60	25, 50	5255K31	$0.36
3/32"	5/32"	1/32"	1/4"	45	25, 50	5255K12	.46
3/32"	7/32"	1/16"	1/4"	80	10, 25, 50	5255K13	1.13
1/8"	1/4"	1/16"	1/4"	60	10, 25, 50	5255K14	1.01
5/32"	9/32"	1/16"	1/2"	50	10, 25, 50	5255K15	1.53
3/16"	1/4"	1/32"	1"	25	10, 25, 50	5255K36	.80
3/16"	5/16"	1/16"	1/2"	45	10, 25, 50	5255K17	1.27
3/16"	3/8"	3/32"	1/2"	60	5, 10, 25, 50	5255K18	2.93
1/4"	3/8"	1/16"	1"	35	5, 10, 25, 50	5255K19	2.20
1/4"	7/16"	3/32"	3/4"	50	2, 5, 10, 25, 50	5255K21	$3.55
5/16"	7/16"	1/16"	1 1/4"	30	5, 10, 25, 50	5255K22	2.19
3/8"	1/2"	1/16"	1 3/4"	25	5, 10, 25, 50	5255K23	2.54
3/8"	5/8"	1/8"	1"	45	2, 5, 10, 25, 50	5255K24	4.77
7/16"	9/16"	1/16"	2 1/4"	20	2, 5, 10, 25, 50	5255K32	3.73
1/2"	3/4"	1/8"	1 3/4"	35	2, 5, 10, 25, 50	5255K26	5.61
5/8"	7/8"	1/8"	2 1/4"	30	2, 5, 10, 25, 50	5255K27	6.39
3/4"	1"	1/8"	3 1/4"	25	2, 5, 10, 25, 50	5255K28	7.22

Static-Dissipative PVC Clear Tubing

- Very flexible
- Soft (Durometer 70A)
- Temperature Range: 25° to 150° F
- Use with barbed fittings

Protect sensitive equipment—a metal coil wire is embedded into the tubing walls to dissipate static electricity up to 10^{13} ohms/sq. without the need for grounding. Use with air and water. Vacuum rating is 29" Hg @ 72° F.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Max. Lg.		Per Ft.
1/4"	1/2"	1/8"	1"	250	25 ft.	50285K22	$9.18
3/8"	5/8"	1/8"	1 1/2"	150	25 ft.	50285K24	10.95
1/2"	13/16"	5/32"	2"	150	25 ft.	50285K25	14.31
5/8"	1"	3/16"	2 1/2"	150	25 ft.	50285K26	14.57
3/4"	1 1/8"	3/16"	3"	150	25 ft.	50285K27	18.26
1"	1 3/8"	3/16"	4"	100	25 ft.	50285K28	23.49
1 1/4"	1 3/4"	1/4"	5"	100	25 ft.	50285K29	$33.74
1 1/2"	2"	1/4"	6"	100	25 ft.	50285K31	47.41
2"	2 1/2"	1/4"	8"	100	25 ft.	50285K32	57.88
2 1/4"	2 3/4"	1/4"	9"	50	25 ft.	50285K33	77.02
2 1/2"	3"	1/4"	10"	50	25 ft.	50285K34	93.39
3"	3 1/2"	1/4"	12"	50	25 ft.	50285K35	99.56

PVC Tubing

For information about tubing, see page 118.

For information about the chemical compatibility of tubing, go to mcmaster.com and search for the part number.

High-Purity White Versilon Tubing



- Formulation: 2001
- Very flexible
- Soft (Durometer 70A)
- Temperature Range: -100° to 130° F
- Use with barbed fittings

Formerly known as Tygon, this tubing is made without a plasticizer additive that can leach tastes and odors into the fluid passing through it. It is semi-clear white. Use with food, pharmaceuticals, dairy, deionized water, and beverage. Tubing is made from FDA listed materials. It can be sterilized with steam (autoclaving), gas, and radiation.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	3/16"	1/16"	1/4"	45	10, 25, 50	9449K41	$1.28
1/8"	1/4"	1/16"	1/2"	30	5, 10, 25, 50	9449K42	2.00
3/16"	5/16"	1/16"	1/2"	20	5, 10, 25, 50	9449K43	2.21
1/4"	3/8"	1/16"	1"	15	5, 10, 25, 50	9449K44	2.47
5/16"	7/16"	1/16"	1 1/2"	10	5, 10, 25, 50	9449K45	2.74
3/8"	1/2"	1/16"	2"	10	2, 5, 10, 25, 50	9449K46	3.07
1/2"	3/4"	1/8"	1 1/2"	15	2, 5, 10, 25, 50	9449K47	6.24
5/8"	7/8"	1/8"	2 1/2"	10	2, 5, 10, 20, 25, 50	9449K48	7.38
3/4"	1"	1/8"	3"	10	1, 2, 5, 10, 20, 25, 50	9449K49	7.97
1"	1 3/8"	3/16"	3 3/4"	10	1, 2, 5, 10, 20, 25, 50	9449K51	13.88

High-Flex White PVC Tubing for Food and Beverage



- Very flexible
- Soft (Durometer 50A)
- Temperature Range: -60° to 180° F
- Use with barbed fittings

An economical alternative to silicone rubber, this PVC tubing has excellent flexibility and will stand up to the demands of metering (peristaltic) pumps. Tubing is semi-clear white and is made of FDA listed materials. It can be sterilized with gas and radiation.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	3/16"	1/16"	1/8"	70	25, 50	5229K52	$0.26
1/8"	1/4"	1/16"	1/2"	40	25, 50	5229K54	.42
3/16"	5/16"	1/16"	3/4"	30	25, 50	5229K56	.57
1/4"	3/8"	1/16"	1"	25	25, 50	5229K58	.68
1/4"	1/2"	1/8"	3/4"	25	10, 25, 50	5229K59	1.33
5/16"	7/16"	1/16"	1 1/4"	20	10, 25, 50	5229K63	.83
3/8"	1/2"	1/16"	1 3/4"	15	10, 25, 50	5229K64	.84
3/8"	5/8"	1/8"	1 1/4"	30	5, 10, 25, 50	5229K67	1.76
1/2"	5/8"	1/16"	3"	15	10, 25, 50	5229K68	.99
1/2"	3/4"	1/8"	1 3/4"	25	5, 10, 25, 50	5229K72	2.01

High-Flex Tygon PVC Clear Tubing



Ultra-Soft High Flex
- Formulation: E-1000
- Very flexible
- Soft (Durometer 40A)
- Temperature Range: -60° to 120° F
- Use with barbed fittings

High Flex
- Formulation: E-LFL
- Very flexible
- Soft (Durometer 55A)
- Temperature Range: -50° to 160° F
- Use with barbed fittings

Monitor the flow in your line with an exceptionally soft and flexible tubing.

Ultra-Soft High Flex—The softest Tygon PVC tubing we offer, this tubing bends easily. It is commonly used in applications requiring continuous flexing, such as metering (peristaltic) pumps. Tubing is made of FDA listed materials for use with food and beverage. Sterilize with gas.

High Flex—This tubing can handle continuous bending and flexing in metering (peristaltic) pump applications. Use with air and water. Sterilize with steam (autoclaving) and gas.

Ultra-Soft High Flex

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	3/16"	1/16"	1/8"	25	10, 25, 50	5894K31	$1.04
1/8"	1/4"	1/16"	3/8"	15	10, 25, 50	5894K32	1.11
3/16"	5/16"	1/16"	5/8"	10	5, 10, 25, 50	5894K33	1.84
1/4"	3/8"	1/16"	1"	5	5, 10, 25, 50	5894K34	2.21
1/4"	1/2"	1/8"	5/8"	10	2, 5, 10, 25, 50	5894K35	4.35
5/16"	7/16"	1/16"	1 3/8"	5	5, 10, 25, 50	5894K36	2.56
3/8"	1/2"	1/16"	1 3/4"	5	2, 5, 10, 25, 50	5894K37	2.98
3/8"	5/8"	1/8"	1 1/8"	10	2, 5, 10, 25, 50	5894K38	5.57
1/2"	5/8"	1/16"	2 7/8"	5	2, 5, 10, 25, 50	5894K39	3.64
1/2"	3/4"	1/8"	1 3/4"	5	2, 5, 10, 25, 50	5894K41	6.44
3/4"	1 1/4"	1/4"	—	—	—	—	—
1"	1 3/8"	3/16"	—	—	—	—	—

High Flex

Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/4"	50	2, 5, 10, 25	55485K71	$4.41
1/2"	30	2, 5, 10, 25	55485K72	5.09
3/4"	25	2, 5, 10, 25	55485K73	5.30
1"	20	2, 5, 10, 25	55485K74	5.17
3/4"	35	1, 2, 5, 10, 20, 25	55485K75	8.36
1 1/4"	15	2, 5, 10, 25	55485K76	6.04
—	—	—	—	—
1"	25	1, 2, 5, 10, 20, 25	55485K78	12.76
—	—	—	—	—
1 1/2"	20	1, 2, 5, 10, 20, 25	55485K81	13.50
1 3/4"	20	1, 2, 5, 10	55485K82	26.81
3 1/4"	15	1, 2, 5, 10	55485K83	27.99

Low-Temperature Tygon PVC Clear Tubing for Chemicals



- Formulation: ND-100-65
- Very flexible
- Soft (Durometer 65A)
- Temperature Range: -40° to 160° F
- Use with barbed fittings

Run chemicals through this tubing at temperatures as low as -40° F. Tubing has excellent kink resistance for restriction-free flow. Use with acetic acid, bleach, hydrogen peroxide, sulfuric acid, and hydrochloric acid. It can be sterilized with steam (autoclaving), radiation, and gas.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/32"	3/32"	1/32"	1/8"	100	25, 50	8349T11	$0.15
1/16"	1/8"	1/32"	1/4"	55	25, 50	8349T12	.31
1/16"	3/16"	1/16"	1/8"	100	25, 50	8349T13	.55
3/32"	5/32"	1/32"	3/8"	40	25, 50	8349T14	.35
1/8"	3/16"	1/32"	1/2"	30	25, 50	8349T15	.38
1/8"	1/4"	1/16"	3/8"	55	10, 25, 50	8349T16	1.06
5/32"	9/32"	1/16"	1/2"	45	10, 25, 50	8349T17	1.08
3/16"	1/4"	1/32"	1"	20	25, 50	8349T18	.52
3/16"	5/16"	1/16"	5/8"	40	10, 25, 50	8349T19	1.29
1/4"	3/8"	1/16"	1"	30	5, 10, 25, 50	8349T38	1.64
1/4"	7/16"	3/32"	3/4"	100	5, 10, 25, 50	8349T22	2.59
1/4"	1/2"	1/8"	5/8"	100	2, 5, 10, 25, 50	8349T23	3.13
5/16"	7/16"	1/16"	1 3/8"	100	5, 10, 25, 50	8349T24	2.10

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
3/8"	1/2"	1/16"	1 3/4"	20	5, 10, 25, 50	8349T25	$2.16
3/8"	9/16"	3/32"	1 3/8"	30	5, 10, 25, 50	8349T26	2.79
3/8"	5/8"	1/8"	1 1/8"	40	2, 5, 10, 25, 50	8349T27	4.59
7/16"	5/8"	3/32"	1 3/4"	25	2, 5, 10, 25, 50	8349T28	3.15
1/2"	5/8"	1/16"	2 7/8"	15	2, 5, 10, 25, 50	8349T29	2.64
1/2"	1 1/16"	3/32"	2 1/8"	25	2, 5, 10, 25, 50	8349T31	3.64
1/2"	3/4"	1/8"	1 3/4"	30	2, 5, 10, 25, 50	8349T32	5.66
9/16"	3/4"	3/32"	2 1/2"	20	2, 5, 10, 25, 50	8349T33	3.92
5/8"	7/8"	1/8"	2 3/8"	25	2, 5, 10, 25, 50	8349T34	5.79
3/4"	1"	1/8"	3 1/4"	20	2, 5, 10, 25, 50	8349T35	6.41
7/8"	1 1/8"	1/8"	4 1/8"	20	2, 5, 10, 25, 50	8349T36	7.12
1"	1 1/4"	1/8"	5 1/8"	15	2, 5, 10, 20, 25, 50	8349T37	8.19

Super-Soft Latex Rubber Tubing

- Very flexible
- Soft (Durometer 40A)
- Temperature Range: 0° to 150° F
- Use with barbed fittings

Stretch it, bend it, compress it—this tubing will spring back to its original shape. It has a soft texture and excellent abrasion resistance. Use with air and water. Material meets DOD A-A-52047C. Tubing can be sterilized with steam (autoclaving) and gas.

To Order: Please specify opaque black or semi-clear amber.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	1/8"	1/32"	1"	25	10, 25	5234K93	$1.04
1/16"	3/16"	1/16"	1"	10	10, 25	5234K405	1.10
1/8"	3/16"	1/32"	2"	20	10, 25	5234K24	1.03
1/8"	1/4"	1/16"	1"	15	10, 25	5234K41	1.11
1/8"	5/16"	3/32"	1 1/2"	45	10, 25	5234K29	1.13
1/8"	3/8"	1/8"	2"	45	5, 10, 25	5234K66	1.57
1/8"	1/2"	3/16"	1 1/2"	55	5, 10, 25	5234K65	2.45
1/8"	9/16"	7/32"	1"	75	2, 5, 10, 25	5234K68	2.80
1/8"	5/8"	1/4"	3/4"	80	2, 5, 10, 25	5234K69	3.48
1/8"	11/16"	9/32"	1"	80	2, 5, 10, 25	5234K94	3.86
1/8"	3/4"	5/16"	3/4"	85	2, 5, 10, 25	5234K95	4.25
5/32"	1/4"	3/64"	1"	20	10, 25	5234K96	.86
5/32"	9/32"	1/16"	1 1/2"	15	10, 25	5234K401	1.10
3/16"	1/4"	1/32"	2 1/2"	10	10, 25	5234K97	.83
3/16"	9/32"	3/64"	2"	15	10, 25	5234K402	1.10
3/16"	5/16"	1/16"	1 1/2"	15	10, 25	5234K42	1.17
3/16"	3/8"	3/32"	1"	35	10, 25	5234K25	1.20
3/16"	7/16"	1/8"	3/4"	30	5, 10, 25	5234K43	1.60
1/4"	5/16"	1/32"	3"	10	10, 25	5234K98	.89
1/4"	3/8"	1/16"	2"	15	10, 25	5234K44	1.28
1/4"	7/16"	3/32"	1 1/4"	20	10, 25	5234K45	1.42
1/4"	1/2"	1/8"	1"	30	5, 10, 25	5234K46	$1.91
1/4"	5/8"	3/16"	1 3/4"	30	2, 5, 10, 15	5234K403	3.89
5/16"	7/16"	1/16"	2 1/2"	15	10, 25	5234K47	1.44
5/16"	1/2"	3/32"	1 1/2"	20	5, 10, 25	5234K48	1.68
5/16"	9/16"	1/8"	1 1/4"	30	5, 10, 25	5234K49	2.30
3/8"	1/2"	1/16"	3"	15	5, 10, 25	5234K51	1.46
3/8"	9/16"	3/32"	2 1/2"	25	5, 10, 25	5234K99	2.04
3/8"	5/8"	1/8"	1 1/2"	30	5, 10, 25	5234K52	2.68
3/8"	3/4"	3/16"	1"	35	2, 5, 10, 25	5234K53	4.47
1/2"	5/8"	1/16"	4"	10	5, 10, 25	5234K26	1.78
1/2"	11/16"	3/32"	2 1/2"	20	5, 10, 25	5234K54	2.68
1/2"	3/4"	1/8"	2"	25	2, 5, 10, 25	5234K55	3.60
1/2"	7/8"	3/16"	1 1/2"	30	2, 5, 10, 15	5234K56	4.83
5/8"	7/8"	1/8"	2 1/2"	25	2, 5, 10, 25	5234K57	4.09
3/4"	7/8"	1/16"	6"	10	5, 10, 15	5234K63	2.50
3/4"	1"	1/8"	3"	20	2, 5, 10, 15	5234K58	4.89
3/4"	1 1/8"	3/16"	2"	25	2, 5, 10, 15	5234K59	5.93
7/8"	1"	1/16"	6"	10	2, 5, 10, 15	5234K404	4.38
7/8"	1 1/8"	1/8"	1 1/2"	20	2, 5, 10, 15	5234K64	5.10
1"	1 1/4"	1/8"	4"	20	2, 5, 10, 15	5234K61	5.85
1"	1 1/2"	1/4"	2"	30	1, 2, 5, 10, 15	5234K62	10.21

Abrasion-Resistant Gum Rubber Tubing

- Very flexible
- Soft (Durometer 45A)
- Temperature Range: -70° to 180° F
- Use with barbed fittings

Thick walls give this tubing excellent abrasion resistance. Use with air and water. Material meets DOD A-A-52047C. It can be sterilized with chemicals.

Vacuum-rated tubing withstands vacuum up to 29" Hg @ 72° F.



ID	OD	Wall	Lengths, ft.		Per Ft.
Beige					
1/8"	1/4"	1/16"	5, 10, 25, 50, 100	5546K42	$1.54
1/8"	3/8"	1/8"	5, 10, 25, 50, 100	5546K43	2.69
3/16"	5/16"	1/16"	5, 10, 25, 50, 100	5546K44	2.56
1/4"	3/8"	1/16"	5, 10, 25, 50	5546K45	2.43
1/4"	1/2"	1/8"	5, 10, 25, 50	5546K31	3.14
5/16"	9/16"	1/8"	5, 10, 25, 50	5546K46	4.28
3/8"	1/2"	1/16"	5, 10, 25, 50	5546K58	2.75
3/8"	3/4"	3/16"	2, 5, 10, 25	5546K47	6.60
1/2"	3/4"	1/8"	2, 5, 10, 25, 50	5546K59	3.68
1/2"	1"	1/4"	1, 2, 5, 10, 25, 50	5546K32	7.43
5/8"	1 1/8"	1/4"	2, 5, 10, 25	5546K48	8.07
3/4"	1"	1/8"	2, 5, 10, 25, 50	5546K49	5.72
3/4"	1 1/4"	1/4"	1, 2, 5, 10, 25, 50	5546K61	9.71
7/8"	1 3/8"	1/4"	2, 5, 10, 20, 25	5546K62	7.11
1"	1 1/4"	1/8"	2, 5, 10, 25, 50	5546K52	6.79
1"	1 1/2"	1/4"	1, 2, 5, 10, 25, 50	5546K63	10.18
1 1/4"	1 1/2"	1/8"	2, 5, 10, 25, 50	5546K53	6.93
1 1/4"	1 3/4"	1/4"	1, 2, 5, 10, 20, 25, 50	5546K33	10.20
1 1/2"	1 7/8"	3/16"	1, 2, 5, 10, 20, 25	5546K64	9.80
1 1/2"	2 1/2"	1/2"	1, 2, 5, 10, 20	5546K34	17.82
1 5/8"	1 7/8"	1/8"	2, 5, 12	5546K65	11.91
1 3/4"	2 1/4"	1/4"	1, 2, 5, 10	5546K56	13.60
2"	2 1/4"	1/8"	1, 2, 5, 12	5546K35	10.92
2"	2 1/2"	1/4"	1, 2, 5, 12	5546K36	13.25
2"	3"	1/2"	1, 2, 5, 12	5546K37	26.00
2 1/4"	2 3/4"	1/4"	1, 2, 5, 12	5546K38	17.05
2 1/2"	3"	1/4"	1, 2, 5, 12	5546K39	21.77
3"	3 1/2"	1/4"	1, 2, 5, 10	5546K41	19.85
3"	4"	1/2"	1, 2, 5, 10	5546K66	32.67
Red					
1/8"	7/32"	3/64"	5, 10, 25	5546K67	2.78
3/16"	5/16"	1/16"	5, 10, 25	5546K68	2.56
1/4"	3/8"	1/16"	5, 10, 25	5546K69	2.80
3/8"	9/16"	3/32"	2, 5, 10, 25	5546K71	3.54
Red (Cont.)					
13/16"	1 9/16"	3/8"	1, 2, 5, 10, 25	5546K73	$11.58
1 1/4"	2 1/4"	1/2"	1, 2, 5, 10, 25	5546K72	12.80
1 5/8"	3"	11/16"	1, 2, 5, 10	5546K74	22.55
Vacuum-Rated Beige					
1/8"	3/8"	1/8"	5, 10, 25, 50, 100	5543K41	2.68
3/16"	7/16"	1/8"	5, 10, 25, 50	5543K21	3.72
3/16"	9/16"	3/16"	2, 5, 10, 25, 50	5543K42	3.89
1/4"	5/8"	3/16"	2, 5, 10, 25	5543K22	5.71
1/4"	3/4"	1/4"	2, 5, 10, 25	5543K43	5.82
1/4"	1"	3/8"	2, 5, 10, 25	5543K44	6.29
5/16"	13/16"	1/4"	2, 5, 10, 25	5543K45	6.68
3/8"	7/8"	1/4"	2, 5, 10, 25	5543K46	6.93
3/8"	1 1/8"	3/8"	1, 2, 5, 10, 25, 50	5543K47	8.44
7/16"	1 1/16"	5/16"	1, 2, 5, 10	5543K57	10.00
1/2"	1 1/8"	5/16"	1, 2, 5, 10, 20, 25, 50	5543K48	7.86
1/2"	1 1/4"	3/8"	1, 2, 5, 10, 20, 25	5543K49	8.73
1/2"	1 1/2"	1/2"	1, 2, 5, 10, 25, 50	5543K25	12.34
5/8"	1 3/8"	3/8"	1, 2, 5, 10, 20, 25, 50	5543K51	9.42
5/8"	1 5/8"	1/2"	1, 2, 5, 10, 20, 25, 50	5543K52	11.43
3/4"	1 1/2"	3/8"	1, 2, 5, 10, 20, 25, 50	5543K54	10.29
3/4"	1 3/4"	1/2"	1, 2, 5, 10, 20, 25, 50	5543K55	13.43
3/4"	2"	5/8"	1, 2, 5, 10, 20, 25	5543K53	16.00
1"	2"	1/2"	1, 2, 5, 10, 20, 25, 50	5543K56	15.79
1"	2 1/4"	5/8"	1, 2, 5, 10, 20, 25	5543K58	19.65
1 1/2"	3"	3/4"	1, 2, 5, 12	5543K59	30.72
Vacuum-Rated Red					
1/4"	1/2"	1/8"	5, 10, 25	5543K62	3.14
1/4"	5/8"	3/16"	2, 5, 10, 25	5543K61	5.71
7/16"	11/16"	5/16"	1, 2, 5, 10	5543K63	10.00
1/2"	1 1/4"	3/8"	1, 2, 5, 10, 25	5543K65	8.73
3/4"	1 1/2"	3/8"	1, 2, 5, 10, 25, 50	5543K66	12.34
7/8"	1 7/8"	1/2"	1, 2, 5, 10, 25	5543K68	15.57
1"	2"	1/2"	1, 2, 5, 10, 25	5543K69	15.79

High-Temperature Silicone Rubber Tubing



Opaque



Semi-Clear

- Very flexible
- Soft
- Temperature Range: -90° to 390° F
- Use with barbed fittings

More resilient than latex rubber, this silicone rubber tubing withstands temperatures up to 390° F. It maintains its flexibility over time and is commonly used in metering (peristaltic) pump applications. The higher the durometer number, the harder the wall. Use with air and water. Material meets ASTM D2000. Tubing can be sterilized with steam (autoclaving) and radiation.

Durometer 70A and **Durometer 50A**—**To Order:** Please specify opaque black, opaque red, semi-clear blue, or semi-clear white.

Durometer 35A—Tubing is opaque white.

					Durometer 70A (Choose a Color)			Durometer 50A (Choose a Color)			Durometer 35A (Opaque White)		
ID	OD	Wall	Bend Radius	Lengths, ft.	Max. psi @ 72° F		Per Ft.	Max. psi @ 72° F		Per Ft.	Max. psi @ 72° F		Per Ft.
Inch													
1/32"	1/16"	1/64"	1/8"	10, 25, 50, 100	5	51135K54	$0.69	5	5236K19	$0.60	3	5236K501	$1.06
1/16"	1/8"	1/32"	1/4"	25, 50, 100	10	51135K12	.52	10	5236K81	.44	3	5236K502	1.13
1/16"	3/16"	1/16"	1/4"	10, 25, 50, 100	10	51135K55	1.03	15	5236K21	.88	3	5236K503	1.40
3/32"	7/32"	1/16"	1/2"	10, 25, 50, 100	15	51135K13	.85	15	5236K82	.70	3	5236K504	1.22
3/32"	9/32"	3/32"	3/4"	5, 10, 25, 50, 100	10	51135K56	1.50	15	5236K22	1.30	3	5236K505	1.93
1/8"	1/4"	1/16"	3/4"	10, 25, 50, 100	20	51135K15	.84	20	5236K83	.69	3	5236K506	1.25
1/8"	3/8"	1/8"	3/4"	5, 10, 25, 50, 100	10	51135K57	1.90	15	5236K23	1.68	3	5236K507	2.39
3/16"	5/16"	1/16"	3/4"	10, 25, 50, 100	20	51135K17	.95	20	5236K84	.87	3	5236K508	1.28
3/16"	3/8"	3/32"	1"	10, 25, 50, 100	20	51135K18	1.52	20	5236K85	1.27	3	5236K509	1.88
3/16"	7/16"	1/8"	1 1/4"	5, 10, 25, 50, 100	15	51135K19	2.09	15	5236K86	1.57	3	5236K511	2.60
1/4"	3/8"	1/16"	1"	10, 25, 50, 100	5	51135K21	1.08	5	5236K87	.98	3	5236K512	1.44
1/4"	1/2"	1/8"	1 1/2"	5, 10, 25, 50, 100	15	51135K26	2.36	15	5236K88	2.17	3	5236K513	2.90
1/4"	5/8"	3/16"	1 3/4"	2, 5, 10, 25, 50, 100	10	51135K58	3.59	15	5236K24	3.20	3	5236K514	4.55
5/16"	7/16"	1/16"	1 1/4"	10, 25, 50, 100	10	51135K27	1.45	10	5236K89	1.24	3	5236K515	1.85
5/16"	9/16"	1/8"	1 1/2"	5, 10, 25, 50, 100	10	51135K29	2.49	10	5236K91	2.37	3	5236K516	3.27
5/16"	11/16"	3/16"	2"	2, 5, 10, 25, 50, 100	10	51135K59	4.04	10	5236K25	3.64	3	5236K517	5.13
3/8"	1/2"	1/16"	1 1/2"	5, 10, 25, 50, 100	10	51135K34	1.99	10	5236K93	1.48	3	5236K518	2.47
3/8"	5/8"	1/8"	1 3/4"	5, 10, 25, 50, 100	10	51135K36	2.90	10	5236K44	2.65	3	5236K519	3.50
3/8"	3/4"	3/16"	2 1/4"	2, 5, 10, 25, 50, 100	10	51135K61	4.50	10	5236K26	4.12	3	5236K521	5.47
1/2"	5/8"	1/16"	1 3/4"	5, 10, 25, 50, 100	5	51135K38	1.96	5	5236K45	1.46	3	5236K522	2.29
1/2"	11/16"	3/32"	2"	5, 10, 25, 50, 100	5	51135K39	2.95	5	5236K46	2.36	3	5236K523	3.47
1/2"	3/4"	1/8"	2 1/4"	2, 5, 10, 25, 50, 100	10	51135K46	3.68	10	5236K47	3.58	3	5236K524	4.38
5/8"	3/4"	1/16"	2 1/4"	5, 10, 25, 50, 100	3	51135K48	2.27	3	5236K48	2.08	3	5236K525	2.65
5/8"	7/8"	1/8"	2 1/2"	2, 5, 10, 25, 50, 100	5	51135K52	3.92	5	5236K49	3.47	3	5236K526	4.41
5/8"	1"	3/16"	3"	2, 5, 10, 25, 50, 100	5	51135K68	6.27	5	5236K99	5.71	3	5236K535	7.60
3/4"	7/8"	1/16"	2 1/2"	2, 5, 10, 25, 50, 100	3	51135K62	2.83	10	5236K27	2.56	3	5236K527	3.49
3/4"	1"	1/8"	3"	2, 5, 10, 25, 50, 100	5	51135K53	4.42	5	5236K95	4.25	3	5236K528	5.57
3/4"	1 1/4"	1/4"	3 3/4"	1, 2, 5, 10, 25, 50	5	51135K69	11.85	5	5236K94	11.01	3	5236K536	13.03
1"	1 1/8"	1/16"	3 1/4"	2, 5, 10, 25, 50, 100	3	51135K63	3.53	5	5236K28	3.18	3	5236K529	4.20
1"	1 1/4"	1/8"	3 3/4"	2, 5, 10, 25, 50, 100	3	51135K64	5.87	5	5236K29	5.36	3	5236K531	7.11
1"	1 1/2"	1/4"	4 1/2"	1, 2, 5, 10, 25, 50	5	51135K91	12.08	5	5236K92	11.35	3	5236K537	16.12
1 1/8"	1 1/2"	3/16"	4 1/2"	1, 2, 5, 10, 25, 50	3	51135K65	9.81	5	5236K96	8.89	3	5236K532	11.70
1 1/4"	1 1/2"	1/8"	4 1/2"	1, 2, 5, 10, 25, 50	3	51135K66	7.27	5	5236K97	6.67	3	5236K533	8.82
1 3/8"	1 1/2"	1/16"	4 1/2"	2, 5, 10, 25, 50, 100	3	51135K67	4.47	5	5236K98	4.14	3	5236K534	5.61
Metric—Dimensions in millimeters (except lengths)													
1	3	1	9	10, 25, 50, 100	5	5041K62	.80	5	5054K64	.71	3	5054K801	1.19
1	4	1.5	12	10, 25, 50, 100	10	5041K63	.95	10	5054K65	.82	3	5054K802	1.38
2	5	1.5	15	10, 25, 50, 100	10	5041K64	1.06	10	5054K66	.91	3	5054K803	1.45
2	6	2	18	10, 25, 50, 100	20	5041K51	.98	20	5054K51	.80	3	5054K804	1.34
2	7	2.5	21	5, 10, 25, 50, 100	10	5041K72	1.52	10	5054K74	1.29	3	5054K822	2.04
3	5	1	15	10, 25, 50, 100	10	5041K65	.98	10	5054K67	.85	3	5054K805	1.48
3	6	1.5	18	10, 25, 50, 100	10	5041K66	1.19	10	5054K68	1.00	—	—	—
3	7	2	21	5, 10, 25, 50, 100	10	5041K73	1.43	10	5054K75	1.26	3	5054K823	1.93
3	8	2.5	24	10, 25, 50, 100	20	5041K52	1.44	20	5054K52	1.12	3	5054K807	1.87
4	7	1.5	21	5, 10, 25, 50, 100	10	5041K67	1.30	10	5054K69	1.09	3	5054K808	1.77
4	8	2	24	10, 25, 50, 100	15	5041K53	1.22	15	5054K53	.99	3	5054K809	1.74
4	9	2.5	27	5, 10, 25, 50, 100	15	5041K68	1.62	15	5054K71	1.44	3	5054K811	2.05
6	8	1	24	10, 25, 50, 100	5	5041K69	1.20	5	5054K72	1.07	3	5054K812	1.66
6	9	1.5	27	10, 25, 50, 100	5	5041K54	1.19	5	5054K54	1.00	3	5054K813	1.68
6	10	2	30	5, 10, 25, 50, 100	10	5041K74	1.90	5	5054K76	1.68	3	5054K824	2.47
7	9	1	27	10, 25, 50, 100	5	5041K71	1.27	5	5054K73	1.12	3	5054K814	1.75
7	10	1.5	30	10, 25, 50, 100	5	5041K61	1.28	5	5054K61	.78	3	5054K815	1.67
7	11	2	33	5, 10, 25, 50, 100	10	5041K75	2.07	5	5054K77	1.82	3	5054K825	2.65
9	11	1	33	5, 10, 25, 50, 100	5	5041K76	1.43	5	5054K78	1.26	3	5054K826	1.93
9	13	2	39	5, 10, 25, 50, 100	10	5041K55	2.42	10	5054K55	2.23	3	5054K816	2.86
9	15	3	45	5, 10, 25, 50, 100	10	5041K56	3.68	10	5054K56	3.34	3	5054K817	4.34
10	13	1.5	39	5, 10, 25, 50, 100	5	5041K77	2.00	5	5054K79	1.76	3	5054K827	2.58
10	15	2.5	45	5, 10, 25, 50, 100	10	5041K57	3.18	10	5054K57	2.39	3	5054K818	3.93
10	17	3.5	51	5, 10, 25, 50, 100	10	5041K58	5.17	10	5054K58	4.35	3	5054K819	5.81
15	20	2.5	60	5, 10, 25, 50, 100	10	5041K59	4.30	10	5054K59	3.19	3	5054K821	5.11
15	22	3.5	66	2, 5, 10, 25, 50, 100	5	5041K78	6.08	5	5054K81	5.35	3	5054K828	7.07
15	24	4.5	72	1, 2, 5, 10, 25, 50	5	5041K79	8.04	5	5054K82	7.08	3	5054K829	9.42

High-Temperature White Silicone Rubber Tubing for Food and Beverage

- Very flexible
- Soft (Durometer 50A)
- Temperature Range: -90° to 390° F
- Use with barbed fittings

Hot processes won't harm this tubing—it can handle temperatures up to 390° F. Tubing is made of FDA listed materials and meets ASTM D2000 and NSF/ANSI Standard 51 for food contact. Tubing won't impart tastes or odors on your product. It maintains its flexibility over time and is commonly used in metering (peristaltic) pump applications. Tubing is semi-clear white. It can be sterilized with steam (autoclaving) and gas.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
1/16"	1/8"	1/32"	1/8"	10	10, 25	3038K11	$0.56
3/32"	7/32"	1/16"	1/8"	15	10, 25	3038K12	.88
1/8"	1/4"	1/16"	1/4"	20	10, 25	3038K13	.88
3/16"	5/16"	1/16"	1/4"	20	10, 25	3038K14	1.14
3/16"	3/8"	3/32"	1/4"	10	5, 10, 25	3038K15	1.70
3/16"	7/16"	1/8"	1/4"	15	5, 10, 25	3038K16	2.43
1/4"	3/8"	1/16"	1/4"	5	10, 25	3038K17	1.17
1/4"	1/2"	1/8"	1/2"	10	5, 10, 25	3038K18	2.79
5/16"	7/16"	1/16"	1/4"	10	5, 10, 25	3038K19	1.77
5/16"	9/16"	1/8"	1/2"	10	2, 5, 10, 25	3038K21	3.24
3/8"	1/2"	1/16"	1/2"	10	5, 10, 25	3038K22	1.62
3/8"	5/8"	1/8"	1/2"	5	2, 5, 10, 25	3038K23	3.72
1/2"	5/8"	1/16"	1/2"	5	5, 10, 25	3038K24	1.84
1/2"	11/16"	3/32"	1/2"	5	2, 5, 10, 25	3038K25	3.28
1/2"	3/4"	1/8"	3/4"	10	2, 5, 10, 25	3038K26	5.59

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch (Cont.)							
5/8"	3/4"	1/16"	1/2"	3	5, 10, 25	3038K27	$2.27
5/8"	7/8"	1/8"	3/4"	5	2, 5, 10, 25	3038K28	5.44
3/4"	1"	1/8"	1"	3	2, 5, 10, 25	3038K29	6.07
Metric—Dimensions in millimeters (except lengths)							
2	6	2	6	20	10, 25	3142K11	1.10
3	8	2.5	8	20	10, 25	3142K12	1.46
4	8	2	8	15	10, 25	3142K13	1.29
6	9	1.5	9	5	10, 25	3142K14	1.30
7	10	1.5	10	5	10, 25	3142K15	1.32
9	13	2	13	10	5, 10, 25	3142K16	2.29
9	15	3	15	10	2, 5, 10, 25	3142K17	3.73
10	15	2.5	15	10	2, 5, 10, 25	3142K18	4.26
10	17	3.5	17	10	2, 5, 10, 25	3142K19	6.00
15	20	2.5	20	10	2, 5, 10, 25	3142K21	5.44

Crush-Resistant White Silicone Rubber Tubing for Food, Beverage, and Dairy

- Very flexible
- Soft (Durometer 65A)
- Temperature Range: -60° to 450° F
- Use with barbed fittings



Silicone rubber is inherently flexible, but it's the thick walls that allow this tubing to bounce back to shape. Tubing is made of FDA listed materials, is 3-A certified, and meets ASTM D2000. Tubing won't impart tastes or odors and will maintain its flexibility over time. It is also weather and ozone resistant, making it good for outdoor use. Tubing is semi-clear white. It can be sterilized with steam (autoclaving) and radiation.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	3/16"	1/16"	1/8"	35	25, 50, 100	3184K8	$0.57
3/32"	9/32"	3/32"	1/4"	35	10, 25, 50, 100	3184K9	1.03
1/8"	1/4"	1/16"	1/4"	35	10, 25, 50, 100	3184K5	.91
3/16"	3/8"	3/32"	1/4"	35	10, 25, 50, 100	3184K6	1.70
1/4"	7/16"	3/32"	1 1/4"	35	5, 10, 25, 50, 100	3184K1	2.26
3/8"	11/16"	5/32"	3/4"	35	2, 5, 10, 25, 50	3184K14	5.11
1/2"	7/8"	3/16"	1"	35	2, 5, 10, 25, 50	3184K7	5.85
5/8"	1 1/16"	7/32"	2 1/2"	35	2, 5, 10, 25, 50	3184K4	6.77
3/4"	1 1/4"	1/4"	2 1/2"	35	1, 2, 5, 10, 20, 25	3184K3	10.60
1"	1 1/2"	1/4"	1 3/4"	35	1, 2, 5, 10, 20, 25	3184K15	17.24
1 1/4"	1 13/16"	9/32"	2"	35	1, 2, 5, 10, 20, 25	3184K16	18.82
1 1/2"	2 1/8"	5/16"	2 1/4"	35	1, 2, 5, 10, 20, 25	3184K17	24.42
1 3/4"	2 1/2"	3/8"	3"	35	1, 2, 5, 10, 20, 25	3184K18	31.03
2"	2 3/4"	3/8"	3 1/2"	35	1, 2, 5, 10, 20, 25	3184K19	35.64

High-Pressure White Silicone Rubber Tubing for Food and Beverage

- Flexible
- Soft (Durometer 60A)
- Temperature Range: -60° to 350° F
- Use with barbed fittings



A polyester braid reinforcement supports the tubing walls and withstands higher pressures than other silicone rubber tubing. It is made of FDA listed materials and meets NSF/ANSI Standard 51 for food contact. Tubing won't impart tastes or odors, maintains its flexibility over time, and resists UV exposure. Tubing is semi-clear white. It can be sterilized with steam (autoclaving) and radiation.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	0.292"	0.115"	1"	170	2, 5, 10, 25, 50, 100	5157K39	$8.24
1/8"	0.365"	0.12"	1"	170	2, 5, 10, 25, 50, 100	5157K41	5.80
3/16"	0.447"	0.13"	1 1/4"	160	2, 5, 10, 25, 50, 100	5157K42	6.67
1/4"	0.52"	0.135"	1 1/2"	160	2, 5, 10, 25, 50, 100	5157K43	7.45
5/16"	0.592"	0.14"	1 3/4"	140	1, 2, 5, 10, 20, 25, 50	5157K53	9.08
3/8"	0.655"	0.14"	2"	120	1, 2, 5, 10, 20, 25, 50	5157K44	8.59
1/2"	0.8"	0.15"	2 1/2"	130	1, 2, 5, 10, 20, 25, 50	5157K45	10.35
5/8"	0.965"	0.17"	3"	100	1, 2, 5, 10, 20, 25, 50	5157K46	13.19
3/4"	1.1"	0.175"	3 1/2"	85	1, 2, 5, 10, 20, 25, 50	5157K47	15.33
7/8"	1.235"	0.18"	4"	70	1, 2, 5, 10, 20, 25, 50	5157K55	33.55
1"	1.36"	0.18"	5"	65	1, 2, 5, 10, 20, 25, 50	5157K48	19.47
1 1/4"	1.61"	0.18"	6"	55	1, 2, 5, 10, 20, 25	5157K51	27.61

Large-Diameter White Gum Rubber Tubing for Food and Beverage

- Very flexible
- Soft (Durometer 45A)
- Temperature Rating: -60° to 180° F
- Use with clamps

This tubing has the girth to handle big jobs, such as those in food processing plants. It is made of FDA listed materials. Tubing has excellent abrasion and tear resistance.



ID	OD	Wall	Max. Lg.		Per Ft.
2"	2 1/4"	1/8"	25 ft.	9480T1	$15.00
2"	2 1/2"	1/4"	25 ft.	9480T2	22.20
4"	4 1/4"	1/8"	25 ft.	9480T3	23.50
4"	4 1/2"	1/4"	25 ft.	9480T4	33.90
6"	6 1/4"	1/8"	25 ft.	9480T5	31.90
6"	6 1/2"	1/4"	25 ft.	9480T6	35.50

ID	OD	Wall	Max. Lg.		Per Ft.
8"	8 1/4"	1/8"	25 ft.	9480T7	$37.70
8"	8 1/2"	1/4"	25 ft.	9480T8	43.33
10"	10 1/4"	1/8"	25 ft.	9480T9	45.30
10"	10 1/2"	1/4"	25 ft.	9480T11	53.50
12"	12 1/4"	1/8"	25 ft.	9480T12	54.53
12"	12 1/2"	1/4"	25 ft.	9480T13	63.58

For information about the chemical compatibility of silicone rubber tubing, go to mcmaster.com and search for the part number.

Lightweight Blue Polypropylene Tubing for Food, Beverage, and Dairy



- Flexible
- Soft (Durometer 70A)
- Temperature Range: -60° to 180° F
- Use with barbed fittings

Lighter than silicone rubber, but just as tough, this polypropylene tubing stands up to the wear and tear of daily use. It won't impart tastes or odors to your product and maintains its flexibility over time. It is 3-A certified and made of FDA listed materials. Tubing can be sterilized with steam (autoclaving), chemicals, and gas. It can withstand vacuum up to 27″ Hg @ 72° F, except the 3/4″ ID tubing is not rated for vacuum.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/4″	1/2″	1/8″	1″	120	2, 5, 10, 25, 50, 100	2085T5	$3.92
3/8″	5/8″	1/8″	1 1/2″	100	2, 5, 10, 25, 50, 100	2085T6	5.36
1/2″	3/4″	1/8″	2″	60	2, 5, 10, 25, 50, 100	2085T1	3.54
9/16″	15/16″	3/16″	2″	80	2, 5, 10, 25, 50, 100	2085T2	5.34
5/8″	1″	3/16″	2 1/2″	75	2, 5, 10, 25, 50, 100	2085T3	5.52
3/4″	1 1/8″	3/16″	3″	65	2, 5, 10, 25, 50, 100	2085T4	6.34

High-Purity White Silicone Rubber Tubing for Metering Pumps



- Very flexible
- Soft (Durometer 50A)
- Temperature Range: -70° to 450° F
- Use with barbed fittings

No measuring required—just reference the pump tube number to find the tubing you need. Tubing is cured with platinum for high purity. It is made with a nonleaching plasticizer, so it won't impart tastes or odors to your product. Use with beverage, dairy, deionized water, food, and pharmaceuticals. Tubing is made of FDA listed materials. It is 3-A certified and meets NSF/ANSI Standard 51 for food contact. Tubing is semi-clear white. It can be sterilized with steam (autoclaving) and radiation.

For Pump Tube Number	ID	OD	Wall	Lengths, ft.		Per Ft.
13	1/32″	0.157″	0.063″	5, 10, 25, 50, 100	9628T54	$1.59
15	3/16″	0.378″	0.094″	2, 5, 10, 25, 50, 100	9628T41	4.76
16	1/8″	1/4″	0.063″	5, 10, 25, 50, 100	9628T42	2.41
18	5/16″	0.437″	0.063″	2, 5, 10, 25, 50, 100	9628T43	4.54
24	1/4″	0.437″	0.094″	2, 5, 10, 25, 50, 100	9628T44	5.55
25	3/16″	0.312″	0.063″	5, 10, 25, 50, 100	9628T45	3.04
26	1/4″	0.502″	0.126″	2, 5, 10, 25, 50, 100	9628T46	7.49
73	3/8″	0.627″	0.126″	1, 2, 5, 10, 25, 50	9628T47	9.37
82	1/2″	0.736″	0.126″	1, 2, 5, 10, 25, 50	9628T48	11.69
88	1/2″	0.878″	0.189″	1, 2, 5, 10, 25, 50	9628T49	19.83
120	1/8″	0.313″	0.094″	2, 5, 10, 25, 50	9628T52	3.92
191	3/4″	1.128″	0.189″	1, 2, 5, 10, 25, 50	9628T53	25.76

High-Temperature and High-Purity White Silicone Rubber Tubing



Nonreinforced
- Very flexible
- Soft (Durometer 55A)
- Temperature Range: -80 to 420° F
- Use with barbed fittings



Braid Reinforced
- Very flexible
- Soft (Durometer 60A)
- Temperature Range: -80° to 350° F
- Use with barbed fittings

Not only is this tubing cured with platinum for high purity, it can be used at higher temperatures than other silicone rubber tubing. Tubing is made without a plasticizer additive, so it won't impart tastes or odors to the fluid passing through it. It is made of FDA listed materials for use with food, pharmaceuticals, dairy, and beverage. It is semi-clear white. It can be sterilized with steam (autoclaving).

Tubing **with polyester braid reinforcement** has extra strength and can handle higher pressures than nonreinforced tubing.

Nonreinforced

ID	OD	Wall	Max. psi @ 72° F	Lengths, ft.		Per Ft.
0.012″	0.025″	0.006″	10	5, 10, 25, 50	51845K65	$1.41
0.02″	0.037″	0.008″	10	5, 10, 25, 50	51845K66	1.33
0.025″	0.047″	0.011″	10	5, 10, 25, 50	51845K67	1.62
0.03″	0.065″	0.018″	10	10, 25, 50	51845K51	1.62
0.04″	0.085″	0.023″	10	10, 25, 50	51845K52	1.66
1/16″	1/8″	1/32″	10	10, 25, 50	51845K53	2.21
0.078″	1/8″	0.024″	10	10, 25, 50	51845K54	2.01
1/8″	1/4″	1/16″	10	5, 10, 25, 50	51845K55	2.34
3/16″	3/8″	3/32″	10	5, 10, 25, 50	51845K56	4.18
1/4″	1/2″	1/8″	10	2, 5, 10, 25, 50	51845K57	5.47
5/16″	1/2″	3/32″	5	2, 5, 10, 25, 50	51845K58	7.08
3/8″	5/8″	1/8″	5	2, 5, 10, 25, 50	51845K59	5.66
1/2″	5/8″	1/16″	Not Rated	2, 5, 10, 25, 50	51845K61	7.19
1/2″	3/4″	1/8″	5	2, 5, 10, 20, 25, 50	51845K62	9.85
5/8″	7/8″	1/8″	4	1, 2, 5, 10, 20, 25	51845K63	10.56
3/4″	1″	1/8″	3	1, 2, 5, 10, 20, 25	51845K64	11.35

Polyester Braid Reinforced

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16″	0.292″	0.115″	1″	170	2, 5, 10, 20, 25	51735K21	$8.24
1/8″	0.365″	0.12″	1″	170	1, 2, 5, 10, 20, 25	51735K22	9.91
3/16″	0.447″	0.13″	1 1/4″	160	1, 2, 5, 10, 20, 25	51735K23	12.10
1/4″	0.52″	0.135″	1 1/2″	160	1, 2, 5, 10, 20, 25	51735K24	14.37
5/16″	0.592″	0.14″	1 3/4″	140	1, 2, 5, 10, 20, 25	51735K25	16.45
3/8″	0.655″	0.14″	2″	120	1, 2, 5, 10, 20, 25	51735K26	18.13
1/2″	0.8″	0.15″	2 1/2″	130	1, 2, 5, 10, 20, 25	51735K27	18.46
5/8″	0.965″	0.17″	3″	100	1, 2, 5, 10, 20, 25	51735K28	24.10
3/4″	1.1″	0.175″	3 1/2″	85	1, 2, 5, 10, 20, 25	51735K29	15.89
7/8″	1.235″	0.18″	4″	70	1, 2, 5, 10, 20, 25	51735K31	34.48
1″	1.36″	0.18″	5″	65	1, 2, 5, 10, 20, 25	51735K32	38.03
1 1/8″	1.485″	0.18″	5 1/2″	55	1, 2, 5, 10, 20, 25	51735K33	46.16
1 1/4″	1.61″	0.18″	6″	55	1, 2, 5, 10, 20, 25	51735K34	49.91

Cleaned and Bagged High-Purity White Silicone Rubber Tubing





- Very flexible
- Soft (Durometer 50A)
- Temperature Range: -60° to 400° F
- Use with barbed fittings

Cleaned with isopropyl alcohol then bagged and sealed in a clean room, this is the highest-purity silicone tubing we offer. Tubing is cured with platinum and is made with a nonleaching plasticizer that won't impart tastes or odors. It is made of FDA listed materials for use with beverage, deionized water, food, and pharmaceuticals. It is semi-clear white. Tubing can be sterilized with steam (autoclaving), radiation, and gas.

ID	OD	Wall	Max. psi @ 72° F	Lengths, ft.		Per Ft.
0.03″	0.065″	0.018″	10	5, 10, 25, 50	2124T1	$3.43
0.04″	0.085″	0.023″	10	5, 10, 25, 50	2124T2	2.78
0.062″	1/8″	0.032″	10	5, 10, 25, 50	2124T3	3.35
0.078″	1/8″	0.024″	10	5, 10, 25, 50	2124T4	3.06

ID	OD	Wall	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/8″	1/4″	1/16″	10	5, 10, 25, 50	2124T5	$2.50
0.187″	3/8″	0.094″	10	2, 5, 10, 25	2124T6	5.29
1/4″	1/2″	1/8″	10	2, 5, 10, 25	2124T7	6.96
3/8″	5/8″	1/8″	5	2, 5, 10, 25	2124T8	7.93

Odor-Resistant White Silicone Rubber Tubing for Food and Beverage

- Very flexible
- Soft (Durometer 50A)
- Temperature Range: -60° to 400° F
- Use with barbed fittings

Silver ions are blended into the walls of this tubing to inhibit the growth of odor-causing microbes. Tubing is cured with platinum and made of FDA listed materials. It can be sterilized with steam (autoclaving), gas, and radiation.



ID	OD	Wall	Max. psi @ 72° F	Lengths, ft.		Per Ft.
0.012″	0.025″	0.007″	5	2, 5, 10, 25, 50	1972T1	$5.36
0.02″	0.037″	0.009″	5	2, 5, 10, 25, 50	1972T2	5.48
0.025″	0.047″	0.011″	5	2, 5, 10, 25, 50	1972T12	5.60
0.03″	0.065″	0.018″	10	2, 5, 10, 25, 50	1972T13	5.74
1/32″	5/32″	1/16″	15	1, 2, 5, 10, 25, 50	1972T3	9.17
0.04″	0.085″	0.023″	10	2, 5, 10, 25, 50	1972T4	5.40
0.058″	0.077″	0.009″	5	2, 5, 10, 25, 50	1972T14	5.45
0.062″	0.095″	0.017″	10	2, 5, 10, 25, 50	1972T5	5.63
0.062″	0.188″	0.063″	15	1, 2, 5, 10, 25, 50	1972T15	10.99

ID	OD	Wall	Max. psi @ 72° F	Lengths, ft.		Per Ft.
0.078″	1/8″	0.024″	10	2, 5, 10, 25, 50	1972T6	$5.59
0.104″	0.192″	0.044″	10	2, 5, 10, 25, 50	1972T16	8.34
1/8″	1/4″	1/16″	10	2, 5, 10, 25, 50	1972T7	5.57
0.132″	0.183″	0.025″	5	1, 2, 5, 10, 25, 50	1972T17	12.70
3/16″	5/16″	1/16″	5	1, 2, 5, 10, 25, 50	1972T8	15.53
1/4″	3/8″	1/16″	5	1, 2, 5, 10, 25, 50	1972T9	18.39
1/4″	7/16″	3/32″	5	1, 2, 5, 10, 25, 50	1972T18	31.18
0.312″	0.437″	0.063″	4	1, 2, 5, 10, 25, 50	1972T19	21.22
3/8″	1/2″	1/16″	3	1, 2, 5, 10, 25, 50	1972T11	24.23

Insulated Gray Silicone Rubber Tubing

- Very flexible
- Soft (Durometer 65A)
- Temperature Range: -70° to 450° F
- Use with barbed fittings

The lightweight, spongy walls provide more thermal insulation than standard silicone tubing, so it won't produce condensation when cold fluid runs through it. Use with air and water. It can be sterilized with steam (autoclaving) and radiation.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/32″	1/16″	1/64″	1/8″	3	10, 25, 50, 100	2121T11	$0.98
1/16″	1/8″	1/32″	1/8″	5	10, 25, 50, 100	2121T13	1.17
3/32″	7/32″	1/16″	1/4″	5	5, 10, 25, 50, 100	2121T15	1.77
1/8″	1/4″	1/16″	1/8″	10	5, 10, 25, 50, 100	2121T17	1.93
3/16″	5/16″	1/16″	1/4″	10	5, 10, 25, 50, 100	2121T19	2.27

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/4″	3/8″	1/16″	1/4″	3	5, 10, 25, 50, 100	2121T21	$2.61
1/4″	1/2″	1/8″	1/2″	10	2, 5, 10, 25, 50, 100	2121T23	4.65
3/8″	1/2″	1/16″	1/2″	5	2, 5, 10, 25, 50, 100	2121T25	2.98
1/2″	3/4″	1/8″	1/2″	5	1, 2, 5, 10, 25, 50	2121T27	7.41
3/4″	1″	1/8″	1″	3	1, 2, 5, 10, 25, 50	2121T29	8.90

Static-Dissipative Black Silicone Rubber Tubing

- Very flexible
- Soft (Durometer 70A)
- Temperature Range: -70° to 450° F
- Use with barbed fittings

Carbon is embedded into the walls of this tubing to help eliminate static buildup. Use with air and water. Material meets ASTM D2000.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/32″	1/16″	1/64″	1/8″	3	10, 25, 50, 100	1909T1	$1.14
1/16″	1/8″	1/32″	1/8″	5	10, 25, 50, 100	1909T2	1.56
3/32″	7/32″	1/16″	1/4″	5	2, 5, 10, 25, 50, 100	1909T3	3.55
1/8″	1/4″	1/16″	1/8″	10	2, 5, 10, 25, 50, 100	1909T4	4.45
1/8″	3/8″	1/8″	1/4″	10	1, 2, 5, 10, 20, 25	1909T5	7.53
3/16″	5/16″	1/16″	1/4″	10	2, 5, 10, 20, 25, 50	1909T6	4.95

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/4″	3/8″	1/16″	1/2″	3	2, 5, 10, 20, 25, 50	1909T7	$5.62
1/4″	1/2″	1/8″	1/2″	10	1, 2, 5, 10, 20, 25	1909T8	11.01
3/8″	1/2″	1/16″	1/2″	5	2, 5, 10, 20, 25, 50	1909T9	6.72
3/8″	5/8″	1/8″	1/4″	5	1, 2, 5, 10, 20, 25	1909T11	12.94
1/2″	3/4″	1/8″	1/2″	3	1, 2, 5, 10, 20, 25	1909T12	16.07
3/4″	1″	1/8″	1″	3	1, 2, 5, 10, 20, 25	1909T13	22.20

Flame-Retardant Beige Silicone Rubber Tubing

- Very flexible
- Soft (Durometer 60A)
- Temperature Range: -70° to 450° F
- Use with barbed fittings

This tubing self-extinguishes, so it has an extra level of flame retardance not found in our other silicone rubber tubing. Use with air and water. It can be sterilized with steam (autoclaving) and radiation. Material meets ASTM D2000.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/32″	3/16″	5/64″	1/8″	5	5, 10, 25, 50, 100	1944T1	$2.40
1/16″	1/4″	3/32″	1/4″	5	2, 5, 10, 25, 50, 100	1944T2	3.09
3/32″	1/4″	5/64″	1/4″	10	2, 5, 10, 25, 50, 100	1944T3	2.97
1/8″	5/16″	3/32″	1/4″	10	2, 5, 10, 25, 50, 100	1944T12	3.82
1/8″	3/8″	1/8″	1/4″	10	2, 5, 10, 25, 50, 100	1944T4	5.04
3/16″	3/8″	3/32″	1/4″	10	2, 5, 10, 25, 50, 100	1944T5	4.56

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/4″	7/16″	3/32″	1/4″	5	2, 5, 10, 25, 50, 100	1944T6	$5.21
1/4″	1/2″	1/8″	1/2″	5	2, 5, 10, 25, 50, 100	1944T7	6.14
3/8″	9/16″	3/32″	1/2″	5	2, 5, 10, 25, 50, 100	1944T13	5.79
3/8″	5/8″	1/8″	1/2″	5	1, 2, 5, 10, 25, 50	1944T8	7.65
1/2″	3/4″	1/8″	3/4″	5	1, 2, 5, 10, 25, 50	1944T9	9.34
3/4″	1″	1/8″	1″	3	1, 2, 5, 10, 25, 50	1944T11	10.40

High-Temperature Blue Fluorosilicone Rubber Tubing for Fuels

- Very flexible
- Soft (Durometer 60A)
- Temperature Range: -80° to 450° F
- Use with barbed fittings

Use this tubing with a wide range of fuels such as diesel fuel, biodiesel, gasoline, and hydraulic fluid at temperatures up to 450° F. Material meets MIL-R-25988B and ASTM D2000.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/32″	1/16″	1/64″	1/8″	5	5, 10, 25, 50, 100	9627T11	$2.00
1/16″	1/8″	1/32″	1/8″	5	5, 10, 25, 50, 100	9627T12	2.35
3/32″	7/32″	1/16″	1/4″	10	2, 5, 10, 25, 50, 100	9627T13	3.96
1/8″	1/4″	1/16″	1/8″	5	2, 5, 10, 25, 50, 100	9627T14	4.56
1/8″	3/8″	1/8″	1/4″	5	1, 2, 5, 10, 20, 25	9627T22	8.61
3/16″	5/16″	1/16″	1/4″	10	2, 5, 10, 25, 50, 100	9627T15	5.86

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
3/16″	3/8″	3/32″	1/4″	10	1, 2, 5, 10, 20, 25	9627T23	$7.38
1/4″	3/8″	1/16″	1/4″	3	2, 5, 10, 25, 50, 100	9627T16	7.09
1/4″	1/2″	1/8″	1/2″	10	1, 2, 5, 10, 20, 25	9627T17	12.57
3/8″	1/2″	1/16″	1/2″	3	1, 2, 5, 10, 20, 25	9627T18	9.53
1/2″	3/4″	1/8″	1/2″	5	1, 2, 5, 10, 20, 25	9627T19	20.47
3/4″	1″	1/8″	1″	3	1, 2, 5, 10, 20, 25	9627T21	28.42

ⓘ For information about the chemical compatibility of tubing, go to mcmaster.com and search for the part number.

High-Flex Rubber Tubing



For Chemicals



For Food and Beverage

- Very flexible
- For Chemicals: Soft (Durometer 65A)
  For Food and Beverage: Firm (Durometer 80A)
- Temperature Range: -70° to 270° F
- Use with barbed fittings

This resilient tubing is commonly used with metering (peristaltic) pumps. It can be sterilized with steam (autoclaving), gas, and chemicals.

Tubing for chemicals has the ability to handle continuous flexing and bending. It is made of black Santoprene rubber and resists ozone and UV light. Use with acetic acid, hydrogen peroxide, isopropyl alcohol, sodium hydroxide, and sulfuric acid.

Tubing for food and beverage combines EPDM rubber and polypropylene plastic to create highly resilient tubing that stands up to repeated flexing and ozone. It is beige and made of FDA listed materials.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
For Chemicals							
1/16"	3/16"	1/16"	3/4"	30	25, 50	51225K21	$0.26
1/8"	1/4"	1/16"	1"	15	25, 50	51225K22	.31
3/16"	5/16"	1/16"	1"	10	25, 50	51225K24	.40
3/16"	3/8"	3/32"	1 1/2"	15	10, 25, 50	51225K25	.65
1/4"	3/8"	1/16"	1 1/2"	10	25, 50	51225K27	.49
1/4"	7/16"	3/32"	1 3/4"	15	10, 25, 50	51225K28	.81
1/4"	1/2"	1/8"	2"	15	10, 25, 50	51225K29	1.16
5/16"	7/16"	1/16"	1 3/4"	5	10, 25, 50	51225K32	.61
5/16"	1/2"	3/32"	2"	10	10, 25, 50	51225K33	.96
3/8"	1/2"	1/16"	2"	5	10, 25, 50	51225K35	.67
3/8"	9/16"	3/32"	2 1/2"	10	10, 25, 50	51225K36	1.10
3/8"	5/8"	1/8"	2 1/2"	10	5, 10, 25, 50	51225K37	1.56
7/16"	9/16"	1/16"	2 1/4"	5	10, 25, 50	51225K39	.81
1/2"	5/8"	1/16"	2 1/2"	5	10, 25, 50	51225K41	.90
1/2"	11/16"	3/32"	2 3/4"	5	10, 25, 50	51225K42	1.38
1/2"	3/4"	1/8"	3"	10	5, 10, 25, 50	51225K43	1.94
5/8"	13/16"	3/32"	2 1/2"	5	5, 10, 25, 50	51225K44	1.68
For Chemicals (Cont.)							
5/8"	7/8"	1/8"	3 1/2"	5	5, 10, 25, 50	51225K45	$2.29
3/4"	1"	1/8"	4"	5	5, 10, 25, 50	51225K47	2.67
1"	1 1/4"	1/8"	5"	5	2, 5, 10, 25, 50	51225K48	3.09
For Food and Beverage							
1/16"	3/16"	1/16"	1/2"	35	25, 50	51245K21	.28
1/8"	1/4"	1/16"	3/4"	20	25, 50	51245K22	.35
3/16"	5/16"	1/16"	1"	10	25, 50	51245K24	.44
1/4"	3/8"	1/16"	1"	10	25, 50	51245K27	.54
1/4"	1/2"	1/8"	1 1/2"	20	10, 25, 50	51245K29	1.27
5/16"	7/16"	1/16"	1 1/4"	5	10, 25, 50	51245K32	.66
3/8"	1/2"	1/16"	1 1/2"	10	10, 25, 50	51245K35	.74
3/8"	5/8"	1/8"	1 3/4"	10	5, 10, 25, 50	51245K37	1.71
1/2"	3/4"	1/8"	2 1/4"	10	5, 10, 25, 50	51245K43	2.12
5/8"	7/8"	1/8"	2 1/2"	5	5, 10, 25, 50	51245K45	2.52
3/4"	1"	1/8"	3"	5	2, 5, 10, 25, 50	51245K47	2.93
1"	1 1/4"	1/8"	3 3/4"	5	2, 5, 10, 25, 50	51245K48	3.39

Durable Tygon Rubber Tubing



Long Life



High Flex and High Pressure

- Formulation:
  Long Life for Chemicals: A-60-G
  High Flex for Food, Beverage, and Dairy: A-60-F
  High Pressure for Food and Beverage: A-60-F I.B.
- Flexible
- Soft (Durometer 60A)
- Temperature Range: -70° to 270° F
- Use with barbed fittings

Formerly known as Norprene, this highly durable tubing has a long flex life. Tubing withstands vacuum up to 29" Hg @ 72° F, unless noted. It can be sterilized with steam (autoclaving) and chemicals.

Long Life for Chemicals—This highly durable tubing is compatible with a wider range of chemicals than standard rubber tubing, including acetic acid, bleach, hydrogen peroxide, phosphoric acid, and sodium hydroxide. Tubing is black and is resistant to ozone and UV light. Tubing can handle repeated flexing, such as those found in metering (peristaltic) pump applications.

High Flex for Food, Beverage, and Dairy—Stretch and bend this tubing and it will spring back to its original shape. It is commonly used in metering (peristaltic) pump applications. This beige tubing is made of FDA listed materials, is 3-A certified, and meets NSF/ANSI Standard 51 for food contact.

High Pressure for Food and Beverage—Reinforced with a polyester braid, this beige tubing has the strength to withstand higher pressures than other rubber tubing. This tubing is made of FDA listed materials.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Long Life for Chemicals							
1/16"	3/16"	1/16"	1/4"	30	10, 25, 50	51075K21	$0.78
1/8"	1/4"	1/16"	1/2"	15	10, 25, 50	51075K22	.80
1/8"	3/8"	1/8"	1/2"	30	10, 25, 50	51075K23	1.54
3/16"	5/16"	1/16"	3/4"	10	10, 25, 50	51075K24	.87
3/16"	3/8"	3/32"	1/2"	15	10, 25, 50	51075K51	1.31
3/16"	9/16"	3/16"	1/4"	30	2, 5, 10, 25, 50	51075K52	3.49
1/4"	3/8"	1/16"	3/4"	10	10, 25, 50	51075K27	.98
1/4"	7/16"	3/32"	3/4"	15	5, 10, 25, 50	51075K28	1.60
1/4"	1/2"	1/8"	3/4"	15	5, 10, 25, 50	51075K29	2.35
1/4"	5/8"	3/16"	1/2"	25	2, 5, 10, 25, 50	51075K53	3.82
5/16"	7/16"	1/16"	1 1/4"	5	10, 25, 50	51075K32★	1.23
5/16"	1/2"	3/32"	1"	10	5, 10, 25, 50	51075K33	1.89
5/16"	13/16"	1/4"	1/2"	25	2, 5, 10, 20, 25, 50	51075K54	6.48
3/8"	1/2"	1/16"	1 1/4"	5	5, 10, 25, 50	51075K35★	1.39
3/8"	9/16"	3/32"	1 1/2"	10	5, 10, 25, 50	51075K36	2.25
3/8"	5/8"	1/8"	1"	10	5, 10, 25, 50	51075K37	3.11
7/16"	9/16"	1/16"	2 1/4"	5	5, 10, 25, 50	51075K39★	2.56
1/2"	5/8"	1/16"	3"	5	5, 10, 25, 50	51075K41★	2.04
1/2"	11/16"	3/32"	2 1/4"	5	5, 10, 25, 50	51075K42★	3.01
1/2"	3/4"	1/8"	1"	10	2, 5, 10, 25, 50	51075K56★	3.90
5/8"	13/16"	3/32"	3 1/4"	5	2, 5, 10, 25, 50	51075K44★	4.04
5/8"	7/8"	1/8"	2 3/4"	5	2, 5, 10, 25, 50	51075K45★	4.36
3/4"	1"	1/8"	3 1/2"	5	2, 5, 10, 25, 50	51075K47★	5.03
1"	1 1/4"	1/8"	5"	5	2, 5, 10, 20, 25, 50	51075K48★	6.52
High Flex for Food, Beverage, and Dairy							
1/16"	3/16"	1/16"	1/4"	30	10, 25, 50	52035K12	.86
1/8"	1/4"	1/16"	1/2"	15	10, 25, 50	52035K14	1.00
3/16"	5/16"	1/16"	3/4"	10	10, 25, 50	52035K16	1.40
1/4"	3/8"	1/16"	1 1/4"	10	5, 10, 25, 50	52035K19♣	1.71
1/4"	1/2"	1/8"	3/4"	15	5, 10, 25, 50	52035K23	2.96
5/16"	7/16"	1/16"	1 1/2"	5	5, 10, 25, 50	52035K26★	1.96
3/8"	1/2"	1/16"	2 1/4"	5	5, 10, 25, 50	52035K28★	2.90
3/8"	5/8"	1/8"	1 1/4"	10	2, 5, 10, 25, 50	52035K29	4.61
1/2"	3/4"	1/8"	2"	10	2, 5, 10, 25, 50	52035K37♣	5.00
5/8"	7/8"	1/8"	3 1/4"	5	2, 5, 10, 25, 50	52035K38★	5.48
3/4"	1"	1/8"	4"	5	2, 5, 10, 25, 50	52035K39★	6.21
High Pressure for Food and Beverage							
1/4"	1/2"	1/8"	3/4"	120	2, 5, 10, 25, 50	1489T11	4.50
3/8"	5/8"	1/8"	1 1/4"	100	2, 5, 10, 25, 50	1489T12	5.63
1/2"	3/4"	1/8"	2 1/4"	100	2, 5, 10, 25, 50	1489T13♣	7.78
5/8"	7/8"	1/8"	2 1/2"	95	1, 2, 5, 10, 25, 50	1489T14★	8.42
3/4"	1 1/16"	5/32"	3 1/4"	85	1, 2, 5, 10, 25, 50	1489T15★	9.69
1"	1 3/8"	3/16"	5"	75	1, 2, 5, 10, 25, 50	1489T16★	14.92

★ Not rated for vacuum.
♣ Vacuum rating is 25" Hg @ 72° F.

Durable Beige Rubber Tubing for Food and Beverage

- Flexible
- Soft (Durometer 65A)
- Temperature Range: -60° to 270° F
- Use with barbed fittings

Made from a special blend of rubber, this tubing lasts longer than silicone and other blended materials. It is commonly used in metering (peristaltic) pump applications. It is made of FDA listed materials and meets NSF/ANSI Standard 51 for food contact. It can be sterilized with steam (autoclaving), gas, and radiation.

Vacuum-rated tubing withstands vacuum up to 29″ Hg @ 72° F.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Standard							
1/8″	3/16″	1/32″	1/2″	10	2, 5, 10, 25	50345K78	$4.75
1/4″	3/8″	1/16″	3/4″	10	2, 5, 10, 25	50345K79	6.08
5/16″	7/16″	1/16″	1 1/4″	10	2, 5, 10, 25	50345K68	6.37
3/8″	1/2″	1/16″	1 1/4″	5	2, 5, 10, 25	50345K81	6.82
1/2″	3/4″	1/8″	1″	10	1, 2, 5, 10, 20, 25	50345K71	10.79
5/8″	7/8″	1/8″	2 3/4″	10	1, 2, 5, 10, 20, 25	50345K72	12.76
3/4″	1″	1/8″	3 1/2″	5	1, 2, 5, 10, 20, 25	50345K74	17.80

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Length, ft.		Per Ft.
Vacuum Rated							
0.02″	0.145″	1/16″	1/8″	110	5, 10, 25	50345K61	$3.28
1/32″	5/32″	1/16″	1/8″	75	2, 5, 10, 25	50345K62	3.90
1/16″	1/8″	1/32″	1/4″	20	2, 5, 10, 25	50345K75	4.33
1/16″	3/16″	1/16″	1/8″	40	2, 5, 10, 25	50345K63	4.83
3/32″	7/32″	1/16″	1/4″	30	2, 5, 10, 25	50345K76	6.27
1/8″	1/4″	1/16″	1/2″	20	2, 5, 10, 25	50345K64	5.02
3/16″	5/16″	1/16″	1/2″	15	2, 5, 10, 25	50345K65	5.15
1/4″	1/2″	1/8″	3/4″	20	1, 2, 5, 10, 20, 25	50345K67	9.36
3/8″	5/8″	1/8″	1″	15	1, 2, 5, 10, 20, 25	50345K69	8.81

Oil-Resistant Black Buna-N Rubber Tubing

- Very flexible
- Soft (Durometer 60A)
- Temperature Range: -20° to 212° F
- Use with barbed fittings

Oil won't cause this tubing to deteriorate or become brittle. Use with fuel oil, gasoline, kerosene, mineral oil, and vegetable oil. Meets ASTM 2000. Sterilize with steam (autoclaving).



ID	OD	Wall	Lengths, ft.		Per Ft.
1/8″	3/16″	1/32″	25, 50	5235K41	$0.60
1/8″	1/4″	1/16″	25, 50	5235K42	.60
5/32″	9/32″	1/16″	25, 50	5235K43	.60
3/16″	5/16″	1/16″	25, 50	5235K44	.64
1/4″	3/8″	1/16″	25, 50	5235K45	.68
1/4″	7/16″	3/32″	10, 25, 50	5235K58	.80
5/16″	7/16″	1/16″	10, 25, 50	5235K48	.68
3/8″	1/2″	1/16″	10, 25, 50	5235K51	.76
3/8″	9/16″	3/32″	10, 25, 50	5235K52	1.20

ID	OD	Wall	Lengths, ft.		Per Ft.
3/8″	5/8″	1/8″	10, 25, 50	5235K53	$1.33
7/16″	11/16″	1/8″	10, 25, 50	5235K59	1.63
1/2″	5/8″	1/16″	10, 25, 50	5235K54	.92
1/2″	3/4″	1/8″	5, 10, 25, 50	5235K55	1.73
5/8″	7/8″	1/8″	5, 10, 25, 50	5235K56	1.93
3/4″	1″	1/8″	5, 10, 25, 50	5235K57	2.40
1″	1 3/16″	3/32″	5, 10	5235K61	2.37
1″	2″	1/2″	1, 2, 5, 10	5235K62	12.65

Weather-Resistant Black EPDM Rubber Tubing

- Flexible
- Soft (Durometer 60A)
- Temperature Range: -40° to 300° F
- Use with barbed fittings

More durable than PVC and silicone rubber, EPDM can stand up to harsh outdoor environments and has excellent resistance to ozone and UV light. Use with water. Material meets ASTM D2000.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
1/32″	1/16″	1/64″	1/8″	10	10, 25, 50, 100	9776T14	$0.55
1/16″	1/8″	1/32″	1/8″	10	25, 50, 100	9776T1	.38
3/32″	7/32″	1/16″	1/8″	15	25, 50, 100	9776T2	.50
1/8″	1/4″	1/16″	1/4″	20	25, 50, 100	9776T3	.53
3/16″	5/16″	1/16″	1/4″	10	10, 25, 50, 100	9776T4	.60
3/16″	3/8″	3/32″	1/4″	20	10, 25, 50, 100	9776T5	.82
3/16″	7/16″	1/8″	1/4″	10	10, 25, 50, 100	9776T6	1.11
1/4″	3/8″	1/16″	1/4″	5	10, 25, 50, 100	9776T7	.71
1/4″	1/2″	1/8″	1/2″	15	10, 25, 50, 100	9776T8	1.22
5/16″	7/16″	1/16″	1/4″	10	5, 10, 25, 50, 100	9776T15	1.58
5/16″	9/16″	1/8″	1/2″	10	5, 10, 25, 50, 100	9776T16	1.99
3/8″	1/2″	1/16″	1/2″	10	10, 25, 50, 100	9776T9	.84
3/8″	5/8″	1/8″	1/2″	10	5, 10, 25, 50, 100	9776T11	1.55
1/2″	5/8″	1/16″	1/2″	5	5, 10, 25, 50, 100	9776T17	1.89
1/2″	3/4″	1/8″	3/4″	10	5, 10, 25, 50, 100	9776T18	2.89

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch (Cont.)							
5/8″	3/4″	1/16″	3/4″	5	5, 10, 25, 50, 100	9776T19	$2.16
3/4″	1″	1/8″	1″	5	2, 5, 10, 25, 50	9776T21	3.81
1″	1 1/8″	1/16″	1″	5	2, 5, 10, 25, 50	9776T22	2.54
1″	1 1/2″	1/4″	1 1/2″	5	1, 2, 5, 10, 25, 50	9776T23	8.23
1 1/4″	1 1/2″	1/8″	1 1/2″	5	2, 5, 10, 25, 50	9776T24	5.68
Metric—Dimensions in millimeters (except lengths)							
1	3	1	3	5	10, 25, 50, 100	9776T25	.85
2	6	2	6	10	10, 25, 50, 100	9776T26	1.13
3	8	2.5	8	10	5, 10, 25, 50, 100	9776T27	1.41
4	8	2	8	10	5, 10, 25, 50, 100	9776T28	1.33
6	9	1.5	9	5	5, 10, 25, 50, 100	9776T29	1.29
7	10	1.5	10	5	5, 10, 25, 50, 100	9776T31	1.36
9	13	2	13	5	5, 10, 25, 50, 100	9776T32	1.85
10	15	2.5	15	5	5, 10, 25, 50, 100	9776T33	2.01

High-Pressure Black Buna-N Rubber Tubing

- Very flexible
- Firm (Durometer 80A)
- Temperature Range: -20° to 200° F
- Use with barbed fittings

A braided nylon cover gives this tubing the strength to withstand pressures up to 250 psi. The cover also protects against abrasion and tearing. Use with air and water.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
9/64″	15/64″	3/64″	1″	250	5, 10, 25, 50, 100	5394K13	$2.02
5/32″	9/32″	1/16″	1 1/2″	250	5, 10, 25, 50, 100	5394K14	2.04
3/16″	5/16″	1/16″	1 3/4″	250	5, 10, 25, 50, 100	5394K15	2.40

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/4″	3/8″	1/16″	1 3/4″	250	5, 10, 25, 50, 100	5394K16	$2.45
3/8″	5/8″	1/8″	2″	250	5, 10, 25, 50, 100	5394K22	3.48

ⓘ For information about the chemical compatibility of tubing, go to mcmaster.com and search for the part number.

High-Temperature Viton® Fluoroelastomer Tubing for Chemicals



- Very flexible
- Soft: Durometer 60A
  Firm: Durometer 75A
- Temperature Range: -10° to 400° F
- Use with barbed fittings

This synthetic rubber tubing resists ozone, even at temperatures up to 400° F. Use with bleach, hydrochloric acid, hydrogen peroxide, and diesel fuel. It can be sterilized with steam (autoclaving).

Soft tubing is flexible and commonly used with metering (peristaltic) pumps. Color is black.

Firm tubing comes in a choice of colors that allow you to color-code your system. To Order: Please specify opaque black, beige, or green.

ID	OD	Wall	Max. Length, ft.	Soft (Black)	Per Ft.	Firm (Choose a Color)	Per Ft.
Inch							
1/16"	1/8"	1/32"	50	5119K39	$2.23	5119K78	$2.00
1/8"	1/4"	1/16"	50	5119K41	4.47	5119K79	3.97
1/8"	5/16"	3/32"	50	5119K31	7.40	5119K81	6.63
1/8"	3/8"	1/8"	50	5119K48	11.06	5119K82	9.94
3/16"	5/16"	1/16"	50	5119K42	5.70	5119K83	5.07
3/16"	7/16"	1/8"	50	5119K32	14.16	5119K84	12.72
1/4"	5/16"	1/32"	50	5119K33	4.50	5119K85	4.00
1/4"	3/8"	1/16"	50	5119K43	6.90	5119K86	6.23
1/4"	1/2"	1/8"	50	5119K49	16.28	5119K87	14.59
5/16"	7/16"	1/16"	50	5119K44	8.43	5119K88	7.53
5/16"	9/16"	1/8"	50	5119K51	19.72	5119K89	17.66
3/8"	1/2"	1/16"	50	5119K45	10.27	5119K91	9.20
Inch (Cont.)							
3/8"	9/16"	3/32"	50	5119K34	$16.72	5119K92	$14.38
3/8"	5/8"	1/8"	50	5119K52	19.57	5119K93	19.19
1/2"	5/8"	1/16"	50	5119K46	12.31	5119K94	11.00
1/2"	3/4"	1/8"	50	5119K53	25.97	5119K95	24.20
3/4"	7/8"	1/16"	50	5119K47	20.94	5119K96	20.47
3/4"	1"	1/8"	50	5119K35	34.92	5119K97	31.20
Metric—Dimensions in millimeters (except lengths)							
2	4	1	50	5102K11	3.63	5102K41	3.23
4	6	1	50	5102K12	4.17	5102K42	3.70
6	8	1	50	5102K13	5.07	5102K43	4.50
8	10	1	50	5102K14	8.13	5102K44	7.27
10	12	1	50	5102K15	10.59	5102K45	10.10

Abrasion-Resistant Black Neoprene Rubber Tubing



- Flexible
- Firm (Durometer 80A)
- Temperature Range: -20° to 212° F
- Use with barbed fittings

This synthetic rubber tubing is firmer and more abrasion resistant than Buna-N rubber and plastic. Use with air and water. Material meets ASTM D2000 and E162. It can be sterilized with steam (autoclaving).

ID	OD	Wall	Lengths, ft.		Per Ft.
1/8"	1/4"	1/16"	25, 50, 100	5034K21	$0.60
3/16"	3/8"	3/32"	10, 25, 50, 100	5034K11	.72
1/4"	7/16"	3/32"	10, 25, 50, 100	5034K12	.80
1/4"	1/2"	1/8"	10, 25, 50, 100	5034K23	1.28
5/16"	1/2"	3/32"	10, 25, 50, 100	5034K13	.92
3/8"	9/16"	3/32"	10, 25, 50, 100	5034K24	1.20
3/8"	5/8"	1/8"	10, 25, 50, 100	5034K14	1.33
1/2"	5/8"	1/16"	10, 25, 50, 100	5034K25	$0.88
1/2"	3/4"	1/8"	5, 10, 25, 50, 100	5034K15	1.73
5/8"	7/8"	1/8"	5, 10, 25, 50	5034K16	2.00
3/4"	1"	1/8"	5, 10, 25, 50	5034K17	2.40
7/8"	1 1/8"	1/8"	5, 10, 25, 50	5034K18	2.70
1"	1 1/4"	1/8"	5, 10, 25, 50	5034K19	3.07
2"	2 1/2"	1/4"	1, 2, 5, 10	5034K27	9.18

Choose-a-Color PVC Tubing



- Very flexible
- Firm (Durometer 80A)
- Temperature Range: -20° to 180° F
- Use with barbed fittings

Multiple colors allow you to color-code your lines for easy identification. Use with air and water. It can be sterilized with steam (autoclaving).

To Order: Please specify opaque black, blue, green, red, or yellow.

ID	OD	Wall	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	1/8"	1/32"	50	50, 100	9446K11	$0.10
1/8"	1/4"	1/16"	70	50, 100	9446K21	.26
3/16"	5/16"	1/16"	40	25, 50, 100	9446K31	.35
1/4"	3/8"	1/16"	35	25, 50, 100	9446K41	.42
3/8"	1/2"	1/16"	25	25, 50, 100	9446K51	.57
7/16"	5/8"	3/32"	30	10, 25, 50, 100	9446K61	.87
1/2"	3/4"	1/8"	35	10, 25, 50, 100	9446K71	1.15
5/8"	7/8"	1/8"	25	10, 25, 50, 100	9446K81	1.39
3/4"	1"	1/8"	20	5, 10, 25, 50, 100	9446K91	1.61
1"	1 1/4"	1/8"	15	5, 10, 25, 50, 100	9446K12	2.07

Durable Clear PVC Tubing for Food and Beverage



- Very flexible
- Firm (Durometer 80A)
- Temperature Range: -30° to 120° F
- Use with barbed fittings

Not only does this tubing have the highest strength of any PVC tubing we offer, it also remains flexible at low temperatures. Tubing is made of FDA listed materials.

ID	OD	Wall	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	1/8"	1/32"	100	25, 50, 100	5006K61	$0.19
3/32"	5/32"	1/32"	100	25, 50, 100	5006K62	.21
1/8"	3/16"	1/32"	75	25, 50, 100	5006K63	.21
1/8"	1/4"	1/16"	100	25, 50, 100	5006K64	.30
5/32"	9/32"	1/16"	80	25, 50, 100	5006K65	.35
3/16"	1/4"	1/32"	50	25, 50, 100	5006K66	.23
1/4"	5/16"	1/32"	40	25, 50, 100	5006K67	.30
1/4"	3/8"	1/16"	65	25, 50, 100	5006K68	.51

Abrasion-Resistant PVC/Polyurethane Clear Tubing for Food and Beverage



- Very flexible
- Firm (Durometer 80A)
- Temperature Range: -10° to 170° F
- Use with barbed fittings

PVC and polyurethane join forces to create tubing that's resistant to abrasion and tearing. It is made of FDA listed materials.

ID	OD	Wall	Bend Radius	Lengths, ft.		Per Ft.
1/8"	1/4"	1/16"	1"	10, 25, 50, 100	53955K13	$0.79
3/16"	5/16"	1/16"	1"	10, 25, 50, 100	53955K14	.83
1/4"	3/8"	1/16"	1 1/2"	10, 25, 50, 100	53955K18	1.02
5/16"	7/16"	1/16"	1 1/4"	10, 25, 50, 100	53955K21	1.22
3/8"	1/2"	1/16"	2"	10, 25, 50, 100	53955K23	1.36
1/2"	5/8"	1/16"	3"	10, 25, 50, 100	53955K29	1.73
1/2"	3/4"	1/8"	4"	2, 5, 10, 25, 50, 100	53955K31	3.70
5/8"	3/4"	1/16"	5"	5, 10, 25, 50, 100	53955K34	1.89
3/4"	1"	1/8"	5"	2, 5, 10, 25, 50, 100	53955K38	4.56
1"	1 1/4"	1/8"	7"	2, 5, 10, 25, 50, 100	53955K39	6.42

For information about the chemical compatibility of tubing, go to mcmaster.com and search for the part number.

Abrasion-Resistant Clear Blue Polyurethane Tubing for Fuels

- Very flexible
- Soft (Durometer 70A)
- Temperature Range: -40° to 180° F
- Use with barbed fittings

This polyurethane tubing is soft and flexible, yet is tough enough to stand up to abrasion. It can be used in metering (peristaltic) pump applications. Use with diesel fuel and kerosene. Tubing is clear with a blue tint. It can be sterilized with gas and radiation.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	3/16"	1/16"	1/8"	100	10, 25, 50	5792K31	$1.03
1/16"	7/32"	5/64"	1/2"	120	10, 25, 50	5792K21	1.41
1/8"	1/4"	1/16"	1/4"	55	10, 25, 50	5792K32	1.32
1/8"	3/8"	1/8"	1/4"	100	2, 5, 10, 25, 50	5792K51	3.56
3/16"	5/16"	1/16"	2"	40	5, 10, 25, 50	5792K33	1.77
3/16"	3/8"	3/32"	1 1/4"	55	5, 10, 25, 50	5792K34	2.56
1/4"	3/8"	1/16"	1 3/4"	30	5, 10, 25, 50	5792K35	1.88
1/4"	7/16"	3/32"	2 1/2"	45	2, 5, 10, 25, 50	5792K36	2.97
1/4"	1/2"	1/8"	2"	55	2, 5, 10, 25, 50	5792K37	3.91
5/16"	7/16"	1/16"	3"	25	5, 10, 25, 50	5792K22	2.09
5/16"	1/2"	3/32"	3"	35	2, 5, 10, 25, 50	5792K38	3.08
3/8"	1/2"	1/16"	1 1/4"	20	5, 10, 25, 50	5792K39	2.22
3/8"	9/16"	3/32"	1 1/2"	25	2, 5, 10, 25, 50	5792K41	$3.56
3/8"	5/8"	1/8"	1 1/4"	30	2, 5, 10, 25, 50	5792K42	5.06
1/2"	3/4"	1/8"	2 1/4"	30	2, 5, 10, 25, 50	5792K44	6.17
1/2"	7/8"	3/16"	2"	45	1, 2, 5, 10, 25, 50	5792K25	10.76
5/8"	7/8"	1/8"	2 1/2"	25	1, 2, 5, 10, 20, 25, 50	5792K45	7.39
5/8"	15/16"	5/32"	2 1/2"	30	1, 2, 5, 10, 20, 25, 50	5792K46	9.64
3/4"	1"	1/8"	3"	20	1, 2, 5, 10, 20, 25, 50	5792K47	8.63
3/4"	1 1/16"	5/32"	3 1/2"	25	1, 2, 5, 10, 20, 25, 50	5792K48	11.17
3/4"	1 1/4"	1/4"	2"	40	1, 2, 5, 10, 20, 25, 50	5792K49	17.75
1"	1 1/4"	1/8"	12"	15	1, 2, 5, 10, 25, 50	5792K26	11.73
1"	1 3/8"	3/16"	10"	25	1, 2, 5, 10, 25, 50	5792K27	18.59
1"	1 1/2"	1/4"	6"	30	1, 2, 5, 10, 25, 50	5792K28	26.12

Abrasion-Resistant Polyurethane Clear Tubing for Air

- Flexible
- Firm (Durometer 85A)
- Temperature Range: -70° to 170° F
- Use with barbed fittings



Don't worry about tearing this tubing—it's made of polyurethane, which has excellent abrasion and tear resistance. Tubing is ester based, so it should not be used with water or in wet environments. Use with air.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	1/8"	1/32"	3/4"	100	25, 50, 100	5108K41	$0.26
1/8"	3/16"	1/32"	1"	70	25, 50, 100	5108K42	.34
1/8"	1/4"	1/16"	1 1/2"	110	25, 50, 100	5108K43	.63
3/16"	1/4"	1/32"	1 1/2"	55	25, 50, 100	5108K45	.43
3/16"	5/16"	1/16"	1 3/4"	85	10, 25, 50, 100	5108K46	.82
1/4"	5/16"	1/32"	1 3/4"	50	25, 50, 100	5108K48	.53
1/4"	3/8"	1/16"	2 1/4"	75	10, 25, 50, 100	5108K49	.98
1/4"	7/16"	3/32"	2 1/2"	95	10, 25, 50, 100	5108K51	1.34
1/4"	1/2"	1/8"	3"	110	5, 10, 25, 50, 100	5108K52	1.90
5/16"	7/16"	1/16"	2 1/2"	65	10, 25, 50, 100	5108K53	1.15
5/16"	9/16"	1/8"	3 1/4"	100	5, 10, 25, 50, 100	5108K55	2.51
3/8"	1/2"	1/16"	3"	55	10, 25, 50, 100	5108K56	1.20
3/8"	9/16"	3/32"	3 1/4"	75	5, 10, 25, 50, 100	5108K57	1.83
3/8"	5/8"	1/8"	3 3/4"	90	5, 10, 25, 50, 100	5108K58	2.50
7/16"	5/8"	3/32"	3 3/4"	65	5, 10, 25, 50, 100	5108K61	2.04
1/2"	5/8"	1/16"	3 3/4"	40	10, 25, 50, 100	5108K62	1.50
1/2"	3/4"	1/8"	4 1/2"	75	2, 5, 10, 25, 50, 100	5108K63	3.14
5/8"	13/16"	3/32"	4 3/4"	50	5, 10, 25, 50, 100	5108K64	2.74
5/8"	7/8"	1/8"	5 1/4"	60	2, 5, 10, 25, 50	5108K65	3.65
3/4"	1"	1/8"	6"	55	2, 5, 10, 25, 50	5108K66	3.15
7/8"	1 1/8"	1/8"	6 3/4"	45	2, 5, 10, 25, 50	5108K67	4.82
1"	1 1/4"	1/8"	7 1/2"	40	2, 5, 10, 25, 50	5108K68	3.94

Abrasion-Resistant Versilon Polyurethane Clear Tubing for Air

- Formulation: C-210-A
- Flexible
- Firm (Durometer 80A)
- Temperature Range: -100° to 170° F
- Use with barbed fittings



Formerly known as Tygothane, this tubing not only resists abrasion and tearing, but also performs well at lower temperatures than standard polyurethane tubing. It is ester based, so it should not be used with water or in wet environments.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	1/8"	1/32"	1/8"	70	25, 50, 100	5549K43	$0.30
1/8"	3/16"	1/32"	1/2"	45	25, 50, 100	5549K44	.38
1/8"	1/4"	1/16"	1/4"	70	10, 25, 50, 100	5549K31	.73
3/16"	1/4"	1/32"	1"	30	25, 50, 100	5549K45	.54
3/16"	5/16"	1/16"	1/2"	55	10, 25, 50, 100	5549K32	.91
3/16"	3/8"	3/32"	1/4"	70	5, 10, 25, 50, 100	5549K54	2.10
1/4"	5/16"	1/32"	1 1/2"	25	10, 25, 50, 100	5549K46	.96
1/4"	3/8"	1/16"	3/4"	40	10, 25, 50, 100	5549K33	1.02
1/4"	7/16"	3/32"	1/2"	55	5, 10, 25, 50, 100	5549K47	2.02
1/4"	1/2"	1/8"	1/2"	70	5, 10, 25, 50, 100	5549K34	2.72
5/16"	7/16"	1/16"	1 3/4"	35	10, 25, 50, 100	5549K35	1.47
3/8"	1/2"	1/16"	1 3/4"	30	10, 25, 50, 100	5549K36	1.24
3/8"	9/16"	3/32"	1 1/4"	45	5, 10, 25, 50, 100	5549K48	1.91
3/8"	5/8"	1/8"	1"	50	5, 10, 25, 50, 100	5549K37	2.78
7/16"	5/8"	3/32"	1 1/2"	40	5, 10, 25, 50, 100	5549K49	2.45
1/2"	5/8"	1/16"	2 3/4"	25	5, 10, 25, 50, 100	5549K38	1.81
1/2"	11/16"	3/32"	2"	35	2, 5, 10, 25, 50	5549K55	2.64
1/2"	3/4"	1/8"	1 3/4"	45	2, 5, 10, 25, 50, 100	5549K39	3.38
5/8"	13/16"	3/32"	3"	30	2, 5, 10, 25, 50, 100	5549K51	3.41
5/8"	7/8"	1/8"	2 1/4"	35	2, 5, 10, 25, 50	5549K41	4.11
3/4"	15/16"	3/32"	4"	25	2, 5, 10, 25, 50, 100	5549K56	3.87
3/4"	1"	1/8"	3 1/4"	30	2, 5, 10, 25, 50	5549K42	4.22
1"	1 1/4"	1/8"	5"	25	2, 5, 10, 25, 50	5549K53	5.41

Abrasion-Resistant/Self-Retracting Choose-a-Color Polyurethane Tubing for Water

- Very flexible
- Firm (Durometer 95A)
- Temperature Range: -40° to 120° F
- Use with compression fittings

Keep your work site safe and clutter free—this coiled tubing extends when you need it and retracts out of the way when you don't. The material is ether based, so it has excellent abrasion and tear resistance and can be used in wet and humid environments. Vacuum rating is 28" Hg @ 72° F.

Comes in clear with a blue tint as well as the following opaque colors: blue, fluorescent green, red, and yellow. **To Order:** Please specify color.



Clear with a Blue Tint



Opaque

ID	OD	Wall	Max. psi @ 72° F	Retracted Length	Length	Coil OD		
5/32"	1/4"	0.045"	150	7"	10 ft.	1 1/2"	9148T12	$6.74
5/32"	1/4"	0.045"	150	15 1/2"	25 ft.	1 1/2"	9148T13	9.91
1/4"	3/8"	0.062"	130	6"	10 ft.	2 1/2"	9148T11	13.13
1/4"	3/8"	0.062"	130	16"	25 ft.	2 1/2"	9148T14	20.93
3/8"	9/16"	0.094"	130	5 1/2"	10 ft.	4 1/8"	9148T16	22.74
3/8"	9/16"	0.094"	130	14"	25 ft.	4 1/8"	9148T19	41.02

Choose-a-Color Polyurethane Tubing for Water





- Very flexible
- Firm (Durometer 95A)
- Temperature Range: -40° to 160° F
- Use with push-to-connect fittings; inch tubing can also be used with barbed fittings

Multiple colors allow you to color-code your lines for easy identification. Tubing is made of ether-based polyurethane, which has excellent tear and abrasion resistance, along with the ability to handle wet and humid environments. Vacuum is 28″ Hg @ 72° F.

Clear and **tinted** tubing allows you to easily monitor flow; choose from clear as well as the following tinted colors: blue, green, red, and yellow. **Opaque** tubing comes in black, blue, green, red, white, and yellow. **To Order:** Please specify color.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.	Clear and Tinted	Per Ft.	Opaque	Per Ft.
Inch									
1/16″	1/8″	0.03″	1/4″	250	25, 50, 100	5648K67	$0.20	5648K22	$0.20
3/32″	5/32″	0.031″	1/4″	210	25, 50, 100	5648K68	.21	5648K23	.21
1/8″	1/4″	0.062″	1/2″	260	25, 50, 100	5648K74	.58	5648K31	.58
5/32″	1/4″	0.045″	1/2″	170	25, 50, 100	5648K69	.46	5648K25	.46
1/4″	3/8″	0.065″	3/4″	170	10, 25, 50, 100	5648K71	.93	5648K26	.93
5/16″	15/32″	0.079″	1″	150	10, 25, 50	5648K77	1.18	5648K32	1.18
21/64″	1/2″	0.09″	1″	170	5, 10, 25, 50	5648K78	1.75	5648K33	1.75
3/8″	9/16″	0.094″	1 1/4″	150	5, 10, 25, 50	5648K72	1.74	5648K29★	1.74
Metric—Dimensions in millimeters (except lengths)									
1.8	3	0.6	6	230	25, 50, 100	50315K67	.19	50315K21■	.19
2.4	4	0.8	9	210	25, 50, 100	50315K68	.21	50315K22	.21
4	6	1	12	160	25, 50, 100	50315K69	.36	50315K24	.36
5	8	1.5	19	190	10, 25, 50, 100	50315K71	.64	50315K25	.64
6.5	10	1.75	22	170	10, 25, 50	50315K72	.89	50315K26	.89
8	12	2	28	150	10, 25, 50	50315K73	1.29	50315K28	1.29

★Not available in white. ■ Available in black only.

Joined Polyurethane Tubing for Water





- Very flexible
- Firm (Durometer 85A)
- Temperature Range: -40° to 160° F
- Use with barbed fittings

This multiple-line tubing holds together on its own, so there's no need for cable ties or tape. Made of ether-based polyurethane, it has excellent resistance to abrasion and tearing and can be used in wet and humid environments. Vacuum rating is 28″ Hg @ 72° F.

To Order: For single color tubing, please specify color.

ID	OD	Wall	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Single Color						
Two Tubes—Choose clear or opaque black						
1/16″	1/8″	1/32″	190	25, 50, 100	50555K34	$0.37
1/8″	1/4″	1/16″	150	10, 25, 50, 100	50555K35	1.07
1/4″	3/8″	1/16″	120	5, 10, 25, 50	50555K37	2.48
Two Tubes—Choose opaque black or gray						
5/32″	1/4″	3/64″	130	10, 25, 50, 100	50555K61	.93
Three Tubes—Choose clear or opaque black						
1/16″	1/8″	1/32″	120	10, 25, 50, 100	50555K39	.65
1/8″	1/4″	1/16″	150	5, 10, 25, 50	50555K38	2.03
Four Tubes—Choose clear or opaque black						
1/16″	1/8″	1/32″	120	10, 25, 50, 100	50555K41	.99
1/8″	1/4″	1/16″	150	5, 10, 25, 50	50555K42	2.50

ID	OD	Wall	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Multicolor						
Two Tubes—One clear, one opaque black						
1/16″	1/8″	1/32″	130	10, 25, 50, 100	50335K22	$0.77
1/8″	1/4″	1/16″	140	10, 25, 50, 100	50335K52	1.49
Four Tubes—One each of clear, opaque blue, opaque white and clear red						
1/16″	1/8″	1/32″	130	5, 10, 25, 50, 100	50335K44	2.77
1/8″	1/4″	1/16″	140	2, 5, 10, 25, 50, 100	50335K74	3.63
Four Tubes—One each of clear green, clear orange, clear red, and clear yellow						
1/16″	1/8″	1/32″	130	10, 25, 50, 100	50335K34	1.28
1/8″	1/4″	1/16″	140	5, 10, 25, 50, 100	50335K64	2.87

High-Pressure Polyurethane Clear Tubing for Water



- Very flexible
- Firm (Durometer 85A)
- Temperature Range: -40° to 160° F
- Use with barbed fittings

This tubing is reinforced with a polyester braid for good strength in high-pressure applications. It has excellent resistance to abrasion and tearing, and is ether based for use in wet and humid environments.

Reinforced tubing is clear and has a vacuum rating of 28″ Hg @ 72° F.

Extra-flex reinforced tubing has thinner walls for better flexibility than tubing with thicker walls. It's clear with a blue tint.

ID	OD	Wall	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Reinforced						
1/4″	15/32″	7/64″	230	5, 10, 25, 50, 100	51165K11	$2.24
3/8″	5/8″	1/8″	150	2, 5, 10, 25, 50, 100	51165K12	3.20
1/2″	3/4″	1/8″	120	2, 5, 10, 25, 50, 100	51165K13	3.78
5/8″	29/32″	9/64″	100	2, 5, 10, 25, 50, 100	51165K14	5.16
3/4″	1 1/32″	9/64″	90	2, 5, 10, 25, 50, 100	51165K15	6.15
1″	1 5/16″	5/32″	75	1, 2, 5, 10, 20, 25, 50	51165K16	10.39
Extra-Flex Reinforced						
1/4″	3/8″	1/16″	200	10, 25, 50, 100	5545K14	.86
5/16″	15/32″	5/64″	200	10, 25, 50, 100	5545K16	1.45
3/8″	9/16″	3/32″	200	5, 10, 25, 50, 100	5545K18	1.51

High-Pressure Versilon Polyurethane Clear Tubing for Drinking Water



- Formulation: C-544-A I.B.
- Very flexible
- Firm (Durometer 85A)
- Temperature Range: -100° to 180° F
- Use with barbed fittings

Formerly known as Tygothane, this tubing has a polyester-braid reinforcement that allows it to withstand higher pressures than other polyurethane tubing. Tubing offers excellent abrasion and tear resistance. It is ether based, so it performs well in wet and humid environments. Made without a plasticizer, this tubing will remain flexible over time and won't impart tastes or odors to your product. Meets NSF/ANSI Standard 61 for drinking water.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/8″	3/8″	1/8″	1/4″	400	5, 10, 25, 50, 100	5439K19	$2.58
1/4″	1/2″	1/8″	3/4″	270	5, 10, 25, 50, 100	5439K21	2.74
3/8″	5/8″	1/8″	1 1/2″	200	2, 5, 10, 25, 50, 100	5439K22	3.69
1/2″	3/4″	1/8″	2″	190	2, 5, 10, 25, 50, 100	5439K23	4.52
5/8″	7/8″	1/8″	3″	170	2, 5, 10, 25, 50, 100	5439K24	5.42
3/4″	1 1/16″	5/32″	3 1/2″	150	2, 5, 10, 25, 50, 100	5439K25	6.02
1″	1 3/8″	3/16″	4 3/4″	120	1, 2, 5, 10, 20, 25, 50	5439K26	8.13
1 1/4″	1 3/4″	1/4″	6″	95	1, 2, 5, 10, 20, 25, 50	5439K27	15.96
1 1/2″	2″	1/4″	7 1/2″	80	1, 2, 5, 10, 20, 25, 50	5439K28	17.20
2″	2 1/2″	1/4″	13″	70	1, 2, 5, 10, 20, 25, 50	5439K29	44.23

Abrasion-Resistant Polyurethane Clear Tubing for Water

Inch:
- Flexible
- Firm (Durometer 85A)
- Temperature Range: -70° to 170° F
- Use with barbed fittings

Metric:
- Flexible
- Hard (Durometer 50D)
- Temperature Range: -31° to 140° F
- Use with push-to-connect fittings

Unlike ester-based polyurethane, this ether-based polyurethane tubing can be used with water. Tubing offers excellent abrasion and tear resistance. It can be sterilized with gas.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
1/16"	1/8"	1/32"	3/4"	90	25, 50, 100	5195T61	$0.26
1/8"	3/16"	1/32"	1"	55	25, 50, 100	5195T62	.33
1/8"	1/4"	1/16"	1 1/2"	90	25, 50, 100	5195T63	.61
3/16"	1/4"	1/32"	1 1/2"	45	25, 50, 100	5195T64	.41
3/16"	5/16"	1/16"	1 3/4"	70	10, 25, 50, 100	5195T65	.81
1/4"	3/8"	1/16"	2 1/4"	60	10, 25, 50, 100	5195T67	.95
1/4"	1/2"	1/8"	3"	90	5, 10, 25, 50, 100	5195T69	2.09
5/16"	7/16"	1/16"	2 1/2"	55	10, 25, 50, 100	5195T71	.98
5/16"	9/16"	1/8"	3 1/4"	80	5, 10, 25, 50, 100	5195T72	2.16
3/8"	1/2"	1/16"	3"	45	10, 25, 50, 100	5195T73	1.34
3/8"	5/8"	1/8"	3 3/4"	75	5, 10, 25, 50, 100	5195T75	2.43
7/16"	5/8"	3/32"	3 3/4"	55	5, 10, 25, 50, 100	5195T76	1.97

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch (Cont.)							
1/2"	5/8"	1/16"	3 3/4"	30	5, 10, 25, 50, 100	5195T77	$1.46
1/2"	3/4"	1/8"	4 1/2"	60	2, 5, 10, 25, 50, 100	5195T78	3.05
5/8"	13/16"	3/32"	4 3/4"	40	5, 10, 25, 50, 100	5195T79	2.68
3/4"	1"	1/8"	6"	45	2, 5, 10, 25, 50	5195T82	3.07
7/8"	1 1/8"	1/8"	6 3/4"	35	2, 5, 10, 25, 50	5195T83	3.59
1"	1 1/4"	1/8"	7 1/2"	30	2, 5, 10, 20, 25, 50	5195T84	4.03
Metric—Dimensions in millimeters (except lengths)							
2.6	4	0.7	8	130	25, 50, 100	5195T51	.60
4	6	1	10	130	10, 25, 50, 100	5195T52	.90
5.7	8	1.2	20	130	10, 25, 50, 100	5195T53	1.29
7	10	1.5	25	130	5, 10, 25, 50, 100	5195T54	1.66
8	12	2	33	130	5, 10, 25, 50, 100	5195T55	2.33

Weld-Spatter-Resistant Polyurethane Tubing

Inch:
- Flexible
- Firm (Durometer 90A)
- Temperature Range: -40° to 180° F
- Use with push-to-connect fittings

Metric:
- Flexible
- Firm (Durometer 90A)
- Temperature Range: 0° to 140° F
- Use with push-to-connect fittings

Designed for welding applications, this tubing is specially formulated to self-extinguish to meet UL 94V2 for flame retardance. It is ether based, so it will hold up in wet and humid environments. Tubing has excellent resistance to abrasion and tearing. Use with air and water. Vacuum rating is 28" Hg @ 72° F.

Inch tubing has one layer of material. **To Order:** Please specify black, blue, green, or white.

Metric tubing has three layers of material. To attach fittings, use a cutting tool to strip the outer layer of tubing, then attach a flame-retardant cap (both sold separately). The OD dimension does not include the outer layer of tubing. **To Order:** Please specify black, blue, green, red, white, and yellow. For cap, please specify tube OD size.


Inch


Metric

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
5/32"	1/4"	0.045"	1/2"	170	10, 25, 50, 100, 250	9149T11	$0.97
1/4"	3/8"	0.062"	3/4"	150	5, 10, 25, 50, 100, 250	9149T13	1.83
5/16"	1/2"	0.09"	1"	160	5, 10, 25, 50, 100, 250	9149T15	2.74
Metric—Dimensions in millimeters (except lengths)							
4	6	1	50	100	5, 10, 25, 50	9149T16	2.28
5	8	1.5	60	100	2, 5, 10, 25, 50	9149T17	3.06
6.5	10	1.75	70	100	2, 5, 10, 25, 50	9149T18	3.42
8	12	2	80	100	2, 5, 10, 25, 50	9149T19	3.75
Cutting Tool for Metric Tubing						9149T55	56.50
Cap for Metric Tubing						9149T51	.94

Large-Diameter Thin-Wall Polyurethane Clear Tubing for Food, Beverage, and Dairy

- Very flexible
- Firm (Durometer 80A)
- Temperature Range: -40° to 190° F
- Use with worm-drive clamps

Sized for vibrating sifters, screeners, hoppers, and packaging equipment, this polyurethane tubing has a large diameter to handle a variety of food processing applications. It has excellent resistance to abrasion and tearing, plus it won't allow static electricity to build up. It is 3-A certified and made of FDA listed materials.



ID	OD	Wall	Lengths, ft.		Per Ft.
4 1/4"	4 5/16"	1/32"	1, 2, 5, 10, 20, 25, 50	5971K13	$29.60
5 1/4"	5 5/16"	1/32"	1, 2, 5, 10, 20, 25, 50	5971K14	40.04
6 1/4"	6 5/16"	1/32"	1, 2, 5, 10, 20, 25, 50	5971K15	35.11
7 1/8"	7 3/16"	1/32"	1, 2, 5, 10, 20, 25, 50	5971K16	37.90
8 1/8"	8 3/16"	1/32"	1, 2, 5, 10, 20, 25, 50	5971K17	39.58
9 1/8"	9 3/16"	1/32"	1, 2, 5, 10, 20, 25, 50	5971K18	45.58
10 1/8"	10 3/16"	1/32"	1, 2, 5, 10, 20, 25, 50	5971K19	52.60
12 1/8"	12 3/16"	1/32"	1, 2, 5, 10, 20, 25, 50	5971K21	56.42

Static-Dissipative White Polyurethane Tubing

- Very flexible
- Firm (Durometer 85A)
- Temperature Range: -40° to 160° F
- Use with barbed fitting

Static electricity will not build up in this tubing, so you can use it near sensitive equipment. Surface resistivity is 10^{11} ohms/sq. Tubing has excellent abrasion and tear resistance and is ether based for use in wet or humid environments. Use with air and water. Vacuum rating is 28" Hg @ 72° F.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
1/16"	1/8"	1/32"	1/8"	110	25, 50, 100	5790K15	$0.32
5/64"	5/32"	3/64"	1/4"	120	25, 50, 100	5790K16	.46
1/8"	1/4"	1/16"	1/2"	120	10, 25, 50, 100	5790K18	.88
1/4"	3/8"	1/16"	3/4"	90	5, 10, 25, 50, 100	5790K24	1.65
Metric—Dimensions in millimeters (except lengths)							
4	6	1	9.5	70	10, 25, 50, 100	5790K62	.66
6	9	1.5	19	80	5, 10, 25, 50, 100	5790K64	1.68

Crack-Resistant Polyethylene Tubing for Food and Beverage



Semi-Clear White

- Flexible
- Firm (Durometer 45D)
- Temperature Range: -100° to 170°F
- Use with compression fittings

This tubing offers superior resistance to stress cracking, even at low temperatures. It won't impart tastes or odors to the fluid passing through. Made of FDA listed materials.

Semi-Clear White

ID	OD	Wall	Bend Radius	Max. psi @ 72°F	Lengths, ft.		Per Ft.
Inch							
1/16"	1/8"	1/32"	1 1/4"	180	25, 50, 100	5181K15	$0.05
1/8"	1/4"	1/16"	2"	350	25, 50, 100	5181K24	.12
1/8"	3/8"	1/8"	3"	500	25, 50, 100	5181K31	.26
0.17"	1/4"	0.04"	2"	200	25, 50, 100	5181K39	.10
3/16"	5/16"	1/16"	2 1/2"	260	25, 50, 100	5181K42	.16
1/4"	3/8"	1/16"	3"	210	25, 50, 100	5181K25	.20
1/4"	1/2"	1/8"	4"	350	25, 50, 100	5181K33	.40
5/16"	7/16"	1/16"	3 1/2"	170	25, 50, 100	5181K34	.25
5/16"	1/2"	3/32"	4"	240	25, 50, 100	5181K35	.32
3/8"	1/2"	1/16"	4"	150	25, 50, 100	5181K26	.28
3/8"	5/8"	1/8"	5"	270	25, 50, 100	5181K37	.54
1/2"	5/8"	1/16"	5"	110	25, 50, 100	5181K27	.30
1/2"	3/4"	1/8"	6"	210	10, 25, 50, 100	5181K38	.67
0.6"	3/4"	0.075"	6"	120	25, 50, 100	5181K61	.51
5/8"	3/4"	1/16"	6"	95	25, 50, 100	5181K28	.37
5/8"	7/8"	1/8"	7"	180	10, 25, 50, 100	5181K72	.80
3/4"	7/8"	1/16"	7"	80	25, 50, 100	5181K93	.45
3/4"	1"	1/8"	8"	150	10, 25, 50, 100	5181K29	.85
0.814"	1"	0.093"	8"	110	10, 25, 50, 100	5181K11	.74
7/8"	1"	1/16"	8"	70	25, 50, 100	5181K94	.54
1"	1 1/8"	1/16"	9"	60	10, 25, 50, 100	5181K12	.55
1"	1 1/4"	1/8"	10"	120	10, 25, 50, 100	5181K36	1.07
1 1/8"	1 3/8"	1/8"	11"	100	5, 10, 25, 100	5181K95	1.19
1 1/4"	1 1/2"	1/8"	12"	95	5, 10, 25, 100	5181K96	1.31
1 3/8"	1 5/8"	1/8"	13"	90	5, 10, 25, 100	5181K13	1.27
1 1/2"	1 3/4"	1/8"	14"	80	5, 10, 25, 100	5181K98	1.55
1 3/4"	2"	1/8"	16"	70	5, 10, 25, 100	5181K14	1.77
2"	2 1/4"	1/8"	18"	60	5, 10, 25, 100	5181K22	2.00
Metric—Dimensions in millimeters (except lengths)							
2	4	1	31	190	25, 50, 100	5958K11	.11
3	5	1	38	150	25, 50, 100	5958K12	.12
4	6	1	44	120	25, 50, 100	5958K13	.14
6	8	1	63	100	25, 50, 100	5958K14	.17
8	10	1	76	75	25, 50, 100	5958K15	.19
9	12	1.5	95	85	25, 50, 100	5958K16	.28

Black

ID	OD	Wall	Bend Radius	Max. psi @ 72°F	Lengths, ft.		Per Ft.
1/8"	1/4"	1/16"	2"	350	25, 50, 100	5180K75	$0.11
0.17"	1/4"	0.04"	2"	200	25, 50, 100	5180K71	.10
3/16"	5/16"	1/16"	2 1/2"	260	25, 50, 100	5180K72	.19
1/4"	3/8"	1/16"	3"	210	25, 50, 100	5180K73	.20
5/16"	1/2"	3/32"	4"	240	25, 50, 100	5180K17	.31
3/8"	1/2"	1/16"	4"	150	25, 50, 100	5180K74	.28
1/2"	5/8"	1/16"	5"	110	25, 50, 100	5180K76	.30
5/8"	3/4"	1/16"	6"	95	25, 50, 100	5180K77	.37
3/4"	1"	1/8"	8"	150	10, 25, 50, 100	5180K79	.85
1"	1 1/8"	1/16"	9"	60	10, 25, 50, 100	5180K18	.59
1"	1 1/4"	1/8"	10"	120	10, 25, 50, 100	5180K81	1.08
1 1/2"	1 3/4"	1/8"	14"	80	5, 10, 25, 100	5180K19	1.54
2"	2 1/4"	1/8"	18"	60	5, 10, 25, 100	5180K82	2.00

Choose a Color

To Order: Please specify opaque blue, green, orange, red, or yellow.

ID	OD	Wall	Bend Radius	Max. psi @ 72°F	Lengths, ft.		Per Ft.
0.17"	1/4"	0.04"	2"	200	50, 100	5181K23	$0.10
3/16"	5/16"	1/16"	2 1/2"	260	50, 100	5181K53	.16
1/4"	3/8"	1/16"	3"	210	50, 100	5181K48	.20
3/8"	1/2"	1/16"	4"	150	50, 100	5181K76	.28

Durable White Polyethylene Tubing for Food and Beverage



- Flexible
- Firm (Durometer 80A)
- Temperature Range: -60° to 120°F
- Use with barbed fittings and a worm-drive clamp

Reinforced with a polyester braid, this tubing is surprisingly strong, yet softer and more flexible than our other polyethylene tubing. It is semi-clear white. Tubing is made of FDA listed materials.

ID	OD	Wall	Bend Radius	Max. psi @ 72°F	Lengths, ft.		Per Ft.
1/4"	1/2"	0.105"	2 1/2"	150	10, 25, 50, 100	9336T1	$0.74
3/8"	5/8"	0.109"	3 1/2"	150	10, 25, 50, 100	9336T2	1.02
1/2"	3/4"	0.12"	5"	150	10, 25, 50, 100	9336T3	1.26

Odor-Resistant Blue Polyethylene Tubing for Water



- Flexible
- Firm (Durometer 90A)
- Temperature Range: -40° to 170°F
- Use with barbed fittings

An inner liner releases silver ions to inhibit the growth of bacteria, mold, fungi, and other odor-causing microbes.

ID	OD	Wall	Bend Radius	Max. psi @ 72°F	Lengths, ft.		Per Ft.
1/16"	1/8"	1/32"	1/8"	110	10, 25, 100	9334T12	$1.22
1/8"	1/4"	1/16"	1/4"	150	5, 10, 25, 100	9334T23	1.68
3/16"	5/16"	1/16"	1/2"	95	5, 10, 25, 100	9334T34	2.30
1/4"	3/8"	1/16"	1"	70	5, 10, 25, 100	9334T42	2.55
5/16"	7/16"	1/16"	1 1/2"	65	5, 10, 25, 100	9334T53	2.68
3/8"	1/2"	1/16"	1 3/4"	50	5, 10, 25, 100	9334T64	2.61

Vacuum-Rated Polyethylene Tubing for Food and Beverage



Opaque

- Flexible
- Hard (Durometer 50D)
- Temperature: -40° to 150°F
- Use with compression fittings and push-to-connect fittings

Strong, hard walls give this tubing extra support to handle high-vacuum applications up to 28" Hg @ 72°F. It is moisture resistant and will not impart tastes or odors to the fluid passing through it. Tubing is made of FDA listed materials.

Inch tubing comes in your choice of semi-clear white or the following opaque colors: black, blue, green, red, and yellow.

Metric tubing comes in your choice of semi-clear white or opaque black.

To Order: Please specify color.

ID	OD	Wall	Bend Radius	Max. psi @ 72°F	Lengths, ft.		Per Ft.
Inch							
1/16"	1/8"	1/32"	1/2"	300	25, 50, 100	5384K51	$0.17
0.106"	5/32"	0.025"	1"	170	25, 50, 100	5384K52	.23
0.17"	1/4"	0.04"	1 1/4"	200	25, 50, 100	5384K53	.22
3/16"	5/16"	1/16"	1 1/2"	230	25, 50, 100	5384K54	.35
1/4"	3/8"	1/16"	2"	190	25, 50, 100	5384K55	.34
3/8"	1/2"	1/16"	2 1/2"	130	25, 50, 100	5384K56	.51
Metric—Dimensions in millimeters (except lengths)							
2.7	4	0.65	25	170	25, 50, 100	51555K126	.23
4	6	1	31	170	25, 50, 100	51555K127	.24
6	8	1	38	140	25, 50, 100	51555K128	.31
8	10	1	50	110	25, 50, 100	51555K129	.39
9	12	1.5	63	130	25, 50, 100	51555K137	.52

For information about tubing, see page 118.

Polyethylene Tubing for Drinking Water

- Flexible
- Hard (Durometer Not Rated)
- Temperature Range: 72° to 180° F
- Use with push-to-connect fittings



Compatible with Viega PEX, this tubing is a lightweight alternative to copper tubing. It connects to fittings with no soldering or cement required, so it's easier to install than copper and CPVC tubing. Material is IAPMO (International Association of Plumbing and Mechanical Officials) approved to ASTM F876 and F877 standards.

To Order: Please specify opaque blue, red, or white, except 1/4" ID comes only in white, and 1" ID comes only in red and white.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/4"	3/8"	1/16"	3"	160	10, 25, 50, 100	51275K82	$0.79
3/8"	1/2"	1/16"	4"	160	10, 25, 50, 100	51275K87	.88
1/2"	5/8"	1/16"	5"	160	10, 25, 50, 100	51275K88	.99
3/4"	7/8"	1/8"	7"	160	5, 10, 25, 50, 100	51275K89	1.79
1"	1 1/8"	1/8"	9"	160	2, 5, 10, 25, 50	51275K91	3.07

Miniature EVA Clear Tubing

- Flexible
- Firm (Durometer 90A)
- Temperature Range: -30° to 250° F
- Use with barbed fittings



Use this micro-sized tubing for delicate, precision applications. Use with air and water. It can be sterilized with steam (autoclaving), gas, radiation, and chemicals.

ID	OD	Wall	Bend Radius	Lengths, ft.		Per Ft.
0.02"	0.06"	0.02"	1/4"	10, 25, 50, 100	1883T1	$1.28
0.03"	0.09"	0.03"	1/4"	10, 25, 50, 100	1883T2	1.45
0.04"	0.07"	0.015"	1/4"	10, 25, 50, 100	1883T3	1.54
0.05"	0.09"	0.02"	1/4"	10, 25, 50, 100	1883T4	1.58
0.063"	0.125"	0.031"	1/2"	10, 25, 50, 100	1883T5	1.63

High-Pressure White EVA Tubing

- Flexible
- Firm (Durometer 75A)
- Temperature Range: -30° to 120° F
- Use with barbed fittings

The tubing walls are reinforced with a polyester braid to handle higher pressures than other EVA tubing. Tubing has excellent resistance to stress cracking. It is semi-clear white. Use with air and water.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/4"	15/32"	7/64"	3"	250	10, 25, 50, 100	5632K31	$0.79
5/16"	17/32"	7/64"	3"	250	10, 25, 50, 100	5632K32	.93
3/8"	19/32"	7/64"	4"	250	10, 25, 50, 100	5632K33	1.01
1/2"	23/32"	7/64"	4"	250	10, 25, 50, 100	5632K34	1.42
5/8"	7/8"	1/8"	5"	200	5, 10, 25, 50, 100	5632K35	1.81

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
3/4"	31/32"	7/64"	7"	150	5, 10, 25, 50, 100	5632K36	$1.83
1"	1 5/16"	5/32"	9"	150	2, 5, 10, 25, 100	5632K38	3.26
1 1/4"	1 11/16"	7/32"	12"	150	2, 5, 10, 25, 100	5632K41	3.81
1 1/2"	2"	1/4"	30"	150	2, 5, 10, 25, 100	5632K42	5.17
2"	2 7/16"	7/32"	36"	150	2, 5, 10, 25, 50	5632K43	5.80

Low-Temperature White EVA Tubing

- Flexible
- Firm (Durometer 95A)
- Temperature Range: -100° to 160° F
- Use with compression fittings

This tubing remains flexible even when temperatures drop to -100° F. Tubing has excellent resistance to impact and stress cracking and also resists grease and UV light. Use with air and water. Tubing is semi-clear white. It can be sterilized with gas.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/8"	1/4"	1/16"	1"	65	25, 50, 100	5113K31	$0.19
0.17"	1/4"	0.04"	1"	40	25, 50, 100	5113K32	.13
3/16"	5/16"	1/16"	1 1/4"	55	25, 50, 100	5113K33	.24
1/4"	3/8"	1/16"	1 1/2"	25	25, 50, 100	5113K34	.30
3/8"	1/2"	1/16"	2"	45	25, 50, 100	5113K35	.42
3/8"	5/8"	1/8"	2 1/2"	55	10, 25, 50, 100	5113K36	.93

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/2"	5/8"	1/16"	2 1/2"	30	25, 50, 100	5113K37	$0.53
1/2"	3/4"	1/8"	3"	45	10, 25, 50, 100	5113K38	.85
5/8"	3/4"	1/16"	3"	30	10, 25, 50, 100	5113K39	.64
3/4"	1"	1/8"	4"	35	10, 25, 50, 100	5113K41	1.23
1"	1 1/4"	1/8"	5"	25	5, 10, 25, 50, 100	5113K42	1.57

High-Flex White Polyethylene-Lined Tubing for Food and Beverage

- Flexible
- Firm (Durometer 90A)
- Temperature Range:
  Standard: -50° to 170° F
  High Temperature: -60° to 200° F
- Use with barbed fittings

Made of pliable EVA, this tubing can handle continuous bending and flexing better than polyethylene tubing. It is resistant to impact and stress cracking. Tubing has a polyethylene liner that won't leach tastes or odors into the fluid passing through. It is made of FDA listed materials. It is semi-clear white. Tubing can be sterilized with steam (autoclaving) and radiation.



			Standard					High Temperature			
ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	3/16"	1/16"	—	—	—	—	—	1/2"	90	10, 25, 50	5155K12	$1.59
1/8"	3/16"	1/32"	1/2"	45	25, 50	5154K15	$0.41	1/2"	45	10, 25, 50	5155K15	1.16
1/8"	1/4"	1/16"	3/4"	75	10, 25, 50	5154K16	.91	3/4"	75	5, 10, 25, 50	5155K16	2.04
3/16"	1/4"	1/32"	—	—	—	—	—	3/4"	40	10, 25, 50	5155K19	1.40
3/16"	5/16"	1/16"	—	—	—	—	—	1"	65	5, 10, 25, 50	5155K21	2.69
1/4"	3/8"	1/16"	1 1/4"	65	10, 25, 50	5154K25	1.42	1 1/4"	65	2, 5, 10, 25, 50	5155K25	3.34
5/16"	7/16"	1/16"	—	—	—	—	—	1 3/4"	60	2, 5, 10, 25, 50	5155K28	3.46
3/8"	1/2"	1/16"	1 3/4"	55	5, 10, 25, 50	5154K32	1.94	1 3/4"	55	2, 5, 10, 25, 50	5155K32	4.10
1/2"	5/8"	1/16"	3 1/2"	35	5, 10, 25, 50	5154K38	2.52	—	—	—	—	—
3/4"	1"	1/8"	5 1/2"	40	2, 5, 10, 25, 50	5154K53	7.03	5 1/2"	40	2, 5, 10, 20, 25, 50	5155K53	16.85

Nylon Tubing

For information about tubing, see page 118.

Choose-a-Color Flexible Nylon Tubing



Opaque

- Flexible
- Hard (Rockwell R80)
- Temperature Range: -60° to 200° F
- Use with compression fittings

With slightly softer walls than other hard tubing, this tubing is more flexible and impact absorbent. Use with air and water. Vacuum rating is 28″ Hg @ 72° F. The white tubing is semi-clear; all others are opaque.



Semi-Clear White

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Choose a Color	Lengths, ft.		Per Ft.
Inch								
0.093″	1/8″	0.016″	1/2″	270	Black, Blue, Green, Red, White, Yellow	25, 50, 100	5548K61	$0.26
0.106″	5/32″	0.025″	1/2″	350	Black, Blue, Green, Red, White, Yellow	25, 50, 100	5548K62	.28
0.138″	3/16″	0.025″	1/2″	260	Black, White	25, 50, 100	5548K63	.42
0.17″	1/4″	0.04″	3/4″	330	Black, White	25, 50, 100	5548K64	.60
0.18″	1/4″	0.035″	1″	290	Black, Blue, Green, Red, White, Yellow	25, 50, 100	5548K65	.44
0.232″	5/16″	0.04″	1 1/2″	240	Black, White	10, 25, 50, 100	5548K66	.72
0.275″	3/8″	0.05″	1 1/2″	250	Black, Blue, Green, Red, White, Yellow	10, 25, 50, 100	5548K67	.89
3/8″	1/2″	0.062″	2 1/4″	240	Black, Blue, Green, Red, White, Yellow	10, 25, 50, 100	5548K68	1.46
Metric—Dimensions in millimeters (except lengths)								
1.8	3	0.6	6	410	Black, White	25, 50, 100	50405K22	.33
2.7	4	0.65	12	350	Black, Gray, Red, White	25, 50, 100	50405K23	.28
3	5	1	9	420	Black, Gray, Red, White	25, 50, 100	50405K24	.59
4	6	1	17	340	Black, Gray, Red, White	25, 50, 100	50405K25	.50
6	8	1	38	250	Black, White	10, 25, 50, 100	50405K26	.69
8	10	1	51	190	Black, White	10, 25, 50, 100	50405K27	.89
10	12	1	76	150	Black, White	10, 25, 50, 100	50405K28	1.45

Self-Retracting Nylon Tubing



Opaque

- Flexible
- Hard (Rockwell R80)
- Temperature Range: -40° to 180° F
- Use with compression fittings and push-to-connect fittings

Keep your work area tidy with this coiled tubing that extends when you need it and retracts out of the way when you don't. Tubing is tough and abrasion resistant. Use with air and water. Vacuum rating is 28″ Hg @ 72° F.

To Order: Please specify opaque black, blue, green, orange, red, or semi-clear white.



Semi-Clear White

ID	OD	Wall	Max. psi @ 72° F	Retracted Length	Length	Coil OD		
0.106″	0.156″	0.025″	350	3″	3 1/2 ft.	1 5/16″	5040K51	$7.00
0.106″	0.156″	0.025″	350	6″	7 ft.	1 5/16″	5040K52	7.74
0.106″	0.156″	0.025″	350	9″	14 ft.	1 5/16″	5040K53	8.78
0.106″	0.156″	0.025″	350	12″	14 ft.	1 5/16″	5040K54	9.36
0.106″	0.156″	0.025″	350	24″	28 ft.	1 5/16″	5040K55	16.33
0.17″	1/4″	0.04″	330	6″	4 ft.	1 3/4″	5040K56	12.86
0.17″	1/4″	0.04″	330	9″	5 1/2 ft.	1 3/4″	5040K57	14.45
0.17″	1/4″	0.04″	330	12″	7 1/2 ft.	1 3/4″	5040K58	16.52
0.17″	1/4″	0.04″	330	25″	15 1/2 ft.	1 3/4″	5040K59	29.11
0.17″	1/4″	0.04″	330	36″	22 1/2 ft.	1 3/4″	5040K61	39.96
0.275″	3/8″	0.05″	250	6″	6 1/2 ft.	2 1/4″	5040K62	24.17
0.275″	3/8″	0.05″	250	12″	17 1/2 ft.	2 1/4″	5040K63	33.45
0.275″	3/8″	0.05″	250	17″	25 ft.	2 1/4″	5040K64	41.64
3/8″	1/2″	0.062″	240	4 1/2″	8 1/2 ft.	4″	5040K65	30.24
3/8″	1/2″	0.062″	240	9″	17 ft.	4″	5040K66	43.03
3/8″	1/2″	0.062″	240	13″	24 1/2 ft.	4″	5040K67	55.45

High-Pressure Nylon Tubing



Semi-Clear White

- Flexible
- Hard (Rockwell R110)
- Temperature Range: -40° to 225° F
- Use with compression fittings

Exceptionally hard walls give this tubing the strength to handle high-pressure applications and vacuum applications up to 29″ Hg @ 72° F. Tubing has excellent abrasion resistance. Use with air and water. It can be sterilized with gas.

To Order: Please specify opaque black or semi-clear white.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
0.078″	1/8″	0.024″	1 1/4″	850	25, 50, 100	5173K86	$0.19
0.096″	1/8″	0.014″	1 1/4″	450	25, 50, 100	5173K87	.13
0.106″	5/32″	0.025″	1 1/2″	700	25, 50, 100	5173K88	.26
0.11″	3/16″	0.039″	1 1/2″	950	25, 50, 100	5173K89	.32
0.138″	3/16″	0.025″	1 3/4″	550	25, 50, 100	5173K91	.31
0.15″	1/4″	0.05″	1 3/4″	900	25, 50, 100	5173K92	.32
0.188″	5/16″	0.062″	2 3/4″	900	25, 50, 100	5173K93	.52
0.19″	1/4″	0.03″	2 1/2″	550	25, 50, 100	5173K94	.29
0.225″	3/8″	0.075″	3 1/2″	900	10, 25, 50, 100	5173K95	.75
0.242″	5/16″	0.035″	3″	450	25, 50, 100	5173K96	.33

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch (Cont.)							
0.29″	1/2″	0.105″	4 3/4″	950	10, 25, 50, 100	5173K97	$1.34
0.295″	3/8″	0.04″	3 3/4″	400	25, 50, 100	5173K98	.47
0.38″	1/2″	0.06″	5″	500	10, 25, 50, 100	5173K99	.85
Metric—Dimensions in millimeters (except lengths)							
2.7	4	0.65	31	410	25, 50, 100	5140K91	.24
3	5	1	44	380	25, 50, 100	5140K92	.42
4	6	1	44	350	25, 50, 100	5140K93	.24
6	8	1	63	260	25, 50, 100	5140K94	.34
8	10	1	76	180	25, 50, 100	5140K95	.47
10	12	1	95	160	10, 25, 50, 100	5140K96	.79

Flexible High-Pressure White Nylon Tubing

- Flexible
- Hard (Rockwell R110)
- Temperature Range: -60° to 200° F
- Use with compression fittings and push-to-connect fittings



A small bend radius makes this tubing extra flexible. It has exceptionally hard walls for use in high-pressure applications. Tubing is semi-clear white. Use with air and water. Vacuum rating is 28" Hg @ 72° F.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
0.073"	1/8"	0.026"	1/4"	800	25, 50, 100	9685T1	$0.41
0.109"	3/16"	0.039"	1/4"	800	10, 25, 50, 100	9685T2	.69
0.15"	1/4"	0.05"	1/2"	800	10, 25, 50, 100	9685T3	.89
0.225"	3/8"	0.075"	1"	800	5, 10, 25, 100	9685T4	1.90
0.35"	1/2"	0.075"	2"	525	5, 10, 25, 50	9685T5	2.99

Nylon Clear Tubing for Fuels

- Flexible
- Hard (Durometer 80D)
- Temperature Range: -40° to 212° F
- Use with compression fittings



Hard walls give this tubing excellent strength and abrasion resistance, as well as the ability to handle high pressures. It is clear, so you can easily monitor flow. Use with diesel fuel, fuel oil, and gasoline. It can be sterilized with gas.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
0.096"	1/8"	0.014"	1 1/4"	430	25, 50, 100	8359K11	$0.16
0.106"	5/32"	0.025"	1 1/2"	430	25, 50, 100	8359K12	.30
0.138"	3/16"	0.025"	1 3/4"	420	25, 50, 100	8359K13	.38
0.19"	1/4"	0.03"	2 3/4"	410	25, 50, 100	8359K14	.36
0.242"	5/16"	0.035"	3"	410	25, 50, 100	8359K15	.54
0.295"	3/8"	0.04"	3 3/4"	400	10, 25, 50, 100	8359K16	.74
0.38"	1/2"	0.06"	5"	370	10, 25, 50, 100	8359K17	1.06
Metric—Metric dimensions in millimeters (except lengths)							
2.7	4	0.65	41	410	25, 50, 100	8365K21	.36
3	5	1	51	380	10, 25, 50, 100	8365K22	.66
4	6	1	61	350	10, 25, 50, 100	8365K23	.82
6	8	1	81	260	10, 25, 50, 100	8365K24	.70
8	10	1	102	180	10, 25, 50, 100	8365K25	.91
10	12	1	122	160	10, 25, 50, 100	8365K26	.82

D.O.T. Choose-a-Color Nylon Tubing for Air

- Flexible
- Hard (Durometer 65D)
- Temperature Range: -40° to 200° F
- Use with compression fittings and push-to-connect fittings



Color-code your lines for easy identification. This tubing is for use with compressed air up to 150 psi @ 72° F. It meets the Department of Transportation FMVSS 106 criteria for air brake tubing, unless noted. The **nonreinforced** tubing also meets SAE J844 A standards, while the **reinforced** tubing also meets SAE J844 B standards.

To Order: Please specify opaque black, blue, green, red, gray, or yellow (unless noted).

ID	OD	Wall	Bend Radius	Lengths, ft.		Per Ft.
Reinforced						
0.251"	3/8"	0.062"	1 1/2"	10, 25, 50, 100	5097T61	$1.15
0.376"	1/2"	0.062"	2"	5, 10, 25, 50, 100	5097T71	1.55
0.441"	5/8"	0.092"	2 1/2"	5, 10, 25, 50, 100	5097T81★	2.59
0.566"	3/4"	0.092"	3"	2, 5, 10, 25, 100	5097T91★	3.53
Nonreinforced						
0.079"	1/8"	0.023"	1/4"	25, 50, 100	5097T312■	.45
0.092"	5/32"	0.032"	1/2"	25, 50, 100, 250	5097T321▲	.63
0.17"	1/4"	0.04"	1"	25, 50, 100, 250	5097T41	.69

★ Comes in black and green only.
■ Comes in blue only. Does not meet D.O.T. FMVSS 106.
▲ Comes in black only.

Flexible Nylon Tubing

- Flexible
- Hard (Durometer 55D)
- Temperature Range: -40° to 180° F
- Use with compression fittings and push-to-connect fittings



Semi-Clear White

With slightly softer walls than other hard tubing, this tubing is more flexible and impact absorbent. Use with air and water. Vacuum rating is 28" Hg @ 72° F.

To Order: Please specify opaque black or semi-clear white.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
0.093"	1/8"	0.016"	1/2"	200	25, 50, 100	5112K41	$0.30
0.106"	5/32"	0.025"	1/2"	220	25, 50, 100	5112K42	.30
0.18"	1/4"	0.035"	1"	180	25, 50, 100	5112K43	.44
0.232"	5/16"	0.04"	1 1/4"	170	10, 25, 50, 100	5112K44	.71
0.275"	3/8"	0.05"	1 1/2"	160	10, 25, 50, 100	5112K45	.86
3/8"	1/2"	0.062"	2 1/2"	140	10, 25, 50, 100	5112K46	1.46
Metric—Dimensions in millimeters (except lengths)							
3	5	1	12	310	25, 50, 100	9355T1	.56
4	6	1	19	240	25, 50, 100	9355T2	.65
6	8	1	23	160	10, 25, 50, 100	9355T3	.83
8	10	1	28	120	10, 25, 50, 100	9355T4	1.06
10	12	1	38	90	10, 25, 50, 100	9355T5	1.34

Flame-Retardant Nylon Tubing

- Flexible
- Hard (Durometer 50D)
- Temperature Range: 32° to 140° F
- Use with push-to-connect fittings



Designed for use in spot-welding applications, this tubing meets UL 94V0 for flame retardance. It stays flexible longer than other types of nylon tubing. Use with air and water. Maximum pressure is 170 psi @ 72° F.

To Order: Please specify opaque black, blue, green, red, or white (unless noted).

ID	OD	Wall	Bend Radius	Lengths, ft.		Per Ft.
Inch						
0.167"	1/4"	0.041"	3/4"	10, 25, 50, 100	51185K41	$1.09
1/4"	3/8"	1/16"	1"	5, 10, 25, 50, 100	51185K42	2.28
11/32"	1/2"	0.075"	1 1/4"	2, 5, 10, 25, 50, 100	51185K43	3.77
Metric—Dimensions in millimeters (except lengths)						
3	6	1.5	17	10, 25, 50, 100	5437K11■	1.28
5	8	1.5	19	5, 10, 25, 50, 100	5437K12	1.73
6.5	10	1.75	27	5, 10, 25, 50, 100	5437K13	2.52
8	12	2	32	2, 5, 10, 25, 100	5437K14	3.57

■ Comes in black, blue, and white only.

Flame-Retardant Polyethylene Tubing for Air

- Flexible
- Hard (Durometer: Not rated)
- Temperature Range: -70° to 175° F
- Use with compression fittings and push-to-connect fittings



This tubing meets UL 94V2 and UL 1820 for flame retardance and is self-extinguishing. Use in air control systems. Tubing stays flexible and resists stress cracks, even at low temperatures.

Tubing **with stripes** allows you to color-code your lines for easy identification.

To Order: Please specify stripe color: blue, green, orange, red, violet, white, or yellow.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Black							
0.096"	5/32"	0.03"	1/2"	110	25, 50, 100, 250	5156K86	$0.25
0.17"	1/4"	0.04"	3/4"	100	25, 50, 100, 250	5156K87	.36
1/4"	3/8"	1/16"	1 1/2"	100	10, 25, 50, 250	5156K88	.82
3/8"	1/2"	1/16"	1 3/4"	70	10, 25, 50, 250	5156K89	1.21
Black with Stripes							
0.096"	5/32"	0.03"	1/2"	110	25, 50, 100, 250	53385K12	.30
0.17"	1/4"	0.04"	3/4"	100	25, 50, 100, 250	53385K14	.42
1/4"	3/8"	1/16"	1 1/2"	100	10, 25, 50, 250	53385K16	.91
3/8"	1/2"	1/16"	1 3/4"	70	10, 25, 50, 250	53385K18	1.49

ⓘ For information about the chemical compatibility of tubing, go to mcmaster.com and search for the part number.

High-Pressure/Vacuum Polyethylene Tubing for Chemicals



Semi-Clear White

- Flexible
- Hard (Durometer 65D)
- Temperature Range: -100° to 180° F
- Use with compression fittings

Even without reinforcement, this tubing can withstand high pressures and will not collapse in vacuum applications up to 29" Hg @ 72° F. Tubing is high-density polyethylene (HDPE). Use with acetone, bleach, coolant, hydrochloric acid, hydrogen peroxide, and diesel fuel. It can be sterilized with gas and chemicals.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Semi-Clear White							
1/8"	1/4"	1/16"	2 1/2"	450	25, 50, 100	50375K41	$0.14
0.17"	1/4"	0.04"	2 1/2"	260	25, 50, 100	50375K43	.11
3/16"	5/16"	1/16"	3"	340	25, 50, 100	50375K45	.18
1/4"	3/8"	1/16"	3 3/4"	270	25, 50, 100	50375K47	.21
5/16"	7/16"	1/16"	4 1/4"	220	25, 50, 100	50375K48	.28
3/8"	1/2"	1/16"	5"	190	25, 50, 100	50375K49	.25
1/2"	5/8"	1/16"	6 1/4"	150	25, 50, 100	50375K51	.32
0.6"	3/4"	0.075"	7 1/2"	150	25, 50, 100	50375K52	.47
5/8"	3/4"	1/16"	7 1/2"	120	25, 50, 100	50375K53	.40
3/4"	7/8"	1/16"	8 3/4"	100	25, 50, 100	50375K54	.51
3/4"	1"	1/8"	10"	190	10, 25, 50, 100	50375K57	.90
0.814"	1"	3/32"	10"	140	10, 25, 50, 100	50375K55	.78

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Semi-Clear White (Cont.)							
7/8"	1"	1/16"	10"	90	10, 25, 50, 100	50375K58	$0.58
1"	1 1/4"	1/8"	12 1/2"	150	5, 10, 25, 50, 100	50375K59	1.83
1 1/4"	1 1/2"	1/8"	15"	120	5, 10, 25, 50, 100	50375K61	1.40
1 1/2"	1 3/4"	1/8"	17 1/2"	100	5, 10, 25, 50, 100	50375K63	1.64
1 3/4"	2"	1/8"	20"	90	5, 10, 25, 50, 100	50375K64	1.89
2"	2 1/4"	1/8"	22 1/2"	80	5, 10, 25, 50, 100	50375K65	2.14
Opaque Black							
0.17"	1/4"	0.04"	2 1/2"	260	25, 50, 100	50375K81	.11
1/4"	3/8"	1/16"	3 3/4"	270	25, 50, 100	50375K82	.18
3/8"	1/2"	1/16"	5"	190	25, 50, 100	50375K83	.32
1/2"	5/8"	1/16"	6 1/4"	150	25, 50, 100	50375K84	.32

Crack-Resistant White Polypropylene Tubing



- Flexible
- Hard (Durometer 65D)
- Temperature Range: Not rated
- Use with compression fittings

This resilient tubing won't crack due to stress or impact. Use with air and water. It can be sterilized with steam (autoclaving) and radiation.

ID	OD	Wall	Max. psi @ 72° F	Lengths, ft.		Per Ft.
0.17"	1/4"	0.04"	300	25, 50, 100	1979T1	$0.37
1/4"	3/8"	1/16"	310	10, 25, 50, 100	1979T2	.72
3/8"	1/2"	1/16"	230	10, 25, 50, 100	1979T3	.99

Crack-Resistant Black Polypropylene Tubing for Food and Beverage



- Flexible
- Hard (Durometer 65D)
- Temperature Range: -40° to 180° F
- Use with compression fittings

Polypropylene tubing is more durable and resistant to stress cracking than polyethylene. Tubing is made of FDA listed materials and meets NSF/ANSI Standard 51 for food contact. It can be sterilized with gas and radiation.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/8"	1/4"	1/16"	2 1/2"	270	25, 50, 100	9349T1	$0.43
0.17"	1/4"	0.04"	2 1/2"	140	25, 50, 100	9349T2	.29
1/4"	3/8"	1/16"	3 3/4"	150	25, 50, 100	9349T3	.52
3/8"	1/2"	1/16"	5"	110	10, 25, 50, 100	9349T4	.50

Low-Pressure White Polypropylene Tubing



- Flexible
- Hard (Rockwell R90)
- Temperature Range: 40° to 200° F
- Use with compression fittings and push-to-connect fittings

Use this flexible tubing in low-pressure applications. Use with air and water. It is semi-clear white. Tubing can be sterilized with steam (autoclaving) and gas.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/8"	1/4"	1/16"	1"	250	25, 50, 100	5392K11	$0.62
0.17"	1/4"	0.04"	1 1/2"	170	25, 50, 100	5392K12	.45
3/16"	5/16"	1/16"	1"	200	25, 50, 100	5392K13	.73
1/4"	3/8"	1/16"	1 1/4"	170	25, 50, 100	5392K14	.74

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
3/8"	1/2"	1/16"	2"	120	10, 25, 50, 100	5392K15	$1.07
1/2"	5/8"	1/16"	3"	90	10, 25, 50, 100	5392K16	1.33
5/8"	3/4"	1/16"	3"	80	10, 25, 50, 100	5392K17	1.55
3/4"	1"	1/8"	6"	140	5, 10, 25, 50	5392K18	2.81

Durable Polycarbonate Clear Tubing



- Rigid
- Hard (Rockwell R120)
- Temperature Range: 32° to 250° F
- Use adhesives to connect

Excellent strength and durability allow this tubing to handle high-pressure applications. It is resistant to UV light. Use with air and water.

ID	OD	Wall	Max. psi @ 72° F		2 ft.	4 ft.	8 ft.
1/4"	3/8"	1/16"	500	9176T1	$2.60	$5.20	$8.66
3/8"	1/2"	1/16"	410	9176T2	3.46	6.91	11.52
5/8"	3/4"	1/16"	240	9176T3	4.32	8.64	14.40
3/4"	1"	1/8"	410	9176T4	9.32	18.64	31.07
1"	1 1/4"	1/8"	310	9176T5	8.27	16.54	27.56
1 1/4"	1 1/2"	1/8"	250	9176T6	8.05	16.10	26.84
1 1/2"	1 3/4"	1/8"	200	9176T7	11.52	23.04	38.40
1 3/4"	2"	1/8"	170	9176T8	13.23	26.45	44.09

ID	OD	Wall	Max. psi @ 72° F		2 ft.	4 ft.	8 ft.
2"	2 1/4"	1/8"	150	9176T9	$12.16	$24.32	$40.53
2 1/4"	2 1/2"	1/8"	130	9176T11	17.04	34.08	56.80
2 1/2"	2 3/4"	1/8"	120	9176T13	18.19	36.38	60.64
2 3/4"	3"	1/8"	110	9176T15	19.39	38.78	64.64
3"	3 1/4"	1/8"	100	9176T17	16.32	32.64	54.40
3 1/4"	3 1/2"	1/8"	95	9176T19	20.86	41.72	69.53
3 3/4"	4"	1/8"	80	9176T21	23.87	47.74	79.56
5 3/4"	6"	1/8"	50	9176T23	31.46	62.92	104.87

For information about the chemical compatibility of tubing, go to mcmaster.com and search for the part number.

Moisture-Resistant White Acetal Tubing

- Rigid
- Hard (Rockwell R120)
- Temperature Range: -20° to 180° F
- Use with compression fittings

Acetal offers comparable strength and durability to nylon, but is more moisture resistant. Use with air and water. Tubing can be sterilized with steam (autoclaving).



ID	OD	Wall	Max. psi @ 72° F		5 ft.
1/8"	1/4"	1/16"	430	9362T4	$7.80
0.17"	1/4"	0.04"	260	9362T1	4.02
1/4"	3/8"	1/16"	280	9362T2	9.41

ID	OD	Wall	Max. psi @ 72° F		5 ft.
3/8"	1/2"	1/16"	200	9362T3	$13.43
1/2"	3/4"	1/8"	280	9362T5	34.75

Hard PVC Clear Tubing for Food and Beverage

- Rigid
- Hard (Durometer 80D)
- Temperature Range: -50° to 140° F
- Use cement to connect

Unlike other plastic tubing for food and beverage, this tubing is nonbendable and straight. Tubing is made of FDA listed materials. It is 3-A certified and meets NSF/ANSI Standard 51 for food contact. Tubing can be sterilized with chemicals and gas. Vacuum rating is 29" Hg @ 72° F.



ID	OD	Wall	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
0.17"	1/4"	0.04"	440	53945K11	$0.90	$2.45	$4.30
3/16"	5/16"	1/16"	360	53945K12	1.52	4.13	7.25
1/4"	3/8"	1/16"	330	53945K13	1.99	5.39	9.46
3/8"	1/2"	1/16"	240	53945K14	2.76	7.48	13.12
1/2"	5/8"	1/16"	190	53945K15	3.56	9.67	16.97
5/8"	3/4"	1/16"	160	53945K16	4.83	13.12	23.02

ID	OD	Wall	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
1"	1 1/8"	1/16"	110	53945K17	$5.95	$16.16	$28.35
1 1/8"	1 1/4"	1/16"	95	53945K18	7.85	21.31	37.39
1 1/4"	1 3/8"	1/16"	90	53945K19	8.06	21.88	38.39
1 3/8"	1 1/2"	1/16"	80	53945K21	6.61	17.94	31.48
1 7/8"	2"	1/16"	60	53945K22	11.03	29.94	52.52
2 3/8"	2 1/2"	1/16"	50	53945K23	15.04	40.83	71.64

Flexible White Extreme-Temperature Teflon® PTFE Tubing for Chemicals

- Very flexible
- Hard (Durometer 60D)
- Temperature Range: -454° to 500° F
- Use with worm-drive clamps

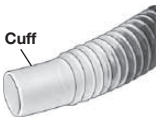

This convoluted tubing handles a wide temperature range, plus the spiral design provides good flexibility and a smooth flow. The cuff enables easy connections to fittings. Use with acetic acid, hydrochloric acid, biodiesel, sulfuric acid, and gasoline. Material meets UL 94V0 for flame retardance and Mil. Spec. AMS-T-81914/2. Tubing is semi-clear white. It can be sterilized with steam (autoclaving) and gas.

To Order: Please specify length in 1-ft. increments up to the maximum continuous length of 10 ft. Length includes both cuffs.

Cuff ID	Cuff OD	Cuff Wall	Cuff Lg.	Bend Radius	Max. psi @ 72° F		Per Ft.
0.177"	0.209"	0.016"	3/4"	1/4"	100	51155K21	$12.01
0.265"	0.297"	0.016"	3/4"	1/4"	90	51155K42	13.70
0.365"	0.405"	0.02"	1"	1/2"	70	51155K43	15.37
0.472"	0.516"	0.022"	1"	3/4"	50	51155K44	19.55
0.595"	0.639"	0.022"	1 1/4"	3/4"	50	51155K45	27.05
0.725"	0.777"	0.026"	1 1/2"	3/4"	40	51155K26	36.86
0.967"	1.019"	0.026"	1 1/2"	1"	30	51155K27	46.07
1.217"	1.273"	0.028"	1 1/2"	1"	20	51155K28	53.64
1.44"	1.496"	0.028"	2"	2"	20	51155K29	60.41

Light-Transmitting Clear THV Tubing

- Flexible
- Firm (Durometer 45D)
- Temperature Range: -40° to 200° F
- Use with compression fittings



Often used in UV purification systems, this tubing is clearer and transmits UV light better than other tubing. Use with air and water.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
5/32"	1/4"	3/64"	1/4"	270	1, 2, 5, 10, 25, 50, 100	5737K41	$6.46
1/4"	3/8"	1/16"	1/4"	250	1, 2, 5, 10, 25, 50, 100	5737K42	9.33
3/8"	1/2"	1/16"	1/2"	190	1, 2, 5, 10, 25, 50, 100	5737K43	10.10
5/8"	3/4"	1/16"	3"	110	1, 2, 5, 10, 25, 50, 100	5737K44	15.94
7/8"	1"	1/16"	6"	90	1, 2, 5, 10, 25, 50, 100	5737K45	21.76

Abrasion-Resistant White ETFE Tubing for Chemicals

- Flexible
- Hard (Durometer 65D)
- Temperature Range: -60° to 300° F
- Use with compression fittings



Made of tough ETFE, this tubing is more abrasion resistant than other types of hard tubing. It is also impact resistant and has a super-smooth interior for unrestricted flow. Use with acetic acid, bleach, hydrochloric acid, hydrogen peroxide, and sodium hydroxide. Material meets ASTM D3159. It is semi-clear white. Tubing can be sterilized with steam (autoclaving), gas, and chemicals. Vacuum rating is 29" Hg @ 72° F.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
0.016"	1/16"	0.023"	1/2"	750	2, 5, 10, 25, 50	5583K51	$4.51
0.02"	1/16"	0.021"	1/2"	700	2, 5, 10, 25, 50	5583K52	4.24
0.062"	1/8"	0.031"	1/2"	525	2, 5, 10, 25, 50	5583K43	5.85
0.093"	1/8"	0.016"	3/4"	250	5, 10, 25, 50	5583K44	1.73
0.14"	3/16"	0.024"	3/4"	240	2, 5, 10, 25, 50	5583K45	3.27
0.187"	1/4"	0.031"	3/4"	240	2, 5, 10, 25, 50	5583K46	3.86
0.232"	5/16"	0.04"	1 3/4"	250	2, 5, 10, 25, 50	5583K47	6.72
0.278"	3/8"	0.048"	1 1/2"	250	2, 5, 10, 25, 50	5583K48	7.00
3/8"	1/2"	0.062"	2"	240	1, 2, 5, 10, 25, 50	5583K49	11.82

Extreme-Pressure PEEK Tubing for Chemicals

- Flexible
- Hard (Durometer: Not rated)
- Temperature Range: -328° to 482° F
- Use with compression fittings



An excellent substitute for stainless steel, this tubing is lightweight but can handle extreme-pressure applications. It also has excellent impact resistance. Use with acetic acid, biodiesel, diesel fuel, hydrogen peroxide, and isopropyl alcohol. It can be sterilized with steam (autoclaving) and gas.

Note: The walls of this tubing will permanently collapse if bent too far.

ID	OD	Wall	Max. psi @ 72° F	Color	Max. Lg.		Per Ft.
0.005"	1/16"	0.029"	1,000	Red	25 ft.	51085K41	$3.52
0.007"	1/16"	0.028"	1,000	Yellow	25 ft.	51085K42	3.67
0.01"	1/16"	0.026"	1,000	Blue	25 ft.	51085K44	3.71
0.02"	1/16"	0.021"	1,000	Orange	25 ft.	51085K45	3.40
0.03"	1/16"	0.016"	1,000	Green	25 ft.	51085K48	3.00
0.062"	1/8"	0.031"	1,000	Beige	25 ft.	51085K49	11.15

PTFE & FEP-Lined Polyethylene Tubing

For information about tubing, see page 118.

For information about the chemical compatibility of tubing, go to mcmaster.com and search for the part number.

Extreme-Temperature PTFE and Teflon® PTFE Tubing for Chemicals



Choose a Color

- Flexible
- Hard (Durometer 60D)
- Temperature Range: -450° to 500° F
- Use with compression fittings



Semi-Clear White with Choose-a-Color Stripe

This tubing can handle a wide range of temperatures. It has a smooth interior for unrestricted flow and easy cleaning. Use with acetic acid, hydrogen peroxide, isopropyl alcohol, diesel fuel, and gasoline. It can be sterilized with gas.

Teflon® PTFE Semi-Clear White Tubing—Meets UL 94V0 for flame retardance.

PTFE Choose-a-Color Tubing—This tubing is rated for vacuum to 29″ Hg @ 72° F. **To Order:** Please specify opaque black, blue, green, red, or yellow.

PTFE Semi-Clear White Tubing—Tubing is rated for vacuum to 29″ Hg @ 72° F. *Inch tubing* has a stripe that allows you to color-code your lines for easy identification. **To Order:** Please specify stripe color: black, blue, green, red, or yellow.

Teflon® PTFE—Semi-Clear White

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/32″	1/16″	1/64″	1/8″	390	10, 25, 50, 100	5239K23	$1.00
1/16″	1/8″	1/32″	1/2″	290	10, 25, 50	5239K24	1.00
3/32″	5/32″	1/32″	1/2″	240	10, 25, 50	5239K25	1.37
1/8″	3/16″	1/32″	1 1/2″	230	10, 25, 50	5239K11	1.30
1/8″	1/4″	1/16″	1 1/2″	300	2, 5, 10, 25, 50	5033K31	3.73
3/16″	1/4″	1/32″	2 1/2″	160	5, 10, 25, 50	5239K12	1.69
3/16″	5/16″	1/16″	3″	250	2, 5, 10, 25, 50	5033K32	4.56
1/4″	5/16″	1/32″	3 1/4″	130	5, 10, 25, 50	5239K13	2.27
1/4″	3/8″	1/16″	3 1/2″	200	2, 5, 10, 25, 50	5033K33	6.29
5/16″	3/8″	1/32″	4″	100	2, 5, 10, 25, 50	5239K14	3.25
5/16″	7/16″	1/16″	5 1/2″	170	2, 5, 10, 20, 25, 50	5033K34	8.79
3/8″	7/16″	1/32″	4 1/2″	90	2, 5, 10, 25, 50	5239K15	3.66
3/8″	1/2″	1/16″	6 1/2″	150	2, 5, 10, 20, 25, 50	5033K35	9.04
7/16″	1/2″	1/32″	4 3/4″	75	2, 5, 10, 25, 50	5239K16	$4.39
7/16″	9/16″	1/16″	7″	130	2, 5, 10, 20, 25, 50	5033K36	11.89
1/2″	9/16″	1/32″	4 1/2″	65	2, 5, 10, 25, 50	5239K17	4.51
1/2″	5/8″	1/16″	8″	120	1, 2, 5, 10, 20, 25	5033K37	11.83
9/16″	11/16″	1/16″	9″	120	1, 2, 5, 10, 20, 25	5033K38	14.76
5/8″	11/16″	1/32″	8″	55	2, 5, 10, 25, 50	5239K18	5.95
5/8″	3/4″	1/16″	6″	100	1, 2, 5, 10, 20, 25	5033K39	15.95
3/4″	53/64″	3/64″	14″	60	1, 2, 5, 10, 25, 50	5239K19	9.03
3/4″	7/8″	1/16″	12″	90	1, 2, 5, 10, 20, 25	5033K41	20.17
7/8″	31/32″	3/64″	13″	55	1, 2, 5, 10	5239K21	10.82
7/8″	1″	1/16″	16″	80	1, 2, 5, 10, 20, 25	5033K43	20.90
1″	1 7/64″	3/64″	25″	45	1, 2, 5, 8	5239K92	16.71

PTFE—Choose a Color

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/8″	3/16″	1/32″	1/2″	180	5, 10, 25	52315K12	$1.92
1/8″	1/4″	1/16″	1/2″	290	2, 5, 10, 25	55515K41	5.05
3/16″	1/4″	1/32″	1 1/4″	130	5, 10, 25	52315K18	2.44
3/16″	5/16″	1/16″	1/2″	220	2, 5, 10, 25	55515K43	6.33
1/4″	5/16″	1/32″	1 3/4″	100	2, 5, 10, 25	52315K24	3.39
1/4″	3/8″	1/16″	3/4″	180	1, 2, 5, 10, 25	55515K45	8.59
5/16″	3/8″	1/32″	2 1/2″	80	2, 5, 10, 25	52315K17	4.76
5/16″	7/16″	1/16″	2 1/2″	150	1, 2, 5, 10, 25	55515K47	13.76
3/8″	7/16″	1/32″	4″	70	2, 5, 10, 25	52315K19	5.36
3/8″	1/2″	1/16″	2 1/2″	130	1, 2, 5, 10, 20, 25	55515K49	12.72
7/16″	1/2″	1/32″	4″	60	2, 5, 10, 25	52315K21	$6.00
7/16″	9/16″	1/16″	3″	110	1, 2, 5, 10, 20, 25	55515K51	17.16
1/2″	9/16″	1/32″	4 3/4″	55	2, 5, 10, 25	52315K23	6.91
1/2″	5/8″	1/16″	4 3/4″	100	1, 2, 5, 10, 20, 25	55515K53	17.15
5/8″	11/16″	1/32″	6″	45	1, 2, 5, 10, 25	52315K25	8.14
5/8″	3/4″	1/16″	6″	80	1, 2, 5, 10, 20, 25	55515K57	24.43
3/4″	53/64″	3/64″	12″	45	1, 2, 5, 10, 20, 25	52315K27	13.17
7/8″	31/32″	3/64″	14″	45	1, 2, 5, 10, 20, 25	52315K29	15.55
7/8″	1″	1/16″	16″	100	1, 2, 5, 10, 20, 25	55515K59	27.52

PTFE—Semi-Clear White

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch—With Choose-a-Color Stripe							
1/8″	3/16″	1/32″	1/2″	180	5, 10, 25	53935K22	$2.17
1/8″	1/4″	1/16″	1/2″	290	5, 10, 25	52365K61	5.19
3/16″	1/4″	1/32″	1 1/4″	130	5, 10, 25	53935K24	2.58
3/16″	5/16″	1/16″	1/2″	220	2, 5, 10, 25	52365K63	6.97
1/4″	5/16″	1/32″	1 3/4″	100	2, 5, 10, 25	53935K26	3.61
1/4″	3/8″	1/16″	3/4″	180	1, 2, 5, 10, 25	52365K65	9.50
5/16″	3/8″	1/32″	2 1/2″	80	2, 5, 10, 25	53935K27	4.95
5/16″	7/16″	1/16″	2 1/2″	150	1, 2, 5, 10, 25	52365K67	14.73
3/8″	7/16″	1/32″	4″	70	2, 5, 10, 25	53935K29	5.46
3/8″	1/2″	1/16″	2 1/2″	130	1, 2, 5, 10, 20, 25	52365K69	13.58
7/16″	1/2″	1/32″	4″	60	2, 5, 10, 25	53935K31	6.57
7/16″	9/16″	1/16″	3″	110	1, 2, 5, 10, 20, 25	52365K71	19.02
1/2″	9/16″	1/32″	4 3/4″	55	2, 5, 10, 25	53935K33	6.92
1/2″	5/8″	1/16″	4 3/4″	100	1, 2, 5, 10, 20, 25	52365K73	19.50
5/8″	11/16″	1/32″	6″	45	1, 2, 5, 10, 25	53935K35	8.56
Inch—With Choose-a-Color Stripe (Cont.)							
5/8″	3/4″	1/16″	6″	80	1, 2, 5, 10, 20, 25	52365K75	$26.55
3/4″	53/64″	3/64″	12″	45	1, 2, 5, 10, 20, 25	53935K37	13.97
7/8″	31/32″	3/64″	14″	45	1, 2, 5, 10, 20, 25	53935K39	16.32
7/8″	1″	1/16″	16″	100	1, 2, 5, 10, 20, 25	52365K79	30.43
Metric—Dimensions in millimeters (except lengths)							
1	3	1	38	390	5, 10, 25	52335K91	1.81
2	4	1	38	290	5, 10, 25	52335K32	2.60
3	5	1	44	220	5, 10, 25	52335K53	2.93
4	6	1	44	180	5, 10, 25	52335K34	2.70
5	7	1	50	150	2, 5, 10, 25	52335K94	3.91
6	8	1	63	130	2, 5, 10, 25	52335K36	3.65
7	9	1	63	110	2, 5, 10, 25	52335K55	4.96
8	10	1	63	100	2, 5, 10, 25	52335K38	4.83
10	12	1	101	80	2, 5, 10, 25	52335K41	5.51

Flexible White FEP-Lined Polyethylene Tubing for Chemicals



- Flexible
- Firm (Durometer 45D)
- Temperature Range: -20° to 170° F
- Use with compression fittings

Repeated bending and flexing won't harm this tubing. It is lined with FEP (fluorinated ethylene propylene) to ensure excellent chemical resistance. The liner has a smooth surface, which reduces product buildup and acts as an electrical insulator. Use with acetic acid, bleach, hydrochloric acid, diesel fuel, and gasoline. Tubing is semi-clear white. It can be sterilized with steam (autoclaving), gas, and chemicals.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/8″	1/4″	1/16″	1″	220	5, 10, 25, 50	9388T11	$2.34
3/16″	1/4″	1/32″	1 1/4″	85	5, 10, 25, 50	9388T12	2.39
1/4″	3/8″	1/16″	1 1/2″	150	2, 5, 10, 25, 50	9388T14	3.74
3/8″	1/2″	1/16″	4″	85	2, 5, 10, 25, 50	9388T15	$4.61
1/2″	5/8″	1/16″	6″	60	2, 5, 10, 25, 50	9388T16	6.62

ⓘ For information about the chemical compatibility of tubing, go to mcmaster.com and search for the part number.

White Teflon® FEP Tubing for Chemicals

- Flexible (unless noted)
- Hard (Durometer 55D)
- Temperature Range: -300° to 400° F
- Use with compression fittings



This tubing withstands a wider temperature range than standard FEP tubing. It is resistant to abrasion and UV light. Tubing is semi-clear white. Use with acetic acid, bleach, hydrochloric acid, diesel fuel, and gasoline. It can be sterilized with steam (autoclaving) and gas.

Inch sizes have a vacuum rating of 29″ Hg @ 72° F, unless noted.
Metric sizes meet UL 94V0 for flame retardance.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
1/16″	1/8″	1/32″	1/2″	410	10, 25, 50	52355K41	$1.17
1/16″	3/16″	1/16″	1/2″	550	2, 5, 10, 25, 50	52355K51	3.53
3/32″	5/32″	1/32″	3/4″	310	5, 10, 25, 50	52355K54	1.65
1/8″	3/16″	1/32″	3/4″	240	5, 10, 25, 50	52355K12	2.22
1/8″	1/4″	1/16″	1/2″	410	2, 5, 10, 25, 50	52355K32	4.04
3/16″	1/4″	1/32″	1″	170	5, 10, 25, 50	52355K57	2.50
1/4″	5/16″	1/32″	1 3/4″	140	2, 5, 10, 25, 50	52355K14	3.27
1/4″	3/8″	1/16″	1″	250	2, 5, 10, 25, 50	52355K33	5.15
5/16″	3/8″	1/32″	2 1/2″	110	2, 5, 10, 25, 50	52355K58	3.71
3/8″	7/16″	1/32″	2″	110	2, 5, 10, 25, 50	52355K15	4.34
3/8″	1/2″	1/16″	2″	95	2, 5, 10, 25, 50	52355K95	7.28
7/16″	1/2″	1/32″	4″	80	2, 5, 10, 25, 50	52355K59	5.23
1/2″	9/16″	1/32″	5″	85	2, 5, 10, 25, 50	52355K17	5.64
1/2″	5/8″	1/16″	3″	130	2, 5, 10, 20, 25, 50	52355K35	9.51
5/8″	11/16″	1/32″	♠	65	2, 5	52355K91	7.73
5/8″	3/4″	1/16″	6″	110	2, 5, 10, 20, 25, 50	52355K36	11.06
11/16″	3/4″	1/32″	8″	50	2, 5	52355K92	6.96
3/4″	13/16″	1/32″	♠	55	2, 5	52355K93★	9.96
3/4″	7/8″	1/16″	8″	110	2, 5, 10, 20, 25, 50	52355K37	15.90
7/8″	15/16″	1/32″	♠	20	2, 5	52355K21★	6.47
1″	1 1/16″	1/32″	♠	20	2, 5	52355K22★	10.86
1″	1 1/8″	1/16″	♠	85	2, 5	52355K94	20.78
Metric—Dimensions in millimeters (except lengths)							
1	3	1	38	1000	10, 25, 50	5557K37	1.02
2	4	1	38	500	5, 10, 25, 50	5557K32	1.53
3	5	1	44	350	5, 10, 25, 50	5557K38	1.77
4	6	1	44	260	5, 10, 25, 50	5557K33	2.28
5	7	1	50	210	5, 10, 25, 50	5557K39	2.67
6	8	1	63	170	2, 5, 10, 25, 50	5557K34	3.14
7	9	1	63	150	2, 5, 10, 25, 50	5557K41	3.48
8	10	1	63	130	2, 5, 10, 25, 50	5557K35	4.01
10	12	1	101	100	2, 5, 10, 25, 50	5557K36	4.31

♠ Tubing is rigid. ★Not rated for vacuum.

Choose-a-Color FEP Tubing for Chemicals

- Flexible
- Hard (Durometer 55D)
- Temperature Range: 32° to 212° F
- Use with compression fittings and push-to-connect fittings



Color-code your lines for easy identification. Tubing is highly durable and resists abrasion and UV light. Use with acetic acid, bleach, hydrochloric acid, hydrogen peroxide, and sulfuric acid. Material meets UL 94V0 for flame retardance. It can be sterilized with steam (autoclaving) and chemicals.

To Order: Please specify opaque black, semi-clear blue, or semi-clear red.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
0.093″	1/8″	0.016″	1″	140	5, 10, 25, 50	9369T46	$2.27
0.137″	3/16″	0.025″	1 1/4″	140	5, 10, 25, 50	9369T15	2.67
0.18″	1/4″	0.035″	2″	140	2, 5, 10, 25, 50	9369T16	2.90
0.275″	3/8″	0.05″	3 1/4″	140	2, 5, 10, 25, 50	9369T17	5.60
3/8″	1/2″	0.063″	3 1/2″	140	1, 2, 5, 10, 25, 50	9369T18	8.71
Metric—Dimensions in millimeters (except lengths)							
2	4	1	15	140	5, 10, 25, 50	9369T6	2.36
4	6	1	35	140	2, 5, 10, 25, 50	9369T7	3.07
6	8	1	60	140	2, 5, 10, 25, 50	9369T8	4.25
8	10	1	100	100	2, 5, 10, 25, 50	9369T9	5.89
10	12	1	130	100	2, 5, 10, 25, 50	9369T14	7.07

Self-Retracting White FEP Tubing for Chemicals

- Very flexible
- Hard (Durometer 55D)
- Temperature Range: -400° to 200° F
- Use with compression fittings and push-to-connect fittings



Keep your work area tidy with this coiled tubing that extends when you need it and retracts out of the way when you don't. Tubing is resistant to abrasion and UV light, and it meets UL 94V0 for flame retardance. It is semi-clear white. Use with acetic acid, bleach, hydrochloric acid, diesel fuel, and gasoline. It can be sterilized with steam (autoclaving) and gas. Vacuum rating is 27″ Hg @ 72° F.

ID	OD	Wall	Max. psi @ 72° F	Retracted Length	Length	Coil OD		
1/8″	1/4″	0.062″	470	3″	1 ft.	1 1/2″	9384T11	$96.25
1/8″	1/4″	0.062″	470	6″	2 ft.	1 1/2″	9384T12	103.13
1/8″	1/4″	0.062″	470	12″	4 ft.	1 1/2″	9384T14	119.49
1/8″	1/4″	0.062″	470	18″	6 ft.	1 1/2″	9384T16	163.15
1/4″	3/8″	0.062″	290	3″	1 ft.	2 3/8″	9384T21	110.00
1/4″	3/8″	0.062″	290	6″	2 ft.	2 3/8″	9384T22	142.16
1/4″	3/8″	0.062″	290	12″	4 ft.	2 3/8″	9384T24	196.09
1/4″	3/8″	0.062″	290	18″	6 ft.	2 3/8″	9384T26	233.44

FEP Clear Tubing for Chemicals

- Flexible
- Hard (Durometer 60D)
- Temperature Range: -100° to 400° F
- Use with compression fittings and push-to-connect fittings

This tubing is highly resilient and durable, and has excellent resistance to abrasion and UV light. It is clear, so you can easily monitor flow. Use with acetic acid, acetone, isopropyl alcohol, and sodium hydroxide. Tubing can be sterilized with steam (autoclaving), gas, and chemicals. Meets ASTM D2116 and D3296.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
1/16″	1/8″	0.03″	1/2″	440	10, 25, 50, 100	2129T11	$0.95
3/32″	5/32″	0.03″	1/2″	350	10, 25, 50, 100	2129T12	1.10
1/8″	1/4″	0.062″	1/2″	460	5, 10, 25, 50, 100	2129T16	2.45
3/16″	1/4″	0.03″	1″	220	5, 10, 25, 50, 100	2129T13	1.48
1/4″	3/8″	0.062″	1″	300	2, 5, 10, 25, 50	2129T17	3.51
5/16″	3/8″	0.03″	2 1/2″	140	5, 10, 25, 50, 100	2129T14	2.25
3/8″	1/2″	0.062″	2″	230	2, 5, 10, 25, 50	2129T18	4.93
7/16″	1/2″	0.03″	6″	110	5, 10, 25, 50, 100	2129T15	2.89
1/2″	5/8″	0.062″	3″	180	2, 5, 10, 25, 50	2129T19	6.09
5/8″	3/4″	0.062″	6″	150	1, 2, 5, 10, 25	2129T21	7.27

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch (Cont.)							
3/4″	7/8″	0.062″	12″	130	1, 2, 5, 10, 25	2129T22	$7.96
1″	1 1/8″	0.062″	24″	75	1, 2, 5, 10, 25	2129T23	11.16
Metric—Dimensions in millimeters (except lengths)							
2	4	1	38	460	5, 10, 25, 50, 100	2129T24	1.25
4	6	1	44	300	5, 10, 25, 50, 100	2129T25	1.83
6	8	1	63	230	5, 10, 25, 50, 100	2129T26	2.40
8	10	1	70	180	5, 10, 25, 50, 100	2129T27	2.71
10	12	1	101	150	2, 5, 10, 25, 50	2129T28	3.16
12	14	1	152	140	2, 5, 10, 25, 50	2129T29	3.69
14	16	1	203	100	2, 5, 10, 25, 50	2129T31	4.76

ⓘ For information about the chemical compatibility of tubing, go to mcmaster.com and search for the part number.

High-Flex White Teflon® FEP Tubing for Chemicals



- Very flexible
- Hard (Durometer 55D)
- Temperature Range: -110° to 200° F
- Use with compression fittings

The corrugated design allows this tubing to extend and compress just like an accordion. It also bends easily without kinking. Tubing is durable and resistant to abrasion and UV light. It has a cuff on each end for easy connections to compression fittings. It is semi-clear white. Use with acetic acid, bleach, hydrochloric acid, diesel fuel, and gasoline. It can be sterilized with steam (autoclaving) and gas.

To Order: Please specify length in 1-ft. increments up to the maximum continuous length of 12 feet. Length includes both cuffs.

Cuff ID	Cuff OD	Cuff Wall	Cuff Lg.	Bend Radius	Max. psi @ 72° F		Per Ft.
0.25″	0.284″	0.017″	3/4″	1/8″	50	5336K26	$46.74
0.375″	0.415″	0.02″	1″	1/8″	35	5336K27	56.85
0.5″	0.55″	0.025″	1″	1/4″	25	5336K28	61.37
0.625″	0.675″	0.025″	1″	1/4″	20	5336K31	66.29
0.75″	0.81″	0.03″	1 1/2″	1/4″	20	5336K32	69.75
1″	1.07″	0.035″	2″	1/2″	15	5336K63	$80.68
1.25″	1.32″	0.035″	2″	1/2″	10	5336K64	86.74
1.5″	1.57″	0.035″	2″	3/4″	10	5336K65	108.32
2″	2.08″	0.04″	2″	1″	5	5336K71	160.68

Crack-Resistant Teflon® PFA Tubing for Chemicals



- Flexible (unless noted)
- Inch: Hard (Durometer 60D) Metric: Hard (Durometer 55D)
- Temperature Range: -320° to 500° F
- Use with compression fittings

Not only does this tubing resist stress cracking, it stays strong and flexible over a wider range of temperatures than standard PFA tubing. Tubing is resistant to abrasion. Use with acetic acid, bleach, hydrochloric acid, diesel fuel, and gasoline. It can be sterilized with steam (autoclaving) and gas.

Inch sizes are semi-clear white. Vacuum rated at 29″ Hg @ 72° F, unless noted.
Metric sizes are clear.

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
1/16″	1/8″	1/32″	1/2″	410	10, 25	51805K41	$1.47
1/8″	3/16″	1/32″	1″	240	5, 10, 25	51805K32	2.63
1/8″	1/4″	1/16″	1/2″	410	2, 5, 10, 25	51805K72	5.13
5/32″	1/4″	3/64″	3/4″	280	2, 5, 10, 25	51805K86	4.46
3/16″	5/16″	1/16″	1 1/2″	310	2, 5, 10, 20, 25	51805K87	6.00
1/4″	5/16″	1/32″	1 3/4″	140	5, 10, 25	51805K54	3.69
1/4″	3/8″	1/16″	1″	250	1, 2, 5, 10, 20, 25	51805K73	8.11
3/8″	7/16″	1/32″	4″	100	2, 5, 10, 25	51805K55	5.43
3/8″	1/2″	1/16″	2″	95	1, 2, 5, 10, 20, 25	51805K11	10.97
1/2″	9/16″	1/32″	5 1/2″	80	1, 2, 5, 10, 20, 25	51805K57	10.61
1/2″	5/8″	1/16″	3″	130	1, 2, 5, 10, 20, 25	51805K75	13.88
5/8″	11/16″	1/32″	8″	65	1, 2, 5, 10, 20, 25	51805K58 ★	10.89
5/8″	3/4″	1/16″	6″	110	1, 2, 5, 10, 20, 25	51805K76	16.87
3/4″	13/16″	1/32″	10″	55	1, 2, 5, 10, 20, 25	51805K59 ★	16.20
3/4″	7/8″	1/16″	4″	100	1, 2, 5, 10, 20, 25	51805K77	18.49
7/8″	15/16″	1/32″	▲	35	1, 2, 5	51805K61 ★	18.21
7/8″	1″	1/16″	5″	70	1, 2, 5, 10, 20, 25	51805K78	21.34
1″	1 1/16″	1/32″	▲	30	1, 2, 5	51805K62 ★	18.88
1″	1 1/8″	1/16″	▲	60	1, 2, 5	51805K79 ★	21.68
Metric—Dimensions in millimeters (except lengths)							
1	3	1	38	1000	5, 10, 25, 50	5733K51	1.60
2	4	1	38	490	5, 10, 25, 50	5733K52	2.38
3	5	1	44	330	2, 5, 10, 25, 50	5733K73	2.96
4	6	1	44	240	2, 5, 10, 25, 50	5733K54	3.65
5	7	1	50	190	2, 5, 10, 25, 50	5733K75	4.33
6	8	1	63	160	2, 5, 10, 25, 50	5733K76	5.10
7	9	1	63	140	2, 5, 10, 25, 50	5733K77	5.71
8	10	1	63	120	2, 5, 10, 25, 50	5733K78	6.46
10	12	1	101	95	2, 5, 10, 25, 50	5733K81	7.43

★Not rated for vacuum. ▲Tubing is rigid and straight.

High-Purity Hard PFA Clear Tubing



- Flexible
- Hard (Durometer 60D)
- Temperature Range: -320° to 500° F
- Use with compression fittings

The material of this tubing contains extremely low levels of additives, so it won't contaminate the fluid passing through it. It can stand up to extreme temperatures, so it's a preferred material for semiconductor applications. Tubing is resistant to UV light. It is made of FDA listed materials and meets UL 94V0 for flame retardance. Use with beverage, food, and deionized water. It can be sterilized with steam (autoclaving) and gas.

ID	OD	Wall	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16″	1/8″	1/32″	410	10, 25, 50	5773K11	$1.30
1/8″	3/16″	1/32″	170	5, 10, 25, 50	5773K12	2.19
1/8″	1/4″	1/16″	410	2, 5, 10, 20, 25, 50	5773K13	5.02
3/16″	1/4″	1/32″	170	2, 5, 10, 25, 50	5773K14	2.89
1/4″	3/8″	1/16″	250	1, 2, 5, 10, 20, 25, 50	5773K15	7.33
3/8″	1/2″	1/16″	180	1, 2, 5, 10, 20, 25, 50	5773K16	11.23
1/2″	5/8″	1/16″	140	1, 2, 5, 10, 20, 25, 50	5773K17	$12.37
5/8″	3/4″	1/16″	110	1, 2, 5, 10, 20, 25, 50	5773K18	14.83
3/4″	7/8″	1/16″	95	1, 2, 5, 10, 20, 25, 50	5773K19	18.27
7/8″	1″	1/16″	85	1, 2, 5, 10, 20, 25, 50	5773K21	19.09
1″	1 1/8″	1/16″	75	1, 2, 5, 10, 20, 25, 50	5773K22	23.53

ⓘ For information about the chemical compatibility of tubing, go to mcmaster.com and search for the part number.

Crack-Resistant PFA Clear Tubing for Chemicals

- Flexible
- Hard (Durometer 55D)
- Temperature Range: -320° to 450° F
- Use with compression fittings

You don't have to worry about this tubing cracking due to stress or impact. Also known as Chemfluor, it is smoother than other PFA tubing, so it's easier to clean. Use with acetic acid, bleach, hydrochloric acid, diesel fuel, and gasoline. It can be sterilized with steam (autoclaving) and gas.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
1/16"	1/8"	1/32"	1/2"	370	5, 10, 25, 50	52705K31	$1.57
1/8"	1/4"	1/16"	1/2"	380	2, 5, 10, 25, 50	52705K32	5.50
5/32"	1/4"	3/64"	3/4"	260	2, 5, 10, 25, 50	52705K33	4.78
3/16"	1/4"	1/32"	1"	160	2, 5, 10, 25, 50	52705K34	3.35
1/4"	5/16"	1/32"	1 3/4"	120	2, 5, 10, 25, 50	52705K35	4.24
1/4"	3/8"	1/16"	1"	230	1, 2, 5, 10, 20, 25, 50	52705K36	8.73
3/8"	1/2"	1/16"	2"	160	1, 2, 5, 10, 20, 25, 50	52705K37	10.96

Super-Smooth MFA Clear Tubing for Chemicals

- Flexible
- Hard (Durometer 60D)
- Temperature Range: -100° to 485° F
- Use with compression fittings

The smoothest chemical tubing we offer, this tubing is very easy to clean and provides unrestricted flow. It is resistant to UV light. Use with isopropyl alcohol, phosphoric acid, acetone, and sulfuric acid. It can be sterilized with steam (autoclaving), gas, and chemicals.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
1/16"	1/8"	1/32"	1/2"	440	10, 25, 50, 100	2133T1	$1.36
1/8"	1/4"	1/16"	3/4"	460	2, 5, 10, 25, 100	2133T3	4.16
3/16"	1/4"	1/32"	3/4"	220	5, 10, 25, 50, 100	2133T2	2.56
1/4"	3/8"	1/16"	1"	310	2, 5, 10, 25, 50	2133T4	5.79
3/8"	1/2"	1/16"	1 1/2"	230	1, 2, 5, 10, 25, 50	2133T5	8.50
1/2"	5/8"	1/16"	3"	170	1, 2, 5, 10, 25, 50	2133T6	10.36
5/8"	3/4"	1/16"	10"	150	1, 2, 5, 10, 25	2133T7	11.13
7/8"	1"	1/16"	15"	110	1, 2, 5, 10, 25	2133T8	15.94

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Length, ft.		Per Ft.
Metric—Dimensions in millimeters (except lengths)							
2	4	1	12	460	5, 10, 25, 50, 100	2133T9	$2.16
4	6	1	19	310	2, 5, 10, 25, 100	2133T11	3.12
6	8	1	25	230	2, 5, 10, 25, 100	2133T12	4.08
8	10	1	50	190	2, 5, 10, 25, 50	2133T13	5.50
10	12	1	76	150	2, 5, 10, 25, 50	2133T14	6.36
12	14	1	88	120	2, 5, 10, 25, 50	2133T15	7.50

Flexible White PVDF Tubing for Food, Beverage, and Dairy

- Flexible
- Hard (Durometer 60D)
- Temperature Range: -40° to 212° F
- Use with compression fittings

Strong, yet pliable, this tubing can stand up to repeated flexing. It is also known as Kynar. It resists abrasion and UV light and won't impart tastes or odors to your product. Tubing is semi-clear white. It is made of FDA listed materials, is 3-A certified, and meets NSF/ANSI Standard 51 for food contact. It can be sterilized with gas. Vacuum rating is 28" Hg @ 72° F.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
1/8"	1/4"	1/16"	1/2"	260	5, 10, 25, 50	5390K31	$2.59
0.17"	1/4"	0.04"	1"	150	2, 5, 10, 25, 50	5390K32	2.99
3/16"	5/16"	1/16"	1"	210	2, 5, 10, 25, 50	5390K33	3.31
1/4"	3/8"	1/16"	3"	170	2, 5, 10, 25, 50	5390K34	4.25
5/16"	7/16"	1/16"	1 3/4"	150	2, 5, 10, 25, 50	5390K35	5.12
3/8"	1/2"	1/16"	2"	130	2, 5, 10, 25, 50	5390K36	5.94
1/2"	5/8"	1/16"	3"	100	1, 2, 5, 10, 20, 25, 50	5390K37	7.66
5/8"	3/4"	1/16"	5"	90	1, 2, 5, 10, 20, 25, 50	5390K38	9.31

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch (Cont.)							
3/4"	7/8"	1/16"	15"	70	1, 2, 5, 10, 20, 25, 50	5390K39	$11.28
7/8"	1"	1/16"	16"	65	1, 2, 5, 10, 20, 25, 50	5390K41	12.68
Metric—Dimensions in millimeters (except lengths)							
2	4	1	19	460	10, 25, 50	5342K11	1.11
4	6	1	25	310	5, 10, 25, 50	5342K12	1.87
6	8	1	38	230	5, 10, 25, 50	5342K13	2.55
8	10	1	63	260	2, 5, 10, 25, 50	5342K14	3.28

High-Strength White PVDF Tubing for Chemicals

- Flexible
- Temperature Range: -40° to 250° F
- Inch: Hard (Durometer 75D)
  Metric: Hard (Durometer 65D)
- Use with compression fittings

Enhanced strength gives this tubing excellent impact resistance, as well as the ability to handle high-pressure applications. Tubing is also known as Kynar. It resists abrasion and UV light. It is semi-clear white. Use with acetic acid, hydrochloric acid, hydrogen peroxide, diesel fuel, and gasoline. It can be sterilized with steam (autoclaving) and chemicals.

Inch sizes meet UL 94V0 for flame retardance.



ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch							
1/8"	1/4"	1/16"	1"	350	5, 10, 25, 50	51105K21	$1.87
0.17"	1/4"	0.04"	1 1/4"	180	5, 10, 25, 50	51105K22	1.38
3/16"	5/16"	1/16"	1 1/4"	290	5, 10, 25, 50	51105K23	2.10
1/4"	3/8"	1/16"	1 1/2"	240	5, 10, 25, 50	51105K24	2.95
5/16"	7/16"	1/16"	1 1/2"	200	5, 10, 25, 50	51105K25	3.38
3/8"	1/2"	1/16"	1 3/4"	180	2, 5, 10, 25, 50	51105K26	3.82
1/2"	5/8"	1/16"	2 1/2"	140	2, 5, 10, 25, 50	51105K27	4.73
5/8"	3/4"	1/16"	3 1/2"	120	2, 5, 10, 25, 50	51105K28	5.93

ID	OD	Wall	Bend Radius	Max. psi @ 72° F	Lengths, ft.		Per Ft.
Inch (Cont.)							
3/4"	7/8"	1/16"	5"	100	2, 5, 10, 25, 50	51105K29	$6.50
7/8"	1"	1/16"	7 1/2"	90	2, 5, 10, 25, 50	51105K31	7.26
Metric—Dimensions in millimeters (except lengths)							
2	4	1	19	430	10, 25, 50	52395K21	1.31
4	6	1	25	210	2, 5, 10, 25, 50	52395K33	3.17
6	8	1	50	140	2, 5, 10, 25, 50	52395K53	4.06
8	10	1	76	100	2, 5, 10, 25, 50	52395K64	4.46
10	12	1	107	85	2, 5, 10, 25, 50	52395K72	6.93

About Metal Tubing

While metal tubing is often called pipe, tubing is actually lighter than pipe and easier to work with. It can, in most cases, be bent into shape without the need for elbows or other fittings. Tubing is also thinner than pipe, so it cannot be threaded; connect tubing to pumps, valves, and other components with tube fittings.

Construction

Welded—With a weld bead on the inside, use this tubing when your application does not require a smooth interior. For some tubing, the weld bead is smoothed (also known as drawn), which reduces the chance of particle buildup and makes it an economical alternative to seamless tubing.

Seamless—Formed from a cylinder, this tubing has no weld, so it is smooth on the inside for unrestricted flow. It is stronger than welded tubing and can be flared without splitting.

Wall Thickness

Each tubing OD comes in a variety of wall-thickness choices. As the walls get thicker, the amount of pressure the tubing can withstand increases and the amount of flow decreases. The illustrations below show how the wall thickness affects the ID of the tubing.

1/4″ OD Tubing (Actual OD)



1/2″ OD Tubing (Actual OD)



Tubing Application Guide

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Drinking Water	Copper for Drinking Water	157
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Food, Beverage, and Dairy	High-Polish Stainless Steel for Food, Beverage, and Dairy	151
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Stainless Steel Tubing

Smooth-Bore Seamless Stainless Steel Tubing



- Temperature Range:
  304 Stainless Steel: -425° to 1500°F
  316 Stainless Steel: -325° to 1500°F
- Bend with a tube bender
- Use with compression fittings (see pages 181-187), flared fittings (see pages 190-193), and butt-weld fittings (see page 232)

Seamless construction with no weld bead gives this tubing a smooth interior for unrestricted flow. It is stronger than welded tubing and can be flared without splitting. Use with water, air, natural gas, and oil. Tubing meets ASTM A213 and A269. It has a Rockwell hardness of B90 and a soft temper. OD tolerance is ±0.006″ for tubing ODs 3/8″ and smaller; ±0.01″ for 1/2″ to 1 3/8″; and ±0.03″ for 1 1/2″ and larger, unless noted. Tubing can be sterilized with chemicals.

304 stainless steel has very good corrosion resistance.

316 stainless steel offers excellent corrosion resistance.

Short Straight Lengths

OD	Wall	ID	Max. psi @ 72°F	304 Stainless Steel	2″	4″	6″	8″
1/4″	0.035″	0.18″	4,300	89895K411	$3.50	$4.00	$4.50	$5.00
1/4″	0.049″	0.152″	6,100	89895K421	5.28	6.03	6.79	7.54
3/8″	0.035″	0.305″	2,900	89895K431	4.16	4.75	5.35	5.94
3/8″	0.049″	0.277″	4,100	89895K451	6.00	6.86	7.71	8.57
3/8″	0.065″	0.245″	5,400	89895K461	6.96	7.96	8.96	9.95
1/2″	0.035″	0.43″	2,300	89895K471	5.58	6.38	7.17	7.97
1/2″	0.049″	0.402″	3,200	89895K481	7.26	8.30	9.33	10.37
1/2″	0.065″	0.37″	4,300	89895K491	7.82	8.94	10.05	11.17

Straight Lengths

OD	Wall	ID	Max. psi @ 72°F	304 Stainless Steel	1 ft.	3 ft.	6 ft.	316 Stainless Steel	1 ft.	3 ft.	6 ft.
1/16″	0.02″	0.022″	6,400	89895K611	$9.94	$28.70	$55.20	89785K911	$13.11	$29.67	$69.00
1/16″	0.028″	0.006″	8,900	89895K612	7.84	21.86	41.25	89785K912	12.99	37.51	72.14
3/32″	0.02″	0.054″	4,200	89895K613	11.88	34.32	66.00	89785K913	17.10	47.70	90.00
1/8″	0.02″	0.085″	4,900	89895K711	10.10	16.93	29.70	89785K811	11.64	22.07	40.13
1/8″	0.028″	0.069″	7,100	89895K712	10.62	17.80	31.23	89785K812	11.17	27.72	41.38
1/8″	0.035″	0.055″	8,500	89895K713	9.24	16.75	28.88	89785K813	9.29	22.66	37.14
1/8″	0.049″	0.027″	12,000	89895K714	11.68	21.10	37.67	89785K814	12.05	33.62	63.43
5/32″	0.035″	0.086″	4,400	89895K614	7.98	22.26	42.00	89785K914	10.83	30.21	57.00
5/32″	0.049″	0.058″	6,200	89895K615	10.15	29.33	56.40	89785K915	14.64	39.53	73.20
3/16″	0.02″	0.148″	3,300	89895K715	8.34	16.39	28.76	89785K815	9.27	22.76	42.14
3/16″	0.028″	0.132″	4,700	89895K716	8.15	14.99	26.30	89785K816	8.42	21.04	38.25
3/16″	0.035″	0.118″	5,700	89895K717	8.81	17.04	29.38	89785K817	9.62	23.66	40.10
3/16″	0.049″	0.09″	8,000	89895K718	10.67	19.01	33.35	89785K818	11.90	35.71	62.65
7/32″	0.035″	0.148″	3,200	89895K616	22.72	65.64	126.23	89785K916	25.97	75.03	144.29
1/4″	0.01″	0.23″	1,200	89895K719	10.40	17.44	30.60	89785K819	11.99	33.44	63.09
1/4″	0.016″	0.218″	1,200	89895K721	7.05	18.79	33.56	89785K896	9.15	25.69	43.55

(Continued on following page)

Smooth-Bore Seamless Stainless Steel Tubing *(Continued from previous page)*

Straight Lengths (Cont.)

OD	Wall	ID	Max. psi @ 72°F	304 Stainless Steel	1 ft.	3 ft.	6 ft.	316 Stainless Steel	1 ft.	3 ft.	6 ft.
1/4″	0.02″	0.21″	2,500	89895K722	$9.00	$18.33	$32.15	89785K822	$9.38	$21.90	$39.10
1/4″	0.028″	0.194″	3,700	89895K723	7.83	13.53	23.74	89785K823	8.42	19.65	35.09
1/4″	0.035″	0.18″	4,300	89895K724	6.82	11.70	19.50	89785K824	7.12	13.06	23.75
1/4″	0.049″	0.152″	6,100	89895K725	7.55	13.50	22.88	89785K825	7.52	17.33	32.70
1/4″	0.065″	0.12″	8,100	89895K726	7.69	14.86	25.62	89785K826	7.47	17.73	31.11
1/4″	0.083″	0.084″	10,000	89895K727	10.68	24.92	44.50	89785K827	11.75	27.90	48.95
9/32″	0.028″	0.225″	1,900	89895K617	13.22	38.19	73.44	89785K917	18.39	51.29	96.77
5/16″	0.016″	0.281″	1,000	89895K618	13.77	39.78	76.50	89785K918	15.69	45.33	87.17
5/16″	0.028″	0.257″	2,800	89895K728	8.20	14.16	24.84	89785K828	8.66	20.85	32.07
5/16″	0.035″	0.243″	3,500	89895K729	8.11	14.01	24.58	89785K829	9.01	21.70	40.95
5/16″	0.049″	0.215″	4,900	89895K731	9.23	17.23	30.76	89785K831	9.92	23.91	45.11
5/16″	0.065″	0.183″	6,500	89895K732	9.68	18.07	32.26	89785K832	9.78	24.44	44.44
5/16″	0.083″	0.147″	8,300	89895K733	13.66	26.38	47.10	89785K833	14.43	37.52	72.16
3/8″	0.01″	0.355″	830	89895K734	14.46	30.59	55.62	89785K834	16.54	47.37	75.19
3/8″	0.02″	0.335″	1,600	89895K735	10.75	18.57	32.58	89785K835	10.88	27.40	40.29
3/8″	0.028″	0.319″	2,300	89895K736	11.02	19.64	34.45	89785K836	10.90	26.35	45.43
3/8″	0.035″	0.305″	2,900	89895K737	6.63	14.50	24.57	89785K837	6.62	16.54	30.08
3/8″	0.049″	0.277″	4,100	89895K738	10.76	18.04	31.65	89785K838	11.57	27.43	42.86
3/8″	0.065″	0.245″	5,400	89895K739	11.31	20.15	35.35	89785K839	11.94	31.34	49.74
3/8″	0.083″	0.209″	6,900	89895K741	11.81	27.06	49.20	89785K841	12.10	29.95	57.60
7/16″	0.049″	0.34″	2,200	89895K619	9.12	25.44	48.00	89785K919	16.32	47.15	90.67
1/2″	0.02″	0.46″	1,300	89895K742	12.28	22.92	40.92	89785K842	12.80	32.00	53.33
1/2″	0.028″	0.444″	1,700	89895K743	9.68	18.07	32.26	89785K843	9.71	27.75	46.25
1/2″	0.035″	0.43″	2,300	89895K744	10.76	18.04	31.65	89785K844	11.30	27.21	41.86
1/2″	0.049″	0.402″	3,200	89895K745	10.52	20.00	35.08	89785K845	10.87	26.93	47.25
1/2″	0.065″	0.37″	4,300	89895K746	10.70	23.97	42.80	89785K846	11.73	29.86	53.33
1/2″	0.083″	0.334″	5,500	89895K747	16.51	35.66	66.04	89785K847	16.50	47.02	82.50
1/2″	0.12″	0.26″	8,000	89895K748	18.48	41.59	77.02	89785K848	19.95	55.85	99.74
5/8″	0.02″	0.585″	1,000	89895K749	10.54	24.04	42.17	89785K849	11.16	31.14	58.75
5/8″	0.028″	0.569″	1,400	89895K751	13.13	28.28	50.50	89785K851	13.56	38.63	67.78
5/8″	0.035″	0.555″	1,800	89895K752	10.86	22.12	38.80	89785K852	11.48	28.43	54.67
5/8″	0.049″	0.527″	2,600	89895K753	12.34	26.57	47.45	89785K853	12.42	35.30	65.37
5/8″	0.065″	0.495″	3,400	89895K754	13.01	29.15	52.05	89785K854	13.41	39.48	74.50
5/8″	0.083″	0.459″	4,400	89895K755	15.60	33.00	60.00	89785K855	20.25	59.62	112.50
5/8″	0.12″	0.385″	6,400	89895K756	19.09	42.95	79.53	89785K856	25.67	72.95	135.10
11/16″	0.065″	0.558″	1,400	89895K621	13.61	39.31	75.60	89785K921	26.35	76.13	146.40
3/4″	0.035″	0.68″	1,500	89895K757	10.75	23.83	46.73	89785K857	11.94	33.94	62.86
3/4″	0.049″	0.652″	2,100	89895K758	13.13	28.28	50.50	89785K858	13.20	36.46	62.86
3/4″	0.065″	0.62″	2,900	89895K759	15.44	30.88	55.15	89785K859	15.23	43.29	80.16
3/4″	0.083″	0.584″	3,700	89895K761	16.86	37.09	67.44	89785K861	22.05	64.92	122.49
3/4″	0.12″	0.51″	5,300	89895K762	20.16	45.95	80.62	89785K862	29.33	84.00	133.33
7/8″	0.035″	0.805″	1,300	89895K763	13.31	27.12	49.31	89785K863	21.51	50.51	93.54
7/8″	0.049″	0.777″	1,800	89895K764	14.20	28.93	52.60	89785K864	20.21	45.47	84.20
7/8″	0.065″	0.745″	2,400	89895K765	15.83	34.83	63.33	89785K865	22.70	53.30	98.71
7/8″	0.12″	0.635″	4,600	89895K766	24.07	59.09	109.42	89785K866	32.54	79.88	147.92
1″	0.035″	0.93″	1,100	89895K767	15.18	30.37	54.23	89785K867	19.30	40.82	74.22
1″	0.049″	0.902″	1,600	89895K768	14.53	30.74	55.89	89785K868	18.31	41.20	76.30
1″	0.065″	0.87″	2,100	89895K769	15.48	34.06	61.93	89785K869	21.57	50.65	93.80
1″	0.083″	0.834″	2,700	89895K771	21.57	50.64	93.78	89785K871	30.01	68.78	125.06
1″	0.12″	0.76″	4,000	89895K772	24.20	59.40	110.00	89785K872	33.21	80.01	150.97
1 1/4″	0.035″	1.18″	940	89895K774	15.39	32.55	59.18	89785K874	20.01	46.98	87.00
1 1/4″	0.049″	1.152″	1,300	89895K775	17.06	36.85	68.24	89785K875	22.92	53.81	99.64
1 1/4″	0.065″	1.12″	1,700	89895K776	20.12	47.23	87.47	89785K876	25.84	63.43	117.47
1 1/4″	0.083″	1.084″	2,200	89895K777	24.38	59.84	110.82	89785K877	32.78	80.46	149.00
1 1/4″	0.12″	1.01″	3,200	89895K778	27.40	67.26	124.56	89785K878	33.70	85.05	160.47
1 3/8″	0.035″	1.305″	850	89895K779	25.69	63.06	116.78	89785K879	35.61	81.61	148.38
1 3/8″	0.049″	1.277″	1,100	89895K781	24.74	60.72	112.44	89785K881	31.75	77.93	144.32
1 3/8″	0.065″	1.245″	1,500	89895K782	27.88	68.43	126.73	89785K882	36.42	89.40	165.55
1 1/2″	0.049″	1.402″	1,000	89895K783	20.58	48.32	89.48	89785K883	31.77	80.17	151.27
1 1/2″	0.065″	1.37″	1,400	89895K784	23.57	56.78	107.14	89785K884	34.23	88.03	163.02
1 1/2″	0.095″	1.31″	2,100	89895K785	28.00	67.46	127.29	89785K885	44.12	116.91	220.58
1 1/2″	0.12″	1.26″	2,600	89895K786	36.73	92.70	174.90	89785K886	45.89	121.61	229.46
1 3/4″	0.065″	1.62″	1,200	89895K789	40.23	101.53	191.56	89785K889	53.66	135.42	255.50
2″	0.065″	1.87″	1,000	89895K794	36.88	97.74	184.41	89785K894	51.03	135.22	255.13
2″	0.12″	1.76″	2,000	89895K795	47.43	125.69	237.16	89785K895	62.89	175.44	331.02
2 1/8″	0.065″	1.995″	610	89895K622	44.46	124.02	234.00	89785K922	74.62	215.57	414.55
2 1/4″	0.065″	2.12″	570	89895K623	53.77	155.34	298.74	89785K923	74.26	207.16	390.86
2 3/8″	0.065″	2.245″	540	89895K624 ★	67.80	195.87	376.67	89785K924	93.14	259.82	490.23
2 1/2″	0.065″	2.37″	520	89895K625 ★	53.40	154.27	296.67	89785K925	79.06	228.38	439.20
2 3/4″	0.065″	2.62″	470	89895K626 ★	58.44	168.83	324.67				
3″	0.065″	2.87″	430	89895K627 ★	84.00	242.67	466.67	89785K927	100.87	291.41	560.40

★ OD tolerance is ±0.02″.

Coils

OD	Wall	ID	Max. psi @ 72°F	304 Stainless Steel	25 ft.	50 ft.	316 Stainless Steel	25 ft.	50 ft.
1/8″	0.035″	0.055″	8,500	89895K631	$256.00	$426.67	89785K511	$305.45	$509.09
1/4″	0.02″	0.21″	2,500	89895K632	178.99	298.32	89785K512	217.14	334.06
1/4″	0.028″	0.194″	3,700	89895K633	221.60	369.33	89785K513	272.73	454.55
3/8″	0.02″	0.335″	1,600	89895K634	202.21	337.02	89785K514	241.88	372.12
1/2″	0.02″	0.46″	1,300	89895K635	211.92	353.20	89785K515	249.90	384.46

Stainless Steel Tubing

For information about metal tubing, see page 148.

Welded Stainless Steel Tubing



Straight Length



Coil

- Temperature Range:
  304 Stainless Steel:
  -420° to 1500°F
  316 Stainless Steel:
  -320° to 1500°F
- Bend with a tube bender
- Use with stainless steel compression fittings (see pgs. 181-186) and butt-weld fittings (see pg. 232)

When your application does not require a smooth interior, this tubing is an economical choice. It has a weld bead on the inside. Use with water, deionized water, air, natural gas, oil, and hydraulic fluid. Tubing meets ASTM A269. It has a Rockwell hardness of B90 and a soft temper. OD tolerance is ±0.006″ for tubing ODs 7/16″ and smaller; ±0.01″ for 1/2″ to 1 1/4″; and ±0.03″ for 1 1/2″ and larger, unless noted. Tubing can be sterilized with chemicals.

304 stainless steel has very good corrosion resistance.
316 stainless steel offers excellent corrosion resistance.

Straight Lengths

OD	Wall	ID	Max. psi @ 72°F	304 Stainless Steel	1 ft.	3 ft.	6 ft.	316 Stainless Steel	1 ft.	3 ft.	6 ft.
1/8″	0.016″	0.093″	3,900	8989K111	$6.67	$7.70	$10.26	89995K178	$7.77	$10.08	$16.53
1/8″	0.02″	0.085″	4,900	8989K121	3.30	7.73	10.31	89995K188	10.41	18.80	33.58
1/8″	0.028″	0.069″	7,100	8989K131	4.52	9.74	14.11	89995K208	11.04	21.31	38.06
1/8″	0.035″	0.055″	8,500	8989K711	4.62	10.24	16.51	89995K221	9.54	18.42	32.89
1/8″	0.049″	0.027″	8,500	8989K141	6.14	14.61	29.22	89995K231	15.79	35.53	65.80
3/16″	0.02″	0.148″	3,300	8989K151	4.50	7.65	11.25	89995K238	13.37	24.96	44.58
3/16″	0.028″	0.132″	4,700	8989K161	4.27	11.11	17.09	89995K248	9.15	14.75	25.43
3/16″	0.035″	0.118″	5,700	8989K211	4.48	9.71	14.94	89995K258	8.28	12.98	22.38
3/16″	0.049″	0.09″	8,000	8989K171	4.13	13.26	21.73	89995K268	16.09	36.20	67.04
1/4″	0.01″	0.23″	1,200	8989K181	4.70	8.88	12.69	89995K278	16.72	38.53	72.70
1/4″	0.016″	0.218″	2,000	8989K321	4.63	8.29	10.76	89995K398	12.25	24.95	45.36
1/4″	0.02″	0.21″	2,500	8989K191	1.91	7.74	10.60	89995K288	7.77	11.46	19.42
1/4″	0.028″	0.194″	3,500	8989K441	2.37	8.47	11.29	89995K412	3.50	10.50	15.91
1/4″	0.035″	0.18″	4,300	8989K721	2.38	6.80	8.83	89995K312	2.83	8.74	12.86
1/4″	0.049″	0.152″	6,100	8989K731	3.14	9.56	13.66	89995K322	3.90	11.33	17.71
1/4″	0.065″	0.12″	8,100	8989K221	3.81	14.24	20.05	89995K418	5.26	14.57	23.89
1/4″	0.083″	0.084″	10,000	8989K531	14.55	37.69	66.12	89995K531	16.23	42.04	73.75
5/16″	0.02″	0.273″	2,000	8989K451	1.46	9.30	13.29	89995K468	8.41	13.19	22.74
5/16″	0.028″	0.257″	2,800	8989K461	2.10	8.20	10.51	89995K488	3.70	8.23	16.80
5/16″	0.035″	0.243″	3,500	8989K741	3.10	8.27	11.49	89995K508	3.99	11.42	18.12
5/16″	0.049″	0.215″	4,900	8989K231	3.74	9.36	14.40	89995K518	9.75	13.79	23.78
5/16″	0.065″	0.183″	6,500	8989K749	11.13	16.69	27.82	89995K528	12.44	18.65	31.09
5/16″	0.083″	0.147″	8,300	8989K551	15.94	41.30	72.45	89995K551	18.85	48.83	85.67
3/8″	0.01″	0.355″	830	8989K561	15.30	39.64	69.55	89995K691	18.28	46.10	79.49
3/8″	0.02″	0.335″	1,600	8989K471	1.85	8.76	12.34	89995K538	10.26	17.95	32.06
3/8″	0.028″	0.319″	2,300	8989K481	2.20	8.03	11.00	89995K548	3.09	10.57	16.26
3/8″	0.035″	0.305″	2,900	8989K761	3.39	8.58	12.09	89995K331	3.50	9.07	15.91
3/8″	0.049″	0.277″	4,100	8989K771	4.06	10.22	15.03	89995K342	5.04	15.79	22.89
3/8″	0.065″	0.245″	5,400	8989K238	4.64	14.38	23.20	89995K558	10.52	18.26	30.95
3/8″	0.083″	0.209″	6,900	8989K571	17.63	45.67	80.12	89995K571	21.00	54.41	95.45
7/16″	0.049″	0.34″	3,500	8989K581	15.94	41.30	72.45	89995K581	18.85	48.83	85.67
1/2″	0.02″	0.46″	1,300	8989K871	2.16	10.34	15.43	89995K698	8.82	13.69	23.20
1/2″	0.028″	0.444″	1,700	8989K951	2.84	8.40	12.35	89995K718	7.19	10.88	18.44
1/2″	0.035″	0.43″	2,300	8989K781	3.82	10.70	15.29	89995K351	4.18	10.83	19.00
1/2″	0.049″	0.402″	3,200	8989K251	4.84	12.59	19.37	89995K108	5.46	14.89	24.82
1/2″	0.065″	0.37″	4,300	8989K258	11.64	16.51	27.07	89995K358	12.82	19.91	33.74
1/2″	0.083″	0.334″	5,500	8989K591	21.35	55.31	97.03	89995K591	25.71	66.62	116.88
1/2″	0.12″	0.26″	8,000	8989K681	25.54	66.18	116.10	89995K611	31.06	80.48	141.20
5/8″	0.02″	0.585″	1,000	8989K488	9.41	15.69	26.15	89995K368	10.17	18.31	29.07
5/8″	0.028″	0.569″	1,400	8989K508	4.06	14.43	22.54	89995K357	5.79	16.83	26.30
5/8″	0.035″	0.555″	1,800	8989K791	4.88	13.07	19.51	89995K381	10.70	15.29	25.48
5/8″	0.049″	0.527″	2,600	8989K268	6.02	15.42	24.09	89995K118	11.85	17.92	30.38
5/8″	0.065″	0.495″	3,400	8989K808	12.30	17.45	28.60	89995K378	13.21	19.82	33.03
5/8″	0.083″	0.459″	4,400	8989K691	25.25	65.42	114.78	89995K621	30.72	79.58	139.62
5/8″	0.12″	0.385″	6,400	8989K751	31.06	80.48	141.20	89995K631	38.10	98.71	173.17
3/4″	0.035″	0.68″	1,500	8989K818	4.85	13.13	20.20	89995K428	10.94	16.41	27.35
3/4″	0.049″	0.652″	2,100	8989K278	5.50	16.00	25.00	89995K128	12.90	22.01	37.95
3/4″	0.065″	0.62″	2,900	8989K828	12.99	18.01	29.52	89995K438	14.13	24.41	42.83
3/4″	0.083″	0.584″	3,700	8989K831★	29.84	77.32	135.65	89995K641	36.59	94.80	166.32
3/4″	0.12″	0.51″	5,300	8989K841★	36.18	93.75	164.47	89995K651	44.62	115.60	202.80
7/8″	0.035″	0.805″	1,300	8989K518	11.83	15.86	26.88	89995K588	12.59	16.91	35.98
7/8″	0.049″	0.777″	1,800	8989K528	14.02	20.52	34.20	89995K608	16.21	23.93	38.60
7/8″	0.065″	0.745″	2,400	8989K851	28.68	74.32	130.38	89995K661	35.02	90.73	159.18
1″	0.035″	0.93″	1,100	8989K288	10.69	14.40	23.23	89995K138	11.91	18.50	31.35
1″	0.049″	0.902″	1,600	8989K838	13.00	20.48	32.50	89995K448	14.02	21.97	37.88
1″	0.065″	0.87″	2,100	8989K848	13.91	20.35	33.92	89995K458	14.58	23.49	40.50
1″	0.083″	0.834″	2,700	8989K861	36.42	94.35	165.53	89995K671	44.91	116.35	204.12
1″	0.12″	0.76″	4,000	8989K881	46.83	121.32	212.85	89995K681	58.17	150.73	264.43
1 1/4″	0.035″	1.18″	940	8989K308	13.97	19.81	32.48	89995K618	15.14	23.50	39.83
1 1/4″	0.049″	1.152″	1,300	8989K428	14.82	22.23	37.05	89995K628	15.97	28.95	49.91
1 1/4″	0.065″	1.12″	1,700	8989K328	16.93	26.99	45.75	89995K638	17.84	31.22	55.75
1 1/2″	0.035″	1.43″	780	8989K338	14.66	21.99	36.65	89995K648	15.53	26.82	47.05
1 1/2″	0.049″	1.402″	1,000	8989K348	16.71	26.64	45.15	89995K658	17.30	31.25	55.80
1 1/2″	0.065″	1.37″	1,400	8989K858	19.23	33.21	58.27	89995K478	20.70	39.97	71.37
1 3/4″	0.035″	1.68″	670	8989K358	17.46	27.11	45.95	89995K668	20.01	40.76	74.10
1 3/4″	0.049″	1.652″	940	8989K368	17.75	30.28	52.20	89995K678	20.28	55.77	84.50
1 3/4″	0.065″	1.62″	1,200	8989K378	21.17	38.92	68.28	89995K148	24.95	54.89	99.80
2″	0.035″	1.93″	580	8989K388	16.10	26.68	46.00	89995K688	20.18	44.39	80.71

★ OD tolerance is ± 0.005″.

(Continued on following page)

For information about metal tubing, see page 148.

Welded Stainless Steel Tubing *(Continued from previous page)*

Straight Lengths (Cont.)

OD	Wall	ID	Max. psi @ 72°F	304 Stainless Steel	1 ft.	3 ft.	6 ft.	316 Stainless Steel	1 ft.	3 ft.	6 ft.
2″	0.049″	1.902″	820	8989K408	$17.49	$32.24	$54.65	89995K158	$18.93	$37.86	$67.60
2″	0.065″	1.87″	1,000	8989K418	21.74	40.67	70.12	89995K168	23.60	48.96	87.42
2″	0.083″	1.834″	1,300	8989K611	23.47	58.69	106.70	89995K711	30.45	79.75	145.00
2″	0.12″	1.76″	2,000	8989K615	23.72	60.98	112.93	89995K715	48.34	126.61	230.20
2¼″	0.065″	2.12″	970	8989K625	22.24	55.61	101.10	89995K725	24.78	63.71	117.98
2½″	0.065″	2.37″	870	8989K631	23.79	59.48	108.15	89995K731	28.55	74.78	135.97
2½″	0.083″	2.334″	1,100	8989K635	27.38	71.71	130.38	89995K735	41.17	107.82	196.03
2½″	0.12″	2.26″	1,600	8989K641	39.78	104.19	189.43	89995K741	61.36	160.71	292.20
2¾″	0.065″	2.62″	790	8989K645	26.50	69.41	126.20	89995K745	37.83	99.08	180.15
3″	0.065″	2.87″	720	8989K651	27.29	68.22	124.03	89995K751	37.83	99.08	180.15
3″	0.083″	2.834″	930	8989K655	33.43	87.55	159.18	89995K755	57.16	145.50	259.82
3″	0.12″	2.76″	1,300	8989K661	46.91	122.85	223.37	89995K761	63.26	165.68	301.23
3½″	0.065″	3.37″	610	8989K665	31.07	81.37	147.95	89995K765	40.14	105.13	191.15
4″	0.065″	3.87″	540	8989K671	33.17	86.87	157.95	89995K771	44.90	117.60	213.82
4″	0.083″	3.834″	690	8989K675	45.21	118.42	215.30	89995K775	56.95	149.16	271.20

Coils

OD	Wall	ID	Max. psi @ 72°F	304 Stainless Steel	25 ft.	50 ft.	100 ft.	316 Stainless Steel	25 ft.	50 ft.	100 ft.
1/8″	0.02″	0.085″	4,900	8989K911	$66.29	$112.32	$184.13	89995K81	$71.45	$128.20	$210.16
1/4″	0.02″	0.21″	2,500	8989K921	40.83	55.35	90.73	89995K82	44.37	67.67	110.93
1/4″	0.028″	0.194″	3,500	8989K931	43.45	66.26	108.62	89995K83	52.42	79.93	131.04
5/16″	0.02″	0.273″	2,000	8989K941	41.21	52.98	98.11	89995K84	43.94	58.19	118.76
3/8″	0.02″	0.335″	1,600	8989K961	40.43	59.01	109.27	_____	____	____	____
3/8″	0.028″	0.319″	2,300	8989K971	53.91	74.64	138.22	89995K86	59.54	78.85	160.92
1/2″	0.02″	0.46″	1,300	8989K981	55.43	76.75	142.13	_____	____	____	____
1/2″	0.028″	0.444″	1,700	8989K891	87.54	167.12	265.27	89995K85	91.67	177.22	305.56
3/4″	0.035″	0.68″	1,500	8989K991	99.95	186.58	333.18	89995K87	140.30	255.10	425.16
1″	0.035″	0.93″	1,100	8989K811	132.31	246.98	441.04	89995K88	168.15	305.74	509.56

High-Polish Stainless Steel Tubing for Food, Beverage, and Dairy

- Temperature Range: -420° to 1500°F
- Bend with a tube bender
- Use with high-polish quick-clamp fittings (see pages 228-230) and butt-weld fittings (see page 232)

The interior and exterior of this tubing are polished to a high-luster finish to resist particle buildup and allow for easy cleaning. Tubing is welded with a smoothed weld bead on the inside. The interior is polished to a 20 Ra finish; the exterior is polished to a 30 Ra finish. Note: Ra measures the smoothness of the tubing; the lower the Ra value, the smoother and more polished the surface. Tubing is 3-A certified and meets ASTM A269 and A270. It has a Rockwell hardness of B90 and a soft temper. It can be sterilized with steam (autoclaving) and gas.

304L stainless steel has very good corrosion resistance.

316L stainless steel has excellent corrosion resistance.



OD	Wall	ID	OD Tolerance	Max. psi @ 72°F	304L Stainless Steel	1 ft.	3 ft.	6 ft.	316L Stainless Steel	1 ft.	3 ft.	6 ft.
1/2″	0.065″	0.37″	±0.005″	3,400	4466K72	$19.14	$49.60	$87.02	4466K82	$23.44	$61.40	$111.64
3/4″	0.065″	0.62″	±0.005″	2,300	4466K73	20.23	52.42	91.96	4466K83	23.25	60.89	110.70
1″	0.065″	0.87″	±0.005″	1,700	4466K52	15.61	40.45	70.96	4466K58	15.86	41.54	75.53
1½″	0.065″	1.37″	±0.008″	1,100	4466K53	19.99	51.80	90.88	4466K59	20.68	54.16	98.48
2″	0.065″	1.87″	±0.008″	860	4466K54	24.24	62.80	110.18	4466K6	28.22	73.91	134.38
2½″	0.065″	2.37″	±0.01″	690	4466K55	32.37	83.86	147.12	4466K61	34.97	91.59	166.52
3″	0.065″	2.87″	±0.01″	570	4466K56	38.09	98.68	173.12	4466K62	43.49	113.90	207.09
4″	0.083″	3.83″	±0.015″	550	4466K57	74.36	192.66	338.00	4466K63	75.97	198.96	361.74
6″	0.109″	5.78″	±0.03″	480	4466K84	244.86	720.98	1,360.34	4466K85	269.25	822.72	1,495.86
8″	0.109″	7.78″	±0.045″	360	4466K86	552.26	952.18	_____	4466K87	623.68	1,075.31	_____

High-Polish Stainless Steel Tubing

- Temperature Range: -420° to 1500°F
- Bend with a tube bender
- Use with high-polish tube fittings (see pages 234-235)

This premium-grade 316L stainless steel tubing is polished to a high-luster finish to reduce particle buildup and allow for easy cleaning. It is welded with a smoothed weld bead on the inside. Use with deionized water and pharmaceuticals, unless noted. Tubing has excellent corrosion resistance. It is 3-A certified and meets ASTM A269 and A270. Tubing has a Rockwell hardness of B90 and a soft temper. It can be sterilized with steam (autoclaving) and gas.

Smooth— Meets ASME BPE. The ID is polished to a 20 Ra finish. The OD is polished to a 30 Ra finish. Tubing is capped, put in a plastic sleeve, then sealed in a cardboard tube.

Super Smooth— The ID is polished to a 10 Ra finish, except tubing with a 1½″ and larger OD are polished to a 15 Ra finish. The OD is polished to a 30 Ra finish. Comes in a plastic sleeve.

Note: Ra measures the smoothness of the tubing; the lower the Ra value, the smoother and more polished the surface.



OD	Wall	ID	OD Tolerance	Max. psi @ 72°F	Smooth	1 ft.	3 ft.	6 ft.	Super Smooth	1 ft.	3 ft.	6 ft.
1/4″	0.035″	0.18″	±0.005″	4,300	_____	____	_____	_____	3334K21★	$59.83	$83.76	$119.66
3/8″	0.035″	0.305″	±0.005″	2,900	_____	____	_____	_____	3334K22★	61.93	89.60	131.76
1/2″	0.049″	0.402″	±0.005″	3,200	_____	____	_____	_____	3334K23★	73.79	103.66	175.69
1/2″	0.065″	0.37″	±0.005″	3,200	3334K74	$26.78	$68.29	$133.91	_____	____	_____	_____
3/4″	0.065″	0.62″	±0.005″	2,300	3334K94	27.23	69.45	136.17	3334K24★	80.69	143.94	218.09
1″	0.065″	0.87″	±0.005″	1,700	3334K16	27.94	71.24	139.69	3334K25★	87.39	177.90	312.11
1½″	0.065″	1.37″	±0.008″	1,100	3334K11	29.25	74.60	146.27	3334K26	64.54	157.15	280.62
2″	0.065″	1.87″	±0.008″	860	3334K12	36.43	92.90	182.15	3334K27	69.82	169.99	303.56
2½″	0.065″	2.37″	±0.01″	690	3334K13	47.63	121.23	216.49	3334K28	112.37	273.59	488.56
3″	0.065″	2.87″	±0.01″	570	3334K14	57.04	145.20	259.29	3334K29	137.14	333.89	596.24
4″	0.083″	3.83″	±0.015″	550	3334K15	85.44	217.48	388.36	3334K31	177.90	355.80	773.47

★ Not for use with pharmaceuticals. Can also be used with air, dairy, hydraulic fluid, and water.

Stainless Steel Tubing

For information about metal tubing, see page 148.

Extra-Hard Stainless Steel Tubing



- Temperature Range: -320° to 800° F
- Bend with a tube bender
- Use with flared fittings (see pages 190-193)

Compared to other 304 stainless steel tubing, this tubing is harder, stronger, and more durable. It is seamless, which provides a smooth interior for unrestricted flow. It is stronger than welded tubing and can be flared without splitting. It can be used with hydraulic fluid, water, deionized water, air, natural gas, and oil. Tubing is not suitable for welding or brazing. It has very good corrosion resistance. Tubing has a 1/8 hard temper and meets AMS T-6845. OD tolerance is ±0.003″. Tubing can be sterilized with steam (autoclaving), gas, and chemicals.

OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
1/4″	0.02″	0.21″	3,500	9773T11	$13.75	$28.41	$45.83
1/4″	0.035″	0.18″	6,100	9773T13	14.37	29.70	47.91
3/8″	0.035″	0.305″	4,100	9773T15	19.65	40.60	65.49
3/8″	0.049″	0.277″	5,700	9773T16	$24.24	$50.09	$80.79
1/2″	0.028″	0.444″	2,400	9773T17	21.08	43.57	70.28
1/2″	0.035″	0.43″	3,100	9773T18	19.61	40.54	65.38

Cleaned and Capped Stainless Steel Tubing



- Temperature Range: -320° to 1500° F
- Bend with a tube bender
- Use with compression fittings (see pages 181-187), flared fittings (see pages 190-193), and butt-weld fittings (see page 232)

This tubing comes cleaned and capped to prevent moisture and dirt from contaminating the inside. It's made from 316 stainless steel and has a soft temper. It is seamless, which provides a smooth interior for unrestricted flow. It is stronger than welded tubing and can be flared without splitting. Tubing has excellent corrosion resistance. Use with water, air, natural gas, and oil. It meets ASTM A213 and A269. OD tolerance is ±0.005″. It can be sterilized with steam (autoclaving) and chemicals.

OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
1/8″	0.035″	0.055″	8,500	9797T21	$16.85	$40.72	$70.20
3/16″	0.035″	0.118″	5,700	9797T22	15.19	36.71	63.30
1/4″	0.035″	0.18″	4,300	9797T12	12.54	20.79	33.00
5/16″	0.035″	0.243″	3,500	9797T23	18.36	44.37	76.50
3/8″	0.035″	0.305″	2,900	9797T14	14.73	24.42	38.76
1/2″	0.035″	0.43″	2,300	9797T16	$18.06	$29.94	$47.52
5/8″	0.035″	0.555″	1,800	9797T24	19.08	46.11	79.50
3/4″	0.035″	0.68″	1,500	9797T19	22.71	37.65	59.76
1″	0.035″	0.93″	1,100	9797T25	39.45	95.33	164.37
1 1/2″	0.065″	1.37″	800	9797T29	69.84	168.78	291.00

Stainless Steel Tubing with Plastic Exterior



- Temperature Range: -35° to 220° F
- Bend with a tube bender
- Use with compression fittings (see pages 181-186)

The outside of this 316L stainless steel tubing is covered with PVC for extra protection against external corrosion. It is straight and welded with a smoothed weld bead on the inside to reduce particle buildup. Use with water, air, natural gas, and mineral oil. Tubing meets UL 94V2 for flame retardance. It has a Rockwell hardness of B90 and a soft temper. OD tolerance is ±0.064″.

OD	Wall	ID	Max. psi @ 72° F		10 ft.	50 ft.
1/4″	0.035″	0.18″	5,000	3331K11	$49.43	$247.17
3/8″	0.035″	0.305″	3,200	3331K12	59.43	297.17
1/2″	0.035″	0.43″	2,300	3331K13	91.82	459.10

Metric Smooth-Bore Seamless Stainless Steel Tubing



- Temperature Range: -325° to 1500° F
- Bend with a tube bender

Seamless construction with no weld bead gives this tubing a smooth interior for unrestricted flow. It is stronger than welded tubing and can be flared without splitting. Tubing is made of 316 stainless steel and has a soft temper. Use with water, air, natural gas, hydraulic fluid, and oil. OD tolerance is ±0.13 mm, except 14 mm tubing is ±0.26 mm. Tubing can be sterilized with steam (autoclaving), gas, and chemicals.

Tubing **for compression fittings** meets ASTM A269.

OD, mm	Wall, mm	ID, mm	Max. psi @ 72° F		0.5 m	1 m	2 m
For Weld Connections							
6	1	4	4,700	50365K31	$19.96	$36.71	$64.40
8	1	6	3,500	50365K32	24.30	44.69	78.40
10	1.5	7	4,600	50365K33	33.61	61.79	108.41
16	2	12	4,000	50365K35	55.02	101.16	177.47
20	2	16	3,200	50365K36	56.18	103.29	181.21
For Compression Fittings							
3	0.5	2	5,100	9811T16	$19.25	$31.90	$55.00
4	1	2	7,600	9811T17	23.27	38.56	66.48
6	1	4	5,100	9811T12	33.58	55.64	95.93
8	1.5	5	5,800	9811T13	56.19	93.11	160.53
10	2	6	6,300	9811T14	75.84	125.69	216.70
12	2	8	5,200	9811T15	83.89	139.01	239.68
14	1.5	11	3,500	9811T18	91.15	151.06	260.44

Metric Welded Stainless Steel Tubing



- Temperature Range: -420° to 600° F
- Bend with a tube bender

When your application does not require a smooth interior, this tubing is an economical choice. It has a weld bead on the inside. It is made of 316 stainless steel and has a hard temper. Use with water, air, natural gas, and oil. Tubing meets ASTM A908 and Fed. Spec. GG-N-196. OD tolerance is ±0.1 mm. Tubing can be sterilized with steam (autoclaving) and chemicals.

OD, mm	Wall, mm	ID, mm	Max. psi @ 72° F		0.5 m	1 m	2 m
1	0.25	0.5	3,000	50415K38	$8.90	$15.23	$23.43
2	0.25	1.5	3,000	50415K39	9.10	15.57	23.95
2	0.4	1.2	4,000	50415K41	9.05	15.48	23.82
2	0.5	1	4,000	50415K42	9.00	15.39	23.68
3	0.25	2.5	3,000	50415K15	11.35	19.42	29.87
3	0.4	2.2	4,000	50415K16	11.40	19.50	30.00
3	0.5	2	4,000	50415K17	11.45	19.58	30.13
4	0.25	3.5	3,000	50415K18	11.50	19.67	30.26
4	0.4	3.2	4,000	50415K19	11.60	19.84	30.53
4	0.5	3	4,000	50415K21	11.65	19.93	30.66
5	0.25	4.5	3,000	50415K22	13.80	23.61	36.32
5	0.4	4.2	4,000	50415K23	13.85	23.69	36.45
5	0.5	4	4,000	50415K24	$13.90	$23.78	$36.58
6	0.25	5.5	3,000	50415K25	13.90	23.78	36.58
6	0.4	5.2	4,000	50415K26	13.95	23.86	36.71
6	0.5	5	4,000	50415K27	14.00	23.95	36.85
7	0.25	6.5	3,000	50415K28	21.15	36.18	55.66
7	0.5	6	4,000	50415K31	21.25	36.35	55.92
8	0.25	7.5	3,000	50415K32	27.85	47.64	73.29
8	0.4	7.2	4,000	50415K33	27.90	47.72	73.42
8	0.5	7	4,000	50415K34	27.95	47.81	73.55
10	0.5	9	1,800	50415K35	56.00	95.79	147.37
12	0.5	11	1,500	50415K36	75.90	129.83	199.74
16	0.5	15	1,000	50415K37	87.00	148.82	228.95

Extreme-Pressure Stainless Steel Tubing

- Temperature Range: -420° to 1200° F
- Bend with a tube bender
- Use with 5892K extreme-pressure compression fittings (see page 182)

This 316L stainless steel tubing has the highest pressure rating of any tubing we offer. It is seamless, which provides a smooth interior for unrestricted flow. It is stronger than welded tubing and can be flared without splitting. Tubing has excellent corrosion resistance. It has a 1/8 hard temper. Use with water, air, natural gas, oil, and hydraulic fluid. OD tolerance is ±0.003″. It can be sterilized with steam (autoclaving), gas, and chemicals.



OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
1/4″	0.063″	1/8″	15,000	9926T12	$41.94	$96.79	$161.32
3/8″	0.08″	0.216″	15,000	9926T13	52.03	120.06	200.10
9/16″	0.11″	0.344″	15,000	9926T14	71.62	165.29	275.48

Precision Stainless Steel Tubing

- Temperature Range: -420° to 600° F
- Bend with a tube bender
- Connect by welding

This 304 stainless steel tubing is made to tighter tolerances than other stainless steel tubing. It is welded with a smoothed weld bead on the inside to reduce particle buildup. Use with water, air, natural gas, oil, and hydraulic fluid. Tubing meets ASTM A908 and Fed. Spec. GG-N-196.

Straight lengths have a hard temper and an OD tolerance of +0.004″/-0.002″. They can be sterilized with steam (autoclaving) and radiation.

Coils have a soft temper and an OD tolerance of ±0.002″. They can be sterilized with steam (autoclaving), gas, and chemicals.

Also Available: Precision 316 stainless steel tubing in straight lengths and coils. Please ask for 1800T1 and specify the tubing OD, wall thickness, and length from the choices below.

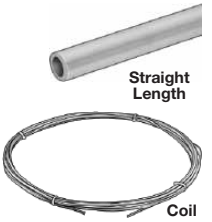

Straight Lengths

OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.
0.094″	0.005″	0.084″	3,500	6100K411	$7.77	$18.49
0.094″	0.01″	0.074″	3,500	6100K421	7.39	17.59
0.094″	0.015″	0.064″	3,500	6100K431	7.58	18.04
0.094″	0.02″	0.054″	3,500	6100K441	7.86	18.71
0.094″	0.028″	0.038″	3,500	6100K451	8.80	20.93
0.094″	0.035″	0.024″	3,500	6100K461	9.08	21.60
0.125″	0.005″	0.115″	3,500	6100K471	8.32	19.80
0.125″	0.01″	0.105″	3,500	6100K481	8.04	19.14
0.125″	0.015″	0.095″	3,500	6100K491	8.23	19.58
0.125″	0.02″	0.085″	3,500	6100K511	8.23	19.58
0.125″	0.028″	0.069″	3,500	6100K521	8.60	20.47
0.125″	0.035″	0.055″	3,500	6100K531	9.26	22.02
0.156″	0.005″	0.146″	3,500	6100K171	9.26	22.04
0.156″	0.01″	0.136″	3,500	6100K181	8.93	21.24
0.156″	0.015″	0.126″	3,500	6100K191	9.11	21.68
0.156″	0.02″	0.116″	3,500	6100K251	9.36	22.26
0.156″	0.028″	0.1″	3,500	6100K261	9.40	22.37
0.156″	0.035″	0.086″	3,500	6100K271	10.01	23.82
0.188″	0.005″	0.178″	3,500	6100K281	10.19	24.25
0.188″	0.01″	0.168″	3,500	6100K291	9.73	23.14
0.188″	0.015″	0.158″	3,500	6100K311	9.91	23.58
0.188″	0.02″	0.148″	3,500	6100K321	10.19	24.25
0.188″	0.028″	0.132″	3,500	6100K331	10.29	24.48
0.188″	0.035″	0.118″	3,500	6100K371	10.67	25.38
0.219″	0.005″	0.208″	3,500	6100K337	11.23	26.72
0.219″	0.01″	0.198″	3,500	6100K338	10.75	25.59
0.219″	0.015″	0.188″	3,500	6100K339	$10.94	$26.03
0.219″	0.02″	0.178″	3,500	6100K341	11.14	26.50
0.219″	0.028″	0.162″	3,500	6100K342	11.51	27.39
0.219″	0.035″	0.148″	3,500	6100K343	11.60	27.60
0.25″	0.005″	0.24″	3,500	6100K344	12.91	30.72
0.25″	0.01″	0.23″	3,500	6100K345	11.50	27.37
0.25″	0.015″	0.22″	3,500	6100K346	11.69	27.81
0.25″	0.02″	0.21″	3,500	6100K347	12.07	28.72
0.25″	0.028″	0.194″	3,500	6100K348	12.26	29.17
0.25″	0.035″	0.18″	3,500	6100K349	12.73	30.28
0.281″	0.005″	0.271″	2,000	6100K356	13.93	33.15
0.281″	0.01″	0.261″	2,000	6100K357	12.35	29.38
0.281″	0.015″	0.251″	2,000	6100K358	12.53	29.82
0.281″	0.02″	0.241″	2,500	6100K359	12.81	30.48
0.281″	0.028″	0.225″	2,500	6100K361	13.57	32.28
0.281″	0.035″	0.211″	3,000	6100K362	14.03	33.38
0.313″	0.01″	0.292″	2,500	6100K351	14.12	33.60
0.313″	0.015″	0.282″	3,000	6100K352	12.81	30.48
0.313″	0.02″	0.272″	3,500	6100K353	13.00	30.93
0.313″	0.028″	0.256″	3,500	6100K354	13.18	31.37
0.313″	0.035″	0.242″	3,500	6100K355	13.84	32.94
0.375″	0.01″	0.355″	2,000	6100K363	14.87	35.38
0.375″	0.015″	0.345″	2,000	6100K364	14.03	33.38
0.375″	0.02″	0.335″	2,000	6100K365	14.22	33.82
0.375″	0.028″	0.319″	2,500	6100K366	14.97	35.62
0.375″	0.035″	0.305″	3,000	6100K367	15.43	36.72

Coils

OD	Wall	ID	Max. psi @ 72° F		50 ft.
0.094″	0.01″	0.074″	3,500	6100K43	$119.19
0.125″	0.01″	0.105″	3,500	6100K44	130.48
0.156″	0.01″	0.136″	3,500	6100K45	149.84
0.188″	0.01″	0.167″	3,000	6100K46	$167.90
0.219″	0.01″	0.198″	3,000	6100K47	184.19
0.25″	0.01″	0.23″	2,500	6100K48	197.42

Extreme-Pressure Miniature Stainless Steel Tubing

Welded:
- Temperature Range: -420° to 600° F
- Bend with a tube bender

Seamless:
- Temperature Range: -140° to 750° F
- Bend with a tube bender

Also known as capillary tubing, this small-diameter tubing stands up to high-pressure applications. It has thin walls and is made to tight tolerances for use in precision applications. Tubing can be sterilized with steam (autoclaving).

Welded tubing is more economical than seamless tubing; it has a smoothed weld bead on the inside to reduce particle buildup. It is 304 stainless steel for very good corrosion resistance. It has a hard temper. Use with water, air, natural gas, and oil. Tubing meets ASTM A269 and A908, as well as Fed. Spec. GG-N-196. OD tolerance is +0.004″/-0.002″.

Seamless tubing is smoother and stronger than welded tubing and can be flared without splitting. It is 316 stainless steel for excellent corrosion resistance. It has a Rockwell hardness of B95 and a soft temper. Use with air, natural gas, hydraulic fluid, and oil. Tubing meets ASTM A213 and A269. OD tolerance is +0.002″/-0.000″.

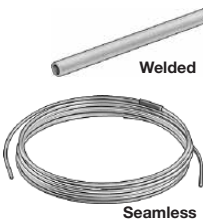

OD	Wall	ID	Max. psi @ 72° F		1 ft.
Welded—Straight Lengths					
0.063″	0.005″	0.052″	5,000	51755K11	$4.67
0.063″	0.01″	0.042″	7,000	51755K13	5.02
0.063″	0.015″	0.032″	7,000	51755K15	6.50
0.063″	0.02″	0.022″	7,000	51755K17	6.83
0.063″	0.025″	0.012″	7,000	51755K19	12.04

OD	Wall	ID	Max. psi @ 72° F		5 ft.
Seamless—Coil					
0.063″	0.008″	0.046″	3,900	51755K37	$125.90
0.063″	0.011″	0.04″	7,300	51755K36	113.66
0.063″	0.016″	0.03″	10,000	51755K35	49.71
0.063″	0.021″	0.02″	12,000	51755K34	43.36
0.063″	0.026″	0.01″	13,000	51755K33	49.89
0.063″	0.028″	0.007″	13,600	51755K32	49.89
0.063″	0.029″	0.005″	13,700	51755K31	56.60

Miniature Stainless Steel Tubing





90° Bend

- Temperature Range: Not rated (90° Bend and Short Straight Lengths) -420° to 600° F (Straight Lengths)
- Bend with a tube bender
- Connect by welding

Also known as hypodermic or needle tubing, this tubing has thin walls and is made to tight tolerances for use in precision applications. It is welded with a smoothed weld bead on the inside to reduce particle buildup. Use with water, air, natural gas, and oil. Tubing meets ASTM 908. It has a hard temper. Tubing can be sterilized with steam (autoclaving).

90° bend and **short straight lengths** are not rated for pressure. **Straight lengths** also meet Fed. Spec. GG-N-196.

304 stainless steel has very good corrosion resistance.

316 stainless steel has excellent corrosion resistance.

90° Bend

Gauge	OD	Wall	ID	OD Tolerance	304 Stainless Steel	1″ Leg Lg.	2″ Leg Lg.	3″ Leg Lg.	4″ Leg Lg.
19	0.042″	0.008″	0.027″	±0.0005″	5560K81	$5.61	$5.75	$5.90	$6.05
18	0.05″	0.009″	0.033″	±0.0005″	5560K82	5.61	5.75	5.90	6.05
16	0.065″	0.009″	0.047″	±0.0005″	5560K83	5.61	5.75	5.90	6.05
15	0.072″	0.009″	0.054″	±0.0005″	5560K84	5.79	5.94	6.09	6.24
14	0.083″	0.01″	0.063″	±0.001″	5560K85	5.79	5.94	6.09	6.24
13	0.095″	0.012″	0.071″	±0.001″	5560K86	5.79	5.94	6.09	6.24

Short Straight Lengths

Gauge	OD	Wall	ID	OD Tolerance	304 Stainless Steel	2″	4″	6″	8″
19	0.042″	0.008″	0.027″	±0.0005″	5560K71	$3.90	$4.01	$4.11	$4.22
18	0.05″	0.009″	0.033″	±0.0005″	5560K72	3.90	4.01	4.11	4.22
16	0.065″	0.009″	0.047″	±0.0005″	5560K73	3.90	4.01	4.11	4.22
15	0.072″	0.009″	0.054″	±0.0005″	5560K74	3.90	4.01	4.11	4.22
14	0.083″	0.01″	0.063″	±0.001″	5560K75	3.90	4.01	4.11	4.22
13	0.095″	0.012″	0.071″	±0.001″	5560K76	3.90	4.01	4.11	4.22

Straight Lengths

Gauge	OD	Wall	ID	OD Tolerance	Max. psi @ 72° F	304 Stainless Steel	1 ft.	3 ft.	316 Stainless Steel	1 ft.	3 ft.
33	0.008″	0.002″	0.004″	±0.0005″	7,000	8988K84	$7.82	$17.77	89875K87	$14.53	$33.80
32	0.009″	0.003″	0.004″	±0.0005″	7,000	8988K83	7.35	17.49	89875K83	14.23	33.09
31	0.01″	0.003″	0.005″	±0.0005″	7,000	8988K81	7.01	16.31	89875K93	13.85	32.20
30	0.012″	0.003″	0.006″	±0.0005″	7,000	8988K79	6.34	15.46	89875K99	13.40	31.17
29	0.013″	0.003″	0.007″	±0.0005″	7,000	8988K78	6.28	15.31	89875K98	13.03	31.03
28	0.014″	0.004″	0.007″	±0.0005″	7,000	8988K77	6.21	15.14	89875K97	12.97	30.89
27	0.016″	0.003″	0.01″	±0.0005″	6,000	8987K75	7.03	18.51	89935K95	13.52	33.80
27	0.016″	0.004″	0.008″	±0.0005″	7,000	8988K76	6.00	15.00	89875K96	12.85	29.89
26	0.018″	0.003″	0.012″	±0.0005″	6,000	8987K73	6.98	18.37	89935K93	13.52	33.80
26	0.018″	0.004″	0.01″	±0.0005″	7,000	8988K74	6.00	15.00	89875K94	12.55	29.89
25	0.02″	0.002″	0.016″	±0.0005″	4,000	5560K69	8.74	21.86	89935K89	15.01	39.49
25	0.02″	0.004″	0.012″	±0.0005″	6,000	8987K71	6.98	18.37	89935K91	13.46	33.66
25	0.02″	0.005″	0.01″	±0.0005″	7,000	8988K72	5.65	14.86	89875K92	12.48	29.71
24	0.022″	0.003″	0.016″	±0.0005″	4,000	5560K66	8.47	21.71	89935K86	15.01	39.49
24	0.022″	0.004″	0.014″	±0.0005″	6,000	8987K67	6.98	18.37	89935K87	13.13	33.66
24	0.022″	0.005″	0.012″	±0.0005″	7,000	8988K68	5.65	14.86	89875K88	12.48	29.71
23	0.025″	0.003″	0.02″	±0.0005″	4,000	5560K63	8.25	21.71	89935K83	15.01	39.49
23	0.025″	0.004″	0.017″	±0.0005″	6,000	8987K64	6.93	18.23	89935K84	13.40	33.51
23	0.025″	0.006″	0.013″	±0.0005″	7,000	8988K65	5.59	14.71	89875K85	12.12	29.57
22	0.028″	0.004″	0.021″	±0.0005″	4,000	5560K59	8.20	21.57	89935K79	15.12	38.77
22	0.028″	0.004″	0.02″	±0.0005″	6,000	8987K61	6.93	18.23	89935K82	13.40	33.51
22	0.028″	0.006″	0.016″	±0.0005″	7,000	8988K62	5.59	14.71	89875K82	12.12	29.57
21.5	0.03″	0.003″	0.024″	±0.0005″	2,000	8988K54	8.63	22.71	89875K41	15.88	40.71
21	0.032″	0.004″	0.025″	±0.0005″	2,000	5560K56	8.20	21.57	89935K76	15.12	38.77
21	0.032″	0.005″	0.023″	±0.0005″	3,000	8987K57	6.86	18.06	89935K77	13.35	33.37
21	0.032″	0.006″	0.02″	±0.0005″	4,000	8988K58	5.59	14.71	89875K78	12.36	29.43
21	0.032″	0.008″	0.017″	±0.0005″	5,000	8988K53	8.31	20.77	89875K39	17.35	44.49
20.5	0.034″	0.004″	0.027″	±0.0005″	2,000	8988K51	8.63	22.71	89875K36	15.88	40.71
20	0.036″	0.004″	0.028″	±0.0005″	2,000	5560K53	7.93	21.43	89935K73	15.12	38.77
20	0.036″	0.005″	0.026″	±0.0005″	3,000	8987K54	6.86	18.06	89935K74	13.01	33.37
20	0.036″	0.006″	0.024″	±0.0005″	4,000	8988K55	5.65	14.86	89875K75	12.07	29.43
20	0.036″	0.008″	0.02″	±0.0005″	5,000	8988K49	8.31	20.77	89875K34	17.35	44.49
19.5	0.039″	0.006″	0.027″	±0.0005″	3,000	8988K47	8.63	22.71	89875K33	15.88	40.71
19	0.042″	0.004″	0.035″	±0.0005″	2,000	5560K49	7.93	21.43	89935K69	15.12	38.77
19	0.042″	0.005″	0.032″	±0.0005″	3,000	8987K51	7.04	18.06	89935K71	13.01	33.37
19	0.042″	0.008″	0.027″	±0.0005″	4,000	8988K52	5.75	15.14	89875K72	12.12	29.57
19	0.043″	0.01″	0.023″	±0.0005″	5,000	8988K46	7.38	18.00	89875K31	16.82	43.14
18.5	0.046″	0.006″	0.034″	±0.0005″	3,000	8988K44	9.02	23.14	89875K29	16.26	41.69
18	0.05″	0.004″	0.042″	±0.0005″	2,000	5560K46	7.77	21.57	89935K66	15.12	38.77
18	0.05″	0.006″	0.038″	±0.0005″	3,000	8987K47	6.93	18.23	89935K67	13.07	33.51
18	0.05″	0.009″	0.033″	±0.0005″	4,000	8988K48	5.70	15.00	89875K68	12.18	29.71
18	0.05″	0.01″	0.03″	±0.0005″	5,000	8988K43	7.38	18.00	89875K27	16.82	43.14
17.5	0.056″	0.005″	0.046″	±0.0005″	2,000	8988K39	9.02	23.14	89875K26	16.26	41.69
17	0.058″	0.004″	0.05″	±0.0005″	2,000	5560K43	7.77	21.57	89935K63	15.12	38.77
17	0.058″	0.005″	0.048″	±0.0005″	3,000	8987K44	7.03	18.51	89935K64	13.07	33.51
17	0.058″	0.008″	0.042″	±0.0005″	4,000	8988K45	5.90	15.14	89875K65	12.18	29.71
17	0.059″	0.01″	0.039″	±0.0005″	5,000	8988K37	7.38	18.00	89875K24	16.82	43.14
16.5	0.062″	0.005″	0.052″	±0.0005″	2,000	8988K36	9.02	23.14	89875K23	16.26	41.69
16	0.065″	0.005″	0.055″	±0.0005″	2,000	5560K39	7.60	21.71	89935K59	15.23	39.06
16	0.065″	0.006″	0.053″	±0.0005″	3,000	8987K39	6.93	18.23	89935K62	13.13	33.66

(Continued on following page)

Miniature Stainless Steel Tubing *(Continued from previous page)*

Straight Lengths (Cont.)

Gauge	OD	Wall	ID	OD Tolerance	Max. psi @ 72°F	304 Stainless Steel	1 ft.	3 ft.	316 Stainless Steel	1 ft.	3 ft.
16	0.065″	0.009″	0.047″	±0.0005″	4,000	8988K42	$5.82	$15.31	89875K62	$12.25	$29.89
16	0.065″	0.016″	0.033″	±0.0005″	5,000	8988K34	7.38	18.00	89875K22	16.82	43.14
15.5	0.068″	0.007″	0.054″	±0.0005″	3,000	8988K33	9.02	23.14	89875K21	16.26	41.69
15	0.072″	0.005″	0.063″	±0.0005″	2,000	5560K36	7.82	21.71	89935K56	15.23	39.06
15	0.072″	0.006″	0.06″	±0.0005″	3,000	8987K37	6.98	18.37	89935K57	13.13	33.66
15	0.072″	0.009″	0.054″	±0.0005″	4,000	8988K38	6.18	15.46	89875K58	12.31	30.03
15	0.072″	0.011″	0.05″	±0.0005″	5,000	8988K31	7.38	18.00	89875K19	17.44	44.71
14.5	0.078″	0.008″	0.063″	±0.001″	3,000	8988K29	9.02	23.14	89875K18	16.26	41.69
14	0.083″	0.006″	0.072″	±0.001″	2,000	5560K33	7.87	21.86	89935K53	15.29	39.20
14	0.083″	0.008″	0.067″	±0.001″	3,000	8987K34	7.28	18.66	89935K54	13.18	33.80
14	0.083″	0.01″	0.063″	±0.001″	4,000	8988K35	5.98	15.74	89875K55	11.46	30.17
14	0.083″	0.017″	0.049″	±0.001″	5,000	8988K27	8.46	21.14	89875K17	17.44	44.71
13.5	0.089″	0.009″	0.071″	±0.001″	3,000	8988K26	9.01	23.71	89875K16	16.60	42.57
13	0.095″	0.005″	0.085″	±0.001″	2,000	5560K29	7.75	22.14	89935K49	15.40	39.49
13	0.095″	0.009″	0.077″	±0.001″	3,000	8987K31	7.20	18.94	89935K51	13.30	34.09
13	0.095″	0.012″	0.071″	±0.001″	4,000	8988K32	6.25	16.03	89875K52	12.43	30.31
13	0.095″	0.016″	0.064″	±0.001″	5,000	8988K24	8.46	21.14	89875K15	17.44	44.71
12.5	0.1″	0.009″	0.082″	±0.001″	3,000	8988K23	9.01	23.71	89875K14	16.60	42.57
12	0.109″	0.007″	0.095″	±0.001″	2,000	5560K26	8.02	22.29	89935K46	15.06	39.63
12	0.109″	0.009″	0.091″	±0.001″	3,000	8987K27	7.31	19.23	89935K47	13.07	34.40
12	0.109″	0.012″	0.085″	±0.001″	4,000	8988K28	6.20	16.31	89875K48	12.55	30.60
12	0.109″	0.016″	0.077″	±0.001″	5,000	8988K21	8.46	21.14	89875K13	17.44	44.71
11.5	0.115″	0.01″	0.095″	±0.001″	3,000	8988K17	9.01	23.71	89875K12	16.60	42.57
11	0.12″	0.007″	0.106″	±0.001″	2,000	5560K23	8.02	22.29	89935K43	15.29	40.23
11	0.12″	0.01″	0.1″	±0.001″	3,000	8987K24	7.41	19.51	89935K44	13.18	34.69
11	0.12″	0.013″	0.094″	±0.001″	4,000	8988K25	6.64	16.60	89875K45	12.36	30.89
11	0.12″	0.015″	0.09″	±0.001″	5,000	8988K19	8.46	21.14	89875K11	17.44	44.71
10	0.134″	0.008″	0.118″	±0.001″	2,000	5560K19	8.25	22.29	89935K39	15.39	40.51
10	0.134″	0.01″	0.114″	±0.001″	3,000	8987K21	7.54	19.83	89935K41	13.29	34.97
10	0.134″	0.014″	0.106″	±0.001″	4,000	8988K22	6.76	16.91	89875K42	12.47	31.17
9	0.148″	0.007″	0.135″	±0.001″	2,000	5560K16	8.07	22.43	89935K36	15.45	40.66
9	0.148″	0.01″	0.128″	±0.001″	3,000	8987K17	7.64	20.11	89935K37	13.40	35.26
9	0.148″	0.015″	0.118″	±0.001″	4,000	8988K18	6.88	17.20	89875K38	12.60	31.49
8	0.165″	0.008″	0.15″	±0.001″	2,000	5560K13	8.07	22.43	89935K33	15.45	40.66
8	0.165″	0.01″	0.145″	±0.001″	3,000	8987K14	7.75	20.40	89935K34	13.51	35.54
8	0.165″	0.015″	0.135″	±0.001″	4,000	8988K15	7.00	17.49	89875K35	12.71	31.77
7	0.18″	0.007″	0.166″	±0.001″	2,000	5560K9	8.07	22.43	89935K29	16.37	41.97
7	0.18″	0.01″	0.16″	±0.001″	3,000	8987K9	7.86	20.69	89935K31	13.63	35.86
7	0.18″	0.015″	0.15″	±0.001″	4,000	8988K14	7.11	17.77	89875K32	12.82	32.06
6	0.203″	0.007″	0.189″	±0.001″	2,000	5560K6	7.91	22.60	89935K26	16.00	42.11
6	0.203″	0.01″	0.183″	±0.001″	3,000	8987K7	7.97	20.97	89935K27	13.73	36.14
6	0.203″	0.015″	0.173″	±0.001″	4,000	8988K8	7.22	18.06	89875K28	12.61	32.34
5	0.219″	0.007″	0.205″	±0.002″	2,000	5560K3	8.14	22.60	89935K23	16.54	42.40
5	0.219″	0.01″	0.199″	±0.002″	3,000	8987K4	8.09	21.29	89935K24	13.48	36.43
5	0.219″	0.015″	0.189″	±0.002″	4,000	8988K5	7.53	18.37	89875K25	13.05	32.63
4	0.238″	0.01″	0.218″	±0.002″	2,000	5560K2	8.64	22.74	89935K22	16.17	42.54
3	0.259″	0.01″	0.239″	±0.002″	2,000	5560K1	8.24	22.89	89935K21	16.22	42.69

Miniature Stainless Steel Tubing with Polished Exterior

- Temperature Range: -420° to 600°F
- Bend with a tube bender
- Connect by welding

The outside of this small-diameter 304 stainless steel tubing is polished to a high-luster finish for a shiny appearance. Also known as hypodermic or needle tubing, it is made to tight tolerances for use in precision applications. It is welded with a smoothed weld bead on the inside to reduce particle buildup. Use with water, air, food, beverage, natural gas, and oil. Tubing has a hard temper and meets ASTM A908 and Fed. Spec. GG-N-196. OD tolerance is ±0.005″ for 19 to 15 gauge tubing; ±0.001″ for 14 to 11 gauge. It can be sterilized with steam (autoclaving) and radiation.



Gauge	OD	Wall	ID	Max. psi @ 72°F		1 ft.	3 ft.	Gauge	OD	Wall	ID	Max. psi @ 72°F		1 ft.	3 ft.
19	0.042″	0.008″	0.027″	4,000	2180T11	$8.44	$18.75	15	0.072″	0.009″	0.054″	4,000	2180T15	$8.64	$19.19
18	0.05″	0.009″	0.033″	4,000	2180T12	8.37	18.61	14	0.083″	0.01″	0.063″	4,000	2180T16	8.81	19.58
17	0.058″	0.008″	0.042″	4,000	2180T13	8.44	18.75	13	0.095″	0.012″	0.071″	4,000	2180T17	9.06	20.14
16	0.065″	0.009″	0.047″	4,000	2180T14	8.56	19.03	11	0.12″	0.013″	0.094″	4,000	2180T18	9.24	20.53

Stainless Steel Tubing for Corrosive Gases

- Temperature Range: -340° to 800°F
- Bend with a tube bender
- Use with compression fittings (see pages 181-187)

A thin layer of silicone on the interior provides a smooth surface and offers protection against corrosive gases. Use with ammonia, nitrogen oxide, and sulphur oxide. Tubing meets ASTM A269. It has a soft temper. OD tolerance is ±0.005″.

Welded tubing is more economical than seamless tubing; it has a smoothed weld bead on the inside to reduce particle buildup. It is 304 stainless steel for very good corrosion resistance.

Seamless tubing is smoother and stronger than welded tubing and can be flared without splitting. It is 316 stainless steel for excellent corrosion resistance.



	Welded							Seamless						
OD	Wall	ID	Max. psi @ 72°F		1 ft.	3 ft.	6 ft.	Wall	ID	Max. psi @ 72°F		1 ft.	3 ft.	6 ft.
1/16″	0.026″	0.01″	7,000	5954K111	$37.64	$54.85	$107.55							
1/16″	0.021″	0.02″	7,000	5954K211	38.96	56.77	111.32							
1/16″	0.016″	0.03″	6,300	5954K311	38.30	55.81	109.43							
1/16″	0.011″	0.04″	4,000	5954K411	37.64	54.85	107.55							
1/8″	0.02″	0.085″	3,000	5954K512	38.30	55.81	109.43	0.035″	0.055″	8,500	5954K811	$48.87	$71.21	$139.62
1/4″	0.02″	0.21″	2,000	5954K611	55.47	80.83	158.49	0.035″	0.18″	4,300	5954K911	67.36	98.15	192.45

High-Performance Tubing

For information about metal tubing, see page 148.

Mil. Spec. Stainless Steel Tubing



- Temperature Range: -420° to 1500° F
- Bend with a tube bender
- Use with compression and Yor-Lok fittings (see pgs. 181-187), flared fittings (see pages 190-193), and butt-weld fittings (see page 232)

A titanium additive gives this 321 stainless steel tubing excellent strength and superior corrosion resistance. It is seamless, which provides a smooth interior for unrestricted flow. It is stronger than welded tubing and can be flared without splitting. Use with water, air, natural gas, and oil. Tubing meets MIL-T-8808B and has a soft temper. OD tolerance is ±0.004″ for tubing ODs ⅜″ and smaller; ±0.02″ for ½″ and larger. Tubing can be sterilized with steam (autoclaving), gas, and chemicals.

OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
¼″	0.02″	0.21″	2,500	6622K51	$14.40	$32.83	$57.60
¼″	0.035″	0.18″	4,300	6622K41	15.34	34.97	61.35
¼″	0.049″	0.152″	6,100	6622K61	21.22	48.38	84.88
⅜″	0.02″	0.335″	1,600	6622K71	17.44	39.76	69.75
⅜″	0.035″	0.305″	2,900	6622K42	17.60	40.13	70.40
⅜″	0.049″	0.277″	4,100	6622K81	21.92	49.97	87.67
½″	0.02″	0.46″	1,300	6622K91	21.84	49.81	87.38
½″	0.035″	0.43″	2,300	6622K43	24.41	55.66	97.65
½″	0.049″	0.402″	3,200	6622K11	26.27	59.91	105.10
¾″	0.02″	0.71″	890	6622K12	28.12	64.11	112.47
¾″	0.035″	0.68″	1,500	6622K44	30.82	70.27	123.28
¾″	0.049″	0.652″	2,100	6622K14	$33.03	$75.31	$132.12
1″	0.02″	0.96″	670	6622K15	49.52	112.92	198.10
1″	0.035″	0.93″	1,100	6622K45	37.44	85.37	149.77
1″	0.049″	0.902″	1,600	6622K18	44.62	101.74	178.50
1½″	0.02″	1.46″	440	6622K19	77.33	176.32	309.33
1½″	0.035″	1.43″	780	6622K22	76.09	173.50	304.38
1½″	0.049″	1.402″	1,000	6622K23	64.62	147.34	258.50
2″	0.02″	1.96″	330	6622K24	102.19	232.99	408.76
2″	0.035″	1.93″	580	6622K46	104.69	238.70	418.78
2″	0.049″	1.902″	820	6622K26	100.53	229.21	402.13

High-Temperature Nickel Tubing



- Temperature Range: -320° to 1200° F
- Bend with a tube bender
- Connect by welding

This 600 nickel tubing has the highest temperature rating of all the non-stainless steel tubing we offer. It is also known as Inconel. Tubing has excellent corrosion and chemical resistance. It is seamless, which provides a smooth interior for unrestricted flow. It can be flared without splitting. Use with water, air, natural gas, oil, sodium sulfide, and abietic acid. Tubing meets ASTM B163. It has a Rockwell hardness of B92 and a soft temper. OD tolerance is ±0.008″ for tubing ODs ⅜″ and smaller; ±0.02″ for ½″ and larger. Tubing can be sterilized with chemicals.

OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
⅛″	0.035″	0.055″	9,000	89865K321	$9.76	$27.32	$48.78
¼″	0.035″	0.18″	4,900	89865K331	15.89	44.49	79.44
5/16″	0.028″	0.257″	2,900	89865K92	18.25	51.11	91.26
⅜″	0.035″	0.305″	3,000	89865K471	20.90	58.51	104.48
⅜″	0.049″	0.277″	4,300	89865K521	26.49	74.17	132.44
½″	0.035″	0.43″	2,200	89865K551	37.37	104.65	186.87
½″	0.065″	0.37″	4,200	89865K591	$41.71	$116.79	$208.56
⅝″	0.028″	0.569″	1,400	89865K93	29.32	82.09	146.59
⅝″	0.035″	0.555″	1,800	89865K94	43.43	121.60	217.15
¾″	0.065″	0.62″	2,800	89865K621	55.85	156.39	279.26
1″	0.065″	0.87″	2,100	89865K631	60.84	170.35	304.20
1″	0.083″	0.834″	2,700	89865K95	131.51	368.24	657.57

Titanium Tubing



- Temperature Range: -20° to 600° F
- Bend with a tube bender
- Connect by welding

Tubing is lightweight with excellent corrosion resistance. Use with water, salt water, air, oil, and sodium chloride. Tubing is Grade 2 titanium and meets ASTM B338. It has a Rockwell hardness of B80 and a soft temper. OD tolerance is ±0.005″.

Welded tubing is an economical choice for when your application does not require a smooth interior. It has a weld bead on the inside.

Seamless tubing has a smooth interior for unrestricted flow. It is stronger than welded tubing and can be flared without splitting

OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	5 ft.
Welded							
½″	0.035″	0.43″	1,200	89835K631	$12.08	$36.18	$73.05
⅝″	0.035″	0.555″	1,200	89835K671	12.08	36.18	73.05
¾″	0.035″	0.68″	1,000	89835K641	10.53	31.58	52.63
¾″	0.049″	0.652″	1,400	89835K95	13.16	39.47	65.79
1″	0.035″	0.93″	780	89835K651	14.04	42.11	70.18
Seamless							
¼″	0.035″	0.18″	4,000	89835K611	$14.04	$42.11	$70.18
⅜″	0.035″	0.305″	2,500	89835K621	17.54	52.63	87.72
½″	0.035″	0.43″	1,800	89835K91	21.67	65.00	108.33
⅝″	0.035″	0.555″	1,500	89835K92	20.34	61.01	101.69
¾″	0.035″	0.68″	1,200	89835K93	23.33	70.00	116.67

Super-Corrosion-Resistant Nickel Tubing



- Temperature Range: 0° to 1000° F
- Bend with a tube bender
- Use with compression fittings (see page 186)

Run corrosive substances through this C276 nickel tubing without worrying about pitting and stress cracking. Also known as Hastelloy, it stands up to solvents, chlorine, salt water, and hydrochloric acid. Tubing meets ASTM B622.

Tubing is seamless, which provides a smooth interior for unrestricted flow. It can be flared without splitting. Tubing has a Rockwell hardness of B85 and a soft temper. OD tolerance is ±0.005″. It can be sterilized with steam (autoclaving), gas, and chemicals.

OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
¼″	0.035″	0.18″	7,800	2160T14	$42.73	$111.09	$170.90
⅜″	0.035″	0.305″	5,000	2160T15	60.51	157.32	242.03
½″	0.035″	0.43″	3,700	2160T16	79.17	205.85	316.70

Acid-Resistant Nickel Tubing



- Temperature Range: -320° to 900° F
- Bend with a tube bender
- Connect by welding

This 400 nickel tubing won't degrade, even when used with harsh acids. It is also known as Monel. Tubing has excellent corrosion resistance. Use it with hydrofluoric acid, sulfuric acid, salt water, and alkalies. It is seamless, which provides a smooth interior for unrestricted flow. It can be flared without splitting. Tubing has a soft temper and meets ASTM B163. OD tolerance is ±0.008″ for tubing ODs ⅜″ and smaller; ±0.015″ for ½″ and larger. Tubing can be sterilized with steam (autoclaving), gas, and chemicals.

OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
¼″	0.035″	0.18″	4,300	89795K14	$15.65	$39.83	$71.13
⅜″	0.035″	0.305″	2,800	89795K18	19.10	48.61	86.80
⅜″	0.049″	0.277″	4,000	89795K23	30.92	78.70	140.54
½″	0.035″	0.43″	2,100	89795K26	28.77	73.23	130.76
½″	0.049″	0.402″	2,900	89795K28	34.20	87.06	155.46
½″	0.065″	0.37″	3,900	89795K32	40.36	102.73	183.44
¾″	0.065″	0.62″	2,700	89795K33	47.09	119.87	214.05

Copper Tubing for Drinking Water

- Temperature Range: 32° to 180° F
- Bend coils with a tube bender; straight lengths not bendable
- Use with copper push-to-connect (see page 219) and solder-connect fittings (see pages 239-242)

This 122 copper tubing meets NSF/ANSI Standard 61 for drinking water. It is also known as copper pipe. Tubing has good corrosion resistance and excellent heat transfer qualities. It meets ASTM B88. Tubing is seamless, so it has a smooth interior for unrestricted flow.

The thicker the walls, the more pressure tubing can withstand. When comparing the same size tubing, **Type K** tubing has the thickest walls to handle the highest pressures. **Type L** tubing has thinner walls, and **Type M** tubing has the thinnest walls.

Straight lengths have a hard temper. OD tolerance is ±0.002″.

Coiled tubing can be flared without splitting. They have a soft temper. OD tolerance is ±0.004″.


Coil


Straight Length

Straight Lengths

Tube Size ★	OD	Wall	ID	Max. psi @ 72° F		2 ft.	5 ft.	10 ft.
Type K								
1/4	3/8″	0.035″	0.305″	1,800	50475K85	$2.25	$5.05	$9.01
3/8	1/2″	0.049″	0.402″	1,900	50475K86	4.04	9.06	16.18
1/2	5/8″	0.049″	0.527″	1,500	50475K87	4.75	10.65	19.01
5/8	3/4″	0.049″	0.652″	1,200	50475K88	5.88	13.17	23.52
3/4	7/8″	0.065″	0.745″	1,400	50475K89	8.56	19.19	34.26
1	1 1/8″	0.065″	0.995″	1,100	50475K91	11.38	25.50	45.53
1 1/4	1 3/8″	0.065″	1.245″	910	50475K92	14.68	32.87	58.70
1 1/2	1 5/8″	0.072″	1.481″	850	50475K93	18.66	41.80	74.65
2	2 1/8″	0.083″	1.959″	740	50475K94	28.41	63.64	113.65
2 1/2	2 5/8″	0.095″	2.435″	680	50475K95	42.09	94.28	168.36
3	3 1/8″	0.109″	2.907″	660	50475K96	57.34	128.45	229.38
Type L								
1/4	3/8″	0.03″	0.315″	1,500	5175K121	2.22	4.98	8.89
3/8	1/2″	0.035″	0.43″	1,300	5175K122	3.25	7.27	12.99
1/2	5/8″	0.04″	0.545″	1,200	5175K123	3.87	8.67	15.48
5/8	3/4″	0.042″	0.666″	1,000	5175K124	5.68	12.72	22.71
3/4	7/8″	0.045″	0.785″	1,000	5175K125	6.29	14.08	25.14
1	1 1/8″	0.05″	1.025″	850	5175K126	9.10	20.38	36.40
1 1/4	1 3/8″	0.055″	1.265″	750	5175K127	12.54	28.08	50.15
1 1/2	1 5/8″	0.06″	1.505″	700	5175K128	16.14	36.15	64.55
2	2 1/8″	0.07″	1.985″	620	5175K129	23.05	51.64	92.22
2 1/2	2 5/8″	0.08″	2.465″	570	5175K131	33.30	74.58	133.18
3	3 1/8″	0.09″	2.945″	540	5175K132	44.42	99.50	177.67
Type M								
3/8	1/2″	0.025″	0.45″	980	5175K133	2.53	5.66	10.11
1/2	5/8″	0.028″	0.569″	850	5175K134	2.85	6.38	11.39
3/4	7/8″	0.032″	0.811″	700	5175K135	4.61	10.32	18.42
1	1 1/8″	0.035″	1.055″	580	5175K136	7.10	15.90	28.40
1 1/4	1 3/8″	0.042″	1.291″	580	5175K137	10.35	23.18	41.39
1 1/2	1 5/8″	0.049″	1.527″	560	5175K138	14.27	31.95	57.06
2	2 1/8″	0.058″	2.009″	510	5175K139	20.28	45.43	81.12
2 1/2	2 5/8″	0.065″	2.495″	470	5175K141	29.43	65.91	117.70
3	3 1/8″	0.072″	2.981″	430	5175K142	39.13	87.66	156.53

★ Tube size is an accepted industry designation, not an actual size.

Coils

Tube Size ★	OD	Wall	ID	Max. psi @ 72° F		60 ft.	100 ft.
Type K							
1/4	3/8″	0.035″	0.305″	1,000	50475K33	$60.26	$100.43
3/8	1/2″	0.049″	0.402″	1,100	50475K34	108.62	181.04
1/2	5/8″	0.049″	0.527″	890	50475K35	135.11	225.18
5/8	3/4″	0.049″	0.652″	730	50475K64	167.73	____
3/4	7/8″	0.065″	0.745″	850	50475K36	241.63	402.71
1	1 1/8″	0.065″	0.995″	650	50475K37	313.90	523.16
Type L							
1/4	3/8″	0.03″	0.315″	910	5175K221	47.15	78.58
3/8	1/2″	0.035″	0.43″	770	5175K222	72.11	120.18
1/2	5/8″	0.04″	0.545″	720	5175K223	105.39	175.65
5/8	3/4″	0.042″	0.666″	630	5175K73	135.55	____
3/4	7/8″	0.045″	0.785″	580	5175K224	167.45	279.08
1	1 1/8″	0.05″	1.025″	490	5175K225	235.39	392.32

★ Tube size is an accepted industry designation, not an actual size.

Cleaned and Capped Copper Tubing

- Temperature Range: 32° to 400° F
- Bend with a tube bender
- Use with copper solder-connect fittings (see pages 239-242)

This 122 copper tubing comes cleaned and capped to prevent moisture and dirt from contaminating the inside. It is also known as refrigeration and air conditioning tubing. Use with water, natural gas, oil, and R22 refrigerant. Tubing meets ASTM B280. It is seamless, which provides a smooth interior for unrestricted flow. It can be flared without splitting. Tubing has a soft temper. OD tolerance is ±0.005″.



Tube Size★	OD	Wall	ID	Max. psi @ 72° F		50 ft.	100 ft.
___	1/8″	0.03″	0.065″	3,000	5174K1	$18.23	____
___	3/16″	0.03″	0.128″	1,900	5174K2	21.31	____
1/8	1/4″	0.03″	0.19″	1,400	5174K21	25.74	$50.47
___	5/16″	0.032″	0.248″	1,100	5174K22	34.58	67.81
1/4	3/8″	0.032″	0.311″	980	5174K23	37.46	73.46
3/8	1/2″	0.032″	0.436″	720	5174K24	51.78	101.52
1/2	5/8″	0.035″	0.555″	610	5174K25	69.30	135.88
5/8	3/4″	0.035″	0.68″	510	5174K26	83.36	163.45
3/4	7/8″	0.045″	0.785″	580	5174K27	124.36	243.85
1	1 1/8″	0.05″	1.025″	490	5174K28	179.00	350.99
1 1/4	1 3/8″	0.055″	1.265″	430	5174K14	294.91	____
1 1/2	1 5/8″	0.06″	1.505″	400	5174K15	374.39	____

★ Tube size is an accepted industry designation, not an actual size.

Copper Tubing

For information about metal tubing, see page 148.

General Purpose Copper Tubing


Straight Length


Coil

- Temperature Range: -420° to 400° F
- Bend coils by hand; straight lengths not bendable
- Use with copper solder-connect fittings (see pages 239-242) and brass compression fittings (see pgs. 176-178)

This 122 copper tubing has good corrosion resistance and excellent heat transfer qualities. Use with water, air, oil, and hydraulic fluid. It meets ASTM B75. Tubing is seamless, which provides a smooth interior for unrestricted flow. It can be flared without splitting. Tubing can be sterilized with steam (autoclaving).

Straight lengths have a hard temper; OD tolerance is ±0.004″. **Coils** have a soft temper.

Straight Lengths

Tube Size★	OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
—	1/8″	0.032″	0.061″	3,400	8967K86	—	$3.28	$4.75
—	3/16″	0.032″	0.124″	2,100	8967K87	—	5.20	7.54
1/8	1/4″	0.032″	0.186″	1,500	8967K88	—	5.20	7.54
—	5/16″	0.032″	0.249″	1,100	8967K59	—	9.28	13.45
1/4	3/8″	0.032″	0.311″	980	8967K89	$5.49	11.15	16.16
1/4	3/8″	0.065″	0.245″	2,200	8967K93	7.24	14.27	20.68
3/8	1/2″	0.032″	0.436″	720	8967K94	6.33	13.23	19.18
3/8	1/2″	0.065″	0.37″	1,600	8967K36	10.08	23.19	33.61
1/2	5/8″	0.032″	0.561″	570	8967K69	9.38	21.56	31.25
1/2	5/8″	0.065″	0.495″	1,200	8967K23	13.25	30.48	44.18
5/8	3/4″	0.032″	0.686″	470	8967K74	8.47	19.47	28.22
5/8	3/4″	0.065″	0.62″	1,000	8967K38	14.80	34.04	49.34
3/4	7/8″	0.032″	0.811″	400	8967K85	9.63	22.15	32.10
3/4	7/8″	0.065″	0.745″	880	8967K21	16.94	38.96	56.46
—	1″	0.032″	0.936″	350	8967K91	11.51	26.47	38.36
—	1″	0.065″	0.87″	760	8967K311	21.14	48.61	70.45

★ Tube size is an accepted industry designation, not an actual size.

Tube Size★	OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
—	1″	0.083″	0.834″	950	8967K321	$33.30	$76.59	$111.00
1	1 1/8″	0.032″	1.061″	310	8967K111	13.64	31.37	45.46
1	1 1/8″	0.065″	0.995″	680	8967K331	25.14	57.83	83.81
—	1 1/4″	0.032″	1.186″	280	8967K121	14.16	32.56	47.19
—	1 1/4″	0.065″	1.12″	600	8967K351	26.44	60.81	88.13
1 1/4	1 3/8″	0.032″	1.311″	250	8967K131	16.62	38.22	55.39
—	1 3/8″	0.065″	1.245″	550	8967K371	30.90	71.06	102.99
—	1 1/2″	0.032″	1.436″	230	8967K141	17.58	40.44	58.61
—	1 1/2″	0.065″	1.37″	500	8967K391	30.31	69.72	101.05
—	1 5/8″	0.065″	1.495″	490	8967K411	39.22	90.20	130.73
—	1 3/4″	0.032″	1.686″	200	8967K151	20.68	47.58	68.95
—	1 3/4″	0.065″	1.62″	430	8967K421	34.45	79.24	114.84
—	2″	0.032″	1.936″	170	8967K161	23.20	53.37	77.35
—	2″	0.065″	1.87″	370	8967K441	40.14	92.33	133.81
—	2 1/2″	0.032″	2.436″	130	8967K171	29.16	67.06	97.19
—	2 1/2″	0.065″	2.37″	280	8967K461	50.16	115.37	167.21

Coils

Tube Size★	OD	Wall	ID	Max. psi @ 72° F		10 ft.	50 ft.
1/8	1/4″	0.049″	0.152″	2,200	8955K112	$28.29	$70.72
1/8	1/4″	0.065″	0.12″	2,900	8955K231	36.99	92.48
—	5/16″	0.049″	0.215″	1,700	8955K241	40.81	102.03
—	5/16″	0.065″	0.183″	2,200	8955K251	49.60	124.00
1/4	3/8″	0.049″	0.277″	1,400	8955K121	41.96	104.91
1/4	3/8″	0.065″	0.245″	1,800	8955K261	60.96	152.41

★ Tube size is an accepted industry designation, not an actual size.

Tube Size★	OD	Wall	ID	Max. psi @ 72° F		10 ft.	50 ft.
3/8	1/2″	0.049″	0.402″	1,000	8955K141	$63.74	$159.34
3/8	1/2″	0.065″	0.37″	1,400	8955K151	80.70	201.76
1/2	5/8″	0.065″	0.495″	1,000	8955K171	64.23	256.94
5/8	3/4″	0.065″	0.62″	890	8955K271	70.70	282.81
—	1″	0.065″	0.87″	640	8955K291	100.38	401.51

Copper Tubing with Coated Interior



- Temperature Range: -100° to 400° F
- Bend by hand
- Use with brass compression fittings (see pages 176-178)

The inside of this tubing is lined with 99% pure tin for added corrosion resistance. Use with natural gas. Tubing meets ASTM B75. It is seamless, so it has a smooth interior for unrestricted flow. Tubing has a soft temper. OD tolerance is ±0.002″.

OD	Wall	ID	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.
1/4″	0.03″	0.19″	1,400	9939K31	$99.74	$123.02	$166.24
5/16″	0.032″	0.249″	1,100	9939K32	193.95	239.20	323.25
3/8″	0.032″	0.311″	980	9939K33	139.70	172.30	232.84

OD	Wall	ID	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.
1/2″	0.032″	0.436″	720	9939K34	$206.90	$255.18	$344.84
5/8″	0.035″	0.555″	610	9939K35	243.13	299.86	405.22

Copper Tubing with Coated Exterior for Natural and LP Gas



- Temperature Range: -90° to 210° F
- Bend with a tube bender
- Use with flared brass fittings (see page 196)

Copper offers good corrosion resistance, and the yellow polyethylene coating provides an additional protective layer. Tubing has markings to identify it as a gas line. Use with natural gas and LP gas. Tubing meets ASTM B837 and B88, as well as NFPA 54 and 58. It is seamless, which provides a smooth interior for unrestricted flow. It can be flared without splitting. Tubing comes in a coil and has a soft temper. OD tolerance is ±0.003″. The tube OD dimension does not include the coating; you must remove the coating to attach fittings.

OD	Wall	ID	Max. psi @ 72° F		60 ft.	100 ft.
3/8″	0.03″	0.315″	910	3089K11	$78.20	$130.33
1/2″	0.035″	0.43″	770	3089K15	122.61	204.35
5/8″	0.04″	0.545″	720	3089K19	173.91	289.85

OD	Wall	ID	Max. psi @ 72° F		60 ft.	100 ft.
3/4″	0.042″	0.666″	630	3089K24	$226.46	$377.43
7/8″	0.045″	0.785″	580	3089K28	286.51	477.52

Copper Tubing with Coated Exterior for Air and Water



- Temperature Range: -35° to 220° F
- Bend with a tube bender
- Use with brass compression fittings (see pages 176-178)

Copper offers good corrosion resistance, and the black PVC coating provides an additional protective layer. Tubing is seamless, which provides a smooth interior for unrestricted flow. It can be flared without splitting. Use with air and water. Tubing meets ASTM B68 and B75. The coating also meets UL 94V2 for flame retardance. It comes in a coil and has a soft temper. OD tolerance is ±0.002″. The tube OD dimension does not include the coating; you must remove the coating to attach fittings.

OD	Wall	ID	Max. psi @ 72° F		10 ft.	50 ft.
1/4″	0.03″	0.19″	1,400	3041K11	$36.00	$163.64
3/8″	0.032″	0.311″	1,000	3041K12	49.00	222.73
1/2″	0.035″	0.43″	810	3041K13	59.00	268.18

Metric Copper Tubing

- Temperature Range: -20° to 400° F
- Bend coils with a tube bender; straight lengths not bendable
- Use with metric solder-connect copper fittings (see 9395T on page 238)

This 122 copper tubing has good corrosion resistance and excellent heat transfer qualities. Use with water, air, oil, and hydraulic fluid. Tubing is seamless, which provides a smooth interior for unrestricted flow. It can be flared without splitting. It meets ASTM B75. Straight lengths have a hard temper; coils have a soft temper. OD tolerance is ±0.055 mm.


Coil


Straight Length

Straight Lengths

OD, mm	Wall, mm	ID, mm	Max. psi @ 72° F		1 m
6	1	4	3,100	9935K11	$23.56
8	1	6	2,100	9935K13	26.22
10	1	8	1,600	9935K15	32.04
12	1	10	1,200	9935K16	36.46
14	1	12	1,000	9935K18	36.32

Coils

OD, mm	Wall, mm	ID, mm	Max. psi @ 72° F		10 m
4	1	2	3,400	9935K21	$96.44
6	1	4	2,000	9935K23	98.88
8	1	6	1,300	9935K24	107.73
10	1	8	1,000	9935K25	135.76
12	1	10	790	9935K26	171.16

Brass Tubing

- Temperature Range: -40° to 200° F
- Not bendable
- Connect by soldering

Frequently used in a wide range of plumbing applications, this 260 brass tubing holds up well in mildly corrosive environments. Use with air, natural gas, propane, and gasoline. It meets ASTM B135. Tubing is seamless, so it has a smooth interior for unrestricted flow. It has a ½ hard (H58) temper. OD tolerance is ±0.004″. Tubing can be sterilized with steam (autoclaving).



OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
1/8″	0.02″	0.085″	3,000	8950K512	$4.70	$7.76	$11.76
3/16″	0.032″	0.124″	3,000	8950K522	4.59	7.57	11.47
1/4″	0.032″	0.186″	2,200	8950K532	4.70	7.76	11.76
1/4″	0.065″	0.12″	4,500	8950K542	7.59	12.52	18.97
5/16″	0.032″	0.249″	1,800	8950K552	4.70	7.76	11.76
5/16″	0.065″	0.183″	3,600	8950K562	8.77	14.47	21.92
3/8″	0.032″	0.311″	1,500	8950K582	9.24	13.25	20.08
3/8″	0.065″	0.245″	3,000	8950K591	11.66	19.25	29.16
7/16″	0.032″	0.374″	1,200	8950K612	8.45	13.95	21.13
7/16″	0.065″	0.308″	2,600	8950K641	14.01	23.12	35.03
1/2″	0.02″	0.46″	690	8950K631	7.70	12.71	19.26
1/2″	0.032″	0.436″	1,100	8950K692	8.56	14.12	21.39
1/2″	0.065″	0.37″	2,200	8950K651	14.01	23.12	35.03
9/16″	0.032″	0.498″	980	8950K621	10.58	17.46	26.45
5/8″	0.025″	0.575″	690	8950K681	9.94	16.39	24.84
5/8″	0.032″	0.561″	890	8950K75	11.34	18.70	28.34
5/8″	0.065″	0.495″	1,800	8950K671	17.42	28.74	43.55
3/4″	0.032″	0.686″	750	8950K712	9.52	15.70	23.79
3/4″	0.065″	0.62″	1,500	8950K731	18.19	30.02	45.48
7/8″	0.032″	0.811″	640	8950K721	12.30	20.30	30.76

OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
7/8″	0.065″	0.745″	1,300	8950K741	$21.38	$35.28	$53.45
1″	0.025″	0.95″	430	8950K751	11.32	18.67	28.29
1″	0.032″	0.936″	560	8950K791	12.83	21.17	32.08
1″	0.065″	0.87″	1,200	8950K811	24.57	40.54	61.43
1 1/8″	0.032″	1.061″	490	8950K781	16.93	27.94	42.33
1 1/8″	0.065″	0.995″	1,000	8950K771	27.96	46.13	69.90
1 1/4″	0.032″	1.186″	450	8950K831	25.73	42.46	64.33
1 1/4″	0.065″	1.12″	910	8950K821	30.57	50.44	76.43
1 3/8″	0.032″	1.311″	400	8950K861	19.65	32.42	49.12
1 3/8″	0.065″	1.245″	830	8950K881	37.54	61.95	93.86
1 1/2″	0.032″	1.436″	370	8950K911	21.38	35.29	53.45
1 1/2″	0.065″	1.37″	760	8950K921	51.87	85.58	129.67
1 5/8″	0.032″	1.561″	340	8950K931	21.38	35.28	53.45
1 5/8″	0.065″	1.495″	700	8950K961	43.34	76.49	127.48
1 3/4″	0.032″	1.686″	320	8950K941	21.48	35.44	53.69
1 3/4″	0.065″	1.62″	650	8950K971	55.34	91.32	138.36
1 7/8″	0.032″	1.811″	300	8950K951	25.84	42.64	64.60
1 7/8″	0.065″	1.745″	610	8950K981	59.41	98.02	148.52
2″	0.032″	1.936″	280	8950K841	30.96	51.08	77.40
2″	0.065″	1.87″	570	8950K851	70.83	116.87	177.07

Rigid Aluminum Tubing

- Temperature Range: -110° to 300° F
- Not bendable
- Connect by welding

Unlike other aluminum tubing, this 3003 aluminum tubing is rigid and will not bend. It contains manganese for good corrosion resistance, strength, and weldability. It is seamless, so it has a smooth interior for unrestricted flow. Use with water, air, oil, and hydraulic fluid. It meets ASTM B210 and Fed. Spec. WW-T-700/2. Tubing has a hard (H14) temper. OD tolerance is ±0.005″. Tubing can be sterilized with steam (autoclaving).



OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
3/16″	0.022″	0.144″	490	8978K11	$1.61	$2.58	$4.60
1/4″	0.035″	0.18″	580	8978K12	1.52	2.42	4.33
3/8″	0.035″	0.305″	390	8978K13	2.33	3.72	6.65
1/2″	0.035″	0.43″	290	8978K14	3.44	5.50	9.82
1/2″	0.065″	0.37″	540	8978K15	5.66	9.05	16.16
5/8″	0.035″	0.555″	230	8978K16	3.95	6.32	11.28
5/8″	0.065″	0.495″	440	8978K17	6.98	11.17	19.94
3/4″	0.035″	0.68″	190	8978K18	5.15	8.24	14.71

OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
3/4″	0.065″	0.62″	360	8978K19	$7.67	$12.27	$21.91
1″	0.035″	0.93″	140	8978K21	5.66	9.05	16.16
1″	0.065″	0.87″	270	8978K22	6.70	13.41	23.94
1 1/4″	0.035″	1.18″	140	8978K23	6.47	10.35	18.49
1 1/2″	0.035″	1.43″	120	8978K24	6.95	13.90	24.83
1 1/2″	0.065″	1.37″	210	8978K25	9.62	19.25	34.37
2″	0.035″	1.93″	110	8978K26	7.76	15.52	27.71

Ultra-Corrosion-Resistant Aluminum Tubing

- Temperature Range: -450° to 400° F
- Bend with a tube bender
- Use with flared fittings (see page 195)

Commonly used in marine applications, this 5052 aluminum tubing contains magnesium for excellent corrosion resistance. Use with salt water and hydraulic fluid. It is seamless, which provides a smooth interior for unrestricted flow. It can be flared without splitting. It has a soft temper. OD tolerance is ±0.024″.



OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
3/16″	0.028″	0.132″	1,600	9929T11	$4.26	$6.81	$12.16
3/16″	0.035″	0.118″	2,000	9929T12	5.36	8.58	15.32
1/4″	0.028″	0.194″	1,200	9929T13	5.62	8.99	16.05
1/4″	0.035″	0.18″	1,500	9929T14	6.16	9.85	17.59
5/16″	0.035″	0.243″	1,200	9929T22	5.67	10.53	16.20
3/8″	0.028″	0.319″	820	9929T15	4.92	7.88	14.07
3/8″	0.035″	0.305″	1,000	9929T16	5.03	8.04	14.36
3/8″	0.049″	0.277″	1,400	9929T23	6.61	12.28	18.89

OD	Wall	ID	Max. psi @ 72° F		1 ft.	3 ft.	6 ft.
1/2″	0.02″	0.46″	440	9929T24	$15.54	$28.85	$44.39
1/2″	0.035″	0.43″	770	9929T17	6.37	11.83	18.20
1/2″	0.049″	0.402″	1,000	9929T18	6.63	10.61	18.95
5/8″	0.035″	0.555″	620	9929T25	8.78	16.31	25.09
5/8″	0.049″	0.527″	870	9929T26	16.16	30.02	46.18
3/4″	0.028″	0.694″	410	9929T19	6.93	16.18	23.11
3/4″	0.035″	0.68″	510	9929T21	7.17	16.72	23.89
3/4″	0.049″	0.652″	720	9929T27	11.88	22.07	33.95

Aluminum Tubing



- Temperature Range: -450° to 400° F
- Bend with a tube bender
- Use with flared fittings (see page 195)

This 6061 aluminum tubing is lightweight with good corrosion resistance and weldability. It has magnesium and silicon added for strength. Tubing is seamless, which provides a smooth interior for unrestricted flow. It can be flared without splitting. Use with water, air, hydraulic fluid, gasoline, diesel fuel, and fuel oil. Tubing has a hard (T6) temper. OD tolerance is ±0.008″ for tubing ODs 1″ and smaller; ±0.012″ for 1⅛″ to 2½″; and ±0.048″ for 3″ and larger. Tubing can be sterilized with steam (autoclaving).

General purpose tubing meets ASTM B210 and SAE AMS-WW-T-700/6.

Mil. spec. tubing meets MIL-T-7081.

General Purpose

OD	Wall	ID	Max. psi @ 72° F		3 ft.	6 ft.
3/16″	0.035″	0.118″	3,400	89965K21	$11.07	$17.85
3/16″	0.049″	0.09″	4,700	89965K11	12.31	19.85
1/4″	0.02″	0.21″	1,400	89965K341	14.60	23.55
1/4″	0.035″	0.18″	2,500	89965K431	6.89	11.11
1/4″	0.049″	0.152″	3,600	89965K441	7.64	12.32
1/4″	0.058″	0.134″	4,200	89965K344	13.86	22.35
1/4″	0.065″	0.12″	4,700	89965K23	10.29	16.60
5/16″	0.035″	0.243″	2,000	89965K451	7.78	12.55
5/16″	0.049″	0.215″	2,900	89965K471	8.06	13.00
5/16″	0.065″	0.183″	3,800	89965K461	15.54	25.06
3/8″	0.035″	0.305″	1,700	89965K481	8.06	13.00
3/8″	0.049″	0.277″	2,400	89965K22	9.44	15.23
3/8″	0.058″	0.259″	2,800	89965K347	10.34	16.68
3/8″	0.065″	0.245″	3,200	89965K24	10.37	16.73
3/8″	0.095″	0.185″	4,700	89965K351	18.30	29.52
1/2″	0.035″	0.436″	1,300	89965K491	8.48	13.68
1/2″	0.049″	0.402″	1,800	89965K25	10.04	16.20
1/2″	0.058″	0.384″	2,100	89965K354	13.76	22.20
1/2″	0.065″	0.37″	2,400	89965K26	12.12	19.55
1/2″	0.083″	0.334″	3,100	89965K357	19.93	32.15
1/2″	0.095″	0.31″	3,500	89965K361	20.22	32.62
1/2″	0.12″	0.26″	4,400	89965K364	23.16	37.35
5/8″	0.035″	0.555″	1,000	89965K27	11.29	18.21
5/8″	0.049″	0.527″	1,400	89965K14	13.70	22.10
5/8″	0.065″	0.495″	1,900	89965K571	15.41	24.85
3/4″	0.028″	0.694″	690	89965K367	10.48	16.90
3/4″	0.035″	0.68″	870	89965K29	10.92	17.61
3/4″	0.049″	0.652″	1,200	89965K511	13.70	22.10
3/4″	0.058″	0.634″	1,400	89965K371	18.72	30.20
3/4″	0.065″	0.62″	1,600	89965K641	15.57	25.12
3/4″	0.083″	0.584″	2,000	89965K374	19.21	30.98
3/4″	1/8″	1/2″	3,100	89965K377	29.69	47.88
7/8″	0.035″	0.805″	740	89965K631	11.01	17.76
7/8″	0.049″	0.777″	1,000	89965K651	$12.43	$20.05
7/8″	0.065″	0.745″	1,300	89965K661	15.36	24.77
1″	0.035″	0.93″	650	89965K15	14.00	22.58
1″	0.049″	0.902″	910	89965K531	16.93	27.30
1″	0.058″	0.884″	1,000	89965K381	20.08	32.38
1″	0.065″	0.87″	1,200	89965K681	19.41	31.30
1″	0.083″	0.834″	1,500	89965K384	24.19	39.02
1″	0.095″	0.81″	1,700	89965K387	32.02	51.65
1″	1/8″	3/4″	2,300	89965K31	37.51	60.50
1″	0.188″	0.624″	3,500	89965K391	53.27	85.92
1 1/8″	0.049″	1.027″	810	89965K394	19.64	31.67
1 1/8″	0.065″	0.995″	1,000	89965K397	27.45	44.27
1 1/4″	0.035″	1.18″	520	89965K721	16.77	27.05
1 1/4″	0.049″	1.152″	730	89965K551	22.00	35.48
1 1/4″	0.065″	1.12″	970	89965K741	23.71	38.25
1 3/8″	0.049″	1.277″	660	89965K411	32.17	51.88
1 3/8″	0.058″	1.259″	790	89965K414	31.30	50.48
1 1/2″	0.035″	1.43″	430	89965K731	22.21	35.83
1 1/2″	0.049″	1.402″	610	89965K561	26.56	42.84
1 1/2″	0.065″	1.37″	810	89965K751	31.11	50.17
1 1/2″	1/8″	1 1/4″	1,500	89965K32	42.90	69.20
1 3/4″	0.035″	1.68″	370	89965K771	27.22	43.90
1 3/4″	0.049″	1.652″	520	89965K591	34.75	56.05
1 3/4″	0.065″	1.62″	690	89965K781	36.41	58.73
2″	0.035″	1.93″	320	89965K821	28.16	45.42
2″	0.049″	1.902″	460	89965K611	33.48	54.00
2″	0.065″	1.87″	610	89965K841	38.12	61.48
2″	0.083″	1.834″	780	89965K417	53.72	86.65
2 1/2″	0.035″	2.43″	260	89965K851	48.52	78.25
2 1/2″	0.049″	2.402″	360	89965K861	40.97	66.08
2 1/2″	0.065″	2.37″	480	89965K871	42.47	68.50
3″	0.049″	2.902″	300	89965K421	65.52	105.67
3 1/2″	0.049″	3.402″	260	89965K424	78.62	126.80

Mil. Spec.

OD	Wall	ID	Max. psi @ 72° F		3 ft.	6 ft.
1/4″	0.028″	0.194″	2,000	9924K11	$12.91	$24.83
1/4″	0.035″	0.18″	2,500	9924K12	10.40	20.00
3/8″	0.028″	0.319″	1,300	9924K13	10.92	21.00
3/8″	0.035″	0.305″	1,700	9924K14	11.83	22.75
3/8″	0.049″	0.277″	2,400	9924K15	14.13	27.18
1/2″	0.028″	0.444″	1,000	9924K16	$13.87	$26.68
1/2″	0.035″	0.43″	1,300	9924K17	16.87	32.45
1/2″	0.049″	0.402″	1,800	9924K18	26.95	51.83
3/4″	0.035″	0.68″	870	9924K19	19.06	36.66
3/4″	0.049″	0.652″	1,200	9924K21	21.01	40.41

Easy-Bend Aluminum Tubing



- Temperature Range: -40° to 180° F
- Bend by hand
- Use with flared fittings (see page 195)

Bend this 3003 aluminum tubing into the shape you need without special tools or elbow fittings. It contains manganese for good corrosion resistance, strength, and weldability. Tubing is seamless, which provides a smooth interior for unrestricted flow. It can be flared without splitting. Use with water, air, alcohol, and oil. Tubing meets ASTM B483 and has a soft temper. OD tolerance is ±0.004″.

OD	Wall	ID	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.
1/8″	0.025″	0.075″	2,300	5177K61	$11.53	$13.84	$23.06
3/16″	0.028″	0.132″	1,600	5177K62	14.12	16.95	28.25
1/4″	0.032″	0.186″	1,400	5177K63	16.59	19.91	33.19
1/4″	0.049″	0.152″	2,300	5177K64	18.32	21.98	36.64
5/16″	0.035″	0.243″	1,200	5177K65	18.85	22.62	37.70
3/8″	0.035″	0.305″	1,000	5177K66	22.73	27.28	45.46
3/8″	0.049″	0.277″	1,400	5177K67	28.25	33.89	56.49
7/16″	0.035″	0.368″	850	5177K68	$26.29	$31.54	$52.57
1/2″	0.035″	0.43″	740	5177K69	32.77	39.32	65.53
1/2″	0.049″	0.402″	1,000	5177K71	36.42	54.62	91.04
1/2″	0.065″	0.37″	1,400	5177K72	44.38	66.58	110.96
5/8″	0.035″	0.555″	580	5177K73	28.48	42.73	71.21
5/8″	0.049″	0.527″	830	5177K74	36.26	54.38	90.64

Precision Steel Tubing



- Temperature Range: -40° to 250° F
- Bend with a tube bender
- Use with compression fittings (see page 181)

With the lowest OD tolerance of all our steel tubing, this tubing is designed for precision applications. Also known as Bundyweld tubing, it is plated with copper and rolled into a tube, then the copper is melted to form a strong cohesive bond. For added corrosion resistance, tubing is finished with a coat of aluminum-based paint or zinc. Use with hydraulic fluid or R22 refrigerant. Tubing meets ASTM A254 and SAE J527. It has a soft temper. OD tolerance is ±0.003″.

OD	Wall	ID	Max. psi @ 72° F		25 ft.
3/16″	0.028″	0.132″	3,600	5176K22	$20.39
1/4″	0.028″	0.194″	2,600	5176K23	22.89
5/16″	0.028″	0.257″	2,100	5176K24	$28.14
3/8″	0.028″	0.319″	1,600	5176K25	34.91

Vacuum-Rated Large-Diameter Steel Tubing

- Temperature Range: Up to 150°F
- Bend with a tube bender
- Use with vacuum fittings (see page 238)

This tubing has the strength to withstand vacuum applications up to 29″ Hg. Use with air and plastic pellets. Tubing is welded and has a weld bead on the inside. It meets ASTM A513. OD tolerance is ±0.02″.

Steel tubing has a Rockwell hardness of B50.

Galvanized steel tubing offers better corrosion resistance than unfinished steel.



OD	Wall	ID	Max. psi @ 72°F	Steel	5 ft.	10 ft.	Galvanized Steel	5 ft.	10 ft.
2 1/8″	0.065″	1.995″	150	3094K51	$19.74	$32.90	4935K411	$27.12	$43.05
2 1/2″	0.065″	2.37″	150	3094K52	23.62	39.37	4935K412	30.65	50.25
3″	0.065″	2.87″	150	3094K53	26.25	43.75	4935K413	35.03	58.38
3 1/2″	0.065″	3.37″	150	3094K54	51.77	86.28	4935K414	40.82	68.04
4″	0.065″	3.87″	150	3094K55	36.33	60.55	4935K415	47.33	80.22
5″	0.083″	4.834″	150	3094K56	51.03	85.05	4935K416	69.91	120.54
6″	0.083″	5.834″	150	3094K57	64.47	107.45	4935K417	81.99	143.85

Smooth-Bore Seamless Steel Tubing

- Temperature Range: -65° to 800°F
- Bend with a tube bender
- Use with compression fittings (see pages 188-189) and flared fittings (see page 194)

Seamless construction with no weld bead gives this tubing a smooth interior for unrestricted flow. It is stronger than welded tubing and can be flared without splitting. Use with natural gas and hydraulic fluid. Tubing meets ASTM A179 and SAE J524. It has a soft temper. OD tolerance is ±0.004″. Do not use in corrosive environments.



OD	Wall	ID	Max. psi @ 72°F		3 ft.	6 ft.
3/16″	0.035″	0.118″	3,600	9220K351	$7.01	$10.78
1/4″	0.035″	0.18″	2,700	9220K311	5.97	9.19
1/4″	0.049″	0.152″	3,800	9220K321	6.80	10.46
1/4″	0.065″	0.12″	5,100	9220K441	10.48	16.12
3/8″	0.035″	0.305″	1,800	9220K331	6.93	10.66
3/8″	0.049″	0.277″	2,500	9220K341	7.95	12.23
3/8″	0.065″	0.245″	3,400	9220K451	7.93	12.20
1/2″	0.035″	0.43″	1,300	9220K151	8.18	12.59
1/2″	0.049″	0.402″	1,900	9220K361	8.33	12.82
1/2″	0.065″	0.37″	2,500	9220K461	9.15	14.07

OD	Wall	ID	Max. psi @ 72°F		3 ft.	6 ft.
1/2″	0.083″	0.334″	3,200	9220K471	$12.36	$19.02
5/8″	0.035″	0.555″	1,100	9220K371	8.07	12.42
5/8″	0.049″	0.527″	1,600	9220K381	9.93	15.28
3/4″	0.049″	0.652″	1,300	9220K391	10.86	16.71
3/4″	0.065″	0.62″	1,800	9220K411	13.56	20.86
3/4″	0.083″	0.584″	2,300	9220K511	16.20	24.92
1″	0.049″	0.902″	1,000	9220K421	16.14	24.83
1″	0.065″	0.87″	1,300	9220K431	16.52	25.42
1″	0.083″	0.834″	1,700	9220K521	18.73	28.82

Metric Smooth-Bore Seamless Steel Tubing

- Temperature Range: -5° to 570°F, unless noted
- Bend with a tube bender
- Use with compression fittings (see page 180)

Seamless construction with no weld bead gives this tubing a smooth interior for unrestricted flow. It is stronger than welded tubing and can be flared without splitting. Use with air, oil, and hydraulic fluid. Tubing meets DIN 2391. It has a Rockwell hardness of B75, unless noted, and a soft temper. OD tolerance is ±0.08 mm. Do not use in corrosive environments.



Also Available: Zinc-plated steel tubing. Please ask for 50295K1 and specify the tubing OD, wall thickness, and length from the choices below.

OD, mm	Wall, mm	ID, mm	Max. psi @ 72°F		1 m	2 m
4	1	2	7,200	50295K66★	$9.92	$13.23
6	1	4	5,600	50295K211	10.05	13.40
8	1	6	4,200	50295K241	10.05	13.40
8	2	4	7,900	50295K281★■	26.09	34.78
10	1.5	7	5,400	50295K271	11.66	15.55
12	1.5	9	4,500	50295K291	12.49	16.65
14	2	10	5,100	50295K321	17.92	23.90

OD, mm	Wall, mm	ID, mm	Max. psi @ 72°F		1 m	2 m
15	1.5	12	3,600	50295K332	$14.85	$19.80
16	2	12	4,500	50295K351	19.42	25.90
16	3	10	6,700	50295K341	27.83	37.10
18	2	14	4,000	50295K381	21.08	28.10
20	2	16	3,600	50295K411	21.38	28.50
25	2	21	2,800	50295K431	23.89	31.86

★ Temperature range is -40° to 480°F. Rockwell hardness is B72. ■ Not available in zinc-plated steel.

Corrosion-Resistant Steel Tubing

- Temperature Range: -20° to 800°F
- Bend with a tube bender
- Use with compression fittings (see pages 188-189) and flared fittings (see page 194)



A thin layer of zinc yellow-chromate gives this tubing extra corrosion resistance, making it an economical alternative to stainless steel. Tubing is seamless, which provides a smooth interior for unrestricted flow. It is stronger than welded tubing and can be flared without splitting. Use with water, salt water, oil, and hydraulic fluid. Tubing meets ASTM A179 and B633, as well as SAE J524. It has a soft temper. OD tolerance is ±0.006″.

OD	Wall	ID	Max. psi @ 72°F		1 ft.	3 ft.	6 ft.
3/16″	0.035″	0.118″	3,600	9922K11	$19.43	$24.54	$34.09
1/4″	0.035″	0.18″	2,700	9922K12	19.73	24.93	34.62
5/16″	0.035″	0.243″	2,200	9922K13	20.21	25.52	35.45
3/8″	0.035″	0.305″	1,800	9922K14	21.52	27.19	37.76
3/8″	0.049″	0.277″	2,500	9922K15	21.71	27.42	38.09
3/8″	0.065″	0.245″	3,400	9922K16	21.88	27.63	38.38
1/2″	0.035″	0.43″	1,300	9922K17	22.12	27.94	38.80
1/2″	0.049″	0.402″	1,900	9922K18	22.60	28.55	39.65
1/2″	0.065″	0.37″	2,500	9922K19	22.90	28.93	40.18
5/8″	0.065″	0.495″	2,000	9922K21	23.32	29.46	40.91
3/4″	0.083″	0.584″	2,300	9922K23	25.40	32.08	44.56
1″	0.095″	0.81″	1,900	9922K24	25.87	51.55	92.38

Welded Steel Tubing

- Temperature Range: -65° to 800°F
- Bend with a tube bender
- Connect by welding



A strong, high-pressure alternative to seamless tubing, this tubing is also known as DOM (drawn over mandrel). It is welded with a smoothed weld bead on the inside to reduce particle buildup. Use with natural gas and hydraulic fluid. Tubing meets ASTM A513. It has a soft temper. OD tolerance is ±0.005″. Do not use in corrosive environments.

OD	Wall	ID	Max. psi @ 72°F		3 ft.	6 ft.
1/4″	0.035″	0.18″	3,700	89975K231	$17.15	$22.27
1/4″	0.049″	0.152″	5,200	89975K241	20.26	26.31
3/8″	0.035″	0.305″	2,400	89975K251	11.30	14.68
3/8″	0.049″	0.277″	3,400	89975K261	11.83	15.36
1/2″	0.035″	0.43″	1,800	89975K271	12.18	15.82
1/2″	0.049″	0.402″	2,600	89975K281	13.18	17.12
5/8″	0.035″	0.555″	1,500	89975K291	13.82	17.95
5/8″	0.049″	0.527″	2,100	89975K321	15.15	19.68
3/4″	0.035″	0.68″	1,200	89975K311	15.90	20.65
1″	0.035″	0.93″	940	89975K331	20.25	26.30
1 1/4″	0.065″	1.12″	1,300	89975K341	18.40	23.90
1 1/2″	0.065″	1.37″	1,100	89975K351	22.60	29.35
2″	0.065″	1.87″	870	89975K361	27.41	35.60

About Tube Fittings

Fitting Style	Advantages	Recommended Tubing	Pressure	Pages
Barbed	Slide into tubing and secure with a clamp. The large contact area provides a secure grip.	Soft plastic and rubber	Low	162-172
Compression	A sleeve bites and forms around the outside of rigid tubing as you tighten the nut.	Hard plastic and metal	Medium to high	173-182
Yor-Lok	Similar to compression fittings, but has two sleeves for more gripping power at higher pressures.	Metal	High	184-189
Flared	The nose of the fitting mates with tubing that has a flared end. Secure with a nut for the tightest metal-to-metal seal we offer.	Metal	High	190-196
Push-to-Connect	The tubing slides into the fitting, and an internal gripping ring holds it in place.	Plastic and soft metal	Low	197-221
Quick Disconnect	Choose these fittings if you frequently connect and disconnect your line.	Plastic	Low	222-226

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

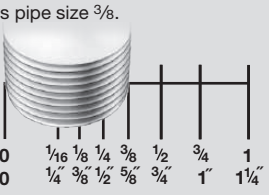

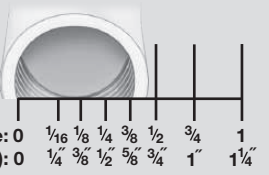

Durable Nylon Extra-Grip Barbed Tube Fittings

- Maximum Pressure: 75 psi @ 72° F
- Temperature Range: 32° to 167° F
- Tubing: Use with soft and firm (Shore A45-A80) PVC and polyurethane, unless noted

Ensure a tight, secure connection with these fittings. They have multiple barbs, which provide additional contact between the fitting and the tubing for extra gripping power except straight female pipe adapters for 3/16" tube ID have a single barb. Use with water and air. Fittings are made of nylon for excellent impact and abrasion resistance.

Inline tees are also known as branch tees.

Connections: Barbed or NPT threads, unless otherwise stated.

Tube-to-Threaded Pipe Adapters—Semi-Clear White



Straights, Male Pipe

For Tube ID	Pipe Size	Pkg. Qty.		Pkg.
3/16"	1/4	10	5372K121	$3.97
1/4"	1/8	10	5372K111	4.30
1/4"	1/4	10	5372K112	4.47
1/4"	3/8	10	5372K113	4.65
1/4"	1/2	10	5372K114	4.97
1/4"	3/4	10	5372K122	6.27
3/8"	1/8	10	5372K116	3.59
3/8"	1/4	10	5372K117	4.54
3/8"	3/8	10	5372K118	4.71
3/8"	1/2	10	5372K119	5.02
3/8"	3/4	10	5372K154	5.30
3/8"	1	10	5372K156	8.29
1/2"	1/8	10	5372K115	4.72
1/2"	1/4	10	5372K123	4.73
1/2"	3/8	10	5372K124	4.76
1/2"	1/2	10	5372K125	4.34
1/2"	3/4	10	5372K126	5.75
1/2"	1	10	5372K157	8.05
5/8"	1/4	10	5372K146	8.46
5/8"	3/8	10	5372K148	4.84
5/8"	1/2	10	5372K128	4.54
5/8"	3/4	10	5372K155	7.24
3/4"	1/4	10	5372K129	8.25
3/4"	3/8	10	5372K149	5.65
3/4"	1/2	10	5372K132	5.33
3/4"	3/4	10	5372K133	6.24
3/4"	1	10	5372K136	7.73
1"	1/2	10	5372K143	8.48
1"	3/4	10	5372K134	7.53
1"	1	10	5372K135	8.32
1 1/4"	3/4	5	5372K147	7.94
1 1/4"	1	5	5372K141	8.70
1 1/4"	1 1/4	5	5372K142	9.10
1 1/2"	1 1/4	5	5372K151	9.32
1 1/2"	1 1/2	5	5372K152	8.73
2"	2	5	5372K161	12.41



90° Elbows, Male Pipe

For Tube ID	Pipe Size	Pkg. Qty.		Pkg.
1/4"	1/8	10	5372K311	$5.65
1/4"	1/4	10	5372K312	5.45
1/4"	3/8	10	5372K313	5.78
1/4"	1/2	10	5372K167	9.11
1/4"	3/4	5	5372K137	8.00
5/16"	1/4	10	5372K165	7.14
5/16"	3/8	10	5372K166	7.77
3/8"	1/8	10	5372K316	7.00
3/8"	1/4	10	5372K317	5.55
3/8"	3/8	10	5372K318	6.74
3/8"	1/2	10	5372K323	7.03
3/8"	3/4	10	5372K138	8.63
3/8"	1	10	5372K139	9.99
1/2"	1/4	10	5372K314	5.97
1/2"	3/8	10	5372K324	6.74
1/2"	1/2	10	5372K325	7.13
1/2"	3/4	10	5372K326	8.32
1/2"	1	10	5372K476	9.86
5/8"	1/4	10	5372K127	8.05
5/8"	3/8	10	5372K131	7.50
5/8"	1/2	10	5372K328	8.62
5/8"	3/4	10	5372K332	8.81
5/8"	1	10	5372K144	10.67
3/4"	1/2	10	5372K329	8.39
3/4"	3/4	10	5372K333	7.16
3/4"	1	10	5372K485	10.98
3/4"	1 1/4	1	5372K168	2.96
13/16"	1/2	10	5372K171	9.09
1"	3/4	10	5372K334	9.46
1"	1	10	5372K335	11.19
1"	1 1/4	5	5372K336	9.60
1"	1 1/2	2	5372K189	5.25
1 1/4"	1	5	5372K169	8.79
1 1/4"	1 1/4	5	5372K145	11.36
1 1/2"	1 1/2	5	5372K338	12.92
2"	2	2	5372K339	6.69



90° Elbows, Female Pipe

For Tube ID	Pipe Size	Pkg. Qty.		Pkg.
1/2"	1/2	10	5372K341	$10.59
1/2"	3/4	10	5372K342	10.19
3/4"	3/4	10	5372K343	12.20



Inline Tees, Male Pipe

For Tube ID	Pipe Size	Pkg. Qty.		Pkg.
3/16"	1/8	10	5372K631	$7.40
3/16"	1/4	10	5372K632	7.46
1/4"	1/8	10	5372K633	7.46
1/4"	1/4	10	5372K634	7.46
1/4"	3/8	10	5372K635	7.83
3/8"	1/4	10	5372K636	7.83
3/8"	3/8	10	5372K637	8.17
3/8"	3/4	5	5372K412	6.63
3/8"	1	5	5372K414	7.20
1/2"	3/8	10	5372K638	8.17
1/2"	1/2	10	5372K639	6.37
1/2"	3/4	5	5372K413	7.06
1/2"	1	5	5372K415	7.49
3/4"	1/2	5	5372K411	7.20
3/4"	3/4	10	5372K641	10.24
3/4"	1	5	5372K416	8.20

(Continued on following page)

Durable Nylon Extra-Grip Barbed Tube Fittings *(Continued from previous page)*

Tube-to-Threaded Pipe Adapters—Semi-Clear White

Swivel straight female pipe adapters have an NPSM (National Pipe Straight Mechanical) connection, which is compatible with NPT threads.



Straights, Female Pipe

For Tube ID	Pipe Size	Pkg. Qty.		Pkg.
3/16"	1/8	10	5372K176	$11.46
3/16"	1/4	10	5372K179	11.69
1/4"	1/8	10	5372K177	11.46
1/4"	3/8	10	5372K173	12.29
1/4"	1/2	10	5372K174	13.03
3/8"	1/8	10	5372K178	11.49
3/8"	1/4	10	5372K172	11.06
3/8"	1/2	10	5372K175	13.09
1/2"	1/4	10	5372K181	11.91
1/2"	3/8	10	5372K182	13.14
1/2"	1/2	10	5372K213	8.83
5/8"	3/8	10	5372K183	13.29
5/8"	1/2	10	5372K184	14.11
3/4"	1/2	10	5372K185	14.31



Swivel Straights, Female Pipe

For Tube ID	Pipe Size	Pkg. Qty.		Pkg.
1/4"	1/4	10	5372K212	$9.26
1/4"	3/4	5	5372K221	7.89
3/8"	3/8	10	5372K215	10.66
3/8"	3/4	5	5372K222	7.89
1/2"	3/4	5	5372K223	8.11
5/8"	3/4	5	5372K218	8.34
3/4"	3/4	5	5372K219	8.47

Tube-to-Threaded Pipe Adapters—Black

Use with soft and firm (Shore A70-A90) PVC and polyurethane. 10-32 threads are UNF straight threads.





For Tube ID	Pipe/ Thread Size	Pkg. Qty.	Swivel Straights, Male Pipe	Pkg.	Swivel 90° Elbows, Male Pipe	Pkg.
1/16"	10-32	5	5153K31	$14.57	5153K51	$14.57
1/16"	1/8	5	5153K34	14.57	5153K52	14.57
1/16"	1/4	5	5153K37	14.57	5153K17	14.57
3/32"	10-32	5	5153K32	14.57	5153K53	14.57
3/32"	1/8	5	5153K35	14.57	5153K54	14.57
3/32"	1/4	5	5153K38	14.57	5153K18	14.57
1/8"	10-32	5	5153K33	14.57	5153K55	14.57
1/8"	1/8	5	5153K36	14.57	5153K56	14.57
1/8"	1/4	5	5153K39	14.57	5153K19	14.57

Swivel Inline Tees, Male Pipe



For Tube ID	Pipe Size	Pkg. Qty.		Pkg.
1/8"	10-32	5	5372K231	$14.44

Tube-to-Tube Connectors—Semi-Clear White



Straights

For Tube ID	Pkg. Qty.		Pkg.
1/8"	10	5372K511	$3.74
3/16"	10	5372K512	3.92
1/4"	10	5372K513	4.35
5/16"	10	5372K515	3.91
3/8"	10	5372K516	4.50
1/2"	10	5372K518	5.81
5/8"	10	5372K522	6.44
3/4"	10	5372K525	7.03
1"	10	5372K526	8.22
1 1/4"	10	5372K527	8.00
1 1/2"	5	5372K528	4.96
2"	2	5372K159	9.63



90° Elbows

For Tube ID	Pkg. Qty.		Pkg.
3/8"	10	5372K372	$7.40
1/2"	10	5372K373	6.44
5/8"	10	5372K162	10.81
3/4"	10	5372K376	8.02
1"	5	5372K377	9.35
1 1/4"	5	5372K378	12.82
1 1/2"	5	5372K379	12.68
2"	2	5372K163	13.61

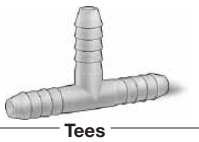

Tees

For Tube ID	Pkg. Qty.		Pkg.
1/4"	10	5372K613	$7.42
5/16"	10	5372K614	6.89
3/8"	10	5372K615	7.70
1/2"	10	5372K618	8.43
5/8"	10	5372K625	8.91
3/4"	10	5372K626	10.99
1"	5	5372K627	7.92
1 1/4"	5	5372K628	6.54
1 1/2"	5	5372K629	8.40
2"	1	5372K158	8.09

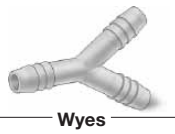

Wyes

For Tube ID	Pkg. Qty.		Pkg.
1/4"	10	5372K186	$14.75
3/8"	10	5372K187	14.88
1/2"	10	5372K188	14.95



Reducing Straights

For Tube ID (A)	(B)	Pkg. Qty.		Pkg.
1/4"	3/16"	10	5372K514	$3.69
3/8"	1/4"	10	5372K517	4.91
1/2"	1/4"	10	5372K519	4.06
1/2"	3/8"	10	5372K521	4.86
5/8"	3/8"	10	5372K523	4.06
5/8"	1/2"	10	5372K524	6.44

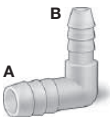

Reducing 90° Elbows

For Tube ID (A)	(B)	Pkg. Qty.		Pkg.
1/2"	3/8"	10	5372K375	$7.40

Metric Nylon and Acetal Barbed Tube Fittings

- Maximum Pressure: 100 psi @ 72° F
- Temperature Range: 32° to 95° F
- Tubing: Use with soft and firm (Shore A40-A80) PVC and polyurethane

The multiple barbs on these fittings form an extra-tight seal. Use with water, air, gasoline, and solvents. **Nylon fittings** are strong and durable with excellent impact and abrasion resistance. **Acetal fittings** have comparable impact and abrasion resistance to nylon fittings, and absorb less moisture. **Inline tees** are also known as branch tees.

Connections: Barbed or NPT threads.

Tube-to-Threaded Pipe Adapters—Black Nylon







For Tube ID	Pipe Size	Straights, Male Pipe		90° Elbows, Male Pipe		Inline Tees, Male Pipe	
4 mm	1/4	2429K12	$2.06	2429K31	$2.07	2429K18	$4.41
5 mm	1/4	2429K13	4.41				
6 mm	1/8	2429K14	2.01	2429K32	2.06	2429K21	2.14
6 mm	1/4	2429K15	2.06	2429K33	2.19	2429K22	2.40
8 mm	1/4	2429K16	2.31	2429K34	2.79	2429K23	3.00
10 mm	1/4	2429K19	2.40				
12 mm	3/8	2429K44	2.87	2429K99	4.24		

Tube-to-Tube Connectors—Semi-Clear White Acetal







For Tube ID	Straights		90° Elbows		Tees	
3 mm			2429K59	$1.41	2429K52	$1.07
4 mm	2429K37	$0.56	2429K45	1.54	2429K53	1.37
5 mm	2429K38	.86	2429K46	1.63	2429K54	1.71
6 mm	2429K39	1.16	2429K47	1.88	2429K55	2.01
8 mm	2429K41	1.67	2429K48	2.44	2429K56	2.53
10 mm	2429K42	2.01	2429K49	3.08	2429K57	3.21
12 mm	2429K43	2.66	2429K51	3.64	2429K58	3.86

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

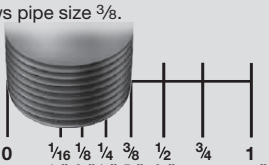

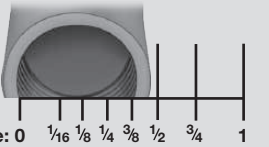

Durable Nylon Tight-Seal Barbed Tube Fittings



- Maximum Pressure @ 72° F: 150 psi, except straights with female threads are 125 psi
- Temp. Range: –40° to 175° F
- Tubing: Use with firm (Shore A75-A80) PVC and polyurethane

Minimize leaks in your lines—these single-barbed fittings have a smooth surface that creates snug tubing connections. Use with water, air, and hydraulic fluid, unless noted. These durable nylon fittings are also very impact and abrasion resistant. Fittings can be sterilized with steam (autoclaving), unless noted.

Through-wall straights are also known as bulkhead couplings. They require a 1/2" hole size. **Inline tees** are also known as branch tees.

Connections: Barbed or NPT threads, except 10-32 are UNF straight threads, and through-wall straights have an NPSM (National Pipe Straight Mechanical) connection.

Tube-to-Threaded Pipe Adapters—Available colors: black and semi-clear white





For Tube ID	Pipe/ Thread Size	Straights, Male Pipe	Pkg. of 10	90° Elbows, Male Pipe	Pkg. of 10	Inline Tees, Male Pipe	Pkg. of 10
1/16"	10-32	5463K2	$3.42	5463K12	$6.57	5463K361♦	$7.13
1/16"	1/16	5463K295♦	7.66	5463K13	13.72	5463K22	12.11
1/16"	1/8	5463K4♠	8.21	5463K14	14.50	____	____
3/32"	10-32	5463K33	3.65	5463K34	7.37	5463K56♠	7.13
3/32"	1/8	5463K5♠	9.67	5463K15	14.21	____	____
1/8"	10-32	5463K53	3.65	5463K54	7.37	5463K57♠	9.29
1/8"	1/16	5463K6♠	7.92	____	____	5463K25	12.64
1/8"	1/8	5463K438	9.47	5463K485	8.95	5463K55	13.69
1/8"	1/4	5463K439	7.89	5463K133	6.58	5463K58	8.59
5/32"	1/8	5463K8	8.46	5463K18	10.16	5463K27	8.46
3/16"	1/16	5463K9♠	7.36	____	____	5463K28	15.00
3/16"	1/8	5463K11	7.03	5463K35	8.95	5463K29	9.02
1/4"	1/8	5463K442	8.16	5463K487	7.50	5463K532	6.58
1/4"	1/4	5463K445	5.00	5463K489	8.95	5463K534	6.58
1/4"	3/8	5463K447	7.89	5463K492	8.42	5463K536	7.11
1/4"	1/2	5463K449	6.32	5463K494	7.11	5463K538	7.63
1/4"	3/4	5463K452	7.11	5463K496	8.54	5463K541	9.74
3/8"	1/8	5463K454	6.84	5463K498	8.95	5463K543	6.58
3/8"	1/4	5463K456	6.05	5463K501	10.00	5463K545	6.58
3/8"	3/8	5463K458	10.00	5463K503	7.89	5463K547	7.11
3/8"	1/2	5463K461	8.68	5463K505	8.68	5463K549	7.63
3/8"	3/4	5463K463	7.11	5463K507	9.74	5463K552	9.74
1/2"	1/4	5463K465	7.63	5463K509	9.47	5463K554	7.11
1/2"	3/8	5463K467	9.21	5463K512	11.05	5463K556	7.37
1/2"	1/2	5463K469	8.16	5463K514	9.47	5463K558	7.63
1/2"	3/4	5463K472	10.53	5463K516	9.74	5463K561	9.74
5/8"	1/2	5463K474	10.26	5463K518	10.26	5463K31	12.01
5/8"	3/4	5463K476	7.37	5463K521	10.00	5463K32	12.33
3/4"	1/2	5463K478	9.47	5463K523	9.74	5463K563	9.74
3/4"	3/4	5463K265	10.00	5463K525	10.26	5463K565	9.74
1"	3/4	5463K267	10.79	5463K527	10.26	5463K567	10.79
1"	1	5463K481	12.11	5463K529	14.74	5463K569	10.79

♦ Color is black. ♠ Available colors are black and opaque white.



Straights, Female Pipe ■

For Tube ID	Pipe/Thread Size		Each
1/16"	10-32	5463K701	$4.32
1/16"	1/8	5463K705	8.32
1/16"	1/4	5463K708	8.32
1/16"	3/8	5463K715	10.44
1/16"	1/2	5463K717	10.68
3/32"	10-32	5463K703	4.32
3/32"	1/8	5463K706	8.32
3/32"	1/4	5463K709	8.32
1/8"	10-32	5463K702	4.32
1/8"	3/8	5463K716	10.52
1/8"	1/2	5463K718	10.76
5/32"	10-32	5463K704	4.32
5/32"	1/8	5463K707	8.32
5/32"	1/4	5463K714	8.32

■ Color is semi-clear white. For use with air and hydraulic oil only. Not rated for sterilization.



Through-Wall Straights, Male Pipe

For Tube ID	Pipe Size		Pkg. of 10
5/32"	1/4	5463K81	$12.62
3/16"	1/4	5463K82	12.62
1/4"	1/4	5463K83	12.62
5/16"	1/4	5463K84	12.56
3/8"	1/4	5463K85	12.86
1/2"	1/4	5463K86	12.86

Tube-to-Tube Connectors—Available colors: black and semi-clear white








For Tube ID	Straights	Pkg. of 10	90° Elbows	Pkg. of 10	Tees	Pkg. of 10	Wyes	Pkg. of 10	Crosses	Pkg. of 10	Plugs	Pkg. of 10
1/16"	5463K36	$4.21	5463K39	$7.05	5463K43	$7.05	5463K51	$7.33	5463K91	$12.00	5463K73	$2.78
3/32"	5463K37	4.21	5463K41	6.57	5463K44	6.57	5463K52	7.33	____	____	5463K74	3.34
1/8"	5463K38	6.05	5463K42	7.37	5463K45	7.10	5463K118	8.02	5463K93	12.57	5463K75	3.59
5/32"	5463K338	9.01	5463K177	11.18	5463K181	8.41	5463K59	13.25	____	____	5463K76	4.47
3/16"	5463K576	11.05	5463K173	12.77	5463K183	9.91	5463K721	14.47	5463K95	14.29	5463K77	6.84
1/4"	5463K578	5.37	5463K594	7.11	5463K606	9.74	5463K723	16.24	5463K96	14.29	5463K78	7.63
5/16"	5463K581	7.80	5463K175	7.37	5463K188	8.95	____	____	____	____	____	____
3/8"	5463K583	6.05	5463K596	7.80	5463K608	10.53	5463K725	14.47	5463K97▲	8.51	5463K79	8.00
1/2"	5463K585	8.29	5463K598	7.62	5463K611	8.42	5463K727	15.52	____	____	5463K87	9.43
5/8"	5463K587	9.74	5463K602	10.00	5463K613	10.00	____	____	____	____	5463K88	12.69
3/4"	5463K589	10.79	5463K604	10.53	5463K615	10.79	5463K62★	2.78	____	____	____	____
1"	5463K592	14.21	5463K277	15.53	5463K287	14.74	5463K63★	2.86	____	____	____	____

▲ Package quantity is 5. ★ Package quantity is 1.

(Continued on following page)

Durable Nylon Tight-Seal Barbed Tube Fittings *(Continued from previous page)*

Tube-to-Tube Connectors (Cont.)—Available colors: black and semi-clear white



Reducing Straights

For Tube ID (A)	(B)		Pkg. of 10
3/32"	1/16"	5463K46	$4.21
1/8"	1/16"	5463K47	4.21
1/8"	3/32"	5463K48	4.21
5/32"	1/8"	5463K624	7.89
3/16"	1/16"	5463K49	7.33
3/16"	1/8"	5463K626	7.89
1/4"	1/8"	5463K628	8.95
1/4"	5/32"	5463K631	7.89
1/4"	3/16"	5463K152	9.33
5/16"	1/4"	5463K155	6.20
3/8"	1/4"	5463K633	6.40
3/8"	5/16"	5463K157	7.80
1/2"	1/4"	5463K635	6.00
1/2"	5/16"	5463K637	$6.00
1/2"	3/8"	5463K639	6.60
5/8"	1/4"	5463K162	6.00
5/8"	5/16"	5463K642	7.60
5/8"	3/8"	5463K644	7.00
5/8"	1/2"	5463K646	6.00
3/4"	3/8"	5463K648	7.40
3/4"	1/2"	5463K651	9.00
3/4"	5/8"	5463K167	11.58
1"	1/2"	5463K653	9.99
1"	5/8"	5463K655	12.62
1"	3/4"	5463K657	12.62



Reducing 90° Elbows

For Tube ID (A)	(B)		Pkg. of 10
3/32"	1/16"	5463K66	$7.63
1/8"	1/16"	5463K67	8.94
1/8"	3/32"	5463K68	8.94
3/16"	1/8"	5463K98▲	9.71
1/4"	1/8"	5463K65▲	9.39
3/8"	1/4"	5463K69	8.41
1/2"	1/4"	5463K64	9.14
1/2"	3/8"	5463K71	8.43

▲ Package quantity is 5.

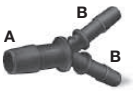

Reducing Wyes

For Tube ID (A)	(B)		Pkg. of 5
3/8"	1/4"	5463K722	$8.29
1/2"	3/8"	5463K732	11.43
5/8"	1/2"	5463K742★	2.97
3/4"	5/8"	5463K752★	3.14
1"	3/4"	5463K762★	3.60

★ Package quantity is 1.

Food and Beverage White Polypropylene Barbed Tube Fittings

- Maximum Pressure: 125 psi @ 72° F
- Temperature Range: 32° to 150° F
- Tubing: Use with soft and firm (Shore A45-A90) PVC, polyurethane, and silicone

Often used in food and beverage applications, these semi-clear white fittings are made of FDA-compliant resins. They can also be used with water and air. They have a single barb and are constructed of impact- and abrasion-resistant polypropylene. Sterilize fittings with radiation.

Inline tees are also known as branch tees.

Connections: Barbed or NPT threads, except 10-32 are UNF straight threads.

Tube-to-Threaded Pipe Adapters



Straights, Male Pipe

For Tube ID	Pipe/ Thread Size		Pkg. of 10
1/16"	10-32	5116K115	$3.31
1/16"	1/16	5116K224	4.96
1/16"	1/8	5116K116	6.06
3/32"	10-32	5116K118	3.31
3/32"	1/16	5116K225	4.96
3/32"	1/8	5116K119	6.06
1/8"	10-32	5116K136	3.31
1/8"	1/16	5116K226	$5.23
1/8"	1/8	5116K137	6.89
5/32"	10-32	5116K141	2.76
5/32"	1/16	5116K227	5.52
5/32"	1/8	5116K142	6.89
3/16"	1/16	5116K143	6.89
1/4"	1/8	5116K145	8.26



90° Elbows, Male Pipe

For Tube ID	Pipe Size		Pkg. of 10
1/4"	1/4	5116K189	$12.11

Tube-to-Tube Connectors







For Tube ID	Straights Pkg. of 10		90° Elbows Pkg. of 10		Tees Pkg. of 10	
1/16"	5116K165	$3.86	5116K174	$6.06	5116K183	$6.06
3/32"	5116K166	3.86	5116K175	6.06	5116K184	6.06
1/8"	5116K167	3.86	5116K176	6.62	5116K185	6.62
5/32"	5116K168	4.96	5116K177	8.26	5116K186	8.26
3/16"	5116K169	4.96	5116K178	9.37	5116K187	9.37
1/4"	5116K171	5.52	5116K179	10.74	5116K188	10.74



Reducing Straights

For Tube ID (A)	(B)		Pkg. of 10
3/32"	1/16"	5116K192	$3.86
1/8"	1/16"	5116K193	3.86
1/8"	3/32"	5116K194	3.31
5/32"	1/16"	5116K191	5.79
5/32"	3/32"	5116K199	6.06
5/32"	1/8"	5116K218	5.79
3/16"	1/16"	5116K216	5.79
3/16"	3/32"	5116K217	$5.79
3/16"	1/8"	5116K195	6.06
3/16"	5/32"	5116K223	6.06
1/4"	1/8"	5116K222	6.06
1/4"	5/32"	5116K196	6.06
1/4"	3/16"	5116K197	6.06

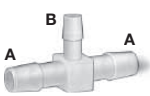

Reducing Inline Tees

For Tube ID (A)	(B)		Pkg. of 10
1/8"	1/16"	5116K146	$6.89
1/8"	3/32"	5116K147	6.89
5/32"	1/16"	5116K219	8.26
5/32"	3/32"	5116K148	8.81
5/32"	1/8"	5116K221	$8.54
3/16"	1/8"	5116K149	10.19
1/4"	3/32"	5116K151	10.74
1/4"	5/32"	5116K152	10.19

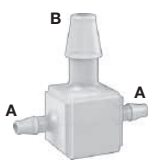

Enlarging Inline Tees

For Tube ID (A)	(B)		Pkg. of 10
1/16"	1/8"	5116K138	$6.89
1/8"	5/32"	5116K139	7.71
1/8"	3/16"	5116K117	8.26
1/8"	1/4"	5116K172	$8.81
5/32"	3/16"	5116K173	9.37
5/32"	1/4"	5116K181	9.91

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

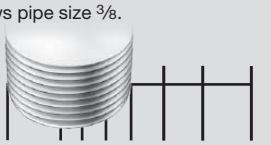



Sanitary White PVDF Barbed Tube Fittings

- Maximum Pressure: 150 psi @ 72° F
- Temperature Range: –80° to 225° F
- Tubing: Use with soft and firm (Shore A50-A90) PVC, polyurethane, and polyethylene

Made of FDA-compliant resins, these semi-clear white fittings are USDA compliant and meet 3-A sanitary standard requirements for use in dairy, food, and beverage applications. Also known as Kynar, PVDF (polyvinylidene fluoride) offers good chemical resistance and excellent strength. Fittings have a single barb and can be sterilized with ethylene oxide, radiation, and steam (autoclaving).

Inline tees are also known as branch tees.

Connections: Barbed or NPT threads.

Also Available: Fittings produced in a clean room. They are cleaned and double bagged. Please ask for 53055K1 and specify the corresponding part number from the choices listed below.

Tube-to-Threaded Pipe Adapters





For Tube ID	Pipe Size	Straights, Male Pipe		90° Elbows, Male Pipe		Inline Tees, Male Pipe	
1/8"	1/8	53055K207	$1.52	53055K201	$2.81	53055K331	$3.55
3/16"	1/8	53055K208	2.23	53055K202	2.81	53055K332	3.10
1/4"	1/8	53055K211	2.23	53055K181	2.81	53055K231	3.10
1/4"	1/4	53055K213	2.81	53055K183	3.00	53055K233	3.42
1/4"	3/8	53055K216	3.23	53055K186	3.39	53055K236	3.87
1/4"	1/2	53055K219	3.58	53055K189	3.84	53055K239	4.32
1/4"	3/4	53055K224	4.45	53055K194	4.58	53055K244	5.00
3/8"	1/8	53055K212	2.71	53055K182	2.84	53055K232	3.23
3/8"	1/4	53055K214	3.00	53055K184	3.10	53055K234	3.55
3/8"	3/8	53055K217	3.39	53055K187	3.48	53055K237	4.16
3/8"	1/2	53055K221	3.77	53055K191	3.90	53055K241	4.45
3/8"	3/4	53055K225	4.61	53055K195	4.77	53055K245	5.19
1/2"	1/4	53055K215	3.10	53055K185	3.23	53055K235	3.77
1/2"	3/8	53055K218	3.52	53055K188	3.68	53055K238	4.16
1/2"	1/2	53055K222	3.90	53055K192	4.03	53055K242	4.58
1/2"	3/4	53055K226	4.68	53055K196	4.90	53055K246	5.45
3/4"	1/2	53055K223	4.29	53055K193	4.52	53055K243	4.94
3/4"	3/4	53055K227	5.32	53055K197	5.81	53055K247	6.26
1"	3/4	53055K228	5.61	53055K198	6.61	53055K248	7.58
1"	1	53055K229	6.19	53055K199	7.10	53055K249	8.13

Tube-to-Tube Connectors





For Tube ID	Straights		90° Elbows		Tees	
1/16"	53055K111	$0.68	53055K161	$1.23	53055K333	$1.52
3/32"	53055K112	.74	53055K162	1.32	53055K334	1.65
1/8"	53055K113	.77	53055K163	1.48	53055K171	1.87
5/32"	53055K114	1.68	53055K366	2.68	53055K335	2.68
3/16"	53055K115	1.81	53055K261	2.81	53055K178	3.16
1/4"	53055K116	2.16	53055K164	2.81	53055K172	2.84
5/16"	53055K117	2.48	53055K262	3.00	53055K179	3.23
3/8"	53055K118	2.77	53055K165	3.00	53055K173	3.23
1/2"	53055K119	3.23	53055K166	3.23	53055K174	3.58
5/8"	53055K121	3.68	53055K169	4.19	53055K177	4.68
3/4"	53055K122	4.68	53055K167	5.29	53055K175	5.87
1"	53055K123	6.06	53055K168	6.65	53055K176	7.55

Wyes



For Tube ID		For Tube ID	
3/32"	53055K152 $1.97	1/4"	53055K155 $3.77
1/8"	53055K153 1.97	3/8"	53055K156 9.52
3/16"	53055K154 3.19	1/2"	53055K157 10.77

Tube-to-Tube Connectors

Reducing Straights



For Tube ID (A)	(B)			For Tube ID (A)	(B)			For Tube ID (A)	(B)		
1/8"	1/16"	53055K125	$0.77	1/2"	1/4"	53055K136	$3.03	3/4"	3/8"	53055K144	$4.03
3/16"	1/8"	53055K126	1.68	1/2"	5/16"	53055K137	3.06	3/4"	1/2"	53055K145	4.19
1/4"	1/8"	53055K127	2.29	1/2"	3/8"	53055K138	3.16	3/4"	5/8"	53055K146	4.45
1/4"	3/16"	53055K131	2.29	5/8"	1/4"	53055K139	3.26	1"	1/2"	53055K147	5.29
5/16"	1/4"	53055K132	2.35	5/8"	5/16"	53055K141	3.39	1"	5/8"	53055K148	5.52
3/8"	1/4"	53055K134	2.48	5/8"	3/8"	53055K142	3.45	1"	3/4"	53055K149	5.81
3/8"	5/16"	53055K135	2.58	5/8"	1/2"	53055K143	3.52				

Odor-Resistant Blue Polyethylene Barbed Tube Fittings

- Maximum Pressure: 120 psi @ 72° F
- Temperature Range: –40° to 153° F
- Tubing: Use with Odor-Resistant Polyethylene (see page 138)

Keep lines clean between sterilization treatments with these single-barbed fittings. The polyethylene has silver ions blended into it, which inhibit the growth of microbes and prevent degradation. Fittings are made of FDA-compliant resins and are for use with water and air. Polyethylene has high impact strength and offers better chemical resistance than nylon. Fittings can be sterilized with ethylene oxide and radiation.

Connections: Barbed or NPT threads.

Tube-to-Threaded Pipe Adapters




For Tube ID	Pipe Size	Straights, Male Pipe Pkg. of 5		90° Elbows, Male Pipe Pkg. of 5	
1/8"	1/8	9675T53	$7.81	9675T71	$9.03
1/4"	1/8			9675T72	10.65
1/4"	1/4	9675T55	9.03	9675T73	10.65
3/8"	3/8	9675T57	10.48	9675T74	13.06
1/2"	1/2	9675T58	14.03	9675T75	15.81

Tube-to-Tube Connectors






For Tube ID	Straights Pkg. of 5		90° Elbows Pkg. of 5		Tees Pkg. of 5		Wyes Pkg. of 2	
1/16"	9675T12	$4.84						
1/8"	9675T13	5.16	9675T23	$7.26	9675T33	$7.26	9675T43	$5.10
3/16"	9675T14	6.61	9675T24	7.42	9675T34	8.06	9675T44	7.10
1/4"	9675T15	7.74	9675T25	8.06	9675T35	8.71	9675T45	8.52
5/16"	9675T16	8.06	9675T26	8.87	9675T36	10.00		
3/8"	9675T17	8.55	9675T27	10.00	9675T37	10.65	9675T47	8.57
1/2"	9675T18	11.29	9675T28	12.10	9675T38	14.68	9675T48	9.43

Super-Flow White Polyethylene Barbed Tube Fittings

- Maximum Pressure: 150 psi @ 72° F
- Temperature Range: –25° to 130° F
- Tubing: Use with soft and firm (Shore A50-A90) PVC, polyurethane, and rubber

A smooth interior surface reduces friction and prevents particle buildup, ensuring efficient flow through tubing lines. Made of FDA-compliant resins, these white, single-barbed fittings are for use with food and beverage, water, and air. Polyethylene offers better chemical resistance than nylon.

Inline tees are also known as branch tees.

Connections: Barbed or NPT threads.

Tube-to-Threaded Pipe Adapters



For Tube ID	Pipe Size	Straights, Male Pipe Pkg. of 10		90° Elbows, Male Pipe Pkg. of 10		Inline Tees, Male Pipe Pkg. of 10	
1/8"	1/8	2808K22	$6.05	2808K49	$8.95	2808K11★	$14.62
5/32"	1/8	2808K23	6.05	2808K48	8.69	2808K69	8.68
3/16"	1/8	2808K26	6.05	2808K47	8.69	2808K71	8.68
3/16"	1/4	2808K37	6.05	2808K52	8.69	2808K92	8.68
1/4"	1/8	2808K24	6.05	2808K51	8.95	2808K76	8.95
1/4"	1/4	2808K27	6.05	2808K12	8.95	2808K77	8.95
1/4"	3/8	2808K31	6.32	2808K13	8.94	2808K78	9.47
1/4"	1/2	2808K34	7.11	2808K14	9.47	2808K79	10.00
1/4"	3/4	2808K39	7.63	2808K15	10.00	2808K81	11.84
3/8"	1/8	2808K25	9.47	2808K59	8.95	2808K82	8.95
3/8"	1/4	2808K28	6.32	2808K61	8.95	2808K83	8.95
3/8"	3/8	2808K32	6.32	2808K62	9.47	2808K84	9.47
3/8"	1/2	2808K35	7.11	2808K63	9.47	2808K85	10.00
3/8"	3/4	2808K41	7.63	2808K64	11.84	2808K86	11.84
1/2"	1/4	2808K29	6.32	2808K65	8.95	2808K87	9.47
1/2"	3/8	2808K33	6.32	2808K66	9.47	2808K88	9.74
1/2"	1/2	2808K36	7.89	2808K67	9.47	2808K89	10.00
1/2"	3/4	2808K42	7.63	2808K68	11.84	2808K91	11.84
3/4"	1/2	2808K38	7.63	2808K72	10.53	2808K94	11.84
3/4"	3/4	2808K44	7.89	2808K73	12.11	2808K95	11.84
1"	3/4	2808K45	12.11	2808K74	12.37	2808K96	13.95
1"	1	2808K46	12.37	2808K75	13.95	2808K97	13.95

★ Package quantity is 5.

Tube-to-Tube Connectors



For Tube ID	Straights Pkg. of 10		90° Elbows Pkg. of 10		Tees Pkg. of 10	
1/16"	2808K101	$4.21	2808K177	$7.37	2808K178	$6.85
3/32"	2808K102	4.21	2808K114	7.37	2808K165	6.84
1/8"	2808K103	5.53	2808K115	7.37	2808K166	6.84
5/32"	2808K104	6.84	2808K116	7.89	2808K167	7.89
3/16"	2808K105	5.79	2808K117	7.89	2808K168	8.42
1/4"	2808K106	5.79	2808K118	7.89	2808K169	8.42
5/16"	2808K107	6.32	2808K119	8.95	2808K171	10.53
3/8"	2808K108	6.32	2808K121	8.95	2808K172	9.47
1/2"	2808K109	6.32	2808K122	8.95	2808K173	9.47
5/8"	2808K111	6.32	2808K123	9.47	2808K174	10.00
3/4"	2808K112	9.74	2808K124	10.53	2808K175	10.26
1"	2808K113	12.11	2808K125	13.68	2808K176	12.11

Wyes



For Tube ID	Pkg. of 5	
1/8"	2808K127	$6.32
3/16"	2808K128	9.21
1/4"	2808K129	9.74
3/8"	2808K131	10.26
1/2"	2808K132	10.79

Clear Polycarbonate Barbed Tube Fittings

- Maximum Pressure: 125 psi @ 72° F
- Temperature Range: –211° to 275° F
- Tubing: Use with soft and firm (Shore A45-A90) PVC and polyurethane

Monitor flow with these transparent, impact-resistant fittings that offer a clear view of your lines. Fittings are made of FDA-compliant resins and are for use with food and beverage, water, and air. They have a single barb and can be sterilized with radiation and steam (autoclaving).

Reducing inline tees are also known as branch tees.

Connections: Barbed or NPT threads, except 10-32 are UNF straight threads.

Tube-to-Threaded Pipe Adapters



Straights, Male Pipe

For Tube ID	Pipe/ Thread Size		Pkg. of 10
1/16"	10-32	5117K81	$4.96
1/16"	1/16	5117K85	6.95
1/16"	1/8	5117K91	8.60
3/32"	10-32	5117K82	4.96
3/32"	1/16	5117K86	6.95
3/32"	1/8	5117K92	8.60
1/8"	10-32	5117K83	4.96
1/8"	1/16	5117K87	7.28
1/8"	1/8	5117K93	9.25
5/32"	10-32	5117K84	4.30
5/32"	1/16	5117K88	7.61
5/32"	1/8	5117K94	9.25
3/16"	1/16	5117K89	9.25
3/16"	1/8	5117K95	9.91
1/4"	1/8	5117K96	10.91

Tube-to-Tube Connectors



For Tube ID	Straights Pkg. of 10		90° Elbows Pkg. of 10		Tees Pkg. of 10		Wyes Pkg. of 10	
1/16"	5117K41	$5.95	5117K71	$8.27	5117K11	$8.27	5117K65	$8.27
3/32"	5117K42	5.95	5117K72	8.27	5117K12	8.27	5117K66	8.27
1/8"	5117K43	5.95	5117K73	8.92	5117K13	8.92	5117K67	8.92
5/32"	5117K44	6.95	5117K74	10.91	5117K14	10.91	5117K68	10.91
3/16"	5117K45	6.95	5117K75	12.23	5117K15	12.23	5117K69	12.23
1/4"	5117K46	7.61	5117K76	13.88	5117K16	13.88	5117K97	13.88

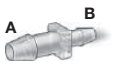

Reducing Straights

For Tube ID (A)	(B)		Pkg. of 10
3/32"	1/16"	5117K51	$5.95
1/8"	1/16"	5117K52	5.95
1/8"	3/32"	5117K55	5.29
5/32"	1/16"	5117K53	7.94
5/32"	3/32"	5117K56	8.27
5/32"	1/8"	5117K58	7.94
3/16"	1/16"	5117K54	7.94
3/16"	3/32"	5117K57	7.94
3/16"	1/8"	5117K59	8.27
3/16"	5/32"	5117K62	8.27
1/4"	1/8"	5117K61	8.27
1/4"	5/32"	5117K63	8.27
1/4"	3/16"	5117K64	8.27

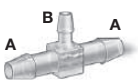

Reducing Inline Tees

For Tube ID (A)	(B)		Pkg. of 10
1/16"	1/8"	5117K21	$9.25
1/8"	1/16"	5117K22	9.25
1/8"	3/32"	5117K23	9.25
1/8"	5/32"	5117K24	10.25
1/8"	3/16"	5117K25	10.91
1/8"	1/4"	5117K26	11.24
5/32"	1/8"	5117K27	11.24
5/32"	3/16"	5117K28	12.23
5/32"	1/4"	5117K29	12.89
3/16"	1/8"	5117K31	13.22
1/4"	3/32"	5117K32	13.88
1/4"	1/8"	5117K33	13.22

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

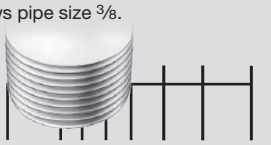



Chemical-Resistant White Polypropylene Barbed Tube Fittings

- Maximum Pressure: 125 psi @ 72°F
- Temp. Range: Standard: 32° to 150°F
  High Temperature: 32° to 250°F
- Tubing: Use with firm (Shore A75-A80) PVC and polyurethane

Choose these semi-clear white polypropylene fittings when you need excellent chemical resistance combined with good strength and durability. Fittings have a single barb and can be used with water, air, ethylene glycol, alcohol, and mild bases. Sterilize *standard fittings* with radiation, and *high temperature fittings* with steam (autoclaving).

Inline tees are also known as branch tees.

Connections: Barbed or NPT threads, except 10-32 and 1/4"-28 are UNF straight threads.

Tube-to-Threaded Pipe Adapters—Standard





For Tube ID	Pipe Size	Straights, Male Pipe	Pkg. of 10	90° Elbows, Male Pipe	Pkg. of 10	Inline Tees, Male Pipe	Pkg. of 10
1/16"	1/16	53415K261	$10.03	—	—	—	—
3/32"	1/16	53415K262	10.03	—	—	53415K198 ★	$7.32
1/8"	1/16	53415K263	10.34	—	—	—	—
1/8"	1/8	53415K195	7.11	53415K238	$8.95	53415K243 ★	8.54
5/32"	1/8	53415K266	11.90	53415K137	8.95	53415K244	8.95
3/16"	1/8	53415K245	6.05	53415K269	20.24	53415K272	20.24
1/4"	1/8	53415K201	5.79	53415K171	8.95	53415K221	8.95
1/4"	1/4	53415K202	6.05	53415K172	9.21	53415K222	8.95
1/4"	3/8	53415K203	6.32	53415K173	8.95	53415K223	9.47
1/4"	1/2	53415K204	7.11	53415K174	9.47	53415K224	10.00
1/4"	3/4	53415K205	7.63	53415K175	10.00	53415K225	11.84
3/8"	1/8	53415K206	7.11	53415K176	8.95	53415K226	8.95
3/8"	1/4	53415K207	6.32	53415K177	8.95	53415K227	8.95
3/8"	3/8	53415K208	7.89	53415K178	9.47	53415K228	9.47
3/8"	1/2	53415K209	8.68	53415K179	9.47	53415K229	10.00
3/8"	3/4	53415K211	7.63	53415K181	11.84	53415K231	11.84
1/2"	1/4	53415K212	8.42	53415K182	10.00	53415K232	9.47
1/2"	3/8	53415K213	6.32	53415K183	10.00	53415K233	9.74
1/2"	1/2	53415K214	10.53	53415K184	10.00	53415K234	10.00
1/2"	3/4	53415K215	7.63	53415K185	11.84	53415K235	11.84
3/4"	1/2	53415K216	8.95	53415K186	10.53	53415K316	11.84
3/4"	3/4	53415K217	11.32	53415K187	10.00	53415K317	11.84
1"	3/4	53415K218	12.11	53415K188	12.37	53415K236	13.95
1"	1	53415K219	12.37	53415K189	13.95	53415K237	13.95

★ Package quantity is 5.

Tube-to-Threaded Pipe Adapters—High Temperature



Straights, Male Pipe

For Tube ID	Pipe/ Thread Size		Pkg. of 10	For Tube ID	Pipe/ Thread Size		Pkg. of 10
1/16"	10-32	5121K311	$3.58	3/16"	1/8	5121K381	$4.83
1/16"	1/8	5121K351	4.63	3/16"	1/4	5121K441	5.05
1/16"	1/4	5121K421	4.86	1/4"	1/8	5121K391	4.86
3/32"	10-32	5121K321	3.58	1/4"	1/4"-28	5121K341	4.56
3/32"	1/8	5121K361	4.63	1/4"	1/4	5121K451	5.05
1/8"	10-32	5121K331	3.58	3/8"	1/8	5121K411	4.83
1/8"	1/8	5121K371	4.63	3/8"	1/2	5121K461	6.02
1/8"	1/4	5121K431	4.86	1/2"	1/2	5121K471	6.02





For Tube ID	Pipe/ Thread Size	Straights, Female Pipe	Pkg. of 10	90° Elbows, Male Pipe	Pkg. of 10	Inline Tees, Male Pipe	Pkg. of 10
1/16"	10-32	—	—	5121K611	$6.35	—	—
1/16"	1/8	—	—	—	—	5121K921	$5.96
1/8"	10-32	—	—	5121K621	6.35	5121K911	5.53
1/8"	1/8	5121K511	$7.78	5121K631	6.70	5121K941	6.10
1/8"	1/4	5121K521	9.77	—	—	—	—
3/16"	1/8	—	—	5121K641	7.06	—	—
3/16"	3/8	—	—	5121K661	7.56	—	—
1/4"	1/8	—	—	5121K651	7.06	5121K931	6.24

Tube-to-Tube Connectors—Standard





For Tube ID	Straights	Pkg. of 10	90° Elbows	Pkg. of 10	Tees	Pkg. of 10
1/16"	53415K101	$5.00	53415K275	$9.97	53415K285	$9.97
3/32"	53415K102	5.00	53415K146	7.63	53415K166	8.68
1/8"	53415K103	6.32	53415K147	8.42	53415K157	8.68
5/32"	53415K104	9.47	53415K292	13.16	53415K167	13.16
3/16"	53415K105	9.47	53415K293	13.16	53415K168	14.74
1/4"	53415K106	6.05	53415K148	10.00	53415K158	8.95
5/16"	53415K113	8.95	53415K144	8.95	53415K169	9.74
3/8"	53415K107	6.05	53415K149	8.68	53415K159	8.95
1/2"	53415K108	10.00	53415K151	8.68	53415K161	11.05
5/8"	53415K109	6.32	53415K152	10.00	53415K162	10.00
3/4"	53415K111	10.53	53415K153	11.32	53415K163	10.26
1"	53415K112	12.11	53415K154	13.68	53415K164	12.11



Reducing Straights

For Tube ID (A)	(B)		Pkg. of 10	For Tube ID (A)	(B)		Pkg. of 10
3/32"	1/16"	53415K289	$5.00	1/2"	5/16"	53415K155	$9.47
1/8"	1/16"	53415K114	5.00	1/2"	3/8"	53415K126	10.00
1/8"	3/32"	53415K294	5.00	5/8"	1/4"	53415K127	9.47
5/32"	1/8"	53415K295	9.21	5/8"	5/16"	53415K156	9.47
3/16"	1/8"	53415K116	9.47	5/8"	3/8"	53415K128	9.47
1/4"	1/8"	53415K118	8.95	5/8"	1/2"	53415K129	9.47
1/4"	5/32"	53415K296	9.47	3/4"	3/8"	53415K131	10.00
1/4"	3/16"	53415K121	9.47	3/4"	1/2"	53415K132	9.47
5/16"	1/4"	53415K122	9.47	3/4"	5/8"	53415K133	10.53
3/8"	1/4"	53415K124	9.47	1"	1/2"	53415K134	11.84
3/8"	5/16"	53415K123	8.95	1"	5/8"	53415K135	11.84
1/2"	1/4"	53415K125	10.26	1"	3/4"	53415K136	11.84

Wyes



For Tube ID		Pkg. of 5	For Tube ID		Pkg. of 5	For Tube ID		Pkg. of 5
1/16"	53415K281	$5.14	3/16"	53415K138	$8.48	3/8"	53415K241	$10.26
3/32"	53415K282	3.88	1/4"	53415K139	10.13	1/2"	53415K242	10.79
1/8"	53415K143	5.60						

(Continued on following page)

Chemical-Resistant White Polypropylene Barbed Tube Fittings

(Continued from previous page)

Tube-to-Tube Connectors—High Temperature





For Tube ID	Straights Pkg. of 10		90° Elbows Pkg. of 10		Tees Pkg. of 10	
1/16"	5121K191	$4.20	5121K901	$4.90	5121K711	$4.90
3/32"	5121K121	4.20	5121K902	4.90	5121K721	4.90
1/8"	5121K131	4.20	5121K903	5.05	5121K731	5.05
5/32"	5121K141	4.64	5121K904	5.54	5121K741	5.46
3/16"	5121K151	4.67	5121K905	6.04	5121K751	6.04
1/4"	5121K161	5.08	5121K906	6.38	5121K761	6.38
3/8"	5121K171	4.45	5121K907	7.10	5121K771	7.10
1/2"	5121K181	4.62	5121K908	7.65	5121K781	7.52

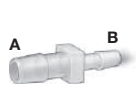
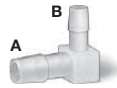
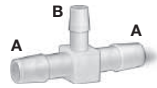

For Tube ID (A)	(B)	Reducing Straights Pkg. of 10		Reducing 90° Elbows Pkg. of 10		Reducing Inline Tees Pkg. of 10	
3/32"	1/16"	5121K211	$4.20	5121K912	$4.90	5121K821	$4.90
1/8"	1/16"	5121K221	4.20				
1/8"	3/32"	5121K231	4.20	5121K915	5.05		
1/8"	3/16"					5121K871	5.05
5/32"	1/8"					5121K841	5.46
3/16"	1/8"	5121K241	4.60	5121K913	6.04		
1/4"	5/32"	5121K251	4.70				
1/4"	3/16"	5121K261	4.70				
3/8"	1/8"					5121K851	6.91
3/8"	1/4"	5121K271	4.57			5121K861	7.09

Moisture-Resistant White Acetal Barbed Tube Fittings

- Maximum Pressure: 150 psi @ 72° F
- Temperature Range: –20° to 280° F
- Tubing: Use with soft and firm (Shore A50-A90) PVC and polyurethane

Because these fittings resist moisture absorption, they are good for use in high-humidity environments. Made of FDA-compliant resins, they can be used with water, air, food and beverage, oil, and hydraulic fluid. Fittings are made of semi-clear white acetal and have a single barb. Sterilize fittings with steam (autoclaving), radiation, and ethylene oxide.

Inline tees are also known as branch tees.

Connections: Barbed or NPT threads, except 10-32 and 1/4"-28 are UNF straight threads.

Tube-to-Threaded Pipe Adapters





For Tube ID	Pipe/ Thread Size	Straights, Male Pipe		90° Elbows, Male Pipe		Inline Tees, Male Pipe	
1/16"	10-32	5047K11	$0.57	5047K31	$1.07		
1/16"	1/16	5047K113	1.17				
1/16"	1/8	5047K12	1.20	5047K32	2.13	5047K52	$2.26
1/16"	1/4"-28	5047K116	1.10				
3/32"	10-32	5047K111	.57				
3/32"	1/4"-28	5047K115	.70	5047K138	1.23		
1/8"	10-32	5047K13	.56	5047K33	1.13	5047K53	1.24
1/8"	1/8	5047K14	1.16	5047K34	1.93	5047K54	2.33
1/8"	1/4"-28	5047K118	1.20	5047K142	1.40	5047K155	2.00
5/32"	10-32	5047K112	.43				
5/32"	1/4"-28	5047K117	.77	5047K141	1.37	5047K154	1.67
3/16"	1/16	5047K114	1.73	5047K137	2.07	5047K151	2.10
3/16"	1/4"-28	5047K119	.77	5047K143	2.50	5047K156	1.73
1/4"	1/16	5047K121	1.20	5047K144	2.13		
1/4"	1/8	5047K15	1.40	5047K35	1.90	5047K55	2.00
1/4"	1/4	5047K16	1.67	5047K36	1.94	5047K56	2.14
3/8"	1/4	5047K17	1.80	5047K37	2.06	5047K57	2.20
3/8"	3/8	5047K18	2.10	5047K38	2.20	5047K58	2.50
1/2"	3/8	5047K19	2.10	5047K39	2.37	5047K59	2.53
1/2"	1/2	5047K21	2.33	5047K41	2.50	5047K61	2.76
3/4"	3/4	5047K22	3.03	5047K42	3.03	5047K62	3.67
1"	1	5047K23	3.90	5047K43	3.77	5047K63	4.17

Tube-to-Tube Connectors





For Tube ID	Straights		90° Elbows		Tees	
1/16"	5047K71	$0.63	5047K81	$1.07	5047K91	$1.07
3/32"	5047K122	.60	5047K132	.93	5047K145	.97
1/8"	5047K72	.67	5047K82	1.13	5047K92	1.10
5/32"	5047K123	1.67	5047K133	1.50	5047K146	2.67
3/16"	5047K124	.83	5047K134	1.23	5047K147	1.13
1/4"	5047K73	1.54	5047K83	1.84	5047K93	1.90
3/8"	5047K74	1.77	5047K84	2.00	5047K94	2.00
1/2"	5047K75	2.00	5047K85	2.14	5047K95	2.27
3/4"	5047K76	3.13	5047K86	3.30	5047K96	2.86
1"	5047K77	3.90	5047K87	4.13	5047K97	3.86



Reducing Straights

For Tube ID (A)	(B)			For Tube ID (A)	(B)		
1/8"	1/16"	5047K24	$1.04	1/2"	1/4"	5047K131	$3.13
1/8"	3/32"	5047K127	1.03	1/2"	3/8"	5047K27	1.93
3/16"	1/16"	5047K128	1.10	5/8"	1/2"	5047K125	3.63
1/4"	1/16"	5047K129	1.27	3/4"	1/2"	5047K28	2.06
1/4"	1/8"	5047K25	1.43	1"	1/2"	5047K126	3.07
3/8"	1/4"	5047K26	1.67	1"	3/4"	5047K29	3.27

Type 316 Stainless Steel Barbed Tube Fittings

- Maximum Pressure: 150 psi @ 72° F
- Temperature Range: –50° to 850° F
- Tubing: Use with soft and firm (Shore A50-A90) PVC and polyurethane

With better corrosion resistance than other types of stainless steel, these single-barbed fittings can stand up to harsh physical elements. Use with water, air, gasoline, and acetic acids. Sterilize fittings with steam (autoclaving) and radiation. Material meets ASTM A240 and ASME SA-240.

Inline tees are also known as branch tees.






For Tube ID	Straights		90° Elbows		Tees		Wyes	
1/8"	2653K11	$5.09	2653K31	$10.33	2653K51	$16.44		
3/16"	2653K12	6.31	2653K32	14.53	2653K52	24.67	2653K64	$20.38
1/4"	2653K13	7.53	2653K33	24.22	2653K53	26.56		
5/16"	2653K14	8.60	2653K34	26.07	2653K54	35.71	2653K19	41.38
3/8"	2653K15	15.02	2653K35	33.93	2653K55	45.62	2653K66	44.69
1/2"	2653K16	23.24	2653K36	40.56	2653K56	55.38	2653K21	47.93
5/8"	2653K17	28.87	2653K37	50.16	2653K57	66.49		
3/4"	2653K18	41.56	2653K38	62.56	2653K58	83.82		



Reducing Straights

For Tube ID (A)	(B)		
1/4"	1/8"	2653K81	$8.42
1/4"	3/16"	2653K82	10.56
1/2"	1/4"	2653K83	16.18
3/4"	1/2"	2653K84	17.73

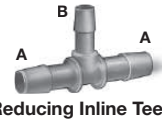

Reducing Inline Tees

For Tube ID (A)	(B)		
1/8"	5/16"	2653K95	$23.82
3/8"	5/16"	2653K96	44.27
1/2"	5/16"	2653K97	49.56
5/8"	3/8"	2653K98	61.16

Barbed Tube Fittings

For technical drawings and 3-D models, go to mcmaster.com.

For information about selecting pipe size, see pages 2-3. For information about barbed tube fittings, see page 162.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

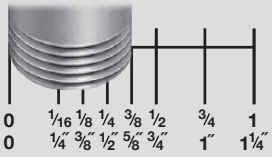

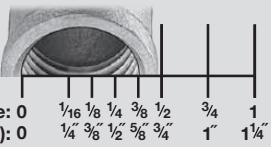

Miniature Stainless Steel Barbed Tube Fittings

- Maximum Pressure: 500 psi @ 72° F
- Temperature Range: –40° to 1200° F
- Tubing: Use with firm (Shore A75-A95) PVC, polyethylene, and polypropylene

Use these single-barbed miniature fittings to connect small-diameter tubing. Fittings are for use with water, air, and food and beverage. They are made of Type 303 stainless steel, which is more corrosion resistant than brass. Material is FDA compliant. Male fittings with 10-32 threads also come with a gasket. Sterilize with radiation, ethylene oxide, and steam (autoclaving). Vacuum rating is 27″ Hg @ 72° F.

Connections: Barbed, NPT, BSPT, or UNF straight threads.





For Tube ID	Pipe/ Thread Size	Straights, Male Pipe		Straights, Female Pipe	
NPT Threads					
1/32″	1/4	4406T61	$19.16	4406T64	$21.16
1/16″	1/8	4406T15	4.80	4406T19	11.82
5/64″	1/4	4406T62	11.16	4406T65	17.30
1/8″	1/8	4406T16	4.80	4406T21	11.82
0.17″	1/8	4406T17	5.20	4406T22	11.82
1/4″	1/8	4406T18	5.60	4406T23	15.82
7/16″	1/4	4406T63	19.16	4406T66	21.30
BSPT Threads					
1/16″	1/8	4406T24	4.80		
1/16″	1/4	4406T28	7.12		
1/8″	1/8	4406T25	4.80		
1/8″	1/4	4406T29	7.12		
0.17″	1/8	4406T26	5.20		
0.17″	1/4	4406T31	7.12		
1/4″	1/8	4406T27	5.60		
1/4″	1/4	4406T32	7.88		





For Tube ID	Pipe/ Thread Size	Straights, Male Pipe		Straights, Female Pipe	
UNF Straight Threads					
0.012″	10-32	4406T33 ■	$14.24	4406T41 ■	$14.24
0.02″	10-32	4406T34 ■	14.24	4406T42 ■	14.24
0.025″	10-32	4406T35 ■	14.24	4406T43 ■	14.24
1/32″	10-32	4406T54	17.50	4406T57	17.50
0.04″	10-32	4406T36 ■	14.24	4406T44 ■	14.24
0.058″	10-32	4406T37 ■	14.24	4406T45 ■	14.24
0.062″	10-32	4406T38 ■	14.24	4406T46 ■	14.24
1/16″	10-32	4406T11	5.60	4406T49	9.76
0.078″	10-32	4406T39 ■	14.24	4406T47 ■	14.24
5/64″	10-32	4406T55	5.40	4406T58	9.76
1/8″	10-32	4406T12	5.60	4406T51	9.76
0.17″	10-32	4406T13	5.60	4406T52	9.76
1/4″	10-32	4406T14	5.60	4406T53	13.76
7/16″	10-32	4406T56	17.80	4406T59	17.80

■ Has a straight stem with no barb.

Type 303 Stainless Steel Barbed Tube Fittings

- Maximum Pressure: 275 psi @ 72° F
- Temperature Range: –20° to 750° F
- Tubing: Use with soft and firm (Shore A65-A90) PVC and polyurethane

Made of Type 303 stainless steel, these multi-barbed fittings have a surface treatment for enhanced corrosion resistance. They are for use with water, air, oil, hydraulic fluid, and food and beverage. Material is FDA compliant and meets ASTM A581/A582 or AMS 5640.

Inline tees are also known as branch tees.

Connections: Barbed, NPT threads, or 45° flare.

Tube-to-Threaded Pipe Adapters





Straights, Male Pipe

For Tube ID	Pipe Size		
1/4″	1/8	5670K86	$3.56
1/4″	1/4	5670K84	3.37
1/4″	3/8	5670K82	4.56
3/8″	1/8	5670K87	4.59
3/8″	1/4	5670K85	3.69
3/8″	3/8	5670K83	4.56
3/8″	1/2	5670K81	7.22
1/2″	3/4	5670K88	10.50

90° Elbows, Male Pipe

For Tube ID	Pipe Size		
1/4″	1/8	5670K94	$7.88
1/4″	1/4	5670K93	6.84
1/4″	3/8	5670K99	7.53
3/8″	1/8	5670K95	13.44
3/8″	1/4	5670K91	7.19
3/8″	3/8	5670K92	8.00
1/2″	1/2	5670K96	16.50
1/2″	3/4	5670K97	13.47

Tube-to-45° Flared Tube Adapters

45° flared fittings connect to tubing flared to 45°. Female 45° flared fittings have a nickel-plated brass nut.





For Tube ID	Flared End Thread Size	Straights, Male 45° Flare		Straights, Female 45° Flare	
1/8″	7/16″-20			5670K47	$1.94
1/8″	1/2″-16			5670K28	3.47
1/4″	7/16″-20	5670K51	$2.88	5670K21	1.50
1/4″	1/2″-16	5670K54	2.97	5670K22	2.41
1/4″	5/8″-18	5670K55	4.00	5670K23	2.66
3/8″	7/16″-20	5670K53	2.91	5670K24	3.50
3/8″	1/2″-16	5670K57	2.97	5670K26	2.50
3/8″	5/8″-18	5670K56	4.09	5670K25	2.66
1/2″	3/4″-16			5670K29	4.59

Tube-to-Tube Connectors









For Tube ID	Straights		90° Elbows		Curved 90° Elbows		Tees	
1/8″	5670K14	$3.09					5670K67	$8.44
1/4″	5670K11	1.91	5670K27	$5.16	5670K17	$2.25	5670K31	6.28
3/8″	5670K12	2.31			5670K18	3.59	5670K32	7.03
1/2″	5670K15	3.22			5670K19	6.81	5670K68	12.88



Reducing Straights

For Tube ID (A)	(B)		
1/4″	1/8″	5670K16	$3.31
3/8″	1/8″	5670K41	3.31
3/8″	1/4″	5670K13	2.31
1/2″	1/4″	5670K42	3.41
1/2″	3/8″	5670K43	3.22

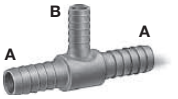

Reducing Inline Tees

For Tube ID (A)	(B)		
1/4″	1/8″	5670K35	$9.34
1/4″	3/8″	5670K33	7.31
3/8″	1/4″	5670K34	7.31
1/2″	1/4″	5670K37	12.81
1/2″	3/8″	5670K36	14.09

Choose-a-Color Aluminum Barbed Tube Fittings

- Maximum Pressure: 125 psi @ 72° F
- Temperature Range: –40° to 230° F
- Tubing: Use with firm (Shore A75-A95) polyethylene and polyurethane

Lightweight aluminum allows for easy handling, while an anodized finish provides good corrosion resistance. Use with water, air, hydraulic fluid, and oil. Fittings have a single barb and do not require a clamp. Vacuum rating is 27″ Hg @ 72° F.

Through-wall straights are also known as bulkhead couplings.

Connections: Barbed or NPT threads, except 10-32 and 1/4″-28 are UNF straight threads, and M5 and M6 are metric straight threads. All straight threads come with a gasket.

To Order: Please specify black, blue, red, or silver, unless noted.

Tube-to-Threaded Pipe Adapters




For Tube ID	Pipe/ Thread Size	Straights, Male Pipe		Straights, Female Pipe	
1/16″	10-32	5058K21	$2.02	5058K35	$6.57
1/16″	1/4″-28	5058K31	2.77	5058K39	7.43
1/16″	1/16	5058K17	4.06	5058K75	7.71
1/16″	1/4	5058K41	4.92	5058K64	9.88
1/8″	10-32	5058K22	2.02	5058K36	6.57
1/8″	1/4″-28	5058K32	2.77	5058K62	7.43
1/8″	1/8	5058K27	4.91	5058K72	7.43
1/8″	1/4	5058K42	4.92	5058K65	9.31
1/8″	M5 x 0.8	5058K275	2.58	5058K97	7.71
1/8″	M6 x 1.0	5058K325	3.13	5058K145	7.71
0.17″	10-32	5058K23	2.02	5058K37	6.57
0.17″	1/4″-28	5058K33	2.77	5058K61	7.43
0.17″	1/4	5058K43	4.92	5058K66	9.31
1/4″	10-32	5058K24	2.14	5058K38	6.57
1/4″	1/4″-28	5058K34	2.98	5058K63	7.43
1/4″	1/8	5058K29	4.91	5058K74	7.43
1/4″	1/4	5058K44	4.84	5058K67	9.31
1/4″	M5 x 0.8	5058K295	2.58	5058K99	7.71
1/4″	M6 x 1.0	5058K345	3.13	5058K165	7.71
3/8″	1/4	5058K45	6.53	5058K68	9.31
1/2″	1/4	5058K46	6.53	5058K69	10.46

Tube-to-Tube Connectors





For Tube ID	Straights		90° Elbows		Tees	
1/16″	5058K11	$1.87	5058K47	$3.05	5058K54	$5.58
1/8″	5058K12	2.06	5058K48	3.43	5058K55	6.34
0.17″	5058K13	2.06	5058K49	3.43	5058K56	6.34
1/4″	5058K14	3.28	5058K51	7.83	5058K57	7.83
3/8″	5058K15	4.20	5058K52	9.11	5058K58	9.78
1/2″	5058K16	4.20	5058K53	9.11	5058K59	9.78



Reducing Straights

For Tube ID (A)	(B)		
1/8″	1/16″	5058K95	$4.86
0.17″	1/8″	5058K94	4.86
1/4″	1/16″	5058K89	4.86
1/4″	1/8″	5058K91	4.86
1/4″	0.17″	5058K92	4.86
3/8″	1/4″	5058K88	6.57
1/2″	1/4″	5058K83	9.43



Through-Wall Straights ▲

For Tube ID	Required Hole Size		
1/16″	3/16″	5058K115	$7.91
1/8″	1/4″	5058K116	8.89
0.17″	5/16″	5058K117	10.51
1/4″	3/8″	5058K118	10.83
3/8″	1/2″	5058K119	22.74
1/2″	3/4″	5058K125	39.89

▲ Color is silver.

Nickel-Plated Brass Barbed Vacuum Tube Fittings

- Maximum Pressure @ 75° F: 150 psi, except swivel elbows and tees are 120 psi
- Temperature Range: –20° to 160° F
- Tubing: Use with firm (Shore A85) polyurethane

A nickel coating protects against corrosive environments. Plus, the plating won't peel or chip, so fittings maintain a bright, polished appearance. Use with water, air, and oil. Fittings have either a single barb or a double barb. They do not require a clamp. Vacuum rating is 28″ Hg @ 75° F.

Tube-to-threaded pipe adapters come with a Buna-N O-ring. **Swivel 90° elbows** and **swivel inline tees** permit easy adjustments in tight spaces. **Inline tees** are also known as branch tees.

Connections: Barbed or UNF straight threads.

Tube-to-Threaded Pipe Adapters





For Tube ID	Thread Size	Straights, Male Pipe		Swivel 90° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe	
1/16″	10-32	2844K11	$1.50	2844K71	$5.77	2844K74	$7.78
5/64″	10-32	2844K12	1.50	2844K72	5.77	2844K75	7.78
1/8″	10-32	2844K13	1.50	2844K73	5.77	2844K76	7.78

Tube-to-Tube Connectors




For Tube ID	Straights		Tees	
1/16″	2844K21	$1.70	2844K41	$5.83
5/64″	———	———	2844K42	5.83
1/8″	2844K22	1.78	2844K43	6.30

Brass Barbed Tube Fittings for Drinking Water

- Maximum Pressure: 160 psi @ 73° F
- Temperature Range: –30° to 180° F
- Tubing: Use with 51275K (PEX) polyethylene for drinking water (see page 139)

When it comes to drinking water applications, these multi-barbed fittings are a handy alternative to solder-joint copper tube fittings. They connect to tubing with a ring and a crimping tool for a quick installation, with no heat or solvents required. Compatible with Viega PEX fittings, they meet NSF/ANSI Standard 61 for use with hot and cold drinking (potable) water. Material meets ASTM F1807.

Connections: Barbed or NPT threads.

Tube-to-Threaded Pipe Adapters





For Tube ID	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Female Pipe	
1/2″	1/2	3528T23	$3.96	3528T25	$6.04	3528T17	$9.89
3/4″	3/4	3528T24	5.84	3528T26	6.80	3528T18	16.12

Tube-to-Tube Connectors





For Tube ID	Straights		90° Elbows		Tees	
3/8″	3528T54	$1.83	3528T14	$3.75	3528T19	$4.74
1/2″	3528T55	1.50	3528T15	2.71	3528T21	3.47
3/4″	3528T56	1.87	3528T16	3.49	3528T22	5.30

Tube-to-Copper Tube Adapters




For Tube ID	Copper Tube Size ♣	Actual Tube OD	Straights, Male Tube End		Straights, Female Socket End	
1/2″	1/2	5/8″	3528T52	$1.92	3528T27	$2.17
3/4″	3/4	7/8″	3528T53	3.44	3528T51	3.65

♣ Tube size is an accepted industry designation, not an actual size.

Accessories

For Tube ID	Crimping Tools Each		Rings Pkg. of 5	
3/8″	3528T59	$174.76	3528T11	$1.56
1/2″	3528T61	174.76	3528T12	1.64
3/4″	3528T62	194.18	3528T13	2.04



Barbed Tube Fittings

For technical drawings and 3-D models, go to mcmaster.com.

For information about selecting pipe size, see pages 2-3. For information about barbed tube fittings, see page 162.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

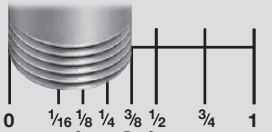

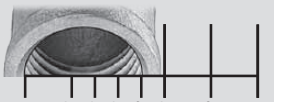

Miniature Brass Barbed Tube Fittings

- Maximum Pressure: 150 psi @ 72° F
- Temperature Range: 32° to 180° F
- Tubing: Use with firm (Shore A85) polyethylene and polyurethane

A good choice for small-diameter tubing, these compact fittings are for use with water, air, and oil. They are made of corrosion-resistant brass with a bright finish and come with a clamp, unless noted. Fittings with 10-32 threads also come with a Buna-N O-ring. Vacuum rating is 28" Hg @ 72° F.

Connections: Barbed or UNF straight threads, except 1/16 and 1/8 pipe sizes are NPT threads.





For Tube ID	Pipe/ Thread Size	Straights, Male Pipe Lg.		Pkg. of 10	Swivel Straights, Male Pipe Lg.		Pkg. of 5
1/16"	3-56	1/4"	5454K74■	$4.69	—	—	—
1/16"	10-32	9/16"	5454K61	10.49	—	—	—
1/8"	10-32	5/8"	5454K62	12.09	7/8"	5454K66■	$13.36
1/8"	10-32	13/16"	5454K63	12.09	—	—	—
1/8"	1/16	11/16"	5454K64▲	9.25	—	—	—
1/8"	1/8	1"	5454K65▲	8.72	1 1/8"	5454K67■	12.26
Repl. Buna-N O-Rings—5/32" ID x 15/64" OD (Pkg. of 25)						5454K21	$1.75

■ Clamp not included. ▲ Pkg. of 5.

High-Pressure Miniature Brass Barbed Tube Fittings

- Maximum Pressure: 750 psi @ 125° F
- Temperature Range: –40° to 250° F
- Tubing: Use with soft and firm (Shore A65-A90) polyurethane

When space is at a premium and withstanding pressure is a must, choose the highest pressure miniature barbed fittings we sell. The edge of a single barb bites into tubing for a tight seal that minimizes leaks. Fittings are for use with water, air, oil, and freon. They have a corrosion-resistant brass body with a Type 321 stainless steel barb.

Connections: Barbed or NPT threads.





For Tube ID	Straights, Male Pipe 1/8 Pipe Size		Straights, Male Pipe 1/4 Pipe Size		Straights, Female Pipe 1/8 Pipe Size		Straights, Female Pipe 1/4 Pipe Size	
0.031"	50745K11	$10.52	50745K31	$10.52	50745K21	$10.52	50745K41	$10.52
0.04"	50745K12	10.52	50745K32	10.52	50745K22	10.52	50745K42	10.52
0.05"	50745K13	10.52	50745K33	10.52	50745K23	10.51	50745K43	10.52
1/16"	50745K14	10.52	50745K34	10.52	50745K24	10.52	50745K44	10.52
3/32"	50745K15	10.52	50745K35	10.52	50745K25	10.52	50745K45	10.52
1/8"	50745K16	10.52	50745K36	10.52	50745K26	10.52	50745K46	10.52

Brass Barbed Tube Fittings for Vacuum

- Max. Pressure: 100 psi @ 73° F
- Temp. Range: –65° to 75° F
- Tubing: Use with firm (Shore A95) polyurethane

The two-barb design on these fittings provides more contact with tubing, achieving a tight grip without clamps for full-vacuum applications. Fittings are for use with water and air. Vacuum rating is 29.9" Hg @ 72° F.

Inline tees are also known as branch tees, **right angle tees** are also known as run tees, and **through-wall straights** are also known as bulkhead couplings.

Connections: Barbed or NPTF (Dryseal) threads, which are compatible with NPT threads.

Tube-to-Threaded Pipe Adapters













For Tube ID	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe		90° Elbows, Female Pipe		Inline Tees, Male Pipe		Right Angle Tees, Male Pipe	
0.096"	1/8	44555K126	$3.91	44555K122	$5.49	44555K145	$7.37	—	—	—	—	—	—
0.17"	1/16	44555K127	1.77	—	—	44555K146	4.23	—	—	44555K158	$12.86	—	—
0.17"	1/8	44555K128	1.23	44555K123	3.20	44555K147	2.69	44555K153	$3.31	44555K159	6.57	44555K155	$6.65
0.17"	1/4	44555K129	2.74	—	—	44555K148	2.86	—	—	—	—	—	—
1/4"	1/8	44555K131	2.29	44555K124	4.46	44555K149	3.60	—	—	44555K161	7.97	44555K156	9.20
1/4"	1/4	44555K132	3.03	44555K125	6.60	44555K151	5.71	44555K154	6.83	44555K162	7.97	44555K157	13.29
3/8"	1/4	44555K133	2.29	—	—	44555K182	8.85	—	—	—	—	—	—
3/8"	3/8	44555K134	5.77	—	—	44555K183	8.27	—	—	—	—	—	—
3/8"	1/2	44555K135	8.43	—	—	—	—	—	—	—	—	—	—

Tube-to-Tube Connectors







For Tube ID	Straights		90° Elbows		Tees		Plugs		Through-Wall Straights	
0.096"	44555K111	$1.60	44555K141	$4.26	44555K136	$3.74	—	—	—	—
0.17"	44555K112	1.43	44555K142	2.43	44555K137	2.51	44555K192	$1.18	44555K119	$6.77
1/4"	44555K113	2.17	44555K143	3.74	44555K138	3.66	44555K193	2.13	44555K121	7.71
3/8"	44555K184	2.88	44555K185	6.25	44555K186	4.49	—	—	—	—
0.377"	—	—	—	—	—	—	44555K194	3.13	—	—



Reducing Straights

For Tube ID (A)	(B)		
0.17"	0.096"	44555K115	$3.20
1/4"	0.17"	44555K116	2.97
3/8"	0.17"	44555K187	3.52
3/8"	1/4"	44555K188	2.55

Reducing Inline Tees

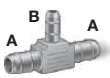

For Tube ID (A)	(B)			For Tube ID (A)	(B)		
0.17"	0.096"	44555K171	$4.37	3/8"	0.17"	44555K189	$5.67
1/4"	0.096"	44555K172	5.66	3/8"	1/4"	44555K191	6.30
1/4"	0.17"	44555K173	2.69				

About Compression Tube Fittings

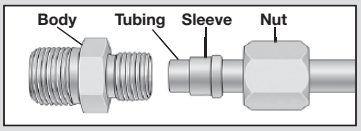

Compression fittings form a tight seal around the outside of hard plastic and soft metal tubing, without the need for flaring or soldering. Most compression fittings consist of a body and nut, as well as a sleeve (ferrule) or gripping ring. To install, insert the tubing into the body and tighten the nut.

Application	Fitting	Page
Air	Polypropylene	173
Air and Water	Brass	176-177
Food and Beverage	Sanitary PVDF	175
Fuel and Oil	Vibration-Resistant Brass	179
Chemicals	Chemical-Resistant PFA	174
High Temperature	Type 316 Stainless Steel	181
High Pressure	Extreme-Pressure Type 316 SS	182

Polypropylene Compression Tube Fittings for Air

- Maximum Pressure: 220 psi @ 70° F
- Temperature Range: –30° to 215° F
- Tubing: Use with firm and hard polypropylene, polyethylene, and nylon

A built-in sleeve (ferrule) means you won't have to disassemble these fittings to install them. Fittings are white and also include a nut. Sterilize with ethylene oxide and steam (autoclaving).

Inline tees are also known as branch tees. **Tube supports** (sold separately) are recommended for polypropylene, polyethylene, and nylon tubing with a hardness of Shore A70 or less.

Connections: Compression or NPT threads.

Tube-to-Threaded Pipe Adapters







For Tube OD	Pipe Size	Pkg. Qty.	Straights, Male Pipe	Pkg.	Straights, Female Pipe	Pkg.	90° Elbows, Male Pipe	Pkg.	90° Elbows, Female Pipe	Pkg.	Inline Tees, Male Pipe	Pkg.
6 mm	1/8	2	5016K381	$4.43								
6 mm	1/4	2	5016K382	4.72			5016K385	$6.48				
1/4"	1/8	5	5016K411	4.00	5016K911	$5.11	5016K611	5.79	5016K125	$7.32	5016K811	$8.32
1/4"	1/4	5	5016K422	4.32	5016K922	5.37	5016K622	5.84	5016K135	7.42	5016K822	9.89
1/4"	3/8	5	5016K423	4.42			5016K681	6.84				
5/16"	1/4	5	5016K477	4.47	5016K977	5.58	5016K677	6.32	5016K145	8.16	5016K877	10.63
3/8"	1/4	5	5016K488	5.16	5016K988	6.32	5016K688	7.32	5016K156	8.89	5016K889	11.47
3/8"	3/8	5	5016K444	5.68	5016K944	6.53	5016K644	7.58	5016K165	9.95	5016K844	11.84
3/8"	1/2	5	5016K446	6.68	5016K949	7.42						
10 mm	1/8	2	5016K383	5.63								
10 mm	1/4	2	5016K384	5.70			5016K386	8.02				
1/2"	1/4	5	5016K491	8.53			5016K112	8.11				
1/2"	3/8	5	5016K499	6.89	5016K991	7.58	5016K699	8.79	5016K175	11.63	5016K899 ★	2.99
1/2"	1/2	5	5016K466	7.32	5016K966	8.00	5016K666	8.84	5016K185	13.26	5016K866 ★	3.04
5/8"	3/8	5	5016K455	7.95			5016K655	10.32				
5/8"	1/2	2	5016K456	3.22	5016K933	4.97	5016K656	4.25	5016K195	6.80	5016K855	6.95
3/4"	1/2	1	5016K457	2.65							5016K856	5.04
3/4"	3/4	1	5016K458	2.77							5016K857	5.13

★ Package quantity is 1.

Tube-to-Tube Connectors





For Tube OD	Pkg. Qty.	Straights	Pkg.	90° Elbows	Pkg.	Tees	Pkg.
1/4"	5	5016K522	$6.42	5016K111	$8.16	5016K722	$10.74
5/16"	5	5016K577	6.68	5016K122	8.63	5016K777	11.21
3/8"	5	5016K544	8.63	5016K133	10.84	5016K744	14.21
1/2"	2	5016K566	4.42	5016K144	5.31	5016K766	6.82
5/8"	1	5016K555	2.57	5016K155	4.44	5016K755	3.72
3/4"	1	5016K588	4.13	5016K205	6.54	5016K788	6.36

Replacement Parts and Accessories




For Tube OD	Pkg. Qty.	Nuts	Pkg.	For Tube ID	Tube Supports	Pkg.
1/4"	10	5016K222	$4.84	3/16"	5016K322	$1.26
5/16"	10	5016K277	5.05	3/16"	5016K377	1.47
3/8"	10	5016K244	6.11	1/4"	5016K344	1.68
1/2"	10	5016K266	7.47	3/8"	5016K366	2.21
5/8"	10	5016K233	8.32			
3/4"	5	5016K234	7.84			

Moisture-Resistant Acetal Compression Tube Fittings

Good for humid environments, these fittings are made of acetal, which won't absorb moisture. Maximum pressure is 220 psi @ 70° F. Temperature range is –40° to 200° F. Use with firm and hard polypropylene, polyethylene, and nylon tubing.

For pricing, specifications such as pipe size, and a list of common applications, go to mcmaster.com and search for the part number below.

To Order: Please specify tube OD, pipe size, and male or female pipe (where applicable).

Available Shapes	For Tube ODs	
Tube-to-Threaded Pipe Adapters		
Straights (Male Pipe; Female Pipe)	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	5694T511
90° Elbows (Male Pipe; Female Pipe)	1/4", 5/16", 3/8", 1/2", 5/8"	5694T512
Inline Tees (Male Pipe)	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	5694T513
Tube-to-Tube Connectors		
Straights	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	5694T514
90° Elbows	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	5694T515
Tees	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	5694T516
Replacement Parts and Accessories		
Nuts	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	5694T517
Tube Supports	1/4", 5/16", 3/8", 1/2"	5694T518

Compression Tube Fittings

For technical drawings and 3-D models, go to mcmaster.com.

For information about selecting pipe size, see pages 2-3. For information about compression tube fittings, see page 173.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

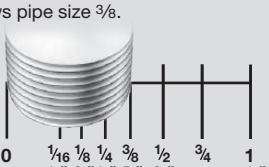

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
OD (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

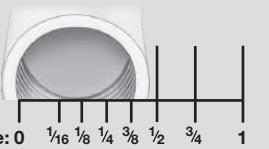

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
ID (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

Durable Nylon Compression Tube Fittings

- Maximum Pressure (with copper tubing):
  1/4" and 5/16" OD: 300 psi @ 73° F
  3/8" OD: 250 psi @ 73° F
  1/2" OD: 200 psi @ 73° F
- Temperature Range: –40° to 200° F
- Tubing: Use with copper, firm and hard polyurethane (Shore A85-A95), polypropylene, polyethylene, and nylon

When it comes to durability, you can't beat the excellent impact and abrasion resistance of these semi-clear white nylon fittings. They are for use with water, air, and food and beverage. They include a nut, a sleeve (ferrule), a Type 302 stainless steel gripping ring for securing the tubing, and a Buna-N O-ring. Fittings are made of FDA-compliant resins and meet NSF/ANSI Standard 51. Vacuum rating is 25" Hg @ 72° F.

Inline tees are also known as branch tees, **right angle tees** are also known as run tees, and **through-wall straights** are also known as bulkhead couplings.

Nuts include a sleeve, a Type 302 stainless steel gripping ring, and a Buna-N O-ring. Note: The nuts for these fittings have a unique thread style that allows them to work only with the fittings shown below.

Tube supports (sold separately) are recommended for soft polyurethane tubing.

Connections: Compression or NPTF (Dryseal) threads, which are compatible with NPT threads.

Tube-to-Threaded Pipe Adapters








For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe		90° Elbows, Female Pipe		Inline Tees, Male Pipe		Right Angle Tees, Male Pipe	
1/4"	1/8	50775K327	$1.39	50775K309	$2.52	50775K341	$1.85	50775K379	$2.46	50775K355	$3.59	50775K389	$3.72
1/4"	1/4	50775K329	1.39	50775K311	2.70	50775K343	1.91	50775K381	3.26	50775K357	3.70		
5/16"	1/4	50775K331	1.57			50775K345	2.43						
3/8"	1/4	50775K333	1.70	50775K313	2.41	50775K347	2.11	50775K383	3.17	50775K359	5.33	50775K391	9.70
3/8"	3/8	50775K335	1.78	50775K315	2.72	50775K349	2.46	50775K385	2.89	50775K361	4.78		
1/2"	3/8	50775K337	2.46	50775K317	3.85	50775K351	2.91	50775K387	3.63	50775K363	5.80	50775K393	6.98
1/2"	1/2	50775K339	2.39	50775K356	4.67	50775K353	3.00	50775K358	3.26				

Tube-to-Tube Connectors






For Tube OD	Straights		90° Elbows		Tees		Through-Wall Straights, Required Hole Size	
1/4"	50775K301	$2.41	50775K319	$2.96	50775K395	$4.09	5/8"	50775K373 $5.17
5/16"	50775K303	2.91	50775K321	3.28	50775K397	4.54	5/8"	50775K374 9.11
3/8"	50775K305	2.91	50775K323	3.72	50775K399	4.50	3/4"	50775K375 6.96
1/2"	50775K307	3.33	50775K325	4.22	50775K401	5.98	15/16"	50775K377 7.26

Replacement Parts and Accessories




For Tube OD	Nuts, Each		For Tube ID	Tube Supports, Pkg. of 10	
1/4"	50775K365	$1.96	3/16"	50775K403	$6.52
5/16"	50775K367	2.78	3/16"	50775K405	11.30
3/8"	50775K369	2.29	1/4"	50775K407	6.30
1/2"	50775K371	2.69	3/8"	50775K409	7.17

Chemical-Resistant PFA Compression Tube Fittings

- Maximum Pressure: 125 psi @ 70° F
- Temperature Range: 0° to 350° F
- Tubing: Use with hard PFA (Shore D60) and PTFE (Shore D50-D65)

Made of PFA (perfluoroalkoxy), these fittings have the best chemical resistance of all the compression fittings we offer. Use with hydrochloric and sulfuric acids, as well as with water, air, and oil. Fittings are semi-clear white and are made of FDA-compliant resins. They include a nut, an ETFE gripping ring, and a PTFE sleeve (ferrule).

Inline tees are also known as branch tees, and **through-wall straights** are also known as bulkhead couplings.

Connections: Compression or NPT threads.

Tube-to-Threaded Pipe Adapters







For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe		Inline Tees, Male Pipe		Through-Wall Straights, Male Pipe, Required Hole Size		
1/8"	1/8	52195K51	$29.72	52195K71	$31.36	52195K46	$21.72	52195K13	$41.02			
1/4"	1/8	52195K52	31.28	52195K72	39.28	52195K47	33.40	52195K11	40.14			
1/4"	1/4	52195K53	31.04	52195K73	39.28	52195K48	33.16	52195K14	39.80	1/2"	52195K124	$40.52
1/4"	3/8	52195K54	32.48	52195K74	42.06	52195K481	34.26					
1/4"	1/2	52195K55	35.74	52195K75	42.06	52195K482	35.06					
3/8"	1/4	52195K56	36.28	52195K77	44.00	52195K49	34.76	52195K112	45.44			
3/8"	3/8	52195K57	36.52	52195K78	44.00	52195K85	35.32	52195K15	45.44	5/8"	52195K125	44.16
3/8"	1/2	52195K58	36.26	52195K79	44.00	52195K86	35.06	52195K113	45.44			
1/2"	1/4	52195K64	38.84	52195K36	54.06	52195K27	35.94	52195K116	61.16			
1/2"	3/8	52195K65	39.14	52195K37	54.06	52195K28	35.94					
1/2"	1/2	52195K66	38.56	52195K38	53.66	52195K29	35.94	52195K118	61.86	3/4"	52195K126	47.74
3/4"	3/4	52195K63	54.98	52195K84	77.52	52195K891	55.38	52195K17	76.54	1"	52195K127	70.78

(Continued on following page)

Chemical-Resistant PFA Compression Tube Fittings *(Continued from previous page)*

Tube-to-Tube Connectors





For Tube OD	Straights		90° Elbows		Tees	
1/8"	52195K21	$30.32	52195K31	$31.36	52195K41	$39.80
1/4"	52195K22	36.34	52195K32	36.60	52195K42	49.90
3/8"	52195K23	41.58	52195K33	41.58	52195K43	55.24
1/2"	52195K18	51.44	52195K19	51.88	52195K39	72.46
3/4"	52195K25	72.44	52195K35	72.98	52195K45	98.84

Sanitary PVDF Compression Tube Fittings

- Maximum Pressure: 50 psi @ 70° F
- Temperature Range: –40° to 275° F
- Tubing: Use with soft, firm, and hard polypropylene, polyethylene, and nylon

These fittings are made of FDA and USDA compliant resins, which makes them a good choice for food and beverage. You can also use them with air and oil. Fittings are made of semi-clear white PVDF (polyvinylidene fluoride), which is also known as Kynar. They include a nut with a built-in sleeve (ferrule), so there's no need to disassemble the fittings for installation. Sterilize with steam (autoclaving).

Inline tees are also known as branch tees. **Tube supports** (sold separately) are recommended for polypropylene, polyethylene, and nylon tubing with a hardness of Shore A70 or less.

Connections: Compression or NPT threads.

Tube-to-Threaded Pipe Adapters







For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe		90° Elbows, Female Pipe		Inline Tees, Male Pipe	
1/8"	1/8	5533K433	$2.92			5533K633	$3.33				
1/8"	1/4							5533K115	$3.49		
1/4"	1/8	5533K411	3.34	5533K911	$3.34	5533K611	3.54	5533K125	3.71	5533K811	$4.80
1/4"	1/4	5533K422	3.51	5533K922	3.63	5533K622	3.63	5533K135	3.91	5533K822	5.00
1/4"	3/8	5533K423	4.16			5533K681	5.51				
5/16"	1/4	5533K477	3.78	5533K977	3.93	5533K677	4.13	5533K145	4.25	5533K877	5.49
3/8"	1/4	5533K488	5.28	5533K988	5.28	5533K688	5.40	5533K155	5.61	5533K888	8.36
3/8"	3/8	5533K444	5.52	5533K944	5.35	5533K644	5.52	5533K165	5.76	5533K844	8.49
3/8"	1/2	5533K446	6.25	5533K949	6.09						
1/2"	1/4	5533K491	7.01								
1/2"	3/8	5533K499	6.33	5533K991	6.20	5533K699	6.45	5533K175	7.15	5533K899	10.52
1/2"	1/2	5533K466	6.75	5533K966	6.59	5533K666	7.15	5533K185	7.58	5533K866	11.21

Tube-to-Tube Connectors





For Tube OD	Straights		90° Elbows		Tees	
1/8"					5533K711	$4.92
1/4"	5533K522	$4.49	5533K111	$4.49	5533K722	5.96
5/16"	5533K577	5.40	5533K122	4.92	5533K777	6.67
3/8"	5533K544	7.60	5533K133	7.60	5533K744	10.68
1/2"	5533K566	9.56	5533K144	9.81	5533K766	13.32

Replacement Parts and Accessories




For Tube OD	Nuts		For Tube ID	Tube Supports	
		Each			Pkg. of 10
1/8"	5533K211	$0.95			
1/4"	5533K222	1.16	3/16"	5533K322	$2.11
5/16"	5533K277	1.31	3/16"	5533K377	2.21
3/8"	5533K244	2.34	1/4"	5533K344	2.42
1/2"	5533K266	2.82	3/8"	5533K366	3.16

D.O.T. Brass Compression Fittings for Nylon Tubing

- Maximum Pressure: 150 psi @ 72° F
- Temperature Range: –40° to 200° F
- Tubing: Use with hard nylon

These fittings meet Department of Transportation FMVSS 571 criteria for air brake lines. Use with air only. Fittings come with a nut and a brass sleeve (ferrule).

Connections: Compression or NPTF (Dryseal) threads, which are compatible with NPT threads.

Tube-to-Threaded Pipe Adapters





For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe	
1/4"	1/8	51835K231	$5.30	51835K301	$5.61	51835K251	$4.22
1/4"	1/4	51835K232	4.91	51835K302	7.34	51835K252	7.54
3/8"	1/8	51835K234	4.60	51835K303	6.29	51835K253	5.01
3/8"	1/4	51835K235	3.43	51835K224	7.07	51835K254	4.85
3/8"	3/8	51835K236	4.78	51835K304	9.05	51835K255	5.76
1/2"	3/8	51835K239	9.01	51835K226	11.33	51835K258	8.70

Tube-to-Tube Connectors




For Tube OD	Straights		Tees	
1/4"	51835K201	$5.25	51835K206	$10.13
3/8"	51835K202	5.81	51835K207	11.74
1/2"	51835K203	14.79	51835K208	18.30

Replacement Parts




For Tube OD	Nuts			Sleeves		
	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
1/4"	10	51835K291	$8.91	10	51835K281	$3.77
3/8"	10	51835K292	9.81	10	51835K282	4.07
1/2"	5	51835K293	8.82	10	51835K283	6.53

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

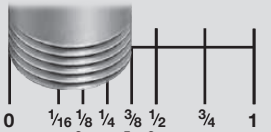

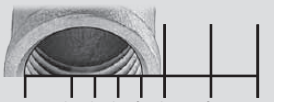

Brass Compression Tube Fittings

- Maximum Pressure: See chart at right
- Temperature Range: –65° to 250° F
- Tubing: Use with copper, aluminum, firm and hard polypropylene, polyethylene, and nylon

Also known as flareless fittings, these brass fittings are the most commonly used compression tube fitting. They are UL listed for flammable liquids, and can also be used with air, water, oil, and drinking water (where noted).

Standard fittings must be disassembled for installation. They meet SAE J512 and include a nut and a sleeve (ferrule). **Plastic sleeves** (sold separately) are required for plastic tubing.

Easy-align fittings have a sleeve built into the nut, so they are always positioned for correct installation. They do not have to be disassembled to install and can be used on plastic tubing without changing the sleeve material.

Inline tees are also known as branch tees, and **right angle tees** are also known as run tees.

Long nuts have extra surface area contacting the tubing for high-vibration applications. **Tube supports** (sold separately) are recommended for soft polypropylene and polyethylene tubing.

Connections: Compression or NPTF (Dryseal) threads, which are compatible with NPT threads.

Max. Pressure (psi) @ 72° F

For Tube OD	Tube Wall Thick.	Standard	Easy-Align
1/8"	0.030"	400	2,800
3/16"	0.030"	400	1,900
1/4"	0.030"	300	1,400
5/16"	0.032"	300	1,200
3/8"	0.032"	200	1,000
1/2"	0.032"	200	750
5/8"	0.035"	150	650
3/4"	0.035"	100	550
1"	0.035"	—	350

Tube-to-Threaded Pipe Adapters





For Tube OD	Pipe Size	*Straights, Male Pipe* Standard		*Straights, Male Pipe* Easy-Align		*Straights, Female Pipe* Standard		*Straights, Female Pipe* Easy-Align		*90° Elbows, Male Pipe* Standard		*90° Elbows, Male Pipe* Easy-Align	
1/8"	1/8	50915K311	$1.78	5220K61	$2.33	50915K211	$2.70	5220K31	$3.41	50915K711	$3.11	5220K91	$3.59
3/16"	1/8	50915K312	1.96	5220K62	2.44	50915K212	2.96	5220K32	3.56	50915K712	4.81	5220K92	4.85
3/16"	1/4	50915K313	3.63	5220K63	4.52	50915K213	8.74	5220K33	9.22	50915K713	10.89	5220K93	10.56
1/4"	1/8	50915K314	1.81	5220K64	2.15	50915K214	2.00	5220K34	2.48	50915K714	2.96	5220K94	3.22
1/4"	1/4	50915K315	2.37	5220K65	2.81	50915K215	4.37	5220K35	4.48	50915K715	3.33	5220K95	3.70
1/4"	3/8	50915K316	4.33	5220K66	4.74	50915K216	11.47	—	—	50915K716	8.85	5220K96	9.59
5/16"	1/8	50915K317	2.37	5220K67	3.04	50915K217	5.56	5220K36	5.96	50915K717	5.85	5220K97	6.70
5/16"	1/4	50915K318	2.67	5220K68	3.41	50915K218	8.52	5220K37	7.44	50915K718	5.59	5220K98	6.63
5/16"	3/8	50915K319	10.44	5220K69	13.23	50915K219	14.87	5220K332	25.80	50915K719	15.17	5220K99	16.57
5/16"	1/2	50915K321	12.60	5220K71	11.50	50915K221	21.87	—	—	50915K721	22.03	—	—
3/8"	1/8	50915K422	2.56	5220K72	3.04	50915K222	3.78	5220K38	4.26	50915K722	4.85	5220K102	5.56
3/8"	1/4	50915K323	2.33	5220K73	2.93	50915K223	4.30	5220K39	5.59	50915K723	4.74	5220K103	4.93
3/8"	3/8	50915K324	3.33	5220K74	4.00	50915K224	6.48	5220K41	6.63	50915K724	5.63	5220K104	6.00
3/8"	1/2	50915K325	5.22	5220K75	5.56	50915K225	10.52	5220K334	9.30	50915K725	8.41	5220K105	9.63
1/2"	1/4	50915K326	4.78	5220K76	5.85	50915K226	9.26	5220K42	8.78	50915K727	10.43	5220K107	11.40
1/2"	3/8	50915K327	4.67	5220K77	5.44	50915K227	9.44	5220K43	8.78	50915K726	7.70	5220K106	8.15
1/2"	1/2	50915K328	6.15	5220K78	6.67	50915K228	12.37	5220K44	10.81	50915K728	9.15	5220K108	10.33
1/2"	3/4	50915K329	16.83	5220K79	17.50	50915K229	30.47	—	—	50915K729	23.67	5220K109	21.77
5/8"	3/8	50915K331	10.37	5220K81	11.48	50915K231	23.30	5220K45	27.27	50915K732	17.93	5220K112	19.43
5/8"	1/2	50915K332	8.11	5220K82	8.41	50915K232	11.96	5220K46	12.48	50915K731	10.23	5220K111	11.93
5/8"	3/4	50915K335	13.56	5220K441	13.11	—	—	—	—	50915K733	28.97	5220K113	33.20
3/4"	1/2	50915K333	12.00	5220K83	12.27	50915K233	32.97	5220K47	31.80	50915K736	23.10	5220K221	21.33
3/4"	3/4	50915K334	12.80	5220K84	13.33	50915K234	36.47	—	—	50915K735	18.80	5220K114	20.37
1"	3/4	—	—	5220K85	29.60	—	—	—	—	—	—	5220K251	68.70





For Tube OD	Pipe Size	*90° Elbows, Female Pipe* Standard		*90° Elbows, Female Pipe* Easy-Align		*Inline Tees, Male Pipe* Standard		*Inline Tees, Male Pipe* Easy-Align		*Right Angle Tees, Male Pipe* Standard		*Right Angle Tees, Male Pipe* Easy-Align	
1/8"	1/8	50915K161	$5.74	5220K121	$6.41	50915K511	$7.81	5220K156	$9.00	50915K411	$9.52	5220K144	$10.93
3/16"	1/8	50915K162	8.48	5220K122	8.93	50915K512	8.33	5220K157	10.56	50915K412	11.12	5220K145	9.90
1/4"	1/8	50915K163	4.30	5220K123	8.07	50915K513	6.33	5220K158	7.85	50915K413	7.00	5220K146	7.56
1/4"	1/4	50915K164	7.56	5220K124	8.00	50915K514	7.41	5220K159	8.81	50915K414	7.92	5220K147	8.96
1/4"	3/8	50915K165	14.27	5220K222	16.73	—	—	—	—	—	—	—	—
5/16"	1/8	50915K166	12.43	—	—	50915K515	15.93	—	—	50915K415	19.16	—	—
5/16"	1/4	50915K167	14.70	—	—	—	—	—	—	—	—	5220K149	17.60
3/8"	1/8	50915K168	11.19	5220K127	13.07	50915K517	12.13	5220K163	14.43	50915K417	19.56	—	—
3/8"	1/4	50915K169	8.15	5220K128	8.93	50915K518	8.44	5220K164	10.59	50915K418	8.68	5220K152	10.00
3/8"	3/8	50915K171	12.22	5220K129	11.96	50915K519	11.23	5220K165	12.30	50915K419	22.00	5220K153	18.40
3/8"	1/2	50915K172	15.27	5220K223	15.23	—	—	—	—	—	—	—	—
1/2"	1/4	50915K173	20.07	—	—	—	—	—	—	—	—	—	—
1/2"	3/8	50915K174	9.57	5220K132	10.80	50915K521	15.90	5220K166	16.27	50915K421	34.32	5220K154	23.40
1/2"	1/2	50915K175	20.73	5220K133	17.53	50915K522	29.77	5220K167	30.87	50915K423	40.52	5220K155	33.23
5/8"	1/2	50915K176	21.03	5220K134	19.67	—	—	—	—	—	—	—	—
3/4"	3/4	50915K248	29.52	5220K281	30.86	—	—	5220K282	61.10	—	—	—	—

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Brass Compression Tube Fittings *(Continued from previous page)*

Tube-to-Tube Connectors





For Tube OD	Straights				90° Elbows				Tees			
	Standard		Easy-Align		Standard		Easy-Align		Standard		Easy-Align	
1/8"	50915K131	$2.96	5220K21	$4.11	50915K141	$13.52	5220K51	$12.30	50915K151	$7.48	5220K135	$9.67
3/16"	50915K132	3.15	5220K22	4.26	50915K142	6.81	5220K52	6.81	50915K152	12.48	5220K136	12.10
1/4"	50915K133	2.59	5220K23	3.26	50915K143	5.93	5220K53	6.37	50915K153	7.96	5220K137	8.70
5/16"	50915K134	3.74	5220K24	4.70	50915K144	8.44	5220K54	9.63	50915K154	9.67	5220K138	10.80
3/8"	50915K135	3.56	5220K25	4.33	50915K145	5.63	5220K55	7.37	50915K155	7.74	5220K139	9.37
1/2"	50915K136	7.41	5220K26	8.37	50915K146	11.63	5220K56	12.28	50915K156	13.77	5220K141	16.70
5/8"	50915K137	11.00	5220K27	12.53	50915K147	18.07	5220K57	19.93	50915K157	28.57	5220K142	29.00
3/4"	50915K138	22.50	5220K28	21.87	50915K148	34.17	5220K58	51.67	50915K254	46.14	5220K287	57.14
1"							5220K59	95.43				

Tube-to-Tube Connectors (Cont.)

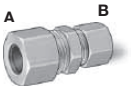

For Tube OD (A)	(B)	Reducing Straights			
		Standard		Easy-Align	
1/4"	3/16"	50915K249	$9.45	5220K283	$10.72
3/8"	1/4"	50915K251	8.29	5220K284	11.28
1/2"	3/8"	50915K252	21.24	5220K285	20.62
5/8"	3/8"	50915K253	23.69	5220K286	25.16

Replacement Parts—Easy-Align



Nuts

For Tube OD	Lg.		
1/8"	3/8"	5220K201	$1.30
3/16"	3/8"	5220K202	1.26
1/4"	3/8"	5220K203	1.11
5/16"	7/16"	5220K204	1.41
3/8"	7/16"	5220K205	1.22
1/2"	1/2"	5220K206	2.37
5/8"	1/2"	5220K207	3.85
3/4"	9/16"	5220K208	6.85
1"	5/8"	5220K209	17.20

Replacement Parts and Accessories—Standard







For Tube OD	Nuts			Long Nuts			Sleeves				Tube Supports	
	Lg.		Each	Lg.		Each	Brass	Pkg. of 10	Plastic	Pkg. of 10	For Tube ID	Pkg. of 10
1/8"	3/8"	50915K121	$0.59	1/2"	50915K101	$3.52	50915K611	$2.51			1/16"	50915K241 $6.40
3/16"	3/8"	50915K122	.63	5/8"	50915K102	1.76	50915K612	2.51			1/8"	50915K242 7.78
1/4"	7/16"	50915K123	.63	3/4"	50915K103	1.19	50915K613	2.51	50915K193	$2.78	1/8"	50915K243 9.63
5/16"	7/16"	50915K124	.78	13/16"	50915K104	10.96	50915K614	3.30	50915K194	5.30	3/16"	50915K244 8.52
3/8"	7/16"	50915K125	.78	15/16"	50915K105	2.48	50915K615	2.54	50915K195	5.11	1/4"	50915K245 6.67
1/2"	5/8"	50915K126	1.63	1 1/16"	50915K106	7.56	50915K616	6.18	50915K196	6.12	3/8"	50915K246 11.67
5/8"	5/8"	50915K127	2.26	1 3/16"	50915K107	16.72	50915K617	6.67	50915K197	8.05	1/2"	50915K247★ 16.17
3/4"	11/16"	50915K128	4.85	1 3/8"	50915K108	7.78	50915K618	8.06				

★ Package quantity is 5.

Tube-to-Threaded Pipe Adapters and Replacement Parts for Drinking Water

These fittings meet NSF/ANSI standards for use with drinking (potable) water.




For Tube OD	Pipe Size	Straights, Male Pipe Easy-Align		90° Elbows, Male Pipe Easy-Align	
1/4"	1/4	5220K291	$9.90		
3/8"	1/4	5220K292	9.31	5220K288	$24.97
3/8"	3/8			5220K289	24.79



Nuts

For Tube OD	Easy-Align	
1/4"	5220K211	$2.08
3/8"	5220K212	2.52

Metric Brass Compression Tube Fittings

- Maximum Pressure: 1,087 psi @ 72° F
- Temperature Range: –40° to 212° F
- Use with copper and firm and hard polypropylene, polyethylene, and nylon

Sized for metric tubing, these brass fittings must be disassembled for installation. A nut and sleeve are included. Use with water, air, and oil.

Connections: Compression or NPT threads.

Tube-to-Threaded Pipe Adapters




For Tube OD	Pipe Size	Straights, Male Pipe		90° Elbows, Male Pipe	
6 mm	1/4	2815K45	$8.92	2815K67	$15.36
8 mm	1/4	2815K46	8.36	2815K68	16.92
10 mm	3/8	2815K47	28.56		

Replacement Parts




For Tube OD	Nuts		Sleeves	
6 mm	2815K16	$2.64	2815K75	$0.76
8 mm	2815K17	3.00	2815K76	.84
10 mm	2815K18	5.12	2815K77	1.24

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

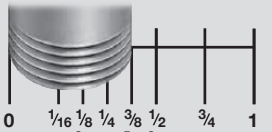

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
OD (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

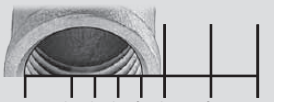

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
ID (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

Quick-Assembly Brass Compression Tube Fittings

- Maximum Pressure @ 72° F:
  With Plastic Tubing: 150 psi
  With Copper Tubing: 300 psi
- Temperature Range:
  With Plastic Tubing: 0° to 150° F
  With Copper Tubing: 0° to 175° F
- Tubing: Use with firm and hard polypropylene and polyethylene, except where noted; fittings with brass sleeves are also for use with copper and hard nylon

When convenience is key, choose these fittings that have the sleeve (ferrule) built into the nut. There's no need to remove the nut for assembly, and the sleeve is always positioned correctly for installation. Use with water, air, and oil. Fittings have a black acetal sleeve and also come with a tube support, except the fittings with 1/8" tube OD have a brass sleeve and no tube support.

Inline tees are also known as branch tees. **Tube supports** (sold separately) are for use with soft polypropylene and polyethylene tubing.

Connections: Compression or NPTF (Dryseal) threads, except 10-32 are UNF straight threads. NPTF threads are compatible with NPT threads.

Tube-to-Threaded Pipe Adapters






For Tube OD	Pipe/ Thread Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe		Inline Tees, Male Pipe	
1/8"	10-32	5454K73 ■	$1.84						
1/8"	1/16	5053K44	3.17			5053K57	$6.58		
1/4"	1/8	5053K47	2.28	5053K37	$2.13	5053K61	4.48	5053K73	$7.25
1/4"	1/4	5053K48	2.54	5053K38	4.71	5053K62	5.12	5053K74	9.52
5/16"	1/8	5053K49	5.34	5053K39	5.87	5053K63	7.48	5053K75	10.77
5/16"	1/4	5053K51	6.96						
3/8"	1/8	5053K52	2.63			5053K64	5.20	5053K76	17.20
3/8"	1/4	5053K53	3.00	5053K41	5.22	5053K65	5.96	5053K77	9.48
3/8"	3/8	5053K54	5.12			5053K66	7.35		
1/2"	3/8	5053K55	5.19	5053K42	6.22	5053K67	8.64	5053K79	14.76

■ Use with Shore A95 and harder polypropylene and polyethylene tubing.

Tube-to-Tube Connectors




For Tube OD	Straights		Tees	
1/4"	5053K23	$3.30	5053K31	$6.79
5/16"	5053K24	8.52	5053K32	13.30
3/8"	5053K25	4.07	5053K33	9.52
1/2"	5053K26	8.19	5053K34	17.10

Replacement Parts and Accessories







For Tube OD	Nuts with Acetal Sleeve Each		Nuts with Brass Sleeve Each		Acetal Sleeves Pkg. Qty.		Acetal Sleeves Pkg.		Brass Sleeves Pkg. Qty.		Brass Sleeves Pkg.		Brass Tube Supports For Tube ID	Brass Tube Supports Pkg. Qty.		Brass Tube Supports Pkg.	
1/8"													1/16"	10	5053K91	$6.40	
1/4"	5053K11	$0.96	5053K15	$1.63	10	5053K19	$4.80	5	5053K93	$11.80							
5/16"	5053K12	1.36	5053K16	3.92	10	5053K27	5.60	5	5053K94	31.20							
3/8"	5053K13	1.16	5053K17	2.03	10	5053K78	5.20	5	5053K95	10.40							
1/2"	5053K14	1.96	5053K18	4.40	10	5053K56	5.60	5	5053K96	34.60							

High-Pressure Quick-Assembly Brass Compression Tube Fittings

- Maximum Pressure: 800 psi @ 72° F
- Temperature Range: –65° to 250° F
- Tubing: Use with copper, aluminum, and firm and hard polypropylene, polyethylene, and nylon

All the benefits of a quick-assembly fitting, plus the ability to withstand high pressure. The sleeve (ferrule) is built into the nut, so you don't have to disassemble the fitting for installation. Use with water, air, and oil.

Connections: Compression or NPTF (Dryseal) threads, which are compatible with NPT threads.

Tube-to-Threaded Pipe Adapters






For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe		90° Elbows, Female Pipe	
1/8"	1/8	50815K158	$4.45	50815K144	$13.53	50815K184	$10.91	50815K174	$19.56
3/16"	1/8	50815K162	3.65			50815K186	11.41		
1/4"	1/8	50815K164	3.33	50815K148	8.10	50815K188	5.79	50815K176	14.62
1/4"	1/4	50815K166	4.79	50815K152	8.96	50815K192	7.02	50815K178	14.17
3/8"	1/4	50815K168	7.39	50815K154	14.29	50815K194	6.79	50815K182	20.14
1/2"	3/8	50815K172	11.06			50815K196	30.71		

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High-Pressure Quick-Assembly Brass Compression Tube Fittings

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Tube-to-Tube Connectors







For Tube OD	Straights		90° Elbows		Tees	
1/8"	50815K112	$37.09	—	—	—	—
3/16"	50815K113	19.18	—	—	—	—
1/4"	50815K114	11.12	50815K126	$13.27	50815K136	$19.69
3/8"	50815K116	14.76	50815K128	20.32	50815K138	36.65
1/2"	50815K118	14.31	50815K132	25.06	50815K142	47.82

Replacement Parts



Nuts with Brass Sleeve

For Tube OD		
1/8"	50815K102	$1.41
3/16"	50815K103	1.56
1/4"	50815K104	1.44
3/8"	50815K106	1.92
1/2"	50815K108	4.15

Brass Compression Tube Fittings with Tube Supports

- Maximum Pressure: 90 psi @ 73° F
- Temperature Range: –65° to 250° F
- Tubing: Use with firm (Shore A95) polyethylene

A built-in stainless steel tube support slips inside your tubing to prevent collapsing. Suitable for water, air, and oil, these fittings also meet SAE J512 standards for use in automotive air brake systems. In addition to the tube support, fittings include a brass nut and an acetal sleeve (ferrule).

Inline tees are also known as branch tees. **45° flared straights** connect to tubing flared to 45°.

Connections: Compression, NPT threads, or 45° flare.

Tube-to-Threaded Pipe Adapters











For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe		90° Elbows, Female Pipe		Inline Tees, Male Pipe	
1/4"	1/8	51875K61	$3.07	51875K51	$2.70	51875K81	$4.10	51875K91	$5.56	51875K72	$6.85
1/4"	1/4	51875K62	3.46	51875K52	3.77	51875K82	4.72	51875K92	6.16	51875K73	9.00
1/4"	3/8	51875K63	4.49	51875K13	7.31	51875K83	6.68	51875K96	10.22	—	—
1/4"	1/2	51875K64	5.58	51875K14	7.97	51875K38	9.73	51875K97	12.68	—	—
3/8"	1/8	51875K65	3.98	51875K53	3.72	51875K84	4.34	51875K98	9.92	51875K77	10.79
3/8"	1/4	51875K66	3.90	51875K54	3.82	51875K85	5.80	51875K93	6.97	51875K74	10.51
3/8"	3/8	51875K67	3.93	51875K55	4.82	51875K86	5.28	51875K94	6.72	51875K75	9.95
3/8"	1/2	51875K68	4.93	51875K56	5.92	51875K87	7.49	—	—	—	—
1/2"	3/8	51875K69	6.67	51875K57	7.90	51875K88	8.53	51875K95	10.59	51875K76	11.39
1/2"	1/2	51875K71	7.18	51875K58	8.33	51875K89	9.23	51875K39	12.26	51875K78	20.87

Tube-to-Tube Connectors

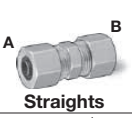

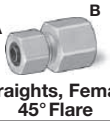





For Tube OD (A)	(B)	Straights		Straights, Female 45° Flare		90° Elbows		Tees	
1/4"	1/4"	51875K21	$4.67	51875K15	$5.91	51875K35	$6.82	51875K31	$6.20
3/8"	1/4"	51875K22	5.51	51875K16	5.89	51875K41	11.05	51875K33	9.24
3/8"	3/8"	51875K23	5.38	51875K17	8.66	51875K36	6.90	51875K32	10.28
1/2"	3/8"	51875K24	7.79	—	—	51875K42	16.55	—	—
1/2"	1/2"	51875K25	7.28	—	—	51875K37	9.10	51875K34	14.30

Replacement Parts





For Tube OD	Nuts Pkg. Qty.		Nuts Pkg.	Sleeves Pkg. Qty.		Sleeves Pkg.
1/4"	25	51875K47	$15.00	25	51875K44	$7.70
3/8"	25	51875K48	15.89	25	51875K45	8.98
1/2"	10	51875K49	15.13	25	51875K46	11.15

Vibration-Resistant Brass Compression Tube Fittings

- Maximum Pressure: See chart at right
- Temperature Range: –30° to 275° F
- Tubing: Use with copper, aluminum, steel, and stainless steel

For increased shock absorbency in high-vibration applications, reach for these brass fittings. They have a Buna-N rubber sleeve, which cushions the tubing and absorbs harsh vibrations over a wide temperature range. The sleeve aligns the tubing during installation and protects it from surface damage. Use with water, air, oil, lubricants, gasoline, and diesel fuel. Fittings also include a nut. Vacuum rating is 29.9" Hg @ 73° F.

Buna-N sleeves are black with a green stripe. For higher temperatures, use fittings with **fluoroelastomer sleeves.** They are black with a red stripe and withstand temperatures of –15° to 450° F.

Connections: Compression or NPTF (Dryseal) threads, which are compatible with NPT threads.

For Tube OD	Max. psi @ 73°F
3/16"	300
1/4"	300
5/16"	225
3/8"	175
1/2"	100

Tube-to-Threaded Pipe Adapters







For Tube OD	Pipe Size	Straights, Male Pipe		90° Elbows, Male Pipe		45° Elbows, Male Pipe	
3/16"	1/8	50385K41	$7.30	50385K11	$16.44	—	—
1/4"	1/8	50385K42	5.78	50385K12	9.85	50385K31	$13.07
1/4"	1/4	50385K43	7.33	50385K13	14.03	—	—
5/16"	1/4	50385K44	9.85	50385K14	17.20	—	—
3/8"	1/8	50385K33	10.37	50385K15	17.44	—	—
3/8"	1/4	50385K45	9.85	50385K16	17.20	50385K32	18.57
3/8"	3/8	50385K46	14.03	50385K17	28.17	—	—
1/2"	3/8	50385K47	13.93	50385K18	28.17	—	—
1/2"	1/2	—	—	50385K19	46.37	—	—

Tube-to-Tube Connectors

Straights



For Tube OD		
1/4"	50385K51	$10.30
3/8"	50385K52	17.30
1/2"	50385K53	27.27

Replacement Parts and Accessories







For Tube OD	Nuts		Buna-N Sleeves		Fluoroelastomer Sleeves	
3/16"	50385K61	$2.30	50385K71	$2.19	50385K81	$9.37
1/4"	50385K62	2.26	50385K72	2.19	50385K82	4.48
5/16"	50385K63	2.56	50385K73	2.41	50385K83	4.59
3/8"	50385K64	3.48	50385K74	2.19	50385K84	4.59
1/2"	50385K65	5.37	50385K75	2.81	50385K85	7.85

Compression Tube Fittings

For technical drawings and 3-D models, go to mcmaster.com.

For information about selecting pipe size, see pages 2-3. For information about compression tube fittings, see page 173.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

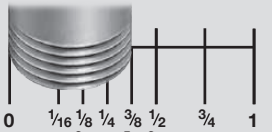

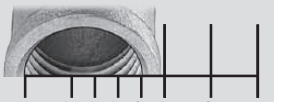

Metric Vibration-Resistant Steel Compression Tube Fittings

- Maximum Pressure: 4,500 psi @ 71°F, unless noted
- Temperature Range: –30° to 250°F
- Tubing: Use with seamless steel (DIN 2391) on page 161

When your application is causing unwanted vibrations, these fittings are your solution. Designed for metric tubing, they have a Buna-N rubber sleeve to absorb shock. Use with diesel fuel, cutting oil, and petroleum oil. Fittings are made of forged or bar stock steel with a zinc-plated finish. They include a nut with a gripping ring that bites into the tubing for a secure hold, and a Buna-N O-ring on the threaded end for a leak-tight connection. Fittings with BSPP (British Standard Pipe Parallel) threads also include a washer. Fittings meet DIN 3861. Vacuum rating is 28" Hg @ 72°F.

Easy-access 90° elbows are also known as banjo-style elbows; they have a hex head for easy adjustments in tight spaces. **Through-wall straights** are also known as bulkhead couplings.

Connections: Compression, BSPP, or metric straight threads.

Tube-to-Threaded Male Pipe Adapters







For Tube OD	BSPP Threads: Straights Pipe Size		BSPP Threads: 90° Elbows Pipe Size		BSPP Threads: Easy-Access 90° Elbows Pipe Size		Metric Straight Threads: Straights Thread Size		Metric Straight Threads: Easy-Access 90° Elbows Thread Size	
6 mm	1/8	5949K51 $6.43	1/8	5949K91 $23.74	1/4	5949K15 $32.34	M10×1	5949K61 $6.94	M12×1.5	5949K25 $72.71
8 mm	1/4	5949K52 7.86	1/4	5949K92 25.66	1/4	5949K16 33.29	M12×1.5	5949K62 7.97	M14×1.5	5949K26 75.86
10 mm	1/4	5949K53 8.69	1/4	5949K93 27.37	3/8	5949K17 43.71	M14×1.5	5949K63 9.37	M16×1.5	5949K27 79.14
12 mm	3/8	5949K54 10.20	3/8	5949K94 ■ 30.14	3/8	5949K18 48.86	M16×1.5	5949K64 11.03	M18×1.5	5949K28 111.60

■ Maximum pressure is 3,600 psi @ 71°F.

Tube-to-Tube Connectors






For Tube OD	Straights	90° Elbows	Tees	Through-Wall Straights Required Hole Size	
6 mm	5949K11 $9.97	5949K21 $16.91	5949K31 $22.14	14 mm	5949K41 $15.09
8 mm	5949K12 11.26	5949K22 18.23	5949K32 23.89	16 mm	5949K42 14.83
10 mm	5949K13 12.94	5949K23 19.71	5949K33 27.06	18 mm	5949K43 17.83
12 mm	5949K14 14.51	5949K24 22.43	5949K34 30.74	20 mm	5949K44 19.91

Replacement Parts



For Tube OD	Nuts	
6 mm	5949K85	$4.11
8 mm	5949K86	4.66
10 mm	5949K87	5.43
12 mm	5949K88	6.00

Metric Steel Compression Tube Fittings

- Maximum Pressure: 3,600 psi @ 68°F
- Temperature Range: –40° to 390°F
- Tubing: Use with seamless carbon steel (DIN 2391) on page 161

Connect metric tubing to pipe with NPT, BSPT (British Standard Pipe Tapered), and metric tapered threads. Fittings are for use with hydraulic fluid, and are made of zinc-plated forged or bar stock steel. They include a nut and a sleeve (ferrule) that bites into the tubing for a secure, leak-resistant seal. Fittings meet DIN 2401, as well as ISO 8434 criteria for fluid power.

Through-wall straights are also known as bulkhead couplings.

Connections: Compression, NPT, BSPT, or metric tapered threads.

Tube-to-Threaded Male Pipe Adapters








For Tube OD	Pipe Size	NPT Threads: Straights	NPT Threads: 90° Elbows	BSPT Threads: Straights	BSPT Threads: 90° Elbows	Thread Size	Metric Tapered Threads: Straights	Metric Tapered Threads: 90° Elbows
6 mm	1/8	5269K311 $4.11	5269K361 $12.04	5269K321 $6.98	5269K371 $11.82	M10×1	5269K331 $7.33	5269K381 $12.04
8 mm	1/4	5269K312 6.13	5269K362 14.16	5269K322 6.04	5269K372 14.98	M12×1.5	5269K332 8.40	5269K382 12.87
10 mm	1/4	5269K313 7.24	5269K363 16.00	5269K323 7.11	5269K373 14.44	M14×1.5	5269K333 9.13	5269K383 14.44
12 mm	3/8	5269K314 7.91	5269K364 18.20	5269K324 8.11	5269K374 21.29	M16×1.5	5269K334 9.40	5269K384 17.40
15 mm	1/2	5269K315 10.78	5269K365 24.89	5269K325 10.82	5269K375 21.00	M18×1.5	— —	5269K385 21.47

Tube-to-Tube Connectors






For Tube OD	Straights	90° Elbows	Tees	Through-Wall Straights Required Hole Size	
6 mm	5269K291 $5.29	5269K421 $13.62	5269K441 $19.72	13 mm	5269K411 $10.42
8 mm	5269K292 6.20	5269K422 14.91	5269K442 21.79	15 mm	5269K412 11.02
10 mm	5269K293 7.60	5269K423 16.51	5269K443 29.58	17 mm	5269K413 11.16
12 mm	5269K294 9.13	5269K424 19.27	5269K444 26.62	19 mm	5269K414 16.31
15 mm	5269K295 12.91	5269K425 25.62	5269K445 36.82	23 mm	5269K415 24.71

Replacement Parts




For Tube OD	Nuts		Sleeves	
6 mm	5269K271	$1.04	5269K281	$0.50
8 mm	5269K272	1.47	5269K282	.68
10 mm	5269K273	1.33	5269K283	.68
12 mm	5269K274	1.73	5269K284	.72
15 mm	5269K275	2.43	5269K285	.93

Steel and Type 316 Stainless Steel Compression Tube Fittings

- Maximum Pressure: See chart at right
- Temperature Range: Steel: –65° to 400° F Type 316 Stainless Steel: –425° to 1200° F
- Tubing: Use steel fittings with welded steel; use stainless steel fittings with welded and smoothed (drawn) and seamless Types 304 and 316 annealed stainless steel that meets ASTM A269

The leading edge of the sleeve (ferrule) bites into your tubing, creating a strong, leak-resistant seal—even in high-vibration applications. Use with water, air, and hydraulic fluid. Fittings meet SAE J514. They also include a nut.

Steel fittings are made of zinc-plated forged or bar stock 12L14 carbon steel. Connections: Compression or NPTF (Dryseal) threads, which are compatible with NPT threads.

Type 316 stainless steel fittings have a body and nut that are made of corrosion-resistant Type 316 stainless steel. The sleeve is made of 17-4 PH stainless steel. Connections: Compression or NPT threads.

Inline tees are also known as branch tees, **right angle tees** are also known as run tees, and **through-wall straights** are also known as bulkhead couplings.

Max. Pressure (psi) @ 72° F

For Tube OD	Steel	Type 316 SS Tube Wall Thick.	
1/8"	4,000	0.028"	4,300
3/16"	4,000	0.028"	4,300
1/4"	4,000	0.035"	4,000
5/16"	4,000	0.035"	3,200
3/8"	3,000	0.035"	2,600
1/2"	2,000	0.049"	1,900
5/8"	1,000	0.058"	2,300
3/4"	2,000	0.065"	1,900
1"	2,000	0.065"	1,900

Tube-to-Threaded Pipe Adapters








For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe		45° Elbows, Male Pipe		Inline Tees, Male Pipe		Right Angle Tees, Male Pipe	
Steel													
1/8"	1/8	52215K621	$5.38	52215K611	$14.65	52215K631	$10.56						
3/16"	1/8	52215K622	4.76	52215K612	15.35	52215K632	12.62						
1/4"	1/8	52215K439	4.03	52215K423	9.00	52215K455	10.06			52215K485	$13.56	52215K471	$13.29
1/4"	1/4	52215K441	5.28	52215K425	6.24	52215K457	12.21			52215K487	21.68	52215K473	33.47
5/16"	1/8	52215K443	6.41	52215K427	11.29	52215K459	19.24	52215K415	$21.53	52215K489	31.79		
3/8"	1/4	52215K445	4.91	52215K429	6.47	52215K461	11.38	52215K417	15.60	52215K491	23.12	52215K475	22.88
3/8"	3/8	52215K624	6.18	52215K614	8.53	52215K634	16.59						
3/8"	1/2	52215K625	9.32			52215K635	26.26						
1/2"	1/4	52215K626	8.71	52215K617	10.91	52215K636	20.76						
1/2"	3/8	52215K447	7.38	52215K431	8.50	52215K463	16.79	52215K419	23.82	52215K493	36.15	52215K477	33.29
1/2"	1/2	52215K449	8.44	52215K433	12.26	52215K465	22.03			52215K495	37.24	52215K479	31.82
5/8"	1/2	52215K451	9.06	52215K435	12.69	52215K467	18.35	52215K421	20.85	52215K497	36.94	52215K481	33.18
3/4"	1/2	52215K628	13.79			52215K638	34.68						
3/4"	3/4	52215K453	14.00	52215K437	18.62	52215K469	27.29	52215K422	50.59	52215K499	41.88	52215K483	48.30
1"	1	52215K454	30.29	52215K438	31.82	52215K468	37.46	52215K424	44.52	52215K498	67.88	52215K484	68.45
Type 316 Stainless Steel													
1/8"	1/8	52245K821	15.69	52245K811	48.72	52245K831	32.77			52245K501	81.07		
1/4"	1/8	52245K531	9.85	52245K519	13.94	52245K545	17.63	52245K511	26.94	52245K567	31.41	52245K559	32.91
1/4"	1/4	52245K533	11.66	52245K521	16.27	52245K547	22.00	52245K513	75.02	52245K569	39.21	52245K561	39.69
3/8"	1/4	52245K535	12.89	52245K523	19.00	52245K549	23.25	52245K515	31.38	52245K571	41.67	52245K563	41.57
3/8"	3/8	52245K824	16.95	52245K814	26.05	52245K834	36.21	52245K516	70.00				
3/8"	1/2	52245K825	24.98	52245K816	31.11	52245K835	49.66						
1/2"	1/4	52245K826	22.77	52245K817	27.48	52245K836	43.36						
1/2"	3/8	52245K537	19.78	52245K525	29.26	52245K551	37.82	52245K517	69.16	52245K573	114.86		
1/2"	1/2	52245K539	23.19	52245K527	40.85	52245K553	49.08	52245K518	97.22	52245K575	116.83	52245K565	119.29
5/8"	1/2	52245K541	33.53	52245K532	49.00	52245K555	55.07	52245K522	108.89				
3/4"	3/4	52245K543	56.20	52245K529	64.42	52245K557	80.54			52245K576	235.87	52245K568	235.87
1"	1	52245K544	93.65	52245K534	128.69	52245K558	157.99						

Tube-to-Tube Connectors





For Tube OD	Straights		90° Elbows		Through-Wall Straights Required Hole Size	
Steel						
1/8"	52215K533	$15.29				
3/16"	52215K535	8.50				
1/4"	52215K537	6.59	52215K559	$12.15	7/16"	52215K571 $24.62
5/16"	52215K539	8.44	52215K561	32.70		
3/8"	52215K541	7.79	52215K563	19.09	9/16"	52215K573 20.76
1/2"	52215K543	11.09	52215K565	26.59	3/4"	52215K575 38.91
5/8"	52215K545	14.47	52215K567	26.09		
3/4"	52215K547	25.26	52215K569	33.50	1 1/16"	52215K577 38.47
1"	52215K548	33.84	52215K568	49.48	1 5/16"	52215K578 66.97
Type 316 Stainless Steel						
1/8"	52245K609	34.07				
3/16"	52245K611	46.28				
1/4"	52245K613	15.21	52245K633	23.53	7/16"	52245K743 30.45
5/16"	52245K615	26.87				
3/8"	52245K617	19.54	52245K635	29.39	9/16"	52245K745 37.04
1/2"	52245K619	32.95	52245K637	44.98	3/4"	52245K747 63.00
5/8"	52245K621	50.71	52245K639	66.57		
3/4"	52245K623	78.23	52245K641	108.27	1 1/16"	52245K749 108.51
1"	52245K624	140.37	52245K642	204.81		

Caps and Replacement Parts





For Tube OD	Caps		Nuts		Sleeves	
Steel						
1/8"			52215K517	$1.35	52215K501	$1.12
3/16"			52215K519	1.38	52215K503	1.00
1/4"	52215K549	$5.35	52215K521	1.38	52215K505	.91
5/16"			52215K523	1.53	52215K507	1.35
3/8"	52215K551	6.76	52215K525	1.38	52215K509	1.38
1/2"	52215K553	8.68	52215K527	2.21	52215K511	1.44
5/8"	52215K555	11.82	52215K529	2.85	52215K513	2.18
3/4"	52215K557	11.15	52215K531	3.47	52215K515	2.88
1"	52215K558	16.23	52215K532	5.74	52215K516	4.82
Type 316 Stainless Steel						
1/8"	52245K625	13.39	52245K593	4.19	52245K577	2.73
3/16"			52245K595	4.39	52245K579	3.09
1/4"	52245K627	9.79	52245K597	2.54	52245K581	1.58
5/16"			52245K599	5.44	52245K583	2.62
3/8"	52245K629	11.37	52245K601	3.42	52245K585	2.11
1/2"	52245K631	17.72	52245K603	4.70	52245K587	3.07
5/8"	52245K649	41.84	52245K605	12.58	52245K589	4.20
3/4"	52245K651	40.57	52245K607	17.26	52245K591	7.63
1"	52245K652	70.19	52245K608	25.73	52245K592	14.05

Compression & O-Ring Tube Fittings

For technical drawings and 3-D models, go to mcmaster.com.

For information about selecting pipe size, see pages 2-3. For information about compression tube fittings, see page 173.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

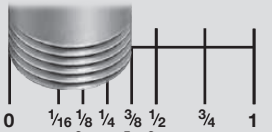

Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
OD (to nearest 1/8"): 0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"

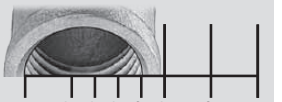

Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
ID (to nearest 1/8"): 0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"

Miniature Compression Tube Fittings

- Maximum Pressure: See below
- Temperature Range: Brass: –40° to 250° F; Stainless Steel: –4° to 400° F
- Tubing: Use with welded and seamless stainless steel

The small thread size makes these fittings a good choice for compact applications. Plus, the fittings are sturdy enough to handle high-pressure conditions. Use with water, air, and hydraulic fluid. Fittings include a nut, sleeve (ferrule), and a synthetic rubber O-ring, which creates a tight connection. Vacuum rating is 25" Hg @ 72° F.

Nickel-plated brass fittings offer better corrosion resistance than unplated brass. O-ring is Buna-N. **Type 303 stainless steel fittings** offer good corrosion resistance. O-ring is fluoroelastomer.

Connections: Compression, UNF straight threads, or metric straight threads.






		Nickel-Plated Brass						Type 303 Stainless Steel					
		Straights, Male Pipe			Elbows, Male Pipe			Straights, Male Pipe			Elbows, Male Pipe		
For Tube OD	Thread Size	Max. psi @ 72° F			Max. psi @ 72° F			Max. psi @ 72° F			Max. psi @ 72° F		
1/16"	10-32	2,000	5885T33	$16.89	1,000	5885T53	$25.11	5,000	5885T23	$28.20	2,000	5885T43	$36.90
1/16"	M3×0.5	—	—	—	—	—	—	2,000	5885T21	33.00	—	—	—
1/16"	M5×0.8	—	—	—	1,000	5885T52	23.11	2,000	5885T22	30.20	2,000	5885T42	33.70
1/8"	10-32	2,000	5885T35	9.56	1,000	5885T55	20.88	5,000	5885T25	28.20	2,000	5885T45	42.60
1/8"	M5×0.8	—	—	—	1,000	5885T54	20.88	5,000	5885T24	28.20	2,000	5885T44	42.60
1/4"	10-32	2,000	5885T36	19.55	2,000	5885T56	36.89	2,000	5885T26	35.20	2,000	5885T46	64.20

Extreme-Pressure Type 316 Stainless Steel Compression Tube Fittings

- Maximum Pressure: 15,000 psi @ 72° F
- Temperature Range: –425° to 1000° F
- Tubing: Use with 9926T extreme-pressure stainless steel (see page 153)

Made of extruded Type 316 stainless steel, these are the highest rated compression fittings we offer. Use with water, air, natural gas, oil, and hydraulic fluid. Fittings come with the sleeves (ferrules) built into the nut, so there's no need to remove the nut during installation. After inserting your tubing, finger tighten the nut, then wrench-tighten 1 1/2 turns. The nut has a molybdenum disulfide coating, which acts as a lubricant for easy installation. Fittings meet ANSI B31.3.

Connections: Compression or NPT threads.








		Tube-to-Threaded Pipe Adapters						Tube-to-Tube Connectors		Replacement Parts					
		Straights, Male Pipe			Straights, Female Pipe										
For Tube OD	Pipe Size				Pipe Size			Straights		Nuts		Front Sleeves		Back Sleeves	
1/4"	1/4	5892K11	$67.38		1/4	5892K14	$81.45	5892K21	$77.87	5892K37	$14.22	5892K31	$7.42	5892K34	$6.49
3/8"	3/8	5892K12	77.87		1/4	5892K15	86.53	5892K22	111.25	5892K38	19.64	5892K32	8.80	5892K35	24.69

High-Pressure/Vacuum O-Ring Steel Tube Fittings

- Maximum Pressure: 6,000 psi @ 72° F
- Temperature Range: –30° to 250° F
- Tubing: Use with welded and seamless steel and stainless steel

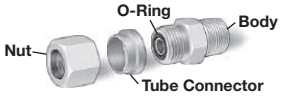

A Buna-N O-ring minimizes leaks in high-pressure and vacuum applications. Also known as O-ring face seal fittings, they are for use with water, air, and hydraulic fluid. To install, weld the tube connector to the tubing, then mate the tube connector to the body and screw on the nut. As the nut is tightened, the tube connector compresses the O-ring, creating a tight seal. The flat face-to-O-ring connection allows you easy access to your line. Fittings are made of zinc-plated forged steel and include a Buna-N O-ring; the tube connector and nut are sold separately. Fittings meet ANSI/ASME B31.3 and SAE J1453. Vacuum rating is 28" Hg @ 72° F.

Connections: NPTF (Dryseal) threads, which are compatible with NPT threads.

Also Available: Type 316 stainless steel fittings. Please ask for 6407T1 and specify the corresponding part number from the choices listed below.

O-Ring-to-Threaded Pipe Adapters




For Tube OD	Pipe Size	Straights, Male Pipe		90° Elbows, Male Pipe	
1/4"	1/4	6407T14	$5.66	6407T21	$11.71
3/8"	3/8	6407T15	5.87	6407T22	15.17
1/2"	1/2	6407T16	10.33	6407T23	22.50

O-Ring-to-O-Ring Connectors




For Tube OD	Straights		90° Elbows	
1/4"	6407T11	$6.96	6407T17	$13.08
3/8"	6407T12	6.88	6407T18	13.99
1/2"	6407T13	8.33	6407T19	21.33

Tube Connectors, Nuts, and Replacement Parts





For Tube OD	Tube Connectors	Each	Nuts	Each	O-Rings	Pkg. of 5
1/4"	6407T33	$1.67	6407T26	$1.92	6407T29	$3.34
3/8"	6407T34	1.71	6407T27	2.34	6407T31	3.75
1/2"	6407T35	2.75	6407T28	3.12	6407T32	4.59

Quick-Assembly Instrumentation Tube Fittings

- Maximum Pressure: See chart at right
- Temperature Range: –425° to 1200° F
- Tubing: Use with welded and seamless Types 304 and 316 stainless steel that meets ASTM A213, A249, or A269

Save yourself time and hassle—these stainless steel fittings have one sleeve (ferrule) instead of two for faster assembly. Plus, the nut has a molybdenum disulfide coating that acts as a lubricant for easy installation. Use with air, water, steam, oil, natural gas, gasoline, hydraulic fluid, and alcohol. Fittings are made of forged or bar stock Type 316 stainless steel for excellent strength and corrosion resistance. They are compatible with Parker CPI fittings.

Inline tees are also known as branch tees, **right angle tees** are also known as run tees, and **through-wall straights** are also known as bulkhead couplings.

Tube stems insert into the end of your tube fitting.

Connections: Compression or NPT threads.

For Tube OD	Tube Wall Thick.	Max. psi @ 72° F
1/16"	0.020"	7,500
1/8", 3/16"	0.035"	5,500
1/4"	0.035"	4,000
5/16"	0.035"	3,200
3/8"	0.035"	2,600
1/2"	0.035"	2,100
5/8", 3/4"	0.049"	2,100

Stainless Steel Tube-to-Threaded Pipe Adapters








For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe		Inline Tees, Male Pipe		Inline Tees, Female Pipe		Right Angle Tees, Male Pipe	
1/16"	1/16	8239K12	$15.01	8239K364	$22.39	8239K34	$32.48						
1/8"	1/8	8239K11	9.31	8239K341	11.69	8239K71	15.85	8239K101	$31.02	8239K331	$40.06	8239K161	$31.02
1/8"	1/4	8239K314	10.33	8239K365	14.15	8239K335	17.31	8239K102	51.98	8239K132	59.78	8239K162	52.28
3/16"	1/8	8239K13	9.45	8239K43	11.56	8239K73	16.26	8239K103	35.55	8239K133	73.10	8239K163	63.56
1/4"	1/8	8239K16	8.05	8239K66	11.56	8239K36	14.89	8239K59	28.91	8239K76	34.98	8239K54	29.36
1/4"	1/4	8239K15	8.36	8239K45	14.11	8239K75	16.13	8239K105	34.98	8239K135	40.87	8239K165	34.15
1/4"	3/8	8239K24	11.38	8239K67	18.02	8239K37	23.98	8239K104	68.19	8239K134	78.41	8239K164	68.19
1/4"	1/2	8239K17	15.00	8239K47	19.71	8239K77	27.27	8239K106	89.57	8239K136	103.00	8239K166	89.57
5/16"	1/8	8239K18	9.82	8239K48	15.41	8239K78	17.95	8239K107	56.64	8239K137	65.12	8239K167	56.64
5/16"	1/4	8239K19	11.56	8239K49	16.15	8239K79	18.23	8239K108	56.64	8239K138	65.12	8239K168	56.64
3/8"	1/8	8239K21	10.84	8239K51	15.40	8239K81	21.33						
3/8"	1/4	8239K22	11.47	8239K52	14.47	8239K82	20.00	8239K112	36.20	8239K142	42.09	8239K172	36.07
3/8"	3/8	8239K23	13.02	8239K53	19.55	8239K83	24.02	8239K113	41.04	8239K143	110.31	8239K173	41.71
3/8"	1/2	8239K25	15.62	8239K68	25.87	8239K38	30.85	8239K109	95.92	8239K144	134.29	8239K169	95.92
1/2"	1/2	8239K26	19.38	8239K69	27.29	8239K39	35.33	8239K61	58.73	8239K84	62.62	8239K55	55.17
5/8"	1/2	8239K27	22.78	8239K72	31.18	8239K42	41.89	8239K62	64.40	8239K85	82.23	8239K56	68.65
3/4"	3/4	8239K28	30.62	8239K74	38.76	8239K44	44.40	8239K63	82.58	8239K86	107.37	8239K57	82.58

Straights, Tube Stem × Male Pipe



Stem OD	Pipe Size			Stem OD	Pipe Size			Stem OD	Pipe Size		
1/8"	1/8	8239K422	$8.35	1/4"	3/8	8239K426	$9.82	1/2"	3/8	8239K431	$15.76
1/8"	1/4	8239K423	9.54	3/8"	1/4	8239K427	9.84	1/2"	1/2	8239K432	16.57
1/4"	1/8	8239K424	7.24	3/8"	3/8	8239K428	11.75	3/4"	3/4	8239K433	27.48
1/4"	1/4	8239K425	7.42	3/8"	1/2	8239K429	14.04				

Stainless Steel Tube-to-Tube Connectors







For Tube OD	Straights		90° Elbows		Tees		Through-Wall Straights, Required Hole Size		Reducing Straights, For Tube OD (A)	(B)		
1/16"	8239K29	$19.85	8239K92	$34.35	8239K96	$53.63	3/16"	8239K87	$48.89	3/16"	1/8"	8239K231	$13.51
1/8"	8239K191	13.96	8239K211	20.37	8239K221	32.07	5/16"	8239K201	28.25	1/4"	1/8"	8239K232	14.64
3/16"	8239K192	13.16	8239K212	20.37	8239K222	33.45	3/8"	8239K202	31.01	5/16"	1/4"	8239K233	17.39
1/4"	8239K193	13.02	8239K213	19.55	8239K223	26.80	7/16"	8239K203	20.04	3/8"	1/8"	8239K256	22.04
5/16"	8239K194	15.76	8239K214	21.38	8239K224	33.11	1/2"	8239K204	25.41	3/8"	1/4"	8239K234	19.24
3/8"	8239K195	18.60	8239K215	23.25	8239K225	35.02	9/16"	8239K205	28.95	1/2"	1/4"	8239K257	29.79
1/2"	8239K31	27.84	8239K93	38.27	8239K97	53.16	3/4"	8239K88	41.84	1/2"	3/8"	8239K258	29.79
5/8"	8239K32	38.29	8239K94	45.36	8239K98	58.90	7/8"	8239K89	56.85	3/4"	1/2"	8239K259	46.48
3/4"	8239K33	46.64	8239K95	64.03	8239K99	75.45	1"	8239K91	65.63				

Stainless Steel Caps and Replacement Parts






For Tube OD	Caps for Tubing		Caps for Fittings		Nuts		Sleeves	
1/16"	8239K239	$12.03	8239K235	$14.36	8239K216	$4.24	8239K226	$4.82
1/8"	8239K241	8.64	8239K251	8.84	8239K261	2.67	8239K271	3.02
3/16"	8239K242	8.52	8239K252	9.11	8239K262	2.42	8239K272	2.96
1/4"	8239K243	7.07	8239K253	6.73	8239K263	2.42	8239K273	2.45
5/16"	8239K244	8.04	8239K254	7.85	8239K264	2.58	8239K274	2.93
3/8"	8239K245	9.42	8239K255	7.58	8239K265	3.27	8239K275	3.09
1/2"	8239K246	13.78	8239K236	11.29	8239K217	5.38	8239K227	4.51
5/8"	8239K247	18.49	8239K237	16.02	8239K218	7.75	8239K228	5.20
3/4"	8239K248	23.29	8239K238	18.75	8239K219	9.24	8239K229	7.20

Quick-Assembly Brass Instrumentation Tube Fittings

Brass fittings offer good corrosion resistance. Pressure range is 800 to 3,800 psi @ 72° F. Temperature range is –40° to 350° F. Use with seamless copper tubing that meets ASTM B68, B75, or B88.

For pricing, specifications such as pipe size, and a list of common applications, please go to mcmaster.com and search for 7473T1.

To Order: Please ask for 7473T1 and specify the corresponding part number from the stainless steel choices listed above.

Available Shapes	For Tube ODs	
All adapters, connectors, caps, and replacement parts shown above	1/16", 1/8", 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	7473T1

Yor-Lok Tube Fittings

For technical drawings and 3-D models, go to mcmaster.com.

For information about selecting pipe size, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

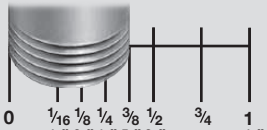

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
OD (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

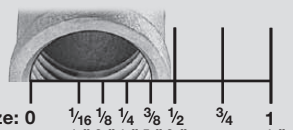

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
ID (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

About Yor-Lok Tube Fittings

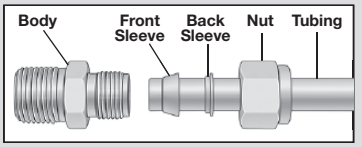

Also known as instrumentation fittings, Yor-Lok fittings are designed to handle higher pressures than other types of compression fittings. Use them with metal tubing. They come with a body, nut, and front and back sleeves (double ferrules); two sleeves provide extra gripping power and ensure a leak-free, gas-tight seal. To install, insert your tubing into the body until the tubing bottoms out, then finger-tighten the nut. Continue tightening the nut using a wrench. For 1/16", 1/8", and 3/16" fittings, a 3/4 wrench turn is all you need; all other sizes need a 1 1/4 wrench turn.

Type 316 Stainless Steel Yor-Lok Tube Fittings

- Maximum Pressure: See chart at right, unless otherwise stated
- Temperature Range: –425° to 1200° F
- Tubing: Use with welded and seamless Types 304, 304L, 316, and 316L stainless steel that meets ASTM A213, A249, or A269

When you need excellent corrosion resistance choose these fittings. They have front and back sleeves (double ferrules) that form a leak-resistant seal. Use with air, water, steam, oil, natural gas, gasoline, and hydraulic fluid. Fittings are made of forged or bar stock Type 316 stainless steel and include a nut. They are compatible with Swagelok®, Parker A-Lok, and Let-Lok fittings. Sterilize with steam (autoclaving).

Cleaned and Bagged Fittings—Individually bagged to prevent moisture and dirt from contaminating the inside.

Tube-to-Flange Pipe Adapters—Maximum pressure @ 72° F is 275 psi.

Inline tees are also known as branch tees, and **right angle tees** are also known as run tees. **Through-wall straights** are also known as bulkhead couplings and require a hole through the wall that is 1/4" larger than the tube OD. **Flange end straights** connect with ANSI Class 150 flanges. **Sanitary straights** are also known as tri-clamps. Max. pressure @ 72° F is 2,200 psi for 1/2" and 3/4" flange OD and 1,500 psi for 1" and 1 1/2" flange OD.

Tube stems insert into the end of your tube fitting. **Tube stems with sleeve** allow you to connect two fittings closely together by replacing the sleeves in one fitting.

Connections: Compression or NPT threads, unless noted.

For Tube OD	Tube Wall Thick.	Max. psi @ 72° F
1/16"	0.020"	9,100
1/8"	0.035"	6,100
3/16"	0.035"	5,600
1/4"	0.035"	4,100
5/16"	0.035"	3,200
3/8"	0.035"	2,600
1/2"	0.035"	2,100
5/8"	0.049"	2,300
3/4"	0.049"	2,100
1"	0.065"	1,900

Tube-to-Threaded Pipe Adapters








For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe		90° Elbows, Female Pipe		45° Elbows, Male Pipe		Inline Tees, Female Pipe	
Standard													
1/16"	1/16	5182K834	$15.01	5182K181	$20.09	5182K839	$33.13						
1/16"	1/8	5182K435	15.04	5182K182	21.43	5182K441	27.87						
1/8"	1/16	5182K411	9.84			5182K931	34.51						
1/8"	1/8	5182K804	9.31	5182K491	12.02	5182K817	15.85	5182K183	$23.62			5182K452	$40.96
1/8"	1/4	5182K405	10.25	5182K492	14.04	5182K418	17.01	5182K172	29.25			5182K481	41.72
3/16"	1/8	5182K806	9.45	5182K793	11.56	5182K819	16.10						
3/16"	1/4	5182K912	10.71	5182K942	22.59	5182K932	20.17						
1/4"	1/8	5182K807	8.05	5182K794	11.56	5182K821	14.89	5182K205	21.02	5182K357	$26.15	5182K353	37.55
1/4"	1/4	5182K111	8.36	5182K251	14.11	5182K142	16.13	5182K206	23.98	5182K358	26.75	5182K319	40.87
1/4"	3/8	5182K112	11.38	5182K253	18.02	5182K143	23.98	5182K207	35.53			5182K363	65.26
1/4"	1/2	5182K113	15.00	5182K256	19.71	5182K144	27.27	5182K208	40.24			5182K174	76.41
5/16"	1/8	5182K808	9.82	5182K795	15.26	5182K822	18.31	5182K198	27.48				
5/16"	1/4	5182K809	11.56	5182K796	16.47	5182K823	18.50	5182K199	30.15				
3/8"	1/8	5182K811	10.84	5182K797	15.40	5182K824	21.33	5182K209	23.70	5182K359	34.25		
3/8"	1/4	5182K119	11.47	5182K266	14.47	5182K156	20.00	5182K211	24.66	5182K403	31.41	5182K323	42.09
3/8"	3/8	5182K125	13.02	5182K267	19.55	5182K157	24.02	5182K212	27.79			5182K785	51.41
3/8"	1/2	5182K126	15.62	5182K268	25.87	5182K158	30.85	5182K213	41.55			5182K373	77.23
3/8"	3/4	5182K913	21.20	5182K943	36.73	5182K933	49.56						
1/2"	1/4	5182K129	16.73	5182K269	20.55	5182K159	29.29	5182K214	31.71			5182K383	70.07
1/2"	3/8	5182K133	18.02	5182K275	21.02	5182K164	29.29	5182K215	33.98	5182K361	58.16	5182K324	60.58
1/2"	1/2	5182K135	19.38	5182K276	27.29	5182K166	35.33	5182K216	45.16			5182K333	68.31
1/2"	3/4	5182K812	25.78	5182K798	34.51	5182K825	53.29						
5/8"	3/8	5182K813	21.53	5182K799	35.87	5182K826	42.09	5182K223	47.97				
5/8"	1/2	5182K814	22.78	5182K801	31.18	5182K827	41.89	5182K225	51.47			5182K786	89.71
5/8"	3/4	5182K914	28.71	5182K944	42.32	5182K934	52.29						
3/4"	1/2	5182K815	29.84	5182K802	38.38	5182K828	45.51	5182K217	58.16			5182K175	97.72
3/4"	3/4	5182K816	30.62	5182K803	38.76	5182K829	44.40	5182K218	91.76	5182K404	128.24	5182K787	99.11
3/4"	1	5182K836	49.05	5182K176	90.60	5182K177	90.53	5182K173	69.70				
1"	3/4	5182K837	57.78	5182K831	69.58	5182K842	90.09	5182K219	103.77			5182K844	133.65
1"	1	5182K838	53.69	5182K832	82.96	5182K843	88.69	5182K221	115.64			5182K845	139.84
Cleaned and Bagged													
1/8"	1/8	5943K277	14.42	5943K282	18.11	5943K286	23.88	5943K316	32.95			5943K291	52.96
1/8"	1/4	5943K278	15.45	5943K283	20.04	5943K287	23.24	5943K317	42.36				
1/4"	1/8	5943K279	12.80	5943K284	17.02	5943K288	20.23	5943K318	31.02	5943K321	30.15	5943K292	46.69
1/4"	1/4	5943K111	12.95	5943K251	19.18	5943K142	20.51	5943K206	29.38	5943K322	30.86	5943K185	47.35
3/8"	1/4	5943K281	16.09	5943K285	19.93	5943K289	25.96	5943K319	35.68	5943K323	34.56	5943K293	53.45
3/8"	3/8	5943K125	16.75	5943K267	22.65	5943K157	36.78	5943K212	30.87	5943K324	44.86		
1/2"	1/2	5943K135	23.91	5943K276	30.58	5943K166	40.60	5943K216	48.45			5943K193	72.85

(Continued on following page)

Type 316 Stainless Steel Yor-Lok Tube Fittings *(Continued from previous page)*

Tube-to-Threaded Pipe Adapters (Cont.)





For Tube OD	Pipe Size	Inline Tees, Male Pipe		Right Angle Tees, Male Pipe	
1/16"	1/8	5182K771	$31.02	5182K744	$31.02
1/8"	1/4	5182K472	54.00	5182K745	52.87
3/16"	1/8	5182K773	36.61	5182K746	32.86
1/4"	1/8	5182K774	28.91	5182K747	29.36
1/4"	1/4	5182K222	34.98	5182K185	34.15
1/4"	3/8	5182K234	47.48	5182K753	44.16
1/4"	1/2	5182K122	77.55	5182K756	68.93
5/16"	1/8	5182K775	39.49	5182K748	46.25
5/16"	1/4	5182K123	48.37	_____	____
3/8"	1/4	5182K224	36.20	5182K187	36.07
3/8"	3/8	5182K226	41.04	5182K191	41.71
3/8"	1/2	5182K236	69.71	_____	____
1/2"	1/4	5182K238	59.92	5182K124	69.90
1/2"	3/8	5182K228	57.22	5182K192	57.22
1/2"	1/2	5182K232	58.73	5182K193	60.18
5/8"	1/2	5182K776	70.25	5182K749	74.89
3/4"	3/4	5182K777	90.09	5182K751	90.09





Stem OD	Pipe Size	Straights, Tube Stem × Male Pipe		Straights, Tube Stem × Female Pipe	
1/16"	1/8	5182K139	$43.06	_____	____
1/8"	1/8	5182K141	8.35	5182K284	$12.72
1/8"	1/4	5182K145	9.44	5182K285	14.75
1/4"	1/8	5182K146	7.24	5182K286	12.82
1/4"	1/4	5182K147	7.41	5182K287	14.87
1/4"	3/8	5182K148	9.82	5182K288	19.06
1/4"	1/2	5182K149	13.16	5182K289	21.16
3/8"	1/8	_____	____	5182K291	16.35
3/8"	1/4	_____	____	5182K292	17.11
3/8"	3/8	5182K153	11.74	5182K293	21.33
3/8"	1/2	5182K154	14.04	5182K294	29.27
1/2"	1/4	5182K155	15.08	5182K295	22.60
1/2"	3/8	5182K161	15.77	5182K296	22.23
1/2"	1/2	5182K162	16.56	5182K297	32.85
3/4"	1/2	5182K163	24.71	5182K298	37.85
3/4"	3/4	5182K165	25.78	5182K299	40.10
1"	1	5182K171	45.38	5182K301	83.22



Straights, Male UNF Threads

For Tube OD	Thread Size		
1/8"	5/16"-24	5182K461	$15.62
1/4"	7/16"-20	5182K462	13.77
1/4"	9/16"-18	5182K463	15.82
3/8"	9/16"-18	5182K464	18.31
3/8"	3/4"-16	5182K465	24.69
1/2"	3/4"-16	5182K466	25.40
1/2"	1 1/16"-12	5182K467	41.65
5/8"	7/8"-14	5182K468	39.85
3/4"	1 1/16"-12	5182K469	54.22
1"	1 1/16"-12	5182K471	72.35
1"	1 5/16"-12	5182K473	92.51

Tube-to-Butt Weld Adapters





For Tube OD	Pipe Size	Straights		90° Elbows	
1/8"	1/8	5182K91	$12.02	5182K72	$35.81
3/16"	1/8	5182K92	12.38	5182K73	37.44
1/4"	1/8	5182K93	10.56	5182K81	35.74
1/4"	1/4	5182K94	9.83	5182K82	20.15
5/16"	1/4	5182K95	16.79	_____	____
3/8"	1/4	5182K921	14.22	5182K83	23.47
3/8"	3/8	5182K96	15.40	_____	____
3/8"	1/2	5182K97	22.38	_____	____
1/2"	3/8	5182K711	22.57	5182K74	51.58
1/2"	1/2	5182K98	20.85	5182K84	61.96
1/2"	3/4	5182K99	31.02	_____	____
5/8"	1/2	5182K86	26.09	5182K75	78.49
3/4"	3/4	5182K87	35.05	5182K85	54.62
1"	1	5182K88	67.82	5182K76	88.77

Tube-to-Flange Pipe Adapters



Straights

For Tube OD	Pipe Size	Flange OD	Bolts Required Qty.	Bolts Required Dia.		
1/4"	1/2	3 1/2"	4	1/2"	5182K379	$202.54
3/8"	1/2	3 1/2"	4	1/2"	5182K381	209.28
3/8"	3/4	3 7/8"	4	1/2"	5182K382	232.96
1/2"	1/2	3 1/2"	4	1/2"	5182K384	218.07
1/2"	3/4	3 7/8"	4	1/2"	5182K385	239.47
1/2"	1	4 1/4"	4	1/2"	5182K386	276.24
1/2"	1 1/2	5"	4	1/2"	5182K387	357.69
3/4"	3/4	3 7/8"	4	1/2"	5182K389	246.93
3/4"	1	4 1/4"	4	1/2"	5182K391	281.42
3/4"	1 1/2	5"	4	1/2"	5182K392	377.38
1"	1	4 1/4"	4	1/2"	5182K394	288.87

Tube-to-Tube Connectors











For Tube OD	Straights		Through-Wall Straights		90° Elbows		Tees		Crosses	
Standard										
1/16"	5182K716	$19.85	5182K846	$38.41	5182K178	$32.92	5182K853	$41.73	5182K137	$86.93
1/8"	5182K717	13.96	5182K723	28.25	5182K731	20.17	5182K736	31.60	5182K764	55.71
3/16"	5182K718	13.62	5182K724	30.71	5182K732	20.17	5182K737	33.13	_____	____
1/4"	5182K343	13.02	5182K375	20.04	5182K414	19.55	5182K434	26.80	5182K766	51.40
5/16"	5182K719	15.76	5182K725	25.16	5182K733	22.13	5182K738	33.11	_____	____
3/8"	5182K345	18.60	5182K377	28.95	5182K416	23.25	5182K436	35.02	5182K768	63.80
1/2"	5182K35	27.84	5182K378	41.84	5182K417	38.27	5182K437	53.16	5182K769	74.07
5/8"	5182K721	38.29	5182K726	62.02	5182K734	45.36	5182K739	64.25	5182K784	114.01
3/4"	5182K722	46.64	5182K727	71.60	5182K735	69.85	5182K741	82.31	5182K779	130.67
1"	5182K715	80.96	5182K847	116.74	5182K833	129.25	5182K854	149.26	5182K783	210.37
Cleaned and Bagged										
1/8"	5943K294	20.42	5943K298	40.56	5943K303	30.61	5943K307	45.33	5943K312	75.45
1/4"	5943K295	19.20	5943K299	27.42	5943K304	26.72	5943K308	36.78	5943K313	67.95
3/8"	5943K296	25.42	5943K301	37.73	5943K305	31.01	5943K309	46.16	5943K314	82.45
1/2"	5943K297	36.15	5943K302	52.67	5943K306	48.55	5943K311	67.04	5943K315	94.47



Straights, Tube Stem × Sleeve

Stem OD	For Tube OD		
Standard			
1/16"	1/4"	5182K271	$50.80
1/8"	1/8"	5182K272	13.13
1/8"	1/4"	5182K273	22.00
1/4"	1/4"	5182K274	8.24
1/4"	3/8"	5182K277	11.47
1/4"	1/2"	5182K278	19.58
3/8"	3/8"	5182K279	10.25
1/2"	1/2"	5182K281	18.08
1/2"	3/4"	5182K282	29.97
3/4"	3/4"	5182K283	22.45
Cleaned and Bagged			
1/8"	1/8"	5943K325	15.61
1/4"	1/4"	5943K326	12.21
3/8"	3/8"	5943K327	12.34
1/2"	1/2"	5943K328	22.50



Straights, Sanitary

For Tube OD	Flange OD			For Tube OD	Flange OD			For Tube OD	Flange OD			For Tube OD	Flange OD		
1/4"	1/2"	5182K341	$51.45	1/4"	1 1/2"	5182K346	$133.11	3/8"	1"	5182K349	$120.91	1/2"	3/4"	5182K355	$70.40
1/4"	3/4"	5182K342	56.67	3/8"	1/2"	5182K347	54.16	3/8"	1 1/2"	5182K351	131.35	1/2"	1"	5182K356	127.51
1/4"	1"	5182K344	118.76	3/8"	3/4"	5182K348	59.00	1/2"	1/2"	5182K354	65.38	1/2"	1 1/2"	5182K406	137.95

(Continued on following page)

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

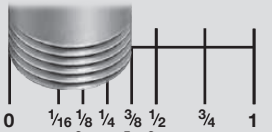

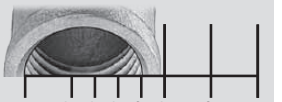

Type 316 Stainless Steel Yor-Lok Tube Fittings *(Continued from previous page)*

- Maximum Pressure: See chart on page 184, unless noted
- Temperature Range: –425° to 1200° F, unless noted
- Tubing: Use with welded and seamless Types 304, 304L, 316, and 316L stainless steel that meets ASTM A213, A249, or A269

When you need excellent corrosion resistance choose these fittings. They have front and back sleeves (double ferrules) that form a leak-resistant seal. Use with air, water, steam, oil, natural gas, gasoline, and hydraulic fluid. Fittings are made of forged or bar stock Type 316 stainless steel and include a nut. They are compatible with Swagelok®, Parker A-Lok, and Let-Lok fittings. Sterilize with steam (autoclaving).

Inline tees are also known as branch tees. **Tube stems** insert into the end of your tube fitting. **Tube supports** are not rated for pressure. They are recommended for soft plastic tubing.

Tube-to-Tube Connectors (Cont.)



Straights, Tube Stem

Stem OD	For Tube OD			Stem OD	For Tube OD		
1/8"	1/16"	5182K728	$17.02	3/8"	1/4"	5182K754	$11.56
1/8"	1/8"	5182K395	21.20	3/8"	5/16"	5182K23	12.94
1/8"	3/16"	5182K233	18.15	3/8"	3/8"	5182K398	22.02
1/8"	1/4"	5182K742	15.40	3/8"	1/2"	5182K132	19.64
3/16"	1/8"	5182K121	12.46	1/2"	1/4"	5182K755	13.67
1/4"	1/8"	5182K396	13.98	1/2"	3/8"	5182K131	15.77
1/4"	1/4"	5182K397	15.63	1/2"	3/4"	5182K402	48.01
1/4"	1/2"	5182K399	30.53	5/8"	1/2"	5182K401	26.15
5/16"	1/4"	5182K235	12.94	3/4"	1/2"	5182K761	20.36



Reducing Straights

For Tube OD (A)	(B)			For Tube OD (A)	(B)		
1/8"	1/16"	5182K714	$19.17	1/2"	1/8"	5182K246	$38.22
3/16"	1/16"	5182K241	23.17	1/2"	1/4"	5182K367	29.78
3/16"	1/8"	5182K701	13.51	1/2"	3/8"	5182K368	29.78
1/4"	1/16"	5182K242	17.21	5/8"	3/8"	5182K708	42.80
1/4"	1/8"	5182K702	14.64	5/8"	1/2"	5182K231	39.87
1/4"	3/16"	5182K243	15.72	3/4"	1/4"	5182K247	54.49
5/16"	1/4"	5182K705	17.22	3/4"	3/8"	5182K248	54.49
3/8"	1/16"	5182K244	26.34	3/4"	1/2"	5182K713	46.47
3/8"	1/8"	5182K245	22.81	1"	1/2"	5182K249	95.45
3/8"	1/4"	5182K365	19.24	1"	3/4"	5182K709	86.58
3/8"	5/16"	5182K239	20.87				

Reducing 90° Elbows

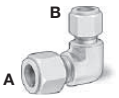

For Tube OD (A)	(B)		
1/4"	1/8"	5182K407	$42.55
5/16"	1/4"	5182K408	96.84
3/8"	1/4"	5182K409	56.87
1/2"	1/4"	5182K412	81.35
1/2"	3/8"	5182K413	86.05
3/4"	1/2"	5182K421	181.87

Reducing Inline Tees

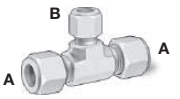

For Tube OD (A)	(B)		
1/4"	1/8"	5182K362	$93.02
3/8"	1/4"	5182K364	59.15
1/2"	1/4"	5182K369	83.76
1/2"	3/8"	5182K366	87.45
3/4"	3/8"	5182K372	117.24
3/4"	1/2"	5182K371	123.60

Caps, Replacement Parts, and Tube Supports







For Tube OD	Caps for Tubing		Caps for Fittings		Nuts		Front and Back Sleeves		Tube Supports: For Tube ID		
1/16"	5182K848	$11.97	5182K851	$14.36	5182K672	$4.24	5182K501	$6.38			
1/8"	5182K691	8.64	5182K681	8.84	5182K673	2.67	5182K502	4.18			
3/16"	5182K692	8.52	5182K682	9.11	5182K675	2.42	5182K503	4.12	1/8"	5182K325	$3.51
1/4"	5182K634	7.07	5182K624	6.73	5182K554	2.42	5182K504	3.53	1/8"	5182K326	3.45
5/16"	5182K693	7.97	5182K683	7.77	5182K676	2.58	5182K505	4.20	1/4"	5182K329	3.76
3/8"	5182K636	9.42	5182K626	7.58	5182K556	3.27	5182K506	4.28	1/4"	5182K332	3.82
1/2"	5182K638	13.78	5182K628	11.29	5182K557	5.38	5182K507	5.75	1/4"	5182K334	5.28
5/8"	5182K694	18.31	5182K684	16.02	5182K677	7.75	5182K508	6.83	3/8"	5182K336	8.60
3/4"	5182K695	23.29	5182K685	18.75	5182K678	9.24	5182K509	7.95	1/2"	5182K337	9.68
1"	5182K849	43.40	5182K852	38.04	5182K679	17.60	5182K511	13.07	3/4"	5182K339	9.77

Additional Type 316 Stainless Steel Yor-Lok Tube Fittings

For pricing, specifications such as pipe size, and a list of common applications, go to mcmaster.com and search for the part number below.

Available Shapes	For Tube ODs	
Tube-to-Pipe Adapters		
Through-Wall Straights (NPT)	1/8", 1/4", 3/8", 1/2"	5182K952
90° Elbows; Inline Tees (UNF)	1/4", 3/8", 1/2", 3/4", 1"	5182K953
Right Angle Tees (NPT)	1/8", 1/4", 3/8", 1/2", 3/4"	5182K954
Right Angle Tees (UNF)	1/4", 3/8", 1/2", 3/4", 1"	5182K955
Tube-to-Tube Connectors		
Socket-Weld Straights; 90° Elbows	1/4", 3/8", 1/2", 3/4", 1"	5182K951

Available Shapes	For Tube ODs	
Tube-to-Tube Connectors (Cont.)		
37° Flared Straights	1/8", 1/4", 3/8", 1/2", 3/4", 1"	5182K957
Miniature (Chromatography) Straights	1/16", 1/8", 1/4", 3/8"	5182K958
Tube-to-Hose Adapters		
Push-On Straights	1/4", 3/8", 1/2"	5182K959★

★Maximum pressure is 350 psi. Temperature range is -320° to 1200° F

Super-Corrosion-Resistant and Acid-Resistant Yor-Lok Tube Fittings

Hastelloy (Alloy C-276) is more corrosion resistant than Type 316 stainless steel. Monel (Alloy 400) is suitable for hydrofluoric and sulfuric acids.

For pricing, specifications such as pipe size, and a list of common applications, go to mcmaster.com and search for the part number below.

Available Shapes	For Tube ODs	Hastelloy	Monel
Tube-to-Threaded Pipe Adapters			
Straights (NPT)	1/4", 3/8", 1/2"	7436T15	7436T8
90° Elbows (NPT)	1/4", 3/8", 1/2"	7436T2	7436T9
Tube-to-Tube Connectors			
Straights	1/4", 3/8", 1/2"	7436T3	7436T16
90° Elbows	1/4", 3/8", 1/2"	7436T4	7436T11

Available Shapes	For Tube ODs	Hastelloy	Monel
Tube-to-Tube Connectors (Cont.)			
Tees	1/4", 3/8", 1/2"	7436T5	7436T12
Replacement Parts			
Nuts	1/4", 3/8", 1/2"	7436T6	7436T14
Front and Back Sleeves	1/4", 3/8", 1/2"	7436T7	7436T13

British Standard Yor-Lok Tube Fittings

- Maximum Pressure: See below; based on 0.035″ tube wall thickness
- Temperature Range: BSPT: –425° to 1200° F; BSPP: –15° to 400° F
- Tubing: Use with seamless Types 304 and 316 annealed stainless steel that meets ASTM A269

Use these fittings to connect tubing to BSPT (British Standard Pipe Taper) and BSPP (British Standard Pipe Parallel) threads. Also known as instrumentation fittings, they have front and back sleeves (double ferrules), which create a tight, leak-resistant seal against high pressure conditions. Fittings include a nut, and the male BSPP threads also have a fluoroelastomer O-ring. Use with air, water, oil, natural gas, solvents, and gasoline; all BSPT fittings and BSPP female fittings can also be used with steam. Fittings are made of forged or bar stock Type 316 stainless steel and offer excellent strength and durability in corrosive environments. They are compatible with Swagelok®, Parker A-Lok, and Let-Lok fittings. Straights meet ASTM A479 and elbows meet ASTM A182.

Connections: Compression, BSPT, or BSPP threads.



For Tube OD	Pipe Size	Max. psi @ 72°F	BSPT Threads: Straights, Male Pipe		BSPT Threads: Straights, Female Pipe		BSPT Threads: 90° Elbows, Male Pipe		BSPP Threads: Straights, Male Pipe		BSPP Threads: Straights, Female Pipe		BSPP Threads: 90° Elbows, Male Pipe	
1/8″	1/8	10,000	5672K21	$10.41	—	—	5672K41	$16.86	5672K111	$24.77	—	—	—	—
1/4″	1/8	5,100	5672K67	9.42	5672K73	$12.70	5672K78	17.35	5672K84	22.89	5672K91	$19.20	5672K58	$23.84
1/4″	1/4	5,100	5672K23	9.92	5672K61	16.20	5672K43	19.50	5672K131	27.39	5672K51	23.14	5672K321	32.23
1/4″	1/2	5,100	5672K68	16.79	5672K74	21.71	5672K79	30.03	5672K85	35.70	5672K92	28.21	5672K59	36.53
3/8″	1/4	3,300	5672K69	13.52	5672K75	16.52	5672K81	23.20	5672K86	28.75	5672K94	23.02	5672K36	29.70
3/8″	3/8	3,300	5672K26	15.37	5672K64	21.98	5672K46	28.43	5672K161	36.35	5672K54	30.08	5672K341	40.99
3/8″	1/2	3,300	5672K71	18.16	5672K76	28.26	5672K82	35.76	5672K87	37.90	5672K57	34.76	5672K37	42.26
1/2″	1/4	2,400	5672K72	19.52	5672K77	22.53	5672K83	32.76	5672K88	37.91	5672K93	29.04	5672K38	39.26
1/2″	1/2	2,400	5672K28	22.81	5672K66	32.23	5672K48	41.65	5672K181	48.70	5672K56	44.79	5672K351	57.35

Metric Yor-Lok Tube Fittings

- Maximum Pressure: See chart at right
- Temperature Range: –425° to 1200° F
- Tubing: Use with seamless or welded Types 304, 304L, 316 and 316L stainless steel that meets ASTM A213, A249, or A269

Sized specifically for metric tubing, these stainless steel fittings have excellent strength and corrosion resistance. The two-sleeve (double ferrule) design ensures a leak-tight connection in high pressure and high vacuum applications. Use with air, water, steam, oil, natural gas, solvents, and gasoline. Also known as instrumentation fittings, they are compatible with Swagelok®, Parker A-Lok, and Let-Lok fittings. Fittings include a nut and are made of forged or bar stock Type 316 stainless steel. Sterilize with steam (autoclaving). Vacuum rating is 29.8″ Hg @ 70° F.

Connections: Compression or NPT threads.

For Tube OD	Tube Wall Thick.	Max psi @72° F
3 mm	0.028″	4,400
4 mm	0.028″	3,600
6 mm	0.035″	4,100
8 mm	0.035″	3,200
10 mm	0.035″	2,600
12 mm	0.035″	2,100
14 mm	0.049″	2,400

Tube-to-Threaded Pipe Adapters



For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe	
3 mm	1/8	5305K248	$11.87	5305K209	$15.11	—	—
4 mm	1/4	5305K346	11.35	—	—	5305K462	$20.74
6 mm	1/4	5305K251	10.68	5305K231	16.50	5305K263	20.33
6 mm	3/8	5305K252	12.91	5305K232	17.10	5305K264	30.16
6 mm	1/2	5305K253	17.39	5305K233	23.44	5305K265	32.24
8 mm	1/4	5305K247	13.52	5305K242	17.36	5305K273	20.74
10 mm	1/4	5305K254	13.79	5305K234	15.83	5305K266	24.85
10 mm	3/8	5305K255	15.59	5305K235	19.80	5305K267	27.88
10 mm	1/2	5305K256	18.69	5305K236	28.79	5305K268	38.70
12 mm	1/4	5305K257	19.91	5305K237	24.55	5305K269	31.35
12 mm	3/8	5305K258	20.93	5305K238	21.78	5305K271	33.69
12 mm	1/2	5305K259	23.09	5305K239	33.94	5305K272	40.67
14 mm	1/2	5305K249	28.50	5305K211	36.48	—	—

Tube-to-Tube Connectors



For Tube OD	Straights		90° Elbows		Tees	
3 mm	5305K316	$18.00	5305K366	$23.06	5305K376	$37.48
4 mm	5305K414	15.18	5305K461	20.15	5305K474	36.35
6 mm	5305K311	15.48	5305K362	23.72	5305K371	33.70
8 mm	5305K315	18.26	5305K365	24.81	5305K375	38.50
10 mm	5305K312	22.15	5305K363	28.79	5305K372	43.96
12 mm	5305K313	33.00	5305K364	45.15	5305K373	63.34
14 mm	5305K317	43.13	5305K367	54.27	5305K377	79.29

Reducing Straights



For Tube OD (A)	(B)		
4 mm	1/4″	5305K401	$15.52
6 mm	1/4″	5305K302	15.83
10 mm	1/4″	5305K305	22.00
12 mm	1/4″	5305K306	29.36

Caps and Replacement Parts



For Tube OD	Caps for Tubing		Caps for Fittings		Nuts		Front and Back Sleeves	
3 mm	—	—	—	—	5305K147	$3.35	5305K793	$5.13
4 mm	5305K261	$8.16	5305K451	$10.02	5305K452	3.33	5305K794	4.84
6 mm	5305K163	9.59	5305K153	7.70	5305K143	3.17	5305K795	3.92
8 mm	5305K162	7.65	5305K152	8.25	5305K146	3.00	5305K797	4.31
10 mm	5305K164	10.15	5305K154	8.80	5305K144	3.73	5305K798	4.45
12 mm	5305K165	15.07	5305K155	14.35	5305K145	6.19	5305K799	6.00
14 mm	—	—	—	—	5305K148	9.36	5305K801	7.93

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
OD (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

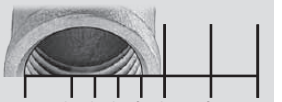

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
ID (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

Brass and Steel Yor-Lok Tube Fittings

- Maximum Pressure: See chart at right
- Temperature Range: Brass: –40° to 400° F Steel: –20° to 800° F
- Tubing: Brass: Use with seamless copper that meets ASTM B68, B75, or B88 Steel: Use with seamless carbon steel that meets ASTM A179

With the highest pressure ratings of any brass or steel compression fittings we offer, these fittings have front and back sleeves (double ferrules) that form a strong, leak-tight seal around the outside of your tubing. Use with air, oil, hydraulic fluid, gasoline, and diesel fuel; brass fittings can also be used with water. Also known as instrumentation fittings, they are compatible with Swagelok®, Parker A-Lok, and Let-Lok fittings. Fittings include a nut. They meet ANSI/ASME B31.3.

Brass fittings are made of forged or bar stock yellow brass and offer good corrosion resistance.

Steel fittings are made of zinc-plated steel that is forged or bar stock. They have a higher pressure rating than stainless steel and brass fittings and provide good strength and durability in noncorrosive environments.

Inline tees are also known as branch tees, **right angle tees** are also known as run tees, and **through-wall straights** are also known as bulkhead couplings. **Tube stems** insert into the end of your tube fitting.

Connections: Compression or NPT threads.

Max. Pressure (psi) @ 72° F

For Tube OD	Tube Wall Thick.	Brass	Steel
1/16"	0.028"	5,400	—
1/8"	0.035"	2,900	6,800
3/16"	0.035"	2,300	6,700
1/4"	0.035"	1,600	4,900
5/16"	0.035"	1,300	3,800
3/8"	0.035"	1,000	3,100
1/2"	0.035"	800	2,300
5/8"	0.035"	—	1,800
5/8"	0.049"	900	—
3/4"	0.049"	700	2,200
1"	0.065"	800	2,100

Tube-to-Threaded Pipe Adapters








For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe		Inline Tees, Male Pipe		Inline Tees, Female Pipe		Right Angle Tees, Male Pipe	
Brass													
1/8"	1/8	5272K292	$4.42	5272K283	$5.90	5272K303	$9.34	5272K178	$14.73	5272K365	$17.94	5272K156	$14.73
1/8"	1/4	5272K291	4.87	5272K282	6.17	5272K302	8.81	5272K177	16.09	—	—	5272K288	16.98
3/16"	1/8	5272K284	4.89	5272K313	5.83	5272K402	9.10	5272K501	17.12	5272K531	70.58	5272K157	15.55
1/4"	1/8	5272K299	4.08	5272K281	5.16	5272K301	7.71	5272K176	14.52	5272K168	17.97	5272K139	14.52
1/4"	1/4	5272K191	4.08	5272K181	5.60	5272K201	8.35	5272K171	14.81	5272K161	17.98	5272K151	15.03
1/4"	3/8	5272K192	5.44	5272K182	7.23	5272K202	11.72	5272K264	15.84	5272K272	27.64	—	—
1/4"	1/2	5272K193	7.77	5272K183	9.98	5272K203	16.68	5272K265	24.66	5272K273	27.35	5272K274	28.10
5/16"	1/8	5272K311	5.12	5272K314	6.72	5272K308	9.01	5272K179	18.25	—	—	5272K158	16.68
5/16"	1/4	5272K297	4.85	5272K315	6.58	5272K307	9.48	5272K266	13.37	—	—	5272K275	16.00
3/8"	1/8	5272K295	5.25	5272K316	7.15	5272K306	9.75	—	—	—	—	5272K276	10.95
3/8"	1/4	5272K194	4.96	5272K184	7.30	5272K204	9.42	5272K172	16.90	5272K162	19.75	5272K152	16.58
3/8"	3/8	5272K195	5.35	5272K185	7.25	5272K205	11.29	5272K173	20.16	5272K286	26.77	5272K153	20.16
3/8"	1/2	5272K196	7.69	5272K186	10.67	5272K206	14.25	5272K267	25.17	—	—	5272K277	23.65
1/2"	1/4	5272K197	9.10	5272K187	10.37	5272K207	12.22	5272K268	20.11	5272K169	26.55	5272K278	21.82
1/2"	3/8	5272K198	8.58	5272K188	9.98	5272K208	11.68	5272K174	24.21	5272K163	27.65	5272K154	24.94
1/2"	1/2	5272K199	9.42	5272K189	11.94	5272K209	13.27	5272K175	25.04	5272K164	29.25	5272K155	26.54
1/2"	3/4	5272K296	12.38	5272K317	14.98	5272K403	23.50	—	—	—	—	—	—
5/8"	3/8	5272K312	10.08	5272K318	13.60	5272K401	19.13	—	—	—	—	—	—
5/8"	1/2	5272K298	10.42	5272K261	13.50	5272K309	17.85	5272K269	34.75	5272K167	33.58	5272K159	32.22
3/4"	1/2	5272K293	12.42	5272K262	17.27	5272K304	24.81	—	—	—	—	—	—
3/4"	3/4	5272K294	13.50	5272K263	17.50	5272K305	23.83	5272K271	83.57	5272K166	48.64	5272K279	80.60
1"	1	5272K515	27.47	5272K516	38.67	5272K517	47.94	—	—	—	—	—	—
Steel													
1/8"	1/8	5929K11	5.54	5929K35	42.52	5929K71	11.39	—	—	—	—	—	—
1/8"	1/4	5929K34	6.19	5929K36	42.17	5929K37	13.50	—	—	—	—	—	—
3/16"	1/8	5929K13	5.58	—	—	5929K73	11.44	—	—	—	—	—	—
1/4"	1/8	5929K14	4.61	5929K44	6.37	5929K74	9.54	5929K104	15.13	5929K134	62.98	5929K164	15.54
1/4"	1/4	5929K15	4.86	5929K45	7.13	5929K75	10.58	5929K105	16.60	5929K135	20.83	5929K165	17.03
1/4"	3/8	5929K16	5.83	5929K46	37.90	5929K76	13.13	—	—	—	—	—	—
1/4"	1/2	5929K17	8.40	5929K47	10.30	5929K77	16.52	—	—	—	—	—	—
5/16"	1/8	5929K18	6.21	5929K48	36.01	5929K78	13.02	—	—	5929K138	78.02	—	—
5/16"	1/4	5929K19	5.96	5929K49	34.38	5929K79	14.25	—	—	—	—	—	—
3/8"	1/8	5929K21	5.90	5929K51	7.80	5929K81	12.37	—	—	—	—	—	—
3/8"	1/4	5929K22	5.56	5929K52	8.09	5929K82	11.98	5929K112	18.13	5929K142	22.90	5929K172	18.56
3/8"	3/8	5929K23	6.84	5929K53	10.68	5929K83	13.35	5929K113	29.56	—	—	5929K173	69.04
3/8"	1/2	5929K24	8.59	5929K54	12.39	5929K84	15.42	—	—	—	—	—	—
1/2"	1/4	5929K25	8.68	5929K55	11.63	5929K85	13.77	—	—	5929K145	81.02	—	—
1/2"	3/8	5929K26	8.49	5929K56	11.57	5929K86	14.19	5929K116	28.18	5929K146	29.12	5929K176	30.04
1/2"	1/2	5929K27	8.67	5929K57	13.86	5929K87	16.33	5929K117	27.02	5929K147	40.98	5929K177	26.58
1/2"	3/4	5929K28	11.43	5929K58	23.18	5929K88	20.63	—	—	—	—	—	—
5/8"	3/8	5929K29	41.75	5929K59	31.47	5929K89	20.44	—	—	—	—	—	—
5/8"	1/2	5929K31	10.45	5929K61	15.07	5929K91	17.88	5929K118	47.30	5929K151	80.93	—	—
3/4"	1/2	5929K32	12.31	5929K62	17.54	5929K92	21.72	—	—	—	—	—	—
3/4"	3/4	5929K33	13.48	5929K63	18.90	5929K93	21.41	5929K123	78.32	5929K153	48.57	—	—
1"	1	5929K38	20.44	5929K64	34.26	5929K94	47.38	5929K119	193.02	5929K154	200.68	5929K178	179.29

(Continued on following page)

Brass and Steel Yor-Lok Tube Fittings *(Continued from previous page)*

Tube-to-Threaded Pipe Adapters (Cont.)

Straights, Tube Stem × Male Pipe



Stem OD	Pipe Size			Stem OD	Pipe Size		
Brass				**Steel**			
1/4"	1/8	5272K721	$3.58	1/4"	1/8	5929K621	$3.95
1/4"	1/4	5272K722	3.58	1/4"	1/4	5929K622	4.14
3/8"	1/4	5272K723	4.14	3/8"	1/4	5929K623	5.54
3/8"	3/8	5272K724	4.84	3/8"	3/8	5929K624	5.93
1/2"	3/8	5272K725	8.04	1/2"	3/8	5929K625	7.41
1/2"	1/2	5272K726	7.83	1/2"	1/2	5929K626	7.92

Tube-to-Tube Connectors









For Tube OD	Straights		90° Elbows		Tees		Through-Wall Straights: For Tube OD	Required Hole Size		
Brass							**Brass**			
1/16"	5272K503	$8.75			5272K505	$21.14	1/16"	3/16"	5272K229	$26.04
1/8"	5272K224	6.58	5272K244	$11.92	5272K254	14.01	1/8"	5/16"	5272K234	9.52
3/16"	5272K225	6.58	5272K245	11.43	5272K255	15.11	3/16"	3/8"	5272K504	10.88
1/4"	5272K221	4.97	5272K241	9.12	5272K251	13.27	1/4"	7/16"	5272K231	8.42
5/16"	5272K227	5.60	5272K247	12.40	5272K257	17.01	5/16"	1/2"	5272K236	9.72
3/8"	5272K222	6.85	5272K242	11.13	5272K252	16.28	3/8"	9/16"	5272K232	11.10
1/2"	5272K223	10.92	5272K243	16.84	5272K253	22.50	1/2"	3/4"	5272K233	17.46
5/8"	5272K228	16.38	5272K248	23.25	5272K258	31.45	5/8"	7/8"	5272K237	26.11
3/4"	5272K226	19.48	5272K246	32.19	5272K256	39.87	3/4"	1"	5272K235	32.10
1"	5272K518	38.67	5272K238	65.07	5272K521	72.79	1"	1 5/16"	5272K519	68.81
Steel							**Steel**			
1/8"	5929K191	8.75			5929K221	15.99	1/8"	5/16"	5929K201	16.31
3/16"	5929K192	9.73			5929K222	101.58	1/4"	7/16"	5929K203	9.61
1/4"	5929K193	7.33	5929K213	11.42	5929K223	14.40	5/16"	1/2"	5929K204	96.73
5/16"	5929K194	7.95	5929K214	78.22	5929K224	29.56	3/8"	9/16"	5929K205	14.63
3/8"	5929K195	9.53	5929K215	13.49	5929K225	17.54	1/2"	3/4"	5929K206	19.02
1/2"	5929K196	11.65	5929K216	17.73	5929K226	25.94	3/4"	1"	5929K208	27.69
5/8"	5929K197	16.23	5929K217	23.12	5929K227	29.94				
3/4"	5929K198	20.10	5929K218	29.19	5929K228	37.69				
1"	5929K199	32.40	5929K219	59.42	5929K229	64.77				



Reducing Straights

For Tube OD (A)	(B)			For Tube OD (A)	(B)			For Tube OD (A)	(B)		
Brass				**Brass (Cont.)**				**Steel**			
1/8"	1/16"	5272K506	$7.65	3/8"	1/4"	5272K211	$7.47	1/4"	1/8"	5929K232	$8.05
3/16"	1/8"	5272K215	7.80	1/2"	1/4"	5272K212	11.79	3/8"	1/4"	5929K234	10.52
1/4"	1/16"	5272K507	7.80	1/2"	3/8"	5272K213	11.48	1/2"	1/4"	5929K235	14.24
1/4"	1/8"	5272K214	6.07	3/4"	1/2"	5272K216	20.50	1/2"	3/8"	5929K236	14.24
5/16"	1/4"	5272K217	6.33					3/4"	1/2"	5929K238	21.57

Caps and Replacement Parts









For Tube OD	Caps for Tubing		Caps for Fittings		Nuts		Front and Back Sleeves	
Brass								
1/16"	5272K509	$5.42	5272K508	$5.83	5272K511	$1.44	5272K601	$3.46
1/8"	5272K144	3.10	5272K134	2.86	5272K124	.92	5272K602	2.55
3/16"	5272K145	3.20	5272K135	2.95	5272K125	.83	5272K603	2.57
1/4"	5272K141	2.68	5272K131	2.60	5272K121	.69	5272K604	2.48
5/16"	5272K147	3.43	5272K137	3.18	5272K127	.98	5272K605	2.82
3/8"	5272K142	4.06	5272K132	3.76	5272K122	1.06	5272K606	2.91
1/2"	5272K143	5.77	5272K133	5.44	5272K123	1.42	5272K607	4.35
5/8"	5272K148	7.07	5272K138	6.33	5272K128	1.92	5272K608	4.80
3/4"	5272K146	10.25	5272K136	7.07	5272K126	2.88	5272K609	5.65
1"	5272K523	18.91	5272K522	15.47	5272K524	7.17	5272K611	7.85
Steel								
1/8"	5929K241	4.76	5929K251	4.36	5929K261	.96	5929K302	3.46
3/16"					5929K262	.98	5929K303	3.46
1/4"	5929K243	3.95	5929K253	3.70	5929K263	.87	5929K304★	4.18
5/16"	5929K244	51.50	5929K254	34.54	5929K264	1.07	5929K305★	4.76
3/8"	5929K245	5.93	5929K255	4.11	5929K265	1.10	5929K306★	4.67
1/2"	5929K246	7.35	5929K256	6.37	5929K266	1.52	5929K307★	6.40
5/8"					5929K267	2.02	5929K308★	7.61
3/4"	5929K248	11.46	5929K258	8.38	5929K268	2.67	5929K309★	9.57
1"			5929K259	14.80	5929K269	5.34	5929K311★	14.20

★Back sleeves are made of Type 316 stainless steel.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

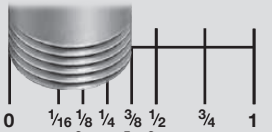

Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
OD (to nearest 1/8"): 0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"

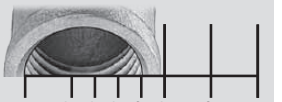

Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
ID (to nearest 1/8"): 0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"

About Flared Tube Fittings

Flared tube fittings provide a tight seal on metal tubing that has been flared with a flaring tool. A complete fitting consists of a body, nut, and sleeve (ferrule). To install, slide the nut and sleeve onto the tubing, flare the end of the tubing, then tighten the nut onto the body and sleeve.

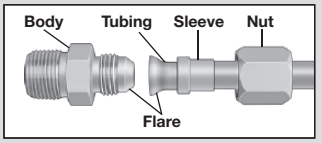

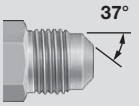

Flared tube fittings come with a 37° flare or a 45° flare.

37° Flare—The most popular style of flare, these fittings are often used in hydraulic applications. They withstand higher pressure than 45° flared fittings.

45° Flare—Commonly used in refrigeration applications, these fittings are made of brass and are for lower-pressure applications than 37° flared fittings.

Gauge for 37° and 45° Flared Tube Fittings—Use this pocket-size gauge to determine the angle of your flared fitting.

50715K2 ..... $11.28

Precision AN Stainless Steel 37° Flared Tube Fittings

- Maximum Pressure: 3,000 psi @ 72° F
- Temperature Range: –320° to 1200° F, except Type 316 Stainless Steel with PTFE Seal are –320° to 500° F
- Tubing: Use with flareable stainless steel

Tighter tolerances set these fittings apart from other 37° flared fittings. The tube end/nut threads are 3A and 3B threads, which adhere to higher tolerances than all other tube end/nut threads. Use with water, air, oil, and hydraulic fluid. Fittings are made to exact AS (formerly AN) specifications and meet SAE AS4841 and ASTM A380, unless noted. They are made of forged or bar stock stainless steel. The nuts and sleeves are sold separately.

Type 304 offers good corrosion resistance, and **Type 316** provides excellent corrosion resistance. **Inline tees** are also known as branch tees, and **through-wall fittings** are also known as bulkhead couplings. **Tube end reducers** require two nuts for assembly.

Threaded Connections: Tube end/nut threads are UNJF straight threads, except 1 1/16"-12 and 1 5/16"-12 are UNJ straight threads. Pipe ends have ANPT threads, which are compatible with NPT threads.

For Tube OD	Tube End/Nut Thread
1/8"	5/16"-24
1/4"	7/16"-20
3/8"	9/16"-18
1/2"	3/4"-16
3/4"	1 1/16"-12
1"	1 5/16"-12

Tube-to-Threaded Pipe Adapters





For Tube OD	Pipe Size	Straights, Male Pipe Type 304		Straights, Male Pipe Type 316		90° Elbows, Male Pipe Type 304		90° Elbows, Male Pipe Type 316		Inline Tees, Male Pipe Type 304		Inline Tees, Male Pipe Type 316	
1/8"	1/8	5482K11	$20.00	5482K117	$22.81	5482K208	$40.00	5482K218	$45.60	5482K228	$62.54	5482K237	$92.73
1/4"	1/8	5482K111	9.76	5482K119	11.30	5482K209	21.60	5482K219	24.68	5482K229	24.70	5482K238	28.00
1/4"	1/4	5482K12	10.86	5482K118	13.00	5482K211	26.30	5482K221	29.17	5482K231	40.00	5482K239	50.40
1/4"	1/2	5482K112	18.46	5482K121	25.33	—	—	—	—	—	—	—	—
3/8"	1/4	5482K113	10.32	5482K123	12.00	5482K212	22.00	5482K222	25.33	5482K232	40.00	5482K241	49.09
3/8"	3/8	5482K15	13.60	5482K122	15.64	5482K213	26.80	5482K223	33.48	—	—	—	—
1/2"	3/8	5482K114	14.00	5482K124	17.54	5482K214	29.40	5482K224	36.84	5482K233	42.00	5482K242	50.91
1/2"	1/2	5482K18	17.60	5482K125	20.60	5482K215	57.00	5482K225	66.00	5482K234	100.75	5482K243	117.27
3/4"	3/4	5482K21	24.70	5482K126	28.12	5482K216	63.46	5482K226	70.00	5482K235	72.73	5482K244	87.55
1"	1	5482K116	41.70	5482K127	49.60	5482K217	96.36	5482K227	106.45	5482K236	133.33	5482K245	145.45

Tube-to-Tube Connectors





For Tube OD	Straights Type 304		Straights Type 316		Required Hole Size	Through-Wall Straights Type 304		Through-Wall Straights Type 316		90° Elbows Type 304		90° Elbows Type 316	
1/8"	5482K31	$17.22	5482K129	$28.75	5/16"	5482K259	$45.00	5482K266	$70.91	5482K24	$45.80	5482K147	$56.25
1/4"	5482K32	11.02	5482K131	12.70	7/16"	5482K261	20.40	5482K267	23.62	5482K25	21.44	5482K148	26.40
3/8"	5482K33	11.90	5482K132	14.30	9/16"	5482K262	24.80	5482K268	27.20	5482K26	24.40	5482K149	30.70
1/2"	5482K34	17.38	5482K133	20.50	3/4"	5482K263	35.70	5482K269	42.20	5482K27	33.96	5482K151	37.60
3/4"	5482K35	38.06	5482K134	47.17	1 1/16"	5482K264	74.50	5482K271	82.45	5482K28	62.38	5482K152	69.09
1"	5482K128	59.60	5482K135	69.24	1 5/16"	5482K265	93.18	5482K272	118.09	5482K146	87.27	5482K153	110.00





For Tube OD	Through-Wall 90° Elbows Required Hole Size	Through-Wall 90° Elbows Type 304		Through-Wall 90° Elbows Type 316		Tees Type 304		Tees Type 316		Crosses Type 304		Crosses Type 316	
1/8"	—	—	—	—	—	5482K51	$64.22	5482K171	$70.60	5482K246	$73.22	5482K253	$153.83
1/4"	7/16"	5482K273	$34.26	5482K278	$38.80	5482K52	27.50	5482K172	31.90	5482K247	32.60	5482K254	45.33
3/8"	9/16"	5482K274	39.22	5482K279	43.20	5482K53	28.30	5482K173	35.20	5482K248	40.16	5482K255	51.25
1/2"	3/4"	5482K275	48.87	5482K281	54.10	5482K54	42.74	5482K174	56.33	5482K249	57.80	5482K256	78.83
3/4"	1 1/16"	5482K276	81.18	5482K282	99.72	5482K55	80.00	5482K175	101.82	5482K251	121.82	5482K257	150.00
1"	1 5/16"	5482K277	102.36	5482K283	127.27	5482K169	116.73	5482K176	158.33	5482K252	212.51	5482K258	250.49

(Continued on following page)

Precision AN Stainless Steel 37° Flared Tube Fittings *(Continued from previous page)*

Tube-to-Tube Connectors (Cont.)



Reducing Straights

For Tube OD (A)	(B)	Type 304		Type 316	
1/4"	1/8"	5482K41	$22.00	5482K138	$27.27
3/8"	1/4"	5482K43	13.08	5482K139	15.00
1/2"	1/4"	5482K42	18.34	5482K141	20.90
1/2"	3/8"	5482K44	18.84	5482K142	21.60
3/4"	1/2"	5482K319	30.00	5482K143	36.92
1"	1/2"	5482K136	62.00	5482K144	76.53
1"	3/4"	5482K137	57.69	5482K145	64.00



Tube End Reducers

For Tube OD (A)	(B)	Type 304		Type 316	
3/8"	1/4"	5482K154	$7.26	5482K162	$8.91
1/2"	1/4"	5482K155	9.90	5482K163	12.26
1/2"	3/8"	5482K156	10.64	5482K164	12.00
3/4"	1/4"	5482K157	17.76	5482K165	20.56
3/4"	1/2"	5482K158	20.20	5482K166	26.67
1"	1/2"	5482K161	28.10	5482K168	34.62
1"	3/4"	5482K159	25.20	5482K167	31.34

Plugs



Plugs

For Tube OD	Type 304		Type 316	
1/8"	5482K61	$16.34	5482K178	$20.17
1/4"	5482K62	6.34	5482K179	7.50
3/8"	5482K63	7.42	5482K181	9.09
1/2"	5482K64	9.14	5482K182	11.32
3/4"	5482K65	18.00	5482K183	20.52
1"	5482K177	28.85	5482K184	32.00

Caps, Nuts, and Sleeves







Caps

Nuts

Sleeves

For Tube OD	Caps: Type 304		Caps: Type 316		Nuts: Type 304		Nuts: Type 316		Sleeves: Type 304		Sleeves: Type 316	
1/8"	5482K67	$7.80	5482K186	$9.62	5482K74	$2.80	5482K194	$3.50	5482K81	$2.24	5482K202	$2.92
1/4"	5482K68	5.36	5482K187	6.50	5482K75	3.50	5482K195	4.32	5482K82	1.40	5482K203	1.75
3/8"	5482K69	6.76	5482K188	7.71	5482K76	4.40	5482K196	5.11	5482K83	1.88	5482K204	2.31
1/2"	5482K71	9.50	5482K189	11.75	5482K77	6.60	5482K197	8.18	5482K84	2.44	5482K205	2.95
3/4"	5482K72	23.12	5482K191	26.30	5482K78	14.80	5482K198	18.17	5482K85	6.40	5482K206	7.28
1"	5482K185	40.40	5482K192	43.20	5482K193	24.00	5482K199	29.82	5482K201	12.10	5482K207	13.60

Type 316 Stainless Steel Fittings with PTFE Seal

The seal on these fittings provides an extra-strong connection in high-vibration applications. Fittings do not meet SAE AS4841.

Tube-to-Threaded Pipe Adapters

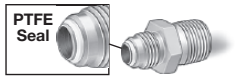



For Tube OD	Pipe Size	Straights, Male Pipe		90° Elbows, Male Pipe	
1/4"	1/4	5482K284	$22.00	5482K311	$40.00
3/8"	3/8	5482K285	25.00	5482K312	54.00
1/2"	1/2	5482K286	34.00	5482K313	85.91
3/4"	3/4	5482K287	45.60	5482K314	89.09

Tube-to-Tube Connectors





For Tube OD	Straights		Through-Wall Straights: Required Hole Size	
1/4"	5482K288	$26.50	7/16"	5482K315	$39.20
3/8"	5482K289	28.00	9/16"	5482K316	41.00
1/2"	5482K291	43.00	3/4"	5482K317	65.50
3/4"	5482K292	78.18	1 1/16"	5482K318	107.73

Tube-to-Tube Connectors





For Tube OD	90° Elbows		Tees	
1/4"	5482K293	$44.00	5482K297	$58.00
3/8"	5482K294	49.74	5482K298	72.00
1/2"	5482K295	59.10	5482K299	97.09
3/4"	5482K296	84.47	5482K301	154.82



Reducing Straights

For Tube OD (A)	(B)		
3/8"	1/4"	5482K302	$32.00
1/2"	1/4"	5482K303	42.00
1/2"	3/8"	5482K304	40.00
3/4"	1/2"	5482K305	61.60

Plugs



For Tube OD		
1/4"	5482K306	$22.00
3/8"	5482K307	26.00
1/2"	5482K308	30.00
3/4"	5482K309	40.00

British Standard Type 316 Stainless Steel 37° Flared Tube Fittings

- Maximum Pressure: See below
- Temperature Range: BSPT: –425° to 1200° F BSPP: –15° to 400° F
- Tubing: Use with flareable seamless and welded Type 304 and Type 316 stainless steel that meets ASTM A213, A249, or A269

Connect to 37° flared tubing with BSPT (British Standard Pipe Taper) and BSPP (British Standard Pipe Parallel) threads. Fittings are for use with water, air, natural gas, oil, and solvents. Also known as JIC (Joint Industrial Council) fittings and hydraulic fittings, they are made of forged or bar stock Type 316 stainless steel for use in corrosive environments. Fittings meet SAE J514 and MIL-F-18866. The nuts and sleeves are sold separately on page 193, unless noted.

Straights with BSPP threads include a rubber seal bonded to a metal washer. **90° elbows with BSPP threads** include an O-ring seal, metal washers, and a nut.

Threaded Connections: Tube end/nut threads are UNF straight threads. Pipe ends have BSPT or BSPP threads.









For Tube OD	Pipe Size	Tube End/Nut Thread	BSPT Threads: Max. psi @ 72° F	Straights, Male Pipe		90° Elbows, Male Pipe		BSPP Threads: Max. psi @ 72° F	Straights, Male Pipe		90° Elbows, Male Pipe	
1/4"	1/8	7/16"-20	8,000	5097K31	$11.34			6,000	5097K41	$12.51	5097K45	$55.54
1/4"	1/4	7/16"-20	8,000	5097K32	13.85	5097K71	$33.70	6,000	5097K42	11.84	5097K46	53.67
3/8"	1/4	9/16"-18	7,800	5097K34	14.24	5097K73	31.80	6,000	5097K43	38.35	5097K47	64.03
3/8"	3/8	9/16"-18	7,800	5097K35	18.47	5097K74	49.84	6,000	5097K44	15.23	5097K48	77.95

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

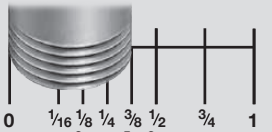

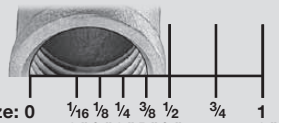

Type 316 Stainless Steel 37° Flared Tube Fittings

- Maximum Pressure: See below
- Temperature Range: –425° to 1200°F
- Tubing: Use with flareable seamless and welded Type 304 and Type 316 stainless steel that meets ASTM A213, A249, or A269

Achieve a tight metal-to-metal seal in highly corrosive environments. Fittings are for use with water, air, natural gas, isopropyl alcohol, and phosphoric acid. Also known as JIC (Joint Industrial Council) fittings, they are made of forged or bar stock Type 316 stainless steel. Fittings meet SAE J514 and ISO 8434. The nuts and sleeves are sold separately, unless noted.

Cleaned and Bagged Fittings—Individually bagged to prevent moisture and dirt contamination.

Inline tees are also known as branch tees, **right angle tees** are also known as run tees, and **through-wall straights** are also known as bulkhead couplings. Fittings with **swivel nut** have an adjustable nut attached that rotates 360° until tightened. **Tube end reducers** require two nuts for assembly.

Threaded Connections: Tube end/nut threads are UNF straight threads. Pipe ends have NPT threads, unless noted.

Also Available: Tube-to-threaded male pipe straights, 45° elbows, and 90° elbows with PTFE thread sealant. Available in the sizes shown below for 3/4" tube OD and smaller. Temperature range is –425° to 450°F. Please ask for 50715K888 and specify shape, tube OD, and pipe size.

For Tube OD	Tube End/Nut Thread
1/8"	5/16"-24
1/4"	7/16"-20
5/16"	1/2"-20
3/8"	9/16"-18
1/2"	3/4"-16
5/8"	7/8"-14
3/4"	1 1/16"-12
1"	1 5/16"-12
1 1/2"	1 7/8"-12

Tube-to-Threaded Pipe Adapters






For Tube OD	Pipe Size	Straights, Male Pipe Max. psi @ 72°F			Straights with Swivel Nut, Male Pipe Max. psi @ 72°F			Straights, Female Pipe Max. psi @ 72°F			90° Elbows, Male Pipe Max. psi @ 72°F		
Standard													
1/8"	1/8	6,000	50715K411	$13.02	____	____	____	6,000	50715K412	$33.26	5,000	50715K413	$36.59
1/4"	1/8	6,000	50715K161	6.67	6,000	50715K745	$74.49	6,000	50715K171	9.18	5,000	50715K181	16.14
1/4"	1/4	6,000	50715K162	8.16	6,000	50715K746	72.71	6,000	50715K172	12.99	5,000	50715K182	18.35
5/16"	1/8	6,000	50715K169	9.94	6,000	50715K747	77.35	6,000	50715K179	24.38	5,000	50715K189	33.13
5/16"	1/4	6,000	50715K212	11.06	6,000	50715K759	77.35	6,000	50715K213	19.90	5,000	50715K214	22.11
3/8"	1/4	6,000	50715K163	8.37	5,400	50715K683	56.58	6,000	50715K173	13.76	5,000	50715K183	18.71
3/8"	3/8	6,000	50715K164	10.86	5,400	50715K684	73.53	6,000	50715K174	19.49	5,000	50715K184	27.61
1/2"	3/8	6,000	50715K165	13.46	5,400	50715K748	88.27	6,000	50715K175	20.15	5,000	50715K185	30.19
1/2"	1/2	6,000	50715K166	16.71	4,800	50715K685	71.26	6,000	50715K176	32.48	5,000	50715K186	38.97
5/8"	1/2	6,000	50715K269	23.97	6,300	50715K761	107.09	6,000	50715K279	31.18	5,000	50715K289	49.69
3/4"	1/2	____	____	____	3,000	50715K687	117.09	____	____	____	____	____	____
3/4"	3/4	4,800	50715K167	34.50	4,200	50715K686	114.08	4,800	50715K177	48.56	4,000	50715K187	66.76
1"	1	3,600	50715K168	52.39	3,000	50715K688	127.35	3,600	50715K178	78.55	3,000	50715K188	97.85
1 1/2"	1 1/2	2,400	50715K731	114.19	2,200	50715K749	190.31	2,400	50715K732	160.92	2,000	50715K733	259.56
Cleaned and Bagged													
1/4"	1/8	6,000	50715K739	10.09	6,000	50715K771	75.83	6,000	50715K765	18.29	5,000	50715K776	25.70
1/4"	1/4	6,000	50715K741	11.25	6,000	50715K772	73.02	6,000	50715K766	22.28	5,000	50715K777	29.22
3/8"	1/4	6,000	50715K742	11.84	5,400	50715K773	59.49	6,000	50715K767	23.46	5,000	50715K778	28.05
3/8"	3/8	6,000	50715K743	14.39	5,400	50715K774	75.04	6,000	50715K768	28.05	5,000	50715K779	37.32
1/2"	1/2	6,000	50715K744	20.72	4,800	50715K775	80.22	6,000	50715K769	43.07	5,000	50715K781	48.83






For Tube OD	Pipe Size	90° Elbows, Female Pipe Max. psi @ 72°F			45° Elbows, Male Pipe Max. psi @ 72°F			Inline Tees, Male Pipe Max. psi @ 72°F		
Standard										
1/8"	1/8	____	____	____	5,000	50715K637	$78.22	____	____	____
1/4"	1/8	5,000	50715K191	$24.23	5,000	50715K639	33.00	5,000	50715K701	$28.88
1/4"	1/4	5,000	50715K192	30.73	5,000	50715K641	33.00	5,000	50715K702	46.16
5/16"	1/8	____	____	____	5,000	50715K643	70.19	5,000	50715K703	72.22
5/16"	1/4	5,000	50715K215	48.74	5,000	50715K644	59.30	8,300	50715K704	79.93
3/8"	1/4	5,000	50715K193	33.80	5,000	50715K645	41.22	5,000	50715K705	34.65
3/8"	3/8	4,500	50715K194	47.12	5,000	50715K647	69.18	5,000	50715K706	77.91
1/2"	3/8	3,000	50715K195	43.79	5,000	50715K649	49.45	5,000	50715K707	54.85
1/2"	1/2	3,000	50715K196	64.37	5,000	50715K651	57.17	5,000	50715K708	77.91
5/8"	1/2	3,000	50715K299	73.09	5,000	50715K652	69.18	5,000	50715K709	103.83
3/4"	3/4	3,000	50715K197	100.64	4,000	50715K653	79.14	4,000	50715K711	98.64
1"	1	1,700	50715K198	192.76	3,000	50715K655	182.95	3,000	50715K712	155.73
1 1/2"	1 1/2	1,500	50715K734	281.22	____	____	____	____	____	____
Cleaned and Bagged										
1/4"	1/8	5,000	50715K782	34.39	5,000	50715K671	46.25	5,000	50715K787	37.32
1/4"	1/4	5,000	50715K783	40.15	5,000	50715K672	46.25	5,000	50715K788	54.59
3/8"	1/4	5,000	50715K784	44.73	5,000	50715K673	54.46	5,000	50715K789	43.07
3/8"	3/8	4,500	50715K785	54.59	5,000	50715K674	81.11	5,000	50715K791	85.50
1/2"	1/2	3,000	50715K786	71.87	5,000	50715K675	63.37	5,000	50715K792	85.50

Straights, Male UNF Threads

For Tube OD	Thread Size	Max. psi @ 72°F		
Standard				
1/4"	7/16"-20	6,000	50715K676	$7.95
3/8"	9/16"-18	6,000	50715K677	9.66
1/2"	3/4"-16	6,000	50715K678	14.74
5/8"	7/8"-14	6,000	50715K679	25.47
3/4"	1 1/16"-12	6,000	50715K681	45.28
1"	1 5/16"-12	5,400	50715K682	67.88
Cleaned and Bagged				
1/4"	7/16"-20	6,000	50715K762	20.98
3/8"	9/16"-18	6,000	50715K763	22.64
1/2"	3/4"-16	6,000	50715K764	27.57

(Continued on following page)

Type 316 Stainless Steel 37° Flared Tube Fittings *(Continued from previous page)*

Tube-to-Tube Connectors






For Tube OD	Straights: Max. psi @ 72°F			Straights with Swivel Nuts: Max. psi @ 72°F			90° Elbows: Max. psi @ 72°F			90° Elbows with Swivel Nut: Max. psi @ 72°F		
1/8"	6,000	50715K414	$44.34	6,000	50715K751	$75.14	—	—	—	—	—	—
1/4"	6,000	50715K261	9.64	6,000	50715K689	71.26	5,000	50715K562	$17.73	5,000	50715K532	$22.17
5/16"	6,000	50715K266	19.88	6,000	50715K752	93.56	5,000	50715K563	53.20	5,000	50715K533	55.42
3/8"	6,000	50715K262	12.24	5,400	50715K691	81.00	5,000	50715K564	22.17	4,500	50715K534	33.26
1/2"	6,000	50715K263	18.23	4,800	50715K692	90.73	5,000	50715K565	31.04	4,000	50715K535	49.88
5/8"	6,000	50715K267	35.08	4,800	50715K753	106.82	5,000	50715K566	50.99	4,000	50715K536	66.51
3/4"	6,000	50715K264	47.26	4,200	50715K754	125.23	4,500	50715K567	48.56	3,500	50715K537	94.22
1"	4,800	50715K265	57.09	3,000	50715K755	154.70	3,500	50715K568	99.76	2,500	50715K538	138.55
1 1/2"	2,400	50715K735	135.00	2,400	50715K756	233.28	2,000	50715K736	176.55	2,000	50715K737	194.71






For Tube OD	Tees: Max. psi @ 72°F			Inline Tees with Swivel Nut: Max. psi @ 72°F			Right Angle Tees with Swivel Nut: Max. psi @ 72°F		
1/8"	5,000	50715K415	$60.96	—	—	—	—	—	—
1/4"	5,000	50715K281	33.50	5,000	50715K723	$34.65	5,000	50715K714	$34.65
5/16"	5,000	50715K286	57.20	5,000	50715K724	62.28	5,000	50715K715	69.20
3/8"	5,000	50715K282	37.91	4,500	50715K725	41.55	4,500	50715K716	46.16
1/2"	5,000	50715K283	47.66	4,000	50715K726	67.46	4,000	50715K717	74.95
5/8"	5,000	50715K287	63.35	4,000	50715K727	93.46	4,000	50715K718	93.46
3/4"	4,500	50715K284	81.89	3,500	50715K728	119.37	3,500	50715K719	119.37
1"	3,500	50715K285	131.32	2,500	50715K729	207.64	2,500	50715K721	207.64
1 1/2"	—	—	—	2,000	50715K757	251.69	2,000	50715K722	367.74

For Tube OD (A)	(B)	Tube End Reducers: Max. psi @ 72°F		
3/8"	1/4"	6,000	50715K693	$12.74
1/2"	1/4"	6,000	50715K694	18.67
1/2"	3/8"	6,000	50715K695	17.52
5/8"	1/2"	6,000	50715K758	14.90
3/4"	1/4"	6,000	50715K696	29.97
3/4"	1/2"	6,000	50715K697	28.34
1"	1/2"	4,800	50715K698	47.48
1"	3/4"	4,800	50715K699	45.28



Through-Wall Straights

For Tube OD	Required Hole Size	Max. psi @ 72°F		
1/4"	1/2"	6,000	50715K581	$26.61
3/8"	5/8"	6,000	50715K582	32.70
1/2"	3/4"	6,000	50715K583	51.82
5/8"	15/16"	6,000	50715K584	87.02
3/4"	1 1/8"	6,000	50715K585	$100.65
1"	1 3/8"	4,800	50715K586	133.01
1 1/2"	1 5/16"	2,400	50715K738	220.62



Reducing Straights

For Tube OD (A)	(B)	Max. psi @ 72°F		
3/8"	1/4"	6,000	50715K572	$27.71
1/2"	3/8"	6,000	50715K573	49.88
3/4"	1/2"	6,000	50715K574	62.07

Caps, Plugs, Nuts, and Sleeves






For Tube OD	Caps		Plugs		Nuts		Sleeves	
1/8"	50715K511	$15.52	50715K521	$22.17	50715K416	$3.88	50715K417	$2.50
1/4"	50715K512	7.21	50715K522	6.65	50715K324	2.27	50715K316	1.40
5/16"	50715K513	17.18	50715K523	10.53	50715K635	4.16	50715K627	2.01
3/8"	50715K514	8.32	50715K524	8.87	50715K326	2.86	50715K318	2.14
1/2"	50715K515	9.98	50715K525	13.30	50715K328	3.77	50715K322	3.90
5/8"	50715K516	27.71	50715K526	25.49	50715K636	12.11	50715K628	5.85
3/4"	50715K517	33.26	50715K527	35.47	50715K632	17.25	50715K624	7.08
1"	50715K518	49.88	50715K528	48.77	50715K634	28.61	50715K626	14.06

British Standard and Metric Steel 37° Flared Tube Fittings

- Maximum Pressure: 4,500 psi @ 72°F
- Temperature Range: –40° to 212°F
- Tubing: Use with flareable SAE seamless carbon steel

Connect flared tubing to BSPT (British Standard Pipe Taper), BSPP (British Standard Pipe Parallel), and metric straight threads. Also known as JIC (Joint Industrial Council) fittings and hydraulic fittings, these are for use with oil and hydraulic fluid. They are made of forged or bar stock zinc-plated steel and meet SAE J514 and DIN 3852. The nuts and sleeves are sold separately on page 194, unless noted.

Fittings with BSPP threads and **metric straight threads** include an O-ring seal and a washer. **90° elbows with BSPP threads** also include a nut.

Threaded Connections: Tube end/nut threads are UNF straight threads. Pipe ends have BSPT, BSPP, or metric straight threads.






For Tube OD	Tube End/Nut Thread	BSPT Threads: Pipe Size	Straights, Male Pipe		BSPP Threads: Pipe Size	Straights, Male Pipe		90° Elbows, Male Pipe		Metric Straight Threads: Thread Size	Straights, Male Pipe	
1/4"	7/16"-20	1/8	4545K162	$4.47	1/8	4545K151	$5.40	4545K281	$28.94	M10×1	4545K216	$7.78
1/4"	7/16"-20	1/4	4545K163	4.02	1/4	4545K152	6.84	4545K146	15.24	M12×1.5	4545K217	9.98
3/8"	9/16"-18	1/4	4545K164	4.02	1/4	4545K154	6.20	4545K239	15.71	M14×1.5	4545K219	10.07
3/8"	9/16"-18	3/8	4545K165	6.33	3/8	4545K155	7.98	4545K241	18.13	—	—	—
1/2"	3/4"-16	1/2	4545K167	7.38	1/2	4545K158	10.56	4545K242	24.60	M18×1.5	4545K223	12.04

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
OD (to nearest 1/8"): 0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"

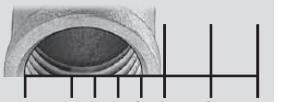

Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
ID (to nearest 1/8"): 0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"

Brass and Steel 37° Flared Tube Fittings

- Maximum Pressure: See below
- Temperature Range: Brass: –40° to 400° F Steel: –60° to 400° F
- Tubing: Use brass with flareable seamless copper made to ASTM B75; use steel with flareable welded and seamless steel

Choose brass when you need good corrosion resistance, and steel for good strength and durability. These fittings mate with 37° flared tubing for a tight metal-to-metal seal. They are also known as JIC (Joint Industrial Council) fittings and hydraulic fittings. The nuts and sleeves are sold separately.

Brass fittings are made of forged or bar stock yellow brass. They meet SAE J514, ISO 8434, and MIL-F-18866. Use with air, water, acetone, fuel oil, and mineral oil.

Threaded Connections: Tube end/nut threads are UNF straight threads. Pipe ends have NPT threads.

Steel fittings are made of forged or bar stock zinc-plated steel. They meet SAE J514. Vacuum rating is 28" Hg @ 72° F. Use with air, acetone, fuel oil, and mineral oil.

Threaded Connections: Tube end/nut threads are UNF straight threads, except 1 1/16"-12 and 1 5/16"-12 are UN straight threads. Pipe ends have NPTF (Dryseal) threads, which are compatible with NPT threads.

For Tube OD	Tube End/Nut Thread
1/4"	7/16"-20
5/16"	1/2"-20
3/8"	9/16"-18
1/2"	3/4"-16
5/8"	7/8"-14
3/4"	1 1/16"-12
1"	1 5/16"-12

Tube-to-Threaded Pipe Adapters






For Tube OD	Pipe Size	Straights, Male Pipe: Max. psi @ 72° F			Straights, Female Pipe: Max. psi @ 72° F			90° Elbows, Male Pipe: Max. psi @ 72° F			90° Elbows, Female Pipe: Max. psi @ 72° F		
Brass													
1/4"	1/8	3,200	50675K161	$2.10	3,200	50675K171	$3.49	4,200	50675K181	$4.92	2,700	50675K191	$14.22
1/4"	1/4	3,200	50675K162	2.45	3,200	50675K172	5.06	4,200	50675K182	6.40	2,700	50675K192	18.02
3/8"	1/4	3,200	50675K163	2.31	3,200	50675K173	3.24	4,200	50675K183	6.52	2,700	50675K193	19.85
3/8"	3/8	3,200	50675K164	3.26	3,200	50675K174	6.12	4,200	50675K184	9.94	2,400	50675K194	27.67
1/2"	3/8	3,200	50675K165	4.59	3,200	50675K175	7.66	4,200	50675K185	10.01	1,600	50675K195	25.70
1/2"	1/2	3,200	50675K166	5.58	3,200	50675K176	12.11	4,200	50675K186	14.84	1,600	50675K196	41.95
3/4"	3/4	2,600	50675K167	12.34	2,600	50675K177	18.81	2,600	50675K187	17.24	1,600	50675K197	70.23
1"	1	1,900	50675K168	19.62	1,900	50675K178	32.33	1,900	50675K188	32.68	900	50675K198	150.82
Steel													
1/4"	1/8	5,000	50695K161	1.31	5,000	50695K171	1.95	5,000	50695K181	4.82	5,000	50695K191	9.11
1/4"	1/4	5,000	50695K162	1.46	5,000	50695K172	3.98	5,000	50695K182	5.48			
5/16"	1/8	5,000	50695K169	2.06	5,000	50695K179	7.66	5,000	50695K189	8.40			
3/8"	1/4	5,000	50695K163	1.49	4,000	50695K173	2.85	5,000	50695K183	5.93	4,000	50695K193	8.06
3/8"	3/8	5,000	50695K164	2.18	4,000	50695K174	3.98	5,000	50695K184	7.19	4,000	50695K194	12.18
1/2"	3/8	4,000	50695K165	2.18	3,000	50695K175	3.57	4,000	50695K185	7.46	3,000	50695K195	13.09
1/2"	1/2	4,000	50695K166	3.27	3,000	50695K176	8.73	4,000	50695K186	10.48	3,000	50695K196	16.99
5/8"	1/2	3,000	50695K269	3.65	3,000	50695K279	5.63	3,000	50695K289	9.98	3,000	50695K299	17.26
3/4"	3/4	3,300	50695K167	4.55	2,500	50695K177	7.46	3,300	50695K187	13.96	2,500	50695K197	25.52
1"	1	3,500	50695K168	6.74	2,000	50695K178	11.11	3,500	50695K188	25.76	2,000	50695K198	42.90

Tube-to-Tube Connectors




For Tube OD	Straights: Max. psi @ 72° F			Tees: Max. psi @ 72° F		
Brass						
1/4"	3,200	50675K261	$2.27	3,200	50675K281	$11.18
3/8"	3,200	50675K262	3.38	3,200	50675K282	11.95
1/2"	3,200	50675K263	4.65	3,200	50675K283	16.72
3/4"	3,200	50675K264	14.12	2,900	50675K284	27.18
1"	2,600	50675K265	21.51	2,200	50675K285	42.14
Steel						
1/4"	5,000	50695K261	1.94	5,000	50695K281	7.64
5/16"	5,000	50695K266	3.51	5,000	50695K286	7.77
3/8"	5,000	50695K262	1.88	5,000	50695K282	9.29
1/2"	4,000	50695K263	3.06	4,000	50695K283	12.55
5/8"	3,800	50695K267	4.16	3,800	50695K287	17.17
3/4"	3,300	50695K264	6.32	3,300	50695K284	24.36
1"	3,500	50695K265	9.50	3,500	50695K285	37.81

Nuts and Sleeves




For Tube OD	Nuts		Sleeves	
Brass				
1/4"	50675K124	$0.95	50675K116	$0.95
3/8"	50675K126	1.24	50675K118	1.27
1/2"	50675K128	1.98	50675K122	1.56
3/4"	50675K432	4.73	50675K424	3.32
1"	50675K434	10.87	50675K426	4.97
Steel				
1/4"	50695K224	1.00	50695K216	.79
5/16"	50695K635	1.91	50695K627	3.03
3/8"	50695K226	1.32	50695K218	.88
1/2"	50695K228	1.38	50695K222	.91
5/8"	50695K636	1.95	50695K628	1.03
3/4"	50695K532	2.79	50695K524	1.35
1"	50695K534	3.97	50695K526	2.12

Lightweight Aluminum 37° Flared Tube Fittings

- Maximum Pressure @ 72° F: 3,000 psi, except fittings for 1″ tube OD are 1,500 psi
- Temperature Range: –60° to 400° F
- Tubing: Use with aluminum

Made of aluminum, these fittings are lighter than other 37° flared fittings. Also known as JIC (Joint Industrial Council) fittings, they are for use with water, air, hydraulic fluid, coolants, and gasoline. They have a blue anodized finish, except plugs, which have a red finish. The nuts and sleeves are sold separately.

Inline tees are also known as branch tees.

Threaded Connections: Tube end/nut threads are UNJ straight threads. Pipe ends have NPT threads.

Tube-to-Threaded Pipe Adapters






For Tube OD	Pipe Size	Tube End/Nut Thread	Straights, Male Pipe		90° Elbows, Male Pipe		45° Elbows, Male Pipe		Inline Tees, Male Pipe	
1/4″	1/4	7/16″-20	2227K11	$3.89	2227K31	$11.09	2227K87	$11.08		
3/8″	3/8	9/16″-18	2227K12	4.72	2227K32	15.20	2227K88	14.89		
1/2″	1/2	3/4″-16	2227K13	7.15	2227K33	21.80	2227K89	21.40		
5/8″	1/2	7/8″-14	2227K18	7.26	2227K38	21.63	2227K91	21.22	2227K46	$24.41
3/4″	3/4	1 1/16″-12	2227K14	13.30	2227K34	31.70	2227K92	31.70	2227K44	42.61
1″	1	1 5/16″-12	2227K15	24.41	2227K35	49.93	2227K93	49.94	2227K45	70.15

Tube-to-Tube Connectors




For Tube OD	Tube End/Nut Thread	Straights		Tees	
1/4″	7/16″-20	2227K81	$4.02	2227K21	$12.00
3/8″	9/16″-18	2227K82	4.02	2227K22	12.00
1/2″	3/4″-16	2227K83	7.17	2227K23	20.20
5/8″	7/8″-14	2227K86	8.17	2227K26	26.04
3/4″	1 1/16″-12	2227K84	15.85	2227K24	39.07
1″	1 5/16″-12	2227K85	26.63	2227K25	61.26

Plugs, Nuts, and Sleeves





For Tube OD	Plugs		Nuts		Sleeves	
1/4″	2227K51	$2.11	2227K61	$1.37	2227K71	$1.39
3/8″	2227K52	2.11	2227K62	1.78	2227K72	1.78
1/2″	2227K53	3.89	2227K63	2.59	2227K73	2.02
5/8″	2227K56	5.00	2227K66	3.63	2227K76	3.04
3/4″	2227K54	7.30	2227K64	4.89	2227K74	4.93
1″	2227K55	9.76	2227K65	8.17	2227K75	5.85

Aluminum Banjo 37° Flared Tube Fittings

- Maximum Pressure: Not rated
- Temperature Range: Not rated
- Tubing: Use with flareable aluminum, stainless steel, and steel

The hex head on these fittings permits easy connections in cramped spaces. Plus, the adapter swivels until tightened. Use with water, air, oil, and hydraulic fluid. Fittings are made of lightweight aluminum with a blue anodized finish, except bolts are red and washers are not anodized.

Fitting assemblies include adapter, bolt, sleeve, and nut with two washers.

Threaded Connections: UNF straight threads.








For Tube OD	Fitting Assemblies		Adapters			Bolts			Washers		Nuts		Sleeves	
		Each	Tube End/ Nut Thread		Each	Bolt Thread		Each		Pkg. of 5		Pkg. of 5		Pkg. of 5
3/16"	5487K47	$40.55	3/8″-24	5487K91	$26.91	3/8″-24	5487K31	$14.44	5487K61	$1.89	5487K71	$6.18	5487K81	$5.49
3/8"	5487K48	41.51	9/16″-18	5487K92	22.62	9/16″-18	5487K33	19.07	5487K63	2.31	5487K73	7.51	5487K83	7.91

Supported 45° Brass Flared Tube Fittings

- Maximum Pressure: See chart at right
- Temperature Range: –65° to 250° F
- Tubing: Use with flareable aluminum, brass, copper, and welded steel

The flared end of the fitting nests inside the fitting body, providing extra support to your tubing. To assemble, place the nut on the tubing, flare the end of the tubing, then insert the tubing into the fitting and tighten the nut. Also known as inverted 45° flared fittings, they are for use with water, air, methane, oil, diesel fuel, and refrigerant. Fittings are UL listed for flammable liquid and gas and meet SAE J512, unless noted. Nuts are sold separately.

Threaded Connections: Tube end/nut threads are UN straight threads. Pipe ends have NPTF (Dryseal) threads, which are compatible with NPT threads.

For Tube OD	Tube Wall Thick.	Max. psi @ 72° F ■
1/8″	0.030″	2,800
1/4″	0.030″	1,400
3/8″	0.032″	1,000
1/2″	0.032″	700

■ Pressures are based on use with copper tubing that meets ASTM B280.

Tube-to-Threaded Pipe Adapters





For Tube OD	Pipe Size	Tube End/Nut Thread	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe	
1/8″	1/8	5/16″-28	6432T111	$6.37			6432T125	$16.64
1/4″	1/8	7/16″-24	6432T112	1.97	6432T117	$4.52	6432T126	4.18
1/4″	1/4	7/16″-24	6432T113	3.51			6432T127	6.96
3/8″	1/4	5/8″-18	6432T114	5.48	6432T118	9.74	6432T128	7.85
3/8″	3/8	5/8″-18	6432T115	5.75			6432T129	10.37
1/2″	1/2	3/4″-18	6432T116	13.40			6432T131	18.30

Tube-to-Tube Connectors




For Tube OD	Tube End/Nut Thread	Straights		Tees	
1/8″	5/16″-28	6432T121	$9.04		
1/4″	7/16″-24	6432T122	3.26	6432T132	$11.33
3/8″	5/8″-18	6432T123	6.89	6432T133	12.00
1/2″	3/4″-18	6432T124	14.40	6432T134▲	18.66

▲ Not UL listed or SAE certified.

Nuts



For Tube OD			For Tube OD		
1/8″	6432T135	$5.19	3/8″	6432T137	$5.19
1/4″	6432T136	4.56	1/2″	6432T138	15.03

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

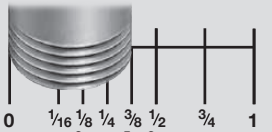

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
OD (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

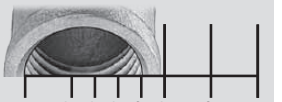

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
ID (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

Quick-Assembly Brass 45° Flared Tube Fittings

- Maximum Pressure: See chart at right
- Temperature Range: –65° to 250°F
- Tubing: Use with flareable aluminum, brass, copper, and welded steel

No sleeve is required to assemble these fittings, which makes for a faster, more convenient installation compared to 37° flared tube fittings. Also known as refrigeration or SAE fittings, these fittings are for use with water, air, oil, methane, diesel fuel, and refrigerant. They meet SAE J512 and J513 and are UL listed for flammable liquid and gas, unless noted. Fittings are made of brass for good corrosion resistance. The nuts are sold separately.

Inline tees are also known as branch tees, and **right angle tees** are also known as run tees. **Caps** come with a copper flare gasket. **Long nuts** have extra surface area contacting the tubing for high-vibration applications.

Threaded Connections: Tube end/nut threads are UN straight threads. Pipe ends have NPTF (Dryseal) threads, which are compatible with NPT threads.

For Tube OD	Tube Wall Thick.	Max. psi @ 73°F ■	Tube End/Nut Thread
3/16"	0.030"	1,900	3/8"-24
1/4"	0.030"	1,400	7/16"-20
5/16"	0.032"	1,200	1/2"-20
3/8"	0.032"	1,000	5/8"-18
1/2"	0.032"	750	3/4"-16
5/8"	0.035"	650	7/8"-14
3/4"	0.035"	550	1 1/16"-14

■ Pressures are based on use with copper tubing that meets ASTM B280.

Tube-to-Threaded Pipe Adapters

For Tube OD	Pipe Size	Straights, Male Pipe		90° Elbows, Male Pipe	
3/16"	1/8	50635K371	$1.96	50635K401	$4.19
3/16"	1/4	50635K372	5.70		
1/4"	1/8	50635K373	1.19	50635K403	3.63
1/4"	1/4	50635K374	1.74	50635K404	4.74
1/4"	3/8	50635K375	3.15	50635K405	8.11
1/4"	1/2	50635K376	7.78	50635K406	12.42
5/16"	1/8	50635K377	2.56	50635K407	5.67
5/16"	1/4	50635K378	2.48	50635K408	7.44
3/8"	1/8	50635K379	3.07	50635K409	6.19
3/8"	1/4	50635K381	2.56	50635K411	4.78
3/8"	3/8	50635K382	2.96	50635K412	5.15
3/8"	1/2	50635K383	4.78	50635K413	7.81
3/8"	3/4	50635K384	7.56	50635K414	26.13
1/2"	1/4	50635K385	4.11	50635K415	7.26
1/2"	3/8	50635K386	3.74	50635K416	6.81
1/2"	1/2	50635K387	4.59	50635K417	8.74
1/2"	3/4	50635K388	7.81	50635K418	14.43
5/8"	1/4	50635K389	9.78	50635K419	29.47
5/8"	3/8	50635K391	5.33	50635K421	9.33
5/8"	1/2	50635K392	5.44	50635K422	9.22
5/8"	3/4	50635K393	8.37	50635K423	11.48
3/4"	1/2	50635K394	11.04	50635K424	12.33
3/4"	3/4	50635K395	10.41	50635K425	15.20

For Tube OD	Pipe Size	Straights, Female Pipe		90° Elbows, Female Pipe		Inline Tees, Male Pipe		Right Angle Tees, Male Pipe	
3/16"	1/8	50635K431	$7.22			50635K471	$17.29		
1/4"	1/8	50635K432	2.00	50635K452	$3.52	50635K472	6.29	50635K481	$6.04
1/4"	1/4	50635K433	3.30	50635K453	7.52	50635K473	10.07	50635K482	6.63
1/4"	3/8	50635K434	6.37						
1/4"	1/2	50635K435	11.78						
5/16"	1/8	50635K436	6.59	50635K454	17.44	50635K474	17.95		
5/16"	1/4	50635K437	7.37	50635K455	11.48				
3/8"	1/4	50635K438	4.00	50635K456	7.33	50635K475	10.44	50635K483	13.75
3/8"	3/8	50635K439	4.85	50635K457	10.04	50635K476	11.33	50635K484	12.07
3/8"	1/2	50635K441	7.67	50635K458	15.87			50635K485	27.85
3/8"	3/4	50635K442	14.18						
1/2"	1/4	50635K443	6.78						
1/2"	3/8	50635K444	5.15	50635K459	9.67	50635K478	13.37	50635K486	16.37
1/2"	1/2	50635K445	7.85	50635K461	10.63	50635K477	17.83	50635K487	16.30
1/2"	3/4	50635K446	18.07						
5/8"	1/2							50635K488	23.73



45° Elbows, Male Pipe

For Tube OD	Pipe Size		
1/4"	1/8	50635K591	$5.33
1/4"	1/4	50635K592	8.74
3/8"	1/4	50635K593	6.15

Tube-to-Tube Connectors











For Tube OD	Straights	Straights, Female Solder-Joint ♣ Copper Tube Size ▲		90° Elbows		Tees		Reducing Straights For Tube OD (A)	(B)		
3/16"	50635K511	$4.19				50635K521	$14.48	50635K531	$9.56				
1/4"	50635K512	1.56	1/4	50635K581	$4.89	50635K522	7.11	50635K532	5.22	3/8"	1/4"	50635K571	$6.26
5/16"	50635K513	4.52				50635K523	6.93	50635K533	15.93	3/8"	5/16"	50635K572	8.59
3/8"	50635K514	3.44	3/8	50635K582	4.33	50635K524	8.30	50635K534	9.78	1/2"	1/4"	50635K573	10.07
1/2"	50635K515	4.78	1/2	50635K583	6.37	50635K525	7.78	50635K535	11.43	1/2"	3/8"	50635K574	8.85
5/8"	50635K516	6.52	5/8	50635K584	9.67	50635K526	18.30	50635K536	23.73	5/8"	3/8"	50635K575	10.40
3/4"	50635K517	12.63	3/4	50635K585	19.27	50635K527	22.53	50635K537	47.86	5/8"	1/2"	50635K576	11.87

♣ Not UL listed. ▲ Tube size is an industry designation, not an actual size.

Caps and Nuts







For Tube OD	Caps		Long Nuts Lg.		Short Nuts Lg.	
3/16"	50635K541	$5.26	13/16"	50635K551	$4.41	5/8"	50635K561	$1.63
1/4"	50635K542	1.94	15/16"	50635K552	2.00	3/4"	50635K562	1.26
5/16"	50635K543	2.77	1 1/8"	50635K553	2.96	7/8"	50635K563	2.37
3/8"	50635K544	2.66	1 5/16"	50635K554	4.30	1"	50635K564	2.33
1/2"	50635K545	4.00	1 5/8"	50635K555	5.33	1 1/8"	50635K565	3.33
5/8"	50635K546	5.34	1 7/8"	50635K556	12.15	1 5/16"	50635K566	5.26
3/4"	50635K547	12.63	2 3/16"	50635K557	16.33	1 1/2"	50635K567	9.04

About Push-to-Connect Tube Fittings

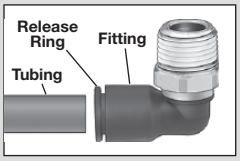

Also known as instant fittings, these fittings provide a quick and easy way to connect and disconnect plastic and soft metal tubing. To install, insert the tubing into the fitting until it stops. An internal gripping ring and O-ring hold the fitting secure and form a tight seal around the outside of the tubing. To disconnect, push on the release ring and pull the tubing out of the fitting.

Applications

	Pg.		Pg.
Air	197-207	For Copper Tubing	218-219
Air and Water	208-211	Food and Beverage	220
Gases	212-213	Chemicals	221
Oil	213-214	High Pressure	221
Drinking Water	215-218		

Push-to-Connect Tube Fittings for Air

- Maximum Pressure: 290 psi @ 70°F, unless noted
- Temperature Range: –4° to 175°F, unless noted
- Tubing: Use with firm (Shore A95) polyurethane, firm (Shore D44) polyethylene, and hard (Shore D62) nylon

The most popular choice for air applications, these fittings are lightweight, yet offer excellent strength. They have a black, glass-filled nylon body, unless noted, and a black release ring. The threads are nickel-plated brass, unless noted. Tapered male threads (NPT and BSPT) have a PTFE thread sealant, and straight male threads (UNF and metric) have an O-ring. Vacuum rating is 28″ Hg @ 70°F. Fittings meet ISO 14743.

Easy-access 90° elbows are also known as banjo-style elbows; they have a hex head for easy adjustment in tight spaces.

Threaded Connections: NPT threads, except 10-32 are UNF straight threads and M7 are metric straight threads.

Tube-to-Threaded Pipe Adapters








For Tube OD	Pipe Size	Straights, Male Pipe ★		Straights, Female Pipe ★		Swivel 90° Elbows, Male Pipe		Swivel Long 90° Elbows, Male Pipe		Swivel 90° Elbows, Female Pipe		Swivel 45° Elbows, Male Pipe	
1/8″	10-32	5779K241	$2.68	5779K441	$14.25	5779K281	$5.12	5779K222	$7.88	5779K447	$13.02	5779K331	$6.47
1/8″	1/16	5779K242	4.03	—	—	5779K282	6.96	—	—	—	—	5779K401	11.73
1/8″	1/8	5779K102	2.96	5779K123	4.38	5779K143	3.33	5779K148	6.47	5779K631	6.12	5779K332	4.01
1/8″	1/4	5779K243	4.46	5779K251	5.95	5779K283	4.97	5779K149	6.68	5779K462	10.76	5779K402	8.73
5/32″	10-32	5779K244	2.68	5779K442	11.80	5779K284	4.61	5779K223	8.00	5779K448	11.95	5779K403	10.67
5/32″	1/8	5779K104	2.38	5779K125	5.55	5779K146	2.81	5779K165	8.05	5779K632	5.33	5779K404	7.25
5/32″	1/4	5779K105	4.62	5779K126	6.85	5779K147	5.86	5779K166	10.68	5779K633	7.58	5779K468	9.47
3/16″	1/8	5779K245 ■	3.88	5779K252 ■	6.50	5779K285	6.85	—	—	5779K463	8.20	5779K405	9.00
3/16″	1/4	—	—	5779K248 ■	18.05	—	—	—	—	—	—	—	—
1/4″	10-32	5779K246	3.52	5779K443	15.51	5779K286	5.85	5779K224	7.85	5779K449	11.58	5779K406	10.49
1/4″	M7	—	—	—	—	—	—	5779K225	6.76	—	—	—	—
1/4″	1/8	5779K108	3.08	5779K129	4.33	5779K151	3.12	5779K167	6.40	5779K634	4.00	5779K333	3.83
1/4″	1/4	5779K109	3.08	5779K131	5.67	5779K152	3.42	5779K169	6.68	5779K635	6.00	5779K334	4.71
1/4″	3/8	5779K111	3.95	5779K488	12.16	5779K153	4.53	5779K173	8.40	5779K451	14.11	5779K446	15.44
5/16″	1/8	5779K112	5.35	5779K132	7.85	5779K154	6.42	5779K188	10.30	5779K636	8.30	5779K407	7.45
5/16″	1/4	5779K113	5.35	5779K133	7.65	5779K155	6.42	5779K189	11.21	5779K637	8.30	5779K408	8.55
5/16″	3/8	5779K114	6.11	—	—	5779K156	6.75	—	—	—	—	5779K409	12.12
3/8″	1/8	5779K115	5.83	5779K134	7.12	5779K157	5.37	5779K218	9.30	5779K452	13.84	5779K411	11.52
3/8″	1/4	5779K116	4.33	5779K135	8.60	5779K158	4.75	5779K219	9.45	5779K638	7.58	5779K335	5.58
3/8″	3/8	5779K117	5.30	5779K136	9.03	5779K159	5.33	5779K221	11.38	5779K453	15.31	5779K336	5.81
3/8″	1/2	5779K118	7.47	5779K444	12.75	5779K161	8.13	—	—	5779K454	18.22	5779K461	12.13
1/2″	1/4	5779K119	7.32	5779K445	16.82	5779K162	6.08	—	—	5779K455	16.64	—	—
1/2″	3/8	5779K121	7.47	5779K137	10.35	5779K163	7.73	—	—	5779K639	10.88	—	—
1/2″	1/2	5779K122	7.88	5779K139	11.50	5779K164	8.65	—	—	5779K456	20.44	—	—

★ Body is nickel-plated brass. ■ The body and threads are plain brass.



Easy-Access 90° Elbows, Male Pipe

For Tube OD	Pipe Size		
1/8″	10-32	5779K657	$6.20
5/32″	10-32	5779K658	5.92
5/32″	1/8	5779K651	15.57
3/16″	1/8	5779K464	17.18
1/4″	10-32	5779K659	9.28
1/4″	1/8	5779K652	14.70
1/4″	1/4	5779K653	$13.88
1/4″	3/8	5779K654	17.07
5/16″	1/8	5779K457	19.50
5/16″	1/4	5779K458	43.82
3/8″	1/4	5779K655	20.67
3/8″	3/8	5779K656	17.20



Easy-Access Double 90° Elbows, Male Pipe

For Tube OD	Pipe Size		
5/32″	10-32	5779K249	$9.50
5/32″	1/8	5779K253	12.08
1/4″	1/8	5779K254	15.21
1/4″	1/4	5779K255	26.35
3/8″	1/4	5779K256	28.57
3/8″	3/8	5779K257	22.35

(Continued on following page)

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

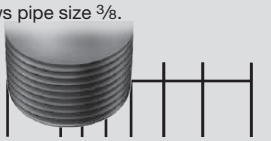



Push-to-Connect Tube Fittings for Air *(Continued from previous page)*

- Maximum Pressure: 290 psi @ 70° F, unless noted
- Temperature Range: –4° to 175° F, unless noted
- Tubing: Use with firm (Shore A95) polyurethane, firm (Shore D44) polyethylene, and hard (Shore D62) nylon

The most popular choice for air applications, these fittings are lightweight, yet offer excellent strength. They have a black, glass-filled nylon body, unless noted, and a black release ring. The threads are nickel-plated brass, except manifolds have aluminum threads. Tapered male threads (NPT and BSPT) have a PTFE thread sealant, and straight male threads (UNF and metric) have an O-ring. Vacuum rating is 28" Hg @ 70° F. Fittings meet ISO 14743.

Inline tees are also known as branch tees, **right angle tees** are also known as run tees, and **through-wall fittings** are also known as bulkhead couplings.

Tube stems insert into the end of your tube fitting. **Straights with shut-off** have a check valve that shuts off the flow when the tubing is separated from the fitting. **Plug-in through-wall straights** can be inserted directly into a drilled hole with no need for a nut.

Threaded Connections: NPT threads, except 10-32 are UNF straight threads and the tube-to-threaded pipe adapters on page 199 are BSPT threads.

Tube-to-Threaded Pipe Adapters (Cont.)



Swivel Inline Tees, Male Pipe

For Tube OD	Pipe Size			For Tube OD	Pipe Size		
1/8"	10-32	5779K291	$8.25	5/16"	1/8	5779K177	$6.83
1/8"	1/16	5779K292	8.83	5/16"	1/4	5779K178	7.30
1/8"	1/8	5779K168	5.20	5/16"	3/8	5779K179	7.53
1/8"	1/4	5779K293	6.56	3/8"	1/8	5779K181	9.48
5/32"	10-32	5779K294	7.73	3/8"	1/4	5779K182	6.95
5/32"	1/8	5779K171	5.08	3/8"	3/8	5779K183	8.10
5/32"	1/4	5779K172	7.46	3/8"	1/2	5779K184	10.30
3/16"	1/8	5779K295	7.83	1/2"	1/4	5779K185	9.11
1/4"	1/8	5779K174	4.61	1/2"	3/8	5779K186	11.43
1/4"	1/4	5779K175	4.97	1/2"	1/2	5779K187	12.91
1/4"	3/8	5779K176	5.91				



Swivel Right Angle Tees, Male Pipe

For Tube OD	Pipe Size			For Tube OD	Pipe Size		
1/8"	10-32	5779K321	$8.40	5/16"	1/8	5779K207	$6.95
1/8"	1/16	5779K322	8.88	5/16"	1/4	5779K208	7.30
1/8"	1/8	5779K198	5.58	5/16"	3/8	5779K209	7.53
5/32"	10-32	5779K323	7.88	3/8"	1/8	5779K211	9.18
5/32"	1/8	5779K201	5.58	3/8"	1/4	5779K212	7.78
5/32"	1/4	5779K202	7.48	3/8"	3/8	5779K213	8.78
3/16"	1/8	5779K324	9.48	3/8"	1/2	5779K214	10.76
1/4"	1/8	5779K204	4.61	1/2"	1/4	5779K215	9.11
1/4"	1/4	5779K205	4.97	1/2"	3/8	5779K216	11.43
1/4"	3/8	5779K206	5.78	1/2"	1/2	5779K217	12.91





For Tube OD	Pipe Size	Swivel Inline Tees, Female Pipe		Through-Wall Straights, Female Pipe	
1/8"	1/8	5779K226	$8.88	5779K267	$9.65
5/32"	1/8	5779K227	7.58	5779K268	7.70
5/32"	1/4	5779K228	7.73	5779K269	10.50
1/4"	1/8	5779K229	6.25	5779K271	7.43
1/4"	1/4	5779K231	8.88	5779K272	8.68
5/16"	1/8	5779K232	6.72	_____	____
5/16"	1/4	5779K233	10.68	_____	____
3/8"	1/4	5779K234	10.78	5779K273	11.62
3/8"	3/8	____	____	5779K274	12.38
1/2"	3/8	5779K235	14.57	_____	____



Straights, Tube Stem × Male Pipe

Stem OD	Pipe Size		
5/32"	10-32	5779K623	$10.95
5/32"	1/8	5779K611	3.15
5/32"	1/4	5779K612	4.20
1/4"	1/8	5779K613	4.32
1/4"	1/4	5779K614	3.23
5/16"	1/8	5779K615	3.55
5/16"	1/4	5779K616	3.55
3/8"	1/8	5779K617	4.45
3/8"	1/4	5779K618	3.35
3/8"	3/8	5779K619	3.85
1/2"	3/8	5779K621	5.88
1/2"	1/2	5779K622	8.55



Straights with Shut-Off, Male Pipe ■

For Tube OD	Pipe Size		
5/32"	1/8	5779K415	$12.80
1/4"	1/8	5779K416	13.18
1/4"	1/4	5779K417	13.70
3/8"	1/4	5779K418	16.55
3/8"	3/8	5779K419	18.03

■ Body is nickel-plated brass; maximum pressure is 145 psi @ 70° F; temperature range is 32° to 158° F.



Swivel Wyes, Male Pipe

For Tube OD	Pipe Size		
5/32"	1/8	5779K624	$7.32
5/32"	1/4	5779K625	7.70
1/4"	1/8	5779K626	6.70
1/4"	1/4	5779K627	6.83
3/8"	1/4	5779K628	9.47
3/8"	3/8	5779K629	11.38



6 Outlets

Aluminum Manifolds, Female Pipe

For Tube OD (Outlet)	Pipe Size (Inlet)		
6 Outlets			
3/8"	3/8	5779K414	$79.72
8 Outlets			
1/8"	1/4	5779K389	72.38
5/32"	1/4	5779K412	77.92
1/4"	1/4	5779K413	71.40

(Continued on following page)

Push-to-Connect Tube Fittings for Air *(Continued from previous page)*

Tube-to-Threaded Pipe Adapters (Cont.)





BSPT Threads

For Tube OD	Pipe Size	Straights, Male Pipe ★		Swivel 90° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe	
1/8"	1/8	5779K381	$6.91	5779K421	$5.20	5779K471	$10.55
5/32"	1/8	5779K382	3.28	5779K422	3.90	5779K472	5.58
5/32"	1/4	5779K103	5.12	5779K138	6.00	5779K236	8.20
3/16"	1/8	5779K384	6.50	5779K424	7.88	5779K474	7.81
3/16"	1/4	5779K106	8.41	____	____	5779K237	10.20
1/4"	1/8	5779K385	5.55	5779K425	5.15	5779K475	8.00
1/4"	1/4	5779K386	6.32	5779K426	6.15	5779K476	8.12
5/16"	1/8	5779K107	5.26	5779K141	6.10	5779K238	7.50
5/16"	1/4	5779K388	5.26	5779K428	6.11	5779K478	7.81
5/16"	3/8	5779K124	5.97	5779K142	7.58	5779K239	8.10
5/16"	1/2	5779K127	6.65	5779K144	9.75	____	____
3/8"	1/4	5779K391	8.47	5779K431	6.12	5779K481	8.62
3/8"	3/8	5779K392	8.68	5779K432	6.40	5779K482	8.76
1/2"	1/4	5779K128	13.50	5779K145	17.20	5779K247	25.88
1/2"	3/8	5779K395	12.80	5779K435	15.76	5779K485	19.63
1/2"	1/2	5779K396	12.93	5779K436	17.36	5779K469	25.62

★ Body is nickel-plated brass.

Tube-to-Tube Connectors





For Tube OD	Straights		Through-Wall Straights		Plug-In Through-Wall Straights	
1/8"	5779K11	$3.62	5779K675	$4.53	____	____
5/32"	5779K12	2.86	5779K676	5.03	5779K312	$6.20
3/16"	5779K13	4.26	5779K465	4.92	____	____
1/4"	5779K14	3.12	5779K677	5.33	5779K313	6.76
5/16"	5779K15	4.06	5779K678	6.65	5779K314	7.65
3/8"	5779K16	4.61	5779K679	7.88	5779K315	10.68
1/2"	5779K17	7.53	5779K681	11.38	5779K316	15.08

Tube-to-Tube Connectors (Cont.)





For Tube OD	90° Elbows		Through-Wall 90° Elbows		Tees	
1/8"	5779K21	$3.91	5779K275	$8.75	5779K31	$5.53
5/32"	5779K22	3.17	5779K276	12.55	5779K32	4.18
3/16"	5779K23	4.53	____	____	5779K33	6.85
1/4"	5779K24	3.42	5779K277	9.55	5779K34	4.75
5/16"	5779K25	4.36	5779K278	19.07	5779K35	5.91
3/8"	5779K26	5.58	5779K279	12.85	5779K36	6.60
1/2"	5779K27	7.53	5779K311	15.62	5779K37	10.86




For Tube OD	Crosses		Wyes	
1/8"	____	____	5779K41	$4.51
5/32"	5779K785	$13.45	5779K42	4.18
3/16"	5779K467	14.20	5779K466	10.40
1/4"	5779K786	7.83	5779K44	4.75
5/16"	5779K787	8.62	5779K45	5.78
3/8"	____	____	5779K46	8.55



Inch-to-Metric Straights

For Tube OD (A)	(B)		
1/4"	6 mm	5779K258	$4.42
3/8"	10 mm	5779K259	9.20
1/2"	12 mm	5779K261	11.97



Double Wyes

For Tube OD (A)	(B)		
5/32"	5/32"	5779K265	$14.97
5/32"	1/4"	5779K266	12.40



Reducing Straights

For Tube OD (A)	(B)		
5/32"	1/8"	5779K351	$4.13
1/4"	1/8"	5779K352	5.28
1/4"	5/32"	5779K353	4.26
5/16"	1/4"	5779K354	5.08
3/8"	1/4"	5779K355	7.12
1/2"	3/8"	5779K356	8.13



Reducing 90° Elbows

For Tube OD (A)	(B)		
1/4"	1/8"	5779K661	$4.70
1/4"	5/32"	5779K662	4.17
3/8"	1/4"	5779K663	7.67
1/2"	3/8"	5779K664	7.75



Reducing Inline Tees

For Tube OD (A)	(B)		
1/8"	1/4"	5779K665	$7.03
5/32"	1/4"	5779K666	5.92
1/4"	1/8"	5779K667	6.55
1/4"	5/32"	5779K668	5.50
1/4"	3/8"	5779K669	8.65
3/8"	1/4"	5779K671	$8.65
3/8"	1/2"	5779K672	13.05
1/2"	1/4"	5779K673	10.85
1/2"	3/8"	5779K674	11.15



Reducing Wyes

For Tube OD (A)	(B)		
1/4"	1/8"	5779K262	$7.18
1/4"	5/32"	5779K263	10.60
3/8"	1/4"	5779K264	$8.75



Straights, Tube Stem × Tube Stem

Stem OD			Stem OD		
5/32"	5779K349	$1.35	3/8"	5779K359	$4.88
1/4"	5779K357	3.77	1/2"	5779K361 ★	7.65
5/16"	5779K358	1.93			

★ Body is nickel-plated brass.



Straights, Tube Stem × Barb

Stem OD	For Tube ID			Stem OD	For Tube ID		
5/32"	0.12"	5779K369	$1.48	5/16"	0.32"	5779K374	$3.88
5/32"	0.2"	5779K371	3.12	3/8"	0.32"	5779K375	4.65
1/4"	3/16"	5779K372 ★	3.56	1/2"	3/8"	5779K376 ★	5.70
5/16"	1/4"	5779K373	3.11				

(Continued on following page)

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

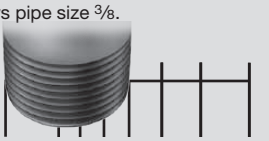



Push-to-Connect Tube Fittings for Air *(Continued from previous page)*

- Maximum Pressure: 290 psi @ 70° F, unless noted
- Temperature Range: –4° to 175° F, unless noted
- Tubing: Use with firm (Shore A95) polyurethane, firm (Shore D44) polyethylene, and hard (Shore D62) nylon

The most popular choice for air applications, these fittings are lightweight, yet offer excellent strength. They have a black, glass-filled nylon body and a black release ring, except the plugs are red. The threads are nickel-plated brass. Tapered male threads (NPT and BSPT) have a PTFE thread sealant, and straight male threads (UNF and metric) have an O-ring. Vacuum rating is 28" Hg @ 70° F. Fittings meet ISO 14743.

Inline tees are also known as branch tees, and **right angle tees** are also known as run tees. **Tube stems** insert into the end of your tube fitting.

Fittings with DIN rail mount attach to 35 mm DIN 3 rails. Use **tube and fitting clips** to align your tubing and fittings.

Tube-to-Tube Connectors (Cont.)








Stem OD	For Tube OD	90° Elbows, Tube Stem		90° Elbows, Long Tube Stem		45° Elbows, Tube Stem		Inline Tees, Tube Stem		Right Angle Tees, Tube Stem		Wyes, Tube Stem	
1/8"	1/8"	5779K682	$1.95	5779K326	$2.65	5779K338	$2.53	5779K691	$3.50			5779K728	$4.20
5/32"	5/32"	5779K683	1.73	5779K327	2.65	5779K339	3.13	5779K692	3.45	5779K344	$3.18	5779K788	6.22
1/4"	5/32"	5779K684	4.83										
1/4"	1/4"	5779K685	1.77	5779K328	2.48	5779K341	2.53	5779K693	3.33	5779K345	3.37	5779K731	6.35
5/16"	5/16"	5779K687	2.10	5779K329	3.71	5779K342	3.15	5779K694	3.62	5779K346	3.71	5779K732	4.88
3/8"	1/4"	5779K686	4.33										
3/8"	3/8"	5779K688	4.28	5779K337	5.60	5779K343	3.95	5779K695	4.92	5779K347	5.15	5779K733	6.60
1/2"	1/2"	5779K689	5.37					5779K696	6.60	5779K348	6.42		

Expanding Straights, Tube Stem



Stem OD	For Tube OD		
1/8"	1/4"	5779K362	$2.26
5/32"	1/4"	5779K364	2.26
3/16"	1/4"	5779K365	5.75
6 mm	1/4"	5779K363	3.66
1/4"	3/8"	5779K366	5.03

Expanding Inch-to-Metric Straights, Tube Stem



Stem OD	For Tube OD		
1/8"	4 mm	5779K367	$3.77
1/4"	8 mm	5779K368	6.53

Reducing Straights, Tube Stem



Stem OD	For Tube OD		
5/32"	1/8"	5779K697	$4.95
3/16"	1/8"	5779K698	5.85
3/16"	5/32"	5779K711	1.48
1/4"	1/8"	5779K699	4.95
1/4"	5/32"	5779K712	1.48
1/4"	3/16"	5779K716	$3.25
5/16"	5/32"	5779K713	3.00
5/16"	3/16"	5779K715	3.05
5/16"	1/4"	5779K717	2.27
3/8"	5/32"	5779K714	5.80
3/8"	1/4"	5779K718	$2.00
3/8"	5/16"	5779K721	2.48
1/2"	1/4"	5779K719	5.75
1/2"	5/16"	5779K722	6.45
1/2"	3/8"	5779K723	3.23





For Tube OD Inlet	Outlet	3-Outlet Manifolds		6-Outlet Manifolds	
1/4"	5/32"	5779K317	$12.90	5779K781	$21.68
1/4"	1/4"	5779K318	16.60	5779K782	20.77
5/16"	5/32"	5779K319	16.53	5779K783	27.12
3/8"	1/4"	5779K325	14.75	5779K784	23.88




For Tube OD	Straights, DIN Rail Mount ■		Wyes, DIN Rail Mount ■	
5/32"	5779K377	$29.21	5779K383	$28.15
1/4"	5779K378	12.03		
5/16"	5779K379	30.83	5779K387	25.95

■ Maximum pressure is 145 psi @ 70° F.

Caps, Plugs, and Accessories

Choose-a-color covers snap over the release ring. **To Order:** Please specify blue, green, red, yellow, or white.



Caps

For Tube OD		
1/8"	5779K439	$2.25
5/32"	5779K459	2.02
1/4"	5779K473	2.10
5/16"	5779K477	2.48
3/8"	5779K479	2.83



Plugs

Stem OD		
1/8"	5779K51	$1.38
5/32"	5779K734	.48
3/16"	5779K735	1.38
1/4"	5779K54	1.16
5/16"	5779K736	1.43
3/8"	5779K56	1.40
1/2"	5779K57	1.48



Choose-a-Color Covers

For Tube OD		
1/8"	5779K791	$0.37
5/32"	5779K792	.51
3/16"	5779K793	.25
1/4"	5779K794	.30
5/16"	5779K795	.50
3/8"	5779K796	.52
1/2"	5779K797	.50



Tube and Fitting Clips

Tubing (Tube OD)	Fittings (For Tube OD)	No. of Clips		
5/32", 4 mm		8	5779K427	$4.57
3/16", 1/4", 6 mm		8	5779K429	3.58
5/16", 8 mm	5/32", 4 mm	7	5779K433	5.10
3/8", 10 mm	1/4", 6 mm	6	5779K437	5.56
1/2", 12 mm		5	5779K438	5.56

Metric Push-to-Connect Tube Fittings for Air

- Maximum Pressure: 290 psi @ 70° F
- Temperature Range: –4° to 175° F
- Tubing: Use with firm (Shore A95) polyurethane, firm (Shore D44) polyethylene, and hard (Shore D62) nylon

Not only are these fittings the top choice for air applications, they're also designed for use with metric tubing. Fittings are lightweight, yet strong. They have a black, glass-filled nylon body and a black release ring, unless noted. The threads are nickel-plated brass. Tapered male threads (NPT and BSPT) have a PTFE thread sealant, and straight male threads (BSPP and metric) have an O-ring. Vacuum rating is 28″ Hg @ 70° F. Fittings meet ISO 14743.

Inline tees are also known as branch tees, and **right angle tees** are also known as run tees.

Threaded Connections: BSPT, BSPP, metric straight, or NPT threads.

Tube-to-Threaded Pipe Adapters








For Tube OD, mm	Pipe Size	Straights, Male Pipe ★		Swivel 90° Elbows, Male Pipe		Swivel Long 90° Elbows, Male Pipe		Swivel 45° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe		Swivel Right Angle Tees, Male Pipe	
BSPT Threads													
4	1/8	5225K301	$3.28	5225K321	$3.90	5225K751	$14.88	5225K101	$4.72	5225K341	$5.58	5225K361	$6.11
4	1/4	5225K302	5.13	5225K322	6.01	5225K752	13.18	_____	___	5225K342	8.20	5225K362	8.53
4	3/8	5225K317	7.58	5225K381	7.87	_____	___	_____	___	_____	___	_____	___
6	1/8	5225K303	3.60	5225K323	4.18	5225K753	11.36	5225K102	4.31	5225K343	5.96	5225K363	5.96
6	1/4	5225K304	4.08	5225K324	4.96	5225K754	17.88	5225K103	5.96	5225K344	6.06	5225K364	6.06
6	3/8	5225K318	4.46	5225K382	4.73	_____	___	_____	___	_____	___	_____	___
6	1/2	5225K319	7.46	5225K383	8.01	_____	___	_____	___	_____	___	_____	___
8	1/8	5225K305	5.26	5225K325	6.11	5225K756	18.35	5225K104	5.35	5225K345	7.50	5225K365	7.50
8	1/4	5225K306	5.26	5225K326	6.11	5225K757	19.48	5225K105	5.17	5225K346	7.81	5225K366	7.81
8	3/8	5225K307	5.97	5225K327	7.58	5225K758	17.18	5225K106	6.95	5225K347	8.11	5225K367	8.11
8	1/2	5225K337	6.65	5225K384	9.75	_____	___	_____	___	_____	___	_____	___
10	1/8	5225K338	7.58	5225K385	11.32	_____	___	_____	___	_____	___	_____	___
10	1/4	5225K308	6.41	5225K328	10.90	5225K759	10.33	5225K107	7.16	5225K348	15.01	5225K368	15.01
10	3/8	5225K309	7.16	5225K329	8.73	5225K761	20.00	5225K108	8.00	5225K349	13.05	5225K814	15.25
10	1/2	5225K311	8.21	5225K331	11.02	5225K762	20.12	5225K109	12.62	5225K351	14.58	5225K815	15.00
12	1/4	5225K312	7.83	5225K332	12.72	5225K763	16.48	5225K111	9.96	5225K352	18.02	5225K372	17.65
12	3/8	5225K313	8.07	5225K333	12.85	5225K764	20.52	5225K112	10.40	5225K353	18.02	5225K373	17.75
12	1/2	5225K314	9.06	5225K334	13.23	5225K765	20.52	5225K113	11.26	5225K354	18.35	5225K374	18.12
14	3/8	5225K315	12.01	5225K335	14.20	5225K766	20.18	_____	___	5225K355	18.78	5225K375	19.52
14	1/2	5225K316	12.13	5225K336	14.45	5225K767	20.18	_____	___	5225K356	18.97	5225K376	19.93
16	3/8	5225K339	24.98	5225K386	29.63	_____	___	_____	___	5225K377	40.31	5225K816	40.23
16	1/2	5225K357	25.98	5225K387	29.65	_____	___	_____	___	5225K378	38.20	5225K817	40.73
BSPP Threads													
4	1/8	5225K501	3.52	5225K561	4.46	5225K783	6.25	5225K202	4.72	5225K521	6.11	5225K541	6.67
4	1/4	5225K502	5.21	5225K562	7.71	5225K784	7.35	5225K489	9.62	5225K522	9.18	5225K542	9.46
6	1/8	5225K504	3.90	5225K564	4.73	5225K787	5.60	5225K204	4.73	5225K524	6.48	5225K544	6.67
6	1/4	5225K505	4.68	5225K565	6.41	5225K788	6.60	5225K205	5.97	5225K525	7.91	5225K545	7.91
6	3/8	5225K583	5.65	5225K744	6.55	_____	___	_____	___	_____	___	_____	___
6	1/2	5225K584	6.65	5225K745	7.00	_____	___	_____	___	_____	___	_____	___
8	1/8	5225K507	5.53	5225K567	6.97	5225K789	6.10	5225K206	5.33	5225K527	8.21	5225K547	8.21
8	1/4	5225K508	5.53	5225K568	6.97	5225K791	6.60	5225K207	6.25	5225K528	8.36	5225K548	8.57
8	3/8	5225K509	7.58	5225K569	9.46	5225K792	7.78	5225K208	6.95	5225K529	8.57	5225K549	8.68
8	1/2	5225K586	8.63	5225K747	8.30	_____	___	_____	___	_____	___	_____	___
10	1/4	5225K511	9.06	5225K571	11.07	5225K793	11.00	5225K209	7.16	5225K531	14.78	5225K551	15.23
10	3/8	5225K512	10.10	5225K572	11.96	5225K794	13.88	5225K211	8.01	5225K532	16.07	5225K552	16.07
10	1/2	5225K513	11.75	5225K573	7.73	5225K795	15.43	5225K212	10.86	5225K533	15.57	5225K553	14.01
12	1/4	5225K514	12.41	5225K574	13.88	5225K796	13.88	5225K213	10.08	5225K534	19.15	5225K554	18.90
12	3/8	5225K515	8.77	5225K575	12.94	5225K797	14.15	5225K214	10.60	5225K587	18.35	5225K818	18.20
12	1/2	5225K516	13.68	5225K576	13.73	5225K798	14.50	5225K215	11.48	5225K536	18.18	5225K556	18.02
14	3/8	5225K517	10.04	5225K577	12.04	5225K799	12.62	_____	___	5225K588	19.73	5225K819	18.95
14	1/2	5225K518	11.75	5225K578	14.35	5225K768	12.70	_____	___	5225K538	19.93	5225K558	22.78
Metric Straight Threads													
3	M3×0.5	5225K519	7.88	5225K737	7.31	_____	___	_____	___	_____	___	_____	___
3	M5×0.8	5225K539	7.76	5225K738	7.30	_____	___	_____	___	_____	___	_____	___
4	M3×0.5	5225K559	5.76	5225K739	7.46	_____	___	_____	___	_____	___	_____	___
4	M5×0.8	5225K503	4.15	5225K563	4.13	5225K781	6.40	5225K201	4.72	5225K523	7.91	5225K543	8.18
4	M7×1	5225K579	5.45	5225K741	4.43	5225K782	7.03	_____	___	_____	___	_____	___
6	M5×0.8	5225K506	5.88	5225K566	4.46	5225K785	6.60	5225K203	5.06	5225K526	7.73	5225K546	8.11
6	M7×1	5225K581	7.67	5225K742	4.43	5225K786	6.60	_____	___	_____	___	_____	___
6	M10×1	5225K582	7.61	5225K743	11.18	_____	___	_____	___	_____	___	_____	___
8	M10×1	5225K585	6.78	5225K746	3.46	_____	___	_____	___	_____	___	_____	___

★ Body is nickel-plated brass.

Straights, Female Pipe ★



For Tube OD, mm	Pipe Size		
BSPP Threads			
4	1/8	5225K601	$5.62
4	1/4	5225K602	7.58
6	1/8	5225K604	5.58
6	1/4	5225K605	6.23
8	1/8	5225K606	7.05
8	1/4	5225K607	6.73
BSPP Threads (Cont.)			
8	3/8	5225K613	$8.28
10	1/4	5225K615	9.93
10	3/8	5225K608	10.95
10	1/2	5225K895	13.36
12	1/4	5225K486	21.64
12	1/2	5225K611	17.35
14	3/8	5225K896	$14.43
16	1/2	5225K897	36.71
Metric Straight Threads			
4	M5×0.8	5225K603	9.68

★ Body is nickel-plated brass.

(Continued on following page)

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

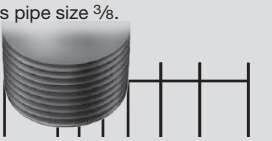



Metric Push-to-Connect Tube Fittings for Air *(Continued from previous page)*

- Maximum Pressure: 290 psi @ 70° F
- Temperature Range: –4° to 175° F
- Tubing: Use with firm (Shore A95) polyurethane, firm (Shore D44) polyethylene, and hard (Shore D62) nylon

Not only are these fittings the top choice for air applications, they're also designed for use with metric tubing. Fittings are lightweight, yet strong. They have a black, glass-filled nylon body and a black release ring, unless noted. The threads are nickel-plated brass, except manifolds have aluminum threads. Tapered male threads (NPT and BSPT) have a PTFE thread sealant, and straight male threads (BSPP and metric) have an O-ring. Vacuum rating is 28" Hg @ 70° F. Fittings meet ISO 14743.

Tube stems insert into the end of your tube fitting. **Easy-access 90° elbows** are also known as banjo-style elbows; they have a hex head for easy adjustment in tight spaces, except metric straight threads which have a screwdriver slot.

Inline tees are also known as branch tees, **through-wall fittings** are also known as bulkhead couplings, and **right angle tees** are also known as run tees.

Threaded Connections: BSPT, BSPP, metric straight, or NPT threads.

Tube-to-Threaded Pipe Adapters (Cont.)



Straights, Tube Stem × Male Pipe

Stem OD, mm	Pipe Size		
BSPT Threads			
4	1/8	5225K821	$5.60
4	1/4	5225K822	7.45
6	1/8	5225K823	5.83
6	1/4	5225K824	5.78
8	1/8	5225K825	7.67
8	1/4	5225K826	5.90
8	3/8	5225K827	7.12
10	1/4	5225K828	7.25
10	3/8	5225K829	8.33
10	1/2	5225K831	9.97
12	3/8	5225K832	11.72
12	1/2	5225K833	12.86
14	1/2	5225K834	11.61
BSPP Threads			
4	1/8	5225K836	9.85
4	1/4	5225K837	10.08
6	1/8	5225K838	8.80
6	1/4	5225K839	10.25
8	1/8	5225K841	8.45
8	1/4	5225K842	10.68
8	3/8	5225K843	14.35
10	1/4	5225K844	14.35
10	3/8	5225K845	19.52
10	1/2	5225K846	20.23
12	3/8	5225K847	7.88
12	1/2	5225K848	11.72
14	3/8	5225K849	7.73
14	1/2	5225K851	20.23
Metric Straight Threads			
4	M5×0.8	5225K835	7.25





Easy-Access 90° Elbows, Male Pipe / Swivel Wyes, Male Pipe

For Tube OD, mm	Pipe Size	Easy-Access 90° Elbows, Male Pipe		Swivel Wyes, Male Pipe	
BSPT Threads					
4	1/8	5225K911	$8.12	5225K852	$9.33
4	1/4	—	—	5225K853	9.53
6	1/8	5225K912	8.12	5225K854	8.70
6	1/4	5225K913	10.45	5225K855	9.60
8	1/8	5225K914	10.03	5225K856	9.40
8	1/4	5225K915	11.18	5225K857	9.30
8	3/8	5225K916	13.48	5225K858	12.20
10	1/4	5225K917	16.32	5225K859	12.91
10	3/8	5225K918	15.50	5225K861	13.60
10	1/2	—	—	5225K862	15.44
12	3/8	5225K919	19.33	5225K863	15.43
12	1/2	5225K898	20.88	5225K864	17.81
BSPP Threads					
4	1/8	5225K924	6.85	5225K866	10.68
4	1/4	—	—	5225K867	15.43
6	1/8	5225K926	6.85	5225K869	10.57
6	1/4	5225K927	8.80	5225K871	10.33
8	1/8	5225K928	8.45	5225K872	13.73
8	1/4	5225K929	9.45	5225K873	14.68
8	3/8	5225K931	11.32	5225K874	15.38
10	1/4	5225K932	14.32	5225K875	16.48
10	3/8	5225K933	12.65	5225K876	15.83
10	1/2	5225K934	17.18	5225K877	19.55
12	3/8	5225K935	16.23	5225K878	23.81
12	1/2	5225K936	22.00	5225K879	20.50
Metric Straight Threads					
3	M3×0.5	5225K921	12.51	—	—
3	M5×0.8	5225K922	11.09	—	—
4	M5×0.8	5225K923	6.65	5225K865	8.21
6	M5×0.8	5225K925	9.20	5225K868	7.83



Swivel 90° Elbows, Female Pipe

For Tube OD, mm	Pipe Size		
BSPP Threads			
4	1/8	5225K881	$3.58
4	1/4	5225K882	4.88
6	1/8	5225K883	3.73
6	1/4	5225K884	5.00
8	1/8	5225K885	4.23
8	1/4	5225K886	5.05
8	3/8	5225K887	5.90
10	1/4	5225K888	9.28
10	3/8	5225K889	7.36
10	1/2	5225K891	8.78
12	3/8	5225K892	8.28
12	1/2	5225K893	9.33



Easy-Access Double 90° Elbows, Male Pipe

For Tube OD, mm	Pipe Size		
BSPP Threads			
4	1/8	5225K938	$10.33
6	1/8	5225K939	8.63
6	1/4	5225K941	16.80
8	1/4	5225K942	12.03
8	3/8	5225K943	17.05
10	3/8	5225K944	14.88
Metric Straight Threads			
4	M5×0.8	5225K937	5.05



Aluminum Manifolds, Female Pipe

For Tube OD (Outlet), mm	Pipe Size (Inlet)	No. of Outlets		
BSPP Threads				
4	1/4	8	5225K221	$43.73
6	1/4	8	5225K222	37.17
8	3/8	6	5225K223	38.16
10	1/2	6	5225K224	78.83
12	1/2	6	5225K225	131.25

(Continued on following page)

Metric Push-to-Connect Tube Fittings for Air *(Continued from previous page)*

Tube-to-Threaded Pipe Adapters (Cont.)





For Tube OD, mm	Pipe Size	Straights, Male Pipe ★		Swivel 90° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe	
NPT Threads							
4	1/8	5225K711	$2.38	5225K721	$2.80	5225K801	$5.08
4	1/4	5225K719	4.62	5225K733	5.85	5225K802	7.45
6	1/8	5225K712	4.25	5225K722	4.17	5225K803	6.03
6	1/4	5225K713	4.85	5225K723	4.30	5225K804	6.12
8	1/8	5225K714	5.35	5225K724	6.42	5225K805	6.83
8	1/4	5225K715	5.35	5225K725	6.42	5225K806	7.30
8	3/8	5225K716	6.10	5225K726	6.75	5225K807	7.53
10	1/4	5225K717	7.75	5225K727	10.90	5225K808	15.23
10	3/8	5225K729	8.70	5225K734	11.07	5225K809	15.25
10	1/2	5225K731	9.60	5225K735	11.07	5225K811	15.60
12	3/8	5225K718	9.75	5225K728	12.85	5225K812	18.20
12	1/2	5225K732	10.38	5225K736	13.40	5225K813	18.52

★ Body is nickel-plated brass.

Tube-to-Tube Connectors









For Tube OD, mm	Straights		Through-Wall Straights		90° Elbows		Through-Wall 90° Elbows		Tees		Crosses		Wyes	
4	5225K61	$2.86	5225K35	$5.03	5225K68	$3.17	5225K12	$12.55	5225K77	$4.18	5225K114	$13.45	5225K85	$4.18
6	5225K62	3.62	5225K36	5.92	5225K69	3.92	5225K13	11.85	5225K78	5.25	5225K115	8.83	5225K87	5.17
8	5225K63	4.06	5225K37	6.65	5225K71	4.36	5225K14	19.07	5225K79	5.91	5225K116	8.62	5225K89	5.78
10	5225K64	9.33	5225K38	9.72	5225K72	8.85	5225K15	20.15	5225K81	13.03			5225K92	8.45
12	5225K65	10.40	5225K39	13.23	5225K73	11.21	5225K16	28.73	5225K82	14.96			5225K99	9.33
14	5225K66	14.50	5225K56	16.82	5225K74	14.20	5225K17	43.90	5225K83	19.15				
16	5225K67	18.30			5225K59	20.05			5225K58	24.25				



Reducing Straights

For Tube OD, mm (A)	(B)			For Tube OD, mm (A)	(B)		
4	3	5225K945	$4.22	10	8	5225K951	$9.28
6	4	5225K946	6.45	12	8	5225K952	11.03
8	4	5225K947	6.75	12	10	5225K953	10.50
8	6	5225K948	6.98	14	12	5225K954	14.38
10	6	5225K949	10.07				




For Tube OD, mm (A)	(B)	Reducing 90° Elbows		Reducing Wyes	
6	4	5225K955	$3.92	5225K52	$4.90
8	6	5225K956	5.48	5225K53	6.50
10	8	5225K957	8.95	5225K54	6.90
12	10	5225K958	11.32	5225K55	9.45



Reducing Inline Tees

For Tube OD, mm (A)	(B)			For Tube OD, mm (A)	(B)		
4	6	5225K41	$5.30	10	8	5225K46	$13.23
6	4	5225K42	5.71	10	12	5225K47	15.12
6	8	5225K43	8.01	12	10	5225K48	15.12
8	6	5225K44	6.25	14	8	5225K49	13.26
8	10	5225K45	13.11	16	12	5225K51	36.02



Double Wyes

For Tube OD, mm (A)	(B)		
4	4	5225K31	$14.97
4	6	5225K33	16.52
6	6	5225K32	14.10
6	8	5225K34	14.10



Expanding Straights, Tube Stem

Stem OD, mm	For Tube OD, mm		
4	6	5225K196	$5.00
6	8	5225K197	3.11
8	10	5225K198	4.43
10	12	5225K199	5.58







Stem OD, mm	For Tube OD, mm	90° Elbows, Tube Stem		90° Elbows, Long Tube Stem		Inline Tees, Tube Stem		Right Angle Tees, Tube Stem		Wyes, Tube Stem	
4	4	5225K117	$1.73	5225K128	$2.65	5225K141	$3.46	5225K152	$3.18	5225K162	$6.23
6	6	5225K118	1.98	5225K129	2.83	5225K142	4.26	5225K153	3.55	5225K163	4.53
8	8	5225K119	2.11	5225K131	3.71	5225K144	3.63	5225K154	3.71	5225K164	4.88
10	10	5225K121	5.15	5225K132	5.78	5225K145	6.10	5225K155	5.15	5225K165	6.95
12	12	5225K122	3.40	5225K133	4.90	5225K146	6.58	5225K156	5.48	5225K166	8.80

Straights, Tube Stem × Tube Stem

Stem OD, mm			Stem OD, mm			Stem OD, mm		
4	5225K172	$1.35	8	5225K174	$1.93	12	5225K176	$3.40
6	5225K173	1.63	10	5225K175	3.13	14	5225K177	3.45



(Continued on following page)

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

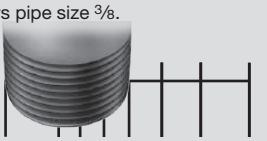

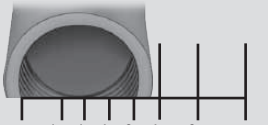

Metric Push-to-Connect Tube Fittings for Air *(Continued from previous page)*

- Maximum Pressure: 290 psi @ 70° F
- Temperature Range: –4° to 175° F
- Tubing: Use with firm (Shore A95) polyurethane, firm (Shore D44) polyethylene, and hard (Shore D62) nylon

Not only are these fittings the top choice for air applications, they're also designed for use with metric tubing. Fittings are lightweight, yet strong. They have a black, glass-filled nylon body and a black release ring, unless otherwise stated. The threads are nickel-plated brass. Tapered male threads (NPT and BSPT) have a PTFE thread sealant, and straight male threads (BSPP and metric) have an O-ring. Vacuum rating is 28" Hg @ 70° F. Fittings meet ISO 14743, except 16 mm plug.

Tube stems insert into the end of your tube fitting. **Inline tees** are also known as branch tees, and **right angle tees** are also known as run tees. **Plugs** are red, except 16 mm is nickel-plated brass.

Tube-to-Tube Connectors (Cont.)







Stem OD, mm	For Tube OD, mm	Reducing 90° Elbows, Tube Stem		Reducing 90° Elbows, Long Tube Stem		Reducing Inline Tees, Tube Stem		Reducing Right Angle Tees, Tube Stem		Reducing Wyes, Tube Stem	
4	6	5225K124	$2.86								
6	4	5225K123	2.95	5225K134	$3.36	5225K147	$5.05	5225K157	$6.25	5225K167	$7.13
8	6	5225K125	4.11	5225K135	4.33	5225K148	5.05	5225K158	7.35	5225K168	4.53
10	8	5225K126	6.10	5225K136	6.26	5225K149	7.46	5225K159	6.46	5225K169	6.10
12	10	5225K127	7.15	5225K137	7.22	5225K151	8.01	5225K161	7.35	5225K171	9.28

Reducing Straights, Tube Stem



Stem OD, mm	For Tube OD, mm			Stem OD, mm	For Tube OD, mm			Stem OD, mm	For Tube OD, mm		
4	3	5225K181	$4.08	10	6	5225K186	$3.45	14	6	5225K188	$7.26
6	4	5225K182	2.77	10	8	5225K189	4.06	14	8	5225K192	6.10
8	4	5225K183	3.01	12	6	5225K187	5.95	14	10	5225K194	9.80
8	6	5225K185	2.66	12	8	5225K191	4.85	14	12	5225K195	12.08
10	4	5225K184	5.81	12	10	5225K193	8.55				

Tube-to-Tube Connectors (Cont.)





For Tube OD, mm Inlet	Outlet	3-Outlet Manifolds		6-Outlet Manifolds	
6	4	5225K21	$15.12	5225K18	$15.13
8	4	5225K22	16.53	5225K26	27.12
8	6	5225K23	17.70	5225K27	15.38
10	6	5225K24	25.18	5225K28	25.20
10	8	5225K25	27.26	5225K29	22.90

Caps and Plugs



Caps

For Tube OD, mm		
4	5225K231	$2.02
6	5225K232	2.18
8	5225K233	2.48
10	5225K234	5.55
12	5225K235	6.20



Plugs

Stem OD, mm		
4	5225K93	$0.48
6	5225K94	1.31
8	5225K95	1.43
10	5225K96	2.83
12	5225K97	4.31
14	5225K98	4.88
16	5225K11	18.48

High-Pressure D.O.T. Push-to-Connect Tube Fittings for Air

- Maximum Pressure: 250 psi @ 70° F
- Temperature Range: –40° to 200° F
- Tubing: Use with D.O.T. nylon that meets SAE J844 (see page 141)

The combination of brass and glass-filled nylon gives these fittings excellent strength—and the ability to withstand higher pressures than other push-to-connect D.O.T. fittings. Commonly used in air brake systems, these fittings meet Department of Transportation FMVSS 571 criteria for low-temperature applications. Fittings have brass threads and a black, glass-filled nylon body, unless noted. Fittings also have an internal tube support to ensure maximum flow. Vacuum rating is 28" Hg @ 70° F.

Inline tees are also known as branch tees, **right angle tees** are also known as run tees, and **through-wall straights** are also known as bulkhead couplings.

Threaded Connections: NPT threads.

Tube-to-Threaded Pipe Adapters







For Tube OD	Pipe Size	Straights, Male Pipe ■		Straights, Female Pipe ■		90° Elbows, Male Pipe ■		Swivel 90° Elbows, Male Pipe		Swivel 90° Elbows, Female Pipe	
5/32"	1/8	5148K121	$4.47	5148K131	$7.57	5148K141	$7.88				
3/16"	1/8	5148K122	6.56	5148K132	13.89	5148K142	12.40				
1/4"	1/8	5148K123	4.53	5148K133	5.22			5148K143	$4.15	5148K531	$5.64
1/4"	1/4	5148K124	4.29	5148K134	7.03			5148K144	4.62	5148K532	6.81
3/8"	1/4	5148K125	5.19	5148K135	9.70			5148K145	9.47	5148K533	11.53
3/8"	3/8	5148K126	6.45	5148K136	10.27			5148K146	10.01	5148K534	14.89
1/2"	3/8	5148K127	11.23	5148K137	12.95			5148K147	11.94	5148K535	13.40
1/2"	1/2	5148K128	10.57	5148K138	13.17			5148K148	12.06	5148K536	14.07

■ Body is brass.

(Continued on following page)

High-Pressure D.O.T. Push-to-Connect Tube Fittings for Air

(Continued from previous page)

Tube-to-Threaded Pipe Adapters (Cont.)








For Tube OD	Pipe Size	Swivel 45° Elbows, Male Pipe		Inline Tees, Male Pipe ■		Swivel Inline Tees, Male Pipe		Right Angle Tees, Male Pipe ■		Swivel Right Angle Tees, Male Pipe		Swivel Wyes, Male Pipe	
5/32"	1/8			5148K151	$21.95			5148K161	$35.32				
3/16"	1/8			5148K152	23.49			5148K162	22.22				
1/4"	1/8	5148K537	$7.04			5148K153	$6.34			5148K163	$6.38	5148K173	$14.25
1/4"	1/4	5148K538	7.28			5148K154	6.81			5148K164	6.86	5148K174	10.63
3/8"	1/4	5148K539	7.77			5148K155	12.36			5148K165	12.67	5148K175	18.38
3/8"	3/8	5148K541	8.15			5148K156	12.90			5148K166	12.90		
1/2"	3/8	5148K542	11.40			5148K157	16.30			5148K167	16.84		
1/2"	1/2	5148K543	11.44			5148K158	16.40			5148K168	16.40		

■ Body is brass.

Tube-to-Tube Connectors







For Tube OD	Straights		Through-Wall Straights ■		90° Elbows		Tees		Wyes	
5/32"	5148K181 ■	$5.11			5148K221 ■	$12.40	5148K231 ■	$15.26		
3/16"	5148K182 ■	9.10			5148K222 ■	15.33	5148K232 ■	25.74		
1/4"	5148K183	4.28	5148K193	$8.45	5148K223	6.78	5148K233	6.59	5148K243	$8.99
3/8"	5148K184	6.67	5148K194	12.14	5148K224	9.91	5148K234	9.84	5148K244	13.18
1/2"	5148K185	11.04	5148K195	16.83	5148K225	11.05	5148K235	14.51	5148K245	24.84

■ Body is brass.

D.O.T. Brass Push-to-Connect Tube Fittings for Air

- Maximum Pressure: 150 psi @ 72° F
- Temperature Range: –40° to 212° F
- Tubing: Use with D.O.T. nylon that meets SAE J844 (see page 141)

Commonly used in air brake lines, these fittings meet Department of Transportation FMVSS 571 criteria for low-temperature applications. Fittings are made of brass; plugs are nylon. Fittings have an internal tube support to ensure maximum flow. The threads have a sealant applied to resist leaks. Vacuum rating is 28" Hg @ 72° F.

Inline tees are also known as branch tees, and **right angle tees** are also known as run tees.

Threaded Connections: NPTF (Dryseal) threads, which are compatible with NPT threads.

Tube-to-Threaded Pipe Adapters








For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		Swivel 90° Elbows, Male Pipe		Swivel 45° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe		Swivel Right Angle Tees, Male Pipe	
5/32"	1/8	51915K118	$5.17			51915K125	$6.97						
1/4"	1/8	51915K11	3.32	51915K21	$6.39	51915K31	5.88	51915K61	$7.65	51915K71	$9.73	51915K81	$9.71
1/4"	1/4	51915K12	4.08	51915K22	7.75	51915K32	6.70	51915K62	7.24	51915K72	10.36	51915K82	10.55
3/8"	1/4	51915K13	5.04	51915K23	8.76	51915K33	7.83	51915K63	8.31	51915K73	11.97	51915K83	11.91
3/8"	3/8	51915K14	5.41	51915K24	11.50	51915K34	8.84	51915K64	8.86	51915K74	12.52	51915K84	12.50
1/2"	3/8	51915K201	8.03			51915K203	12.41	51915K65	13.40	51915K75	19.36	51915K85	19.26
1/2"	1/2	51915K15	9.35			51915K35	14.65	51915K202	15.73	51915K204	21.54	51915K205	20.19
3/4"	3/4	51915K124	16.54			51915K126	15.51						

Tube-to-Tube Connectors





For Tube OD	Straights		90° Elbows		Tees	
5/32"	51915K109	$6.28				
1/4"	51915K41	6.52	51915K51	$6.88	51915K91	$9.89
3/8"	51915K42	7.55	51915K52	8.39	51915K92	12.22
1/2"	51915K43	9.30	51915K53	14.13	51915K93	21.52
3/4"	51915K113	12.43			51915K116	25.73

Plugs



Stem OD	Plugs	
5/32"	51915K36	$0.55
1/4"	51915K37	.73
3/8"	51915K38	1.54
1/2"	51915K39	1.72

Manifolds with Push-to-Connect Tube Fittings for Air

- Maximum Pressure: 150 psi @ 72° F
- Temperature Range: –10° to 200° F
- Tubing: Use with firm and hard polyethylene and nylon, and firm (Shore A95) polyurethane

Run multiple lines from one distribution point. Manifolds have an anodized aluminum body for excellent corrosion resistance, and the fittings are made of brass. Block off any unused outlets with a plug.

Threaded Connections: NPTF (Dryseal) threads, which are compatible with NPT threads.



6 Outlets

For Tube OD (Outlet)	Pipe Size (Inlet)	Manifolds 4 Outlets		6 Outlets		8 Outlets	
1/4"	3/8	4785K21	$64.42	4785K22	$75.03	4785K23	$89.08
3/8"	3/8	4785K31	65.29				

Stem OD	Plugs	
1/4"	51915K37	$0.73
3/8"	51915K38	1.54

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

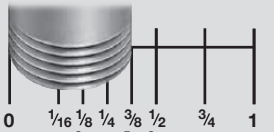

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
OD (to nearest 1/8″): 0 1/4″ 3/8″ 1/2″ 5/8″ 3/4″ 1″ 1 1/4″

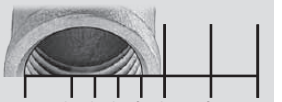

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
ID (to nearest 1/8″): 0 1/4″ 3/8″ 1/2″ 5/8″ 3/4″ 1″ 1 1/4″

Brass and Nylon Push-to-Connect Tube Fittings for Air

- Maximum Pressure @ 73° F:
  Brass: 300 psi
  Nylon: 150 psi
- Temperature Range:
  Brass: 0° to 200° F
  Nylon: 0° to 150° F
- Tubing: Use with firm and hard polyethylene, polypropylene, and nylon

Choose these fittings when you need good corrosion resistance, as well as exceptional strength. The tube stem straights and plugs are made of black nylon (unless noted), and are designed for use with brass fittings. All fittings have a green acetal release ring. The threads have a sealant applied to minimize leaks, except the 10-32 size has no sealant.

Inline tees are also known as branch tees, **right angle tees** are also known as run tees, and **through-wall straights** are also known as bulkhead couplings. **Tube stems** insert into the end of your tube fitting.

Threaded Connections: NPTF (Dryseal) threads, except 10-32 are UNF straight threads. NPTF threads are compatible with NPT threads.

Tube-to-Threaded Pipe Adapters








For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe		Swivel 90° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe		Swivel Right Angle Tees, Male Pipe	
1/8″	10-32	51025K166	$4.21										
1/8″	1/16	51025K322	3.58										
1/8″	1/8	51025K171	2.77	51025K241	$7.12	51025K371	$4.37	51025K131	$5.00	51025K111	$12.83	51025K151	$11.65
1/8″	1/4	51025K172	4.74					51025K132	8.14				
5/32″	10-32	51025K167	3.51										
5/32″	1/8	51025K173	2.98	51025K347	5.07	51025K372	3.96	51025K133	4.99	51025K112	7.95	51025K152	7.95
5/32″	1/4	51025K174	10.83	51025K348	5.70	51025K373	6.08	51025K134	8.15				
3/16″	1/8	51025K175	4.07	51025K242	8.19			51025K135	6.05	51025K113	19.79		
3/16″	1/4	51025K176	4.93										
1/4″	10-32	51025K324	5.42										
1/4″	1/16	51025K323	8.53										
1/4″	1/8	51025K177	1.84	51025K243	2.39	51025K374	4.24	51025K136	3.76	51025K114	5.07	51025K154	5.98
1/4″	1/4	51025K178	2.10	51025K244	3.61	51025K375	4.19	51025K137	4.28	51025K115	5.56	51025K155	6.35
1/4″	3/8	51025K179	2.86					51025K138	8.45				
5/16″	1/8	51025K181	9.86	51025K245	7.90	51025K376	7.47	51025K139	7.07	51025K116	11.37	51025K156	10.63
5/16″	1/4	51025K182	10.18	51025K349	9.60	51025K377	7.49	51025K141	7.16	51025K117	12.17	51025K336	12.10
5/16″	3/8	51025K183	7.39										
3/8″	1/8	51025K325	6.16					51025K341	7.18				
3/8″	1/4	51025K184	3.74	51025K246	11.04	51025K378	6.26	51025K142	6.04	51025K118	14.34	51025K157	15.93
3/8″	3/8	51025K185	3.86	51025K247	9.16	51025K379	7.41	51025K143	6.12	51025K119	17.07	51025K158	14.51
3/8″	1/2	51025K186	13.77			51025K381	10.47	51025K144	15.55				
1/2″	1/4	51025K187	6.19					51025K145	10.79				
1/2″	3/8	51025K188	7.79			51025K382	9.53	51025K146	8.21	51025K123	26.40	51025K337	13.92
1/2″	1/2	51025K189	10.70			51025K383	12.19	51025K147	18.26	51025K124	17.30	51025K338	12.93

Tube-to-Tube Connectors and Plugs






For Tube OD	Straights		Through-Wall Straights		90° Elbows		Tees	
1/8″	51025K191	$5.26	51025K211	$12.05	51025K231	$7.07	51025K221	$9.53
5/32″	51025K192	9.83	51025K212	9.83	51025K232	9.86	51025K222	7.88
3/16″	51025K193	6.44					51025K223	12.93
1/4″	51025K194	3.46	51025K214	5.25	51025K234	5.37	51025K224	4.98
5/16″	51025K195	7.07	51025K215	14.40	51025K235	8.16	51025K225	13.33
3/8″	51025K196	5.77	51025K216	15.37	51025K236	10.61	51025K226	9.14
1/2″	51025K197	8.86	51025K217	29.90	51025K237	11.63	51025K227	21.00



Reducing Straights

For Tube OD (A)	(B)		
5/32″	1/8″	51025K411	$13.93
1/4″	1/8″	51025K412	12.60
1/4″	5/32″	51025K413	7.16
1/4″	3/8″	51025K414	10.58
3/8″	1/2″	51025K415	12.49



Straights, Tube Stem x Tube Stem

Stem OD		
1/4″	51025K563	$3.58
5/16″	51025K764	2.61
3/8″	51025K765	5.35
1/2″	51025K766★	6.80

★Made of nickel-plated brass.



Plugs

Stem OD		
1/8″	51025K651	$1.19
5/32″	51025K652	1.15
1/4″	51025K654	1.26
5/16″	51025K655	1.56
3/8″	51025K656	1.56
1/2″	51025K657	1.74

Metric Push-to-Connect Tube Fittings with Shut-Off for Air

- Maximum Pressure @ 70° F: 145 psi
- Temperature Range: 25° to 140° F
- Tubing: Use with firm and hard (Shore A91-A97) polyurethane and hard (Shore D60-95) nylon

A built-in shut-off valve stops airflow when the fittings are disconnected from tubing. Fittings have a black polybutylene body, unless noted. The release ring is blue. Threads and tube stems are nickel-plated brass. The threads have a sealant applied to minimize leaks, except the M5 size has an O-ring.

Through-wall straights are also known as bulkhead couplings. **Tube stems** insert into the end of your tube fitting.

Threaded Connections: BSPT (British Standard Pipe Taper) threads, except M5 are metric straight threads.

Tube-to-Threaded Pipe Adapters





For Tube OD, mm	Pipe Size	Straights, Male Pipe ★		Through-Wall Straights, Female Pipe ★		Swivel 90° Elbows, Male Pipe	
4	M5	1201N11	$3.37	____	____	1201N31	$6.13
4	1/8	1201N12	3.28	____	____	1201N32	6.03
4	1/4	____	____	1201N91	$7.65	____	____
6	M5	1201N13	3.66	____	____	1201N33	6.13
6	1/8	1201N14	3.52	____	____	1201N34	6.13
6	1/4	1201N15	3.52	1201N92	7.65	1201N35	6.22
8	1/8	1201N16	4.42	____	____	1201N36	6.41
8	1/4	1201N17	4.42	____	____	1201N37	6.41
8	3/8	1201N18	3.80	1201N93	8.46	1201N38	6.41
10	1/4	1201N19	6.75	____	____	1201N39	6.75
10	3/8	1201N21	6.75	1201N94	10.69	1201N41	6.75

★ Body is nickel-plated brass.

Tube-to-Tube Connectors






For Tube OD, mm	Straights		Through-Wall Straights ★		Tees		Wyes	
4	1201N56	$5.04	1201N81	$7.65	1201N51	$9.17	1201N61	$8.36
6	1201N66	5.42	1201N82	7.65	1201N52	9.17	1201N62	8.36
8	1201N76	5.65	1201N83	9.17	1201N53	9.17	1201N63	8.46
10	1201N86	6.13	1201N84	12.11	1201N54	12.21	1201N64	10.97

★ Body is nickel-plated brass.




For Tube OD, mm	Stem OD, mm	Straights, Tube Stem ★		90° Elbows, Tube Stem	
4	4	1201N71	$4.94	1201N58	$4.80
6	6	1201N72	4.94	1201N68	4.80
8	8	1201N73	5.46	1201N78	4.94
10	10	1201N74	6.13	1201N88	6.41

★ Body is nickel-plated brass.

Rotating Push-to-Connect Tube Fittings for Air

- Maximum Pressure: 145 psi @ 72° F
- Temperature Range: 23° to 140° F
- Tubing: Use with firm and hard (Shore A88-A97) polyurethane and hard nylon

Steel ball bearings allow these fittings to rotate 360° degrees—even after they're tightened. A special seal reduces friction to allow continuous rotation. Fittings have a light gray polybutylene body, which offers excellent strength. Fittings with inch sizes have a red release ring, and fittings with metric sizes have a blue release ring. Threads are nickel-plated brass. The NPT and BSPT threads have a PTFE thread sealant applied to minimize leaks. Vacuum rating is 29.5" Hg @ 72° F.

Threaded Connections: NPT, BSPT (British Standard Pipe Taper), or metric tapered threads, except 10-32 are UNF straight threads.




For Tube OD	Pipe Size	Max. rpm	Straights, Male Pipe		90° Elbows, Male Pipe	
Inch Tube with NPT Pipe Threads						
5/32"	10-32	500	52115K205	$15.93	52115K211	$16.44
5/32"	1/8	500	52115K201	16.84	52115K212	17.99
1/4"	1/8	500	52115K202	17.65	52115K213	17.99
1/4"	1/4	500	52115K203	17.65	52115K214	17.99
5/16"	1/8	400	52115K311	22.00	52115K314	21.54
5/16"	1/4	400	52115K312	22.00	52115K315	21.54
3/8"	1/4	300	52115K313	28.42	52115K316	28.76
3/8"	3/8	300	52115K204	28.42	52115K215	28.76




For Tube OD, mm	Pipe Size	Max. rpm	Straights, Male Pipe		90° Elbows, Male Pipe	
Metric Tube with BSPT Pipe Threads						
6	1/8	500	52115K317	$17.65	52115K322	$18.05
6	1/4	500	52115K318	17.65	52115K323	18.05
8	1/4	400	52115K319	21.08	52115K324	21.08
10	1/4	300	52115K321	26.98	52115K325	28.02
Metric Tube with Metric Tapered Pipe Threads						
4	M5×0.8	500	52115K221	16.44	52115K241	15.25
4	M6×1.0	500	52115K222	16.44	52115K242	16.84
6	M5×0.8	500	52115K206	17.65	52115K207	18.05
6	M6×1.0	500	52115K224	17.65	52115K244	18.05

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

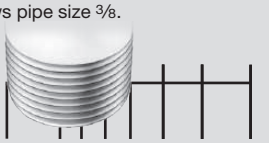



Push-to-Connect Tube Fittings for Air and Water

- Maximum Pressure: 145 psi @ 72° F
- Temperature Range: 32° to 104° F
- Tubing: Use with firm and hard (Shore A88-A95) polyurethane and hard nylon

Because these fittings won't absorb moisture, they're a good fit for both air and water applications. Fittings have a light gray polybutylene body, unless noted. Inch sizes have an orange release ring, and metric sizes have a gray release ring, unless noted. Vacuum rating is 29.53" Hg @ 72° F, except tube-to-tube metric manifolds are not rated for vacuum. NPT and BSPT male threads have a PTFE thread sealant, and UNF and metric male threads have an O-ring.

Straights with hex socket have an internal socket, so you can tighten the threads with a hex key.

Inline tees are also known as branch tees, **right angle tees** are also known as run tees, and **through-wall straights** are also known as bulkhead couplings.

Threaded Connections: NPT, BSPT, UNF straight, or metric straight threads.

To Order: For tube-to-threaded pipe adapters, please specify brass or nickel-plated brass threads.

Tube-to-Threaded Pipe Adapters








For Tube OD	Pipe Size	Straights, Male Pipe ★		Straights with Hex Socket, Male Pipe ★		Straights, Female Pipe ★		Swivel 90° Elbows, Male Pipe		Long 90° Elbows, Male Pipe		90° Elbows, Female Pipe	
Inch Tube with UNF Straight Threads													
1/8"	10-32	7880T111	$1.66	7880T137	$3.22	7880T158	$4.74	7880T178	$1.72				
5/32"	10-32	7880T115	1.66	7880T138	3.17	7880T162	4.74	7880T183	2.70				
1/4"	10-32	7880T122	3.31	7880T143	4.24	7880T165	4.74	7880T189	3.40				
Inch Tube with NPT Threads													
1/8"	1/16	7880T112	1.65					7880T179	2.77	7880T206	$4.68		
1/8"	1/8	7880T113	2.07			7880T159	4.22	7880T181	2.61	7880T207	5.61	7880T229	$5.23
1/8"	1/4	7880T114	2.79			7880T161	5.57	7880T182	3.37	7880T208	5.23	7880T231	5.67
5/32"	1/16	7880T116	1.65	7880T139	3.59			7880T184	2.77	7880T209	4.68		
5/32"	1/8	7880T117	1.62	7880T141	2.92	7880T163	3.98	7880T185	2.44	7880T211	5.61	7880T232	4.98
5/32"	1/4	7880T118	2.17			7880T164	4.89	7880T186	3.25	7880T212	5.15	7880T233	5.85
3/16"	1/8	7880T119	2.73	7880T142	4.10			7880T187	2.99	7880T213	5.11		
3/16"	1/4	7880T121	2.87					7880T188	2.99	7880T214	5.94		
1/4"	1/16	7880T123	2.22	7880T144	4.47			7880T191	3.73	7880T215	4.68		
1/4"	1/8	7880T124	2.24	7880T145	3.17	7880T166	3.86	7880T192	2.73	7880T216	5.66	7880T234	5.14
1/4"	1/4	7880T125	2.24	7880T146	3.31	7880T167	4.43	7880T193	3.00	7880T217	5.82	7880T235	6.00
1/4"	3/8	7880T126	3.11	7880T147	4.64	7880T168	5.85	7880T194	4.16	7880T218	7.83	7880T236	7.03
5/16"	1/8	7880T127	2.03	7880T148	4.18	7880T169	4.29	7880T195	3.84	7880T219	5.82		
5/16"	1/4	7880T128	2.79	7880T149	4.10	7880T171	5.29	7880T196	4.04	7880T221	6.15		
5/16"	3/8	7880T129	3.12	7880T151	5.13	7880T172	6.45	7880T197	4.35	7880T222	7.47		
3/8"	1/4	7880T131	3.64	7880T152	5.31	7880T173	5.99	7880T198	4.31	7880T223	7.98	7880T237	7.44
3/8"	3/8	7880T132	3.77	7880T153	5.39	7880T174	7.24	7880T201	5.00	7880T224	8.12	7880T238	8.31
3/8"	1/2	7880T133	4.05	7880T154	6.98	7880T175	9.09	7880T202	5.46	7880T225	9.39	7880T239	9.64
1/2"	1/4	7880T134	3.62	7880T155	6.65			7880T203	5.77	7880T226	7.74		
1/2"	3/8	7880T135	4.01	7880T156	7.00	7880T176	8.91	7880T204	5.93	7880T227	8.50	7880T241	9.20
1/2"	1/2	7880T136	4.01	7880T157	6.69	7880T177	8.23	7880T205	6.25	7880T228	9.82	7880T242	10.46
Metric Tube with BSPT Threads													
4 mm	1/8	7880T349	1.66	7880T373	2.58	7880T394	3.96	7880T413	2.43	7880T436	5.78	7880T454	5.74
4 mm	1/4	7880T351	2.17			7880T395	4.54	7880T414	3.24	7880T437	5.30	7880T455	3.50
6 mm	1/8	7880T352	2.24	7880T374	2.75	7880T396	3.96	7880T415	2.73	7880T438	5.83	7880T456	3.31
6 mm	1/4	7880T353	2.24	7880T375	2.83	7880T397	4.54	7880T416	3.00	7880T439	5.99	7880T457	3.65
6 mm	3/8	7880T354	3.11			7880T398	4.86	7880T417	4.16	7880T441	8.07	7880T458	4.18
8 mm	1/8	7880T355	2.24	7880T376	3.11	7880T399	4.09	7880T418	3.84	7880T442	5.99	7880T459	3.61
8 mm	1/4	7880T356	2.79	7880T377	3.01	7880T401	4.64	7880T419	4.04	7880T443	6.33	7880T461	4.18
8 mm	3/8	7880T357	3.11	7880T378	3.85	7880T402	5.04	7880T421	4.48	7880T444	7.70	7880T462	4.26
10 mm	1/8	7880T358	3.91	7880T379	3.98			7880T422	4.95				
10 mm	1/4	7880T359	3.64	7880T381	3.94	7880T403	4.85	7880T423	4.31	7880T445	8.22	7880T463	5.36
10 mm	3/8	7880T361	3.77	7880T382	4.21	7880T404	5.19	7880T424	5.02	7880T446	8.37	7880T464	5.67
10 mm	1/2	7880T362	4.05	7880T383	5.14			7880T425	5.46	7880T447	9.67	7880T465	6.75
12 mm	1/4	7880T363	3.62	7880T384	4.78	7880T405	5.53	7880T426	5.77	7880T448	7.98	7880T466	6.70
12 mm	3/8	7880T364	4.01	7880T385	4.68	7880T406	5.72	7880T427	5.93	7880T449	8.76	7880T467	6.52
12 mm	1/2	7880T365	4.01	7880T386	5.31	7880T407	6.01	7880T428	6.25	7880T451	10.12	7880T468	8.09
16 mm	3/8	7880T366	9.53	7880T387	5.75	7880T408	5.74	7880T429	9.87	7880T452	10.73		
16 mm	1/2	7880T367	9.10	7880T388	5.94	7880T409	6.22	7880T431	10.01	7880T453	11.37		
Metric Tube with Metric Straight Threads													
4 mm	M5 × 0.8	7880T368	1.65	7880T389	2.58	7880T411	2.91	7880T432	2.87			7880T469	3.89
4 mm	M6 × 1.0	7880T369	3.17	7880T391	2.58			7880T433	3.34			7880T471	4.04
6 mm	M5 × 0.8	7880T371	3.30	7880T392	2.70	7880T412	3.00	7880T434	3.49			7880T472	3.89
6 mm	M6 × 1.0	7880T372	3.45	7880T393	2.70			7880T435	3.50			7880T473	4.14

★ Body comes in your choice of brass or nickel-plated brass.

(Continued on following page)

Push-to-Connect Tube Fittings for Air and Water *(Continued from previous page)*

Tube-to-Threaded Pipe Adapters (Cont.)









For Tube OD	Pipe Size	45° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe		Swivel Right Angle Tees, Male Pipe		Swivel Wyes, Male Pipe	
Inch Tube with UNF Straight Threads									
1/8"	10-32		—	7880T261	$7.67	7880T287	$3.89	7880T314	$7.06
5/32"	10-32		—	7880T265	6.95	7880T292	3.89	7880T318	6.69
1/4"	10-32		—	7880T272	6.67	7880T298	3.89	7880T325	6.54
Inch Tube with NPT Threads									
1/8"	1/16		—	7880T262	4.37	7880T288	3.97	7880T315	7.48
1/8"	1/8	7880T243	$4.94	7880T263	3.75	7880T289	4.58	7880T316	7.31
1/8"	1/4		—	7880T264	5.00	7880T291	4.91	7880T317	7.57
5/32"	1/16		—	7880T266	4.23	7880T293	4.43	7880T319	4.84
5/32"	1/8	7880T244	5.04	7880T267	3.67	7880T294	3.82	7880T321	4.88
5/32"	1/4		—	7880T268	4.60	7880T295	4.78	7880T322	4.87
3/16"	1/8	7880T245	5.40	7880T269	4.48	7880T296	4.58	7880T323	8.51
3/16"	1/4		—	7880T271	5.00	7880T297	5.31	7880T324	8.91
1/4"	1/16		—	7880T273	4.13	7880T299	4.89	7880T326	8.28
1/4"	1/8	7880T246	4.84	7880T274	4.19	7880T301	4.04	7880T327	8.32
1/4"	1/4	7880T247	5.56	7880T275	4.19	7880T302	4.31	7880T328	8.47
1/4"	3/8	7880T248	6.49	7880T276	5.25	7880T303	5.22	7880T329	8.98
5/16"	1/8	7880T249	5.92	7880T277	5.16	7880T304	5.24	7880T331	9.47
5/16"	1/4	7880T251	5.87	7880T278	5.68	7880T305	5.93	7880T332	7.77
5/16"	3/8	7880T252	6.74	7880T279	5.88	7880T306	6.07	7880T333	8.02
3/8"	1/4	7880T253	7.36	7880T281	6.33	7880T307	6.33	7880T334	9.47
3/8"	3/8	7880T254	7.51	7880T282	7.75	7880T308	7.33	7880T335	9.53
3/8"	1/2	7880T255	12.70	7880T283	8.44	7880T309	9.15	7880T336	10.57
1/2"	1/4	7880T256	8.29	7880T284	8.91	7880T311	9.15	7880T337	10.79
1/2"	3/8	7880T257	8.34	7880T285	8.48	7880T312	9.15	7880T338	11.96
1/2"	1/2	7880T258	13.53	7880T286	8.91	7880T313	9.38	7880T339	11.96
Metric Tube with BSPT Threads									
4 mm	1/8	7880T474	3.94	7880T493	3.79	7880T515	4.58	7880T538	4.89
4 mm	1/4	7880T475	3.32	7880T494	4.60	7880T516	4.91	7880T539	4.89
6 mm	1/8	7880T476	3.19	7880T495	4.19	7880T517	4.04	7880T541	8.33
6 mm	1/4	7880T477	3.42	7880T496	4.19	7880T518	4.31	7880T542	8.46
6 mm	3/8	7880T478	3.67	7880T497	5.25	7880T519	5.22	7880T543	8.99
8 mm	1/8	7880T479	3.67	7880T498	5.16	7880T521	5.24	7880T544	9.45
8 mm	1/4	7880T481	3.81	7880T501	5.68	7880T522	5.93	7880T545	7.79
8 mm	3/8	7880T482	3.94	7880T502	5.88	7880T523	6.07	7880T546	8.04
10 mm	1/8	7880T483	4.33	7880T503	6.80	7880T524	7.12	—	—
10 mm	1/4	7880T484	4.48	7880T504	6.30	7880T525	6.33	7880T547	9.47
10 mm	3/8	7880T485	4.56	7880T505	7.77	7880T526	7.33	7880T548	9.54
10 mm	1/2	7880T486	5.31	7880T506	8.47	7880T527	9.15	7880T549	10.89
12 mm	1/4	7880T487	4.56	7880T507	8.94	7880T528	9.15	7880T551	10.89
12 mm	3/8	7880T488	4.56	7880T508	8.48	7880T529	9.15	7880T552	11.96
12 mm	1/2	7880T489	5.54	7880T509	8.91	7880T531	9.05	7880T553	11.96
16 mm	3/8	7880T491	7.91	—	—	7880T532	17.05	7880T554	11.03
16 mm	1/2	7880T492	8.02	—	—	7880T533	17.30	7880T555	11.37
Metric Tube with Metric Straight Threads									
4 mm	M5 × 0.8		—	7880T511	4.37	7880T534	5.27	7880T556	5.75
4 mm	M6 × 1.0		—	7880T512	4.83	7880T535	5.71	7880T557	5.75
6 mm	M5 × 0.8		—	7880T513	4.19	7880T536	4.43	7880T558	4.97
6 mm	M6 × 1.0		—	7880T514	4.18	7880T537	4.43	7880T559	4.97



Through-Wall Straights, Female Pipe ★

For Tube OD	Pipe Size		
Inch Tube with NPT Threads			
1/8"	1/4	7880T341	$8.36
5/32"	1/4	7880T342	9.03
3/16"	1/8	7880T343	4.11
1/4"	1/4	7880T344	7.45
5/16"	3/8	7880T345	11.18
3/8"	3/8	7880T346	10.61
1/2"	3/8	7880T347	11.92
1/2"	1/2	7880T348	13.33
Metric Tube with BSPT Threads			
4 mm	1/8	7880T561	6.03
4 mm	1/4	7880T562	9.03
6 mm	1/8	7880T563	8.27
6 mm	1/4	7880T564	7.45
6 mm	3/8	7880T565	7.51
8 mm	1/8	7880T566	10.61
8 mm	1/4	7880T567	10.41
8 mm	3/8	7880T568	11.18
10 mm	1/4	7880T569	8.49
10 mm	3/8	7880T571	10.61
12 mm	3/8	7880T572	11.92
12 mm	1/2	7880T573	13.33
16 mm	3/8	7880T574	26.17
16 mm	1/2	7880T575	26.17

★ Body comes in your choice of brass or nickel-plated brass.



10 Outlets

Black Manifolds, Female Pipe ■

For Tube OD (Outlet)	Pipe Size (Inlet)		
6 Outlets—Inch Tube with NPT Threads			
5/32"	1/4	52045K211	$22.98
1/4"	1/4	52045K212	24.89
5/16"	3/8	52045K213	27.66
10 Outlets—Inch Tube with NPT Threads			
5/32"	1/4	52045K215	24.77
1/4"	1/4	52045K216	26.64
5/16"	3/8	52045K217	29.45

■ Only available with brass threads. Release ring is red.



6 Outlets

Swivel Manifolds, Male Pipe

For Tube OD (Outlet)	Pipe Size (Inlet)	2 Outlets		3 Outlets		4 Outlets		6 Outlets	
Inch Tube with NPT Threads									
1/8"	1/8	5203K918	$8.38	5203K929	$12.66	5203K941	$12.53	5203K952	$17.58
5/32"	1/8	5203K919	10.26	5203K931	14.60	5203K942	13.42	5203K953	19.59
1/4"	1/8	5203K921	9.71	5203K932	13.96	5203K943	12.10	5203K954	18.95
1/4"	1/4	5203K922	10.26	5203K933	13.91	5203K944	12.62	5203K955	18.98
1/4"	3/8	5203K923	10.96	5203K934	15.11	5203K945	13.26	5203K956	20.18
3/8"	1/4	5203K924	13.61	5203K935	20.45	5203K946	17.75	5203K957	27.96
3/8"	3/8	5203K925	13.61	5203K936	20.59	5203K947	17.75	5203K958	27.31
3/8"	1/2	5203K926	15.15	5203K937	20.82	5203K948	18.18	5203K959	28.33
1/2"	3/8	5203K927	17.49	5203K938	27.12	5203K949	23.26	5203K961	35.37
1/2"	1/2	5203K928	18.56	5203K939	26.67	5203K951	23.70	5203K962	35.88

For Tube OD (Outlet)	Pipe Size (Inlet)	4 Outlets	
Metric Tube with BSPT Threads			
4 mm	1/8	5203K963	$8.35
6 mm	1/8	5203K964	8.56
6 mm	1/4	5203K965	8.81
8 mm	1/8	5203K966	9.84
8 mm	1/4	5203K967	10.05
8 mm	3/8	5203K968	9.98
10 mm	1/4	5203K969	11.07
10 mm	3/8	5203K971	11.38
12 mm	1/4	5203K972	11.93
12 mm	3/8	5203K973	11.93

(Continued on following page)

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

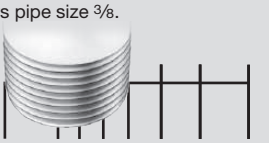

Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
OD (to nearest 1/8″): 0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″



Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
ID (to nearest 1/8″): 0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″

Push-to-Connect Tube Fittings for Air and Water *(Continued from previous page)*

- Maximum Pressure: 145 psi @ 72° F
- Temperature Range: 32° to 104° F
- Tubing: Use with firm and hard (Shore A88-A95) polyurethane and hard nylon

Because these fittings won't absorb moisture, they're a good fit for both air and water applications. Fittings have a light gray polybutylene body, unless noted. Inch sizes have an orange release ring, and metric sizes have a gray release ring, unless noted. Vacuum rating is 29.53″ Hg @ 72° F, except metric manifolds are not rated for vacuum.

Through-wall straights are also known as bulkhead couplings. **Tube stems** insert into the end of your tube fitting.

Tube-to-Tube Connectors and Plugs













For Tube OD	Straights	Through-Wall Straights ★	90° Elbows	90° Elbows, Tube Stem OD	Tees	Wyes
Inch						
1/8″	**5111K462** $2.88	**5111K731** $6.38	**5111K482** $3.25	1/8″ **5111K656** $2.77	**5111K522** $3.75	**5111K542** $5.20
5/32″	**5111K464** 2.32	**5111K732** 5.53	**5111K484** 2.76	5/32″ **5111K657** 2.87	**5111K524** 3.40	**5111K544** 5.10
3/16″	**5111K466** 3.35	**5111K733** 6.25	**5111K486** 2.88	3/16″ **5111K658** 2.99	**5111K526** 4.25	**5111K546** 4.58
1/4″	**5111K468** 2.76	**5111K734** 5.56	**5111K488** 3.61	1/4″ **5111K659** 2.60	**5111K528** 4.16	**5111K548** 4.91
5/16″	**5111K472** 3.32	**5111K735** 7.70	**5111K492** 3.76	5/16″ **5111K711** 2.79	**5111K532** 4.91	**5111K552** 5.97
3/8″	**5111K474** 4.31	**5111K736** 10.11	**5111K494** 5.66	3/8″ **5111K712** 3.83	**5111K534** 6.15	____ ____
1/2″	**5111K476** 5.46	**5111K737** 11.02	**5111K496** 6.74	1/2″ **5111K713** 4.24	**5111K536** 8.02	____ ____
Metric						
4 mm	**51115K542** 2.73	**51115K856** 7.30	**51115K554** 3.15	4 mm **51115K846** 2.73	**51115K566** 3.40	**51115K582** 5.10
6 mm	**51115K544** 2.76	**51115K857** 7.65	**51115K556** 3.15	6 mm **51115K847** 2.68	**51115K568** 4.16	**51115K584** 4.91
8 mm	**51115K546** 3.32	**51115K858** 8.96	**51115K558** 3.76	8 mm **51115K848** 2.87	**51115K572** 4.91	**51115K586** 5.97
10 mm	**51115K548** 4.31	**51115K859** 10.87	**51115K562** 5.66	10 mm **51115K849** 3.94	**51115K574** 6.18	**51115K588** 6.18
12 mm	**51115K552** 5.46	**51115K861** 12.05	**51115K564** 6.74	12 mm **51115K851** 4.37	**51115K576** 8.02	**51115K592** 10.59
16 mm	**51115K853** 6.25	**51115K862** 28.56	**51115K854** 11.80	16 mm **51115K852** 6.46	**51115K855** 16.35	____ ____

★ Body comes in your choice of brass or nickel-plated brass.

Black Manifolds



10 Outlets

For Tube OD Inlet	Outlet	6 Outlets	10 Outlets
Inch—Release ring is red.			
5/16″	5/32″	**52045K201** $15.18	**52045K205** $16.97
3/8″	1/4″	**52045K202** 21.24	**52045K206** 23.03
1/2″	5/16″	**52045K203** 23.44	**52045K207** 25.23

For Tube OD Inlet	Outlet	6 Outlets	10 Outlets
Metric—Release ring is green.			
10 mm	6 mm	**5582K311** $23.94	**5582K313** $29.47
12 mm	8 mm	**5582K312** 24.85	**5582K314** 32.69

Plugs



Stem OD	Stem OD (Cont.)	Stem OD	Stem OD (Cont.)
Inch—Orange	**Inch—**Orange (Cont.)	**Metric—**Blue	**Metric—**Blue (Cont.)
1/8″ **5111K501** $0.83	5/16″ **5111K505** $1.27	4 mm **51115K602** $0.83	10 mm **51115K606** $1.70
5/32″ **5111K502** .83	3/8″ **5111K506** 1.70	6 mm **51115K604** .97	12 mm **51115K607** 2.43
3/16″ **5111K503** .97	1/2″ **5111K507** 2.43	8 mm **51115K605** 1.26	16 mm **51115K608** 2.82
1/4″ **5111K504** .97			

Weld-Spatter-Resistant Push-to-Connect Tube Fittings for Air and Water

- Maximum Pressure: 145 psi @ 72° F
- Temperature Range: 32° to 105° F
- Tubing: Use with hard flame-retardant nylon (see 51185K on page 141) and firm polyurethane (see 9149T on page 137)

Designed for use in welding applications, these polybutylene fittings are flame resistant. They have a black polybutylene body, except the tube-to-threaded pipe straights and the through-wall straights have a brass body. All fittings have a green release ring. The threads are brass and have a PTFE thread sealant. Plugs are green. Vacuum rating is 29.53″ Hg @ 72° F.

Inline tees are also known as branch tees, **right angle tees** are also known as run tees, and **through-wall straights** are also known as bulkhead couplings. **Protective covers** prevent spatter from getting between the tubing and fitting.

Threaded Connections: NPT or BSPT threads.

Tube-to-Threaded Pipe Adapters









For Tube OD	Pipe Size	Straights, Male Pipe	90° Elbows, Male Pipe	Inline Tees, Male Pipe	Right Angle Tees, Male Pipe
Inch Tube with NPT Threads					
1/4″	1/8	**5486K111** $6.71	**5486K121** $4.93	**5486K361** $8.50	**5486K371** $8.67
1/4″	1/4	**5486K112** 6.71	**5486K122** 5.42	**5486K362** 8.17	**5486K372** 9.08
1/4″	3/8	**5486K113** 7.12	**5486K123** 6.07	**5486K363** 9.75	**5486K373** 9.83
3/8″	3/8	**5486K114** 8.01	**5486K124** 7.04	**5486K364** 11.75	**5486K374** 12.00
1/2″	1/2	**5486K115** 9.54	**5486K125** 11.73	**5486K365** 18.75	**5486K375** 17.58

(Continued on following page)

Weld-Spatter-Resistant Push-to-Connect Tube Fittings for Air and Water

(Continued from previous page)

Tube-to-Threaded Pipe Adapters (Cont.)







For Tube OD	Pipe Size	Straights, Male Pipe		90° Elbows, Male Pipe		Inline Tees, Male Pipe		Right Angle Tees, Male Pipe		Wyes, Male Pipe	
Metric Tube with BSPT Threads											
6 mm	1/8	5486K321	$3.58	5486K325	$3.83	5486K366	$6.92	5486K376	$7.08	5486K391	$9.08
8 mm	1/4	5486K322	4.08	5486K326	4.58	5486K367	7.75	5486K377	7.08	5486K392	9.92
10 mm	1/4	5486K323	5.25	5486K327	5.50	5486K368	9.50	5486K378	11.75	5486K393	10.17
12 mm	1/2	5486K324	6.75	5486K328	7.83	5486K369	12.08	5486K379	14.00	5486K394	11.75

Tube-to-Tube Connectors






For Tube OD	Straights		Through-Wall Straights		90° Elbows		Tees	
Inch								
1/4"	_____	___	5486K381	$15.42	5486K131	$7.44	5486K141	$10.35
3/8"	_____	___	5486K382	22.00	5486K134	9.22	5486K144	9.22
1/2"	_____	___	5486K383	26.67	5486K135	10.92	5486K145	15.37
Metric								
6 mm	5486K396	$6.58	5486K384	9.25	5486K351	5.92	5486K355	7.17
8 mm	5486K397	6.92	5486K385	10.42	5486K352	6.17	5486K356	8.42
10 mm	5486K398	8.33	5486K386	13.50	5486K353	7.58	5486K357	9.83
12 mm	5486K399	9.92	5486K387	15.50	5486K354	9.33	5486K358	12.00

Plugs and Covers




Plugs			Protective Covers		
Stem OD			For Tube OD		
Inch			**Inch**		
1/4"	5486K151	$3.24	1/4"	5486K511	$1.00
3/8"	5486K154	2.99	3/8"	5486K512	1.08
1/2"	5486K155	3.24	1/2"	5486K513	1.17
Metric			**Metric**		
6 mm	5486K501	2.25	6 mm	5486K514	1.00
8 mm	5486K502	2.67	8 mm	5486K515	1.00
10 mm	5486K503	3.00	10 mm	5486K516	1.00
12 mm	5486K504	3.50	12 mm	5486K517	1.00

Universal Thread Push-to-Connect Tube Fittings for Air and Water

- Maximum Pressure: 145 psi @ 72° F
- Temperature Range: 32° to 104° F
- Tubing: Use with firm and hard (Shore A88-A97) polyurethane and hard nylon

A unique male thread allows these fittings to mate with NPT, NPTF (Dryseal), and British Standard (BSPT and BSPP) threads. The fittings have a gray polybutylene body, except the straights have a brass body. Inch sizes have an orange release ring, and metric sizes have a gray release ring. Threads are brass and come with an O-ring. Vacuum rating is 29.53" Hg @ 72° F.

Inline tees are also known as branch tees, and **right angle tees** are also known as run tees.

For antistatic metric fittings: Please ask for 5787K1 and specify the corresponding part number from the metric straights, elbows, and tees below. Fittings are flame resistant.

Tube-to-Threaded Pipe Adapters







For Tube OD	Pipe Size	Straights, Male Pipe		Swivel 90° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe		Swivel Right Angle Tees, Male Pipe		Swivel Wyes, Male Pipe	
Inch											
1/8"	1/8	51235K101	$2.44	51235K121	$2.89	51235K141	$4.18	51235K161	$5.08	51235K181	$8.31
1/8"	1/4	51235K102	3.19	51235K122	3.73	51235K142	5.52	51235K162	5.43	51235K182	8.37
5/32"	1/8	51235K103	5.08	51235K123	2.68	51235K143	4.03	51235K163	4.23	51235K183	5.43
5/32"	1/4	51235K104	5.22	51235K124	3.64	51235K144	5.08	51235K164	5.32	51235K184	5.43
1/4"	1/8	51235K107	2.58	51235K127	3.03	51235K147	4.58	51235K167	4.39	51235K187	9.15
1/4"	1/4	51235K108	2.58	51235K128	3.34	51235K148	4.58	51235K168	4.63	51235K188	9.31
1/4"	3/8	51235K109	3.58	51235K129	4.58	51235K149	5.78	51235K169	5.73	51235K189	9.91
5/16"	1/8	51235K111	2.35	51235K131	4.28	51235K151	5.67	51235K171	5.78	51235K191	10.40
5/16"	1/4	51235K112	3.19	51235K132	4.48	51235K152	6.27	51235K172	6.57	51235K192	8.56
5/16"	3/8	51235K113	3.58	51235K133	4.99	51235K153	6.48	51235K173	6.72	51235K193	8.86
3/8"	1/4	51235K114	4.18	51235K134	4.73	51235K154	7.02	51235K174	7.02	51235K194	10.40
3/8"	3/8	51235K115	4.33	51235K135	5.52	51235K155	8.56	51235K175	8.06	51235K195	10.47
3/8"	1/2	51235K116	4.63	51235K136	6.03	51235K156	9.31	_____	___	51235K196	11.99
1/2"	1/4	51235K117	4.18	51235K137	6.38	51235K157	9.80	51235K176	10.11	51235K197	11.89
1/2"	3/8	51235K118	4.58	51235K138	6.57	51235K158	9.31	51235K177	10.11	51235K198	13.19
1/2"	1/2	51235K119	4.58	51235K139	6.86	51235K159	9.80	_____	___	51235K199	13.19
Metric											
4 mm	1/8	51305K301	1.94	51305K331	2.68	51305K361	4.23	51305K391	5.08	51305K409	5.43
4 mm	1/4	51305K302	2.49	51305K332	3.64	51305K362	5.08	51305K392	5.43	51305K411	5.43
6 mm	1/8	51305K303	2.58	51305K333	3.03	51305K363	4.58	51305K393	4.48	51305K412	9.15
6 mm	1/4	51305K304	2.58	51305K334	3.34	51305K364	4.58	51305K394	4.73	51305K416	9.31
6 mm	3/8	51305K305	3.58	51305K335	4.58	51305K366	5.78	51305K396	5.73	51305K417	9.91
8 mm	1/8	51305K306	2.58	51305K336	4.28	51305K367	5.67	51305K397	5.78	51305K418	10.40
8 mm	1/4	51305K307	3.19	51305K337	4.48	51305K368	6.27	51305K398	6.57	51305K419	8.56
8 mm	3/8	51305K308	3.58	51305K338	4.99	51305K369	6.48	51305K399	6.72	51305K421	9.88
10 mm	1/8	51305K309	4.63	51305K339	5.48	51305K371	7.51	51305K401	7.86	_____	___
10 mm	1/4	51305K311	4.18	51305K341	4.73	51305K374	7.02	51305K404	7.02	51305K424	10.40
10 mm	3/8	51305K314	4.33	51305K344	5.52	51305K375	8.56	51305K405	8.06	51305K425	10.47
10 mm	1/2	51305K315	4.63	51305K345	6.03	51305K376	9.31	_____	___	51305K426	11.99
12 mm	1/4	51305K316	4.18	51305K346	6.38	51305K377	9.80	51305K406	10.11	51305K427	11.89
12 mm	3/8	51305K317	4.58	51305K347	6.57	51305K378	9.31	51305K407	10.11	51305K428	13.19
12 mm	1/2	51305K318	4.58	51305K348	6.86	51305K379	9.80	_____	___	51305K429	13.19

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

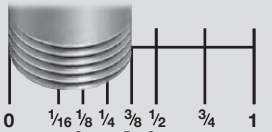

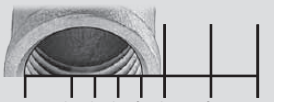

Push-to-Connect Tube Fittings for Air and Gases

- Maximum Pressure @ 72° F: 260 psi, except plastic straights and plastic plugs are 150 psi
- Temperature Range: 0° to 175° F, except plastic straights and plastic plugs are 32° to 140° F
- Tubing: Use with firm (Shore D44) polyethylene, firm (Shore A95) polyurethane, and hard (Rockwell R78) nylon

The all-brass body allows for extra-strong connections, while the nickel plating provides increased corrosion resistance. Use with air and noncombustible, nonreactive gases. Fittings are made of nickel-plated brass, except the plastic straights and plastic plugs are made of black polybutylene. The NPT and BSPT male threads have a thread sealant. Vacuum rating is 29.5" Hg @ 72° F.

Inline tees are also known as branch tees, **right angle tees** are also known as run tees, and **through-wall straights** are also known as bulkhead couplings.

Tube stems insert into the end of your tube fitting. **Easy-access 90° elbows** and **inline tees** are also known as banjo-style fittings; they have a hex head for easy adjustment in tight spaces.

Threaded Connections: NPT or BSPT threads, except 10-32 are UNF straight threads.

Tube-to-Threaded Pipe Adapters








For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe		Swivel 90° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe		Swivel Right Angle Tees, Male Pipe	
Inch Tube with NPT Threads													
1/8"	10-32	51495K178	$2.28					51495K246	$7.84				
1/8"	1/16	51495K179	3.50										
1/8"	1/8	51495K181	2.84	51495K261	$16.11	51495K231	$10.68	51495K211	3.85	51495K138	$5.86	51495K801	$22.00
1/8"	1/4	51495K187	3.99	51495K259	10.61			51495K215	4.87	51495K139	7.81	51495K802	25.97
5/32"	10-32	51495K108	2.00					51495K129	4.29	51495K158	6.41	51495K803	33.36
5/32"	1/8	51495K182	2.19	51495K268	13.59	51495K232	4.19	51495K212	3.44	51495K141	5.63	51495K804	16.53
5/32"	1/4	51495K188	3.35	51495K269	6.59	51495K237	4.98	51495K216	4.43	51495K145	6.86		
3/16"	1/8	51495K183	3.47			51495K233	4.22			51495K142	9.24		
3/16"	1/4	51495K189	4.09			51495K238	25.47	51495K217	6.12				
1/4"	1/8	51495K184	2.78	51495K262	5.13	51495K234	3.30	51495K214	3.73	51495K143	5.79	51495K805	7.13
1/4"	1/4	51495K191	2.86	51495K264	5.80	51495K239	3.63	51495K218	4.13	51495K147	5.86	51495K806	9.46
1/4"	3/8	51495K117	3.64			51495K127	7.39	51495K144	7.16	51495K159	8.28	51495K807	32.28
5/16"	1/8	51495K192	2.72	51495K265	8.28	51495K229	5.60	51495K219	5.19	51495K148	8.73		
5/16"	1/4	51495K185	3.66	51495K267	10.60	51495K235	6.07	51495K223	5.19	51495K154	9.04	51495K808	23.72
3/8"	1/8	51495K186	3.99			51495K236	5.95	51495K224	6.56	51495K155	13.46	51495K809	24.31
3/8"	1/4	51495K193	4.33	51495K266	9.35	51495K242	5.32	51495K221	6.01	51495K149	9.12	51495K811	16.05
3/8"	3/8	51495K194	4.49	51495K271	9.14	51495K241	6.74	51495K225	6.82	51495K156	10.85	51495K812	25.10
3/8"	1/2	51495K118	6.41			51495K128	12.24	51495K157	8.76	51495K164	12.49	51495K813	38.47
1/2"	1/4	51495K195	5.21			51495K243	8.59	51495K222	7.97	51495K151	13.12		
1/2"	3/8	51495K196	5.56			51495K244	7.12	51495K226	8.68	51495K152	13.12		
1/2"	1/2	51495K197	5.56			51495K245	11.07	51495K227	9.36	51495K153	15.17	51495K814	39.59
Metric Tube with BSPT Threads													
4 mm	1/8	51615K209	4.18			51615K223	11.44	51615K236	9.75	51615K251	15.26		
4 mm	1/4	51615K211	7.46			51615K224	25.03	51615K237	12.13	51615K252	35.51		
6 mm	1/8	51615K212	3.92			51615K225	7.44	51615K238	7.33	51615K253	16.10	51615K263	18.31
6 mm	1/4	51615K213	4.74			51615K226	9.46	51615K239	9.38	51615K254	17.36	51615K264	18.31
8 mm	1/8	51615K214	4.93			51615K227	8.31	51615K241	10.00	51615K255	25.10	51615K265	33.26
8 mm	1/4	51615K215	5.10			51615K228	8.85	51615K242	10.54	51615K256	19.64	51615K266	32.18
8 mm	3/8	51615K216	7.53			51615K229	12.44	51615K243	15.92			51615K267	28.28
10 mm	1/4	51615K217	7.85			51615K231	12.59	51615K244	15.33	51615K257	29.74	51615K268	49.28
10 mm	3/8	51615K218	8.64			51615K232	26.67	51615K245	16.54	51615K258	41.44	51615K269	50.72
12 mm	1/4	51615K219	11.23			51615K233	32.20	51615K246	31.26	51615K259	49.97	51615K271	65.28
12 mm	3/8	51615K221	10.00			51615K234	31.97	51615K247	31.31	51615K261	60.51	51615K272	83.82
12 mm	1/2	51615K222	11.85			51615K235	35.51	51615K248	23.71	51615K262	60.00	51615K273	61.79




For Tube OD	Pipe Size	Easy-Access 90° Elbows, Male Pipe		Easy-Access Inline Tees, Male Pipe	
Inch Tube with NPT Threads					
5/32"	10-32	51495K622	$22.39	51495K721	$27.57
5/32"	1/8	51495K623	25.62		
1/4"	1/8	51495K624	19.07	51495K722	27.83
1/4"	1/4	51495K625	21.02		
1/4"	3/8	51495K626	29.14		
3/8"	1/4	51495K627	30.00		
3/8"	3/8			51495K725	30.78



Straights, Tube Stem x Male Pipe			
Stem OD	Pipe Size		
Inch Tube with NPT Threads			
5/32"	10-32	51495K511	$6.71
1/4"	1/8	51495K514	6.97
1/4"	1/4	51495K515	7.36

(Continued on following page)

Push-to-Connect Tube Fittings for Air and Gases *(Continued from previous page)*

Tube-to-Threaded Pipe Adapters (Cont.)



Straights, Male Pipe

For Tube OD	Pipe Size		
Metric Tube with NPT Threads			
4 mm	1/8	51615K201	$2.21
6 mm	1/8	51615K202	5.77
6 mm	1/4	51615K203	9.46
8 mm	1/8	51615K204	2.72
Metric Tube with NPT Threads (Cont.)			
8 mm	1/4	51615K205	$3.66
8 mm	3/8	51615K206	14.43
10 mm	1/4	51615K207	9.46
12 mm	3/8	51615K208	12.54

Tube-to-Tube Connectors









For Tube OD	Straights		Through-Wall Straights		90° Elbows		Tees	
Inch								
1/8"	51495K109	$3.71	51495K249	$6.07	51495K119	$5.34	51495K131	$5.53
5/32"	51495K111	3.33	51495K251	6.69	51495K121	4.09	51495K132	5.22
3/16"	51495K112	5.29	51495K252	16.87	51495K122	5.91	51495K133	6.10
1/4"	51495K113	3.68	51495K253	6.22	51495K123	4.19	51495K134	5.46
5/16"	51495K114	4.62	51495K254	8.67	51495K124	5.18	51495K135	6.81
3/8"	51495K115	5.71	51495K255	9.71	51495K125	7.44	51495K136	8.18
1/2"	51495K116	7.78	51495K256	13.50	51495K126	8.83	51495K137	11.53
Metric								
4 mm	51615K101	3.55	51615K133	8.93	51615K161	10.89	51615K171	6.62
5 mm	51615K102	9.02	51615K134	37.50	51615K162	21.37	51615K172	17.69
6 mm	51615K103	3.65	51615K135	7.85	51615K163	4.89	51615K173	6.45
8 mm	51615K104	4.37	51615K136	8.30	51615K164	5.78	51615K174	7.11
10 mm	51615K105	5.66	51615K137	10.22	51615K165	7.61	51615K175	10.12
12 mm	51615K106	7.05	51615K138	15.32	51615K166	9.14	51615K176	12.40



Reducing Straights, Tube Stem

Stem OD	For Tube OD		
Inch			
5/32"	1/8"	51495K298	$5.71
1/4"	1/8"	51495K299	4.93
1/4"	5/32"	51495K301	3.36
1/4"	3/16"	51495K302	7.41
3/8"	1/4"	51495K306	4.78
1/2"	1/4"	51495K307	5.21
1/2"	5/16"	51495K309	9.56
Metric			
6 mm	4 mm	51615K112	5.88
8 mm	4 mm	51615K113	6.07
8 mm	6 mm	51615K121	5.91
10 mm	6 mm	51615K122	7.11
10 mm	8 mm	51615K125	7.67
12 mm	8 mm	51615K126	6.90



Inch-to-Metric Straights

For Tube OD (A)	(B)			*For Tube OD* (A)	(B)		
5/32"	4 mm	51495K411	$3.36	5/16"	8 mm	51495K414	$4.65
3/16"	5 mm	51495K412	5.80	3/8"	10 mm	51495K415	7.01
1/4"	6 mm	51495K413	4.37	1/2"	12 mm	51495K416	8.80



Plastic Straights, Tube Stem × Tube Stem

Stem OD		Stem OD	
Inch		**Metric**	
5/32"	51495K161 $1.07	4 mm	51615K181 $1.11
3/16"	51495K162 1.36	6 mm	51615K183 1.43
1/4"	51495K163 1.42	8 mm	51615K184 1.60
5/16"	51495K315 1.53	10 mm	51615K185 2.05
3/8"	51495K165 1.78		
1/2"	51495K166 2.07		

Expanding Straights, Tube Stem

Stem OD	For Tube OD			Stem OD	For Tube OD		
1/8"	1/4"	51495K311	$10.36	5/32"	1/4"	51495K312	$6.43



Plugs



Plastic Plugs

Stem OD		Stem OD	
Inch		**Metric**	
5/32"	51495K171 $0.99	4 mm	51615K191 $0.98
3/16"	51495K172 1.15	6 mm	51615K193 1.09
1/4"	51495K173 .90	8 mm	51615K194 .98
5/16"	51495K174 .95	10 mm	51615K195 1.41
3/8"	51495K175 1.57	12 mm	51615K196 1.61
1/2"	51495K176 1.20		



Nickel-Plated Brass Plugs

Stem OD		Stem OD	
Inch		**Inch (Cont.)**	
1/8"	51495K321 $5.99	3/8"	51495K326 $6.51
1/4"	51495K324 6.18		

Drill-and-Install Push-to-Connect Inserts for Air, Water, and Oil

- Maximum Pressure @ 72° F:
  1/4" Tube OD: 230 psi
  3/8" and 1/2" Tube ODs: 150 psi
- Temperature Range: 33° to 150° F
- Tubing:
  Inserts for Plastic Surfaces: Use with firm and hard polyethylene and hard nylon
  Inserts for Metal Surfaces: Use with brass and copper

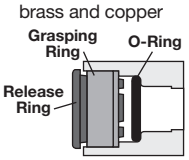



Insert shown fully installed

Create a push-to-connect junction in equipment and other plastic and metal surfaces with these inserts. They consist of a gray acetal release ring, a grasping ring for securing the tubing, and an O-ring. To install, drill a stepped hole in your surface, then push the insert components into place (complete installation instructions are included).

Inserts for plastic surfaces have an acetal grasping ring with stainless steel teeth on the outer diameter for extra gripping power. Acetal is moisture resistant, so these inserts are a good choice for high-humidity environments.

Inserts for metal surfaces have a brass grasping ring, which provides good corrosion resistance.





For Tube OD	Inserts for Plastic Surfaces		Inserts for Metal Surfaces	
1/4"	5472K11	$4.00	5472K21	$4.46
3/8"	5472K12	4.18	5472K22	4.66
1/2"	5472K13	5.35	5472K23	5.89

Push-to-Connect Tube Fittings

For technical drawings and 3-D models, go to mcmaster.com.

For information about selecting pipe size, see pages 2-3. For information about push-to-connect tube fittings, see pg. 197.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

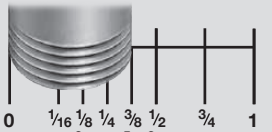

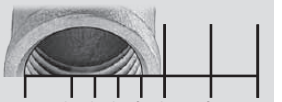

Push-to-Connect Tube Fittings for Air, Water, and Oil

- Maximum Pressure: 290 psi @ 70° F
- Temperature Range: 5° to 230° F
- Tubing: Use with firm (Shore A95) polyurethane, hard (Shore D45) polyethylene, and hard (Shore D62) nylon

Made of Type 316 stainless steel, these fittings have the best corrosion resistance of all the push-to-connect fittings we offer. Use with air, water, deionized water, oil, and ethyl alcohol. Fittings have a Type 303 stainless steel release ring.

Straights with hex socket are great for tight spaces; they have an internal socket, so you can tighten the threads with a hex key. **Through-wall straights** are also known as bulkhead couplings.

Threaded Connections: NPT threads, except 10-32 are UNF straight threads.

Tube-to-Threaded Pipe Adapters





For Tube OD	Pipe Size	Straights with Hex Socket, Male Pipe		Swivel 90° Elbows, Male Pipe	
Inch					
5/32"	10-32	51065K71	$24.05	51065K54	$53.02
5/32"	1/8	51065K14	25.23	51065K53	47.23
3/16"	1/8	51065K15	26.52	51065K55	51.02
1/4"	1/8	51065K17	34.18	51065K57	49.48
1/4"	1/4	51065K18	36.09	51065K58	55.43
3/8"	1/4	51065K22	42.77	51065K62	90.20
3/8"	3/8	51065K23	44.68	51065K63	95.36
1/2"	1/4	51065K24	53.11	51065K64	107.55
1/2"	3/8	51065K25	59.77	51065K65	116.16
1/2"	1/2	51065K26	63.59	51065K66	121.73
Metric					
4 mm	1/8	_____	____	5566K111	47.23
6 mm	1/8	_____	____	5566K112	48.02
6 mm	1/4	_____	____	5566K113	54.09
8 mm	1/8	_____	____	5566K114	59.95
8 mm	1/4	_____	____	5566K115	57.32

Tube-to-Tube Connectors





For Tube OD	Straights		Through-Wall Straights	
1/4"	51065K29	$40.55	51065K36	$78.14
3/8"	51065K32	54.59	51065K38	87.18
1/2"	51065K33	69.70	51065K39	110.00





For Tube OD	90° Elbows		Tees	
1/4"	51065K3	$48.36	51065K9	$67.61
3/8"	51065K5	81.68	51065K12	102.66
1/2"	51065K6	98.18	51065K13	122.91

Clean Room Push-to-Connect Tube Fittings

- Maximum Pressure:
  Inch: 100 psi @ 68° F
  Metric: 140 psi @ 68° F
- Temperature Range: 32° to 104° F
- Tubing: Use with polypropylene

Double bagged and packed in a Class 1,000 clean room, these fittings are ready for use in applications where cleanliness is key. Use with air, water, and nitrogen. Fittings are made of white polypropylene and are semi-clear, so you can see into the fitting and monitor flow. Inch sizes have a semi-clear white release ring, and metric sizes have a green release ring. Vacuum rating is 29.52" Hg @ 72° F.

Inline tees are also known as branch tees.

Threaded Connections: BSPT (British Standard Pipe Taper) threads.

Tube-to-Threaded Pipe Adapters







For Tube OD	Pipe Size	Straights, Male Pipe		90° Elbows, Male Pipe		Inline Tees, Male Pipe	
Inch Tube with BSPT Threads							
1/4"	1/8	5526K71	$9.77	5526K77	$12.46	5526K84	$22.51
1/4"	1/4	5526K72	9.68	5526K78	12.46	5526K85	22.51
3/8"	1/4	5526K73	17.31	5526K79	19.36	5526K86	31.82
3/8"	3/8	5526K74	17.31	5526K81	19.36	5526K87	31.82
1/2"	3/8	5526K75	23.82	5526K82	28.75	5526K88	46.52
1/2"	1/2	5526K76	23.82	5526K83	28.75	5526K89	46.52
Metric Tube with BSPT Threads							
4 mm	1/8	5526K11	4.72	5526K21	6.60	5526K31	10.95
6 mm	1/8	5526K12	4.72	5526K22	6.60	5526K32	10.95
6 mm	1/4	5526K13	4.72	5526K23	6.60	5526K33	10.95
8 mm	1/4	5526K14	4.88	5526K24	6.90	5526K34	11.62

Tube-to-Tube Connectors







For Tube OD	Straights		90° Elbows		Tees	
Inch						
1/8"	5526K91	$31.34	5526K95	$30.22	5526K101	$12.29
1/4"	5526K92	18.97	5526K96	18.69	5526K102	27.07
3/8"	5526K93	21.77	5526K97	22.05	5526K103	32.18
1/2"	5526K94	38.05	5526K98	38.05	5526K104	54.71
Metric						
4 mm	5526K41	9.30	5526K51	8.70	5526K61	12.82
6 mm	5526K42	9.30	5526K52	8.70	5526K62	12.82
8 mm	5526K43	10.20	5526K53	9.82	5526K63	13.50

Plugs



Plugs

Stem OD		Stem OD		Stem OD	
Inch		**Inch (Cont.)**		**Inch (Cont.)**	
1/4"	5526K105 $1.89	3/8"	5526K107 $1.89	1/2"	5526K108 $1.89

Metric Push-to-Connect Tube Fittings for Drinking Water

- Maximum Pressure:
  4 mm to 8 mm: 230 psi @ 68° F
  10 mm and 12 mm: 150 psi @ 68° F
- Temperature Range:
  33° to 150° F
- Tubing: Use with firm and hard polyethylene, hard nylon, brass, and copper

Not only do these fittings meet NSF/ANSI Standard 61 for use with drinking (potable) water, they also meet NSF/ANSI Standard 51 for use with food and beverage. The acetal material won't absorb moisture, so you can use these fittings in environments with high humidity. Sterilize fittings with non-acidic chemicals. Fittings are black, except plugs are red. The fittings with BSPP threads come with an O-ring to minimize leaks.

Inline tees are also known as branch tees, and **through-wall straights** are also known as bulkhead couplings. **Tube stems** insert into the end of your tube fitting.

Threaded Connections: BSPT (British Standard Pipe Taper) or BSPP (British Standard Pipe Parallel) threads.

Tube-to-Threaded Pipe Adapters





For Tube OD, mm	Pipe Size	Straights, Male Pipe		Swivel 90° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe	
BSPT Threads							
4	1/8	5449K171	$2.59	5449K231	$6.44	5449K311	$7.98
4	1/4	5449K172	3.68	5449K232	6.54	5449K312	8.06
5	1/8	5449K173	2.92	5449K233	6.60	5449K313	8.39
5	1/4	5449K174	3.68	5449K234	6.68	5449K314	8.46
6	1/8	5449K175	3.32	5449K235	6.68	5449K315	9.59
6	1/4	5449K176	3.68	5449K236	6.74	5449K316	8.46
8	1/8	5449K177	3.61	5449K237	7.68	5449K317	9.08
8	1/4	5449K178	3.68	5449K238	7.76	5449K318	9.15
8	3/8	5449K179	4.59	5449K239	8.53	5449K319	9.91
10	1/4	5449K181	5.69	5449K241	10.41	5449K321	10.78
10	3/8	5449K182	6.19	5449K242	10.89	5449K322	11.32
10	1/2	5449K183	7.98	5449K243	12.70	5449K323	13.10
12	3/8	5449K184	7.77	5449K244	12.92	5449K324	15.46
12	1/2	5449K185	8.50	5449K245	14.20	5449K325	14.83





For Tube OD, mm	Pipe Size	Straights, Male Pipe		Swivel 90° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe	
BSPP Threads							
4	1/8	5449K111	$3.34	5449K271	$6.54	5449K251	$8.06
4	1/4	5449K112	3.92	5449K272	7.68	5449K252	9.37
5	1/8	5449K113	3.45	5449K273	6.68	5449K253	9.67
5	1/4	5449K114	4.00	5449K274	6.82	5449K254	9.86
6	1/8	5449K115	3.39	5449K275	6.74	5449K255	8.46
6	1/4	5449K116	4.04	5449K276	6.91	5449K256	8.62
8	1/8	5449K117	3.68	5449K277	7.76	5449K257	9.15
8	1/4	5449K118	4.14	5449K278	7.95	5449K258	9.33
8	3/8	5449K119	5.00	5449K279	8.75	5449K259	10.14
10	1/4	5449K121	6.02	5449K281	10.72	5449K261	11.10
10	3/8	5449K122	6.62	5449K282	11.18	5449K262	13.23
10	1/2	5449K123	8.39	5449K283	13.01	5449K263	13.42
12	3/8	5449K124	8.31	5449K284	13.31	5449K264	13.92
12	1/2	5449K125	9.08	5449K285	14.48	5449K265	15.14



Straights, Tube Stem × Male Pipe

Stem OD, mm	Pipe Size		
BSPP Threads			
4	1/8	5449K141	$1.87
4	1/4	5449K142	2.05
6	1/8	5449K145	1.65
6	1/4	5449K146	1.79
8	1/4	5449K148	1.79
10	1/4	5449K151	2.21

Tube-to-Tube Connectors







For Tube OD, mm	Straights		Through-Wall Straights		90° Elbows		90° Elbows, Tube Stem — Stem OD, mm		Tees	
4	5449K191	$4.09	5449K291	$6.77	5449K161	$4.39	4	5449K341	$4.39	5449K131	$5.89
5	5449K192	4.18	5449K292	7.76	5449K162	4.50	5	5449K342	4.50	5449K132	6.30
6	5449K193	4.18	5449K293	8.09	5449K163	4.78	6	5449K343	4.50	5449K133	6.30
8	5449K194	4.59	5449K294	8.32	5449K164	5.60	8	5449K344	5.60	5449K134	7.01
10	5449K195	6.19	5449K295	12.13	5449K165	7.98	10	5449K345	7.98	5449K135	8.39
12	5449K196	7.27	5449K296	14.03	5449K166	9.47	12	5449K346	9.47	5449K136	10.09

Tube-to-Tube Connectors



Reducing Straights, Tube Stem

Stem OD, mm	For Tube OD, mm		
5	4	5449K351	$2.69
6	4	5449K352	2.99
6	5	5449K353	3.20
8	6	5449K354	3.65
10	8	5449K355	4.28
12	10	5449K356	8.07

Plugs



Plugs

Stem OD, mm		
4	5449K331	$1.21
5	5449K332	1.30
6	5449K333	1.41
8	5449K334	1.65
10	5449K335	3.12
12	5449K336	3.65

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

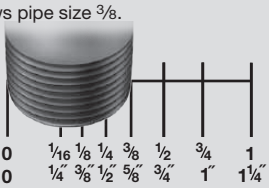

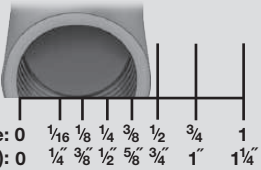

Push-to-Connect Tube Fittings for Drinking Water

- Maximum Pressure @ 68° F: 5/32" to 5/16": 230 psi 3/8" to 5/8": 150 psi
- Temperature Range: 33° to 150° F
- Tubing: Use with nylon, polyethylene, brass, and copper

The most popular push-to-connect fittings for drinking (potable) water, these acetal fittings meet NSF/ANSI Standard 61. They also meet NSF/ANSI Standard 51 for use with food and beverage. Fittings are gray, except those marked with a ♣ come in your choice of gray or white. Gray fittings have a gray release ring, and white fittings have a white release ring.

Inline tees are also known as branch tees, **right angle tees** are also known as run tees, and **through-wall straights** are also known as bulkhead couplings. **Tube stems** insert into the end of your tube fitting.

Male 45° flared fittings connect to tubing or fittings that are flared to 45°. **Female 45° flared fittings** are also known as faucet connectors; they attach directly to a faucet threaded inlet or water line. **Tube supports** are recommended for soft nylon and polyethylene tubing. **Locking clips** secure the release ring to prevent the fitting from disconnecting. Color is red.

Threaded Connections: NPTF (Dryseal), BSPT (British Standard Pipe Taper), or UNF straight threads. NPTF threads are compatible with NPT threads.

Tube-to-Threaded Pipe Adapters

To Order Where indicated with a ♣, please specify color: gray or white.











For Tube OD	Pipe Size	Straights, Male Pipe		Swivel 90° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe		Swivel Right Angle Tees, Male Pipe	
NPTF Threads									
5/32"	1/8	51055K7	$1.71	51055K44	$4.87	51055K23	$6.06	51055K191	$5.02
5/32"	1/4	51055K8	1.99	51055K45	5.40	51055K24	6.06	51055K192	5.02
3/16"	1/8	51055K9	1.79	51055K46	4.06	51055K25	6.21	51055K193	5.14
1/4"	1/8	51055K971♣	1.90	51055K47	4.64	51055K26	5.51	51055K194	5.48
1/4"	1/4	51055K972♣	2.18	51055K48	4.64	51055K27	5.51	51055K195	5.48
1/4"	3/8	51055K522♣	2.89	—	—	—	—	—	—
5/16"	1/8	51055K13	2.11	51055K49	6.83	51055K28	6.77	51055K196	5.62
5/16"	1/4	51055K14	2.23	51055K51	6.15	51055K29	6.77	51055K197	6.74
5/16"	3/8	51055K15	3.20	51055K52	6.89	51055K31	6.82	51055K198	5.65
3/8"	1/8	51055K16	4.35	51055K163	6.76	—	—	—	—
3/8"	1/4	51055K973♣	3.14	51055K53	6.49	51055K32	6.71	51055K199	6.68
3/8"	3/8	51055K18	3.60	51055K54	6.79	51055K33	7.03	51055K201	6.99
3/8"	1/2	51055K19	5.60	—	—	—	—	—	—
1/2"	1/4	—	—	51055K164	7.97	—	—	—	—
1/2"	3/8	51055K21	4.85	51055K55	8.75	51055K34	9.12	51055K202	9.06
1/2"	1/2	51055K22	5.22	51055K56	8.75	51055K35	9.12	51055K203	9.06
BSPT Threads									
3/16"	1/8	5104K13	2.28	5104K33	5.89	5104K51	7.16	5104K73	7.16
1/4"	1/8	5104K15	2.52	5104K35	7.86	5104K52	7.58	5104K74	7.58
1/4"	1/4	5104K16	2.85	5104K36	8.35	5104K53	7.99	5104K75	7.99
5/16"	1/8	5104K17	2.72	5104K37	9.08	5104K54	8.15	5104K76	8.15
5/16"	1/4	5104K18	3.03	5104K38	9.08	5104K55	8.15	5104K77	8.66
5/16"	3/8	5104K19	3.85	5104K39	8.08	5104K56	8.66	5104K78	8.66
3/8"	1/4	5104K21	4.46	5104K41	10.65	5104K57	9.12	5104K79	9.13
3/8"	3/8	5104K22	4.80	5104K42	11.57	5104K58	9.92	5104K81	9.91
1/2"	3/8	5104K23	7.55	5104K43	12.97	5104K59	11.26	5104K82	11.25
1/2"	1/2	5104K24	7.20	5104K44	13.04	5104K61	11.34	5104K83	11.33

Straights, Tube Stem × Male Pipe

For Tube Stem OD	Pipe Size		
NPTF Threads			
5/32"	1/8	51055K111	$0.99
5/32"	1/4	51055K112	.99
3/16"	1/8	51055K113	.98
1/4"	1/8	51055K977♣	.98
1/4"	1/4	51055K978♣	.98
1/4"	3/8	51055K151	1.44
5/16"	1/8	51055K116	.99
5/16"	1/4	51055K117	.99
5/16"	3/8	51055K118	1.66
3/8"	1/4	51055K979♣	1.22
3/8"	3/8	51055K981♣	1.61
1/2"	3/8	51055K122	2.63
1/2"	1/2	51055K123	2.63
BSPT Threads			
3/16"	1/8	5104K62	2.36
1/4"	1/8	5104K63	2.36
1/4"	1/4	5104K64	2.78
5/16"	1/8	5104K65	2.82
5/16"	1/4	5104K66	2.82
5/16"	3/8	5104K67	3.32
3/8"	1/4	5104K68	2.82
3/8"	3/8	5104K69	3.60
1/2"	3/8	5104K71	3.69
1/2"	1/2	5104K72	3.75



Straights, Male 45° Flare

For Tube OD	Thread Size		
UNF Straight Threads			
1/4"	7/16"-20	51055K181	$2.28
5/16"	1/2"-20	51055K182	2.50
3/8"	7/16"-20	51055K183	3.73
3/8"	1/2"-20	51055K184	4.12
3/8"	5/8"-18	51055K185	4.22
3/8"	3/4"-16	51055K186	5.57
1/2"	3/4"-16	51055K187	5.74



Straights, Female 45° Flare

For Tube OD	Thread Size		
UNF Straight Threads			
5/16"	7/16"-20	51055K204	$4.48
3/8"	7/16"-20	51055K612	4.01
3/8"	5/8"-18	51055K613	4.89



Straights, Female Pipe

For Tube OD	Pipe Size		
NPTF Threads			
1/4"	1/4	51055K677	$4.46
3/8"	1/4	51055K678	5.12



90° Elbows, Male Pipe

For Tube OD	Pipe Size		
NPTF Threads			
1/4"	1/8	51055K974♣	$2.86
1/4"	1/4	51055K975♣	3.23
1/4"	3/8	51055K541♣	3.85
5/16"	1/4	51055K205	3.75
5/16"	3/8	51055K206	5.07
3/8"	1/4	51055K976♣	4.85
3/8"	3/8	51055K518	5.33
5/8"	1/2	51055K207	7.42

(Continued on following page)

Push-to-Connect Tube Fittings for Drinking Water *(Continued from previous page)*

Tube-to-Tube Connectors

To Order: Where indicated with a ♣, please specify color: gray or white.











For Tube OD	Straights		Through-Wall Straights		90° Elbows		Tees		Wyes	
5/32"	51055K127	$2.31	51055K1	$4.31	51055K134	$2.64	51055K141	$3.65		
3/16"	51055K128	2.51	51055K2	4.93	51055K135	2.63	51055K142	3.77		
1/4"	51055K982♣	2.84	51055K526♣	4.96	51055K984♣	3.22	51055K986♣	4.13	51055K417	$4.59
5/16"	51055K131	3.03	51055K4	6.63	51055K137	3.74	51055K144	4.23	51055K147	4.66
3/8"	51055K983♣	3.83	51055K5	6.86	51055K985♣	4.85	51055K987♣	5.10	51055K148	5.18
1/2"	51055K133	4.45	51055K6	11.71	51055K139	5.77	51055K146	6.17	51055K418	8.78



Reducing Through-Wall Straights

For Tube OD (A)	(B)		
3/8"	1/4"	51055K441	$7.04
1/2"	1/4"	51055K412	10.45





Reducing Straights

Reducing 90° Elbows

For Tube OD (A)	(B)	Reducing Straights		Reducing 90° Elbows	
1/4"	3/16"	51055K92	$3.14		
5/16"	5/32"	51055K93	3.10	51055K84	$3.91
5/16"	3/16"	51055K94	3.14	51055K85	3.91
5/16"	1/4"	51055K95	3.14	51055K86	4.14
3/8"	3/16"	51055K96	3.85	51055K87	5.22
3/8"	1/4"	51055K97	3.87	51055K88	5.39
3/8"	5/16"	51055K98	3.91	51055K89	5.39
1/2"	5/16"	51055K256	5.07	51055K416	6.31
1/2"	3/8"	51055K99	5.22	51055K91	6.36



Reducing Inline Tees

For Tube OD (A)	(B)		
3/8"	1/4"	51055K421	$6.53
1/2"	3/8"	51055K422	6.82



Crosses

For Tube OD		
3/8"	51055K432	$8.94



180° Bends

For Tube OD		
3/8"	51055K438	$10.76
1/2"	51055K439	12.52





Reducing Straights, Tube Stem

90° Elbows, Tube Stem

Stem OD	For Tube OD	Reducing Straights, Tube Stem		90° Elbows, Tube Stem	
5/32"	5/32"			51055K36	$2.93
3/16"	5/32"	51055K311	$2.31		
3/16"	3/16"			51055K37	2.92
1/4"	1/4"			51055K528♣	2.75
5/16"	3/16"	51055K312	2.51		
5/16"	1/4"	51055K313	2.75		
5/16"	5/16"			51055K39	3.69
3/8"	3/16"	51055K314	3.14	51055K221	3.89
3/8"	1/4"	51055K524♣	3.14	51055K531♣	3.89
3/8"	5/16"	51055K316	3.23	51055K41	3.89
3/8"	3/8"			51055K532♣	4.95
1/2"	5/16"	51055K317	3.85		
1/2"	3/8"	51055K318	5.94		
1/2"	1/2"			51055K43	5.93





Straights, Tube Stem x Barb

90° Elbows, Tube Stem x Barb

Stem OD	For Tube ID	Straights, Tube Stem x Barb		90° Elbows, Tube Stem x Barb	
1/4"	3/16"	51055K57	$1.80		
1/4"	1/4"	51055K58	1.80	51055K124	$2.44
1/4"	5/16"	51055K59	1.66	51055K244	2.88
5/16"	3/16"	51055K61	1.80		
5/16"	1/4"	51055K62	2.02	51055K125	2.49
5/16"	5/16"	51055K63	2.02	51055K246	2.88
5/16"	3/8"	51055K64	2.57		
3/8"	1/4"	51055K65	2.63	51055K534♣	3.07
3/8"	5/16"	51055K66	2.62	51055K248	3.59
3/8"	3/8"	51055K67	2.86		
3/8"	1/2"	51055K231	3.85		
1/2"	3/8"	51055K68	3.07		
1/2"	1/2"	51055K69	4.00		

Caps, Plugs, and Accessories



Caps

For Tube OD		
1/4"	51055K429	$1.90
3/8"	51055K431	2.35



Plugs

Stem OD	Pkg. Qty.		Pkg.
5/32"	10	51055K77	$6.69
3/16"	10	51055K78	6.53
1/4"	10	51055K79	8.03
5/16"	10	51055K81	9.96
3/8"	10	51055K82	13.05
1/2"	5	51055K83	9.86



Tube Supports

For Tube OD	Pkg. Qty.		Pkg.
5/16"	10	51055K433	$2.96
3/8"	10	51055K434	3.39
1/2"	10	51055K435	3.64



Locking Clips

Stem OD	Pkg. Qty.		Pkg.
1/4"	10	51055K413	$2.69
3/8"	10	51055K414	3.06
1/2"	10	51055K419	3.04

Push-to-Connect Tube Fittings

For technical drawings and 3-D models, go to mcmaster.com.

For information about selecting pipe size, see pages 2-3. For information about push-to-connect tube fittings, see pg. 197.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

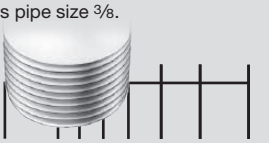

Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
OD (to nearest 1/8"): 0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"



Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
ID (to nearest 1/8"): 0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"

Push-to-Connect Tube Fittings for Hot Drinking Water

- Maximum Pressure @ 73° F:
  1/4" Tube OD: 230 psi
  3/8" Tube OD: 190 psi
  1/2" Tube OD: 160 psi
- Temperature Range: 35° to 200° F
- Tubing: Use with firm (Shore D44) polyethylene

Not only do these glass-filled nylon fittings meet NSF/ANSI Standard 61 for drinking (potable) water, they are also formulated to withstand high temperatures. Fitting materials are FDA listed and meet NSF/ANSI Standard 51 for food and beverage. Fittings can also be used with air. They are white with a gray release ring. Vacuum rating is 28" Hg @ 72° F.

Threaded Connections: NPTF (Dryseal) threads, which are compatible with NPT threads.

Tube-to-Threaded Pipe Adapters





For Tube OD	Pipe Size	Straights, Male Pipe		90° Elbows, Male Pipe	
1/4"	1/8	7852T11	$1.32	7852T21	$1.93
1/4"	1/4	7852T12	1.46	7852T22	2.18
1/4"	3/8	7852T13	2.00	7852T23	2.55
3/8"	1/4	7852T14	2.13	7852T24	2.88
3/8"	3/8	7852T15	2.40	7852T25	2.93
3/8"	1/2	7852T16	5.65	_____	____
1/2"	1/2	7852T17	3.51	_____	____

Tube-to-Tube Connectors







For Tube OD (A)	(B)	Straights		90° Elbows		Tees	
1/4"	1/4"	7852T31	$1.82	7852T51	$2.03	7852T41	$2.63
3/8"	1/4"	7852T34	2.95	7852T55	3.87	7852T44	4.70
3/8"	3/8"	7852T32	2.77	7852T52	3.12	7852T42	3.71
1/2"	3/8"	7852T35	3.77	7852T56	4.63	_____	____
1/2"	1/2"	7852T33	3.41	7852T54	4.16	7852T43	4.76

Brass Push-to-Connect Tube Fittings for Copper Tubing

- Maximum Pressure: 200 psi @ 72° F
- Temperature Range: 32° to 200° F
- Tubing: Use with copper (Types K, L, and M), CPVC, and PEX

No need for flux, solder, or heat—these fittings connect to copper, CPVC, and PEX tubing with a single push. Fittings meet NSF/ANSI Standard 61 for use with drinking (potable) water, and can also be used with air. They are made of brass and have a black plastic release ring. Fittings come with a tube support for use with PEX tubing. Fittings are comparable with SharkBite® and TecTite™ fittings. A release clip or wrench (sold separately) is required to disconnect the fittings from the tubing.

Threaded Connections: NPT threads.

Tube-to-Threaded Pipe Adapters





Copper Tube Size	Actual Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe	
3/8	1/2"	3/8	5483K44	$9.46	5483K34	$9.35
3/8	1/2"	1/2	5483K47	7.37	5483K37	7.34
1/2	5/8"	1/2	5483K41	6.89	5483K31	6.80
1/2	5/8"	3/4	5483K48	6.55	5483K38	7.22
3/4	7/8"	3/4	5483K42	7.79	5483K32	7.96
1	1 1/8"	3/4	5483K49	12.27	_____	____
1	1 1/8"	1	5483K43	16.00	5483K33	14.27
1 1/2	1 5/8"	1 1/2	5483K45	55.31	5483K35	56.99
2	2 1/8"	2	5483K46	65.95	5483K36	67.77

Tube-to-Tube Connectors







Copper Tube Size	Actual Tube OD	Straights		90° Elbows		Tees	
3/8	1/2"	5483K15	$9.11	5483K54	$10.10	5483K64	$13.29
1/2	5/8"	5483K11	8.56	5483K51	8.87	5483K61	12.25
3/4	7/8"	5483K12	9.79	5483K52	11.07	5483K62	15.09
1	1 1/8"	5483K13	20.64	5483K53	21.96	5483K63	22.91
1 1/2	1 5/8"	5483K18	63.85	5483K55	68.07	5483K65	100.75
2	2 1/8"	5483K24	78.01	5483K56	87.91	5483K66	125.29

Reducing Straights



Copper Tube Size (A)	(B)	Actual Tube OD (A)	(B)		
1/2	3/8	5/8"	1/2"	5483K25	$8.86
3/4	1/2	7/8"	5/8"	5483K22	9.57
1	3/4	1 1/8"	7/8"	5483K23	23.81

Caps, Release Clips, and Release Wrenches







Copper Tube Size	Actual Tube OD	Caps		Release Clips		Release Wrenches	
3/8	1/2"	5483K74	$7.53	5483K84	$1.89	_____	____
1/2	5/8"	5483K71	7.18	5483K81	2.02	_____	____
3/4	7/8"	5483K72	8.99	5483K82	.85	_____	____
1	1 1/8"	5483K73	19.59	5483K83	1.22	_____	____
1 1/2	1 5/8"	5483K75	36.52	_____	____	5483K91	$16.44
2	2 1/8"	5483K76	44.60	_____	____	5483K91	16.44

Lightweight Push-to-Connect Tube Fittings for Copper Tubing

- Maximum Pressure: 250 psi @ 75° F
- Temperature Range: 33° to 180° F
- Tubing: Use with copper (Types K, L, and M), CPVC, and PEX

Lighter and easier to handle than brass fittings for copper tubing, these fittings are made of polysulfone plastic. They connect to copper, CPVC, and PEX tubing with no flux, solder, or heat required. Fittings meet NSF/ANSI Standard 61 for drinking (potable) water. They come with a tube support for use with PEX tubing. Fittings have a white body and release ring.

Threaded Connections: NPT threads.

Tube-to-Threaded Pipe Adapters



Copper Tube Size	Actual Tube OD	Pipe Size	Straights, Male Pipe		90° Elbows, Male Pipe	
3/8	1/2"	3/8	9400T51	$3.18	—	—
3/8	1/2"	1/2	9400T53	3.75	—	—
1/2	5/8"	3/8	9400T52	3.75	9400T91	$4.91
1/2	5/8"	1/2	9400T54	4.07	9400T92	4.36
1/2	5/8"	3/4	9400T55	4.64	—	—
3/4	7/8"	3/4	9400T56	5.49	—	—
1	1 1/8"	1	9400T57	5.82	9400T93	7.55

Tube-to-Tube Connectors



Copper Tube Size	Actual Tube OD	Straights		90° Elbows		Tees	
3/8	1/2"	9400T81	$4.91	9400T71	$6.09	9400T61	$6.09
1/2	5/8"	9400T82	5.49	9400T72	6.96	9400T62	6.38
3/4	7/8"	9400T83	7.27	9400T73	10.73	9400T63	10.73
1	1 1/8"	9400T84	11.91	9400T74	12.18	9400T64	13.31

Reducing Straights



Copper Tube Size (A)	Copper Tube Size (B)	Actual Tube OD (A)	Actual Tube OD (B)		
1/2	3/8	5/8"	1/2"	9400T41	$5.23
3/4	1/2	7/8"	5/8"	9400T42	6.67
1	3/4	1 1/8"	7/8"	9400T44	7.27

Push-to-Connect Tube Fittings for Stainless Steel Tubing

- Maximum Pressure @ 68° F:
  1/4" and 5/16": 230 psi
  3/8": 150 psi
- Temperature Range: 33° to 150° F
- Tubing: Use with stainless steel, nylon, polyethylene, and polyurethane

The hand-tightened nut and double O-ring work together to provide a strong seal on stainless steel tubing. Fittings are made of acetal. They meet NSF/ANSI Standard 61 for drinking (potable) water and NSF/ANSI Standard 51 for food and beverage. They can also be used with air. Fittings have a gray body and release ring. Sterilize with steam (autoclaving).

Stainless Steel Tube-to-Plastic Tube Connectors



For SS Tube OD	For Plastic Tube OD	Straights		90° Elbows	
1/4"	3/8"	—	—	9406T12	$7.49
5/16"	5/16"	9406T18	$4.55	9406T14	5.30
5/16"	3/8"	9406T19	5.20	9406T15	5.98
3/8"	5/16"	9406T22	5.31	9406T16	6.83
3/8"	3/8"	9406T23	5.20	9406T17	6.91

Straights, Barbed



For SS Tube OD	For Plastic Tube ID		
1/4"	1/4"	9406T24	$3.81
5/16"	1/4"	9406T25	3.29
3/8"	1/4"	9406T26	5.20

Stainless Steel Tube-to-Stainless Steel Tube Connectors



90° Elbows

For SS Tube OD (A)	For SS Tube OD (B)		
5/16"	5/16"	9406T27	$11.40
3/8"	5/16"	9406T28	8.44
3/8"	3/8"	9406T29	8.69

Washdown Push-to-Connect Tube Fittings

- Maximum Pressure: 290 psi @ 72° F
- Temperature Range: –4° to 250° F
- Tubing: Use with firm (Shore D44) polyethylene, firm (Shore A95) polyurethane, and hard (Shore D62) nylon

The nickel-plated coating allows these fittings to withstand repeated washdowns in food and beverage environments. Use with air and water. Nickel-plated brass offers better corrosion resistance than plain brass.

Inline tees are also known as branch tees. **Tube stems** insert into the end of your tube fitting.

Threaded Connections: NPT or BSPT (British Standard Pipe Taper) threads.

Tube-to-Threaded Pipe Adapters



For Tube OD	Pipe Size	Straights, Male Pipe		Swivel 90° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe	
Inch Tube with NPT Threads							
5/32"	1/8	5523K12	$4.33	5523K32	$5.36	5523K52	$9.76
5/32"	1/4	5523K13	5.40	5523K33	5.97	5523K53	11.81
1/4"	1/8	5523K15	4.22	5523K35	6.48	5523K55	9.26
1/4"	1/4	5523K16	4.72	5523K36	7.05	5523K56	9.26
3/8"	1/4	5523K19	6.75	5523K39	11.15	5523K59	13.01
3/8"	3/8	5523K21	9.12	5523K41	13.35	5523K61	15.66
1/2"	3/8	5523K23	11.26	5523K43	12.93	5523K63	17.62
1/2"	1/2	5523K24	11.26	5523K44	13.21	5523K64	21.27
Metric Tube with BSPT Threads							
4 mm	1/8	5508K121	4.22	5508K111	9.20	5508K131	12.22
4 mm	1/4	5508K122	5.97	5508K112	10.88	—	—
6 mm	1/8	5508K123	4.65	5508K113	9.97	5508K132	12.85
6 mm	1/4	5508K124	5.05	5508K114	11.15	5508K133	13.20
8 mm	1/4	5508K125	7.10	5508K115	11.03	5508K134	14.90
10 mm	1/4	5508K126	10.35	5508K116	17.55	5508K135	22.25

Tube-to-Tube Connectors



For Tube OD	Straights		90° Elbows		Tees	
Inch						
5/32"	5523K71	$8.85	5523K81	$7.18	5523K91	$9.90
1/4"	5523K72	6.13	5523K82	7.05	5523K92	8.47
5/16"	5523K73	12.23	5523K83	9.28	5523K93	12.93
3/8"	5523K74	9.62	5523K84	10.06	5523K94	12.31
1/2"	5523K75	12.93	5523K85	12.97	5523K95	17.82
Metric						
4 mm	5508K141	8.85	5508K151	7.17	5508K161	9.90
6 mm	5508K142	10.40	5508K152	8.65	5508K162	11.32
8 mm	5508K143	12.22	5508K153	9.28	5508K163	12.93
10 mm	5508K144	15.18	5508K154	14.45	5508K164	19.65

Metric-to-Inch Straights, Tube Stem



Stem OD	For Tube OD		
6 mm	1/4"	5508K171	$8.30
10 mm	3/8"	5508K172	8.78
12 mm	1/2"	5508K173	12.93

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

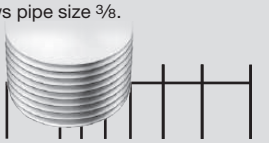

Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
OD (to nearest 1/8″): 0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″



Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
ID (to nearest 1/8″): 0	1/4″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″

Push-to-Connect Tube Fittings for Food and Beverage

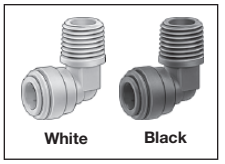

- Maximum Pressure: 150 psi @ 70° F
- Temperature Range: 33° to 140° F
- Tubing: Use with hard (Shore D50-D70) nylon, polyethylene, brass, and copper

Made of FDA-listed materials, these polypropylene fittings are the most commonly used push-to-connect fittings for food and beverage applications. Sterilize with non-acidic chemicals.

White Fittings—Meet NSF/ANSI Standard 51 for food and beverage.

Black Fittings—Are UV resistant.

Inline tees are also known as branch tees, and **through-wall straights** are also known as bulkhead couplings. **Straights with female UNS straight threads** are also known as faucet connectors; they attach directly to a faucet threaded inlet or water line. **Tube stems** insert into the end of your tube fitting.

Threaded Connections: NPTF (Dryseal) threads, unless otherwise noted. NPTF threads are compatible with NPT threads.

To Order: Please specify white or black fittings.

Tube-to-Threaded Pipe Adapters







For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe		Swivel 90° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe	
1/4″	1/8	9087K213	$2.00	9087K121	$5.15	9087K124	$2.96	9087K129	$4.80	9087K134	$5.70
1/4″	1/4	9087K214	2.17	9087K122	5.57	9087K125	3.40	9087K131	4.80	9087K135	5.70
1/4″	3/8	9087K215	3.00			9087K126	4.04				
3/8″	1/4	9087K216	3.44	9087K123	6.39	9087K127	4.49	9087K132	6.83	9087K136	6.87
3/8″	3/8	9087K217	3.78			9087K128	4.60	9087K133	7.15	9087K137	7.21
3/8″	1/2	9087K218	5.87								
1/2″	1/2	9087K219	5.51								



Straights, Tube Stem × Male Pipe

Stem OD	Pipe Size		
1/4″	1/8	9087K138	$1.04
1/4″	1/4	9087K139	1.04
3/8″	1/4	9087K141	1.27
3/8″	3/8	9087K142	1.61
1/2″	1/2	9087K143	2.65



Straights, Female UNS Straight Threads

For Tube OD	Thread Size			For Tube OD	Thread Size		
1/4″	7/16″-24	9087K167	$4.33	3/8″	7/16″-24	9087K168	$4.48

Tube-to-Tube Connectors







For Tube OD	Straights		Through-Wall Straights		90° Elbows		Tees		Wyes	
1/4″	9087K144	$2.93	9087K169	$5.71	9087K147	$3.33	9087K151	$4.23		
3/8″	9087K145	3.98	9087K171	7.47	9087K148	5.11	9087K152	5.17	9087K174	$5.58
1/2″	9087K146	4.69	9087K172	11.50	9087K149	6.08	9087K153	6.50		



Straights, Tube Stem × Barb

Stem OD	For Tube ID		
3/8″	3/8″	9087K176	$2.98
3/8″	1/2″	9087K177	4.03
1/2″	1/2″	9087K178	3.99



Reducing Straights, Tube Stem

Stem OD	For Tube OD		
3/8″	1/4″	9087K161	$3.27
1/2″	3/8″	9087K162	6.26



90° Elbows, Tube Stem

Stem OD	For Tube OD		
1/4″	1/4″	9087K163	$3.02
3/8″	1/4″	9087K164	4.12
3/8″	3/8″	9087K165	5.10
1/2″	1/2″	9087K166	6.25



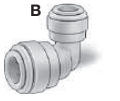

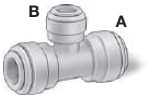

For Tube OD (A)	(B)	Reducing Straights		Reducing 90° Elbows		Reducing Inline Tees	
3/8″	1/4″	9087K154	$4.06	9087K179	$5.63	9087K182	$5.47
1/2″	3/8″	9087K156	5.51	9087K181	6.96	9087K183	7.22

Plugs



Plugs

Stem OD		Stem OD		Stem OD	
1/4″	9087K157 $0.83	3/8″	9087K158 $1.37	1/2″	9087K159 $2.12

High-Pressure Push-to-Connect Tube Fittings

- Maximum Pressure: 800 psi @ 70° F
- Temperature Range: –40° to 200° F
- Tubing: Use with nylon, polyethylene, and firm (Shore A90) polyurethane

By pairing an all-metal body with a built-in tube support, these fittings deliver the highest pressure rating of all our push-to-connect fittings. Fittings are made of nickel-plated brass for excellent corrosion resistance. Use with air, water, mineral oil, and grease. Vacuum rating is 29″ Hg @ 72° F.

Inline tees are also known as branch tees, **right angle tees** are also known as run tees, and **through-wall straights** are also known as bulkhead couplings.

Threaded Connections: NPTF (Dryseal) threads, which are compatible with NPT threads.

Tube-to-Threaded Pipe Adapters







For Tube OD	For Min. Tube ID	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		Swivel 90° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe		Swivel Right Angle Tees, Male Pipe	
1/4″	0.166″	1/8	9396T31	$3.73	9396T51	$6.45	9396T41	$5.16	9396T11	$7.65	9396T21	$7.56
1/4″	0.166″	1/4	9396T32	3.60	9396T53	6.45	9396T42	5.84	9396T12	7.56	9396T22	7.62
1/4″	0.166″	3/8	9396T33	4.13			9396T43	7.96	9396T13	10.04	9396T23	10.59
3/8″	0.247″	1/4	9396T34	5.44	9396T54	11.49	9396T44	8.17	9396T14	11.23	9396T24	11.77
3/8″	0.247″	3/8	9396T35	5.44	9396T55	11.49	9396T45	8.76	9396T15	13.25	9396T25	13.99
1/2″	0.372″	1/2	9396T36	10.52			9396T46	12.16	9396T16	16.73	9396T26	18.38

Tube-to-Tube Connectors






For Tube OD	For Min. Tube ID	Straights		Through-Wall Straights		90° Elbows		Tees	
1/4″	0.166″	9396T81	$5.13	9396T91	$7.83	9396T71	$5.16	9396T61	$7.15
3/8″	0.247″	9396T82	7.34	9396T92	11.86	9396T72	8.57	9396T62	10.37
1/2″	0.372″	9396T84	9.80	9396T93	14.72	9396T73	10.97	9396T63	14.38

Chemical-Resistant Push-to-Connect Tube Fittings

- Maximum Pressure: 300 psi @ 73° F
- Temperature Range: 0° to 275° F
- Tubing: Use with polyethylene, firm (Shore A95) polypropylene, and nylon

When your line needs to handle harsh chemicals, choose these fittings—they have a PVDF (also known as Kynar) body and fluoroelastomer O-ring for excellent chemical resistance. Fittings can also be used with air and water. They have a semi-clear white body and gray release ring. Vacuum rating is 28″ Hg @ 72° F.

Inline tees are also known as branch tees, and **through-wall straights** are also known as bulkhead couplings. **Tube stems** insert into the end of your tube fitting.

Threaded Connections: NPTF (Dryseal) threads, which are compatible with NPT threads.

Tube-to-Threaded Pipe Adapters








For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Male Pipe		Swivel 90° Elbows, Male Pipe		Swivel Inline Tees, Male Pipe	
1/4″	1/8	1901K21	$2.70	1901K28	$5.38	1901K39	$4.53	1901K33	$6.28	1901K62	$12.03
1/4″	1/4	1901K22	2.50	1901K29	6.22	1901K41	4.58	1901K34	6.35	1901K63	12.55
1/4″	3/8	1901K23	3.72			1901K42	9.15	1901K35	10.03		
3/8″	1/8	1901K24	5.92					1901K36	8.97	1901K64	13.12
3/8″	1/4	1901K25	4.62	1901K31	7.30	1901K43	7.05	1901K37	10.03	1901K65	14.12
3/8″	3/8	1901K26	5.25	1901K32	8.65	1901K44	7.78	1901K38	10.40	1901K66	15.78
3/8″	1/2	1901K27	7.40	1901K75	12.45						
1/2″	3/8	1901K73	12.28	1901K76	12.68						
1/2″	1/2	1901K74	13.78	1901K77	19.25						

Straights, Tube Stem × Male Pipe

Stem OD	Pipe Size		
1/4″	1/8	1901K45	$1.43
1/4″	1/4	1901K46	1.45
3/8″	1/4	1901K47	2.08
3/8″	3/8	1901K48	2.50

Tube-to-Tube Connectors




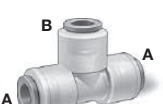



For Tube OD (A)	(B)	Straights		Through-Wall Straights		90° Elbows		Tees	
1/4″	1/4″	1901K17	$4.40	1901K85	$7.18	1901K11	$4.55	1901K14	$6.60
3/8″	1/4″	1901K79	6.31			1901K82	5.92	1901K84	7.35
3/8″	3/8″	1901K19	7.47	1901K86	9.05	1901K13	7.90	1901K16	8.35
1/2″	1/2″	1901K78	19.53	1901K87	25.98	1901K81	19.12	1901K83	27.18

Straights, Tube Stem × Barb

Stem OD	For Tube ID		
1/4″	1/4″	1901K89	$1.80
3/8″	1/4″	1901K91	2.38
3/8″	3/8″	1901K92	3.13
1/2″	1/2″	1901K93	16.09

90° Elbows, Tube Stem

Stem OD	For Tube OD		
1/4″	1/4″	1901K49	$4.62
1/4″	3/8″	1901K52	9.22
3/8″	1/4″	1901K51	5.67
3/8″	3/8″	1901K53	7.33
1/2″	1/2″	1901K88	17.50

Caps and Plugs



Caps

For Tube OD		
1/4″	1901K94	$7.30



Plugs

Stem OD		
1/4″	1901K59	$1.38
3/8″	1901K61	2.10

Quick-Disconnect Tube Couplings

For technical drawings and 3-D models, go to mcmaster.com.

For information about selecting pipe size, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

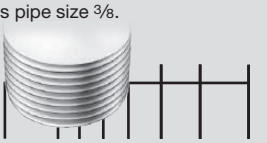

Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
OD (to nearest 1/8"): 0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"



Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
ID (to nearest 1/8"): 0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"

About Quick-Disconnect Tube Couplings

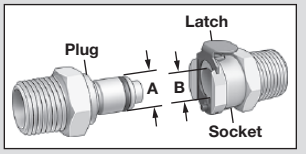

A complete quick-disconnect coupling consists of a plug and a socket with the same coupling size. To connect, insert the plug into the socket. This connection also permits 360° swiveling, so your tubing won't twist and kink. To disconnect, press the latch and remove the plug. All couplings have an O-ring.

Coupling size is the accepted industry designation, not the actual measured size. You can determine the actual dimension of the plug and socket by measuring the OD of the plug (A) and the ID of the socket (B).

Air and Water Quick-Disconnect Tube Couplings

- Maximum Pressure: 100 psi @ 70° F
- Temperature Range: –40° to 180° F
- Tubing: Compression Couplings: Use with firm and hard (Shore A82-D60) polyethylene and nylon Barbed Couplings: Use with soft and firm (Shore A68-A80) polyurethane

Because they're made of moisture-resistant acetal, these couplings are commonly used for air and water applications. Couplings are white. The sockets have a Type 316 stainless steel latch, except the food and beverage sockets have an acetal latch. Sterilize with chemicals. Vacuum rating is 24" Hg @ 70° F.

Plugs and sockets **with shut-off** have a valve that stops the flow when the coupling is separated. **Through-wall** couplings are also known as bulkhead couplings.

Miniature Couplings—Are twist-lock style. The sockets do not have a latch.
Food and Beverage Couplings—Materials are NSF/ANSI 169 listed.
Threaded Couplings—Have NPT threads.
Compression Couplings—Insert your tubing into the plug or socket and tighten the nut to form a seal.
Barbed Couplings—Insert the barbed end into your tubing and secure with a clamp (see pages 302-308). The couplings for 1/16" tube ID have a collar that limits the size of the tubing to a maximum 1/8" OD.

Note: For a complete coupling, order a set or a plug and a socket with the same coupling size.

Plug and Socket Sets—With Shut-Off on Both Ends



Male Pipe on Both Ends

Pipe Size		
1/8	5012K111	$18.97
1/4	5012K112	19.22
3/8	5012K113	19.22



Compression on Both Ends

For Tube OD		
1/4"	5012K122	$23.63
3/8"	5012K123	23.87



Barbed on Both Ends

For Tube ID		
1/8"	5012K114	$18.69
1/4"	5012K115	17.84
3/8"	5012K116	17.84



Male Pipe Plug × Barbed Socket

Pipe Size	For Tube ID		
1/8	1/8"	5012K117	$19.07
1/4	1/4"	5012K118	18.78
3/8	3/8"	5012K119	18.78



Compression Plug × Male Pipe Socket

For Tube OD	Pipe Size		
1/4"	1/8	5012K124	$18.81
1/4"	1/4	5012K125	20.56
3/8"	3/8	5012K126	20.56

Standard Plugs



Pipe Size	*Threaded, Male Pipe* With Shut-Off		Open Flow	
1/8 Coupling Size (A=5/16")				
1/8	5012K46	$9.70	5012K27	$2.98
1/4	5012K47	9.81	5012K28	2.98
1/4 Coupling Size (A=7/16")				
1/4	5012K87	9.54	5012K73	2.90
3/8	5012K88	9.54	5012K74	1.90





For Tube OD	*Compression* With Shut-Off		Open Flow		*Through-Wall, Compression* With Shut-Off		Open Flow	
1/8 Coupling Size (A=5/16")								
5/32"	5012K222	$16.85	5012K221	$5.15				
1/4"	5012K41	9.43	5012K22	4.94	5012K482	$26.74	5012K481	$10.23
3/8"	5012K42	11.87	5012K23	6.45				
1/4 Coupling Size (A=7/16")								
1/4"	5012K692	11.46	5012K691	5.39	5012K492	12.95	5012K491	9.95
3/8"	5012K84	11.46	5012K69	5.39	5012K496	15.95	5012K495	10.11





For Tube ID	*Barbed* With Shut-Off		Open Flow		*Through-Wall, Barbed* With Shut-Off		Open Flow	
1/8 Coupling Size (A=5/16")								
1/16"	5012K43	$10.03	5012K24	$2.54	5012K52	$15.66	5012K51	$9.11
1/8"	5012K44	8.94	5012K25	1.59	5012K54	13.40	5012K53	7.51
3/16"	5012K252	9.29	5012K251	1.86	5012K56	14.09	5012K55	6.94
1/4"	5012K45	8.94	5012K26	1.94	5012K58	13.74	5012K57	7.64
1/4 Coupling Size (A=7/16")								
1/4"	5012K85	7.34	5012K71	1.48	5012K94	13.58	5012K93	6.04
5/16"	5012K712	7.34	5012K711	1.78	5012K96	14.46	5012K95	8.11
3/8"	5012K86	7.34	5012K72	1.48	5012K98	14.26	5012K97	7.66

(Continued on following page)

Air and Water Quick-Disconnect Tube Couplings *(Continued from previous page)*

Standard Sockets







Pipe Size	Threaded, Male Pipe: With Shut-Off		Threaded, Male Pipe: Open Flow	
1/8 Coupling Size (B=5/16")				
1/8	5012K29	$9.42	5012K11	$7.25
1/4	5012K31	9.42	5012K12	7.25
1/4 Coupling Size (B=7/16")				
1/4	5012K75	9.95	5012K61	8.76
3/8	5012K76	9.95	5012K62	8.76

For Tube OD	Compression: With Shut-Off		Compression: Open Flow		Through-Wall, Compression: With Shut-Off		Through-Wall, Compression: Open Flow	
1/8 Coupling Size (B=5/16")								
5/32"	5012K172	$14.44	5012K171	$12.29	5012K132	$15.32	5012K131	$13.75
1/4"	5012K36	10.68	5012K17	9.11	5012K32	14.60	5012K13	12.66
1/4 Coupling Size (B=7/16")								
1/4"	5012K662	14.40	5012K661	13.19	5012K632	20.47	5012K631	18.38
3/8"	5012K81	14.75	5012K66	13.44	5012K77	20.47	5012K63	18.53





For Tube ID	Barbed: With Shut-Off		Barbed: Open Flow		Through-Wall, Barbed: With Shut-Off		Through-Wall, Barbed: Open Flow	
1/8 Coupling Size (B=5/16")								
1/16"	5012K37	$10.91	5012K18	$7.58	5012K33	$15.11	5012K14	$13.34
1/8"	5012K38	9.56	5012K19	5.15	5012K34	13.85	5012K15	12.07
3/16"	5012K192	10.13	5012K191	5.27	5012K152	14.07	5012K151	12.07
1/4"	5012K39	9.56	5012K21	5.15	5012K35	14.07	5012K16	12.29
1/4 Coupling Size (B=7/16")								
1/4"	5012K82	9.30	5012K67	5.88	5012K78	19.83	5012K64	17.48
5/16"	5012K672	9.30	5012K671	7.41	5012K642	20.77	5012K641	18.30
3/8"	5012K83	9.30	5012K68	5.88	5012K79	19.83	5012K65	17.48

Miniature Plugs





For Tube ID	Barbed: Open Flow		Through-Wall, Barbed: Open Flow	
3/32 Coupling Size (A=1/4")				
1/16"	51605K11	$2.49	51605K15	$5.17
1/8"	51605K12	1.95	51605K16	5.25

Miniature Sockets



Pipe Size	Threaded, Male Pipe: With Shut-Off		Threaded, Male Pipe: Open Flow	
3/32 Coupling Size (B=1/4")				
1/8	51605K29	$10.38	51605K19	$1.41

Food and Beverage Plugs



Pipe Size	Threaded, Male Pipe: With Shut-Off		Threaded, Male Pipe: Open Flow	
1/4 Coupling Size (A=7/16")				
1/4	5923K53	$9.84	5923K51	$2.39
3/8	5923K54	9.88	5923K52	4.06



For Tube OD	Compression: With Shut-Off
1/4 Coupling Size (A=7/16")	
1/4"	5923K61 $10.74
3/8"	5923K62 10.94





For Tube ID	Barbed: With Shut-Off		Barbed: Open Flow		90° Elbows, Barbed: With Shut-Off		90° Elbows, Barbed: Open Flow	
1/4 Coupling Size (A=7/16")								
1/4"	5923K73	$9.62	5923K71	$2.38	5923K83	$12.19	5923K81	$2.71
3/8"	5923K74	9.58	5923K72	2.38	5923K84	12.27	5923K82	2.71

Food and Beverage Sockets



Pipe Size	Threaded, Male Pipe: With Shut-Off		Threaded, Male Pipe: Open Flow	
1/4 Coupling Size (B=7/16")				
1/4	5923K23	$8.02	5923K21	$5.27
3/8	5923K24	8.12	5923K22	5.27



For Tube OD	Compression: With Shut-Off
1/4 Coupling Size (B=7/16")	
1/4"	5923K31 $12.68
3/8"	5923K32 12.68



For Tube ID	Barbed: With Shut-Off		Barbed: Open Flow	
1/4 Coupling Size (B=7/16")				
1/4"	5923K43	$9.39	5923K41	$3.37
3/8"	5923K44	9.39	5923K42	3.37

Quick-Disconnect Tube Couplings

For technical drawings and 3-D models, go to mcmaster.com.

For information about selecting pipe size, see pgs. 2-3. For information about quick-disconnect tube couplings, see pg. 222.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

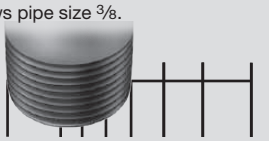

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
OD (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

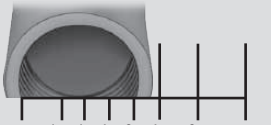

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
ID (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

Chemical-Resistant Quick-Disconnect Tube Couplings

- Maximum Pressure @ 70° F: 1/8 and 1/4 Coupling Sizes: 120 psi 3/8 Coupling Size: 60 psi
- Temperature Range: 32° to 160° F
- Tubing: Use with soft and firm (Shore A68-A80) polyurethane for barbed couplings

Choose these polypropylene couplings over acetal when running harsh substances through your line; they have better chemical resistance than our other plastic quick-disconnect couplings. Use with ammonia, ethanol, sodium carbonate, and 70% phosphoric acid, as well as air and water. Standard couplings have an EPDM O-ring, and food and beverage couplings have a Buna-N O-ring. Plugs and sockets with 1/8 and 1/4 coupling sizes are off-white, and the sockets have a stainless steel latch. Plugs and sockets with 3/8 coupling size are gray, and the sockets have a polypropylene latch. Sterilize with chemicals. Vacuum rating is 24" Hg @ 70° F.

Plugs and sockets **with shut-off** have a valve that stops the flow when the coupling is separated. **Through-wall** couplings are also known as bulkhead couplings.

Food and Beverage Couplings—Materials are NSF/ANSI 169 listed.

Threaded Couplings—Have NPT threads.

Barbed Couplings—Insert the barbed end into your tubing and secure with a clamp (see pages 302-308). Note: For a complete coupling, order a plug and a socket with the same coupling size.

Standard Plugs







Pipe Size	Threaded, Male Pipe: With Shut-Off		Threaded, Male Pipe: Open Flow	
1/8 Coupling Size (A=5/16")				
1/8	51545K75	$12.22	51545K65	$5.11
1/4 Coupling Size (A=7/16")				
1/4	51545K76	14.44	51545K66	8.13
3/8 Coupling Size (A=3/4")				
3/8	51545K51	14.65	51545K41	6.84
1/2	51545K52	14.61	51545K42	6.84

For Tube ID	Barbed: With Shut-Off		Barbed: Open Flow		90° Elbows, Barbed: With Shut-Off		90° Elbows, Barbed: Open Flow	
1/8 Coupling Size (A=5/16")								
1/8"	51545K77	$10.71	51545K67	$3.20	51545K92	$16.38	51545K82	$8.38
1/4"	51545K78	12.19	51545K68	3.20	51545K93	16.38	51545K83	8.38
1/4 Coupling Size (A=7/16")								
1/4"	51545K79	12.22	51545K69	3.14	51545K94	15.32	51545K84	10.01
3/8"	51545K91	13.50	51545K81	3.14	51545K95	16.06	51545K85	10.32
3/8 Coupling Size (A=3/4")								
3/8"	51545K53	14.38	51545K43	6.48	51545K55	16.63	51545K45	10.54
1/2"	51545K54	14.54	51545K44	6.45	51545K56	16.65	51545K46	10.52

Standard Sockets







Pipe Size	Threaded, Male Pipe: With Shut-Off		Threaded, Male Pipe: Open Flow	
1/8 Coupling Size (B=5/16")				
1/8	51545K21	$11.71	51545K11	$9.60
1/4	51545K22	12.36	—	—
1/4 Coupling Size (B=7/16")				
1/4	51545K23	12.71	51545K13	10.95
3/8	51545K24	13.15	—	—
3/8 Coupling Size (B=3/4")				
3/8	51545K31	17.96	51545K86	14.18
1/2	51545K32	18.04	51545K87	14.14

For Tube ID	Barbed: With Shut-Off		Barbed: Open Flow		Through-Wall, Barbed: With Shut-Off		Through-Wall, Barbed: Open Flow	
1/8 Coupling Size (B=5/16")								
1/8"	51545K71	$15.61	51545K61	$11.17	51545K25	$16.52	51545K15	$16.24
1/4"	51545K72	16.20	51545K62	11.28	51545K26	17.58	51545K16	16.28
1/4 Coupling Size (B=7/16")								
1/4"	51545K73	16.38	51545K63	13.52	51545K27	23.32	51545K17	20.53
3/8"	51545K74	17.00	51545K64	13.83	51545K28	23.37	51545K18	20.55
3/8 Coupling Size (B=3/4")								
3/8"	51545K33	18.94	51545K96	15.36	51545K35	24.96	51545K88	21.32
1/2"	51545K34	18.94	51545K97	15.73	51545K36	24.88	51545K89	21.34

Food and Beverage Plugs





Pipe Size	Threaded, Male Pipe: With Shut-Off		Threaded, Male Pipe: Open Flow	
3/8 Coupling Size (A=3/4")				
3/8	5385K51	$15.72	5385K41	$7.90
1/2	5385K52	15.68	5385K42	7.90

For Tube ID	Barbed: With Shut-Off		Barbed: Open Flow	
3/8 Coupling Size (A=3/4")				
3/8"	5385K54	$15.44	5385K44	$7.55
1/2"	5385K55	15.60	5385K45	7.51

Food and Beverage Sockets







Pipe Size	Threaded, Male Pipe: With Shut-Off		Threaded, Male Pipe: Open Flow	
3/8 Coupling Size (B=3/4")				
3/8	5385K21	$19.03	5385K11	$15.25
1/2	5385K22	19.11	5385K12	15.21

For Tube ID	Barbed: With Shut-Off		Barbed: Open Flow		Through-Wall, Barbed: With Shut-Off		Through-Wall, Barbed: Open Flow	
3/8 Coupling Size (B=3/4")								
3/8"	5385K24	$20.01	5385K14	$16.42	5385K27	$25.49	5385K17	$21.93
1/2"	5385K25	20.01	5385K15	16.79	5385K28	23.52	5385K18	20.92

High-Pressure Quick-Disconnect Tube Couplings

- Maximum Pressure: 250 psi @ 70° F
- Temperature Range: –40° to 180° F
- Tubing: Compression Couplings: Use with firm and hard (Shore A82-D60) polyethylene and nylon Barbed Couplings: Use with soft and firm (Shore A68-A80) polyurethane

Couplings are made of chrome-plated brass to withstand higher pressures than other quick-disconnect tube couplings. Use with air, oxygen, methanol, and ethylene glycol. Sockets have a stainless steel latch. Sterilize with chemicals. Vacuum rating is 24″ Hg @ 70° F.

Plugs and sockets **with shut-off** have a valve that stops the flow when the coupling is separated. **Through-wall** couplings are also known as bulkhead couplings.

Threaded Couplings— Have NPT threads.

Compression Couplings— Insert your tubing into the plug or socket and tighten the nut to form a seal.

Barbed Couplings— Insert the barbed end into your tubing and secure with a clamp (see pages 302-308).

Note: For a complete coupling, order a plug and a socket with the same coupling size.

Plugs



Pipe Size	Threaded, Male Pipe: With Shut-Off		Threaded, Male Pipe: Open Flow	
1/8 Coupling Size (A=5/16″)				
1/8″	5478K411	$14.65	5478K311	$6.79
1/4″	5478K412	14.66	5478K312	7.20
1/4 Coupling Size (A=7/16″)				
1/4″	5478K141	16.94	5478K911	7.29
3/8″	5478K142	17.38	5478K912	8.12





For Tube OD	Compression: With Shut-Off		Compression: Open Flow		Through-Wall, Compression: With Shut-Off		Through-Wall, Compression: Open Flow	
1/8 Coupling Size (A=5/16″)								
1/4″	5478K417	$16.64	5478K317	$8.60	5478K414	$17.50	5478K314	$16.74
1/4 Coupling Size (A=7/16″)								
1/4″	5478K147	19.87	5478K917	9.40	5478K143	24.20	5478K913	18.36
3/8″	5478K148	21.01	5478K918	11.16	5478K144	24.27	5478K914	19.11





For Tube ID	Barbed: With Shut-Off		Barbed: Open Flow		Through-Wall, Barbed: With Shut-Off		Through-Wall, Barbed: Open Flow	
1/8 Coupling Size (A=5/16″)								
1/8″	5478K418	$14.10	5478K318	$6.22	5478K415	$18.33	5478K315	$14.68
3/16″	5478K618	15.22	5478K616	6.64	5478K619	19.34	5478K617	14.85
1/4″	5478K419	14.46	5478K319	6.64	5478K416	18.83	5478K316	15.34
1/4 Coupling Size (A=7/16″)								
1/4″	5478K149	16.44	5478K919	7.26	5478K145	21.80	5478K915	14.95
3/8″	5478K122	16.42	5478K131	7.31	5478K146	21.90	5478K916	15.96

Sockets



Pipe Size	Threaded, Male Pipe: With Shut-Off		Threaded, Male Pipe: Open Flow	
1/8 Coupling Size (B=5/16″)				
1/8″	5478K221	$14.29	5478K211	$12.70
1/4″	5478K222	14.35	5478K212	12.75
1/4 Coupling Size (B=7/16″)				
1/4″	5478K711	17.20	5478K511	15.72
3/8″	5478K712	17.20	5478K512	15.69





For Tube OD	Compression: With Shut-Off		Compression: Open Flow		Through-Wall, Compression: With Shut-Off		Through-Wall, Compression: Open Flow	
1/8 Coupling Size (B=5/16″)								
5/32″					5478K223	$25.53	5478K213	$24.36
1/4″	5478K227	$26.82	5478K217	$25.98	5478K224	24.42	5478K214	22.47
1/4 Coupling Size (B=7/16″)								
1/4″	5478K717	31.59	5478K517	30.17	5478K713	29.66	5478K513	26.48
3/8″	5478K718	31.90	5478K518	30.61	5478K714	29.75	5478K514	26.74





For Tube ID	Barbed: With Shut-Off		Barbed: Open Flow		Through-Wall, Barbed: With Shut-Off		Through-Wall, Barbed: Open Flow	
1/8 Coupling Size (B=5/16″)								
1/8″	5478K228	$21.04	5478K218	$20.37	5478K225	$21.07	5478K215	$19.12
3/16″	5478K613	22.78	5478K612	21.63	5478K615	22.75	5478K614	19.62
1/4″	5478K229	21.54	5478K219	21.50	5478K226	22.44	5478K216	19.47
1/4 Coupling Size (B=7/16″)								
1/4″	5478K719	26.90	5478K519	25.51	5478K715	27.48	5478K515	24.67
3/8″	5478K811	26.88	5478K611	25.51	5478K716	27.69	5478K516	24.69

Sanitary Plastic Quick-Disconnect Tube Couplings

- Maximum Pressure: 60 psi @ 72° F
- Temperature Range: –40° to 300° F
- Tubing: Use with silicone

Connect the flanged end of these couplings to quick-clamp stainless steel sanitary fittings and the barbed end to your tubing. Couplings are packed in a clean room and are bagged to prevent contamination. They are USP Class VI rated and are for use with food, beverage, and dairy. Couplings are disposable and are clear polysulfone plastic with an amber tint. They have a universal connection, so any of these plugs will connect to any of these sockets, regardless of tube size. Couplings do not have a shut-off valve. Vacuum rating is 29″ Hg @ 72° F.

Note: For a complete coupling, order a plug and a socket.

Plugs



For Tube OD	Flanged: Flange OD		Flanged	
3/4″	0.984″	9201T11	$17.08	
1 1/2″	1.984″	9201T12	19.31	



For Tube ID	Barbed	
1/8″	9201T14	$6.40
1/4″	9201T15	5.39
3/8″	9201T16	5.39

Sockets



For Tube OD	Flanged: Flange OD		Flanged	
3/4″	0.984″	9201T23	$16.57	



For Tube ID	Barbed	
1/8″	9201T17	$6.84
1/4″	9201T18	5.50
3/8″	9201T19	5.50

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

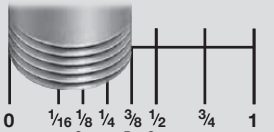

Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
OD (to nearest 1/8"): 0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"

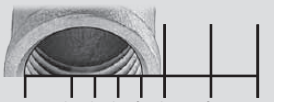

Pipe Size: 0	1/16	1/8	1/4	3/8	1/2	3/4	1
ID (to nearest 1/8"): 0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"

Corrosion-Resistant Quick-Disconnect Tube Couplings

- Maximum Pressure: 150 psi @ 72° F
- Temperature Range: 0° to 150° F
- Tubing: Use with polyethylene and polypropylene

Protect your line from rust and deterioration with these all-metal fittings. *Type 316 stainless steel* couplings offer excellent corrosion resistance and are for use with oil, gasoline, caustic soda, water, and air. They have a fluorocarbon O-ring. *Chrome-plated brass* couplings have good corrosion resistance and are for use with enamel and air. They have a Buna-N O-ring.

Plugs and sockets **with shut-off** have a valve that stops the flow when the coupling is separated. **Through-wall** couplings are also known as bulkhead couplings.

Compression Couplings—Insert your tubing into the plug or socket and tighten the nut to form a seal.

Threaded Couplings—Have NPT threads.

Note: For a complete coupling, order a plug and a socket with the same coupling size. For these couplings, the coupling size is the same as the actual OD or ID.

Plugs



Compression

Coupling Size (Actual OD)	For Tube OD	With Shut-Off		Open Flow	
Type 316 Stainless Steel					
1/4	1/4"	5327K35	$203.47	5327K33	$125.00
3/8	3/8"	5327K38	289.76	5327K34	162.80
Chrome-Plated Brass					
1/4	1/4"	5327K94	25.04	5327K92	14.33
3/8	3/8"	5327K98	30.00	5327K93	18.22

Sockets



Threaded, Male Pipe

Coupling Size (Actual ID)	Pipe Size	With Shut-Off	
Type 316 Stainless Steel			
1/4	1/8	5327K24	$77.11
1/4	1/4	5327K25	100.93
3/8	1/4	5327K29	123.67
Chrome-Plated Brass			
1/4	1/8	5327K78	16.93
1/4	1/4	5327K79	24.40
3/8	1/4	5327K88	26.16



Through-Wall, Compression

Coupling Size (Actual ID)	For Tube OD	With Shut-Off	
Type 316 Stainless Steel			
1/4	1/4"	5327K31	$210.13
3/8	3/8"	5327K32	290.24
Chrome-Plated Brass			
1/4	1/4"	5327K89	13.62
3/8	3/8"	5327K91	35.51

Miniature Quick-Disconnect Tube Couplings

- Maximum Pressure: 700 psi @ 72° F
- Temperature Range: –30° to 250° F
- Tubing: Use with flexible plastic and rubber

A great solution for small, cramped spaces, these compact couplings don't have a latch, so they connect and disconnect with a push or a pull. Use with air. Couplings are made of nickel-plated brass. They have a universal connection, so any of these plugs will connect to any of these sockets, regardless of pipe or tube size.

Sockets **with shut-off** have a valve that stops the flow when the coupling is separated. **Through-wall** couplings are also known as bulkhead couplings.

Threaded Couplings—1/8 pipe size has NPT threads; 10-32 has UNF straight threads.

Barbed Couplings—Insert the barbed end into your tubing and secure with a clamp (see pages 302-308).

Note: For a complete coupling, order a plug and a socket.

Plugs—Open Flow





Pipe Size	Threaded, Male Pipe		Threaded, Female Pipe	
10-32	9414K61	$3.52	9414K71	$3.50
1/8	9414K62	4.08	———	———





For Tube ID	Barbed		Through-Wall, Barbed	
3/32"	———	———	9414K91	$4.80
1/8"	9414K81	$3.21	9414K93	4.47
5/32"	9414K82	3.23	9414K94	4.50
3/16"	———	———	9414K92	4.83
7/32"	9414K83	3.23	9414K95	4.50

Sockets





Pipe Size	Threaded, Male Pipe				Threaded, Female Pipe			
	With Shut-Off		Open Flow		With Shut-Off		Open Flow	
10-32	9414K18	$10.48	9414K11	$10.28	9414K28	$10.43	9414K21	$10.23
1/8	9414K19	10.95	9414K12	10.75	———	———	———	———





For Tube ID	Barbed				Through-Wall, Barbed			
	With Shut-Off		Open Flow		With Shut-Off		Open Flow	
3/32"	———	———	———	———	9414K51	$12.80	9414K41	$12.57
1/8"	9414K36	$10.46	9414K31	$10.26	9414K53	12.27	9414K43	12.07
5/32"	9414K37	10.48	9414K32	10.28	9414K54	12.32	9414K44	12.12
3/16"	———	———	———	———	9414K52	12.82	9414K42	12.60
7/32"	9414K38	10.48	9414K33	10.28	9414K55	12.32	9414K45	12.12

Lightweight Quick-Turn Tube Couplings

- Maximum Pressure: 48 psi @ 72° F
- Temperature Range: Impact-Resistant and Clear Couplings: –20° to 200° F Semi-Clear Couplings: 35° to 150° F Chemical-Resistant Couplings: –8° to 248° F
- Tubing: Use with soft (Shore A40-A65) PVC and silicone

All couplings are lightweight plastic, so they're easier to handle than their metal counterparts. Also known as luer lock fittings, they connect with a half turn. They have a universal connection, so any of these plugs will connect to any of these sockets, regardless of thread or tube size. Couplings are open flow and do not have a shut-off valve, except caps are not open flow.

Impact-resistant couplings are white nylon. Use with air and water. **Semi-clear** couplings are white polypropylene and are for use with water. **Clear** couplings are polycarbonate and are for use with air. **Chemical-resistant** couplings are white PVDF (Kynar). Use with acetic acid, nitric acid, and bleach.

Threaded Couplings—Have UNF straight threads.

Barbed Couplings—Insert the barbed end into your tubing.

Note: For a complete coupling, order a plug and a socket.

Other Couplings: We offer impact-resistant nylon couplings with a shut-off valve. They are not compatible with the open flow couplings below. Please ask for 9198T1.



Plug Socket

Plugs



Threaded

Thread Size	Pkg. Qty.		Impact Resistant Pkg.	Semi-Clear Pkg.	Clear Pkg.	Chemical Resistant Pkg.
1/4"-28	10	51525K23	$5.22	$7.11	$7.65	$14.71



Barbed

For Tube ID	Pkg. Qty.		Impact Resistant Pkg.	Semi-Clear Pkg.	Clear Pkg.	Chemical Resistant Pkg.
1/16"	10	51525K31	$3.93	$5.37	$4.82	$10.06
3/32"	10	51525K32	3.93	5.37	4.82	10.06
1/8"	10	51525K33	3.93	5.42	4.82	10.06
5/32"	10	51525K34	4.43	5.70	5.22	10.06
3/16"	10	51525K35	4.43	5.82	5.22	10.06
1/4"	10	51525K36	4.43	5.70	5.22	10.06



Caps

Pkg. Qty.		Impact Resistant Pkg.	Semi-Clear Pkg.	Clear Pkg.	Chemical Resistant Pkg.
10	51525K38	$2.41	$3.73	$3.05	$5.46

Sockets



Threaded

Thread Size	Pkg. Qty.		Impact Resistant Pkg.	Semi-Clear Pkg.	Clear Pkg.	Chemical Resistant Pkg.
10-32	10	51525K21	$5.67	$8.42	$8.29	____
1/4"-28	10	51525K22	5.67	8.42	8.29	$14.56



Barbed

For Tube ID	Pkg. Qty.		Impact Resistant Pkg.	Semi-Clear Pkg.	Clear Pkg.	Chemical Resistant Pkg.
1/16"	10	51525K24	$3.49	$4.92	$4.43	$8.69
3/32"	10	51525K25	3.49	4.92	4.43	8.69
1/8"	10	51525K26	3.49	4.88	4.43	8.69
5/32"	10	51525K27	3.93	5.33	4.82	8.69
3/16"	10	51525K28	3.93	5.35	4.82	8.69
1/4"	10	51525K29	3.84	5.35	4.82	8.69



Caps

Pkg. Qty.		Impact Resistant Pkg.	Semi-Clear Pkg.	Clear Pkg.	Chemical Resistant Pkg.
10	51525K37	$3.49	$5.00	$4.43	$8.69

High-Strength Quick-Turn Tube Couplings

- Maximum Pressure: 30 psi @ 72° F
- Temperature Range: –100° to 350° F, except compression couplings are 32° to 350° F
- Tubing: Use with polyurethane, PVC, and silicone, except compression couplings are for use with stainless steel

The all-metal body gives these couplings better strength than plastic quick-turn tube couplings. Use with air. Also known as luer lock fittings, these connect with a half turn. They have a universal connection, so any of these plugs will connect to any of these sockets, regardless of pipe or tube size. Couplings are open flow and do not have a shut-off valve, except caps are not open flow.

Threaded Couplings—1/8 and 1/4 pipe sizes have NPT threads; 10-32 and 1/4"-28 have UNF straight threads.

Barbed Couplings—Insert the barbed end into your tubing and secure with a clamp (see pages 302-308).

Note: For a complete coupling, order a plug and a socket.

Other Couplings: We offer Type 316 stainless steel compression couplings for 1/64" to 5/64" tube ODs. Please ask for 5194K2.



Plug Socket

Plugs



Threaded

Pipe Size		
Nickel-Plated Brass		
10-32	51465K151	$6.15
1/8	51465K155	9.20
1/4	51465K153	9.80
Type 316 Stainless Steel		
1/4"-28	5194K33	39.80



Barbed

For Tube ID		
Nickel-Plated Brass		
1/16" to 3/32"	51465K113	$6.56
1/8" to 3/16"	51465K115	6.76
1/4" to 5/16"	51465K117	6.97
Type 316 Stainless Steel		
1/4" to 5/16"	5194K35	37.60



Connectors

Nickel-Plated Brass		
51465K141	$11.00	
Type 316 Stainless Steel		
5194K31	44.60	



Caps

Nickel-Plated Brass	
51465K165	$8.61
Type 316 Stainless Steel	
5194K37	35.20

Sockets



Threaded

Pipe Size		
Nickel-Plated Brass		
10-32	51465K161	$6.15
Type 316 Stainless Steel		
1/4"-28	5194K34	36.80



Barbed

For Tube ID		
Nickel-Plated Brass		
1/16" to 3/32"	51465K133	$5.95
1/8" to 3/16"	51465K135	6.15
1/4" to 5/16"	51465K137	6.36
Type 316 Stainless Steel		
1/4" to 5/16"	5194K36	35.60



Connectors

Nickel-Plated Brass		
51465K145	$6.76	
Type 316 Stainless Steel		
5194K32	35.40	



Caps

Nickel-Plated Brass	
51465K169	$8.40
Type 316 Stainless Steel	
5194K38	35.44

High-Polish Quick-Clamp Sanitary Tube Fittings

- Maximum Pressure: See clamps below
- Temperature Range: See gaskets below
- Tubing: Use with 4466K on page 151

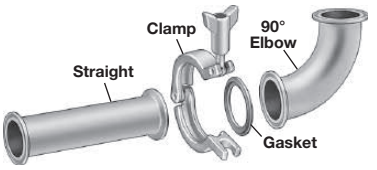

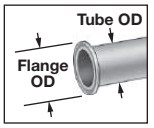

The smooth finish on these fittings makes it easy to remove residue. Fittings are polished to a 23-32Ra finish on the ID and a 35Ra finish on the OD. They are 3-A certified for dairy (where noted) and can also be used with food, beverage, air, and water. Also known as tri-clamps, they disconnect by hand or wrench for quick access to your line. Choose *Type 304 stainless steel* for good corrosion resistance, and *Type 316L stainless steel* for excellent corrosion resistance. Sterilize with steam (autoclaving).

Note: To complete a connection between two flanged ends, you'll need a clamp and a gasket.

Clamps—Tighten *low* and *medium pressure clamps* by hand, and *high pressure clamps* with a wrench. *Low pressure* clamps can only use Buna-N gaskets, and *spring loaded clamps* can only use Buna-N and fluoroelastomer gaskets.

Quick-clamp to butt-weld tube adapters are also known as ferrules. To assemble, weld the butt-weld end to your tubing. Thick-wall butt-weld tube adapters are also known as tank ferrules. They have an extra-thick wall for welding to pressure vessels and tanks.

Quick-clamp to hose adapters connect flexible hose or tubing to your system. Secure with a hose clamp (sold separately on pages 302-308).

Quick-clamp to grooved-ID adapters are also known as nonrecess or roll-on ferrules. They have a series of serrations on the interior that grasp the outside of your tubing. To connect, insert metal tubing inside the fitting and use an expansion tool to press the tubing into the fitting wall.

ⓘ For information on how to measure Quick-Clamp Tube Fittings, go to mcmaster.com and search for **4322KAC**.

Clamps






For Tube OD	For Flange OD	Low Pressure White Nylon Max. psi @ 72°F	Wing Nut		Medium Pressure Type 304 Stainless Steel Max. psi @ 72°F	Wing Nut		Spring Loaded		High Pressure Type 304 Stainless Steel Max. psi @ 72°F	Bolted	
½", ¾"	0.984"	150	4322K168	$21.54	1,250	45195K44	$9.85	9155K12	$21.66	—	—	—
1", 1½"	1.984"	150	4322K169	22.82	500	4322K152	9.44	9155K11	26.10	1,500	4322K711	$19.31
2"	2.516"	150	4322K177	34.62	450	4322K153	11.62	9155K13	30.58	1,000	4322K712	22.79
2½"	3.047"	150	4322K178	48.08	400	4322K154	13.23	9155K14	38.42	1,000	4322K713	25.05
3"	3.579"	150	4322K179	53.72	350	4322K155	14.56	9155K15	41.14	1,000	4322K714	28.05
4"	4.682"	150	4322K151	58.72	200	4322K156	17.54	9155K16	47.38	1,000	4322K715	34.28
6"	6.570"	150	4322K198★	74.87	150	4322K157	46.67	—	—	300	4322K716	72.26
8"	8.570"	150	4322K199★	109.62	100	4322K272	53.58	—	—	—	—	—
10"	10.570"	—	—	—	40	4322K273	143.00	—	—	—	—	—

★ Clamp has two wing nuts.

Gaskets

Oil-resistant Buna-N has a temperature range of –30° to 200°F. **Broad-temperature PTFE** has a temperature range of –100° to 500°F. **Chemical-resistant fluoroelastomer** has a temperature range of –30° to 400°F. For more gaskets, see page 3539.





For Tube OD	Oil-Resistant Buna-N		Broad-Temperature PTFE		Chemical-Resistant Fluoroelastomer	
½"	4509K11	$1.03	43315K21	$2.10	5044K11	$3.33
¾"	4509K12	1.17	43315K22	2.07	5044K12	3.52
1"	4509K13	.38	43315K23	2.46	5044K13	4.25
1½"	4509K14	.50	43315K24	2.18	5044K14	3.49
2"	4509K15	.55	43315K25	2.36	5044K15	3.55
2½"	4509K16	.60	43315K26	3.27	5044K16	6.11
3"	4509K17	.87	43315K27	3.68	5044K17	7.78
4"	4509K18	1.19	43315K28	6.14	5044K18	11.56
6"	4509K19	10.18	43315K29	17.77	5044K19	53.70
8"	4509K21	13.36	43315K31	43.48	5044K21	47.02
10"	4509K22	15.65	43315K32	64.62	5044K22	56.32

Manifolds—3-A certified for dairy.



Inlet For Tube OD	Inlet Flange OD	Outlet For Tube OD	Outlet Flange OD		2 Outlets	3 Outlets
Type 304 Stainless Steel						
2"	2.516"	1½"	1.984"	4322K21	$297.90	$403.48
2½"	3.047"	2"	2.516"	4322K22	336.95	448.64
3"	3.579"	1½"	1.984"	4322K23	363.76	477.79
3"	3.579"	2"	2.516"	4322K24	366.43	481.79
4"	4.682"	2"	2.516"	4322K25	461.12	598.05
Type 316L Stainless Steel						
2"	2.516"	1½"	1.984"	50485K31	346.62	465.12
2½"	3.047"	2"	2.516"	50485K32	433.40	532.79
3"	3.579"	1½"	1.984"	50485K33	428.19	558.76
3"	3.579"	2"	2.516"	50485K34	436.29	570.90
4"	4.682"	2"	2.516"	50485K35	553.76	713.24

Quick-Clamp to Quick-Clamp Tube Connectors—3-A certified for dairy.



For Tube OD	Flange OD	Type 304 Stainless Steel Straights	4"	6"	8"	12"	18"	Type 316L Stainless Steel Straights	4"	6"	8"	12"	18"
½"	0.984"	4322K31	$106.83	$109.69	$112.52	$118.19	$126.71	50485K36	$108.31	$111.88	$115.45	$122.60	$133.31
¾"	0.984"	4322K32	108.02	111.45	114.88	121.74	132.02	50485K37	109.57	113.76	117.95	126.36	138.98
1"	1.984"	4322K65	103.17	106.17	107.00	116.16	124.90	50485K73	115.43	119.48	123.81	130.73	140.57
1½"	1.984"	4322K66	110.00	118.17	115.10	129.29	139.02	50485K75	119.26	123.89	125.88	147.71	158.83
2"	2.516"	4322K67	115.07	119.40	121.38	140.56	151.14	50485K76	126.02	133.89	135.02	166.02	178.52
2½"	3.047"	4322K33	131.69	135.83	139.98	148.24	160.67	50485K38	145.31	150.93	156.52	167.74	184.52
3"	3.579"	4322K34	153.60	158.48	163.38	173.14	187.81	50485K39	167.86	174.83	181.79	195.71	216.62
4"	4.682"	4322K35	209.07	218.36	227.64	246.21	274.07	50485K41	232.76	244.81	256.86	280.93	317.05
6"	6.570"	4322K36	396.74	423.86	450.95	505.17	586.50	50485K42	518.83	552.43	586.05	653.26	754.07

(Continued on following page)

High-Polish Quick-Clamp Sanitary Tube Fittings *(Continued from previous page)*

Quick-Clamp to Quick-Clamp Tube Connectors (Cont.)—3-A certified for dairy.








For Tube OD	Flange OD	90° Elbows		45° Elbows		Inline Tees		45° Tees		Wyes		Crosses	
Type 304 Stainless Steel													
1″	1.984″	4322K111	$28.30	4322K131	$30.22	4322K141	$52.00	4322K281	$322.22	4322K811	$322.22	4322K265	$169.83
1½″	1.984″	4322K112	28.56	4322K132	30.22	4322K142	51.78	4322K282	322.22	4322K812	322.22	4322K266	169.83
2″	2.516″	4322K113	38.33	4322K133	37.11	4322K143	58.89	4322K283	337.78	4322K813	337.78	4322K267	208.33
2½″	3.047″	4322K114	52.30	4322K134	48.09	4322K144	79.11	4322K284	395.56	4322K814	395.56	4322K268	284.06
3″	3.579″	4322K115	60.50	4322K135	52.87	4322K145	112.49	4322K285	431.11	4322K815	431.11	4322K269	351.55
4″	4.682″	4322K116	122.26	4322K136	108.17	4322K146	160.84	4322K286	711.11	4322K816	607.68	4322K271	484.60
6″	6.570″	4322K117	586.93	4322K137	497.74	4322K147	870.37	4322K287	1,319.48	4322K817	1,319.48		
Type 316L Stainless Steel													
½″	0.984″	45195K12	50.48	45195K16	69.94	45195K24	95.25	50485K256	414.89	50485K283	281.91	50485K274	224.60
¾″	0.984″	45195K14	50.48	45195K18	78.65	45195K28	95.25	50485K257	414.89	50485K284	281.91	50485K275	224.60
1″	1.984″	50485K111	38.67	50485K131	46.00	50485K141	72.00	50485K301	376.58	50485K811	376.58	50485K276	193.62
1½″	1.984″	50485K112	39.83	50485K132	38.57	50485K142	71.00	50485K302	366.49	50485K812	366.49	50485K277	193.62
2″	2.516″	50485K113	52.00	50485K133	42.94	50485K143	82.00	50485K303	378.42	50485K813	378.42	50485K278	215.74
2½″	3.047″	50485K114	75.15	50485K134	70.87	50485K144	107.11	50485K304	518.02	50485K814	518.02	50485K279	301.75
3″	3.579″	50485K115	76.94	50485K135	74.98	50485K145	153.89	50485K305	587.82	50485K815	587.82	50485K281	440.34
4″	4.682″	50485K116	147.09	50485K136	144.34	50485K146	221.29	50485K306	805.82	50485K816	805.82	50485K282	659.40
6″	6.570″	50485K117	664.65	50485K137	611.11	50485K147	1,044.44	50485K307	1,593.65	50485K817	1,593.64		





For Tube OD (A)	For Tube OD (B)	Flange OD (A)	Flange OD (B)	Reducing Straights: Type 304 Stainless Steel		Reducing Straights: Type 316L Stainless Steel		Reducing 90° Elbows: Type 304 Stainless Steel		Reducing 90° Elbows: Type 316L Stainless Steel	
¾″	½″	0.984″	0.984″			50485K266	$144.45			50485K269	$193.62
1″	½″	1.984″	0.984″			50485K265	144.45			50485K271	186.14
1″	¾″	1.984″	0.984″			50485K264	144.45			50485K272	186.14
1½″	¾″	1.984″	0.984″			50485K263	162.51			50485K273	186.20
1½″	1″	1.984″	1.984″	4322K231	$47.60	50485K231	49.23				
2″	1″	2.516″	1.984″	4322K232	63.69	50485K232	86.67	4322K121	$124.51	50485K121	193.33
2″	1½″	2.516″	1.984″	4322K233	49.80	50485K233	53.34	4322K122	120.89	50485K122	155.22
2½″	1½″	3.047″	1.984″	4322K234	67.13	50485K234	71.36	4322K123	133.22	50485K123	209.98
2½″	2″	3.047″	2.516″	4322K235	60.60	50485K235	64.68	4322K124	146.10	50485K124	277.38
3″	1½″	3.579″	1.984″	4322K236	115.91	50485K236	140.00	4322K125	177.78	50485K125	284.44
3″	2″	3.579″	2.516″	4322K237	74.83	50485K237	81.89	4322K126	170.67	50485K126	222.22
3″	2½″	3.579″	3.047″	4322K238	74.29	50485K238	80.58	4322K127	170.67	50485K127	311.11
4″	2½″	4.682″	3.047″	4322K243	176.33	50485K243	180.15	4322K244	368.89	50485K244	373.33
4″	3″	4.682″	3.579″	4322K239	98.87	50485K239	104.44	4322K129	385.56	50485K128	610.60
6″	3″	6.570″	3.579″	4322K241	431.11	50485K241	583.81	4322K263	817.82	50485K267	940.73
6″	4″	6.570″	4.682″	4322K242	444.44	50485K242	440.94	4322K264	864.15	50485K268	993.67

Reducing Inline Tees

For Tube OD (A)	For Tube OD (B)	Flange OD (A)	Flange OD (B)	Type 304 Stainless Steel		Type 316L Stainless Steel	
1″	½″	1.984″	0.984″			50485K285	$159.60
1″	¾″	1.984″	0.984″			50485K286	159.60
1½″	¾″	1.984″	0.984″			50485K287	179.79
2″	1″	2.516″	1.984″	4322K275	$146.67	50485K295	199.74
2″	1½″	2.516″	1.984″	4322K276	95.78	50485K296	193.34
2½″	2″	3.047″	2.516″	4322K277	121.00	50485K297	209.12
3″	2″	3.579″	2.516″	4322K278	147.58	50485K298	216.29
4″	3″	4.682″	3.579″	4322K279	253.34	50485K299	337.78

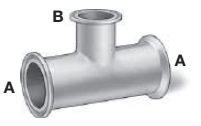

Quick-Clamp to Butt-Weld Tube Adapters—3-A certified for dairy.

For Tube OD	Flange OD	Wall Thick.	90° Elbows: Type 304 Stainless Steel		90° Elbows: Type 316L Stainless Steel	
½″	0.984″	0.065″			50485K258	$68.04
¾″	0.984″	0.065″			50485K259	68.04
1″	1.984″	0.065″	4322K288	$27.83	50485K818	46.10
1½″	1.984″	0.065″	4322K289	27.83	50485K819	42.17
2″	2.516″	0.065″	4322K291	31.43	50485K821	50.38
2½″	3.047″	0.065″	4322K292	52.85	50485K822	70.96
3″	3.579″	0.065″	4322K293	69.28	50485K308	110.23
4″	4.682″	0.083″	4322K294	99.74	50485K309	235.56
6″	6.570″	0.109″	4322K295	687.59	50485K311	722.22



(Continued on following page)

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

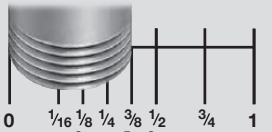

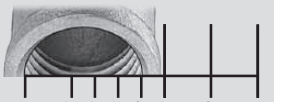

High-Polish Quick-Clamp Sanitary Tube Fittings *(Continued from previous page)*

- Maximum Pressure: See clamps on page 228
- Temperature Range: See gaskets on page 228
- Tubing: Use with 4466K on page 151

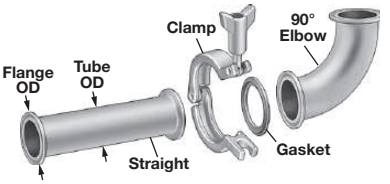

The smooth finish on these fittings makes it easy to remove residue. Fittings are polished to a 23-32Ra finish on the ID and a 35Ra finish on the OD. They are 3-A certified for dairy (where noted) and can also be used with food, beverage, air, and water. Also known as tri-clamps, they disconnect by hand or wrench for quick access to your line. Choose *Type 304 stainless steel* for good corrosion resistance, and *Type 316L stainless steel* for excellent corrosion resistance. Sterilize with steam (autoclaving).

Note: To complete a connection between two flanged ends, you'll need a clamp and a gasket.

Quick-clamp to butt-weld tube adapters are also known as ferrules. To assemble, weld the butt-weld end to your tubing.

Thick-wall butt-weld tube adapters are also known as tank ferrules. They have an extra-thick wall for welding to pressure vessels and tanks.

Quick-clamp to hose adapters connect flexible hose or tubing to your system. Secure with a hose clamp (sold separately on pages 302-308).

Quick-clamp to grooved-ID adapters are also known as nonrecess or roll-on ferrules. They have a series of serrations on the interior that grasp the outside of your tubing. To connect, insert metal tubing inside the fitting and use an expansion tool to press the tubing into the fitting wall.

Quick-Clamp to Butt-Weld Tube Adapters (Cont.)—3-A certified for dairy, unless noted.





For Tube OD	Flange OD	Wall Thick.	Short Straights Lg.			Straights Lg.			Long Straights Lg.		
Type 304 Stainless Steel											
1″	1.984″	0.065″	1/2″	4322K211	$4.00	1 1/8″	4322K161	$6.00	3″	4322K191	$28.89
1 1/2″	1.984″	0.065″	1/2″	4322K212	4.00	1 1/8″	4322K162	6.00	3″	4322K192	26.44
2″	2.516″	0.065″	1/2″	4322K213	4.89	1 1/8″	4322K163	7.78	3″	4322K193	31.89
2 1/2″	3.047″	0.065″	1/2″	4322K214	7.43	1 1/8″	4322K164	10.00	3″	4322K194	46.00
3″	3.579″	0.065″	1/2″	4322K215	10.00	1 1/8″	4322K165	13.11	4″	4322K195	61.00
4″	4.682″	0.083″	5/8″	4322K216	15.73	1 1/8″	4322K166	17.73	4″	4322K196	93.22
6″	6.570″	0.109″	7/8″	4322K217	67.14	1 1/2″	4322K167	82.43	6″	4322K197	222.22
Type 316L Stainless Steel											
1/2″	0.984″	0.065″	1/2″	45195K62	12.88	1 1/8″	45195K72	17.25	1 3/4″	45195K66	26.38
3/4″	0.984″	0.065″	1/2″	45195K64	12.88	1 1/8″	45195K74	17.25	1 3/4″	45195K68	26.38
1″	1.984″	0.065″	1/2″	50485K211	5.00	1 1/8″	50485K161	8.31	3″	50485K191	47.89
1 1/2″	1.984″	0.065″	1/2″	50485K212	5.00	1 1/8″	50485K162	8.55	3″	50485K192	37.78
2″	2.516″	0.065″	1/2″	50485K213	6.22	1 1/8″	50485K163	9.71	3″	50485K193	40.00
2 1/2″	3.047″	0.065″	1/2″	50485K214	11.11	1 1/8″	50485K164	16.42	3″	50485K194	57.80
3″	3.579″	0.065″	1/2″	50485K215	13.09	1 1/8″	50485K165	17.80	4″	50485K195	76.40
4″	4.682″	0.083″	5/8″	50485K216	20.89	1 1/8″	50485K166	25.47	4″	50485K196	116.00
6″	6.570″	0.109″	7/8″	50485K217	78.38	1 1/2″	50485K167	110.28	6″	50485K197	277.78
8″	8.570″	0.109″	15/16″	50485K288	237.78	—	—	—	1 1/2″	50485K291	384.45
10″	10.570″	0.134″	15/16″	50485K289	333.33	—	—	—	1 1/2″	50485K292	566.67



Reducing Straights

For Tube OD Flange End	Butt-Weld End		
Type 304 Stainless Steel			
1″	1/2″	4322K621	$39.68
1″	3/4″	4322K622	39.68
1 1/2″	1″	4322K623	34.57
2″	1″	4322K624	37.02
2″	1 1/2″	4322K625	37.02
2 1/2″	1 1/2″	4322K626	60.96
2 1/2″	2″	4322K627	60.96
3″	2″	4322K628	75.53
3″	2 1/2″	4322K262	79.00
4″	3″	4322K261	110.59
Type 316L Stainless Steel			
1″	1/2″	50485K621	51.91
1″	3/4″	50485K622	51.91
1 1/2″	1″	50485K623	38.62
2″	1″	50485K624	46.06
2″	1 1/2″	50485K625	46.06
2 1/2″	1 1/2″	50485K626	64.15
2 1/2″	2″	50485K627	64.15
3″	2″	50485K628	81.17
3″	2 1/2″	50485K262	86.85
4″	3″	50485K261	120.60



Thick-Wall Straights

For Tube OD	Flange OD	Wall Thick.	Lg.	Butt-Weld OD	Type 304 Stainless Steel		Type 316L Stainless Steel	
1/2″	0.984″	0.130″	1 1/2″	5/8″	4322K188★	$24.53	45195K65★	$32.40
3/4″	0.984″	0.130″	1 1/2″	7/8″	4322K189★	24.53	45195K67★	32.40
1″	1.984″	0.145″	1 5/8″	1 5/32″	4322K181	14.00	50485K181	21.60
1 1/2″	1.984″	0.153″	1 5/8″	1 11/16″	4322K182	13.00	50485K182	21.60
2″	2.516″	0.161″	1 3/4″	2 3/16″	4322K183	16.00	50485K183	27.30
2 1/2″	3.047″	0.169″	1 3/4″	2 11/16″	4322K184	27.80	50485K184	38.11
3″	3.579″	0.177″	1 13/16″	3 7/32″	4322K185	31.30	50485K185	50.25
4″	4.682″	0.211″	2 1/8″	4 1/4″	4322K186	67.90	50485K186	91.62
6″	6.570″	0.205″	2 1/2″	6 3/16″	4322K187	341.81	50485K187	384.36

★ Not 3-A certified for dairy.

Caps—3-A certified for dairy.



For Tube OD	Type 304 Stainless Steel		Type 316L Stainless Steel	
1/2″, 3/4″	—	—	45195K52	$10.38
1″, 1 1/2″	4322K221	$4.82	50485K221	6.03
2″	4322K222	6.16	50485K222	8.32
2 1/2″	4322K223	9.28	50485K223	13.03
3″	4322K224	12.28	50485K224	17.72
4″	4322K225	$24.00	50485K225	$32.59
6″	4322K226	96.54	50485K226	118.83
8″	—	—	50485K293	222.23
10″	—	—	50485K294	611.12

(Continued on following page)

High-Polish Quick-Clamp Sanitary Tube Fittings *(Continued from previous page)*

Quick-Clamp to Threaded Pipe Adapters





For Tube OD	Flange OD	Pipe Size, NPT	Straights, Male Pipe: Type 304 Stainless Steel		Straights, Male Pipe: Type 316L Stainless Steel		Straights, Female Pipe: Type 304 Stainless Steel		Straights, Female Pipe: Type 316L Stainless Steel	
1/2"	0.984"	1/2	4322K417	$42.32	45195K791	$49.87	4322K517	$40.98	45195K793	$59.02
3/4"	0.984"	3/4	4322K418	37.23	45195K792	49.87	4322K518	40.98	45195K794	59.02
1"	1.984"	1	4322K411	53.64	50485K511	65.75	4322K511	53.53	50485K521	65.75
1 1/2"	1.984"	1 1/2	4322K412	55.25	50485K512	68.38	4322K512	55.58	50485K522	68.38
2"	2.516"	2	4322K413	66.02	50485K513	94.62	4322K513	64.80	50485K523	94.62
2 1/2"	3.047"	2 1/2	4322K414	101.44	50485K514	132.05	4322K514	100.75	50485K524	132.05
3"	3.579"	3	4322K415	127.47	50485K515	172.78	4322K515	127.93	50485K525	172.78
4"	4.682"	4	4322K416	173.85	50485K516	258.11	4322K516	173.42	50485K526	258.11





For Tube OD	Flange OD	Pipe Size, NPT	Reducing Straights, Male Pipe: Type 304 Stainless Steel		Reducing Straights, Male Pipe: Type 316L Stainless Steel		Reducing Straights, Female Pipe: Type 304 Stainless Steel		Reducing Straights, Female Pipe: Type 316L Stainless Steel	
1/2"	0.984"	1/4	4322K631	$57.98	50485K631	$60.96	4322K641	$101.81	50485K641	$107.13
3/4"	0.984"	1/2	4322K632	69.11	50485K632	72.66	4322K642	101.81	50485K642	107.13
1"	1.984"	3/4	4322K633	115.30	50485K251	118.70	4322K643	101.81	50485K151	111.55
1 1/2"	1.984"	3/4	4322K634	115.30	50485K252	118.70	4322K644	128.10	50485K152	131.07
2"	2.516"	1	4322K635	102.45	50485K253	118.29	4322K645	167.34	50485K153	187.92
2"	2.516"	1 1/2	4322K636	102.45	50485K254	105.75	4322K646	126.20	50485K154	128.65
3"	3.579"	2	4322K637	192.87	50485K255	197.38	4322K647	258.91	50485K155	263.72

Quick-Clamp to Hose Adapters



For Tube OD	Flange OD	For Hose ID	Type 304 Stainless Steel Straights		Type 316L Stainless Steel Straights	
1/2"	0.984"	1/2"	4322K771	$48.21	50485K771	$55.54
3/4"	0.984"	3/4"	4322K772	48.21	50485K772	55.78
1"	1.984"	1"	4322K773	21.09	50485K773	59.72
1 1/2"	1.984"	1 1/2"	4322K774	23.13	50485K774	59.72
2"	2.516"	2"	4322K775	32.91	50485K775	73.91
2 1/2"	3.047"	2 1/2"	4322K776	40.38	50485K776	96.80
3"	3.579"	3"	4322K777	66.62	50485K777	99.96
4"	4.682"	4"	4322K778	100.75	50485K778	134.67

Quick-Clamp to Grooved-ID Adapters



For Tube OD	Flange OD	Type 304 Stainless Steel Straights		Type 316L Stainless Steel Straights	
1"	1.984"	4322K171	$5.30	50485K171	$12.00
1 1/2"	1.984"	4322K172	5.20	50485K172	8.00
2"	2.516"	4322K173	7.44	50485K173	10.44
2 1/2"	3.047"	4322K174	11.50	50485K174	20.00
3"	3.579"	4322K175	14.31	50485K175	30.20
4"	4.682"	4322K176	19.98	50485K176	71.50

Disposable Plastic Quick-Clamp Sanitary Tube Fittings

- Maximum Pressure: 80 psi @ 72° F
- Temperature Range: 0° to 140° F
- Tubing: Use with silicone

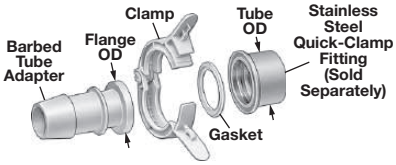

Avoid the hassle of sterilizing your line with these economical, single-use fittings. They have a smooth tube ID to reduce contamination and are for use with water, dairy, and food and beverage. *Clamps* are made of white, glass-filled nylon. They allow you to quickly install and dismantle your line as needed. *Fittings* are made of white PVDF (Kynar). The flanged end connects to any plastic or stainless steel quick-clamp tube fitting.

Note: To complete a connection between two flanged ends, you'll need a clamp and a gasket.

Clamps, Gaskets, and Caps

Clamps: For Tube OD	Clamps: For Flange OD			Gaskets: For Tube OD	Gaskets: For Flange OD			Caps: For Tube OD	Caps: Flange OD		
1/2", 3/4"	0.984"	1001N41	$14.21	3/4"	0.984"	1001N51	$4.34	3/4"	0.984"	1001N31	$11.40
1", 1 1/2"	1.984"	1001N42	15.11	1 1/2"	1.984"	1001N52	4.45				

Quick-Clamp to Barbed Tube Adapters

For Tube OD	Flange OD	For Tube ID			For Tube OD	Flange OD	For Tube ID		
3/4"	0.984"	1/4"	1001N11	$13.04	1 1/2"	1.984"	1/4"	1001N21	$13.93
3/4"	0.984"	3/8"	1001N12	13.04	1 1/2"	1.984"	3/8"	1001N22	14.35
3/4"	0.984"	1/2"	1001N13	14.42	1 1/2"	1.984"	1/2"	1001N23	15.28
3/4"	0.984"	3/4"	1001N14	16.66	1 1/2"	1.984"	3/4"	1001N24	16.29
					1 1/2"	1.984"	1"	1001N25	17.41

Plastic Sanitary Tube Fittings

- Maximum Pressure: 125 psi @ 72° F
- Temperature Range: –40° to 175° F

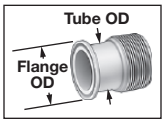

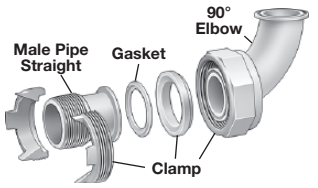

Have no doubts about their purity—not only are these fittings 3-A certified for dairy, they are made of FDA-listed materials. Fittings are white PVDF (Kynar). Position the clamp components around the fittings, then tighten with a spanner wrench (sold below) for a secure connection. Sterilize with steam (autoclaving) and radiation.

Straights have NPT threads.

Note: To complete a connection between two flanged ends, you'll need a clamp and a gasket (sold separately on page 228).

For Tube OD	For Flange OD	Clamps		Spanner Wrenches	
1"	1.984"	5070K51	$28.01	5070K61	$125.33
1 1/2"	1.984"	5070K51	28.01	5070K61	125.33
2"	2.516"	5070K53	31.31	5070K62	125.33

For Tube OD	For Flange OD	90° Elbows		Caps		Straights: Pipe Size	Male Pipe		Female Pipe	
1"	1.984"	5070K91	$109.09	5070K31	$21.42	1	5070K71	$141.11	5070K81	$141.11
1 1/2"	1.984"	5070K92	58.67	5070K31	21.42	1 1/2	5070K72	124.25	5070K82	117.25
2"	2.516"	5070K93	58.67	5070K33	28.43	2	5070K73	232.02	5070K83	238.85

Extra-Support Quick-Clamp Sanitary Tube Fittings

- Maximum Pressure: See clamps below
- Temperature Range: –30° to 200°F
- Tubing: Use with 4466K on page 151

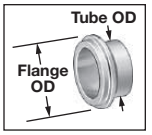

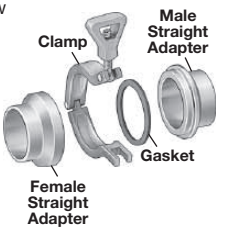

The flanged ends of the male and female adapters interlock to provide extra support. Fittings are also known as I-line fittings. To assemble, butt-weld the adapters to your tubing, then clamp the flanged ends together for a strong, leak-tight seal. Fittings and clamps are made of Type 304 stainless steel. They are 3-A certified for dairy and can also be used with water. Sterilize with steam (autoclaving) and chemicals.

Clamps have a wing nut and tighten by hand.

Butt-weld adapters and **caps** are polished to a 32Ra finish on the ID and OD. *Male caps* connect to female adapters, and *female caps* connect to male adapters.

Note: To complete a connection between two flanged ends, you'll need a clamp and a gasket.

For Tube OD	Clamps: For Flange OD	Clamps: Max. psi @ 72° F			*Quick-Clamp to Butt-Weld Adapters*: Flange OD	Male Straights		Female Straights		Buna-N Gaskets		Caps: Male		Caps: Female	
1″	2″	700	5081K85	$20.63	2″	5081K93	$10.88	5081K97	$10.88	5081K88	$1.13	5081K102	$18.75	5081K106	$18.75
1½″	2″	700	5081K85	20.63	2″	5081K94	10.88	5081K98	10.88	5081K89	1.15	5081K103	18.75	5081K107	18.75
2″	2⅝″	450	5081K86	25.38	2⅝″	5081K95	20.63	5081K99	15.88	5081K91	.93	5081K104	23.75	5081K108	24.75
3″	3⅞″	350	5081K87	33.13	3⅞″	5081K96	36.88	5081K101	36.88	5081K92	2.08	5081K105	49.75	5081K109	53.38

Compact Threaded Sanitary Tube Fittings

- Maximum Pressure: 400 psi @ 72°F
- Temperature Range: With Buna-N Gasket: –30° to 200°F; With PTFE Gasket: –100° to 500°F
- Tubing: Use with 4466K on page 151

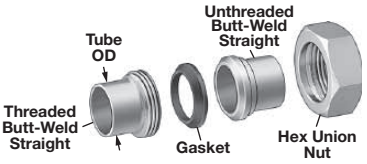

You'll notice these fittings don't have a clamp—they join with a threaded nut for a low-profile connection that's great for tight spaces. Also known as bevel seat fittings, the slanted butt-weld straights fit snugly around the gasket, creating a sturdy, vibration-resistant seal. Fittings are made of Type 304 stainless steel. They are 3-A certified for dairy and are polished to a 20-30Ra finish on the ID and a 25-35Ra finish on the OD. Fittings can also be used with air and water. Sterilize with chemicals.

Threaded butt-weld straights and **hex union nuts** have Acme standard threads.

Note: For a complete connection, you'll need a threaded butt-weld straight, an unthreaded butt-weld straight, a gasket, and a hex union nut.

For Tube OD	Threaded Butt-Weld Straights		Unthreaded Butt-Weld Straights		Buna-N Gaskets		PTFE Gaskets		Hex Union Nuts		Caps	
1″	44575K421	$13.58	44575K211	$10.14	4524K47	$1.20	4522K31	$1.52	44575K111	$9.16	44575K311	$5.26
1½″	44575K422	19.14	44575K212	11.60	4524K48	.85	4522K32	1.84	44575K112	13.49	44575K312	8.59
2″	44575K423	21.83	44575K213	12.64	4524K49	1.05	4522K33	2.08	44575K113	16.51	44575K313	12.01
2½″	44575K424	32.72	44575K214	20.37	4524K51	1.92	4522K34	3.12	44575K114	23.29	44575K314	17.03
3″	44575K425	43.05	44575K215	25.80	4524K52	2.38	4522K35	3.92	44575K115	30.09	44575K315	23.92
4″	44575K426	63.78	44575K216	44.70	4524K53	3.42	4522K36	7.72	44575K116	47.04	44575K316	44.70

Polished and Unpolished Butt-Weld Tube Fittings

- Maximum Pressure: See below
- Temperature Range: –65° to 250°F, except long elbows are 35° to 250°F
- Tubing: Use with seamless or welded stainless steel (see pages 148-152)

Weld these fittings to tubing for a flush connection that permits smooth flow through your line. Vacuum rating is 1×10^{-6} torr (10^{-6} mm Hg) @ 72°F, except long elbows are not rated. Sterilize with steam (autoclaving) and chemicals.

Polished Fittings—3-A certified for use in dairy applications, except caps are not certified. *Type 304L stainless steel fittings* have a 32Ra finish on the ID and OD. *Type 316L stainless steel fittings* have a finer 25Ra finish on the ID, except the long elbows have a 32Ra finish.

Unpolished Fittings—Use with water and air.

Centered reducing straights allow you to connect one tube to another smaller diameter tube and have the centers align. They are also known as concentric reducers.

Off-center reducing straights allow you to connect one tube to another smaller diameter tube and have the centers offset. Also known as eccentric reducers, they allow your line to self drain.

To Order Please specify Type 304L stainless steel or Type 316L stainless steel, except all ½″ and ¾″ sizes and long elbows are Type 316L stainless steel. The prices shown are for Type 304L stainless steel; the prices for Type 316L stainless steel are approximately 25% higher.







For Tube OD	Wall Thick.	Max. psi @ 72°F	90° Short Elbows (C)			90° Elbows (C)			Max. psi @ 72°F	90° Long Elbows (C)		
Polished												
½″	0.065″	1,200	¾″	5237K412	$27.58	3″	5237K416	$53.04	300	12″	5237K622	$276.00
¾″	0.065″	1,000	1⅛″	5237K413	27.58	3″	5237K417	53.04	300	12″	5237K623	276.00
1″	0.065″	600	1½″	44655K111	18.80	2¹⁄₁₆″	44655K311	21.60	300	12″	5237K624	276.00
1½″	0.065″	600	2¼″	44655K112	19.80	2¹⁵⁄₁₆″	44655K312	23.80	300	12″	5237K625	296.00
2″	0.065″	550	3″	44655K113	23.50	4¹⁄₁₆″	44655K313	29.10	275	12″	5237K626	294.00
2½″	0.065″	450	3¾″	44655K114	37.02	5³⁄₁₆″	44655K314	43.80	225	18″	5237K627	388.00
3″	0.065″	350	4½″	44655K115	44.70	6⁵⁄₁₆″	44655K315	56.10	175	18″	5237K628	460.00
4″	0.083″	250	6″	44655K116	88.04	8⁵⁄₁₆″	44655K316	108.30	125	18″	5237K629	621.00
6″	0.109″	125	9″	44655K117	376.30	12″	44655K317	461.30	60	24″	5237K632	1,540.00
Unpolished												
½″	0.065″	1,200	¾″	5237K414	15.60	3″	5237K418	29.70	300	12″	5237K633	250.91
¾″	0.065″	1,000	1⅛″	5237K415	15.60	3″	5237K419	29.70	300	12″	5237K634	250.91
1″	0.065″	600	1½″	44675K611	9.20	2¹⁄₁₆″	44675K621	11.80	300	12″	5237K635	250.91
1½″	0.065″	600	2¼″	44675K612	10.20	2¹⁵⁄₁₆″	44675K622	12.76	300	12″	5237K636	269.09
2″	0.065″	550	3″	44675K613	14.36	4¹⁄₁₆″	44675K623	17.80	275	12″	5237K637	267.27
2½″	0.065″	450	3¾″	44675K614	22.96	5³⁄₁₆″	44675K624	31.20	225	18″	5237K638	352.73
3″	0.065″	350	4½″	44675K615	28.06	6⁵⁄₁₆″	44675K625	42.50	175	18″	5237K639	418.18
4″	0.083″	250	6″	44675K616	56.50	8⁵⁄₁₆″	44675K626	84.00	125	18″	5237K642	564.55
6″	0.109″	125	9″	44675K617	206.00	12″	44675K627	322.46	60	24″	5237K643	1,423.73

(Continued on following page)

Polished and Unpolished Butt-Weld Tube Fittings *(Continued from previous page)*






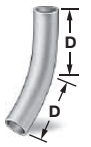

For Tube OD	Wall Thick.	Max. psi @ 72°F	90° Tees		45° Short Elbows (D)		45° Elbows (D)		Max. psi @ 72°F	45° Long Elbows (D)	
Polished											
1/2"	0.065"	1,200	5237K432	$60.32	5/16"	5237K422	$27.56	2 1/4"	5237K426	$48.80	300	4 15/16"	5237K644	$179.40
3/4"	0.065"	1,000	5237K433	60.32	15/32"	5237K423	27.56	2 1/4"	5237K427	48.80	300	4 15/16"	5237K645	179.40
1"	0.065"	600	44655K611	27.70	5/8"	44655K411	15.80	1 3/16"	44655K511	24.00	300	4 15/16"	5237K646	179.40
1 1/2"	0.065"	600	44655K612	27.70	15/16"	44655K412	17.10	1 5/8"	44655K512	23.42	300	4 15/16"	5237K647	192.40
2"	0.065"	550	44655K613	36.10	1 1/4"	44655K413	19.36	2 5/16"	44655K513	24.42	275	4 15/16"	5237K648	191.10
2 1/2"	0.065"	450	44655K614	47.22	1 9/16"	44655K414	27.62	3"	44655K514	31.92	225	7 7/16"	5237K649	252.20
3"	0.065"	350	44655K615	58.30	1 7/8"	44655K415	31.60	3 11/16"	44655K515	43.80	175	7 7/16"	5237K652	299.00
4"	0.083"	250	44655K616	114.06	2 1/2"	44655K416	53.86	4 13/16"	44655K516	72.02	125	7 7/16"	5237K653	403.65
6"	0.109"	125	44655K617	550.30	3 3/4"	44655K417	321.30	6 3/4"	44655K517	361.30	60	9 15/16"	5237K654	992.55
Unpolished														
1/2"	0.065"	1,200	5237K434	33.95	5/16"	5237K424	18.72	2 1/4"	5237K428	27.04	300	4 15/16"	5237K655	163.09
3/4"	0.065"	1,000	5237K435	33.95	15/32"	5237K425	18.72	2 1/4"	5237K429	27.04	300	4 15/16"	5237K656	163.09
1"	0.065"	600	44675K651	18.26	5/8"	44675K631	11.36	1 3/16"	44675K641	13.26	300	4 15/16"	5237K657	163.09
1 1/2"	0.065"	600	44675K652	19.60	15/16"	44675K632	12.50	1 5/8"	44675K642	14.08	300	4 15/16"	5237K658	174.91
2"	0.065"	550	44675K653	22.20	1 1/4"	44675K633	14.30	2 5/16"	44675K643	17.24	275	4 15/16"	5237K662	173.73
2 1/2"	0.065"	450	44675K654	33.64	1 9/16"	44675K634	20.20	3"	44675K644	29.60	225	7 7/16"	5237K663	229.27
3"	0.065"	350	44675K655	41.74	1 7/8"	44675K635	20.86	3 11/16"	44675K645	38.36	175	7 7/16"	5237K664	271.82
4"	0.083"	250	44675K656	76.56	2 1/2"	44675K636	39.50	4 13/16"	44675K646	64.80	125	7 7/16"	5237K665	366.95
6"	0.109"	125	44675K657	280.00	3 3/4"	44675K637	144.00	6 3/4"	44675K647	260.00	60	9 15/16"	5237K666	908.33




For Tube OD	Wall Thick.	Max. psi @ 72°F	45° Tees		Caps	
Polished						
1/2"	0.065"	1,200	5237K452	$206.86	5237K436	$36.07
3/4"	0.065"	1,000	5237K453	206.86	5237K437	36.07
1"	0.065"	600	44655K141	199.74	44655K711	32.94
1 1/2"	0.065"	600	44655K142	206.86	44655K712	34.46
2"	0.065"	550	44655K143	265.20	44655K713	36.50
2 1/2"	0.065"	450	44655K144	371.28	44655K714	44.06
3"	0.065"	350	44655K145	371.28	44655K715	47.72
4"	0.083"	250	44655K146	434.93	44655K716	54.58
6"	0.109"	125	44655K147	1,165.84	5237K99★	241.50
Unpolished						
1/2"	0.065"	1,200	5237K463	164.42	5237K438	15.91
3/4"	0.065"	1,000	5237K464	164.42	5237K439	15.91
1"	0.065"	600	44675K811	108.51	44675K661	15.40
1 1/2"	0.065"	600	44675K812	145.01	44675K662	15.30
2"	0.065"	550	44675K813	190.84	44675K663	16.74
2 1/2"	0.065"	450	44675K814	250.45	44675K664	20.80
3"	0.065"	350	44675K815	265.20	44675K665	22.20
4"	0.083"	250	44675K816	293.74	44675K666	26.48
6"	0.109"	125	44675K817	1,005.68	44675K667	93.76

★Available in Type 316L stainless steel only.





Reducing Straights

For Tube OD (A)	For Tube OD (B)	Wall Thick.	Max. psi @ 72°F	Centered		Off-Center	
Polished							
1"	1/2"	0.065"	600	5237K442	$74.88	5237K446	$86.99
1"	3/4"	0.065"	600	5237K443	68.95	5237K447	86.99
1 1/2"	1"	0.065"	600	44655K811	24.26	44655K911	44.10
2"	1 1/2"	0.065"	550	44655K812	25.60	44655K912	44.10
2 1/2"	1 1/2"	0.065"	450	44655K813	37.02	44655K913	87.00
2 1/2"	2"	0.065"	450	44655K814	30.60	44655K914	49.74
3"	1 1/2"	0.065"	350	44655K815	69.36	44655K915	102.50
3"	2"	0.065"	350	44655K816	39.98	44655K916	66.50
3"	2 1/2"	0.065"	350	44655K817	39.98	44655K917	63.30
4"	3"	0.083"	250	44655K818♣	60.20	44655K918♣	76.30
6"	4"	0.109"	125	44655K819■	276.30	44655K919■	431.30
Unpolished							
1"	1/2"	0.065"	600	5237K444	32.35	5237K448	40.31
1"	3/4"	0.065"	600	5237K445	30.66	5237K449	51.45
1 1/2"	1"	0.065"	600	44675K671	11.50	44675K682	25.90
2"	1"	0.065"	550	44675K672	36.22	44675K683	66.00
2"	1 1/2"	0.065"	550	44675K673	12.24	44675K684	24.88
2 1/2"	1 1/2"	0.065"	450	44675K674	36.52	44675K685	60.92
2 1/2"	2"	0.065"	450	44675K675	14.20	44675K686	26.00
3"	1 1/2"	0.065"	350	44675K676	42.80	44675K687	75.32
3"	2"	0.065"	350	44675K677	19.80	44675K688	34.00
3"	2 1/2"	0.065"	350	44675K678	19.00	44675K689	47.80
4"	3"	0.083"	250	44675K679♣	27.50	44675K691♣	48.20
6"	4"	0.109"	125	44675K681■	170.00	44675K692■	260.00

♣ 3" end has 0.065" wall thickness. ■ 4" end has 0.083" wall thickness.

Reducing Tees

For Tube OD (A)	For Tube OD (B)	Wall Thick.	Max. psi @ 72°F		
Polished					
1 1/2"	1"	0.065"	600	44655K121	$34.30
2"	1"	0.065"	550	44655K122	53.30
2"	1 1/2"	0.065"	550	44655K123	53.30
3"	2"	0.065"	350	44655K124	70.80

For Tube OD (A)	For Tube OD (B)	Wall Thick.	Max. psi @ 72°F		
Unpolished					
1 1/2"	1"	0.065"	600	44675K693	$25.00
2"	1"	0.065"	550	44675K694	37.40
2"	1 1/2"	0.065"	550	44675K695	37.40
3"	2"	0.065"	350	44675K696	49.74

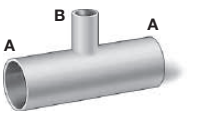

Additional Stainless Steel Tube Fittings—Specify Type 304 or Type 316 stainless steel, except 1/2" and 3/4" sizes and 44655K187 are Type 316.

	Choose Tube OD × Pipe Size	Polished
Butt-Weld Tube to Butt-Weld Pipe Adapters		
Straights	1/2"×1/2, 3/4"×3/4, 1"×1, 1 1/2"×1 1/2, 2"×2, 2 1/2"×2 1/2, 3"×3, 4"×4	44655K187
Butt-Weld Tube to Threaded NPT Pipe Adapters		
Straights, Male	1"×1, 1 1/2"×1 1/2, 2"×2, 2 1/2"×2 1/2, 3"×3, 4"×4	44655K167
Straights, Female	1"×1, 1 1/2"×1 1/2, 2"×2, 2 1/2"×2 1/2, 3"×3, 4"×4	44655K177

	Choose Tube OD	Polished	Unpolished
Butt-Weld Tube to Butt-Weld Tube Connectors			
Crosses	1/2", 3/4", 1", 1 1/2", 2", 2 1/2", 3", 4", 6"	44655K158	44675K821

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

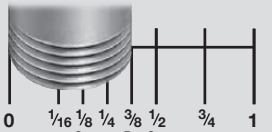

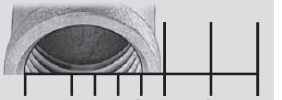

Extra-High-Polish Quick-Clamp Tube Fittings

- Maximum Pressure: 725 psi @ 72° F
- Temperature Range: See gaskets on page 228
- Tubing: Use with 3334K on page 151

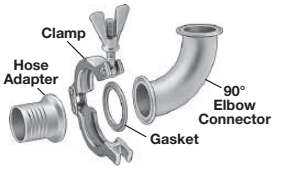

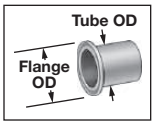

Polished to a mirror finish, these fittings have an extra-smooth surface that won't promote bacteria growth. They meet ASME BPE (Bioprocessing Equipment Standard) requirements, except clamps and adapters do not. Use with air, water, deionized water, and hydraulic oil. Fittings are polished to a 20Ra finish on the ID and a 30Ra finish on the OD. They are made of Type 316L stainless steel. Sterilize with steam (autoclaving) and chemicals.

Clamps tighten or loosen by hand for quick access to your line.

Quick-clamp to butt-weld tube adapters are also known as ferrules. Weld the butt-weld end to your tubing.

Quick-clamp to hose adapters connect flexible hose or tubing to your system. Secure with a hose clamp (sold separately on pages 302-308).

Note: To complete a connection between two flanged ends, you'll need a clamp and a gasket (sold separately on page 228).

For information on how to measure Quick-Clamp Tube Fittings, go to mcmaster.com and search for **4322KAC**.

Clamps



For Tube OD	For Flange OD		
1/2", 3/4"	0.984"	4759K61	$16.32
1", 1 1/2"	1.984"	4759K62	20.01
2"	2.516"	4759K63	24.93

Quick-Clamp to Butt-Weld Tube Adapters



Straights

For Tube OD	Flange OD		
1/2"	0.984"	4746K51	$21.11
3/4"	0.984"	4746K52	23.84
1"	1.984"	4746K53	22.89
1 1/2"	1.984"	4746K54	24.44
2"	2.516"	4746K55	36.56

Quick-Clamp to Quick-Clamp Tube Connectors





For Tube OD	Flange OD	90° Elbows		45° Elbows		Tees	
1/2"	0.984"	4759K11	$80.00	4759K16	$61.83	4759K31	$133.27
3/4"	0.984"	4759K12	80.00	4759K17	67.73	4759K32	133.27
1"	1.984"	4759K13	67.98	4759K18	67.73	4759K33	114.75
1 1/2"	1.984"	4759K14	67.98	4759K19	67.73	4759K34	114.75
2"	2.516"	4759K15	86.14	4759K26	70.60	4759K35	123.27



Reducing Straights

For Tube OD (A)	(B)		
1"	1/2"	4759K102	$125.00
1"	3/4"	4759K103	108.00
1 1/2"	3/4"	4759K105	136.25
1 1/2"	1"	4759K106	125.00
2"	1 1/2"	4759K111	133.00

Quick-Clamp to Threaded Pipe Adapters




For Tube OD	Flange OD	Pipe Size, NPT	Straights, Male Pipe		Straights, Female Pipe	
1/2"	0.984"	1/2	4759K64	$86.15	4759K84	$136.96
1/2"	0.984"	3/4	4759K65	89.13	4759K85	135.13
3/4"	0.984"	1/2	4759K69	101.34	4759K89	136.96
3/4"	0.984"	3/4	4759K71	89.13	4759K91	137.85
1"	1.984"	1	4759K72	135.13	4759K92	142.56
1 1/2"	1.984"	1 1/2	4759K73	135.13	4759K93	142.56
2"	2.516"	2	4759K74	153.00	4759K94	161.57

Quick-Clamp to Hose Adapters and Caps



Straights

For Tube OD	Flange OD	For Hose ID		
1/2"	0.984"	1/2"	4759K51	$59.17
3/4"	0.984"	3/4"	4759K52	60.72
1"	1.984"	1"	4759K53	65.26
1 1/2"	1.984"	1 1/2"	4759K54	65.26
2"	2.516"	2"	4759K55	110.22



Caps

For Tube OD	Flange OD		
1/2"	0.984"	4759K41	$11.34
3/4"	0.984"	4759K41	11.34
1"	1.984"	4759K43	11.82
1 1/2"	1.984"	4759K43	11.82
2"	2.516"	4759K45	15.50

Butt-Weld to Butt-Weld Tube Connectors



Reducing Straights

For Tube OD (A)	(B)		
3/4"	1/2"	4746K21	$59.33
1"	3/4"	4746K22	59.33
1 1/2"	1"	4746K23	76.88
2"	1 1/2"	4746K24	76.88




For Tube OD	90° Elbows		Tees	
1/2"	4746K11	$43.33	4746K31	$67.78
3/4"	4746K12	43.33	4746K32	67.78
1"	4746K13	37.78	4746K33	62.22
1 1/2"	4746K14	37.78	4746K34	62.22
2"	4746K15	45.56	4746K35	71.11

Ultra-High-Polish Tube Fittings

- Maximum Pressure: See below
- Temperature Range: -425° to 1000°F
- Tubing: Use with Type 316L stainless steel
- Vacuum Rating: 10^{-11} torr @ 72°F

These fittings are polished to a smooth 15Ra finish on the interior to prevent particle buildup. Also known as ultra-high-purity fittings, they are often used in semiconductor applications. Use with argon, helium, and nitrogen. Fittings are comparable to Swagelok® VCR fittings. They use a metal gasket, which creates a strong seal in high-pressure and extreme-vacuum applications. Fittings are 316 stainless steel for excellent corrosion resistance.

Note: For a complete connection, you'll need two adapters, a gasket, and a nut (all sold separately).

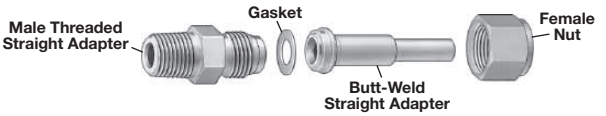


Shown Assembled

Threaded Pipe Adapters

For Tube OD	Pipe Size, NPT	Max. psi @ 72°F	Straights, Male Pipe		Straights, Female Pipe	
1/4"	1/4	6,600	9066N11	$48.56	9066N13	$77.72
1/2"	1/2	3,500	9066N12	108.38	9066N14	93.04

Butt-Weld Adapters

For Tube OD	Max. psi @ 72°F	Straights Lg.	Straights		Long Straights Lg.	Long Straights	
1/4"	5,100	5/8"	9066N16	$31.02	1 1/4"	9066N18	$32.92
1/2"	3,500	1 1/8"	9066N17	67.20			

Yor-Lok Adapters

For Tube OD	Max. psi @ 72°F	Straights	
1/4"	8,000	9066N21	$93.22
1/2"	3,500	9066N22	130.70

For Tube OD	Male Nuts		Female Nuts		Caps for Male Nuts		Plugs for Female Nuts		Gaskets	
1/4"	9066N23	$10.72	9066N25	$13.52	9066N27	$37.70	9066N29	$28.04	9066N32	$3.72
1/2"	9066N24	18.98	9066N26	22.66	9066N28	58.36	9066N31	59.24	9066N33	3.90

Vibration-Resistant Ultra-High-Polish Tube Fittings

- Maximum Pressure: See below
- Temperature Range: -420° to 1000°F
- Tubing: Use with Type 316L stainless steel
- Vacuum Rating: 10^{-11} torr @ 72°F

Fittings have two anti-torque rings that compress the gasket to prevent rotation and reduce particle generation in high-vibration applications. Also known as ultra-high-purity fittings, they are polished to a 7Ra finish on the interior—the smoothest surface finish we offer. They are often used in semiconductor applications. Use with argon, helium, and nitrogen. Fittings are 316 stainless steel for excellent corrosion resistance.

Fittings include a male nut, two anti-torque rings, two butt-weld straight connectors, a gasket, and a female nut. The gasket is metal, which creates a strong seal in high-pressure and extreme-vacuum applications.

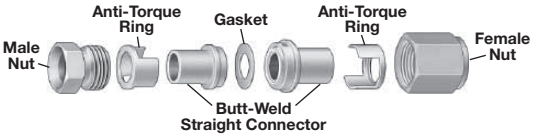


Shown Assembled

For Tube OD	Max. psi @ 72°F	Overall Lg.		
1/4"	4,000	1 13/16"	9066N81	$70.50
1/4"	4,000	2 13/16"	9066N82	68.68
3/8"	2,700	2 5/8"	9066N83	90.08
1/2"	2,800	2 15/16"	9066N84	128.33

Socket-Weld Tube Fittings

- Maximum Pressure: 4,300 psi @ 72°F, except medium-pressure fittings are 1,500 psi @ 65°F
- Temperature Range: -425° to 1200°F, except medium-pressure fittings are not rated
- Tubing: Use with seamless or welded Types 304 and 316 stainless steel that meets ASTM A269

Socket-weld fittings are easier to weld than butt-weld fittings because they don't need to align perfectly to your tubing. Insert the tubing into the socket end and weld to create a strong, leak-tight connection. Fittings are machined from forged or bar stock Type 316L stainless steel to withstand extreme temperatures and pressures. Use with air, water, and hydraulic oil.

Other Socket-Weld Tube Fittings: We offer medium-pressure socket-weld tube fittings with thin walls. They are made from Type 316L stainless steel tubing. Please ask for 4048K91 and specify shape (straight, 90° elbow, tee, or 180° bend) and tube OD (1/4", 3/8", 1/2", 3/4", or 1").

Socket to Threaded Pipe Adapters





For Tube OD	Pipe Size, NPT	Straights, Male Pipe		Straights, Female Pipe		90° Elbows, Female Pipe	
1/4"	1/8	51255K231	$10.05	51255K301	$11.19	51255K311	$21.19
1/4"	1/4	51255K232	8.24	51255K302	15.18	51255K312	24.68
3/8"	1/4	51255K233	10.76	51255K303	14.78	51255K313	29.13
3/8"	3/8	51255K234	10.76	51255K304	20.36	51255K314	32.95
3/8"	1/2	51255K235	16.47	51255K321	63.24	51255K324	59.21
1/2"	3/8	51255K236	14.34	51255K305	19.00	51255K315	33.87
1/2"	1/2	51255K237	15.81	51255K306	26.17	51255K316	38.26
3/4"	3/4	51255K239	25.71	51255K308	37.57	51255K318	86.23
1"	1	51255K241	42.35	51255K322	88.93	51255K325	205.35

Socket to Socket Connectors





For Tube OD	Straights		90° Elbows		Tees	
1/4"	51255K201	$7.61	51255K211	$16.24	51255K221	$23.42
3/8"	51255K202	7.80	51255K212	21.09	51255K222	28.27
1/2"	51255K203	11.20	51255K213	27.63	51255K223	41.15
3/4"	51255K205	23.12	51255K215	57.96	51255K225	79.12
1"	51255K206	35.44	51255K216	101.71	51255K226	142.43

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

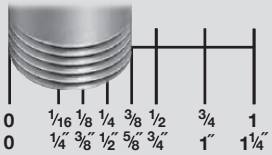

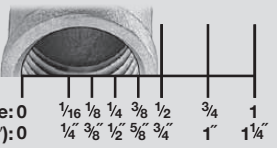

Ultra-High-Vacuum Tube Fittings

- Vacuum Rating @ 72° F: 10^{-7} torr
- Temperature Range: 0° to 300° F, except valves are 0° to 195° F
- Tubing: Use with Types 304, 304L, 316, and 316L stainless steel

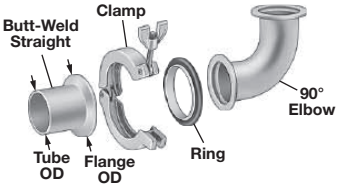

Instead of a regular gasket, these fittings have a special center ring that creates an extra-strong seal for industrial vacuum applications. Use in vacuum coating and packaging, leak testing, and analyzing gases. Fittings are also known as KF, QF, and NW fittings. They are made of Type 304 stainless steel, except the clamps and the flange-end to hose adapters are aluminum. Fittings with flanged ends meet ISO 2861. Sterilize with steam (autoclaving).

Rings have a stainless steel centering ring covered by a fluoroelastomer O-ring. *Rings with screen* have a stainless steel screen to filter out large particles. *Pressure-rated rings* have an aluminum outer ring to withstand extra pressure.

Flange-end to threaded pipe adapters have NPT threads. They require PTFE tape (see page 3470) for sealing the threaded ends.

Flange-end to hose adapters secure with a hose clamp (see pages 302-310).

Shut-off valves are also known as vacuum isolation valves. They connect to your vacuum system so you can install gauges, release gases, and remove air. Valves operate manually. They have a compact body that fits easily into tight spaces.

Note: To complete a connection between two flanged ends, you'll need a clamp and a ring.

Clamps





For Tube OD	For Flange OD	Trade No.	Wing Nut		Spring Loaded	
1/2", 3/4"	1.18"	10, 16	4518K711	$8.12	4518K75	$18.50
1"	1.57"	25	4518K72	11.00	4518K76	21.50
1 1/2"	2.16"	40	4518K73	12.38	4518K77	23.12
2"	2.95"	50	4518K74	20.88	4518K78	26.12

Rings







For Tube OD	For Flange OD	Trade No.	Rings		Rings with Screen		Pressure-Rated Rings Max. psi @ 72° F		
1/2"	1.18"	10	4518K813	$7.17					
3/4"	1.18"	16	4518K621	7.24	4518K815	$30.86			
1"	1.57"	25	4518K63	8.19	4518K816	35.11	100	4518K67	$22.34
1 1/2"	2.16"	40	4518K64	12.45	4518K817	45.11	75	4518K68	23.09
2"	2.95"	50	4518K65	16.17	4518K818	44.89	50	4518K69	28.40

Flange-End to Flange-End Tube Connectors









For Tube OD	Flange OD	Trade No.	Straights Lg.		Long Straights Lg.		90° Elbows		45° Elbows	
3/4"	1.18"	16	3 1/8"	4518K871	$48.15	12 1/2"	4518K872	$56.52	4518K111	$52.25	4518K151	$79.04
1"	1.57"	25	3 7/8"	4518K873	58.70	12 1/2"	4518K874	63.37	4518K12	58.94	4518K16	69.68
1 1/2"	2.16"	40	5 1/8"	4518K875	68.59	12 1/2"	4518K876	81.41	4518K13	82.23	4518K17	108.30
2"	2.95"	50	5 1/2"	4518K877	82.72	12 1/2"	4518K878	94.02	4518K14	104.57	4518K18	116.17





For Tube OD	Flange OD	Trade No.	Tees		Crosses	
3/4"	1.18"	16	4518K191	$77.02	4518K241	$124.89
1"	1.57"	25	4518K21	101.28	4518K25	144.68
1 1/2"	2.16"	40	4518K22	110.64	4518K26	176.38
2"	2.95"	50	4518K23	150.11	4518K27	235.64



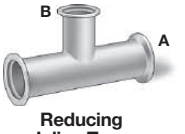

For Tube OD (A)	(B)	Flange OD (A)	(B)	Trade No. (A)	(B)	Reducing Straights		Reducing Inline Tees	
1"	3/4"	1.57"	1.18"	25	16	4518K281	$48.51	4518K521	$142.39
1 1/2"	3/4"	2.16"	1.18"	40	16	4518K291	54.47	4518K522	156.52
1 1/2"	1"	2.16"	1.57"	40	25	4518K32	52.87	4518K523	177.39
2"	3/4"	2.95"	1.18"	50	16	4518K311	60.96		
2"	1"	2.95"	1.57"	50	25	4518K33	56.91	4518K524	208.70
2"	1 1/2"	2.95"	2.16"	50	40	4518K34	61.49	4518K525	226.09



Rigid Hose

For Tube OD	Flange OD	Trade No.	Lg.		
3/4"	1.18"	16	3 3/16"	4518K91	$74.47
1"	1.57"	25	4 3/16"	4518K92	90.43
1 1/2"	2.16"	40	4 3/16"	4518K93	104.26
2"	2.95"	50	4 3/16"	4518K94	117.02



Flexible Hose

For Tube OD	Flange OD	Trade No.	Bend Radius		12"	24"	39"
3/4"	1.18"	16	1 5/8"	4518K95	$140.00	$184.78	$294.46
1"	1.57"	25	1 3/8"	4518K96	140.00	209.35	336.96
1 1/2"	2.16"	40	2 1/2"	4518K97	197.07	247.39	350.43
2"	2.95"	50	3 1/4"	4518K98	222.83	263.15	502.72

(Continued on following page)

Ultra-High-Vacuum Tube Fittings *(Continued from previous page)*

Flange-End to Butt-Weld Tube Adapters




For Tube OD	Flange OD	Trade No.	Butt-Weld Straights Lg.			Long Butt-Weld Straights Lg.		
1/2"	1.18"	10	1/2"	4518K811	$11.20	1 9/16"	4518K812	$17.50
3/4"	1.18"	16	1/2"	4518K81	10.96	1 9/16"	4518K82	17.13
1"	1.57"	25	1/2"	4518K36	12.87	1 9/16"	4518K41	19.68
1 1/2"	2.16"	40	3/4"	4518K37	16.70	1 9/16"	4518K42	22.23
2"	2.95"	50	3/4"	4518K38	24.26	1 9/16"	4518K43	34.57

Flange-End to Socket-Weld Tube Adapters



For Tube OD	Flange OD	Trade No.	Straights	
3/4"	1.18"	16	4518K512	$11.15
1"	1.57"	25	4518K513	11.74
1 1/2"	2.16"	40	4518K514	15.43
2"	2.95"	50	4518K515	25.00

Flange-End to Threaded Pipe Adapters




For Tube OD	Flange OD	Trade No.	Pipe Size	Straights, Male Pipe		Straights, Female Pipe	
1/2"	1.18"	10	1/4			4518K814	$22.39
3/4"	1.18"	16	1/8	4518K863	$57.07	4518K861	21.31
3/4"	1.18"	16	1/4	4518K441	59.26	4518K481	21.91
1"	1.57"	25	1/8	4518K864	58.80	4518K862	25.44
1"	1.57"	25	1/4	4518K45	63.40	4518K49	27.23
1"	1.57"	25	3/4	4518K866	97.83		
1 1/2"	2.16"	40	1/4	4518K46	63.40	4518K51	36.70
2"	2.95"	50	1/4	4518K47	70.85	4518K52	48.09

Caps



For Tube OD	Flange OD	Trade No.		
3/4"	1.18"	16	4518K571	$9.05
1"	1.57"	25	4518K58	10.32
1 1/2"	2.16"	40	4518K59	16.06
2"	2.95"	50	4518K61	19.68

Flange-End to Hose Adapters



For Tube OD	Flange OD	Trade No.	For Hose ID	Straights	
3/4"	1.18"	16	1/2"	4518K821	$15.22
3/4"	1.18"	16	3/4"	4518K831	14.89
1"	1.57"	25	7/8"	4518K84	17.45
1 1/2"	2.16"	40	1 5/8"	4518K85	23.62
2"	2.95"	50	1 5/8"	4518K86	26.06

Shut-Off Valves

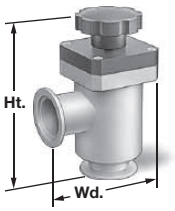

For Tube OD	Flange OD	Trade No.	Ht.	Wd.		
1/2"	1.18"	10	4 1/8"	2 1/4"	4518K891	$564.13
3/4"	1.18"	16	4 1/8"	2 1/4"	4518K892	564.13
1"	1.57"	25	5 5/8"	3"	4518K893	534.78
1 1/2"	2.16"	40	6 3/8"	3 7/8"	4518K894	572.28
2"	2.95"	50	8"	4 1/2"	4518K895	797.74

Ultra-High-Vacuum Tube Flanges

- Vacuum Rating @ 72° F: Flanges: 10^{-13} torr Gaskets: Not rated
- Temperature Range: Flanges: –300° to 800° F Gaskets: Not rated
- Tubing: Use with seamless Types 304, 304L, 316, and 316L stainless steel

Weld these flanges to tubing to achieve an extra-strong seal, or bolt two same-size flanges together with a gasket to gain easy access to your line. Also known as CF, Conflat, and UHV flanges, these are used in applications such as vacuum coating, drying, and analyzing gases. Flanges are polished Type 304 stainless steel. They meet ASTM A240, E45, and E12.

Easy-align flanges have a rotating outer ring so you can easily match up the bolt holes with another flange. **Caps** are also known as blind flanges; they are solid and close off the end of your tubing. **Gaskets** are made of OFE (oxygen-free, electronic-grade) copper. They meet ASTM F68-77 and B152-179.






OD	For Tube OD	Bolt Circle Dia.	No. of Bolt Holes	Socket-Weld ID			Butt-Weld ID			Easy Align, Socket-Weld ID			Easy Align, Butt-Weld ID		
1.33"	3/4"	1 1/16"	6				0.63"	9088K12	$20.91				0.63"	9088K13	$22.91
2 3/4"	1 1/2"	2 5/16"	6	1.44"	9088K15	$24.55				1.44"	9088K16	$35.45			
4 1/2"	2 1/2"	3 5/8"	8	2.44"	9088K18	89.09				2.44"	9088K19	107.27			
6"	4"	5 1/8"	16	3.91"	9088K22	134.55				3.91"	9088K23	158.18			



Caps

OD	For Tube OD	Bolt Circle Dia.	No. of Bolt Holes		
1.33"	3/4"	1 1/16"	6	9088K11	$20.91
2 3/4"	1 1/2"	2 5/16"	6	9088K14	24.55
4 1/2"	2 1/2"	3 5/8"	8	9088K17	89.09
6"	4"	5 1/8"	16	9088K21	134.55



Gaskets

For Flange OD		
1.33"	9088K51	$2.28
2 3/4"	9088K52	3.08
4 1/2"	9088K53	5.28
6"	9088K54	7.78

Vacuum, Plastic & Copper Tube Fittings

For technical drawings and 3-D models, go to mcmaster.com.

For information about selecting pipe size, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

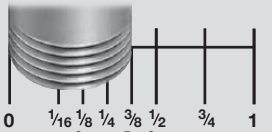

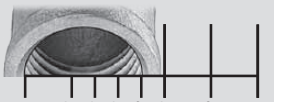

Vacuum Tube Fittings

- Maximum Pressure: 15 psi @ 72° F
- Vacuum Rating: 15" Hg @ 72° F
- Temperature Range: –10° to 180° F
- Tubing: Use with 3094K steel or 4935K galvanized steel (see page 161)

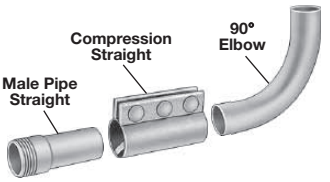

Use these fittings in your air vacuum system to avoid the hassle of brazing and welding. Insert two connectors or adapters into the compression straight and tighten the bolts to form a secure seal.

Compression straights are galvanized steel. They come with a neoprene gasket and a stainless steel gasket protector.

Capped straights are cast zinc with a zinc-plated steel lid. Lift the lid and insert your tubing to create a temporary connection.

Elbows, wyes, reducing straights, and the **male** and **female pipe adapters** come in your choice of steel or corrosion-resistant galvanized steel. Wall thickness is 0.065" (16 gauge). **To Order:** Please specify steel or galvanized steel. The prices below are for galvanized steel; prices for steel are approximately 20% lower.

Threaded Connections: NPT threads.

Tube-to-Tube Connectors







For Tube OD	90° Elbows		45° Elbows		90° Wyes		45° Wyes		Compression Straights	
2 1/8"	4935K212	$12.08	4935K241	$10.50	4935K258	$23.62	4935K274	$21.42	4487K54	$21.67
2 1/2"	4935K228	16.92	4935K242	15.48	4935K259	30.74	4935K275	28.40	4487K46	22.62
3"	4935K229	22.74	4935K244	18.66	4935K268	40.56	4935K276	35.76	4487K48	24.36
3 1/2"	4935K234	27.04	4935K245	23.48	4935K269	51.80	4935K277	47.54	4487K28	26.52
4"	4935K236	34.74	4935K246	30.46	4935K271	74.28	4935K278	62.16	4487K51	35.28
5"	4935K237	62.92	4935K247	49.92	4935K272	120.64	4935K279	81.12	4487K32	33.94
6"	4935K239	91.12	4935K249	69.42	4935K273	173.30	4935K288	146.12	4487K11	46.28



Reducing Straights

For Tube OD (A)	(B)		
2 1/2"	2 1/8"	4935K289	$6.86
3"	2 1/8"	4935K298	22.02
3 1/2"	2 1/8"	4935K299	30.88
3 1/2"	2 1/2"	4935K332	25.98
4"	2 1/8"	4935K333	42.70
5"	2 1/8"	4935K334	72.90
6"	2 1/8"	4935K335	81.54

Tube-to-Threaded Pipe Adapters




For Tube OD	Pipe Size	Straights, Male Pipe		Straights, Female Pipe	
2 1/8"	2	4935K336	$13.46	4935K344	$15.32
2 1/2"	2 1/2	4935K337	20.54	4935K345	23.86
3"	3	4935K338	22.90	4935K346	32.34
3 1/2"	3 1/2	4935K339	27.34	4935K347	44.42
4"	4	4935K341	31.70	4935K348	58.72
5"	5	4935K342	44.52	4935K349	67.10
6"	6	4935K343	58.66	4935K351	93.50



Capped Straights, Male Pipe

For Tube OD	Pipe Size		
1 1/2"	2	4935K152	$22.22
2"	2	4935K154	25.74

Flexible Plastic Tube Fittings

- Maximum Pressure: See table
- Temperature Range: 0° to 140° F
- Tubing: Use with plastic

Made of soft PVC, these fittings withstand vibration. Use them in place of rigid fittings to create a more flexible system. Slide fittings onto tubing and secure with a clamp (sold separately on page 302). Use with air and dairy. Sterilize with radiation or chemicals. *Elbows* are clear and *wyes* are blue.



90° Elbows

For Tube OD	Max. psi @ 68° F		
3/8"	66	5074K11	$8.85
1/2"	50	5074K12	9.44
3/4"	66	5074K13	11.39
1"	50	5074K14	16.64
1 1/4"	40	5074K15	19.47
2"	50	5074K17	59.36



Wyes

For Tube OD	Max. psi @ 68° F		
3/8"	80	5074K41	$20.18
1/2"	62	5074K42	21.95
3/4"	48	5074K43	28.97
1"	37	5074K44	39.89
1 1/4"	45	5074K45	57.41
2"	22	5074K47	113.55

Metric Solder-Connect Copper Tube Fittings

- Maximum Pressure: 500 psi @ 86° F when used with 95/5 solder
- Temperature Range: 32° to 200° F
- Tubing: Use with 9935K metric copper tubing (see page 159)

Solder these fittings to metric tubing for a permanent, leak-tight connection. Also known as sweat fittings, they are made of seamless, wrot (99.9% pure) copper tubing. Use with air and water. Sterilize with steam (autoclaving) and chlorine.

Straights with center stop have a small bump that prevents the tubing from sliding all the way through the fitting.

Female Socket-End to Female Socket-End






Actual Tube OD, mm	90° Elbows		45° Elbows		Tees		Straights with Center Stop	
8	9395T58	$6.62	9395T63	$7.63	9395T68	$6.62		
10	9395T59	3.37	9395T64	6.74	9395T69	5.16	9395T83	$0.84
12	9395T61	1.13	9395T65	4.16	9395T71	1.97	9395T84	1.01



Reducing Straights

Actual Tube OD, mm (A)	(B)		
8	6	9395T86	$6.85
10	8	9395T87	5.84
12	10	9395T88	3.92



Caps

Actual Tube OD, mm		
8	9395T54	$4.88
10	9395T55	3.98
12	9395T56	3.59

Solder-Connect Copper Tube Fittings for Drinking Water

- Maximum Pressure @ 100° F (when used with 95/5 Solder): 1/8 to 2 Tube Size: 400 psi, 2 1/2 to 3 Tube Size: 300 psi
- Temperature Range: 32° to 200° F
- Tubing: Use with copper tubing for drinking water (see 5175K and 50475K on page 157)

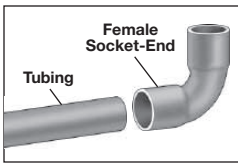

To make a connection, insert tubing or the tube-end of a fitting into the socket-end of a fitting and solder together.

The most common type of fittings used for drinking water applications, these solder together to form permanent, leak-resistant connections. Also known as sweat fittings, they are made of seamless, wrot (99.9% pure) copper, except the unions have a brass nut, and the fittings marked with a ★ are cast bronze. Fittings meet ANSI B16.22 and MSS-SP104, except the cast bronze elbows, unions, and straights meet ASME B16.18, and the cast bronze flanges meet ANSI B16.18.

Cleaned and Bagged Fittings—Individually cleaned and bagged to prevent moisture and dirt contamination.

Straights with center stop have a small bump that prevents the tubing from sliding through the fitting. **Off-center reducing straights** allow you to connect one tube to another smaller diameter tube and have the centers offset. Also known as eccentric reducers, they allow your line to self drain.

Flanges grant you easy access to your line.

Note: Copper tube size is the accepted designation of the copper tubing industry, not the actual tube OD.

Female Socket-End to Female Socket-End







Copper Tube Size	Actual Tube OD	90° Elbows		90° Long Elbows		45° Elbows		Tees		180° Bends	
Standard											
1/8	1/4"	5520K818	$1.61	5520K177	$2.70	_____	___	5520K833	$3.89	5520K273	$2.71
1/4	3/8"	5520K77	1.42	5520K601	2.70	5520K67	$3.18	5520K79	3.59	5520K274	2.34
3/8	1/2"	5520K78	1.46	5520K602	3.29	5520K68	2.55	5520K86	2.73	5520K275	3.03
1/2	5/8"	5520K61	.49	5520K603	2.85	5520K51	.90	5520K71	.86	5520K276	5.27
5/8	3/4"	5520K166	3.22	5520K167	3.18	5520K168	5.17	5520K169	5.88	5520K277	11.97
3/4	7/8"	5520K62	1.12	5520K604	3.93	5520K52	1.57	5520K72	2.13	5520K278	9.03
1	1 1/8"	5520K63	2.81	5520K605	5.88	5520K53	4.19	5520K73	6.51	5520K279	19.60
1 1/4	1 3/8"	5520K64	4.45	5520K606	9.43	5520K54	5.73	5520K74	9.99	5520K289	33.55
1 1/2	1 5/8"	5520K65	6.81	5520K607	12.05	5520K55	7.08	5520K75	14.56	5520K291	41.91
2	2 1/8"	5520K66	12.84	5520K608	24.63	5520K56	12.54	5520K76	23.88	5520K292	105.55
2 1/2	2 5/8"	5520K819	24.48	5520K822	44.13	5520K828	25.38	5520K834	42.77	_____	____
3	3 1/8"	5520K821	31.79	5520K823	55.94	5520K829	34.03	5520K835	58.77	_____	____
Cleaned and Bagged											
1/4	3/8"	5135K77	2.39	5135K115	5.08	5135K93	6.40	5135K79	6.04	5135K126	4.19
3/8	1/2"	5135K112	3.24	5135K116	6.10	5135K94	5.21	5135K123	5.47	5135K127	5.43
1/2	5/8"	5135K61	.82	5135K117	5.47	5135K95	1.98	5135K71	1.45	5135K128	9.45
3/4	7/8"	5135K62	1.89	5135K118	7.06	5135K96	3.48	5135K72	3.58	5135K129	16.18
1	1 1/8"	5135K63	4.72	5135K119	10.79	5135K97	8.73	5135K73	10.94	5135K131	35.11
1 1/2	1 5/8"	5135K113	14.05	5135K121	23.13	5135K98	14.23	5135K124	29.03	5135K132	75.09
2	2 1/8"	5135K114	25.62	5135K122	60.85	5135K111	23.77	5135K125	45.27	5135K133	189.11





Copper Tube Size	Actual Tube OD	Unions		Straights		Straights with Center Stop	
Standard							
1/8	1/4"	_____	___	_____	___	5520K523	$0.34
1/4	3/8"	5520K815	$9.28	5520K201	$0.34	5520K89	.37
3/8	1/2"	5520K97	8.76	5520K202	1.05	5520K43	.52
1/2	5/8"	5520K91	4.64	5520K203	.49	5520K31	.37
5/8	3/4"	_____	___	5520K111	1.81	5520K165	1.27
3/4	7/8"	5520K92	5.54	5520K204	1.09	5520K32	.73
1	1 1/8"	5520K93	11.19	5520K205	2.25	5520K33	1.61
1 1/4	1 3/8"	5520K94	16.85	5520K206	3.48	5520K34	2.92
1 1/2	1 5/8"	5520K95	23.40	5520K207	5.09	5520K35	3.89
2	2 1/8"	5520K96	34.62	5520K208	7.52	5520K36	6.29
2 1/2	2 5/8"	5520K816★	146.04	5520K838	10.48	5520K836	12.73
3	3 1/8"	5520K817★	377.88	5520K839	20.55	5520K837	20.44
Cleaned and Bagged							
1/4	3/8"	5135K47	19.53	5135K39	.65	5135K89	.63
3/8	1/2"	5135K48	20.52	5135K41	2.25	5135K14	1.05
1/2	5/8"	5135K49	11.79	5135K42	1.08	5135K31	.63
3/4	7/8"	5135K51	14.83	5135K43	2.25	5135K32	1.23
1	1 1/8"	5135K52	24.97	5135K44	4.75	5135K33	2.70
1 1/2	1 5/8"	5135K53	54.52	5135K45	9.69	5135K28	7.71
2	2 1/8"	5135K54	91.07	5135K46	16.37	5135K35	12.87

★ Material is cast bronze.



Reducing Straights with Center Stop

Copper Tube Size (A)	(B)		
Standard			
1/4	1/8	5520K142	$2.47
3/8	1/8	5520K143	.90
3/8	1/4	5520K59	.82
1/2	1/8	5520K301	.90
1/2	1/4	5520K29	.75
1/2	3/8	5520K69	.79
5/8	1/4	5520K145	2.10
5/8	3/8	5520K146	2.17
5/8	1/2	5520K147	2.43
3/4	1/4	5520K144	1.46
3/4	3/8	5520K307	1.42
3/4	1/2	5520K37	1.35
3/4	5/8	5520K302	1.46
1	3/8	5520K281	2.69
1	1/2	5520K303	2.51
1	5/8	5520K148	2.70
1	3/4	5520K38	2.51
1 1/4	1/2	5520K112	4.41
1 1/4	3/4	5520K113	4.24
1 1/4	1	5520K39	3.82
1 1/2	1/2	5520K114	7.45

Copper Tube Size (A)	(B)		
Standard (Cont.)			
1 1/2	3/4	5520K284	$6.14
1 1/2	1	5520K304	6.36
1 1/2	1 1/4	5520K41	6.36
2	1	5520K306	9.77
2	1 1/4	5520K305	9.77
2	1 1/2	5520K42	9.92
2 1/2	2	5520K842	21.56
3	2	5520K149	25.92
Cleaned and Bagged			
3/8	1/4	5135K15	1.76
1/2	1/4	5135K16	2.09
1/2	3/8	5135K17	1.71
3/4	1/2	5135K19	2.92
1	1/2	5135K24	6.40
1	3/4	5135K25	5.40
1 1/4	1	5135K26	7.59
1 1/2	3/4	5135K29	12.58
1 1/2	1	5135K34	12.58
2	1	5135K36	20.51
2	1 1/2	5135K37	19.45
3	2	5135K38	55.42

Reducing Straights, Off Center

Copper Tube Size (A)	(B)		
3/4	1/2	5520K211	$11.26
1	3/4	5520K212	15.17

Copper Tube Size (A)	(B)		
1 1/4	3/4	5520K213	$22.84

Copper Tube Size (A)	(B)		
1 1/4	1	5520K214	$22.84



(Continued on following page)

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

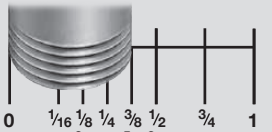

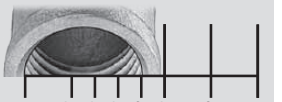

Solder-Connect Copper Tube Fittings for Drinking Water

(Continued from previous page)

- Maximum Pressure @ 100° F (when used with 95/5 Solder): 1/8 to 2 Tube Size: 400 psi; 2 1/2 to 3 Tube Size: 300 psi
- Temperature Range: 32° to 200° F
- Tubing: Use with copper tubing for drinking water (see 5175K and 50475K on page 157)

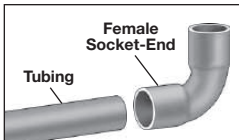

To make a connection, insert tubing or the tube-end of a fitting into the socket-end of a fitting and solder together.

The most common type of fittings used for drinking water applications, these solder together to form permanent, leak-resistant connections. Also known as sweat fittings, they are made of seamless, wrot (99.9% pure) copper, except the unions have a brass nut, and the fittings marked with a ★ are cast bronze. Fittings meet ANSI B16.22 and MSS-SP104, except the cast bronze elbows, unions, and straights meet ASME B16.18, and the cast bronze flanges meet ANSI B16.18.

Cleaned and Bagged Fittings—Individually cleaned and bagged to prevent moisture and dirt contamination.

Straights with center stop have a small bump that prevents the tubing from sliding through the fitting. **Off-center reducing straights** allow you to connect one tube to another smaller diameter tube and have the centers offset. Also known as eccentric reducers, they allow your line to self drain.

Flanges grant you easy access to your line.

Note: Copper tube size is the accepted designation of the copper tubing industry, not the actual tube OD.

Female Socket-End to Female Socket-End (Cont.)

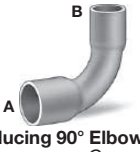

Reducing 90° Elbows

Copper Tube Size (A)	(B)		
3/8	1/4	5520K151	$2.62
1/2	1/4	5520K153	4.57
1/2	3/8	5520K152	4.49
5/8	1/2	5520K154	3.78
3/4	1/2	5520K155	2.70
1	1/2	5520K157	4.87
1	3/4	5520K156	5.47
1 1/4	1	5520K158	$12.62
1 1/2	1 1/4	5520K159	18.64
2	1 1/2	5520K161	25.27
2 1/2	2	5520K162	73.83
3	2 1/2	5520K163	105.65
4	3	5520K164	158.94

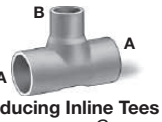

Reducing Inline Tees

Copper Tube Size (A)	(B)		
1/4	1/8	5520K841	$5.54
3/8	1/4	5520K87	5.43
1/2	1/4	5520K98	4.64
1/2	3/8	5520K88	4.34
3/4	1/2	5520K81	1.98
1	3/8	5520K282	6.85
1	1/2	5520K701	6.55
1	3/4	5520K82	6.63
1 1/4	1/2	5520K137	10.18
1 1/4	3/4	5520K702	10.59
1 1/4	1	5520K83	$10.11
1 1/2	1/2	5520K138	10.86
1 1/2	3/4	5520K704	11.23
1 1/2	1	5520K703	11.34
1 1/2	1 1/4	5520K99	10.86
2	3/4	5520K136	16.85
2	1	5520K706	18.12
2	1 1/4	5520K705	18.12
2	1 1/2	5520K85	18.12



Expanding Inline Tees

Copper Tube Size (A)	(B)		
1/2	3/4	5520K133	$3.97
3/4	1	5520K141	7.11

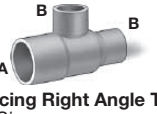

Reducing Right Angle Tees

Copper Tube Size (A)	(B)		
3/4	1/2	5520K131	$2.47
1	3/4	5520K134	7.86
1 1/2	1	5520K215	24.19

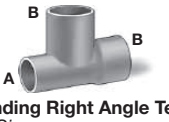

Expanding Right Angle Tees

Copper Tube Size (A)	(B)		
1/2	3/4	5520K132	$2.47
1/2	1	5520K139	8.31
3/4	1	5520K135	6.55

Male Tube-End to Female Socket-End







Copper Tube Size	Actual Tube OD	90° Elbows		90° Long Elbows		45° Elbows	
1/8	1/4"	5520K824	$3.18	5520K181	$2.81		
1/4	3/8"	5520K825	3.18	5520K182	2.99	5520K721	$4.27
3/8	1/2"	5520K712	1.65	5520K183	5.58	5520K722	3.03
1/2	5/8"	5520K713	.75	5520K184	4.27	5520K723	1.09
5/8	3/4"	5520K194	3.37	5520K185	4.68	5520K195	7.49
3/4	7/8"	5520K714	1.76	5520K186	5.24	5520K724	1.68
1	1 1/8"	5520K715	4.30	5520K187	7.64	5520K725	5.43
1 1/4	1 3/8"	5520K716	6.81	5520K188	10.82	5520K726	7.11
1 1/2	1 5/8"	5520K717	8.50	5520K189	14.79	5520K727	9.21
2	2 1/8"	5520K718	20.63	5520K191	24.18	5520K728	14.19
2 1/2	2 5/8"	5520K826	30.57	5520K192	43.43	5520K831	30.75
3	3 1/8"	5520K827	45.78	5520K193	60.40	5520K832	39.65





Copper Tube Size (A)	(B)	Reducing Straights		Long Reducing Straights	
1/4	1/8	5520K234	$0.92	5520K221	$1.01
3/8	1/4	5520K235	.94	5520K222	1.24
1/2	1/4	5520K236	1.20	5520K223	1.05
1/2	3/8	5520K237	1.20	5520K224	.97
5/8	1/2	5520K238	1.27	5520K225	2.21
3/4	1/2	5520K239	1.95	5520K226	1.46
3/4	5/8	5520K241	2.13	5520K227	1.57
1	1/2	5520K242	3.18	5520K228	2.36
1	3/4	5520K243	3.03	5520K229	2.28
1 1/4	1	5520K244	3.82	5520K231	4.12
1 1/2	1 1/4	5520K245	11.87	5520K232	5.54
2	1 1/2	5520K246	14.60	5520K233	10.74

(Continued on following page)

Solder-Connect Copper Tube Fittings for Drinking Water

(Continued from previous page)

Female Socket-End to Threaded Pipe Adapters



Straights, Male Pipe

Copper Tube Size	Actual Tube OD	Pipe Size, NPT		
Standard				
1/8	1/4"	1/8	5520K172	$2.76
1/8	1/4"	1/4	5520K121	4.83
1/4	3/8"	1/8	5520K491	4.53
1/4	3/8"	1/4	5520K18	5.73
1/4	3/8"	1/2	5520K493	2.06
3/8	1/2"	1/4	5520K503	6.18
3/8	1/2"	3/8	5520K19	2.62
3/8	1/2"	1/2	5520K502	2.70
3/8	1/2"	3/4	5520K501	3.52
1/2	5/8"	1/4	5520K507	2.96
1/2	5/8"	3/8	5520K506	2.77
1/2	5/8"	1/2	5520K11	1.07
1/2	5/8"	3/4	5520K505	3.11
1/2	5/8"	1	5520K504	6.89
5/8	3/4"	1/2	5520K382	6.14
5/8	3/4"	3/4	5520K127	4.12
3/4	7/8"	1/2	5520K509	3.18
3/4	7/8"	3/4	5520K12	1.80
3/4	7/8"	1	5520K508	6.92

★ Material is cast bronze.

Copper Tube Size	Actual Tube OD	Pipe Size, NPT		
Standard (Cont.)				
1	1 1/8"	1/2	5520K283	$7.04
1	1 1/8"	3/4	5520K513	6.81
1	1 1/8"	1	5520K13	4.87
1	1 1/8"	1 1/4	5520K512	10.97
1	1 1/8"	1 1/2	5520K511	15.91
1 1/4	1 3/8"	3/4	5520K516	11.23
1 1/4	1 3/8"	1	5520K515	10.82
1 1/4	1 3/8"	1 1/4	5520K14	7.08
1 1/4	1 3/8"	1 1/2	5520K514	15.91
1 1/2	1 5/8"	1	5520K519	16.43
1 1/2	1 5/8"	1 1/4	5520K518	15.91
1 1/2	1 5/8"	1 1/2	5520K17	7.86
1 1/2	1 5/8"	2	5520K517	25.08
2	2 1/8"	1 1/4	5520K522	30.57
2	2 1/8"	1 1/2	5520K521	24.22
2	2 1/8"	2	5520K16	14.15
2 1/2	2 5/8"	2	5520K247★	131.40
3	3 1/8"	3	5520K171	54.61

Copper Tube Size	Actual Tube OD	Pipe Size, NPT		
Cleaned and Bagged				
1/4	3/8"	1/4	5135K18	$9.62
1/4	3/8"	1/2	5135K69	6.61
3/8	1/2"	3/8	5135K74	5.60
3/8	1/2"	1/2	5135K75	7.61
1/2	5/8"	1/4	5135K134	6.96
1/2	5/8"	3/8	5135K78	5.78
1/2	5/8"	1/2	5135K11	1.79
1/2	5/8"	3/4	5135K81	6.61
3/4	7/8"	1/2	5135K82	6.61
3/4	7/8"	3/4	5135K12	3.02
3/4	7/8"	1	5135K83	14.54
1	1 1/8"	1/2	5135K85	18.15
1	1 1/8"	3/4	5135K84	14.55
1	1 1/8"	1	5135K13	8.18
1	1 1/8"	1 1/4	5135K86	21.39
1	1 1/8"	1 1/2	5135K87	40.25
1 1/2	1 5/8"	1 1/2	5135K91	16.71
2	2 1/8"	2	5135K92	28.27



Straights, Female Pipe

Copper Tube Size	Actual Tube OD	Pipe Size, NPT		
Standard				
1/8	1/4"	1/8	5520K173	$2.72
1/8	1/4"	1/4	5520K174	4.04
1/4	3/8"	1/8	5520K843	4.04
1/4	3/8"	1/4	5520K27	3.67
1/4	3/8"	3/8	5520K402	3.14
1/4	3/8"	1/2	5520K401	2.77
3/8	1/2"	1/4	5520K404	3.14
3/8	1/2"	3/8	5520K28	3.86
3/8	1/2"	1/2	5520K403	2.62
1/2	5/8"	1/4	5520K407	2.62
1/2	5/8"	3/8	5520K406	2.62
1/2	5/8"	1/2	5520K21	1.61
1/2	5/8"	3/4	5520K405	3.71
5/8	3/4"	1/2	5520K175	4.87
5/8	3/4"	3/4	5520K176	4.04

Copper Tube Size	Actual Tube OD	Pipe Size, NPT		
Standard (Cont.)				
3/4	7/8"	1/2	5520K409	$3.67
3/4	7/8"	3/4	5520K22	2.32
3/4	7/8"	1	5520K408	7.56
1	1 1/8"	1/2	5520K412	7.67
1	1 1/8"	3/4	5520K411	7.75
1	1 1/8"	1	5520K23	4.98
1 1/4	1 3/8"	1	5520K414	14.22
1 1/4	1 3/8"	1 1/4	5520K24	8.35
1 1/4	1 3/8"	1 1/2	5520K413	17.29
1 1/2	1 5/8"	1 1/4	5520K416	17.26
1 1/2	1 5/8"	1 1/2	5520K25	13.29
1 1/2	1 5/8"	2	5520K415	25.15
2	2 1/8"	1 1/2	5520K129	26.21
2	2 1/8"	2	5520K26	18.16

Copper Tube Size	Actual Tube OD	Pipe Size, NPT		
Cleaned and Bagged				
1/4	3/8"	1/4	5135K27	$6.16
3/8	1/2"	1/4	5135K56	6.50
3/8	1/2"	3/8	5135K55	7.53
1/2	5/8"	1/4	5135K57	5.60
1/2	5/8"	3/8	5135K58	5.60
1/2	5/8"	1/2	5135K21	2.70
1/2	5/8"	3/4	5135K59	7.80
3/4	7/8"	3/4	5135K22	3.90
3/4	7/8"	1	5135K64	16.61
1	1 1/8"	1/2	5135K65	20.89
1	1 1/8"	3/4	5135K66	16.61
1	1 1/8"	1	5135K23	8.36
1 1/2	1 5/8"	1 1/2	5135K67	26.13
2	2 1/8"	2	5135K68	35.49

Female Socket-End to Threaded Pipe Adapters (Cont.)





Copper Tube Size	Actual Tube OD	Pipe Size, NPT	90° Elbows, Female Pipe ★		90° Elbows with Mounting Foot, Female Pipe ★	
1/2	5/8"	1/2	5075K13	$4.88	5075K23	$5.26
3/4	7/8"	1/2	5075K17	10.70	5075K24	22.78
3/4	7/8"	3/4	5075K18	8.96	5075K25	9.24

★ Material is cast bronze.

Male Tube-End to Threaded Pipe Adapters





Copper Tube Size	Actual Tube OD	Pipe Size, NPT	Straights, Male Pipe		Straights, Female Pipe	
1/4	3/8"	1/4	5520K285	$5.80	5520K251	$3.97
3/8	1/2"	3/8	5520K286	4.87	5520K252	4.38
1/2	5/8"	1/4			5520K115	6.71
1/2	5/8"	1/2	5520K287	4.30	5520K253	3.41
1/2	5/8"	3/4	5520K178	12.91		
3/4	7/8"	1/2	5520K179	13.47		
3/4	7/8"	3/4	5520K288	6.44	5520K254	4.30
1	1 1/8"	1	5520K197	9.14	5520K116	9.23
1 1/4	1 3/8"	1 1/4	5520K198	28.24	5520K117	14.92
1 1/2	1 5/8"	1 1/2	5520K199	34.21	5520K118	19.60
2	2 1/8"	2	5520K209	55.30	5520K119	26.04

Male Tube-End to Male Tube-End

90° Elbows

Copper Tube Size	Actual Tube OD		
1/4	3/8"	5520K262	$6.18
3/8	1/2"	5520K263	5.24
1/2	5/8"	5520K264	2.62
5/8	3/4"	5520K265	6.74
3/4	7/8"	5520K266	6.21
1	1 1/8"	5520K267	7.04
1 1/4	1 3/8"	5520K268	9.21



Reducing Straights

Copper Tube Size (A)	(B)		
3/4	1/2	5520K248	$6.80
1	1/2	5520K249	8.08
1	3/4	5520K991	9.38
1 1/4	3/4	5520K992	11.34
1 1/4	1	5520K993	11.30
1 1/2	1/2	5520K994	22.98
1 1/2	3/4	5520K259	15.26
1 1/2	1	5520K269	14.43
2	1	5520K271	25.18
2	1 1/2	5520K272	26.13



(Continued on following page)

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

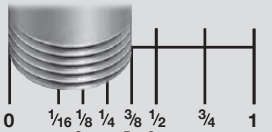

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
OD (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

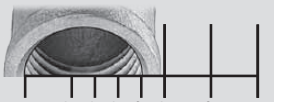

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
ID (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

Solder-Connect Copper Tube Fittings for Drinking Water

(Continued from previous page)

- Maximum Pressure @ 100° F (when used with 95/5 Solder): 1/8 to 2 Tube Size: 400 psi, 2 1/2 to 3 Tube Size: 300 psi
- Temperature Range: 32° to 200° F
- Tubing: Use with copper tubing for drinking water (see 5175K and 50475K on page 157)

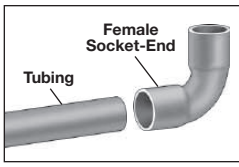

To make a connection, insert tubing or the tube-end of a fitting into the socket-end of a fitting and solder together.

The most common type of fittings used for drinking water applications, these solder together to form permanent, leak-resistant connections. Also known as sweat fittings, they are made of seamless, wrot (99.9% pure) copper, except the unions have a brass nut, and the fittings marked with a ★ are cast bronze. Fittings meet ANSI B16.22 and MSS-SP104, except the cast bronze elbows, unions, and straights meet ASME B16.18, and the cast bronze flanges meet ANSI B16.18.

Cleaned and Bagged Fittings—Individually cleaned and bagged to prevent moisture and dirt contamination.

Straights with center stop have a small bump that prevents the tubing from sliding through the fitting. **Off-center reducing straights** allow you to connect one tube to another smaller diameter tube and have the centers offset. Also known as eccentric reducers, they allow your line to self drain.

Flanges grant you easy access to your line.

Dissolvable plugs are also known as plumbers' bread. They temporarily block the flow in your tubing system to keep moisture away from an area that's being soldered.

Note: Copper tube size is the accepted designation of the copper tubing industry, not the actual tube OD.

Female Socket-End



Caps

Copper Tube Size	Actual Tube OD			Copper Tube Size	Actual Tube OD		
1/8	1/4"	5520K811	$0.64	1	1 1/8"	5520K46	$1.50
1/4	3/8"	5520K57	.49	1 1/4	1 3/8"	5520K47	2.19
3/8	1/2"	5520K58	.75	1 1/2	1 5/8"	5520K48	3.14
1/2	5/8"	5520K44	.36	2	2 1/8"	5520K49	5.91
5/8	3/4"	5520K196	.82	2 1/2	2 5/8"	5520K812	19.09
3/4	7/8"	5520K45	.64	3	3 1/8"	5520K813	25.22



Flanges ★

Copper Tube Size	Actual Tube OD		
1	1 1/8"	5520K123	$34.36
1 1/4	1 3/8"	5520K124	37.30
1 1/2	1 5/8"	5520K125	62.22
2	2 1/8"	5520K126	89.72

★ Material is cast bronze.

Male Tube-End



Plugs

Copper Tube Size	Actual Tube OD		
3/8	1/2"	5520K216	$5.58
1/2	5/8"	5520K217	7.53
3/4	7/8"	5520K218	5.53
1	1 1/8"	5520K219	9.80

Dissolvable Plugs with Insertion Tool



For Tube Size	For Actual Tube OD	Plugs/Box		Box
1/2	5/8"	7	6813K12■	$13.89
3/4	7/8"	5	6813K14■	13.89

■ Not rated for use with drinking water.

Plastic Tube Fittings for Drinking Water

- Maximum Pressure: 400 psi @ 72° F
- Temperature Range: 40° to 180° F
- Tubing: See table

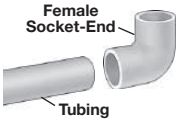

Although they're sized the same as our solder-connect copper fittings, these CPVC fittings weigh less and are easier to install. They connect with CPVC cement (sold separately on page 3466). Fittings and tubing meet NSF/ANSI Standard 61 for use with drinking (potable) water. They meet ASTM D2846, National Standard Plumbing Code, and Uniform Plumbing Code. Vacuum rating is 26" Hg @ 72° F.

Threaded Connections: NPT threads.

Female Socket-End to Female Socket-End





For Tube Size	Actual Tube OD	Straights		90° Elbows		Caps	
1/2	5/8"	5035K61	$0.34	5035K31	$0.41	5035K71	$0.37
3/4	7/8"	5035K62	.45	5035K32	.68	5035K72	.47
1	1 1/8"	5035K63	2.02	5035K33	1.98	5035K73	1.72

Female Socket-End to Threaded Male Pipe Adapters and Tubing



Straights

For Tube Size	Actual Tube OD	Pipe Size		
1/2	5/8"	1/2	5035K21	$0.43
3/4	7/8"	3/4	5035K22	.73
1	1 1/8"	1	5035K23	3.45



Tubing—5-ft. lengths

Tube Size	Actual Tube OD		
1/2	5/8"	5037K31	$2.35
3/4	7/8"	5037K32	4.22
1	1 1/8"	5037K33	8.66

Manifolds with British Standard Threads

- Maximum Pressure @ 72° F:
  Air: 1,000 psi
  Water and Nonshock Hydraulics: 3,000 psi
- Temperature Range: –10° to 200° F

Connect BSPT (British Standard Pipe Taper) or BSPP (British Standard Pipe Parallel) threaded fittings to these manifolds to run multiple lines from one distribution source. Use with water, air, and hydraulic oil. Also known as headers, they have an inlet on both ends. Manifolds are aluminum. Vacuum rating is 29.9″ Hg @ 72° F. Block off unused inlets or outlets with a plug (see page 47).



No. of Outlets	Pipe Size Inlet	Pipe Size Outlet	Overall Size Lg.	Overall Size Wd.	Overall Size Ht.	Outlets, Ctr.-to-Ctr.	BSPT Threads		BSPP Threads	
2	1/4	1/8	1 3/4″	1″	1″	3/4″	4750K17	$16.93	4750K14	$19.93
2	3/8	1/4	2 3/8″	1 1/4″	1 1/4″	7/8″	4750K18	19.21	4750K15	22.60
2	1/2	3/8	2 3/4″	1 1/2″	1 1/2″	1″	4750K19	29.60	4750K16	34.81
4	1/4	1/8	3 1/4″	1″	1″	3/4″	4750K27	21.00	4750K24	24.68
4	3/8	1/4	4 1/8″	1 1/4″	1 1/4″	7/8″	4750K28	22.37	4750K25	26.33
4	1/2	3/8	4 3/4″	1 1/2″	1 1/2″	1″	4750K29	32.96	4750K26	38.77
6	1/4	1/8	4 3/4″	1″	1″	3/4″	4750K37	23.69	4750K34	27.87
6	3/8	1/4	5 7/8″	1 1/4″	1 1/4″	7/8″	4750K38	25.56	4750K35	30.04
6	1/2	3/8	6 3/4″	1 1/2″	1 1/2″	1″	4750K39	36.33	4750K36	42.73

Manifolds with Straight Threads

- Maximum Pressure @ 72° F:
  Air and Water: 1,000 psi
  Nonshock Hydraulics: 3,000 psi
- Temperature Range:
  –50° to 200° F

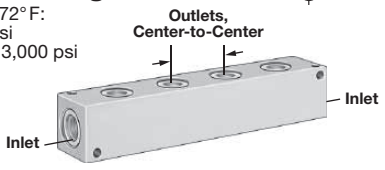

The outlets on these manifolds attach to fittings with UNF straight threads. Straight-thread fittings seal with a gasket, achieving a tighter connection than fittings with tapered threads. Use with water, air, and hydraulic oil. Also known as headers, these manifolds have an inlet on both ends. They are made of aluminum, except the manifolds with 1/8 inlets are black anodized aluminum.

No. of Outlets	Thread Size Inlet	Thread Size Outlet	Overall Size Lg.	Overall Size Wd.	Overall Size Ht.	Outlets, Ctr.-to-Ctr.		
2	3/4″-16	9/16″-18	5″	1 3/4″	1 3/4″	2″	5092K54	$24.53
3	9/16″-18	7/16″-20	5 5/8″	1 3/4″	1 3/4″	1 3/4″	5092K13	26.58
3	3/4″-16	9/16″-18	7″	1 3/4″	1 3/4″	2″	5092K33	29.64
3	1/8 ★	10-32	2″	3/4″	3/4″	1/2″	5092K63	10.49
4	9/16″-18	7/16″-20	7 3/8″	1 3/4″	1 3/4″	1 3/4″	5092K55	30.67
4	3/4″-16	9/16″-18	9″	1 3/4″	1 3/4″	2″	5092K34	33.73
4	1/8 ★	10-32	2 1/2″	3/4″	3/4″	1/2″	5092K64	10.98
6	3/4″-16	9/16″-18	13″	1 3/4″	1 3/4″	2″	5092K36	44.98
8	1/8 ★	10-32	4 1/2″	3/4″	3/4″	1/2″	5092K67	12.84
10	3/4″-16	9/16″-18	21″	1 3/4″	1 3/4″	2″	5092K41	70.53

★ NPT threads.

Multiline Blocks

- Maximum Pressure @ 72° F:
  Air: 1,000 psi
  Water and Nonshock Hydraulics: 3,000 psi
- Temperature Range: –10° to 200° F



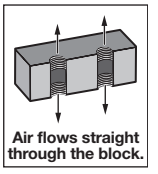

Organize and separate multiple lines in your system. Also known as junction blocks, these don't have inlets like a manifold—instead they have threaded holes that allow air or fluid to flow straight through the block. Use with air, water, and hydraulic oil. Blocks are black anodized aluminum. Vacuum rating is 29″ Hg @ 72° F. Block off unused holes with a plug (see page 245).

Threaded Connections: NPT, except 10-32 are UNF straight threads.

No. of Holes	Pipe Size	Overall Size Lg.	Overall Size Wd.	Overall Size Ht.	Holes, Ctr.-to-Ctr.		
4	10-32	3″	5/8″	5/8″	1/2″	5091K51	$16.45
4	1/8	4 3/4″	3/4″	1″	3/4″	5091K52	22.96
4	1/4	5 3/8″	1″	1″	7/8″	5091K53	23.46
6	10-32	4″	5/8″	5/8″	1/2″	5091K61	17.31
6	1/8	6 1/4″	3/4″	1″	3/4″	5091K62	24.97
6	1/4	7 1/8″	1″	1″	7/8″	5091K63	25.94
8	10-32	5″	5/8″	5/8″	1/2″	5091K71	18.50
8	1/8	7 3/4″	3/4″	1″	3/4″	5091K72	28.21
8	1/4	8 7/8″	1″	1″	7/8″	5091K73	29.53
10	10-32	6″	5/8″	5/8″	1/2″	5091K41	20.10
10	1/8	9 1/4″	3/4″	1″	3/4″	5091K42	31.19
10	1/4	10 5/8″	1″	1″	7/8″	5091K43	31.84

Three-Way Manifolds for Air

- Maximum Pressure: 300 psi @ 72° F
- Temperature Range: –40° to 360° F

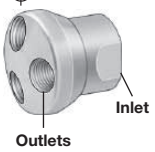

Run three lines from a single supply source with these compact manifolds. The round shape lets you mount the manifold on the end of a hose line. Manifolds are aluminum. Block off unused outlets with a plug (see page 245).

Threaded Connections: NPT threads.

No. of Outlets	Pipe Size Inlet	Pipe Size Outlet	Overall Size Dia.	Overall Size Lg.	Outlets, Ctr.-to-Ctr.		
3	1/4	1/4	1 5/8″	1 1/2″	1″	5465K71	$8.91
3	3/8	1/4	1 5/8″	1 1/2″	1″	5465K72	8.79
3	1/2	1/4	1 5/8″	1 1/2″	1″	5465K73	9.14

Miniature Manifolds

- Maximum Pressure: 250 psi @ 72° F
- Temperature Range: –60° to 300° F



Don't let their small size fool you—these manifolds have four outlets on three sides to supply up to 12 lines from one distribution point. Use with air, water, and hydraulic oil. Also known as headers, they have an inlet on one end. To block off unused outlets, use plug 5454K81 on page 42. Manifolds are brass.

Threaded Connections: Inlet has NPT threads; outlets have UNF straight threads.

No. of Outlets	Pipe Size Inlet	Pipe Size Outlet	Overall Size Lg.	Overall Size Wd.	Overall Size Ht.	Outlets, Ctr.-to-Ctr.		
12	1/8	10-32	2 7/8″	9/16″	5/8″	1/2″	5454K97	$9.37

Straight Flow Manifolds

- Maximum Pressure @ 72° F:
  Air and Water: 1,000 psi
  Nonshock Hydraulics: 3,000 psi
- Temperature Range:
  –10° to 200° F

Unlike other manifolds, which have an inlet on both ends, these have one inlet on the opposite side of the outlets. This design allows fluid or air to follow a straight path, improving flow through your system. It also frees up the ends of your manifold so you can mount in corners and narrow spaces. Use with water, air, and hydraulic oil. Manifolds are also known as headers. They are made of black anodized aluminum. Block off unused outlets with a plug (see page 245).

Threaded Connections: NPT threads.

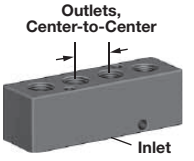

No. of Outlets	Pipe Size Inlet	Pipe Size Outlet	Overall Size Lg.	Overall Size Wd.	Overall Size Ht.	Outlets, Ctr.-to-Ctr.		
2	1/4	1/8	1 3/4″	1″	1″	3/4″	1023N11	$21.67
2	3/8	1/4	2 1/8″	1 1/4″	1 1/4″	7/8″	1023N15	24.56
2	1/2	3/8	2 3/4″	1 1/2″	1 1/2″	1″	1023N19	36.33
3	1/4	1/8	2 1/2″	1″	1″	3/4″	1023N12	25.11
3	3/8	1/4	3″	1 1/4″	1 1/4″	7/8″	1023N16	26.93
3	1/2	3/8	3 3/4″	1 1/2″	1 1/2″	1″	1023N21	40.58
4	1/4	1/8	3 1/4″	1″	1″	3/4″	1023N13	$26.82
4	3/8	1/4	3 7/8″	1 1/4″	1 1/4″	7/8″	1023N17	28.67
4	1/2	3/8	4 3/4″	1 1/2″	1 1/2″	1″	1023N22	42.16
6	1/4	1/8	4 3/4″	1″	1″	3/4″	1023N14	30.27
6	3/8	1/4	5 5/8″	1 1/4″	1 1/4″	7/8″	1023N18	32.67
6	1/2	3/8	6 3/4″	1 1/2″	1 1/2″	1″	1023N23	46.40

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

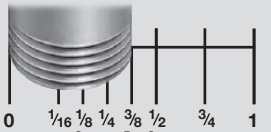

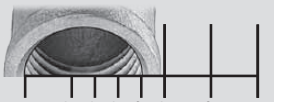

Manifolds

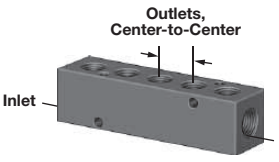

Outlets on One Side

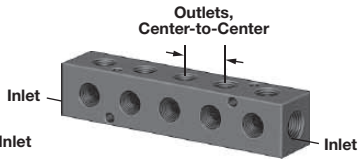

Outlets on Two Sides with Extra-Wide Space

Distribute air or fluid to multiple locations from a single supply source. Also known as headers, these have an inlet on both ends and four mounting holes so you can mount from the top or side.

Manifolds with outlets on two sides have two sides of outlets set at 90°.

Manifolds with extra-wide-space outlets have more room between the outlets to accommodate valves or gauges.

Plugs (sold separately) close off any unused outlets or inlets. They are not rated for temperature.

Threaded Connections: NPT threads.

Material	Maximum Pressure @ 72° F	Temperature Range	Corrosion Resistance	Chemical Resistance	Durability	For Use With
Black Anodized Aluminum	1,000 psi for water and air; 3,000 psi for nonshock hydraulics	–10° to 200° F	Good	Fair	Good	Water, Air, Hydraulic Oil
Nickel-Plated Aluminum	1,000 psi for water and air; 3,000 psi for nonshock hydraulics	–10° to 200° F	Good	Good	Good	Water, Air, Hydraulic Oil
Brass	2,000 psi	–65° to 250° F	Good	Good	Excellent	Water, Air, Hydraulic Oil
Type 303 Stainless Steel	3,500 psi	–100° to 500° F	Excellent	Good	Excellent	Water, Air, Hydraulic Oil
Zinc-Plated Steel	5,000 psi for water and nonshock hydraulics; 1,000 psi for air	–65° to 300° F	Fair	Poor	Excellent	Water, Air, Hydraulic Oil
Polypropylene (white)	150 psi	32° to 230° F	Good	Poor	Fair	Water, Air
Nylon (white)	200 psi	–60° to 200° F	Good	Fair	Fair	Water, Air

Outlets on One Side

No. of Outlets	Pipe Size Inlet	Pipe Size Outlet	Overall Size Lg.	Overall Size Wd.	Overall Size Ht.	Outlets, Ctr.-to-Ctr.	Black Anodized Aluminum		Nickel-Plated Aluminum		Brass	
2	1/8	1/16	1 3/4"	1"	1"	3/4"	5469K201	$16.85	5085K101	$19.00	5627K601	$46.84
2	1/4	1/8	1 3/4"	1"	1"	3/4"	5469K101	13.68	5085K22	19.00	5627K501	46.84
2	3/8	1/4	2 1/8"	1 1/4"	1 1/4"	7/8"	5469K103	15.62	5085K25	21.34	5627K502	62.63
2	1/2	3/8	2 3/4"	1 1/2"	1 1/2"	1"	5469K105	18.18	5085K24	37.43	5627K503	76.58
3	1/8	1/16	2 1/2"	1"	1"	3/4"	5469K202	19.44	5085K102	21.94	5627K602	51.84
3	1/4	1/8	2 1/2"	1"	1"	3/4"	5469K111	14.89	5085K21	22.87	5627K504	51.84
3	3/8	1/4	3"	1 1/4"	1 1/4"	7/8"	5469K113	18.15	5085K26	23.00	5627K505	68.03
3	1/2	3/8	3 3/4"	1 1/2"	1 1/2"	1"	5469K115	19.21	5085K23	33.47	5627K506	83.55
3	3/4	1/2	5 1/2"	2"	2"	1 1/2"	5469K203	69.19	5085K103	74.80	5627K603	150.53
3	1	3/4	7"	2 1/2"	2 1/2"	2"	5469K204	159.28	5085K104	172.18	5627K604	232.76
4	1/8	1/16	3 1/4"	1"	1"	3/4"	5469K205	20.87	5085K105	23.54	5627K605	55.92
4	1/4	1/8	3 1/4"	1"	1"	3/4"	5469K121	17.08	5085K33	25.82	5627K511	55.92
4	3/8	1/4	3 7/8"	1 1/4"	1 1/4"	7/8"	5469K123	18.36	5085K34	23.96	5627K512	71.84
4	1/2	3/8	4 3/4"	1 1/2"	1 1/2"	1"	5469K125	21.31	5085K35	32.95	5627K513	89.74
4	3/4	1/2	7"	2"	2"	1 1/2"	5469K206	85.60	5085K106	92.52	5627K606	166.18
4	1	3/4	9"	2 1/2"	2 1/2"	2"	5469K207	199.74	5085K107	216.34	5627K607	280.92
5	1/4	1/8	4"	1"	1"	3/4"	5469K131	18.24	5085K41	27.86	5627K514	59.61
5	3/8	1/4	4 3/4"	1 1/4"	1 1/4"	7/8"	5469K133	19.79	5085K42	24.56	5627K515	76.58
5	1/2	3/8	5 3/4"	1 1/2"	1 1/2"	1"	5469K135	22.95	5085K43	33.25	5627K516	98.03
5	3/4	1/2	8 1/2"	2"	2"	1 1/2"	5469K208	101.83	5085K108	110.08	5627K608	189.47
5	1	3/4	11"	2 1/2"	2 1/2"	2"	5469K209	239.32	5085K109	258.70	5627K609	329.34
6	1/8	1/16	4 3/4"	1"	1"	3/4"	5469K211	23.55	5085K111	26.56	5627K611	62.89
6	1/4	1/8	4 3/4"	1"	1"	3/4"	5469K151	19.33	5085K51	30.11	5627K521	62.89
6	3/8	1/4	5 5/8"	1 1/4"	1 1/4"	7/8"	5469K153	20.60	5085K52	26.65	5627K522	80.92
6	1/2	3/8	6 3/4"	1 1/2"	1 1/2"	1"	5469K155	24.47	5085K53	34.27	5627K523	106.58
6	3/4	1/2	10"	2"	2"	1 1/2"	5469K212	120.49	5085K112	130.24	5627K612	206.58
6	1	3/4	13"	2 1/2"	2 1/2"	2"	5469K213	281.74	5085K113	304.56	5627K613	378.68
7	1/4	1/8	5 1/2"	1"	1"	3/4"	5469K161	20.43	5085K61	30.09	5627K524	66.05
7	3/8	1/4	6 1/2"	1 1/4"	1 1/4"	7/8"	5469K163	22.20	5085K62	26.76	5627K525	84.87
7	1/2	3/8	7 3/4"	1 1/2"	1 1/2"	1"	5469K165	25.96	5085K63	38.50	5627K526	114.21
8	1/4	1/8	6 1/4"	1"	1"	3/4"	5469K171	21.46	5085K71	32.04	5627K531	68.68
8	3/8	1/4	7 3/8"	1 1/4"	1 1/4"	7/8"	5469K173	23.65	5085K72	27.09	5627K532	88.29
8	1/2	3/8	8 3/4"	1 1/2"	1 1/2"	1"	5469K175	29.93	5085K73	46.20	5627K533	122.89
9	1/4	1/8	7"	1"	1"	3/4"	5469K181	22.28	5085K81	32.41	5627K534	73.68
9	3/8	1/4	8 1/4"	1 1/4"	1 1/4"	7/8"	5469K183	24.00	5085K82	27.50	5627K535	95.26
9	1/2	3/8	9 3/4"	1 1/2"	1 1/2"	1"	5469K185	30.60	5085K83	49.16	5627K536	133.16
10	1/4	1/8	7 3/4"	1"	1"	3/4"	5469K191	23.19	5085K91	33.39	5627K551	78.03
10	3/8	1/4	9 1/8"	1 1/4"	1 1/4"	7/8"	5469K193	24.60	5085K92	28.02	5627K552	103.55
10	1/2	3/8	10 3/4"	1 1/2"	1 1/2"	1"	5469K195	31.30	5085K93	48.31	5627K553	143.42

(Continued on following page)

Manifolds *(Continued from previous page)*

Outlets on One Side (Cont.)

No. of Outlets	Pipe Size Inlet	Pipe Size Outlet	Overall Size Lg.	Overall Size Wd.	Overall Size Ht.	Outlets, Ctr.-to-Ctr.	Type 303 Stainless Steel		Zinc-Plated Steel		Polypropylene		Nylon	
2	1/4	1/8	1 3/4"	1"	1"	3/4"	4839K711	$58.78	5096K61	$16.24	5364K211	$23.75	5253K301	$26.62
2	3/8	1/4	2 3/8"	1 1/4"	1 1/4"	7/8"	4839K712	72.44	5096K62	20.16	5364K212	26.62	5253K302	29.75
2	1/2	3/8	2 3/4"	1 1/2"	1 1/2"	1"	4839K713	90.33	5096K63	27.76	5364K213	40.12	5253K303	44.75
3	1/4	1/8	2 1/2"	1"	1"	3/4"	4839K801	64.33	5096K81	18.84	5364K801	26.63	5253K401	29.88
3	3/8	1/4	3 1/4"	1 1/4"	1 1/4"	7/8"	4839K802	78.67	5096K82	21.98	5364K802	28.88	5253K402	34.88
3	1/2	3/8	3 3/4"	1 1/2"	1 1/2"	1"	4839K803	102.00	5096K83	29.92	5364K803	42.63	5253K403	47.50
4	1/4	1/8	3 1/4"	1"	1"	3/4"	4839K721	69.67	5096K71	20.14	5364K221	29.38	5253K311	32.88
4	3/8	1/4	4 1/8"	1 1/4"	1 1/4"	7/8"	4839K722	85.11	5096K72	22.68	5364K222	31.25	5253K312	35.00
4	1/2	3/8	4 3/4"	1 1/2"	1 1/2"	1"	4839K723	113.44	5096K23	30.92	5364K223	45.00	5253K313	49.74
5	1/4	1/8	4"	1"	1"	3/4"	4839K804	72.78	5096K84	21.42	5364K804	30.63	5253K404	34.25
5	3/8	1/4	5"	1 1/4"	1 1/4"	7/8"	4839K805	94.00	5096K85	24.82	5364K805	33.00	5253K405	36.88
6	1/4	1/8	4 3/4"	1"	1"	3/4"	4839K731	76.00	5096K31	22.22	5364K231	32.00	5253K321	35.75
6	3/8	1/4	5 7/8"	1 1/4"	1 1/4"	7/8"	4839K732	103.11	5096K32	25.68	5364K232	34.75	5253K322	41.25
6	1/2	3/8	6 3/4"	1 1/2"	1 1/2"	1"	4839K733	133.22	5096K33	34.06	5364K233	48.38	5253K323	53.88
8	1/4	1/8	6 1/4"	1"	1"	3/4"	4839K761	86.11	5096K41	24.62	5364K241	36.75	5253K331	41.00
8	3/8	1/4	7 5/8"	1 1/4"	1 1/4"	7/8"	4839K762	120.22	5096K42	28.50	5364K242	39.38	5253K332	43.88
8	1/2	3/8	8 3/4"	1 1/2"	1 1/2"	1"	4839K763	157.44	5096K43	41.78	5364K243	66.62	5253K333	73.25
10	1/4	1/8	7 3/4"	1"	1"	3/4"	4839K791	99.44	5096K51	26.38	5364K257	39.38	5253K341	44.00
10	3/8	1/4	9 3/8"	1 1/4"	1 1/4"	7/8"	4839K792	140.00	5096K52	30.48	5364K258	42.12	5253K342	47.12
10	1/2	3/8	10 3/4"	1 1/2"	1 1/2"	1"	4839K793	183.33	5096K53	47.90	5364K259	69.38	5253K343	76.25

Outlets on One Side with Extra-Wide Space

No. of Outlets	Pipe Size Inlet	Pipe Size Outlet	Overall Size Lg.	Overall Size Wd.	Overall Size Ht.	Outlets, Ctr.-to-Ctr.	Black Anodized Aluminum		Nickel-Plated Aluminum		Brass	
2	1/4	1/8	3 1/4"	1"	1"	1 1/2"	5975K31	$22.49	5975K61	$27.84	5627K614	$51.32
2	3/8	1/4	3 1/4"	1 1/4"	1 1/4"	1 1/2"	5975K32	24.82	5975K62	30.72	5627K615	66.71
2	1/2	3/8	3 1/4"	1 1/2"	1 1/2"	1 1/2"	5975K33	25.83	5975K63	31.95	5627K616	80.13
3	1/4	1/8	4 3/4"	1"	1"	1 1/2"	5975K34	23.68	5975K64	29.29	5627K617	58.68
3	3/8	1/4	4 3/4"	1 1/4"	1 1/4"	1 1/2"	5975K35	24.19	5975K65	29.92	5627K618	75.00
3	1/2	3/8	4 3/4"	1 1/2"	1 1/2"	1 1/2"	5975K36	28.11	5975K66	34.79	5627K619	90.53
4	1/4	1/8	6 1/4"	1"	1"	1 1/2"	5975K11	21.37	5975K67	32.13	5627K621	64.74
4	3/8	1/4	6 1/4"	1 1/4"	1 1/4"	1 1/2"	5975K12	21.43	5975K68	32.23	5627K622	81.45
4	1/2	3/8	6 1/4"	1 1/2"	1 1/2"	1 1/2"	5975K13	29.58	5975K69	37.88	5627K623	99.74
5	1/4	1/8	7 3/4"	1"	1"	1 1/2"	5975K14	22.58	5975K71	33.97	5627K624	70.13
5	3/8	1/4	7 3/4"	1 1/4"	1 1/4"	1 1/2"	5975K15	22.95	5975K72	34.54	5627K625	88.29
5	1/2	3/8	7 3/4"	1 1/2"	1 1/2"	1 1/2"	5975K16	31.49	5975K73	40.17	5627K626	110.53
6	1/4	1/8	9 1/4"	1"	1"	1 1/2"	5975K17	24.59	5975K74	36.98	5627K627	75.26
6	3/8	1/4	9 1/4"	1 1/4"	1 1/4"	1 1/2"	5975K18	24.80	5975K75	37.34	5627K628	95.53
6	1/2	3/8	9 1/4"	1 1/2"	1 1/2"	1 1/2"	5975K19	33.42	5975K76	43.26	5627K629	121.32
8	1/4	1/8	12 1/4"	1"	1"	1 1/2"	5975K37	32.77	5975K77	40.57	5627K631	85.53
8	3/8	1/4	12 1/4"	1 1/4"	1 1/4"	1 1/2"	5975K38	33.73	5975K78	41.77	5627K632	108.16
8	1/2	3/8	12 1/4"	1 1/2"	1 1/2"	1 1/2"	5975K39	39.19	5975K79	48.51	5627K633	144.61
10	3/8	1/4	15 1/4"	1 1/4"	1 1/4"	1 1/2"	5975K41	37.42	5975K81	46.32	5627K634	148.03

Outlets on Two Sides

Black Anodized Aluminum

No. of Outlets	Pipe Size Inlet	Pipe Size Outlet	Overall Size Lg.	Overall Size Wd.	Overall Size Ht.	Outlets, Ctr.-to-Ctr.		
Standard								
4	1/4	1/8	1 3/4"	1"	1"	3/4"	5469K11	$18.82
4	3/8	1/4	2 1/8"	1 1/4"	1 1/4"	7/8"	5469K12	21.25
4	1/2	3/8	2 3/4"	1 1/2"	1 1/2"	1"	5469K13	28.38
6	1/4	1/8	2 1/2"	1"	1"	3/4"	5469K21	21.10
6	3/8	1/4	3"	1 1/4"	1 1/4"	7/8"	5469K22	23.12
6	1/2	3/8	3 3/4"	1 1/2"	1 1/2"	1"	5469K23	30.89
8	1/4	1/8	3 1/4"	1"	1"	3/4"	5469K31	23.22
8	3/8	1/4	3 7/8"	1 1/4"	1 1/4"	7/8"	5469K32	24.93
8	1/2	3/8	4 3/4"	1 1/2"	1 1/2"	1"	5469K33	33.12
10	1/4	1/8	4"	1"	1"	3/4"	5469K41	24.85
10	3/8	1/4	4 3/4"	1 1/4"	1 1/4"	7/8"	5469K42	26.71
10	1/2	3/8	5 3/4"	1 1/2"	1 1/2"	1"	5469K43	35.62
12	1/4	1/8	4 3/4"	1"	1"	3/4"	5469K51	26.25
12	3/8	1/4	5 5/8"	1 1/4"	1 1/4"	7/8"	5469K52	28.37
12	1/2	3/8	6 3/4"	1 1/2"	1 1/2"	1"	5469K53	38.12
14	1/4	1/8	5 1/2"	1"	1"	3/4"	5469K61	27.62
14	3/8	1/4	6 1/2"	1 1/4"	1 1/4"	7/8"	5469K62	30.07
14	1/2	3/8	7 3/4"	1 1/2"	1 1/2"	1"	5469K63	40.62
Standard (Cont.)								
16	1/4	1/8	6 1/4"	1"	1"	3/4"	5469K71	$29.20
16	3/8	1/4	7 3/8"	1 1/4"	1 1/4"	7/8"	5469K72	31.62
16	1/2	3/8	8 3/4"	1 1/2"	1 1/2"	1"	5469K73	42.90
18	1/4	1/8	7"	1"	1"	3/4"	5469K81	30.12
18	3/8	1/4	8 1/4"	1 1/4"	1 1/4"	7/8"	5469K82	33.00
18	1/2	3/8	9 3/4"	1 1/2"	1 1/2"	1"	5469K83	44.38
20	1/4	1/8	7 3/4"	1"	1"	3/4"	5469K91	31.12
20	3/8	1/4	9 1/8"	1 1/4"	1 1/4"	7/8"	5469K92	34.00
20	1/2	3/8	10 3/4"	1 1/2"	1 1/2"	1"	5469K93	46.39
Extra-Wide Space								
8	1/4	1/8	6 1/4"	1"	1"	1 1/2"	5975K21	26.20
8	3/8	1/4	6 1/4"	1 1/4"	1 1/4"	1 1/2"	5975K22	28.57
8	1/2	3/8	6 1/4"	1 1/2"	1 1/2"	1 1/2"	5975K23	36.96
10	1/4	1/8	7 3/4"	1"	1"	1 1/2"	5975K24	27.66
10	3/8	1/4	7 3/4"	1 1/4"	1 1/4"	1 1/2"	5975K25	29.36
10	1/2	3/8	7 3/4"	1 1/2"	1 1/2"	1 1/2"	5975K26	39.37
12	1/4	1/8	9 1/4"	1"	1"	1 1/2"	5975K27	30.09
12	3/8	1/4	9 1/4"	1 1/4"	1 1/4"	1 1/2"	5975K28	32.74
12	1/2	3/8	9 1/4"	1 1/2"	1 1/2"	1 1/2"	5975K29	41.80

Plugs—Maximum pressure ratings are at 72° F.

Pipe Size	Square-Head Aluminum (150 Max. psi)		Hex-Head Brass (1,000 Max. psi)		Hex-Head Type 304 SS (2,570 Max. psi)		Square-Head Steel (150 Max. psi)		Hex-Head Polypropylene (150 Max. psi)		Hex-Head Nylon (75 Max. psi)	
1/16			50785K267 ■	$0.59								
1/8	44705K382	$2.67	50785K21	.82	4464K331	$2.86	44605K221	$0.12	4515K208	$0.95	48335K151	$0.70
1/4	44705K383	3.07	50785K22	1.27	4464K332	2.91	44605K222	.18	4515K209	.92	48335K152	1.25
3/8	44705K384	3.39	50785K23	1.85	4464K333	3.64	44605K223	.28	4515K211	1.03	48335K153	1.29
1/2	44705K385	3.82	50785K24	2.81	4464K334	4.84	44605K224	.50	4515K212	1.01	48335K154	.88
3/4	44705K386	4.27	50785K521	4.90								
1	44705K387	5.39	50785K332	12.35								

■ Plug has a hex socket, not a hex head.



Square Head



Hex Head

About Duct Hose

Duct hose is designed for use in blowing and venting applications. While it is typically used to exhaust air and fumes, some types of duct hose can carry materials such as dust, chips, shavings, and liquids.

Flexibility—Flexibility takes into account several factors, including bend radius, material, and hose diameter. We've rated the flexibility for each hose in general terms:

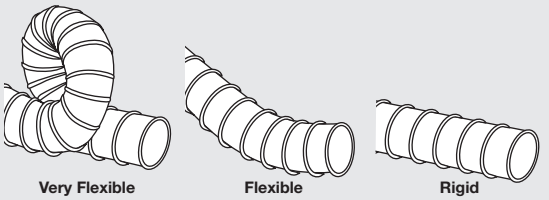

Compressibility—Compressibility is listed as a percentage. The lower the percentage, the more compressible the hose. For example, if a 10-ft. hose compresses to 20%, the hose compresses to 2 ft. Hose lengths given are the extended length, unless otherwise stated.

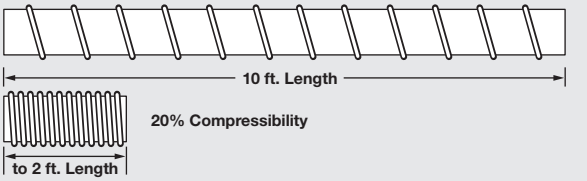

Bend Radius—An indicator of how much you can bend a hose without damaging it, bend radius is measured from the center of the bend to the inside edge of the hose. The smaller the measurement, the more flexible the hose.

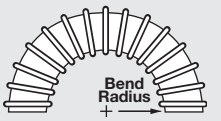

Spiral Direction—The direction of the hose spiral determines whether you need a right-hand clamp or a left-hand clamp. When looking at the end of the hose, a right-hand spiral will twist away from you clockwise; a left-hand spiral will twist away from you counterclockwise.

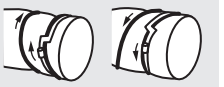

Blo-N-Vent Duct Hose for Air

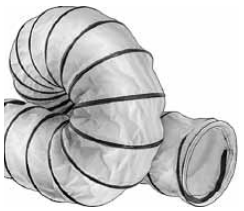

Hose with Wear Strip and Embedded Wire Ends

- Very flexible
- Temperature Range: –65° to 250° F
- Color: Yellow; wear strip is black
- Clamps: Use worm-drive clamps (see pages 302-306)

Our most versatile duct hose for blowing and venting air, this 0.013″ thick neoprene-coated polyester hose is lightweight and very flexible. It has a right-hand metal spiral, a ribbed interior, and can be used outdoors. Hose with a 4″ to 5″ ID compresses to 20% of its length; 6″ to 24″ ID compresses to 10%. Meets UL 94V0 for flame retardance. Not rated for vacuum. Maximum continuous length is 25 feet.

Hose with Wear Strip—The wear strip protects against damage caused by dragging. *Hose with embedded wire ends* has a wire rope sewn into each end that lets you connect lengths of hose without a duct hose connector or clamp. Squeeze the end on one hose and slip it into the opening of another.

				Hose			*Hose with Wear Strip*					
				With Unfinished Ends			With Unfinished Ends			With Embedded Wire Ends		
					Per Ft.			Per Ft.				Other
ID	OD	Bend Radius	Max. psi @ 72° F		1-24	25-Up		1-24	25-Up	10 ft.	25 ft.	Lengths, ft.
4″	4 5/16″	3″	5.4	5265K14	$6.71	$5.22	5265K41	$7.80	$6.07	5265K61	$81.14	$165.74	1 to 50
5″	5 3/8″	3 1/2″	4	5265K15	7.83	6.09	5265K42	9.51	7.40	5265K62	76.33	167.15	1 to 50
6″	6 3/8″	3 1/2″	3	5265K16	8.69	6.76	5265K43	10.09	7.84	5265K63	105.03	214.65	1 to 50
8″	8 7/16″	5″	3	5265K18	9.57	7.44	5265K45	11.14	8.67	5265K64	116.18	237.60	1 to 50
10″	10 1/2″	6 1/2″	2.5	5265K21	11.00	8.56	5265K47	13.23	10.29	5265K65	137.57	281.78	1 to 50
12″	12 1/2″	7 1/2″	2	5265K23	13.46	10.47	5265K49	16.11	12.53	5265K66	166.78	321.32	1 to 50
14″	14 1/2″	8 1/2″	1.7	5265K25	16.57	12.89	5265K51	18.40	14.31	5265K67	191.55	389.32	1 to 50
16″	16 1/2″	9 1/2″	1.5	5265K27	18.09	14.07	5265K53	21.57	16.78	5265K68	224.64	447.81	1 to 50
18″	18 1/2″	10 1/2″	1.3	5265K29	21.77	16.93	5265K55	25.57	19.89	5265K69	266.00	541.51	1 to 50
20″	20 1/2″	12″	1.1	5265K31	23.83	18.53	5265K56	28.00	21.78	5265K72	292.75	584.18	1 to 50
24″	24 9/16″	13″	1	5265K32	29.46	22.91	5265K57	35.03	27.24	5265K74	364.56	727.44	1 to 50

Insulated Blo-N-Vent Duct Hose with Wear Strip for Air



- Very flexible
- Temperature Range: –40° to 250° F
- Color: Yellow with a black wear strip
- Clamps: Use worm-drive and quick-release clamps (see pages 302-306)

A layer of fiberglass insulation helps maintain the temperature inside the hose. Use for heating and cooling applications in outdoor environments. Insulation is 1″ thick and has an R value of 4. Hose has a wear strip that protects against damage caused by dragging. The ends are cuffed for easy attachment to duct hose connectors. Hose is made from 0.008″ thick neoprene-coated polyester with a right-hand metal spiral and a ribbed interior. Hose with a 4″ to 5″ ID compresses to 35% of its length; 6″ to 24″ ID compresses to 20%. The liner meets UL 94V0 for flame retardance.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		10 ft.	25 ft.
4″	5 7/16″	3″	8″ Hg	8.2	1210N11	$178.55	$446.36
5″	6 3/8″	3 1/2″	7.2″ Hg	4.5	1210N12	270.00	675.00
6″	8 7/16″	4″	6.4″ Hg	4	1210N13	278.55	696.36
8″	9 1/2″	5″	6.1″ Hg	3.5	1210N14	292.73	731.82
10″	11 9/16″	6″	3.1″ Hg	2.8	1210N15	328.00	820.00
12″	13 1/2″	7 1/2″	1.8″ Hg	2.3	1210N16	394.18	985.45
14″	16 9/16″	8 1/2″	1.2″ Hg	2	1210N17	459.27	1,148.18
16″	17 1/2″	10″	0.7″ Hg	1.7	1210N18	524.91	1,312.27
18″	19 1/2″	11″	0.5″ Hg	1.6	1210N19	610.00	1,525.00
20″	21 9/16″	12″	0.4″ Hg	1.4	1210N21	722.91	1,807.27
24″	26 9/16″	14″	Not Rated	0.9	1210N22	871.27	2,178.18

Insulated Duct Hose for Indoor Air

- Very flexible
- Temperature Range: –20° to 200° F (Black Cover); –20° to 250° F (Silver Cover)
- Color: Black or silver
- Clamps: Use worm-drive clamps (see pages 302-306)



Silver Cover

Insulated with a layer of fiberglass, this ultra-thin, lightweight hose keeps air at a constant temperature. Insulation is 1⅛″ thick and has an R value of 4. Use scissors or a utility knife to cut the hose to length. Hose has a left-hand metal spiral and a ribbed interior. It compresses to 10% of its length. Meets UL 181 Class 1 and NFPA 90A and 90B. Not rated for vacuum or pressure.

Black Cover—Hose is made from 0.003″ thick polyethylene with a polyethylene cover. Max. airflow is 5,000 ft./min.

Silver Cover—Hose is made from 0.003″ thick fiberglass with a metalized film cover. Max. airflow is 6,000 ft./min.

ID	OD	Bend Radius	Black Cover	25 ft.	Silver Cover	25 ft.
3″	5″	3″	5514K33	$59.71		
4″	6″	4″	5514K34	62.84	55315K71	$73.96
5″	7″	5″	5514K35	67.11	55315K65	80.30
6″	8″	6″	5514K36	71.42	55315K72	86.04
8″	10″	8″	5514K38	89.27	55315K73	106.18
10″	12″	10″	5514K41	104.98	55315K74	128.62
12″	14″	12″	5514K42	129.98	55315K75	156.84
14″	16″	14″	5514K44	156.56	55315K76	192.52
16″	18″	16″	5514K46	181.98	55315K77	216.64
18″	20″	18″	5514K47	214.09		
20″	22″	20″	5514K48	250.84		

Disposable Duct Hose for Air

- Very flexible
- Temperature Range: 32° to 120° F
- Color: Clear
- Clamps: Use worm-drive clamps (see pages 302-306)

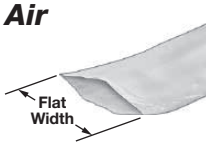

Super thin and lightweight, this hose is economical and rolls up for easy disposal. Hose is made from 0.004″ thick polyethylene and has a smooth interior for unrestricted flow. It is for blowing applications only. Not rated for vacuum or pressure.

ID	Flat Width	Lengths, ft.		Per Ft.
4 7/16″	7″	25, 100	1289T11	$0.18
6 7/16″	10″	25, 100	1289T12	.21
8 5/16″	13″	25, 100	1289T13	.34
10 1/2″	16 1/2″	25, 50, 100	1289T14	.43
12 3/4″	20″	25, 50, 100	1289T15	.45
15 5/16″	24″	25, 50, 100	1289T16	.53
16 1/4″	25 1/2″	25, 50, 100	1289T17	.58
18 1/2″	29″	25, 50, 100	1289T18	.61
20 7/16″	32″	25, 50, 100	1289T19	.81

Bend-and-Stay Metal Duct Hose for Air

- Very flexible
- Temperature Range: –100° to 435° F
- Clamps: Use worm-drive clamps (see pages 302-306)



Unlike fabric duct hose, this lightweight aluminum hose can bend around corners and hold its shape. Hose is not for continuous flexing. One end of the hose is crimped; insert the crimped end into another piece of duct hose and secure with a clamp to create longer lengths. The hose may need support once the length exceeds 6 feet. It is made from 0.004″ thick aluminum and has a ribbed interior. Hose compresses to 35% of its length. Not rated for vacuum or pressure.

ID	OD	Bend Radius	Length, ft.		
3″	3 1/4″	1 1/2″	7	55335K41	$5.83
4″	4 1/4″	2″	7	55335K42	8.38
5″	5 1/4″	2 1/2″	6 1/2	55335K43	10.56
6″	6 1/4″	3″	6 1/2	55335K44	14.54
7″	7 1/4″	3 1/2″	6 1/2	55335K45	17.58
8″	8 1/4″	4″	6	55335K46	20.42
9″	9 1/4″	4 1/2″	6	55335K47	23.96
10″	10 1/4″	5″	6	55335K48	26.25
12″	12 1/4″	6″	6	55335K49	41.25
14″	14 1/4″	7″	6	55335K51	53.00

Heat-Reflective Duct Hose for Air

- Flexible
- Temperature Range: –65° to 625° F
- Color: Silver
- Clamps: Use worm-drive and quick-release clamps (see pages 302-306)



A metalized polyester cover reflects heat so the temperature inside the hose won't rise. Hose has a smooth interior for unrestricted flow. It is made from 0.027″ thick fiberglass with a right-hand metal spiral and can be used outdoors. Hose with a 1″ to 2″ ID compresses to 35% of its length; 3″ to 5″ ID compresses to 25%; 6″ ID compresses to 20%. Maximum continuous length is 12 feet.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-11	Per Ft. 12-Up
1″	1 1/8″	1 1/2″	29″ Hg	30	6665T11	$23.51	$18.28
1 1/2″	1 5/8″	1 1/2″	29″ Hg	30	6665T12	23.51	18.29
2″	2 1/8″	2″	29″ Hg	30	6665T13	27.63	21.48
3″	3 1/8″	2 1/2″	29″ Hg	30	6665T14	33.49	26.05
4″	4 1/8″	3″	27″ Hg	30	6665T15	35.66	27.73
5″	5 1/8″	3 1/2″	14″ Hg	28	6665T16	36.26	28.19
6″	6 1/8″	4″	9″ Hg	19	6665T17	40.29	31.33

Quick-Attach Duct Hose with Wear Strip for Air

- Very flexible
- Temperature Range: –20° to 180° F
- Color: Yellow with a black wear strip



The ends of this hose have a belt-and-buckle connection that eliminates the need for clamps. To connect hose, slip a duct hose connector into one end and cinch the belt for a secure hold. Hose has a wear strip that protects against damage caused by dragging. It is made from 0.014″ thick PVC-coated polyester with a right-hand metal spiral and a ribbed interior. It compresses to 10% of its length and can be used outdoors. Hose meets UL 94V0 for flame retardance and NFPA 701.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F	Max. Cont. Lg., ft.		5 ft.	10 ft.	15 ft.	25 ft.	Other Lengths, ft.
4″	4 3/8″	2″	9″ Hg	13	25	5473K21	$43.60	$58.80	$74.10	$113.52	1 to 50
5″	5 3/8″	3 1/2″	7″ Hg	12	25	5473K22	125.37	172.94	220.51	315.66	1 to 50
6″	6 7/16″	3″	3.5″ Hg	11	25	5473K23	55.60	68.60	87.20	121.17	1 to 50
8″	8 1/2″	4 1/2″	2.8″ Hg	8	25	5473K24	62.57	86.43	110.43	165.28	1 to 50
10″	10 9/16″	5 1/2″	2″ Hg	7	25	5473K25	73.90	101.30	137.07	169.40	1 to 50
12″	12 9/16″	7″	1″ Hg	5	25	5473K26	85.60	117.20	153.37	177.40	1 to 50
16″	16 9/16″	9 1/2″	0.5″ Hg	5	25	5473K27	239.43	344.14	448.86	658.29	1 to 50
18″	18 9/16″	10″	0.4″ Hg	4	25	5473K28	270.14	393.57	517.00	763.86	1 to 50
20″	20 9/16″	11″	0.3″ Hg	3	25	5473K29	300.86	440.00	579.14	857.43	1 to 50
24″	24 5/8″	13 1/2″	0.1″ Hg	2	25	5473K16	355.43	528.14	700.89	1,046.29	1 to 50

Easy-Store Duct Hose for Air



- Very flexible
- Temperature Range: 0° to 200° F
- Color: Silver
- Clamps: Use worm-drive clamps (see pages 302-306)

The most compressible hose we offer, this duct hose collapses to 5% of its length for easy storage. It is made from 0.001″ thick polyester with a metalized film cover and a left-hand metal spiral. Hose interior is ribbed. Meets UL 181 Class 1 and NFPA 90A and 90B. Not rated for pressure or vacuum.

Hose

ID	OD	Bend Radius	25-ft. Lg.	
3″	3 3/8″	3″	55275K11	$26.23
4″	4 3/8″	4″	55275K13	27.05
5″	5 3/8″	5″	55275K15	33.20
6″	6 3/8″	6″	55275K17	41.80
7″	7 3/8″	7″	55275K19	48.36
8″	8 3/8″	8″	55275K21	47.54
9″	9 3/8″	9″	55275K23	56.97
10″	10 3/8″	10″	55275K25	60.25
12″	12 3/8″	12″	55275K27	73.36
14″	14 3/8″	14″	55275K29	79.10
16″	16 3/8″	16″	55275K51	120.83
18″	18 3/8″	18″	55275K52	141.67
20″	20 3/8″	20″	55275K53	173.75

Connectors



Connectors



Reducing Connectors

Slide these connectors into the end of your hose and secure with a clamp to create longer lengths.

For Hose ID	Lg.		
Connectors			
3″	5 3/8″	55275K31	$2.06
4″	5 3/8″	55275K32	3.64
5″	5 3/8″	55275K33	4.26
6″	5 3/8″	55275K34	4.52
7″	5 3/8″	55275K35	5.10
8″	5 3/8″	55275K36	5.80
9″	5 3/8″	55275K37	7.54
10″	5 3/8″	55275K38	7.22
12″	5 3/8″	55275K39	8.80
14″	5 3/8″	55275K41	11.78
16″	5 3/8″	55275K61	15.12
18″	5 3/8″	55275K62	18.60
20″	5 3/8″	55275K63	21.04

For Hose ID (A)	(B)	Lg.		
Reducing Connectors				
4″	3″	6″	55275K71	$14.57
5″	4″	7″	55275K72	14.30
6″	4″	7″	55275K73	16.50
8″	6″	7″	55275K74	21.38
10″	8″	7″	55275K75	30.57
12″	10″	7″	55275K76	35.96

High-Temperature Duct Hose with Wear Strip for Air



- Very flexible
- Temperature Range: –20° to 325° F
- Color: Yellow with a black wear strip
- Clamps: Use worm-drive clamps (see pages 302-306)

An acrylic coating allows this polyester hose to hold up under higher temperatures than other fabric hose. It has a wear strip that protects against damage caused by dragging. Material is 0.018″ thick with a right-hand metal spiral and a ribbed interior. It can be used outdoors. Hose with a 4″ ID compresses to 15% of its length; 6″ to 14″ ID compresses to 10%. Meets UL 94V0 for flame retardance. Not rated for vacuum. Maximum continuous length is 25 feet.

ID	OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
4″	4 5/16″	2 1/2″	4	6664T11	$11.06	$9.49
6″	6 7/16″	3 1/2″	3.5	6664T12	14.87	12.75
8″	8 1/2″	5″	3	6664T13	19.91	17.05
10″	10 9/16″	6″	2	6664T14	29.37	25.17
12″	12 9/16″	7 1/2″	1.5	6664T15	29.37	25.17
14″	14 9/16″	8 1/2″	1.2	6664T16	34.20	29.31

Crush-Resistant Duct Hose for Air



- Flexible
- Temperature Range: –40° to 225° F
- Color: Blue
- Clamps: Use worm-drive clamps (see pages 302-306)

Step on this polypropylene hose and the flexible plastic spiral will pop back up unharmed. Hose is 0.011″ thick, except the 6″ to 8″ ID hose is 0.014″ thick. It has a right-hand spiral, a ribbed interior, and can be used outdoors. Hose with a 1″ to 1 1/2″ ID compresses to 60% of its length; 2″ to 2 1/2″ ID compresses to 50%; 3″ to 8″ ID compresses to 45%. Not rated for vacuum. Maximum continuous length is 50 feet.

ID	OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-49	Per Ft. 50-Up
1″	1 5/16″	1 1/2″	11	5152K31	$3.49	$2.72
1 1/4″	1 9/16″	2″	10	5152K41	3.80	2.96
1 1/2″	1 7/8″	2 1/2″	10	5152K42	4.06	3.16
2″	2 3/8″	3 1/2″	10	5152K43	4.34	3.38
2 1/2″	2 7/8″	4″	9	5152K44	4.46	3.47
3″	3 3/8″	4 1/2″	8	5152K11	4.60	3.58
4″	4 3/8″	5″	5	5152K12	6.17	4.80
5″	5 3/8″	5″	4	5152K13	7.46	5.80
6″	6 1/2″	5 1/2″	7	5152K14	11.54	8.98
7″	7 1/2″	6″	8	5152K15	13.00	10.11
8″	8 1/2″	7″	5	5152K16	14.77	11.49

Blo-R-Vac Very Flexible Duct Hose for Fumes

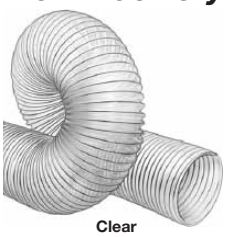

Clear

- Very flexible
- Temperature Range: 20° to 160° F
- Color: Blue or clear
- Clamps: Use worm-drive clamps (see pages 302-306)

Rugged, yet pliable PVC makes this a good general purpose hose for venting smoke, propane fumes, and water-based paint fumes. Hose is 0.020″ thick with a right-hand metal spiral and a ribbed interior. It can be used outdoors. Hose with a 1 1/4″ to 2″ ID compresses to 50% of its length; 2 1/2″ to 3″ ID compresses to 35%; 4″ to 18″ ID compresses to 20%.

Blue hose is also for use with welding fumes. It meets UL 94V0 for flame retardance. **Clear hose** lets you see inside your line.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F	Blue	Per Ft.	Max. Cont. Lg. Ft.	Lg. Each	Clear	Per Ft.	Max. Cont. Lg. Ft.	Lg. Each
1 1/4″	1 1/2″	3/8″	29″ Hg	27psi	5666K61	$2.68	50	$110.00	56675K74	$3.45	50	$138.50
1 1/2″	1 3/4″	3/4″	29″ Hg	25psi	5666K62	2.78	50	113.50	56675K75	3.63	50	145.00
2″	2 1/4″	1 1/2″	29″ Hg	19psi	5666K63	2.96	50	121.00	56675K76	3.91	50	156.43
2 1/2″	2 3/4″	1 1/2″	19″ Hg	14psi	5666K64	3.73	50	152.50	56675K77	4.33	50	173.00
3″	3 1/4″	1 1/2″	11″ Hg	12psi	5666K65	4.44	50	182.00	56675K78	5.03	50	201.00
4″	4 5/16″	1 1/2″	9″ Hg	8psi	5666K66	5.22	50	213.83	56675K79	5.90	50	236.00
5″	5 5/16″	1 1/2″	4.7″ Hg	6.5psi	5666K67	5.62	50	230.00	56675K81	7.02	50	281.00
6″	6 5/16″	1 1/2″	2.7″ Hg	5.4psi	5666K68	6.00	50	245.50	56675K82	7.77	50	311.00
7″	7 5/16″	2″	2.8″ Hg	3.9psi	5666K69	7.33	50	298.74	56675K83	8.30	50	332.00
8″	8 3/8″	2 1/2″	1.9″ Hg	3.4psi	5666K71	8.42	50	344.50	56675K84	9.53	50	381.00
10″	10 3/8″	2 1/2″	1″ Hg	2.7psi	5666K72	10.67	25	218.25	56675K85	12.07	25	241.50
12″	12 3/8″	2″	0.6″ Hg	2.3psi	5666K73	10.67	25	218.25	56675K86	14.65	25	293.00
14″	14 3/8″	2″	0.4″ Hg	2psi	5666K74	15.93	25	326.00	56675K87	18.07	25	361.50
16″	16 3/8″	2″	0.3″ Hg	1.7psi	5666K75	19.31	25	395.00	56675K88	21.89	25	438.00
18″	18 3/8″	2″	0.1″ Hg	1.4psi	5666K76	23.00	25	470.50	56675K89	25.88	25	517.50

Bend-and-Stay Very Flexible Metal Duct Hose for Fumes

- Very flexible
- Temperature Range: –100° to 400° F (Aluminum); –400° to 800° F (304 Stainless Steel)
- Clamps: Use worm-drive clamps (see pages 302-306) and twin-ring hose clamps (see page 310)

Form elbows and bends with this crimped-seam hose and it will hold its shape without support. Hose is not for continuous flexing. Use with smoke, sparks, paint fumes, welding fumes, and oil fumes. Hose has a ribbed interior and can be used outdoors. Not rated for compression, vacuum, or pressure.

Aluminum is lighter than stainless steel and has good corrosion resistance. It is 0.008″ thick.

304 stainless steel is more durable than aluminum and has very good corrosion resistance. It is 0.005″ thick.



		Aluminum					304 Stainless Steel				
ID	OD	Bend Radius		2 ft.	5 ft.	10 ft.	Bend Radius		2 ft.	5 ft.	10 ft.
2″	2 3/8″	2″	5400K1	$16.12	$34.90	$64.41	2 1/2″	5515K1	$23.96	$54.17	$101.47
3″	3 3/8″	3″	5400K2	16.68	36.20	67.20	3 1/2″	5515K2	26.58	60.73	114.87
4″	4 3/8″	4″	5400K3	20.04	44.60	72.40	4 1/2″	5515K3	29.58	68.23	129.88
5″	5 3/8″	5″	5400K4	21.48	48.20	91.20	5 1/2″	5515K4	35.75	83.75	160.47
6″	6 3/8″	6″	5400K5	21.76	48.90	92.40	6 1/2″	5515K5	37.54	88.12	169.21
7″	7 3/8″	8″	5400K6	26.60	59.80	113.40	7 1/2″	5515K6	41.00	92.20	178.20
8″	8 3/8″	10″	5400K7	26.75	61.40	117.80	9″	5515K7	46.96	111.67	215.98
9″	9 3/8″	12″	5400K8	31.60	70.10	135.20	9″	5515K8	50.08	123.15	245.72
10″	10 3/8″	15″	5400K9	33.96	75.40	145.60	11″	5515K9	53.24	135.21	262.23
12″	12 3/8″	20″	5400K71	39.68	84.60	173.00	13″	5515K31	62.84	154.17	287.10

Lightweight Very Flexible Duct Hose for Fumes

- Very flexible
- Temperature Range: –20° to 150° F
- Color: Blue
- Clamps: Use worm-drive clamps (see pages 302-306) and twin-ring hose clamps (see page 310)



With the smallest bend radius of all the fume hose we offer, this lightweight hose can handle tight turns around equipment. Hose has a smooth interior for unrestricted flow. It is for use with smoke, paint fumes, welding fumes, and oil fumes. Hose is made from 0.018″ thick PVC with a right-hand metal spiral. It compresses to 20% of its length and can be used outdoors. Meets UL 94HB for flame retardance. Maximum continuous length is 50 feet.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-49	Per Ft. 50-Up
1″	1 3/16″	1/2″	13.5″ Hg	15.8	5488K53	$2.30	$1.88
1 1/4″	1 7/16″	1/2″	13.5″ Hg	14	5488K55	2.44	2.00
1 1/2″	1 11/16″	1/2″	11.5″ Hg	12	5488K56	2.59	2.12
1 3/4″	1 15/16″	1/2″	10.5″ Hg	10	5488K57	2.73	2.23
2″	2 3/16″	1/2″	9.5″ Hg	8	5488K58	3.04	2.49
3″	3 1/4″	1/2″	7.5″ Hg	6	5488K61	4.72	3.86
4″	4 1/4″	1/2″	6.5″ Hg	5	5488K63	7.10	5.81
5″	5 1/4″	1″	5.5″ Hg	5	5488K64	8.59	7.03
6″	6 1/4″	1″	5.5″ Hg	4	5488K66	9.41	7.70

Easy-Store Very Flexible Duct Hose for Fumes

- Very flexible
- Temperature Range: –65° to 550° F
- Color: Orange
- Clamps: Use worm-drive clamps and quick-release clamps (see pages 302-306)



If you're tight on storage space, this hose compresses down to a small size. It compresses to 20% of its length for 2″ to 3″ ID hose and 15% for 4″ to 12″ ID hose. It is for use with smoke, water-based paint fumes, welding fumes, and oil fumes. Hose is made from 0.01″ thick silicone-coated fiberglass with a right-hand metal spiral and a ribbed interior. It can be used outdoors. Maximum continuous length is 25 feet.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
2″	2 1/4″	1 1/2″	29″ Hg	30	5409K25	$13.49	$10.49
2 1/2″	2 3/4″	2″	24″ Hg	30	5409K17	16.63	12.93
3″	3 1/4″	2 1/2″	14″ Hg	30	5409K69	17.40	13.53
4″	4 5/16″	3″	12″ Hg	18	5409K24	21.32	16.40
5″	5 5/16″	3 1/2″	6″ Hg	14	5409K26	25.94	20.18
6″	6 7/16″	4″	5″ Hg	7	5409K28	29.83	23.20
8″	8 3/8″	5″	2″ Hg	5	5409K31	32.30	26.92
10″	10 3/8″	6 1/2″	1″ Hg	4	5409K68	43.14	35.95
12″	12 3/8″	7 1/2″	0.7″ Hg	0.3	5409K64	49.98	41.64

Retracting Very Flexible Duct Hose with Wear Strip for Fumes

- Very flexible
- Temperature Range: –40° to 250° F
- Color: Yellow with a black wear strip
- Clamps: Use worm-drive clamps (see pages 302-306)



Let go of this hose and it will spring back out of your way. The wear strip protects the hose from damage caused by dragging. It is for use with smoke and water-based paint fumes. Hose is made from 0.016″ thick neoprene-coated polyester with a right-hand metal spiral and a ribbed interior. It compresses to 25% of its length and can be used outdoors. Meets UL 94HB and UL 94V0 for flame retardance.

ID	OD	Bend Radius	Max. psi @ 72° F	Max. Cont. Lg., ft.		Per Ft. 1-24	Per Ft. 25-Up
3″	3 3/8″	2 1/2″	14	25	5421K16	$6.17	$5.06
4″	4 3/8″	3″	13	25	5421K17	7.14	5.83
5″	5 3/8″	3 1/2″	8	25	5421K18	8.25	6.74
6″	6 3/8″	4″	8	25	5421K19	9.31	7.62
8″	8 1/16″	6″	6	25	5421K21	10.80	8.84
10″	10 1/16″	6 1/2″	4	25	5421K22	12.58	10.29
12″	12 1/16″	7″	3	25	5421K23	14.60	11.95
14″	14 1/16″	8 1/2″	2.5	25	5421K24	16.80	13.75
16″	16 3/8″	9 1/2″	1.5	25	5421K25	18.80	15.38
18″	18 3/8″	10 1/2″	1.3	25	5421K26	21.16	17.31

Economical Very Flexible Duct Hose for Fumes

- Very flexible
- Temperature Range: –20° to 200° F
- Color: Gray
- Clamps: Use worm-drive clamps (see pages 302-306)



Hose has a single 0.005″ thick layer of PVC-coated fiberglass for venting smoke, water-based paint fumes, and welding fumes. Hose has a right-hand metal spiral and a ribbed interior. It can be used outdoors. Hose with a 2″ ID compresses to 25% of its length; 3″-6″ ID compresses to 20%; 7″-14″ ID compresses to 10%. Meets UL 94HB and UL 94V0 for flame retardance. Maximum continuous length is 25 feet.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
2″	2 1/16″	1/2″	0.8″ Hg	7.5	5501K61	$1.97	$1.58
3″	3 3/16″	1″	0.6″ Hg	5.5	5501K62	2.71	2.16
4″	4 1/4″	1″	0.5″ Hg	4.5	5501K63	3.55	2.85
5″	5 1/4″	1 1/2″	0.2″ Hg	3.5	5501K64	3.75	3.00
6″	6 3/16″	1 1/2″	0.1″ Hg	2.8	5501K65	4.80	3.84
7″	7 1/8″	2″	0.07″ Hg	2.2	5501K66	5.47	4.37
8″	8 1/8″	2″	0.05″ Hg	1.8	5501K67	6.35	5.08
9″	9 1/2″	2 1/2″	0.03″ Hg	1.5	5501K68	6.90	5.52
10″	10 1/4″	2 1/2″	0.02″ Hg	1.2	5501K69	7.85	6.28
12″	12 1/2″	3″	0.01″ Hg	1	5501K71	9.15	7.33
14″	14 1/2″	3 1/2″	0.01″ Hg	0.6	5501K72	10.27	8.22

Duct Hose

For information about duct hose, see page 246.

Crush-Resistant Flexible Duct Hose for Exhaust Fumes



- Flexible
- Temperature Range: –40° to 400° F
- Color: Black

Commonly used in garages, this thick rubber hose will bounce back when stepped on or driven over. Use to vent carbon monoxide exhaust fumes while engine idling. Hose is also for use with smoke and water-based paint fumes. Hose is made from 0.156″ thick EPDM rubber and has a ribbed interior. It can be used outdoors. Not rated for compression, vacuum, or pressure.

Hose

2″ to 4″ ID hose has one end that is slightly larger than the other end. To make longer lengths, screw the smaller end of one hose into the larger end of another hose of the same size—no need for a straight connector or clamp.

5″ and 6″ ID hose has two ends that are the same size. To make longer lengths, screw the ends of the hose into a straight connector.

Small End ID	Small End OD	Large End ID	Large End OD	Bend Radius	11-ft. Lg.		
2″	2 7/16″	2 1/16″	2 11/16″	3″	5398K11	$96.33
2 1/2″	3″	2 11/16″	3 3/8″	3″	5398K12	99.24
3″	3 1/2″	3 1/16″	3 13/16″	4″	5398K13	119.84
4″	4 13/16″	4 3/16″	5 3/16″	4″	5398K15	$189.01
5″	6″	—	—	4″	5398K22	250.87
6″	7″	—	—	5″	5398K18	318.83

Accessories



EPDM Wye Connector



Straight Connector



Universal Straight Adapter



Oval Straight Adapter



Diesel Straight Adapter



Aluminum Through-Wall Door Port

Wye Connectors—Thread duct hose into all three sides of these connectors to vent two exhausts through one outlet.

Straight Connectors—Thread duct hose onto these connectors to create longer lengths.

Universal Straight Adapters—Connect these adapters to tailpipes that are 5″ dia. and smaller.

Oval Straight Adapters—Use on vehicles with oval or twin-tip exhaust pipes. The 3″×6″ adapter fits oval tailpipes that are 2 1/2″×5 1/2″ and smaller, or twin tailpipes up to 2 1/2″ dia. each. The 3 1/2″×8 1/2″ adapter fits oval tailpipes that are 3″×8″ and smaller, or twin tailpipes up to 3″ dia. each.

Diesel Straight Adapters—Connect to diesel exhaust pipes that are 5 1/2″ dia. and smaller.

Through-Wall Door Ports—Run your duct hose through a door.

	For Hose ID	Material		
Wye Connector	2 1/2″	EPDM	5398K21	$31.80
Wye Connector	3″	EPDM	5398K19	33.40
Wye Connector	4″	Aluminum	5398K24	85.69
Straight Connector	5″	Aluminum	5398K33	50.53
Straight Connector	6″	Aluminum	5398K35	92.98
Universal Straight Adapter	2″, 3″	EPDM	5398K17	36.16
Universal Straight Adapter	2 1/2″, 3″	EPDM	5398K16	36.16
Oval Straight Adapter (3″×6″)	3″, 4″	EPDM	5398K51	$39.91
Oval Straight Adapter (3 1/2″×8 1/2″)	3″, 4″	EPDM	5398K52	51.33
Diesel Straight Adapter	4″	EPDM	5398K31	80.11
Diesel Straight Adapter	6″	EPDM	5398K32	94.22
Through-Wall Door Port	2 1/2″	EPDM	5398K39	29.29
Through-Wall Door Port	3″	Aluminum	5398K41	39.29
Through-Wall Door Port	4″	Aluminum	5398K44	52.76

All-Plastic Flexible Duct Hose for Fumes



- Flexible
- Temperature Range: 0° to 150° F
- Color: Green
- Clamps: Use worm-drive clamps (see pages 302-306) and twin-ring hose clamps (see page 310)

Unlike other duct hose that has a metal spiral, this PVC hose has a plastic spiral that will not rust. Hose is for use with smoke, water-based paint fumes, and welding fumes. It has a smooth interior for unrestricted flow and a right-hand spiral. It compresses to 50% of its length and can be used outdoors. Not rated for pressure.

ID	OD	Bend Radius	Vacuum @ 72° F	Material Thick.		Per Ft.	Max. Cont. Lg. Ft.	Each
1″	1 1/4″	2″	5″ Hg	0.035″	5643K63	$1.87	100	$152.00
1 1/4″	1 1/2″	2″	5″ Hg	0.04″	5643K64	2.15	100	171.00
1 1/2″	1 3/4″	2″	5″ Hg	0.04″	5643K65	2.84	100	228.00
2″	2 5/16″	3″	5″ Hg	0.047″	5643K66	3.91	100	313.00
2 1/2″	2 13/16″	4″	5″ Hg	0.047″	5643K67	4.78	100	382.00
3″	3 7/16″	7″	5″ Hg	0.047″	5643K68	$6.93	100	$555.00
4″	4 7/16″	8″	5″ Hg	0.047″	5643K69	10.64	100	852.00
6″	6 1/2″	10″	5″ Hg	0.047″	5643K71	17.40	30	417.00
8″	8 9/16″	12″	5″ Hg	0.063″	5643K72	31.34	20	501.60

Flexible Duct Hose for Corrosive Fumes



Hose with Unfinished Ends

- Flexible
- Temperature Range: –75° to 400° F
- Color: Red
- Clamps: Use worm-drive clamps (see pages 302-306)

A nonstick PTFE liner gives this hose the ability to handle corrosive fumes such as smoke, paint fumes, hydrochloric acid fumes, and toluene fumes. Hose is made from 0.028″ thick silicone-coated fiberglass with a right-hand metal spiral. It has a ribbed interior and can be used outdoors. Meets UL 94HB and UL 94V0 for flame retardance. Not rated for compression.

Hose with cuffed ends has finished edges for easy attachment to duct hose connectors.

					With Unfinished Ends				With Cuffed Ends	
ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F	Max. Cont. Lg., ft.		Per Ft. 1-11	Per Ft. 12-Up	6 ft.	12 ft.
1″	1 1/8″	1″	28″ Hg	28	12	5497K38	$12.14	$10.12	5497K41 $87.60	$133.53
1 1/4″	1 3/8″	1 1/2″	24″ Hg	26	12	5497K31	15.00	12.27	5497K42 99.03	162.12
1 1/2″	1 5/8″	1 1/2″	22″ Hg	25	12	5497K33	19.32	15.47	5497K43 127.60	195.12
1 3/4″	1 7/8″	2″	21″ Hg	24	12	5497K34	22.75	18.20	5497K44 150.18	221.07
2″	2 3/16″	2″	20″ Hg	24	12	5497K35	24.32	19.46	5497K45 171.88	272.80
3″	3 3/16″	3″	16″ Hg	19	12	5497K36	33.05	26.44	5497K46 214.13	370.67
4″	4 3/16″	4″	13″ Hg	16	12	5497K37	43.30	34.64	5497K47 280.50	434.56
6″	6 3/16″	6″	7″ Hg	11	12	5497K92	56.56	46.27	5497K48 366.34	641.52
8″	8 3/16″	8″	3″ Hg	7	12	5497K94	70.84	59.04	5497K49 458.87	711.00
10″	10 1/4″	10″	1″ Hg	5	12	5497K95	103.50	86.25	5497K68 670.41	889.51
12″	12 1/4″	12″	1″ Hg	4	12	5497K97	103.90	86.29	5497K69 659.12	1,033.96

High-Temperature Flexible Duct Hose for Fumes

- Flexible
- Temperature Range: –65° to 300°F (Neoprene Coated); –75° to 500°F (Silicone Coated)
- Color: Black (Neoprene Coated); Red (Silicone Coated)
- Clamps: Use worm-drive clamps (see pages 302-306)

Combining the heat resistance of metal with the flexibility of fabric, this fiberglass hose has a special coating that stands up to high temperatures. Hose can be used outdoors and is for use with smoke, water-based paint fumes, and welding fumes. It is 0.023″ thick with a right-hand metal spiral and a ribbed interior. Hose with a ¾″ to 3½″ ID compresses to 75% of its length; 4″ to 12″ ID compresses to 50%.

Neoprene-coated hose meets UL 94HB and UL 94V0 for flame retardance and can also handle sparks.

Silicone-coated hose handles a wider temperature range than neoprene-coated hose.

Hose with cuffed ends has finished edges for easy attachment to duct hose connectors.


Hose with Unfinished Ends

Hose with Unfinished Ends

ID	OD	Bend Radius	Vacuum @ 72°F	Max. psi @ 72°F	Max. Cont. Lg., ft.	Neoprene Coated	Per Ft. 1-24	Per Ft. 25-Up	Silicone Coated	Per Ft. 1-24	Per Ft. 25-Up
¾″	⅞″	1″	28″ Hg	28	25	55125K71	$4.67	$3.74	55125K94	$7.33	$5.86
⅞″	1 1/16″	1″	28″ Hg	28	25	55125K12	4.98	3.89	55125K95	7.87	6.30
1″	1⅛″	1″	28″ Hg	28	25	55125K13	5.02	3.93	55125K72	8.13	6.50
1¼″	1⅜″	1½″	26″ Hg	26	25	55125K14	5.70	4.46	55125K73	8.83	7.06
1½″	1⅝″	1½″	24″ Hg	25	25	55125K15	6.58	5.16	55125K74	10.01	8.00
1¾″	1⅞″	2″	22″ Hg	23	25	55125K16	6.97	5.45	55125K75	10.79	8.62
2″	2⅛″	2″	20″ Hg	24	25	55125K17	7.06	5.65	55125K76	11.58	9.25
2¼″	2 7/16″	2½″	19″ Hg	21	25	55125K93	7.28	5.82	55125K77	12.59	10.07
2½″	2 11/16″	2½″	18″ Hg	20	25	55125K18	8.19	6.41	55125K78	13.69	10.72
3″	3 3/16″	3″	16″ Hg	19	25	55125K19	9.01	7.05	55125K79	15.15	12.13
3½″	3¾″	3½″	14″ Hg	18	25	55125K21	10.23	8.00	55125K81	17.09	13.67
4″	4 3/16″	4″	13″ Hg	16	25	55125K22	10.81	8.46	55125K82	19.25	15.07
4½″	4 11/16″	4½″	11″ Hg	15	25	55125K23	12.34	9.65	55125K83	20.76	16.60
5″	5 3/16″	5″	10″ Hg	14	25	55125K24	12.89	10.09	55125K84	21.17	16.93
5½″	5 11/16″	5½″	8″ Hg	13	25	55125K25	14.25	11.15	55125K96	23.83	19.07
6″	6 3/16″	6″	7″ Hg	11	25	55125K26	14.70	11.49	55125K85	26.22	20.53
6½″	6 11/16″	6½″	6″ Hg	11	25	55125K27	15.53	12.15	55125K97	28.60	22.88
7″	7 3/16″	7″	5″ Hg	9	25	55125K28	17.09	13.37	55125K86	30.21	24.17
8″	8 3/16″	8″	3″ Hg	7	25	55125K29	19.19	15.02	55125K87	31.96	25.93
9″	9 3/16″	9″	2″ Hg	6	25	55125K31	20.69	16.19	55125K88	35.33	28.66
10″	10¼″	10″	1.5″ Hg	5	25	55125K32	23.01	18.00	55125K89	39.43	31.98
11″	11¼″	11″	1″ Hg	4	25	55125K33	23.62	18.90	55125K91	40.66	33.00
12″	12¼″	12″	1″ Hg	4	25	55125K34	24.82	19.86	55125K92	48.66	39.50

Hose with Cuffed Ends

ID	OD	Bend Radius	Vacuum @ 72°F	Max. psi @ 72°F	Neoprene Coated	5 ft.	15 ft.	25 ft.	Silicone Coated	5 ft.	15 ft.	25 ft.
2″	2⅛″	2″	20″ Hg	24	55125K101	$44.16	$103.16	$159.36	55125K105	$60.38	$149.70	$236.90
3″	3 3/16″	3″	16″ Hg	19	55125K102	53.36	127.18	198.06	55125K106	77.26	195.74	312.32
4″	4 3/16″	4″	13″ Hg	16	55125K103	63.98	148.52	230.84	55125K107	94.76	239.80	347.96
6″	6 3/16″	6″	7″ Hg	11	55125K104	88.84	208.14	289.93	55125K108	136.44	331.96	525.30

Clear Flexible Duct Hose with Wear Strip for Fumes

- Flexible
- Temperature Range: –13° to 140°F
- Color: Clear with a black wear strip
- Clamps: Use twin-ring hose clamps (see page 310)



Vent smoke, water-based paint fumes, and welding fumes with this hose that gives you a clear view inside your line. It has a smooth interior for unrestricted flow and a wear strip to protect against damage caused by dragging. Hose should not be compressed. It is PVC with a right-hand plastic spiral and can be used outdoors. Not rated for vacuum. Maximum continuous length for 2½″ to 7″ ID hose is 100 feet; for 8″ ID hose it is 50 feet.

ID	OD	Bend Radius	Max. psi @ 72°F	Material Thick.		Per Ft. 1-99	Per Ft. 100-Up
2½″	2 13/16″	2½″	6	0.035″	5348K31	$3.17	$2.54
3″	3⅜″	3″	6	0.039″	5348K32	3.78	3.02
4″	4 7/16″	4″	5	0.039″	5348K33	5.17	4.14
5″	5 9/16″	5″	3	0.047″	5348K34	7.70	6.16
6″	6 9/16″	6″	3	0.047″	5348K35	9.57	7.66
7″	7 9/16″	7″	2	0.047″	5348K36	11.39	9.11
8″	8 9/16″	8″	2	0.047″	5348K37	12.81	10.24

Extreme-Temperature Flexible Duct Hose with Wear Strip for Fumes

- Flexible
- Temperature Range: –100° to 800°F
- Color: Gray with a silver wear strip
- Clamps: Use worm-drive clamps (see page 306)



Wire-reinforced glass fabric withstands extreme temperatures like stainless steel metal duct hose, but is much more flexible. Hose has a left-hand metal spiral that acts as a wear strip to protect against damage. It is for use with smoke and water-based paint fumes. Hose is 0.02″ thick, has a ribbed interior, and compresses to 25% of its length. It can be used outdoors. Maximum continuous length is 25 feet.

ID	OD	Bend Radius	Vacuum @ 72°F	Max. psi @ 72°F		Per Ft. 1-24	Per Ft. 25-Up
3″	3 5/16″	4½″	4″ Hg	6.8	45825K71	$37.30	$30.52
4″	4 5/16″	6″	2″ Hg	3.7	45825K72	55.21	45.18
6″	6 5/16″	9″	1″ Hg	2.3	45825K74	81.24	66.47
8″	8 5/16″	12″	0.7″ Hg	1.4	45825K76	89.87	73.53
9″	9 3/16″	13½″	0.4″ Hg	1.2	45825K65	109.69	98.72
10″	10 5/16″	15″	0.4″ Hg	1	45825K78	114.70	93.84
12″	12 5/16″	18″	0.3″ Hg	0.7	45825K79	127.64	104.43
14″	14 5/16″	21″	0.1″ Hg	0.5	45825K81	146.40	122.00
16″	16¼″	24″	0.2″ Hg	0.7	45825K82	192.22	173.00

High-Temperature Rigid Metal Duct Hose for Fumes



- Rigid
- Maximum Temperature:
  555° F (Galvanized Steel);
  450° F (Aluminum);
  1000° F (304 Stainless Steel)
- Clamps: Use U-bolt clamps (see pages 1588-1590)

Metal interlocked strips create a rigid, durable hose that stays strong under high temperatures. Hose is for use with smoke, welding fumes, and oil fumes. It has a ribbed interior and can be used outdoors, except the galvanized steel hose is for indoor use only. Not rated for compression, vacuum, or pressure. Maximum continuous length is 25 feet.

Galvanized steel offers fair corrosion resistance.
Aluminum is lighter than steel and has good corrosion resistance.
304 stainless steel has very good corrosion resistance. Meets ASTM A240 and A240M.

General Purpose Galvanized Steel

ID	OD	Bend Radius		2 ft.	5 ft.	10 ft.	Other Lengths, ft.
0.012″ Material Thickness							
1/2″	5/8″	2″	5262K11	—	$6.80	$13.60	1 to 50
5/8″	3/4″	2″	5262K12	—	7.20	14.40	1 to 50
3/4″	7/8″	2 1/2″	5262K13	—	7.55	15.10	1 to 50
7/8″	1″	3″	5262K57	—	8.30	16.60	1 to 50
1″	1 1/8″	3 1/2″	5262K58	—	8.35	16.70	1 to 50
1 1/8″	1 1/4″	3 1/2″	5262K59	—	8.90	17.80	1 to 50
1 1/4″	1 3/8″	4″	5262K64	—	9.10	18.20	1 to 50
1 3/8″	1 1/2″	4″	5262K65	—	9.65	19.30	1 to 50
1 1/2″	1 5/8″	4 1/2″	5262K66	—	10.10	20.20	1 to 50
1 5/8″	1 13/16″	5″	5262K67	—	10.30	20.60	1 to 50
1 3/4″	1 7/8″	5″	5262K68	—	10.75	21.50	1 to 50
1 7/8″	2 1/16″	7″	5262K69	—	11.65	23.30	1 to 50
2″	2 1/8″	6″	5262K76	—	12.65	25.30	1 to 50
2 1/8″	2 5/16″	7″	5262K77	—	13.35	26.70	1 to 50
2 1/4″	2 3/8″	6 1/2″	5262K78	—	14.00	28.00	1 to 50
2 3/8″	2 1/2″	8″	5262K79	—	14.55	29.10	1 to 50
2 1/2″	2 5/8″	7 1/2″	5262K81	—	15.20	30.40	1 to 50
2 5/8″	2 15/16″	9″	5262K82	—	16.00	32.00	1 to 50
2 3/4″	2 7/8″	8 1/2″	5262K83	—	16.75	33.50	1 to 50
2 7/8″	3 3/16″	10″	5262K84	—	17.30	34.60	1 to 50
3″	3 1/8″	9 1/2″	5262K85	—	18.65	37.30	1 to 50
0.016″ Material Thickness							
3 1/4″	3 3/8″	10 1/2″	5262K86	$9.56	23.90	47.80	1 to 50
3 1/2″	3 11/16″	12″	5262K87	10.36	25.90	51.80	1 to 50
3 3/4″	4 1/16″	12″	5262K88	10.76	26.90	53.80	1 to 50
4″	4 3/16″	13″	5262K89	11.20	28.00	56.00	1 to 50
4 1/4″	4 3/8″	12 1/2″	5262K91	11.74	29.35	58.70	1 to 50
4 1/2″	4 11/16″	14 1/2″	5262K92	12.32	30.80	61.60	1 to 50
5″	5 3/16″	15 1/2″	5262K71	14.36	35.90	71.80	1 to 50
6″	6 3/16″	20 1/2″	5262K72	16.54	41.35	82.70	1 to 50
7″	7 3/16″	23″	5262K73	19.46	48.65	97.30	1 to 40
8″	8 3/16″	25 1/2″	5262K74	21.68	54.20	108.40	1 to 40
10″	10 3/16″	30″	5262K75	28.48	71.20	142.40	1 to 25
0.02″ Material Thickness							
1″	1 1/4″	4″	5495K32	4.80	12.00	24.00	1 to 25
1 1/4″	1 1/2″	4 1/2″	5495K33	5.52	13.80	27.60	2 to 25
1 1/2″	1 3/4″	5 1/2″	5495K34	6.54	16.35	32.70	2 to 25
1 3/4″	2″	6″	5495K36	7.02	17.55	35.10	1 to 25
2″	2 1/4″	6 1/2″	5495K37	7.92	19.80	39.60	1 to 50
2 1/4″	2 1/2″	7 1/2″	5495K42	8.58	21.45	42.90	1 to 50
2 1/2″	2 3/4″	8 1/2″	5495K44	9.24	23.10	46.20	1 to 50
3″	3 1/4″	10 1/2″	5495K45	10.62	26.55	53.10	1 to 50
3 1/2″	3 3/4″	12 1/2″	5495K56	12.40	31.00	62.00	1 to 50
4″	4 1/4″	13 1/2″	5495K59	13.82	34.55	69.10	1 to 50
4 1/2″	4 3/4″	15″	5495K62	15.24	38.10	76.20	1 to 50
5″	5 1/4″	16 1/2″	5495K31	16.58	41.45	82.90	1 to 50
6″	6 1/4″	21 1/2″	5495K35	20.22	50.55	101.10	1 to 50
7″	7 1/4″	24″	5495K39	23.24	58.10	116.20	1 to 40
8″	8 1/4″	27 1/2″	5495K43	27.12	67.80	135.60	1 to 40
9″	9 1/4″	29 1/2″	5495K47	30.16	75.40	150.80	1 to 40
10″	10 1/4″	31 1/2″	5495K51	33.28	83.20	166.40	1 to 25
0.026″ Material Thickness							
2″	2 5/16″	7 1/2″	5263K41	8.80	22.00	44.00	1 to 50
2 1/2″	2 13/16″	10″	5263K43	16.44	41.10	82.20	1 to 50
3″	3 5/16″	12″	5263K44	19.56	48.90	97.80	1 to 50
4″	4 5/16″	14 1/2″	5263K46	25.52	63.80	127.60	1 to 50
5″	5 5/16″	17″	5263K27	31.56	78.90	157.80	1 to 50
6″	6 5/16″	22 1/2″	5263K31	37.52	93.80	187.60	1 to 50
8″	8 5/16″	28 1/2″	5263K39	49.52	123.80	247.60	1 to 40

Lightweight Aluminum

ID	OD	Bend Radius		2 ft.	5 ft.	10 ft.	Other Lengths, ft.
0.012″ Material Thickness							
1 1/4″	1 7/16″	4 1/2″	54995K26	$4.20	$10.50	$21.00	1 to 100
1 1/2″	1 11/16″	5″	54995K27	4.82	12.05	24.10	1 to 100
1 5/8″	1 13/16″	5″	54995K28	5.20	13.00	26.00	1 to 100
1 3/4″	1 15/16″	6″	54995K32	5.46	13.65	27.30	1 to 100
0.02″ Material Thickness							
1″	1 1/4″	4″	55015K61	5.06	12.65	25.30	2 to 25
1 1/4″	1 1/2″	4 1/2″	55015K62	7.82	19.55	39.10	1 to 25
1 1/2″	1 3/4″	5 1/2″	55015K63	8.44	21.10	42.20	1 to 25
1 3/4″	2″	6″	55015K64	8.98	22.45	44.90	1 to 25
2″	2 1/4″	6 1/2″	55015K65	9.16	22.90	45.80	2 to 50
2 1/4″	2 1/2″	7 1/2″	55015K66	9.96	24.90	49.80	1 to 50
2 1/2″	2 3/4″	8 1/2″	55015K67	10.94	27.35	54.70	1 to 50
3″	3 1/4″	10 1/2″	55015K68	12.88	32.20	64.40	1 to 50
3 1/2″	3 3/4″	12 1/2″	55015K69	14.66	36.65	73.30	1 to 50
4″	4 1/4″	13 1/2″	55015K71	16.62	41.55	83.10	1 to 50
5″	5 1/4″	16 1/2″	55015K42	20.72	51.80	103.60	1 to 50
6″	6 1/4″	21 1/2″	55015K43	24.76	61.90	123.80	1 to 50
8″	8 1/4″	27 1/2″	55015K45	32.44	81.10	162.20	1 to 25
12″	12 1/4″	38″	55015K48	47.96	119.90	239.80	1 to 25

Corrosion-Resistant 304 Stainless Steel

ID	OD	Bend Radius		2 ft.	5 ft.	10 ft.	Other Lengths, ft.
0.012″ Material Thickness							
1/2″	5/8″	2″	5241K11	6.62	16.55	33.10	1 to 50
3/4″	7/8″	2 1/2″	5241K12	8.08	20.20	40.40	1 to 50
1″	1 1/8″	3 1/2″	5241K13	9.52	23.80	47.60	1 to 50
1 1/8″	1 1/4″	3 1/2″	5241K14	10.48	26.20	52.40	1 to 50
1 1/4″	1 3/8″	4″	5241K15	10.98	27.45	54.90	1 to 50
1 3/8″	1 1/2″	4″	5241K16	11.92	29.80	59.60	1 to 50
1 1/2″	1 5/8″	4 1/2″	5241K17	12.54	31.35	62.70	1 to 50
1 5/8″	1 13/16″	4 1/2″	5241K18	13.68	34.20	68.40	1 to 50
1 3/4″	1 7/8″	5″	5241K19	14.14	35.35	70.70	1 to 50
1 7/8″	2 1/16″	5 1/2″	5241K21	15.78	39.45	78.90	1 to 50
2″	2 1/8″	6″	5241K22	16.54	41.35	82.70	1 to 50
2 1/4″	2 3/8″	6 1/2″	5241K23	18.66	46.65	93.30	1 to 50
2 1/2″	2 5/8″	7 1/2″	5241K24	20.80	52.00	104.00	1 to 50
3″	3 1/8″	9 1/2″	5241K25	25.52	63.80	127.60	1 to 50
3 1/2″	3 5/8″	11″	5241K26	30.62	76.55	153.10	1 to 50
4″	4 1/8″	12″	5241K27	33.20	83.00	166.00	1 to 50
4 1/2″	4 5/8″	13 1/2″	5241K28	36.80	92.00	184.00	1 to 50
5″	5 1/8″	14 1/2″	5241K71	40.04	100.10	200.20	1 to 50
0.016″ Material Thickness							
6″	6 3/16″	20 1/2″	5241K82	59.24	148.10	296.20	1 to 50
7″	7 3/16″	23″	5241K86	61.04	152.60	305.20	1 to 40
8″	8 3/16″	25 1/2″	5241K84	68.32	170.80	341.60	1 to 40
0.02″ Material Thickness							
2″	2 1/4″	6 1/2″	5242K11	29.10	72.75	145.50	1 to 50
2 1/4″	2 1/2″	7 1/2″	5242K12	32.22	80.55	161.10	1 to 50
2 1/2″	2 3/4″	8 1/2″	5242K13	35.58	88.95	177.90	1 to 50
3″	3 1/4″	10 1/2″	5242K14	42.00	105.00	210.00	1 to 50
3 1/2″	3 3/4″	12 1/2″	5242K15	45.36	113.40	226.80	1 to 50
4″	4 1/4″	13 1/2″	5242K16	53.32	133.30	266.60	1 to 50
4 1/2″	4 3/4″	15″	5242K17	59.64	149.10	298.20	1 to 50
5″	5 1/4″	16 1/2″	5242K61	63.00	157.50	315.00	1 to 50
6″	6 1/4″	21 1/2″	5242K62	75.30	188.25	376.50	1 to 50
7″	7 1/4″	24″	5242K63	82.70	206.75	413.50	1 to 40
8″	8 1/4″	27 1/2″	5242K64	93.92	234.80	469.60	1 to 40

Flexible Duct Hose with Wear Strip for Corrosive Fumes

- Flexible
- Temperature Range: –65° to 500° F
- Color: Gray or clear; wear strip is silver
- Clamps: Use worm-drive clamps (see page 306)

Not only does this hose stand up to corrosive fumes, it has a left-hand metal spiral on the outside that acts as a wear strip to protect against damage. Hose has a ribbed interior and can be used outdoors.

PTFE-coated fiberglass hose is for use with smoke, butyl acetate fumes, and nitric acid fumes. Hose is gray, 0.016″ thick, and compresses to 25% of its length.

PFA plastic hose is clear so you can see inside your line. Use with smoke, paint fumes, sodium hydroxide fumes, and sulfuric acid fumes. Hose is 0.005″ thick and compresses to 20% of its length. Meets UL 94V0 for flame retardance.

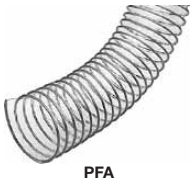
PFA

				PTFE-Coated Fiberglass					PFA				
ID	OD	Bend Radius	Max. Cont. Lg., ft.	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
3″	3 1/8″	4 1/2″	25	3.2″ Hg	5	45865K56	$29.71	$25.14	—	—	—	—	—
3″	3 5/16″	4 1/2″	25	—	—	—	—	—	3″ Hg	7	56365K23	$35.82	$30.31
4″	4 5/16″	6″	25	2″ Hg	3.7	45865K41	33.33	28.04	2″ Hg	4	56365K24	40.70	34.44
5″	5 5/16″	7 1/2″	25	1.5″ Hg	3	45865K42	41.95	35.30	2″ Hg	3.6	56365K25	50.25	42.40
6″	6 5/16″	9″	25	1″ Hg	2.3	45865K43	49.74	42.07	2″ Hg	3.5	56365K26	61.53	52.07
7″	7 5/16″	10 1/2″	25	0.5″ Hg	1.7	45865K44	58.51	49.22	2″ Hg	3.2	56365K27	71.18	60.24
8″	8 5/16″	12″	25	0.7″ Hg	1.4	45865K45	66.68	56.09	1″ Hg	3	56365K28	81.30	68.80
9″	9 3/16″	13 1/2″	25	0.5″ Hg	1	45865K57	71.47	60.48	0.5″ Hg	2.1	56365K49	82.13	69.49
10″	10 5/16″	15″	25	0.4″ Hg	1	45865K47	83.35	70.12	1″ Hg	2.2	56365K41	82.44	69.76
12″	12 5/16″	18″	25	0.2″ Hg	0.7	45865K48	93.10	79.20	1.2″ Hg	1.8	56365K42	109.65	92.78
14″	14 1/4″	21″	25	0.2″ Hg	0.5	45865K49	111.16	94.06	0.2″ Hg	1.6	56365K43	127.84	108.17
16″	16 1/4″	24″	25	0.1″ Hg	0.3	45865K51	127.05	107.51	0.1″ Hg	1.4	56365K44	146.24	123.74

Adjustable-Diameter Rigid Duct Hose for Fumes

- Rigid
- Temperature Range: –10° to 150° F
- Color: Gray
- Clamps: Use worm-drive clamps (see pages 302-306)

Increase or decrease the hose diameter by up to 25% with a two-handed twist. Connect lengths of hose by interlocking two ends together. Hose is made from 0.187″ thick PVC with a ribbed interior and is for use with smoke and water-based paint fumes. It can be used outdoors. Not rated for compression.



ID	OD	Fully Reduced ID	Fully Expanded ID	Bend Radius	Vacuum @ 72° F	Max. psi @72° F		Per Ft.	Max. Cont. Lg. Ft.	Max. Cont. Lg. Each
2″	2 1/4″	1 1/2″	2 1/2″	5 1/2″	6″ Hg	2.5	5257K71	$10.69	25	$207.75
2 1/2″	2 3/4″	1 7/8″	3 1/8″	6 1/2″	6″ Hg	2.5	5257K73	11.80	25	229.50
3″	3 1/4″	2 1/4″	3 3/4″	7 1/2″	6″ Hg	2.5	5257K74	13.40	25	260.50
3 1/2″	3 3/4″	2 5/8″	4 3/8″	8 1/2″	6″ Hg	2.5	5257K75	15.51	25	301.75
4″	4 1/4″	3″	5″	9″	6″ Hg	2.5	5257K76	16.80	25	336.00
4 1/2″	4 3/4″	3 3/8″	5 5/8″	10″	6″ Hg	2.5	5257K77	17.27	25	353.25
5″	5 1/4″	3 3/4″	6 1/4″	11″	5″ Hg	2.5	5257K78	19.16	25	391.75
6″	6 1/4″	4 1/2″	7 1/2″	12 1/2″	4″ Hg	2.5	5257K79	21.58	25	449.50
8″	8 1/4″	6″	10″	17″	3″ Hg	2	5257K81	34.29	10	285.80

Very Flexible Duct Hose for Dust

- Very Flexible
- Temperature Range: –20° to 180° F (Clear); –40° to 250° F (Black)
- Color: Clear or black
- Clamps: Use worm-drive clamps (see pages 302-306)

The small bend radius makes this hose easy to wrap around corners and install in tight spaces. It is for use with lint, dust, and sawdust. It can be used outdoors. Maximum continuous length is 25 feet.

Clear hose lets you monitor flow. It is 0.015″ thick PVC, with a left-hand metal spiral and a ribbed interior. Hose compresses to 35% of its length.

Black hose meets UL 94V0 for flame retardance. It is 0.03″ thick neoprene-coated polyester, with a right-hand metal spiral and a ribbed interior. Hose with 1″ to 1 1/2″ ID compresses to 30% of its length; 2″ to 3″ ID compresses to 25%; 4″ to 8″ ID compresses to 20%; 10″ to 24″ ID compresses to 15%.

Warning: Hose should not be used for applications that generate a static charge.


Clear

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
Clear							
4″	4 1/4″	1″	10″ Hg	13	56355K33	$3.91	$3.04
6″	6 1/4″	1″	6″ Hg	7	56355K34	4.91	3.82
7″	7 5/16″	1 1/2″	4″ Hg	7	56355K36	6.37	4.96
8″	8 5/16″	2″	2″ Hg	7	56355K38	7.40	5.76
10″	10 5/16″	3″	1″ Hg	5	56355K41	9.37	7.29
12″	12 5/16″	3 1/2″	1″ Hg	3	56355K42	11.03	8.58
14″	14 7/16″	3 1/2″	1″ Hg	2	56355K44	12.26	9.53
16″	16 7/16″	3 1/2″	1″ Hg	1	56355K46	14.14	11.00
18″	18 7/16″	3 1/2″	1″ Hg	1	56355K48	15.69	12.20
Black							
1″	1 5/16″	1″	29″ Hg	30	5266K82	5.01	4.00
1 1/4″	1 9/16″	1″	29″ Hg	30	5266K83	5.47	4.38
1 1/2″	1 13/16″	1 1/2″	29″ Hg	30	5266K84	6.30	5.04
2″	2 5/16″	1 1/2″	29″ Hg	30	5266K25	7.35	5.88
2 1/2″	2 13/16″	1 1/2″	29″ Hg	30	5266K26	7.84	6.28

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
Black (Cont.)							
3″	3 5/16″	1 1/2″	29″ Hg	30	5266K27	$8.29	$6.64
4″	4 5/16″	1 1/2″	29″ Hg	30	5266K28	9.39	7.50
5″	5 3/8″	1 1/2″	17″ Hg	17	5266K29	10.68	8.54
6″	6 3/8″	1 1/2″	21″ Hg	11	5266K31	11.43	9.14
7″	7 3/8″	1 1/2″	14″ Hg	8	5266K85	12.99	10.38
8″	8 1/2″	2″	12″ Hg	7	5266K33	14.58	11.66
10″	10 1/2″	2 1/2″	7″ Hg	5	5266K35	18.27	14.62
12″	12 1/2″	2 1/2″	4″ Hg	4	5266K37	22.05	17.64
14″	14 1/2″	2 1/2″	3.7″ Hg	4	5266K39	23.26	19.03
16″	16 1/2″	4″	2.5″ Hg	3	5266K41	27.17	22.23
18″	18 1/2″	4″	1.8″ Hg	3	5266K42	33.89	27.73
20″	20 1/2″	4″	1.3″ Hg	3	5266K43	42.44	34.73
24″	24 1/2″	5″	0.7″ Hg	2	5266K44	52.58	43.02

Abrasion-Resistant Very Flexible Duct Hose for Dust

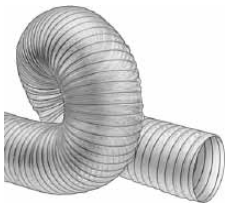

Clear

- Very Flexible
- Temperature Range: –40° to 200° F
- Color: Clear or black
- Clamps: Use worm-drive clamps (see pages 302-306)

A blend of rubber and plastic creates a hose that's flexible, yet tough enough to handle abrasive particles such as grinding dust and sawdust. Hose is 0.02″ thick, unless noted. It can be used outdoors. Maximum continuous length is 25 feet.

Clear hose lets you see what's running through your line. It has a smooth interior for unrestricted flow and a left-hand metal spiral. It compresses to 50% of its length.

Black hose has a ribbed interior and a right-hand metal spiral. Hose with a 2″ ID compresses to 35% of its length; 3″ to 6″ ID compresses to 25%; 7″ to 18″ ID compresses to 20%.

Warning: Hose should not be used for applications that generate a static charge.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
Clear							
3/4″	15/16″	1″	28″ Hg	16	5136K17	$2.28	$1.78
1″	1 3/16″	1″	28″ Hg	15	5136K18	2.68	2.09
1 1/4″	1 7/16″	1 1/2″	28″ Hg	13	5136K11	3.09	2.40
1 1/2″	1 11/16″	1 1/2″	26″ Hg	10	5136K12	3.83	2.98
2″	2 1/8″	2″	22″ Hg	8	5136K13	4.68	3.65
2 1/2″	2 5/8″	2 1/2″	20″ Hg	7	5136K14	5.80	4.51
3″	3 3/16″	3″	16″ Hg	6	5136K15	7.20	5.61
4″	4 3/16″	4″	12″ Hg	5	5136K16	9.21	7.16
5″	5 3/16″	5″	10″ Hg	5	5136K27	11.09	8.62
6″	6 3/16″	6″	7″ Hg	4	5136K28	12.91	10.05

★ Hose is 0.015″ thick.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
Black							
2″	2 1/8″	2″	29″ Hg	30	5628K11 ★	$4.35	$3.48
3″	3 1/4″	3 1/2″	29″ Hg	30	5628K111	6.58	5.26
4″	4 5/16″	4″	24″ Hg	22	5628K112	8.36	6.68
5″	5 5/16″	4 1/2″	13″ Hg	18	5628K113	10.18	8.14
6″	6 5/16″	5 1/2″	8″ Hg	15	5628K114	11.78	9.42
7″	7 3/8″	6″	8″ Hg	10	5628K115	13.03	10.42
8″	8 7/16″	6 1/2″	2″ Hg	7	5628K116	14.35	11.48
10″	10 7/16″	7 1/2″	2″ Hg	7	5628K13	18.15	14.52
12″	12 7/16″	9″	1.7″ Hg	6	5628K14	21.73	17.38
14″	14 7/16″	12″	1.1″ Hg	5	5628K17	25.33	20.26
16″	16 7/16″	14″	0.7″ Hg	5	5628K18	28.50	22.80
18″	18 7/16″	16″	0.5″ Hg	4	5628K21	32.45	25.96

Bend-and-Stay Very Flexible Duct Hose for Dust





Screw-On Fitting

- Very Flexible
- Temperature Range: –4° to 175° F
- Color: Brown or white
- Clamps: Use worm-drive clamps (see pages 302-306)

Bend this hose in any direction and it will hold its shape without support. Create longer lengths by twisting one end of the hose into another—no need for a duct hose connector or clamp. Hose is 0.015″ thick polypropylene with a left-hand metal spiral and a ribbed interior. It compresses to 35% of its length. Maximum continuous length is 20 feet.

Screw-on fittings screw over the end of duct hose to connect equipment. They are EPDM rubber.

Warning: Hose should not be used for applications that generate a static charge.

						Hose		Screw-On Fittings		
						Per Ft.		ID		
ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F	Choose a Color	1-19	20-Up	(A)	(B)	
1 1/2″	1 5/8″	1″	22″ Hg	20	Brown, White	56385K12 $5.43	$4.45	1 5/8″	1 1/2″	56385K72 $5.90
2″	2 1/4″	1″	21″ Hg	13	Brown, White	56385K14 6.03	4.94	2 1/4″	2″	56385K74 6.47
2 1/2″	2 13/16″	1″	19″ Hg	10	Brown, White	56385K16 6.96	5.69	2 13/16″	2 1/2″	56385K76 11.26
3″	3 3/16″	1″	18″ Hg	10	Brown, White	56385K18 7.57	6.19	3 3/16″	3″	56385K78 12.88
4″	4 3/16″	1″	13″ Hg	8	Brown, White	56385K24 9.41	7.70	4 3/16″	4″	56385K84 22.96
5″	5 3/16″	2″	10″ Hg	7	Brown, White	56385K26 10.62	8.69	5 3/16″	5″	56385K86 28.38
6″	6 1/4″	2″	7″ Hg	6	Brown, White	56385K28 13.50	11.05	6 1/4″	6″	56385K88 34.91
8″	8 3/16″	3″	5″ Hg	4	Brown, White	56385K34 19.39	15.86	8 3/16″	8″	56385K93 46.09

Static-Control Very Flexible Duct Hose for Dust



- Very Flexible
- Temperature Range: –40° to 250° F
- Color: Black
- Clamps: Use worm-drive clamps (see pages 302-306)

The neoprene coating on this hose contains carbon to dissipate static when hose is installed in a grounded system. Hose is for use with lint, dust, and sawdust.

Hose is 0.03″ thick polyester with a right-hand metal spiral and a ribbed interior. Surface resistivity is 10^3 ohms. It can be used outdoors. It meets UL 94V0 for flame retardance.

ID	OD	Bend Radius	Compresses To	Vacuum @ 72° F	Max. psi @ 72° F	Max. Cont. Lg., ft.		Per Ft. 1-24	Per Ft. 25-Up
1″	1 1/4″	1″	40%	29″ Hg	30	25	5619K31	$9.02	$7.38
2″	2 5/16″	2″	40%	29″ Hg	30	25	5619K12	12.16	9.95
3″	3 5/16″	2 1/2″	35%	29″ Hg	29	25	5619K13	13.69	11.20
3 1/2″	3 13/16″	2 1/2″	35%	25″ Hg	21	25	5619K41	14.89	12.18
4″	4 5/16″	3″	30%	29″ Hg	16	25	5619K14	15.73	12.87
4 1/2″	4 13/16″	3 1/2″	30%	23″ Hg	16	25	5619K51	16.76	13.71
5″	5 5/16″	3 1/2″	30%	22″ Hg	15	25	5619K15	16.51	13.51
6″	6 7/16″	4″	25%	22″ Hg	13	25	5619K16	18.91	15.47
7″	7 3/8″	5″	25%	14″ Hg	14	25	5619K17	20.71	16.95
8″	8 7/16″	5 1/2″	20%	7″ Hg	10	25	5619K18	24.16	19.76
10″	10 7/16″	7″	20%	3″ Hg	8	25	5619K19	27.47	22.47
12″	12 7/16″	8 1/2″	20%	2″ Hg	7	25	5619K21	37.31	30.53
14″	14 1/2″	9 1/2″	20%	3″ Hg	5	25	5619K22	39.80	32.57
16″	16 1/2″	11″	20%	2″ Hg	4	25	5619K23	43.37	36.37
18″	18 1/2″	12″	20%	1″ Hg	4	25	5619K24	47.11	38.53

Blo-R-Vac Flexible Duct Hose for Dust

- Flexible
- Temperature Range: –40° to 250° F
- Color: Black or white, unless noted
- Clamps: Use worm-drive clamps (see pages 302-306)

A good general purpose hose for blowing and vacuum applications, this hose is for use with grinding dust, sawdust, and lint. It meets UL 94HB and UL 94V0 for flame retardance, unless noted.

Hose is TPR rubber with a left-hand metal spiral and a ribbed interior, unless noted. It can be used outdoors.

Warning: Hose should not be used for applications that generate a static charge.



ID	OD	Bend Radius	Compresses To	Vacuum @ 72° F	Max. psi @ 72° F	Material Thick.	Max. Cont. Lg., ft.	Black	Per Ft. 1-24	Per Ft. 25-Up	White	Per Ft. 1-24	Per Ft. 25-Up
Inch													
3/4″	15/16″	1″	50%	28″ Hg	10	0.022″	25	5475K81	$1.75	$1.33	_____	___	___
1″	1 3/16″	1″	50%	28″ Hg	10	0.022″	25	5475K82	2.02	1.56	_____	___	___
1 1/4″	1 1/2″	1 1/2″	50%	29″ Hg	28	0.026″	25	53145K31	3.74	2.91	_____	___	___
1 1/2″	1 3/4″	2″	50%	29″ Hg	24	0.026″	25	53145K32	3.80	2.96	_____	___	___
1 3/4″	2″	2″	75%	29″ Hg	22	0.026″	25	53145K33	3.97	3.09	_____	___	___
2″	2 5/16″	3 1/2″	50%	29″ Hg	17	0.03″	25	53145K61	4.20	3.28	53145K81	$4.74	$3.69
2 1/4″	2 1/2″	2″	50%	29″ Hg	30	0.03″	25	53145K62	4.62	3.59	53145K72	6.01	4.67
2 1/2″	2 13/16″	4″	50%	28″ Hg	13	0.03″	25	53145K63	4.74	3.69	53145K83	6.00	4.67
3″	3 5/16″	4 1/2″	50%	28″ Hg	10	0.03″	25	53145K65	5.31	4.13	53145K85	7.09	5.51
3 1/2″	3 13/16″	5 1/2″	50%	20″ Hg	10	0.03″	25	53145K64	5.71	4.44	53145K74	7.43	5.78
4″	4 5/16″	6 1/2″	50%	25″ Hg	10	0.03″	25	53145K67	6.83	5.31	53145K87	8.86	6.89
4 1/2″	4 13/16″	3 1/2″	50%	27″ Hg	17	0.03″	25	53145K66	6.85	5.33	53145K76	8.91	6.93
5″	5 5/16″	8″	50%	15″ Hg	9	0.03″	25	53145K69	7.29	5.67	53145K89	9.54	7.42
5 1/2″	5 13/16″	4 1/2″	50%	22″ Hg	11	0.03″	25	53145K68	7.85	6.11	53145K78	10.21	7.94
6″	6 5/16″	9″	50%	11″ Hg	8	0.03″	25	53145K71	7.97	6.20	53145K91	10.34	8.04
7″	7 7/16″	10 1/2″	60%	10″ Hg	7	0.03″	25	53145K11	8.81	6.85	53145K25	11.45	8.91
8″	8 3/8″	12″	60%	5″ Hg	6	0.03″	25	53145K73	10.23	7.96	53145K93	13.31	10.36
9″	9 7/16″	7″	60%	5″ Hg	5	0.03″	25	53145K12	11.67	9.08	53145K26	15.18	11.80
10″	10 7/16″	12 1/2″	35%	5″ Hg	4	0.03″	25	53145K75	13.09	10.18	53145K95	17.03	13.24
12″	12 7/16″	14″	35%	4″ Hg	4	0.03″	25	53145K77	15.69	12.20	53145K97	20.00	15.56
14″	14 1/2″	18″	35%	2″ Hg	2	0.03″	25	53145K21	17.07	13.66	53145K41	22.25	17.80
16″	16 1/2″	21″	35%	2″ Hg	2	0.03″	25	53145K22	22.10	17.68	53145K42	28.52	22.82
18″	18 1/2″	21 1/2″	35%	2″ Hg	2	0.03″	25	53145K23	26.32	21.06	53145K43	34.35	27.48
20″	20 1/2″	25 1/2″	35%	2″ Hg	1	0.03″	25	53145K24	35.02	28.02	53145K44	45.55	36.44
Metric													
30 mm	34 mm	1 1/2″	50%	29″ Hg	42	0.025″	25	53025K22★	6.16	4.92	_____	___	___
50 mm	56 mm	3 1/2″	50%	29″ Hg	17	0.03″	25	53335K11	3.22	2.59	53335K27	4.17	3.35
60 mm	66 mm	4″	50%	28″ Hg	13	0.03″	25	53335K12	4.17	3.35	53335K28	5.27	4.23
70 mm	76 mm	4″	50%	28″ Hg	10	0.03″	25	53335K13	4.51	3.62	53335K29	6.22	5.00
80 mm	86 mm	4 1/2″	50%	28″ Hg	10	0.03″	25	53335K14	5.34	4.29	53335K31	7.56	6.08
90 mm	96 mm	5 1/2″	50%	25″ Hg	10	0.03″	25	53335K15	5.56	4.47	53335K32	7.77	6.26
100 mm	106 mm	6 1/2″	50%	20″ Hg	10	0.03″	25	53335K16	6.00	4.82	53335K33	7.86	6.32
115 mm	122 mm	7 1/2″	50%	15″ Hg	9	0.03″	25	53335K18	6.07	4.88	53335K35	7.98	6.41
140 mm	147 mm	8 1/2″	50%	11″ Hg	8	0.03″	25	53335K19	6.78	5.45	53335K36	8.83	7.10
160 mm	167 mm	9″	50%	11″ Hg	8	0.03″	25	53335K21	7.66	6.16	53335K37	9.98	8.02
180 mm	188 mm	5″	50%	14″ Hg	8	0.03″	25	53335K41	8.21	6.57	53335K51	10.67	8.54

★ Hose is blue neoprene-coated cotton, with a right-hand spiral. Not UL listed.

Blo-R-Vac Flexible Duct Hose with Wear Strip for Dust

- Flexible
- Temperature Range: –40° to 180° F
- Color: Black with orange wear strip
- Clamps: Use worm-drive clamps (see pages 302-306)



This general purpose hose for blowing and vacuum applications has a thick PVC wear strip that protects against damage caused by dragging. Hose is for use with lint, dust, and sawdust. It meets UL 94HB and UL 94V0 for flame retardance.

Hose is 0.03″ thick PVC-coated polyester with a right-hand metal spiral and a ribbed interior. Hose with 3″ ID compresses to 85% of its length; 4″ to 5″ ID compresses to 75%; 6″ to 12″ ID compresses to 50%. It can be used outdoors. Maximum continuous length is 25 feet.

Warning: Hose should not be used for applications that generate a static charge.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
3″	3 3/8″	1 1/2″	24″ Hg	28	56435K33	$6.92	$5.54
4″	4 3/8″	2″	18″ Hg	24	56435K34	8.70	6.96
5″	5 3/8″	2 1/2″	16″ Hg	20	56435K35	9.88	7.90
6″	6 7/16″	3″	17″ Hg	18	56435K36	10.46	8.36
8″	8 7/16″	4″	8″ Hg	12	56435K38	13.83	11.06
10″	10 7/16″	5″	5″ Hg	8	56435K39	16.40	13.12
12″	12 7/16″	6″	3″ Hg	6	56435K42	19.93	15.94

Flexible Duct Hose for Clean Environments

- Flexible
- Temperature Range: –20° to 325° F
- Color: White
- Clamps: Use worm-drive clamps (see pages 302-306)



This white hose makes dirt and other contaminants easy to spot, plus the materials are FDA listed for use with dry food such as flour and sugar. Hose is for use with lint, dust, and sawdust and can also be used in pharmaceutical applications.

Hose is 0.03" thick acrylic-coated polyester with a right-hand metal spiral and a ribbed interior. Hose with 1" to 2½" ID compresses to 35% of its length; 3" to 8" ID compresses to 25%; 10" to 12" ID compresses to 20%; 14" to 16" ID compresses to 15%. It can be used outdoors. Maximum continuous length is 25 feet.

Warning: Hose should not be used for applications that generate a static charge.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
1 1/2″	1 3/4″	1 1/2″	29″ Hg	30	5586K29	$9.90	$7.92
2″	2 5/16″	2″	29″ Hg	30	5586K31	10.00	8.00
2 1/2″	2 13/16″	2 1/2″	29″ Hg	30	5586K32	11.17	9.14
3″	3 5/16″	2 1/2″	29″ Hg	29	5586K33	11.73	9.58
4″	4 5/16″	3 1/2″	29″ Hg	30	5586K35	13.10	10.72
5″	5 5/16″	4″	16″ Hg	29	5586K36	14.98	12.26
6″	6 3/8″	4 1/2″	18″ Hg	12	5586K38	16.20	12.96
7″	7 3/8″	5″	15″ Hg	10	5586K39	16.87	13.80
8″	8 7/16″	6″	12″ Hg	8	5586K41	18.53	15.16
10″	10 7/16″	7″	5″ Hg	8	5586K42	23.22	19.00
12″	12 7/16″	8 1/2″	3″ Hg	7	5586K43	28.62	23.42
14″	14 1/2″	10″	3″ Hg	5	5586K44	32.60	27.17
16″	16 1/2″	11″	2″ Hg	4	5586K45	37.24	31.03

High-Temperature Flexible Duct Hose for Dust



- Flexible
- Temperature Range: –60° to 300° F
- Color: Black
- Clamps: Use worm-drive clamps (see pages 302-306)

The neoprene coating on this hose holds up under high heat. Hose meets UL 94HB and UL 94V0 for flame retardance. It is for use with lint, dust, and sawdust.

Hose is made of 0.024″ thick fiberglass with a left-hand metal spiral. It has a smooth interior for unrestricted flow. Hose with 1″ to 2¾″ ID compresses to 75% of its length; 3″ to 5½″ ID compresses to 60%; 6″ to 12″ ID compresses to 50%. It can be used outdoors. Maximum continuous length is 12 feet.

Warning: Hose should not be used for applications that generate a static charge.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-11	Per Ft. 12-Up
1″	1⅛″	1″	28″ Hg	28	5499K237	$5.50	$4.31
1¼″	1⅜″	1½″	26″ Hg	26	5499K238	6.03	4.72
1½″	1⁹⁄₁₆″	1½″	23″ Hg	25	5499K239	6.33	4.95
1¾″	1¹³⁄₁₆″	2″	22″ Hg	23	5499K241	6.84	5.35
2″	2¹⁄₁₆″	2″	20″ Hg	24	5499K242	6.92	5.42
2¼″	2⁵⁄₁₆″	2½″	19″ Hg	21	5499K243	7.66	6.01
2½″	2⅝″	2½″	18″ Hg	20	5499K244	7.92	6.20
2¾″	2⅞″	1½″	17″ Hg	34	5499K245	8.50	6.65
3″	3⅛″	3″	16″ Hg	19	5499K246	8.94	7.00
3¼″	3⅜″	2″	15″ Hg	30	5499K247	9.03	7.06
3½″	3⅝″	3½″	14″ Hg	18	5499K248	9.53	7.45
3¾″	3⅞″	2″	14″ Hg	26	5499K249	9.81	7.67
4″	4⅛″	4″	13″ Hg	16	5499K251	$10.47	$8.20
4½″	4⅝″	4½″	11″ Hg	15	5499K252	11.56	9.04
5″	5⅛″	5″	10″ Hg	14	5499K253	11.67	9.13
5½″	5⅝″	5½″	8″ Hg	14	5499K254	13.06	10.22
6″	6⅛″	6″	7″ Hg	12	5499K255	13.72	10.73
6½″	6⅝″	6½″	6″ Hg	10	5499K256	14.64	11.46
7″	7⅛″	7″	5″ Hg	9	5499K257	15.64	12.24
8″	8⅛″	8″	3″ Hg	8	5499K258	17.83	13.96
9″	9⅛″	9″	3″ Hg	6	5499K259	20.31	15.89
10″	10⅛″	10″	2″ Hg	5	5499K261	22.58	17.67
11″	11⅛″	11″	1″ Hg	4	5499K262	23.67	18.53
12″	12⅛″	12″	1″ Hg	4	5499K263	26.92	21.07

Crush-Resistant Flexible Duct Hose with Wear Strip for Dust



Black with Gray Wear Strip

- Flexible
- Temperature Range: –60° to 275° F
- Color: Black with gray wear strip or white with white wear strip
- Clamps: Use worm-drive clamps and quick-release clamps (see pages 302-306)

Hose has a flexible plastic spiral that bounces back to its original shape when stepped on. The spiral acts as a wear strip to protect the hose from damage caused by dragging. Spiral direction is left hand. Hose is TPR rubber and has a smooth interior for unrestricted flow. It is for use with lint, dust, and sawdust. Hose can be used outdoors.

Black hose meets UL 94HB for flame retardance.

White hose is made of FDA listed material and is for use with dry food such as flour and sugar.

Warning: Hose should not be used for applications that generate a static charge.

ID	OD	Bend Radius	Compresses To	Vacuum @ 72° F	Max. psi @ 72° F	Material Thick.	Choose a Color	Max. Cont. Lg., ft.		Per Ft. 1-24	Per Ft. 25-Up
1″	1⅜″	2½″	75%	29″ Hg	34	0.026″	Black, White	50	5915T32★	$3.52	$2.74
1¼″	1¹¹⁄₁₆″	2½″	75%	29″ Hg	28	0.026″	Black, White	50	5915T33★	3.58	2.78
1½″	2″	3″	75%	29″ Hg	23	0.026″	Black, White	50	5915T34★	4.03	3.13
1¾″	2¼″	3″	75%	29″ Hg	18	0.026″	Black, White	50	5915T35★	5.17	4.02
2″	2½″	3½″	75%	29″ Hg	17	0.026″	Black, White	50	5915T36	5.46	4.24
2½″	3¹⁄₁₆″	4″	75%	24″ Hg	16	0.026″	Black, White	50	5915T37	7.20	5.60
3″	3⅝″	5″	75%	19″ Hg	14	0.026″	Black, White	50	5915T38	8.08	6.29
4″	4⅝″	7″	75%	16″ Hg	11	0.026″	Black, White	50	5915T39	11.85	9.48
6″	6¾″	7½″	50%	10″ Hg	14	0.045″	Black, White	25	5915T41	15.72	12.58
8″	8¹⁵⁄₁₆″	9″	50%	6″ Hg	14	0.045″	Black, White	25	5915T42	17.50	14.00
10″	10¹⁵⁄₁₆″	12″	50%	3″ Hg	10	0.045″	Black, White	25	5915T43	21.85	17.48

★ Max. continuous length is 25 feet for white hose.

Flame-Resistant Flexible Duct Hose with Wear Strip for Dust



- Flexible
- Temperature Range: –60° to 275° F
- Color: Black with orange wear strip
- Clamps: Use worm-drive clamps (see pages 302-306)

In addition to offering excellent abrasion resistance, this hose meets UL 94HB and UL 94V0 for flame retardance. Hose is TPR rubber and has a wear strip that protects against damage caused by dragging. It is for use with lint, dust, and sawdust.

Hose has a left-hand metal spiral and a ribbed interior. Hose compresses to 70% of its length. It can be used outdoors. Maximum continuous length is 25 feet.

Warning: Hose should not be used for applications that generate a static charge.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F	Material Thick.		Per Ft. 1-24	Per Ft. 25-Up
2″	2⅜″	3″	29″ Hg	17	0.03″	5845K11	$4.70	$3.76
3″	3⅜″	4½″	28″ Hg	10	0.03″	5845K12	7.06	5.64
4″	4⅜″	6″	25″ Hg	10	0.03″	5845K13	9.00	7.20
5″	5⅜″	7″	15″ Hg	9	0.03″	5845K14	9.55	7.64
6″	6⅜″	8½″	11″ Hg	8	0.03″	5845K15	10.45	8.36
8″	8⁷⁄₁₆″	10½″	5″ Hg	6	0.03″	5845K16	13.48	10.78
10″	10⁷⁄₁₆″	13″	5″ Hg	4	0.03″	5845K17	17.30	13.84
12″	12⁷⁄₁₆″	15½″	4″ Hg	4	0.03″	5845K18	20.77	16.62

Smooth-Flow Flexible Duct Hose for Dust



- Flexible
- Temperature Range: –40° to 150° F
- Color: Gray
- Clamps: Use worm-drive clamps (see page 306) and twin-ring hose clamps (see page 310)

The smooth interior prevents dust from getting trapped and building up inside the hose. Hose is for use with lint, dust, and sawdust.

Hose is polyethylene with a left-hand plastic spiral. It compresses to 90% of its length. Hose can be used outdoors. Maximum continuous length is 50 feet.

Warning: Hose should not be used for applications that generate a static charge.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F	Material Thick.		Per Ft. 1-49	Per Ft. 50-Up
½″	¾″	1½″	29″ Hg	15	0.033″	5399K16	$1.81	$1.44
⅝″	⅞″	1½″	29″ Hg	15	0.033″	5399K17	1.95	1.56
¾″	1″	1½″	29″ Hg	15	0.035″	5399K18	1.95	1.55
1″	1⁵⁄₁₆″	2½″	29″ Hg	15	0.038″	5399K21	2.04	1.63
1¼″	1¹¹⁄₁₆″	3″	29″ Hg	13	0.043″	5399K22	2.29	1.83
1½″	1¹⁵⁄₁₆″	3″	29″ Hg	9	0.048″	5399K11	2.71	2.16
2″	2½″	5½″	20″ Hg	5	0.053″	5399K12	4.00	3.20
2½″	3⅛″	6″	12″ Hg	4	0.055″	5399K13	5.22	4.18
3″	3½″	6½″	5″ Hg	3	0.055″	5399K14	5.54	4.43
4″	4½″	11″	2″ Hg	1	0.058″	5399K24	7.65	6.12

Blo-R-Vac Duct Hose for Wood Chips and Plastic Pellets

- Flexible
- Temperature Range: 20° to 160° F
- Color: Blue or clear
- Clamps: Use worm-drive clamps and quick-release clamps (see pages 302-306)

A thick layer of PVC with a metal spiral lets this hose handle particles heavier than dust, including cardboard fibers. It has a right-hand spiral and a ribbed interior. Hose with 1¼″ to 3″ ID is 0.035″ thick; hose with 4″ to 16″ ID is 0.045″ thick. Hose compresses to 50% of its length, except hose with ID of 10″ and up compresses to 40%. It can be used outdoors.

Blue hose meets UL 94V0 for flame retardance.

Clear hose lets you monitor flow. The materials are FDA listed for use with dry food such as rice and grain.

Warning: Hose should not be used for applications that generate a static charge.



Clear

				Blue					Clear				
ID	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F	OD		Per Ft.	Max. Cont. Lg., ft.	Each	OD		Per Ft.	Max. Cont. Lg., ft.	Each
1¼″	3/8″	29″ Hg	30	1 5/8″	5666K81	$3.25	50	$132.50	1 5/8″	5718K31	$3.73	50	$149.00
1½″	3/4″	29″ Hg	30	1 7/8″	5666K82	3.40	50	139.00	1 7/8″	5718K32	3.83	50	153.00
2″	1½″	29″ Hg	30	2 3/8″	5666K83	3.53	50	144.50	2 5/16″	5718K33	4.20	50	168.00
2½″	1½″	29″ Hg	30	2 15/16″	5666K84	4.31	50	176.50	2 15/16″	5718K34	5.11	50	204.00
3″	1½″	28″ Hg	20	3 7/16″	5666K85	5.72	50	234.00	3 7/16″	5718K35	6.81	50	272.00
4″	1½″	29″ Hg	20	4½″	5666K86	7.71	50	315.50	4½″	5718K36	9.22	50	369.00
5″	1½″	16″ Hg	17	5½″	5666K87	9.62	50	393.50	5½″	5718K37	11.47	50	459.00
6″	1½″	8″ Hg	15	6½″	5666K88	10.74	50	439.00	6½″	5718K38	12.80	50	512.00
7″	2″	5″ Hg	13	7½″	5666K89	12.56	50	513.50	7½″	5718K39	15.01	50	597.74
8″	2½″	3″ Hg	11	8 9/16″	5666K91	14.67	50	597.74	8 9/16″	5718K41	17.48	50	699.00
10″	2½″	3″ Hg	8	10 9/16″	5666K92	18.49	25	378.25	10 9/16″	5718K42	22.06	25	441.00
12″	2″	2″ Hg	7	12 9/16″	5666K93	22.38	25	457.75	12 9/16″	5718K43	26.68	25	533.50
14″	2″	1″ Hg	6	14 9/16″	5666K94	26.16	25	535.00	14 9/16″	5718K44	31.17	25	623.50
16″	2″	0.7″ Hg	5	16 9/16″	5666K95	29.53	25	604.00	16 9/16″	5718K45	35.25	25	705.00

Continuous-Flex Duct Hose for Wood Chips and Plastic Pellets

- Flexible
- Temperature Range: –40° to 250° F
- Color: Black
- Clamps: Use worm-drive clamps and quick-release clamps (see pages 302-306)

The neoprene coating on this hose withstands continuous motion without weakening. Hose is also for use with cardboard fibers. It meets UL 94V0 for flame retardance.

Hose is 0.026″ thick nylon with a right-hand metal spiral and a ribbed interior. Hose compresses to 25% of its length, except hose with 1″ to 1½″ ID and 4″ to 5″ ID compresses to 35%, and hose with 6″ to 8″ ID compresses to 30%. Hose can be used outdoors. Maximum continuous length is 25 feet.

Warning: Hose should not be used for applications that generate a static charge.



ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
1″	1 5/16″	1″	29″ Hg	30	5266K91	$5.88	$4.70
1¼″	1 9/16″	3/4″	29″ Hg	30	5266K92	6.65	5.32
1½″	1 13/16″	3/4″	29″ Hg	30	5266K93	7.50	6.00
2″	2 5/16″	3/4″	29″ Hg	30	5266K53	9.73	7.78
2½″	2 13/16″	3/4″	29″ Hg	30	5266K54	10.35	8.28
3″	3 5/16″	1″	29″ Hg	30	5266K55	10.96	8.76
4″	4 3/8″	2″	29″ Hg	30	5266K56	16.53	13.22
5″	5 3/8″	2″	25″ Hg	30	5266K57	19.38	15.50
6″	6 7/16″	2″	24″ Hg	30	5266K58	21.31	17.04

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
7″	7 7/16″	2″	16″ Hg	26	5266K64	$24.32	$19.46
8″	8½″	2″	14″ Hg	23	5266K59	24.64	20.16
10″	10 7/16″	2½″	7″ Hg	19	5266K61	30.36	24.84
12″	12½″	3″	4″ Hg	15	5266K63	37.26	30.49
14″	14 9/16″	3″	3″ Hg	11	5266K65	43.42	35.54
16″	16 9/16″	3½″	2″ Hg	9	5266K66	50.60	41.40
18″	18 9/16″	3½″	1″ Hg	7	5266K67	57.80	47.29
20″	20 9/16″	3½″	1″ Hg	5	5266K68	71.42	58.44
24″	24 9/16″	3½″	0.6″ Hg	3	5266K69	89.13	72.93

Bend-and-Stay Metal Duct Hose for Wood Chips and Plastic Pellets

- Flexible
- Temperature Range: –100° to 500° F
- Clamps: Use worm-drive clamps (see pages 302-306)



Lightweight, yet strong, this crimped-seam aluminum hose bends and maintains its shape without support. Hose is also for use with cardboard fibers. Hose is 0.005″ thick, has a ribbed interior, and compresses to 20% of its length. It meets UL 181 Class 0. Hose can be used outdoors. It is not rated for vacuum.

Warning: Hose should not be used for applications that generate a static charge.

ID	OD	Bend Radius	Max. psi @ 72° F		10 ft.	15 ft.	30 ft.
3″	3 3/8″	2″	50	5525K1	$12.00	$16.00	$26.67
4″	4 3/8″	2½″	50	5525K2	15.90	21.20	35.33
5″	5 3/8″	3″	50	5525K3	19.86	26.48	44.13
6″	6 3/8″	4″	50	5525K4	24.06	32.08	53.47
7″	7 3/8″	4½″	50	5525K5	27.87	37.16	61.93
8″	8 3/8″	5″	50	5525K6	31.89	42.52	70.87
10″	10 3/8″	6″	50	5525K7	39.90	53.20	88.67
12″	12 3/8″	7½″	50	5525K8	47.97	63.96	106.60

Crush-Resistant Duct Hose for Wood Chips and Plastic Pellets

- Very Flexible
- Temperature Range: –40° to 195° F
- Color: Clear with a blue wear strip
- Clamps: Use worm-drive clamps (see pages 302-306)

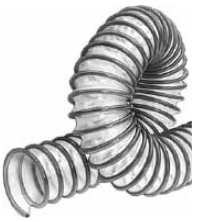

Don't worry about crushing this hose if you step on it—it has a flexible, right-hand plastic spiral that springs back to its original shape. Hose is 0.028″ thick clear polyurethane so you can monitor flow. It is also for use with cardboard fibers. It has a ribbed interior. Not rated for compression. It can be used outdoors. Maximum continuous length is 25 feet.

Warning: Hose should not be used for applications that generate a static charge.

ID, mm	OD, mm	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
50	62	2½″	5″ Hg	12	9592K19	$13.36	$10.93
60	72	3″	4″ Hg	9	9592K11	16.97	14.19
80	92	3½″	3″ Hg	8	9592K13	22.24	18.60
90	103	4″	3″ Hg	6	9592K21	22.73	18.60
100	114	4″	2″ Hg	6	9592K14	24.43	20.44
120	133	5″	2″ Hg	6	9592K15	31.98	26.75
140	154	6″	1″ Hg	4	9592K22	34.29	28.05
150	166	6″	1″ Hg	4	9592K17	37.03	30.96
160	174	6½″	1″ Hg	4	9592K23	39.87	32.62

Any-Which-Way Duct Hose and Fittings for Wood Chips and Plastic Pellets

- Flexible
- Temperature Range: –40° to 170°F
- Color: Black

Position this hose in any direction and it will hold its shape. To make longer lengths, snap one end of the hose into the end of another—no need for a duct hose connector or clamp. Hose requires support once the length exceeds 3 feet. It is also for use with cardboard fibers. Not rated for compression.

Hose is 0.47″ thick acetal, and has a ribbed interior. Surface resistivity is 10^3 ohms.

Nozzles snap onto the end of the hose. They are acetal. *Round nozzle* has a 4.32″ opening.

Adapter connects your hose to 3″ dia. duct in an existing vacuum system. It is PVC.



ID	OD	Lg.	Bend Radius	Vacuum @ 72°F	Max. psi @ 72°F	Hose		Round Nozzle		Tapered Nozzle		Straight Adapter	
2½″	3″	1 ft.	6″	26.5″ Hg	9	6502T21	$15.89	6502T22	$6.22	6502T24	$6.22	6502T28	$4.84

Abrasion-Resistant Duct Hose with Wear Strip for Wood Chips and Plastic Pellets



- Flexible
- Temperature Range: –20° to 250°F
- Color: Black with silver wear strip
- Clamps: Use worm-drive clamps and bolt clamps (see pages 306-307)

Tough both inside and out, this durable urethane hose has a metal spiral that acts as a wear strip to protect against damage. Spiral direction is left hand. Hose is made of FDA listed materials and is for use with dry food such as rice and grain. It is also for use with cardboard fibers.

Hose is 0.03″ thick with a ribbed interior. Hose compresses to 25% of its length. It can be used outdoors.

Warning: Hose should not be used for applications that generate a static charge.

ID	OD	Bend Radius	Vacuum @ 72°F	Max. psi @ 72°F	Max. Cont. Lg., ft.		Per Ft. 1-24	Per Ft. 25-Up
4″	4⅝″	6″	26″ Hg	18	25	52945K41	$24.23	$19.98
5″	5⅝″	7″	21″ Hg	18	25	52945K42	27.10	22.35
6″	6⅝″	9″	16″ Hg	16	25	52945K43	34.22	28.22
7″	7⅝″	10″	16″ Hg	16	25	52945K44	37.53	31.28
8″	8⅝″	12″	6″ Hg	16	25	52945K45	42.91	35.77
9″	9⅝″	14″	5″ Hg	14	25	52945K46	50.90	42.41
10″	10⅝″	15″	5″ Hg	14	25	52945K47	49.49	41.24
12″	12⅝″	18″	4.5″ Hg	14	25	52945K48	66.81	55.68
14″	14⅝″	21″	3.5″ Hg	12	25	52945K49	89.09	74.24

Static-Dissipative Duct Hose with Fittings Attached for Wood Chips and Plastic Pellets



- Flexible
- Temperature Range: –60° to 180°F
- Color: Clear with black fittings

The hose's embedded metal spiral along with carbon-filled fittings divert static electricity when hose is grounded and used with a metal suction tube. Hose is also for use with cardboard fibers. Surface resistivity is 10^6 ohms. The walls are clear so you can monitor flow. Hose is 0.032″ thick urethane; the attached fittings are vinyl. It has a left-hand spiral and a ribbed interior. It can be used outdoors. Not rated for compression.

ID	OD	Bend Radius	Vacuum @ 72°F	Max. psi @ 72°F		10 ft.	15 ft.	25 ft.
1½″	1⅞″	1½″	15″ Hg	8	9020T6	$88.20	$126.73	$211.20
2″	2¼″	1½″	15″ Hg	8	9020T7	126.80	166.49	267.33

Duct Hose with Wear Strip for Wood Chips and Plastic Pellets



- Flexible
- Temperature Range: –20° to 180°F
- Color: Clear with off-white wear strip

Not only is polyurethane tough enough to handle heavy particles and cardboard fibers, the material is clear so you can monitor flow. Hose has a wear strip that protects against damage and a copper wire that dissipates static buildup when used in a grounded system. Surface resistivity is 10^8 ohms.

Hose is 0.025″ thick, except 1½″ ID hose is 0.026″ thick. It has a left-hand plastic spiral and a ribbed interior. Hose compresses to 70% of its length, except 4″ ID hose compresses to 60%. It can be used outdoors.

Screw-on fittings screw over the end of your duct hose so you can make connections to equipment. They are white PVC.



Screw-On Fitting

					Hose				Screw-On Fittings			
ID	OD	Bend Radius	Vacuum @ 72°F	Max. psi @ 72°F		Per Ft.	Max. Cont. Lg., ft.		ID (A)	ID (B)		
1¼″	1 11⁄16″	3½″	29″ Hg	29	5798T11	$5.19	50	5798T411 $220.00	1⅝″	1¼″	5798T31	$4.02
1½″	1 15⁄16″	4″	29″ Hg	27	5798T12	5.43	50	5798T412 229.50	1⅞″	1½″	5798T32	4.09
1¾″	2 3⁄16″	4½″	28″ Hg	27	5798T13	6.20	50	5798T413 262.50	2⅛″	1¾″	5798T33	4.16
2″	2½″	4½″	27″ Hg	25	5798T14	7.58	25	5798T414 160.25	2½″	2″	5798T34	4.39
3″	3⅝″	6″	20″ Hg	19	5798T15	13.64	25	5798T415 288.50	3 9⁄16″	3″	5798T35	8.44
4″	4⅝″	7″	15″ Hg	9	5798T16	19.64	25	5798T416 415.50	4 9⁄16″	4″	5798T36	12.20

Flame-Resistant Duct Hose for Wood Chips and Plastic Pellets

- Flexible
- Temperature Range: –65° to 225° F
- Color: Semi-clear
- Clamps: Use worm-drive clamps (see pages 302-306)



Hose meets UL 94V2 for flame retardance. The walls are semi-clear so you get a glimpse of what's running through your line. Hose is also for use with cardboard fibers.

Hose is 0.03″ thick polyurethane with a right-hand metal spiral and a ribbed interior. It compresses to 35% of its length. Hose can be used outdoors. Maximum continuous length is 50 feet.

Warning: Hose should not be used for applications that generate a static charge.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
2″	2 5/16″	2″	29″ Hg	30	1208N1	$10.25	$8.20
2 1/2″	2 13/16″	2 1/2″	29″ Hg	30	1208N2	11.95	9.56
3″	3 5/16″	3″	29″ Hg	29	1208N3	12.20	9.76
4″	4 3/8″	4″	29″ Hg	25	1208N4	15.08	12.06
5″	5 3/8″	5″	17″ Hg	22	1208N5	17.45	13.96
6″	6 7/16″	6″	15″ Hg	19	1208N6	18.10	14.48
8″	8 1/2″	8″	9″ Hg	14	1208N7	23.08	18.46
10″	10 1/2″	8″	4″ Hg	11	1208N8	32.28	25.82
12″	12 1/2″	10″	2.2″ Hg	10	1208N9	35.70	28.56

Duct Hose with Wear Strip for Metal Chips and Shavings

- Flexible
- Temperature Range: –40° to 200° F
- Color: Clear with yellow wear strip
- Clamps: Use worm-drive clamps and quick-release clamps (see pages 302-306)



Hose has a left-hand plastic spiral that acts as a wear strip to protect against damage. The interior is smooth for unrestricted flow and the walls are clear so you can see inside your line.

Hose is 0.033″ thick polyurethane, except 1 1/2″ ID hose is 0.022″ thick, and 6″ to 10″ ID hose is 0.035″ thick. It compresses to 50% of its length. Hose can be used outdoors. Maximum continuous length is 25 feet.

Warning: Hose should not be used for applications that generate a static charge.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
1 1/2″	1 15/16″	2″	28″ Hg	40	1244N1	$7.14	$5.56
2″	2 1/2″	2 1/2″	26″ Hg	34	1244N2	8.14	6.33
2 1/2″	3″	3″	26″ Hg	32	1244N3	9.29	7.22
3″	3 9/16″	3″	26″ Hg	31	1244N4	10.43	8.11
4″	4 9/16″	4″	22″ Hg	30	1244N5	12.17	9.47
5″	5 5/8″	5″	18″ Hg	22	1244N6	16.69	12.98
6″	6 5/8″	6 1/2″	10″ Hg	25	1244N7	17.17	13.36
8″	8 3/4″	9″	9″ Hg	25	1244N8	24.80	19.29
10″	10 13/16″	11″	7″ Hg	20	1244N9	29.03	22.58

Impact-Resistant Duct Hose for Metal Chips and Shavings

- Flexible
- Temperature Range: –65° to 140° F
- Color: Gray

Tough, resilient EVA plastic offers excellent impact resistance and is long lasting.

Hose is 0.038" thick. It has a left-hand plastic spiral, and a smooth interior for unrestricted flow. Hose can be used outdoors. Not rated for compression.

Screw-on fittings connect duct hose to equipment. They are PVC and screw over the end of your hose.

Warning: Hose should not be used for applications that generate a static charge.





Screw-On Fitting

					Hose				Screw-On Fittings			
ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft.	Max. Cont. Lg., ft.		ID (A)	ID (B)		
1 1/4″	1 5/8"	3″	20″ Hg	22	5397K11	$2.26	50	5397K311 $87.50	1 5/8″	1 1/4″	5397K17	$2.40
1 1/2″	1 15/16"	3 1/2″	18″ Hg	20	5397K12	2.61	50	5397K312 101.50	2″	1 1/2″	5397K18	2.61
2″	2 7/16"	3 1/2″	18″ Hg	14	5397K13	3.54	25	5397K313 69.00	2 1/2″	2″	5397K19	6.37
2 1/2″	2 15/16"	3″	16″ Hg	12	—	—	25	5397K314 97.25	—	—	—	—
3″	3 7/16"	3 1/2″	11″ Hg	8	—	—	25	5397K315 109.00	—	—	—	—

Super-Abrasion-Resistant Metal Duct Hose for Metal Chips and Shavings

- Rigid
- Maximum Temperature: 550° F (Galvanized Steel); 1000° F (304 Stainless Steel)
- Clamps: Use bolt clamps (see page 307)

Formed by metal interlocked strips, this hose has the strength to stand up to sharp, abrasive materials. Also known as smooth-bore metal hose, it has a lining that bridges the gaps in the interlocked design, creating a smooth interior for unrestricted flow. Hose is 0.015" thick and compresses to 80% of its length. It is not rated for vacuum or pressure.

Galvanized steel has fair corrosion resistance and is for indoor use only. It meets ASTM A653 and ASTM A924.

304 stainless steel has very good corrosion resistance. It meets ASTM A240/A240M. It can be used outdoors.

Warning: Hose should not be used for applications that generate a static charge.



ID	OD	Bend Radius	Max. Cont. Lg., ft.		1 ft.	2 ft.	3 ft.	4 ft.	5 ft.	10 ft.	15 ft.	20 ft.	25 ft.	Other Lengths
Galvanized Steel														
2″	2 1/4″	9″	25	5261K71	$6.08	$12.16	$18.24	$24.32	$30.40	$54.00	$81.00	$108.00	$121.50	1 to 50 ft.
2 1/2″	2 3/4″	10″	25	5261K72	6.90	13.80	20.70	27.60	34.50	61.30	91.95	122.60	138.00	1 to 50 ft.
3″	3 1/4″	11″	25	5261K73	9.90	19.80	29.70	39.60	49.50	88.00	132.00	176.00	198.00	1 to 50 ft.
4″	4 1/4″	15 1/2″	25	5261K74	11.47	22.94	34.41	45.88	57.35	103.20	154.80	206.40	234.50	1 to 50 ft.
5″	5 1/4″	19″	25	5261K15	14.13	28.26	42.39	56.52	70.65	127.20	190.80	254.40	289.00	1 to 50 ft.
6″	6 1/4″	23″	25	5261K16	16.58	33.16	49.74	66.32	82.90	149.20	223.80	298.40	339.00	1 to 50 ft.
8″	8 1/4″	28 1/2″	25	5261K18	21.91	43.82	65.73	87.64	109.55	197.20	295.80	394.40	448.25	1 to 40 ft.
10″	10 1/4″	39″	25	5261K19	27.00	54.00	81.00	108.00	135.00	243.00	364.50	486.00	552.25	1 to 25 ft.
12″	12 1/4″	46 1/2″	25	5261K21	32.11	64.22	96.33	128.44	160.55	289.00	433.50	578.00	656.75	1 to 25 ft.
304 Stainless Steel														
2″	2 1/4″	8 1/2″	25	4462K51	15.20	30.40	45.60	60.80	76.00	138.20	207.30	276.40	316.75	1 to 50 ft.
2 1/2″	2 3/4″	9 1/2″	25	4462K52	17.56	35.12	52.68	70.24	87.80	159.60	239.40	319.20	365.75	1 to 50 ft.
3″	3 1/4″	10 1/2″	25	4462K53	23.82	47.64	71.46	95.28	119.10	216.50	324.75	433.00	496.25	1 to 50 ft.
4″	4 1/4″	14 1/2″	25	4462K54	31.66	63.32	94.98	126.64	158.30	287.80	431.70	575.60	659.50	1 to 50 ft.
5″	5 1/4″	18″	25	4462K45	39.50	79.00	118.50	158.00	197.50	359.00	538.50	718.00	823.00	1 to 50 ft.
6″	6 1/4″	21 1/2″	25	4462K46	47.34	94.68	142.02	189.36	236.70	430.40	645.60	860.80	986.25	1 to 50 ft.
8″	8 1/4″	28 1/2″	25	4462K47	62.24	124.48	186.72	248.96	311.20	565.80	848.70	1,131.60	1,296.75	1 to 40 ft.
10″	10 1/4″	39″	25	4462K48	77.92	155.84	233.76	311.68	389.60	708.40	1,062.60	1,416.80	1,623.25	1 to 25 ft.
12″	12 1/4″	45 1/2″	25	4462K49	93.60	187.20	280.80	374.40	468.00	850.90	1,276.35	1,701.80	1,950.00	1 to 25 ft.

Puncture- and Abrasion-Resistant Duct Hose for Metal Chips and Shavings



Clear

- Flexible
- Temperature Range:
  –65° to 200° F (Clear)
  –65° to 225° F (Black)
- Color: Clear or black
- Clamps: Use worm-drive clamps (see pages 302-306)

Blow jagged, abrasive materials through this hose without worrying about punctures or tears. It's made of extra-thick polyurethane. Hose has a metal spiral and a ribbed interior. It can be used outdoors. Maximum continuous length is 25 feet.

Clear hose lets you monitor flow. Hose with 0.035″ material thickness compresses to 50% of its length; 0.06″ thick hose compresses to 70%, except 2″ and 3″ ID compresses to 75%. Spiral direction is left hand.

Black hose compresses to 50% of its length, except 0.03″ thick hose compresses to 30%. Spiral direction is right hand.

Warning: Hose should not be used for applications that generate a static charge.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
Clear							
0.035″ Material Thickness							
2″	2 5/16″	2 1/2″	29″ Hg	33	5136K21	$9.83	$7.65
3″	3 3/8″	3 1/2″	29″ Hg	27	5136K22	11.43	8.89
4″	4 3/8″	4 1/2″	28″ Hg	18	5136K23	13.22	10.28
5″	5 3/8″	5 1/2″	26″ Hg	16	5136K24	15.13	11.76
6″	6 3/8″	6 1/2″	23″ Hg	14	5136K25	16.32	12.70
7″	7 7/16″	7 1/2″	18″ Hg	12	5136K26	19.89	15.47
8″	8 7/16″	9″	13″ Hg	11	5136K29	20.29	15.78
10″	10 7/16″	11 1/2″	6″ Hg	9	5136K31	29.55	22.98
12″	12 7/16″	13 1/2″	5″ Hg	7	5136K32	32.57	25.33
14″	14 9/16″	15 1/2″	3″ Hg	4	5136K51	40.27	31.32
16″	16 5/8″	18″	3″ Hg	2	5136K52	48.75	37.92
0.06″ Material Thickness							
2″	2 5/16″	3″	29″ Hg	35	5136K41	18.19	14.14
3″	3 5/16″	5″	29″ Hg	30	5136K42	20.22	15.73
4″	4 7/16″	4″	29″ Hg	35	5136K43	21.96	17.07
5″	5 7/16″	5″	26″ Hg	31	5136K44	24.75	19.25
6″	6 7/16″	6″	23″ Hg	27	5136K45	26.19	20.37
7″	7 1/2″	7″	18″ Hg	26	5136K46	29.74	23.13
8″	8 1/2″	8″	13″ Hg	25	5136K47	31.68	24.64
10″	10 1/2″	10″	6″ Hg	22	5136K48	49.61	38.58
12″	12 1/2″	12″	5″ Hg	19	5136K49	53.71	41.78
14″	14 11/16″	12″	4″ Hg	16	5136K61	63.85	49.66
16″	16 11/16″	12″	3″ Hg	13	5136K62	71.41	55.54

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
Black							
0.03″ Material Thickness							
2″	2 5/16″	2″	29″ Hg	30	5628K331	$9.73	$7.78
3″	3 5/16″	3″	29″ Hg	29	5628K332	10.91	8.72
4″	4 3/8″	4″	29″ Hg	25	5628K333	13.46	10.76
5″	5 5/16″	5″	17″ Hg	22	5628K334	15.90	12.72
6″	6 7/16″	6″	15″ Hg	19	5628K335	16.08	12.86
7″	7 7/16″	7″	12″ Hg	16	5628K336	19.88	15.90
8″	8 7/16″	8″	9″ Hg	14	5628K337	21.01	16.80
10″	10 1/2″	8″	4″ Hg	11	5628K382	27.88	22.30
12″	12 1/2″	10″	2.2″ Hg	10	5628K383	31.89	25.51
14″	14 9/16″	12″	3.3″ Hg	8	5628K44	38.35	30.68
16″	16 9/16″	14″	2.2″ Hg	7	5628K46	48.03	38.42
0.045″ Material Thickness							
7″	7 9/16″	7″	12″ Hg	22	5628K446	26.26	21.00
0.06″ Material Thickness							
4″	4 1/2″	4″	29″ Hg	34	5628K22	21.75	17.40
5″	5 1/2″	5″	17″ Hg	33	5628K24	24.50	19.60
6″	6 1/2″	6″	15″ Hg	32	5628K25	26.28	21.02
8″	8 9/16″	8″	9″ Hg	29	5628K26	33.25	26.60
10″	10 9/16″	10″	4″ Hg	25	5628K33	50.25	40.20
12″	12 9/16″	12″	2.5″ Hg	20	5628K35	54.38	43.50
14″	14 5/8″	14″	3.5″ Hg	18	5628K36	64.45	51.56
16″	16 5/8″	16″	2.5″ Hg	15	5628K37	94.43	75.54

Extra-Strength High-Vacuum Duct Hose for Metal Chips and Shavings



- Rigid
- Temperature Range: –40° to 160° F
- Color: Black
- Clamps: Use bolt clamps (see page 307)

The strongest nonmetal duct hose we offer, this SBR rubber hose is reinforced with yarn and has a right-hand metal spiral. Hose has a smooth interior for unrestricted flow. Hose can be used outdoors. It is not rated for pressure or compression.

Warning: Hose should not be used for applications that generate a static charge.

ID	OD	Bend Radius	Vacuum @ 72° F	Material Thick.		Per Ft.	Max. Cont. Lg. Lg., ft.	Max. Cont. Lg. Each
3/4″	1 3/16″	2″	29″ Hg	0.210″	5314K51	$9.79	50	$387.50
1″	1 3/8″	3″	29″ Hg	0.210″	5314K52	10.78	50	427.00
1 1/4″	1 5/8″	4″	29″ Hg	0.210″	5314K53	11.21	50	444.00
1 1/2″	1 7/8″	5″	29″ Hg	0.210″	5314K54	12.02	50	475.50
1 3/4″	2 3/16″	7″	29″ Hg	0.210″	5314K55	12.36	50	489.50
2″	2 3/8″	8″	29″ Hg	0.210″	5314K56	13.16	50	521.00
2 1/4″	2 11/16″	8″	29″ Hg	0.210″	5314K57	13.53	50	535.50
2 1/2″	2 7/8″	8″	29″ Hg	0.210″	5314K58	14.34	50	568.00
2 3/4″	3 3/16″	9″	29″ Hg	0.210″	5314K59	14.58	50	577.00
3″	3 3/8″	9″	29″ Hg	0.265″	5314K61	16.59	50	657.00
3 1/2″	4 1/16″	10″	29″ Hg	0.265″	5314K62	20.00	50	797.74
4″	4 3/8″	12″	29″ Hg	0.270″	5314K63	24.24	50	959.00
4 1/2″	5 1/16″	15″	29″ Hg	0.275″	5314K64	31.02	50	1,293.00
5″	5 9/16″	18″	24″ Hg	0.275″	5314K65	31.29	25	652.00
6″	6 5/8″	18″	28″ Hg	0.414″	5314K66	47.92	25	936.50
8″	8 5/8″	24″	18″ Hg	0.414″	5314K67	61.97	10	516.50
10″	10 5/8″	30″	10″ Hg	0.414″	5314K68	88.55	10	737.90

High-Pressure Duct Hose for Metal Chips and Shavings



- Flexible
- Temperature Range: 0° to 158° F
- Color: Blue
- Clamps: Use twin-ring hose clamps (see page 310) or worm-drive clamps (see page 306)

A polyurethane liner gives this hose extra strength to handle high pressure and vacuum applications. It has a smooth interior for unrestricted flow. Hose is PVC with a right-hand plastic spiral. It compresses to 75% of its length. It can be used outdoors.

Warning: Hose should not be used for applications that generate a static charge.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F	Material Thick.		Per Ft.	Max. Cont. Lg. Lg., ft.	Max. Cont. Lg. Each
1 1/2″	1 7/8″	4″	29″ Hg	50	0.08″	5563K31	$5.78	100	$463.00
2″	2 1/2″	6″	29″ Hg	50	0.11″	5563K32	9.33	100	747.00
3″	3 11/16″	8″	29″ Hg	40	0.15″	5563K33	15.88	100	1,271.00
4″	4 13/16″	14″	29″ Hg	35	0.17″	5563K34	26.25	100	2,100.00
5″	5 7/8″	20″	29″ Hg	30	0.17″	5563K35	41.14	50	1,646.00
6″	6 7/8″	25″	25″ Hg	23	0.18″	5563K36	50.72	50	2,029.00

Static-Control Duct Hose for Metal Chips and Shavings

- Flexible
- Temperature Range: –40° to 140° F
- Color: Black

SBR rubber is blended with carbon, which dissipates static electricity without the need for a grounding wire. Surface resistivity is 10^3 ohms. Hose has a ribbed interior and a right-hand plastic spiral. It can be used outdoors. Hose is not rated for compression.



ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F	Material Thick.	Max. Cont. Lg., ft.		Per Ft. 1-99	Per Ft. 100-Up
1¼″	1⅝″	2″	29″ Hg	45	0.079″	100	4505K21	$3.94	$3.15
1½″	1⅞″	2″	29″ Hg	45	0.087″	100	4505K22	4.10	3.28
2″	2⅜″	2½″	29″ Hg	40	0.087″	100	4505K23	6.90	5.52
2½″	3″	2½″	29″ Hg	35	0.098″	100	4505K24	8.50	6.81
3″	3½″	3″	29″ Hg	35	0.098″	100	4505K25	11.18	8.94
3½″	4⅛″	4″	29″ Hg	30	0.138″	100	4505K26	16.96	13.56
4″	4⅝″	4½″	29″ Hg	30	0.142″	100	4505K27	18.43	14.75
5″	5 13⁄16″	5″	28″ Hg	30	0.177″	100	4505K28	30.40	24.45
6″	6¾″	9½″	28″ Hg	30	0.217″	100	4505K29	37.56	30.21

Easy-Clamp Duct Hose for Metal Chips and Shavings

- Flexible
- Temperature Range: –20° to 180° F (Natural Rubber); 0° to 212° F (Neoprene Rubber)
- Color: Amber, white, or black
- Clamps: Use worm-drive clamps and quick-release clamps (see pages 302-306)

These short lengths of hose have a collar on each end to prevent the clamp from slipping off. Use them to connect vibratory equipment such as sifters and screeners.

Hose is 0.125" thick and has a ribbed interior. Hose compresses to 50% of its length. It is not rated for pressure.

Natural rubber hose is made of FDA listed materials and is for use with dry food such as rice and grain.

Neoprene rubber hose is harder than natural rubber but less durable.

Warning: Hose should not be used for applications that generate a static charge.



		Natural Rubber			Neoprene Rubber		
ID	OD	Choose a Color		12″ Lg.	Choose a Color		12″ Lg.
4″	4½″	Amber, White	9394K31	$85.25	—	—	—
6″	6⅝″	Amber, White	9394K33	93.73	White, Black	9394K44	$65.53
8″	8⅝″	Amber, White	9394K35	104.35	White, Black	9394K46	75.20
10″	10¾″	Amber, White	9394K37	128.62	—	—	—

Static-Dissipative Duct Hose for Dry Food

- Flexible
- Temperature Range: –20° to 200° F
- Color: Clear
- Clamps: Use worm-drive clamps (see pages 302-306)

Blow grain, sugar, flour, and powders through this polyurethane hose—it's made of FDA listed materials. Hose has a right-hand metal spiral that dissipates static when used in a grounded system. The walls are clear so you can monitor flow.

Hose is 0.035" thick and has a ribbed interior. Surface resistivity is 10^8 ohms. Hose compresses to 50% of its length. It can be used outdoors.



ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F	Max. Cont. Lg., ft.		Per Ft. 1-49	Per Ft. 50-Up
2″	2 5⁄16″	2½″	29″ Hg	13	50	5916T1	$12.21	$9.90
2½″	2¾″	3″	29″ Hg	13	50	5916T2	12.96	10.52
3″	3 5⁄16″	3½″	29″ Hg	12	50	5916T3	13.72	11.14
4″	4 5⁄16″	4½″	20″ Hg	10	50	5916T4	15.26	12.38
5″	5 5⁄16″	5½″	15″ Hg	10	50	5916T5	19.14	15.53
6″	6 5⁄16″	6½″	13″ Hg	9	50	5916T6	21.05	17.07
8″	8⅜″	9″	10″ Hg	7	50	5916T7	23.54	19.10
10″	10⅜″	11½″	7″ Hg	5	50	5916T8	33.25	26.97
12″	12⅜″	13½″	6″ Hg	5	50	5916T9	43.50	35.28

Very Flexible Duct Hose for Liquids

- Very Flexible
- Temperature Range: –20° to 150° F
- Color: Gray

A small bend radius lets this hose twist and turn to fit in cramped spaces. Use with water and oil. Hose is 0.032″ thick PVC with a left-hand metal spiral and a ribbed interior. Hose with 1¼″ to 2½″ ID compresses to 50% of its length; 3″ to 4″ ID hose compresses to 45%. It can be used outdoors.

Screw-on fittings and **connector** are PVC. Screw fittings over the end of your duct hose to make connections to equipment. Thread connector over the end of your hose to create longer lengths without the need for clamps.

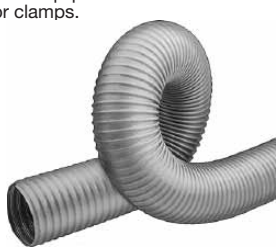





					Hose				Screw-On Fittings				Connector	
ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F		Per Ft.	Max. Cont. Lg., ft.		ID (A)	ID (B)				
1¼″	1½″	1″	27″ Hg	45	5500K31	$2.74	50	5500K411	$106.50	1½″	1¼″	5500K17	$2.23	—	—
1½″	1¾″	1½″	26″ Hg	36	5500K32	3.11	50	5500K421	121.00	1 13⁄16″	1½″	5500K18	2.39	—	—
2″	2⅜″	2″	25″ Hg	26	5500K33	3.86	50	5500K431	150.00	2 7⁄16″	2″	5500K19	7.83	5500K16	$9.60
2½″	2⅞″	2½″	24″ Hg	20	5500K35	5.37	50	5500K441	209.00	2 11⁄16″	2½″	5500K24	8.06	—	—
3″	3⅜″	2½″	24″ Hg	20	5500K37	6.00	25	5500K451	116.75	3⅜″	3″	5500K25	8.90	—	—
4″	4⅜″	3½″	18″ Hg	14	5500K39	7.80	25	5500K461	151.75	—	—	—	—	—	—

Duct Hose for Liquids



Hose with Unfinished Ends

- Flexible
- Temperature Range: –20° to 300° F (Hose with Unfinished Ends); –20° to 212° F (Fittings and Hose with Fittings Attached)
- Color: Blue or green

Run water, oil, hydraulic oil, and chemicals such as citric and acetic acid through this hose. Hose is 3/16″ thick PVC with a metal spiral. It has a smooth interior for unrestricted flow. It is not rated for compression. Hose can be used outdoors. Maximum continuous length is 50 feet.

Fittings are gray vinyl-coated steel. They slide over the end of your hose and secure with set screws (included). **Hose with fittings attached** lets you connect to pumps, vacuum systems, and other equipment.



Fitting



Hose with Fittings Attached

Hose with Unfinished Ends

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F	Choose a Color	Hose	Per Ft.	Fittings ID (A)	ID (B)		
1 1/4″	1 1/2″	2″	29″ Hg	80	Blue, Green	5223K25	$5.12	1 5/8″	1 1/2″	5223K26	$5.64
1 1/2″	1 3/4″	2 3/4″	29″ Hg	77	Blue, Green	5223K35	6.20	1 7/8″	1 1/2″	5223K36	5.91
1 3/4″	2″	4″	29″ Hg	74	Blue, Green	5223K95	7.11	2 1/8″	1 3/4″	5223K96	6.18
2″	2 1/4″	4 5/8″	29″ Hg	70	Blue, Green	5223K45	8.08	2 3/8″	2″	5223K46	6.45
2 1/4″	2 1/2″	5 3/8″	29″ Hg	68	Blue, Green	5223K11	9.08	2 5/8″	2 1/4″	5223K13	6.82
2 1/2″	2 3/4″	6″	29″ Hg	66	Blue, Green	5223K12	10.52	2 7/8″	2 1/2″	5223K14	9.36
3″	3 1/4″	7″	29″ Hg	65	Blue, Green	5223K85	12.50	—	—	—	—

Hose with Fittings Attached

ID	OD	Bend Radius	Fitting ID	Vacuum @ 72° F	Max. psi @ 72° F	Choose a Color		5 ft.	15 ft.	25 ft.	50 ft.
1 1/4″	1 1/2″	2″	—	29″ Hg	80	Blue, Green	5223K4	$32.80	$84.01	$135.23	$263.32
1 1/2″	1 3/4″	2 3/4″	1 1/2″	29″ Hg	77	Blue, Green	5223K5	38.48	100.42	162.28	317.08
2″	2 1/4″	4 5/8″	2″	29″ Hg	70	Blue, Green	5223K6	48.69	129.53	210.43	410.73

Smooth-Flow Duct Hose for Liquids



Hose



Screw-On Fitting

- Flexible
- Temperature Range: 15° to 125° F
- Color: White

A smooth interior allows for unrestricted flow and makes this hose easy to clean. Hose is for use with water. It is PVC, with a right-hand plastic spiral. Hose compresses to 50% of its length. It can be used outdoors.

Screw-on fittings screw over the end of your duct hose to make connections to equipment. They are gray PVC.

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F	Material Thick.	Hose	Per Ft.	Max. Cont. Lg., ft.			Screw-On Fittings ID (A)	ID (B)		
1″	1 1/4″	3″	29″ Hg	37	0.04″	5641K21	$1.66	100	5641K811	$133.00	1 1/4″	1″	5641K61	$4.80
1 1/4″	1 1/2″	4″	29″ Hg	37	0.055″	5641K27	1.93	100	5641K821	154.00	1 1/2″	1 1/4″	5641K65	5.00
1 1/2″	1 13/16″	4″	29″ Hg	34	0.055″	5641K22	2.91	100	5641K831	233.00	1 3/4″	1 1/2″	5641K62	5.17
2″	2 3/8″	6″	29″ Hg	30	0.055″	5641K23	4.54	100	5641K841	363.00	2 7/16″	2″	5641K63	7.89
2 1/2″	2 7/8″	7″	29″ Hg	30	0.063″	5641K28	6.30	100	5641K851	504.00	—	—	—	—
3″	3 7/16″	8″	29″ Hg	30	0.071″	5641K24	8.51	100	5641K861	681.00	3 3/8″	3″	5641K64	13.98
4″	4 9/16″	14″	15″ Hg	27	0.075″	5641K25	11.41	100	5641K871	912.00	—	—	—	—
6″	6 5/8″	25″	10″ Hg	20	0.102″	5641K26	16.00	30	5641K882	416.44	—	—	—	—

Crush-Resistant Duct Hose for Liquids



Hose with Unfinished Ends

- Flexible
- Temperature Range: -20° to 140° F (Silver/Black, Gray/Black, or Hose with Fittings Attached); 20° to 140° F (Black, Gray, or Screw-On Fittings)

Step on this hose without causing damage. It is for use with water and chemicals such as citric acid. Hose is polyethylene and has a ribbed interior. It is not rated for compression. Hose can be used outdoors. Maximum continuous length is 50 feet.

Screw-on fittings screw over the end of your duct hose so you can connect to equipment. They are gray PVC.

Hose with fittings attached lets you connect to pumps, vacuum systems, and other equipment. Fittings are white.



Screw-On Fittings



Hose with Fittings Attached

Hose with Unfinished Ends

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F	Choose a Color	Hose	Per Ft.	Screw-On Fittings ID (A)	ID (B)		
1/2″	3/4″	1 1/2″	29″ Hg	15	Silver/Black	5290K54	$2.68	—	—	—	—
5/8″	15/16″	1 1/2″	29″ Hg	15	Silver/Black	5290K51	2.90	—	—	—	—
3/4″	1 1/16″	3″	29″ Hg	15	Silver/Black	5290K11	3.16	1″	3/4″	5290K31	$3.18
7/8″	1 3/16″	3″	29″ Hg	15	Silver/Black	5290K52	3.20	1 5/16″	7/8″	5290K62	3.45
1″	1 3/8″	3 1/2″	29″ Hg	15	Silver/Black	5290K12	3.77	1 5/16″	1″	5290K32	3.45
1 1/4″	1 3/4″	2 1/2″	29″ Hg	20	Black, Gray	5200K31	1.95	1 11/16″	1 1/4″	5200K23	1.46
1 1/2″	2″	3″	29″ Hg	16	Black, Gray	5200K32	2.35	2″	1 1/2″	5200K24	2.14
2″	2 5/8″	4 1/2″	29″ Hg	15	Black, Gray	5200K33	4.02	2 9/16″	2″	5200K25	4.90
2 1/2″	3 1/16″	5″	29″ Hg	14	Black, Gray	5200K34	6.73	3 3/16″	2 1/2″	5200K26	14.80
3″	3 9/16″	7 1/2″	29″ Hg	9	Black, Gray	5200K35	8.78	3 11/16″	3″	5200K27	20.66
3 1/2″	4″	10″	4″ Hg	2	Gray/Black	5290K53	13.28	—	—	—	—
4″	4 3/4″	9 1/2″	29″ Hg	8	Black, Gray	5200K36	10.76	4 15/16″	4″	5200K28	33.78

Hose with Fittings Attached

ID	OD	Bend Radius	Vacuum @ 72° F	Max. psi @ 72° F	Choose a Color		10 ft.	15 ft.	25 ft.
1 1/2″	2″	2″	22″ Hg	15	Blue, Gray, Green, Red, Yellow	9020T4	$19.64	$27.36	$42.79
2″	2 1/2″	2 1/2″	16″ Hg	10	Blue, Gray, Green, Red, Yellow	9020T5	28.83	39.71	61.45

Abrasion-Resistant Duct Hose for Liquids

- Flexible
- Temperature Range: –40° to 300° F
- Color: Black or gray

If your liquid contains some solid particles, this tough EPDM rubber hose can handle the extra abrasion. Hose is for use with water and noncorrosive acids. Hose is 1/8″ thick with a ribbed interior and cuffed ends. Hose can be used outdoors. Not rated for pressure or compression.

Push the small end of the push-on fitting into your duct hose to connect to a portable vacuum or other equipment.





Push-On Fitting

					Hose				Push-On Fitting			
					Black		Gray		ID			
ID	OD	Cuff ID	Bend Radius	Vacuum @ 72° F	10 ft.		10 ft.		(A)	(B)		
1½″	2″	2″	1″	20″ Hg	5954T1	$65.07	5954T3	$79.53	1 13/16″	2.063″	5954T5	$2.55
2″	2½″	2″	2″	20″ Hg	5954T2	76.65	5954T4	91.10	1 13/16″	2.063″	5954T5	2.55

Duct Hose Connectors

Slide these connectors into the ends of duct hose and secure with a clamp. Can be used outdoors.

Aluminum is lightweight. Temperature range is –100° to 400° F for straights; –100° to 550° F for wyes.

304 stainless steel offers very good corrosion resistance. Temperature range is –400° to 800° F.

Galvanized steel has fair corrosion resistance. Temperature range is –100° to 550° F for inch sizes; –40° to 392° F for metric.


Straight



Reducing Straight


Wye

Straights

For Hose ID	Length	Material Thick.		
Aluminum				
1″	4″	0.04″	5518K27	$8.32
1¼″	4″	0.04″	5518K29	10.06
1½″	4″	0.04″	5518K16	11.80
1¾″	4″	0.04″	5518K62	12.25
2″	4″	0.04″	5518K11	13.06
2½″	4″	0.04″	5518K31	14.30
3″	4″	0.04″	5518K12	16.08
3½″	4″	0.04″	5518K63	16.38
4″	4″	0.04″	5518K13	16.38
4½″	4″	0.04″	5518K64	17.23
5″	4″	0.04″	5518K14	17.23
5½″	4″	0.04″	5518K65	18.48
6″	4″	0.04″	5518K15	18.48
6½″	4″	0.04″	5518K66	19.55
7″	4″	0.04″	5518K22	19.55
8″	4″	0.04″	5518K17	20.82
9″	4″	0.04″	5518K18	22.55
10″	4″	0.04″	5518K19	23.18
12″	4″	0.04″	5518K21	25.10
14″	4″	0.04″	5518K23	27.00
16″	4″	0.04″	5518K24	30.82
18″	4″	0.04″	5518K25	31.48
20″	4″	0.04″	5518K26	35.27
304 Stainless Steel				
2″	4″	0.05″	5518K41	17.62
3″	4″	0.05″	5518K42	17.78
3½″	4″	0.024″	5518K82	17.80

For Hose ID	Length	Material Thick.		
304 Stainless Steel (Cont.)				
4″	4″	0.018″	5518K43	$18.79
4½″	4″	0.02″	5518K91	19.77
5″	4″	0.018″	5518K44	19.79
5½″	4″	0.02″	5518K92	19.34
6″	4″	0.018″	5518K45	21.28
6½″	4″	0.02″	5518K93	21.31
7″	4″	0.018″	5518K28	22.48
8″	4″	0.03″	5518K47	23.92
9″	4″	0.03″	5518K48	25.93
10″	4″	0.03″	5518K49	26.66
12″	4″	0.03″	5518K51	28.86
14″	4″	0.03″	5518K32	31.04
16″	4″	0.02″	5518K94	24.89
18″	4″	0.02″	5518K95	27.42
20″	4″	0.02″	5518K96	38.71
Galvanized Steel				
50 mm	90 mm	0.024″	1271N11	23.11
60 mm	90 mm	0.024″	1271N12	21.31
70 mm	90 mm	0.024″	1271N13	19.38
80 mm	90 mm	0.024″	1271N14	20.00
90 mm	90 mm	0.024″	1271N15	20.62
100 mm	90 mm	0.024″	1271N16	20.62
120 mm	90 mm	0.024″	1271N17	21.31
140 mm	90 mm	0.024″	1271N18	22.40
150 mm	90 mm	0.024″	1271N19	22.40
160 mm	90 mm	0.024″	1271N21	22.80
180 mm	90 mm	0.024″	1271N22	24.89

Reducing Straights—Galvanized Steel

For Hose ID (A)	(B)	Lg.	Material Thick.		
4″	3″	7″	0.028″	5518K97	$26.90
6″	4″	7″	0.028″	5518K98	26.92
8″	6″	7″	0.028″	5518K99	31.90

For Hose ID (A)	(B)	Lg.	Material Thick.		
10″	8″	7¼″	0.028″	5518K33	$40.40
12″	10″	7½″	0.028″	5518K35	57.72
12″	8″	8¼″	0.028″	5518K34	57.72

Wyes—Aluminum

For Hose ID	Lg.	Material Thick.		
3″	4″	0.012″	5518K71	$29.25
4″	4″	0.012″	5518K72	29.25
5″	4″	0.012″	5518K73	29.25
6″	4″	0.012″	5518K74	29.92

For Hose ID	Lg.	Material Thick.		
7″	4″	0.012″	5518K75	$30.38
8″	4″	0.012″	5518K76	31.85
10″	4″	0.012″	5518K77	68.40
12″	4″	0.012″	5518K78	72.00

Quick-Lock Duct Hose Connectors

If you need frequent access to your line, these connectors join with a twist. They are also known as J-lock connectors. You'll need a male and a female connector to make a connection. Lugs on male side slide into slot on female side. Connectors are 0.035″ thick 304 stainless steel. Temperature range is –400° to 800° F. They can be used outdoors.

For Hose ID	Male ID			Female ID		
4″	3 7/8″	5260T11	$18.72	3¾″	5260T31	$18.72
5″	4 7/8″	5260T12	19.44	4¾″	5260T32	19.44
6″	5 7/8″	5260T13	20.30	5¾″	5260T33	20.30
8″	7 7/8″	5260T14	21.88	7¾″	5260T34	21.88
10″	9 7/8″	5260T15	23.28	9¾″	5260T35	23.28
12″	11 7/8″	5260T16	24.86	11¾″	5260T36	24.86
16″	15 7/8″	5260T17	27.66	15¾″	5260T37	27.66
20″	19 7/8″	5260T18	27.66	19¾″	5260T38	27.66



How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
OD (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"



Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
ID (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

About Hose



Hose generally has two layers of material and is reinforced for extra strength. It can be used in higher pressure applications than tubing.

All of our hose lists bend radius, which is an indicator of flexibility. This is the most you can bend a hose without damaging it or shortening its life. Bend radius is measured from the center of the bend to the inside edge of the hose. The smaller the measurement, the more flexible the hose.

Application	Pages
Air	264-272
Water	273-279
Fire Fighting	280-281
Garden Hose	2107
Steam	275
High Temperature	282-284
Coolant and Chemicals	286-292
Petroleum	293-294
Hydraulic	295-296
Food	297-299
Natural and LP Gas	300-301

Air Hose

For information about pipe size and threads, see pages 2-3.

Air Hose

- Temperature Range: –40° to 200° F
- Hose: EPDM rubber
- Color: Black or red

Hose is made of EPDM rubber, which is the most common material for air applications. It has a smooth interior and is reinforced with yarn. Hose can be used outdoors.

Hose



To attach your own fittings to the hose, you'll need a barbed hose fitting (see pages 314-318) and a clamp (see pages 302-313).

Maximum continuous length is 100 ft.

Hose ID	Hose OD	Bend Radius	Max psi @ 72° F	Black	Red	Per Ft. 1-99	Per Ft. 100-Up
3/16"	7/16"	1 3/16"	250	5304K42	5405K18	$0.60	$0.50
1/4"	1/2"	1 1/2"	200	5304K14	5405K2	.67	.57
1/4"	1/2"	1 1/2"	300	5304K16	5405K3	1.01	.84
5/16"	5/8"	2"	300	5304K19	5405K4	1.01	.83
3/8"	11/16"	2 1/4"	200	5304K22	5405K5	.78	.71
3/8"	11/16"	2 1/4"	300	5304K24	5405K6	1.22	1.00
1/2"	13/16"	3"	200	5304K26	5405K7	1.18	.99
1/2"	7/8"	3"	300	5304K28	5405K8	1.33	1.12
5/8"	15/16"	3 3/4"	200	5304K96	5405K9	1.69	1.40
5/8"	1"	3 3/4"	300	5304K31	5405K11	$1.77	$1.46
3/4"	1 3/16"	4 1/2"	200	5304K65	5405K12	1.77	1.47
3/4"	1 3/16"	4 1/2"	300	5304K44	5405K13	1.90	1.55
1"	1 3/8"	7"	200	5304K66	5405K14	2.53	2.33
1"	1 3/8"	7"	300	1593N91	5405K15	2.71	2.24
1 1/4"	1 3/4"	8 3/4"	200	5304K46	5405K16	4.92	3.97
1 1/2"	2"	10 1/2"	200	5304K47	5405K17	5.72	4.58
2"	2 9/16"	14"	200	1593N69	1593N68	5.91	4.94

Hose with Male Threaded Fittings



Fittings are brass. Those with pipe sizes of 1/8 to 1 have NPTF (Dryseal) threads; those with pipe sizes of 1 1/4 to 2 have NPT threads. Both NPTF and NPT threads are compatible with NPSM (National Pipe Straight Mechanical) threads.

To Order: Please specify black or red hose.

Pipe Size	Hose OD	Bend Radius	Max. psi @ 72° F		1 ft.	2 ft.	3 ft.	4 ft.	5 ft.	10 ft.	15 ft.	25 ft.	50 ft.	75 ft.	100 ft.	Other Lg., ft.
1/8	1/2"	1 1/2"	200	1593N45	$4.98	$5.61	$6.24	$6.87	$7.50	$10.65	$13.80	$20.11	$35.87	$51.63	$67.39	1 to 500
1/4	1/2"	1 1/2"	200	1593N1	11.69	12.36	13.03	13.70	14.37	17.72	21.07	27.77	44.52	61.27	68.02	1 to 500
1/4	1/2"	1 1/2"	300	1593N4	12.03	13.04	14.05	15.06	16.07	21.12	26.17	36.27	61.52	86.77	95.02	1 to 500
3/8 x 1/4	11/16"	2 1/4"	200	1593N38	11.40	13.20	13.89	14.48	15.00	19.17	22.88	29.67	49.80	69.52	80.34	1 to 500
3/8	11/16"	2 1/4"	200	1593N7	12.72	13.50	14.28	15.06	15.84	19.74	23.64	31.44	50.94	70.44	82.94	1 to 500
3/8	11/16"	2 1/4"	300	1593N11	13.17	14.39	15.61	16.83	18.05	24.15	30.25	42.45	72.95	103.45	111.95	1 to 500
1/2 x 3/8	13/16"	3"	200	1593N42	18.30	19.08	20.50	21.81	23.04	29.84	35.44	47.70	79.12	108.69	119.30	1 to 500
1/2	13/16"	3"	200	1593N14	19.39	20.57	21.75	22.93	24.11	30.01	35.91	47.71	77.21	106.71	117.21	1 to 500
1/2	7/8"	3"	300	1593N17	19.54	20.87	22.20	23.53	24.86	31.51	38.16	51.46	84.71	117.96	130.21	1 to 500
3/4	1 3/16"	4 1/2"	200	1593N21	19.50	21.27	23.04	24.81	26.58	35.43	44.28	61.98	106.23	150.48	164.73	1 to 500
3/4	1 3/16"	4 1/2"	300	1593N24	19.63	21.53	23.43	25.33	27.23	36.73	46.23	65.23	112.73	160.23	172.73	1 to 500
1	1 3/8"	7"	200	1593N27	43.32	45.85	48.38	50.91	53.44	66.09	78.74	104.04	167.29	230.54	273.79	1 to 500
1	1 3/8"	7"	300	1593N31	43.50	46.21	48.92	51.63	54.34	67.89	81.44	108.54	176.29	244.04	264.79	1 to 500
1 1/4	1 3/4"	8 3/4"	200	1593N34	79.23	84.15	89.15	93.99	98.91	123.51	148.11	197.31	320.31	443.31	471.31	1 to 500
1 1/2	2"	10 1/2"	200	1593N36	78.23	83.95	89.67	95.39	101.11	129.71	158.31	215.51	358.51	501.51	533.50	1 to 500
2	2 1/2"	14"	200	1593N47	149.62	156.73	163.85	170.97	178.08	213.67	249.25	315.47	498.33	676.25	854.17	1 to 500

(Continued on following page)

Air Hose *(Continued from previous page)*

Hose with Male Threaded Fittings (Cont.)

Fittings are brass. NPTF (Dryseal) threads are compatible with NPT and NPSM (National Pipe Straight Mechanical) threads.

To Order: Please specify black or red hose.



Pipe Size	Hose OD	Bend Radius	Max. psi @ 72° F		1 ft.	2 ft.	3 ft.	4 ft.	5 ft.	10 ft.	15 ft.	25 ft.	50 ft.	75 ft.	100 ft.	Other Lg., ft.
BSPT x NPTF Threads																
1/4 x 1/4	1/2"	1 1/2"	200	1593N55	$8.54	$9.33	$10.11	$10.89	$11.67	$15.54	$19.43	$27.20	$46.58	$66.00	$85.41	1 to 500
3/8 x 3/8	11/16"	2 1/4"	200	1593N56	10.35	11.37	12.41	13.43	14.46	19.59	24.70	34.96	60.61	86.22	111.85	1 to 500
1/2 x 1/2	13/16"	3"	200	1593N57	15.28	16.59	17.89	19.20	20.50	27.02	33.54	46.59	79.20	111.74	144.46	1 to 500
BSPT Threads																
1/4 x 1/4	1/2"	1 1/2"	200	1593N58	8.54	9.33	10.11	10.89	11.67	15.54	19.43	27.20	46.58	66.00	85.41	1 to 500
3/8 x 3/8	11/16"	2 1/4"	200	1593N59	10.35	11.37	12.41	13.43	14.46	19.59	24.70	34.96	60.61	86.22	111.85	1 to 500
1/2 x 1/2	13/16"	3"	200	1593N61	15.28	16.59	17.89	19.20	20.50	27.02	33.54	46.59	79.20	111.74	144.46	1 to 500

Hose with Male and Female Threaded Fittings

Male threaded fittings are brass. Those with pipe sizes of 1/8 to 1 have NPTF Dryseal threads; those with pipes sizes of 1 1/4 to 1 1/2 have NPT threads. Male NPTF and NPT threads are compatible with NPSM (National Pipe Straight Mechanical) threads.

Easy-install female threaded fittings swivel 360° until tightened. They are brass and have NPSM threads, except M16, M18, and M22 are steel and have metric straight threads. Fittings with pipe sizes of 1/8 to 3/4 have a ball-and-socket (ball seat) seat; those with pipe sizes of 1 to 1 1/2 have a rubber gasket. Fittings with metric straight threads have a rubber gasket.

To Order: Please specify black or red hose.





Pipe Size	Hose OD	Bend Radius	Maxi. psi @ 72° F	Male Threaded Fitting and Easy-Install Female Threaded Fitting	5 ft.	10 ft.	25 ft.	50 ft.	Other Lg., ft.	Easy-Install Female Threaded Fittings	5 ft.	10 ft.	25 ft.	50 ft.	Other Lg., ft.
1/8	1/2"	1 1/2"	200	1593N46	$10.43	$13.59	$23.04	$38.80	1 to 500	1593N48	$13.48	$16.63	$26.09	$41.85	1 to 500
1/4	1/2"	1 1/2"	200	1593N2	15.29	18.64	28.69	45.44	1 to 500	1593N3	17.55	20.90	30.95	47.70	1 to 500
1/4	1/2"	1 1/2"	300	1593N5	16.99	22.04	37.19	62.44	1 to 500	1593N6	19.25	24.30	39.45	64.70	1 to 500
1/4 x 3/8	11/16"	2 1/4"	200	1593N39	15.63	20.14	28.00	46.76	1 to 500	1593N41	11.41	16.30	30.98	55.43	1 to 500
1/4 x M16	1/2"	1 1/2"	200	1593N62	19.61	23.82	32.20	50.36	1 to 500						
3/8	11/16"	2 1/4"	200	1593N8	17.03	20.93	32.63	52.13	1 to 500	1593N9	19.62	23.52	35.22	54.72	1 to 500
3/8	11/16"	2 1/4"	300	1593N12	19.23	25.33	43.63	74.13	1 to 500	1593N13	21.82	27.92	46.22	76.72	1 to 500
3/8 x 1/2	13/16"	3"	200	1593N43	20.21	26.21	45.18	75.92	1 to 500	1593N44	19.57	25.65	43.91	74.35	1 to 500
3/8 x M18	11/16"	2 1/4"	200	1593N63	22.14	28.58	47.62	77.40	1 to 500						
1/2	13/16"	3"	200	1593N15	22.15	28.05	45.75	75.25	1 to 500	1593N16	19.08	24.98	42.68	72.18	1 to 500
1/2	7/8"	3"	300	1593N18	22.90	29.55	49.50	82.75	1 to 500	1593N19	19.83	26.48	46.43	79.68	1 to 500
1/2 x M22	13/16"	3"	200	1593N64	26.72	33.24	52.80	85.41	1 to 500						
3/4	13/16"	4 1/2"	200	1593N22	30.27	39.12	65.67	109.92	1 to 500	1593N23	25.75	34.60	61.15	105.40	1 to 500
3/4	13/16"	4 1/2"	300	1593N25	30.92	40.42	68.92	116.42	1 to 500	1593N26	26.40	35.90	64.40	111.90	1 to 500
1	1 3/8"	7"	200	1593N28	59.20	71.85	109.80	173.05	1 to 500	1593N29	55.23	65.69	98.32	153.65	1 to 500
1	1 3/8"	7"	300	1593N32	60.10	73.65	114.30	182.05	1 to 500	1593N33	59.13	72.68	113.33	181.08	1 to 500
1 1/4	1 3/4"	8 3/4"	200	1593N35	111.35	138.95	212.75	335.75	1 to 500						
1 1/2	2"	10 1/2"	200	1593N37	127.80	156.58	242.20	385.20	1 to 400						
M16	1/2"	1 1/2"	200							1593N65	13.22	17.09	28.70	48.17	1 to 500
M18	11/16"	2 1/4"	200							1593N66	25.33	30.52	45.83	68.17	1 to 500
M22	13/16"	3"	200							1593N67	26.72	33.24	52.80	85.41	1 to 500

Hose with Industrial Quick-Disconnect Fittings

Quick-disconnect sockets and **plugs** are steel, except sockets with coupling sizes of 1/4 and 3/4 are brass. For information about quick-disconnect couplings, see page 326. **Easy-install male threaded fittings** swivel 360° until tightened. They are brass and have NPTF (Dryseal) threads, which are compatible with NPT and NPSM (National Pipe Straight Mechanical) threads.

To Order: Please specify black or red hose.





Coupling Size	Hose OD	Bend Radius	Max. psi @ 72° F	Industrial Quick-Disconnect Socket and Plug	5 ft.	10 ft.	25 ft.	50 ft.	Other Lg., ft.	Industrial Quick-Disconnect Socket and Easy-Install Male Threaded Fitting Pipe Size	5 ft.	10 ft.	25 ft.	50 ft.	Other Lg., ft.
1/4	1/2"	1 1/2"	200	5138K14	$33.86	$37.21	$47.26	$64.01	1 to 500	1/4	5138K44	$44.42	$47.77	$57.82	$74.57	1 to 500
1/4	1/2"	1 1/2"	300	5138K18	35.56	40.61	55.76	81.01	1 to 500	1/4	5138K48	46.12	51.17	66.32	91.57	1 to 500
3/8	11/16"	2 1/4"	200	5138K19	54.72	58.62	70.32	89.82	1 to 500	1/4	5138K49	63.23	67.13	78.83	98.33	1 to 500
3/8	11/16"	2 1/4"	300	5138K24	56.92	63.02	81.32	111.82	1 to 500	1/4	5138K54	65.43	71.53	89.83	120.33	1 to 500
1/2	13/16"	3"	200	5138K28	74.99	80.89	98.59	128.09	1 to 500	1/2	5138K58	93.32	99.22	116.92	146.42	1 to 500
1/2	7/8"	3"	300	5138K29	75.74	82.39	102.34	135.59	1 to 500	1/2	5138K59	94.07	100.72	120.67	153.92	1 to 500
3/4	13/16"	4 1/2"	200	5138K91	147.17	156.02	182.57	226.82	1 to 500	3/4	5138K95	161.94	170.79	197.34	241.59	1 to 500
3/4	13/16"	4 1/2"	300	5138K92	147.82	157.32	185.82	233.32	1 to 500	3/4	5138K96	162.59	172.09	200.59	248.09	1 to 500

(Continued on following page)

Air Hose

For information about pipe size and threads, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

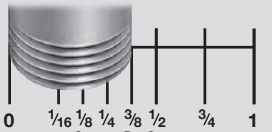

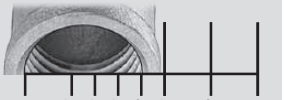

Air Hose *(Continued from previous page)*

- Temperature Range: –40° to 200° F
- Hose: EPDM rubber
- Color: Black or red

Hose is made of EPDM rubber, which is the most common material for air applications. It has a smooth interior and is reinforced with yarn. Hose can be used outdoors.

To Order: Please specify black or red hose.

Hose with ARO Quick-Disconnect Fittings

Quick-disconnect sockets and **plugs** are steel, except the sockets with a coupling size of 1/4 are brass. For information about quick-disconnect couplings, see page 326. **Male threaded fittings** are brass and have NPTF (Dryseal) threads, which are compatible with NPT and NPSM (National Pipe Straight Mechanical) threads.





Coupling Size	Hose OD	Bend Radius	Max. psi @ 72° F	ARO Quick-Disconnect Socket and Plug	5 ft.	10 ft.	25 ft.	50 ft.	Other Lg., ft.	Pipe Size	ARO Quick-Disconnect Socket and Male Threaded Fitting	5 ft.	10 ft.	25 ft.	50 ft.	Other Lg., ft.
1/4	1/2"	1 1/2"	200	5138K1	$20.22	$23.37	$32.83	$48.59	1 to 500	1/4	5138K3	$17.83	$20.98	$30.43	$46.20	1 to 500
3/8	11/16"	2 1/4"	200	5138K2	27.50	32.39	47.07	71.52	1 to 500	3/8	5138K4	22.93	27.83	42.50	66.96	1 to 500

Hose with Tru-Flate Quick-Disconnect Fittings

Quick-disconnect sockets and **plugs** are steel, except sockets with a coupling size of 1/4 are brass. For information about quick-disconnect couplings, see page 326. **Male threaded fittings** are brass and have NPTF (Dryseal) threads, which are compatible with NPT and NPSM (National Pipe Straight Mechanical) threads.





Coupling Size	Hose OD	Bend Radius	Max. psi @ 72° F	Tru-Flate Quick-Disconnect Socket and Plug	5 ft.	10 ft.	25 ft.	50 ft.	Other Lg., ft.	Pipe Size	Tru-Flate Quick-Disconnect Socket and Male Threaded Fitting	5 ft.	10 ft.	25 ft.	50 ft.	Other Lg., ft.
1/4	1/2"	1 1/2"	200	5138K5	$16.41	$19.57	$29.02	$44.78	1 to 500	1/4	5138K8	$16.41	$19.57	$29.02	$44.78	1 to 500
3/8	11/16"	2 1/4"	200	5138K6	28.48	33.37	48.04	72.50	1 to 500	3/8	5138K84	25.65	30.54	45.22	69.67	1 to 500
1/2	13/16"	3"	200	5138K7	36.41	42.50	60.76	91.20	1 to 500	1/2	5138K34	33.48	39.57	57.83	88.26	1 to 500

Hose with Twist-Claw Fittings

Twist-claw fittings are iron. Theys are also known as universal hose couplings and are interchangeable with each other regardless of hose size. **Male threaded fittings** are brass and have NPTF (Dryseal) threads, which are compatible with NPT and NPSM (National Pipe Straight Mechanical) threads.





Hose OD	Bend Radius	Max. psi @ 72° F	Twist-Claw Fittings	5 ft.	10 ft.	25 ft.	50 ft.	Other Lg., ft.	Pipe Size	Twist-Claw Fitting and Male Threaded Fitting	5 ft.	10 ft.	25 ft.	50 ft.	Other Lg., ft.
13/16"	3"	150	5304K946	$50.65	$56.55	$74.25	$103.75	1 to 500	1/2	5304K841	$44.60	$50.50	$68.20	$97.70	1 to 500
1 3/16"	4 1/2"	150	5304K921	52.53	62.03	90.53	138.03	1 to 500	3/4	5304K843	46.85	56.35	84.85	132.35	1 to 500
1 3/8"	7"	150	5304K93	83.05	95.70	133.65	196.90	1 to 500	1	5304K844	66.32	78.97	116.92	180.17	1 to 500

Hose with Other Fittings

You can order any combination of hose length and fittings (male fittings, female fittings, quick-disconnect fittings, etc.).

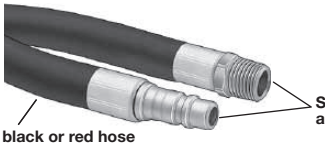

Hose with Other Fittings 5138K999

Examples of Fittings

To see more options, go to page 326

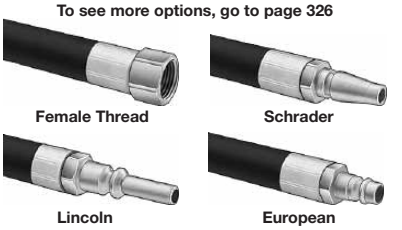

For information about pipe size and threads, see pages 2-3.

Lubricated-Air Hose

- Temperature Range: –20° to 160° F
- Hose: Blended rubber
- Color: Red

Hose is oil resistant for use with power tools that use lubricated air. The material meets RMA (Rubber Manufacturers Association) Class A for oil resistance. Hose has a smooth interior and is reinforced with yarn. Suitable for outdoor use.

Male threaded fittings are brass and have NPTF (Dryseal) threads, unless otherwise stated. NPTF threads are compatible with NPT and NPSM (National Pipe Straight Mechanical) threads. 1½″ hose with male fittings has NPT fittings.

Easy-install female threaded fittings swivel 360° until tightened. They are brass and have NPSM threads. The fittings with pipe sizes of ¼ to ¾ have a ball-and-socket (ball-seat) seal; fittings with pipe sizes of 1 to 1½ have a rubber gasket.

Hose

To attach your own fittings to the hose, you'll need a barbed hose fitting (see pages 314-318) and a clamp (see pages 302-313).
Maximum continuous length is 100 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
3/16″	7/16″	2″	250	5268K11	$1.52	$1.22
1/4″	1/2″	1 1/2″	250	5268K13	1.29	1.02
1/4″	5/8″	1 1/2″	300	5268K21	1.35	1.07
5/16″	5/8″	3″	250	5268K35	1.30	1.11
3/8″	11/16″	2 1/4″	250	5268K17	1.74	1.43
3/8″	3/4″	2 1/4″	300	5268K25	1.79	1.48
1/2″	7/8″	3″	250	5268K19	1.99	1.61
1/2″	7/8″	3″	300	5268K27	2.16	1.75
3/4″	1 3/16″	4 1/2″	300	5268K28	3.10	2.52
1″	1 7/16″	7″	300	5268K29	4.28	3.49
1 1/4″	1 13/16″	8 3/4″	250	5268K97	7.46	6.19
1 1/2″	2 1/16″	10 1/2″	250	5268K99	8.17	6.82

Hose with Male Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
NPTF Threads							
1/4	1/2″	250	5268K622	$26.66	$46.01	$78.26	1 to 400
1/4	3/4″	300	5268K626	31.35	58.20	102.95	1 to 400
3/8	11/16″	250	5268K625	32.00	58.10	101.60	1 to 400
3/8	3/4″	300	5268K627	32.50	59.35	104.10	1 to 400
1/2	7/8″	250	5268K628	48.53	78.38	128.13	1 to 400
3/4	1 3/16″	300	5268K631	68.17	114.67	192.17	1 to 400
1	1 7/16″	300	5268K635	84.04	148.24	255.24	1 to 400
NPT Threads							
1 1/2	2 1/16″	250	5268K636	175.23	297.78	502.03	1 to 400

Hose with Male and Easy-Install Female Threaded Fittings

Choose a Pipe Size × Hose OD	Length, ft.	
Male NPTF and Female NPSM Threads		
1/4 × 1/2″, 1/4 × 3/4″, 3/8 × 11/16″, 3/8 × 3/4″, 1/2 × 7/8″, 3/4 × 13/16″, 1 × 7/16″	1 to 100	5268K39
NPSM Threads		
1 1/2 × 2 1/16″	1 to 100	5268K65



Abrasion-Resistant Lightweight Air Hose

- Temperature Range: –40° to 185° F
- Hose: Polyurethane
- Color: Blue, red, or semi-clear turquoise

Lighter than rubber and more flexible than PVC, this polyurethane hose stands up to the wear and tear of daily use. It comes in multiple colors so you can differentiate your air lines. Hose has a nonmarking cover, smooth interior, and is reinforced with yarn. Suitable for outdoor use.

Male threaded fittings are brass and have NPTF (Dryseal) threads, which are compatible with NPT and NPSM (National Pipe Straight Mechanical) threads.

Easy-install female threaded fittings swivel 360° until tightened. They're brass and have NPSM threads. They have a ball-and-socket (ball-seat) seal.

To Order: Please specify blue, red, or semi-clear turquoise hose.

Hose

To attach your own fittings to the hose, you'll need a barbed hose fitting (see pages 314-318) and a clamp (see pages 302-313).
Maximum continuous length is 100 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
1/4″	7/16″	2″	250	54085K11	$1.92	$1.52
5/16″	1/2″	2 1/2″	250	54085K12★	2.38	1.90
3/8″	9/16″	3″	250	54085K13	2.96	2.35
1/2″	11/16″	4″	250	54085K14	3.91	3.13

★Not available in semi-clear turquoise.

Hose with Male Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
1/4	7/16″	150	54085K61	$24.63	$53.43	$101.43	1 to 100
1/4	9/16″	150	54085K63	35.39	79.79	153.79	1 to 100
1/2	11/16″	150	54085K64	48.48	107.13	204.88	1 to 100

Hose with Male and Easy-Install Female Threaded Fittings

Pipe Size	Hose OD	Max. psi @ 72° F		5 ft.	10 ft.	15 ft.	25 ft.	50 ft.	75 ft.	100 ft.	Other Lg., ft.
1/4	7/16″	150	54085K71	$15.82	$25.42	$35.02	$54.22	$102.22	$150.22	$158.22	1 to 100
1/4	9/16″	150	54085K73	21.34	36.14	50.94	80.54	154.54	228.54	241.54	1 to 100
1/2	11/16″	150	54085K74	31.25	50.80	70.35	109.45	207.20	304.95	324.70	1 to 100



Air Hose Whip Checks

Stop your hose from whipping when couplings are accidentally disconnected. These whip checks are steel cable and meet MSHA (Mine Safety and Health Administration) standards. Maximum working pressure is 200 psi.

Hose-to-hose whip checks have two spring-loaded loops that slip over the ends of hose.

Hose-to-tool whip checks have a spring-loaded loop on one end that goes over the hose, and a choker on the other end for the tool.

For Hose ID	Cable Dia.	Lg.	Hose-to-Hose		Hose-to-Tool	
1/2″ to 1 1/4″	1/8″	20 1/4″	5484K23	$13.37	5484K27	$13.37
1 1/2″ to 3″	1/4″	38″	5484K25	19.54	5484K29	19.54
4″	3/8″	44″	5484K31	43.90	5484K33	43.90



Hose-to-Tool

Air Hose

For information about pipe size and threads, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size of 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

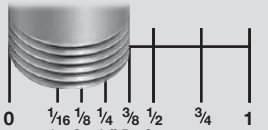

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
OD (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

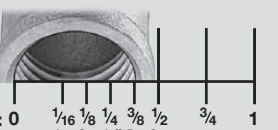

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
ID (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

Lightweight Air Hose

- Temperature Range: 25° to 150° F
- Hose: PVC
- Color: Blue, gray, red, or yellow

Hose is PVC, so it's lighter and less cumbersome than rubber hose. The multiple color options let you easily identify your different air lines. Hose has a smooth interior and is reinforced with yarn. Suitable for outdoor use.

To Order: Please specify blue, gray, red, or yellow hose.

Hose



To attach your own fittings to the hose, you'll need a barbed hose fitting (see pages 314-318) and a clamp (see pages 302-313). Maximum continuous length is 100 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
1/4"	1/2"	3"	300	54075K42	$0.51	$0.38
3/8"	5/8"	4"	300	54075K44	.60	.45
1/2"	13/16"	6"	300	54075K45	1.04	.78
3/4"	1 1/8"	8"	250	54075K47	1.88	1.41
1"	1 3/8"	12"	250	54075K48	2.48	1.86

Hose with Male Threaded Fittings

Fittings are brass and have NPT threads.



Pipe Size	Hose OD	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
1/4	1/2"	300	54075K18	$9.52	$17.17	$29.92	1 to 100
1/4	5/8"	300	54075K28	11.00	20.00	35.00	1 to 100
1/2	13/16"	300	54075K29	19.14	34.74	60.74	1 to 100
3/4	1 1/8"	250	54075K39	31.54	59.74	106.74	1 to 100
1	1 3/8"	250	54075K41	46.73	83.93	145.93	1 to 100

Hose with Male and Easy-Install Female Threaded Fittings



Fittings are brass and have NPT threads. **Easy-install female threaded fittings** swivel 360° until tightened; they have a ball-and-socket (ball-seat) seal.

Choose a Pipe Size × Hose OD	Length, ft.	
1/4 × 1/2", 1/4 × 5/8", 1/2 × 13/16", 3/4 × 1 1/8"	1 to 100	54075K3

Hose with Easy-Install Female Threaded Fittings



Fittings are brass and have NPT threads. They swivel 360° until tightened. Fittings have a ball-and-socket (ball-seat) seal.

Choose a Pipe Size	Length, ft.	
1/4, 1/2, 3/4	1 to 100	54075K6

Hose with Industrial Quick-Disconnect Socket and Plug

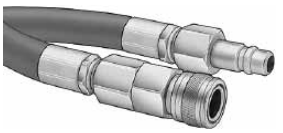

Sockets are brass with a steel sleeve, except for 3/4 coupling, which is brass. *Plugs* are steel.

Choose a Coupling Size × Hose OD	Length, ft.	
1/4 × 1/2", 1/4 × 5/8", 1/2 × 13/16", 3/4 × 1 1/8"	1 to 100	54075K7

Hose with ARO Quick-Disconnect Socket and Plug



Sockets are brass. *Plugs* are steel.

Coupling Size	Max. psi @ 72° F	Length, ft.	
1/4	300	1 to 100	54075K8

Hose with Tru-Flate Quick-Disconnect Socket and Plug



Sockets with a coupling size of 1/4 are brass; those with a coupling size of 1/2 are steel. *Plugs* are steel.

Choose a Coupling Size	Max. psi @ 72° F	Length, ft.	
1/4, 1/2	300	1 to 100	54075K9

Hose Supports



Elevating your hose off the ground not only protects it from damage, it also lets water on the floor reach a drain. The two-piece design allows for easy installation. Supports are zinc-plated steel with a yellow PVC coating. They come with a white polypropylene insert that fits snugly around your hose.

For Hose OD	Dia.	Hose Supports		Replacement Inserts	
1 3/8" to 1 5/8"	8"	1049N11	$125.33	1049N17	$19.81
2 1/16" to 2 1/8"	8"	1049N12	125.33	1049N18	19.81
2 5/8" to 2 11/16"	8"	1049N13	125.33	1049N19	19.81
3 1/16" to 3 5/16"	10"	1049N14	145.92	1049N21	39.62
3 5/8" to 4"	10"	1049N15	145.92	1049N22	39.62
4 11/16" to 5"	10"	1049N16	145.92	1049N23	39.62

For information about pipe size and threads, see pages 2-3.

High-Pressure Air Hose

- Temperature Range: –20° to 190° F
- Hose: Buna-N rubber
- Color: Yellow

An extra-strong yarn reinforcement gives this hose excellent durability to handle high pressures. The material meets RMA (Rubber Manufacturers Association) Class A for oil resistance and MSHA (Mine Safety and Health Administration) standards for flame resistance. Hose has a smooth interior. It is suitable for outdoor use.

Male threaded fittings have NPT threads. The fittings with pipe sizes of 1/4 to 3/4 are brass, and the fittings with pipe sizes of 1 to 2 are steel.

Easy-install female threaded fittings swivel 360° until tightened. The fittings with pipe sizes of 1/4 to 3/4 are brass, and the fittings with pipe sizes of 1 to 2 are steel. Fittings have NPSM (National Pipe Straight Mechanical) threads, which are compatible with NPT and NPTF (Dryseal) threads. They have a ball-and-socket (ball-seat) seal.

Hose

To attach your own fittings to the hose, you'll need a barbed hose fitting (see pages 314-318) and a clamp (see pages 302-313).

Maximum continuous length is 100 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
1/4"	5/8"	3"	500	52785K11	$2.41	$1.99
3/8"	3/4"	4"	500	52785K13	2.97	2.45
1/2"	7/8"	5"	500	52785K15	4.12	3.40
3/4"	13/16"	7"	500	52785K17	5.54	4.57
1"	1 1/2"	8"	500	52785K19	8.25	6.80
1 1/4"	1 3/4"	12"	500	52785K21	13.16	10.85
1 1/2"	2 1/16"	13"	500	52785K22	14.94	12.32
2"	2 5/8"	15"	500	52785K23	15.03	12.40

Hose with Male Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
1/4	5/8"	500	52785K89	$38.62	$74.77	$135.02	1 to 100
3/8	3/4"	500	52785K91	48.26	92.81	167.06	1 to 100
1/2	7/8"	500	52785K92	66.02	127.82	230.82	1 to 100
3/4	13/16"	500	52785K93	89.71	172.81	311.31	1 to 100
1	1 1/2"	500	52785K94	123.41	247.16	453.41	1 to 100
1 1/4	1 3/4"	500	52785K95	258.69	456.09	785.09	2 to 100
1 1/2	2 1/16"	500	52785K96	317.63	541.73	915.23	2 to 100
2	2 5/8"	500	52785K97	347.75	573.20	948.95	2 to 100

Hose with Male and Easy-Install Female Threaded Fittings



Choose a Pipe Size	Max. psi @ 72° F	Length, ft.	
1/4, 3/8, 1/2, 3/4, 1, 1 1/4, 1 1/2, 2	500	1 to 100	52785K1 ■

■ 1 1/4-2 pipe sizes are not available in 1-ft. lengths.

Vacuum Air Hose

- Temperature Range: –20° to 170° F
- Hose: Buna-N rubber
- Color: Yellow

This hose handles full vacuum, so it's often used to remove air and reduce humidity in vacuum bagging applications. The material meets RMA (Rubber Manufacturers Association) Class A for oil resistance and MSHA (Mine Safety and Health Administration) standards for flame resistance. Hose has a smooth interior and is reinforced with yarn. It can be used outdoors. Vacuum rating is 29" Hg @ 72° F.

Fittings are brass and have NPT threads.





Pipe Size	Hose OD	Bend Radius	Max. psi @ 72° F	Hose with Male Threaded Fittings:	10 ft.	25 ft.	50 ft.	Other Lg., ft.	Hose with Male and Female Threaded Fittings:	10 ft.	25 ft.	50 ft.	Other Lg., ft.
1/4	5/8"	2 1/2"	500	5603K2	$54.14	$122.50	$232.41	1 to 100	5603K3	$57.93	$123.88	$233.79	1 to 100
3/8	3/4"	3 1/8"	500	5603K4	62.33	138.97	263.97	1 to 100	5603K5	64.83	139.83	264.83	1 to 100

Air Hose Impact Absorbers

Often called snubber hose, these short lengths of hose attach to your tool to absorb vibration and reduce stress on your source hose. Hose has a smooth interior and is reinforced with yarn. Vacuum rating is 28" Hg @ 72° F. Not suitable for outdoor use.

Fittings are brass and have NPT threads. The *easy-install* styles swivel 360° until tightened. *Female threaded fittings* have a ball-and-socket (ball-seat) seal.

Abrasion Resistant—Hose is polyurethane, so it stands up to the wear and tear of daily use. Temperature range is -40° to 165° F.

Lightweight—Hose is PVC, so it's light and easy to handle. Temperature range is -20° to 150° F.

High Temperature—Hose is neoprene, so it withstands high temperatures. Temperature range is -40° to 210° F.

Hose with Easy-Install Male Threaded Fittings



Pipe Size	Hose OD	Bend Radius	Max. psi @ 72° F	18" Lengths		24" Lengths		36" Lengths	
Abrasion Resistant—Semi-clear blue									
1/4	3/8"	7/8"	170	5742K63	$14.57	5742K64	$15.32	5742K65	$17.31
3/8	9/16"	1 3/8"	155	5742K67	21.29	5742K68	21.97	5742K69	23.69
1/2	11/16"	1 1/2"	200	5742K71	53.09	5742K72	54.91	5742K73	57.03

Hose with Male and Easy-Install Female Threaded Fittings



Pipe Size	Hose OD	Bend Radius	Max. psi @ 72° F	18" Lengths		24" Lengths		36" Lengths	
Lightweight—Blue									
1/4	9/16"	3"	300	5719K53	$8.83	5719K55	$9.39	5719K57	$10.39
3/8	11/16"	4"	300	5719K62	11.11	5719K64	12.68	5719K66	13.45
High Temperature—Blue									
1/4	1/2"	2"	200	5427K11	10.44	5427K14	11.51	5427K17	13.46
3/8	5/8"	3 3/4"	200	5427K12	12.69	5427K15	14.26	5427K18	17.17
1/2	7/8"	5"	200	5427K13	20.90	5427K16	23.13	5427K19	27.23

Air Hose

For information about pipe size and threads, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

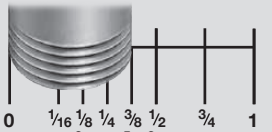

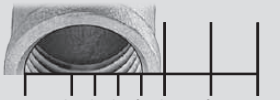

Retracting Air Hose



- Temperature Range: –40° to 200° F
- Hose: Nylon
- Color: Yellow

Hose is flexible nylon, so it retracts back to its original coiled shape when you let go. It has spring guards on the ends to prevent kinking and a smooth interior. Hose can be used outdoors and in suction applications. Vacuum rating is 28" Hg @ 72° F.

Male threaded fittings are brass with NPT threads. The *easy-install* style swivels 360° until tightened.

Quick-disconnect sockets are brass, except those with coupling sizes of 3/8 and 1/2 are zinc-plated steel. **Quick-disconnect plugs** are zinc-plated steel. For information about quick-disconnect couplings, see page 326.

Hose with Male and Easy-Install Male Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F	Coil OD	5-ft. Lengths		9-ft. Lengths		18-ft. Lengths		38-ft. Lengths		50-ft. Lengths	
1/4	5/16"	225	3 5/8"	5245K35	$16.20	5245K11	$18.89	5245K12	$23.62	5245K13	$33.36	5245K36	$48.40
3/8	1/2"	225	5 7/16"	5245K37	26.97	5245K14	31.80	5245K15	39.74	5245K16	62.55	5245K38	88.83
1/2	5/8"	225	7 3/4"	5245K39	42.66	5245K17	50.30	5245K18	62.87	5245K19	107.30	5245K41	152.13

Hose with Industrial Quick-Disconnect Socket and Easy-Install Male Threaded Fitting



Pipe/ Coupling Size	Hose OD	Max. psi @ 72° F	Coil OD	5-ft. Lengths		9-ft. Lengths		18-ft. Lengths		38-ft. Lengths		50-ft. Lengths	
1/4	5/16"	185	3 1/2"	9150K46	$17.84	9150K11	$22.79	9150K12	$29.20	9150K13	$42.27	9150K47	$48.16
1/4	1/2"	165	5 5/8"	9150K48	24.95	9150K21	39.32	9150K22	49.39	9150K23	71.95	9150K49	90.18
3/8	1/2"	165	5 5/8"	9150K51	29.71	9150K14	43.05	9150K15	53.37	9150K16	75.58	9150K52	95.79
1/2	5/8"	170	9"	9150K53	55.58	9150K17	64.24	9150K18	86.47	9150K68	136.58	9150K54	152.74

Hose with Industrial Quick-Disconnect Socket and Plug



Coupling Size	Hose OD	Max. psi @ 72° F	Coil OD	5-ft. Lengths		9-ft. Lengths		18-ft. Lengths		38-ft. Lengths		50-ft. Lengths	
1/4	5/16"	185	3 1/2"	9150K57	$20.97	9150K31	$24.55	9150K32	$32.42	9150K33	$45.03	9150K58	$53.03
1/4	1/2"	165	5 5/8"	9150K59	27.39	9150K39	42.74	9150K41	51.92	9150K42	72.03	9150K61	92.71
3/8	1/2"	165	5 5/8"	9150K62	33.47	9150K34	46.70	9150K35	56.21	9150K36	76.66	9150K63	97.92
1/2	5/8"	170	9"	9150K64	62.24	9150K37	73.45	9150K38	94.50	9150K69	146.08	9150K65	162.82

Hose with ARO Quick-Disconnect Socket and Easy-Install Male Threaded Fitting



Pipe/ Coupling Size	Hose OD	Max. psi @ 72° F	Coil OD	5-ft. Lengths		9-ft. Lengths		18-ft. Lengths		38-ft. Lengths		50-ft. Lengths	
1/4	1/2"	165	5 5/8"	9150K55	$27.55	9150K24	$39.63	9150K25	$49.74	9150K26	$72.26	9150K56	$98.82

Hose with ARO Quick-Disconnect Socket and Plug



Coupling Size	Hose OD	Max. psi @ 72° F	Coil OD	5-ft. Lengths		9-ft. Lengths		18-ft. Lengths		38-ft. Lengths		50-ft. Lengths	
1/4	1/2"	165	5 5/8"	9150K66	$27.68	9150K43	$43.13	9150K44	$52.29	9150K45	$72.34	9150K67	$92.95

Dual-Line Retracting Air Hose



- Temperature Range: –40° to 200° F
- Hose: Nylon
- Color: Red

Supply air to two power tools without worrying about your lines getting tangled. The two flexible nylon lines are bonded and have spring guards on the ends that prevent kinking. Hoses come with brass easy-install male threaded fittings attached to each end. Fittings have NPT threads and swivel 360° until tightened. Hose has a smooth interior. It can be used outdoors and in suction applications. Vacuum rating is 27" Hg @ 72° F.

Pipe Size	Hose OD	Max. psi @ 72° F	Coil OD	6-ft. Lengths		12-ft. Lengths		25-ft. Lengths	
1/8	3/16"	385	2 3/8"	5612K42	$56.20	5612K43	$86.23	5612K44	$126.40
1/4	1/4"	285	3 1/2"	5612K52	60.74	5612K53	85.11		
1/4	5/16"	240	4 1/2"	5612K12	54.40	5612K13	76.77	5612K14	126.80
3/8	1/2"	225	9"	5612K22	84.63	5612K23	122.74	5612K24	204.37
1/2	5/8"	220	12 1/4"	5612K32	137.40	5612K33	208.40	5612K34	335.74

Flexible Retracting Air Hose

- Temperature Range:
  –40° to 125° F (Low Temperature);
  –40° to 165° F (Medium Temperature);
  –40° to 180° F (High Temperature)
- Hose: Polyurethane
- Color: Please see below

Hose is polyurethane so it stretches and flexes more than nylon retracting hose. It has a smooth interior. Hose can be used outdoors and in suction applications. Vacuum rating is 27″ Hg @ 72° F.

Fittings are brass. The *easy-install* style swivels 360° until tightened. Threads are NPT and have a sealant, except the fittings on the high-temperature hose do not have a thread sealant.

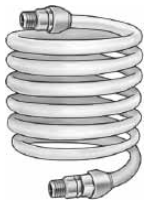

Low-Temperature Hose with Easy-Install Male Threaded Fittings

To Order: Please specify black, blue, semi-clear blue, clear, neon green, red, or yellow hose.

Pipe Size	Hose OD	Max. psi @ 72° F	Coil OD	4-ft. Lengths		8-ft. Lengths		12-ft. Lengths		17-ft. Lengths		20-ft. Lengths		42-ft. Lengths	
1/4	3/8″	145	2 1/2″	54635K14	$18.45	54635K1	$20.55	54635K2	$23.68	54635K3	$27.13	54635K21	$30.22	54635K15	$72.74
1/4	1/2″	130	2 15/16″	54635K16	25.25	54635K4	28.67	54635K5	32.96	54635K6	38.49	54635K22	48.92	54635K17	110.11
3/8	9/16″	135	4 1/8″	54635K25	29.80	54635K7	34.50	54635K8	42.02	54635K9	49.74	54635K23	56.77	54635K26	139.26
1/2	3/4″	155	5″	54635K27	50.24	54635K11	57.53	54635K12	69.25	54635K13	83.37	54635K24	100.11	54635K31	239.87

Medium-Temperature Hose with Easy-Install Male Threaded Fittings

To Order: Please specify black or neon orange hose, except the hose with pipe size of 3/8 only comes in black.

Pipe Size	Hose OD	Max. psi @ 72° F	Coil OD	8-ft. Lengths		16-ft. Lengths		20-ft. Lengths		24-ft. Lengths	
1/4	3/8″	147	2 1/2″	54525K41	$29.71	54525K43	$37.97	54525K45	$42.86	54525K47	$50.49
3/8	9/16″	133	3 5/8″	54525K21	62.20	54525K23	82.31	54525K25	88.26	54525K27	100.97

High-Temperature Hose with Male and Easy-Install Male Threaded Fittings

Color is semi-clear blue.

Pipe Size	Hose OD	Max. psi @ 72° F	Coil OD	10-ft. Lengths		15-ft. Lengths		20-ft. Lengths		25-ft. Lengths	
1/4	1/4″	175	1 1/4″	51045K21	$40.98						
1/4	3/8″	180	2″	51045K22	41.55	51045K23	$49.97	51045K24	$56.50	51045K25	$62.95
3/8	1/2″	110	3 1/4″	51045K26	64.47			51045K27	74.32		

Assemble-Your-Own Retracting Air Hose

- Temperature Range:
  –40° to 200° F
- Hose: Nylon
- Color: Red or yellow

Create a retracting air line that meets your needs. The hose and fittings are sold separately.

Hose is nylon for flexibility and has a smooth interior. Suitable for outdoor use.

Fittings are brass and have NPT threads. They come with everything you need to assemble, plus a spring guard to prevent kinking, except the fitting for the 3/4″ hose ID does not include a spring guard. The *easy-install* style swivels 360° until tightened.

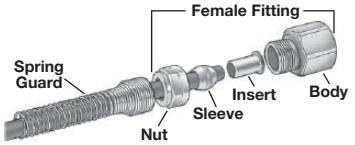

Hose

Hose ID	Hose OD	Max. psi @ 72° F	Coil OD	5-ft. Lengths		10-ft. Lengths		25-ft. Lengths		50-ft. Lengths		100-ft. Lengths	
Red													
1/8″	3/16″	300	1 3/4″	5644K111	$13.82	5644K112	$15.80	5644K91	$16.85	5644K11	$23.94		
3/16″	1/4″	285	2 1/2″	5644K113	15.28	5644K114	17.49	5644K99	19.03	5644K92	26.50	5644K12	$45.04
1/4″	5/16″	240	3″	5644K115	11.73	5644K116	13.80	5644K78	15.85	5644K94	27.72	5644K13	46.89
5/16″	3/8″	210	4 1/2″	5644K119	18.98	5644K121	23.18	5644K88	25.39	5644K95	44.91	5644K14	74.74
3/8″	1/2″	225	5 1/2″	5644K122	19.77	5644K123	24.41	5644K79	26.43	5644K96	47.96	5644K15	78.46
1/2″	5/8″	220	9″	5644K126	31.36	5644K127	39.27	5644K87	41.87	5644K97	73.20	5644K16	129.43
3/4″	7/8″	160	13″	5644K131	59.11	5644K132	64.26	5644K89	66.07	5644K58	117.67	5644K59	220.48
Yellow													
1/4″	5/16″	240	3 1/2″	5644K117	11.73	5644K118	14.32	5644K49	15.85	5644K37	27.72	5644K67	46.89
3/8″	1/2″	225	5 1/2″	5644K124	19.77	5644K125	24.41	5644K76	26.43	5644K38	51.26	5644K68	78.46
1/2″	5/8″	220	9″	5644K128	31.36	5644K129	39.27	5644K77	43.13	5644K39	73.20	5644K69	133.33



Fittings






For Hose ID	Pipe Size	Max. psi @ 72° F	Easy-Install Male		Male		Female		Male 90° Elbow	
1/8″	1/8	300	5644K51	$7.89	5644K61	$2.94			5644K81	$3.87
3/16″	1/4	285	5644K52	17.98	5644K62	2.93	5644K71	$3.01	5644K82	4.39
1/4″	1/4	240	5644K53	7.08	5644K63	2.93	5644K72	2.89	5644K83	5.18
5/16″	1/4	210	5644K54	17.88	5644K64	3.20	5644K73	3.59	5644K84	5.88
3/8″	3/8	225	5644K55	11.15	5644K65	5.23	5644K74	5.17	5644K85	6.48
1/2″	1/2	220	5644K56	17.83	5644K66	9.67	5644K75	8.06	5644K86	8.62
3/4″	3/4	160	5644K57	56.01						

Air Hose

For information about pipe size and threads, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

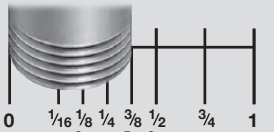

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1 1 1/4 1 1/2 2
OD (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4" 1 1/2" 2"

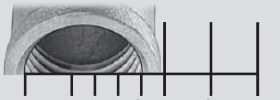

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1 1 1/4 1 1/2 2
ID (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4" 1 1/2" 2"

High-Pressure Retracting Air Hose



- Temperature Range: –40° to 200° F
- Hose: Nylon
- Color: Blue

Made of thick, rigid nylon, this hose has excellent durability and the highest pressure rating of the retracting hose we offer. It has a smooth interior. Hose can be used outdoors and in suction applications. Vacuum rating is 27" Hg @ 72° F. Hose has a brass easy-install male threaded fitting attached to each end. Fittings swivel 360° until tightened. They have NPT threads with a sealant.

Pipe Size	Hose OD	Max. psi @ 72° F	Coil OD	5-ft. Lengths		10-ft. Lengths		21-ft. Lengths		42-ft. Lengths		50-ft. Lengths	
1/4	3/8"	350	41/4"	5507K31	$20.74	5507K11	$28.77	5507K12	$43.14	5507K14	$77.51	5507K32	$85.71
3/8	1/2"	310	51/4"	5507K33	39.17	5507K21	51.19	5507K22	74.46	5507K26	133.03	5507K34	141.49

Build-Your-Own Air Hose System

- Temperature Range: –40° to 180° F
- Hose: Nylon
- Color: Blue

With an easy-to-cut nylon hose and push-to-connect fittings, you can install a compressed air line system in just a few hours. Surface-mount the system to your walls and ceiling and run your lines exactly where you need them. Hose ID is 3/8", OD is 1/2", and bend radius is 4". Hose has a smooth interior. Maximum pressure is 150 psi @ 72° F. Not suitable for outdoor use.

System

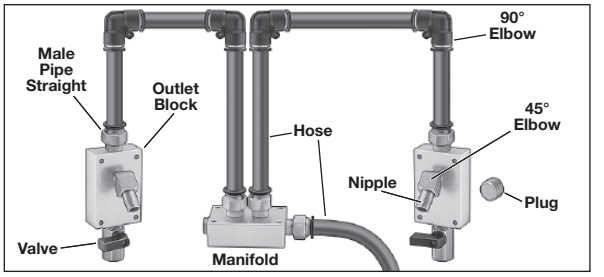

System includes 100 feet of hose with a 1/2" OD, an aluminum manifold with one inlet and three outlets, two aluminum outlet blocks, six male pipe straights, four 90° elbows, two valves, two 1/4 NPT brass nipples, two 1/4 NPT brass 45° elbows, and three 3/8 NPT brass plugs.

Additional outlet block comes with a male pipe straight, a 90° elbow, a valve, a 1/4 NPT brass nipple, a 1/4 NPT brass 45° elbow, and a 3/8 NPT brass plug.

System	5594K11	$120.37
Additional 100-ft. Air Hose	5594K13	46.88
Additional Outlet Block	5594K12	25.49

Additional Fittings

Fittings are push-to-connect style, except the quick-disconnect female socket is industrial shape, sleeve-lock style. The **straights**, **90° elbows**, and **tee** have a black plastic body and release ring, except the male pipe straight has a nickel-plated brass body.

Fittings with *male pipe threads* have nickel-plated brass 3/8 NPT threads with a PTFE thread sealant. The quick-disconnect female socket is brass with a coupling size of 1/4. For information about quick-disconnect couplings, see page 326.



Straight, Male Pipe
5594K21 $5.68



Straight
5594K25 $5.10



90° Elbow, Male Pipe
5594K24 $7.62



90° Elbow
5594K23 $5.04



Tee
5594K22 $6.56



Quick-Disconnect Female Socket
6536K28 $5.67

Bend-and-Stay Air Hose

- Temperature Range: –40° to 140° F
- Hose: Polyethylene
- Color: Blue

Create a slight bend in this hose and the aluminum tube reinforcement allows it to hold its shape. Hose is polyethylene and has a smooth interior. It can be used outdoors. Fittings are sold separately. They are nickel-plated brass and have NPT threads. To attach fittings to the hose, make a clean cut with the cutting tool, then use the deburring tool to bevel the inside of the hose.

Hose



Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		2 ft.	5 ft.	10 ft.	15 ft.	25 ft.
1/2"	5/8"	4"	175	4806K94	$32.73	$36.36	$40.00	$45.45	$54.55
3/4"	1"	6"	175	4806K96	36.36	40.00	43.64	49.74	68.18
1"	1 1/4"	10"	175	4806K98	47.27	52.73	61.82	70.91	89.09

Fittings and Tools





Pipe Size	Max. psi @ 72° F	Male		Female	
1/2	175	4806K51	$5.90	4806K52	$6.35
3/4	175	4806K58	12.72	4806K54	13.63
1	175	4806K56	14.99	—	—

Cutting Tool	4806K92	22.72
Deburring Tool	4806K91	9.08

Water Hose

- Temperature Range: 10° to 150° F
- Hose: Blended rubber, except low-pressure hose is EPDM rubber
- Color: Yellow, unless otherwise stated

Wash down processing equipment or attach this hose to a pump for water-transfer applications. Hose has a smooth interior. Suitable for outdoor use. Garden hose threads are only compatible with other garden hose threads. Female NPSM (National Pipe Straight Mechanical) threads are compatible with NPT and NPTF (Dryseal) threads.

Easy-install female threaded fittings swivel 360° until tightened and have a ball-and-socket (ball-seat) seal, except those with garden hose threads have a rubber gasket.

Low Pressure—Hose is durable EPDM rubber, which has excellent UV and ozone resistance, and is reinforced with yarn. Fittings are brass.

Medium Pressure—Hose is reinforced with yarn. Fittings are brass.

High Pressure—The steel wire reinforcement gives this hose extra strength in high-pressure conditions. *Hose with fittings* has a PVC cover, which is nonmarking and is oil and abrasion resistant. Fittings are zinc-plated steel.

Hose

To attach your own fittings to the hose, you'll need a barbed hose fitting (see pages 314-318) and a clamp (see pages 302-313).
Maximum continuous length is 50 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 150° F	Max. psi @ 72° F		Per Ft. 1-49	Per Ft. 50-Up
Medium Pressure							
3/8"	11/16"	4 1/2"	120	400	53075K14	$2.13	$1.81
1/2"	13/16"	6"	120	400	53075K16	2.64	2.25
5/8"	1"	7 1/2"	120	400	53075K17	4.02	3.44
3/4"	1 1/8"	9"	120	400	53075K18	4.38	3.73
High Pressure							
3/8"	11/16"	5"	600	1,000	53075K24	4.14	3.39
1/2"	7/8"	7"	600	1,000	53075K26	4.11	3.36
3/4"	1 3/16"	9 1/2"	600	1,000	53075K28	5.18	4.25

Hose with Male Threaded Fittings

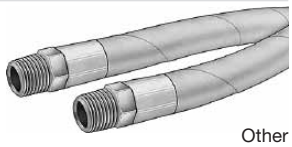

Pipe Size	Hose OD	Max. psi @ 150° F	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
Medium Pressure—NPT Threads								
3/8	11/16"	120	400	53075K91	$24.67	$56.62	$109.87	1 to 100
1/2	13/16"	120	400	53075K92	31.67	71.27	137.27	1 to 100
3/4	1"	120	400	53075K93	49.48	109.78	210.28	1 to 100
3/4	1 1/8"	120	400	53075K94	55.35	121.05	230.55	1 to 100
High Pressure—NPT Threads								
3/8	11/16"	600	1,000	53075K81	45.70	101.23	193.77	1 to 100
1/2	7/8"	600	1,000	53075K82	51.93	114.30	218.25	1 to 100
3/4	1 3/16"	600	1,000	53075K83	70.44	151.75	287.28	1 to 100

Hose with Male and Easy-Install Female Threaded Fittings

To Order: For hose with garden hose threads, please specify black or red hose.



Thread or Pipe Size	Hose OD	Max. psi @ 150° F	Max. psi @ 72° F	Choose a Color		10 ft.	25 ft.	50 ft.	Other Lg., ft.
Low Pressure—Garden Hose Threads (GHT)									
5/8	1"	125	200	Black, Red	53075K11	$24.54	$44.42	$77.53	1 to 100
3/4"	1 1/8"	125	200	Black, Red	53075K12	26.35	47.70	83.30	1 to 100
Medium Pressure—Male NPT and Female NPSM Threads									
3/8	11/16"	120	400	Yellow	53075K97	25.21	57.16	110.41	1 to 100
1/2	13/16"	120	400	Yellow	53075K98	32.21	71.81	137.81	1 to 100
3/4	1"	120	400	Yellow	53075K95	53.48	113.78	214.28	1 to 100
3/4	1 1/8"	120	400	Yellow	53075K96	60.34	126.04	235.54	1 to 100
High Pressure—Male NPT and Female NPSM Threads									
3/8	11/16"	600	1,000	Yellow	53075K71	50.88	109.68	207.68	1 to 100
1/2	7/8"	600	1,000	Yellow	53075K72	55.38	113.73	210.98	1 to 100
3/4	1 3/16"	600	1,000	Yellow	53075K73	76.14	146.79	264.54	1 to 100

Low-Pressure Water Hose for Clean Environments

- Temperature Range: –25° to 200° F
- Hose: SBR rubber
- Color: White

Because the white cover on this hose makes dirt and other contaminants easy to spot, it is often used as a washdown hose in creamery and paper-mill applications. Hose has a smooth interior and is reinforced with yarn. Not suitable for outdoor use.

Male threaded fittings are brass and have NPT threads, except the fittings with a pipe size of 1 1/4 have NPSM (National Pipe Straight Mechanical) threads.

Easy-install female threaded fittings swivel 360° until tightened. They are brass and have NPSM threads with a rubber gasket. Female NPSM threads are compatible with NPT and NPTF (Dryseal) threads.

Hose

To attach your own fittings to the hose, you'll need a barbed hose fitting (see pages 314-318) and a clamp (see pages 302-313).
Maximum continuous length is 50 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-49	Per Ft. 50-Up
1/2"	15/16"	2 1/2"	150	5286K78	$6.64	$5.68
3/4"	1 3/16"	3"	150	5286K79	6.83	5.85
1"	1 7/16"	3"	150	5286K81	8.57	7.01
1 1/4"	1 11/16"	3 1/2"	150	5286K82	9.46	7.74

Hose with Male Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
3/4	15/16"	150	5286K11	$103.86	$203.46	$321.46	1 to 50
3/4	1 3/16"	150	5286K25	114.11	216.56	338.31	1 to 50
1	1 7/16"	150	5286K23	135.16	263.71	399.96	1 to 50
1 1/4	1 11/16"	150	5286K31	149.28	291.18	441.68	1 to 50

Hose with Male and Easy-Install Female Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
3/4	15/16"	150	5286K69	$97.12	$196.72	$314.72	1 to 50
3/4	1 3/16"	150	5286K75	99.10	201.55	323.30	1 to 50
1	1 7/16"	150	5286K76	123.36	251.91	388.16	1 to 50
1 1/4	1 11/16"	150	5286K77	154.84	296.74	447.24	1 to 50

Water Hose

For information about pipe size and threads, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size of 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.





Low-Pressure Water Hose with Stainless Steel Fittings

- Temperature Range: 25° to 150° F
- Hose: PVC
- Color: Gray

Keep water free of contaminants with this high-purity PVC hose with stainless steel fittings. It has a smooth interior and is reinforced with yarn. Hose is suitable for outdoor use.

Hose with Male Threaded Fittings—Has 316 stainless steel fittings with NPTF (Dryseal) threads.

Hose with Male and Easy-Install Female Threaded Fittings—Has 303 stainless steel fittings with garden hose threads, which are only compatible with other garden hose threads. The *easy-install female threaded fitting* swivels 360° until tightened; it has a rubber gasket.

Hose with Male Threaded Fittings



Pipe Size, NPTF	Hose OD	Bend Radius	Max. psi @ 72° F		10 ft.	50 ft.	Other Lg., ft.
1/2	3/4"	4"	200	5043T43	$63.27	$111.21	1 to 200
3/4	1"	6"	150	5043T44	106.34	187.96	1 to 200

Hose with Male and Easy-Install Female Threaded Fittings



Thread Size, GHT	Hose OD	Bend Radius	Max. psi @ 72° F		10 ft.	50 ft.	Other Lg., ft.
3/4"	1"	6"	150	5043T42	$158.18	$239.80	1 to 200

Fire-Resistant High-Pressure Water Hose

- Temperature Range: –20° to 200° F
- Hose: Blended rubber
- Color: Yellow

Because the cover on this hose meets MSHA (Mine Safety and Health Administration) standards for flame resistance, it is commonly used to control dust in mines. Hose is also abrasion and ozone resistant. It has a smooth interior and is reinforced with steel wire. Suitable for outdoor use.

Fittings are also known as ground-joint couplings. They have NPT threads. The fittings with pipe sizes of 3/4 and 1 are zinc-plated steel; those with pipe sizes of 1 1/2 and 2 are zinc-plated iron. *Female threaded fittings* have a rubber gasket.

Hose

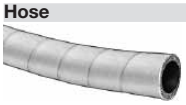

To attach your own fittings to the hose, you'll need a barbed hose fitting (see pages 314-318) and a clamp (see pages 302-313), or a steam hose fitting (see page 324).

Maximum continuous length is 50 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-49	Per Ft. 50-Up
3/4"	1 1/8"	3 3/4"	1,000	5630K12	$3.80	$3.11
1"	1 5/16"	5"	1,000	5630K13	4.50	3.68
1 1/2"	1 15/16"	7 1/2"	1,000	5630K17	7.73	6.32
2"	2 1/2"	10"	1,000	5630K16	11.60	9.49

Hose with Male Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
3/4	1 1/8"	1,000	5630K15	$89.08	$160.03	$235.28	1 to 50
1	1 5/16"	1,000	5630K18	120.16	207.76	353.76	1 to 50
1 1/2	1 15/16"	1,000	5630K19	188.85	322.80	465.05	1 to 50
2	2 1/2"	1,000	5630K21	258.34	456.04	666.04	1 to 50

Hose with Male and Easy-Install Female Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
3/4	1 1/8"	1,000	5630K32	$123.09	$194.04	$269.29	1 to 50
1	1 5/16"	1,000	5630K33	152.33	239.93	332.93	1 to 50
1 1/2	1 15/16"	1,000	5630K37	215.12	349.07	491.32	1 to 50
2	2 1/2"	1,000	5630K36	286.16	483.86	693.86	1 to 50

Hot-Water Hose

- Temperature Range: –40° to 210° F
- Hose: Neoprene rubber
- Color: Black

When your process requires hot-water washdowns reach for this neoprene rubber hose that withstands high temperatures. Hose meets SAE 100R3. It has a smooth interior and is reinforced with yarn. Suitable for outdoor use.

Fittings are zinc-plated steel and have NPT threads. *Easy-install female threaded fittings* swivel 360° until tightened and have a ball-and-socket (ball-seat) seal.

Hose



Maximum continuous length is 50 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-49	Per Ft. 50-Up
Medium Pressure						
3/4"	1 1/4"	6"	750	5291K25	$8.20	$6.63
1"	1 1/2"	8"	565	5291K27	9.89	7.99
High Pressure						
1/4"	9/16"	3"	1,250	5291K29	2.53	2.05
3/8"	3/4"	4"	1,125	5291K11	3.46	2.81
1/2"	15/16"	5"	1,000	5291K23	4.74	3.84

Hose with Male and Easy-Install Female Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
Medium Pressure							
3/4	1 1/4"	750	5291K16	$145.20	$268.20	$394.70	1 to 50
1	1 1/2"	565	5291K17	183.30	331.65	483.90	1 to 50
High Pressure							
1/4	9/16"	1,250	5291K73	61.63	99.58	138.83	1 to 50
3/8	3/4"	1,125	5291K76	77.93	129.83	183.83	1 to 50
1/2	15/16"	1,000	5291K14	91.90	163.00	236.50	1 to 50

Extreme-Pressure Water Hose

- Temperature Range: –20° to 200° F (Water); –20° to 325° F (Steam)
- Hose: Rubber
- Color: Black

Power away dirt with this heavy duty rubber hose that can handle high pressures and temperatures. A protective sleeve covers the fittings where they attach to prevent surfaces from getting scratched. Hose meets ARPM (Association of Rubber Products Manufacturers) Class B for oil resistance. It has a smooth interior. Suitable for outdoor use.

For Use with Water— Hose is Buna-N rubber with a blended rubber cover. Hose with a 1,500 psi rating has yarn reinforcement; hose with a 3,000 psi rating has steel wire reinforcement.

For Use with Water and Steam— Hose is blended rubber with a steel wire reinforcement.

Fittings are zinc-plated steel and have NPT threads. *Swivel male threaded fittings* rotate 360° before and after installation to prevent twisting and kinking. They are also known as live swivel fittings.

Hose

Maximum continuous length is 100 ft.



Hose ID	Hose OD	Bend Radius	Max. psi Water @ 72° F	Max. psi Steam @ 325° F		Per Ft. 1-99	Per Ft. 100-Up
For Use with Water							
1/4"	9/16"	2 1/2"	3,000	—	53115K71	$2.68	$2.17
1/4"	5/8"	2 1/2"	1,500	—	53115K21	2.18	1.77
3/8"	3/4"	3 3/4"	1,500	—	53115K22	3.18	2.58
3/8"	3/4"	3 3/4"	3,000	—	53115K72	3.09	2.50
1/2"	7/8"	5"	3,000	—	53115K73	4.08	3.31
For Use with Water and Steam							
3/8"	3/4"	3 3/4"	3,000	350	53115K51	3.58	2.91
1/2"	7/8"	5"	2,500	350	53115K56	4.67	3.79

Hose with Male and Swivel Male Threaded Fittings



Pipe Size	Hose OD	Max. psi, Water @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
For Use with Water							
1/4	9/16"	3,000	53115K25	$41.60	$81.80	$148.80	1 to 100
1/4	5/8"	1,500	53115K26	35.50	68.20	122.70	1 to 100
3/8	3/4"	1,500	53115K28	46.30	94.00	173.50	1 to 100
3/8	3/4"	3,000	53115K27	47.20	93.55	170.80	1 to 100
1/2	7/8"	3,000	53115K29	60.20	121.40	223.40	1 to 100

Hose with Male Threaded Fittings



Pipe Size	Hose OD	Max. psi Water @ 72° F	Max. psi Steam @ 325° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
For Use with Water and Steam								
3/8	3/4"	3,000	350	53115K45	$55.70	$109.40	$198.90	1 to 100
1/2	7/8"	2,500	350	53115K46	72.10	142.15	258.90	1 to 100

High-Temperature Steam Hose

- Temperature Range: –40° to 450° F
- Hose: EPDM rubber
- Color: Black or red

Made of EPDM rubber reinforced with steel wire so it handles high temperatures, this hose is often used to clean hard-to-reach areas or supply heat and moisture to processing equipment. Hose interior is smooth. Suitable for outdoor use. The red hose meets ARPM (Association of Rubber Product Manufacturers) Class C for oil resistance.

Fittings are also known as ground-joint couplings. They have NPT threads. The fittings with pipe sizes of 1/2 to 1 are zinc-plated steel; those with pipe sizes of 1 1/4 to 2 are zinc-plated iron. *Easy-install female threaded fittings* swivel 360° until tightened and have a rubber gasket.

Hose

To attach your own fittings to the hose, you'll need a steam hose fitting (see page 324).

Maximum continuous length is 50 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 450°F		Per Ft. 1-49	Per Ft. 50-Up
Black Hose						
1/2"	1 1/16"	7"	250	5301K11	$3.69	$3.12
3/4"	1 5/16"	9"	250	5301K12	4.27	3.61
1"	1 9/16"	11"	250	5301K13	5.89	4.97
1 1/4"	1 13/16"	16"	250	5301K14	12.91	10.76
1 1/2"	2 1/8"	20"	250	5301K15	13.76	11.46
2"	2 11/16"	25"	250	5301K16	16.44	13.70
Red Hose						
1/2"	1 1/16"	7"	250	53045K61	4.62	3.85
3/4"	1 5/16"	9"	250	53045K63	6.20	5.17
1"	1 9/16"	11"	250	53045K65	8.71	7.24
1 1/2"	2 3/16"	20"	250	53045K67	17.44	14.54
2"	2 11/16"	25"	250	53045K69	19.62	16.35

Hose with Male and Easy-Install Female Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 450° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
Black Hose							
1/2	1 1/16"	250	5301K21	$115.14	$170.49	$234.24	1 to 50
3/4	1 5/16"	250	5301K22	129.61	193.66	267.41	1 to 50
1	1 9/16"	250	5301K23	164.97	253.32	354.57	1 to 50
1 1/4	1 13/16"	250	5301K24	291.78	485.43	700.68	1 to 50
1 1/2	2 1/8"	250	5301K25	296.79	503.19	732.19	1 to 50
2	2 11/16"	250	5301K26	336.97	583.57	857.57	1 to 50
Red Hose							
1/2	1 1/16"	250	53045K51	124.44	193.74	270.74	1 to 50
3/4	1 5/16"	250	53045K52	148.91	241.91	345.41	1 to 50
1	1 9/16"	250	53045K53	193.17	323.82	468.07	1 to 50
1 1/2	2 3/16"	250	53045K55	333.59	595.19	886.19	1 to 50
2	2 11/16"	250	53045K56	368.77	663.07	990.07	1 to 50

Hose with Easy-Install Female Threaded Fittings



	Choose a Pipe Size	Max. psi @ 450° F	Length, ft.	
Black Hose	1/2, 3/4, 1, 1 1/4, 1 1/2, 2	250	1 to 50	5301K1
Red Hose	1/2, 3/4, 1, 1 1/2, 2	250	1 to 50	53045K2

Water Hose

For information about pipe size and threads, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size of 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.





Abrasion-Resistant Low-Pressure Water Hose

- Temperature Range: –25° to 180° F
- Hose: SBR rubber
- Color: Black

Hose is SBR rubber, so it stands up to the wear and tear of daily use. It has a smooth interior and is reinforced with yarn. Suitable for outdoor use. Not rated for bend radius.

Cam-and-groove sockets and **plugs** are aluminum. To connect, insert the plug into the socket and push levers down.

Male and **easy-install female threaded fittings** are aluminum and have NPSM (National Pipe Straight Mechanical) threads. Female NPSM threads are compatible with NPT and NPTF (Dryseal) threads. *Easy-install female threaded fittings* swivel 360° until tightened and have a rubber gasket.

Hose



To attach your own fittings to the hose, you'll need a cam-and-groove hose fitting (see pages 339-349).

Maximum continuous length is 100 ft.

Hose ID	Hose OD	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
1"	1 5/16"	150	5289K21	$6.51	$5.27
1 1/4"	1 5/8"	150	5289K22	6.81	5.50
1 1/2"	1 7/8"	150	5289K23	7.04	5.70
1 3/4"	2 3/16"	150	5289K24	7.74	6.25
2"	2 3/8"	150	5289K25	8.34	6.75
2 1/2"	2 7/8"	150	5289K26	10.83	8.74
3"	3 1/2"	150	5289K27	14.59	11.78
3 1/2"	4 1/16"	150	5289K28	17.62	14.22
4"	4 1/2"	150	5289K29	20.68	16.70
4 1/2"	5"	150	5289K31	24.54	19.82
6"	6 1/2"	150	5289K32	33.76	27.28

Hose with Cam-and-Groove Socket and Plug



Coupling Size	Hose OD	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
1	1 5/16"	150	5289K2	$159.07	$312.91	$569.30	1 to 100
1 1/2	1 7/8"	150	5289K3	172.67	324.77	578.26	1 to 100
2	2 3/8"	150	5289K4	181.63	330.93	579.77	1 to 100
2 1/2	2 7/8"	150	5289K5	272.56	476.28	815.81	1 to 100
3	3 1/2"	150	5289K6	314.88	585.23	1,035.81	1 to 100
4	4 1/2"	150	5289K7	470.47	914.53	1,516.98	1 to 100
6	6 1/2"	150	5289K8	470.47	914.53	1,516.98	1 to 100

Hose with Male and Easy-Install Female Threaded Fittings



Choose a Pipe Size	Max. psi @ 72° F	Length, ft.	
1, 1 1/2, 2, 2 1/2, 3, 4, 6	150	1 to 100	5289K9

Abrasion-Resistant Suction Water Hose

- Temperature Range: –10° to 140° F
- Hose: EPDM (Black); PVC (Clear)
- Color: Please see below

Spiral reinforcement on the outside of the hose acts as a wear strip to protect against damage caused by dragging. Hose is designed for vacuum applications such as removing accumulated water from pits, loading docks, and other flooded areas. Vacuum rating is 28" Hg @ 72° F, except the black hose with 6 7/8" OD has a vacuum rating of 20" Hg @ 72° F. *Black* hose has an EPDM rubber spiral reinforcement; *clear* hose has a PVC spiral reinforcement. Hose interior is smooth. Suitable for outdoor use.

Cam-and-groove sockets and **plugs** are aluminum. To connect, insert the plug into the socket and push the levers down.

Hose



To attach your own fittings to the hose, you'll need a cam-and-groove hose fitting (see pages 339-349).

Maximum continuous length is 100 ft., except black hose with 3", 4", and 6" ID and clear hose with 6" ID have a maximum continuous length of 50 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
Black Hose with Gray Spiral						
1"	1 3/8"	4"	80	5642K11	$2.91	$2.27
1 1/4"	1 5/8"	5"	70	5642K12	3.16	2.47
1 1/2"	2"	6"	60	5642K13	3.63	2.82
2"	2 1/2"	9"	60	5642K14	5.35	4.15
2 1/2"	3"	11"	50	5642K15	9.20	7.16
3"	3 5/8"	12"	50	5642K16	10.39	8.09
4"	4 3/4"	17"	45	5642K17	17.59	13.68
6"	6 7/8"	27"	35	5642K19	34.80	27.07
Clear Hose with White Spiral						
1 1/2"	2"	2 1/2"	110	45815K21	5.38	4.40
2"	2 5/8"	4"	100	45815K22	6.78	5.55
3"	3 3/4"	6 5/16"	100	45815K23	8.99	7.36
4"	4 3/4"	7 1/16"	75	45815K24	14.58	11.92
Clear Hose with Fluorescent Orange Spiral						
1 1/2"	2"	2 1/2"	110	45815K51	4.32	3.54
2"	2 5/8"	4"	100	45815K52	5.22	4.27
3"	3 3/4"	6 5/16"	100	45815K53	6.20	5.06
4"	4 3/4"	7 1/16"	75	45815K54	9.29	7.59
6"	7 1/8"	10 3/16"	70	45815K55	18.81	15.39

Hose with Cam-and-Groove Socket and Plug



Coupling Size	Hose OD	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
Black Hose with Gray Spiral							
1	1 3/8"	80	5642K71	$76.43	$120.08	$192.83	1 to 100
1 1/4	1 5/8"	70	5642K72	91.49	138.89	217.89	1 to 100
1 1/2	2"	60	5642K73	99.41	153.86	244.61	1 to 100
2	2 1/2"	60	5642K74	121.72	201.97	335.72	1 to 100
2 1/2	3"	50	5642K75	193.78	331.78	561.78	1 to 100
3	3 5/8"	50	5642K76	216.23	372.08	516.83	1 to 100
4	4 3/4"	45	5642K77	328.81	592.66	836.91	1 to 100
6	6 7/8"	35	5642K91	678.36	1,200.36	2,070.36	1 to 100
Clear Hose with White Spiral							
1 1/2	2"	110	45815K61	103.78	184.48	318.98	1 to 100
2	2 5/8"	100	45815K62	133.16	234.86	404.36	1 to 100
3	3 3/4"	100	45815K63	202.06	336.91	561.66	1 to 100
4	4 3/4"	75	45815K64	297.07	515.77	880.27	1 to 100
Clear Hose with Fluorescent Orange Spiral							
1 1/2	2"	110	45815K25	93.18	157.98	265.98	1 to 100
2	2 5/8"	100	45815K26	117.56	195.86	326.36	1 to 100
3	3 3/4"	100	45815K27	174.16	267.16	422.16	1 to 100
4	4 3/4"	75	45815K28	244.17	383.52	615.77	1 to 100
6	7 1/8"	70	45815K29	510.40	792.55	1,262.80	1 to 100

For information about pipe size and threads, see pages 2-3.

Suction Water Hose

- Temperature Range: –10° to 130° F
- Hose: PVC
- Color: Clear or green

Remove accumulated water from pits, loading docks, and other flooded areas with this general purpose suction hose. It is made of PVC, which is economical yet durable. Vacuum rating is 28″ Hg @ 72° F. Hose has a smooth interior and a PVC external spiral reinforcement. Suitable for outdoor use.

Male and **easy-install female threaded fittings** are aluminum, except the easy-install female fittings have a brass nut, and the fittings with pipe sizes of 1 and 1¼ are all brass. Fittings have NPSM (National Pipe Straight Mechanical) threads; female NPSM threads are compatible with NPT and NPTF (Dryseal) threads. *Easy-install female threaded fittings* swivel 360° until tightened and have a rubber gasket.

Cam-and-groove sockets and **plugs** come in your choice of aluminum or black polypropylene. To connect, insert the plug into the socket and push the levers down.

Hose

To attach your own fittings to the hose, you'll need a cam-and-groove hose fitting (see pages 339-349) or an easy-fit barbed fitting (see page 317).

Maximum continuous length is 100 ft., except 6″ ID hose has a maximum continuous length of 50 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
Clear Hose						
1″	1 5/16″	3″	90	5796K11	$2.04	$1.67
1 1/4″	1 9/16″	4″	90	5796K12	2.57	2.11
1 1/2″	1 13/16″	5″	90	5796K13	2.96	2.43
2″	2 3/8″	6″	70	5796K14	4.30	3.52
2 1/2″	2 15/16″	8″	65	5796K15	6.69	5.46
3″	3 7/16″	9″	55	5796K16	8.01	6.55
4″	4 9/16″	13″	50	5796K17	13.43	10.97
6″	6 13/16″	24″	45	5796K19	25.22	20.62
Green Hose						
1″	1 5/16″	3″	90	5293K38	1.88	1.57
1 1/4″	1 9/16″	4″	90	5293K39	2.06	1.72
1 1/2″	1 13/16″	5″	90	5293K41	2.40	1.99
2″	2 3/8″	6″	70	5293K42	3.38	2.80
2 1/2″	2 15/16″	8″	65	5293K43	5.26	4.39
3″	3 7/16″	9″	55	5293K44	5.74	4.79
4″	4 9/16″	13″	50	5293K45	10.74	8.95
6″	6 13/16″	24″	45	5293K47	18.86	15.71

Hose with Male and Easy-Install Female Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
Clear Hose							
1	1 5/16″	90	5796K22	$44.60	$75.20	$126.20	1 to 100
1 1/4	1 9/16″	75	5796K33	62.29	100.84	165.09	1 to 100
1 1/2	1 13/16″	75	5796K24	47.13	91.53	165.53	1 to 100
2	2 3/8″	70	5796K25	67.31	131.81	239.31	1 to 100
2 1/2	2 15/16″	50	5796K26	106.86	207.21	374.46	1 to 100
3	3 7/16″	50	5796K27	131.75	251.90	452.15	1 to 100
4	4 9/16″	50	5796K28	228.97	430.42	766.17	1 to 100
6	6 13/16″	25	5796K31	451.94	830.24	1,230.74	1 to 100
Green Hose							
1	1 5/16″	90	5293K11	43.00	71.20	118.20	1 to 100
1 1/4	1 9/16″	75	5293K22	57.19	88.09	139.59	1 to 100
1 1/2	1 13/16″	75	5293K13	41.53	77.53	137.53	1 to 100
2	2 3/8″	70	5293K14	58.11	108.81	193.31	1 to 100
2 1/2	2 15/16″	50	5293K15	92.56	171.46	302.96	1 to 100
3	3 7/16″	50	5293K16	109.05	195.15	338.65	1 to 100
4	4 9/16″	50	5293K17	202.07	363.17	631.67	1 to 100
6	6 13/16″	25	5293K19	388.34	671.24	985.24	1 to 100

Hose with Cam-and-Groove Socket and Plug



	Choose a Coupling Size	Choose a Color	Length, ft.	
Aluminum	1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 4, 6	Clear, Green	1 to 100	5293K2
Black Polypropylene	1, 1 1/2, 2, 3, 4	Clear, Green	1 to 100	5293K1

Weather-Resistant Suction Water Hose

- Temperature Range: –25° to 200° F
- Hose: EPDM rubber
- Color: Black with blue spiral stripe

Offering excellent UV and ozone resistance, this EPDM rubber hose is a good fit for outdoor applications, such as emptying tanks and trucks and cleaning up standing water and spills. Hose has a smooth interior and is reinforced with yarn and steel wire. Vacuum rating is 29″ Hg @ 72° F.

Cam-and-groove sockets and **plugs** are aluminum. To connect, insert the plug into the socket and push the levers down.

Male and **easy-install female threaded fittings** are brass, except the male fitting with a pipe size of 6 is aluminum, and the easy-install female threaded fitting with a pipe size of 6 is aluminum with a brass nut. Fittings have NPSM (National Pipe Straight Mechanical) threads; female NPSM threads are compatible with NPT and NPTF (Dryseal) threads. *Easy-install female threaded fittings* swivel 360° until tightened and have a rubber gasket.

Hose

To attach your own fittings to the hose, you'll need a cam-and-groove hose fitting (see pages 339-349) or an easy-fit barbed fitting (see page 317).

Maximum continuous length is 100 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
1″	1 7/16″	4″	150	1548N11	$5.15	$4.25
1 1/4″	1 5/8″	4″	150	1548N12	5.88	4.85
1 1/2″	1 7/8″	4″	150	1548N13	6.23	5.14
2″	2 7/16″	7″	150	1548N14	6.92	5.70
2 1/2″	2 15/16″	10″	150	1548N15	9.23	8.40
3″	3 7/16″	14″	150	1548N16	10.36	8.54
4″	4 1/2″	18″	150	1548N17	15.09	12.44
6″	6 5/8″	24″	150	1548N18	30.15	24.86

Hose with Cam-and-Groove Socket and Plug



Coupling Size	Hose OD	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
1	1 7/16″	150	1548N31	$108.91	$185.05	$313.80	1 to 100
1 1/4	1 5/8″	150	1548N32	123.56	211.76	358.76	1 to 100
1 1/2	1 7/8″	150	1548N33	122.19	214.27	370.02	1 to 100
2	2 7/16″	150	1548N34	150.10	252.23	425.23	1 to 100
2 1/2	2 15/16″	150	1548N35	198.21	334.35	565.10	1 to 100
3	3 7/16″	150	1548N36	216.25	369.01	628.01	1 to 100
4	4 1/2″	150	1548N37	317.54	539.47	916.72	1 to 100
6	6 5/8″	75	1548N38	638.57	1,082.48	1,836.23	1 to 100

Hose with Male and Easy-Install Female Threaded Fittings



Choose a Pipe Size	Length, ft.	
1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 4, 6	1 to 100	1548N2

Water Hose

For information about pipe size and threads, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size of 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



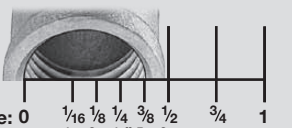

High-Pressure Suction Water Hose

- Temperature Range: –20° to 180° F
- Hose: Blended rubber
- Color: Blue

Transfer large volumes of water in high-vacuum or high-pressure operations. Vacuum rating is 29″ Hg @ 72° F. Hose has a smooth interior and is reinforced with yarn and steel wire for excellent strength. Suitable for outdoor use.

Cam-and-groove sockets and **plugs** are aluminum. To connect, insert the plug into the socket and push levers down.

Male and **easy-install female threaded fittings** are aluminum, except the female fittings have a brass nut. Fittings have NPSM (National Pipe Straight Mechanical) threads; female NPSM threads are compatible with NPT and NPTF (Dryseal) threads. *Easy-install female threaded fittings* swivel 360° until tightened and have a rubber gasket.

Hose



To attach your own fittings to the hose, you'll need a cam-and-groove hose fitting (see pages 339-349) or an easy-fit barbed fitting (see page 317).

Maximum continuous length is 50 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-49	Per Ft. 50-Up
1 1/2″	2″	6″	300	5651K11	$14.97	$12.15
2″	2 1/2″	8″	300	5651K12	20.12	16.32
2 1/2″	3″	10″	300	5651K13	22.54	18.29
3″	3 1/2″	12″	250	5651K14	28.70	23.28
4″	4 1/2″	16″	200	5651K15	38.21	31.00

Hose with Cam-and-Groove Socket and Plug



Coupling Size	Hose OD	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
1 1/2	2″	250	5651K16	$222.10	$440.05	$803.30	1 to 50
2	2 1/2″	250	5651K17	290.20	583.15	1,071.40	1 to 50
2 1/2	3″	150	5651K18	388.10	716.30	1,263.30	1 to 50
3	3 1/2″	150	5651K19	433.40	851.30	1,547.80	1 to 50
4	4 1/2″	150	5651K27	594.10	1,150.45	2,077.70	1 to 50

Hose with Male Threaded Fittings



Choose a Pipe Size	Length, ft.	
1 1/2, 2, 2 1/2, 3, 4	1 to 50	5651K7

Hose with Male and Easy-Install Female Threaded Fittings



Choose a Pipe Size	Length, ft.	
1 1/2, 2, 2 1/2, 3, 4	1 to 50	5651K3

Low-Temperature Easy-Store Discharge Water Hose

- Temperature Range: –58° to 170° F
- Hose: Polyurethane
- Color: Blue

Run water through this discharge hose. Hose lays flat when not in use, so it's easy to carry and store. Hose has a smooth interior and is reinforced with yarn. It can be used outdoors.

Cam-and-groove sockets and plugs are 316 stainless steel. To connect, insert the plug into the socket and push the levers down.

Male and easy-install female threaded fittings are anodized aluminum and have NPSH (National Pipe Straight Hose) threads. Female NPSH threads are compatible with NPT, NPTF, and NPSM (National Pipe Straight Mechanical) threads. *Easy-install female threaded fittings* swivel 360° until tightened and have a rubber gasket.

Hose



To attach your own fittings to the hose, you'll need a cam-and-groove hose fitting (see pages 339-349) or an easy-fit barbed fitting (see page 317).

Maximum continuous length is 100 ft.

Hose ID	Wall Thick.	Flat Width	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
1″	0.06″	1 1/2″	250	1081N11	$6.58	$5.48
1 1/2″	0.07″	2 1/4″	200	1081N12	7.00	5.83
2″	0.08″	3 1/8″	200	1081N13	8.20	6.83
2 1/2″	0.08″	3 3/4″	200	1081N14	9.64	8.03
3″	0.09″	4 1/2″	200	1081N15	12.80	10.67
4″	0.11″	6″	175	1081N16	18.58	15.48
6″	0.12″	9″	150	1081N17	31.80	26.50

Hose with Cam-and-Groove Socket and Plug



Coupling Size	Wall Thick.	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
1	0.06″	250	1081N21	$184.58	$266.83	$403.92	1 to 100
1 1/2	0.07″	200	1081N22	220.25	307.75	453.58	1 to 100
2	0.08″	200	1081N23	252.00	354.50	525.33	1 to 100
2 1/2	0.08″	150	1081N24	510.58	631.08	831.92	1 to 100
3	0.09″	125	1081N25	425.75	585.75	852.42	1 to 100
4	0.11″	100	1081N26	714.25	946.50	1,333.58	1 to 100

Hose with Male and Easy-Install Female Threaded Fittings



Thread Size	Wall Thick.	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
1″	0.06″	250	1081N31	$108.30	$213.30	$388.30	1 to 100
1 1/2″	0.07″	200	1081N32	112.98	224.68	410.85	1 to 100
2 1/2″	0.08″	200	1081N34	165.70	310.30	551.30	1 to 100
3″	0.09″	200	1081N35	231.36	405.91	696.82	1 to 100
2″	0.08″	200	1081N33	145.92	271.43	480.61	1 to 100
4″	0.11″	175	1081N36	264.08	341.50	573.75	1 to 100
6″	0.12″	150	1081N37	500.83	633.33	1,030.83	1 to 100

Easy-Store Discharge Water Hose

Low-Pressure and Medium-Pressure Red Hose
- Temperature Range: –5° to 170° F
- Hose: PVC

Medium-Pressure White Hose
- Temperature Range: -40° to 180° F
- Hose: SBR rubber with a polyester cover

High-Pressure Hose
- Temperature Range: -5° to 200° F
- Hose: Buna-N rubber

Move water from one place to another. Hose lays flat and folds up for carrying and storage. It can be used outdoors. Hose has a smooth interior and is reinforced with yarn, except the medium-pressure white hose is not reinforced. *Medium-pressure white hose* is also known as mill hose; it resists rot and mildew.

Cam-and-groove sockets and **plugs** are aluminum. To connect, insert the plug into the socket and push the levers down.

Male threaded fittings are aluminum, except the fittings with a pipe size of 1 on the medium-pressure white hose are brass. Fittings have NPSM (National Pipe Straight Mechanical) threads.

Easy-install female threaded fittings swivel 360° until tightened. They are aluminum with a brass nut, except the fittings on the high-pressure yellow hose are all aluminum, and the fittings with a pipe size of 1 on the medium-pressure white hose are all brass. Fittings have NPSM threads, which are compatible with NPT and NPTF (Dryseal) threads. They have a rubber gasket, except the fittings on the medium-pressure white hose have a ball-and-socket (ball-seat) seal.

Hose



To attach your own fittings to the hose, you'll need a cam-and-groove hose fitting (see pages 339-349) or an easy-fit barbed fitting (see page 317).

Maximum continuous length is 100 ft., except medium pressure white hose with 4″ ID has a maximum continuous length of 50 ft.

Hose ID	Wall Thick.	Flat Width	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
Low Pressure—Blue						
1½″	0.06″	2½″	80	5295K1	$0.94	$0.75
2″	0.06″	3 5/16″	80	5295K35	1.03	.82
2½″	0.06″	4½″	65	5295K2	1.75	1.40
3″	0.06″	5″	80	5295K39	2.00	1.60
4″	0.07″	6½″	70	5295K41	2.59	2.07
6″	0.08″	9½″	60	5295K3	4.66	3.72
8″	0.09″	13½″	35	5295K45	10.78	8.62
Medium Pressure—Red						
1½″	0.08″	2½″	150	5310K33	2.13	1.70
2″	0.09″	3 5/16″	150	5310K35	2.53	2.02
2½″	0.09″	4½″	150	5310K37	3.81	3.05
3″	0.10″	5″	150	5310K43	5.97	4.77
4″	0.10″	6½″	150	5310K45	7.28	5.83
6″	0.12″	9½″	150	5310K47	14.53	11.62
8″	0.13″	13½″	115	5310K49	24.31	19.45
Medium Pressure—White						
1″	0.07″	1¾″	100	5504K13	2.23	1.68
1½″	0.07″	2½″	100	5504K15	2.30	1.73
2″	0.08″	3¼″	100	5504K16	3.03	2.27
2½″	0.08″	4″	100	5504K17	4.07	3.05
3″	0.09″	5″	100	5504K19	4.83	3.62
4″	0.13″	6¼″	100	5504K21	8.23	6.17
High Pressure—Yellow						
1″	0.08″	1¾″	270	45845K1	4.74	3.87
1½″	0.11″	2¾″	270	45845K2	5.74	4.69
2″	0.12″	3½″	270	45845K3	6.51	5.33
2½″	0.13″	4¼″	270	45845K4	8.09	6.62
3″	0.14″	5″	270	45845K5	9.53	7.80
4″	0.14″	6½″	207	45845K8	12.16	9.96
5″	0.14″	8 3/16″	180	45845K7	14.13	11.54

Hose with Cam-and-Groove Socket and Plug



Coupling Size	Wall Thick.	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
Low Pressure—Blue							
1½	0.06″	80	5295K31	$49.08	$63.18	$86.68	1 to 100
2	0.06″	80	5295K32	56.91	72.36	98.11	1 to 100
2½	0.06″	65	5295K34	87.25	113.50	157.25	1 to 100
3	0.06″	80	5295K36	95.42	125.42	175.42	1 to 100
4	0.07″	70	5295K38	149.08	187.93	252.68	1 to 100
6	0.08″	60	5295K42	319.18	389.08	505.58	1 to 100
8	0.09″	35	5295K44	1,239.96	1,401.66	1,671.16	1 to 100
Medium Pressure—Red							
1½	0.08″	150	5310K21	60.98	92.93	146.18	1 to 100
2	0.09″	150	5310K22	71.91	109.86	173.11	1 to 100
2½	0.09″	150	5310K23	107.85	165.00	260.25	1 to 100
3	0.10″	150	5310K24	135.12	224.67	373.92	1 to 100
4	0.10″	150	5310K25	195.98	305.18	487.18	1 to 100
6	0.12″	75	5310K51	417.88	635.83	999.08	1 to 100
8	0.13″	50	5310K52	1,375.26	1,401.66	1,671.16	1 to 100
Medium Pressure—White							
1	0.07″	100	5504K41	45.85	80.50	138.25	1 to 100
1½	0.07″	100	5504K42	54.90	90.75	150.50	1 to 100
2	0.08″	100	5504K43	66.65	114.50	194.25	1 to 100
2½	0.08″	100	5504K44	101.65	165.25	271.25	1 to 100
3	0.09″	100	5504K45	110.94	186.69	312.94	1 to 100
4	0.13″	100	5504K46	176.66	297.56	499.06	1 to 100
High Pressure—Yellow							
1	0.08″	250	45845K81	71.85	142.95	261.45	1 to 100
1½	0.11″	250	45845K82	87.58	173.68	317.18	1 to 100
2	0.12″	250	45845K83	100.83	198.48	361.23	1 to 100
2½	0.13″	200	45845K84	135.08	256.43	458.68	1 to 100
3	0.14″	200	45845K85	154.30	297.25	535.50	1 to 100
4	0.14″	150	45845K86	225.42	407.82	601.82	1 to 100
5	0.14″	75	45845K87	324.57	536.52	760.27	1 to 100

Hose with Male and Easy-Install Female Threaded Fittings



Pipe Size	Wall Thick.	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
Low Pressure—Blue							
1½	0.06″	75	5295K17	$24.26	$38.36	$61.86	1 to 100
2	0.06″	75	5295K18	30.86	46.31	72.06	1 to 100
2½	0.06″	50	5295K21	50.21	76.46	120.21	1 to 100
3	0.06″	50	5295K22	63.73	93.73	143.73	1 to 100
4	0.07″	50	5295K23	108.14	146.99	211.74	1 to 100
6	0.08″	25	5295K24	208.40	278.30	394.80	1 to 100
Low Pressure—Red							
1½	0.08″	75	5310K11	36.16	68.11	121.36	1 to 100
2	0.09″	75	5310K12	45.86	83.81	147.06	1 to 100
2½	0.09″	50	5310K13	70.81	127.96	223.21	1 to 100
3	0.10″	50	5310K14	103.43	192.98	342.23	1 to 100
4	0.10″	50	5310K15	155.04	264.24	446.24	1 to 100
6	0.12″	25	5310K16	307.10	525.05	888.30	1 to 100

Pipe Size	Wall Thick.	Max. psi @ 72° F		10 ft.	25 ft.	50 ft.	Other Lg., ft.
Medium Pressure—White							
1	0.07″	100	5504K22	$33.60	$68.25	$126.00	1 to 100
1½	0.07″	100	5504K23	31.21	67.06	126.81	1 to 100
2	0.08″	100	5504K24	40.71	88.56	168.31	1 to 100
2½	0.08″	100	5504K25	60.65	124.25	230.25	1 to 100
3	0.09″	100	5504K26	70.06	145.81	272.06	1 to 100
4	0.13″	100	5504K27	116.72	237.62	439.12	1 to 100
High Pressure—Yellow							
1	0.08″	270	45845K41	87.85	158.95	277.45	1 to 100
1½	0.11″	270	45845K42	98.67	184.77	328.27	1 to 100
2	0.12″	270	45845K43	128.01	225.66	388.41	1 to 100
2½	0.13″	270	45845K44	147.63	268.98	471.23	1 to 100
3	0.14″	270	45845K45	218.85	361.80	600.05	1 to 100
4	0.14″	207	45845K46	396.33	578.73	772.73	1 to 100
5	0.14″	180	45845K47	494.57	706.52	930.27	1 to 100

Fire-Fighting Hose

For information about pipe size and threads, see pages 2-3.

About Fire-Fighting Hose Threads and Fittings

There are two main types of fire-fighting hose threads: **NH** (National Hose), which is also known as NST (National Standard Thread), and **NPSH** (National Pipe Straight Hose).

If you don't know the type or size of your threads, measure the ID or OD of your fitting and count the threads per inch.

How to Choose Fire-Fighting Hose Threads

Fitting ID Female	Fitting OD Male	Threads per Inch	NH/NST Threads	NPSH Threads
1″	1″	14		3/4″ NPSH
1 1/8″	1 1/4″	11 1/2		1″ NPSH
1 1/4″	1 3/8″	8	1″ NH/NST	
1 3/4″	1 7/8″	11 1/2		1 1/2″ NPSH
1 7/8″	2″	9	1 1/2″ NH/NST	
2 5/8″	2 7/8″	8		2 1/2″ NPSH
3″	3 1/16″	7 1/2	2 1/2″ NH/NST	
3 1/2″	3 5/8″	6	3″ NH/NST	

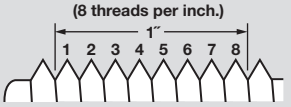

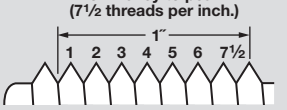

Once you determine which threads you have, use the chart below to see which threads will mate with them.

Thread Type	Compatibility
NH/NST	Work with other NH/NST threads.
NPSH	Male threads work with female NPSH threads. Female threads work with male NPSH, NPT, NPTF, and NPSM threads.

Next, select from two styles of fire-fighting hose fittings: pin lug and rocker lug. Both lug styles provide a quick connection to hydrants and washdown equipment. Tighten with a hook-style spanner wrench (see Hydrant Wrenches on page 2756).

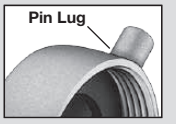

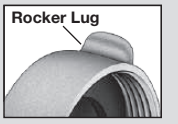

Note: Some of our fire-fighting hose adapters on page 281 have NPT threads. NPT is the accepted industry designation for pipe, not an actual size.

Fire-Fighting Hose



Hose meets NFPA (National Fire Protection Association) standards. It has a smooth interior and is suitable for outdoor use. Hose has one male threaded fitting and one easy-install female threaded fitting that swivels 360° until tightened. *Brass fittings* are more durable than aluminum fittings. *Aluminum fittings* are lighter than brass fittings.

Lightweight Hose—Also known as pin-rack hose, this hose can be folded to fit in a rack. Hose is polyurethane with a polyester cover. It is FM approved. Temperature range is -40° to 180° F.

Choose-a-Color Abrasion-Resistant Hose—Differentiate your hose by color. The abrasion-resistant polyester cover on this hose comes in red, white, or yellow. Hose is EPDM rubber. It is UL listed and FM approved. Temperature range is -40° to 150° F.

Abrasion-Resistant Hose—Lightweight yet tough, this hose is EPDM rubber with an abrasion-resistant polyester cover. It is UL listed and FM approved, unless noted. Temperature range is -40° to 150° F.

Extra-Tough Hose—Two heavy duty polyester covers protect this hose. Hose is EPDM rubber. It is UL listed and FM approved, unless noted. Temperature range is -40° to 180° F.

Hose ID	Max. psi @ 72° F	Thread Size	Length, ft.	*Brass Pin-Lug Fittings* NH/NST	NPSH		*Brass Rocker-Lug Fittings* NH/NST	NPSH		*Aluminum Rocker-Lug Fittings* NH/NST	NPSH	
Lightweight—White												
1 1/2″	225	1 1/2″	50	6549T151	6549T152	$103.00	6549T153★	6549T154★	$93.50	6549T721	6549T722	$95.50
1 1/2″	225	1 1/2″	75	6549T161	6549T162	132.50	6549T163★	6549T164★	123.00	6549T731	6549T732	125.00
1 1/2″	225	1 1/2″	100	6549T172	6549T171	162.00	6549T173★	6549T174★	152.00	6549T741	6549T742	154.50
2 1/2″	225	2 1/2″	50	6549T541	6549T542	331.55	6549T543	6549T544	331.55			
2 1/2″	225	2 1/2″	75	6549T662	6549T661	459.58	6549T664	6549T663	459.58			
2 1/2″	225	2 1/2″	100	6549T581	6549T582	466.05	6549T583	6549T584	466.05			
Choose-a-Color Abrasion-Resistant—To Order: Please specify red, white, or yellow.												
1 1/2″	225	1 1/2″	50	6446T113	6446T114	207.80	6446T115	6446T116	207.80	6446T143	6446T144	154.87
1 1/2″	225	1 1/2″	75	6446T123	6446T124	237.95	6446T125	6446T126	237.95	6446T145	6446T146	185.02
1 1/2″	225	1 1/2″	100	6446T133	6446T134	275.71	6446T135	6446T136	275.71	6446T147	6446T148	247.00
Abrasion Resistant—White												
1″	270	1″	50							6446T681■	6446T682■	126.65
1″	270	1″	100							6446T691■	6446T692■	196.91
2 1/2″	225	2 1/2″	50	6446T21	6446T24	340.11	6446T46	6446T49	340.11			
2 1/2″	225	2 1/2″	75	6446T22	6446T25	407.51	6446T47	6446T51	407.51			
2 1/2″	225	2 1/2″	100	6446T23	6446T26	489.65	6446T48	6446T52	489.65			
Extra Tough—White												
1 1/2″	270	1 1/2″	50	6555T21	6555T24	275.47	6555T27	6555T31	275.47	6555T112■	6555T111■	195.78
1 1/2″	270	1 1/2″	100	6555T23	6555T26	441.56	6555T29	6555T33	441.56	6555T132■	6555T131■	351.56
2 1/2″	270	2 1/2″	50	6555T45	6555T48	431.89	6555T52	6555T55	454.11	6555T122■	6555T121■	286.20
2 1/2″	270	2 1/2″	100	6555T47	6555T51	646.49	6555T54	6555T57	646.49	6555T142■	6555T141■	504.85

★Has combination pin/rocker-lug fittings. ■Not UL listed or FM approved.

Racks and Reels for Fire-Fighting Hose



Rack (Hose Not Included)



Reel

A pivoting mounting bracket allows racks and reels to swing as the hose is released to prevent kinking. Material is steel. Color is red. Fasteners are not included.

Racks are for use with foldable lightweight fire-fighting hose (also known as pin-rack hose). The mounting bracket has four 1/2″ dia. mounting holes. **Reels** allow quick winding and unwinding of hose; the mounting bracket has four 3/8″ dia. mounting holes. **Covers** are red vinyl-coated nylon and have "Fire Hose Keep Clear" printed on them.

For Hose ID	*Hose Capacity* Light-weight	Abrasion Resistant	Extra Tough	*Racks/Reels* Wd.	Ht.	Extended Dp.	Racks and Reels		Covers	
Rack										
1 1/2″	150 ft.	Not Rated	Not Rated	6″	1 1/2″	20″	6465T13	$145.07	6465T21	$39.52
Reels										
1 1/2″ to 1 3/4″	150 ft.	75 ft.	50 ft.	6 1/4″	18″	23 1/2″	6464T11	164.29	6464T21	29.40
1 1/2″ to 1 3/4″	200 ft.	100 ft.	75 ft.	6 1/4″	24″	29″	6464T12	197.62	6464T22	35.02
2″ to 2 1/2″	200 ft.	100 ft.	75 ft.	8 1/2″	24″	29″	6464T13	285.71	6464T23	37.50

For information about pipe size and threads, see pages 2-3. For more information about fire-fighting hose, see page 280.

Fire-Fighting Hose Fittings

Fittings are brass. **Rocker lugs** and **pin lugs** provide a quick connection to hydrants and washdown equipment. Tighten with a hook-style spanner wrench. *Easy-install fittings* swivel until tightened to prevent twisting and kinking.

Fire-Fighting Hose Fittings

Male × Male



Thread or Pipe Size		
NH/NST × NH/NST		
1½″ × 1½″	6523T24	$40.37
2½″ × 1½″	6523T53	89.60
2½″ × 2½″	6523T54	54.94
NH/NST × NPSH		
¾″ × ¾″	6523T61	39.14
1½″ × 1½″	6523T51	45.60
NH/NST × NPT		
1″ × 1	6523T17	31.28
1½″ × 1	6523T33	38.22
1½″ × 1½	6523T11	22.29
1½″ × 2	6523T28	31.58
1½″ × 2½	6523T13	82.18
2½″ × 1½	6523T35	86.78
2½″ × 2	6523T46	48.45
2½″ × 2½	6523T14	59.36
2½″ × 3	6523T56	81.99
3″ × 3	6523T57	101.11
NPSH × NPT		
1½″ × 1½	6523T23	22.59

Male × Female



Thread or Pipe Size		
NPT × NH/NST		
1½ × ¾″	6523T64	$48.40
1½ × 1½″	6523T52	28.56
1½ × 2½″	6523T36	63.24
2½ × 2½″	6523T55	57.87
3 × 3″	6523T58	106.89
NPT × NPSH		
1½ × ¾″	6523T62	48.40
1½ × 1½″	6523T38	32.10
NH/NST × NH/NST		
1½″ × 2½″	6523T26	65.56
NH/NST × NPSH		
1½″ × 1½″	6523T12	31.42
NH/NST × NPT		
1½″ × 1	6523T43	30.47
1½″ × 1½	6523T16	20.62
2½″ × 1½	6523T45	57.31
2½″ × 2	6523T49	80.00
2½″ × 2½	6523T19	61.82
NPSH × NH/NST		
1½″ × 1½″	6523T25	28.56

Pin-Lug Easy-Install Fire-Fighting Hose Adapters

Male × Easy-Install Female



Thread or Pipe Size		
NPT × NH/NST		
1½ × 1½″	6494T61	$61.80
2 × 2½″	6494T72	77.75
2½ × 2½″	6494T63	106.17

Easy-Install Female × Female



Thread or Pipe Size		
NH/NST × NPT		
1½″ × 1½	6494T64	$50.18
2½″ × 2	6494T66	85.35
2½″ × 2½	6494T73	103.11

Easy-Install Female × Easy-Install Female



Thread or Pipe Size		
NH/NST × NH/NST		
2½″ × 2½″	6494T34	$130.56

Rocker-Lug Fire-Fighting Hose Adapters

Male × Female



Thread or Pipe Size		
NPT × NH/NST		
1 × 1½″	6524T13	$44.04
1 × 2½″	6524T18	56.54
1½ × 1½″	6524T19	46.25
2 × 2½″	6524T26	54.45
2½ × 2½″	6524T27	63.82
NH/NST × NH/NST		
1″ × 1½″	6524T15	43.27
1″ × 2½″	6524T16	52.64
1½″ × 2½″	6524T22	56.03
2½″ × 1½″	6524T25	71.91

Thread or Pipe Size		
NH/NST × NPSH		
1½″ × 1½″	6524T17	$52.22
1½″ × 2½″	6524T14	47.53
NPSH × NH/NST		
1″ × 2½″	6524T11	64.33
1½″ × 2½″	6524T24	63.38
NPSH × NPSH		
1½″ × 2½″	6524T12	63.38

Rocker- and Pin-Lug Fire Hydrant Plugs and Caps

Rocker-lug plugs are brass. They have male threads and a 9″ chain. *Chicago Fire Department* plug fits holes with a maximum OD of 2.99″.

Rocker-lug caps are brass. They have female threads and a 9″ chain.

Pin-lug cap is aluminum. It has an adjustable bracket that snaps into 2½″ female hose threads. Tap on one end to remove quickly in an emergency. UL listed.



Rocker-Lug Plug



Rocker-Lug Cap



Pin-Lug Cap

Thread Size	Hose Connection Type		
Rocker-Lug Plugs			
1½″	NH/NST Threads	6527T16	$52.39
2½″	NH/NST Threads	6527T11	50.43
2½″	Chicago Fire Department Threads	6527T14	50.43
Rocker-Lug Caps			
1″	NH/NST Threads	6525T171	36.43
1½″	NH/NST Threads	6525T141	39.43
2½″	NH/NST Threads	6525T161	58.93
Pin-Lug Cap			
—	Snap On	6528T1	19.50

Nozzles for Fire-Fighting Hose

Spray and Stream

Twist the barrel to adjust water flow. Nozzles have a textured barrel for grip and a rubber bumper for impact resistance. They have female threads.



Red Polycarbonate



Brass



UL-Listed Brass

Thread Size	Thread Type	gpm @ 100 psi	Dia.	Lg.		
Red Polycarbonate						
¾″	NPSH	8	2¾″	4¾″	6469T532	$17.82
1″	NH/NST	22	2¾″	4¾″	6469T441	17.82
1″	NPSH	22	2¾″	4¾″	6469T442	17.82
1½″	NH/NST	75	2¾″	4⅝″	6469T231	18.29
1½″	NPSH	75	2¾″	4⅝″	6469T241	18.08
2″	NPSH	140	3¼″	5⅜″	6469T48	55.77
Brass						
1½″	NH/NST	95	2½″	3½″	6480T1	75.07
1½″	NPSH	95	2½″	3½″	6480T12	75.07
UL-Listed Brass						
1½″	NH/NST	95	2⅞″	5″	6470T32	125.88
1½″	NPSH	95	2⅞″	5″	6470T34	136.00

Quick-Flow Stream

There's no shut-off valve on these nozzles, so they provide instant water flow. Nozzles have female threads.



Thread Size	Thread Type	gpm @ 100 psi	Dia.	Lg.	Spray End Dia.		
Red Plastic							
1½″	NH/NST	73	2 7/16″	10″	½″	6424T61	$10.13
1½″	NPSH	73	2 7/16″	10″	½″	6424T62	10.13
Brass							
1″	NH/NST	28	1⅜″	8″	5/16″	6484T15	13.84
1″	NPSH	28	1 19/64″	8″	5/16″	6484T22	12.00
1½″	NH/NST	73	2″	10″	½″	6484T29	23.33
1½″	NPSH	73	1⅞″	10″	½″	6484T31	23.33
2½″	NH/NST	168	3 1/16″	12″	¾″	6484T44	52.56
2½″	NPSH	168	2 27/32″	12″	¾″	6484T46	52.56

Lever-Activated Stream

Use the lever to turn water flow on and off. A rubber bumper provides impact resistance. Nozzle is brass and has female threads.



Thread Size	Thread Type	gpm @ 100 psi	Dia.	Lg.	Spray End Dia.		
1½″	NH/NST	75	3¼″	9½″	½″	6479T5	$472.73
1½″	NPSH	75	3¼″	9½″	½″	6479T6	472.73

Air & Steam Hose

For information about pipe size and threads, see pages 2-3

How to Measure Threaded Pipe Size—Example shows pipe size of 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



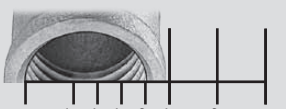

About Pressure Reductions for Extreme-Temperature Air and Steam Hose

We list the maximum pressure rating (max. psi) for constant flow at room temperature. If your application requires higher temperatures or different flow conditions you will need to adjust the maximum pressure rating of your hose.

1. To calculate the maximum pressure rating, first account for temperature. As the temperature increases, the amount of pressure a hose can withstand decreases. Multiply the max. psi listed for your hose by the factors below.

Temperature	Multiply Max. psi by
≤ 200° F	No change
201° to 400° F	0.93
401° to 800° F	0.74
801° to 1200° F	0.30

2. Adjust the pressure rating again based on your flow conditions. Round the final digit down to the nearest whole number.

Flow Conditions	Divide Max. psi by
Constant (no variations in pressure)	No change
Pulsating (periodic variations in pressure)	2
Shock (sharp spikes in pressure)	6

For example, if the max. psi listed is 3,000, and you are using the hose at 400° F under pulsating conditions, your calculation would be (3,000 × 0.93) ÷ 2 = 1,395 max. psi.

Extreme-Temperature Air and Steam Hose

- Use with air, steam, and mineral oil
- Temperature Range: -325° to 1200° F

Braided stainless steel construction gives this hose flexibility and makes it tough enough to handle extreme temperatures, as well as vibration. Vacuum rating is 29" Hg @ 72° F. Hose has a ribbed interior. Suitable for outdoor use.

Corrosion Resistant—Hose is 321 stainless steel with 304 stainless steel braid and fittings.

Chemical Resistant—Hose is 316 stainless steel with a 304 stainless steel braid and 316 stainless steel fittings. It offers a wider range of chemical compatibility than corrosion-resistant hose. Use with chemicals such as phosphoric acid (25%), sodium hydroxide (10%), and isopropyl alcohol.

High-Pressure Corrosion Resistant—Hose is 321 stainless steel with a 321 stainless steel braid and 304 stainless steel fittings. It is double-braided to withstand higher pressures.

Extra-flexible hose allows for misalignment and is easy to bend.

For information about chemical compatibility, go to mcmaster.com and search for the part number.

Hose with Male Threaded Fittings

Fittings have NPT threads.

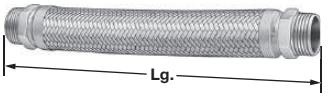

Pipe Size	Max. psi @ 72° F	Hose OD	Flexible Bend Radius		12"	18"	24"	36"	Other Lengths	Extra Flexible Bend Radius		12"	18"	24"	36"	Other Lengths
Corrosion Resistant																
1/4	1,800	1/2"	4 1/2"	5680K61	$30.76	$33.28	$35.80	$40.84	7"-120"	3 11/16"	54875K31	$40.17	$48.45	$56.73	$73.29	7"-120"
3/8	1,550	3/4"	5"	5680K12	32.93	36.35	39.77	46.61	7"-120"	4"	54875K13	45.43	53.95	62.47	79.51	7"-120"
1/2	1,180	7/8"	5 1/2"	5680K13	35.48	39.20	42.92	50.36	7"-120"	4 3/8"	54875K15	50.59	58.51	66.43	82.27	7"-120"
3/4	890	1 1/4"	8"	5680K64	43.00	47.74	52.48	61.96	9"-120"	6 3/8"	54875K17	58.95	69.15	79.35	99.75	9"-120"
1	710	1 1/2"	9"	5680K15	49.94	56.00	62.06	74.18	9"-120"	7 1/16"	54875K19	71.16	83.04	94.92	118.68	9"-120"
1 1/4	640	1 7/8"	10"	5680K16	71.52	79.26	87.00	102.48	9"-120"	7 7/8"	54875K21	71.63	86.75	101.87	132.11	9"-120"
1 1/2	530	2 1/4"	11"	5680K17	81.50	90.38	99.26	117.02	10"-120"	8 11/16"	54875K23	80.12	98.18	116.24	152.36	10"-120"
2	440	2 3/4"	13"	5680K68	101.29	112.99	124.69	148.09	11"-120"	10 5/16"	54875K25	98.16	118.98	139.80	181.44	11"-120"
2 1/2	410	3 1/2"	16"	5680K19	159.55	176.65	193.75	227.95	12"-120"	12 7/8"	54875K51	146.35	176.85	194.05	251.32	12"-120"
3	340	4"	18"	5680K2	190.02	207.96	225.90	261.78	12"-120"	14 1/2"	54875K53	180.77	215.93	234.65	299.34	12"-120"
4	290	5 1/8"	22"	5680K3	265.56	297.12	328.68	391.80	12"-120"	17 1/2"	54875K55	246.75	285.00	310.26	373.91	12"-120"
Chemical Resistant																
1/4	1,800	1/2"	4 1/2"	5793K61	34.60	37.18	39.76	44.92	7"-120"	3 11/16"	5301T41	44.04	51.12	58.20	72.36	7"-120"
3/8	1,550	3/4"	5"	5793K12	39.27	42.93	46.59	53.91	7"-120"	4"	5301T42	49.72	57.46	65.20	80.68	7"-120"
1/2	1,180	7/8"	5 1/2"	5793K13	46.92	51.48	56.04	65.16	7"-120"	4 3/8"	5301T43	56.06	63.80	71.54	87.02	7"-120"
3/4	890	1 1/4"	8"	5793K64	55.29	61.17	67.05	78.81	9"-120"	6 3/8"	5301T44	65.40	74.28	83.16	100.92	9"-120"
1	710	1 1/2"	9"	5793K15	74.98	82.42	89.86	104.74	9"-120"	7 1/16"	5301T45	79.30	90.04	100.78	122.26	9"-120"
1 1/4	640	1 7/8"	10"	5793K16	80.44	89.38	98.32	116.20	9"-120"	7 7/8"	5301T46	80.48	95.90	111.32	142.16	9"-120"
1 1/2	530	2 1/4"	11"	5793K17	91.05	101.37	111.69	132.33	10"-120"	8 11/16"	5301T47	90.67	107.53	124.39	158.11	10"-120"
2	440	2 3/4"	13"	5793K68	137.89	150.37	162.85	187.81	11"-120"	10 5/16"	5301T48	108.62	128.36	148.10	187.58	11"-120"
2 1/2	410	3 1/2"	16"	5793K19	176.59	195.79	214.99	253.39	12"-120"	12 7/8"	5301T73	181.12	201.76	222.40	263.68	12"-120"
3	340	4"	18"	5793K2	210.51	230.61	250.71	290.91	12"-120"	14 1/2"	5301T75	229.18	251.50	273.82	318.46	12"-120"
4	290	5 1/8"	22"	5793K3	294.82	328.48	362.14	429.46	12"-120"	17 1/2"	5301T77	290.27	318.42	346.56	402.85	12"-120"
High-Pressure Corrosion Resistant																
3/4	3,600	1 3/8"	10"	5615K11	81.20	108.50	135.80	190.40	9"-120"							
1	3,000	1 3/4"	11"	5615K21	97.83	132.93	168.03	238.23	9"-120"							
1 1/4	2,600	2"	12 1/2"	5615K31	125.80	167.74	209.68	293.56	9"-120"							
1 1/2	2,200	2 3/8"	13"	5615K41	137.13	182.07	227.01	316.89	10"-120"							
2	1,650	2 7/8"	14"	5615K51	199.72	260.92	322.12	444.52	12"-120"							
2 1/2	1,050	3 5/8"	16"	5615K52	—	359.40	429.40	569.38	14"-120"							
3	900	4"	20"	5615K53	—	422.68	497.28	646.50	14"-120"							
4	850	5 1/8"	26"	5615K54	—	577.02	693.38	926.13	14"-120"							

(Continued on following page)

For information about pipe size and threads, see pages 2-3. For information about pressure ratings for hose, see page 282.

For information about chemical compatibility, go to mcmaster.com and search for the part number.

Extreme-Temperature Air and Steam Hose *(Continued from previous page)*

Hose with Male Threaded Fitting and Female Threaded Union

Threads are NPT. Female threaded unions have a nut that unthreads for easy access to your line.

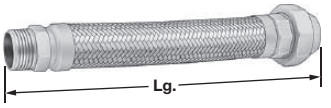

Pipe Size	Max. psi @ 72°F	Hose OD	Flexible Bend Radius		12″	18″	24″	36″	Other Lengths	Extra Flexible Bend Radius		12″	18″	24″	36″	Other Lengths
Corrosion Resistant																
1/4	300	1/2″	4 1/2″	5676T72	$37.64	$40.10	$42.56	$47.48	7″-120″	3 11/16″	54905K27	$47.81	$56.09	$64.37	$80.93	7″-120″
3/8	300	3/4″	5″	5676T32	44.04	47.46	50.88	57.72	7″-120″	4″	54905K29	52.97	61.49	70.01	87.05	7″-120″
1/2	300	7/8″	5 1/2″	5676T33	48.22	51.94	55.66	63.10	7″-120″	4 3/8″	54905K32	58.14	66.06	73.98	89.82	7″-120″
3/4	300	1 1/4″	8″	5676T74	59.97	64.71	69.45	78.93	9″-120″	6 3/8″	54905K34	67.78	77.98	88.18	108.58	9″-120″
1	300	1 5/8″	9″	5676T35	70.08	76.14	82.20	94.32	9″-120″	7 1/16″	54905K36	86.23	98.11	109.99	133.75	9″-120″
1 1/4	300	1 7/8″	10″	5676T36	96.87	104.61	112.35	127.83	9″-120″	7 7/8″	54905K38	102.32	117.44	132.56	162.80	9″-120″
1 1/2	300	2 1/4″	11″	5676T37	107.42	116.30	125.18	142.94	10″-120″	8 11/16″	54905K52	114.52	132.58	150.64	186.76	10″-120″
2	300	2 3/4″	13″	5676T78	130.73	142.43	154.13	177.53	11″-120″	10 5/16″	54905K54	140.44	161.26	182.08	223.72	11″-120″
Chemical Resistant																
1/4	300	1/2″	4 1/2″	5793T66	46.44	49.64	54.27	62.72	7″-120″	3 11/16″	5301T61	52.05	59.13	66.21	80.37	7″-120″
3/8	300	3/4″	5″	5793T69	50.44	54.04	58.95	67.86	7″-120″	4″	5301T62	57.66	65.40	73.14	88.62	7″-120″
1/2	300	7/8″	5 1/2″	5793T71	52.96	56.62	61.66	70.77	7″-120″	4 3/8″	5301T63	64.37	72.11	79.85	95.33	7″-120″
3/4	300	1 1/4″	8″	5793T82	68.33	73.16	79.75	91.72	9″-120″	6 3/8″	5301T64	75.24	84.12	93.00	110.76	9″-120″
1	300	1 5/8″	9″	5793T84	81.13	87.11	95.20	109.91	9″-120″	7 1/16″	5301T65	95.56	106.30	117.04	138.52	9″-120″
1 1/4	300	1 7/8″	10″	5793T86	114.38	122.36	133.30	153.07	9″-120″	7 7/8″	5301T66	114.06	129.48	144.90	175.74	9″-120″
1 1/2	300	2 1/4″	11″	5793T38	130.78	139.67	151.93	174.09	10″-120″	8 11/16″	5301T67	126.55	143.41	160.27	193.99	10″-120″
2	300	2 3/4″	13″	5793T39	148.23	159.17	173.72	200.33	11″-120″	10 5/16″	5301T68	154.75	174.49	194.23	233.71	11″-120″

Hose with Female Threaded Unions

Unions have NPT threads; they have a nut that unthreads for easy access to your line.



Pipe Size	Max. psi @ 72°F	Hose OD	Bend Radius		12″	18″	24″	30″	36″	42″	48″	54″	60″	Other Lengths
Corrosion Resistant														
1/4	300	1/2″	4 1/2″	5676T22	$44.36	$47.18	$49.97	$52.82	$55.64	$58.46	$61.28	$64.10	$66.92	7″-120″
3/8	300	3/4″	5″	5676T24	46.94	49.88	52.82	55.76	58.70	61.64	64.58	67.52	70.46	7″-120″
1/2	300	7/8″	5 1/2″	5676T26	47.82	50.82	53.82	56.82	59.82	62.82	65.82	68.82	71.82	7″-120″
3/4	300	1 1/4″	8″	5676T28	61.10	65.00	68.90	72.80	76.70	80.60	84.50	88.40	92.30	9″-120″
1	300	1 5/8″	9″	5676T38	76.28	81.32	86.36	91.40	96.44	101.48	106.52	111.56	116.60	9″-120″
1 1/4	300	1 7/8″	10″	5676T46	98.02	104.74	111.46	118.18	124.90	131.62	138.34	145.06	151.78	9″-120″
1 1/2	300	2 1/4″	11″	5676T48	105.30	112.80	120.30	127.80	135.30	142.80	150.30	157.80	165.30	10″-120″
2	300	2 3/4″	13″	5676T56	127.64	137.66	147.68	157.70	167.72	177.74	187.76	197.78	207.80	11″-120″
Chemical Resistant														
1/4	300	1/2″	4 1/2″	5793T12	50.70	53.76	56.82	59.88	62.94	66.00	69.06	72.12	75.18	7″-120″
3/8	300	3/4″	5″	5793T14	52.90	56.14	59.38	62.62	65.86	69.10	72.34	75.58	78.82	7″-120″
1/2	300	7/8″	5 1/2″	5793T16	55.86	59.16	62.46	65.76	69.06	72.36	75.66	78.96	82.26	7″-120″
3/4	300	1 1/4″	8″	5793T18	68.90	73.22	77.54	81.86	86.18	90.50	94.82	99.14	103.46	9″-120″
1	300	1 5/8″	9″	5793T22	85.72	91.06	96.40	101.74	107.08	112.42	117.76	123.10	128.44	9″-120″
1 1/4	300	1 7/8″	10″	5793T24	111.58	118.72	125.86	133.00	140.14	147.28	154.42	161.56	168.70	9″-120″
1 1/2	300	2 1/4″	11″	5793T26	120.27	128.31	136.35	144.39	152.43	160.47	168.51	176.55	184.59	10″-120″
2	300	2 3/4″	13″	5793T28	148.93	159.43	169.93	180.43	190.93	201.43	211.93	222.43	232.93	11″-120″

Hose with Male and 37° Flared Easy-Install Female Threaded Fittings

Male threaded fittings have NPT threads. *37° flared easy-install female threaded fittings* are also known as JIC (Joint Industrial Council) fittings; they swivel 360° until tightened and have UNF straight threads.



Pipe Size	Thread Size	Max. psi @ 72°F	Hose OD	Bend Radius		12″	18″	24″	30″	36″	42″	48″	54″	60″	Other Lengths
Corrosion Resistant															
1/4	7/16″-20	2,700	1/2″	4 1/2″	5676T82	$50.44	$54.76	$59.08	$63.40	$67.72	$72.04	$76.36	$80.68	$85.00	7″-120″
3/8	9/16″-18	2,330	3/4″	5″	5676T84	55.80	60.30	64.80	69.30	73.80	78.30	82.80	87.30	91.80	7″-120″
1/2	3/4″-16	1,770	7/8″	5 1/2″	5676T12	61.49	66.05	70.61	75.17	79.73	84.29	88.85	93.41	97.97	7″-120″
3/4	1 1/16″-12	1,340	1 1/4″	8″	5676T13	84.82	90.94	97.06	103.18	109.30	115.42	121.54	127.66	133.78	9″-120″
1	1 5/16″-12	1,070	1 5/8″	9″	5676T14	111.67	119.17	126.67	134.17	141.67	149.17	156.67	164.17	171.67	9″-120″
1 1/2	1 7/8″-12	790	2 1/4″	11″	5676T15	210.24	221.22	232.20	243.18	254.16	265.14	276.12	287.10	298.08	10″-120″
2	2 1/2″-12	670	2 3/4″	13″	5676T16	289.16	304.22	319.28	334.34	349.40	364.46	379.52	394.58	409.64	11″-120″
Chemical Resistant															
1/4	7/16″-20	2,700	1/2″	4 1/2″	5793T62	55.31	59.45	63.59	67.73	71.87	76.01	80.15	84.29	88.43	7″-120″
3/8	9/16″-18	2,330	3/4″	5″	5793T64	60.38	64.70	69.02	73.34	77.66	81.98	86.30	90.62	94.94	7″-120″
1/2	3/4″-16	1,770	7/8″	5 1/2″	5793T91	67.40	72.32	77.24	82.16	87.08	92.00	96.92	101.84	106.76	7″-120″
3/4	1 1/16″-12	1,340	1 1/4″	8″	5793T92	93.10	99.76	106.42	113.08	119.74	126.40	133.06	139.72	146.38	9″-120″
1	1 5/16″-12	1,070	1 5/8″	9″	5793T93	123.74	131.90	140.06	148.22	156.38	164.54	172.70	180.86	189.02	9″-120″
1 1/2	1 7/8″-12	790	2 1/4″	11″	5793T94	232.05	244.23	256.41	268.59	280.77	292.95	305.13	317.31	329.49	10″-120″
2	2 1/2″-12	670	2 3/4″	13″	5793T95	317.07	333.45	349.83	366.21	382.59	398.97	415.35	431.73	448.11	11″-120″

How to Measure Threaded Pipe Size—Example shows pipe size of 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

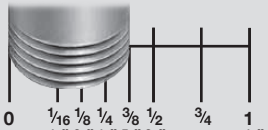

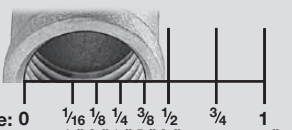

Extreme-Temperature Air and Steam Hose with Flanges CAD

- Use with air, steam, and mineral oil
- Temperature Range:
  -20° to 950° F (Corrosion Resistant);
  -325° to 1200° F (Chemical Resistant)

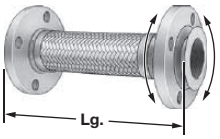

Hose with fixed flange and easy-install flange.

Braided stainless steel construction gives this hose moderate flexibility and makes it tough enough to handle extreme temperatures, as well as vibration. Bolt the flanged ends to pumps and tanks. You'll need a gasket to seal the connection. For gaskets, see pages 3529-3534; for bolts, see pages 3179-3181. Flanges are unthreaded ANSI Class 150. *Easy-install flanges* rotate 360° for easy alignment to bolt holes. Vacuum rating is 29" Hg @ 72° F. Hose has a ribbed interior. Suitable for outdoor use.

Corrosion Resistant—Hose is 321 stainless steel with a 304 stainless steel braid and steel fittings, except male fittings are 304 stainless steel.

Chemical Resistant—Hose is 316 stainless steel with a 304 stainless steel braid and 316 stainless steel fittings. It offers a wider range of chemical compatibility than corrosion-resistant hose. Use with chemicals such as phosphoric acid (25%), sodium hydroxide (10%), and isopropyl alcohol.

For information about chemical compatibility, go to mcmaster.com and search for the part number.

Pipe Size	Flange OD	Max. psi @ 72° F	Hose OD	Bend Radius	Bolt Circle Dia.	No. of Bolt Holes	Fixed Flange and Easy-Install Flange	12"	24"	Other Lengths	Easy-Install Flanges	12"	24"	Other Lengths
Corrosion Resistant														
1	4 1/4"	285	1 1/2"	9"	3 1/8"	4	5676T62	$105.98	$116.06	10"-120"	5676T66	$127.14	$136.56	10"-120"
1 1/2	5"	285	2 1/4"	11"	3 7/8"	4	5676T64	114.02	129.02	10"-120"	5676T68	152.18	167.14	10"-120"
2	6"	285	2 3/4"	13"	4 3/4"	4	5676T1	134.90	158.30	12"-120"	5676T71	181.38	201.38	12"-120"
2 1/2	7"	285	3 1/2"	16"	5 1/2"	4	5676T2	188.37	215.37	12"-120"	5676T75	____	286.48	14"-120"
3	7 1/2"	285	4"	18"	6"	4	5676T3	204.11	239.99	12"-120"	5676T86	____	304.58	14"-120"
4	9"	285	5 1/8"	22"	7 1/2"	8	5676T4	262.62	325.74	12"-120"	5676T87	____	398.20	14"-120"
6	11"	285	7 1/4"	32"	9 1/2"	8	5676T58	____	730.22	14"-120"	5676T91	____	740.80	16"-120"
Chemical Resistant														
1	4 1/4"	275	1 1/2"	9"	3 1/8"	4	5626K67	137.38	146.55	10"-120"	5626K87	155.44	164.60	10"-120"
1 1/2	5"	275	2 1/4"	11"	3 7/8"	4	5626K69	187.80	202.35	10"-120"	5626K89	208.55	223.09	10"-120"
2	6"	275	2 3/4"	13"	4 3/4"	4	5626K72	231.49	250.58	12"-120"	5626K91	255.05	274.15	12"-120"
2 1/2	7"	275	3 1/2"	16"	5 1/2"	4	5626K74	373.44	400.35	12"-120"	5626K93	____	432.44	14"-120"
3	7 1/2"	275	4"	18"	6"	4	5626K76	386.36	416.00	12"-120"	5626K95	____	451.35	14"-120"
4	9"	275	5 1/8"	22"	7 1/2"	8	5626K78	____	553.95	14"-120"	5626K97	____	601.55	14"-120"
6	11"	275	7 1/4"	32"	9 1/2"	8	5626K81	____	919.40	14"-120"	5626K99	____	995.18	16"-120"

Easy-Install Flange and Male Threaded Fitting

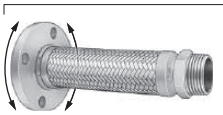

Choose a Pipe Size, NPT	Lengths	Corrosion Resistant	Chemical Resistant
1, 1 1/2, 2	12"-120"	5676T98	5626K65

Hose with Quick-Connect Fittings

- Temperature Range:
  -20° to 400° F (with fluoroelastomer gasket)
  -30° to 200° F (with Buna-N rubber gasket);
- Hose: 316 stainless steel with a 304 stainless steel braid

If you need to access your line frequently, the fittings on this hose connect and disconnect quickly. Braided stainless steel construction gives this hose moderate flexibility and makes it tough enough to handle extreme temperatures, as well as vibration. Hose has a ribbed interior. Not suitable for outdoor use. Fittings are 316 stainless steel.

Extreme-Temperature Steam Hose with Quick-Clamp Sanitary Fittings—This hose is often installed to temporarily replace sanitary hose during maintenance and cleaning cycles. The fittings are also known as tri-clamp fittings and attach to other quick-clamp fittings with a gasket and a clamp. Steam applications require a fluoroelastomer gasket. For gaskets, clamps, and information about quick-clamp sanitary fittings, see page 228.

Vibration-Resistant Medium-Pressure Water Hose with Cam-and-Groove Socket and Plug— To connect fittings, insert the plug into the socket and push the levers down. Sockets have a Buna-N rubber gasket. Vacuum rating is 29" Hg @ 72° F.

Extreme-Temperature Steam Hose with Quick-Clamp Sanitary Fittings



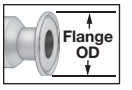

Flange OD	Maxi. psi @ 72° F	Hose OD	Bend Radius		12"	18"	24"	30"	36"	42"	48"	Other Lengths
0.984"	1,500	7/8"	5 1/2"	1111N11	$89.80	$94.16	$98.52	$102.87	$107.22	$111.58	$115.94	12"-120"
0.984"	1,340	1 1/4"	8"	1111N13	97.28	103.22	109.16	115.10	121.04	126.30	132.16	12"-120"
1.984"	1,070	1 5/8"	9"	1111N15	103.52	110.86	117.52	124.68	131.86	139.04	146.22	12"-120"
1.984"	790	2 1/4"	11"	1111N17	136.84	146.88	157.58	168.30	179.00	189.70	200.40	12"-120"
2.516"	670	2 3/4"	13"	1111N19	158.98	173.38	187.78	202.18	216.58	230.98	245.38	12"-120"

Vibration-Resistant Medium-Pressure Water Hose with Cam-and-Groove Socket and Plug



Coupling Size	Max. psi @ 72° F	Hose OD	Bend Radius		12"	18"	24"	36"	Other Lengths
3/4	250	1 1/4"	8"	1111N21	$205.16	$209.58	$214.00	$222.82	12"-120"
1	250	1 1/2"	9"	1111N23	213.76	219.26	224.76	235.74	12"-120"
1 1/2	250	2 1/4"	11"	1111N25	274.36	282.66	290.96	305.88	12"-120"
2	250	2 3/4"	13"	1111N27	____	315.66	324.88	345.88	18"-120"

Vibration-Resistant Water Hose

- Temperature Range: –50° to 800° F
- Hose: 304 stainless steel

Also known as pump connectors, hose is sized to specific lengths for attaching to pumps. Its flexible braided construction absorbs vibration to reduce wear on equipment. Vacuum rating is 28″ Hg @ 72° F. Hose has a ribbed interior. Suitable for outdoor use.

Standard hose has steel fittings. **Corrosion-resistant hose** has 304 stainless steel fittings.

Hose with Male Threaded Fittings

Fittings have NPT threads.

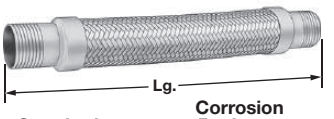

Pipe Size	Hose OD	Bend Radius	Max. psi @ 72° F	Length	Standard		Corrosion Resistant	
Medium Pressure								
1/2	3/4″	7″	990	6 1/2″	5468K21	$25.83	5468K91	$43.17
3/4	1″	9 1/2″	750	7″	5468K22	28.29	5468K92	47.69
1	1 3/8″	11″	600	8″	5468K13	36.22	5468K53	60.27
1 1/4	1 5/8″	12″	570	8 1/2″	5468K14	43.49	5468K54	76.32
1 1/2	1 7/8″	13″	410	9″	5468K25	49.15	5468K95	84.30
2	2 1/2″	16″	450	10 1/2″	5468K16	58.54	5468K56	93.97
2 1/2	3 1/2″	18″	340	12″	5468K27	92.90	5468K97	146.32
3	4″	22″	290	14″	5468K18	104.30	5468K58	183.33
4	5″	26″	250	16″	5468K19	143.03	5468K59	262.73

Hose with Flanges

Flanges are unthreaded ANSI Class 150. To connect hose, bolt two same-size flanges together. You will need a gasket to complete the seal. For gaskets, see pages 3529-3534; for bolts, see pages 3179-3181.



Pipe Size	Hose OD	Flange OD	Bolt Circle Dia.	No. of Bolt Holes	Bend Radius	Max. psi @ 72° F	Length	Standard		Corrosion Resistant	
Low Pressure											
6	7 1/8″	11″	9 1/2″	8	41″	210	11″	5468K36	$241.02	5468K89	$617.69
8	9 1/4″	13 1/2″	11 3/4″	8	50″	230	12″	5468K41	548.76	5468K42	1,272.18
Medium Pressure											
2	2 1/2″	6″	4 3/4″	4	16″	450	9″	5468K31	96.47	5468K71	261.74
2 1/2	3 1/2″	7″	5 1/2″	4	18″	340	9″	5468K78	130.44	5468K72	287.08
3	4″	7 1/2″	6″	4	22″	290	9″	5468K33	117.25	5468K73	314.40
4	5″	9″	7 1/2″	8	26″	250	9″	5468K34	151.64	5468K74	416.71

Hose with Reducing Flanges

Flanges are unthreaded ANSI Class 150. To connect hose, bolt two same-size flanges together. You will need a gasket to complete the seal. For gaskets, see pages 3529-3534; for bolts, see pages 3179-3181.

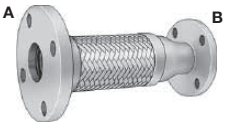

Pipe Size (A)	Pipe Size (B)	Hose OD	Flange OD (A)	Flange OD (B)	Bolt Circle Dia. (A)	Bolt Circle Dia. (B)	No. of Bolt Holes (A)	No. of Bolt Holes (B)	Bend Radius	Max. psi @ 72° F	Length	Standard		Corrosion Resistant	
Low Pressure															
4	2	5″	9″	6″	7 1/2″	4 3/4″	8	4	26″	240	13″	5468K45	$197.04	5468K46	$490.00
4	3	5″	9″	7 1/2″	7 1/2″	6″	8	4	26″	240	13″	5468K47	195.07	5468K48	504.00
6	4	7 1/8″	11″	9″	9 1/2″	7 1/2″	8	8	41″	180	17″	5468K49	302.88	5468K94	665.45
8	6	9 1/4″	13 1/2″	11″	11 3/4″	9 1/2″	8	8	50″	230	18″	5468K93	542.22	5468K96	1,330.00
Medium Pressure															
3	2	4″	7 1/2″	6″	6″	4 3/4″	4	4	22″	290	13″	5468K43	151.12	5468K44	419.00

Vibration-Resistant Water Hose with Solder-Connect Tube Fittings

- Temperature Range: –420° to 450° F
- Hose: Bronze

Flexible braided construction allows this hose to absorb vibration to reduce wear on equipment. To make a connection, insert the copper tube on the ends of this hose into the socket end of a tube fitting and solder together for a permanent connection. Hose is bronze, which is compatible with copper and offers good corrosion resistance. Copper tube size is the accepted designation of the copper tube industry, not the actual tube OD. Vacuum rating is 29″ Hg @ 72° F. Hose has a ribbed interior. Suitable for outdoor use. Hose is UL and C-UL recognized, except the hose with a copper tube size of 2 is not.



Copper Tube Size	Actual Tube OD	Hose OD	Bend Radius	Max. psi @ 72° F	Length		
Low Pressure							
2	2 1/8″	2 1/2″	17″	190	20″	5611K34	$150.58
Medium Pressure							
1/8	1/4″	1/2″	5 1/2″	450	7 1/2″	5611K23	19.03
1/4	3/8″	3/4″	6″	450	8 1/4″	5611K24	22.03
3/8	1/2″	3/4″	6″	450	9″	5611K25	23.32
1/2	5/8″	7/8″	7″	450	9 3/4″	5611K26	27.13
5/8	3/4″	7/8″	7″	450	10″	5611K27	29.09
5/8	3/4″	1 1/8″	8″	440	11 1/4″	5611K28	37.85
3/4	7/8″	1 1/8″	8″	440	11 1/2″	5611K29	42.34
1	1 1/8″	1 3/8″	10″	400	13″	5611K31	53.01
1 1/4	1 3/8″	1 7/8″	12″	480	14 3/4″	5611K32	69.35
1 1/2	1 5/8″	2 1/4″	13 1/2″	420	17″	5611K33	90.50

Coolant Hose

For information about pipe size and threads, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size of 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

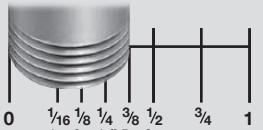

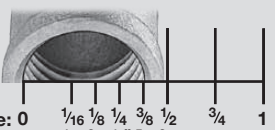

Coolant Hose



- Temperature Range: 0° to 210° F
- Hose: Blended rubber
- Color: Black with green stripe

Commonly known as radiator hose, this hose is for low-pressure coolant applications. It has a smooth interior and is reinforced with yarn. Hose can be used outdoors. It is not rated for vacuum or bend radius. Attach fittings with a worm-drive clamp (see pages 302-306).

Maximum continuous length is 25 ft.

Hose ID	Hose OD	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
5/8"	1"	55	5285K131	$9.24	$7.56
3/4"	1 1/8"	55	5285K132	9.46	7.74
7/8"	1 1/4"	55	5285K133	9.58	7.84
1"	1 3/8"	50	5285K134	9.88	8.08
1 1/8"	1 1/2"	50	5285K135	10.43	8.54
1 1/4"	1 5/8"	50	5285K136	10.57	8.64
1 3/8"	1 3/4"	50	5285K137	11.03	9.03
1 1/2"	1 7/8"	45	5285K138	11.85	9.69
1 5/8"	2"	45	5285K139	12.18	9.96
1 3/4"	2 1/8"	45	5285K151	12.39	10.14
1 7/8"	2 1/4"	45	5285K152	13.34	10.91
2"	2 3/8"	45	5285K153	14.52	11.88
2 1/8"	2 1/2"	40	5285K154	15.67	12.82
2 1/4"	2 5/8"	40	5285K155	14.93	12.36
2 3/8"	2 3/4"	35	5285K156	16.25	13.44
2 1/2"	2 7/8"	35	5285K157	$17.25	$14.28
2 5/8"	3"	35	5285K158	17.56	14.53
2 3/4"	3 1/8"	35	5285K159	18.61	15.40
2 7/8"	3 1/4"	35	5285K171	20.33	16.82
3"	3 3/8"	30	5285K172	20.72	17.14
3 1/8"	3 1/2"	30	5285K173	22.28	18.44
3 1/4"	3 5/8"	30	5285K111	23.58	19.52
3 1/2"	3 7/8"	25	5285K112	25.87	21.41
3 3/4"	4 1/8"	25	5285K113	28.07	23.23
4"	4 3/8"	15	5285K114	29.99	24.82
4 1/4"	4 5/8"	15	5285K115	31.50	26.07
4 1/2"	4 7/8"	15	5285K116	36.02	29.81
4 3/4"	5 1/8"	15	5285K117	40.25	33.31
5"	5 3/8"	15	5285K118	40.25	33.31
6"	6 3/8"	10	5285K119	56.01	46.35

High-Temperature Coolant Hose



- Temperature Range: -65° to 350° F
- Hose: Silicone rubber
- Color: Blue

Silicone rubber gives this hose, often called radiator hose, the ability to handle high-heat conditions. Hose has a smooth interior. Suitable for outdoor use. Not rated for vacuum. Maximum continuous length is 12 ft., unless noted. Attach fittings with a worm-drive clamp (see pages 302-306).

Standard hose is reinforced with yarn. Meets SAE J20R1 Class A.

Kink-resistant hose is reinforced with steel wire. Meets SAE J20R2 Class A.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-11	Per Ft. 12-Up
Standard Hose						
1/2"	7/8"	5 1/2"	110	5296K311	$11.74	$9.07
5/8"	1"	5 3/4"	90	5296K321	12.03	9.30
3/4"	1 1/8"	6"	80	5296K331	13.47	10.41
7/8"	1 1/4"	7"	80	5296K341	13.79	10.66
1"	1 3/8"	8"	75	5296K351	13.83	10.83
1 1/8"	1 1/2"	10"	75	5296K361	14.11	11.17
1 1/4"	1 5/8"	11"	65	5296K371	14.66	11.60
1 3/8"	1 3/4"	15"	65	5296K381	15.95	12.62
1 1/2"	1 7/8"	17"	60	5296K391	16.37	12.96
1 3/4"	2 1/8"	23"	55	5296K411	19.84	15.71
2"	2 3/8"	26"	50	5296K421	20.95	16.58
2 1/8"	2 1/2"	30"	50	5296K431	21.74	17.21
2 1/4"	2 5/8"	34"	40	5296K441	23.32	18.46
2 3/8"	2 3/4"	38"	40	5296K451	23.95	18.96
2 1/2"	2 7/8"	40"	35	5296K461	24.71	19.56
2 3/4"	3 1/8"	50"	30	5296K471	26.42	20.92
3"	3 3/8"	60"	25	5296K481	28.71	22.73
3 1/4"	3 5/8"	70"	25	5296K491	29.88	24.02
3 1/2"	3 7/8"	83"	15	5296K611	32.41	26.06
3 3/4"	4 1/8"	100"	10	5296K621	34.90	28.06
4"	4 3/8"	120"	10	5296K631	35.61	28.63
Standard Hose (Cont.)						
4 1/2"	4 7/8"	150"	10	5296K641	$44.56	$35.82
5"	5 3/8"	186"	10	5296K651	51.43	42.25
6"	6 3/8"	210"	5	5296K661★	56.02	——
Kink-Resistant Hose						
1/2"	7/8"	Not Rated	200	5591K11	12.59	10.34
5/8"	1"	Not Rated	200	5591K12	13.61	11.18
3/4"	1 1/8"	Not Rated	200	5591K13	14.61	12.00
1"	1 3/8"	Not Rated	170	5591K15	16.30	13.44
1 1/4"	1 5/8"	Not Rated	160	5591K17	17.83	14.76
1 3/8"	1 3/4"	Not Rated	160	5591K18	18.48	15.29
1 1/2"	1 7/8"	Not Rated	160	5591K19	19.25	15.93
1 3/4"	2 1/8"	Not Rated	150	5591K23	20.65	17.09
2"	2 3/8"	Not Rated	140	5591K25	22.65	18.74
2 1/4"	2 5/8"	Not Rated	120	5591K29	27.46	22.72
2 1/2"	2 7/8"	Not Rated	100	5591K56	30.10	24.91
2 3/4"	3 1/8"	Not Rated	100	5591K59	31.31	25.91
3"	3 3/8"	Not Rated	100	5591K82	35.33	29.24
3 1/2"	3 7/8"	Not Rated	85	5591K84	39.50	32.69
4"	4 3/8"	Not Rated	75	5591K86	44.83	37.10
4 1/2"	4 7/8"	Not Rated	55	5591K87	51.56	42.67
5"	5 3/8"	Not Rated	40	5591K88	54.80	45.67

★Maximum continuous length is 3 ft.

High-Temperature Vacuum-Rated Coolant Hose



- Temperature Range: -65° to 350° F
- Hose: Silicone rubber
- Color: Blue

Not only can this hose withstand high temperatures, it won't collapse in low-vacuum applications. It's also known as radiator hose. Hose meets SAE J20R3 Class A. It has a smooth interior and is reinforced with yarn. Suitable for outdoor use. Attach fittings with a worm-drive clamp (see pages 302-306).

Maximum continuous length is 50 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F	Vacuum @ 72° F		Per Ft. 1-49	Per Ft. 50-Up
1/4"	9/16"	1 3/8"	60	9.9	5133K21	$3.79	$2.93
3/8"	11/16"	2"	60	9.9	5133K22	4.56	3.52
1/2"	13/16"	2 1/4"	60	9.9	5133K23	5.91	4.57
5/8"	15/16"	2 3/8"	60	7.9	5133K24	6.15	4.75
3/4"	1 1/16"	4 1/4"	50	6.9	5133K25	6.53	5.11
1"	1 3/8"	5"	40	5.9	5133K26	8.63	6.83
1 1/4"	1 9/16"	6"	40	4.9	5133K27	12.05	9.54

Flexible Coolant Hose

- Temperature Range: -20° to 210° F
- Hose: Buna-N rubber
- Color: Black with yellow stripe

With a tighter bend radius than other coolant hose, this hose can easily twist and turn around equipment. It meets USCG (United States Coast Guard) Type A2. Hose has a smooth interior and is reinforced with yarn and steel wire. Suitable for outdoor use. Vacuum rating is 29″ Hg @ 72° F. Attach fittings with a worm-drive clamp (see pages 302-306).

Maximum continuous length is 25 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-24	Per Ft. 25-Up
1/2″	7/8″	2″	60	5727K41	$9.64	$7.89
5/8″	1″	2″	60	5727K42	9.86	8.07
3/4″	1 1/8″	3″	55	5727K43	9.95	8.14
7/8″	1 1/4″	3″	55	5727K44	10.34	8.46
1″	1 3/8″	3″	50	5727K45	10.60	8.69
1 1/8″	1 1/2″	3″	50	5727K46	11.00	9.00
1 1/4″	1 5/8″	3″	40	5727K47	11.56	9.46
1 3/8″	1 3/4″	4″	40	5727K48	12.50	10.23
1 1/2″	1 7/8″	4″	40	5727K49	12.84	10.35
1 5/8″	2″	5″	40	5727K51	12.61	10.44
1 3/4″	2 1/8″	5″	40	5727K52	$12.76	$10.56
1 7/8″	2 1/4″	5″	35	5727K91	14.21	11.76
2″	2 3/8″	6″	35	5727K53	14.82	12.26
2 1/8″	2 1/2″	6″	30	5727K54	15.85	13.12
2 1/4″	2 5/8″	6″	30	5727K55	16.05	13.29
2 3/8″	2 3/4″	7″	30	5727K56	16.39	13.56
2 1/2″	2 7/8″	8″	30	5727K57	21.92	18.14
3″	3 3/8″	13″	25	5727K58	25.09	20.76
3 1/2″	3 7/8″	14″	20	5727K92	28.37	23.48
4″	4 3/8″	15″	15	5727K59	30.91	25.58

High-Pressure Braided Coolant Hose

- Temperature Range: 5° to 200° F
- Hose: EPDM rubber with 304 stainless steel braid

Instead of a rubber cover, this hose has a stainless steel braid for excellent strength in high-pressure applications. Hose has a smooth interior. Suitable for outdoor use. Not rated for vacuum.

Hose comes with a male threaded fitting and an easy-install female threaded fitting attached. *Male threaded fittings* are brass and have NPT threads. *Easy-install female threaded fittings* swivel 360° until tightened. They are brass and have NPSM (National Pipe Straight Mechanical) threads, which are compatible with NPT and NPTF (Dryseal) threads. They have a fiber gasket.

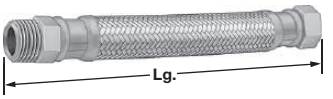

Pipe Size	Hose OD	Bend Radius	Max. psi @ 72° F		12″	18″	24″	30″	36″
1/2	11/16″	2 5/8″	350	5308K6	$13.26	$15.53	$19.43	$19.99	$22.70
3/4	1″	4 1/2″	300	5308K7	21.06	24.93	31.91	33.74	37.34
1	1 3/8″	5 1/2″	230	5308K8	38.82	44.63	49.74	55.13	64.97

Low-Pressure Chemical Hose

- Use with acetone, ethanol, methyl ethyl ketone (MEK), and xylene
- Temperature Range: -25° to 150° F
- Hose: Polyethylene with an EPDM rubber cover
- Color: Green with light green stripe

For excellent resistance against a wide range of chemicals, this polyethylene hose can't be beat. It has a smooth interior and is reinforced with yarn and steel wire. Suitable for outdoor use. Vacuum rating is 29″ Hg @ 72° F.

Cam-and-groove sockets and **plugs** come in aluminum or 316 stainless steel. *Aluminum couplings* are lightweight and have good corrosion resistance; *316 stainless steel couplings* have excellent corrosion resistance. To connect fittings, insert the plug into the socket and push the levers down.

ⓘ For information about chemical compatibility, go to mcmaster.com and search for the part number.

Hose

To attach your own fittings to the hose, you'll need a cam-and-groove hose fitting (see pages 339-349).

Maximum continuous length is 50 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-49	Per Ft. 50-Up
1/2″	1″	6″	150	5534K161	$12.60	$10.08
3/4″	1 1/4″	7″	150	5534K162	14.74	11.79
1″	1 1/2″	8″	150	5534K164	15.08	12.06
1 1/4″	1 3/4″	9″	150	5534K165	16.75	13.40
1 1/2″	2 1/16″	10″	150	5534K166	$17.48	$13.98
2″	2 5/8″	12″	150	5534K167	18.72	14.98
3″	3 5/8″	18″	150	5534K168	29.18	23.34
4″	4 11/16″	24″	150	5534K163	39.84	31.87

Hose with Cam-and-Groove Socket and Plug



Coupling Size	Max. psi @ 72° F		5 ft.	10 ft.	25 ft.	Other Lg., ft.
Aluminum Couplings						
1/2	150	5534K39■	$83.27	$146.27	$335.27	1 to 100
3/4	150	5534K41	93.88	167.58	388.68	1 to 100
1	150	5534K42	98.22	173.62	399.82	1 to 100
1 1/4	150	5534K43	113.11	196.86	448.11	1 to 100
1 1/2	150	5534K44	114.58	201.98	464.18	1 to 100
2	150	5534K45	127.96	221.56	502.36	1 to 100
3	150	5534K28	206.90	352.80	790.50	1 to 100
4	150	5534K29	289.20	488.40	1,086.00	1 to 100
316 Stainless Steel Couplings						
1/2	150	5534K51■	$115.45	$178.45	$367.45	1 to 100
3/4	150	5534K58	117.06	190.76	411.86	1 to 100
1	150	5534K52	133.85	209.25	435.45	1 to 100
1 1/4	150	5534K53	168.66	252.41	503.66	1 to 100
1 1/2	150	5534K54	184.58	271.98	534.18	1 to 100
2	150	5534K55	238.33	331.93	612.73	1 to 100
3	150	5534K26	408.17	554.07	991.77	1 to 100
4	150	5534K27	640.65	839.85	1,437.45	1 to 100

■Socket has one lever.

Chemical Hose

For information about pipe size and threads, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size of 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

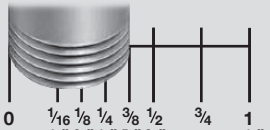



For information about chemical compatibility, go to mcmaster.com and search for the part number.

Flexible Low-Pressure Chemical Hose

- Use with acetone, carbon dioxide, ethanol, isopropyl alcohol and sodium hydroxide
- Temperature Range: -40° to 220° F
- Hose: EPDM rubber
- Color: Purple with yellow stripe

You don't need a lot of force to bend this hose. The extra flexibility makes it good for offset connections and tight spaces. Hose has a smooth interior and is reinforced with yarn and steel wire. Suitable for outdoor use. Vacuum rating is 29" Hg @ 72° F.

Male threaded fittings are 316 stainless steel and have NPT threads.

Cam-and-groove sockets and **plugs** are 316 stainless steel. To connect, insert the plug into the socket and push the levers down.

Hose



To attach your own fittings to the hose, you'll need a barbed hose fitting (see pages 314-318) and a clamp (see pages 302-313), or a cam-and-groove hose fitting (see pages 339-349).

Maximum continuous length is 100 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
1 1/2"	2 1/16"	4"	150	5797K1	$15.65	$12.54
2"	2 9/16"	5"	150	5797K2	19.92	15.94
3"	3 5/8"	7"	150	5797K3	28.82	23.05

Hose with Male Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		5 ft.	10 ft.	25 ft.	Other Lg., ft.
1 1/2	2 1/16"	150	5797K14	$164.65	$242.90	$477.65	1 to 100
2	2 9/16"	150	5797K15	211.42	311.02	609.82	1 to 100
3	3 5/8"	150	5797K16	441.34	585.44	1,017.74	1 to 100

Hose with Cam-and-Groove Socket and Plug



Coupling Size	Hose OD	Max. psi @ 72° F		5 ft.	10 ft.	15 ft.	20 ft.	25 ft.	Other Lg., ft.
1 1/2	2 1/16"	150	5797K24	$184.76	$263.01	$341.26	$419.51	$497.76	1 to 100
2	2 9/16"	150	5797K25	241.47	341.07	440.67	540.27	639.87	1 to 100
3	3 5/8"	150	5797K26	429.45	573.55	717.65	861.75	1,005.85	1 to 100

Medium-Pressure Chemical Hose

- Use with acetone and isopropyl alcohol
- Temperature Range: -30° to 160° F
- Hose: Nylon with a blended rubber cover
- Color: Red

Yarn reinforcement gives this hose good strength under pressure. Hose meets ARPM (Association of Rubber Products Manufacturers) Class B for oil resistance. It has a smooth interior. Suitable for outdoor use. Hose is not rated for vacuum.

Male threaded fittings are 316 stainless steel and have NPT threads.

Hose



To attach your own fittings to the hose, you'll need a barbed hose fitting (see pages 314-318) and a clamp (see pages 302-313).

Maximum continuous length is 50 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-49	Per Ft. 50-Up
1/4"	1/2"	2 1/2"	500	5264K61	$2.60	$2.08
3/8"	11/16"	3 1/2"	500	5264K65	3.62	2.90
1/2"	13/16"	4"	500	5264K66	4.80	3.84
3/4"	1 3/16"	6"	750	5264K67	5.97	4.78
1"	1 1/2"	7 1/2"	500	5264K68	10.72	8.58

Hose with Male Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		5 ft.	10 ft.	25 ft.	Other Lg., ft.
1/4	1/2"	250	5264K87	$37.47	$49.87	$87.07	1 to 50
3/8	11/16"	250	5264K88	44.88	62.13	113.88	1 to 50
1/2	13/16"	250	5264K89	57.86	80.71	149.26	1 to 50
3/4	1 3/16"	250	5264K91	68.98	98.83	188.38	1 to 50
1	1 1/2"	250	5264K92	106.03	157.13	310.43	1 to 50

Crush-Resistant Low-Pressure Chemical Hose

- Use with acetone, isopropyl alcohol, phosphoric acid, sodium hydroxide, toluene, and xylene
- Temperature Range: -40° to 180° F
- Hose: Polyethylene with an EPDM cover
- Color: Green with red stripe

Step on this hose and it springs back to its original shape. Multiple layers of polyethylene plus plastic spiral reinforcement gives it excellent crush and kink resistance. Hose has a smooth interior. Suitable for outdoor use. Vacuum rating is 29" Hg @ 72° F.

Cam-and-groove sockets and **plugs** are 316 stainless steel. To connect, insert the plug into the socket and push the levers down.

Hose



To attach your own fittings to the hose, you'll need a cam-and-groove hose fitting (see pages 339-349).

Maximum continuous length is 100 ft., except 3/4" and 3" ID hose, which have a maximum continuous length of 50 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
3/4"	1 1/4"	4"	200	5601K3	$8.63	$7.28
1"	1 1/2"	4"	200	5601K51	8.78	7.41
1 1/2"	2"	5"	200	5601K52	10.28	8.67
2"	2 11/16"	8"	200	5601K53	14.48	12.21
3"	3 11/16"	10"	200	5601K4	22.13	18.67

Hose with Cam-and-Groove Socket and Plug



Coupling Size	Max. psi @ 72° F		5 ft.	10 ft.	25 ft.	Other Lg., ft.
3/4	200	5601K24	$119.07	$157.58	$286.92	1 to 100
1	200	5601K25	130.55	174.45	306.15	1 to 100
1 1/2	200	5601K26	204.16	255.56	409.76	1 to 100
2	200	5601K27	278.92	351.32	568.52	1 to 100
3	200	5601K28	592.58	684.68	947.69	1 to 100

ⓘ For information about chemical compatibility, go to mcmaster.com and search for the part number.

High-Temperature Medium-Pressure Chemical Hose

- Use with acetone, isopropyl alcohol, toluene, and xylene
- Temperature Range: -40° to 350° F
- Hose: FEP with an EPDM rubber cover
- Color: Green with yellow stripe

Made of FEP (fluorinated ethylene propylene), this hose can stand up to chemicals at high temperatures. It has a smooth interior and is reinforced with yarn and steel wire. Suitable for outdoor use. Vacuum rating is 29″ Hg @ 72° F.

Male threaded fittings have NPT threads. *316 stainless steel fittings* have excellent corrosion resistance; *steel fittings* have excellent strength. Hose with steel fittings is approximately 20% less expensive than the hose with 316 stainless steel fittings.

Hose

To attach your own fittings to the hose, you'll need a barbed hose fitting (see pages 314-318) and a clamp (see pages 302-313).
Maximum continuous length is 50 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-49	Per Ft. 50-Up
3/4″	1 1/4″	4 1/8″	500	54675K242	$32.70	$26.75
1″	1 9/16″	5 3/4″	450	54675K243	36.21	30.35
1 1/2″	2 1/8″	10 1/2″	350	54675K244	54.96	44.98
2″	2 11/16″	13″	300	54675K245	71.23	58.27

Hose with Male Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		5 ft.	10 ft.	25 ft.	Other Lg., ft.
316 Stainless Steel Fittings							
1/2	15/16″	500	54675K41	$193.58	$327.18	$727.98	1 to 100
3/4	1 1/4″	500	54675K42	283.70	447.20	937.70	1 to 100
1	1 9/16″	450	54675K43	316.18	434.23	1,040.38	1 to 100
1 1/2	2 1/8″	350	54675K44	544.68	819.48	1,643.88	1 to 100
2	2 11/16″	300	54675K45	809.68	1,165.83	2,234.28	1 to 100

Steel Fittings— Choose a pipe size: 1/2, 3/4, 1, 1 1/2, or 2; and length up to 100 ft. 54675K711

Wear-Resistant Low-Pressure Chemical Hose

- Use with acetone, isopropyl alcohol, sodium hydroxide, toluene, and xylene
- Temperature Range: -40° to 160° F
- Hose: UHMW polyethylene with an EPDM rubber cover
- Color: Green with purple stripe

Expose this UHMW (ultra-high molecular weight) polyethylene hose to harsh physical conditions without worrying about it deteriorating or becoming brittle. It has a smooth interior and is reinforced with yarn and steel wire. Suitable for outdoor use. Vacuum rating is 28″ Hg @ 72° F.

Cam-and-groove sockets and **plugs** are 316 stainless steel. To connect, insert the plug into the socket and push the levers down.

Hose

To attach your own fittings to the hose, you'll need a cam-and-groove hose fitting (see pages 339-349).
Maximum continuous length is 50 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-49	Per Ft. 50-Up
3/4″	1 3/16″	4″	200	5095T21	$19.94	$15.94
1″	1 9/16″	5 1/2″	200	5095T22	19.54	15.64
1 1/4″	1 7/8″	6″	200	5095T23	20.49	16.40
1 1/2″	2 1/8″	7 1/2″	200	5095T24	20.52	16.42
2″	2 5/8″	8″	200	5095T25	20.82	16.66
2 1/2″	3 1/8″	8″	200	5095T26	26.98	21.58
3″	3 5/8″	9″	200	5095T27	30.32	24.26
4″	4 11/16″	15″	150	5095T38	39.56	32.97

Hose with Cam-and-Groove Socket and Plug



Coupling Size	Hose OD	Max. psi @ 72° F		5 ft.	10 ft.	25 ft.	Other Lg., ft.
3/4	1 3/16″	200	5095T41	$310.43	$410.13	$709.23	1 to 50
1	1 9/16″	200	5095T42	327.13	424.83	717.93	1 to 50
1 1/4	1 7/8″	200	5095T43	401.82	504.27	811.62	1 to 50
1 1/2	2 1/8″	200	5095T44	400.27	502.87	810.67	1 to 50
2	2 5/8″	200	5095T45	480.12	584.22	896.52	1 to 50
2 1/2	3 1/8″	200	5095T46	680.74	815.64	1,220.34	1 to 50
3	3 5/8″	200	5095T47	796.59	948.19	1,402.99	1 to 50
4	4 11/16″	150	5095T58	958.74	1,156.54	1,749.94	1 to 50

Extra-Flexible High-Pressure Braided Chemical Hose

- Use with liquid ammonia, acetone, isopropyl alcohol, methyl ethyl ketone (MEK), mineral oil and toluene
- Temperature Range: -65° to 400° F
- Hose: PTFE with a 304 stainless steel braid

The ribbed interior provides more flexibility than other chemical hose for applications involving frequent flexing and vibration. This heavy duty hose is PTFE with a stainless steel braid for more chemical resistance and better strength than other chemical hose. Suitable for outdoor use.

Male threaded fittings have NPT threads.

37° flared easy-install female threaded fittings are also known as JIC (Joint Industrial Council) fittings. They swivel 360° until tightened and have UNF threads.

Zinc-plated steel fittings have fair corrosion resistance; *316 stainless steel fittings* have excellent corrosion resistance.

Hose with Male Threaded Fittings

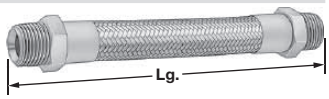

Pipe Size	Hose OD	Bend Radius	Max. psi @ 72° F	Vacuum @ 72° F		12″	18″	24″	Other Lengths
Zinc-Plated Steel Fittings									
1/2	3/4″	11/2″	1,250	28	54685K11	$121.64	$126.96	$135.80	12″-144″
3/4	1 1/16″	2 1/2″	1,100	28	54685K12	112.33	122.47	132.61	12″-144″
1	1 5/16″	3″	1,000	25	54685K13	129.93	142.47	155.01	12″-144″
316 Stainless Steel Fittings									
1/2	3/4″	11/2″	1,250	28	54685K31	150.99	158.07	165.15	12″-120″
3/4	1 1/16″	2 1/2″	1,100	28	54685K32	218.40	228.54	238.68	12″-120″
1	1 5/16″	3″	1,000	25	54685K33	319.29	331.83	344.37	12″-120″

Hose with 37° Flared Easy-Install Female Threaded Fittings



Choose a Thread Size (Hose OD)	Lengths	
Zinc-Plated Steel Fittings		
3/4″-16 (3/4″), 1 1/16″-12 (1 1/16″)	12″-96″	54685K1
316 Stainless Steel Fittings		
3/4″-16 (3/4″), 1 1/16″-12 (1 1/16″), 1 5/16″-12 (1 5/16″)	12″-96″	54685K2

Chemical Hose

For information about pipe size and threads, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size of 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
OD (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

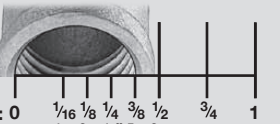

Pipe Size: 0 1/16 1/8 1/4 3/8 1/2 3/4 1
ID (to nearest 1/8"): 0 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4"

For information about chemical compatibility, go to mcmaster.com and search for the part number.

High-Pressure Braided Chemical Hose

- Use with acetone, ethanol, isopropyl alcohol, methyl ethyl ketone (MEK), mineral oil, toluene, and xylene
- Temperature Range: -65° to 450° F
- Hose: PTFE with a 304 stainless steel braid

This heavy duty hose is PTFE with a stainless steel braid for more chemical resistance and better strength than other chemical hose. Hose meets SAE 100R14. The interior is smooth. Hose can be used outdoors.

Male threaded fittings have NPT threads.

Easy-install threaded fittings swivel 360° until tightened. **37° flared easy-install female threaded fittings** are also known as JIC (Joint Industrial Council) fittings. They swivel 360° until tightened and have UNF straight threads.

Brass fittings have good corrosion resistance; *303 stainless steel fittings* have very good corrosion resistance.

Hose with Male Threaded Fittings

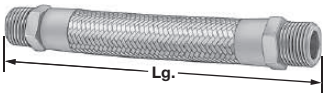

Pipe Size	Hose OD	Bend Radius	Max. psi @ 72° F	Vacuum @ 72° F	Brass Fittings	12"	18"	24"	Other Lengths	303 Stainless Steel Fittings	12"	18"	24"	Other Lengths
1/8	3/8"	2"	3,000	28	4468K131	$12.10	$13.54	$14.98	12"-240"	4552K101	$23.61	$25.05	$26.49	12"-240"
1/4	3/8"	3"	3,000	28	4468K132	15.52	17.38	19.24	12"-240"	4552K102	44.53	46.39	48.25	12"-240"
3/8	1/2"	4"	2,500	28	4468K133	19.60	21.82	24.04	12"-240"	4552K103	37.76	39.98	42.20	12"-240"
1/2	5/8"	6 1/2"	1,500	28	4468K134	32.23	34.93	37.63	12"-240"	4552K104	74.94	77.64	80.34	12"-240"
3/4	3/4"	7 3/4"	1,200	20	4468K135	56.67	60.57	64.47	12"-240"	4552K106	108.26	110.96	113.66	12"-240"
1	1"	9"	1,000	14	4468K136	86.73	92.49	98.25	12"-240"	4552K107	177.70	183.46	189.22	12"-240"

Hose with Male and Easy-Install Male Threaded Fittings



Pipe Size	Hose OD	Bend Radius	Max. psi @ 72° F	Vacuum @ 72° F	Brass Fittings	12"	18"	24"	Other Lengths	303 Stainless Steel Fittings	12"	18"	24"	Other Lengths
1/8	3/8"	2"	3,000	28	4468K441	$15.88	$17.32	$18.76	12"-240"	4552K121	$32.30	$33.74	$35.18	12"-240"
1/4	3/8"	3"	3,000	28	4468K442	28.67	30.53	32.39	12"-240"	4552K122	60.24	62.10	63.96	12"-240"
3/8	1/2"	4"	2,500	28	4468K443	26.29	28.51	30.73	12"-240"	4552K123	50.34	52.56	54.78	12"-240"
1/2	5/8"	6 1/2"	1,500	28	4468K444	43.33	46.03	48.73	12"-240"	4552K124	112.30	115.00	117.70	12"-240"
3/4	3/4"	7 3/4"	1,200	20	4468K445	70.10	74.00	77.90	12"-240"	4552K125	142.51	146.41	150.31	12"-240"
1	1"	9"	1,000	14	4468K446	94.23	99.99	105.75	12"-240"	4552K126	197.41	203.17	208.93	12"-240"

Hose with Easy-Install Male Threaded Fittings



Pipe Size	Hose OD	Bend Radius	Max. psi @ 72° F	Vacuum @ 72° F	Brass Fittings	12"	18"	24"	Other Lengths	303 Stainless Steel Fittings	12"	18"	24"	Other Lengths
1/8	3/8"	2"	3,000	28	4468K571	$20.58	$22.02	$23.46	12"-240"	4552K201	$57.76	$59.20	$60.64	12"-240"
1/4	3/8"	3"	3,000	28	4468K572	43.09	44.95	46.81	12"-240"	4552K202	85.21	87.07	88.93	12"-240"
3/8	1/2"	4"	2,500	28	4468K573	52.79	55.01	57.23	12"-240"	4552K203	78.87	81.09	83.31	12"-240"
1/2	5/8"	6 1/2"	1,500	28	4468K574	95.95	98.65	101.35	12"-240"	4552K204	172.81	175.51	178.21	12"-240"
3/4	3/4"	7 3/4"	1,200	20	4468K575	156.66	160.56	164.46	12"-240"	4552K205	217.74	221.64	225.54	12"-240"
1	1"	9"	1,000	14	4468K576	144.34	150.10	155.86	12"-240"	4552K206	325.95	331.71	337.47	12"-240"

Hose with 37° Flared Easy-Install Female Threaded Fittings

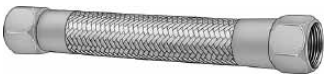

Thread Size	Hose OD	Bend Radius	Max. psi @ 72° F	Vacuum @ 72° F	Brass Fittings	12"	18"	24"	Other Lengths	303 Stainless Steel Fittings	12"	18"	24"	Other Lengths
7/16"-20	3/8"	2"	3,000	28	4468K811	$15.49	$16.93	$18.37	12"-240"	4552K301	$32.13	$33.57	$35.01	12"-240"
1/2"-20	3/8"	3"	3,000	28	4468K812	17.69	19.55	21.41	12"-240"	4552K302	45.68	47.54	49.40	12"-240"
9/16"-18	1/2"	4"	2,500	28	4468K813	24.47	26.69	28.91	12"-240"	4552K303	36.19	38.41	40.63	12"-240"
7/8"-14	5/8"	6 1/2"	1,500	28	4468K814	39.40	42.10	44.80	12"-240"	4552K304	133.74	136.44	139.14	12"-240"
1 1/16"-12	3/4"	7 3/4"	1,200	20	4468K815	47.58	51.48	55.38	12"-240"	4552K305	141.05	144.95	148.85	12"-240"
1 5/16"-12	1"	9"	1,000	14	4468K816	76.72	82.48	88.24	12"-240"	4552K306	190.83	196.59	202.35	12"-240"

High-Pressure Braided Chemical Hose with Abrasion-Resistant Cover

- Use with acetone, isopropyl alcohol, and mineral oil
- Temperature Range: -65° to 325° F
- Hose: PTFE with a 304 stainless steel braid and a blended rubber cover
- Color: Blue

A blended rubber cover protects the braid so abrasive applications won't harm the hose. Hose is heavy duty PTFE with a stainless steel braid for more chemical resistance and better strength than other chemical hose. It can handle high pressures, as well as frequent bending and vibration. A cover surrounds the braid to protect it from damage. Hose has a smooth interior. Suitable for outdoor use.

Male threaded fittings come in brass for good corrosion resistance or 303 stainless steel for very good corrosion resistance. They have NPT threads.

Easy-install male threaded fittings swivel 360° until tightened. They come in brass for good corrosion resistance or 316 stainless steel for excellent corrosion resistance. They have NPT threads.

37° flared easy-install female threaded fittings are also known as JIC (Joint Industrial Council) fittings. They swivel 360° until tightened and have UNF threads. They come in brass for good corrosion resistance or 303 stainless steel for very good corrosion resistance.

Hose with Male Threaded Fittings





Pipe Size	Hose OD	Bend Radius	Max. psi @ 72° F	Vacuum @ 72° F	Male Fittings	12″	18″	24″	36″	Other Lengths	Male Fitting and Easy-Install Male Fitting	12″	18″	24″	36″	Other Lengths
Brass Fittings																
1/8	5/16″	2″	3,000	28	5723K501	$13.17	$15.15	$17.13	$21.09	12″-72″	5723K601	$17.84	$19.82	$21.80	$25.76	12″-72″
1/4	3/8″	3″	3,000	28	5723K521	20.79	23.25	25.71	30.63	12″-72″	5723K621	30.66	33.12	35.58	40.50	12″-72″
Stainless Steel Fittings																
1/8	5/16″	2″	3,000	28	5830K101	43.73	45.71	47.69	51.65	12″-72″	5830K201	52.23	54.21	56.19	60.15	12″-72″
1/4	3/8″	3″	3,000	28	5830K121	44.21	46.67	49.13	54.05	12″-72″	5830K221	66.58	69.04	71.50	76.42	12″-72″

Hose with 37° Flared Easy-Install Female Threaded Fittings



Thread Size	Hose OD	Bend Radius	Max. psi @ 72° F	Vacuum @ 72° F		12″	18″	24″	36″	42″	48″	54″	60″	72″	Other Lengths
Brass Fittings															
7/16″-20	5/16″	2″	3,000	28	5723K801	$16.12	$18.10	$20.08	$24.04	$26.02	$28.00	$29.98	$31.96	$35.92	12″-72″
Stainless Steel Fittings															
7/16″-20	5/16″	2″	3,000	28	5830K401	36.39	38.37	40.35	44.31	46.29	48.27	50.25	52.23	56.19	12″-72″

Build-Your-Own High-Pressure Braided Chemical Hose

- Use with mineral oil and toluene
- Temperature Range: -40° to 350° F
- Hose: PTFE with a 304 stainless steel braid

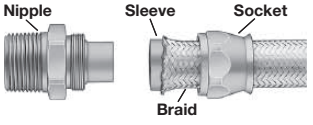

Cut the hose to your desired length and attach the fittings. You don't need any special equipment to install. After you attach the fittings, be sure to test the hose for required pressure prior to using. Suitable for outdoor use.

To attach fittings to hose, push the socket over the stainless steel braid, then wedge the sleeve under the braid. Next, insert the nipple into the hose and hand-tighten the socket onto the nipple. Finish by wrench-tightening the hex nipple until it is flush against the socket.

Hose is heavy duty PTFE with a stainless steel braid for more chemical resistance and better strength than other chemical hose. It has a smooth interior.

Male threaded fittings have NPT threads.

37° flared easy-install female threaded fittings are also known as JIC (Joint Industrial Council) fittings. They swivel 360° until tightened and have UNF threads.

Brass fittings with zinc-plated steel nut have fair corrosion resistance; *303 stainless steel fittings* have very good corrosion resistance.

Hose

Maximum continuous length is 100 ft., except 7/8″ ID hose has a maximum continuous length of 50 ft.



Hose ID	OD	Bend Radius	Max. psi @ 72° F	Vacuum @ 72° F		Per Ft. 1-24	25-Up
3/16″	5/16″	2″	1,500	28	52515K1	$4.56	$3.54
1/4″	3/8″	3″	1,500	28	52515K2	5.69	4.42
5/16″	7/16″	4″	1,500	28	52515K3	6.67	5.18
3/8″	9/16″	5 1/4″	1,500	28	52515K4	8.40	6.53

Hose ID	OD	Bend Radius	Max. psi @ 72° F	Vacuum @ 72° F		Per Ft. 1-24	25-Up
1/2″	5/8″	6 1/2″	1,500	28	52515K5	$9.33	$7.25
5/8″	3/4″	7 3/4″	1,200	20	52515K6	14.43	11.22
7/8″	1″	9″	1,000	14	52515K7	19.69	15.31

Fittings





Male Threaded Fittings

For Hose ID	Pipe Size	Max. psi @ 72° F	Brass with Zinc-Plated Steel Nut		303 Stainless Steel	
3/16″	1/8	1,500	52515K31	$8.62	52515K51	$27.33
1/4″	1/4	1,500	52515K32	11.18	52515K52	28.64
5/16″	3/8	1,500	52515K33	12.01	52515K53	29.42
3/8″	1/2	1,500	52515K34	14.54	52515K54	50.50
1/2″	1/2	1,500	52515K35	18.79	52515K55	56.09
5/8″	3/4	1,200	52515K36	23.81	52515K56	70.33
7/8″	1	1,000	52515K37	38.62	52515K57	100.64

37° Flared Easy-Install Female Threaded Fittings

Thread Size	Max. psi @ 72° F	Brass with Zinc-Plated Steel Nut		303 Stainless Steel	
7/16″-20	1,500	52515K41	$9.13	52515K61	$23.95
1/2″-20	1,500	52515K42	11.84	52515K62	29.97
9/16″-18	1,500	52515K43	16.34	52515K63	32.90
3/4″-16	1,500	52515K44	15.54	52515K64	46.08
7/8″-14	1,500	52515K45	22.76	52515K65	56.73
1 1/16″-12	1,200	52515K46	32.46	52515K66	69.57
1 5/16″-12	1,000	52515K47	42.35	52515K67	101.60

Chemical Hose

For information about pipe size and threads, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size of 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

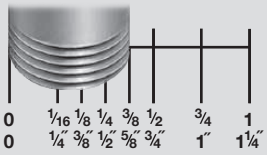

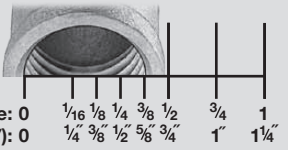

Static-Dissipative High-Pressure Braided Chemical Hose

- Use with acetone, isopropyl alcohol, and mineral oil
- Temperature Range: -65° to 450° F
- Hose: PTFE with a 304 stainless steel braid

Use this conductive hose in a grounded system to eliminate static buildup. The material is blended with carbon black, which conducts static charges away from the hose walls. This heavy duty hose is PTFE with a stainless steel braid for more chemical resistance and better strength than other chemical hose. It has a smooth interior. Suitable for outdoor use.

Hose has one male threaded fitting and one easy-install male threaded fitting, which swivels 360° until tightened. Fittings have NPT threads.

Brass fittings offer good corrosion resistance; *303 stainless steel fittings* offer very good corrosion resistance.

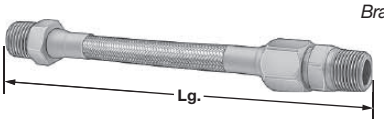

Pipe Size	Hose OD	Bend Radius	Max. psi @ 72° F	Vacuum @ 72° F	Brass Fittings	12″	18″	24″	36″	Other Lengths	303 Stainless Steel Fittings	12″	18″	24″	36″	Other Lengths
1/8	5/16″	2″	3,000	28	5589K61	$16.74	$18.00	$19.26	$21.78	12″-120″	5589K12	$33.95	$35.21	$36.47	$38.99	12″-120″
1/4	3/8″	3″	3,000	28	5589K62	28.64	30.32	32.00	35.36	12″-120″	5589K14	58.30	59.98	61.66	65.02	12″-120″
3/8	7/16″	4″	2,500	28	5589K63	26.28	28.32	30.36	34.44	12″-120″	5589K16	52.73	54.77	56.81	60.89	12″-120″
1/2	5/8″	6 1/2″	1,500	28	5589K64	43.27	45.73	48.19	53.11	12″-120″	5589K18	112.25	114.71	117.17	122.09	12″-120″

High-Pressure Braided Chemical Hose with Precision Threaded Fittings

- Use with acetone, methyl ethyl ketone (MEK), and mineral oil
- Temperature Range: -65° to 400° F
- Hose: PTFE with a 304 stainless steel braid

For a more precise fit, hose has a 37° flare fitting on one end that has threads that adhere to tighter tolerances than other types of threads. This heavy duty hose is PTFE with a stainless steel braid for more chemical resistance and better strength than other chemical hose. It meets SAE 100R14. The interior is smooth. Suitable for outdoor use. Vacuum rating is 28″ Hg @ 72° F.

Male threaded fittings are 303 stainless steel and have NPT threads.

37° flared male threaded fittings are 304 stainless steel and have 3A threads. They are made to AS specifications.

37° flared easy-install female threaded fittings swivel 360° until tightened. They are 303 stainless steel and have 3B threads.





Pipe Size	Thread Size	Hose OD	Bend Radius	Max. psi @ 72°	Male and 37° Flared Male Threaded Fittings	12″	18″	24″	36″	Other Lengths	Male and 37° Flared Easy-Install Female Threaded Fittings	12″	18″	24″	36″	Other Lengths
1/4	7/16″-20	5/16″	2″	3,000	5355K11	$54.35	$55.11	$58.07	$61.82	12″-120″	5355K31	$41.20	$43.26	$45.32	$49.42	12″-120″
3/8	9/16″-18	7/16″	4″	2,500	5355K12	63.07	65.71	68.36	73.65	12″-120″	5355K32	47.94	50.86	53.78	59.60	12″-120″
1/2	3/4″-16	9/16″	5 1/4″	2,000	5355K13	78.11	80.53	83.47	86.44	12″-120″	5355K33	59.60	62.60	66.12	72.62	12″-120″

Heated Braided Chemical Hose

- Use with adhesives and paraffins (wax)
- Temperature Range: 50° to 450° F
- Hose: PTFE with a 304 stainless steel braid and a polyester cover
- Color: Black

Plug this hose into a temperature controller and the hose's heating wire will keep the interior warm for use with materials that need heat in order to flow, such as adhesives and paraffin wax. Hose is PTFE with a stainless steel braid. A cover surrounds the braid to protect it from damage. The heating wire is laminated with silicone rubber. Hose includes a 6-ft. shielded power cord with a 9-pin electrical connector. Hose has a smooth interior. Not suitable for outdoor use.

Male threaded fittings are 304 stainless steel and have NPT threads.

37° flared easy-install female threaded fittings are also known as JIC (Joint Industrial Council) fittings. They swivel 360° until tightened. They are 304 stainless steel and have UNF threads.

Temperature controller (sold separately) has an RTD thermocouple with a temperature-adjustment dial that ranges from 50° to 450° F. It has an electrical connector for attaching to the hose and comes with a 7-ft. power cord with a three-prong plug. Controller operates on 120 volts AC.



Temperature Controller





Hose OD	Bend Radius	Max. psi @ 72° F	Watts per ft.	Male Threaded Fittings Pipe Size		2 ft.	6 ft.	10 ft.	37° Flared Easy-Install Female Threaded Fittings Thread Size		2 ft.	6 ft.	10 ft.
High Pressure													
1 3/8″	4″	2,250	23	1/4	5565K61	$370.00	$567.32	$764.64	7/16″-20	5565K81	$403.64	$600.96	$798.28
1 1/2″	8″	1,850	25	3/8	5565K62	421.67	633.67	845.67	9/16″-18	5565K82	460.00	672.00	884.00
1 5/8″	10″	1,500	30	1/2	5565K63	469.58	696.26	922.94	3/4″-16	5565K83	512.27	738.95	965.63
1 7/8″	15″	1,100	40	3/4	5565K64	603.75	847.07	1,090.39	1 1/16″-12	5565K84	658.18	901.50	1,144.82
Medium Pressure													
2 1/8″	18″	750	50	1	5565K65	737.33	994.01	1,250.69	1 5/16″-12	5565K85	804.36	1,061.04	1,317.72
Temperature Controller										5565K71	$474.29		

Low-Pressure Petroleum Hose

- Use with diesel fuel, fuel oil, and gasoline (up to 10% ethanol)
- Temperature Range: -20° to 175° F
- Hose: Buna-N rubber with a neoprene rubber cover
- Color: Black

Made of tough Buna-N rubber, this hose has the durability to stand up to gasoline, fuel oil, and other petroleum-based products. Hose is reinforced with steel wire that provides an escape route for electrostatic buildup when used in a grounded system. The interior is smooth. Hose can be used outdoors; it is not for use on a reel. Not rated for vacuum.

Male threaded fittings are brass. Fittings with a pipe size of 3/4 have NPT threads. Fittings with a pipe size of 1 have NPSH (National Pipe Straight Hose) threads, which are only compatible with other NPSH threads. Fittings with a pipe size of 1 1/4 and larger have NPSM (National Pipe Straight Mechanical) threads, which are compatible with NPSH threads.

Easy-install female threaded fittings swivel 360° until tightened. They are brass and have NPSM threads, except the fittings with a pipe size of 1 have NPSH threads. Female NPSM threads are compatible with NPT and NPTF (Dryseal) threads. Female NPSH threads are compatible with NPT, NPTF, and NPSM threads.

Cam-and-groove sockets and **plugs** are aluminum. To connect, insert the plug into the socket and push the levers down.

Hose

To attach your own fittings to the hose, you'll need a barbed hose fitting (see pages 314-318) and a clamp (see pages 302-313), or a cam-and-groove hose fitting (see pages 339-349).

Maximum continuous length is 50 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-49	Per Ft. 50-Up
3/4"	1 3/16"	3"	150	5282K69	$6.60	$5.28
1"	1 3/8"	4"	150	5282K65	7.08	5.66
1 1/4"	1 11/16"	5"	150	5282K63	8.53	6.82
1 1/2"	1 15/16"	6"	150	5282K64	9.61	7.69
2"	2 7/16"	8"	150	5282K15	12.06	9.65
2 1/2"	3"	10"	150	5282K17	15.22	12.18
3"	3 1/2"	12"	150	5282K19	17.25	13.80
4"	4 5/8"	16"	150	5282K22	23.56	18.85

Hose with Male and Easy-Install Female Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		5 ft.	10 ft.	25 ft.	Other Lg., ft.
3/4	1 3/16"	150	5282K39	$61.01	$94.01	$193.01	1 to 100
1	1 3/8"	150	5282K32	81.69	123.94	250.69	1 to 100
1 1/4	1 11/16"	150	5282K33	85.75	128.40	256.35	1 to 100
1 1/2	1 15/16"	150	5282K34	100.85	148.90	293.05	1 to 100
2	2 7/16"	150	5282K35	129.30	189.60	370.50	1 to 100
2 1/2	3"	150	5282K36	204.88	280.98	509.28	1 to 100
3	3 1/2"	150	5282K37	243.69	329.94	588.69	1 to 100
4	4 5/8"	150	5282K38	390.95	508.75	862.15	1 to 100

Hose with Cam-and-Groove Socket and Plug



Coupling Size	Hose OD	Max. psi @ 72° F		5 ft.	10 ft.	15 ft.	20 ft.	25 ft.	50 ft.	Other Lg., ft.
3/4	1 3/16"	150	5282K99	$86.79	$122.72	$158.66	$194.55	$230.25	$338.15	1 to 100
1	1 3/8"	150	5282K92	94.95	137.20	179.45	221.70	263.95	390.70	1 to 100
1 1/4	1 11/16"	150	5282K93	108.15	150.80	193.45	236.10	278.75	406.50	1 to 100
1 1/2	1 15/16"	150	5282K94	115.05	163.10	211.15	259.20	307.25	451.50	1 to 100
2	2 7/16"	150	5282K95	132.10	192.40	252.70	313.00	373.30	554.30	1 to 100
2 1/2	3"	150	5282K96	184.40	260.50	336.60	412.70	488.80	717.30	1 to 100
3	3 1/2"	150	5282K97	205.65	291.90	378.15	464.40	550.65	809.40	1 to 100
4	4 5/8"	150	5282K98	308.20	426.00	543.80	661.60	779.40	1,132.90	1 to 100

Flexible Low-Pressure Petroleum Hose

- Use with diesel fuel, ethanol, fuel oil, gasoline (up to 10% ethanol), and kerosene
- Temperature Range: -35° to 200° F
- Hose: Buna-N rubber with a blended rubber cover
- Color: Black with red stripe

With a tighter bend radius than other petroleum hose, this hose can easily twist and turn around equipment. The steel wire reinforcement provides an escape route for electrostatic buildup when used in a grounded system. Hose has a smooth interior. Suitable for outdoor use. Vacuum rating is 29" Hg @ 72° F.

Male threaded fittings are zinc-plated steel. They have NPT threads.

Hose

To attach your own fittings to the hose, you'll need a barbed hose fitting (see pages 314-318) and a clamp (see pages 302-313).

Maximum continuous length is 100 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
1 1/2"	2 1/16"	4"	150	56315K51	$11.75	$9.40
2"	2 9/16"	5"	150	56315K53	13.72	10.98
2 1/2"	3 1/16"	6"	150	56315K55	16.71	13.36
3"	3 9/16"	7"	150	56315K57	19.55	15.64
4"	4 5/8"	10"	150	56315K59	26.62	21.29

Hose with Male Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		5 ft.	10 ft.	25 ft.	Other Lg., ft.
1 1/2	2 1/16"	150	56315K71	$107.73	$166.48	$342.73	1 to 100
2	2 9/16"	150	56315K72	131.95	200.55	406.35	1 to 100
2 1/2	3 1/8"	150	56315K73	197.40	280.95	531.60	1 to 100
3	3 5/8"	150	56315K74	220.42	318.17	611.42	1 to 100
4	4 5/8"	150	56315K75	301.45	434.55	833.85	1 to 100

UL-Listed Low-Pressure Gasoline Hose

- Use with diesel fuel and gasoline (up to 10% ethanol)
- Temperature Range: -40° to 140° F
- Hose: Buna-N rubber with a blended rubber cover
- Color: Black

Commonly used to transfer gasoline, this hose is also known as curb pump hose. It has a static control wire that provides an escape route for electrostatic buildup when used in a grounded system. Hose has a smooth interior and is reinforced with yarn. Suitable for outdoor use. Not rated for vacuum. Hose comes with male threaded fittings attached; they are zinc and have NPT threads.



Pipe Size	Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		5 ft.	10 ft.	12 ft.	20 ft.	25 ft.	50 ft.
3/4	3/4"	1 3/16"	7 1/2"	50	5396K53	$42.96	$61.64	$62.56	$92.00	$109.83	$187.37
1	1"	1 1/2"	10"	50	5396K54	60.96	94.06	107.26	157.73	197.17	342.88

Petroleum & Paint-Spray Hose

For information about pipe size and threads, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size of 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.





Medium-Pressure Fuel Oil Hose

- Use with fuel oil and kerosene
- Temperature Range: -20° to 140° F
- Hose: Buna-N rubber with a blended rubber cover
- Color: Brown, except the 1 1/4" and 1 1/2" sizes are red

Multi-spiral yarn reinforcement gives this hose strength. Hose is not for use with gasoline. It meets ARPM (Association of Rubber Products Manufacturers) Class A for oil resistance. The interior is smooth. Suitable for outdoor use. Not rated for vacuum.

Male threaded fittings are brass and have NPT threads.

Easy-install female threaded fittings swivel 360° until tightened. They are brass and have NPSM (National Pipe Straight Mechanical) threads, which are compatible with NPT and NPTF (Dryseal) threads.

Hose



To attach your own fittings to the hose, you'll need a barbed hose fitting (see pages 314-318) and a clamp (see pages 302-313).

Maximum continuous length is 100 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
1/4"	5/8"	1 1/2"	250	54765K21	$1.91	$1.64
3/8"	3/4"	2 1/4"	250	54765K22	2.34	2.01
1/2"	7/8"	3"	250	54765K23	3.25	2.78
3/4"	1 3/16"	4 1/2"	250	54765K24	5.07	4.35
1"	1 1/2"	7"	250	54765K25	6.75	5.78
1 1/4"	1 13/16"	12 1/2"	250	56315K35	11.30	9.04
1 1/2"	2 1/8"	15"	150	56315K39	14.44	11.55

Hose with Male Threaded Fittings



Pipe Size	Hose OD	Bend Radius	Max. psi @ 72° F		5 ft.	10 ft.	Other Lg., ft.
1/4	5/8"	1 1/2"	250	54765K51	$20.54	$30.09	1 to 100
3/8	3/4"	2 1/4"	250	54765K52	23.65	35.35	1 to 100
1/2	7/8"	3"	250	54765K53	34.48	50.73	1 to 100
3/4	1 3/16"	4 1/2"	250	54765K54	43.10	68.45	1 to 100
1	1 1/2"	7"	250	54765K55	63.44	97.19	1 to 100
1 1/4	1 13/16"	12 1/2"	250	56315K16	148.50	205.00	1 to 100
1 1/2	2 1/8"	15"	150	56315K18	177.03	249.23	1 to 100

Hose with Male and Easy-Install Female Threaded Fittings



Choose a Pipe Size	Length, ft.	
1/4, 3/8, 1/2, 3/4, 1, 1 1/4, 1 1/2	1 to 100	54765K1

Low-Pressure Petroleum Hose with Vacuum Rating



- Use with diesel fuel, fuel oil, and gasoline (up to 10% ethanol)
- Temperature Range: -30° to 160° F
- Hose: Buna-N rubber with a blended rubber cover
- Color: Black

Made of tough Buna-N rubber, this hose has the durability to stand up to gasoline, fuel oil, and other petroleum-based products. Vacuum rating is 24" Hg @ 72° F. Hose has a smooth interior and is reinforced with yarn. Suitable for outdoor use.

To attach your own fittings to the hose, you'll need a barbed hose fitting (see pages 314-318) and a clamp (see pages 302-313).

Maximum continuous length is 100 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
3/16"	7/16"	1 1/4"	50	54605K31	$0.93	$0.73
1/4"	1/2"	1 1/2"	50	54605K32	1.12	.86

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
5/16"	9/16"	2"	50	54605K33	$1.19	$0.93
3/8"	5/8"	2 1/4"	50	54605K34	1.44	1.11

Hose for Paint-Spray Systems

Paint Hose for Air-Operated Systems
- Temperature Range: 0° to 190° F
- Hose: Nylon with a blended rubber cover
- Color: Black

Air Hose for Air-Operated Systems
- Temperature Range: -40° to 200° F
- Hose: Buna-N rubber with a neoprene rubber cover
- Color: Red

Paint Hose for Airless Systems
- Temperature Range: 0° to 180° F
- Hose: Nylon with a polyurethane cover
- Color: Blue

To transfer air or oil- and water-based paints, attach this hose to a paint-spray system. Hose has a smooth interior. Not rated for vacuum. Hose comes with two easy-install female threaded fittings attached that swivel 360° until tightened. Fittings have NPSM (National Pipe Straight Mechanical) threads, which are compatible with NPT and NPTF (Dryseal) threads.

Hose for Air-Operated Paint-Spray Systems



Paint Hose

Use with systems that have separate hoses for air and paint. Hoses are for indoor use only. *Paint hose* is reinforced with yarn and has zinc-plated steel fittings with spring guards to prevent kinking. *Air hose* has brass fittings.

Pipe Size	Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		5 ft.	10 ft.	15 ft.	25 ft.	50 ft.	Other Lg., ft.
Paint Hose											
1/4	1/4"	1/2"	2 1/2"	750	7859T71	$29.10	$42.30	$51.77	$78.39	$147.90	5 to 50
3/8	3/8"	11/16"	3"	750	7859T72	39.50	54.20	60.13	91.05	171.80	5 to 50
Air Hose											
1/4	1/4"	1/2"	2 3/4"	250	7859T41	27.18	41.22	47.22	71.80	112.56	5 to 50
3/8	3/8"	11/16"	3 1/2"	250	7859T42	40.14	49.90	60.20	80.02	143.95	5 to 50

Hose for High-Pressure Airless Paint-Spray Systems



Use with single-hose paint-spray systems. Hose is reinforced with yarn. It has zinc-plated steel fittings with spring guards to prevent kinking. Suitable for outdoor use.

Pipe Size	Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		15 ft.	25 ft.	50 ft.	Other Lg., ft.
Paint Hose									
1/4	1/4"	1/2"	2 1/2"	3,300	5517K43	$50.59	$70.42	$99.19	15 to 50

Hydraulic Hose

- Temperature Range: -40° to 210° F
- Hose: Buna-N rubber with a blended rubber cover
- Color: Black

Use this hose to transfer fluid between pumps, cylinders, and other parts of your hydraulic system. It has a smooth interior. Suitable for outdoor use.

Medium Pressure—Hose is reinforced with steel wire and meets SAE 100R1-AT. Vacuum rating is 24″ Hg @ 72° F.

High Pressure—Hose is reinforced with two steel wire braids for extra strength under pressure. It meets SAE 100R2-AT. Vacuum rating is 28″ Hg @ 72° F, except hose with a pipe size of 3/4 and 1 has a vacuum rating of 24″ Hg @ 72° F.

Male threaded fittings are zinc-plated steel and have NPT threads.

37° flared easy-install female threaded fittings are also known as JIC (Joint Industrial Council) fittings. They swivel 360° until tightened. They are zinc-plated steel and have UNF threads.

Hose

Use **medium-pressure hose** only with Parker Series 42 screw-on hydraulic fittings. Use **high-pressure hose** only with Parker Series 30 screw-on hydraulic fittings. See page 323 for fittings.

Maximum continuous length is 100 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
Medium Pressure						
1/4″	9/16″	4″	3,200	9459K321	$3.26	$2.68
3/8″	11/16″	5″	2,600	9459K341	3.48	2.86
1/2″	13/16″	7″	2,300	9459K361	3.85	3.16
3/4″	1 1/8″	9 1/2″	1,500	9459K381	6.87	5.64
1″	1 7/16″	12″	1,200	9459K401	8.76	7.20

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
High Pressure						
1/4″	5/8″	4″	5,800	8646T11	$3.78	$3.11
3/8″	3/4″	5″	4,700	8646T12	4.41	3.62
1/2″	7/8″	7″	4,000	8646T13	5.04	4.14
3/4″	1 3/16″	9 1/2″	3,100	8646T14	8.20	6.73
1″	1 1/2″	12″	2,400	8646T15	11.24	9.23

Hose with Male Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		1 ft.	3 ft.	5 ft.	Other Lg., ft.
Medium Pressure							
1/4	9/16″	3,200	9459K121	$15.74	$22.73	$30.19	1 to 50
3/8	11/16″	2,600	9459K141	16.56	23.93	31.87	1 to 50
1/2	13/16″	2,300	9459K161	18.09	26.40	34.97	1 to 50
3/4	1 1/8″	1,500	9459K181	26.34	39.88	53.69	1 to 50
1	1 7/16″	1,200	9459K201	43.38	61.02	78.62	1 to 50
High Pressure							
1/4	5/8″	5,800	8646T21	15.84	24.77	33.85	1 to 50
3/8	3/4″	4,700	8646T23	17.11	27.64	38.24	1 to 50
1/2	7/8″	4,000	8646T25	18.75	30.78	42.93	1 to 50
3/4	1 3/16″	3,100	8646T27	27.63	47.17	66.77	1 to 50
1	1 1/2″	2,400	8646T29	45.56	72.30	99.08	1 to 50

Hose with 37° Flared Easy-Install Female Threaded Fittings



Thread Size	Hose OD	Max. psi @ 72° F		1 ft.	3 ft.	5 ft.	Other Lg., ft.
Medium Pressure							
7/16″-20	9/16″	3,200	9459K221	$16.04	$23.02	$30.47	1 to 50
9/16″-18	11/16″	2,600	9459K241	17.21	24.82	32.57	1 to 50
3/4″-16	13/16″	2,300	9459K261	20.60	29.10	37.66	1 to 50
1 1/16″-12	1 1/8″	1,500	9459K281	30.24	42.76	56.83	1 to 50
1 5/16″-12	1 7/16″	1,200	9459K301	47.56	64.56	82.78	1 to 50
High Pressure							
7/16″-20	5/8″	5,800	8646T41	16.10	25.04	34.11	1 to 50
9/16″-18	3/4″	4,700	8646T43	18.39	28.81	39.50	1 to 50
3/4″-16	7/8″	4,000	8646T45	21.25	33.27	45.42	1 to 50
1 1/16″-12	1 3/16″	3,100	8646T47	30.76	50.29	69.89	1 to 50
1 5/16″-12	1 1/2″	2,400	8646T49	49.45	76.15	102.93	1 to 50

Hydraulic Hose with Quick-Disconnect Couplings

- Temperature Range: -40° to 210° F
- Hose: Blended rubber
- Color: Black

When you need access to your line, don't waste time threading and unthreading your fittings. This hose has a quick-disconnect fitting on one or both ends. Use this hose to transfer fluid between pumps, cylinders, and other parts of your hydraulic system. It is reinforced with two steel wire braids for excellent strength and to meet ISO 11237-1. Hose has a smooth interior. Bend radius is 3 1/2″. Suitable for outdoor use. Not rated for vacuum.

Quick-disconnect sockets and **plugs** are sleeve-lock style. They are compatible with all couplings that meet ISO 7241-1 series B, such as Parker 60 series on page 337. To connect, slide back the sleeve on the socket, insert the plug, and release the sleeve. To disconnect, slide back the sleeve and pull out the plug. Sockets and plugs are zinc-plated steel. They have a shut-off valve that stops the flow when the coupling is disconnected. For more information about quick-disconnect couplings, see page 326.

Male threaded fittings are zinc-plated steel and have NPT threads.

37° flared easy-install female threaded fittings are also known as JIC (Joint Industrial Council) fittings and swivel 360° until tightened. They are zinc-plated steel and have UNF threads.

Hose with Quick-Disconnect Plug and Threaded Male Fitting



Coupling Size	Pipe Size	Hose OD	Max. psi @ 72° F		1 ft.	3 ft.	5 ft.	Other Lg., ft.
1/4	1/4	1/2″	5,000	1147N18	$32.20	$40.70	$53.53	1 to 25
3/8	3/8	11/16″	4,000	1147N19	36.98	46.92	61.13	1 to 25
1/2	1/2	13/16″	4,000	1147N21	40.33	51.63	67.22	1 to 25

Hose with Quick-Disconnect Socket and Plug



Coupling Size	Hose OD	Max. psi @ 72° F		1 ft.	3 ft.	5 ft.	Other Lg., ft.
1/4	1/2″	5,000	1147N11	$47.30	$55.80	$68.63	1 to 25
3/8	11/16″	4,000	1147N12	58.22	68.15	82.37	1 to 25
1/2	13/16″	4,000	1147N13	65.10	76.40	91.98	1 to 25

Hose with Quick-Disconnect Socket and 37° Flared Easy-Install Female Threaded Fitting



Coupling Size	Thread Size	Hose OD	Max. psi @ 72° F		1 ft.	1 1/2 ft.	2 ft.	2 1/2 ft.	3 ft.	4 ft.	5 ft.	Other Lg., ft.
1/4	7/16″-20	1/2″	5,000	1147N15	$41.78	$43.92	$46.07	$48.18	$50.32	$54.57	$63.12	1 to 25
3/8	9/16″-18	11/16″	4,000	1147N16	49.53	52.02	54.52	56.98	59.47	64.43	73.68	1 to 25
1/2	3/4″-16	13/16″	4,000	1147N17	55.87	58.68	61.52	64.33	67.15	72.80	82.75	1 to 25

Hydraulic Hose

For information about pipe size and threads, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size of 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.





Lightweight Hydraulic Hose

- Temperature Range: -40° to 210° F
- Hose: Nylon with a polyurethane cover
- Color: Black

Made of nylon, this hose is lighter and easier to maneuver than rubber hydraulic hose. It meets SAE100R7. Hose has a smooth interior and is reinforced with yarn. Suitable for outdoor use. Vacuum rating is 28" Hg @ 72° F.

Male threaded fittings are steel with a corrosion-resistant plating. They have NPT threads.

37° flared easy-install female threaded fittings are also known as JIC (Joint Industrial Council) fittings and swivel 360° until tightened. They are steel with a corrosion-resistant plating and have UNF threads.

Hose



To attach your own fittings to the hose, you'll need a crimp-on hydraulic hose fitting (see page 323). Maximum continuous length is 100 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
1/8"	3/8"	1/2"	3,000	5201K61	$2.08	$1.66
3/16"	7/16"	3/4"	3,000	5201K62	2.85	2.29
1/4"	1/2"	1 1/2"	2,750	5201K63	3.03	2.42
5/16"	9/16"	1 3/4"	2,500	5201K64	4.00	3.17
3/8"	11/16"	2"	2,250	5201K65	$3.92	$3.14
1/2"	13/16"	3"	2,000	5201K66	5.00	4.00
3/4"	1 1/16"	6"	1,250	5201K67	9.88	7.90

Hose with Male Threaded Fittings



Pipe Size	Hose OD	Max. psi @ 72° F		1 ft.	3 ft.	5 ft.	Other Lg., ft.
1/8	3/8"	3,000	5201K71	$23.72	$27.87	$31.74	1 to 100
1/8	7/16"	3,000	5201K72	22.66	28.36	34.06	1 to 100
1/4	9/16"	2,500	5201K74	25.50	33.50	41.50	1 to 100
1/4	1/2"	2,750	5201K73	22.33	28.39	34.45	1 to 100
3/8	11/16"	2,250	5201K75	24.46	32.30	40.14	1 to 100
1/2	13/16"	2,000	5201K76	30.30	40.30	50.30	1 to 100
3/4	1 1/16"	1,250	5201K77	42.67	62.42	81.51	1 to 100

Hose with 37° Flared Easy-Install Female Threaded Fittings



Thread Size	Hose OD	Max. psi @ 72° F		1 ft.	3 ft.	5 ft.	Other Lg., ft.
5/16"-24	3/8"	3,000	5201K81	$40.52	$43.61	$50.04	1 to 100
7/16"-20	1/4"	2,750	5201K83	23.61	29.76	35.88	1 to 100
7/16"-20	7/16"	3,000	5201K82	23.50	29.27	35.05	1 to 100
1/2"-20	9/16"	2,500	5201K84	28.77	36.77	44.77	1 to 100
9/16"-18	11/16"	2,250	5201K85	26.85	34.70	42.53	1 to 100
3/4"-16	13/16"	2,000	5201K86	32.02	42.13	52.21	1 to 100
1 1/16"-12	1 1/16"	1,250	5201K87	46.23	65.99	85.75	1 to 100

Hose with Male and 37° Flared Easy-Install Female Threaded Fittings



Pipe Size	Thread Size	Hose OD	Max. psi @ 72° F		2 ft.	3 ft.	4 ft.	6 ft.	Other Lg., ft.
1/8	5/16"-24	3/8"	3,000	5201K881	$34.41	$36.06	$37.72	$41.03	1 to 100
1/4	7/16"-20	1/4"	2,750	5201K882	24.80	27.24	29.68	34.56	1 to 100
3/8	9/16"-18	11/16"	2,250	5201K883	27.96	31.07	34.19	40.42	1 to 100
1/2	3/4"-16	13/16"	2,000	5201K884	34.11	38.10	42.10	50.09	1 to 100

Low-Pressure Hydraulic Hose



- Temperature Range: -40° to 200° F
- Color: Black

Rated for low-pressure applications up to 500 psi, this hose works well as a return line in your hydraulic system. It has a smooth interior. Suitable for outdoor use.

SAE 30R2 hose is Buna-N rubber with a blended rubber cover. It is reinforced with yarn. Hose is not rated for vacuum.

SAE 30R3 hose is blended rubber reinforced with yarn. Vacuum rating is 20" Hg @ 72° F.

SAE 100R4 hose is Buna-N rubber with a blended rubber cover. It is reinforced with yarn and steel wire. Vacuum rating is 29" Hg @ 72° F.

Maximum continuous length is 100 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
SAE 30R2						
1/2"	3/4"	5"	400	5645K18	$3.73	$2.98
5/8"	7/8"	6"	350	5645K19	4.62	3.70
SAE 30R3						
3/16"	3/8"	3"	500	5645K21	2.23	1.78
1/4"	7/16"	3"	400	5645K22	2.25	1.80
5/16"	1/2"	4"	300	5645K23	2.80	2.24
3/8"	5/8"	4"	225	5645K25	3.10	2.48
SAE 100R4						
3/4"	1 3/16"	2 1/4"	300	54595K31	$5.46	$4.59
1"	1 3/8"	3"	250	54595K33	6.60	5.55
1 1/4"	1 11/16"	3 3/4"	200	54595K35	7.92	6.46
1 1/2"	1 15/16"	4 1/2"	150	54595K37	8.49	7.13
2"	2 7/16"	6"	100	54595K42	9.30	7.81

Dry-Food Hose

- Temperature Range: 0° to 150° F
- Hose: PVC
- Color: Clear

Hose is clear PVC so you can easily monitor flow. Use it with flour, grain, rice, and sugar. Hose is made from FDA listed materials for use with dry food. It has a smooth interior and is reinforced with a PVC spiral. Suitable for outdoor use.

Hose with Static Control Wire—The wire provides an escape route for electrostatic buildup when used in a grounded system. Surface resistivity is 10^3 -10^6 ohms.

Cam-and-groove sockets and **plugs** are aluminum. They are not FDA listed. To connect, insert the plug into the socket and push the levers down.

Hose

To attach your own fittings to the hose, you'll need a cam-and-groove hose fitting (see pages 339-349).

Hose has a maximum continuous length of 100 ft., except 5″, 6″, and 8″ ID have a maximum continuous length of 20 ft. **Hose with static control wire** has a maximum continuous length of 50 ft.

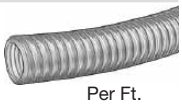

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F	Vacuum @ 72° F	Max. Cont. Lg., ft.		Per Ft. 1-99	Per Ft. 100-Up
Hose								
1″	15⁄16″	2″	55	28	100	5199K71	$2.82	$2.21
1 1⁄4″	1 5⁄8″	2″	50	28	100	5199K72	3.39	2.67
1 1⁄2″	1 15⁄16″	3″	50	28	100	5199K73	3.97	3.13
2″	2 7⁄16″	4″	40	28	100	5199K74	5.45	4.29
2 1⁄2″	3″	5″	40	28	100	5199K75	8.40	6.62
3″	3 11⁄16″	6″	40	28	100	5199K76	10.81	8.50
4″	4 3⁄4″	10″	35	24	100	5199K78	18.81	14.80
5″	5 3⁄4″	16″	30	24	20	5199K89	31.59	24.88
6″	6 15⁄16″	18″	30	24	20	5199K81	35.96	28.31
8″	9″	36″	20	20	20	5199K84	55.08	43.36

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F	Vacuum @ 72° F		Per Ft. 1-49	Per Ft. 50-Up
Hose with Static Control Wire							
1 1⁄4″	1 11⁄16″	2″	50	28	5179K23	$7.97	$6.26
1 1⁄2″	1 15⁄16″	3″	50	28	5179K24	8.28	6.52
2″	2 1⁄2″	4″	40	28	5179K25	11.47	9.03
2 1⁄2″	3 1⁄16″	5″	40	28	5179K26	13.84	10.89
3″	3 11⁄16″	6″	40	28	5179K27	18.44	14.52
4″	4 3⁄4″	10″	35	24	5179K28	30.18	23.77
5″	5 3⁄4″	16″	30	24	5179K45	47.49	37.40
6″	6 13⁄16″	18″	30	24	5179K46	52.63	41.43

Hose with Cam-and-Groove Socket and Plug



Coupling Size	Hose OD	Max. psi @ 72° F	Vacuum @ 72° F		10 ft.	15 ft.	Other Lg., ft.
Hose							
1 1⁄4	1 5⁄8″	50	28	5199K52	$63.99	$80.94	1 to 100
1 1⁄2	1 15⁄16″	50	28	5199K53	68.52	88.37	1 to 100
2	2 7⁄16″	40	28	5199K54	88.50	115.75	1 to 100
2 1⁄2	3″	40	28	5199K55	135.55	177.55	1 to 100
3	3 11⁄16″	40	28	5199K56	164.19	218.24	1 to 100
4	4 3⁄4″	35	24	5199K58	287.01	381.06	1 to 100
5	5 3⁄4″	30	24	5199K59	487.47	643.80	1 to 100
6	6 15⁄16″	30	24	5199K61	574.87	754.67	1 to 100

Coupling Size	Hose OD	Max. psi @ 72° F	Vacuum @ 72° F		10 ft.	15 ft.	Other Lg., ft.
Hose with Static Control Wire							
1 1⁄4	1 11⁄16″	50	28	5179K11	$109.79	$149.64	1 to 100
1 1⁄2	1 15⁄16″	50	28	5179K12	111.62	153.02	1 to 100
2	2 1⁄2″	40	28	5179K13	148.70	206.05	1 to 100
2 1⁄2	3 1⁄16″	40	28	5179K14	189.95	259.15	1 to 100
3	3 11⁄16″	40	28	5179K15	240.49	332.69	1 to 100
4	4 3⁄4″	35	24	5179K16	400.71	551.61	1 to 100
5	5 3⁄4″	30	24	5179K17	649.45	886.90	1 to 100
6	6 13⁄16″	30	24	5179K18	741.57	1,004.72	1 to 100

Wet-Food and Beverage Hose

- Temperature Range: -15° to 155° F
- Hose: PVC
- Color: Clear with white spiral

The PVC construction means this hose won't impart tastes or odors on your product. The hose is clear, so you can monitor flow. Hose and fittings are made from FDA listed materials for use with wet food, such as juice, meat, poultry, and syrup. Hose and fittings are 3-A certified for use with dairy, except the cam-and-groove sockets and plugs are not 3-A certified. Hose has a smooth interior and is reinforced with a PVC spiral. Suitable for outdoor use. Vacuum rating is 29″ Hg @ 72° F.

Cam-and-groove sockets and **plugs** are 316 stainless steel. To connect, insert the plug into the socket and push the levers down.

Quick-clamp sanitary fittings are 304 stainless steel. Also known as tri-clamp fittings, they attach to other quick-clamp fittings with a gasket and a clamp. For gaskets and clamps, see page 228.

Hose

To attach your own fittings to the hose, you'll need a cam-and-groove hose fitting (see pages 339-349) or a quick-clamp sanitary fitting (see pages 228-234).

Maximum continuous length is 100 ft.

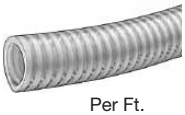

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
3⁄4″	1″	3″	120	5544K21	$2.07	$1.76
1″	1 1⁄4″	5″	100	5544K12	2.58	2.18
1 1⁄4″	1 9⁄16″	5″	95	5544K13	3.28	2.76
1 1⁄2″	1 13⁄16″	6″	85	5544K14	3.61	3.05
2″	2 3⁄8″	8″	75	5544K15	5.44	4.59

Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		Per Ft. 1-99	Per Ft. 100-Up
2 1⁄2″	2 7⁄8″	10″	65	5544K16	$7.87	$6.67
3″	3 1⁄2″	12″	65	5544K17	10.09	8.53
4″	4 1⁄2″	16″	55	5544K19	17.52	14.82
6″	6 5⁄8″	36″	45	5544K26	32.52	27.53

Hose with Cam-and-Groove Socket and Plug



Coupling Size	Hose OD	Max. psi @ 72° F		10 ft.	15 ft.	Other Lg., ft.
3⁄4	1″	120	5544K51	$78.85	$89.20	1 to 100
1	1 1⁄4″	100	5544K52	95.75	108.65	1 to 100
1 1⁄4	1 9⁄16″	95	5544K53	136.02	152.42	1 to 100
1 1⁄2	1 13⁄16″	85	5544K54	145.97	164.02	1 to 100
2	2 3⁄8″	75	5544K55	198.36	225.56	1 to 100
2 1⁄2	2 7⁄8″	65	5544K56	262.85	302.20	1 to 100
3	3 1⁄2″	65	5544K57	369.05	419.50	1 to 100
4	4 1⁄2″	55	5544K58	547.49	635.09	1 to 100

Hose with Quick-Clamp Sanitary Fittings



Flange OD	Hose OD	Max. psi @ 72° F		10 ft.	15 ft.	Other Lg., ft.
0.984″	1″	120	5544K71	$354.17	$364.52	1 to 100
1.984″	1 1⁄4″	100	5544K72	371.22	384.12	1 to 100
1.984″	1 9⁄16″	95	5544K73	383.38	399.78	1 to 100
1.984″	1 13⁄16″	85	5544K74	408.68	426.73	1 to 100
2.516″	2 3⁄8″	75	5544K75	529.40	556.60	1 to 100
3.047″	2 7⁄8″	65	5544K76	637.03	676.38	1 to 100
3.579″	3 1⁄2″	65	5544K77	808.53	858.98	1 to 100
4.682″	4 1⁄2″	55	5544K78	1,172.95	1,260.55	1 to 100

Food & Beverage Hose

For information about pipe size and threads, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size of 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



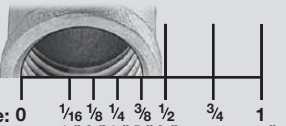

Abrasion-Resistant Dry-Food Hose

- Temperature Range: -40° to 180°F
- Hose: Gum rubber with an SBR rubber cover
- Color: Tan

The most durable dry-food hose we offer, this hose is made of gum rubber for excellent resistance to cuts and tears. Use it with flour, grain, rice, and sugar. A static control wire provides an escape route for electrostatic buildup when used in a grounded system. Hose is made from FDA listed materials for use with dry food. It has a smooth interior and is reinforced with yarn and steel wire. Hose is not rated for surface resistivity. Suitable for outdoor use. Vacuum rating is 29" Hg @ 72°F.

Cam-and-groove sockets and **plugs** are aluminum. They are not FDA listed. To connect, insert the plug into the socket and push the levers down.

Hose



To attach your own fittings to the hose, you'll need a cam-and-groove hose fitting (see pages 339-349).

Maximum continuous length is 100 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72°F		Per Ft. 1-99	Per Ft. 100-Up
2"	2 5/8"	4"	75	52895K12	$24.79	$20.52
3"	3 11/16"	6"	75	52895K14	33.47	29.02
4"	4 11/16"	9"	75	52895K15	41.73	34.53
6"	6 13/16"	15"	75	52895K16	75.85	63.21

Hose with Cam-and-Groove Socket and Plug



Coupling Size	Hose OD	Max. psi @ 72°F		5 ft.	10 ft.	Other Lg., ft.
2	2 5/8"	75	52895K71	$199.35	$323.30	5 to 100
3	3 11/16"	75	52895K72	290.55	457.90	5 to 100
4	4 11/16"	75	52895K73	384.01	592.66	5 to 100
6	6 13/16"	75	52895K31	775.95	1,225.28	5 to 50

High-Temperature Wet-Food and Beverage Hose

- Temperature Range: -65° to 350°F
- Hose: Silicone rubber
- Color: Semi-clear white

Made of peroxide-cured silicone, this hose stays strong and flexible across a wide temperature range. Hose is made from FDA listed materials for use with wet food, such as juice, meat, milk, poultry, and syrup. Hose and fittings meet NSF/ANSI Standard 51 for food contact. Hose has a smooth interior and is reinforced with yarn. Suitable for outdoor use. Not rated for vacuum.

Quick-clamp sanitary fittings are 316L stainless steel and are 3-A certified for use with dairy. Also known as tri-clamp fittings, they attach to other quick-clamp fittings with a gasket and a clamp. For gaskets and clamps, see page 228.

Hose



To attach your own fittings to the hose, you'll need a cam-and-groove hose fitting (see pages 339-349) or a quick-clamp sanitary fitting (see pages 228-234).

Maximum continuous length is 100 ft., except 1" ID hose has a maximum continuous length of 50 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72°F		Per Ft. 1-99	Per Ft. 100-Up
1/4"	9/16"	1 1/4"	160	5153T11	$7.08	$5.66
3/8"	11/16"	2"	120	5153T12	8.03	6.43
1/2"	13/16"	2 1/2"	130	5153T13	10.35	8.28
3/4"	1 1/8"	3 1/2"	85	5153T14	15.32	12.26
1"	1 3/8"	6"	65	5153T15	19.17	15.33

Hose with Quick-Clamp Sanitary Fittings



Flange OD	Hose OD	Max. psi @ 72°F		5 ft.	10 ft.	Other Lg., ft.
0.984"	1/2"	160	5153T51	$81.97	$117.37	1 to 100
0.984"	11/16"	120	5153T52	192.72	232.87	1 to 100
0.984"	13/16"	130	5153T53	214.58	266.33	1 to 50
0.984"	1 1/8"	85	5153T54	210.92	287.52	1 to 50
1.984"	1 3/8"	65	5153T55	331.98	427.83	1 to 50

Wet-Food and Beverage Hose with Abrasion-Resistant Cover

- Temperature Range: -40° to 225°F
- Hose: Butyl rubber with an EPDM rubber cover
- Color: Gray with blue stripe

A tough EPDM rubber cover protects the hose from damage. Use it with juice, meat, milk, poultry, and syrup. Hose and fittings are 3-A certified for use with dairy. It has a smooth interior and is reinforced with yarn and steel wire. Suitable for outdoor use. Vacuum rating is 29" Hg @ 72°F.

Quick-clamp sanitary fittings are 316 stainless steel. Also known as tri-clamp fittings, they attach to other quick-clamp fittings with a gasket and a clamp. For gaskets and clamps, see page 228.

Hose



To attach your own fittings to the hose, you'll need a quick-clamp sanitary fitting (see pages 228-234).

Maximum continuous length is 100 ft.

Hose ID	Hose OD	Bend Radius	Max. psi @ 72°F		Per Ft. 1-99	Per Ft. 100-Up
1"	1 9/16"	4"	150	54975K69	$22.06	$18.44
1 1/2"	2 3/16"	6"	150	54975K71	23.70	18.64
2"	2 11/16"	7"	150	54975K72	26.20	20.61
2 1/2"	3 3/16"	8"	150	54975K73	31.10	24.48
3"	3 3/4"	9"	150	54975K74	39.90	31.32
4"	4 3/4"	12"	100	54975K75	51.80	40.63

Hose with Quick-Clamp Sanitary Fittings



Flange OD	Hose OD	Max. psi @ 72°F		5 ft.	10 ft.	Other Lg., ft.
1.984"	1 9/16"	150	54975K29	$344.92	$455.25	1 to 100
1.984"	2 3/16"	150	54975K31	460.50	579.00	1 to 100
2.516"	2 11/16"	150	54975K32	658.69	789.69	2 to 100
3.047"	3 3/16"	150	54975K33	691.50	847.00	2 to 100
3.579"	3 3/4"	150	54975K34	948.02	1,147.52	2 to 100
4.682"	4 3/4"	100	54975K35	1,480.20	1,739.20	2 to 100

For information about pipe size and threads, see pages 2-3.

High-Pressure Wet-Food and Beverage Hose

- Temperature Range: –40° to 240°F
- Material: Chlorobutyl rubber with an EPDM rubber cover
- Color: Gray

Strong yarn reinforces this hose to give it a higher pressure rating than other food and beverage hose. Also known as brewer's and vintner's hose, the hose material is FDA listed for use with beer and wine. The interior is smooth for unrestricted flow. Hose can be used outdoors. It is not for continuous steam service. Vacuum rating is 29″ Hg @ 72°F.

Hose

To attach your own fittings to the hose, you'll need a cam-and-groove hose fitting (see pages 339-349).

Maximum continuous length is 100 ft.

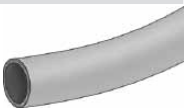

Hose ID	Hose OD	Bend Radius	Max. psi @72°F		Per Ft. 1-99	Per Ft. 100-Up
1/2″	1″	2 1/2″	250	53715K111	$11.78	$9.27
3/4″	1 7/16″	3″	250	53715K112	13.43	10.57
1″	1 11/16″	3 1/2″	250	53715K113	13.72	10.80
1 1/2″	2 3/16″	4 1/2″	250	53715K114	15.70	12.36
2″	2 13/16″	7″	250	53715K115	24.65	19.40
2 1/2″	3 5/16″	13″	250	53715K116	28.10	22.48
3″	3 13/16″	16″	250	53715K117	33.80	27.04

Hose with Cam-and-Groove Socket and Plug

To connect fittings, insert the plug into the socket and push the levers down.

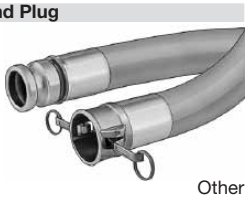

Coupling Size	Hose OD	Max. psi @72°F		5 ft.	10 ft.	Other Lg., ft.
1/2	1″	250	53715K121	$255.77	$319.23	2 to 100
3/4	1 7/16″	250	53715K131	265.38	338.46	2 to 100
1	1 11/16″	250	53715K141	280.77	355.76	2 to 100
1 1/2	2 3/16″	250	53715K151	346.15	414.82	2 to 100
2	2 13/16″	250	53715K161	407.40	538.88	2 to 100
2 1/2	3 5/16″	200	53715K171	658.93	786.21	2 to 100
3	3 13/16″	200	53715K181	673.22	829.32	2 to 100

Hose with Quick-Clamp Sanitary Fittings

This hose has the same dimensions as the hose above, except it has 316 stainless steel quick-clamp sanitary fittings. Also known as tri-clamp fittings, they attach to other quick-clamp fittings with a gasket and a clamp. For gaskets and clamps, see page 228.



Choose a Hose OD	Choose a Length	
1″, 1 7/16″, 1 11/16″, 2 3/16″, 2 13/16″, 3 5/16″, 3 13/16″	5 ft., 10 ft., 15 ft., 20 ft., 25 ft., 30 ft., 50 ft., and other lengths from 1 to 100 ft.	53715K2

Ultrasmooth-Interior Wet-Food and Beverage Hose

- Temperature Range: –25° to 230°F
- Hose: Blended rubber
- Color: White

The super-smooth interior of this hose prevents product buildup. Use it with juice, milk, and syrup. Hose is 3-A certified for use with dairy and is made from FDA listed materials for use with wet food. Hose is reinforced with yarn and steel wire. Suitable for outdoor use. Vacuum rating is 29″ Hg @ 72°F.

Quick-clamp sanitary fittings are 304 stainless steel. They are 3-A certified for use with dairy. Also known as tri-clamp fittings, they attach to other quick-clamp fittings with a gasket and a clamp. For gaskets and clamps, see page 228.

Hose

To attach your own fittings to the hose, you'll need a quick-clamp sanitary fitting (see pages 228-234).

Maximum continuous length is 100 ft.



Hose ID	Hose OD	Bend Radius	Max. psi @ 72°F		Per Ft. 1-99	Per Ft. 100-Up
3/4″	1 1/4″	2″	150	5567K15	$14.77	$11.63
1″	1 7/16″	3″	150	5567K26	18.38	14.47
1 1/4″	1 3/4″	4″	150	5567K19	19.36	15.24
1 1/2″	2″	4″	150	5567K21	21.95	17.29
2″	2 9/16″	5″	150	5567K22	31.86	25.09
3″	3 5/8″	7″	150	5567K33	40.96	36.86
4″	4 11/16″	10″	150	5567K44	56.37	50.74

Hose with Quick-Clamp Sanitary Fittings

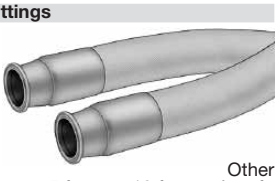

Flange OD	Hose OD	Max. psi @ 72°F		5 ft.	10 ft.	Other Lg., ft.
0.984″	1 1/4″	150	5567K16	$364.21	$438.06	1 to 100
1.984″	1 7/16″	150	5567K14	387.97	479.87	1 to 100
1.984″	1 3/4″	150	5567K17	447.38	544.18	1 to 100
1.984″	2″	150	5567K18	429.11	538.86	1 to 100
2.516″	2 9/16″	150	5567K23	566.44	725.74	1 to 100
3.579″	3 5/8″	150	5567K24	811.34	1,016.14	1 to 100
4.682″	4 11/16″	150	5567K25	1,137.06	1,418.91	1 to 100

Abrasive-Material Hose

- Temperature Range: –20° to 175°F
- Hose: Gum rubber with a blended rubber cover
- Color: Black

This hose is made of tough gum rubber that stands up to sand, steel shot, and other abrasives. The hose and cover materials are conductive to dissipate static buildup. Surface resistivity is 10^3-10^6 ohms. Hose has a smooth interior and is reinforced with yarn. Suitable for outdoor use. Not rated for vacuum or bend radius.

Abrasive quick-connect couplings are aluminum. They have a unique head style that connects only to other abrasive quick-connect couplings. To connect, push the couplings together and twist for a leak-tight seal.

Hose

Maximum continuous length is 100 ft.



Hose ID	Hose OD	Max. psi @ 72°F		Per Ft. 1-99	Per Ft. 100-Up
1/2″	1 1/16″	150	5277K32	$4.73	$3.78
3/4″	1 1/2″	150	5277K33	5.96	4.76
1″	1 15/16″	150	5277K34	7.80	6.24
1 1/4″	2 3/16″	150	5277K15	8.29	6.63
1 1/2″	2 3/8″	150	5277K16	8.97	7.17
2″	2 7/8″	150	5277K18	13.55	10.84

Hose with Abrasive Quick-Connect Couplings

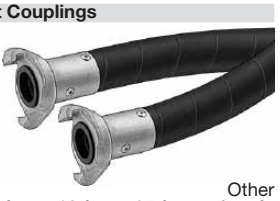

Hose OD	Max. psi @ 72°F		5 ft.	10 ft.	25 ft.	Other Lg., ft.
1 1/16″	150	5277K41	$61.96	$87.66	$164.76	1 to 100
1 1/2″	150	5277K42	66.36	99.21	197.76	1 to 100
1 15/16″	150	5277K43	78.60	121.70	251.00	1 to 100
2 3/16″	150	5277K44	104.29	148.79	282.29	1 to 100
2 3/8″	150	5277K45	128.40	179.55	333.00	1 to 100

Natural & LP Gas Hose

For information about pipe size and threads, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size of 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

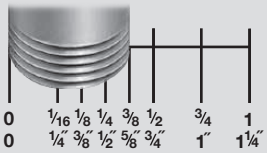

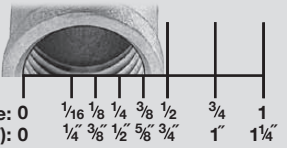

LP Gas Hose



- Temperature Range: -40° to 140° F
- Hose: Buna-N rubber with a neoprene rubber cover
- Color: Black

Also known as propane hose, this hose is for outdoor use only. It should not be used underground. Hose is CSA certified and UL recognized for use with liquefied-petroleum gas. Hose has a smooth interior and is reinforced with yarn. Not rated for vacuum.

Hose comes with male NPT fittings attached. Fittings with a pipe size of 1/4 and 3/8 are brass; those with a pipe size of 1/2 and larger are steel.

Pipe Size	Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		5 ft.	10 ft.	15 ft.	25 ft.	Other Lg., ft.
1/4	1/4"	5/8"	2 1/2"	350	45835K11	$20.17	$34.13	$48.86	$77.56	5 to 100
3/8	3/8"	13/16"	3 1/2"	350	45835K12	25.57	43.27	61.95	98.33	5 to 100
1/2	1/2"	15/16"	4 1/2"	350	45835K13	37.33	59.73	80.89	124.44	5 to 100
3/4	3/4"	1 1/4"	6 1/2"	350	45835K14	70.37	114.35	156.13	219.90	5 to 100
1	1"	1 1/2"	7 1/2"	350	45835K15	112.35	157.82	184.57	267.50	5 to 100

Natural and LP Gas Hose

Run gas through this heavy duty hose that's flexible enough for routing through walls and ceilings. Hose has a ribbed interior. Suitable for outdoor use. Not rated for vacuum.

For Natural and LP Gas

- Temperature Range: -40° to 200° F
- Hose: 304 stainless steel with a polyethylene cover
- Color: Yellow

Hose is not for use underground or with moveable appliances such as dryers and ranges. Fittings meet ANSI LC1 and CSA 6.26.

Male threaded fittings are brass and have NPT threads. They have a silicone O-ring and graphite gasket.

Hose with Male Threaded Fittings



Pipe Size	Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		10 ft.	15 ft.	25 ft.	50 ft.	75 ft.	100 ft.
1/2	1/2"	3/4"	3"	5	5814K55	$72.43	$91.32	$116.51	$188.94	$270.81	$314.90
3/4	3/4"	1 1/16"	3"	5	5814K56	93.78	119.35	157.71	251.49	328.21	426.25
1	1 1/16"	1 5/16"	5"	5	5814K57	124.79	157.35	193.70	303.84	396.08	542.57

For Natural and LP Gas Appliances

- Temperature Range: -40° to 150° F
- Hose: 304 stainless steel

Special appliance fittings on this hose let you connect dryers and ranges to your gas supply. Fittings meet ANSI Z2 and CSA 6a.

Easy-install male and **easy-install female threaded fittings** swivel 360° until tightened. They are zinc-plated steel and have NPT threads.

Hose with Easy-Install Male Threaded Fittings

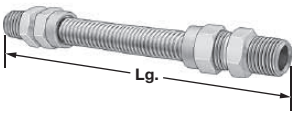

Pipe Size	Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		1 ft.	2 ft.	3 ft.	4 ft.	5 ft.	6 ft.
1/2	3/8"	1/2"	6 1/2"	0.5	5891K81	$11.25	$15.88	$19.19	$23.49	$29.12	$33.09
1/2	1/2"	5/8"	6 1/2"	0.5	5891K82	11.80	16.66	19.78	24.64	29.85	34.71
3/4 x 1/2	1/2"	5/8"	6 1/2"	0.5	5891K83	11.80	16.66	19.78	24.64	29.85	34.71

Hose with Easy-Install Male and Easy-Install Female Threaded Fittings



Pipe Size	Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		1 ft.	2 ft.	3 ft.	4 ft.	5 ft.	6 ft.
1/2	3/8"	1/2"	6 1/2"	0.5	5891K84	$11.25	$15.88	$19.19	$23.49	$28.46	$33.09
1/2	1/2"	5/8"	6 1/2"	0.5	5891K85	11.80	16.66	19.78	24.64	29.85	34.71

Hose with Easy-Install Female Threaded Fittings



Pipe Size	Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		1 ft.	2 ft.	3 ft.	4 ft.	5 ft.	6 ft.
3/8	3/8"	1/2"	6 1/2"	0.5	5891K86	$11.25	$15.88	$19.19	$23.49	$29.12	$33.09

Argon, Nitrogen, and Oxygen Hose

- Temperature Range: -65° to 450° F
- Hose: PTFE with a 304 stainless steel cover

This hose is often called pigtail hose. It comes cleaned, capped, and bagged to meet CGA (Compressed Gas Association) G4.1. Interior is smooth. Hose is suitable for outdoor use; it should not be used underground. Vacuum rating is 28″ Hg @ 72° F.

Male and **female threaded fittings** are brass and have NPT threads.

Hose with Female Threaded Fittings



Pipe Size	Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		2 ft.	5 ft.	Other Lg., ft.
1/4	1/4″	5/8″	3 1/2″	3,600	5665K81	$62.90	$104.94	1 1/2 to 25

Hose with Male and Female Threaded Fittings



Pipe Size	Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		2 ft.	5 ft.	Other Lg., ft.
1/4	1/4″	5/8″	3 1/2″	3,600	5665K61	$67.04	$111.93	1 1/2 to 25

High-Temperature Gas and Liquid Nitrogen Hose

Transfer industrial gases or liquid nitrogen across a wide temperature range with this hose. The braided reinforcement provides good flexibility in high-vibration applications. A cover surrounds the braid to protect it from damage, except 54935K62 does not have a cover. Hose interior is ribbed. Hose is suitable for outdoor use; it should not be used underground. Vacuum rating is 29″ Hg @ 72° F.

Hose for Argon, Nitrogen Gas, and Oxygen

- Temperature Range: -320° to 1500° F
- Hose: 316 stainless steel with a 304 stainless steel braid and cover

Hose comes cleaned, capped, and bagged to meet CGA (Compressed Gas Association) G4.1. It comes with female threaded fittings attached. They are 316 stainless steel and have NPT threads.



Pipe Size	Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		2 ft.	3 ft.	4 ft.	Other Lg., ft.
1/4	1/4″	13/16″	6 1/4″	3,600	5665K11	$123.98	$148.78	$199.75	1 1/2 to 25

Hose for Liquid Nitrogen

- Temperature Range: -320° to 1500° F
- Hose: 321 stainless steel with a 304 stainless steel braid

Hose comes cleaned, capped, and bagged to meet CGA (Compressed Gas Association) G4.1. It has 45° flared easy-install female threaded fittings attached that swivel 360° until tightened. Fittings are 316 stainless steel and have UNF threads.

Hose with Cover—A 304 stainless steel cover surrounds the braid to protect it from damage.

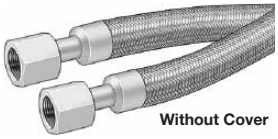

Without Cover

Thread Size	Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F		3 ft.	6 ft.	8 ft.	10 ft.	12 ft.	Other Lg., ft.
Without Cover											
3/4″-16	1/2″	13/16″	4 7/8″	1,160	54935K62	$148.69	$247.37	$297.68	$343.08	$398.47	2 to 25
With Cover											
3/4″-16	1/2″	15/16″	4 7/8″	1,160	54935K61	189.87	292.33	356.92	423.61	489.05	2 to 25

Hose with Tube Fittings for Liquid Nitrogen

- Temperature Range: -325° to 1250° F
- Hose: 316 stainless steel with a 304 stainless steel braid

Make connections to tubing and Yor-Lok tube fittings. Hose is air cleaned.

Yor-Lok tube fittings are 316 stainless steel. Also known as an instrumentation fitting, they have two sleeves (double ferrules) that bite into metal tubing for a strong seal.

Male threaded fittings are 316 stainless steel and have NPT threads.

Tube stem fittings are 316 stainless steel. They are a short length of tubing that inserts into the end of another tube fitting.





For Tube OD/ Stem OD	Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F	Hose with Yor-Lok Tube Fitting and Male Threaded Fitting: Pipe Size		1 ft.	2 ft.	3 ft.	Other Lg., ft.	Hose with Tube Stem Fitting and Yor-Lok Tube Fitting:	1 ft.	2 ft.	3 ft.	Other Lg., ft.
1/4″	1/4″	9/16″	5″	4,600	1/4	5425T94	$97.52	$118.37	$139.07	1 to 25	5425T97	$118.11	$138.84	$159.53	1 to 25
3/8″	3/8″	3/4″	5 1/2″	3,800	3/8	5425T95	111.75	138.26	163.84	1 to 25	5425T98	134.12	160.81	186.40	1 to 25
1/2″	1/2″	13/16″	5 3/4″	2,600	1/2	5425T96	129.79	160.23	191.40	1 to 25	5425T99	159.41	189.77	222.09	1 to 25





For Tube OD/ Stem OD	Hose ID	Hose OD	Bend Radius	Max. psi @ 72° F	Hose with Yor-Lok Tube Fittings	1 ft.	2 ft.	3 ft.	Other Lg., ft.	Hose with Tube Stem Fittings	1 ft.	2 ft.	3 ft.	Other Lg., ft.
1/4″	1/4″	9/16″	5″	4,600	5425T91	$125.06	$146.05	$166.74	1 to 25	5425T101	$115.90	$136.51	$157.21	1 to 25
3/8″	3/8″	3/4″	5 1/2″	3,800	5425T92	142.43	169.53	195.12	1 to 25	5425T102	126.29	152.33	177.91	1 to 25
1/2″	1/2″	13/16″	5 3/4″	2,600	5425T93	165.78	199.74	232.09	1 to 25	5425T103	156.36	183.95	215.12	1 to 25

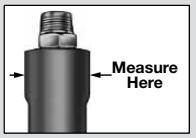

About Measuring Hose and Tube Clamps

The best way to measure the clamp size you need is to measure the outside diameter of your hose with the fitting installed. Some clamps accommodate a range of sizes, so be sure the size you need falls in the middle of that range.

Note: It is your responsibility to test and monitor clamps to ensure they are appropriate for your application.

General Purpose Worm-Drive Clamps for Firm Hose and Tube



So easy to install, it's no wonder these are the most frequently used style of hose clamps. Clamps are reusable. The banding is 0.023″ thick. Temperature range is -50° to 250° F. Clamps meet SAE J1508. Clamps are for firm plastic and rubber hose and tube. Do not exceed the maximum torque or clamps may be damaged.

5/16″ band width clamps tighten with a wrench, slotted screwdriver, or 1/4″ external hex nutdriver. Maximum torque is 15 in.-lbs.

1/2″ band width clamps tighten with a wrench, slotted screwdriver, or 5/16″ external hex nutdriver. Maximum torque is 35 in.-lbs.

9/16″ band width clamps tighten with a wrench, slotted screwdriver, or 5/16″ external hex nutdriver. Maximum torque is 35 in.-lbs.

301 Stainless Steel Clamps— Have a 301 stainless steel housing and band for very good corrosion resistance. The *zinc-plated screws* have fair corrosion resistance. The *410 stainless steel screws* offer good corrosion resistance. The *305 stainless steel screws* have very good corrosion resistance.

316 Stainless Steel Clamps with 316 Stainless Steel Screw— Have excellent corrosion resistance.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range Inch	mm	SAE No.	301 SS with Zinc-Plated Steel Screw Pkg. Qty.		Pkg.	301 SS with 410 SS Screw Pkg. Qty.		Pkg.	301 SS with 305 SS Screw Pkg. Qty.		Pkg.	316 SS with 316 SS Screw Pkg. Qty.		Pkg.
5/16″ Band Width														
7/32″-5/8″★	5.6-16	4	10	5388K14	$5.87	10	5321K14	$7.20	10	54195K14	$8.11	10	5011T141	$10.53
7/16″-25/32″★	11-20	6	10	5388K16	5.87	10	5321K16	7.20	10	54195K16	8.11	10	5011T161	10.53
1/2″-29/32″	13-23	8	10	5388K17	6.45	10	5321K17	7.54	10	54195K17	9.03	10	5011T171	11.73
9/16″-1 1/16″	14-27	10	10	5388K18	6.45	10	5321K18	7.54	10	54195K18	9.03	10	5011T181	11.73
1 1/16″-1 1/4″	17-32	12	10	5388K22	7.37	10	5321K22	8.45	10	54195K22	10.76	10	5011T221	13.98
15/16″-1 1/2″	24-38	16	10	5388K24	7.37	10	5321K24	8.45	10	54195K24	10.76	10	5011T241	13.98
1 3/16″-1 3/4″	30-44	20	10	5388K26	8.30	10	5321K26	9.41	10	54195K26	10.93	10	5011T261	14.19
1 7/16″-2″	37-51	24	10	5388K28	8.34	10	5321K28	9.41	10	54195K28	10.93	10	5011T281	14.19
1 11/16″-2 1/4″	43-57	28	10	5388K32	9.27	10	5321K32	10.41	10	54195K32	11.17	10	5011T321	14.50
1 15/16″-2 1/2″	49-64	32	10	5388K34	9.27	10	5321K34	10.41	10	54195K34	11.17	10	5011T341	14.50
1/2″ Band Width														
7/16″-25/32″★	11-20	6	10	5415K11	6.61	10	5416K11	9.55	10	54155K11	11.13	10	5011T11	14.45
1/2″-29/32″★	13-23	8	10	5415K32	6.61	10	5416K32	9.55	10	54155K32	11.13	10	5011T32	14.45
9/16″-1 1/16″★	14-27	10	10	5415K33	6.61	10	5416K33	9.55	10	54155K33	11.13	10	5011T33	14.45
1 1/16″-1 1/4″★	17-32	12	10	5415K14	6.74	10	5416K14	9.72	10	54155K14	11.13	10	5011T14	14.45
1 3/16″-1 1/2″★	21-38	16	10	5415K15	6.74	10	5416K15	9.72	10	54155K15	11.13	10	5011T15	14.45
1 3/16″-1 3/4″	21-44	20	10	5415K16	6.85	10	5416K16	9.88	10	54155K16	11.46	5	5011T16	7.44
1 1/16″-2″★	27-51	24	10	5415K17	6.85	10	5416K17	9.88	10	54155K17	11.46	5	5011T17	7.44
1 5/16″-2 1/4″	33-57	28	10	5415K18	6.99	10	5416K18	10.03	10	54155K18	11.62	5	5011T18	7.54
1 9/16″-2 1/2″	40-64	32	10	5415K19	6.99	10	5416K19	10.03	10	54155K19	11.62	5	5011T19	7.54
1 13/16″-2 3/4″★	46-70	36	10	5415K21	7.27	10	5416K21	10.46	10	54155K21	12.11	5	5011T21	7.87
1 7/8″-5″	48-127	72	10	5415K34	11.63	5	5416K34	8.31	5	54155K34	9.07	5	5011T34	10.49
2 1/16″-3″★	52-76	40	10	5415K22	9.00	10	5416K22	12.02	10	54155K22	13.55	5	5011T22	8.79
2 5/16″-3 1/4″	59-83	44	10	5415K23	9.91	10	5416K23	13.96	5	54155K23	8.20	5	5011T23	10.12
2 1/2″-5 1/2″	64-140	80	10	5415K35	13.36	5	5416K35	8.57	5	54155K35	9.35	5	5011T35	12.25
2 9/16″-3 1/2″	65-89	48	10	5415K24	9.91	10	5416K24	13.96	5	54155K24	8.20	5	5011T24	10.12
2 13/16″-3 3/4″	71-95	52	10	5415K25	10.68	5	5416K25	7.68	5	54155K25	8.55	5	5011T25	10.58
3 1/16″-4″	78-102	56	10	5415K41	10.68	5	5416K41	7.68	5	54155K41	8.55	5	5011T41	10.58
3 1/8″-6″	79-152	88	10	5415K36	13.69	5	5416K36	9.07	5	54155K36	9.18	5	5011T36	13.72
3 5/16″-4 1/4″	84-108	60	10	5415K42	11.05	5	5416K42	7.92	5	54155K42	8.41	5	5011T42	11.32
3 9/16″-4 1/2″	91-114	64	10	5415K26	11.05	5	5416K26	7.92	5	54155K26	8.41	5	5011T26	10.57
3 5/8″-6 1/2″	92-165	96	10	5415K37	13.95	5	5416K37	9.31	5	54155K37	9.12	5	5011T37	14.06
4 1/8″-7″	105-178	104	10	5415K38	14.11	5	5416K38	9.39	5	54155K38	9.20	5	5011T38	14.17
9/16″ Band Width														
7/16″-25/32″	11-20	6	10	5415K51	8.55	10	5416K45	10.64	10	54155K51	12.34	5	5011T51	8.68
1/2″-29/32″	13-23	8	10	5415K75	8.55	10	5416K53	10.64	10	54155K75	7.78	_	_____	_____
9/16″-1 1/16″	14-27	10	10	5415K76	8.55	10	5416K54	10.64	10	54155K76	7.78	_	_____	_____
1 1/16″-1 1/4″	17-32	12	10	5415K54	8.72	10	5416K46	10.93	10	54155K54	12.34	5	5011T54	8.68
1 3/16″-1 1/2″	21-38	16	10	5415K77	8.73	10	5416K55	10.93	10	54155K77	8.01	_	_____	_____
1 3/16″-1 3/4″	21-44	20	10	5415K78	8.73	10	5416K56	11.07	10	54155K78	8.01	_	_____	_____
1 1/16″-2″	27-51	24	10	5415K57	8.86	10	5416K47	11.07	10	54155K57	12.71	5	5011T57	8.94
1 5/16″-2 1/4″	33-57	28	10	5415K79	9.17	10	5416K57	11.22	10	54155K79	8.20	_	_____	_____
1 9/16″-2 1/2″	40-64	32	10	5415K81	9.17	10	5416K58	11.22	10	54155K81	8.20	_	_____	_____
1 13/16″-2 3/4″	46-70	36	10	5415K61	9.41	10	5416K48	11.67	10	54155K61	13.45	5	5011T61	9.44
2 1/16″-3″	52-76	40	10	5415K82	11.70	10	5416K59	14.25	10	54155K82	10.20	_	_____	_____
2 9/16″-3 1/2″	65-89	48	10	5415K64	12.82	5	5416K49	8.11	5	54155K64	9.09	5	5011T64	12.15
3 5/16″-4 1/4″	84-108	60	10	5415K67	14.30	5	5416K51	8.65	5	54155K67	9.25	5	5011T67	13.11
3 9/16″-4 1/2″	91-114	64	10	5415K86	14.08	5	5416K64	8.65	10	54155K86	11.83	_	_____	_____
3 5/8″-6 1/2″	92-165	96	5	5415K87	8.56	5	5416K65	10.81	5	54155K87	7.93	_	_____	_____
4 1/8″-7″	105-178	104	5	5415K74	9.05	5	5416K52	10.99	5	54155K74	9.72	2	5011T74	6.81
5 5/8″-8 1/2″	143-216	128	5	5415K39	9.89	5	5416K39	9.94	5	54155K39	10.77	1	5011T39	4.18
7 1/8″-10″	181-254	152	5	5415K43	9.27	5	5416K43	9.23	5	54155K43	9.85	2	5011T43	9.04
9 3/8″-12 1/4″	238-311	188	5	5415K44	9.20	5	5416K44	9.25	5	54155K44	9.84	2	5011T44	9.16

Assortments

Clamps come packed in a metal box with individual compartments for each clamp size. Each assortment includes a total of 100 clamps—10 of each size shown above with a ★. You'll also get two external hex nutdrivers (1/4″ and 5/16″ sizes).

Clamps with Zinc-Plated Steel Screw Assortment	5419K17	$99.37
Clamps with 410 Stainless Steel Screw Assortment	5419K19	122.13
Clamps with 305 Stainless Steel Screw Assortment	5419K21	147.92
Clamps with 316 Stainless Steel Screw Assortment	5419K22	171.47

Mil. Spec. Worm-Drive Clamps for Firm Hose and Tube



Just like the worm-drive clamps on the previous page, except these clamps meet MS-35842 and have that military spec stamped into the band. They also meet Fed. Spec. A-A52506 and SAE J1508. Clamps are reusable. The band and housing are 301 stainless steel, which offers very good corrosion resistance; the screws are 410 stainless steel, which offers good corrosion resistance. The band is 9/16" wide and 0.023" thick. Tighten with a wrench, slotted screwdriver, or 5/16" external hex nutdriver. Maximum torque is 40 in.-lbs. Do not exceed the maximum torque or clamps may be damaged. Temperature range is -50° to 250°F. Clamps are for firm plastic and rubber hose and tube.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range		SAE	Pkg.		
Inch	mm	No.	Qty.		Pkg.
7/16"-25/32"	11-20	6	10	54225K54	$12.31
11/16"-1 1/4"	17-32	12	10	54225K56	12.52
1 1/16"-2"	27-51	24	10	54225K58	12.71
1 13/16"-2 3/4"	46-70	36	10	54225K64	13.49
2 9/16"-3 1/2"	65-89	48	5	54225K66	$8.73
3 5/16"-4 1/4"	84-108	60	5	54225K68	9.45
4 1/8"-7"	105-178	104	5	54225K82	12.48

Worm-Drive Clamps with Thumb Screw for Firm Hose and Tube



A thumb screw instead of a slotted screw allows you to install these clamps without any tools. Clamps are reusable. The band and housing are 301 stainless steel, which offers very good corrosion resistance; the thumb screws are 410 stainless steel, which offers good corrosion resistance. The band is 9/16" wide and 0.023" thick. Temperature range is -50° to 250°F. Clamps meet SAE J1508. Clamps are for firm plastic and rubber hose and tube.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range		SAE	Pkg.		
Inch	mm	No.	Qty.		Pkg.
7/16"-25/32"	11-20	6	5	5362K11	$8.13
1/2"-29/32"	13-23	8	5	5362K12	8.13
9/16"-1 1/16"	14-27	10	5	5362K13	8.13
11/16"-1 1/4"	17-32	12	5	5362K14	8.24
13/16"-1 1/2"	21-38	16	5	5362K15	8.24
13/16"-1 3/4"	21-44	20	5	5362K16	8.44
1 1/16"-2"	27-51	24	5	5362K17	$8.44
1 5/16"-2 1/4"	33-57	28	5	5362K18	8.55
1 9/16"-2 1/2"	40-64	32	5	5362K19	8.55
1 13/16"-2 3/4"	46-70	36	5	5362K21	8.85
2 9/16"-3 1/2"	65-89	48	5	5362K24	11.04
4 1/8"-7"	105-178	104	5	5362K34	14.84

Worm-Drive Clamps with Nonslip Screw for Firm Hose and Tube





A raised safety collar around the head of the screw prevents your screwdriver from slipping and damaging the hose or tube. Clamps are reusable. The band and housing are 201 stainless steel, which offers good corrosion resistance; the screws are zinc-plated steel, which offers fair corrosion resistance. The band is 9/16" wide and 0.022" thick. Tighten with a wrench, slotted screwdriver, or 3/8" external hex nutdriver. Maximum torque is 30 in.-lbs. Do not exceed the maximum torque or clamps may be damaged. Temperature range is -40° to 375°F. Clamps meet SAE J1508 and Fed. Spec. WW-C-440B. Clamps are for firm plastic and rubber hose and tube.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range		SAE	Pkg.		
Inch	mm	No.	Qty.		Pkg.
3/8"-7/8"	10-22	6	10	5407K57	$11.53
7/16"-1"	11-25	8	10	5407K58	11.53
1/2"-1 1/16"	13-27	10	10	5407K59	11.53
1/2"-1 1/4"	13-32	12	10	5407K61	11.77
11/16"-1 1/2"	17-38	16	10	5407K62	11.77
3/4"-1 3/4"	19-44	20	10	5407K63	11.40
1"-2"	25-51	24	10	5407K64	11.90
1 1/4"-2 1/4"	32-57	28	10	5407K65	12.17
1 1/2"-2 1/2"	38-63	32	10	5407K66	$12.17
1 3/4"-2 3/4"	44-70	36	10	5407K21	12.67
2"-3"	51-76	40	5	5407K22	7.87
2 1/4"-3 1/4"	57-82	44	5	5407K23	8.65
2 1/2"-3 1/2"	64-89	48	5	5407K24	8.65
2 3/4"-3 3/4"	70-95	52	5	5407K25	10.43
3"-4"	76-101	56	5	5407K26	10.43

Quick-Release Clamps for Firm Hose and Tube



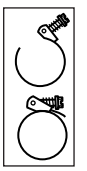

Clamps have a slotted hex-head screw that flips up to release the band for quick opening. Clamps are reusable. All have a 201 stainless steel band and housing, which has good corrosion resistance. The band is 9/16" wide and 0.022" thick. Clamps are for firm plastic and rubber hose and tube. Do not exceed the maximum torque or clamps may be damaged.

Clamps with Zinc-Plated Steel Screw—Screws offer fair corrosion resistance. Tighten with a wrench, slotted screwdriver, or 5/16" external hex nutdriver. Maximum torque is 35 in.-lbs. Temperature range is -40° to 375°F.

Clamps with 410 Stainless Steel Screw—Screws have good corrosion resistance. Tighten with a wrench, slotted screwdriver, or 3/8" external hex nutdriver. Maximum torque is 35 in.-lbs. Temperature range is -40° to 800°F.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range		SAE	With Zinc-Plated Steel Screw			With 410 SS Screw		
Inch	mm	No.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
1/2"-1 1/4"	13-32	12	10	5322K14	$8.31	10	5322K53	$13.00
3/4"-1 3/4"	19-44	20	10	5322K15	8.21	10	5322K54	13.80
1"-2 1/4"	25-57	28	10	5322K16	8.73	10	5322K56	14.39
1"-2 3/4"	25-70	36	10	5322K17	9.04	10	5322K57	15.23
1"-4"	25-101	56	10	5322K19	12.06	5	5322K59	9.97
1 1/2"-3 1/2"	38-89	48	10	5322K18	11.15	5	5322K58	9.56
1 3/4"-7"	44-178	104	5	5322K23	9.52	5	5322K63	14.35
1 3/4"-7 3/4"	44-197	116	5	5322K34	9.94	1	5322K64	3.01
1 13/16"-15"	46-381	232	1	5322K37	2.55	_	_____	_____
1 13/16"-18 1/2"	45-470	288	1	5322K41	3.05	_	_____	_____
1 15/16"-16 1/4"	49-413	258	1	5322K38	2.93	_	_____	_____
2"-5"	51-127	72	10	5322K21	14.06	5	5322K61	11.89
2"-6"	51-152	88	10	5322K22	14.60	5	5322K62	13.12
2"-10"	51-254	152	5	5322K36	12.53	1	5322K66	3.37
2"-12 1/4"	51-311	188	5	5322K24	9.55	1	5322K67	3.73
2 1/16"-17"	52-432	272	1	5322K39	2.92	_	_____	_____
2 1/16"-21 1/4"	52-540	332	1	5322K42	4.99	1	5322K68	5.06
2 1/4"-8 1/2"	57-216	128	5	5322K35	10.05	1	5322K65	3.12

Build-Your-Own Worm-Drive Clamps for Firm Hose and Tube

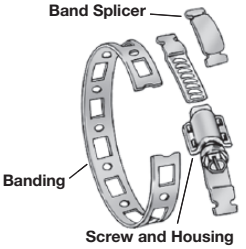

Here's everything you need to make your own 3″ diameter and larger custom-length worm-drive clamps. Cut a length of band from the continuous roll and attach a housing and a screw. Use a band splicer to attach two lengths of band for an even larger clamp. Clamps are reusable. The bands, band splicers, and housing are 301 stainless steel, which offers very good corrosion resistance; the screws are 410 stainless steel, which offers good corrosion resistance. The band is ½″ wide and 0.023″ thick. Tighten with a wrench, slotted screwdriver, or 5/16″ external hex nutdriver. Maximum torque is 40 in.-lbs. Do not exceed the maximum torque or clamps may be damaged. Temperature range is -50° to 250° F. Clamps are for firm plastic and rubber hose and tube.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Band Lg., ft.	No. of Band Splicers	No. of Screws and Housings		Each
8½	1	3	5426K1	$14.16
50	5	10	5426K2	45.50
100	10	25	5426K4	97.10

		Box
Box of 10 Band Splicers	5426K6	$0.99
Box of 10 Screws and Housings	5426K3	20.42
Box of 10 Band Splicers and 100 ft. Banding	5426K7	48.99

Vibration-Resistant Worm-Drive Clamps for Firm Hose and Tube



Unlike vibration-resistant pinch clamps, these have a torque rating for extra holding power in high-vibration applications. They are also known as high-torque clamps. Clamps are reusable. The band is 5/8″ wide and 0.028″ thick. Tighten with a slotted screwdriver, 5/16″ socket, or 5/16″ external hex nutdriver. Clamps meet SAE J1508. Clamps are for firm plastic and rubber hose and tube. Maximum torque is 80 in.-lbs. Do not exceed the maximum torque or clamps may be damaged.

304 Stainless Steel Clamps with 410 Stainless Steel Screw—Temperature range is -40° to 800° F.

316 Stainless Steel Clamps with 316 Stainless Steel Screw—Have excellent corrosion resistance. Band and housing are 316 stainless steel. Temperature range is -50° to 250° F.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range Inch	mm	SAE No.	304 Stainless Steel with 410 Stainless Steel Screw Pkg. Qty.		Pkg.	316 Stainless Steel with 316 Stainless Steel Screw Pkg. Qty.		Pkg.
1″-1¾″	25-45	175	2	5661K55	$5.82	5	5682K11	$14.46
1¼″-2⅛″	32-54	212	2	5661K11	5.82	5	5682K12	14.46
1¼″-2⅝″	32-66	262	5	5663K11	14.09	2	5682K51	6.25
1¾″-2⅝″	45-66	262	2	5661K12	5.89	5	5682K13	14.65
2″-4⅛″	51-104	412	5	5663K12	15.03	—	—	—
2⅛″-4⅛″	51-104	412	—	—	—	2	5682K52	6.67
2¼″-3⅛″	57-79	312	2	5661K13	8.37	5	5682K14	15.26
2¾″-3⅝″	70-92	362	2	5661K14	6.38	2	5682K15	6.47
3¼″-4⅛″	83-105	412	2	5661K15	6.54	2	5682K16	6.67
3¾″-4⅝″	95-117	462	2	5661K16	6.63	2	5682K17	6.84
4″-6⅛″	102-155	612	2	5663K13	9.73	2	5682K53	10.28
4¼″-5⅛″	108-130	512	2	5661K17	6.87	2	5682K18	7.07
4¾″-5⅝″	121-143	562	2	5661K18	$9.15	2	5682K19	$9.16
5¼″-6⅛″	133-155	612	2	5661K19	9.15	2	5682K21	9.55
5¾″-6⅝″	146-168	662	2	5661K21	8.76	2	5682K22	9.16
6⅛″-9⅛″	156-231	912	2	5663K14	11.56	2	5682K54	12.20
6¼″-7⅛″	159-181	712	2	5661K22	9.15	2	5682K23	9.55
6¾″-7⅝″	172-193	762	2	5661K23	9.84	2	5682K24	10.28
7¼″-8⅛″	184-206	812	2	5661K24	9.99	2	5682K25	10.44
7¾″-8⅝″	197-219	862	2	5661K25	9.99	2	5682K26	10.44
8¼″-9⅛″	210-232	912	2	5661K26	10.21	2	5682K27	10.67

Worm-Drive Clamps for Soft Hose and Tube



An extended tail acts as a liner to protect soft hose and tube, such as silicone, from being cut by the slots in the band. Clamps are reusable. Tighten with a slotted screwdriver, 5/16″ socket, or 5/16″ external hex nutdriver. Maximum torque is 35 in.-lbs. Do not exceed the maximum torque or clamps may be damaged. Clamps meet SAE J1508 and Fed. Spec. WW-C-440B.

201 Stainless Steel Clamps with Zinc-Plated Steel Screw—The band and housing are 201 stainless steel for very good corrosion resistance; the screw is zinc-plated steel for fair corrosion resistance. The band is ½″ wide and 0.022″ thick. Temperature range is -40° to 375° F.

301 Stainless Steel Clamps with 305 Stainless Steel Screw—The band and housing are 301 stainless steel for very good corrosion resistance; the screw is 305 stainless steel, which also has very good corrosion resistance. The band is 9/16″ wide and 0.022″ thick. Temperature range is -40° to 800° F.

316 Stainless Steel Clamps with 316 Stainless Steel Screw—Have excellent corrosion resistance. The band is ½″ wide and 0.024″ thick. Temperature range is -40° to 800° F.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range Inch	mm	SAE No.	201 Stainless Steel with Zinc-Plated Steel Screw Pkg. Qty.		Pkg.	301 Stainless Steel with 305 Stainless Steel Screw Pkg. Qty.		Pkg.	316 Stainless Steel with 316 Stainless Steel Screw Pkg. Qty.		Pkg.
1/2″-7/8″	13-22	6	10	5413K49	$10.86	—	—	—	—	—	—
5/8″-1″	16-25	8	10	5413K51	11.67	10	54235K51	$13.77	5	6151K51	$10.79
11/16″-1 1/16″	17-27	10	10	5413K52	11.67	10	54235K52	13.69	5	6151K52	10.96
11/16″-1 1/4″	17-32	12	10	5413K53	11.84	10	54235K53	14.09	5	6151K53	11.09
3/4″-1 1/2″	19-38	16	10	5413K54	11.84	10	54235K54	14.09	5	6151K54	11.09
1″-1 3/4″	25-44	20	10	5413K55	12.13	10	54235K55	14.26	5	6151K55	11.24
1 1/16″-2″	27-51	24	10	5413K56	12.13	10	54235K56	14.26	5	6151K56	11.24
1 5/16″-2 1/4″	33-57	28	10	5413K57	12.13	10	54235K57	14.40	5	6151K57	11.39
1 9/16″-2 1/2″	40-63	32	10	5413K58	11.98	10	54235K58	14.40	5	6151K58	11.39
1 13/16″-2 3/4″	46-70	36	10	5413K59	12.56	10	54235K59	14.80	5	6151K59	11.69
2 1/16″-3″	52-76	40	10	5413K61	14.68	5	54235K61	10.13	5	6151K61	12.29
2 5/16″-3 1/4″	59-82	44	5	5413K62	8.63	5	54235K62	10.13	5	6151K62	12.70
2 9/16″-3 1/2″	65-89	48	5	5413K63	8.73	5	54235K63	10.13	5	6151K63	12.97
2 13/16″-3 3/4″	72-95	52	5	5413K64	9.07	5	54235K64	10.89	5	6151K64	13.40
3 1/16″-4″	78-101	56	5	5413K65	9.07	5	54235K65	10.89	5	6151K65	13.67
3 9/16″-4 1/2″	91-114	64	5	5413K66	10.19	5	54235K68	11.96	5	6151K66	14.54
4 1/16″-5″	103-127	72	5	5413K67	10.16	5	54235K69	12.30	5	6151K67	15.24

Worm-Drive Clamps with Smooth Bands for Soft Hose and Tube



Clamps have a smooth band with rolled edges to prevent them from cutting into your hose or tube. Clamps are reusable. The band is 3/8″ wide and 0.024″ thick. Temperature range is -40° to 350° F. Clamps meet DIN 3017. Clamps are for use with soft hose and tube, such as silicone. Do not exceed maximum torque or clamps may be damaged.

430 stainless steel clamps have a 430 stainless steel band and housing for good corrosion resistance. Clamps have a zinc-plated steel screw, which has fair corrosion resistance. Tighten with a slotted or Phillips screwdriver, or a 9/32″ (7mm) external hex nutdriver. Maximum torque is 20 in.-lbs.

304 stainless steel clamps have a 304 stainless steel band, housing, and screw, which has very good corrosion resistance. Tighten with a slotted screwdriver or a 9/32″ (7mm) external hex nutdriver. Maximum torque is 26.5 in.-lbs, unless noted.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range Inch	mm	SAE No.	Pkg. Qty.		Pkg.
430 Stainless Steel					
5/16″-5/8″	8-16	2	10	5076K31	$8.37
1/2″-3/4″	12-20	4	10	5076K13	8.41
5/8″-1 1/16″	16-27	10	10	5076K14	8.46
3/4″-1 1/4″	20-32	12	10	5076K15	8.46
1″-1 5/8″	25-40	18	10	5076K16	9.25
1 1/4″-2″	32-50	24	10	5076K17	9.70
1 5/8″-2 3/8″	40-60	30	10	5076K18	10.09
2″-2 3/4″	50-70	36	10	5076K19	10.61
2 3/8″-3 1/8″	60-80	42	10	5076K21	12.13
2 3/4″-3 1/2″	70-90	48	10	5076K22	12.66
3 1/8″-4″	80-100	56	10	5076K23	13.07
3 1/2″-4 3/8″	90-110	62	10	5076K24	13.74
4″-4 3/4″	100-120	68	10	5076K25	14.19
4 3/8″-5 1/8″	110-130	74	5	5076K26	10.40
4 3/4″-5 1/2″	120-140	80	5	5076K27	10.62
5 1/8″-5 7/8″	130-150	86	5	5076K28	10.92
5 1/2″-6 1/4″	140-160	92	5	5076K29	11.01

Clamp ID Range Inch	mm	SAE No.	Pkg. Qty.		Pkg.
304 Stainless Steel					
5/16″-5/8″	8-16	2	10	5574K12★	$9.63
1/2″-3/4″	12-20	4	10	5574K13	9.66
5/8″-1 1/16″	16-27	10	10	5574K14	9.73
3/4″-1 1/4″	20-32	12	10	5574K15	9.97
1″-1 5/8″	25-40	18	10	5574K16	10.64
1 1/4″-2″	32-50	24	10	5574K17	11.15
1 5/8″-2 3/8″	40-60	30	10	5574K18	11.61
2″-2 3/4″	50-70	36	10	5574K19	12.19
2 3/8″-3 1/8″	60-80	42	10	5574K21	13.94
2 3/4″-3 1/2″	70-90	48	10	5574K22	14.55
3 1/8″-4″	80-100	56	10	5574K23	15.01
3 1/2″-4 3/8″	90-110	62	5	5574K24	8.30
4″-4 3/4″	100-120	68	5	5574K25	8.57
4 3/8″-5 1/8″	110-130	74	5	5574K26	12.52
4 3/4″-5 1/2″	120-140	80	5	5574K27	12.22
5 1/8″-5 7/8″	130-150	86	5	5574K28	12.56
5 1/2″-6 1/4″	140-160	92	5	5574K29	12.66

★Torque is 17.7 in.-lbs.

316 Stainless Steel Worm-Drive Clamps with Smooth Bands for Soft Hose and Tube



Excellent corrosion resistance is only one reason to use these all-316 stainless steel clamps—they also have a smooth band with rolled edges to prevent them from cutting into hoses and tubes. Clamps are reusable. The band is 1/2″ wide (unless noted) and 0.031″ thick. Tighten with a 9/32″ (7 mm) external hex nutdriver. Temperature range is -40° to 1200° F. Clamps meet SAE J1508. Clamps are for use with soft hose and tube, such as silicone. Do not exceed the maximum torque or clamps may be damaged.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range Inch	mm	SAE No.	Max. Torque, in.-lbs.		Pkg.
7/16″-1 1/16″	11-17	4	35	45945K61 ■	$3.42
1/2″-1 3/16″	13-20	6	35	45945K62 ■	3.61
5/8″-1 5/16″	15-24	8	35	45945K63	3.61
3/4″-1 1/8″	19-28	10	45	45945K64	3.79
7/8″-1 1/4″	22-32	12	45	45945K65	3.79
1 1/16″-1 1/2″	26-38	16	45	45945K66	3.85
1 1/4″-1 3/4″	32-44	20	45	45945K67	3.95
1 1/4″-2 1/4″	32-57	28	60	45945K29	4.22
1 1/2″-2″	38-50	24	60	45945K68	4.12
1 1/2″-2 1/2″	38-64	32	60	45945K31	4.72
1 3/4″-2 3/4″	44-70	36	60	45945K15	4.96
2″-3″	51-76	40	60	45945K32	5.02
2 1/4″-3 1/4″	57-83	44	60	45945K33	5.37
2 1/2″-3 1/2″	64-89	48	60	45945K16	5.50
2 3/4″-3 3/4″	70-95	52	60	45945K34	5.63

■ Band width is 3/8″.

Clamp ID Range Inch	mm	SAE No.	Max. Torque, in.-lbs.		Pkg.
3″-4″	76-102	56	60	45945K17	$6.06
3 1/4″-4 1/4″	83-108	60	60	45945K18	6.26
3 1/2″-4 1/2″	89-114	64	60	45945K35	6.08
3 1/2″-5″	89-127	72	60	45945K19	6.25
4″-5 1/2″	102-140	80	60	45945K36	6.50
4 1/2″-6″	114-152	88	60	45945K21	6.75
5″-6 1/2″	127-165	96	60	45945K37	7.61
5 1/2″-7″	140-178	104	60	45945K38	8.20
6″-7 1/2″	152-191	112	60	45945K22	8.51
6 1/2″-8″	165-203	120	60	45945K39	8.80
7″-8 1/2″	178-216	128	60	45945K23	9.02
7 5/8″-9 1/8″	194-232	138	60	45945K41	9.45
8 5/8″-10 1/8″	219-257	154	60	45945K42	9.98
9 5/8″-11 1/8″	244-283	170	60	45945K43	10.43
10 5/8″-12 1/8″	270-308	186	60	45945K44	11.03

70-Clamp Assortment—Clamps come packed in a metal box with individual compartments for each clamp size. Includes 10 each of SAE Nos. 4-10 and 5 each of SAE Nos. 12-32 from the list above; sizes range from 7/16″ to 2 1/2″ (11 mm to 64 mm). You'll also get a 9/32″ (7 mm) external hex nutdriver.

54265K17 $246.06

140-Clamp Assortment—Clamps come packed in a metal box with individual compartments for each clamp size. Includes 20 each of SAE Nos. 4-10 and 10 each of SAE Nos. 12-32 from the list above; sizes range from 7/16″ to 2 1/2″ (11 mm to 64 mm). You'll also get a 9/32″ (7 mm) external hex nutdriver.

54265K14 $436.05

Build-Your-Own Worm-Drive Clamps for Soft Hose and Tube



Screw and Housing

Banding

Build your own 2″ diameter and larger smooth-band worm-drive clamps for soft hose and tube, such as silicone. To install, cut the banding to your desired length with wire snips, feed it through the housing (sold separately) and attach a screw. Clamps are reusable. The banding and housing are 200/300 series stainless steel for very good corrosion resistance. The screw is 410 stainless steel, which offers good corrosion resistance. The band is 3/8″ wide and 0.015″ thick. Tighten with a slotted screwdriver or a 5/16″ external hex nutdriver. Maximum torque is not rated. Temperature range is -100° to 500° F.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Band Lg., ft.	No. of Screws and Housings		
100	25	5540K11	$182.66
Repl. Screws and Housings (Pkg. of 5)		5540K14	25.92

Constant-Tension Clamps for Soft Hose and Tube



Don't worry about your hose and tube expanding and contracting when temperatures fluctuate—these clamps have a Belleville spring that automatically increases and decreases the clamp's diameter. Clamps have an extended tail on the band, which acts as a liner to protect soft hose and tube, such as silicone, from being cut. Clamps are reusable. The band is 0.028" thick. Temperature range is -50° to 250°F. Clamps meet SAE J1508. Do not exceed the maximum torque or clamps may be damaged.

9/16" Band Width—Band and spring are 301 stainless steel and the housing is 302 stainless steel, which both offer very good corrosion resistance. The screw is 410 stainless steel, which offers good corrosion resistance. Tighten with a wrench or 5/16" external hex nutdriver. Maximum torque is 45 in.-lbs.

5/8" Band Width—The band and housing are 304 stainless steel and the spring is 301 stainless steel, which both offer very good corrosion resistance. The *zinc-plated steel screw* has fair corrosion resistance; the *410 stainless steel* screw has good corrosion resistance. Tighten with a wrench or 3/8" external hex nutdriver. Maximum torque is 90 in.-lbs.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range Inch	Clamp ID Range mm	SAE No.	With Zinc-Plated Steel Screw		With 410 SS Screw	
9/16" Band Width						
9/16"-1 1/16"	14-27	10			54205K11	$5.25
1 1/16"-1 1/4"	17-32	12			54205K13	5.58
1 3/16"-1 1/2"	21-38	16			54205K15	5.76
1 3/16"-1 3/4"	21-44	20			54205K17	5.93
1 1/16"-2"	27-51	24			54205K19	6.11
5/8" Band Width						
1"-1 3/4"	25-44		5281K16	$7.18	5325K27	9.12
1 1/4"-2 1/8"	32-54	212	5281K17	7.18	5325K28	9.12
1 3/4"-2 5/8"	44-67	262	5281K18	7.22	5325K29	9.17
2 1/4"-3 1/8"	57-79	312	5281K19	7.34	5325K31	9.32
2 3/4"-3 5/8"	70-92	362	5281K21	7.41	5325K32	9.40
3 1/4"-4 1/8"	83-105	412	5281K22	7.51	5325K33	9.52
3 3/4"-4 5/8"	95-117	462	5281K23	7.60	5325K34	9.62
4 1/4"-5 1/8"	108-130	512	5281K24	7.72	5325K35	9.77
4 3/4"-5 5/8"	121-143	562	5281K25	7.97	5325K36	10.08
5 1/4"-6 1/8"	133-156	612	5281K26	8.07	5325K37	10.22
5 3/4"-6 5/8"	146-168	662	5281K27	8.11	5325K38	10.27
6 1/4"-7 1/8"	159-181	712	5281K28	8.26	5325K39	10.45
6 3/4"-7 5/8"	171-194	762	5281K29	8.59	5325K41	10.85
7 1/4"-8 1/8"	184-206	812	5281K31	8.70	5325K42	10.98
7 3/4"-8 5/8"	197-219	862	5281K32	8.78	5325K43	11.08
8 1/4"-9 1/8"	210-232	912	5281K33	8.90	5325K44	11.24

Work-Load-Rated Quick-Release Duct Hose Clamps



Unlike other duct hose clamps, these are rated for maximum work load (the maximum force the latch can withstand without affecting its operation or appearance). Clamps have a quick-release latch that lets you access your line frequently while maintaining your original clamp size. Clamps are reusable. The band, housing, and latch are 304 stainless steel, which offers very good corrosion resistance. The screw is 410 stainless steel, which offers good corrosion resistance. The band is 5/8" wide and 0.031" thick. Tighten with a slotted screwdriver, 8 mm socket, or 8 mm external hex nutdriver. Maximum torque is 130 in.-lbs. Do not exceed the maximum torque or clamps may be damaged. Temperature range is -4° to 428°F.

220-lb. clamps have a latch that is 7/8" wide. **450-lb. clamps** have a latch that is 15/16" wide.

Note: When choosing a clamp, measure the outside diameter of your hose with the fitting installed.

Also Available: All zinc-plated steel clamps offered in the same sizes marked with a ★ below. Work load limit is 150 lbs. Temperature range is 33° to 400°F. Please ask for 5588K1 and specify clamp ID range.

220-lb. Work Load Limit

Clamp ID Range Inch	Clamp ID Range mm		
2 3/4"-4 1/2"	70-115	5215K11★	$38.50
3 1/2"-5 3/8"	90-135	5215K12★	39.03
5 1/8"-6 7/8"	130-175	5215K13★	41.21
6 3/4"-8 1/2"	170-215	5215K14★	43.30
8 1/4"-10"	210-255	5215K15★	45.61
9 7/8"-11 5/8"	250-295	5215K16★	47.88
11 3/8"-13 1/4"	290-335	5215K17★	49.74
13"-14 3/4"	330-375	5215K18★	52.12

450-lb. Work Load Limit

Clamp ID Range Inch	Clamp ID Range mm		
9 7/8"-11 5/8"	250-295	5215K26	$62.58
11 3/8"-13 1/4"	290-335	5215K27	65.30
13"-14 3/4"	330-375	5215K28	68.67
14 5/8"-16 3/8"	370-415	5215K29	72.45
16 1/8"-17 7/8"	410-455	5215K31	77.06
17 3/4"-19 1/2"	450-495	5215K32	81.64
19 1/4"-21 1/8"	490-535	5215K33	87.36
20 7/8"-22 5/8"	530-575	5215K34	93.00
22 1/2"-24 1/4"	570-615	5215K35	99.39

Quick-Release Duct Hose Clamps



Flip the toggle latch to install and remove these clamps in seconds. Clamps open completely for easy installation around blower hose and ventilation duct. Clamps are reusable. They are galvanized steel with a zinc-plated steel latch and have fair corrosion resistance. The band is 7/8" wide and 0.035" thick. Temperature range is -250° to 500°F.

Note: When choosing a clamp, measure the outside diameter of your hose with the fitting installed.

Clamp ID Range Inch	Clamp ID Range mm		
4"-4 1/4"	101-108	53185K51	$13.96
6"-6 1/4"	152-159	53185K52	15.10
8 3/16"-8 3/8"	208-213	53185K53	15.42
10 3/16"-10 3/8"	259-264	53185K54	15.66
12 1/4"-12 7/16"	311-316	53185K55	16.16

Clamp ID Range Inch	Clamp ID Range mm		
14 1/4"-14 7/16"	362-366	53185K56	$25.91
16 3/16"-16 3/8"	411-415	53185K57	26.47
18 3/16"-18 3/8"	462-466	53185K58	27.28
20 3/16"-20 3/8"	513-517	53185K59	28.06
24 3/16"-24 7/16"	614-620	53185K61	29.03

Duct Hose Clamps for Spiral Duct



Right-Hand Spiral



Right-Hand Spiral



Left-Hand Spiral

Also known as bridge clamps, these worm-drive clamps align with the spiral support on wire duct hose to provide a tight seal. Clamps are reusable. The band and housing are 301 stainless steel and the screw is 305 stainless steel; they have very good corrosion resistance. The band is 1/2" wide and 0.025" thick. Tighten with a slotted screwdriver, 5/16" socket, or 5/16" external hex nutdriver. Maximum torque is 35 in.-lbs. Do not exceed the maximum torque or clamps may be damaged. Temperature range is -250° to 500°F.

To Order: Please specify right-hand or left-hand spiral. When looking at the end of your hose, a **right-hand spiral** twists away from you clockwise; a **left-hand spiral** twists away from you counterclockwise.

Clamp ID Range Inch	Clamp ID Range mm		
3 1/4"-4 3/4"	83-121	45955K31	$5.69
4 1/4"-5 3/4"	108-146	45955K32	6.31
5 1/4"-6 3/4"	133-171	45955K33	6.71
7 1/4"-8 3/4"	184-222	45955K34	7.97
8 1/4"-9 3/4"	210-248	45955K35	9.94

Clamp ID Range Inch	Clamp ID Range mm		
9 1/4"-10 3/4"	235-273	45955K36	$11.14
11 1/4"-12 3/4"	286-324	45955K37	13.71
13 1/4"-14 3/4"	337-375	45955K38	16.31
15 1/4"-16 3/4"	387-425	45955K39	17.49
17 1/4"-18 3/4"	438-476	45955K41	18.77

Miniature Tight-Seal Bolt Clamps for Soft Hose and Tube



Stainless Steel

Sized perfectly for small-diameter hose and tube. The bolt design creates a 360° seal to prevent leaks. Clamps have rolled edges to protect soft hose and tube, such as silicone. Clamps are reusable and meet SAE J1508. The band is 3/8" wide and 0.02" thick. Maximum torque is 13.3 in.-lbs. Do not exceed or clamps may be damaged. Temperature range is -40° to 450°F.

Galvanized steel clamps have fair corrosion resistance. Tighten with a slotted screwdriver or 9/32" hex nutdriver.

304 stainless steel clamps have very good corrosion resistance. Tighten with a Phillips screwdriver or 9/32" hex nutdriver.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range Inch	mm	Pkg. Qty.		Pkg.
Galvanized Steel with Zinc-Plated Steel Screw				
9/32"-21/64"	7-8.5	10	53175K81	$10.01
5/16"-3/8"	8-9.5	10	53175K82	10.01
23/64"-13/32"	9-10.5	10	53175K83	10.66
3/8"-29/64"	9.5-11.5	10	53175K84	10.66
13/32"-31/64"	10.5-12.5	10	53175K85	11.12
29/64"-17/32"	11.5-13.5	10	53175K86	11.12
31/64"-37/64"	12.5-14.5	10	53175K87	11.69
17/32"-39/64"	13.5-15.5	10	53175K88	11.69
35/64"-21/32"	14-16.5	10	53175K89	12.31
19/32"-11/16"	15-17.5	10	53175K91	12.31
304 Stainless Steel with 304 Stainless Steel Screw				
19/64"-21/64"	7.5-8.5	5	53175K21	9.51
21/64"-3/8"	8.5-9.5	5	53175K22	9.51
3/8"-7/16"	9.5-11	5	53175K23	9.61
13/32"-15/32"	10.5-12	5	53175K24	9.61
29/64"-33/64"	11.5-13	5	53175K25	9.70
31/64"-35/64"	12.5-14	5	53175K26	9.70
17/32"-19/32"	13.5-15	5	53175K27	9.83
37/64"-5/8"	14.5-16	5	53175K28	9.83
19/32"-43/64"	15-17	5	53175K29	9.94
5/8"-45/64"	16-18	5	53175K31	9.94

Constant-Tension Bolt Clamps for Firm Hose and Tube



The T-bolt design provides excellent strength and creates a 360° seal. Clamps have a spring that automatically adjusts the clamp diameter to compensate for the expansion and contraction of hose and tube when temperatures fluctuate. Clamps are for firm plastic and rubber hose and tube. They are reusable. The band is 3/4" wide and 0.025" thick. The locknut has a nylon insert. Tighten with a 7/16" wrench or hex nutdriver. Maximum torque is 75 in.-lbs. Do not exceed or clamps may be damaged. Maximum temperature is 250°F.

301 Stainless Steel Clamps with Zinc-Plated Steel Bolt—T-bolt, spring, and locknut are zinc-plated steel, which has fair corrosion resistance.

316 Stainless Steel Clamps with 316 Stainless Steel Bolt—Excellent corrosion resistance.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range Inch	mm	301 SS with Zinc-Plated Steel Bolt		316 SS with 316 SS Bolt	
2 1/16"-2 5/16"	52-59	8946K51	$8.91	5276K51	$14.58
2 7/16"-2 3/4"	62-70	8946K31	8.98	5276K31	14.84
2 3/4"-3 1/16"	70-78	8946K52	9.23	5276K52	14.90
2 15/16"-3 1/4"	75-83	8946K32	9.16	5276K32	15.12
3 1/4"-3 9/16"	83-90	8946K53	9.46	5276K53	15.14
3 7/16"-3 3/4"	87-95	8946K33	9.37	5276K33	15.38
3 3/4"-4 1/16"	95-103	8946K54	9.71	5276K54	15.38
3 15/16"-4 1/4"	100-108	8946K34	9.63	5276K34	15.70
4 1/4"-4 9/16"	108-116	8946K55	9.94	5276K55	15.60
4 7/16"-4 3/4"	114-121	8946K35	9.86	5276K35	15.98
4 15/16"-5 1/4"	126-133	8946K36	10.12	5276K36	16.28
5 7/16"-5 7/8"	138-149	8946K37	10.39	5276K37	16.56
5 15/16"-6 1/4"	151-159	8946K38	10.60	5276K38	16.88
6 7/16"-6 3/4"	164-171	8946K39	10.92	5276K39	17.18
6 15/16"-7 1/4"	176-184	8946K41	11.08	5276K41	17.50
7 7/16"-7 3/4"	189-197	8946K42	11.36	5276K42	17.80
7 15/16"-8 1/4"	202-210	8946K43	11.60	5276K43	18.08
8 7/16"-8 3/4"	214-222	8946K44	11.92	5276K44	18.38
8 15/16"-9 1/4"	227-235	8946K45	12.12	5276K45	18.66

Tight-Seal Easy-Install Bolt Clamps for Soft Hose and Tube





Remove the bolt and flip open the hinged bridge to install. The bolt design provides good strength and creates a 360° seal to prevent leaks. Clamps have rolled edges to protect soft hose and tube, such as silicone. They are reusable. Do not exceed the maximum torque or clamps may be damaged. Temperature range is -40° to 122°F.

430 Stainless Steel Clamps with Zinc-Plated Steel Bolt—The nut and bolt are zinc-plated steel for fair corrosion resistance. Clamps meet DIN 1.4016.

304 Stainless Steel Clamps with 304 Stainless Steel Bolt—Have very good corrosion resistance. Clamps meet DIN 1.4301.

45/64" band width clamps can be tightened with an 8 mm hex nutdriver; maximum torque is 46 in.-lbs. **25/32" band width** clamps can be tightened with an 11 mm hex nutdriver; maximum torque is 106 in.-lbs. **63/64" band width** clamps can be tightened with a 13 mm hex nutdriver; maximum torque is 166 in.-lbs.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range Inch	mm	430 SS with Zinc-Plated Steel Bolt		304 SS with 304 SS Bolt	
45/64" Band Width—0.016" Band Thickness					
11/16"-3/4"	17-19	5443K11	$2.93	5462K41	$5.98
3/4"-13/16"	19-21	5443K12	2.94	5462K42	6.05
13/16"-29/32"	21-23	5443K13	2.97	5462K43	6.12
29/32"-1"	23-25	5443K14	3.01	5462K44	6.25
1"-1 1/16"	25-27	5443K15	3.06	5462K45	6.34
1 1/16"-1 5/32"	27-29	5443K16	3.10	5462K46	6.44
25/32" Band Width—0.031" Band Thickness					
1 5/32"-1 7/32"	29-31	5443K17	3.65	5462K47	6.65
1 7/32"-1 5/16"	31-34	5443K18	3.75	5462K48	6.73
1 5/16"-1 7/16"	34-37	5443K19	3.94	5462K49	6.91
1 7/16"-1 9/16"	37-40	5443K21	4.01	5462K51	6.99
1 9/16"-1 11/16"	40-43	5443K22	4.07	5462K52	7.06
1 11/16"-1 7/8"	43-47	5443K23	4.65	5462K53	7.57
1 7/8"-2"	47-51	5443K24	4.81	5462K54	7.68
2"-2 5/32"	51-55	5443K25	4.89	5462K55	7.84
2 5/32"-2 5/16"	55-59	5443K26	5.16	5462K56	7.98
2 5/16"-2 1/2"	59-63	5443K27	5.34	5462K57	8.05
2 1/2"-2 11/16"	63-68	5443K28	5.59	5462K58	8.31
63/64" Band Width—0.047" Band Thickness					
2 11/16"-2 7/8"	68-73	5443K29	7.18	5462K59	11.30
2 7/8"-3 1/8"	73-79	5443K31	7.36	5462K61	11.68
3 1/8"-3 11/32"	79-85	5443K32	7.54	5462K62	11.91
3 11/32"-3 9/16"	85-91	5443K33	7.74	5462K63	12.14
3 9/16"-3 13/16"	91-97	5443K34	7.91	5462K64	12.43
3 13/16"-4 3/32"	97-104	5443K35	8.17	5462K65	12.69
4 3/32"-4 3/8"	104-112	5443K36	8.63	5462K66	13.00
4 3/8"-4 3/4"	112-121	5443K37	8.86	5462K67	13.25
4 3/4"-5 1/8"	121-130	5443K38	9.09	5462K68	13.47

Tight-Seal Bolt Clamps



The T-bolt design provides excellent strength and creates a 360° seal to prevent leaks. The band is 3/4" wide and 0.025" thick. The locknut has a nylon insert. Tighten with a 7/16" wrench; do not exceed the maximum torque or clamps may be damaged. Clamps are reusable. Temperature range is -100° to 250°F.

For Soft Hose and Tube—Clamps have rolled edges to protect soft hose and tube, such as silicone. Clamps are 300 series stainless steel. The T-bolt and locknut are zinc-plated steel, which has fair corrosion resistance. Maximum torque is 90 in.-lbs.

For Firm Hose and Tube—Clamps are for firm plastic and rubber hose and tube. Clamps, T-bolt, and locknut are 316 stainless steel, which has excellent corrosion resistance. Maximum torque is 75 in.-lbs.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range Inch	mm	For Soft Hose and Tube		For Firm Hose and Tube	
1 3/8"-1 1/2"	34.5-38	5312K45	$5.44	5204K45	$8.60
1 7/8"-2 1/8"	47-54	5312K11	4.86	5204K11	8.64
2 5/16"-2 5/8"	58-66	5312K12	4.93	5204K12	8.66
2 25/32"-3 3/32"	70-78	5312K13	5.01	5204K13	8.68
3 9/32"-3 19/32"	83-90	5312K14	5.08	5204K14	8.70
3 25/32"-4 3/32"	96-103	5312K15	5.20	5204K15	8.71
4 1/32"-4 11/32"	102-109	5312K23	5.01	5204K23	8.67
4 9/32"-4 19/32"	108-116	5312K16	5.28	5204K16	8.73
4 25/32"-5 3/32"	121-129	5312K17	5.60	5204K17	8.77
5 9/32"-5 19/32"	134-141	5312K18	5.41	5204K18	11.20
5 25/32"-6 3/32"	146-154	5312K19	6.25	5204K19	11.22
6 9/32"-6 19/32"	160-167	5312K21	5.69	5204K21	11.24
6 25/32"-7 3/32"	172-180	5312K22	6.65	5204K22	11.25

Tight-Seal High-Torque Bolt Clamps for Firm Hose



Single Bolt



Double Bolt



Double Bolt with Saddles

Clamps offer extra holding power in high-torque applications. The bolt design provides good strength and creates a 360° seal to prevent leaks. Clamps have fair corrosion resistance; they're zinc-plated iron and have zinc-plated steel bolts and nuts. They are for firm plastic and rubber hose. They are not recommended for use with helix wire hose and hydraulic hose. Because the bolts bend when tightened, these clamps are not reusable. Tighten with a wrench or torque wrench. Do not exceed the maximum torque or clamps may be damaged. Not rated for temperature.

Single Bolt—One bolt makes these clamps quicker to install than double-bolt clamps.

Double Bolt—The tightening force is equally distributed between both sides of the clamp. These clamps open completely for easy installation and have reinforced bolt lugs to prevent the clamp from bending out of alignment.

Double Bolt with Saddles—Same as the double-bolt clamps, except these have two saddles to maintain even pressure around large-diameter hose.

Note: When choosing a clamp, measure the outside diameter of your hose with the fitting installed.

Clamp ID Range Inch	Clamp ID Range mm	Hex Size	Band Wd.	Max. Torque, in.-lbs.		
Single Bolt with Round Head						
1 7/16"-1 9/16"	36.5-39.7	7/16"	11/16"	72	5411K55	$24.89
1 3/4"-1 7/8"	44.5-47.6	7/16"	11/16"	72	5411K59	22.63
1 7/8"-2 1/32"	47.6-51.6	7/16"	23/32"	72	5411K56	21.74
2"-2 1/8"	50.8-54	7/8"	23/32"	144	5411K23	23.66
2 1/4"-2 13/32"	57.2-61.1	7/8"	3/4"	144	5411K25	37.26
Single Bolt with Square Head						
2 3/8"-2 1/2"	60.3-63.5	7/8"	11/16"	144	5411K26	23.29
2 1/2"-2 5/8"	63.5-66.7	7/8"	11/16"	144	5411K27	22.69
2 5/8"-2 7/8"	66.7-73	7/8"	23/32"	144	5411K28	28.37
2 7/8"-3 1/16"	73-77.8	7/8"	3/4"	144	5411K29	26.64
3 1/16"-3 1/4"	77.8-82.6	7/8"	25/32"	144	5411K31	26.63
3 7/16"-3 5/8"	87.3-92.1	9/16"	27/32"	252	5411K32	28.66
3 5/8"-3 13/16"	92.1-96.8	9/16"	29/32"	252	5411K33	39.40
3 13/16"-4 1/8"	96.8-104.8	9/16"	29/32"	252	5411K34	36.43
4 7/16"-4 5/8"	112.7-117.5	9/16"	1 1/16"	252	5411K37	44.69
4 7/8"-5 1/4"	123.8-133.4	9/16"	1 3/32"	252	5411K39	44.31
Double Bolt with Square Head						
1 3/16"-1 3/8"	30.2-34.9	9/16"	15/16"	252	5411K12	8.03
1 5/8"-1 13/16"	41.3-46	11/16"	1 1/4"	480	5411K14	12.00
Double Bolt with Square Head (Cont.)						
1 3/4"-2 3/64"	44.5-52	9/16"	1"	324	5411K71	$12.49
2 7/64"-2 19/64"	53.6-58.3	9/16"	1"	324	5411K72	11.97
2 5/16"-2 5/8"	58.7-66.7	11/16"	1"	480	5411K73	12.92
2 1/2"-2 3/4"	63.5-69.9	11/16"	1 3/16"	480	5411K15	15.39
3 1/4"-3 1/2"	82.6-88.9	3/4"	1 5/32"	720	5411K77	19.33
Double Bolt with Saddles and Square Head						
3 1/2"-3 13/16"	88.9-96.8	11/16"	1"	480	5411K41	19.80
3 25/32"-4 1/16"	96-103.2	11/16"	1"	480	5411K18	22.39
4 1/32"-4 9/32"	102.4-108.7	3/4"	1"	480	5411K84	21.73
4 1/4"-4 15/16"	108-125.4	3/4"	1 1/8"	720	5411K85	24.99
4 1/2"-5 1/4"	114.3-133.4	3/4"	1 1/8"	720	5411K79	27.34
5 1/8"-5 11/16"	130.2-144.5	3/4"	1 1/8"	720	5411K86	29.75
5 15/16"-6 1/2"	150.8-165.1	3/4"	1 5/32"	720	5411K87	32.20
6 1/2"-7 9/16"	165.1-192.1	3/4"	1 1/8"	720	5411K88	37.01
7 11/16"-8 3/16"	195.3-208	15/16"	1 3/8"	1,500	5411K19	45.79
8 1/4"-8 7/8"	209.6-225.4	15/16"	1 3/8"	1,500	5411K91	46.20
8 15/16"-9 7/8"	227-250.8	15/16"	1 13/32"	1,500	5411K92	48.11
9 15/16"-11 3/8"	252.4-288.9	15/16"	1 5/8"	1,500	5411K93	72.60
12 3/16"-14"	309.6-355.6	1 1/8"	1 7/8"	2,400	5411K22	122.52

Easy-Install Snap-Grip Clamps for Firm Hose and Tube



Single Snap-Grip



Double Snap-Grip

Installing these clamps is a snap—push their interlocking teeth together with your fingers, then squeeze tight with pliers. To remove, use pliers to push sideways and separate the teeth. Clamps are nylon, which is lightweight with excellent corrosion and chemical resistance. They are for firm plastic and rubber hose and tube.

Single Snap-Grip—Clamps have a single row of interlocking teeth. Temperature range is -5° to 150° F.

Double Snap-Grip—Clamps have two rows of interlocking teeth for extra gripping strength. They meet ASTM D149, D150, and D257. Temperature range is -40° to 255° F.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range Inch	Clamp ID Range mm	Band Wd.	Pkg. Qty.		Pkg.
Single Snap-Grip—White					
1/4"-5/16"	6.4-7.9	0.13"	20	5246K61	$5.90
23/64"-25/64"	9.1-9.9	0.22"	20	5246K62	6.32
25/64"-15/32"	9.9-11.9	0.22"	20	5246K63	6.50
15/32"-17/32"	11.9-13.5	0.22"	20	5246K64	6.67
17/32"-19/32"	13.5-15.1	0.22"	20	5246K65	6.80
19/32"-21/32"	15.1-16.7	0.22"	20	5246K66	6.84
11/16"-13/16"	17.5-20.6	0.22"	20	5246K67	7.28
3/4"-7/8"	19.1-22.2	0.22"	20	5246K68	7.98
7/8"-1"	22.2-25.4	0.22"	20	5246K69	8.19
61/64"-1 3/32"	24.2-27.8	0.31"	20	5246K71	9.15
1 1/32"-1 3/16"	26.2-30.2	0.31"	20	5246K72	10.15
1 1/4"-1 7/16"	31.8-36.5	0.31"	20	5246K73	11.08
1 13/32"-1 5/8"	35.7-41.3	0.36"	20	5246K74	13.06
2 1/8"-2 3/8"	54-60.3	0.4"	20	5246K78	14.59
Double Snap-Grip—Black					
7/32"-1/4"	5.6-6.5	0.17"	20	9579K61	7.70
1/4"-5/16"	6.5-7.9	0.18"	20	9579K62	8.18
5/16"-3/8"	7.9-9.2	0.17"	20	9579K63	8.23
3/8"-13/32"	9.2-10.3	0.18"	20	9579K64	8.37
13/32"-15/32"	10.2-11.8	0.23"	20	9579K65	8.85
15/32"-17/32"	12-13.8	0.24"	20	9579K66	9.53
1/2"-19/32"	13.1-15.1	0.28"	20	9579K67	10.67
19/32"-11/16"	15-17.1	0.28"	20	9579K68	10.87
21/32"-3/4"	16.9-19.1	0.27"	20	9579K69	11.11
Double Snap-Grip—Black (Cont.)					
23/32"-13/16"	18.1-20.6	0.28"	20	9579K71	$11.35
25/32"-29/32"	20.3-23	0.25"	20	9579K72	10.31
7/8"-31/32"	22.2-24.9	0.28"	20	9579K73	10.35
31/32"-1 3/32"	24.5-27.6	0.28"	20	9579K74	10.42
1 1/32"-1 5/32"	26.5-29.5	0.29"	20	9579K75	10.31
1 1/8"-1 9/32"	28.8-32.2	0.35"	10	9579K76	7.34
1 1/4"-1 3/8"	32-34.8	0.36"	10	9579K77	7.42
1 11/32"-1 1/2"	34.3-37.9	0.35"	10	9579K78	7.42
1 15/32"-1 19/32"	38-41	0.36"	10	9579K79	7.42
1 9/16"-1 3/4"	40.1-44.2	0.35"	10	9579K81	7.42
1 11/16"-1 13/16"	43.2-46.2	0.35"	10	9579K82	8.01
1 13/16"-1 31/32"	46-50.5	0.35"	10	9579K83	7.58
1 29/32"-2 1/8"	48.5-53.8	0.35"	10	9579K84	8.37
2 3/32"-2 7/32"	53-56.5	0.35"	10	9579K85	8.41
2 5/32"-2 3/8"	55-60.5	0.37"	10	9579K86	8.78
2 5/16"-2 9/16"	59-64.7	0.37"	10	9579K87	12.55
2 19/32"-2 13/16"	65.8-71.7	0.36"	5	9579K88	7.13
2 3/4"-2 31/32"	70-75.4	0.36"	5	9579K89	7.36
2 15/16"-3 3/16"	74.7-80.5	0.36"	5	9579K91	7.57
3 1/8"-3 3/8"	79.8-85	0.35"	5	9579K92	8.01
3 11/32"-3 9/16"	85.1-90.6	0.35"	5	9579K93	8.22
3 27/32"-4"	97.7-102.1	0.34"	5	9579K94	8.47
4 5/32"-4 3/8"	105.3-111.8	0.35"	5	9579K95	8.65

Vibration-Resistant Pinch Clamps



Single Pinch for Soft Hose and Tube



Single Pinch for Firm Hose and Tube



Double Pinch for Firm Hose and Tube

These clamps are easier to install than worm-drive clamps—crimp the pinch points with pinch clamp pincers (sold separately on page 310) for a secure hold. Clamps withstand vibration and temperature changes without loosening. They are for one-time use. Clamps meet SAE J1508.

Clamps for Soft Hose and Tube—A dimple in the ear creates spring-like action to withstand vibration. Clamps have a 302 stainless steel insert that bridges the gap in the ear to create a 360° seal. Use with soft hose and tube, such as silicone.

Clamps for Firm Hose and Tube—Also known as ear clamps. They are for firm plastic and rubber hose and tube.

Zinc-plated steel clamps have fair corrosion resistance. **304 stainless steel** clamps have very good corrosion resistance.

Single-pinch clamps are perfect for tight spots; they install quickly because only one side needs to be crimped. **Double-pinch** clamps accommodate a greater variation in hose diameters than single-pinch clamps, and can be used on thicker-walled hose and tube.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range Inch	mm	Band Wd.	Zinc-Plated Steel Band Thick.	Pkg. Qty.		Pkg.	304 Stainless Steel Band Thick.	Pkg. Qty.		Pkg.
For Soft Hose and Tube—Single Pinch										
3/32″-7/64″	2.5-2.9	7/32″	____	____	____	____	0.02″	10	52545K11	$19.98
7/64″-9/64″	2.9-3.7	7/32″	____	____	____	____	0.02″	10	52545K12	16.64
9/64″-3/16″	3.7-4.7	7/32″	____	____	____	____	0.02″	10	52545K13	14.61
3/16″-7/32″	4.7-5.7	7/32″	____	____	____	____	0.02″	10	52545K14	7.08
For Firm Hose and Tube—Single Pinch										
21/64″-25/64″	8.3-10.1	9/32″	0.03″	50	54285K21	$8.29	0.024″	25	5435K27	4.94
11/32″-13/32″	8.9-10.5	9/32″	0.03″	50	54285K22	8.29	0.024″	25	5435K11	5.02
3/8″-7/16″	9.7-11.3	9/32″	0.03″	50	54285K23	8.75	0.024″	25	5435K12	5.11
13/32″-31/64″	10.4-12.3	9/32″	0.03″	50	54285K24	8.75	0.024″	25	5435K28	5.11
29/64″-17/32″	11.4-13.3	9/32″	0.03″	50	54285K25	8.75	0.024″	25	5435K13	5.17
1/2″-37/64″	12.6-14.5	9/32″	0.03″	50	54285K28	8.80	0.024″	25	5435K14	5.28
17/32″-5/8″	13.5-15.7	9/32″	0.03″	50	54285K29	8.80	0.024″	25	5435K15	5.33
19/32″-43/64″	15.1-17	9/32″	0.03″	50	54285K32	8.80	0.024″	25	5435K16	5.50
5/8″-47/64″	15.7-18.5	9/32″	0.03″	50	54285K26	8.80	0.024″	25	5435K29	5.55
43/64″-25/32″	17-19.8	9/32″	0.03″	50	54285K34	8.98	0.024″	25	5435K17	5.67
23/32″-53/64″	18.2-21	9/32″	0.03″	50	54285K27	9.15	0.024″	25	5435K31	5.89
25/32″-57/64″	19.8-22.6	9/32″	0.03″	50	54285K36	9.32	0.024″	25	5435K18	5.97
57/64″-1 1/64″	22.8-25.6	9/32″	0.03″	50	54285K38	9.60	0.024″	25	5435K19	6.23
15/16″-1 1/16″	24-27.1	9/32″	0.03″	50	54285K39	8.99	0.024″	25	5435K21	6.36
1″-1 1/8″	25.5-28.6	9/32″	0.03″	25	54285K41	5.03	0.024″	25	5435K22	5.67
1 1/16″-1 3/16″	27-30.1	9/32″	0.03″	25	54285K42	5.20	0.024″	25	5435K23	6.58
1 1/8″-1 1/4″	28.5-31.6	9/32″	0.03″	25	54285K43	5.28	0.024″	25	5435K24	6.73
1 15/64″-1 23/64″	31.5-34.6	9/32″	0.03″	25	54285K45	5.51	0.024″	25	5435K25	6.99
1 3/8″-1 1/2″	35-38.1	9/32″	0.03″	25	54285K49	5.94	0.024″	25	5435K26	7.45
For Firm Hose and Tube—Double Pinch										
1/8″-5/32″	3.1-4.1	9/64″	0.02″	25	6541K31	8.42	0.02″	25	54105K31	9.60
9/64″-13/64″	3.4-5	13/64″	0.028″	25	6541K33	8.42	0.02″	25	54105K33	9.60
13/64″-9/32″	5-7	15/64″	0.028″	25	6541K34	8.84	0.02″	25	54105K34	9.98
9/32″-23/64″	7-9	9/32″	0.039″	25	6541K35	8.84	0.031″	25	54105K35	10.38
5/16″-7/16″	8.1-11	9/32″	0.039″	25	6541K51	8.87	0.031″	25	54105K51	10.42
27/64″-33/64″	11-13	9/32″	0.039″	25	6541K37	9.07	0.031″	25	54105K37	11.11
31/64″-19/32″	12.5-15	19/64″	0.039″	25	6541K38	9.58	0.031″	25	54105K38	11.54
19/32″-45/64″	15-18	5/16″	0.047″	25	6541K39	9.67	0.031″	25	54105K39	13.48
41/64″-25/32″	16.2-20	21/64″	0.047″	25	6541K41	10.51	0.039″	10	54105K41	6.87
45/64″-55/64″	18.1-22	23/64″	0.059″	10	6541K53	8.02	0.039″	10	54105K53	7.01
3/4″-29/32″	19.1-23	23/64″	0.059″	10	6541K42	5.69	0.039″	10	54105K42	7.57
53/64″-63/64″	21-25	25/64″	0.059″	10	6541K54	9.49	0.039″	5	54105K54	5.70
7/8″-1 1/16″	22.5-27	25/64″	0.059″	10	6541K43	6.68	0.039″	10	54105K43	7.51
15/16″-1 7/64″	24-28	25/64″	0.059″	10	6541K55	7.08	0.039″	10	54105K55	7.90
1 1/32″-1 7/32″	26.3-31	25/64″	0.059″	10	6541K56	6.95	0.039″	10	54105K56	8.41
1 5/32″-1 11/32″	29.3-34	25/64″	0.059″	10	6541K57	10.55	0.039″	10	54105K57	9.29
1 17/64″-1 29/64″	32-37	25/64″	0.059″	10	6541K58	7.70	0.039″	10	54105K58	9.68
1 3/8″-1 37/64″	35-40	25/64″	0.059″	10	6541K45	7.10	0.039″	10	54105K45	10.19

Tight-Seal Vibration-Resistant Pinch Clamps for Firm Hose and Tube



Unlike other pinch clamps, these have a unique tongue-and-groove design that creates a gap-free seal to reduce leaks. A reinforcing dimple in the ear creates a spring-like action that allows these clamps to withstand vibration and temperature changes without loosening. Also known as ear clamps, they install by crimping the pinch point with pinch-clamp pincers. Clamps are for firm plastic and rubber hose and tube. They're for one-time use. They are 304 stainless steel for very good corrosion resistance. Clamps meet SAE J1508.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

Clamp ID Range Inch	mm	Pkg. Qty.		Pkg.
13/64″ Band Width—0.02″ Band Thickness				
15/64″-9/32″	5.8-7	25	52545K38	$9.52
9/32″-11/32″	7-8.7	25	52545K26	9.52
5/16″-3/8″	7.8-9.5	25	52545K42	9.52
11/32″-13/32″	8.8-10.5	25	52545K27	9.52
3/8″-7/16″	9.6-11.3	25	52545K45	9.52
9/32″ Band Width—0.024″ Band Thickness				
27/64″-17/32″	10.8-13.3	25	52545K51	9.61
29/64″-35/64″	11.5-14	25	52545K52	9.66
15/32″-37/64″	12.3-14.8	25	52545K53	9.74
33/64″-5/8″	13.2-15.7	25	52545K54	9.80
37/64″-43/64″	14.5-17	25	52545K55	9.86
39/64″-47/64″	15.3-18.5	25	52545K25	11.14
21/32″-25/32″	16.6-19.8	25	52545K71	11.13
45/64″-53/64″	17.8-21	25	52545K73	11.48
49/64″-57/64″	19.4-22.6	25	52545K72	11.71
53/64″-61/64″	20.9-24.1	25	52545K28	11.82

Clamp ID Range Inch	mm	Pkg. Qty.		Pkg.
9/32″ Band Width—0.024″ Band Thickness (Cont.)				
7/8″-1 1/64″	22.4-25.6	25	52545K74	$11.97
15/16″-1 1/16″	23.9-27.1	25	52545K75	12.10
1″-1 1/8″	25.4-28.6	25	52545K76	12.30
1 1/16″-1 3/16″	26.9-30.1	25	52545K56	12.48
1 1/8″-1 1/4″	28.4-31.6	25	52545K57	12.61
1 15/64″-1 23/64″	31.4-34.6	25	52545K58	12.93
1 3/8″-1 1/2″	34.9-38.1	25	52545K81	13.38
1 31/64″-1 39/64″	37.8-41	25	52545K83	13.72
1 35/64″-1 43/64″	39.3-42.5	25	52545K61	13.87
1 43/64″-1 51/64″	42.3-45.5	25	52545K86	14.23
1 25/32″-1 29/32″	45.3-48.5	10	52545K29	6.96
1 29/32″-2 1/32″	48.3-51.5	10	52545K89	7.15
2 1/64″-2 9/64″	51.3-54.5	10	52545K62	6.93
2 9/64″-2 17/64″	54.3-57.5	10	52545K31	7.08
2 3/8″-2 1/2″	60.3-63.5	10	52545K32	7.35
2 29/32″-3 1/32″	73.8-77	10	52545K34	7.69

Pinch Clamp Pincers



Use these steel pincers to simplify the installation of pinch (ear) clamps (shown on page 309).

Straight-jaw pincer must be used perpendicular to the hose. **Side-jaw pincer** is good for tight spaces because you can use it parallel or perpendicular to the hose.

	O'all Lg.		
Straight-Jaw Pincer	9″	6541K67	$20.64
Side-Jaw Pincer	9″	6541K69	30.74

Constant-Tension Spring-Band Clamps for Firm Hose and Tube



These clamps have a wider band than other constant-tension clamps, which provides more coverage and reduces the chance of leaks. The spring-action band lets the clamps automatically expand and contract with your hose or tube as temperatures fluctuate. Clamps are for firm plastic and rubber hose and tube. They are zinc-plated steel for fair corrosion resistance. They are for one-time use and require the use of pliers (sold separately at right) for installation and removal. Clamps meet SAE J1508. Temperature range is -100° to 400° F.

Note: When choosing a clamp, measure the outside diameter of your hose or tube with the fitting installed.

For Hose and Tube OD	Band Wd.	Band Thick.	Pkg. Qty.		Pkg.
5/8″	37/64″	0.039″	10	7329K11	$4.13
21/32″	37/64″	0.033″	10	7329K12	3.53
3/4″	37/64″	0.051″	10	7329K13	5.87
25/32″	37/64″	0.051″	10	7329K14	5.92
15/16″	37/64″	0.051″	10	7329K15	6.46
1 1/16″	37/64″	0.063″	10	7329K16	7.94
1 21/32″	37/64″	0.075″	10	7329K17	11.89
1 31/32″	37/64″	0.079″	10	7329K18	14.43
Constant Tension Spring Band Hose and Tube Clamp Pliers				7329K21 Each	$37.48

Constant-Tension Spring Clamps for Firm Hose and Tube



Not as bulky as our other constant-tension clamps, these round-wire clamps easily fit in cramped spaces. Use in low-pressure applications. Clamps automatically expand and contract with your hose or tube in response to fluctuations in temperature. They are for firm plastic and rubber hose and tube. Clamps are for one-time use and require the use of pliers (sold separately below) for installation and removal. Temperature range is -100° to 400° F.

Zinc-plated steel clamps have fair corrosion resistance. Clamps meet SAE J1508.

17-7 PH stainless steel clamps have good corrosion resistance. They are heat treated, so they are stronger than steel to better retain their hold. They meet AISI 631, ASTM 313, and AMS 5678.

Note: When choosing a clamp, measure the outside diameter of your hose or tube without the fitting installed.

Zinc-Plated Steel

For Hose and Tube OD	Wire Dia.	Color	Pkg. Qty.		Pkg.
1/4″	0.062″	Green	100	5324K51	$7.52
5/16″	0.062″	Red	100	5324K52	7.80
11/32″	0.062″	Green	100	5324K56	9.08
3/8″	0.082″	Yellow	100	5324K53	9.39
7/16″	0.087″	Green	100	5324K54	10.39
15/32″	0.087″	Yellow	100	5324K57	10.83
1/2″	0.092″	Red	100	5324K12	10.88
17/32″	0.092″	Green	100	5324K58	12.10
9/16″	0.107″	Yellow	100	5324K13	13.31
19/32″	0.107″	Red	100	5324K59	$12.55
5/8″	0.107″	Green	100	5324K14	11.70
21/32″	0.107″	Yellow	100	5324K15	13.08
11/16″	0.112″	Red	100	5324K17	11.80
3/4″	0.112″	Yellow	50	5324K16	7.27
13/16″	0.117″	Green	50	5324K19	7.37
7/8″	0.122″	Red	50	5324K18	7.87
15/16″	0.122″	Yellow	25	5324K22	4.11
1″	0.132″	Green	25	5324K21	4.62
1 1/8″	0.152″	Yellow	25	5324K23	$6.79
1 1/4″	0.152″	Red	25	5324K25	6.70
1 3/8″	0.162″	Yellow	25	5324K41	8.08
1 1/2″	0.162″	Yellow	25	5324K43	8.98
1 5/8″	0.172″	Yellow	25	5324K45	10.97
1 3/4″	0.172″	Yellow	25	5324K47	10.19
1 7/8″	0.177″	Yellow	25	5324K48	12.62
2″	0.177″	Yellow	25	5324K49	12.97
2 1/8″	0.182″	Yellow	10	5324K55	5.73

17-7 PH Stainless Steel

For Hose and Tube OD	Wire Dia.	Pkg. Qty.		Pkg.
1/4″	0.04″	100	5324K81	$13.79
5/16″	0.051″	100	5324K82	14.58
3/8″	0.065″	50	5324K83	9.52
7/16″	0.075″	50	5324K84	10.03
1/2″	0.08″	50	5324K42	10.30
9/16″	0.092″	50	5324K85	$14.29
5/8″	0.105″	25	5324K44	9.65
11/16″	0.105″	25	5324K61	11.48
3/4″	0.105″	25	5324K46	10.47
13/16″	0.112″	25	5324K62	13.80
7/8″	0.12″	25	5324K88	$13.17
15/16″	0.12″	10	5324K63	6.26
1″	0.12″	10	5324K91	6.68
1 1/16″	0.13″	10	5324K64	8.14
1 1/8″	0.142″	10	5324K93	8.93

Spring-Hose-Clamp Pliers



Jaws have grooves that grip the ends of the spring clamps (shown at left) to prevent slipping and twisting. Pliers are made of forged steel and are 8 1/16″ long.

5324K97 ..... $23.69

Tight-Seal Twin-Ring Bolt Clamps for Firm Hose



A double ring of thick wire provides a complete seal around large-diameter hose. Clamps are zinc-plated steel, which has fair corrosion resistance. They are for firm plastic and rubber hose and are reusable. Clamps with **1/4″ wire diameter** install with a 9/16″ socket wrench; clamps with **5/16″ wire diameter** install with an 11/16″ socket wrench. Maximum torque is 720 in.-lbs. Do not exceed or clamps may be damaged. Clamps are not rated for temperature.

Note: When choosing a clamp, measure the outside diameter of your hose with the fitting installed.

Clamp ID Range Inch	mm	O'all Wd.		
1/4″ Wire Diameter				
2 3/32″-2 9/32″	52.8-57.9	1 1/4″	4483K11	$6.50
2 11/32″-2 17/32″	59.2-64.3	1 1/4″	4483K12	6.62
2 19/32″-2 25/32″	65.5-70.6	1 1/4″	4483K13	7.00
2 27/32″-3 1/32″	71.9-77	1 1/4″	4483K14	7.19
3 3/32″-3 9/32″	78.2-83.3	1 1/4″	4483K15	7.27
3 19/32″-3 25/32″	90.9-96	1 1/4″	4483K16	7.54

Clamp ID Range Inch	mm	O'all Wd.		
5/16″ Wire Diameter				
4 3/32″-4 9/32″	103.6-108.7	1 1/2″	4483K17	$7.83
4 19/32″-4 25/32″	116.3-121.4	1 1/2″	4483K18	7.99
5 3/32″-5 9/32″	129-134.1	1 1/2″	4483K19	8.21
5 19/32″-5 25/32″	141.7-146.8	1 1/2″	4483K21	8.54
6 3/32″-6 9/32″	154.4-159.5	1 1/2″	4483K22	8.82
7 3/32″-7 9/32″	179.8-184.9	1 1/2″	4483K23	11.78
8 3/32″-8 9/32″	205.2-210.3	1 1/2″	4483K24	12.39

Low-Profile Band Clamps for Firm Hose



Easier to install than our Extra-Strength Low-Profile Band Clamps, these clamps seal with a quick hammer blow to the buckle. They are also known as center-punch clamps. Unlike worm-drive clamps and bolt clamps, these have a low profile with no protruding parts to get in your way during installation. The banding is double wrapped for extra strength. Use them to secure firm plastic and rubber hose, coaxial cable, and rope. Clamps are for one-time use. They require an installation tool (sold separately below).

Galvanized Steel Band with 201 Stainless Steel Buckle—Band has fair corrosion resistance; buckle has good corrosion resistance. Temperature range is -100° to 300° F.

201 Stainless Steel Band and Buckle—Have good corrosion resistance. Temperature range is -100° to 500° F.

Ratchet-Handle Installation Tools—Use to tighten 3/8″ and 5/8″ wide clamps, then break off the excess banding. All are made of steel. The *light duty* tool has a punch lever on each end. The *medium duty* tool is longer than the light duty tool for increased leverage. The *heavy duty* tool has the most leverage and has a ball handle that makes it easier to ratchet.

Note: When choosing a clamp, measure the outside diameter of your hose with the fitting installed.

For instructions on how to install these clamps using the installation tools, go to mcmaster.com and search for **5657KAC**.

Clamp ID Range Inch	Clamp ID Range mm	Band Wd.	Band Thick.	Galvanized Steel Band with 201 SS Buckle Pkg. Qty.		Galvanized Steel Band with 201 SS Buckle Pkg.	201 Stainless Steel Band and Buckle Pkg. Qty.		201 Stainless Steel Band and Buckle Pkg.
5/8″-13/16″	15.9-20	3/8″	0.025″	10	5655K11	$7.59	6	5655K31	$7.37
5/8″-13/8″	15.9-35	3/8″	0.025″	12	5655K12	10.27	8	5655K32	11.86
3/4″-1″	19.1-25	5/8″	0.025″	12	5655K13	11.09	4	5655K33	8.11
3/4″-1 1/4″	19.1-32	5/8″	0.025″	12	5655K14	11.42	4	5655K34	8.38
3/4″-1 1/2″	19.1-38	5/8″	0.025″	12	5655K15	9.91	4	5655K35	7.92
3/4″-1 3/4″	19.1-44	5/8″	0.025″	12	5655K16	11.58	4	5655K36	7.39
3/4″-2″	19.1-51	5/8″	0.025″	12	5655K17	11.70	4	5655K37	7.45
3/4″-2 1/4″	19.1-57	5/8″	0.025″	12	5655K18	12.23	4	5655K38	7.82
3/4″-2 1/2″	19.1-63	5/8″	0.025″	12	5655K19	12.47	4	5655K39	9.03
3/4″-2 3/4″	19.1-70	5/8″	0.025″	12	5655K21	12.99	4	5655K41	12.10
3/4″-3″	19.1-76	5/8″	0.025″	12	5655K22	13.31	4	5655K42	13.06
3/4″-3 1/2″	19.1-89	5/8″	0.025″	12	5655K23	13.90	4	5655K43	10.77
3/4″-4″	19.1-101	5/8″	0.025″	6	5655K24	8.58	4	5655K44	13.19
3/4″-4 1/2″	19.1-114	5/8″	0.025″	6	5655K25	9.04	2	5655K45	7.26
3/4″-5″	19.1-127	5/8″	0.025″	4	5655K26	7.60	2	5655K46	7.60
3/4″-6″	19.1-152	5/8″	0.025″	4	5655K27	7.52	2	5655K47	7.92
3/4″-6 1/2″	19.1-165	5/8″	0.025″	2	5655K52	9.58	2	5655K51	9.79
3/4″-7″	19.1-178	5/8″	0.025″	4	5655K28	8.10	2	5655K48	9.81
3/4″-8″	19.1-203	5/8″	0.025″	4	5655K29	10.18	2	5655K49	11.50

Ratchet-Handle Installation Tools



Lg.	Wd.	Ht.		
Light Duty				
10″	2″	1″	5657K21	$62.11
Medium Duty				
11″	1 1/2″	1 1/2″	5604K53	128.19
Heavy Duty				
11″	4″	4″	5657K42	284.78

Extra-Strength Low-Profile Band Clamps for Firm Hose

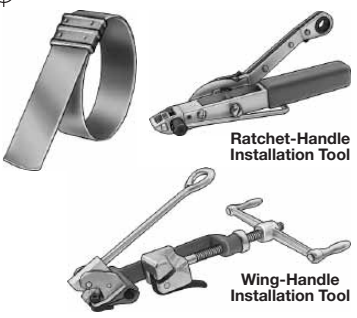

The end of the band curls back into the buckle—this gives these clamps up to 25% more strength than other low-profile clamps. They are also known as JS-style clamps. Unlike worm-drive clamps and bolt clamps, these have a low profile with no protruding parts. A smooth interior prevents damage to the hose. Clamps are for firm plastic and rubber hose. They are for one-time use. They require an installation tool (sold separately below). Clamps meet SAE J1508.

Galvanized Steel Band with 201 Stainless Steel Buckle—Band has fair corrosion resistance; buckle has good corrosion resistance. Temperature range is -100° to 300° F.

201 Stainless Steel Band and Buckle—Have good corrosion resistance. Temperature range is -100° to 500° F.

316 Stainless Steel Band and Buckle—Have excellent corrosion resistance. Temperature range is -100° to 600° F.

Installation Tools—Made of zinc-plated steel.

Note: When choosing a clamp, measure the outside diameter of your hose with the fitting installed.

For instructions on how to install these clamps using the installation tools, go to mcmaster.com and search for **5423KAC.**

Clamp ID Range Inch	Clamp ID Range mm	Band Wd.	Band Thick.	Galvanized Steel Band with 201 SS Buckle Pkg. Qty.		Galvanized Steel Band with 201 SS Buckle Pkg.	201 Stainless Steel Band and Buckle Pkg. Qty.		201 Stainless Steel Band and Buckle Pkg.	316 Stainless Steel Band and Buckle	316 Stainless Steel Band and Buckle Each
1/2″-13/16″	12.7-20	1/4″	0.02″	—	—	—	8	5423K91	$10.11	—	—
1/2″-13/8″	12.7-35	1/4″	0.02″	—	—	—	8	5423K93	17.41	—	—
5/8″-13/16″	15.9-20	3/8″	0.025″	12	5423K21	$11.85	8	5423K11	17.66	5423K51	$3.17
5/8″-1″	15.9-25	3/8″	0.025″	12	5423K22	13.21	8	5423K12	12.83	—	—
5/8″-1 3/8″	15.9-35	3/8″	0.025″	12	5423K84	12.71	8	5423K74	13.58	5423K54	3.47
5/8″-2″	15.9-50	3/8″	0.025″	12	5423K23	13.73	8	5423K13	14.54	5423K69	4.03
3/4″-1″	19.1-25	1/2″	0.03″	12	5423K82	12.13	8	5423K72	14.75	5423K52	4.61
3/4″-1 1/4″	19.1-32	1/2″	0.03″	12	5423K83	12.13	4	5423K73	8.93	5423K53	4.89
1 1/4″-1 1/2″	32-38	5/8″	0.03″	12	5423K25	14.45	4	5423K15	10.11	5423K55	5.90
1 1/4″-1 3/4″	32-44	5/8″	0.03″	12	5423K26	14.77	4	5423K16	10.86	5423K56	6.62
1 1/4″-2″	32-51	5/8″	0.03″	12	5423K27	15.14	4	5423K17	12.01	5423K57	7.25
1 1/4″-2 1/4″	32-57	5/8″	0.03″	12	5423K28	15.45	4	5423K18	13.19	5423K58	7.69
1 1/4″-2 1/2″	32-63	5/8″	0.03″	6	5423K29	8.23	4	5423K19	13.85	5423K59	8.23
1 3/4″-2 3/4″	44-70	3/4″	0.03″	8	5423K41	15.45	4	5423K31	14.95	5423K61	10.00
1 3/4″-3″	44-76	3/4″	0.03″	4	5423K42	8.82	2	5423K32	8.11	5423K62	10.54
1 3/4″-3 1/2″	44-89	3/4″	0.03″	4	5423K43	14.26	2	5423K33	8.65	5423K63	11.21
1 3/4″-4″	44-101	3/4″	0.03″	4	5423K44	18.58	2	5423K34	11.69	5423K64	13.50
1 3/4″-4 1/2″	44-114	3/4″	0.03″	4	5423K45	10.15	2	5423K35	12.55	5423K65	14.34
1 3/4″-5″	44-127	3/4″	0.03″	4	5423K46	11.75	2	5423K36	13.59	5423K66	14.91
1 3/4″-6″	44-152	3/4″	0.03″	2	5423K47	9.07	1	5423K37	7.81	5423K67	17.98
1 3/4″-7″	44-178	3/4″	0.03″	2	5423K48	7.92	1	5423K38	9.39	—	—
Ratchet-Handle Installation Tool (for 1/4″ and 3/8″ band widths)										5424K3	$146.14
Wing-Handle Installation Tool										5423K87	228.98

Build-Your-Own Low-Profile Band Clamps for Firm Hose CAD

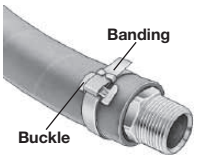

Create your own low-profile hose clamps for permanent connections and emergency repairs. All you need is a roll of banding, a package of buckles, and an installation tool. Use with firm plastic and rubber hose.

Banding and Buckles



Banding—Comes in a dispenser carton. It has smooth, rounded edges to protect your hose from cuts.

Note: The breaking strength listed is the maximum tension that can be applied to the banding. For an extra-strong clamp, wrap the banding around twice, threading it through the buckle each time.

Clip-On Buckles—Buckles have ears for strong, reliable clamping. They also have teeth for extra gripping power, unless otherwise noted. All are for one-time use.

Set-Screw Buckles—All are made of 201 stainless steel. Secure by tightening the set screw with the included hex key. Buckles are reusable.

Galvanized steel has fair corrosion resistance. Temperature range is -100° to 500° F.
201 stainless steel has good corrosion resistance. Temperature range is -100° to 500° F.
304 stainless steel has very good corrosion resistance. Temperature range is -200° to 1300° F.
316 stainless steel has excellent corrosion resistance. Temperature range is -100° to 500° F.
Also Available: Black polyester-coated 201 stainless steel banding in 100-ft. lengths. It has excellent abrasion and UV resistance. Please ask for 5422K1 and specify 1/2″ or 3/4″ band width.





Band Wd.	Band Thick.	Breaking Strength, lbs.	Banding 25-ft. Rolls		Banding 100-ft. Rolls		Clip-On Buckles with Teeth Pkg. Qty.			Clip-On Buckles with Teeth Pkg. Qty.			Set-Screw Buckles Pkg. Qty.		
Galvanized Steel Banding and Buckles															
3/8″	0.025″	700	5422K48	$23.77	5422K15	$36.90	25	5422K63	$13.25	100	5422K24	$28.85	5	5453K34	$11.41
1/2″	0.03″	1,125	5422K49	24.29	5422K16	47.85	10	5422K64	7.57	100	5422K25	37.35	5	5453K31	12.43
5/8″	0.03″	1,400	5422K51	27.53	5422K17	59.01	10	5422K65	10.79	100	5422K26	44.55	5	5453K35	13.05
3/4″	0.03″	1,600	5422K52	30.98	5422K18	69.92	5	5422K66	9.55	100	5422K27	52.60	5	5453K32	13.69
201 Stainless Steel Banding and Buckles															
1/4″	0.02″	500	5422K53	26.82	5422K42	63.63	10	5422K67■	14.78	100	5422K43■	42.59	5	5453K33	11.40
3/8″	0.025″	900	5422K54	27.37	5422K11	81.24	10	5422K68	15.14	100	5422K19	50.94	5	5453K34	11.41
1/2″	0.03″	1,500	5422K55	34.41	5422K12	109.80	10	5422K69	9.29	100	5422K21	68.89	5	5453K31	12.43
5/8″	0.03″	1,800	5422K56	35.08	5422K13	132.88	10	5422K71	13.00	100	5422K22	86.05	5	5453K35	13.05
3/4″	0.03″	2,250	5422K57	37.84	5422K14	163.87	5	5422K72	7.48	100	5422K23	104.05	5	5453K32	13.69
3/4″	0.044″	3,300	5658K41	94.57	5658K11	217.46	5	5658K44	12.86	25	5658K31	52.16	5	5453K32	13.69
1″	0.044″	4,400	5658K42	113.49	5658K12	253.35	1	5658K45	4.22	25	5658K32	67.46	—	—	—
1 1/4″	0.044″	5,500	5658K43	119.51	5658K13	315.53	2	5658K46	6.02	25	5658K33	87.13	—	—	—
304 Stainless Steel Banding and 316 Stainless Steel Buckles															
3/8″	0.02″	600	5358K11	29.19	5358K21	81.46	5	5422K73	10.44	100	5422K33	123.38	5	5453K34	11.41
1/2″	0.02″	850	5358K12	45.43	5358K22	108.43	5	5422K74	13.34	100	5422K34	161.61	5	5453K31	12.43
5/8″	0.02″	1,000	5358K13	50.93	5358K23	134.71	1	5422K75	3.55	100	5422K35	206.11	5	5453K35	13.05
3/4″	0.02″	1,275	5358K14	57.54	5358K24	158.86	2	5422K76	8.60	100	5422K36	254.00	5	5453K32	13.69
316 Stainless Steel Banding and Buckles															
1/4″	0.02″	400	5422K77	40.11	5422K83	150.12	5	5422K78■	14.86	100	5422K84■	107.28	5	5453K33	11.40
3/8″	0.025″	750	5422K58	59.85	5422K28	176.98	5	5422K73	10.44	100	5422K33	123.38	5	5453K34	11.41
1/2″	0.03″	1,200	5422K59	69.53	5422K29	227.98	5	5422K74	13.34	100	5422K34	161.61	5	5453K31	12.43
5/8″	0.03″	1,500	5422K61	81.01	5422K31	288.94	1	5422K75	3.55	100	5422K35	206.11	5	5453K35	13.05
3/4″	0.03″	1,800	5422K62	93.52	5422K32	346.57	2	5422K76	8.60	100	5422K36	254.00	5	5453K32	13.69

■ Buckle does not have teeth.

Installation Tools and Cutting Adapters

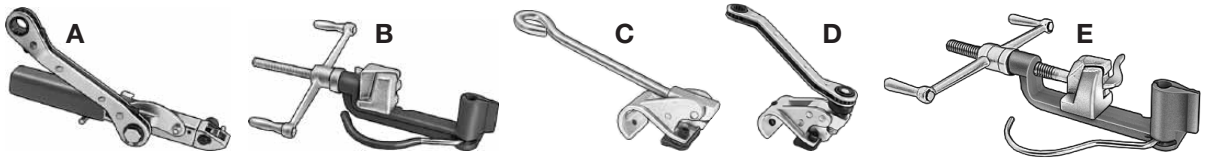

(A) Ratchet-Handle Tool—Has a ratchet-action handle to tighten the band. Made of zinc-plated steel with a vinyl-coated handle. You can also use this tool to install 1/4″ and 3/8″ wide Extra-Strength Low-Profile Band Clamps (see page 311).

(B) Wing-Handle Tool—Comes with a built-in cutter and a tension wing handle, as well as a tension nut that can be used instead of the handle in confined spaces. Tool is steel with a blue epoxy finish. You can also use this tool to install Extra-Strength Low-Profile Band Clamps (see page 311)—just fit a cutting adapter (sold separately below, see Styles C and D) over the tool.

(C&D) Cutting Adapters for Wing-Handle Tool—Made of zinc-plated steel. The *press-cut* adapter cuts the banding when you press down the handle. The *screw-cut* adapter cuts the banding when you turn a screw with the included ratchet handle.

(E) Vise-Mount Tool—Made of zinc-plated steel.

ⓘ For information about how to use these tools, go to mcmaster.com and search for **5424KAC.**

		For Band Wd.	Lg.	Pull Strength		
A	Ratchet-Handle Tool	1/4″, 3/8″	8″	—	5424K3	$146.14
B	Wing-Handle Tool	1/4″, 3/8″, 1/2″, 5/8″, 3/4″	10 5/8″	2,250 psi	5424K1	182.09
C	Press-Cut Adapter for Wing-Handle Tool	—	9″	—	5424K4	151.09
D	Screw-Cut Adapter for Wing-Handle Tool	—	9 1/2″	—	5424K5	198.46
E	Vise-Mount Tool	3/4″, 1″, 1 1/4″	16 1/2″	6,000 psi	5658K51	664.16

General Purpose Bolt Clamps for Firm Hose

One clamp fits a wide range of diameters, so you can always have the right size on hand. Clamps are for one-time use. The screw tightens with a slotted screwdriver, 5/16" socket wrench, or 5/16" external hex nutdriver. Maximum torque is 20 in.-lbs. Do not exceed the maximum torque or clamps may be damaged. Temperature range is -40° to 375° F. Clamps are for firm plastic and rubber hose.

Galvanized Steel Smooth Band—Have fair corrosion resistance. The band is galvanized steel; the buckle and screw are zinc-plated steel. Clamps lock with a screw on the banding.

Stainless Steel Slotted Band—Have very good corrosion resistance. The band and buckle are 301 stainless steel; the screw is zinc-plated 305 stainless steel. Clamps lock with a screw on the banding and a notch in the slot. Clamps meet SAE J1508 and Fed. Spec. WW-C-440B, and they are Uniform Plumbing Code Listed.





Clamp ID Range Inch	Clamp ID Range mm	Band Wd.	Band Thick.		
Galvanized Steel Smooth Band					
1"-3 1/2"	25-89	1/2"	0.017"	5420K1	$1.21
1"-4 1/2"	25-114	1/2"	0.017"	5420K3	1.35
1"-5"	25-127	1/2"	0.017"	5420K4	1.59
1"-7"	25-178	1/2"	0.017"	5420K2	1.77
1"-9"	25-229	1/2"	0.017"	5420K5	2.03
1"-14 1/2"	25-368	1/2"	0.017"	5420K8	2.78
301 Stainless Steel Slotted Band					
11/16"-2 5/8"	17-67	1/2"	0.015"	5323K14	2.56
1 3/4"-5"	44-127	1/2"	0.015"	5323K16	4.06
4"-7 1/4"	102-184	1/2"	0.015"	5323K18	4.25

Wide-Seal Plastic Clamps for Firm Hose



Slide these clamps over your hose and heat-shrink them with a heavy duty heat gun (sold separately, see page 2725). This process lets them conform to any shape hose. Clamps never need tightening because when the hose contracts with cold temperatures, the clamps adjust themselves to maintain tension. Use clamps with firm plastic and rubber coolant hose; however, they are not recommended for use with wire-reinforced coolant hose. They are for one-time use. Temperature range is -40° to 302° F.

Note: When choosing a clamp, measure the outside diameter of your hose with the fitting installed.

For detailed installation instructions, go to mcmaster.com and search for **5470KAC.**

Clamp ID Range Inch	Clamp ID Range mm	Band Wd.	Band Thick.		
1/2"-11/16"	12.7-17.5	3/4"	0.075"	5470K11	$7.34
11/16"-13/16"	17.5-20.6	3/4"	0.075"	5470K12	7.63
13/16"-15/16"	20.6-23.8	3/4"	0.065"	5470K13	7.70
15/16"-1 1/16"	23.8-27	1"	0.065"	5470K14	7.75
1 1/16"-1 3/16"	27-30.2	1"	0.065"	5470K15	7.82
1 3/16"-1 1/2"	30.2-38.1	1"	0.065"	5470K16	7.88
1 1/2"-1 3/4"	38.1-44.5	1 1/4"	0.065"	5470K17	7.94
1 3/4"-2"	44.5-50.8	1 1/4"	0.065"	5470K18	8.35
2"-2 1/4"	50.8-57.2	1 1/4"	0.065"	5470K19	9.56
2 1/4"-2 1/2"	57.2-63.5	1 1/4"	0.065"	5470K21	11.12
2 1/2"-2 3/4"	63.5-69.9	1 1/2"	0.085"	5470K22	15.21
2 3/4"-3"	69.9-76.2	1 1/2"	0.085"	5470K23	15.51
3"-3 1/4"	76.2-82.6	1 1/2"	0.085"	5470K24	15.57

High-Strength Cut-to-Length Polypropylene Cable Ties

Create custom-length cable ties for large bundles and heavy materials. Cut the strap and attach a buckle—no tool required. Use the optional tensioning tool (sold separately) to get more tension than with hand tightening. A great choice for packaging applications, attaching flexible duct, and securing insulation to pipe. These straps can be used multiple times. Polypropylene is chemical and moisture resistant. Temperature range is -30° to 200° F.

Straps are 1/2" wide and 0.05" thick. They have interlocking ridges on the top for secure holding and a smooth back to reduce the chance of damage. The breaking strength is 150 lbs.

Tensioning tool is stainless steel.

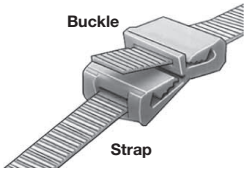



	Straps			Buckles		
Color	O'all Lg.			Pkg. Qty.		Pkg.
White	100 ft.	5188K44	$13.13	25	5188K55	$9.49
UV-Resistant Black	100 ft.	5188K45	13.14	25	5188K56	9.49
Tensioning Tool					5188K33	$55.38

High-Temperature Build-Your-Own Worm-Drive Clamps for Soft Hose and Tube



Use this banding to create 4" diameter and larger worm-drive clamps for high-temperature applications. It has ridges on one side for the housing to ride upon—this leaves the reverse side smooth with no sharp edges to worry about. Banding is for use with soft hose and tube, such as silicone. It can also be used to clamp pipe, attach signs, and connect tubing. It is furnished in a dispenser carton. To install, cut the banding to your desired length with wire snips, feed it through the housing (sold separately), and tighten the screw with a slotted screwdriver or 9/32" external hex nutdriver. Clamps are reusable.

Banding is 15/32" wide and 0.031" thick.

Zinc-Plated Steel—Has fair corrosion resistance. Temperature range is -22° to 392° F.

430 Stainless Steel—Has good corrosion resistance. Temperature range is -22° to 572° F.

Note: The breaking strength listed is the maximum tension that can be applied to the banding.

Breaking Strength, lbs.	Banding Band Lg.			Housings with Screws Pkg. Qty.		Pkg.
Zinc-Plated Steel						
350	98 1/2 ft.	6542K63	$50.40	20	6542K73	$9.81
430 Stainless Steel						
550	98 1/2 ft.	6542K64	57.91	10	6542K74	8.10

Pipe-Covering Metal Banding

Use this lightweight metal banding for securing pipe coverings as well as for packaging applications. To install, cut the banding to your desired length with wire cutters, feed it through the buckle, and secure with a tensioner (see page 1615 for tensioners). Clamps are for one-time use. Maximum temperature is 300° F.

The breaking strength listed is the maximum tension that can be applied to the banding.

Aluminum—An economical choice for noncorrosive applications. Meets ASTM B209.

Type 304 Stainless Steel—Offers very good corrosion resistance.

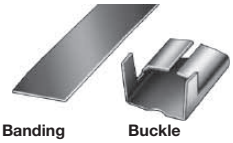

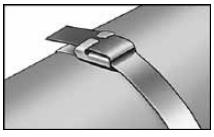

	Banding				Buckles		
Band Width	Breaking Strength, lbs.	Band Thick.	Roll Lg.		Pkg. Qty.		Pkg.
Aluminum							
1/2"	200	0.02"	200 ft.	4582K12 $25.06	100	4582K15	$4.76
Type 304 Stainless Steel							
1/2"	800	0.02"	200 ft.	4582K22 74.98	100	4582K25	15.50
3/4"	800	0.02"	200 ft.	4582K23 110.24	50	4582K26	9.26

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

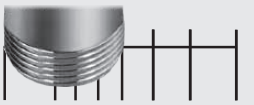



Brass Barbed Hose Fittings for Air and Water

- Maximum Pressure @ 72° F: 250 psi, except as noted
- Temperature Range: -40° to 160° F
- Hose: Use reinforced rubber
- Clamps: Use hose ferrules (see page 318) for hose smaller than 1/2" dia.; use band clamps (see pages 311-313) for hose 1/2" dia. and larger

Also known as hose nipples, these fittings are made from brass, which offers good corrosion resistance and is softer and easier to thread than steel. Fittings meet SAE J476. Not rated for vacuum. NPTF (Dryseal) threads are compatible with NPT threads.

Hose-to-Threaded Pipe Adapters—Barbed on one end and threaded on the other.

Hose-to-Threaded Pipe Easy-Install Adapters—Also barbed on one end and threaded on the other, but these swivel until they are tightened. They are furnished with a Buna-N seal.

Hose-to-45° Flare Tube Adapters—Connect hose to 45° flared tubing. The flared ends have UNF straight threads.

Hose-to-Hose Connectors—Also known as hose menders and splicers, use these fittings to repair damaged hose and connect two lengths of hose.

Also Available: Fittings with BSPT (British Standard Pipe Taper) threads where indicated with a ♦. Please ask for 1075T1 and specify the hose ID and pipe size.

Hose-to-Threaded Pipe Adapters









For Hose ID	Pipe Size, NPTF	Straights, Male Pipe: Pkg. Qty.		Pkg.	Straights, Female Pipe: Pkg. Qty.		Pkg.	90° Elbows, Male Pipe★: Pkg. Qty.		Pkg.
1/8"	1/8	10	5346K61	$10.67	10	5346K81	$15.25	_	_____	_____
1/8"	1/4	10	5346K62	11.92	5	5346K82	10.88	_	_____	_____
3/16"	1/8	10	5346K11	10.75	10	5346K39	17.67	_	_____	_____
3/16"	1/4	10	5346K12	14.76	5	5346K51	11.25	_	_____	_____
1/4"	1/8	10	5346K13 ♦	10.46	10	5346K41	13.75	5	53525K11	$12.34
1/4"	1/4	10	5346K14 ♦	11.87	10	5346K42	14.43	2	53525K12	5.79
1/4"	3/8	5	5346K24	10.07	5	5346K52	14.26	2	53525K56	11.76
1/4"	1/2	1	5346K44	4.01	2	5346K46	8.02	_	_____	_____
5/16"	1/8	10	5346K15	13.50	5	5346K33	10.50	2	53525K13	5.70
5/16"	1/4	10	5346K16	14.58	5	5346K53	10.25	2	53525K14	5.84
5/16"	3/8	5	5346K26	9.53	5	5346K54	13.68	2	53525K65	11.19
3/8"	1/8	10	5346K17	14.55	5	5346K34	9.99	2	53525K16	5.80
3/8"	1/4	10	5346K18 ♦	12.34	5	5346K35	8.33	5	53525K17	9.16
3/8"	3/8	5	5346K19 ♦	8.73	5	5346K55	11.38	5	53525K18	11.19
3/8"	1/2	1	5346K21 ♦	3.29	5	5346K56	16.55	2	53525K57	8.36
3/8"	3/4	2	5346K87	9.12	2	5346K47	14.00	_	_____	_____
1/2"	1/4	5	5346K22	9.18	5	5346K37	11.00	2	53525K19	8.28
1/2"	3/8	5	5346K23 ♦	11.01	5	5346K38	14.11	2	53525K21	9.18
1/2"	1/2	5	5346K25 ♦	14.25	1	5346K57	3.35	2	53525K58	13.95
1/2"	3/4	2	5346K88	8.49	2	5346K48	14.10	_	_____	_____
5/8"	3/8	5	5346K65	12.05	5	5346K49	14.12	2	53525K22	6.99
5/8"	1/2	1	5346K66	3.59	2	5346K59	8.02	2	53525K23	8.02
5/8"	3/4	2	5346K91	8.60	2	5346K63	13.87	_	_____	_____
3/4"	1/2	1	5346K68	3.80	2	5346K64	9.03	_	_____	_____
3/4"	3/4	2	5346K28 ♦	9.29	1	5346K58	7.88	_	_____	_____
1"	3/4	2	5346K69	12.23	1	5346K89	7.73	_	_____	_____
1"	1	1	5346K71 ♦	9.91	1	5346K72	9.48	_	_____	_____
1 1/4"	3/4	1	5346K94	11.26	_	_____	_____	_	_____	_____
1 1/4"	1	1	5346K45	10.24	1	5346K67	11.23	_	_____	_____

★Maximum pressure @ 72° F is 150 psi.



For Hose ID	Pipe Size, NPTF	90° Elbows, Female Pipe★: Pkg. Qty.		Pkg.
1/4"	1/8	2	5346K121	$7.97
1/4"	1/4	2	5346K122	10.05
3/8"	1/4	2	5346K123	10.05
3/8"	3/8	2	5346K124	14.70
1/2"	1/4	2	5346K125	10.20
1/2"	3/8	1	5346K126	7.66
1/2"	1/2	1	5346K127	15.70
3/4"	3/4	1	5346K128	25.93

For Hose ID	Pipe Size, NPTF	45° Elbows, Male Pipe★: Pkg. Qty.		Pkg.
1/4"	1/8	2	53525K41	$6.39
5/16"	1/4	1	53525K44	3.30
5/16"	1/8	2	53525K43	5.93
3/8"	1/4	2	53525K47	6.72
3/8"	1/8	2	53525K46	6.86
3/8"	3/8	2	53525K48	7.85
1/2"	1/4	2	53525K49	10.91
1/2"	3/8	2	53525K51	8.49
5/8"	3/8	2	53525K52	8.90

Hose-to-Threaded Pipe Easy-Install Adapters





For Hose ID	Pipe Size, NPTF	Straights, Male Pipe■: Pkg. Qty.		Pkg.	Straights, Female Pipe■: Pkg. Qty.		Pkg.
1/4"	1/4	2	5346K27	$7.52	2	5346K83	$10.62
3/8"	1/4	2	5346K29	7.58	2	5346K84	10.73
3/8"	3/8	2	5346K31	8.03	2	5346K85	11.00
1/2"	1/2	2	5346K36	11.79	2	5346K92	13.46
1/2"	3/8	2	5346K32	10.22	2	5346K86	11.33
3/4"	3/4	1	5346K43	8.32	_	_____	_____

■ Maximum pressure @ 72° F is 120 psi.

Hose-to-45° Flare Tube Adapters



For Hose ID	Straights, Male 45° Flare: Thread Size	Pkg. Qty.		Pkg.
3/16"	7/16"-20	5	5346K73	$8.57
1/4"	7/16"-20	5	5346K74	8.29
1/4"	5/8"-18	5	5346K75	10.53
5/16"	1/2"-20	5	5346K76	10.54
3/8"	5/8"-18	5	5346K77	14.52
3/8"	3/4"-16	5	5346K78	14.45
1/2"	3/4"-16	5	5346K79	14.41

(Continued on following page)

Brass Barbed Hose Fittings for Air and Water *(Continued from previous page)*

Hose-to-Hose Connectors





For Hose ID	Straights Pkg. Qty.		Pkg.	90° Elbows Pkg. Qty.		Pkg.	Tees Pkg. Qty.		Pkg.
1/8"	5	91355K88	$7.06	2	91355K41	$7.31	2	91355K57	$8.40
3/16"	5	91355K81	6.00	5	91355K42	14.14	2	91355K51	7.04
1/4"	5	91355K82	6.24	5	91355K44	11.88	2	91355K47	6.34
5/16"	5	91355K83	8.00	2	91355K43	7.42	2	91355K52	8.00
3/8"	5	91355K84	6.57	2	91355K45	7.40	2	91355K48	7.85
1/2"	5	91355K85	10.40	2	91355K46	8.95	2	91355K49	10.61
5/8"	5	91355K86	11.90	1	91355K55	8.78	1	91355K53	8.40
3/4"	2	91355K87	7.38	1	91355K56	12.14	1	91355K54	10.95




For Hose ID	Reducing Straights Pkg. Qty.		Pkg.	Reducing 90° Elbows Pkg. Qty.		Pkg.
1/4" x 1/8"	5	91355K31	$9.50	2	91355K21	$7.32
3/8" x 1/4"	5	91355K32	11.51	2	91355K22	8.71
1/2" x 3/8"	5	91355K33	14.03	2	91355K23	10.35
3/4" x 1/2"	2	91355K34	8.95	1	91355K24	10.32

Straight-Thread Brass Barbed Hose Fittings for Air and Water

- Maximum Pressure @ 72° F: 150 psi
- Temperature Range: -40° to 195° F
- Hose: Use reinforced rubber and reinforced plastic
- Clamps: Use band clamps (see pages 311-313)

The straight threads combined with an SBR rubber gasket in the female adapters provide a better seal than other fittings with a threaded connection—they're a great choice if you repeatedly connect and disconnect your hose line. The *easy-install adapters* swivel until they are tightened.

Also known as hose nipples, these fittings connect hose to threaded pipe. Brass fittings have good corrosion resistance. Not rated for vacuum. Female NPSM (National Pipe Straight Mechanical) and NPSH (National Pipe Straight Hose) threads are compatible with male NPT threads.




For Hose ID	Pipe Size	Adapters, Male Pipe		Easy-Install Adapters, Female Pipe	
NPSM Threads					
1/2"	1/2	5365K21	$9.61	5365K31	$9.56
5/8"	3/4	5365K22	8.25	5365K32	10.50
3/4"	3/4	5365K23	8.29	5365K33	9.28
1"	1	5365K24	13.75	5365K34	15.64
NPSH Threads					
1"	1	5365K71	6.76	5365K81	6.99

Bronze Barbed Hose Fittings for Air and Water

- Maximum Pressure @ 72° F: 100 psi
- Temperature Range: 32° to 212° F
- Hose: Use reinforced rubber
- Clamps: Use worm-drive clamps (see pages 302-305) and band clamps (see pages 311-313)

Also known as hose nipples, these elbows connect hose to threaded pipe. They have good corrosion resistance, and can be used with salt water. They meet ASTM B584 and are UL 1121 listed for marine applications. Not rated for vacuum.




For Hose ID	Pipe Size, NPT	Straight Adapters, Male Pipe		90° Elbow Adapters, Male Pipe	
1/2"	1/2	9431K11	$9.22	9431K31	$14.71
5/8"	1/2	9431K12	9.29	9431K32	14.71
3/4"	3/4	9431K13	10.76	9431K33	17.43
1"	1	9431K14	15.47	9431K34	26.71
1 1/8"	1 1/4	9431K15	25.92	9431K35	37.16
1 1/4"	1 1/4	9431K16	27.85	9431K36	39.87
1 1/2"	1 1/2	9431K17	35.60	9431K37	54.97
2"	2	9431K18	41.27	9431K38	66.47
2 1/2"	2 1/2	9431K19	68.40	9431K39	101.61
3"	3	9431K21	107.42	9431K41	106.00
4"	4	9431K22	122.66	9431K43	271.65

Tight-Seal Straight-Thread Brass Barbed Hose Fittings for Air and Water

- Maximum Pressure @ 72° F: 250 psi
- Temperature Range: -40° to 160° F
- Hose: Use reinforced rubber
- Clamps: Use hose ferrules (see page 318) for hose smaller than 1/2" dia.; use band clamps (see pages 311-313) for hose 1/2" dia. and larger


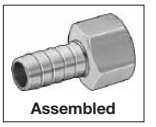

Often called ball-seat hose nipples, these fittings consist of a barbed stem that seats inside a nut for a better seal than fittings with a thread-to-thread connection. The nut swivels until tightened to make installation easier. Fittings are made of corrosion-resistant brass. They meet SAE J476. Not rated for vacuum. Female NPSM (National Pipe Straight Mechanical) threads are compatible with male NPT threads.

For Hose ID	Pipe Size, NPSM	Pkg. Qty.		Pkg.
1/8"	1/8	5	5440K101	$10.39
3/16"	1/8	5	5440K102	7.71
3/16"	1/4	5	5440K103	10.50
1/4"	1/8	5	5440K104	9.46
1/4"	1/4	5	5440K105	9.36
1/4"	3/8	5	5440K106	15.25
5/16"	1/4	5	5440K107	12.25
5/16"	3/8	5	5440K108	15.88
3/8"	1/4	5	5440K109	10.37
3/8"	3/8	5	5440K111	13.52
3/8"	1/2	2	5440K112	8.54
1/2"	3/8	2	5440K113	8.25
1/2"	1/2	2	5440K114	8.15
3/4"	3/4	2	5440K115	12.75

Straight-Thread Aluminum Barbed Hose Fittings for Air and Water

- Maximum Pressure @ 72° F: 1 1/2" to 4": 50 psi; 6": 25 psi
- Temperature Range: -20° to 180° F
- Hose: Use reinforced rubber and reinforced plastic
- Clamps: Use bolt clamps (see pages 307-308) and band clamps (see pages 311-313)

Also known as hose nipples, these fittings connect hose to threaded pipe. Made of aluminum, they are lightweight with good corrosion resistance. A neoprene gasket in the female adapter provides a better seal than other fittings with a threaded connection. They have lugs for better gripping, unless noted. *Easy-install adapters* swivel until they are tightened. Not rated for vacuum. Female NPSM (National Pipe Straight Mechanical) threads are compatible with male NPT threads.




For Hose ID	Pipe Size, NPSM	Adapters, Male Pipe		Easy-Install Adapters, Female Pipe	
1 1/2"	1 1/2	5185K71★	$3.05	5185K41	$4.15
2"	2	5185K72★	4.26	5185K42	5.74
2 1/2"	2 1/2	5185K73	7.60	5185K43	11.01
3"	3	5185K74	9.69	5185K44	13.48
4"	4	5185K75	16.23	5185K45	23.40
6"	6	5185K76	34.39	5185K46	50.68

★Does not have lugs.

Barbed Hose Fittings

For technical drawings and 3-D models, go to mcmaster.com.

For information about selecting pipe size, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

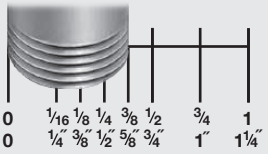

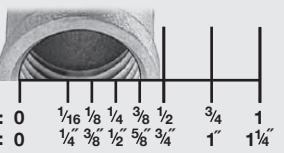

Barbed Hose Fittings for Chemicals and Petroleum

- Max. Pressure @ 72° F: 300 psi
- Temp. Range: -40° to 200° F
- Hose: Use reinforced plastic
- Clamps: Use low-profile band clamps (see pages 311-312)

Fittings are 316 stainless steel for excellent corrosion and chemical resistance. Use with acetone, boric acid, citric acid, diesel fuel, ethanol, gasoline, mineral spirits, and oil. Not rated for vacuum.

Hose-to-Threaded Pipe Adapters—Also known as hose nipples.

Hose-to-Hose Connectors—Also known as hose menders and splicers, use these fittings to repair damaged hose and connect two lengths of hose.

Hose-to-Threaded Pipe Adapters





Straights, Male Pipe

For Hose ID	Pipe Size, NPT		
1/8"	1/8	53505K61	$20.98
1/8"	1/4	53505K62	20.42
1/4"	1/8	53505K63	11.37
1/4"	1/4	53505K64	14.87
1/4"	3/8	53505K65	17.83
1/4"	1/2	53505K66	23.79
3/8"	1/4	53505K67	16.04
3/8"	3/8	53505K68	15.53
3/8"	1/2	53505K69	23.79
1/2"	1/4	53505K71	15.13
1/2"	3/8	53505K72	$14.98
1/2"	1/2	53505K73	24.22
1/2"	3/4	53505K74	31.65
5/8"	1/2	53505K75	30.08
3/4"	1/2	53505K76	26.38
3/4"	3/4	53505K77	35.34
3/4"	1	53505K78	63.06
1"	3/4	53505K79	38.44
1"	1	53505K81	60.47

90° Elbows, Male Pipe

For Hose ID	Pipe Size, NPT		
1/4"	1/8	53505K41	$39.26
1/4"	1/4	53505K42	44.11
3/8"	1/4	53505K43	45.55
3/8"	3/8	53505K44	52.27
3/8"	1/2	53505K45	76.69
1/2"	3/8	53505K46	52.54
1/2"	1/2	53505K47	78.68
1/2"	3/4	53505K88	91.06
3/4"	3/4	53505K89	89.88
1"	1	53505K91	137.18

Hose-to-Hose Connectors



Straights, Male Hose

For Hose ID		
1/4" x 1/8"	53505K32	$45.99
1/4" x 1/4"	53505K33	44.67
3/8" x 1/4"	53505K34	50.59
3/8" x 3/8"	53505K35	48.62
3/8" x 1/2"	53505K36	60.44
1/2" x 1/2"	53505K37	57.97
1/2" x 3/4"	53505K92	69.18
3/4" x 3/4"	53505K93	67.41
1" x 3/4"	53505K94	81.60

Barbed Hose Fittings for Air and Water

- Max. Pressure @ 72° F: 150 psi
- Temp. Range: -40° to 350° F
- Hose: Use reinforced rubber and reinforced plastic
- Clamps: Use worm-drive clamps (see pages 302-305) and band clamps (see pages 311-313)

Hose-to-Threaded Pipe Connectors—Also known as hose nipples, these fittings are barbed on one end and threaded on the other. Vacuum rating is 29" Hg @ 72° F.

Hose-to-Hose Connectors—Also known as hose menders and splicers, use these fittings to repair damaged hose and connect two lengths of hose. Not rated for vacuum.

High-strength adapters have thicker walls and more barbs to give them better strength and gripping power than other barbed fittings.

Zinc-plated steel fittings have fair corrosion resistance. *Aluminum fittings* are lightweight with good corrosion resistance. *304 stainless steel fittings* offer very good corrosion resistance.

Hose-to-Threaded Pipe Connectors





For Hose ID	Pipe Size, NPT	*Straight Adapters, Male Pipe* Zinc-Plated Steel		Aluminum		304 Stainless Steel		*High-Strength Straight Adapters, Male Pipe* Zinc-Plated Steel		Aluminum		304 Stainless Steel	
1/4"	1/8	5350K31	$1.83	5357K31	$2.90	5361K31	$8.30	5350K11	$2.12	5357K11	$4.14	5361K11	$9.54
1/4"	1/4	5350K32	2.01	5357K32	3.28	5361K32	9.02	5350K12	2.23	5357K12	4.38	5361K12	10.04
1/4"	3/8	5350K33	2.14	5357K33	3.76	5361K33	9.92	5350K22	2.40	5357K13	4.96	5361K13	11.10
5/16"	1/4	5350K34	2.00	5357K34	3.28	5361K34	7.08	5350K25	2.27	5357K14	4.54	5361K14	10.40
3/8"	1/8	5350K35	1.80	5357K35	2.96	5361K35	6.84	5350K26	2.48	5357K15	5.24	5361K15	11.50
3/8"	1/4	5350K36	1.98	5357K36	3.28	5361K36	7.08	5350K13	2.61	5357K16	5.52	5361K16	12.08
3/8"	3/8	5350K37	2.14	5357K37	3.76	5361K37	7.92	5350K14	2.61	5357K17	5.52	5361K17	12.08
3/8"	1/2	5350K59	2.77	5357K38	5.26	5361K38	12.70	5350K56	3.38	5357K18	7.62	5361K18	15.66
1/2"	1/4	5350K79	1.93	5357K39	3.28	5361K39	7.08	5350K65	3.34	5357K19	7.52	5361K19	12.82
1/2"	3/8	5350K81	2.12	5357K41	3.76	5361K41	7.92	5350K66	3.34	5357K21	7.52	5361K21	12.82
1/2"	1/2	5350K82	2.78	5357K42	5.30	5361K42	10.58	5350K67	3.54	5357K22	8.00	5361K22	13.64
1/2"	3/4	5350K43	3.53	5357K43	7.24	5361K43	16.44	5350K24	4.58	5357K23	10.66	5361K23	21.30
3/4"	1/2	5350K44	3.11	5357K44	6.12	5361K44	12.18	5350K18	5.14	5357K24	11.94	5361K24	20.62
3/4"	3/4	5350K45	4.06	5357K45	8.40	5361K45	16.24	5350K19	5.14	5357K25	11.96	5361K25	20.62
3/4"	1	5350K48	6.06	5357K46	12.10	5361K46	26.40	5350K28	7.11	5357K26	17.08	5361K26	33.04
1"	3/4	5350K46	4.05	5357K47	8.40	5361K47	16.24	5350K27	6.82	5357K27	16.06	5361K27	27.42
1"	1	5350K47	5.66	5357K48	12.10	5361K48	23.84	5350K21	7.22	5357K28	17.08	5361K28	28.98



High-Strength Straight Adapters, Female Pipe

Pipe Size, NPT	For Hose ID	Zinc-Plated Steel		Aluminum		304 Stainless Steel	
1/8	1/4"	5350K71	$2.76	5357K51	$5.04	5361K51	$12.38
1/4	1/4"	5350K72	3.02	5357K52	5.60	5361K52	13.44
1/4	3/8"	5350K73	3.25	5357K53	6.20	5361K53	14.48
3/8	3/8"	5350K74	3.70	5357K54	7.78	5361K54	17.00
1/2	3/8"	5350K75	4.93	5357K55	10.64	5361K55	22.52
3/8	1/2"	5350K76	3.85	5357K56	8.18	5361K56	14.60
1/2	1/2"	5350K77	5.13	5357K57	11.16	5361K57	23.54
1/2	3/4"	5350K78	5.69	5357K58	12.52	5361K58	22.24
3/4	3/4"	5350K83	7.58	5357K59	17.24	5361K59	34.98

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Barbed Hose Fittings for Air and Water *(Continued from previous page)*

Hose-to-Hose Connectors



Straights

For Hose ID	Zinc-Plated Steel		Aluminum		304 Stainless Steel	
1/4"	5351K11	$7.51	5357K71	$8.98	5361K71	$20.84
3/8"	5351K12	3.26	5357K72	4.24	5361K72	7.34
1/2"	5351K13	3.57	5357K73	4.84	5361K73	8.32
5/8"	5351K16	5.31	5357K74	7.52	5361K74	13.10
3/4"	5351K14	5.97	5357K75	8.98	5361K75	15.12
1"	5351K15	7.51	5357K76	11.72	5361K76	20.02
1 1/4"	5351K17	10.14	5357K77	16.08	5361K77	27.46

Easy-Fit Barbed Hose Fittings

- Maximum Pressure @ 72° F:
  125 psi (1/2" to 4");
  100 psi (5" to 8")
- Temperature Range:
  -20° to 200° F
- Hose: Use reinforced rubber
- Clamps: Use low-profile band clamps (see pgs. 311-312), T-bolt clamps (see pg. 307), and worm-drive hose clamps (see pgs. 302-305)

Low-profile barbs and a longer first barb allow for a smoother installation than with other barbed hose fittings. All meet ANSI/ASME B1.20.1. Vacuum rating is 26" Hg @ 72° F.

Hose-to-Threaded Pipe Adapters—Also known as hose nipples, they connect hose to threaded pipe.

Hose-to-Hose Connectors—Also known as hose menders and splicers, use these fittings to repair damaged hose and connect lengths of hose.

Steel and **zinc-plated steel** fittings meet ASTM A53. Zinc-plated steel offers fair corrosion resistance. **Aluminum** fittings are lightweight with good corrosion resistance. Meet ASTM B241. **Brass** fittings have good corrosion resistance and are softer and easier to thread than steel fittings. Meet ASTM B43. **316 stainless steel** fittings offer excellent chemical and corrosion resistance. They can also be used with acetone, isopropyl alcohol, mineral oil, and sodium hydroxide. Meet ASTM A312.

Hose-to-Threaded Pipe Adapters



Hex Body



Round Body

Straights, Male Pipe

For Hose ID	Pipe Size, NPT	Body Shape	Steel for Air and Water		Zinc-Plated Steel for Air and Water		Aluminum for Air and Water		Brass for Air and Water		316 Stainless Steel for Chemicals	
1/2"	1/2	Hex	5363K51	$2.47	5363K41	$2.62						
1/2"	1/2	Round					5363K21	$10.27	5363K11	$8.59	5363K71	$13.28
3/4"	3/4	Hex	5363K52	2.53	5363K42	2.70	5363K22	9.75	5363K12	12.31	5363K72	11.62
1"	1	Hex	5363K53	3.03	5363K43	3.44	5363K23	9.75	5363K13	12.41	5363K73	13.33
1 1/4"	1 1/4	Hex	5363K54	3.92	5363K44	4.07	5363K24	10.83	5363K14	15.72	5363K74	16.23
1 1/2"	1 1/2	Hex	5363K55	4.38	5363K45	4.80	5363K25	11.05	5363K15	17.63	5363K75	18.33
2"	2	Round	5363K56	5.71	5363K46	6.71	5363K26	13.31	5363K16	25.22	5363K76	26.31
2 1/2"	2 1/2	Round	5363K57	13.25	5363K47	13.94	5363K27	33.40	5363K17	44.25	5363K77	54.56
3"	3	Round	5363K58	15.27	5363K48	17.05	5363K28	32.47	5363K18	60.51	5363K78	74.41
4"	4	Round	5363K59	24.05	5363K49	26.30	5363K29	51.96	5363K19	124.02	5363K79	93.76
5"	5	Round	5363K61	52.28	5363K91	56.05	5363K31	88.40			5363K81	202.65
6"	6	Round	5363K62	59.56	5363K92	62.65	5363K32	99.34			5363K82	211.05
8"	8	Round	5363K63	101.91	5363K93	116.31					5363K83	337.71



Expanding Straights, Male Pipe

For Hose ID	Pipe Size, NPT	Body Shape	Steel for Air and Water		Zinc-Plated Steel for Air and Water	
3/4"	1	Round	53555K21	$7.31	53555K31	$7.13
1"	1 1/4	Round	53555K22	9.62	53555K32	9.36
1 1/4"	1 1/2	Round	53555K23	8.69	53555K33	8.52
1 1/2"	2	Round	53555K24	10.64	53555K34	10.71
2"	2 1/2	Round	53555K25	20.21	53555K35	20.76
2 1/2"	3	Round	53555K26	24.36	53555K36	24.63
3"	4	Round	53555K27	49.48	53555K37	49.45



Reducing Straights, Male Pipe

For Hose ID	Pipe Size, NPT	Body Shape	Steel for Air and Water		Zinc-Plated Steel for Air and Water	
1"	3/4	Round	53555K41	$4.54	53555K51	$4.57
1 1/4"	1	Round	53555K42	5.73	53555K52	5.78
1 1/2"	1 1/4	Round	53555K43	6.13	53555K53	6.07
2"	1 1/2	Round	53555K44	11.43	53555K54	11.79
2 1/2"	2	Round	53555K45	18.26	53555K55	18.04
3"	2 1/2	Round	53555K46	22.43	53555K56	22.45
4"	3	Round	53555K47	46.05	53555K57	49.11

Hose-to-Hose Connectors



Straights

For Hose ID	Body Shape	Steel for Air and Water		Zinc-Plated Steel for Air and Water		Brass for Air and Water		316 Stainless Steel for Chemicals	
1/2"	Round	53605K51	$3.19	53605K61	$3.30				
3/4"	Round	53605K52	3.38	53605K62	3.48	53605K41	$8.40	53605K31	$29.21
1"	Round	53605K53	3.63	53605K63	3.71	53605K42	8.64	53605K32	32.54
1 1/4"	Round	53605K11	5.70	53605K64	5.71	53605K43	14.66	53605K33	36.34
1 1/2"	Round	53605K12	5.57	53605K65	5.61	53605K44	23.79	53605K34	42.68
2"	Round	53605K13	7.36	53605K66	7.38	53605K45	26.19	53605K35	43.27
3"	Round	53605K15	15.88	53605K67	15.62			53605K36	82.91
4"	Round	53605K16	26.87	53605K68	27.14			53605K37	97.34

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.





Plastic Barbed Hose Fittings

- Maximum Pressure: See below
- Temperature Range: See descriptions
- Hose: Use reinforced rubber and reinforced plastic
- Clamps: Use worm-drive hose clamps (see pages 302-305) and T-bolt clamps (see page 307)

Light in weight, these plastic fittings are not rated for vacuum.

Hose-to-Threaded Pipe Adapters—Also known as hose nipples.

Hose-to-Hose Connectors—Also known as hose menders and splicers, use these fittings to repair damaged hose and connect two lengths of hose.

Fittings **for water** are black polypropylene. Temperature range is 10° to 150° F.

Fittings **for coolant** are yellow nylon. Temperature range is -30° to 200° F.

Fittings **for food and beverage** are white polypropylene. They are made of FDA listed materials. Temperature range is 10° to 180° F.

Fittings **for chemicals** are white PVDF. Use with mineral oil, citric acid, nitric acid, and phosphoric acid. Temperature range is -20° to 300° F.

Hose-to-Threaded Pipe Adapters

Straights, Male Pipe






For Hose ID	Pipe Size, NPT	For Water Max. psi @ 72° F			For Coolant Max. psi @ 72° F			For Food and Beverage Max. psi @ 72° F			For Chemicals Max. psi @ 72° F		
1/2"	1/2	125	5218K35	$1.49	175	5218K85	$2.26	125	5218K45	$2.91	125	5218K13	$25.02
3/4"	3/4	125	5218K36	1.63	175	5218K86	2.49	125	5218K46	3.23	125	5218K14	24.37
1"	1	125	5218K37	1.94	175	5218K87	2.80	125	5218K47	3.46	125	5218K15	26.82
1 1/4"	1 1/4	100	5218K38	2.20	150	5218K18	3.34	—	—	—	100	5218K16	26.16
1 1/2"	1 1/2	100	5218K39	2.69	150	5218K29	3.66	100	5218K49	3.91	100	5218K17	26.16
2"	2	100	5218K41	3.29	150	5218K31	5.54	100	5218K51	6.94	100	5218K19	36.96
3"	3	75	5218K42	7.73	100	5218K12	8.60	50	5218K11	7.56	50	5218K21	61.88

Hose-to-Threaded Pipe Adapters

90° Elbows, Male Pipe




For Hose ID	Pipe Size, NPT	For Water Max. psi @ 72° F			For Coolant Max. psi @ 72° F		
3/4"	3/4	100	5218K76	$5.14	125	5218K81	$5.16
1 1/2"	1 1/2	100	5218K77	6.00	125	5218K82	6.14
2"	2	100	5218K78	8.80	125	5218K83	9.21

Hose-to-Hose Connectors

Straights



For Hose ID	Max. psi @ 72° F	For Water		
1 1/2"	150	5218K65	$2.44	
2"	150	5218K66	3.11	

Crimp-On Ferrules for Air and Water Hose

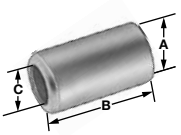

Use ferrules to create a permanent connection between your air- and water-hose and barbed hose fittings. You will need a hose crimper (please see page 319) for installation.

Brass and **aluminum** ferrules have good corrosion resistance. Choose a ferrule with an ID no more than 0.025" larger than your hose OD (measured with the fitting installed); also make sure the ferrule is at least as long as the barbed end of your fitting. **304 stainless steel** ferrules offer very good corrosion resistance. Choose a ferrule with an ID no more than 0.031" larger than the hose OD (measured with the fitting installed).

Hose End ID (A)	Length (B)	Fitting End ID (C)	Pkg. Qty.		Pkg.
Brass					
0.275"	0.5"	0.217"	50	5349K39	$7.11
0.38"	0.718"	0.266"	50	5349K41	8.72
0.45"	0.5"	0.266"	50	5349K42	8.14
0.5"	0.5"	0.328"	50	5349K43	9.80
0.5"	1"	0.344"	25	5349K44	8.08
0.525"	1"	0.375"	25	5349K45	7.94
0.55"	0.55"	0.406"	50	5349K46	11.37
0.593"	1"	0.438"	25	5349K47	8.80
0.625"	0.55"	0.453"	25	5349K48	8.89
0.625"	1"	0.453"	25	5349K49	9.10
0.656"	1"	0.438"	25	5349K51	9.20
0.675"	0.516"	0.5"	25	5349K52	6.73
0.687"	1"	0.5"	25	5349K53	9.27

Hose End ID (A)	Length (B)	Fitting End ID (C)	Pkg. Qty.		Pkg.
Brass (Cont.)					
0.718"	1"	0.625"	25	5349K54	$9.97
0.75"	0.531"	0.5"	50	5349K55	12.97
0.75"	1"	0.625"	25	5349K56	10.26
0.781"	1"	0.625"	25	5349K57	13.36
0.812"	1"	0.625"	25	5349K58	13.77
0.875"	0.844"	0.688"	25	5349K59	10.20
0.975"	0.844"	0.688"	10	5349K61	6.60
1.15"	0.844"	0.875"	25	5349K62	13.63
1.375"	0.875"	1.125"	10	5349K63	9.80
Aluminum					
0.375"	0.718"	0.266"	50	6703K11	7.21
0.45"	0.5"	0.265"	50	6703K12	7.45
0.5"	0.5"	0.328"	50	6703K13	7.46

Hose End ID (A)	Length (B)	Fitting End ID (C)	Pkg. Qty.		Pkg.
Aluminum (Cont.)					
0.55"	0.55"	0.406"	50	6703K16	$9.46
0.625"	0.55"	0.453"	50	6703K18	8.15
0.625"	0.968"	0.453"	50	6703K19	10.77
0.675"	0.5"	0.5"	50	6703K22	8.68
0.75"	0.55"	0.5"	50	6703K25	8.63
304 Stainless Steel					
0.56"	1"	0.437"	5	9256T31	4.19
0.625"	1"	0.437"	5	9256T32	4.38
0.656"	1"	0.437"	5	9256T33	5.32
0.69"	1"	0.5"	5	9256T34	5.35
0.75"	1"	0.625"	5	9256T35	5.51
1.175"	0.844"	0.875"	5	9256T36	6.44

Screw-On Hose Fittings for Air and Water

- Maximum Pressure @ 72° F: 250 psi
- Temperature Range: -40° to 160° F
- Hose: Use reinforced rubber
- Clamps: Not required

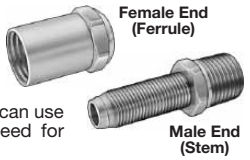

Also called reusable hose fittings, you can use these fittings repeatedly without the need for clamps or crimping tools.

You'll need a female end (ferrule) and a male end (stem) with the same hose ID to make a connection. Twist the female end into your hose, then lubricate the male end and thread it into the female end. Not rated for vacuum.

Brass fittings have good corrosion resistance. They meet SAE J476. Connections are NPTF (Dryseal), which are compatible with NPT threads. **303 stainless steel** fittings have very good corrosion resistance. Connections are NPT.

For Hose ID	For Hose OD	Pipe Size	Brass Pkg. Qty.		Brass Pkg.	303 Stainless Steel	303 Stainless Steel Each
Female End (Ferrule)							
1/4"	1/2"	—	5	6691K11	$9.24	4526K32	$12.97
1/4"	9/16"	—	5	6691K12	11.00	4526K33	12.11
1/4"	5/8"	—	5	6691K41	11.38	4526K21	13.23
5/16"	9/16"	—	2	6691K51	6.84	—	—
5/16"	5/8"	—	5	6691K13	12.75	4526K34	12.54
5/16"	11/16"	—	2	6691K42	6.83	—	—
3/8"	5/8"	—	5	6691K14	11.92	4526K35	12.54
3/8"	11/16"	—	5	6691K15	13.30	4526K37	12.54
3/8"	3/4"	—	5	6691K16	12.48	4526K38	12.54
1/2"	7/8"	—	2	6691K17	10.74	4526K41	18.60
1/2"	15/16"	—	2	6691K18	12.05	4526K43	18.60
1/2"	1"	—	2	6691K19	13.56	—	—
Male End (Stem)							
1/4"	—	1/4	5	6691K21	10.93	4526K45	12.05
1/4"	—	1/8	5	6691K43	15.06	4526K22	11.36
1/4"	—	3/8	2	6691K44	7.40	—	—
5/16"	—	1/4	5	6691K22	13.12	4526K46	11.16
5/16"	—	3/8	2	6691K45	9.25	4526K23	14.86
3/8"	—	1/2	2	6691K47	10.67	—	—
3/8"	—	1/4	5	6691K23	10.97	4526K47	12.54
3/8"	—	3/8	5	6691K46	13.20	4526K24	13.23
1/2"	—	1/2	2	6691K24	9.85	4526K48	18.73
1/2"	—	1/4	2	6691K48	11.38	—	—
1/2"	—	3/8	2	6691K49	9.68	4526K25	15.81

Hose Crimpers

Use with ferrules on pg. 318 to secure barbed fittings onto your hose.

Hammer-Operated Crimper

Use a hammer strike or a vise to crimp ferrules onto your 7/16", 9/16", and 11/16" OD hose. Has three jaw holes. Made of steel. Crimper is 9" Lg. × 1 1/4" Wd.



5551K13 ..... $29.61

Hose-Crimping Pliers

As you squeeze the handles, the vise-like jaws lock tightly onto the ferrule for a secure crimp on air hose. All are 1/2" wide and made of steel with a chrome-plated finish, except 9" long two-hole jaw has a nickel-plated finish.



Two-Hole Jaw

	For Hose OD	Lg.		
Two-Hole Jaw	7/16", 9/16"	9"	54215K11	$28.36
Two-Hole Jaw	5/8", 11/16"	8 3/4"	54215K22	54.39
Three-Hole Jaw	5/16", 11/32", 27/64"	9"	54215K24	57.99

Lever-Operated Crimpers with Dies

Furnished with five removable dies that crimp 0.484" to 0.703" OD air hose (without the fittings installed). Base is iron; handle is steel. Crimper is 12" long and has two 1/4" dia. mounting holes (fasteners not included).



5531K41 ..... $246.01

Lever-Operated Crimper and Dies

Individual dies (sold separately) allow you to crimp air and water hose from 3/4" to 1 3/8" OD (without the fittings installed). Base is iron and handle is zinc-plated steel. Crimper is 12" long and has two 1/8" dia. mounting holes (fasteners not included).



To Order: For dies, please specify size: 3/4", 0.781", 0.813", 7/8", 0.906", 0.938", 0.969", 1", 1 1/8", or 1 3/8".

Crimper	7986K1	$206.00
Dies	7986K2	32.08

Swivel Hose Fittings for Air

- Maximum Pressure at 72° F: 150 psi
- Temperature Range: -20° to 200° F
- Hose: Use reinforced rubber
- Clamps: Use worm-drive clamps (see pages 302-305) for fittings with a barbed end.

Threaded Pipe-to-Threaded Pipe Adapters

Use fittings to connect hose to portable air tools. They are not rated for vacuum.

90° Elbows with One Swivel— Elbows swivel on one axis to allow your hose to extend horizontally away from the tool. They have an aluminum body; the female threads are aluminum, the male threads are steel.

90° Elbows with Two Swivels— Elbows swivel on two axes to allow your hose to extend horizontally as well as vertically to the floor regardless of how the tool is held. They have an aluminum body; the female threads are aluminum, the male threads are steel.

Nonmarring 90° Elbows with Two Swivels—Also swivel on two axes, but these have a plastic body or plastic coating to protect delicate surfaces from scratching. For fittings with 1/4 NPT female threads, the female threads are nylon, the male threads are steel. For fittings with 3/8 NPT female threads, the threads are zinc-plated steel. For fitting with 1/2 NPT female threads, threads are aluminum.

Straight Pivot—Fitting pivots 10° from the center as needed to prevent kinking. Made of steel.

Straight 360° Swivel—Fittings are brass and swivel 360° before and after installation as needed to prevent kinking.

90° Elbows with One Swivel, Female Pipe × Male Pipe



Pipe Size, NPT Female	Pipe Size, NPT Male		
Without Flow Control			
1/4	1/4	91095K85	$14.86
3/8	3/8	91095K86	28.54
1/2	1/2	91095K87	42.33

90° Elbows with Two Swivels, Female Pipe × Male Pipe



Pipe Size, NPT Female	Pipe Size, NPT Male		
Without Flow Control			
1/4	1/8	91095K79	$28.31
3/8	3/8	91095K82	42.46
1/2	1/2	91095K83	65.22
3/4	3/4	91095K84	106.25
1/4	1/4	91095K92	31.36
With Flow Control			
1/4	1/4	91095K88	44.19

Nonmarring 90° Elbows with Two Swivels, Female Pipe × Male Pipe



Pipe Size, NPT Female	Pipe Size, NPT Male		
Without Flow Control			
1/4	1/4	91095K81	$18.49
3/8	1/4	91095K93	35.67
3/8	3/8	91095K94	35.76
1/2	1/2	91095K95	46.88
With Flow Control			
1/4	1/4	91095K91	43.86

Straight Pivot, Female Pipe × Male Pipe



Pipe Size, NPT Female	Pipe Size, NPT Male		
Without Flow Control			
1/4	1/4	5302K65	$8.62

Straight 360° Swivels, Female Pipe × Male Pipe



Pipe Size, NPT Female	Pipe Size, NPT Male		
Without Flow Control			
1/4	1/4	4480K11	$4.30
3/8	3/8	4480K12	8.90

Hose-to-Threaded Pipe Adapters

The barbed end pivots 10° from the center to prevent kinking between hose and portable air tools. Made of steel.

Straight Pivots, Barbed Hose × Male Pipe



For Hose ID	Pipe Size, NPT Male		
Without Flow Control			
1/4"	1/4	5302K63	$8.14
3/8"	1/4	5302K64	8.51

Push-On Hose & Fittings

For information about selecting pipe size, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

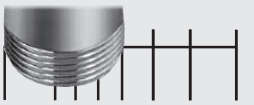



Air and Water Hose for Push-On Fittings



- Maximum Pressure @ 72° F: 200 psi (Lightweight); 250 psi (Choose-a-Color); 300 psi (High Pressure)
- Temperature Range: -20° to 150° F
- Fittings: Use push-on barbed style (see below and pg. 321)

The unique braid-reinforced design means no clamps or banding are needed to secure fittings to this hose. The more you pull on the fittings, the tighter the hose will grip. Hose has a smooth interior and is reinforced with yarn. Not rated for vacuum. Not suitable for outdoor use.

Lightweight for Water

Hose is Buna-N rubber blended with PVC so it's light and easy to handle. Color is black.

To Order: Please specify hose length of 5-, 10-, 20-, 25-, 30-, or 50 ft., or any length you choose up to 100 feet.

Hose ID	Hose OD	Bend Radius		Per Ft.
1/4"	1/2"	2 1/2"	5633K21	$2.04
5/16"	9/16"	3 1/8"	5633K22	2.30
3/8"	5/8"	3 3/4"	5633K23	2.62
1/2"	3/4"	5"	5633K24	3.16
5/8"	7/8"	6 1/4"	5633K25	3.96
3/4"	1 1/16"	7 1/2"	5633K26	4.63

Choose-a-Color for Air

Identify your air lines by color. Hose is Buna-N rubber; cover is blended rubber. Hose meets RMA Class A for oil resistance.

To Order: Please specify hose length of 5-, 10-, 20-, 25-, 30-, or 50 ft., or any length you choose up to 100 feet; also specify color: black, blue, gray, green, red, or yellow.

Hose ID	Hose OD	Bend Radius		Per Ft.
1/4"	1/2"	1 1/2"	5288K11	$1.24
3/8"	5/8"	2 1/4"	5288K12	1.54
1/2"	3/4"	3"	5288K13	1.78
5/8"	15/16"	3 3/4"	5288K34★	2.19
3/4"	1 1/16"	4 1/2"	5288K35★	3.03

★Color is black.

High Pressure for Air

Hose is Buna-N rubber for durability to withstand high pressures. It meets MSHA (Mine Safety and Health Administration) standards for flame resistance. Color is black.

To Order: Please specify hose length of 5-, 10-, 20-, 25-, 30-, or 50 ft., or any length you choose up to 100 feet.

Hose ID	Hose OD	Bend Radius		Per Ft.
1/4"	1/2"	1 1/2"	5283K31	$1.20
3/8"	5/8"	2 1/4"	5283K12	1.48
1/2"	3/4"	3"	5283K13	1.82
5/8"	15/16"	3 3/4"	5283K14	2.61
3/4"	1 1/16"	4 1/2"	5283K15	3.24
1"	1 3/8"	8"	5283K16	6.20

Brass Push-On Hose Fittings for Air and Water

- Maximum Pressure @ 72° F: 350 psi
- Temperature Range: -20° to 150° F
- Hose: Use reinforced rubber push-on (see above)
- Clamps: None required

You don't need a clamp or ferrule to attach these fittings to hose—push them in until the yellow plastic ring covers the hose end. Fittings are made from brass, which has good corrosion resistance. Not rated for vacuum.

Note: These fittings are only for use with hose for push-on fittings. To ensure proper operation, the barbed end has to be pushed in all the way, with the hose end completely concealed by the ring.

Hose-to-Threaded Pipe Adapters—Also known as hose nipples, they connect hose to threaded pipe. *Easy-install straights* swivel until tightened. NPTF (Dryseal) threads are compatible with NPT threads; female NPSM (National Pipe Straight Mechanical) threads are compatible with male NPT threads.

Hose-to-Threaded Flared Tube Adapters—Use these fittings to connect to flared tubing. Female straights have a dual angle seat that accepts both 37° JIC and 45° SAE male flared fittings. All have UNF straight threads.

Hose-to-Hose Connectors—Also known as hose menders and splicers, these fittings can be used to repair damaged hose and to connect two pieces of hose.

Hose-to-Threaded Pipe Adapters





For Hose ID	Pipe Size, NPTF	Straights, Male Pipe Pkg. Qty.		Pkg.	Straights, Female Pipe Pkg. Qty.		Pkg.
1/4"	1/8	10	91465K11	$13.28	5	91465K311	$10.87
1/4"	1/4	5	91465K91	8.61	5	91465K951	11.13
1/4"	3/8	5	91465K12	10.75	1	91465K321	3.51
5/16"	1/8	5	91465K13	9.88	5	91465K31	12.88
5/16"	1/4	5	91465K14	10.03	5	91465K32	16.25
3/8"	1/8	5	91465K15	10.12	5	91465K331	14.63
3/8"	1/4	5	91465K92	8.21	5	91465K341	12.75
3/8"	3/8	5	91465K93	10.05	5	91465K961	13.78
3/8"	1/2	1	91465K161	3.48	2	91465K351	14.24
3/8"	3/4	2	91465K171	11.19	1	91465K33	8.42
1/2"	1/4	5	91465K181	13.13	2	91465K361	8.02
1/2"	3/8	5	91465K191	10.82	2	91465K371	6.86
1/2"	1/2	5	91465K94	14.06	2	91465K841	7.88
1/2"	3/4	2	91465K21	10.26	1	91465K381	8.63
5/8"	3/8	1	91465K22	3.56	2	91465K35	8.95
5/8"	1/2	1	91465K23	3.31	2	91465K391	14.09
5/8"	3/4	2	91465K24	10.83	1	91465K411	10.06
3/4"	1/2	2	91465K25	9.23	2	91465K36	10.11
3/4"	3/4	2	91465K26	8.85	2	91465K421	14.71
1"	3/4	1	91465K27	10.80	1	91465K37	9.80
1"	1	1	91465K28	11.71	1	91465K38	13.94



Easy-Install Straights, Male Pipe

For Hose ID	Pipe Size, NPTF	Pkg. Qty.		Pkg.
1/4"	1/4	2	91465K53	$8.85
3/8"	1/4	2	91465K54	8.75
3/8"	3/8	2	91465K55	9.63
1/2"	3/8	2	91465K56	10.77
1/2"	1/2	2	91465K57	13.13
3/4"	3/4	1	91465K58	9.30



Easy-Install Straights, Female Pipe

For Hose ID	Pipe Size, NPSM	Pkg. Qty.		Pkg.
1/4"	1/8	2	53485K11	$9.25
1/4"	1/4	1	53485K12	3.58
1/4"	3/8	2	53485K13	10.85
3/8"	1/4	1	53485K14	3.82
3/8"	3/8	2	53485K15	9.90
3/8"	1/2	2	53485K16	10.80
1/2"	1/2	2	53485K17	10.95
1/2"	3/4	1	53485K18	9.50
5/8"	3/4	1	53485K29	11.45
3/4"	3/4	1	53485K21	9.19

90° Elbows, Male Pipe



For Hose ID	Pipe Size, NPTF	Pkg. Qty.		Pkg.
1/4"	1/8	5	91465K61	$13.72
1/4"	1/4	1	91465K62	3.38
3/8"	1/4	2	91465K63	8.00
3/8"	3/8	2	91465K64	$8.89
1/2"	3/8	2	91465K65	10.95
1/2"	1/2	2	91465K66	$13.80
3/4"	3/4	1	91465K67	13.70

(Continued on following page)

Brass Push-On Hose Fittings for Air and Water *(Continued from previous page)*

Hose-to-Flared Tube Adapters



Straights, Male 37° Flare

For Hose ID	Flared-End Thread Size	Pkg. Qty.		Pkg.
1/4"	7/16"-20	5	53485K71	$13.13
1/4"	9/16"-18	1	53485K72	3.60
3/8"	9/16"-18	2	53485K73	8.12
1/2"	3/4"-16	2	53485K74	8.48
3/4"	1 1/16"-12	1	53485K75	8.59



Straights, Male 45° Flare

For Hose ID	Flared-End Thread Size	Pkg. Qty.		Pkg.
1/4"	1/2"-20	5	53485K82	$13.00
1/4"	7/16"-20	5	53485K81	13.43
3/8"	5/8"-18	1	53485K83	3.48
1/2"	3/4"-16	2	53485K84	10.88
3/4"	1 1/16"-14	1	53485K85	8.85



Straights, Female 37° Flare/45° Flare

For Hose ID	Flared-End Thread Size	Pkg. Qty.		Pkg.
1/4"	1/2"-20	5	53485K23	$17.12
1/4"	7/16"-20	5	53485K22	12.81
3/8"	3/4"-16	2	53485K24	8.60
1/2"	3/4"-16	2	53485K25	8.05
1/2"	7/8"-14	2	53485K26	10.98
5/8"	7/8"-14	2	53485K27	12.30

Hose-to-Hose Connectors

Straights

For Hose ID	Pkg. Qty.		Pkg.
1/4"	5	91465K97	$10.12
5/16"	5	91465K43	11.62
3/8"	5	91465K98	$11.13
1/2"	2	91465K51	7.35
5/8"	2	91465K44	$10.23
3/4"	2	91465K52	11.95



316 Stainless Steel Push-On Hose Fittings for Air and Water

- Maximum Pressure @ 72° F: 350 psi
- Temperature Range: -20° to 150° F
- Hose: Use reinforced rubber push-on (see page 320)
- Clamps: Not required

You don't need a clamp or ferrule to attach these fittings to hose—push them in until the blue plastic ring covers the hose end. These 316 stainless steel fittings have excellent corrosion resistance. Not rated for vacuum.

Note: These fittings are only for use with hose for push-on fittings. To ensure proper operation, the barbed end has to be pushed in all the way, with the hose end completely concealed by the ring.

Hose-to-Threaded Pipe Adapters—Also known as hose nipples, they connect hose to threaded pipe.

Hose-to-Threaded Flared Tube Adapters—Also known as easy-install fittings, the threaded end swivels until tightened for easy connection to 37° JIC male flared fittings. All have UNF straight threads.

Hose-to-Hose Connectors—Also known as hose menders and splicers, these fittings can be used to repair damaged hose and to connect two pieces of hose.

Hose-to-Threaded Pipe Adapters



Straights, Male Pipe

For Hose ID	Pipe Size, NPT		Pkg.
1/4"	1/8	53515K21	$16.73
1/4"	1/4	53515K22	15.43
3/8"	1/4	53515K31	23.29
3/8"	3/8	53515K24	18.90
3/8"	1/2	53515K32	31.37
1/2"	1/2	53515K27	27.90
3/4"	3/4	53515K33	48.81

Hose-to-Flared Tube Adapters



Straights, Female 37° Flare

For Hose ID	Flared-End Thread Size		Pkg.
1/4"	7/16"-20	53515K11	$25.72
3/8"	9/16"-18	53515K12	30.01
1/2"	3/4"-16	53515K14	36.08
5/8"	7/8"-14	53515K34	66.74
3/4"	1 1/16"-12	53515K35	73.04

Hose-to-Hose Connectors



Straights

For Hose ID		Pkg.
1/4"	53515K41	$18.19
3/8"	53515K42	26.37
1/2"	53515K43	35.01

Plastic Push-On Hose Fittings for Water

- Maximum Pressure @ 72° F: 90 psi
- Temperature Range: 0° to 150° F
- Hose: Use reinforced rubber push-on (see page 320)
- Clamps: Not required

You don't need a clamp or ferrule to attach these fittings to hose—push them in until the ring covers the hose end. They are made of lightweight white nylon. Not rated for vacuum.

Note: These fittings are only for use with hose for push-on fittings. To ensure proper operation, the barbed end has to be pushed in all the way, with the hose end completely concealed by the ring.

Hose-to-Threaded Pipe Adapters—Also known as hose nipples, they connect hose to threaded pipe.

Hose-to-Hose Connectors—Also known as hose menders and splicers, these fittings can be used to repair damaged hose and to connect two pieces of hose.

Hose-to-Threaded Pipe Adapters





For Hose ID	Pipe Size, NPT	Pkg. Qty.	Straights, Male Pipe	Pkg.	Straights, Female Pipe	Pkg.
1/4"	1/8	10	5228K21	$5.32		
1/4"	1/4	10	5228K22	5.49	5228K12	$7.60
1/4"	3/8	10	5228K23	5.90		
3/8"	1/4	10	5228K24	5.62	5228K14	9.28
3/8"	3/8	10	5228K25	5.98	5228K15	9.28
3/8"	1/2	10	5228K26	6.96		
1/2"	3/8	10	5228K27	8.50	5228K17	8.50
1/2"	1/2	10	5228K28	8.51	5228K18	9.70
1/2"	3/4	10	5228K29	8.85		

Hose-to-Hose Connectors



Straights

For Hose ID	Pkg. Qty.		Pkg.
1/4"	10	5228K31	$5.00
3/8"	10	5228K32	5.40
1/2"	10	5228K33	6.54

Push-On Hose Fitting Installation Tools

Use the built-in cutter to squarely cut 1/4"-3/4" push-on style hose without fraying. Then, clamp the hose into the tool's vise and apply light pressure on the handle to drive in the fitting. Tool has four 7/16" mounting holes (fasteners not included). Overall size is 13 1/2" Lg. x 7" Ht. x 2 3/8" Dp.



53685K11 ..... $326.25

Hose Fittings & Gasket Washers

For information about selecting pipe size, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1
OD (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"



Pipe Size:	0	1/16	1/8	1/4	3/8	1/2	3/4	1
ID (to nearest 1/8"):	0	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"

Brass Straight-to-Taper Thread Hose Fittings

- Maximum Pressure @ 72° F: 250 psi
- Temperature Range: –40° to 160° F
- Hose: Use rubber, EPDM, and PVC
- Clamps: Not required

Convert your hose with NPSM (National Pipe Straight Mechanical) threads to NPTF (Dryseal) threads. NPTF threads are compatible with NPT threads. Fittings are made from yellow brass for good corrosion resistance. Use with air, water, natural gas, gasoline, oil, and petroleum products. Not rated for vacuum.





Pipe Size, NPSM x NPTF	Adapters, Male Pipe		Adapters, Female Pipe	
1/4	4685T11	$1.50	4685T33	$2.71
3/8	4685T12	2.35	4685T34	2.78
1/2	4685T13	3.06	4685T35	3.71

Swivel Hose Fittings for Water

- Maximum Pressure @ 72° F: 3,500 psi
- Temperature Range: 38° to 180° F
- Hose: Use hydraulic
- Clamps: Not required

Also known as live swivels, these fittings swivel 360° before and after installation and can swivel continuously. Fittings are 416 stainless steel for good corrosion resistance and include a Buna-N rubber seal. Not rated for vacuum.



	Female Pipe x Male Pipe	
Pipe Size, NPT		
3/8	5273K23	$36.48
1/2	5273K21	36.48

Hose Gasket Washers



Place one of these rubber washers inside a nozzle or spigot to prevent leaks at the connection point. The 5/8" ID **SBR** washer is commonly used in garden hoses.

For Hose ID	ID	OD	Thick.	Pkg. Qty.		Pkg.
Water-Resistant SBR—Red						
3/4"	5/8"	1"	1/8"	100	5456K8	$5.40
Water-Resistant SBR—Black						
1 1/4"	1 1/8"	1 5/8"	1/8"	25	5456K3	8.65
1 1/2"	1 5/16"	1 15/16"	1/8"	25	5456K4	10.49
2"	1 11/16"	2 7/16"	1/8"	25	5456K5	13.38

For Hose ID	ID	OD	Thick.	Pkg. Qty.		Pkg.
Water-Resistant SBR—Black (Cont.)						
2 1/2"	2 1/8"	2 7/8"	5/32"	10	5456K6	$7.00
Oil-Resistant Neoprene—Black						
3/4"	5/8"	1 1/16"	1/8"	100	5456K7	9.16
1"	7/8"	1 5/16"	1/8"	100	5456K2	14.88

Hose Fittings for Hydraulic Fluid

- Maximum Pressure: See below
- Temperature Range: -425° to 1200° F for 316 stainless steel; not rated for zinc-plated steel
- Hose: Use hydraulic
- Clamps: Not required

These fittings swivel until tightened for easy installation. They meet SAE J514. Not rated for vacuum. Female NPSM threads are compatible with male NPT threads.

Zinc-plated steel fittings have fair corrosion resistance and high wear resistance. The nonswiveling end has NPTF threads; NPTF (Dryseal) threads are compatible with NPT threads.

316 stainless steel fittings offer excellent corrosion resistance and high wear resistance. The nonswiveling end has NPT threads.











Pipe Size	Swivel Pipe Size, NPSM	Max. psi @ 72° F	Straights, Male x Female Swivel		Straights, Female x Female Swivel		90° Elbows, Male x Female Swivel		90° Elbows, Female x Female Swivel		45° Elbows, Male x Female Swivel	
Zinc-Plated Steel												
1/8	1/8	5,000	5340K11	$1.48	5340K21	$1.67	5340K31	$2.38			5340K51	$2.68
1/8	1/4	5,000	5340K61	2.00	5340K71	18.71	5340K5	8.97				
1/4	1/4	4,000	5340K16	1.84	5340K26	2.66	5340K68	2.49			5340K7	7.12
1/4	3/8	3,000	5340K62	3.73	5340K72	3.12	5340K241	3.60	5340K92	$12.25		
3/8	1/4	3,000	5340K28	3.48	5340K29	13.75	5340K78	4.98			5340K77	28.30
3/8	3/8	3,000	5340K36	2.39	5340K46	2.52	5340K87	2.52			5340K81	4.18
3/8	1/2	3,000	5340K64	4.80	5340K1	14.43	5340K243	5.48			5340K204	4.25
1/2	3/8	3,000	5340K114	3.14	5340K115	22.98	5340K91	4.92			5340K89	6.63
1/2	1/2	3,000	5340K48	2.58	5340K49	3.76	5340K99	4.88			5340K98	5.30
3/4	1/2	2,200	5340K56	5.88	5340K2	23.29	5340K112	7.93			5340K111	5.64
3/4	3/4	2,200	5340K17	4.65	5340K27	5.92	5340K37	8.27	5340K47	8.08	5340K57	8.23
3/4	1	2,000	5340K18	9.71			5340K38	20.56				
1	3/4	2,000	5340K59	8.31	5340K4	33.99	5340K6	13.20				
1	1	2,000	5340K66	6.62	5340K76	7.50	5340K86	13.93	5340K96	16.16	5340K116	10.78
316 Stainless Steel												
1/8	1/8	5,000	8704K14	51.73	8704K63	51.73	8704K29	47.19				
1/4	1/4	5,000	8704K16	31.80	8704K65	80.46	8704K31	51.90	8704K79	103.94	8704K45	50.38
1/4	3/8	4,000	8704K17	46.97			8704K33	66.28				
3/8	3/8	4,000	8704K19	32.33	8704K67	63.36	8704K35	65.60	8704K81	77.58	8704K47	67.35
1/2	3/8	3,500	8704K21	55.54			8704K37	56.08				
1/2	1/2	3,500	8704K23	38.06	8704K69	73.17	8704K39	76.03	8704K83	90.80	8704K48	83.36
3/4	3/4	2,200	8704K25	46.21	8704K71	89.44	8704K41	106.21	8704K85	68.54	8704K49	112.30
1	1	2,000	8704K27	101.06			8704K43	76.54			8704K51	153.48

Swivel Hose Fittings for Hydraulic Fluid

- Maximum Pressure: See below
- Temperature Range: -40° to 250° F
- Hose: Use hydraulic
- Clamps: Not required

Also known as live swivels, these fittings swivel 360° before and after installation and can swivel continuously. This not only makes installation easier, but also eliminates the twisting that can cause premature hose failure. Fittings are zinc-plated steel for fair corrosion resistance and high wear resistance. They have a Buna-N rubber seal. Not rated for vacuum. NPTF (Dryseal) threads are compatible with NPT threads.






Pipe Size, NPTF	Straights, Male Pipe x Female Pipe: Max. psi @ 72° F			Straights, Female Pipe x Female Pipe: Max. psi @ 72° F			90° Elbows, Male Pipe x Male Pipe: Max. psi @ 72° F			90° Elbows, Male Pipe x Female Pipe: Max. psi @ 72° F		
1/4	5,000	5381K52	$80.78	5,000	5381K62	$80.89	3,000	5381K39	$102.44	3,000	5381K15	$84.83
3/8	5,000	5381K53	85.04	5,000	5381K63	99.66	3,000	5381K41	90.03	3,000	5381K16	76.57
1/2	5,000	5381K54	95.40	5,000	5381K64	85.46	3,000	5381K42	92.57	3,000	5381K17	69.71
3/4	5,000	5381K55	107.86	5,000	5381K57	103.14	3,000	5381K43	122.09	3,000	5381K18	100.09
1	5,000	5381K58	128.23	5,000	5381K61	132.00						

Screw-On Hose Fittings and Hose for Hydraulic Fluid

- Maximum Pressure: See below
- Temperature Range: -40° to 212° F
- Hose: Use hose shown below
- Clamps: Not required

These two-piece fittings screw directly onto hose without the need for a separate adapter. They're made of zinc-plated steel, which has fair corrosion resistance and high wear resistance. Not rated for vacuum. NPTF (Dryseal) threads are compatible with NPT threads.

To install fittings, you'll need a vise and wrench. Separate the two pieces of the fitting and secure the socket portion of the fitting in the vise. Lubricate the end of the hose and screw it into the socket counterclockwise until it bottoms out, then back out a half turn. Lubricate the nipple portion of the fitting and screw it into the other end of the socket using a wrench until the hex shoulder is against the socket.

Hose comes in a maximum continuous length of 100 ft.

Also Available: Fittings marked with ▲ also come in 316 stainless steel, which offers excellent corrosion resistance and high wear resistance. Please ask for 5333K1 and specify the corresponding part number from the listing below.

Note: Fittings are only for use with the hose sold below.





For Hose ID	Max. psi @ 72° F	Hose x Male Pipe: Pipe Size, NPTF			Hose x Female 37° Flare Tube: Thread Size			Hydraulic Hose: Per Ft.	
Parker 42 Series Fittings									
1/4"	3,250	1/4	52305K21	$14.35	7/16"-20	52305K51	$15.65	9459K321	$3.26
3/8"	2,600	3/8	52305K23	16.05	9/16"-18	52305K53	17.90	9459K341	3.48
1/2"	2,200	1/2	52305K25	20.15	3/4"-16	52305K55	27.10	9459K361	3.85
3/4"	1,500	3/4	52305K27	36.95	11/16"-12	52305K57	47.60	9459K381	6.87
1"	1,250	1	52305K29	67.33	15/16"-12	52305K59	79.65	9459K401	8.76
Parker 30 Series Fittings									
1/4"	5,800	1/4	52305K41▲	15.32	7/16"-20	52305K71▲	16.65	8646T11	3.78
3/8"	4,500	3/8	52305K43▲	18.30	9/16"-18	52305K73▲	20.15	8646T12	4.41
1/2"	4,000	1/2	52305K45▲	23.23	3/4"-16	52305K75▲	30.18	8646T13	5.04
3/4"	3,100	3/4	52305K47▲	35.52	11/16"-12	52305K77▲	46.20	8646T14	8.20
1"	2,400	1	52305K49▲	64.67	15/16"-12	52305K79▲	77.00	8646T15	11.24

Permanent Crimp-On Hose Fittings and Hose for Hydraulic Fluid

- Maximum Pressure: See below
- Temperature Range: -40° to 212° F
- Hose: Use hose shown below
- Clamps: Not required

Attach these fittings to the hose using the swage installation tool (sold separately). These fittings, pushers, and dies are zinc-plated steel for fair corrosion resistance and high wear resistance. Vacuum is 28" Hg @ 72° F.

Note: Fittings are only for use with the hose sold below.

Hose comes in a maximum continuous length of 100 ft.

Installation Tool—Made from aluminum, this swage installation tool is 15¾" Ht. x 5" Wd. and has two 7/16" dia. mounting holes (fasteners not included). For operation, you'll need a 1½" open-end box wrench, plus a pusher and a die that both correspond to the fitting size you want to install.

ⓘ For instructions on how to install these fittings with the swage tool, go to mcmaster.com and search for **5243KAC.**

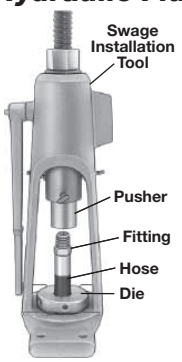

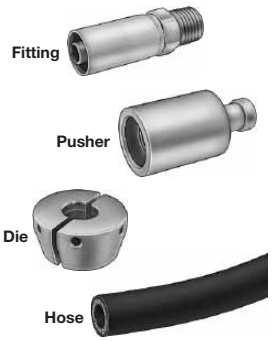

For Hose ID	Max. psi @ 72° F	Hose x Male Pipe: Pipe Size, NPTF			Pushers		Dies		Hose: Per Ft.	
1/4"	2,750	1/4	5243K82	$5.39	5243K61	$49.61	5243K52	$278.57	5201K63	$3.03
5/16"	2,500	1/4	5243K88	6.74	5243K61	49.61	5243K58	278.57	5201K64	4.00
3/8"	2,200	3/8	5243K83	6.13	5243K62	49.61	5243K53	278.57	5201K65	3.92
1/2"	2,000	1/2	5243K84	8.98	5243K63	49.61	5243K54	278.57	5201K66	5.00
3/4"	1,250	3/4	5243K85	14.20	5243K65	52.00	5243K55	278.57	5201K67	9.88
Installation Tool									5243K44	$571.43

Hose Couplings

For information about pipe size, see pages 2-3.

How to Measure Threaded Pipe Size—Example shows pipe size 3/8.

Pipe size is an industry designation, not the actual size. Place your pipe or fitting on the scale to determine the pipe size. You can also measure the outside diameter (OD) of your pipe or inside diameter (ID) of your fitting, then select the pipe size on the scale that corresponds to your measurement.

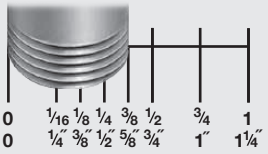

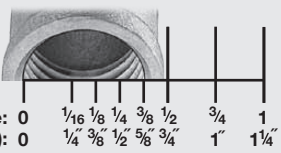

Steam Hose Fittings

- Maximum Pressure @ 72° F: 600 psi
- Temperature Range: -20° to 450° F
- Hose: Use steam hose
- Clamps: Use interlocking clamps (included)

Also known as ground-joint couplings and boss couplings, these are designed for high-pressure applications. They combine a barbed hose fitting with an interlocking clamp that firmly grips your hose as it locks into the ring of the barbed fitting. The interlocking clamps are not reusable. Vacuum rating is 29″ Hg @ 72° F. Male NPSM threads are compatible with female NPSM and NPSH threads; they are not compatible with NPT threads.

Couplings

Couplings are zinc-plated steel for fair corrosion resistance and high wear resistance. Couplings with a *female pipe* connection also have a zinc-plated malleable iron wing nut and a zinc-plated steel hex bushing.



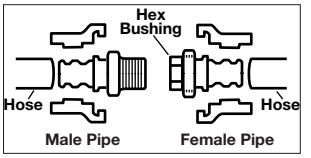

For Hose ID	For Hose OD	Pipe Size, NPT	Male Pipe		Female Pipe	
1/2″	15/16″-1 1/16″	1/2	5360K23	$12.38	5360K43	$29.35
1/2″	1 1/16″-1 3/16″	1/2	5360K26	14.00	5360K41	30.70
3/4″	1 5/32″-1 5/16″	3/4	5360K27	15.61	5360K42	35.79
3/4″	1 5/16″-1 1/2″	3/4	5360K24	16.85	5360K44	37.02
1″	1 11/16″-1 15/16″	1	5360K25	26.50	5360K45	43.58

Hex Nipples

Also called double spuds. Use these to connect two female couplings—just replace the hex bushing from the female coupling with one of these. Made from zinc-plated steel with a polymer seal on both ends.

Straight, Male Pipe (NPSM) x Male Pipe (NPSM)



For Hose ID		
1/2″	5360K51	$25.10
3/4″, 1″	5360K52	24.34

Replacement Hex Bushings and Interlocking Clamps

Hex bushings are also called female spuds. Made of zinc-plated steel with a polymer seal that grips onto the rounded head of the barbed fittings.

Interlocking clamps are zinc-plated iron.

Hex Bushings, Female Pipe (NPT) x Male Pipe (NPSM)



Pipe Size		
1/2	5360K61	$12.55
3/4	5360K62	10.93
1	5360K63	11.34

Interlocking Clamps



For Hose OD		
15/16″-1 1/16″	5417K61	$6.71
1 1/16″-1 3/16″	5417K62	8.67
1 5/32″-1 5/16″	5417K63	8.42
1 5/16″-1 1/2″	5417K64	9.95
1 11/16″-1 15/16″	5417K65	16.75

Grip-Lock Hose Couplings for Air

- Maximum Pressure @ 72° F: 300 psi
- Temperature Range:
  -40° to 250° F (Zinc-Plated Steel and 303 Stainless Steel);
  -20° to 175° F (Brass)
- Hose: Use nylon and rubber
- Clamps: Use interlocking clamps (included)

Also known as Bowes couplings. To connect, push a plug and a socket together with a quarter twist. The grip-lock ends are all 3/4″ diameter and are compatible with Dixon Dix-Lock series and Perfecting N-series couplings.

Couplings include a Buna-N rubber seal. All grip-lock plugs are compatible with any of the grip-lock sockets, regardless of the pipe or barb size. Couplings meet the dimensional requirements of MIL-A-A-50431A and MIL-C-3486B. NPTF (Dryseal) threads are compatible with NPT threads.

Zinc-plated steel plugs have fair corrosion resistance. Vacuum rating is 22″ Hg @ 72° F.

Brass plugs have good corrosion resistance, and are softer and easier to thread than stainless steel plugs. Not rated for vacuum.

303 stainless steel plugs have very good corrosion resistance. Vacuum rating is 22″ Hg @ 72° F.

Grip-Lock Plugs







Male Pipe: Pipe Size, NPTF			Female Pipe: Pipe Size, NPTF			Barbed: For Hose ID		
Zinc-Plated Steel								
3/8	5577T21	$11.82	3/8	5577T41	$11.82	3/8″	5577T61	$11.82
1/2	5577T22	11.82	1/2	5577T42	11.82	1/2″	5577T62	11.82
3/4	5577T23	11.82	3/4	5577T43	11.82	3/4″	5577T63	11.82
Brass								
3/8	5280K35	21.42	3/8	5280K51	22.12	3/8″	5280K19	24.36
1/2	5280K36	21.42	1/2	5280K52	22.12	1/2″	5280K21	24.36
3/4	5280K37	21.42	3/4	5280K53	22.12	3/4″	5280K22	24.36
303 Stainless Steel								
3/4	5585T21	29.58	3/4	5585T41	35.14	3/4″	5585T61	31.38

Grip-Lock Sockets







Male Pipe: Pipe Size, NPTF			Female Pipe: Pipe Size, NPTF			Barbed: For Hose ID		
Zinc-Plated Steel								
3/8	5577T11	$14.47	3/8	5577T31	$14.47	3/8″	5577T51	$15.91
1/2	5577T12	14.97	1/2	5577T32	14.35	1/2″	5577T52	15.91
3/4	5577T13	14.78	3/4	5577T33	14.81	3/4″	5577T53	15.91
Brass								
3/8	5280K27	29.96	3/8	5280K43	28.98	3/8″	5280K12	32.76
1/2	5280K69	29.96	1/2	5280K44	28.98	1/2″	5280K13	32.76
3/4	5280K29	29.96	3/4	5280K45	28.98	3/4″	5280K14	32.76
303 Stainless Steel								
3/4	5585T11	52.92	3/4	5585T31	40.98	3/4″	5585T51	42.92

Replacement Gaskets

Made of Buna-N rubber, these gaskets fit all of the grip-lock hose couplings in this presentation. Package quantity is 10.

5280K59	Pkg.	$13.40

Warning: ***There is no valve in these couplings. Flow should be stopped before disconnecting your hose line.***

Double Grip-Lock Hose Couplings for Air and Water

- Maximum Pressure @ 72°F: 300 psi
- Temperature Range: -40° to 250°F
- Hose: Use rubber
- Clamps: For couplings with a barbed end, use hose ferrules (see pg. 318) and low-profile band clamps (see pgs. 311-312)

Also known as Thor couplings, these have two locking points to give you twice the gripping power of standard grip-lock couplings. To connect, push a plug and a socket together with a quarter twist. Attach an optional locking ring (sold separately) to the socket for extra protection against accidental disconnection. All are compatible with Dixon Dual Lock series couplings. Couplings are zinc-plated steel for fair corrosion resistance, and include a Buna-N rubber seal. Vacuum rating is 22″ Hg @ 72°F. NPTF (Dryseal) threads are compatible with NPT threads.

All double grip-lock plugs are compatible with any of the double grip-lock sockets, regardless of the pipe or barb size. **Sockets** have a spring-loaded locking sleeve to prevent accidental disconnection; spring is bronze.

Double Grip-Lock Plugs




Pipe Size, NPTF	Male Pipe		Female Pipe	
3/8	6539K66	$10.27	6539K76	$12.13
1/2	6539K67	10.27	6539K77	12.82
3/4	6539K68	10.79	6539K78	13.47
1	6539K69	11.54	6539K79	17.10

Double Grip-Lock Sockets





Pipe Size, NPTF	Male Pipe		Female Pipe	
3/8	6539K36	$17.12	—	—
1/2	6539K37	17.12	6539K47	$20.68
3/4	6539K38	18.05	6539K48	19.31

For Hose ID	Barbed	
3/8″	6539K56	$18.72
1/2″	6539K57	17.15
3/4″	6539K58	18.21
1″	6539K59	23.41

Optional Locking Rings and Replacement Gaskets

Optional locking rings attach to the socket for extra protection against accidental disconnection.

6539K82 ..... Pkg. of 5 $2.50

Replacement gaskets are Buna-N rubber. They fit all of the double grip-lock hose couplings shown above.

6539K83 ..... Pkg. of 10 $8.50

Universal Twist-Claw Hose Couplings for Air and Water

- Maximum Pressure @ 72°F: 150 psi
- Temperature Range: -20° to 160°F
- Hose: Use rubber
- Clamps: For adapters with a barbed end, use low-profile band clamps (see pgs. 311-312) or interlocking clamps (see pg. 324)

Also known as Chicago couplings, these have an identical claw-style head that allows you to connect to any other universal twist-claw hose coupling. To connect, push two couplings together with a quarter twist. Use included safety clip with lanyard to prevent accidental disconnection. Couplings have an SBR rubber seal. They are compatible with Dixon Air King couplings. Vacuum is 29″ Hg @ 72°F.

Iron couplings are stronger than brass couplings but have poor corrosion resistance. **Brass** couplings have good corrosion resistance and are softer and easier to thread than stainless steel couplings. **316 stainless steel** couplings have excellent corrosion resistance.

Also Available: Universal spring-lock twist-claw hose couplings. They have a spring-loaded lock to prevent accidental connection. Made of iron, they come in male pipe and barbed styles in 1/2, 3/4, and 1 pipe sizes, as well as female pipe style 1/2 and 3/4 sizes. Please ask for 7149K1 and specify the style and size.

Couplings





Pipe Size, NPT	Male Pipe		Pipe Size, NPT	Female Pipe		For Hose ID	Barbed	
Iron								
1/4	5344K22	$7.04	1/4	5344K27	$6.39	—	—	—
3/8	5344K23	6.05	3/8	5344K28	6.31	3/8″	5344K39	$6.80
1/2	5344K24	5.55	1/2	5344K29	5.62	1/2″	5344K41	4.84
3/4	5344K25	5.57	3/4	5344K31	5.57	3/4″	5344K42	4.89
1	5344K26	6.13	1	5344K32	6.80	1″	5344K43	7.23
Brass								
1/4	5344K11	17.03	1/4	5344K16	18.21	—	—	—
3/8	5344K12	19.48	3/8	5344K17	18.00	3/8″	5344K34	23.66
1/2	5344K13	16.09	1/2	5344K18	13.77	1/2″	5344K35	14.89
3/4	5344K14	15.95	3/4	5344K19	16.21	3/4″	5344K36	15.47
1	5344K15	16.56	1	5344K21	16.56	1″	5344K37	19.54
316 Stainless Steel								
3/8	5344K61	48.85	3/8	5344K65	47.59	3/8″	5344K69	45.95
1/2	5344K62	33.06	1/2	5344K66	34.09	1/2″	5344K71	34.09
3/4	5344K63	29.61	3/4	5344K67	29.61	3/4″	5344K72	28.70
1	5344K64	31.70	1	5344K68	33.21	1″	5344K73	31.70

Accessories

Wye Connector—Connect one inlet to two outlets with these couplings. Made of iron.



5344K53 ..... $15.18

Cap—Use these caps to temporarily close off an outlet. Made of iron. A safety clip and lanyard are included.



5344K51 ..... $8.52

Replacement Parts

Gaskets—Made of SBR rubber, these gaskets fit all of the 5344K series couplings. Package quantity is 10.



5344K44 ..... Pkg. $3.93

Safety Clip with Lanyard



5344K81 ..... $0.71

Large Twist-Claw Hose Couplings for Air and Water

- Maximum Pressure @ 72°F: 100 psi
- Temperature Range: -20° to 160°F
- Hose: Use rubber
- Clamps: Not required

Couplings have an identical claw-style head that allows you to connect to any other large twist-claw hose coupling. The 1 1/4 and 1 1/2 pipe sizes mate interchangeably; the 2 pipe sizes only mate with other size 2 couplings. To connect, push two couplings together with a quarter twist. Couplings are iron with a black painted finish, which provides good corrosion resistance. They have a rubber seal and a safety clip. Not rated for vacuum.





Pipe Size, NPT	Male Pipe		Female Pipe		Gaskets	
1 1/4	5368K21	$47.84	5368K11	$44.40	5368K18	$19.17
1 1/2	5368K22	47.84	5368K12	44.40	5368K18	19.17
2	5368K23	61.21	5368K13	56.90	5368K29	19.17

Warning: ***There is no valve in these couplings. Flow should be stopped before disconnecting your hose line.***

How to Order Quick-Disconnect Hose Couplings

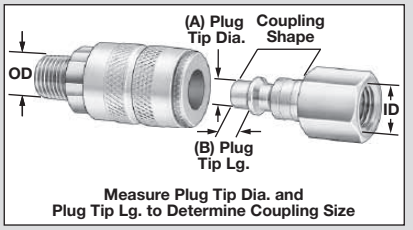

Measure Plug Tip Dia. and Plug Tip Lg. to Determine Coupling Size

1. Determine the coupling shape. To make a connection, you'll need a plug and a socket with the same shape; however, the coupling's shape is determined by the plug's end. Compare your plug's end to the illustrations below.

2. Determine the coupling size. Coupling size is an industry designation, not the actual measured size. To determine coupling size, measure the "A" and "B" dimensions as shown at left, and match the measurements to those found in the individual presentations for your specific coupling shape.

3. For threaded connections, determine the pipe size. Pipe size is an accepted industry designation, not the actual measured size. To determine pipe size, first use a ruler to measure the outside diameter (OD) or inside diameter (ID), as shown at left. Then, round up the measurement to the closest OD or ID listed in the chart and select the corresponding pipe size. For example, if the OD or ID measures 1 3/16", the next highest OD is 1 3/8" and the corresponding pipe size is 1.

Threaded OD or ID	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4

Quick-Disconnect Hose Coupling Shape Selection Chart

While many of the quick-disconnect couplings are named after their original manufacturer, they're now made by most coupling manufacturers.

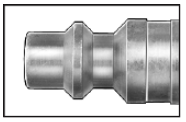
Industrial (Most Popular) Pages 326-329

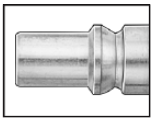
ARO Page 330

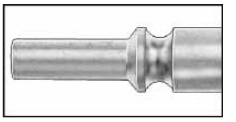
Lincoln Page 330

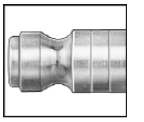
Tru-Flate Page 331

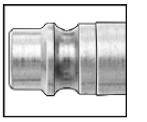
European Page 331


Japanese Page 332


Compact Page 332

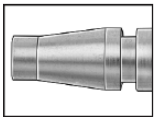
Schrader Page 333

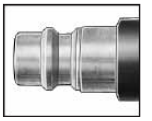
Color/Shape Match Page 333

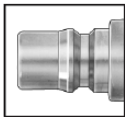
Natural and LP Gas Page 333


Open Flow Page 334


Open Flow for Coolant Page 334


Plastic Page 335


ISO 16028 Minimal Spill Page 335

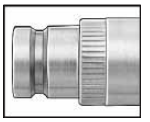
High Pressure Minimal Spill Page 335


Snap-Tite H-Shape Page 336

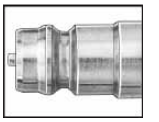
ISO Series A Page 337

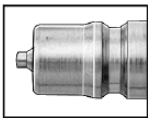
ISO Series B Page 337

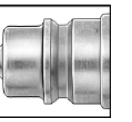
Pioneer Page 338


High Pressure Thread Lock Page 338

For a comparison chart that shows actual-size illustrations for all of the quick-disconnect hose couplings we offer, go to mcmaster.com and search for **6534KAC**.

Industrial-Shape Size-Identification Kits



Kits contain industrial-shape plugs in four coupling sizes (1/4, 3/8, 1/2, and 3/4), so you can determine the size of your couplings without the need for measuring.

The plugs in this kit are steel and the size is clearly labeled on each plug.

5597K12 ..... $11.37

Industrial-Shape Hose Coupling Sets with Threaded Ends for Air

- Maximum Pressure @ 72° F: 300 psi
- Temperature Range: -40° to 250° F
- Hose: Use flexible PVC and rubber



Set includes one plug and one socket. Plug shown has male pipe connection; socket has female pipe connection.

Sets include an industrial-shape zinc-plated steel plug, and a brass socket with a zinc-plated steel sleeve. They are also known as industrial interchange couplings. The couplings are single-shut-off style, so there is a valve in the socket but not the plug. The valve stops the flow when the coupling is separated. They meet the dimensional requirements of Fed Spec. A-A-59439. Not rated for vacuum. NPTF (Dryseal) threads are compatible with NPT threads.

Plugs are also known as nipples. They meet ISO 6150/B and ANSI T3.20.14.

Sockets are sleeve-lock style. To connect, slide back the sleeve on the socket, insert the plug, and release the sleeve. To disconnect, slide back the sleeve and pull out the plug. They have a Buna-N rubber seal.






Pipe Size, NPTF	Male Pipe Plug × Male Pipe Socket	Female Pipe Plug × Female Pipe Socket	Male Pipe Plug × Female Pipe Socket	Female Pipe Plug × Male Pipe Socket
Coupling Size: 1/4				
1/4	**5602K11** $7.40	**5602K14** $7.79	**5602K12** $7.47	**5602K13** $7.74

Industrial-Shape Hose Couplings for Air

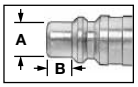

Coupling Size	(A)	(B)
1/4	5/16"	3/16"
3/8	7/16"	5/16"
1/2	9/16"	3/8"
3/4	13/16"	5/16"

- Maximum Pressure @ 72° F: 300 psi
- Temperature Range: -40° to 250° F

- Hose: Use flexible PVC and rubber, except push-on barbed must be used with reinforced rubber push-on hose (see page 320)
- Clamps: For barbed couplings, use brass ferrules for hose smaller than 1/2" dia. (see page 318); use low-profile band clamps for hose 1/2" dia. and larger

These quick-disconnect couplings are also known as industrial interchange couplings. All industrial-shape plugs are compatible with any of the industrial-shape sockets of the same coupling size, regardless of the pipe or barb size. The couplings are single-shut-off style, so there is a valve in the socket but not the plug. The valve stops the flow when the coupling is separated. All 1/4 and 1/2 coupling sizes meet the dimensional requirements of Fed. Spec. A-A-59439. Not rated for vacuum. NPTF (Dryseal) threads are compatible with NPT threads.

Brass couplings have good corrosion resistance and low wear resistance. They are softer and easier to thread than steel couplings.

Zinc-plated steel couplings have fair corrosion resistance and high wear resistance.

Plugs

Also known as nipples. 1/4, 3/8, and 1/2 coupling sizes meet ISO 6150/B, except 6534K67.






Coupling Size	Threaded, Male Pipe: Pipe Size, NPTF		Threaded, Female Pipe: Pipe Size, NPTF		Barbed: For Hose ID		Push-On Barbed: For Hose ID	
Brass								
1/4	1/4	1077T17 $1.40	1/4	1077T11 $1.52	1/4"	1077T25 $2.41	1/4"	1077T13 $6.37
1/4	3/8	1077T18 2.42	3/8	1077T12 2.62	3/8"	1077T26 2.73	3/8"	1077T14 6.67
3/8	3/8	1077T21 4.82	3/8	1077T22 5.06	3/8"	1077T27 5.82	3/8"	1077T16 7.00
1/2	1/2	1077T23 4.48	1/2	1077T15 4.38	1/2"	1077T29 4.83	1/2"	1077T19 7.14
Zinc-Plated Steel								
1/4	1/8	6534K19 1.82	1/8	6534K18 2.12	—	—	—	—
1/4	1/4	6534K46 1.15	1/4	6534K56 1.38	1/4"	6534K66 2.15	1/4"	6534K29 2.26
1/4	3/8	6534K47 1.68	3/8	6534K57 2.35	3/8"	6534K67 2.15	3/8"	6534K35 2.65
3/8	1/4	6534K71 2.71	1/4	6534K74 4.21	1/4"	6534K77 6.29	1/4"	6534K121 4.95
3/8	3/8	6534K72 4.44	3/8	6534K75 4.59	3/8"	6534K78 5.26	3/8"	6534K45 5.29
3/8	1/2	6534K73 4.62	1/2	6534K76 5.44	1/2"	6534K79 5.26	1/2"	6534K122 5.42
1/2	3/8	6534K42 3.18	3/8	6534K52 4.06	3/8"	6534K62 4.44	3/8"	6534K15 4.00
1/2	1/2	6534K43 3.88	1/2	6534K53 4.12	1/2"	6534K63 4.56	1/2"	6534K48 7.35
1/2	3/4	6534K44 4.79	3/4	6534K54 6.53	3/4"	6534K64 4.88	3/4"	6534K25 6.31
3/4	3/4	6534K49 5.75	3/4	6534K91 7.28	3/4"	6534K97 7.22	3/4"	6534K123 11.60
3/4	1	6534K61 12.16	1	6534K92 15.30	1"	6534K98 12.83	1"	6534K124 11.80

Sleeve-Lock Sockets

To connect, slide back the sleeve on the socket, insert the plug, and release the sleeve. To disconnect, slide back the sleeve and pull out the plug. All have a zinc-plated steel sleeve and a Buna-N seal.






Coupling Size	Threaded, Male Pipe: Pipe Size, NPTF		Threaded, Female Pipe: Pipe Size, NPTF		Barbed: For Hose ID		Push-On Barbed: For Hose ID	
Brass								
1/4	1/8	6536K25 $7.03	1/8	6536K24 $7.03	—	—	—	—
1/4	1/4	6536K18 5.63	1/4	6536K28 5.67	1/4"	6536K38 $7.10	1/4"	6536K11 $8.26
1/4	3/8	6536K19 6.60	3/8	6536K29 6.67	3/8"	6536K39 7.10	3/8"	6536K12 8.26
Zinc-Plated Steel								
3/8	1/4	6536K21 10.93	1/4	6536K31 10.98	1/4"	6536K61 11.87	1/4"	6536K26 14.35
3/8	3/8	6536K22 10.62	3/8	6536K32 10.05	3/8"	6536K62 11.42	3/8"	6536K13 14.25
3/8	1/2	6536K23 12.29	1/2	6536K33 12.81	1/2"	6536K63 13.66	1/2"	6536K27 14.92
1/2	3/8	6536K37 12.47	3/8	6536K49 13.32	3/8"	6536K71 15.39	3/8"	6536K16 15.87
1/2	1/2	6536K41 12.37	1/2	6536K51 12.37	1/2"	6536K72 15.39	1/2"	6536K15 10.92
1/2	3/4	6536K42 14.07	3/4	6536K52 14.36	3/4"	6536K73 17.45	—	—

Push-to-Connect Sockets

To connect, push the plug into the socket until you hear a "click". To disconnect, slide the sleeve forward until the plug ejects. All have a Buna-N rubber seal.






Coupling Size	Threaded, Male Pipe: Pipe Size, NPTF		Threaded, Female Pipe: Pipe Size, NPTF		Barbed: For Hose ID		Push-On Barbed: For Hose ID	
Brass								
1/4	1/8	6534K28 $10.60	1/8	6534K21 $12.60	—	—	—	—
1/4	1/4	6534K16 7.66	1/4	6534K26 7.67	1/4"	6534K36 $8.00	1/4"	6534K51 $7.46
1/4	3/8	6534K17 7.51	3/8	6534K27 9.57	3/8"	6534K37 8.00	3/8"	6534K55 7.82
3/8	1/4	6534K81 14.64	1/4	6534K84 15.01	1/4"	6534K87 16.02	—	—
3/8	3/8	6534K82 14.09	3/8	6534K85 14.17	3/8"	6534K88 15.44	3/8"	6534K11 17.10
3/8	1/2	6534K83 14.80	1/2	6534K86 16.11	1/2"	6534K89 16.02	—	—
1/2	3/8	6534K12 16.73	3/8	6534K22 20.08	3/8"	6534K32 17.34	—	—
1/2	1/2	6534K13 15.77	1/2	6534K23 18.98	1/2"	6534K33 16.84	1/2"	6534K99 20.10
1/2	3/4	6534K14 16.84	3/4	6534K24 18.83	3/4"	6534K34 16.43	—	—
3/4	3/4	6534K39 28.93	3/4	6534K95 29.59	3/4"	6534K58 29.76	—	—
3/4	1	6534K41 30.63	1	6534K65 30.63	1"	6534K59 36.60	—	—

(Continued on following page)

Quick-Disconnect Hose Couplings

For technical drawings and 3-D models, go to mcmaster.com.

For information about selecting pipe size, see pages 2-3. For information about quick-disconnect couplings, see pg. 326.

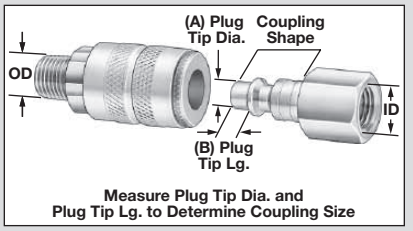

Measure Plug Tip Dia. and Plug Tip Lg. to Determine Coupling Size

Please Read Before Ordering: To determine the **shape** of your coupling, compare the end of your plug to the illustrations shown on page 326. You'll also find an illustration of the plug's shape in each presentation. **Coupling size** is an industry designation, not the actual measured size. To determine the actual size of your coupling, measure the "A" and "B" dimensions of the plug, as shown at left.

Pipe size also is an accepted industry designation, not the actual measured size. To determine pipe size, first use a ruler to measure the outside diameter (OD) or inside diameter (ID), as shown at left. Then, round up the measurement to the closest OD or ID listed in the chart and select the corresponding pipe size. For example, if the OD or ID measures 11/16", the next highest OD is 3/4" and the corresponding pipe size is 1/2.

Threaded OD or ID	3/8"	1/2"	5/8"	3/4"
Pipe Size	1/8	1/4	3/8	1/2

Industrial-Shape Hose Couplings for Air *(Continued from previous page)*

- Maximum Pressure @ 72° F: 300 psi, except 145 psi for chrome-plated steel plugs
- Temperature Range: -40° to 250° F, except 20° to 140° F for chrome-plated steel plugs
- Hose: Use flexible PVC and rubber

Coupling Size	(A)	(B)
1/4	5/16"	3/16"
3/8	7/16"	5/16"
1/2	9/16"	3/8"
3/4	13/16"	5/16"

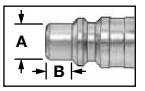

The couplings are single-shut-off style, so there is a valve in the socket but not the plug. The valve stops the flow when the coupling is separated. All 1/4 and 1/2 coupling sizes meet the dimensional requirements of Fed. Spec. A-A-59439. Not rated for vacuum.

Zinc- and **chrome-plated steel** couplings have fair corrosion resistance; **brass** has good corrosion resistance and low wear resistance.

Also Available: Aluminum industrial-shape hose manifolds. Please ask for 5595K22 for a round manifold with three sockets; please ask for 5595K11 for an inline manifold with four sockets.

Swivel Plugs

The pipe end swivels before and after installation as needed to eliminate hose kinking and unnecessary wrist strain. Also known as nipples. **Zinc-plated steel** plugs have a Buna-N rubber seal. 3/8 plugs meet ISO 6150/B. **Chrome-plated steel** plugs pivot back and forth at a 45° angle. They have a PTFE sealant on the threads and a chrome-plated steel dust cover on the rotating joint. They meet ISO 6150/B.



Coupling Size	Pipe Size, NPT	Threaded, Male Pipe	
Zinc-Plated Steel with Brass Threads			
1/4	1/8	4342K26	$4.42
1/4	1/4	4342K27	4.03
1/4	3/8	4342K24	4.42
3/8	1/4	4342K25	7.30
3/8	3/8	4342K28	5.78
1/2	1/2	4342K29	7.88



Coupling Size	Pipe Size, NPT	Threaded, Male Pipe	
Chrome-Plated Steel			
1/4	1/8	52435K31	$31.08
1/4	1/4	52435K25	26.92
1/4	3/8	52435K21	32.23
3/8	1/4	52435K19	32.17
3/8	3/8	52435K28	33.29

Plugs with British Standard Threads

Plugs are also known as nipples. This plug meets ISO 6150/B. It has BSPP (British Standard Pipe Parallel) threads.



Coupling Size	Pipe Size, BSPP	Threaded, Female Pipe	
Zinc-Plated Steel			
1/4	1/4	1283T24	$1.53

Sleeve-Lock Sockets with British Standard Threads

To connect, slide back the sleeve on the socket, insert the plug, and release the sleeve. To disconnect, slide back the sleeve and pull out the plug. All have a zinc-plated steel sleeve and a Buna-N rubber seal.



Coupling Size	Pipe Size, BSPT	Threaded, Male Pipe	
Brass			
1/4	1/4	1283T17	$6.49
1/4	3/8	1283T18	7.64



Coupling Size	Pipe Size, BSPP	Threaded, Female Pipe	
Brass			
1/4	1/4	1283T12	$6.49
1/4	3/8	1283T13	7.64

Nickel-Plated Industrial-Shape Hose Couplings for Air

- Maximum Pressure @ 72° F: 300 psi
- Temperature Range: -40° to 250° F
- Hose: Use flexible PVC and rubber
- Clamps: For couplings with a barbed end, use worm-drive clamps (see pages 304-305) or hose ferrules (see page 318)

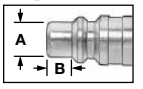

Nickel plating provides better corrosion resistance than plain steel or brass. Also known as industrial interchange couplings. All industrial-shape plugs are compatible with any of the industrial-shape sockets of the same coupling size, regardless of the pipe or barb size. The couplings are single-shut-off style, so there is a valve in the socket but not the plug. The valve stops the flow when the coupling is separated. Not rated for vacuum. The 1/4 coupling size meets the dimensional requirements of Fed. Spec. A-A-59439; the 3/8 coupling size meets ISO 6150/B. NPTF (Dryseal) threads are compatible with NPT threads.

Plugs

Also known as nipples.





Pipe Size, NPTF	Threaded Male Pipe		Threaded Female Pipe		Barbed For Hose ID		
Nickel-Plated Steel							
Coupling Size: 1/4 (A: 5/16"; B: 3/16")							
1/4	6050T14	$2.51	6050T15	$2.73	1/4"	6050T16	$3.60
3/8	6050T34	4.24	6050T35	6.93	3/8"	6050T36	4.96
Coupling Size: 3/8 (A: 7/16"; B: 5/16")							
1/4	6050T17	4.98	6050T18	5.37	—	—	—

Sleeve-Lock Sockets

To connect, slide back the sleeve on the socket, insert the plug, and release the sleeve. To disconnect, slide back the sleeve and pull out the plug. They have a nickel-plated steel sleeve and a Buna-N rubber seal.





Pipe Size, NPTF	Threaded Male Pipe		Threaded Female Pipe		Barbed For Hose ID		
Nickel-Plated Brass							
Coupling Size: 1/4 (A: 5/16"; B: 3/16")							
1/4	6050T12	$9.96	6050T11	$9.96	1/4"	6050T13	$10.96
3/8	6050T32	11.24	6050T31	11.24	3/8"	6050T33	11.96
Coupling Size: 3/8 (A: 7/16"; B: 5/16")							
1/4	6050T21	20.27	6050T22	20.04	—	—	—

Stainless Steel Industrial-Shape Hose Couplings for Air

- Maximum Pressure @ 72° F: 300 psi
- Temperature Range: -40° to 250° F
- Hose: Use flexible PVC and rubber
- Clamps: For barbed couplings, use hose ferrules (see pg. 318) for hose smaller than 1/2" dia.; use low-profile band clamps (see pgs. 311-312) for hose 1/2" dia. and larger

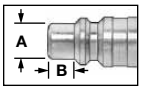

Made from 303 stainless steel, these couplings offer very good corrosion resistance and high wear resistance. They are also known as industrial interchange couplings. All industrial-shape plugs are compatible with any of the industrial-shape sockets of the same coupling size, regardless of the pipe or barb size. The couplings are single-shut-off style, so there is a valve in the socket but not the plug. The valve stops the flow when the coupling is separated. The 1/4 and 1/2 coupling sizes meet the dimensional requirements of Fed. Spec. A-A-59439. Not rated for vacuum. NPTF (Dryseal) threads are compatible with NPT threads.

Sleeve-Lock Sockets

To connect, slide back the sleeve on the socket, insert the plug, and release the sleeve. To disconnect, slide back the sleeve and pull out the plug.





Pipe Size, NPTF	Male Pipe		Female Pipe		For Hose ID	
Coupling Size: 1/4 (A: 5/16"; B: 3/16")						
1/4"	6718K81	$27.52	6718K84	$25.21	1/4"	6718K87 $29.06
3/8"	6718K68	28.10	6718K66	26.04	3/8"	6718K71 29.62
Coupling Size: 3/8 (A: 7/16"; B: 5/16")						
3/8"	6718K82	40.06	6718K85	47.67	3/8"	6718K88 45.19
Coupling Size: 1/2 (A: 9/16"; B: 3/8")						
1/2"	6718K83	51.92	6718K86	53.81	1/2"	6718K89 44.50

Plugs

Also known as nipples. Plugs meet ISO 6150/B and ANSI 3.20.14.





Pipe Size, NPTF	Male Pipe		Female Pipe		For Hose ID	
Coupling Size: 1/4 (A: 5/16"; B: 3/16")						
1/4"	6718K26	$4.69	6718K52	$5.81	1/4"	6718K72 $6.12
3/8"	6718K56	5.62	6718K54	6.17	3/8"	6718K53 6.02
Coupling Size: 3/8 (A: 7/16"; B: 5/16")						
3/8"	6718K28	9.60	6718K55	10.88	3/8"	6718K73 7.92
Coupling Size: 1/2 (A: 9/16"; B: 3/8")						
1/2"	6718K31	13.56	6718K57	13.15	1/2"	6718K74 8.98

Push-to-Connect Sockets

To connect, push the plug into the socket until you hear a "click". To disconnect, slide the sleeve forward until the plug ejects.





Pipe Size, NPTF	Male Pipe		Female Pipe		For Hose ID	
Coupling Size: 1/4 (A: 5/16"; B: 3/16")						
1/4"	6718K91	$33.12	6718K94	$34.83	1/4"	6718K97 $34.83
3/8"	6718K59	33.71	6718K58	37.85	3/8"	6718K64 36.40
Coupling Size: 3/8 (A: 7/16"; B: 5/16")						
3/8"	6718K92	50.96	6718K95	47.65	3/8"	6718K98 45.48
Coupling Size: 1/2 (A: 9/16"; B: 3/8")						
1/2"	6718K93	58.75	6718K96	61.31	1/2"	6718K99 60.62

Industrial-Shape Push-Button Hose Sockets for Air

- Maximum Pressure @ 72° F: 175 psi
- Temperature Range: 5° to 160° F
- Hose: Use PVC and rubber
- Clamps: For couplings with a barbed end, use worm-drive clamps (see pgs. 302-305) or hose ferrules (see pg. 318)

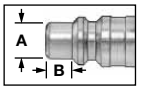

Sockets are single-shut-off style, so they have a valve that stops the flow when the coupling is separated. They are also known as industrial interchange couplings. All industrial-shape sockets are compatible with any of the industrial-shape plugs of the same coupling size, regardless of the pipe or barb size. They are nylon, which is nonmarring and offers good corrosion resistance and high wear resistance. They have zinc-plated steel threads or barbs, unless noted, and a Buna-N rubber seal. Sockets meet ISO 6150/B; the 1/4 coupling size also meets the dimensional requirements of Fed. Spec. A-A-59439. Not rated for vacuum.

Standard Push-Button Sockets

To connect, push the plug into the socket until you hear a "click". To disconnect sockets, push the button and the plug will eject.





Pipe Size, NPT	Male Pipe		Female Pipe		For Hose ID	
Coupling Size: 1/4 (A: 5/16"; B: 3/16")						
1/4"	5136T13	$25.66	5136T11	$23.16	1/4"	5136T15 $25.66
3/8"	5136T14	25.66	5136T12	25.66	3/8"	5136T16 25.66
Coupling Size: 3/8 (A: 7/16"; B: 5/16")						
3/8"	5136T19	47.86	5136T17	47.23	3/8"	5136T22 47.86
1/2"	5136T21	47.86	5136T18	47.23	—	— —

Safety Push-Button Sockets

To connect, push the plug into the socket until you hear a "click". To disconnect sockets, push the button to purge the compressed air, which will release the plug. Barbs are aluminum.





Pipe Size, NPT	Male Pipe		Female Pipe		For Hose ID	
Coupling Size: 1/4 (A: 5/16"; B: 3/16")						
1/4"	9585K11	$30.01	9585K17	$29.37	1/4"	9585K24 $31.15
3/8"	9585K12	30.01	9585K18	30.01	3/8"	9585K25 31.15
Coupling Size: 3/8 (A: 7/16"; B: 5/16")						
1/4"	9585K14	48.76	9585K21	47.07	—	— —
3/8"	9585K15	48.76	9585K22	47.07	3/8"	9585K26 53.16
1/2"	9585K16	48.76	9585K23	47.07	1/2"	9585K27 53.16

Industrial-Shape Twist-Disconnect Hose Sockets for Air

- Maximum Pressure @ 72° F: 300 psi
- Temperature Range: -40° to 225° F
- Hose: Use flexible PVC and rubber
- Clamps: For couplings with a barbed end, use worm-drive hose clamps (see pgs. 302-305) or hose ferrules (see pg. 318)

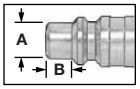

To connect, insert the plug into the socket and slide the sleeve forward until it locks in place. To disconnect, slide the sleeve back while twisting it left and right; the twisting action vents the downstream air to release pressure. It is now safe to remove the plug. Also known as industrial interchange couplings, these sockets are single-shut-off style, so they have a valve that stops the flow when the coupling is separated. All industrial-shape sockets are compatible with any of the industrial-shape plugs of the same coupling size, regardless of the pipe or barb size. Sockets are zinc-plated steel, which has fair corrosion resistance and high wear resistance. They have a Buna-N rubber seal. The 1/4 and 1/2 coupling sizes meet the dimensional requirements of Fed. Spec. A-A-59439. Vacuum is 26" Hg @ 72° F.



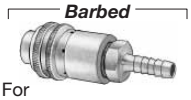

Pipe Size, NPT	Male Pipe		Female Pipe		For Hose ID	
Coupling Size: 1/4 (A: 5/16"; B: 3/16")						
1/4"	9582K14	$17.07	9582K33	$17.00	1/4"	9582K54 $18.26
Coupling Size: 3/8 (A: 7/16"; B: 5/16")						
3/8"	9582K17	20.53	9582K39	20.13	3/8"	9582K56 21.63
Coupling Size: 1/2 (A: 9/16"; B: 3/8")						
1/2"	9582K22	23.49	9582K41	23.74	1/2"	9582K58 23.78

Quick-Disconnect Hose Couplings

For technical drawings and 3-D models, go to mcmaster.com.

For information about selecting pipe size, see pages 2-3. For information about quick-disconnect couplings, see pg. 326.

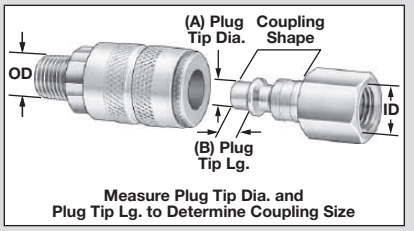

Measure Plug Tip Dia. and Plug Tip Lg. to Determine Coupling Size

Please Read Before Ordering: To determine the **shape** of your coupling, compare the end of your plug to the illustrations shown on page 326. You'll also find an illustration of the plug's shape in each presentation. **Coupling size** is an industry designation, not the actual measured size. To determine the actual size of your coupling, measure the "A" and "B" dimensions of the plug, as shown at left.

Pipe size also is an accepted industry designation, not the actual measured size. To determine pipe size, first use a ruler to measure the outside diameter (OD) or inside diameter (ID), as shown at left. Then, round up the measurement to the closest OD or ID listed in the chart and select the corresponding pipe size. For example, if the OD or ID measures 11/16", the next highest OD is 3/4" and the corresponding pipe size is 1/2.

Threaded OD or ID	3/8"	1/2"	5/8"	3/4"
Pipe Size	1/8	1/4	3/8	1/2

ARO-Shape Hose Couplings for Air

- Maximum Pressure @ 72° F: 300 psi
- Temperature Range: -40° to 225° F
- Hose: Use flexible PVC and rubber
- Clamps: For couplings with a barbed end, use worm-drive hose clamps (see pages 302-305) and hose ferrules (see page 318)

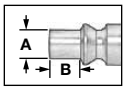

All ARO-shape plugs are compatible with any of the ARO-shape sockets of the same coupling size, regardless of the pipe or barb size. The couplings are single-shut-off style, so there is a valve in the socket but not the plug. The valve stops the flow when the coupling is separated. Vacuum rating is 26" Hg @ 72° F.

Zinc-plated steel has fair corrosion resistance and high wear resistance. **Brass** has good corrosion resistance and low wear resistance. It is softer and easier to thread than stainless steel. **303 stainless steel** offers very good corrosion resistance and high wear resistance.

Also Available: Nickel-plated steel plugs and nickel-plated brass sockets. Please ask for 5621K1 and specify plug or socket; also specify the corresponding part number from the zinc-plated steel plugs or brass sockets.

Plugs

Plugs are also known as nipples. They are open-flow style, so there is no valve to stop the flow when the plug is disconnected.





Pipe Size, NPT	Threaded: Male Pipe		Threaded: Female Pipe		Barbed: For Hose ID		
Zinc-Plated Steel							
Coupling Size: 1/4 (A: 5/16"; B: 5/16")							
1/8	**5343K12**	$1.75			1/4"	**5343K18**	$1.93
1/4	**5343K13**	1.50	**5343K14**	$1.74	5/16"	**5343K19**	3.88
Coupling Size: 3/8 (A: 7/16"; B: 9/16")							
3/8	**5343K82**	3.35	**5343K83**	4.11	3/8"	**5343K84**	3.50
303 Stainless Steel							
Coupling Size: 1/4 (A: 5/16"; B: 5/16")							
1/4	**6026T13**	7.03	**6026T14**	6.73			

Sleeve-Lock Sockets

To connect, slide back the sleeve on the socket, insert the plug, and release the sleeve. To disconnect, slide back the sleeve and pull out the plug. All have a zinc-plated steel sleeve and a Buna-N rubber seal.





Pipe Size, NPT	Threaded: Male Pipe		Threaded: Female Pipe		Barbed: For Hose ID		
Brass							
Coupling Size: 1/4 (A: 5/16"; B: 5/16")							
1/8	**5343K26**	$7.40	**5343K27**	$7.40			
1/4	**5343K28**	7.40	**5343K29**	7.45	1/4"	**5343K32**	$7.67
Coupling Size: 3/8 (A: 7/16"; B: 9/16")							
3/8	**5343K74**	12.90	**5343K75**	13.69			
303 Stainless Steel							
Coupling Size: 1/4 (A: 5/16"; B: 5/16")							
1/4	**6026T21**	30.90	**6026T22**	22.47	1/4"	**6026T23**	24.67

Push-to-Connect Sockets

To connect, push the plug into the socket until you hear a "click". To disconnect, slide the sleeve forward until the plug ejects. All sockets have a zinc-plated steel sleeve and a Buna-N rubber seal.





Pipe Size, NPT	Threaded: Male Pipe		Threaded: Female Pipe		Barbed: For Hose ID		
Brass							
Coupling Size: 1/4 (A: 5/16"; B: 5/16")							
1/8	**5343K22**	$8.79	**5343K15**	$9.72			
1/4	**5343K23**	8.10	**5343K11**	8.03	1/4"	**5343K25**	$8.41
Coupling Size: 3/8 (A: 7/16"; B: 9/16")							
3/8	**5343K71**	15.27	**5343K73**	14.73	3/8"	**5343K72**	15.10
303 Stainless Steel							
Coupling Size: 1/4 (A: 5/16"; B: 5/16")							
1/4	**6026T11**	25.35	**6026T12**	26.12	1/4"	**6026T15**	38.17

Lincoln-Shape Hose Couplings for Air

- Maximum Pressure @ 72° F: 300 psi
- Temperature Range: -40° to 240° F
- Hose: Use flexible PVC, nylon, and rubber

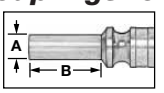

All Lincoln-shape plugs are compatible with any of the Lincoln-shape sockets of the same coupling size, regardless of the pipe size. The couplings are single-shut-off style, so there is a valve in the socket but not the plug. The valve stops the flow when the coupling is separated. They are zinc-plated steel, which has fair corrosion resistance and high wear resistance, except 1/8" NPT sleeve-lock sockets have brass sockets and zinc-plated steel sleeves. Brass has good corrosion resistance and low wear resistance. Not rated for vacuum.

Plugs

Plugs are also known as nipples.




Pipe Size, NPT	Threaded: Male Pipe		Threaded: Female Pipe	
Coupling Size: 1/4 (A: 9/32"; B: 3/4")				
1/8	**91455K51**	$3.00	**91455K54**	$2.85
1/4	**91455K31**	2.19	**91455K36**	2.68

Sleeve-Lock Sockets

To connect, slide back the sleeve on the socket, insert the plug, and release the sleeve. To disconnect, slide back the sleeve and pull out the plug. They have a Buna-N rubber seal.




Pipe Size, NPT	Threaded: Male Pipe		Threaded: Female Pipe	
Coupling Size: 1/4 (A: 9/32"; B: 3/4")				
1/8	**91455K52**	$13.54	**91455K53**	$13.20
1/4	**91455K42**	9.53	**91455K47**	8.56

Tru-Flate-Shape Hose Couplings for Air

- Maximum Pressure @ 72° F: 300 psi, except 175 psi for push-button sockets
- Temperature Range: -40° to 250° F, except 5° to 160° F for push-button sockets
- Hose: Use flexible PVC and rubber
- Clamps: For barbed couplings, use hose ferrules (see page 318) for hose smaller than ½″ dia.; use band clamps (see pages 311-313) for hose ½″ dia. and larger

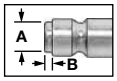

Also known as automotive couplings, all Tru-Flate-shape plugs are compatible with any of the Tru-Flate-shape sockets of the same coupling size, regardless of the pipe or barb size. The couplings are single-shut-off style, so there is a valve in the socket but not the plug. The valve stops the flow when the coupling is separated. Vacuum rating is 26″ Hg @ 72° F, unless noted. NPTF (Dryseal) threads are compatible with NPT threads.

Zinc-plated steel has fair corrosion resistance and high wear resistance. **Brass** has good corrosion resistance and low wear resistance. It is softer and easier to thread than steel. **Nylon** is nonmarring and offers good corrosion resistance and high wear resistance.

Plugs

Plugs are also known as nipples.







Pipe Size, NPTF	Male Pipe		Female Pipe		For Hose ID		
Zinc-Plated Steel							
Coupling Size: ¼ (A: ⅜″; B: 1⁄16″)							
⅛	95815K41	$3.00	95815K51	$3.87			
¼	95815K69	2.47	95815K71	2.78	¼″	95815K76	$3.94
⅜	95815K43	3.19	95815K53	10.19	⅜″	95815K83	3.81
Coupling Size: ⅜ (A: 7⁄16″; B: ⅛″)							
¼	95815K44	3.12	95815K54	3.19			
⅜	95815K72	4.41	95815K73	5.25	⅜″	95815K77	4.59
Coupling Size: ½ (A: 9⁄16″; B: ⅛″)							
⅜	95815K47	5.00	95815K57	7.50	⅜″	95815K87★	4.91
½	95815K74	6.59	95815K75	7.88	½″	95815K79	9.38

★Not rated for vacuum.

Sleeve-Lock Sockets

To connect, slide back the sleeve on the socket, insert the plug, and release the sleeve. To disconnect, slide back the sleeve and pull out the plug. They have a zinc-plated steel sleeve and a Buna-N rubber seal.







Pipe Size, NPTF	Male Pipe		Female Pipe		For Hose ID		
Brass							
Coupling Size: ¼ (A: ⅜″; B: 1⁄16″)							
⅛	95815K11	$13.66	95815K21	$12.25			
¼	95815K61	10.84	95815K62	10.59	¼″	95815K67	$12.75
⅜	95815K13	12.37	95815K23	13.62	⅜″	95815K33	12.97
Zinc-Plated Steel							
Coupling Size: ⅜ (A: 7⁄16″; B: ⅛″)							
¼	95815K14	21.94	95815K24	22.72			
⅜	95815K63	19.28	95815K64	21.59	⅜″	95815K68	22.41
½	95815K16	24.97	95815K26	24.84	½″	95815K36	23.91
Coupling Size: ½ (A: 9⁄16″; B: ⅛″)							
⅜	95815K17	28.69	95815K27	27.47	⅜″	95815K37	30.12
½	95815K65	23.66	95815K66	24.97	½″	95815K78	26.38

Push-to-Connect Sockets

To connect, push the plug into the socket until you hear a "click". To disconnect, slide the sleeve forward until the plug ejects. They have a zinc-plated steel sleeve and a Buna-N rubber seal.







Pipe Size, NPT	Male Pipe		Female Pipe		For Hose ID		
Zinc-Plated Steel							
Coupling Size: ¼ (A: ⅜″; B: 1⁄16″)							
⅛	95815K12	$8.43	95815K31	$9.05			
¼	95815K15	8.53	95815K32	8.05	¼″	95815K45	$8.53
⅜	95815K18	8.80	95815K34	9.00	⅜″	95815K46	9.31
Coupling Size: ⅜ (A: 7⁄16″; B: ⅛″)							
¼	95815K22	14.07	95815K35	14.07	¼″	95815K91	14.82
⅜	95815K25	14.08	95815K38	13.95	⅜″	95815K48	16.08
½	95815K28	15.30	95815K42	15.30	½″	95815K52	17.07

Push-Button Sockets

To connect, push the plug into the socket until you hear a "click". To disconnect, push the button and the plug will eject. They have nylon sleeves, zinc-plated steel threads or barbs, and a Buna-N rubber seal.







Pipe Size, NPT	Male Pipe		Female Pipe		For Hose ID		
Nylon							
Coupling Size: ¼ (A: ⅜″; B: 1⁄16″)							
¼	5732T12★	$27.95	5732T18★	$25.24			
Coupling Size: ⅜ (A: 7⁄16″; B: ⅛″)							
⅜	5732T15★	47.86	5732T22★	47.86	⅜″	5732T27★	$49.47
½			5732T23★	47.86			

★Not rated for vacuum.

European-Shape Hose Couplings for Air

- Maximum Pressure @ 72° F: 230 psi
- Temperature Range: -4° to 212° F
- Hose: Use flexible PVC and rubber
- Clamps: For barbed couplings, use worm-drive clamps (see pgs. 302-305) or hose ferrules (see pg. 318)

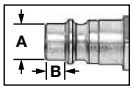

With a virtually unobstructed internal air path, these couplings provide a higher flow rate than other coupling shapes of the same size. All European-shape plugs are compatible with any of the European-shape sockets of the same coupling size, regardless of the pipe or barb size. The couplings are single-shut-off style, so there is a valve in the socket but not the plug. The valve stops the flow when the coupling is separated. Not rated for vacuum.

Plugs

Also known as nipples, plugs are zinc-plated steel, which has fair corrosion resistance and high wear resistance.





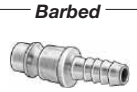

Pipe Size, NPT	Male Pipe		Female Pipe		For Hose ID		
Coupling Size: ¼ (A: ⅜″; B: 3⁄16″)							
¼	53445K16	$3.76	53445K21	$4.62	¼″	53445K94	$4.67
⅜	53445K18	2.93	53445K92	5.93	⅜″	53445K96	4.76
½	53445K24	9.78	53445K98	8.82	½″	53445K85	5.49

Push-to-Connect Sockets

To connect, push the plug into the socket until you hear a "click". To disconnect, slide the sleeve forward until the plug ejects. Sockets are zinc-plated brass, which has good corrosion resistance and low wear resistance. They have a Buna-N rubber seal.







Pipe Size, NPT	Male Pipe		Female Pipe		For Hose ID		
Coupling Size: ¼ (A: ⅜″; B: 3⁄16″)							
¼	53445K15	$20.27	53445K19	$17.78	¼″	53445K93	$17.78
⅜	53445K17	20.33	53445K91	20.33	⅜″	53445K95	17.78
½	53445K86	24.44	53445K97	24.89	½″	53445K99	17.78

Quick-Disconnect Hose Couplings

For information about selecting pipe size, see pages 2-3. For information about quick-disconnect couplings, see pg. 326.

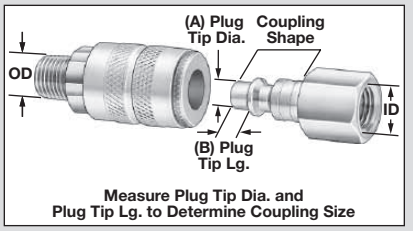

Measure Plug Tip Dia. and Plug Tip Lg. to Determine Coupling Size

Please Read Before Ordering: To determine the **shape** of your coupling, compare the end of your plug to the illustrations shown on page 326. You'll also find an illustration of the plug's shape in each presentation. **Coupling size** is an industry designation, not the actual measured size. To determine the actual size of your coupling, measure the "A" and "B" dimensions of the plug, as shown at left.

Pipe size also is an accepted industry designation, not the actual measured size. To determine pipe size, first use a ruler to measure the outside diameter (OD) or inside diameter (ID), as shown at left. Then, round up the measurement to the closest OD or ID listed in the chart and select the corresponding pipe size. For example, if the OD or ID measures 11/16", the next highest OD is 3/4" and the corresponding pipe size is 1/2.

Threaded OD or ID	3/8"	1/2"	5/8"	3/4"
Pipe Size	1/8	1/4	3/8	1/2

Universal Push-to-Connect Hose Sockets for Air

- Maximum Pressure @ 72° F: 300 psi
- Temperature Range: -40° to 250° F
- Hose: For *threaded* sockets, use flexible PVC and rubber hose; *push-on barbed* sockets must be used with hose for push-on fittings (see pg. 320)

One socket accommodates five common plug shapes: Industrial, ARO, Lincoln, Tru-Flate, and European. To connect, push the plug into the socket until you hear a "click". To disconnect, slide the sleeve forward until the plug ejects. They are single-shut-off-style, so they have a valve that stops the flow when the coupling is separated. Sockets are brass, which has good corrosion resistance and low wear resistance. They have a Buna-N rubber seal. Not rated for vacuum. NPTF (Dryseal) threads are compatible with NPT threads.

Push-on barbed sockets are only for use with hose for push-on fittings. To ensure proper operation, the barbed end has to be pushed in all the way, with the hose end completely concealed by the plastic ring.

Pipe Size, NPTF	Threaded: Male Pipe	Threaded: Female Pipe	Push-On Barbed: For Hose ID
Coupling Size: 1/4			
1/4	**53475K31** $10.15	**53475K21** $10.15	1/4" **53475K39** $12.01
3/8	**53475K33** 11.13	**53475K23** 11.13	3/8" **53475K41** 10.71

Japanese-Shape Hose Couplings for Air

- Maximum Pressure @ 72° F: 230 psi
- Temperature Range: -4° to 212° F
- Hose: Use flexible PVC and rubber
- Clamps: For couplings with a barbed end, use worm-drive hose clamps (see pgs. 302-305) or hose ferrules (see pg. 318)

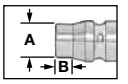

All Japanese-shape plugs are compatible with any of the Japanese-shape sockets of the same coupling size, regardless of the pipe or barb size. The couplings are single-shut-off style, so there is a valve in the socket but not the plug. The valve stops the flow when the coupling is separated. They are zinc-plated steel, which has fair corrosion resistance and high wear resistance. Not rated for vacuum.

Plugs

Plugs are also known as nipples.

Pipe Size, NPT	Threaded: Male Pipe	Threaded: Female Pipe	Barbed: For Hose ID
Coupling Size: 1/4 (A: 7/16"; B: 7/32")			
1/4	**53425K63** $3.41	**53425K73** $3.97	1/4" **53425K78** $3.41
3/8	**53425K65** 4.12	**53425K75** 9.91	3/8" **53425K79** 3.41

Push-to-Connect Sockets

To connect, push the plug into the socket until you hear a "click". To disconnect, slide the sleeve forward until the plug ejects. They have a Buna-N rubber seal.

Pipe Size, NPT	Threaded: Male Pipe	Threaded: Female Pipe	Barbed: For Hose ID
Coupling Size: 1/4 (A: 7/16"; B: 7/32")			
1/4	**53425K23** $22.88	**53425K33** $22.88	1/4" **53425K76** $17.71
3/8	**53425K25** 22.88	**53425K35** 21.80	3/8" **53425K77** 17.71

Compact Hose Couplings for Air and Water

- Maximum Pressure @ 72° F: 500 psi
- Temperature Range: -40° to 250° F
- Hose: Use flexible PVC and rubber
- Clamps: For barbed couplings, use hose ferrules (see pg. 318)

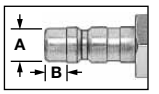

A slim body allows these plugs to fit in tight spaces. All compact plugs are compatible with any of the compact sockets of the same coupling size, regardless of the pipe or barb size. The couplings are single-shut-off style, so there is a valve in the socket but not the plug. The valve stops the flow when the coupling is separated. Not rated for vacuum. NPTF (Dryseal) threads are compatible with NPT threads.

Brass has good corrosion resistance and low wear resistance. It is softer and easier to thread than steel. **Zinc-plated steel** has fair corrosion resistance and high wear resistance.

Plugs

Plugs are also known as nipples.

Pipe Size, NPTF	Threaded: Male Pipe	Threaded: Female Pipe	Barbed: For Hose ID
Brass			
Coupling Size: 1/8 (A: 7/32"; B: 3/32")			
1/8	**53465K22** $4.80	**53465K42** $5.22	1/8" **53465K62** $5.56
Zinc-Plated Steel			
Coupling Size: 1/4 (A: 5/16"; B: 7/32")			
1/4	**53465K24** 1.99	**53465K44** 2.40	1/4" **53465K64** 3.90

Push-to-Connect Sockets

To connect, push the plug into the socket until you hear a "click". To disconnect, slide the sleeve forward until the plug ejects. They have a Buna-N rubber seal.

Pipe Size, NPTF	Threaded: Male Pipe	Threaded: Female Pipe	Barbed: For Hose ID
Brass			
Coupling Size: 1/8 (A: 7/32"; B: 3/32")			
1/8	**53465K12** $14.26	**53465K32** $14.26	1/8" **53465K52** $15.78
Coupling Size: 1/4 (A: 5/16"; B: 7/32")			
1/4	**53465K14** 15.78	**53465K34** 15.78	1/4" **53465K54** 16.80

For information about selecting pipe size, see pages 2-3. For information about quick-disconnect couplings, see pg. 326.

Schrader-Shape Hose Couplings for Air

- Maximum Pressure @ 72° F: 300 psi
- Temperature Range: -40° to 225° F
- Hose: Use flexible PVC and rubber
- Clamps: For couplings with a barbed end, use worm-drive hose clamps (see pgs. 302-305) or hose ferrules (see pg. 318)

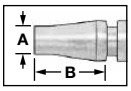

All Schrader-shape plugs are compatible with any of the Schrader-shape sockets of the same coupling size, regardless of the pipe or barb size. The couplings are single-shut-off style, so there is a valve in the socket but not the plug. The valve stops the flow when the coupling is separated. Vacuum rating is 26″ Hg @ 72° F.

Zinc-plated steel has fair corrosion resistance. **303 stainless steel** offers very good corrosion resistance. **Aluminum** is lightweight with good corrosion resistance and low wear resistance.

Plugs

Also known as nipples.





Pipe Size, NPT	Threaded Male Pipe	Threaded Female Pipe	Barbed For Hose ID
Zinc-Plated Steel			
Coupling Size: 1/4 (A: 5/16″; B: 3/4″)			
1/4	3124K46 $1.87	3124K52 $2.09	1/4″ 3124K74 $3.19
Coupling Size: 1/2 (A: 1/2″; B: 7/8″)			
3/8	—	3124K61 4.22	3/8″ 3124K78 4.46
1/2	3124K64 3.64	—	1/2″ 3124K76 5.00
303 Stainless Steel			
Coupling Size: 1/4 (A: 5/16″; B: 3/4″)			
1/4	5606T13 5.13	5606T14 5.94	— — —

Push-to-Connect Sockets

To connect, push the plug into the socket until you hear a "click". To disconnect, twist the sleeve and pull out the plug; this twist-to-disconnect feature reduces the chance of accidental disconnection if the hose gets snagged. They have a Buna-N rubber seal. *Aluminum* sockets have a zinc-plated steel sleeve.





Pipe Size, NPT	Threaded Male Pipe	Threaded Female Pipe	Barbed For Hose ID
Aluminum			
Coupling Size: 1/4 (A: 5/16″; B: 3/4″)			
1/4	3124K59 $12.98	3124K55 $11.90	1/4″ 3124K75 $13.49
Coupling Size: 1/2 (A: 1/2″; B: 7/8″)			
3/8	3124K67 19.57	3124K66 18.90	3/8″ 3124K79 20.29
1/2	3124K73 18.86	3124K68 19.76	1/2″ 3124K77 20.58
303 Stainless Steel			
Coupling Size: 1/4 (A: 5/16″; B: 3/4″)			
1/4	5606T11 40.82	5606T12 38.31	1/4″ 5606T15 46.58

Color/Shape-Match Hose Couplings for Air and Water

- Maximum Pressure @ 72° F: 500 psi
- Temperature Range: -4° to 210° F
- Hose: Use flexible PVC and rubber
- Clamps: For couplings with a barbed end, use worm-drive hose clamps (see pgs. 302-305) or hose ferrules (see pg. 318)

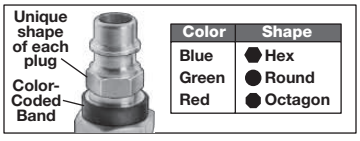

Color	Shape
Blue	Hex
Green	Round
Red	Octagon

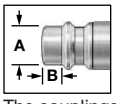

Each color has its own unique shape, so you can't mix hose lines. Only plugs and sockets of the same color and coupling size will fit together. The couplings are single-shut-off style, so there is a valve in the socket but not the plug. They are brass, which has good corrosion resistance and low wear resistance. Vacuum rating is 28″ Hg @ 72° F.

To Order: Please specify blue, green, or red, unless noted.

Plugs

Plugs are also known as nipples. They have an aluminum band.





Male Pipe Pipe Size	Female Pipe Pipe Size	For Hose ID
Coupling Size: 1/4 (A: 3/8″; B: 3/16″)		
1/4 NPT 8636T16 $25.75	1/4 NPSF 8636T18 $27.05	1/4″ 8636T21 $26.06
3/8 NPT 8636T173★ 36.68	3/8 NPSF 8636T19 40.74	3/8″ 8636T22 40.33

★Only available in blue.

Push-to-Connect Sockets

To connect, push the plug into the socket until you hear a "click". To disconnect, slide the sleeve forward until the plug ejects. All have a color-coded aluminum sleeve and a Buna-N rubber seal.





Male Pipe Pipe Size	Female Pipe Pipe Size	For Hose ID
Coupling Size: 1/4 (A: 3/8″; B: 3/16″)		
1/4 NPT 8636T11 $39.70	1/4 NPSF 8636T13 $39.90	1/4″ 8636T15 $39.50
3/8 NPT 8636T12 40.31	3/8 NPSF 8636T14 40.72	— — —

Quick-Disconnect Hose Couplings for Natural and LP Gas

- Maximum Pressure @ 72° F: 0.5 psi
- Temperature Range: -40° to 200° F
- Hose: Use hose for natural and LP gas

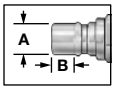

Push the plug into the socket to quickly link welding hoses, torches, and regulators. Couplings are brass for good corrosion resistance. They are single-shut-off style, so there is a valve in the socket but not the plug. They meet CSA 6.9-M98 and ANSI Z21.41. Not rated for vacuum. These couplings can only be used with quick-disconnect hose couplings for natural and LP gas of the same coupling size; they are not compatible with any other style of coupling.

Plugs—Also known as nipples. They have a heat-sensitive fuse that will stop gas flow in the event of a fire.

Sockets—To connect, slide back the sleeve on the socket, insert the plug, and release the sleeve. To disconnect, slide back the sleeve and pull out the plug. All have a fluoroelastomer seal.

Plugs



Pipe Size, NPTF	Female Pipe
Coupling Size: 3/8 (A=9/16″; B=25/64″)	
3/8	6053T12 $11.18
Coupling Size: 1/2 (A=3/4″; B=1/2″)	
1/2	6053T14 16.42
Coupling Size: 3/4 (A=15/16″; B=1/2″)	
3/4	6053T16 19.67
Coupling Size: 1 (A=1 1/4″; B=3/4″)	
1	6053T18 29.36

Sleeve-Lock Sockets

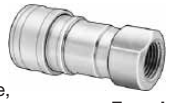

Pipe Size, NPTF	Female Pipe
Coupling Size: 3/8 (A=9/16″; B=25/64″)	
3/8	6053T11 $23.25
Coupling Size: 1/2 (A=3/4″; B=1/2″)	
1/2	6053T13 41.77
Coupling Size: 3/4 (A=15/16″; B=1/2″)	
3/4	6053T15 53.07
Coupling Size: 1 (A=1 1/4″; B=3/4″)	
1	6053T17 88.71

Quick-Disconnect Hose Couplings

For information about selecting pipe size, see pages 2-3. For information about quick-disconnect couplings, see pg. 326.

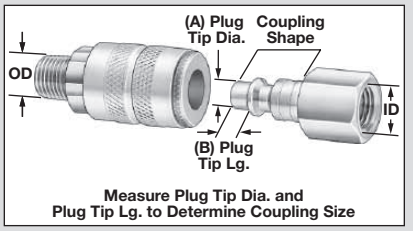

Measure Plug Tip Dia. and Plug Tip Lg. to Determine Coupling Size

Please Read Before Ordering: To determine the **shape** of your coupling, compare the end of your plug to the illustrations shown on page 326. You'll also find an illustration of the plug's shape in each presentation. **Coupling size** is an industry designation, not the actual measured size. To determine the actual size of your coupling, measure the "A" and "B" dimensions of the plug, as shown at left.

Pipe size also is an accepted industry designation, not the actual measured size. To determine pipe size, first use a ruler to measure the outside diameter (OD) or inside diameter (ID), as shown at left. Then, round up the measurement to the closest OD or ID listed in the chart and select the corresponding pipe size. For example, if the OD or ID measures 11/16", the next highest OD is 3/4" and the corresponding pipe size is 1/2.

Threaded OD or ID	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4

Open-Flow Hose Couplings for Air and Water

- Maximum Pressure: See table
- Temperature Range: -40° to 250° F
- Hose: Use nylon and rubber

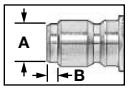

There is no valve in either the plug or the sockets, so these straight couplings allow for maximum flow. All open-flow plugs are compatible with any of the open-flow sockets of the same coupling size, regardless of the pipe or barb size. They are compatible with Parker ST series, Hansen ST series, and Perfecting E series. Not rated for vacuum. NPTF (Dryseal) threads are compatible with NPT threads.

Zinc-plated steel has fair corrosion resistance and high wear resistance. **Brass** has good corrosion resistance and low wear resistance. It is softer and easier to thread than steel. **303 stainless steel** offers very good corrosion resistance and high wear resistance.

Plugs—Also known as nipples.

Sleeve-Lock Sockets—To connect, slide back the sleeve on the socket, insert the plug, and release the sleeve. To disconnect, slide back the sleeve and pull out the plug. All have a Buna-N rubber seal.

Warning: Flow should be stopped before you disconnect your line.

Also Available: Replacement Buna-N rubber seals for brass sockets. Please ask for 6537K87 and specify coupling size.






Coupling Size	(A)	(B)	Pipe Size, NPTF	Max. psi @ 72° F	Plugs: Male Pipe		Plugs: Female Pipe		Sleeve-Lock Sockets: Male Pipe		Sleeve-Lock Sockets: Female Pipe	
Zinc-Plated Steel												
1/4	3/8"	1/8"	1/4	5,500	6537K43	$3.31	6537K53	$4.62				
3/8	1/2"	1/8"	3/8	3,500	6537K44	3.92	6537K54	4.39				
1/2	5/8"	1/8"	1/2	2,700	6537K45	7.32	6537K55	6.85				
3/4	7/8"	3/16"	3/4	2,700	6537K46	16.15	6537K56	13.64				
1	1 3/16"	3/16"	1	2,000	6537K47	23.68	6537K57	24.66				
Brass												
1/4	3/8"	1/8"	1/4	5,200	6537K91	3.84	6537K11	4.61	6537K63	$8.78	6537K73	$8.95
3/8	1/2"	1/8"	3/8	2,700	6537K92	4.51	6537K12	5.03	6537K64	12.20	6537K74	11.41
1/2	5/8"	1/8"	1/2	2,200	6537K93	6.95	6537K13	7.68	6537K65	16.81	6537K75	16.84
3/4	7/8"	3/16"	3/4	1,700	6537K94	10.48	6537K14	11.51	6537K66	26.16	6537K76	24.61
1	1 3/16"	3/16"	1	1,200	6537K95	19.28	6537K15	19.69	6537K67	39.26	6537K77	38.65
303 Stainless Steel												
1/4	3/8"	1/8"	1/4	6,700	6543K43	11.80	6543K53	12.27	6543K23	41.76	6543K33	37.01
3/8	1/2"	1/8"	3/8	5,500	6543K44	15.40	6543K54	15.40	6543K24	42.46	6543K34	40.94
1/2	5/8"	1/8"	1/2	3,000	6543K45	21.17	6543K55	21.66	6543K25	60.30	6543K35	45.72
3/4	7/8"	3/16"	3/4	3,000	6543K46	30.05	6543K56	39.38	6543K26	92.00	6543K36	81.37
1	1 3/16"	3/16"	1	1,700	6543K47	58.19	6543K57	53.83	6543K27	166.26	6543K37	103.91

Open-Flow Hose Couplings for Coolant

- Maximum Pressure @ 72° F: 200 psi
- Temperature Range: -90° to 400° F
- Hose: Use flexible PVC and rubber
- Clamps: For couplings with a barbed end, use low-profile band clamps (see page 311) and worm-drive hose clamps (see pages 302-305)

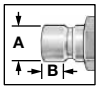

Also known as coolant-line mold couplings, these couplings are open-flow style with no valve in either the plug or socket to allow maximum flow. All open-flow plugs are compatible with any of the open-flow sockets of the same coupling size, regardless of the pipe size. Unless otherwise indicated, they are brass for good corrosion resistance and low wear resistance. All are compatible with Parker Moldmate, Foster FP and FS series, and Hansen FT series couplings. Vacuum rating is 27" Hg @ 72° F. NPTF (Dryseal) threads are compatible with NPT threads. Female NPSM threads are compatible with male NPT and NPTF (Dryseal) threads.

Plugs

Plugs are also known as nipples. The *female pipe plugs* are made from zinc-plated steel, which has fair corrosion resistance and high wear resistance.

Sleeve-Lock Sockets

To connect, slide back the sleeve on the socket, insert the plug, and release the sleeve. To disconnect, slide back the sleeve and pull out the plug. All have a silicone seal.

Threaded




Coupling Size	(A)	(B)	Pipe Size, NPTF	Male Pipe		Female Pipe	
1/4	3/8"	7/32"	1/4	6739K52	$0.93	6739K55	$1.09
1/4	3/8"	7/32"	3/8	6739K53	1.14	6739K56	1.53
3/8	17/32"	3/8"	3/8	6739K57	1.14	6739K58	1.85
3/8	17/32"	3/8"	1/2	6739K59	1.98		

Threaded



Coupling Size	(A)	(B)	Pipe Size, NPSM	Female Pipe	
1/4	3/8"	7/32"	1/8	6739K34	$4.12
1/4	3/8"	7/32"			
3/8	17/32"	3/8"	1/4	6739K61	5.99
3/8	17/32"	3/8"			

Barbed




For Hose ID	Straight		90° Elbow	
1/4"	6739K35	$4.66	6739K91	$6.80
3/8"	6739K37	4.66	6739K92	5.91
3/8"	6739K62	6.18	6739K66	8.92
1/2"	6739K64	6.47	6739K68	8.01

Warning: ***There is no valve in these couplings. Flow should be stopped before disconnecting your hose line.***

Plastic Hose Couplings

- Maximum Pressure @ 72° F:
  145 psi (Air and Water);
  100 psi (Food and Beverage)
- Temperature Range:
  -4° to 175° F (Air and Water);
  -4° to 250° F (Food and Beverage)
- Hose: Use flexible PVC and rubber

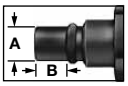

These plugs have all the benefits of a quick-disconnect coupling, but are made of lightweight plastic. All plastic plugs are compatible with any of the plastic sockets, regardless of the pipe size. They are not compatible with any other style of coupling. These couplings are single-shut-off style, so there is a valve in the socket but not the plug. Vacuum rating is 28" Hg @ 72° F.

Couplings **for air and water** are black acetal plastic.

Couplings **for food and beverage** are white PVDF plastic. They are made of FDA listed materials.

Plugs

Plugs are also known as nipples.





Coupling Size	(A)	(B)	Pipe Size, NPT	Male Pipe		Female Pipe	
For Air and Water							
1/4	13/32"	13/32"	1/4	4821K35	$6.40	4821K52	$6.70
1/4	13/32"	13/32"	3/8	4821K36	5.40	4821K53	7.21
For Food and Beverage							
1/4	13/32"	13/32"	1/4	_____	___	4821K58	24.70
1/4	13/32"	13/32"	3/8	4821K46	8.53	4821K59	14.20

Push-to-Connect Sockets

To connect, push the plug into the socket until you hear a "click". To disconnect, slide the sleeve forward until the plug ejects. Sockets **for air and water** have a Buna-N rubber seal; sockets **for food and beverage** have a fluoroelastomer rubber seal.





Coupling Size	(A)	(B)	Pipe Size, NPT	Male Pipe		Female Pipe	
For Air and Water							
1/4	13/32"	13/32"	1/4	4821K31	$17.58	4821K47	$17.07
1/4	13/32"	13/32"	3/8	_____	____	4821K48	16.04
For Food and Beverage							
1/4	13/32"	13/32"	1/4	_____	____	4821K49	38.22
1/4	13/32"	13/32"	3/8	4821K34	36.42	4821K51	36.40

International Standard ISO Minimal-Spill Hose Couplings for Hydraulic Fluid

- Maximum Pressure: See below
- Temperature Range: -20° to 212° F
- Hose: Use hydraulic SAE 100R7, high-pressure reinforced rubber, hydraulic SAE 100R1, and hydraulic SAE 100R2

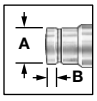

Also known as flush-face couplings, these couplings have a flat face that ensures minimal fluid loss when connecting and disconnecting your hose line. They're double-shut-off style, so they have a valve in both the plug and the socket that stops the flow when the coupling is separated. All international standard ISO minimal-spill plugs are compatible with any of the international standard ISO minimal-spill sockets of the same coupling size, regardless of the pipe size. They are compatible with all couplings that meet ISO 16028 standards, such as Parker FEM, Perfecting HT, and Snap-Tite 74 series. Not rated for vacuum. Couplings are zinc-plated steel for fair corrosion resistance and high wear resistance. Female NPSF threads are compatible with male NPT and NPTF (Dryseal) threads.

Plugs—Also known as nipples, these plugs have a bonded Buna-N/PTFE seal.

Push-to-Connect Sockets—To connect, push the plug into the socket until you hear a "click". To disconnect, slide the sleeve forward until the plug ejects. All sockets have a Buna-N rubber seal.

Caps and Plugs—Made from black rubber, use these to keep contaminants out of your hose line.

Note: Pressure ratings are given for static (constant) pressure conditions.

Warning: Never attempt to connect or disconnect couplings when operating at maximum pressure.









Coupling Size	(A)	(B)	Pipe Size, NPSF	Max. psi @ 72° F	Plugs Female Pipe		Push-to-Connect Sockets Female Pipe		Coupling Size	Caps for Plugs		Plugs for Sockets	
1/4	5/8"	1/4"	1/4	4,500	5220T17	$39.49	5220T11	$86.61	1/4	5220T52	$2.88	5220T49	$2.88
3/8	3/4"	3/16"	3/8	3,600	5220T18	30.61	5220T12	53.56	3/8	5220T42	3.60	5220T43	3.60
1/2	15/16"	3/8"	1/2	3,600	5220T24	34.42	5220T23	57.54	1/2	5220T44	4.42	5220T45	4.42
3/4	1 3/16"	7/16"	3/4	3,600	5220T26	77.54	5220T25	144.89	3/4	5220T47	6.10	5220T46	6.10
1	1 7/16"	7/16"	1	2,900	5220T22	122.10	5220T15	246.57	1	5220T51	15.85	5220T48	7.92

High-Pressure Minimal-Spill Hose Couplings for Hydraulic Fluid

- Maximum Pressure: See below
- Temperature Range: -40° to 200° F
- Hose: Use rubber

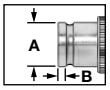

These couplings have the highest pressure rating of all the minimal-spill couplings we offer. Also known as flush-face couplings, they have a flat face that ensures minimal fluid loss when connecting and disconnecting your hose line. They are double-shut-off style, so there is a valve that stops the flow when the coupling is separated in both the plug and the socket. All high-pressure minimal-spill plugs are compatible with any of the high-pressure minimal-spill sockets of the same coupling size, regardless of the pipe size. These couplings are compatible with Snap-Tite 71 series. Not rated for vacuum. Female NPTF (Dryseal) threads are compatible with male NPT threads. Female NPSF threads are compatible with male NPT and NPTF (Dryseal) threads.

Zinc-plated steel couplings have fair corrosion resistance and high wear resistance.

316 stainless steel couplings have excellent corrosion resistance and high wear resistance.

Plugs—Also known as nipples, these plugs have a Buna-N rubber seal.

Push-to-Connect Sockets—To connect, push the plug into the socket until you hear a "click". To disconnect, slide the sleeve forward until the plug ejects. They have a Buna-N rubber seal.

Note: Pressure ratings are given for static (constant) pressure conditions.

Warning: Never attempt to connect or disconnect couplings when operating at maximum pressure.





Coupling Size	(A)	(B)	Pipe Size, NPTF	Max. psi @ 72° F	Plugs Female Pipe		Push-to-Connect Sockets Female Pipe	
Zinc-Plated Steel								
1/4	3/4"	3/16"	1/4	10,000	53645K52	$29.75	53645K51	$49.63
3/8	15/16"	7/32"	3/8	10,000	53645K31	25.85	53645K11	47.01
1/2	1 3/16"	7/32"	1/2	10,000	53645K33	37.68	53645K13	57.47
3/4	1 1/2"	9/32"	3/4	7,500	53645K35	43.18	53645K15	81.35
1	1 3/4"	11/32"	1	7,500	53645K37	64.41	53645K17	144.11
1	1 3/4"	11/32"	1 1/4★	7,500	53645K54	87.67	53645K53	167.67
316 Stainless Steel								
3/8	15/16"	7/32"	3/8■	5,000	53645K91	74.68	53645K71	175.82
1/2	1 3/16"	7/32"	1/2■	5,000	53645K93	82.89	53645K73	230.32
3/4	1 1/2"	9/32"	3/4■	5,000	53645K95	167.02	53645K75	360.65
1	1 3/4"	11/32"	1■	4,000	53645K97	202.63	53645K77	565.54

★Connection is NPT. ■ Connection is NPSF.

Warning: ***Flow should be stopped before disconnecting your hose line.***

Quick-Disconnect Hose Couplings

For technical drawings and 3-D models, go to mcmaster.com.

For information about selecting pipe size, see pages 2-3. For information about quick-disconnect couplings, see pg. 326.

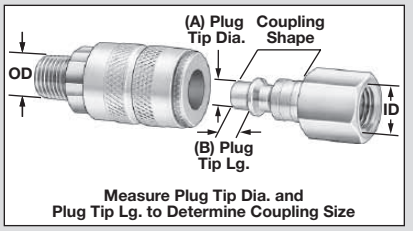

Measure Plug Tip Dia. and Plug Tip Lg. to Determine Coupling Size

Please Read Before Ordering: To determine the **shape** of your coupling, compare the end of your plug to the illustrations shown on page 326. You'll also find an illustration of the plug's shape in each presentation. **Coupling size** is an industry designation, not the actual measured size. To determine the actual size of your coupling, measure the "A" and "B" dimensions of the plug, as shown at left.

Pipe size also is an accepted industry designation, not the actual measured size. To determine pipe size, first use a ruler to measure the outside diameter (OD) or inside diameter (ID), as shown at left. Then, round up the measurement to the closest OD or ID listed in the chart and select the corresponding pipe size. For example, if the OD or ID measures 11/16", the next highest OD is 3/4" and the corresponding pipe size is 1/2.

Threaded OD or ID	3/8"	1/2"	5/8"	3/4"	1"	1 5/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1

Snap-Tite H-Shape Hose Couplings for Hydraulic Fluid

- Maximum Pressure: See below
- Temperature Range: -40° to 200° F
- Hose: Use rubber
- Clamps: For barbed hose couplings, use worm-drive hose clamps (see pgs. 302-305)

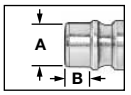

All Snap-Tite H-shape plugs are compatible with any of the Snap-Tite H-shape sockets of the same coupling size, regardless of the pipe size. They are double-shut-off style, so both the plug and the socket have a valve that stops the flow when the coupling is separated. All come with a Buna-N rubber seal and meet MIL-C-51234. Not rated for vacuum. NPTF (Dryseal) threads are compatible with male NPT threads.

Note: Pressure ratings are given for static (constant) pressure conditions.

Zinc-plated steel plugs have fair corrosion resistance and high wear resistance.

Brass and **aluminum** plugs have good corrosion resistance and low wear resistance.

316 stainless steel plugs have excellent corrosion resistance and high wear resistance.

Warning: Never attempt to connect or disconnect couplings when operating at maximum pressure.

Plugs—Also known as nipples.

Dust Caps and Plugs—Made of black plastic, use these to keep contaminants out of your hose line. *Dust cap and plug sets* come with one plug and one cap.

Threaded Couplings

Coupling Size	(A)	(B)	Pipe Size, NPTF	Max. psi @ 72° F	Plugs: Male Pipe ♣		Plugs: Female Pipe		Sleeve-Lock Sockets: Male Pipe ♣		Sleeve-Lock Sockets: Female Pipe	
Zinc-Plated Steel												
1/4	7/16"	1/4"	1/8	6,500	5315K46	$11.29	5315K37	$10.13	5315K69	$18.87	5315K61	$14.35
1/4	7/16"	1/4"	1/4	6,500	5315K47	9.84	5315K38	9.13	5315K21	14.02	5315K12	13.29
3/8	1/2"	9/32"	3/8	4,500	5315K48	12.64	5315K39	11.71	5315K22	20.98	5315K13	18.11
1/2	5/8"	5/16"	1/2	4,000	5315K49	15.11	5315K41	13.84	5315K23	23.13	5315K14	22.02
3/4	15/16"	7/16"	3/4	3,500	5315K51	21.65	5315K42	20.35	5315K24	35.40	5315K15	34.09
1	1 3/16"	3/8"	1	2,000	5315K52	39.11	5315K43	32.51	5315K25	59.53	5315K16	52.96
Brass												
1/4	7/16"	1/4"	1/8	2,200	5316K46	36.81	5316K37	49.69	5316K69	43.31	5316K61	56.74
1/4	7/16"	1/4"	1/4	2,200	5316K47	12.37	5316K38	11.14	5316K21	18.10	5316K12	16.76
3/8	1/2"	9/32"	3/8	2,200	5316K48	17.19	5316K39	15.62	5316K22	23.44	5316K13	21.80
1/2	5/8"	5/16"	1/2	2,000	5316K49	22.91	5316K41	20.80	5316K23	34.24	5316K14	31.97
3/4	15/16"	7/16"	3/4	2,000	5316K51	31.68	5316K42	28.28	5316K24	53.22	5316K15	49.54
1	1 3/16"	3/8"	1	1,700	5316K52	61.71	5316K43	54.63	5316K25	94.18	5316K16	81.44
Aluminum												
1/4	7/16"	1/4"	1/4	2,200	5314T47	20.66	5314T38	18.93	5314T21	24.41	5314T12	22.38
3/8	1/2"	9/32"	3/8	2,200	5314T48	43.14	5314T39	42.21	5314T22	44.14	5314T13	48.47
1/2	5/8"	5/16"	1/2	1,700	—	—	5314T41	38.33	—	—	5314T14	64.16
1	1 3/16"	3/8"	1	1,500	—	—	—	—	—	—	5314T16	164.93
316 Stainless Steel												
1/4	7/16"	1/4"	1/4	5,000	5317K47	44.08	5317K38★	36.93	5317K21	60.11	5317K12★	52.94
3/8	1/2"	9/32"	3/8	4,000	5317K88	60.20	5317K89★	54.31	5317K22	81.97	5317K13★	76.06
1/2	5/8"	5/16"	1/2	3,750	5317K49	91.95	5317K41★	74.66	5317K23	122.10	5317K14★	104.76
3/4	15/16"	7/16"	3/4	2,000	5317K51	141.14	5317K42★	102.78	5317K24	188.36	5317K15★	150.03
1	1 3/16"	3/8"	1	2,000	5317K52	185.81	5317K43★	167.71	5317K25	249.32	5317K16★	231.24

♣ Male pipe threads are NPT. ★Threads are NPSF.

Barbed Hose Couplings





Coupling Size	(A)	(B)	For Hose ID	Max. psi @ 72° F	Plugs		Sleeve-Lock Sockets	
Zinc-Plated Steel								
1/4	7/16"	1/4"	1/4"	300	5315K56	$24.82	5315K29	$28.89
3/8	1/2"	9/32"	3/8"	300	5315K57	29.91	5315K31	34.20
1/2	5/8"	5/16"	1/2"	300	5315K58	70.27	5315K32	74.51
Brass								
1/4	7/16"	1/4"	1/4"	300	5316K56	27.94	5316K29	34.10
3/8	1/2"	9/32"	3/8"	300	5316K57	60.20	5316K31	63.66
1/2	5/8"	5/16"	1/2"	300	5316K58	40.65	5316K32	49.97
316 Stainless Steel								
1/4	7/16"	1/4"	1/4"	300	5317K56	64.10	5317K29	78.81

Dust Caps and Plugs





Coupling Size	Pkg. Qty.		Pkg.
Dust Cap and Plug Sets			
3/4	1	5248K38	$7.46
1	1	5248K39	10.74
Dust Caps for Hose Plugs			
1/4	5	5248K65	8.17
3/8	5	5248K66	8.17
Dust Plugs for Hose Sockets			
1/4	5	5248K75	8.17
3/8	5	5248K76	8.17

Warning: ***Flow should be stopped before disconnecting your hose line.***

International Standard (ISO A and B) Hose Couplings

- Max. Pressure: See below
- Temp. Range: -40° to 250° F (Zinc-Plated Steel, Brass, and 303 Stainless Steel); -4° to 195° F (Acetal Plastic)
- Hose: See material descriptions

All international standard ISO A plugs are compatible with any of the international standard ISO A sockets of the same coupling size, regardless of the pipe size. Couplings are double-shut-off style, so both the plug and the socket have a valve to stop the flow when your hose line is disconnected. Vacuum rating is 27″ Hg @ 72° F, except acetal plastic is 28″ Hg @ 72° F. NPTF (Dryseal) threads are compatible with NPT threads.

Note: Pressure ratings reflect static (constant) pressure conditions.

Zinc-plated steel has fair corrosion resistance and high wear resistance. Use hydraulic hose.

Brass has good corrosion resistance and low wear resistance. Use hydraulic hose.

303 stainless steel has very good corrosion resistance and high wear resistance. Use hydraulic hose.

Acetal plastic has excellent corrosion resistance and low wear resistance. It is made from FDA listed materials. Use with hydraulic and rubber hose. Color is white.

Plugs—Also known as nipples, all have a Buna-N rubber seal.

Sleeve-Lock Sockets—To connect, slide back the sleeve on the socket, insert the plug, and release the sleeve. To disconnect, slide back the sleeve and pull out the plug. Sockets made of zinc-plated steel and 303 stainless steel also have a PTFE backup ring.

ISO Series A

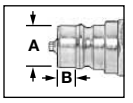

Compatible with all couplings that meet ISO 7241-1 series A, such as Parker 660 series and Aeroquip 5600 series.

Zinc-Plated Steel for Hydraulic Fluid




Coupling Size	(A)	(B)	Pipe Size, NPTF	Max. psi @ 72° F	Plugs, Female Pipe		Sleeve-Lock Sockets, Female Pipe	
1/4	7/16″	1/4″	1/8	5,000	51335K59	$9.60	51335K49	$24.20
1/4	7/16″	1/4″	1/4	5,000	51335K61	8.59	51335K51	22.38
3/8	11/16″	3/8″	3/8	4,000	51335K62	14.15	51335K52	28.66
1/2	13/16″	3/8″	1/2	4,000	51335K63	12.66	51335K53	29.08
3/4	1 1/8″	5/8″	3/4	4,000	51335K64	23.70	51335K54	51.74
1	1 3/8″	13/16″	1	4,000	51335K65	30.45	51335K55	64.47

ISO Series B

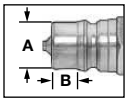

Compatible with all couplings that meet ISO 7241-1 series B, such as Parker 60 series.

Also Available: ISO Series B 316 stainless steel couplings with fluoroelastomer rubber seals. The maximum pressure is 27″ Hg @ 72° F; temperature range is -15° to 400° F. Please ask for 5247K68 and specify coupling size and plug or socket.

Zinc-Plated Steel for Hydraulic Fluid




Brass for Hydraulic Fluid




Coupling Size	(A)	(B)	Pipe Size, NPTF	Max. psi @ 72° F	Plugs, Female Pipe		Sleeve-Lock Sockets, Female Pipe		Max. psi @ 72° F	Plugs, Female Pipe		Sleeve-Lock Sockets, Female Pipe	
1/8	7/16″	5/16″	1/8	5,000	95825K75	$8.97	95825K79	$18.75	1,000	52495K58	$10.83	52495K38	$20.88
1/4	9/16″	3/8″	1/4	5,000	95825K86	8.90	95825K81	20.93	1,000	52495K61	9.90	52495K41	20.20
3/8	3/4″	1/2″	3/8	4,000	95825K87	13.72	95825K82	29.45	1,000	52495K63	12.62	52495K43	26.24
1/2	15/16″	1/2″	1/2	4,000	95825K88	16.10	95825K83	35.33	1,000	52495K65	19.90	52495K45	35.16
3/4	1 1/4″	3/4″	3/4	2,500	95825K89	20.77	95825K84	52.05	1,000	52495K67	28.00	52495K47	53.20
1	1 1/2″	13/16″	1	2,000	95825K91	29.88	95825K85	70.50	1,000	52495K69	40.80	52495K49	85.06

303 Stainless Steel for Hydraulic Fluid



Coupling Size	(A)	(B)	Pipe Size, NPTF	Max. psi @ 72° F	Plugs, Female Pipe		Sleeve-Lock Sockets, Female Pipe	
1/8	7/16″	5/16″	1/8	2,000	5247K28	$24.12	5247K18	$58.48
1/4	9/16″	3/8″	1/4	2,000	5247K31	18.70	5247K21	46.98
3/8	3/4″	1/2″	3/8	1,500	5247K32	29.89	5247K22	65.27
1/2	15/16″	1/2″	1/2	1,500	5247K33	43.75	5247K23	95.41
3/4	1 1/4″	3/4″	3/4	1,500	5247K34	73.00	5247K24	158.84
1	1 1/2″	13/16″	1	1,000	5247K35	134.59	5247K25	273.41

Acetal Plastic for Food and Beverage



Coupling Size	(A)	(B)	Pipe Size, NPT	Max. psi @ 72° F	Plugs, Female Pipe		Sleeve-Lock Sockets, Female Pipe	
1/4	5/8″	3/8″	1/4	220	5526T12	$32.08	5526T32	$109.10
1/2	1″	1/2″	1/2	220	5526T14	229.34	5526T34	159.94
3/4	1 1/4″	3/4″	3/4	145	5526T15	115.44	5526T35	187.94
1	1 9/16″	13/16″	1	145	5526T16	185.78	5526T36	265.12

Optional Dust Caps and Dust Plugs

Made from black rubber, use these dust caps on the zinc-plated steel, brass, and 303 stainless steel plugs above to keep contaminants out of your hose line.






Coupling Size	Dust Caps for ISO A Plugs		Dust Plugs for ISO A Sockets		Dust Caps for ISO B Plugs		Dust Plugs for ISO B Sockets	
1/8					51335K71	$1.81	51335K81	$1.89
1/4	51335K71	$1.81	51335K81	$1.89	95825K52	1.73	95825K62	1.72
3/8	51335K72★	2.83	51335K72★	2.83	95825K53	2.10	95825K63	1.87
1/2	51335K73	2.60			95825K54	2.06	95825K64	2.06
3/4	51335K74	4.99	51335K84	4.99	95825K55	4.96	95825K65	4.87
1	51335K79	6.58	51335K85	6.52	95825K56	5.49	95825K66	5.55

★Combination dust cap/plug.

Warning: Flow should be stopped before disconnecting your hose line.

Quick-Disconnect Hose Couplings

For information about selecting pipe size, see pages 2-3. For information about quick-disconnect couplings, see pg. 326.

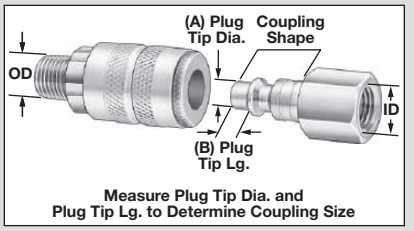

Measure Plug Tip Dia. and Plug Tip Lg. to Determine Coupling Size

Please Read Before Ordering: To determine the **shape** of your coupling, compare the end of your plug to the illustrations shown on page 326. You'll also find an illustration of the plug's shape in each presentation. **Coupling size** is an industry designation, not the actual measured size. To determine the actual size of your coupling, measure the ″A″ and ″B″ dimensions of the plug, as shown at left.

Pipe size also is an accepted industry designation, not the actual measured size. To determine pipe size, first use a ruler to measure the outside diameter (OD) or inside diameter (ID), as shown at left. Then, round up the measurement to the closest OD or ID listed in the chart and select the corresponding pipe size. For example, if the OD or ID measures 11/16″, the next highest OD is 3/4″ and the corresponding pipe size is 1/2.

Threaded OD or ID	1/2″	5/8″	3/4″	1″	1 5/8″
Pipe Size	1/4	3/8	1/2	3/4	1

Pioneer-Shape Hose Couplings for Hydraulic Fluid

- Maximum Pressure @ 72° F: 3,000 psi
- Temperature Range: -40° to 250° F
- Hose: Use high-pressure reinforced-rubber and hydraulic steel tubing

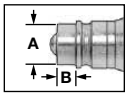

All Pioneer-shape plugs are compatible with any of the Pioneer-shape sockets of the same coupling size, regardless of the pipe size. Couplings are double-shut-off style, so both the plugs and the sockets have a valve that stops the flow when the coupling is separated. Plugs and sockets with a seal have a Buna-N rubber O-ring, which offers extra protection against leaks. Couplings are zinc-plated steel, which has fair corrosion resistance and high wear resistance. Vacuum rating is 27″ Hg @ 72° F. NPTF (Dryseal) threads are compatible with NPT threads.

Note: Pressure ratings are given for static (constant) pressure conditions.

Warning: Never attempt to connect or disconnect couplings when operating at maximum pressure.

Plugs

Also known as nipples, these plugs are compatible with Parker 4000 and 4200 series, as well as SafeWay S20 and S40 series.




Coupling Size	Coupling (A)	Coupling (B)	Pipe Size, NPTF	Female Pipe		Female Pipe with Seal	
1/4	9/16″	5/16″	1/4	5341K57	$6.79	5341K91	$7.39
3/8	3/4″	11/32″	3/8	5341K53	8.49	5341K92	9.34
1/2	13/16″	3/8″	1/2	5341K54	8.18	5341K93	9.10
1/2	13/16″	3/8″	3/4	5341K55	13.28	5341K94	13.94
1	1 7/32″	5/8″	1	———	———	5341K56	29.89

Push-to-Connect Sockets

Compatible with Parker 4200 series and SafeWay S40 series. To connect, push the plug into the socket until you hear a ″click″. To disconnect, slide the sleeve forward until the plug ejects.



Coupling Size	Coupling (A)	Coupling (B)	Pipe Size, NPTF	Female Pipe	
1/4	9/16″	5/16″	1/4	5341K61	$19.04
3/8	3/4″	11/32″	3/8	5341K47	20.00
1/2	13/16″	3/8″	1/2	5341K62	21.15
1/2	13/16″	3/8″	3/4	5341K49	27.15

Sleeve-Lock Sockets

Compatible with Parker 4000 series and SafeWay S20 series. To connect, slide back the sleeve on the socket, insert the plug, and release the sleeve. To disconnect, slide back the sleeve and pull out the plug.




Coupling Size	Coupling (A)	Coupling (B)	Pipe Size, NPTF	Female Pipe		Female Pipe with Seal	
1/4	9/16″	5/16″	1/4	5341K45	$15.52	5341K24	$16.37
3/8	3/4″	11/32″	3/8	5341K63	18.79	5341K25	19.76
1/2	13/16″	3/8″	1/2	5341K48	19.46	5341K26	19.76
1	1 7/32″	5/8″	1	———	———	5341K51	66.50

Optional Dust Caps for Plugs

Made from rubber, these caps keep contaminants out of your hose line. Color is black, unless noted.



Coupling Size		
1/4	5341K71	$3.14
3/8	5341K72	4.00
1/2	5341K73★	3.49
1	5341K75	8.49

★Available in your choice of colors. Please specify black, blue, green, red, or yellow.

Optional Dust Plugs for Sockets

Made from rubber, these plugs keep contaminants out of your hose line. Color is black, unless noted.



Coupling Size		
1/4	5341K81	$3.74
3/8	5341K96	4.23
1/2	5341K97★	3.46
1	5341K85	8.03

★Available in your choice of colors. Please specify black, blue, green, red, or yellow.

High-Pressure Thread-Lock Hose Couplings for Hydraulic Fluid

- Maximum Pressure @ 72° F: 10,000 psi
- Temperature Range: -40° to 250° F
- Hose: Use reinforced rubber

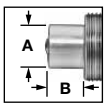

Plugs thread into socket sleeve, allowing you to connect and disconnect couplings while operating at maximum working pressure. They're double-shut-off style, so both the plug and the socket have a valve to stop the flow when your hose line is disconnected. They are zinc-plated steel, which has fair corrosion resistance and high wear resistance. They are compatible with Enerpac series and Parker 3000 series couplings. All high-pressure thread-lock plugs are compatible with any of the high-pressure thread-lock sockets of the same coupling size, regardless of the pipe size. Not rated for vacuum. NPTF (Dryseal) threads are compatible with NPT threads.

Plugs are also known as nipples.

Sockets have a Buna-N rubber seal. To connect, insert the plug into the socket, then slide the sleeve forward and thread it onto the plug. To disconnect, unthread the plug from the sleeve, then slide the sleeve back and pull out the plug.

Note: Pressure ratings reflect static (constant) pressure conditions.

Also Available: 316 stainless steel couplings with a 3/8 coupling size × 3/8 pipe connection. Please ask for 5622K1 and specify plug or socket.




Coupling Size	Coupling (A)	Coupling (B)	Pipe Size, NPTF	Plugs, Female Pipe		Sockets, Male Pipe	
1/4	5/8″	7/16″	1/4	53455K36	$11.06	53455K24	$16.03
3/8	3/4″	5/8″	3/8	53455K55	11.89	53455K28	17.77

Warning: Flow should be stopped before disconnecting your line.

How to Order Cam-and-Groove Hose Couplings

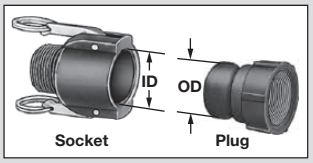

1. **Determine the coupling size.** Coupling size is an industry designation, not the actual measured size. To determine coupling size, measure the inside diameter (ID) of the socket or outside diameter (OD) of the plug, as shown at left. Match the actual size to the coupling size listed in the chart below. For example, if the actual size measures 3⅝", the coupling size is 3.

Actual ID or OD	15/16"	1¼"	1 7/16"	1 13/16"	2⅛"	2½"	3"	3⅝"	4¾"	5¾"	6 15/16"
Coupling Size	½	¾	1	1¼	1½	2	2½	3	4	5	6



2. **Determine the pipe size.** Pipe size is also an industry designation, not the actual measured size. To determine pipe size, first use a ruler to measure the outside diameter (OD), as shown at left. Then, round up the measurement to the closest OD listed in the chart and select the corresponding pipe size. For example, if the OD measures 1 3/16", the next highest OD is 1⅜" and the corresponding pipe size is 1.

Threaded OD	¾"	1"	1⅜"	1⅝"	1⅞"	2⅜"	2⅞"	3½"	4½"	5⅝"	6⅝"
Pipe Size	½	¾	1	1¼	1½	2	2½	3	4	5	6

Metal Cam-and-Groove Hose Couplings

- Maximum Pressure: See below
- Temperature Range: -65° to 250° F
- Hose: Use polyethylene, polyurethane, PVC, and rubber

Metal cam-and-groove couplings are stronger and more durable than the plastic versions. They provide quick access to medium- and large-diameter hose lines. All couplings meet Fed. Spec. A-A-59326. They're compatible with PT Coupling, Dixon, Andrews, and Ever-Tite cam-and-groove couplings.

Sockets must be used with a plug of the same coupling size; see pages 343-345 for plugs. To connect, insert the plug into the socket and press the levers down. The levers fit snugly into the groove on the plug's body and force the plug down against the gasket to form a tight seal. To disconnect, lift both levers and pull out the plug.

Material	Features	Applications
Aluminum	Good abrasion resistance. Fair corrosion and chemical resistance. Lightweight.	Use with diesel fuel, ethylene glycol, gasoline, hydraulic fluid, and petroleum.
Anodized Aluminum	Lightweight with good abrasion and corrosion resistance.	Use with water.
Brass	Good corrosion resistance. Fair abrasion resistance.	Use with water.
316 Stainless Steel	Excellent abrasion, corrosion, and chemical resistance.	Use with citric acid, diesel fuel, ethylene glycol, gasoline, hydraulic fluid, and petroleum.

Sockets with Threaded Male Pipe Connection

Also known as B-couplers, these sockets have a Buna-N rubber seal and zinc-plated steel pull rings, except 316 stainless steel sockets have 304 stainless steel pull rings. Sockets **with locking levers** prevent accidental disconnection.


With Nonlocking Levers

Coupling Size	Pipe Size, NPT	Max. psi @ 72° F	Aluminum with Brass Levers		Aluminum with 316 Stainless Steel Levers		Anodized Aluminum with 316 Stainless Steel Levers		Brass with Brass Levers		316 Stainless Steel with 316 Stainless Steel Levers	
With Nonlocking Levers												
½	½	250	51415K108	$12.10	2005T91	$12.59			52155K108	$21.78	53015K108	$40.13
¾	¾	250	51415K11	12.81	2005T11	16.51	2084T11	$17.00	52155K11	27.29	53015K11	42.90
1	1	250	51415K12	14.23	2005T12	15.36	2084T12	17.01	52155K12	31.36	53015K12	47.75
1¼	1¼	250	51415K13	18.20	2005T13	19.67	2084T13	24.13	52155K13	42.52	53015K13	55.19
1½	1	250	95805K22	42.62	2005T131	42.63	2084T131	53.29	52155K131	94.57		
1½	1½	250	51415K14	17.63	2005T14	19.04	2084T14	26.72	52155K14	49.66	53015K14	61.51
2	1½	250	95805K23	46.02	2005T132	46.48	2084T132	55.19	52155K161	113.43	6795K132	155.05
2	2	250	51415K15	19.87	2005T15	21.45	2084T15	31.07	52155K15	53.51	53015K15	69.35
2½	2½	200	51415K16	27.64	2005T16	29.85	2084T16	41.71	52155K16	66.27	53015K16	112.90
3	2	200	95805K63	44.67	2005T133	58.81	2084T133	71.39	52155K171	130.80	6795K63	260.38
3	3	200	51415K17	34.04	2005T17	36.77	2084T17	49.31	52155K17	104.59	53015K17	130.93
4	3	150	95805K62	73.96	2005T134	86.16	2084T134	107.71	52155K181	209.69		
4	4	150	51415K18	52.47	2005T18	56.65	2084T18	76.84	52155K18	142.47	53015K18	186.49
5	5	75	51415K109	86.26	2005T1	93.16			52155K109	251.43	53015K109	258.39
6	6	75	51415K19	121.80	2005T19	131.54	2084T19	170.95	52155K19	305.70	53015K19	318.90
With Locking Levers												
1	1	250	51415K432	26.52	2005T92	28.65	2084T92	51.55	52155K432	55.81	53015K132	68.01
1¼	1¼	250	51415K433	39.80	2005T93	42.94	2084T93	37.82	52155K433	79.85	53015K133	80.86
1½	1½	250	51415K434	37.47	2005T94	40.47	2084T94	40.06	52155K434	80.61	53015K134	86.63
2	2	250	51415K435	39.09	2005T95	42.21	2084T95	62.90	52155K435	90.08	53015K135	99.86
2½	2½	200	51415K436	49.24	2005T96	53.18	2084T96	53.69	52155K436	104.95	53015K136	134.22
3	3	200	51415K437	59.35	2005T97	64.10	2084T97	78.92	52155K437	144.10	53015K137	175.69
4	4	150	51415K438	77.04	2005T98	83.21	2084T98	106.44	52155K438	193.99	53015K138	228.04
5	5	75	51415K439	111.84	2005T99	120.79			52155K439	288.68	53015K139	305.95

(Continued on following page)

Warning: *It is important to relieve all pressure before disconnecting the couplings. Do not use cam-and-groove couplings with compressed air or gas.*

Metal Cam-and-Groove Hose Couplings

For information about pipe size, see pages 2-3. For information about cam-and-groove couplings, see pg. 339.

How to Order Cam-and-Groove Hose Couplings

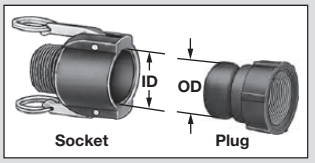

1. Determine the coupling size. Coupling size is an industry designation, not the actual measured size. To determine coupling size, measure the inside diameter (ID) of the socket or outside diameter (OD) of the plug, as shown at left. Match the actual size to the coupling size listed in the chart below. For example, if the actual size measures 3⅝″, the coupling size is 3.

Actual ID or OD	15/16″	1¼″	1 7/16″	1 13/16″	2⅛″	2½″	3″	3⅝″	4¾″	5¾″	6 15/16″
Coupling Size	½	¾	1	1¼	1½	2	2½	3	4	5	6

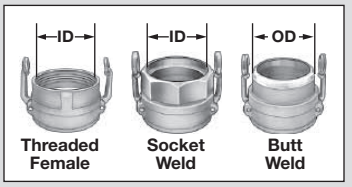

2. For all couplings (except those with a barbed end), determine the pipe size. Pipe size is also an industry designation, not the actual measured size. To determine pipe size, first use a ruler to measure the inside diameter (ID) or outside diameter (OD), as shown at left. For **threaded** couplings, round up the measurement to the closest ID or OD listed in the chart and select the corresponding pipe size. For example, if the ID or OD measures 1 3/16″, the next highest ID or OD is 1⅜″ and the corresponding pipe size is 1. For **unthreaded** couplings, take the actual measurement and select the corresponding pipe size.

Threaded ID or OD	¾″	1″	1⅜″	1⅝″	1 7/8″	2⅜″	2 7/8″	3½″	4½″	5⅝″	6⅝″
Unthreaded ID or OD	—	—	—	—	1.90″	2.375″	—	3.50″	4.50″	—	6.625″
Pipe Size	½	¾	1	1¼	1½	2	2½	3	4	5	6

Metal Cam-and-Groove Hose Couplings *(Continued from previous page)*

- Maximum Pressure: See below
- Temperature Range: -65° to 250° F
- Hose: Use polyethylene, polyurethane, PVC, and rubber

All sockets have a Buna-N rubber seal and zinc-plated steel pull rings, except the 316 stainless steel sockets have 304 stainless steel pull rings. For plugs, see pages 343-345; for replacement gaskets, see page 346.

Sockets with Threaded Female Pipe Connection



Also known as D couplers. Sockets **with locking levers** prevent accidental disconnection.

Coupling Size	Pipe Size, NPT	Max. psi @ 72° F	Aluminum with Brass Levers		Aluminum with 316 Stainless Steel Levers		Anodized Aluminum with 316 Stainless Steel Levers		Brass with Brass Levers		316 Stainless Steel with 316 Stainless Steel Levers	
With Nonlocking Levers												
½	½	250	51415K208	$13.16	2005T43	$17.04	2084T208	$20.13	52155K208	$27.89	53015K208	$41.13
¾	¾	250	51415K21	13.84	2005T21	14.95	2084T21	17.71	52155K21	31.27	53015K21	44.48
1	1	250	51415K22	13.49	2005T22	14.56	2084T22	18.42	52155K22	34.76	53015K22	46.59
1¼	1¼	250	51415K23	16.81	2005T23	18.14	2084T23	22.94	52155K23	40.85	53015K23	58.59
1½	1	250	95805K28	43.98	2005T141	44.06	2084T141	55.01	52155K141	97.05	6795K141	145.80
1½	1½	250	51415K24	18.59	2005T24	20.08	2084T24	24.89	52155K24	47.38	53015K24	63.30
2	1½	250	95805K29	43.02	2005T142	43.05	2084T142	53.79	52155K142	94.94	6795K142	135.00
2	2	250	51415K25	19.87	2005T25	21.45	2084T25	31.07	52155K25	57.70	53015K25	68.15
2½	2½	200	51415K26	27.81	2005T26	30.04	2084T26	40.54	52155K26	70.50	53015K26	113.76
3	2	200	95805K64	51.38	2005T143	59.98	2084T143	79.82	52155K143	167.80	6795K64	211.28
3	3	200	51415K27	32.12	2005T27	34.68	2084T27	48.67	52155K27	102.31	53015K27	133.04
4	3	150	95805K65	75.59	2005T144	86.51	2084T144	105.84	52155K144	240.27	6795K65	347.76
4	4	150	51415K28	49.33	2005T28	53.29	2084T28	76.19	52155K28	165.25	53015K28	179.24
5	5	75	51415K209	87.37	2005T44	94.36	2084T209	125.11	52155K209	259.43	53015K209	272.34
6	6	75	51415K29	115.36	2005T29	124.58	2084T29	159.75	52155K29	334.28	53015K29	345.46
With Locking Levers												
1	1	250	51415K442	26.32	2005T51	28.43	2084T172	53.19	52155K442	55.38	53015K172	66.67
1¼	1¼	250	51415K443	38.34	2005T52	41.42	2084T173	37.94	52155K443	78.08	53015K173	81.12
1½	1½	250	51415K444	38.37	2005T53	41.43	2084T174	48.50	52155K444	79.49	53015K174	88.69
2	2	250	51415K445	39.62	2005T54	42.79	2084T175	62.89	52155K445	88.80	53015K175	98.65
2½	2½	200	51415K446	49.38	2005T55	53.33	2084T176	64.22	52155K446	109.30	53015K176	138.09
3	3	200	51415K447	58.53	2005T56	63.21	2084T177	78.23	52155K447	139.26	53015K177	178.13
4	4	150	51415K448	75.53	2005T57	81.57	2084T178	105.77	52155K448	197.70	53015K178	218.71
5	5	75	51415K449	112.97	2005T58	122.01	2084T179	133.77	52155K449	268.03	53015K179	312.96

90° Elbow Sockets with Threaded Female Pipe Connection



Also known as LD couplers.

Coupling Size	Pipe Size, NPT	Max. psi @ 72° F	Aluminum with Brass Levers		Aluminum with 316 Stainless Steel Levers		Anodized Aluminum with 316 Stainless Steel Levers		Brass with Brass Levers		316 Stainless Steel with 316 Stainless Steel Levers	
With Nonlocking Levers												
1	1	250	95805K15	$29.37	2005T312	$33.34	2084T712	$36.77	52155K97	$59.33	6795K15	$234.44
1½	1½	250	95805K16	35.28	2005T313	36.88	2084T713	57.32	52155K98	76.88	6795K16	205.83
2	2	250	95805K17	39.55	2005T314	49.10	2084T714	63.68	52155K99	134.93	6795K17	310.04
3	3	200	95805K81	60.82	2005T315	65.69	2084T715	82.10	52155K911	217.59	6795K81	375.13
4	4	150	95805K82	93.93	2005T316	101.44	2084T716	129.33	52155K912	281.20	6795K82	408.75

(Continued on following page)

Warning: *It is important to relieve all pressure before disconnecting the couplings. Do not use cam-and-groove couplings with compressed air or gas.*

For information about pipe size, see pages 2-3. For information about cam-and-groove couplings, see pg. 339.

Metal Cam-and-Groove Hose Couplings *(Continued from previous page)*

Sockets with Barbed Hose Connection

Also known as C couplers. Sockets **with locking levers** prevent accidental disconnection. Secure hose to the barbed end with low-profile band clamps (see page 311).



Coupling Size	For Hose ID	Max. psi @ 72°F	Aluminum with Brass Levers		Aluminum with 316 Stainless Steel Levers		Anodized Aluminum with 316 Stainless Steel Levers		Brass with Brass Levers		316 Stainless Steel with 316 Stainless Steel Levers	
With Nonlocking Levers												
½	½″	250	51415K308	$11.91	2005T41	$12.86	2084T308	$18.75	52155K308	$28.31	53015K308	$41.94
¾	¾″	250	51415K31	12.83	2005T31	13.85	2084T31	20.36	52155K31	32.86	53015K31	41.94
1	¾″	250	95805K24	38.10	____	____	____	____	____	____	____	____
1	1″	250	51415K32	12.99	2005T32	16.93	2084T32	19.55	52155K32	36.52	53015K32	46.18
1¼	1¼″	250	51415K33	17.43	2005T33	18.83	2084T33	24.49	52155K33	43.47	53015K33	58.16
1½	1″	250	95805K25	42.67	2005T135	66.80	2084T135	87.72	52155K235	71.50	____	____
1½	1½″	250	51415K34	17.90	2005T34	19.33	2084T34	23.32	52155K34	49.34	53015K34	53.49
2	1½″	250	95805K26	43.98	2005T136	43.99	2084T136	54.94	52155K236	115.98	6795K136	152.45
2	2″	250	51415K35	19.18	2005T35	20.71	2084T35	27.70	52155K35	60.44	53015K35	63.27
2½	2½″	200	51415K36	27.37	2005T36	29.56	2084T36	40.71	52155K36	80.20	53015K36	102.63
3	2″	200	95805K67	43.31	2005T137	49.49	2084T137	79.82	52155K237	166.06	6795K67	241.76
3	3″	200	51415K37	32.08	2005T37	34.65	2084T37	47.68	52155K37	99.34	53015K37	119.75
4	3″	150	95805K66	63.20	2005T138	70.19	2084T138	87.67	52155K238	256.47	6795K66	268.88
4	4″	150	51415K38	46.64	2005T38	50.37	2084T38	71.01	52155K38	159.87	53015K38	180.12
5	5″	75	51415K309	81.60	2005T42	88.13	2084T309	120.69	52155K309	253.07	53015K309	263.54
6	6″	75	51415K39	120.33	2005T39	129.96	2084T39	160.30	52155K39	315.85	53015K39	283.98
With Locking Levers												
1	1″	250	51415K452	25.90	2005T2	27.96	2084T2	33.88	52155K452	57.45	53015K162	64.56
1¼	1¼″	250	51415K453	38.97	2005T3	42.09	2084T3	53.91	52155K453	80.80	53015K163	79.32
1½	1½″	250	51415K454	37.54	2005T4	40.54	2084T4	53.96	52155K454	81.32	53015K164	78.23
2	2″	250	51415K455	39.67	2005T5	42.85	2084T5	49.95	52155K455	91.52	53015K165	92.90
2½	2½″	200	51415K456	48.95	2005T6	52.88	2084T6	61.70	52155K456	119.59	53015K166	125.46
3	3″	200	51415K457	57.58	2005T7	62.19	2084T7	88.72	52155K457	136.83	53015K167	162.84
4	4″	150	51415K458	72.85	2005T8	78.68	2084T8	86.38	52155K458	199.74	53015K168	219.70
5	5″	75	51415K459	107.24	2005T9	115.81	2084T9	165.57	52155K459	274.88	53015K169	292.98

90° Elbow Sockets with Barbed Hose Connection

Also known as CL couplers. Secure hose to the barbed end with low-profile band clamps (see page 311).



Coupling Size	For Hose ID	Max. psi @ 72°F	Aluminum with Brass Levers		Aluminum with 316 Stainless Steel Levers		Anodized Aluminum with 316 Stainless Steel Levers		Brass with Brass Levers		316 Stainless Steel with 316 Stainless Steel Levers	
With Nonlocking Levers												
1	1″	250	95805K12	$31.36	2005T112	$31.37	2084T912	$39.27	52155K92	$64.17	6795K12	$191.84
1½	1½″	250	95805K13	31.68	2005T113	34.23	2084T913	42.76	52155K93	77.16	6795K13	255.80
2	2″	250	95805K83	39.54	2005T114	42.71	2084T914	54.11	52155K94	96.63	6795K83	234.14
3	3″	200	95805K84	61.75	2005T115	66.69	2084T915	83.34	52155K95	190.77	6795K84	389.98
4	4″	150	95805K85	103.24	2005T116	116.35	2084T916	137.57	52155K96	252.30	6795K85	478.20

Sockets with Socket-Weld Connection

Also known as DWS couplers, these have an unthreaded socket-weld end that slips over the metal fitting on your hose for a strong welded connection.



Coupling Size	Pipe Size	Max. psi @ 72°F	Aluminum with Brass Levers		316 Stainless Steel with 316 Stainless Steel Levers	
With Nonlocking Levers						
1½	1½	250	____	____	53015K357	$88.04
2	2	250	51415K354	$38.49	53015K354	88.62
3	3	200	51415K355	52.14	53015K355	158.73
4	4	150	51415K356	62.09	53015K356	206.98
6	6	75	51415K357	158.94	____	____

Sockets with Butt-Weld Connection

Also known as DWB couplers. The unthreaded beveled end forms a trough for a strong welded bond when connected to a hose that also has a butt-weld connection.

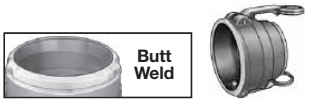

Coupling Size	Pipe Size	Max. psi @ 72°F	Aluminum with Brass Levers		316 Stainless Steel with 316 Stainless Steel Levers	
With Nonlocking Levers						
1½	1½	250	____	____	53015K344	$89.58
2	2	250	51415K345	$39.44	53015K345	88.62
3	3	200	51415K346	52.14	53015K346	158.73
4	4	150	51415K347	62.09	53015K347	206.98

(Continued on following page)

Warning: *It is important to relieve all pressure before disconnecting the couplings. Do not use cam-and-groove couplings with compressed air or gas.*

Metal Cam-and-Groove Hose Couplings

For information about pipe size, see pages 2-3. For information about cam-and-groove couplings, see pg. 339.

How to Order Cam-and-Groove Hose Couplings

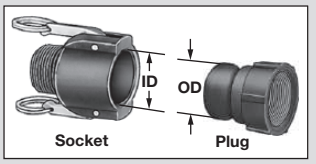

1. **Determine the coupling size.** Coupling size is an industry designation, not the actual measured size. To determine coupling size, measure the inside diameter (ID) of the socket or outside diameter (OD) of the plug, as shown at left. Match the actual size to the coupling size listed in the chart below. For example, if the actual size measures 3⅝", the coupling size is 3.

Actual ID or OD	15/16"	1¼"	17/16"	1 13/16"	2⅛"	2½"	3"	3⅝"	4¾"	5¾"	6 15/16"
Coupling Size	½	¾	1	1¼	1½	2	2½	3	4	5	6

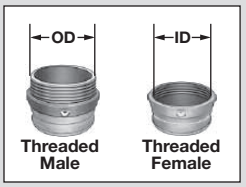

2. **Determine the pipe size.** Pipe size is also an industry designation, not the actual measured size. To determine pipe size, first use a ruler to measure the outside diameter (OD) or inside diameter (ID), as shown at left. For **threaded** couplings, round up the measurement to the closest OD or ID listed in the chart and select the corresponding pipe size. For example, if the OD or ID measures 1 3/16", the next highest OD or ID is 1⅜" and the corresponding pipe size is 1. For **unthreaded** couplings, take the actual measurement and select the corresponding pipe size.

Threaded OD or ID	¾"	1"	1⅜"	1⅝"	1⅞"	2⅜"	2⅞"	3½"	4½"	5⅝"	6⅝"
Unthreaded ID	—	—	—	—	—	2.375"	—	3.50"	4.50"	—	6.625"
Pipe Size	½	¾	1	1¼	1½	2	2½	3	4	5	6

Metal Cam-and-Groove Hose Couplings *(Continued from previous page)*

- Maximum Pressure: See below
- Temperature Range: -65° to 250° F
- Hose: Use polyethylene, polyurethane, PVC, and rubber

All **sockets** and **caps** have a Buna-N rubber seal and zinc-plated steel pull rings, except 316 stainless steel sockets have 304 stainless steel pull rings. For more sockets, see pages 339-341. For replacement gaskets, see page 346.

Sockets with Flanged Connection

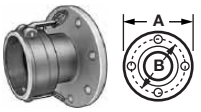

Also known as PFC couplers, these have an unthreaded flanged end that bolts to a flanged connection of the same size for easy access to your line. **Aluminum** flanges have a flat face. **316 stainless steel** flanges have a raised face.

Coupling Size	Pipe Size	Flange OD (A)	Bolt Circle Dia. (B)	No. of Bolt Holes	Recom'd Bolt Size	Max. psi @ 72° F	Aluminum with Brass Levers		316 Stainless Steel with 316 Stainless Steel Levers	
With Nonlocking Levers										
2	2	6"	4¾"	4	⅝"	250	51415K335	$87.85	53015K335	$276.84
3	3	7½"	6"	4	⅝"	200	51415K336	123.25	53015K336	351.24
4	4	9"	7½"	8	⅝"	150	51415K337	169.71	53015K337	528.21
6	6	11"	9½"	8	¾"	75	51415K338	274.02	53015K338	817.54

Socket Caps



Block the flow in your hose line. Socket caps **with locking levers** prevent accidental disconnection.

Coupling Size	Max. psi @ 72° F	Aluminum with 316 Stainless Steel Levers		Aluminum with Brass Levers		Anodized Aluminum with 316 Stainless Steel Levers		Brass with Brass Levers		316 Stainless Steel with 316 Stainless Steel Levers	
With Nonlocking Levers											
½	250	2005T45	$11.00	51415K808	$10.18	2084T808	$15.42	52155K808	$21.56	53015K808	$39.14
¾	250	2005T81	16.65	51415K81	12.26	2084T81	15.89	52155K81	28.98	53015K81	36.90
1	250	2005T82	15.36	51415K82	14.23	2084T82	18.76	52155K82	36.29	53015K82	41.69
1¼	250	2005T83	17.70	51415K83	16.38	2084T83	21.11	52155K83	36.52	53015K83	43.07
1½	250	2005T84	18.36	51415K84	17.00	2084T84	21.92	52155K84	43.36	53015K84	51.57
2	250	2005T85	17.31	51415K85	16.04	2084T85	22.33	52155K85	48.12	53015K85	60.81
2½	200	2005T86	23.69	51415K86	21.95	2084T86	33.65	52155K86	46.79	53015K86	83.80
3	200	2005T87	25.84	51415K87	23.92	2084T87	34.79	52155K87	69.58	53015K87	77.50
4	150	2005T88	36.29	51415K88	33.59	2084T88	54.06	52155K88	99.15	53015K88	115.39
5	75	2005T46	60.93	51415K809	56.42	2084T809	80.42	52155K809	208.85	53015K809	188.17
6	75	2005T89	90.45	51415K89	83.75	2084T89	123.48	52155K89	252.04	53015K89	285.61
With Locking Levers											
1	250	2005T61	29.13	51415K462	26.97	2084T182	49.59	52155K462	57.18	53015K182	59.07
1¼	250	2005T62	40.96	51415K463	37.93	2084T183	52.38	52155K463	73.54	53015K183	74.41
1½	250	2005T63	39.92	51415K464	36.96	2084T184	45.64	52155K464	75.37	53015K184	76.03
2	250	2005T64	39.08	51415K465	36.18	2084T185	45.94	52155K465	80.40	53015K185	90.20
2½	200	2005T65	46.93	51415K466	43.46	2084T186	55.46	52155K466	84.36	53015K186	102.72
3	200	2005T66	53.63	51415K467	49.65	2084T187	64.38	52155K467	110.03	53015K187	114.37
4	150	2005T67	64.87	51415K468	60.06	2084T188	83.97	52155K468	143.90	53015K188	145.37
5	75	2005T68	89.11	51415K469	82.50	2084T189	144.85	52155K469	223.35	53015K189	201.39

(Continued on following page)

Warning: *It is important to relieve all pressure before disconnecting the couplings. Do not use cam-and-groove couplings with compressed air or has.*

Metal Cam-and-Groove Hose Couplings *(Continued from previous page)*

Socket-to-Socket Connection

Also known as C×C couplers.



Coupling Size	Max. psi @ 72° F	Aluminum with Brass Levers		Aluminum with 316 Stainless Steel Levers		Anodized Aluminum with 316 Stainless Steel Levers		Brass with Brass Levers		316 Stainless Steel with 316 Stainless Steel Levers	
With Nonlocking Levers											
1×1	250	51415K912	$35.38	2005T412	$38.21	2084T812	$58.79	52155K914	$88.19	6795K22	$79.52
1½×1½	250	51415K91	43.52	2005T413	47.00	2084T813	62.07	52155K915	95.56	6795K23	144.37
2×2	250	51415K92	46.48	2005T414	49.74	2084T814	66.27	52155K916	125.22	6795K24	180.31
3×2	200	51415K221	79.57	2005T321	79.33	2084T161	98.49	52155K191	221.00	6795K191	237.97
3×3	200	51415K93	51.91	2005T415	56.06	2084T815	74.05	52155K917	170.61	6795K25	249.77
4×3	150	51415K222	82.60	2005T322	80.89	2084T162	106.17	52155K192	240.38	6795K192	354.68
4×4	150	51415K94	81.26	2005T416	87.77	2084T816	106.47	52155K918	259.80	6795K26	348.40

Plugs with Threaded Male Pipe Connection

Also known as F adapters.



Coupling Size	Pipe Size, NPT	Max. psi @ 72° F	Aluminum		Anodized Aluminum		Brass		316 Stainless Steel	
½	½	250	51415K408	$5.11	2084T408	$11.84	52155K408	$12.70	53015K408	$31.77
¾	¾	250	51415K41	6.46	2084T41	10.68	52155K41	14.83	53015K41	32.28
¾	1	250	95805K111	30.17						
1	1	250	51415K42	7.39	2084T42	12.45	52155K42	14.83	53015K42	36.21
1	1½	250	95805K121	36.51	2084T151	49.27	52155K151	52.63		
1¼	1¼	250	51415K43	10.20	2084T43	13.90	52155K43	19.49	53015K43	48.56
1½	1½	250	51415K44	10.20	2084T44	17.21	52155K44	29.16	53015K44	46.54
1½	2	250	95805K56	27.83	2084T152	39.85	52155K152	67.28	6795K56	86.41
2	1½	250	95805K57	29.86	2084T153	46.70	52155K153	76.77	6795K57	88.82
2	2	250	51415K45	12.72	2084T45	20.56	52155K45	29.80	53015K45	50.77
2	3	250	95805K58	40.01	2084T154	58.34	52155K154	137.06	6795K58	151.16
2½	2½	200	51415K46	22.45	2084T46	31.90	52155K46	63.93	53015K46	98.38
3	2	200	95805K59	40.65	2084T155	57.74	52155K155	113.77	6795K59	131.13
3	3	200	51415K47	24.73	2084T47	36.49	52155K47	72.54	53015K47	100.66
3	4	200	95805K61	51.73	2084T156	78.20	52155K156	155.03	6795K61	157.23
4	3	150	95805K42	57.05	2084T157	106.37	52155K157	195.22	6795K157	234.10
4	4	150	51415K48	45.19	2084T48	70.75	52155K48	133.43	53015K48	161.01
5	5	75	51415K409	82.01	2084T409	153.67	52155K409	229.14	53015K409	228.91
6	6	75	51415K49	100.45	2084T49	138.17	52155K49	300.57	53015K49	280.86

Plugs with Threaded Female Pipe Connection

Also known as A adapters.



Coupling Size	Pipe Size, NPT	Max. psi @ 72° F	Aluminum		Anodized Aluminum		Brass		316 Stainless Steel	
½	½	250	51415K508	$4.78	2084T508	$7.78	52155K508	$10.66	53015K508	$31.77
¾	¾	250	51415K51	5.04	2084T51	9.13	52155K51	12.17	53015K51	27.16
1	1	250	51415K52	5.98	2084T52	9.48	52155K52	13.33	53015K52	28.41
1¼	1¼	250	51415K53	8.66	2084T53	13.65	52155K53	15.68	53015K53	35.78
1½	1½	250	51415K54	8.17	2084T54	13.20	52155K54	18.09	53015K54	34.21
1½	2	250	95805K51	27.83	2084T121	39.85	52155K121	65.62	6795K51	136.54
2	1½	250	95805K52	27.83	2084T122	39.84	52155K122	67.83	6795K52	136.54
2	2	250	51415K55	9.86	2084T55	15.42	52155K55	25.18	53015K55	34.96
2	3	250	95805K53	37.94	2084T123	63.46	52155K158	121.77	6795K53	141.87
2½	2½	200	51415K56	15.71	2084T56	25.14	52155K56	41.77	53015K56	72.70
3	2	200	95805K54	30.79	2084T124	52.15	52155K159	111.50	6795K54	135.55
3	3	200	51415K57	18.22	2084T57	27.54	52155K57	53.51	53015K57	68.26
3	4	200	95805K41	35.12					6795K89	173.35
4	3	150	95805K55	46.84	2084T126	68.98	52155K126	165.00	6795K55	311.30
4	4	150	51415K58	41.30	2084T58	60.16	52155K58	125.00	53015K58	127.42
5	5	75	51415K509	69.57	2084T509	105.09	52155K509	194.41	53015K509	201.94
6	6	75	51415K59	82.49	2084T59	123.44	52155K59	248.02	53015K59	221.54

(Continued on following page)

Warning: *It is important to relieve all pressure before disconnecting the couplings. Do not use cam-and-groove couplings with compressed air or gas.*

Metal Cam-and-Groove Hose Couplings

For information about pipe size, see pages 2-3. For information about cam-and-groove couplings, see pg. 339.

How to Order Cam-and-Groove Hose Couplings

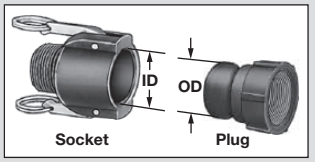

1. Determine the coupling size. Coupling size is an industry designation, not the actual measured size. To determine coupling size, measure the inside diameter (ID) of the socket or outside diameter (OD) of the plug, as shown at left. Match the actual size to the coupling size listed in the chart below. For example, if the actual size measures 3⅝″, the coupling size is 3.

Actual ID or OD	15/16″	1¼″	1 7/16″	1 13/16″	2⅛″	2½″	3″	3⅝″	4¾″	5¾″	6 15/16″
Coupling Size	½	¾	1	1¼	1½	2	2½	3	4	5	6

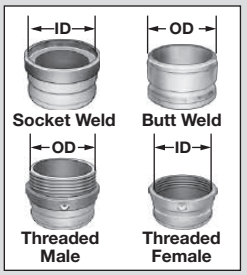

2. For all couplings (except those with a barbed end), determine the pipe size. Pipe size is also an industry designation, not the actual measured size. To determine pipe size, first use a ruler to measure the inside diameter (ID) or outside diameter (OD), as shown at left. For **threaded** couplings, round up the measurement to the closest ID or OD listed in the chart and select the corresponding pipe size. For example, if the ID or OD measures 1 3/16″, the next highest ID or OD is 1⅜″ and the corresponding pipe size is 1. For **unthreaded** couplings, take the actual measurement and select the corresponding pipe size.

Threaded ID or OD	1″	1⅜″	1⅞″	2⅜″	3½″	4½″	6⅝″
Unthreaded ID or OD	—	—	1.90″	2.375″	3.50″	4.50″	6.625″
Pipe Size	¾	1	1½	2	3	4	6

Metal Cam-and-Groove Hose Couplings *(Continued from previous page)*

- Maximum Pressure: See below
- Temperature Range: -65° to 250°F, unless noted.
- Hose: Use polyethylene, polyurethane, PVC, and rubber

All sockets have a Buna-N rubber seal and zinc-plated steel pull rings, except 316 stainless steel sockets have 304 stainless steel pull rings. For sockets, see pages 339-343; for replacement gaskets, see page 346.

Plugs with Barbed Connection Hose



Also known as E adapters. Secure hose to the barbed end with low-profile band clamps (see page 311).

Coupling Size	For Hose ID	Max. psi @ 72°F	Aluminum		Anodized Aluminum		Brass		316 Stainless Steel	
½	½″	250	51415K608	$7.45	2084T608	$12.03	52155K608	$17.09	53015K608	$30.14
¾	¾″	250	51415K61	7.45	2084T61	12.10	52155K61	18.20	53015K61	28.67
1	¾″	250	95805K33	33.42	—	—	—	—	—	—
1	1″	250	51415K62	7.76	2084T62	12.34	52155K62	19.11	53015K62	31.00
1¼	1¼″	250	51415K63	9.34	2084T63	15.06	52155K63	23.60	53015K63	39.77
1½	1″	250	95805K34	42.43	—	—	—	—	—	—
1½	1½″	250	51415K64	9.54	2084T64	16.18	52155K64	31.36	53015K64	38.66
2	1½″	250	95805K36	33.68	2084T145	42.09	52155K145	82.23	—	—
2	2″	250	51415K65	11.91	2084T65	18.93	52155K65	33.67	53015K65	37.28
2½	2½″	200	51415K66	18.38	2084T66	33.14	52155K66	44.16	53015K66	78.45
3	2″	200	95805K68	39.63	2084T146	63.59	52155K146	176.43	—	—
3	3″	200	51415K67	22.04	2084T67	35.80	52155K67	72.61	53015K67	71.32
4	3″	150	95805K69	56.66	2084T147	82.52	52155K147	191.07	6795K147	359.65
4	4″	150	51415K68	44.70	2084T68	68.95	52155K68	145.25	53015K68	164.12
5	5″	75	51415K609	71.73	2084T609	102.46	52155K609	218.41	53015K609	237.10
6	6″	75	51415K69	89.50	2084T69	123.63	52155K69	277.91	53015K69	285.36

Plugs with Socket Connection



Also known as A×C couplers.

Coupling Size Plug	Socket	Max. psi @ 72°F	Aluminum with Brass Levers		Aluminum with 316 Stainless Steel Levers		Anodized Aluminum with 316 Stainless Steel Levers		Brass with Brass Levers		316 Stainless Steel with 316 Stainless Steel Levers	
With Nonlocking Levers												
1½	1	250	95805K141	$46.96	2005T331	$42.50	2084T211	$45.81	52155K311	$126.17	53015K311	$222.95
2	1½	250	95805K151	58.92	2005T332	53.31	2084T212	56.78	52155K312	112.55	53015K312	223.08
2	3	200	95805K72	50.28	2005T333	59.44	2084T214	62.91	52155K313	159.71	6795K71	185.88
3	2	200	95805K71	47.38	2005T334	48.69	2084T213	70.10	52155K314	112.94	6795K72	176.01
3	4	150	95805K74	72.71	2005T335	71.37	2084T216	94.26	52155K315	208.97	6795K73	379.68
4	3	150	95805K73	64.15	2005T336	75.88	2084T215	98.78	52155K316	218.79	6795K74	335.51

Plugs with Socket-Weld Connection



Also known as AWS adapters, these have an unthreaded socket-weld end that slips over the metal fitting on your hose for a strong welded connection.

Coupling Size	Pipe Size	Max. psi @ 72°F	Aluminum		316 Stainless Steel	
1½	1½	250	—	—	53015K349	$69.75
2	2	250	51415K349	$25.42	53015K351	65.58
3	3	200	51415K361	39.86	53015K352	111.27
4	4	150	51415K352	51.70	53015K353	167.06
6	6	75	51415K353	90.64	—	—

Plugs with Butt-Weld Connection



Also known as AWB adapters. The unthreaded beveled end forms a trough for a strong welded bond when connected to a hose that also has a butt-weld connection.

Coupling Size	Pipe Size	Max. psi @ 72°F	Aluminum		316 Stainless Steel	
1½	1½	250	—	—	53015K339	$69.75
2	2	250	51415K341	$30.72	53015K341	65.58
3	3	200	51415K342	39.86	53015K342	111.27
4	4	150	51415K343	51.70	53015K343	167.06

(Continued on following page)

Warning: *It is important to relieve all pressure before disconnecting the couplings. Do not use cam-and-groove couplings with compressed air or gas.*

For information about pipe size, see pages 2-3. For information about cam-and-groove couplings, see pg. 339.

Metal Cam-and-Groove Hose Couplings *(Continued from previous page)*

Plugs with Flanged Connection

Also known as PFA adapters, these have an unthreaded flanged end that bolts to a flanged connection of the same size for easy access to your line. **Aluminum** and **anodized aluminum** flanges have a flat face. **316 stainless steel** flanges have a raised face, except *coupling size 6* has a flat face.

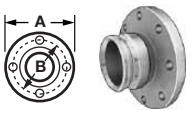

Coupling Size	Pipe Size	Flange OD (A)	Bolt Circle Dia. (B)	No. of Bolt Holes	Recom'd Bolt Size	Max. psi @ 72°F	Aluminum		Anodized Aluminum		316 Stainless Steel	
2	2	6″	4¾″	4	⅝″	250	51415K331	$74.21	2084T125★	$113.44	53015K331	$172.22
3	3	7½″	6″	4	⅝″	200	51415K332	79.30	2084T127★	124.02	53015K332	225.63
4	4	9″	7½″	8	⅝″	150	51415K333	125.71	2084T128★	145.42	53015K333	337.55
6	6	11″	9½″	8	¾″	75	51415K334	198.97	2084T129★	273.73	53015K334	596.57

★Temperature range is -150° to 200°F. Meets ANSI class 150.

Plug-to-Plug Connection

Also known as SA spool adapters.



Coupling Size	Max. psi @ 72°F	Aluminum		Anodized Aluminum		Brass		316 Stainless Steel	
1×1	250	51415K321	$17.63	2084T111	$23.98	52155K321	$64.32	53015K321	$67.79
1½×1	250	95805K171	41.74	2084T112	53.37	52155K322	133.94	_____	_____
1½×1½	250	51415K323	24.42	2084T113	37.16	52155K323	89.52	53015K323	96.72
2×2	250	95805K75	25.62	2084T114	43.62	52155K324	79.69	6795K75	100.43
2½×2	200	95805K181	45.63	2084T115	54.17	52155K325	216.82	_____	_____
3×2	200	95805K76	40.29	2084T116	59.95	52155K326	149.47	6795K76	170.14
3×3	200	95805K77	44.04	2084T117	60.26	52155K327	157.71	6795K77	162.33
4×3	150	95805K78	59.35	2084T118	85.39	52155K328	219.54	6795K78	333.38
4×4	150	95805K79	62.94	2084T119	82.53	52155K329	279.63	6795K79	292.62

Plugs



Coupling Size	Max. psi @ 72°F	Aluminum		Anodized Aluminum		Brass		316 Stainless Steel	
½	250	51415K708	$5.64	2084T708	$8.90	52155K708	$14.05	53015K708	$24.92
¾	250	51415K71	7.05	2084T71	9.33	52155K71	16.66	53015K71	24.24
1	250	51415K72	7.67	2084T72	11.50	52155K72	16.66	53015K72	25.32
1¼	250	51415K73	9.46	2084T73	12.99	52155K73	22.43	53015K73	29.04
1½	250	51415K74	7.67	2084T74	13.38	52155K74	23.50	53015K74	34.62
2	250	51415K75	10.38	2084T75	16.48	52155K75	27.82	53015K75	37.22
2½	200	51415K76	14.11	2084T76	19.76	52155K76	36.79	53015K76	58.13
3	200	51415K77	15.28	2084T77	25.14	52155K77	42.83	53015K77	59.82
4	150	51415K78	23.32	2084T78	35.46	52155K78	69.64	53015K78	98.30
5	75	51415K709	43.74	2084T709	68.18	52155K709	113.87	53015K709	121.90
6	75	51415K79	48.75	2084T79	84.66	52155K79	181.71	53015K79	185.19

Sockets with British Threaded Male Pipe Connection

Also known as B couplers.



Aluminum with 316 Stainless Steel Levers

Coupling Size	Pipe Size, BSPT	Max. psi @ 72°F		
With Nonlocking Levers				
¾	¾	250	2091T11	$14.37
1	1	250	2091T12	14.78
1½	1½	250	2091T14	18.30
2	2	250	2091T15	20.63
3	3	200	2091T17	35.35

Sockets with British Threaded Female Pipe Connection

Also known as D couplers. They have a Buna-N rubber seal and zinc-plated steel pull rings.



Aluminum with 316 Stainless Steel Levers

Coupling Size	Pipe Size, BSPP	Max. psi @ 72°F		
With Nonlocking Levers				
¾	¾	250	2091T21	$14.37
1	1	250	2091T22	12.80
1½	1½	250	2091T24	19.31
2	2	250	2091T25	20.63
3	3	200	2091T27	33.34

Plugs with British Threaded Male Pipe Connection

Also known as F adapters.



Aluminum

Coupling Size	Pipe Size, BSPT	Max. psi @ 72°F		
¾	¾	250	2091T61	$6.98
1	1	250	2091T62	8.87
1½	1½	250	2091T64	10.59
2	2	250	2091T65	13.22
3	3	200	2091T67	25.68

Plugs with British Threaded Female Pipe Connection

Also known as A adapters.



Aluminum

Coupling Size	Pipe Size, BSPP	Max. psi @ 72°F		
¾	¾	250	2091T51	$5.23
1	1	250	2091T52	6.79
1½	1½	250	2091T54	8.49
2	2	250	2091T55	10.24
3	3	200	2091T57	18.93

Warning: ***It is important to relieve all pressure before disconnecting the couplings. Do not use cam-and-groove couplings with compressed air or gas.***

Cam-and-Groove Hose Couplings

For technical drawings and 3-D models, go to mcmaster.com.

For information about pipe size, see pages 2-3.

How to Order Cam-and-Groove Hose Couplings

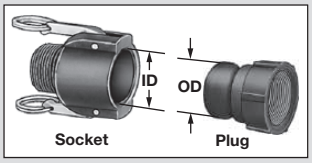

1. Determine the coupling size. Coupling size is an industry designation, not the actual measured size. To determine coupling size, measure the inside diameter (ID) of the socket or outside diameter (OD) of the plug, as shown at left. Match the actual size to the coupling size listed in the chart below. For example, if the actual size measures 3⅝", the coupling size is 3.

Actual ID or OD	15/16"	1¼"	17/16"	1 13/16"	2⅛"	2½"	3"	3⅝"	4¾"	5¾"	6 15/16"
Coupling Size	½	¾	1	1¼	1½	2	2½	3	4	5	6

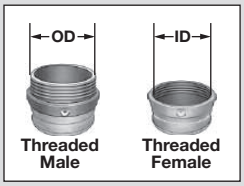

2. Determine the pipe size. Pipe size is also an industry designation, not the actual measured size. To determine pipe size, first use a ruler to measure the outside diameter (OD) or inside diameter (ID), as shown at left. For **threaded** couplings, round up the measurement to the closest OD or ID listed in the chart and select the corresponding pipe size. For example, if the OD or ID measures 1 3/16", the next highest OD or ID is 1⅜" and the corresponding pipe size is 1. For **unthreaded** couplings, take the actual measurement and select the corresponding pipe size.

Threaded OD or ID	¾"	1"	1⅜"	1⅝"	1⅞"	2⅜"	2⅞"	3½"	4½"	5⅝"	6⅝"
Unthreaded ID	—	—	—	—	—	2.375"	—	3.50"	4.50"	—	6.625"
Pipe Size	½	¾	1	1¼	1½	2	2½	3	4	5	6

Gaskets for Cam-and-Groove Hose Couplings

Buna-N—Gaskets resist water, salt water, waste water, ethylene glycol, hydraulic oil, petroleum oil, gasoline, diesel fuel, and citric acid. Not rated for pressure. Temperature range is -65° to 275° F. Color is black.

Viton® Fluoroelastomer—Gaskets resist water, salt, detergents, varnish, ethanol, and biodiesel. Not rated for pressure. Temperature range is -40° to 400° F. Color is green.

FEP-Encapsulated Silicone—Made of FDA-listed material, these gaskets resist vegetable and mineral oils, as well as acids and detergents. Maximum pressure is 150 psi. Temperature range is -75° to 400° F. Color is red.

FEP-Encapsulated Viton® Fluoroelastomer—Gaskets resist acids and solvents. Maximum pressure is 125 psi. Temperature range is -15° to 400° F. Color is black.






For Coupling Size	ID	OD	Buna-N Pkg. Qty.		Buna-N Pkg.	Viton® Fluoroelastomer	Viton® Fluoroelastomer Each	FEP-Encapsulated Silicone	FEP-Encapsulated Silicone Each	FEP-Encapsulated Viton® Fluoroelastomer	FEP-Encapsulated Viton® Fluoroelastomer Each
½	0.69"	1.06"	10	5345K72	$6.09	5659K29	$4.76	93185K69	$9.45	—	—
¾	0.88"	1.38"	10	5345K11	6.22	5659K31	5.20	93185K71	9.45	9315K14	$14.79
1	1.06"	1.56"	10	5345K12	6.45	5659K32	8.67	93185K72	8.59	9315K15	13.44
1¼	1.36"	1.94"	10	5345K13	6.67	5659K33	10.46	93185K73	10.03	9315K16	15.78
1½	1.63"	2.19"	10	5345K14	6.92	5659K34	11.55	93185K74	10.03	9315K17	15.78
2	2"	2.63"	10	5345K15	7.29	5659K35	14.32	93185K75	11.46	9315K18	17.24
2½	2.38"	3.13"	10	5345K16	7.53	5659K36	17.87	93185K76	12.91	9315K19	18.63
3	3"	3.72"	10	5345K17	8.03	5659K37	18.48	93185K77	15.79	9315K21	22.12
4	4"	4.88"	10	5345K18	12.05	5659K38	26.94	93185K78	21.56	9315K22	29.31
5	4.88"	5.91"	5	5345K73	10.04	—	—	93185K79	27.33	9315K23	38.65
6	6"	7.06"	5	5345K69	16.69	5659K39	46.87	93185K81	28.76	9315K24	39.97

Metal Cam-and-Groove Hose Couplings with Shut-Off Valve



- Maximum Pressure: See below
- Temperature Range: -65° to 250° F (Aluminum); -40° to 400° F (316 Stainless Steel)
- Hose: Use rubber. Aluminum couplings also can use polyethylene, polyurethane, and PVC.

Also known as dry disconnects, both the sockets and the plugs have a shut-off valve for minimal fluid loss when disconnecting your hose line. They can only be used with our cam-and-groove hose couplings with shut-off valve; they are not compatible with any other style of coupling.

To connect, insert the plug into the socket, press the levers down, and turn the handle to the "open" position. To disconnect, turn the handle to the "closed" position, lift the levers, and pull out the plug. Couplings cannot be disconnected when the valve is open. Connections are NPT female.

Aluminum couplings are for use with water. They are lightweight with good abrasion and corrosion resistance. **316 stainless steel** couplings are for use with citric acid, hydraulic fluid, gasoline, and diesel fuel. They have excellent abrasion, corrosion, and chemical resistance.

Coupling Size	Pipe Size, NPT	Max. psi @ 72° F	*Aluminum with Buna-N Rubber Seal* — Sockets with 304 Stainless Steel Levers O'all Lg.		*Aluminum with Buna-N Rubber Seal* — Plugs O'all Lg.		*316 Stainless Steel with Fluoroelastomer Rubber Seal* — Sockets with 304 Stainless Steel Levers O'all Lg.		*316 Stainless Steel with Fluoroelastomer Rubber Seal* — Plugs O'all Lg.	
2	1½	200	6 7/8"	5605K74 $296.59	4 5/16"	5605K71 $116.56	6 7/8"	5605K83 $511.77	4 5/16"	5605K81 $299.62
2½	2	150	7½"	5605K75 305.05	5 3/16"	5605K72 130.44	7½"	5605K84 522.85	5 3/16"	5605K82 385.51
4	3	125	9½"	5605K76 897.74	6 13/16"	5605K73 253.07	—	—	—	—

Lightweight Cam-and-Groove Hose Couplings with Shut-Off Valve



- Maximum Pressure: See below
- Temperature Range: -20° to 150° F
- Hose: Use polyethylene, PVC, and EPDM rubber

These two-piece couplings are lighter in weight and more economical than metal cam-and-groove couplings.

Also known as dry disconnects, they have a shut-off valve in each end for minimal fluid loss when disconnecting your hose line. Couplings cannot be disconnected when the valves are open. They also have PTFE seats and a fluoroelastomer rubber seal between the two halves. They are polypropylene plastic for very good corrosion and chemical resistance. Use with acetic acid and magnesium chloride. Connections are NPT female.

Pipe Size, NPT	Max. psi @ 72° F	O'all Lg.		
1½	100	7¾"	5064K11	$309.58
2	100	7¾"	5064K12	309.58

Warning: ***It is important to relieve all pressure before disconnecting the couplings. Do not use cam-and-groove couplings with compressed air or gas.***

Plastic Cam-and-Groove Hose Couplings

- Maximum Pressure: See below
- Temperature Range: See below
- Hose: Use rubber, except black polypropylene couplings are also for use with polyethylene, polyurethane, and PVC

Plastic cam-and-groove couplings are lighter in weight than those made from metal. They provide quick access to medium- and large-diameter hose lines. They meet Fed. Spec. A-A-59326, except FDA polypropylene couplings, which are made of FDA listed materials.

Sockets must be used with a plug of the same coupling size. To connect, insert the plug into the socket and press the levers down. The levers fit snugly into the groove on the plug's body and force the plug down against the gasket to form a tight seal. To disconnect, lift both levers and pull out the plug. For plugs and replacement gaskets, see page 349.

Material	Features/Applications	Color	Seal Material	Temperature Range
Polypropylene	Lightweight with good corrosion and abrasion resistance. Use with water.	Black	EPDM Rubber	–20° to 150°F
FDA Polypropylene	Made of FDA listed material. Lightweight with good abrasion resistance.	White	Buna-N Rubber	10° to 180°F
Nylon	Reinforced with glass fiber for strength. Good abrasion, corrosion, and chemical resistance. Use with diesel fuel, gasoline, and varnish.	Yellow	EPDM Rubber	–30° to 200°F
PVDF	Excellent abrasion, corrosion, and chemical resistance. Use with diesel fuel, gasoline, nitric acid, and phosphoric acid.	White	EPDM Rubber	–20° to 250°F

Sockets with Threaded Male Pipe Connection

Also known as B couplers. They have two 304 stainless steel levers (unless noted) with stainless steel pull rings, except the polypropylene sockets with locking levers have zinc-plated steel pull rings, and the PVDF sockets have zinc-plated steel pins instead of rings.

Sockets **with locking levers** prevent accidental disconnection.











Coupling Size	Pipe Size, NPT	Max. psi @ 72°F	Polypropylene with Nonlocking Levers		Polypropylene with Locking Levers		FDA Polypropylene with Nonlocking Levers		Nylon with Locking Levers		PVDF with Locking Levers	
3/4	1/2	125	5535K55	$5.89	5237T11	$6.52	91105K551	$8.13	5596K111■	$8.44	5403K212▲	$35.10
3/4	3/4	125	5535K56	5.89	5237T12	7.75	91105K561	8.13	5596K121■	8.13	5403K222▲	35.10
1	1	125	5535K25	6.78	5237T13	7.98	91105K571	9.76	5596K131■	9.76	5403K232▲	40.15
1	1 1/4	125	5535K28	6.78	5237T14	9.25	_____	____	_____	____	_____	____
1 1/2	1 1/4	100	5535K82	8.72	_____	____	91105K591	12.40	5596K181	12.98	5403K271	44.49
1 1/2	1 1/2	100	5535K21	7.93	5237T15	9.95	91105K58	12.98	5596K141	12.98	5403K241	46.69
2	2	100	5535K22	9.67	5237T16	10.76	91105K59	14.62	5596K151	14.62	5403K251	51.63
3	3	50	5535K57	16.24	_____	____	91105K61	24.91	5596K161	24.91	5403K261	88.29
4	4	50	5535K67★	32.19	_____	____	_____	____	5596K171	34.67	_____	____

■ Levers do not lock; they have steel pins instead of stainless steel pull rings. ▲ Levers do not lock. ★ Has three levers.

Sockets with Threaded Female Pipe Connection

Also known as D couplers. They have two 304 stainless steel levers (unless noted) with stainless steel pull rings, except the polypropylene sockets with locking levers have zinc-plated steel pull rings, and the PVDF sockets have zinc-plated steel pins instead of rings.

Sockets **with locking levers** prevent accidental disconnection.











Coupling Size	Pipe Size, NPT	Max. psi @ 72°F	Polypropylene with Nonlocking Levers		Polypropylene with Locking Levers		FDA Polypropylene with Nonlocking Levers		Nylon with Locking Levers		PVDF with Locking Levers	
3/4	1/2	125	5535K27	$5.89	5237T31	$7.64	91105K611	$8.13	5596K211■	$8.13	5403K412▲	$36.12
3/4	3/4	125	5535K64	5.89	5237T32	7.62	91105K671	8.13	5596K221■	8.13	5403K422▲	36.12
1	1	125	5535K35	6.78	5237T33	9.11	91105K681	9.20	5596K231■	9.20	5403K432▲	40.64
1	1 1/4	125	5535K29	6.78	5237T34	9.13	_____	____	_____	____	_____	____
1 1/2	1 1/4	100	5535K84	8.72	_____	____	91105K691	12.40	5596K281	13.56	5403K471	45.00
1 1/2	1 1/2	100	5535K31	7.93	5237T35	9.96	91105K69	12.98	5596K241	13.20	5403K441	47.15
2	2	100	5535K32	9.67	5237T36	11.17	91105K71	14.58	5596K251	14.71	5403K451	52.69
3	3	50	5535K36	16.24	_____	____	91105K72	24.91	5596K261	25.42	5403K461	86.82
4	4	50	5535K75★	32.19	_____	____	_____	____	5596K271	36.78	_____	____

■ Levers do not lock; they have steel pins instead of stainless steel pull rings. ▲ Levers do not lock. ★ Has three levers.

(Continued on following page)

Warning: *It is important to relieve all pressure before disconnecting the couplings. Do not use cam-and-groove couplings with compressed air or gas.*

Plastic Cam-and-Groove Hose Couplings

For information about pipe size, see pages 2-3. For information about cam-and-groove couplings, see pg. 347.

How to Order Cam-and-Groove Hose Couplings

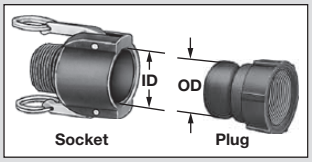

1. Determine the coupling size. Coupling size is an industry designation, not the actual measured size. To determine coupling size, measure the inside diameter (ID) of the socket or outside diameter (OD) of the plug, as shown at left. Match the actual size to the coupling size listed in the chart below. For example, if the actual size measures 3⅝″, the coupling size is 3.

Actual ID or OD	1¼″	1 7/16″	2⅛″	2½″	3⅝″	4¾″
Coupling Size	¾	1	1½	2	3	4

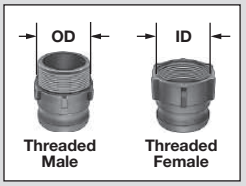

2. For all couplings (except those with a barbed end), determine the pipe size. Pipe size is also an industry designation, not the actual measured size. To determine pipe size, first use a ruler to measure the outside diameter (OD) or inside diameter (ID), as shown at left. Then, round up the measurement to the closest OD or ID listed in the chart and select the corresponding pipe size. For example, if the OD or ID measures 1 3/16″, the next highest OD or ID is 1⅜″ and the corresponding pipe size is 1.

Threaded OD or ID	¾″	1″	1⅜″	1⅝″	1⅞″	2⅜″	3½″	4½″
Pipe Size	½	¾	1	1¼	1½	2	3	4

Plastic Cam-and-Groove Hose Couplings *(Continued from previous page)*

- Maximum Pressure: See below
- Temperature Range: See page 347
- Hose: Use polyethylene, polyurethane, PVC, and rubber

Sockets and caps have two 304 stainless steel levers (unless noted) with stainless steel pull rings, except the polypropylene with locking levers have zinc-plated steel rings, and the PVDF have zinc-plated steel pins instead of rings.

Sockets **with locking levers** prevent accidental disconnection.

Sockets with Barbed Hose Connection

Also known as C couplers. Secure hose to the barbed end with worm-drive hose clamps (see page 302) or low-profile band clamps (see page 311).









Coupling Size	For Hose ID	Max. psi @ 72° F	Polypropylene with Nonlocking Levers		Polypropylene with Locking Levers		FDA Polypropylene with Nonlocking Levers		Nylon with Locking Levers		PVDF with Locking Levers	
¾	½″	125	5535K51	$5.89	5237T21	$6.60	91105K651	$8.64	5596K311 ■	$8.13	5403K312 ▲	$35.10
¾	¾″	125	5535K52	5.89	5237T22	6.63	91105K621	8.64	5596K321 ■	8.13	5403K322 ▲	35.10
1	1″	125	5535K15	6.78	5237T23	8.11	91105K631	10.29	5596K331 ■	9.31	5403K332 ▲	40.15
1	1¼″	125	5535K39	6.78	5237T24	8.16	____	____	____	____	____	____
1½	1¼″	100	5535K83	8.72	____	____	91105K641	11.89	5596K381	13.44	5403K371	45.00
1½	1½″	100	5535K11	7.93	5237T25	10.07	91105K64	12.47	5596K341	12.98	5403K341	47.15
2	2″	100	5535K12	9.67	5237T26	10.92	91105K65	14.62	5596K351	14.71	5403K351	53.18
3	3″	50	5535K16	16.24	____	____	91105K66	24.91	5596K361	23.09	5403K361	82.24
4	4″	50	5535K74 ★	32.19	____	____	____	____	5596K371	33.62	____	____

■ Levers do not lock; they have steel pins instead of stainless steel pull rings. ▲ Levers do not lock. ★ Has three levers.

Caps









Coupling Size	Max. psi @ 72° F	Polypropylene with Nonlocking Levers		Polypropylene with Locking Levers		FDA Polypropylene with Nonlocking Levers		Nylon with Locking Levers		PVDF with Locking Levers	
¾	125	5535K72	$5.89	5237T42	$6.67	91105K841	$7.82	5596K911 ■	$7.58	5403K712 ▲	$32.68
1	125	5535K46	6.51	5237T43	8.05	91105K851	9.20	5596K921 ■	8.64	5403K722 ▲	38.14
1½	100	5535K43	7.93	5237T44	9.96	91105K86	12.98	5596K931	12.78	5403K731	42.55
2	100	5535K44	9.67	5237T45	10.92	91105K87	14.62	5596K941	14.40	5403K741	45.20
3	50	5535K63	16.24	____	____	91105K88	23.78	5596K951	22.20	5403K751	75.24
4	50	5535K89	23.48	____	____	____	____	5596K962	29.78	____	____

■ Levers do not lock; they have steel pins instead of stainless steel pull rings. ▲ Levers do not lock.

90° Elbows

Also known as LD couplers. Sockets have two nonlocking levers. For sockets with a barbed connection, secure hose with worm drive hose clamps (see page 302) or low-profile band clamps (see page 311).






Coupling Size	Max. psi @ 72° F	Polypropylene Sockets with Threaded Female Pipe Connection — Pipe Size, NPT		Polypropylene Sockets with Barbed Male Hose Connection — For Hose ID		Polypropylene Plugs with Threaded Male Pipe Connection — Pipe Size, NPT		Polypropylene Plugs with Threaded Female Pipe Connection — Pipe Size, NPT	
1½	100	1½	5535K93 $9.50	1½″	5535K91 $9.50	1½	5535K97 $5.55	1½	5535K95 $4.64
2	100	2	5535K94 11.80	2″	5535K92 11.80	2	5535K98 5.92	2	5535K96 5.30

(Continued on following page)

Warning: *It is important to relieve all pressure before disconnecting the couplings. Do not use cam-and-groove couplings with compressed air or gas.*

Plastic Cam-and-Groove Hose Couplings *(Continued from previous page)*

Plugs with Threaded Male Pipe Connection

Also known as F adapters.






Coupling Size	Pipe Size, NPT	Max. psi @ 72° F	Polypropylene		FDA Polypropylene		Nylon		PVDF	
3/4	1/2	125	5535K19	$2.78	91105K771	$4.64	5596K41	$4.31	5403K611	$29.08
3/4	3/4	125	5535K59	2.78	91105K781	4.64	5596K42	4.31	5403K621	29.08
1	1	125	5535K26	3.09	91105K791	5.40	5596K43	4.64	5403K631	30.12
1	1 1/4	125	5535K47	3.09						
1 1/2	1 1/4	100	5535K86	3.40	91105K811	5.78	5596K48	6.40	5403K68	32.06
1 1/2	1 1/2	100	5535K23	3.10	91105K81	6.04	5596K44	6.04	5403K64	33.63
2	2	100	5535K24	4.05	91105K82	6.49	5596K45	6.49	5403K65	36.12
3	3	50	5535K61	10.67	91105K83	15.20	5596K46	16.24	5403K66	79.25
4	4	50	5535K77	12.70			5596K47	26.00		

Plugs with Threaded Female Pipe Connection

Also known as A adapters.






Coupling Size	Pipe Size, NPT	Max. psi @ 72° F	Polypropylene		FDA Polypropylene		Nylon		PVDF	
3/4	1/2	125	5535K65	$2.59	91105K491	$3.80	5596K61	$3.27	5403K111	$25.61
3/4	3/4	125	5535K66	2.59	91105K511	3.80	5596K62	3.27	5403K121	25.61
1	1	125	5535K37	2.59	91105K521	4.11	5596K63	3.60	5403K131	27.10
1	1 1/4	125	5535K48	2.59						
1 1/2	1 1/4	100	5535K81	3.22	91105K531	5.40	5596K68	5.78	5403K18	34.00
1 1/2	1 1/2	100	5535K33	2.93	91105K53	5.40	5596K64	5.60	5403K14	35.63
2	2	100	5535K34	3.47	91105K54	5.96	5596K65	6.11	5403K15	37.63
3	3	50	5535K38	8.35	91105K55	11.93	5596K66	13.56	5403K16	67.69
4	4	50	5535K58	12.70			5596K67	24.42		

Plugs with Barbed Hose Connection

Also known as E adapters. Secure hose to the barbed end with worm-drive hose clamps (see page 302) or low-profile band clamps (see page 311).






Coupling Size	For Hose ID	Max. psi @ 72° F	Polypropylene		FDA Polypropylene		Nylon		PVDF	
3/4	1/2"	125	5535K53	$2.78	91105K721	$4.31	5596K71	$4.31	5403K511	$29.08
3/4	3/4"	125	5535K54	2.78	91105K731	4.31	5596K72	4.31	5403K521	29.08
1	1"	125	5535K17	3.09	91105K741	4.87	5596K73	4.98	5403K531	31.14
1	1 1/4"	125	5535K49	3.09						
1 1/2	1 1/4"	100	5535K85	3.40	91105K751	5.71	5596K78	6.04	5403K58	32.02
1 1/2	1 1/2"	100	5535K13	3.10	91105K75	5.96	5596K74	5.82	5403K54	33.59
2	2"	100	5535K14	4.05	91105K76	6.49	5596K75	6.71	5403K55	36.12
3	3"	50	5535K18	10.67	91105K77	15.20	5596K76	12.89	5403K56	60.24
4	4"	50	5535K76	12.70			5596K77	23.80		

Plugs






Coupling Size	Max. psi @ 72° F	Polypropylene		FDA Polypropylene		Nylon		PVDF	
3/4	125	5535K68	$2.78	91105K891	$3.36	5596K81	$3.44	5403K811	$26.06
1	125	5535K45	2.69	91105K911	4.64	5596K82	3.87	5403K821	27.10
1 1/2	100	5535K41	2.99	91105K92	5.40	5596K83	4.64	5403K83	29.63
2	100	5535K42	4.01	91105K93	5.96	5596K84	5.64	5403K84	32.08
3	50	5535K69	8.48	91105K94	12.13	5596K85	14.04	5403K85	67.22
4	50	5535K78	10.01			5596K86	17.84		

Replacement Gaskets

EPDM gaskets are for polypropylene, nylon, and PVDF cam-and-groove hose couplings. Temperature range is -30° to 250° F. Color is black. **Buna-N** gaskets are made of FDA-listed material. Temperature range is 10° to 180° F. Color is white.




For Coupling Size	ID	OD	EPDM Pkg. of 10		Buna-N Pkg. of 10	
3/4	0.88"	1.38"	5647K61	$8.12	5656K41	$30.73
1	1.06"	1.56"	5647K62	6.91	5656K42	30.77
1 1/2	1.56"	2.19"	5647K63	8.75	5656K43	49.02
2	2"	2.63"	5647K64	10.00	5656K44	49.00
3	3"	3.72"	5647K65	12.81	5656K45	76.27
4	4"	4.87"	5647K66	20.31		

Warning: ***It is important to relieve all pressure before disconnecting the couplings. Do not use cam-and-groove couplings with compressed air or gas.***

Automatic-Winding Hose Reels

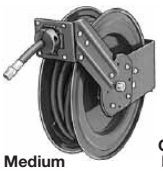
Medium Duty

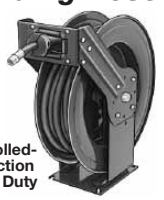
Controlled-Retraction Heavy Duty


Super Duty

Hose locks in place when pulled out; a quick tug causes it to retract. Reels are steel with a blue powder-coated finish.

Versa-Mount Reels—Mount on the floor, wall, or ceiling. Reels have a 1/4″ thick support bracket and four 1/2″ dia. mounting holes (fasteners not included). Additional mounting brackets (sold separately) allow reels to pivot or to mount to beams. Reels have a brass female inlet (unless noted) with a Buna-N rubber gasket, except reels *with 316 stainless steel fittings* have a stainless steel inlet instead of brass. The hose end has a brass male fitting, except reels with industrial-shape quick-disconnect coupling and reels with 316 stainless steel male fitting.

The *medium duty* reels are for use in applications where the hose is pulled straight out of the reel. The *heavy duty* reels have more support, so you can pull the hose out at an angle. The *controlled-retraction* reels are also known as safety reels, these have a retraction speed that's up to 80% slower than other automatic-winding hose reels.

Floor-Mount Super Duty Reels—Strong and well-supported to handle large-diameter hose, these reels can be used in high-vibration applications. Reels have six 1/2″ dia. mounting holes (fasteners not included). The reel with 3/4″ ID hose has a brass female inlet with a Buna-N rubber gasket; the outlet has a brass male threaded fitting. Reels with 1″ ID hose have a nickel-plated steel female inlet with a fluoroelastomer gasket; the hose end has a zinc-plated steel male fitting.

Lightweight air hose is PVC, so it's lighter and less cumbersome than rubber hose. It is reinforced with yarn. Temperature range is -15° to 150°F. To Order: Please specify hose color: blue, red, or yellow.

General purpose air hose is EPDM rubber, which is the most common material for air applications. It is reinforced with yarn. Temperature range is -40° to 200°F, unless noted. To Order: Please specify hose color: black or red.

Lubricated-air hose is oil resistant for use with power tools that require lubricated air. The tube is Buna-N rubber and the cover is neoprene with yarn reinforcement. Temperature range is -20° to 200°F. Hose color is black.

Reels without hose have a female outlet that is the same size as the inlet. Connect your hose with NPT threads to the reel outlet; connect your supply line to the reel inlet. Temperature range is -40° to 250°F.

Hose ID	Hose Lg.	Max. psi @ 72°F	Inlet, NPT Female	Hose End, NPT Male	Reel Ht.	Reel Wd.	Reel Dp.	Reels with Lightweight Air Hose		Reels with General Purpose Air Hose		Reels with Lubricated-Air Hose		Reels without Hose	
Versa-Mount Medium Duty Reels—6″ Lg.×6″ Wd. Mounting Base															
1/4″	25 ft.	300	1/4	1/4	14 1/2″	6″	13 3/4″	5618T51	$186.20	5476K21	$209.53	5227K32	$230.70	5320K556	$159.60
1/4″	35 ft.	300	1/4	1/4	14 1/2″	6″	13 3/4″	5618T12	199.04	5476K23	226.10	5227K33	254.23	5320K557	159.60
1/4″	50 ft.	300	1/4	1/4	18 1/4″	6 1/8″	17 1/4″	5618T13	254.99	5320K13	289.81	5227K34	330.45	5320K555	220.54
3/8″	15 ft.	300	3/8	3/8	14 1/2″	6 1/4″	13 3/4″	5618T52	177.03	5476K25	198.11	5227K35	214.33	5320K558	159.60
3/8″	25 ft.	300	3/8	3/8	14 1/2″	6 1/4″	13 3/4″	5618T15	202.71	5476K27	228.26	5227K11	254.23	5320K559	174.11
3/8″	35 ft.	300	3/8	3/8	18 1/4″	6 1/8″	17 1/4″	5618T16	244.90	5320K15	280.25	5227K36	312.55	5320K633	220.54
3/8″	50 ft.	300	3/8	1/4	18 1/4″	6 1/8″	17 1/4″	5618T18	284.34	5320K23	323.43	5227K37	373.42	5320K91	238.45
3/8″	50 ft.	300	3/8	3/8	21″	8 3/4″	19 5/8″	5618T17	337.54	5320K17	381.40	5227K13	432.76	5320K634	307.59
1/2″	25 ft.	300	1/2	1/2	18 1/4″	7″	17 1/4″	5618T21	240.32	5320K25	275.02	5227K16	301.30	5320K635	217.23
1/2″	35 ft.	300	1/2	1/2	21″	9 1/4″	19 5/8″	5618T53	354.97	5320K27	404.23	5227K38	442.48	5320K92	302.10
1/2″	50 ft.	300	1/2	1/2	21″	9 1/4″	19 5/8″	5618T23	376.07	5320K31	432.48	5227K18	485.96	5320K554	307.59
3/4″	25 ft.	250	3/4	3/4	21″	9 3/4″	19 5/8″	5618T72	409.57	5320K39	477.55	5227K39	513.58	5320K636	348.22
Versa-Mount Medium Duty Reels with Industrial-Shape Quick-Disconnect Coupling—6″ Lg.×6″ Wd. Mounting Base															
3/8″	25 ft.	300	3/8	1/4	14 1/2″	6 1/4″	13 3/4″	5618T41	234.08	5476K64	262.74	5227K72	281.35	5320K559	174.11
3/8″	50 ft.	300	3/8	1/4	18 1/4″	6 1/8″	17 1/4″	5618T42	320.17	5476K65	363.02	5227K73	399.00	5320K91	238.45
1/2″	50 ft.	300	1/2	3/8	21″	9 1/4″	19 5/8″	5618T43	429.47	5320K21	492.06	—	—	5320K554	307.59
Versa-Mount Medium Duty Reels with 316 Stainless Steel Fittings—6″ Lg.×6″ Wd. Mounting Base															
3/8″	25 ft.	300	3/8	3/8	14 1/2″	6 1/4″	13 3/4″	—	—	—	—	5227K12	368.31	5227K41	201.27
3/8″	50 ft.	300	3/8	3/8	18 1/4″	6 1/8″	17 1/4″	—	—	—	—	5227K14	461.41	5227K42	264.23
1/2″	50 ft.	300	1/2	1/2	21″	9 1/4″	19 5/8″	—	—	—	—	5227K31	573.95	5227K43	326.29
Versa-Mount Heavy Duty Reels—9″ Lg.×8″ Wd. Mounting Base															
3/8″	50 ft.	300	3/8	3/8	21 3/16″	8 3/4″	19 5/8″	5618T31	410.12	5320K46	462.09	5227K44	490.05	5320K637	361.76
3/8″	75 ft.	300	3/8	3/8	25 1/2″	9 1/4″	23″	5618T55	532.00	5320K48	601.07	5227K45	647.10	5320K638	462.36
3/8″	100 ft.	300	3/8	3/8	25 1/2″	9 1/4″	23″	5618T56	587.13	5320K51	667.31	5227K46	733.55	5320K552	488.30
1/2″	50 ft.	300	1/2	1/2	21 3/16″	9 1/4″	19 5/8″	5618T34	455.59	5320K53	521.88	5227K47	548.37	5320K642	361.76
1/2″	75 ft.	300	1/2	1/2	25 1/2″	9 1/4″	23″	5618T57	538.32	5320K65	645.72	5227K21	692.11	5320K639	466.23
1/2″	100 ft.	300	1/2	1/2	25 1/2″	9 1/4″	23″	5618T58	605.51	5320K57	704.86	5227K48	773.45	5320K551	488.30
3/4″	35 ft.	250	3/4	3/4	25 1/2″	9 3/4″	23″	5618T59	526.20	5320K59	591.67	5227K23	613.85	5320K641	443.33
3/4″	50 ft.	250	3/4	3/4	25 1/2″	9 3/4″	23″	5618T85	546.31	5320K62	643.15	5227K49	679.32	5320K553	483.64
1″	35 ft.	300	1	1	25 1/2″	10″	23″	—	—	5320K18★	765.70	—	—	5320K93★	546.25
Controlled-Retraction Versa-Mount Medium Duty Reels—6″ Lg.×6″ Wd. Mounting Base															
3/8″	25 ft.	300	3/8	3/8	14 1/2″	6 1/4″	13 3/4″	9244K51	274.71	5657T11	307.64	5227K24	320.73	9244K16	235.05
3/8″	50 ft.	300	3/8	1/4	18 1/4″	6 1/8″	17 1/4″	9244K53	360.79	5657T13	408.17	—	—	9244K17	305.66
3/8″	50 ft.	300	3/8	3/8	18 1/4″	6 1/8″	17 1/4″	9244K52	360.79	5657T12	408.17	5227K25	439.92	9244K17	305.66
1/2″	50 ft.	300	1/2	1/2	21″	9 1/4″	19 5/8″	9244K55	462.36	5657T15	529.12	5227K26	557.58	9244K21	373.37
3/4″	25 ft.	250	3/4	3/4	21″	9 3/4″	19 5/8″	9244K56	486.14	5657T16	546.44	—	—	9244K22	413.99
Controlled-Retraction Versa-Mount Heavy Duty Reels—9″ Lg.×8″ Wd. Mounting Base															
3/8″	75 ft.	300	3/8	3/8	25 1/2″	9 1/4″	23″	9244K42	566.86	—	—	—	—	9244K23	500.81
3/8″	100 ft.	300	3/8	3/8	25 1/2″	9 1/4″	23″	9244K43	619.14	—	—	—	—	9244K24	533.83
1/2″	75 ft.	300	1/2	1/2	25 1/2″	9 1/4″	23″	9244K45	593.46	—	—	5227K71	763.73	9244K25	504.48
1/2″	100 ft.	300	1/2	1/2	25 1/2″	9 1/4″	23″	9244K46	636.57	—	—	5227K27	843.44	9244K26	533.83
3/4″	50 ft.	300	3/4	3/4	25 1/2″	9 3/4″	23″	9244K47	598.04	—	—	—	—	9244K27	520.99
Floor-Mount Super Duty Reels															
3/4″	100 ft.	300	3/4	3/4	24 1/2″	20″	27″	—	—	44835K26	1,031.15	—	—	44835K54	729.47
1″	50 ft.	300	1	1	24 1/2″	21″	27″	—	—	44835K27■	1,001.35	—	—	44835K32	669.47
1″	75 ft.	300	1	1	28 1/2″	21″	31″	—	—	44835K28■	1,143.54	—	—	44835K55	811.12

★Female inlet is nickel-plated steel. ■ Temperature range is -7° to 200°F.

Optional Mounting Brackets for all Versa-Mount Reels

Made of steel, all have four 1/2″ dia. mounting holes. Fasteners not included.

Floor-mount brackets swivel 345°.

Wall-mount brackets pivot 180°.

Beam-mount brackets easily mount overhead on 3″-8 1/2″ I-beams or H-beams.


Floor Mount


Wall Mount


Beam Mount

For Mounting Base Size	Floor Mount		Wall Mount		Beam Mount	
6″ Lg.×6″ Wd.	5320K98	$43.58	5320K63	$62.45	5320K95	$81.70
9″ Lg.×8″ Wd.	5320K98	43.58	5320K97	99.39	5320K96	81.22

Automatic-Winding Reels for Hydraulic Hose



Medium Duty



Heavy Duty

Hose locks in place when pulled out of the reel and retracts with a quick tug. Reels are steel with a blue powder-coated finish and have a 1/4″ thick support bracket. They also have a brass inlet (unless noted) with a Buna-N rubber gasket. Reels mount to the floor, wall, or ceiling; they have four 1/2″ dia. mounting holes (fasteners not included). See page 350 for optional mounting brackets.

Versa-Mount Medium Duty Reels—Use in applications where the hose is pulled straight out of the reel.

Versa-Mount Heavy Duty Reels—These reels have more support, so you can pull the hose out at an angle.

Reels with hose are for use with hydraulic oil. Hose is nitrile with a black blended rubber cover and steel wire reinforcement. The hose end has a zinc-plated steel fitting. Hose rated 2,750 and 3,000 psi meets SAE 100R1; hose rated 5,000 and 5,800 psi meets SAE 100R16. Temperature range is -40° to 212° F.

Reels without hose have a female outlet that is the same size as the inlet. Connect your hose with NPT threads to the reel outlet; connect your supply line to the reel inlet. Temperature range is -40° to 250° F.

Hose ID	Hose Lg.	Max. psi @ 72° F	Inlet, NPT Female	Hose End, NPT Male	Reel Ht.	Reel Wd.	Reel Dp.	Mounting Base Lg.	Mounting Base Wd.	Reels with Hose		Reels without Hose	
Versa-Mount Medium Duty Reels													
1/4″	50 ft.	5,800	1/4	1/4	21″	9 1/4″	19 5/8″	6″	6″	5564K72♣	$483.23	5564K41♣	$339.59
3/8″	35 ft.	3,000	3/8	3/8	18 1/4″	7″	17 1/4″	6″	6″	5564K61	352.01	5564K42	237.63
3/8″	50 ft.	3,000	3/8	3/8	21″	8 3/4″	19 5/8″	6″	6″	5564K62	448.65	5564K43	297.92
3/8″	50 ft.	5,000	3/8	3/8	21″	9 1/4″	19 5/8″	6″	6″	5564K74♣	512.49	5564K44♣	355.55
1/2″	35 ft.	2,750	1/2	1/2	21″	9 1/4″	19 5/8″	6″	6″	5564K63	396.34	5564K45	309.45
1/2″	50 ft.	2,750	1/2	1/2	21″	9 1/4″	19 5/8″	6″	6″	5564K64	458.41	5564K46	309.45
Versa-Mount Heavy Duty Reels													
3/8″	75 ft.	3,000	3/8	3/8	25 1/2″	9 1/4″	23″	9″	8″	5217K71	603.82	5217K41	436.24
1/2″	50 ft.	2,750	1/2	1/2	21 3/16″	9 1/4″	19 5/8″	9″	8″	5217K77	533.32	5217K42	406.98
1/2″	75 ft.	2,750	1/2	1/2	25 1/2″	9 1/4″	23″	9″	8″	5217K78	685.18	5217K43	488.89

♣ The inlet is zinc-plated steel.

Medium Duty Corrosion-Resistant Automatic-Winding Hose Reels



Glass-Filled Polypropylene



Aluminum

Hose locks in place when pulled out; a quick tug causes it to retract. Mount to the floor, wall, or ceiling; mounting fasteners are not included.

Glass-filled polypropylene reels have very good corrosion resistance. They are black with a red powder-coated steel base. Reels have an adjustable hose guide, a steel inlet, and four 5/16″ dia. mounting holes.

Aluminum reels have good corrosion resistance. Reels have a blue powder-coated finish. They have a brass inlet with a Buna-N rubber gasket and four 1/2″ dia. mounting holes.

Lightweight air hose is PVC with yarn reinforcement. Color is red. The hose end has a brass fitting. Temperature range is 32° to 150° F.

Reels without hose have a female outlet that is the same size as the inlet. Temperature range is 32° to 150° F for the glass-filled polypropylene reels; -65° to 250° F for the aluminum reels. Connect your hose with NPT threads to the reel outlet; connect your supply line to the reel inlet.

Hose ID	Hose Lg.	Max. psi @ 72° F	Inlet, NPT Female	Hose End, NPT Male	Reel Ht.	Reel Wd.	Reel Dp.	Mounting Base Lg.	Mounting Base Wd.	Reels with Lightweight Air Hose		Reels without Hose	
Glass-Filled Polypropylene Reels													
1/4″	25 ft.	300	3/8	1/4	17 7/8″	5 3/4″	16 1/2″	8″	4 1/2″	5595T11	$142.37	5595T21	$128.70
1/4″	35 ft.	300	3/8	1/4	17 7/8″	5 3/4″	16 1/2″	8″	4 1/2″	5595T12	148.07	5595T22	128.70
1/4″	50 ft.	300	3/8	1/4	17 7/8″	5 3/4″	16 1/2″	8″	4 1/2″	5595T13	178.44	5595T23	140.49
3/8″	25 ft.	300	3/8	1/4	17 7/8″	5 3/4″	16 1/2″	8″	4 1/2″	5595T14	153.76	5595T24	128.70
3/8″	35 ft.	300	3/8	1/4	17 7/8″	5 3/4″	16 1/2″	8″	4 1/2″	5595T15	168.00	5595T25	140.49
3/8″	50 ft.	300	1/2	1/4	17 7/8″	6 1/4″	16 1/2″	8″	4 1/2″	5595T16	215.46	5595T26	167.02
1/2″	25 ft.	300	1/2	1/2	17 7/8″	6 1/4″	16 1/2″	8″	4 1/2″	5595T17	215.46	5595T27	173.89
1/2″	35 ft.	300	1/2	1/2	17 7/8″	6 1/4″	16 1/2″	8″	4 1/2″	5595T18	227.80	5595T28	178.81
1/2″	50 ft.	300	1/2	1/2	17 7/8″	7 3/4″	16 1/2″	8″	4 1/2″	5595T19	291.39	5595T29	243.65
Aluminum Reels													
3/8″	25 ft.	300	3/8	3/8	14 1/2″	6 1/4″	13 3/4″	6″	5″	5344T11	366.70	5344T21	333.45
3/8″	50 ft.	300	3/8	3/8	18 1/4″	6 1/8″	17 1/4″	6″	6″	5344T12	430.35	5344T22	382.85
1/2″	25 ft.	300	1/2	1/2	18 1/4″	7″	17 1/4″	6″	6″	5344T13	408.50	5344T23	369.55

Heavy Duty Corrosion-Resistant Automatic-Winding Hose Reels



Heavy Duty



Super Duty

Not only do these 304 stainless steel reels have very good corrosion resistance, they also have more support than medium duty reels, so you can pull the hose out at an angle. Hose locks in place when pulled out; a quick tug causes it to retract.

Versa-Mount Heavy Duty Reels—Mount to the floor, wall, or ceiling. Reels have four 7/16″ wide mounting holes, except reels with 316 stainless steel fittings have 1/2″ dia. mounting holes (fasteners not included). 316 stainless steel female inlets include a Buna-N rubber gasket.

Floor/Wall-Mount Super Duty Reels—The frame-style construction provides extra strength to handle large-diameter hose. Mount to the floor or wall. Reels have four 1/2″ dia. mounting holes (fasteners not included). Female inlet includes a fluoroelastomer gasket.

Chemical hose is nylon with a red blended rubber cover and yarn reinforcement, except 5132K21 has a black neoprene rubber cover. Temperature range is -30° to 160° F.

Water hose is EPDM rubber with yarn reinforcement. Color is white. Temperature range is -40° to 180° F.

Reels without hose have a female outlet that is the same size as the inlet. Connect your hose with NPT threads to the reel outlet; connect your supply line to the reel inlet. Temperature range is -20° to 200° F.

Hose ID	Hose Lg.	Inlet, NPT Female	Hose End, NPT Male	Reel Ht.	Reel Wd.	Reel Dp.	Mounting Base Lg.	Mounting Base Wd.	Reels with Chemical Hose Max. psi @ 72° F		Reels with Water Hose Max. psi @ 72° F		Reels without Hose	
Versa-Mount Heavy Duty Reels														
With Nickel-Plated Steel Female Reel Inlet and Nickel-Plated Brass Male Hose Fitting														
3/8″	50 ft.	1/2	3/8	18 3/4″	6 1/2″	18″	6″	5″	500	5132K14 $678.51	—	—	5132K51	$617.66
3/8″	70 ft.	1/2	3/8	18 3/4″	6 1/2″	18″	6″	5″	500	5132K15 709.46	—	—	5132K51	617.66
1/2″	50 ft.	1/2	1/2	18 3/4″	6 1/2″	18″	6″	5″	500	5132K17 704.30	250	5132K31 $704.30	5132K52	617.66
With 316 Stainless Steel Female Reel Inlet and 316 Stainless Steel Male Hose Fitting														
3/8″	50 ft.	3/8	3/8	18 1/4″	6 1/8″	17 1/4″	6″	6″	500	5132K21 1,265.76	—	—	5132K71	758.85
1/2″	50 ft.	1/2	1/2	21″	9 1/4″	19 5/8″	6″	6″	500	5132K22 1,508.49	250	5132K46 1,329.00	5132K72	949.57
Floor/Wall-Mount Super Duty Reels														
With Nickel-Plated Steel Female Reel Inlet and 304 Stainless Steel Male Hose Fitting														
3/4″	70 ft.	1	3/4	18 3/4″	19 1/2″	19 3/8″	19 3/8″	15 5/8″	750	5132K19 1,444.69	200	5132K33 1,444.69	5132K53	1,188.86
1″	45 ft.	1	1	18 3/4″	19 1/2″	19 3/8″	19 3/8″	15 5/8″	500	5132K23 1,455.02	—	—	5132K54	1,222.27

Compact Reels with Air Hose



Designed for areas where space is limited, these reels have the smallest overall size of all our reels. Hose locks in place when pulled out of the reel, and it retracts with a quick tug. Reels are steel with a red powder-coated finish. They have four 3/8" dia. mounting holes (except 3/16" hose ID reel has six holes) and can be mounted to the floor or wall (fasteners not included). Reels have an 18" inlet hose with a brass swivel fitting. Hose is red PVC, except hose with 3/16" ID is black Buna-N rubber. Hose has a smooth interior and is reinforced with yarn. Hose meets RMA (Rubber Manufacturer's Association) Class B for oil resistance. The hose end has a brass rigid fitting. Temperature range is -15° to 150° F. For replacement hose see pages 264-265.

Hose ID	Hose Lg.	Max. psi @ 72° F	Inlet Hose, NPT Female	Hose End, NPT Male	Reel Ht.	Reel Wd.	Reel Dp.	Mounting Base Lg.	Mounting Base Wd.		
3/16"	20 ft.	200	1/4	1/4	10 1/2"	5"	10 1/2"	9 3/4"	4"	53205K39	$140.37
1/4"	10 ft.	250	1/4	1/4	10 1/2"	5"	10 1/2"	9 3/4"	4"	53205K51	130.01
1/4"	15 ft.	250	1/4	1/4	10 1/2"	5"	10 1/2"	9 3/4"	4"	53205K52	136.60
1/4"	20 ft.	250	1/4	1/4	10 1/2"	5"	10 1/2"	9 3/4"	4"	53205K53	143.20
3/8"	10 ft.	250	3/8	1/4	10 1/2"	6"	10 1/2"	9 3/4"	4"	53205K54	149.79

Enclosed Reels with Air Hose



Protect your hose when it's not in use. Hose locks in place when pulled out of the reel, and retracts with a quick tug. Reels have four 1/2" dia. mounting holes. They can be mounted to the floor, wall, or ceiling (fasteners not included). Reels are steel with a blue powder-coated finish. They have a brass inlet with a Buna-N rubber gasket and include an EDPM rubber hose, which is the most common hose for air applications. Hose has a smooth interior and is reinforced with yarn. Hose color is red. The hose end has a brass rigid fitting. Temperature range is -40° to 212° F. For replacement hose see pages 264-265.

Hose ID	Hose Lg.	Max. psi @ 72° F	Inlet, NPT Female	Hose End, NPT Male	Reel Ht.	Reel Wd.	Reel Dp.	Mounting Base Lg.	Mounting Base Wd.		
1/4"	25 ft.	300	1/4	1/4	18 3/4"	7"	18 3/4"	6"	6"	5216K43	$317.15
1/4"	50 ft.	300	1/4	1/4	18 3/4"	7"	18 3/4"	6"	6"	5216K44	375.30
3/8"	25 ft.	300	3/8	3/8	18 3/4"	7"	18 3/4"	6"	6"	5216K45	360.79
3/8"	50 ft.	300	3/8	3/8	21 3/4"	9 1/4"	21 3/4"	6"	6"	5216K46	445.03
1/2"	25 ft.	300	1/2	1/2	18 3/4"	7"	18 3/4"	6"	6"	5216K47	378.82
1/2"	50 ft.	300	1/2	1/2	21 3/4"	9 1/4"	21 3/4"	6"	6"	5216K48	528.30

Enclosed Reels with Lightweight Hose



Made from black polypropylene with a carrying handle, these reels are lighter in weight and easier to transport than the enclosed reels above. Hose locks in place when pulled out of the reel, and retracts with a quick tug. Reels can be mounted to the floor, wall or ceiling. They have four 9/32" dia. mounting holes (fasteners not included). Hose is made of PVC which is lighter and less cumbersome than rubber hose. It has a smooth interior and is reinforced with yarn. The hose end has a brass rigid fitting. Temperature range is 40° to 140° F.

Reels with Lightweight Air Hose—Inlet hose is 3 ft. long with rigid brass fittings. Reel with 1/2" hose ID comes with a 1/2 NPT x 3/4 GHT (garden hose thread) adapter for use with water. Hose is red.

Reel with Low-Pressure Water Hose—Reel has a 5-ft. inlet hose with a swivel brass fitting. Hose is white.

Optional floor/bench mounting bracket is 3" Wd. x 5 3/4" Dp. Includes a 15" long mounting tube that attaches to the bracket with four 1/4" dia. mounting holes (fasteners not included). Made of steel.

Hose ID	Hose Lg.	Max. psi @ 72° F	Inlet Hose, NPT Male	Hose End, NPT Male	Reel Ht.	Reel Wd.	Reel Dp.	Mounting Base Lg.	Mounting Base Wd.		
Reels with Lightweight Air Hose											
3/8"	50 ft.	350	1/4	1/4	19 1/8"	10 1/2"	17 1/4"	6 1/4"	2 5/8"	5529K22	$179.25
3/8"	75 ft.	350	1/4	1/4	19 1/8"	10 1/2"	17 1/4"	6 1/4"	2 5/8"	5529K49	196.63
1/2"	50 ft.	300	1/2	1/2	19 1/8"	10 1/2"	17 1/4"	6 1/4"	2 5/8"	5529K18	194.80
Reel with Low-Pressure Water Hose											
5/8"	50 ft.	140	3/4"▲	3/4"♣	19 1/8"	10 1/2"	17 1/4"	6 1/4"	2 5/8"	5529K36	235.22
Optional Floor/Bench Mounting Bracket										5529K44	43.40

▲GHT (garden hose thread) female threads. ♣ GHT (garden hose thread) male threads.

Reels with Double Lightweight Air Hose

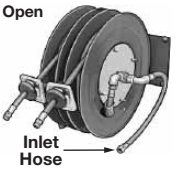

Two reels are attached to a single mounting base so you have access to two independently operating hoses. Hose is PVC, so it's lighter and less cumbersome than rubber hose. It locks in place when pulled out of the reel, and retracts with a quick tug. Reels have four mounting holes and can be mounted to the floor, wall, or ceiling (fasteners not included). Reels come with an 18" long inlet hose with a brass swivel inlet. Hose has a smooth interior and is reinforced with yarn. Color is red. Hose meets RMA (Rubber Manufacturer's Association) Class B for oil resistance. The hose end has a brass rigid fitting. Temperature range is -5° to 150° F.

Open reels are steel with a red powder-coated finish.

Enclosed reels protect the hose when not in use. They are steel with a white powder-coated finish.



Hose ID	Hose Lg.	Max. psi @ 72° F	Inlet Hose, NPT Female	Hose End, NPT Male	Reel Ht.	Reel Wd.	Reel Dp.	Mounting Base Lg.	Mounting Base Wd.		
Open Reels											
1/4"	25 ft.	300	1/4	1/4	17"	12 1/2"	14"	8"	11 1/2"	5617K61	$357.35
1/4"	50 ft.	300	1/4	1/4	22 1/2"	12 1/2"	18"	8"	11 1/2"	5617K62	470.40
3/8"	25 ft.	300	3/8	1/4	19"	13"	16"	8"	11 1/2"	5617K63	389.93
3/8"	50 ft.	300	3/8	1/4	22 1/2"	13"	18"	8"	11 1/2"	5617K64	508.72
1/2"	25 ft.	300	1/2	1/2	22 1/2"	14 1/2"	18"	8"	11 1/2"	5617K65	481.90
Enclosed Reels											
3/8"	35 ft.	300	3/8	1/4	17"	13"	15 1/2"	8"	11 1/2"	5617K71	551.84
1/2"	25 ft.	300	1/2	1/2	20"	13"	18"	8"	11 1/2"	5617K72	632.31

Reels with Lightweight Air Hose and Electric Cord



One reel does the job of two—each reel comes with an air hose and an electric cord. Both the hose and cord lock in place when pulled out of the reel, and retract with a quick tug. The two sides can be operated independently. Reels are steel with a red powder-coated finish; they have an 18″ long inlet with a brass swivel fitting and a 5-ft. inlet electric cord for 115V AC, 60 Hz, single phase operation. Reels have four 1/2″ dia. mounting holes and can be mounted to the floor, wall, or ceiling (fasteners not included). Temperature range is -15° to 150° F.

Hose is PVC, so it's lighter and less cumbersome than rubber hose. It has a smooth interior and is reinforced with yarn. Color is red. Hose meets RMA (Rubber Manufacturer's Association) Class B for oil resistance. The hose end has a brass rigid fitting.

Enclosed reels protect the air hose and electric cord when not in use.

Air Hose					Electric Cord				Reel			Mounting Base			
Hose ID	Hose Lg.	Max. psi @ 72° F	Inlet Hose, NPT Female	Hose End, NPT Male	Cord Type	Cord Length	Amps	Plug Type	Ht.	Wd.	Dp.	Lg.	Wd.		
Open Reels															
3/8″	35 ft.	300	3/8	1/4	SJEOOW	50 ft.	15	NEMA 5-15	18″	14″	14″	11 1/2″	8″	**5618K32**	$682.07
3/8″	35 ft.	300	3/8	1/4	SJEOOW	50 ft.	20	NEMA 5-20	18″	14″	14″	11 1/2″	8″	**5618K33**	734.83
Enclosed Reels															
3/8″	35 ft.	300	3/8	1/4	SJEOOW	50 ft.	15	NEMA 5-15	18″	14″	14″	11 1/2″	8″	**5618K34**	735.77
3/8″	35 ft.	300	3/8	1/4	SJEOOW	50 ft.	20	NEMA 5-20	18″	14″	14″	11 1/2″	8″	**5618K35**	786.64

Economy Manual-Winding Hose Reels



Turn the hand crank to rewind your hose. Reels are steel with a black finish. The mounting base is 7″ Lg. × 3″ Wd. and has four 3/8″ dia. mounting holes. Reels can be mounted to the floor, wall, or ceiling (fasteners not included).

Reels with lightweight air hose include a 3-ft. long inlet hose with a brass fitting. Hose is PVC, so it's lighter and less cumbersome than rubber hose. Hose has a smooth interior and is reinforced with yarn. The hose end has a brass fitting. Hose is red for 6868K2; orange for 6868K3. Temperature range is 0° to 140° F.

Reels without hose let you connect your own hose with an NPT male fitting to the reel. Use with any length hose up to 100 ft.

Hose		Max. psi @ 72° F	Inlet Hose, NPT Male	Hose End, NPT Male	Reel			Mounting Base		Reels with Lightweight Air Hose		Reels without Hose	
ID	Lg.				Ht.	Wd.	Dp.	Lg.	Wd.				
3/8″	50 ft.	300	1/4	1/4	18 1/8″	12 1/4″	17 1/4″	7″	3″	**6868K2**	$68.27	**6868K6**	$52.76
3/8″	100 ft.	350	1/4	1/4	18 1/8″	12 1/4″	17 1/4″	7″	3″	**6868K3**	82.55	**6868K6**	52.76

Manual-Winding Hose Reels



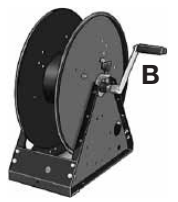

Turn the hand crank to rewind your hose. Reels are steel and have a locking pin assembly that prevents accidental unwinding. All can be mounted to the floor or wall. Fasteners not included.

Style A is compact and fits in small, confined spaces. It has a black painted finish. Reels have a brass female inlet with a Buna-N rubber gasket and a male outlet. Temperature range is 40° to 200° F. Mounting base has four 1/2″ dia. mounting holes.

Style B has a black painted finish. Reels have a brass female inlet with a Buna-N rubber gasket and a male outlet. Temperature range is 40° to 200° F. Mounting base has eight 1/2″ dia. mounting holes.

Style C has a blue painted finish. Temperature range is -20° to 225° F. 5332K65 has a brass female inlet and outlet with Buna-N rubber gaskets and six 1/2″ dia. mounting holes. 5332K66 and K67 have a nickel-plated steel female inlet and outlet with fluoroelastomer rubber gaskets and eight 1/2″ dia. mounting holes. 5332K68 has an aluminum female inlet and outlet with Buna-N rubber gaskets and ten 1/2″ wide mounting slots.

Note: Reel width includes hand crank.

Wheel attachment kits (sold separately) allow for easy portability and fit Style C reels 5332K65 and K67. They contain a steel handle, slip-resistant rubber-capped front legs, and two 8″ dia. solid rubber tires.

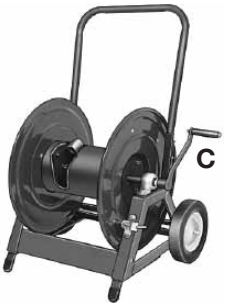

5332K65 Reel Shown with Wheel Attachment Kit

	Reel Capacity For Hose ID	Reel Capacity For Hose Lg., ft.	Inlet Pipe Size, NPT	Outlet Pipe Size, NPT	Max. psi @ 72° F	Reel Ht.	Reel Wd.	Reel Dp.	Mounting Base Lg.	Mounting Base Wd.		
A	1/2″	50	1/2	1/2	4,000	14 1/2″	16 5/8″	14″	6″	7″	**53235K27**	$180.96
A	1/2″	100	1/2	1/2	4,000	14 1/2″	21 5/8″	14″	6″	12″	**53235K28**	200.30
B	1/2″	75	1/2	1/2	4,000	20 1/4″	16 3/8″	17″	17″	8 3/4″	**5505K14**	171.69
B	1/2″	175	1/2	1/2	4,000	20 1/4″	21 3/8″	17″	17″	13 3/4″	**5505K25**	194.42
C	1/2″	200	1/2	1/2	3,000	18 1/8″	27 3/4″	17 1/2″	15 1/8″	17 3/8″	**5332K65**	251.42
C	1″	50	1	1	3,000	26 1/4″	24 3/4″	24″	20 1/8″	12 7/8″	**5332K66**	477.50
C	1″	100	1	1	3,000	26 1/4″	28 3/4″	24″	20 1/8″	16 7/8″	**5332K67**	477.50
C	1 1/2″	100	1 1/2	1 1/2	600	25″	32 9/16″	24″	22 3/16″	25 1/2″	**5332K68**	569.10
Wheel Attachment Kit for 5332K65											**5332K71**	161.76
Wheel Attachment Kit for 5332K67											**5332K72**	161.76

Hose Stops

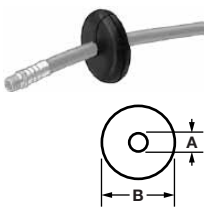

Also known as bumper stops or ball stops, these two-piece rubber hose stops prevent your hose from completely rewinding onto the reel. Position the stop anywhere along your hose and secure with the included stainless steel screws. Hose not included.

To Order: Please specify color: black, red, or yellow.

For Hose ID	For Hose OD	(A)	(B)		
1/4″	1/2″	29/64″	2 1/2″	**5585K21**	$9.51
3/8″	21/32″	39/64″	2 1/2″	**5585K22**	9.54
1/2″	3/4″	3/4″	2 1/2″	**5585K23**	10.94
3/4″	1″	1 1/8″	3 1/2″	**5585K24**	23.76
1″	1 9/16″	1 7/16″	5″	**5585K25**	38.00
1 1/4″	1 13/16″	1 11/16″	5″	**5585K26**	44.13
1 1/2″	2 1/16″	2″	5″	**5585K27**	45.22

Hose Nozzles & Swivels

For information about pipe size, see pages 2-3.

Dispensing Hose Nozzles







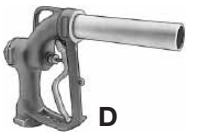









These nozzles allow you to control the flow while dispensing liquids. All have a threaded female NPT connection, except Style H has a barbed connection.

Nozzles with **automatic shut-off** will shut off automatically when the tank is full. They will also shut off if the nozzle falls from the tank, except Style B. They have a three-position hold-open clip, so you can dispense without holding the trigger, except Style A.

Nozzles with **manual shut-off** will stop the flow when you release the trigger or close the lever. Note: Do not leave nozzles unattended when in use.

Style A—Also known as a service-station-style nozzle, these nozzles have a red scuff guard. UL listed. Attach an optional splash guard (sold separately) to protect your hands from spray; splash guard is red.

Styles B and **C**—Commonly called truck-stop nozzles. UL listed. *Style B* has a black scuff guard. *Style C* has a green scuff guard.

Styles G and **H**—Nozzles are black. *Style G* has the highest flow rate of all the nozzles we offer; it has a lever to turn flow on and off. *Style H* has a trigger to turn flow on and off.

For Use With	Max. gpm	Temperature Range	Max. psi @ 72° F	Connection	Spout OD	Spout Lg.	Seal Material	Shut-Off Type		
Aluminum Nozzles										
A Diesel Fuel	10	-20° to 125° F	50	¾ NPT Female	15⁄16″	6½″	Fluoroelastomer	Automatic	5433K19	$75.47
A Gasoline	10	-20° to 125° F	50	¾ NPT Female	13⁄16″	6½″	Fluoroelastomer	Automatic	5433K29	75.47
B Biodiesel, Diesel Fuel	60	-20° to 120° F	60	1 NPT Female	1 3⁄16″	6¼″	Buna-N	Automatic	5496K71	134.95
C Diesel Fuel	75	-20° to 125° F	50	1 NPT Female	1 3⁄8″	7″	Fluoroelastomer	Automatic	5496K84	183.04
D Hydraulic Fluid	60	-40° to 300° F	50	1½ NPT Female	1 7⁄8″	8 3⁄8″	PTFE	Manual	54805K11	278.59
E Hydraulic Fluid	40	-20° to 125° F	50	1 NPT Female	13⁄16″	6″	Buna-N	Manual	5434K58	25.90
E Hydraulic Fluid	40	-20° to 125° F	50	¾ NPT Female	13⁄16″	6″	Buna-N	Manual	5434K57	25.90
Brass Nozzle										
F Coolant	29	-40° to 350° F	35	1 NPT Female	13⁄16″	7½″	Fluoroelastomer	Manual	5434K13	222.85
Polypropylene Nozzles										
G Paint, Solvents	180	-20° to 150° F	150	1½ NPT Female	1 7⁄8″	8″	Fluoroelastomer	Manual	56515K41	43.58
G Paint, Solvents	200	-20° to 150° F	150	2 NPT Female	2 3⁄8″	8″	Fluoroelastomer	Manual	56515K43	43.58
G Paint, Solvents	240	-20° to 150° F	150	2 NPT Female	2 3⁄8″	8″	Fluoroelastomer	Manual	56515K67	65.20
H Citric Acid, Ethyl Alcohol	40	32° to 105° F	150	For ½″ ID Hose	31⁄32″	4½″	Fluoroelastomer	Manual	54335K71	104.67
H Citric Acid, Ethyl Alcohol	40	32° to 105° F	150	For ¾″ ID Hose	31⁄32″	4½″	Fluoroelastomer	Manual	54335K72	104.67
H Citric Acid, Ethyl Alcohol	40	32° to 105° F	150	For 1″ ID Hose	31⁄32″	4½″	Fluoroelastomer	Manual	54335K73	104.67
Optional Splash Guard for Style A									5433K31	$6.16

45° Offset Swivels for Hose Nozzles

- Maximum Pressure @ 72° F: 50 psi
- Temperature Range: -20° to 120° F



Connect these swivels to a dispensing hose nozzle to relieve tension on your hose and nozzle. They rotate at the male connection and at the elbow before and after installation as needed; this prevents hose from twisting, kinking, and wearing prematurely. Swivels are aluminum with a Buna-N rubber seal. Use with gasoline and diesel fuel. UL listed.

Pipe Size, NPT Male	Pipe Size, NPT Female	O'all Lg.		
¾	¾	4 1⁄8″	5538K52	$43.79
1	1	4¾″	5538K54	84.44

Swivels for Hose Nozzles

- Maximum Pressure @ 72° F: 150 psi
- Temperature Range: -65° to 250° F
- Clamps: For swivel barb, use low-profile band clamps (see page 311)

Prevent twisting, kinking, and premature hose wear by connecting these swivels to your dispensing hose nozzle. They rotate before and after installation as needed to reduce tension on your hose and nozzles. Also known as inline swivels. Use with coolant, gasoline, hydraulic oil, mineral oil, and water.

Male Pipe x Swivel Female Pipe



Pipe Size , NPT	O'all Lg.	Anodized Aluminum		Chrome-Plated Brass	
1¼	4½″	5509K51	$97.38	5509K71	$100.82
1½	5″	5509K52	110.24	5509K72	150.63
2	6 3⁄8″	5509K53	142.72	5509K73	208.65

Male Pipe x Swivel Barb



Pipe Size , NPT	For Hose ID	O'all Lg.	Anodized Aluminum	
1	1″	2 13⁄16″	5509K31	$38.90
1¼	1¼″	3 7⁄8″	5509K32	63.39
1½	1½″	4 1⁄8″	5509K33	93.63
2	2″	4 11⁄16″	5509K34	118.61

Pumping & Filtering

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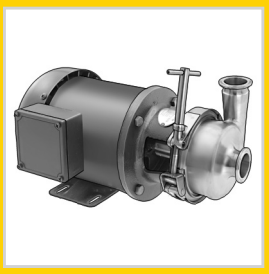

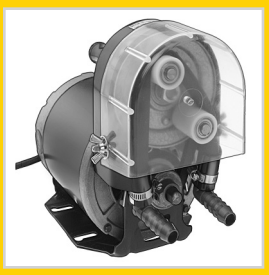

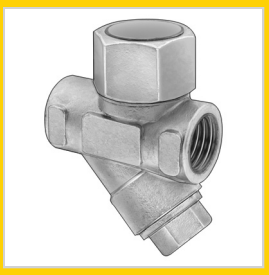




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About Drum Pumps

Drum pumps dispense and transfer liquid from drums, pails, and other containers. To select the pump that's best suited for your application, consider the amount of liquid you need to move. Hand-operated drum pumps are best for small quantities of liquid. Electric and air-powered drum pumps can quickly empty a container. If you choose an air-powered pump, install an air line filter/lubricator to ensure efficiency and reduce wear on the pump. For filter/lubricators, see page 1027.

Chemical Compatibility—Our pumps are organized by the liquids they are most commonly used with. Metal drum pumps are generally used with coolants, lubricating oils, and fuels. Many plastic drum pumps are compatible with water as well as a wide range of chemicals, so they are often used with acidic and alkaline solutions. For information about the compatibility of specific liquids, go to mcmaster.com and search by pump part number for common compatible chemicals and a list of wetted parts.

Viscosity—Also known as liquid thickness, viscosity is measured in centipoise (cp). Your liquid's thickness depends on temperature—liquids get thicker as temperature drops. For proper pump performance, select a pump that's rated for a higher viscosity than your liquid; a pump not strong enough to move your liquid is prone to wear and failure.

Viscosity of Common Liquids at Room Temperature

	Viscosity, cp		Viscosity, cp
Water	1 to 5	SAE 40 Oil	250 to 500
Antifreeze	15	Honey	2,000 to 3,000
SAE 30 Oil	150 to 200	Molasses	5,000 to 10,000

Pumping Flammable Liquids—When using a pump approved for flammable liquids, always bond and ground your application for static control. For more information about bonding and grounding, see Sections 1910.106 and 1910.107 of the Federal OSHA Code. For bonding and grounding equipment, see pages 980-981.

Metal Drum Pumps for Coolants and Lubricating Oils



The metal housing provides durability for tough pumping jobs. Pumps come with a 2 NPT drum connector.
Standard pumps have a steel housing and a removable spout. The spout can be replaced with a garden hose.
Corrosion-resistant pumps have a Type 316 stainless steel housing.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **2520KAC.**

Flow Rate, oz./Stroke	Container Size, gal.	Temperature Range, °F	Max. Viscosity, cp	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style		
Standard								
16	15-55	50° to 100°	316	37″	1½″	Spout	**9912K28**	$30.66
22	15-55	32° to 140°	200	35″	1½″	Spout	**2520K22**	32.12
Corrosion Resistant								
8	5-15	Max. 140°	300	22½″	½″	Spout	**9912K31**	136.72
16	15-55	Max. 140°	300	39½″	1⅛″	Spout	**9912K32**	145.50
Optional 5-Gallon Pail Adapter for 9912K31 (Adapts 2 NPT Connector to 1¾ NPT)							**9912K21**	17.23

Metal Drum Pumps for Flammable Liquids



Pump Class I and II flammable and combustible liquids such as fuels, cleaning solvents, and lacquer thinners with these FM-approved pumps. They have an internal flame arrester and bonding and grounding wires. Housing is steel, and pumps have a telescoping intake tube. Temperature range is not rated.

Pump for 5-gallon containers has a clamped connector (fits Rieke Flex Spout) and four threaded screw cap adapters: 1¾″, 2⅛″, 2¼″, and 2⅞″. Pump for 15- to 55-gallon containers has a 2 NPT drum connector.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **4259KAC.**

Flow Rate, oz./Stroke	Container Size, gal.	Max. Viscosity, cp	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style		
4	5	650	16″-38″	1⅛″	Spout	**4259K23**	$243.20
8	15-55	650	16″-38″	9/16″	Spout	**4259K43**	243.80

Easy-Stroke Metal Drum Pumps











A lever handle allows you to dispense liquid with less effort than standard hand pumps. All pumps come with a 2 NPT drum connector.

For Lubricating Oils—These pumps have a removable spout that can be replaced with a garden hose. Pumps have a steel housing and a telescoping intake tube.

For High-Viscosity Motor Oils—Rated for liquids up to 4,000 centipoise, this pump is often used with very thick motor oils. A 1″ ID discharge tube can be attached to the spout with a clamp. Pump has a zinc alloy housing and a telescoping intake tube.

For Fuels—Designed for use with diesel fuel, gasoline, kerosene, and mineral spirits, these pumps have a lever handle that delivers fluid on both the forward and backward strokes to quickly move drum contents. Lock the handle with a padlock (not included); maximum shackle diameter is ¼″. Flow is reversible. Pumps have an aluminum housing and are UL listed. *Pump with hose and metering nozzle* records flow rate up to 99.9 gallons per delivery (resettable) and totals up to 99,999.9 gallons (nonresettable).

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **9906KAC.**

Flow Rate, oz./Stroke	Container Size, gal.	Temperature Range, °F	Max. Viscosity, cp	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style		
For Lubricating Oils								
10	15-55	60° to 100°	319	18″-34″	1¾″	Spout	**4266K11**	$39.69
10	15-55	60° to 100°	319	18″-34″	1¾″	Nondrip Spout	**4266K12**	45.19
For High-Viscosity Motor Oils								
18	15-55	Max. 140°	4,000	18″-35″	1½″	Spout	**8246K15**	77.15
For Fuels								
26	15-55	–15° to 150°	319	20″-35″	1″	Spout	**9906K11**	188.48
26	15-55	–15° to 150°	319	20″-35″	1″	8-ft. Hose & Nozzle	**9906K12**	197.40
26	15-55	–15° to 150°	319	20″-35″	1″	8-ft. Hose & Metering Nozzle	**9906K33**	448.60

Smooth-Flow Metal Drum Pumps

Rotate the handle to dispense a continuous flow of liquid. Pumps come with a 2 NPT drum connector.

For Lubricating Oils—Housing is cast iron, except high-flow pump has an aluminum housing.

Precise-flow pump dispenses exactly one quart of liquid with each rotation of the handle. The removable spout can be replaced with a 3/4" ID discharge tube for transfer applications. Pump has a telescoping intake tube.

For Fuels and Lubricating Oils—These pumps are for use with diesel fuel, gasoline, kerosene, and mineral spirits as well as hydraulic oil and motor oil. They have a cast iron housing.

Standard pump has a removable spout that can be replaced with a 1" ID discharge tube for transfer applications. **FM-approved pumps** are rated for use with Class I and II flammable and combustible fuels. They have a telescoping intake tube. *Pump with spout* has a strainer, internal flame arrester, and drip pan. *Pump with hose and nozzle* has a 3/4" ID antistatic discharge hose, nozzle hanger, strainer, internal flame arrester, and vacuum breaker to prevent siphoning.







ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **9182KAC.**

Flow Rate, oz./Stroke	Container Size, gal.	Max. Temp., °F	Max. Viscosity, cp	Intake Tube Lg.	Intake Tube OD	Discharge Style		
For Lubricating Oils								
Low Flow								
11	55	300°	420	40"	1/2"	Spout	4236K7	$222.00
11	55	300°	420	40"	1/2"	8-ft. Hose & Nozzle	4236K8	276.00
High Flow								
32	15-55	180°	500	39 1/2"	1 1/8"	Spout	1586T26	183.59
Precise Flow								
32	15-55	–15° to 150°	250	21"-36"	1"	Spout	4225K31	162.23
For Fuels and Lubricating Oils								
Standard								
14	15-55	40° to 160°	880	40"	1 1/4"	Spout	9182K21	76.17
FM Approved								
11	55	300°	420	22"-40"	3/4"	Spout	4252K61	310.91
11	55	300°	420	22"-40"	3/4"	8-ft. Hose & Nozzle	4252K62	327.27

High-Flow Plastic Drum Pumps for Fuels and Lubricating Oils

Move twice as much diesel fuel, gasoline, ethanol, hydraulic oil, and motor oil as other plastic drum pumps. These pumps come with a 2 NPT drum connector.

Standard—These pumps have a PVC housing and a 1 1/4" ID discharge tube.

Quick Dispensing—A lever handle delivers fluid on both the forward and backward strokes for faster dispensing than standard pumps. The pump handle can be mounted above or below the body. Lock the handle with a padlock (not included); maximum shackle diameter is 1/4". Housing is polyester.

Pump with spout has a rigid discharge spout that can be replaced with a 3/4" ID discharge hose for transfer applications. *Pump with hose and nozzle* has a 3/4" ID discharge hose and vacuum breaker that drains the hose to prevent siphoning.

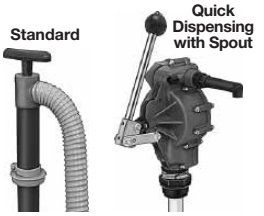



ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **9918KAC.**

Flow Rate, oz./Stroke	Container Size, gal.	Temp. Range, °F	Max. Viscosity, cp	Intake Tube Lg.	Intake Tube OD	Discharge Style		
Standard								
28	55	32° to 120°	2,500	38"	1 1/2"	36" Tube	9918K31	$68.18
28	55	32° to 120°	2,500	38"	1 1/2"	72" Tube	9918K35	74.44
Quick Dispensing								
32	55	Max. 70°	410	34"	1 5/16"	Spout	4312K24	174.47
32	55	Max. 70°	410	34"	1 5/16"	8-ft. Hose & Nozzle	4312K28	192.55

Easy-Stroke Plastic Drum Pumps

For low-effort dispensing, a lever handle maximizes output with each stroke. These pumps have a telescoping intake tube.

For Coolants—This pump has a polypropylene housing. It does not include a drum connector.

For Fuels and Lubricating Oils—Compatible with diesel fuel, kerosene, hydraulic oil, and motor oil, this pump has a polypropylene housing and a built-in 2 NPT drum connector.

For Motor Oils—This pump has a selectable flow rate, so you can adjust flow for different dispensing applications. The removable spout can be replaced with a 1" ID discharge tube. Pump has a PPS housing and comes with a 1 1/2 and 2 NPT drum connector.





ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **4222KAC.**

Flow Rate, oz./Stroke	Container Size, gal.	Max. Temp., °F	Max. Viscosity, cp	Intake Tube Lg.	Intake Tube OD	Discharge Style		
For Coolants								
10	15-55	125°	2,200	19"-38 1/4"	1"	Spout	4222K32	$87.44
For Fuels and Lubricating Oils								
11	15-55	–15° to 150°	250	20 1/4"-36"	1"	Spout	4222K71	89.08
For Motor Oils								
8/10/12	15-55	180°	500	24 1/2"-34 1/2"	1 5/8"	Spout	2515K45	94.35

Smooth-Flow Plastic Drum Pumps for Detergents and Coolants



Uniformly dispense water-based chemicals with a rotating handle. Often used with detergents and cleaning fluids, antifreeze, and deionized water, these pumps have a corrosion-resistant polypropylene housing. Both include a 2 NPT drum connector.

For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **67515KAC.**

Flow Rate, oz./Stroke	Container Size, gal.	Max. Temperature, °F	Max. Viscosity, cp	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style		
8	15-55	100°	319	44½″	1¼″	Spout	67515K87	$95.65
8	15-55	180°	704	40¼″	1⅝″	Spout	67515K51	96.85

Plastic Drum Pumps with Nondrip Nozzle



Eliminate leaks and waste with a faucet-style nondrip nozzle that quickly starts and stops flow. Pressurize your container with a few pumps of the plunger handle, and use the one-touch nozzle to manage flow. Hold down the nozzle for intermittent dispensing, open the nozzle fully for continuous flow, and close the nozzle to stop flow entirely. Pumps include a 2 NPT drum connector. **Remote tap kits** extend your pump's reach for transferring liquid to tanks, mixers, and sprayers. They include a splash guard, a 6-ft. PVC tube, and hardware.

Pump for Coolants and Lubricating Oils—This pump has a polypropylene housing.

Pump for Fuels—Compatible with diesel fuel, gasoline, kerosene, and mineral spirits, this pump has a polypropylene housing.

NFPA-Approved Pump for Flammable Liquids—Rated for use with Class I and II flammable and combustible liquids such as fuels, alcohols, and acetone, this pump includes bonding and grounding wires and has a carbon-filled plastic housing.

Remote Tap Kit



For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **9743TAC.**

Flow Rate, oz./Stroke	Container Size, gal.	Temperature Range, °F	Max. Viscosity, cp	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style	Pumps		Remote Tap Kits	
For Coolants and Lubricating Oils										
4.5	2-55	32° to 110°	270	40″	⅝″	Nozzle	9743T11	$216.67	9743T93	$76.67
For Fuels										
4.5	2-55	32° to 110°	270	40″	⅝″	Nozzle	9743T12	263.33	9743T94	108.33
NFPA Approved for Flammable Liquids										
4.5	2-55	32° to 110°	270	40″	⅝″	Nozzle	9743T13	284.17		

Plastic Drum Pumps for Acids and Alkalies



Pump caustic liquids such as acid-washing solutions and bleach. These pumps have a corrosion-resistant PVC housing and come with a 2 NPT drum connector. Pumps with a tube have a 7/16″ ID discharge tube, unless noted.

High-viscosity pumps are designed to dispense thick acidic and alkaline solutions. The 28-oz./stroke pumps have a 1¼″ ID discharge tube.

For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **9975KAC.**

Flow Rate, oz./Stroke	Container Size, gal.	Temperature Range, °F	Max. Viscosity, cp	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style		
Low Viscosity								
22	15-55	Max. 120°	700	39″	1½″	36″ Tube	2578K35	$43.70
22	15-55	Max. 120°	700	39″	1½″	Spout	2578K45	43.70
High Viscosity								
5	5-55	33° to 120°	2,500	36″	9/16″	9″ Tube	9975K12	38.26
8	5-30	33° to 120°	2,500	18″	½″	48″ Tube	9975K17	41.02
28	55	32° to 120°	2,500	38″	1½″	36″ Tube	9918K75	76.16
28	55	32° to 120°	2,500	38″	1½″	72″ Tube	9918K76	82.83
Connectors for High-Viscosity 28 oz./Stroke Pumps								
Replacement 2 NPT							9918K43	7.11
Optional Male 2⅝″ Buttress Thread							9918K45	7.67

Plastic Small-Container Pumps for Acids and Alkalies



Use these pumps to transfer caustic chemicals from carboys, jugs, pails, and other small containers. Often used with detergents and etching and cleaning fluids, they have a corrosion-resistant PVC housing.

They have a 7/16″ ID discharge tube, except 2578K25 has a spout. Pumps are designed for container mounting and come with a connector, except 4938K11 is often used as a hand pump and does not come with a connector. To attach 4938K11 to a container, select an optional connector.

For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **4938KAC.**

Flow Rate, oz./Stroke	Container Size, gal.	Temperature Range, °F	Max. Viscosity, cp	Fits Container Connection	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style		
Low Viscosity									
8	5-15	Max. 120°	700	2 NPT	22″	1½″	22″ Tube	2578K15	$23.80
8	5-15	Max. 120°	700	2 NPT	22″	1½″	Spout	2578K25	23.80
High Viscosity									
5	5-15	33° to 120°	2,500	See below	18″	½″	9″ Tube	4938K11	30.34
6	5	33° to 120°	2,500	61 mm	14½″	½″	36″ Tube	9975K13	37.00
6	5	33° to 120°	2,500	63 mm	14½″	½″	36″ Tube	9975K14	36.40
6	5	33° to 120°	2,500	70 mm	14½″	½″	36″ Tube	9975K16	37.27
Optional Connectors for High-Viscosity 5-15 Gallon Pump (4938K11)									
¾ NPT (Fits Rieke Sr.)								4938K23	5.50
2 NPT								4938K21	8.12
33 mm (Fits Rieke Jr.)								4938K22	8.00
70 mm								4938K24	5.50

Compact Plastic Drum Pumps for Acids and Alkalies

Designed to dispense low volumes of caustic liquids in confined areas, these pumps have a thin intake tube and a small handle. They are often used to pump cleaning fluids, acid-washing solutions, and bleach.

Precise Flow—To dispense exact amounts of liquid, these pumps have a selectable flow rate. Housing is polypropylene. Pumps include ¾ and 2 NPT drum connectors.

Low Flow—For pumping concentrated chemicals such as pure hydrochloric acid, this pump has a corrosion-resistant polyethylene housing. It has a flexible discharge spout and includes a 2 NPT drum connector.



For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **4277KAC.**

Flow Rate, oz./Stroke	Container Size, gal.	Max. Temperature, °F	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style		
Precise Flow							
2/4/6/8	15-55	125°	33″	5/8″	Spout	4368K13	$20.04
4/8/12/16	15-55	125°	33″	5/8″	Spout	4368K14	26.72
Low Flow							
3	55	37° to 150°	32″	1¾″	Spout	4277K33	224.91

Food and Beverage Plastic Drum Pumps

Constructed from FDA-compliant materials for use in food-processing applications, these pumps include a 2 NPT drum connector.

Pumps for small containers have a plastic housing. Pump with tube has a 13/32″ ID discharge tube.

Pumps for large containers have a polypropylene housing.



For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **3047KAC.**

Flow Rate, oz./Stroke	Container Size, gal.	Temperature Range, °F	Max. Viscosity, cp	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style		
For Small Containers								
5	5	32° to 120°	2,500	12″	5/8″	9″ Tube	3047K21	$36.26
5	5	32° to 120°	2,500	12″	5/8″	Spout	3047K11	41.40
For Large Containers								
15	30	40° to 120°	8,800	30″	1 11/16″	Spout	3047K37	70.00
15	55	40° to 120°	8,800	45″	1 11/16″	Spout	3047K38	80.00

Plastic Pumps for Small Containers

Pump syrups, relishes, and sauces from small jars and jugs. Housing is polypropylene. Pump for 1-gallon containers comes with a 38 mm connector. Pump for five-gallon containers has a 41 mm connector.



Flow Rate, oz./Stroke	Container Size, gal.	Temperature Range, °F	Max. Viscosity, cp	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style		
1	1	0° to 150°	10,000	11″	5/16″	Spout	4249K32	$3.55
1	5	0° to 150°	10,000	14 1/2″	3/8″	Spout	4249K38	4.00

Pumps for Confined Spaces

Remove liquid from hard-to-reach areas with specialized intakes that fit in tight spots. All pumps can be used with fresh water and salt water.

Syringe-Tip Pump for Water—Extract water from valve boxes, meter pits, and other small spaces. Pump has a PVC housing and a 3/8″ ID discharge tube.

Deep-Reach Pump for Fuels and Lubricating Oils—For very deep reservoirs of diesel fuel, kerosene, motor oil, and hydraulic oil, this pump has a flexible 72″ intake tube. When the pump handle is fully extended, it acts as a siphon. Housing is PVC. Pump has a 7/16″ ID discharge tube.

Deep-Reach Pump for Diesel Fuel and Coolants—A long, flexible intake tube extends into hard-to-access tanks. Housing is brass. Pump has a ½″ discharge tube and comes with 5/16″ and ¼″ ID dipstick probes for engine and gear box use.



For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **9911KAC.**

Flow Rate, oz./Stroke	Temperature Range, °F	Max. Viscosity, cp	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style		
Syringe Tip for Water							
12	Not Rated	1	8″	3/4″	8″ Tube	7002T1	$47.16
Deep Reach for Fuels and Lubricating Oils							
4	33° to 120°	2,500	72″	9/16″	36″ Tube	4324K27	31.48
Deep Reach for Diesel Fuel and Coolants							
5	40° to 140°	500	36″	3/4″	36″ Tube	9911K11	98.06

Siphon Plastic Drum Pumps for Acids and Alkalies

Since these pumps use suction to draw liquid out of your container, they continue dispensing once you get them started. Pumps are often used with ammonia, antifreeze, and deionized water. They have a polyethylene housing. Pumps for large containers include a 2 NPT drum connector.



For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **4270KAC.**

Flow Rate, gpm	Container Size, gal.	Max. Temperature, °F	Max. Viscosity, cp	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style	Discharge Tube ID		
For Small Containers									
2	1-5	60° to 100°	26	14 1/2″	5/8″	20 1/2″ Tube	1/2″	9894K51	$5.27
2	5	140°	150	16″	11/16″	21″ Tube	9/16″	9894K44	4.67
For Large Containers									
5	15-55	140°	88	34″	7/8″	48″ Tube	13/16″	4270K21	14.50
7	15-55	140°	88	34″	1″	48″ Tube	13/16″	4270K22	16.83

Battery-Operated Siphon Plastic Drum Pumps



For Water | For Kerosene

For more efficient operation than hand-operated siphon pumps, these quickly generate suction with battery power. They require two D batteries.

Pump for water has a polycarbonate housing. Intake tube fits in a 55 mm unthreaded hole.

Pump for kerosene has an acetal housing and a 1/2″ ID discharge tube. Intake tube fits in a 1 13/16″ unthreaded hole.

For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **9967KAC.**

Flow Rate, gpm	Container Size, gal.	Max. Temperature, °F	Max. Viscosity, cp	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style		
For Water								
1.5	5	120°	3	16″	1 1/8″	Spout	2382K66	$46.43
For Kerosene								
1.8	5	140°	3	12 1/2″	15/16″	24″ Tube	9967K11	22.68

Electric Drum Pumps



Low Flow for Lubricating Oils



Adjustable Flow for Diesel Fuel and Coolants



Adjustable Flow for Lubricating Oils, Acids, and Alkalies



Precise Flow for Acids and Alkalies



High Flow for Lubricating Oils, Acids, and Alkalies



High Flow Hazardous Location for Flammable Liquids

A single-phase electric motor drains and transfers liquid more quickly and easily than hand-operated pumps. These pumps have a cord with plug (unless otherwise stated) and operate on 120 volts AC @ 60 Hz.

Repair parts include components such as couplings, seals, and impellers. Please specify individual parts or a complete repair kit.

Low-Flow Pump—This pump has an intermittent-duty motor (30 minutes on; 5 minutes off), an aluminum housing, and a Type 316 stainless steel intake tube. Pump has a 1″ ID discharge tube and comes with a 2 NPT drum connector.

Adjustable-Flow Pumps—Alter the flow rate for versatile dispensing. Pumps have a motor with thermal overload protection. They do not include a drum connector.

Pumps for diesel fuel and coolants have a continuous-duty motor, a polyamide housing, and a polypropylene intake tube. They come with a wall bracket for storage. Discharge tube has a 3/4″ ID.

Pumps for lubricating oils, acids, and alkalies are rated for hydraulic oil and motor oil as well as caustics such as detergents and etching and cleaning solutions. They have an intermittent-duty motor (30 minutes on; 20 minutes off). Housing and intake tube are polypropylene, unless noted. Discharge connection is barbed and fits a 1″ ID tube (not included).

Pumps for concentrated acids and alkalies have a chemically resistant PVDF housing and intake tube to stand up to aggressive chemicals such as 100% sulfuric acid. They have an intermittent-duty motor (30 minutes on; 20 minutes off). Discharge connection is barbed and fits a 1″ ID tube (not included).

Precise-Flow Pumps—For accurate dispensing in extremely low-flow applications, adjust flow in 2% increments. These pumps are compatible with chemicals such as ammonia and etching and cleaning solutions. They have a continuous-duty motor, a zinc housing, and a polypropylene intake tube. Discharge tube has a 3/16″ ID. Pumps include an unthreaded 2″ drum connector.

High-Flow Pumps—Designed to move at least 40 gpm, these pumps quickly empty drum contents.

Pumps for lubricating oils, acids, and alkalies can be used with hydraulic oil and motor oil as well as with chemicals such as detergents and etching and cleaning solutions. They have a continuous-duty motor and a nylon housing. Intake tube is polypropylene, unless noted. Discharge tube has a 1″ ID. Pumps include a 2 NPT drum connector.

Hazardous-location pump for flammable liquids is UL listed for use in environments with flammable gases and combustible dust. It meets Class I, Groups C and D; and Class II, Groups F and G. Pump has an intermittent-duty motor with thermal overload protection, an aluminum housing, and a Type 316 stainless steel intake tube. Discharge connection is barbed and fits a 1″ ID tube (not included). Has a cord without plug.

For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **2850KAC.**

Flow Rate, gpm	Container Size, gal.	Discharge Pressure, psi	Temperature Range, °F	hp	Amps	Max. Viscosity, cp	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style	Pumps		Repair Parts
Low Flow												
For Lubricating Oils												
17	55	7	Max. 180°	1/2	6.3	1,000	39 1/2″	1 1/2″	5-ft. Tube	2539K58	$657.55	2539K89
Adjustable Flow												
For Diesel Fuel and Coolants												
0-18.50	30	9	14° to 122°	1/4	1.5	300	27″	1 1/4″	5-ft. Tube	42895K81	635.17	42895K21
0-18.50	55	9	14° to 122°	1/4	1.5	300	39″	1 1/4″	5-ft. Tube	42895K82	713.79	42895K33
For Lubricating Oils, Acids, and Alkalies												
0-35.00	55	16	Max. 130°	1	8.5	1,500	39″	1 5/8″	Barbed Conn.	2850K35	1,024.04	2850K86
0-35.00	55	16	Max. 130°	1	8.5	1,500	47″	1 5/8″	Barbed Conn.	2850K36	1,033.65	2850K86
0-35.00	55	16	Max. 175°	1	8.5	1,500	39″	1 1/2″	Barbed Conn.	2850K55★	1,193.97	2850K89
0-35.00	55	16	Max. 175°	1	8.5	1,500	47″	1 1/2″	Barbed Conn.	2850K56★	1,241.38	2850K89
For Concentrated Acids and Alkalies												
0-35.00	55	16	Max. 175°	1	8.5	1,500	39″	1 5/8″	Barbed Conn.	2850K41	1,155.17	2850K87
Precise Flow												
For Acids and Alkalies												
0.001-0.01	55	200	32° to 140°	1/8	0.5	600	36″	2″	10-ft. Tube	4341K22	517.24	4341K44
0.025-0.10	55	40	32° to 140°	1/8	0.5	350	36″	2″	10-ft. Tube	4341K36	517.24	4341K45
High Flow												
For Lubricating Oils, Acids, and Alkalies												
40	30	35	35° to 160°	1/2	5.7	500	27″	2″	5-ft. Tube	6800K12	830.30	6800K77
40	55	35	35° to 160°	1/2	5.7	500	40″	2″	5-ft. Tube	6800K14	848.30	6800K77
40	55	35	35° to 160°	1/2	5.7	500	48″	2″	5-ft. Tube	6800K18	886.32	6800K77
40	55	35	-20° to 220°	1/2	5.7	500	40″	2″	5-ft. Tube	6800K34■	1,213.82	6800K77
40	55	35	-20° to 220°	1/2	5.7	500	48″	2″	5-ft. Tube	6800K38■	1,261.30	6800K77
Hazardous Location for Flammable Liquids												
48.5	55	14	-40° to 212°	1/2	5.3	300	39″	1 5/8″	Barbed Conn.	42675K47	1,863.73	42675K78

★ Housing and intake tube are Type 316 stainless steel. ■ Intake tube is Type 316 stainless steel.

Electric Drum Pump Systems



Everything you need to start pumping. Systems include a single-phase, continuous-duty motor, pump assembly, 1″ ID hose, dispensing nozzle, 2 NPT drum connector, and storage bracket. They have a cord with plug, except hazardous-location pump systems for flammable liquids do not have a plug. Pumps with a 39″ intake tube are for 55-gallon drums. Pumps with a 47″ intake tube are for large totes and tanks.

For Lubricating Oils and Coolants—These pumps have an aluminum housing and intake tube.

For Acids and Alkalies—Often used with corrosives such as acid-washing solutions and cleaning and etching fluids, these pumps have a polypropylene housing and intake tube.

For Concentrated Acids and Alkalies—Rated for use with aggressive chemicals such as 98% nitric acid, hydrofluoric acid, and sulfuric acid, these pumps have a chemically resistant PVDF housing and intake tube.

Hazardous Location for Flammable Liquids—CSA certified for use in Class I, Group D hazardous environments with flammable gases and vapors, these pumps are often used with fuels, acetone, methyl ethyl ketone, xylene, and mineral spirits. They have a Type 316 stainless steel housing and intake tube.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **7133TAC.**

Flow Rate, gpm	Discharge Pressure, psi	Max. Temp., °F	hp	Volts AC @ 60 Hz	Amps	Max. Viscosity, cp	Intake Tube OD	Discharge Style	39″ Intake Tube		47″ Intake Tube	
For Lubricating Oils and Coolants												
22	15	175°	1	120	7.5	1,500	1⅝″	6-ft. Tube	**7133T25**	$1,191.67	**7133T26**	$1,200.00
For Acids and Alkalies												
15	15	130°	1	120	7.5	1,500	1⅝″	6-ft. Tube	**7133T21**	1,025.00	**7133T22**	1,037.50
For Concentrated Acids and Alkalies												
17.5	15	175°	1	120	7.5	1,500	1⅝″	6-ft. Tube	**7133T23**	1,430.77	**7133T24**	1,450.00
Hazardous Location for Flammable Liquids												
18	15	175°	⅓	120	2	750	1⅝″	6-ft. Tube	**7133T27**	2,871.43	**7133T28**	2,910.71

Compact Electric Pumps for Acids and Alkalies



Drain and transfer corrosive liquids from 1- to 5-gallon containers with this handheld pump. It is often used to pump ammonia, deionized water, and etching and cleaning fluids. Pump has a dual-speed, single-phase, continuous-duty motor with thermal overload protection and a cord with plug. Housing is nylon, and intake tube is polypropylene. Discharge tube has a ¾″ ID.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **3420KAC.**

Flow Rate, gpm	Discharge Pressure, psi	Temperature Range, °F	hp	Volts AC @ 60 Hz	Amps	Max. Viscosity, cp	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style		
7/17	8	35° to 150°	0.15	120	2	300	16″	1¼″	5-ft. Tube	**3420K21**	$345.64

Food and Beverage Electric Drum Pumps



With a quick-clamp discharge connection that meets 3-A sanitary standard requirements and a Type 316 stainless steel intake tube, these pumps are often used in dairy, food, and beverage applications. The discharge connection can be easily disassembled for cleaning. Pumps with a 39″ intake tube are for 55-gallon drums. Pumps with a 47″ intake tube are for large totes and tanks.

All pumps have a single-phase, continuous-duty motor with thermal overload protection and a cord with plug. Housing is polypropylene. Pumps do not include a drum connector. Discharge connection is a 1½″ quick clamp (see pages 228-231 for quick-clamp fittings).

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **3328KAC.**

Flow Rate, gpm	Discharge Pressure, psi	Temperature Range, °F	hp	Volts AC @ 60 Hz	Amps	Max. Viscosity, cp	Intake Tube OD	39″ Intake Tube		47″ Intake Tube	
57	14	32° to 248°	7/10	120	4	600	1 11/16″	**3328K11**	$2,343.48	**3328K12**	$2,456.52
58	17	32° to 248°	1.07	120	7.5	800	1 11/16″	**3328K13**	2,531.88	**3328K14**	2,644.93

Electric Pumps with Nozzle for Fuel

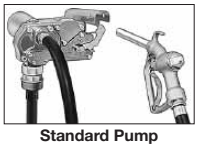

Standard Pump



Pump with Metering Nozzle



Pump with Metering Nozzle and Protective Housing with Pedestal Kit (Sold Separately)

Often used to pump gasoline, diesel fuel, and kerosene in environments with flammable gases and vapors, these pumps are rated for Class I, Group D hazardous locations. All have a single-phase, intermittent-duty motor (30 minutes on; 30 minutes off) with thermal overload protection and a ½ NPT female conduit connection. Pumps have a 12-ft. Lg. × ¾″ ID discharge hose with a nozzle and grounding wires. They come with a 2 NPT drum connector for drum mounting.

Standard pumps have an aluminum housing, a circuit breaker to prevent overload, and a 1 7/16″ OD intake hose that can be adjusted from 22″ to 40″. UL listed and CSA certified. *Pump with automatic shutoff nozzle* turns off when the tank is full.

Pumps with metering nozzle register up to 99,999.9 gallons and include a built-in strainer, check valve, and bypass valve to prevent pressure buildup when the nozzle is closed. Lock the nozzle with a padlock (not included); maximum shackle diameter is ⅜″. Pumps have a cast iron housing and a 1¼ NPT female intake connection. UL and C-UL listed. *Pump with protective housing* has a steel enclosure around the motor for use in aboveground tank systems.

Anti-siphon kit prevents reverse flow with a vacuum breaker and includes all hose, fittings, and seals required for installation.

Pedestal kit converts your pump from a drum mount to a pedestal mount. Pedestal height is 32½″. Kit includes pipe, base, and coupler. Base has four 9/16″ dia. holes for mounting (fasteners not included).

Shutoff Nozzle	Flow Rate, gpm	Discharge Pressure, psi	Temperature Range, °F	hp	Volts AC @ 60 Hz	Amps	Max. Lift, ft.	Max. Viscosity, cp		
Standard Pumps										
Manual	12	15	–20° to 125°	⅛	120	1.5	5.5	10	**8108K43**	$374.79
Automatic	9	15	–20° to 125°	⅛	120	1.5	4.8	10	**8108K46**	417.21
Pump with Metering Nozzle										
Manual	20	22	–40° to 150°	⅓	120	5.5	10	10	**6753K41**	734.99
Pump with Metering Nozzle and Protective Housing										
Manual	18	22	–40° to 150°	⅓	120	5.5	10	10	**6753K51**	1,113.00
Anti-Siphon Kit—For Pump with Metering Nozzle and Pump with Metering Nozzle and Protective Housing									**6753K61**	96.95
Pedestal Kit—For Pump with Metering Nozzle and Pump with Metering Nozzle and Protective Housing									**6753K71**	162.77

Battery- & Air-Powered Drum Pumps

For information about drum pumps, see page 356.

Battery-Operated Pumps with Nozzle for Fuel





Transfer and drain gasoline, diesel fuel, and kerosene. These pumps have an intermittent-duty motor (30 minutes on; 30 minutes off) with thermal overload protection and operate on a 12-volt battery. They have a cast iron housing and a 12-ft. discharge hose with antistatic wire. Pumps come with a 2 NPT drum connector.

Standard pumps have a 1″ OD intake hose that adjusts from 20″ to 34¾″. Lock the nozzle with a padlock (not included); maximum shackle diameter is ⅜″. They have an 18-ft. battery cable. Pumps are UL and C-UL listed. *Pump with metering nozzle* registers up to 99,999.9 gallons.

High-flow pumps are UL and C-UL listed for Class I, Division 1, Group D hazardous locations with flammable gases and vapors. Lock the nozzle with a padlock (not included); maximum shackle diameter is 5⁄16″. Pumps have a 15-ft. battery cable, a ¾ NPT female conduit connection, and a 1 NPT female intake connection (hose not included). *Pump with automatic shutoff nozzle* turns off when the tank is full.

Shutoff Nozzle	Flow Rate, gpm	Discharge Pressure, psi	Temperature Range, °F	hp	Volts DC	Amps	Max. Lift	Max. Viscosity, cp		
Standard										
Manual	15	12	–15° to 150°	1⁄4	12	20	8 ft.	30	**9972K18**	$362.84
Standard with Metering Nozzle										
Manual	15	12	–15° to 150°	1⁄4	12	20	8 ft.	30	**9972K19**	540.17
High Flow										
Manual	25	20	–20° to 125°	2⁄5	12	35	15 ft.	10	**2651K24**	599.76
Automatic	25	20	–20° to 125°	2⁄5	12	35	15 ft.	10	**2651K44**	696.67

Portable Battery-Operated Pumps for Diesel Fuel



For on-site diesel fuel dispensing at construction sites, on boats, and in other environments without electrical hookups, attach these portable pumps to any 12-volt battery. They have an intermittent-duty motor (30 minutes on; 30 minutes off), bypass relief valve, and 6½-ft. battery cable with clamps. Pumps have a cast iron housing with a handle. Connections are barbed and fit a ¾″ ID hose. *Pump with hose and nozzle* has a garden hose.

Flow Rate, gpm	Discharge Pressure, psi	Temperature Range, °F	hp	Volts DC	Amps	Max. Lift	Max. Viscosity, cp	Discharge Style		
13	21	–4° to 140°	Not Rated	12	18	6 ft.	5.3	Barbed Conn.	**99155K33**	$262.34
13	14	–4° to 140°	Not Rated	12	22	6 ft.	5.3	13-ft. Hose & Nozzle	**99155K55**	418.72

Air-Powered Drum Pumps

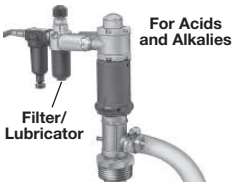





In applications where electricity is unavailable or dangerous, use these pumps with a nonsparking air-powered motor. They have an NPT female air connection and come with a 2 NPT drum connector.

For Lubricating Oils—Pump has an aluminum body and an NPT female discharge connection.

For Acids and Alkalies—Often used with ammonia, etching and cleaning solutions, and other caustics, these pumps have a cast iron housing. They have a 15-ft. air hose assembly and a ¾″ ID discharge tube.

For Acids, Alkalies, and Lubricating Oils with Filter/Lubricator—Chemically resistant seals make these pumps compatible with hydraulic oil and motor oil in addition to acidic and alkaline liquids such as ammonia and etching and cleaning solutions. They have a cast iron housing with an attached air line filter/lubricator. Pumps include a 15-ft. air hose assembly, muffler, ball valve, and 1″ ID discharge tube.

Hazardous Location for Flammable Liquids—These pumps are rated for Zone 0 hazardous locations with flammable gases and vapors, so they can be used with liquids such as acetone, ethanol, methyl ethyl ketone, xylene, and mineral spirits. Pumps have an aluminum housing, and they include bonding and grounding wires and a hanger. Discharge connection is barbed and fits a 1″ ID tube (not included).

For Food and Beverage—With wetted parts made of FDA-compliant materials, this pump can be used with food, water, and beverage. Housing is aluminum. Discharge connection is barbed and fits a 1″ ID tube (not included).

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **8165KAC.**

Air Connection	Flow Rate, gpm	Temperature Range, °F	Air Pressure, psi	Air Consumption, cfm	Max. Viscosity, cp	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style		
For Lubricating Oils										
1⁄8	14	–30° to 300°	40-80	27	1,500	39″	1½″	¾ NPT	**42905K74**	$536.36
For Acids and Alkalies										
1⁄4	15	35° to 150°	40	27	300	27″	1¼″	5-ft. Tube	**8165K7**	561.75
1⁄4	15	35° to 150°	40	27	300	40″	1¼″	5-ft. Tube	**8165K8**	600.53
For Acids, Alkalies, and Lubricating Oils with Filter/Lubricator										
1⁄4	16	–20° to 150°	80-100	32	2,000	40″	1½″	5-ft. Tube	**8243K21**	914.42
1⁄4	16	35° to 150°	80-100	32	2,000	40″	1⅝″	5-ft. Tube	**8243K31**	985.19
1⁄4	22	35° to 160°	80-100	32	330	40″	2″	5-ft. Tube	**4296K41**	913.08
1⁄4	22	35° to 160°	80-100	32	330	48″	2″	5-ft. Tube	**4296K48**	948.23
Hazardous Location for Flammable Liquids										
3⁄8	26	–40° to 212°	44-87	32	1,100	39″	1⅝″	Barbed Conn.	**2824K39**	1,524.19
3⁄8	26	–40° to 212°	44-87	32	1,100	47″	1⅝″	Barbed Conn.	**2824K49**	1,573.55
3⁄8	53	–40° to 212°	44-87	32	850	39″	1⅝″	Barbed Conn.	**8252K12**	1,524.19
3⁄8	53	–40° to 212°	44-87	32	850	47″	1⅝″	Barbed Conn.	**8252K14**	1,573.55
For Food and Beverage										
1⁄4	32	–30° to 212°	43-85	29	1,200	39″	1⅝″	Barbed Conn.	**42905K73**	1,162.99

Air-Powered Drum-Pressurizing Pumps for Fuels and Lubricating Oils



Since these pumps move liquid by pressurizing your 55-gallon drum, they have few moving parts prone to wear and tear. They are often used with fuel and lubricating oil. The air regulator is adjustable from 1 to 7 psi; it comes set at 6 psi. Pumps have an aluminum housing and a telescoping intake tube. They have an NPT female air connection with a quick-connect coupling and are threaded for 2 NPT drum connections.

Pump with hose and nozzle has a ¾″ ID hose.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **4224KAC.**

Air Connection	Flow Rate, gpm	Max. Temp., °F	Air Pressure, psi	Air Consumption, cfm	Max. Viscosity, cp	*Intake Tube* Lg.	*Intake Tube* OD	Discharge Style		
1⁄4	18	125°	10-120	6	1,200	21″-36″	1¼″	Spout	**4224K51**	$434.48
1⁄4	18	140°	10-120	6	1,200	21″-36″	1¼″	8-ft. Hose & Nozzle	**4224K91**	525.86

Low-Flow Air-Powered Drum Pumps

Using less air than standard air-powered pumps, these are designed for low-flow applications. They have an NPT female discharge connection and come with a 2 NPT drum connector.

For Lubricating Oils—Choose a pump with a telescoping intake tube to fit a range of container sizes. Pumps have an aluminum housing and an NPT female air connection, except 4262K52 has a steel housing and an NPTF (Dryseal) female air connection.

For Flammable Liquids—Rated for use with acetone, ethanol, gasoline, and other flammable alcohols and solvents, this pump has a Type 316 stainless steel housing. Air connection is NPT female.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **4304KAC.**



For Lubricating Oils



For Flammable Liquids

Air Connection	Flow Rate, gpm	Container Size, gal.	Max. Temp., °F	Air Pressure, psi	Air Consumption, cfm	Max. Viscosity, cp	Intake Tube Lg.	Intake Tube OD	Discharge Connection		
For Lubricating Oils											
1/4	6	15	10° to 150°	0-150	14	8,750	22″	1¾″	1/2	**4262K52**	$496.27
1/4	9	55	180°	40-140	5	2,200	31″-60″	1⅝″	3/4	**41835K39**	493.33
1/4	10	55	140°	29-142	12	1,500	35″	2″	3/4	**4346K35**	497.74
1/4	14	55	180°	40-140	7	2,200	31″-60″	1⅝″	3/4	**2557K21**	488.61
3/8	6	55	180°	40-140	7	2,200	31″-60″	1⅝″	3/4	**2558K51**	750.12
For Flammable Liquids											
1/4	4	55	40° to 200°	0-150	10	7,500	33 11/16″	2⅛″	3/4	**4304K51**	1,545.23

Extended-Life Air-Powered Drum Pumps

Also known as diaphragm pumps, these have few moving parts that can fail for a long service life. Pumps fit 55-gallon drums and include a 2 NPT drum connector. All pumps have an NPT female air connection. Choose a pump with a PTFE diaphragm for superior resistance to a wider variety of concentrated chemicals than Santoprene or Buna-N. **Repair kits** include diaphragms, valves, and seals.

For Lubricating Oils—Pump has an aluminum housing and NPT female intake and discharge connections.

For Fuels and Lubricating Oils—For use with diesel fuel, gasoline, kerosene, and mineral spirits as well as hydraulic oil and motor oil, this pump has an aluminum housing. Intake and discharge connections are NPT female.

For Flammable Liquids—Compatible with acetone, ethanol, gasoline, and other flammable alcohols and solvents, this pump has a Type 316 stainless steel housing. Intake and discharge connections are NPT female.

For Food and Beverage—Constructed from FDA-compliant materials, this pump is designed for use in food and beverage applications. Housing is Type 316 stainless steel. Pump has sanitary quick-clamp intake and discharge connections and includes a quick-clamp fitting.

For Acids and Alkalies—Often used with caustics such as ammonia, electropolishing solutions, and detergents and cleaning fluids, these pumps have a polypropylene housing. Intake and discharge connections are NPT female.

For Concentrated Acids and Alkalies—A chemically resistant PVDF housing can stand up to aggressive chemicals such as 100% hydrochloric acid and 100% sulfuric acid. Intake and discharge connections are NPT female.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **8281KAC.**



Bottom Connection



Side Connection

Air Connection	Flow Rate, gpm	Temperature Range, °F	Diaphragm Material	Air Pressure, psi	Air Consumption, cfm	Max. Viscosity, cp	Intake/ Discharge Connections	Intake Tube Lg.	Pumps		Repair Kits	
Bottom Connection												
For Lubricating Oils												
1/4	31	10° to 180°	Buna-N	100	40	8,000	3/4	39″	**8281K13**	$663.93	**8281K131**	$107.14
For Fuels and Lubricating Oils												
1/4	28	40° to 212°	PTFE	100	40	8,000	3/4	39″	**8281K14**	770.49	**8281K141**	312.50
For Flammable Liquids												
1/4	28	40° to 212°	PTFE	100	40	8,000	3/4	39″	**8281K16**	1,598.36	**8281K141**	312.50
For Food and Beverage												
1/4	28	40° to 212°	PTFE	100	40	8,000	1	39″	**3516K11**	2,598.36	**3516K93**	318.18
Side Connection												
For Acids and Alkalies												
1/4	13	30° to 180°	Santoprene	100	12	3,000	1/2	36″	**2534K18**	434.43	**8281K46**	80.36
1/4	13	40° to 180°	PTFE	100	12	3,000	1/2	36″	**8281K52**	483.61	**8281K111**	125.00
1/4	28	40° to 180°	PTFE	100	40	8,000	3/4	36″	**8281K57**	827.87	**8281K48**	339.29
1/4	31	30° to 180°	Santoprene	100	40	8,000	3/4	36″	**8281K55**	770.49	**8281K47**	107.14
For Concentrated Acids and Alkalies												
1/4	13	40° to 212°	PTFE	100	12	3,000	1/2	36″	**2534K54**	1,196.72	**8281K111**	125.00

Inline Pumps for Coolants and Lubricating Oils

Install these pumps right in your line, and engage the lever handle to start pumping. With few moving parts that can fail, they can handle abrasive liquids with solids up to 1/8″ dia. Housing is acetal. Maximum discharge pressure is 35 feet of head (15 psi). Intake and discharge connections are barbed.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search for **4332KAC.**



Flow Rate, oz./Stroke	Temperature Range, °F	Max. Viscosity, cp	For Hose ID	Ht.	Wd.	Dp.		
14	32° to 150°	100,000	1″	4 3/8″	4 3/8″	12 3/4″	**4332K31**	$71.91
17	32° to 150°	100,000	1 1/2″	4 1/4″	4 3/8″	13 1/8″	**4332K33**	88.09

About Pump Performance

Choosing the best pump for your application depends primarily on:

- How high you're pumping your liquid
- How much your liquid slows down as it flows through your pipe

These two factors create your total feet of head—the amount of pressure working against your pump.

A pump's flow rate in gallons per minute (gpm) at a given pressure in feet of head is known as **max. flow @ feet of head**. As pressure increases, flow decreases. When the liquid reaches a height where the pressure is greater than the pump's power, flow stops entirely. This point is called **max. ft. of head**. Pumps generally operate most efficiently at around 80% of the max. ft. of head.

How to Calculate Max. Flow @ Feet of Head

To select a pump, you must know how much vertical pipe you have and the flow resistance of your system.

In small applications without much pipe, flow resistance is generally low, so the actual number of feet of vertical pipe is usually a good estimate of the feet of head you need. You can also add a few feet to account for the minimal flow resistance.

For large applications, you need to know your pipe size, flow rate, and the total length of pipe in your system. Find your pipe size in the chart below, and read across to the flow resistance value that corresponds with your flow rate. Then add the flow resistance value to your number of vertical feet of pipe for the feet of head required.

Example Pump Performance Curve

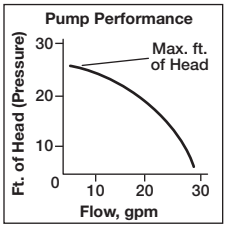

The curve shows how the flow rate changes for this pump as pressure increases. It pumps approximately:

- 25 gpm @ 10 ft. of head
- 15 gpm @ 20 ft. of head
- 0 gpm @ 25 ft. of head

This pump operates most efficiently at 20 ft. of head, or 80% of the max. ft. of head (25 ft. of head).

Flow Resistance Values for 100 Feet of PVC Pipe

Pipe Size	Flow Rate, gpm 5	10	15	20	25
3/4	5.66	20.40	43.30	73.50	___
1	1.75	6.31	13.50	22.80	34.60
1 1/4	0.46	1.67	3.53	6.00	9.06
1 1/2	0.22	0.79	1.67	2.83	4.26
2	___	0.23	0.49	0.84	1.27

For 50 feet of PVC pipe, split these values in half; for 200 feet, double the values. Metal pipe has about twice as much flow resistance as PVC, so double these values for 100 feet of metal pipe. Fittings and valves can also add up to 3% additional resistance.

Pumping Flammable Liquids—When using a pump approved for flammable liquids, always bond and ground your application for static control. For more information about bonding and grounding, see Sections 1910.106 and 1910.107 of the Federal OSHA Code. For bonding and grounding equipment, see pages 980-981.

About Sump, Water-Removal, Condensate, and Submersible Pumps

Sump pumps drain accumulated water from a sump pit. Be sure to choose the right capacity pump for your application. A pump that doesn't have enough flow won't be able to keep up with water flowing into your sump pit. But a pump that is too powerful and has too high a flow rate will start and stop too fast. Both situations can cause premature pump failure.

Water-removal pumps move water out of flooded open areas. Generally, they are not used with a sump pit.

Condensate pumps typically have a tank in which condensate accumulates from HVAC or refrigeration systems.

Submersible pumps are compact and have low horsepower motors. They're often used to circulate liquids in small tanks and baths.

When selecting a pump, choose from several activation options:

Plug-In Activation—Pumps do not have a switch. Plug in to turn on.

Separate Float-Switch Activation—The piggyback float switch has a separate cord and is not wired to the pump, so you can replace it without replacing the whole pump.

Integrated Float-Switch Activation—The float switch is part of the pump, which provides a smaller footprint than a separate float switch.

Pressure-Switch Activation—The pressure switch design has no external moving parts to catch on sump walls.



Piggyback Switch

Sump Pumps for Water

Sump Pumps for Water



Integrated Float-Switch Activation



Separate Float-Switch Activation



Pressure-Switch Activation

Remove accumulated water from sump pits, loading docks, and cooling towers. Pumps have a continuous duty, single-phase motor with thermal overload protection and a cord with plug. A minimum open area of 18″ Dia. x 24″ Dp. is required for operation. Use with debris-free water. Submerge pumps while in use and do not run dry. Intake is screened and discharge has a 1 1/2 NPT female connection, except discharge for light duty pumps has a 1 1/4 NPT female connection. Temperature range is 33° to 120° F. All pumps are CSA certified.

Light duty pumps have a zinc housing.

Heavy duty pumps have a cast iron housing that stands up to demanding environments.

Extended-life heavy duty pump has a rugged bronze housing for a long service life.

Max. Flow, gpm @ 5 ft. of Head	@10 ft. of Head	@15 ft. of Head	Max. ft. of Head	Switch Level Turns On	Turns Off	hp	Volts AC @ 60 Hz	Amps	Ht.	Wd.	Dp.	Cord Lg., ft.		
Light Duty Pumps														
Integrated Float-Switch Activation														
35	30	20	25	10″	5″	1/4	120	8.5	11″	9″	6″	10	9989K41	$178.28
35	30	20	25	10″	5″	1/4	120	8.5	11″	9″	6″	25	9989K37	184.86
Heavy Duty Pumps														
Plug-In Activation														
46	29	13	18	___	_	1/3	120	9	8″	10″	8″	10	9989K54	138.22
46	29	13	18	___	_	1/3	120	9	8″	10″	8″	25	9989K31	165.53
54	42	26	22.9	___	_	2/5	120	10	6″	10″	9″	10	9989K56	238.07
54	42	26	22.9	___	_	2/5	120	10	6″	10″	9″	25	9989K32	252.74
Separate Float-Switch Activation														
46	29	13	18	11″	5″	1/3	120	9	8″	10″	8″	10	9989K45	188.66
Integrated Float-Switch Activation														
67	57	52	36	11″	5″	1/2	120	6.5	12″	11″	9″	10	9989K61	251.97
67	57	52	36	11″	5″	1/2	120	6.5	12″	11″	9″	20	9989K62	268.92
Pressure-Switch Activation														
46	29	13	18	10″	4″	1/3	120	9	6″	10″	9″	10	9989K53	144.71
54	42	26	22.9	10″	4″	2/5	120	10	6″	10″	9″	10	9989K33	254.93
54	42	26	22.9	10″	4″	2/5	120	10	6″	10″	9″	25	9989K34	274.31
Extended-Life Heavy Duty Pump														
Pressure-Switch Activation														
54	42	26	22.9	10″	4″	2/5	120	10	6″	10″	9″	10	9989K55	354.95
Switch Repair Kit for Pumps with Pressure-Switch Activation													9989K71	18.44

Clog-Resistant Sump Pumps for Water

Intake is 2″ from the base of the pump to prevent dirt at the bottom of your sump pit from clogging the pump. Pumps have a 400 series stainless steel housing. Motor is intermittent duty and single phase with thermal overload protection and an 8-ft. cord with plug. Pumps have an integrated float switch for activation. A minimum open area of 11″ Dia. × 18″ Dp. is required for operation. Intake is screened and discharge has a 1½ NPT female connection. Temperature range is 40° to 120° F. All pumps are CSA certified.



Max. Flow, gpm			Max.	Switch Level			Volts						
@ 5 ft. of Head	@ 10 ft. of Head	@ 15 ft. of Head	ft. of Head	Turns On	Turns Off	hp	AC @ 60 Hz	Amps	Ht.	Wd.	Dp.		
57	45	28	18	9″	4″	1/3	120	3.8	12″	10″	8″	2348K21	$148.14
65	52	35	20	9″	4″	1/2	120	4	12″	10″	8″	2348K22	153.93
81	66	49	22	9″	4″	1	120	9.8	12″	10″	8″	2348K23	232.33

High-Flow Sump Pumps for Water

Keep up with high water volumes—a high-horsepower motor accommodates twice the flow of standard sump pumps. This pump has an epoxy-coated cast iron housing. It has an intermittent duty, single-phase motor with thermal overload protection and a cord with plug. Pump has a separate (piggyback) float switch for activation. A minimum open area of 24″ Dia. × 30″ Dp. is required for operation. For use with solids up to ¾″ dia., it has a screenless, nonclogging design. Discharge has a 1½ NPT connection. Temperature range is 33° to 130° F. CSA certified.



Max. Flow, gpm				Max.	Switch Level			Volts							
@ 5 ft. of Head	@ 10 ft. of Head	@ 15 ft. of Head	@ 20 ft. of Head	ft. of Head	Turns On	Turns Off	hp	AC @ 60 Hz	Amps	Ht.	Wd.	Dp.	Cord Lg., ft.		
100	93	85	79	50	15″	5″	1/2	120	15.5	20″	13″	11″	20	4244K11	$1,010.19

Water-Powered Backup Sump Pumps

Don't let a power outage cause flooding. Powered by water flow in your supply line, this pump works as a backup to your primary sump pump. It operates on water pressure of 30 to 100 psi. The water inlet has ¾ NPT female threads and comes with a push-to-connect fitting for ¾″ ID tubing so you can make either connection. Housing is plastic. Pump has an integrated float switch for activation. A minimum open area of 18″ Dia. × 22″ Dp. is required for operation. Use with debris-free water. Intake is screened and has a foot valve to prevent debris from entering your line. Discharge has a 1½ unthreaded socket weld female connection for use with Schedule 40 pipe. Maximum temperature is 130° F.



Max. Flow, gpm							
@ 4 ft. of Head	@ 8 ft. of Head	@ 15 ft. of Head	Ht.	Wd.	Dp.		
15.4	12.5	7.2	22″	15″	22″	9312T11	$239.00

Easy-Maintenance Sump Pumps for High-Temperature Water

A pedestal-mounted motor design provides easy access for maintenance. And since the motor never comes into contact with water, these pumps can be used with hot water. Housing is Type 316 stainless steel. Motor is continuous duty and single phase with thermal overload protection. Pumps have an integrated float switch for activation.

Pumps with totally enclosed fan-cooled (TEFC) motor are ideal for dusty environments. They have an 8-ft. cord with plug. A minimum open area of 18″ Dia. × 24″ Dp. is required for operation. Discharge has a 1½ NPT female connection. Temperature range is 40° to 200° F. Pumps are UL listed. *Float-switch repair kit* includes a switch, a float, and a float rod.

Pump with hazardous-location motor has a NEMA 56C-face totally enclosed fan-cooled (TEFC) motor that is UL listed and CSA certified for Class I, Group D and Class II; Groups F and G, Division I and II hazardous locations. Motor has screw terminals and a ½ NPT female conduit connection. A minimum open area of 17″ Dia. × 12″ Dp. is required for operation. Discharge has a 1¼ NPT female connection. Temperature range is 40° to 300° F.



Totally Enclosed Fan-Cooled (TEFC) Motor

Max. Flow, gpm					Switch Level			Volts						
@ 5 ft. of Head	@ 10 ft. of Head	@ 15 ft. of Head	Max. ft. of Head	Max. Solid Dia.	Turns On	Turns Off	hp	AC @ 60 Hz	Amps	Ht.	Wd.	Dp.		
Totally Enclosed Fan-Cooled (TEFC) Motor														
55	44	30	20	3/8″	24″	6½″	1/3	120	6	39″	11″	11″	4317K86	$545.05
65	58	49	25	3/8″	24″	6½″	1/2	120	8.6	38″	11″	11″	4317K87	550.45
Float-Switch Repair Kit for Pumps with Totally Enclosed Fan-Cooled (TEFC) Motor													4317K91	123.04
Hazardous-Location Motor														
60	60	55	38	1/4″	24″	6″	1/2	120/240	7.4	42″	17″	15″	4323K43	2,181.31

Heavy Duty Battery-Operated Water-Removal Pumps

This pump has an impact-resistant aluminum housing and handles larger solids than other battery-operated water-removal pumps. Attach it to a 12-volt vehicle battery to remove water down to 1/4″ in locations without power. Pump has an intermittent duty motor with thermal overload protection that can handle up to one hour on. Battery cable has an on/off switch for activation and is 30 feet long. Do not run dry. Pump handles solids up to 1/4″ dia. Intake is screened. Discharge has an NPT female connection. Temperature range is 35° to 190° F.



Max. Flow @ 5 ft. of Head	Max. ft. of Head	hp	Amps	Discharge, Pipe Size	Ht.	Dia.		
41 gpm	20	1/3	30	1 1/2	22 3/64″	9 37/64″	1435N1	$1,120.00

Sump Pumps for Water

For information about pump performance and sump pumps, see page 364.

Sump Pumps with Basin



For Debris-Free Water and Water with Solids, View Inside Basin



For Sewage Water

Convenient for applications where a sump pit is impractical, these pumps include a basin. They have a cast iron housing. Motor is continuous duty and single phase with thermal overload protection and a cord with plug. Basin has a vent on top with 2 NPT female threads.

Pumps for debris-free water have a pressure switch for activation. Basin is polypropylene. Intake and discharge have a 1½ NPT female connection. Temperature range is 33° to 125° F.

Pump for water with solids handles solids up to ¾″ dia. It has a separate (piggyback) float switch for activation. Basin is polypropylene. Intake and discharge have a 1½ NPT female connection. Temperature range is 33° to 125° F.

Pumps for sewage water handle solids up to 2″ dia. They have a separate (piggyback) float switch for activation. Basin is polyethylene. Intake is unthreaded; it has a 4″ OD. Discharge has a 2 NPT female connection. Temperature range is 33° to 104° F.

Basin Capacity, gal.	Max. Flow, gpm @ 5 ft. of Head	@ 10 ft. of Head	@ 15 ft. of Head	Max. ft. of Head	Switch Level Turns On	Turns Off	hp	Volts AC @ 60 Hz	Amps	Ht.	Wd.	Dp.	Cord Lg., ft.		
For Debris-Free Water															
3.5	46	29	12	18	7″	3″	⅓	120	9	11″	15″	15″	10	99685K53	$305.43
5	46	29	12	18	10″	4″	⅓	120	9	16″	15″	15″	10	99685K55	305.43
For Water with Solids															
5	80	70	60	32	10″	5″	⅖	120	9	16″	15″	15″	10	9333T11	590.48
For Sewage Water															
41	125	100	65	20	11½″	4½″	⅖	120	12	24″	29″	25″	10	2921K51	552.10
41	140	119	91	24	11½″	4½″	½	120	12	24″	29″	25″	10	2921K52	610.76
41	144	126	105	28	11½″	4½″	¾	120	12	24″	29″	25″	10	2921K53	891.44

Sump Pumps for Water with Solids



Plug-In Activation



Separate Float-Switch Activation



Integrated Float-Switch Activation

Also known as effluent pumps, these have a large impeller, intake, and internal flow path to accommodate solids in your water. Housing is epoxy-coated cast iron. Pumps have a continuous duty, single-phase motor with thermal overload protection and a cord with plug. A minimum open area of 18″ Dia. × 24″ Dp. is required for operation. Submerge pumps while in use and do not run dry. Discharge has a 1½ NPT female connection. Pumps are CSA certified.

Standard pumps have a temperature range of 33° to 140° F.

High-temperature pumps have a temperature range of 33° to 200° F.

Max. Flow, gpm @ 5 ft. of Head	@ 10 ft. of Head	@ 15 ft. of Head	@ 20 ft. of Head	Max. ft. of Head	Max. Solid Dia.	Switch Level Turns On	Turns Off	hp	Volts AC @ 60 Hz	Amps	Ht.	Wd.	Dp.	Cord Lg., ft.		
Standard Pumps																
Plug-In Activation																
53	50	42	34	28	½″	—	—	⅓	120	5	11″	9″	9″	20	43155K12	$186.38
60	50	45	40	60	¾″	—	—	½	120	9.5	11″	10″	7″	20	43155K13	474.47
Separate Float-Switch Activation																
53	50	42	34	28	½″	15″	8″	⅓	120	5	11″	9″	9″	10	43155K23	206.29
60	50	45	40	60	¾″	14″	6″	½	120	9.5	11″	10″	7″	20	43155K21	507.88
80	70	60	45	32	¾″	14″	6″	⅖	120	9	10″	10″	7″	20	43155K19	305.00
Integrated Float-Switch Activation																
53	50	42	34	28	½″	11″	5″	⅓	120	5	12″	11″	9″	10	43155K14	185.78
60	50	45	40	60	¾″	12″	6″	½	120	9.5	13″	11″	8″	20	43155K16	541.30
High-Temperature Pumps																
Plug-In Activation																
75	65	60	40	30	¾″	—	—	½	120	9.5	11″	10″	7″	15	43215K52	558.58
Integrated Float-Switch Activation																
50	42	27	—	20	½″	14″	4″	⅓	120	10.1	11″	9″	9″	15	43215K42	465.63
75	65	60	40	30	¾″	14″	4″	½	120	9.5	11″	10″	7″	15	43215K62	683.10

High-Flow Sump Pumps for Water with Solids



Move high volumes of water with solids to greater heights than with other sump pumps. Also known as effluent pumps, these have a large impeller, intake, and internal flow path to handle solids up to ¾″ dia. Housing is epoxy-coated cast iron. Pumps have a continuous duty, single-phase motor with thermal overload protection. They plug in to activate. Submerge pumps while in use and do not run dry. A minimum open area of 24″ Dia. × 36″ Dp. is required for operation. Intake is screened and discharge has an NPT female connection. Temperature range is 33° to 140° F. Pumps are CSA certified.

Max. Flow, gpm @ 20 ft. of Head	@ 30 ft. of Head	@ 40 ft. of Head	@ 50 ft. of Head	Max. ft. of Head	hp	Amps	Discharge, Pipe Size	Ht.	Wd.	Dp.		
120 Volts AC @ 60 Hz—20-ft. cord with plug												
45	7	—	—	32	⅖	9	1½	10″	10″	7″	43155K26	$220.28
60	40	20	—	50	½	12.5	2	17″	15″	10″	43155K25	703.42
240 Volts AC @ 60 Hz—20-ft. wire leads												
—	90	70	52	81	1	10.2	2	17″	15″	10″	43155K27	822.40
135	125	110	98	110	2	16.4	2	18″	13″	9″	43155K28	1,036.86

For information about pump performance and sump pumps, see page 364.

Sump Pumps for Sewage Water

Equipped with a large intake and rugged impeller, these pumps transfer sewage water with solids up to 2″ dia. They have a heavy duty cast iron housing that stands up to demanding environments. Discharge has a 2 NPT female connection, unless noted. All pumps are CSA certified.

Standard pumps have a continuous duty, single-phase motor with thermal overload protection. A minimum open area of 18″ Dia. × 24″ Dp. is required for operation. Submerge pumps while in use and do not run dry. Temperature range is 33° to 140° F.

High-flow pumps have an intermittent duty (10 starts per hour; 15 seconds between starts), single-phase motor with thermal overload protection. A minimum open area of 24″ Dia. × 30″ Dp. is required for operation. Pumps can run dry. Temperature range is 33° to 104° F, except 5143K37 has a temperature range of 33° to 77° F.



Plug-In Activation



Separate Float-Switch Activation



Integrated Float-Switch Activation

Max. Flow, gpm @ 5 ft. of Head	@ 10 ft. of Head	@ 15 ft. of Head	Max. ft. of Head	Switch Level Turns On	Turns Off	hp	Volts AC @ 60 Hz	Amps	Ht.	Wd.	Dp.	Power Cord Lg., ft.	Connection		
Standard Pumps															
Plug-In Activation															
110	75	30	20	—	—	⅔	120	8.5	12″	12″	7″	20	Plug	42935K14	$275.50
120	95	70	25	—	—	½	120	9.5	12″	12″	7″	20	Plug	42935K15	360.61
120	95	70	25	—	—	½	208/240	5/4.5	12″	11″	7″	20	Wire Leads	42935K16	415.23
Separate Float-Switch Activation															
110	75	30	20	14″	6″	⅔	120	8.5	12″	12″	7″	20	Plug	42935K24	321.09
120	95	70	25	14″	6″	½	120	9.5	12″	12″	7″	20	Plug	42935K25	382.59
Integrated Float-Switch Activation															
120	95	70	25	12″	6″	½	120	9.5	13″	11″	9″	20	Plug	42935K32	393.35
High-Flow Pumps															
Plug-In Activation															
160	130	100	25	—	—	½	120	11.6	19″	10″	13″	15	Plug	5143K57	592.59
220	190	160	36	—	—	1	200/240	8.8/8.3	19″	10″	14″	30	Wire Leads	5143K35★	896.30
410	370	312	46	—	—	2	240	19	22″	13″	17″	20	Wire Leads	5143K45★	1,777.78
Separate Float-Switch Activation															
120	96	65	26	13″	6″	⅔	120	12	17″	8″	11″	15	Plug	5143K37	446.30
160	130	100	25	13″	6″	½	120	11.6	19″	10″	13″	15	Plug	5143K28	574.07
Integrated Float-Switch Activation															
160	130	100	25	20″	13″	½	120	11.6	19″	10″	13″	15	Plug	5143K72	577.78
160	130	100	25	20″	13″	½	240	5.9	19″	10″	13″	15	Plug	5143K73	594.44

★ Discharge has a 3 NPT female connection.

Energy-Efficient Sump Pumps for Sewage Water

Move waste water using less power. A heavy duty motor with sealed bearings generates a flow rate similar to our other sump pumps for sewage water while using fewer amps. Housing is Type 304 stainless steel. Pumps have a continuous duty motor with thermal overload protection. Pumps with integrated float-switch activation have a single-phase motor. Pumps with plug-in activation have a three-phase motor. A minimum open area of 24″ Dia. × 24″ Dp. is required for operation; pumps can handle solids up to 2″ dia. Submerge pumps while in use and do not run dry. Discharge has a 2 NPT female connection. Temperature range is 34° to 104° F.



Integrated Float-Switch Activation

Max. Flow, gpm @ 5 ft. of Head	@ 10 ft. of Head	@ 15 ft. of Head	Max. ft. of Head	Switch Level Turns On	Turns Off	hp	Amps	Ht.	Wd.	Dp.		
120 Volts AC @ 60 Hz—25-ft. cord with plug												
Integrated Float-Switch Activation												
100	77	52	21	32″	12″	½	5.3	22″	9″	8″	42495K31	$1,030.00
130	107	82	26	32″	12″	1	8.8	23″	9″	8″	42495K32	1,198.33
240 Volts AC @ 60 Hz—25-ft. wire leads												
Plug-In Activation												
130	107	82	26	—	—	1	3.1	20″	9″	8″	42495K96	1,128.33
—	175	159	46	—	—	2	6.1	21″	9″	8″	42495K97	1,308.33
Integrated Float-Switch Activation												
139	124	106	33	29″	15″	1½	6.4	21″	9″	8″	42495K34	1,275.00

Clog-Resistant Sump Pumps for Sewage Water

Also known as grinder pumps, these have stainless steel blades that prevent clogs by breaking down sewage into an easy-to-transfer slurry. Housing is epoxy-coated cast iron. A minimum open area of 24″ Dia. × 48″ Dp. is required for operation. Do not use with metal particles or debris that could damage blades. Submerge pumps while in use and do not run dry. Discharge has a 1¼ NPT female connection. Pumps are CSA certified.

Pump with separate float-switch activation has an intermittent duty (two hours on; one hour off), single-phase motor with thermal overload protection. Temperature range is 33° to 140° F.

Pump with integrated float-switch activation has an intermittent duty (eight starts per hour), single-phase motor with thermal overload protection. Maximum temperature is 130° F. Pump is UL listed.



Separate Float-Switch Activation

Max. Flow, gpm @ 20 ft. of Head	@ 60 ft. of Head	@ 100 ft. of Head	Max. ft. of Head	Switch Level Turns On	Turns Off	hp	Volts AC @ 60 Hz	Amps	Ht.	Wd.	Dp.		
Separate Float-Switch Activation—20-ft. wire leads													
32	30	20	130	24″	10″	2	208/240	13.9	22″	12″	10″	2758K24	$1,424.81
Integrated Float-Switch Activation—20-ft. cord with plug													
46	43	7	107	24″	6″	2	240	13.7	19″	12″	8″	2758K28	1,580.09

Pump Accessories & Water-Removal Pumps

For information about pump performance, pump switches, and water-removal pumps, see page 364.

Sump Pump Switches

Replace an existing switch, or convert a pump with plug-in activation to switch activation. *120-volt* switches have a piggyback plug. *240-volt* switches have no plug, except the 240-volt separate float switch has a piggyback plug.

Separate Float Switches



Hang these switches in a sump pit to detect rising water level. They can be used with up to ½ hp motors. Switches have a polypropylene housing and come with a stainless steel clamp. Maximum temperature is 140° F.

Volts AC @ 60 Hz	Amps	Cord Lg., ft.		
120	13	15	5142K68	$40.00
240	13	15	5142K72	54.00

Separate Dual Float Switch with Alarm



If the primary float fails, the backup float kicks in and an alarm sounds to indicate float malfunction. The floats are enclosed in a mounting cage to minimize false switch activation. The switch can be used with motors that operate on up to 15 amps. It has an ABS housing and comes with a stainless steel clamp. Maximum temperature is 104° F.

Volts AC @ 60 Hz	Amps	Cord Lg., ft.		
120	12	4	2506K15	$74.38

Heavy Duty Sewage Switch



Activate your pump in dirty water that contains sludge and sewage. This switch senses level changes through its plastic housing, and it has no moving parts for a longer life than float switches. It can be used with up to ½ hp motors. Temperature range is 33° to 122° F. Switch is UL listed.

Volts AC @ 60 Hz	Amps	Cord Lg., ft.		
120	12	15	9382T86	$198.84

Pressure Switches



Since these switches activate on increasing pressure caused by rising water levels, they have no floats to catch on sump pit walls. They can be used with up to ½ hp motors. Housing is nylon. Temperature range is 33° to 120° F.

Volts AC @ 60 Hz	Amps	Cord Lg., ft.		
120	10	18	9326T11	$89.60
240	10	8	9326T12	76.49

Oil-Detection Switches



To prevent contamination, these switches won't activate if they sense oil in your sump pit. Switches have a probe to detect the liquid level—it activates when it senses water and deactivates when it senses oil. They can be used with up to 1 hp motors. Housing is plastic. Temperature range is 33° to 170° F. Switches are UL listed and CE certified.

Volts AC @ 60 Hz	Amps	Cord Lg., ft.		
120	16	20	9391T11	$651.43
240	16	20	9391T12	617.14

Pump-Saver Adjustable-Cycle Switch



Extend your pump's service life by limiting its running time to the needs of your application. Set the dial to a time interval. Switch has a probe to detect the liquid level for activation. It can be used with up to 1 hp motors. Housing is plastic. Temperature range is 33° to 170° F. Switch is UL listed and CE certified.

Volts AC @ 60 Hz	Amps	Cord Lg., ft.		
120	16	20	9394T11	$384.00

Sump Pump Accessories

1¼ and 1½ NPT Drain Hose Kits



Kits include 24 feet of flexible polyethylene tubing, a polypropylene male adapter, a stainless steel clamp, and an ABS check valve with NPT male threads. Temperature is not rated.

Pipe Size		
1¼	5142K92	$10.22
1½	5142K93	13.56

Suction Strainer



An unthreaded SBR rubber fitting on this polypropylene strainer fits ¾ NPT male and garden hose connections.

5142K81 ..... $14.47

NPT-to-Socket Adapter



Connect a 1¼ NPT female discharge to 1½″ unthreaded Schedule 40 PVC pipe. Max. temp. is 140° F.

5142K95 ..... $2.71

High Liquid-Level Alarm



An 85-decibel alarm and a red light alert you when water level rises too high. A float with a 20-ft. cord detects water level and activates the alarm. It operates on 120 volts AC @ 60 Hz. Alarm has a thermoplastic enclosure that meets NEMA 3R for indoor/outdoor use and light splashing.

9323T11 ..... $204.00

Basin



Place your pump inside this basin for ground-level applications and below-ground use without a sump pit. It measures 18″ Dia. × 30″ Dp. and is made of structural foam. Discharge connection is 2 NPT female. Basin has a vent on top with 2 NPT female threads. Maximum temperature is 130° F.

5142K11 ..... $257.37

Pumps for Water Removal



Clean up water in flooded open areas without a sump pit. Pumps have an intermittent duty, single-phase motor with thermal overload protection and a cord with plug. Use with debris-free water that's at least 2″ deep. Plug in pumps to activate. Submerge pumps while in use and do not run dry. Intake is screened and discharge has a 1¼ NPT female connection and comes with a garden hose adapter. Temperature range is 33° to 120° F. All pumps are UL listed and CSA certified.

Standard pumps have a polypropylene housing. *¼-hp pump* removes water down to ⅛″ deep. *⅓-hp pump* removes water down to ⅝″ deep.

Impact-resistant pumps have a heavy duty painted aluminum housing. They remove water down to ⅛″ deep.

Max. Flow, gpm @ 5 ft. of Head	@ 10 ft. of Head	@ 15 ft. of Head	@ 20 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz	Amps	Ht.	Wd.	Dp.	Cord Lg., ft.		
Standard Pumps													
19	17	13	8	25	¼	120	6	10″	8″	8″	8	3023K41	$104.42
29	27	21	12	28	⅓	120	10	11″	8″	8″	8	99805K12	121.63
Impact-Resistant Pumps													
19	17	13	8	25	¼	120	5.6	9″	7″	7″	8	4250K51	126.63
19	17	13	8	25	¼	120	5.6	9″	7″	7″	25	4250K52	136.54

For information about pump performance and water-removal pumps, see page 364.

Easy-Carry Pumps for Water Removal

Handy for on-the-go cleanup in flooded open areas, these pumps have a lightweight epoxy-coated aluminum housing with a handle. They remove water down to 1/8″ deep. Motor is single phase with thermal overload protection and has a cord with plug. Pumps are intermittent duty when partially submerged (three hours on; 30 minutes off). They are continuous duty when completely submerged. Use in debris-free water that's at least 3/4″ deep. Do not run dry. Intake is screened and discharge has a 1 NPT female connection and includes a garden hose adapter. Temperature range is 33° to 120° F. All pumps are CSA certified.



Plug-In Activation



Separate Pressure-Switch Activation



Integrated Float-Switch Activation

Max. Flow, gpm @ 5 ft. of Head	@ 10 ft. of Head	@ 15 ft. of Head	@ 20 ft. of Head	Max. ft. of Head	Switch Level Turns On	Turns Off	hp	Volts AC @ 60 Hz	Amps	Ht.	Wd.	Dp.	Cord Lg., ft.		
Plug-In Activation															
18	17	14	9	26.3	—	—	1/6	120	5	8″	7″	5″	10	**99835K61**	$132.22
18	17	14	9	26.3	—	—	1/6	120	5	8″	7″	5″	18	**99835K62**	139.82
18	17	14	9	26.3	—	—	1/6	120	5	8″	7″	5″	25	**99835K63**	144.64
Separate Pressure-Switch Activation															
18	17	14	9	26.3	3″	11½″	1/6	120	5	8″	8″	5″	18	**99835K82**	194.27
18	17	14	9	26.3	9″	4″	1/6	120	5	8″	8″	5″	10	**99835K81**	184.87
Integrated Float-Switch Activation															
18	17	14	9	26.3	11″	3″	1/6	120	5	9″	7″	5″	10	**99835K83**	184.87

Battery-Operated Pumps for Water Removal

Transfer water in locations without power—pumps include battery cables with clamps for connection to a 12-volt vehicle battery. They remove water down to 7/8″ deep. Housing is acetal. Pumps have an intermittent duty motor with thermal overload protection that can handle up to one hour on. Battery cables have an on/off switch for activation and are 25 feet long. Do not run dry. Pumps handle solids up to 1/8″ dia. Intake is screened. Discharge is unthreaded; use a hose clamp (not included) for connection. 9331T11 also comes with a garden hose adapter. All pumps have a temperature range of 33° to 85° F.



Standard



High Flow

Max. Flow, gpm @ 5 ft. of Head	@10 ft. of Head	@15 ft. of Head	Max. ft. of Head	hp	Volts DC	Amps	Discharge, For Hose ID	Ht.	Wd.	Dp.		
Standard												
28	23	16	20	1/6	12	12	1 1/8″	8″	5″	7″	**9331T11**	$168.30
58	48	35	20	1/5	12	20	2″	10″	6″	8″	**9331T12**	202.30
High Flow												
106	81	60	20	1/5	12	30	3″	10″	6″	13″	**9331T13**	304.30

High-Flow Pumps for Water Removal

Quickly remove large volumes of water from flooded open areas. Housing is Type 304 stainless steel and has a top-discharge design that routes water through the pump to cool the motor. Pumps have a single-phase motor with thermal overload protection and a cord with plug. They handle solids up to 3/8″ dia. Do not run dry. Intake is screened. Temperature range is 33° to 120° F.

High-Flow Pumps—All have an intermittent duty motor (eight hours on completely submerged). They are UL listed.

1/3 hp pumps remove water down to 1″ deep. Use in water that's at least 2″ deep. When partially submerged, motor handles up to 10 starts per hour. Discharge has a 1 1/4 NPT female connection.

1/2 hp pumps remove water down to 2″ deep. Use in water that's at least 4″ deep. When partially submerged, motor handles up to 20 starts per hour. Discharge has a 1 1/2 NPT female connection. Pumps are also CSA certified.

Ultra High-Flow Pumps—These remove water down to 4″ deep. Use in water that's at least 10″ deep. Motor is continuous duty when completely submerged. When partially submerged, motor is intermittent duty (one hour on; 30 minutes off). Discharge has a 1 1/2 NPT female connection.



Plug-In Activation

Max. Flow, gpm @ 5 ft. of Head	@10 ft. of Head	@ 20 ft. of Head	@ 30 ft. of Head	Max. ft. of Head	Switch Level Turns On	Turns Off	hp	Volts AC @ 60 Hz	Amps	Ht.	Wd.	Dp.	10-ft. Power Cord		25-ft. Power Cord	
High-Flow Pumps																
Plug-In Activation																
48	43	23	—	26	—	—	1/3	120	4.9	9″	6″	6″	**42805K21**	$499.43	**42805K41**	$527.78
73	64	44	16	34	—	—	1/2	120	8	13″	9″	9″	**42805K22**	545.87	**42805K23**	573.02
Separate Float-Switch Activation																
48	43	23	—	26	11½″	5½″	1/3	120	4.9	9″	6″	6″	**42805K31**	497.02	**42805K51**	524.16
73	64	44	16	34	19¾″	11⅞″	1/2	120	8	13″	9″	9″	**42805K32**	567.59	**42805K33**	594.13
Ultra High-Flow Pumps																
Plug-In Activation																
—	70	50	24	36	—	—	1/2	120	10.3	15″	7″	7″	_____	_____	**3192K22**	755.56
—	84	65	42	44	—	—	3/4	240	5.7	16″	7″	7″	_____	_____	**3192K16**	885.02
—	—	82	61	52	—	—	1	240	6.3	16″	7″	7″	_____	_____	**3192K18**	966.12

Water-Removal Pumps

For information about pump performance and water-removal pumps, see page 364.

Miniature Pumps with Hose for Water Removal



Complete with a suction strainer and 6 feet of garden hose, this little pump comes ready to clean up small open spaces. Housing is reinforced plastic and has six 1/4″ mounting holes (fasteners not included). Pump has an intermittent duty, single-phase motor with thermal overload protection and a 6-ft. cord with plug. It turns on when you plug it in, removing water down to 1/8″ deep. Use with debris-free water and do not run dry. Intake and discharge have a garden hose connection. Temperature range is 33° to 77° F. Pump is CSA certified.

Repair kit includes an impeller, a seal, and an O-ring.

Max. Flow, gpm @ 5 ft. of Head	@ 10 ft. of Head	@ 15 ft. of Head	@ 20 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz	Amps	Ht.	Wd.	Dp.	Pump		Repair Kit	
5.5	5	4.5	4	43	1/12	120	2	6″	5″	7″	4193K11	$135.94	4193K21	$13.87

Compact Pumps with Internal Sensor for Water Removal



12 Volts DC



120 Volts AC

Also known as bilge pumps, these remove fresh and salt water from spots where other pumps don't fit. Pumps have an internal sensor, so they turn on when they detect water and turn off when the water is removed. The sensor checks for water at 2 1/2-minute intervals. Pumps are fully submersible. Use in debris-free water. Horsepower is not rated. Temperature range is 40° to 140° F.

Pumps for 12 volts DC turn on when water is 1 3/4″ deep. Housing is plastic. Pumps have a battery cabling connector for use with a 12-volt vehicle battery. Intake is screened and discharge has a barbed connection.

Pumps for 120 volts AC turn on when water is 1″ deep. They have a plastic housing and a cord with plug. Pumps come with a 1 NPT male adapter and a garden hose adapter. They are UL listed.

Max. Flow, gpm @ 5 ft. of Head	@ 10 ft. of Head	Max. ft. of Head	Amps	Discharge, For Tube ID	Ht.	Dia.	Cord Lg., ft.		
12 Volts DC									
5	1	12	2.5	3/4″	4″	3″	2.3	3022K11	$62.05
12	3	12	5	1 1/8″	5″	3″	2.3	3022K21	94.27
120 Volts AC									
20	13	—	—	1 1/8″	8″	5″	8	3022K42	221.68
20	13	—	—	1 1/8″	8″	5″	24	3022K43	237.55

Pumps for Sewage Water Removal



Vertical Discharge

Transfer waste water that contains solids up to 2″ dia. Pumps have a Type 304 stainless steel housing and remove water down to 4″ deep. Motor is single phase with thermal overload protection and has wire leads. Pumps are intermittent duty when partially submerged (five minutes on; 25 minutes off) and continuous duty when completely submerged. They have a separate (piggyback) float switch for activation. A minimum open area of 22″ Dia. × 24″ Dp. is required for operation. Use in water that's at least 4″ deep and do not run dry. All pumps are CSA certified.

Pumps with horizontal discharge have a 2 NPT male discharge connection. Temperature range is 33° to 104° F.

Pumps with vertical discharge have a 2 NPT female discharge connection. Temperature range is 33° to 131° F. Pumps are also UL listed.

Max. Flow, gpm @ 5 ft. of Head	@ 10 ft. of Head	@ 20 ft. of Head	Max. ft. of Head	Switch Level Turns On	Turns Off	hp	Volts AC @ 60 Hz	Amps	Ht.	Wd.	Dp.	Cord Lg., ft.		
Horizontal Discharge														
—	80	44	35	20″	12″	1	230	6.4	19″	10″	9″	10	4184K44	$716.03
—	80	44	35	20″	12″	1	230	6.4	19″	10″	9″	25	4184K94	739.91
—	114	79	46	20″	12″	1 1/2	230	8.4	19″	10″	9″	10	4184K46	1,093.82
—	114	79	46	20″	12″	1 1/2	230	8.4	19″	10″	9″	25	4184K96	1,120.12
Vertical Discharge														
100	78	41	33	20″	12″	1	230	6.3	18″	10″ Dia.	—	10	4184K31	953.80
100	78	41	33	20″	12″	1	230	6.3	18″	10″ Dia.	—	25	4184K81	978.23
134	114	77	41	20″	12″	1 1/2	230	8.4	18″	10″ Dia.	—	10	4184K32	1,188.31
134	114	77	41	20″	12″	1 1/2	230	8.4	18″	10″ Dia.	—	25	4184K82	1,212.74

Gasoline-Powered Pumps for Water Removal



Lightweight



High Flow

Remove water at sites without power. Pumps have a pull-start four-cycle engine that's self-priming up to 20 feet. Pumps are not submersible. Intake and discharge have NPT female connections.

Lightweight pumps have a polypropylene housing. Temperature range is 40° to 130° F.

High-flow pumps have a cast iron housing and a steel frame. Temperature range is 40° to 180° F.

High-flow pump for dredging handles up to 25% sand by volume in fresh and salt water. It's built with high-chromium stainless steel components that resist wear caused by abrasive particles. Housing is cast iron and frame is steel. Temperature range is 40° to 160° F.

Max. Flow, gpm @ 20 ft. of Head	@ 50 ft. of Head	@ 70 ft. of Head	@ 90 ft. of Head	Max. ft. of Head	Max. Solid Dia.	hp	Intake and Discharge, Pipe Size	Ht.	Wd.	Dp.	Fuel Capacity, qt.		
Lightweight Pumps													
128	85	53	14	110	7/16″	4	2	18″	14″	13″	2	3068K3	$384.64
132	106	84	56	124	7/16″	5	2	19″	16″	13″	2	3068K5	531.82
High-Flow Pumps													
140	100	52	—	98	3/8″	4	2	16″	16″	19″	3	43465K25	567.92
170	130	100	78	125	3/8″	6 1/2	2	20″	18″	18″	3	43465K27	675.54
285	215	160	65	102	3/4″	8	3	24″	22″	28″	4	43465K29	1,139.53
Wheel Kit for High-Flow Pumps (Includes two 10″ dia. solid wheels)												43465K41	149.48
High-Flow Pump for Dredging													
153	125	93	58	98	1/2″	5	2	20″	20″	25″	3.8	3066K44	1,126.73

For information about pump performance, water-removal pumps, and condensate pumps, see page 364.

Mobile Gasoline-Powered Pumps for Sewage Water Removal



Wheel these pumps to remote areas with no power. They can handle sewage water with thick sludge, silt, and debris up to 2″ dia. Pumps have a pull-start four-cycle engine that's self-priming up to 20 feet. They also have an integral check valve and suction strainer. Pumps are not submersible. Housing is aluminum. Intake and discharge have 4 NPT female connections. Temperature range is 40° to 180° F. 43925K39 includes an electric starter that operates on a 12-volt battery (sold separately).

Max. Flow, gpm @ 10 ft. of Head	@ 30 ft. of Head	@ 60 ft. of Head	@ 90 ft. of Head	@ 100 ft. of Head	Max. ft. of Head	hp	Ht.	Wd.	Dp.	Fuel Capacity, gal.		
530	475	350	180	115	118	13	37″	38″	45″	1.7	**43925K29**	$2,593.98
—	530	335	110	20	103	13	31″	38″	45″	2.3	**43925K39**	3,690.20
Optional 12-Volt Battery for 43925K39											**7238K57**	85.34

Hose Kits for Water-Removal Pumps



Use these kits with gasoline-powered water-removal pumps. They include a 20-ft. PVC suction hose, a suction strainer, and a 50-ft. PVC lay-flat discharge hose. Hose fittings are NPS (straight) threads; kits include two steel adapters to connect NPT female pump connections to NPS hose fittings.

For Pipe Size, NPT Female		
1½	**3072K21**	$123.40
2	**3072K22**	165.94

For Pipe Size, NPT Female		
3	**3072K23**	$303.30
4	**3072K24**	474.06

Condensate Pumps



Compact



Miniature



Standard



Low Profile



High Capacity and High Flow



High Temperature

Collect and remove condensate from air conditioners, refrigerators, dehumidifiers, and other equipment. Pumps have an intermittent duty, single-phase motor with thermal overload protection. They turn on and off automatically. 120-volt pumps have a cord with plug and 240-volt pumps have wire leads, unless otherwise stated. Min. temp. is 32° F.

Without Tank—Compact pumps are designed for installation inside your condensate collection tank or drain pan. They are fully submersible. Housing is aluminum. Intake is screened and discharge has a ¼ NPT male connection. Pumps are CSA certified.

With Tank—Equipped with a built-in container for condensate, these pumps work alongside your system. They are not submersible. Each has a safety switch that turns off your equipment in case of pump failure. The safety switch has wire leads for electrical connection. Pumps have a plastic housing.

Miniature pumps have a two-piece body so you can install the pump up to 3 feet away from the condensate reservoir. They have a cord with no plug and come with mounting brackets. Discharge has a ¼ NPT male connection. CSA certified.

Standard pumps are often used with medium tonnage air conditioning and refrigerating units. They have an integral check valve to prevent backward flow. Discharge has a barbed connection for ⅜″ ID tubing; pumps come with 20 ft. of ⅜″ ID vinyl tubing. CSA certified.

Low-profile pumps are for use in areas with limited clearance. They have an integral check valve to prevent backward flow. Discharge has a barbed connection for ⅜″ ID tubing. CSA certified.

High-capacity pumps handle heavy condensate accumulation. Discharge has a barbed connection for ⅜″ ID tubing. CSA certified.

High-flow pumps move condensate to greater heights than standard condensate pumps. Discharge has a compression fitting for ⅜″ OD copper tubing. CSA certified.

High-temperature pumps have screw terminals for electrical connection. They come with a check valve on the discharge to prevent backward flow. 1/20 hp pumps have a discharge with a compression fitting for ⅜″ OD copper tubing. ¼ and 1/5 hp pumps have a discharge with a compression fitting for ½″ OD copper tubing. All pumps are UL and C-UL listed.

Tank Size	Max. Flow, gpm @ 1 ft. of Head	@ 5 ft. of Head	@ 10 ft. of Head	Max. ft. of Head	Switch Level Turns On	Turns Off	hp	Volts AC @ 60 Hz	Amps	Max. Temp., °F	Ht.	Wd.	Dp.	Cord Lg., ft.		
Without Tank																
Compact																
—	3.4	2.4	—	10	1¾″	1¼″	1/150	120	1.1	120°	4⅜″	6⅜″	6⅛″	9	**8232K14**	$89.20
—	3.4	2.4	—	10	1¾″	1¼″	1/150	240	0.5	120°	4⅜″	6⅜″	6⅛″	11	**8232K24**	115.91
With Tank																
Miniature																
0.7 oz.	0.04	0.03	0.03	33	—	—	—	110/240	0.2	140°	2⅜″	1⅞″	4⅛″	5	**9367T13**	183.16
Standard																
0.5 gal.	1.3	1.1	0.8	17	2¼″	1¼″	1/30	120	1.5	120°	7″	5″	11″	6	**99575K21**	73.17
0.5 gal.	1.3	1.1	0.8	20	2¼″	1¼″	1/30	240	0.5	120°	7″	5″	11″	6	**99575K41**	78.69
Low Profile																
0.3 gal.	1.3	1.1	0.8	14	1″	½″	1/30	120	1.5	120°	5″	5″	12″	6	**99575K13**	85.09
0.3 gal.	1.3	1.1	0.8	20	1″	½″	1/30	240	0.5	120°	5″	5″	12″	6	**99575K33**	96.98
High Capacity																
1 gal.	4.5	4.1	3.5	24	3½″	2″	1/18	120	2.5	120°	10⅝″	6″	12″	6	**99575K15**	123.50
1 gal.	4.5	4.1	3.5	24	3½″	2″	1/18	240	1.2	120°	10½″	6″	12″	6	**99575K35**	132.67
High Flow																
1 gal.	7.5	7.3	6.8	45	3½″	2″	1/5	120	3.5	120°	10½″	6″	12″	6	**99575K22**	242.87
1 gal.	7.5	7.3	6.8	45	3½″	2″	1/5	240	1	120°	10½″	6″	12″	6	**99575K42**	270.54
High Temperature																
1 gal.	1.8	1.6	1.4	25	3 3/16″	⅞″	1/20	120	1.3	190°	10⅛″	6″	12″	—	**3198K17**	225.55
1 gal.	1.8	1.6	1.4	25	3 3/16″	⅞″	1/20	240	0.9	190°	10⅛″	6″	12″	—	**3198K33**	235.69
1 gal.	7.9	7.3	6.6	50	3 3/16″	⅞″	¼	120	4	212°	10⅛″	6″	12″	—	**3198K41**	305.15
1 gal.	8.1	7.5	6.8	50	3 3/16″	⅞″	1/5	240	1.9	212°	10⅛″	6″	12″	—	**3198K42**	315.60

Condensate & Submersible Pumps

For information about pump performance, condensate pumps, and submersible pumps, see page 364.

Steam Condensate Pumps with Tank

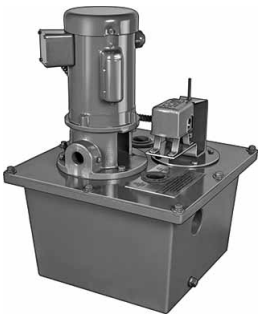

Standard

Increase efficiency in low-pressure steam systems—these pumps capture hot condensate and return it to the boiler or feed unit. Motors are continuous duty and single phase with an open dripproof (ODP) enclosure. Pumps have screw terminals for electrical connection. Standard pumps have an integrated float switch for activation, and extended-life pump has a mechanical alternator for activation.

Tank is cast iron. It has a 1¼ NPT female vent on top and a ½ NPT female drain on the side. Intake has a 2 NPT female connection and discharge has a 1 NPT female connection. Temperature range is 160° to 200° F. *Repair kit* includes a shaft, a bushing, a thrust washer, a spring washer, an oil seal, and snap rings. Purchase two kits to repair the extended-life pump.

Extended Life—To handle high condensate volume, the workload is distributed between two pumps for a longer service life than standard pumps. The second pump also provides redundancy so one pump can operate while you work on the other. The first pump turns on and off at the switch-level values listed in the table; the second pump turns on at 7½″ and off at 5¼″.

Tank Size, gal.	*Max. Flow, gpm* @ 35 ft. of Head	@ 50 ft. of Head	Max. ft. of Head	*Switch Level* Turns On	Turns Off	hp	Volts AC @ 60 Hz	Amps	Ht.	Wd.	Dp.		
Standard													
8	6.5	5.8	69	7¼″	5¼″	¼	120/240	5/2.5	26″	17″	17″	**4181K35**	$1,764.62
8	13	12	46	7¼″	5¼″	⅓	120/240	6/3.2	26″	17″	17″	**4181K55**	1,786.15
Extended Life													
15	13	12	46	6½″	4¼″	⅓	120/240	6/3.2	24″	22½″	22½″	**4181K59**	3,106.15
Repair Kit												**4181K91**	232.00

High-Flow Steam Condensate Pumps with Tank



Standard



Extended Life

Accommodate high flow in your low-pressure steam system. Use these pumps to capture hot condensate and return it to your boiler or feed unit. They have continuous duty, single-phase motors with an open dripproof (ODP) enclosure. Pumps have screw terminals for electrical connection. They turn on when the tank is ⅔ full and turn off when condensate drops to 6″ deep. Standard pumps have an integrated float switch for activation, and extended-life pumps have a mechanical alternator for activation.

Six- and 15-gallon tanks are cast iron. Twenty-gallon tank is steel. All tanks have a 1 NPT female vent on top and a ¾ NPT female drain on the side. Intake has a 2 NPT female connection and discharge has a 1 NPT female connection. Temp. range is 33° to 210° F. *Replacement seal kit* includes a carbon seal with spring, a fiber gasket, a ceramic seal with vibration ring, and a rubber sleeve. Purchase two kits to replace seals on extended-life pumps.

Extended Life—To handle high condensate volume, the workload is distributed between two pumps for a longer service life than standard pumps. The second pump also provides redundancy so one pump can operate while you work on the other.

Tank Size, gal.	*Max. Flow, gpm* @ 35 ft. of Head	@ 50 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz	Amps	Ht.	Wd.	Dp.		
Standard											
6	35	25	71	⅓	120/240	8.8/4.4	13″	15″	26″	**4050K11**	$1,016.03
15	35	25	71	⅓	120/240	8.8/4.4	20″	18″	27″	**4050K15**	1,430.75
20	35	25	71	⅓	120/240	8.8/4.4	19″	25″	25″	**4050K19**	1,312.53
Extended Life											
15	35	25	71	⅓	120/240	8.8/4.4	20″	18″	27″	**4050K25**	2,077.65
20	35	25	71	⅓	120/240	8.8/4.4	21″	25″	25″	**4050K29**	1,961.30
Replacement Seal Kit										**4050K51**	86.22
Replacement Pump and Motor Assembly										**4050K44**	797.19

Compact Submersible Pumps for Water



A



B



C



D



E

Circulate fresh water in small tanks, cooling baths, fountains, and other low-flow applications. Housing is plastic. Pumps have a continuous duty, single-phase motor with thermal overload protection, except Style B does not have thermal overload protection. 120-volt pumps have a cord with plug; 240-volt pump has wire leads. Plug in pumps to activate and do not run dry. Not for use with salt water or flammable liquids. All pumps have a minimum temperature of 33° F.

Submersible pumps must be submerged for use. They have a screened intake.

Submersible/open-air pump can be submerged or connected inline for open-air applications. Intake has ¼ NPT female and ½ NPT male threads for either connection.

	Max. Flow, gpm @ 1 ft. of Head	@ 5 ft. of Head	@ 10 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz	Amps	Discharge, NPT Male	Max. Temp., °F	Ht.	Wd.	Dp.	Cord Lg., ft.		
Submersible															
Low Flow															
A	2.8	1.7	—	7	1/125	120	0.6	¼	120°	3⅝″	2⅞″	3½″	6	**4182K22**	$67.92
B	3.5	1.7	—	7	1/30	120	0.5	¼	86°	2¾″	3½″	4⅝″	16	**3163K24**	71.46
C	3.5	2.5	—	10.2	1/150	120	1.1	¼	120°	4⅝″	4⅛″	4⅛″	6	**9988K76**	81.12
Standard															
A	5	4	2.2	12.2	1/40	120	0.8	¼	120°	4¼″	2⅞″	4⅞″	6	**4182K36**	91.77
B	5.7	4.7	2	12	1/15	120	0.8	¼	86°	4⅞″	2¾″	4″	16	**3163K26**	97.50
B	9.2	6	3.5	13	1/10	120	1.2	½	86°	3″	4″	5″	16	**3163K28**	138.18
C	5.4	4.5	2.2	12.3	1/40	120	1.7	¼	120°	4⅝″	5″	5″	6	**9988K86**	97.50
C	5.4	4.5	2.2	12.3	1/40	120	1.7	¼	120°	4⅝″	5″	5″	18	**9988K89**	110.05
C	5.4	4.5	2.2	12.3	1/40	240	0.7	¼	120°	4⅝″	5″	5″	12	**9988K96**	111.98
D	7.9	6.6	3.4	13.4	1/28	120	1.4	⅜	120°	4″	4″	4⅝″	6	**4182K37**	114.88
Submersible/Open Air															
Low Flow															
E	2.8	1.7	—	7	1/125	120	0.6	¼	120°	3⅜″	3¾″	2¾″	10	**4182K25**	78.22

For information about pump performance and submersible pumps, see page 364.

Impact-Resistant Compact Submersible Pumps for Water

Ready for hard knocks in rough waters, these pumps have a durable epoxy-coated aluminum housing. Motor is continuous duty and single phase with thermal overload protection. 120-volt pumps have a cord with plug; 240-volt pumps have wire leads. Plug in pumps to activate and do not run dry. Do not use with salt water or flammable liquids. Discharge has an NPT male connection. Temperature range is 33° to 120° F.

Submersible pumps must be submerged for use. They have a screened intake.

Submersible/open-air pumps can be submerged or connected inline for open-air applications. Intake has an NPT female connection. *Low-flow pump* has an intake with 1/4 NPT female and 1/2 NPT male threads for either connection. *Standard pumps* have a removable screen to cover the intake for use in submerged applications.



Submersible, Low Flow



Standard



Submersible/ Open Air, Low Flow

Max. Flow, gpm @ 1 ft. of Head	@ 5 ft. of Head	@ 10 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz	Amps	Pipe Size Intake	Discharge	Ht.	Wd.	Dp.	Cord Lg., ft.		
Submersible														
Low Flow														
2.8	1.7	—	7	1/200	120	1.1	—	1/4	4 1/4"	4 1/8"	4 1/8"	6	**4182K24**	$71.57
3.4	2	—	7.4	1/150	240	0.4	—	1/4	4 1/4"	4 1/8"	4 1/8"	12	**4182K72**	89.48
Standard														
5	3.4	1.2	11.8	1/40	120	1.7	—	1/4	4 3/4"	3 1/2"	5 1/2"	6	**4182K2**	95.47
13.5	12.4	10.2	24.5	1/12	120	3.5	—	1/2	5 1/2"	4 1/2"	7"	6	**4182K5**	215.77
13.5	12.4	10.2	24.5	1/12	240	1.6	—	1/2	5 1/2"	4 1/2"	7"	12	**4182K74**	248.62
Submersible/Open Air														
Low Flow														
3.4	2	—	7.4	1/150	120	1.1	1/4	1/4	4 1/8"	4 1/8"	4 5/8"	6	**4182K26**	77.58
Standard														
5	3.4	1.2	11.8	1/40	120	1.7	3/8	1/4	4 3/4"	3 1/2"	5 1/2"	6	**4182K3**	99.45
5	3.4	1.2	11.8	1/40	240	0.7	3/8	1/4	4 3/4"	3 1/2"	5 1/2"	12	**4182K73**	109.40
8.3	5.6	3.5	17.3	1/15	120	3.2	1/2	1/2	5 1/2"	4 1/2"	7"	6	**4182K4**	153.15
10	8.6	6.9	21	1/15	240	1.4	1/2	1/2	5 1/2"	4 1/2"	7"	12	**4182K17**	204.90

Extended-Life Compact Submersible Pumps for Water

Spend less time on maintenance—these pumps use magnets to turn the impeller so there's no shaft seal to wear out. They remove water down to 3" deep. Housing is polypropylene. Pumps have a continuous duty, single-phase motor and a 6-ft. cord with plug. Plug in pumps to activate and do not run dry. Temperature range is 33° to 160° F. Pumps are UL recognized.

Submersible pump must be submerged for use. It has a screened intake.

Submersible/open-air pumps can be submerged or connected inline for open-air applications.



Submersible



Submersible/ Open Air

Max. Flow, gpm @ 0 ft. of Head	@ 1 ft. of Head	@ 3 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz	Amps	Connection Intake	Discharge	Ht.	Wd.	Dp.		
Submersible													
3.0	2.6	1.8	4.6	1/200	120	0.5	———	1/4 NPT Male	3 1/4"	3 3/4"	3 7/8"	**9971K41**	$222.46
Submersible/Open Air													
2.3	2	1.5	4.6	1/200	120	0.5	For 3/8" ID Tube	For 3/8" ID Tube	3 1/4"	3 3/4"	4 1/2"	**9971K21**	222.46
3.0	2.6	1.8	4.6	1/200	120	0.5	For 1/2" ID Tube	For 1/2" ID Tube	3 1/4"	3 3/4"	4 1/2"	**9971K11**	222.46
3.0	2.6	1.8	4.6	1/200	120	0.5	1/4 NPT Male	1/4 NPT Male	3 1/4"	3 3/4"	4 1/2"	**9971K31**	222.46

Compact Submersible/Open-Air Pumps for Salt Water

Circulate fresh and salt water in both submerged and open-air applications. Housing is plastic. Pumps have a continuous duty, single-phase motor and a 6-ft. cord with plug. Plug in pumps to activate and do not run dry. Intake and discharge have NPT female connections. Pumps come with barbed adapters for connection to tubing. Temperature range is 40° to 95° F. Pumps are UL listed and CSA certified.



Max. Flow, gpm @ 0 ft. of Head	@ 5 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz	Amps	Pipe Size Intake	Discharge	Ht.	Wd.	Dp.		
1.3	—	4	1/150	120	0.1	3/8	1/8	4 1/8"	5 3/4"	3"	**99845K22**	$71.32
2.6	—	5	1/75	120	0.3	3/8	1/4	4 1/2"	5 7/8"	3"	**99845K24**	80.19
5.2	1.3	7	1/25	120	0.4	1/2	3/8	4 3/4"	7"	3 7/8"	**99845K26**	112.92
10.5	6.6	12	1/12	120	0.9	3/4	3/4	6 3/8"	8 5/8"	4 5/8"	**99845K28**	190.19

Compact Submersible Pumps for Parts Washers and Machine Oil

Keep liquids moving in your machine shop. Housing is aluminum. Motor is continuous duty and single phase with thermal overload protection, unless noted. Plug in pumps to activate and do not run dry. Discharge has a 1/4 NPT male connection. Temperature range is 32° to 120° F.

Pumps for parts washers circulate solvent-based parts-washing solutions that are UL classified as PJQU (flash point no lower than 100° F). Submerge while in use. Intake is screened. Pumps have 6-ft. wire leads.

Pump for machine oil must be submerged for use with machine and cutting oils up to 9 centipoise. Connect inline for use with weak acids and cleaning solvents; do not submerge. Intake has a 3/8 NPT female connection. Pump has a 6-ft. cord with plug.



A



B



C

	Max. Flow, gpm @ 1 ft. of Head	@ 3 ft. of Head	@ 5 ft. of Head	@ 7 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz	Amps	Ht.	Wd.	Dp.		
For Parts Washers													
A	2.8	2.3	1.7	—	7	1/125	120	0.6	3 5/8"	2 3/4"	3 1/4"	**9987K57**★	$83.93
A	5	4.3	3.4	2.5	11.8	1/40	120	1.7	4 3/4"	3 1/2"	5 1/2"	**9987K77**	109.40
B	3.4	2.8	2	0.3	7.4	1/150	120	1.1	4 1/4"	4 5/8"	4 1/8"	**9987K67**	100.43
B	3.4	2.8	2	0.3	7.4	1/150	240	0.6	4 1/4"	4 5/8"	4 1/8"	**9987K87**	111.38
For Machine Oil													
C	5	4.3	3.4	2.5	11.8	1/40	120	1.7	4 5/8"	3 1/2"	5 3/4"	**4191K21**	142.30

★Does not have thermal overload protection.

About Process Pumps

Circulation Pumps—Also known as centrifugal pumps, these send a high flow of liquid through a pipeline or a closed circuit. They are the most common process pump. See pages 374-380.

- Frequently used for heating and cooling and tank filling and emptying
- For use with thin liquids, such as water and coolants
- Some pumps are self-priming for installation above your liquid source
- Do not run dry; this can damage the pump and cause failure

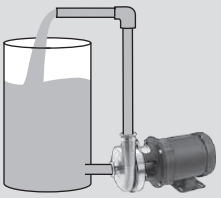

Air-Powered Transfer Pumps—Also known as air-operated diaphragm pumps, these operate on compressed air for pumping liquid in harsh and hazardous environments. See pages 381-384.

- Common applications include chemical handling, waste removal, and transporting coatings and slurries
- Excellent for caustic chemicals and thick liquids with solids
- All are self-priming for installation above your liquid source
- Can run dry

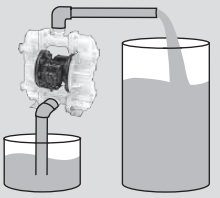

Dispensing Pumps—Also known as positive displacement pumps, these maintain a fixed flow rate. They have the widest variety of styles to support many applications. See pages 385-388.

- Suitable for engine lubrication, water delivery, and point-of-use transfer
- Can move thick liquids, such as hydraulic oil and motor oil
- Some pumps are self-priming for installation above your liquid source
- Do not run dry; this can damage the pump and cause failure

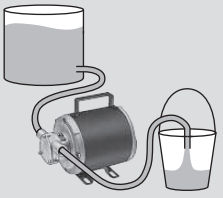

Metering Pumps—Also known as peristaltic and diaphragm metering pumps, these inject a minute amount of liquid within a specified time frame. See pages 388-390.

- Often used for applications such as water treatment, pH control, and chemical processing
- Designed for use with harsh chemicals as well as thin and thick liquids
- All are self-priming for installation above your liquid source
- Can run dry

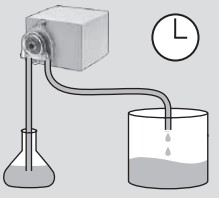

When to Choose a Self-Priming Pump—To begin pumping, your pump must be primed by filling the pump chamber with liquid. Your system's setup determines whether you need a self-priming pump.

Not a Self-Priming Setup

When your liquid source is above or at the same level as the pump, liquid flows into the pump chamber by gravity. All pumps will work in this setup.

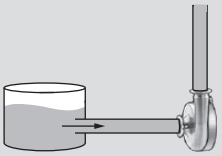

Self-Priming Setup

When your liquid source is below the pump, only a self-priming pump will create a vacuum that can draw liquid upward to fill the pump chamber.

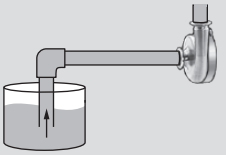

For more information about pump performance, see page 364. For information about liquid viscosity, see page 356.

Circulation Pumps

Circulation Pumps for Water



Standard and High Flow



Heavy Duty Self-Priming

Move water in boiler feed systems, cooling towers, and heat exchangers. These pumps have a bronze housing. Do not run dry. Temperature range is 40° to 180° F. Connections are NPT female.

All pumps have a continuous-duty motor. *Single-phase motors* have thermal overload protection and screw terminals for electrical connection, except standard pumps have spade terminals for electrical connection. *Three-phase motors* have wire leads for electrical connection.

Standard and **high-flow pumps** are not self-priming or for use with solids. *Standard pumps* have a stainless steel impeller. Maximum viscosity is 1 centipoise. *High-flow pumps* have a more powerful motor than standard pumps for twice the flow rate. Impeller is bronze. Maximum viscosity is 20 centipoise.

Heavy duty self-priming pumps are self-priming up to 6 feet and provide protection in dusty and dirty environments. All have a Type 316 stainless steel impeller that can handle solids up to 3/8″ dia. Maximum viscosity is 20 centipoise.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm @ 10 ft. of Head	@ 20 ft. of Head	@ 40 ft. of Head	@ 60 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size Intake	Discharge	Ht.	Wd.	Dp.		
Standard—With Open Dripproof (ODP) Motor														
20	17	11	—	56	1/3	120/240 (1)	6.8/3.4	3/8	3/8	7 3/4″	5 3/8″	11 7/8″	8249K49	$452.42
35	31	18	—	57	1/3	120/240 (1)	6.8/3.4	3/4	1/2	7 3/4″	5 3/8″	11 7/8″	8249K53	452.42
55	36	—	—	35	1/3	120/240 (1)	6.8/3.4	1 1/4	1	7 3/4″	6 3/8″	11 7/8″	8249K55	472.28
High Flow—With Open Dripproof (ODP) Motor														
55	45	10	—	42	1/2	120/208-240 (1)	11.1/6.5-5.5	1 1/4	1	6 7/8″	5 5/8″	12 3/8″	8249K81	471.41
72	63	41	—	55	3/4	120/208-240 (1)	13/7.2-6.5	1 1/4	1	6 7/8″	5 5/8″	12 7/8″	8249K82	500.98
72	63	41	—	55	3/4	208-240/460 (3)	2.4-2.3/1.2	1 1/4	1	6 7/8″	5 5/8″	12 7/8″	8249K85	511.68
108	98	71	—	58	1	120/208-240 (1)	12.4/6.8-6.2	1 1/2	1 1/4	6 7/8″	5 5/8″	13 3/4″	8249K83	541.75
115	104	81	40	67	1 1/2	120/208-240 (1)	17/9.3-8.5	1 1/2	1 1/4	6 7/8″	5 5/8″	15″	8249K84	651.65
115	104	81	40	67	1 1/2	208-240/460 (3)	4.5-4.2/2.1	1 1/2	1 1/4	6 7/8″	5 5/8″	15″	8249K86	661.95
Heavy Duty Self-Priming—With Totally Enclosed Fan-Cooled (TEFC) Motor														
61	52	24	—	52	3/4	120/208-240 (1)	9.8/5.4-4.9	1 1/2	1 1/2	9 1/2″	6 3/8″	15 1/8″	8249K87	944.37
61	52	24	—	52	3/4	208-240/460 (3)	2.5-2.3/1.2	1 1/2	1 1/2	9 1/2″	6 3/8″	14 1/2″	8249K88	893.36
91	79	48	—	52	1 1/2	120/208-240 (1)	16.6/9-8.3	1 1/2	1 1/2	9 1/2″	6 3/8″	16 5/8″	8249K89	1,012.62
91	79	48	—	52	1 1/2	208-240/460 (3)	4.6-4.2/2.1	1 1/2	1 1/2	9 1/2″	6 3/8″	15 5/8″	8249K91	921.21
123	113	82	26	63	2	208-240/460 (3)	5.9-5.4/2.7	1 1/2	1 1/2	9 1/2″	6 3/8″	15 5/8″	8249K92	942.12

For information about circulation pumps, see page 374.

Self-Priming Circulation Pumps for Water and Coolants



Drain underground tanks and process wastewater with these pumps that can be installed up to 20 feet above your liquid source. Housing is cast iron. Do not run dry. Maximum viscosity is 1 centipoise, and temperature range is 40° to 180° F. Connections are NPT female.

Motor is continuous duty. *Single-phase motors* have thermal overload protection and spade terminals for electrical connection. *Three-phase motors* have wire leads for electrical connection.

Standard pumps have a cast iron impeller.

Heavy duty and **heavy duty high-flow pumps** provide protection in dusty and dirty environments. *Heavy duty pumps* have a cast iron impeller. *Heavy duty high-flow pumps* have twice the flow rate of standard and heavy duty pumps. Impeller is Type 316 stainless steel.

For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm @ 30 ft. of Head	@ 60 ft. of Head	@ 90 ft. of Head	Max. ft. of Head	Max. Solid Dia.	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size Intake	Pipe Size Discharge	Ht.	Wd.	Dp.		
Standard—With Open Dripproof (ODP) Motor														
32	—	—	52	1/4"	1/3	120/240 (1)	8/4	1	1	7 1/4"	6 7/8"	16 7/8"	99435K45	$374.23
44	18	—	74	3/8"	1/2	120/240 (1)	10/5	1 1/2	1 1/2	10"	7 3/8"	16 3/4"	99435K21	455.48
50	—	—	58	1/4"	1/2	120/240 (1)	10/5	1 1/4	1 1/4	7 1/4"	6 7/8"	17"	99435K47	387.17
61	11	—	65	1/4"	3/4	120/240 (1)	13/7	1 1/4	1 1/4	7 1/4"	6 7/8"	17 1/2"	99435K51	402.28
64	23	—	70	1/4"	1	120/240 (1)	17/9	1 1/4	1 1/4	7 1/4"	6 7/8"	18 3/8"	99435K54	424.89
64	30	—	80	3/8"	3/4	120/240 (1)	13/7	1 1/2	1 1/2	10"	7 3/8"	17 1/4"	99435K23	463.37
84	54	10	93	3/8"	1 1/2	120/240 (1)	22/11	1 1/2	1 1/2	10"	7 3/8"	18"	99435K25	525.22
84	54	10	93	3/8"	1 1/2	240/460 (3)	7/4	1 1/2	1 1/2	10"	7 3/8"	17 1/2"	99435K33	530.47
90	50	—	82	3/8"	1 1/2	120/240 (1)	17/9	2	2	11 1/8"	7 1/2"	19 3/8"	99435K66	586.07
90	50	—	82	3/8"	1 1/2	240/460 (3)	7/4	2	2	11 1/8"	7 1/2"	18 7/8"	99435K67	586.07
102	70	22	100	3/8"	2	120/240 (1)	28/14	1 1/2	1 1/2	10"	7 3/8"	18"	99435K27	594.00
103	60	—	85	3/8"	2	240/460 (3)	7/4	2	2	11 1/8"	7 1/2"	19 3/8"	99435K35	641.74
105	60	—	82	3/8"	2	120/240 (1)	28/14	2	2	11 1/8"	7 1/2"	19 3/8"	99435K71	647.46
105	60	—	82	3/8"	3	240/460 (3)	9/5	2	2	11 1/8"	7 1/2"	20 3/8"	99435K73	696.90
Heavy Duty—With Totally Enclosed Fan-Cooled (TEFC) Motor														
32	—	—	52	1/4"	1/2	120/240 (1)	9/5	1	1	7 1/4"	8 7/8"	17 3/8"	99435K46	433.09
48	18	—	70	3/8"	3/4	120/240 (1)	9/5	1 1/2	1 1/2	10"	9 1/8"	17 1/2"	99435K57	512.37
48	18	—	70	3/8"	3/4	240/460 (3)	3/2	1 1/2	1 1/2	10"	9 1/8"	17"	99435K58	512.37
50	—	—	58	1/4"	3/4	120/240 (1)	9/5	1 1/4	1 1/4	7 1/4"	8 7/8"	17 7/8"	99435K48	446.35
50	—	—	58	1/4"	3/4	240/460 (3)	3/2	1 1/4	1 1/4	8 5/8"	8 7/8"	17 3/8"	99435K49	446.35
61	11	—	65	1/4"	1	120/240 (1)	12/6	1 1/4	1 1/4	7 1/4"	8 7/8"	18"	99435K52	466.90
61	11	—	65	1/4"	1	240/460 (3)	4/2	1 1/4	1 1/4	8 5/8"	8 7/8"	16 5/8"	99435K53	477.61
64	23	—	70	1/4"	1 1/2	120/240 (1)	18/9	1 1/4	1 1/4	7 1/4"	8 7/8"	18 1/2"	99435K55	501.46
64	23	—	70	1/4"	1 1/2	240/460 (3)	5/3	1 1/4	1 1/4	8 5/8"	8 7/8"	18 3/8"	99435K56	521.23
64	35	—	80	3/8"	1	120/240 (1)	12/6	1 1/2	1 1/2	10"	9 1/8"	17 3/4"	99435K59	534.92
64	35	—	80	3/8"	1	240/460 (3)	4/2	1 1/2	1 1/2	10"	9 1/8"	16 3/8"	99435K61	550.61
84	52	10	95	3/8"	2	120/240 (1)	22/11	1 1/2	1 1/2	10"	9 1/8"	19"	99435K62	636.30
84	52	10	95	3/8"	2	240/460 (3)	6/3	1 1/2	1 1/2	10"	9 1/8"	18 1/2"	99435K63	651.95
90	50	28	82	3/8"	2	120/240 (1)	22/11	2	2	11 1/8"	9 1/8"	20 3/8"	99435K68	683.35
90	50	28	82	3/8"	2	240/460 (3)	6/3	2	2	11 1/8"	9 1/8"	19 7/8"	99435K69	699.00
100	70	22	100	3/8"	3	240 (1)	16	1 1/2	1 1/2	10"	9 1/8"	19 1/2"	99435K64	699.74
100	70	22	100	3/8"	3	240/460 (3)	8/4	1 1/2	1 1/2	10"	9 1/8"	19"	99435K65	710.09
105	60	40	82	3/8"	3	240/460 (3)	8/4	2	2	11 1/8"	9 1/8"	20 3/8"	99435K72	742.33
Heavy Duty High Flow—With Totally Enclosed Fan-Cooled (TEFC) Motor														
200	80	—	65	3/8"	3	208-240/460 (3)	10/5	3	3	11 7/8"	12"	26 5/8"	99435K37	1,055.11
260	180	—	90	3/8"	5	208-240/460 (3)	14/7	3	3	11 7/8"	12"	26 5/8"	99435K39	1,199.15
335	260	150	110	3/8"	7 1/2	208-240/460 (3)	20/10	3	3	11 7/8"	12"	26 5/8"	99435K41	1,286.43

High-Efficiency Circulation Pumps for Water and Coolants



Use less electricity to achieve the same flow rates as our other circulation pumps. These pumps are not self-priming. The discharge rotates to direct flow. Housing is cast iron. Do not run dry. Maximum viscosity is 17 centipoise, and temperature range is 0° to 250° F. Connections are NPT female.

Pumps have a continuous-duty motor with wire leads for electrical connection. Motor has a totally enclosed fan-cooled (TEFC) enclosure, except 9923K41 has a totally enclosed nonventilated (TENV) enclosure.

Standard pumps have a cast iron impeller.

High-head pumps transfer liquid to greater vertical heights than standard pumps. Impeller is bronze.

For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Standard

Max. Flow, gpm @ 20 ft. of Head	@ 30 ft. of Head	@ 40 ft. of Head	@ 60 ft. of Head	Max. ft. of Head	Max. Solid Dia.	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size Intake	Pipe Size Discharge	Ht.	Wd.	Dp.		
24	—	—	—	26	1/4"	1/3	120/208-240 (1)	6.2/3.4-3.1	1	3/4	7"	8 1/2"	14"	9923K41	$611.42
35	18	—	—	34	1/4"	1/2	120/208-240 (1)	7.4/3.7-3.6	1	3/4	7"	8 1/2"	14"	9923K42	601.52
—	34	4	—	40	1/4"	3/4	208-240/460 (3)	3.3-3/1.5	1	3/4	7"	8 1/2"	14"	9923K43	626.25
90	75	52	—	53	5/16"	1	208-240/460 (3)	3.2-3/1.5	1 1/2	1 1/4	8"	9"	15"	9923K45	754.78
—	145	112	—	56	1/2"	2	208-240/460 (3)	5.3-5/2.5	2	1 1/2	8"	10 1/2"	17"	9923K46	1,005.28
—	150	122	—	58	1/2"	3	208-240/460 (3)	7.9-7.2/3.6	2	1 1/2	8"	10 1/2"	17"	9923K47	995.38
—	—	250	150	62	9/16"	5	240/460 (3)	11.8/5.9	2 1/2	2	11"	12"	21 1/2"	9923K48	1,694.65
—	—	—	255	76	9/16"	7 1/2	208-240/460 (3)	18.5-16.8/8.4	2 1/2	2	11"	12"	23"	9923K49	1,895.20

High Head

Max. Flow, gpm @ 60 ft. of Head	@ 80 ft. of Head	@ 100 ft. of Head	@ 120 ft. of Head	Max. ft. of Head	Max. Solid Dia.	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size Intake	Pipe Size Discharge	Ht.	Wd.	Dp.		
29	—	—	—	75	3/32"	1	208-240/460 (3)	3.2-3/1.5	1 1/4	1	9"	7 7/8"	16"	8256K41	$840.88
64	26	—	—	92	3/32"	1 1/2	208-240/460 (3)	4.9-4.6/2.3	1 1/4	1	9"	7 7/8"	16"	8256K42	923.68
56	44	26	—	110	3/32"	2	208-240/460 (3)	6-3/6	1 1/4	1	9"	7 7/8"	16"	8256K43	858.08
—	—	68	46	137	1/8"	3	208-240/460 (3)	7.9-7.4/3.7	1 1/2	1 1/4	9 7/8"	10"	18"	8256K44	1,001.98
—	180	144	96	135	7/32"	5	208-240/460 (3)	12.6-11.6/5.8	2	1 1/2	10"	9 1/4"	22"	8256K45	1,511.22

High-Head Circulation Pumps for Water



Also known as booster pumps, these have a multistage impeller that boosts pressure from your water supply for applications such as high-volume water delivery, irrigation, and pressure washing. Housing and impeller are Type 316 stainless steel. Motor is continuous duty with a totally enclosed fan-cooled (TEFC) enclosure, and it has wire leads for electrical connection. Pumps are not self-priming. Do not run dry or use with solids. Maximum viscosity is 50 centipoise, and temperature range is 33° to 194° F. Connections are NPT female. Pumps are UL and C-UL listed for use with water.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm @ 50 ft. of Head	@ 100 ft. of Head	@ 150 ft. of Head	Max. ft. of Head	No. of Impeller Stages	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size Intake	Discharge	Ht.	Wd.	Dp.		
22	15	–	121	3	3/4	120/240 (1)	7.6/3.9	1	1	8 1/4"	6 1/4"	12"	8134K24	$824.25
22	21	8	163	4	1	120/240 (1)	10.6/5.4	1	1	8 1/4"	6 1/4"	14 3/8"	8134K25	870.55
22	22	20	254	6	2	120/240 (1)	19.5/9.8	1	1	9"	7"	18 3/8"	8134K26	1,188.13
22	22	20	254	6	1 1/2	208-240/440-480 (3)	5.1-4.9/2.5-2.4	1	1	7 1/2"	6 1/4"	16 1/2"	8134K28	997.67
33	33	31	226	5	3 2/5	208-240/440-480 (3)	9.8-8.9/2.9-2.8	1 1/4	1	7 7/8"	7"	17"	8134K29	1,165.33

Extreme-Head Circulation Pumps for Water and Coolants



A specialized impeller generates twice the pressure of other high-head pumps for propelling liquid to great heights. Also called turbine pumps, these are commonly used with chillers, heat exchangers, and boiler feed systems. Housing and impeller are bronze. Pumps are not self-priming. Do not run dry or against a closed valve and do not use with solids. Maximum viscosity is 54 centipoise, and temperature range is –20° to 230° F. Connections are NPT female.

Motor is continuous duty with an open dripproof enclosure. *Single-phase motors* have thermal overload protection and screw terminals for electrical connection. *Three-phase motors* have wire leads for electrical connection.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm @ 60 ft. of Head	@ 115 ft. of Head	@ 230 ft. of Head	@ 350 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size Intake	Discharge	Ht.	Wd.	Dp.		
3.4	3.1	2.5	2	380	1/3	120/208-240 (1)	7.5/4	1	1	6 7/8"	6 1/2"	13 5/8"	43195K51	$788.28
4.7	4.3	3.5	2.8	380	1/2	120/208-240 (1)	9.5/5.1	1	1	6 7/8"	6 1/2"	13 5/8"	43195K52	804.46
6.4	5.8	4.7	3.6	400	3/4	120/208-240 (1)	10.3/5.2	1	1	6 7/8"	6 1/2"	14 1/8"	43195K53	866.77
9.7	8.8	7.2	5.6	400	1 1/2	208-240/460 (3)	4.8-4.6/2.4	1	1	8 5/8"	6 1/2"	15 1/8"	43195K56	1,047.88
12.8	11.6	9.4	7.4	400	2	208-240/460 (3)	5.6-5.2/2.6	1	1	8 5/8"	6 1/2"	15 1/2"	43195K57	1,147.07

Circulation Pumps without Motor for Water

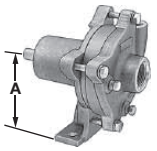

Customize these pumps with your own motor. Connect a spark-free air motor for hazardous locations, or use an electric motor with a speed reducer or belt pulley to alter pump rpm (max. rpm is 3,450). Recommended for use with a NEMA 56C frame motor (see page 1075 for air-powered motors and page 1068 for electric motors). Housing and impeller are bronze. Pumps are not self-priming. Do not run dry or use with solids. Maximum viscosity is 23 centipoise, and maximum temperature is 200° F. Connections are NPT female.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow with 3,450 rpm Motor, gpm Req'd hp	@ 20 ft. of Head	@ 30 ft. of Head	@ 40 ft. of Head	@ 50 ft. of Head	Max. ft. of Head	Shaft Dia.	Lg.	(A)	Pipe Size Intake	Discharge	Ht.	Wd.	Dp.		
1/3	34	25	10	–	44	5/8"	15/16"	3 1/2"	1	3/4	6 3/8"	5 3/4"	6 3/4"	4284K4	$278.50
3/4	63	53	41	22	55	5/8"	15/16"	3 1/2"	1 1/4	1	6 7/8"	6 5/8"	6 5/8"	4284K8	315.02
1 1/2	104	94	81	64	67	5/8"	15/16"	3 1/2"	1 1/2	1 1/4	6 1/4"	7 1/8"	6 7/8"	4284K9	344.07

Circulation Pumps for Fuel



Pump gasoline, diesel fuel, kerosene, isopropyl alcohol, and other flammable liquids in hazardous environments with flammable gases and combustible dust. These pumps have a motor that's UL listed and CSA certified for use in Class I, Group D; Class II, Groups F and G hazardous locations, unless noted. Motor is continuous duty with a totally enclosed fan-cooled (TEFC) enclosure, and it has wire leads for electrical connection. Housing and impeller are Type 316 stainless steel. Pumps are not self-priming. Do not run dry. Maximum viscosity is 264 centipoise, and maximum temperature is 250° F or the boiling point of the liquid being pumped, whichever is lower. Connections are NPT female.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm @ 20 ft. of Head	@ 40 ft. of Head	@ 60 ft. of Head	Max. ft. of Head	Max. Solid Dia.	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size Intake	Discharge	Ht.	Wd.	Dp.		
16	5	–	46	1/4"	1/3	120/208-240 (1)	4.8/2.4	3/4	1/2	7 1/2"	10 7/8"	15 1/2"	8205K41	$1,092.95
25	13	1	62	1/4"	1/2	120/208-240 (1)	7.4/3.7	3/4	1/2	7 1/2"	10 7/8"	15 5/8"	8205K44	1,131.56
25	13	1	62	1/4"	1/2	208-240/460 (3)	2.4-2.2/1.1	3/4	1/2	7 1/2"	10 7/8"	15 5/8"	8205K42	1,216.89
78	48	10	64	1/4"	1	120/208-240 (1)	12/6	1 1/2	1	8 1/2"	10 7/8"	17 1/4"	8205K45	1,283.91
78	48	10	64	1/4"	1	208-240/460 (3)	2.8/1.4	1 1/2	1	8 1/2"	10 7/8"	15 1/4"	8205K43	1,304.22
110	90	60	81	1/4"	1 1/2	208-240/460 (3)	5-4.6/2.3	1 1/2	1	8 1/2"	11 7/8"	16 3/8"	8205K46	1,507.38
114	78	18	69	1/4"	2	208-240/460 (3)	5.7-5.4/2.7	2	1 1/2	8 1/2"	11 7/8"	17 1/8"	8205K47	1,541.93
140	120	50	75	1/4"	3	208-240/460 (3)	8.1-7.6/3.8	2	1 1/2	8 1/2"	11 7/8"	17 1/8"	8205K48■	1,755.22

■ Not for Class II, Groups F and G hazardous locations.

Corrosion-Resistant Circulation Pumps



For use in harsh conditions, these pumps have a Type 316 stainless steel housing and a totally enclosed fan-cooled (TEFC) motor enclosure for protection in dusty and dirty environments. Motor is continuous duty with wire leads for electrical connection. Pipe connections are NPT female.

Pumps for coolants and lubricating oils have a Type 316 stainless steel impeller. They are not self-priming. Do not run dry. Maximum viscosity is 50 centipoise, and temperature range is –20° to 300° F.

Self-priming pumps for acids and alkalies are rated for chemicals such as ammonia and detergents as well as harsh solvents including methyl ethyl ketone. They have a 300 series stainless steel impeller for resistance to a wide range of chemicals. Pumps are self-priming up to 6 feet. Do not run dry. Maximum viscosity is 20 centipoise, and temperature range is 40° to 250° F.

For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm @ 20 ft. of Head	Max. Flow, gpm @ 40 ft. of Head	Max. Flow, gpm @ 60 ft. of Head	Max. ft. of Head	Max. Solid Dia.	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size Intake	Pipe Size Discharge	Ht.	Wd.	Dp.		
For Coolants and Lubricating Oils														
28	10	—	44	1/8″	1/3	120/240 (1)	5.6/2.8	3/4	1/2	7 1/2″	9″	15″	4320K81	$543.86
36	22	—	54	1/8″	1/2	120/240 (1)	7.6/3.8	3/4	1/2	7 1/2″	9″	15″	4320K82	566.37
38	27	—	59	1/8″	3/4	120/240 (1)	10.6/5.3	3/4	1/2	7 1/2″	9″	15″	4320K83	576.44
47	—	—	34	3/16″	1	240/460 (3)	2.9/1.4	1 1/2	1 1/4	8 3/4″	9″	16″	4320K96	842.31
65	38	2	62	3/32″	3/4	120/240 (1)	10.6/5.3	1 1/4	3/4	7 3/4″	9″	16″	4320K84	787.27
80	20	—	49	3/16″	1 1/2	240/460 (3)	3.9/2	1 1/2	1 1/4	8 3/4″	9″	16″	4320K88	828.97
82	35	—	60	3/32″	1	120/240 (1)	12.6/6.3	1 1/2	1 1/4	8 3/4″	9″	16″	4320K95	830.64
105	57	12	70	3/32″	1 1/2	240/460 (3)	3.9/2	1 1/2	1 1/4	8 3/4″	9″	16″	4320K87	842.31
115	55	—	52	3/16″	2	240/460 (3)	5.3/2.7	2	1 1/2	8 3/4″	9″	16″	4320K91	914.04
—	115	60	82	3/32″	2	240/460 (3)	5.3/2.7	2	1 1/2	8 3/4″	9″	16″	4320K92	902.37
—	125	55	79	3/16″	3	240/460 (3)	7.6/3.8	2	1 1/2	8 3/4″	9″	16″	4320K94	940.73
—	135	85	88	3/32″	3	240/460 (3)	7.6/3.8	2	1 1/2	8 3/4″	9″	16″	4320K93	929.06
Self-Priming for Acids and Alkalies														
51	22	—	63	1/8″	3/4	120/240 (1)	9/5	1 1/2	1 1/2	9 1/2″	8 3/4″	15 3/4″	1019N11	1,080.84
51	22	—	63	1/8″	3/4	240/460 (3)	3/2	1 1/2	1 1/2	9 1/2″	8 3/4″	15 1/4″	1019N12	1,080.84
79	45	—	63	1/8″	1 1/2	120/240 (1)	18/9	1 1/2	1 1/2	9 1/2″	8 3/4″	16 1/2″	1019N13	1,149.27
79	45	—	63	1/8″	1 1/2	240/460 (3)	5/3	1 1/2	1 1/2	9 1/2″	8 3/4″	16 1/4″	1019N14	1,158.40
110	82	16	63	1/8″	2	240/460 (3)	6/3	1 1/2	1 1/2	9 1/2″	8 3/4″	17 1/4″	1019N15	1,214.45

Circulation Pumps for Hot Oil



Transfer hot oil in demanding applications, such as plastic mold injecting and chemical processing. Pumps have a ductile iron housing and a steel impeller. Motor is continuous duty, three phase with a totally enclosed fan-cooled (TEFC) enclosure, and it has wire leads for electrical connection. Pumps are not self-priming. Do not run dry or use with solids. Maximum viscosity is 32 centipoise, and maximum temperature is 650° F. Connections are NPT female.

Max. Flow, gpm @ 40 ft. of Head	Max. Flow, gpm @ 60 ft. of Head	Max. Flow, gpm @ 80 ft. of Head	Max. Flow, gpm @ 100 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size Intake	Pipe Size Discharge	Ht.	Wd.	Dp.		
54	30	—	—	65	1	240/460 (3)	3.6/1.8	1 1/2	1 1/4	10″	9″	19″	1020N11	$1,685.38
—	55	—	—	80	1 1/2	240/460 (3)	4.6/2.3	1 1/2	1 1/4	10″	9″	20″	1020N12	1,695.38
—	72	55	—	100	2	240/460 (3)	6/3	1 1/2	1 1/4	10″	10″	21″	1020N13	1,698.46
—	—	81	65	128	3	240/460 (3)	7.6/3.8	1 1/2	1 1/4	10″	9″	22″	1020N14	1,629.23

Food and Beverage Circulation Pumps



Commonly used in food, beverage, and dairy processing, these pumps are 3-A certified. To facilitate cleaning, they have quick-clamp intake and discharge connections and a Type 316 stainless steel housing and impeller. The discharge rotates 360° for easy connection to your line. Motor is continuous duty with a totally enclosed fan-cooled (TEFC) enclosure, and it has wire leads for electrical connection. Pumps are not self-priming. Do not run dry or use with solids. Temperature range is –40° to 275° F.

For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm @ 10 ft. of Head	Max. Flow, gpm @ 20 ft. of Head	Max. Flow, gpm @ 30 ft. of Head	Max. Flow, gpm @ 40 ft. of Head	Max. ft. of Head	Max. Viscosity, cp	hp	Volts AC @ 60 Hz (phase)	Amps	For Tube OD	Ht.	Wd.	Dp.		
54	37	18	—	33	400	1/2	120/240 (1)	7.4/3.7	1 1/2″	8 1/4″	6 1/2″	16 1/2″	49635K41	$1,402.96
54	37	18	—	33	400	1/2	208-240/460 (3)	2/1	1 1/2″	8 1/4″	6 1/2″	15 7/8″	49635K51	1,438.15
110	95	56	—	40	700	1	120/240 (1)	11.8/5.9	1 1/2″	7 1/4″	6 1/2″	17 1/2″	49635K42	1,357.04
110	95	56	—	40	700	1	208-240/460 (3)	3.6/1.8	1 1/2″	7 1/4″	6 1/2″	15 5/8″	49635K52	1,308.86
110	100	70	22	44	800	1 1/2	208-240/460 (3)	4-3.8/1.9	1 1/2″	7 1/4″	6 1/2″	16 1/4″	49635K53	1,429.19
120	105	94	87	62	600	2	208-240/460 (3)	5.3-5/2.5	1 1/2″	7 1/4″	6 1/2″	17 1/2″	49635K54	1,557.83

Self-Priming Plastic Circulation Pumps for Water Sprinklers



Self-priming up to 25 feet, these pumps have high flow rates for irrigation and landscaping. Housing is polypropylene and impeller is Noryl. Motor is continuous duty, single phase with an open dripproof (ODP) enclosure, and it has screw terminals for electrical connection. Do not run dry or use with solids. Maximum viscosity is 1 centipoise, and temperature range is 40° to 140° F. Connections are NPT female. Pumps are CSA certified.

Max. Flow, gpm @ 40 ft. of Head	Max. Flow, gpm @ 80 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size Intake	Pipe Size Discharge	Ht.	Wd.	Dp.		
50	31	108	1	120/240 (1)	14.8/7.4	2	1 1/2	11 7/8″	12 3/8″	18 5/8″	4011K11	$395.75
63	44	117	1 1/2	120/240 (1)	19.2/9.6	2	1 1/2	11 7/8″	12 3/8″	19 3/4″	4011K22	447.55
67	47	132	2	120/240 (1)	24/12	2	2	12 3/8″	12 7/8″	21″	4011K44	549.51

Plastic Circulation Pumps for Detergents and Coolants



Often used for circulating mild caustics, these pumps have a plastic housing that's compatible with liquids such as salt water and antifreeze. The discharge rotates at 90° intervals to direct flow. Pumps are not self-priming. Do not run dry or use with solids. Maximum viscosity is 23 centipoise. Connections are NPT female.

Pumps have a continuous-duty motor with a totally enclosed fan-cooled (TEFC) enclosure. *Single-phase motors* have thermal overload protection and screw terminals for electrical connection. *Three-phase motors* have wire leads for electrical connection.

Standard pumps have a polypropylene housing and impeller. Temperature range is 33° to 140° F.

High-temperature pumps have a Noryl housing and impeller that can withstand temperatures up to 180° F. Minimum temperature is 33° F.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm @ 10 ft. of Head	@ 30 ft. of Head	@ 60 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size Intake	Discharge	Ht.	Wd.	Dp.		
Standard													
26	19	9	68	1/2	120/208-240 (1)	7/3.8-3.5	1 1/2	1 1/2	7 1/2"	8 3/4"	14 1/2"	**8190K31**	$701.53
26	19	9	68	1/2	208-240/460 (3)	1.8-1.7/0.8	1 1/2	1 1/2	7 1/2"	8 3/4"	14 1/2"	**8190K34**	756.65
37	29	10	72	3/4	120/208-240 (1)	9.8/5.4-4.9	1 1/2	1 1/2	7 1/2"	8 3/4"	15 5/8"	**8190K32**	796.45
37	29	10	72	3/4	208-240/460 (3)	2.5-2.3/1.1	1 1/2	1 1/2	7 1/2"	8 3/4"	15"	**8190K35**	850.06
55	48	28	79	1	120/208-240 (1)	12.2/6.7-6.1	1 1/2	1 1/2	7 1/2"	8 3/4"	15 5/8"	**8190K33**	884.47
55	48	28	79	1	208-240/460 (3)	3.2-2.9/1.4	1 1/2	1 1/2	7 1/2"	8 3/4"	15 1/2"	**8190K36**	840.23
85	73	50	89	1 1/2	208-240/460 (3)	4.6-4.2/2.1	1 1/2	1 1/2	7 1/2"	8 3/4"	15"	**8190K37**	1,025.06
96	83	58	91	2	208-240/460 (3)	5.9-5.3/2.6	1 1/2	1 1/2	7 1/2"	8 3/4"	15 1/2"	**8190K38**	1,230.04
123	106	76	95	3	208-240/460 (3)	8.3-7.6/3.8	1 1/2	1 1/2	7 1/2"	8 3/4"	16 1/2"	**8190K39**	1,391.33
High Temperature													
26	19	9	68	1/2	120/208-240 (1)	7/3.8-3.5	1 1/2	1 1/2	7 1/2"	8 3/4"	14 1/2"	**9980K86**	696.53
26	19	9	68	1/2	208-240/460 (3)	1.8-1.7/0.8	1 1/2	1 1/2	7 1/2"	8 3/4"	14 1/2"	**9980K91**	751.76
37	29	10	72	3/4	120/208-240 (1)	9.8/5.4-4.9	1 1/2	1 1/2	7 1/2"	8 3/4"	15 5/8"	**9980K87**	782.53
37	29	10	72	3/4	208-240/460 (3)	2.5-2.3/1.1	1 1/2	1 1/2	7 1/2"	8 3/4"	15"	**9980K92**	842.67
55	48	28	79	1	120/208-240 (1)	12.2/6.7-6.1	1 1/2	1 1/2	7 1/2"	8 3/4"	15 5/8"	**9980K88**	868.14
55	48	28	79	1	208-240/460 (3)	3.2-2.9/1.4	1 1/2	1 1/2	7 1/2"	8 3/4"	15 1/2"	**9980K93**	819.73
85	73	50	89	1 1/2	208-240/460 (3)	4.6-4.2/2.1	1 1/2	1 1/2	7 1/2"	8 3/4"	15"	**9980K94**	997.74
96	83	58	91	2	208-240/460 (3)	5.9-5.3/2.6	1 1/2	1 1/2	7 1/2"	8 3/4"	15 1/2"	**9980K95**	1,197.16
123	106	76	95	3	208-240/460 (3)	8.3-7.6/3.8	1 1/2	1 1/2	7 1/2"	8 3/4"	16 1/2"	**9980K96**	1,350.67

Extended-Life Plastic Circulation Pumps for Water and Coolants



Low Flow



High Flow

Eliminate seal wear and leakage with these sealless pumps that turn the impeller with magnets for a long service life. Compatible with antifreeze and water, they're often used with electroplating and photographic solutions. Pumps have a plastic housing and impeller. Motor is continuous duty and has thermal overload protection. Pumps have a 6-ft. cord with plug, unless noted. They are not self-priming. Do not run dry or use with solids. Maximum viscosity is 20 centipoise, unless noted. Temperature range is 32° to 150° F.

Heavy duty pumps provide protection in dusty and dirty environments.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm @ 3 ft. of Head	@ 10 ft. of Head	@ 40 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz (phase)	Amps	Connections Intake	Discharge	Ht.	Wd.	Dp.		
Standard—With Open Fan-Cooled (OFC) Motor													
Low Flow													
5	—	—	7	1/50	120 (1)	0.9	For 5/8" ID Tube	For 5/8" ID Tube	5 1/4"	3 1/2"	7 5/8"	**9930K37**	$156.79
7.2	5.6	—	19	1/25	120 (1)	1.7	For 5/8" ID Tube	For 5/8" ID Tube	5 1/4"	3 1/2"	8 1/4"	**9930K41**	165.61
7.8	4.8	—	14.6	1/30	120 (1)	1.5	1/2 NPT Female	1/2 NPT Male	4 3/8"	4"	8 1/2"	**9930K51**	161.53
11	8.8	—	23.7	1/12	120 (1)	2.4	1/2 NPT Female	1/2 NPT Male	4 3/8"	4"	9"	**9930K53**	234.08
11.8	9.5	—	21.9	1/12	120 (1)	2.4	3/4 NPT Female	1/2 NPT Male	5"	4"	9 7/8"	**9930K63**	210.57
14.6	11.9	—	34.6	1/8	120 (1)	2.1	1/2 NPT Female	1/2 NPT Male	5 5/8"	5 1/2"	8 3/8"	**9930K54**	375.34
16.5	13.3	—	27.5	1/8	120 (1)	2	1 NPT Female	1/2 NPT Male	5 1/2"	5 1/2"	8 3/4"	**9930K65**	361.87
Heavy Duty—With Totally Enclosed Fan-Cooled (TEFC) Motor													
Low Flow													
9.1	5.8	—	16.3	1/20	240 (1)	0.8	1/2 NPT Female	1/2 NPT Male	4 3/8"	4"	8 1/2"	**9930K52**★	223.90
9.1	6	—	16.3	1/25	120 (1)	1.3	1/2 NPT Female	1/2 NPT Male	5"	4"	9"	**99095K51**	283.16
13.5	11.5	—	24.3	1/10	120 (1)	1.7	1 NPT Female	1/2 NPT Male	5"	5 1/2"	10 7/8"	**99095K52**	369.85
13.5	11.5	—	24.3	1/10	240 (1)	0.7	1 NPT Female	1/2 NPT Male	5"	5 1/2"	10 5/8"	**9930K64**★	314.66
17.4	15	—	29	1/5	120/240 (1)	2.2/1.1	1 NPT Female	1/2 NPT Male	7 1/4"	8"	13"	**9929K55**■	539.00
19.2	16.5	—	29.3	1/8	120/240 (1)	3/1.4	1 NPT Female	1/2 NPT Male	7 3/8"	5 1/4"	11 1/4"	**9930K66**	526.44
High Flow													
33	30	6	40.5	1/3	120/240 (1)	5/2.5	1 NPT Female	3/4 NPT Male	7"	8 7/8"	16 1/4"	**99095K54**▲	671.24
39	36.7	21.7	51	1/2	120/240 (1)	9.4/4.7	1 NPT Female	3/4 NPT Male	7"	8 7/8"	16 1/4"	**99095K55**▲	695.53
—	36.7	21.7	51	1/2	240/460 (3)	1.8/0.9	1 NPT Female	3/4 NPT Male	7"	8 3/4"	15 1/4"	**99095K56**▲	741.92
51.5	46.7	30.8	58.9	3/4	120/240 (1)	11.8/5.9	1 1/2 NPT Female	1 NPT Male	8 1/2"	8 5/8"	17 1/4"	**99095K57**▲	1,007.00
51.5	46.7	30.8	58.9	3/4	240/460 (3)	2.9/1.5	1 1/2 NPT Female	1 NPT Male	8 5/8"	8 5/8"	17 1/4"	**99095K58**▲	1,075.81
53	52	33	60	3/4	120/240 (1)	10/5	1 1/2 NPT Female	1 NPT Male	9"	9"	17 7/8"	**9929K56**■	755.60

★ Has a 6-ft. cord without plug. ■ Has a junction box; maximum viscosity is 9 centipoise. ▲ Has wire leads.

For information about circulation pumps, see page 374.

Ultra-Quiet Plastic Circulation Pumps for Water



Instead of a fan-cooled motor, these pumps have an integrated motor that's cooled by the liquid being pumped for virtually silent operation and a long service life. Also known as canned motor pumps, they're commonly used in chiller systems and aquariums. Housing is nylon, and impeller is nylon and Type 316 stainless steel. Motor is continuous duty, single phase and has thermal overload protection. Mount horizontally or vertically; motor must always be below the impeller. Pumps are not self-priming. Do not run dry or use with solids. Maximum viscosity is 1 centipoise, and temperature range is 40° to 140° F. Connections are NPT male. 9907T401 has wire leads for electrical connection and is CE marked and CSA certified. 9907T302 has a 6-ft. cord with plug and is CE marked and ETL listed.

Max. Flow, gpm @ 8 ft. of Head	@ 16 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz (phase)	Amps	*Pipe Size* Intake	Discharge	Ht.	Wd.	Dp.		
8	5	19	2/25	120 (1)	0.57	3/4	3/4	4 7/8"	4 3/8"	6"	**9907T401**	$143.26
8	5	23	2/25	120 (1)	0.52	3/4	3/4	4 7/8"	4 3/8"	6"	**9907T302**	150.61

Circulation Pumps for Coolant Tanks



In-Tank Immersion



Remote Mount

A universal mounting plate lets you replace coolant pumps on machine tools from manufacturers such as Fuji, Mitsubishi, Toshiba, Hitachi, and Yasukawa. All pumps have a cast iron housing. Maximum solid dia. is 3/32". Maximum viscosity is 90 centipoise. Connections are NPT female. *1/8 and 1/4 hp pumps* have a polyacetal impeller; *1/2, 3/4, and 1 hp pumps* have an aluminum impeller.

Motor is totally enclosed with sealed bearings. All pumps must be hardwired. They have wire leads for electrical connection.

In-tank immersion pumps remove liquid to 1" above the inlet. They are self-priming and can run dry. Temperature range is 50° to 180° F.

Remote-mount pumps connect to a pipe from your tank in areas with limited clearance. Mount above or below the liquid level. After first use, pumps are self-priming in a minimum of 8" of liquid. Do not run dry. Temperature range is 50° to 140° F.

Max. Flow, gpm @ 10 ft. of Head	@ 20 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz (phase)	Amps	*Pipe Size* Intake	Discharge	Shaft Ht.	*Mounting Plate* Size, Sq.	No. of Holes	Hole Size	Ctr.-to-Ctr.	Ht.	Wd.	Dp.		
In-Tank Immersion																	
5	—	13	1/8	240/460 (3)	0.3/0.2	—	3/8	6"	5"	4	5/16"	3 9/16"	11 3/4"	5"	6 3/4"	**99875K25**	$150.00
5	—	13	1/8	120/240 (1)	0.7/0.4	—	3/8	6"	5"	4	5/16"	3 9/16"	11 3/4"	5"	6 3/4"	**99875K21**	155.00
20	14	33	1/4	240/460 (3)	0.9/0.6	—	1/2	7 1/8"	6 3/4"	4	3/8"	4 3/8"	14 7/8"	6 3/4"	8"	**99875K35**	261.67
20	14	33	1/4	120/240 (1)	3/1.5	—	1/2	7 1/8"	6 3/4"	4	3/8"	4 3/8"	14 7/8"	6 3/4"	8"	**99875K31**	272.78
33	27	42	1/2	240/460 (3)	2/1.4	—	3/4	9 1/2"	7"	4	3/8"	4 3/4"	18 3/4"	7"	8 1/2"	**99875K44**	421.00
33	27	42	1/2	120/240 (1)	6/3	—	3/4	9 1/2"	7"	4	3/8"	4 3/4"	18 3/4"	7"	8 1/2"	**99875K41**	445.50
52	44	55	3/4	240/460 (3)	2.6/1.6	—	1	11 1/2"	7 1/2"	4	3/8"	4 3/4"	20 1/4"	7 1/2"	9"	**99875K46**	502.00
55	49	60	1	240/460 (3)	3.2/2	—	1	11 1/2"	7 3/4"	4	3/8"	5 1/8"	21 7/8"	7 3/4"	9"	**99875K48**	586.00
Remote Mount																	
5	—	13	1/8	240/460 (3)	0.3/0.2	3/8	3/8	—	5 1/2"	4	5/16"	4 1/8"	6 7/8"	5 1/2"	7 1/2"	**99875K15**	190.62
5	—	13	1/8	120/240 (1)	0.7/0.4	3/8	3/8	—	5 1/2"	4	5/16"	4 1/8"	6 7/8"	5 1/2"	7 1/2"	**99875K11**	185.62
20	14	33	1/4	240/460 (3)	0.9/0.6	3/4	3/4	—	7 1/8"	4	3/8"	5 5/32"	9 1/4"	7 1/8"	8 1/2"	**99875K85**	272.78
20	14	33	1/4	120/240 (1)	3/1.5	3/4	3/4	—	7 1/8"	4	3/8"	5 5/32"	9 1/4"	7 1/8"	8 1/2"	**99875K81**	279.44
33	27	42	1/2	240/460 (3)	2/1.4	3/4	3/4	—	7 1/2"	4	7/16"	6"	12 1/4"	7 1/2"	8 3/4"	**99875K94**	482.50
33	27	42	1/2	120/240 (1)	6/3	3/4	3/4	—	7 1/2"	4	7/16"	6"	12 1/4"	7 1/2"	8 3/4"	**99875K91**	495.00
52	44	55	3/4	240/460 (3)	2.6/1.6	1	1	—	7 1/2"	4	7/16"	6"	12 1/4"	7 1/2"	9 1/2"	**99875K96**	544.50
55	49	60	1	240/460 (3)	3.2/2	1	1	—	8 1/8"	4	7/16"	6 1/16"	14"	8 1/8"	9 3/4"	**99875K98**	627.00

Heavy Duty Circulation Pumps for Coolant Tanks

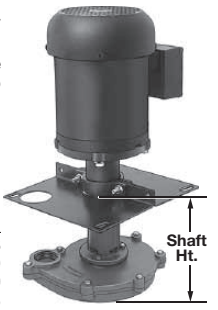

The durable motor and stainless steel impeller can handle dirty coolant and machine lubricants with solids up to 1/4" dia. These pumps have a cast iron housing. Motor is continuous duty, three phase with a totally enclosed fan-cooled (TEFC) enclosure, and it has wire leads for electrical connection. Pumps can run dry but are not self-priming. They remove liquid down to approximately 2 1/4" above the inlet. Maximum viscosity is 108 centipoise, and temperature range is 40° to 200° F. Mounting plate is 9 1/2" x 10 3/4" and has four 5/16" x 13/16" holes on 8 5/8" x 9 3/8" centers. Connections are NPT female.

Max. Flow, gpm @ 10 ft. of Head	@ 20 ft. of Head	@ 30 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size	Shaft Ht.	Ht.	Wd.	Dp.		
35	_	_	17	1/3	208-240/460 (3)	2/1	1 1/4	11 3/4"	20 5/8"	8 3/8"	8 3/4"	**9970K33**	$462.33
41	9	_	21	1/3	208-240/460 (3)	2/1	1 1/4	9 3/4"	18 7/8"	8 3/8"	8 3/4"	**9970K35**	499.19
73	42	7	32	3/4	208-240/460 (3)	3/2	1 1/2	9 7/8"	19 3/4"	9 1/4"	10 3/4"	**9970K37**	565.60
73	42	7	32	3/4	208-240/460 (3)	3/2	1 1/2	15 7/8"	25 3/4"	9 1/4"	10 3/4"	**9970K39**	593.15

Extended-Life Plastic Circulation Pumps for Coolant Tanks

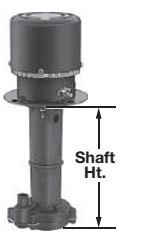

Sealless construction means these pumps have few moving parts that can fail. They have a durable acetal housing and impeller. Motor is continuous duty, single phase with a totally enclosed fan-cooled (TEFC) enclosure, and it has a 4-ft. cord with plug. Pumps are self-priming and can run dry. They remove liquid down to 1" above the inlet. Maximum solid dia. is 3/32". Maximum viscosity is 70 centipoise, and temperature range is 50° to 150° F. Mounting bracket has four 9/32" holes on 4 1/2" centers. Intake is screened; discharge connection is slip-on for 5/8" OD tubing.

Max. Flow, gpm @ 2 ft. of Head	@ 4 ft. of Head	@ 6 ft. of Head	Max. ft. of Head	hp	Shaft Ht.	Ht.	Dia.	**120 Volts AC @ 60 Hz** Amps			**240 Volts AC @ 60 Hz** Amps		
11.5	10.5	9.5	13	1/15	5"	10 1/2"	5"	2.4	**4336K31**	$355.34	1.2	**4336K32**	$393.56
11.5	10.5	9.5	13	1/15	8"	13 1/2"	5"	2.4	**4336K41**	365.68	1.2	**4336K42**	391.16
11.5	10.5	9.5	13	1/15	10"	15 1/2"	5"	2.4	**4336K51**	429.38	1.2	**4336K52**	473.98

Circulation Pumps

For information about circulation pumps, see page 374.

Inline Circulation Pumps for Water



Compact (Shown with Required Pipe Connectors)



Easy Maintenance (Shown with Required Pipe Connectors)

Install these pumps directly in your pipeline for applications such as hot-water circulation and hydronic heating and cooling. They have a cast iron housing and a plastic impeller. Motor is continuous duty, single phase and has wire leads for electrical connection. Pumps are not self-priming. Do not run dry or use with solids. Max. viscosity is 1 centipoise. Pumps mount horizontally or vertically and have flanges with two 1/2″ dia. holes. Connections are NPT female.

Compact pumps are often used in pipelines with limited clearance. Motor can never face downward; it's cooled by the water being pumped. Temperature range is 40° to 230° F. Pumps are UL and C-UL listed.

Easy-maintenance pumps have a detachable motor assembly, so you can leave them inline when servicing or repairing the motor. Motor has an open dripproof (ODP) enclosure. Maximum temperature is 225° F.

To Order: For the required pipe connectors, please specify pipe size of 3/4, 1, 1 1/4, or 1 1/2.

Max. Flow, gpm @ 5 ft. of Head	@ 10 ft. of Head	@ 20 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz (phase)	Amps	Ht.	Wd.	Dp.	Pumps	Each	Required Pipe Connectors	Pair
Compact													
12	8	—	15	1/25	240 (1)	0.46	4 3/4″	6 3/8″	6″	67705K21	$147.77	67705K4	$11.72
27	23	13	32	1/8	120 (1)	1.76	6″	6 1/2″	7 5/8″	67705K29	283.45	67705K4	11.72
30	26	17	34	1/6	120 (1)	2.00	6″	6 1/2″	7 3/4″	67705K36	337.54	67705K4	11.72
30	26	17	34	1/6	240 (1)	1.06	6″	6 1/2″	7 1/2″	67705K31	337.54	67705K4	11.72
Easy Maintenance													
23	—	—	8	1/12	120 (1)	1.75	6 3/8″	5″	14 7/8″	6769K11	288.79	6769K1	17.20
57	25	—	10	1/6	120 (1)	1.90	8 1/2″	5 1/4″	15 3/8″	6769K12	515.81	6769K7★	17.18

★ Not available in 3/4 NPT.

Adjustable-Flow Inline Circulation Pumps for Water



Shown with Required Pipe Connectors

Accommodate performance changes in your system with a three-speed switch that adjusts flow rate. These pumps adjust flow by ±10%, except 1/4 hp pumps adjust flow by ±6%. Impeller is nylon. Motor is continuous duty, single phase with an open dripproof (ODP) enclosure, and it has terminals for electrical connection. Pumps are not self-priming. Do not run dry or use with solids. Maximum viscosity is 1 centipoise, and temperature range is 33° to 230° F. Pumps mount horizontally and have mounting flanges with two 1/2″ dia. holes. Connections are NPT female.

Standard pumps have a cast iron housing.

Lead-free pumps have a stainless steel housing.

To Order: For the required pipe connectors for 1/8, 1/6, and 1/4 hp pumps, please specify pipe size of 3/4, 1, 1 1/4, or 1 1/2. For the required pipe connectors for 1/3 hp pumps, please specify pipe size of 1, 1 1/4, or 1 1/2.

Flow Range, gpm @ 5 ft. of Head	@ 10 ft. of Head	@ 15 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz (phase)	Amps	Ht.	Wd.	Dp.	Standard Pumps	Standard Each	Standard Required Pipe Connectors	Standard Pair	Lead-Free Pumps	Lead-Free Each	Lead-Free Required Pipe Connectors	Lead-Free Pair
4-13	2-8.5	0-4	18	1/8	120 (1)	0.8	6 3/8″	5″	6″	1785N11	$124.04	1785N19	$13.28	1785N12	$216.80	1785N21	$44.08
4-15	1-11	0-7	24	1/6	120 (1)	1	6 3/8″	5″	6″	1785N13	138.30	1785N19	13.28	1785N14	228.70	1785N21	44.08
13-28	7-22	5-20	31	1/4	240 (1)	0.9	6 1/2″	5 1/2″	6 3/8″	1785N15	274.32	1785N19	13.28	1785N16	406.94	1785N21	44.08
16-47	2-28	0-2	14	1/3	120 (1)	1.9	8 1/2″	5 1/2″	6 5/8″	1785N17	283.09	1785N29	31.20	1785N18	437.13	1785N31	87.55

Extended-Life Inline Circulation Pumps for Water



Standard



High Flow (Shown with Required Pipe Connectors)

Use these pumps for a long life in applications such as hot-water circulation and solar heating. They have a bronze housing and are not self-priming. Do not run dry or use with solids. Maximum viscosity is 1 centipoise.

Standard pumps turn the impeller with magnets, so they have no mechanical seal that can wear down and leak. Impeller is Ryton, glass, and PTFE. Mount vertically or horizontally; electrical conduit box must be placed on the bottom. Motor is continuous duty, single phase and fan cooled with thermal overload protection. Pumps have wire leads for electrical connection. Temperature range is 33° to 250° F. Pump components are UL recognized.

High-flow pump is cooled by the liquid being pumped to extend the life of the motor. Impeller is Noryl. Motor is continuous duty, single phase and has wire leads for electrical connection. Mount horizontally. Temperature range is 40° to 230° F. Pump is UL and C-UL listed.

To Order: For the required pipe connectors, please specify pipe size of 3/4, 1, 1 1/4, or 1 1/2.

Max. Flow, gpm @ 1 ft. of Head	@ 3 ft. of Head	@ 10 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size	Ht.	Wd.	Dp.	Pumps	Each	Required Pipe Connectors	Pair
Standard—NPT Male														
3.8	2.4	—	4.3	1/100	120 (1)	0.5	1/2	6 5/8″	3 3/8″	5 3/8″	4161K11	$213.24	_____	_____
5.8	5.3	2.5	12.1	1/25	120 (1)	1.4	1/2	7 3/4″	3 3/8″	5 3/8″	4161K21	225.04	_____	_____
High Flow—NPT Female														
21	17	7	15	1/25	120 (1)	0.8	—	6 3/8″	4 7/8″	5 5/8″	8174K81	210.43	8174K8	$35.67

High-Flow Inline Circulation Pumps for Water



A high-horsepower motor lets these pumps handle four times the flow and twice the pressure of other inline circulation pumps. Housing is cast iron and impeller is Type 304 stainless steel. Motor is continuous duty with a totally enclosed fan-cooled (TEFC) enclosure, and it has wire leads for electrical connection. Pumps are not self-priming. Do not run dry or use with solids. Mount horizontally or vertically; motor can never face downward. Maximum viscosity is 1 centipoise, and temperature range is 33° to 284° F. Connections are NPT female. *3/4 hp pump flanges* have two 5/8″ dia. holes. *1 1/2 hp pump flanges* have four 9/16″ dia. holes. *3 hp pump flanges* have four 3/4″ dia. holes.

Max. Flow, gpm @ 25 ft. of Head	@ 40 ft. of Head	Max. ft. of Head	hp	Volts AC @ 60 Hz (phase)	Amps	Flange Size	Ht.	Wd.	Dp.	Pumps	Each	Replacement Pipe Connectors	Pair
80	47	45	3/4	120/208-240 (1)	9.6/5.3-4.8	1 1/2	17 3/4″	11 1/2″	9 1/4″	8115K42	$1,540.33	67705K49	$25.08
80	47	45	3/4	208-240/460 (3)	2.4-2.3/1.2	1 1/2	15 7/8″	11 1/2″	8 5/8″	8115K52	1,645.34	67705K49	25.08
135	90	46	1 1/2	120/208-240 (1)	17/9.5-8.6	2	20 1/2″	14″	9 3/4″	8115K43	1,886.96	8115K61	83.97
135	90	46	1 1/2	208-240/460 (3)	4.7-4.6/2.3	2	17 3/8″	14″	8 1/2″	8115K53	2,007.53	8115K61	83.97
200	137	48	3	208-240/460 (3)	8.4-7.7/3.9	3	24 1/8″	19″	8 3/8″	8115K34	1,921.55	8115K62	126.87

For information about air-powered transfer pumps, see page 374.

Plastic Air-Powered Transfer Pumps

Also known as air-operated diaphragm pumps, these connect to an air compressor for operation in harsh environments without electricity. Designed to stand up to thick sludges and slurries, all pumps are self-priming. They are submersible and can also run dry. Maximum air pressure is 100 psi, and maximum discharge pressure is 231 feet of head (100 psi). Fluid connection is NPT female, and air connection is ¼ NPT female.

Fluid-side repair kits include diaphragms, check valve balls, and seals. **Air-motor repair kits** include seals, O-rings, gaskets, retaining rings, and an air valve spool.

Standard Polypropylene Housing—Provides good resistance to many common chemicals. *Pumps for coolants, acids, and alkalies* are often used with antifreeze, ammonia, detergents, and cleaning fluids. Choose a pump with a Santoprene diaphragm to resist cracking for a long service life. Choose a pump with a PTFE diaphragm for compatibility with a wider range of harsh chemicals, such as phosphoric acid and 75% sulfuric acid.

Conductive Acetal Housing—These pumps can be grounded to dissipate static electricity. They're rated for gasoline, kerosene, isopropyl alcohol, and mineral spirits.

Extended-Life PVDF Housing—Our most durable plastic housing has excellent chemical, impact, and temperature resistance for a long service life. *Pumps for acids and alkalies* are often used with ammonia, electropolishing solutions, detergents, and cleaning fluids. *Pumps for concentrated acids and alkalies* are also compatible with stronger chemicals, such as pure hydrochloric acid, nitric acid, and sodium hypochlorite.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

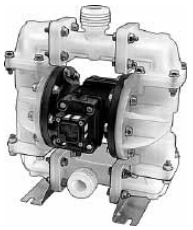

Standard Polypropylene and Extended-Life PVDF



Conductive Acetal

Max. Flow, gpm	Flow Rate, gpm @ 40 ft. of Head	@ 120 ft. of Head	@ 160 ft. of Head	Max. Solid Dia.	Air Consumption, cfm	Fluid Pipe Size	Max. Viscosity, cp	Ht.	Wd.	Dp.	Pumps		Fluid-Side Repair Kits		Air-Motor Repair Kits	
Standard Polypropylene Housing—Temp. Range is 40° to 150° F																
For Water																
7	6.25	4.25	3.25	1/16"	5.5	3/8	3,000	8"	8"	5"	4157K41	$435.11	13465K51	$197.91	13465K65	$152.09
14	12	8	5	1/8"	16	1/2	10,000	12"	10"	7"	4157K42	550.63	3781K55	109.12	3781K72	195.66
23	19	13	8	5/32"	20	3/4	10,000	13"	12"	7"	4157K132	788.54	3781K74	208.03	3781K72	195.66
For Lubricating Oils—Buna-N Diaphragm																
14	12	8	5	1/8"	16	1/2	10,000	12"	10"	7"	4157K133	596.24	3781K34	101.33	3781K72	195.66
23	19	13	8	5/32"	20	3/4	10,000	13"	12"	7"	4157K134	767.94	3781K73	109.53	3781K72	195.66
For Coolants, Acids, and Alkalies—Santoprene Diaphragm																
4	3.5	2	1	1/32"	6	1/4	5,000	8"	7"	6"	4157K72	318.86	3781K23	61.84	3781K59	169.81
7	7	5	4	1/16"	6	3/8	3,000	8"	8"	5"	4157K131	422.34	13465K66	155.50	13465K65	152.09
14	12	8	5	1/8"	16	1/2	10,000	12"	10"	7"	4157K81	568.45	3781K54	80.62	3781K72	195.66
23	19	13	8	5/32"	20	3/4	10,000	13"	12"	7"	4157K833	731.70	3781K36	104.65	3781K72	195.66
For Coolants, Acids, and Alkalies—PTFE Diaphragm																
4	3.5	2	1	1/32"	6	1/4	5,000	8"	7"	6"	4157K111	410.45	3781K24	123.12	3781K59	169.81
6.5	5.5	4	2.75	1/16"	5.5	3/8	3,000	8"	8"	5"	4157K21	542.55	13465K53	261.55	13465K65	152.09
14	12	8	5	1/8"	16	1/2	10,000	12"	10"	7"	4157K113	674.64	3781K56	156.71	3781K72	195.66
23	19	13	8	5/32"	20	3/4	10,000	13"	12"	7"	4157K115	810.40	3781K37	108.33	3781K72	195.66
Conductive Acetal Housing—Temp. Range is 40° to 150° F																
For Fuels—PTFE Diaphragm																
4	3.5	2	1	1/32"	6	1/4	5,000	8"	7"	6"	13465K18	536.37	3781K24	123.12	3781K59	169.81
6.5	5.5	4	2.75	1/16"	5.5	3/8	3,000	8"	8"	5"	13465K25	519.09	13465K63	290.82	13465K65	152.09
14	12	8	5	1/8"	16	1/2	10,000	12"	10"	7"	13465K38	881.93	3781K56	156.71	3781K62	325.19
Extended-Life PVDF Housing—Temp. Range is 8° to 250° F																
For Acids and Alkalies—Santoprene Diaphragm																
4	3.5	2	1	1/32"	6	1/4	5,000	8"	7"	6"	8070K22	407.15	3781K23	61.84	3781K59	169.81
14	12	8	5	1/8"	16	1/2	10,000	12"	10"	7"	8070K13	983.11	3781K54	80.62	3781K72	195.66
23	19	13	8	5/32"	20	3/4	10,000	13"	12"	7"	8070K52	1,151.45	3781K36	104.65	3781K72	195.66
For Concentrated Acids and Alkalies—PTFE Diaphragm																
4	3.5	2	1	1/32"	6	1/4	5,000	8"	7"	6"	8070K15	489.65	3781K24	123.12	3781K59	169.81
14	12	8	5	1/8"	16	1/2	10,000	12"	10"	7"	8070K14	1,135.89	3781K56	156.71	3781K72	195.66
23	19	13	8	5/32"	20	3/4	10,000	13"	12"	7"	8070K17	1,371.15	3781K37	108.33	3781K72	195.66

Compact Plastic Air-Powered Transfer Pumps

Fit in tight spaces. These pumps are self-priming and can run dry for short amounts of time. Do not use with solids. Maximum air pressure is 125 psi, and maximum discharge pressure is 288 feet of head (125 psi). Fluid connection is NPTF female and air connection is PTF female. Temperature range is 40° to 175° F. Max. viscosity is not rated.

Standard Polypropylene Housing—Provides good resistance to many common chemicals. Pump is often used with detergents and cleaning solutions.

Conductive Acetal Housing—With metallic fibers embedded in the housing, this pump can be grounded to dissipate static electricity. It's resistant to many fuels and flammable liquids, such as gasoline, lacquer thinner, mineral spirits, and xylene.



ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm	Flow Rate, gpm @ 80 ft. of Head	@ 120 ft. of Head	@ 160 ft. of Head	Air Consumption, cfm	Fluid Pipe Size	Air Pipe Size	Ht.	Wd.	Dp.		
Standard Polypropylene Housing											
For Acids and Alkalies—Santoprene Diaphragm											
5.3	3.2	2.3	1.7	6.1	1/4	1/4	7"	5"	7"	2604K51	$297.18
Conductive Acetal Housing											
For Fuels and Flammable Liquids—PTFE Diaphragm											
5.3	3.2	2.3	1.7	6.1	1/4	1/4	7"	5"	7"	2604K52	479.03

Flanged High-Flow Plastic Air-Powered Transfer Pumps



These pumps can handle four times the flow of standard air-powered transfer pumps. They have flanged fluid connections that fit large-diameter pipe for transferring thick sludges and slurries. Pumps are self-priming, submersible, and can run dry. Maximum air pressure is 100 psi, and maximum discharge pressure is 231 feet of head (100 psi). Pumps have a Class 125 flange fluid connection and an NPT female air connection.

Fluid-side repair kits include diaphragms, check valve balls, and seals. **Air-motor repair kits** include seals, O-rings, gaskets, retaining rings, an air valve spool, and a pilot valve assembly.

Standard Polypropylene Housing—Provides good resistance to many common chemicals. *Pumps for acids and alkalies* are often used with ammonia, detergents, and cleaning solutions. *Pumps for coolants, acids, and alkalies* can be used with antifreeze as well as harsh chemicals, such as electropolishing and acid-washing solutions.

Extended-Life PVDF Housing—Our most durable plastic housing has excellent chemical, impact, and temperature resistance for a long service life. It's rated for very corrosive chemicals, such as pure hydrochloric acid, nitric acid, and sodium hypochlorite.

ANSI Class 125 Flange Dimensions

Fluid Pipe Size	OD	Thick.	Bolt Circle Dia.	No. of Bolt Holes	Bolt Size
1	4 1/4"	9/16"	3 1/8"	4	3/8"
1 1/2	5"	13/16"	3 7/8"	4	3/8"
2	6"	5/8"	4 3/4"	4	5/8"

(i) For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm	Flow Rate, gpm @ 40 ft. of Head	@ 120 ft. of Head	@ 160 ft. of Head	Max. Solid Dia.	Air Consumption, cfm	Fluid Pipe Size	Air Pipe Size	Max. Viscosity, cp	Ht.	Wd.	Dp.	Pumps		Fluid-Side Repair Kits		Air-Motor Repair Kits	
Standard Polypropylene Housing—Temp. Range is 32° to 180° F																	
For Acids and Alkalies—Santoprene Diaphragm																	
53	46	30	20	1/4"	45	1	1/2	20,000	21"	17"	12"	4157K54	$970.30	3781K49	$137.23	3781K67	$222.16
100	83	51	32	15/32"	50	1 1/2	3/4	30,000	29"	23"	13"	4157K911	2,057.78	3781K81	224.57	4157K25	341.01
160	125	72	43	21/32"	80	2	3/4	40,000	32"	24"	13"	4157K121	3,015.42	4157K24	356.12	4157K25	341.01
For Coolants, Acids, and Alkalies—PTFE Diaphragm																	
53	46	30	20	1/4"	45	1	1/2	20,000	21"	17"	12"	4157K117	1,198.93	3781K51	446.54	3781K67	222.16
100	83	51	32	15/32"	50	1 1/2	3/4	30,000	29"	23"	13"	4157K119	2,424.19	3781K82	723.98	4157K25	341.01
160	125	72	43	21/32"	80	2	3/4	40,000	32"	24"	13"	4157K43	3,445.63	3781K83	555.81	4157K25	341.01
Extended-Life PVDF Housing—Temp. Range is 8° to 250° F																	
For Concentrated Acids and Alkalies—PTFE Diaphragm																	
53	46	30	20	1/4"	45	1	1/2	20,000	21"	17"	12"	8070K34	1,989.04	3781K51	446.54	3781K67	222.16
100	83	51	32	15/32"	50	1 1/2	3/4	30,000	29"	23"	13"	8070K27	4,681.83	3781K82	723.98	4157K25	341.01

High-Flow Metal Air-Powered Transfer Pumps



Move large volumes of thick sludges and slurries in demanding environments—these pumps have a rugged metal housing. They are self-priming, submersible, and can run dry. Maximum air pressure is 125 psi, and maximum discharge pressure is 289 feet of head (125 psi). Fluid and air connections are NPT female. Pumps include a grounding strap.

Fluid-side repair kits include diaphragms, check valve balls, and seals. **Air-motor repair kits** include seals, O-rings, gaskets, retaining rings, an air valve spool, and a pilot valve assembly.

Standard Aluminum Housing—A lightweight yet durable option. *Pumps for deionized water* have a temperature range of –10° to 190° F. *Pumps for water and ammonium hydroxide* have a temperature range of –40° to 275° F. *Pumps for fuels and lubricating oils* are often used with diesel fuel, gasoline, kerosene, and mineral spirits as well as hydraulic oil and motor oil. Temperature range is –35° to 220° F.

Chemical-Resistant Type 316 Stainless Steel Housing—Choose these pumps for excellent resistance to a wide variety of corrosive chemicals. They are rated for use with acids, alkalies, and flammable liquids, such as phosphoric acid, acetone, and methyl ethyl ketone. Temperature range is –35° to 220° F.

(i) For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm	Flow Rate, gpm @ 80 ft. of Head	@ 120 ft. of Head	@ 160 ft. of Head	Max. Solid Dia.	Air Consumption, cfm	Fluid Pipe Size	Air Pipe Size	Max. Viscosity, cp	Ht.	Wd.	Dp.	Pumps		Fluid-Side Repair Kits		Air-Motor Repair Kits	
Standard Aluminum Housing																	
For Deionized Water—Neoprene Diaphragm																	
15	12	10	7	1/8"	20	1/2	1/4	10,000	12"	10"	9"	9948K27	$732.39	_____	_____	9948K58	$531.29
45	38	30	19	1/4"	40	1	1/2	20,000	13"	10"	13"	9948K18	812.27	3781K46	$153.17	3781K68	380.95
106	77	62	45	1/4"	50	1 1/2	3/4	30,000	22"	17"	15"	9948K22	950.99	3781K43	242.14	3781K63	387.29
150	104	76	53	1/4"	100	2	3/4	40,000	26"	17"	15"	9948K28	1,217.48	9948K39	253.40	3781K63	387.29
235	174	127	90	3/8"	140	3	3/4	50,000	32"	20"	17"	9948K26	2,022.46	3781K38	672.07	3781K63	387.29
For Water and Ammonium Hydroxide—Santoprene Diaphragm																	
15	12	10	7	1/8"	20	1/2	1/4	10,000	12"	10"	9"	9948K11	678.16	3781K53	61.14	9948K58	531.29
45	38	30	19	1/4"	40	1	1/2	20,000	13"	10"	13"	9948K12	886.85	3781K45	137.23	3781K68	380.95
150	104	76	53	1/4"	100	2	3/4	40,000	26"	17"	15"	9948K13	1,215.64	3781K21	221.23	3781K63	387.29
235	174	127	90	3/8"	140	3	3/4	50,000	32"	20"	17"	9948K14	2,022.54	3781K41	464.22	3781K63	387.29
For Fuels and Lubricating Oils—PTFE Diaphragm																	
15	12	10	7	1/8"	20	1/2	1/4	10,000	12"	10"	9"	9948K16	782.73	3781K52	320.76	9948K58	531.29
45	38	30	19	1/4"	40	1	1/2	20,000	13"	10"	13"	9948K19	936.22	3781K47	463.84	3781K68	380.95
106	77	62	45	1/4"	50	1 1/2	3/4	30,000	22"	17"	15"	9948K21	1,357.12	3781K44	696.09	3781K63	387.29
150	104	76	53	1/4"	100	2	3/4	40,000	26"	17"	15"	9948K23	1,744.64	3781K19	822.20	3781K63	387.29
235	174	127	90	3/8"	140	3	3/4	50,000	32"	20"	17"	9948K24	2,757.68	3781K39	1,494.28	3781K63	387.29
Chemical-Resistant Type 316 Stainless Steel Housing																	
For Acids, Alkalies, and Flammable Liquids—PTFE Diaphragm																	
15	12	10	7	1/8"	20	1/2	1/4	10,000	10"	10"	9"	41655K27	1,378.24	3781K52	320.76	9948K58	531.29
45	38	30	19	1/4"	40	1	1/2	20,000	13"	10"	13"	41655K28	1,598.82	3781K47	463.84	3781K68	380.95
106	77	62	45	1/4"	50	1 1/2	3/4	30,000	22"	17"	15"	41655K29	2,643.85	3781K44	696.09	3781K63	387.29
150	104	76	53	1/4"	100	2	3/4	40,000	26"	17"	15"	41655K31	3,948.13	3781K19	822.20	3781K63	387.29
235	174	127	90	3/8"	140	3	3/4	50,000	32"	20"	17"	41655K32	6,483.17	3781K39	1,494.28	3781K63	387.29

For information about air-powered transfer pumps, see page 374.

High-Flow Metal Air-Powered Transfer Pumps for Solids

Large internal pathways and check valves with flaps accommodate thick sewage, abrasive slurries, and industrial waste with large solids that would damage standard air-powered transfer pumps. These pumps are self-priming, submersible, and can run dry. Maximum air pressure is 125 psi, and maximum discharge pressure is 289 feet of head (125 psi). Viscosity is not rated. Fluid and air connections are NPT female, except 260 gpm pump has a flanged fluid connection; the flange measures 7½″ OD, ⅞″ thick and has four ¾″ diameter holes on a 6″ bolt circle.

Fluid-side repair kits include diaphragms, check valve flaps, and seals. **Air-motor repair kits** include seals, O-rings, gaskets, retaining rings, an air valve spool, and a pilot valve assembly.

Standard Aluminum Housing—A lightweight yet durable option. *Pumps for lubricating oils* have a temperature range of –10° to 200° F. *Pumps for fuels and lubricating oils* can be used with diesel fuel, gasoline, and kerosene as well as hydraulic oil and motor oil. Temperature range is –40° to 350° F.

Chemical-Resistant Type 316 Stainless Steel Housing—Choose this pump for resistance to a wide variety of corrosive chemicals. It's rated for phosphoric acid and nitric acid as well as fuels and lubricating oils. Temperature range is –40° to 350° F.



70 gpm

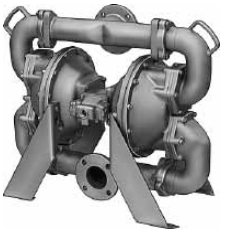

260 gpm

For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm	Flow Rate, gpm @ 80 ft. of Head	@ 120 ft. of Head	@ 160 ft. of Head	Max. Solid Dia.	Air Consumption, cfm	Fluid Pipe Size	Air Pipe Size	Ht.	Wd.	Dp.	Pumps		Fluid-Side Repair Kits		Air-Motor Repair Kits	
Standard Aluminum Housing																
For Lubricating Oils—Neoprene Diaphragm																
70	47	35	20	1″	50	1	½	16″	17″	11″	8090K11	$1,347.07	8090K41	$213.30	3781K58	$300.25
140	120	96	77	2″	150	2	¾	20″	22″	14″	8090K22	1,908.52	3781K17	274.33	3781K57	321.26
260	178	150	118	3″	120	3 Flanged	¾	30″	37″	16″	8090K33	3,536.54	3781K22	673.34	3781K57	321.26
For Fuels and Lubricating Oils—Fluoroelastomer Diaphragm																
70	47	35	20	1″	50	1	½	16″	17″	11″	8090K13	1,673.13	8090K42	683.02	3781K58	300.25
140	120	96	77	2″	150	2	¾	20″	22″	14″	8090K25	2,558.82	3781K16	1,155.74	3781K57	321.26
Chemical-Resistant Type 316 Stainless Steel Housing																
For Fuels, Lubricating Oils, and Acids—Fluoroelastomer Diaphragm																
70	47	35	20	1″	50	1	½	16″	17″	11″	2785K63	3,087.21	8090K42	683.02	3781K58	300.25

Aluminum Air-Powered Transfer Pumps for Fuel

UL listed for pumping petroleum products, these pumps can be grounded for use with diesel fuel, gasoline, kerosene, and mineral spirits. They have a pressure-relief valve set at 50 psi per UL 79 safety standard. Housing is aluminum and diaphragm is fluoroelastomer. Pumps are self-priming, submersible, and can run dry. Maximum air pressure is 50 psi, and maximum discharge pressure is 115 feet of head (50 psi). Maximum viscosity is 1,000 centipoise. Fluid and air connections are NPT female. Temperature range is 10° to 180° F.

Fluid-side repair kits include diaphragms, check valve balls, and seals. **Air-motor repair kits** include seals, O-rings, and gaskets.



For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm	Flow Rate, gpm @ 20 ft. of Head	@ 40 ft. of Head	@ 60 ft. of Head	@ 100 ft. of Head	Max. Solid Dia.	Air Consumption, cfm	Fluid Pipe Size	Air Pipe Size	Ht.	Wd.	Dp.	Pumps		Fluid-Side Repair Kits		Air-Motor Repair Kits	
12	12	11.1	10.25	8.5	3/32″	12	½	¼	12″	8″	8″	13455K41	$1,058.75	13455K42	$447.50	13455K43	$84.12
29	28	21	17	8	⅛″	32	1	¼	13″	9″	8″	13455K36	1,156.31	13455K33	626.90	13455K31	52.77
75	66	55	44	13	¼″	75	1½	½	20″	13″	15″	13455K37	1,531.51	13455K35	1,010.15	13455K31	52.77
75	95	80	65	20	¼″	75	2	½	20″	13″	15″	13455K38	1,919.05	13455K35	1,010.15	13455K31	52.77

Smooth-Flow Plastic Air-Powered Transfer Pumps

Convenient for on-demand operation of sprayers and dispensers, these pumps automatically turn on when you open the outlet valve for uniform flow. Often used in soap dispensing, agricultural spraying, and chemical transferring, they have a polypropylene housing. Pumps are self-priming and come with a mounting bracket. Do not run dry. Maximum air pressure is 60 psi, and maximum discharge pressure is 135 feet of head (58 psi). Fluid and air connections are barbed. Temperature range is 34° to 120° F.

All pumps can be used with antifreeze and water. *Buna-N diaphragm* is often used with detergents. *Santoprene diaphragm* is rated for salt water. *Fluoroelastomer diaphragm* is compatible with etching and cleaning solutions that have a low concentration of nitric acid.



For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm	Flow Rate, gpm @ 80 ft. of Head	@ 120 ft. of Head	Max. Solid Dia.	Air Consumption, cfm	Fluid Tube ID	Air Tube ID	Max. Viscosity, cp	Ht.	Wd.	Dp.	Diaphragm Material: Buna-N		Santoprene		Fluoroelastomer	
0.6	0.47	0.35	1/64″	0.48	⅜″	¼″	2,500	6″	6″	4″	4022K47	$125.92	4022K57	$125.92	4022K36	$159.69

Food and Beverage Air-Powered Transfer Pumps

Made of FDA-listed materials for use with food and beverage, these pumps have a sanitary quick-clamp fluid connection for easy cleaning. They are commonly used with sauces, concentrates, and other thick liquids with solids. Housing is Type 316 stainless steel and diaphragm is PTFE. Pumps are self-priming, submersible, and can run dry. Maximum air pressure is 100 psi, and maximum discharge pressure is 227 feet of head (100 psi). Air connection is NPT female. Temperature range is 40° to 220° F.

Repair kits include diaphragms, check valve balls, and seals.



For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm	Flow Rate, gpm @ 40 ft. of Head	@ 120 ft. of Head	@ 160 ft. of Head	Max. Solid Dia.	Air Consumption, cfm	Fluid Tube OD	Air Pipe Size	Max. Viscosity, cp	Ht.	Wd.	Dp.	Pumps		Repair Kits	
16	16	12	9	3/32″	28	1″	¼	5,000	13″	11″	7″	9778T21	$1,954.29	9778T71	$218.00
41	40	30	23	⅛″	50	1½″	½	10,000	16″	16″	8″	9778T22	3,282.86	9778T72	459.00
100	90	68	51	3/16″	130	2″	½	10,000	20″	20″	10″	9778T23	4,577.14	9778T73	914.00

Repair Kits for Air-Powered Transfer Pumps

Everything you need to keep your air-powered transfer pump in working order. Use the manufacturer's kit number to match your pump to a compatible kit.

Kits for Sandpiper Pumps—Fluid-side repair kits include diaphragms, balls, and seals. Air-motor repair kits include gaskets and seals.

Kits for Wilden Pumps—Fluid-side repair kits include diaphragms, gaskets, and O-rings. Air-motor repair kits include an air-valve assembly, gaskets, O-rings, and bushings.

Kits for ARO Pumps—Fluid-side repair kits include diaphragms, balls, and seals. Air-motor repair kits include gaskets and seals.



Fluid-Side Repair Kit for Sandpiper Pumps



Air-Motor Repair Kit for Sandpiper Pumps

For Sandpiper Pumps

Pump Diaphragm Material	Pipe Size	Fluid-Side Repair Kits: Sandpiper Kit Number			Air-Motor Repair Kits: Sandpiper Kit Number		
For Model PB ¼ Plastic Pumps							
Santoprene	¼	476.117.354	3781K23	$61.84	476.129.000	3781K59	$169.81
PTFE	¼	476.117.600	3781K24	123.12	476.129.000	3781K59	169.81
For Model S05 Plastic Pumps							
Polyurethane	½	476.202.357	3781K55	109.12	476.219.000	3781K72	195.66
Buna-N	½	476.202.360	3781K34	101.33	476.219.000	3781K72	195.66
Santoprene	½	476.202.354	3781K54	80.62	476.219.000	3781K72	195.66
PTFE	½	476.202.654	3781K56	156.71	476.219.000	3781K72	195.66
For Model S05 Metal Pumps							
Neoprene	½	_____	_____	_____	476.239.000	9948K58	531.29
Santoprene	½	476.199.354	3781K53	61.14	476.239.000	9948K58	531.29
PTFE	½	476.199.654	3781K52	320.76	476.239.000	9948K58	531.29
For Model S07 Plastic Pumps							
Polyurethane	¾	476.166.357	3781K74	208.03	476.219.000	3781K72	195.66
Buna-N	¾	476.166.360	3781K73	109.53	476.219.000	3781K72	195.66
Santoprene	¾	476.166.354	3781K36	104.65	476.219.000	3781K72	195.66
PTFE	¾	476.166.654	3781K37	108.33	476.219.000	3781K72	195.66
For Model S1F Metal Pumps							
Neoprene	1	476.194.365	3781K46	153.17	476.228.000	3781K68	380.95
Santoprene	1	476.194.354	3781K45	137.23	476.228.000	3781K68	380.95
PTFE	1	476.194.635	3781K47	463.84	476.228.000	3781K68	380.95
For Model S15 Metal Pumps							
Neoprene	1½	476.182.365	3781K43	242.14	476.227.000	3781K63	387.29
PTFE	1½	476.182.635	3781K44	696.09	476.227.000	3781K63	387.29
For Model S20 Metal Pumps							
Neoprene	2	476.042.365	9948K39	253.40	476.227.000	3781K63	387.29
Santoprene	2	476.042.354	3781K21	221.23	476.227.000	3781K63	387.29
PTFE	2	476.042.635	3781K19	822.20	476.227.000	3781K63	387.29
For Model S30 Metal Pumps							
Neoprene	3	476.171.365	3781K38	672.07	476.227.000	3781K63	387.29
Santoprene	3	476.171.656	3781K41	464.22	476.227.000	3781K63	387.29
PTFE	3	476.171.635	3781K39	1,494.28	476.227.000	3781K63	387.29

For Wilden Pumps

Pump Diaphragm Material	Pipe Size	Fluid-Side Repair Kits: Wilden Kit Number			Air-Motor Repair Kits: Wilden Kit Number		
For Model T2 Metal Pumps							
Neoprene	1	02-9551-51	9827T36	$119.35	02-9662-99	9827T32	$198.30
Buna-N	1	02-9551-52	9827T35	156.46	02-9662-99	9827T32	198.30
For Model T4 Metal Pumps							
Neoprene	1½	04-9551-51	9827T38	201.85	04-9662-99	9827T33	313.93
Buna-N	1½	04-9551-52	9827T37	222.87	04-9662-99	9827T33	313.93
For Model T8 Metal Pumps							
Buna-N	2	08-9551-52	9827T39	237.00	08-9662-99	9827T34	280.20
PTFE	2	08-9551-55	9827T41	804.21	08-9662-99	9827T34	280.20

For ARO Pumps

Pump Diaphragm Material	Pipe Size	Fluid-Side Repair Kits: ARO Kit Number			Air-Motor Repair Kits: ARO Kit Number		
For Model 66605 Plastic Pumps							
Polyurethane	½	637140-88	9870T14	$91.22	637141	9870T11	$75.69
Neoprene	½	637140-11	9870T13	115.68	637141	9870T11	75.69
Santoprene	½	637140-EB	9870T15	105.65	637141	9870T11	75.69
For Model 6661A Plastic Pumps							
Santoprene	1	637161-EB-C	9870T16	217.03	637118-C	13455K31	52.77
PTFE	1	637161-44-C	9870T17	518.90	637118-C	13455K31	52.77
For Model 6661X Metal Pumps							
Buna-N	1	637119-22-C	9870T18	209.32	637118-C	13455K31	52.77
Santoprene	1	637119-EB-C	9870T19	163.05	637118-C	13455K31	52.77
PTFE	1	637119-44-C	9870T21	375.68	637118-C	13455K31	52.77
For Model 6661X and 6662X Metal Pumps							
Polyurethane	1½, 2	637124-89	9870T25	251.19	637118-C	13455K31	52.77
Buna-N	1½, 2	637124-22	9870T24	213.73	637118-C	13455K31	52.77
Santoprene	1½, 2	637124-EB	9870T26	161.95	637118-C	13455K31	52.77
PTFE	1½, 2	637124-44	9870T27	748.05	637118-C	13455K31	52.77
For Model 6661T and 6662A Plastic Pumps							
Santoprene	1½, 2	637165-EB	9870T22	261.10	637118-C	13455K31	52.77
PTFE	1½, 2	637165-44	9870T23	857.12	637118-C	13455K31	52.77

Dispensing Pumps

Also known as gear pumps, these produce a smooth flow of liquid for applications such as cooling engines, powering hydraulic equipment, and extracting liquid from holding tanks. Motor is continuous duty and has a relief valve to prevent pressure buildup. Pumps have screw terminals for electrical connection. They are self-priming. Do not run dry or use with solids. Pumps have a maximum viscosity of 88 centipoise. Connections are NPT female.

Pumps for water have a bronze housing and PPS gears, except ½ hp pumps have bronze gears. *Single-phase motors* have thermal overload protection and an open dripproof (ODP) enclosure. *Three-phase motors* have a totally enclosed fan-cooled (TEFC) enclosure.

Pumps for lubricating oils have a cast iron housing and steel gears. All motors have an open dripproof (ODP) enclosure. *Single-phase motors* have thermal overload protection.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.



For Water



For Lubricating Oils

Max. Flow, gpm	hp	Discharge Pressure, psi	Volts AC @ 60 Hz (phase)	Amps	Pipe Size	Ht.	Wd.	Dp.		
For Water—Temp. Range is –20° to 210° F										
1.9	½	100	120/240 (1)	6.8/3.4	¼	5¾″	5⅝″	15⅝″	4272K31	$518.29
3.9	½	100	120/240 (1)	6.8/3.4	⅜	5¾″	5⅝″	15⅝″	4272K4	537.74
6.3	1	125	120/240 (1)	13.2/6.6	⅜	6⅜″	6½″	21½″	4272K21	1,122.48
9.7	1½	125	240/460 (3)	4.8/2.4	½	6⅜″	6½″	22⅞″	4272K22	1,084.17
22.3	3	125	240/460 (3)	8.2/4.1	1	8¾″	9″	27″	4272K23	1,435.45
For Lubricating Oils—Temp. Range is 32° to 280° F										
4.8	¾	125	120/240 (1)	11.2/5.6	¼	6⅜″	6½″	21½″	41915K86	893.90
7.0	1	125	120/240 (1)	13.2/6.6	⅜	6⅜″	6½″	21½″	41915K73	905.45
10.8	1½	125	120/240 (1)	18.4/9.2	½	6⅜″	6½″	22⅞″	41915K87	1,070.30
20.6	2	125	240/460 (3)	6.0/3.0	¾	6⅞″	7″	24⅜″	41915K88	1,114.92
24.8	3	125	240/460 (3)	8.2/4.1	1	8¾″	9″	26⅞″	41915K89	1,231.56

Dispensing Pumps without Motor

Select your own motor to tailor these pumps to your application. Use a NEMA 56C frame electric motor with a coupling and belt/pulley drive (see page 1069 for electric motors). Maximum rpm is 1,725. Pumps provide a smooth flow of liquid and are self-priming. Do not run dry or use with solids. Connections are NPT female.

Pumps for water have a bronze housing and brass gears. Max. viscosity is 151 centipoise.

Pumps for lubricating oils have a cast iron housing and steel gears. Max. viscosity is 118 centipoise.

Pumps for cleaning solutions and paint have a corrosion-resistant Type 316 stainless steel housing and PPS gears, so they're compatible with ammonia as well as paint, pigments, and other coatings. Max. viscosity is 88 centipoise.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.



For Water



For Lubricating Oils



For Cleaning Solutions and Paint

Max. Flow @ 25 psi gpm	Req'd hp	Max. Flow @ 100 psi gpm	Req'd hp	Shaft Dia.	Shaft Lg.	Shaft Center to Base (A)	Pipe Size	Ht.	Wd.	Dp.		
For Water—Temp. Range is –20° to 210° F												
1.8	¼	1.7	½	½″	⅞″	1⅞″	¼	2¾″	2⅜″	6″	4271K1	$277.78
4.3	⅓	3.9	¾	½″	⅞″	2⅜″	¼	3⅝″	2⅜″	7½″	4271K12	282.81
6.2	½	5.8	1	⅝″	1″	2⅝″	⅜	4″	2¾″	8″	4271K13	354.59
9.6	¾	9.1	1½	⅝″	1″	2⅝″	½	4″	2¾″	8⅜″	4271K14	379.18
18.4	1	17.8	2	⅝″	1″	3 9⁄16″	¾	5¼″	3⅜″	8 13⁄16″	4271K15	479.63
22.2	1	21.5	3	⅝″	1″	3 9⁄16″	1	5¼″	3½″	9 1⁄16″	4271K16	500.96
For Lubricating Oils—Temp. Range is 32° to 280° F												
4.8	⅓	4.4	¾	½″	1½″	2⅜″	⅜	3½″	3″	9⅜″	41915K81	372.52
6.9	½	6.5	1	⅝″	1⅞″	2⅝″	½	3¾″	3⅝″	10⅛″	41915K82	411.78
10.7	¾	10.2	1½	⅝″	1⅞″	2⅝″	¾	3¾″	3⅝″	10½″	41915K83	471.22
20.5	1	19.8	2	¾″	2¼″	3 9⁄16″	1	5⅛″	4″	11⅝″	41915K84	573.76
24.7	1	23.9	3	¾″	2¼″	3 9⁄16″	1¼	5⅛″	4″	11⅞″	41915K85	578.14
For Cleaning Solutions and Paint—Temp. Range is 32° to 280° F												
4.5	½	3.7	¾	½″	1¾″	2 13⁄16″	⅜	4¼″	3¼″	8¼″	43095K56	1,089.63
10.2	½	8.7	1	⅝″	1⅞″	3 3⁄16″	½	4¾″	3½″	9⅜″	43095K61	1,228.33
23.4	1	20.5	3	¾″	2¼″	3 15⁄16″	1	5⅞″	4¼″	11⅜″	43095K69	1,680.85

Dispensing Pumps for Thick Lubricating Oils

A high-horsepower motor moves oil with a viscosity up to 880 centipoise that would damage other dispensing pumps. These pumps are often used to lubricate equipment and blend oils. Housing and gears are cast iron. Pumps have a continuous-duty, three-phase motor with an open dripproof (ODP) enclosure and wire leads for electrical connection. They deliver a smooth flow of liquid and are not self-priming. Do not run dry or use with solids. Temperature range is –20° to 240° F. Connections are NPT female.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.



Max. Flow, gpm	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size	Ht.	Wd.	Dp.		
5	½	230/460 (3)	2.0/1.0	½	8½″	6⅞″	21⅝″	41505K41	$1,258.46
10	2	208-230/460 (3)	6.2/3.1	¾	8½″	6⅞″	24″	41505K43	1,356.92
20	2	208-230/460 (3)	6.2/3.1	1	8½″	6⅞″	24½″	41505K45	1,646.15
30	3	208-230/460 (3)	8.2/4.1	1	8½″	6⅞″	25″	41505K47	1,921.54
40	5	208-230/460 (3)	13.8/6.9	1½	8½″	11⅞″	28⅛″	41505K49	2,483.08

Miniature Dispensing Pumps



Standard



Harsh Environment

Designed to fit into small equipment such as bar-code printers and lens washers, these pumps have miniature gears and a subfractional horsepower motor for low-flow applications. Commonly used with antifreeze, paint, and fresh and salt water, they have an acetal housing and gears. Motor is continuous duty and has wire leads for electrical connection. Pumps are not self-priming. Do not run dry or use with solids. Maximum viscosity is 800 centipoise, and temperature range is 10° to 180° F. Connections are barbed.

Harsh-environment pumps have an aluminum enclosure around the motor that provides protection in dusty and dirty environments.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm	Volts (phase)	Amps	For Tube ID	Ht.	Wd.	Dp.		
Standard—With Exposed Fan-Cooled Motor								
0.43 (55 oz./min.)	120 volts AC @ 60 Hz (1)	1.5	3/16"	3 3/4"	3"	4 3/8"	8220K41	$96.67
0.43 (55 oz./min.)	240 volts AC @ 60 Hz (1)	1.5	3/16"	3 3/4"	3"	4 3/8"	8220K42	118.12
Harsh Environment—With Enclosed Motor								
0.61 (78 oz./min.)	12 volts DC	2.2	3/16"	2 1/2"	1 3/4"	4"	8220K43	74.69
0.61 (78 oz./min.)	24 volts DC	1.4	3/16"	2 1/2"	1 3/4"	4"	8220K44	78.12

Clog-Resistant Portable Dispensing Pumps for Water and Lubricating Oils



Commonly called flexible impeller pumps, these can pass solids up to 1/4" dia. without clogging, so there's no need to filter sediment and debris. A handle makes them convenient for draining liquid from holding tanks, but they're also used for on-the-go removal of bilge water, waste oil, and spills as well as for cooling marine engines. Housing is bronze, and impeller is Buna-N. Pumps have an intermittent-duty, single-phase motor with thermal overload protection and an 8-ft. cord with plug. They are self-priming to the height listed in the table. Do not run dry. Temperature range is 60° to 180° F. Pumps are dual threaded with an NPT female and a 3/4" male garden hose (GHT) connection, except 23 gpm pump has NPT female connections only.

Harsh-environment pump provides protection in dusty and dirty environments. The motor is cooled by the liquid being pumped.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm	Max. ft. of Head	Self-Priming, Max. Ht., ft.	Max. Solid Dia.	hp	Volts AC @ 60 Hz (phase)	Amps	Max. Viscosity, cp	Pipe Size	Ht.	Wd.	Dp.		
Standard—With Open Dripproof (ODP) Motor													
5.8	30	6	1/4"	1/6	120 (1)	4.2	125	1/2	9"	5 5/8"	7 3/8"	4381K89	$562.60
9.6	40	10	1/4"	1/3	120 (1)	4.2	250	1/2	7 3/4"	7 1/4"	10 1/2"	4381K87	589.05
23	60	10	1/4"	3/4	120/240 (1)	12/6	500	1	8 5/8"	8"	13"	4381K97	604.53
Harsh Environment—With Totally Enclosed Nonventilated (TENV) Motor													
5.8	30	6	1/4"	1/4	120 (1)	4.2	125	1/2	9"	5 5/8"	7 3/8"	4381K67	591.22

Clog-Resistant Dispensing Pumps without Motor

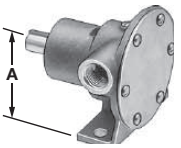

With the motor choice left up to you, these pumps can be customized for a variety of applications. Select a spark-free air motor for hazardous environments or attach an electric motor with a speed reducer or a belt pulley to alter the pump rpm. Use a NEMA 56C frame motor (see page 1075 for air-powered motors and page 1068 for electric motors). To dispense liquid with solids up to 1/4" dia., these pumps have a flexible rubber impeller that resists clogging and wear. Housing is bronze. Pumps are self-priming up to 10 feet. Do not run dry. Maximum viscosity is not rated, and temperature range is 50° to 180° F. Connections are NPT female.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm	Motor Speed Range, rpm	Req'd hp	Max. ft. of Head	Max. Solid Dia.	Shaft Dia.	Shaft Lg.	Shaft Center to Base (A)	Pipe Size	Ht.	Wd.	Dp.		
For Water													
13	500-2,100	1/3	60	1/4"	5/8"	1 1/8"	1 15/16"	1/2	3 13/16"	4 1/8"	4 1/2"	4281K21	$330.50
27.9	500-2,100	3/4	60	1/4"	5/8"	1 13/16"	1 7/8"	1	3 9/16"	4 3/4"	6 3/8"	4281K23	353.98
For Lubricating Oils													
11.5	500-2,100	1/3	50	1/4"	5/8"	1 1/8"	1 15/16"	1/2	3 13/16"	4 1/8"	4 1/2"	4281K24	329.01
25	500-2,100	3/4	50	1/4"	5/8"	1 13/16"	1 7/8"	1	3 9/16"	4 3/4"	6 3/8"	4281K26	353.98

Portable Drill-Driven Dispensing Pumps for Water



Pump



Pump with Intake and Discharge Tubes

Convenient to keep in your toolkit for on-site cleanup, these pumps attach to your drill for small liquid extraction jobs as well as draining water from clogged sinks and emptying tanks. They are self-priming. Do not run dry or use with solids. Housing is polyester, and impeller is Buna-N. Maximum viscosity is 1 centipoise, and temperature range is 40° to 110° F. Connections are 3/4" male garden hose thread (GHT).

Pump with intake and discharge tubes has a 30" slip-on intake tube and a 34" discharge tube with a 3/4" male garden hose thread (GHT) connection.

Max. Flow, gpm	Motor Speed, rpm	Max. ft. of Head	Shaft Dia.	Shaft Lg.	Ht.	Wd.	Dp.	Pump		Pump with Intake and Discharge Tubes	
3.75	1,200	90	1/4"	3/4"	3"	4 1/2"	3"	99705K21	$11.71	99705K25	$13.95

Versa-Mount Compact Dispensing Pumps

Install these small pumps in any position for low-flow spraying, draining, and washdown applications. Also called diaphragm pumps, they have a Santoprene diaphragm. Motor is single phase with thermal overload protection and a 6-ft. cord with plug, except 8080K42 has wire leads. Pumps are self-priming and can run dry. Do not use with solids. They have a pressure switch that automatically shuts off the pump at the maximum pressure, unless noted. Pumps are UL listed, unless noted.

Intermittent-Duty Pumps—These have a subfractional horsepower motor rated for intermittent use (90 minutes on; return to room temperature before restarting). Maximum viscosity is not rated.

Continuous-Duty Pump—Rated for antifreeze as well as fresh and salt water, this pump has a maximum viscosity of 250 centipoise. Motor is 3/16 hp. Pump has barbed connections and also includes two 1/2"-14 straight male thread adapters. CSA certified.



Intermittent Duty



Continuous Duty

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm	Flow Rate, gpm @ 20 psi (46 ft. of head)	Flow Rate, gpm @ 60 psi (138 ft. of head)	Max. psi (ft. of head)	Max. Temp., °F	Volts AC @ 60 Hz (phase)	Amps	Connection Size	Ht.	Wd.	Dp.		
Intermittent Duty—For Water												
1.4	1.15	0.84	60 (138)	130°	120 (1)	0.57	3/8 NPT Female	4 1/4"	3 3/8"	7 5/8"	**8080K31**	$171.96
1.5	1.24	1.04	150 (346)	170°	120 (1)	1.00	3/8 NPT Female	4 1/8"	3 3/8"	9 3/8"	**8080K42**★	180.20
1.6	1.32	1.07	100 (231)	170°	120 (1)	0.95	3/8 NPT Female	4"	3 3/8"	8 5/8"	**8080K14**	184.31
1.7	1.52	0.03	60 (138)	170°	120 (1)	0.61	3/8 NPT Female	4"	3 3/8"	8 5/8"	**8080K13**	149.31
3.0	2.20	—	45 (104)	120°	120 (1)	0.70	1/2 NPSM Male	4 1/2"	5"	8 3/4"	**8080K39**	166.76
3.4	2.30	—	40 (92)	120°	120 (1)	1.00	1/2 NPSM Male	4 3/8"	5"	7 5/8"	**8080K19**■	172.94
Continuous Duty—For Water and Coolants												
3.0	2.50	—	40 (92)	130°	120 (1)	1.80	For 1/2" Tube ID	5 5/8"	5 3/8"	10 7/8"	**2487K11**	502.27

★ Pump has UL-recognized components. ■ Pump is not UL listed or recognized. Does not have a pressure switch.

Battery-Operated Versa-Mount Compact Dispensing Pumps

Get the same small size and mounting versatility as our versa-mount compact dispensing pumps without being tethered to electrical hookups. These intermittent-duty pumps have a polypropylene housing and a Santoprene diaphragm. Rated for water, they are commonly used with agricultural sprayers and washers. Pumps have a subfractional horsepower motor that operates on a 12-volt battery and has wire leads for electrical connection. Pumps are self-priming to the height listed in the table. Do not use with solids. Maximum viscosity is not rated.



ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm	Flow Rate, gpm @ 20 psi (46 ft. of head)	Flow Rate, gpm @ 60 psi (138 ft. of head)	Max. psi (ft. of head)	Self-Priming, Max. Ht., ft.	Max. Temp., °F	Amps	Connection Size	Ht.	Wd.	Dp.		
1.8	1.57	1.23	60 (138)	12	170°	7.2	3/8 NPT Female	4 1/8"	4"	8 3/8"	**1011N12**	$98.31
1.8	1.45	1.22	100 (231)	10	170°	8.7	3/8 NPT Female	4 1/8"	4"	8 3/8"	**1011N13**	109.02
3	2.69	—	50 (115)	8	170°	8	1/2 NPSM Male	4 1/2"	5"	8 5/8"	**1011N14**	127.96
3.3	2.3	—	40 (92)	8	130°	9.1	1/2 NPSM Male	4 1/2"	5"	7 3/4"	**1011N15**	134.86
3.5	2.56	—	50 (115)	9	130°	9.9	1/2 NPSM Male	4 1/2"	5"	8 5/8"	**1011N16**	111.71

High-Pressure Fixed-Flow Rate Pumps

Commonly called rotary vane pumps, these are for use with water. They can withstand pressures up to 240 psi (554 ft. of head) and have a built-in bypass relief valve to prevent pressure buildup. Vanes are carbon graphite. Pumps are not self-priming. Do not run dry or use with solids. Maximum rpm is 1,750, and temperature range is 28° to 195°F. Connections are NPT female.

Pumps with motor have a continuous-duty, single-phase motor with thermal overload protection and an open dripproof (ODP) enclosure. Electrical connection is wire leads. Pumps have a built-in mesh filter.

Pumps without motor leave the motor choice up to you—attach an electric motor with a speed reducer or a belt pulley to alter the pump rpm. Use a NEMA 56C frame motor (see page 1068 for electric motors). Choose a pump with a Type 303 stainless steel housing for more corrosion resistance than brass.



With Motor

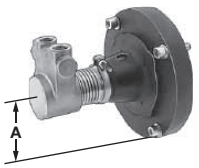

Without Motor

Pumps with Motor

Max. Flow, gpm	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size	Ht.	Wd.	Dp.		
Brass Housing									
0.8	1/4	120 (1)	5	3/8	6"	6"	12"	**82395K81**	$389.93
1.8	1/3	120/240 (1)	5.6/2.8	3/8	6"	6"	12"	**82395K82**	389.93
2.3	1/2	120/240 (1)	7.2/3.6	3/8	6"	6"	12"	**82395K83**	513.10

Pumps without Motor

Max. Flow, gpm	Req'd hp	Shaft Dia.	Shaft Lg.	Shaft Center to Base (A)	Pipe Size	Ht.	Wd.	Dp.		
Brass Housing										
0.8	1/4	5/8"	1/2"	3"	3/8	6"	7"	7"	**82395K71**	$221.64
1.8	1/3	5/8"	1/2"	3"	3/8	6"	7"	7"	**82395K72**	231.40
2.3	1/2	5/8"	1/2"	3"	3/8	6"	7"	7"	**82395K73**	231.40
4.3	3/4	5/8"	1/2"	3"	1/2	6"	7"	7"	**82395K74**	348.19
5.4	1	5/8"	1/2"	3"	1/2	6"	7"	7"	**82395K75**	348.19
Type 303 Stainless Steel Housing										
2.3	1/2	5/8"	1/2"	3"	3/8	6"	7"	7"	**82395K76**	291.00
4.3	3/4	5/8"	1/2"	3"	1/2	6"	7"	7"	**82395K77**	454.14
5.4	1	5/8"	1/2"	3"	1/2	6"	7"	7"	**82395K78**	454.14

High-Pressure Air-Powered Dispensing Pumps



Commonly called piston pumps, these are often used in high-pressure applications such as hydrostatic testing of pipelines, tanks, and valves. They operate on air pressure from 15-145 psi instead of electricity to reduce the risk of sparking and excessive heat. Pumps have an intermittent-duty air motor (20 minutes on; 20 minutes off). Flow and outlet liquid pressure can be controlled by varying the inlet air pressure. To calculate outlet liquid pressure, multiply the inlet air pressure by the ratio shown in the table. Pumps have a Type 303 stainless steel housing and a stainless steel piston. They are self-priming. Do not run dry or use with solids. Maximum viscosity is 100 centipoise, and temperature range is –4° to 176° F. Air and fluid connections are NPT female.

Pumps for coolants and fuels stand up to antifreeze as well as diesel fuel, isopropyl alcohol, and kerosene.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Flow Rate, gpm @ 0 psi	*Flow Rate, gpm* @ 3,000 psi	Max. Discharge Pressure, psi	Outlet Liquid Pressure to Inlet Air Pressure Ratio	*Pipe Sizes* Air	*Pipe Sizes* Fluid Discharge	*Pipe Sizes* Fluid Intake	Ht.	Wd.	Dp.		
For Water and Lubricating Oils											
0.19	0.17	12,470	86:1	1/4	1/4	3/8	9″	4″	4 5/8″	**6770K43**	$1,010.77
0.58	0.13	4,060	28:1	1/4	1/4	3/8	9″	4″	4 5/8″	**6770K41**	945.69
For Coolants and Fuels											
4.76	—	1,595	11:1	1/2	1/2	1	12 1/4″	7″	10 3/4″	**6770K28**	2,297.74

Dispensing Pumps without Motor for Pressure Washing

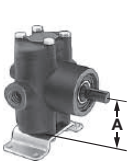

Standard

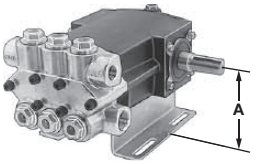

High Pressure

Use these pumps for washdowns, drain jetting, and other pressurized water-spraying applications. They don't include a motor, so you can choose one that suits your needs. Connect an electric motor with a speed reducer or belt pulley to alter the pump rpm (see page 1066 for electric motors). Pumps are not self-priming. Do not run dry or use with solids. Connections are NPT female.

Standard pumps have a temperature range of 35° to 140° F.

High-pressure pumps have a temperature range of 35° to 160° F.

Max. Flow, gpm	Max. psi	Required hp	Max. rpm	Shaft Dia.	Shaft Lg.	Shaft Center to Base (A)	*Pipe Size* Intake	*Pipe Size* Discharge	Ht.	Wd.	Dp.		
Standard—Cast Iron Housing													
1.5	500	0.6	1,800	5/8″	1 1/4″	3 1/2″	1/2	1/2	6 3/8″	5 1/8″	5 5/8″	**4169K31**	$376.91
2.0	500	0.8	1,800	5/8″	1 1/4″	3 1/2″	1/2	1/2	6 3/8″	5 1/8″	5 5/8″	**4169K32**	350.36
2.9	800	1.7	1,800	5/8″	1 1/4″	3 1/2″	1/2	1/2	6 3/8″	5 1/8″	5 5/8″	**4169K34**	374.83
3.0	500	1.2	1,800	5/8″	1 1/4″	3 1/2″	1/2	1/2	6 3/8″	5 1/8″	5 5/8″	**4169K33**	350.36
10.0	400	3.0	600	1″	2″	4 1/8″	3/4	3/4	7 11/16″	6 3/4″	8 1/8″	**4169K35**	621.58
High Pressure—Brass Housing													
2.1	2,000	2.9	1,725	3/4″	1 11/16″	3 1/2″	1/2	3/8	5 11/16″	6 3/16″	9 3/16″	**82415K71**	457.99
4.0	3,000	7.4	1,725	3/4″	1 11/16″	4 1/2″	1/2	3/8	6 11/16″	7 1/2″	9 3/16″	**82415K82**	623.98
4.3	3,600	9.5	1,725	1″	1 15/16″	4 1/2″	3/4	1/2	7 1/4″	10″	12 1/8″	**82415K85**	1,042.51
4.8	2,500	7.6	1,725	3/4″	1 11/16″	4 1/2″	1/2	3/8	6 11/16″	7 1/2″	9 3/16″	**82415K83**	604.42
5.8	3,600	12.8	1,725	1″	1 15/16″	4 1/2″	3/4	1/2	7 1/4″	10″	12 1/8″	**82415K86**	1,042.51

Fixed-Flow Chemical Metering Pumps



Also known as peristaltic pumps and tubing pumps, these are often used with chemicals such as ammonia, bleach, and electropolishing solutions. Pumps have a continuous-duty, single-phase, subfractional-horsepower motor and a 6-ft. cord with plug. They come with 9″ lengths of 1/16″, 1/8″, 3/16″, and 1/4″ ID soft tubing (Shore A55-60). Tubing is Tygon, except 1/8″ ID tubing is Santoprene. Pumps are self-priming up to 29 feet and can run dry. Do not use with solids. Maximum viscosity is 10,000 centipoise, and temperature range is 32° to 77° F.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Flow Rate, gal./day With 1/16″ ID Tube	With 1/8″ ID Tube	With 3/16″ ID Tube	With 1/4″ ID Tube	Max. psi	Volts AC @ 60 Hz (phase)	Amps	Ht.	Wd.	Dp.	Pumps		Replacement Pump Heads		Replacement Tubing	
1.14	4.56	10.65	18.26	20	120 (1)	0.37	5 7/8″	6 1/4″	5 3/4″	**43045K51**	$158.67	**43045K42**	$111.60	**43045K22**	$36.59
4.56	18.64	44.13	79.12	20	120 (1)	1.20	5 7/8″	6 1/4″	5 3/4″	**43045K52**	159.86	**43045K42**	111.60	**43045K22**	36.59
8.75	34.62	82.17	143.79	20	120 (1)	1.90	5 7/8″	6 1/4″	5 3/4″	**43045K53**	186.18	**43045K42**	111.60	**43045K22**	36.59
13.69	54.78	130.86	229.01	20	120 (1)	2.20	5 7/8″	6 1/4″	5 3/4″	**43045K54**	193.04	**43045K42**	111.60	**43045K22**	36.59
22.82	90.16	214.55	375.46	20	120 (1)	3.30	5 7/8″	6 1/4″	5 3/4″	**43045K55**	213.92	**43045K42**	111.60	**43045K22**	36.59

High-Flow Chemical Metering Pumps



For high-volume chemical sampling and draining, this pump has a 1/4 hp motor and large tubing. It's commonly used with ammonia, acid-washing solutions, detergents, and cleaning fluids. Pump has a continuous-duty, single-phase motor with an open dripproof (ODP) enclosure and an 8-ft. cord with plug. It comes with 10 5/8″ of 1/2″ ID soft Tygon tubing (Shore A61). Pump is self-priming up to 15 feet and can run dry. Do not use with solids. Maximum viscosity is 1,000 centipoise, and temperature range is 35° to 160° F. Connections are barbed and fit 1/2″ ID tubing.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Flow Rate, gal./day (gpm)	Max. psi	Volts AC @ 60 Hz (phase)	Amps	hp	Ht.	Wd.	Dp.		
2,448 (1.7)	20	120 (1)	3.1	1/4	10″	5 1/2″	10″	**4306K64**	$597.28

Adjustable-Flow Chemical Metering Pumps


Standard


High Viscosity (43205K51)


High Pressure

An adjustment control lets you increase or decrease flow rate without the hassle of changing tubing. Often used in boiler feed systems and water treatment, these pumps are compatible with chemicals such as detergents, cleaning fluids, and acid-washing solutions. Motor is continuous duty, single phase and has a 6-ft. cord with plug. Pumps are self-priming and can run dry.

Standard—Alter flow with the adjustment screw. Pumps come with 9″ of soft Tygon tubing (Shore A70). Max. viscosity is 300 centipoise.

High Viscosity—Rated for liquids up to 10,000 centipoise, these pumps can be used with very thick chemicals such as electropolishing solutions. Use the adjustment dial to alter flow rate in 2.5% increments of the maximum flow. Pumps have a reverse switch that allows flow in either direction. 43205K51 comes with 9″ lengths of 1/16″, 1/8″, 3/16″, and 1/4″ ID soft tubing (Shore A55-60). Tubing is Tygon, except 1/8″ ID tubing is Santoprene. 43205K52 comes with 14″ of 3/8″ ID soft Tygon tubing (Shore A60).

High Pressure—These can be used with pressures four times higher than standard pumps. Use the adjustment dial to alter flow rate in 2.5% increments of the maximum flow. Pumps have a firm Santoprene internal tube (Shore A80) and also come with 20 feet of LDPE suction and discharge tubing. Maximum viscosity is 1,500 centipoise. Pumps are UL listed, CSA certified, and CE marked.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Flow Rate, gal./day	Max. psi	For Tube Size ID	For Tube Size OD	Volts AC @ 60 Hz (phase)	Amps	hp	Ht.	Wd.	Dp.	Pumps		Replacement Pump Heads		Replacement Tubing	
Standard—Temp. Range is 32° to 104°F															
0.12-12	25	3/16″	3/8″	120 (1)	0.3	1/64	6″	7″	8″	43205K11	$332.14	43205K32	$58.30	43205K35	$26.82
0.2-20	25	1/4″	7/16″	120 (1)	0.3	1/64	6″	7″	8″	43205K13	332.14	43205K32	58.30	43205K36	26.82
High Viscosity—Max. Temp. is 95°F															
0.65-374	40	1/16″, 1/8″, 3/16″, 1/4″	3/8″, 7/16″	120 (1)	0.2	—	6″	9″	8″	43205K51	581.02	43205K23	57.84	43045K22	36.59
91-758	20	3/8″	5/8″	120 (1)	1	—	7″	7″	11″	43205K52	472.70	43205K41	96.12	43205K62	28.60
High Pressure—Temp. Range is 33° to 125°F															
0.3-5	100	3/16″	1/4″	120 (1)	1.7	1/30	6″	5″	11″	9154K51	443.30	9154K61	135.52	9154K64	43.40
0.8-17	100	3/16″	1/4″	120 (1)	1.7	1/30	6″	5″	11″	9154K52	444.84	9154K62	135.52	9154K65	43.40
2-40	100	3/16″	1/4″	120 (1)	1.7	1/30	6″	5″	11″	9154K53	446.56	9154K63	135.52	9154K66	43.40

High-Accuracy Chemical Metering Pumps

These pumps meter a consistent amount of liquid within ±2% of the maximum flow. Often used to pump water-treatment chemicals, cleaning fluids, and electropolishing solutions, they have an adjustment dial that alters flow rate in 2% increments of the maximum flow. Diaphragm has a PTFE face, a Hypalon backing, and a brass core. Motor is continuous duty, single phase and has a 6-ft. cord with plug. Pumps can run dry but are not for use with solids. Maximum viscosity is 1,000 centipoise. All pumps are ETL listed.

Repair kits include a pump head assembly, a diaphragm, valves, and seals.

Standard—Pump head is polypropylene. Pumps are self-priming. They include a 4-ft. intake tube, an 8-ft. discharge tube, a foot/valve strainer, a ball check valve, and a bleed valve, except 82695K62 does not include a bleed valve.

Extended Life—A Type 316 stainless steel head provides corrosion resistance for a long life in harsh environments. Pumps are self-priming. They include a strainer and a ball check valve.

Remote Adjustment—Automatically control output from a distance using 4-20 mA or external-pulse signals. View the flow rate on the backlit LCD. Pump head is polypropylene. Pumps are not self-priming. They include a 4-ft. intake tube and an 8-ft. discharge tube.


Standard

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Flow Rate, gal./day	Max. psi	Volts AC @ 60 Hz (phase)	Amps	hp	For Tube ID	For Tube OD	Ht.	Wd.	Dp.	Pumps		Repair Kits	
Standard—Temp. Range is 32° to 150°F													
0.05-5	250	120 (1)	1	11/64	1/4″	3/8″	10 3/8″	5 1/2″	10 7/8″	82695K45	$469.38	82695K39	$88.73
0.12-12	250	120 (1)	1	11/64	1/4″	3/8″	10 5/8″	5 1/2″	11 1/4″	82695K52	539.31	82695K32	90.10
0.22-22	150	120 (1)	1	11/64	1/4″	3/8″	10 5/8″	5 1/2″	11 1/4″	82695K53	574.62	82695K33	103.33
0.24-24	100	120 (1)	1	11/64	1/4″	3/8″	10 5/8″	5 1/2″	10 3/4″	82695K54	501.23	82695K33	103.33
0.42-42	150	120 (1)	1	11/64	1/4″	3/8″	10 5/8″	5 1/2″	11 3/4″	82695K55	821.77	82695K33	103.33
0.44-44	100	120 (1)	1	11/64	1/4″	3/8″	10 5/8″	5 1/2″	11 1/4″	82695K56	597.46	82695K33	103.33
0.94-94	100	120 (1)	1	11/64	3/8″	1/2″	11 1/4″	6 1/4″	11 1/4″	82695K57	799.62	82695K35	121.62
1.2-120	100	120 (1)	1	11/64	3/8″	1/2″	11 3/8″	6 1/4″	12″	82695K58	799.62	82695K36	126.10
1.92-192	50	120 (1)	1	11/64	3/8″	1/2″	11 3/4″	6 1/8″	11 1/4″	82695K59	882.69	82695K37	136.38
2.4-240	35	120 (1)	1	11/64	3/8″	1/2″	11 3/4″	6 1/8″	12″	82695K61	904.85	82695K37	136.38
6-600	30	120 (1)	1	11/64	1/2″	3/4″	11″	6 1/8″	11 3/8″	82695K62	1,334.77	82695K38	475.62
Extended Life—Temp. Range is 0° to 150°F													
0.05-5	250	120 (1)	1	11/64	1/4″	3/8″	10 3/8″	5 3/8″	10 7/8″	4030K91	721.38	4030K25	542.57
0.12-12	250	120 (1)	1	11/64	1/4″	3/8″	10 5/8″	5 3/8″	11 1/4″	4030K92	800.31	4030K22	557.43
0.24-24	100	120 (1)	1	11/64	1/4″	3/8″	10 5/8″	5 3/8″	10 3/4″	4030K93	678.46	4030K23	462.38
0.94-94	100	120 (1)	1	11/64	1/4″	3/8″	9″	6 1/4″	11 1/4″	4030K95	976.85	4030K24	480.67
Remote Adjustment—Temp. Range is 32° to 150°F													
0.005-5	250	120 (1)	1	11/64	1/4″	3/8″	10 3/8″	5 3/8″	10 7/8″	42855K61	720.69	82695K39	88.73
0.012-12	100	120 (1)	1	11/64	1/4″	3/8″	10 5/8″	5 3/8″	10 3/4″	42855K73	702.69	82695K32	90.10
0.044-44	100	120 (1)	1	11/64	1/4″	3/8″	10 5/8″	5 3/8″	11 1/4″	42855K77	836.31	82695K33	103.33
0.094-94	100	120 (1)	1	11/64	3/8″	1/2″	11 1/4″	6 1/4″	11 1/4″	42855K79	1,140.92	82695K35	121.62
0.24-240	35	120 (1)	1	11/64	3/8″	1/2″	11 3/4″	6 1/8″	11 1/4″	42855K85	1,242.69	82695K37	136.38


Extended Life


Remote Adjustment

Metering Pumps

For information about metering pumps, see page 374.

Chemical Metering Pumps



Also known as diaphragm metering pumps, these are often used for general purpose dispensing of chemicals such as ammonia, detergents, and acid-washing solutions. They have an adjustment dial with a locking lever that alters flow rate in 5% increments of the maximum flow. Diaphragm is Hypalon. Motor is continuous duty, single phase with thermal overload protection and has a 6-ft. cord with plug. Pumps include a 4-ft. 5/16″ ID × 7/16″ OD PVC intake tube and an 8-ft. 3/8″ ID × 1/2″ OD polyethylene discharge tube. They are self-priming. Do not run dry or use with solids. Maximum viscosity is 300 centipoise, and temperature range is 32° to 125° F. Pumps are ETL listed.

Repair kits include a pump head assembly, valves, a diaphragm, and fasteners.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Flow Rate, gal./day	Max. psi	Volts AC @ 60 Hz (phase)	Amps	hp	Ht.	Wd.	Dp.	Pumps		Repair Kits	
0.3-3	100	120 (1)	0.3	1/60	6 3/4″	7 1/4″	8 7/8″	4233K41	$360.11	9921K21	$118.21
0.7-7	100	120 (1)	0.42	1/60	6 3/4″	7 1/4″	8 7/8″	4233K43	360.11	9921K21	118.21
1.5-15	100	120 (1)	0.59	1/60	6 3/4″	7 1/4″	8 7/8″	4233K45	360.11	9921K21	118.21
2.4-24	100	120 (1)	0.75	1/60	6 3/4″	7 1/4″	8 7/8″	4233K47	360.11	9921K21	118.21
3.0-30	100	120 (1)	0.79	1/60	6 3/4″	7 1/4″	8 7/8″	4233K49	360.11	9921K21	118.21
10.0-100	60	120 (1)	1	1/60	6 3/4″	7 1/4″	8 7/8″	4233K54	474.44	9921K21	118.21

Low-Flow Metering Pumps for Alkalies



Meter small amounts of liquid in applications such as pH control and circulating detergents and cleaning fluids. These pumps have a purge/prime switch for quick emptying and filling and a reverse switch to drain the tubing. Use the adjustment dial to alter flow rate in 0.25% increments of the maximum flow. Pumps have a continuous-duty, subfractional-horsepower motor and include a single-phase adapter that has a 6-ft. cord with plug. Pumps come with 4″ lengths of 1/50″, 1/16″, 3/32″, 3/16″, and 1/4″ ID silicone soft tubing (Shore A50), except 4049K88 does not come with 1/50″ ID tubing. Pumps are self-priming and can run dry. Do not use with solids. Maximum viscosity is 5,000 centipoise, and temperature range is –80° to 500° F.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Flow Rate, gal./day	Max. psi	Volts DC	Amps	Ht.	Wd.	Dp.		
0-0.68	30	12	0.5	6 5/8″	4 3/4″	4 1/2″	4049K55	$287.10
0.01-3.12	30	12	0.5	6 5/8″	4 3/4″	4 1/2″	4049K66	289.12
0.15-32.33	30	12	0.5	6 5/8″	4 3/4″	4 1/2″	4049K77	291.38
1.52-228.24	30	12	1.2	6 5/8″	4 3/4″	4 1/2″	4049K88	509.72

Inline Water-Powered Chemical Metering Pumps



Inject chemicals into your water supply without using electricity—these pumps install directly in your pipeline and activate when water flows into the pump head. They provide consistent metering regardless of pressure and flow changes and have an adjustment dial for altering dosing concentration. Commonly used with bleach, detergents, cleaning solutions, and water-treatment chemicals, these pumps come with a 6-ft. PVC intake tube. They are self-priming and can run dry. Do not use with solids. Maximum temperature is 104° F. Connections are NPT male.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Max. Flow, gpm	Max. psi	Concentration Ratio	Max. Viscosity, cp	Pipe Size	Ht.	Dia.		
Standard								
14	85	1:500 to 1:50	200	3/4	19″	6 5/16″	1002N11	$625.15
14	85	1:3,000 to 1:333	200	3/4	21″	6 5/16″	1002N14	1,068.09
High Viscosity								
14	85	1:200 to 1:20	1,700	3/4	19″	6 5/16″	1002N12	1,459.66
14	85	1:100 to 1:10	1,700	3/4	19″	6 5/16″	1002N13	1,527.51

High-Pressure Metering Pumps for Coolants and Lubricating Oils



Use these pumps for high-pressure output of antifreeze, hydraulic oil, and motor oil. They have an internal relief valve to prevent pressure buildup. The adjustment dial alters flow rate in 1% increments of the maximum flow. Diaphragm is PTFE. Motor is continuous duty, single phase with a totally enclosed fan-cooled (TEFC) enclosure and thermal overload protection. Pumps have an 8-ft. cord with plug. They are not self-priming. Do not run dry or use with solids. Maximum viscosity is 1,500 centipoise, and temperature range is 40° to 200° F. Connections are NPT male.

ⓘ For common compatible chemicals and a list of wetted parts, go to mcmaster.com and search by part number.

Flow Rate, gal./day	Max. psi	Volts @ 60 Hz (phase)	Amps	hp	Pipe Size	Ht.	Wd.	Dp.		
4.8-48	700	120 (1)	5.9	1/3	3/8	15 1/2″	5 1/2″	14 3/4″	4046K53	$1,720.90
16.8-168	900	120 (1)	5.9	1/3	3/8	15 1/2″	5 1/2″	14 3/4″	4046K59	1,732.66
43.2-432	350	120 (1)	5.9	1/3	3/8	15 1/2″	5 1/2″	14 3/4″	4046K63	1,750.64

Extreme-Accuracy Metering Pumps for Water



Dispense water with ±1% accuracy. These pumps have an ABS housing and a bellows-style polypropylene diaphragm. The adjustment dial alters flow in 2.5% increments of the maximum flow, and check valves protect against backflow. Motor is continuous duty, single phase with thermal overload protection and has a 6-ft. cord with plug. Pumps are self-priming and can run dry. Do not use with solids. Temperature range is 33° to 104° F. Connections are barbed.

Flow Rate, gal./day	For Tube ID	Max. psi	Volts AC @ 60 Hz (phase)	Amps	hp	Ht.	Wd.	Dp.		
14.4-144	3/8″	10	120 (1)	1.1	11/64	6 7/8″	4 3/4″	8 5/8″	42605K44	$379.83
79.92-799	1/2″	5	120 (1)	1.1	11/64	6 7/8″	4 3/4″	8 5/8″	42605K47	386.78

Maintenance-Free Jet Pumps

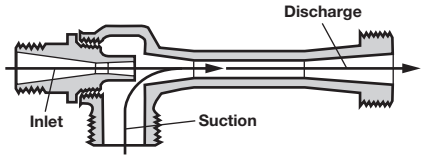





Eliminate downtime for lubrication and repairs—these pumps have no moving parts or seals, and they operate on pressurized liquid or steam instead of electricity. They're also known as eductors, ejectors, and injectors. When high-pressure liquid or steam enters the inlet, it creates suction that draws a second liquid or gas into the pump body and discharges a pressurized blend of the two. The discharge pressure is greater than the suction flow but lower than the inlet pressure.

Liquid-Operated Pumps

Blend liquids and slurries, circulate and pump solutions, produce emulsions, elevate water, and transport grains and other small particles. Maximum suction lift is 27 feet.

Metal pumps have NPT male connections. *Cast iron pumps* operate on pressures up to 80 psi. *Bronze* and *Type 316 stainless steel pumps* operate on 15 to 200 psi. *Cast iron* and *bronze pumps* have a temperature range of –20° to 150° F. *Bronze* is more corrosion resistant than cast iron. *Type 316 stainless steel pumps* are the most corrosion-resistant metal option; they have a temperature range of –150° to 150° F.

PVC pumps are highly corrosion resistant and lightweight. They operate on pressures up to 100 psi. Maximum temperature is 70° F. Inlet and suction connections are NPT female and discharge connections are NPT male.

Suction Flow for Liquid-Operated Pumps with 1½ NPT Suction/Discharge Connections

Calculate suction flow for other pipe sizes by multiplying the suction flow by the sizing factor listed in the table for your pump's pipe size.

	Liquid Suction Flow, gpm					
	5-ft. Lift		**10-ft. Lift**		**20-ft. Lift**	
Discharge Head, ft.	40 psi Water	100 psi Water	40 psi Water	100 psi Water	40 psi Water	100 psi Water
0	38	40	32	36	18	27
10	18	40	12	36	—	27
20	—	40	—	36	—	27
30	—	34	—	30	—	20
40	—	22	—	18	—	9

Pipe Size		Sizing			Cast Iron		Bronze		Type 316 Stainless Steel		PVC			
Inlet	Suction/ Discharge	Factor	Lg.	Wd.							Lg.	Wd.		
3/8	3/4	0.2	5 7/8"	1 1/4"	4979K31	$165.57	4979K11	$231.97	4979K51	$491.54	—	—	—	—
1/2	3/4	0.2	5 7/8"	1 1/4"	4979K39	165.57	4979K19	231.97	4979K59	491.54	5 3/4"	2"	4979K21	$275.68
1/2	1	0.34	7 1/8"	1 3/4"	4979K32	210.13	4979K12	288.29	4979K52	561.44	6 7/8"	2 1/2"	4979K22	309.28
3/4	1 1/4	0.61	9"	2 3/8"	4979K33	258.03	4979K13	316.00	4979K53	700.96	9 1/8"	3"	4979K23	382.43
1	1 1/2	1	11"	2 5/8"	4979K34	334.51	4979K14	420.24	4979K54	815.25	11"	3 1/2"	4979K24	638.77
1 1/4	2	1.82	14 3/8"	3 1/2"	4979K35	497.57	4979K15	697.60	4979K55	1,317.02	14 1/4"	4"	4979K25	644.64
1 1/2	2 1/2	3.17	18 1/8"	4 1/2"	4979K36	615.82	4979K16	1,264.08	4979K56	1,680.27	18 1/2"	5"	4979K26	1,265.20
2	3	5.92	23 7/8"	6 1/8"	4979K37	895.44	4979K17	1,308.61	4979K57	2,273.59	24 1/4"	6"	4979K27	1,504.33

Steam-Operated Pumps

Use plant steam to pump liquids and gases, prime pumps, and remove fumes. When pumping liquids, the inlet pressure range is 35 to 150 psi. Maximum suction lift is 20 feet. When pumping air, vapor, and gases, the inlet pressure ranges from 20 to 80 psi.

All pumps have NPT male connections. *Cast iron* and *bronze pumps* have a temperature range of –20° to 150° F. *Bronze* is more corrosion resistant than cast iron. *Type 316 stainless steel pumps* provide the most corrosion resistance; temperature range is –150° to 150° F.

Suction Flow for Steam-Operated Pumps with 1½ NPT Suction/Discharge Connections

Calculate suction flow for other pipe sizes by multiplying the suction flow by the sizing factor listed in the table for your pump's pipe size.

	Liquid Suction Flow, gpm					
	5-ft. Lift		**10-ft. Lift**		**20-ft. Lift**	
Discharge Head, ft.	80 psi Steam	120 psi Steam	80 psi Steam	120 psi Steam	80 psi Steam	120 psi Steam
0-40	51	44	44	35	25	17

	Gas Suction Flow, cfm		
Suction Pressure	20 psi Steam, Max. Outlet 0 psi	50 psi Steam, Max. Outlet 10 psi	80 psi Steam, Max Outlet 20 psi
Atmos.	40	32	28
15" Hg	1	12	9

Pipe Size		Sizing			Cast Iron		Bronze		Type 316 Stainless Steel	
Inlet	Suction/ Discharge	Factor	Lg.	Wd.						
3/8	1/2	0.12	4 1/2"	1 1/8"	4977K31	$162.21	4977K11	$205.92	4977K51	$387.47
1/2	3/4	0.2	5 7/8"	1 1/4"	4977K32	165.57	4977K12	231.97	4977K52	491.03
3/4	1	0.34	7 1/8"	1 3/4"	4977K33	210.13	4977K13	288.29	4977K53	561.44
1	1 1/4	0.61	9"	2 3/8"	4977K34	258.03	4977K14	316.00	4977K54	700.96
1	1 1/2	1	11"	2 5/8"	4977K35	334.51	4977K15	420.24	4977K55	815.25
1 1/4	2	1.82	14 3/8"	3 1/2"	4977K36	497.57	4977K16	697.60	4977K56	1,317.02

Hand-Operated Vacuum Pumps

Convenient for one-handed liquid sampling and extraction, this pump is often used for vacuum filtration and bleeding hydraulic and liquid lines. It can also be used for pressure applications up to 30 psi. Housing is zinc and aluminum. Temperature range is –10° to 190° F.

Pump comes with a diagnostic kit that includes a vacuum/pressure gauge, tubing adapters and plugs, a reservoir jar, a cup adapter, and a plastic carrying case. It also includes clear PVC tubing in the following sizes: two 24" lengths, one 1½" length, and one 3⅝" length of ¼" ID tubing; one 3" length of 5/32" ID tubing.



Max. Vacuum, Inches of Hg	Volume per Stroke	Lg.	Wd.	Ht.		
25	1 cu. in.	8"	2½"	10"	9963K21	$88.11

Vacuum Pumps

About Vacuum Pumps

When selecting a vacuum pump, consider your application. For medium-vacuum operations, such as air extraction, leak testing, and lifting, grabbing, and moving small parts, choose an **air-operated vacuum pump**. Choose an **electric vacuum pump** for demanding applications that require a powerful vacuum and continuous flow, such as filtration systems, drying chambers, distillation, and refrigeration service.

Additional factors, such as the vacuum strength your application requires and how quickly you want to form a vacuum, can also help you to select a vacuum pump that will meet your needs.

Vacuum Strength—Vacuum is measured in inches of mercury (Hg) up to 29.9″ Hg. Above 29.9″ Hg, it's measured in microns of Hg. When vacuum is measured in inches of Hg, higher values indicate a stronger vacuum. But when vacuum is measured in microns of Hg, lower values indicate a stronger vacuum.

Free Air—Measured in cubic feet per minute, free air is the initial pull required to create a vacuum. Determine how long a pump will take to form a vacuum by dividing your tank's capacity (measured in cubic feet) by the pump's free air requirement. The larger the tank, the longer it will take to form a vacuum. Tube and fitting ID will also affect flow.

Maintenance-Free Air-Operated Vacuum Pumps

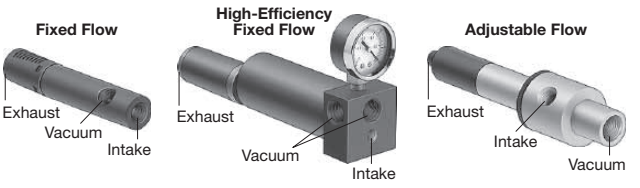

Also known as venturi pumps, these compressed-air-powered pumps are commonly used in vacuum packaging, pick-and-place operations, and end-of-arm robotic tooling. They have no seals or moving parts that can wear down or overheat, and they don't require lubrication, so there's no downtime for maintenance. The compact body allows inline installation close to your vacuum point. Pumps have a muffler. Connections are NPT female.

High-efficiency fixed-flow pumps have a multistage design to generate high vacuum flow with less air consumption than other air-operated vacuum pumps. They include a 2″ vacuum gauge.

Adjustable-flow pumps have a rotating diffuser to alter flow rate.

Max. Vacuum, Inches of Hg	Free Air, cfm	Operating Pressure, psi	Air Consumption, cfm	dB	Temp. Range, °F	Pipe Size: Intake	Pipe Size: Vacuum	Pipe Size: Exhaust	Lg.	Dia.		
Fixed Flow—Aluminum Housing												
16½	34	80	26.4	65	32° to 125°	1/8	3/8	1/2	9¼″	1½″	41605K59	$132.53
17	6.8	70	7.09	65	32° to 125°	1/8	3/8	1/4	8¼″	1¾″	41605K57	91.12
26	0.95	75	1.6	65	32° to 125°	1/8	1/8	1/8	5⅜″	2″	41605K13	67.39
27	2.2	75	3.5	65	32° to 125°	1/8	1/4	1/4	7⅜″	1¾″	41605K14	70.55
27	4	75	6.4	65	32° to 125°	1/8	3/8	3/8	8¼″	1¾″	41605K15	90.04
28	0.5	80	0.8	64	−100° to 400°	1/8	1/8	1/4	4¼″	¾″	9997K15	63.00
28	1.2	80	1.8	64	−100° to 400°	1/8	1/8	1/4	4¼″	¾″	9997K16	68.25
28	2	80	2.8	64	−100° to 400°	1/8	1/8	1/4	4¼″	¾″	9997K17	81.00
28	3.2	80	4.8	64	−100° to 400°	1/8	1/8	1/4	4¼″	¾″	9997K18	86.25
28	5.4	80	7.8	70	−100° to 400°	1/4	3/8	3/8	5⅞″	1″	9997K25	121.00
28	9	80	12.5	76	−100° to 400°	1/4	3/8	3/8	8⅞″	1¼″	9997K26	152.75
28	20	80	22	72	−100° to 400°	3/8	3/8	3/8	9⅞″	1¼″	9997K27	197.50
28	28	80	28	76	−100° to 400°	1/2	1/2	1/2	10⅞″	1¼″	9997K29	300.50
High-Efficiency Fixed Flow—Acetal Housing												
26	17	68	7	65	32° to 125°	1/8	1/2	3/8	10¼″	3″	41605K45	296.48
27	6.8	68	2.7	65	32° to 125°	1/8	1/2	1/4	8¼″	3″	41605K33	227.10
27	12	68	4.9	65	32° to 125°	1/8	1/2	3/8	8¾″	3″	41605K34	263.89
Adjustable Flow—Aluminum Housing												
0-25	2	80	1.3	70	−100° to 400°	1/8	1/4	1/4	5⅝″	1¼″	13445K87	107.00
0-25	3.2	80	2.4	74	−100° to 400°	1/8	1/4	1/4	5⅝″	1¼″	13445K81	118.50
0-25	6	80	4.7	78	−100° to 400°	1/8	1/4	1/4	5⅝″	1¼″	13445K82	131.00
0-25	10	80	8.3	84	−100° to 400°	1/8	1/4	1/4	6¼″	1¼″	13445K83	150.25
0-25	30	80	17	88	−100° to 400°	3/8	1/2	1/2	10⅞″	1¾″	13445K84	166.25
0-25	60	80	28	82	−100° to 400°	3/8	1/2	3/4	13″	2″	13445K85	219.50
0-25	120	80	44	98	−100° to 400°	1/2	3/4	1	13⅞″	2¼″	13445K86	273.50

Oil-Free Electric Vacuum Pumps



Since these pumps don't require lubrication and run entirely on electricity, there's no risk of oil contamination. They have a continuous-duty, single-phase motor with thermal overload protection and a 6-ft. cord with plug. Temperature range is 32° to 104°F.

Base Mount—Often used for air and gas sampling, controlling compressed air flow, and vacuum filtration, this pump can also be used in pressure applications up to 18 psi. Housing is polyester and diaphragm is fluorocarbon elastomer. Pump comes with barbed hose adapters that fit 3/8″ ID tubing. **Repair kit** includes a replacement diaphragm.

Portable—This pump weighs only 16 pounds and has a handle, so it's convenient for on-site sampling, atomizing, and vacuum filtration. It's also for use in pressure applications up to 60 psi. Housing is aluminum and diaphragm is EPDM/Nomex. Pump comes with an on/off switch. Connections are barbed and fit 3/8″ ID tubing. **Repair kit** includes seals, a filter cartridge, and replacement valve components.

Max. Vacuum, Inches of Hg	Free Air, cfm	dB	hp	Volts AC @ 60 Hz (phase)	Amps	Lg.	Wd.	Ht.	Pumps		Repair Kits	
Base Mount												
20	0.6	72	1/45	120 (1)	1.2	7¼″	4″	5½″	41675K61	$367.20	41675K65	$81.00
Portable												
25.5	1.1	65	1/8	120 (1)	4.2	7¾″	5⅞″	11″	4176K11	495.54	4176K21	35.80

Oil-Free Electric Vacuum Pumps with Tank



Generate a vacuum on demand with this pump that comes mounted on a 10-gal. ASME code vacuum tank for quick startup. It's often used in vacuum-forming applications such as product packaging. Pump includes a vacuum gauge, a three-position switch, and a shutoff valve. It needs no lubrication, so oil won't contaminate your process.

Motor is continuous duty, single phase with thermal overload protection, and it has a 6-ft. cord with plug. Housing is aluminum. Temperature range is 41° to 104°F. Pump has a barbed inlet connection that fits 3/8″ ID tubing and a 3/8 NPT female discharge connection with a muffler.

Max. Vacuum, Inches of Hg	Free Air, cfm	dB	hp	Volts AC @ 60 Hz (phase)	Amps	Lg.	Wd.	Ht.		
26	7.1	58	1/3	120 (1)	4	30″	12⅜″	24½″	6419K31	$2,186.79

For information about vacuum pumps, see page 392.

Oil-Free Electric High-Vacuum Pumps

Achieve a higher vacuum than our oil-free electric vacuum pumps with the same lubrication-free operation. Motor is continuous duty, single phase with thermal overload protection. Pumps have a 10-ft. cord with plug, except 1½ hp pump has wire leads for electrical connection. Housing is cast iron. Temperature range is 32° to 104° F. Connections are NPT female.

Standard pump is commonly used for aeration, leak detection, and liquid-level control. It has an internal muffler. Maximum air pressure is 10 psi. Pump is CE marked.

Corrosion-resistant pumps can withstand harsh operating conditions. They're frequently used to service machinery and refrigeration and circulation systems. Maximum air pressure is 125 psi. Pumps are CSA certified.



Standard



Corrosion Resistant

Max. Vacuum, Inches of Hg	Free Air, cfm	dB	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size	Lg.	Wd.	Ht.		
Standard											
26	4.5	70	¼	120/240 (1)	4.5	¼	13¾″	5⅝″	6″	9901K64	$446.30
Corrosion Resistant											
27.5	1.8	70	⅛	120 (1)	3.5	¼	11½″	5⅝″	8⅝″	4299K1	555.95
27.5	3.2	70	⅛	120 (1)	3.5	¼	11½″	11¼″	5⅞″	4299K2	713.12
27.5	5	75	½	120/240 (1)	12/6	¼	13¼″	12⅜″	9″	4299K4	806.16
27.5	10.5	75	1½	120/240 (1)	21/10	¼	21″	12¼″	8½″	4299K7	1,831.94

Extended-Life Oil-Free Electric High-Vacuum Pumps

Also known as liquid-ring vacuum pumps, these use a constant supply of liquid to create a vacuum, so they have few moving parts that can wear out. A good choice for applications such as siphon priming and distillation, they commonly use water as the sealing fluid. Motor is continuous duty, three phase with thermal overload protection, and it has screw terminals for electrical connection. Housing is cast iron and impeller is cast aluminum bronze. Temperature range is 41° to 104° F. All pumps have BSPP female sealing fluid intake connections. They are CSA certified.

Pumps with flanged intake/discharge connections have flanges with four ¾″ holes on a 4 13⁄16″ bolt circle.



BSPP Intake/Discharge

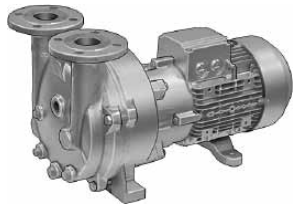

Flanged Intake/Discharge

Max. Vacuum, Inches of Hg	Free Air, cfm	dB	hp	Volts AC @ 60 Hz (phase)	Amps	Pipe Size: Process Intake/Discharge	Pipe Size: Sealing Fluid Intake	Lg.	Wd.	Ht.		
28.95	19	65	1.7	240-275/380-480 (3)	5.1/2.9	1 BSPP	⅜ BSPP	16¼″	7⅜″	7⅞″	8188K42	$2,115.52
28.95	35	70	2.7	240-275/380-480 (3)	7.8/4.5	1 BSPP	⅜ BSPP	19⅛″	7⅜″	8⅝″	8188K43	2,435.96
28.95	55	70	4.6	240-275/380-480 (3)	12.8/7.4	1½ BSPP	⅜ BSPP	22″	8⅞″	9¼″	8188K44	3,046.67
28.95	85	76	8.3	240-275/380-480 (3)	20.8/12	1½ BSPP	⅜ BSPP	22⅜″	10½″	11¾″	8188K45	3,718.83
28.95	114	67	8.3	240-275/380-480 (3)	20/11.5	2 Flanged	¾ BSPP	25⅜″	13⅜″	14¼″	8188K46	5,002.23
28.95	152	72	11	240-275/380-480 (3)	27.5/16	2 Flanged	¾ BSPP	25¾″	13⅜″	14⅝″	8188K47	5,960.05

Electric Ultra-High Vacuum Pumps

Use these pumps when you need a vacuum above 29″ Hg. They produce a very high vacuum for applications such as degassing and servicing refrigeration and freezer systems. Housing is aluminum. Motor is continuous duty, single phase with thermal overload protection. All pumps have a 6-ft. cord with plug. *120-volt pumps* have a standard NEMA 5-15 plug. *120/240-volt pumps* have a NEMA 6-15 plug. Pumps have an oil-level sight, an on/off switch, and a handle. They come with vacuum pump oil. Intake ports have ½″ × ¼″ × ⅜″ male flared cross fitting connections. Temperature range is 30° to 180° F. Pump components are UL recognized.



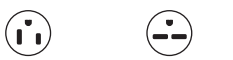

120 Volts AC NEMA 5-15

120/240 Volts AC NEMA 6-15

Max. Vacuum, Microns of Hg	Free Air, cfm	dB	hp	Volts AC @ 60 Hz (phase)	Amps	Intake Tubing ID	Oil Cap., oz.	Lg.	Wd.	Ht.		
15	3	70	½	120 (1)	7	¼″, ⅜″	27	14½″	5⅝″	12″	4396K21	$423.67
15	3	70	½	120/240 (1)	3.5	¼″, ⅜″	27	14½″	5⅝″	12″	4396K61	441.13
15	5	70	½	120 (1)	7	¼″, ⅜″	21	14½″	5⅝″	12″	4396K41	449.80
15	5	70	½	120/240 (1)	3.5	¼″, ⅜″	21	14½″	5⅝″	12″	4396K71	468.70
15	7	70	½	120 (1)	7	¼″, ⅜″	23	14½″	5⅝″	12″	4396K43	492.20
15	7	70	½	120/240 (1)	3.5	¼″, ⅜″	21	14½″	5⅝″	12″	4396K73	511.10
15	10	70	½	120 (1)	7	¼″, ⅜″	26	14½″	5⅝″	12″	4396K45	737.56
15	10	70	½	120/240 (1)	3.5	¼″, ⅜″	26	16″	5⅝″	12″	4396K75	756.10

Electric Extreme-Vacuum Pumps

Get a near-perfect vacuum for applications such as vacuum drying, solvent evaporation, and distillation. These pumps have a cast iron housing and a continuous-duty, single-phase motor. They come with vacuum pump oil. Temperature range is 50° to 104° F.

Extreme-vacuum pumps have an oil-level sight, an on/off switch, a handle, and a hose adapter. Motor has thermal overload protection and an 8-ft. cord with plug. Pumps are CSA certified.

Extended-life extreme vacuum pumps have lower rpm and fewer moving parts than other extreme-vacuum pumps, so they're less prone to wear and overheating. A large oil capacity dilutes contaminants that can damage the pump. Pumps have a 6-ft. cord with plug. They come with a fully enclosed belt guard, a contaminant evacuation valve, a dust cap, and an on/off switch.



Extreme Vacuum



Extended-Life Extreme Vacuum

Max. Vacuum, Microns of Hg	Free Air, cfm	dB	hp	Volts AC @ 60 Hz (phase)	Amps	Intake Tubing ID	Oil Cap.	Lg.	Wd.	Ht.		
Extreme Vacuum												
0.4	11.3	55	¾	120 (1)	5.0	9⁄16″, 13⁄16″	38.4 oz.	21¼″	7⅛″	10¾″	8460K74	$4,004.84
0.1	2.6	50	½	120 (1)	3.0	7⁄16″, 13⁄16″	32 oz.	18½″	6½″	9⅝″	8460K64	2,757.26
Extended-Life Extreme Vacuum												
0.1	0.9	54	⅓	120 (1)	5.6	7⁄16″	⅝ qt.	17⅞″	9″	12⅝″	9950K51	1,950.00
0.1	3.2	54	½	120 (1)	8.6/4.3	7⁄16″	2¼ qt.	20″	12″	15″	9950K52	2,633.46
0.1	5.6	54	½	120 (1)	8.6/4.3	13⁄16″	2¼ qt.	20″	12″	15″	9950K53	2,819.85

Mufflers

For information about pipe size, see pages 2-3.

About Noise, Filtration, and Flow Ratings

Consider noise, filtration, and flow ratings when selecting mufflers, breather vents, and filters.

Noise—Measured in decibels (dB), the rating indicates how much a product reduces exhaust noise from your tool or equipment. OSHA recommends hearing protection for exposure to 80 dB and greater. Some common noise levels include an air-powered riveter @ 125 dB, air-powered drill @ 120 dB, and an impact wrench @ 103 dB.

Filtration—Products trap particles to clean the air exhausting to the environment or going into your process and equipment. The size of particles is measured in microns; the lower the number of microns, the smaller the particles that are removed from the air. For examples of common particle sizes, see page 412.

Flow—Measured in standard cubic feet per minute (scfm), this rating is the maximum air flow a product can withstand.

Mufflers



A ***B*** ***C*** ***D***

Our most popular mufflers, use these with air-powered tools, valves, and cylinders to reduce noise and filter exhaust air. All have a porous bronze body.

Styles A&D have hex wrench flats. Mufflers reduce noise by 15-20 dB. They trap particles down to 40 microns, except mufflers with 1¼-2 pipe size, which trap particles down to 90 microns. Use with air and inert gas. Fitting is plated steel. Max. temp. is 300°F.

Style B are high temperature; max. temp. is 500°F. They have a slotted head for installation with a screwdriver. Mufflers reduce noise by 10-20 dB and trap particles down to 100 microns. Use with air and inert gas. Fitting is porous bronze.

Style C are knurled for an easy grip. Mufflers reduce noise by 13-21 dB and trap particles down to 100 microns. Use with air. Fitting is plated bronze. Max. temp. is 302°F.

Pipe Size	Max. scfm @ 100 psi	Max. psi	Ht.	Hex Size/Dia.		
With UNF Male Connection						
A	10-32	6	300	11/16"	5/16"	**4450K31** $1.86
With NPT Male Connection						
A	1/16	26	175	13/16"	3/8"	**4450K15** 2.22
A	1/8	11	300	1 1/8"	7/16"	**4450K1** 1.93
A	1/4	21	300	1 3/8"	9/16"	**4450K2** 2.26
A	3/8	23	300	1 1/2"	11/16"	**4450K3** 3.00
A	1/2	57	300	1 7/8"	7/8"	**4450K4** 4.03
A	3/4	112	300	2 1/4"	1 1/16"	**4450K5** 6.15
A	1	154	300	2 7/8"	1 5/16"	**4450K6** 9.51
A	1 1/4	154	300	3 1/4"	1 11/16"	**4450K8** 17.74
A	1 1/2	162	300	3 11/16"	2"	**4450K9** 23.60
A	2	2,190	175	4 3/4"	2 3/8"	**4450K16** 56.20
B	1/8	26	170	1"	7/16"	**8158T31** 2.59
B	1/4	35	170	1 5/16"	9/16"	**8158T32** 3.21
B	3/8	82	170	1 9/16"	11/16"	**8158T33** 4.28
B	1/2	130	170	2 1/16"	15/16"	**8158T34** 8.68
B	3/4	215	170	2 7/8"	1 1/8"	**8158T35** 12.40
B	1	305	170	3 3/8"	1 3/8"	**8158T36** 24.68
C	1/8	18	145	13/16"	7/16"	**4450K17** 3.47
C	1/8	28	145	1 1/2"	1/2"	**4450K18** 5.21
With NPS Female Connection						
D	1/8	53	175	1 1/4"	9/16"	**4450K91** $2.50
D	1/4	70	175	1 7/16"	11/16"	**4450K92** 3.22
D	3/8	175	175	1 7/8"	7/8"	**4450K93** 5.43
D	1/2	263	175	2 1/8"	1 1/16"	**4450K94** 9.79
With BSPT Male Connection						
A	1/8	53	175	7/8"	7/16"	**9836K21** 1.86
A	1/4	70	175	1 5/16"	9/16"	**9836K22** 2.41
A	3/8	175	175	1 1/2"	11/16"	**9836K23** 3.10
A	1/2	263	175	2"	7/8"	**9836K24** 5.22
A	3/4	438	175	2 5/16"	1 1/16"	**9836K25** 8.18
A	1	613	175	3"	1 5/16"	**9836K26** 12.86
A	1 1/4	700	175	3 3/8"	1 5/8"	**9836K27** 21.79
A	1 1/2	1,314	175	4"	2"	**9836K28** 31.47
A	2	2,190	175	4 11/16"	2 3/8"	**9836K29** 40.27
C	1/8	18	145	13/16"	7/16"	**9836K31** 3.47
C	1/8	28	145	1 5/16"	1/2"	**9836K32** 5.21
With Metric Male Connection						
C	M3	3	145	3/8"	1/4"	**4450K21** 1.67
C	M5	10	145	5/8"	5/16"	**4450K22** 3.04

Corrosion-Resistant Mufflers



E&G



F

All-stainless construction stands up to harsh environments—body is porous Type 316 stainless steel. Use with air and inert gas.

High-temperature mufflers withstand temperatures up to 400°F. They reduce noise by 15-20 dB and trap particles down to 50 microns. Fitting is Type 304 stainless steel. Max. pressure is 175 psi.

Extreme-temperature mufflers withstand temperatures up to 1000°F. They trap particles down to 100 microns. Fitting is Type 316 stainless steel. Max. pressure is 150 psi. *Style F* reduce noise by 10-20 dB; *Style G* reduce noise by 13-29 dB.

Pipe Size	Max. scfm @ 100 psi	Ht.	Hex Size/Dia.		
High-Temperature Mufflers					
(E) With NPT Male Connection					
1/8	53	7/8"	7/16"	**4402K51**	$8.32
1/4	70	1 1/4"	9/16"	**4402K52**	8.66
3/8	175	1 5/8"	11/16"	**4402K53**	10.45
1/2	263	2"	7/8"	**4402K54**	14.30
3/4	438	2 1/4"	1 1/16"	**4402K55**	49.57
1	613	3 9/16"	1 5/16"	**4402K56**	69.93
Extreme-Temperature Mufflers					
(F) With NPT Male Connection					
1/8	40	1 1/4"	3/8"	**8360T11**	27.82
1/4	53	1 5/8"	5/8"	**8360T12**	38.31
1/2	200	2 1/8"	7/8"	**8360T14**	47.07
3/4	340	2 1/4"	1 1/16"	**8360T15**	48.84
1	470	2 7/16"	1 7/16"	**8360T16**	71.16
(G) With BSPT Male Connection					
1/8	19	1 1/2"	7/16"	**4402K63**	60.15
1/4	36	2 1/16"	11/16"	**4402K64**	66.83
3/8	65	2 1/16"	1 1/16"	**4402K65**	66.83
1/2	90	2 5/16"	7/8"	**4402K66**	83.25
(G) With Metric Male Connection					
M3	3	3/8"	7/16"	**4402K61**	34.65
M5	6	11/16"	7/16"	**4402K62**	37.80

Sure-Seal Miniature Mufflers



H



J&K

A rubber O-ring above the threads ensures a tight seal. Mufflers reduce noise by 17-22 dB and trap particles down to 40 microns. Use with air and inert gas. Connection is UNF male.

Styles H&J have a porous bronze body with a brass fitting. O-ring is Buna-N. Max. pressure is 125 psi. Max. temp. is 200°F.

Style K has a porous Type 316 stainless steel body with a Type 303 stainless steel fitting. O-ring is fluoroelastomer. Max. pressure is 300 psi. Max. temp. is 300°F.

Thread Size	Max. scfm @ 100 psi	Ht.	Hex Size		
Bronze Mufflers					
H	10-32	5	5/8"	1/4"	**8226T11** $7.84
J	10-32	5	1 1/16"	5/16"	**8226T13** 6.67
Type 316 Stainless Steel Muffler					
K	10-32	5	1 1/16"	5/16"	**8226T16** 20.00

Flow-Control Mufflers



Adjust the speed of air-powered tools and cylinders—turn the screw to change air flow and tighten the nut to secure. Mufflers reduce noise by 17-20 dB and trap particles down to 40 microns. Use with air and inert gas. Body is porous bronze and fitting is brass. Max. pressure is 300 psi. Max. temp. is 300°F. Connections are NPT male.

Pipe Size	Max. scfm @ 100 psi	Ht.	Hex Size		
1/8	20	1 5/16"	1/2"	**9834K31**	$4.43
1/8	30	1 9/16"	9/16"	**9834K41**	4.93
1/4	30	1 9/16"	9/16"	**9834K32**	4.90
1/4	40	1 5/8"	11/16"	**9834K42**	6.07
3/8	40	1 5/8"	11/16"	**9834K33**	6.07
3/8	60	2"	7/8"	**9834K43**	8.19
1/2	60	2"	7/8"	**9834K34**	7.83
1/2	70	2 3/8"	1 1/16"	**9834K44**	13.29
3/4	70	2 3/8"	1 1/16"	**9834K35**	14.05
1	100	2 1/2"	1 5/16"	**9834K36**	19.21

For information about mufflers, see page 394. For information about pipe size, see pages 2-3.

Push-to-Connect Mufflers

Decrease noise from manifolds with tubing connections—these have an unthreaded stem to slide into tube fittings and collets. Use with air. Filtration is not rated.

Plastic mufflers are more corrosion resistant than bronze. They reduce noise by 17-20 dB. Max. pressure is 145 psi. Max. temp. is 140°F.

Bronze mufflers withstand higher temperatures than plastic; max. temp. is 300°F. They reduce noise by 20 dB. Body is porous bronze and fitting is nickel-plated brass. Max. pressure is 175 psi.



Plastic



Bronze

Stem OD	Max. scfm @ 100 psi	Ht.	Dia.		
Plastic Mufflers					
1/4"	52	2 3/4"	3/4"	8457T31	$8.08
3/8"	117	3 1/8"	3/4"	8457T32	11.26
6 mm	27	2 1/16"	5/8"	8457T51	8.43
8 mm	42	2 7/8"	7/8"	8457T52	10.79
10 mm	95	3 11/16"	1"	8457T53	13.43
Bronze Mufflers					
4 mm	Not Rated	1 5/8"	1/2"	8413T11	9.83
6 mm	Not Rated	1 7/8"	9/16"	8413T12	13.51
8 mm	Not Rated	1 15/16"	9/16"	8413T13	14.34
10 mm	Not Rated	2 11/16"	3/4"	8413T14	14.49
12 mm	Not Rated	2 11/16"	3/4"	8413T15	19.38

Mufflers for Tubing

Make the right connection in applications that use tubing. Use with air.

Muffler with barbed fitting is for use with soft tubing. It reduces noise by 10-20 dB and traps particles down to 80 microns. Body is porous bronze and fitting is copper. Max. pressure is 170 psi. Max. temp. is 500°F.

Muffler with push-to-connect fitting is for use with semi-rigid tubing such as nylon, polyurethane, and FEP. It reduces noise by up to 16 dB. Filtration is not rated. Body is zinc-plated brass and fitting is bronze. Max. pressure is 145 psi. Max. temp. is 140°F.



With Barbed Fitting



With Push-to-Connect Fitting

For Tube Size	Max. scfm @ 100 psi	Ht.	Hex Size/ Dia.		
With Barbed Fitting					
1/8" ID	4	1 1/16"	5/16"	8535T11	$5.15
With Push-to-Connect Fitting					
1/4" OD	63	7/8"	9/16"	8535T23	11.98

Clog-Resistant Mufflers

Replace your muffler less often—these have a filter design that stays clean longer than porous mufflers. They're often used in air-powered circuits.

Style A— A screw on top adjusts air flow. Mufflers reduce noise by 12-15 dB and trap particles down to 900 microns. Max. pressure is 150 psi. Max. temp. is 400°F.

Styles B&C— Mufflers reduce noise by 17-20 dB and trap particles down to 250 microns. Filter is wire mesh. ***Aluminum mufflers*** have a max. pressure of 300 psi. Max. temp. is 160°F. ***Nylon mufflers*** have a max. pressure of 150 psi. Max. temp. is 120°F.



A



B *With Female Connection*



C

Pipe Size	Max. scfm @ 100 psi	Ht.	Hex Size		
With NPT Male Connection					
(A) Zinc-Plated Steel Mufflers					
1/8	35	1 1/16"	7/16"	9869K91	$5.64
1/4	52	1 5/8"	9/16"	9869K92	6.32
(B) Aluminum Mufflers					
1/8	20	1 7/8"	5/8"	9993K31	6.99
1/4	33	1 7/8"	5/8"	9993K32	6.99
3/8	81	3 1/4"	1"	9993K33	10.57
1/2	115	3 1/4"	1"	9993K34	10.57
3/4	175	4 5/8"	1 5/8"	9993K35	22.14
1	215	4 5/8"	1 5/8"	9993K36	22.14
(C) Nylon Mufflers					
1/8	20	2 1/8"	13/16"	9992K21	4.40
1/4	20	2 1/4"	13/16"	9992K22	4.40
3/8	65	3 7/16"	1 1/4"	9992K23	6.47
1/2	70	3 9/16"	1 1/4"	9992K24	6.47
With NPT Female Connection					
(B) Aluminum Mufflers					
1/4	33	1 7/8"	5/8"	9993K42	7.33
3/8	81	3 1/4"	1"	9993K43	11.17
1/2	115	3 1/4"	1"	9993K44	11.17
3/4	175	4 5/8"	1 5/8"	9993K45	23.20
1	215	4 5/8"	1 5/8"	9993K46	23.20
1 1/2	540	5 1/2"	2 1/2"	9993K48	76.73

Clog-Indicating Mufflers

Don't let an unexpected clog interrupt your work. These mufflers have a filter that slides up slowly as it clogs to indicate when the muffler should be replaced. Mufflers reduce noise by 30-35 dB and trap particles down to 70 microns. Use with air. Filter and fitting are plastic. Max. pressure is 100 psi. Max. temp. is 158°F. Max. scfm is not rated. Connection is NPT male.



Pipe Size	Ht.	Dia.		
1/8	1 9/16"	5/8"	1182T11	$17.92
1/4	1 15/16"	3/4"	1182T12	21.76
3/8	2 1/2"	1 1/16"	1182T13	25.60
1/2	3 1/4"	1 1/4"	1182T14	33.28

High Noise-Reducing Mufflers

Reduce noise by 30-35 dB. Mufflers trap particles down to 100 microns. Use with air. Filter is plastic. Max. pressure is 145 psi. Max. temp. is 140°F. Connection is NPT male.



Plastic

Pipe Size	Max. scfm @ 100 psi	Ht.	Hex Size		
Plastic Mufflers					
1/4	106	1 3/4"	9/16"	1213T11	$5.27
3/8	177	2 5/16"	11/16"	1213T12	5.52
1/2	283	2 11/16"	13/16"	1213T13	6.14
Steel Mufflers					
3/4	640	4 1/4"	17/16"	1213T14	19.03
1	704	5 3/16"	1 5/8"	1213T15	23.19
1 1/4	1,059	7 7/8"	2 3/16"	1213T16	44.83
1 1/2	1,589	9 3/16"	2 3/8"	1213T17	46.18
2	2,825	10 3/8"	2 3/4"	1213T18	60.39

Flame-Resistant High Noise-Reducing Mufflers

Suitable for use with welding equipment, these mufflers are made of flame-resistant materials and reduce noise by 35-42 dB. They trap particles down to 100 microns. Use with air. Filter is PVF (polyvinyl fluoride) and fitting is PBT (polybutylene terephthalate). Max. pressure is 145 psi. Max. temp. is 140°F. Connection is NPT male.



Pipe Size	Max. scfm @ 100 psi	Ht.	Hex Size		
1/4	106	2 1/2"	3/4"	1629T11	$7.87
3/8	176	3 5/16"	15/16"	1629T12	8.00
1/2	283	3 3/4"	15/16"	1629T13	9.67

Compact High-Flow Mufflers

Get high-flow capacity in a small muffler. They reduce noise by 15-22 dB and trap particles down to 100 microns. Use with air and inert gas. Filter is wire mesh. Max. pressure is 250 psi. Max. temp. is 400°F.



With Male Connection



With Female Connection

Pipe Size	Max. scfm @ 100 psi	Ht.	Hex Size		
With NPT Male Connection					
Zinc-Plated Steel Mufflers					
1/8	48	1 3/8"	7/16"	9835K41	$5.09
1/4	105	1 3/4"	9/16"	9835K42	5.50
3/8	219	2 3/16"	11/16"	9835K43	7.42
1/2	332	2 3/4"	7/8"	9835K44	8.32
3/4	613	3 3/16"	1 1/16"	9835K45	12.31
1	876	3 7/8"	1 5/16"	9835K46	15.54
1 1/4	1,226	4 1/2"	1 11/16"	9835K49	23.24
1 1/2	1,576	5"	2"	9835K47	27.36
2	2,452	5 1/2"	2 3/8"	9835K48	33.48
Type 304 Stainless Steel Mufflers					
1/8	48	1 3/8"	7/16"	9865K41	19.53
1/4	105	1 3/4"	9/16"	9865K42	22.39
3/8	219	2 3/16"	11/16"	9865K43	25.52
1/2	332	2 3/4"	7/8"	9865K44	34.21
3/4	613	3 3/16"	1 1/16"	9865K45	58.52
1	876	3 7/8"	1 5/16"	9865K46	99.66
With NPS Female Connection					
Zinc-Plated Steel Mufflers					
1/8	48	1 3/4"	9/16"	9835K51	5.50
1/4	105	2 1/4"	11/16"	9835K52	7.42
3/8	219	2 3/4"	7/8"	9835K53	8.32
1/2	332	3 1/8"	1 1/16"	9835K54	12.31
With BSPT Male Connection					
Zinc-Plated Steel Mufflers					
1/8	48	1 3/8"	7/16"	5806K51	5.09
1/4	105	1 3/4"	9/16"	5806K52	5.50
3/8	219	2 3/16"	11/16"	5806K53	7.42
1/2	332	2 3/4"	7/8"	5806K54	8.32

Mufflers & Tank Flame Arresters

For information about mufflers, see page 394. For information about pipe size, see pages 2-3.

High-Flow Mufflers



With Male Connection

Install a muffler that reduces noise without restricting air flow. Commonly used with high-flow air-powered equipment, such as diaphragm pumps and valves. Mufflers reduce noise by 17-22 dB and trap particles down to 5 microns. Use with air and inert gas. Housing is aluminum and stainless steel; filter is cellulose fiber. Max. pressure is 125 psi. Max. temp. is 290° F.

Pipe Size	Max. scfm @ 100 psi	Ht.	Dia.	Mufflers		Replacement Filter	
With NPT Male Connection							
1/8	48	3 1/8"	1 7/8"	4440K121	$9.49	4440K67	$5.60
1/4	92	4 3/8"	1 7/8"	4440K122	10.54	4440K68	7.43
3/8	210	5 1/8"	2 5/8"	4440K123	12.31	4440K69	8.11
1/2	280	6"	3 3/16"	4440K124	13.62	4440K72	8.91
3/4	595	7 3/16"	3 7/16"	4440K125	16.24	4440K73	10.17
1	876	8 3/4"	3 15/16"	4440K126	18.92	4440K74	12.69
1 1/4	1,489	8 3/4"	3 15/16"	4440K127	20.17	4440K75	12.69
1 1/2	2,277	13 9/16"	5 1/4"	4440K128	34.31	4440K76	28.11
2	3,504	18 7/8"	5 1/4"	4440K129	43.35	4440K77	36.46
3	7,884	22 15/16"	7"	4440K131	183.60	4440K78	24.34
4	15,330	23 9/16"	8"	4440K132	202.54	4440K79	29.94
6	39,420	30 15/16"	11"	4440K133	343.49	4440K82	51.43
With NPS Female Connection							
1/4	92	4"	1 7/8"	4440K142	10.54	4440K68	7.43
3/8	210	4 9/16"	2 5/8"	4440K143	12.31	4440K69	8.11
1/2	280	5 1/2"	3 3/16"	4440K144	13.62	4440K72	8.91
3/4	595	6 11/16"	3 7/16"	4440K145	16.24	4440K73	10.17
1	876	7 15/16"	3 15/16"	4440K146	18.92	4440K74	12.69
1 1/4	1,489	8"	3 15/16"	4440K147	20.17	4440K75	12.69
1 1/2	2,277	12 1/2"	5 1/4"	4440K148	34.31	4440K76	28.11
2	3,504	17 3/4"	5 1/4"	4440K149	43.35	4440K77	36.46

Oil-Mist-Recycling Mufflers



With Female Connection

Capture oil mist for reuse. Also known as reclassifiers, mufflers have a clear reservoir with a drain plug to hold and remove oil. They reduce noise by 35 dB and trap particles down to 0.3 micron. Use with air. Housing is aluminum and steel; filter is PET (polyethylene terephthalate). Reservoir is plastic. Max. pressure is 15 psi. Max. temp. is 140° F. Mufflers must be mounted vertically.

Pipe Size	Max. scfm @ 15 psi	Ht.	Dia.	Mufflers		Replacement Filter	
With NPT Female Connection							
1/4	7	3 1/2"	2 3/16"	7412K31	$45.47	7412K21	$26.76
3/8	11	4 3/4"	2 15/16"	7412K32	41.45	7412K22	32.35
1/2	35	6 13/16"	4 1/16"	7412K33	75.36	7412K23	64.12
3/4	35	6 13/16"	4 1/16"	7412K34	75.36	7412K23	64.12
With NPT Male Connection							
1	106	8 13/16"	4 5/8"	7412K35	93.74	7412K25	55.71
1 1/2	212	10 5/8"	5 5/16"	7412K36	182.75	7412K26	110.41
2	353	12 7/8"	6 1/16"	7412K37	251.02	7412K27	112.35

Parts-Ejecting End-Exhaust Mufflers



Use air to eject items from your conveyor—mufflers exhaust through narrow holes to provide a concentrated blast. They're also good for directing exhaust away from delicate applications. Mufflers reduce noise by up to 21 dB. Filtration is not rated. Use with air and inert gas. Body is steel and filter is acetal. Max. pressure is 175 psi. Max. temp. is 300° F. Connection is NPT male.

Pipe Size	Max. scfm @ 100 psi	Lg.	Hex Size		
1/8	24	1 3/8"	7/16"	9837K41	$5.84
1/4	37	1 3/4"	9/16"	9837K42	6.53
3/8	49	2 3/16"	11/16"	9837K43	6.88
1/2	74	2 3/4"	7/8"	9837K44	8.11
3/4	82	3 3/16"	1 1/16"	9837K45	11.83
1	110	3 7/8"	1 5/16"	9837K46	14.71

Oil-Mist-Eliminating Mufflers



With Male Connection

Keep oil mist under control. In addition to a cellulose fiber filter, these mufflers have a wool felt disc to trap oil. Often used with vacuum pumps and suction devices, they reduce noise by 17-23 dB without restricting flow. Mufflers trap particles down to 5 microns. Use with air and inert gas. Housing is aluminum and stainless steel. Max. pressure is 150 psi. Max. temp. is 290° F.

Pipe Size	Max. scfm @ 100 psi	Ht.	Dia.		
With NPT Male Connection					
1/8	48	3 1/8"	1 7/8"	9850K51	$10.28
1/4	92	4 3/8"	1 7/8"	9850K52	11.07
3/8	210	5 1/8"	2 5/8"	9850K53	14.40
1/2	280	6"	3 3/16"	9850K54	15.06
3/4	595	7 3/16"	3 3/8"	9850K55	18.46
1	876	8 3/4"	3 7/8"	9850K56	20.62
1 1/4	1,489	8 3/4"	3 7/8"	9850K57	22.20
1 1/2	2,277	13 9/16"	5 1/4"	9850K58	38.04
2	3,504	18 7/8"	5 1/4"	9850K59	46.75
3	7,884	22 15/16"	7"	9850K61	223.57
4	15,330	23 9/16"	8"	9850K62	251.79
With NPS Female Connection					
1	876	7 15/16"	3 7/8"	9850K76	20.62
1 1/2	2,277	12 1/2"	5 1/4"	9850K78	38.04
2	3,504	17 3/4"	5 1/4"	9850K79	46.75

Easy-to-Clean Mufflers



A



B



C

Get more from your muffler—these can be cleaned for an extended service life. Mufflers reduce noise by 20-30 dB. Use with air and inert gas. Max. pressure is 150 psi. Connection is NPT male.

Style A trap particles down to 80 microns. Body and filter are polyethylene. Max. temp. is 150° F.

Styles B&C trap particles down to 75 microns. Body is glass-filled polypropylene. Max. temp. is 175° F.

To Order: For *Styles B&C*, please specify filter material: polyethylene, brass, or stainless steel.

	Pipe Size	Max. scfm @ 100 psi	Ht.	Dia.		
Polyethylene Mufflers						
A	10-32	0.7	15/16"	5/16"	4427K69	$2.36
A	1/8	13	1 3/16"	1/2"	4427K71	2.76
A	1/8	33	1 3/16"	1/2"	4427K81	2.91
A	1/4	24	1 1/2"	11/16"	4427K72	3.21
A	1/4	60	1 1/2"	11/16"	4427K82	3.42
A	3/8	51	2 5/8"	15/16"	4427K73	4.65
A	3/8	128	2 5/8"	15/16"	4427K83	4.92
A	1/2	60	2 5/8"	15/16"	4427K74	4.84
A	1/2	150	2 5/8"	15/16"	4427K84	5.11
A	3/4	78	5 13/16"	1 1/2"	4427K75	9.07
A	3/4	195	5 13/16"	1 1/2"	4427K85	9.53
A	1	88	6 5/8"	1 7/8"	4427K76	11.05
A	1	220	6 5/8"	1 7/8"	4427K86	11.40
Glass-Filled Polypropylene Mufflers						
B	1/8	75	2 3/8"	15/16"	4869K81	11.00
B	1/4	78	2 1/2"	15/16"	4869K82	11.00
B	3/8	98	3 1/2"	1 3/8"	4869K83	15.50
B	1/2	101	3 11/16"	1 3/8"	4869K84	15.50
B	3/4	115	5 5/8"	1 15/16"	4869K85	26.30
B	1	115	5 7/8"	1 15/16"	4869K86	26.30
C	1/8	83	1 3/4"	1 5/8"	4869K71	11.00
C	1/4	87	1 13/16"	1 5/8"	4869K72	11.00
C	3/8	95	2 13/16"	2"	4869K73	15.50
C	1/2	90	2 15/16"	2"	4869K74	15.50
C	3/4	120	4 1/8"	2 15/16"	4869K75	26.30
C	1	120	4 3/8"	2 15/16"	4869K76	26.30

Tank Flame Arresters



Minimize fire hazard from flammable vapors. Mount an arrester to your vent pipe to stop flames from traveling back into your tank. If the ambient temperature reaches 165° F, fusible links melt, and the cover closes to block flames from the arrester. To reuse the arrester, replace the fusible links (sold separately). Flame arrester is cast iron and aluminum. It's UL listed. Connection is 2 NPT female.

Tank Flame Arrester	1206K81	$766.67
Replacement Fusible Link	1206K85	8.00

For information about mufflers and vents, see page 394. For information about pipe size, see pages 2-3.

High-Flow Inline Mufflers



Maintain air flow while reducing exhaust noise from diaphragm pumps, valves, and other air-powered equipment. Mufflers reduce noise by 17-22 dB and trap particles down to 5 microns. Use with air and inert gas. Housing is aluminum and stainless steel; filter is cellulose fiber. Max. pressure is 125 psi. Max. temp. is 290° F. Connections are NPT male.

Pipe Size	Max. scfm @ 100 psi	Lg.	Dia.		
1/8	48	3 7/8"	1 7/8"	4395K51	$12.37
1/4	92	5 5/16"	1 7/8"	4395K52	13.03
3/8	210	6"	2 5/8"	4395K53	15.71
1/2	280	7"	3 3/16"	4395K54	17.81
3/4	595	8 1/4"	3 7/16"	4395K55	21.93
1	876	10 5/16"	3 15/16"	4395K56	26.19
1 1/4	1,489	10 3/8"	3 15/16"	4395K57	31.89
1 1/2	2,277	15 3/8"	5 1/4"	4395K58	46.68
2	3,504	20 3/4"	5 1/4"	4395K59	56.24

Heavy Duty Inline Mufflers



With Male Connections

Heavy duty steel construction provides durability for rugged environments. Mufflers have layered polyester packing to reduce noise by up to 30 dB with minimal pressure drop. They're ideal for large blowers, compressors, and vacuum pumps. Use with air and inert gas. Filtration is not rated. Max. temp. is 212° F. Max. pressure is not rated.

Pipe Size	Max. scfm @ 14.5 psi	Lg.	Dia.		
With NPT Male Connections					
1/2	25	13 7/8"	2 1/2"	5889K61	$99.88
3/4	35	14 1/2"	2 1/2"	5889K62	100.98
1	42	14 1/2"	2 1/2"	5889K63	102.07
1 1/4	55	14 1/2"	2 1/2"	5889K64	104.27
1 1/2	155	14 1/2"	2 5/8"	5889K65	118.54
2	270	18 1/2"	3 5/8"	5889K66	137.20
2 1/2	385	23 11/16"	4 5/8"	5889K67	195.30
3	575	28"	5 1/8"	5889K68	277.20
4	575	29 5/16"	10"	5889K69	357.30
With NPT Female Connections					
1	42	12"	2 1/2"	5889K71	96.59
1 1/4	55	12"	2 1/2"	5889K72	97.68
1 1/2	155	12"	2 5/8"	5889K73	119.63
2	270	15 3/4"	3 5/8"	5889K74	147.07
2 1/2	385	20 7/8"	4 5/8"	5889K75	197.10
3	575	25 7/8"	5 1/8"	5889K76	279.00
4	575	24 11/16"	10"	5889K77	360.90

Inline Mufflers for High-Frequency Noise



Designed to minimize noise from rotary and centrifugal blowers, vacuum pumps, and low-pressure vents, these mufflers reduce noise by up to 45 dB with minimal pressure drop. Use with air and inert gas. Filtration is not rated. Mufflers have a steel body and thick polywool packing. Max. pressure is 15 psi. Max. temp. is 325° F. Connections are NPT female.

Pipe Size	Max. scfm @ 14.7 psi	Lg.	Dia.		
1/2	12	8"	3 1/4"	8548T31	$150.00
3/4	25	11"	3 1/4"	8548T32	260.00
1	45	14"	3 1/4"	8548T33	99.74
1 1/4	70	16"	3 1/4"	8548T34	150.00
1 1/2	100	19 3/4"	4 1/4"	8548T35	150.00
2	180	26"	5 1/8"	8548T36	199.74
2 1/2	275	33 1/2"	6 1/8"	8548T37	290.00
3	400	36 1/2"	6 5/8"	8548T38	295.00
4	700	48 7/8"	8"	8548T39	450.00

Breather Vents



With Male Connection



With Female Connection

Protect against excess vacuum and pressure in cylinders, gear boxes, and tanks. You can also use these vents to block dirt from entering equipment; they trap particles down to 90 microns. Use with air and inert gas. Body is porous bronze with a plated steel fitting, except ***vent with UNF male connection*** has a brass fitting. Max. pressure is 150 psi. Max. temp. is 300° F.

Pipe Size	Max. scfm @ 100 psi	Ht.	Hex Size		
With UNF Male Connection					
10-32	6	3/8"	3/8"	9833K18	$1.57
With NPT Male Connection					
1/16	13	1/2"	3/8"	9833K19	1.57
1/8	2	7/16"	7/16"	9833K21	1.27
1/4	3	5/8"	9/16"	9833K22	1.57
3/8	7	3/4"	11/16"	9833K23	2.29
1/2	17	7/8"	7/8"	9833K11	2.85
3/4	20	1"	1 1/16"	9833K12	4.95
1	28	1 5/16"	1 5/16"	9833K13	9.93
1 1/4	50	1 7/16"	1 11/16"	9833K14	17.69
1 1/2	73	1 1/2"	2"	9833K15	17.62
2	1,095	1 5/8"	2 3/8"	9833K16	34.06
With NPT Female Connection					
1/8	26	5/8"	9/16"	9833K24	2.04
1/4	35	3/4"	11/16"	9833K25	2.59
3/8	87	15/16"	7/8"	9833K26	2.99
1/2	131	1"	1 1/16"	9833K27	4.79
With BSPT Male Connection					
1/8	26	7/16"	7/16"	9847K11	1.57
1/4	35	11/16"	9/16"	9847K12	2.04
3/8	87	13/16"	11/16"	9847K13	2.59
1/2	131	1"	7/8"	9847K14	2.99
3/4	219	1 1/16"	1 1/16"	9847K15	4.79

Corrosion-Resistant Breather Vents



Type 316 Stainless Steel



Polypropylene

Avoid corrosion in damp environments. These vents are often used to prevent excess pressure in cylinders, gear boxes, and tanks. They trap particles down to 100 microns. Use with air and inert gas. Connection is NPT male.

Type 316 stainless steel vents have a porous Type 316 stainless steel body with a Type 304 stainless steel fitting. Max. pressure is 150 psi. Max. temp. is 400° F.

Polypropylene vents can be cleaned with mineral spirits. Body is polypropylene and fitting is polyethylene. Max. pressure is 100 psi. Max. temp. is 150° F.

Pipe Size	Max. scfm @ 100 psi	Ht.	Hex Size/Dia.		
Type 316 Stainless Steel Vents					
1/8	26	1/2"	7/16"	4456K11	$5.16
1/4	35	11/16"	9/16"	4456K12	8.19
3/8	87	13/16"	11/16"	4456K13	10.45
1/2	131	15/16"	7/8"	4456K14	14.98
3/4	219	15/16"	1 1/16"	4456K15	38.01
1	306	1 3/16"	1 5/16"	4456K16	57.81
Polypropylene Vents					
1/8	1	7/16"	1/2"	4471K11	2.01
1/4	3	1/2"	11/16"	4471K12	2.29
3/8	9	11/16"	15/16"	4471K13	2.59
1/2	10	11/16"	15/16"	4471K14	2.76
3/4	20	1 1/8"	1 1/2"	4471K15	4.02
1	22	1 3/8"	1 7/8"	4471K16	5.17

Miniature Breather Vents



Brass



Type 316 Stainless Steel

Prevent excess pressure in enclosures and manifolds. Use with air and inert gas. Connection is male.

Brass vent has a Buna-N rubber O-ring above the threads for a tight seal. Vent traps particles down to 40 microns. Body is porous bronze with a brass fitting. Max. pressure is 125 psi. Max. temp. is 200° F.

Type 316 stainless steel vents have a slotted head for installation with a screwdriver. Vents trap particles down to 10 microns. Body is porous Type 316 stainless steel. Max. pressure is 100 psi. Max. temp. is 750° F.

Thread Size	Max. scfm @ 100 psi	Ht.	Hex Size/ Dia.		
Brass Vent					
10-32 UNF	1	7/16"	5/16"	8556T24	$7.17
Type 316 Stainless Steel Vents					
10-32 UNF	10	7/16"	3/16"	8584T31	15.00
5/16"-18 UNC	25	1 7/16"	5/16"	8584T32	18.33
3/8"-16 UNC	50	1"	3/8"	8584T33	18.33

Breather Vents

For information about vents, see page 394. For information about pipe size, see pages 2-3.

Moisture-Eliminating Breather Vents



Keep rust and corrosion from forming inside your tank—vents contain silica gel that absorbs moisture. They also trap particles down to 3 microns. Use with air and inert gas. Body is nylon and clear polycarbonate; filter is polyester. Replace vents when the silica gel reaches maximum absorption, changing from blue to pink. Max. flow is 16 scfm @ 1 psi. Max. pressure is not rated. Max. temp. is 200° F. Connection is NPT male.

Pipe Size	For Tank Size, gals.	Ht.	Dia.		
1	5 to 200	6 1/8"	4"	3297T31	$68.56
1	5 to 350	8 1/8"	4"	3297T33	79.08
1	5 to 500	10 1/8"	4"	3297T35	90.38

Weather-Resistant Breather Vents



Shield outdoor pipe and tank openings from the environment. Also known as vent caps, these have screens to allow air flow while blocking debris. Use with air. Flow, pressure, and temperature are not rated.

Style A trap particles down to 140 microns. Screen is Type 304 stainless steel 100 mesh.

Style B trap particles down to 880 microns. Screen is Type 304 stainless steel 30 mesh.

Style C have two outlets for greater flow. They trap particles down to 1,190 microns. Screen is brass 16 mesh.

Style D have a set screw to secure in place. Screen is zinc-plated steel with 1/8" perforations. Filtration is not rated.

Pipe Size	Ht.	Dia.		
With NPT Male Connection				
(A) Zinc-Plated Steel Vents				
3/8	1 1/4"	1 1/4"	36635K38	$10.79
1/2	1 7/16"	1 1/4"	36635K39	10.93
With NPT Female Connection				
(B) Zinc-Plated Cast Iron Vents				
3/4	1 3/16"	1 13/16"	36635K41	7.44
1	1 5/16"	2 1/4"	36635K42	9.60
1 1/4	1 3/8"	2 3/4"	36635K43	10.92
1 1/2	1 1/2"	3 1/8"	36635K44	13.32
2	1 11/16"	3 7/8"	36635K45	18.84
3	2 1/2"	5 1/2"	36635K46	59.88
4	2 1/2"	6 1/2"	36635K47★	69.96
(C) Cast Iron Vents				
3/4	1 1/2"	4 11/16" Lg.	4815K11	15.20
1	1 1/2"	4 11/16" Lg.	4815K12	15.20
1 1/4	1 7/8"	7 11/16" Lg.	4815K13	26.47
1 1/2	1 7/8"	7 11/16" Lg.	4815K14	27.47
2	2 3/16"	8 1/4" Lg.	4815K15	31.95
With Slip-On Connection				
(D) Zinc-Plated Steel Vents				
1	1 1/2"	2 1/2"	36635K51	3.72
1 1/4	1 1/2"	2 1/2"	36635K52	3.24
1 1/2	1 3/4"	2 3/4"	36635K53	4.68
2	2 3/4"	4"	36635K54	11.28

★ Traps particles down to 864 microns; screen is Type 304 stainless steel 20 mesh.

Breather Vents with Splash Guard



Steel



Polyamide

Vent oil containers for easier dispensing—a guard blocks splashing oil from the vent to prevent clogs. Ideal for containers that are often filled and drained. Max. flow is not rated. Connection is NPT male.

Steel vents have a max. pressure of 125 psi. Max. temp. is 400° F. Filtration is not rated.

Polyamide vents trap particles down to 40 microns. Max. pressure is not rated. Max. temp. is 210° F.

Pipe Size	Ht.	Dia.		
Steel Vents				
1/8	3/4"	7/16"	8631T11	$3.64
3/8	1"	11/16"	8631T12	4.49
1/2	1 1/8"	7/8"	8631T13	12.02
Polyamide Vents				
1/4	1 9/16"	1 11/16"	8631T21	5.21
3/8	1 3/4"	1 11/16"	8631T22	6.44
1/2	1 13/16"	1 11/16"	8631T23	6.26
3/4	1 13/16"	1 11/16"	8631T24	5.21

Submersible Breather Vents



Polycarbonate



Aluminum



Stainless Steel

Rated NEMA 6 to withstand periodic submersion in water, install these vents in enclosures to stop the build up of pressure and vacuum. They trap particles down to 3 microns. Use with air. Filter is acrylic. Max. flow is not rated. Max. pressure is 4 psi. Max. temp. is 158° F. Vents are also for use with enclosures that are rated NEMA 4, 12, and 13 for washdown environments and splashing oil and coolant. Connection is male.

Thread Size	Ht.	Dia.		
With Polycarbonate Fitting with Mounting Nut				
M16	15/16"	1 1/16"	1226T12	$9.94
With Aluminum Fitting				
10-32 UNF	1/4"	3/8"	1226T15	19.58
M8	9/16"	9/16"	1226T14	28.98
With Stainless Steel Fitting				
M3	5/16"	1/4"	1226T13	20.76

Self-Draining Breather Vents



Minimize moisture buildup in enclosures. Also known as drain plugs, these have a small outlet that allows condensation to drain. Vents also have a silicone O-ring above the threads for a tight seal. Use with air. Filter is porous bronze. Max. flow and pressure are not rated. Max. temp. is 320° F. Install at the lowest point of the enclosure. Vents meet IP66 for protection from dust and washdown environments. Connection is NPT male.

Pipe Size	Ht.	Dia.		
With Brass Fitting				
1/4	15/16"	11/16"	8602T11	$31.43
1/2	15/16"	1"	8602T12	30.00
With Type 316 Stainless Steel Fitting				
1/4	15/16"	11/16"	8602T31	55.94
1/2	15/16"	1"	8602T32	88.20

Breather Vents with Lockable Cap



Secure access to vented openings in pipe and tanks—the cap can be locked to prevent tampering; it accepts a padlock (not included) with a 3/8" shackle diameter. Use with water and air. Body and cover are aluminum; screen is brass. Max. flow and pressure are not rated. Max. temp. is 200° F. Connection is NPT male.

Pipe Size	Ht.	Dia.		
2	4 1/2"	5 5/8"	4906K11	$41.12

Flange-Mount Breather Vents with Cap



Nylon



Stainless Steel



Lockable Stainless Steel

Add a convenient filling port to your hydraulic tank while also protecting against excess pressure and vacuum. Vents also stop dirt from entering your tank; they trap particles down to 40 microns. Use with oil and air. Max. pressure is not rated. Mount on top of standard tank openings with included hardware. Flange has six 3/16" bolt holes; bolt hole circle is 2 7/8".

Lockable stainless steel vent prevents tampering; it accepts a padlock (not included) with a 3/8" shackle diameter.

Req'd Tank Opening	O'all Ht.	Max. Temp.	Max. gpm	Cap Material		
Nylon Vents						
2 1/8"	5 5/8"	220° F	20	SS	4473K14	$16.31
2 5/16"	6 1/4"	200° F	190	Steel	4473K52	31.90
2 5/16"	6 5/16"	200° F	Not Rated	Nylon	4473K42	16.19
Stainless Steel Vents						
2 1/8"	4 3/4"	220° F	20	SS	4473K21	13.36
2 1/8"	5 5/16"	250° F	192	Steel	4473K22	12.79
Lockable Stainless Steel Vent						
2 5/16"	5 1/16"	200° F	Not Rated	Steel	4473K41	33.28

Air-Intake Filters

Stop dust and other contaminants from entering your process and equipment. These air-intake filters come with a polyester element that removes 99% of particles down to 5 microns. They're commonly used on blowers, compressors, engines, and in hydraulic systems. Use with air and inert gas. Filters have a steel housing. Max. temp. is 220° F.

Filters with silencer reduce intake noise by up to 15 dB while maximizing air flow.

Replacement elements are sold separately. *Polyester elements* remove 99% of particles down to 5 microns. *Paper elements* remove 99% of particles down to 2 microns. *HEPA elements* have greater efficiency for high-purity applications. They remove 99.9% of particles down to 0.3 micron but reduce the max. scfm of your filter.



With NPT Male Connection



With Flange Connection

Pipe Size	Max. scfm	Ht.	Dia.	FILTERS Without Silencer		With Silencer		REPLACEMENT ELEMENT Ht.	ID	OD	Polyester		Paper		HEPA	
With NPT Male Connection																
1/2	10	4″	6″	4399K41	$28.23	9828K61	$27.11	2 5/16″	3″	4 3/8″	4399K51	$10.69	4399K11	$5.63	9179K11	$31.83
3/4	25	4″	6″	4399K42	28.12	9828K62	28.55	2 5/16″	3″	4 3/8″	4399K51	10.69	4399K11	5.63	9179K11	31.83
1	35	4″	6″	4399K22	29.46	9828K63	29.68	2 5/16″	3″	4 3/8″	4399K51	10.69	4399K11	5.63	9179K11	31.83
1	55	7″	6″	4399K43	42.38	—	—	4 3/4″	3″	4 3/8″	4399K52	17.02	4399K12	10.46	9179K12	48.51
1 1/4	70	7″	6″	4399K44	43.61	9828K44	49.82	4 3/4″	3″	4 3/8″	4399K52	17.02	4399K12	10.46	9179K12	48.51
1 1/2	85	7″	6″	4399K45	45.00	9828K45	50.89	4 3/4″	3″	4 3/8″	4399K52	17.02	4399K12	10.46	9179K12	48.51
2	135	8″	8″	4399K46	70.71	9828K46★	101.79	4 3/4″	3 5/8″	5 3/4″	4399K53	24.55	4399K13	18.00	9179K13	83.41
2	135	13″	10″	4399K31	148.93	9828K55	178.93	9 1/2″	3 5/8″	5 3/4″	4399K54	47.84	4399K14	29.80	9179K21	138.29
2 1/2	195	8″	8″	4399K47	77.14	9828K47★	108.21	4 3/4″	3 5/8″	5 3/4″	4399K53	24.55	4399K13	18.00	9179K13	83.41
2 1/2	195	13″	10″	4399K32	155.36	9828K56	178.93	9 1/2″	3 5/8″	5 3/4″	4399K54	47.84	4399K14	29.80	9179K21	138.29
3	300	13″	10″	4399K48	160.71	9828K48	184.29	9 1/2″	3 5/8″	5 3/4″	4399K54	47.84	4399K14	29.80	9179K21	138.29
3	300	13″	10″	4399K33▲	203.05	9828K49■	357.00	9 5/8″	4 3/4″	7 7/8″	4399K55	71.35	4399K15	48.38	9179K22	274.39
4	520	14″	10″	4399K49	214.29	9828K51■	368.00	9 5/8″	4 3/4″	7 7/8″	4399K55	71.35	4399K15	48.38	9179K22	274.39
4	520	14″	16″	4399K34	345.00	9828K57	383.00	9 5/8″	6″	9 3/4″	4399K56	126.78	4399K16	57.38	9179K23	305.80
5	800	14″	16″	4399K61	338.52	9828K29	438.00	9 5/8″	6″	9 3/4″	4399K56	126.78	4399K16	57.38	9179K23	305.80
6	1,100	15″	16″	4399K62	391.70	9828K31	438.63	9 5/8″	8″	11 3/4″	4399K39	146.25	4399K17	84.38	9179K24	442.84
With Class 125/150 Flange Connection																
4	520	14″	10″	4399K84	260.80	9828K85■	390.00	9 5/8″	4 3/4″	7 7/8″	4399K55	71.35	4399K15	48.38	9179K22	274.39
6	1,100	15″	16″	4399K86	460.23	9828K87	484.20	9 5/8″	8″	11 3/4″	4399K39	146.25	4399K17	84.38	9179K24	442.84
8	1,800	23″	23″	—	—	9828K88	1,179.00	14 1/2″	9″	14 5/8″	4399K97	314.49	4399K18	196.87	9179K25	921.60
10	3,300	23″	29″	—	—	9828K89	1,407.22	14 1/2″	14″	19 5/8″	4399K98	423.15	4399K19	264.38	9179K26	1,237.50

★ Diameter is 10″. ▲ Has a larger element than other pipe size 3 filter for greater dirt-holding capacity. ■ Diameter is 16″.

Compact Air-Intake Filters

Clean the air going into small blowers and air-powered equipment in tight spaces. Use with air and inert gas. Max. temp. is 220° F. Connection is NPT male.

Filters without silencer remove 99% of particles down to 5 microns. Element is polyester. Filters do not have a housing.

Filters with silencer reduce intake noise by up to 15 dB. They remove 99% of particles down to 2 microns. Housing is steel; element is paper.



Without Silencer



With Silencer

Pipe Size	Max. scfm	Filters Ht.	Dia.			Replacement Element Ht.	ID	OD		
Without Silencer										
1/4	7	3″	1 3/4″	4401K11	$19.76	—	—	—	—	—
3/8	7	3″	1 3/4″	4401K12	20.25	—	—	—	—	—
1/2	10	4″	4 1/2″	4401K13	27.51	2 5/16″	3″	4 3/8″	4399K51	$10.69
1	35	4″	4 1/2″	4401K15	29.93	2 5/16″	3″	4 3/8″	4399K51	10.69
1 1/4	70	6 5/8″	4 1/2″	4401K6	39.94	4 3/4″	3″	4 3/8″	4399K52	17.02
1 1/2	85	6 5/8″	4 1/2″	4401K17	41.12	4 3/4″	3″	4 3/8″	4399K52	17.02
2	135	7 1/4″	6″	4401K18	55.12	4 3/4″	3 5/8″	5 3/4″	4399K53	24.55
3	300	13″	6″	4401K21	120.38	9 1/2″	3 5/8″	5 3/4″	4399K54	47.84
With Silencer										
1/4	4	2 1/8″	2 1/2″	98305K73	14.76	1″	—	2 1/4″	98305K85	4.94
3/8	8	2 1/8″	2 1/2″	98305K74	14.76	1″	—	2 1/4″	98305K85	4.94
3/8	8	2 15/16″	3 1/4″	98305K76	17.12	1 3/8″	—	3″	98305K86	5.05
1/2	8	2 1/8″	2 1/2″	98305K75	15.37	1″	—	2 1/4″	98305K85	4.94
1/2	12	2 15/16″	3 1/4″	98305K77	17.12	1 3/8″	—	3″	98305K86	5.05
1/2	12	3 1/4″	4 1/8″	98305K78	25.96	1 3/8″	—	4″	98305K87	6.92
3/4	12	2 15/16″	3 1/4″	98305K82	20.09	1 3/8″	—	3″	98305K86	5.05
3/4	25	3 1/4″	4 1/8″	98305K79	27.16	1 3/8″	—	4″	98305K87	6.92
1	35	3 1/4″	4 1/8″	98305K81	28.32	1 3/8″	—	4″	98305K87	6.92

Inline Compact Air-Intake Filters

Install these small filters directly in your pipeline to keep dust and debris out of your system. They come with a paper element that removes 99% of particles down to 2 microns. Use with air and inert gas. Filters have a steel housing. Max. temp. is 220° F. Connections are NPT Male.



Pipe Size	Max. scfm	Filters Ht.	Dia.			Replacement Element Ht.	OD		
1/4	4	3 3/8″	2 1/2″	1264N1	$53.78	1″	2 1/4″	1264N11	$4.94
3/8	6	3 3/8″	2 1/2″	1264N3	56.10	1″	2 1/4″	1264N11	4.94
3/8	8	4 3/16″	3 1/4″	1264N4	62.20	1 3/8″	3″	1264N12	5.05
1/2	6	3 7/8″	2 1/2″	1264N2	58.54	1″	2 1/4″	1264N11	4.94
1/2	10	4 5/16″	3 1/4″	1264N5	63.54	1 3/8″	3″	1264N12	5.05
1/2	12	5″	4 1/8″	1264N6	80.00	1 3/8″	4″	1264N13	6.91
3/4	12	5 7/16″	3 1/4″	1264N7	66.95	1 3/8″	3″	1264N12	5.05
3/4	20	5 3/4″	4 1/8″	1264N8	86.10	1 3/8″	4″	1264N13	6.91
1	25	5 3/4″	4 1/8″	1264N9	93.66	1 3/8″	4″	1264N13	6.91

Air-Intake Filters & Vacuum Filters

For information about filters, see page 394. For information about pipe size, see pages 2-3.

Corrosion-Resistant Air-Intake Filters



The polypropylene housing withstands damp environments and is impact resistant. Filters come with a polyester element that removes 99% of particles down to 10 microns. Use with air and inert gas. Max. temp. is 200° F. Connection is NPT male.

Filters with silencer reduce noise by up to 10 dB.

Replacement elements are sold separately. They remove 99% of particles down to 10 microns. *Polyester elements* have 50% more dust-holding capacity than paper.

Pipe Size	Max. scfm @ 100 psi	FILTERS Ht.	Dia.	Without Silencer		With Silencer		REPLACEMENT ELEMENT Ht.	ID	OD	Polyester		Paper	
1/4	10	3 3/4"	3 1/4"	4369K31	$15.65			2 1/4"	1 1/8"	2 1/4"	4369K37	$3.18	4369K38	$2.53
3/8	10	3 3/4"	3 1/4"	4369K33	14.96			2 1/4"	1 1/8"	2 1/4"	4369K37	3.18	4369K38	2.53
1/2	10	3 3/4"	3 1/4"	4369K35	15.90			2 1/4"	1 1/8"	2 1/4"	4369K37	3.18	4369K38	2.53
1/2	30	5"	6 3/4"	9228K11	19.05	4424K71	$19.06	2 5/16"	3"	4 3/8"	9228K21	7.31	9228K31	4.33
3/4	30	5"	6 3/4"	9228K12	20.06	4424K72	18.82	2 5/16"	3"	4 3/8"	9228K21	7.31	9228K31	4.33
1	30	5"	6 3/4"	9228K13	19.47	4424K73	20.28	2 5/16"	3"	4 3/8"	9228K21	7.31	9228K31	4.33
1	60	7"	6 3/4"	9228K14	24.28			4 3/4"	3"	4 3/8"	9228K22	9.11	9228K32	6.76
1 1/4	60	7"	6 3/4"	9228K15	25.16	4424K74	31.15	4 3/4"	3"	4 3/8"	9228K22	9.11	9228K32	6.76
1 1/2	60	7"	6 3/4"	9228K16	27.54	4424K75	32.45	4 3/4"	3"	4 3/8"	9228K22	9.11	9228K32	6.76
2	100	7 1/2"	10"			4424K76	57.64	4 3/4"	3 5/8"	5 3/4"	9228K23	18.56	9228K33	11.49
2 1/2	100	7 1/2"	10"			4424K77	62.17	4 3/4"	3 5/8"	5 3/4"	9228K23	18.56	9228K33	11.49
3	100	7 1/2"	10"			4424K78	63.95	4 3/4"	3 5/8"	5 3/4"	9228K23	18.56	9228K33	11.49

Vacuum Filters



Female Connections

Ensure clean air going in and coming out of vacuum pumps. Housing is steel. Max. temp. is 220° F. Connections are NPT.

For Air Intake—Install these on the inlet to stop dust from entering your system. They come with a polyester element that removes 99% of particles down to 5 microns. Use with air and inert gas. Max. vacuum is 29.9" Hg. Inlet is on the side and outlet is on the bottom.

Replacement elements for air intake are sold separately. *Polyester elements* remove 99% of particles down to 5 microns. *Paper elements* remove 99% of particles down to 2 microns. *HEPA elements* have greater efficiency for high-purity applications. They remove 99.9% of particles down to 0.3 micron but reduce the max. scfm of your filter.

For Air Exhaust—Install these on the outlet to prevent oil mist from escaping into your environment. They come with a fiberglass element that removes particles down to 0.3 micron. Use with air. Inlet is on the bottom and outlet is on the side. *Filters with 1 and 1 1/2 pipe size* have a max. pressure of 3 psi; *2 pipe size* has a max. pressure of 14.7 psi.

Replacement elements for air exhaust are sold separately. They are fiberglass and remove particles down to 0.3 micron.

Pipe Size	FILTERS Max. scfm	Ht.	Dia.			REPLACEMENT ELEMENT Ht.	ID	OD	Polyester		Paper		HEPA	
For Air Intake—Female Connections														
3/8	18	3 5/8"	3 3/4"	5169K71	$75.44	2 11/16"	1 1/2"	2 1/2"	5169K31	$11.58	4399K71	$9.17	9179K14	$42.53
1/2	18	3 5/8"	3 3/4"	5169K72	77.99	2 11/16"	1 1/2"	2 1/2"	5169K31	11.58	4399K71	9.17	9179K14	42.53
1/2	20	4 3/8"	5 7/8"	5169K82	88.04	2 3/4"	2 3/8"	3 7/8"	5169K91	12.46	4399K72	8.04	9179K15	41.05
3/4	24	3 3/4"	3 3/4"	5169K73	81.13	2 11/16"	1 1/2"	2 1/2"	5169K31	11.58	4399K71	9.17	9179K14	42.53
3/4	25	4 3/8"	5 7/8"	5169K83	88.04	2 3/4"	2 3/8"	3 7/8"	5169K91	12.46	4399K72	8.04	9179K15	41.05
1	40	6 3/4"	7 5/16"	5169K84	120.59	4 3/4"	2 9/16"	5"	5169K92	23.62	4399K73	16.54	9179K16	86.93
1 1/4	60	6 3/4"	7 5/16"	5169K85	120.59	4 3/4"	2 9/16"	5"	5169K92	23.62	4399K73	16.54	9179K16	86.93
1 1/2	80	6 3/4"	7 5/16"	5169K86	122.55	4 3/4"	2 9/16"	5"	5169K92	23.62	4399K73	16.54	9179K16	86.93
2	175	10 1/4"	8 3/4"	5169K87	309.80	8 3/4"	3 1/2"	5 7/8"	5169K93	42.85	4399K74	29.81	9179K17	162.44
2 1/2	210	10 1/2"	8 3/4"	5169K88	320.59	8 3/4"	3 1/2"	5 7/8"	5169K93	42.85	4399K74	29.81	9179K17	162.44
3	300	15 3/4"	13 1/4"	5169K74	688.24	10"	4 7/8"	9 1/4"	5169K32	150.37	4399K75	84.38	9179K73	430.96
For Air Intake—Male Connections														
3	300	27 1/8"	14"	5169K89	811.36	9 5/8"	4 3/4"	7 7/8"	4399K55	71.35	4399K15	48.38	9179K22	274.39
4	520	27 1/8"	14"	5169K99	852.46	9 5/8"	4 3/4"	7 7/8"	4399K55	71.35	4399K15	48.38	9179K22	274.39
For Air Exhaust—Female Connections														
1	40	6 3/4"	7 5/16"	51685K81	230.39	4 3/4"	2 9/16"	5"	51685K71■	71.05				
1 1/2	50	6 3/4"	7 5/16"	51685K83	235.29	4 3/4"	2 9/16"	5"	51685K71■	71.05				
2	125	11 1/4"	8 3/4"	51685K84	463.73	8 7/16"	3 1/2"	5 7/8"	51685K72■	118.42				

■ Element is fiberglass.

High-Flow Vacuum Filters



Accommodate the flow capacity of large pipe for air and inert gas. Filters remove particles down to 5 microns. Housing is aluminum and steel; element is polyester. Max. vacuum is 29.9" Hg. Max. temp. is 220° F. Connections are NPT female. 9825K11 is 13" Ht. x 9" Dia.; 9825K14 is 18 7/8" Ht. x 13 1/2" Dia.

Pipe Size	Max. scfm @ 14.7 psi	Filters		Replacement Element	
2	175	9825K11	$459.82	5169K93	$42.85
4	520	9825K14	815.48	4399K55	71.35

Extended-Life Vacuum Filters



Spend less time on maintenance. These filters combine the long service life of a durable steel housing with high dirt-holding capacity. They remove particles down to 10 microns. Use with air and inert gas. Element is polyester. Max. vacuum is 29.9" Hg. Max. temp. is 200° F. Filters are 12 3/4" Ht. x 3 5/8" Dia. Connections are NPT female.

Pipe Size	Max. scfm @ 14.7 psi	Filters		Replacement Element	
1/2	15	4392K51	$310.92	4392K41	$65.38
3/4	26	4392K52	316.24	4392K41	65.38
1	40	4392K53	321.74	4392K41	65.38

Easy-View Vacuum Filters



Monitor the amount of debris in your filter—housing is a clear styrene blend. Filters remove particles down to 50 microns. Use with air, inert gas, and water. Element is Type 304 stainless steel. Max. vacuum is 29.9" Hg. Max. temp. is 125° F. Connections are NPT female. 6201K7 is 9 1/4" Ht. x 5 1/2" Dia.; 6201K8 is 14 1/8" Ht. x 5 1/2" Dia.

Pipe Size	Max. scfm @ 14.7 psi	Filters		Replacement Element	
3/4	4	6201K7	$152.80	6201K5	$45.98
3/4	15	6201K8	175.33	6201K6	53.86

Miniature Vacuum Filters



Use one of these filters in a tight spot or combine up to ten for a manifold application. They remove particles down to 30 microns. Use with air and nitrogen. Housing is aluminum; element is polyester. Max. vacuum is 29.8" Hg. Max. temp. is 140° F. Connections are NPT female. 6689K36 is 2 3/4" Lg. x 11/16" Wd.; 6689K37 is 2 3/4" Lg. x 1 1/8" Wd.

Pipe Size	Max. scfm @ 14.7 psi	Filters		Replacement Element	
1/8	1.8	6689K36	$31.75	6689K39	$10.07
1/4	7.1	6689K37	38.12	6689K41	10.90

For information about pipe size, see pages 2-3.

About Strainers and Selecting Screen Size

Install strainers before valves, pumps, and instrumentation to prevent damage from debris in your pipeline. They have a screen that is sized to trap the particles you wish to remove. Unthread the plug to clear debris without detaching pipe connections.

Selecting Screen Size

For Small or Medium Particles—Strainers have screens made of wire cloth. Screen size is determined by mesh size, which is the number of openings in a linear inch of the screen. For more information about wire cloth and mesh size, see page 433. ***20 mesh*** traps medium particles. It is the most commonly used screen size and is considered the industry standard.

For Large Particles—Strainers have screens made of perforated metal. Screen size is determined by perforation size, which is the actual diameter of the holes in the screen. Perforated screens are more rigid and durable than mesh screens for a longer service life in harsh environments. They are also good for maintaining flow when straining thick liquids.

Common Particle Sizes and Corresponding Screen Sizes

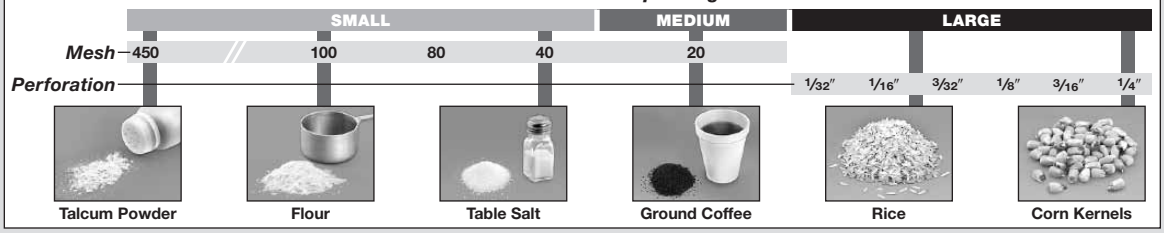

Bronze Y-Strainers



- Max. Pressure: Water, Oil, Inert Gas, and Diesel Fuel: 200 psi @ 70° F
  Steam: 125 psi @ 400° F
- Temp. Range: –20° to 400° F

Safeguard against damage to valves, pumps, nozzles, and steam traps from debris in your pipeline. Body is bronze and screen is Type 304 stainless steel. Connections are NPT female.

To Order: For *small and large particles*, please specify screen size: mesh or perforations.

Pipe Size	Lg.	Ht.	Plug Pipe Size	Strainer		Replacement Screen	
For Medium Particles—*Screen is 20 mesh.*							
1/4	3 3/16″	2 15/16″	3/8	43935K61	$23.45	43935K881	$9.76
3/8	3 3/16″	2 15/16″	3/8	43935K22	22.80	43935K822	9.64
1/2	3 3/16″	2 15/16″	3/8	43935K23	23.28	43935K832	9.77
3/4	3 15/16″	3 3/8″	3/8	43935K24	31.83	43935K842	10.00
1	4 1/2″	3 15/16″	1/2	43935K25	44.46	43935K852	12.76
1 1/4	5 5/16″	4 7/16″	1/2	43935K26	81.43	43935K862	15.76
1 1/2	6 3/16″	5 1/16″	1/2	43935K27	107.17	43935K872	21.51
2	7 7/16″	6 1/8″	1/2	43935K28	190.02	43935K882	35.00
2 1/2	9″	7 1/2″	1/2	43935K39	333.38	43935K884	130.85
For Small Particles—*Specify 40, 60, 80, 100, 150, or 200 mesh.*							
1/4	3 3/16″	2 15/16″	3/8	43935K91	41.58	43935K92	17.64
3/8	3 3/16″	2 15/16″	3/8	43935K52	39.98	43935K72	17.64
1/2	3 3/16″	2 15/16″	3/8	43935K53	39.98	43935K73	28.14
3/4	3 15/16″	3 3/8″	3/8	43935K54	47.06	43935K74	29.82
1	4 1/2″	3 15/16″	1/2	43935K55	57.75	43935K75	32.14
1 1/4	5 5/16″	4 7/16″	1/2	43935K56	80.77	43935K76	41.16
1 1/2	6 3/16″	5 1/16″	1/2	43935K57	117.52	43935K77	53.56
2	7 7/16″	6 1/8″	1/2	43935K58	171.04	43935K78	84.00
2 1/2	9″	7 1/2″	1/2	43935K59	333.38	43935K79	170.10
For Large Particles—*Specify 1/16″ or 1/8″ perforations.*							
1/2	3 3/16″	2 15/16″	3/8	43935K133	57.54	43935K163	16.38
3/4	3 15/16″	3 3/8″	3/8	43935K134	71.20	43935K164	17.44
1	4 1/2″	3 15/16″	1/2	43935K135	86.74	43935K165	22.90
1 1/4	5 5/16″	4 7/16″	1/2	43935K136	120.76	43935K166	27.72
1 1/2	6 3/16″	5 1/16″	1/2	43935K137	160.66	43935K167	35.70
2	7 7/16″	6 1/8″	1/2	43935K138	262.92	43935K168	51.66
2 1/2	9″	7 1/2″	1/2	43935K139	446.88	43935K169	86.32

Bronze Y-Strainers with Magnetic Plug



- Max. Pressure: Water, Oil, Inert Gas, Acetone, and Diesel Fuel: 400 psi @ 70° F
  Steam: 235 psi @ 400° F
- Temp. Range: –20° to 400° F

Catch small ferrous particles—strainers have a magnet in the plug and a 40 mesh screen. Body is bronze and screen is Type 304 stainless steel. Connections are NPT female.

Pipe Size	Lg.	Ht.	Plug Pipe Size	Strainer		Replacement Screen	
1	4 1/8″	4 1/16″	1/4	4495K43	$231.70	4385K25	$38.76
2	6 5/8″	7 1/16″	3/4	4495K46	453.25	4385K83	106.00

Cast Iron Y-Strainers



- Max. Pressure: Water, Oil, Inert Gas, Acetone, and Diesel Fuel: 400 psi @ 70° F
  Steam: 250 psi @ 406° F
- Temp. Range: –20° to 406° F

A rugged cast iron body provides strength and durability while protecting valves, pumps, and steam traps from debris. Screen is Type 304 stainless steel. Connections are NPT female.

To Order: For *small and large particles*, please specify screen size: mesh or perforations.

Pipe Size	Lg.	Ht.	Plug Pipe Size	Strainer		Replacement Screen	
For Medium Particles—*Screen is 20 mesh.*							
1/4	3″	3 1/2″	3/8	4417K17	$14.34	4417K31	$9.04
3/8	3″	3 1/2″	3/8	4417K19	14.34	4417K32	9.04
1/2	3″	3 1/2″	3/8	4417K21	14.34	4417K33	9.04
3/4	4″	4 1/2″	1/2	4417K22	18.71	4417K34	9.88
1	4 7/8″	5 3/16″	3/4	4417K23	24.85	4417K35	10.72
1 1/4	5 1/8″	5 15/16″	3/4	4417K24	31.24	4417K36	13.02
1 1/2	5 3/4″	6 3/16″	1	4417K25	39.71	4417K37	18.28
2	7 1/4″	7 13/16″	1 1/4	4417K26	67.10	4417K58	25.20
2 1/2	8 7/8″	9 7/8″	1 1/4	4417K11	149.10	4417K42	100.80
3	10″	10 15/16″	1 1/2	4417K12	203.70	4417K43	121.80
For Small Particles—*Specify 40, 60, 80, 100, 150, or 200 mesh.*							
1/4	3″	3 1/2″	3/8	4417K61	24.70	4417K72	15.96
3/8	3″	3 1/2″	3/8	4417K62	24.70	4417K73	15.96
1/2	3″	3 1/2″	3/8	4417K63	24.90	4417K74	15.96
3/4	4″	4 1/2″	1/2	4417K64	28.57	4417K75	18.28
1	4 7/8″	5 3/16″	3/4	4417K65	37.18	4417K76	23.52
1 1/4	5 1/8″	5 15/16″	3/4	4417K66	48.79	4417K77	26.68
1 1/2	5 3/4″	6 3/16″	1	4417K67	56.74	4417K78	34.44
2	7 1/4″	7 13/16″	1 1/4	4417K68	94.79	4417K79	49.98
2 1/2	8 7/8″	9 7/8″	1 1/4	4417K69	101.66	4417K81	81.90
3	10″	10 15/16″	1 1/2	4417K71	134.35	4417K82	100.80
For Large Particles—*Specify 1/32″, 1/16″, or 1/8″ perforations.*							
1/2	3″	3 1/2″	3/8	4417K83	24.59	4417K74	15.96
3/4	4″	4 1/2″	1/2	4417K84	28.68	4417K75	18.28
1	4 7/8″	5 3/16″	3/4	4417K85	37.39	4417K76	23.52
1 1/4	5 1/8″	5 15/16″	3/4	4417K86	48.93	4417K77	26.68
1 1/2	5 3/4″	6 3/16″	1	4417K87	56.85	4417K78	34.44
2	7 1/4″	7 13/16″	1 1/4	4417K88	94.76	4417K79	49.98
2 1/2	8 7/8″	9 7/8″	1 1/4	4417K89	125.49	4417K81	81.90

Brass Y-Strainers for Drinking Water



- Max. Pressure: 400 psi @ 70° F
- Temp. Range: 33° to 353° F

Trap and remove debris from pipelines. Strainers are for use with drinking (potable) water. Screen size is 20 mesh. Body is brass and screen is Type 304 stainless steel. Connections are NPT female.

Pipe Size	Lg.	Ht.	Plug Pipe Size	Strainer		Replacement Screen	
1/2	2 3/4″	1 7/8″	1/4	1090N11	$39.71	1090N21	$9.16
3/4	3 3/16″	2 5/16″	1/4	1090N12	57.60	1090N22	16.07
1	3 3/4″	3″	1/2	1090N13	71.77	1090N23	18.74

High-Pressure Y-Strainers



Protect equipment in high-pressure applications from damage caused by debris. Screen is Type 304 stainless steel. Connections are NPT female.

To Order: Please specify screen size: mesh or perforations.

Pipe Size	Max. psi: Water, Oil, and Inert Gas	Max. psi: Steam	Temp. Range	Lg.	Ht.	Plug Pipe Size	Strainer		Replacement Screen	
For Small or Medium Particles										
Bronze Strainers—Specify 20, 40, 60, 80, or 100 mesh.										
1/4	400 @ 150° F	235 @ 400° F	–20° to 400° F	2 9/16"	2 13/16"	1/8	4385K26	$61.95	4385K41	$20.77
3/8	400 @ 150° F	235 @ 400° F	–20° to 400° F	2 9/16"	2 13/16"	1/8	4385K27	61.95	4385K42	21.26
1/2	400 @ 150° F	235 @ 400° F	–20° to 400° F	2 15/16"	2 13/16"	1/8	4385K28	69.05	4385K43	33.50
3/4	400 @ 150° F	235 @ 400° F	–20° to 400° F	3 3/8"	3 3/16"	1/4	4385K29	79.03	4385K44	33.50
1	400 @ 150° F	235 @ 400° F	–20° to 400° F	4 1/8"	4 1/16"	1/4	4385K36	115.50	4385K45	38.76
1 1/4	400 @ 150° F	235 @ 400° F	–20° to 400° F	4 13/16"	4 11/16"	3/8	4385K37	128.52	4385K46	54.00
1 1/2	400 @ 150° F	235 @ 400° F	–20° to 400° F	5 3/8"	5 5/8"	1/2	4385K38	175.78	4385K47	71.50
2	400 @ 150° F	235 @ 400° F	–20° to 400° F	6 5/8"	7 1/8"	3/4	4385K39	296.10	4385K48	106.00
2 1/2	400 @ 150° F	235 @ 400° F	–20° to 400° F	8 1/4"	8 13/16"	1 1/4	4385K52	531.17	4385K49	150.91
3	400 @ 150° F	235 @ 400° F	–20° to 400° F	9 5/8"	10"	1 1/2	4385K53	679.53	4385K51	212.16
Extreme-Pressure Steel Strainers—Specify 20, 40, or 100 mesh.										
3/4	3,000 @ 100° F	Not Rated	–20° to 450° F	5 1/8"	5 1/8"	1/4	43605K25	233.07	43605K81	79.06
1	3,000 @ 100° F	Not Rated	–20° to 450° F	5 1/8"	5 1/4"	1/4	43605K31	565.72	43605K81	79.06
For Large Particles										
Steel Strainers—Specify 1/32", 3/64", or 3/32" perforations.										
1/2	740 @ 100° F	300 @ 400° F	–20° to 400° F	2 9/16"	2 3/4"	3/8	4391K31	36.04	4391K61	11.60
3/4	740 @ 100° F	300 @ 400° F	–20° to 400° F	3 3/16"	3 1/2"	3/8	4391K33	42.64	4391K63	14.17
1	740 @ 100° F	300 @ 400° F	–20° to 400° F	3 9/16"	4 3/4"	1/2	4391K34	58.51	4391K64	22.80
1 1/4	740 @ 100° F	300 @ 400° F	–20° to 400° F	4 1/8"	5"	1/2	4391K35	80.00	4391K65	34.29
1 1/2	740 @ 100° F	300 @ 400° F	–20° to 400° F	4 3/4"	5 1/4"	1/2	4391K36	92.96	4391K66	38.49
2	740 @ 100° F	300 @ 400° F	–20° to 400° F	5 1/2"	6 1/2"	1/2	4391K37	156.60	4391K67	51.37
3	740 @ 100° F	300 @ 400° F	–20° to 400° F	8 1/16"	9 1/2"	1/2	4391K39	425.13	4391K69	89.88
High-Temperature Steel Strainers—Specify 1/32", 3/64", or 3/32" perforations.										
1/2	1,480 @ 100° F	600 @ 838° F	–20° to 838° F	2 15/16"	3 3/16"	1/4	4412K22	94.50	4412K11	16.18
3/4	1,480 @ 100° F	600 @ 838° F	–20° to 838° F	3 11/16"	3 3/4"	3/8	4412K23	105.00	4412K12	21.49
1	1,480 @ 100° F	600 @ 838° F	–20° to 838° F	4 9/16"	5 1/4"	3/8	4412K24	136.50	4412K13	27.45
1 1/2	1,480 @ 100° F	600 @ 838° F	–20° to 838° F	5 9/16"	5 15/16"	3/4	4412K26	194.85	4412K15	42.73
2	1,480 @ 100° F	600 @ 838° F	–20° to 838° F	6 15/16"	7 15/16"	1	4412K27	272.78	4412K16	62.28
Extended-Life Ductile Iron Strainers—Specify 1/32", 3/64", or 3/32" perforations.										
1/2	640 @ 100° F	450 @ 650° F	–20° to 650° F	3"	3 1/2"	3/8	2768K1	63.52	2768K31	18.83
3/4	640 @ 100° F	450 @ 650° F	–20° to 650° F	4"	4 1/2"	1/2	2768K2	86.62	2768K32	20.76
1	640 @ 100° F	450 @ 650° F	–20° to 650° F	4 7/8"	5 3/16"	3/4	2768K3	89.78	2768K33	26.80
1 1/2	640 @ 100° F	450 @ 650° F	–20° to 650° F	5 3/4"	6 3/16"	1	2768K5	118.00	2768K35	36.06
2	640 @ 100° F	450 @ 650° F	–20° to 650° F	7 1/4"	7 13/16"	1 1/4	2768K6	177.75	2768K36	59.63

High-Pressure Stainless Steel Y-Strainers



- Max. Pressure:
  High Pressure: Water, Oil, Inert Gas, Natural Gas, and Diesel Fuel: 1,400 psi @ 70° F
  Steam: 600 psi @ 1125° F
  Extreme Pressure:
  Water, Oil, and Diesel Fuel: 3,000 psi @ 70° F
  Steam: Not Rated
- Temp. Range:
  High Pressure: 33° to 1125° F
  Extreme Pressure: –20° to 450° F

Get exceptional corrosion resistance in a strainer built to withstand high pressure. Body is Type 316 stainless steel and screen is Type 304 stainless steel. Connections are NPT female.

To Order: Please specify screen size: mesh or perforations.

Pipe Size	Lg.	Ht.	Plug Pipe Size	Strainer		Replacement Screen	
For Small or Medium Particles—*Specify 20, 40, or 100 mesh.*							
High-Pressure Strainers							
1/4	2 1/2"	2 9/16"	3/8	4745K51	$130.59	4745K71	$20.21
3/8	3 7/8"	3 5/8"	1/2	4745K52	158.85	4745K72	19.17
1/2	3 7/8"	3 5/8"	1/2	4745K53	162.74	4745K73	23.56
3/4	4"	4"	1/2	4745K54	194.92	4745K74	29.85
1	5"	5 1/4"	3/4	4745K55	263.38	4745K75	29.63
1 1/2	5 5/8"	6 1/2"	1	4745K57	438.58	4745K77	43.98
2	8"	7 7/8"	1	4745K58	614.33	4745K78	64.80
Extreme-Pressure Strainers							
3/4	5 1/8"	5 1/8"	1/4	43605K55	588.45	43605K81	79.06
1	5 1/8"	5 1/4"	1/4	43605K61	589.30	43605K81	79.06
For Large Particles—*Specify 1/32", 1/16", or 1/8" perforations.*							
High-Pressure Strainers							
1/4	2 1/2"	2 9/16"	3/8	4745K901	129.12	4745K201	14.34
3/8	3 7/8"	3 5/8"	1/2	4745K911	156.22	4745K211	13.79
1/2	3 7/8"	3 5/8"	1/2	4745K921	160.05	4745K221	15.83
3/4	4"	4"	1/2	4745K931	192.33	4745K231	15.83
1	5"	5 1/4"	3/4	4745K941	261.47	4745K241	19.17
1 1/2	5 5/8"	6 1/2"	1	4745K961	420.18	4745K261	25.97
2	8"	7 7/8"	1	4745K971	588.21	4745K271	33.22

Bronze Y-Strainers with Solder-End Connections



- Max. Pressure:
  Water, Oil, Inert Gas, Acetone, and Diesel Fuel: 400 psi @ 70° F
  Steam: 235 psi @ 400° F
- Temp. Range: –20° to 400° F

Block debris in applications that use copper tubing—connections are solder end (unthreaded) female. Body is bronze and screen is Type 304 stainless steel.

To Order: Please specify screen size: 20 or 40 mesh.

Tube Size★	Actual Tube OD	Lg.	Ht.	Plug Pipe Size	Strainer		Replacement Screen	
3/4"	7/8"	3"	2 7/8"	1/8	44125K44	$90.05	44125K74	$30.58
1"	1 1/8"	3 3/8"	3 1/4"	1/4	44125K45	127.05	44125K75	35.47
1 1/2"	1 5/8"	4 7/8"	4 3/4"	3/8	44125K47	197.44	44125K77	73.50

★ Tube size is the accepted designation of the copper tubing industry, not the actual OD.

Compact Bronze T-Strainers



- Max. Pressure: Water: 250 psi @ 70° F
- Temp. Range: 32° to 180° F

With a smaller overall size than Y-strainers of the same pipe size, these are well suited to applications in close quarters. Body is bronze and screen is Type 304 stainless steel. Unthread the retainer cap to remove debris. Connections are NPT female.

To Order: Please specify screen size: 40 or 100 mesh.

Pipe Size	Lg.	Ht.	Strainer		Replacement Screen	
1/4	2 1/16"	1 11/16"	9998K32	$46.25	9998K22	$13.07
3/8	2 1/2"	2 3/16"	9998K33	56.01	9998K23	16.43
1/2	2 3/4"	2 5/8"	9998K34	66.87	9998K24	24.83

For information about strainers, see page 401. For information about pipe size, see pages 2-3.

Flanged Y-Strainers

- Max. Pressure for Water, Oil, Inert Gas, Acetone, and Diesel Fuel:
  Cast Iron: 200 psi @ 70° F
  Type 316 Stainless Steel: 275 psi @ 70° F
  Max. Pressure for Steam:
  Cast Iron: 125 psi @ 450° F
  Type 316 Stainless Steel: 150 psi @ 565° F
- Temp. Range:
  Cast Iron: –20° to 450° F
  Type 316 Stainless Steel: –20° to 565° F

Trap debris in high-flow lines with flanged pipe connections. Bolt strainers between two flanges of the same pipe size. Screen is Type 304 stainless steel.

Type 316 stainless steel strainers are more corrosion resistant than cast iron.

To Order: Please specify screen perforation size from those listed in the table.



Pipe Size	Lg.	Ht.	Plug Pipe Size	Flange Dimensions: OD	Flange Dimensions: Bolt Circle Dia.	Flange Dimensions: Thick.	Flange Dimensions: Bolt Hole Qty.	Flange Dimensions: Bolt Size	Available Screen Perforation Sizes	Strainer		Replacement Screen	
Cast Iron—ANSI Class 125 Flange Connections													
2	8 3/8"	11 3/8"	1 1/4	6"	4 3/4"	5/8"	4	5/8"	1/32", 1/16", 1/8"	9814K13	$133.64	9814K34	$47.57
2 1/2	9 7/8"	11 7/8"	1 1/4	7"	5 1/2"	11/16"	4	5/8"	1/32", 1/16", 1/8"	9814K22	152.73	9814K44	79.27
3	10 1/4"	11 1/8"	1	7 1/2"	6"	3/4"	4	5/8"	1/32", 1/16", 1/8"	9814K14	159.89	9814K36	100.47
4	12 1/8"	13 1/4"	1 1/2	9"	7 1/2"	15/16"	8	5/8"	1/32", 1/16", 1/8"	9814K15	250.57	9814K37	188.39
Type 316 Stainless Steel—ANSI Class 150 Flange Connections													
2	7 7/8"	9"	1/2	6"	4 3/4"	5/8"	4	5/8"	1/32", 1/16", 1/8"	4663K41	766.95	4663K35	98.45
3	10 1/16"	11 3/16"	1	7 1/2"	6"	3/4"	4	5/8"	1/32", 1/16", 1/8"	4663K42	1,318.80	4663K36	208.02

Bronze Inline Strainers

- Max. Pressure for Water, Oil, and Inert Gas: 250 psi @ 70° F
- Temp. Range: 32° to 180° F



Use these strainers in place of regular fittings to catch debris in your pipelines. A union fitting on one end allows you to remove debris without detaching the pipe connection. Screen size is 40 mesh. Body is bronze, screen is Type 304 stainless steel, and seal is Buna-N. Connections are NPT female.

Pipe Size	Lg.	Strainer		Replacement Screen	
3/4	4 3/8"	5166K66	$99.02	5166K53	$11.38
1	4 3/8"	5166K67	142.26	5166K53	11.38

High-Pressure Brass Inline Strainers

- Max. Pressure for Water, Oil, and Diesel Fuel: 500 psi @ 70° F
- Temp. Range: 32° to 180° F



Catch small particles in pipelines with pressures up to 500 psi. Body is brass and screen is Monel. Connections are NPT female.

To Order: Please specify screen size: 100 or 200 mesh.

Pipe Size	Lg.	Strainer		Replacement Screen	
1/8	2 5/8"	9802K5	$14.08	9802K9	$7.02
1/4	2 5/8"	9802K6	14.90	9802K9	7.02

Temporary Pipeline Strainers

- Max. Pressure for Water, Oil, Inert Gas, Acetone, and Diesel Fuel: 285 psi @ 100° F
- Temp. Range: –45° to 800° F

Remove debris from new pipelines before installing equipment. Sandwich strainers between two flanges with the cone pointing in the direction of flow. Screen has 1/8" perforations. Body and screen are Type 304 stainless steel.

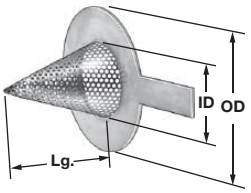

Pipe Size	Lg.	ID	OD		
3/4	1 1/8"	5/8"	2 1/8"	4388K12	$50.83
1	1 5/8"	3/4"	2 1/2"	4388K13	51.17
1	3 5/16"	3/4"	2 1/2"	4388K53	52.33
1 1/2	2 3/16"	1 1/4"	3 1/4"	4388K14	57.11
1 1/2	3 3/8"	1 1/4"	3 1/4"	4388K34	58.76
1 1/2	4 1/2"	1 1/4"	3 1/4"	4388K54	59.35
2	3"	1 3/4"	4"	4388K15	69.37
2	4 1/2"	1 3/4"	4"	4388K35	75.28
2	6"	1 3/4"	4"	4388K55	78.17
3	4"	2 3/4"	5 1/4"	4388K17	105.28
3	6 1/4"	2 3/4"	5 1/4"	4388K37	109.37
3	8 1/2"	2 3/4"	5 1/4"	4388K57	114.28
4	5 1/8"	3 3/4"	6 3/4"	4388K18	123.24
4	7 7/8"	3 3/4"	6 3/4"	4388K38	129.74
4	10 5/8"	3 3/4"	6 3/4"	4388K58	135.48
6	8 1/8"	5 3/8"	8 5/8"	4388K21	179.57
6	13"	5 3/8"	8 5/8"	4388K41	196.72
6	17"	5 3/8"	8 5/8"	4388K61	234.02

Polypropylene Y-Strainers

- Max. Pressure for Water: 150 psi @ 70° F
- Temp. Range: –20° to 150° F

Match the material of the pipe and fittings in your polypropylene system. Body is black fiberglass-reinforced polypropylene, screen is Type 316 stainless steel, and seal is EPDM. Connections are NPT female.

To Order: Please specify screen size: For 1/2, 3/4, 1, and 1 1/4 pipe sizes, specify 20, 40, or 80 mesh. For 1 1/2 and 2 pipe sizes, specify 6, 12, 20, 30, 50, 80, or 120 mesh.



Pipe Size	Lg.	Ht.	Plug Pipe Size	Strainer		Replacement Screen	
1/2	4 7/16"	4 1/2"	1/4	9793K111	$23.75	9793K17	$14.91
3/4	4 7/16"	4 1/4"	1/4	9793K112	24.00	9793K17	14.91
1	5 5/8"	6"	1/2	9793K113	24.26	9793K18	15.08
1 1/4	5 5/8"	6 1/4"	1/2	9793K114	24.52	9793K18	15.08
1 1/2	7 3/16"	8 1/8"	1	9793K115	52.82	9793K19	30.50
2	7 3/16"	8 1/8"	1	9793K116	53.96	9793K19	30.50

Easy-Maintenance Plastic Y-Strainers

- Max. Pressure for Water: 150 psi @ 70° F
- Temp. Range: 40° to 140° F

A unique two-piece threaded body comes apart for cleaning without disconnecting your pipeline. Connections are NPT male.

Polypropylene strainer is more chemical resistant than acetal. Screen is polyester and seal is fluoroelastomer. Color is blue.

Acetal strainers have a threaded drain with a ball valve to control flow while cleaning. Seal is Buna-N. Screen is Type 316 stainless steel, except strainers with 20 and 450 mesh screens, which have a polyester screen. Color is black.

To Order: Please specify screen size: 20, 50, 75, 120, 200, or 450 mesh.



Pipe Size	Lg.	Ht.	Strainer		Replacement Screen	
Polypropylene						
3/4	4 3/4"	5 7/16"	44085K11	$58.50	44085K8	$37.80
Acetal						
3/4	4 3/4"	7"	44085K12	39.60	44085K5	27.00
1	7 3/8"	7 3/8"	44085K13	90.77	44085K6	72.36
1 1/2	7 15/16"	11 1/16"	44085K14	190.12	44085K7	116.64

Compact Acetal Y-Strainers

- Max. Pressure for Water, Oil, Inert Gas, and Acetone: 125 psi @ 70° F
- Temp. Range: 32° to 180° F

Strain particles from pipelines in tight spaces. Screen size is 100 mesh. Body is acetal, screen is Type 304 stainless steel, and seal is EPDM. Color is black. Connections are NPT female.



Pipe Size	Lg.	Ht.	Strainer		Replacement Screen	
1/4	1 13/16"	2 1/4"	44305K25	$12.62	44305K19	$4.28
3/8	1 13/16"	2 1/4"	44305K27	12.62	44305K19	4.28

Corrosion-Resistant PVC and CPVC Y-Strainers



PVC with NPT Female Connections

- Max. Pressure for Water and Diesel Fuel: 150 psi @ 70° F
- Temp. Range: PVC: 40° to 140° F; CPVC: 40° to 190° F

All-plastic construction makes these strainers corrosion resistant and lightweight. Use with Schedule 80 pipe and fittings. Seal is fluoroelastomer. All have a threaded hex cap to access the screen for cleaning.

PVC strainers have a PVC screen. Color is dark gray. ***CPVC strainers*** withstand higher temperatures than PVC. Screen is CPVC. Color is light gray.

To Order: Please specify screen size: 1/32" or 1/16" perforations.

With NPT Female Connections

Pipe Size	Lg.	Ht.	Strainer		Replacement Screen	
PVC						
1/2	3 3/8"	2 15/16"	4425K31	$70.70	4425K51	$24.63
3/4	4 3/16"	3 3/4"	4425K32	78.91	4425K52	27.92
1	5 3/16"	4 5/8"	4425K33	86.32	4425K53	32.22
1 1/4	6 5/8"	5 13/16"	4425K34	157.89	4425K54	37.53
1 1/2	6 5/8"	5 13/16"	4425K35	157.89	4425K54	37.53
2	7 5/8"	7 1/16"	4425K36	186.64	4425K55	62.16
3	10 5/16"	9 5/8"	4425K38	398.47	4425K56	87.83
4	12 13/16"	11 3/4"	4425K39	673.92	4425K57	111.38
CPVC						
1/2	3 3/8"	2 15/16"	44315K41	172.30	44315K61	34.46
3/4	4 3/16"	3 3/4"	44315K42	190.27	44315K62	42.04
1	5 3/16"	4 5/8"	44315K43	243.88	44315K63	51.23
1 1/2	6 5/8"	5 13/16"	44315K44	377.86	44315K64	65.65
2	7 5/8"	7 1/16"	44315K45	478.27	44315K65	86.17
3	10 5/16"	9 5/8"	44315K46	579.92	44315K66	124.31
4	12 13/16"	11 3/4"	44315K47	959.33	44315K67	154.63

With Socket Weld (Unthreaded) Connections

Pipe Size	Lg.	Ht.	Strainer		Replacement Screen	
PVC						
1/2	3 3/8"	2 15/16"	4425K41	$70.70	4425K51	$24.63
3/4	4 3/16"	3 3/4"	4425K42	78.91	4425K52	27.92
1	5 3/16"	4 5/8"	4425K43	86.29	4425K53	32.22
1 1/4	6 5/8"	5 13/16"	4425K44	157.89	4425K54	37.53
1 1/2	6 5/8"	5 13/16"	4425K45	157.89	4425K54	37.53
2	7 5/8"	7 1/16"	4425K46	186.64	4425K55	62.16
2 1/2	10 5/16"	9 5/8"	4425K47	426.50	4425K56	87.83
3	10 5/16"	9 5/8"	4425K48	398.47	4425K56	87.83
4	12 13/16"	11 3/4"	4425K49	673.92	4425K57	111.38
CPVC						
1/2	3 3/8"	2 15/16"	44315K11	172.30	44315K61	34.46
3/4	4 3/16"	3 3/4"	44315K12	190.27	44315K62	42.04
1	5 3/16"	4 5/8"	44315K13	243.88	44315K63	51.23
1 1/2	6 5/8"	5 13/16"	44315K14	380.56	44315K64	65.65
2	7 5/8"	7 1/16"	44315K15	478.27	44315K65	86.17
3	10 5/16"	9 5/8"	44315K16	579.92	44315K66	124.31
4	12 13/16"	11 3/4"	44315K17	959.33	44315K67	154.63

Easy-View PVC Y-Strainers



With PVC Screen



With Type 316 Stainless Steel Screen

- Max. Pressure for Water: 150 psi @ 70° F
- Temp. Range: 40° to 120° F

A clear PVC body lets you monitor debris without disconnecting the pipeline.

Strainers with PVC screen are more corrosion resistant than strainers with Type 316 stainless steel screen. Seal is EPDM. They come with a set of NPT female and socket weld (unthreaded) union fittings for each pipe connection.

Strainers with Type 316 stainless steel screen are more durable than strainers with PVC screen. Seal is fluoroelastomer. Connections are NPT female.

To Order: Please specify screen size: 20 or 40 mesh.

Pipe Size	Lg.	Ht.	Strainer		Replacement Screen	
With PVC Screen						
1/2	6 1/2"	4"	44915K62	$66.00	44915K11	$28.32
3/4	7 15/16"	5 1/16"	44915K64	70.58	44915K12	28.32
1	8 13/16"	5 3/4"	44915K66	83.42	44915K13	30.50
1 1/4	11 5/16"	7 3/4"	44915K68	140.25	44915K14	35.91
1 1/2	11 5/16"	7 3/4"	44915K72	140.25	44915K14	35.91
2	12 3/4"	8 11/16"	44915K74	173.25	44915K15	45.58
With Type 316 Stainless Steel Screen						
1/2	3 3/8"	2 15/16"	4718K41	150.28	4718K31	113.13
3/4	4 3/16"	3 3/4"	4718K42	174.63	4718K32	133.43
1	5 3/16"	4 5/8"	4718K43	199.47	4718K33	164.60
1 1/2	6 5/8"	5 13/16"	4718K45	308.43	4718K35	207.80
2	7 5/8"	7 1/16"	4718K46	352.75	4718K36	242.11

High-Capacity Polypropylene T-Strainers with Drain Plug



1 1/4 and 1 1/2 Pipe Sizes

- Max. Pressure for Water, Ethylene Glycol, Acetone, and Sodium Nitrate: 150 psi @ 70° F
- Temp. Range: –20° to 150° F

Well suited for high-flow applications, an extra-long bowl and screen provide greater dirt-holding capacity than our other T-strainers. These strainers also have a threaded drain with plug for cleaning. Head and bowl are glass-reinforced black polypropylene, screen is Type 316 stainless steel, and seal is EPDM. Connections are NPT female.

Strainers with 3/4 and 1 pipe size have two tubes on top for mounting to provide extra stability.

To Order: Please specify screen size: 16, 30, 50, 80, or 100 mesh.

Pipe Size	Lg.	Ht.	Plug Pipe Size	Strainer		Replacement Screen	
3/4	3 7/8"	8 11/16"	1/2	98805K43	$25.41	98805K5	$12.55
1	3 7/8"	8 11/16"	1/2	98805K44	25.96	98805K5	12.55
1 1/4	5 1/4"	11 7/16"	1	98805K45	50.59	98805K6	20.61
1 1/2	5 1/4"	11 7/16"	1	98805K46	51.68	98805K6	20.61

Polypropylene T-Strainers



With Clear Bowl



With Black Bowl

- Max. Pressure for Water: 150 psi @ 70° F
- Temp. Range: –40° to 125° F

Clean out your strainer less often—a T-shape body provides greater dirt-holding capacity than Y-strainers. Strainers have a black glass-filled polypropylene head. Screen is Type 304 stainless steel and seal is EPDM. Connections are NPT female.

Strainers with clear bowl allow you to monitor debris without disconnecting your pipeline. Bowl is nylon.

Strainers with black bowl have a polypropylene bowl.

Optional fluoroelastomer seals are for use in oil applications.

To Order: For strainers and replacement screens, please specify screen size: 20, 50, or 80 mesh.

Pipe Size	Lg.	Ht.	Strainer with Clear Bowl	Each	Strainer with Black Bowl	Each	Replacement Screen	Each	Replacement EPDM Seals	Pkg. of 10	Optional Fluoroelastomer Seals	Pkg. of 5
1/4	3"	2 7/16"	98775K41	$8.33	98775K51	$5.19	98775K81	$1.60	98775K91	$5.00	98775K94★	$10.31
3/8	3"	2 7/16"	98775K42	8.55	98775K52	5.30	98775K81	1.60	98775K91	5.00	98775K94★	10.31
3/8	3 5/8"	5 3/8"	98775K44	13.26	98775K54	8.34	98775K1	2.10	98775K92	5.69	98775K95	9.74
1/2	3"	2 7/16"	98775K43	8.78	98775K53	5.41	98775K81	1.60	98775K91	5.00	98775K94★	10.31
1/2	3 5/8"	5 3/8"	98775K45	13.61	98775K55	8.51	98775K1	2.10	98775K92	5.69	98775K95	9.74
3/4	3 5/8"	5 3/8"	98775K46	13.97	98775K56	8.68	98775K1	2.10	98775K92	5.69	98775K95	9.74
1	5"	6 7/16"	98775K47	22.77	98775K57	17.00	98775K2	3.05	98775K93	8.03	98775K96	26.25
1 1/4	5"	7 1/8"	98775K48	23.37	98775K58	17.43	98775K3	3.18	98775K93	8.03	98775K96	26.25
1 1/2	5 1/8"	8 1/8"	98775K49	24.00	98775K59	17.87	98775K4	3.45	98775K93	8.03	98775K96	26.25

★ Pkg. of 10.

For information about strainers, see page 401. For information about pipe size, see pages 2-3.

Chemical-Resistant Polypropylene T-Strainers

- Max. Pressure for Water: 150 psi @ 70° F
- Temp. Range: –40° to 125° F



With Polypropylene Screen

Made entirely of plastic to withstand exposure to mineral acids and salt solutions that corrode stainless steel. The T-shape body also provides greater dirt-holding capacity than Y-strainers. They have a clear nylon bowl so you can monitor debris without disconnecting your pipeline. Head is black glass-filled polypropylene and seal is EPDM. Connections are NPT female.

Strainers with polyethylene screen trap fine particles. They're also good for use in vacuum applications.

To Order: For strainers with polypropylene screen and replacement polypropylene screens, please specify screen mesh size.

Pipe Size	Lg.	Ht.	Strainer		Replacement Screen	
With Polyethylene Screen— *Screen is 200 mesh.*						
1/4	3"	2 11/16"	8680T21	$6.87	8680T51	$2.37
1/2	3 9/16"	5 3/8"	8680T25	14.11	8680T52	4.57
3/4	3 9/16"	5 3/8"	8680T26	14.49	8680T52	4.57
With Polypropylene Screen— *Specify 20, 40, or 80 mesh.*						
1/2	3 9/16"	5 3/8"	8680T15	14.39	8680T44	6.53
3/4	3 9/16"	5 3/8"	8680T16	14.78	8680T44	6.53

Polypropylene T-Strainers with Push-to-Connect Tube Fittings

- Max. Pressure for Water: 150 psi @ 70° F
- Temp. Range: –40° to 125° F



Filter debris from tubing lines. Push-to-connect fittings make a tight seal around flexible tubing. Strainers have a clear nylon bowl so you can view debris without disconnecting your pipeline. Head is black polypropylene, screen is Type 304 stainless steel, and seal is EPDM.

To Order: Please specify screen size: 20, 50, or 80 mesh.

For Tube OD	Lg.	Ht.	Strainer		Replacement Screen	
1/4"	3"	2 11/16"	8698T11	$13.58	98775K81	$1.60
3/8"	3"	2 11/16"	8698T12	14.29	98775K81	1.60

Easy-View PVC Inline Strainers

- Max. Pressure for Water and Diesel Fuel: 230 psi @ 70° F
- Temp. Range: 14° to 120° F



Strainers combine a clear PVC body with union fittings so you can view and clear out debris without disconnecting your pipe connections. Screen size is 35 mesh. Screen is Type 316 stainless steel and seal is EPDM. Connections are NPT female.

Pipe Size	Lg.	Strainer		Replacement Screen	
3/8	4"	8855T111	$55.08	8855T321	$19.85
1/2	4"	8855T121	66.92	8855T321	19.85
3/4	4 1/2"	8855T131	67.53	8855T331	20.35
1	5"	8855T141	77.65	8855T331	20.35
1 1/4	5 5/8"	8855T151	94.86	8855T341	35.20
1 1/2	6 9/16"	8855T161	111.19	8855T351	36.07
2	7 13/16"	8855T171	154.01	8855T361	38.85

Strainer Washers



Install these in pipe or fittings to protect equipment in locations where other strainers don't fit. They're often used with valves, sprayers, parts washers, and washing machines. Screen is Type 304 stainless steel.

To Order: Please specify screen mesh size from those listed in the table.

For Pipe Size	Seal OD	Seal Thick.	Available Screen Mesh Sizes	Pkg. Qty.		Pkg.
With FDA-Listed PVC Seal						
1/2	0.60"	0.11"	100	25	8753T31	$7.29
1/2	0.72"	0.09"	60	25	8753T32	4.87
1/2	0.84"	0.09"	30, 60	25	8753T33	6.71
3/4	1.00"	0.16"	24, 30, 60	25	8753T34	5.09
1	1.14"	0.11"	30, 60	10	8753T35	9.00
1	1.25"	0.16"	30, 60	10	8753T36	7.60
With Santoprene Seal— *Meets NSF/ANSI standards.*						
1/2	0.62"	0.11"	60	25	8753T41	12.60
1/2	0.73"	0.11"	60	25	8753T42	10.34
3/4	1.00"	0.16"	60	25	8753T43	10.60

Impact-Resistant Nylon T-Strainers

- Max. Pressure for Water: 150 psi @ 70° F
- Temp. Range: 0° to 125° F



With Clear Bowl

Combine the durability of an all-nylon body with the dirt-holding capacity of a T-strainer. Screen is Type 304 stainless steel and seal is Buna-N. Strainers have a white head. Connections are NPT female.

Strainers with clear bowl allow you to monitor debris without disconnecting your pipeline.

Optional fluoroelastomer seals are for use in oil applications.

To Order: For strainers and replacement screens, please specify screen size: 20, 50, or 80 mesh.



With White Bowl

Pipe Size	Lg.	Ht.	Strainer with Clear Bowl	Each	Strainer with White Bowl	Each	Replacement Screen	Each	Replacement Buna-N Seals	Pkg. of 10	Optional Fluoroelastomer Seals	Pkg. of 5
1/2	3 5/8"	5 3/8"	9875K216	$16.84	9875K211	$10.80	98775K1	$2.10	9875K27	$6.22	98775K95	$9.74
3/4	3 5/8"	5 3/8"	9875K217	17.30	9875K212	11.04	98775K1	2.10	9875K27	6.22	98775K95	9.74
1	5"	6 7/16"	9875K218	28.51	9875K213	19.08	98775K2	3.05	9875K29	8.78	98775K96	26.25
1 1/4	5"	7 1/8"	9875K219	29.63	9875K214	22.96	98775K3	3.18	9875K29	8.78	98775K96	26.25
1 1/2	5 1/8"	8 1/8"	9875K221	30.43	9875K215	26.38	98775K4	3.45	9875K29	8.78	98775K96	26.25

Easy-View Bronze Basket Strainers

- Max. Pressure for Water, Salt Water, and Diesel Fuel: 25 psi @ 70° F
- Temp. Range: 33° to 140° F



A clear plastic bowl allows you to monitor the collection of debris without stopping flow in your system. Basket has 3/32" perforations. Strainers have a bronze head, Type 304 stainless steel basket, and Buna-N seals. Use the drain at the bottom of the bowl for cleaning. Strainers come with brass brackets for wall mounting. UL listed. Connections are NPT female.

Pipe Size	Lg.	Ht.	Strainer		Replacement Basket	
1/2	4 1/2"	6 3/8"	9813K11	$145.83	9813K31	$38.14
3/4	4 1/2"	8 3/8"	9813K12	150.83	9813K32	40.00
1	5 3/4"	9"	9813K13	207.50	9813K33	43.72
1 1/4	5 3/4"	10 5/8"	9813K14	228.33	9813K34	46.51
1 1/2	7 1/4"	11 3/8"	9813K15	341.67	9813K35	50.23
2	7 1/4"	14"	9813K16	361.61	9813K36	53.95

Basket Strainers

For information about strainers, see page 401. For information about pipe size, see pages 2-3.

ANSI Flange Dimensions

Pipe Size	OD	Bolt Circle Dia.	Thick. (Class 125)	Thick. (Class 150)	Bolt Hole Qty.	Bolt Size
2	6″	4¾″	5/8″	3/4″	4	5/8″
2½	7″	5½″	11/16″	7/8″	4	5/8″
3	7½″	6″	3/4″	15/16″	4	5/8″
4	9″	7½″	15/16″	15/16″	8	5/8″
6	11″	9½″	1″	1″	8	3/4″

Basket Strainers



With NPT Female Connections



With ANSI Flange Connections



Replacement Basket

- Max. Pressure for Water, Oil, and Diesel Fuel: 200 psi @ 100° F
- Temp. Range: 20° to 200° F

A fundamental component of high-flow industrial processes, basket strainers hold considerably more debris than Y- and T-strainers. They have a removable cover and a threaded drain with plug for cleaning. Basket is Type 316 stainless steel.

Cast iron strainers have a Buna-N seal.

Bronze strainers are stronger and more corrosion resistant than cast iron. Seal is Buna-N.

Type 316 stainless steel strainers are more corrosion resistant than bronze or cast iron. Seal is chemical-resistant fluoroelastomer.

Strainers with ANSI Flange Connections— Have brackets on the bottom so you can bolt them to the floor for stability. *Cast iron strainers* have Class 125 flanges. *Bronze* and *Type 316 stainless steel strainers* have Class 150 flanges.

To Order: For strainers and replacement baskets, please specify screen size: 20, 40, or 100 mesh or 1/16″, 1/8″, or 3/16″ perforations. For replacement seals, please specify Buna-N or fluoroelastomer.

Pipe Size	Lg.	Ht.	Cast Iron Strainer		Bronze Strainer		Type 316 Stainless Steel Strainer		Replacement Basket		Replacement Seal	
With NPT Female Connections												
3/8	4″	6 5/8″	4454K1	$183.65	4454K224	$348.11	_____	_____	4454K91	$154.90	4454K932	$25.78
1/2	4″	6 5/8″	4454K112	211.47	4454K232	354.81	_____	_____	4454K91	154.90	4454K932	25.78
3/4	5 3/8″	8 3/8″	4454K119	248.08	4454K239	463.46	_____	_____	4454K92	158.25	4454K935	25.78
1	5 3/8″	8 3/8″	4454K137	252.94	4454K246	463.46	4454K325	$599.09	4454K92	158.25	4454K935	25.78
1 1/4	6 3/4″	9 7/8″	4454K146	354.90	4454K253	694.55	4454K333	850.91	4454K93	220.36	4454K952	28.01
1 1/2	7 1/4″	11″	4454K154	354.90	4454K26	694.55	4454K341	850.91	4454K94	225.16	4454K952	28.01
2	8 3/4″	13 3/8″	4454K162	430.39	4454K267	1,050.85	4454K348	1,202.68	4454K95	245.34	4454K979	29.94
2 1/2	10 3/8″	14 7/8″	4454K169	555.45	4454K274	1,610.17	4454K356	1,856.67	4454K96	281.82	4454K993	39.09
3	11 1/2″	17 3/4″	4454K177	633.64	4454K281	2,110.83	4454K364	2,410.00	4454K97	329.91	4454K993	39.09
With ANSI Flange Connections												
2	10 1/2″	13 3/4″	4454K185	556.20	4454K288	1,422.50	4454K372	1,606.67	4454K95	245.34	4454K979	29.94
2 1/2	11 5/8″	15 5/8″	4454K193	702.73	4454K295	2,031.54	4454K379	2,680.77	4454K96	281.82	4454K993	39.09
3	13 1/8″	18″	4454K201	753.64	4454K302	2,463.08	4454K387■	2,706.15	4454K97	329.91	4454K993	39.09
4	16 3/4″	19 7/8″	4454K208	1,108.94	4454K309	4,057.69	4454K394★	4,272.31	4454K98	632.76	4454K996	43.64
6	19 5/8″	28 1/2″	4454K216	2,074.17	4454K317	6,724.29	4454K5	6,941.43	4454K99	863.59	4454K996	43.64

■ Height is 18 3/4″. ★ Length is 17 1/4″.

Easy-Swap Dual-Basket Strainers



With NPT Female Connections



With ANSI Flange Connections



Replacement Basket

- Max. Pressure for Water, Oil, and Diesel Fuel: 150 psi @ 70° F
- Temp. Range: 20° to 150° F

Don't shut down your operation to service your strainer. These have a dual-basket body so you can divert flow to one basket while you work on the other. Strainers have a removable cover and threaded drains with plugs for cleaning. Baskets are Type 316 stainless steel. Strainers have brackets on the bottom, so you can bolt them to the floor for stability.

Cast iron strainers have a Buna-N seal.

Bronze strainers are stronger and more corrosion resistant than cast iron. Seal is Buna-N.

Type 316 stainless steel strainers are more corrosion resistant than bronze or cast iron. Seal is chemical-resistant fluoroelastomer.

Strainers with ANSI Flange Connections— *Cast iron strainers* have Class 125 flanges. *Bronze* and *Type 316 stainless steel strainers* have Class 150 flanges.

To Order: For strainers and replacement baskets, please specify screen size: 1/32″ or 1/16″ perforations. For replacement seals, please specify Buna-N or fluoroelastomer.

Pipe Size	Lg.	Ht.	O'all Wd.	Cast Iron Strainer		Bronze Strainer		Type 316 Stainless Steel Strainer		Replacement Basket		Replacement Seal	
With NPT Female Connections													
3/4	5 1/2″	10 1/2″	10 1/2″	4416K23	$935.89	4416K49	$2,111.40	4416K91	$2,510.83	4416K81	$123.81	4416K105	$23.38
1	5 1/2″	10 1/2″	10 1/2″	4416K24	935.89	4416K61	2,111.40	4416K92	2,510.83	4416K81	123.81	4416K105	23.38
1 1/4	7 1/2″	12 3/4″	13 1/4″	4416K25	1,603.31	4416K64	4,139.23	4416K93	3,785.80	4416K82	172.62	4416K106	27.04
1 1/2	7 1/2″	12 3/4″	13 1/4″	4416K26	1,603.31	4416K67	4,139.23	4416K94	3,756.67	4416K82	172.62	4416K106	27.04
2	10″	15 1/2″	17 3/8″	4416K27	2,465.60	4416K68	5,245.97	4416K95	4,871.75	4416K83	199.86	4416K107	28.51
2 1/2	10″	15 1/2″	17 3/8″	4416K28	2,465.60	4416K69	5,245.97	_____	_____	4416K83	199.86	4416K107	28.51
With ANSI Flange Connections													
2	10 5/8″	15 1/2″	17 3/8″	4416K29	2,630.43	4416K77	5,400.27	4416K96	5,401.53	4416K83	199.86	4416K107	28.51
2 1/2	10 3/4″	15 1/2″	17 3/8″	4416K46	2,797.57	4416K79	6,819.65	4416K97	7,505.97	4416K83	199.86	4416K107	28.51
3	13 1/2″	18″	22 3/4″	4416K47	3,261.05	4416K87	8,628.99	4416K98	8,478.11	4416K84	236.90	4416K108	37.94
4	16″	21 5/8″	24 3/4″	4416K48	4,761.35	4416K89	11,495.09	4416K99	11,225.23	4416K85	390.48	4416K108	37.94

Flanged Cast Iron Basket Strainers

- Max. Pressure for Water and Oil: 200 psi @ 100° F
- Temp. Range: –20° to 150° F



Capture and remove particles from flanged pipelines. Strainers have a removable cover and a threaded drain with plug for cleaning. Basket has 1/8" perforations. Body is cast iron; meets ASTM A126, Class B. Basket is Type 304 stainless steel and seals are Buna-N. Connections are ANSI Class 125 flanges. For ANSI flange dimensions, see page 406.

Pipe Size	Lg.	Ht.	Strainer		Replacement Basket	
2	8"	8 5/8"	44225K71	$371.38	44225K81	$154.41
3	9 3/4"	11 7/8"	44225K73	472.50	44225K83	185.29
4	11 1/2"	13 3/8"	44225K75	649.44	44225K85	212.06

ASME-Code Stainless Steel Basket Strainers

- Max. Pressure for Water, Oil, Inert Gas, Diesel Fuel, and Natural Gas: 200 psi @ 100° F
- Temp. Range: –20° to 150° F



Constructed for use with boilers and pressure vessels, these strainers meet ASME Code Section VIII and ANSI B16.5. Body is Type 316 stainless steel for excellent corrosion resistance. Strainers have a removable cover and a threaded drain with plug for cleaning. Basket is Type 304 stainless steel and seals are fluoroelastomer. Connections are NPT female.

To Order: Please specify screen size: 1/16" or 1/8" perforations.

Pipe Size	Lg.	Ht.	Strainer		Replacement Basket	
1/2	4 9/16"	6 1/2"	9874K11	$292.81	9874K21	$123.04
3/4	4 9/16"	6 1/2"	9874K12	301.25	9874K21	123.04
1	5 5/16"	7 7/16"	9874K13	394.96	9874K22	123.04
1 1/2	6 5/16"	9 1/2"	9874K14	611.87	9874K23	166.34
2	8 1/4"	11 1/2"	9874K15	866.39	9874K24	166.34

Self-Cleaning Stainless Steel Basket Strainers

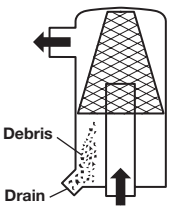



With NPT Male Connections

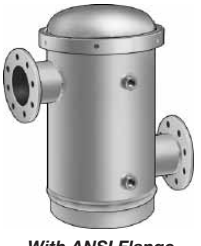

With ANSI Flange Connections

- Max. Pressure for Water:
  NPT Male Connections: 125 psi @ 70° F
  ANSI Class 150 Flange Connections: 150 psi @ 70° F
- Temp. Range: 32° to 135° F

Spend less time on maintenance—these strainers have an inverted basket design that allows debris to fall into the drain as it collects. They also create a minimal pressure drop, which saves energy. Body is Type 304 stainless steel, basket is Type 316 stainless steel, and seals are EPDM. Strainers have two 1/4 NPT female gauge ports so you can measure differential pressure, which indicates when the basket needs to be cleaned or replaced. Drain is 1 1/2 NPT male. For ANSI flange dimensions, see page 406.

To Order: Please specify screen size: 16, 30, 40, 60, 100, or 200 mesh.

Pipe Size	Lg.	Ht.	Strainer		Replacement Basket	
With NPT Male Connections						
2	9 3/8"	16 3/8"	51585K11	$867.27	51585K33	$258.00
3	12 11/16"	24 7/8"	51585K12	1,618.97	51585K34	413.21
With ANSI Class 150 Flange Connections						
4	19 1/4"	25 7/8"	51585K15	2,298.83	51585K35	627.27
6	24 1/2"	38"	51585K16	3,479.03	51585K36	878.95

Easy-to-Install Plastic Basket Strainers



Single Basket
Easy-View Polyester



Dual Basket

- Max. Pressure for Water, Oil, and Diesel Fuel:
  PVC and CPVC: 150 psi @ 70° F
  Polyester: 100 psi @ 70° F
- Temp. Range: PVC: 40° to 140° F
  CPVC: 40° to 180° F
  Polyester: 34° to 120° F

Union fittings make these strainers easy to install and allow for maintenance without detaching your pipe connections. They have two outlets for installation in inline or parallel pipe connections. Cover and drain are threaded for easy access for cleaning. Seals are fluoroelastomer. Strainers come with a set of NPT female and socket weld (unthreaded) union fittings for each pipe connection.

Single-basket strainers come with a plug for the unused outlet.

Dual-basket strainers allow for maintenance without interrupting flow. Baskets are connected with a diverting valve. Turn the valve handle to direct flow to one basket while you clean the other.

PVC strainers have a PVC body and basket. ***CPVC strainers*** handle higher temperatures than PVC and polyester. Body and basket are CPVC. ***Easy-view polyester strainers*** have a clear polyester body. Basket is PVC.

To Order: Please specify screen size: 1/32", 1/16", 1/8", or 3/16" perforations.

Pipe Size	Lg.	Ht.	Strainer		Replacement Basket	
Single Basket						
PVC—Dark Gray Body						
3/4	8 5/8"	11 11/16"	9885K16	$292.83	9885K27	$139.25
1	8 5/8"	11 11/16"	9885K17	295.50	9885K27	139.25
1 1/2	12 11/16"	15 1/2"	9885K18	525.37	9885K28	175.41
2	12 3/4"	15 1/2"	9885K19	534.93	9885K28	175.41
CPVC—Light Gray Body						
1	8 5/8"	11 11/16"	44445K25	457.32	44445K35	211.31
2	12 3/4"	15 1/2"	44445K27	876.16	44445K36	263.58
Easy-View Polyester—Clear Body						
1	8 5/8"	11 11/16"	8766T13	304.12	9885K27	139.25
1 1/2	12 11/16"	15 1/2"	8766T15	525.31	9885K28	175.41
2	12 3/4"	15 1/2"	8766T16	525.31	9885K28	175.41
Dual Basket						
PVC—Dark Gray Body						
1	8 5/8"	11 11/16"	9886K43	1,504.68	9885K35	139.25
2	12 3/4"	15 1/2"	9886K45	2,345.13	9885K36	175.41

Slimline Cast Iron Suction Strainers

- Use with oil and diesel fuel
- Max. Temp.: 225° F



Designed for installation through a tank wall, these strainers have a narrow diameter and both male and female threads. You can also install at the top of a tank for connection to a standpipe. They're often used in hydraulic systems. Body is cast iron and steel; screen is Type 304 stainless steel. Connections are NPT; tank connection is male and pipe connection is female.

To Order: Please specify screen mesh size from those listed in the table.

Pipe Size		Ht.	Hex Size	Available Screen Mesh Size		
Male	Female					
1	1/2	5 5/16"	1 7/16"	30, 60, 100	98065K51	$17.22
1	1/2	5 5/16"	1 7/16"	200	98065K411	27.76
1 1/4	3/4	8"	1 3/4"	30, 60, 100	98065K52	20.82
1 1/4	3/4	8"	1 3/4"	200	98065K421	30.11
1 1/2	1	8 1/2"	2"	30, 60, 100	98065K53	24.91
1 1/2	1	8 1/2"	2"	200	98065K431	37.30
2	1 1/4	9 9/16"	2 1/2"	30, 60, 100	98065K54	28.50
2	1 1/4	9 9/16"	2 1/2"	200	98065K441	46.96
3	2	9 3/4"	3 1/4"	30, 60, 100	98065K55	60.22
3	2	9 3/4"	3 1/4"	200	98065K451	88.60
4	3	11 3/8"	4 5/8"	30, 60, 100	98065K56	80.30
4	3	11 3/8"	4 5/8"	200	98065K461	118.71

Suction Strainers



A



B&C



D



E

- Use with:
  Styles A and B: Oil and diesel fuel
  Styles C and D: Oil
  Style E: Water and oil
- Max. Temp.: 270°F

Filter hydraulic fluids from a reservoir, tank, or other small container. Screen is Type 304 stainless steel. Connection is NPT female.

Styles A-C—Connection is aluminum, which is lighter in weight than steel or stainless steel.

Style D—Connection is steel, which is stronger than aluminum.

Style E—Connection is Type 304 stainless steel for greater corrosion resistance than aluminum or steel.

To Order: Please specify screen mesh size from those listed in the table.

Pipe Size	Ht.	Hex Size	Dia.	Available Screen Mesh Sizes		
With Aluminum Connection						
A	3/8"	31/8"	15/8"	—	60, 100	**98115K42** $31.84
A	1/2"	31/8"	15/8"	—	60, 100	**98115K43** 31.84
A	1/2"	55/8"	15/8"	—	60, 100	**98115K44** 33.22
A	3/4"	31/8"	15/8"	—	60, 100	**98115K45** 31.84
A	3/4"	55/8"	15/8"	—	60, 100	**98115K46** 33.22
A	1	6"	15/8"	—	60, 100	**98115K47** 35.62
B	1	51/16"	—	33/16"	60, 100	**4449K11** 39.43
B	1 1/4	61/16"	—	33/16"	60, 100	**4449K12** 38.05
B	1 1/2	61/16"	—	45/16"	60, 100	**4449K13** 47.73
B	2	71/16"	—	45/16"	60, 100	**4449K14** 54.65
B	2 1/2	71/16"	—	5"	60, 100	**4449K15** 58.81
B	3	85/16"	—	5"	60, 100	**4449K16** 67.11
C	3/4	31/2"	—	35/16"	60, 100	**4455K21** 18.71
C	1	53/4"	—	35/16"	60, 100	**4455K22** 22.80
C	1 1/4	73/8"	—	35/16"	60, 100	**4455K23** 26.64
C	1 1/2	93/4"	—	45/16"	60, 100	**4455K24** 44.36
C	2	93/4"	—	45/16"	60, 100	**4455K25** 59.85
With Steel Connection						
D	1/4	2"	—	113/16"	100	**98115K11** 25.49
With Type 304 Stainless Steel Connection						
E	3/4	31/16"	—	31/16"	60, 100	**4455K42** 60.59
E	1	59/16"	—	31/16"	60, 100	**4455K43** 77.32
E	1 1/4	71/8"	—	31/16"	60, 100	**4455K44** 98.51
E	1 1/2	83/4"	—	41/16"	60, 100	**4455K45** 135.07
E	2	95/8"	—	41/16"	60, 100	**4455K46** 158.61
E	3	125/8"	—	51/16"	60, 100	**4455K48** 328.21

High-Capacity Nylon Suction Strainers



Female Connection



Male Connection

- Use with oil
- Max. Temp.: 225°F

The tallest of our suction strainers, these have a large surface area to retain more dirt for use in high-flow applications. Also known as sump strainers, they're often used in hydraulic applications. Connection is black glass-reinforced nylon, screen is Type 304 stainless steel, and end cap is aluminum.

To Order: Please specify screen mesh size from those listed in the table.

Pipe Size	Ht.	Dia.	Available Screen Mesh Sizes		
With NPT Female Connection					
3/4	31/2"	33/16"	30, 60, 100	**9807K811**	$14.39
3/4	31/2"	33/16"	200	**9807K711**	21.19
1	53/4"	33/16"	30, 60, 100	**9807K822**	17.73
1	53/4"	33/16"	200	**9807K722**	29.25
1	73/8"	33/16"	30, 60, 100	**9807K799**	19.61
1	73/8"	33/16"	200	**9807K499**	34.31
1 1/4	73/8"	33/16"	30, 60, 100	**9807K833**	19.81
1 1/4	73/8"	33/16"	200	**9807K733**	34.66
1 1/2	93/4"	43/16"	30, 60, 100	**9807K844**	30.40
1 1/2	93/4"	43/16"	30, 60, 100	**9807K881**■	33.74
1 1/2	93/4"	43/16"	200	**9807K744**	56.88
1 1/2	93/4"	43/16"	200	**9807K588**■	63.38
2	93/4"	43/16"	30, 60, 100	**9807K855**	34.08
2	93/4"	43/16"	200	**9807K755**	64.02
2 1/2	121/2"	53/16"	30, 60, 100	**9807K866**	39.50
2 1/2	121/2"	53/16"	200	**9807K766**	74.16
3	121/2"	53/16"	30, 60, 100	**9807K877**	48.25
3	121/2"	53/16"	200	**9807K771**	86.13
With NPT Male Connection					
1/2	33/4"	21/4"	30, 60, 100	**9807K922**	11.06
1/2	33/4"	21/4"	200	**9807K322**	20.52
3/8	33/4"	21/4"	30, 60, 100	**9807K911**	10.95
3/8	33/4"	21/4"	200	**9807K311**	20.32
3/4	33/4"	21/4"	30, 60, 100	**9807K933**	11.17
3/4	33/4"	21/4"	200	**9807K333**	20.73
1	61/16"	3"	30, 60, 100	**9807K599**	17.73
1	61/16"	3"	200	**9807K377**	29.25
1	711/16"	3"	30, 60, 100	**9807K688**	19.81
1	711/16"	3"	200	**9807K388**	34.66
2	113/8"	43/16"	30, 60, 100	**9807K944**	34.08
2 1/2	133/4"	53/16"	30, 60, 100	**9807K955**	39.50
3	133/4"	53/16"	30, 60, 100	**9807K966**	48.25

■ Has a pleated screen for higher flow.

Large-Particle Suction Strainers



F



G



H



J



K

- Use with water
- Max. Temp.: Not rated

Keep debris from entering your line. Strainers have heavy duty construction that withstands a high suction force. Connection is female. Strainers with NPS, NPSM, and NPSC thread types are compatible with NPT male threads.

Pipe Size	Thread Type	Ht.	Dia.	Screen Perforation Size		
(F) Zinc-Plated Steel						
3/4	NPS	61/4"	15/8"	3/16"	**4413K77**	$9.17
3/4	GHT	61/4"	15/8"	3/16"	**4413K78**	9.17
1	NPS	61/4"	15/8"	3/16"	**4413K79**	9.17
1 1/2	NPT	61/2"	21/4"	3/8"	**4413K41**	11.28
1 1/2	NPSM	4"	5"	3/8"	**4413K1**	10.97
2	NPT	61/2"	23/4"	3/8"	**4413K42**	13.12
2	NPSM	4"	6"	3/8"	**4413K2**	14.01
2 1/2	NPS	4"	6"	3/8"	**4413K9**	13.13
2 1/2	NPSM	91/2"	33/8"	3/8"	**4413K49**	13.26
3	NPSM	5"	7"	3/8"	**4413K3**	22.01
3	NPSM	91/2"	4"	3/8"	**4413K43**	20.95
4	NPT	5"	7"	3/8"	**4413K4**	25.04
4	NPSM	91/2"	5"	3/8"	**4413K44**	25.59
5	NPSC	9"	9"	3/8"	**4413K6**	55.27
6	NPSM	91/2"	9"	1"	**4413K5**	56.73
8	NPT	13"	11"	1"	**4413K7**	129.72
(F) Corrosion-Resistant Type 304 Stainless Steel						
1 1/2	NPS	4"	5"	3/8"	**44215K1**	85.91
2	NPS	4"	6"	3/8"	**44215K2**	112.87
3	NPS	5"	7"	3/8"	**44215K3**	161.98
4	NPS	5"	7"	3/8"	**44215K4**	338.64

Pipe Size	Thread Type	Ht.	Dia.	Screen Perforation Size		
(G) Zinc-Plated Steel for Extra-Large Particles						
1 1/2	NPT	31/2"	5"	1"	**44145K1**	$11.16
2	NPT	4"	6"	1 1/8"	**44145K2**	12.73
3	NPT	5"	7"	1 1/2"	**44145K3**	19.82
4	NPSM	5"	7"	1 1/2"	**44145K4**	23.48
6	NPSM	91/2"	9"	1 1/2"	**44145K6**	56.73
(H) Zinc-Plated Steel for Shallow Liquid Levels						
1 1/2	NPS	21/2"	91/2"	3/8"	**44365K12**	24.68
2	NPS	21/2"	91/2"	3/8"	**44365K14**	27.58
3	NPS	31/2"	12"	3/8"	**44365K16**	81.86
(J) Zinc-Plated Steel for Shallow Liquid Levels						
3/4	NPS	1"	4"	3/16"	**44365K32**	11.25
3/4	GHT	1"	4"	3/16"	**44365K34**	12.19
1	NPS	1"	4"	3/16"	**44365K36**	12.22
1 1/2	NPS	21/2"	91/2"	3/8"	**44365K22**	24.68
2	NPS	21/2"	91/2"	3/8"	**44365K24**	27.58
3	NPS	31/2"	12"	3/8"	**44365K26**	81.86
(K) Lightweight Black Polyethylene						
1 1/2	NPS	31/2"	5"	1/4" x 1"	**44265K24**	7.94
2	NPS	31/2"	5"	1/4" x 1"	**44265K25**	8.20
3	NPS	5"	7"	1/2" x 1 1/2"	**44265K27**	18.03

For information about strainers, see page 401. For information about pipe size, see pages 2-3.

Miniature Nylon Suction Strainers

- Use with water, oil, and diesel fuel
- Max. Temp.: 275° F

A glass-filled black nylon connection is combined with a Type 304 stainless steel screen for good corrosion resistance.

To Order: Please specify screen mesh size from those listed in the table.



Female Connection *Male Connection*

Pipe Size	Ht.	Dia.	Available Screen Mesh Sizes		
With NPT Female Connection					
1/8	1 1/2"	2 1/4"	4, 6, 8	9877K701	$14.42
1/8	1 1/2"	2 1/4"	10, 20, 30, 40	9877K511	11.06
1/8	1 1/2"	2 1/4"	60, 100	9877K424	15.87
1/4	1 1/2"	2 1/4"	4, 6, 8	9877K702	14.56
1/4	1 1/2"	2 1/4"	10, 20, 30, 40	9877K522	11.17
1/4	1 1/2"	2 1/4"	60, 100	9877K889	16.03
3/8	1 1/2"	2 1/4"	4, 6, 8	9877K703	14.71
3/8	1 1/2"	2 1/4"	10, 20, 30, 40	9877K513	11.29
3/8	1 1/2"	2 1/4"	60, 100	9877K657	16.19
1/2	1 1/2"	2 1/4"	4, 6, 8	9877K704	14.85
1/2	1 1/2"	2 1/4"	10, 20, 30, 40	9877K514	11.40
1/2	1 1/2"	2 1/4"	60, 100	9877K814	16.35
3/4	2 1/8"	3 3/16"	4, 6, 8	9877K705	17.38
3/4	2 1/8"	3 3/16"	10, 20, 30, 40	9877K515	14.56
3/4	2 1/8"	3 3/16"	60, 100	9877K815	21.11
1	2 1/8"	3 3/16"	4, 6, 8	9877K706	17.56
1	2 1/8"	3 3/16"	10, 20, 30, 40	9877K516	14.71
1	2 1/8"	3 3/16"	60, 100	9877K816	21.32
1 1/4	2 1/8"	3 3/16"	4, 6, 8	9877K707	17.73
1 1/4	2 1/8"	3 3/16"	10, 20, 30, 40	9877K517	14.85
1 1/4	2 1/8"	3 3/16"	60, 100	9877K817	21.53
1 1/2	2 5/8"	4 3/16"	4, 6, 8	9877K708	23.60
1 1/2	2 5/8"	4 3/16"	10, 20, 30, 40	9877K518	18.01
1 1/2	2 5/8"	4 3/16"	60, 100	9877K818	25.19
2	2 5/8"	4 3/16"	4, 6, 8	9877K709	23.84
2	2 5/8"	4 3/16"	10, 20, 30, 40	9877K519	18.19
2	2 5/8"	4 3/16"	60, 100	9877K819	25.45
2 1/2	3 1/2"	5 3/16"	4, 6, 8	9877K271	39.73
2 1/2	3 1/2"	5 3/16"	10, 20, 30, 40	9877K687	30.75
2 1/2	3 1/2"	5 3/16"	60, 100	9877K746	32.47
3	3 1/2"	5 3/16"	4, 6, 8	9877K712	43.18
3	3 1/2"	5 3/16"	10, 20, 30, 40	9877K612	35.01
3	3 1/2"	5 3/16"	60, 100	9877K864	36.16
With NPT Male Connection					
3/8	2 1/2"	2 1/4"	4, 6, 8	9806K311	14.56
3/8	2 1/2"	2 1/4"	10, 20, 30, 40	9806K611	11.17
3/8	2 1/2"	2 1/4"	60, 100	9806K911	16.03
1/2	2 1/2"	2 1/4"	4, 6, 8	9806K321	14.71
1/2	2 1/2"	2 1/4"	10, 20, 30, 40	9806K621	11.29
1/2	2 1/2"	2 1/4"	60, 100	9806K929	16.19
3/4	2 1/2"	2 1/4"	4, 6, 8	9806K331	14.85
3/4	2 1/2"	2 1/4"	10, 20, 30, 40	9806K631	11.40
3/4	2 1/2"	2 1/4"	60, 100	9806K931	16.35
1	2 1/2"	3"	4, 6, 8	9806K301	17.74
1	2 1/2"	3"	10, 20, 30, 40	9806K302	14.85
1	2 1/2"	3"	60, 100	9806K303	21.53
2	4 1/4"	4 3/16"	4, 6, 8	9806K341	29.25
2	4 1/4"	4 3/16"	10, 20, 30, 40	9806K641	24.41
2	4 1/4"	4 3/16"	60, 100	9806K941	25.79
3	4 5/8"	5 3/16"	4, 6, 8	9806K361	43.48
3	4 5/8"	5 3/16"	10, 20, 30, 40	9806K661	35.21
3	4 5/8"	5 3/16"	60, 100	9806K961	43.18

Miniature PVC Suction Strainers

- Use with water
- Max. Temp.: 120° F

Use these strainers with water softeners, pressure washers, and in hydraulic systems. A black PVC connection is paired with a Type 304 stainless steel screen for good corrosion resistance. Connection is female; it fits NPT male threads.

To Order: Please specify screen mesh size from those listed in the table.



For Pipe Size	Ht.	Dia.	Available Screen Mesh Sizes		
1/4	1 1/8"	1 1/2"	20, 30, 40, 50, 80	98755K11	$2.57
3/8	1 1/4"	1 1/2"	20, 30, 40, 50, 80	98755K12	2.57
1/2	1 9/16"	1 3/4"	20, 30, 40, 50, 80	98755K13	3.38
3/4	1 11/16"	2 3/16"	20, 30, 40, 50, 80	98755K14	4.62
1	2 3/8"	3 3/16"	20, 30, 40, 50, 80	98755K15	8.68
1 1/2	2 3/8"	3 3/16"	20, 30, 40, 50, 80	98755K16	9.17

All-Nylon Suction Strainers

- Use with water, salt water, oil, and paint
- Max. Temp.: 225° F

For applications that corrode metal, use one of these all-nylon strainers. Screen size is 30 mesh. Color is black.



Female Connection

Pipe Size	Ht.	Dia.		
With NPT Female Connection				
1/8	4 5/16"	2 1/4"	9812K31	$9.74
1/4	4 5/16"	2 1/4"	9812K32	9.84
3/8	4 5/16"	2 1/4"	9812K33	9.93
1/2	4 5/16"	2 1/4"	9812K34	10.03
3/4	4 5/16"	2 1/4"	9812K35	10.13
With NPT Male Connection				
3/8	5 5/16"	2 1/4"	9812K41	9.93
1/2	5 5/16"	2 1/4"	9812K42	9.97
3/4	5 5/16"	2 1/4"	9812K43	10.13

Bronze Suction Strainers with Check Valve

- Use with water
- Temp. Range: 32° to 190° F

Often used in water-delivery applications, these strainers block particles from entering your line and stop backward flow. They're also known as foot valves. Screen has 7/64" perforations. Body is bronze and screen is Type 430 stainless steel. Check valve has a Buna-N seal. Max. pressure is 400 psi. Connection is NPT.



Female Threads



Female and Male Threads

Pipe Size Female	Pipe Size Male	Ht.	Dia.		
With Female Threads					
3/4	—	3 3/4"	1 3/8"	4856K111	$25.53
1	—	4 3/4"	1 3/4"	4856K121	27.19
1 1/4	—	5"	2 1/8"	4856K131	29.71
1 1/2	—	6 5/16"	2 1/2"	4856K141	48.89
2	—	7 3/16"	3 1/8"	4856K151	80.64
3	—	9 1/2"	4 5/8"	4856K171	354.33
With Female and Male Threads					
3/4	1	3 3/4"	1 5/16"	4856K211	33.36
1	1 1/4	5"	1 5/8"	4856K221	34.86
1 1/4	1 1/2	5"	1 15/16"	4856K231	41.49

Cast Iron Suction Strainers with Check Valve

- Use with water and oil
- Temp. Range: 32° to 150° F

Also known as foot valves, use these rugged strainers to stop debris from entering your pipeline and prevent backward flow. Screen has 5/16" Dia. holes. Body is cast iron. Check valve has a leather flapper. Max. pressure is 10 psi. Connection is NPT female.



Pipe Size	Ht.	Dia.	Strainer		Replacement Flapper	
1 1/2	4 1/8"	4 5/8"	5436K331	$86.76	5436K61	$15.99
2	5 1/4"	5 3/4"	5436K341	89.90	5436K62	15.99
3	7 3/16"	7 5/8"	5436K361	148.87	5436K63	24.13
4	8 7/8"	9 1/16"	5436K371	205.92	5436K64	42.49
6	12"	11 7/16"	5436K391	332.46	5436K66	78.52

PVC Suction Strainers with Check Valve

- Use with water, oil, and diesel fuel
- Temp. Range: 40° to 140° F

Stop large particles from entering your line while preventing backward flow. Also known as foot valves. Screen has 3/16" perforations. Body and screen are PVC. Check valve has a fluoroelastomer seal. Max. pressure is 150 psi.

Strainers with 1/2 to 2 pipe size come with an NPT female and a socket weld (unthreaded) union fitting for each pipe connection; *3 and 4 pipe size* come with an NPT female union fitting.



Pipe Size	Ht.	Dia.	Strainer		Replacement Screen	
1/2	4 7/8"	2 1/4"	4441K511	$77.14	4441K31	$41.23
3/4	5"	2 5/8"	4441K521	87.36	4441K32	46.27
1	5 7/8"	3"	4441K531	107.93	4441K33	54.49
1 1/4	6 15/16"	4"	4441K571	149.76	4441K34	86.21
1 1/2	7 1/16"	4"	4441K541	172.03	4441K34	86.21
2	8 9/16"	4 3/4"	4441K551	222.01	4441K35	103.26
3	11 1/4"	6 9/16"	4441K561	420.80	4441K36	143.16
4	14 5/8"	8 9/16"	4441K591	626.75	4441K37	165.77

Cut-to-Size Acetal Suction Strainer with Check Valve



- Use with water
- Temp. Range: 32° to 180° F

A convenient replacement part to keep on-hand, this strainer has NPT male threads for 3/4, 1, 1 1/4, and 1 1/2 pipe sizes. Use a hacksaw to remove the pipe sizes that are smaller than you need. Also known as a foot valve, the strainer has a check valve to stop backward flow. Screen has 3/32″ perforations. Body is white acetal. Check valve has a neoprene seal. Overall size is 1 15/16″ Dia. x 7″ Ht.

4492K121 ..... $25.00

Steam Traps

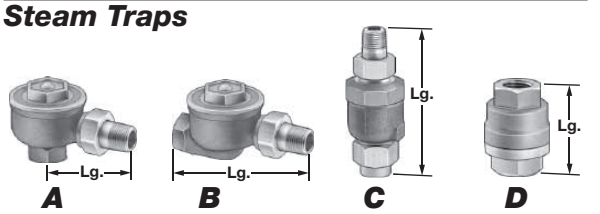

Increase the efficiency of your radiator by venting cool air—these compact steam traps open and close based on temperature. Also known as thermostatic steam traps, they are often used with convection heaters, drip lines, and risers. Connections are NPT.

Style A are for 90° pipe connections. Inlet is male and outlet is female; install with the outlet pointing down.

Style B are for horizontal pipe. Inlet is male and outlet is female.

Styles C&D are for vertical pipe; install with the outlet pointing down. *Style C* have a male inlet and female outlet. *Style D* have a female inlet and outlet.

	Pipe Size	Max. psi	Max. Temp.	Condensate Capacity, lbs./hr.	Lg.		
Brass Steam Traps							
A	1/2	25	265° F	210	2 7/8″	**9840K21**	$91.31
A	1/2	65	310° F	350	2 7/8″	**9840K61**	120.00
A	3/4	25	265° F	430	3 1/8″	**9840K23**	147.89
A	1	65	310° F	820	3 5/8″	**9840K65**	273.35
B	1/2	25	265° F	210	4 1/2″	**9840K25**	112.46
B	1/2	65	310° F	350	4 1/2″	**9840K67**	154.54
B	3/4	25	265° F	430	5″	**9840K27**	167.00
C	1/2	125	350° F	1,500	5 1/8″	**9840K33**	183.58
Bronze Steam Traps							
A	1/2	25	250° F	50	3 1/4″	**1709K21**	52.90
A	1/2	25	250° F	125	3 1/4″	**1709K25**	80.81
A	1/2	50	250° F	875	3 1/4″	**1709K11**	99.28
A	1/2	125	250° F	4,800	3 1/4″	**1709K36**	117.56
A	3/4	25	250° F	100	3 1/4″	**1709K23**	68.68
A	3/4	25	250° F	125	3 3/8″	**1709K27**	86.84
A	3/4	50	250° F	1,200	3 1/4″	**1709K13**	108.11
A	3/4	125	250° F	6,300	3 1/4″	**1709K38**	128.94
Type 316 Stainless Steel Steam Traps							
D	1/4	304	500° F	1,000	2″	**8810T21**	368.14
D	1/2	304	500° F	1,000	2 7/16″	**8810T22**	405.30
D	1/2	650	650° F	650	3 3/4″	**8027K42**	335.49

Versa-Mount High-Flow Steam Traps

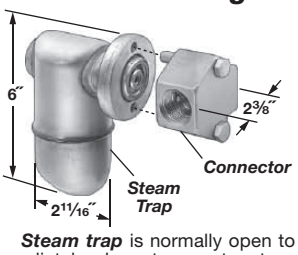

Get near-continuous condensate discharge in vertical or horizontal pipe. Install the connector in either direction—steam trap swivels on the connector so it can be positioned vertically.

Connector and steam trap are sold separately. Choose the connector that fits your line, and attach the steam trap with the included bolts. Position steam trap vertically after mounting.

Steam trap is normally open to release condensate; it closes immediately when steam enters to prevent energy loss. Also known as an inverted-bucket steam trap. Body is Type 304 stainless steel. Max. pressure is 200 psi. Max. temp. is 800° F. Condensate capacity is 500 lbs./hr.

Connectors are Type 304 stainless steel.

Steam Trap	**4382K31**	$333.05
1/2 NPT Female Connector	**4382K32**	157.19
3/4 NPT Female Connector	**4382K33**	157.19

High-Flow Steam Traps



Cast Iron



Type 304 Stainless Steel

Also known as inverted-bucket steam traps, these provide near-continuous discharge to accommodate high condensate levels. Traps are normally open to release condensate. They close immediately when steam enters to prevent energy loss. Install in a horizontal pipeline. Connections are NPT female.

Type 304 stainless steel steam traps are more corrosion resistant than cast iron.

Pipe Size	Max. psi	Max. Temp.	Condensate Capacity, lbs./hr.	Lg.	Ht.		
Cast Iron Steam Traps							
1/2	15	450° F	1,040	5″	6 3/8″	**4897K51**	$174.20
1/2	30	450° F	1,000	5″	6 3/8″	**4897K21**	174.20
1/2	75	450° F	965	5″	6 3/8″	**4897K52**	174.20
1/2	125	450° F	920	5″	6 3/8″	**4897K27**	174.20
1/2	250	450° F	720	5″	6 3/8″	**4897K34**	221.81
3/4	15	450° F	1,040	5″	6 3/8″	**4897K53**	174.20
3/4	15	450° F	3,220	6 5/8″	7 5/8″	**4897K55**	421.02
3/4	30	450° F	1,000	5″	6 3/8″	**4897K22**	174.20
3/4	30	450° F	3,220	6 5/8″	7 5/8″	**4897K23**	421.02
3/4	75	450° F	965	5″	6 3/8″	**4897K54**	174.20
3/4	75	450° F	2,550	6 5/8″	7 5/8″	**4897K56**	421.02
3/4	125	450° F	920	5″	6 3/8″	**4897K28**	174.20
3/4	125	450° F	2,240	6 5/8″	7 5/8″	**4897K29**	421.02
3/4	250	450° F	720	5″	6 3/8″	**4897K35**	221.81
3/4	250	450° F	2,300	6 5/8″	7 5/8″	**4897K36**	421.02
1	15	450° F	3,900	8″	9 1/4″	**4897K57**	564.40
1	30	450° F	4,120	8″	9 1/4″	**4897K24**	564.40
1	75	450° F	3,960	8″	9 1/4″	**4897K58**	564.40
1	125	450° F	4,100	8″	9 1/4″	**4897K41**	564.37
1	250	450° F	3,630	8″	9 1/4″	**4897K37**	602.73
1 1/4	125	450° F	8,540	9 3/8″	13″	**4897K42**	927.37
1 1/4	250	450° F	6,040	9 3/8″	13″	**4897K38**	927.03
2	15	450° F	20,000	11 1/4″	17″	**4897K62**	1,447.01
2	30	450° F	18,500	11 1/4″	17″	**4897K26**	1,447.01
2	75	450° F	19,200	11 1/4″	17″	**4897K63**	1,447.01
2	125	450° F	20,000	11 1/4″	17″	**4897K33**	1,447.01
2	250	450° F	19,400	11 1/4″	17″	**4897K39**	1,491.14
Type 304 Stainless Steel Steam Traps							
3/8	200	800° F	500	4 3/8″	5 3/8″	**17115K81**	333.05
1/2	200	800° F	500	4 3/8″	5 3/8″	**17115K82**	333.05
1/2	400	800° F	580	4 3/8″	6 3/8″	**17115K83**	333.05
3/4	400	800° F	580	4 3/8″	6 5/8″	**17115K84**	333.05
3/4	650	600° F	1,500	5″	8 1/2″	**17115K91**	842.95
1	650	600° F	1,500	5″	8 1/2″	**17115K92**	842.95

Super-Energy-Saving Steam Traps



E&G



F

Maximize the energy from your steam line. Also known as thermodynamic steam traps, these discharge condensate when it's close to steam temperature for minimal energy loss. They also minimize noisy water hammer. Often used with tanks and vats, steam mains, steam tracers, presses, and heating equipment. Body is stainless steel. Max. temp. is 800° F. Install in a horizontal pipeline. Connections are NPT female.

(F) Steam traps with strainer stop debris from moving down the pipeline. Screen has 1/32″ perforations.

(G) Zero-steam-loss steam traps are insulated to increase energy efficiency.

Pipe Size	Max. psi	Condensate Capacity, lbs./hr.	Lg.	Ht.		
(E) Steam Traps						
3/8	600	1,250	2″	1 3/4″	**4920K51**	$138.67
1/2	600	2,000	2 11/16″	2″	**4920K52**	165.37
3/4	600	3,050	2 13/16″	2 7/16″	**4920K53**	189.60
1	600	4,700	3 5/16″	2 7/8″	**4920K54**	290.43
(F) Steam Traps with Strainer						
3/8	600	1,250	3 1/16″	4 1/4″	**4920K61**	198.39
1/2	600	2,000	3 1/16″	4 1/4″	**4920K62**	221.83
3/4	600	3,050	3 1/16″	4 1/4″	**4920K63**	250.10
1	600	4,700	3 1/4″	4 3/4″	**4920K64**	379.04
(G) Zero-Steam-Loss Steam Traps						
3/8	600	1,250	2″	2 1/4″	**8833T21**	246.28
1/2	600	2,000	2 3/4″	2 1/2″	**8833T22**	368.82
3/4	600	3,050	2 13/16″	2 15/16″	**8833T23**	472.14
1	600	4,700	3 5/16″	3 7/16″	**8833T24**	645.14

For information about pipe size, see pages 2-3.

Energy-Saving High-Flow Steam Traps

Vent cool air and condensate to increase energy efficiency in your steam lines. The vent on these steam traps is normally open, allowing condensate and air to flow out. It closes immediately when steam enters to prevent energy loss. Also known as thermostatic steam traps, they're ideal for use with heat exchangers, air-heating coils, and drip stations in steam lines. Traps are cast iron. Connections are NPT female.

Steam traps for inline or parallel pipe connection have an inlet and an outlet on each side to connect inline or parallel steam and condensate lines. Include two plugs for the unused ports.

Steam traps for parallel pipe connection have an inlet and outlet on the same side to connect parallel steam and condensate lines.

Steam traps for inline pipe connection have an inlet and outlet on opposite sides to connect inline steam and condensate lines.



For Inline or Parallel Pipe Connection



For Parallel Pipe Connection



For Inline Pipe Connection

Pipe Size	Max. psi	Max. Temp.	Condensate Capacity, lbs./hr.	Lg.	Ht.		
For Inline or Parallel Pipe Connection							
3/4	15	250° F	1,075	3 5/16"	5 3/4"	4913K51	$160.67
3/4	30	270° F	1,370	3 5/16"	5 3/4"	4913K71	164.29
3/4	75	320° F	1,450	3 5/16"	5 3/4"	4913K61	198.58
3/4	125	350° F	1,190	3 5/16"	5 3/4"	4913K81	210.44
1	15	250° F	1,075	3 5/16"	5 3/4"	4913K52	161.77
1	30	270° F	1,370	3 5/16"	5 3/4"	4913K72	165.42
1	75	320° F	1,450	3 5/16"	5 3/4"	4913K62	222.71
1	125	350° F	1,190	3 5/16"	5 3/4"	4913K82	248.70
1 1/4	15	250° F	2,340	3 5/16"	5 3/4"	4913K57	186.48
1 1/4	30	270° F	2,000	3 5/16"	5 3/4"	4913K73	207.23
For Parallel Pipe Connection							
1 1/4	75	320° F	5,400	3"	8 3/8"	4913K66	311.64
1 1/4	125	350° F	4,500	3"	8 3/8"	4913K83	352.84
1 1/2	15	250° F	7,600	3"	8 3/8"	4913K56	307.48
1 1/2	30	270° F	7,000	3"	8 3/8"	4913K74	303.45
1 1/2	75	320° F	5,400	3"	8 3/8"	4913K67	255.07
1 1/2	125	350° F	4,500	3"	8 3/8"	4913K84	359.90
2	15	250° F	10,900	4 15/16"	9 1/8"	4913K58	467.61
2	30	270° F	10,000	4 15/16"	9 1/8"	4913K75	501.57

Pipe Size	Max. psi	Max. Temp.	Condensate Capacity, lbs./hr.	Lg.	Ht.		
For Parallel Pipe Connection (Cont.)							
2	75	320° F	7,700	4 15/16"	9 1/8"	4913K68	$507.48
2	125	350° F	6,600	4 15/16"	9 1/8"	4913K85	984.65
For Inline Pipe Connection							
1/2	15	295° F	1,075	4 13/16"	5 13/16"	4913K111	309.38
1/2	30	310° F	1,370	4 13/16"	5 13/16"	4913K112	359.55
1/2	75	365° F	1,450	4 13/16"	5 13/16"	4913K113	489.15
1/2	125	395° F	1,190	4 13/16"	5 13/16"	4913K114	505.87
1/2	200	430° F	985	4 13/16"	5 13/16"	4913K115	510.05
3/4	15	295° F	1,075	4 13/16"	5 13/16"	4913K211	312.16
3/4	30	310° F	1,370	4 13/16"	5 13/16"	4913K212	359.55
3/4	75	365° F	1,450	4 13/16"	5 13/16"	4913K213	489.15
3/4	125	395° F	1,190	4 13/16"	5 13/16"	4913K214	505.87
3/4	200	430° F	985	4 13/16"	5 13/16"	4913K215	510.05
1	15	295° F	1,075	4 13/16"	5 13/16"	4913K311	366.51
1	30	310° F	1,370	4 13/16"	5 13/16"	4913K312	392.99
1	75	365° F	1,450	4 13/16"	5 13/16"	4913K313	557.44
1	125	395° F	1,190	4 13/16"	5 13/16"	4913K314	557.44
1	200	430° F	985	4 13/16"	5 13/16"	4913K315	560.22

Sanitary Steam Filters with Reusable Cartridge

Follow health and safety practices for food and dairy applications. These steam filters meet 3-A sanitary standard requirements. They have a carbon cartridge that removes 95% of particles down to 2 microns. Cartridge can be cleaned for reuse. Max. pressure is 100 psi. Max. temp. is 360° F. Connections are NPT female.



Pipe Size	Steam Capacity @100 psi, lbs./hr.	Lg.	Ht.	Filter		Replacement Cartridge	
1/2	160	9 3/16"	8 11/16"	44105K71	$535.38	44105K11	$163.02
3/4	285	8 3/16"	8 11/16"	44105K72	535.38	44105K11	163.02
1	460	8 3/16"	10 11/16"	44105K73	609.23	44105K12	150.00
1 1/2	1,090	11 3/16"	15 3/16"	44105K74	1,016.92	44105K13	402.75
2	1,800	11 3/16"	18 3/16"	44105K75	1,081.54	44105K14	440.00

Maintenance-Free Moisture/Particle Separators for Air and Steam Lines

Get nothing but clean dry air, inert gas, or steam—separators remove 99% of moisture and particles down to 10 microns. Plus they have no baskets or cartridges to clean or replace. Particles fall to the bottom of the separator and are discharged through the drain trap with minimal pressure loss.

Body is cast iron. Max. temp. is 450° F. Separators meet ASME Code Section VIII for pressure vessels. Connections are NPT female.

For Low Pressure— Smaller and more efficient than separators for medium pressure, a baffle separates contaminants from your media.

For Medium Pressure— Separators use centrifugal flow to remove contaminants from your media. They have a 1/4 NPT female vent on top.



For Low Pressure

Pipe Size	*Capacity @ 150 psi* Air, scfm	Steam, lbs./hr.	Lg.	Ht.		
For Low Pressure— *Max. pressure is 150 psi.*						
1/2	100	235	5 1/2"	12"	51725K41	$404.15
3/4	145	390	5 1/2"	12"	51725K42	404.15
1	180	595	6"	12"	51725K43	412.02
1 1/4	330	900	6"	12"	51725K44	417.21
1 1/2	440	1,650	7 1/2"	14 1/2"	51725K45	474.38
2	700	2,250	8 1/8"	16 1/4"	51725K46	520.00
2 1/2	1,350	3,800	9 3/8"	18 1/4"	51725K47	580.43
3	1,800	5,750	11 1/16"	19 1/2"	51725K48	661.40
For Medium Pressure— *Max. pressure is 250 psi.*						
3/4	125	350	5 1/2"	12 9/16"	9838K15	522.35
1	190	700	6"	11 1/4"	9838K11	580.24
1 1/4	300	1,100	6"	13 3/8"	9838K12	880.94
1 1/2	425	1,450	7 1/4"	15 9/16"	9838K13	998.21
2	770	2,800	8 1/8"	16 7/16"	9838K14	1,109.08
2 1/2	1,170	4,300	12"	22 3/16"	9838K16	1,453.66
3	1,750	6,600	11"	22 7/16"	9838K17	1,415.17

Oil-Mist-Eliminating Filters

Stop oil and smoke from exhausting into your environment. Often used with small oil-sealed vacuum pumps, these remove 99% of particles down to 0.3 micron. Filters have a nickel-plated steel housing and a fiberglass element that's reinforced with epoxy-coated steel wire. Max. pressure is not rated. Max. temp. is 220° F. Connection is NPT male.



Pipe Size	Max. scfm @ 2 psi	Ht.	Dia.	Filter		Replacement Element	
1/2	4 1/2	4 1/2"	2 1/2"	9218K81	$112.20	9218K21	$26.35
3/4	4 1/2	4 5/8"	2 1/2"	9218K82	132.93	9218K21	26.35

About Filters and Particle Sizes

Use a filter to reduce contaminants in your process media. Filters trap particles of a specific size and larger. Contaminants are so small that the particle size is measured in microns—a unit of length equal to one millionth of a meter or 0.0000394 of an inch.

Common Particle Sizes in Microns

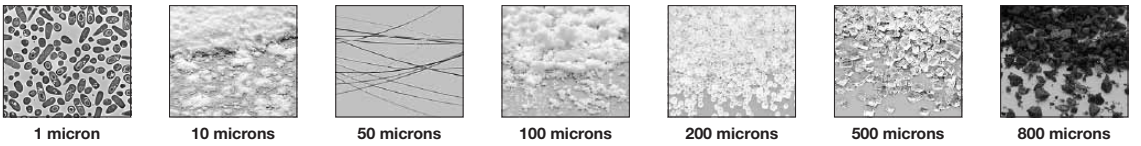

Water Filters

For information about pipe size, see pages 2-3.

High-Temperature Water Filters



Remove particles from hot water lines. Water filters have a max. temperature of 160° F. Housing is glass-reinforced nylon. Water filters with a 1/2 pipe size have a black housing; 3/4 pipe size have an orange/red housing. Connections are NPT female.

Pipe Size	Max. Flow, gpm	Overall Dia.	Overall Ht.	Max. psi	Particle Size, microns	Water Filters		Replacement Cartridges OD	Replacement Cartridges Ht.		
Reduces Particles											
1/2	2	4 3/8"	12"	125	5	5190K62	$82.40	2 1/2"	9 7/8"	8147K52	$6.00
3/4	5	4 7/8"	7"	125	5	5190K73	85.44	2 5/8"	4 7/8"	5190K83	10.26
3/4	10	4 7/8"	12"	125	5	5190K74	104.11	2 5/8"	9 3/4"	5190K84	13.01

Quick-Change Water Filters



Swap cartridges with a turn of your wrist—filters come with a cartridge that connects directly to the filter head. Water flow stops automatically when the cartridge is disconnected. Filter head is white polypropylene. Maximum temperature is 100° F. Connections are push-to-connect tube fittings.

For Tube OD	Max. Flow, gpm	Overall Dia.	Overall Ht.	Max. psi	Particle Size, microns	Water Filters		Replacement Cartridges OD	Replacement Cartridges Ht.		
Reduces Taste, Odor, and Chlorine—NSF/ANSI 42 Certified											
1/4"	0.5	3"	12"	125	5	8484T61	$43.79	2 5/8"	9"	8484T66	$32.84
1/4"	0.75	3"	12"	125	Not Rated	8484T51	34.49	2 5/8"	9"	8484T56	22.70
Reduces Taste, Odor, Chlorine, and Lead—NSF/ANSI 42 and 53 Certified											
1/4"	0.5	3"	12"	125	0.5	8484T31	45.57	2 5/8"	9"	8484T36	34.68

Easy-to-Clean Water Filters



3/4 and 1 Pipe Size



2 Pipe Size

There's no need to stop your water supply and disassemble these filters for cleaning. Turn the handle to flush debris from the cartridge and purge dirty water through the drain at the bottom; drain is threaded for connection to pipe or hose. Bowl is clear polycarbonate so you can monitor debris collecting in the cartridge without stopping flow.

Water filters for 3/4 and 1 pipe size have NPT male threaded connections. Maximum temperature is 120° F.

Water filter for 2 pipe size has a female unthreaded socket end. Connect to pipe using a PVC primer and cement (see series 74605A on pg. 3466). Maximum temperature is 73° F.

Pipe Size	Max. Flow, gpm	Overall Lg.	Overall Ht.	Max. psi	Choose a Particle Size, microns	Water Filters		Replacement Cartridges OD	Replacement Cartridges Ht.		
Reduces Particles											
3/4	25	6"	12"	100	105, 150, 250	5159K61	$75.51	1 3/8"	5 3/4"	5159K91	$31.45
1	39	6"	12"	100	105, 150, 250	5159K64	81.63	1 3/8"	5 3/4"	5159K91	31.45
2	100	5 1/2"	17 7/8"	150	105, 150, 250	5159K67	141.72	1 7/8"	10"	5159K97	40.97

Drinking Water Filters



Prepare water for use in beverages, food preparation, and ice production. Both the water filter and replacement cartridge meet NSF/ANSI Standard 61 for use with drinking (potable) water. They also prevent scale formation, which can damage equipment. Housing is polypropylene and has two 1/4" slots for mounting. Maximum temperature is 100° F. Filter comes with a flow-control valve, adapters, and a 5-ft. length of 3/8" tubing for under-sink installation between a water line and faucet. Pipe connections are NPT female.

Pipe Size	Max Flow, gpm	Overall Dia.	Overall Ht.	Max. psi	Particle Size, microns	Water Filter		Replacement Cartridge OD	Replacement Cartridge Ht.		
Reduces Algae, Taste, Odor, Lead, and Iron—Meets NSF/ANSI Standards 42 and 53											
3/8	0.75	4"	16"	125	0.5	9839K16	$273.67	4"	10 1/4"	9839K17	$124.50

Deionized Water Filters



Made from pure polypropylene, this filter housing doesn't contain fillers, colorants, or plasticizers that can leach into deionized water. It comes with a cartridge that filters particles from your deionized water line. Filter housing is opaque white so it blocks light to minimize algae growth. Maximum temperature is 100° F. Connections are NPT female.

Pipe Size	Max Flow, gpm	Overall Dia.	Overall Ht.	Max. psi	Particle Size, microns	Water Filter		Replacement Cartridge OD	Replacement Cartridge Ht.		
Reduces Particles											
3/4	10	5 3/32"	12 1/16"	100	0.2	1354N11	$153.52	2 3/4"	9 3/4"	1354N12	$85.73

For information about pipe size, see pages 2-3. For information about particle size, see page 412.

Water Filters

Reduce undesirable substances in your water. Filters have a pressure release so you can replace cartridges safely. Max. temperature is 125° F, unless noted. Connections are NPT female.

Filters with Easy-View Bowl—A clear styrene bowl lets you monitor debris collecting in the cartridge without stopping flow.

Filters with flow-control valve allow you to stop flow to replace the cartridge. 4496K51 comes with adapters for 3/4" compression tube fittings so you can route flow around a clogged cartridge.

Filters with Light-Blocking Blue Bowl—An opaque polypropylene bowl minimizes algae growth.

Filters with clog indicator have a differential pressure gauge that shows when it's time to replace a dirty cartridge. They include a mounting bracket. This product cannot be sold in California, Iowa, and Wisconsin.



With Easy-View Bowl



With Easy-View Bowl and Flow-Control Valve



With Light-Blocking Blue Bowl



With Light-Blocking Blue Bowl and Clog Indicator

Pipe Size	Max. Flow, gpm	Overall Dia.	Overall Ht.	Max. psi	Particle Size, microns	Water Filters		Replacement Cartridges OD	Replacement Cartridges Ht.			Replacement Seals		Mounting Brackets	
With Easy-View Bowl															
Reduces Particles and Rust															
1/4	10	4 3/4"	12"	125	20	4422K31	$28.75	2 1/2"	9 7/8"	4422K61	$6.14	4422K12	$1.32	4422K96	$2.33
3/8	5	4 5/8"	8"	125	5	4422K4	41.57	2 3/8"	4 7/8"	5165K39	3.41	4422K52	2.76	4422K23	5.57
1/2	10	4 3/4"	12"	125	20	4422K32	28.75	2 1/2"	9 7/8"	4422K61	6.14	4422K12	1.32	4422K96	2.33
3/4	10	5 1/4"	13"	125	20	4422K3	37.62	2 5/8"	9 3/4"	7191K11	4.78	4422K54	2.81	4422K26	9.89
3/4	20	5 1/2"	25"	150	20	4448K44	87.87	2 3/4"	20"	4448K45	19.12	4448K51	1.50	44195K4	8.56
1	25	7 9/16"	14"	100	50	9860K11	140.22	4 1/2"	10"	9860K21	25.25	9860K17	2.88	9860K31	32.00
1	25	7 9/16"	24"	100	50	9860K12	190.33	4 1/2"	20"	9860K22	45.12	9860K17	2.88	9860K31	32.00
1 1/2	25	7 9/16"	14"	100	50	9860K11	140.22	4 1/2"	10"	9860K21	25.25	9860K17	2.88	9860K31	32.00
1 1/2	25	7 9/16"	24"	100	50	9860K12	190.33	4 1/2"	20"	9860K22	45.12	9860K17	2.88	9860K31	32.00
Reduces Odor and Chlorine															
1/4	4	4 3/4"	12"	125	5	4422K33	35.68	2 7/8"	9 3/4"	4422K62	10.89	4422K12	1.32	4422K96	2.33
3/8	2	4 5/8"	8"	125	5	4422K51	42.11	2 1/2"	4 7/8"	45175K15	6.24	4422K52	2.76	4422K23	5.57
1/2	4	4 3/4"	12"	125	5	4422K34	36.40	2 7/8"	9 3/4"	4422K62	10.89	4422K12	1.32	4422K96	2.33
3/4	5	5 1/4"	13"	125	5	4422K11	48.50	2 1/2"	9 3/4"	45175K4	8.11	4422K54	2.81	4422K26	9.89
3/4	8	5 1/2"	25"	150	3	4448K46★	100.74	2 5/8"	20"	4448K47★	38.00	4448K51	1.50	44195K4	8.56
Reduces Chlorine															
3/4	1	5 1/2"	25"	150	1	4422K77	156.10	2 3/4"	20"	4422K84	65.30	4448K51	1.50	44195K4	8.56
1	2	7 1/2"	24"	100	5	9860K16	233.10	4 1/2"	20"	9860K26	81.70	9860K17	2.88	9860K31	32.00
1	3	7 1/2"	24"	100	1	9860K14	291.20	4 1/2"	20"	9860K24	137.30	9860K17	2.88	9860K31	32.00
1 1/2	2	7 1/2"	24"	100	5	9860K16	233.10	4 1/2"	20"	9860K26	81.70	9860K17	2.88	9860K31	32.00
1 1/2	3	7 1/2"	24"	100	1	9860K14	291.20	4 1/2"	20"	9860K24	137.30	9860K17	2.88	9860K31	32.00
Reduces Oil, Gasoline, Diesel Fuel, and Hydrocarbons															
3/4	4	4 3/4"	12"	125	5	4422K75	116.43	2 1/2"	9 3/4"	4422K81	65.34	4422K12	1.32	4422K96	2.33
With Easy-View Bowl and Flow-Control Valve															
Reduces Particles and Rust															
3/4	7	5"	14"	125	5	4496K41	68.12	2 3/4"	9 3/4"	4496K42	10.00	4496K61	1.32	4422K14	6.75
Reduces Odor and Chlorine															
3/4	5	5"	13"	125	5	4496K51★	74.43	2 1/2"	9 3/4"	4361K52★	10.62	4496K52	5.30	4496K53	18.53
With Light-Blocking Blue Bowl															
Reduces Particles and Rust															
1/4	10	4 3/4"	12"	125	20	4448K35	26.11	2 1/2"	9 7/8"	4422K61	6.14	4422K12	1.32	4422K96	2.33
3/8	5	4 3/8"	7"	125	5	4448K26	25.19	2 3/8"	4 7/8"	5165K39	3.41	4422K52	2.76	4422K23	5.57
1/2	10	4 3/4"	12"	125	20	4448K36	25.06	2 1/2"	9 7/8"	4422K61	6.14	4422K12	1.32	4422K96	2.33
3/4	10	5 1/8"	13"	125	20	4448K22	44.79	2 5/8"	9 3/4"	7191K11	4.78	4422K54	2.81	4422K26	9.89
3/4	10	5 1/8"	23"	125	20	4448K24	67.79	2 5/8"	20"	7191K13	11.09	4422K54	2.81	4422K26	9.89
3/4	20	7 5/16"	24"	90	20	44075K14	95.55	4 1/2"	20"	44075K19	28.69	4422K13	3.34	4422K17	32.91
1	10	7 1/4"	14"	100	50	44075K21★	67.95	4 1/2"	9 3/4"	44075K67★	17.58	4422K56	4.03	44075K93	36.22
1	20	7 5/16"	24"	90	20	44075K15	99.14	4 1/2"	20"	44075K19	28.69	4422K13	3.34	4422K17	32.91
1 1/2	10	7 1/4"	14"	100	50	44075K22★	69.17	4 1/2"	9 3/4"	44075K67★	17.58	4422K56	4.03	44075K93	36.22
1 1/2	20	7 5/16"	24"	90	20	44075K16	103.51	4 1/2"	20"	44075K19	28.69	4422K13	3.34	4422K17	32.91
Reduces Odor and Chlorine															
1/4	4	4 3/4"	12"	125	5	4448K38	33.03	2 7/8"	9 3/4"	4422K62	10.89	4422K12	1.32	4422K96	2.33
3/8	5	4 3/8"	7"	125	5	4448K6	41.21	2 1/2"	4 7/8"	45175K15	6.24	4422K52	2.76	4422K23	5.57
1/2	4	4 3/4"	12"	125	5	4448K39	34.06	2 7/8"	9 3/4"	4422K62	10.89	4422K12	1.32	4422K96	2.33
3/4	2	7 1/4"	14"	100	25	44075K31★	79.98	4 1/2"	9 3/4"	44075K81★	44.16	4422K56	4.03	44075K93	36.22
3/4	5	5 1/8"	13"	125	5	4448K67	38.60	2 1/2"	9 3/4"	45175K4	8.11	4422K54	2.81	4422K26	9.89
3/4	5	5 1/8"	23"	125	5	4448K68	46.36	2 1/2"	20"	4448K17	21.39	4422K54	2.81	4422K26	9.89
3/4	8	7 5/16"	24"	90	5	44075K26	128.52	4 5/8"	20"	44075K29	85.96	4422K13	3.34	4422K17	32.91
1	2	7 1/4"	14"	100	25	44075K32★	79.98	4 1/2"	9 3/4"	44075K81★	44.16	4422K56	4.03	44075K93	36.22
1	8	7 5/16"	24"	90	5	44075K27	137.12	4 5/8"	20"	44075K29	85.96	4422K13	3.34	4422K17	32.91
1 1/2	8	7 5/16"	24"	90	5	44075K28	142.54	4 5/8"	20"	44075K29	85.96	4422K13	3.34	4422K17	32.91
Reduces Iron															
1	4	7 1/4"	24"	90	30	44075K41★	178.32	4 1/2"	20"	44075K49★	107.48	4422K56	4.03	44075K93	36.22
With Light-Blocking Blue Bowl and Clog Indicator															
Reduces Taste, Odor, and Bacteria															
1/2	1	5 3/8"	14"	125	0.15	8931T21	170.30	2 7/8"	10 1/4"	8931T26	92.10	4422K52	2.76	4422K23	5.57
3/4	1	5 3/8"	14"	125	0.15	8931T22	182.47	2 7/8"	10 1/4"	8931T26	92.10	4422K54	2.81	8931T14	3.87

★ Maximum temperature is 100° F.

Disposable Water Filters



Connect one of these in your water line for filtration without the cost of a separate filter housing. They're well suited to low-flow applications. Housing is polypropylene. Maximum temperature is 100° F.

With NPT Female Threads

Pipe Size	Max Flow, gpm	Lg.	Dia.	Max. psi	Particle Size, microns		
Reduces Particles and Rust—Meets NSF/ANSI Standard 42							
1/4	1	10″	2″	125	5	44205K22	$11.44
3/8	0.5	6″	2″	125	5	44205K24	12.60
3/8	1	10″	2″	125	5	44205K25	10.69
3/8	2	11″	2 1/2″	125	5	44205K26	17.27
Reduces Odor and Chlorine							
1/4	0.5	10″	2″	125	5	44205K12	18.89
1/4	–	10 1/2″	2 1/2″	125	–	44205K95	20.42
3/8	0.5	10″	2″	125	5	44205K15	19.26
3/8	1	14″	2 1/2″	125	5	44205K16	33.76

With Push-to-Connect Tube Fittings

For Tube OD	Max Flow, gpm	Lg.	Dia.	Max. psi	Particle Size, microns		
Reduces Particles and Rust—Meets NSF/ANSI Standard 42							
1/4″	1	10″	2″	125	5	44205K42	$13.69
1/4″	2.5	14″	2 1/2″	125	5	44205K43	23.42
Reduces Odor and Chlorine							
1/4″	0.5	10″	2″	125	5	44205K32	21.84
1/4″	0.75	10″	2″	125	–	44205K92 ★	22.53
3/8″	0.5	10″	2″	125	5	44205K35	22.42

★ Has compression tube fittings.

Under-the-Sink Drinking Water Filters with Tank



Four-Stage Filter

Also known as reverse osmosis water filters, these meet NSF/ANSI Standard 58 to reduce particles, Total Dissolved Solids (TDS), fluoride, lead, selenium, and copper. Filters come with a tank to store filtered water, as well as a faucet, tubing, wrench, and fittings for installation.

Cartridge housings are polypropylene. First-, second-, and third-stage cartridges are 2 1/2″ OD × 9 3/4″ Ht. Pressure range is 40- 90 psi. Max. temp. is 100° F.

Three-stage filter produces up to 7.5 gallons per day. The housing has an overall size of 14″ Wd. × 5″ Dp. × 13″ Ht.; tank is 12″ Dia. × 17″ Ht. Reverse osmosis cartridge is 2″ OD × 12″ Ht.

Four-stage filter has an additional 0.5 micron cartridge to protect the reverse osmosis cartridge from damage caused by particles and chlorine. The filter produces up to 9.5 gallons per day. Housing has an overall size of 13 1/2″ Wd. × 5 1/2″ Dp. × 17 1/4″ Ht.; tank is 9″ Dia. × 13 1/2″ Ht. Reverse osmosis cartridge is 2 1/4″ OD × 9 3/4″ Ht. This product cannot be sold in California.

Three-Stage Filter		
Reduces Particles, Rust, Taste, and Odor		
Water Filter	4361K31	$341.85
Replacement Cartridges		
First- and Third-Stage Cartridge Set	4361K54	42.32
Reverse Osmosis Cartridge	4361K55	108.00
Four-Stage Filter		
Reduces Particles, Rust, Taste, and Odor		
Water Filter	4361K11	431.76
Replacement Cartridges		
First-Stage Cartridge (Pkg. of 2)	4361K26	12.45
0.5 Micron Second-Stage Cartridge	4361K23	30.00
Reverse Osmosis Cartridge	4361K25	126.51
Fourth-Stage Cartridge	4361K24	19.95

UV-Light Water Purifiers

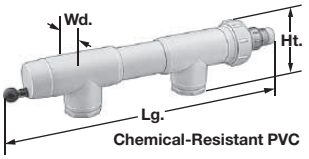

Chemical-Resistant PVC

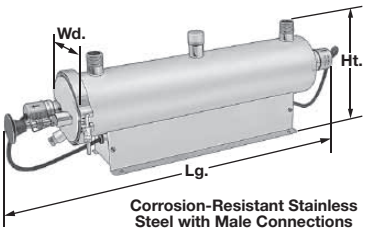

Corrosion-Resistant Stainless Steel with Male Connections

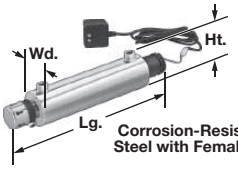

Corrosion-Resistant Stainless Steel with Female Connections

Treat water without using heat or chemicals—purifiers use ultraviolet light. All come with a UV bulb that's rated for 10,000 hours of service. They operate on 120 volts AC @ 60 Hz and have a 5 1/2-ft. cord with a three-prong plug, except stainless steel purifiers with female connections have an 8-ft. cord. Connections are NPT, except pipe size 2 PVC filter has socket weld connections.

Chemical-resistant PVC purifiers have a maximum temperature of 150° F.

Corrosion-resistant stainless steel purifiers have a maximum temperature of 105° F.

Pipe Size	Max. Flow, gpm	*Overall* Lg.	*Overall* Wd.	*Overall* Ht.	Max. psi	Water Purifiers		Replacement UV Bulbs		Replacement Bulb Sleeves	
Chemical-Resistant PVC—Female Connections											
3/4	10	18″	4″	5″	50	8938T11	$407.41	8938T21	$118.52	8938T31	$90.74
3/4	12	18″	4″	5″	50	8938T12	416.67	8938T22	111.11	8938T31	90.74
3/4	20	22″	4″	5″	50	8938T53	509.26	8938T63	117.24	8938T32	90.74
2	50	39″	4″	5″	50	8938T14	787.04	8938T24	120.37	8938T33	90.74
Corrosion-Resistant Stainless Steel—Male Connections											
3/4	3	20″	5″	9″	100	3532K32	971.67	3532K52	66.67	3532K62	40.44
3/4	6	26″	5″	9″	100	3532K33	1,080.59	3532K53	66.67	3532K63	52.00
1	12	40″	6″	10″	100	3532K34	1,216.47	3532K54	74.87	3532K64	56.33
1 1/2	20	53″	6″	10″	100	3532K35	1,511.96	3532K55	89.23	3532K65	86.67
2	40	53″	7″	12″	100	3532K37	2,948.63	3532K56	294.44	3532K66	173.33
Corrosion-Resistant Stainless Steel—Female Connections											
1/4	1	12 3/8″	2 1/2″	3″	100	3532K41	349.04	3532K71	67.31	3532K81	31.25
1/4	1.5	15 3/8″	2 1/2″	3″	100	3532K42	349.04	3532K72	67.31	3532K82	31.25

Water Softeners



Protect food-service appliances and process equipment from damage caused by hard water—softeners remove calcium chloride, which is the primary cause of scale formation. Water softeners have polypropylene housing and come with a bracket for mounting. Max. temperature is 100° F. Connections are NPT female.

Pipe Size	Max. Flow, gpm	*Overall* Dia.	*Overall* Ht.	Max. psi	Max. Calcium Chloride, grains	Water Softeners		Replacement Cartridges OD	Replacement Cartridges Ht.		
Reduces Calcium Chloride and Minerals											
3/4	0.75	5 1/8″	22 3/8″	125	1,500	8986T11	$98.70	2 5/8″	20″	8986T51	$35.23
1	2	7 1/4″	23 3/8″	90	4,500	8986T12	193.87	4 1/2″	20″	8986T52	62.45

Water Deionizers



Improve water quality for use in critical applications and sensitive equipment. Deionizers remove dissolved ions, which reduces the electrical conductivity and scale-forming minerals in water. Bowl is clear polypropylene so you can see the cartridge; replace your cartridge when the media changes color. Deionizers have a pressure release so you can replace cartridges safely. Maximum temperature is 100° F. Connections are NPT female.

Pipe Size	Max. Flow, gpm	Overall Dia.	Overall Ht.	Max. psi	Water Deionizers		Replacement Cartridges OD	Replacement Cartridges Ht.		
Reduces Calcium Carbonate and Magnesium										
3/4	1	5 3/8"	23"	90	8980T31	$137.47	2 1/2"	20"	8980T71	$56.76
1	2	7 5/16"	14"	90	8980T32	206.00	4 1/2"	9 3/4"	8980T72	79.90

Disposable Water Deionizers



Shown with Mounting Bracket

Designed for use in low-flow applications without back pressure, these have barbs on each end for connection with tubing. Housing is clear polypropylene so you can see the media; replace your cartridge when the media changes color. Maximum temperature is 120° F. Pressure is not rated.

Extended-life deionizer produces a larger quantity of water than the high-purity deionizer for a longer service life. Water quality has an average resistivity of 50,000 ohms.

High-purity deionizer produces a higher water quality than the extended-life deionizer; water quality has an average resistivity of 1,000,000 ohms.

For Tube ID	Max. Flow, gpm	Overall Dia.	Overall Ht.	Water Deionizers Extended Life		Water Deionizers High Purity		Mounting Brackets	
Reduces Sodium Chloride									
3/8"	0.35	3 3/8"	19"	3535K65	$126.50	3535K66	$130.86	3535K89	$53.55

Quick-Change Water Deionizers



One-Cartridge Deionizer

A quarter turn releases the cartridge in these deionizers for speedy replacement. Cartridges have a polypropylene housing. Maximum temperature is 120° F.

Extended-life deionizers produce a larger quantity of water than the high-purity deionizer for a longer service life. Water quality has an average resistivity of 50,000 ohms. *Two-cartridge deionizer* comes with a faucet and a digital meter that indicates when to replace the cartridge. Meter operates on 120 volts AC @ 60 Hz and has a 6-ft. cord with a three-prong plug.

High-purity deionizer produces a higher water quality than the extended-life deionizers; water quality has an average resistivity of 1,000,000 ohms.

	Pipe Size	Wd.	Ht.	Max. Flow, gpm	Max. psi	Extended Life		High Purity	
Reduces Sodium Chloride									
One-Cartridge Deionizer	1/2	7"	24"	1.1	100	3523K18	$672.77	3523K19	$677.00
Two-Cartridge Deionizer	1/2	15"	27"	1.1	100	3523K21	2,910.84		
Replacement Cartridge	1/2	3 3/8" Dia.	17 3/16"	1.1	100	3523K81	148.40	3523K82	152.55

Wall-Mount Water Deionizers with Indicating Light



The sensor on this deionizer gives a clear signal when it's time to replace the cartridge—an indicating light turns from green to red when the water quality rises above a Total Dissolved Solids (TDS) measurement of 50 ppm. One cartridge can process an average of 600 gallons, depending on your water quality. The deionizer comes with everything you need for operation including a 10-ft. inlet hose, a 20-ft. outlet hose, and a bracket with two 3/8" dia. holes for wall mounting. The indicating light operates on two D batteries (included). Maximum temperature is 90° F. Connections are garden hose thread (GHT) male.

Pipe Size	Max. Flow, gpm	Overall Dia.	Overall Ht.	Max. psi	Water Deionizers		Replacement Cartridges OD	Replacement Cartridges Ht.		Replacement Indicating Sensors	
Reduces Calcium and Magnesium											
3/4	2	6"	44"	80	70715K83	$395.96	5"	28"	70715K82	$156.52	70715K11	$149.91

High-Capacity Water Deionizers with Indicating Light

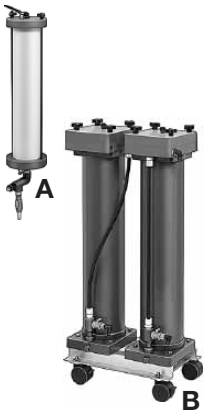

Generate a large supply of deionized water on demand. Deionizers have a light that indicates when you should replace the filter media. Housing is PVC. Maximum temperature is 100° F. Deionizers come with two lengths of tubing for the inlet and outlet connections. They operate on 120 volts AC @ 60 Hz and have an 8 1/2-ft. cord with a two-prong plug. Connections are for tubing; inlet is a compression fitting and outlet is barbed.

Style A come with one pack of filter media, unless noted, and a bracket for wall mounting. **Style B** comes with four packs of filter media and has casters on the bottom for mobility.

Extended-life deionizers produce a larger quantity of water than the ultrapure deionizers for a longer service life. Water quality has an average resistivity of 4,000,000 ohms.

Ultrapure deionizers produce a higher water quality than the extended-life deionizers; water quality has an average resistivity of 10,000,000 ohms.

	For Tube Size Inlet	For Tube Size Outlet	Max. Flow, gpm	Overall Ht.	Overall Wd.	Overall Dp.	Max. psi	Water Deionizers		Replacement Filter Media Packs	
Reduces Carbon Dioxide and Silica											
Extended Life											
A	3/8" OD	3/8" ID	0.5	23"	6 1/2"	6"	100	3537K31	$662.29	3537K51	$128.49
A	3/8" OD	3/8" ID	1	29"	6 1/2"	6"	100	3537K32★	711.83	3537K52	179.16
B	3/8" OD	3/8" ID	4	41"	19"	13"	50	3537K4	2,077.42	3537K54	665.98
Ultrapure											
A	3/8" OD	3/8" ID	0.5	23"	6 1/2"	6"	100	3537K33	673.81	3537K61	138.40
A	3/8" OD	3/8" ID	1	29"	6 1/2"	6"	100	3537K34★	716.44	3537K62	184.11

★Comes with two packs of filter media.

Pipe- & Tube-Fitting Filters

For information about pipe size, see pages 2-3. For information about particle size, see page 412.

Disposable Tube-Fitting Filters



A&B



C



D

Ensure samples are contaminant-free for consistent, accurate quality analysis. Filters are also used to protect sensitive process components, such as flow controls and valves.

(A-C) With Easy-View Housing—Clear nylon housing allows you to monitor dirt accumulation. Max. temperature is 230°F. *Style B* is good for trapping oil in air lines; when the filter becomes saturated, it changes from white to red to indicate that it should be replaced.

(D) With Chemical-Resistant Housing—Housing is PVDF, which is more chemical resistant than nylon and withstands higher temperatures. Max. temperature is 275°F. Color is blue.

For Tube ID	Particle Size, microns Air	Liquids	Max. Flow scfm @ 125 psi	gpm @ 5 psi	Overall Dia.	Lg.	Max. psi		
With Easy-View Housing									
A	1/4"	0.01	2	6.6	0.25	1"	3 1/4"	125	**4795K3** $31.22
A	1/4"	0.01	2	7.3	0.43	17/16"	4 5/8"	125	**4795K42** 50.41
A	1/4"	0.01	25	10	0.5	1"	3 1/4"	125	**4795K1** 31.22
A	1/4"	0.01	25	14.6	0.75	17/16"	4 5/8"	125	**4795K41** 50.41
B	1/4"	0.01	Not Rated	6.6	Not Rated	1"	3 1/4"	125	**4795K31** 22.44
C	3/16" and 1/4"	0.01	2	6.6	0.25	1"	3 7/16"	125	**4795K22** 37.57
C	3/16" and 1/4"	0.01	25	10	0.5	1"	3 7/16"	125	**4795K21** 37.57
With Chemical-Resistant Housing									
D	1/4"	0.01	2	6.6	0.25	1"	3 1/4"	125	**4795K4** 45.53
D	1/4"	0.01	2	7.3	0.43	17/16"	4 5/8"	125	**4795K44** 64.88
D	1/4"	0.01	25	10	0.5	1"	3 1/4"	125	**4795K2** 45.53
D	1/4"	0.01	25	14.6	0.75	17/16"	4 5/8"	125	**4795K43** 64.88

Chemical-Resistant Disposable Tube-Fitting Filters



Remove particles from air, water, ink, oil, gasoline, and cleaning solutions. Housing is white acetal. Flow and temperature are not rated. Connections are barbed for tubing.

For Tube ID	Overall Dia.	Lg.	Max. psi @ 73°F	Choose a Particle Size, microns		
1/4"	5/8"	2"	100	65, 130	**8991T31**	$3.12
1/4"	1 1/8"	4"	100	20, 65, 105, 150, 250	**8991T32**	6.25
5/16"	1 1/8"	4"	100	20, 65, 105, 150, 250	**8991T33**	6.25
3/8"	1 1/8"	4"	100	20, 65, 105, 150, 250	**8991T34**	6.25

Ultrapure Disposable Pipe-Fitting Filters



Filters come cleaned and bagged for high-purity applications. Housing is white polypropylene.

Standard filters have a max. temp. of 140°F.

High-performance filters remove 99.9% of debris down to the particle size in the table. Also known as absolute rated. Max. temp. is 176°F.

Pipe Size	Particle Size, microns	Max. Flow, gpm	Overall Dia.	Lg.	Max. psi @ 68°F		
Standard							
1/4	0.2	0.8	3"	5"	70	**43825K21**	$103.48
1/4	0.45	1.5	3"	5"	70	**43825K22**	103.47
1/4	1.2	1	3"	5"	70	**43825K23**	76.52
1/4	5	2.7	3"	5"	70	**43825K24**	76.55
1/4	10	3.3	3"	5"	70	**43825K25**	76.52
1/2	0.2	0.8	3"	6"	70	**43825K41**	114.98
1/2	10	3.3	3"	6"	70	**43825K45**	85.02
High Performance							
1/4	0.2	1	3 3/4"	5"	100	**6645T18**	185.87
1/4	1	1	3 3/4"	5"	100	**6645T77**	197.18
1/4	1.2	1	3 3/4"	5"	100	**6645T49**	127.67
1/2	1.2	1	3 3/4"	5"	100	**6645T59**	127.91

Lab-Testing Disposable Tube-Fitting Filters



Use these filters with liquids and inert gases in sample testing applications. Housing is polypropylene. Max. temperature is 265°F. Connections are barbed for tubing.

High-purity filters are sterilized and come sealed and packaged individually.

Solvent-resistant filters withstand reagents and organic solvents, making them good for use in research testing.

High-flow filters are good for processing water-based and solvent samples.

For Tube ID, mm	Particle Size, microns	Max. Flow, gpm	Overall Dia.	Lg.	Max. psi		Pkg. of 10
High Purity							
6-10	0.2	0.04	2"	1 7/8"	60	**8995T11**	$252.70
6-10	0.45	0.059	2"	1 7/8"	60	**8995T12**	276.28
Solvent Resistant							
6-10	0.1	0.053	2"	1 7/8"	60	**8995T21**	193.32
6-10	1	0.238	2"	1 7/8"	60	**8995T22**	192.07
High Flow							
6-10	5	0.396	2"	1 7/8"	60	**8995T31**	184.47
6-10	10	0.581	2"	1 7/8"	60	**8995T32**	184.47

Disposable Pipe-Fitting Filters



Protect instrumentation and air-powered equipment from damage caused by debris—use these filters in place of regular fittings to trap particles in air, water, and oil. Filters are brass and bronze. Max. temperature is 300°F. Connections are NPT male.

Pipe Size	Max. Flow, cfm @ 100 psi	Lg.	Max. psi	Choose a Particle Size, microns		
1/8	10	1 1/4"	300	40, 90	**98355K833**	$3.60
1/4	23	1 1/2"	300	40, 90	**98355K843**	4.57
3/8	32	1 3/4"	300	40, 90	**98355K853**	4.92
1/2	59	2"	300	40, 90	**98355K863**	7.89

High-Pressure Pipe- and Tube-Fitting Filters



E



F

Trap small particles in high-pressure liquid and air applications. Filter element is porous Type 316 stainless steel. Flow is not rated. **Style F** have an access port on top so you can replace the filter element without disconnecting your pipeline.

	Connection Size	Particle Size, microns	Lg.	Brass Max. psi	Brass Max. Temp.			Type 316 Stainless Steel Max. psi	Type 316 Stainless Steel Max. Temp.		
With NPT Female Threads for Pipe											
E	1/8 NPT	10	2 9/16"	1,000	300°F	**9811K81**	$37.81	3,000	450°F	**9811K84**	$117.96
E	1/4 NPT	10	2 7/8"	1,000	300°F	**9811K82**	39.94	3,000	450°F	**9811K85**	87.68
F	1/4 NPT	10	2 1/4"	3,000	450°F	**9816K72**	84.60	5,000	450°F	**9816K75**	141.10
With Compression Fittings for Tubing											
E	For 1/4" Tube OD	10	3 5/16"	1,000	300°F	**9811K83**	43.02	3,000	450°F	**9811K86**	87.68
F	For 1/8" Tube OD	10	2 11/16"	3,000	450°F	**9816K71**	83.38	5,000	450°F	**9816K74**	133.99
F	For 1/4" Tube OD	10	2 15/16"	3,000	450°F	**9816K73**	88.65	5,000	450°F	**9816K76**	141.21
Replacement Type 316 Stainless Steel Filter Element for Style F										**9811K44**	17.48

For information about pipe size, see pages 2-3. For information about particle size, see page 412.

Super-High-Flow Filter Cartridge Housings and Cartridges



Accommodate flow in high-volume water filtering applications. Housing and cartridges are sold separately.

Housing is Type 316L stainless steel for excellent corrosion resistance. It has two pressure gauges to indicate when it's time to replace a dirty cartridge. Housing also has an easy-access clamp cover and two ½ NPT female drains. Cover seal is Buna-N. Pipe connections are NPT male.

Cartridges are pleated to provide a large surface for high dirt retention. Made of polyester, they can be cleaned and used again.

				Housings				Cartridges				
	Max.			Overall						Choose a		
Pipe Size	Flow, gpm	Max. psi	Max. Temp.	Dia.	Ht.			OD	Ht.	Particle Size, microns		
2	150	150	140°F	12½″	47″	3455K21	$1,297.74	7¾″	30¾″	5, 20, 50	3455K35	$184.46

Plastic Filter Cartridge Housings



With Easy-View Bowl



With Light-Blocking Blue Bowl

Filter contaminants from water lines. Housings have a pressure release (unless noted) so you can replace cartridges safely. Use cartridges that are open on both ends and have a 1″ ID, unless otherwise stated. Connections are NPT female.

With Easy-View Bowl—A clear styrene bowl lets you monitor debris collecting in the cartridge without stopping flow.

With Light-Blocking Bowl—An opaque bowl minimizes algae growth. **Blue bowl** is polypropylene; **black bowl** is glass-reinforced nylon, which withstands higher temperatures than polypropylene.

With High-Purity Bowl—Often used in semiconductor applications, housings are made of pure polypropylene without any fillers or additives. Color is translucent white. 44195K12 and **K22** use cartridges with an O-ring end cap.

			Fits Max.	Housings for 10″ High Cartridges					Housings for 20″ High Cartridges				
Pipe Size	Max. psi	Max. Temp	Cartridge OD	Max. Flow, gpm	Dia.	Ht.			Max. Flow, gpm	Dia.	Ht.		
With Easy-View Bowl													
¾	150	125°F	2½″	10	5½″	14″	9979T71	$46.50	20	5½″	24″	9979T73	$63.40
1	100	125°F	4½″	25	7½″	14″	9979T81	99.70	25	7½″	24″	9979T83	137.90
1½	100	125°F	4½″	25	7½″	14″	9979T81	99.70	25	7½″	24″	9979T83	137.90
With Light-Blocking Blue Bowl													
¾	125	125°F	2⅞″	10	5⅛″	13″	9979T21	25.53	10	5⅛″	23″	9979T23	43.29
¾	90	100°F	4½″	15	7¼″	14″	9979T31	32.51	15	7¼″	24″	9979T33	77.60
1	90	100°F	4½″	15	7¼″	14″	9979T41	32.51	15	7¼″	24″	9979T43	47.45
1½	90	100°F	4½″	20	7¼″	14″	9979T51	35.00	20	7¼″	24″	9979T53	50.34
With Light-Blocking Black Bowl													
¾	125	165°F	2⅞″	8	5⅛″	13″	9979T61★	125.41	8	5⅛″	23″	9979T63★	193.05
With High-Purity Bowl													
¾	150	125°F	2¾″	10	5⁹⁄₁₆″	14″	44195K11★	48.64	20	5⁹⁄₁₆″	23″	44195K21★	65.36
¾	150	125°F	2¾″	10	5⁹⁄₁₆″	14″	44195K12★	56.72	20	5⁹⁄₁₆″	23″	44195K22★	73.55

★ Housing does not have a pressure release.

High-Pressure Filter Cartridge Housings

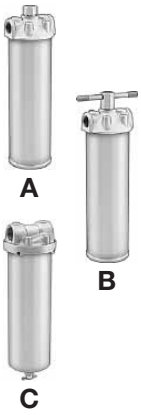

A

B

C

When plastic housings can't take the pressure, choose one of these metal housings. Cover seal is Buna-N, unless noted. Drain is ⅛ NPT female. Use with cartridges that are open on both ends and have a 1″ ID. Pipe connections are NPT female.

				Fits Max.	Housings for 9¾″-10″ High Cartridges					Housings for 20″ High Cartridges				
	Pipe Size	Max. psi	Max. Temp	Cartridge OD	Max. Flow, gpm	Dia.	Ht.			Max. Flow, gpm	Dia.	Ht.		
With Steel Bowl														
A	¾	250	250°F	2¾″	7	4″	14″	43715K46	$89.75	14	4″	24″	43715K47	$120.61
A	1	250	250°F	2¾″	7	4″	14″	43715K11	95.30	14	4″	24″	43715K12	128.35
With Type 304 Stainless Steel Bowl														
A	½	250	250°F	2¾″	1¾	4″	8″	43715K41■▲	125.45	—	—	—	—	—
A	¾	250	250°F	2¾″	7	4″	14″	43715K42	157.16	14	4″	24″	43715K43	197.32
B	¾	250	250°F	2¾″	7	3⅝″	14″	43905K66	162.47	14	3⅝″	24″	43905K77	209.35
C	1	300	200°F	2¾″	7	4⅛″	14″	4117K11▲	164.10	14	4⅛″	24″	4117K12▲	210.41
C	1	300	200°F	4½″	20	6″	15″	4117K16▲♣	280.80	—	—	—	—	—
C	1½	300	200°F	4½″	—	—	—	—	—	25	6″	25″	4117K21▲♣	367.16
With Type 316L Stainless Steel Bowl														
A	¾	250	250°F	2¾″	7	4″	14″	43715K44	278.91	14	4″	24″	43715K45	333.16
A	1	250	250°F	2¾″	7	4″	14″	43715K13	304.75	14	4″	24″	43715K14	352.89
C	1	300	250°F	2⅞″	7	4⅛″	18″	6882K1▲	494.15	14	4⅛″	28″	6882K2▲	564.73

■ Uses 3¾″ high cartridges. ▲ Drain is ¼ NPT female. ♣ Cover seal is EPDM.

High-Flow Multiple-Filter-Cartridge Housings



With Easy-Access Clamp Cover



With Tight-Seal Bolt Cover

Designed for use in high-volume pipe lines, housings are Type 304 stainless steel for good corrosion resistance. Use with cartridges that are open on both ends and have a 1″ ID. Connections are NPT male.

Housings with easy-access clamp cover can be used with a variety of cartridge types. Cover seal is Buna-N. Drain is ½ NPT female. Pipe connections are on the sides.

Housings with tight-seal bolt cover are for use with high-capacity pleated cartridges for high dirt retention. Cover seal is EPDM. Drain is 1 NPT male. Connections are on the bottom.

						Cartridges				
Pipe Size	Max. Flow, gpm	Dia.	Ht.	Max. psi	Max. Temp.	Qty. Req'd	Height	OD		
With Easy-Access Clamp Cover										
2	28	10¼″	21″	150	300°F	4	9¾″-10″	2¾″	44395K81	$619.40
2	56	10¼″	31″	150	300°F	4	19½″-20″	2¾″	44395K82	670.65
2	84	10¼″	41″	150	300°F	4	29¼″-30″	2¾″	44395K83	733.04
2	112	10¼″	51″	150	300°F	4	39″-40″	2¾″	44395K86	931.34
With Tight-Seal Bolt Cover										
1½	30	13″	20″	150	140°F	7	9¾″	2¾″	9822K61	897.45
1½	60	13″	28″	150	140°F	7	19½″	2¾″	9822K62	1,107.30
2	100	13″	37″	150	140°F	8	29¼″	2¾″	9822K63	1,533.75

Filter Cartridges



Also known as string-wound cartridges, these are the most common type of cartridge used to filter liquid process lines. They have good capacity for trapping particles and rust. Cartridges are open on both ends and have a 1″ ID.

OD	Particle Size, microns	10″ Height Max. Flow, gpm			20″ Height Max. Flow, gpm		
For Water							
Cotton—Max. temp. is 120° F							
2½″	0.5	10	4411K981	$8.70	20	4411K982	$17.18
For Water and Oil							
Polypropylene—Max. temp. is 140° F							
2½″	1	3	4411K237	6.48	6	4411K245	12.55
2½″	5	4	4411K236	6.48	8	4411K244	12.55
2½″	20	6	4411K234	6.48	12	4411K242	12.55
2½″	50	6	4411K233	6.48	12	4411K241	12.55
2½″	100	6	4411K232	6.48	12	4411K239	12.55
2½″	150	6	4411K223	6.48	12	4411K238	12.55
Polyester—Max. temp. is 140° F							
2½″	1	3	4411K277	5.50	6	4411K287	10.25
2½″	5	4	4411K276	5.50	8	4411K286	10.25
2½″	10	5	4411K275	5.50	10	4411K285	10.25
2½″	20	6	4411K274	5.50	12	4411K284	10.25
2½″	50	6	4411K273	5.50	12	4411K283	10.25
2½″	100	6	4411K272	5.50	12	4411K282	10.25
2½″	150	6	4411K271	5.50	12	4411K281	10.25
Nylon—Max. temp. is 140° F							
2½″	1	3	4411K307	7.35	6	4411K318	14.72
2½″	5	4	4411K306	7.35	8	4411K317	14.72
2½″	10	5	4411K305	7.35	10	4411K316	14.72
2½″	20	6	4411K304	7.35	12	4411K315	14.72
2½″	50	6	4411K303	7.35	12	4411K314	14.72
2½″	100	6	4411K302	7.35	12	4411K313	14.72
2½″	150	6	4411K301	7.35	12	4411K312	14.72
For Water and Organic Acids							
Polypropylene—Max. temp. is 120° F							
4½″	1	10	44435K51	18.88	20	44435K61	34.07
4½″	5	10	44435K52	17.61	20	44435K62	35.20
4½″	10	10	44435K53	18.68	20	44435K63	34.65
4½″	20	10	44435K54	18.05	20	44435K64	30.17
4½″	50	10	44435K55	17.30	20	44435K65	28.71
4½″	100	10	44435K56	16.03	20	44435K66	27.50
Polypropylene—Max. temp. is 140° F							
2½″	1	3	4411K77	4.19	6	4411K66	8.36
2½″	3	2	4411K76	6.72	—	—	—
2½″	5	4	4411K74	4.19	8	4411K65	8.36
2½″	10	5	4411K75	4.19	10	4411K78	8.36
2½″	20	6	4411K73	4.19	12	4411K69	8.36
2½″	50	6	4411K72	4.19	12	4411K68	8.36
2½″	75	6	4411K79	6.01	6	4411K63	12.01
2½″	100	6	4411K71	4.19	12	4411K67	8.36
2½″	150	6	4411K227	4.19	12	4411K228	8.36
2½″	350	6	4411K89	5.81	6	4411K62	11.63
For Plating Solutions							
Polypropylene—Max. temp. is 180° F							
2½″	1	2	3327T31	4.76	4	3327T51	8.18
2½″	5	2	3327T32	4.76	4	3327T52	8.17
2½″	10	3	3327T33	4.76	6	3327T53	8.17
2½″	20	3	3327T34	4.77	6	3327T54	8.17
2½″	50	5	3327T35	4.77	10	3327T55	8.17
2½″	75	5	3327T36	4.75	10	3327T56	8.18
2½″	100	5	3327T37	4.75	10	3327T57	8.18

High-Temperature Filter Cartridges



Reduce particles and rust in applications with high- temperature liquids. Also known as string-wound cartridges, these have good dirt-holding capacity. Cartridges are open on both ends and have a 1″ ID.

Rayon and **bleached cotton** cartridges are made from FDA-compliant materials.

OD	Particle Size, microns	10″ Height Max. Flow, gpm			20″ Height Max. Flow, gpm		
For Water							
Polyester—Max. temp. is 275° F							
2½″	1	10	4411K911	$9.75	20	4411K921	$17.57
2½″	5	10	4411K912	9.16	20	4411K922	16.49
2½″	10	10	4411K913	8.80	20	4411K923	15.90
2½″	20	10	4411K914	8.76	20	4411K924	15.80
2½″	50	10	4411K915	8.22	20	4411K925	14.61
2½″	100	10	4411K916	7.11	20	4411K926	15.00
Rayon—Max. temp. is 250° F							
2½″	0.5	10	4411K852	17.72	20	4411K853	32.50
2½″	1	10	4411K876	7.40	20	4411K861	13.87
2½″	5	10	4411K874	7.00	20	4411K859	13.20
2½″	10	10	4411K875	6.65	20	4411K858	12.64
2½″	20	4	4411K851★	3.80	20	4411K857	12.23
2½″	20	10	4411K872	6.55	—	—	—
2½″	50	10	4411K869	6.11	20	4411K856	11.41
2½″	100	10	4411K862	6.14	20	4411K855	11.41
2½″	150	10	4411K877	6.14	20	4411K878	12.13
For Water and Oil							
Cotton—Max. temp. is 250° F							
2½″	1	3	4411K37	8.24	6	4411K46	16.52
2½″	5	4	4411K34	8.24	8	4411K45	16.52
2½″	10	5	4411K35	8.24	10	4411K44	16.52
2½″	20	6	4411K33	8.24	12	4411K43	16.52
2½″	50	6	4411K32	8.24	12	4411K42	16.52
2½″	100	6	4411K31	8.24	12	4411K41	16.52
2½″	150	6	4411K201	8.24	12	4411K202	16.52
4½″	1	11	44435K36	28.67	21	44435K46	52.49
4½″	5	14	44435K35	26.98	28	44435K45	49.44
4½″	10	18	44435K34	26.98	35	44435K44	51.83
4½″	20	21	44435K33	26.08	42	44435K43	49.85
4½″	50	23	44435K32	25.01	46	44435K42	48.22
4½″	100	25	44435K31	23.58	49	44435K41	45.33
For Organic Solvents and Mineral Acids							
Fiberglass—Max. temp. is 750° F							
2½″	0.5	2	4521K11	11.87	4	4521K21	23.67
2½″	1	3	4521K12	11.22	6	4521K22	23.56
2½″	5	5	4521K13	11.11	10	4521K23	23.56
2½″	10	10	4521K14	10.58	20	4521K24	21.26
2½″	20	10	4521K15	10.63	20	4521K25	19.53
2½″	50	10	4521K16	10.07	20	4521K26	20.77
2½″	100	10	4521K17	9.43	20	4521K27	20.84
2½″	150	10	4521K18	10.14	20	4521K28	19.87
For Food and Beverages							
Bleached Cotton—Max. temp. is 275° F							
2½″	1	3	1669T21	5.00	6	1669T41	9.70
2½″	3	3	1669T22	5.00	6	1669T42	9.70
2½″	5	3	1669T23	5.00	6	1669T43	9.69
2½″	10	4	1669T24	5.00	8	1669T44	9.69
2½″	15	4	1669T25	5.00	8	1669T45	9.69
2½″	20	4	1669T26	5.01	8	1669T46	9.70
2½″	50	5	1669T27	4.99	10	1669T47	9.70
2½″	75	5	1669T28	4.99	10	1669T48	9.70
2½″	100	5	1669T29	5.01	10	1669T49	9.70

★ Cartridge height is 4″.

Extended-Life Filter Cartridges



Replace filter cartridges less frequently. Also known as string-wound cartridges, these have a sheet of filter media between the layers of string for greater dirt-holding capacity than other string-wound cartridges. Use them to trap particles and rust in your pipeline. All are made from FDA-compliant materials. Cartridges are open on both ends and have a 1″ ID.

OD	Particle Size, microns	Max. Flow, gpm	9⅞″ Height	
For Water, Food, and Beverages				
Polypropylene—Max. temp. is 140° F				
2½″	0.5	2	4535K71	$16.56
2½″	1	2	4535K81	17.00
2½″	3	3	4535K83	16.33
2½″	5	4	4535K73	13.51
2½″	10	4	4535K85	13.90
2½″	25	5	4535K75	11.95
2½″	50	5	4535K87	13.16
2½″	75	5	4535K89	12.98
2½″	100	5	4535K77	11.35
2½″	350	5	4535K78	11.28

OD	Particle Size, microns	Max. Flow, gpm	9⅞″ Height	
For Water, Food, and Beverages				
Cotton—Max. temp. is 250° F				
2½″	0.5	2	4535K41	$21.61
2½″	1	2	4535K51	22.69
2½″	3	3	4535K53	20.62
2½″	5	4	4535K43	17.28
2½″	10	4	4535K55	19.57
2½″	25	5	4535K45	16.07
2½″	50	5	4535K57	17.17
2½″	75	5	4535K59	16.78
2½″	100	5	4535K47	14.82
2½″	350	5	4535K48	14.82

Water Filter Cartridges

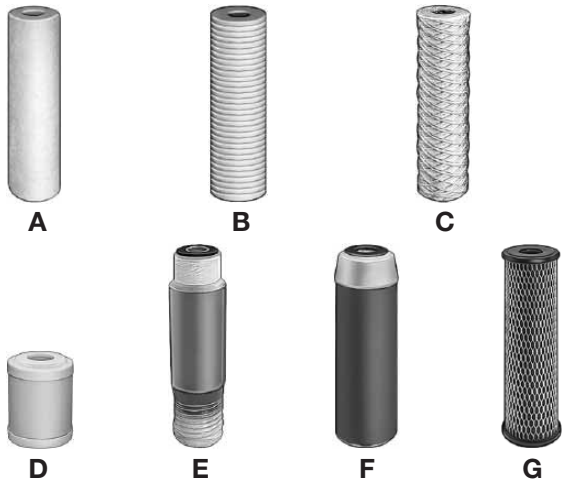

Use these cartridges in water filters to reduce contaminants in your line. All have a 1″ ID.

Styles A-C are made of polypropylene. They're commonly used as the first stage of water filtration. Cartridges are open on both ends.

Styles D-G use carbon to treat water quality. *Styles D, E,* and *G* are open on both ends, unless noted. *Style F* is open on one end and closed on the other.

	Height	OD	Particle Size, microns	Max. Flow, gpm	Max. Temp.		
Reduces Particles and Rust							
A	9¾″	2½″	5	5	140°F	6637T25	$6.98
A	9¾″	2½″	10	5	140°F	6637T31	6.40
A	9¾″	2½″	20	5	140°F	6637T32	6.40
A	9¾″	2½″	30	5	140°F	6637T33	6.11
A	9¾″	2½″	50	5	140°F	6637T35	5.80
A	9¾″	2½″	75	5	140°F	6637T37	5.80
A	9⅞″	2⅜″	1	5	145°F	5165K21	4.09
A	9⅞″	2⅜″	5	5	145°F	5165K42	3.75
A	9⅞″	2⅜″	25	5	145°F	5165K22	3.63
A	10″	2½″	5	5	140°F	6637T55	6.98
A	10″	2½″	10	5	140°F	6637T61	6.40
A	10″	2½″	20	5	140°F	6637T62	6.40
A	10″	2½″	30	5	140°F	6637T63	6.11
A	10″	2½″	50	5	140°F	6637T65	6.93
A	10″	2½″	75	5	140°F	6637T67	5.80
A	20″	2⅜″	1	10	145°F	5165K23	7.97
A	20″	2⅜″	5	10	145°F	5165K43	7.04
A	20″	2⅜″	25	10	145°F	5165K24	7.04
B	9⅞″	2½″	1	2	175°F	8147K51	7.47
B	9⅞″	2½″	5	2	175°F	8147K52	6.00
B	9⅞″	2½″	10	2	175°F	8147K53	7.20
B	9⅞″	2½″	25	2	175°F	8147K54	7.22
B	10″	2⅝″	50	8	175°F	8147K55	6.21
B	10″	2⅝″	75	8	175°F	8147K56	5.67
B	20″	2½″	1	5	175°F	8147K61	13.17
B	20″	2½″	5	5	175°F	8147K62	12.80
B	20″	2½″	10	5	175°F	8147K63	12.81
B	20″	2½″	25	5	175°F	8147K64	12.67
B	20″	2⅝″	50	16	175°F	8147K65	12.39
B	20″	2⅝″	75	16	175°F	8147K66	11.35
C	9¾″	2¼″	5	5	100°F	44015K87	5.40
Reduces Odor and Chlorine							
D	3¾″	2⅝″	5	2	140°F	4387K21	16.80
E	9¾″	2¾″	5	3	125°F	6629T44	9.14
F	9¾″	2⅞″	20	1	125°F	45175K67	13.10
G	4⅞″	2½″	5	0.5	125°F	45175K15	6.24
G	9¾″	2½″	5	1	125°F	45175K4	8.11
G	9¾″	2⅝″	1	1	145°F	45175K5	12.11
G	9¾″	2⅞″	0.5	0.6	180°F	45175K66★	19.56
G	9¾″	2⅞″	0.5	1	125°F	4542K27	20.36
G	9¾″	2⅞″	5	1	125°F	4542K26	12.84
G	9¾″	2⅞″	5	1	180°F	4168K36	12.40
G	9¾″	4⅝″	5	2	180°F	4168K37	33.44
G	9¾″	4¾″	25	10	100°F	4168K41	58.29
G	20″	2⅞″	0.5	2	180°F	4168K33	32.22
G	20″	2⅞″	5	2	180°F	4168K38	24.70
G	20″	4¾″	25	20	100°F	4168K42	116.06

★ Open on one end and closed on the other.

Extra-Tall Filter Cartridges


H


J

Sized to fit tall housings, use these cartridges to remove particles and rust from liquid process lines. Cartridges are open on both ends and have a 1″ ID.

(H) Rayon cartridges are made from FDA-compliant materials.

(J) High-capacity cartridges are pleated, which creates a large surface area for high particle retention. They're made from FDA-compliant materials.

OD	Particle Size, microns	Max. Flow, gpm	30″ Height	
For Water				
(H) Cotton—Max. temp. is 120°F				
2½″	0.5	30	4411K983	$25.56
(H) Polyester—Max. temp. is 275°F				
2½″	1	30	4411K931	23.59
2½″	5	30	4411K932	22.24
2½″	10	30	4411K933	21.35
2½″	20	30	4411K934	21.24
2½″	50	30	4411K935	19.97
2½″	100	30	4411K936	19.85
(H) Rayon—Max. temp. is 250°F				
2½″	0.5	30	4411K854	31.24
2½″	1	30	4411K868	17.82
2½″	5	30	4411K867	16.97
2½″	10	30	4411K866	16.27
2½″	20	30	4411K865	15.74
2½″	50	30	4411K864	14.67
2½″	100	30	4411K863	14.15
For Water and Oil				
(H) Cotton—Max. temp. is 250°F				
2½″	1	9	4411K56	24.76
2½″	5	12	4411K55	24.76
2½″	10	15	4411K54	24.76
2½″	20	18	4411K53	24.76
2½″	50	18	4411K52	24.76
2½″	100	18	4411K51	24.76
2½″	150	18	4411K203	24.76
For Water and Organic Acids				
(H) Polypropylene—Max. temp. is 140°F				
2½″	1	9	4411K97	12.55
2½″	5	12	4411K96	12.55
2½″	10	15	4411K95	12.55
2½″	20	18	4411K94	12.55
2½″	50	18	4411K93	12.55
2½″	75	6	4411K98	18.02
2½″	100	18	4411K92	12.55
2½″	150	18	4411K229	10.65
2½″	350	6	4411K235	17.46
For Food and Beverages				
(J) High-Capacity Polypropylene—Max. temp. is 140°F				
2¾″	0.2	14	5445T71	73.00
2¾″	0.45	18	5445T72	67.60
2¾″	1	20	5445T73	65.50
2¾″	3	20	5445T74	59.00
2¾″	10	24	5445T75	55.20
2¾″	20	24	5445T76	50.80
2¾″	30	30	5445T77	51.50

High-Performance Chemical-Resistant Filter Cartridges



Ensure consistent high-efficiency filtration of liquids. Also known as absolute rated filter cartridges, these remove 99.9% of debris down to the particle size listed in the table. Cartridges are open on both ends and have a 1″ ID.

		10″ Height			20″ Height		
OD	Particle Size, microns	Max. Flow, gpm			Max. Flow, gpm		
For Ethanol, Glycol, and Caustic Soda							
Polypropylene—Max. temp. is 180°F							
2½″	10	5	4539K61	$40.89	10	4539K71	$62.88
2½″	30	5	4539K63	36.49	10	4539K73	62.24
2½″	50	5	4539K65	36.12	10	4539K75	60.45
For Plating Solutions and Chemical Processing							
Polypropylene—Max. temp. is 200°F							
2⁹⁄₁₆″	1	5	44175K11	47.09	10	44175K21	98.43
2⁹⁄₁₆″	5	5	44175K13	35.84	10	44175K23	71.73
2⁹⁄₁₆″	10	5	44175K14	21.90	10	44175K24	43.81
2⁹⁄₁₆″	20	5	44175K16	21.90	10	44175K26	43.81
2⁹⁄₁₆″	120	5	44175K32	21.90	10	44175K42	43.83

Filter Cartridges

For information about particle size, see page 412.

Thick-Liquid Filter Cartridges



Designed for a long service life when used with thick liquids, these filter cartridges have a bonded-fiber construction that provides high strength and durability. Cartridges are open on both ends and have a 1″ ID.

OD	Particle Size, microns	9¾″ Height: Max. Flow, gpm			10″ Height: Max. Flow, gpm			20″ Height: Max. Flow, gpm		
For Adhesives, Ink, Paint, and Organic Solvents										
Acrylic/Polyester—Max. temp. is 250° F										
2 9/16″	5	5	9982T12	$4.86	5	9982T22	$4.86	10	9982T32	$9.83
2 9/16″	10	5	9982T13	4.86	5	9982T23	4.86	10	9982T33	11.25
2 9/16″	25	5	9982T15	4.86	5	9982T25	4.86	10	9982T35	9.83
2 9/16″	50	5	9982T16	4.86	5	9982T26	4.86	10	9982T36	9.83
2 9/16″	75	5	9982T17	4.86	5	9982T27	4.86	10	9982T37	9.43
2 9/16″	125	5	9982T18	4.86	5	9982T28	4.86	10	9982T38	9.43
For Grease, Varnish, Crude Oil, and Shellac										
Acrylic—Max. temp. is 250° F										
2 9/16″	2	5	43835K41	9.96	5	43835K51	9.96	10	43835K61	20.13
2 9/16″	5	5	43835K42	8.67	5	43835K52	8.67	10	43835K62	16.69
2 9/16″	10	5	43835K43	8.67	5	43835K53	8.67	10	43835K63	16.69
2 9/16″	25	5	43835K44	8.67	5	43835K54	8.67	10	43835K64	16.69
2 9/16″	50	5	43835K45	8.67	5	43835K55	8.67	10	43835K65	16.69
2 9/16″	75	5	43835K46	8.67	5	43835K56	8.67	10	43835K66	16.69
2 9/16″	125	5	43835K47	9.69	5	43835K57	9.69	10	43835K67	17.83

High-Performance Thick-Liquid Filter Cartridges



Also known as absolute rated filter cartridges, use these for consistent high-efficiency filtration. They remove 99.9% of debris down to the particle size listed in the table. Cartridges have a bonded-fiber construction that provides high strength and durability for a long service life when used with thick liquids. They are open on both ends and have a 1″ ID.

OD	Particle Size, microns	9¾″ Height: Max. Flow, gpm			20″ Height: Max. Flow, gpm		
For Detergents, Varnish, and Propylene/Glycol							
Acrylic—Max. temp. is 200° F							
2 5/8″	5	3	4539K11	$16.68	6	4539K21	$33.37
2 5/8″	10	4	4539K13	16.50	8	4539K23	33.01
2 5/8″	30	5	4539K15	14.22	10	4539K25	28.44
2 5/8″	50	7	4539K16	12.05	14	4539K26	24.24
2 5/8″	70	7	4539K17	11.78	14	4539K27	23.54

Scale- and Corrosion-Inhibiting Filter Cartridges



Prolong the service life of water-processing and food service equipment—the phosphate in these cartridges dissolves slowly in water to prevent the formation of scale and rust particles of 25 microns and larger. Cartridges are made from FDA-compliant materials. They're open on both ends and have a 1″ ID.

OD	10″ Height: Qty., oz.	10″ Height: Max. Flow, gpm			20″ Height: Qty., oz.	20″ Height: Max. Flow, gpm	
For Water, Food, Alkalies, and Organic Acids							
Phosphate—Max. temp. is 90° F							
2 1/2″	12	1.5	5562T12	$27.10	100	2	5562T16	$108.86
2 1/2″	18	2	5562T13	33.68	—	—	—	—
2 1/2″	24	2	5562T14	45.22	—	—	—	—
2 1/2″	40	1	5562T15	61.62	—	—	—	—
4 1/2″	110	4	5562T17	126.44	250	5	5562T18	270.20

Deionizing Water Filter Cartridges



Remove ions from your water supply for use in high-purity electronics and manufacturing applications. Max. temperature is 90° F. Cartridges are open on both ends and have a 1″ ID.

High-capacity cartridges have a longer service life than the ultrapure cartridges—they produce a larger quantity of water, but at a lower quality. Water quality has a resistivity of at least 20,000 ohms.

Ultrapure cartridges produce a higher water quality than the high-capacity cartridges; water quality has a resistivity of at least 14,000,000 ohms.

OD	Particle Size, microns	*10″ Height*: Max. Flow, gpm	High Capacity		Ultrapure		*20″ Height*: Max. Flow, gpm	High Capacity		Ultrapure	
2 1/2″	25	0.3	5598T21	$29.82	5598T11	$29.98	0.6	5598T41	$58.92	5598T31	$57.02
4 1/2″	25	0.8	5598T22	69.26	5598T12	64.38	1.5	5598T42	132.46	5598T32	123.08

High-Capacity Filter Cartridges with O-Ring End Cap



Closed Bottom



Closed Bottom with Fin

Ensure high-efficiency filtration in your high-purity applications. These cartridges have an O-ring end cap for a tight seal that prevents liquids from moving through the filter housing without passing through the filter cartridge. They only fit in housings designed for cartridges with O-ring end caps. O-rings are EPR rubber. Cartridges are made from FDA-compliant materials. They have an open top, closed bottom, and a 1″ ID.

Closed bottom with fin cartridges are designed for multi-cartridge housings; the fin helps you align the cartridge for a secure fit in the housing.

OD	Particle Size, microns	*10″ Height*: Max. Flow, gpm	Closed Bottom	Closed Bottom with Fin		*20″ Height*: Max. Flow, gpm	Closed Bottom	Closed Bottom with Fin		*30″ Height*: Max. Flow, gpm	Closed Bottom	Closed Bottom with Fin	
For Water and Beverages													
Polypropylene—Max. temp. is 140° F													
2 3/4″	0.2	5	44095K31	44095K81	$45.12	10	44095K41	44095K91	$70.50	14	44095K16	44095K71	$91.25
2 3/4″	0.45	5	44095K32	44095K82	41.00	10	44095K42	44095K92	62.25	18	44095K17	44095K72	84.50
2 3/4″	1	5	44095K33	44095K83	37.50	10	44095K43	44095K93	58.25	20	44095K18	44095K73	81.88
2 3/4″	3	10	44095K34	44095K84	36.25	20	44095K44	44095K94	57.50	20	44095K19	44095K74	73.75
2 3/4″	10	10	44095K35	44095K85	35.25	20	44095K45	44095K95	53.50	24	44095K26	44095K75	69.00
2 3/4″	30	10	44095K36	44095K86	33.25	20	44095K46	44095K96	48.88	30	44095K27	44095K76	64.38

For information about particle size, see page 412.

High-Capacity Filter Cartridges



Replace filter cartridges less frequently—a pleated surface provides a large area for high dirt retention. All are open on both ends. Cartridges with a 2½"-4½" OD have a 1" ID; cartridges with a 7¾" OD have a 2¾" ID.

Cartridges used for drinking water meet NSF/ANSI Standard 61.

OD	Particle Size, microns	10" Height Max. Flow, gpm			20" Height Max. Flow, gpm		
For Water							
Paper—Max. temp. is 125°F							
2½"	10	3	7191K31	$9.78	6	7191K22	$18.88
4½"	10	8	7191K32	22.28	16	7191K23	42.66
Paper—Max. temp. is 140°F							
2⅝"	20	12	7191K11	4.78	15	7191K13	11.09
4½"	2	5	6657T12	32.50	10	6657T42	55.25
4½"	10	8	6657T21	28.88	16	6657T51	44.00
4½"	20	8	6657T22	27.62	16	6657T52	44.62
Polyester—Max. temp. is 140°F							
2¾"	20	6	44295K41	8.01	—	—	—
2¾"	50	6	44295K42	8.01	—	—	—
4½"	20	12	6657T24	20.43	26	6657T54	35.23
4½"	30	8	6657T23	30.37	16	6657T53	51.87
4½"	50	12	6657T25	20.43	26	6657T55	35.23
For Drinking Water							
Polyester—Max. temp. is 140°F							
2¾"	0.35	5	45235K94	13.45	10	45235K24	25.47
2¾"	1	4	44295K31	7.16	8	44295K32	18.32
2¾"	1	5	45235K43	9.85	10	45235K13	20.20
2¾"	5	4	44295K17	6.43	8	44295K27	15.66
2¾"	5	5	45235K95	8.41	10	45235K25	17.01
2¾"	10	5	45235K31	8.41	10	45235K32	17.01
2¾"	20	4	44295K15	6.43	8	44295K25	15.66
2¾"	20	5	45235K96	8.41	10	45235K26	17.01
2¾"	50	4	44295K13	6.43	8	44295K23	15.66
2¾"	50	5	45235K97	8.41	10	45235K27	17.01
2¾"	100	5	45235K98	8.41	—	—	—
7¾"	0.35	50	45235K71	116.82	100	45235K81	166.91
7¾"	1	50	45235K72	105.21	100	45235K82	147.78
7¾"	5	50	45235K73	96.70	100	45235K83	136.08
7¾"	10	50	45235K74	96.70	100	45235K84	136.08
7¾"	20	50	45235K75	96.70	100	45235K85	136.08
7¾"	50	50	45235K76	96.70	100	45235K86	136.08
7¾"	100	50	45235K77	96.70	100	45235K87	136.08
7¾"	150	50	45235K78	96.70	100	45235K88	136.08
Polyester—Max. temp. is 200°F							
2¾"	1	5	45235K61	10.89	—	—	—
2¾"	5	5	45235K62	9.41	—	—	—
2¾"	20	5	45235K63	9.41	—	—	—
2¾"	50	5	45235K64	9.41	—	—	—
For Chemicals and Ink							
Polypropylene—Max. temp. is 140°F							
2¾"	0.2	5	5445T54	45.12	10	5445T59	70.50
2¾"	0.45	5	5445T53	41.00	10	5445T58	62.25
2¾"	1	5	5445T61	37.50	10	5445T57	58.25
2¾"	3	10	5445T52	29.00	20	5445T56	46.00
2¾"	10	10	5445T51	35.25	20	5445T55	53.50
2¾"	20	5	5445T62	34.50	10	5445T64	49.97
2¾"	30	5	5445T63	33.25	10	5445T65	48.88
4½"	0.45	10	6661T11	54.88	30	6661T21	92.00
4½"	3	20	6661T13	39.25	30	6661T23	71.50
4½"	10	20	6661T15	37.37	30	6661T25	65.00
4½"	30	25	6661T17	36.50	30	6661T27	64.25

High-Performance High-Capacity Filter Cartridges



Also known as absolute rated filter cartridges, these remove 99.9% of particles down to the size listed in the table. They are pleated, which creates a large surface area for high particle retention. Cartridges are made from FDA-compliant materials. They're open on both ends and have a 1" ID.

OD	Particle Size, microns	10" Height Max. Flow, gpm			20" Height Max. Flow, gpm		
For Food and Beverages							
Polypropylene—Max. temp. is 175°F							
2½"	0.2	10	44465K29	$128.04	2	44465K31	$175.48
2½"	0.5	10	44465K28	98.56	6	44465K32	151.26
2½"	1	10	44465K27	88.69	6	44465K33	148.61
2½"	5	10	44465K25	68.03	10	44465K35	149.24
2½"	10	10	44465K24	68.03	16	44465K36	104.88
2½"	20	10	44465K23	69.03	16	44465K37	104.88
2½"	40	10	44465K22	63.12	16	44465K38	92.77

pH-Neutralizing Filter Cartridges



Prevent fluctuating pH levels from damaging pipelines and equipment. Cartridges contain calcium carbonate and magnesium oxide to neutralize pH levels. They are open on both ends and have a 1" ID.

OD	Particle Size, microns	10" Height Max. Flow, gpm			20" Height Max. Flow, gpm		
For Water and Organic Acids							
Calcite/Corsex—Max. temp. is 90°F							
2½"	25	1	6119T11	$13.96	2	6119T21	$26.16
4½"	25	3	6119T12	34.48	5	6119T22	65.10

Fill-Your-Own Filter Cartridges





Cartridges

Unscrew the bottom to fill. Cartridges fit standard housings. Pressure is not rated.

OD	9¾" Height		20" Height	
Polypropylene—Max. temp. is 125°F				
2½"	9007T51	$5.95	9007T52	$14.31
4½"	9007T53	16.40	9007T54	19.28

Filter Media

Media that reduces odor is activated carbon granules. *High-purity media* has been acid washed to reduce ash content and dust particles.

Media that reduces iron, manganese, and hydrogen sulfide is greensand granules.

Quantity, lbs.	Standard		High Purity	
Reduces Odor				
5	9005T13	$27.87	—	—
27½	9005T11	83.64	9005T12	$99.74
Reduces Iron, Manganese, and Hydrogen Sulfide				
44	9016T23	45.93	—	—

High-Performance Ultrapure Water Filter Cartridges

Commonly used in high-purity applications, these remove 99.9% of particles under one micron in size. They're also known as absolute rated filter cartridges. All have a 1" ID.

Cartridges with O-ring end cap make a tight seal with the filter housing to prevent liquids from moving through the housing without passing through the filter cartridge. They only fit in housings designed for cartridges with O-ring end caps. O-rings are ethylene propylene. Cartridges have an open top and closed bottom.

OD	Particle Size, microns	9¾" Height Max. Flow, gpm	With Open Ends	With O-Ring End Cap		20" Height Max. Flow, gpm	With Open Ends	With O-Ring End Cap	
For Water									
Polyethersulfone—Max. temp. is 176°F									
2¾"	0.1	1.5	43765K16	43765K26	$84.84	3	43765K36	43765K46	$169.66
2¾"	0.2	3	43765K14	43765K24	84.84	6	43765K34	43765K44	169.68
2¾"	0.45	6	43765K12	43765K22	84.84	12	43765K32	43765K42	169.68



With Open Ends

Cleanable Filter Cartridges



A



B&C

Constructed of stainless steel wire cloth, you can clean these cartridges for repeated use. They're open on both ends and have a 1″ ID. **Cartridges with Buna-N seal** have a max. temperature of 250° F. **Cartridges with high-temperature PTFE seal** have a max. temperature of 500° F.

Styles B and C have a pleated surface that creates a large area for high particle retention.

	Height	OD	Particle Size, microns	Max. Flow, gpm		
For Water, Oil, and Paint—Type 304 Stainless Steel						
With Buna-N Seal						
A	9¾″	2½″	10	5	44275K13	$175.53
A	9¾″	2½″	20	10	44275K34	136.44
A	9¾″	2½″	40	10	44275K14	77.75
A	9¾″	2½″	75	10	44275K15	63.48
A	9¾″	2½″	100	20	44275K33	63.48
A	9¾″	2½″	230	25	44275K32	46.50
A	9¾″	2½″	370	25	44275K17	46.50
A	9¾″	2½″	540	25	44275K31	46.50
A	10″	2½″	100	20	44275K81	63.48
B	9¾″	2⅝″	5	10	44275K39	251.32
B	9¾″	2⅝″	10	10	44275K18	175.53
B	9¾″	2⅝″	20	20	44275K38	136.44
B	9¾″	2⅝″	40	20	44275K19	77.75
B	9¾″	2⅝″	75	20	44275K22	63.48
B	9¾″	2⅝″	100	30	44275K37	63.48
B	9¾″	2⅝″	230	35	44275K36	46.50
B	9¾″	2⅝″	540	35	44275K35	46.50

	Height	OD	Particle Size, microns	Max. Flow, gpm		
For Water, Oil, and Paint—Type 304 Stainless Steel						
With Buna-N Seal (Cont.)						
B	10″	2⅝″	20	20	44275K83	$136.44
B	10″	2⅝″	100	30	44275K82	63.48
B	10″	2⅝″	230	35	44275K89	46.50
B	10″	2⅝″	540	35	44275K88	46.50
With High-Temperature PTFE Seal						
B	9¾″	2⅝″	5	10	44275K49	307.18
B	9¾″	2⅝″	20	20	44275K48	192.30
B	9¾″	2⅝″	40	20	44275K55	133.61
B	9¾″	2⅝″	100	30	44275K47	119.34
B	9¾″	2⅝″	230	35	44275K46	102.36
For Steam and Corrosive Media—Type 316 Stainless Steel						
With Buna-N Seal						
C	10″	2½″	250	40	6633T36	297.85
C	20″	2½″	250	40	6633T76	444.76
With High-Temperature PTFE Seal						
C	10″	2½″	250	40	6633T46	418.90
C	20″	2½″	250	40	6633T86	565.81

Plastic Filter Bag Housings and Filter Bags



With Easy-View Bowl



With Light-Blocking Bowl

Choose plastic for a lightweight, corrosion-resistant housing to filter contaminants from liquid process lines. Housings come with a pressure gauge and a polypropylene strainer basket that supports the filter bag. Filter bags are sold separately. Pipe connections are NPT female. Housings with two pipe sizes are dual threaded for connection to either size.

With Easy-View Bowl—A clear styrene bowl lets you monitor debris collecting in the cartridge without stopping flow. Cover seal is Buna-N.

With Light-Blocking Bowl—An opaque bowl minimizes algae growth. Cover seal is Buna-N. **Blue bowl** is polypropylene; **black bowl** is glass-reinforced nylon, which withstands higher temperatures than polypropylene.

With High-Purity Bowl—Housings are made of virgin polypropylene without additives or fillers to ensure filtered liquids remain free from contamination. Cover seal is silicone. Color is translucent white.

Pipe Size	Max. Flow, gpm	Overall Dia.	Overall Ht.	Max. psi @100° F	Max. Temp.	Housings with Strainer Basket		Filter Bags: Choose a Particle Size, microns	1-9	10-Up
With Easy-View Bowl										
1 and 1½	30	7⅝″	14″	100	125° F	9304T32	$148.00	1, 5, 10, 25, 50, 100, 200	9304T1	$15.18	$12.30
1 and 1½	45	7⅝″	24″	100	125° F	9304T34	186.67	1, 5, 10, 25, 50, 100, 200	9304T2	18.02	14.60
With Light-Blocking Blue Bowl										
1	20	7¼″	14″	100	100° F	98015K11	206.38	1, 5, 10, 25, 50, 100, 200	98015K2	6.58	5.39
1½	20	7¼″	14″	100	100° F	98015K15	221.68	1, 5, 10, 25, 50, 100, 200	98015K2	6.58	5.39
1½	40	7¼″	24″	90	100° F	98015K19	248.95	1, 5, 10, 25, 50, 100, 200	98015K3	8.84	7.24
With Light-Blocking Black Bowl										
1 and 1½	30	7⅝″	14″	125	180° F	6869K21	361.08	1, 5, 10, 25, 50, 100, 200	6869K18	15.18	12.30
1 and 1½	45	7⅝″	24″	125	180° F	6869K22	401.08	1, 5, 10, 25, 50, 100, 200	6869K19	18.03	14.60
With High-Purity Bowl										
1 and 1½	30	7⅝″	14″	100	125° F	9315T46	209.00	1, 5, 10, 25, 50, 100, 200	9304T1	15.18	12.30
1 and 1½	45	7⅝″	24″	100	125° F	9315T48	235.58	1, 5, 10, 25, 50, 100, 200	9304T2	18.02	14.60

High-Flow Plastic Filter Bag Housings and Filter Bags



Standard



High Strength

Designed for use in high-volume pipelines, polypropylene construction keeps these filter housings free from corrosion. They come with a polypropylene strainer basket that supports the filter bag. Filter bags are sold separately. Connections are NPT female.

Standard housing is blue. Strainer basket has 9⁄64″ perforations. Cover seal is Buna-N.

High-strength housings are made of gray glass-reinforced polypropylene for durability in harsh environments. They have union fittings for easy installation and maintenance without detaching your pipe connections. Housings have an inlet and an outlet on each side to connect inline or parallel lines; they include two plugs for the unused ports. Strainer basket has 5⁄16″ × 1″ openings. Cover seal is fluoroelastomer. Base has mounting slots so you can bolt it to the floor for stability.

Pipe Size	Max. Flow, gpm	Overall Dia.	Overall Ht.	Max. psi	Max. Temp.	Housings with Strainer Basket		Filter Bags: Choose a Particle Size, microns		
Standard										
2	70	11″	30″	100 @ 110° F	110° F	51655K6	$307.98	5, 10, 25, 50, 100	51655K8	$4.95
High Strength										
2	50	21″	32″	150 @ 70° F	120° F	51655K53	1,604.30	5, 10, 25, 50, 100	51655K7	8.50
2	100	21″	48″	150 @ 70° F	120° F	51655K57	1,887.80	5, 10, 25, 50, 100	51655K9	11.57

Filter Bag Housings and Strainer Baskets

The most popular of our filter bag housings, these have a large flow capacity and heavy duty construction. Both steel and stainless steel housings come with a Type 304 stainless steel strainer basket to support the filter bag; basket has 9/64" perforations. Housings have a drain with plug and three 1/4 NPT female gauge ports, unless noted. Cover seal is fluoroelastomer. Max. temperature is 400°F. Bolt legs to the floor for stability. Connections are NPT female. Type 304 stainless steel housings are more corrosion resistant than steel.

Replacement strainer baskets cannot be used with a filter bag, except baskets with 9/64" perforations. Made of Type 304 stainless steel.

Baskets for large particles are made from perforated metal. They're available in a range of perforations from 1/4" (corn kernels) to 1/16" (rice).

Baskets for small particles are made from wire mesh. They're available in a range of mesh sizes from 20 mesh (ground coffee) to 150 mesh (flour).

Also Available: Replacement cover kit. Please ask for 5168K888 and specify housing dimensions and cover style.

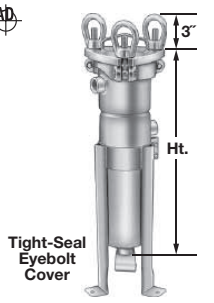

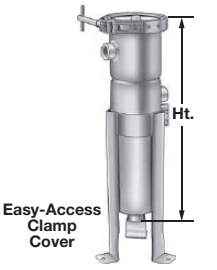



Pipe Size	Max. Flow, gpm	Max. psi	Housings with Strainer Basket: Steel		Housings with Strainer Basket: Type 304 Stainless Steel		Replacement Strainer Baskets: For Large Particles, Choose a Perforation: 1/4", 3/16", 9/64", 1/16"		Replacement Strainer Baskets: For Small Particles, Choose a Mesh Size: 20, 40, 60, 100, 150		Replacement Cover Seals	
4 1/2" Dia. x 13" Ht. Housing—Uses Trade Size 3 Filter Bags												
With Tight-Seal Eyebolt Cover												
3/4	25	500	5168K173	$469.41	5168K265	$650.02	5803K13	$107.96	5803K23	$156.61	9298T61	$9.00
1	25	500	5168K176	486.67	5168K271	654.06	5803K13	107.96	5803K23	156.61	9298T61	9.00
1 1/4	25	500	5168K205	522.35	5168K272	647.29	5803K13	107.96	5803K23	156.61	9298T61	9.00
1 1/2	25	500	5168K231	554.50	5168K273	775.27	5803K13	107.96	5803K23	156.61	9298T61	9.00
2	25	500	5168K237	565.84	5168K274	697.74	5803K13	107.96	5803K23	156.61	9298T61	9.00
With Easy-Access Clamp Cover												
3/4	25	200	5168K238	493.10	5168K275	605.05	5803K13	107.96	5803K23	156.61	5168K27	26.40
1	25	200	5168K239	502.75	5168K279	603.75	5803K13	107.96	5803K23	156.61	5168K27	26.40
1 1/4	25	200	5168K241	372.58	5168K281	572.18	5803K13	107.96	5803K23	156.61	5168K27	26.40
1 1/2	25	200	5168K242	398.74	5168K282	567.99	5803K13	107.96	5803K23	156.61	5168K27	26.40
2	25	200	5168K248	436.87	5168K283	642.36	5803K13	107.96	5803K23	156.61	5168K27	26.40
4 1/2" Dia. x 19" Ht. Housing—Uses Trade Size 4 Filter Bags												
With Tight-Seal Eyebolt Cover												
3/4	50	500	5168K249	539.55	5168K284	664.26	5803K14	136.76	5803K24	222.76	9298T61	9.00
1	50	500	5168K251	597.74	5168K285	951.03	5803K14	136.76	5803K24	222.76	9298T61	9.00
1 1/4	50	500	5168K252	590.05	5168K286	951.03	5803K14	136.76	5803K24	222.76	9298T61	9.00
1 1/2	50	500	5168K258	622.38	5168K287	765.17	5803K14	136.76	5803K24	222.76	9298T61	9.00
2	50	500	5168K295	640.56	5168K288	775.27	5803K14	136.76	5803K24	222.76	9298T61	9.00
With Easy-Access Clamp Cover												
3/4	50	200	5168K259	506.31	5168K289	603.95	5803K14	136.76	5803K24	222.76	5168K27	26.40
1	50	200	5168K261	512.06	5168K291	643.95	5803K14	136.76	5803K24	222.76	5168K27	26.40
1 1/4	50	200	5168K262	398.76	5168K292	643.95	5803K14	136.76	5803K24	222.76	5168K27	26.40
1 1/2	50	200	5168K263	566.69	5168K293	705.77	5803K14	136.76	5803K24	222.76	5168K27	26.40
2	50	200	5168K264	555.37	5168K294	734.86	5803K14	136.76	5803K24	222.76	5168K27	26.40
6" Dia. x 28" Ht. Housing—Uses Trade Size 8 Filter Bags												
With Tight-Seal Eyebolt Cover												
1	100	150	5168K333	757.58	5168K243	1,297.74	5803K15	388.06	5803K25	357.71	5168K37	15.00
1 1/2	100	150	5168K335	785.86	5168K245	1,513.33	5803K15	388.06	5803K25	357.71	5168K37	15.00
2	100	150	5168K336	777.78	5168K246	1,497.74	5803K15	388.06	5803K25	357.71	5168K37	15.00
3	100	150	5168K337	871.29	5168K247	1,686.67	5803K15	388.06	5803K25	357.71	5168K37	15.00
With Easy-Access Clamp Cover												
1	100	125	5168K187■	630.30	5168K216■	959.60	5803K15	388.06	5803K25	357.71	5168K31	48.60
1 1/4	100	125	5168K188■	685.48	5168K217■	949.49	5803K15	388.06	5803K25	357.71	5168K31	48.60
1 1/2	100	125	5168K189■	650.51	5168K218■	953.91	5803K15	388.06	5803K25	357.71	5168K31	48.60
2	100	125	5168K19■	674.75	5168K219■	909.09	5803K15	388.06	5803K25	357.71	5168K31	48.60
6" Dia. x 38" Ht. Housing—Uses Trade Size 9 Filter Bags												
With Tight-Seal Eyebolt Cover												
1	150	150	5168K343	946.75	5168K253	1,750.00	5803K16	470.86	5803K26	408.76	5168K37	15.00
1 1/2	150	150	5168K345	968.00	5168K255	1,821.67	5803K16	470.86	5803K26	408.76	5168K37	15.00
2	150	150	5168K346	974.00	5168K256	1,846.67	5803K16	470.86	5803K26	408.76	5168K37	15.00
3	150	150	5168K347	1,034.55	5168K257	1,891.67	5803K16	470.86	5803K26	408.76	5168K37	15.00
With Easy-Access Clamp Cover												
1	150	125	5168K192■	752.03	5168K369■	1,038.18	5803K16	470.86	5803K26	408.76	5168K31	48.60
1 1/2	150	125	5168K194■	769.70	5168K372■	1,076.36	5803K16	470.86	5803K26	408.76	5168K31	48.60
2	150	125	5168K195■	787.88	5168K373■	1,087.27	5803K16	470.86	5803K26	408.76	5168K31	48.60
3	150	125	5168K196■	927.27	5168K374■	1,160.34	5803K16	470.86	5803K26	408.76	5168K31	48.60
8 5/8" Dia. x 25" Ht. Housing—Uses Trade Size 1 Filter Bags												
With Tight-Seal Eyebolt Cover												
2	110	150	5168K356	954.55	5168K266	1,816.67	5803K41	284.31	5803K51	320.51	5168K39	19.20
With Easy-Access Clamp Cover												
2	110	125	5168K171■	632.65	5168K2■	974.55	5803K11	303.71	5803K21	443.09	5168K38	48.60
8 5/8" Dia. x 40" Ht. Housing—Uses Trade Size 2 Filter Bags												
With Tight-Seal Eyebolt Cover												
2	220	150	5168K366	1,131.03	5168K276	1,966.67	5803K42	380.84	5803K52	498.16	5168K39	19.20
3	220	150	5168K367	1,054.55	5168K277	1,997.74	5803K42	380.84	5803K52	498.16	5168K39	19.20
4	220	150	5168K368	1,162.07	5168K278	2,338.33	5803K42	380.84	5803K52	498.16	5168K39	19.20
With Easy-Access Clamp Cover												
2	220	125	5168K174■	897.96	5168K203■	1,177.59	5803K12	541.90	5803K22	668.79	5168K38	48.60
8 5/8" Dia. x 41" Ht. Housing—Uses Trade Size 12 Filter Bags												
With Tight-Seal Eyebolt Cover												
1 1/2	275	150	5168K469	1,090.91	5168K473	2,038.33	5803K17	431.49	5803K27	564.42	5168K39	19.20
2	275	150	5168K471	1,125.45	5168K474	2,150.00	5803K17	431.49	5803K27	564.42	5168K39	19.20
3	275	150	5168K472	1,187.93	5168K475	2,408.33	5803K17	431.49	5803K27	564.42	5168K39	19.20
With Easy-Access Clamp Cover												
1 1/2	275	125	5168K197■	809.59	5168K227■	1,172.41	5803K17	431.49	5803K27	564.42	5168K38	48.60
2	275	125	5168K198■	834.34	5168K228■	1,172.41	5803K17	431.49	5803K27	564.42	5168K38	48.60

■ Housing has two 1/4 NPT female gauge ports.

Lightweight Filter Bag Housings

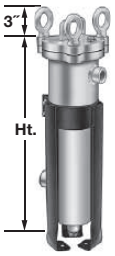

Use an aluminum housing for good corrosion resistance at a lighter weight than steel or stainless steel. They come with a Type 304 stainless steel strainer basket that supports the filter bag; it has 9/64″ perforations. Housings have a threaded drain with plug and two 1/4 NPT female gauge ports, unless noted. Cover seal is fluoroelastomer. Max. temperature is 250° F. Bolt legs to the floor for stability. Connections are NPT female.

Pipe Size	Max. Flow, gpm	Max. psi	Ht.	Housings with Strainer Basket		Replacement Cover Seals	
5″ Dia. Housings—Uses Trade Size 3 Filter Bags							
3/4	25	300	13″	6870K57★	$462.26	6870K81	$26.40
1	25	300	13″	6870K58★	462.26	6870K81	26.40
1 1/2	50	300	14″	6870K56★	462.26	6870K81	26.40
5″ Dia. Housings—Uses Trade Size 4 Filter Bags							
3/4	50	300	19″	6870K59★	531.67	6870K81	26.40
1	50	300	19″	6870K61★	531.67	6870K81	26.40
1 1/2	50	300	20″	6870K55★	531.67	6870K81	26.40
6 5/8″ Dia. Housings—Uses Trade Size 8 Filter Bags							
1	100	200	27″	6870K36	775.38	6870K82	15.00
1 1/2	100	200	27″	6870K32	775.38	6870K82	15.00
2	100	200	27″	6870K33	802.75	6870K82	15.00
6 5/8″ Dia. Housings—Uses Trade Size 9 Filter Bags							
1	150	200	36″	6870K37	858.33	6870K82	15.00
1 1/2	150	200	36″	6870K34	858.33	6870K82	15.00
2	150	200	36″	6870K35	858.33	6870K82	15.00
8″ Dia. Housings—Uses Trade Size 1 Filter Bags							
1 1/2	100	150	24″	6870K11	806.45	6870K83	26.40
2	100	150	24″	6870K21	806.45	6870K83	26.40
3	100	150	24″	6870K23	880.00	6870K83	26.40
8″ Dia. Housings—Uses Trade Size 2 Filter Bags							
1 1/2	220	150	37″	6870K38	880.00	6870K83	26.40
2	220	150	37″	6870K24	880.00	6870K83	26.40
3	220	150	37″	6870K26	923.08	6870K83	26.40

★ Housing has one 1/4 NPT female gauge port.

Corrosion-Resistant Filter Bag Housings

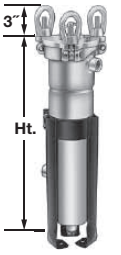

A Type 316 stainless steel housing and strainer basket provide exceptional corrosion resistance for a long service life in harsh environments. Strainer basket supports the filter bag; it has 9/64″ perforations. Housings have a threaded drain with plug and one 1/4 NPT female gauge port, unless noted. Cover seal is fluoroelastomer. Max. temperature is 250° F. Bolt legs to the floor for stability. Connections are NPT female.

Pipe Size	Max. Flow, gpm	Max. psi	Ht.	Housings with Strainer Basket		Replacement Cover Seals	
4 1/2″ Dia. Housings—Uses Trade Size 3 Filter Bags							
3/4	25	300	15″	9298T31	$838.78	9298T61	$9.00
1	25	300	15″	9298T32	838.78	9298T61	9.00
1 1/2	25	150	15″	9298T33	838.78	9298T61	9.00
4 1/2″ Dia. Housings—Uses Trade Size 4 Filter Bags							
3/4	50	300	21″	9298T41	887.76	9298T61	9.00
1	50	300	21″	9298T42	887.76	9298T61	9.00
1 1/2	50	150	21″	9298T43	887.76	9298T61	9.00
6″ Dia. Housings—Uses Trade Size 8 Filter Bags							
1	100	150	28″	9298T83■	1,350.32	5168K37	15.00
1 1/2	100	200	27″	9298T81▲	1,381.51	5168K37	15.00
2	100	200	29″	9298T82▲	1,571.43	5168K37	15.00
6″ Dia. Housings—Uses Trade Size 9 Filter Bags							
1	220	150	37″	9298T93■	1,423.33	5168K37	15.00
1 1/2	150	200	40″	9298T91▲	1,658.73	5168K37	15.00
2	150	200	39″	9298T92▲	1,692.31	5168K37	15.00
8 5/8″ Dia. Housings—Uses Trade Size 1 Filter Bags							
2	110	150	24″	9298T11	1,560.00	5168K39	19.20
3	110	150	24″	9298T12	1,798.33	5168K39	19.20
8 5/8″ Dia. Housings—Uses Trade Size 2 Filter Bags							
2	220	150	38″	9298T21	1,726.15	5168K39	19.20
3	220	150	38″	9298T22	1,786.36	5168K39	19.20

■ Housing has two 1/4 NPT female gauge ports.
▲ Housing has three 1/4 NPT female gauge ports.

High-Flow Filter Bag/Cartridge Housings

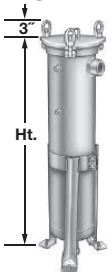

Filter high-volume pipelines. Housings use a Trade Size 2 filter bag or one of the optional cartridges sold separately below. They come with a Type 304 stainless steel strainer basket that supports the filter bag; it has 9/64″ perforations. Housings have a threaded drain with plug and two 1/4 NPT female gauge ports. Cover seal is fluoroelastomer. Max. temperature is 400° F. Bolt legs to the floor for stability. Connections are NPT female.

Type 316 stainless steel housing is more corrosion resistant than Type 304.

Optional cartridges are high efficiency; also known as absolute rated, they remove 99.9% of debris down to the micron size you choose. Cartridges are polypropylene and have an EPR seal. Max. temperature is 225° F.

Pipe Size	Max. Flow gpm	Max. psi	*Housings with Strainer Basket* Type 304 Stainless Steel		Type 316 Stainless Steel		*Optional Cartridges* Choose a Particle Size, microns		
8 5/8″ Dia. x 43″ Ht. Housing—Uses Trade Size 2 Filter Bags									
2	100	150	9307T4	$1,674.74	9307T7	$2,017.67	0.5, 2, 5, 10, 20, 40, 70	9307T18	$329.10

ASME-Code Filter Bag Housings

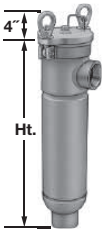

Stainless Steel

Constructed for use with liquids and gases in boilers and pressure vessels, these housings meet ASME Code Section VIII, Division 1, UM stamp. Housings have a side inlet and bottom outlet. They come with a Type 316 stainless steel strainer basket that supports the filter bag. Max. temperature is 250° F. Connections are NPT female.

Steel housing has legs that you can bolt to the floor for stability and a basket with 1/8″ perforations.

Stainless steel housings have a basket with 9/64″ perforations. Type 316 stainless steel is more corrosion resistant than Type 304.

Pipe Size	Max. Flow, gpm	Max. psi	Steel		Type 304 Stainless Steel		Type 316 Stainless Steel	
6 1/4″ Dia. x 22″ Ht. Housing—Uses Trade Size 4 Filter Bags								
2	35	150			51665K54	$620.38	51665K64	$730.20
6 3/4″ Dia. x 16″ Ht. Housing—Uses Trade Size 3 Filter Bags								
1	20	150			51665K51	590.95	51665K61	654.48
12 1/4″ Dia. x 41″ Ht. Housing—Uses Trade Size 2 Filter Bags								
2	160	150	51665K15	$1,362.41				

Compact Filter Bag Housings and Filter Bags



Designed for high-pressure low-flow applications in tight spaces, housing and filter bags are Type 304 stainless steel for good corrosion resistance. Seal is PTFE-encapsulated fluoroelastomer. Filter bags are sold separately; they can be cleaned and used again. Connections are NPT female.

Pipe Size	Max. Flow, gpm	*Overall* Dia.	Ht.	Max. psi	Max. Temp.	Housings		Filter Bags Choose a Particle Size, microns	1-9	10-Up
3/8	6	2 1/4″	8″	3,000	400° F	6891K1	$198.18	25, 50, 75, 100, 125, 150	6891K8	$24.62	$20.15

About Filter Bags

Use filter bags to trap and remove particles of a specific size and larger from liquids. For information about particle size, see page 412. Select the best material for your application using the chart below.

Felt and fiber filter bags have high dirt-holding capacity. They trap particles throughout the thickness of the fabric, which prevents clogs and pressure drops. Fiber filter bags hold more dirt than felt bags.

Mesh filter bags are often used as the first stage of filtration and to strain small batches of liquids. They trap particles on the surface of the fabric.

	Water	Organic Solvents	Petroleum Oils	Alkalies	Organic Acids	Mineral Acids
Polyester	Good	Good	Excellent	Fair	Good	Fair
Polypropylene	Good	Fair	Fair	Excellent	Excellent	Good
Nylon	Good	Excellent	Excellent	Good	Fair	Poor
Nomex	Good	Excellent	Excellent	Good	Fair	Poor

Bag Size		Bag Trade Size
Dia.	Ht.	
4″	8″	3
	14″	4
5½″	21″	8
	32″	9
7″	16½″	1
	32″	2
8″	32″	12

Felt Filter Bags



Our most popular felt filter bags, use these in a housing to remove contaminants from liquids. All have a sewn seam. They have a metal retaining ring, unless noted.

Tear-resistant polyester bags are reinforced with a layer of polyester mesh.

Dia.	Ht.	Trade Size	Max. Flow, gpm		Choose a Particle Size: 1, 5, 10, 25, 50, 100, 200 microns 1-9	10-Up
Polyester—Max. temp. is 300°F						
4″	8″	3	25	5162K111	$4.76	$4.05
4″	14″	4	50	5162K112	5.14	4.37
5½″	21″	8	100	5162K113	6.40	5.45
5½″	32″	9	150	5162K114	6.39	5.21
7″	16½″	1	100	5162K115	6.32	5.37
7″	32″	2	220	5162K116	7.45	6.08
8″	32″	12	275	5162K117	8.75	7.14
Tear-Resistant Polyester—Max. temp. is 325°F						
4″	8″	3	20	6835K57	4.68	3.65
4″	14″	4	35	6835K58	5.43	4.22
5½″	21″	8	60	6835K59	6.29	4.89
5½″	32″	9	100	6835K61	10.03	7.79
7″	16½″	1	65	6835K62	6.00	4.67
7″	32″	2	125	6835K63	9.78	7.59
FDA-Compliant Polypropylene—Max. temp. is 200°F						
4″	8″	3	25	51595K81★	4.69	3.53
4″	14″	4	50	51595K82★	5.75	4.31
5½″	21″	8	75	51595K85	6.15	4.62
5½″	32″	9	90	51595K86	8.40	6.31
7″	16½″	1	90	51595K83★	7.25	5.44
7″	32″	2	180	51595K84★	9.86	7.41
8″	32″	12	275	51595K87	13.46	9.28
High-Temperature Nomex—Max. temp. is 400°F						
4″	8″	3	25	51635K111	10.19	7.18
4″	14″	4	50	51635K211	15.33	10.94
5½″	21″	8	75	51635K311	17.72	13.40
5½″	32″	9	90	51635K411	24.39	18.44
7″	16½″	1	90	51635K611	21.07	15.53
7″	32″	2	180	51635K711	34.58	25.49
8″	32″	12	275	51635K511	34.43	27.18

★ Bag has a plastic flange.

Extended-Life Felt Filter Bags



Replace bags less frequently—these have two to three times the dirt-holding capacity than our other felt filter bags for a long service life. Made of two separate bags, the inside bag traps large particles and then the outside bag traps small particles. All have a sewn seam and a metal retaining ring.

Dia.	Ht.	Trade Size	Max. Flow, gpm		Choose a Particle Size: 1, 5, 10, 25, 50, 100 microns 1-9	10-Up
Polyester—Max. temp. is 300°F						
4″	8″	3	25	5726K37	$9.13	$7.77
4″	14″	4	50	5726K47	9.98	8.49
5½″	21″	8	100	5726K57	12.29	10.45
5½″	32″	9	150	5726K67	15.19	12.92
7″	16½″	1	100	5726K17	11.91	10.13
7″	32″	2	220	5726K27	17.46	14.85
8″	32″	12	275	5726K77	19.85	16.89
Polypropylene—Max. temp. is 200°F						
4″	8″	3	25	5783K38	9.43	8.02
4″	14″	4	50	5783K48	10.23	8.70
5½″	21″	8	100	5783K58	13.00	11.06
5½″	32″	9	150	5783K68	17.00	14.46
7″	16½″	1	100	5783K18	12.96	11.03
7″	32″	2	220	5783K28	19.31	16.43
8″	32″	12	275	5783K78	23.13	19.68

Seamless Felt Filter Bags



Trap small particles that can pass through pinholes in a seam. These bags are made of molded felt for more uniform filtration than bags with a seam. All have a plastic flange.

Extended-life filter bags have extra-thick felt for greater dirt-holding capacity than standard bags.

Dia.	Ht.	Trade Size	Max. Flow, gpm		Choose a Particle Size: 1, 5, 10, 25, 50, 100, 200 microns 1-9	10-Up
Standard						
Polyester—Max. temp. is 200°F						
4″	8″	3	25	9316T111	$6.25	$4.29
4″	14″	4	50	9316T211	6.58	4.52
5½″	21″	8	100	9316T311	8.07	5.54
5½″	32″	9	150	9316T411	9.94	6.84
7″	16½″	1	100	9316T511	7.98	5.47
7″	32″	2	220	9316T611	11.30	7.77
8″	32″	12	275	9316T78	12.76	8.77
Polyester—Max. temp. is 300°F						
7″	16½″	1	50	9299T39	7.08	5.72
7″	32″	2	100	9299T49	10.57	8.54
Polypropylene—Max. temp. is 190°F						
7″	16½″	1	50	9299T18	7.08	5.72
7″	32″	2	100	9299T28	10.57	8.54
Extended Life						
Polyester—Max. temp. is 300°F						
7″	16½″	1	75	9301T87■	11.91	9.57
7″	32″	2	135	9301T97■	16.78	13.54
Polypropylene—Max. temp. is 190°F						
7″	16½″	1	75	9301T67■	11.05	8.84
7″	32″	2	135	9301T77■	15.49	12.39

■ Not available for 200 microns.

Slip-On Felt Filter Bags



Filter material as you fill drums and tanks. Wrap one of these bags around pipe or hose and secure it with a clamp or band (not included). Bags have a sewn seam.

Dia.	Ht.	Max. Flow, gpm		Choose a Particle Size: 5, 10, 15, 25, 50, 75, 100, 200 microns 1-9	10-Up
Polyester—Max. temp. is 300°F					
7″	18″	20	9830K112	$4.92	$3.59
7″	33″	50	9830K211	6.99	5.10
14″	36″	125	9830K611	28.93	21.11
Polypropylene—Max. temp. is 200°F					
7″	18″	20	5859K51▲	5.31	3.87
7″	33″	50	5859K61▲	7.64	5.57

▲ Not available for 15, 75, or 200 microns.

High-Capacity Tie-On Felt Filter Bags



Also known as bottle-neck bags, these have a large surface area for high particle-holding capacity. Use the drawstring to tie bags to pipe or hose. They have a sewn seam.

For Pipe Size	Dia.	Ht.	Max. Flow, gpm		Choose a Particle Size: 5, 10, 25, 50, 75, 100 microns
Polyester—Max. temp. is 275°F					
2	14″	18″	28	3520T17	$5.16
2	14″	24″	40	3520T27	5.86
3	18″	24″	49	3520T37	7.04
3	18″	32″	69	3520T57	8.72
4	20″	32″	74	3520T67	9.24
6	24″	34″	98	3520T77	11.04

Filter Bags

For information about filter bags, see page 425. For information about particle size, see page 412.

High-Performance Filter Bags



Also known as absolute rated, these bags provide more consistent particle removal than our other filter bags. They have high dirt-holding capacity for a long service life. All have a sewn seam.

Polyester bags remove 99% of particles down to the micron size you choose.

Polypropylene bags remove 92% of particles down to the micron size you choose.

Dia.	Ht.	Trade Size	Max. Flow, gpm	Choose a Particle Size: 1, 2.5, 5 microns	1-9	10-Up	Choose a Particle Size: 10, 25, 50, 100 microns	1-9	10-Up
Polyester with Metal Ring—Max. temp. is 300°F									
4″	8″	3	25	9844K311	$17.64	$12.96	9844K39	$9.80	$6.73
4″	14″	4	50	9844K411	20.47	14.08	9844K49	12.03	8.27
5½″	21″	8	100	9844K511	27.62	18.99	9844K59	15.54	10.67
5½″	32″	9	150	9844K611	42.26	31.04	9844K69	14.31	9.84
7″	16½″	1	100	9844K111	27.30	18.78	9844K19	12.23	8.90
7″	32″	2	220	9844K211	38.82	31.54	9844K29	16.72	12.80
8″	32″	12	275	9844K711	53.81	38.67	9844K79	21.99	15.12
Polypropylene with Plastic Flange—Max. temp. is 200°F									
4″	8″	3	20	51695K121	14.35	11.48	51695K132	14.29	11.44
4″	14″	4	40	51695K221	15.70	12.55	51695K232	15.33	12.18
7″	16½″	1	80	51695K521	16.13	12.90	51695K532	14.45	11.56
7″	32″	2	180	51695K622	19.78	15.82	51695K633	17.24	14.10
Polypropylene with Metal Ring—Max. temp. is 200°F									
5½″	21″	8	80	51695K321	16.80	13.44	51695K332	17.50	14.00
5½″	32″	9	120	51695K421	16.80	13.44	51695K432	17.66	14.12
8″	32″	12	275	51695K711	47.05	32.34	51695K712	20.94	14.39

Oil-Absorbent Fiber Filter Bags



Remove oil from water and water-based coolants. Bags are made of oil-absorbent microfiber for high particle-holding capacity. All have a sewn seam.

Dia.	Ht.	Trade Size	Max. Flow, gpm	Choose a Particle Size: 10, 25, 90 microns	1-9	10-Up
Polypropylene with Metal Ring—Max. temp. is 200°F						
4″	8″	3	10	98185K53	$9.77	$7.14
4″	14″	4	20	98185K54	11.26	8.21
5½″	21″	8	40	98185K55	18.04	13.17
5½″	32″	9	60	98185K56	24.26	17.70
7″	16½″	1	40	98185K51	18.04	13.17
7″	32″	2	85	98185K52	29.74	21.69
8″	32″	12	100	98185K57	33.52	24.45
Polypropylene w/ Plastic Flange—Max. temp. is 200°F						
4″	8″	3	10	9309T41	11.42	8.06
4″	14″	4	20	9309T42	13.54	9.56
5½″	21″	8	40	9309T43	21.33	15.05
5½″	32″	9	60	9309T44	28.12	19.86
7″	16½″	1	40	9309T45	21.33	15.05
7″	32″	2	85	9309T46	34.50	24.35
8″	32″	12	100	9309T47	39.00	27.53

Mesh Filter Bags



Often installed as the first stage of filtration, use mesh bags to trap medium and large particles. All bags have a sewn seam.

Dia.	Ht.	Trade Size	Max. Flow, gpm	Choose a Particle Size: 100, 150, 200, 250, 300, 400, 600, 800 microns	1-9	10-Up
Polyester with Plastic Flange—Max. temp. is 275°F						
4″	8″	3	25	98315K111	$4.33	$3.47
4″	14″	4	50	98315K212	4.47	3.57
7″	16½″	1	90	98315K512	5.90	4.72
7″	32″	2	180	98315K612	8.50	6.80
Polyester with Metal Ring—Max. temp. is 275°F						
5½″	21″	8	75	98315K312	7.63	6.11
5½″	32″	9	90	98315K412	8.70	6.96
8″	32″	12	275	98315K91	10.50	7.22
Polypropylene w/ Plastic Flange—Max. temp. is 220°F						
4″	8″	3	20	6805K37■	4.89	3.81
4″	14″	4	35	6805K47■	5.32	4.14
7″	16½″	1	88	6805K17■	6.92	5.38
7″	32″	2	125	6805K27■	9.78	7.61

■Not available for 250 or 400 microns.

Dia.	Ht.	Trade Size	Max. Flow, gpm	Choose a Particle Size: 50, 75, 100, 150, 200, 250, 300, 400, 600, 800, 1,000 microns	1-9	10-Up
Nylon with Metal Ring—Max. temp. is 325°F						
4″	8″	3	25	51705K111	$5.29	$3.63
4″	14″	4	50	51705K211	6.42	4.42
7″	16½″	1	100	51705K511	9.38	6.46
7″	32″	2	220	51705K611	13.30	10.69

Pipe Adapters and Filter Bags



Adapter with Bag

Filter an NPT-threaded pipeline without a housing. Use one of these adapters with a bag to connect to NPT male threads. The metal ring on the bag snaps into the raised lip on the adapter. Adapters and bags are sold separately.

Pipe adapters are polypropylene. Connection is NPT female. **Filter bags** have a sewn seam.

Pipe Adapters

Pipe Size			Pipe Size		
For 4″ Dia. Bags			**For 7″ Dia. Bags**		
¾	98295K11	$15.66	1½	98295K23	$19.88
1	98295K12	15.66	2	98295K25	19.88
1¼	98295K13	15.66			

Felt Filter Bags

Dia.	Ht.	Max. Flow, gpm	Choose a Particle Size: 1, 5, 10, 15, 25, 50, 100, 200 microns	1-9	10-Up
Polyester—Max. temp. is 300°F					
4″	8″	10	98295K111	$4.31	$3.15
4″	14″	15	98295K211	4.63	3.38
7″	16½″	25	98295K511	5.73	4.18
7″	32″	55	98295K611	8.56	6.24
Polypropylene—Max. temp. is 200°F					
4″	8″	10	9308T1	4.95	3.49
4″	14″	15	9308T3	5.96	4.10
7″	16½″	25	9308T6	7.64	5.26
7″	32″	55	9308T8	11.86	8.16

Mesh Filter Bags

Dia.	Ht.	Max. Flow, gpm	Choose a Particle Size: 50, 100, 200, 300, 400, 600, 800, 1,000 microns	1-9	10-Up
Nylon—Max. temp. is 325°F					
4″	8″	10	98295K411	$4.25	$3.22
4″	14″	15	98295K912	5.19	3.80
7″	16½″	25	98295K711	8.65	6.95
7″	32″	55	98295K811	13.42	10.79

Snug-Fitting Tie-On Mesh Filter Bags



A small diameter creates a close fit around pipe for filtering liquids or air. Bags have a sewn seam and a drawstring at the opening.

For Pipe Size	Dia.	Choose a Particle Size: 100, 200, 300, 400, 600, 800 microns — 12″ Height: Max. Flow, gpm			24″ Height: Max. Flow, gpm		
Polyester—Max. temp. is 275°F							
¼	9/16″	1.4	3802T511	$2.64	2.9	3802T512	$2.88
½	7/8″	2.3	3802T513	2.74	4.5	3802T514	3.04
¾	1 1/16″	2.8	3802T515	2.78	5.6	3802T516	3.08
1	1 5/16″	3.5	3802T517	2.84	7	3802T518	3.18
1½	2″	5.1	3802T519	2.94	10.2	3802T521	3.34
2	2⅜″	6.4	3802T522	3.02	12.7	3802T523	3.46
3	3½″	9.4	3802T524	3.26	18.8	3802T525	3.82
4	4½″	12.1	3802T526	3.46	24.1	3802T527	4.12
6	6⅝″	17.7	3802T528	3.96	35.5	3802T529	4.78

For information about filter bags, see page 425. For information about particle size, see page 412.

Slip-On Mesh Filter Bags

Capture debris as you fill tanks, drums, and other containers. Wrap one of these mesh bags around pipe or hose and secure it with a clamp or band (not included). Bags have a sewn seam.



Dia.	Ht.	Max. Flow, gpm	Choose a Particle Size: 75, 150, 200, 250, 300, 400, 600, 800 microns	1-9	10-Up
Polyester—Max. temp. is 300°F					
7″	18″	20	5859K7★	$4.96	$3.63
7″	33″	50	5859K8★	6.95	5.09
Nylon—Max. temp. is 325°F					
7″	18″	20	9830K5	6.79	4.95
7″	33″	50	9830K4	10.35	7.55
14″	36″	125	9830K7	34.64	25.29

★ Not available for 75 microns.

High-Capacity Tie-On Mesh Filter Bags

Often used with paints, coatings, and water, tie these mesh bags to pipe or hose for filtration while filling tanks and drums. Bags have a drawstring at the opening and a sewn seam.



Dia.	Ht.	Max. Flow, gpm	Choose a Particle Size: 75, 100, 150, 200, 300, 400, 600, 800 microns	
Polyester—Max. temp. is 275°F				
7″	18″	20	2514K18★	$3.94
11″	24″	50	2514K28■	5.84
Nylon—Max. temp. is 275°F				
7″	18″	20	2514K39	6.53
11″	24″	50	2514K49	11.25

★ Not available for 75 microns.
■ Not available for 75 or 150 microns.

Mesh Filter Bags for 5-Gallon Pails

Strain small batches of chemicals, paint, and water. These mesh filter bags are sized to fit a 5-gallon pail. Size is 20¼″ Dia. × 21½″ Ht. with a 13½″ Dia. opening. They have a sewn seam. Flow is not rated.



	Choose a Particle Size: 100, 150, 200, 300, 400, 600, 800 microns	1-9	10-Up
Polyester—Max. temp. is 275°F			
Without Drawstring	2640K58	$9.00	$6.86
With Drawstring	2640K68	10.08	7.67

Pipe-Fitting Hydraulic Oil Filters

Trap small particles in high-pressure hydraulic oil lines. Filters are aluminum and have a porous bronze filter element. Seal is fluoroelastomer. Twist the 1⅜″ hex to open filters and replace the filter element. All connections are female.

Elbow filters have an overall length of 3³⁄₁₆″.



Inline



Elbow

Connection Size	Max. Flow, gpm	Max. psi	Max. Temp.	Dia.	Port-to-Port Lg.	Choose a Particle Size, microns	Filters		Replacement Filter Elements	
Inline										
With NPT Connections										
¼	12	3,000	400°F	1½″	3¼″	10, 25, 40, 90	9800K51	$22.76	9800K11	$10.00
⅜	22	3,000	400°F	1½″	3¼″	10, 25, 40, 90	9800K52	23.32	9800K11	10.00
½	25	3,000	400°F	1½″	4¹⁵⁄₁₆″	10, 25, 40, 90	9800K53	39.05	9800K12	11.94
¾	25	3,000	400°F	1½″	4¹⁵⁄₁₆″	10, 25, 40, 90	9800K54	40.00	9800K12	11.94
With SAE Connections										
9⁄16″-18	12	3,000	400°F	1½″	3¼″	10, 25, 40, 90	9800K55	27.19	9800K11	10.00
¾″-16	22	3,000	400°F	1½″	3¼″	10, 25, 40, 90	9800K56	27.85	9800K11	10.00
Elbow										
With NPT Connections										
¼	13	5,000	400°F	2⅛″	1⅞″	10, 25, 40, 90	9800K61	48.93	9800K11	10.00
⅜	23	5,000	400°F	2⅛″	1⅞″	10, 25, 40, 90	9800K62	49.51	9800K11	10.00
With SAE Connections										
9⁄16″-18	13	5,000	400°F	2⅛″	1⅞″	10, 25, 40, 90	9800K63	59.71	9800K11	10.00

Hydraulic Oil Filters

Clean hydraulic oil in return lines and lubrication systems. Also known as spin-on filters, cartridges thread directly onto the filter head. Filters have a relief valve to protect against excess pressure in case of a clogged cartridge. The relief valve opens at the set pressure listed in the table. Filter head is aluminum and seals are Buna-N. Cartridge housing is steel. Pipe connections are NPT female. *Two-cartridge filters* also have 2″ SAE flange connections. Flanges have four ⅜″-16 UNC bolt holes. Horizontal holes are 3¹⁄₁₆″ center-to-center; vertical holes are 1¹¹⁄₁₆″ center-to-center.

High-performance filters remove 98% of particles down to the micron size you choose. They're also known as absolute rated.

Use the **optional pressure gauge** with 44185K65, 44185K66, 44185K67, and 44185K68 to indicate when it's time to replace a dirty cartridge. Pressure range is 0-60 psi.



One-Cartridge Filter



Two-Cartridge Filter

Pipe Size	Max. Flow, gpm	Max. psi	Relief Valve Set Pressure, psi	Max. Temp.	Port-to-Port Lg.	O'all Ht.	Choose a Particle Size, microns	Filters		Replacement Cartridges: Connection Size, UNF	
Standard One-Cartridge Filters											
¾	15	120	25	250°F	3⅝″	6⅞″	3, 10, 25	4453K11	$42.21	1″-12	4453K19 $18.66
¾	15	150	15	225°F	3¾″	7¾″	3, 10, 25	44185K65	37.44	1″-12	44185K41 17.53
1	15	120	25	250°F	3⅝″	7¼″	3, 10, 25	4453K12	42.21	1″-12	4453K19 18.66
1¼	30	120	25	250°F	5⅜″	9¼″	3, 10, 25	4453K13	71.40	1½″-16	4453K29 29.79
1¼	50	150	15	225°F	4½″	9½″	3, 10, 25	44185K66	74.73	1½″-16	44185K42 36.61
Standard Two-Cartridge Filters											
1½	60	120	25	250°F	6½″	10¼″	3, 10, 25	4453K14	209.39	1½″-16	4453K29 29.79
High-Performance One-Cartridge Filters											
¾	15	120	50	250°F	3¹¹⁄₁₆″	6¹⁵⁄₁₆″	5, 10, 20	4358K41	81.54	1″-12	4358K39 68.10
¾	15	150	15	225°F	3¾″	7¾″	10, 20	44185K67	79.19	1″-12	44185K43 69.87
1	15	120	50	250°F	3¹¹⁄₁₆″	7³⁄₁₆″	5, 10, 20	4358K42	81.54	1″-12	4358K39 68.10
1¼	30	120	50	250°F	5⅜″	9⁵⁄₁₆″	5, 10, 20	4358K43	145.70	1½″-16	4358K49 116.55
1¼	50	150	15	225°F	4½″	9½″	10, 20	44185K68	144.09	1½″-16	44185K44 98.79
High-Performance Two-Cartridge Filters											
1½	60	120	50	250°F	6½″	10³⁄₁₆″	5, 10, 20	4358K44	353.16	1½″-16	4358K49 116.55
Optional Pressure Gauge for 44185K65, 44185K66, 44185K67, and 44185K68											44185K11 23.68

Hydraulic Oil Filters

For information about pipe size, see pages 2-3. For information about particle size, see page 412.

High-Pressure Hydraulic Oil Filters



Remove particles from hydraulic fluids, lubricating oils, and coolants under pressure. Filters come with a cleanable cartridge made of Type 304 stainless steel wire cloth. They have a relief valve to protect against excess pressure in case of a clogged cartridge; valve opens at 25 psi. Housing is aluminum and has a magnetic plug to catch small ferrous particles. Seals are Buna-N. Connections are NPT female.

Pipe Size	Particle Size, microns	Max. Flow, gpm	Max. psi	Max. Temp.	Port-to-Port Lg.	Ht.	Filters		Replacement Cartridges	
3/4	40	30	300	225° F	4 1/4"	8 3/4"	44485K61	$193.88	44485K39	$110.10
3/4	150	30	300	225° F	4 1/4"	8 3/4"	44485K41	168.33	44485K19	64.21
1	40	30	300	225° F	4 1/4"	8 3/4"	44485K63	179.21	44485K39	110.10
1	150	30	300	225° F	4 1/4"	8 3/4"	44485K43	157.88	44485K19	64.21
1 1/4	40	30	300	225° F	4 1/4"	8 3/4"	44485K65	195.81	44485K39	110.10
1 1/4	150	30	300	225° F	4 1/4"	8 3/4"	44485K45	173.81	44485K19	64.21

Extreme-Pressure Hydraulic Oil Filters



With NPT Connections

Often installed between a pump and a hydraulic press or machine tool, these filters can take the pressure. Use them to remove particles in hydraulic fluids and lubricating oils. Filters have a relief valve to protect against excess pressure in case of a clogged cartridge. The valve opens at the set pressure listed in the table. All have Buna-N seals. Connections are female.

Filters with NPT connections have a cast iron housing with a mounting plate. Plate has two 13/32" bolt holes that are 1 1/2" center-to-center. **Filters with SAE connections** have a steel and iron housing.

Standard filter comes with a paper cartridge. **High-performance filters** come with an absolute-rated fiberglass cartridge that removes 98% of particles down to the size listed in the table.

Connection Size	Particle Size, microns	Max. Flow, gpm	Max. psi	Relief Valve Set Pressure, psi	Max. Temp.	Port-to-Port Lg.	Ht.	Filters		Replacement Cartridges	
Standard											
With NPT Connections											
3/4	40	20	3,000	35	225° F	3 3/4"	9 5/8"	44255K12	$215.47	44255K22	$49.74
High Performance											
With NPT Connections											
3/4	3	15	3,000	35	225° F	3 3/4"	9 5/8"	44255K16	246.40	44255K26	52.58
3/4	12	20	3,000	35	225° F	3 3/4"	9 5/8"	44255K14	226.60	44255K24	74.53
With SAE Connections											
1 1/16"-12	12	25	4,000	87	250° F	4 1/8"	12"	44375K41	270.18	44375K35	83.19
1 7/8"-12	12	55	6,000	87	250° F	6 3/8"	13 5/8"	44375K51	901.23	44375K55	126.50

Mobile Electric Hydraulic Oil Filters



Secured to a cart, move these filters where you need them to clean hydraulic, gear, and lubricating oils. They're also good for transferring oil. Filters come with two cartridges; one on the inlet removes particles of 40 microns and larger and a second on the outlet removes particles of 10 microns and larger.

Housings are steel and aluminum and seals are Buna-N. Filters come with two 8-ft. lengths of black EPDM hose and two 3-ft. PVC wands. Motor operates on 120 volts AC and has a 6-ft. cord with a three-prong plug. Overall size is 41" Ht.×26" Wd.×20" Dp. Weight is 116 lbs.

Optional water-removal cartridge is for removing water from oil.

Max. Flow, gpm	Motor, hp	Max. psi	Max. Temp.		
5	1/2	50	150° F	9815K52	$1,865.75
10	3/4	50	150° F	9815K32	1,973.91
Replacement 40 micron Synthetic Cartridge				9815K13	75.82
Replacement 10 micron Fiberglass Cartridge				9815K14	135.37
Optional 20 micron Water-Removal Cartridge				9815K25	115.77

Portable Electric Hydraulic Oil Filters



Clean hydraulic oil anywhere—filter weighs 24 lbs. and has a 16"×8" footprint for portability. It's often used to condition and transfer petroleum-based liquids and water emulsion fluids. It's also good for use with diesel fuel. Filter comes with a paper cartridge that removes particles of 10 microns and larger.

Housing is aluminum and seals are Buna-N. Filter comes with two 5-ft. lengths of wire-reinforced PVC hose and two 3-ft. PVC wands. Motor operates on 120 volts AC and has a 1-ft. cord with a three-prong plug.

Note: Do not use with gasoline or other flammable liquids.

Optional water-removal cartridge is for removing water from oil. *Carrying case* is 24" Lg.×19" Wd.×10" Dp. and has wheels.

Max. Flow, gpm	Motor, hp	Max. psi	Max. Temp.		
4	1/4	50	120° F	98325K61	$1,059.41
Replacement 10 micron Paper Cartridge				98325K71	42.16
Optional 2 micron Fiberglass Cartridge				98325K67	75.14
Optional 5 micron Fiberglass Cartridge				98325K68	67.61
Optional 20 micron Water-Removal Cartridge				98325K75	55.76
Optional Plastic Carrying Case				98325K65	521.67

High-Capacity Hydraulic Oil Filters



Filter large quantities of hydraulic oil, quenching oil, compressor lubricating oil, and coolants. Housings and cartridges are sold separately.

Housings are steel and have a tight-seal bolt cover with a Buna-N seal. They have a 3/4 NPT male drain. Bolt legs to the floor for stability. All connections are NPT male.

Cartridges are pleated to provide a large surface for high dirt retention. They're made of steel and paper.

Pipe Size	Max. Flow, gpm	Max. psi	Max. Temp.	Overall Dia.	Overall Ht.	Housings		Replacement Cartridges OD	Ht.	Choose a Particle Size, microns		
1 1/2	30	175	250° F	13 3/8"	30"	3451T11	$1,313.37	6 1/4"	18"	1, 5, 10, 20, 60	3451T3	$29.07
1 1/2	60	175	250° F	13 3/8"	47 7/16"	3451T21	1,376.61	6 1/4"	36"	1, 5, 10, 20, 60	3451T4	68.60

Replacement Hydraulic Oil Filter Cartridges



Use these cartridges in Schroeder and Parker filters to clean petroleum-based hydraulic fluids. They have stainless steel end caps that will not corrode or separate from the cartridge.

Standard cartridges have paper filter media.

High-performance cartridge removes 99.5% of particles down to 10 microns in size; it's also known as absolute rated. It has fiberglass filter media.

For Filter Model Number		Particle Size,					
Schroeder	Parker	microns	Ht.	OD	ID		
Standard Cartridges with Buna-N Seal							
A3	926566	3	4⅝″	3″	1″	**43995K81**	$29.49
A10	926567	10	4⅝″	3″	1″	**43995K82**	23.51
K3	925772	3	9″	3⅞″	1½″	**43995K86**	48.03
Standard Cartridges with Fluoroelastomer Seal							
K10	925520	10	9″	4″	1⅝″	**43995K87**	42.59
K25	925773	20	9″	3⅞″	1⅝″	**43995K88**	42.59
High-Performance Cartridge with Fluoroelastomer Seal							
KZ10	932670Q	10	9″	3⅞″	1⅝″	**43995K91**	85.16

Easy-View Gasoline and Diesel Fuel Filters



A clear polymer bowl allows you to monitor collecting debris without stopping flow. Use filters to remove dirt, rust, sand, and scale from diesel, leaded gas, unleaded gas, and fuels with ethanol. They have a drain with a ball valve to control flow for cleaning. Filter head is die cast zinc and seals are Buna-N. Max. pressure is 150 psi. Max. temperature is 150° F. Connections are NPT female.

Replacement cartridges are pleated paper.

Optional Type 304 stainless steel cartridges can be cleaned and used again.

Optional water-removal cartridge removes water from fuel. It's not for use with fuels that contain alcohol.

Pipe Size	Particle Size, microns	Max. Flow, gpm	Port-to-Port Lg.	Ht.	Filters		Replacement Cartridges	
¾	10	20	4″	9½″	**4340K32**	$48.73	**4340K12**	$8.32
1	10	20	4″	9½″	**4340K33**	48.73	**4340K12**	8.32
Optional 40 mesh Type 304 Stainless Steel Cartridge							**4340K15**	17.98
Optional 80 mesh Type 304 Stainless Steel Cartridge							**4340K16**	18.80
Optional 17 micron Water-Removal Cartridge							**4340K14**	15.65

Gasoline and Diesel Fuel Filters



Remove dirt, rust, sand, and scale from gasoline and diesel fuel, including fuels with ethanol. Filters have a die cast zinc head and Buna-N seals. They include a 10 micron pleated paper filter cartridge. Connections are NPT female.

Use the *optional water-removal cartridge* to remove water from fuel.

Pipe Size	Particle Size, microns	Max. Flow, gpm	Max. psi	Max. Temp.	Port-to-Port Lg.	Ht.	Filters		Replacement Cartridges Connection Size, UNF	
¾	10	12	50	100° F	3¾″	7½″	**4833K21**	$37.12	1″-12	**4833K15** $11.00
1	10	12	50	100° F	3¾″	7½″	**4833K26**	37.12	1″-12	**4833K15** 11.00
Optional 10 micron Water-Removal Cartridge										**4833K17** 19.10

Compact Fuel Oil Filters



Keep oil burners operating efficiently with clean oil. Filters are ETL listed for use with No. 2 and thinner fuel oils. Housing is a galvanized, epoxy-coated steel and seal is Buna-N. Cartridges are paper. Connections are NPT female.

Pipe Size	Particle Size, microns	Max. Flow, gpm	Max. psi	Max. Temp.	Port-to-Port Lg.	Ht.	Filters		Replacement Cartridges	
⅜	10	0.67	40	100° F	3⅝″	5⅛″	**9849K16**	$26.63	**9849K26**	$2.84
⅜	10	1.67	40	100° F	4⅜″	6¼″	**9849K18**	33.88	**9849K28**	3.51

High-Capacity Fuel Oil Filters



A pleated cartridge gives these filters a large surface area for high dirt retention. Designed for use with Nos. 2, 4, 5, and 6 fuel oils, they have a cast iron and steel housing with an epoxy-lined interior. Connections are NPT female. Filters with ½ and ¾ pipe size have a ⅛ NPT gauge port at the inlet and outlet. **Filters with cleanable cartridge** come with a cartridge made of Type 304 stainless steel wire cloth.

Filters with disposable cartridge come with a felt cartridge.

Pipe Size	Max. Flow, gpm	Max. psi	Max. Temp.	Port-to-Port Lg.	Ht.	With Cleanable Cartridge Particle Size, microns			With Disposable Cartridge Particle Size, microns		
½	1.67	40	120° F	4⅜″	6¾″	140	**9805K15**	$82.02	25	**9805K35**	$66.13
¾	1.67	40	120° F	4⅜″	6¾″	140	**9805K17**	86.84	25	**9805K37**	58.64
1	1.67	40	120° F	4⅜″	7″	140	**9805K19**	88.82	25	**9805K39**	62.67
Replacement Cleanable Cartridge—Type 304 Stainless Steel										**9805K21**	26.41
Replacement Disposable Cartridge—Felt										**9805K41**	7.88

Replacement Filter Cartridges for Diesel Fuel Generators



If you don't see the replacement filter cartridge you need, please ask for 4943T999 and specify the Baldwin model number.

Baldwin Model Number	Thread Size	OD	Ht.	Max. psi		
With UNF Straight Threads						
BF939	⅜″-24	3 7/16″	4 13/16″	100	**4943T44**	$24.15
BF938	7/16″-20	3 7/16″	4 13/16″	157	**4943T45**	18.29
BF330	¾″-16	3 1/32″	5⅞″	120	**4943T46**	14.01
BF954	¾″-16	3 1/16″	3 7/16″	222	**4943T47**	10.15
BF7602	¾″-16	3 11/16″	4⅜″	220	**4943T48**	21.16
BF5810	13/16″-12	3 11/16″	7 3/32″	110	**4943T49**	11.39
BF588	⅞″-14	4¼″	7 11/32″	190	**4943T51**	16.70
BF7717	⅞″-14	4 13/32″	5 29/32″	100	**4943T52**	40.26
BF955	1″-12	3 11/16″	5⅜″	200	**4943T53**	11.21
BF5800	1″-12	3 11/16″	8″	130	**4943T54**	11.35
BF970	1″-14	3 11/16″	7⅛″	165	**4943T55**	9.38
BF984	1″-14	3 11/16″	5 5/16″	100	**4943T56**	12.82
BF7587	1″-14	3 11/16″	10½″	215	**4943T57**	20.27
BF7633	1″-14	3 11/16″	7⅛″	145	**4943T58**	15.69
BF785	1 1/16″-16	4 21/32″	9 19/32″	165	**4943T59**	34.39

Baldwin Model Number	Thread Size	OD	Ht.	Max. psi		
With UNF Straight Threads (Cont.)						
BF7697	1 1/16″-16	4 21/32″	9 19/32″	210	**4943T61**	$57.05
BF596	1¼″-12	4 21/32″	11 7/32″	160	**4943T62**	31.97
BF784	1¼″-12	4 21/32″	9½″	125	**4943T63**	29.90
With Metric Threads						
BF586	M16×1.5	3 1/32″	5 27/32″	150	**4943T64**	17.70
BF782	M16×1.5	3″	4 27/32″	100	**4943T65**	18.52
BF788	M16×1.5	3 1/32″	4 27/32″	130	**4943T66**	11.36
BF790	M16×1.5	3 1/32″	3 15/32″	155	**4943T67**	11.88
BF988	M16×1.5	3 1/32″	4 27/32″	130	**4943T68**	11.31
BF789	M20×1.5	3 11/16″	3⅞″	220	**4943T69**	12.12
BF720	M20×1.5	3 11/16″	4⅜″	135	**4943T71**	16.61
BF940	M20×1.5	3″	2 27/32″	120	**4943T72**	8.76
BF1110	M20×1.5	3 1/32″	4 3/32″	220	**4943T73**	14.03
BF7552	M20×1.5	3 11/16″	2 27/32″	100	**4943T74**	17.70
BF798	M24×1.5	3 11/16″	6 19/32″	100	**4943T75**	22.01

Compact Oil Skimmers



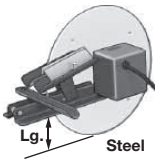

Remove oil and grease from machine coolant sumps, parts washers, and other tanks. Skimmers have a wheel that picks up oil, which requires less space than skimmers with a belt. Motor operates on 120 volts AC and has an 8-ft. cord with a three-prong plug. Your tank opening must fit the wheel diameter and width. Nylon housing has 5/16″ mounting holes; steel housings have 1/4″ mounting holes.

Skimmers for intermittent use can be used for up to two hours per day.

Lg.	Wheel Dia.	Wheel Wd.	Max. Oil Removal, gph	Skimmers For Intermittent Use		Skimmers For Continuous Use		Replacement Wheel		Replacement Scrapers (Pair)	
Nylon Housing with Nylon Wheel—Max. temp. is 160° F											
4″	12″	1/2″	1.5	—	—	2144T51	$188.16	2144T52	$114.21	2144T53	$21.97
Steel Housing with Acrylic Wheel—Max. temp. is 120° F											
2 1/4″	8″	3/16″	1.5	4442K19	$238.89	4442K11	327.78	4442K59	27.45	4442K88	23.33
4″	12″	3/16″	1.5	4442K21	238.89	4442K12	327.78	4442K61	27.45	4442K89	20.59
7″	18″	3/16″	1.5	4442K22	277.78	4442K13	366.67	4442K62	49.00	4442K89	20.59
10″	24″	3/16″	1.5	4442K23	338.89	4442K14	433.33	4442K63	68.63	4442K89	20.59
Steel Housing with Aluminum Wheel—Max. temp. is 250° F											
4″	12″	1/16″	1.5	4442K31	255.56	4442K16	344.44	4442K71	48.04	4442K91	21.00

Oil Skimmers

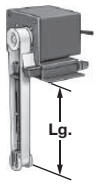

Extract oil from water and coolant. Skimmers have a 1″ wide rubber belt and a nylon housing. Motor is continuous duty and operates on 120 volts AC. It has an 8-ft. cord with a three-prong plug. Max. temperature is 140° F. Attach the included 3-ft. length of 3/4″ ID PVC tubing for discharge. Skimmers require a minimum tank opening of 2″ dia. They have two 5/16″ mounting holes.

Replacement belts come with a pair of replacement scrapers.

Lg.	Belt Circumference	Max. Oil Removal, gph	Skimmers		Replacement Belts	
8″	26″	1	2165T11	$368.67	2165T21	$84.00
12″	32″	1	2165T12	368.67	2165T22	84.00
18″	44″	1	2165T13	368.67	2165T23	84.00
24″	56″	1	2165T14	368.67	2165T24	84.00
Replacement Scrapers (Pair)					2165T31	4.12

Oil Skimmers with Timer

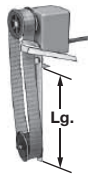

Set your skimmer to operate at specific times. These come with a time-activated on/off switch that can be set in 15 minute increments. Belt is 1″ wide. Housing is Type 304 stainless steel and plastic. Motor is continuous duty and operates on 120 volts AC. It has a 6-ft. cord with a three-prong plug. Skimmers include a 2-ft. length of 5/8″ ID PVC tubing for discharge. **Standard skimmers** require a minimum tank opening of 2″×3″. **Skimmers for 55-gallon drums** fit a 2″ bung hole.

Lg.	Belt Circumference	Skimmers For 1/4 gph		Skimmers For 1 gph		Replacement Belts	
With Polyurethane Belt—Max. temp. is 120° F							
Standard							
8″	27″	44065K11	$450.85	$479.66		44065K611	$96.30
12″	36″	44065K12	461.02	491.53		44065K612	114.81
18″	48″	44065K13	493.65	505.08		44065K613	133.33
24″	60″	44065K14	509.52	516.95		44065K614	151.85
For 55-Gallon Drums							
24″	60″	44535K61	585.00	594.92		44065K614	151.85
With Type 304 Stainless Steel Belt—Max. temp. is 210° F							
Standard							
8″	27″	4436K31	522.03	538.07		4436K71	109.26
12″	36″	4436K32	534.69	549.15		4436K72	125.93
18″	48″	4436K33	549.15	564.41		4436K73	146.30
24″	60″	4436K34	564.41	581.36		4436K74	159.26

Oil Skimmers for Hard-to-Reach Areas



Reach water and coolants located under conveyors and in enclosed sumps—skimmers have a loop of flexible polyurethane tubing that drifts into hard-to-access areas. Housing is steel. Motor is continuous duty and operates on 120 volts AC. It has an 8-ft. cord with a three-prong plug. Skimmers include a 10″ length of 1 1/4″ ID vinyl tubing for discharge. Max. temperature is 90° F. Clamp skimmers to a tank edge or mount with three 7/32″ holes. Minimum tank opening is 1/2″×3″.

Lg.	Tube Circumference	Max. Oil Removal, gph	Skimmers		Replacement Tubes	
8″	30″	0.25	51795K32	$424.36	51795K64	$185.60
14″	42″	0.25	51795K33	425.91	51795K65	186.35
44″	102″	0.25	51795K38	433.83	51795K71	190.16

Adjustable-Angle Oil Skimmers



Accommodate shallow and odd-shaped tanks—skimmer has a 1″ wide polyurethane belt that you can position at an angle. Belt circumference is 53″. Housing is steel and plastic. Motor is continuous duty and operates on 120 volts AC. It has a 3-ft. cord with a three-prong plug. Skimmer includes a 3-ft. length of 1/2″ ID PVC tubing for discharge. Max. temperature is 120° F.

Skimmer requires a minimum tank opening of 3″ dia. It comes with three mounting brackets to fit a barrel, a flanged tank wall, and a straight tank wall. Mount with 1/4″ holes; fasteners are included. Install vertically.

Lg.	Max. Oil Removal, gph	Skimmers		Replacement Polyurethane Belts	
16″	1	43635K33	$449.58	43635K37	$30.69
Replacement Scrapers (Pair)				43635K39	11.51
Optional Type 301 Stainless Belt				43635K35	30.69

High-Capacity Oil Skimmers

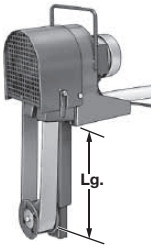

A wide stainless steel belt provides a large surface area so you can remove large quantities of oil. Housing is steel. Motor is continuous duty and operates on 120 volts AC. It has an 8-ft. cord with a three-prong plug and an on/off switch. Skimmers include a 4-ft. length of 1 1/4″ ID PVC tubing for discharge. Max. temperature is 180° F. All have two 3/4″×7/16″ mounting slots.

Skimmers with 6 gph oil-removal capacity have a 2″ wide belt and require a minimum tank opening of 4 1/2″×5″. **Skimmers with 12 gph oil-removal capacity** have a 4″ wide belt and require a minimum tank opening of 5″×7″.

Lg.	Belt Circumference	Skimmers		Replacement Belts	
With 6 gph Oil-Removal Capacity					
12″	48″	4371K411	$1,522.77	4371K721	$157.50
18″	60″	4371K412	1,534.57	4371K722	158.82
24″	72″	4371K416	1,546.56	4371K714	160.17
30″	84″	4371K413	1,558.74	4371K723	161.54
42″	108″	4371K414	1,583.68	4371K724	164.35
48″	120″	4371K418	1,590.04	4371K725	165.07
54″	132″	4371K415	1,596.45	4371K726	165.79
66″	156″	4371K421	1,752.94	4371K728	162.50
78″	180″	4371K423	1,810.41	4371K731	178.75
With 12 gph Oil-Removal Capacity					
12″	48″	4371K621	1,589.30	4371K811	204.75
18″	60″	4371K622	1,612.00	4371K812	206.47
24″	72″	4371K624	1,635.36	4371K813	208.22
30″	84″	4371K625	1,659.41	4371K816	210.00
42″	108″	4371K623	1,684.18	4371K818	213.66
48″	120″	4371K627	1,709.70	4371K819	214.59
54″	132″	4371K628	1,736.00	4371K82	215.53
66″	156″	4371K631	1,775.72	4371K822	211.25
78″	180″	4371K633	1,828.73	4371K824	232.38
Replacement Scrapers (Pair)					
For 6 gph Oil-Removal Capacity				4371K21	63.64
For 12 gph Oil-Removal Capacity				4371K22	84.00

Oil-Absorbing Pillows



Float these pillows on the surface of your liquid to soak up oil.

Oil Capacity	Lg.	Wd.	Thick.		
3 lbs.	12″	8″	2″	44155K68	$10.49
8 lbs.	16″	10″	2″	44155K78	16.06
40 lbs.	20″	10″ Dia.	—	44155K88	32.11

Magnetic Separators

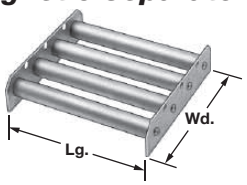

Rectangular Separator; For Sticky Materials

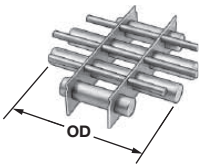

Round Separator; For Dry Materials

Pull ferrous metal scrap and particles out of your process media. Mount separators inside gravity hoppers, chutes, drawers, housings, and surge-and-catch bins. Magnets are sealed in 1″ dia. rods; gap between rods is 1″.

Separators for large particles catch nails, bolts, washers, staples, and other ferrous metal objects. Magnets are ceramic; rods and frame are Type 304 stainless steel. Max. magnetic pull on contact is 1 lb.

Separators for small particles catch metal filings, shavings, residue from metal wear, and other fine particles. Magnets are rare-earth (neodymium-iron-boron); rods and frame are Type 316 stainless steel. Max. magnetic pull on contact is 11.2 lbs.

For Sticky Materials—Separators are designed without guide rods to prevent material from sticking and blocking flow.

For Dry Materials—Separators have guide rods to direct flow to the magnetic rods. They're helpful in removing particles from fine powder and low-flow applications.

Lg.	Wd.	OD	No. of Rods	For Sticky Materials		For Dry Materials	
For Large Particles							
Rectangular Separators							
6″	6″	—	3	5710K21	$86.05	5710K51	$94.22
8″	8″	—	4	5710K23	132.76	5710K53	145.46
8″	12″	—	6	5710K25	263.41	5710K55	337.22
10″	10″	—	5	5710K26	234.41	5710K56	235.62
12″	12″	—	6	5710K27	279.92	5710K58	309.25
12″	16″	—	8	5710K29	381.49	5710K59	442.69
14″	14″	—	7	5710K91	383.56	5710K92	397.33
Round Separators							
—	—	6″	3	5710K41	92.43	5710K61	101.89
—	—	8″	4	5710K43	149.11	5710K62	160.92
—	—	10″	5	5710K47	216.57	5710K63	242.95
—	—	12″	6	5710K49	282.67	5710K64	306.91
—	—	14″	7	5710K42	359.40	5710K65	358.02
—	—	20″	10	5710K48	546.22	5710K68	699.53
For Small Particles							
Rectangular Separators							
6″	6″	—	3	5868K21	507.20	5868K51	545.08
8″	8″	—	4	5868K23	832.20	5868K53	734.65
10″	8″	—	4	5868K24	853.75	5868K54	888.76
10″	10″	—	5	5868K26	1,093.87	5868K56	1,043.25
12″	12″	—	6	5868K28	1,233.10	5868K58	1,231.63
14″	14″	—	7	5868K91	1,634.22	5868K92	1,909.43
16″	12″	—	6	5868K29	1,579.07	5868K59	1,817.18
Round Separators							
—	—	6″	3	5868K41	511.60	5868K61	398.68
—	—	8″	4	5868K42	697.74	5868K62	573.56
—	—	10″	5	5868K43	919.29	5868K63	979.64
—	—	12″	6	5868K44	1,179.75	5868K64	1,333.02
—	—	14″	7	5868K45	1,288.63	5868K65	1,532.73
—	—	20″	10	5868K48	2,434.83	5868K68	2,495.18

Quick-Clean Magnetic Separators

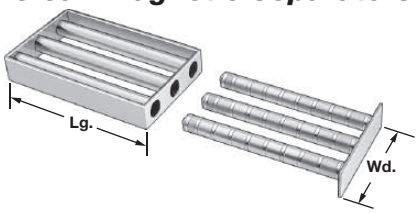

Don't struggle to remove ferrous particles that are stuck to your separator—pull these magnetic rods from their sleeve to release debris. They catch fine particles such as metal filings, shavings, and residue from metal wear. Mount separators inside gravity hoppers, chutes, drawers, housings, and surge-and-catch bins. Magnets are sealed in 1″ dia. rods; gap between rods is 1″. Magnets are rare-earth (neodymium-iron-boron); rods, frame, and sleeve are Type 316 stainless steel. Max. magnetic pull on contact is 7.7 lbs.

Lg.	Wd.	No. of Rods		
6″	6″	3	57185K21	$745.84
8″	8″	4	57185K23	1,068.27
10″	10″	5	57185K26	1,372.75
12″	12″	6	57185K28	1,744.13
16″	12″	6	57185K29	2,299.27

Heavy Duty Plate Magnetic Separators

Extract ferrous metal debris from process media as it moves through chutes and hoppers. Mount flush with the surface of your container; position below the flow of material. Magnets are ceramic and housing is welded steel. Max. magnetic pull on contact is 2.5 lbs. Mounting holes are 5⁄16″; hardware is not included.

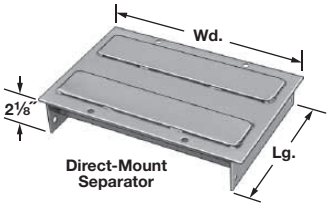

Direct-mount separators bolt directly to chutes and hoppers. Can also be installed up to 3″ above conveyor belts.

Hinged-mount separators provide access to clean the magnetic surface. You can also mount as a door on chutes and hoppers.

		Req'd Opening					
Lg.	Wd.	Lg.	Wd.	Direct Mount		Hinged Mount	
8″	10″	6″	8¾″	5858K43	$286.56	5858K83	$311.56
8″	12″	6″	10¾″	5858K44	307.33	5858K84	328.22
8″	16″	6″	14¾″	5858K46	328.22	5858K86	423.00
8″	24″	6″	22¾″	5858K51	620.78	5858K89	646.00

Magnetic Separators for Coolant



Keep coolant systems free of small ferrous particles, such as chip filings and metal dust. Separators have rare-earth (neodymium-iron-boron) magnets that are sealed in a Type 304 stainless steel rod. Housing is aluminum and seal is Buna-N. Magnetic pull is not rated. Max. temp. is 150° F. Connections are NPT female.

Pipe Size	Max. psi	Ht.	Dia.		
½	200	6 3⁄16″	4 5⁄8″	57625K14	$327.69

Replacement Rods for Magnetic Separators



Replace a rod in an existing separator or make your own. Magnets are sealed in a 1″ dia. rod with a 1⁄4″-20 mounting hole on each end.

Rods for large particles catch nails, bolts, washers, staples, and other ferrous metal objects. Magnets are ceramic and rod is Type 304 stainless steel. Max. magnetic pull on contact is 1 lb.

Rods for small particles catch metal filings, shavings, residue from metal wear, and other fine particles. Magnets are rare-earth (neodymium-iron-boron) and rod is Type 316 stainless steel. Max. magnetic pull on contact is 11.2 lbs.

Lg.		
For Large Particles		
6″	5758K22	$44.11
8″	5758K23	48.35
10″	5758K24	54.05
12″	5758K25	58.35
For Small Particles		
4″	5784K21	179.95
6″	5784K22	211.81
8″	5784K23	269.24

Lg.		
For Small Particles (Cont.)		
10″	5784K24	$358.97
12″	5784K25	435.00
14″	5784K26	438.19
16″	5784K27	445.41
18″	5784K28	499.71
20″	5784K29	507.93
24″	5784K32	659.44

Stainless Steel Separating Screens



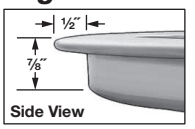

Designed to fit standard Sweco and Kason vibratory shakers, use these to sift nonabrasive materials, such as flour, grain, and powdered metal. Frame and wire cloth are Type 304 stainless steel.

Choose a Mesh Size

Mesh Size	Opening Size	Wire Dia.	Mesh Size	Opening Size	Wire Dia.
20	0.041″	0.009″	80	0.0088″	0.0037″
30	0.0268″	0.0065″	105	0.0065″	0.003″
40	0.0185″	0.0065″	135	0.0051″	0.0023″
50	0.0145″	0.0055″	165	0.0042″	0.0019″

Screen Dia.		
18″	3719K11	$199.74
24″	3719K12	245.45
30″	3719K13	254.55

Screen Dia.		
48″	3719K14	$325.45
60″	3719K15	418.18

Sieves

Made with precision-tolerance wire cloth, use these sieves for accurate, consistent sifting results in testing and laboratory applications.

Sieves



Two Sieves Stacked with Cover and Bottom

Stack sieves with different mesh sizes to separate multiple particle sizes at once—order from largest particles to smallest, top to bottom. The bottom of each sieve fits into the top of sieves with the same diameter. Frame meets ASTM E11.

Sieves for large particles are for sifting materials with sizes similar to corn kernels and rice. *Sieves for medium particles* are for sifting materials with sizes similar to ground coffee and table salt. *Sieves for small particles* are for sifting materials with a size similar to flour. *Sieves for extra-small particles* are for sifting materials with a size similar to talcum powder.

Type 304 stainless steel is more wear resistant than brass.

Type 316 stainless steel has greater wear and corrosion resistance than brass and Type 304 stainless steel.

Mesh Size Dimensions

Mesh Size	Opening Size	Wire Dia.
For Large Particles		
2	0.5″	0.098″
3	0.375″	0.088″
4	0.187″	0.063″
6	0.132″	0.049″
8	0.0937″	0.039″
10	0.0787″	0.035″
12	0.0661″	0.031″
14	0.0555″	0.027″
For Medium Particles		
16	0.0469″	0.024″
18	0.0394″	0.022″
20	0.0331″	0.019″
25	0.0278″	0.017″
30	0.0234″	0.015″
35	0.0197″	0.012″
40	0.0165″	0.011″
45	0.0139″	0.008″
For Small Particles		
50	0.0117″	0.007″
60	0.0098″	0.006″
70	0.0083″	0.005″
80	0.007″	0.004″
100	0.0059″	0.003″
120	0.0049″	0.003″
140	0.0041″	0.0027″
For Extra-Small Particles		
170	0.0035″	0.0024″
200	0.0029″	0.0019″
230	0.0025″	0.0017″
270	0.0021″	0.0014″
325	0.0017″	0.0012″

Dia.	Dp.	Brass Frame and Wire Cloth		Brass Frame and Type 304 SS Wire Cloth		Type 316 SS Frame and Wire Cloth	
For Large Particles—Choose a Mesh: 2, 3, 4, 6, 8, 10, 12, 14							
3″	1″	34735K2★	$41.04	34735K6	$44.98		
8″	1″	3298K3★	54.46	3298K7	58.93		
8″	2″	3286K4★	54.46	3469K8	59.95	7969T1	$130.19
12″	3″			3291K9	100.72		
12″	8″			32915K1	237.50		
For Medium Particles—Choose a Mesh: 16, 18, 20, 25, 30, 35, 40, 45							
3″	1″	34735K3	41.04	34735K7	44.98		
8″	1″	3298K4	54.46	3298K8	58.93		
8″	2″	3286K5	54.46	3469K9	59.95	7969T2	130.19
12″	3″			3291K1	100.72		
12″	8″			32915K2	237.50		

★ Not available in mesh sizes 2, 3, 4, and 6.

Dia.	Dp.	Brass Frame and Wire Cloth		Brass Frame and Type 304 SS Wire Cloth		Type 316 SS Frame and Wire Cloth	
For Small Particles—Choose a Mesh: 50, 60, 70, 80, 100, 120, 140							
3″	1″	34735K4	$41.04	34735K8	$44.98		
8″	1″	3298K5	54.46	3298K9	58.93		
8″	2″	3286K6	54.46	3469K1	59.95	7969T3	$121.02
12″	3″			3291K2	100.72		
12″	8″			32915K3	237.50		
For Extra-Small Particles—Choose a Mesh: 170, 200, 230, 270, 325							
3″	1″	34735K5	47.17	34735K9	51.89		
8″	1″	3298K6	112.50	3298K1	116.07		
8″	2″	3286K7	112.50	3469K2	116.07	7969T4	155.98
12″	3″			3291K3	176.79		
12″	8″			32915K4	291.07		

Sieve Covers and Bottoms

Covers keep your materials in the sieve while keeping contaminants out.

Bottoms catch materials that fall through the sieve.

Fits Sieve Dia.	*Brass* Covers		*Brass* Bottoms		*Type 316 Stainless Steel* Covers		*Type 316 Stainless Steel* Bottoms	
3″	34735K83	$15.50	34735K85	$20.50				
8″	3286K31	19.38	3286K32	25.00	7969T19	$77.65	7969T21	$76.47
12″	32915K81	47.77	32915K82	52.77				

Sieve Shakers



A



B&C

Use these with the sieves above for accurate results in material separation and testing—shakers vibrate sieves to distribute particles evenly, which ensures separation. They operate on 115 volts AC @60 Hz. See the chart for the maximum number of sieves that can be stacked together.

Style A is good for small-batch benchtop testing. It has a vibrating baseplate and a painted-steel and aluminum body. Motor is 1/20 hp and cord is 5 feet long with a two-prong plug.

Styles B and C vibrate vertically and horizontally for greater efficiency. They have a 30-minute timer and a painted-steel body. Motor is 1/4 hp and cord is 4 feet long with a three-prong plug. They meet ASTM C136.

Capacity, Max. Number of Sieves			
For Sieve Size	A	B	C
3″ Dia. x 1″ Dp.	6	16	—
8″ Dia. x 1″ Dp.	—	18	19
8″ Dia. x 2″ Dp.	—	10	11
12″ Dia. x 1″ Dp.	—	—	13
12″ Dia. x 2″ Dp.	—	—	11
12″ Dia. x 3″ Dp.	—	—	7
12″ Dia. x 4″ Dp.	—	—	5
12″ Dia. x 8″ Dp.	—	—	2

	Fits Sieve Dia.	Ht.	Wd.	Dp.		
A	3″	16″	8″	8″	3323K11	$422.50
B	3″, 8″	45″	15″	15″	3323K12	1,160.86
C	8″, 12″	47″	21″	18″	3323K13	1,504.41

Large Diameter Heavy Duty Sieves



Separate coarse materials such as sand, gravel, and asphalt. Sieves have Type 304 stainless steel wire cloth and a galvanized steel frame. Overall size is 18″ Dia. x 4 1/2″ Dp.

Mesh Size	Opening Size	Wire Dia.		
1	0.92″	0.08″	3415K31	$98.04
2	0.437″	0.063″	3415K32	98.04
3	0.286″	0.047″	3415K33	98.04
4	0.203″	0.047″	3415K34	98.04
5	0.168″	0.032″	3415K35	98.04
6	0.132″	0.035″	3415K36	98.04
8	0.097″	0.028″	3415K37	98.04
10	0.08″	0.02″	3415K38	98.04
12	0.065″	0.018″	3415K41	98.04
14	0.054″	0.017″	3415K42	98.04
16	0.047″	0.016″	3415K43	98.04
18	0.041″	0.015″	3415K44	98.04
20	0.036″	0.014″	3415K45	98.04
24	0.028″	0.014″	3415K46	98.04
30	0.021″	0.012″	3415K47	98.04

Plastic Sieves for Large Particles



Made of polypropylene, these sieves have big openings for sorting large particles. Overall size is 14 1/2″ Dia. x 2 1/2″ Dp.

Choose an Opening Size

1″, 3/4″, 1/2″, 3/8″, 1/4″ — 3109K11 $31.02

About Wire Cloth and Plastic Mesh

Use wire cloth and plastic mesh in filtering applications to remove contaminants.

Type & Application

Most wire cloth and plastic mesh is woven. Often used to make strainers, filter screens, and sieves, the woven style is available in the widest variety of materials and sizes.

If you're working with abrasive materials such as gravel, choose **extra-rigid crimped wire cloth**. Wires are bent where they intersect, so they nest securely to maintain a consistent opening size. The crimping process also adds strength and rigidity to this wire cloth.

To make your own filter baskets, **easy-to-form welded wire cloth** is the best option. Welded joints keep opening sizes uniform and prevent the sheet from fraying as you bend it into shape.

Use **stretchable molded plastic mesh** to fit around irregular shapes without fraying.

Mesh Size

To replace existing wire cloth and plastic mesh, determine the mesh size by counting the number of openings per inch. If you're not sure about the size you need, select an opening size that is smaller than the particles you wish to remove.

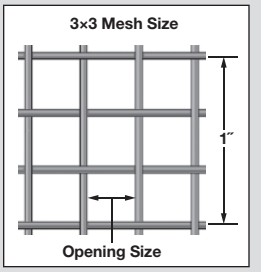

Common Particle Sizes and Corresponding Mesh Sizes (Mesh Shown at Actual Size)


Corn Kernels

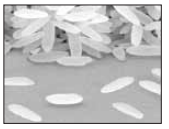
Rice

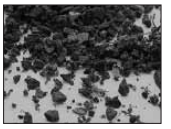
Ground Coffee


Table Salt


Flour

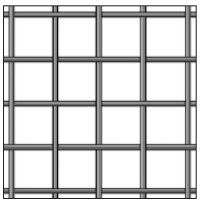
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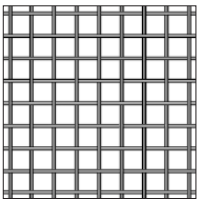
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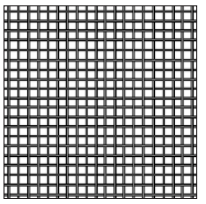
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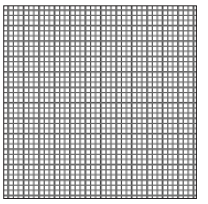
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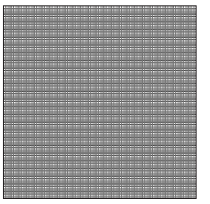
80×80

Wire Cloth Assortments and Sample Packs

Find the best wire cloth for your application—assortments and sample packs include one sheet of the mesh sizes listed.

Assortments—Type 304 Stainless Steel

Keep a convenient range of mesh sizes on hand for maintenance and research projects. Assortments with a 2¾″×1⅝″ sheet size are good for comparing mesh sizes—sheets come labeled with the mesh size dimensions.

Mesh Sizes for Large Particles

Mesh Size	Wire Dia.	Mesh Size	Wire Dia.
2×2	0.063″	8×8	0.028″
3×3	0.047″	10×10	0.025″
4×4	0.047″	12×12	0.023″
5×5	0.041″	14×14	0.02″
6×6	0.035″	16×16	0.018″

Sheet Size		
For Large Particles		
2¾″×1⅝″	9231T11	$14.29
6″×6″	92405T13	31.92
12″×12″	92405T23	92.38

Mesh Sizes for Medium Particles

Mesh Size	Wire Dia.	Mesh Size	Wire Dia.
18×18	0.017″	35×35	0.01″
20×20	0.016″	40×40	0.01″
24×24	0.014″	50×50	0.009″
30×30	0.01″	60×60	0.0075″
30×30	0.012″		

Sheet Size		
For Medium Particles		
2¾″×1⅝″	9231T16	$13.26
6″×6″	92405T15	21.73
12″×12″	92405T25	67.53

Mesh Sizes for Small Particles

Mesh Size	Wire Dia.	Mesh Size	Wire Dia.
70×70	0.0065″	250×250	0.0016″
80×80	0.0055″	325×325	0.0014″
100×100	0.0045″	400×400	0.0011″
150×150	0.0026″	500×500	0.001″
200×200	0.0021″		

Sheet Size		
For Small Particles		
2¾″×1⅝″	9231T12	$13.26
6″×6″	92405T17	65.17
12″×12″	92405T27	258.35

Mesh Size Identification Kit—Type 304 Stainless Steel

A handy reference for identifying and comparing mesh sizes, this kit contains 45 samples of wire cloth that come labeled and organized in a three-ring binder. Samples are 2″×3″.

Woven Mesh Sizes

Mesh Size	Wire Dia.	Mesh Size	Wire Dia.	Mesh Size	Wire Dia.	Mesh Size	Wire Dia.	Mesh Size	Wire Dia.	Mesh Size	Wire Dia.
2×2	0.063″	6×6	0.063″	10×10	0.035″	18×18	0.023″	80×80	0.0055″	200×200	0.0021″
3×3	0.063″	7×7	0.028″	12×12	0.023″	20×20	0.016″	100×100	0.0045″	230×230	0.0014″
4×4	0.047″	8×8	0.028″	12×12	0.028″	24×24	0.014″	120×120	0.0036″	250×250	0.0016″
4×4	0.063″	8×8	0.035″	14×14	0.02″	30×30	0.012″	135×135	0.0023″	270×270	0.0014″
5×5	0.041″	8×8	0.063″	16×16	0.018″	40×40	0.01″	150×150	0.0026″	325×325	0.0014″
6×6	0.035″	9×9	0.023″	16×16	0.023″	50×50	0.009″	165×165	0.0019″	400×400	0.001″
6×6	0.047″	10×10	0.025″	18×18	0.017″	60×60	0.0075″	180×180	0.0023″		

Welded Mesh Sizes

Mesh Size	Wire Dia.
2×2	0.063″
2×2	0.047″
3×3	0.047″
4×4	0.032″

Mesh Size Identification Kit 9231T44 $82.57

Wire Diameters Sample Pack—Type 304 Stainless Steel

Compare the opening size and flexibility of 20×20 mesh size with different wire diameters. Includes three samples with wire diameters of 0.009″, 0.014″, and 0.023″. Samples are 4½″×4½″.

Wire Diameters Sample Pack 9231T13 $7.65

Extra-Rigid Sample Pack—Steel

Also known as space cloth, use this sample pack to compare the construction and rigidity of three varieties of extra-rigid wire cloth. Samples are 4½″×4½″.

Extra-Rigid Sample Pack 9231T15 $15.31

Corrosion-Resistant Type 304 Stainless Steel Wire Cloth

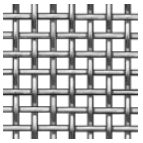

Commonly used to make strainers, filter screens, and sieves, this is our most popular wire cloth. Type 304 stainless steel has good corrosion and abrasion resistance.

For wire cloth sold per foot, prices listed are for 1 and 2 ft. lengths. 5, 8, and 10 ft. lengths are 20% lower; 20, 50, and 100 ft. lengths are 50% lower.

Mesh Size	Opening Size	Open Area	Wire Dia.		12″×12″	12″×24″	24″×24″	36″×36″	36″×48″	48″×48″		1, 2, 5, 8, 10, 20, 50, and 100 Ft. Lengths 36″ Wd. Per Ft.	48″ Wd. Per Ft.
1×1	0.88″	77%	0.12″	85385T11	$39.91	$75.83	$143.68	$305.31	$383.14	$478.92	9226T11	$114.72	$152.96
1×1	0.92″	85%	0.08″	85385T12	11.19	21.26	40.28	85.60	107.42	134.28	9226T101	34.26	45.68
1.3×1.3	0.63″	71%	0.12″	85385T13	27.99	53.18	100.76	214.12	268.70	335.88	9226T12	83.97	111.96
1.3×1.3	0.67″	80%	0.08″	85385T14	24.72	46.97	88.99	189.11	237.31	296.64	9226T102	74.16	98.88
2×2	0.38″	58%	0.12″	85385T15	40.21	76.40	144.76	307.61	386.02	482.52	9226T103	120.63	160.84
2×2	0.395″	62%	0.105″	85385T16	30.29	57.55	109.04	231.72	290.78	363.48	9226T13	90.87	121.16
2×2	0.42″	71%	0.08″	85385T17	20.80	39.52	74.88	159.12	199.68	249.60	9226T14	62.40	83.20
2×2	0.437″	76%	0.063″	85385T18	13.56	25.76	48.82	103.73	130.18	162.72	9226T15	40.68	54.24
2×2	0.453″	82%	0.047″	85385T19	11.66	22.15	41.98	89.20	111.94	139.92	9226T104	34.98	46.64
3×3	0.253″	58%	0.08″	85385T21	29.01	55.12	104.44	221.93	278.50	348.12	9226T16	85.98	118.22
3×3	0.27″	66%	0.063″	85385T22	15.10	28.69	54.36	115.52	144.96	181.20	9226T17	46.23	61.64
3×3	0.279″	70%	0.054″	85385T23	15.47	29.39	55.69	118.35	148.51	185.64	9226T123	46.41	61.88
3×3	0.286″	74%	0.047″	85385T24	12.83	24.38	46.19	98.15	123.17	153.96	9226T18	38.49	51.32
4×4	0.17″	46%	0.08″	85385T25	34.30	65.17	123.48	262.39	329.28	411.60	9226T105	102.90	137.20
4×4	0.187″	56%	0.063″	85385T26	19.93	37.87	71.75	152.46	191.33	239.16	9226T19	59.79	79.72
4×4	0.196″	62%	0.054″	85385T27	15.62	29.68	56.23	119.49	149.95	187.44	9226T124	46.86	62.48
4×4	0.203″	66%	0.047″	85385T28	15.59	29.62	56.12	119.26	149.66	187.08	9226T2	46.77	62.36
5×5	0.153″	59%	0.047″	85385T29	23.62	44.88	85.03	180.69	226.75	283.44	9226T21	70.89	91.14
5×5	0.159″	63%	0.041″	85385T31	15.87	30.15	57.13	121.41	152.35	190.44	9226T22	44.30	60.13
6×6	0.104″	39%	0.063″	85385T32	54.46	103.47	196.06	416.62	522.82	653.52	9226T23	148.51	207.92
6×6	0.12″	52%	0.047″	85385T33	30.46	57.87	109.66	233.02	292.42	365.52	9226T24	91.09	110.61
6×6	0.126″	57%	0.041″	85385T34	15.89	30.19	57.20	121.56	152.54	190.68	9226T125	47.67	63.56
6×6	0.132″	63%	0.035″	85385T35	13.96	26.52	50.26	106.79	134.02	167.52	9226T25	41.88	55.84
7×7	0.102″	51%	0.041″	85385T36	16.56	31.46	59.62	126.68	158.98	198.72	9226T575	50.67	67.56
8×8	0.062″	25%	0.063″	85385T37	48.77	92.66	175.57	373.09	468.19	585.24	9226T27	149.28	199.04
8×8	0.078″	39%	0.047″	85385T38	27.93	53.07	100.55	213.66	268.13	335.16	9226T28	83.79	111.72
8×8	0.09″	52%	0.035″	85385T39	14.91	28.33	53.68	114.06	143.14	178.92	9226T29	44.73	59.64
8×8	0.093″	55%	0.032″	85385T41	13.92	26.45	50.11	106.49	133.63	167.04	9226T3	42.63	56.84
8×8	0.097″	60%	0.028″	85385T42	12.54	23.83	45.14	95.93	120.38	150.48	9226T31	35.75	49.51
9×9	0.079″	51%	0.032″	85385T43	10.93	20.77	39.35	83.61	104.93	131.16	9226T013	33.45	44.60
9×9	0.088″	63%	0.023″	85385T44	7.37	14.00	26.53	56.38	70.75	88.44	9226T012	22.56	30.08
10×10	0.053″	28%	0.047″	85385T45	29.61	56.26	106.60	226.52	284.26	355.32	9226T32	90.66	120.88
10×10	0.065″	42%	0.035″	85385T46	21.75	41.32	78.30	166.39	208.80	261.00	9226T33	65.25	87.00
10×10	0.068″	46%	0.032″	85385T47	25.70	48.83	92.52	196.60	246.72	308.40	9226T34	73.80	98.40
10×10	0.075″	56%	0.025″	85385T48	9.00	17.10	32.40	68.85	86.40	108.00	9226T35	31.32	41.76
10×10	0.077″	59%	0.023″	85385T49	12.20	23.18	43.92	93.33	117.12	146.40	9226T958	39.02	52.03
11×11	0.073″	65%	0.018″	85385T51	6.15	11.69	22.14	47.05	59.04	73.80	9226T014	18.81	25.08
12×12	0.042″	25%	0.041″	85385T52	38.13	72.45	137.27	291.69	366.05	457.56	9226T36	116.73	155.64
12×12	0.048″	33%	0.035″	85385T53	22.50	42.75	81.00	172.12	216.00	270.00	9226T106	68.88	91.84
12×12	0.051″	38%	0.032″	85385T54	22.86	43.43	82.30	174.88	219.46	274.32	9226T37	68.58	91.44
12×12	0.055″	44%	0.028″	85385T55	18.15	34.48	65.34	138.85	174.24	217.80	9226T38	55.56	74.08
12×12	0.06″	52%	0.023″	85385T56	10.48	19.91	37.73	80.17	100.61	125.76	9226T39	32.07	42.76
14×14	0.039″	30%	0.032″	85385T57	27.07	51.43	97.45	207.09	259.87	324.84	9226T107	82.86	110.48
14×14	0.046″	42%	0.025″	85385T58	19.31	36.69	69.52	147.72	185.38	231.72	9226T4	57.93	77.24
14×14	0.051″	51%	0.02″	85385T61	12.38	23.52	44.57	94.71	118.85	148.56	9226T41	37.14	49.52
15×15	0.057″	73%	0.01″	85385T62	5.70	10.83	20.52	43.61	54.72	68.40	9226T015	17.46	23.28
16×16	0.035″	31%	0.028″	85385T63	19.63	37.30	70.67	150.17	188.45	235.56	9226T42	60.09	80.12
16×16	0.04″	40%	0.023″	85385T64	16.91	32.13	60.88	129.36	162.34	202.92	9226T43	51.75	69.00
16×16	0.045″	51%	0.018″	85385T65	10.92	20.75	39.31	83.54	104.83	131.04	9226T45	32.76	43.68
18×18	0.036″	41%	0.02″	85385T66	15.33	29.13	55.19	117.27	147.17	183.96	9226T46	46.92	62.56
18×18	0.039″	48%	0.017″	85385T67	7.49	14.23	26.96	57.30	71.90	89.88	9226T47	22.92	30.56
20×20	0.027″	29%	0.023″	85385T68	17.23	32.74	62.03	131.81	165.41	206.76	9226T48	51.69	68.92
20×20	0.03″	36%	0.02″	85385T69	13.57	25.78	48.85	103.81	130.27	162.84	9226T115	41.55	55.40
20×20	0.032″	41%	0.018″	85385T71	9.60	18.24	34.56	73.44	92.16	115.20	9226T49	29.37	39.16
20×20	0.034″	46%	0.016″	85385T73	8.74	16.61	31.46	66.86	83.90	104.88	9226T51	26.73	35.64
22×22	0.032″	50%	0.0135″	85385T74	11.43	21.72	41.15	87.44	109.73	137.16	9226T127	34.29	45.72
24×24	0.028″	44%	0.014″	85385T75	7.86	14.93	28.30	60.13	75.46	94.32	9226T53	24.06	32.08
26×26	0.031″	65%	0.0075″	85385T76	5.40	10.26	19.44	41.31	51.84	64.80	9226T016	16.62	22.16
28×28	0.026″	52%	0.01″	85385T77	6.45	12.25	23.22	49.34	61.92	77.40	9226T159	19.74	26.32
30×30	0.02″	37%	0.013″	85385T78	6.26	11.89	22.54	47.89	60.10	75.12	9226T54	19.17	25.56
30×30	0.021″	41%	0.012″	85385T79	7.75	14.72	27.90	59.29	74.40	93.00	9226T55	23.73	31.64
32×32	0.022″	51%	0.009″	85385T81	10.48	19.91	37.73	80.17	100.61	125.76	9226T128	31.44	41.92
32×32	0.025″	63%	0.0065″	85385T82	4.71	8.95	16.96	36.03	45.22	56.52	9226T017	14.43	19.24
35×35	0.017″	34%	0.012″	85385T83	9.98	18.96	35.93	76.35	95.81	119.76	9226T56	30.54	40.72
35×35	0.019″	42%	0.01″	85385T84	8.16	15.50	29.38	62.42	78.34	97.92	9226T162	24.99	33.32
38×38	0.02″	57%	0.0065″	85385T85	5.53	10.51	19.91	42.30	53.09	66.36	9226T804	16.92	22.56
40×40	0.012″	23%	0.013″	85385T86	21.14	40.17	76.10	161.72	202.94	253.68	9226T57	64.71	86.28
40×40	0.014″	31%	0.011″	85385T87	10.97	20.84	39.49	83.92	105.31	131.64	9226T58	33.60	44.80
40×40	0.015″	36%	0.01″	85385T88	7.46	14.17	26.86	57.07	71.62	89.52	9226T59	22.83	30.44
40×40	0.016″	38%	0.0095″	85385T89	7.99	15.18	28.76	61.12	76.70	95.88	9226T6	24.45	32.60
40×40	0.017″	43%	0.0085″	85385T91	10.46	19.87	37.66	80.02	100.42	125.52	9226T129	31.38	41.84
42×42	0.018″	59%	0.0055″	85385T92	4.85	9.21	17.46	37.10	46.56	58.20	9226T019	14.85	19.80
50×50	0.011″	30%	0.009″	85385T93	10.48	20.84	40.02	89.80	116.15	147.02	9226T61	31.44	41.92

(Continued on following page)

Corrosion-Resistant Type 304 Stainless Steel Wire Cloth

(Continued from previous page)

Mesh Size	Opening Size	Open Area	Wire Dia.		12″×12″	12″×24″	24″×24″	36″×36″	36″×48″	48″×48″	1, 2, 5, 8, 10, 20, 50, and 100 Ft. Lengths 36″ Wd. Per Ft.	48″ Wd. Per Ft.
60×60	0.009″	31%	0.0075″	85385T95	$7.09	$13.47	$25.52	$54.24	$68.06	$85.08	9226T64 $21.69	$28.92
70×70	0.008″	30%	0.0065″	85385T96	6.85	13.01	24.66	52.40	65.76	82.20	9226T65 20.97	27.96
80×80	0.006″	19%	0.007″	85385T97	8.14	15.47	29.30	62.27	78.14	97.68	9226T66 24.93	33.24
80×80	0.007″	31%	0.0055″	85385T98	8.69	16.96	32.44	71.45	91.99	115.30	9226T67 26.07	34.76
90×90	0.006″	25%	0.0055″	85385T99	6.25	11.88	22.50	47.81	60.00	75.00	9226T68 19.11	25.48
100×100	0.0055″	30%	0.0045″	85385T101	6.23	10.27	18.97	41.83	55.14	67.45	9226T69 18.69	23.36
120×120	0.0043″	26%	0.004″	85385T102	8.37	15.90	30.13	64.03	80.35	100.44	9226T964 25.66	34.22
120×120	0.0046″	31%	0.0037″	85385T103	6.47	12.29	23.29	49.50	62.11	77.64	9226T965 19.80	26.40
150×150	0.0041″	38%	0.0026″	85385T104	4.78	9.08	17.21	36.57	45.89	57.36	9226T966 14.61	19.48
160×160	0.0038″	37%	0.0024″	85385T105	5.64	10.72	20.30	43.15	54.14	67.68	9226T021 17.25	23.00
165×165	0.0042″	47%	0.0019″	85385T106	9.17	17.42	33.01	70.15	88.03	110.04	9226T967 27.51	36.68
180×180	0.004″	46%	0.0018″	85385T107	7.08	13.45	25.49	54.16	67.97	84.96	9226T022 21.69	28.92
200×200	0.0029″	34%	0.0021″	85385T108	6.90	13.11	24.84	52.79	66.24	82.80	9226T968 21.15	28.20
200×200	0.0034″	46%	0.0016″	85385T109	5.54	10.53	19.94	42.38	53.18	66.48	9226T969 16.98	22.64
230×230	0.0029″	46%	0.0014″	85385T111	16.59	31.52	59.72	126.91	159.26	199.08	9226T971 49.77	66.36
250×250	0.0024″	36%	0.0016″	85385T112	16.80	31.92	60.48	128.52	161.28	201.60	9226T972 50.40	67.20
270×270	0.0023″	38%	0.0014″	85385T113	14.77	28.06	53.17	112.99	141.79	177.24	9226T973 45.21	60.28
300×300	0.0021″	41%	0.0012″	85385T114	26.72	50.77	96.19	204.41	256.51	320.64	9226T023 81.81	109.08
325×325	0.0017″	31%	0.0014″	85385T115	13.12	24.93	47.23	100.37	125.95	157.44	9226T974 40.17	53.56
325×325	0.002″	41%	0.0011″	85385T116	14.14	26.87	50.90	108.17	135.74	169.68	9226T975 43.26	57.68
400×400	0.0015″	36%	0.001″	85385T117	21.00	39.90	75.60	160.65	201.60	252.00	9226T976 63.00	84.00
500×500	0.0012″	36%	0.0008″	85385T118	136.30	258.97	490.68	1,042.70	1,308.48	1,635.60	9226T978 398.74	541.43

Corrosion-Resistant Type 304 Stainless Steel Wire Cloth Discs

A convenient solution for inline filtering, discs are die cut for an exact diameter with smooth edges for use in tube, pipe, and duct. They're made from our popular Type 304 stainless steel wire cloth, which has good corrosion and abrasion resistance. Discs are often used as replacement screens in plastic extruders.

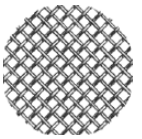

Mesh Size	Opening Size	Open Area	Wire Dia.	Pkg. Qty.		1/2″ Dia.	5/8″ Dia.	3/4″ Dia.	7/8″ Dia.	1″ Dia.	1 1/4″ Dia.	1 3/8″ Dia.	1 1/2″ Dia.	1 7/8″ Dia.
20×20	0.034″	46%	0.016″	25	9317T61	$7.57	$8.10	$7.57	$8.10	$5.68	$6.06	$8.86	$6.36	$9.99
30×30	0.021″	40%	0.012″	25	9317T62	7.57	8.10	7.57	8.10	7.57	8.33	8.86	9.08	9.99
40×40	0.015″	36%	0.01″	25	9317T63	7.57	8.10	7.57	8.10	5.83	6.06	8.86	6.51	9.99
60×60	0.009″	30%	0.0075″	25	9317T64	7.57	8.10	7.57	8.10	5.90	6.06	8.86	6.66	9.99
80×80	0.007″	31%	0.0055″	25	9317T65	7.57	8.10	7.57	8.10	5.90	6.06	8.86	6.96	9.99
100×100	0.006″	30%	0.0045″	25	9317T66	7.57	8.10	7.57	8.10	6.06	7.57	8.86	7.57	9.99
200×200	0.003″	34%	0.0021″	25	9317T67	8.32	8.57	8.32	8.57	9.07	9.07	9.32	9.82	10.48

Mesh Size	Opening Size	Open Area	Wire Dia.	Pkg. Qty.		2″ Dia.	2 1/4″ Dia.	2 3/8″ Dia.	2 1/2″ Dia.	2 9/16″ Dia.	3″ Dia.	3 9/16″ Dia.	4″ Dia.★	4 9/16″ Dia.★
20×20	0.034″	46%	0.016″	25	9317T81	$6.66	$6.96	$11.28	$11.66	$8.18	$9.84	$14.61	$7.12	$8.93
30×30	0.021″	40%	0.012″	25	9317T82	9.84	10.60	11.28	11.66	11.36	12.11	12.87	7.57	9.08
40×40	0.015″	36%	0.01″	25	9317T83	6.81	7.12	11.28	11.66	8.18	9.84	14.61	7.12	8.93
60×60	0.009″	30%	0.0075″	25	9317T84	6.96	7.27	11.28	11.66	8.18	10.45	14.61	7.12	8.93
80×80	0.007″	31%	0.0055″	25	9317T85	7.12	7.42	11.28	11.66	8.18	10.75	14.61	7.12	8.93
100×100	0.006″	30%	0.0045″	25	9317T86	7.87	8.18	11.28	11.66	9.08	11.51	15.37	7.49	9.31
200×200	0.003″	34%	0.0021″	25	9317T87■	12.06	14.39	11.81	12.15	6.99	9.32	———	———	———

■ Package quantity is 10 for 2 9/16″ dia. and 3″ dia. ★ Package quantity is 10.

Mesh Size	Opening Size	Open Area	Wire Dia.	Pkg. Qty.		5″ Dia.	5 1/2″ Dia.	6″ Dia.	6 1/2″ Dia.	7″ Dia.	7 1/2″ Dia.	8″ Dia.	9″ Dia.	10″ Dia.	12″ Dia.
20×20	0.034″	46%	0.016″	2	9317T51	$13.82	$13.96	$14.23	$14.23	$14.37	$14.51	$14.79	$14.93	$14.93	$14.93
40×40	0.015″	36%	0.01″	2	9317T52	13.81	13.95	14.22	14.22	14.36	14.50	14.78	14.91	14.91	14.91
60×60	0.0092″	31%	0.0075″	2	9317T53	13.81	13.95	14.22	14.22	14.36	14.50	14.78	14.91	14.91	14.91
80×80	0.007″	31%	0.0055″	2	9317T54	13.81	13.95	14.22	14.22	14.36	14.50	14.78	14.91	14.91	14.91
100×100	0.0055″	30%	0.0045″	2	9317T55	13.81	13.95	14.22	14.22	14.36	14.50	14.78	14.91	14.91	14.91

Precision-Mesh Stainless Steel Wire Cloth

Often used in sieves and vibratory shakers for testing applications, the openings of this wire cloth are woven to a tight size tolerance for accurate, consistent sifting results. **Type 316 stainless steel** has greater corrosion resistance than Type 304 stainless steel.

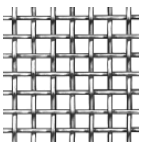

Mesh Size	Opening Size	Open Area	Wire Dia.		12″×12″	12″×24″	24″×24″	36″×36″	36″×48″	48″×48″	48″×72″	48″×120″
Type 304 Stainless Steel												
4×4	0.203″	64%	0.047″	9656T11	$22.05	$41.89	$79.38	$168.68	$211.68	$264.60	$370.44	$617.40
100×100	0.0055″	31%	0.0045″	9656T18	20.51	38.97	73.84	156.90	196.90	246.12	344.57	574.28
200×200	0.0029″	38%	0.0021″	9656T19	22.05	41.89	79.38	168.68	211.68	264.60	370.44	617.40
Type 316 Stainless Steel												
10×10	0.075″	58%	0.025″	9656T13	20.73	39.39	———	158.58	199.01	———	———	———
20×20	0.034″	46%	0.016″	9656T15	20.73	39.39	74.63	158.58	199.01	248.76	348.26	580.44
40×40	0.015″	38%	0.01″	9656T16	20.84	39.60	75.02	159.43	200.06	250.08	350.11	583.52
50×50	0.011″	31%	0.009″	9656T17	22.16	42.10	79.78	169.52	212.74	265.92	372.29	620.48

Strainer-Grade Type 304 Stainless Steel Wire Cloth

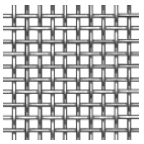

Maximize flow when straining your liquid process lines—woven from thin wire, this wire cloth has a larger percentage of open area than other wire cloth with the same mesh size. Type 304 stainless steel has good corrosion resistance.

Mesh Size	Opening Size Lg.	Opening Size Wd.	Open Area	Wire Dia.		12″×12″	12″×24″	12″×60″	24″×24″	36″×36″	36″×48″
30×30	0.02″	0.02″	37%	0.013″	9241T41	$8.95	$17.00	$40.27	$32.22	$68.47	$85.92
40×40	0.0185″	0.0185″	55%	0.0065″	9241T42	5.43	10.32	24.43	19.55	41.54	52.13
60×40	0.01″	0.0185″	45%	0.006″	9241T43	5.69	10.81	25.61	20.48	43.53	54.62
100×90	0.006″	0.0071″	38%	0.004″	9241T44	5.34	10.15	24.03	19.22	40.85	51.26
120×108	0.0047″	0.0057″	35%	0.0036″	9241T45	4.44	8.44	19.98	15.98	33.97	42.62

Extra-Rigid Type 304 Stainless Steel Wire Cloth



Also known as space cloth, this mesh is woven from thick crimped wire to maintain an accurate opening size when used with heavy abrasive materials, such as gravel and rocks. Made of Type 304 stainless steel, it has good corrosion and abrasion resistance.

Opening Size	Open Area	Wire Dia.		12″×48″	24″×48″	36″×48″	48″×48″	48″×60″	48″×120″
2″	83%	0.192″	9253T11	$93.14	$176.97	$251.48	$316.68	$372.56	$745.12
1½″	80%	0.177″	9253T12	95.60	181.64	258.12	325.04	382.40	764.80
1″	76%	0.148″	9253T13	102.82	195.36	277.61	349.59	411.28	822.56
1″	80%	0.12″	9253T14	71.19	135.26	192.21	242.05	284.76	569.52
¾″	72%	0.135″	9253T15	102.48	194.71	276.70	348.43	409.92	819.84
¾″	74%	0.12″	9253T16	86.08	163.55	232.42	292.67	344.32	688.64
⅝″	70%	0.12″	9253T17	93.44	177.54	252.29	317.70	373.76	747.52
½″	65%	0.12″	9253T18	113.57	215.78	306.64	386.14	454.28	908.56
½″	68%	0.105″	9253T19	95.59	181.62	258.09	325.01	382.36	764.72
½″	74%	0.08″	9253T21	84.39	160.34	227.85	286.93	337.56	675.12
½″	79%	0.063″	9253T22	72.16	137.10	194.83	245.34	288.64	577.28
⅜″	57%	0.12″	9253T24	132.78	252.28	358.51	451.45	531.12	1,062.24
⅜″	68%	0.08″	9253T25	73.85	140.31	199.40	251.09	295.40	590.80
⅜″	73%	0.063″	9253T26	54.89	104.29	148.20	186.63	219.56	439.12
5⁄16″	63%	0.08″	9253T27	108.04	205.28	291.71	367.34	432.16	864.32
¼″	50%	0.105″	9253T28	144.09	273.77	389.04	489.91	576.36	1,152.72
¼″	57%	0.08″	9253T29	96.32	183.01	260.06	327.49	385.28	770.56
¼″	64%	0.063″	9253T31	53.97	102.54	145.72	183.50	215.88	431.76
3⁄16″	49%	0.08″	9253T32	123.47	234.59	333.37	419.80	436.28	862.75
5⁄32″	51%	0.063″	9253T33	71.72	136.27	193.64	243.85	286.88	573.76
⅛″	44%	0.063″	9253T35	104.32	198.21	281.66	354.69	417.28	834.56

Lightweight-Particle-Filtering Stainless Steel Wire Cloth

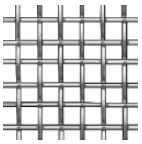

Minimize clogs of dry powdered materials in sifting and sizing applications. Also known as milling grade, this mesh has a large percentage of open area and a small wire diameter to facilitate material flow. **Type 316 stainless steel** has greater corrosion resistance than Type 304 stainless steel.

For wire cloth sold per foot, prices listed are for 5 ft. lengths. 6 and 10 ft. lengths are 20% lower; 25 ft. lengths are 40% lower.

Mesh Size	Opening Size	Open Area	Wire Dia.		12″×12″	12″×24″	24″×24″	36″×36″	36″×48″	48″×48″	*5, 6, 10, and 25 Ft. Lengths*	36″ Wd. Per Ft.	48″ Wd. Per Ft.
Type 304 Stainless Steel													
4×4	0.215″	74%	0.035″	9238T51	$8.60	$16.34	$30.96	$65.79	$82.56	$103.20	9238T71	$25.79	$34.39
6×6	0.139″	70%	0.028″	9238T14	6.20	11.78	22.32	47.43	59.52	74.40	9238T72	18.95	25.28
8×8	0.1″	64%	0.025″	9238T22	7.91	15.03	28.48	60.51	75.94	94.92	9238T73	24.21	32.28
10×10	0.08″	64%	0.02″	9238T52	10.04	19.08	36.14	76.81	96.38	120.48	9238T74	30.10	40.13
12×12	0.065″	61%	0.018″	9238T24	5.77	10.96	20.77	44.14	55.39	69.24	9238T75	17.67	23.56
14×14	0.054″	57%	0.017″	9238T53	8.60	16.34	30.96	65.79	82.56	103.20	9238T76	25.77	34.40
16×16	0.047″	55%	0.016″	9238T25	5.77	10.96	20.77	44.14	55.39	69.24	9238T77	17.67	23.56
18×18	0.041″	53%	0.015″	9238T54	9.86	18.73	35.50	75.43	94.66	118.32	9238T78	29.64	39.70
20×20	0.036″	52%	0.014″	9238T29	6.30	11.97	22.68	48.20	60.48	75.60	9238T79	19.28	25.71
24×24	0.029″	47%	0.013″	9238T42	6.67	12.67	24.01	51.03	64.03	80.04	9238T81	20.39	27.20
30×30	0.024″	51%	0.0095″	9238T44	5.77	10.96	20.77	44.14	55.39	69.24	9238T83	17.67	23.56
50×50	0.013″	39%	0.0075″	9238T45	4.93	9.37	17.75	37.71	47.33	59.16	9238T87	15.09	20.02
60×60	0.01″	38%	0.0065″	9238T49	5.47	10.39	19.69	41.85	52.51	65.64	9238T88	16.74	22.32
Type 316 Stainless Steel													
4×4	0.215″	74%	0.035″	9238T56	18.51	35.17	66.64	141.60	177.70	222.12	9238T62	53.67	71.56
6×6	0.139″	69%	0.028″	9238T57	12.60	23.94	45.36	96.39	120.96	151.20	9238T82	37.80	50.40
8×8	0.1″	64%	0.025″	9238T58	12.76	24.24	45.94	97.61	122.50	153.12	9238T84	38.28	51.04
10×10	0.075″	56%	0.025″	9238T65	11.99	22.78	43.16	91.72	115.10	143.88	9238T96	36.72	48.96
12×12	0.065″	61%	0.018″	9238T55	16.02	30.44	57.67	122.55	153.79	192.24	9238T69	46.05	61.40
16×16	0.047″	55%	0.016″	9238T59	13.76	26.14	49.54	105.26	132.10	165.12	9238T85	41.28	55.04
20×20	0.036″	52%	0.014″	9238T61	13.80	26.22	49.68	105.57	132.48	165.60	9238T86	41.40	55.20
30×30	0.024″	51%	0.0095″	9238T63	12.80	24.32	46.08	97.92	122.88	153.60	9238T89	38.40	51.20
60×60	0.0092″	30%	0.0075″	9238T64	13.56	25.76	48.82	103.73	130.18	162.72	9238T91	40.68	54.24

High-Volume Lightweight-Particle-Filtering Stainless Steel Wire Cloth

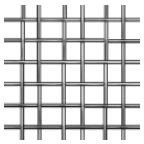

Maintain flow when sifting and sorting large quantities of dense nonabrasive materials, such as flour, grain, and powdered metal. Also known as bolting grade, this wire cloth has a large percentage of open area and ultra-thin wire to prevent clogs. **Type 316 stainless steel** has greater corrosion resistance than Type 304 stainless steel.

For wire cloth sold per foot, prices listed are for 3 ft. lengths. 6 and 10 ft. lengths are 20% lower; 25 ft. lengths are 40% lower.

Mesh Size	Opening Size	Open Area	Wire Dia.		12″×12″	12″×24″	*3, 6, 10, and 25 Ft. Lengths*	36″ Wd. Per Ft.	48″ Wd. Per Ft.
Type 304 Stainless Steel									
16×16	0.054″	73%	0.009″	9230T24	$2.87	$5.45	9230T71	$8.58	$11.36
18×18	0.047″	70%	0.009″	9230T25	3.08	5.85	9230T72	9.23	12.31
20×20	0.041″	67%	0.009″	9230T26	3.78	7.18	9230T73	11.32	15.09
24×24	0.034″	67%	0.0075″	9230T27	3.99	7.58	9230T74	11.97	15.96
30×30	0.0268″	65%	0.0065″	9230T28	3.42	6.50	9230T75	10.26	13.68
54×54	0.013″	49%	0.0055″	9230T41	5.30	10.07	9230T81	15.91	21.21
60×60	0.0122″	53%	0.0045″	9230T44	3.87	7.35	9230T79	11.61	15.48
74×74	0.0098″	53%	0.0037″	9230T46	5.11	9.71	9230T82	15.32	20.42
80×80	0.0088″	49%	0.0037″	9230T45	8.97	17.04	9230T83	26.91	35.88
Type 316 Stainless Steel									
7×7	0.108″	57%	0.035″	9230T21	19.07	36.23	9230T492	57.21	76.28
11×11	0.073″	64%	0.018″	9230T47	8.18	15.54	9230T493	24.55	32.73
18×18	0.0466″	70%	0.009″	9230T48	11.55	21.95	9230T91	34.65	46.20
20×20	0.041″	67%	0.009″	9230T49	6.06	11.51	9230T92	18.19	24.26
22×22	0.038″	70%	0.0075″	9230T51	4.39	8.34	9230T494	13.17	17.56
24×24	0.034″	67%	0.0075″	9230T52	5.21	9.90	9230T93	15.64	20.86
26×26	0.031″	65%	0.0075″	9230T53	5.59	10.62	9230T495	16.79	22.38
30×30	0.0268″	65%	0.0065″	9230T54	5.10	9.69	9230T94	15.29	20.38
32×32	0.0248″	63%	0.0065″	9230T55	5.17	9.82	9230T496	15.52	20.70
38×38	0.0198″	57%	0.0065″	9230T56	5.54	10.53	9230T498	16.61	22.15
40×40	0.0185″	55%	0.0065″	9230T57	10.07	19.13	9230T95	28.92	38.56
42×42	0.0183″	59%	0.0055″	9230T58	3.76	7.14	9230T499	11.29	15.05
50×50	0.0145″	53%	0.0055″	9230T59	5.11	9.71	9230T96	15.32	20.42
60×60	0.0122″	53%	0.0045″	9230T62	4.46	8.47	9230T97	13.38	17.83
62×62	0.0116″	52%	0.0045″	9230T63	4.47	8.49	9230T514	13.44	17.92
70×70	0.0106″	55%	0.0037″	9230T65	4.01	7.62	9230T517	12.05	16.07
72×72	0.0102″	54%	0.0037″	9230T66	4.17	7.92	9230T518	12.49	16.66
80×80	0.0088″	50%	0.0037″	9230T67	4.70	8.93	9230T99	14.08	18.78
84×84	0.0084″	50%	0.0035″	9230T68	4.17	7.92	9230T535	12.49	16.66
90×90	0.0076″	47%	0.0035″	9230T69	5.47	10.39	9230T537	16.41	21.87
160×160	0.0038″	37%	0.0024″	9230T84	5.55	10.54	9230T538	16.64	22.19
180×180	0.0033″	34%	0.0023″	9230T85	11.17	21.22	9230T539	33.51	44.68

Super-Small-Particle-Filtering Stainless Steel Wire Cloth

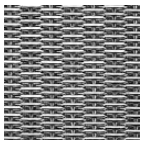

Also known as Dutch weave, this wire cloth has a tight weave that traps tiny particles and provides strength for use in high-pressure and high-flow applications. Select mesh size based on the size of the particles you wish to remove. For example, the particle size of flour is about 100 microns and talcum powder is about 10 microns. (For more information about particle size in microns, see page 412.) **Type 316 stainless steel** has greater corrosion resistance than Type 304 stainless steel.

Mesh Size	Particle Size, microns	*Wire Diameter* Horizontal	Vertical		12″×12″	12″×24″	24″×24″	36″×36″	36″×48″	48″×48″	48″×96″
Type 304 Stainless Steel											
12×64	180	0.023″	0.0165″	92715T71	$17.27	$32.81	$62.17	$132.12	$165.79	$207.24	$414.48
24×110	115	0.014″	0.01″	92715T72	12.78	24.28	46.01	97.77	122.69	153.36	306.72
30×150	95	0.009″	0.007″	92715T73	9.67	18.37	34.81	73.98	92.83	116.04	232.08
40×200	75	0.007″	0.0055″	92715T74	9.05	17.20	32.58	69.23	86.88	108.60	217.20
50×250	60	0.0055″	0.0045″	92715T75	8.38	15.92	30.17	64.11	80.45	100.56	201.12
80×700	25	0.004″	0.003″	92715T81	42.23	80.24	152.03	323.06	405.41	506.76	1,013.52
165×800	25	0.0028″	0.002″	92715T83	31.00	58.90	111.60	237.15	297.60	372.00	744.00
165×1,400	10	0.0028″	0.0016″	92715T84	55.90	106.21	201.24	427.63	536.64	670.80	1,341.60
200×600	26	0.0024″	0.0018″	92715T82	29.97	56.94	107.89	229.27	287.71	359.64	719.28
200×1,400	10	0.0028″	0.0016″	92715T85	25.67	48.77	92.41	196.38	246.43	308.04	616.08
325×2,300	5	0.0014″	0.001″	92715T87	160.15	304.28	576.54	1,225.15	1,537.44	1,921.80	3,843.60
Type 316 Stainless Steel											
12×64	180	0.023″	0.0165″	9419T31	34.50	65.55	124.20	263.93	331.20	414.00	579.60
24×110	80	0.014″	0.01″	9419T11	29.55	56.14	106.38	226.06	283.68	354.60	496.44
30×150	95	0.009″	0.007″	9419T32	35.94	68.29	129.38	274.94	345.02	431.28	603.79
40×200	75	0.007″	0.0055″	9419T33	33.42	63.50	120.31	255.66	320.83	401.04	561.46
50×250	40	0.0055″	0.0045″	9419T13	27.23	51.74	98.03	208.31	261.41	326.76	457.46
80×700	35	0.004″	0.003″	9419T34	33.42	63.50	120.31	255.66	320.83	401.04	561.46
165×800	25	0.0028″	0.002″	9419T35	37.38	71.02	134.57	285.96	358.85	448.56	627.98
165×1,400	14	0.0028″	0.0016″	9419T36	41.26	78.39	148.54	315.64	396.10	495.12	693.17
200×600	26	0.0024″	0.0018″	9419T37	34.42	65.40	123.91	263.31	330.43	413.04	578.26
200×1,400	10	0.0028″	0.0016″	9419T38	38.78	73.68	139.61	296.67	372.29	465.36	651.50
325×2,300	5	0.0014″	0.001″	9419T39	59.84	113.70	215.42	457.78	574.46	718.08	1,005.31

Super-Corrosion-Resistant Type 316 Stainless Steel Wire Cloth

Able to withstand corrosive solutions and harsh cleaning, this wire cloth is commonly used in food-processing applications. Made of Type 316 stainless steel, it has excellent corrosion and abrasion resistance.

For wire cloth sold per foot, prices listed are for 1 and 2 ft. lengths. 5 and 10 ft. lengths are 20% lower; 20 ft. lengths are 40% lower.

Mesh Size	Opening Size	Open Area	Wire Dia.		12″×12″	12″×24″	24″×24″	36″×36″	36″×48″	48″×48″	*1, 2, 5, 10, and 20 Ft. Lengths*	36″ Wd. Per Ft.	48″ Wd. Per Ft.
2×2	0.42″	71%	0.08″	9319T111	$20.83	$39.58	$74.99	$159.35	$199.97	$249.96	9319T7	$62.49	$83.32
2×2	0.437″	76%	0.063″	9319T112	17.48	33.21	62.93	133.72	167.81	209.76	9319T829	52.44	69.92
2×2	0.453″	82%	0.047″	9319T113	13.98	26.56	50.33	106.95	134.21	167.76	9319T831	41.94	55.92
3×3	0.27″	66%	0.063″	9319T114	20.56	39.06	74.02	157.28	197.38	246.72	9319T72	61.68	82.24
3×3	0.286″	74%	0.047″	9319T115	16.38	31.12	58.97	125.31	157.25	196.56	9319T832	49.14	65.52
4×4	0.17″	46%	0.08″	9319T116	28.70	54.53	103.32	219.56	275.52	344.40	9319T163	86.10	114.80
4×4	0.187″	56%	0.063″	9319T117	23.62	44.88	85.03	180.69	226.75	283.44	9319T73	70.86	94.48
4×4	0.203″	66%	0.047″	9319T118	17.68	33.59	63.65	135.25	169.73	212.16	9319T74	53.04	70.72
5×5	0.159″	63%	0.041″	9319T119	17.49	33.23	62.96	133.80	167.90	209.88	9319T164	52.48	69.97
6×6	0.104″	39%	0.063″	9319T121	30.55	58.05	109.98	233.71	293.28	366.60	9319T833	91.65	122.20
6×6	0.12″	52%	0.047″	9319T122	24.97	47.44	89.89	191.02	239.71	299.64	9319T75	74.92	99.87
6×6	0.132″	63%	0.035″	9319T123	17.93	34.07	64.55	137.16	172.13	215.16	9319T76	53.80	71.74
8×8	0.062″	25%	0.063″	9319T124	68.75	130.62	247.50	525.94	660.00	825.00	9319T165	206.26	275.02
8×8	0.078″	39%	0.047″	9319T125	31.09	59.07	111.92	237.84	298.46	373.08	9319T166	93.29	124.39
8×8	0.09″	52%	0.035″	9319T126	26.81	42.90	96.52	205.10	257.38	321.72	9319T77	80.44	107.26
8×8	0.093″	55%	0.032″	9319T127	15.65	29.73	56.34	119.72	150.24	187.80	9319T78	46.95	62.60
8×8	0.097″	60%	0.028″	9319T128	15.40	29.26	55.44	117.81	147.84	184.80	9319T79	46.20	61.60
9×9	0.088″	63%	0.023″	9319T129	14.35	27.26	51.66	109.78	137.76	172.20	9319T834	43.05	57.40
10×10	0.065″	42%	0.035″	9319T141	20.92	39.75	75.31	160.04	200.83	251.04	9319T8	62.78	83.68
10×10	0.075″	56%	0.025″	9319T142	10.74	20.41	38.66	82.16	103.10	128.88	9319T81	32.22	42.96
12×12	0.042″	25%	0.041″	9319T143	36.39	69.14	131.00	278.38	349.34	436.68	9319T168	109.20	145.60
12×12	0.051″	38%	0.032″	9319T144	23.06	43.81	83.02	176.41	221.38	276.72	9319T82	69.18	92.25
12×12	0.055″	44%	0.028″	9319T145	17.85	33.91	64.26	136.55	171.36	214.20	9319T835	53.55	71.40
12×12	0.06″	52%	0.023″	9319T146	18.14	34.47	65.30	138.77	174.14	217.68	9319T169	54.47	72.64
14×14	0.051″	51%	0.02″	9319T147	12.46	23.67	44.86	95.32	119.62	149.52	9319T83	37.41	49.86
15×15	0.057″	73%	0.01″	9319T148	10.58	20.10	38.09	80.94	101.57	126.96	9319T836	31.74	42.32
16×16	0.0345″	31%	0.028″	9319T149	22.55	42.84	81.18	172.51	216.48	270.60	9319T837	62.49	84.40
16×16	0.0395″	40%	0.023″	9319T151	19.23	36.54	69.23	147.11	184.61	230.76	9319T838	57.69	76.92
16×16	0.045″	51%	0.018″	9319T152	13.34	25.35	48.02	102.05	128.06	160.08	9319T84	40.02	53.35
18×18	0.039″	48%	0.017″	9319T153	14.98	28.46	53.93	114.60	143.81	179.76	9319T85	44.95	59.94
20×20	0.027″	29%	0.023″	9319T154	20.05	38.09	72.18	153.38	192.48	240.60	9319T839	60.15	80.20
20×20	0.032″	41%	0.018″	9319T155	14.20	26.98	51.12	108.63	136.32	170.40	9319T86	42.59	56.81
20×20	0.034″	46%	0.016″	9319T156	10.63	20.20	38.27	81.32	102.05	127.56	9319T87	31.89	42.52
24×24	0.028″	44%	0.014″	9319T157	7.91	15.03	28.48	60.51	75.94	94.92	9319T179	23.73	31.63
28×28	0.0257″	52%	0.01″	9319T158	13.81	26.24	49.72	105.65	132.58	165.72	9319T841	41.43	55.24
30×30	0.02″	37%	0.013″	9319T159	7.99	15.18	28.76	61.12	76.70	95.88	9319T88	23.96	31.94
30×30	0.0213″	41%	0.012″	9319T171	14.08	26.75	50.69	107.71	135.17	168.96	9319T842	42.24	56.32
35×35	0.017″	34%	0.012″	9319T172	13.31	25.29	47.92	101.82	127.78	159.72	9319T89	39.93	53.24
40×40	0.015″	36%	0.01″	9319T173	9.43	17.92	33.95	72.14	90.53	113.16	9319T91	28.29	37.70
50×50	0.011″	30%	0.009″	9319T174	14.59	27.72	52.52	111.61	140.06	175.08	9319T92	43.76	58.38
60×60	0.0055″	12%	0.011″	9319T175	17.69	33.61	63.68	135.33	169.82	212.28	9319T93	53.06	70.76
60×60	0.009″	31%	0.0075″	9319T176	8.21	15.60	29.56	62.81	78.82	98.52	9319T95	24.63	32.85
80×80	0.006″	19%	0.007″	9319T181	11.58	22.00	41.69	88.59	111.17	138.96	9319T97	34.72	46.31
80×80	0.007″	31%	0.0055″	9319T182	8.00	15.20	28.80	61.20	76.80	96.00	9319T96	23.99	31.99
100×100	0.006″	30%	0.0045″	9319T183	8.59	16.32	30.92	65.71	82.46	103.08	9319T98	25.75	34.33
120×120	0.0047″	32%	0.0036″	9319T184	7.70	14.63	27.72	58.91	73.92	92.40	9319T1	23.10	30.81
150×150	0.0041″	38%	0.0026″	9319T185	5.31	10.09	19.12	40.62	50.98	63.72	9319T2	15.93	21.25
200×200	0.0029″	34%	0.0021″	9319T191	11.00	20.90	39.60	84.15	105.60	132.00	9319T3	33.00	44.00
200×200	0.0034″	46%	0.0016″	9319T186	12.78	24.28	46.01	97.77	122.69	153.36	9319T843	38.34	51.12
250×250	0.0024″	36%	0.0016″	9319T187	19.86	37.73	71.50	151.93	190.66	238.32	9319T4	59.56	79.42
325×325	0.0017″	31%	0.0014″	9319T188	10.25	19.47	36.90	78.41	98.40	123.00	9319T5	30.76	41.01
400×400	0.0015″	38%	0.001″	9319T189	42.75	81.22	153.90	327.04	410.40	513.00	9319T6	128.24	170.96

Super-Corrosion-Resistant Type 316 Stainless Steel Wire Cloth Discs

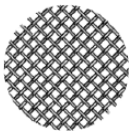

A convenient solution for inline filtering in harsh environments, these discs are Type 316 stainless steel for excellent corrosion resistance. They are die cut to an exact diameter with smooth edges for use in tube, pipe, and duct. Discs are often used as replacement screens in plastic extruders.

Mesh Size	Opening Size	Open Area	Wire Dia.	Pkg. Qty.		½″ Dia.	¾″ Dia.	1″ Dia.	1¼″ Dia.	1½″ Dia.	2″ Dia.	2⁹⁄₁₆″ Dia.	3″ Dia.	3⁹⁄₁₆″ Dia.	4″ Dia.
20×20	0.034″	46%	0.016″	10	2930T24	$3.47	$3.68	$3.89	$4.20	$4.55	$5.34	$6.45	$7.46	$8.95	$10.27
40×40	0.015″	36%	0.01″	10	2930T43	3.47	3.68	3.89	4.20	4.55	5.34	6.45	7.46	8.95	10.27
100×100	0.0055″	30%	0.0045″	10	2930T63	3.47	3.68	3.89	4.20	4.55	5.34	6.45	7.46	8.95	10.27

Type 430 Stainless Steel Wire Cloth

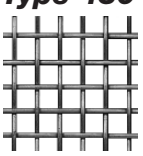

Type 430 stainless steel offers corrosion and wear resistance at a lower cost than Type 304 or 316.

Mesh Size	Opening Size	Open Area	Wire Dia.		12″×12″	12″×24″	24″×24″	36″×36″	36″×48″	48″×48″	48″×60″
2×2	0.437″	76%	0.063″	9481T11	$11.78	$21.20	$38.17	$77.28	$92.71	$111.32	$176.70
4×4	0.203″	66%	0.047″	9481T12	11.96	21.53	38.75	78.46	94.13	113.02	179.40
6×6	0.132″	63%	0.035″	9481T13	11.72	21.10	37.97	76.88	92.24	110.75	175.80
10×10	0.075″	56%	0.025″	9481T14	11.40	20.52	36.94	74.78	89.72	107.73	171.00
16×16	0.0445″	51%	0.018″	9481T15	11.32	20.38	36.68	74.26	89.09	106.97	169.80
20×20	0.034″	46%	0.016″	9481T16	11.12	20.02	36.03	72.95	87.51	105.08	166.80
40×40	0.015″	36%	0.01″	9481T18	11.06	19.91	35.83	72.55	87.04	104.52	165.90

Steel Wire Cloth

Good for use with abrasive materials in noncorrosive applications, steel has excellent strength and good wear resistance.

For wire cloth sold per foot, prices listed are for 5 and 10 ft. lengths. 20 ft. lengths are 20% lower; 50 and 100 ft. lengths are 40% lower.

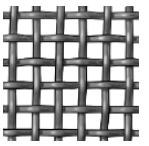

Mesh Size	Opening Size	Open Area	Wire Dia.		12″×12″	12″×24″	24″×24″	36″×36″	36″×48″	48″×48″		5, 10, 20, 50, and 100 Ft. Lengths 36″ Wd. Per Ft.	48″ Wd. Per Ft.
1×1	0.865″	75%	0.135″	9219T121	$8.03	$15.26	$28.91	$61.43	$77.09	$96.36	9219T11	$19.26	$25.68
1×1	0.88″	77%	0.12″	9219T122	10.61	20.16	38.20	81.17	101.86	127.32	9219T12★	25.47	33.96
1×1	0.895″	80%	0.105″	9219T123	9.90	18.81	35.64	75.73	95.04	118.80	9219T13	23.76	31.68
1.3×1.3	0.63″	71%	0.12″	9219T124	7.77	14.76	27.97	59.44	74.59	93.24	9219T15	18.66	24.88
1.4×1.4	0.625″	70%	0.12″	9219T125	8.71	16.55	31.36	66.63	83.62	104.52	9219T17	20.91	27.88
2×2	0.365″	53%	0.135″	9219T126	11.09	21.07	39.92	84.84	106.46	133.08	9219T19★	26.61	35.48
2×2	0.38″	58%	0.12″	9219T127	9.01	17.12	32.44	68.93	86.50	108.12	9219T21★	21.63	28.84
2×2	0.395″	62%	0.105″	9219T128	7.89	14.99	28.40	60.36	75.74	94.68	9219T22★	18.93	24.79
2×2	0.42″	71%	0.08″	9219T129	10.90	20.71	39.24	83.39	104.64	130.80	9219T23	26.16	34.88
2×2	0.437″	76%	0.063″	9219T141	9.96	18.92	35.86	76.19	95.62	119.52	9219T24	16.62	22.16
3×3	0.213″	41%	0.12″	9219T142	14.83	28.18	53.39	113.45	142.37	177.96	9219T27★	35.58	47.44
3×3	0.228″	47%	0.105″	9219T143	10.50	19.95	37.80	80.33	100.80	126.00	9219T28★	25.20	33.60
3×3	0.253″	58%	0.08″	9219T144	9.55	18.14	34.38	73.06	91.68	114.60	9219T29★	22.92	30.56
3×3	0.27″	66%	0.063″	9219T145	4.76	9.04	17.14	36.41	45.70	57.12	9219T31	11.43	15.24
3×3	0.286″	74%	0.047″	9219T146	3.56	6.76	12.82	27.23	34.18	42.72	9219T32	8.55	11.40
4×4	0.13″	27%	0.12″	9219T147	17.29	32.85	62.24	132.27	165.98	207.48	9219T93★	41.49	55.32
4×4	0.17″	46%	0.08″	9219T148	9.36	17.78	33.70	71.60	89.86	112.32	9219T35★	22.47	29.96
4×4	0.187″	56%	0.063″	9219T149	6.60	12.54	23.76	50.49	63.36	79.20	9219T36	15.84	21.12
4×4	0.203″	66%	0.047″	9219T151	4.38	8.32	15.77	33.51	42.05	52.56	9219T37	10.50	14.00
4×4	0.215″	74%	0.035″	9219T152	2.53	4.81	9.11	19.35	24.29	30.36	9219T38	6.06	8.08
5×5	0.137″	47%	0.063″	9219T153	6.69	12.71	24.08	51.18	64.22	80.28	9219T41	16.05	21.40
6×6	0.104″	39%	0.063″	9219T154	10.12	19.23	36.43	77.42	97.15	121.44	9219T43★	24.30	32.40
6×6	0.12″	52%	0.047″	9219T155	6.21	11.80	22.36	47.51	59.62	74.52	9219T44★	14.91	19.88
6×6	0.132″	63%	0.035″	9219T156	3.76	7.14	13.54	28.76	36.10	45.12	9219T45	9.03	12.04
8×8	0.062″	25%	0.063″	9219T157	12.10	22.99	43.56	92.56	116.16	145.20	9219T46	29.04	38.72
8×8	0.078″	39%	0.047″	9219T158	6.71	12.75	24.16	51.33	64.42	80.52	9219T48★	16.11	21.48
8×8	0.09″	52%	0.035″	9219T159	5.72	10.87	20.59	43.76	54.91	68.64	9219T89	13.74	18.32
8×8	0.093″	55%	0.032″	9219T171	3.49	6.63	12.56	26.70	33.50	41.88	9219T51	8.37	11.16
8×8	0.097″	60%	0.028″	9219T172	3.75	7.12	13.50	28.69	36.00	45.00	9219T52	9.00	12.00
8×8	0.1″	64%	0.025″	9219T173	2.88	5.47	10.37	22.03	27.65	34.56	9219T33	6.90	9.20
10×10	0.065″	42%	0.035″	9219T174	5.32	10.11	19.15	40.70	51.07	63.84	9219T54	12.78	17.04
10×10	0.068″	46%	0.032″	9219T175	4.24	8.06	15.26	32.44	40.70	50.88	9219T55	10.17	13.56
10×10	0.075″	56%	0.025″	9219T176	3.28	6.23	11.81	25.09	31.49	39.36	9219T57	7.86	10.48
12×12	0.048″	33%	0.035″	9219T177	6.79	12.90	24.44	51.94	65.18	81.48	9219T59	16.29	21.72
12×12	0.055″	44%	0.028″	9219T178	4.75	9.03	17.10	36.34	45.60	57.00	9219T75	11.40	15.20
12×12	0.06″	52%	0.023″	9219T179	3.56	6.76	12.82	27.23	34.18	42.72	9219T62	8.55	11.40
14×14	0.036″	25%	0.035″	9219T191	8.37	15.90	30.13	64.03	80.35	100.44	9219T64	20.10	26.80
14×14	0.043″	36%	0.028″	9219T192	5.24	9.96	18.86	40.09	50.30	62.88	9219T73	12.57	16.76
14×14	0.051″	51%	0.02″	9219T193	3.18	6.04	11.45	24.33	30.53	38.16	9219T65	7.62	10.16
16×16	0.035″	31%	0.028″	9219T195	5.92	11.25	21.31	45.29	56.83	71.04	9219T66	14.22	18.96
16×16	0.04″	40%	0.023″	9219T196	4.84	9.20	17.42	37.03	46.46	58.08	9219T67	11.61	15.48
16×16	0.045″	51%	0.018″	9219T197	3.18	6.04	11.45	24.33	30.53	38.16	9219T68	7.62	10.16
18×18	0.038″	46%	0.018″	9219T198	2.81	5.34	10.12	21.50	26.98	33.72	9219T69	6.75	9.00
20×20	0.034″	46%	0.016″	9219T199	3.17	6.02	11.41	24.25	30.43	38.04	9219T71	7.62	10.16
24×24	0.028″	44%	0.014″	9219T201	3.26	6.19	11.74	24.94	31.30	39.12	9219T74	7.83	10.44
28×28	0.025″	48%	0.011″	9219T202	6.50	12.35	23.40	49.73	62.40	78.00	9219T968	15.60	20.80
30×30	0.017″	27%	0.016″	9219T203	4.75	9.03	17.10	36.34	45.60	57.00	9219T77	11.40	15.20
30×30	0.021″	41%	0.012″	9219T204	3.18	6.04	11.45	24.33	30.53	38.16	9219T95	7.62	10.16
35×35	0.016″	30%	0.013″	9219T206	5.03	9.56	18.11	38.48	48.29	60.36	9219T969	12.06	16.08
40×40	0.015″	36%	0.01″	9219T207	3.18	6.04	11.45	24.33	30.53	38.16	9219T81	7.62	10.16
50×50	0.011″	30%	0.009″	9219T208	3.43	6.52	12.35	26.24	32.93	41.16	9219T83	8.22	10.96
60×60	0.009″	31%	0.0075″	9219T209	2.88	5.47	10.37	22.03	27.65	34.56	9219T84	6.90	9.20

★Not available in 100 ft. length.

Steel Wire Cloth Discs

Made of the same mesh as our steel woven wire cloth, discs are die cut to an exact diameter with smooth edges for use in tube, pipe, and duct. Steel has excellent strength and good wear resistance, making it good for use with abrasive materials in noncorrosive applications. It's often used to filter hydraulic oil.

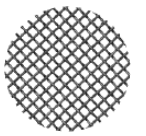

Mesh Size	Opening Size	Open Area	Wire Dia.	Pkg. Qty.		½″ Dia.	¾″ Dia.	1″ Dia.	1¼″ Dia.	1½″ Dia.	2″ Dia.	2⁹⁄₁₆″ Dia.	3″ Dia.	3⁹⁄₁₆″ Dia.	4″ Dia.
20×20	0.034″	46%	0.016″	25	2812T26	$6.58	$6.58	$6.91	$7.11	$7.24	$7.50	$7.96	$8.22	$8.36	$9.48
40×40	0.015″	36%	0.01″	25	2812T43	6.58	6.58	6.91	7.11	7.24	7.50	7.96	8.22	8.36	9.48

Oil-Resistant Epoxy-Coated Steel Wire Cloth

This wire cloth has a black epoxy coating that protects the steel from corrosion and adds rigidity for a long service life. It has small wire diameters that make it easy to bend into shape.

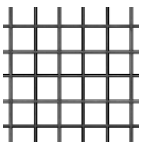

Mesh Size	Opening Size	Open Area	Wire Dia.		12″×12″	12″×24″	24″×36″	36″×36″	36″×48″
8×8	0.1″	64%	0.025″	9641T11	$6.31	$11.99	$34.07	$48.27	$60.58
12×12	0.074″	79%	0.009″	9641T12	5.90	11.21	31.86	45.14	56.64
16×16	0.0525″	71%	0.01″	9641T13	6.00	11.40	32.40	45.90	57.60
24×24	0.0327″	62%	0.009″	9641T14	6.06	11.51	32.72	46.36	58.18

Woven Wire Cloth

For information about wire cloth, see page 433.

Extra-Rigid Steel Wire Cloth

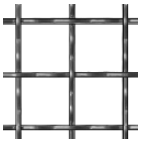

Woven from thick crimped wire, this rigid wire cloth maintains an accurate opening size when used with heavy materials. Also known as space cloth, it's often used to screen gravel and rocks. Steel is good for use with abrasive materials in noncorrosive applications. **Alloy steel** is stronger than plain steel for a longer service life.

Opening Size	Open Area	Wire Dia.		12″×48″	24″×48″	36″×48″	48″×48″	48″×120″
Plain Steel								
1½″	80%	0.177″	9243T11	$46.11	$87.61	$124.50	$156.77	$345.82
1½″	85%	0.12″	9243T12	43.81	83.24	118.29	148.95	328.58
1″	78%	0.135″	9243T13	46.50	88.35	125.55	158.10	348.75
1″	80%	0.12″	9243T14	41.91	79.63	113.16	155.07	314.32
¾″	72%	0.135″	9243T15	58.94	111.99	159.14	200.40	442.05
¾″	77%	0.105″	9243T17	41.18	78.24	111.19	140.01	308.85
½″	62%	0.135″	9243T18	65.96	125.32	178.09	224.26	494.70
½″	65%	0.12″	9243T19	60.21	114.40	162.57	204.71	451.57
½″	74%	0.08″	9243T21	50.85	96.61	137.30	172.89	381.38
½″	79%	0.063″	9243T22	46.93	89.17	126.71	159.56	351.98
⅜″	57%	0.12″	9243T23	68.70	130.53	185.49	233.58	515.25
Alloy Steel								
2″	71%	0.375″	9247T51	92.41	175.58	249.51	314.19	693.07
1¼″	69%	0.25″	9247T52	72.85	138.41	196.69	247.69	546.38
1″	64%	0.25″	9247T54	75.34	143.15	203.42	256.16	565.05
¾″	72%	0.135″	9247T56	75.77	143.96	204.58	257.62	568.27
½″	65%	0.12″	9247T61	71.71	136.25	193.62	243.81	537.82
⅜″	57%	0.12″	9247T63	76.29	144.95	205.98	259.39	572.18
⅛″	33%	0.092″	9247T71	114.79	218.10	309.93	390.29	860.93

Weather-Resistant Galvanized Steel Wire Cloth



Prevent rust and other corrosion in outdoor applications—wire cloth is made from galvanized steel for better corrosion resistance than plain steel. Cloth with mesh sizes of 1.3×1.3 and 12×12 through 24×24 is galvanized before it is woven. Cloth with mesh sizes of 2×2 through 10×10 is galvanized after it is woven.

For wire cloth sold per foot, prices listed are for 2 ft. lengths. 5 and 10 ft. lengths are 20% lower; 50 ft. lengths are 40% lower.

Mesh Size	Opening Size	Open Area	Wire Dia.		12″×12″	12″×24″	24″×24″	36″×36″	36″×48″	48″×48″	*2, 5, 10, and 50 Ft. Lengths*	36″ Wd. Per Ft.	48″ Wd. Per Ft.
1.3×1.3	0.67″	80%	0.08″	9220T71	$9.52	$18.09	$34.27	$72.83	$91.39	$114.24	9220T15	$28.56	$38.08
2×2	0.42″	71%	0.08″	9220T72	7.19	13.66	25.88	55.00	69.02	86.28	9220T22	21.57	28.76
3×3	0.27″	66%	0.063″	9220T74	6.61	12.56	23.80	50.57	63.46	79.32	9220T28	19.83	26.44
4×4	0.203″	66%	0.047″	9220T75	5.15	9.79	18.54	39.40	49.44	61.80	9220T36	15.45	20.60
4×4	0.209″	70%	0.041″	9220T76	4.74	9.01	17.06	36.26	45.50	56.88	9220T37	14.22	18.96
4×4	0.215″	74%	0.035″	9220T77	3.42	6.50	12.31	26.16	32.83	41.04	9220T38	10.26	13.68
5×5	0.165″	68%	0.035″	9220T78	4.76	9.04	17.14	36.41	45.70	57.12	9220T63	14.28	19.04
6×6	0.126″	57%	0.041″	9220T79	6.68	12.69	24.05	51.10	64.13	80.16	9220T42	20.04	26.72
6×6	0.132″	63%	0.035″	9220T81	4.50	8.55	16.20	34.43	43.20	54.00	9220T43	13.50	18.00
6×6	0.147″	78%	0.02″	9220T82	2.24	4.26	8.06	17.14	21.50	26.88	9220T67	6.72	8.96
8×8	0.093″	55%	0.032″	9220T84	5.55	10.54	19.98	42.46	53.28	66.60	9220T46	16.65	22.20
8×8	0.097″	60%	0.028″	9220T85	3.77	7.16	13.57	28.84	36.19	45.24	9220T47	11.31	15.08
8×8	0.102″	67%	0.023″	9220T86	3.94	7.49	14.18	30.14	37.82	47.28	9220T48	11.82	15.76
10×10	0.08″	64%	0.02″	9220T87	2.70	5.13	9.72	20.66	25.92	32.40	9220T51	8.10	10.80
12×12	0.063″	57%	0.02″	9220T88	4.94	9.39	17.78	37.79	47.42	59.28	9220T83	14.82	19.76
14×14	0.053″	55%	0.018″	9220T89	3.04	5.78	10.94	23.26	29.18	36.48	9220T55	9.12	12.16
16×16	0.045″	51%	0.018″	9220T91	2.41	4.58	8.68	18.44	23.14	28.92	9220T57	7.23	9.64
24×24	0.028″	44%	0.014″	9220T92	3.44	6.54	12.38	26.32	33.02	41.28	9220T59	10.32	13.76

Lightweight Aluminum Wire Cloth

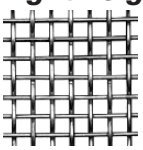

Choose aluminum wire cloth for good corrosion resistance at a lighter weight than plain steel or stainless steel.

For wire cloth sold per foot, prices listed are for 1 and 5 ft. lengths. 10 ft. lengths are 20% lower; 20 ft. lengths are 40% lower.

Mesh Size	Opening Size	Open Area	Wire Dia.		12″×12″	12″×24″	24″×24″	24″×36″	36″×36″	*1, 5, 10, and 20 Ft. Lengths*	36″ Wd. Per Ft.
2×2	0.437″	76%	0.063″	9227T52	$8.19	$15.56	$29.48	$41.77	$58.97	9227T14	$23.31
4×4	0.187″	56%	0.063″	9227T53	14.14	26.87	50.90	72.11	101.81	9227T15	41.04
4×4	0.203″	66%	0.047″	9227T54	10.34	19.65	37.22	52.73	74.45	9227T12	30.03
6×6	0.132″	62%	0.035″	9227T55	9.22	17.52	33.19	47.02	66.38	9227T17	26.76
8×8	0.097″	60%	0.028″	9227T56	9.06	17.21	32.62	46.21	65.23	9227T18	25.74
10×10	0.075″	56%	0.025″	9227T57	9.61	18.26	34.60	49.01	69.19	9227T19	27.60
12×12	0.06″	52%	0.023″	9227T58	9.20	17.48	33.12	46.92	66.24	9227T22	26.40
14×14	0.051″	51%	0.02″	9227T59	9.33	17.73	33.59	47.58	67.18	9227T24	26.82
16×16	0.045″	51%	0.018″	9227T61	7.84	14.90	28.22	39.98	56.45	9227T26	22.53
20×20	0.034″	46%	0.016″	9227T62	8.44	16.04	30.38	43.04	60.77	9227T25	24.27
30×30	0.022″	45%	0.011″	9227T63	9.80	18.62	35.28	49.98	70.56	9227T27	28.44
40×40	0.015″	36%	0.01″	9227T64	10.75	20.43	38.70	54.82	77.40	9227T28	30.90
50×50	0.011″	30%	0.009″	9227T65	18.68	35.49	67.25	95.27	134.50	9227T33	56.04
120×120	0.0043″	27%	0.004″	9227T66	33.01	62.72	118.84	168.35	237.67	9227T35★	92.25
200×200	0.0029″	34%	0.0021″	9227T67	27.10	51.49	97.56	138.21	195.12	9227T37	81.30

★ 1, 5, 10, and 20 ft. lengths are actually 40″ wide.

Brass, Bronze, and Copper Wire Cloth

Often used in marine environments, brass, bronze, and copper are more resistant to corrosion from salt water than stainless steel.

Brass and bronze are more corrosion and abrasion resistant than copper. *Bronze* is more abrasion resistant than brass for a longer service life in harsh environments. **Copper** has good electrical and thermal conductivity. It is nonsparking and nonmagnetic.

For wire cloth sold per foot, prices listed are for 1 ft. lengths. 10 ft. lengths are 20% lower; 20 and 50 ft. lengths are 40% lower.

Mesh Size	Opening Size	Open Area	Wire Dia.		12″×12″	12″×24″	24″×24″	24″×36″	36″×36″		1, 10, 20, and 50 Ft. Lengths 36″ Wd. Per Ft.
Brass											
3×3	0.27″	65%	0.063″	9223T72	$22.32	$42.41	$80.35	$113.83	$160.70	9223T12	$66.96
4×4	0.203″	65%	0.047″	9223T74	19.14	36.37	68.90	97.61	137.81	9223T13	57.42
6×6	0.132″	62%	0.035″	9223T76	16.52	31.39	59.47	84.25	118.94	9223T15	49.56
8×8	0.097″	60%	0.028″	9223T77	16.04	30.48	57.74	81.80	115.49	9223T16	38.61
10×10	0.075″	56%	0.025″	9223T78	17.02	32.34	61.27	86.80	122.54	9223T17	51.06
12×12	0.06″	51%	0.023″	9223T79	17.40	33.06	62.64	88.74	125.28	9223T18	52.20
14×14	0.051″	51%	0.02″	9223T81	16.81	31.94	60.52	85.73	121.03	9223T19	50.43
16×16	0.045″	50%	0.018″	9223T82	16.83	31.98	60.59	85.83	121.18	9223T21	50.49
18×18	0.039″	48%	0.017″	9223T83	13.94	26.49	50.18	71.09	100.37	9223T22	37.65
20×20	0.034″	46%	0.016″	9223T84	14.90	28.31	53.64	75.99	107.28	9223T23	44.70
24×24	0.028″	44%	0.014″	9223T85	15.73	29.89	56.63	80.22	113.26	9223T24	47.19
30×30	0.021″	40%	0.012″	9223T86	12.44	23.64	44.78	63.44	89.57	9223T25	37.32
40×40	0.015″	36%	0.01″	9223T87	12.05	22.89	43.38	61.45	86.76	9223T26	36.15
50×50	0.011″	30%	0.009″	9223T88	21.02	39.94	75.67	107.20	151.34	9223T27	60.99
60×60	0.009″	30%	0.0075″	9223T89	9.81	18.64	35.32	50.03	70.63	9223T28	29.43
80×80	0.007″	31%	0.0055″	9223T91	7.86	14.93	28.30	40.09	56.59	9223T29	23.34
100×100	0.006″	30%	0.0045″	9223T92	7.48	14.21	26.93	38.15	53.86	9223T31	22.44
Bronze											
4×4	0.203″	65%	0.047″	9228T42	39.80	75.62	143.28	202.98	286.56	9228T52	111.93
8×8	0.097″	60%	0.028″	9228T43	19.10	36.29	68.76	97.41	137.52	9228T53	57.30
16×16	0.045″	50%	0.018″	9228T47	19.00	36.10	68.40	96.90	136.80	9228T22	44.22
20×20	0.034″	46%	0.016″	9228T48	18.92	35.95	68.11	96.49	136.22	9228T55	51.24
30×30	0.021″	40%	0.012″	9228T49	17.91	34.03	64.48	91.34	128.95	9228T56	53.73
40×40	0.015″	36%	0.01″	9228T61	16.36	31.08	58.90	83.44	117.79	9228T57	49.08
50×50	0.011″	30%	0.009″	9228T62	16.25	30.88	58.50	82.88	117.00	9228T58	48.75
100×100	0.006″	30%	0.0045″	9228T63	20.57	39.08	74.05	104.91	148.10	9228T71	59.10
120×120	0.0046″	30%	0.0036″	9228T65	9.51	18.07	34.24	48.50	68.47	9228T36	27.72
150×150	0.0041″	37%	0.0026″	9228T66	21.49	40.83	77.36	109.60	154.73	9228T38	53.61
200×200	0.0029″	33%	0.0021″	9228T67	28.55	54.24	102.78	145.60	205.56	9228T39	82.77
Copper											
2×2	0.437″	76%	0.063″	9224T45	20.53	39.01	73.91	104.70	147.82	9224T15	57.72
4×4	0.203″	65%	0.047″	9224T47	22.24	42.26	80.06	113.42	160.13	9224T17	50.04
4×4	0.187″	56%	0.063″	9224T46	44.71	84.95	160.96	228.02	321.91	9224T71	134.13
6×6	0.132″	62%	0.035″	9224T48	21.61	41.06	77.80	110.21	155.59	9224T922	64.83
8×8	0.097″	60%	0.028″	9224T49	17.96	34.12	64.66	91.60	129.31	9224T19	45.57
10×10	0.075″	56%	0.025″	9224T51	19.47	36.99	70.09	99.30	140.18	9224T73	58.41
12×12	0.06″	51%	0.023″	9224T52	18.98	36.06	68.33	96.80	136.66	9224T21	46.26
14×14	0.051″	51%	0.02″	9224T53	18.07	34.33	65.05	92.16	130.10	9224T75	54.21
16×16	0.052″	67%	0.011″	9224T55	8.34	15.85	30.02	42.53	60.05	9224T22	20.88
16×16	0.045″	50%	0.018″	9224T54	15.22	28.92	54.79	77.62	109.58	9224T23	45.66
18×18	0.039″	48%	0.017″	9224T56	22.94	43.59	82.58	116.99	165.17	9224T25	65.94
20×20	0.034″	46%	0.016″	9224T57	15.81	30.04	56.92	80.63	113.83	9224T77	47.43
22×22	0.034″	54%	0.012″	9224T59	9.67	18.37	34.81	49.32	69.62	9224T924	26.10
24×24	0.028″	44%	0.014″	9224T79	17.76	33.74	63.94	90.58	127.87	9224T27	41.31
30×30	0.021″	40%	0.012″	9224T82	14.96	28.42	53.86	76.30	107.71	9224T29	44.88
40×40	0.015″	36%	0.01″	9224T83	12.70	24.13	45.72	64.77	91.44	9224T33	35.76
50×50	0.011″	30%	0.009″	9224T84	24.93	47.37	89.75	127.14	179.50	9224T35	71.70
60×60	0.009″	30%	0.0075″	9224T85	12.00	22.80	43.20	61.20	86.40	9224T36	36.00
80×80	0.007″	31%	0.0055″	9224T86	9.91	18.83	35.68	50.54	71.35	9224T38	29.73
100×100	0.006″	30%	0.0045″	9224T87	9.05	17.20	32.58	46.16	65.16	9224T39	27.15

Strainer-Grade Brass Wire Cloth

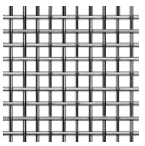

Maximize flow when straining liquid process lines. Woven from thin wire, this cloth has a larger open area than other wire cloth with the same mesh size. Brass has good corrosion and abrasion resistance. It's good for use with salt solutions.

Mesh Size	Opening Size Lg.	Opening Size Wd.	Open Area	Wire Dia.		12″×12″	12″×24″	12″×60″	24″×24″	36″×36″
30×28	0.025″	0.0277″	59%	0.008″	9241T61	$11.46	$19.48	$35.18	$33.12	$63.37
40×32	0.018″	0.0238″	53%	0.0075″	9241T62	11.46	19.48	35.18	33.12	63.37
50×36	0.013″	0.0208″	49%	0.007″	9241T63	11.46	19.48	35.18	33.12	63.37
60×40	0.011″	0.019″	49%	0.006″	9241T64	11.47	19.50	35.21	33.15	63.43
80×55	0.007″	0.0127″	39%	0.0055″	9241T65	11.47	19.50	35.21	33.15	63.43
100×69	0.006″	0.0105″	43%	0.004″	9241T66	11.47	19.50	35.21	33.15	63.43

High-Temperature Nickel-Chromium Wire Cloth

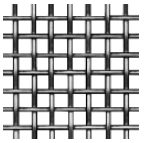

Able to withstand high temperatures while resisting oxidation and scale formation, this mesh is popular for use in ovens and furnaces. Also known as Nichrome, nickel-chromium is an excellent heat conductor and is nonsparking and nonmagnetic.

Mesh Size	Opening Size	Open Area	Wire Dia.		6″×6″	12″×12″	12″×24″	24″×24″	36″×36″
16×16	0.043″	46%	0.02″	9229T32	$44.08	$93.01	$158.69	$315.61	$596.40
20×20	0.034″	46%	0.016″	9229T33	40.07	86.15	149.46	260.45	568.99
40×40	0.015″	36%	0.01″	9229T34	45.10	82.53	145.67	273.76	533.53

Acid-Resistant Nickel (Alloy 400) Woven Wire Cloth

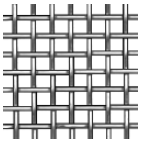

Also known as Monel 400, this nickel-copper alloy is the most corrosion resistant of our wire cloth. It's good for use with acids, alkalies, and salt water.

Mesh Size	Opening Size	Open Area	Wire Dia.		6″×6″	12″×12″	12″×24″	24″×24″	36″×36″
2×2	0.437″	76%	0.063″	9225T351	$36.71	$110.13	$209.25	$397.57	$849.84
3×3	0.27″	66%	0.063″	9225T352	35.18	105.54	200.53	381.00	814.42
8×8	0.097″	60%	0.028″	9225T353	23.06	92.24	161.42	322.84	737.92
10×10	0.075″	56%	0.025″	9225T354	26.50	79.50	151.05	287.00	613.47
20×20	0.034″	46%	0.016″	9225T356	17.15	51.45	97.75	185.73	397.02
30×30	0.022″	45%	0.011″	9225T357	15.46	46.38	88.12	167.43	357.90
50×50	0.011″	30%	0.009″	9225T358	18.17	54.51	103.57	196.78	420.64
100×100	0.0055″	30%	0.0045″	9225T359	9.03	27.09	51.47	97.79	209.04
200×200	0.0029″	34%	0.0021″	9225T361	9.24	27.72	52.67	100.07	213.91

Large-Opening Extra-Rigid Crimped Wire Cloth



Extra Rigid



Super Rigid

Also known as space cloth, wires are crimped where they intersect to maintain an accurate opening size when used with heavy materials. It's often used as barriers, shields, dividers, and guards. **Super-rigid wire cloth** has deep crimps that lock wires in place for superior rigidity and stability.

Opening Size	Open Area	Wire Dia.		36″×48″	36″×60″	48″×48″	48″×60″
Extra Rigid							
Corrosion-Resistant Type 304 Stainless Steel							
3″	85%	0.25″	9327T31	$198.67	$236.42	$238.40	$282.11
2″	89%	0.12″	9327T33	99.74	118.69	119.69	141.63
2″	79%	0.25″	9327T32	291.45	346.83	349.74	413.86
1½″	84%	0.135″	9327T34	174.54	207.70	209.45	247.85
1″	79%	0.12″	9327T35	180.11	220.20	216.42	262.07
¾″	77%	0.105″	9327T36	189.82	225.89	227.78	269.54
Steel							
4″	88%	0.25″	9327T11	68.46	81.47	82.15	97.21
3″	85%	0.25″	9327T12	93.73	111.54	112.48	133.10
2″	89%	0.12″	9327T16	61.34	72.99	73.61	87.10
2″	88%	0.135″	9327T15	66.20	78.78	79.44	94.00
2″	83%	0.192″	9327T14	95.18	113.26	114.22	135.16
2″	79%	0.25″	9327T13	124.32	147.94	149.18	176.53
1½″	85%	0.12″	9327T18	79.16	94.20	94.99	112.41
1½″	84%	0.135″	9327T17	84.92	101.05	101.90	120.59
1″	79%	0.12″	9327T21	91.89	109.35	110.27	130.48
1″	77%	0.135″	9327T19	103.22	122.76	123.23	159.19
1″	69%	0.207″	9327T28	189.00	224.91	226.80	268.38
¾″	74%	0.12″	9327T22	107.22	127.59	128.66	152.25
½″	57%	0.162″	9327T26	206.08	245.24	247.30	292.63
½″	52%	0.192″	9327T27	223.51	265.98	268.21	317.38
¼″	53%	0.092″	9327T25	199.40	237.29	239.28	283.15
Weather-Resistant Galvanized Steel							
2″	89%	0.12″	9327T23	87.90	104.60	105.48	124.82
1½″	85%	0.12″	9327T24	97.25	115.73	116.70	138.09
Lightweight Aluminum							
2″	79%	0.25″	9327T41	139.22	165.67	167.06	197.69
1½″	85%	0.12″	9327T42	94.98	113.03	113.98	134.87
1″	79%	0.12″	9327T43	107.03	127.37	128.44	151.98
Super Rigid							
Steel							
4″	88%	0.25″	9530T11	85.42	101.65	102.50	121.30
3″	88%	0.192″	9530T13	80.72	96.06	96.86	114.62
3″	85%	0.25″	9530T12	96.84	115.24	116.21	137.51
2″	89%	0.12″	9530T15	74.32	88.44	89.18	105.53
2″	79%	0.25″	9530T14	119.36	142.04	143.23	169.49
1½″	84%	0.135″	9530T16	87.10	103.65	104.52	123.68
1″	80%	0.12″	9530T17	92.80	110.43	111.36	131.78
¾″	74%	0.12″	9530T18	106.58	126.83	127.90	151.34
½″	68%	0.105″	9530T19	120.02	142.82	144.02	170.43

Easy-to-Form Stainless Steel Welded Wire Cloth

Use this wire cloth to make your own filter baskets. The welded joints keep opening sizes uniform and prevent fraying as you bend it into shape. **Type 316 stainless steel** has greater corrosion resistance than Type 304 stainless steel.

For wire cloth sold per foot, prices listed are for 1 and 2 ft. lengths. 5 and 10 ft. lengths are 20% lower; 20 and 50 ft. lengths are 40% lower.

Mesh Size	Opening Size	Open Area	Wire Dia.		12″×12″	12″×24″	24″×24″	36″×36″	36″×48″	48″×48″	*1, 2, 5, 10, 20 and 50 Ft. Lengths*	36″ Wd. Per Ft.	48″ Wd. Per Ft.
Type 304 Stainless Steel													
1×1	0.937″	88%	0.063″	9322T93	$10.36	$19.68	$37.30	$79.25	$99.46	$124.32	9322T25	$31.08	$41.44
1×1	0.92″	84%	0.08″	9322T61	12.66	24.05	45.58	96.85	121.54	151.92	9322T3	37.98	50.64
1.3×1.3	0.687″	84%	0.063″	9322T91	10.64	20.22	38.30	81.40	102.14	127.68	9322T24	31.92	42.56
1.3×1.3	0.67″	80%	0.08″	9322T92	12.26	23.29	44.14	93.79	117.70	147.12	9322T23	36.78	49.04
2×2	0.453″	82%	0.047″	9322T63	10.16	19.30	36.58	77.72	97.54	121.92	9322T4	30.48	40.64
2×2	0.437″	76%	0.063″	9322T62	17.82	33.86	64.15	136.32	171.07	213.84	9322T1	50.70	67.60
3×3	0.286″	73%	0.047″	9322T64	17.57	33.38	63.25	134.41	168.67	210.84	9322T2	49.98	66.64
4×4	0.222″	78%	0.028″	9322T66	9.52	18.09	34.27	72.83	91.39	114.24	9322T6	27.54	38.08
4×4	0.218″	76%	0.032″	9322T65	9.18	17.44	33.05	70.23	88.13	110.16	9322T5	27.54	36.72
Type 316 Stainless Steel													
1×1	0.92″	85%	0.08″	9455T31	35.89	68.19	129.20	274.56	323.01	430.68	9455T51	80.82	107.76
2×2	0.437″	76%	0.063″	9455T32	42.13	80.05	151.67	322.29	404.45	505.56	9455T52	94.89	126.52

For information about wire cloth and plastic mesh, see page 433.

Easy-to-Form PVC-Coated Galvanized Steel Welded Wire Cloth

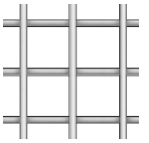

Build screens, barriers, and enclosures that last—this galvanized wire cloth is protected by a heavy duty PVC coating that provides excellent corrosion and wear resistance for a long service life. Joints are welded to prevent fraying and maintain uniform opening sizes.

Mesh Size	Opening Size	Open Area	Wire Dia.		12″×12″	12″×24″	12″×36″	12″×48″	24″×24″	36″×36″	36″×48″	36″×60″	48″×48″
With Black PVC Coating													
0.5×0.5	1.895″	88%	0.105″	6622T25	$8.58	$16.30	$24.45	$30.89	$30.89	$65.64	$82.37	$96.53	$102.96
0.65×0.65	1.395″	85%	0.105″	6622T21	9.16	17.40	26.11	32.98	32.98	70.07	87.94	103.05	109.92
1×1	0.92″	85%	0.08″	6622T15	8.20	15.58	23.37	29.52	29.52	62.73	78.72	92.25	98.40
1×1	0.895″	80%	0.105″	6622T17	9.76	18.54	27.82	35.14	35.14	74.66	93.70	109.80	117.12
2×2	0.437″	76%	0.063″	6622T11	8.96	17.02	25.54	32.26	32.26	68.54	86.02	100.80	107.52
With Yellow PVC Coating													
0.5×0.5	1.895″	88%	0.105″	6622T27	8.86	16.83	25.25	31.90	31.90	67.78	85.06	99.67	106.32
0.65×0.65	1.395″	85%	0.105″	6622T23	9.46	17.97	26.96	34.06	34.06	72.37	90.82	106.43	113.52
1×1	0.895″	80%	0.105″	6622T19	10.08	19.15	28.73	36.29	36.29	77.11	96.77	113.40	120.96
2×2	0.437″	76%	0.063″	6622T13	9.24	17.56	26.33	33.26	33.26	70.69	88.70	103.95	110.88

Easy-to-Form Galvanized Steel Welded Wire Cloth

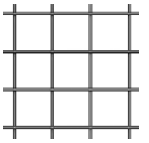

Construct protective screens for use outdoors. This wire cloth is made of galvanized steel for better corrosion resistance than plain steel. It has welded joints that maintain uniform opening sizes and prevent fraying as you bend it into shape. Cloth is galvanized after it is welded.

To Order: Please specify width where price is shown and any length you choose up to 100 ft. Prices for lengths greater than 6 ft. are 20% lower and lengths greater than 19 ft. are 40% lower.

Mesh Size	Opening Size	Open Area	Wire Dia.		24″ Wd. Per Ft.	30″ Wd. Per Ft.	36″ Wd. Per Ft.	48″ Wd. Per Ft.	60″ Wd. Per Ft.
1×1	0.92″	84%	0.08″	9245T73	—	—	$7.24	$9.63	—
1×1	0.937″	87%	0.063″	9245T74	—	—	3.04	—	$5.05
2×2	0.437″	76%	0.063″	9245T75	—	—	6.16	8.19	10.23
2×2	0.459″	84%	0.041″	9217T15	$1.20	$2.40	3.24	4.68	—
3×3	0.304″	81%	0.032″	9217T16	—	—	3.70	4.92	—
4×4	0.225″	81%	0.025″	9217T17	1.69	—	2.52	3.38	—
8×8	0.108″	74%	0.017″	9217T18	—	—	2.35	3.14	—

Super-Small-Particle-Filtering Stainless Steel Porous Discs



Also known as sintered filters and frits, these discs have tiny holes that trap super-small particles. Discs are often used in laboratories and gas-bubbling applications (sparging). They're Type 316L stainless steel for excellent corrosion and abrasion resistance. Select discs based on the size of the particles you wish to remove. For example, talcum powder is 10 microns in size. For more information about particle size, see page 412.

Thickness	Available For Particle Sizes, microns	¼″ Dia. Pkg. Qty.		¼″ Dia. Pkg.	½″ Dia. Pkg. Qty.		½″ Dia. Pkg.	¾″ Dia. Pkg. Qty.		¾″ Dia. Pkg.	1″ Dia. Pkg. Qty.		1″ Dia. Pkg.	1½″ Dia. Pkg. Qty.		1½″ Dia. Pkg.
0.063″	2, 5, 10, 20, 40	6	9446T31	$10.00	6	9446T32	$12.14	4	9446T33	$14.29	4	9446T34	$14.63	2	9446T35	$14.95
0.125″	40	1	9446T36	19.90	1	9446T37	20.58	—	—	—	1	9446T38	21.26	—	—	—

Abrasion- and Wear-Resistant Molded Polyurethane Filter Grid

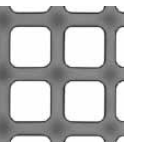

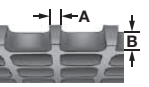

Screen rocks, gravel, and other large abrasive material in wet or dry environments. This filter grid is made from thick molded polyurethane that withstands harsh environments and corrosion. Color is orange. **High-strength polyurethane filter grid** has a steel wire core that provides reinforcement for greater durability when used with heavy materials.

Opening Size	Open Area	Thickness (A)	Thickness (B)		12″×48″	24″×48″	36″×48″	48″×48″
Polyurethane								
1½″	59%	0.457″	0.625″	2794T24	$160.36	$304.68	$432.97	$545.22
1¼″	58%	0.39″	0.625″	2794T22	163.33	310.33	440.99	555.32
1″	55%	0.35″	0.5″	2794T18	166.42	316.20	449.33	565.83
¾″	50%	0.312″	0.5″	2794T16	169.62	322.28	457.97	576.71
½″	47%	0.23″	0.5″	2794T14	172.94	328.59	466.94	588.00
⅜″	40%	0.284″	0.5″	2794T12	176.40	335.16	476.28	599.76
High-Strength Polyurethane								
1½″	59%	0.457″	0.625″	2794T23	203.64	386.92	549.83	692.38
1¼″	58%	0.39″	0.625″	2794T19	207.41	394.08	560.01	705.19
1″	55%	0.35″	0.5″	2794T17	211.32	401.51	570.56	718.49
¾″	50%	0.312″	0.5″	2794T15	215.38	409.22	581.53	732.29
½″	47%	0.23″	0.5″	2794T13	219.61	417.26	592.95	746.67
⅜″	40%	0.284″	0.5″	2794T11	224.00	425.60	604.80	761.60

UV-Resistant Colored Polyester Mesh

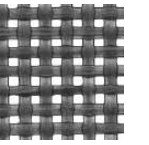

Resistant to UV light and mildew, the vinyl coating on this flexible mesh is available in a selection of colors. It's often used to sift particles like sand and salt in outdoor applications. Polyester has good strength. Max. temperature is 160° F.

Color	Mesh Size	Opening Size	Open Area	Wire Dia.	Width	Available Lengths, ft.		Per Ft.
Black	11×11	0.0625″	50%	0.016″	72″	1, 5, 10, 50	87655K13	$3.47
Blue	11×11	0.0625″	50%	0.016″	72″	1, 5, 10, 50	87655K12	3.47
Green	11×11	0.0625″	50%	0.016″	72″	1, 5, 10, 50	87655K14	3.47
Orange	11×11	0.0625″	50%	0.016″	72″	1, 5, 10, 50	87655K15	3.47
White	11×11	0.0625″	50%	0.016″	72″	1, 5, 10, 50	87655K11	3.47

Precision Plastic Mesh

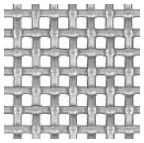

Made with openings that meet an exact size tolerance, this plastic mesh provides accurate, consistent results in filtering and sifting applications. It's more clog resistant and easier to clean than wire cloth. Color is opaque to translucent white.

Moisture-resistant polyester is stronger than nylon when wet. **Chemical-resistant polypropylene** is good for use with acetone, citric acid, and ethyl alcohol. 9275T63 can be used with food and beverages; it's made of FDA-compliant resin. **High-temperature chemical-resistant PEEK** is more chemical resistant than polypropylene at a wider range of temperatures. Made of FDA-compliant resin, it can be used with food and beverages.

Mesh Size	Opening Size	Open Area	Wire Dia.	Max. Temp.	Width	Available Lengths, ft.		Per Ft.
Wear-Resistant Nylon								
8×8	0.0944″	55%	0.0335″	239°F	40″	1, 2, 3, 5, 10, 20, 50	**9318T41**	$24.34
9×9	0.0787″	53%	0.0295″	239°F	40″	1, 2, 3, 5, 10, 20, 50	**9318T26**	24.34
11×11	0.0669″	50%	0.0274″	239°F	40″	1, 2, 3, 5, 10, 20, 50	**9318T12**	24.34
13×13	0.0551″	49%	0.024″	239°F	40″	1, 2, 3, 5, 10, 20, 50	**9318T27**	20.31
17×17	0.0393″	44%	0.0203″	239°F	43″	1, 2, 3, 5, 10, 20, 50	**9318T28**	18.15
20×20	0.0334″	46%	0.0159″	239°F	42″	1, 2, 3, 5, 10, 20, 50	**9318T13**	16.15
25×25	0.0295″	52%	0.0114″	239°F	45″	1, 2, 3, 5, 10, 20, 50	**9318T42**	15.18
30×30	0.0236″	51%	0.0096″	239°F	45″	1, 2, 3, 5, 10, 20, 50	**9318T43**	11.97
31×31	0.0196″	38%	0.0124″	239°F	45″	1, 2, 3, 5, 10, 20	**9318T44**	15.25
36×36	0.0169″	38%	0.0107″	239°F	59″	1, 2, 3, 5, 10, 20, 50	**9318T74**	22.09
50×50	0.0118″	34%	0.0085″	239°F	45″	1, 2, 3, 5, 10, 20, 50	**9318T15**	23.18
58×58	0.0098″	34%	0.0071″	239°F	40″	1, 2, 3, 5, 10, 20, 50	**9318T16**	15.25
61×61	0.0118″	51%	0.0048″	239°F	40″	1, 2, 3, 5, 10, 20, 50	**9318T45**	15.25
104×104	0.0059″	38%	0.0037″	239°F	40″	1, 2, 3, 5, 10, 20, 50	**9318T18**	12.34
127×127	0.0049″	39%	0.003″	239°F	40″	1, 2, 3, 5, 10, 20, 50	**9318T23**	18.28
145×145	0.0039″	32%	0.003″	239°F	45″	1, 2, 3, 5, 10, 20	**9318T21**	20.31
168×168	0.0039″	47%	0.0018″	239°F	40″	1, 2, 3, 5, 10, 20	**9318T46**	18.37
193×193	0.0031″	37%	0.002″	239°F	40″	1, 2, 3, 5, 10, 20, 50	**9318T22**	16.53
198×198	0.0035″	49%	0.0015″	239°F	45″	1, 2, 3, 5, 10, 20, 50	**9318T47**	22.71
307×307	0.002″	37%	0.0013″	239°F	40″	1, 2, 3, 5, 10, 20	**9318T48**	17.81
335×335	0.0015″	24%	0.0015″	239°F	40″	1, 2, 3, 5, 10	**9318T24**	36.64
371×371	0.0014″	28%	0.0013″	239°F	40″	1, 2, 3, 5, 10, 20	**9318T25**	35.61
376×376	0.0011″	17%	0.0016″	239°F	40″	1, 2, 3, 5, 10, 20	**9318T51**	52.76
Moisture-Resistant Polyester								
8×8	0.0937″	53%	0.0354″	302°F	40″	1, 2, 3, 5, 10, 20, 50	**9218T78**	26.80
9×9	0.0787″	51%	0.0315″	302°F	62″	1, 2, 3, 5, 10, 20	**9218T11**	25.52
11×11	0.0709″	61%	0.0197″	302°F	43″	1, 2, 3, 5, 10, 20, 50	**9218T61**	19.24
13×13	0.0555″	49%	0.0236″	302°F	62″	1, 2, 3, 5, 10, 20	**9218T12**	32.40
15×15	0.052″	59%	0.0157″	302°F	43″	1, 2, 3, 5, 10, 20	**9218T62**	18.31
17×17	0.0394″	45%	0.0197″	302°F	57″	1, 2, 3, 5, 10, 20, 50	**9218T93**	29.12
20×20	0.0331″	46%	0.0157″	302°F	56″	1, 2, 3, 5, 10, 20, 50	**9218T13**	23.99
27×27	0.0264″	52%	0.0102″	302°F	62″	1, 2, 3, 5, 10, 20, 50	**9218T23**	24.21
34×34	0.0209″	50%	0.0087″	302°F	53″	1, 2, 3, 5, 10, 20, 50	**9218T68**	18.87
42×42	0.0138″	34%	0.0098″	302°F	62″	1, 2, 3, 5, 10	**9218T94**	21.43
46×46	0.0148″	46%	0.0074″	302°F	45″	1, 2, 3, 5, 10, 20	**9218T65**	13.43
51×51	0.0118″	36%	0.0081″	302°F	45″	1, 2, 3, 5, 10, 20	**9218T77**	12.81
66×66	0.0104″	47%	0.0047″	302°F	45″	1, 2, 3, 5, 10	**9218T67**	13.68
71×71	0.0083″	35%	0.0058″	302°F	60″	1, 2, 3, 5, 10, 20	**9218T26**	18.06
109×109	0.0059″	41%	0.0034″	302°F	40″	1, 2, 3, 5, 10, 20, 50	**9218T88**	12.78
122×122	0.0047″	34%	0.0035″	302°F	60″	1, 2, 3, 5, 10, 20, 50	**9218T27**	16.71
145×145	0.0039″	32%	0.003″	302°F	40″	1, 2, 3, 5, 10, 20, 50	**9218T38**	16.99
198×198	0.0029″	34%	0.0021″	302°F	59″	1, 2, 3, 5, 10, 20, 50	**9218T73**	30.30
231×231	0.0021″	24%	0.0022″	302°F	40″	1, 2, 3, 5, 10, 20	**9218T82**	30.21
320×320	0.0016″	25%	0.0016″	302°F	40″	1, 2, 3, 5, 10, 20, 50	**9218T83**	32.02
351×351	0.0013″	21%	0.0016″	302°F	40″	1, 2, 3, 5, 10, 20, 50	**9218T74**	58.11
371×371	0.0011″	16%	0.0017″	302°F	40″	1, 2, 3, 5, 10, 20	**9218T91**	51.70
Chemical-Resistant Polypropylene								
6×6	0.1323″	60%	0.0394″	194°F	55″	1, 2, 3, 5, 10, 20, 50	**9275T38**	43.63
7×7	0.0945″	50%	0.0394″	194°F	45″	1, 2, 3, 5, 10, 20, 50	**9275T36**	31.52
9×9	0.0787″	51%	0.0315″	194°F	54″	1, 2, 3, 5, 10	**9275T28**	43.74
10×10	0.0661″	46%	0.0315″	194°F	54″	1, 2, 3, 5, 10, 20	**9275T9**	43.70
14×14	0.0469″	42%	0.0236″	194°F	58″	1, 2, 3, 5, 10, 20	**9275T63**	35.85
17×17	0.0394″	45%	0.0197″	194°F	58″	1, 2, 3, 5, 10, 20, 50	**9275T65**	36.12
20×20	0.0331″	45%	0.0173″	194°F	57″	1, 2, 3, 5, 10, 20, 50	**9275T3**	28.39
23×23	0.028″	41%	0.0173″	194°F	55″	1, 2, 3, 5, 10, 20	**9275T4**	29.43
31×31	0.0197″	36%	0.0134″	194°F	56″	1, 2, 3, 5, 10, 20, 50	**9275T6**	28.85
35×35	0.0165″	30%	0.0134″	194°F	54″	1, 2, 3, 5, 10, 20	**9275T7**	26.79
43×43	0.0159″	41%	0.0091″	194°F	44″	1, 2, 3, 5, 10, 20, 50	**9275T39**	19.95
51×51	0.0117″	35%	0.0085″	194°F	57″	1, 2, 3, 5, 10, 20, 50	**9275T8**	26.35
56×56	0.0098″	29%	0.0085″	194°F	54″	1, 2, 3, 5, 10, 20, 50	**9275T34**	30.95
69×69	0.0083″	32%	0.0065″	194°F	40″	1, 2, 3, 5, 10, 20	**9275T41**	21.98
76×76	0.007″	29%	0.0065″	194°F	54″	1, 2, 3, 5, 10, 20	**9275T35**	28.25
98×98	0.0059″	34%	0.0043″	194°F	55″	1, 2, 3, 5, 10, 20, 50	**9275T27**	30.52
110×110	0.0049″	30%	0.0042″	194°F	54″	1, 2, 3, 5, 10, 20, 50	**9275T37**	33.22
121×121	0.0041″	25%	0.0065″	194°F	45″	1, 2, 3, 5, 10, 20, 50	**9275T21**	25.69
High-Temperature Chemical-Resistant PEEK								
86×86	0.0086″	56%	0.0015″	475°F	48″	1, 2, 3, 5, 10	**9289T11**	123.23
356×356	0.0014″	22%	0.0028″	475°F	40″	1, 2, 3, 5, 10	**9289T12**	121.98

Polypropylene Mesh Assortments

Keep a convenient range of mesh sizes on hand. Each assortment includes six 12″×12″ sheets—one of each mesh size listed. Max. temp. is 194°F. Color is opaque to translucent white.

For Particle Size	Mesh Sizes Included		
Large	6×6, 9×9, 10×10, 14×14, 17×17, 20×20	**93245T21**	$139.21
Medium	23×23, 27×27, 31×31, 35×35, 41×41, 51×51	**93245T22**	132.63
Small	56×56, 69×69, 76×76, 98×98, 110×110, 121×121	**93245T23**	132.63

Polyester Mesh Discs

Convenient for inline filtering, use these discs in pipe and tubing. Polyester has good strength in wet and dry conditions. Maximum temperature is 302° F. Color is opaque to translucent white.



Mesh Size	Opening Size	Open Area	Wire Dia.		2¾" Dia.	3⅝" Dia.	4" Dia.	4⁹⁄₁₆" Dia.
20×20	0.0331"	46%	0.0157"	93185T21	$1.72	$2.53	$2.32	$2.39
46×46	0.0148"	46%	0.0074"	93185T22	2.06	2.31	2.31	2.31
72×72	0.0091"	43%	0.0048"	93185T23	1.62	2.53	1.90	2.19
86×86	0.0056"	24%	0.003"	93185T24	1.72	1.79	2.56	2.25

Stretchable Molded Plastic Mesh

Pull and stretch this mesh to accommodate irregular shapes without fraying. Plastic mesh is more clog resistant and easier to clean than wire cloth. It's commonly used to filter, separate, and protect materials. Suitable for indoor use only. **Polyethylene** is black, except 14×14 mesh size is white. **Chemical-resistant polypropylene** is made of FDA-compliant resin for use with food and beverages. Color is off-white.

To Order: Please specify length in 5-ft. increments up to the maximum length listed.



Polyethylene

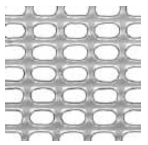

Polypropylene

Mesh Size	Opening Size Lg.	Opening Size Wd.	Wire Dia.	Max. Temp.	Width	Max. Length, ft.		Per Ft.
Polyethylene								
0.6×0.6	1.56"	1.56"	0.225"	200° F	48"	50	9314T43	$3.21
0.75×0.75	1.23"	1.23"	0.15"	200° F	48"	50	9314T37	3.00
0.75×0.75	1.18"	1.18"	0.17"	200° F	48"	50	9314T41	3.00
1×1	0.68"	0.68"	0.09"	200° F	48"	50	9314T36	2.46
2×2	0.45"	0.45"	0.08"	200° F	48"	50	9314T35	2.78
4×4	0.26"	0.26"	0.06"	200° F	36"	50	9314T33	1.69
4×4	0.22"	0.22"	0.065"	200° F	48"	50	9314T34	2.46
5×5	0.2"	0.2"	0.05"	200° F	36"	50	9314T32	1.44
7×7	0.15"	0.15"	0.03"	200° F	36"	50	9314T29	1.18
8×8	0.1"	0.1"	0.04"	200° F	36"	50	9314T26	1.87
10×10	0.06"	0.06"	0.03"	200° F	20"	100	9314T23	1.12
14×14	0.06"	0.06"	0.02"	200° F	48"	50	9314T21	1.60
Chemical-Resistant Polypropylene								
3×3	0.3"	0.27"	0.047"	194° F	48"	400	9265T63	7.12
3×3	0.27"	0.295"	0.11"	194° F	48"	300	9265T61	15.15
3×3	0.27"	0.295"	0.11"	194° F	60"	300	9265T67	19.55
7×5	0.16"	0.1"	0.038"	194° F	43.5"	300	9265T49	4.39
7×6	0.1"	0.08"	0.055"	194° F	43.5"	300	9265T47	8.79
15×11	0.08"	0.055"	0.014"	194° F	54"	300	9265T51	3.33
16×13	0.05"	0.035"	0.025"	194° F	47.5"	300	9265T32	9.09
28×25	0.03"	0.025"	0.014"	194° F	43.5"	300	9265T41	4.09

High-Temperature Stretchable Molded PTFE Mesh

Often used in ovens and dryers, this plastic mesh withstands continuous heat up to 500° F. It can be stretched or cut without fraying and has good chemical resistance. Made of FDA-compliant resin, mesh is good for use with food and beverages. Suitable for indoor and outdoor use. Color is white.



To Order: Please specify length in 5-ft. increments up to the maximum length listed.

Opening Size Lg.	Opening Size Wd.	Wire Dia.	Max. Temp.	Width	Max. Length, ft.		Per Ft.
0.32"	0.14"	0.04"	500° F	18"	100	1100T59	$71.20
0.15"	0.05"	0.06"	500° F	18"	100	1100T47	46.67
0.08"	0.025"	0.023"	500° F	18"	100	1100T45	25.91
0.045"	0.025"	0.014"	500° F	18"	100	1100T43	21.59
0.025"	0.005"	0.015"	500° F	12"	100	1100T41	16.52

Small-Particle-Filtering Felt Sheets

Remove particles from water, organic solvents, petroleum, and weak alkalies. Select felt based on the size of the particles you wish to remove. For example, talcum powder is 10 microns in size and flour is 100 microns. For more information about particle size, see page 412. Max. temp. is 300° F.



Particle Size, microns	Thick.		12"×12"	36"×36"
5	0.07"	6376T1	$3.04	$17.78
25	0.09"	6376T4	3.04	17.78
50	0.085"	6376T5	3.04	17.78
100	0.11"	6376T7	3.04	17.78

Small-Particle-Filtering Felt Rolls

Make your own filter bags to remove particles in water and organic solvents. Select felt based on the size of the particles you wish to remove. For example, talcum powder is 10 microns in size and flour is 100 microns. For more information about particle size in microns, see page 412.



Polyester withstands higher temperatures than polypropylene. Maximum temperature is 300° F.

Polypropylene is more chemical resistant than polyester. Maximum temperature is 200° F.

Particle Size, microns	Thick.	Width	*3, 6, 9, 12, 15, 30, and 75 Ft. Lengths* Polyester	Per Ft.	Polypropylene	Per Ft.
5	0.07"	72"	51625K31	$4.18	9242T51	$5.19
10	0.08"	72"	51625K32	4.18	9242T52	5.19
15	0.07"	72"	51625K33	4.18	—	—
25	0.09"	72"	51625K34	4.18	9242T54	5.19
50	0.085"	72"	51625K35	4.18	9242T55	5.19
75	0.11"	72"	51625K36	4.18	—	—
100	0.11"	72"	51625K37	4.18	9242T57	5.19

Odor-Removing Filter Felt Sheets

Less messy than carbon granules, this carbon-impregnated felt removes odor from liquids and air. It's good for use with fillable cartridges (see 9007T on page 421). Max. temperature is 150° F.

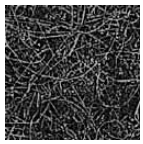

Thickness		10"×10"
0.1875"	8997T61	$7.35
0.375"	8997T62	7.68

Filter Fabric, Filter Paper & Perforated Sheets

For information about particle size, see page 412. For information about perforated sheets, see page 447.

Ultra-Thin Polyester Filter Fabric

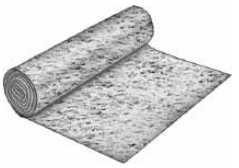

With thickness similar to filter paper, this ultra-thin fabric provides higher flow and is more flexible than felt. It's often used to filter water, light oil, and water soluble and synthetic coolants in metal polishing, grinding, and finishing applications. Fabric is also good for filtering air and petroleum. Color is white.

Rayon/Polyester fabric is commonly used in coolant applications. Maximum temperature is 250° F.

Oil-resistant polyester fabric is 100% polyester for greater strength than rayon/polyester. It's made of FDA-compliant resin for use with food and beverages. Max. temperature is 300° F.

Particle Size, microns	Thick.	Roll Lg., ft.		20″ Wd.	30″ Wd.	50″ Wd.
Rayon/Polyester						
44	0.01″	150	92255T5	$60.98	$75.01	$121.96
54	0.009″	150	92255T6	50.45	69.62	113.51
65	0.008″	150	92255T7	48.72	59.44	76.34
69	0.007″	150	92255T8	42.89	51.90	76.34
Oil-Resistant Polyester						
50	0.01″	150	92255T71	79.65	109.92	163.28
60	0.009″	150	92255T72	65.00	96.85	128.70
80	0.009″	150	92255T73	60.85	70.59	103.44
100	0.007″	150	92255T74	55.32	64.72	88.51

Filter Paper



Cut or fold this paper to the size and shape you need for liquid filtration applications. It's often used to make pleated filter cartridges. Paper is 100% synthetic and has no binders or adhesives. Color is white.

Particle Size, microns	Thick.	Max. Temp.	Pkg. Qty.		12″×12″	12″×24″
Polypropylene						
5	0.02″	210° F	6	9337T31	$11.16	$21.20
100	0.008″	210° F	6	9337T32	9.78	18.58
Polyester						
20	0.02″	300° F	6	9337T34	11.01	20.92
50	0.016″	300° F	6	9337T35	9.79	18.60

Lab-Testing Filter Paper



Standard and High Strength



High Capacity

Designed to capture tiny particles, this paper is often used in laboratory testing. Color is white.

Standard and high-capacity filter papers have a maximum temperature of 266° F. *High-capacity* are pleated for a large surface area for high dirt retention.

High-strength filter paper is reinforced with glass fibers for strength when wet. Good for analytical testing, this paper withstands sterilization with steam (autoclavable). Maximum temperature is 1022° F.

Dia.	Particle Size, microns	Thickness	Pkg. Qty.		Pkg.
Standard					
1 7/8″	8	0.007″	100	6205T27	$16.98
2 3/16″	11	0.007″	100	6205T29	17.16
2 3/16″	25	0.008″	100	6205T52	16.98
4 15/16″	2	0.006″	100	6205T28	41.45
High Capacity					
4 15/16″	2	0.006″	100	6205T42	81.07
12 5/8″	35	0.01″	100	6205T12	136.64
High Strength					
1 7/8″	1	0.013″	100	6737T27	66.74
5 5/8″	1	0.013″	25	6737T44	65.06

Corrosion-Resistant Type 304 Stainless Steel Perforated Sheets

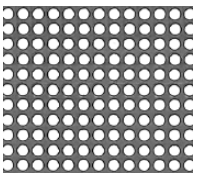

Straight Holes

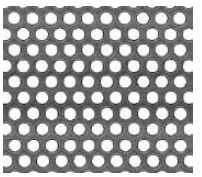

Staggered Holes

Type 304 stainless steel has good corrosion and abrasion resistance as well as weldability and formability. It's often used in chemical and food-processing equipment.

Hole Dia.	Open Area	Center-to-Center Spacing		24″×24″	36″×40″	48″×48″
Straight Holes						
0.024″ Thickness (24 Gauge)						
0.045″	37%	0.066″	9358T63	$75.43	$150.86	$217.24
0.036″ Thickness (20 Gauge)						
0.25″	5%	1″	9358T57	72.42	144.83	208.56
Staggered Holes						
0.024″ Thickness (24 Gauge)						
0.0625″	30%	0.109″	9358T11	52.50	105.00	151.20
0.03″ Thickness (22 Gauge)						
0.0625″	23%	0.125″	9358T21	50.25	100.50	144.72
0.0625″	41%	0.094″	9358T22	56.34	112.67	162.24
0.0938″	35%	0.156″	9358T62	75.00	150.00	216.00
0.125″	40%	0.188″	9358T23	52.57	105.14	151.40
0.25″	58%	0.313″	9358T61	71.33	142.67	205.44
0.036″ Thickness (20 Gauge)						
0.156″	63%	0.188″	9358T39	58.48	116.97	168.44
0.1875″	51%	0.25″	9358T41	57.83	115.66	166.55
0.25″	40%	0.375″	9358T42	57.83	115.66	166.55
0.25″	58%	0.313″	9358T43	57.83	115.66	166.55
0.048″ Thickness (18 Gauge)						
0.094″	33%	0.156″	9358T44	60.41	120.83	174.00
0.125″	40%	0.188″	9358T45	74.25	148.51	213.85
0.1563″	64%	0.188″	9358T59	89.22	178.45	256.97
0.1875″	51%	0.25″	9358T46	57.09	114.17	164.40
0.25″	40%	0.375″	9358T47	81.48	162.97	234.68
0.25″	58%	0.313″	9358T48	73.60	147.20	211.97
0.06″ Thickness (16 Gauge)						
0.0938″	35%	0.156″	9358T58	98.70	197.41	284.27
0.125″	40%	0.188″	9358T49	69.75	139.50	200.88
0.1875″	51%	0.25″	9358T51	89.58	179.16	257.99
0.25″	40%	0.375″	9358T52	64.58	129.17	186.00
0.25″	58%	0.313″	9358T53	79.89	159.79	230.10
0.075″ Thickness (14 Gauge)						
0.125″	40%	0.188″	9358T54	88.58	177.17	255.12
0.25″	40%	0.375″	9358T55	80.83	161.67	232.80
0.12″ Thickness (11 Gauge)						
0.25″	40%	0.375″	9358T56	128.59	257.17	370.32

Corrosion-Resistant Type 304 Stainless Steel Extra-Thin Perforated Rolls

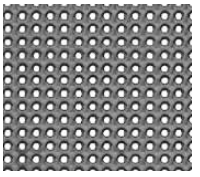

Straight Holes

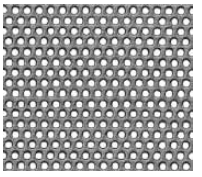

Staggered Holes

Easy to bend and shape, these Type 304 stainless steel rolls have good corrosion and abrasion resistance as well as weldability and formability.

To Order: Please specify length: 1, 2, 3, 4, 5, 10, 20, or 30 feet.

Hole Dia.	Open Area	Center-to-Center Spacing	Wd.		Per Ft. 1-9	Per Ft. 10-Up
Straight Holes						
0.008″ Thickness (35 Gauge)						
0.02″	30%	0.03″	24″	9329T3	$130.00	$104.00
0.018″ Thickness (26 Gauge)						
0.033″	28%	0.055″	24″	9329T4	56.25	45.00
Staggered Holes						
0.008″ Thickness (35 Gauge)						
0.02″	22%	0.04″	24″	9329T5	106.25	85.00

About Perforated Sheets

Use perforated sheets to filter, sort, separate, and strain liquids or dry materials. Holes have smooth edges to prevent particle buildup. Perforated sheets are also good for use as protective enclosures such as machine guards and ventilating grills or in architectural installations such as acoustical panels and decorative screens.

Compared to wire cloth, perforated sheets are more rigid and durable for a longer service life in harsh environments. They are also better for maintaining flow when straining thick liquids; the larger the percentage of open area, the greater the flow.

Common Particles and Corresponding Hole Dia.

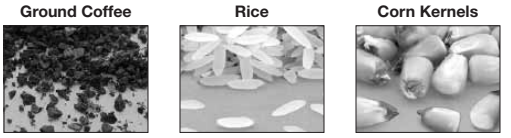

Super-Corrosion-Resistant Type 316 Stainless Steel Perforated Sheets

Able to withstand corrosive solutions and harsh cleaning, these perforated sheets are commonly used in food-processing applications. Type 316 stainless steel has excellent corrosion and abrasion resistance and good weldability and formability. Holes are staggered.

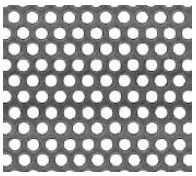

Hole Dia.	Open Area	Center-to-Center Spacing	36″×40″	
0.03″ Thickness (22 Gauge)				
0.0625″	41%	0.094″	3671T11	$135.33
0.125″	40%	0.188″	3671T12	103.17
0.036″ Thickness (20 Gauge)				
0.156″	63%	0.188″	3671T14	96.50
0.048″ Thickness (18 Gauge)				
0.094″	33%	0.156″	3671T15	162.83
0.125″	40%	0.188″	3671T16	158.67
0.06″ Thickness (16 Gauge)				
0.125″	40%	0.188″	3671T17	192.17
0.1875″	51%	0.25″	3671T18	182.17
0.25″	58%	0.313″	3671T19	177.83
0.075″ Thickness (14 Gauge)				
0.125″	40%	0.188″	3671T21	230.17
0.12″ Thickness (11 Gauge)				
0.25″	40%	0.375″	3671T22	349.17

Extra-Thin Brass Perforated Rolls

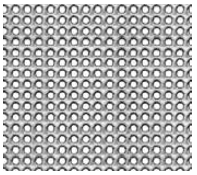

Straight Holes

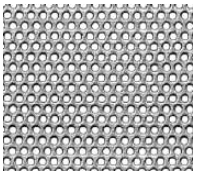

Staggered Holes

Bend and shape these thin perforated sheets to make strainers that fit your application. Brass is softer than Type 304 stainless steel, so it is easier to form. It also has good corrosion resistance. Maximum length is 50 feet.

Hole Dia.	Open Area	Center-to-Center Spacing	Wd.		Per Ft. 1-9	Per Ft. 10-Up
Straight Holes						
0.016″ Thickness (26 Gauge)						
0.016″	30%	0.026″	24″	9360T12	$74.91	$58.27
0.02″	20%	0.03″	24″	9360T14	60.77	47.26
0.024″	23%	0.044″	24″	9360T16	42.09	32.73
0.027″	23%	0.05″	24″	9360T17	38.03	29.58
0.033″	28%	0.055″	24″	9360T18	33.46	26.02
0.038″	45%	0.05″	24″	9360T29	32.69	25.42
0.04″	29%	0.066″	24″	9360T19	32.82	25.53
0.045″	37%	0.066″	24″	9360T21	31.75	24.69
0.057″	34%	0.086″	24″	9360T23	30.80	23.96
0.065″	33%	0.1″	24″	9360T24	29.55	22.98
0.079″	41%	0.11″	24″	9360T25	29.05	22.60
0.103″	48%	0.132″	24″	9360T26	28.58	22.22
0.138″	43%	0.188″	24″	9360T27	24.67	19.19
Staggered Holes						
0.016″ Thickness (26 Gauge)						
0.016″	22%	0.035″	24″	9360T13	71.77	55.83
0.02″	22%	0.04″	24″	9360T15	50.41	39.21

Lightweight Alloy 3003 Aluminum Perforated Sheets

Lighter in weight than steel and stainless steel, Alloy 3003 aluminum has good corrosion resistance, weldability, and formability. Holes are staggered.

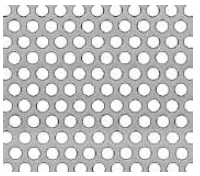

Hole Dia.	Open Area	Center-to-Center Spacing	36″×40″	
0.032″ Thickness (20 Gauge)				
0.0625″	23%	0.125″	9232T111	$46.64
0.0625″	30%	0.109″	9232T161	48.33
0.125″	40%	0.188″	9232T121	39.20
0.1875″	51%	0.25″	9232T131	36.98
0.25″	58%	0.313″	9232T221	39.51
0.05″ Thickness (16 Gauge)				
0.0625″	23%	0.125″	9232T141	63.13
0.0625″	30%	0.109″	9232T151	64.47
0.125″	40%	0.188″	9232T181	52.56
0.1875″	51%	0.25″	9232T211	48.71
0.25″	40%	0.375″	9232T241	63.42
0.063″ Thickness (14 Gauge)				
0.125″	40%	0.188″	9232T171	60.69
0.1875″	51%	0.25″	9232T191	56.56
0.25″	40%	0.375″	9232T231	58.84

High-Strength Lightweight Alloy 6061 Aluminum Perforated Sheets

Harder and stronger than our other aluminum perforated sheets, Alloy 6061 has greater wear resistance. It's lightweight and corrosion resistant and has good weldability and formability. Holes are staggered.

Hole Dia.	Open Area	Center-to-Center Spacing	36″×40″	
0.032″ Thickness (20 Gauge)				
0.125″	40%	0.188″	9667T1	$364.44
0.1875″	51%	0.25″	9667T2	355.56
0.05″ Thickness (16 Gauge)				
0.125″	40%	0.188″	9667T3	366.32
0.1875″	51%	0.25″	9667T4	355.61
0.063″ Thickness (14 Gauge)				
0.125″	40%	0.188″	9667T5	377.04
0.1875″	51%	0.25″	9667T6	368.47
0.25″	58%	0.313″	9667T8	373.29
0.25″	40%	0.375″	9667T7	373.29

Small-Particle-Filtering Type 316 Stainless Steel Perforated Sheets

Trap small particles in low-flow applications—these sheets have tiny holes and a small open area. Holes meet a precision size tolerance. Perforated area is 18″×21″; with the unperforated border, overall sheet size is approximately 20″×22″. Type 316 stainless steel has excellent corrosion resistance. Holes are staggered.

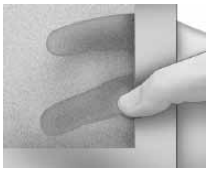

Hole Dia.	Open Area	Center-to-Center Spacing		
0.005″ Thickness (42 Gauge)				
0.006″	27%	0.0112″	92315T101	$252.83
0.014″ Thickness (29 Gauge)				
0.015″	21%	0.031″	92315T131	315.83
0.018″	31%	0.031″	92315T132	315.83

Steel Perforated Sheets

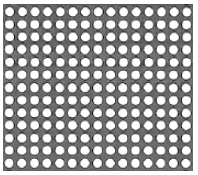

Straight Holes

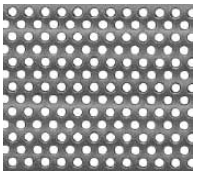

Staggered Holes

Steel's strength and wear resistance makes it a popular choice for machine guards and protective panels in noncorrosive environments. It has good weldability and formability.

Hole Dia.	Open Area	Center-to-Center Spacing		24″×24″	36″×40″	48″×48″
Straight Holes						
0.018″ Thickness (26 Gauge)						
0.024″	23%	0.044″	9255T17★	$58.69	$97.82	____
0.024″ Thickness (24 Gauge)						
0.033″	28%	0.055″	9255T22	46.73	93.47	____
0.045″	37%	0.066″	9255T24	38.66	77.33	____
Staggered Holes						
0.024″ Thickness (24 Gauge)						
0.033″	20%	0.077″	9255T26	44.73	89.47	____
0.045″	28%	0.086″	9255T28	36.77	73.53	____
0.03″ Thickness (22 Gauge)						
0.05″	26%	0.094″	9255T31	25.34	50.68	$72.98
0.0625″	23%	0.125″	9255T33	26.38	52.76	75.97
0.078″	45%	0.109″	9255T35	24.45	48.90	70.42
0.093″	33%	0.156″	9255T37	24.94	49.88	71.83
0.125″	40%	0.188″	9255T39	24.73	49.47	71.24
0.156″	63%	0.188″	9255T42	23.98	47.97	69.08
0.036″ Thickness (20 Gauge)						
0.0625″	23%	0.125″	9255T44	32.04	64.08	92.28
0.0625″	30%	0.109″	9255T46	28.61	57.23	82.41
0.0625″	41%	0.094″	9255T48	22.50	45.01	64.81
0.075″	51%	0.1″	9255T51	25.27	50.54	72.78
0.078″	45%	0.109″	9255T53	30.39	60.77	87.51
0.093″	33%	0.156″	9255T55	26.04	52.07	74.98
0.125″	40%	0.188″	9255T57	26.23	52.47	75.56
0.14″	51%	0.188″	9255T59	26.38	52.76	75.97
0.156″	63%	0.188″	9255T62	26.39	52.79	76.02
0.1875″	51%	0.25″	9255T71	27.57	55.15	79.42
0.25″	40%	0.375″	9255T92	25.23	50.47	72.68
0.25″	58%	0.313″	9255T95	25.06	50.12	72.17
0.048″ Thickness (18 Gauge)						
0.0625″	23%	0.125″	9255T96	36.23	72.46	104.34
0.0625″	30%	0.109″	9255T99	33.97	67.94	97.83
0.078″	36%	0.125″	9255T525	33.09	66.17	95.28
0.093″	33%	0.156″	9255T565	31.23	62.46	89.94
0.125″	40%	0.188″	9255T645	28.88	57.76	83.17
0.14″	51%	0.188″	9255T685	30.18	60.35	86.90
0.156″	46%	0.219″	9255T765	30.30	60.60	87.26
0.1875″	51%	0.25″	9255T785	30.19	60.38	86.95
0.25″	58%	0.313″	9255T835	29.34	58.68	84.50
0.06″ Thickness (16 Gauge)						
0.0625″	23%	0.125″	9255T345	36.72	73.44	105.75
0.0625″	30%	0.109″	9255T275	37.42	74.85	107.78
0.078″	36%	0.125″	9255T495	32.81	65.62	94.49
0.093″	33%	0.156″	9255T545	36.90	73.79	106.26
0.125″	40%	0.188″	9255T635	34.91	69.82	100.54
0.14″	51%	0.188″	9255T675	33.16	66.32	95.50
0.156″	46%	0.219″	9255T755	33.51	67.01	96.49
0.156″	63%	0.188″	9255T725	34.91	69.82	100.54
0.1875″	33%	0.313″	9255T815	31.48	62.96	90.66
0.1875″	51%	0.25″	9255T775	32.35	64.71	93.18
0.25″	40%	0.375″	9255T865	30.71	61.43	88.46
0.25″	58%	0.313″	9255T825	31.97	63.94	92.07
0.3125″	47%	0.438″	9255T885	28.79	57.57	82.90
0.375″	40%	0.563″	9255T915	31.70	63.39	91.28
0.5″	48%	0.688″	9255T945	30.10	60.20	86.69
0.75″	51%	1″	9255T975	29.74	59.48	85.65
0.075″ Thickness (14 Gauge)						
0.25″	40%	0.375″	9255T855	35.53	71.07	102.34
0.375″	40%	0.563″	9255T895	39.58	79.15	113.98
0.5″	48%	0.688″	9255T935	37.55	75.09	108.13
0.25″ Thickness						
0.25″	40%	0.375″	9255T215	106.02	212.03	305.32

★ 36″×40″ sheet is actually 30″×40″.

Hexagon-Hole Perforated Sheets

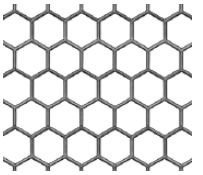

Staggered hexagon-shaped holes provide a large open area for high-flow applications.

Aluminum sheet is Alloy 3003. It's lighter in weight than steel and has good corrosion resistance.

Hole Dia.	Open Area	Center-to-Center Spacing	36″×40″	
Steel—0.03″ Thickness (22 Gauge)				
0.25″	79%	0.281″	92725T22	$37.70
Aluminum—0.032″ Thickness (20 Gauge)				
0.25″	79%	0.281″	92725T42	40.22

Chemical-Resistant Plastic Perforated Sheets

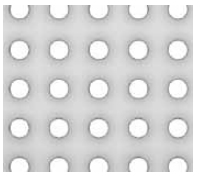

Straight Holes

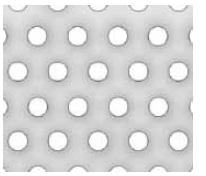

Staggered Holes

Flexible polypropylene has good chemical resistance for use with organic solvents and degreasing agents. Max. temperature is 200° F. Color is off-white.

High-strength PVC is stronger than polypropylene for greater impact and abrasion resistance. Maximum temperature is 140° F. Color is dark gray. It meets Fed. Spec. LP-535E and ASTM D1784.

Hole Dia.	Open Area	Center-to-Center Spacing		24″×24″	32″×48″	48″×96″
Flexible Polypropylene—Straight Holes						
0.125″ Thickness						
0.1875″	10%	0.5″	9293T61	$17.30	$38.44	$103.79
0.25″	20%	0.5″	9293T62	17.30	38.44	103.79
0.25″ Thickness						
0.1875″	10%	0.5″	9293T63	28.70	63.78	172.21
0.25″	20%	0.5″	9293T64	28.70	63.78	172.21
Flexible Polypropylene—Staggered Holes						
0.063″ Thickness						
0.0938″	25%	0.188″	9293T65	15.45	34.33	92.69
0.125″	40%	0.188″	9293T66	15.45	34.33	92.69
0.125″ Thickness						
0.0938″	25%	0.188″	9293T67	20.20	44.89	121.20
0.125″	23%	0.25″	9293T69	19.45	43.23	116.72
0.125″	40%	0.188″	9293T68	20.20	44.89	121.20
0.1875″	32%	0.313″	9293T71	18.50	41.11	111.00
0.188″ Thickness						
0.125″	23%	0.25″	9293T72	24.45	54.33	146.69
0.1875″	32%	0.313″	9293T73	24.65	54.78	147.91
High-Strength PVC—Straight Holes						
0.125″ Thickness						
0.25″	20%	0.5″	92985T51	23.00	51.11	138.00
0.25″ Thickness						
0.25″	20%	0.5″	92985T52	41.75	92.78	250.51
High-Strength PVC—Staggered Holes						
0.063″ Thickness						
0.125″	40%	0.188″	92985T53	19.95	44.34	119.72
0.125″ Thickness						
0.0938″	25%	0.188″	92985T54	26.30	58.44	157.79
0.125″	40%	0.188″	92985T55	26.30	58.44	157.79
0.1875″	32%	0.313″	92985T56	24.25	53.89	145.50
0.188″ Thickness						
0.1875″	32%	0.313″	92985T57	30.40	67.56	182.41
0.375″	40%	0.563″	92985T58	29.30	65.11	175.80
0.25″ Thickness						
0.5″	48%	0.688″	92985T59	41.75	92.78	250.51

Flow, Level, Pressure & Temperature Control

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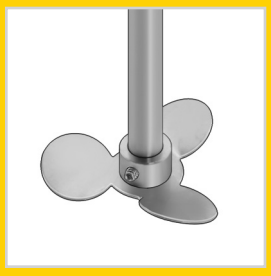

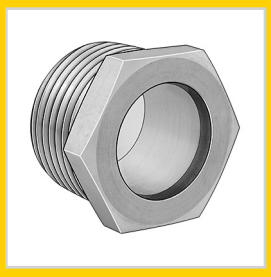
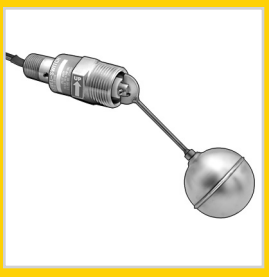




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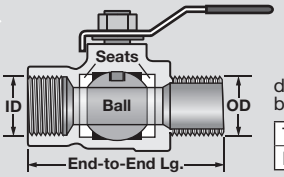

About On/Off Valves

Manually open and close these valves to quickly start and stop flow. They are also known as ball valves.

Determining Pipe Size of Your Valve: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and find the corresponding pipe size listed in the chart.

Threaded ID or OD	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"	4 1/2"
Pipe Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4

On/Off Valves

Straights:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 600 psi @ 100° F (1/4-2 size); 450 psi @ 100° F (2 1/2-4 size)
- Max. Pressure for Steam: 150 psi @ 366° F
- Temp. Range: -50° to 400° F
- Vacuum Rating: 29.9" Hg

Elbows:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 250 psi @ 250° F
- Max. Pressure for Steam: 150 psi @ 350° F
- Temp. Range: -50° to 350° F
- Vacuum Rating: 29" Hg

Use these valves for simple on/off control in general applications. Body and ball are brass. Seat is PTFE. Valves are full port, so they do not restrict flow. *Straights* are CSA and CSA-US certified, unless noted. *Straights with 1/4 to 2 pipe size* are also UL and C-UL listed and FM approved.

NPT female × female straights have a fluoroelastomer seal, except T-handle valves have a PTFE seal. **NPT female × male straights** have PTFE packing. **Elbows** have a PTFE seal and packing.

Spring-close lever handles automatically close when the lever is released. **T-handles, lockable oval handles,** and **short-lever handles** resist accidental movement when snagged or bumped. *Lockable* valves can be fixed in place with a padlock (not included) with a max. shackle diameter of 9/32".

Straights with extended stem have an extra-long stem for installation through thick insulation.

NPT Female × Female Straights



Pipe Size	End-to-End Lg.	Lever		Lockable Lever		Spring-Close Lever		T-Handle		Lockable Oval	
1/4	1 3/4"	47865K21	$8.27	4629K11	$10.83	4088T8	$31.26	4082T12	$9.68	4901K41	$19.54
3/8	1 3/4"	47865K22	8.27	4629K12	10.83	4088T9	31.26	4082T13	9.68	4901K42	19.54
1/2	2 5/16"	47865K23	9.47	4629K13	11.62	4088T11	32.87	4082T14	10.95	4901K43	21.24
3/4	2 1/2"	47865K24	13.36	4629K14	15.83	4088T12	40.89	4082T15	15.30	4901K44	25.39
1	3 3/16"	47865K25	21.44	4629K15	24.74	4088T13	50.87	4082T16	24.02	4901K45	33.70
1 1/4	3 11/16"	47865K26	35.36	4629K16	39.69	4088T14	74.98	4082T17	40.96	4901K46	47.35
1 1/2	4"	47865K27	42.84	4629K17	48.33	4088T15	91.65	4082T18	48.83	4901K47	55.91
2	4 3/4"	47865K28	63.66	4629K18	66.43	4088T16	125.37	4082T21	68.78	4901K48	81.36
2 1/2	6 1/8"	47865K71	180.71	4629K71	194.20					4901K67	224.71
3	7"	47865K72	241.51	4629K72	259.33					4901K49	287.85
4	8 1/2"	47865K73	352.78	4629K73	374.29					4901K61	410.80

NPT Female × Male Straights



Pipe Size	End-to-End Lg.	Lever		Lockable Lever		Short Lever		T-Handle		Lockable Oval	
1/4	2 1/4"	47865K41	$9.29	4629K41	$13.23	47865K11	$10.65	4082T42	$10.45	4901K51	$20.48
3/8	2 1/4"	47865K42	8.90	4629K42	13.23	47865K12	11.37	4082T43	10.45	4901K52	20.48
1/2	2 3/4"	47865K43	10.73	4629K43	13.51	47865K13	12.86	4082T44	12.07	4901K53	22.52
3/4	3"	47865K44	14.93	4629K44	18.53	47865K14	17.88	4082T45	16.80	4901K54	26.93
1	3 5/8"	47865K45	24.09	4629K45	27.88	47865K15	27.44	4082T46	25.81	4901K55	37.04
1 1/4	4 3/16"	47865K46	41.58	4629K46	48.36	47865K16	73.63	4082T47	49.77	4901K62	55.91
1 1/2	4 7/16"	47865K47	46.08	4629K47	54.81	47865K17	52.00	4082T48	54.81	4901K63	64.68
2	5 1/4"	47865K48	68.69	4629K48	80.06	47865K18	76.78	4082T51	80.06	4901K64	91.45
3	8"	47865K49★	296.61	4629K49★	335.79					4901K65★	320.45
4	9 3/8"	47865K51★	460.21	4629K51★	493.73					4901K66★	519.83

★Not CSA or CSA-US certified.

NPT Female × Female Straights with Extended Stem

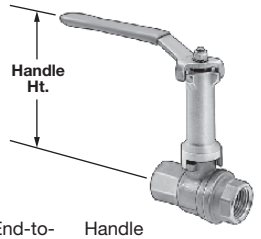

Pipe Size	End-to-End Lg.	Handle Ht.		
1/4	1 3/4"	3 11/16"	4075T21	$22.54
1/2	2 5/16"	3 15/16"	4075T23	23.77
3/4	2 1/2"	4 3/16"	4075T24	31.69
1	3 3/16"	4 5/16"	4075T25	40.80

NPT Male × Female Elbows

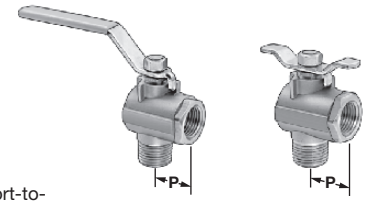

Pipe Size	Port-to-Port Lg. (P)	Lever		T-Handle	
1/4	1"	4847K11	$21.67	4847K14	$22.34
3/8	1"	4847K12	22.79	4847K15	25.05
1/2	1 1/8"	4847K13	22.84	4847K16	28.77

NPT Male × Male Elbows

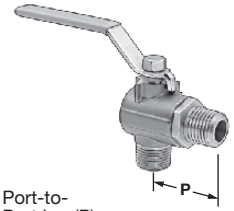

Pipe Size	Port-to-Port Lg. (P)		
1/4	1 9/16"	4847K21	$21.23
3/8	1 9/16"	4847K22	22.49
1/2	1 7/8"	4847K23	24.74

Flow-Indicating On/Off Valves

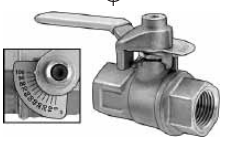

- Max. Pressure for Water, Oil, Air, and Inert Gas: 600 psi @ 235° F (1/4-3/4 size); 500 psi @ 279° F (1-2 size)
- Max. Pressure for Steam: 150 psi @ 366° F
- Temp. Range: -40° to 366° F
- Vacuum Rating: 29.89″ Hg

An easy-to-read indicator shows the percentage the valve is open. Connections are NPT female. Seat and packing are PTFE; seal is fluoroelastomer. Valves are full port, so they do not restrict flow. UL listed for use with LP gas, CSA and CSA-US certified, and FM approved.

Brass valves have a brass ball.

Nickel-plated brass valves are more corrosion resistant than plain brass valves. Ball is 316 stainless steel.

Pipe Size	End-to-End Lg.	Brass		Nickel-Plated Brass	
1/4	1 13/16″	4209K41	$16.75	4256K51	$27.37
3/8	1 7/8″	4209K42	16.75	4256K52	27.37
1/2	2 1/2″	4209K43	17.42	4256K53	27.37
3/4	2 3/4″	4209K44	21.62	4256K54	35.48
1	3 5/16″	4209K45	34.11	4256K55	51.08
1 1/2	4 3/16″	4209K47	68.85	4256K57	94.53
2	5″	4209K48	93.45	4256K58	123.21

On/Off Valves with Easy-Access Strainer



- Max. Pressure for Water, Oil, Air, and Inert Gas: 600 psi @ 100° F
- Max. Pressure for Steam: 150 psi @ 358° F
- Temp. Range: -40° to 365° F
- Vacuum Rating: Not rated

A built-in Y-strainer with a 304 stainless steel 50-mesh screen traps debris and lets you replace the screen without disconnecting your pipeline. Connections are NPT female. Body and ball are brass, seat is PTFE, and seal is fluoroelastomer. Valves are full port, so they do not restrict flow.

Pipe Size	End-to-End Lg.	Valves		Replacement Screens	
1/2	3 7/16″	4064T14	$16.79	4064T25	$1.08
3/4	4″	4064T16	26.35	4064T26	1.08

British Standard Threaded On/Off Valves



Female x Female

Nickel-Plated Brass:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 600 psi @ 100° F
- Temp. Range: -50° to 400° F
- Vacuum Rating: 29.9″ Hg

316 Stainless Steel:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,000 psi @ 100° F
- Temp. Range: -30° to 400° F
- Vacuum Rating: Not rated

Use these valves for equipment with BSPT (British Standard Pipe Taper) or BSPP (British Standard Pipe Parallel) connections.

Nickel-plated brass valves have a brass ball, PTFE seat, and fluoroelastomer seal. They are full port, so they do not restrict flow.

316 stainless steel valves are more corrosion resistant than brass valves. Ball is 316 stainless steel. Seat, seal, and packing are PTFE. Valves have a lockable handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 5/16″, unless noted. They are standard port, so they slightly restrict flow.

Pipe Size	End-to-End Lg.		
Nickel-Plated Brass			
BSPP Female x Female			
3/8	2 3/8″	8173K14	$10.13
1/2	2 15/16″	8173K16	10.09
3/4	3 1/8″	8173K18	13.77
1	3 9/16″	8173K23	22.55
BSPT Female x Female			
3/8	1 3/4″	4841K25	10.22
1/2	2 5/16″	4841K26	10.21
3/4	2 1/2″	4841K28	14.08
1	3 3/16″	4841K32	23.43
316 Stainless Steel			
BSPP Female x Female			
1/4	2″	4932K22	43.84
3/8	2 3/8″	4932K23	55.19
1/2	3″	4932K24	53.53
BSPP Female x Male			
1/4	2″	4932K52	61.95
1/2	3″	4932K53■	63.98

■ Handle is not lockable.

Corrosion-Resistant On/Off Valves

Chrome-Plated Brass:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 600 psi @ 212° F
- Max. Pressure for Steam: 150 psi @ 366° F
- Temp. Range: -40° to 366° F
- Vacuum Rating: 29″ Hg

Nickel-Plated Brass:
- Max. Pressure for Water, Oil, Air, and Inert Gas: Lever: 600 psi @ 235° F (1/4-3/4 size); 500 psi @ 279° F (1-2 size); 400 psi @ 320° F (3 size) T-Handle: 600 psi @ 100° F
- Max. Pressure for Steam: 150 psi @ 366° F
- Temp. Range: -40° to 366° F
- Vacuum Rating: 29.89″ Hg

A plated brass body resists corrosion in harsh environments. Connections are NPT. Valves are full port, so they do not restrict flow.

Chrome-Plated Brass—Ball is brass and seat and packing are PTFE. *Lockable lever* valves can be fixed in place with a padlock (not included) with a max. shackle diameter of 9/32″.

Nickel-Plated Brass—Valves are CSA and CSA-US certified. 1/4 to 2 pipe sizes are also UL listed and FM approved. *Lever* valves have a 316 stainless ball, PTFE seat and packing, and fluoroelastomer seal. *T-handle* valves resist accidental movement when snagged or bumped. They have a brass ball, PTFE seat, and fluoroelastomer seal.

Chrome-Plated Brass—Female x Female

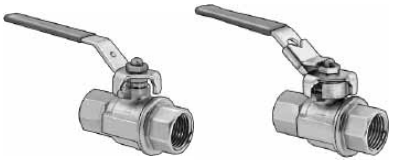

Pipe Size	End-to-End Lg.	Lever		Lockable Lever	
1/4	2″	33325K21	$8.39	4749K11	$12.15
3/8	2″	33325K22	8.39	4749K12	12.80
1/2	2 7/16″	33325K23	10.35	4749K13	14.13
3/4	2 11/16″	33325K24	15.05	4749K14	18.16
1	3 1/16″	33325K25	26.85	4749K15	27.17
1 1/4	3 7/16″	33325K26	43.01	4749K16	44.61
1 1/2	3 7/8″	33325K27	59.23	4749K17	62.07
2	4 5/16″	33325K28	86.14	4749K18	85.88
2 1/2	5 5/8″	33325K41	198.09	4749K21	202.79
3	6 7/16″	33325K42	279.68	4749K22	334.72
4	7 5/8″	33325K43	480.57	4749K23	556.76

Chrome-Plated Brass—Female x Male

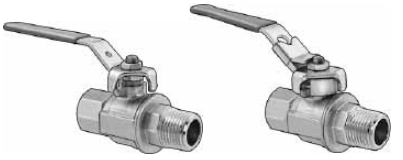

Pipe Size	End-to-End Lg.	Lever		Lockable Lever	
1/4	2 5/16″	33325K31	$8.66	4749K51	$12.69
3/8	2 5/16″	33325K32	8.66	4749K52	12.95
1/2	2 13/16″	33325K33	11.31	4749K53	14.90
3/4	3 1/8″	33325K34	15.08	4749K54	17.68
1	3 9/16″	33325K35	23.00	4749K55	28.72

Nickel-Plated Brass—Female x Female



Pipe Size	Lever: End-to-End Lg.			T-Handle: End-to-End Lg.		
1/4	1 13/16″	4465K29	$20.15	1 3/4″	4073T11	$8.36
3/8	1 7/8″	4465K21	20.15	1 3/4″	4073T12	8.36
1/2	2 1/2″	4465K32	20.15	2 5/16″	4073T13	8.89
3/4	2 3/4″	4465K33	26.98	2 9/16″	4073T14	12.72
1	3 5/16″	4465K34	39.61	3 3/16″	4073T21	19.70
1 1/4	3 13/16″	4465K35	59.27	3 11/16″	4073T22	37.23
1 1/2	4 3/16″	4465K36	79.17	4″	4073T23	43.77
2	5″	4465K37	109.57	4 3/4″	4073T24	65.06
3	7 1/16″	4465K39	431.21	—	—	—

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"	4 1/2"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4

Ultra-Corrosion-Resistant On/Off Valves



Lever



Oval Handle

- Max. Pressure for Water, Oil, Air, and Inert Gas: 800 psi @ 100° F (Standard Port);1,000 psi @ 200° F (Full Port)
- Max. Pressure for Steam: 50 psi @ 298° F (Standard Port); 150 psi @ 366° F (Full Port)
- Temp. Range: 0° to 450° F
- Vacuum Rating: 28.95" Hg

For excellent corrosion resistance in extremely harsh environments, these valves have a 316 stainless steel body and ball. Connections are NPT female. Valves have a lockable handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 1/4".

Standard-port valves slightly restrict flow. They have a PTFE seat and packing. **Full-port** valves do not restrict flow. They have a PTFE seat and seal.

Oval handles resist accidental movement when snagged or bumped.

Pipe Size	End-to-End Lg.	Lever		Oval Handle	
Standard Port					
1/4	1 9/16"	46325K26	$21.32	46325K86	$28.46
3/8	1 3/4"	46325K27	21.32	46325K87	28.45
1/2	2 1/4"	46325K28	22.83	46325K88	29.44
3/4	2 5/16"	46325K29	31.06	46325K89	38.72
1	2 13/16"	46325K31	36.80	46325K91	46.16
1 1/4	3 1/16"	46325K32	54.87	46325K92	63.29
1 1/2	3 1/4"	46325K33	77.87	46325K93	86.46
2	3 15/16"	46325K34	90.48	46325K94	101.25
Full Port					
1/4	2"	46495K18	31.29	46495K38	34.49
3/8	2"	46495K19	31.29	46495K39	34.49
1/2	2 3/8"	46495K21	32.20	46495K41	35.30
3/4	2 3/4"	46495K22	42.98	46495K42	45.72
1	3 1/4"	46495K23	61.26	46495K43	64.27
1 1/4	3 13/16"	46495K24	106.79	46495K44	109.33
1 1/2	4 5/16"	46495K25	119.18	46495K45	119.12
2	5 1/4"	46495K26	159.85	46495K46	160.34
2 1/2	6 9/16"	46495K27	407.06		
3	7 9/16"	46495K28	495.99		

Easy-Access On/Off Valves



Bronze:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 400 psi @ 70° F
- Temp. Range: 33° to 200° F
- Vacuum Rating: Not rated

316 Stainless Steel:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,000 psi @ 100° F
- Temp. Range: -25° to 400° F
- Vacuum Rating: 29" Hg

Install these valves in tough-to-reach locations—use a square ratchet to turn the lever handle. Connections are NPT female. Seat, seal, and packing are PTFE. Valves are full port, so they do not restrict flow.

Bronze valves have a brass ball.

316 stainless steel valves are more corrosion resistant than bronze valves. Ball is 316 stainless steel. Valves have a lockable lever handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 5/16".

Pipe Size	End-to-End Lg.		
Bronze			
1/4	1 3/4"	7031T11	$16.01
3/8	1 3/4"	7031T12	16.01
1/2	2"	7031T13	21.78
3/4	2 5/16"	7031T14	27.56
316 Stainless Steel			
1	3 5/16"	5539T25	87.79
1 1/4	3 11/16"	5539T26	141.35
1 1/2	4 1/8"	5539T27	207.21
2	4 15/16"	5539T28	258.46

Extended-Life On/Off Valves



Female x Female with Spring-Close Lever



Female x Male with Lever

- Max. Pressure for Water, Oil, Air, and Inert Gas: 600 psi @ 100° F
- Max. Pressure for Steam: 150 psi @ 365° F
- Temp. Range: -20° to 450° F
- Vacuum Rating: 29" Hg

To outlast standard valves, these have a bronze body that's harder and more durable than brass. Ball is brass and seat, seal, and packing are PTFE. *Standard-port* valves slightly restrict flow. *Full-port* valves do not restrict flow.

Spring-close lever handles automatically close when the lever is released.

NPT Female x Female

Pipe Size	Lever: End-to-End Lg.			Spring-Close Lever: End-to-End Lg.		
Standard Port						
1/4	2 1/16"	4726K21	$12.89	—	—	—
3/8	2 1/16"	4726K22	12.89	—	—	—
1/2	2 1/4"	4726K23	12.89	—	—	—
3/4	3"	4726K24	21.22	3"	4171K24	$110.22
1	3 3/8"	4726K25	26.67	3 3/8"	4171K25	117.68
1 1/4	4"	4726K26	44.78	4"	4171K26	152.12
1 1/2	4 3/8"	4726K27	57.35	4 3/8"	4171K27	180.98
2	4 11/16"	4726K28	71.70	4 11/16"	4171K28	212.88
2 1/2	6 1/4"	4726K29	392.02	—	—	—
3	6 3/4"	4726K31	439.15	—	—	—
4	7 3/8"	4726K35	517.92	—	—	—
Full Port						
1/4	1 13/16"	5754T22	15.37	2 1/4"	4171K21	98.42
3/8	1 7/8"	5754T29	15.37	2 1/4"	4171K22	98.42
1/2	2 5/16"	5754T31	15.37	2 1/4"	4171K23	98.42
3/4	2 11/16"	5754T32	25.13	—	—	—
1	3 1/4"	5754T33	31.78	—	—	—
1 1/4	3 3/4"	5754T34	71.02	—	—	—
1 1/2	4 1/8"	5754T35	94.27	—	—	—
2	4 7/8"	5754T36	162.35	—	—	—
2 1/2	6"	5754T37	492.77	—	—	—

SAE Female x Female with Lever

SAE Thread Size	End-to-End Lg.		
Full Port			
9/16"-18	2 1/4"	4581K42	$23.65
3/4"-16	2 1/4"	4581K43	23.65
1 1/16"-12	3 1/8"	4581K44	43.17
1 5/16"-12	3 5/8"	4581K45	60.44
1 5/8"-12	4 1/4"	4581K46	85.31
1 7/8"-12	4 3/4"	4581K47	107.65
2 1/2"-12	5 3/8"	4581K48	177.36

NPT Female x Male with Lever

Pipe Size	End-to-End Lg.		
Standard Port			
1/4	2 7/16"	4726K46	$16.33
3/8	2 1/2"	4726K47	16.33
1/2	2 13/16"	4726K48	16.33
3/4	3 1/2"	4726K49	27.16
1	4"	4726K51	38.73

On/Off Valves with Gauge Port



- Max. Pressure for Water, Oil, Air, and Inert Gas: 600 psi @ 100° F
- Temp. Range: -50° to 400° F
- Vacuum Rating: 29.9" Hg

Attach a pressure gauge to the 1/4 NPT side port on these valves. The side port can also be used to drain and divert fluid; it comes with a plug. Connections are NPT female. Body and ball are brass, seat is PTFE, and seal is fluoroelastomer. Valves are full port, so they do not restrict flow. UL and C-UL listed and CSA and CSA-US certified.

Pipe Size	End-to-End Lg.		
1/2	2 9/16"	4085T21	$15.01
3/4	2 3/4"	4085T22	19.01
1	3 7/16"	4085T23	30.64
1 1/4	3 7/8"	4085T24	$51.18
1 1/2	4 1/4"	4085T25	59.98
2	5"	4085T26	94.84

High-Pressure On/Off Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: Lockable Lever: 1,800 psi @ 0° F (1/4-1 size); 1,500 psi @ 75° F (1 1/4-2 size); 800 psi @ 250° F (2 1/2-3 size) Spring-Close Lever: 2,000 psi @ 50° F (1/4-1 size); 1,500 psi @ 100° F (1 1/4-2 size)
- Max. Pressure for Steam: 150 psi @ 365° F, unless noted
- Temp. Range: -20° to 450° F (Lockable Lever); -20° to 500° F (Spring-Close Lever)
- Vacuum Rating: 29" Hg



Lockable Lever



Spring-Close Lever

Handle up to three times the pressure of standard on/off valves. Connections are NPT female. Seat, seal, and packing are PTFE. Valves are standard port, so they slightly restrict flow.

Lockable-lever valves have a handle that can be fixed in place with a padlock (not included). They also have mounting holes for attaching an actuator. *Steel* valves accept a padlock with a max. shackle diameter of 5/16"; *316 stainless steel* valves accept a padlock with a max. shackle diameter of 1/4". **Spring-close lever** valves automatically close when the lever is released.

Steel valves have a steel ball, unless noted. **316 stainless steel** valves are more corrosion resistant than steel valves. Ball is 316 stainless steel.

Lockable Lever

Pipe Size	End-to-End Lg.	Mounting Hole Size	Qty.	Steel		316 Stainless Steel	
1/4	2 1/16"	10-24	2	49355K81	$36.98	49355K31	$58.88
3/8	2 1/16"	10-24	2	49355K82	36.98	49355K32	59.47
1/2	2 1/4"	10-24	2	49355K83	36.98	49355K33	60.06
3/4	3"	10-24	2	49355K84	50.72	49355K34	97.04
1	3 3/8"	10-24	2	49355K85	69.06	49355K35	117.38
1 1/4	4"	1/4"-20	2	49355K86	130.00	49355K26	200.07
1 1/2	4 3/8"	1/4"-20	2	49355K87	163.56	49355K27	208.85
2	5 1/2"	1/4"-20	2	49355K88	217.67	49355K28	269.78
2 1/2	6 3/4"	1/4"-20	4	49355K97★	587.00	49355K37	765.27
3	6 3/4"	1/4"-20	4	49355K98★	628.52	49355K38	831.00

★Max. pressure for steam is 250 psi @ 406° F. Ball is 316 stainless steel.

Spring-Close Lever

Pipe Size	End-to-End Lg.	Steel		316 Stainless Steel	
1/4	2 1/16"	45155K61	$106.17	45155K51	$124.57
3/8	2 1/16"	45155K62	106.17	45155K52	124.57
1/2	2 1/4"	45155K63	106.17	45155K53	124.57
3/4	3"	45155K64	118.05	45155K54	161.27
1	3 3/8"	45155K65	126.58	45155K55	181.25
1 1/4	4"	45155K66	226.10	45155K56	295.07
1 1/2	4 3/8"	45155K67	277.75	45155K57	318.48
2	5 1/2"	45155K68	348.20	45155K58	381.47

Ultra-High-Pressure On/Off Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 4,500 psi @ 120° F (1/4-1 size); 3,000 psi @ 150° F (1 1/4-2 size)
- Temp. Range: -20° to 230° F (Steel); -40° to 230° F (316 Stainless Steel)
- Vacuum Rating: Not rated



These valves are rated for up to 4,500 psi. Connections are NPT female. Ball is 316 stainless steel, seat is acetal, and seal and packing are PTFE. Valves have a lockable lever handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 9/32". All have three mounting holes for panel mounting. Meet ANSI/FCI 70-2 Class VI standards for leakage. *Valves with 1/4 to 3/4 pipe size* are full port so they do not restrict flow; *1-2 pipe size* are standard port so they slightly restrict flow.

316 stainless steel valves are more corrosion resistant than steel valves.

Pipe Size	End-to-End Lg.	Mounting Hole Dia.	Steel		316 Stainless Steel	
1/4	2 3/4"	9/32"	9786K21	$74.44	47275K41	$113.53
3/8	2 3/4"	9/32"	9786K22	74.44	47275K42	114.64
1/2	2 3/4"	9/32"	9786K23	86.67	47275K43	137.78
3/4	3 1/2"	11/32"	9786K24	103.33	47275K44	171.11
1	3 5/8"	11/32"	9786K25	125.56	47275K45	241.11
1 1/4	3 15/16"	13/32"	9786K26	191.44	47275K46	338.89
1 1/2	4 9/16"	13/32"	9786K27	223.72	47275K47	419.84
2	4 15/16"	13/32"	9786K28	334.44	47275K48	513.71

Extreme-Pressure On/Off Valves

- Max. Pressure for Water, Oil, Air, Inert Gas, and Steam: 10,000 psi @ 266° F
- Temp. Range: -40° to 446° F
- Vacuum Rating: Not rated



The highest-pressure on/off valves we offer, these withstand up to 10,000 psi. Connections are NPT female. For excellent corrosion resistance, valves have a 316 stainless steel body and ball. Seats and seals are PEEK, PTFE, and RTFE. Valves are standard port, so they slightly restrict flow.

Pipe Size	End-to-End Lg.			Pipe Size	End-to-End Lg.		
1/4	3 1/2"	3553K21	$171.95	3/4	4 5/16"	3553K27	$183.73
3/8	3 5/8"	3553K23	174.96	1	4 7/8"	3553K29	372.49
1/2	3 3/4"	3553K25	178.09				

Hydraulic Extreme-Pressure Steel On/Off Ball Valves

- Max. Pressure for Water, Oil, and Inert Gas: See table
- Temp. Range: –4° to 212° F
- Vacuum Rating: Not rated



Use with extremely high-pressure hydraulic oil systems. Connections are female. Body is zinc-plated steel, ball is chrome-plated steel, seats are acetal filled with molybdenum disulfide, and seal is fluoroelastomer. Valves have unrestricted flow (full port).

Lockable-lever valves have a handle that can be locked in position using a padlock (not included) with a shackle diameter of 5/16".

NPT

Pipe Size	Max. psi @ 212° F	End-to-End Lg.	Lever		Lockable Lever	
1/8	7,250	2 3/4"	4715K11	$37.02	4776K11	$71.60
1/4	7,250	2 3/4"	4715K12	37.42	4776K12	77.21
3/8	7,250	2 7/8"	4715K43	41.75	4776K43	81.33
1/2	7,250	3 5/16"	4715K44	44.31	4776K44	84.74
3/4	6,000	3 3/4"	4715K45	76.52	4776K45	118.67
1	6,000	4 7/16"	4715K46	103.80	4776K46	145.57
1 1/4	6,000	4 3/8"	4715K47	183.24	4776K47	220.74
1 1/2	6,000	5 1/8"	4715K48	223.80	4776K48	261.98
2	6,000	5 1/2"	4715K49	294.63	4776K49	324.13

SAE

SAE Thread Size	Max. psi @ 212° F	End-to-End Lg.	Lever		Lockable Lever	
7/16"-20	7,250	2 3/4"	4715K15	$38.92	4776K22	$78.49
9/16"-18	7,250	2 7/8"	4715K63	43.93	4776K63	84.25
3/4"-16	7,250	3 5/16"	4715K64	50.45	4776K64	90.67
1 1/16"-12	6,000	3 3/4"	4715K65	82.31	4776K65	123.21
1 5/16"-12	6,000	4 7/16"	4715K66	107.79	4776K66	148.04
1 5/8"-12	6,000	4 3/8"	4715K67	183.24	4776K67	220.74
1 7/8"-12	6,000	5 1/8"	4715K68	223.80	4776K68	261.98
2 1/2"-12	6,000	5 1/2"	4715K69	294.63	4776K69	324.13

Fast-Acting Compact On/Off Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 300 psi @ 180° F (Normally Closed); 150 psi @ 180° F (Normally Open)
- Temp. Range: 32° to 230° F
- Vacuum Rating: Not rated

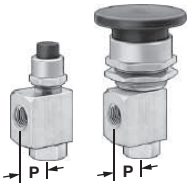

Compact Style | Mushroom Style

Also known as push-button valves, these open or close with the push of a button for sampling and testing applications. All connections are female. Body is brass and seal is Buna-N.

Normally closed valves open when the button is pushed and spring closed when the button is released. **Normally open** valves close when the button is pushed and spring open when the button is released.

Connection Size	Port-to-Port Lg. (P)	Compact Style		Mushroom Style	
Closed Unless Button Is Pushed (Normally Closed)					
10-32 UNF	5/16"	6790T41	$12.70	6790T45	$25.97
1/8 NPT	9/16"	6790T42	19.23	6790T46	31.22
Open Unless Button Is Pushed (Normally Open)					
10-32 UNF	5/16"	6790T43	14.17	6790T47	26.55
1/8 NPT	9/16"	6790T44	19.92	6790T48	31.03

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"
Pipe Size	1/8	1/4	3/8	1/2	3/4

Compact On/Off Valves

- Max. Pressure for Air and Inert Gas: 100 psi @ 150° F
- Temp. Range: 32° to 150° F
- Vacuum Rating: Not rated

Also known as stop cocks, these valves have a low profile to fit in tight spots. Body is brass. **T-handles** resist accidental movement when snagged or bumped.




NPTF Female x Female

Pipe Size	End-to-End Lg.	Lever		T-Handle	
1/8	15/8"	4793K51	$10.28	4793K75	$9.37
1/4	115/16"	4793K52	10.91	4793K76	9.96
3/8	2"	4793K48	12.77	4793K73	11.46
1/2	21/2"	4793K49	16.76	—	—




NPTF Female x Male

Pipe Size	End-to-End Lg.	Lever		T-Handle	
1/8	13/4"	4793K46	$10.47	4793K71	$9.74
1/4	115/16"	4793K47	10.93	4793K72	10.28
3/8	21/16"	4793K44	13.06	4793K68	12.26
1/2	29/16"	4793K45	16.81	—	—




NPTF Male x Male

Pipe Size	End-to-End Lg.	Lever		T-Handle	
1/8	13/4"	4793K37	$11.07	4793K59	$10.04
1/4	115/16"	4793K38	11.46	4793K61	10.60
3/8	2"	4793K35	11.64	4793K57	11.19
1/2	23/16"	4793K36	14.81	4793K58	12.61




NPTF Male x Drain

Pipe Size	End-to-End Lg.	Lever		T-Handle	
1/8	11/2"	4793K42	$8.79	4793K64	$7.84
1/4	19/16"	4793K43	9.33	4793K65	8.32
3/8	13/4"	4793K39	10.66	4793K62	9.67
1/2	17/8"	4793K41	11.64	4793K63	10.60




NPTF Male x Spout

Pipe Size	End-to-End Lg.	Lever		T-Handle	
1/8	23/16"	4793K33	$14.21	4793K55	$13.32
1/4	25/16"	4793K34	14.28	4793K56	13.77
3/8	21/2"	4793K31	15.64	4793K53	15.40
1/2	23/8"	4793K32	16.08	4793K54	15.91

Extended-Life Compact On/Off Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 500 psi @ 212° F
- Temp. Range: -20° to 550° F
- Vacuum Rating: Not rated

For a longer service life than valves with a brass body, these are made of bronze for additional strength and durability. Valves have a low-profile body to fit in tight spots. Seal is graphite. Also known as stop cocks.






Pipe Size	End-to-End Lg.	NPT Female x Female		NPT Male x Female		NPT Male x Male		NPT Male x Drain	
1/8	113/16"	4794K14	$72.85	4794K12	$72.85	4794K13	$72.85	4794K11	$72.85
1/4	2"	4794K24	72.85	4794K22	72.85	4794K23	72.85	4794K21	72.85

Corrosion-Resistant Compact On/Off Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 200 psi @ 100° F (Lever and T-Handle); 450 psi @ 100° F (Wedge Handle and Screwdriver Style)
- Temp. Range: -4° to 200° F
- Vacuum Rating: 29.9" Hg

For more corrosion resistance than plain brass, these valves have a chrome-plated brass body. Ball is brass, seat is PTFE, and seal is fluoroelastomer. The low-profile handle fits in tight spots. Valves are standard port, so they slightly restrict flow. **BSPP (British Standard Pipe Parallel)** valves meet ISO 228.

T-handles and **wedge handles** resist accidental movement when snagged or bumped. **Screwdriver-style** valves require a slotted screwdriver to open and close the valve.

NPT Female x Female






Pipe Size	End-to-End Lg.	Lever		T-Handle		Wedge Handle		Screwdriver Style	
1/8	111/16"	4912K11	$6.47	4912K41	$6.47	4912K31	$5.47	4912K61	$7.34
1/4	111/16"	4912K12	7.02	4912K42	7.02	4912K32	5.74	4912K62	7.55
3/8	111/16"	4912K13	7.17	4912K43	7.17	4912K33	5.88	4912K63	7.73
1/2	21/8"	4912K14	8.32	4912K44	8.32	4912K34	6.86	4912K64	8.54

BSPP Female x Female



Pipe Size	End-to-End Lg.	T-Handle	
1/8	111/16"	8156K11	$8.58
1/4	111/16"	8156K12	8.57
3/8	111/16"	8156K13	8.57
1/2	115/16"	8156K14	10.33

NPT Female x Male






Pipe Size	End-to-End Lg.	Lever		T-Handle		Wedge Handle		Screwdriver Style	
1/8	111/16"	4912K81	$6.47	4912K91	$6.47	4912K1	$5.47	4912K15	$7.34
1/4	111/16"	4912K82	7.02	4912K92	7.02	4912K2	5.74	4912K25	7.55
3/8	111/16"	4912K83	7.17	4912K93	7.17	4912K3	5.88	4912K35	7.73
1/2	21/8"	4912K84	8.32	4912K94	8.32	4912K4	6.86	4912K45	8.54

BSPP Female x Male



Pipe Size	End-to-End Lg.	T-Handle	
1/8	111/16"	8156K25	$8.58
1/4	111/16"	8156K26	8.57
3/8	111/16"	8156K27	8.57
1/2	115/16"	8156K28	10.33

Ultra-Corrosion-Resistant Compact On/Off Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 150 psi @ 300° F
- Temp. Range: 0° to 300° F
- Vacuum Rating: Not rated

With a body made of 316 stainless steel, these valves resist rust in extremely corrosive conditions. Seal is PTFE. Also known as stop cocks. **T-handles** resist accidental movement when snagged or bumped.





Pipe Size	T-Handle: End-to-End Lg.	NPT Female x Female		NPT Male x Female		NPT Male x Male		L-Handle: End-to-End Lg.	NPT Female x Spout		NPT Male x Spout	
1/8	2 1/4"	5172K51	$65.27	5172K71	$65.27	5172K61	$65.27	2 13/16"	4983K22	$86.09		
1/4	2 1/4"	5172K54	66.52	5172K74	66.52	5172K64	66.52	2 13/16"	4983K24	87.38	4983K33	$87.38
3/8	2 1/4"	5172K56	67.95	5172K76	67.95	5172K66	67.95	2 13/16"	4983K26	88.32	4983K36	88.32
1/2	—	—	—	—	—	—	—	2 13/16"	—	—	4983K38	89.58

High-Pressure Compact On/Off Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,000 psi @ 70° F
- Temp. Range: -40° to 300° F
- Vacuum Rating: 29" Hg

Often used in high-pressure pipelines in cramped areas, these slim valves have a low-profile handle and can withstand up to 1,000 psi. Body and ball are brass, seat is PTFE, and seal is fluoroelastomer. Valves are full port, so they do not restrict flow. **T-handles** resist accidental movement when snagged or bumped.







Pipe Size	NPT Female x Female: End-to-End Lg.	Lever		T-Handle		NPT Female x Male: End-to-End Lg.	Lever		T-Handle		NPT Male x Male: End-to-End Lg.	Lever		T-Handle	
1/8	1 7/8"	4112T12	$11.34	4112T52	$11.47	1 7/8"	4112T13	$11.34	4112T53	$11.47	1 15/16"	4112T11	$11.34	4112T51	$11.50
1/4	1 15/16"	4112T22	11.45	4112T62	11.61	1 15/16"	4112T23	11.47	4112T63	11.61	2 1/16"	4112T21	11.47	4112T61	11.61

Corrosion-Resistant High-Pressure Compact On/Off Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,000 psi @ 200° F
- Temp. Range: -36° to 368° F
- Vacuum Rating: 29.9" Hg

For excellent corrosion resistance in high-pressure applications, these valves have a 316 stainless steel body and ball. Seat and seal are PTFE. Valves have a low-profile lockable T-handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 9/32". *Valves with 1/4 pipe size* are full port so they do not restrict flow; *valves with 3/8 and 1/2 pipe size* are standard port so they slightly restrict flow.



NPT Female x Female



NPT Female x Male



NPT Male x Male

Pipe Size	End-to-End Lg.		
NPT Female x Female			
1/4	2 13/16"	45395K136	$34.60
3/8	2 13/16"	45395K137	40.16
1/2	3 3/8"	45395K138	45.45
NPT Female x Male			
1/4	2 13/16"	45395K116	37.18
3/8	2 13/16"	45395K117	42.86
1/2	3 3/8"	45395K118	50.84
NPT Male x Male			
1/4	2 3/4"	45395K106	43.76
3/8	2 3/4"	45395K107	45.81
1/2	3 7/16"	45395K108	59.35

Miniature On/Off Valves

- Max. Pressure: 250 psi @ 150° F
- Temp. Range: See table
- Vacuum Rating: 25" Hg

With an end-to-end length of 1 11/16", these valves are often used to control flow in miniature pipelines. Valves have 10-32 UNF female threads. Body is 303 stainless steel for excellent corrosion resistance. Ball is 316 stainless steel. Valves are standard port, so they slightly restrict flow.



	Seat and Seal Material	Temp. Range		
For Water	EPDM	-60° to 300° F	4059K36	$101.25
For Oil	Buna-N	-60° to 250° F	4059K32	98.44
For Chemicals	Fluoroelastomer	0° to 400° F	4059K34	101.41

Drain-Handle Brass Stop Cocks

- Max. Pressure for Water, Oil, and Inert Gas (unless otherwise stated): 150 psi @ 250° F
- Temp. Range: See table

Install on your tank for easy draining. Body is brass. **Wing-nut-handle** stop cocks are for use with water and oil only. **Thumb-screw-handle** and **cable-pull** stop cocks are for use with compressed air only (250 psi at 250° F). **Removable handle** stop cocks can be disassembled for cleaning. **Cable-pull** stop cock has a 5-ft. cable for opening and closing.

External seal stop cocks are for higher flow applications. Inlet connection is NPT male. Outlet connection is vented to atmosphere, unless noted.



Wing-Nut Handle



Removable Handle



Cable Pull

Pipe Size	Temp. Range	Height		
Wing-Nut Handle—External Seal				
1/8	–65° to 250° F	15/16"	4921K32	$2.32
1/8	–65° to 250° F	1 1/2"	4921K43★	6.37
1/4	–40° to 350° F	1"	4921K16	2.46
1/4	–65° to 250° F	1 9/16"	4921K44♣	3.58
3/8	–65° to 250° F	1 1/4"	4921K34	7.35
1/2	–65° to 250° F	1 1/2"	4921K35	17.10
Wing-Nut Handle—Internal Seal				
1/8	–65° to 250° F	15/16"	4921K41	12.24
1/4	–65° to 250° F	15/16"	4921K42	7.98
Thumb-Screw Handle—External Seal				
1/4	–40° to 250° F	1 1/8"	4921K31	1.98
Removable Handle—Internal Seal				
1/8	–65° to 250° F	1 9/16"	4921K1	6.18
1/4	–65° to 250° F	1 11/16"	4921K2	6.85
3/8	–65° to 250° F	1 13/16"	4921K3	7.82
Cable Pull—Internal Seal				
1/4	–40° to 250° F	1 1/4"	49375K15	5.45

★ Outlet is a barb for 1/4" ID tube.
♣ Outlet is a barb for 3/8" ID tube.

Easy-Grip Brass Stop Cocks

- Max. Pressure for Water, Oil, and Inert Gas: 200 psi @ 150° F
- Temp. Range: 32° to 150° F

The large knob is easy to grip for drain applications. Use as replacement stop cocks in liquid-level compression gauges. Body is brass. Connections are NPT male.



Pipe Size	Port-to-Port Lg. (P)		
1/2	7/8"	4801K6	$60.67
3/4	1"	4801K7	66.28

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"	4 1/2"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4

Panel-Mount On/Off Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,500 psi @ 70° F (1/8-1/4 size straights and elbows); 1,000 psi @ 70° F (3/8-1/2 size straights); 600 psi @ 70° F (3/8-1/2 size elbows)
- Temp. Range: -40° to 300° F
- Vacuum Rating: 29" Hg

These valves have threads and a hex nut below the handle to facilitate panel mounting. Body and ball are brass. Valves have a PTFE seat and fluoroelastomer and Buna-N seals. Require a 9/16" diameter panel cutout. *Valves with 1/8 and 1/4 pipe size* are full port so they do not restrict flow; *valves with 3/8 and 1/2 pipe size* are standard port so they slightly restrict flow.

NPT Female x Female



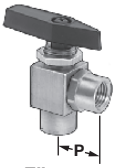

Pipe Size	Straights: End-to-End Lg.			Elbows: Port-to-Port Lg. (P)		
1/8	1 13/16"	4114T21	$34.89	15/16"	4118T62	$33.42
1/4	1 13/16"	4114T23	34.95	15/16"	4118T64	33.58
3/8	2 1/4"	4114T25	71.95	1 1/8"	4118T66	78.11
1/2	2 3/8"	4114T27	81.74	1 3/16"	4118T68	83.45

NPT Male x Male



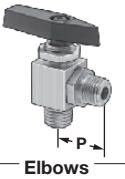

Pipe Size	Straights: End-to-End Lg.			Elbows: Port-to-Port Lg. (P)		
1/8	1 15/16"	4114T11	$38.41	1"	4118T52	$36.84
1/4	2"	4114T13	38.51	1"	4118T54	37.05
3/8	2 1/8"	4114T15	70.05	1 1/16"	4118T56	67.71
1/2	2 5/8"	4114T17	83.34	1 5/16"	4118T58	83.37

Fast-Acting Compact Panel-Mount On/Off Valves



NPT Male x UNF Female

- Max. Pressure for Water, Oil, Air, and Inert Gas: 150 psi @ 70° F
- Temp. Range: 32° to 230° F
- Vacuum Rating: Not rated

With nearly half the port-to-port length of other fast-acting elbow valves, these are often installed in narrow areas. Flick the toggle to quickly open and close the valve. Threads and a hex nut below the handle facilitate panel mounting. Body is brass with a metal toggle, unless noted. Seal is Buna-N. To panel mount, they require a 15/32" diameter cutout.

Manual-return valves remain open or closed when the toggle is moved into position. **Spring-return** valves open when the toggle is moved and snap closed when the toggle is released.

Pipe Size	Port-to-Port Lg. (P)		
Manual Return			
10-32 UNF Female x 10-32 UNF Female	5/16"	6791T21	$17.02
1/8 NPT Male x 10-32 UNF Female	5/16"	6791T13★	12.67
1/8 NPT Male x 10-32 UNF Female	5/16"	6791T22	17.02
Spring Return			
10-32 UNF Female x 10-32 UNF Female	5/16"	6791T14★	11.45
1/8 NPT Male x 10-32 UNF Female	5/16"	6791T15	12.45

★Toggle is plastic.

Fast-Acting Panel-Mount On/Off Valves



Straight



Elbow

- Max. Pressure for Water, Oil, Air, and Inert Gas: 300 psi @ 200° F (NPT Threads); 200 psi @ 70° F (NPTF Threads)
- Temp. Range: -20° to 200° F (NPT Threads); -40° to 250° F (NPTF Threads)
- Vacuum Rating: Not rated

Also known as toggle valves, these open and close with the flick of a switch. They are commonly used for equipment testing and gas sampling. Threads and a hex nut below the handle facilitate panel mounting. Valves are manual return so they remain open or closed when the toggle is moved into position.

Valves with NPT threads have fluoroelastomer and PTFE seals. Toggle is plastic. To panel mount, they require a 17/32" diameter cutout. *Valves with NPTF threads* have a fluoroelastomer seal. Toggle is metal. To panel mount, they require a 9/16" diameter cutout.

316 stainless steel valves are more corrosion resistant than brass valves.

Pipe Size	Straights: End-to-End Lg.			Elbows: Port-to-Port Lg. (P)		
Brass						
1/8 NPT Male	1 3/4"	4736K12	$46.75			
1/8 NPTF Female	1 7/16"	3662T12	32.11	3/4"	3662T36	$31.34
1/4 NPT Male	2"	4736K14	44.05	1"	4736K24	41.71
1/4 NPTF Female	1 7/8"	3662T24	32.69	3/4"	3662T48	31.91
316 Stainless Steel						
1/8 NPT Male	1 3/4"	4736K76	74.88			
1/4 NPT Male	2"	4736K77	70.93	1"	4736K88	74.88

Easy-to-Install On/Off Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: See table
- Max. Pressure for Steam: 150 psi @ 366° F (Brass); 150 psi @ 365° F (Bronze)
- Temp. Range: -40° to 500° F (Brass); -20° to 450° F (Bronze)
- Vacuum Rating: 29" Hg

Disassemble the union fitting on these valves to facilitate installation and removal. The fitting also lets you access your line without unthreading pipe connections. Connections are NPT female. Ball is brass and seat is PTFE. *Standard-port* valves slightly restrict flow; *full-port* valves do not restrict flow.

Brass valves have a fluoroelastomer and a PTFE seal.

Bronze valves are harder and more durable than brass valves for a longer service life. Seal and packing are PTFE. They have a lockable lever handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 1/4".

Pipe Size	Max. psi @ 100° F	End-to-End Lg.		
Brass—Full Port				
3/8	600	2 1/16"	1238N11	$20.18
1/2	600	3 3/16"	1238N12	27.25
3/4	600	3 1/2"	1238N13	32.46
1	500	4 3/16"	1238N14	50.48
1 1/4	500	5"	1238N15	91.26
1 1/2	500	5 9/16"	1238N16	121.55
2	500	6 5/16"	1238N17	182.42
Bronze—Standard Port				
3/4	600	4"	45135K64	43.99
1	600	4 1/2"	45135K65	57.87
1 1/2	600	5 1/16"	45135K67	117.87
2	600	5 5/8"	45135K68	172.14
Bronze—Full Port				
1/4	600	2 15/16"	45135K61	26.37
3/8	600	2 15/16"	45135K62	26.37
1/2	600	3 1/8"	45135K63	27.82

Easy-Maintenance On/Off Valves

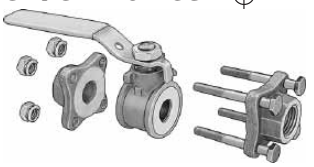

- Max. Pressure for Water, Oil, Air, and Inert Gas: 600 psi @ 100° F (Bronze); 1,500 psi @ 100° F (Steel)
- Max. Pressure for Steam: 150 psi @ 365° F
- Temp. Range: -20° to 450° F (Bronze); -20° to 500° F (Steel)
- Vacuum Rating: 29″ Hg

Save time on valve maintenance. A three-piece bolted body lets you replace the valve seats, packing, and ball without unthreading pipe connections. Connections are NPT female. Valves are full port, so they do not restrict flow.

Bronze valves have a brass ball and PTFE seat and packing.

Steel valves have a 316 stainless steel ball, TFM seat, and PTFE seal and packing. They have a lockable lever handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 5/16″.

	Bronze			Steel		
Pipe Size	End-to-End Lg.			End-to-End Lg.		
1/4	2 9/16″	4489K21	$35.27	—	—	—
3/8	2 9/16″	4489K22	35.27	—	—	—
1/2	2 13/16″	4489K23	40.87	2 13/16″	9788K81	$98.85
3/4	3 7/16″	4489K24	50.11	3 11/16″	9788K82	117.52
1	3 7/8″	4489K25	66.00	4 3/16″	9788K83	136.67
1 1/4	4 3/4″	4489K26	94.64	4 1/2″	9788K84	171.52
1 1/2	5 1/4″	4489K27	122.49	5″	9788K85	225.32
2	6 1/16″	4489K28	212.84	5 7/8″	9788K86	312.61
2 1/2	7 1/4″	4489K33	491.10	—	—	—

Corrosion-Resistant Easy-Maintenance On/Off Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,000 psi @ 220° F (1/4-2 size); 600 psi @ 220° F (2 1/2-4 size)
- Max. Pressure for Steam: 150 psi @ 366° F
- Temp. Range: 0° to 450° F
- Vacuum Rating: Not rated

For excellent corrosion resistance, these valves have a 316 stainless steel body and ball. The three-piece bolted body lets you disassemble the valve to access the seats, packing, and ball without removing your valve from the pipeline. Seat, seal, and packing are PTFE. Valves have a lockable lever handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 1/4″. Valves are full port, so they do not restrict flow.

Valves



Pipe Size	End-to-End Lg.	NPT Female x Female		Socket Weld	
1/4	2 1/2″	4632K141	$29.41	4866K71	$29.41
3/8	2 1/2″	4632K142	29.95	4866K72	29.95
1/2	2 13/16″	4632K143	37.02	4866K73	37.02
3/4	3 3/8″	4632K144	44.64	4866K74	44.64
1	3 5/8″	4632K145	65.36	4866K75	65.36
1 1/4	4 5/16″	4632K146	79.45	4866K76	79.45
1 1/2	4 13/16″	4632K147	108.82	4866K77	108.82
2	5 9/16″	4632K148	157.71	4866K78	157.71
2 1/2	6 7/8″	4632K151	299.67	4866K79	299.67
3	7 5/8″	4632K149	505.77	4866K81	505.77
4	10 13/16″	4632K152	889.13	4866K82	889.13

Repair Kits—Include replacement seats, seals, and packing.

For Pipe Size			For Pipe Size		
1/4	4632K31	$19.70	1 1/2	4632K37	$59.08
3/8	4632K32	19.70	2	4632K38	78.78
1/2	4632K33	26.57	2 1/2	4632K43	152.51
3/4	4632K34	32.38	3	4632K45	175.10
1	4632K35	42.18	4	4632K47	234.98
1 1/4	4632K36	50.63			

Cleaned and Bagged Easy-Maintenance On/Off Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,440 psi @ 100° F
- Max. Pressure for Steam: 250 psi @ 406° F
- Temp. Range: -50° to 400° F
- Vacuum Rating: 29″ Hg

Often used for oxygen service and other high-purity applications, these valves come cleaned and bagged. They have a three-piece bolted body to facilitate replacement of the seats, packing, and ball without removing the valve from the pipeline. Body and ball are 316 stainless steel for excellent corrosion resistance. Seat, seal, and packing are PTFE. Valves have a lockable lever handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 5/16″. Valves are full port, so they do not restrict flow.

Butt-weld valves have butt-weld connections for flush welding to Schedule 40 metal pipe.

NPT Female x Female



Pipe Size	End-to-End Lg.		
1/2	2 13/16″	3043K51	$243.33
3/4	3 11/16″	3043K52	338.38
1	4 3/16″	3043K53	398.29
1 1/4	4 1/2″	3043K54	490.45
1 1/2	5″	3043K55	626.80
2	5 7/8″	3043K56	1,046.51

Socket Weld



Pipe Size	End-to-End Lg.		
1/2	2 13/16″	3043K61	$243.35
3/4	3 11/16″	3043K62	338.38
1	4 3/16″	3043K63	398.29
1 1/4	4 1/2″	3043K64	490.45
1 1/2	5″	3043K65	626.80
2	5 7/8″	3043K66	1,008.45

Butt Weld



Pipe Size	End-to-End Lg.		
1/2	3 13/16″	3043K71	$250.67
3/4	4 11/16″	3043K72	349.40
1	5 3/16″	3043K73	412.96
1 1/4	5 1/2″	3043K74	539.67
1 1/2	6″	3043K75	647.55
2	6 13/16″	3043K76	1,046.87

High-Pressure Easy-Maintenance On/Off Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,440 psi @ 200° F
- Max. Pressure for Steam: See table
- Temp. Range: 0° to 550° F
- Vacuum Rating: Not rated

Maintenance in high-pressure-steam applications is quick and simple. A three-piece bolted body lets you replace the valve seats, packing, and ball without unthreading pipe connections. Connections are NPT female. Ball is 316 stainless steel, seat and packing are TFE, and seal is graphite. Valves have a lockable lever handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 1/4″. Valves are full port, so they do not restrict flow.

316 stainless steel valves are more corrosion resistant than steel valves.

Pipe Size	Max. Pressure for Steam	End-to-End Lg.	Steel		316 Stainless Steel	
1/4	450 psi @ 460° F	2 5/8″	3639T511	$103.55	3778T911	$150.31
3/8	450 psi @ 460° F	2 5/8″	3639T521	103.55	3778T921	150.19
1/2	425 psi @ 454° F	2 7/8″	3639T531	130.54	3778T931	171.09
3/4	400 psi @ 448° F	3 3/4″	3639T541	169.70	3778T941	237.24
1	350 psi @ 435° F	4 1/4″	3639T551	216.47	3778T951	286.04
1 1/4	325 psi @ 429° F	4 9/16″	3639T561	256.99	3778T961	355.85
1 1/2	300 psi @ 421° F	5 1/16″	3639T571	353.82	3778T971	427.17
2	250 psi @ 406° F	5 7/8″	3639T581	570.46	3778T981	637.56

On/Off Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about on/off valves, see page 450. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"	4 1/2"	6 5/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6

Plastic On/Off Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 125 psi @ 140° F
- Temp. Range: 33° to 140° F
- Vacuum Rating: Not rated

Compact and lightweight, these valves are great for low-pressure applications in tight locations. Body and ball are PVC. Seat and seal are Buna-N. Color is dark gray. *Valves with 1/4 and 1/2 pipe size* are full port so they do not restrict flow; *valves with 3/4 pipe size* are standard port so they slightly restrict flow.





Pipe Size	NPT Female x Female End-to-End Lg.		NPT Female x Male End-to-End Lg.		NPT Male x Male End-to-End Lg.	
1/4	2 1/4"	2772T13 $17.75	—	—	—	—
1/2	2 5/8"	2772T14 17.75	2 5/8"	2772T33 $17.75	2 5/8"	2772T23 $17.75
3/4	—	—	2 3/4"	2772T34 17.75	2 5/8"	2772T24 17.75

Plastic On/Off Valves with Garden Hose Outlet

- Max. Pressure for Water: 125 psi @ 140° F
- Temp. Range: 33° to 140° F
- Vacuum Rating: Not rated

Connect garden hose threaded (GHT) fittings to your pipeline. Valves have a PVC body and ball, a PTFE seat, a Santoprene seat, and a Buna-N seal. All are full port, so they do not restrict flow. Color is light gray.






Pipe Size	End-to-End Lg.	GHT Female x GHT Male	GHT Female x NPT Male	GHT Female x NPT Female	NPT Female x GHT Male
3/4	2 15/16"	9848K21 $13.28	9848K31 $13.28	9848K34 $13.28	9848K24 $13.28

Compact Plastic On/Off Valves

- Max. Pressure for Water and Oil: 125 psi @ 140° F
- Temp. Range: 33° to 140° F
- Vacuum Rating: Not rated

The low-profile handle on these valves permits installation in confined spaces where other valves can't fit. Seat and seal are Buna-N, unless noted. **Standard-port** valves slightly restrict flow; **full-port** valves do not restrict flow.

PVC valves have a PVC body and ball. Color is dark gray, unless noted. **Nylon** valves have a nylon body and polypropylene ball. Color is black.

Standard-Port PVC Straights





Pipe Size	NPT Female x Female End-to-End Lg.		NPT Female x Male End-to-End Lg.		NPT Male x Male End-to-End Lg.	
1/8	1 7/8"	4757K11 $11.57	2 1/8"	4757K13 $11.57	2 3/8"	4757K15 $11.57
1/4	1 7/8"	4757K12 11.57	2 3/16"	4757K14 11.57	2 1/2"	4757K16 11.57

Full-Port PVC Elbows




Pipe Size	NPT Female x Female Port-to-Port Lg. (P)		NPT Male x Female Port-to-Port Lg. (P)	
1/4	1 3/16"	45975K51 $7.25	1 11/16"	45975K53 $7.25
3/8	1 3/16"	45975K56 7.25	1 3/16"	45975K58 7.25

Full-Port PVC and Nylon Straights







Pipe Size	NPT Female x Female PVC End-to-End Lg.		NPT Female x Female Nylon End-to-End Lg.		NPT Female x Male PVC End-to-End Lg.		NPT Female x Male Nylon End-to-End Lg.		NPT Male x Male Nylon End-to-End Lg.	
1/8	—	—	1 7/8"	4796K31 $12.46	—	—	2 1/8"	4796K37 $12.46	2 3/8"	4796K46 $12.46
1/4	2 1/2"	45975K25 $6.17	1 7/8"	4796K32 12.46	3"	45975K26 $6.17	2 3/16"	4796K38 12.46	2 1/2"	4796K47 12.46
3/8	2 1/2"	45975K28 6.17	—	—	3 1/16"	45975K32 6.17	—	—	—	—
3/4	3 1/4"	9848K44★ 13.28	—	—	3 1/4"	9848K41★ 13.28	—	—	—	—

★Valve has a PTFE seat and a Santoprene seat. Color is light gray.

Single-Flange On/Off Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 600 psi @ 100° F
- Temp. Range: 32° to 350° F
- Vacuum Rating: Not rated

Attach these valves to industry-standard two-bolt flanges on circulation pumps from manufacturers such as Bell and Gossett, Taco, Grundfos, and Armstrong. Pipe connection is NPT female. Body and ball are brass. Seat and seal are PTFE. Valves are full port, so they do not restrict flow. Mounting bolts included.

Pipe Size	End-to-End Lg.	Bolt Hole Dia.	Bolt Hole Ctr.-to-Ctr.		
1/2	2 1/4"	1/2"	3 3/16"	2693K21	$25.14
3/4	2 3/8"	1/2"	3 3/16"	2693K22	27.47
1	2 11/16"	1/2"	3 3/16"	2693K23	33.20
1 1/4	2 7/8"	1/2"	3 3/16"	2693K24	$39.09
1 1/2	4"	1/2"	3 3/16"	2693K25	56.57
2	4 7/16"	1/2"	3 1/2"	2693K26	74.18

Flanged On/Off Valves

Cast Iron:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 200 psi @ 150° F
- Max. Pressure for Steam: 125 psi @ 212° F
- Temp. Range: -20° to 353° F
- Vacuum Rating: Not rated

Steel and 316 Stainless Steel:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 275 psi @ 100° F
- Max. Pressure for Steam: 100 psi @ 366° F
- Temp. Range: 0° to 500° F
- Vacuum Rating: 28″ Hg

These valves bolt to flanges of the same ANSI class and pipe size. All have a lockable lever handle that can be fixed in place with a padlock (not included). They have four mounting holes for attaching an actuator. Valves are full port, so they do not restrict flow.

Cast iron valves have unthreaded ANSI Class 125 flange connections. Ball is cast iron and seat and seal are PTFE. Handles accept a padlock with a max. shackle diameter of 1/4″. Meet ANSI B16.5, ANSI B16.10, and MSS-SP-72.

Steel and **316 stainless steel** valves have unthreaded ANSI Class 150 flange connections. Ball is 316 stainless steel and seat, seal, and packing are PTFE. Meet ASME B16.5 and ASME B16.10. *1/2 to 2 pipe size* valves accept a padlock with a max. shackle diameter of 9/32″; *2 1/2 to 4 pipe size* valves accept a padlock with a max. shackle diameter of 5/16″. *316 stainless steel* valves are more corrosion resistant than cast iron or steel valves.



Steel and 316 Stainless Steel

Pipe Size	End-to-End Lg.	Flange OD	Flange Bolt Circle Dia.	Flange No. of Bolt Holes	Flange Bolt Hole Dia.	Actuator Mounting Hole Size		
Cast Iron								
1/2	4 1/4″	3 1/2″	2 3/8″	4	1/2″	1/4″	3634K51	$103.41
3/4	4 5/8″	3 7/8″	2 3/4″	4	1/2″	1/4″	3634K52	119.47
1	5″	4 1/4″	3 1/8″	4	1/2″	1/4″	3634K53	135.54
2	7″	6″	4 3/4″	4	5/8″	M8	3634K55	261.03
2 1/2	7 1/2″	7″	5 1/2″	4	5/8″	7/16″	3634K56	268.05
3	8″	7 1/2″	6″	4	5/8″	7/16″	3634K57	304.21
4	9″	9″	7 1/2″	8	5/8″	7/16″	3634K58	408.06
6	10 1/2″	11″	9 1/2″	8	3/4″	1/2″	3634K59	627.56
Steel								
1	5″	4 1/4″	3 1/8″	4	5/8″	M6	46155K23	228.57
1 1/2	6 1/2″	5″	3 7/8″	4	5/8″	M8	46155K24	285.57
2	7″	6″	4 3/4″	4	3/4″	M8	46155K25	325.08
Steel (Cont.)								
2 1/2	7 1/2″	7″	5 1/2″	4	3/4″	M10	46155K26	$438.13
3	8″	7 1/2″	6″	4	3/4″	M10	46155K27	548.60
4	9″	9″	7 1/2″	8	3/4″	M10	46155K28	773.84
316 Stainless Steel								
1/2	4 1/4″	3 1/2″	2 3/8″	4	5/8″	M5	45995K81	175.61
3/4	4 5/8″	3 7/8″	2 3/4″	4	5/8″	M5	45995K82	218.56
1	5″	4 1/4″	3 1/8″	4	5/8″	M6	45995K83	247.39
1 1/2	6 1/2″	5″	3 7/8″	4	5/8″	M8	45995K84	333.47
2	7″	6″	4 3/4″	4	3/4″	M8	45995K85	441.47
2 1/2	7 1/2″	7″	5 1/2″	4	3/4″	M10	45995K86	615.26
3	8″	7 1/2″	6″	4	3/4″	M10	45995K87	816.81
4	9″	9″	7 1/2″	8	3/4″	M10	45995K88	1,209.85

Easy-to-Install Double-Union Plastic On/Off Valves

PVC and CPVC:
- Max. Pressure for Water: 225 psi @ 70° F
- Temp. Range: 40° to 140° F (PVC); 40° to 180° F (CPVC)
- Vacuum Rating: 26″ Hg

Polypropylene:
- Max. Pressure for Water: 125 psi @ 140° F
- Temp. Range: 32° to 140° F
- Vacuum Rating: Not rated

Union fittings on both ends of these valves disassemble to facilitate fast installation and removal. They also let you perform maintenance without detaching pipe connections. Connections are NPT female. Use with Schedule 40 and 80 pipe and fittings. Valves are full port, so they do not restrict flow, unless noted. *PVC* and *CPVC* valves come with socket-weld (unthreaded) female fittings in addition to the threaded NPT female connections.

PVC valves have a PVC ball, PTFE seat, and EPDM seal. Color is dark gray. **Polypropylene** valves have a polypropylene ball, polyethylene seat, and EPDM seal. Color is black. **CPVC** valves have a CPVC ball, PTFE seat, and EPDM seal. Color is light gray.

T-handles resist accidental movement when snagged or bumped.



T-Handle



Lever

Pipe Size	PVC End-to-End Lg.	PVC T-Handle		Polypropylene End-to-End Lg.	Polypropylene Lever		Polypropylene T-Handle		CPVC End-to-End Lg.	CPVC T-Handle	
1/2	4 1/2″	4852T51	$21.54	4 3/4″	4973K21	$26.30	4973K11	$24.31	4 1/2″	4852T71	$29.17
3/4	5 5/16″	4852T52	23.84	4 3/4″	4973K22	27.77	4973K12	25.78	5 5/16″	4852T72	34.89
1	5 7/8″	4852T53	28.63	4 3/4″	4973K23■	28.01	4973K13■	26.02	5 7/8″	4852T73	43.82
1 1/4	6 5/8″	4852T54	41.36	6 1/4″	4973K24	36.65	4973K14	34.66	6 5/8″	4852T74	64.81
1 1/2	6 7/8″	4852T55	48.53	6 1/4″	4973K25	40.98	4973K15	38.99	6 7/8″	4852T75	72.93
2	8 3/16″	4852T56	66.04	6 1/4″	4973K26■	45.52	4973K16■	43.53	8 3/16″	4852T76	98.08

■ Valves are standard port, so they slightly restrict flow.

Easy-to-Install Single-Union Plastic On/Off Valves

- Max. Pressure for Water: 100 psi @ 70° F
- Temp. Range: -20° to 150° F
- Vacuum Rating: Not rated



With a union fitting that separates into multiple pieces, these valves can be quickly installed and removed from pipelines. The fitting also provides access to your line without unthreading pipe connections. Connections are NPT female. Body and ball are polypropylene, seat is PTFE, and seal is EPDM. All are full port, so they do not restrict flow. Color is black.

Pipe Size	End-to-End Lg.		
1/2	3 1/16″	46055K21	$15.92
3/4	3 1/16″	46055K22	15.92
1	3 3/8″	46055K23	19.88
1 1/4	4 3/4″	46055K24	34.20
1 1/2	4 3/4″	46055K25	34.12
2	5 13/16″	46055K26	43.05

Flow-Indicating Easy-to-Install Double-Union Plastic On/Off Valves

- Max. Pressure: 150 psi @ 68° F
- Temp. Range: 32° to 140° F
- Vacuum Rating: Not rated



An easy-to-read indicator shows the percentage the valve is open. Valves have union fittings on both ends that disassemble for easy installation and removal. They also let you perform maintenance without detaching pipe connections. Valves have NPT female connections and come with socket-weld (unthreaded) female fittings. Use with Schedule 40 and 80 pipe and fittings. Body and ball are PVC and seat is PTFE. Valves are standard port, so they slightly restrict flow. Color is dark gray.

Valve for water has an EPDM seal; **valve for chemicals** has a fluoroelastomer seal.

Pipe Size	End-to-End Lg.	For Water		For Chemicals	
1/2	4 1/8″	4490K5	$101.96	4490K6	$109.80

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3

On/Off Valves with Solder-Connect Fittings

- Max. Pressure for Water, Oil, Air, and Inert Gas:
  500 psi @ 100° F (1/2-1 size);
  400 psi @ 100° F (1 1/4-2 size);
  300 psi @ 100° F (2 1/2-3 size)
- Max. Pressure for Steam:
  15 psi @ 250° F
- Temp. Range: 0° to 250° F
- Vacuum Rating:
  29.9" Hg (Brass);
  29.89" Hg (Nickel-Plated Brass)

Use these valves with solder-connect fittings for on/off control in general applications. Seat and packing are PTFE. Valves are full port, so they do not restrict flow. UL listed, unless noted.

Lockable lever handles can be fixed in place with a padlock (not included) with a max. shackle diameter of 9/32". **T-handles** resist accidental movement when snagged or bumped.

Brass valves have a chrome-plated brass ball. Meet ANSI B16.22. C-UL listed, unless noted. **Nickel-plated brass** valves are more corrosion resistant than plain brass. Ball is 316 stainless steel and seal is fluoroelastomer. FM approved.







For Tube Size♦	For Tube OD	End-to-End Lg.	Lever		Lockable Lever		T-Handle	
Brass								
1/2	5/8"	2 1/4"	47865K53	$9.00	4629K53	$12.81	4082T31	$10.12
3/4	7/8"	2 7/8"	47865K54	13.98	4629K54	18.53	4082T32	15.72
1	1 1/8"	3 3/8"	47865K55	20.80	4629K55	25.77	4082T33	23.40
1 1/4	1 3/8"	3 13/16"	47865K56	36.67	4629K56	42.60	4082T34	40.23
1 1/2	1 5/8"	4 1/2"	47865K57	48.76	4629K57	55.26	4082T35	51.83
2	2 1/8"	5 7/16"	47865K58	65.71	4629K58	76.83	4082T36	73.33
2 1/2	2 5/8"	6 5/8"	47865K81★	186.55	4629K81★	197.24	____	____
3	3 1/8"	7 5/8"	47865K82★	250.05	4629K82★	266.44	____	____
Nickel-Plated Brass								
1/2	5/8"	2 1/2"	4465K41	20.15	____	____	____	____
3/4	7/8"	3 1/4"	4465K42	26.98	____	____	____	____
1	1 1/8"	3 15/16"	4465K43	39.61	____	____	____	____
1 1/2	1 5/8"	5 1/16"	4465K45	79.17	____	____	____	____

♦Tube size is an accepted industry designation, not an actual size.
★Not UL or C-UL listed.

Extended-Life On/Off Valves with Solder-Connect Fittings



- Max. Pressure for Water, Oil, Air, and Inert Gas:
  500 psi @ 100° F (3/8-1 size);
  400 psi @ 100° F (1 1/4-2 size)
- Max. Pressure for Steam:
  15 psi @ 250° F
- Temp. Range: 0° to 250° F
- Vacuum Rating: 29" Hg

For a longer service life, these valves have a bronze body which is harder and more durable than brass. Ball is chrome-plated brass and seat, seal, and packing are PTFE. **Standard-port** valves slightly restrict flow. **Full-port** valves do not restrict flow.

For Tube Size♦	For Tube OD	Standard Port End-to-End Lg.			Full Port End-to-End Lg.		
3/8	1/2"	____	____	____	2 1/4"	5754T39	$15.37
1/2	5/8"	2 7/8"	4726K81	$12.89	2 1/2"	5754T41	15.37
3/4	7/8"	3 7/8"	4726K82	21.22	3 3/16"	5754T42	25.13
1	1 1/8"	4 1/2"	4726K83	26.67	3 13/16"	5754T43	31.78
1 1/4	1 3/8"	4 5/8"	4726K84	44.78	4 3/16"	5754T44	71.02
1 1/2	1 5/8"	5 1/4"	4726K86	57.35	4 15/16"	5754T45	94.27
2	2 1/8"	6 3/8"	4726K87	71.70	6 1/16"	5754T46	162.35

♦Tube size is an accepted industry designation, not an actual size.

Easy-Maintenance On/Off Valves with Solder-Connect Fittings



- Max. Pressure for Water, Oil, Air, and Inert Gas:
  600 psi @ 100° F
- Max. Pressure for Steam:
  150 psi @ 365° F
- Temp. Range: -20° to 450° F
- Vacuum Rating: 29" Hg

Service these valves without cutting soldered connections. The three-piece bolted body can be disassembled for inline access to the seats, packing, and ball. Body is bronze for durability and a long service life. Ball is chrome-plated brass, seat is glass-filled PTFE, and packing is carbon/graphite-filled PTFE. Valves are full port, so they do not restrict flow.

For Tube Size♦	For Tube OD	End-to-End Lg.		
1/2	5/8"	2 13/16"	5464T12	$44.21
3/4	7/8"	3 7/16"	5464T13	61.20
1	1 1/8"	3 7/8"	5464T14	79.18
1 1/4	1 3/8"	4 3/4"	5464T15	107.88
1 1/2	1 5/8"	5 1/4"	5464T16	137.90
2	2 1/8"	6 1/16"	5464T17	244.03

♦Tube size is an accepted industry designation, not an actual size.

On/Off Valves with Barbed Fittings



- Max. Pressure for Water, Oil, Air, and Inert Gas:
  125 psi @ 140° F
- Temp. Range: 33° to 140° F
- Vacuum Rating: Not rated

Barbed fittings slide into soft plastic or rubber tubing. Body and ball are PVC; seat and seal are Buna-N. Valves are full port, so they do not restrict flow. Color is dark gray.

For Tube ID	End-to-End Lg.		
1/2"	2 7/8"	2772T45	$17.75
5/8"	2 3/4"	2772T46	17.75

Compact On/Off Valves with Barbed Fittings



NPTF Male x Barb



NPT Male x Barb

NPTF Threads:
- Max. Pressure for Air and Inert Gas:
  100 psi @ 150° F
- Temp. Range: 32° to 150° F
- Vacuum Rating: Not rated

NPT Threads:
- Max. Pressure for Water, Oil, Air, and Inert Gas:
  150 psi @ 300° F
- Temp. Range: 0° to 300° F
- Vacuum Rating: Not rated

With a shorter end-to-end length than standard on/off valves with barbed fittings, these fit in tight spaces. Also known as stop cocks.

Chrome-plated brass valves have a mirror-like finish and better corrosion resistance than plain brass. **316 stainless steel** valves have the best corrosion resistance and can be used in wet conditions and harsh environments. Seal is PTFE.

Pipe Size	For Tube ID	End-to-End Lg.		
NPTF Male x Barb—Lever				
Brass				
1/8	3/8"	2 1/4"	4793K1	$15.04
1/4	3/8"	2 5/16"	4793K2	16.08
3/8	3/8"	2 3/8"	4793K3	16.93
1/2	3/8"	2 7/16"	4793K4	18.41
Chrome-Plated Brass				
1/8	3/8"	2 1/4"	8179K72	36.67
1/4	3/8"	2 5/16"	8179K74	39.14
3/8	3/8"	2 3/8"	8179K76	41.21
1/2	3/8"	2 7/16"	8179K78	44.86
NPT Male x Barb—T-Handle				
316 Stainless Steel				
1/8	3/8"	2 1/4"	4983K12	87.38
1/4	3/8"	2 1/4"	4983K14	88.69
3/8	3/8"	2 1/4"	4983K16	88.32
1/2	3/8"	2 1/4"	4983K18	89.58

Compact On/Off Valves with Push-to-Connect Fittings

To fit tubing lines in tight spots, these valves have a shorter end-to-end or port-to-port length than standard on/off valves with push-to-connect fittings. Valves are standard port, so they slightly restrict flow. Seals are EPDM.

Nylon Straights

- Max. Pressure for Water: 145 psi @ 175° F
- Temp. Range: -4° to 175° F
- Vacuum Rating: 28″ Hg



Valves have a nickel-plated brass ball and a PTFE seat. Color is black.

	Push-to-Connect × Push-to-Connect					
	Inch			Metric		
End-to-End Lg.	For Tube OD			For Tube OD		
2″	5/32″	4764K41	$20.57	4 mm	4764K45	$20.57
2″	1/4″	4764K42	21.91	6 mm	4764K46	21.44
2″	5/16″	4764K43	18.75	8 mm	4764K47	18.75
2 5/8″	3/8″	4764K44	25.73	10 mm	4764K48	26.07

Polypropylene and PVC Elbows

- Max. Pressure for Water: 125 psi @ 73° F
- Temp. Range: 33° to 140° F
- Vacuum Rating: Not rated

Polypropylene valves have a polypropylene plug. Color is white.

PVC valves are more wear resistant than polypropylene valves and more corrosion resistant than nylon valves. Plug is PVC. Color is dark gray.

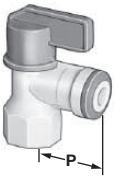

For Tube OD	Pipe Size	Port-to-Port Lg. (P)	Push-to-Connect × NPT Female Polypropylene		PVC	
1/4″	1/4″	1 1/4″	7953K52	$5.43	7952K22	$5.43
3/8″	1/4″	1 1/4″	7953K55	5.59	7952K25	5.59

Corrosion-Resistant On/Off Valves with Compression Fittings

- Max. Pressure for Water, Oil, Air, and Inert Gas: 500 psi @ 200° F
- Temp. Range: 40° to 200° F
- Vacuum Rating: Not rated



Compression × NPT Male



Compression × Compression

For excellent corrosion resistance in wet environments and harsh conditions, these valves have a 316 stainless steel body and ball. Seat, seal, and packing are PTFE. Valves are standard port, so they slightly restrict flow.

For Tube OD	Pipe Size	End-to-End Lg.		
Compression × NPT Male				
3/8″	3/8	3 1/4″	4310K31	$80.36
Compression × Compression				
3/8″	—	3 9/16″	4310K29	103.01

Compact On/Off Valves with Compression Fittings

- Max. Pressure for Water, Oil, Air, and Inert Gas: 30 psi @ 125° F
- Temp. Range: 32° to 125° F
- Vacuum Rating: Not rated



Compression × NPTF Male



Compression × Compression

Since these valves have a shorter end-to-end length than standard on/off valves with compression fittings, they're often used in tight spots. Body, plug, and seal are brass. Also known as plug valves.

For Tube OD	Pipe Size	End-to-End Lg.		
Compression × NPTF Male				
1/4″	1/8	2 5/16″	5045K5	$19.79
1/4″	1/4	2 3/16″	5045K6	19.97
3/8″	1/4	2 1/4″	5045K9	26.20
Compression × Compression				
1/4″	—	2 3/8″	5045K1	20.82
3/8″	—	2 7/16″	5045K3	24.90

Compact Plastic On/Off Valves with Tube Fittings

- Max. Pressure for Water, Oil, Air, and Inert Gas: 125 psi @ 140° F
- Temp. Range: 33° to 140° F
- Vacuum Rating: Not rated

A low-profile handle lets these valves fit in low-clearance pipelines. Seal and seat are Buna-N. Valves are full port, so they do not restrict flow, unless noted.

PVC valves are more corrosion resistant than nylon valves. Ball is PVC. Color is dark gray.

Nylon valves have a polypropylene ball. Color is black.

With Barbed Fittings—Straight



For Tube ID	End-to-End Lg.	Barb × Barb PVC		Nylon	
1/4″	3 3/16″	4757K17■	$11.57	4796K71	$12.46
3/8″	3 3/16″	4757K18■	11.57	4796K73	12.46
1/2″	3 3/16″	4757K19■	11.57	4796K75	12.46

■ Valve is standard port, so it slightly restricts flow.





Pipe Size	For Tube ID	NPT Female × Barb End-to-End Lg.	PVC		NPT Male × Barb End-to-End Lg.	PVC	
1/4	3/8″-5/8″	3 5/8″	45975K61	$6.69	4 1/8″	45975K63	$6.69
3/8	3/8″-5/8″	3 5/8″	45975K62	6.69	4 1/8″	45975K64	6.69

With Barbed Fittings—Elbow

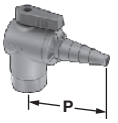

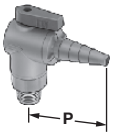

Pipe Size	For Tube ID	Port-to-Port Lg. (P)	NPT Female × Barb PVC		NPT Male × Barb PVC	
1/4	3/8″-5/8″	2 1/4″	45975K71	$7.77	45975K73	$7.77
3/8	3/8″-5/8″	2 1/4″	45975K72	7.77	45975K74	7.77

With Push-to-Connect Fittings—Straight



Pipe Size	For Tube OD	Push-to-Connect × NPT Female End-to-End Lg.	PVC	
1/4	1/4″	2 11/16″	45975K34	$8.44
1/4	3/8″	2 11/16″	45975K35	8.61



For Tube OD	End-to-End Lg.	Push-to-Connect × Push-to-Connect PVC			Nylon	
1/4″	2 5/8″	4757K21■	$14.61		4796K54	$15.72
3/8″	2 5/8″	4757K22■	14.97		4796K55	16.11

■ Valve is standard port, so it slightly restricts flow.

With Compression Fittings—Straight



Pipe Size	For Tube OD	End-to-End Lg.	NPT Female × Compression PVC	
1/4	1/4″	2 7/8″	45975K27	$6.69
1/4	3/8″	2 15/16″	45975K33	6.69

On/Off Valves with Compression Fittings

- Max. Pressure for Water: 600 psi @ 210° F
- Temp. Range: -20° to 400° F
- Vacuum Rating: Not rated

Use the compression-end fittings on these valves to connect them to copper tubing. Body is brass, ball is 304 stainless steel, seal is Buna-N, and seat and packing are PTFE. Valves are full port, so they do not restrict flow.



For Tube Size♦	For Tube OD	End-to-End Lg.		
1/2	5/8″	3″	4067T31	$10.57
3/4	7/8″	3 7/16″	4067T32	17.22
1	1 1/8″	4″	4067T33	28.11

♦Tube size is an accepted industry designation, not an actual size.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2

On/Off Valves with Yor-Lok Fittings



Brass:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,000 psi @ 70° F
- Temp. Range: -40° to 300° F
- Vacuum Rating: 29" Hg

316 Stainless Steel:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,000 psi @ 100° F
- Temp. Range: -30° to 400° F
- Vacuum Rating: Not rated

For a leak-free seal around hard metal tubing in high-pressure lines, these valves have Yor-Lok fittings. Also known as instrumentation fittings, Yor-Lok fittings are compatible with Swagelok®, Parker A-Lok, and Let-Lok fittings. For Yor-Lok fittings, see pages 188-189. All are standard port, so they slightly restrict flow.

Brass valve has a nickel-plated brass ball, PTFE seat, and fluoroelastomer seal.

316 stainless steel valves are more corrosion resistant than brass valves. Ball is 316 stainless steel; seat, seal, and packing are PTFE. Valves have a lockable lever handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 5/16".

For Tube OD	End-to-End Lg.		
Brass			
3/8"	2 11/16"	**4112T37**	$26.76
316 Stainless Steel			
1/4"	3 9/16"	**4537K21**	62.14
3/8"	3 9/16"	**4537K22**	73.06
1/2"	3 3/4"	**4537K23**	91.25
3/4"	4 7/16"	**4537K24**	136.65
1"	5 1/8"	**4537K25**	187.69

Fast-Acting Panel-Mount On/Off Valves with Yor-Lok Fittings

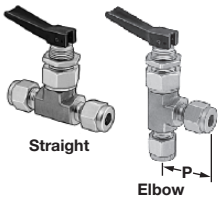

- Max. Pressure for Water, Oil, Air, and Inert Gas: 300 psi @ 200° F
- Temp. Range: -20° to 200° F
- Vacuum Rating: Not rated

Flick the toggle to quickly turn these valves on and off. Valves have Yor-Lok fittings that are compatible with Swagelok®, Parker A-Lok, and Let-Lok fittings. For Yor-Lok fittings, see pages 188-189. Valves have threads and a hex nut below the handle to facilitate panel mounting in a 17/32" diameter cutout. Seals are fluoroelastomer and PTFE. For use with metal tubing.

316 stainless steel valves are more corrosion resistant than brass valves.

	Straight			Elbow		
For Tube OD	End-to-End Lg.			Port-to-Port Lg. (P)		
Brass						
1/8"	2"	**4736K11**	$41.71	—	—	—
1/4"	2 1/4"	**4736K13**	43.94	1 1/8"	**4736K23**	$59.74
316 Stainless Steel						
1/8"	2"	**4736K78**	84.42	—	—	—
1/4"	2 1/4"	**4736K79**	74.56	1 1/8"	**4736K89**	72.64

Squeeze-Grip Zinc Alloy Valves



- Use with air and water
- Max. Pressure: 150 psi
- Temp. Range: -40° to 200° F

Put flow control in the palm of your hand. For applications that require intermittent operation such as blow guns, press down on the lever to start flow. Valve closes upon release to stop flow. Body is zinc alloy and seal is Buna-N. Port-to-port length is 2 1/8". Connections are 1/4 NPT female.

6852K11 ..... $12.17

Panel-Mount On/Off Valves with Yor-Lok Fittings



- Max. Pressure for Water, Oil, Air, and Inert Gas: See table
- Temp. Range: See table
- Vacuum Rating: See table

Threads and a hex nut below the handle let you mount these valves in instrument panels. All have Yor-Lok fittings, which are compatible with Swagelok®, Parker A-Lok, and Let-Lok fittings. For Yor-Lok fittings, see pages 188-189. Valves are standard port, so they slightly restrict flow.

Brass—*1,000 psi* and *1,500 psi* valves have a nickel-plated brass ball, PTFE seat, and Buna-N and fluoroelastomer seals. *3,000 psi* valves have a 316 stainless steel ball and a PTFE seat, seal, and packing.

316 Stainless Steel—These valves are more corrosion resistant than brass valves. Ball is 316 stainless steel. *1,000 psi* valves have a PFA (perfluoroalkoxy) seat, seal, and packing. *6,000 psi* valves have a Kel-F seat and a PTFE seal and packing.

For Tube OD	Temp. Range	Vacuum Rating	End-to-End Lg.	Panel Cutout Dia.		
Brass						
Max. Pressure of 1,000 psi @ 70° F						
3/8"	-40° to 300° F	29" Hg	2 5/8"	5/8"	**4114T45**	$58.47
1/2"	-40° to 300° F	29" Hg	3 3/16"	5/8"	**4114T47**	94.87
Max. Pressure of 1,500 psi @ 70° F						
1/8"	-40° to 300° F	29" Hg	2 3/8"	5/8"	**4114T41**	54.20
1/4"	-40° to 300° F	29" Hg	2 9/16"	5/8"	**4114T43**	57.40
Max. Pressure of 3,000 psi @ 70° F						
1/8"	-30° to 400° F	29" Hg	3 1/8"	3/4"	**4566K11**	48.56
1/4"	-30° to 400° F	29" Hg	3 5/16"	3/4"	**4566K12**	63.96
3/8"	-30° to 400° F	29" Hg	3 7/16"	3/4"	**4566K13**	84.60
1/2"	-30° to 400° F	29" Hg	4 1/16"	13/16"	**4566K14**	133.35
316 Stainless Steel						
Max. Pressure of 1,000 psi @ 300° F						
1/16"	-65° to 300° F	Not Rated	1 11/16"	19/32"	**2840K21**	103.11
1/8"	-65° to 300° F	Not Rated	2"	19/32"	**2840K23**	98.56
1/4"	-65° to 300° F	Not Rated	2 1/4"	19/32"	**2840K25**	94.63
3/8"	-65° to 300° F	Not Rated	2 5/8"	25/32"	**2840K27**	121.23
1/2"	-65° to 300° F	Not Rated	3 7/8"	1 1/2"	**2840K29**	311.27
Max. Pressure of 6,000 psi @ 125° F						
1/16"	-30° to 280° F	29" Hg	2 3/4"	3/4"	**45775K55**	94.66
1/8"	-30° to 280° F	29" Hg	3 1/8"	3/4"	**45775K56**	96.96
1/4"	-30° to 280° F	29" Hg	3 5/16"	3/4"	**45775K57**	107.56
3/8"	-30° to 280° F	29" Hg	3 7/16"	3/4"	**45775K58**	142.34
1/2"	-30° to 280° F	29" Hg	4 1/16"	13/16"	**45775K59**	247.19

Air Fill Valves

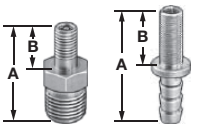

1&2 3

- Use with air
- Max. Pressure: 200 psi
- Temp. Range: -40° to 225° F

Also known as Schrader valves, use these to rapidly fill or empty compressed air tanks. They have 0.305"-32 straight threads for connection to your air supply. All connections are male. Valves come with a cap.

Style 2 is nickel-plated brass for greater corrosion resistance than plain brass.

	Connection Size	(A)	(B)		
Brass Valves with Pipe-Thread Connection					
1	1/8 NPT	15/16"	3/8"	**8063K33**	$5.23
1	1/8 NPT	1 5/16"	3/4"	**8063K31**	4.40
1	1/8 NPT	1 5/16"	7/8"	**8063K41**	3.57
1	1/4 NPT	1 5/16"	9/16"	**8063K37**	3.94
2	1/8 NPT	1 5/16"	7/16"	**6281T13**	4.32
Brass Valve with Barbed Connection					
3	For 1/4" Tube ID	1 11/16"	3/4"	**8063K39**	10.62

Sliding-Sleeve Brass Air Valves

- Use with air
- Max. Pressure: 232 psi
- Temp. Range: 14° to 176° F



Female × Female

Slide the knurled sleeve in one direction to stop flow, and slide it back to start flow again. Body is nickel-plated brass, seal is Buna-N, and sliding sleeve is aluminum. Valves vent air to the atmosphere when closed. Connections are NPT.

	Male × Female			Female × Female		
Pipe Size	Lg.			Lg.		
1/8	2 1/4"	4622K51	$22.95	1 15/16"	4622K31	$20.88
1/4	2 13/16"	4622K53	30.85	2 5/16"	4622K33	24.80
3/8	3 1/4"	4622K55	34.56	2 11/16"	4622K35	30.61
1/2	3 9/16"	4622K57	42.61	3 3/16"	4622K37	38.71

Safety Auto-Shutoff Brass Air Valves

- Use with air
- Max. Pressure: 250 psi
- Temp. Range: 0° to 180° F



Also known as air fuses, valves close automatically to stop air flow when pressure exceeds the set closing flow rate (see table). They reopen when pressure drops below the closing flow rate. Body is brass. Seal is acetal, except 5000K88, which is brass. Connections are NPTF (Dryseal) female.

Pipe Size	Valve Closes At	Lg.		
1/4	20 cfm @ 100 psi	2 3/16"	5000K71	$34.17
3/8	50 cfm @ 100 psi	2 1/2"	5000K72	32.46
1/2	80 cfm @ 100 psi	3 1/8"	5000K82	34.41
3/4	130 cfm @ 100 psi	3 11/16"	5000K84	51.00
1	210 cfm @ 100 psi	4 5/8"	5000K86	75.89
1 1/2	450 cfm @ 100 psi	5 7/8"	5000K88	294.21

Safety Air-Exhaust Bronze Valves



- Max. Pressure for Water, Oil, and Inert Gas: 125 psi @ 200° F
- Max. Pressure for Steam: Not rated
- Temp. Range: 50° to 200° F
- Vacuum Rating: Not rated

Meet OSHA requirements for safety and control in your compressed air system. All valves have a 1/4 NPT female exhaust port; when closed, valves vent air pressure so you can disconnect air tools safely.

Valves have NPT female connections. Body is bronze and ball is chrome-plated brass. Seats are glass-filled PTFE, seals are PTFE, and packing is glass-filled PTFE. Valves have unrestricted flow (full port). The handle can be locked in the shut-off position using a padlock (not included) with a shackle diameter of 1/4". *Valves with 3/4 to 2 1/2 pipe size* have two mounting holes for attaching an actuator.

Pipe Size	End-to-End Lg.	Mounting Hole Size		
1/4	2 1/16"	____	4875K21	$45.09
3/8	2 1/16"	____	4875K22	45.50
1/2	2 3/16"	____	4875K23	45.91
3/4	3 1/8"	10-24	4875K24	67.82
1	3 5/8"	1/4"-20	4875K25	85.31
1 1/4	4 1/4"	1/4"-20	4875K26	110.25
1 1/2	4 3/4"	5/16"-24	4875K27	132.84
2	5 3/8"	5/16"-24	4875K28	237.27
2 1/2	6 1/2"	1/4"-20	4875K29	502.65

On/Off Valves with Garden Hose Outlet for Drinking Water



- Max. Pressure: 600 psi @ 300° F
- Temp. Range: -40° to 400° F
- Vacuum Rating: Not rated

For use with drinking water, these valves meet NSF/ANSI Standard 61. Inlet is NPT female; outlet is 3/4" garden hose thread (GHT) male. Valves have a durable bronze body for a long service life. Ball is brass and seat and packing are PTFE. Valves are full port, so they do not restrict flow.

Pipe Size	End-to-End Lg.		
1/2	2 5/8"	47315K71	$20.90
3/4	2 15/16"	47315K72	27.05

Safety-Lockout Aluminum Air Valves

- Use with air
- Max. Pressure: See table
- Temp. Range: 40° to 175° F



1/4 to 3/8 Pipe Size with Muffler

Comply with OSHA regulation 29 CFR Part 1910 for lockout/tagout procedures. The valve handle can be locked in the shut-off position using a padlock (not included) with a shackle diameter of 9/32". Body is aluminum and seals are PTFE. Handle is plastic. Inlet, outlet, and exhaust connections are NPT female.

Valves with muffler come with a muffler in the exhaust port to reduce the noise level.



1/2 to 1 1/4 Pipe Size without Muffler

Pipe Size	Max. psi	Lg.	Ht.		
With Muffler					
1/4	145	1"	6 1/2"	48125K51	$125.87
3/8	145	1"	6 1/2"	48125K52	127.34
1/2	150	4 7/16"	11 1/2"	48125K53	159.78
3/4	150	4 7/16"	11 1/2"	48125K54	159.77
1	150	5 1/2"	14 3/4"	48125K56	211.94
1 1/4	150	5 1/2"	14 3/4"	48125K57	211.94
Without Muffler					
1/4	145	1"	6 1/2"	48125K41	91.70
3/8	145	1"	6 1/2"	48125K42	119.45
1/2	300	4 7/16"	8 7/8"	48125K43	121.37
3/4	300	4 7/16"	8 7/8"	48125K44	125.42
1	300	5 1/2"	10 13/16"	48125K46	152.41
1 1/4	300	5 1/2"	10 13/16"	48125K47	172.73

Safety Air-Exhaust Brass Valves



- Max. Pressure for Air: 200 psi @ 210° F (1/4-1); 200 psi @ 72° F (1 1/4-2)
- Max. Pressure for Steam: Not rated
- Temp. Range: -40° to 350° F (1/4-1); 15° to 210° F (1 1/4-2)
- Vacuum Rating: Not rated

Meet OSHA requirements for safety and control in your compressed air system. When closed, these valves vent air pressure through the exhaust port on the bottom so you can disconnect air tools safely.

Connections are NPT female. Body is brass and ball is chrome-plated brass. Seats, seals, and packing are PTFE, except 1 1/4 through 2 pipe sizes have fluoroelastomer packing. The handle can be locked in the shut-off position using a padlock (not included) with shackle diameter of 9/32". *Valves with 1/4 through 1 pipe sizes* have a 10-32 threaded exhaust port and slightly restricted flow (standard port). *Valves with 1 1/4 through 2 pipe sizes* have a 1/4" NPT threaded exhaust port and unrestricted flow (full port).

Pipe Size	End-to-End Lg.		
1/4	2"	4628K81	$13.28
3/8	2"	4628K82	13.28
1/2	2 7/16"	4628K83	14.16
3/4	2 11/16"	4628K84	18.42
1	3 1/16"	4628K85	$22.87
1 1/4	3 11/16"	4628K56	55.85
1 1/2	4"	4628K97	71.20
2	4 3/4"	4628K58	131.10

On/Off Valves for Drinking Water

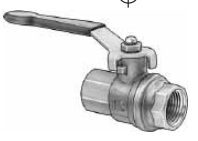

Standard:
- Max. Pressure: 600 psi @ 100° F
- Temp. Range: -50° to 400° F
- Vacuum Rating: 29.9" Hg

Compact:
- Max. Pressure: 600 psi @ 212° F
- Temp. Range: -40° to 366° F
- Vacuum Rating: Not rated

These valves meet NSF/ANSI Standard 61 for use with drinking water. Connections are NPT female. Body and ball are brass. Seat and packing are PTFE. Valves are full port, so they do not restrict flow.

Compact valves have a smaller end-to-end length than standard valves to fit in tight areas. They have a PTFE seal. CSA-US certified and FM approved.

	Standard			Compact		
Pipe Size	End-to-End Lg.			End-to-End Lg.		
1/4	1 3/4"	4286K13	$9.14	—	—	—
3/8	1 3/4"	4286K15	9.40	—	—	—
1/2	2 5/16"	4286K17	11.60	2"	4190K41	$8.19
3/4	2 1/2"	4286K19	16.55	2 5/16"	4190K42	11.56
1	3 3/16"	4286K23	22.54	2 11/16"	4190K43	19.04
1 1/4	3 11/16"	4286K25	35.41	3 7/32"	4190K44	34.62
1 1/2	4"	4286K27	44.50	3 11/16"	4190K45	47.68
2	4 3/4"	4286K29	68.08	4 9/32"	4190K46	66.58

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"	4 1/2"
Pipe Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4

Easy-to-Install Single-Union Plastic On/Off Valves



- Max. Pressure: 235 psi @ 100° F (1/2-2 size); 150 psi @ 100° F (3 size)
- Temp. Range: 40° to 140° F
- Vacuum Rating: 26" Hg

Disassemble the union fitting for quick valve installation and removal. The fitting also lets you access your line without disturbing pipe connections. Use with Schedule 40 and 80 pipe and fittings. Body and ball are PVC and seat is PTFE. Valves are full port, so they do not restrict flow. Color is dark gray.

Valves for drinking water meet NSF/ANSI Standard 61. Seal is Buna-N. **Valves for chemicals** have a fluoroelastomer seal.

Socket-weld valves bond to unthreaded male plastic pipe.

Pipe Size	End-to-End Lg.	For Drinking Water: NPT Female		For Drinking Water: Socket Weld		For Chemicals: NPT Female		For Chemicals: Socket Weld	
1/2	3 1/16"	4953K711	$16.48	4953K721	$16.48	4953K53	$20.33	4953K22	$20.33
3/4	3 9/16"	4953K712	20.77	4953K722	20.77	4953K54	25.66	4953K23	25.66
1	3 7/8"	4953K713	24.44	4953K723	24.44	4953K55	30.14	4953K24	30.14
1 1/2	4 5/8"	4953K715	42.72	4953K725	42.72	4953K57	55.64	4953K26	55.64
2	5 1/2"	4953K716	49.47	4953K726	49.47	4953K58	61.04	4953K27	61.04
3	8 1/8"	4953K717	149.65	4953K727	149.65	4953K59	214.40	4953K28	214.40

Easy-to-Install Double-Union Plastic On/Off Valves



T-Handle

PVC and CPVC:
- Max. Pressure: 225 psi @ 70° F
- Temp. Range: 40° to 140° F (PVC); 40° to 180° F (CPVC)
- Vacuum Rating: 26" Hg

Polypropylene:
- Max. Pressure: 150 psi @ 73° F, except 125 psi @ 140° F for chemicals
- Temp. Range: 32° to 180° F, except 32° to 140° F for chemicals
- Vacuum Rating: 29" Hg, except not rated for chemicals

Union fittings on both ends of these valves disassemble to cut down on installation and removal time. They also let you perform maintenance without disturbing pipe connections. Use with Schedule 40 and 80 pipe and fittings. Connections are female. Seat is PTFE, except polypropylene valves for chemicals have a polyethylene seat. Valves are full port, so they do not restrict flow, unless noted.

Valves for drinking water meet NSF/ANSI Standard 61. Seal is EPDM. **Valves for chemicals** have a fluoroelastomer seal.

NPT and socket-weld valves include fittings for each connection. *Socket-weld* valves bond to unthreaded male plastic pipe.

Lockable T-handles can be fixed in place with a padlock (not included) with a max. shackle diameter of 1/4".

Dark Gray PVC and Light Gray CPVC

Pipe Size	End-to-End Lg.	PVC: For Drinking Water		PVC: For Chemicals		PVC: Replacement Union Fittings		CPVC: For Drinking Water		CPVC: For Chemicals		CPVC: Replacement Union Fittings	
NPT and Socket Weld—T-Handle													
1/2	4 1/2"			4852T61	$25.46					4852T81	$34.89		
1/2	4 11/16"	4887K51	$24.42	4887K33	29.05	4887K11	$16.84	4719K11	$33.86	4719K41	36.61	4719K21	$23.40
3/4	4 3/4"	4887K52	29.50	4887K34	34.49	4887K12	16.99	4719K12	42.39	4719K42	45.35	4719K22	23.56
3/4	5 5/16"			4852T62	28.63					4852T82	42.15		
1	5 1/4"	4887K53	35.07	4887K35	40.95	4887K15	18.06	4719K13	51.83	4719K43	55.82	4719K23	24.92
1	5 7/8"			4852T63	33.38					4852T83	53.49		
1 1/4	6 5/16"	4887K54	46.12	4887K36	55.67	4887K16	25.26	4719K14	72.21	4719K44	77.90	4719K24	35.10
1 1/4	6 5/8"			4852T64	44.67					4852T84	77.72		
1 1/2	6 3/4"	4887K55	58.17	4887K37	67.88	4887K17	27.70	4719K15	85.77	4719K45	92.46	4719K25	38.44
1 1/2	6 7/8"			4852T65	53.32					4852T85	87.50		
2	8"	4887K56	76.53	4887K38	89.56	4887K18	30.76	4719K16	118.47	4719K46	127.13		
2	8 3/16"			4852T66	70.80					4852T86	118.28		
NPT and Socket Weld—Lockable T-Handle													
1/2	4 3/16"	4812T21	27.69	4812T33	30.80	4812T51	13.98	4823T45	36.57	4823T57	40.64	4823T31	20.24
3/4	4 3/4"	4812T23	32.76	4812T35	36.45	4812T53	18.17	4823T47	46.06	4823T59	51.19	4823T33	22.80
1	5 1/8"	4812T25	39.02	4812T37	43.46	4812T55	20.54	4823T49	54.84	4823T61	60.93	4823T35	26.00
1 1/2	6 1/4"	4812T29	65.02	4812T41	72.18	4812T57	30.28	4823T53	92.07	4823T65	102.30	4823T37	41.37
2	7 3/4"	4812T31	85.80	4812T43	94.48	4812T59	43.65	4823T55	123.13	4823T67	141.55	4823T39	51.10
NPT—T-Handle													
3	10 9/16"	4887K71	201.28	4887K13	217.89	4887K26	67.88	4719K31	337.17	4719K57	317.98	4719K35	73.30
4	12 1/2"	4887K72	268.22	4887K14	317.56	4887K27	76.28	4719K32	505.07	4719K58	546.21	4719K36	78.31
Socket Weld—T-Handle													
2 1/2	10 11/16"	4887K43	178.85	4887K41	211.34	4887K29	40.40	4719K47	255.77	4719K28	276.89	4719K37	56.05
3	10 9/16"	4887K75	186.31	4887K23	217.89	4887K31	41.33	4719K71	337.17	4719K67	317.98	4719K38	57.39
4	12 9/16"	4887K76	268.22	4887K24	317.56	4887K32	42.89	4719K72	505.07	4719K68	546.21	4719K39	59.53
BSPP—T-Handle													
1	6 9/16"	4543K53	70.73	4543K43	78.79	4543K63	13.23	4727K43	99.40	4727K33	110.46	4727K53	19.60
1 1/2	8 1/16"	4543K55	117.89	4543K45	130.84	4543K65	23.84	4727K45	166.90	4727K35	185.46	4727K55	34.44
2	8 13/16"	4543K57	155.53	4543K46	171.28	4543K66	31.35	4727K46	223.23	4727K36	256.61	4727K56	45.88

Black Polypropylene

Pipe Size	End-to-End Lg.	Lever For Chemicals		T-Handle For Chemicals	
NPT					
1/2	4 3/4"	4973K61	$35.57	4973K51	$33.58
3/4	4 3/4"	4973K62	38.04	4973K52	36.05
1	4 3/4"	4973K63★	41.02	4973K53★	39.03
1 1/4	6 1/4"	4973K64	65.89	4973K54	63.90
1 1/2	6 1/4"	4973K65	67.88	4973K55	65.89
2	6 1/4"	4973K66★	75.84	4973K56★	73.85

★Valve is standard port, so it slightly restricts flow.

Plastic On/Off Valves for Drinking Water

- Max. Pressure: See table
- Temp. Range: 40° to 140° F (PVC); 40° to 200° F (CPVC)
- Vacuum Rating: 26″ Hg



NPT Female



Socket Weld

These valves meet NSF/ANSI Standard 61 for use with drinking water. Seal is EPDM. Use with Schedule 40 and 80 pipe and fittings. Valves are full port, so they do not restrict flow.

Socket-weld valves bond to unthreaded male plastic pipe.

Valves with Max. Pressure of 150 psi @ 73° F—All have a PTFE/HDPE seat. *PVC* valves have a PVC ball. *CPVC* valves have a CPVC ball.

Valves with Max. Pressure of 235 psi @ 73° F—Ball is PVC and seat is PTFE.

Pipe Size	End-to-End Lg.	NPT Female		Socket Weld	
Max. Pressure of 150 psi @ 73° F					
PVC—To Order Please specify white or dark gray					
1/2	2 11/16″	4876K11	$7.26	4876K21	$7.26
3/4	3″	4876K12	8.62	4876K22	8.62
1	3 3/8″	4876K13	11.72	4876K23	11.72
1 1/4	3 7/8″	4876K14	15.52	4876K24	15.52
1 1/2	4 11/16″	4876K15	23.70	4876K25	23.70
2	5 3/16″	4876K16	29.95	4876K26	29.95
3	7 15/16″	4876K17	91.94	4876K27	91.94
4	9 3/16″	4876K18	168.52	4876K28	168.52
CPVC—Color is dark gray					
1/2	2 11/16″	4724K71	9.57	4724K81	9.57
3/4	3″	4724K72	12.17	4724K82	12.17
1	3 3/8″	4724K73	13.22	4724K83	13.22
1 1/4	3 7/8″	4724K74	18.62	4724K84	18.62
1 1/2	4 11/16″	4724K75	28.88	4724K85	28.88
2	5 3/16″	4724K76	35.93	4724K86	35.93
Max. Pressure of 235 psi @ 73° F					
PVC—Color is dark gray					
1/2	3 3/8″	4506K41	17.58	4506K26	17.58
3/4	4 1/16″	4506K42	24.00	4506K27	24.00
1	4 7/16″	4506K43	26.20	4506K28	26.20
1 1/4	4 15/16″	4506K44	46.97	4506K35	46.97
1 1/2	5 5/8″	4506K45	58.16	4506K29	58.16
2	6 1/2″	4506K46	62.67	4506K31	62.67

On/Off Valves with Solder-Connect Fittings for Drinking Water

- Max. Pressure: 500 psi @ 100° F (1/2-1 size); 400 psi @ 100° F (1 1/4-2 size)
- Temp. Range: 0° to 250° F (Standard); -50° to 250° F (High Flow)
- Vacuum Rating: Not rated (Standard); 29.9″ Hg (High Flow)



These valves meet NSF/ANSI Standard 61 for use with drinking water. Body is brass and seat and packing are PTFE. Valves are full port, so they do not restrict flow.

Standard valves have a tin/nickel-coated brass ball and PTFE seal. **High-flow** valves have a larger bore ID for twice the flow rate of standard valves. Ball is chrome/nickel-plated brass.

For Tube Size♦	For Tube OD	Standard End-to-End Lg.			High Flow End-to-End Lg.		
1/2	5/8″	2 1/2″	4190K81	$8.13	2 1/4″	4286K77	$11.36
3/4	7/8″	3 1/4″	4190K82	12.23	2 7/8″	4286K79	15.17
1	1 1/8″	3 15/16″	4190K83	19.88	3 3/8″	4286K83	20.86
1 1/4	1 3/8″	4 1/16″	4190K84	36.29	—	—	—
1 1/2	1 5/8″	4 1/2″	4190K85	49.03	4 1/2″	4286K87	41.21
2	2 1/8″	5 13/32″	4190K86	69.67	5 7/16″	4286K89	63.17

♦Tube size is an accepted industry designation, not an actual size.

On/Off Valves with Push-to-Connect Fittings for Drinking Water

- Max. Pressure: 200 psi @ 180° F
- Temp. Range: -40° to 180° F
- Vacuum Rating: Not rated



For use with drinking water, these valves meet NSF/ANSI Standard 61. Body is brass, ball is chrome-plated brass, and seat and seal are PTFE. Valves are full port, so they do not restrict flow.

For Tube Size♦	For Tube OD	End-to-End Lg.		
1/2	5/8″	3 13/16″	2615K2	$34.46
3/4	7/8″	4 9/16″	2615K4	44.18
1	1 1/8″	5″	2615K8	63.89

♦Tube size is an accepted industry designation, not an actual size.

Plastic On/Off Valves with Push-to-Connect Fittings for Drinking Water

- Max. Pressure: 125 psi @ 73° F
- Temp. Range: 33° to 140° F
- Vacuum Rating: Not rated

For use with drinking (potable) water, these valves meet NSF/ANSI Standard 61. They are also known as plug valves. Body and plug are polypropylene and seal is EPDM. Color is white.



For Tube OD	Push-to-Connect x NPTF Male: Pipe Size	End-to-End Lg.			Push-to-Connect x Push-to-Connect: End-to-End Lg.		
1/4″	1/4	2″	4503K33	$10.03	1 15/16″	4503K23	$10.03
3/8″	3/8	2 9/16″	4503K35	10.60	2 1/2″	4503K25	10.60

On/Off Valves for Food and Beverage

- Max. Pressure: 1,000 psi @ 150° F (1/2″-2″); 800 psi @ 150° F (2 1/2″-3″)
- Temp. Range: 0° to 300° F
- Vacuum Rating: Not rated

Maintain sanitary standards in food and beverage lines using these valves with polished internal surfaces for easy cleaning. Valves have a three-piece bolted body that disassembles for access to the seats, seals, and ball without removing your valve from the pipeline. Body and ball are 316 stainless steel for excellent corrosion resistance. Seat, seal, and packing are PTFE. Valves are full port, so they do not restrict flow.

Valves have a lockable lever that can be fixed in place with a padlock (not included). *1/2″ to 2″ tube OD* accept a padlock with a max. shackle diameter of 9/32″; *2 1/2″ to 3″ tube OD* accept a padlock with a max. shackle diameter of 3/8″.

Sanitary quick-clamp valves have quick-clamp connections for easy disassembly. Use with quick-clamp fittings on pages 228-231. **Butt-weld** valves have butt-weld fittings for a flush connection to metal tubing.



Sanitary Quick Clamp



Butt Weld

For Tube OD	End-to-End Lg.	Sanitary Quick Clamp: Flange OD			Butt Weld	
1/2″	4 5/16″	1″	44755K111	$87.12	44755K211	$153.78
3/4″	4 11/16″	1″	44755K112	105.22	44755K212	171.88
1″	5″	2″	44755K113	137.95	44755K213	204.62
1 1/2″	5 5/8″	2″	44755K114	232.63	44755K214	299.30
2″	6 7/16″	2 1/2″	44755K115	336.52	44755K215	403.18
2 1/2″	7 13/16″	3″	44755K116	702.70	44755K216	769.37
3″	9″	3 9/16″	44755K117	927.63	44755K217	994.30

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	3 1/2"	4 1/2"
Pipe Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	3	4

On/Off Valves with Push-to-Connect Fittings for Food and Beverage

- Max. Pressure: 150 psi @ 70° F
- Temp. Range: 35° to 200° F (Full Port); 35° to 150° F (Standard Port)
- Vacuum Rating: Not rated (Full Port); 29.9" Hg (Standard Port)

Made of FDA-listed materials, these valves have push-to-connect fittings for easy installation in soft plastic tubing lines for food and beverage applications.

Full-port valves do not restrict flow. Body is polypropylene, ball is polysulfone, and seal is EPDM. Color is white.

Standard-port valves slightly restrict flow. Body and ball are acetal; seal is Buna-N. Color is light gray.





For Tube OD	Pipe Size	Push-to-Connect x NPTF Male End-to-End Lg.			Push-to-Connect x Push-to-Connect End-to-End Lg.		
Full Port							
1/4"	1/4	2 1/4"	4379K41	$7.55	2 1/4"	4379K61	$7.88
3/8"	3/8	2 1/2"	4379K42	8.87	2 3/4"	4379K62	8.80
Standard Port							
3/8"	—	—		—	2 1/2"	4379K67	11.70
1/2"	—	—		—	2 3/4"	4379K69	11.83

Compact On/Off Valves for Chemicals

- Max. Pressure: 15 psi @ 73° F
- Temp. Range: 32° to 120° F
- Vacuum Rating: Not rated

Also known as stop cocks, these valves have a low profile to fit in tight spots and an EPDM seal to withstand harsh chemicals. Body is PVC. Color is black.





Pipe Size	NPT Female x NPT Female End-to-End Lg.			NPT Female x NPT Male End-to-End Lg.		
1/4	2 13/16"	47205K44	$20.59	2 3/4"	47205K52	$20.59

Ultra-Chemical-Resistant On/Off Valves for Chemicals



- Max. Pressure: 720 psi @ 150° F
- Temp. Range: –50° to 450° F
- Vacuum Rating: 29.9" Hg

The most chemical-resistant valves we offer, these have an alloy body and a PTFE seat and seal that can withstand extremely aggressive and corrosive chemicals. Connections are NPT female. Valves are standard port, so they slightly restrict flow.

Alloy 20 stainless steel valves are extremely resistant to sulfuric acid and other acidic solutions. Ball is Alloy 20 stainless steel.

Monel valves have exceptional resistance to alkaline solutions in addition to harsh acids such as hydrochloric and hydrofluoric acid. Ball is Monel.

Pipe Size	End-to-End Lg.	Alloy 20 Stainless Steel		Monel	
1/2	2 3/16"	4072T15	$221.21	4072T55	$262.03
3/4	2 1/4"	4072T17	292.17	4072T57	340.87
1	2 3/4"	4072T21	424.33	4072T61	486.93

On/Off Valves with Quick-Turn and Barbed Fittings for Water, Oil, and Inert Gas

Male x Male

Male x Barb

- Max. Pressure: 50 psi @ 72° F
- Temp. Range: Not rated
- Vacuum Rating: Not rated

Also known as stop cocks, these valves are for water, oil, and inert gas. They are semi-clear purple polycarbonate with a white handle.

Male and **female** connections have quick-turn (also known as luer-lock) fittings—they attach to other quick-turn fittings with a half turn. For couplings, see 51525K on page 227.

Barbed connections slide into soft plastic and rubber tubing with a 1/8" ID.

Connections	End-to-End Lg.		
Male x Male	1 1/2"	7033T21	$2.33
Male x Female	1 3/8"	7033T24	2.29
Male x Barb	1 1/2"	7033T22	2.29
Female x Female	1 3/16"	7033T26	1.38
Female x Barb	1 3/8"	7033T25	1.38
Barb x Barb	1 1/2"	7033T23	1.38

On/Off Valves for Chemicals



- Max. Pressure: 235 psi @ 73° F
- Temp. Range: 40° to 200° F
- Vacuum Rating: 26" Hg

To withstand a broad range of harsh chemicals and solvents, these valves have a fluoroelastomer seal. Body and ball are CPVC and seat is PTFE. Use with Schedule 40 and 80 pipe and fittings. Valves are full port, so they do not restrict flow. Color is light gray.

Socket-weld valves bond to unthreaded plastic pipe.

Pipe Size	End-to-End Lg.	NPT Female		Socket Weld	
1/2	3 3/8"	5052K21	$23.04	5052K51	$23.04
3/4	4 1/16"	5052K22	30.72	5052K52	30.72
1	4 7/16"	5052K23	38.40	5052K53	38.40
1 1/4	4 15/16"	5052K24	76.78	5052K54	76.78
1 1/2	5 5/8"	5052K25	89.79	5052K55	89.79
2	6 1/2"	5052K26	101.75	5052K56	101.75

Easy-Maintenance On/Off Valves for Chemicals



- Max. Pressure: 150 psi @ 70° F (1/2-2 size); 100 psi @ 70° F (3 size); 75 psi @ 70° F (4 size)
- Temp. Range: –20° to 150° F
- Vacuum Rating: Not rated

These valves have a three-piece bolted body that comes apart so you can replace the seats, seals, and ball inline. Seal is fluoroelastomer for excellent chemical resistance. Connections are NPT female. Body and ball are polypropylene and seat is PTFE. Color is black.

Standard-port valves slightly restrict flow. **Full-port** valves do not restrict flow.

Pipe Size	Standard Port End-to-End Lg.			Full Port End-to-End Lg.		
1/2	—	—	—	3 7/16"	9771K22	$31.15
3/4	—	—	—	3 7/16"	9771K24	31.15
1	3 7/16"	9771K25	$31.15	4 3/16"	9771K26	34.37
1 1/4	4 3/16"	9771K28	34.37	4 11/16"	9771K29	44.16
1 1/2	—	—	—	4 11/16"	9771K32	44.16
2	4 11/16"	9771K33	44.16	5 1/2"	9771K34	62.17
3	6 1/16"	9771K36	100.10	6 3/8"	9771K39	148.56
4	7 7/8"	9771K41	316.98	—	—	—

Easy-Clean On/Off Valves for Chemicals



- Max. Pressure: 125 psi @ 73° F
- Temp. Range: 15° to 180° F
- Vacuum Rating: 29″ Hg

There's no need to unbolt these valves for cleaning—just remove the valve handle and slide the valve apart for inline access to the internal components. Also known as elliptical valves, these have a chemical-resistant fluoroelastomer seal. Connections are NPT female. Body and ball are polypropylene. Valves are full port, so they do not restrict flow. Color is black.

Pipe Size	End-to-End Lg.			Pipe Size	End-to-End Lg.		
1/4	2 1/4″	45695K12	$26.88	1/2	3″	45695K14	$31.72
3/8	3″	45695K13	31.72	3/4	3 1/2″	45695K15	44.62

Flanged On/Off Valves for Chemicals



- Max. Pressure: 250 psi @ 100° F
- Temp. Range: -50° to 215° F
- Vacuum Rating: 29.92″ Hg

To handle extremely harsh, concentrated chemicals that would degrade valves with a fluoroelastomer seal, these valves have a glass-filled vinyl ester body and ball and a PTFE seal for exceptional chemical resistance. Valves have ANSI Class 150 flange connections and bolt to flanges of the same ANSI class and pipe size (bolts not included). Seat and packing are PTFE. Valves have a lockable lever handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 5/16″. They are standard port, so they slightly restrict flow. Meet ASME B16.5 and ASME B16.10.

		Flange					
Pipe Size	End-to-End Lg.	OD	Bolt Circle Dia.	No. of Bolt Holes	Bolt Hole Dia.		
1	5″	4 1/4″	3 1/8″	4	5/8″	5927T11	$373.53
2	7″	6″	4 3/4″	4	3/4″	5927T13	599.40
3	8″	7 1/2″	6″	4	3/4″	5927T14	859.20

On/Off Valves with Barbed Fittings for Chemicals



Barb x Barb with T-Handle



Barb x Barb with Wedge Handle

- Max. Pressure:
  7 psi @ 176° F (Polyethylene);
  15 psi @ 73° F (PVC);
  Not rated (Polypropylene);
- Temp. Range:
  40° to 176° F (Polyethylene);
  32° to 120° F (PVC);
  32° to 275° F (Polypropylene)
- Vacuum Rating: Not rated

To resist a wide range of chemicals, these valves have a plastic body. They are also known as stop cocks.

Polyethylene valves are white. **PVC** valves are more chemical resistant than polypropylene and polyethylene valves. Seal is EPDM. Color is black. **Polypropylene** valves have a fluoroelastomer seal. Color is white.

Connection Size	End-to-End Lg.		
Polyethylene—T-Handle			
3/8″ Barb x Barb	3 3/16″	46555K25	$17.80
1/2″ Barb x Barb	3 7/8″	46555K27	23.55
PVC—Wedge Handle			
3/8″ to 5/8″ Barb x Barb	4 3/8″	47205K22	20.59
3/8″ to 5/8″ Barb x 1/4 NPT Male	3 1/2″	47205K24	20.59
Polypropylene—T-Handle			
1/4″ Barb x Barb	2 9/16″	48285K24	67.83

On/Off Valves for Fuels



Standard Port



Full Port

Max. Pressure of 1,000 psi @ 200° F:
- Use with diesel fuel, fuel oil, gasoline, kerosene, and methanol
- Temp. Range: -20° to 500° F
- Vacuum Rating: Not rated

Max. Pressure of 2,000 psi @ 250° F:
- Use with diesel fuel, fuel oil, gasoline, kerosene, and methanol, unless noted
- Temp. Range: -20° to 450° F
- Vacuum Rating: 26″ Hg

Max. Pressure of 3,600 psi @ 100° F:
- Use with diesel fuel, fuel oil, gasoline, kerosene, and methanol
- Temp. Range: -40° to 185° F
- Vacuum Rating: 29.4″ Hg

Max. Pressure of 6,000 psi @ 100° F:
- Use with diesel fuel, fuel oil, gasoline, kerosene, and methanol
- Temp. Range: -70° to 550° F
- Vacuum Rating: 29.4″ Hg

Protect personnel and equipment in the presence of flammable fuels. Fire-tested to meet American Petroleum Institute (API) standard 607, Edition 4, these valves are designed to securely isolate fluid and prevent the spread of fire. Connections are NPT female. Ball is 316 stainless steel. Valves have a lockable handle that can be fixed in place with a padlock (not included).

Standard-port valves slightly restrict flow. **Full-port** valves do not restrict flow. They comply with National Association of Corrosion Engineers (NACE) MR0175 and meet API standard 608 and ANSI B16.34.

Valves with a max. pressure of 1,000 psi have a PTFE seat and graphite seal. *2,000 max. psi* have a PTFE seat and graphite packing. *3,600 max. psi* have an acetal seat, fluoroelastomer seal, and graphite packing. *6,000 max. psi* have a PEEK seat, fluoroelastomer seal, and graphite packing.

316 stainless steel valves are more corrosion resistant than steel valves.

Pipe Size	End-to-End Lg.	For Max. Shackle Dia.	Steel		316 Stainless Steel	
Standard Port						
Max. Pressure of 1,000 psi @ 200° F						
1/4	2 13/16″	9/32″	4631K28	$27.78	47215K13	$46.67
3/8	2 13/16″	9/32″	4631K21	27.78	47215K14	46.67
1/2	2 13/16″	9/32″	4631K22	27.78	47215K15	46.67
3/4	3 1/16″	9/32″	4631K23	36.67	47215K16	54.44
1	3 3/4″	9/32″	4631K14	46.67	47215K17	70.00
1 1/4	3 7/8″	9/32″	4631K15	70.00	47215K18	99.74
1 1/2	4 1/8″	9/32″	4631K16	83.33	47215K19	122.22
2	4 11/16″	9/32″	4631K17	111.11	47215K21	160.00
Max. Pressure of 2,000 psi @ 250° F						
1/4	2 5/16″	1/4″	4024T71★	44.20	4040T61	49.81
3/8	2 5/16″	1/4″	4024T72★	44.20	4040T62	49.81
1/2	2 5/8″	1/4″	4024T73★	44.20	4040T63	49.81
3/4	2 13/16″	1/4″	4024T74★	51.60	4040T64	63.30
1	3 1/4″	1/4″	4024T75★	61.80	4040T65	77.90
1 1/4	3 9/16″	1/4″	4024T76★	102.29	4040T66	126.76
1 1/2	3 7/8″	1/4″	4024T77★	125.62	4040T67	165.43
2	4 5/16″	1/4″	4024T78★	157.52	4040T68	192.29
Full Port						
Max. Pressure of 3,600 psi @ 100° F						
1/4	3″	5/16″			4357T11	120.57
3/8	3″	5/16″			4357T12	123.24
1/2	4″	5/16″			4357T13	124.96
3/4	4 5/16″	5/16″			4357T14	259.67
1	4 3/4″	5/16″			4357T15	334.68
Max. Pressure of 6,000 psi @ 100° F						
1/4	3″	5/16″			4357T51	179.11
3/8	3″	5/16″			4357T52	188.85
1/2	4″	5/16″			4357T53	198.03
3/4	4 5/16″	5/16″			4357T54	330.04
1	4 3/4″	5/16″			4357T55	532.20

★Not for use with methanol.

On/Off Valves with 37° Flared Compression Fittings for Fuels



- Use with diesel fuel, gasoline, and methanol
- Max. Pressure: 200 psi @ 72° F
- Temp. Range: -40° to 250° F
- Vacuum Rating: Not rated

37° flared tube fittings form a tight seal on metal tubing for the safe transfer of diesel fuel, gasoline, and methanol. Use with 37° flared tubing and fittings. For tubing, see page 160; for fittings, see page 195. Body and ball are aluminum; seat and seal are PTFE. Valves are full port, so they do not restrict flow.

For Tube OD	End-to-End Lg.	Thread Size		
3/8″	2 9/16″	9/16″-18 UNF	3710K31	$152.90
1/2″	2 11/16″	3/4″-16 UNF	3710K33	152.90
5/8″	3 1/4″	7/8″-14 UNF	3710K35	160.95
3/4″	3 7/16″	1 1/16″-12 UNF	3710K37	$160.95
1″	4 5/16″	1 5/16″-12 UNF	3710K39	199.40

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"	4 1/2"	6 5/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6

Compact On/Off Valves for Fuels



Male × Female

- Use with diesel fuel, fuel oil, gasoline, kerosene, and methanol
- Max. Pressure: See table
- Temp. Range: -40° to 250° F
- Vacuum Rating: Not rated

The low-profile handle lets you install these valves in low-clearance fuel pipelines. They are commonly called plug valves. Connections are NPTF. Body and plug are brass and seal is Buna-N. *Valves with a max. pressure of 15 psi @ 70° F* are UL listed.

Pipe Size	End-to-End Lg.	Max. Pressure of 15 psi @ 70° F		Max. Pressure of 30 psi @ 70° F	
Female × Female					
1/4	2 1/8"	7910K85	$19.78	7910K15	$14.45
Male × Female					
1/8	2"	—	—	7910K11	14.06
1/4	2 1/4"	7910K82	19.12	7910K12	14.06
3/8	2 7/16"	7910K83	22.65	7910K13	15.67

Compact On/Off Valves for Natural, Propane, and Butane Gas



Female × Male Flare

- Max. Pressure: 5 psi @ 125° F
- Temp. Range: -40° to 125° F
- Vacuum Rating: Not rated

With a smaller overall height than standard valves for gas, these valves are often installed in low-clearance areas. Body is brass, ball is chrome-plated brass, and seat and packing are PTFE. Valves are standard port, so they slightly restrict flow. UL listed and CSA and CSA-US certified.

Valves with 45° flared tube fittings form a tight seal on metal tubing lines.

Pipe Size	Thread Size	End-to-End Lg.		
NPT Female × Female				
1/2	—	2 3/16"	48915K61	$4.78
3/4	—	2 7/16"	48915K62	7.04
1	—	2 7/8"	48915K63	15.28
NPT Female × 45° Male Flare				
1/2	3/8"	2 7/16"	48915K73	7.82
1/2	1/2"	2 1/2"	48915K74	8.04
3/4	5/8"	3"	48915K75	11.14

On/Off Valves for High Vacuum

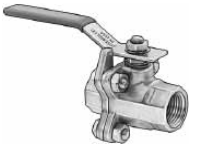

- Max. Pressure for Water, Oil, Air, and Inert Gas: 600 psi @ 200° F (1/4-1 size); 400 psi @ 100° F (1 1/4-2 size)
- Max. Pressure for Steam: 149 psi @ 365° F
- Temp. Range: -20° to 400° F
- Vacuum Rating: 29.9" Hg

The bolted-body design provides strength for a superior seal in vacuum conditions. Connections are NPT female. Body is brass and ball is 316 stainless steel. Seat, seal, and packing are PTFE. Valves are standard port, so they slightly restrict flow. UL and C-UL listed.

Pipe Size	End-to-End Lg.			Pipe Size	End-to-End Lg.		
1/4	2 3/8"	4649K61	$87.90	1	3 1/16"	4649K65	$122.62
3/8	2 3/8"	4649K62	87.90	1 1/4	3 7/16"	4649K66	157.35
1/2	2 3/8"	4649K63	87.90	1 1/2	3 3/4"	4649K67	199.74
3/4	2 9/16"	4649K64	103.09	2	4 1/16"	4649K68	266.94

On/Off Valves with Ultra-High-Vacuum Fittings



- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,000 psi @ 150° F
- Max. Pressure for Steam: 40 psi @ 267° F
- Temp. Range: 0° to 300° F
- Vacuum Rating: 0.0001 torr (1/2"-1 1/2"); 0.001 torr (2")

Create a tight seal in vacuum conditions. Valves have ultra-high-vacuum tube fitting connections, which are also known as NW fittings. The three-piece bolted body comes apart for inline replacement of the seats, seals, and ball. Body and ball are 316 stainless steel. Seat, seal, and packing are PTFE. The lockable lever handle can be fixed in place with a padlock (not included). Valves are full port, so they do not restrict flow. Meet 3-A sanitary requirements.

For Tube OD	Flange OD	Trade No.	End-to-End Lg.	For Max. Shackle Dia.		
1/2"	1 3/16"	16	4 5/16"	1/4"	4123K41	$304.83
3/4"	1 3/16"	16	4 11/16"	1/4"	4123K43	321.92
1"	1 9/16"	25	4 7/8"	1/4"	4123K45	358.35
1 1/2"	2 3/16"	40	5 5/8"	5/16"	4123K47	455.56
2"	2 15/16"	50	6 3/8"	5/16"	4123K49	577.11

On/Off Valves for Natural, Propane, and Butane Gas

- Max. Pressure: See table
- Temp. Range: 32° to 125° F
- Vacuum Rating: Not rated

Also known as plug valves, these are often used as a mainline shutoff in gas pipelines. Connections are NPT female. Body and plug are bronze, unless noted. Valves have a handle stop that prevents the valve from turning past the fully open or fully closed position, except lockable handles. *Lockable handles* can be fixed in place with a padlock (not included) with a max. shackle diameter of 1/2". **Wrench-operated** valves require a square wrench (sold separately) to open and close the valve.

Handle Operated—Lever



Pipe Size	Max. psi @ 70° F	End-to-End Lg.		
1/4	2	1 3/4"	4786K31	$18.29
1/4	25	1 7/8"	4786K371	37.53
3/8	25	1 7/8"	4786K372	37.53
1/2	5	2"	4786K33	16.88
1/2	25	2 1/8"	4786K373	38.92
3/4	5	2 3/8"	4786K34	20.76
3/4	25	2 3/8"	4786K374	46.55
1	2	2 3/4"	4786K35	37.98
1	25	3"	4786K375	63.29
1 1/4	2	3 1/4"	4786K36	51.62

Handle Operated—T-Handle



Pipe Size	Max. psi @ 70° F	End-to-End Lg.		
Standard Handle				
1/2	5	2"	4786K13	$15.33
3/4	5	2 3/8"	4786K14	18.86
1	25	3"	4786K155	56.58
1 1/4	25	3 1/4"	4786K156	66.51
Lockable Handle				
1/2	175	2 7/8"	46725K61★	33.14
3/4	175	3 1/8"	46725K62★	33.14
1	175	3 3/8"	46725K63★	41.76
1 1/4	175	3 7/8"	46725K64★	62.22
1 1/2	175	4 5/8"	46725K65★	88.07
2	175	5 5/8"	46725K66★	121.76

★Body is cast iron. Temp. range is -20° to 150° F.

Wrench Operated





Pipe Size	Max. psi @ 70° F	End-to-End Lg.	Valves		Wrenches	
1/2	5	2"	4786K291	$15.33	4508K12	$12.84
1/2	25	2 1/8"	4786K283	36.25	4508K13	12.84
3/4	5	2 3/8"	4786K292	18.86	4508K13	12.84
1	2	2 3/4"	4786K293	36.27	4508K13	12.84
1 1/2	2	3 3/8"	4786K295	68.45	4508K16	19.84
2	2	4 3/8"	4786K296	111.76	4508K17	28.94

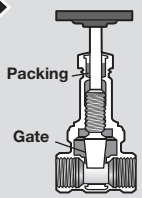

About Gradual On/Off Valves

Also known as gate valves, these gradually open and close to prevent system damage caused by suddenly starting or stopping flow. All have a gate that provides a tight seal when closed. Most gradual on/off valves require multiple turns of a wheel handle to open or close.

Valves with a Rising Stem—The stem lifts as the valve opens and lowers as the valve closes to provide a visual indication of whether flow is on or off. Since the stem is isolated from the process media, valves with a rising stem have a longer service life than valves with a nonrising stem.

Valves with a Nonrising Stem—The stem stays in the same position whether the valve is open or closed, so these valves are often used underground and in other low-clearance areas.

Gradual On/Off Valves

Class 125:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 200 psi @ 100° F
- Max. Pressure for Steam: 125 psi @ 353° F
- Temp. Range: -20° to 400° F

Class 150:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 300 psi @ 100° F
- Max. Pressure for Steam: 150 psi @ 366° F
- Temp. Range: -20° to 400° F

Class 200:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 400 psi @ 100° F
- Max. Pressure for Steam: 200 psi @ 388° F
- Temp. Range: -20° to 550° F

Class 300:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,000 psi @ 100° F
- Max. Pressure for Steam: 300 psi @ 422° F
- Temp. Range: -20° to 550° F


Rising Stem


Nonrising Stem

These valves have a durable bronze body and gate for a long service life. Connections are NPT female. Packing is graphite. Valves meet MSS-SP-80.

Pipe Size	Class 125 End-to-End Lg.			Class 150 End-to-End Lg.			Class 200 End-to-End Lg.			Class 300 End-to-End Lg.		
Rising Stem												
1/4	1 3/4"	4619K31	$28.06	1 3/4"	4599K41	$36.02	1 3/4"	4857K11	$53.61	1 13/16"	4606K11	$70.37
3/8	1 13/16"	4619K32	28.06	1 7/8"	4599K42	36.02	1 7/8"	4857K12	53.61	1 7/8"	4606K12	70.37
1/2	2"	4619K33	25.28	2 1/8"	4599K43	34.81	2 1/4"	4857K13	48.06	2 1/4"	4606K13	66.39
3/4	2 1/8"	4619K34	31.11	2 1/4"	4599K44	40.83	2 1/2"	4857K14	57.50	2 1/2"	4606K14	79.35
1	2 9/16"	4619K35	41.85	2 5/8"	4599K45	53.43	2 7/8"	4857K15	82.87	3"	4606K15	112.04
1 1/4	2 13/16"	4619K36	60.43	2 13/16"	4599K46	72.96	3 1/4"	4857K16	123.70	3 3/8"	4606K16	148.80
1 1/2	2 13/16"	4619K37	71.94	3 1/4"	4599K47	89.54	3 1/2"	4857K17	127.04	3 1/2"	4606K17	174.54
2	3 5/16"	4619K38	90.56	3 5/8"	4599K48	124.44	3 3/4"	4857K18	198.80	3 3/4"	4606K18	255.74
2 1/2	4 3/16"	4619K42	242.13	4 1/2"	4599K51	286.02	4 5/8"	4857K29	606.39	4 5/8"	4606K29	794.44
3	4 5/8"	4619K39	332.22	4 7/8"	4599K49	395.83	5"	4857K19	799.26	5"	4606K19	1,046.94
Nonrising Stem												
1/4	1 3/4"	4619K11	26.02	1 3/4"	4599K19	36.02	1 13/16"	4857K21	72.69	1 13/16"	4606K21	85.83
3/8	1 13/16"	4619K12	26.02	1 13/16"	4599K21	36.02	1 7/8"	4857K22	72.69	1 7/8"	4606K22	85.83
1/2	2"	4619K13	23.15	2"	4599K22	36.85	2 1/4"	4857K23	72.69	2 1/4"	4606K23	82.87
3/4	2 1/8"	4619K14	27.96	2 1/8"	4599K23	39.72	2 1/2"	4857K24	86.94	2 1/2"	4606K24	99.35
1	2 9/16"	4619K15	36.02	2 9/16"	4599K24	52.50	2 7/8"	4857K25	127.03	3"	4606K25	137.04
1 1/4	2 13/16"	4619K16	54.44	2 13/16"	4599K25	69.91	3 1/4"	4857K26	159.54	3 3/8"	4606K26	183.15
1 1/2	2 13/16"	4619K17	63.24	2 13/16"	4599K26	87.31	3 1/2"	4857K27	198.98	3 1/2"	4606K27	229.07
2	3 5/16"	4619K18	82.59	3 5/16"	4599K27	121.57	3 3/4"	4857K28	280.28	3 3/4"	4606K28	365.19
2 1/2	4 3/16"	4619K43	215.93	4 3/16"	4599K29	281.11	____	____	____	____	____	____
3	4 5/8"	4619K41	263.52	4 5/8"	4599K28	393.98	____	____	____	____	____	____

Corrosion-Resistant Gradual On/Off Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 200 psi @ 350° F
- Max. Pressure for Steam: 120 psi @ 350° F
- Temp. Range: 0° to 350° F

Since these valves have a 316 stainless steel body and gate, they resist corrosion in harsh environments and wet conditions. Packing is PTFE. Stem is nonrising. Valves meet ASTM A351.


NPT

Pipe Size	End-to-End Lg.	NPT Female		Socket Weld	
1/2	2 1/8"	4741K23	$79.28	4874K53	$88.67
3/4	2 5/16"	4741K24	92.67	4874K54	103.08
1	2 11/16"	4741K25	114.86	4874K55	129.86
1 1/4	2 15/16"	4741K26	156.67	4874K56	175.68
1 1/2	3 1/8"	4741K27	228.64	4874K57	256.47
2	3 11/16"	4741K28	269.72	4874K58	304.92

Fast-Acting Gradual On/Off Valves

Lever and Spring-Close Lever:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 125 psi @ 120° F (1-1 1/4 size); 200 psi @ 70° F (1 1/2-3 size)
- Temp. Range: 35° to 150° F (1-1 1/4 size); -40° to 150° F (1 1/2-3 size)

Pull Handle:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 20 psi @ 1000° F (1-3 size); 10 psi @ 1000° F (4 size); 5 psi @ 1000° F (6 size)
- Temp Range: -40° to 1000° F

Pull the handle to start and stop flow faster than valves with a wheel handle. Connections are NPT female.

Lever and **spring-close lever** valves have a brass body and gate. *1 and 1 1/4 pipe size* have a Buna-N seal; *1 1/2 to 3 pipe size* have PTFE packing. *Spring-close levers* are easier to turn than standard lever handles.

Pull-handle valves have a rising stem that lifts as the valve opens and lowers as the valve closes to provide a visual indication of whether flow is on or off. They have a cast iron body, 304 stainless steel gate, and graphite packing.


Lever


Pull Handle

Pipe Size	Lever End-to-End Lg.			Spring-Close Lever End-to-End Lg.			Pull Handle End-to-End Lg.		
1	4"	4684K82	$176.41	4"	4684K42	$175.37	2 13/16"	4723K31	$189.93
1 1/4	2 7/8"	4684K83	163.61	2 7/8"	4684K43	175.37	____	____	____
1 1/2	3 7/16"	4684K11	257.89	3 7/16"	4684K21	269.18	2 13/16"	4723K32	207.90
2	3 11/16"	4684K12	310.06	3 11/16"	4684K22	326.76	2 13/16"	4723K33	223.30
2 1/2	____	____	____	____	____	____	2 13/16"	4723K34	259.23
3	5 1/16"	4684K13	655.83	5 1/16"	4684K23	665.31	3 5/16"	4723K35	273.60
4	____	____	____	____	____	____	3 5/16"	4723K26	374.83
6	____	____	____	____	____	____	3 13/16"	4723K28	595.47

Gradual On/Off Valves

For information about gradual on/off valves, see page 469. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"	4 1/2"	6 5/8"	8 5/8"
Pipe Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6	8

High-Pressure Gradual On/Off Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,975 psi @ 100° F
- Max. Pressure for Steam: 715 psi @ 800° F
- Temp. Range: -20° to 800° F

To withstand nearly 10 times the pressure of other gradual on/off valves, these have a forged steel body and bolted construction for extra strength and durability. Gate is steel and packing is graphite. Stem is rising. Rated Class 800. Meet API (American Petroleum Institute) 602 and ASTM A105N.

Pipe Size	End-to-End Lg.	NPT Female		Socket Weld	
1/4	3 1/8"	4784K31	$55.80	4784K11	$55.80
3/8	3 1/8"	4784K32	55.80	4784K12	55.80
1/2	3 1/8"	4784K33	55.80	4784K13	55.80
3/4	3 1/2"	4784K34	61.55	4784K14	61.55
1	4 3/8"	4784K35	74.21	4784K15	74.21
1 1/4	5"	4784K36	140.94	4784K16	140.94
1 1/2	5"	4784K37	140.94	4784K17	140.94
2	5 1/4"	4784K38	182.94	4784K18	182.94

Lockable Safety-Air-Exhaust Valves



- Max Pressure for Compressed Air: 250 psi @ 250° F (1/2-1 size); 125 psi @ 250° F (1 1/2 and 2 size)
- Max. Pressure for Steam: Not rated
- Temp. Range: -40° to 250° F

Meet OSHA requirements for safety and control in your compressed air system. When closed, these valves vent air pressure through the exhaust port so you can disconnect air tools safely. Connections are NPT female. Gate is aluminum and seals are polyethylene and acetal. Stem is rising. Valves lock in any of four positions using a padlock (not included) with a shackle diameter of 3/8".

Valves with 1/2 to 1 pipe size have an aluminum body; *valves with 1 1/2 and 2 pipe size* have a cast iron body.

Pipe Size	End-to-End Lg.	Exhaust Port, dia.		
1/2	2 3/4"	1/4"	4707K34	$499.79
3/4	2 3/4"	1/4"	4707K35	498.35
1	2 3/4"	1/4"	4707K36	508.03
1 1/2	3 1/2"	1/2"	4707K37	1,831.42
2	3 1/2"	1/2"	4707K38	1,862.17

Plastic Gradual On/Off Valves

- Max. Pressure for Water: See table
- Temp. Range: 35° to 120° F

These valves have a pull handle that starts and stops flow faster than valves with a wheel handle. Body is PVC. Stem is rising. Color is white.

Socket-weld connections are for bonding to unthreaded male plastic pipe. **Unthreaded pipe end connections** are for dispensing or attaching to hose using a hose clamp.

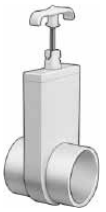


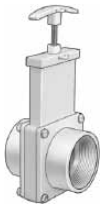

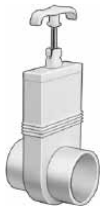

Pipe Size	Max. psi @ 120° F	End-to-End Lg.	Socket Weld × Socket Weld		Socket Weld × Unthreaded Pipe End		Socket Weld × NPT Female		NPT Female × Female		NPT Female × Male		Unthreaded Pipe End × Unthreaded Pipe End	
Glass-Filled Polypropylene Gate—Buna-N Seat														
1 1/2	75	3 3/8"	46065K81	$19.65	46065K82	$19.65	46065K91	$20.59			46065K92	$24.30	46065K83	$19.65
2	40	3 1/2"	46065K84	24.89	46065K85	24.89							46065K86	24.89
304 Stainless Steel Gate—Santoprene Seat														
2	40	3 1/2"	3999K11	41.84	3999K12	41.81	3999K19	45.97	3999K17	$45.97	3999K18	45.97	3999K13	43.93
3	30	4 1/2"	3999K31	47.36	3999K22	47.36	3999K38	49.71	3999K36	49.72	3999K37	51.20	3999K23	47.36
4	20	5 3/16"	3999K32	95.61										
6	10	11 1/8"	3999K33	312.80										

Fast-Acting Flanged Gradual On/Off Valves



- Max. Pressure for Air and Inert Gas: 10 psi @ 1000° F (4 size); 5 psi @ 1000° F (6 size)
- Temp. Range: -40° to 1000° F

Often used as blast gates in air conditioning and ventilating systems, these valves have a pull handle that starts and stops flow more quickly than valves with a wheel handle. They have unthreaded ANSI Class 125 and 150 flange connections and bolt to flanges of the same ANSI class and size. Body is cast iron, gate is 304 stainless steel, and packing is graphite. Stem is rising.

		Flange					
Pipe Size	End-to-End Lg.	OD	Bolt Circle Dia.	Bolt Hole Dia.	No. of Bolt Holes		
4	5 1/4"	9"	7 1/2"	3/4"	8	4723K41	$462.00
6	5 3/4"	11"	9 1/2"	7/8"	8	4723K43	754.60

Ultra-Corrosion-Resistant Flanged Gradual On/Off Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 275 psi @ 100° F
- Max. Pressure for Steam: 150 psi @ 366° F
- Temp. Range: 0° to 375° F

The most corrosion-resistant flanged gradual on/off valves we offer. Body and gate are 316 stainless steel to withstand extremely harsh conditions. Valves have unthreaded ANSI Class 150 flange connections and bolt to flanges of the same ANSI class and size. Packing is PTFE. Stem is rising. Valves meet API (American Petroleum Institute) 603 and ASME B16.34.

		Flange					
Pipe Size	End-to-End Lg.	OD	Bolt Circle Dia.	Bolt Hole Dia.	No. of Bolt Holes		
1	5"	4 1/4"	3 1/8"	1/2"	4	47305K34	$412.79
1 1/2	6 1/2"	5"	3 7/8"	1/2"	4	47305K35	602.38
2	7"	6"	4 3/4"	3/4"	4	47305K36	631.08
3	8"	7 1/2"	6"	3/4"	4	47305K38	1,174.46
4	9"	9"	7 1/2"	3/4"	8	47305K39	1,474.40

For information about gradual on/off valves, see page 469. For information about pipe size, see pages 2-3.

Flanged Gradual On/Off Valves

Cast Iron:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 200 psi @ 150° F
- Max. Pressure for Steam: 125 psi @ 353° F
- Temp. Range: -20° to 450° F

Epoxy-Coated Cast Iron:
- Max. Pressure for Water: 200 psi @ 140° F
- Max. Pressure for Steam: Not rated
- Temp. Range: -35° to 140° F

Steel:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 285 psi @ 100° F
- Max. Pressure for Steam: 150 psi @ 366° F
- Temp. Range: -20° to 800° F

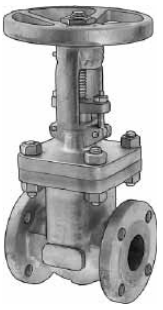

Steel with Rising Stem

Bolt these valves to flanges of the same ANSI class and size. Packing is graphite, unless noted.

Cast iron valves have a cast iron gate. Flange connections are unthreaded ANSI Class 125. *Cast iron valves with nonrising stem* meet ANSI B16.10 and MSS-SP-70.

Epoxy-coated cast iron valves are more corrosion resistant than valves with a plain cast iron or steel body. Gate is rubber-coated cast iron. Flange connections are unthreaded ANSI Class 125. Meet ANSI B16.10, ASTM A126 Class B, AWWA (American Water Works Association) Standard C509, and MSS-SP-70. *Epoxy-coated cast iron valves with a rising stem* are also UL listed and FM approved.

Steel valves have a steel gate. Flange connections are threaded ANSI Class 150. Meet API (American Petroleum Institute) 600 and ASTM A216-WCB.



Cast Iron with Nonrising Stem

Pipe Size	End-to-End Lg.	Flange OD	Flange Bolt Circle Dia.	Flange Bolt Hole Dia.	Flange No. of Bolt Holes	Cast Iron		Epoxy-Coated Cast Iron		Steel	
Rising Stem											
2	7″	6″	4¾″	5⁄8″	4	**3991K11**	$363.33			**49265K11**★	$546.51
2½	7½″	7″	5½″	5⁄8″	4	**3991K12**	366.76	**47815K21**	$476.90	**49265K12**★	744.69
3	8″	7½″	6″	5⁄8″	4	**3991K13**	402.75	**47815K22**	524.77	**49265K13**★	759.32
4	9″	9″	7½″	5⁄8″	8	**3991K14**	576.79	**47815K23**	703.63	**49265K14**★	927.33
6	10½″	11″	9½″	¾″	8	**3991K15**	913.93	**47815K24**	1,119.39		
8	11½″	13½″	11¾″	¾″	8			**47815K25**	1,895.73		
Nonrising Stem											
2	7″	6″	4¾″	5⁄8″	4	**49505K51**	391.89				
2½	7½″	7″	5½″	5⁄8″	4	**49505K52**	405.04				
3	8″	7½″	6″	5⁄8″	4	**49505K53**	408.45	**47575K13**■	366.45		
4	9″	9″	7½″	5⁄8″	8	**49505K54**	582.13	**47575K14**■	509.52		
6	10½″	11″	9½″	¾″	8	**49505K56**	939.34	**47575K15**■	858.85		

★ Bolt hole size is 5⁄8″-11. ■ Packing is Buna-N.

Gradual On/Off Valves with Solder-Connect Fittings

- Max. Pressure for Water, Oil, Air, and Inert Gas: 200 psi @ 100° F
- Max. Pressure for Steam: 15 psi @ 250° F
- Temp. Range: -20° to 250° F

Incorporate gradual on/off control in copper tubing lines—these valves have solder end (unthreaded) female connections. Body and gate are bronze for a long service life. Packing is graphite. Valves meet MSS-SP-80 and are rated Class 125.



Nonrising Stem

For Copper Tube Size♦	For Tube OD	End-to-End Lg.	Rising Stem		Nonrising Stem	
3⁄8	½″	1 5⁄8″	**4923K21**	$28.70	**4923K11**	$26.30
½	5⁄8″	1 7⁄8″	**4923K22**	25.37	**4923K12**	27.04
¾	7⁄8″	2 1⁄2″	**4923K23**	31.94	**4923K13**	28.15
1	1 1⁄8″	3″	**4923K24**	42.31	**4923K14**	37.87
1 1⁄4	1 3⁄8″	3 1⁄4″	**4923K25**	67.13	**4923K15**	57.41
1 1⁄2	1 5⁄8″	3 5⁄8″	**4923K26**	75.09	**4923K16**	65.09
2	2 1⁄8″	4 5⁄16″	**4923K27**	104.07	**4923K17**	90.09

♦ Tube size is an accepted industry designation, not an actual size.

Gradual On/Off Valves for Drinking Water

- Max. Pressure @ 73° F: See table
- Temp. Range: 35° to 140° F (150 psi valves); 40° to 140° F (200 psi valves)



NPT Female

Valves meet NSF/ANSI Standard 61 for use with drinking water. Body is PVC. Stem is nonrising.

Valves with a Max. Pressure of 150 psi @ 73° F— Gate is PVC and seal is EPDM. Choose from white valves for use with Schedule 40 pipe and fittings and dark gray valves for use with Schedule 40 and 80 pipe and fittings. **To Order:** Please specify white or dark gray.

Valves with a Max. Pressure of 200 psi @ 73° F— Gate is polypropylene and seal is Buna-N. Use with Schedule 40 and 80 pipe and fittings. Color is dark gray.

Socket-weld valves bond to unthreaded male plastic pipe.

Pipe Size	End-to-End Lg.	NPT Female		Socket Weld	
Max. Pressure of 150 psi @ 73° F					
1⁄2	2 5⁄16″	**9762K11**	$9.33	**9762K21**	$9.13
3⁄4	2 7⁄16″	**9762K12**	11.57	**9762K22**	11.33
1	2 13⁄16″	**9762K13**	14.72	**9762K23**	14.41
1 1⁄4	3 1⁄16″	**9762K14**	20.36	**9762K24**	19.93
1 1⁄2	3 1⁄4″	**9762K15**	25.76	**9762K25**	25.23
2	4 3⁄16″	**9762K16**	30.89	**9762K26**	30.24
Max. Pressure of 200 psi @ 73° F					
1⁄2	2 13⁄16″	**4974K61**	27.52	**4974K67**	27.52
3⁄4	2 13⁄16″	**4974K62**	33.66	**4974K68**	33.66
1	3 5⁄16″	**4974K63**	39.90	**4974K69**	39.90
1 1⁄2	3 3⁄4″	**4974K85**	65.12	**4974K91**	65.12
2	3 15⁄16″	**4974K66**	83.63	**4974K72**	83.63

Gradual On/Off Valves for Chemicals

- Max. Pressure: 150 psi @ 73° F (Acetal); 200 psi @ 73° F (CPVC and PVC)
- Temp. Range: 35° to 180° F (Acetal); 40° to 200° F (CPVC); 40° to 140° F (PVC)



Socket Weld

A plastic body and fluoroelastomer seal provide excellent chemical resistance. Stem is nonrising.

Acetal valves have an acetal gate. Color is bronze. **CPVC** and **PVC** valves are for use with Schedule 40 and 80 pipe and fittings. *CPVC* valves have a CPVC gate. Color is light gray. *PVC* valves have a polypropylene gate. Color is dark gray.

Socket-weld valves bond to unthreaded male plastic pipe.

Pipe Size	End-to-End Lg.	NPT Female		Socket Weld	
Acetal					
1⁄2	2 5⁄16″	**97705K31**	$11.41		
3⁄4	2 7⁄16″	**97705K32**	13.51		
1	2 13⁄16″	**97705K33**	17.86		
1 1⁄4	3 1⁄16″	**97705K34**	44.19		
1 1⁄2	3 1⁄4″	**97705K35**	30.24		
2	4 3⁄16″	**97705K36**	40.84		
CPVC					
1⁄2	2 13⁄16″	**4931K51**	72.87	**4931K71**	$72.87
1	3 5⁄16″	**4931K53**	86.35	**4931K73**	86.35
2	3 15⁄16″	**4931K56**	191.81	**4931K76**	191.81
PVC					
3⁄4	2 13⁄16″	**4974K32**	38.99	**4974K45**	38.99
1	3 5⁄16″	**4974K33**	48.38	**4974K46**	48.38
1 1⁄2	3 3⁄4″	**4974K35**	78.78	**4974K48**	78.78
2	3 15⁄16″	**4974K36**	101.22	**4974K49**	101.22

Gradual & Actuated On/Off Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about gradual on/off valves, see page 469. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	3 1/2"	4 1/2"	6 5/8"
Pipe Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	3	4	6

Gradual On/Off Valves for Thick Liquids and Dry Materials



For Thick Liquids:
- Max. Pressure: 150 psi @ 212° F
- Temp. Range: -50° to 212° F

For Dry Materials:
- Max. Pressure: 150 psi @ 400° F
- Temp. Range: -50° to 400° F

Also known as knife valves, these have a sharp gate that slices through thick slurries, wastewater, dry bulk solids, and other materials that would clog other gradual on/off valves. They have unthreaded ANSI Class 150 flange connections and bolt to flanges of the same ANSI class and size. Body is cast iron with a 300 series stainless steel liner. Gate is 316 stainless steel. Stem is rising.

Valves for thick liquids have an EPDM seat for a tight seal when used with viscous liquids. **Valves for dry materials** have a 316 stainless steel seat designed for use with dry media.

Pipe Size	End-to-End Lg.	Flange OD	Flange Bolt Circle Dia.	Flange Bolt Hole Dia.	Flange No. of Bolt Holes	For Thick Liquids		For Dry Materials	
2	1 7/8"	6 1/2"	4 3/4"	5/8"	4			6312T31	$416.39
3	2"	7 7/8"	6"	5/8"	4	6312T13	$545.90	6312T32	495.08
4	2"	9 1/16"	7 1/2"	5/8"	8	6312T14	708.20	6312T33	662.30
6	2 1/4"	11 1/4"	9 1/2"	3/4"	8	6312T16	939.34	6312T35	877.05

Gradual On/Off Valves for Boiler Blow-Off



- Max. Pressure for Water: 250 psi @ 350° F
- Temp. Range: 35° to 350° F

Prevent boiler scale deposits and sediment buildup with these valves designed for boiler drainage applications. Valves meet ASME Section 1 Codes for Boiler and Pressure Vessels, ANSI B16.31 for power piping, and ANSI B31.1. Connections are NPT female. Body and gate are cast iron and packing is EPDM and nylon.

Lever handles open and close faster than wheel handles.

Wheel handles open and close slowly to provide more controlled, shock-resistant flow. Stem is nonrising.

Pipe Size	End-to-End Lg.	Lever		Wheel Handle	
1	3 5/8"	4692K31	$563.31	7917T51	$1,095.25
1 1/4	3 5/8"	4692K32	669.92	7917T52	1,178.85
1 1/2	4 1/2"	4692K33	838.85	7917T53	1,263.85
2	4 5/8"	4692K34	944.75	7917T54	1,502.13

Tap Valves

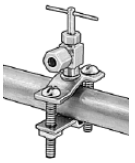

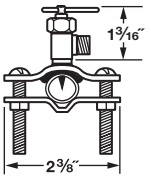

- Max. Pressure for Water, Oil, Air, and Inert Gas: 150 psi @ 180° F
- Temp. Range: 35° to 180° F

Also known as a saddle valve and humidifier valve clamp, this self-piercing valve for copper tubing allows you to tap existing lines to redirect a small amount of liquid for on/off control of a secondary line. It clamps onto tubing with 3/8" to 1 5/16" OD. Outlet connection is a 1/4" compression tube fitting. Body is brass.

4863K12 ..... $12.51

About Actuated On/Off Valves

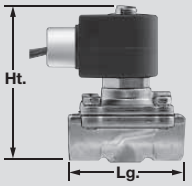

Also known as solenoid valves, actuated on/off valves are operated by an electrical signal. Use a sensor or switch to direct the electrical signal to open or close the valve. All actuated on/off valves are either normally closed or normally open. **Closed unless energized (normally closed)** valves remain closed until they receive an electrical signal to open. When the signal stops, the valve closes. **Open unless energized (normally open)** valves remain open until they receive an electrical signal to close. When the signal stops, the valve opens.

Many actuated on/off valves require a **minimum pressure drop** across the valve to open and close; the upstream pressure must be greater than the downstream pressure. Valves with a minimum pressure drop use less energy to control flow because they are assisted by the pressure in your pipeline.

To prevent foreign particles from impacting valve performance, install an inline strainer before the actuated on/off valve in your system.

Premium Actuated On/Off Valves



- Use with water, air, and inert gas
- Pressure Drop Across Valve: None required
- Temp. Range: 32° to 180° F (AC Valves); 32° to 150° F (DC Valves)

These top-of-the-line valves are interchangeable with Parker Gold Ring 23C Series and Asco Red Hat 8210G Series.

Connections are NPT female. Body is brass and diaphragm is Buna-N. Valves are closed unless energized (normally closed). They have wire leads, a 1/2 trade size conduit port, and draw a max. of 0.84 amps. All meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Mount in horizontal pipe with the solenoid on top. UL listed and CSA certified.

Pipe Size	Lg.	Ht.	AC Valves Max. psi	120V AC	240V AC	24V AC		DC Valves Max. psi	24V DC	
3/8	2 13/16"	4 1/8"	150	2660K12	2660K13	2660K11	$133.14	40	2660K14	$133.14
1/2	2 13/16"	4 1/8"	150	2660K22	2660K23	2660K21	134.06	40	2660K24	134.06
3/4	2 15/16"	4 3/8"	150	2660K32	2660K33	2660K31	148.53	40	2660K34	148.53

Actuated On/Off Valves

- Use with water, oil, air, and inert gas
- Pressure Drop Across Valve: None required
- Temp. Range: 14° to 195° F

The standard choice for automated flow control—no minimum pressure drop is required for operation. Connections are NPT female. Body is brass and diaphragm is Buna-N. Valves are closed unless energized (normally closed). They have a DIN electrical connection and draw a max. of 1.12 amps. All meet NEMA 4 for resistance to washdowns, splashing water, and dust and are suitable for outdoor use. Mount in any position.



Pipe Size	Lg.	Ht.	Max. psi	120V AC	240V AC	24V AC	24V DC	
1/4	2 3/16"	3 1/2"	200	4711K511	4711K514	4711K513	4711K512	$100.49
3/8	2 3/16"	3 1/2"	200	4711K621	4711K625	4711K623	4711K622	100.49
1/2	2 3/4"	4"	200	4711K731	4711K735	4711K733	4711K732	107.43
3/4	2 3/4"	4"	200	4711K841	4711K845	4711K843	4711K842	107.43
1	4 1/16"	4 1/4"	200	4711K951	4711K956★	4711K953	4711K954■	174.99

★ Max. pressure is 115 psi. ■ Max. pressure is 85 psi.

Extended-Life Actuated On/Off Valves

- Use with water, oil, air, and inert gas
- Pressure Drop Across Valve: None required
- Temp. Range: -40° to 212° F

A bronze body and piston provides more strength and durability than brass body valves. Connections are NPT female. Seal is Buna-N. Valves operate on 120 volts AC. They have wire leads and a 1/2 trade size conduit port. Mount in horizontal pipe with the solenoid on top.



Pipe Size	Lg.	Ht.	Max. psi	Amps		
Closed Unless Energized (Normally Closed)						
1/2	3 1/4"	7 1/8"	110	2	4640K31	$220.07
1/2	3 1/4"	7 1/8"	200	2	4640K51	229.22
1/2	3 1/4"	7 1/8"	300	2	4640K71	241.29
1/2	3 1/4"	8"	500	0.8	4640K18	405.29
3/4	3 7/16"	7 3/8"	50	0.4	4640K12	250.94
3/4	3 7/16"	7 3/8"	110	2	4640K32	250.94
3/4	3 7/16"	7 3/8"	160	2	4640K111	303.97
1	4 1/8"	8 1/8"	50	2	4640K13	303.97
1	4 1/8"	8 1/8"	110	2	4640K33	303.97
1	4 1/8"	8 1/8"	160	2	4640K19	348.60
1	4 3/16"	9"	200	2	4640K53	398.12
1	4 3/16"	9"	300	2	4640K73	410.26
1	4 3/16"	9"	500	2	4640K34	552.45
Closed Unless Energized (Normally Closed) (Cont.)						
1 1/4	4 7/16"	8 3/8"	90	0.4	4640K113	$387.27
1 1/2	4 7/8"	10"	50	0.8	4640K15	594.77
1 1/2	4 7/8"	10"	115	2	4640K35	594.77
2	6"	11 1/8"	100	2	4640K36	877.08
Open Unless Energized (Normally Open)						
1/2	3 1/4"	8 3/16"	110	2	4640K21	326.94
1/2	3 1/4"	8 3/16"	200	2	4640K22	336.91
1/2	3 1/4"	8 3/16"	300	0.5	4640K23	343.83
1	4 1/16"	9 1/4"	110	2	4640K29	416.15
1	4 1/8"	10 1/16"	200	1	4640K41	528.42
1 1/2	4 13/16"	11 7/16"	115	1	4640K44	737.13
2	6"	12 1/2"	100	2	4640K48	1,043.57

Premium Energy-Efficient Actuated On/Off Valves

- Use with water, oil, air, and inert gas
- Pressure Drop Across Valve: At least 5 psi required
- Temp. Range: 32° to 180° F (AC Valves); 32° to 150° F (DC Valves)

Comparable to Parker Gold Ring 22C and 24C Series and Asco Red Hat 8210G Series, these valves meet the highest quality standards. For lower energy consumption than standard actuated on/off valves, they use pressure from your pipeline to assist in opening and closing.

Connections are NPT female. Body is brass and diaphragm is Buna-N. Valves are closed unless energized (normally closed). They have wire leads, a 1/2 trade size conduit port, and draw a max. of 0.84 amps. All meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Mount in horizontal pipe with the solenoid on top. UL listed and CSA certified.



Pipe Size	Lg.	Ht.	*AC Valves* Max. psi	120V AC	240V AC	24V AC		*DC Valves* Max. psi	24V DC	
3/8	2 13/16"	4 1/8"	135	2663K12	2663K13	2663K11	$106.00	100	2663K14	$106.00
1/2	2 13/16"	4 1/8"	135	2663K22	2663K23	2663K21	108.14	100	2663K24	108.14
3/4	2 15/16"	4 3/8"	125	2663K32	2663K33	2663K31	139.99			
1	3 3/4"	6 3/8"	100	2663K42	2663K43	2663K41	245.92	125	2663K44	245.92

Energy-Efficient Actuated On/Off Valves

- Use with water, oil, air, and inert gas
- Pressure Drop Across Valve: At least 7 psi required
- Temp. Range: 14° to 195° F

These valves use pressure from your pipeline to assist in opening and closing for lower energy consumption than standard actuated on/off valves. Connections are NPT female. Body is brass and diaphragm is Buna-N. Valves have a DIN electrical connection and draw a max. of 0.6 amps. Mount in any position.

Style A meet IP65 for resistance to dust and low-pressure jets of water, unless noted. **Style B** meet NEMA 4 for resistance to washdowns, splashing water, and dust and are suitable for outdoor use.



A

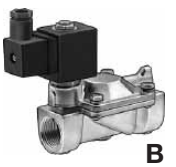

B

	Pipe Size	*AC Valves* Lg.	Ht.	Max. psi	120V AC	240V AC	24V AC		*DC Valves* Lg.	Ht.	Max. psi	24V DC	
Closed Unless Energized (Normally Closed)													
A	3/8	2 3/8"	3 1/4"	230	4738K601	4738K801	4738K701	$105.74	2 3/8"	3 1/4"	230	4738K501	$105.74
A	1/2	2 5/8"	3 1/2"	230	4738K602	4738K802	4738K702	108.78	2 5/8"	3 1/2"	230	4738K502	108.78
A	3/4	3 1/8"	3 1/2"	175	4738K603	4738K803	4738K703	165.69	3 1/8"	3 1/2"	175	4738K503	165.69
A	1	4 1/8"	4 1/4"	175	4738K604	4738K804	4738K704	195.41	4 1/8"	4 1/4"	175	4738K504	195.41
A	1 1/4	5 11/16"	5"	150	4738K615▲	4738K818▲	4738K718▲	417.79	5 11/16"	5"	150	4738K515▲	417.79
A	1 1/2	5 11/16"	5"	150	4738K616▲	4738K816▲	4738K716▲	450.23	5 11/16"	5"	150	4738K516▲	450.23
A	2	6 13/16"	5 9/16"	150	4738K617▲	4738K817▲	4738K717▲	545.35	6 13/16"	5 9/16"	150	4738K517▲	545.35
B	1/4	2"	3 5/8"	300	4738K138	4738K809	4738K137	79.64	2"	3 5/8"	150	4738K151	79.64
B	3/8	2"	3 5/8"	300	4738K147	4738K821	4738K149	81.86	2"	3 5/8"	150	4738K152	81.86
B	1/2	2 7/8"	3 5/8"	300	4738K157	4738K822	4738K158	84.20	2 7/8"	3 5/8"	150	4738K153	84.20
B	3/4	4 1/16"	4 1/8"	230	4738K167	4738K823	4738K169	121.75	4 1/16"	4 1/8"	230	4738K168	121.75
B	1	4 1/16"	4 1/2"	230	4738K177	4738K824	4738K179	131.74	4 1/16"	4 1/2"	230	4738K178	131.74
Open Unless Energized (Normally Open)													
A	1/2	2 5/8"	3 3/8"	130	4738K741	4738K742	4738K743	116.03	2 9/16"	3 3/16"	230	4738K845▲	114.29
A	3/4	3 1/8"	3 5/8"	130	4738K744	4738K745	4738K746	127.35	4 1/16"	4 1/8"	230	4738K846▲	125.46
A	1	4 1/8"	4 1/4"	130	4738K747	4738K748	4738K749	189.55	4 1/16"	4 3/8"	230	4738K847▲	186.74

▲ Valve meets NEMA 4.

Actuated On/Off Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about actuated on/off valves, see page 472. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

Extended-Life Energy-Efficient Actuated On/Off Valves



Standard



Compact

- Use with water, oil, air, and inert gas
- Pressure Drop Across Valve: At least 10 psi required
- Temp. Range: -40° to 220° F

To outlast valves with a brass body, these have a bronze body for more strength and durability. They use pressure from your pipeline to assist in opening and closing for lower energy consumption than standard actuated on/off valves. Connections are NPT female. Piston is brass and seal is Buna-N. Valves have wire leads and a 1/2 trade size conduit port. Mount in horizontal pipe with the solenoid on top.

Standard—*120 volt AC* valves draw a max. of 0.32 amps; *24 volt DC* valves draw a max. of 1 amp.

Compact—These have a shorter height than standard valves for use in low clearance areas. Valves draw a max. of 1 amp. All meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. *120/240 volt AC* valves are UL listed and CSA certified.

Standard

Pipe Size	Lg.	Ht.	Max. psi	120V AC	24V DC	
Closed Unless Energized (Normally Closed)						
3/8	2 3/4"	6 5/16"	150	**4809K113**		$220.11
1/2	2 3/4"	6 5/16"	150	**4809K114**		220.11
3/4	3 1/4"	6 5/8"	150	**4809K115**		260.00
1	3 13/16"	7"	150	**4809K116**		339.30
Open Unless Energized (Normally Open)						
1/4	2 3/4"	7 5/16"	150	**4635K161**	**4635K102**	173.18
1/4	2 3/4"	7 5/16"	300	**4635K289**	**4635K132**	186.88
3/8	2 3/4"	7 5/16"	150	**4635K162**	**4635K104**	175.10
1/2	2 3/4"	7 5/16"	150	**4635K163**	**4635K112**	181.06
1/2	2 3/4"	7 5/16"	300	**4635K311**	**4635K134**	191.14
3/4	3 1/4"	7 9/16"	150	**4635K164**	**4635K114**	218.87
1	3 13/16"	8"	150	**4635K165**	**4635K116**	312.51
1	3 13/16"	8"	300	**4635K313**	**4635K138**	322.27
1 1/4	4 1/4"	8 5/8"	150	**4635K166**	**4635K118**	356.01
1 1/2	4 7/8"	9 3/8"	150	**4635K167**	**4635K122**	464.01
2	5 7/8"	9 7/8"	150	**4635K168**	**4635K142**	640.13
2	5 7/8"	9 7/8"	300	**4635K314**	**4635K272**	646.22

Compact

Pipe Size	Lg.	Ht.	Max. psi	120/ 240V AC	24V DC	
Closed Unless Energized (Normally Closed)						
1/4	2 3/4"	4 15/16"	125	**4635K172**	**4635K235**	$137.29
1/4	2 3/4"	4 15/16"	250	**4635K32**	**4635K255**	202.39
3/8	2 3/4"	4 15/16"	125	**4635K173**	**4635K237**	137.29
1/2	2 3/4"	4 15/16"	125	**4635K174**	**4635K239**	137.29
1/2	2 3/4"	4 15/16"	250	**4635K34**	**4635K259**	202.39
3/4	3 1/4"	5 1/4"	125	**4635K175**	**4635K242**	175.20
3/4	3 1/4"	5 5/16"	250	**4635K35**	**4635K262**	242.27
1	3 13/16"	5 11/16"	125	**4635K176**	**4635K244**	269.49
1	3 13/16"	5 11/16"	250	**4635K36**	**4635K264**	364.89
1 1/4	4 1/4"	6 5/16"	125	**4635K177**	**4635K246**	302.87
1 1/2	4 7/8"	6 15/16"	125	**4635K178**	**4635K248**	419.79
1 1/2	4 7/8"	6 15/16"	250	**4635K38**	**4635K268**	423.52
2	5 7/8"	7 9/16"	125	**4635K179**	**4635K251**	569.96
2	5 7/8"	7 9/16"	250	**4635K41**	**4635K271**	759.91

Corrosion-Resistant Energy-Efficient Actuated On/Off Valves



- Use with water, oil, air, and inert gas
- Pressure Drop Across Valve: At least 5 psi required
- Temp. Range: 32° to 180° F

To withstand corrosion in wet conditions and harsh environments, these valves have a 316 stainless steel body. They operate with the assistance of pressure from your pipeline for lower energy consumption than standard actuated on/off valves.

Connections are NPT female. Diaphragm is Buna-N. Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have wire leads, a 1/2 trade size conduit port, and draw a max. of 0.16 amps. Valves meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Mount in any position. UL listed.

Pipe Size	Lg.	Ht.	Max. psi		
3/8	2 13/16"	3 7/8"	150	**48025K711**	$342.21
1/2	2 13/16"	3 7/8"	150	**48025K721**	570.95
3/4	2 15/16"	4 1/16"	150	**48025K741**	585.23
1	3 3/4"	5 11/16"	100	**48025K731**	990.67

Anti-Water-Hammer Actuated On/Off Valves



- Use with water
- Pressure Drop Across Valve: At least 5 psi required
- Temp. Range: 32° to 185° F

Reduce the risk of system damage caused by suddenly starting or stopping flow with these valves that open and close more slowly than other actuated on/off valves. They use pressure from your pipeline to assist in opening and closing to reduce energy consumption.

Connections are NPT female. Body is brass and diaphragm is Buna-N. Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have wire leads, a 1/2 trade size conduit port, and draw a max. of 0.15 amps. All meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Mount in horizontal pipe with the solenoid on top. UL and C-UL listed.

Pipe Size	Lg.	Ht.	Max. psi		
1/2	2 3/16"	3 5/8"	150	**4241T44**	$282.71
3/4	3 15/16"	4 3/4"	230	**4241T42**	302.32
1	3 15/16"	4 3/4"	230	**4241T43**	527.65

Hazardous-Location Actuated On/Off Valves



- Use with water, oil, air, and inert gas
- Pressure Drop Across Valve: At least 5 psi required
- Temp. Range: -40° to 220° F

Often used in refineries and other environments with flammable gases and combustible dust, these valves are rated for use in hazardous locations. They meet NEMA 7 and are UL listed for Class I, Group D and Class II, Groups E, F, and G hazardous locations. All use pressure from your pipeline to assist in opening and closing for lower energy consumption than standard actuated on/off valves.

Connections are NPT female. Body is bronze for durability and a long service life. Piston is brass and seal is Buna-N. Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have wire leads, a 1/2 trade size conduit port, and draw a max. of 0.32 amps. Mount in horizontal pipe with the solenoid on top. UL listed and CSA certified.

Pipe Size	Lg.	Ht.	Max. psi		
1/2	2 3/4"	7 1/4"	150	**4691K14**	$336.82
3/4	3 1/4"	7 1/4"	150	**4691K15**	376.70
1	3 13/16"	7 5/8"	150	**4691K16**	442.00
2	5 7/8"	9 1/2"	150	**4691K19**	802.75

High-Pressure Hazardous-Location Actuated On/Off Valves



- Pressure Drop Across Valve: None required
- Temp. Range: 0° to 100° F

Rated for up to four times the pressure of standard hazardous-location actuated on/off valves, these are often used to control flow through high-pressure pipelines in environments with flammable gases and combustible dust. All meet NEMA 9 and are UL listed for Class I, Division 1, Groups C and D and Class II, Division 2, Groups A, B, C, D, E, F, and G hazardous locations.

Connections are NPT female. Body is 303 stainless steel for excellent corrosion resistance and seal is CTFE. Valves are closed unless energized (normally closed). They have wire leads and a 1/2 trade size conduit port. Size is 2 5/8" Lg. x 3 1/4" Ht. Mount vertically.

120 volt AC valves draw a max. of 0.12 amps; *24 volt DC* valves draw a max. of 0.4 amps.

Pipe Size	120V AC Max. psi		24V DC Max. psi		
For Air and Inert Gas					
1/8	650	1194N11	100	1194N21	$165.10
1/8	1,750	1194N12	500	1194N22	153.30
1/8	2,500	1194N13	1,500	1194N23	153.30
1/4	650	1194N14	100	1194N24	165.10
1/4	1,750	1194N15	500	1194N25	153.30
1/4	2,500	1194N16	1,500	1194N26	153.30
For Water and Oil					
1/8	650	1194N31	100	1194N41	165.10
1/8	1,000	1194N32	500	1194N42	153.30
1/8	1,500	1194N33	1,500	1194N43	153.30
1/4	650	1194N34	100	1194N44	165.10
1/4	1,000	1194N35	500	1194N45	153.30
1/4	1,500	1194N36	1,500	1194N46	153.30

Premium Compact Actuated On/Off Valves





- Use with water, oil, air, and inert gas
- Pressure Drop Across Valve: None required
- Temp. Range: -40° to 185° F

Interchangeable with industry standard valves from Asco, Parker Gold Ring, and Skinner, these are top of the line. Connections are NPT female. Body is 430 stainless steel and seal is Buna-N. Valves have wire leads, a 1/2 trade size conduit port, and draw a max. of 0.41 amps. They meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Mount in any position. UL listed and CSA certified.

Normally open valves have a top outlet.

Pipe Size	Lg.	Ht.	120V AC Max. psi		24V DC Max. psi		
Closed Unless Energized (Normally Closed)							
1/8	1 5/8"	2 7/8"	200	4639K74	150	4639K743	$89.76
1/4	1 5/8"	2 7/8"	40	4639K161	10	4639K163	91.59
1/4	1 5/8"	2 7/8"	110	4639K151	60	4639K153	93.42
1/4	1 5/8"	2 7/8"	200	4639K78	150	4639K783	94.56
1/4	1 5/8"	2 7/8"	275	4639K77	275	4639K772	96.45
1/4	1 5/8"	2 7/8"	450	4639K75	450	4639K752	98.38
Open Unless Energized (Normally Open)							
1/8	1 5/8"	3 11/16"	250	4639K53	250	4639K532	117.05
1/4	1 5/8"	3 7/8"	250	4639K62	250	4639K622	119.43
1/4	1 5/8"	3 7/8"	400	4639K54	400	4639K542	121.82

Compact Actuated On/Off Valves









- Pressure Drop Across Valve: None required
- Temp Range:
  14° to 190° F (Style A);
  32° to 120° F (Styles B and C);
  32° to 210° F (Style D)

Connections are NPT female. Body is brass. Valves are closed unless energized (normally closed). Mount in any position.

Style A have a DIN electrical connection.

Styles B-D have wire leads and a 1/2 trade size conduit port. They meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. UL listed and CSA certified.

	Pipe Size	Lg.	Ht.	AC Valves: Max. psi	120V AC Amps		24V AC Amps			DC Valves: Max. psi	Amps	24V DC	
For Water, Air, and Inert Gas—Buna-N Seal													
A	1/4	1 9/16"	3 3/16"	48	0.37	8077K245	1.83	8077K246	$69.82	20	0.54	8077K247	$69.82
A	1/4	1 9/16"	3 3/16"	110	0.37	8077K235	1.83	8077K236	69.82	55	0.54	8077K237	69.82
A	1/4	1 11/16"	2 9/16"	100	0.13	8077K225	0.67	8077K226	67.95	50	0.25	8077K227	67.95
A	1/4	1 11/16"	3"	290	0.19	8077K215	0.96	8077K216	93.09	230	0.38	8077K217	93.09
B	1/4	1 3/16"	3"	140	0.13	8077K523	0.66	8077K522	67.60	60	0.39	8077K521	67.60
C	3/8	1 7/8"	3 1/4"	100	0.31	8077K533	1.08	8077K532	114.16	25	0.48	8077K531	114.16
For Oil—Synthetic Ruby Seal													
D	1/8	1 9/16"	3 1/8"	500	0.15	46365K311	0.75	46365K312	102.80	175	0.41	46365K313	102.80
D	1/4	1 9/16"	3 1/8"	365	0.15	46365K351	0.75	46365K352	104.85	125	0.41	46365K353	104.85
D	1/4	1 9/16"	3 1/8"	500	0.15	46365K341	0.75	46365K342	106.96	175	0.41	46365K343	106.96
D	1/4	1 9/16"	3 1/8"	700	0.15	46365K331	0.75	46365K332	109.09	260	0.41	46365K333	109.09
D	1/4	1 9/16"	3 1/8"	1,100	0.15	46365K321	0.75	46365K322	111.26	435	0.41	46365K323	111.26

Corrosion-Resistant Compact Actuated On/Off Valves



- Use with water, oil, air, and inert gas
- Pressure Drop Across Valve: None required
- Temp. Range: 32° to 180° F (120V AC valves); 32° to 120° F (24V DC valves)

For more corrosion resistance than standard compact valves with a brass body, these have a 303 stainless steel body. Connections are NPT female. Seal is Buna-N. Valves are closed unless energized (normally closed). They have wire leads and a 1/2 trade size conduit port. All meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Mount in any position. UL listed and CSA certified, unless noted.

Pipe Size	Lg.	Ht.	Max. psi	Amps		
120V AC						
1/4	1 9/16"	3"	40	0.13	8214K543	$115.02
1/4	1 9/16"	3"	160	0.13	8214K521	117.04
1/4	1 9/16"	3"	500	0.13	8214K511	119.40
1/4	1 9/16"	3 1/8"	145	0.16	8214K532	121.26
24V DC						
1/4	1 9/16"	3"	17	0.39	8214K541★	115.02
1/4	1 9/16"	3"	125	0.39	8214K523	117.04
1/4	1 9/16"	3"	500	0.39	8214K513	119.40
1/4	1 9/16"	3 1/8"	40	0.48	8214K531	121.26

★Not UL listed or CSA certified.

Actuated On/Off Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about actuated on/off valves, see page 472. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

High-Pressure Compact Actuated On/Off Valves



430 Stainless Steel



303 Stainless Steel

- Use with water, oil, air, and inert gas
- Pressure Drop Across Valve: None required
- Temp. Range:
  32° to 165°F (PCTFE Seal);
  32° to 185°F (PTFE and Nylon Seals);
  0° to 100°F (CTFE Seal)

Control flow in high-pressure lines in tight spots—these valves have the highest pressure ratings of our compact actuated on/off valves. Connections are NPT female. Valves are closed unless energized (normally closed). They have wire leads and a 1/2 trade size conduit port.

430 stainless steel valves meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. They draw a max of 0.41 amps. Size is 1 5/8" Lg. x 2 7/8" Ht. Mount in horizontal pipe with the solenoid on top. *Valves with PCTFE* and *PTFE* seals are UL listed and CSA certified.

303 stainless steel valves are more corrosion resistant than 430 stainless steel valves. Size is 2 3/8" Lg. x 2 3/4" Ht. Mount vertically. *120 volt AC* valves draw a max. of 0.12 amps; *24 volt DC* valves draw a max. of 0.4 amps.

Pipe Size	120V AC Max. psi		24V DC Max. psi		
430 Stainless Steel					
PCTFE Seal					
1/8	1,000	48325K411	520	48325K413	$101.48
1/4	1,000	48325K441	520	48325K443	103.77
PTFE Seal					
1/8	1,500	48325K27	1,000	48325K282	160.25
1/4	1,500	48325K37	1,000	48325K382	163.46
Nylon Seal					
1/8	3,000	48325K25	2,500	48325K262	166.79
1/4	3,000	48325K35	2,500	48325K362	170.12
303 Stainless Steel					
CTFE Seal					
1/8	3,000	1190N11	3,000	1190N21	109.08
1/8	5,000	1190N12	5,000	1190N22	109.08
1/4	3,000	1190N13	3,000	1190N23	109.08
1/4	5,000	1190N14	5,000	1190N24	109.08

Miniature Actuated On/Off Valves



- Use with air and inert gas
- Pressure Drop Across Valve: None required
- Temp. Range: 32° to 140°F

Less than half the size of our compact actuated on/off valves, these have small pipe connections for miniature lines. Connections are 10-32 UNF female. Body is 303 stainless steel for excellent corrosion resistance. Seal is fluoroelastomer. Valves are closed unless energized (normally closed) and have wire leads. Size is 3/4" Dia. x 1 11/16" Ht. Mount in any position.

Max. psi	Amps		
12V DC			
30	0.17	5001T35	$74.78
100	0.17	5001T37	74.78
100	0.05	5001T41	74.78
24V DC			
30	0.08	5001T36	74.78
100	0.08	5001T38	74.78
100	0.03	5001T42	74.78

Compact Actuated On/Off Valves with Push-to-Connect Fittings



- Use with water, air, and inert gas
- Pressure Drop Across Valve: None required
- Temp. Range: -10° to 100°F

Insert plastic or soft metal tubing into the push-to-connect fittings on these small valves for a low-pressure seal. Body is polycarbonate and seal is Buna-N. Valves are closed unless energized (normally closed) and have a 1/4" quick-disconnect electrical connection. Mount in any position. CSA certified.

120 volt AC valves draw a max. of 0.09 amps; *24 volt DC* valves draw a max. of 0.78 amps.

For Tube OD	Lg.	Ht.	Max. psi	120V AC	24V DC	
1/4"	2 1/16"	3"	40	5489T451	5489T453	$68.73
1/4"	2 1/16"	3"	80	5489T431	5489T433	70.09
1/4"	2 1/16"	3"	120	5489T411	5489T413	71.51
3/8"	2 3/8"	3"	5	5489T491	5489T493	70.42

Actuated On/Off Valves for Steam and Hot Water



- Pressure Drop Across Valve: None required
- Temp. Range: 32° to 300°F

Body is brass and diaphragm is EPDM. Connections are NPT female. Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have wire leads, a 1/2 trade size conduit port, and draw a max. of 0.19 amps. Valves meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Mount in horizontal pipe with the solenoid on top.

Pipe Size	Lg.	Ht.	Max. psi Steam	Max. psi Hot Water		
3/8	2 13/16"	3 7/8"	50	150	47905K72	$148.36
1/2	2 13/16"	3 7/8"	50	150	47905K73	157.64
3/4	2 15/16"	4"	50	150	47905K74	177.80

Extended-Life Actuated On/Off Valves for Steam



- Pressure Drop Across Valve: None required
- Temp. Range: -350° to 400°F

With a durable bronze body and piston, these valves last longer than brass body valves. Connections are NPT female. Seal is glass-filled PTFE. Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have wire leads, a 1/2 trade size conduit port, and draw a max. of 2 amps. Mount in horizontal pipe with the solenoid on top.

Pipe Size	Lg.	Ht.	Max. psi		
1/2	3 1/4"	7"	90	7841K35	$272.65
1/2	3 1/4"	7"	140	7841K37	279.89
1/2	3 1/4"	8"	180	7841K11	372.00
3/4	3 1/2"	7 3/8"	50	7841K42	305.23
3/4	3 1/2"	7 3/8"	110	7841K46	312.47
3/4	3 1/2"	8 1/4"	180	7841K12	409.20
1	4 1/8"	8"	50	7841K52	367.96

Pipe Size	Lg.	Ht.	Max. psi		
1	4 1/8"	8"	90	7841K55	$378.82
1	4 1/8"	9"	180	7841K13	484.80
1 1/4	4 7/16"	9 7/16"	140	7841K14	556.80
1 1/2	4 7/8"	10"	90	7841K75	686.46
1 1/2	4 7/8"	11"	180	7841K78	1,013.70
2	6"	12 1/16"	115	7841K86	1,445.31
2	6"	12 1/16"	180	7841K88	1,497.74

Energy-Efficient Actuated On/Off Valves for Steam



- Pressure Drop Across Valve: At least 1 psi required, unless noted
- Temp. Range: 32° to 350° F, unless noted

These valves use pressure from your pipeline to assist in opening and closing for lower energy consumption than standard actuated on/off valves. Connections are NPT female. Body is brass and diaphragm is PTFE, unless noted. Valves have wire leads, a 1/2 trade size conduit port, and draw a max. of 0.83 amps, unless noted. They meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Mount in horizontal pipe with the coil on top. UL listed and CSA certified.

Pipe Size	Lg.	Ht.	Max. psi	120V AC	24V AC	
Closed Unless Energized (Normally Closed)						
3/8	2 1/2"	3 13/16"	125	47905K61	47905K62	$223.71
1/2	2 1/2"	3 13/16"	125	47905K63	47905K64	237.01
3/4	3 1/8"	4 1/8"	125	47905K65	47905K66	265.90
1	4 9/16"	4 5/8"	50	47905K71★		365.81
1	4 9/16"	4 5/8"	125	47905K67	47905K68	504.20
1	5 3/8"	4 13/16"	150	49225K76■▲	49225K71■	398.30
Open Unless Energized (Normally Open)						
3/4	3 13/16"	4 11/16"	150	49225K83▲	49225K74	299.75

★Diaphragm is EPDM. Temp. range is 32° to 300° F.
■ A pressure drop of at least 10 psi is required for operation.
▲ Draws a max. of 0.16 amps.

Actuated On/Off Valves for Coolants and Detergents



- Use with degreasing fluid, ethylene glycol, and soap solutions
- Pressure Drop Across Valve: None required
- Temp. Range: 32° to 230° F

Body is brass and diaphragm is fluoroelastomer. Connections are NPT female. Valves have wire leads and a 1/2 trade size conduit port. They meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Mount in any position. UL listed.

120 volt AC valves draw a max. of 0.19 amps; *24 volt AC* and *24 volt DC* valves draw a max. of 1.12 amps.

AC Valves

Pipe Size	Lg.	Ht.	Max. psi	120V AC	24V AC	
Closed Unless Energized (Normally Closed)						
3/8	2 7/8"	4"	90	48765K411	48765K412	$161.19
1/2	2 7/8"	4"	90	48765K511	48765K512	161.19
3/4	2 7/8"	4 1/8"	90	48765K611	48765K612	182.11
1	3 3/4"	5 1/8"	50	48765K77	48765K78	268.10
1 1/4	4 3/8"	5 7/8"	50	48765K79	48765K81	383.03
1 1/2	4 3/8"	5 7/8"	50	48765K82	48765K83	388.78
Open Unless Energized (Normally Open)						
3/8	2 7/8"	4 1/2"	200	48765K84	48765K85	217.05
1/2	2 7/8"	4 1/2"	200	48765K87	48765K88	217.05
3/4	2 7/8"	4 5/8"	200	48765K91	48765K92	220.28

DC Valves

Pipe Size	Lg.	Ht.	Max. psi	24V DC	
Closed Unless Energized (Normally Closed)					
3/8	2 7/8"	4"	70	48765K74	$161.19
1/2	2 7/8"	4"	70	48765K75	161.19
3/4	2 7/8"	4 1/8"	70	48765K76	182.11
Open Unless Energized (Normally Open)					
3/8	2 7/8"	4 1/2"	125	48765K86	217.05
1/2	2 7/8"	4 1/2"	125	48765K89	217.05
3/4	2 7/8"	4 5/8"	125	48765K93	220.28

Extended-Life Energy-Efficient Actuated On/Off Valves for Steam and Hot Water


A


B

- Pressure Drop Across Valve: At least 5 psi required
- Temp. Range: -40° to 365° F (Style A); -40° to 355° F (Style B)

To extend service life, these valves have a bronze body for more strength and durability than valves with a brass body. They use pressure from your pipeline to assist in opening and closing for lower energy consumption than standard actuated on/off valves.

Connections are NPT female. Piston is brass and seal is PTFE. Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have wire leads and a 1/2 trade size conduit port. Mount in horizontal pipe with the solenoid on top. UL listed and CSA certified.

Style A draw a max. of 0.42 amps.

Style B meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Valves draw a max. of 1 amp.

Pipe Size	Lg.	Ht.	Max. psi		
Style A					
1/4	2 3/4"	6 5/16"	150	9766K122	$204.25
3/8	2 3/4"	6 1/4"	150	9766K123	204.25
1/2	2 3/4"	6 5/16"	150	9766K124	204.25
3/4	3 1/4"	6 5/8"	150	9766K131	244.18
1	3 13/16"	7 1/16"	150	9766K126	324.73
1 1/4	4 1/4"	7 3/4"	150	9766K127	424.27
1 1/2	4 7/8"	8 5/16"	150	9766K128	550.39
2	5 7/8"	8 15/16"	150	9766K129	826.36
Style B					
1/4	2 3/4"	4 15/16"	125	9766K91	165.91
3/8	2 3/4"	4 15/16"	125	9766K92	165.91
1/2	3 1/4"	4 15/16"	125	9766K93	165.91
3/4	3 1/4"	5 5/16"	125	9766K94	209.19
1	3 13/16"	5 11/16"	125	9766K95	295.81
1 1/4	4 1/4"	6 5/16"	125	9766K96	388.51
1 1/2	4 7/8"	6 15/16"	125	9766K97	461.41

Corrosion-Resistant Actuated On/Off Valves for Steam and Hot Water



- Pressure Drop Across Valve: At least 10 psi required
- Temp. Range: 32° to 365° F

With a 316 stainless steel body, these valves resist corrosion in harsh environments and wet conditions. They use pressure from your pipeline to assist in opening and closing for lower energy consumption than standard actuated on/off valves.

Connections are NPT female. Diaphragm is PTFE. Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have wire leads, a 1/2 trade size conduit port, and draw a max. of 0.11 amps. All meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Mount in horizontal pipe with solenoid on top. UL listed and CSA certified.

Pipe Size	Lg.	Ht.	Max. psi		
1 1/4	6 1/4"	5 3/4"	150	49225K77	$486.76
1 1/2	6 1/4"	5 3/4"	150	49225K78	486.76
2	6 1/2"	6 5/8"	150	49225K79	672.07

Actuated On/Off Valves with Strainer for Coolants and Detergents



- Use with ethylene glycol and soap solutions
- Pressure Drop Across Valve: At least 3 psi required
- Temp. Range: 32° to 180° F

To keep these valves operating efficiently, a built-in 60-mesh strainer traps debris and lets you replace the screen without disconnecting your pipeline. Valves use pressure from your pipeline to assist in opening and closing for lower energy consumption. Connections are NPT female. Body is brass and diaphragm is EPDM. Valves are closed unless energized (normally closed). They have a 1/4" quick-disconnect electrical connection. Size is 2 7/16" Lg. × 3 3/4" Ht. Mount in horizontal pipe with the solenoid on top.

Pipe Size	Max. psi	120V AC Amps	120V AC	240V AC Amps	240V AC	24V AC Amps	24V AC	24V DC Amps	24V DC	
1/4	125	0.1	4590K13	0.1	4590K16	0.48	4590K15	0.48	4590K14	$50.25
3/8	125	0.1	4590K23	0.1	4590K26	0.48	4590K25	0.48	4590K24	52.61

Actuated On/Off Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about actuated on/off valves, see page 472. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

Corrosion-Resistant Actuated On/Off Valves for Coolants and Detergents



304 Stainless Steel



316 Stainless Steel

- Use with ethylene glycol and soap solutions
- Pressure Drop Across Valve: None required
- Temp. Range:
  -320° to 400° F (304 Stainless Steel);
  14° to 300° F (316 Stainless Steel)

For excellent corrosion resistance in harsh environments, these valves have a stainless steel body. Connections are NPT female. Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have wire leads and a 1/2 trade size conduit port.

304 stainless steel valves have a 303 stainless steel piston and a glass-filled PTFE seal. They draw a max. of 0.8 amps. Mount in horizontal pipe with the solenoid on top.

316 stainless steel valves have the best corrosion resistance. Diaphragm is fluoroelastomer. Valves draw a max. of 0.16 amps. They meet NEMA 2 for resistance to dripping liquid and light splashing. Mount in any position. UL listed and CSA certified.

Pipe Size	Lg.	Ht.	Max. psi		
304 Stainless Steel					
1/2	3 1/4"	7 3/16"	110	8117K35	$447.66
1/2	3 1/4"	7 3/16"	200	8117K36	489.74
1/2	3 1/4"	8"	300	8117K37	666.23
3/4	3 1/2"	7 5/16"	110	8117K45	536.49
1	4 1/8"	8"	110	8117K55	618.31
1	4 1/8"	8 7/8"	200	8117K56	778.44

Pipe Size	Lg.	Ht.	Max. psi		
316 Stainless Steel					
3/8	3 7/16"	4 1/8"	150	47795K11	$437.68
1/2	3 7/16"	4 1/8"	150	47795K12	483.10
3/4	3 7/16"	4 1/8"	150	47795K13	541.75
1	3 1/2"	4 7/16"	150	47795K14	645.84

Energy-Efficient Actuated On/Off Valves for Coolants and Detergents

These valves use pressure from your pipeline to assist in opening and closing for lower energy consumption than standard actuated on/off valves. Connections are NPT female. Diaphragm is fluoroelastomer. Valves are closed unless energized (normally closed). Mount in any position.

Standard—Brass Body



- Use with cutting oils and ethylene glycol
- Pressure Drop Across Valve: At least 5 psi required
- Temp. Range: 32° to 230° F

Valves have wire leads, a 1/2 trade size conduit port, and draw a max. of 0.55 amps. They meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. UL listed and CSA certified.

			AC Valves			*DC Valves*	
Pipe Size	Lg.	Ht.	Max. psi	120V AC	24V AC	Max. psi	24V DC
3/8	3 3/16"	4 1/4"	250	4868K31	4868K32 $119.76	150	4868K33 $119.76
1/2	3 3/16"	4 1/4"	250	4868K71	4868K72 119.76	150	4868K73 119.76
3/4	3 7/8"	4 1/2"	250	4868K75	4868K76 163.26	150	4868K77 163.26
1	3 3/4"	4 3/4"	100	4868K78	4868K79 252.91	100	4868K81 252.91
1 1/4	4 3/8"	5 1/2"	85	4868K82	4868K83 329.25	85	4868K84 329.25
1 1/2	4 3/8"	5 1/2"	85	4868K93	4868K94 340.40	85	4868K95 340.40
2	5 5/8"	6 1/8"	85	4868K96	4868K97 526.84	85	4868K98 526.84

Corrosion Resistant—Nickel-Plated Brass Body



- Use with ethylene glycol and soap solutions
- Pressure Drop Across Valve: At least 2 psi required
- Temp. Range: 14° to 280° F

Valves have a nickel-plated brass body for more corrosion resistance than plain brass. They have a DIN electrical connection. All meet NEMA 4 for resistance to washdowns, splashing water, and dust. They are suitable for outdoor use. *120 volt AC* valves draw a max. of 0.12 amps; *24 volt DC* valves draw a max. of 0.33 amps.

			120V AC			24V DC	
Pipe Size	Lg.	Ht.	Max. psi			Max. psi	
1/4	2"	3 5/8"	300	7944K212	$93.31	150	7944K32 $93.31
3/8	2"	3 5/8"	300	7944K222	93.31	150	7944K34 93.31
1/2	2 7/8"	3 5/8"	300	7944K232	93.31	150	7944K36 93.31
3/4	4 1/16"	4 1/8"	230	7944K242	137.05	230	7944K38 137.05
1	4 1/16"	4 1/2"	230	7944K252	175.02	230	7944K41 175.02
1 1/4	5 11/16"	5"	150	7944K262	293.18	150	7944K47 293.18
1 1/2	5 11/16"	5"	150	7944K272	305.16	150	7944K44 305.16
2	6 13/16"	5 5/8"	150	7944K282	384.52	150	7944K46 384.52

Ultra-Corrosion-Resistant Actuated On/Off Valves for Coolants and Detergents



- Use with ethylene glycol and soap solutions
- Pressure Drop Across Valve: At least 20 psi required
- Temp. Range: -40° to 300° F

A 316 stainless steel body provides the best corrosion resistance in wet environments and harsh conditions. These valves use pressure from your pipeline to assist in opening and closing, so they consume less energy than standard actuated on/off valves.

Connections are NPT female. Piston is 303 stainless steel and seal is PTFE. Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have wire leads, a 1/2 trade size conduit port, and draw a max. of 0.6 amps. Mount in horizontal pipe with the solenoid on top.

Pipe Size	Lg.	Ht.	Max. psi		
1/2	3 3/16"	6 3/4"	1,000	4665K24	$598.75
1	4 3/16"	7 7/16"	1,000	4665K26	936.50

Compact Actuated On/Off Valves for Coolants

- Use with ethylene glycol
- Pressure Drop Across Valve: None required
- Temp. Range: 32° to 195° F

Body is brass and seal is fluoroelastomer. Connections are NPT female. Valves are closed unless energized (normally closed) and have a DIN electrical connection. They meet IP65 for resistance to dust and low-pressure jets of water. Mount in any position.



Pipe Size	Lg.	Ht.	AC Valves: Max. psi	120V AC Amps		24V AC Amps		DC Valves: Max. psi	24V DC Amps		
1/8	1"	2 1/8"	87	0.05	7994K571	0.17	7994K572 $69.58	43	0.17	7994K573	$69.58
1/8	1"	2 1/8"	116	0.05	7994K561	0.17	7994K562 68.23	65	0.17	7994K563	68.23
1/8	1"	2 1/8"	174	0.05	7994K551	0.17	7994K552 66.89	87	0.17	7994K553	66.89
1/8	1 1/16"	2 1/2"	87	0.13	4807T125	0.67	4807T126 63.58	20	0.25	4807T127	63.58
1/8	1 1/4"	2 13/16"	290	0.19	4807T115	0.96	4807T116 116.30	230	0.38	4807T117	116.30
1/4	1 11/16"	3"	174	0.19	4807T135	0.96	4807T136 92.08	58	0.38	4807T137	92.08

Corrosion-Resistant Compact Actuated On/Off Valves for Coolants

- Use with ethylene glycol
- Pressure Drop Across Valve: None required
- Temp. Range: 32° to 212° F


A


B

Resist corrosion in harsh conditions using these valves with a 303 stainless steel body. Connections are NPT female. Seal is fluoroelastomer. Valves are closed unless energized (normally closed). Mount in any position. *120 volt AC* valves draw a max. of 0.11 amps; *24 volt DC* valves draw a max. of 0.33 amps.

Style A have wire leads and a 1/2 trade size conduit port. Valves meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. UL listed.

Style B have a DIN electrical connection. Valves meet IP65 for resistance to dust and low-pressure jets of water.

	Pipe Size	Lg.	Ht.	120V AC Max. psi		24V DC Max. psi		
A	1/8	1"	2 5/8"	320	7900K853	130	7900K851	$82.07
A	1/8	1"	2 5/8"	950	7900K843	390	7900K841	83.72
B	1/8	1"	2 1/8"	87	7900K931	43	7900K933	97.60
B	1/8	1"	2 1/8"	116	7900K921	65	7900K923	107.98
B	1/8	1"	2 1/8"	174	7900K911	87	7900K913	122.14

Actuated On/Off Valves for Food and Beverage

- Pressure Drop Across Valve: None required
- Temp. Range: 0° to 325° F



These valves meet NSF/ANSI Standard 169 for use with food equipment. Connections are NPT female. Body is 430 stainless steel for good corrosion resistance. Seal is fluoroelastomer. Valves are closed unless energized (normally closed) and have wire leads. All meet NEMA 6 for resistance to temporary submersion, washdowns, splashing water, and dust and are suitable for outdoor use. Mount in any position.

AC Valves

Pipe Size	Lg.	Ht.	Max. psi	120V AC Amps		24V AC Amps		
1/8	1"	2 1/2"	260	0.07	5077T111	0.33	5077T112	$73.46
1/8	1"	2 1/2"	470	0.07	5077T121	0.33	5077T122	75.16
1/4	1 5/8"	2 3/4"	300	0.33	5077T131	0.33	5077T132	84.13
1/4	1 5/8"	2 3/4"	400	0.07	5077T141	0.33	5077T142	85.81

DC Valves

Pipe Size	Lg.	Ht.	Max. psi	12V DC Amps		24V DC Amps		
1/8	1"	2 1/2"	175	0.6	5077T114	0.3	5077T113	$73.46
1/8	1"	2 1/2"	325	0.6	5077T124	0.3	5077T123	75.16
1/4	1 5/8"	2 3/4"	250	0.6	5077T134	0.3	5077T133	84.13
1/4	1 5/8"	2 3/4"	400	0.6	5077T144	0.3	5077T143	85.81

High-Use Actuated On/Off Valves for Coolants and Detergents

- Use with ethylene glycol and soap solutions
- Pressure Drop Across Valve: At least 3 psi required
- Temp. Range: 32° to 200° F



Sturdy internal components resist wear for a long service life in applications with frequent cycling. These valves use pressure from your pipeline to assist in opening and closing for reduced energy consumption.

Connections are NPT female. Body and piston are brass and seal is PTFE. Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have wire leads, a 1/2 trade size conduit port, and draw a max. of 0.24 amps. Mount in horizontal pipe with the solenoid on top. UL listed and CSA certified.

Pipe Size	Lg.	Ht.	Max. psi		
3/8	2 1/16"	3 3/4"	150	7862K38	$106.70
1/2	2 3/8"	3 7/8"	150	7862K42	117.37
3/4	3"	4 1/4"	150	7862K44	161.60
1	3 1/2"	4 3/4"	150	7862K51	221.50

Actuated On/Off Valves for Drinking Water

- Pressure Drop Across Valve: At least 3 psi required
- Temp. Range: 32° to 180° F



Since these valves meet NSF/ANSI Standard 61, they're suitable for use with drinking water. They use pressure from your pipeline to assist in opening and closing for lower energy consumption. Connections are NPT female. Body is 303 stainless steel for excellent corrosion resistance. Diaphragm is EPDM.

Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have a 1/4" quick-disconnect electrical connection and draw a max. of 0.1 amps. Mount in horizontal pipe with the solenoid on top.

Pipe Size	Lg.	Ht.	Max. psi		
3/8	1 7/8"	3"	125	4530T11	$116.56
1/2	1 7/8"	3"	125	4530T12	120.21

Actuated On/Off Valves with Tube Fittings for Food and Beverage

- Pressure Drop Across Valve: None required
- Temp. Range: -10° to 100° F



Push-to-connect fittings let you quickly install these valves in food-grade tubing lines. They meet NSF/ANSI Standard 169 for use with food equipment. Body is polycarbonate and seal is EPR. Valves are closed unless energized (normally closed) and have a 1/4" quick-disconnect electrical connection. Mount in any position. CSA certified.

120 volt AC valves draw a max. of 0.09 amps; *24 volt DC* valves draw a max. of 0.78 amps.

For Tube OD	Lg.	Ht.	Max. psi	120V AC	24V DC	
1/4"	2 1/16"	3"	40	5489T651	5489T653	$68.73
1/4"	2 1/16"	3"	80	5489T631	5489T633	70.09
1/4"	2 1/16"	3"	120	5489T611	5489T613	71.51
3/8"	2 3/8"	3"	15	5489T671	5489T673	70.42

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

Actuated On/Off Valves for Chemicals



- Pressure Drop Across Valve: None required
- Temp. Range:
  34° to 140° F (PVC);
  34° to 190° F (CPVC)

With a plastic body and a fluoroelastomer diaphragm, these valves have excellent chemical resistance. Union fittings on each end disassemble to facilitate installation and allow you to remove the central portion of the valve for maintenance without disturbing pipe connections. Valves include a set of NPT female fittings and a set of socket-weld (unthreaded) fittings.

Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have a DIN electrical connection, a 1/2 trade size conduit port, and draw a max. of 0.16 amps. Valves meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Mount in any position. CSA certified.

Pipe Size	Lg.	Ht.	Max. psi		
PVC—Color is dark gray					
1/2	5 5/16"	6 3/8"	120	**4744K24**	$337.71
3/4	5 1/2"	6 5/8"	120	**4744K25**	460.14
1	5 1/2"	6 5/8"	120	**4744K26**	498.10
CPVC—Color is light gray					
1/2	5 5/16"	6 3/8"	120	**4865K34**	363.02
3/4	5 1/2"	6 5/8"	120	**4865K35**	452.74
1	5 1/2"	6 5/8"	120	**4865K36**	491.79

Actuated On/Off Valves for Natural, Propane, and Butane Gas



- Pressure Drop Across Valve: None required
- Temp. Range: 14° to 175° F

Body is aluminum and seal is Buna-N. Connections are NPT female. Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have wire leads, a 1/2 trade size conduit port, and draw a max. of 0.15 amps. All meet NEMA 2 for resistance to dripping liquid and light splashing. Mount in any position. UL listed.

Pipe Size	Lg.	Ht.	Max. psi		
3/8	2 5/8"	4"	2	**4689K43** **4689K44**	$162.83
1/2	2 5/8"	4"	2		171.36
3/4	3 3/8"	4 1/4"	1	**4689K46**	179.86

Compact Actuated On/Off Valves for Natural, Propane, and Butane Gas



- Pressure Drop Across Valve: None required
- Temp. Range: 14° to 175° F

Designed for small pipelines and low-clearance areas, these valves are available in smaller pipe sizes than standard valves for natural, propane, and butane gas and they have a lower profile.

Connections are NPT female. Body is brass and seal is Buna-N. Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have wire leads, a 1/2 trade size conduit port, and draw a max. of 0.16 amps. All meet NEMA 2 for resistance to dripping liquid and light splashing. Mount in horizontal pipe with the solenoid on top. UL listed and CSA certified.

Pipe Size	Lg.	Ht.	Max. psi		
1/8	1 3/4"	3 1/8"	10	**47545K32**	$325.33
1/4	1 3/4"	3 1/8"	10	**47545K33**	223.94
3/8	2"	3 1/2"	10	**47545K34**	253.40

Compact Actuated On/Off Valves for Chemicals



- Pressure Drop Across Valve: None required
- Temp. Range: 0° to 150° F

To fit in tight spots, these valves are only a third of the size of standard actuated on/off valves for chemicals. They have an acetal body and fluoroelastomer seal for excellent chemical resistance. Connections are NPT female. Valves are closed unless energized (normally closed) and have wire leads. Mount in any position using the two 1/4" dia. mounting holes (fasteners not included).

120 volt AC valves draw a max. of 0.06 amps; *24 volt DC* valves draw a max. of 0.23 amps.

Pipe Size	Lg.	Ht.	120V AC Max. psi		24V DC Max. psi		
1/8	1 5/16"	2 1/4"	125	**5760T111**	30	**5760T113**	$42.02
1/8	1 5/16"	2 1/4"	300	**5760T121**	100	**5760T123**	42.02

Actuated On/Off Valves for Chemical-Resistant Tubing

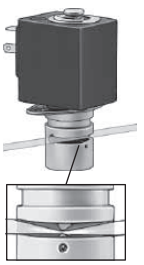

- Pressure Drop Across Valve: None required
- Temp. Range: 14° to 140° F

Also known as pinch valves, these press down on the outside of tubing to stop flow without contacting the process media, so there's no need to worry about chemical compatibility or corrosion.

Body is anodized aluminum and pinch mechanism is acetal. Valves are closed unless energized (normally closed) and have a DIN electrical connection. They meet IP65 for resistance to dust and low-pressure jets of water. Use with tubing with a max. durometer of 50A (tubing not included). Mount in any position.

For Tube OD	ID	Lg.	Ht.	Max. psi	Amps		
12V DC							
1/8"	1/16"	5/8"	2 1/8"	12	1.08	**5431T111**	$108.67
3/16"	1/8"	1"	3 3/8"	12	1.08	**5431T121**	150.83
3/8"	1/4"	1 3/16"	4"	12	1.08	**5431T131**	199.06
24V DC							
1/8"	1/16"	5/8"	2 1/8"	12	0.17	**5431T112**	108.67
3/16"	1/8"	1"	3 3/8"	12	0.38	**5431T122**	150.83
3/8"	1/4"	1 3/16"	4"	12	0.54	**5431T132**	199.06

Actuated On/Off Valves for Fuel Oil



- Pressure Drop Across Valve:
  At least 5 psi required (1/4 size);
  None required (3/8 size)
- Temp. Range: -10° to 180° F

Use one of these UL listed valves to control the flow of fuel oil. Connections are NPT female. Body is brass and diaphragm is fluorocarbon. Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have wire leads and a 1/2 trade size conduit port. Valves meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Mount in horizontal pipe with the solenoid on top. CSA certified.

1/4 pipe size valve uses pressure from your pipeline to assist in opening and closing for reduced energy consumption. It draws a max. of 0.25 amps.

3/8 pipe size valve draws a max. of 0.34 amps.

Pipe Size	Lg.	Ht.	Max. psi		
1/4	2"	3 3/16"	300	**47545K15**	$122.40
3/8	3"	3 5/8"	230	**47545K16**	173.15

Actuated On/Off Valves for Cryogenic Liquids

- Use with liquid argon, liquid nitrogen, and liquid oxygen
- Pressure Drop Across Valve: None required
- Temp. Range: -320° to 355° F (Brass); -350° to 400° F (Bronze)



Brass



Bronze

Built to withstand the extreme cold of liquid argon, liquid nitrogen, and liquid oxygen, these valves come cleaned and bagged for high-purity applications. Connections are NPT female. Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have wire leads and a ½ trade size conduit port.

Brass valves meet NEMA 2 for resistance to dripping liquid and light splashing. Seal is PTFE. Valves draw a max. of 0.16 amps. Mount in any position.

Bronze valves are stronger and more durable than valves with a brass body for an extended service life. Piston is bronze and seal is glass-filled PTFE. Valves draw a max. of 2 amps. Mount in horizontal pipe with the solenoid on top.

Pipe Size	Lg.	Ht.	Max. psi		
Brass					
1/8	1 3/4"	3 1/8"	300	50585K21	$330.32
1/4	1 3/4"	3 1/8"	120	50585K23	342.80
Bronze					
1/2	3 1/4"	7 1/16"	110	4710T11	319.20
1/2	3 1/4"	7 1/16"	200	4710T12	332.40
3/4	3 1/2"	7 3/8"	110	4710T13	351.60
1	4 1/8"	8 1/8"	110	4710T17	404.40

Energy-Efficient Actuated On/Off Valves for Cryogenic Liquids

- Use with liquid argon, liquid nitrogen, and liquid oxygen
- Pressure Drop Across Valve: At least 5 psi required
- Temp. Range: -320° to 355° F (Brass); -320° to 120° F (304 Stainless Steel)



Brass



304 Stainless Steel

Since these valves use pressure from your pipeline to assist in opening and closing, they consume less energy than standard on/off valves for cryogenic liquids. All are designed to withstand the extreme cold of liquid argon, liquid nitrogen, and liquid oxygen. They come cleaned and bagged for high-purity applications.

Connections are NPT female. Seal is PTFE. Valves are closed unless energized (normally closed) and operate on 120 volts AC. They have wire leads, a ½ trade size conduit port, and draw a max. of 0.23 amps. Mount in any position.

Brass valves have a brass piston. They meet NEMA 2 for resistance to dripping liquid and light splashing.

304 stainless steel valves are more corrosion resistant than brass valves. Piston is 304 stainless steel. Valves meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use.

Pipe Size	Lg.	Ht.	Max. psi		
Brass					
3/8	2 11/16"	4 7/8"	125	50585K38	$365.84
304 Stainless Steel					
1/4	1 11/16"	4 13/16"	225	7902K41	245.41
3/8	1 11/16"	4 13/16"	225	7902K42	245.41
1/2	2 3/16"	5 1/4"	225	7902K43	389.29

Coils and Repair Kits for Actuated On/Off Valves

If you don't see the replacement part you need, just tell us what you're looking for and we'll get it for you.

Replacement Coils

For Voltage	Parker Gold Ring Series 22 and 24		Parker Skinner Series 7000		Asco S-Series		Granzow Series 21		Burkert Series 6213	
120V AC	8049T11	$37.99	8049T21	$35.45	4738K113	$39.37	4738K211	$16.12	8048T11	$44.64
24V DC	8049T12	62.40	8049T22	35.45	4738K114	39.37	4738K212	16.91	8048T12	56.88

Repair Kits—Include Buna-N seals, springs, and plunger assembly

For Pipe Size	Parker Gold Ring Series 22 and 24		Parker Skinner Series 7000		Granzow Series 21		Burkert Series 6213	
1/2	8049T13	$87.42	8049T23	$108.88	4738K217	$36.09	8048T13	$36.48
3/4	8049T14	95.88	8049T24	78.65	4738K217	36.09	8048T14	39.00
1	8049T15	105.95	8049T25	168.68	4738K215	36.57	8048T15	105.48

About High-Pressure Actuated On/Off Valves

Also known as actuated ball valves, these motor- or air-driven valves withstand higher pressures than other actuated on/off valves. They automatically start and stop flow.

Air-driven valves operate on compressed air and electricity; an electric solenoid turns the air on and off to open and close these valves faster than motor-driven valves. They are available in two actuation styles. *Air-to-open/air-to-close* valves use air pressure to open and close. *Closed unless air is on (normally closed)* valves use air pressure to open and automatically spring closed when the air turns off.

Motor-driven valves operate solely on electricity.

All high-pressure actuated on/off valves are available with direct-mount and bracket-mount actuators. **Direct-mount** actuators are directly attached to the valve body to minimize movement and reduce wear. They are more compact than bracket-mount actuators. **Bracket-mount** actuators are secured to the valve body with a bracket for easy disassembly, maintenance, and repair.

Air-Driven High-Pressure Actuated On/Off Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 600 psi @ 100° F
- Max. Pressure for Steam: Not rated
- Valve Temp. Range: -50° to 400° F
- Vacuum Rating: 29.9" Hg



These valves automatically start and stop flow for remote on/off control. Connections are NPT female. Body is brass, ball is 316 stainless steel, seat is graphite-filled PTFE, and seal is fluoroelastomer. Valves meet NEMA 4 for resistance to washdowns, splashing water, and dust and are suitable for outdoor use. All are full port, so they do not restrict flow. Can be used in horizontal and vertical pipeline.

The actuator is direct mount and has a visual indicator that shows whether flow is on or off. Requires an air supply of 80 to 120 psi; inlet is ¼ NPT female. Housing is aluminum. Comes with a solenoid that operates on 120 volts AC @ 60 Hz. Has 12" long wire leads with a ½ trade size conduit port. Actuator temperature range is 0° to 130° F.

Pipe Size	Valve, End-to-End Lg.	Overall Lg.	Overall Ht.		
Air-to-Open/Air-to-Close					
1/2	2 5/8"	4 1/16"	4 7/8"	3672T33	$220.94
3/4	2 15/16"	4 1/16"	5 5/16"	3672T34	230.41
1	3 9/16"	4 1/16"	5 5/8"	3672T35	253.86
1 1/4	4 1/8"	7 5/16"	8 1/16"	3672T36	339.10
1 1/2	4 5/8"	7 5/16"	8 5/8"	3672T37	361.85
2	5 5/16"	7 5/16"	9 3/16"	3672T38	406.92
Closed Unless Air is On (Normally Closed)					
1/2	2 5/8"	5 7/8"	5 13/16"	3672T43	242.23
3/4	2 15/16"	5 7/8"	6 5/16"	3672T44	251.71
1	3 9/16"	5 7/8"	6 5/8"	3672T45	273.02
1 1/2	4 5/8"	7 5/16"	8 5/8"	3672T47	413.87
2	5 5/16"	7 5/16"	9 3/16"	3672T48	465.15

High-Pressure Actuated On/Off Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about high-pressure actuated on/off valves, see page 481. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

Corrosion-Resistant Air-Driven High-Pressure Actuated On/Off Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 600 psi @ 250° F
- Max. Pressure for Steam: 150 psi @ 366° F
- Valve Temp. Range: -20° to 400° F
- Vacuum Rating: 29.9" Hg

These valves have a nickel-plated brass body for more corrosion resistance than plain brass. Connections are NPT female. Ball is 316 stainless steel, seat is PTFE, and seal is fluoroelastomer. Valves meet NEMA 4 for resistance to washdowns, splashing water, and dust and are suitable for outdoor use. All are full port, so they do not restrict flow. Can be used in horizontal and vertical pipeline.

The actuator is direct mount and has a visual indicator that shows whether flow is on or off. Requires an air supply of 40 to 120 psi; inlet is 1/4 NPT female. Housing is aluminum. Comes with a solenoid that operates on 120 volts AC @ 50/60 Hz. Has screw terminals with a DIN electrical connection. Actuator temperature range is -4° to 180° F.

Pipe Size	Valve, End-to-End Lg.	Overall Lg.	Overall Ht.		
Air-to-Open/Air-to-Close					
1/2	2 1/2"	3 11/16"	4 7/8"	**48165K34**	$252.41
3/4	2 15/16"	5 7/16"	6 5/16"	**48165K35**	290.02
1	3 1/2"	5 7/16"	6 11/16"	**48165K36**	298.97
Closed Unless Air is On (Normally Closed)					
1/2	2 1/2"	5 7/16"	5 11/16"	**48165K54**	288.22
3/4	2 15/16"	5 7/16"	6 3/8"	**48165K55**	311.50
1	3 1/2"	6"	7 5/16"	**48165K56**	367.02
1 1/2	4 1/2"	9 1/16"	9 13/16"	**48165K58**	508.78

Ultra-Corrosion-Resistant Air-Driven High-Pressure Actuated On/Off Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 720 psi @ 150° F
- Max. Pressure for Steam: 150 psi @ 366° F
- Valve Temp. Range: -50° to 450° F
- Vacuum Rating: 29.9" Hg

For the best corrosion resistance in wet conditions and harsh environments, these valves have a 316 stainless steel body and ball. Connections are NPTF (Dryseal) female. Seat and seal are glass-filled PTFE. Valves meet IP65 for resistance to dust and low-pressure jets of water. All are standard port, so they slightly restrict flow. Can be used in horizontal and vertical pipeline.

The actuator is direct mount and has a visual indicator that shows whether flow is on or off. Requires an air supply of 60 to 125 psi; inlet is 1/8 NPT female. Housing is aluminum. Comes with a solenoid that operates on 120 volts AC @ 50/60 Hz. Has screw terminals with a DIN electrical connection. Actuator temperature range is -20° to 140° F.

Also Available: Solenoids that operate on 240 volts AC, 24 volts AC, and 24 volts DC. Please ask for 47005K15 and specify 240 volts AC, 24 volts AC, or 24 volts DC.

Pipe Size	Valve, End-to-End Lg.	Overall Lg.	Overall Ht.		
Air-to-Open/Air-to-Close					
1/4	2 3/16"	3 1/2"	4 1/2"	**5759T31**	$380.53
1/2	2 5/8"	3 1/2"	4 11/16"	**5759T33**	404.17
3/4	2 15/16"	3 1/2"	5"	**5759T34**	423.47
1	3 5/16"	3 1/2"	5 1/2"	**5759T35**	464.93
1 1/2	4 1/4"	5 1/2"	8 1/8"	**5759T37**	755.17
Closed Unless Air is On (Normally Closed)					
1/4	2 3/16"	8 1/8"	4 11/16"	**5759T41**	539.22
1/2	2 5/8"	8 1/8"	4 7/8"	**5759T43**	562.85
3/4	2 15/16"	8 1/8"	5 3/16"	**5759T44**	582.13
1	3 5/16"	8 1/8"	5 11/16"	**5759T45**	623.13

Heavy-Use Air-Driven High-Pressure Actuated On/Off Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 500 psi @ 100° F
- Max. Pressure for Steam: Not rated
- Valve Temp. Range: -20° to 350° F
- Vacuum Rating: Not rated

Limit wear and damage in high-cycling applications—these valves have additional seals that prevent leakage to reduce maintenance time. Connections are NPTF (Dryseal) female. Body and ball are 316 stainless steel for excellent corrosion resistance. Seat is glass-filled PTFE and seal is fluoroelastomer. Valves are standard port, so they slightly restrict flow. Can be used in horizontal and vertical pipeline.

The actuator is direct mount and double-acting (air-to-open/air-to-close). Requires an air supply of 60 to 125 psi; inlet is 1/8 NPT female. Housing is aluminum.

Required solenoids (sold separately) have screw terminals with a DIN electrical connection. They meet IP65 for resistance to dust and low-pressure jets of water. Temperature range is -20° to 140° F. Choose a solenoid based on the voltage you need.

Valves

Pipe Size	Valve, End-to-End Lg.	Overall Lg.	Overall Ht.		
1/4	2 5/16"	3 5/16"	4 11/16"	**5048K51**	$287.49
1/2	2 5/16"	3 5/16"	4 11/16"	**5048K52**	315.80
3/4	2 1/2"	3 5/16"	4 15/16"	**5048K53**	337.29
1	3 1/16"	3 5/16"	5 3/16"	**5048K54**	389.36

Required Solenoids

Voltage @ 50/60 Hz		
120V AC	**5048K65**	$175.44
240V AC	**5048K66**	175.44
24V DC	**5048K67**	175.44
12V DC	**5048K68**	175.44

Ultra-High-Pressure Air-Driven Actuated On/Off Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,000 psi @ 200° F
- Max. Pressure for Steam: 150 psi @ 365° F
- Valve Temp. Range: -20° to 450° F
- Vacuum Rating: 29.9" Hg

Handle nearly twice the pressure as high-pressure air-driven on/off valves. Connections are NPT female. Body and ball are 316 stainless steel for excellent corrosion resistance. Seat is glass-filled PTFE and seal and packing are PTFE. Valves meet NEMA 4 for resistance to washdowns, splashing water, and dust and are suitable for outdoor use. All are full port, so they do not restrict flow. Can be used in horizontal and vertical pipeline.

The actuator is direct mount and has a visual indicator that shows whether flow is on or off. Requires an air supply of 40 to 118 psi; inlet is 1/4 NPT female. Housing is aluminum. Comes with a solenoid that operates on 120 volts AC @ 50/60 Hz. Has screw terminals with a DIN electrical connection. Actuator temperature range is 32° to 120° F.

Pipe Size	Valve, End-to-End Lg.	Overall Lg.	Overall Ht.		
Air-to-Open/Air-to-Close					
1/2	2 9/16"	4 5/8"	5"	**7554T24**	$259.08
3/4	2 15/16"	5 7/16"	6 3/8"	**7554T25**	281.55
1	3 1/2"	5 7/16"	6 15/16"	**7554T26**	298.74
1 1/2	4 3/8"	8 1/4"	9 7/16"	**7554T28**	436.75
2	4 15/16"	8 1/4"	10 1/8"	**7554T29**	474.83
Closed Unless Air is On (Normally Closed)					
1/2	2 9/16"	5 7/16"	5 15/16"	**7554T64**	302.03
3/4	2 15/16"	6 1/8"	7"	**7554T65**	337.17
1	3 1/2"	6 1/8"	7 9/16"	**7554T66**	353.78
1 1/4	4"	8 1/4"	8 11/16"	**7554T67**	427.47
1 1/2	4 3/8"	9"	9 13/16"	**7554T68**	519.72
2	4 15/16"	11 1/16"	11 1/16"	**7554T69**	640.03

Extreme-Pressure Air-Driven Actuated On/Off Valves

Direct Mount:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,500 psi @ 100° F
- Max. Pressure for Steam: 100 psi @ 338° F
- Valve Temp. Range: 0° to 335° F
- Vacuum Rating: 28″ Hg

Bracket Mount:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 2,000 psi @ 100° F (½ to 1 size); 1,500 psi @ 100° F (1½ and 2 size)
- Max. Pressure for Steam: 150 psi @ 365° F
- Valve Temp. Range: -20° to 450° F
- Vacuum Rating: 29″ Hg



Direct Mount

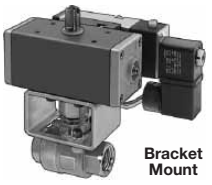

Bracket Mount

The highest-pressure air-driven actuated on/off valves we offer, these withstand at least 1,500 psi. Connections are NPT female. Body and ball are 316 stainless steel for excellent corrosion resistance. Valves are full port, so they do not restrict flow.

The actuator has an aluminum housing. Comes with a solenoid that operates on 120 volts AC @ 60 Hz.

Direct Mount—Seat, seal, and packing are PTFE. Valves meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Use in horizontal pipeline. The actuator has a visual indicator that shows whether flow is on or off. Requires an air supply of 80 psi; inlet is ¼ NPT female. Solenoid has screw terminals and a DIN electrical connection with a ½ trade size conduit port. Actuator temperature range is -4° to 140° F.

Bracket Mount—Seat, seal, and packing are glass-filled PTFE. Can be used in horizontal and vertical pipeline. The actuator requires an air supply of 80 to 115 psi; inlet is ¼ NPT female. Solenoid has 12″ long wire leads and a DIN electrical connection with a ½ trade size conduit port. Actuator temperature range is -4° to 185° F.

Pipe Size	Valve, End-to-End Lg.	Overall Lg.	Overall Ht.		
Direct Mount					
Air-to-Open/Air-to-Close					
⅜	2 13/16″	3 5/16″	6 5/16″	6278K72	$345.95
½	2 13/16″	3 5/16″	6 5/16″	6278K73	356.81
¾	3″	3 5/16″	6 1/2″	6278K74	356.81
1	3 7/16″	4 1/16″	7 3/8″	6278K75	475.00
1½	4 1/2″	4 1/16″	8 5/8″	6278K77	513.87
2	5 7/16″	4 1/16″	9 3/16″	6278K78	510.03
Closed Unless Air is On (Normally Closed)					
⅜	2 13/16″	4 5/16″	6 5/16″	6278K82	389.63
½	2 13/16″	4 5/16″	6 5/16″	6278K83	389.63
¾	3″	4 5/16″	6 1/2″	6278K84	430.66
1	3 7/16″	5 5/16″	7 7/16″	6278K85	477.83
1½	4 1/2″	6 7/16″	9 1/8″	6278K87	556.36
2	5 7/16″	6 7/16″	10″	6278K88	732.31
Bracket Mount					
Air-to-Open/Air-to-Close					
½	2 9/16″	4 5/16″	5 1/2″	4573K24	330.37
1	3 1/2″	6 5/16″	7 9/16″	4573K26	355.05
2	4 15/16″	8 1/4″	10 13/16″	4573K29	530.30
Closed Unless Air is On (Normally Closed)					
½	2 9/16″	6 5/8″	6 15/16″	4573K34	404.62
¾	2 15/16″	6 3/4″	7 9/16″	4573K35	414.68
1	3 1/2″	8 1/8″	8 11/16″	4573K36	490.54
1½	4 3/8″	9 1/2″	10 5/8″	4573K38	548.63
2	4 15/16″	10 13/16″	11 3/4″	4573K39	665.45

Easy-Maintenance Air-Driven High-Pressure Actuated On/Off Valves

Direct Mount:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,500 psi @ 100° F (½ to 1 size); 1,200 psi @ 150° F (1½ size); 1,000 psi @ 200° F (2 size)
- Max. Pressure for Steam: 150 psi @ 365° F
- Valve Temp. Range: -20° to 450° F
- Vacuum Rating: 29.9″ Hg

Bracket Mount:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,480 psi @ 100° F
- Max. Pressure for Steam: 100 psi @ 338° F
- Valve Temp. Range: -4° to 335° F
- Vacuum Rating: 28″ Hg

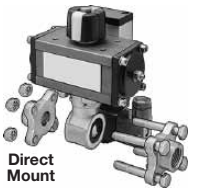

Direct Mount



Bracket Mount

To facilitate inline maintenance, these valves have a three-piece bolted body that comes apart so you can access the seats, seal, packing, and ball without unthreading pipe connections. Connections are NPT female. Body and ball are 316 stainless steel for excellent corrosion resistance.

The actuator has an aluminum housing. Comes with a solenoid that operates on 120 volts AC @ 60 Hz.

Direct Mount—Seat is glass-filled TFE and seal and packing are PTFE. Valves meet NEMA 4 for resistance to washdowns, splashing water, and dust and are suitable for outdoor use. All are full port, so they do not restrict flow. Can be used in horizontal and vertical pipeline. The actuator has a visual indicator that shows whether flow is on or off. Requires an air supply of 40 to 118 psi; inlet is ¼ NPT female. Solenoid has screw terminals with a DIN electrical connection. Actuator temperature range is 32° to 120° F.

Bracket Mount—Seat and seal are PTFE and packing is polyethylene. Valves meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. All are standard port, so they slightly restrict flow. Use in vertical pipeline. The actuator requires an air supply of 80 psi; inlet is ¼ NPT female. Solenoid has screw terminals and a DIN electrical connection with a ½ trade size conduit port. Actuator temperature range is -4° to 140° F.

Pipe Size	Valve, End-to-End Lg.	Overall Lg.	Overall Ht.		
Direct Mount					
Air-to-Open/Air-to-Close					
½	2 5/8″	4 5/8″	5 7/16″	5197T41	$252.62
¾	3″	5 7/16″	6 9/16″	5197T42	275.78
1	3 3/8″	5 7/16″	7 1/16″	5197T43	298.92
1½	4 11/16″	8 1/4″	9 9/16″	5197T44	435.30
2	5 3/16″	8 1/4″	10 1/4″	5197T45	481.67
Closed Unless Air is On (Normally Closed)					
½	2 5/8″	5 7/16″	6 1/4″	5197T51	293.42
¾	3″	6 1/8″	7 1/4″	5197T52	328.65
1	3 3/8″	6 1/8″	7 11/16″	5197T53	349.07
1½	4 11/16″	9″	10″	5197T54	514.12
2	5 3/16″	11 1/16″	11 3/16″	5197T55	639.30
Bracket Mount					
Air-to-Open/Air-to-Close					
2	5 1/16″	5 3/16″	10 3/8″	47995K16	888.53
Closed Unless Air is On (Normally Closed)					
½	2 5/8″	4 5/16″	7 3/16″	47995K17	533.18
¾	2 7/8″	4 5/16″	7 5/16″	47995K18	641.87
1	3 3/4″	5 5/16″	8 7/8″	47995K19	756.72
1½	4 5/8″	6 7/16″	10 1/8″	47995K41	897.03
2	5 1/16″	7 1/2″	11 5/16″	47995K42	1,047.85

Air-Driven High-Pressure Actuated On/Off Valves for Chemicals

- Max. Pressure: 250 psi @ 70° F
- Valve Temp. Range: 40° to 140° F
- Vacuum Rating: 28″ Hg

For excellent chemical resistance, these valves have a fluoroelastomer seal and a PVC body and ball. Union fittings on each end of the valve disassemble to facilitate installation and removal, and they also allow you to remove the central portion of the valve for maintenance without disturbing pipe connections.

In addition to the NPT female connections, these valves also come with socket-weld (unthreaded) fittings. Use with Schedule 40 and 80 pipe and fittings in horizontal and vertical pipeline. Seat is PTFE. Valves meet NEMA 4 for resistance to washdowns, splashing water, and dust and are suitable for outdoor use. All are full port, so they do not restrict flow. Color is dark gray.

The actuator is bracket mount and has a visual indicator that shows whether flow is on or off. Requires an air supply of 80 to 120 psi; inlet is ¼ NPT female. Housing is plastic. Comes with a solenoid that operates on 120 volts AC @ 60 Hz. Has 17″ long wire leads with a ½ trade size conduit port. Actuator temperature range is 0° to 120° F.



Pipe Size	Valve, End-to-End Lg.	O'all Ht.	Air-to-Open/Air-to-Close O'all Lg.			Closed Unless Air is On (Normally Closed) O'all Lg.		
1	5 1/4″	8 15/16″	4 11/16″	5005K33	$607.34	6 1/4″	5005K43	$649.94
1 1/2	6 3/4″	9 7/8″	4 11/16″	5005K35	628.71	6 1/4″	5005K45	671.44
2	8″	10 13/16″	4 11/16″	5005K36	672.41	6 1/4″	5005K46	715.36

High-Pressure Actuated On/Off Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about high-pressure actuated on/off valves, see page 481. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/2	3/4	1	1 1/4	1 1/2	2

Motor-Driven High-Pressure Actuated On/Off Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 720 psi @ 150° F
- Max. Pressure for Steam: 150 psi @ 366° F
- Valve Temp. Range: -50° to 450° F (Brass 1/2 to 1 1/2 size); -20° to 400° F (Brass 2 size); -20° to 400° F (316 Stainless Steel)
- Vacuum Rating: 29.9" Hg

These actuated valves automatically start and stop flow for remote on/off control. Connections are NPTF (Dryseal) female. Ball is 316 stainless steel and seat and seal are PTFE. Can be used in horizontal and vertical pipeline. *Full-port* valves do not restrict flow. *Standard-port* valves slightly restrict flow.

The actuator is direct mount. It has a visual indicator that shows whether flow is on or off and a manual override in case of power loss or motor failure. Housing is plastic. Operates on 120 volts AC @ 50/60 Hz. Has screw terminals with a 1/2 trade size conduit port. Actuator temperature range is 40° to 150° F.

Brass valves turn flow on or off in 6 seconds. **316 stainless steel** valves are more corrosion resistant than valves with a brass body. They turn flow on or off in 10 seconds.

Pipe Size	Valve, End-to-End Lg.	*Overall* Lg.	*Overall* Ht.	Brass		316 Stainless Steel	
Full Port							
1/2	2 15/16"	6 1/4"	8 7/8"	46005K31	$531.85	46005K81	$571.95
3/4	3 5/16"	6 1/4"	9 5/16"	46005K32	557.82	46005K82	626.29
1	3 3/4"	6 1/4"	10 1/16"	46005K33	648.37	46005K83	819.52
1 1/2	4 9/16"	6 1/4"	10 15/16"	46005K35	697.74	———	———
Standard Port							
3/4	2 1/4"	6 1/4"	8 9/16"	47095K12	534.95	———	———
1	2 3/4"	6 1/4"	8 7/8"	47095K13	540.34	47095K23	585.68
2	4 1/16"	6 1/4"	10 9/16"	47095K16	648.52	47095K26	764.74

Easy-Maintenance Motor-Driven High-Pressure Actuated On/Off Valves



Bracket Mount

Direct Mount:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,500 psi @ 100° F (1/2 to 1 size); 1,200 psi @ 150° F (1 1/2 size); 1,000 psi @ 200° F (2 size)
- Max. Pressure for Steam: 150 psi @ 365° F
- Valve Temp. Range: -20° to 450° F
- Vacuum Rating: 29.9" Hg

Bracket Mount:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,440 psi @ 100° F
- Max. Pressure for Steam: 100 psi @ 338° F
- Valve Temp. Range: -4° to 335° F
- Vacuum Rating: 28" Hg

Maintain and repair these valves without unthreading pipe connections. They have a three-piece bolted body that disassembles inline for easy access to the seats, seal, packing, and ball. Connections are NPT female. Body and ball are 316 stainless steel for excellent corrosion resistance. Valves meet NEMA 4 for resistance to washdowns, splashing water, and dust and are suitable for outdoor use.

The actuator has a visual indicator that shows whether flow is on or off and a manual override in case of power loss or motor failure. Housing is aluminum. Operates on 120 volts AC @ 60 Hz. Has screw terminals with a 1/2 trade size conduit port.

Direct Mount—Seat is glass-filled PTFE and seal and packing are PTFE. Valves are full port, so they do not restrict flow. Can be used in horizontal and vertical pipeline. Actuator temperature range is 0° to 150° F.

Bracket Mount—Seat and seal are PTFE and packing is polyethylene. Valves are standard port, so they slightly restrict flow. Use in vertical pipeline. Actuator temperature range is -40° to 150° F.

Pipe Size	Valve, End-to-End Lg.	*Overall* Lg.	*Overall* Ht.	On/Off Time, sec.		
Direct Mount						
1/2	2 5/8"	5 5/8"	7 3/4"	2.5	5241T21	$371.20
3/4	3"	5 5/8"	8"	2.5	5241T22	378.45
1	3 3/8"	5 5/8"	8 1/2"	2.5	5241T23	403.57
1 1/2	4 11/16"	7"	12 5/8"	10	5241T24	959.38
2	5 3/16"	7"	13 1/4"	15	5241T25	1,149.94

Pipe Size	Valve, End-to-End Lg.	*Overall* Lg.	*Overall* Ht.	On/Off Time, sec.		
Bracket Mount						
1/2	2 5/8"	4 1/2"	9 1/2"	12	4687K31	$533.01
3/4	2 7/8"	4 1/2"	9 5/8"	12	4687K32	579.23
1	3 3/4"	4 1/2"	10 5/8"	12	4687K33	682.60

Easy-to-Install Motor-Driven High-Pressure Actuated On/Off Valves



- Max. Pressure: 250 psi @ 70° F
- Valve Temp. Range: 40° to 140° F (PVC); 40° to 190° F (CPVC)
- Vacuum Rating: 28" Hg

Separate the union fittings on each end of these valves for fast installation and removal. The union fittings also let you remove the central portion of the valve for maintenance without disturbing pipe connections. In addition to NPT female connections, these valves also come with socket weld (unthreaded) fittings. Use with Schedule 40 and 80 pipe and fittings in horizontal and vertical pipeline. Seat is PTFE. Valves meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. All are full port, so they do not restrict flow.

The actuator is bracket mount and has a visual indicator that shows whether flow is on or off. It turns flow on or off in 2.5 seconds. Housing is plastic. Actuator length is 4 7/8". Operates on 120 volts AC @ 50/60 Hz. Has screw terminals with a 1/2 trade size conduit port. Actuator temperature range is 32° to 110° F.

PVC valves have a PVC ball. **CPVC** valves have a CPVC ball.

Valves for water have an EPDM seal. **Valves for chemicals** have a fluoroelastomer seal.

Pipe Size	Valve, End-to-End Lg.	O'all Ht.	For Water		For Chemicals	
PVC—Color is dark gray						
1/2	4 5/8"	9 1/2"	5017K31	$462.00	5017K51	$463.76
3/4	4 3/4"	9 15/16"	5017K32	469.10	5017K52	472.70
1	5 1/4"	10 5/8"	5017K33	486.96	5017K53	490.51
1 1/2	6 3/4"	11 1/2"	5017K35	506.58	5017K55	510.14
2	8"	12 1/2"	5017K36	545.83	5017K56	551.17

Pipe Size	Valve, End-to-End Lg.	O'all Ht.	For Water		For Chemicals	
CPVC—Color is light gray						
1	5 1/4"	10 5/8"	5025K63	$533.34	5025K83	$536.89
1 1/2	6 3/4"	11 1/2"	5025K65	560.09	5025K85	563.64
2	8"	12 1/2"	5025K66	613.61	5025K86	620.74

Compact Motor-Driven High-Pressure Actuated On/Off Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,000 psi @ 100° F
- Max. Pressure for Steam: 150 psi @ 366° F
- Valve Temp. Range: 0° to 450° F
- Vacuum Rating: Not rated

With a slimmer motor than other motor-driven actuated on/off valves, these fit in tight spots and cramped areas. Connections are NPT female. Body and ball are 316 stainless steel for excellent corrosion resistance. Seat is TFM, seal is PTFE, and packing is carbon-filled PTFE. Valves meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. All are full port, so they do not restrict flow. Use in horizontal pipeline.

The actuator is direct mount and has a manual override in case of power loss or motor failure. Housing is aluminum. Operates on 120 volts AC @ 50/60 Hz. Has screw terminals with a ½ trade size conduit port. Actuator temperature range is -20° to 145° F.



Pipe Size	Valve, End-to-End Lg.	Overall Lg.	Overall Ht.	On/Off Time, sec.		
1	3 7/16"	4 1/2"	9 3/16"	12	6132K85	$617.20
1 1/2	4 7/16"	4 1/2"	10 5/16"	12	6132K87	815.95
2	5 3/8"	4 1/2"	12 13/16"	20	6132K88	861.91

Motor-Driven High-Pressure Actuated On/Off Valves with Solder-Connect Fittings

- Max. Pressure for Water: 300 psi @ 250° F
- Max. Pressure for Steam: 15 psi @ 250° F
- Valve Temp. Range: 32° to 250° F
- Vacuum Rating: Not rated

Often used for remote on/off control in heating and cooling systems, these valves connect to copper pipe with solder-end fittings. Two fittings (sold separately) are required for installation. Body, ball, and seat are brass and seal is Buna-N. Valves are standard port, so they slightly restrict flow. Can be used in horizontal and vertical pipeline. UL and C-UL listed.

The actuator is direct mount and has a manual override in case of power loss or motor failure. It turns flow on or off in 9 seconds. Housing is aluminum. Has 18" long wire leads. Actuator temperature range is -40° to 160° F.

Required fittings have a union nut on one end that threads onto the valve connection and a solder-end connection on the other end for attaching to copper pipe. Choose fittings based on the tube size you need.



Valves

Voltage @ 50/60 Hz	Valve, End-to-End Lg.	Overall Lg.	Overall Ht.		
24V AC	3 1/2"	3 11/16"	4 1/4"	19005K51	$178.19
120V AC	3 1/2"	3 11/16"	4 1/4"	19005K53	178.19

Required Solder-Connect Fittings

For Copper Tube Size ♦	For Tube OD		
1/2	5/8"	19005K61	$13.00
3/4	7/8"	19005K62	13.75
1	1 1/8"	19005K63	27.00

♦ Tube size is an accepted industry designation, not an actual size.

Plastic Motor-Driven High-Pressure Actuated On/Off Valves

- Max. Pressure: 235 psi @ 100° F
- Valve Temp. Range: 40° to 140° F
- Vacuum Rating: 26" Hg

These valves automatically start and stop flow for remote on/off control. Use with Schedule 40 and 80 pipe and fittings in horizontal and vertical pipeline. Body and ball are PVC and seat is PTFE. Valves meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. All are full port, so they do not restrict flow. Color is dark gray.

The actuator is direct mount. It turns flow on or off in 5 seconds. Housing is plastic. Operates on 120 volts AC @ 60 Hz. Has screw terminal connections with a ½ trade size conduit port. Actuator temperature range is 32° to 110° F.

Valves for drinking water meet NSF/ANSI Standard 61. Seal is EPDM. **Valves for chemicals** have a fluoroelastomer seal.



To Order: Please specify pipe connection: NPT female or socket weld (unthreaded).

Pipe Size	Valve, End-to-End Lg.	Overall Lg.	Overall Ht.	For Drinking Water		For Chemicals	
1/2	3 1/16"	5 3/8"	7 3/8"	4729K61	$411.46	4729K71	$453.46
3/4	3 9/16"	5 3/8"	7 13/16"	4729K62	421.56	4729K72	468.51
1	4"	5 3/8"	8 1/8"	4729K63	429.11	4729K73	475.94
1 1/4	4 5/8"	6 1/16"	8 15/16"	4729K64	$444.26	4729K74	$502.06
1 1/2	5 5/16"	6 1/16"	9 3/8"	4729K65	456.92	4729K75	511.83
2	6"	6 1/16"	10 3/16"	4729K66	477.07	4729K76	532.11

About High-Flow and Severe-Duty Actuated On/Off Valves

High-Flow Actuated On/Off Valves—Also known as piston and angle-seat valves, these air-driven valves have angled internal components to allow the maximum possible flow.

Severe-Duty Actuated On/Off Valves—Also known as diaphragm valves, these air-driven valves are designed for use with dirty and contaminated liquids that would damage other valves.

High-Flow Actuated On/Off Valves

- Temp Range: 14° to 355° F (For Water, Oil, Air, and Inert Gas); 15° to 366° F (For Steam)

These valves have angled internal components that allow the maximum possible flow for automatic on/off control in high-flow applications. Connections are NPT female. Body is bronze for durability and a long service life. Piston is 431 stainless steel and seal is PTFE. Air inlet is ⅛ NPT female, unless noted.



Pipe Size	Max. psi	Lg.	Ht.	Required psi		
For Water, Oil, Air, and Inert Gas						
Closed Unless Air is On (Normally Closed)						
1/2	240	2 9/16"	6"	60 to 150	7942K41	$209.18
3/4	150	3"	7"	60 to 150	7942K42	217.75
3/4	240	3"	8"	60 to 150	7942K11	227.60
1	90	3 9/16"	7"	60 to 150	7942K12	248.03
1	150	3 9/16"	8"	60 to 150	7942K43	274.80
1 1/4	90	4 3/8"	9"	60 to 150	7942K13	395.20
1 1/4	200	4 5/16"	12"	70 to 145	7942K44★	482.18
1 1/2	60	4 3/4"	10"	60 to 150	7942K14	434.11
1 1/2	240	4 3/4"	13"	60 to 150	7942K45★	749.89
2	40	5 15/16"	10"	60 to 150	7942K15	502.06
2	150	6"	13"	60 to 150	7942K46★	787.95

★ Air inlet is ¼ NPT female.

Pipe Size	Max. psi	Lg.	Ht.	Required psi		
For Water, Oil, Air, and Inert Gas (Cont.)						
Open Unless Air is On (Normally Open)						
1/2	240	2 9/16"	7"	65 to 150	7942K51	$299.38
3/4	240	3"	8"	65 to 150	7942K52	307.58
1	240	3 9/16"	8"	65 to 150	7942K53	316.09
For Steam						
Closed Unless Air is On (Normally Closed)						
1/2	150	2 9/16"	7"	65 to 150	4923T61	332.97
3/4	150	3"	8"	65 to 150	4923T62	338.81
1	150	3 9/16"	8"	65 to 150	4923T63	358.66
1 1/4	150	4 7/16"	9"	65 to 150	4923T64	540.12
1 1/2	150	4 3/4"	10"	65 to 150	4923T65	619.51
2	150	5 15/16"	10"	65 to 150	4923T96	697.74

High-Flow & Severe-Duty Actuated On/Off Valves

For information about high-flow and severe-duty actuated on/off valves, see page 485. For pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest ID or OD below, and read down to find the corresponding pipe size.

ID or OD	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	3 1/2"	4 1/2"	6 5/8"
Pipe Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	3	4	6

Compact High-Flow Actuated On/Off Valves



- Use with water, oil, air, inert gas, and steam
- Temp. Range: 15° to 366° F

The smallest general-service high-flow actuated on/off valves we offer, these are often used in low-clearance areas where other valves won't fit. Connections are NPT female. Body and piston are 316 stainless steel for excellent corrosion resistance. Seal is PTFE. Valves are closed unless air is on (normally closed). Require an air supply of 60 to 150 psi; inlet is 1/8 NPT female.

Pipe Size	Max. psi Liquid	Max. psi Steam	Lg.	Ht.		
3/8	240	150	2 3/16"	4"	5032T11	$341.37
1/2	180	150	2 9/16"	4"	5032T12	341.37
3/4	90	90	3"	4"	5032T13	384.02

High-Temperature High-Flow Actuated On/Off Valves



- Temp. Range: -20° to 428° F

To withstand temperatures up to 20% higher than other high-flow actuated on/off valves, these have a temperature-resistant PEEK seal. Connections are NPT female. Body is 316 stainless steel for excellent corrosion resistance. Piston is brass. Valves are closed unless air is on (normally closed).

Pipe Size	Max. psi	Lg.	Ht.	Air Supply Inlet Pipe Size	Air Supply Required psi		
For Water, Air, and Inert Gas							
1/2	375	2 9/16"	6"	1/8	85 to 145	5200T21	$292.94
3/4	365	3"	8"	1/4	50 to 145	5200T22	385.98
1	245	3 9/16"	8"	1/4	65 to 145	5200T23	481.31
1 1/4	175	4 3/8"	8"	1/4	80 to 145	5200T24	622.48
For Steam							
1/2	160	2 9/16"	6"	1/8	65 to 145	5200T41	291.77
3/4	140	3"	6"	1/8	80 to 145	5200T42	333.67
1	140	3 9/16"	8"	1/4	60 to 145	5200T43	469.67
1 1/4	145	4 3/8"	8"	1/4	80 to 145	5200T44	607.29

High-Flow Actuated On/Off Valves for Chemicals



- Temp. Range:
  32° to 140° F (PVC);
  0° to 180° F (Polypropylene)

With a chemical-resistant fluoroelastomer seal and no metal parts to corrode, these valves are often used in chemical-processing and water-treatment applications. Connections are NPT female. Piston is polypropylene. Valves are closed unless air is on (normally closed) and require an air supply of 40 to 80 psi.

Valves have four holes on the bottom for mounting (fasteners not included). *Valves with 1/2 pipe size* use 1/4"-20 screws; *valves with 3/4 and 1 pipe size* use 3/8"-16 screws.

PVC valves are dark gray.

Polypropylene valves are white.

Pipe Size	Max. psi	Lg.	Ht.	Air Inlet Pipe Size	PVC		Polypropylene	
1/2	150	3"	4"	1/8	8170K23	$195.70	8170K53	$227.87
3/4	150	4"	5"	1/8	8170K24	262.72	8170K54	276.13
1	150	4"	5"	1/2	8170K25	335.11	8170K55	375.32

Corrosion-Resistant High-Flow Actuated On/Off Valves



- Use with water, oil, and steam
- Temp. Range: 14° to 356° F

Pair exceptional corrosion resistance with ease of use—these valves come with a solenoid that controls air supplied to the valve. Connections are NPT female. Body is 316 stainless steel, piston is polyamide, and seal is PTFE. Valves have a visual indicator that shows whether flow is on or off. They require an air supply of 25 to 150 psi; inlet is 1/8 NPT female. All meet IP65 for resistance to dust and low-pressure jets of water. UL listed.

The solenoid operates on 120 volts AC @ 60 Hz and has a DIN electrical connection.

Pipe Size	Max. psi Liquid	Max. psi Steam	Lg.	Ht.		
Closed Unless Air is On (Normally Closed)						
1/2	360	130	2 9/16"	5"	8161K22	$430.75
1/2	290	130	2 9/16"	7"	49475K31	540.97
3/4	360	130	3"	5"	8161K44	449.75
3/4	290	130	3"	7"	49475K32	544.77
1	290	130	3 9/16"	8"	49475K33	558.70
1 1/4	230	130	4 3/8"	8"	49475K34	685.39
1 1/2	230	130	4 3/4"	8"	49475K35	752.54
2	160	130	5 15/16"	8"	49475K36	903.30
Open Unless Air is On (Normally Open)						
1/2	230	130	2 9/16"	7"	49475K61	584.04
3/4	230	130	3"	7"	49475K62	592.91
1	230	130	3 9/16"	8"	49475K63	635.98
1 1/4	230	130	4 3/8"	8"	49475K64	746.20
1 1/2	230	130	4 3/4"	8"	49475K65	829.82
2	175	130	5 15/16"	8"	49475K66	1,032.52

Severe-Duty Actuated On/Off Valves



- Use with water, oil, air, inert gas, and steam
- Temp. Range:
  -40° to 400° F (Bronze);
  -40° to 450° F (316 Stainless Steel)

These valves automatically start and stop flow and are designed for use with dirty and contaminated liquids that would damage other valves. Connections are NPT female. Seal is PTFE-coated stainless steel. Air inlet is 1/4 NPT female. Valves meet ANSI Class IV for tight shutoff and have a leakage rate of less than 0.01%.

Bronze valves provide durability for a long service life. Diaphragm is nylon-reinforced EPDM.

316 stainless steel valves have better resistance to corrosive fluids and aggressive process media than bronze valves. Diaphragm is fabric-reinforced EPDM. Valves meet ANSI B16.34.

Pipe Size	Max. psi Liquid	Max. psi Steam	Lg.	Ht.	Required psi		
Bronze							
Closed Unless Air is On (Normally Closed)							
1/2	250	150	3 5/8"	15"	8 to 20	5693T31	$937.12
3/4	250	150	3 5/8"	15"	8 to 20	5693T32	937.12
1	250	150	4 1/8"	15"	6 to 18	5693T33	1,229.83
1 1/4	240	150	5 3/8"	16"	8 to 20	5693T34	1,560.05
1 1/2	180	150	5 3/8"	16"	8 to 20	5693T35	1,560.05
2	110	110	7 1/2"	17"	8 to 20	5693T36	1,913.05
Open Unless Air is On (Normally Open)							
3/4	250	150	3 5/8"	15"	3 to 20	5693T42	937.12
1	250	150	4 1/8"	15"	3 to 20	5693T43	1,229.83
1 1/2	180	150	5 3/8"	16"	3 to 20	5693T45	1,560.05
2	110	110	7 1/2"	17"	3 to 20	5693T46	1,913.05
316 Stainless Steel							
Closed Unless Air is On (Normally Closed)							
1/2	250	250	3 1/8"	14"	8 to 20	4544K31	1,475.06
1	190	190	4"	14"	8 to 20	4544K33	1,717.77
1	250	250	4"	15"	6 to 18	4544K35	1,930.24
1 1/2	180	180	5"	17"	8 to 20	4544K37	2,470.72
2	110	110	7 1/2"	19"	8 to 20	4544K39	2,406.35

Compact Severe-Duty Actuated On/Off Valves

- Use with water, oil, air, and inert gas
- Temp. Range: -20° to 180° F

At less than half the height of standard severe-duty actuated on/off valves, these are often used in small spaces and low-clearance pipelines. They automatically start and stop flow and are designed for use with dirty and contaminated liquids that would damage other valves. Connections are NPT female. Body is bronze for durability and a long service life. Diaphragm is Buna-N and nylon; seal is 303 stainless steel. Require an air supply of 20 psi, unless noted.

Repair kits include a diaphragm, spring, and seals.

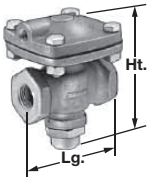

Pipe Size	Max. psi	Lg.	Ht.	Air Inlet Pipe Size	Valves		Repair Kits	
Closed Unless Air is On (Normally Closed)								
1/2	250	2 7/8"	4"	1/8	8168K11★	$272.20	8168K82	$104.73
3/4	250	2 7/8"	4"	1/8	8168K12	277.64	8168K82	104.73
1	250	5 7/8"	7"	1/4	8168K13	763.72	8168K83	290.84
1 1/4	250	5 7/8"	7"	1/4	8168K14	763.72	8168K83	290.84
Open Unless Air is On (Normally Open)								
1/2	250	2 7/8"	4"	1/8	8168K21★	265.57	8168K81	104.73
3/4	250	2 7/8"	4"	1/8	8168K22★	277.64	8168K81	104.73

★ Require an air supply of 20 to 45 psi.

Severe-Duty Actuated On/Off Valves for Chemicals

- Temp Range:
  32° to 212° F (1/4 size);
  32° to 300° F (1/2 size)

Also known as Weir-style valves, these have a PTFE body and seals that stand up to harsh acidic solutions in addition to dirty and contaminated liquids. Connections are NPT female. Valves are closed unless air is on (normally closed).

Valve with 1/4 pipe size has two 4-40 studs on the bottom for mounting.

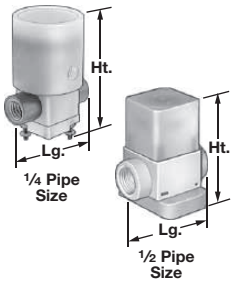

Pipe Size	Max. psi	Lg.	Ht.	Air Supply: Inlet Pipe Size	Air Supply: Required psi		
1/4	60	2 1/8"	2 7/8"	1/8	40 to 60	46545K43	$212.08
1/2	60	1 3/4"	3 3/8"	1/8	60 to 80	45185K24	362.63

Aluminum Valves for Dust Collectors

- Use with air and inert gas
- Temp. Range: -40° to 179° F

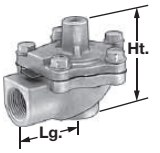

Designed for use in dust-collection systems, these valves release bursts of air to knock debris from air filter bags. The valve's inlet connects to your air supply, and the outlet connects to the blow tube in your system.

All connections are NPT female. Body is aluminum. Diaphragm is TPE, except valve with 1 1/2 pipe size, which is Buna-N. Valves are closed unless air is on (normally closed). Require an air supply of 5-125 psi.

For electrical actuation, the solenoid valve (sold separately) connects to the exhaust port. **To Order:** Specify 120V AC, 240V AC, or 24V DC.

Pipe Size	Max. psi	Lg.	Ht.	Exhaust Port Pipe Size		
3/4	125	2 1/4"	3 5/8"	1/8	5496T11	$57.28
1	125	2 11/16"	4 3/8"	1/8	5496T12	68.12
1 1/2	125	3"	5"	3/8	5496T13	163.27
Solenoid Valve (1/8 NPT)					5222T11	102.82

About Large-Diameter Actuated On/Off Valves

Also known as butterfly valves, these are designed for on/off flow control in large pipelines and applications with higher flow rates than other actuated on/off valves. All have a disc that provides a tight seal. With a small number of moving parts, these valves are long lasting and easy to maintain.

Valves with threaded flange holes have a hole pattern that matches ANSI flanges of the same pipe size. Also called lug-style butterfly valves, these can be sandwiched between two flanges or bolted directly to a single flange for servicing one end of the pipeline without depressurizing the other side.

Valves with alignment guides have alignment tabs or unthreaded alignment holes. Also called wafer-style butterfly valves, these must be sandwiched between two flanges in your system.

ANSI Flange Alignment



With Threaded Flange Holes



With Alignment Guides

Motor-Driven Large-Diameter Actuated On/Off Valves

For Water:
- Max. Pressure: 200 psi @ 275° F (Medium Pressure); 250 psi @ 225° F (High Pressure);
- Valve Temp. Range: -30° to 275° F (Medium Pressure); -20° to 225° F (High Pressure)

For Oil:
- Max. Pressure: 200 psi @ 180° F (Medium Pressure); 250 psi @ 180° F (High Pressure);
- Valve Temp. Range: 10° to 180° F (Medium Pressure); -20° to 180° F (High Pressure)

For Chemicals:
- Max. Pressure: 200 psi @ 275° F (Medium Pressure); 250 psi @ 300° F (High Pressure)
- Temp. Range: 10° to 275° F (Medium Pressure); -20° to 300° F (High Pressure)

Automatically start and stop flow in larger pipelines and applications with higher flow rates than other actuated on/off valves. These valves fit ANSI Class 125 and 150 flanges of the same pipe size. Body is iron. All valves have screw terminals with a 1/2 trade size conduit port. Valves meet MSS-SP-67.

Medium-pressure valves have a painted-iron disc. They operate on 120 volts AC @ 60 Hz. Actuator temperature range is -13° to 131° F.

High-pressure valves meet API (American Petroleum Institute) 609 for flow regulation. They operate on 120 volts AC @ 50/60 Hz. Actuator temperature range is -40° to 140° F. *Valves for water* and *valves for oil* have an iron disc; *valves for chemicals* have a 316 stainless steel disc.

Valves for water have an EPDM seat. **Valves for oil** have a Buna-N seat. **Valves for chemicals** have a fluoroelastomer seat to resist a wide range of chemicals.



With Eight Threaded Flange Holes

Pipe Size	End-to-End Lg.	O'all Ht.	Fits ANSI Flange: OD	Bolt Circle Dia.	Bolt Size	Bolt Hole Qty.	On/Off Time, sec.	With Threaded Flange Holes: For Water	For Oil	For Chemicals	With Alignment Guides: For Water	For Oil	For Chemicals
Medium Pressure													
3	1 7/8"	16 1/4"	7 1/2"	6"	5/8"-11	4	13	49985K982 $841.82	$841.82	$1,016.36	49985K984 $827.27	$827.27	$992.73
4	2 1/8"	18 5/8"	9"	7 1/2"	5/8"-11	8	25	49985K983 1,195.08	1,195.08	1,574.55	49985K985 1,178.69	1,178.69	1,476.36
High Pressure													
2	1 13/16"	18 3/8"	6"	4 3/4"	5/8"-11	4	15■	47075K951 1,171.25	1,171.25	1,298.51	47075K955 1,156.07	1,156.07	1,257.97
3	1 15/16"	19 5/8"	7 1/2"	6"	5/8"-11	4	15	47075K952 1,453.81	1,453.81	1,627.85	47075K956 1,408.00	1,408.00	1,566.75
4	2 3/16"	22 15/16"	9"	7 1/2"	5/8"-11	8	15■	47075K953 1,924.09	1,924.09	2,061.49	47075K957 1,865.97	1,865.97	2,037.03
6	2 5/16"	25 5/16"	11"	9 1/2"	3/4"-10	8	30	47075K954 2,321.93	2,321.93	2,639.11	47075K958 2,326.20	2,326.20	2,602.15

■On/off time is 4 seconds for valves for chemicals.

Large-Diameter Actuated On/Off Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about large-diameter actuated on/off valves, see page 487. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest ID or OD below, and read down to find the corresponding pipe size.

ID or OD	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"	4 1/2"	5 9/16"	6 5/8"
Pipe Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6

Air-Driven Large-Diameter Actuated On/Off Valves



With Four Threaded Flange Holes



With Alignment Guides

For Water:
- Max. Pressure: 200 psi @ 275° F (Medium Pressure); 250 psi @ 225° F (High Pressure)
- Valve Temp Range: -30° to 275° F (Medium Pressure); -20° to 225° F (High Pressure)

For Oil:
- Max. Pressure: 200 psi @ 180° F (Medium Pressure); 250 psi @ 180° F (High Pressure)
- Valve Temp. Range: 10° to 180° F (Medium Pressure); -20° to 180° F (High Pressure)

For Chemicals:
- Max. Pressure: 200 psi @ 275° F (Medium Pressure); 250 psi @ 300° F (High Pressure)
- Valve Temp. Range: 10° to 275° F (Medium Pressure); -20° to 300° F (High Pressure)

These valves start and stop flow in larger pipelines and applications with higher flow rates than other actuated on/off valves. They operate on compressed air and electricity and require a solenoid valve (sold separately) that turns the air supply on and off to open and close the valve. All fit ANSI Class 125 and 150 flanges of the same pipe size. Body is iron. Air inlet is NPT female. Valves meet MSS-SP-67.

Air-to-open/air-to-close valves use air pressure to open and close. *Closed unless air is on (normally closed)* valves use air pressure to open and automatically spring closed when the air turns off.

Medium-pressure valves have a painted-iron disc. They require an air supply of 80 to 100 psi. Actuator temperature range is -4° to 176° F.

High-pressure valves meet API (American Petroleum Institute) 609 for flow regulation. They require an air supply of 80 psi. Actuator temperature range is -40° to 212° F. *Valves for water* and *valves for oil* have an iron disc; *valves for chemicals* have a 316 stainless steel disc.

Valves for water have an EPDM seat. **Valves for oil** have a Buna-N seat. **Valves for chemicals** have a fluoroelastomer seat that stands up to a wide range of chemicals.

Required solenoid valve operates on 120 volts AC @ 60 Hz. It has 18" long wire leads and 1/2 trade size conduit port. Valve meets NEMA 4 for resistance to washdowns, splashing water, and dust and is suitable for outdoor use. Temperature range is 5° to 140° F.

Pipe Size	End-to-End Lg.	O'all Ht.	Fits ANSI Flange: OD	Fits ANSI Flange: Bolt Circle Dia.	Fits ANSI Flange: Bolt Size	Fits ANSI Flange: Bolt Hole Qty.	Air Inlet Pipe Size	With Threaded Flange Holes: For Water	With Threaded Flange Holes: For Oil	With Threaded Flange Holes: For Chemicals	With Alignment Guides: For Water	With Alignment Guides: For Oil	With Alignment Guides: For Chemicals
Air-to-Open/Air-to-Close													
Medium Pressure													
2	1 3/4"	14"	6"	4 3/4"	5/8"-11	4	1/4	**50215K911**	$322.00	$322.00	$478.00	**50215K915**	$314.00	$314.00	$462.00
3	1 7/8"	15 5/16"	7 1/2"	6"	5/8"-11	4	1/4	**50215K912**	334.00	334.00	504.00	**50215K916**	324.00	324.00	482.00
4	2 1/8"	17 7/16"	9"	7 1/2"	5/8"-11	8	1/4	**50215K913**	390.00	390.00	626.00	**50215K917**	372.00	372.00	536.00
6	2 1/4"	20 1/4"	11"	9 1/2"	3/4"-10	8	1/4	**50215K914**	540.00	540.00	862.00	**50215K918**	516.00	516.00	760.00
High Pressure													
2	1 13/16"	15"	6"	4 3/4"	5/8"-11	4	1/8	**47075K971**	478.85	478.85	657.96	**47075K977**	463.13	463.13	637.35
2 1/2	1 15/16"	15 15/16"	7"	5 1/2"	5/8"-11	4	1/8	**47075K972**	534.96	534.96	748.79	**47075K978**	517.38	517.38	728.18
3	1 15/16"	16 5/16"	7 1/2"	6"	5/8"-11	4	1/8	**47075K973**	547.77	547.77	787.33	**47075K979**	525.90	525.90	764.53
4	2 3/16"	16 7/8"	9"	7 1/2"	5/8"-11	8	1/8	**47075K974**	475.34	475.34	753.70	**47075K981**	447.98	447.98	726.57
5	2 5/16"	18 9/16"	10"	8 1/2"	3/4"-10	8	1/4	**47075K975**	575.47	575.47	916.62	**47075K982**	522.56	522.56	877.02
6	2 5/16"	21 1/16"	11"	9 1/2"	3/4"-10	8	1/4	**47075K976**	823.35	823.35	1,178.90	**47075K983**	786.47	786.47	1,140.09
Closed Unless Air is On (Normally Closed)													
High Pressure													
2	1 13/16"	14 1/4"	6"	4 3/4"	5/8"-11	4	1/8	**47075K985**	446.26	446.26	628.12	**47075K991**	433.28	433.28	607.49
3	1 15/16"	16"	7 1/2"	6"	5/8"-11	4	1/8	**47075K986**	545.99	545.99	785.55	**47075K992**	524.12	524.12	762.75
4	2 3/16"	18 5/8"	9"	7 1/2"	5/8"-11	8	1/8	**47075K987**	752.70	752.70	994.89	**47075K993**	725.35	725.35	986.01
6	2 5/16"	24 1/4"	11"	9 1/2"	3/4"-10	8	1/4	**47075K988**	1,472.71	1,472.71	1,883.14	**47075K994**	1,438.28	1,438.28	1,844.34
Required Solenoid Valve												**47075K198**			277.78

Plastic Air-Driven Large-Diameter Actuated On/Off Valves



With Four Bolt Holes



With Eight Bolt Holes

- Max. Pressure: 150 psi @ 70° F
- Valve Temp. Range: 40° to 140° F

These lightweight valves have alignment guides and fit ANSI Class 125 and 150 flanges of the same pipe size. All operate on compressed air and electricity and come with a solenoid valve that turns the air supply on and off to open and close the valve. Use with Schedule 40 and 80 pipe and fittings. Body is PVC and disc is polypropylene.

Valves are closed unless air is on (normally closed). The actuator requires an air supply of 80 to 120 psi; inlet is 1/4 NPT female. Comes with a solenoid that operates on 120 volts AC @ 60 Hz. Has 18" long wire leads with a 5/8 trade size conduit port. Actuator temperature range is 0° to 176° F.

Valves for drinking water meet NSF/ANSI Standard 61. Seat is EPDM. **Valves for chemicals** have a chemical-resistant fluoroelastomer seat and no metal parts for use in chemical-processing applications in corrosive conditions. Color is dark gray.

Pipe Size	End-to-End Lg.	O'all Ht.	Fits ANSI Flange: OD	Fits ANSI Flange: Bolt Circle Dia.	Fits ANSI Flange: Bolt Size	Fits ANSI Flange: Bolt Hole Qty.		
For Drinking Water								
3	1 13/16"	13 3/16"	7 3/4"	6"	5/8"-11	4	**48065K57**	$1,267.60
4	2 1/16"	15 5/8"	9 1/8"	7 1/2"	5/8"-11	8	**48065K58**	1,466.19
For Chemicals								
3	1 13/16"	13 3/16"	7 3/4"	6"	5/8"-11	4	**48065K47**	1,492.62
4	2 1/16"	15 5/8"	9 1/8"	7 1/2"	5/8"-11	8	**48065K48**	1,757.28

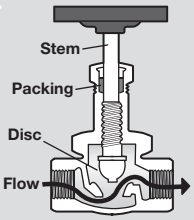

About Flow-Adjustment Valves

Also known as globe valves, these gradually open and close to adjust and regulate flow. They require multiple turns of the wheel handle to fully open and close. All have a disc that provides a tight seal when closed. With seats that extend into the center of the valve, they are not for applications that require unobstructed flow.

Valves with a Rising Stem—The stem lifts as the valve opens and lowers as the valve closes to provide a visual indication of whether flow is on or off. Since the stem is isolated from the process media, valves with a rising stem have a longer service life than valves with a nonrising stem.

Valves with a Nonrising Stem—The stem stays in the same position whether the valve is open or closed, so these valves are often used underground and in other low-clearance areas.

Flow-Adjustment Valves

Class 125:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 200 psi @ 150° F
- Max. Pressure for Steam: 125 psi @ 353° F
- Temp. Range: -20° to 405° F

Class 150:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 300 psi @ 150° F
- Max. Pressure for Steam: 150 psi @ 366° F
- Temp. Range: -20° to 405° F

Class 200:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 400 psi @ 150° F
- Max. Pressure for Steam: 200 psi @ 388° F
- Temp. Range: -20° to 550° F

Class 300:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,000 psi @ 150° F (Straight); 600 psi @ 150° F (Elbow)
- Max. Pressure for Steam: 300 psi @ 421° F
- Temp. Range: -20° to 550° F

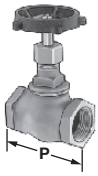

Straight

These valves gradually open and close with multiple turns of the wheel handle to adjust and regulate flow. Connections are NPT female. Body is bronze for a long service life. Packing is graphite. Stem is rising. Valves meet MSS-SP-80.

Straights—Class 125 and Class 200 have a bronze disc; Class 150 have a PTFE disc; Class 300 have a 420 stainless steel disc.

Elbows—Class 125 have a brass disc; Class 150 have a PTFE disc; Class 300 have a bronze disc.



Elbow

Pipe Size	Class 125 Port-to-Port Lg. (P)		Class 150 Port-to-Port Lg. (P)		Class 200 Port-to-Port Lg. (P)		Class 300 Port-to-Port Lg. (P)	
Straights								
1/4	1 5/8"	**4600K11** $53.67	2 1/16"	**4889K11** $58.95	2 1/16"	**3983K11** $70.20	2 1/8"	**9769K11** $115.92
3/8	1 13/16"	**4600K12** 53.67	2 1/16"	**4889K12** 58.88	2 1/16"	**3983K12** 70.20	2 3/8"	**9769K12** 115.92
1/2	2 5/16"	**4600K13** 53.67	2 7/16"	**4889K13** 58.88	2 7/16"	**3983K13** 70.20	2 3/4"	**9769K13** 116.02
3/4	2 9/16"	**4600K14** 61.94	2 15/16"	**4889K14** 75.51	2 15/16"	**3983K14** 91.53	3 3/16"	**9769K14** 164.49
1	2 15/16"	**4600K15** 90.67	3 7/16"	**4889K15** 135.22	3 3/4"	**3983K15** 152.56	3 5/8"	**9769K15** 220.33
1 1/4	3 3/8"	**4600K16** 122.78	3 7/8"	**4889K16** 235.16	4 1/4"	**3983K16** 249.44	4 1/8"	**9769K16** 292.78
1 1/2	3 11/16"	**4600K17** 161.78	4 1/2"	**4889K17** 257.72	4 3/4"	**3983K17** 275.89	4 3/4"	**9769K17** 425.44
2	4 7/16"	**4600K18** 242.67	5 3/4"	**4889K18** 381.56	5 3/4"	**3983K18** 425.67	5 1/8"	**9769K18** 645.56
Elbows								
1/4	3/4"	**4600K41** 58.88	1 1/16"	**4889K61** 72.76	—	—	1 1/16"	**9769K31** 80.92
3/8	15/16"	**4600K42** 58.88	1 3/16"	**4889K62** 72.76	—	—	1 3/16"	**9769K32** 80.92
1/2	1"	**4600K43** 58.88	1 3/16"	**4889K63** 72.76	—	—	1 1/4"	**9769K33** 80.92
3/4	1 1/4"	**4600K44** 80.61	1 7/16"	**4889K64** 75.51	—	—	1 1/2"	**9769K34** 110.61
1	1 7/16"	**4600K45** 114.22	1 3/4"	**4889K65** 141.00	—	—	1 3/4"	**9769K35** 175.44
1 1/4	1 11/16"	**4600K46** 161.78	2 1/16"	**4889K66** 184.89	—	—	2 1/16"	**9769K36** 229.00
1 1/2	1 13/16"	**4600K47** 199.78	2 1/4"	**4889K67** 255.22	—	—	2 1/4"	**9769K37** 308.33
2	2 3/16"	**4600K48** 258.11	2 3/4"	**4889K68** 387.61	—	—	2 3/4"	**9769K38** 484.22

Low-Pressure Flow-Adjustment Valves

- Max. Pressure for Water: 175 psi @ 150° F
- Temp. Range: -20° to 150° F

Use these valves for boiler maintenance and other low-pressure plumbing applications. Connections are NPT female. Body is bronze for durability and a long service life. Disc is EPDM and packing is graphite. Stem is rising.

Valves with 1/2 to 2 pipe size are UL listed.



Pipe Size	End-to-End Lg.	
1/4	2"	**4695K63** $27.13
3/8	2"	**4695K66** 27.93
1/2	2 5/16"	**4695K64** 29.40
3/4	2 5/16"	**4695K65** 37.44
1	3 1/8"	**4695K59** 52.87
1 1/4	4 5/16"	**4695K6** 106.97
1 1/2	4 11/16"	**4695K61** 149.94
2	5 5/8"	**4695K62** 167.14

Plastic Flow-Adjustment Valves

- Max. Pressure for Water: 150 psi @ 70° F
- Temp. Range: 40° to 120° F

For a lightweight and corrosion-resistant alternative to metal valves, these have a PVC body. Use with Schedule 40 and 80 pipe and fittings. Disc is polypropylene and packing is EPDM. Color is dark gray. Stem is rising.

Socket-weld valves bond to unthreaded male plastic pipe.


NPT Female

Pipe Size	End-to-End Lg.	
NPT Female		
1/2	3 3/8"	**47535K21** $53.92
3/4	3 3/4"	**47535K22** 57.16
1	4 3/8"	**47535K23** 95.98
1 1/2	5 1/2"	**47535K25** 273.92
Socket Weld		
1/2	4 3/8"	**47535K41** 53.92
3/4	5 1/8"	**47535K42** 57.16
1	5 15/16"	**47535K43** 95.98
1 1/2	5 1/2"	**47535K45** 273.92

Corrosion-Resistant Flow-Adjustment Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 200 psi @ 350° F
- Max. Pressure for Steam: 120 psi @ 350° F
- Temp. Range: 0° to 350° F

For exceptional corrosion resistance in harsh conditions, these valves have a 316 stainless steel body and disc. Packing is PTFE. Stem is rising.

Socket-weld valves meet ASTM A351.


Socket Weld

Pipe Size	End-to-End Lg.	NPT Female	BSPT Female	Socket Weld
1/2	2 5/8"	**4742K13** $76.76	**4098K53** $102.91	**4110K53** $85.70
3/4	2 15/16"	**4742K14** 92.43	**4098K54** 119.64	**4110K54** 104.88
1	3 5/8"	**4742K15** 102.34	**4098K55** 140.39	**4110K55** 113.09
1 1/2	4 11/16"	**4742K17** 232.16	**4098K57** 289.46	**4110K57** 257.80
1 1/4	4 1/8"	**4742K16** 156.65	**4098K56** 202.61	**4110K56** 190.65
2	5 1/2"	**4742K18** 312.49	**4098K58** 376.30	**4110K58** 341.39

Flow-Adjustment Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about flow-adjustment valves, see page 489. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

High-Pressure Flow-Adjustment Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,975 psi @ 100° F
- Max. Pressure for Steam: 715 psi @ 800° F
- Temp. Range: -20° to 800° F

Often used in power-processing systems and other high-pressure applications, these valves can withstand up to 1,975 psi. Connections are NPT female. Body and disc are steel and packing is graphite. Stem is rising. Valves meet API (American Petroleum Institute) 602, ASTM A105N, and are rated Class 800.

Pipe Size	End-to-End Lg.		
1/4	3 3/16"	4737K51	$86.29
3/8	3 3/16"	4737K52	86.29
1/2	3 3/16"	4737K53	86.29
3/4	3 9/16"	4737K54	98.95
1	4 5/16"	4737K55	129.44
1 1/4	6"	4737K56	252.54
1 1/2	6"	4737K57	252.54
2	7 1/8"	4737K58	323.30

Fast-Acting Flow-Adjustment Valves



Lever

- Max. Pressure for Water, Oil, Air, and Inert Gas: 175 psi @ 100° F
- Temp. Range: -20° to 275° F

The lever handle on these valves transitions between flow-adjustment positions faster than a wheel handle requiring multiple turns. Connections are NPT female. Body is bronze for durability and a long service life. Disc is 304 stainless steel and seat is fluoroelastomer. UL listed and CSA and CSA-US certified.

Valves with a flow-indicating lever show the percentage the valve is open.

Pipe Size	End-to-End Lg.	O'all Ht.	Lever		Flow-Indicating Lever	
1/4	2 1/4"	2 5/16"	9798K31	$12.90	4682K52	$21.30
3/8	2 3/8"	2 5/16"	9798K32	12.90	4682K53	21.30
1/2	1 15/16"	2 3/8"	9798K33	12.60	4682K54	21.30
3/4	2 1/16"	2 9/16"	9798K34	20.30	4682K55	27.00
1	2 5/16"	2 13/16"	9798K35	25.40	4682K56	33.30
1 1/4	2 5/8"	3 7/16"	9798K36	41.00	4682K57	50.40
1 1/2	2 7/8"	3 5/8"	9798K37	51.00	4682K58	60.20
2	3 1/4"	4 7/16"	9798K38	62.20	4682K59	71.30

Snap-Shut Flow-Adjustment Valves



Push Lever



Pull Lever

- Max. Pressure for Water, Oil, Air, and Inert Gas: See table
- Temp. Range: 0° to 200° F (Brass); -20° to 550° F (Bronze)

Also known as whistle valves, these open and throttle as force is applied to the lever and automatically close upon release. They're commonly used for spraying, washing, and other applications that require manual discharge of liquids and air. Connections are NPT female. Stem is nonrising.

Brass valves have a Buna-N disc and packing.

Bronze valves are stronger and more durable than brass valves for an extended service life. Disc is bronze and packing is Kevlar fiber. Valves meet MSS-SP-80 and are rated Class 200.

Valves with a push lever open the valve as downward pressure is applied. *Valves with a pull lever* open the valve when you pull the handle upward. Attach a cord or chain to the hole in the handle for remote operation. Handle hole dia. is 1/4", unless noted.

Brass—**To Order:** Please specify push or pull lever

Pipe Size	End-to-End Lg.	Max. 150 psi @ 60° F		Max. 400 psi @ 60° F	
1/4	2 3/16"	4625K61	$65.22	4625K81	$65.22
3/8	2 3/16"	4625K62	71.65	4625K82	71.65
1/2	3"	4625K63	86.32	4625K83	105.70
3/4	3 1/8"	4625K64	128.65	4625K84	130.08
1	4"	4625K65	132.58	4625K85	166.38

Bronze—Pull Lever

Pipe Size	End-to-End Lg.	Max. 200 psi @ 550° F	
1/2	2 1/2"	4608K4	$299.74
3/4	2 15/16"	4608K41	429.09
1	3 7/16"	4608K42★	501.82

★Handle hole dia. is 5/16".

Faucets with 3/4" Garden Hose Outlet

- Max. Pressure for Water: 125 psi @ 100° F (Brass); 150 psi @ 73° F (Acetal Plastic)
- Temp. Range: 40° to 180° F



A&E

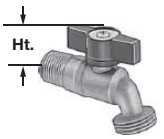

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C

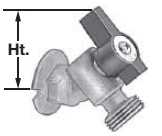

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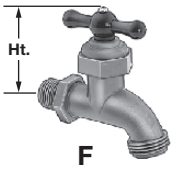

F



G



Brass Lockout for Styles A-D

Brass—NPT

	Inlet Pipe Size	Height		
A	1/2 Female	3 1/4"	4792K33	$11.97
A	1/2 Male	3 11/16"	4792K31	11.97
A	3/4 Male	3 3/4"	4792K32	13.03
B	1/2 Male	1 1/4"	4792K61	7.98
B	3/4 Male	1 1/4"	4792K62	8.83
C	1/2 Female	1 1/4"	4792K63	7.98
C	3/4 Female	1 1/4"	4792K64	7.72
D	1/2 Female	2 3/8"	4792K65	9.49
D	3/4 Female	2 5/8"	4792K66	9.99

Brass—Solder End (Unthreaded)

	Inlet Tube Size	Actual Tube OD	Height		
D	1/2"♦	5/8"	2 1/8"	4792K67	$9.01
D	3/4"♦	7/8"	2 3/8"	4792K68	10.90

♦ Tube size is the accepted designation of the copper tubing industry, not the actual OD.

Acetal Plastic—NPT

	Inlet Pipe Size	Height		
E	1/2 Male	4"	4950K55	$3.83
E	3/4 Female	3 3/4"	4950K59	4.24
E	3/4 Male	4 1/4"	4950K56	3.95
F	1/2 Male	4 1/4"	4950K41	3.86
F	3/4 Male	4 1/4"	4950K42	3.95
G	1/2 Male	4 1/4"	4950K47	3.76
G	3/4 Male	4 1/4"	4950K48	3.90

Brass Lockout for Styles A-D—Accepts padlocks with 1/4" and 9/32" diameter shackles (padlock not included) 4642K15 $15.98

For information about flow-adjustment valves, see page 489. For information about pipe size, see pages 2-3.

Frostproof Outdoor Faucets with Garden Hose Outlet

- Max. Pressure for Water: 85 psi @ 140° F (Through-Wall); 125 psi @ 140° F (Tamper-Resistant Through-Wall and In-Ground)
- Temp. Range: 35° to 140° F (Through-Wall and Tamper-Resistant Through-Wall); -40° to 140° F (In-Ground)

Also known as frostproof water hydrants, these faucets drain when closed to prevent freezing.

Through-Wall— Body is brass. Inlet is dual-threaded ½ NPT female x ¾ NPT male. Outlet is ¾" garden hose thread (GHT) male.

Tamper-Resistant Through-Wall— To prevent tampering, these faucets require a key to open and close. Body is chrome-plated brass; pipe is brass. Inlet is dual-threaded 1 NPT male x ¾ NPT female. Outlet is ¾" garden hose thread (GHT) male.

In-Ground— Body is cast iron; in-ground pipe is stainless steel with a galvanized steel casing. Inlet is ¾ NPT female. Outlet is ¾" garden hose thread (GHT) male.







Through-Wall

Wall Thickness	With Vacuum Breaker		Without Vacuum Breaker	
6"	4728K81	$25.62	4728K91	$21.20
8"	4728K82	27.88	4728K92	22.68
10"	4728K83	29.71	4728K93	24.10
12"	4728K84	31.65	4728K94	25.57
14"	4728K85	35.49	4728K95	26.98

Tamper-Resistant Through-Wall

Wall Thickness		
4"	47335K431	$269.54
6"	47335K432	269.54
8"	47335K433	269.54
10"	47335K461	257.20
12"	47335K462	257.20
Replacement Key	47335K57	4.70

In-Ground

Max. Burying Depth	O'all Ht.		
2 ft.	4'4¾"	4728K51	$81.04
3 ft.	5'4½"	4728K52	87.40
4 ft.	6'5"	4728K53	92.93
5 ft.	7'5"	4728K54	96.87

Flow-Adjustment Valves with Solder-Connect Fittings

- Max. Pressure for Water, Oil, Air, and Inert Gas: 200 psi @ 150° F
- Max. Pressure for Steam: 15 psi @ 250° F
- Temp. Range: -20° to 405° F

Solder these valves to copper tubing. Body is bronze for durability and a long service life. Disc is TFE and packing is graphite. Stem is rising. Valves are rated Class 125.



For Tube Size♦	For Tube OD	End-to-End Lg.		
½	⅝"	2 11/16"	4947K42	$79.06
¾	⅞"	3¾"	4947K43	104.90
1	1⅛"	4⅝"	4947K44	139.35
1¼	1⅜"	5"	4947K46	196.80
1½	1⅝"	5¾"	4947K47	234.88
2	2⅛"	7"	4947K48	361.65

♦ Tube size is an accepted industry designation, not an actual size.

Flow-Adjustment Valves for Fuels

- Use with diesel fuel, fuel oil, and kerosene
- Max. Pressure: 10 psi @ 70° F (¼ to ¾ size); 25 psi @ 70° F (1 Size)
- Temp. Range: 20° to 165° F



Automatically shut off the flow of diesel fuel, fuel oil, and kerosene in case of fire. When the ambient temperature reaches 165° F, these valves close and the handle permanently fuses in place. To reuse the valve, replace the handle (sold separately). Valves can also be manually shut off.

Connections are NPT female. Body is brass and seal is rubber. *Valves with ¼ to ½ pipe size* are UL listed.

Pipe Size	End-to-End Lg.	Valves		Replacement Wheel Handles	
¼	1¾"	4716K71	$19.12	4716K23	$2.83
⅜	1¾"	4716K72	16.51	4716K23	2.83
½	2"	4716K53	41.01	4716K23	2.83
¾	2½"	4716K54	90.10	4716K23	2.83
1	2⅝"	4716K55	264.49	4716K22	33.26

Flow-Adjustment Valves for Cryogenic Liquids

- Use with liquid argon, liquid nitrogen, and liquid oxygen
- Max. Pressure: See table
- Temp. Range: -320° to 165° F (Compact); -325° to 150° F (Standard)

Designed for extremely cold liquids, these valves are cleaned and bagged to meet CGA G-4.1 standards for oxygen service. Connections are NPT female. Disc is brass, packing is PTFE, and seat is CTFE.

Compact valves are a third of the height of standard valves, so they are commonly used with portable cryogenic cylinders. Body is brass. Stem is nonrising.

Standard valves have a durable bronze body for a long service life. Seal is glass-filled PTFE. Stem is rising.



Compact



Standard

Compact

Pipe Size	End-to-End Lg.	O'all Ht.	Max. psi @ 165° F		
¼	2½"	3¼"	600	68075K81	$72.83
⅜	2½"	3¼"	600	68075K82	72.83
½	2½"	3¼"	600	68075K83	72.83

Standard

Pipe Size	End-to-End Lg.	O'all Ht.	Max. psi @ 150° F		
½	2⅝"	8 15/16"	600	49415K32	$224.12
1	3¾"	11 13/16"	600	49415K34	295.32
1½	4¾"	16¾"	400	49415K36	484.25
2	5¾"	17 11/16"	600	49415K38	603.75

Flow-Adjustment Valves for Dry Materials

- Max. Pressure: Not rated
- Max. Temp: 230° F

Also known as iris valves, these control the flow of powders, grains, and other dry materials through bins and hoppers. Rotate the lever handle to adjust flow and twist to lock in any position. Body is aluminum and sleeve is nylon.



Max. Opening Dia.	Body Dia.	Thickness		
4"	6"	1¼"	8153K11	$506.25
6"	9⅛"	1⅜"	8153K13	581.25
8"	11⅛"	1⅜"	8153K15	725.00
10"	13½"	1⅝"	8153K17	937.50

Precision Flow-Adjustment Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about pipe size, see pages 2-3.

About Precision Flow-Adjustment Valves

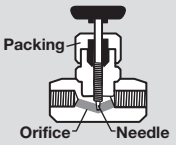

Also known as needle valves, these valves adjust flow in extremely small increments for metering, sampling, and other applications requiring fine flow control. A threaded needle on the end of the valve stem functions as the control, allowing for a gradual increase or decrease in the size of the orifice. **Valves with packing** have a nut that can be tightened to compress the packing if it leaks.

Cv factor (flow coefficient) is the amount of water (in gallons per minute) with a specific gravity of 1 at 60° F that will pass through a fully open valve with a pressure drop of 1 psi. For pressure drops other than 1 psi or liquids with a different specific gravity, use this formula:

$$GPM = Cv\sqrt{\frac{\text{Pressure Drop}}{\text{Specific Gravity of the Liquid}}}$$

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1

Precision Flow-Adjustment Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 2,000 psi @ 400° F (Brass); 5,000 psi @ 400° F (Steel and 303 Stainless Steel)
- Temp. Range: -15° to 400° F

These valves adjust flow in extremely small increments for applications requiring fine flow control. Connections are NPTF (Dryseal) female or BSPT (British Standard Pipe Taper) female. Seals are fluoroelastomer and PTFE; seat is metal-to-metal. Valves have a handle with a locking nut to prevent accidental adjustment.

Brass valves have good corrosion resistance. Needle is brass. **Steel** and **303 stainless steel** valves have a 416 stainless steel needle. *303 stainless steel* valves are more corrosion resistant than brass valves.

Single-direction flow-adjustment valves provide fully adjustable flow from the inlet to the outlet. They have an internal check valve that actuates when the pressure changes to stop flow from the controlled direction and allow free flow in the opposite direction. They are often used to control the speed of air cylinders and air-powered motors.

Pipe Size	End-to-End Lg.	Cv Factor	Orifice Dia.	NPTF Brass		NPTF Steel		303 Stainless Steel		BSPT Brass	
Standard Flow Adjustment											
1/8	1 1/2"	0.2	0.107"	4995K11	$24.22	4995K21	$24.81	4995K41	$68.58		
1/4	2"	0.43	0.156"	4995K13	28.96	4995K23	29.52	4995K42	85.13	7822K11	$32.70
3/8	2 1/4"	0.78	0.219"	4995K15	38.00	4995K25	35.11	4995K43	104.61	7822K12	45.50
1/2	2 11/16"	1.24	0.281"	4995K17	56.36	4995K27	44.54	4995K44	142.40		
3/4	2 15/16"	1.93	0.344"	4995K19	86.84						
Single-Direction Flow Adjustment											
1/8	1 3/4"	0.23	0.107"	7824K11	27.07	7824K21	30.30	7824K31	90.42		
1/4	2 3/8"	0.54	0.156"	7824K12	32.63	7824K22	33.92	7824K32	103.14	7822K21	39.71
3/8	2 3/4"	0.83	0.219"	7824K13	42.97	7824K23	40.02	7824K33	136.70	7822K22	50.44
1/2	3 3/16"	1.47	0.281"	7824K14	67.62	7824K24	52.77	7824K44★	198.62		
3/4	3 9/16"	1.9	0.344"	7824K15	106.48	7824K25	96.38				

★Has a T-handle. Body is 316 stainless steel.

Plastic Precision Flow-Adjustment Valves



NPT Female × Male

- Max. Pressure for Water, Air and Inert Gas: 125 psi @ 140° F
- Temp. Range: 33° to 140° F

For use in plastic pipelines, these valves are lighter in weight than metal valves. Seal is EPDM. Valves have a nylon hex nut and threads below the handle for mounting through instrument panels. To panel mount, they require a 7/8" dia. cutout. Note: Cv factor is not rated.

PVC valves have a PVC needle and seat. Color is dark gray. **Polypropylene** valves have a polypropylene needle and seat. Color is white.

Replacement panel-mounting nuts are nickel-plated brass.

Pipe Size	End-to-End Lg.	Orifice Dia.	PVC		Polypropylene	
NPT Female × Female						
1/8	2"	0.175"	7781K21	$18.25	7792K51	$20.64
1/4	2"	0.175"	7781K25	18.25	7792K55	20.64
NPT Female × Male						
1/8	2 1/4"	0.175"	7781K22	18.25	7792K52	20.64
1/4	2 3/8"	0.175"	7781K26	18.25	7792K56	20.64
NPT Male × Male						
1/4	2 11/16"	0.175"	7781K27	18.25	7792K57	20.64
Replacement Panel-Mounting Nuts (Pkg. of 10)			7781K88	3.61		

Plastic Easy-Set Precision Flow-Adjustment Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 200 psi @ 200° F
- Temp. Range: 0° to 200° F

A lightweight alternative to metal easy-set valves, these have a locking ring to prevent accidental adjustment. Handle threads are color coded to provide a visual reference point for repeated settings. One full revolution of the handle reveals a new color to indicate the set point.

Connections are NPTF (Dryseal) female. Body is glass-reinforced polyester, needle is zinc-plated steel, seal is Buna-N, and seat is polyester. Color is black. Valves can be panel mounted (mounting nuts sold separately).

Single-direction flow-adjustment valves have an internal check valve that actuates when the pressure changes to stop flow from the controlled direction and allow free flow in the opposite direction.

Optional panel-mounting nuts are plastic. *Valves with 1/8 and 1/4 pipe size* require a 1" dia. panel cutout; *3/8 to 3/4 pipe size* require a 1 3/8" dia. panel cutout.

Valves

Pipe Size	End-to-End Lg.	Cv Factor	Orifice Dia.	Standard Flow Adjustment		Single-Direction Flow Adjustment	
1/8	1 15/16"	0.26	0.101"	4891K71	$24.06	48995K31	$28.66
1/4	1 15/16"	0.48	0.136"	4891K72	31.32	48995K33	34.32
3/8	2 7/8"	1.06	0.187"	4891K73	42.56	48995K35	42.98
1/2	2 7/8"	1.35	0.3"	4891K74	53.14	48995K37	53.56
3/4	3"	1.96	0.347"	4891K75	56.26	48995K39	79.78

Optional Panel-Mounting Nuts

For Pipe Size		
1/8, 1/4	4891K61	$4.49
3/8, 1/2, 3/4	4891K62	4.64

Easy-Set Precision Flow-Adjustment Valves



Standard Flow Adjustment:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 2,000 psi @ 400° F (Brass); 5,000 psi @ 400° F (Steel)
- Temp. Range: -15° to 400° F

Single-Direction Flow Adjustment:
- Max. Pressure for Water, Oil, Air, and Inert Gas: 2,000 psi @ 190° F (Brass); 5,000 psi @ 190° F (Steel and 303 Stainless Steel)
- Temp. Range: -15° to 200° F

Color-coded handle threads and numerical markings ensure consistent and repeatable settings. One full revolution of the handle reveals a new color to indicate the set point. Connections are NPTF (Dryseal) female. Seal is fluoroelastomer and seat is metal-to-metal.

Brass valves have good corrosion resistance. Needle is brass.

Steel and **303 stainless steel** valves have a 416 stainless steel needle. *303 stainless steel* valves are more corrosion resistant than brass valves.

Single-direction flow-adjustment valves provide fully adjustable flow from the inlet to the outlet. They have an internal check valve that actuates when the pressure changes to stop flow from the controlled direction and allow free flow in the opposite direction.

Pipe Size	End-to-End Lg.	Cv Factor	Orifice Dia.	Brass		Steel		303 Stainless Steel	
Standard Flow Adjustment									
1/8	1 7/16"	0.25	0.125"	46425K11	$33.26	46425K21	$43.14		
1/4	1 3/4"	0.51	0.187"	46425K12	37.28	46425K22	46.88		
3/8	2 1/16"	0.92	0.25"	46425K13	44.72	46425K23	54.69		
1/2	2 1/2"	1.2	0.312"	46425K14	63.68	46425K24	69.60		
3/4	2 3/4"	1.84	0.375"	46425K15	89.96	46425K25	93.27		
1	4 1/2"	9.6	0.875"	46425K16■	306.54	46425K26▲	200.58		
Single-Direction Flow Adjustment									
1/8	1 15/16"	0.28	0.125"	4982K71	38.95	4982K81	44.94	4982K91	$93.11
1/4	2 7/16"	0.53	0.187"	4982K72	43.98	4982K82	47.08	4982K92	138.21
3/8	2 7/8"	0.76	0.25"	4982K73	51.64	4982K83	57.06	4982K93	159.35
1/2	3 7/16"	0.93	0.312"	4982K74	78.34	4982K84	79.64	4982K94	216.94
3/4	3 3/4"	1.43	0.375"	4982K75	104.38	4982K85	115.60		
1	4 1/2"	8	0.875"	4982K76■	360.78	4982K86▲	267.30		

■ Body is bronze. ▲ Body is iron.

Panel-Mount Precision Flow-Adjustment Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 500 psi @ 180° F
- Temp. Range: -20° to 180° F



Female × Female Straight



Male × Female Elbow

For installation in instrument panels, these valves have a hex nut and threads below the handle. Connections are NPT. Body is brass and packing is PTFE. Seat is metal-to-metal. To panel mount, they require a 9/16" dia. cutout. Note: Cv factor is not rated.

Valves with a 303 stainless steel needle are more corrosion resistant than valves with a brass needle.

Straights

Pipe Size	End-to-End Lg.	Orifice Dia.	Brass Needle		303 Stainless Steel Needle	
Female × Female						
1/4	1 3/4"	0.156"	7810K11	$42.89	7810K12	$47.57

Elbows

Pipe Size	Port-to-Port Lg. (P)	Orifice Dia.	Brass Needle		303 Stainless Steel Needle	
Female × Female						
1/4	15/16"	0.156"	7810K13	$48.77	7810K14	$53.42
Male × Female						
1/4	15/16"	0.156"	7810K15	48.77	7810K16	53.42

High-Temperature Precision Flow-Adjustment Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 6,000 psi @ 100° F
- Temp. Range: -65° to 700° F



NPT Female

Rated for nearly twice the maximum temperature of standard threaded precision flow-adjustment valves, these can handle up to 700° F. Body is 316 stainless steel for exceptional corrosion resistance. Needle is 17-4 PH stainless steel, packing is graphite, and seat is metal-to-metal.

Socket-weld valves are for welding to stainless steel tubing.

Connection Size	End-to-End Lg.	Cv Factor	Orifice Dia.		
NPT Female					
1/4 Pipe Size	2 1/16"	0.82	0.228"	4800K62	$143.80
3/8 Pipe Size	2 5/8"	1.31	0.312"	4800K63	207.93
1/2 Pipe Size	3"	1.31	0.312"	4800K64	318.05
3/4 Pipe Size	3 1/4"	2.67	0.437"	4800K65	511.20
Socket Weld					
For 1/4" Tube OD	1 13/16"	0.65	0.177"	4800K72	172.75
For 3/8" Tube OD	2 1/4"	0.94	0.228"	4800K73	234.45
For 1/2" Tube OD	2 1/2"	1.31	0.312"	4800K74	234.85
For 3/4" Tube OD	3 1/8"	2.67	0.437"	4800K75	382.22

High-Pressure Precision Flow-Adjustment Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 6,000 psi @ 200° F
- Temp. Range: -10° to 200° F

These valves withstand pressure up to 6,000 psi. Connections are NPT. Needle is 316 stainless steel and seal is fluoroelastomer.

Metal-to-metal seats resist temperature fluctuations. **Bubble-tight soft seats** provide a tighter seal than metal-to-metal seats when the valve is completely closed.

Brass valves have good corrosion resistance. **Nickel-plated steel** valves are more corrosion resistant than brass valves. **316 stainless steel** valves have the best corrosion resistance.

Pipe Size	End-to-End Lg.	Cv Factor	Orifice Dia.	Brass		Nickel-Plated Steel		316 Stainless Steel	
Metal-to-Metal Seat									
Female × Female									
1/8	1 13/16"	0.42	0.172"	7833K75	$26.56	7833K85	$26.71	7833K95	$64.42
1/4	1 13/16"	0.42	0.172"	7833K76	26.56	7833K86	26.71	7833K96	64.42
Male × Female									
1/8	1 13/16"	0.42	0.172"	7833K73	26.56	7833K83	26.71	7833K93	64.42
1/4	1 13/16"	0.42	0.172"	7833K74	26.56	7833K84	26.71	7833K94	64.42
Male × Male									
1/8	1 13/16"	0.42	0.172"	7833K71	26.56	7833K81	26.71	7833K91	64.42
1/4	1 13/16"	0.42	0.172"	7833K72	26.56	7833K82	26.71	7833K92	64.42
Bubble-Tight Soft Seat									
Female × Female									
1/4	2 1/2"	0.76	0.187"			4559K32	38.83	4559K42	86.58
1/2	2 1/2"	0.76	0.187"			4559K34	42.12	4559K44	93.78
Male × Female									
1/4	3 1/2"	0.76	0.187"			4559K36	43.06	4559K46	107.88
1/2	3 1/2"	0.76	0.187"			4559K38	46.64	4559K48	117.40



Brass, Male × Male



Nickel-Plated Steel and 316 Stainless Steel, Male × Female

Precision Flow-Adjustment Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about precision flow-adjustment valves, see page 492. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1

Ultra-High-Pressure Precision Flow-Adjustment Valves



Straight



Elbow, Female x Female

- Max. Pressure for Water, Oil, Air, and Inert Gas: 10,000 psi @ 100° F
- Temp. Range: -50° to 1000° F (Straights); -20° to 500° F (Elbows)

Rated for double the pressure of standard precision flow-adjustment valves, these can handle up to 10,000 psi. Connections are NPT. Seat is metal-to-metal.

Straights have graphite packing. *316 stainless steel* valves have exceptional corrosion resistance.

Elbows have PTFE packing. *Mounting nuts* are 303 stainless steel.

Straights—316 Stainless Steel Needle

Pipe Size	End-to-End Lg.	Cv Factor	Orifice Dia.	Steel		316 Stainless Steel	
Female x Female							
1/4	2 1/4"	0.6	0.172"	4644K47	$56.56	4644K32	$127.15
3/8	2 1/4"	0.87	0.25"	4644K48	58.25	4644K33	131.79
1/2	2 3/4"	0.77	0.25"	4644K49	66.77	4644K34	161.27
3/4	3 3/16"	2.67	0.438"	4644K5	111.38	4644K35	252.24
1	3 5/8"	2.61	0.438"	4644K51	127.92	4644K36	304.61

Elbows—416 Stainless Steel Needle

Pipe Size	Port-to-Port Lg. (P)	Cv Factor	Orifice Dia.	Steel		Mounting Nuts Per Pair	
Female x Female							
1/8	1"	0.7	0.187"	4999K11	$58.12	4999K31	$27.50
1/4	1"	0.8	0.187"	4999K12	55.00	4999K31	27.50
3/8	1 11/16"	1.6	0.312"	4999K13	67.50	4999K52	27.50
1/2	1 11/16"	1.5	0.312"	4999K14	71.88	4999K52	27.50
3/4	2"	4.4	0.437"	4999K15	169.50	4999K33	27.50
Male x Female							
1/4	1"	0.6	0.187"	4999K17	66.25	4999K31	27.50
1/2	1 11/16"	1.5	0.312"	4999K18	75.62	4999K52	27.50

Extreme-Pressure Precision Flow-Adjustment Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 15,000 psi @ 72° F
- Temp. Range: -100° to 400° F

The highest-pressure precision flow-adjustment valves we offer, these withstand up to 15,000 psi. Connections are NPT female. Body and needle are 316 stainless steel for exceptional corrosion resistance. Packing is PTFE and seat is metal-to-metal.

Pipe Size	End-to-End Lg.	Cv Factor	Orifice Dia.		
1/4	2"	0.63	0.203"	4617K15	$137.51
3/8	2 1/2"	0.75	0.219"	4617K17	157.79
1/2	3"	1.3	0.312"	4617K19	323.06

Compact Precision Flow-Adjustment Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 300 psi @ 70° F
- Temp. Range: -4° to 430° F

Install these low-profile valves with a narrow port-to-port length in tight spots where other valves won't fit. Connections are UNF male x female. Needle is 316 stainless steel, packing is fluoroelastomer, and seat is metal-to-metal.

303 stainless steel valve has excellent corrosion resistance. **316 stainless steel** valve is more corrosion resistant than the 303 stainless steel valve.

Thread Size	Port-to-Port Lg. (P)	Cv Factor	Orifice Dia.	303 Stainless Steel		316 Stainless Steel	
10-32	5/16"	0.02	0.032"	48965K32	$53.45	48965K34	$89.82

Panel-Mount High-Pressure Precision Flow-Adjustment Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 10,000 psi @ 100° F
- Temp. Range: -50° to 1000° F

Designed for high-pressure instrumentation applications, these valves are rated for up to 10,000 psi and have a steel hex nut and threads below the handle for panel mounting. Connections are NPT female. Needle is 316 stainless steel, packing is graphite, and seat is metal-to-metal. To panel mount, they require a 11/16" dia. cutout.

316 stainless steel valve has exceptional corrosion resistance.

Pipe Size	End-to-End Lg.	Cv Factor	Orifice Dia.	Steel		316 Stainless Steel	
1/4	2 1/4"	0.6	0.172"	6321T62	$80.06	6321T72	$115.00

Precision Flow-Adjustment Valves with Vent Ports



- Max. Pressure for Water, Oil, Air, and Inert Gas: 10,000 psi @ 266° F
- Temp. Range: -4° to 446° F

Also known as block and bleed valves, these have two vent ports to isolate pressure gauges, switches, and other components in high-pressure systems for maintenance, calibration, and sampling without interrupting the process. Connections are NPT female. Body is 316 stainless steel for exceptional corrosion resistance. Needle is 17-4 PH stainless steel, packing is fiberglass-filled PTFE, and seat is metal-to-metal.

Pipe Size	End-to-End Lg.	Cv Factor	Orifice Dia.		
1/4	2 1/2"	0.3	0.197"	4330K35	$148.75
1/2	2 1/2"	0.75	0.197"	4330K36	148.75

High-Precision Flow-Adjustment Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 3,000 psi @ 450° F (Brass); 5,000 psi @ 450° F (303 Stainless Steel)
- Temp. Range: -65° to 450° F

Ensure highly accurate flow adjustment. While ordinary valves open with 10 turns or less, these valves open with 20 turns, giving you more precise flow control. Connections are NPT female. Needle is 303 stainless steel, packing is PTFE, and seat is metal-to-metal.

303 stainless steel valves are more corrosion resistant than brass valves.

Pipe Size	End-to-End Lg.	Cv Factor	Orifice Dia.	Brass		303 Stainless Steel	
1/8	1 3/8"	0.02	0.031"	7832K21	$101.11	7836K25	$151.67
1/8	1 3/8"	0.08	0.063"	7832K22	82.33	7836K26	124.22
1/8	1 3/8"	0.22	0.125"	7832K24	92.44	7836K28	124.22

Precision Flow-Adjustment Valves with 45° Flared Compression Fittings



- Max. Pressure for Water, Oil, Air, and Inert Gas: 150 psi @ 250° F
- Temp. Range: -45° to 250° F

Flared tube fittings provide a tight seal on metal tubing with flared ends. Pipe connections are NPTF (Dryseal) male. Body and needle are brass, seal is neoprene, and seat is metal-to-metal. Note: Cv factor is not rated.

Pipe Size	For Tube OD	Port-to-Port Lg. (P)	Orifice Dia.		
1/8	1/4"	3/4"	0.172"	5049K6	$6.00
1/4	3/8"	1"	0.259"	5049K9	8.03

Precision Flow-Adjustment Valves with Compression Fittings

- Max. Pressure for Water, Oil, Air, and Inert Gas: 150 psi @ 70° F (Straights); 150 psi @ 250° F (Elbows)
- Temp. Range: -45° to 250° F



Straight



Elbow

Compression fittings bite down on hard metal or plastic tubing for a more secure seal than push-to-connect fittings. Body and needle are brass. Seat is metal-to-metal. Note: Cv factor is not rated.

Straights have neoprene packing. **Elbows** have a neoprene seal.

Straights—Compression x Compression

For Tube OD	End-to-End Lg.	Orifice Dia.		
1/4"	1 3/4"	0.16"	4555K13	$7.36
3/8"	1 15/16"	0.22"	4555K15	11.27

Elbows—NPTF Male x Compression

Pipe Size	For Tube OD	Port-to-Port Lg. (P)	Orifice Dia.		
1/8	1/4"	7/8"	0.172"	5049K1	$6.46
1/8	5/16"	7/8"	0.172"	5049K2	11.74
1/4	3/8"	15/16"	0.259"	5049K4	8.23

Compact Precision Flow-Adjustment Valves with Barbed Fittings

- Max. Pressure for Water, Oil, Air, and Inert Gas: 180 psi @ 150° F
- Temp. Range: -40° to 200° F



Knob Operated



Screwdriver Operated

With a low-profile body and a narrow port-to-port length, these valves fit in tight spots and low-clearance areas. Slide the barbed fittings into soft plastic or rubber tubing. Body and needle are nickel-plated brass for good corrosion resistance. Seal is Buna-N and seat is metal-to-metal. To panel mount, valves require a 5/16" dia. cutout. Note: Cv factor is not rated.

For Tube ID	Port-to-Port Lg. (P)	Orifice Dia.	Knob Operated		Screwdriver Operated	
1/16"	7/16"	0.025"	48965K22	$23.08	48965K12	$23.08
1/8"	9/16"	0.025"	48965K24	23.08	48965K14	23.08

Precision Flow-Adjustment Valves for Steam

- Max. Pressure: 200 psi @ 450° F
- Temp. Range: -20° to 450° F



Elbow

Use these valves in applications with steam pressure up to 200 psi @ 450° F. Connections are NPT female. Body is bronze for durability and a long service life. Needle is 642 bronze and seat is metal-to-metal. Packing is graphite, unless noted. Valves meet MSS-SP-80.

Pipe Size	Port-to-Port Lg. (P)	Cv Factor	Orifice Dia.		
Straights					
1/8	1 3/16"	0.16	0.125"	4647K11	$63.84
1/4	1 9/16"	0.37	0.189"	4647K12	58.82
3/8	1 13/16"	0.51	0.256"	4647K13	66.37
1/2	2"	1.09	0.311"	4647K14	74.02
3/4	2 5/16"	2.25	0.437"	4647K15	116.76
1	3 1/4"	4.24	0.563"	4647K16★	279.25
Elbows					
1/2	1 1/16"	5.75	0.311"	7834K54	109.78

★Packing is Kevlar fiber.

Precision Flow-Adjustment Valves with Barbed Fittings

- Max. Pressure for Water, Air, and Inert Gas: 125 psi @ 140° F
- Temp. Range: 33° to 140° F



Slide the barbed fittings on these valves into soft plastic or rubber tubing. Seal is EPDM. They have a nylon hex nut and threads below the handle for panel mounting. To panel mount, they require a 7/8" dia. cutout. Note: Cv factor is not rated.

PVC valves have a PVC needle and seat. Color is dark gray. **Polypropylene** valves have a polypropylene needle and seat. Color is white.

Replacement panel-mounting nuts are nickel-plated brass.

For Tube ID	End-to-End Lg.	Orifice Dia.	PVC		Polypropylene	
1/4"	3 3/8"	0.175"	7781K31	$18.25	7792K61	$20.64
3/8"	3 3/8"	0.175"	7781K33	18.25	7792K63	20.64
1/2"	3 3/8"	0.175"	7781K35	18.25	7792K65	20.64
Replacement Panel-Mounting Nuts (Pkg. of 10)			7781K88		$3.61	

Precision Flow-Adjustment Valves with Push-to-Connect Fittings

- Max. Pressure for Water, Air, and Inert Gas: 125 psi @ 140° F
- Temp. Range: 33° to 140° F



Insert plastic or soft metal tubing into the push-to-connect fittings on these valves for a low-pressure seal. Seal is EPDM. Valves have a nylon hex nut and threads below the handle for mounting through instrument panels. To panel mount, they require a 7/8" dia. cutout. Note: Cv factor is not rated.

PVC valves have a PVC needle and seat. Color is dark gray. **Polypropylene** valves have a polypropylene needle and seat. Color is white.

Replacement panel-mounting nuts are nickel-plated brass.

For Tube OD	End-to-End Lg.	Orifice Dia.	PVC		Polypropylene	
1/4"	2 13/16"	0.175"	7781K41	$22.50	7792K71	$25.45
3/8"	2 13/16"	0.175"	7781K42	22.92	7792K72	25.91
Replacement Panel-Mounting Nuts (Pkg. of 10)			7781K88		$3.61	

Precision Flow-Adjustment Valves with Yor-Lok Fittings

- Max. Pressure for Water, Oil, Air, and Inert Gas: 5,000 psi @ 200° F (PTFE Packing); 6,000 psi @ 100° F (Graphite Packing)
- Temp. Range: -51° to 446° F (PTFE Packing); -65° to 700° F (Graphite Packing)



With PTFE Packing

For a leak-free seal around hard metal tubing in high-pressure lines, these valves have Yor-Lok fittings. Also known as instrumentation fittings, Yor-Lok fittings are compatible with Swagelok®, Parker A-Lok, and Let-Lok fittings. For Yor-Lok fittings, see pages 188-189. Body is 316 stainless steel for excellent corrosion resistance. Seat is metal-to-metal.

For Tube OD	End-to-End Lg.	Cv Factor	Orifice Dia.		
With PTFE Packing—316 Stainless Steel Needle					
1/8"	2"	0.09	0.08"	45585K85	$86.66
1/4"	2 5/16"	0.37	0.172"	45585K86	82.02
3/8"	2 5/8"	0.73	0.25"	45585K87	110.67
1/2"	2 13/16"	0.73	0.25"	45585K88	111.27
With Graphite Packing—17-4 PH Stainless Steel Needle					
1/4"	2 3/4"	0.65	0.177"	45585K75	167.50
3/8"	3 3/16"	0.77	0.187"	45585K76	229.83
1/2"	3"	1.03	0.25"	45585K77	229.91
3/4"	3 15/16"	2.67	0.437"	45585K78	405.03

Precision Flow-Adjustment Valves for Chemicals

- Max. Pressure: 150 psi @ 70° F
- Temp. Range: 40° to 150° F (PVC); 40° to 260° F (Polypropylene)



A plastic body and a fluoroelastomer seal stand up to a broad range of harsh chemicals. Connections are NPT female. To panel mount, they require a 1 5/16" dia. cutout.

PVC valves have a PVC needle. Color is dark gray. **Polypropylene** valves have a polypropylene needle. Color is black.

Pipe Size	End-to-End Lg.	Cv Factor	Orifice Dia.	PVC		Polypropylene	
1/4	2 1/2"	0.64	1/4"	4981K11	$58.97	4803K25	$66.20
3/8	2 1/2"	0.72	1/4"	4981K12	68.74	4803K26	77.43
1/2	2 1/2"	0.79	1/4"	4981K13	68.74	4803K27	77.43

Large-Diameter Flow-Adjustment Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about precision flow-adjustment valves, see page 492. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest ID or OD below, and read down to find the corresponding pipe size.

ID or OD	5/8"	3/4"	2 3/8"	2 7/8"	3 1/2"	4 1/2"	5 9/16"	6 5/8"	8 5/8"
Pipe Size	3/8	1/2	2	2 1/2	3	4	5	6	8

Precision Flow-Adjustment Valves for Fuels



- Use with diesel fuel, gasoline, and kerosene
- Max. Pressure: 200 psi @ 70° F
- Temp. Range: -20° to 250° F

Add precise flow control to lines for diesel fuel, gasoline, and kerosene. Body and needle are brass and seat is metal-to-metal. Seal is fluoroelastomer, unless noted.

NPTF (Dryseal) male×barb valves have a barbed fitting that slides into soft plastic or rubber tubing. Secure with a hose clamp.

Pipe Size	For Tube ID	Port-to-Port Lg. (P)	Cv Factor	Orifice Dia.		
NPTF Male × Barb						
3/8	3/8"	1 1/8"	1.5	0.275"	**45065K26★**	$9.07
3/8	5/8"	1 5/16"	2.9	0.39"	**45065K37**	11.49
1/2	5/8"	1 1/2"	4.4	0.48"	**45065K28★**	16.41
1/2	3/4"	1 7/16"	5.5	0.562"	**45065K46**	20.72
NPTF Male × Female						
3/8	—	15/16"	4.4	0.48"	**45065K47**	12.52
1/2	—	1 1/8"	5.5	0.562"	**45065K48**	19.72

★Seal is Buna-N.

About Large-Diameter Flow-Adjustment Valves

Also known as butterfly valves, these are designed for adjusting and regulating flow in large pipelines and applications with higher flow rates than other flow-adjustment valves. They start and stop flow with a quarter turn of the handle. All have a disc that provides a tight seal when closed and limits turbulence when adjusting flow. With a small number of moving parts, these valves are long lasting and easy to maintain.

Valves with threaded flange holes have a hole pattern that matches ANSI flanges of the same pipe size. Also called lug-style butterfly valves, these can be sandwiched between two flanges or bolted directly to a single flange for servicing one end of the pipeline without depressurizing the other side.

Valves with alignment guides have alignment tabs or unthreaded alignment holes. Also called wafer-style butterfly valves, these must be sandwiched between two flanges in your system.

ANSI Flange Alignment



With Threaded Flange Holes



With Alignment Guides

Flange-Mount Large-Diameter Flow-Adjustment Valves



Lockable Lever Handle with Threaded Flange Holes



Wheel Handle with Alignment Guides

For Water:
- Max. Pressure: 200 psi @ 275° F (Medium Pressure); 250 psi @ 225° F (High Pressure)
- Temp. Range: -30° to 275° F (Medium Pressure); -20° to 225° F (High Pressure);

For Oil:
- Max. Pressure: 200 psi @ 180° F (Medium Pressure); 250 psi @ 180° F (High Pressure)
- Temp. Range: 10° to 180° F (Medium Pressure); -20° to 180° F (High Pressure)

For Chemicals:
- Max. Pressure: 200 psi @ 275° F (Medium Pressure); 250 psi @ 300° F (High Pressure)
- Temp. Range: 10° to 275° F (Medium Pressure); -20° to 300° F (High Pressure)

These valves are designed to adjust and regulate flow in large pipelines and applications with higher flow rates than other flow-adjustment valves. They fit ANSI Class 125 and 150 flanges of the same pipe size. Body is ductile iron. Valves meet MSS-SP-67.

Lockable lever-handle valves can be fixed in place with a padlock (not included). *Medium-pressure* valves accept a padlock with a max. shackle diameter of 5/16"; *high-pressure* valves accept a padlock with a max. shackle diameter of 1/4".

Wheel-handle valves resist accidental movement when snagged or bumped.

Medium-pressure valves have a painted ductile iron disc.

High-pressure valves meet API (American Petroleum Institute) 609 for flow regulation. *Valves for water* and *valves for oil* have a ductile iron disc; *valves for chemicals* have a 316 stainless steel disc.

Valves for water have an EPDM seat. **Valves for oil** have a Buna-N seat. **Valves for chemicals** have a fluoroelastomer seat that stands up to a wide range of chemicals.

Pipe Size	End-to-End Lg.	O'all Ht.	*Fits ANSI Flange* OD	Bolt Circle Dia.	Bolt Size	Bolt Hole Qty.	*With Threaded Flange Holes* For Water	For Oil	For Chemicals	*With Alignment Guides* For Water	For Oil	For Chemicals
Lockable Lever Handle—10 Flow-Adjustment Positions												
Medium Pressure												
2	1 3/4"	10 3/4"	6"	4 3/4"	5/8"-11	4	**5158K982**	$113.89	$113.89	$226.42	**5158K988**	$97.22	$97.22	$207.55
2 1/2	1 7/8"	11 9/16"	7"	5 1/2"	5/8"-11	4	**5158K983**	119.44	119.44	243.40	**5158K989**	105.56	105.56	216.98
3	1 7/8"	12 1/16"	7 1/2"	6"	5/8"-11	4	**5158K984**	127.78	127.78	243.40	**5158K991**	113.89	113.89	224.53
4	2 1/8"	13 9/16"	9"	7 1/2"	5/8"-11	8	**5158K985**	145.95	145.95	324.53	**5158K992**	130.56	130.56	241.51
5	2 1/4"	14 9/16"	10"	8 1/2"	3/4"-10	8	**5158K986**	182.50	182.50	422.22	**5158K993**	165.79	165.79	344.44
6	2 1/4"	15 9/16"	11"	9 1/2"	3/4"-10	8	**5158K987**	214.63	214.63	466.67	**5158K994**	202.63	202.63	392.59
High Pressure												
2	1 13/16"	9 5/16"	6"	4 3/4"	5/8"-11	4	**5024K951**	140.65	140.65	321.74	**5024K957**	125.63	125.63	305.56
2 1/2	1 15/16"	10 3/16"	7"	5 1/2"	5/8"-11	4	**5024K952**	144.74	144.74	364.17	**5024K958**	129.62	129.62	343.55
3	1 15/16"	10 9/16"	7 1/2"	6"	5/8"-11	4	**5024K953**	160.40	160.40	399.45	**5024K959**	137.26	137.26	379.37
4	2 3/16"	11 15/16"	9"	7 1/2"	5/8"-11	8	**5024K954**	193.84	193.84	480.31	**5024K961**	166.63	166.63	451.55
5	2 5/16"	13 3/16"	10"	8 1/2"	3/4"-10	8	**5024K955**	266.21	266.21	580.58	**5024K962**	212.99	212.99	540.78
6	2 5/16"	14 5/16"	11"	9 1/2"	3/4"-10	8	**5024K956**	309.90	309.90	697.00	**5024K963**	271.71	271.71	658.69
Wheel Handle—Fully Adjustable Flow												
Medium Pressure												
8	2 1/2"	24 7/16"	13 1/2"	11 3/4"	3/4"-10	8	**5158K995**	421.43	421.43	786.89	**5158K996**	390.24	390.24	689.09
High Pressure												
6	2 5/16"	17 3/4"	11"	9 1/2"	3/4"-10	8	**5024K964**	459.69	459.69	824.06	**5024K966**	420.07	420.07	797.00
8	2 1/2"	22 1/8"	13 1/2"	11 3/4"	3/4"-10	8	**5024K965**	529.34	529.34	1,080.96	**5024K967**	501.98	501.98	1,058.45

Corrosion-Resistant Flange-Mount Flow-Adjustment Valves



- Max. Pressure:
  150 psi @ 250° F (For Water);
  150 psi @ 212° F (For Oil)
- Temp. Range:
  -40° to 250° F (For Water);
  0° to 212° F (For Oil)

These valves have a 316 stainless steel body and disc for excellent corrosion resistance in wet conditions and harsh environments. Valves have threaded flange holes and fit ANSI Class 125 and 150 flanges of the same pipe size. All have 10 flow-adjustment positions and a lockable handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 3/16".

To Order: Please specify valves for water with an EPDM seat or valves for oil with a Buna-N seat.

Pipe Size	End-to-End Lg.	O'all Ht.	Fits ANSI Flange OD	Bolt Circle Dia.	Bolt Size	Bolt Hole Qty.		
2	1 13/16"	7 7/16"	6"	4 3/4"	5/8"-11	4	4854K1	$288.68
3	2 1/16"	8 7/8"	7 1/2"	6"	5/8"-11	4	4854K3	330.74
4	2 5/16"	11 3/16"	9"	7 1/2"	5/8"-11	8	4854K5	384.27
6	2 7/16"	12 7/8"	11"	9 1/2"	3/4"-10	8	4854K7	565.89

Light Duty Flange-Mount Plastic Flow-Adjustment Valves



- Max. Pressure for Water: 150 psi @ 73° F
- Temp. Range: 40° to 140° F

Often used in low-pressure water pipelines, these valves have a PVC body and disc for the lightest weight of all our large-diameter flow-adjustment valves. Valves have alignment guides and fit ANSI Class 125 and 150 flanges of the same pipe size. Use with Schedule 40 and 80 pipe and fittings. Seat is EPDM. Valves have 12 flow-adjustment positions and a lockable handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 3/16".

Note: The alignment guides do not match the ANSI flange pattern; use two of the four holes for alignment.

Pipe Size	End-to-End Lg.	O'all Ht.	Fits ANSI Flange OD	Bolt Circle Dia.	Bolt Size	Bolt Hole Qty.		
3	1 15/16"	10 11/16"	7 1/2"	6"	5/8"-11	4	4842K22	$139.22
4	2 1/4"	11 13/16"	9"	7 1/2"	5/8"-11	4	4842K23	151.77
6	2 13/16"	14 3/16"	11"	9 1/2"	3/4"-10	4	4842K25	232.67

High-Performance Flange-Mount Flow-Adjustment Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 285 psi @ 100° F
- Temp. Range:
  -20° to 500° F (Carbon Steel);
  -100° to 500° F (316 Stainless Steel)

To handle the most demanding applications, these valves have the highest temperature and pressure ratings of our flange-mount valves. They are designed to open and close with minimal wear on internal components for a long service life.

All valves have alignment guides and fit ANSI Class 150 flanges of the same pipe size. Disc is 316 stainless steel and seat is PTFE. Valves have 10 flow-adjustment positions and a lockable handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 5/16". They meet API (American Petroleum Institute) 609 for flow regulation, ANSI B16.34, ANSI B16.5, MSS-SP-25, MSS-SP-61, and MSS-SP-68.

316 stainless steel valves have excellent corrosion resistance.

Pipe Size	End-to-End Lg.	O'all Ht.	Fits ANSI Flange OD	Bolt Circle Dia.	Bolt Size	Bolt Hole Qty.		
Carbon Steel								
3	1 15/16"	11 5/8"	7 1/2"	6"	5/8"-11	4	4147T13	$745.95
4	2 1/8"	12 15/16"	9"	7 1/2"	5/8"-11	8	4147T14	832.97
316 Stainless Steel								
3	1 15/16"	11 5/8"	7 1/2"	6"	5/8"-11	4	4147T33	997.84
4	2 1/8"	12 15/16"	9"	7 1/2"	5/8"-11	8	4147T34	1,172.43

Lightweight Flange-Mount Flow-Adjustment Valves



- Max. Pressure:
  150 psi @ 250° F (For Water);
  150 psi @ 212° F (For Oil)
- Temp. Range:
  -40° to 250° F (For Water);
  0° to 212° F (For Oil)

Valves have an aluminum body that provides strength and durability at half the weight of other metal large-diameter flow-adjustment valves. They have alignment guides and fit ANSI Class 125 and 150 flanges of the same pipe size. Disc is 316 stainless steel. Valves have 10 flow-adjustment positions and a lockable handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 3/16".

To Order: Please specify valves for water with an EPDM seat or valves for oil with a Buna-N seat.

Pipe Size	End-to-End Lg.	O'all Ht.	Fits ANSI Flange OD	Bolt Circle Dia.	Bolt Size	Bolt Hole Qty.		
2	1 15/16"	7 7/16"	6"	4 3/4"	5/8"-11	4	4850K2	$83.49
3	2"	9 1/16"	7 1/2"	6"	5/8"-11	4	4850K4	107.06
4	2 1/4"	10 7/8"	9"	7 1/2"	5/8"-11	8	4850K6	133.83
6	2 3/8"	12 7/16"	11"	9 1/2"	3/4"-10	8	4850K8	209.66

Sure-Fit Flange-Mount Flow-Adjustment Valves



- Max. Pressure:
  200 psi @ 73° F (For Water);
  212 psi @ 73° (For Oil)
- Temp. Range:
  -20° to 225° F (For Water);
  -20° to 180° F (For Oil)

Upgrade industry standard flanged gate and globe valves for quicker flow-adjustment capabilities—these have the same end-to-end length as valves of the same pipe size to swap out easily. Valves have threaded flange holes and fit ANSI Class 125 and 150 flanges of the same pipe size.

Body is polyamide-coated cast iron. Valves have 10 flow-adjustment positions and a lockable handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 5/16". They meet ANSI B16.10, MSS-SP-25, and MSS-SP-67.

To Order: Please specify valves for water with an EPDM-coated ductile iron disc and EPDM seat or valves for oil with a Buna-N-coated ductile iron disc and Buna-N seat.

Pipe Size	End-to-End Lg.	O'all Ht.	Fits ANSI Flange OD	Bolt Circle Dia.	Bolt Size	Bolt Hole Qty.		
2 1/2	7 1/2"	10 5/16"	7"	5 1/2"	5/8"-11	4	3967T24	$280.88
3	8"	10 13/16"	7 1/2"	6"	5/8"-11	4	3967T34	314.99
4	9"	12 9/16"	9"	7 1/2"	5/8"-11	8	3967T44	428.76
5	10"	13 1/2"	10"	8 1/2"	3/4"-10	8	3967T54	671.62
6	10 1/2"	14 13/16"	11"	9 1/2"	3/4"-10	8	3967T64	649.50

Grooved-End Flow-Adjustment Valves



- Max. Pressure for Water: 300 psi @ 73° F
- Temp. Range: -20° to 200° F

Commonly used in water service pipelines and HVAC systems, these valves have grooved-end connections for easy installation. Body is polyamide-coated ductile iron, disc is EPDM-coated ductile iron, and seat is EPDM. Valves have 10 flow-adjustment positions and a lockable handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 5/16". All meet MSS-SP-67.

Pipe Size	End-to-End Lg.	O'all Ht.		
2	3 5/16"	8 3/16"	3953T51	$185.25
3	3 7/8"	9"	3953T53	241.18
4	4 9/16"	10 3/4"	3953T54	300.73
6	5 7/8"	14 1/16"	3953T56	576.19

Large-Diameter Flow-Adjustment Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about large-diameter flow-adjustment valves, see page 496. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest ID or OD below, and read down to find the corresponding pipe size.

ID or OD	1″	1 3/8″	1 5/8″	1 7/8″	2 3/8″	2 7/8″	3 1/2″	4 1/2″	6 5/8″
Pipe Size	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6

Plastic Flange-Mount Flow-Adjustment Valves



- Max. Pressure: 150 psi @ 70° F
- Temp Range: 40° to 140° F (PVC); 40° to 200° F (CPVC)

Lightweight and corrosion resistant, these valves have alignment guides and fit ANSI Class 125 and 150 flanges of the same pipe size. Use with Schedule 40 and 80 pipe and fittings. Valves have seven flow-adjustment positions and a lockable handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 7/16″. All are FM approved.

Valves for drinking water meet NSF/ANSI Standard 61. Seat is EPDM.

Valves for chemicals have a fluoroelastomer seat to resist a wide range of chemicals. They are often used for chemical-processing applications in corrosive conditions.

PVC valves have a PVC disc. **CPVC** valves have a CPVC disc.

Pipe Size	End-to-End Lg.	O'all Ht.	Fits ANSI Flange: OD	Fits ANSI Flange: Bolt Circle Dia.	Fits ANSI Flange: Bolt Size	Fits ANSI Flange: Bolt Hole Qty.	For Drinking Water: PVC		For Drinking Water: CPVC		For Chemicals: PVC		For Chemicals: CPVC	
2	1 15/16″	9 5/16″	6″	4 3/4″	5/8″-11	4	4984K76	$276.44	4930K15	$340.69	4984K82	$504.76	4930K18	$668.02
3	2 1/8″	11 3/8″	7 1/2″	6″	5/8″-11	4	4984K23	279.13	4930K53	394.30	4984K43	554.28	4930K73	719.54
4	2 9/32″	12 13/16″	9″	7 1/2″	5/8″-11	8	4984K24	323.01	4930K54	455.57	4984K44	666.10	4930K74	883.94
6	2 3/4″	16 3/8″	11″	9 1/2″	3/4″-10	8	4984K26	459.38	4930K56	635.62	4984K46	1,033.21	4930K76	1,339.86

Ultra-Chemical-Resistant Flange-Mount Flow-Adjustment Valves for Chemicals



- Max. Pressure: 150 psi @ 150° F
- Temp. Range: 10° to 150° F

With PTFE-lined Buna-N seats, these are our most chemical-resistant valves. They have threaded ANSI Class 125 and 150 flange holes and fit flanges of the same pipe size. Body is cast iron and disc is 316 stainless steel. Valves have 10 flow-adjustment positions and a lockable handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 5/16″. All meet MSS-SP-67 and API (American Petroleum Institute) 609 for flow regulation.

Pipe Size	End-to-End Lg.	O'all Ht.	Fits ANSI Flange: OD	Fits ANSI Flange: Bolt Circle Dia.	Fits ANSI Flange: Bolt Size	Fits ANSI Flange: Bolt Hole Qty.		
2	1 13/16″	9 11/16″	6″	4 3/4″	5/8″-11	4	46305K412	$549.09
2 1/2	1 15/16″	10 1/2″	7″	5 1/2″	5/8″-11	4	46305K422	601.82
3	1 15/16″	11 1/8″	7 1/2″	6″	5/8″-11	4	46305K432	656.36
4	2 3/16″	12 3/8″	9″	7 1/2″	5/8″-11	8	46305K442	778.18
6	2 5/16″	14 9/16″	11″	9 1/2″	3/4″-10	8	46305K452	1,040.00

Flow-Adjustment Valves for Food and Beverage



Sanitary Quick Clamp with Stainless Steel Handle



Butt Weld with Lockable Plastic Handle

- Max. Pressure:
  147 psi @ 450° F (Silicone seat);
  147 psi @ 300° F (EPDM seat);
  147 psi @ 400° F (Fluoroelastomer seat);
  60 psi @ 450° F (PTFE seat)
- Temp. Range:
  -80° to 450° F (Silicone seat);
  -60° to 300° F (EPDM seat);
  -20° to 400° F (Fluoroelastomer seat);
  -40° to 450° F (PTFE seat)

These valves have polished stainless steel surfaces for use in food and beverage systems. *Valves with 12 flow-adjustment positions* have a lockable handle that can be fixed in place with a padlock (not included) with a max. shackle diameter of 1/4″.

Sanitary quick-clamp valves have quick-clamp connections that let you quickly remove the valves for cleaning. Use with quick-clamp fittings on pages 228-231.

Butt-weld valves flush weld to metal tubing for a crevice-free connection that reduces the risk of contamination and debris accumulation.

304 stainless steel valves have a 304 stainless steel disc. **316 stainless steel** valves are more corrosion resistant than 304 stainless steel valves. Disc is 316 stainless steel.

Silicone seats have some resistance to organic food acids and fats and oils.

EPDM seats have good resistance to organic food acids. They have poor resistance to fats and oils.

Fluoroelastomer seats have excellent resistance to many food-processing chemicals and good resistance to organic food acids and fats and oils.

PTFE seats have the best resistance to a broad range of food-processing chemicals, organic food acids, and fats and oils.

To Order: Please specify seat material: silicone, EPDM, fluoroelastomer, or PTFE.

For Tube OD	O'all Ht.	End-to-End Lg.	Sanitary Quick Clamp: Flange OD	Sanitary Quick Clamp: 304 Stainless Steel		Sanitary Quick Clamp: 316 Stainless Steel		Butt Weld: 304 Stainless Steel		Butt Weld: 316 Stainless Steel	
With 12 Flow-Adjustment Positions—Lockable Plastic Handle											
1″	5 1/16″	2 11/16″	2″	4933K313	$147.17	4933K333	$172.64	4933K323	$138.68	4933K343	$163.21
1 1/2″	5 1/4″	3″	2″	4933K314	160.38	4933K334	188.68	4933K324	151.89	4933K344	178.30
2″	6 1/16″	3 1/8″	2 33/64″	4933K315	189.62	4933K335	221.70	4933K325	181.13	4933K345	212.26
3″	6 13/16″	3 1/4″	3 9/16″	4933K317	255.66	4933K337	299.06	4933K327	242.45	4933K347	284.91
4″	8 1/8″	3 1/2″	4 11/16″	4933K318	369.81	4933K338	434.91	4933K328	352.83	4933K348	415.09
With 4 Flow-Adjustment Positions—Stainless Steel Handle											
1″	5 3/8″	2 11/16″	2″	47065K43	196.23	4820K43	221.70	47065K83	187.74	4820K83	212.26
1 1/2″	5 5/8″	3″	2″	47065K44	209.43	4820K44	237.74	47065K84	199.74	4820K84	227.36
2″	6 3/8″	3 1/8″	2 33/64″	47065K45	238.68	4820K45	329.25	47065K85	230.19	4820K85	261.32
2 1/2″	6 11/16″	3 1/8″	3 1/16″	47065K46	274.53	4820K46	315.09	47065K86	261.77	4820K86	298.74
3″	7 3/16″	3 1/4″	3 9/16″	47065K47	304.72	4820K47	348.11	47065K87	291.51	4820K87	333.96
4″	8 7/16″	3 1/2″	4 11/16″	47065K48	418.08	4820K48	483.96	47065K88	402.75	4820K88	464.15

Noncontact Flow-Adjustment Valves

A



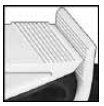

With Flow-Adjustment Positions

B



C



D



E

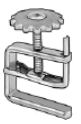

F



G



H



J



Also known as pinch valves, these press down on the outside of tubing to adjust flow without contacting the process media. Not rated for maximum pressure.

Valves with a closed body securely hold tubing in place. **Valves with an open body** provide easy access to tubing for maintenance or replacement.

Acetal, polyester, and **nylon** valves have no metal parts so they are often used in wet conditions and harsh environments. **Nickel-plated brass valves** are more corrosion resistant than zinc or zinc-plated steel valves.

Valves with flow-adjustment positions have notches to lock in fine adjustments. **Valves with a 1-10 mm flow-adjustment scale** allow accurate, repeatable adjustments.

	Body Material	Body Style	For Tube OD	For Max. Tube Durometer	Temp. Range	Pkg. Qty.		Pkg.
A	Acetal	Closed	3/32"-1/4"	Not Rated	32° to 200° F	25	**5031K11**	$2.75
A	Acetal with Flow-Adjustment Positions	Closed	3/32"-7/16"	Not Rated	32° to 200° F	10	**5031K12**	7.23
A	Polyester with Flow-Adjustment Positions	Closed	3/32"-3/4"	Not Rated	32° to 150° F	5	**5031K13**	10.13
								Each
B	Acetal	Closed	3/32"-1/2"	60A	32° to 140° F	—	**5192K13**	12.34
C	Acetal with Dial and 1-10 mm Flow-Adjustment Scale	Closed	5/32"-1/4"	60A	Not Rated	—	**53345K31**	11.11
C	Acetal with Dial and 1-10 mm Flow-Adjustment Scale	Closed	5/16"-3/8"	60A	Not Rated	—	**53345K35**	13.89
C	Acetal with Dial and 1-10 mm Flow-Adjustment Scale	Closed	7/16"-1/2"	60A	Not Rated	—	**53345K39**	16.67
D	Nylon	Open	3/32"-1/4"	60A	32° to 140° F	—	**5192K12**	6.70
E	Nickel-Plated Brass	Open	3/32"-5/8"	50A	-100° to 450° F	—	**5330K22**	6.67
F	Nickel-Plated Brass	Closed	3/32"-3/4"	50A	-100° to 450° F	—	**5330K23**	7.27
G	Zinc-Plated Steel	Closed	3/32"-1/2"	50A	-100° to 500° F	—	**5330K14**	10.91
H	Zinc	Open	3/32"-7/8"	50A	-50° to 400° F	—	**5330K32**	17.27
J	Zinc	Closed	3/32"-7/8"	50A	-50° to 400° F	—	**5330K31**	18.18

Actuated Flow-Adjustment Valves

- Use with water
- Pressure Drop Across Valve: At least 10 psi required
- Temp. Range: 35° to 150° F



These valves are often used for irrigation and other landscaping applications. They have a handle for manual flow adjustment in addition to automated on/off control. Connections are NPT female. Body is nylon and diaphragm is EPDM. Valves have wire leads, a ½ trade size conduit port, and draw a max. of 0.3 amps. Mount in any position.

Closed unless energized (normally closed) valves remain closed until they receive an electrical signal to open. **Open unless energized (normally open)** valves remain open until they receive an electrical signal to close.

Pipe Size	End-to-End Lg.	Ht.	Max. psi	120V AC	24V AC	
Closed Unless Energized (Normally Closed)						
1	4 1/4"	5 1/2"	175	**4903K972**	**4903K971**	$49.43
1 1/2	5 13/16"	7 1/16"	160	**4903K982**	**4903K981**	92.15
2	6 1/2"	8 1/2"	160	**4903K992**	**4903K991**	124.80
Open Unless Energized (Normally Open)						
1	4 1/4"	5 15/16"	175	**4903K661**	**4903K762**	113.80

Actuated Flow-Adjustment Valves for Coolants and Detergents

- Use with ethylene glycol and soap solutions
- Pressure Drop Across Valve: At least 1 psi required
- Temp. Range: 32° to 150° F



Choose these valves to adjust the flow of antifreeze and cleaning solutions. They have a handle for manual flow adjustment in addition to automated on/off control. Connections are NPT female. Body is brass and diaphragm is EPDM. Valves are closed unless energized (normally closed) and remain closed until they receive an electrical signal to open. They have wire leads, a ½ trade size conduit port, and draw a max. of 0.095 amps. Mount in any position.

Pipe Size	End-to-End Lg.	Ht.	Max. psi	120V AC	24V AC	
3/4	3 5/8"	4"	200	**4903K862**	**4903K861**	$206.87
1	4 3/8"	5 1/4"	200	**4903K872**	**4903K871**	221.11
1 1/4	4 3/4"	5 3/4"	200	**4903K882**	**4903K881**	234.65
1 1/2	5 5/8"	7"	200	**4903K892**	**4903K891**	262.84
2	5 5/8"	7 1/4"	200	**4903K962**	**4903K961**	306.67

Air Actuators for Flow-Control Valves



Use compressed air to remotely open and close ball valves, butterfly valves, and plug valves. These actuators have an ISO 5211 hole pattern on the bottom for attaching your valve. They require a solenoid valve (not included) that turns the air supply on and off. All require an air supply of 40 to 115 psi. Housing is aluminum. Actuator temp. range is 32° to 175° F.

Air-to-open/air-to-close actuators use air pressure to open and close. **Closed unless air is on (normally closed)** actuators use air pressure to open and automatically spring closed when the air turns off.

Required solenoid valve operates on 120 volts AC @ 60 Hz and has 18" long wire leads. Temperature range is 32° to 125° F. It meets NEMA 4 for resistance to washdowns, splashing water, and dust and is suitable for outdoor use.

Torque, in.-lbs. Air @ 80 psi	Spring Close	*Overall* Lg.	Wd.	Ht.	Air Inlet, NPT female		
Air-to-Open/Air-to-Close							
158	—	6"	2 5/8"	3 9/16"	1/8	**49935K71**	$161.45
327	—	8"	3 5/16"	4 1/4"	1/8	**49935K74**	195.27
703	—	9 5/16"	4 7/16"	5 1/4"	1/4	**49935K78**	244.36
1,431	—	11 1/2"	5 1/16"	6 1/16"	1/4	**49935K75**	402.75
Closed Unless Air is On (Normally Closed)							
61	49	7 5/8"	2 5/8"	3 9/16"	1/8	**49935K81**	177.82
103	82	8"	3 5/16"	4 1/4"	1/8	**49935K84**	216.00
282	215	9 5/16"	4 7/16"	5 1/4"	1/4	**49935K88**	282.55
Required Solenoid Valve						**49935K95**	171.26

Flow-Control Orifices

For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

Flow-Control Orifices

Throttle, vent, bleed, or regulate flow at a consistent rate.

Orifices with push-to-connect fittings provide a low-pressure seal around plastic and soft metal tubing.

Orifices with a barbed fitting let you adapt threaded pipe connections for use with tubing.

303 stainless steel orifices are more corrosion resistant than brass orifices. **316 stainless steel** orifices have the best corrosion resistance.

To Order: Please specify orifice diameter from the chart.

Also Available: Orifice diameters not listed. Please ask for 2712T999 and specify the connection style, connection size, and orifice diameter desired.

Choose an Orifice Diameter

Dia.	Flow @ 40 psi Air, scfm	Flow @ 40 psi Water, gpm	Dia.	Flow @ 40 psi Air, scfm	Flow @ 40 psi Water, gpm	Dia.	Flow @ 40 psi Air, scfm	Flow @ 40 psi Water, gpm
0.010"	0.078	0.0158	0.026"	0.498	0.101	0.040"	1.186	0.228
0.016"	0.168	0.0348	0.028"	0.568	0.114	0.042"	1.281	0.247
0.018"	0.22	0.0462	0.029"	0.618	0.12	0.047"	1.571	0.304
0.020"	0.275	0.056	0.032"	0.745	0.152	0.052"	1.983	0.373
0.021"	0.296	0.061	0.033"	0.795	0.158	0.055"	2.2	0.43
0.023"	0.388	0.076	0.035"	0.875	0.177	0.063"	2.833	0.557
0.024"	0.423	0.082	0.038"	1.12	0.202	0.125"	11.9	2.34
0.025"	0.458	0.089						

Pipe-to-Pipe Connectors and Adapters

- Max. Pressure for Water, Oil, Air, and Inert Gas: 2,000 psi @ 70° F (Brass); 4,000 psi @ 70° F (303 Stainless Steel)
- Temp. Range: 35° to 200° F




Pipe Size	NPT Male × NPT Male Connectors		NPT Male × NPT Female Adapters	
Brass				
1/8	2712T41	$9.44	2712T44	$9.44
1/4	2712T42	11.26	2712T45	11.26
3/8	2712T43	18.44	2712T46	18.44
1/2	———	———	2712T47	24.69
303 Stainless Steel				
1/8	2822T11	15.32	2822T14	15.32
1/4	2822T12	22.44	2822T15	22.44
3/8	2822T13	24.07	2822T16	24.07
1/2	———	———	2822T17	44.39

Plugs

- Max. Pressure for Water, Oil, Air, and Inert Gas: 2,000 psi @ 70° F (Brass); 4,000 psi @ 70° F (303 Stainless Steel)
- Temp. Range: 35° to 200° F




Pipe Size	Hex Socket, NPT Male		Hex Head, NPT Male	
Brass				
1/8	2712T51	$9.44	2712T48	$9.44
1/4	2712T52	11.26	2712T49	11.26
303 Stainless Steel				
1/8	2822T21	15.32	2822T18	15.32
1/4	2822T22	22.44	2822T19	22.44

- Max. Pressure for Water, Oil, Air, and Inert Gas: 2,000 psi @ 70° F (Brass); 4,000 psi @ 70° F (316 Stainless Steel)
- Temp. Range: 35° to 200° F



Thread Size	Lg.	Hex Socket, Male★	
Brass			
10-32 UNF	3/16"	2943T887	$9.06
10-32 UNF	1/4"	2943T888	9.06
316 Stainless Steel			
10-32 UNF	3/16"	3928T987	12.37
10-32 UNF	1/4"	3928T988	12.37
10-32 UNF	3/8"	3928T989	12.37
1/4"-20 UNC	1/4"	3928T991	13.69
1/4"-20 UNC	3/8"	3928T992	13.69
1/4"-20 UNC	1/2"	3928T993	13.69

★Orifice dia. 0.125" is not available.

Tube-to-Tube Connectors

- Max. Pressure for Water, Air, and Inert Gas: Not rated
- Temp. Range: Not rated



For Tube OD	Push-to-Connect × Push-to-Connect	
Acetal—Color is gray		
1/4"	6349T42	$11.00
3/8"	6349T43■	11.29
1/2"	6349T44■	11.29

■ Orifice dia. 0.010" is not available.

Pipe-to-Tube Adapters

- Max. Pressure for Water, Air, and Inert Gas: Not rated
- Temp. Range: Not rated



Pipe Size	For Tube OD	NPT Male × Push-to-Connect	
Acetal—Color is gray			
1/8	1/4"	6349T12	$10.71
1/4	1/4"	6349T13	13.57
Brass			
1/4	1/4"	3962T98★	23.69

★Orifice dia. 0.125" is not available.

- Max. Pressure for Water, Air, and Inert Gas: 125 psi @ 70° F
- Temp. Range: -40° to 200° F



Pipe Size	For Tube ID	NPT Male × Barb	
Nylon—Color is white			
1/8	1/8"	6183T45★	$9.19
1/4	3/16"	6183T61	9.52
1/4	1/4"	6183T63	8.87
1/4	3/8"	6183T67▲	8.87

★Orifice dia. 0.125" is not available.
▲Orifice dia. 0.010" and 0.125" are not available.

Flow-Control Orifices for Drinking Water


Male × Female


Female × Female

- Max. Pressure: 200 psi @ 180° F
- Temp. Range: 33° to 180° F

These orifices meet NSF/ANSI Standard 61, so they're often used to throttle, vent, bleed, or regulate flow in drinking water systems. All adjust to changing inlet pressure to maintain consistent outlet flow. Connections are NPT.

Nickel-plated brass orifices are more corrosion resistant than plain brass orifices. **316 stainless steel** orifices have the best corrosion resistance.

Pipe Size	Choose an Outlet Water Flow, gpm		
Male × Female—Brass			
3/4	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	8105K11	$47.86
Female × Female—Nickel-Plated Brass			
3/8	0.13, 0.19, 0.25, 0.35, 0.5, 0.75, 1	4762K41	38.71
1/2	1, 1.5, 2, 2.5, 3, 3.5, 4, 5, 6	4762K43	40.48
3/4	1, 1.5, 2, 2.5, 3, 4, 5, 6, 7, 8, 9, 10	4762K45	51.29
1	1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 25, 30	4762K47	87.38

Pipe Size	Choose an Outlet Water Flow, gpm		
Female × Female—316 Stainless Steel			
3/8	0.13, 0.19, 0.25, 0.35, 0.5, 0.75, 1	4762K51	$152.22
1/2	1, 1.5, 2, 2.5, 3, 3.5, 4, 5, 6	4762K53	167.14
3/4	1, 1.5, 2, 2.5, 3, 4, 5, 6, 7, 8, 9, 10	4762K55	192.84
1	1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 25, 30	4762K57	321.52

Plastic Flow-Control Orifices

- Max. Pressure for Water, Air, and Inert Gas: 100 psi @ 75° F
- Temp. Range: 40° to 120° F



Since these orifices have no metal parts, they're commonly used in wet conditions and corrosive environments. They throttle, vent, bleed, or regulate flow at a consistent rate. All are color coded based on the orifice diameter for easy identification. They have a nylon body and a hex head. Connections are NPT male.

Pipe Size	Orifice Dia.	*Flow Rate @ 40 psi* Air, scfm	Water, gpm	Color		
1/8	0.004"	0.01	0.002	Purple	4926T12	$8.87
1/8	0.007"	0.04	0.008	Aqua	4926T15	8.87
1/8	0.010"	0.083	0.016	Yellow	4926T16	8.87
1/8	0.020"	0.283	0.056	Blue	4926T19	8.87

Extended-Life Directional-Control Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 400 psi @ 100° F
- Temp. Range: -20° to 450° F
- Vacuum Rating: Not rated



Flow Options



For a longer service life than standard directional-control valves with a brass body, these have a bronze body for additional strength and durability. Turn the handle to direct flow from the center-port inlet to either side-port outlet. Valves cannot shut off flow.

Connections are NPT female. Valves have two mounting holes for attaching an actuator. Ball is chrome-plated brass, seat is glass-filled PTFE, and packing is graphite-filled PTFE. *Valves with 1 1/2* and *2 pipe size* also have a PTFE seal.

Full-port valves do not restrict flow. **Standard-port** valves slightly restrict flow.

Pipe Size	End-to-End Lg.	Mounting Hole Size		
Full Port				
1/4	2 1/4"	10-24	4373K51	$27.89
3/8	2 1/4"	10-24	4373K52	27.89
1/2	2 1/4"	10-24	4373K53	27.95
Standard Port				
3/4	2 5/8"	10-24	4373K54	38.45
1	2 7/8"	10-24	4373K55	50.93
1 1/4	3 1/8"	1/4"-20	4373K59	83.67
1 1/2	3 3/8"	1/4"-20	4373K56	94.73
2	4 11/16"	1/4"-20	4373K57	128.26

Directional-Control Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 400 psi @ 176° F
- Max. Pressure for Steam: 100 psi @ 335° F
- Temp. Range: -4° to 340° F
- Vacuum Rating: 29" Hg

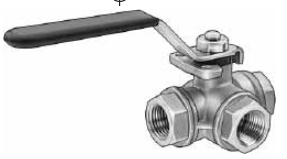

Flow Options



Turn the handle to direct flow from the center-port inlet to either side-port outlet. These valves cannot shut off flow.

Connections are NPT female. Body is brass, ball is chrome-plated brass, seat is PTFE, and seal and O-ring are fluoroelastomer. Valves are standard port, so they slightly restrict flow.

Pipe Size	End-to-End Lg.		
1/4	2 5/8"	4093T21	$41.64
3/8	2 5/8"	4093T22	42.49
1/2	2 7/8"	4093T23	44.34
3/4	3 3/16"	4093T24	49.70
1	3 3/4"	4093T25	$75.77
1 1/4	4 3/8"	4093T26	113.71
1 1/2	4 7/8"	4093T27	171.65
2	5 3/4"	4093T28	280.43

Corrosion-Resistant Directional-Control Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 800 psi @ 100° F
- Temp. Range: -50° to 450° F
- Vacuum Rating: Not rated



Flow Options

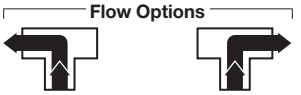

To withstand wet conditions and harsh environments, these valves have a 316 stainless steel body and ball for excellent corrosion resistance. Turn the handle to direct flow from the center-port inlet to either side-port outlet. These valves cannot shut off flow.

Connections are NPT female. Seat is glass-filled PTFE, seal is PTFE, and packing is graphite-filled PTFE. Valves have two mounting holes for attaching an actuator.

Full-port valves do not restrict flow. **Standard-port** valves slightly restrict flow.

Pipe Size	End-to-End Lg.	Mounting Hole Size		
Full Port				
1/4	2 5/16"	10-24	4467K41	$134.33
3/8	2 5/16"	10-24	4467K42	134.33
1/2	2 5/16"	10-24	4467K43	134.11
Standard Port				
3/4	3"	10-24	4467K44	179.96
1	3 3/8"	10-24	4467K45	223.78
1 1/2	4 5/16"	1/4"-20	4467K46	442.67
2	5 7/16"	1/4"-20	4467K47	568.29

Compact Directional-Control Valves

- Max. Pressure for Water, Oil, Air, and Inert Gas: 125 psi @ 140° F (PVC); 500 psi @ 180° F (Brass)
- Temp. Range: 33° to 140° F (PVC); -20° to 180° F (Brass)
- Vacuum Rating: Not rated

Flow Options





PVC Female × Female × Female



PVC Female × Male × Female



Brass Female × Male × Female

With a low-profile handle and a shorter end-to-end length than standard directional-control valves, these fit in tight spots and low-clearance areas. Turn the handle to direct flow from the bottom-port inlet to either side-port outlet or shut off flow completely. Connections are NPT. Valves are standard port, so they slightly restrict flow.

PVC valves have no metal parts to corrode, so they withstand wet conditions and harsh environments better than brass valves. Ball is PVC; seat and seal are Buna-N. Valves have a wedge handle that resists accidental movement when snagged or bumped. Color is dark gray.

Brass valves have a nickel-plated brass ball, PTFE seat, and Buna-N seal. All have a lever handle.

Pipe Size	PVC End-to-End Lg.			Brass End-to-End Lg.		
Female × Female × Female						
1/8	1 7/8"	4757K51	$16.46	—	—	—
1/4	1 7/8"	4757K52	16.46	—	—	—
Female × Male × Female						
1/8	1 7/8"	4757K53	16.46	1 3/4"	46095K21	$21.23
1/4	1 7/8"	4757K54	16.46	1 3/4"	46095K51	21.22

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

Panel-Mount Directional-Control Valves



Female x Female x Female with T-Handle



Female x Female x Female with Wedge Handle



Male x Male x Male with T-Handle

- Max. Pressure for Water, Oil, Air, and Inert Gas: See table
- Temp. Range: -20° to 180° F (Medium Pressure); -40° to 300° F (High Pressure)
- Vacuum Rating: Not rated (Medium Pressure); 29" Hg (High Pressure)

Flow Options



Threads and a hex nut below the handle let you install these valves through an instrument panel. Turn the handle to direct flow from the bottom-port inlet to either side-port outlet or shut off flow completely.

Connections are NPT. Body is brass, ball is nickel-plated brass, and seat is PTFE. Valves are full port (unless noted), so they do not restrict flow.

Medium-pressure valves have a Buna-N seal. They require a 13/16" dia. panel cutout.

High-pressure valves have Buna-N and fluoroelastomer seals. They require a 9/16" dia. panel cutout.

Medium Pressure

Pipe Size	Max. psi @ 180° F	End-to-End Lg.	*Female x Female x Female* T-Handle		*Female x Female x Female* Wedge Handle	
1/8	500	1 1/2"	46095K41	$37.96	46095K61	$34.41
1/4	500	1 3/4"	46095K42	37.92	46095K62	34.36
3/8	500	1 15/16"	46095K43	37.92	46095K63	34.36
1/2	500	2 3/16"	46095K44★	44.59	46095K64★	41.03

★Valve is standard port, so it slightly restricts flow.

High Pressure

Pipe Size	Max. psi @ 70° F	End-to-End Lg.	*Female x Female x Female* T-Handle		End-to-End Lg.	*Male x Male x Male* T-Handle	
1/8	1,500	1 13/16"	4149T41	$35.55	1 15/16"	4149T11	$44.08
1/4	1,500	1 13/16"	4149T42	35.63	2"	4149T12	44.11
3/8	1,000	2 1/4"	4149T43★	78.55	2 11/16"	4149T13★	91.74
1/2	1,000	2 3/8"	4149T44★	83.74	2 5/8"	4149T14★	96.05

★Valve is standard port, so it slightly restricts flow.

Multiport Directional-Control Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 250 psi @ 70° F
- Temp. Range: -60° to 400° F
- Vacuum Rating: Not rated

Flow Options for T-Pattern Flow

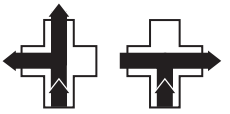

Flow Options for Double L-Pattern Flow

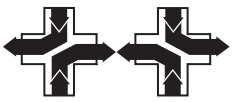

A quarter turn of the handle diverts flow through multiple ports. Valves have side port inlets and outlets. They are also known as plug valves.

Connections are NPTF (Dryseal) female, which are compatible with NPT threads. Body is brass, seal is fluoroelastomer, and plug is PTFE. Valves have four 1/4"-20 mounting holes and can panel mount in a 7/8" dia. cutout.

Pipe Size	End-to-End Lg.	T-Pattern Flow		Double L-Pattern Flow	
1/4	1 7/8"	8159K542	$141.51	8159K543	$141.51

Wye-Shape 3-Port Brass Valves



With NPT Connections:
- Max. Pressure for Water, Oil, and Inert Gas: 600 psi @ 200° F (without Exhaust) 250 psi @ 200° F (with Exhaust)
- Max. Pressure for Steam: 150 psi @ 358° F (without Exhaust) Not rated (with Exhaust)
- Temp. Range: -40° to 365° F
- Vacuum Rating: 29" Hg

With Fire Hose Connections:
- Max. Pressure for Water: 300 psi @ 150° F
- Max. Pressure for Steam: Not rated
- Temp. Range: -20° to 150° F
- Vacuum Rating: Not rated

Control flow in two directions from a single source—valves have two balls for independent control and shut-off of each outlet. All have one female inlet, two male outlets, and a brass body.

Valves with NPT Connections— Inlet has a female pipe size of 1; outlets have a male pipe size of 3/4; length from inlet port to outlet ports is 3 1/4". Balls are chrome-plated brass, seats and seals are PTFE, and packing is fluoroelastomer. Valves have slightly restricted flow (standard port). *Valve with safety exhaust* is ideal for use with compressed air; when closed, valve vents air pressure through the exhaust port so you can disconnect air tools safely.

Valves with Fire Hose Connections— Exclusively for use with water. Inlet is 2 1/2" female; outlets are 1 1/2" male; length from inlet port to outlet ports is 5 5/8". Balls are acetal, seats are UHMW polyethylene, and seals are Buna-N. Valves have restricted flow (reduced port). For information about fire hose connections, see page 280.

NPT without Safety Exhaust	4017T14	$35.83
NPT with Safety Exhaust	4017T16	41.98
Fire Hose NPSH (National Pipe Straight Hose)	6504T4	304.11
Fire Hose NH (National Hose)	6504T5	304.11

Directional-Control Valves with Tube Fittings

- Max. Pressure for Water, Oil, Air, and Inert Gas: 125 psi @ 140° F
- Temp. Range: 33° to 140° F
- Vacuum Rating: Not rated

Flow Options



Turn the handle to direct flow from the bottom-port inlet to either side-port outlet or shut off flow completely. Body and ball are PVC; seat and seal are Buna-N. Valves are standard port, so they slightly restrict flow. Color is dark gray.

Valves with barbed fittings slide into soft plastic or rubber tubing in low-pressure lines.

Valves with push-to-connect fittings connect to plastic or soft metal tubing for a low-pressure seal.

With Barbed Fittings



For Tube ID	End-to-End Lg.		
1/4"	3 3/16"	4757K57	$16.46
3/8"	3 3/16"	4757K58	16.46
1/2"	3 3/16"	4757K59	16.46

With Push-to-Connect Fittings



For Tube OD	End-to-End Lg.		
1/4"	2 5/8"	4757K61	$21.02
3/8"	2 5/8"	4757K62	21.57

Directional-Control Valves with Yor-Lok Fittings

- Max. Pressure for Water, Oil, Air, and Inert Gas: See table
- Temp Range: -30° to 400° F (Brass without shut-off); -40° to 300° F (Brass with shut-off); -30° to 280° F (316 Stainless Steel)
- Vacuum Rating: 29″ Hg

Flow Options for Valves without Shut-Off

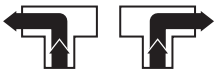

Flow Options for Valves with Shut-Off





For a leak-free seal around hard metal tubing in high-pressure lines, these valves have Yor-Lok fittings. Also known as instrumentation fittings, Yor-Lok fittings are compatible with Swagelok®, Parker A-Lok, and Let-Lok fittings. For Yor-Lok fittings, see pages 188-189.

Turn the handle to direct flow from the bottom-port inlet to either side-port outlet. Valves have threads and a hex nut below the handle for panel mounting. All are standard port, so they slightly restrict flow.

Valves with shut-off can stop flow completely in addition to diverting flow between outlet ports.

Brass valves have a PTFE seat. *Valves without shut-off* have a 316 stainless steel ball; seal and packing are PTFE. *Valves with shut-off* have a nickel-plated brass ball; seals are Buna-N and fluoroelastomer.

316 stainless steel valves are more corrosion resistant than brass valves. Ball is 316 stainless steel, seat is PCTFE, and seal and packing are PTFE.

Brass

For Tube OD	End-to-End Lg.	Max. psi @ 70° F	Panel Cutout Dia.		
Without Shut-Off					
1/8″	3 1/8″	3,000	3/4″	**4566K21**	$53.85
1/4″	3 5/16″	3,000	3/4″	**4566K22**	67.50
3/8″	3 7/16″	3,000	3/4″	**4566K23**	103.35
1/2″	4″	3,000	13/16″	**4566K24**	175.72
With Shut-Off					
1/8″	2 3/8″	1,500	9/16″	**4149T71**	63.73
1/4″	2 9/16″	1,500	9/16″	**4149T72**	57.76
3/8″	2 5/8″	1,000	9/16″	**4149T73**	66.63
1/2″	3 1/8″	1,000	9/16″	**4149T74**	101.34

316 Stainless Steel

For Tube OD	End-to-End Lg.	Max. psi @ 125° F	Panel Cutout Dia.		
Without Shut-Off					
1/16″	2 3/4″	6,000	49/64″	**45165K39**	$122.27
1/8″	3 1/8″	6,000	49/64″	**45165K41**	122.94
1/4″	3 5/16″	6,000	49/64″	**45165K42**	156.60
3/8″	3 7/16″	6,000	49/64″	**45165K43**	207.66
1/2″	4 1/16″	6,000	13/16″	**45165K44**	275.14

Diverting 3-Port Hydraulic Steel Valves

- Max. Pressure for Oil: See table
- Max. Pressure for Steam: Not rated
- Temp. Range: 14° to 176° F
- Vacuum Rating: Not rated

Flow Options





Rated for extremely high pressure, these valves are great for use with fluids in hydraulic systems. Direct flow between two ports or shut off flow completely. Connections are NPT female. Body is steel, ball is chrome-plated steel, seats are polyacetal, and seals are fluoroelastomer. Valves have restricted flow (reduced port).

Pipe Size	Max. psi @ 176° F	End-to-End Lg.		
1/4	7,250	3 15/16″	**46185K511**	$251.04
3/8	7,250	4 9/16″	**46185K512**	309.10
1/2	5,800	5 5/16″	**46185K513**	413.60
3/4	4,500	5 11/16″	**46185K514**	764.52

Easy-to-Install Directional-Control Valves

- Max. Pressure: 150 psi @ 70° F (L-Pattern Flow); 232 psi @ 73° F (T-Pattern Flow)
- Temp. Range: 40° to 140° F (PVC); 40° to 190° F (CPVC)
- Vacuum Rating: 28″ Hg (L-Pattern Flow); 29″ Hg (T-Pattern Flow)

Flow Options for L-Pattern Flow



Flow Options for T-Pattern Flow

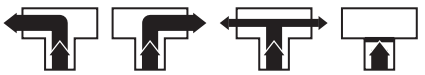



L-Pattern Flow



T-Pattern Flow

Union fittings on all ends of these valves disassemble for fast installation and removal. The fittings also let you perform maintenance without detaching pipe connections. In addition to the threaded NPT female connections, these valves come with socket-weld (unthreaded) female fittings. Use with Schedule 40 and 80 pipe and fittings. Seat is PTFE. Valves are full port, so they do not restrict flow.

Valves with L-pattern flow direct flow from the bottom-port inlet to either side-port outlet or shut off flow completely.

Valves with T-pattern flow can use any port as an inlet or an outlet. Turn the handle to direct flow from the inlet port to either outlet port at full capacity, direct flow to both outlet ports simultaneously at reduced capacity, or shut off flow from the inlet port. Flow between the outlet ports remains unobstructed when flow from the inlet port is shut off.

Valves for drinking water meet NSF/ANSI Standard 61 for use with drinking water.

Valves for chemicals have a fluoroelastomer seal for excellent chemical resistance.

PVC valves have a PVC ball; color is dark gray. **CPVC** valves have a CPVC ball; color is light gray.

Pipe Size	End-to-End Lg.	PVC		CPVC	
For Water—EPDM Seal					
L-Pattern Flow					
1/2	4 5/8″	**4667K21**	$84.07	**4697K61**	$127.24
3/4	5 1/8″	**4667K22**	99.13	**4697K62**	143.00
1	6″	**4667K23**	120.51	**4697K63**	145.49
1 1/2	8 5/8″	**4667K24**	168.56	**4697K64**	259.21
2	8 13/16″	**4667K25**	206.75	**4697K65**	318.03
For Drinking Water—EPDM Seal					
T-Pattern Flow					
1/2	5″	**47125K81**	84.59		
3/4	5 3/4″	**47125K82**	111.80		
1	6 9/16″	**47125K83**	122.17		
1 1/4	7 3/4″	**47125K84**	115.90		
1 1/2	8 5/16″	**47125K85**	169.09		
2	10″	**47125K86**	202.53		

Pipe Size	End-to-End Lg.	PVC		CPVC	
For Chemicals—Fluoroelastomer Seal					
L-Pattern Flow					
1/2	4 5/8″	**4667K11**	$91.07	**4697K41**	$137.80
3/4	5 1/8″	**4667K12**	108.04	**4697K42**	143.00
1	6″	**4667K13**	131.33	**4697K43**	202.08
1 1/2	8 5/8″	**4667K14**	184.79	**4697K44**	284.19
2	8 13/16″	**4667K15**	234.97	**4697K45**	369.26
T-Pattern Flow					
1/2	5″	**47125K91**	88.52		
3/4	5 3/4″	**47125K92**	136.05		
1	6 9/16″	**47125K93**	125.09		
1 1/4	7 3/4″	**47125K94**	146.77		
1 1/2	8 5/16″	**47125K95**	170.57		
2	10″	**47125K96**	293.45		

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

Easy-Clean Directional-Control Valves for Chemicals



- Max. Pressure: 125 psi @ 73° F
- Temp. Range: 15° to 180° F
- Vacuum Rating: 29" Hg

Flow Options for Valves with Side-Port Inlet



Flow Options for Valves with Any-Port Inlet

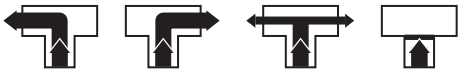

There's no need to unbolt these valves for cleaning—remove the valve handle and slide the valve apart for inline access to the internal components. They have a chemical-resistant polypropylene body and ball and a fluoroelastomer seal. Connections are NPT female. Valves are also known as elliptical valves. All are full port, so they do not restrict flow. Color is black.

Valves with a side-port inlet direct flow from the right port to the center or left port. They cannot shut off flow.

Valves with any-port inlet can use any port as an inlet or outlet. Turn the handle to direct flow from the inlet port to one outlet port at full capacity, direct flow to both outlet ports simultaneously at reduced capacity, or shut off flow from the inlet port. Flow between the outlet ports remains unobstructed when flow from the inlet port is shut off.

Pipe Size	End-to-End Lg.		
Side-Port Inlet			
1/4	2 1/4"	45695K221	$44.62
3/8	3"	45695K231	52.69
1/2	3"	45695K241	52.69
3/4	3 1/2"	45695K251	59.68
Any-Port Inlet			
1/4	2 1/4"	45695K32	47.31
3/8	3"	45695K33	54.84
1/2	3"	45695K34	54.84
3/4	3 1/2"	45695K35	63.44

Easy-Maintenance Directional-Control Valves for Chemicals

- Max. Pressure: 100 psi @ 70° F
- Temp. Range: -20° to 150° F
- Vacuum Rating: Not rated

Flow Options for Valves with Bottom-Port Inlet



Flow Options for Valves with Center-Port Inlet

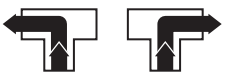

Perform valve maintenance without unthreading pipe connections. These valves have a three-piece bolted body that comes apart for inline replacement of the seats, seals, or ball. For excellent chemical resistance, body is fiberglass-filled polypropylene and seal is fluoro-elastomer.

Connections are NPT female. Ball is polypropylene and seat is PTFE. Valves are full port, so they do not restrict flow. Color is black.

Valves with a bottom-port inlet direct flow to either side port or shut off flow completely. They have a T-handle that resists accidental movement when snagged or bumped, unless noted.

Valves with a center-port inlet direct flow to either side port. They cannot shut off flow. They have a lever handle, unless noted.





Pipe Size	End-to-End Lg.	With Bottom-Port Inlet		With Center-Port Inlet	
3/4	4 3/16"	97745K24	$44.98	97745K54	$44.98
1	4 3/16"	97745K26	44.98	97745K56	44.98
1 1/4	4 5/8"	97745K28	58.15	97745K58 ■	58.15
1 1/2	4 5/8"	97745K34	58.15	97745K64 ■	58.15
2	5 1/2"	97745K36 ★	88.73	97745K66	88.73

★Has a lever handle. ■ Has a T-handle.

Actuated Directional-Control Valves



- Use with water, oil, air, and inert gas
- Pressure Drop Across Valve: At least 10 psi required
- Temp. Range: 32° to 180° F
- Vacuum Rating: Not rated

Flow Options for Normally Closed Valves

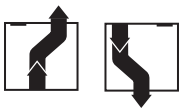

Flow Options for Normally Open Valves



These valves automatically switch the direction of flow for mixing, diverting, and venting. They are often used with single-acting spring-return cylinders. All use pressure from your pipeline to assist in opening and closing for reduced energy consumption.

Connections are NPT female. Body is brass and diaphragm is Buna-N. Valves have wire leads, a 1/2 trade size conduit port, and draw a max. of 0.71 amps. They meet NEMA 4X for resistance to wash-downs, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Mount in any position.

Closed unless energized (normally closed) valves allow flow through the secondary flow path until they receive an electrical signal to open the primary flow path and reverse the direction of flow.

Open unless energized (normally open) valves allow flow through the primary flow path until they receive an electrical signal to open the secondary flow path and reverse the direction of flow.

Pipe Size	End-to-End Lg.	Ht.	Max. psi	120V AC	24V AC	
Closed Unless Energized (Normally Closed)						
1/4	1 3/4"	3 5/8"	95	49085K21	49085K57	$176.09
1/4	2 3/8"	3 3/8"	200	49085K22	49085K58	307.68
3/8	2 3/8"	3 3/8"	200	49085K23	49085K59	306.72
3/8	2 5/8"	5 3/8"	180	4274T411	4274T412	397.17
1/2	3 1/8"	5 5/8"	180	4274T413	4274T421	397.17
3/4	3 3/8"	6 1/2"	180	4274T422	4274T423	541.51
Open Unless Energized (Normally Open)						
1/4	1 3/4"	3 5/8"	95	49085K77	49085K87	176.09
1/4	2 3/8"	3 5/8"	200	49085K78	_____	318.03
3/8	2 3/8"	3 5/8"	200	49085K79	49085K88	318.03

Directional Control 4-Port Aluminum Valves



- Use with air and inert gas
- Pressure Drop Across Valve: At least 20 psi required
- Temp. Range: 0° to 135° F (120V AC) 0° to 77° F (24V DC)

Control your actuated equipment—a 4-port body switches the direction of flow to apply and exhaust pressure. Also known as 4-way valves, they're often used with double-acting (push/pull) cylinders. Connections are NPT female. Body is aluminum and seals are Buna-N. Valves have wire leads and draw a max. of 0.29 amps. Mount in any position. CSA certified.

Pipe Size	Lg.	Ht.	Max. psi	120V AC	24V DC	
1/4	1 1/2"	3 11/16"	150	4368T44	4368T48	$335.66

Compact Actuated Directional-Control Valves

With a shorter end-to-end length than standard actuated directional-control valves and a lower overall height, these valves are often installed in cramped areas where other valves won't fit. They automatically switch the direction of flow for mixing, diverting, and venting applications.

Connections are NPT female. Body is brass. Valves are closed unless energized (normally closed) and allow flow through the secondary flow path until they receive an electrical signal to open the primary flow path and reverse the direction of flow. They operate on 120 volts AC. Valves have wire leads, a ½ trade size conduit port, and draw a max. of 0.26 amps. All meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Mount in any position. UL listed and CSA certified.



Flow Options

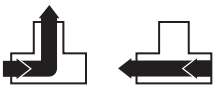

For Water, Oil, Air, and Inert Gas—Buna-N Seal

- Pressure Drop Across Valve: None required
- Temp. Range: 32° to 180°F
- Vacuum Rating: Not rated

Pipe Size	End-to-End Lg.	Ht.	Max. psi		
1/8	1 3/16"	2 15/16"	40	8111K311	$106.41
1/8	1 3/16"	2 15/16"	100	8111K611	107.64
1/8	1 3/16"	2 15/16"	200	8111K331	109.94
1/4	1 11/16"	3 1/2"	125	8111K351	120.63
1/4	1 11/16"	3 3/4"	50	8111K632	126.76
1/4	1 11/16"	3 3/4"	100	8111K642	126.76
1/4	1 11/16"	3 3/4"	125	8111K652	132.16

For Coolants—Fluoroelastomer Seal

- Use with ethylene glycol
- Pressure Drop Across Valve: None required
- Temp. Range: 32° to 200°F
- Vacuum Rating: Not rated

Pipe Size	End-to-End Lg.	Ht.	Max. psi		
1/8	1 3/16"	2 15/16"	200	8111K431	$117.20
1/4	1 11/16"	3 1/2"	125	8111K441	133.14

Top-Connect Actuated Directional-Control Valves

- Use with water, oil, air, and inert gas
- Pressure Drop Across Valve: None required
- Temp. Range: 14° to 175°F
- Vacuum Rating: Not rated

Flow Options

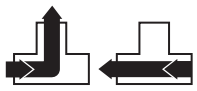



These valves have a top port for installation in pipelines without the horizontal clearance required for a center port. They automatically switch the direction of flow for mixing, diverting, and venting and are often used with cylinders and presses.

Connections are NPT female. Body is brass and seal is Buna-N. Valves are closed unless energized (normally closed) and allow flow through the secondary flow path until they receive an electrical signal to open the primary flow path and reverse the direction of flow. They operate on 120 volts AC. They have wire leads, a ½ trade size conduit port, and draw a max. of 0.16 amps. All meet NEMA 2 for resistance to dripping liquid and light splashing. Mount in any position. UL listed and CSA certified.

Pipe Size	End-to-End Lg.	Ht.	Max. psi		
1/4	1 3/4"	3 5/8"	85	47835K251	$179.66
1/4	1 3/4"	3 5/8"	100	47835K231	183.23
1/4	1 3/4"	3 5/8"	155	47835K211	186.88

Create-a-Manifold Directional-Control Valves

- Use with water, oil, air, and inert gas
- Pressure Drop Across Valve: None required
- Temp. Range: 0° to 150°F
- Vacuum Rating: Not rated

Flow Options

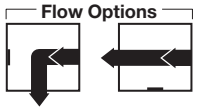



Three Valves Shown Assembled as Manifold

Often used for emission analysis and gas processing, these valves attach to each other horizontally to create one centralized manifold for servicing multiple process lines. Valves are sold separately and require 6-32 threaded rods and locknuts (sold separately) to assemble the valves into a manifold.

Connections are NPT female. Seal is fluoroelastomer. Valves are closed unless energized (normally closed) and allow flow through the secondary flow path until they receive an electrical signal to open the primary flow path and reverse the direction of flow. They operate on 120 volts AC. All have wire leads and draw a max. of 0.07 amps. Mount in any position.

303 stainless steel valves are more corrosion resistant than brass valves.

Pipe Size	Lg.	Wd.	Ht.	Max. psi	Brass		303 Stainless Steel	
1/8	1 1/8"	1 1/8"	2 3/4"	50	4919T21	$68.09	3830T41	$80.15
1/8	1 1/8"	1 1/8"	2 3/4"	135	4919T22	72.05	3830T42	81.74
1/8	1 1/8"	1 1/8"	2 3/4"	260	4919T23	73.49	3830T43	83.39
6-32 Fully Threaded Rod—2 ft. Length							98804A007	1.45
6-32 Hex Locknuts (Pkg. of 100)							91831A007	4.48

Corrosion-Resistant Top-Connect Actuated Directional-Control Valves

Flow Options for Normally Closed Valves



Flow Options for Normally Open Valves

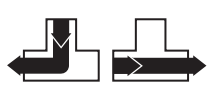



Control flow to actuated equipment in harsh environments—these valves have a 430 stainless steel body for more corrosion resistance than standard actuated directional-control valves with a brass body. They have a top port for installation in pipelines without the horizontal clearance required for a center port. All automatically switch the direction of flow for mixing, diverting, and venting. These valves are often used to operate presses and single-acting spring-return cylinders.

Connections are NPT female. Valves have wire leads, a ½ trade size conduit port, and draw a max. of 0.42 amps. All meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. Mount in any position. UL listed and CSA certified.

Closed unless energized (normally closed) valves allow flow through the secondary flow path until they receive an electrical signal to open the primary flow path and reverse the direction of flow.

Open unless energized (normally open) valves allow flow through the primary flow path until they receive an electrical signal to open the secondary flow path and reverse the direction of flow.

For Water, Oil, Air, and Inert Gas—Buna-N Seal

- Pressure Drop Across Valve: None required
- Temp. Range: -20° to 185°F
- Vacuum Rating: Not rated

Pipe Size	End-to-End Lg.	Ht.	Max. psi	120V AC		24V DC	
Closed Unless Energized (Normally Closed)							
1/8	1 5/8"	3 11/16"	90	7889K74	$121.92	7889K94	$121.92
1/8	1 5/8"	3 11/16"	125	7889K23	124.36	7889K63	124.36
1/8	1 5/8"	3 11/16"	200	7889K22	126.84	7889K62	126.84
1/4	1 5/8"	3 7/8"	25	7889K28	125.85	7889K68	125.85
1/4	1 5/8"	3 7/8"	90	7889K27	128.37	7889K67	128.37
1/4	1 5/8"	3 7/8"	125	7889K26	130.95	7889K66	130.95
1/4	1 5/8"	3 7/8"	200	7889K25	133.55	7889K65	133.55
1/4	1 5/8"	3 7/8"	250	7889K24	136.23	7889K64	136.23
Open Unless Energized (Normally Open)							
1/4	1 5/8"	3 7/8"	125	7889K78	130.95	7889K98	130.95
1/4	1 5/8"	3 7/8"	150	7889K73	133.55	7889K93	133.55
1/4	1 5/8"	3 7/8"	250	7889K72	136.23	7889K92	136.23

For Natural, Propane, and Butane Gas—Fluoroelastomer Seal

- Pressure Drop Across Valve: None required
- Temp. Range: -10° to 185°F
- Vacuum Rating: Not rated

Pipe Size	End-to-End Lg.	Ht.	Max. psi	120V AC		24V DC	
Closed Unless Energized (Normally Closed)							
1/4	1 5/8"	3 7/8"	90	5184T121	$128.66	5184T123	$128.66
1/4	1 5/8"	3 7/8"	125	5184T131	131.24	5184T133	131.24
1/4	1 5/8"	3 7/8"	250	5184T151	136.54	5184T153	136.54

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3

High-Pressure Actuated Directional-Control Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas: 400 psi @ 176° F
- Max. Pressure for Steam: 100 psi @ 340° F
- Valve Temp Range: -4° to 340° F
- Vacuum Rating: 29" Hg

Flow Options

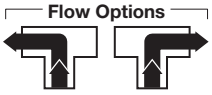

These valves withstand twice the pressure of other actuated directional-control valves. They operate on compressed air and electricity and have a solenoid that turns the air supply on and off. All valves direct flow from the center-port inlet to the left-port outlet when air is off. They cannot shut off flow.

Connections are NPT female. Body is brass, ball is chrome-plated brass, seat is PTFE, and seals are fluoroelastomer and PTFE. Valves meet NEMA 4X for resistance to washdowns, splashing water, corrosive liquids, and dust and are suitable for outdoor use. All are standard port, so they slightly restrict flow. Can be used in horizontal and vertical pipeline.

The actuator is directly mounted to the valve body to minimize movement and reduce wear. Requires an air supply of 60 to 125 psi; inlet is 1/4 NPT female. Housing is aluminum. The solenoid operates on 120 volts AC @ 60 Hz. Has 12" long wire leads with a 1/2 trade size conduit port. Actuator temperature range is 0° to 130° F.

Air-to-divert/air-to-return valves use air pressure to divert flow to the right-port outlet and air pressure to return flow to the left-port outlet.

Air-to-divert/spring-return valves use air pressure to divert flow to the right-port outlet. They automatically return flow to the left-port outlet when the air turns off to ensure the valve only diverts flow to the right port when air is on.

Pipe Size	Valve, End-to-End Lg.	Overall Lg.	Overall Ht.		
Air-to-Divert/Air-to-Return					
1/4	2 11/16"	4 5/16"	4 7/16"	5883T21	$292.38
3/8	2 11/16"	4 5/16"	4 7/16"	5883T22	292.38
1/2	2 7/8"	4 5/16"	4 7/16"	5883T23	294.02
3/4	3 3/16"	4 5/16"	4 5/8"	5883T24	298.74
1	3 3/4"	5 1/2"	6 5/8"	5883T25	359.91
1 1/2	4 7/8"	5 1/2"	7 13/16"	5883T27	441.06
2	5 3/4"	6 3/8"	9 1/16"	5883T28	528.25

Pipe Size	Valve, End-to-End Lg.	Overall Lg.	Overall Ht.		
Air-to-Divert/Spring Return					
1/4	2 11/16"	5 1/2"	4 15/16"	5883T61	$372.91
3/8	2 11/16"	5 1/2"	4 15/16"	5883T62	372.91
1/2	2 7/8"	5 1/2"	4 15/16"	5883T63	374.74
3/4	3 3/16"	5 1/2"	5 1/8"	5883T64	381.05
1	3 1/4"	5 1/2"	6 5/8"	5883T65	393.66
1 1/2	4 7/8"	6 3/8"	7 13/16"	5883T67	506.73
2	5 15/16"	9 3/8"	9 1/16"	5883T68	673.96

Pressure-Driven Directional Control Valves

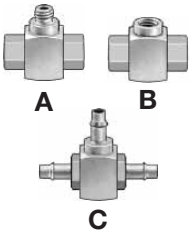

- Max. Pressure for Water, Oil, Air, and Inert Gas: 250 psi @ 230° F
- Temp. Range: 32° to 230° F
- Vacuum Rating: Not rated

Flow Options

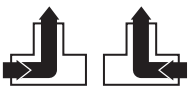

Direct flow between one of two side-port inlets and the top-port outlet with these valves that automatically switch between inlets based on pressure. Flow is directed from the higher-pressure inlet to the outlet. Valves cannot shut off flow. Body is brass and seal is Buna-N. Valves are also known as shuttle valves.

Valves with barbed connections are for use with soft plastic or rubber tubing.

	Connection Size	Inlets	Outlet	Lg.		
With UNF Threaded Connections						
A	10-32 UNF	Female	Male	13/16"	6667T11	$8.12
B	10-32 UNF	Female	Female	13/16"	6667T12	8.13
With Barbed Connections						
C	For 1/16" Tube ID	Barbed	Barbed	15/16"	6667T13	9.09
C	For 1/8" Tube ID	Barbed	Barbed	1 3/16"	6667T14	9.09

About Backflow-Prevention Valves

Backflow-prevention valves open to allow flow in one direction and close when flow stops or reverses to prevent system contamination. They are also known as check valves.

Sure-seal backflow-prevention valves have two integral check valves for maximum protection from system contamination. They are also known as dual check valves and reduced pressure zone valves.

Backflow-Prevention Valves



- Max. Pressure: 400 psi @ 70° F, except max. pressure for steam is 125 psi @ 350° F.
- Temp. Range: 33° to 225° F

These valves open to allow flow in one direction and close when flow stops or reverses. At least 2 psi is required to open valves. Mount in any position. Connections are NPT female.

Nickel-plated brass valves are more corrosion resistant than plain brass valves.

Valves for coolant can be used to stop the backflow of antifreeze in your line.

Pipe Size	End-to-End Lg.	Brass		Nickel-Plated Brass	
For Water, Air, and Inert Gas—SBR Seal					
3/8	2 5/8"	7746K49	$29.83	4753K75	$33.83
1/2	2 11/16"	7746K39	29.83	4753K76	34.26
3/4	3 5/16"	7746K821	30.04	4753K77	34.79
1	3 11/16"	7746K831	40.09	4753K78	45.43
1 1/4	4 9/16"	7746K841	46.89	4753K79	56.43
1 1/2	4 7/8"	7746K851	61.66	4753K81	72.87
2	5 9/16"	7746K861	96.49	4753K82	114.15
2 1/2	6 13/16"	7746K43	219.15	4753K83	239.30
3	7 7/16"	7746K46	402.75	4753K84	438.62
For Oil, Diesel Fuel, and Gasoline—Buna-N Seal					
3/8	2 5/8"	7746K37	29.83	4753K65	33.83
1/2	2 11/16"	7746K41	29.83	4753K66	34.26
3/4	3 5/16"	7746K822	30.04	4753K67	36.55
1	3 11/16"	7746K832	40.09	4753K68	48.17
1 1/4	4 9/16"	7746K842	46.89	4753K69	60.72
1 1/2	4 7/8"	7746K852	61.66	4753K71	82.13
2	5 9/16"	7746K862	96.49	4753K72	127.68
2 1/2	6 13/16"	7746K44	232.19	4753K73	252.34
3	7 7/16"	7746K47	402.75	4753K74	438.62

Pipe Size	End-to-End Lg.	Brass		Nickel-Plated Brass	
For Steam—303 Stainless Steel Seal					
3/8	2 5/8"	4753K41	$32.23	4753K51	$37.26
1/2	2 11/16"	4753K42	33.98	4753K52	38.81
3/4	3 5/16"	4753K43	37.64	4753K53	42.45
1	3 11/16"	4753K44	52.21	4753K54	57.64
1 1/4	4 9/16"	4753K45	61.45	4753K55	71.13
1 1/2	4 7/8"	4753K46	76.06	4753K56	87.49
2	5 9/16"	4753K47	110.04	4753K57	132.61
2 1/2	6 13/16"	4753K61	257.45	4753K62	277.60
3	7 7/16"	4753K63	440.87	4753K64	476.91
For Coolant (Ethylene Glycol)—EPDM Seal					
3/8	2 5/8"	7746K38	29.83	4753K85	33.83
1/2	2 11/16"	7746K42	29.83	4753K86	34.26
3/4	3 5/16"	7746K823	30.04	4753K87	37.17
1	3 11/16"	7746K833	40.09	4753K88	47.19
1 1/4	4 9/16"	7746K843	46.89	4753K89	60.72
1 1/2	4 7/8"	7746K853	61.66	4753K91	82.13
2	5 9/16"	7746K863	96.49	4753K92	127.68
2 1/2	6 13/16"	7746K45	232.19	4753K93	252.34
3	7 7/16"	7746K48	402.75	4753K94	438.62

Extended-Life Backflow-Prevention Valves

- Max. Pressure: 400 psi @ 70° F, unless noted
- Max. Pressure for Steam: Not rated (Buna-N Seal); 125 psi @ 350° F (PTFE Seal)
- Temp. Range: 32° to 190° F (Buna-N Seal); -20° to 350° F (PTFE Seal)

A bronze body provides durability and a long service life. At least 0.5 psi is required to open valves. Mount horizontally or vertically. Connections are NPT.

Valves with a Buna-N seal have a silicon bronze body.



Female Inlet × Female Outlet



Male Inlet × Female Outlet

Pipe Size	Female Inlet × Female Outlet: End-to-End Lg.			Male Inlet × Female Outlet: End-to-End Lg.		
For Water—Buna-N Seal						
1/2	2 5/8"	4616K91	$26.34			
3/4	3 3/8"	4616K92	26.67			
1	3 5/8"	4616K93	28.08			
1 1/4	3 3/4"	4616K94	38.48			
1 1/2	4 1/8"	4616K95	53.79			
2	5 1/8"	4616K96■	87.02			
2 1/2	7 3/8"	4616K97■	337.60			
3	7 1/4"	4616K98■	386.69			
For Water, Oil, Air, Inert Gas, Steam, Diesel Fuel, and Gasoline— PTFE Seal						
1/4	2 1/16"	47715K21	30.67	2 3/8"	47715K41	$35.35
3/8	2 1/8"	47715K22	31.01	2 3/8"	47715K42	35.74
1/2	2 5/16"	47715K23	31.36	2 9/16"	47715K43	36.13
3/4	2 7/8"	47715K24	44.58	3 1/8"	47715K44	46.60
1	3 1/2"	47715K25	61.29	3 7/8"	47715K45	68.42
1 1/4	4 3/16"	47715K26	92.37	4 7/16"	47715K46	101.69
1 1/2	4 15/16"	47715K27	117.85	5 3/16"	47715K47	126.77
2	6"	47715K28	191.85	6 1/2"	47715K48	211.67

■ Max. pressure is 600 psi @ 70° F.

Corrosion-Resistant Backflow-Prevention Valves

- Max. Pressure: See table
- Temp. Range: -4° to 350° F



These valves have a 316 stainless steel body for exceptional corrosion resistance. At least 0.5 psi is required to open valves, unless noted. Mount horizontally or vertically. Connections are NPT female.

Valves for steam are often used for steam service in wet conditions and harsh environments.

For Water, Oil, Air, Inert Gas, Diesel Fuel, and Gasoline

Seal is fluoroelastomer.

Pipe Size	End-to-End Lg.	Max. psi @ 70° F		
1/8	2"	580	8605T12▲	$112.55
1/4	2 1/8"	580	8605T14▲	112.55
3/8	2 7/8"	580	8605T16▲	133.55
1/2	3 1/16"	580	8605T18▲	141.05
3/4	2 7/8"	400	47885K64	136.29
1	3 1/2"	400	47885K65	158.35

▲ At least 3.6 psi is required to open valve.

For Steam

Seal is PTFE.

Pipe Size	End-to-End Lg.	Max. psi @ 350° F		
1/4	2 1/16"	125	47885K71	$67.02
3/8	2 1/8"	125	47885K72	68.56
1/2	2 5/16"	125	47885K73	81.02
3/4	2 7/8"	125	47885K74	129.79
1	3 1/2"	125	47885K75	150.80
1 1/4	4 3/16"	125	47885K76	212.94
1 1/2	4 15/16"	125	47885K77	323.28
2	6"	125	47885K78	552.80

Quick-Opening Backflow-Prevention Valves

- Max. Pressure: 1,000 psi @ 70° F
- Temp. Range: -40° to 300° F (Buna-N Seal); 10° to 400° F (Fluoroelastomer Seal)

With a minimum opening pressure of 0.3 psi, these valves open at less than a third of the minimum opening pressure required for standard backflow-prevention valves for the fastest response to low pressure levels. Valves are often used in low-pressure instrumentation applications. Body is brass. Mount in any position. Connections are NPTF (Dryseal).



Female × Female



Male × Male

Pipe Size	Female × Female: End-to-End Lg.			Male × Male: End-to-End Lg.		
For Water, Air, and Inert Gas— Buna-N Seal						
1/8	2"	7775K11	$12.75	1 1/4"	7775K21	$11.90
1/4	2 1/16"	7775K12	12.49	1 13/16"	7775K22	12.98
3/8	2 3/8"	7775K13	20.66	2 7/16"	7775K23	21.25
1/2	2 1/2"	7775K14	20.66	2 1/2"	7775K24	21.28

Pipe Size	Female × Female: End-to-End Lg.			Male × Male: End-to-End Lg.		
For Oil, Diesel Fuel, and Gasoline— Fluoroelastomer Seal						
1/8	2"	7775K51	$13.87	1 1/4"	7775K61	$12.56
1/4	2 1/16"	7775K52	14.04	1 13/16"	7775K62	13.77
3/8	2 3/8"	7775K53	22.33	2 7/16"	7775K63	22.92
1/2	2 1/2"	7775K54	22.33	2 1/2"	7775K64	22.92

Compact Backflow-Prevention Valves

- Max. Pressure: 500 psi @ 70° F
- Temp. Range: -20° to 180° F

For installation in confined spaces, these valves have a shorter end-to-end length than standard backflow-prevention valves. Body is brass. At least 1 psi is required to open valves. Mount in any position. Connections are NPT.









Pipe Size	Female Inlet × Female Outlet: End-to-End Lg.			Female Inlet × Male Outlet: End-to-End Lg.			Male Inlet × Male Outlet: End-to-End Lg.			Male Inlet × Female Outlet: End-to-End Lg.		
For Water, Air, and Inert Gas— Buna-N Seal												
1/8	1 3/8"	7768K11	$10.88	1 1/16"	7768K21	$10.88	1 3/16"	7768K15	$10.88	1 1/4"	7768K25	$10.88
1/4	1 13/16"	7768K12	12.12	1 3/8"	7768K22	10.42	1 1/2"	7768K16	10.42	1 5/8"	7768K26	10.42
3/8	2 1/4"	7768K13	17.23	1 11/16"	7768K23	12.76	1 3/4"	7768K17	12.76	1 15/16"	7768K29	13.43
1/2	2 9/16"	7768K14	21.49	2 1/8"	7768K24	15.89	2"	7768K18	15.89	1 7/8"	7768K28	15.89
3/4	3"	7768K41	35.71	3"	7768K43	32.37						
For Oil, Diesel Fuel, and Gasoline— Fluoroelastomer Seal												
1/8	1 3/8"	7768K51	11.75	1 1/16"	7768K61	11.75	1 3/16"	7768K55	11.75	1 1/4"	7768K65	11.75
1/4	1 13/16"	7768K52	12.93	1 3/8"	7768K62	11.24	1 1/2"	7768K56	11.24	1 5/8"	7768K66	11.24
3/8	2 1/4"	7768K53	18.09	1 11/16"	7768K63	13.92	1 3/4"	7768K57	13.92	1 15/16"	7768K69	14.64
1/2	2 9/16"	7768K54	22.55	2 1/8"	7768K64	17.78	2"	7768K58	17.78	1 7/8"	7768K68	17.78
3/4	3"	7768K42	36.75	3"	7768K44	39.55						

Backflow-Prevention Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about backflow-prevention valves, see page 506. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

Miniature Backflow-Prevention Valves



With UNF Connections



With NPT Connections

- Max. Pressure for Water, Air, and Inert Gas: 125 psi @ 70° F (UNF Connections); 200 psi @ 70° F (NPT Connections)
- Temp. Range: 32° to 150° F (UNF Connections); 32° to 300° F (NPT Connections)

The smallest backflow-prevention valves we offer. Seal is 304 stainless steel. At least 2 psi is required to open valves. Mount in any position.

303 stainless steel valves are more corrosion resistant than brass valves.

Thread/Pipe Size	End-to-End Lg.	Brass		303 Stainless Steel	
With UNF Female x Female Connections					
10-32	13/16"	8567T31	$19.94	8567T32	$23.94
With NPT Male x Male Connections					
1/8	1"	8567T11	18.68	8567T12	22.89
1/4	1 3/8"	8567T21	19.73	8567T22	25.22

High-Temperature Backflow-Prevention Valves



- Max. Pressure: 300 psi @ 70° F
- Temp. Range: 50° to 500° F

These valves have a heat-resistant seal that withstands temperatures up to 500° F. Body is bronze for durability and a long service life. At least 2 psi is required to open valves. Mount horizontally or vertically. Connections are NPT female.

Pipe Size	End-to-End Lg.		
For Water, Air, and Inert Gas—Silicone Seal			
1/4	2 1/8"	4872K201	$81.90
3/8	2 1/8"	4872K301	83.81
1/2	2 1/2"	4872K401	97.14
3/4	2 3/4"	4872K501	110.48
1	3 3/8"	4872K601	123.81
1 1/4	3 3/4"	4872K701	142.86
For Oil, Diesel Fuel, and Gasoline—Fluoroelastomer Seal			
1/4	2 1/8"	4872K12	83.81
3/8	2 1/8"	4872K13	85.71
1/2	2 1/2"	4872K14	99.05
3/4	2 3/4"	4872K15	112.38
1	3 3/8"	4872K16	125.71
1 1/4	3 3/4"	4872K17	146.66

Plastic Backflow-Prevention Valves



Female x Female



Female x Male



Male x Male

- Max. Pressure: 125 psi @ 70° F
- Temp. Range: 34° to 140° F

All valves open to allow flow in one direction and close when flow stops or reverses. Connections are NPT.

PVC valves require at least 1 psi to open. Mount horizontally or vertically. Color is dark gray.

Glass-filled polypropylene valves require at least 0.33 psi to open. Mount in any position. Color is black.

For Water, Air, and Inert Gas—Buna-N Seal

Pipe Size	PVC End-to-End Lg.			Glass-Filled Polypropylene End-to-End Lg.		
Female Inlet x Female Outlet						
1/8	2 1/4"	7933K24	$12.53	—	—	—
1/4	2 1/4"	7933K27	12.53	2"	5492K11	$11.05
3/8	—	—	—	2 1/16"	5492K12	11.42
1/2	—	—	—	2 1/2"	5492K13	12.14
3/4	—	—	—	2 3/4"	5492K14	13.81
Female Inlet x Male Outlet						
1/8	2 1/2"	7933K25	12.53	—	—	—
1/4	2 1/2"	7933K28	12.53	—	—	—
Male Inlet x Male Outlet						
1/8	2 3/4"	7933K26	12.53	—	—	—
1/4	2 7/8"	7933K29	12.53	—	—	—

For Oil, Diesel Fuel, and Gasoline—Fluoroelastomer Seal

Pipe Size	End-to-End Lg.		Glass-Filled Polypropylene	
Female Inlet x Female Outlet				
1/4	2"	5492K51	$11.57	
3/8	2 1/16"	5492K52	11.97	
1/2	2 1/2"	5492K53	12.76	
3/4	2 3/4"	5492K54	14.49	

Easy-to-Install Backflow-Prevention Valves

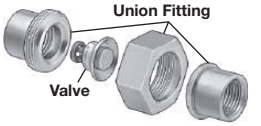

- Max. Pressure for Water, Oil, Air, Inert Gas, Diesel Fuel, and Gasoline: 1,500 psi @ 70° F
- Temp. Range: -10° to 400° F

Insert one of these valves into a union fitting for fast installation and removal from your pipeline. Valves and union fittings (sold separately) are 316 stainless steel for exceptional corrosion resistance. Connections are NPT female.

Valves require at least 0.5 psi to open. Seal is fluoroelastomer. Mount horizontally or vertically.

Pipe Size	Valves End-to-End Lg.			Union Fittings End-to-End Lg.		
1/2	13/16"	8615T32	$76.12	1 15/16"	8615T52	$113.35
1	1 1/16"	8615T36	103.66	2 7/16"	8615T56	233.15
1 1/2	1 5/16"	8615T42	150.01	3"	8615T62	503.58
2	1 9/16"	8615T44	176.07	3 7/16"	8615T64	640.23

Compact Plastic Backflow-Prevention Valves



- Max. Pressure for Water, Air, and Inert Gas: 125 psi @ 70° F
- Temp. Range: -20° to 180° F

Since these valves have a shorter end-to-end length than other plastic backflow-prevention valves, they're often installed in confined areas. Body is nylon and seal is Buna-N. At least 1 psi is required to open valves. Mount horizontally or vertically. Color is white. Connections are NPT male.

Pipe Size	End-to-End Lg.		
1/8	1"	1424T11	$15.00
1/4	1 1/4"	1424T15	15.00
3/8	1 1/4"	1424T19	15.00
1/2	1 1/2"	1424T37	16.43
3/4	1 1/2"	1424T45	19.86

High-Pressure Backflow-Prevention Valves for Steam



- Max. Pressure: 450 psi @ 550° F
- Temp. Range: -20° to 550° F

Rated for nearly four times the pressure of standard backflow-prevention valves for steam, these have a rugged iron body and seal that withstands steam pressure up to 450 psi @ 550° F. A threaded cap provides easy access to internal components for maintenance. At least 2 psi is required to open valves. Install horizontally or vertically. Valves are rated Class 300. Connections are NPT female.

Pipe Size	End-to-End Lg.		
1	4 1/16"	4900K13	$473.93
1 1/2	5 7/16"	4900K14	571.92
2	6 5/8"	4900K15	650.02

High-Pressure Backflow-Prevention Valves

- Max. Pressure: See table
- Temp. Range: See table

These valves are rated for five times the pressure of standard backflow-prevention valves. Body is brass. At least 1 psi is required to open valves. Mount in any position. Connections are NPT or NPTF (Dryseal).






Pipe Size	Max. psi @ 70°F	Temp. Range	Female Inlet x Female Outlet End-to-End Lg.			Female Inlet x Male Outlet End-to-End Lg.			Male Inlet x Male Outlet End-to-End Lg.			Male Inlet x Female Outlet End-to-End Lg.		
For Water, Air, and Inert Gas														
Buna-N Seal														
1/4 NPT	3,000	-20° to 180°F	2 9/16"	8549T11	$21.58	2 11/16"	8549T13	$21.58	2 11/16"	8549T17	$21.58	2 9/16"	8549T15	$21.58
3/8 NPT	3,000	-20° to 180°F	2 9/16"	8549T12	21.58	2 11/16"	8549T14	21.58	2 11/16"	8549T18	21.58	2 9/16"	8549T16	21.58
1/2 NPT	2,000	-20° to 180°F	3 3/16"	8549T31	71.73	3 3/16"	8549T33	71.73	3 3/16"	8549T37	71.73	3 3/16"	8549T35	71.73
For Oil, Diesel Fuel, and Gasoline														
Fluoroelastomer Seal														
1/4 NPT	3,000	-20° to 180°F	2 9/16"	8549T21	23.54	2 11/16"	8549T23	23.54	2 11/16"	8549T27	23.54	2 9/16"	8549T25	23.54
3/8 NPT	3,000	-20° to 180°F	2 9/16"	8549T22	22.82	2 11/16"	8549T24	22.82	2 11/16"	8549T28	22.82	2 9/16"	8549T26	22.82
1/2 NPT	2,000	-20° to 180°F	3 3/16"	8549T32	72.84	3 3/16"	8549T34	72.84	3 3/16"	8549T38	72.84	3 3/16"	8549T36	72.84
440 Stainless Steel Seal														
1/8 NPTF	2,000	-15° to 400°F	1 1/2"	5010K71	15.62									
1/4 NPTF	2,000	-15° to 400°F	2"	5010K72	22.45									
1/4 NPTF	2,000	-30° to 200°F	2"	4620K21	24.80									
3/8 NPTF	2,000	-15° to 400°F	2 1/4"	5010K73	30.25									
3/8 NPTF	2,000	-30° to 200°F	2 1/2"	4620K22	33.94									
1/2 NPTF	2,000	-15° to 400°F	2 3/4"	5010K74	41.94									
1/2 NPTF	2,000	-30° to 200°F	2 7/8"	4620K23	47.18									
3/4 NPTF	2,000	-15° to 400°F	3"	5010K46	67.98									
3/4 NPTF	2,000	-30° to 200°F	3 1/4"	4620K24	65.36									

Compact High-Pressure Backflow-Prevention Valves



- Max. Pressure: 2,000 psi @ 70°F (Brass); 3,000 psi @ 70°F (Steel and 303 Stainless Steel)
- Temp. Range: -30° to 190°F

Designed for installation in confined areas, these valves have a shorter end-to-end length than standard backflow-prevention valves and are rated for five times the pressure. At least 2.5 psi is required to open valves. Mount in any position. Connections are NPTF (Dryseal) male.

Valves for water have a Buna-N seal. **Valves for oil** have a brass seal, unless noted.

Brass valves have good corrosion resistance. **303 stainless steel** valves are more corrosion resistant than brass valves.

Pipe Size	End-to-End Lg.	For Water		For Oil	
Brass					
1/8	1"	46105K59	$22.75	46105K61	$18.01
1/4	1 3/8"	46105K69	21.04	46105K62	21.00
3/8	1 5/8"	46105K71	27.15	46105K63	26.78
1/2	2 1/8"	46105K72	37.60	46105K64	38.04
3/4	2 1/4"	46105K73	51.78	—	—
Steel					
1/4	1 3/8"	46105K74	20.60	46105K65★	21.24
3/8	1 5/8"	46105K75	24.11	46105K66★	25.36
1/2	2 1/8"	46105K76	32.86	46105K67★	33.33
303 Stainless Steel					
1/4	1 3/8"	46105K77	40.07	46105K68■	44.05
3/8	1 5/8"	46105K78	53.77	—	—

★ Seal is steel. ■ Seal is 303 stainless steel.

Corrosion-Resistant High-Pressure Backflow-Prevention Valves



- Max. Pressure for Water, Oil, Air, Inert Gas, Diesel Fuel, and Gasoline: 3,000 psi @ 70°F (1/8 to 1/2 size); 2,000 psi @ 70°F (3/4 and 1 size)
- Temp. Range: -4° to 350°F

With a 316 stainless steel body for exceptional corrosion resistance and five times the pressure rating of standard backflow-prevention valves, these are often used for high-pressure applications in wet conditions and harsh environments. Seal is fluoroelastomer. At least 0.33 psi is required to open valves. Mount horizontally or vertically. Connections are NPT female.

Pipe Size	End-to-End Lg.		
1/8	1 3/4"	7838K53	$66.11
1/4	2 1/8"	7838K54	58.22
3/8	2 1/16"	7838K55	111.77
1/2	3 1/16"	7838K56	$122.10
3/4	3 3/8"	7838K59	351.84
1	4 1/4"	7838K58	383.89

Ultra-High-Pressure Backflow-Prevention Valves



- Max. Pressure for Water and Oil: 5,000 psi @ 70°F
- Temp. Range: See table

Our highest-pressure backflow-prevention valves, these can withstand more than 12 times the pressure of standard backflow-prevention valves. Seal is 440 stainless steel. At least 1 psi is required to open valves. Mount in any position. Connections are NPTF (Dryseal) female.

303 stainless steel valves have excellent corrosion resistance.

Pipe Size	End-to-End Lg.	Steel		303 Stainless Steel	
Temperature Range is -15° to 400°F					
1/8	1 1/2"	5010K51	$18.30	5010K61	$54.13
1/4	2"	5010K52	24.28	5010K62	72.09
3/8	2 1/4"	5010K53	28.43	5010K63	84.15
1/2	2 3/4"	5010K54	34.91	5010K64	113.76
3/4	3"	5010K26	51.26	—	—
Temperature Range is -30° to 200°F					
1/4	2"	4620K41	31.65	4620K81	90.87
3/8	2 1/2"	4620K42	38.27	4620K82	105.50
1/2	2 7/8"	4620K43	47.34	4620K83	118.75
3/4	3 1/4"	4620K44	65.17	4620K84	196.44

High-Performance Backflow-Prevention Valves



- Max. Pressure for Water, Oil, Air, Inert Gas, Diesel Fuel, and Gasoline: 1,975 psi @ 100°F
- Temp. Range: -20° to 800°F

Often used in petroleum and power-processing systems and other demanding applications, these valves withstand nearly five times the pressure and four times the temperature of standard backflow-prevention valves. Body is steel; seal is 304 stainless steel and graphite. At least 1.08 psi is required to open valves. Mount in any position. Valves meet API (American Petroleum Institute) 598 and 602, ASME B16.34, and are rated Class 800. Connections are NPT female.

Spring-loaded valves quickly respond to flow stoppage or reversal to reduce slamming and vibration.

Lift valves have few moving parts to wear out, so they can withstand the frequent opening and closing of pulsating flow.

Pipe Size	End-to-End Lg.	Spring-Loaded Valves		Lift Valves	
1/2	3 1/8"	4895K63	$83.71	4618K71	$170.89
3/4	3 5/8"	4895K64	92.47	4618K72	186.04
1	4 3/8"	4895K65	96.69	4618K73	253.78
1 1/4	4 3/4"	4895K66	142.85	4618K74	389.28
1 1/2	6"	4895K67	205.28	4618K75	389.28
2	6 13/16"	4895K68	277.09	4618K76	691.07

Backflow-Prevention Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about backflow-prevention valves, see page 506. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"
Pipe Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3

High-Flow Backflow-Prevention Valves



- Max. Pressure for Water, Oil, Air, and Inert Gas:
  200 psi @ 150° F (Class 125);
  300 psi @ 150° F (Class 150);
  400 psi @ 150° F (Class 200);
  600 psi @ 150° F (Class 300)
- Max. Pressure for Steam:
  125 psi @ 353° F (Class 125);
  150 psi @ 366° F (Class 150);
  200 psi @ 388° F (Class 200);
  300 psi @ 422° F (Class 300)
- Temp. Range:
  -20° to 405° F (Class 125 and Class 150);
  -20° to 550° F (Class 200 and Class 300)

To achieve the maximum possible flow, internal components are designed to reduce flow resistance. A threaded cap provides easy access to internal components for maintenance. Body and seal are bronze for durability and a long service life, unless noted. At least 0.5 psi is required to open valves. Mount horizontally or vertically. Valves meet MSS-SP-80. Connections are NPT female.

	Ultra-High Flow			*High Flow*								
Pipe Size	End-to-End Lg.	Class 125		End-to-End Lg.	Class 125		Class 150		Class 200		Class 300	
1/4	2 1/8"	4708K51★	$32.31	2 1/4"	9770K41	$40.87	9773K51	$55.48	9770K61	$59.78	9770K71	$63.67
3/8	2 1/8"	4708K52★	32.31	2 1/4"	9770K42	40.87	9773K52	55.48	9770K62	59.56	9770K72	63.33
1/2	2 5/16"	4708K53★	32.31	2 5/8"	9770K43★	40.87	9773K53★	55.48	9770K63	59.78	9770K73	63.67
3/4	2 5/8"	4708K54★	38.37	3"	9770K44★	50.58	9773K54★	69.90	9770K64	76.33	9770K74	80.22
1	3 1/4"	4708K55★	51.54	3 11/16"	9770K45★	67.50	9773K55★	91.73	9770K65	94.11	9770K75	106.78
1 1/4	3 9/16"	4708K56★	71.54	4 3/8"	9770K46★	98.85	9773K56★	127.79	9770K66	128.67	9770K76	138.89
1 1/2	4"	4708K57★	85.87	4 5/8"	9770K47★	115.77	9773K57★	164.13	9770K67	172.33	9770K77	185.22
2	4 3/4"	4708K58	111.64	5 7/8"	9770K48	151.38	9773K58	205.52	9770K68	205.64	9770K78	223.36
2 1/2	6"	4708K59	265.00	7"	9770K49	410.95	9773K59	443.36	9770K69	513.09	9770K79	720.64
3	6 7/8"	4708K61	384.63	7 7/8"	9770K51	605.43	9773K61	637.59	9770K82	752.45	9770K81	1,087.82

★ Seal is brass.

Corrosion-Resistant High-Flow Backflow-Prevention Valves



- Max. Pressure for Water, Oil, Air, Inert Gas, Diesel Fuel, and Gasoline: 200 psi @ 70° F
- Max. Pressure for Steam: 150 psi @ 350° F
- Temp. Range: -20° to 400° F

For high-flow applications in corrosive environments, these valves have internal components designed to reduce flow resistance and a 316 stainless steel body and seal. All have a threaded cap that provides easy access to internal components for maintenance. At least 0.5 psi is required to open valves. Mount horizontally or vertically. Connections are NPT female.

Pipe Size	End-to-End Lg.		
1/4	2 9/16"	46635K62	$66.92
3/8	2 9/16"	46635K63	66.92
1/2	2 9/16"	46635K64	66.92
3/4	2 15/16"	46635K65	86.74
1	3 9/16"	46635K66	92.55
1 1/4	4 1/8"	46635K67	107.55
1 1/2	4 11/16"	46635K68	154.09
2	5 7/16"	46635K69	206.36
2 1/2	6 1/8"	46635K71	338.51
3	7 5/16"	46635K72	439.24

High-Use Backflow-Prevention Valves



- Max. Pressure for Water, Oil, Air, Inert Gas, Diesel Fuel, and Gasoline:
  200 psi @ 70° F (Class 125);
  1,000 psi @ 70° F (Class 300)
- Max. Pressure for Steam:
  175 psi @ 353° F (Class 125);
  520 psi @ 421° F (Class 300)
- Temp. Range: -20° to 405° F (Class 125);
  -20° to 450° F (Class 300)

With few moving parts to wear out, these valves withstand the frequent opening and closing of pulsating flow and rapid flow reversal. All have a threaded cap that provides easy access to internal components for maintenance. Body and seal are bronze for durability and a long service life, unless noted. At least 2 psi is required to open valves. Mount horizontally. Valves meet MSS-SP-80. Connections are NPT female.

	Class 125			Class 300		
Pipe Size	End-to-End Lg.			End-to-End Lg.		
1/2	2 3/16"	4894K47★	$56.54	2 9/16"	4894K81	$133.45
3/4	2 1/2"	4894K12	88.38	3"	4894K82	161.16
1	3 1/16"	4894K13	113.90	3 1/2"	4894K83	271.69
1 1/4	3 5/8"	4894K14	150.15	4 1/16"	4894K84	366.39
1 1/2	3 7/8"	4894K15	199.06	4 5/8"	4894K85	393.14
2	4 11/16"	4894K16	295.77	5 3/4"	4894K86	492.36

★ Seal is brass.

Flange-Mount Backflow-Prevention Valves



- Max. Pressure for Water, Oil, Air, Inert Gas, Diesel Fuel, and Gasoline:
  200 psi @ 70° F (Cast Iron);
  275 psi @ 70° F (316 Stainless Steel)
- Temp. Range:
  -20° to 250° F (Cast Iron);
  -20° to 1000° F (316 Stainless Steel)

Sandwich these valves between two flanges for backflow prevention at a fraction of the weight of flanged backflow-prevention valves and a reduced pipeline footprint. At least 1.25 psi is required to open valves. Mount horizontally or vertically.

Cast iron valves fit ANSI Class 125 and 150 flanges of the same pipe size. FM approved.

316 stainless steel valves have exceptional corrosion resistance. They fit ANSI Class 150 and 300 flanges of the same pipe size. Valves meet API (American Petroleum Institute) 594 and 598.

		Fits ANSI Flange					
Pipe Size	End-to-End Lg.	OD	Bolt Circle Dia.	Bolt Size	Bolt Hole Qty.		
Cast Iron—Buna-N Seal							
2	2 1/8"	6"	4 3/4"	5/8"	4	5023K31	$67.95
2 1/2	2 1/8"	7"	5 1/2"	5/8"	4	5023K32	74.90
3	2 1/4"	7 1/2"	6"	5/8"	4	5023K33	92.90
4	2 1/2"	9"	7 1/2"	5/8"	8	5023K44	147.88
5	2 3/4"	10"	8 1/2"	3/4"	8	5023K45	191.81
6	3"	11"	9 1/2"	3/4"	8	5023K46	271.97
8	3 3/4"	13 1/2"	11 3/4"	3/4"	8	5023K47	423.14
10	4 1/4"	16"	14 1/4"	7/8"	12	5023K51	671.03
316 Stainless Steel—316 Stainless Steel Seal							
2	2 3/8"	6 1/2"	5"	5/8"	8	7767K31	437.36
2 1/2	2 5/8"	7 1/2"	5 7/8"	3/4"	8	7767K32	506.75
3	2 7/8"	8 1/4"	6 5/8"	3/4"	8	7767K33	542.77
4	2 7/8"	10"	7 7/8"	3/4"	8	7767K34	737.11
6	3 7/8"	11"	9 1/2"	3/4"	8	7767K36	1,169.44
8	5"	13 1/2"	11 3/4"	3/4"	8	7767K37	1,592.09

Flanged Backflow-Prevention Valves



- Max. Pressure for Water, Oil, Air, Inert Gas, Diesel Fuel, and Gasoline: 200 psi @ 70° F
- Max. Pressure for Steam: 125 psi @ 353° F
- Temp. Range: -20° to 405° F

Bolt these valves to ANSI Class 125 flanges of the same pipe size. Body is cast iron and seal is bronze. At least 1 psi is required to open valves. Mount horizontally. Valves meet ASTM A126 Class B and MSS-SP-71.

		Fits ANSI Flange					
Pipe Size	End-to-End Lg.	OD	Bolt Circle Dia.	Bolt Size	Bolt Hole Qty.		
2	8"	6"	4 3/4"	5/8"	4	8200T11	$173.60
2 1/2	8 1/2"	7"	5 1/2"	5/8"	4	8200T12	212.80
3	9 1/2"	7 1/2"	6"	5/8"	4	8200T13	260.40
4	11 1/2"	9"	7 1/2"	5/8"	8	8200T14	412.30
5	13"	10"	8 1/2"	3/4"	8	8200T15	604.55
6	14"	11"	9 1/2"	3/4"	8	8200T16	604.55
8	19 1/2"	13 1/2"	11 3/4"	3/4"	8	8200T17	1,064.00
10	24 1/2"	16"	14 1/4"	7/8"	12	8200T18	2,461.08

Easy-View Socket-Weld Backflow-Prevention Valves



- Max. Pressure for Water: 150 psi @ 70° F
- Temp. Range: 32° to 140° F

A transparent body lets you visually inspect flow and debris accumulation. Bond these valves to unthreaded male plastic pipe. Use with Schedule 40 and 80 pipe and fittings. Valves have a threaded cap that provides easy access to internal components for maintenance. Body is PVC and seal is EPDM. At least 0.29 psi is required to open valves. Mount in any position.

Pipe Size	End-to-End Lg.		
1/2	5 5/8"	4754K52	$46.79
3/4	6 5/16"	4754K53	55.36
1	6 7/8"	4754K54	65.36
1 1/2	8 1/8"	4754K56	$115.79
2	8 7/8"	4754K57	168.92
3	12 1/4"	4754K58	374.62

Drain, Waste, and Vent Socket-Weld Backflow-Prevention Valves



- Max. Pressure for Water: 60 psi @ 140° F
- Temp. Range: 33° to 140° F

Also known as backwater valves, these prevent the backward flow of sewage and wastewater. Bond to unthreaded male plastic pipe. Use with Schedule 40 pipe and fittings. A threaded cap provides easy access to internal components for maintenance.

Body and seal are PVC. Valves do not require a minimum pressure to open. Mount horizontally. Valves meet ASTM D1784, D2665, and D3311 and are CSA and IAPMO certified. Color is white.

Pipe Size	End-to-End Lg.		
1 1/2	4 3/16"	4670K12	$24.60
2	4 1/2"	4670K14	24.60
3	7 5/16"	4670K16	27.21
4	9 3/4"	4670K18	$31.29
6	15 3/16"	4670K22	138.28

Socket-Weld Backflow-Prevention Valves



- Max. Pressure for Water, Oil, Air, Inert Gas, Diesel Fuel, and Gasoline: 200 psi @ 70° F
- Max. Pressure for Steam: 150 psi @ 350° F
- Temp. Range: -20° to 400° F

Weld these valves to unthreaded male pipe. A threaded cap provides easy access to internal components for maintenance. Body and seal are 316 stainless steel for exceptional corrosion resistance. At least 0.5 psi is required to open valves. Mount horizontally or vertically.

Pipe Size	End-to-End Lg.		
1/4	2 9/16"	7766K51	$72.19
3/8	2 9/16"	7766K52	72.19
1/2	2 9/16"	7766K53	72.19
3/4	2 15/16"	7766K54	95.65
1	3 9/16"	7766K55	102.12
1 1/4	4 1/8"	7766K56	$120.63
1 1/2	4 11/16"	7766K57	169.13
2	5 7/16"	7766K58	225.44
2 1/2	6 1/8"	7766K59	419.71
3	7 5/16"	7766K61	482.29

High-Performance Socket-Weld Backflow-Prevention Valves



- Max. Pressure for Water, Oil, Air, Inert Gas, Diesel Fuel, and Gasoline: 1,975 psi @ 100° F
- Temp. Range: -20° to 800° F

Rated for nearly 10 times the maximum pressure and twice the maximum temperature of standard socket-weld backflow-prevention valves, these are often used in petroleum and power-processing systems and other demanding applications. They weld to unthreaded pipe.

Body is steel; seal is 304 stainless steel and graphite. At least 1.08 psi is required to open valves. Mount in any position. Valves meet API (American Petroleum Institute) 598 and 602, ASME B16.34, and are rated Class 800.

Spring-loaded valves quickly respond to flow stoppage or reversal to reduce slamming and vibration.

Lift valves have few moving parts to wear out, so they can withstand the frequent opening and closing of pulsating flow.

Pipe Size	End-to-End Lg.	Spring-Loaded Valves		Lift Valves	
3/4	3 5/8"	4895K84	$92.47	4618K82	$186.04
1	4 3/8"	4895K85	96.69	4618K83	253.78
2	6 13/16"	4895K88	277.09	4618K86	691.20

Backflow-Prevention Valves with Barbed Fittings



- Max. Pressure for Water, Air, and Inert Gas: 125 psi @ 70° F
- Temp. Range: 34° to 140° F

Slide the barbed fittings into soft plastic or rubber tubing. Body is PVC and seal is Buna-N. At least 1 psi is required to open valves. Mount horizontally or vertically. Color is dark gray.

For Tube ID	End-to-End Lg.		
1/4"	3 1/2"	7933K31	$12.53
3/8"	3 1/2"	7933K33	12.53
1/2"	3 1/2"	7933K35	12.53

High-Pressure Backflow-Prevention Valves with Barbed Fittings

- Max. Pressure for Water, Oil, Air, Inert Gas, Diesel Fuel, and Gasoline: 300 psi @ 70° F
- Temp. Range: -10° to 300° F

Our highest-pressure backflow-prevention valves with barbed fittings, these can withstand up to 300 psi. Slide the barbed fittings into soft plastic or rubber tubing. Body is 303 stainless steel for excellent corrosion resistance. Seal is fluoroelastomer. At least 2 psi is required to open valves. Mount in any position.

Barb Inlet x Barb Outlet



For Tube ID	End-to-End Lg.		
1/4"	4 1/4"	1357N61	$39.84
3/8"	4 1/4"	1357N62	39.84
1/2"	4 3/8"	1357N63	40.84
3/4"	4 5/8"	1357N64	44.24

Barb Inlet x NPT Female Outlet



For Tube ID	Pipe Size	End-to-End Lg.		
1/4"	1/4	3 7/16"	1357N65	$38.84
3/8"	3/8	3 7/16"	1357N66	38.84
1/2"	1/2	3 7/16"	1357N67	39.34
3/4"	3/4	3 1/2"	1357N68	42.70

NPT Female Inlet x Barb Outlet



Pipe Size	For Tube ID	End-to-End Lg.		
1/4	1/4"	3 7/16"	1357N69	$38.84
3/8	3/8"	3 7/16"	1357N71	38.84
1/2	1/2"	3 7/16"	1357N72	39.34
3/4	3/4"	3 1/2"	1357N73	42.70

Backflow-Prevention Valves

For technical drawings and 3-D models, go to mcmaster.com.

For information about backflow-prevention valves, see page 506. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

Compact Backflow-Prevention Valves with Barbed Fittings



Barb x Barb



NPT Male x Barb

- Max. Pressure for Water, Air, and Inert Gas: 125 psi @ 70° F
- Temp. Range: 33° to 140° F (Barb x Barb); -20° to 180° F (NPT Male x Barb)

About half the end-to-end length of standard backflow-prevention valves with barbed fittings, these valves are commonly used in small spaces. Slide the barbed fittings into soft plastic or rubber tubing. Seal is Buna-N. At least 1 psi is required to open valves. Color is white.

Barb x barb valves can be mounted in any position. **NPT male x barb** valves can be mounted horizontally or vertically.

Barb Inlet x Barb Outlet

For Tube ID	End-to-End Lg.	Polypropylene		Nylon	
1/8"	1 3/8"	7757K41	$3.69	6079T54	$4.12
3/16"	1 3/4"	7757K42	3.69	6079T55	4.12
1/4"	2 1/16"	7757K43	3.69	6079T56	4.12

NPT Male Inlet x Barb Outlet

Pipe Size	For Tube ID	End-to-End Lg.	Nylon	
1/8	3/16"	1 1/2"	1371T12	$15.00
1/4	1/4"	1 5/8"	1371T36	15.00
1/4	3/8"	1 5/8"	1371T42	15.00
1/2	3/8"	1 3/4"	1371T76	15.00
1/2	1/2"	1 3/4"	1371T78	16.43

High-Use Backflow-Prevention Valves with Barbed Fittings



- Max. Pressure: 15 psi @ 70° F
- Temp. Range: -20° to 250° F

These valves have internal components that resist wear from frequent operation, so they can cycle as often as once per second. Slide the barbed fittings into soft plastic or rubber tubing. At least 0.5 psi is required to open valves. Mount horizontally.

Polypropylene valves are white. **Nylon** valves are more impact resistant than polypropylene valves. Color is white and black, unless noted. **PVDF** valve resists abrasion and UV light. Color is white.

For Tube ID	End-to-End Lg.	Polypropylene		Nylon		PVDF	
For Water, Air, and Inert Gas—Fluorosilicone Seal and Diaphragm							
1/8"	1 5/8"	—	—	47245K25 ★	$5.05	—	—
3/16"	1 11/16"	—	—	47245K26	4.92	—	—
1/4"	1 9/16"	—	—	47245K27	4.05	—	—
5/16"	1 3/4"	—	—	47245K24	12.30	—	—
For Oil, Diesel Fuel, and Gasoline—Fluoroelastomer Seal and Diaphragm							
1/8"	1 5/8"	47245K11	$5.84	—	—	—	—
3/16"	1 11/16"	47245K12	5.84	47245K17 ■	6.16	—	—
1/4"	1 9/16"	47245K13	5.30	47245K18	7.00	47245K37	$11.54
5/16"	1 3/4"	47245K14	8.51	—	—	—	—

★ Color is green. ■ Color is white and gray.

Backflow-Prevention Valves with Push-to-Connect Fittings

- Max. Pressure for Water, Air, and Inert Gas: 125 psi @ 70° F
- Temp. Range: 40° to 100° F (NPT Male x Push-to-Connect); 34° to 140° F (Push-to-Connect x Push-to-Connect)

Insert plastic or soft metal tubing into the push-to-connect fittings for a low-pressure seal. Seal is Buna-N.

NPT male x push-to-connect valves are not rated for opening pressure. Body is acetal. Mount horizontally, except elbows can also mount vertically. Color is gray.

Push-to-connect x push-to-connect valves require at least 1 psi to open. Body is PVC. Mount horizontally or vertically. Color is dark gray.

NPT Male Inlet x Push-to-Connect Outlet—Straights



Pipe Size	For Tube OD	End-to-End Lg.		
1/8	5/32"	1"	1866T11	$14.43
1/8	1/4"	1 1/8"	1866T17	14.58
1/4	1/4"	1 3/16"	1866T19	14.58
1/4	3/8"	1 7/16"	1866T33	15.57
3/8	3/8"	1 1/4"	1866T35	15.85
1/2	1/2"	1 1/2"	1866T41	20.99

NPT Male Inlet x Push-to-Connect Outlet—Elbows



Pipe Size	For Tube OD	Port-to-Port Lg. (P)		
1/8	1/4"	1 11/16"	1866T87	$16.71
1/4	1/4"	1 7/8"	1866T89	16.71
1/4	3/8"	2 3/16"	1866T97	20.43

Push-to-Connect Inlet x Push-to-Connect Outlet—Straights



For Tube OD	End-to-End Lg.		
1/4"	3"	7933K32	$16.12
3/8"	3"	7933K34	16.55

Compact Backflow-Prevention Valves with Push-to-Connect Fittings



- Max. Pressure for Air and Inert Gas: 145 psi @ 70° F
- Temp. Range: 32° to 158° F

Often used in compressed air lines, these valves have a short end-to-end length for installation in confined spaces. Insert plastic or soft metal tubing into the push-to-connect fittings for a low-pressure seal. Body is nylon and seal is Buna-N. At least 7 psi is required to open valves. Mount in any position.

For Tube OD	End-to-End Lg.		
5/32"	1 1/2"	1096T1	$16.20
1/4"	1 5/8"	1096T2	18.80
5/16"	2 1/16"	1096T3	20.88
3/8"	2 1/2"	1096T4	25.20

For Tube OD	End-to-End Lg.		
4 mm	1 1/2"	1096T5	$16.20
6 mm	1 5/8"	1096T6	17.42
8 mm	2 1/16"	1096T7	20.88
10 mm	2 1/2"	1096T8	25.20
12 mm	2 5/8"	1096T9	34.52

Backflow-Prevention Valves with Solder-Connect Fittings



- Max. Pressure for Water, Oil, Air, Inert Gas, Diesel Fuel, and Gasoline: 200 psi @ 70° F
- Max. Pressure for Steam: 125 psi @ 353° F
- Temp. Range: -20° to 405° F

Solder these valves to copper tubing. A threaded cap provides easy access to internal components for maintenance. Body and seal are bronze for durability and a long service life. At least 0.5 psi is required to open valves. Mount horizontally or vertically. Valves meet MSS-SP-80 and are rated Class 125.

For Tube Size ♦	For Tube OD	End-to-End Lg.		
1/4	3/8"	2 1/16"	9782K12	$50.55
3/8	1/2"	2 1/16"	9782K14	53.75
1/2	5/8"	2 9/16"	9782K16	57.58
3/4	7/8"	3 3/8"	9782K18	76.15
1	1 1/8"	4 1/16"	9782K22	109.45
1 1/2	1 5/8"	5 1/4"	9782K26	184.29
2	2 1/8"	6 3/8"	9782K28	271.29

♦ Tube size is an accepted industry designation, not an actual size.

Backflow-Prevention Valves with Compression Fittings



- Max. Pressure for Water, Oil, Air, and Inert Gas: 400 psi @ 70° F
- Temp. Range: -65° to 250° F

The compression fitting bites down on hard metal tubing for a more secure seal than push-to-connect fittings. Body and seal are brass. At least 3 psi is required to open valves. Mount in any position.

Inlet	Outlet	End-to-End Lg.		
1/8 NPT Male	For 1/8" Tube OD	1"	4292K21	$18.65
1/8 NPT Male	For 1/4" Tube OD	1 3/16"	4292K22	18.24
1/4 NPT Male	For 3/8" Tube OD	1 1/2"	4292K23	24.19

Backflow-Prevention Valves with Yor-Lok Fittings



- Max. Pressure for Water, Oil, Air, Inert Gas, Diesel Fuel, and Gasoline: See table
- Temp. Range: -30° to 275° F (Brass); -10° to 375° F (316 Stainless Steel)

For a leak-free seal around hard metal tubing in high-pressure lines, these valves have Yor-Lok fittings. Also known as instrumentation fittings, Yor-Lok fittings are compatible with Swagelok®, Parker A-Lok, and Let-Lok fittings. For Yor-Lok fittings, see pages 184-189. Mount in any position.

Brass valves have a Buna-N seal. At least 1 psi is required to open valves.

316 stainless steel valves are more corrosion resistant than brass valves. Seal is fluoroelastomer. At least 0.33 psi is required to open valves.

For Tube OD	Max. psi @ 70° F	Brass End-to-End Lg.			316 Stainless Steel End-to-End Lg.		
1/8"	3,000	2 3/8"	1056T1	$33.37	2 1/4"	45385K53	$67.24
1/4"	3,000	2 1/2"	1056T2	32.23	2 3/8"	45385K54	58.80
3/8"	2,300	3 3/8"	1056T3	63.35	2 1/2"	45385K55	113.85
1/2"	2,200	4 1/8"	1056T4	$66.33	3"	45385K56	$123.55
3/4"	1,900	4 3/8"	1056T5	199.23	3 1/2"	45385K59	352.60
1"	1,500	4 5/8"	1056T6	207.72	4 3/4"	45385K58	423.75

Backflow-Prevention Valves for Drinking Water

- Max. Pressure: 400 psi @ 167° F (with NPT Connections); 145 psi @ 68° F (with Push-to-Connect Fittings)
- Temp. Range: 10° to 210° F (with NPT Connections); 40° to 100° F (with Push-to-Connect Fittings)

These valves meet NSF/ANSI Standard 61 for use with drinking water.

Valves with NPT female connections have a Buna-N seal. At least 0.5 psi is required to open valves. Mount in any position.

Valves with push-to-connect fittings form a low-pressure seal around plastic and soft metal tubing. Seal is acetal. At least 0.3 psi is required to open valves. Mount horizontally. Color is white.

With NPT Female Connections—Brass



Pipe Size	End-to-End Lg.		
1/2	2 1/4"	8517T23	$12.03
3/4	2 1/2"	8517T24	16.35
1	2 7/8"	8517T25	22.39
1 1/4	3 3/16"	8517T26	34.06
1 1/2	3 5/16"	8517T27	60.69
2	3 5/8"	8517T28	71.14

With Push-to-Connect Fittings—Acetal



For Tube OD	End-to-End Lg.		
1/4"	1 15/16"	3208K14	$14.86
5/16"	2"	3208K16	14.88
3/8"	2 5/8"	3208K18	15.21

Plastic Backflow-Prevention Valves for Drinking Water

- Max. Pressure: 150 psi @ 70° F
- Temp. Range: 33° to 140° F

Prevent backflow in plastic pipelines for drinking water with these valves that meet NSF/ANSI Standard 61. Use with Schedule 40 pipe and fittings. Body is PVC and seal is EPDM. At least 0.5 psi is required to open valves. Mount horizontally or vertically.

Spring-loaded valves quickly respond to flow stoppage or reversal to reduce slamming and vibration. **Swing** valves provide reduced resistance to flow in your pipeline.

Socket-weld valves bond to unthreaded male plastic pipe.



With NPT Connections



With Socket-Weld Connections

Pipe Size	*Spring-Loaded Valves* End-to-End Lg.	White		*Swing Valves* End-to-End Lg.	White		Clear	
With NPT Female Connections								
1/2	4 1/8"	46835K32	$8.28	3 1/2"	45275K42	$12.47	6274T82	$19.45
3/4	4 1/8"	46835K33	8.52	3 1/2"	45275K43	12.52	6274T83	20.14
1	5 1/4"	46835K34	12.45	5 1/8"	45275K44	13.05	6274T84	20.66
1 1/4	6 3/16"	46835K35	16.71	5 1/4"	45275K45	13.58		
1 1/2	6 3/16"	46835K36	17.51	5 3/8"	45275K46	14.33	6274T86	23.60
2	7"	46835K37	24.38	6"	45275K47	22.35	6274T87	33.97
With Socket-Weld Connections								
1/2	4 1/8"	46835K52	8.28	3 1/2"	45275K52	12.47	6274T92	19.45
3/4	4 1/8"	46835K53	8.52	3 1/2"	45275K53	12.52	6274T93	20.14
1	5 1/4"	46835K54	12.45	5 1/8"	45275K54	13.05	6274T94	20.66
1 1/4	6 3/16"	46835K55	16.71	5 1/4"	45275K55	13.58	6274T95	21.81
1 1/2	6 3/16"	46835K56	17.51	5 3/8"	45275K56	14.33	6274T96	23.60
2	7"	46835K57	24.38	6"	45275K57	22.35	6274T97	33.97

Backflow-Prevention Valves with Quick-Clamp Fittings for Food and Beverage



- Max. Pressure: 150 psi @ 400° F
- Temp. Range: -20° to 400° F

Maintain sanitary standards in food, beverage, and dairy applications. These 3-A certified valves have sanitary quick-clamp connections and polished internal surfaces for easy cleaning. Use with quick-clamp fittings on pages 228-231. Body is 316 stainless steel for exceptional corrosion resistance. At least 0.5 psi is required to open valves. Mount vertically.

Fluoroelastomer seals have excellent resistance to many food-processing chemicals and good resistance to food acids, fats, and oils.

PTFE seals have the best resistance to a broad range of food-processing chemicals, food acids, fats, and oils.

For Tube OD	Flange OD	End-to-End Lg.	Fluoroelastomer Seal		PTFE Seal	
1"	1.984"	3 3/4"	46295K61	$263.37	46295K71	$263.37
1 1/2"	1.984"	3 3/4"	46295K62	352.21	46295K72	352.21
2"	2.516"	4 1/16"	46295K63	457.98	46295K73	457.98
3"	3.579"	5"	46295K65	882.12		

Backflow-Prevention Valves with Barbed Fittings for Food and Beverage



- Max. Pressure: 50 psi @ 70° F
- Temp. Range: 33° to 140° F

Made of FDA-listed materials for use with food and beverage, these valves have barbed fittings that slide into soft plastic or rubber tubing. Body is nylon and seal is silicone. At least 1 psi is required to open valves. Mount in any position. Color is white.

For Tube ID	End-to-End Lg.		
1/8"	1 5/16"	2987K45	$4.07
3/16"	1 11/16"	2987K46	4.07
1/4"	1 11/16"	2987K47	4.07
3/8"	1 15/16"	2987K48	4.27

Backflow-Prevention Valves for Chemicals



- Max. Pressure: 150 psi @ 70° F
- Temp. Range: 34° to 140° F

These valves have a PVC body and a fluoroelastomer seal for excellent resistance to a wide range of harsh chemicals. At least 1 psi is required to open valves. Mount horizontally or vertically. Color is dark gray. Connections are NPT female.

Pipe Size	End-to-End Lg.		
1/4	3"	4721K11	$34.14
3/8	3"	4721K12	34.14

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

Easy-to-Install Backflow-Prevention Valves for Chemicals



- Max. Pressure: 150 psi @ 70° F
- Temp. Range: 40° to 140° F (PVC); 34° to 190° F (CPVC); 32° to 160° F (Polypropylene)

Disassemble the union fittings to cut down on valve installation time. The fittings also let you perform maintenance without detaching pipe connections. These valves have a plastic body and a fluoroelastomer seal for excellent chemical resistance. Use with Schedule 80 pipe and fittings. At least 1 psi is required to open valves. Mount horizontally or vertically.

PVC valves are dark gray. **CPVC** valves are light gray. **Polypropylene** valves are more corrosion resistant than PVC or CPVC valves. Color is white.

Pipe Size	End-to-End Lg.	PVC		CPVC		Polypropylene	
With NPT Female Connections							
1/2	4 11/16"	4721K13	$38.59	4810K31	$54.93	4851K41	$105.38
3/4	4 3/4"	4721K14	43.07	4810K32	66.96	4851K42	120.33
1	5 3/8"	4721K15	55.17	4810K33	77.32	4851K43	158.44
1 1/4	6 1/4"	4721K16	71.69	4810K34	107.73		
1 1/2	6 3/4"	4721K17	91.56	4810K35	134.63	4851K44	206.15
2	8 1/8"	4721K18	122.07	4810K36	178.80	4851K45	276.46
With BSPP Female Connections							
1/2	4 1/4"	7909K91	55.72				
1	5 3/16"	7909K93	78.15				

Compact Backflow-Prevention Valves for Chemicals



- Max. Pressure: 220 psi @ 70° F
- Temp. Range: 40° to 180° F

At half the end-to-end length of standard threaded backflow-prevention valves for chemicals, these are often used in confined areas. All have a PVDF body and a fluoroelastomer seal for excellent chemical resistance. At least 2.5 psi is required to open valves. Mount in any position. Color is white. Connections are NPT male.

Pipe Size	End-to-End Lg.		
1/8	1"	46505K21	$11.79
1/4	1 7/16"	46505K31	12.54
3/8	1 1/2"	46505K33	13.37
1/2	1 13/16"	46505K35	15.09

Socket-Weld Backflow-Prevention Valves for Chemicals



- Max. Pressure: 150 psi @ 70° F
- Temp. Range: 32° to 140° F

Bond these valves to unthreaded male plastic pipe. They have a PVC body and a fluoroelastomer seal for excellent chemical resistance. A transparent body lets you visually inspect flow and debris accumulation, and a threaded cap provides easy access to internal components for maintenance. Use with Schedule 40 and 80 pipe and fittings. At least 0.29 psi is required to open valves. Mount in any position.

Pipe Size	End-to-End Lg.		
1/2	5 5/8"	4754K42	$57.43
3/4	6 5/16"	4754K43	69.31
1	6 7/8"	4754K44	79.32

Backflow-Prevention Valves for Vacuum Service



- Max. Pressure for Water, Air, and Inert Gas: 20 psi @ 150° F
- Temp. Range: 33° to 150° F
- Vacuum Rating: 29.9" Hg

Rated for vacuum up to 29.9" Hg, these valves stop backward flow caused by back pressure in vacuum lines. They have barbed fittings on each end and are not rated for opening pressure. Body and seal are polyethylene. Mount in any position. Color is white.

For Tube ID	End-to-End Lg.		
1/4", 5/16"	2 3/4"	4610K13	$7.48
3/8", 7/16", 1/2"	3 3/16"	4610K17	10.31

Ultra-Chemical-Resistant Backflow-Prevention Valves



- Max. Pressure: 100 psi @ 150° F
- Temp. Range: 0° to 212° F

The most chemical-resistant backflow-prevention valves in our offering, these have a PFA body for excellent resistance to the widest range of harsh chemicals. At least 1 psi is required to open valves. Mount in any position. Color is white. Connections are NPT female.

Pipe Size	End-to-End Lg.		
1/4	2 3/8"	47155K71	$181.90
1/2	3 3/8"	47155K73	236.62

Backflow-Prevention Valves with Barbed Fittings for Chemicals



- Max. Pressure: 125 psi @ 70° F
- Temp. Range: 33° to 140° F

Prevent backflow in chemical tubing lines. These valves have barbed fittings that slide into soft plastic or rubber tubing. Seal is fluoroelastomer. At least 1 psi is required to open valves. Mount in any position. Color is white.

For Tube ID	End-to-End Lg.	Polypropylene		Nylon	
1/8"	1 3/8"	7757K44	$3.69	6079T57	$4.12
3/16"	1 3/4"	7757K45	3.69	6079T58	4.12
1/4"	2 1/16"	7757K46	3.69	6079T59	4.12

Backflow-Prevention Valves for Natural, Propane, and Butane Gas



- Max. Pressure: 25 psi @ 176° F
- Temp. Range: Max. temp. of 176° F

To prevent flashback in flammable gas pipelines, an internal flame-arresting element absorbs the heat from a fire to extinguish the flame. These valves are commonly used in pilot lines connected to waste gas burners. Body is aluminum and flame-arresting element is 316 stainless steel. Valves are not rated for opening pressure. Mount in any position. Connections are NPT female.

Pipe Size	End-to-End Lg.		
1/4	3"	4717K31	$320.41
1/2	3 3/4"	4717K32	345.07
3/4	3 3/4"	4717K33	345.35
1	3 3/4"	4717K34	411.51
1 1/2	3 3/4"	4717K35	491.00
2	4 3/4"	4717K36	574.55

Sure-Seal Backflow-Prevention Valves

- Max. Pressure for Water: 150 psi @ 140° F (Style A); 175 psi 250° F (Style B)
- Temp. Range: 33° to 140° F (Style A); 33° to 250° F (Style B)


A

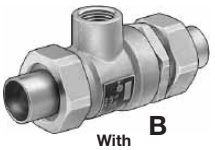
B

With Solder-Connect Fittings

For maximum protection from system contamination, these valves have two integral check valves with a vent between them. If the primary check valve fails, overflow is discharged through the vent. Seal is EPDM. At least 25 psi is required to open valves. Mount horizontally or vertically. CSA certified.

Style A has an unthreaded vent and is commonly used on laboratory faucets and other applications with intermittent flow. The valve discharges overflow directly and should not be installed in areas where spillage could cause water damage. The chrome-plated brass body is more corrosion resistant than plain brass. Valve meets ASSE 1035. It has a male inlet and female outlet.

Style B have a threaded vent and are often attached to drain pipes to prevent spillage. Valves are designed for applications with continuous flow and are often installed on water supply lines to boilers, processing tanks, and other equipment. Vent is ½ NPT female. Valves have a strainer to prevent debris from blocking the check valve. They meet ASSE 1012. All have a female inlet and outlet.

Valves with solder-connect fittings solder to copper tubing.

With NPT Connections

Pipe Size	End-to-End Lg.		
(A) Chrome-Plated Brass Body			
3/8	2 3/8"	4760K63	$67.15
(B) Brass Body			
1/2	4 15/16"	4760K51	69.40
3/4	4 1/2"	4760K52	71.81

With Solder-Connect Fittings

For Tube Size♦	For Tube OD	End-to-End Lg.		
(B) Brass Body				
1/2	5/8"	4 3/8"	4760K66	$69.42
3/4	7/8"	4 13/16"	4760K67	71.81

♦Tube size is an accepted industry designation, not an actual size.

Sure-Seal Backflow-Prevention Valves for Drinking Water

- Max. Pressure: 175 psi @ 180° F
- Temp. Range: 33° to 180° F


Double Union

Keep backflow from contaminating your drinking water supply—these valves meet NSF/ANSI Standard 61 for use with drinking water and have two integral check valves for maximum system protection. Body is brass and seal is EPDM. At least 5 psi is required to open valves. Mount horizontally or vertically. Valves are CSA certified and meet ASSE 1024. Connections are NPT.

Single-union valves have a union fitting on one end.

Double-union valves have a union fitting on both ends.

Pipe Size	End-to-End Lg.	Single Union		Double Union	
Female Inlet × Female Outlet					
1/2	3 3/4"			9117K41	$68.28
3/4	3 3/4"	49235K81	$57.32	9117K42	70.48
1	3 3/4"	49235K82	58.09		
1	4"			9117K43	77.40
Male Inlet × Female Outlet					
3/4	3 3/4"	49235K91	52.88		

Easy-Maintenance Sure-Seal Backflow-Prevention Valves for Drinking Water

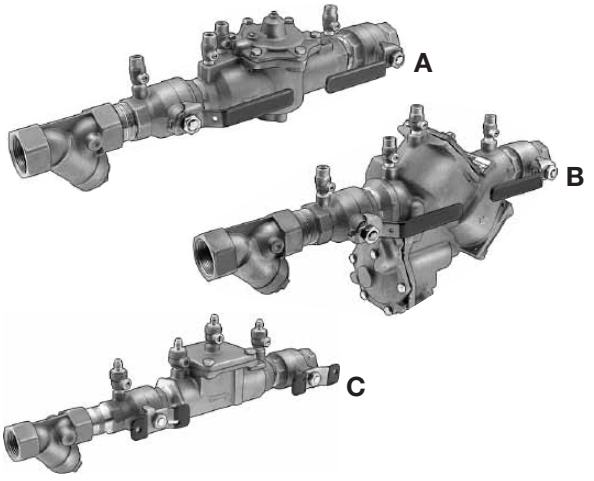
A

B

C

- Max. Pressure: 175 psi @ 180° F (Styles A and C); 175 psi @ 140° F (Style B)
- Temp. Range: 33° to 180° F (Styles A and C); 33° to 140° F (Style B)

A top-entry cover provides easy access to internal components, and integral shutoff valves isolate flow for inline maintenance. These valves meet NSF/ANSI Standard 61 for use with drinking water. They have two integral check valves for maximum protection from drinking water contamination and a strainer to prevent debris from blocking the check valves. Body is bronze for durability and a long service life. Seal is Buna-N. At least 30 psi is required to open valves. Valves are USC approved. Connections are NPT.

Styles A&B—Also known as reduced pressure zone valves, these have an integral relief valve to discharge backflow if both check valves fail. Valves meet ASSE 1013. *Style A* must be mounted horizontally. *Style B* have an additional air inlet that provides high-capacity relief in emergency conditions. If both check valves fail, the inlet introduces air to quickly displace liquid for faster discharge through the relief valve. Mount in any position.

Style C—Mount these valves in any position. They are CSA certified and meet ASSE 1015.

	Pipe Size	End-to-End Lg.		
With Female Connections				
With Relief Valve				
A	1/2	12 3/4"	47845K25	$336.60
A	3/4	13 15/16"	45265K41	299.77
A	1	20 1/2"	45265K42	341.09
A	1 1/4	21 13/16"	45265K43	614.93
A	1 1/2	22 3/4"	45265K44	710.69
A	2	27 5/16"	45265K45	812.14
B	3/4	18 1/16"	4777K81	707.24
B	1	19 5/8"	4777K82	828.88
Without Relief Valve				
C	1/2	12 3/4"	4775K61	226.76
C	3/4	14 5/16"	4775K62	239.89
C	1	17"	4775K63	275.54
C	1 1/2	21 5/8"	4775K64	466.86
C	2	24 13/16"	4775K65	557.50
With Male Connections				
With Relief Valve				
B	1 1/2	24 3/8"	4777K83	1,396.51
B	2	25 15/16"	4777K84	1,571.45

Vacuum-Breaking Valves for Water, Inert Gas, and Steam

- Max. Pressure for Water, Air, and Inert Gas: 300 psi @ 70° F
- Max. Pressure for Steam: 300 psi @ 365° F
- Temp. Range: -20° to 365° F

Often used with steam coils, heat exchangers, and space heaters, these valves relieve vacuum to prevent backward suction that can contaminate your system and damage equipment. Inlet is NPT male.

303 stainless steel valves are more corrosion resistant than brass valves.

With NPT Female Threaded Outlet

Pipe Size: Inlet	Pipe Size: Outlet	End-to-End Lg.	Brass		303 Stainless Steel	
1/2	3/8	1 3/4"	4817K14	$77.14	4817K24	$139.65
3/4	1/2	2 1/8"	4817K15	90.95	4817K25	181.51
1	3/4	2 3/8"	4817K16	163.00	4817K26	235.04


With Threaded Outlet

With Unthreaded Outlet

Inlet, Pipe Size	Outlet, For Tube OD	End-to-End Lg.	Brass		303 Stainless Steel	
1/2	11/16"	1 3/4"	4817K34	$77.14	4817K44	$139.65
3/4	13/16"	2 1/8"	4817K35	90.95	4817K45	181.51
1	1 1/16"	2 3/8"	4817K36	163.00	4817K46	235.04


With Unthreaded Outlet

Vacuum-Breaking & Pressure-Relief Valves

For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

Vacuum-Breaking Valves for Water



- Max. Pressure for Water: 125 psi @ 70° F
- Temp. Range: 33° to 180° F

These valves relieve vacuum to prevent backward suction that can contaminate your system and damage equipment. All are designed for applications with intermittent flow. Valves meet Uniform Plumbing Code for atmospheric discharge, ASSE standard 1001, and are CSA certified. Connections are NPT female.

Bronze valves are harder and more durable than brass valves for an extended service life. *Chrome plating* adds corrosion resistance. *Polished chrome plating* provides a decorative, mirror-like finish in addition to corrosion resistance.

Pipe Size	Port-to-Port Lg. (P)	Ht.		
Brass				
1/2	1 5/16"	2 1/2"	47685K12	$22.40
3/4	1 1/2"	2 15/16"	47685K34	26.37
1	1 5/8"	2 5/16"	47685K36	52.30
1	1 3/4"	3 1/4"	2670K15	89.30
1 1/4	2"	4 1/2"	47685K44	98.28
1 1/2	2 1/4"	4 7/8"	47685K46	102.40
2	2 3/4"	5 9/16"	47685K48	151.20
Dull Chrome-Plated Bronze				
1/4	1"	2 3/8"	9903K31	25.31
3/8	1"	2 3/8"	9903K33	25.31
1/2	1 1/4"	2 1/2"	9903K35	26.85
3/4	1 1/2"	3 1/8"	9903K37	30.08
Polished Chrome-Plated Bronze				
1/4	1"	2 3/8"	9903K51	33.48
3/8	1"	2 3/8"	9903K53	33.48
1/2	1 1/4"	2 1/2"	9903K55	35.88
3/4	1 1/2"	3 1/8"	9903K57	42.82

Vacuum-Breaking Valves with Garden Hose Connections



- Max. Pressure: 125 psi @ 70° F
- Temp. Range: 32° to 180° F

Stop backward flow in hose and pipe that have garden hose threads (GHT). For intermittent use with water on service sinks and faucets. Body is brass. Valves meet ANSI A112.1.3, are ASSE 1011 listed, and CSA certified B64.2. Connections are 3/4 GHT; inlet is female and outlet is male.

Removable Valves—Tighten set screw to secure in place.

Tamper-Resistant Valves—Tighten set screw until the head breaks off to prevent removal. Valves can be drained.

Mount Type	Ht.	Brass		Chrome-Plated Brass	
(A) For Use with Service Sinks					
Removable	1 1/2"	46605K55	$20.28	46605K58	$27.10
Tamper Resistant	1 1/2"	46605K75	11.40	46605K85	24.30
(B) For Use with Frostproof Outdoor Faucets					
Tamper Resistant	2"	46605K88	26.40		

High-Pressure Vacuum-Breaking Valves for Water, Oil, and Inert Gas



- Max. Pressure for Water, Oil, Air, and Inert Gas: 1,500 psi @ 70° F
- Temp. Range: -10° to 400° F

Rated for 12 times the pressure of standard vacuum-breaking valves for water, these can handle up to 1,500 psi. They relieve vacuum to prevent backward suction that can contaminate your system and damage equipment. Body is 316 stainless steel for exceptional corrosion resistance. Connections are NPT; inlet is female and outlet is male.

Inlet	Outlet	End-to-End Lg.		
1/2	3/4	1 5/16"	8537T74	$95.09
3/4	1	1 7/8"	8537T76	110.07

About Pressure-Relief Valves

Protect piping, tanks, and other equipment from overpressurization with these valves that automatically open at a set pressure. They should be installed as close as possible to the vessel or system they protect.

Pressure-relief valves provide gradual pressure relief. They begin opening at the set pressure and fully open at about 10% over the set pressure. Valves begin closing as pressure drops and fully close when the system pressure is restored below the set pressure.

Fast-acting pressure-relief valves, also known as pop-safety valves, provide immediate pressure relief. They spring fully open at a set pressure and remain open until the system pressure is restored below the set pressure. It's normal for these valves to expel small amounts of liquid or gas as the system pressure approaches the set pressure. Valves with plastic and rubber seals expel less liquid or gas than valves with metal seals.

Pressure-Relief Valves for Water



With Male Inlet

- Temp. Range: 33° to 180° F

These valves are commonly used with pumps in low-pressure water systems. Set pressure is not adjustable. Body is brass and seal is rubber. Connections are NPT. Inlet is on the bottom. Relief port is female (side port).

Pipe Size	Ht.	Choose a Set Pressure, psi		
With Male Inlet				
1/2	4 3/16"	30, 75	4780K11	$70.60
3/4	4 11/16"	30, 75	4780K12	76.31
1	5 11/16"	30, 75	4780K13	103.77
1 1/4	6 1/16"	30, 65	4780K14	159.50
With Female Inlet				
2	6 9/16"	30, 65	4780K16	313.00

Adjustable Pressure-Relief Valves for Water



- Temp. Range: -30° to 160° F

Use the T-handle to alter the set pressure to suit your application. Valves have a locknut that tightens to prevent accidental changes in set pressure. Body is brass and seal is Buna-N. Connections are NPT; inlet is male (bottom port) and relief port is female (side port).

Note: Valves should not be used in applications that require the valve to close completely below the set pressure.

Pipe Size	Ht.		
Choose a set pressure range: 0-50, 0-300, or 0-700 psi			
1/2	6 5/8"	9763K11	$59.75
3/4	6 5/8"	9763K12	59.75
Set pressure range is 0-1,200 psi			
1/2	6 5/8"	9763K55	113.18
3/4	6 5/8"	9763K65	113.18

For information about pressure-relief valves, see page 516. For information about pipe size, see pages 2-3.

Precision-Adjustment Pressure-Relief Valves for Water



• Temp. Range: 33° to 200° F

Change set pressure without guesswork—the external adjustment screw is marked in 25 psi increments for making pressure adjustments without a gauge. These valves are commonly used with thermal-expansion protection systems and low-capacity pumps. Body is bronze for durability and a long service life. Seal is silicone. Connections are NPT; inlet is male (bottom port) and relief port is female (side port).

Pipe Size				
Inlet	Relief Port	Ht.		
Set pressure of 50 to 175 psi				
1/2	1/2	3 7/16"	4612K16	$29.20
3/4	1/2	3 7/16"	4612K18	31.52
Set pressure of 25 to 175 psi				
1/2	1/2	4 1/8"	8088K14	36.68
3/4	3/4	4 1/8"	8088K16	36.98

Vibration-Damping Adjustable Pressure-Relief Valves for Oil



• Temp. Range: -20° to 400° F

A dense cast iron body absorbs vibration to reduce noise and wear in your pipeline. Valves have an external adjustment screw to adjust the set pressure within the range. Seal is 416 stainless steel. Connections are NPT female; inlet is on the bottom and relief port is on the side.

To Order: Please specify set pressure range: 3-10, 7-35, 30-100, 60-175, 150-350, or 300-500 psi (250-600 psi for valves with 2 pipe size).

Pipe Size	Ht.		
3/8	5 3/8"	4704K32	$107.38
1/2	6 3/16"	4704K11	112.25
3/4	6 15/16"	4704K12	134.19
1	8 1/4"	4704K13	168.31
1 1/4	9 9/16"	4704K14	208.53
1 1/2	11 1/16"	4704K25	269.47
2	13"	4704K26	430.34

Tamper-Resistant Adjustable Pressure-Relief Valves for Oil



• Temp. Range: -40° to 250° F

Prevent unintentional changes to set pressure—these valves have an internal adjustment screw to adjust the set pressure within the range. Body is aluminum and seal is PTFE, except valves with 40-125 set pressure range have a Buna-N seal. Connections are NPT female; inlet is on the bottom and relief port is on top.

To Order: Please specify set pressure range: 40-125; 115-250; 235-450; 430-650; 630-850; 630-1,020; 800-1,500; or 1,400-2,100 psi. Note: 1/4 pipe size is not available at 430-650 psi.

Pipe Size	Ht.		
1/4	5"	5026K12	$369.77
3/8	5"	5026K14	369.76
1/2	5"	5026K16	369.78

Adjustable Pressure- and Vacuum-Relief Valves for Air and Inert Gas



• Temp. Range: -15° to 250° F

Relieve excess pressure or vacuum with one valve that can be configured for either application. Valves have an external adjustment screw to adjust the set pressure or vacuum level within the range. Adjust vacuum from 0 to 27" Hg and pressure from 0 to 20 psi. Body is brass and seal is Buna-N, unless noted. Valves have an NPT male inlet (bottom port) and a vented relief port on top to exhaust discharge directly.

Pipe Size	Ht.		
1/4	1 3/4"	48935K25★	$7.53
3/8	2 1/16"	48935K35	12.61
3/4	2 5/8"	48935K45	26.13

★ Seal is 440C stainless steel.

Adjustable Pressure-Relief Valves for Oil



• Temp. Range: -40° to 250° F

These valves gradually relieve excess pressure in hydraulic and lubrication systems. They have an external adjustment screw to adjust the set pressure within the range. Body is brass and seal is Buna-N. Connections are NPT female; inlet is on the bottom and relief port is on the side.

To Order: Please specify set pressure range: 4-15; 10-50; 40-125; 115-250; 235-450; 430-650; 630-850; 630-1,020; 800-1,500; 1,400-2,100; 1,500-2,750; 2,000-3,100; or 3,000-3,600 psi.

Pipe Size	Ht.			Pipe Size	Ht.		
1/4	3 11/16"	4706K53	$253.34	1/2	5 7/8"	4706K57	$299.75
3/8	3 3/4"	4706K55	289.50	3/4	5 15/16"	4706K59	343.44

Extended-Life Adjustable Pressure-Relief Valves for Oil



• Temp. Range: -320° to 420° F

For a longer service life than other pressure-relief valves for oil, these have a durable bronze body. Use the external adjustment screw to adjust the set pressure within the range. Seal is 316 stainless steel. Connections are NPT; inlet is male (bottom port) and relief port is female (side port).

To Order: Please specify set pressure range: 15-75, 50-150, 100-300, 200-600, or 600-900 psi. Note: 1 1/2 pipe size is not available at 600-900 psi.

Pipe Size				
Inlet	Relief Port	Ht.		
1/2	3/4	7 1/4"	4460K81	$382.21
3/4	3/4	7 1/4"	4460K82	405.00
1	1	7 1/2"	4460K83	447.96
1 1/4	1 1/4	8"	4460K84	499.31
1 1/2	1 1/2	8 7/8"	4460K85	604.28

Adjustable Pressure-Relief Valves for Air and Inert Gas



• Temp. Range: -40° to 250° F

Use these valves to relieve excess pressure in compressed-air systems. They have an external adjustment screw to adjust the set pressure within the range. Body is 303 stainless steel for excellent corrosion resistance. Seal is Buna-N. Connections are NPT female; inlet is on the bottom and relief port is on the side.

To Order: Please specify set pressure range: 4-15, 10-50, or 40-125 psi.

Pipe Size	Ht.		
1/2	5 7/8"	4706K67	$595.76
3/4	5 15/16"	4706K69	593.37

Compact Pressure-Relief Valves for Air

• Temp. Range: 26° to 255° F

Less than a quarter of the height of standard pressure-relief valves for air, these are often installed in low-clearance areas. Set pressure is not adjustable. Body is nylon and seal is Buna-N. Valves are color coded based on the set pressure for easy identification. They have a vented relief port on top to exhaust discharge directly.

To Order: Please specify set pressure: 0.5, 1, 1.5, 3, 6, or 10 psi.

With NPT Male Inlet



Valves are commonly used on air tanks. Inlet is on the bottom.

Pipe Size	Ht.		
1/8	5/8"	4277T51	$19.89
1/4	11/16"	4277T52	19.89

With Push-to-Connect Inlet and Outlet



Valves form a low-pressure seal around plastic and soft metal tubing. They allow inline flow from the inlet to the outlet during normal conditions and divert flow to the relief port in overpressure conditions. Inlet and outlet are on the side.

For Tube OD	Ht.		
1/4"	1 1/4"	4320T13	$27.78
5/16"	1 5/16"	4320T14	27.78
3/8"	1 1/2"	4320T15	27.78
1/2"	1 3/4"	4320T16	27.78

Pressure-Relief Valves

For information about pressure-relief valves, see page 516. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	3 1/2"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	3

Adjustable Pressure-Relief Valves for Chemicals

These valves have a PVC body for excellent chemical resistance. Use the external adjustment screw to adjust the set pressure within the range. Color is dark gray. Connections are NPT female.

Elbows—EPDM Seal



- Use with aluminum chloride, boric acid, and hydrogen sulfide
- Temp. Range: 40° to 140° F

Valves are often used with catalysts, pH buffers, and electroplating solutions. They have a 1/4 NPT female port for attaching a pressure gauge. Inlet is on the bottom; relief port is on the side.

Pipe Size	Set Pressure Range, psi	Ht.		
1/2	5 to 75	6 3/4"	5007K61	$379.01
3/4	5 to 75	6 7/8"	5007K62	429.94
1	5 to 75	8 3/4"	5007K63	514.12
1 1/2	5 to 75	13 1/4"	5007K64	667.13
2	5 to 75	15 1/2"	5007K65	791.25

Tees—PTFE Seal

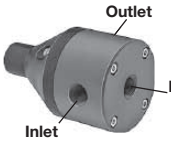

- Use with potassium sulfate and sodium hypochlorite
- Temp. Range: 0° to 140° F

With a three-port design, these valves allow inline flow from the inlet to the outlet during normal conditions and divert flow through the relief port in overpressure conditions. They are often used with feed pumps for fertilizers and bleach. Inlet and outlet are on the side; relief port is on the bottom.

Pipe Size	Set Pressure Range, psi	Ht.		
1/4	10 to 150	3 17/32"	46315K24	$182.61
1/2	10 to 250	5 9/16"	46315K25	327.51
1	10 to 250	5 7/8"	46315K27	422.00

Corrosion-Resistant Adjustable Pressure-Relief Valves for Fuel



- Use with diesel fuel, fuel oil, gasoline, and kerosene
- Temp. Range: 40° to 250° F

To relieve pressure in wet conditions and harsh environments these valves have a 316 stainless steel body and seal for exceptional corrosion resistance. They have an external adjustment screw to adjust the set pressure within the range. Connections are NPT; inlet is male (bottom port) and relief port is female (side port).

To Order: Please specify set pressure range: 30-100; 101-400; 401-1,000; or 1,001-2,000 psi.

Pipe Size	Ht.		
1/2	4 3/16"	5027K11	$291.58

Made-to-Order Pressure-Relief Valves



With Female Inlet

- Temp. Range: -15° to 400° F

Design a valve specifically for your process media and set pressure. Body is 316 stainless steel for exceptional corrosion resistance. Seal is fluoroelastomer. Connections are NPT. Inlet is on the bottom. Relief port is female (side port).

To Order: Please specify media (air, inert gas, water, diesel fuel, fuel oil, gasoline, or hydraulic oil) and a set pressure (from the range listed in the table). Set pressure is not adjustable.

Pipe Size				
Inlet	Relief Port	Choose a Set Pressure, psi	Ht.	
With Female Inlet				
3/8	3/4	10 to 3,800	9"	6871K29 $604.29
1/2	3/4	5 to 3,500	9"	6871K31 496.79
With Male Inlet				
3/4	3/4	5 to 3,500	9"	6871K32 441.43
1	1	5 to 3,500	9"	6871K33 441.43

Adjustable Pressure-Relief Valves for Fuel



- Use with diesel fuel, fuel oil, gasoline, and kerosene
- Temp. Range: -20° to 400° F

Gradually relieve pressure in lines for diesel fuel, fuel oil, gasoline, and kerosene. Valves have an external adjustment screw to adjust the set pressure within the range. Body is brass and seal is 416 stainless steel. Connections are NPT female; inlet is on the bottom and relief port is on the side.

To Order: Please specify set pressure range: 3-10, 7-35, 30-100, 60-175, 150-350, or 300-500 psi (250-600 psi for valves with 2 pipe size).

Pipe Size	Ht.		
3/8	5 3/8"	7844K51	$126.87
1/2	6 3/16"	7844K52	150.03
3/4	6 15/16"	7844K53	193.91
1	8 1/4"	7844K54	240.22
1 1/4	9 9/16"	7844K55	312.12
1 1/2	11 1/16"	7844K56	385.25
2	13"	7844K57	615.59

Precision-Adjustment Pressure-Relief Valves for Fuel



- Use with diesel fuel, fuel oil, gasoline, and kerosene
- Temp. Range: -60° to 450° F

A finely threaded external adjustment screw lets you make precise set pressure adjustments within the range. Connections are NPT; inlet is male (bottom port) and relief port is female (side port).

Brass valves have a brass seal.

Bronze valves are harder and more durable than brass valves for a longer service life. Seal is bronze.

To Order: Please specify set pressure range: 0-14, 15-25, 26-40, 41-75, 76-110, 111-130, 131-150, 151-200, or 201-400 psi.

Pipe Size	Ht.		
Brass			
1/2	5 7/8"	4703K54	$122.24
3/4	6 1/4"	4703K55	124.75
Bronze			
1	7 1/2"	4703K56	144.64
1 1/4	8 1/4"	4703K57	189.78
1 1/2	9 1/2"	4703K58	227.82
2	10 7/8"	4703K59	337.78
3	13 3/16"	4703K62	826.46

Pressure-Relief Valves for Cryogenic Liquids



- Use with liquid carbon dioxide, liquid nitrogen, and liquid oxygen
- Temp. Range: -320° to 165° F

Cleaned and bagged to meet CGA G-4.1 for oxygen service and other high-purity applications, these valves are built to withstand the extreme cold of liquid carbon dioxide, liquid nitrogen, and liquid oxygen. Set pressure is not adjustable. Body is brass. Inlet is NPT male (bottom port) and relief port is 3/4"-20 UNEF female (top port).

Valves with set pressures of 125 psi and below have a fluorosilicone seal; valves with set pressures of 150 psi and above have a PTFE seal.

Adapters (sold separately) convert the valve relief-port connection from UNEF female threads to NPT female threads. 49315K94 is 3/8 NPT; 49315K96 is 1/2 NPT.

To Order: Please specify set pressure: 22, 35, 50, 75,100, 125, 150, 200, 250, 300, 350, 400, or 450 psi.

Pipe Size	Ht.	Valves		Adapters	
1/4	2 5/8"	49315K71	$36.88	49315K94	$9.07
3/8	2 5/8"	49315K72	39.81	49315K94	9.07
1/2	2 13/16"	49315K73	51.04	49315K96	10.62

For information about fast-acting pressure-relief valves, see page 516. For information about pipe size, see pages 2-3.

ASME-Code Fast-Acting Pressure-Relief Valves for Water



- Meet ASME Code Section VIII for Water
- Temp. Range: -60° to 406° F

Use these valves with water pressure vessels. All have a threaded relief port that can be attached to a drain line for remote discharge. Body is bronze for durability and a long service life. Seal is 316 stainless steel. Connections are NPT; inlet is male (bottom port) and relief port is female (side port).

To Order: Please specify set pressure: from 20-100 psi in 10 psi increments or from 125-300 psi in 25 psi increments.

Pipe Size				
Inlet	Relief Port	Ht.		
1/2	3/4	7 1/2"	6270T11	$239.05
3/4	3/4	7 1/2"	6270T12	251.08
1	1 1/4	9"	6270T13	287.11
1 1/2	2	13 1/4"	6270T16	422.34

ASME-Code Fast-Acting Pressure-Relief Valves for Hot Water



- Meet ASME Code Section IV for Hot Water
- Temp. Range: 33° to 250° F

Protect your water-heating system. Valves have a threaded relief port that can be attached to a drain line for remote discharge. All have a test lever. Body is bronze for durability and a long service life. Seal is silicone. Connections are NPT female; inlet is on the bottom and relief port is on the side.

To Order: Please specify set pressure: 30, 50, 60, 75, 100, 125, or 150 psi.

Pipe Size				
Inlet	Relief Port	Ht.		
3/4	3/4	5 5/16"	4702K49	$83.47
3/4	1	5 5/16"	4702K51	85.27
1	1	6 3/4"	4702K61	139.38
1	1 1/4	6 3/4"	4702K52	146.87
1 1/4	1 1/2	8 3/8"	4702K53	215.70
1 1/2	2	10 13/16"	4702K54	319.80
2	2	14"	4702K62	406.38

Fast-Acting Temperature- and Pressure-Relief Valves for Hot Water

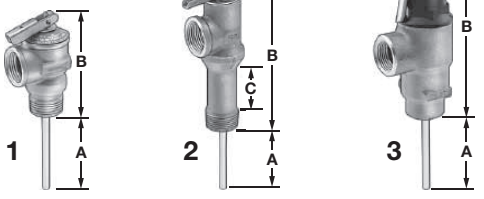

- Max. Temp: 210° F

Also known as T & P valves, these open when water temperature reaches 210° F or at the set pressure. They are commonly used with water heaters and storage tanks. For remote discharge, valves have a threaded relief port to attach a drain line. All have a test lever.

Body is bronze for durability and a long service life. Seal is silicone. CSA certified. Connections are NPT. Inlet is on the bottom. Relief port is female (side port). Valves meet ASME Code Section IV for hot water, except valve with 1/2 pipe size does not.

Style 2 have an extended body to fit tanks with an insulation thickness of (C).

Pipe Size		Set Pressure,					
Inlet	Relief Port	psi	(A)	(B)	(C)		
(1) With Male Inlet							
1/2	1/2	150	1"	3 5/8"	___	9761K61	$20.28
3/4	3/4	150	1"	3 7/16"	___	9761K62	18.66
3/4	3/4	150	3"	3 7/16"	___	9761K63	19.07
1	1	150	2"	6 1/4"	___	9777K52	308.75
1	1	150	4"	6 1/4"	___	9777K62	327.11
2	1 1/2	150	3"	8 1/2"	___	9761K17	560.38
(2) With Male Inlet							
3/4	3/4	150	2 1/2"	4 3/4"	1 1/4"	9777K22	29.59
3/4	3/4	150	3 1/2"	6 5/8"	1 5/8"	9777K32	255.46
3/4	3/4	150	5"	8 5/8"	3 5/8"	9777K42	264.75
(3) With Female Inlet							
3/4	3/4	125	3"	5 7/8"	___	9761K13	104.91
3/4	3/4	150	3"	5 7/8"	___	9761K14	104.91

ASME-Code Fast-Acting Pressure-Relief Valves for Air and Inert Gas



- Meet ASME Code Section VIII for Air and Inert Gas
- Temp. Range, unless noted: -40° to 400° F (Brass Seal); -15° to 250° F (Silicone Seal)

Protect against damage in air lines, air receivers, compressor tanks, and other air-powered equipment. Valves have a vented relief port to exhaust discharge directly. Inlet is NPT male (bottom port).

Valves with a test ring have a side relief port. **Valves with a test lever** have a top relief port.

Nickel-plated brass valves are more corrosion resistant than brass valves.

Silicone seals provide better leak protection than brass seals.

With Test Ring—Brass Body

To Order: Please specify set pressure: from 25-150 psi in 5 psi increments or from 175-300 psi in 25 psi increments, unless noted.

Pipe Size	Ht.		
Brass Seal			
1/8	2 1/8"	9889K15★	$9.19
1/4	3 1/8"	9889K19	20.03
1/4	3 3/16"	9889K25	30.71
1/4	3 7/8"	5825T21■	111.08
3/8	3 1/8"	9889K29	22.16
3/8	3 9/16"	9889K35	47.58
1/2	3 3/4"	9889K39	38.39
1/2	3 13/16"	9889K45	50.52
3/4	5 7/16"	9889K49	86.84
1	5 3/4"	9889K59	93.97
Silicone Seal			
1/8	2"	48435K71	5.26
1/4	2"	48435K72	5.26
3/8	2"	48435K81	6.12
1/2	3 3/8"	48435K82★	16.13
1/2	3 5/8"	48435K83	51.35
3/4	3 5/8"	48435K91	53.47
1	4 7/16"	48435K92	56.59
1 1/4	4 7/16"	48435K93	83.82

★ Available from 50-150 psi in 5 psi increments or from 175-250 psi in 25 psi increments.

■ Available in 60; 100; 250; 300; 400; 500; 750; 1,000; 1,500; 2,000; 2,500; 3,000; 3,500; or 4,000 psi. Temp. range is -20° to 300° F.

With Test Ring—Nickel-Plated Brass Body

To Order: Please specify set pressure: from 50-250 psi in 25 psi increments.

Pipe Size	Ht.		
Silicone Seal			
1/8	2"	5784T11	$15.03
1/4	2"	5784T12	15.81
3/8	2"	5784T13	17.11

With Test Lever—Brass Body

To Order: Please specify set pressure: 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100, 110, 125, 130, 140, 150, 175, or 200 psi.

Pipe Size	Ht.		
Brass Seal			
1/4	3 1/8"	4701K11	$56.74
3/8	3 1/8"	4701K21	56.74
1/2	3 1/8"	4701K31	56.74

Fast-Acting Pressure-Relief Valves

For information about fast-acting pressure-relief valves, see page 516. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 7/8"	3 1/2"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3

Fast-Acting Pressure-Relief Valves for Air and Inert Gas



A



B



C

- Temp. Range: –30° to 400° F

These valves have a vented relief port to exhaust discharge directly. Body and seal are brass. Inlet is NPT male (bottom port).

Styles A&B—Relief port is on the side. **To Order:** For *Style A*, please specify set pressure: from 5-100 psi in 5 psi increments. For *Style B*, please specify set pressure: 10, 15, or 20 psi.

Style C—Relief port is on top. **To Order:** Please specify set pressure: 5 or 10 psi.

Pipe Size	Ht.		
(A) Without Test Ring			
1/8	1 1/2"	4772K2	$8.24
1/4	2 1/2"	4772K4	11.25
3/8	2 1/2"	4772K6	11.90
1/2	3 1/8"	4772K8	31.64
(B) With Test Ring			
1/4	3 1/8"	9024K11	20.03
3/8	3 1/8"	9024K12	22.16
1/2	3 3/4"	9024K13	38.39
3/4	5 7/16"	9024K14	86.84
1	5 3/4"	9024K15	93.97
(C) With Test Lever			
1/4	3 1/8"	4701K56	56.74
3/8	3 1/8"	4701K57	56.74
1/2	3 1/8"	4701K58	56.74

Corrosion-Resistant ASME-Code Fast-Acting Pressure-Relief Valves for Air and Inert Gas

- Meet ASME Code Section VIII for Air and Inert Gas

For corrosion resistance in wet conditions and harsh environments, these valves have a stainless steel body.

With Vented Relief Port—303 Stainless Steel



- Temp. Range: –40° to 400° F

Valves have a vented relief port to exhaust discharge directly. All have a test ring. Body and seal are 303 stainless steel. Inlet is NPT (bottom port). Relief port is on the side.

To Order: Please specify set pressure: from 25-2,500 psi in 25 psi increments.

Inlet Pipe Size	Ht.		
With Male Inlet			
1/4	3 1/8"	98905K15	$95.27
1/2	3 3/4"	98905K18	139.46

With Threaded Relief Port—316 Stainless Steel



- Temp. Range: –15° to 400° F

Attach a drain line to the threaded relief port for remote discharge. Valves have a test lever. Body is 316 stainless steel for exceptional corrosion resistance. Seal is fluoroelastomer. Connections are NPT. Inlet is on the bottom. Relief port is female (side port).

To Order: Please specify set pressure: from 25-2,500 psi.

Pipe Size Inlet	Relief Port	Ht.		
With Female Inlet				
1/2	3/4	9"	6872K21	$574.49
With Male Inlet				
3/4	3/4	9"	6872K22	574.49
1	1	9"	6872K23	574.49

Adjustable Fast-Acting Pressure-Relief Valves for Air and Inert Gas



- Temp. Range: –15° to 250° F

Change set pressure to suit your application—this valve includes four interchangeable color-coded springs; yellow for 25-50 psi, red for 51-100 psi, silver for 101-150 psi, and blue for 151-200 psi. Remove the external adjustment screw to change springs; turn the screw to alter the set pressure within the range. Valve has a vented relief port to exhaust discharge directly. Body is brass and seal is silicone. Inlet is NPT male (bottom port). Relief port is on the side.

Pipe Size	Ht.		
1/4	1 5/8"	50265K23	$5.88

Remote-Discharge ASME-Code Fast-Acting Pressure-Relief Valves for Air and Inert Gas



A



B-E



F

- Meet ASME Code Section VIII for Air and Inert Gas
- Temp. Range:
  –15° to 406° F (Styles A, B, E, and F);
  –60° to 406° F (Style C); –60° to 422° F (Style D)

Unlike valves that release discharge directly, these have a threaded relief port to direct discharge away from your work environment. Body is bronze for durability and a long service life. Connections are NPT; inlet is male (bottom port) and relief port is female (side port).

Swivel test levers rotate 360° around the valve for use in areas with limited clearance.

Fluoroelastomer seals provide better leak protection than brass or 316 stainless steel seals.

To Order: For *Styles A, B, and F*, please specify set pressure: from 15-150 psi in 5 psi increments or from 175-250 psi in 25 psi increments. For *Styles C and E*, please specify set pressure: from 15-150 psi in 5 psi increments or from 175-300 psi in 25 psi increments. For *Style D*, please specify set pressure: from 300-900 psi in 25 psi increments.

Pipe Size Inlet	Relief Port	Ht.		
(A) Without Test Lever—Brass Seal				
1/2	3/4	5 7/8"	4673K71	$118.58
3/4	1	6 1/4"	4673K72	128.29
1	1 1/4	7 7/8"	4673K73	147.73
1 1/4	1 1/2	8 3/4"	4673K74	196.32
1 1/2	2	9 3/4"	4673K75	227.44
2	2 1/2	11 1/8"	4673K76	340.15
(B) With Test Lever—Brass Seal				
1/2	3/4	6 7/8"	4673K31	120.52
3/4	1	7 1/8"	4673K32	130.23
1	1 1/4	7 7/8"	4673K33	149.68
1 1/4	1 1/2	8 3/4"	4673K34	200.21
1 1/2	2	9 3/4"	4673K35	233.26
2	2 1/2	11 1/8"	4673K36	346.02
(C) With Test Lever—Brass Seal				
1/2	3/4	6 1/2"	4700K31	176.08
3/4	1	7 1/2"	4700K72	197.49
1	1 1/4	8 1/2"	4700K83	226.27
1 1/4	1 1/2	9 5/8"	4700K11	285.65
1 1/2	2	10 5/8"	4700K15	342.65
2	2 1/2	13 5/8"	4700K19	473.64
(D) With Test Lever—316 Stainless Steel Seal				
1/2	3/4	7 1/2"	6338T11	385.32
3/4	3/4	7 1/2"	6338T12	391.27
1	1 1/4	9"	6338T13	508.58
(E) With Test Lever—Fluoroelastomer Seal				
1/2	3/4	6 1/2"	6017T11	152.13
3/4	1	7 1/2"	6017T12	170.32
1	1 1/4	8 1/2"	6017T13	194.68
1 1/4	1 1/2	9 5/8"	6017T14	248.27
1 1/2	2	10 5/8"	6017T15	297.67
2	2 1/2	13 5/8"	6017T16	412.15
(F) With Swivel Test Lever—Brass Seal				
1/2	3/4	7 5/16"	4755K31	146.88
3/4	3/4	7 5/16"	4755K32	156.82
1	1	7 5/8"	4755K33	201.30
1 1/4	1 1/4	8 5/8"	4755K34	255.47
2	2	10 7/8"	4755K36	379.88

Large-Diameter Remote-Discharge ASME-Code Fast-Acting Pressure-Relief Valves for Air and Inert Gas



- Meet ASME Code Section VIII for Air and Inert Gas
- Temp. Range: -20° to 406° F

Commonly used with high-volume blowers, compressors, and air-powered conveyors, these valves quickly relieve a large amount of air in systems with a pipe size of 2 or greater. Attach a drain line to the threaded relief port for remote discharge. Valves have a test T-handle. Body is cast iron to absorb vibration for reduced noise and wear in your pipeline. Seal is bronze. Connections are NPT; inlet is male (bottom port) and relief port is female (side port).

To Order: Please specify set pressure: from 2-60 psi in 2 psi increments.

Pipe Size	Ht.		
2	7″	8175K12	$354.86
2½	8″	8175K14	496.49
3	9″	8175K16	620.40

ASME-Code Fast-Acting Pressure-Relief Valves for Steam



With Swivel Test Lever



With Test Lever

- Meet ASME Code Section I for Steam
- Temp. Range: -60° to 400° F

Use these valves with steam power boilers requiring pressure relief above 15 psi. For remote discharge, attach a drain line to the threaded relief port. Body is bronze for durability and a long service life. Connections are NPT; inlet is male (bottom port) and relief port is female (side port).

Swivel test levers rotate 360° around the valve for use in areas with limited clearance.

EPR (ethylene propylene) seals provide better leak protection than brass seals.

To Order: Please specify set pressure: from 15-95 psi in 5 psi increments or from 100-250 psi in 25 psi increments.

Pipe Size: Inlet	Relief Port	Ht.		
With Swivel Test Lever				
Brass Seal				
½	¾	7 5/16″	4755K11	$146.88
¾	¾	7 5/16″	4755K12	156.82
1	1	7 5/8″	4755K13	201.30
1½	1½	9 5/8″	4755K15	298.26
With Test Lever				
Brass Seal				
½	¾	6½″	4700K23	176.08
¾	1	7½″	4700K24	194.53
1	1¼	8½″	4700K25	220.54
1¼	1½	9 5/8″	4700K26	282.13
1½	2	10 5/8″	4700K27	342.65
2	2½	13 5/8″	4700K28	461.77
EPR Seal				
½	¾	6½″	6187T17	182.56
¾	1	7½″	6187T18	204.38
1	1¼	8½″	6187T19	233.62

Fast-Acting Pressure-Relief Valves for Ultra-Low-Pressure Steam



With Vented Relief Port



With Threaded Relief Port

- Max. Temp.: 250° F

Choose these valves for small steam-heating boilers requiring pressure relief between 5 psi and 12 psi. All have a test lever. Body is bronze for durability and a long service life. Seal is EPDM. Inlet is NPT male (bottom port).

Valves with a vented relief port exhaust discharge directly. Relief port is on the top.

Valves with a threaded relief port can be attached to a drain line for remote discharge. Relief port is NPT female (side port).

To Order: Please specify set pressure: 5, 6, 8, 10, or 12 psi.

Pipe Size: Inlet	Relief Port	Ht.		
With Vented Relief Port				
¾	—	2 7/8″	4699K11	$49.78
With Threaded Relief Port				
¾	¾	3 11/16″	4699K12	56.30
1	1	3 7/8″	4699K13	58.68

Fast-Acting Pressure-Relief Valves for Air with Gauge Port

- Temp. Range: -15° to 250° F

Attach a pressure gauge to the ¼ NPT female port on these valves. They have a vented relief port to exhaust discharge directly. All have a test ring. Body is brass and seal is silicone. Connections are NPT; inlet is male (bottom port) and relief port is female (side port).

With Air-Fill (Schrader) Valve



Quickly fill and empty compressed air tanks.

To Order: Please specify set pressure: 125, 135, or 150 psi.

Pipe Size: Inlet	Relief Port	Ht.		
½	¼	1 7/8″	5867T11	$10.72

With Switch Port



Install a pressure switch for activating alarms and other equipment when pressure exceeds the set point. Switch port is ¼ NPT male.

To Order: Please specify set pressure: 100, 125, 135, or 150 psi.

Pipe Size: Inlet	Relief Port	Ht.		
½	¼	2½″	5867T21	$13.97

ASME-Code Fast-Acting Pressure-Relief Valves for Low-Pressure Steam



With Vented Relief Port



With Threaded Relief Port

- Meet ASME Code Section IV for Low-Pressure Steam
- Max. Temp.: 250° F

Use these valves with low-pressure steam-heating boilers requiring pressure relief at 15 psi. All have a test lever. Body is bronze for durability and a long service life. Set pressure is 15 psi. Inlet is NPT male (bottom port).

Valve with a vented relief port exhausts discharge directly. Seal is EPDM. Relief port is on the top.

Valves with a threaded relief port can be attached to a drain line for remote discharge. Seal is PTFE-coated EPDM. Relief port is NPT female (side port).

Pipe Size: Inlet	Relief Port	Ht.		
With Vented Relief Port				
¾	—	2 7/8″	4699K35	$49.78
With Threaded Relief Port				
¾	¾	3 11/16″	4699K45	56.30
1	1	3 7/8″	4699K46	58.68
1¼	1½	4½″	4699K55	99.43
1½	2	5¼″	4699K65	143.07
2	2	6″	4699K7	222.60
2½	2½	8½″	4699K8	329.43
3	3	9½″	4699K9	424.21

ASME-Code Fast-Acting Pressure-Relief Valves for Cryogenic Liquids



- Meet ASME Code Section VIII for Cryogenic Service
- Use with liquid argon, liquid carbon dioxide, liquid helium, liquid hydrogen, liquid methane, liquid nitrogen, and liquid oxygen
- Temp. Range: -320° to 150° F

These valves meet ASME standards for use with cryogenic pressure vessels. They are cleaned and bagged for oxygen service and other high-purity applications. Attach a drain line to the threaded relief port for remote discharge. Body and seal are brass. Connections are NPT; inlet is male (bottom port) and relief port is female (side port).

To Order: Please specify set pressure: from 20-300 psi in 10 psi increments.

Pipe Size: Inlet	Relief Port	Ht.		
½	¾	6 13/16″	8089K12	$204.72
¾	1	6 13/16″	8089K14	229.91

Fast-Acting Pressure-Relief & Air-Release Valves

For information about fast-acting pressure-relief valves, see page 516. For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	3 1/2"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	3

Fast-Acting Pressure-Relief Valves for Cryogenic Liquids



- Use with liquid argon, liquid nitrogen, and liquid oxygen
- Temp. Range: -250° to 350° F

Cleaned and bagged for oxygen service and other high-purity applications, these valves can withstand the extreme cold of liquid argon, liquid nitrogen, and liquid oxygen. They have a vented relief port to exhaust discharge directly. Body is brass and seal is PTFE. Inlet is NPT male (bottom port). Relief port is on the side.

To Order: Please specify set pressure: 5, 10, 15, 20, 25, 30, 40, 50, 88, 100, 110, 125, 150, 200, 220, 250, 300, 325, 350, or 400 psi.

Pipe Size	Ht.		
1/4	2 5/16"	9137K11	$39.87

Air-Release Valves


A&C


B


D


E


F


G

These valves remove air pockets in your system to maintain consistent flow and prevent surges that can damage equipment. Mount vertically. Inlet is on the bottom and relief port is on top.

Valves with a vented relief port exhaust discharge directly. Inlet is NPT. **Valves with a threaded relief port** can be attached to a drain line for remote discharge. Inlet and relief port are NPT female.

Styles A&B are commonly used in cooling and heating systems, unless noted. *Style B valve with 40° to 180° F temp. range* has a Buna-N seal; *valve with 40° to 212° F temp. range* has an EPDM seal.

Style C seal shut when steam enters the valve to prevent system contents from escaping through the relief port. They are commonly used in steam mains and risers.

Style D have a cast iron body to absorb vibration for reduced noise and wear in your pipeline.

Style E have no metal parts, so they have excellent corrosion resistance in wet conditions and harsh environments.

Style F meet NSF/ANSI Standard 61 for use with drinking water.

Style G have a 304 stainless steel body for excellent corrosion resistance.

(A-C) With Vented Relief Port

Inlet Pipe Size	Max. psi	Temp. Range	Ht.		
(A) For Water and Coolant (Ethylene Glycol)— Brass Body					
1/8 Female	75	32° to 240° F	4 3/8"	4928K1	$27.74
1/8 Male	75	32° to 240° F	4 3/8"	4928K8	31.54
1/4 Female	150	32° to 240° F	4 3/8"	4928K3	32.28
1/4 Male	150	32° to 240° F	4 3/4"	4928K9	32.46
3/8 Female	125	20° to 450° F	6"	4926K31	98.68
3/4 Male	150	32° to 240° F	4 3/4"	4928K4	39.54
(B) For Water and Coolant (Ethylene Glycol)— Nylon Body					
1/8 Male	90	40° to 180° F	5 1/4"	47225K63	29.02
1/8 Male	90	40° to 212° F	5 1/4"	47225K83★	31.67
(C) For Steam— Brass Body					
3/4 Male	15	212° to 450° F	6"	4926K51	72.68
3/4 Male	125	212° to 450° F	6"	4926K41	158.40

★ For use in cooling systems only.

(D-G) With Threaded Relief Port

Inlet	Pipe Size Relief Port	Max. psi	Temp. Range	Ht.		
(D) For Water— Cast Iron Body						
3/8	3/8	150	32° to 150° F	5 3/4"	48045K93	$155.17
1/2	3/8	150	32° to 150° F	5 3/4"	48045K94	155.17
1/2	1/2	300	32° to 150° F	5 1/2"	48045K71	95.67

(D-G) With Threaded Relief Port (Cont.)

Inlet	Pipe Size Relief Port	Max. psi	Temp. Range	Ht.		
(D) For Water— Cast Iron Body (Cont.)						
3/4	3/8	150	32° to 150° F	5 3/4"	48045K95	$222.83
3/4	1/2	300	32° to 150° F	5 1/2"	48045K72	95.67
1	3/8	150	32° to 150° F	5 3/4"	48045K96	242.67
1	1/2	150	32° to 150° F	9"	48045K81	277.67
1	1/2	300	32° to 150° F	5 1/2"	48045K73	101.50
2	1/2	150	32° to 150° F	9"	48045K87	297.50
2	1/2	150	32° to 150° F	10 1/2"	48045K83	547.17
(E) For Water— PVC Body						
1/2	1/2	150	32° to 140° F	3"	48515K16	48.76
3/4	3/4	230	40° to 140° F	5 7/8"	48515K31	297.76
1	1	150	32° to 140° F	3 7/8"	48515K17	60.68
1 1/4	1 1/4	230	40° to 140° F	7 7/8"	48515K32	400.34
2	2	230	40° to 140° F	9 3/4"	48515K33	573.15
(F) For Drinking Water— Cast Iron Body						
1/2	1/2	300	33° to 225° F	7"	4790T31	230.80
1	1	300	33° to 225° F	9 1/2"	4790T32	280.98
2	2	300	33° to 225° F	12"	4790T33	485.56
3	3	300	33° to 225° F	12"	4790T34	683.76
(G) For Oil, Diesel Fuel, Fuel Oil, Gasoline and Kerosene— 304 Stainless Steel Body						
3/4	1/2	400	-20° to 500° F	7"	8126K12	234.09

Inline Air-Release Valves



- Max. Pressure for Water: 125 psi
- Temp. Range: 40° to 240° F

Eliminate air pockets without stopping flow—these valves have an internal wire brush that traps air bubbles and discharges them through the top relief port while allowing inline flow from the inlet to the outlet. They are often used to increase efficiency in heating and cooling systems. The vented relief port exhausts discharge directly. Body is bronze for durability and a long service life. Mount vertically. Connections are NPT female.

Pipe Size	End-to-End Lg.	Ht.		
3/4	2 11/16"	6 15/16"	4742T11	$103.93
1	3 1/8"	6 1/2"	4742T12	111.41

Key-Operated Air-Release Valves

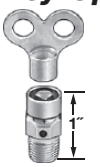

- Max. Pressure for Water: 150 psi
- Temp. Range: 33° to 200° F

Turn the key to manually release air from radiators, heaters, and other hot water equipment. These valves have a vented relief port that exhausts discharge directly. Body is nickel-plated brass for good corrosion resistance. Mount in any position. Inlet is 1/8 NPT male (bottom port). Relief port is on the side.

Valve with Key	1813K31	$9.82
Replacement Key	1813K21	2.93

Pressure-Relief Discs



With Vented Relief Port



With Threaded Relief Port

- Temp. Range: -50° to 500° F

These valves are for installation in pipelines and tanks. Discs break open at the burst pressure to allow unrestricted flow. All are for one-time use. Body is brass. Also known as rupture discs.

Valves with a vented relief port exhaust discharge directly. Inlet is NPT male (bottom port). Relief port is on the side.

Valves with a threaded relief port attach to a drain line to direct discharge away from your work environment. Connections are NPT male; inlet and relief port are on the side.

Operating ratio is 80%. Operating ratio is the ratio between the normal operating pressure and the burst pressure. Exceeding the operating ratio decreases the service life of the disc. For example, a disc with a burst pressure of 100 psi and an operating ratio of 80% should not be used in a system with an operating pressure greater than 80 psi.

To Order: Please specify burst pressure: 100, 125, 150, 200, 250, 500, or 700 psi.

Pipe Size		End-to-End Lg.	Ht.		
Inlet	Relief Port				
With Vented Relief Port					
1/4	—	—	1 5/8"	4412T21	$134.75
With Threaded Relief Port					
3/8	1/2	2 1/8"	—	4412T22	135.84
1/2	1/2	2 1/4"	—	4412T23	134.75

Flange-Mount Pressure-Relief Discs



- Temp. Range: -20° to 300° F

Install these discs within the bolt circle of ANSI Class 150 flanges. They break open at the burst pressure to allow unrestricted flow. All are for one-time use. Discs are made of resin-impregnated graphite for resistance to temperature and pressure fluctuations as well as corrosive liquids and gases. They include two neoprene gaskets for installation between flanges. They are also known as rupture discs.

Vacuum-rated discs have supports to resist rupture caused by vacuum. They withstand up to 29.92" Hg.

Operating ratio is 80%. The operating ratio is the ratio between the normal operating pressure and the burst pressure. Exceeding the operating ratio decreases the service life of the disc. For example, a disc with a burst pressure of 100 psi and an operating ratio of 80% should not be used in a system with an operating pressure greater than 80 psi.

Pipe Size	OD	Thick.	Standard Discs: Choose a Burst Pressure, psi			Vacuum-Rated Discs: Choose a Burst Pressure, psi		
1	2 1/2"	1 1/8"	20, 25, 30, 40, 50, 60, 75, 100, 125, 150, 175, 200, 250	4858K501	$143.14	15	4858K701	$211.76
1 1/2	3 1/4"	1 1/8"	20, 25, 30, 40, 50, 60, 75, 100, 125, 150, 175, 200, 250	4858K503	152.94	10, 15	4858K703	221.57
2	4"	1 1/8"	20, 25, 30, 40, 50, 60, 75, 100, 125, 150, 175, 200, 250	4858K505	156.86	5, 10, 15	4858K705	229.41
3	5 1/4"	1 1/8"	20, 25, 30, 40, 50, 60, 75, 100, 125, 150, 175, 200, 250	4858K507	170.59	5, 10, 15	4858K707	239.22
4	6 3/4"	1 1/8"	20, 25, 30, 40, 50, 60, 75, 100, 125, 150, 175, 200, 250	4858K509	198.04	5, 10, 15	4858K709	280.39
6	8 5/8"	1 1/8"	20, 25, 30, 40, 50, 60, 75, 100, 125, 150, 175, 200, 250	4858K511	247.06	5, 10, 15	4858K711	341.18

Pressure-Regulating Valves



With Buna-N Diaphragm



With Neoprene Diaphragm and Gauge Port

- Use with water, oil, air, and inert gas
- Max. Inlet Pressure: 250 psi (Buna-N Diaphragm); 400 psi (Neoprene Diaphragm)
- Temp. Range: 32° to 180° F

These valves automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. They have a screw to adjust the outlet pressure within the range. Body is brass and seal is Buna-N. Connections are NPT female; inlet and outlet are on the side.

Valves with gauge port have a 1/4 NPT female gauge port on the side to attach a pressure gauge to monitor outlet pressure.

Valves with a Buna-N diaphragm have an internal strainer to trap debris. *Valves with a neoprene diaphragm* have higher flow rates than valves with a Buna-N diaphragm.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.	Without Gauge Port		With Gauge Port	
Buna-N Diaphragm						
1/4	2-30, 10-50, 25-90, 80-120, 100-180	2 1/4"	4677K51	$124.92	4677K61	$149.75
3/8	2-30, 10-50, 25-90, 80-120, 100-180	2 1/4"	4677K55	124.92	4677K65	149.75
Neoprene Diaphragm						
1/4	0-5, 2-35, 20-70, 60-125, 75-200, 100-250	2 1/2"	5022K21	216.26	5022K41	232.96
3/8	0-5, 2-35, 20-70, 60-125, 75-200, 100-250	2 1/2"	5022K23	216.26	5022K43	232.96
1/2	0-5, 2-25, 20-60, 40-80, 75-125, 75-200, 100-250	2 7/8"	5022K25	243.55	5022K45	264.28

Heavy Duty Pressure-Regulating Valves



- Use with water and air
- Max. Inlet Pressure: 300 psi
- Temp. Range: 32° to 180° F

Thicker walls and a 304 stainless steel seal make these valves tougher than standard brass pressure-regulating valves. They automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Valves have a screw to adjust the outlet pressure within the range and an internal strainer to trap debris. Body is brass and diaphragm is EPR. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/2	10-40, 20-70, 71-150	5"	4676K31	$260.00
3/4	10-40, 20-70, 71-150	5 1/2"	4676K32	262.86
1	10-40, 20-70, 71-150	6 7/16"	4676K53	370.00
1 1/4	10-40, 20-70, 71-150	7 5/8"	4676K54	773.85
1 1/2	10-40, 20-70, 71-150	8 7/8"	4676K55	1,056.00
2	10-40, 20-70, 71-150	10 7/16"	4676K56	1,345.43

Pressure-Regulating Valves

For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

Vibration-Damping Pressure-Regulating Valves



- Use with water, oil, air, and inert gas
- Max. Inlet Pressure:
  200 psi (Buna-N Seal);
  250 psi (420 Stainless Steel Seal)
- Temp. Range:
  32° to 180°F (Buna-N Seal);
  32° to 300°F (420 Stainless Steel Seal)

A cast iron body absorbs vibration from pressure changes to reduce wear and noise in your pipeline. These valves automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Valves have a screw to adjust the outlet pressure within the range. Connections are NPT female; inlet and outlet are on the side.

Valves with a Buna-N seal have an internal strainer to trap debris. Diaphragm is Buna-N.

Valves with a 420 stainless steel seal have a fluoroelastomer diaphragm.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
Buna-N Seal				
1/4	2-25, 20-60, 20-100, 50-150	3"	4674K41	$178.98
3/8	2-30, 20-70, 40-110, 90-150	3 7/8"	4674K42	211.43
1/2	2-30, 10-50, 30-125, 50-125	4 1/2"	4674K43	223.98
3/4	2-20, 10-35, 30-75, 50-110, 105-125	5 1/8"	4674K44	270.94
1	2-20, 10-45, 20-60, 55-100, 90-125	5 7/8"	4674K45	353.64
1 1/4	2-15, 10-30, 20-50, 45-100, 90-150	6 3/4"	4674K46	472.64
1 1/2	2-15, 10-30, 20-50, 45-100, 90-125	6 3/4"	4674K47	525.67
2	2-20, 10-60, 20-100, 90-125	9 1/4"	4674K48	708.15
420 Stainless Steel Seal				
3/8	0-10, 10-50, 40-100, 100-200	4 1/4"	9796K11	256.20
1/2	0-10, 10-50, 40-100, 100-200	3 5/8"	9796K12	256.20
3/4	0-10, 10-50, 40-100, 100-200	3 5/8"	9796K13	256.20
1	0-10, 10-30, 30-50, 40-85	4 1/2"	9796K14	330.58
2	0-10, 10-30, 30-50, 40-85	6 1/2"	9796K15	647.93

Extended-Life Pressure-Regulating Valves



- Use with water, oil, air, and inert gas
- Max. Inlet Pressure: 400 psi
- Temp. Range: 32° to 180°F

For a longer service life than brass and cast iron valves, these have a durable bronze body. They automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Valves have a screw to adjust the outlet pressure within the range and an internal strainer to trap debris. Seal and diaphragm are Buna-N. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/4	2-25, 20-60, 20-100, 50-150	3"	47345K11	$243.53
3/8	2-30, 20-70, 40-110, 90-150	3 7/8"	47345K12	261.78
1/2	2-30, 10-50, 30-125, 50-150	4 1/2"	47345K13	325.71
3/4	2-20, 10-35, 30-75, 50-110, 105-150	5 1/8"	47345K14	388.31
1	2-20, 10-45, 20-60, 55-100, 90-150	5 7/8"	47345K15	569.11
1 1/4	2-15, 10-30, 20-50, 45-100, 90-150	6 3/4"	47345K16	765.60
1 1/2	2-15, 10-30, 20-50, 45-100, 90-150	6 3/4"	47345K17	824.06
2	2-20, 10-60, 20-100, 90-150	9 1/4"	47345K18	1,498.38

Corrosion-Resistant Pressure-Regulating Valves



- Use with water, oil, air, and inert gas
- Max. Inlet Pressure: 720 psi
- Temp Range: 32° to 200°F

Often used in wet conditions and harsh environments, these valves have a 316 stainless steel body for excellent corrosion resistance. They automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Valves have a screw to adjust the outlet pressure within the range. Seal and diaphragm are Buna-N. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/2	2-30, 10-50, 30-125, 50-150	4 1/2"	8099K11	$1,753.17
3/4	2-20, 10-35, 30-75, 50-110, 105-150	5 1/8"	8099K21	2,212.77
1	2-20, 10-45, 20-60, 55-100, 90-150	5 7/8"	8099K31	2,635.51

Pressure-Regulating Valves with Garden Hose Fittings



- Use with water
- Max. Inlet Pressure: 150 psi
- Temp. Range: 33° to 140°F

Use this valve to automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure in light duty water systems with garden hose thread (GHT) connections. It has a screw to adjust the outlet pressure within the range. Body is brass, seal is Buna-N coated nylon, and diaphragm is Buna-N. Valve comes with a pressure gauge for monitoring outlet pressure. Connections are GHT; inlet is female (side port) and outlet is male (side port).

Thread Size	Outlet Pressure Range, psi	End-to-End Lg.		
3/4"	10-60	3"	4000T31	$125.30

Clean Room Pressure-Regulating Valves



- Use with air, deionized water, nitrogen, and oxygen
- Max. Inlet Pressure: 150 psi
- Temp. Range: 41° to 140°F

To maintain contaminant-free standards in clean room environments, these valves are cleaned and bagged in a Class 100 clean room and have a 316 stainless steel body with a smooth finish to resist dust collection. They automatically reduce a high, variable inlet pressure to a lower, stable output pressure. Valves have a knob to adjust the outlet pressure within the range. They are no-bleed style, so they keep process media contained within the valve.

Seal is 316 stainless steel and diaphragm is fluoroelastomer. Valves can be panel mounted in a 1 1/4" dia. cutout. Connections are UNF female; inlet and outlet are on the side.

Thread Size	Outlet Pressure Range, psi	End-to-End Lg.		
10-32	1.4-28	1 3/16"	4390T111	$167.82
10-32	7-99	1 3/16"	4390T112	167.82

Compact Pressure-Regulating Valves

- Use with water
- Max. Inlet Pressure: 300 psi (NPT Connections); 150 psi (GHT Connections)
- Temp. Range: 33° to 140° F

A low-profile body fits in systems where space is at a premium. Often used to regulate the water supply to small tanks, these valves automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Use the screw to adjust the outlet pressure within the range. Body is brass; seal and diaphragm are Buna-N. Inlet and outlet are on the side.

Valves without a pressure gauge have a 1/8 NPT female gauge port on the side. **Valves with a pressure gauge** come with a gauge for monitoring outlet pressure. *Valves with NPT connections* have a female inlet and outlet. *Valves with GHT connections* have a female inlet and male outlet.



With NPT Connections and Pressure Gauge



With GHT Connections

Pipe/Thread Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.	Without Pressure Gauge		With Pressure Gauge	
With NPT Connections						
1/8	0-25, 0-60, 0-125	1 1/2"	3823T11	$63.33	3823T31	$91.48
1/4	0-25, 0-60, 0-125	1 1/2"	3823T12	63.33	3823T32	91.48
With GHT Connections						
3/4"	10-60	3"	3823T21	73.68	3823T41	104.42

Corrosion-Resistant Compact Pressure-Regulating Valves

- Use with water and deionized water
- Max. Inlet Pressure: 400 psi
- Temp. Range: 33° to 120° F

Often used on dispensers, humidifiers, and fountains, these valves have a 316 stainless steel body that can stand up to deionized water and corrosive conditions. They automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Use the screw to adjust the outlet pressure within the range. Valves have a low-profile body to fit in tight spots. They have a 1/4 NPT female gauge port on the side. Seal and diaphragm are Buna-N. Connections are NPT female; inlet and outlet are on the side.



Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/4	1-25, 3-50, 10-125, 20-175, 100-300	3 3/4"	8119K44	$600.43
3/8	1-25, 3-50, 10-125, 20-175, 100-300	3 3/4"	8119K46	643.32
1/2	1-25, 3-50, 10-125, 20-175, 100-300	2 11/16"	8119K48	632.86

Low-Pressure-Regulating Valves

- Use with water
- Max. Inlet Pressure: 300 psi
- Temp. Range: 0° to 120° F



Designed for excellent performance at low pressures, these valves respond to even the slightest inlet pressure changes to maintain a lower, stable outlet pressure. Valves have a T-handle to adjust the outlet pressure within the range and an internal strainer to trap debris. Body is brass, seal is 303 stainless steel, and diaphragm is Buna-N coated nylon. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/4	0-8, 0-20, 0-50	4 1/4"	3878T41	$307.69

High-Pressure-Regulating Valves

- Use with water, oil, air, and inert gas
- Max. Inlet Pressure: 3,000 psi
- Temp. Range: 32° to 300° F



Withstand more than six times the inlet pressure of standard pressure-regulating valves. These valves automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. They have a screw to adjust the outlet pressure within the range. Body is 303 stainless steel for corrosion resistance in harsh environments. Seal is PTFE. Connections are NPT female; inlet is on the side and outlet is on the bottom.

Pipe Size	Choose an Outlet Pressure Range, psi	Port-to-Port Lg. (P)		
2	150-450; 250-1,200; 500-2,200	2 1/2"	4256T16	$2,473.85

Quick-Set Pressure-Regulating Valves

- Use with water
- Max. Inlet Pressure: 250 psi
- Temp. Range: 33° to 140° F





Change outlet pressure without using a gauge—turn the dial to adjust the outlet pressure in 10 psi increments. Valves automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Union fittings on both ends of these valves disassemble for easy valve installation and removal.

Valves have two 1/4 NPT female gauge ports on the side and an internal strainer to trap debris. Body is bronze for durability and a long service life. Seal is EPDM and diaphragm is Buna-N. CSA certified. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Outlet Pressure Range, psi	End-to-End Lg.		
1/2	25-90	4 7/8"	45805K66	$79.33
3/4	25-90	5 13/64"	45805K67	85.84
1	25-90	6 1/16"	45805K68	117.12
1 1/4	25-90	6 47/64"	45805K69	206.38
1 1/2	25-90	7 7/8"	45805K71	355.41
2	25-90	8 37/64"	45805K72	460.82

Cleaned and Bagged Pressure-Regulating Valves

- Use with argon, helium, neon, nitrogen, oxygen, and xenon
- Max. Inlet Pressure: 435 psi
- Temp. Range: -40° to 165° F



Often used for oxygen service and other high-purity applications, these valves are cleaned and bagged to meet CGA G-4.1 standards to prevent contamination. They automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Use the T-handle to adjust the outlet pressure within the range. Valves are no-bleed style, so they keep process gases contained in the valve.

Valves have two 1/4 NPT female gauge ports on the side. Body is brass, seal is fluoroelastomer, and diaphragm is Buna-N. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/2	5-55, 40-110, 100-200	2 13/16"	49305K21	$182.50
3/4	5-55, 40-110, 100-200	3 5/16"	49305K22	225.67
1	5-55, 40-110, 100-200	3 5/16"	49305K23	225.67

Pressure-Regulating Valves

For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

High-Temperature Pressure-Regulating Valves



- Use with water, oil, air, and inert gas
- Max. Inlet Pressure: 300 psi
- Temp. Range: 32° to 550°F

Rated for more than double the temperature of standard pressure-regulating valves, these can withstand temperatures up to 550°F. They automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Valves have a screw to adjust the outlet pressure within the range. Body is steel, seal is 303 stainless steel, and diaphragm is 316 stainless steel. Valves meet ANSI Class IV for tight shut-off (max. leakage rate of 0.01%). Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/2	2-23, 10-38, 20-55, 35-160, 95-220	3 5/8"	46395K21	$1,380.60
3/4	2-23, 10-38, 20-55, 35-160, 95-220	3 5/8"	46395K23	1,380.30
1	5-20, 10-30, 20-45, 30-95, 60-160	4 3/16"	46395K25	2,440.30
1 1/2	5-20, 10-30, 20-45, 30-95, 60-160	4 13/16"	46395K27	2,873.13
2	5-20, 10-30, 20-45, 30-95, 60-160	5 1/2"	46395K29	3,522.39

Plastic Panel-Mount Pressure-Regulating Valves



- Max. Inlet Pressure: 150 psi
- Temp. Range: 40° to 150°F

For easy panel mounting in your system, these valves have threads below the adjustment knob and come with a panel-mount nut to install in a 9/16" dia. cutout. They automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Adjust the outlet pressure within the range. Body is polysulfone, which is lightweight and corrosion resistant. Seal is polyurethane and diaphragm is Buna-N/EPDM. Color is black. Connections are female; inlet and outlet are on the side.

Pipe/Thread Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
For Water				
10-32 UNF	0.5-3.5, 0.5-10, 0.5-30, 0.5-90	1 1/8"	43275K66	$43.07
1/8 NPT	0.5-10, 0.5-60	1 1/8"	43275K46	48.88
For Air				
10-32 UNF	0.5-3.5, 0.5-30, 0.5-60, 0.5-90	1 1/8"	43275K36	35.07
1/8 NPT	0.5-3.5, 0.5-10, 0.5-30, 0.5-90	1 1/8"	43275K16	40.88

Miniature Panel-Mount Pressure-Regulating Valves



- Use with water, air, and inert gas
- Max. Inlet Pressure: 80 psi
- Temp. Range: 32° to 180°F

Our smallest pressure-regulating valve automatically reduces a high, variable inlet pressure to a lower, stable outlet pressure in tight spaces where other valves can't fit. Adjust the outlet pressure within the range. Valve has threads below the adjustment screw and comes with a panel-mount nut to install in a 1/2" dia. cutout. Body is nickel-plated brass for good corrosion resistance. Seal is Buna-N. Connections are UNF female; inlet is on the bottom and outlet is on the side.

Thread Size	Outlet Pressure Range, psi	Port-to-Port Lg.		
10-32	5-80	3/8"	3834T51	$15.53

Panel-Mount High-Pressure-Regulating Valves



- Use with air, argon, helium, and nitrogen
- Max. Inlet Pressure: 3,500 psi
- Temp. Range: -40° to 165°F

Withstand inlet pressures up to 3,500 psi. These valves automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Adjust the outlet pressure within the range. Valves have threads below the adjustment knob and come with a panel-mount nut to install in 1 3/8" dia. cutout. All have a 1/4 NPT female gauge port on the side and an internal strainer to trap debris. Body is brass, seal is PTFE, and diaphragm is 316 stainless steel. Valves meet ANSI/ASME B31.3. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/4	0-25, 0-50, 0-100, 0-250, 0-500	2"	3811T11	$291.14

Panel-Mount Ultra-High-Pressure-Regulating Valves



- Use with air, argon, helium, and nitrogen
- Max. Inlet Pressure: 6,000 psi
- Temp. Range: -40° to 165°F

These valves are rated for inlet pressures up to 6,000 psi. They automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Adjust the outlet pressure within the range. Threads below the adjustment knob and an included mounting bracket let you install these valves in instrument panels with a 2 1/4" dia. cutout. Valves are no-bleed style, so they keep process gases contained in the valve.

Valves have two 1/4 NPT female gauge ports on the side and an internal strainer to trap debris. Body is brass and seal is polyimide. Valves meet ANSI/ASME B31.3. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/4	0-500; 0-800; 10-1,500; 15-2,500; 25-4,000; 50-6,000	2 1/8"	3950T21	$790.62

Corrosion-Resistant Panel-Mount Ultra-High-Pressure-Regulating Valves



- Use with water, air, and inert gas
- Max. Inlet Pressure: 6,000 psi
- Temp. Range: 32° to 165°F

To regulate inlet pressures up to 6,000 psi in wet conditions and harsh environments, these valves have a 316 stainless steel body for exceptional corrosion resistance. They automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Adjust the outlet pressure within the range. Valves have threads below the adjustment knob and come with a panel-mount nut to install in a 1.37" dia. cutout. They are no-bleed style, so they keep the process gases contained in the valve.

Valves have two 1/4 NPT female gauge ports on the side. Seal is PTFE. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/4	0-1,500; 0-2,500	2"	4289T21	$612.54

Miniature Panel-Mount Ultra-High-Pressure-Regulating Valves



- Use with water, air, and argon
- Max. Inlet Pressure: 6,000 psi
- Temp. Range: -15° to 165° F

For extremely high-pressure applications in tight spots, these valves handle the same inlet pressures as other ultra-high-pressure-regulating valves within a smaller footprint. They automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Adjust the outlet pressure within the range. Valves have threads below the adjustment knob to panel mount in a 1 3/8" dia. cutout. They are no-bleed style, so they keep the process gas contained within the valve.

Valves have two 1/4 NPT female gauge ports on the side. Body is nickel-plated aluminum for good corrosion resistance. Seal is polyimide. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/4	0-80; 0-140; 0-220	1 5/8"	4428T23	$335.22
1/4	0-700; 0-1,200; 0-1,800	1 5/8"	4428T24	434.89

Cleaned and Bagged Panel-Mount Pressure-Regulating Valves



- Use with air, argon, helium, and nitrogen
- Max. Inlet Pressure: 3,500 psi (1/4 Pipe Size); 300 psi (1/2 Pipe Size)
- Temp. Range: -40° to 160° F

Commonly used for oxygen service and other high-purity applications, these valves come cleaned and bagged to prevent contamination. All automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Adjust the outlet pressure within the range. Valves have threads below the adjustment knob and come with a panel-mount nut. They can also be surface mounted using the two 10-32 mounting holes. Valves are no-bleed style, so they keep process gases contained in the valve.

Valves have two 1/4 NPT female gauge ports on the side. Body is 316 stainless steel for exceptional corrosion resistance. Seal is PCTFE. Connections are NPT female; inlet and outlet are on the side.

Valves with a 1/4 pipe size can be panel mounted using a 1.42" dia. cutout. Diaphragm is 316 stainless steel. *Valves with a 1/2 pipe size* can be panel mounted using a 1.56" dia. cutout. Diaphragm is nickel alloy.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/4	1-30, 2-100, 5-200, 5-300	2"	8166T21	$309.60
1/2	1-30, 2-100, 5-150	2 1/2"	8166T22	509.88

Pressure-Regulating Valves for Steam



- Max. Inlet Pressure: 150 psi (PTFE Seal); 250 psi (420 Stainless Steel Seal)
- Temp. Range: -20° to 400° F

Automatically reduce a high, variable inlet pressure in your steam system to a lower, stable outlet pressure. Valves have a screw to adjust the outlet pressure within the range. The cast iron body absorbs vibration from pressure changes to reduce wear and noise in your pipeline. Diaphragm is bronze. Connections are NPT female; inlet and outlet are on the side.

Valves with a PTFE seal have an internal strainer to trap debris.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
PTFE Seal				
1/4	2-25, 20-60, 20-100, 50-125	3"	4674K61	$178.98
3/8	2-30, 20-70, 40-110, 90-125	3 7/8"	4674K62	211.43
1/2	2-30, 10-50, 30-125, 50-125	4 1/2"	4674K63	223.98
3/4	2-20, 10-35, 30-75, 50-110, 105-125	5 1/8"	4674K64	270.94
1	2-20, 10-45, 20-60, 55-100, 90-125	5 7/8"	4674K65	353.64
1 1/4	2-15, 10-30, 20-50, 45-100, 90-125	6 3/4"	4674K66	472.64
1 1/2	2-15, 10-30, 20-50, 45-100, 90-125	6 3/4"	4674K67	525.67
2	2-20, 10-60, 20-100, 90-125	9 1/4"	4674K68	708.15

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
420 Stainless Steel Seal				
1/2	0-10, 10-50, 40-100, 100-200	3 5/8"	9796K38	$256.20
3/4	0-10, 10-50, 40-100, 100-200	3 5/8"	9796K39	256.20
1	0-10, 10-30, 30-50, 40-85	4 1/2"	9796K91	330.58
1 1/4	0-10, 10-30, 30-50, 40-85	4 1/2"	9796K92	470.39
1 1/2	0-10, 10-30, 30-50, 40-85	6 1/2"	9796K93	548.76
2	0-10, 10-30, 30-50, 40-85	6 1/2"	9796K94	647.93

Extended-Life Pressure-Regulating Valves for Steam



- Max. Inlet Pressure: 250 psi
- Temp. Range: -20° to 400° F

For a longer service life than cast iron valves, these have a durable bronze body. All automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Valves have a screw to adjust the outlet pressure within the range and an internal strainer to trap debris. Seal is PTFE and diaphragm is bronze. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/4	2-25, 20-60, 20-100, 50-150	3"	47345K31	$243.53
3/8	2-30, 20-70, 40-110, 90-150	3 7/8"	47345K32	261.78
1/2	2-30, 10-50, 30-125, 50-150	4 1/2"	47345K33	325.71
3/4	2-20, 10-35, 30-75, 50-110, 105-150	5 1/8"	47345K34	388.31
1	2-20, 10-45, 20-60, 55-100, 90-150	5 7/8"	47345K35	569.11
1 1/4	2-15, 10-30, 20-50, 45-100, 90-150	6 3/4"	47345K36	765.60
1 1/2	2-15, 10-30, 20-50, 45-100, 90-150	6 3/4"	47345K37	824.06
2	2-20, 10-60, 20-100, 90-150	9 1/4"	47345K38	1,498.38

Corrosion-Resistant Pressure-Regulating Valves for Steam



- Max. Inlet Pressure: 400 psi
- Temp. Range: -40° to 450° F

Regulate steam pressure in wet environments and harsh conditions with these valves that have a 316 stainless steel body for exceptional corrosion resistance. They automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Valves have a screw to adjust the outlet pressure within the range. Seal is PTFE and diaphragm is 316 stainless steel. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/2	2-30, 10-50, 30-125, 50-150	4 1/2"	8099K41	$1,753.17
3/4	2-20, 10-35, 30-75, 50-110, 105-150	5 1/8"	8099K51	2,212.81
1	2-20, 10-45, 20-60, 55-100, 90-150	5 7/8"	8099K61	2,635.51

Pressure-Regulating Valves

For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

High-Accuracy Pressure-Regulating Valves for Steam



- Max. Inlet Pressure: 250 psi
- Temp. Range: 40° to 450° F

Control steam line pressure with ±1 psi accuracy. These valves automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. They have a screw to adjust the outlet pressure within the range. The cast iron body absorbs vibration from pressure changes to reduce wear and noise in your pipeline. Seal is 420 stainless steel and diaphragm is 301 stainless steel.

Valves meet ANSI Class IV for tight shut-off (max. leakage rate of 0.01%). Install 1/4 NPT male pipe (not included) between the control valve and your downstream steam line. Connections are NPT female; inlet and outlet are on the side.

Repair kits (sold separately) include replacement seals, diaphragm, spring, and spring assembly.

Pipe Size	Choose an Outlet Pressure Range, psi	Valves		Repair Kits	
1/2	3-20, 5-50, 10-100, 20-150	9792K19	$1,005.99	9792K32	$320.58
3/4	3-20, 5-50, 10-100, 20-150	9792K21	1,118.23	9792K33	359.98
1	3-20, 5-50, 10-100, 20-150	9792K23	1,185.22	9792K34	407.58
1 1/4	3-20, 5-50, 10-100, 20-150	9792K25	1,397.80	9792K35	479.92
1 1/2	3-20, 5-50, 10-100, 20-150	9792K27	1,592.97	9792K36	557.82
2	3-20, 5-50, 10-100, 20-150	9792K29	1,965.69	9792K37	741.92

Pressure-Regulating Valves for Drinking Water



A



B

- Max. Inlet Pressure: 400 psi
- Temp. Range: 33° to 140° F

These valves meet NSF/ANSI Standard 61 for use in drinking water systems. They automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Valves have a screw to adjust the outlet pressure within the range and an internal strainer to trap debris. All have a 1/4 NPT female gauge port on the bottom.

Body is bronze for durability and a long service life. Seal and diaphragm are Buna-N. Valves are ASSE 1003 listed, IAPMO listed, and CSA certified. Connections are NPT female; inlet and outlet are on the side.

Style B have a union fitting that disassembles for easy installation and removal.

Pipe Size	Outlet Pressure Range, psi	End-to-End Lg.		
(A) Valves				
1/2	15-75	3 1/2"	4946K11	$55.94
3/4	15-75	3 1/2"	4946K12	56.44
1	15-75	4"	4946K13	76.80
(B) Valves with Union Fitting				
1/2	15-75	4 3/8"	4946K21	65.70
3/4	15-75	4 7/16"	4946K22	69.22
1	15-75	4 15/16"	4946K23	88.25
1 1/4	15-75	6 3/16"	4946K24	221.47
1 1/2	25-75	6 5/16"	4946K25	308.51
2	25-75	6 1/4"	4946K26	348.52

Pressure-Regulating Valves for Chemicals



- Max. Inlet Pressure: 125 psi
- Temp. Range:
  40° to 140° F (PVC);
  35° to 180° F (Polypropylene)

A plastic body and a fluoroelastomer seal and diaphragm stand up to harsh chemicals. These valves automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. They have a screw to adjust the outlet pressure within the range. Color is dark gray. Connections are NPT female; inlet and outlet are on the side.

Polypropylene valves withstand higher temperatures than PVC valves.

Pipe Size	Outlet Pressure Range, psi	End-to-End Lg.	PVC		Polypropylene	
1/2	10-80	3"	45965K31	$330.40	45965K41	$338.80
3/4	10-80	3 15/16"	45965K32	375.20	45965K42	464.80
1	10-80	3 15/16"	45965K33	451.08	45965K43	483.84
1 1/2	10-80	4 9/16"	45965K34	793.80		
2	10-80	4 11/16"	45965K35	1,015.41		

Pressure-Regulating Valves for Food and Beverage



A B C D

- Max. Inlet Pressure:
  300 psi (Styles A & C);
  150 psi (Style B);
  250 psi (Style D)
- Temp. Range:
  35° to 125° F

Made of FDA-listed materials, these valves are often used to regulate pressure in food and beverage lines. They automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Adjust the outlet pressure within the range. Color is black. Inlet and outlet are on the side.

Styles A & C have an adjustment screw and two 1/4 NPT female gauge ports on the side. Body is Noryl PPO; seal and diaphragm are Buna-N. *Style A* comes with two plugs to close the unused ports. *Style C* has push-to-connect fittings to connect to plastic or soft metal tubing for a low-pressure seal.

Styles B & D have an adjustment knob. Body is acetal and seal is EPDM. *Style B* has a 1/8 NPT female gauge port on the side. Diaphragm is Buna-N/nylon. *Style D* has compression fittings that bite down on hard metal and plastic tubing for a tighter seal than push-to-connect fittings. Diaphragm is Buna-N/stainless steel.

Connection Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
With NPT Female Connections				
A 1/4 NPT	0-25, 0-60, 0-125	1 9/16"	8113K11	$47.73
B 1/4 NPT	5-50, 5-125	1 5/8"	4545T61	30.13
With Push-to-Connect Fittings				
C For 1/4" Tube OD	0-25, 0-60, 0-125	3 5/8"	8113K41	47.73
With Compression Fittings				
D For 1/4" Tube OD	1-10, 2-50, 5-100	2"	4545T51	76.70

Pressure-Regulating Valves for Cryogenic Liquids



- Use with liquid argon, liquid carbon dioxide, liquid nitrogen, and liquid oxygen
- Max. Inlet Pressure:
  600 psi (Brass);
  400 psi (Bronze)
- Temp. Range: -320° to 150° F

These valves can withstand the extreme cold of liquid argon, liquid carbon dioxide, liquid nitrogen, and liquid oxygen. All are cleaned and bagged for oxygen service and other high-purity applications. They automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Valves have a screw to adjust the outlet pressure within the range. Body is brass, seal is PTFE, and diaphragm is bronze. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/4	15-65, 75-175, 100-250	1 3/4"	47435K31	$178.83
3/8	15-65, 75-175, 100-250	1 3/4"	47435K32	178.83

Extended-Life Pressure-Regulating Valves for Cryogenic Liquids



- Use with liquid argon, liquid carbon dioxide, liquid nitrogen, and liquid oxygen
- Max. Inlet Pressure: 600 psi (Brass); 400 psi (Bronze)
- Temp. Range: -320° to 150° F

For a longer service life than standard valves for cryogenic liquids, these have a durable bronze body. Valves are designed to withstand the extreme cold of liquid argon, liquid carbon dioxide, liquid nitrogen, and liquid oxygen. All are cleaned and bagged for oxygen service and other high-purity applications. They automatically reduce a high, variable inlet pressure to a lower, stable outlet pressure. Valves have a screw to adjust the outlet pressure within the range and an internal strainer to trap debris. Seal is PTFE and diaphragm is bronze. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/4	10-30, 20-100, 50-200, 75-250	3 1/16"	49165K39	$338.25
1/2	10-30, 20-75, 20-100, 50-250	4 1/2"	49165K59	652.13
1	10-35, 20-60, 20-100, 75-250	5 3/4"	49165K79	1,005.38

Back-Pressure-Regulating Valves for Water and Oil



- Max. Inlet Pressure: 400 psi
- Temp Range: -40° to 200° F

Commonly used as bypass lines after centrifugal, reciprocating, and rotary pumps, these valves obstruct flow to maintain sufficient operating pressure in your system. If the system pressure exceeds the set pressure, they exhaust through the threaded relief port. Valves have a screw to adjust the set pressure within the range. The cast iron body absorbs vibration from pressure changes to reduce wear and noise in your pipeline. Seal is brass and diaphragm is nickel alloy. Connections are NPT female. Inlet and outlet are on the side; relief port is on the bottom.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/2	0-25, 5-50, 30-100, 75-175, 150-400	2 7/8"	4675K21	$674.27
1 1/4	20-85, 40-125, 50-230, 175-380, 300-400	4 1/4"	4675K25	1,194.95
1 1/2	10-55, 30-100, 40-200, 125-300, 200-400	5"	4675K26	1,382.24
2	10-55, 30-100, 40-200, 125-300, 200-400	5"	4675K27	1,528.55

Extended-Life Back-Pressure-Regulating Valves for Water and Oil



- Max. Inlet Pressure: 600 psi
- Temp Range: -40° to 450° F

For a longer service than cast iron valves, these have a durable bronze body and a 303 stainless steel seal. Commonly installed as bypass lines after centrifugal, reciprocating, and rotary pumps, they obstruct flow to maintain sufficient operating pressure in your system. If the system pressure exceeds the set pressure, they exhaust through the outlet. Valves have a screw to adjust the set pressure within the range. Connections are NPT female; inlet is on the bottom and outlet is on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	Port-to-Port Lg. (P)		
1/4	15-75, 50-140, 100-300, 200-600	1 1/4"	4662K46	$190.32
3/8	15-75, 50-150, 100-300, 200-600	1 1/4"	4662K48	190.32
1/2	15-75, 50-150, 100-300, 200-600	1 5/8"	4662K32	296.42
3/4	15-75, 50-150, 100-300, 200-600	1 5/8"	4662K34	296.42
1	15-75, 50-150, 100-300, 200-600	2 1/4"	4662K36	616.89
1 1/4	15-75, 50-150, 100-300, 200-600	2 1/4"	4662K38	616.89

Back-Pressure-Regulating Valves for Air and Inert Gas



- Max. Inlet Pressure: 250 psi
- Temp. Range: 0° to 150° F

Often used to protect equipment running on air compressors, these valves obstruct flow to maintain sufficient operating pressure in your system. If the system pressure exceeds the set pressure, they exhaust through the vented relief port. Valves have a knob to adjust the set pressure within the range and two 1/4 NPT female gauge ports. Body is aluminum and diaphragm is Buna-N. Inlet and outlet are NPT female. Inlet, outlet, gauge ports, and relief port are on the side.

Pipe Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
1/4	0-2, 0-10, 0-30, 0-60, 0-150	3"	4783K51	$134.74
3/8	0-2, 0-10, 0-30, 0-60, 0-150	3"	4783K53	134.74
1/2	0-2, 0-10, 0-30, 0-60, 0-150	3"	4783K55	149.49

Panel-Mount Back-Pressure-Regulating Valves for Air and Inert Gas



- Max. Inlet Pressure: 100 psi
- Temp. Range: 40° to 150° F

Threads below the adjustment knob and an included panel-mount nut allow you to add these valves to your instrument panel in a 9/16" dia. cutout. Often used in systems running on air compressors, they're installed after pressure-sensitive equipment to obstruct flow and maintain a consistent operating pressure. If the system pressure exceeds the set pressure, they exhaust through the outlet. Adjust the set pressure within the range. Body is polysulfone, seal is silicone, and diaphragm is Buna-N. Connections are female; inlet and outlet are on the side.

Pipe/Thread Size	Choose an Outlet Pressure Range, psi	End-to-End Lg.		
10-32 UNF	0.5-3.5, 0.5-10, 0.5-30, 0.5-60, 0.5-90	1 1/8"	99045K12	$30.40
1/8 NPT	0.5-3.5, 0.5-10, 0.5-30, 0.5-60, 0.5-90	1 1/8"	99045K11	36.88

Vacuum- & Temperature-Regulating Valves

For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8	1/4	1/2	3/4	1	1 1/4	1 1/2	2

Vacuum-Regulating Valves



- Use with air, carbon dioxide, and nitrogen
- Temp. Range: -20° to 180° F

Throttle a high vacuum source to maintain a lower vacuum level in your system. Valves have a screw to adjust the outlet vacuum level within the range and a 1/8 NPT female gauge port on the side. Body is brass, seal is Buna-N, and diaphragm is EPR. Connections are NPT female; inlet is on the bottom and outlet is on the side.

Pipe Size	Outlet Vacuum Range	Port-to-Port Lg. (P)		
1/4	0-15" Hg	1 1/8"	**5021K14**	$251.55
1/4	10"-30" Hg	1 1/8"	**5021K24**	251.55

Extended-Life Vacuum-Regulating Valves



- Use with air and inert gas
- Temp. Range: -20° to 180° F

For a longer service life than brass vacuum-regulating valves, these are made of bronze for strength and durability. They throttle a high vacuum source to maintain a lower vacuum level in your system. All have a screw to adjust the outlet vacuum level within the range. Seal is chrome-plated bronze and diaphragm is neoprene. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Outlet Vacuum Range	End-to-End Lg.		
1/2	2"-30" Hg	2 7/8"	**4710K11**	$426.74
3/4	2"-30" Hg	2 7/8"	**4710K13**	426.74
1	2"-30" Hg	4 1/2"	**4710K15**	1,028.71
1 1/4	2"-30" Hg	4 1/2"	**4710K17**	1,028.71
1 1/2	8"-30" Hg	5 3/4"	**4710K18**	1,342.94
2	8"-30" Hg	5 3/4"	**4710K19**	1,342.94

Plastic Panel-Mount Vacuum-Regulating Valves



- Use with air and inert gas
- Temp. Range: 40° to 150° F

A lighter and more corrosion-resistant alternative to metal valves. All valves throttle a high vacuum source to maintain a lower vacuum level in your system. Adjust the outlet vacuum level within the range. Threads below the adjustment knob and an included panel-mount nut let you add these valves to your instrument panel in a 9/16" dia. cutout. All are constant-bleed style, so they continually release small amounts of process gas to improve accuracy and repeatability.

Body is polysulfone, seal is polyurethane, and diaphragm is Buna-N/EPDM. Connections are female; inlet and outlet are on the side.

Pipe/Thread Size	Outlet Vacuum Range	End-to-End Lg.		
10-32 UNF	0-30" Hg	1 1/8"	**41585K41**	$50.55
1/8 NPT	0-30" Hg	1 9/16"	**41585K43**	56.70

Panel-Mount Vacuum-Regulating Valves



Valve with Gauge

- Use with air and nitrogen
- Temp. Range: -40° to 150° F

Regulate vacuum levels from your instrument panel with these valves that have threads below the adjustment handle and a panel-mount nut to install in a 1" dia. cutout. They throttle a high vacuum source to maintain a lower vacuum level in your system. Valves have a knob to adjust the outlet vacuum level within the range. All are constant-bleed style, so they continually release small amounts of process gas to improve accuracy and repeatability. Body is nickel-plated brass for good corrosion resistance. Seal is Buna-N and diaphragm is bronze. Connections are NPT female; inlet is on the side and outlet is on the bottom.

Valve without gauge has a 1/8 NPT female gauge port on top.

Valve with gauge comes with a vacuum gauge for monitoring your vacuum level.

Pipe Size	Outlet Vacuum Range	Port-to-Port Lg.		
Valve without Gauge				
1/8	0-20" Hg	1 1/16"	**4172K13**	$263.83
Valve with Gauge				
1/8	0-20" Hg	1 1/16"	**4172K12**	329.79

High-Accuracy Panel-Mount Vacuum-Regulating Valves



- Use with air, argon, and nitrogen
- Temp. Range: -40° to 165° F

For precise control over your vacuum level, these valves have ±0.1% accuracy. They throttle a high vacuum source to maintain a lower vacuum level in your system. Adjust the outlet vacuum level within the range. Valves have threads below the adjustment knob and come with a panel-mount nut to install in a 1 3/8" dia. cutout. They are constant-bleed style, so they continually release small amounts of process gas to improve accuracy and repeatability.

Valves have a 1/4 NPT female gauge port on the side. Body is brass; seal and diaphragm are Buna-N. Connections are NPT female; inlet and outlet are on the side.

Pipe Size	Outlet Vacuum Range	End-to-End Lg.		
1/8	0-28" Hg	2 1/8"	**4640T71**	$660.73
1/4	0-28" Hg	2 1/8"	**4640T72**	660.73

Temperature-Regulating Valves



- Use with water
- Max. Inlet Pressure: 150 psi
- Max. Inlet Temp.: 212° F (PTFE-Coated Brass); 210° F (Copper Silicon Alloy)

These valves blend hot and cold water to automatically maintain a set outlet temperature. They have a knob to adjust the outlet temperature within the range. Seal is EPDM. Valves meet ASSE 1017, are IAPMO listed, and CSA certified. Connections are NPT female; inlet is on the side and outlet is on the bottom.

Copper silicon alloy valves have a safety shut-off to restrict flow down to a drip if your cold water supply shuts off. An internal check valve with strainer prevents backflow and traps debris.

Pipe Size	Max. Flow Rate, gpm	Choose an Outlet Temp. Range	End-to-End Lg.		
PTFE-Coated Brass					
1/2	8	70° to 120° F; 70° to 145° F	4 7/8"	**9156K91**	$124.55
3/4	12	70° to 120° F; 70° to 145° F	6 1/2"	**9156K92**	131.19
1	16	70° to 120° F; 70° to 145° F	7"	**9156K93**	165.67
Copper Silicon Alloy					
1/2	25	90° to 160° F	4 7/8"	**1184N1**	125.45
3/4	25	90° to 160° F	4 7/8"	**1184N2**	130.43
1	25	90° to 160° F	5 5/16"	**1184N3**	137.58

High-Flow Temperature-Regulating Valves

- Use with water
- Max. Inlet Pressure: 125 psi
- Max. Inlet Temp.: 200° F

Often used with large water heaters and other applications with flow rates greater than 25 gpm, these valves blend hot and cold water to automatically maintain a set outlet temperature. They have a screw to adjust the outlet temperature within the range and an internal check valve with strainer to prevent backflow and trap debris. Body is bronze for durability and a long service life. Seal is EPDM. Valves meet ASSE 1017 and are CSA certified. Connections are NPT female; inlets and outlet are on the side.

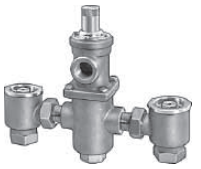

Pipe Size Inlet	Outlet	Flow Rate Range, gpm	Choose an Outlet Temp. Range	End-to-End Lg.		
3/4	3/4	3-42	60° to 90° F; 90° to 160° F	11 5/8"	7827K61	$764.88
3/4	1	4-64	60° to 90° F; 90° to 160° F	11 5/8"	7827K63	872.56
1 1/4	1 1/4	5-110	60° to 90° F; 90° to 160° F	15 1/4"	7827K64	1,045.89
1 1/4	1 1/2	7-144	60° to 90° F; 90° to 160° F	15 1/4"	7827K66	1,321.23

Temperature-Regulating Valves with Solder-Connect Fittings

- Use with water
- Max. Inlet Pressure: 150 psi
- Max. Inlet Temp.: 212° F

Solder these valves to copper tubing. They blend hot and cold water to automatically maintain a set outlet temperature. All have a knob to adjust the outlet temperature within the range. Body is PTFE-coated brass and seal is EPDM. Valves meet ASSE 1017, are IAPMO listed, and CSA certified. Inlets are on the side and outlet is on the bottom.



For Tube Size★	For Tube OD	Max. Flow Rate, gpm	Choose an Outlet Temp. Range	End-to-End Lg.		
1/2	5/8"	8	70° to 120° F; 70° to 145° F	4 7/16"	9156K64	$128.81
3/4	7/8"	12	70° to 120° F; 70° to 145° F	4 15/16"	9156K65	123.87

★Tube size is an accepted industry designation, not an actual size.

Temperature-Regulating Valves with Compression Fittings

- Use with water
- Max. Inlet Pressure: 70 psi
- Max. Inlet Temp.: 110° F



Designed for use on tubing lines with a constant inlet temperature and pressure, this valve has compression fittings that bite down on hard metal and plastic tubing for a secure seal. Manually turn the lever to blend hot and cold water to maintain the set outlet temperature. Tighten the adjustment screw on the lever to prevent unintentional temperature changes. Valve has an internal check valve to prevent backflow. Body is chrome-plated brass for good corrosion resistance and a decorative finish. CSA certified. Inlets are on the side and outlet is on top.

For Tube OD	Max. Flow Rate, gpm	Outlet Temp. Range	End-to-End Lg.		
3/8"	4	40° to 105° F	2 13/16"	9158K12	$50.06

Temperature-Regulating Valves for Water and Steam

- Use with water and steam
- Max. Inlet Pressure: 80 psi
- Max. Inlet Temp.: 240° F

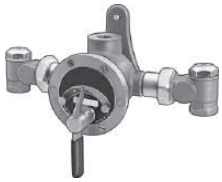

Mix steam and cold water to reach your set outlet temperature more quickly than valves that only mix hot and cold water. Valve has a handle to adjust the outlet temperature within the range and internal check valves with strainers to prevent backflow and trap debris. Body is bronze for durability and a long service life. Seal is Buna-N/EPDM. Connections are NPT female; inlets are on the bottom and outlet is on top.

Pipe Size	Flow Rate Range, gpm	Outlet Temp. Range	End-to-End Lg.		
3/4	13-25	60° to 180° F	14 1/2"	4714K2	$784.62

Temperature-Regulating Valve Systems for Water and Steam

- Use with water and steam
- Max. Inlet Pressure: 125 psi
- Max. Inlet Temp.: 240° F

Commonly used in washdown applications, these systems include a temperature-regulating valve with an internal check valve and vacuum breaker to prevent backflow, two ball valves for manual control of the water supply, a dial thermometer that displays the outlet temperature, and a 302 stainless steel hose rack for storage. Inlet is 3/4 NPT female and outlet is 3/4" garden hose thread (GHT).

Manually activated valves give you independent control of hot and cold water supply. *Chrome-plated bronze* valve is more corrosion resistant than the bronze valve. *316 stainless steel* valve has the best corrosion resistance. *Valve with safety shut-off* restricts flow down to a drip if your cold water supply shuts off.

Temperature-driven valve maintains your set temperature by adjusting flow in response to the water supply temperature.

Optional 50-ft. hose with fittings has a 3/4" GHT female inlet. Both are cream-colored EPDM rubber and have a trigger spray nozzle. Max. temperature is 180° F @ 200 psi. The 303 stainless steel nozzle is more corrosion resistant than the bronze nozzle.

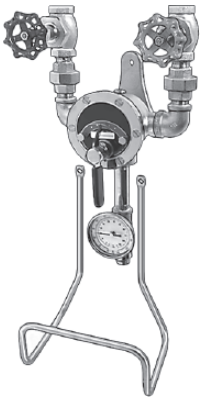

Temperature-Driven Valve

Valve Systems

Body Material	Max. Flow Rate, gpm	Outlet Temp. Range	End-to-End Lg.		
Manually Activated Valves					
Chrome-Plated Bronze	9	60° to 180° F	6"	3062K9	$1,107.77
316 Stainless Steel	7	60° to 180° F	6"	3062K31	1,443.55
Manually Activated Valve with Safety Shut-Off					
Bronze	7	60° to 180° F	6"	3062K51	1,535.16
Temperature-Driven Valve					
Chrome-Plated Bronze	9	60° to 180° F	7 1/2"	3062K29	1,884.06

Optional 50-ft. Hose with Fittings

With Bronze Nozzle	3062K55	576.26
With 303 Stainless Steel Nozzle	3062K77	886.56

Temperature-Regulating Valves

For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	5/8″	3/4″	1″	1 3/8″	1 5/8″	1 7/8″	2 3/8″	3 1/2″
Pipe Size	3/8	1/2	3/4	1	1 1/4	1 1/2	2	3

Temperature-Regulating Valves with Compression Fittings for Drinking Water



- Max. Inlet Pressure: 150 psi
- Max. Inlet Temp.: 180° F

Often used in tubing systems with low-flow drinking water faucets and fixtures, this valve meets NSF/ANSI Standard 61. It blends hot and cold water to automatically maintain a set outlet temperature. Adjust the outlet temperature within the range and tighten the adjustment screw to prevent unintentional changes. Valve has compression fittings that bite down on hard metal and plastic tubing for a secure seal. Body is brass and seal is Buna-N. Valve meets ASSE 1070. Inlet is on the bottom and outlet is on top.

For Tube OD	Max. Flow Rate, gpm	Outlet Temp. Range	End-to-End Lg.		
3/8″	2.25	80° to 105° F	3 3/8″	5847T85	$202.71

Compact Remote-Reading Temperature-Regulating Valves



- Use with water, oil, and steam

Nearly half the height of our other remote-reading temperature-regulating valves, these are often used in low-clearance areas. They have an external sensor that opens and closes the valve based on temperature changes in your tank or pipeline. Use the nut to adjust the set temperature within the range. Body is brass. Sensor is 6 3/8″ Lg. × 5/8″ Dia. and has a 6-ft. long cable. Connections are NPT female.

304 stainless steel sensors and cables are more corrosion resistant than brass and copper sensors and cables.

Valves that are closed until temperature rises are also known as reverse-acting valves. They're commonly used to cool oil or water from heat exchangers, chillers, and compressors. As the temperature in your tank or pipeline rises to the set temperature, the valve opens to let in cold water or oil. When the tank or pipeline temperature cools to the set temperature, the valve closes again.

Valves that are open until temperature rises are also known as direct-acting valves. They're often used with boilers and steam tables in washing and sterilizing applications. As the temperature in your tank or pipeline rises to the set temperature, the valve closes. As the tank or pipeline temperature falls below the set temperature, the valve opens again to let in hot water or steam.

Optional thermowells (sold separately) protect the sensor from pressure, shock, and corrosion in tanks and pipelines. They also isolate the contents of your process so the sensor can be removed without stopping flow or draining the system. *304 stainless steel thermowell* is more corrosion resistant than the brass thermowell.

Valves

To Order: Please specify temperature range from the chart.

Available Temperature Ranges

40° to 100° F	80° to 170° F	105° to 145° F	130° to 170° F
55° to 95° F	85° to 125° F	110° to 190° F	185° to 225° F

Pipe Size	Max. psi	End-to-End Lg.	Ht.	With Brass Sensor and Copper Cable		With 304 Stainless Steel Sensor and Cable	
Closed Until Temperature Rises							
1/2	125	6 1/8″	7 3/16″	4678K82	$588.29	4678K86	$845.47
3/4	125	6 1/8″	7 3/16″	4678K83	600.07	4678K87	857.25
1	125	6 1/8″	7 3/16″	4678K84	632.22	4678K88	889.39
Open Until Temperature Rises							
1/2	125	6 1/8″	7 3/16″	4678K42	588.29	4678K46	845.47
3/4	125	6 1/8″	7 3/16″	4678K43	600.07	4678K47	857.25
1	125	6 1/8″	7 3/16″	4678K44	632.22	4678K48	889.39

Optional Thermowells

Brass	4678K39	104.04
304 Stainless Steel	4678K49	123.92

Remote-Reading Temperature-Regulating Valves



With Dial Thermometer

- Use with water, oil, and steam

These valves have an external sensor that opens and closes the valve based on temperature changes in your tank or pipeline. Use the nut to adjust the set temperature within the range. Body is bronze for durability and a long service life. Sensor is copper and has an 8-ft. long copper cable. Connections are NPT female.

Valves with a dial thermometer display the sensor temperature. The dial can be rotated for easy viewing. Dial is 3″ dia.

Valves that are closed until temperature rises are also known as reverse-acting valves. They're commonly used to cool oil or water from heat exchangers, chillers, and compressors. As the temperature in your tank or pipeline rises to the set temperature, the valve opens to let in cold water or oil. When the tank or pipeline temperature cools to the set temperature, the valve closes again.

Valves that are open until temperature rises are also known as direct-acting valves. They're often used with boilers and steam tables in washing and sterilizing applications. As the temperature in your tank or pipeline rises to the set temperature, the valve closes. As the tank or pipeline temperature falls below the set temperature, the valve opens again to let in hot water or steam.

Optional thermowells (sold separately) protect the sensor from pressure, shock, and corrosion in tanks and pipelines. They also isolate the contents of your process so the sensor can be removed without stopping flow or draining the system. *316 stainless steel* thermowells are more corrosion resistant than brass thermowells.

Valves

To Order: Please specify temperature range from the chart.

Available Temperature Ranges

Temp. Range	Sensor Lg.	Sensor Dia.	Temp. Range	Sensor Lg.	Sensor Dia.
45° to 145° F	19″	1″	120° to 200° F	13 3/8″	5/8″
65° to 140° F	15 5/8″	1″	120° to 230° F	13 3/8″	5/8″
65° to 170° F	15 5/8″	1″			

Pipe Size	Max. psi	End-to End Lg.	Ht.	Without Thermometer		With Dial Thermometer	
Closed Until Temperature Rises							
1/2	250	5 1/2″	10″	5473T11	$976.44	5473T21	$1,169.07
3/4	90	5 1/2″	10″	5473T12	999.05	5473T22	1,191.66
1	65	7 1/4″	13″	5473T13	1,105.41	5473T23	1,298.02
1	250	7 1/4″	13″	5473T32	1,223.24	5473T42	1,396.58
1 1/4	40	9″	13″	5473T14	1,150.87	5473T24	1,324.25
2	250	9″	13″	5473T35	1,602.33	5473T45	1,775.69
Open Until Temperature Rises							
1/2	250	5 1/2″	10″	4872T11	976.42	4872T21	1,169.09
3/4	90	5 1/2″	10″	4872T12	999.05	4872T22	1,191.66
3/4	250	7 1/4″	13″	4872T31	1,257.86	4872T41	1,450.44
1	65	7 1/4″	13″	4872T13	1,105.35	4872T23	1,298.02
1	250	7 1/4″	13″	4872T32	1,223.24	4872T42	1,396.58
1 1/4	250	9″	13″	4872T33	1,370.18	4872T43	1,543.56
1 1/2	30	9″	13″	4872T15	1,208.89	4872T25	1,382.27
1 1/2	250	9″	13″	4872T34	1,413.95	4872T44	1,587.27
2	250	9″	13″	4872T35	1,602.35	4872T45	1,775.71

Optional Thermowells

For Temp. Range	Brass		316 Stainless Steel	
45° to 145° F	4872T48	$223.10	4872T49	$618.00
65° to 140° F	4872T51	205.08	4872T53	521.88
65° to 170° F	4872T51	205.08	4872T53	521.88
120° to 200° F	4872T52	193.41	4872T54	409.18
120° to 230° F	4872T52	193.41	4872T54	409.18

Sump Pump Valves with Hose Clamps



- Use with water
- Max. Pressure: 25 psi @ 70° F
- Temp. Range: 33° to 130° F

Prevent dirty water from flowing back to your pump. Valves have flexible couplers with hose clamps to slip over ABS, PVC, or steel pipe or copper tubing for easy installation. Body is ABS and seal is EPDM rubber and stainless steel. At least 2 psi is required to open valves. Install for horizontal or upward flow.

For Pipe Size	Lg.	Color		
1¼ and 1½	4 13/16"	Black	7744K11	$13.20
2	6"	Green	7744K12	26.86

Brass Float Valves



With Copper Float



With Bobbing Polypropylene Float

- Use with water
- Temp. Range: 50° to 175° F

Control water levels in processing tanks and cooling towers. Valve bodies are elbow style. Body and float rod are brass; seal is Buna-N. Mount in an open tank.

Use valves **with a bobbing float** in tanks where the float may get jostled. The float moves independently of the rod, so valve operation is not disrupted.

Valves with a **discharge outlet** release contents into your tank; the outlet is unthreaded.

Pipe Size	Flow Rate @ 50 psi	Max. psi	Float Dia.	Float Rod Lg.	With Copper Float		With Bobbing Copper Float		With Bobbing Polypropylene Float	
NPT Male Inlet × NPT Male Outlet										
3/8	10.4 gpm	125	5"	10"	4661K61	$63.75				
1/2	16 gpm	125	5"	10"	4661K62	67.86	7884K32	$58.00	7884K35	$41.07
3/4	28.8 gpm	100	5"	10"	4661K63	70.54	7884K33	70.00	7884K36	43.21
1	55 gpm	100	6"	10"	4661K64	99.74	7884K34	87.14	7884K37	61.07
NPT Female Inlet × NPT Female Outlet										
1¼	98 gpm	125	5"	10"	4661K65	185.71				
1½	98 gpm	125	6"	10"	4661K66	190.00				
NPT Female Inlet × Unthreaded Discharge Outlet										
1¼	140 gpm	115	8"	12"	4661K47	164.38				
1½	140 gpm	115	8"	12"	4661K48	176.10				
2	140 gpm	115	8"	12"	4661K59	194.12				

Bronze Float Valves

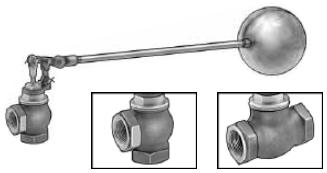

Elbow

Straight

- Use with water and hydraulic fluid
- Temp. Range:
  -50° to 180° F (Neoprene seal);
  -50° to 350° F (PTFE seal)

With a durable bronze body, these float valves can be used with water and hydraulic fluid. Use them to control liquid levels in processing tanks and cooling towers. They have a 360° rotating joint that allows you to alter the angle between the valve body and rod to fit in your tank. Float is copper and float rod is brass. Mount in an open tank. Connections are NPT female.

Pipe Size	Flow Rate @ 50 psi	Max. psi	Float Dia.	Float Rod Lg.	*Neoprene Seal* Elbows		*Neoprene Seal* Straights		*PTFE Seal* Elbows		*PTFE Seal* Straights	
1/2	30 gpm	100	5"	16"	47365K91	$196.00	4656K71	$203.07	47365K71	$234.74	4656K81	$240.91
3/4	50 gpm	100	5"	16"	47365K92	195.79	4656K72	203.07	47365K72	234.74	4656K82	241.26
1	75 gpm	100	6"	18"	47365K93	227.34	4656K73	245.07	47365K73	279.64	4656K83	293.91
1¼	100 gpm	100	6"	18"	47365K94	268.33	4656K74	286.43	47365K74	336.90	4656K84	367.76
1½	125 gpm	100	6"	18"	47365K95	301.76	4656K75	320.45	47365K75	391.24	4656K85	398.07
2	175 gpm	75	8"	18"	47365K96	552.21	4656K76	621.23	47365K76	681.64	4656K86	827.05
3	400 gpm	75	9"	24"	47365K97	797.74	4656K77	1,060.78	47365K77	987.71	4656K87	1,250.80

Easy-Adjust Float Valves

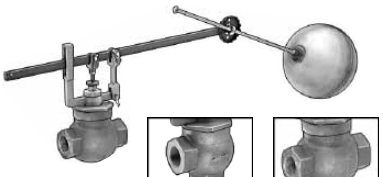

Elbow

Straight

- Use with water and hydraulic fluid
- Temp. Range:
  35° to 125° F (Neoprene seal);
  35° to 405° F (Bronze seal)

Adjust these float valves to open or close at different liquid levels without removing from your tank—the extendable rod allows you to alter the angle and length of the float rod. Float is 304 stainless steel and float rod is brass. Mount in an open tank. Connections are NPT female.

Pipe Size	Float Dia.	Float Rod Lg.	*Neoprene Seal* Flow Rate @ 50 psi	Max. psi	*Neoprene Seal* Elbows		*Neoprene Seal* Straights		*Bronze Seal* Flow Rate @ 50 psi	Max. psi	*Bronze Seal* Elbows		*Bronze Seal* Straights	
With Bronze Valve Body														
1/2	7"	16"	46 gpm	130	4812K2	$706.25	4651K11	$706.25						
3/4	7"	16"	46 gpm	130	4812K3	717.46	4651K12	717.46	40 gpm	150	4812K33	$636.51	4651K52	$636.51
1	7"	16"	94 gpm	100	4812K4	769.84	4651K43	769.84	64 gpm	150	4812K34	715.87	4651K53	715.87
1¼	7"	16"	134 gpm	80	4812K5	858.73	4651K44	858.73	108 gpm	120	4812K35	769.84	4651K54	769.84
1½	7"	16"	215 gpm	65	4812K6	942.86	4651K45	942.86	154 gpm	100	4812K36	907.94	4651K55	907.94
With Cast Iron Valve Body														
2	7"	16"	430 gpm	50	4812K7	1,159.38	4651K46	1,159.38	377 gpm	75	4812K37	1,164.06	4651K58	1,164.06

Float Valves

For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	1/2"	5/8"	3/4"	1"	1 3/8"	1 7/8"
Pipe Size	1/4	3/8	1/2	3/4	1	1 1/2

Compact Metal Float Valves



- Use with water
- Temp. Range: 50° to 175° F

Smaller than other float valves, these are sized for containers with limited space. Use them to control water levels in processing tanks and cooling towers. Valve bodies are elbow style. Body and float rod are brass; seal is Buna-N. Float is polyethylene, unless noted. Mount in an open tank.

Valves with a **discharge outlet** release contents into your tank; the outlet is unthreaded.

Inlet	Outlet	Flow Rate @ 50 psi	Max. psi	Float Lg.	Float Wd.	Float Ht.	Float Rod Lg.		
NPT Male Inlet x Unthreaded Discharge Outlet									
3/8 NPT	———	1.5 gpm	125	3 3/4"	2 5/8"	1 7/16"	6"	4607K42	$12.97
3/8 NPT	———	1.5 gpm	125	5 1/4"	1 1/2"	1 1/2"	6"	4607K44★	14.67
NPT Male Inlet x Compression Outlet									
1/2 NPT	For 3/8" Tube OD	1.3 gpm	125	3 3/4"	2 5/8"	1 7/16"	6"	4607K43	19.54
Compression Inlet x Unthreaded Discharge Outlet									
For 1/4" Tube OD	———	1.5 gpm	125	3 3/4"	2 5/8"	1 7/16"	6"	4607K41	11.90

★Float is polypropylene.

PVC Float Valves

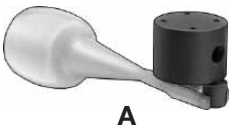

A



B C

- Use with water
- Temp. Range: 35° to 110° F

with Extended Threads

Use these float valves to control water levels in processing tanks and cooling towers. Body is PVC. Mount in an open tank.

Straights have a polypropylene float and float rod; seal is fluoroelastomer. Color is gray.

Elbows have a PVC float, 318 stainless steel float rod, and a Santoprene seal. *Style C* have extended threads for installation through a tank wall. They include a nut and washer for mounting.

Straights—NPT Female Inlet x NPT Female Outlet

	Pipe Size	Flow Rate @ 40 psi	Max. psi	Float Dia.	Float Rod Lg.		
A	1/4	3 gpm	65	4 1/2"	8 3/8"	9799K21	$215.60
A	1/2	3 gpm	65	4 1/2"	8 3/8"	9799K23	263.86
A	3/4	7 gpm	65	4 3/4"	10 1/2"	9799K24	330.00
A	1	12.5 gpm	65	4 3/4"	10 1/2"	9799K25	402.75

Elbows—NPT Male Inlet x NPT Male Outlet

	Pipe Size	Flow Rate @ 50 psi	Max. psi	Float Dia.	Float Rod Lg.		
B	3/4	15 gpm	100	6"	12"	5741K25	$36.00
B	3/4	32 gpm	100	6"	12"	5741K18	36.00
C	3/4	15 gpm	100	6"	12"	5741K28	37.39
C	3/4	32 gpm	100	6"	12"	5741K26	37.39

Polypropylene Float Valves

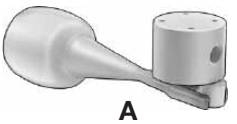

A

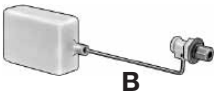

B

- Use with water
- Temp. Range: 35° to 175° F

Able to withstand higher temperatures than PVC float valves, use these valves to control water levels in processing tanks and cooling towers. Valve bodies are straight style. Body is polypropylene. Mount in an open tank.

Style A valves have a polypropylene float and float rod; seal is fluoroelastomer. Color is white.

Style B valves are for small-scale applications using tubing. Float is polyethylene, float rod is brass, and seal is Buna-N. The discharge outlet releases contents into your tank; outlet is unthreaded.

(A) NPT Female Inlet x NPT Female Outlet

Pipe Size	Flow Rate @ 40 psi	Max. psi	Float Dia.	Float Rod Lg.		
1/4	3 gpm	65	4 1/2"	8 3/8"	9799K41	$268.59
1/2	3 gpm	65	4 1/2"	8 3/8"	9799K43	285.79
3/4	7 gpm	65	4 3/4"	10 1/2"	9799K44	393.55
1	12.5 gpm	65	4 3/4"	10 1/2"	9799K45	464.66

(B) Compression Inlet x Unthreaded Discharge Outlet

For Tube OD	Flow Rate @ 55 psi	Max. psi	Float Lg.	Float Wd.	Float Ht.	Float Rod Lg.		
For Plastic Tubing								
1/4"	1.6 gpm	125	4 1/2"	2 1/2"	1 1/2"	6"	4609K75	$4.94
For Copper Tubing								
1/4"	1.6 gpm	125	4 1/2"	2 1/2"	1 1/2"	6"	4609K74	5.14

Compact Plastic Float Valves



- Use with water
- Temp. Range: 35° to 160° F

Smaller than other float valves, these are sized for containers with limited space. They also minimize noisy water hammer. Use them to control water levels in processing tanks and cooling towers. Valve bodies are elbow style. Body is nylon, float is polyethylene, float rod is brass, diaphragm is polyurethane, and seal is neoprene. Mount in an open tank. Connections are NPT female.

Valve with pipe size 1 includes adapters to reduce to 3/8, 1/2, and 3/4 pipe size.

Pipe Size	Flow Rate @ 50 psi	Max. psi	Float Lg.	Float Wd.	Float Rod Lg.		
1	84 gpm	80	4"	3 1/4"	5 3/4"	4482K71	$71.41
1 1/2	182 gpm	80	4"	3 1/4"	5 3/4"	4482K75	125.33

Extra-Compact Plastic Float Valves





- Use with water
- Temp. Range: 35° to 150° F

Control the water level in spaces where a rod and lever won't fit; these float valves have an internal float and connect to your pipe. When the water level reaches the bottom of the valve, the float rises to stop the flow. Valve bodies are straight style. Body is nylon, float is ABS plastic, and seal is silicone. Mount in an open tank. Connections are NPT female.

Pipe Size	Flow Rate @ 50 psi	Max. psi	Overall Dia.	Overall Ht.		
1/2	22 gpm	65	2 3/4"	5"	46585K42	$37.51
1	70 gpm	100	3 3/4"	5"	46585K44	37.51

Float Valves for Chemicals

- Use with chemicals, acetone, alcohol, and hydraulic fluid
- Temp. Range: 35° to 350° F

Made of stainless steel, these float valves have excellent corrosion resistance even when exposed to chemicals. Body and float rod are 316 stainless steel, float is 304 stainless steel, and seal is PTFE. Connections are NPT female.

Valves for open tanks are for use only in an open tank.

Valves for closed tanks are designed to withstand the pressure in a closed tank.

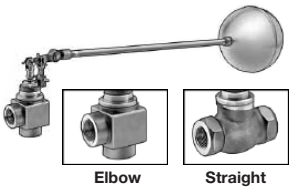

Pipe Size	Flow Rate @ 50 psi	Max. psi	Float Dia.	Float Rod Lg.	For Open Tanks: Elbows		For Open Tanks: Straights		For Closed Tanks: Elbows		For Closed Tanks: Straights	
1/2	30 gpm	100	5″	16″	7903K51	$486.59	7903K71	$497.00	47395K51	$623.86	47395K71	$633.48
3/4	50 gpm	100	5″	16″	7903K52	487.52	7903K72	497.00	47395K52	605.71	47395K72	633.48
1	75 gpm	100	6″	18″	7903K53	623.31	7903K73	647.67	47395K53	806.45	47395K73	830.48
1 1/2	125 gpm	100	6″	18″	7903K54	929.02	7903K74	956.41	47395K54	1,089.81	47395K74	1,039.13

Float Valves for Food and Beverage

- Temp. Range: 35° to 450° F (Fluoroelastomer seal); 35° to 550° F (PTFE seal)

These float valves meet NSF/ANSI Standard 169 for food-equipment components. They can withstand the corrosive solutions and high temperatures found in harsh cleaning procedures required for food-processing applications. Valve bodies are elbow style. Body, float, and float rod are 316 stainless steel. Mount in an open tank. Connections are NPT female.



Pipe Size: Inlet	Pipe Size: Outlet	Flow Rate @ 50 psi	Max. psi	Float Dia.	Float Rod Lg.	Fluoroelastomer Seal		PTFE Seal	
3/8	3/8	48 gpm	85	5″	10″	4634K29	$868.14	4634K59	$930.74
1/2	1/2	48 gpm	85	5″	10″	4634K31	869.47	4634K61	930.74
3/4	3/4	48 gpm	85	5″	10″	4634K33	869.47	4634K63	930.72
1	3/4	57.5 gpm	85	8″	10″	4634K41	1,018.05	4634K71	1,076.72

Compact Float Valves for Food and Beverage

- Temp. Range: 35° to 175° F

Smaller than other float valves, these are sized for containers with limited space. They meet NSF/ANSI Standard 169 for food-equipment components and have excellent corrosion resistance. Valve bodies are straight style. Body and float rod are 316 stainless steel; seal is fluoroelastomer. Mount in an open tank. Inlet is NPT male. Outlet is for discharge; it is unthreaded and releases contents into your tank.

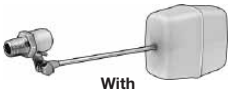

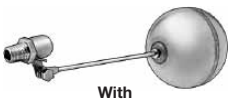

Inlet Pipe Size	Flow Rate @ 50 psi	Max. psi	Float: Dia.	Float: Lg.	Float: Wd.	Float: Ht.	Float Rod Lg.		
With Polypropylene Float									
1/4	1.6 gpm	125	—	3 3/4″	2 11/16″	1 7/16″	6″	4605K81	$38.72
With 316 Stainless Steel Float									
1/4	1.6 gpm	125	3″	—	—	—	6″	4605K89	70.93

Compact Float Valves with Plastic Reservoir for Food and Beverage

- Temp. Range: 35° to 175° F

Commonly used in ice-making machines, these valves have floats that rest inside a clear polycarbonate reservoir. They meet NSF/ANSI Standard 169 for food-equipment components. Reservoir is 5″ Lg. × 2 1/2″ Dp. × 4 1/2″ Ht. and has a removable cover. Float is polypropylene, float rod is 316 stainless steel, and seal is Buna-N. Valves have two drain holes on the bottom for connecting to 1/2″ ID soft tubing. Inlet is a compression fitting. Outlet is for discharge; it is unthreaded and releases contents into your tank.

Valve with side inlet is straight style. Body is acetal.

Valve with top inlet is elbow style. Body is brass.





For Tube OD	Flow Rate @ 55 psi	Max. psi	With Side Inlet: Float Rod Lg.			With Top Inlet: Float Rod Lg.		
1/4″	0.3 gpm	125	3″	7973K55	$34.48	4″	7973K48	$38.22

Float Valves for Draining Condensate

- Use with inert gas
- Temp. Range: 35° to 450° F

Automatically remove condensate from compressed air or inert gas lines—these float valves have a float-operated drain control. Install them as a condensate trap after the separator in your system. All are straight style. Float is 304 stainless steel and housing is cast iron. Valves meet ASTM Class 30. Connections are NPT female; inlet is on top and outlet is on the bottom.

Valves with a 420 stainless steel body have a top vent and a 1/4 NPT female drain with plug. Seal is carbon steel.

Valve with a 303 stainless steel body has a 3/4 NPT female drain with plug. Seal is Buna-N.





Pipe Size	Capacity @ 70° F	Max. psi	Overall: Ht.	Overall: Wd.		
420 Stainless Steel Body						
1/2	600 lbs./hr.	250	6 11/16″	5 5/8″	4915K2	$294.53
3/4	600 lbs./hr.	250	6 11/16″	5 5/8″	4915K5	294.53
303 Stainless Steel Body						
3/4	1,750 lbs./hr.	250	5 1/2″	6 3/4″	4915K3	268.26

Floats

For information about pipe size, see pages 2-3.

Note: To choose the correct pipe size, measure the threaded inside diameter (ID) or outside diameter (OD) of your pipe or valve, round up to the nearest threaded ID or OD below, and read down to find the corresponding pipe size.

Threaded ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2

Threaded Floats



Round Polypropylene



Oblong Polypropylene



Cylindrical



Rectangular



Round Stainless Steel, Copper, and Steel



Oblong Stainless Steel, Copper, and Steel

Connect these floats to threaded float rods. Use them to replace an existing float or combine with rods and float valve bodies to build a float valve. Connections are female.

Polypropylene floats are lightweight and have good corrosion resistance. Use them in open tanks. Temperature range is 35° to 175° F. *Round* floats are UV resistant. Color is black. *Oblong, cylindrical,* and *rectangular* floats are off-white. *Rectangular float with slot* is self-tapping when used with a threaded rod.

Stainless steel floats have excellent corrosion resistance. Use in an open or closed tank. Temperature range is -30° to 225° F.

Copper floats are for use in open tanks. Temperature range is 50° to 180° F.

Steel floats can be used in open or closed tanks. Temperature range is 35° to 210° F.

Polypropylene Floats—For Water

Dia.	Lg.	Wd.	Ht.	Pipe/Thread Size	Max. psi		
Round with UNC Connection							
5"	—	—	—	1/4"-20	Not Rated	9775K14	$9.34
6"	—	—	—	1/4"-20	Not Rated	9775K16	9.50
6"	—	—	—	5/16"-18	Not Rated	9775K51	9.50
8"	—	—	—	1/4"-20	Not Rated	9775K52	21.82
8"	—	—	—	5/16"-18	Not Rated	9775K54	21.82
8"	—	—	—	3/8"-16	Not Rated	9775K53	21.82
Round with NPT Connection							
8"	—	—	—	3/8	Not Rated	9775K18	18.79
Oblong with UNC Connection							
4"	5"	—	—	1/4"-20	Not Rated	9775K12	5.45
Cylindrical with UNC Connection							
1 1/2"	3"	—	—	6-32/8-32	Not Rated	9775K63	3.00
1 1/2"	3 3/4"	—	—	6-32/8-32	Not Rated	9775K29	3.62
1 1/2"	2 1/2"	—	—	8-32	Not Rated	9775K34	3.10
1 5/8"	5 1/4"	—	—	8-32	Not Rated	9775K25	3.80
2"	3/4"	—	—	6-32	Not Rated	9775K35	2.88
2"	3 3/4"	—	—	8-32	Not Rated	9775K38	4.17
2 3/4"	1 3/4"	—	—	8-32	Not Rated	9775K27	3.00
2 3/4"	1 3/4"	—	—	1/4"-20	Not Rated	9775K62	3.05
4"	6"	—	—	1/4"-20	Not Rated	9775K21	6.05
Rectangular with UNC Connection							
—	2 1/4"	3 3/8"	1"	8-32	Not Rated	9775K64	3.33
—	3 3/4"	2 5/8"	2 1/4"	8-32	Not Rated	9775K23	2.85
—	3 3/4"	2 5/8"	2 1/4"	1/4"-20	Not Rated	9775K61	2.60
Rectangular with Slot							
—	2 3/4"	1 1/4"	1 1/4"	—	Not Rated	9775K41	9.25

Stainless Steel Floats—For Water and Oil

Dia.	Pipe/Thread Size	Max. psi	Ga.	304 Stainless Steel		316 Stainless Steel	
Round with UNC Connection							
2"	8-32	750	25	2817K11	$13.09	2762K31	$17.35
2"	1/4"-20	750	25	2817K12	12.46	2762K32	17.56
2 1/2"	1/4"-20	375	24	2817K13	16.90	2762K33	26.87
2 3/4"	1/4"-20	250	26	2817K14	17.71	—	—
3"	1/4"-20	150	26	2817K15	24.84	2762K35	27.11
3"	1/4"-20	750	21	2817K16	20.88	2762K36	21.19
3 1/4"	1/4"-20	250	24	2817K17	32.45	2762K37	47.11
5"	1/4"-20	337	20	2817K24	51.57	2762K44	61.69
6"	1/4"-20	450	18	2817K27	85.54	2762K47	125.30
6"	3/8"-16	300	20	2817K51	84.34	2762K71	124.10
Round with NPT Connection							
3 1/2"	1/8	250	24	2817K18	25.40	2762K38	36.39
3 1/2"	1/8	750	21	2817K19	25.62	2762K39	28.72
4"	1/8	112	24	2817K21	42.89	2762K41	78.92
4"	1/8	750	20	2817K22	37.65	2762K42	45.36
4 1/2"	1/8	562	20	2817K83	44.32	2762K83	60.88
5"	1/4	675	19	2817K25	46.32	2762K85	72.87
6"	1/4	300	20	2817K28	79.10	2762K48	124.10
6"	1/4	450	18	2817K29	85.54	2762K49	125.30
7"	3/8	250	20	2817K32	119.88	2762K52	157.47
7"	3/8	350	18	2817K33	100.15	2762K53	166.87
8"	3/8	175	20	2817K34	139.12	2762K54	178.31
8"	3/8	275	18	2817K35	183.13	2762K55	192.78
8"	3/8	425	14	—	—	2762K56	545.00
9"	3/8	250	18	—	—	2762K57	454.00
10"	3/8	200	18	2817K37	355.42	—	—
10"	3/8	300	14	2817K38	529.09	2762K58	726.67
12"	3/8	250	14	2817K39	610.77	2762K59	847.27
14"	1/2	160	14	2817K41	773.33	—	—

Stainless Steel Floats—For Water and Oil (Cont.)

Dia.	Lg.	Pipe/Thread Size	Max. psi	Ga.	304 Stainless Steel		316 Stainless Steel	
Oblong with UNC Connection								
2 1/2"	4"	1/4"-20	75	26	2817K42	$31.81	2762K62	$36.56
3"	5"	1/4"-20	137	20	2817K43	70.72	2762K63	85.19
3"	6"	1/4"-20	137	20	2817K44	77.47	2762K64	92.00
3"	7"	1/4"-20	150	20	2817K45	43.11	2762K65	60.93
4"	7"	1/4"-20	150	20	2817K46	58.43	2762K66	81.76
Oblong with NPT Connection								
4"	6"	1/4	125	20	2817K47	93.13	2762K67	115.50
6"	8"	1/4	125	20	2817K48	170.24	2762K68	187.95

Copper Floats—For Water

Dia.	Lg.	Pipe/Thread Size	Max. psi	Ga.		
Round with UNC Connection						
2"	—	8-32	Not Rated	24	2892K11	$12.18
2"	—	1/4"-20	Not Rated	24	2892K12	16.47
2 1/2"	—	1/4"-20	Not Rated	24	2892K14	14.94
3"	—	1/4"-20	Not Rated	24	2892K15	16.35
4"	—	1/4"-20	Not Rated	22	2892K17	25.48
5"	—	1/4"-20	Not Rated	22	2892K21	28.76
6"	—	1/4"-20	Not Rated	23	2892K24	32.30
6"	—	5/16"-18	Not Rated	23	2892K25	28.47
6"	—	3/8"-16	Not Rated	23	2892K26	43.81
8"	—	3/8"-16	Not Rated	20	2892K32	82.42
10"	—	3/8"-16	Not Rated	20	2892K35	109.33
12"	—	3/8"-16	Not Rated	18	2892K37	151.12
Round with NPT Connection						
4"	—	1/8	Not Rated	23	2892K18	21.95
5"	—	1/4	Not Rated	23	2892K22	26.57
6"	—	1/4	Not Rated	23	2892K27	32.76
7"	—	3/8	Not Rated	21	2892K31	39.27
8"	—	3/8	Not Rated	21	2892K33	45.03
9"	—	3/8	Not Rated	20	2892K34	85.15
10"	—	3/8	Not Rated	19	2892K36	97.06
12"	—	1/2	Not Rated	18	2892K38	146.51
Oblong with UNC Connection						
3"	7"	1/4"-20	Not Rated	24	2892K41	30.13
4"	5"	1/4"-20	Not Rated	24	2892K42	42.58
4"	7"	1/4"-20	Not Rated	24	2892K43	30.71

Steel Floats—For Oil

Dia.	Lg.	Pipe/Thread Size	Max. psi	Ga.		
Round with UNF Connection						
2"	—	10-32	210	24	46595K11	$9.69
Round with UNC Connection						
3"	—	1/4"-20	175	24	46595K14	13.76
4"	—	1/4"-20	175	22	46595K16	18.27
5"	—	1/4"-20	280	20	46595K17	22.04
5"	—	1/4"-20	490	18	46595K18	23.90
Round with NPT Connection						
6"	—	1/4	105	20	46595K21	29.16
6"	—	1/4	490	16	46595K23	36.34
7"	—	3/8	105	20	46595K25	41.79
7"	—	3/8	280	18	46595K26	43.57
8"	—	3/8	210	18	46595K28	49.12
8"	—	3/8	490	14	46595K31	54.99
10"	—	3/8	175	16	46595K33	74.74
10"	—	3/8	280	14	46595K34	82.11
12"	—	1/2	245	14	46595K35	131.87
Oblong with UNC Connection						
3"	5 1/2"	1/4"-20	350	18	46595K41	30.79
4"	6"	1/4"-20	280	20	46595K42	27.89

Through-Hole Floats

The through-hole connection allows these floats to slide up and down a vertical float rod. Use clamps to set them in a fixed position. Floats are for use in open tanks.

Copper floats have a temperature range of 50° to 180° F.

Stainless steel floats are more corrosion resistant than copper floats. Temperature range is -30° to 225° F.



Copper



Stainless Steel

Copper Oblong Floats

Dia.	Lg.	Through Hole Dia.	Max. psi	Ga.		
For Water						
3″	7″	1/4″	Not Rated	24	**2892K46**	$40.85
3″	7″	3/8″	Not Rated	24	**2892K47**	41.30
3″	7″	1/2″	Not Rated	24	**2892K48**	43.62
4″	7″	1/4″	Not Rated	24	**2892K49**	41.61
4″	7″	3/8″	Not Rated	24	**2892K51**	42.02
4″	7″	1/2″	Not Rated	24	**2892K52**	43.40
6″	8″	3/8″	Not Rated	22	**2892K53**	88.59
6″	10″	3/8″	Not Rated	22	**2892K54**	113.79

Stainless Steel Round Floats

Dia.	Through Hole Dia.	Max. psi	Ga.	304 Stainless Steel		316 Stainless Steel	
For Water							
2″	1/4″	300	24	**2832K11**	$15.17	**2885K11**	$17.70
For Water and Hydraulic Fluid							
3″	1/4″	250	24	**2832K13**	21.90	**2885K13**	24.33
4″	1/4″	500	20	**2832K14**	42.47	**2885K14**	45.70
4″	3/8″	500	20	**2832K15**	42.47	**2885K15**	45.70
5″	3/8″	400	20	**2832K21**	57.16	**2885K21**	60.63
6″	1/4″	150	20	**2832K23**	68.18	**2885K23**	70.54
6″	3/8″	150	20	**2832K24**	68.18	**2885K24**	70.54
6″	1/2″	150	20	**2832K25**	68.18	**2885K25**	70.54
7″	3/8″	150	20	**2832K27**	84.15	**2885K27**	90.80
8″	3/8″	150	20	**2832K29**	87.92	**2885K29**	106.82
8″	1/2″	150	20	**2832K31**	92.53	**2885K31**	116.88

Floats without Connections

These floats are untethered by a float rod so they can float freely in your open or closed tank. Use with water, oil, and hydraulic fluid. Temperature range is -30° to 225° F.

316 stainless steel floats are more corrosion resistant than 304 stainless steel floats.



Dia.	Max. psi	Gauge	304 Stainless Steel		316 Stainless Steel	
2″	250	26	**2833K42**	$20.88	**2833K92**	$26.62
3″	250	24	**2833K16**	28.80	**2833K66**	33.12
4″	375	20	**2833K21**	60.00	**2833K71**	69.62
5″	500	18	**2833K24**	81.50	**2833K74**	100.62
6″	450	18	**2833K26**	88.75	**2833K76**	130.00
8″	275	18	**2833K32**	183.13	**2833K82**	209.04
10″	200	18	**2833K36**	496.36	—	—
12″	150	14	**2833K97**	710.91	**2833K98**	847.27

Floats for Chemicals

Made of polyethylene, these floats can be used with chemicals, salts, and caustic fluids. Use in an open tank. Temperature range is 35° to 140° F. Connections are female.

Round floats are UV resistant. Color is black.

Rectangular float is off-white.



Round



Rectangular

Round

Dia.	Thread Size	Max. psi		
6″	1/4″-20	Not Rated	**8154K11**	$16.27
6″	5/16″-18	Not Rated	**8154K21**	19.34
8″	1/4″-20	Not Rated	**8154K51**	20.36
8″	5/16″-18	Not Rated	**8154K41**	19.97
8″	3/8″-16	Not Rated	**8154K31**	18.74

Rectangular

Lg.	Wd.	Ht.	Thread Size	Max. psi		
3 3/4″	2 1/2″	1 7/16″	8-32	Not Rated	**8154K61**	$3.35

Float Valve Bodies

- Temp. Range:
  35° to 180° F (Buna-N seal);
  35° to 450° F (Fluoroelastomer seal);
  35° to 550° F (PTFE seal)

Combine these float valve bodies with floats and rods to create float valves that meet exact specifications.

316 stainless steel float valve bodies have excellent corrosion resistance even when exposed to chemicals. *Float valve bodies with a PTFE seal* withstand higher temperatures than float valve bodies with a fluoroelastomer seal.

Float valve bodies with a **discharge outlet** release contents into your tank; the outlet is unthreaded.



Brass—For Water

Pipe Size	Flow Rate @ 50 psi	Max. psi	For Rod Size	Buna-N Seal		Fluoroelastomer Seal	
NPT Male Inlet × NPT Male Outlet							
3/8	10.4 gpm	125	1/4″-20	**4652K11**	$23.84	**4652K15**	$29.04
1/2	16 gpm	125	1/4″-20	**4652K12**	25.56	**4652K16**	33.00
3/4	28.8 gpm	100	1/4″-20	**4652K13**	28.85	**4652K17**	35.96
1	55 gpm	100	1/4″-20	**4652K14**	40.80	**4652K18**	37.60
NPT Female Inlet × NPT Female Outlet							
1 1/4	98 gpm	125	1/4″-20	**4664K51**	126.02	**4664K53**	129.56
1 1/2	98 gpm	125	1/4″-20	**4664K52**	128.73	**4664K54**	135.60

Pipe Size	Flow Rate @ 50 psi	Max. psi	For Rod Size	Buna-N Seal		Fluoroelastomer Seal	
NPT Female Inlet × Unthreaded Discharge Outlet							
1 1/4	140 gpm	115	1/8 NPT	**4664K63**	$114.16	**4664K66**	$129.67
1 1/2	140 gpm	115	1/8 NPT	**4664K64**	114.16	**4664K67**	135.70
2	140 gpm	125	1/8 NPT	**4664K65**	85.59	**4664K68**	101.59
NPSM Male Inlet × NPT Male Outlet							
3/8	10.4 gpm	125	1/4″-20	**4652K21**	28.20	**4652K24**	31.22
1/2	16 gpm	125	1/4″-20	**4652K22**	29.79	**4652K25**	33.86
3/4	28.8 gpm	100	1/4″-20	**4652K23**	33.00	**4652K26**	38.40

316 Stainless Steel—For Chemicals and Caustic Fluid

Pipe Size Inlet	Pipe Size Outlet	Flow Rate @ 50 psi	Max. psi	For Rod Size	Fluoroelastomer Seal		PTFE Seal	
NPT Female Inlet × NPT Female Outlet								
1/2	1/2	48 gpm	85	1/4″-20	**4531K54**	$794.95	**4531K14**	$855.64
3/4	3/4	48 gpm	85	1/4″-20	**4531K56**	807.05	**4531K16**	867.74
1	3/4	57.5 gpm	85	3/8″-16	**4531K59**	877.85	**4531K19**	937.51
1 1/4	1 1/4	140 gpm	100	3/8″-16	**4531K61**	1,353.77	**4531K21**	1,411.49
1 1/2	1 1/2	140 gpm	100	3/8″-16	**4531K63**	1,425.84	**4531K23**	1,482.61
2	2	140 gpm	100	3/8″-16	**4531K65**	1,774.36	**4531K25**	1,826.78

Float Rods

Connect float valve bodies and floats with these rods. Rods have male threads on both ends.

316 stainless steel rods have greater corrosion resistance than brass rods.



Pipe/Thread Size	O'all Lg.	Brass Thread Lg.			316 Stainless Steel Thread Lg.		
1/4″-20	8″	1 1/2″	**4551K31**	$3.29	1/2″	**4551K21**	$7.85
1/4″-20	10″	1 1/2″	**4551K32**	3.73	1/2″	**4551K22**	8.45
1/4″-20	12″	1 1/2″	**4551K33**	4.50	1/2″	**4551K23**	8.85
5/16″-18	12″	1/2″	**4551K12**	7.78	—	—	—
3/8″-16	12″	1/2″	**4551K13**	10.93	1/2″	**4551K25**	16.29
1/8 NPT	12″	1/2″	**4551K14**	14.49	—	—	—

About Selecting a Mixer

Liquid Thickness and Mixing Speed

Liquid thickness and tank size determine the required mixing speed. Also known as viscosity, liquid thickness is measured in centipoise (cp).

- *Mixers for thin liquids* operate at high speeds for rapid tank turnover. They are also known as direct-drive mixers.
- *Mixers for thick liquids* turn the propeller at low speeds. They're commonly called gear-drive mixers.

Horsepower Recommendations

The motor must be strong enough to mix your liquid. The chart shows horsepower recommendations for ½ to 1 tank turnovers per minute.

- If you need more rapid mixing or are unsure of your viscosity, choose a mixer with more horsepower than the chart recommendation to prevent overloading.
- When mixing the contents of containers with a capacity less than 25 gallons, use a mixer with ¼ horsepower or lower.

Mixer Horsepower Recommendations

Viscosity, cp	Liquid Example	Mixer Horsepower — Tank Size, gal. 25	50	100	500	1,000	2,000	3,000
1	Water	¼	¼	¼	½	1	1½	2
100	Olive Oil	¼	¼	⅓	1	2	⅓	¾
500	SAE 40 Oil	½	½	½	2	¾	1	1½
1,000	SAE 60 Oil	1	1	1½	¾	1	1½	2
3,000	Honey	⅓	⅓	½	1	1½	2	–
5,000	Molasses	½	½	¾	1½	2	–	–
15,000	Silicone	¾	¾	1	–	–	–	–

Use a mixer for thin liquids Use a mixer for thick liquids

Mixer Mounting and Shafts

Improper mounting decreases efficiency and can damage the mixer. Mixers for drums, intermediate bulk containers, and pails are sized to fit in your container. For sizing and mounting mixers in larger tanks, follow these guidelines for optimal performance.

- When attaching the mixer to the side of the tank, angle the shaft 10° to 20° from the tank wall for the most efficient tank turnover.
- Clearance from the propeller to the bottom of the tank should be between one to two times the diameter of the propeller.
- For tanks that are deeper than they are wide, use a mixer with more than one propeller.

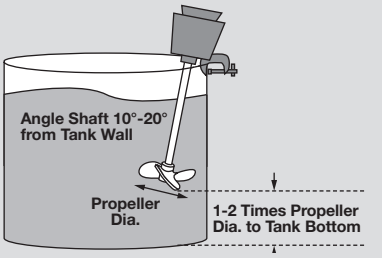

Air-Powered Mixers

Clamp-Mount Air-Powered Mixers for Tanks

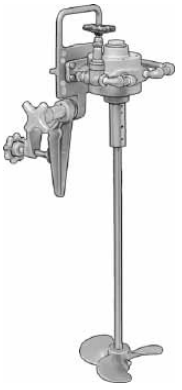
Single Propeller

Blend liquids and prevent separation with these mixers that attach to the side of your tank. They have a needle valve to adjust mixing speed. Air inlet connection is NPT female.

Shaft and propellers are 316 stainless steel. They attach with set screws. Propellers are left hand and move clockwise when viewed from above to direct flow downward for efficient mixing. 2 hp mixers can also be set to move counterclockwise for aeration. Choose a dual-propeller mixer for thorough mixing in tanks that are deeper than they are wide and for faster mixing than single-propeller mixers.

Mixers for thin liquids are for liquids with a viscosity similar to water and light oils. **Mixers for thick liquids** are for liquids with a viscosity similar to honey and molasses.

hp	Speed, rpm	Shaft Lg.	Shaft Dia.	Propeller Dia.	Air Consumption @ 80 psi, cfm	Air Inlet	Single Propeller		Dual Propeller	
For Thin Liquids										
1	300-1,750	27″	⅝″	6″	59	¼	34685K54	$899.00	34685K64	$1,024.00
1	300-1,750	36″	⅝″	6″	59	¼	34685K55	919.00	34685K65	1,040.00
1	300-1,750	48″	⅝″	6″	59	¼	34685K56	976.00	34685K66	1,053.00
2	300-1,750	27″	¾″	8″	110	½	34685K75	1,303.00	_____	_____
2	300-1,750	36″	¾″	8″	110	½	34685K76	1,321.00	34685K85	1,543.00
2	300-1,750	48″	¾″	8″	110	½	34685K77	1,350.00	34685K86	1,572.00
2	300-1,750	60″	¾″	8″	110	½	34685K78	1,353.00	34685K87	1,598.89
For Thick Liquids										
½	0-400	30″	¾″	9″	13	¼	_____	_____	3486K42	1,280.41
1	0-400	40″	¾″	11″	25	¼	_____	_____	3486K44	1,427.43
3	0-400	48″	1″	13″	89	½	_____	_____	3486K46	2,980.15

Air-Powered Mixers for Drums

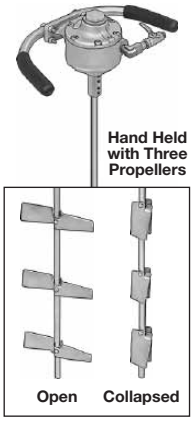

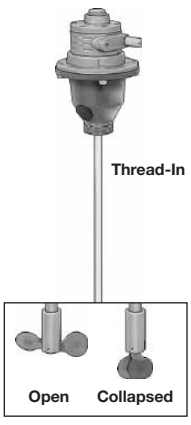

Collapsible propellers let you insert these mixers through a 2 NPT opening in 55-gal. drums, so there's no need to remove the lid. They're commonly used with thin liquids such as water and light oils. Adjust mixing speed with the needle valve. Air inlet connection is NPT female.

Shaft and propellers are 304 stainless steel, unless noted. They attach with set screws. Propellers are left hand and move clockwise when viewed from above to direct flow downward for efficient mixing. Choose a mixer with multiple propellers for faster and more thorough mixing than single-propeller mixers.

Hand Held—Manually direct mixing in your drum.

Thread-In—Screw this mixer into a drum opening for a secure connection.

Thread-In with Clamp—For reduced vibration and noise, this mixer has a clamp in addition to the thread-in connection.

Rim-Clamp Mount—These mixers attach directly to the drum lip.

hp	Speed, rpm	Shaft Lg.	Shaft Dia.	Propeller Qty.	Propeller Dia.	Air Consumption @ 80 psi, cfm	Air Inlet		
Hand Held									
1½	30-3,000	28″	⅜″	3	3″	60	¼	3476K71	$716.85
1½	30-3,000	36″	½″	4	6″	60	¼	3476K73	853.69
Thread-In									
½	300-1,750	29″	⅝″	1	3¾″	59	¼	35005K64★	585.00
Thread-In with Clamp									
1½	30-3,000	36″	½″	4	6″	60	¼	35005K71	1,131.72
Rim-Clamp Mount									
½	350-1,750	33⅛″	⅝″	1	3¾″	25	¼	35005K66★	747.00
1½	30-3,000	36″	½″	4	6″	60	¼	35005K73	1,109.42

★ Shaft and propeller are 316 stainless steel.

Flange-Mount Air-Powered Mixers for Tanks

For permanent installation with minimal vibration, these mixers have a mounting flange that bolts onto closed tanks. They are often used with water, light oils, and other thin liquids. Adjust mixing speed with the needle valve. Mixers have six mounting holes. Air inlet connection is NPT female. Mixers have a 316 stainless steel shaft and propellers that attach with set screws.

Single Propeller—Mixer has a left-hand propeller that can move clockwise for efficient mixing or counterclockwise for aeration.

Dual Propeller—These mixers have one left-hand propeller and one right-hand propeller to move material in opposing directions for increased flow. Choose a dual-propeller mixer for thorough mixing in tanks that are deeper than they are wide and for faster mixing than single-propeller mixers.

hp	Speed, rpm	Shaft Lg.	Shaft Dia.	Propeller Dia.	Air Consumption @ 80 psi, cfm	Air Inlet	Flange OD	Bolt Circle Dia.	Mounting Hole Dia.		
Single Propeller											
2	300-1,750	27″	¾″	8″	110	½	7″	6″	½″	34705K64	$1,323.72
2	300-1,750	48″	¾″	8″	110	½	7″	6″	½″	34705K65	1,376.63
2	300-1,750	60″	¾″	8″	110	½	7″	6″	½″	34705K66	1,402.58
3	300-1,750	48″	1″	10″	110	½	7″	6″	½″	34705K76	1,660.14
Dual Propeller											
1	300-1,750	15″	⅝″	6″	59	¼	6″	5″	11⁄32″	34705K52	1,005.70
1	300-1,750	27″	⅝″	6″	59	¼	6″	5″	11⁄32″	34705K53	1,023.21
1	300-1,750	48″	⅝″	6″	59	¼	6″	5″	11⁄32″	34705K54	1,046.19



Dual Propeller

Air-Powered Mixers for Intermediate Bulk Containers

Mix right in your IBC—these mixers come mounted to a bracket that centers the propeller in your container to prevent damage from the blades. Forklift channels let you move these mixers to multiple IBCs. Use the needle valve to adjust mixing speed. Air inlet connection is NPT male.

Shaft and propellers are 316 stainless steel. They attach with set screws. Propellers are left hand and move clockwise when viewed from above to direct flow downward for efficient mixing. Choose a dual-propeller mixer for faster and more thorough mixing than single-propeller mixers.

Mixers for thin liquids are for liquids with a viscosity similar to water and light oils. **Mixers for thick liquids** are for liquids with a viscosity similar to honey and molasses.

hp	Speed, rpm	Shaft Lg.	Shaft Dia.	Propeller Qty.	Propeller Dia.	Air Consumption @ 80 psi, cfm	Air Inlet		
For Thin Liquids									
½	600-2,000	32″	1″	1	5″	45	¼	3528K52	$1,253.03
1	600-2,000	32″	1″	1	6″	45	¼	3528K53	1,295.45
2	600-2,000	35″	1″	2	6″	80	½	3528K54	1,437.88
For Thick Liquids									
½	10-350	35″	1″	1	10″	22	¼	1152N1	2,456.58
1	10-350	35″	1″	1	12″	22	¼	1152N2	2,466.59
2	10-350	35″	1″	2	12″	70	½	1152N3	3,440.80



Single Propeller

Pipe-Mount Air-Powered Mixers

The pipe-clamp connection lets you quickly raise or lower these mixers to change containers. They fit 1½″ OD vertical pipe. These mixers are commonly used with water, light oils, and other thin liquids. They have a needle valve for adjusting mixing speed. Air inlet connection is NPT female.

Mixers have 316 stainless steel propellers. Propellers and shaft attach with set screws. Propellers are left hand and move clockwise when viewed from above to direct flow downward for efficient mixing.

Single-propeller mixers come with four 304 stainless steel shafts of multiple lengths. **Dual-propeller mixers** have a 316 stainless steel shaft. Choose a dual-propeller mixer for thorough mixing in tanks that are deeper than they are wide and for faster mixing than single-propeller mixers.

hp	Speed, rpm	Shaft Lg.	Shaft Dia.	Propeller Dia.	Air Consumption @ 80 psi, cfm	Air Inlet		
Single Propeller								
½	300-1,750	12″, 16″, 20″, 24″	⅝″	4″	25	¼	3477K57	$637.00
Dual Propeller								
½	300-1,750	32″	⅝″	4″	25	¼	3477K24	373.00



Single Propeller

Stand-Mount Air-Powered Mixers for Small Batches

With shorter shafts and smaller propellers than other mixers, these mixers fit in small containers. They come with a 9⁄16″ Dia. × 10″ Lg. bar for mounting on a stand (sold separately below). A needle valve lets you adjust mixing speed. Air inlet connection is NPT male.

Shaft and propeller are 316 stainless steel. They attach with set screws. Propeller is left hand and moves clockwise when viewed from above for efficient mixing.

Mixers for thin liquids are for liquids with a viscosity similar to water and light oils. **Mixers for thick liquids** are for liquids with a viscosity similar to honey and molasses.

Stands have a swivel clamp. Container-mount stand fits containers up to 15″ in diameter.

hp	Speed, rpm	Shaft Lg.	Shaft Dia.	Propeller Dia.	Air Consumption @ 80 psi, cfm	Air Inlet		
For Thin Liquids								
⅓	500-10,000	12″	⅜″	2½″	13	¼	3498K71	$356.90
⅓	500-10,000	18″	⅜″	2½″	13	¼	3498K14	425.86
⅓	500-10,000	24″	⅜″	2½″	13	¼	3498K15	438.79
⅓	500-10,000	30″	⅜″	2½″	13	¼	3498K16	443.10
½	500-7,000	12″	⅜″	2½″	27	¼	3498K17	563.79
For Thick Liquids								
⅓	100-1,200	12″	⅜″	2½″	13	¼	3498K81	525.86
⅓	15-170	12″	⅜″	2½″	13	¼	3498K91	748.28
½	100-1,000	12″	⅜″	2½″	27	¼	3498K18	803.45
Tabletop Stand for Mixers with 12″ and 18″ Shaft Lengths							35265K11	369.49
Container-Mount Stand for Mixers with 24″ and 30″ Shaft Lengths							35265K12	525.42



Shown with Tabletop Stand (Sold Separately)

Self-Contained Air-Powered Mixers for Small Batches



Mixer with 304 SS Container

Mix and dispense from the same container without messy transfers. These mixers are built into the lid of a container with a dispenser. They are designed for thin liquids such as water and light oils. Use the needle valve to adjust mixing speed. Air inlet connection is NPT female, and mixer comes with a 10-ft. air hose.

Shaft and propeller are 316 stainless steel. They attach with set screws. Propeller is left hand and moves clockwise when viewed from above for efficient mixing.

Mixers with steel container have a plastic spigot. **Mixers with 304 stainless steel container** are corrosion resistant for harsh environments. They have a 316 stainless steel ball valve with a 3/4 NPT female connection.

Container Size, gal.	hp	Speed, rpm	Shaft Lg.	Shaft Dia.	Prop. Dia.	Air Consumption @ 80 psi, cfm	Air Inlet	With Steel Container		With 304 SS Container	
5	3/4	0-1,750	10″	1/2″	5″	20	1/4	3513K13	$587.09	3513K23	$993.07
10	3/4	0-1,750	12″	1/2″	5″	20	1/4	3513K14	671.44	3513K24	1,145.50

Hand-Held Air-Powered Mixers for Small Batches



Manually control and monitor mixing in small pails, buckets, and drums. These lightweight mixers are for use with thin liquids such as water and light oils. Adjust mixing speed with the needle valve. Air inlet connection is 1/4 NPT female.

Mixers have a removable 304 stainless steel shaft and a built-in propeller. Propeller moves clockwise when viewed from above to direct flow downward for efficient mixing.

hp	Speed, rpm	Shaft Lg.	Shaft Dia.	Prop. Dia.	Air Consumption @ 80 psi, cfm		
1/2	300-1,200	15″	1/4″	2 5/8″	15.9	3489K51	$512.00
1/2	300-800	21″	1/2″	5″	13.7	3489K52	574.00
1/2	300-450	40″	1/2″	5″	11.9	3489K53	634.00

Clamp-Mount Variable-Speed Electric Mixers for Tanks



Single-Propeller Mixer



Adjustment Dial

Turn the dial to adjust mixing speed. These mixers clamp to the side of the tank. Motor is totally enclosed nonventilated (TENV) and has a 7 1/2-ft. cord with plug.

Mixers have high-flow propellers that generate 40% greater flow than conventional propellers. Shaft and propellers are 316 stainless steel. They attach with set screws. Propellers are left hand and move clockwise when viewed from above to direct flow downward for efficient mixing.

Choose a dual-propeller mixer for thorough mixing in tanks that are deeper than they are wide and for faster mixing than single-propeller mixers.

Mixers for thin liquids are for liquids with a viscosity similar to water and light oils.

Mixers for thick liquids are for liquids with a viscosity similar to honey and molasses.

hp	Speed, rpm	Shaft Lg.	Shaft Dia.	Prop. Dia.	Volts AC @ 60 Hz (phase)	Amps		
Single Propeller for Thin Liquids								
1/4	90-1,750	36″	5/8″	3 13/16″	120 (1)	3.5	3475K61	$2,221.20
1/4	90-1,750	48″	5/8″	3 13/16″	120 (1)	3.5	3475K63	2,235.04
1/3	90-1,750	48″	5/8″	4 1/2″	120 (1)	4.5	3475K64	2,560.64
1/2	90-1,750	48″	3/4″	5 3/16″	120 (1)	6	3475K65	2,684.21
Single Propeller for Thick Liquids								
1/4	20-350	36″	3/4″	10″	120 (1)	3.5	3475K71	2,763.31
1/4	20-350	48″	3/4″	10″	120 (1)	3.5	3475K73	2,780.53
1/2	20-350	60″	3/4″	11 13/16″	120 (1)	6	3475K75	3,585.50
Dual Propeller for Thick Liquids								
1/2	20-350	48″	3/4″	8 13/16″	120 (1)	6	3475K74	3,870.47

Electric 5-Gallon Pail Mixers



Use the same removable pail to mix and transfer small batches. The mixer pail rotates at 60 rpm and the mixing paddle stirs the mixture as the pail rotates. Mixer comes with a 5-gal. steel pail with lid, a steel shaft with mixing paddle, and a stand. Motor is open dripproof (ODP) and has an 8-ft. cord with plug and on/off switch.

hp	Volts AC @ 60 Hz (phase)	Amps	Mixing Cap., gal.	Ht.	Wd.	Dp.		
1/4	120 (1)	4.8	5	25″	12″	20″	7658T11	$510.94
Replacement Paddle							7658T12	50.51
Replacement Pail with Lid							7658T1	46.94

Clamp-Mount Electric Mixers for Tanks



Light Duty and Standard Single-Propeller Mixers

Attach these mixers to your tank wall. Motor is totally enclosed fan cooled (TEFC), except hazardous-location mixers. Mixers have wire leads for electrical connection, except light-duty mixers have a 6-ft. cord with plug.

Shaft and propellers are 316 stainless steel. They attach with set screws. Propellers are left hand and move clockwise when viewed from above to direct flow downward for efficient mixing. Choose a dual-propeller mixer for thorough mixing in tanks that are deeper than they are wide and for faster mixing than single-propeller mixers.

Mixers for Thin Liquids—These are for liquids with a viscosity similar to water and light oils.

Mixers for Thick Liquids—These are for liquids with a viscosity similar to honey and molasses.

High-flow mixers have specialized propellers for 40% greater flow than conventional propellers.

Hazardous-location mixers have a motor that's UL listed for Class I, Groups C and D and Class II, Groups F and G for environments with flammable gases and combustible dust.

hp	Shaft Lg.	Shaft Dia.	Prop. Dia.	Volts AC @ 60 Hz (phase)	Amps		
For Thin Liquids							
Light Duty Single Propeller—Speed is 1,550 rpm							
1/20	12″	5/16″	3″	120 (1)	1.6	3497K21	$313.56
1/20	18″	5/16″	3″	120 (1)	1.6	3497K16	318.54
1/20	24″	5/16″	3″	120 (1)	1.6	3497K17	323.68
1/20	30″	5/16″	3″	120 (1)	1.6	3497K18	328.98
Standard Single Propeller—Speed is 1,725 rpm							
1/3	32″	1/2″	4″	120/240 (1)	6.6/3.3	3473K14	470.55
1/2	32″	5/8″	4″	120/240 (1)	8.8/4.4	3473K15	526.68
1/2	32″	5/8″	4″	120/240 (1)	8.2/4.1	3473K25★	573.45
High-Flow Single Propeller—Speed is 1,725 rpm							
1/4	36″	5/8″	3 13/16″	120/240 (1)	4.4/2.2	34945K51	1,310.84
1/4	36″	5/8″	3 13/16″	240/460 (3)	1.3/0.7	34945K52	1,316.52
1/4	48″	5/8″	3 13/16″	120/240 (1)	4.4/2.2	34945K53	1,323.13
Standard Dual Propeller—Speed is 1,725 rpm							
3/4	48″	3/4″	4″	120/240 (1)	10.8/5.4	3473K54	1,445.61
1	60″	1″	5″	240/460 (3)	3.8/1.9	3473K55	1,667.06
Hazardous-Location Dual Propeller—Speed is 1,725 rpm							
1	60″	1″	5″	240/460 (3)	3.6/1.8	3473K69	1,986.72
For Thick Liquids							
Standard Single Propeller—Speed is 350 rpm							
1/3	32″	3/4″	6″	120/240 (1)	6.6/3.3	3488K94	1,403.97
1/3	32″	3/4″	6″	240/460 (3)	1.6/0.8	3488K96	1,438.85
High-Flow Single Propeller—Speed is 350 rpm							
1/4	36″	3/4″	7 5/8″	120/240 (1)	4.4/2.2	34945K74	1,858.81
1/4	48″	3/4″	10″	120/240 (1)	4.4/2.2	34945K61	1,906.02
1/3	48″	3/4″	11 3/16″	120/240 (1)	6.0/3.0	34945K65	2,166.50
1/3	48″	3/4″	11 3/16″	240/460 (3)	1.6/0.8	34945K66	2,121.26
Standard Dual Propeller—Speed is 350 rpm							
1/2	48″	3/4″	10″	120/240 (1)	8.0/4.0	3487K12	2,097.76
3/4	60″	3/4″	11″	120/240 (1)	10.8/5.4	3487K14	2,411.14
1 1/2	60″	1″	13″	240/460 (3)	5.0/2.5	3487K18	2,702.06
High-Flow Dual Propeller—Speed is 350 rpm							
1/3	36″	3/4″	7 5/8″	120/240 (1)	6.0/3.0	34945K76	2,410.69
1/3	60″	3/4″	10″	120/240 (1)	6.0/3.0	34945K63	2,471.92
1/3	60″	3/4″	10″	240/460 (3)	1.6/0.8	34945K64	2,348.72
3/4	48″	3/4″	11 3/16″	240/460 (3)	3.0/1.5	34945K72	2,924.48
3/4	60″	3/4″	11 13/16″	240/460 (3)	3.0/1.5	34945K67	3,002.76
Hazardous-Location Dual Propeller—Speed is 350 rpm							
3/4	60″	3/4″	11″	120/240 (1)	11.0/5.5	3487K34	2,772.03
1 1/2	60″	1″	13″	240/460 (3)	4.4/2.2	3487K38	3,036.25

★ Volts AC @ 50 Hz; speed is 1,425 rpm.

Electric Mixers for Intermediate Bulk Containers



Protect the sides of your IBC from propeller blades. These mixers come bolted to a 39½" wide bracket that keeps the propeller centered in your container. They can be moved to multiple IBCs with the attached forklift channels. Motor is totally enclosed fan cooled (TEFC). *Single-phase motors* have a 10-ft. cord with plug. *Three-phase motors* have wire leads for electrical connection.

Shaft and propeller are 316 stainless steel. They attach with set screws. Propeller is left hand and moves clockwise when viewed from above to direct flow downward for efficient mixing.

Mixers for thin liquids are for liquids with a viscosity similar to water and light oils.

Mixers for thick liquids are for liquids with a viscosity similar to honey and molasses. They have a collapsible propeller that fits into a standard 6" IBC top opening.

hp	Speed, rpm	Shaft Lg.	Shaft Dia.	Propeller Dia.	Volts AC @ 60 Hz (phase)	Amps		
For Thin Liquids								
½	1,750	32"	1"	5"	120/240 (1)	7.4/3.7	1155N5	$1,260.00
½	1,750	32"	1"	5"	240/460 (3)	2/1	1155N6	1,231.36
1	1,750	32"	1"	6"	120/240 (1)	12.8/6.4	1155N7	1,402.12
1	1,750	32"	1"	6"	240/460 (3)	3.4/1.7	1155N8	1,419.09
For Thick Liquids								
½	350	35"	1"	10"	120/240 (1)	7.4/3.7	1155N1	2,517.39
½	350	35"	1"	10"	240/460 (3)	2/1	1155N2	2,580.30
1	350	35"	1"	12"	120/240 (1)	12.8/6.4	1155N3	2,696.89
1	350	35"	1"	12"	240/460 (3)	3.4/1.7	1155N4	2,640.26

Electric Mixers for Drums

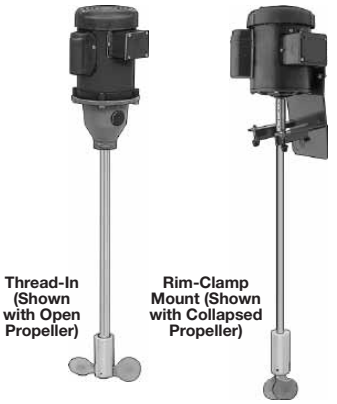

Mix the contents of 55-gal. drums without removing the lid—these mixers have collapsible propellers that fit through 2 NPT drum openings. They are for use with thin liquids such as water and light oils. Electrical connection is wire leads.

Shaft and propeller are 316 stainless steel. They attach with set screws. Propeller is left hand and moves clockwise when viewed from above to direct flow downward for efficient mixing.

Standard—Motor is totally enclosed fan cooled (TEFC).

Hazardous Location—Motor is UL listed for Class I, Groups C and D and Class II, Groups F and G for environments with flammable gases and combustible dust.

Thread-in mixers screw into a drum opening for a secure connection.

Rim-clamp-mount mixers attach directly to the drum lip.

hp	Speed, rpm	Shaft Lg.	Shaft Dia.	Prop. Dia.	Volts AC @ 60 Hz (phase)	Amps	Standard		Hazardous Location	
Thread-In										
½	1,725	29"	5/8"	3¾"	120/240 (1)	8/4	3484K59	$821.67	3484K48	$1,204.62
Rim-Clamp Mount										
½	1,725	33⅛"	5/8"	3¾"	120/240 (1)	8.8/4.4	3492K75	862.27	3492K88	1,226.43
Replacement Propeller									3484K78	105.49

Easy-Pour Electric Mixers



For easy dispensing, these mixers have a mixing drum that tilts downward to unload material. They are often used with concrete, feed, and seed. The mixing drum has a 15¼" dia. opening. Mixers have a 1-ft. cord with plug.

Stationary—This mixer has a removable polyethylene liner with molded-in blades for easy cleaning.

Mobile—Two 10" wheels let you roll this mixer where you need it. The mixing drum comes with two blades and two mixing paddles.

hp	Speed, rpm	Volts AC @ 60 Hz (phase)	Amps	Mixing Cap., gal.	Ht.	Wd.	Dp.	Stationary		Mobile	
⅓	22-25	120 (1)	7.2	22	48"	46"	30"	7595T12	$1,734.42	7666T13	$1,981.95
Replacement Drum Liner for Stationary Mixer										7595T22	216.46

No-Mess Electric Mixers for Drums



Eliminate spills and splatter with these mixers that rotate your closed drum to mix its contents. They fit 15-, 30-, and 55-gal. steel drums. Mixers have a variable-speed control that rotates drums at 10 to 24 rpm. They come with a chain and guard, a grounding strap, and two 3" dia. casters. Dimensions are 20" Ht. x 35" Wd. x 21" Dp.

Standard mixer has a totally enclosed fan-cooled (TEFC) motor with thermal overload protection and a 3-ft. cord with plug and on/off switch.

Hazardous-location mixer has a motor that's UL listed for Class I, Group D and Class II, Groups F and G for environments with flammable gases and combustible dust. Electrical connection is wire leads.

hp	Volts AC @ 60 Hz (phase)	Amps	Weight Cap., lbs. @ 10 rpm	@ 20 rpm	@ 24 rpm		
Standard							
½	120 (1)	7.4	400	300	250	2889T12	$1,866.76
Hazardous Location							
½	120/240 (1)	7.4/3.7	400	300	250	2889T17	2,147.00
Adapter for Mixing 1- and 5-gal. Cans						2889T16	172.91
Replacement 4" Drive Wheel for Adapter						2889T19	73.18

Food and Beverage Clamp-Mount Electric Mixers for Tanks

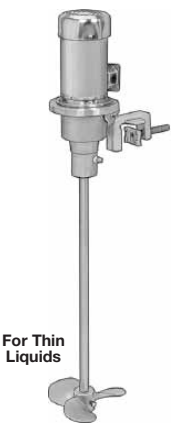

For use with dairy, food, and beverage, these mixers are made from 3-A listed materials. They mount to the side of your tank with a clamp. Motor is totally enclosed fan cooled (TEFC) and meets IP55 for resistance to dust and washdowns. Electrical connection is wire leads.

Shaft and propeller are 316 stainless steel. They attach with set screws. Propeller is left hand and moves clockwise when viewed from above to direct flow downward for efficient mixing.

Mixer for thin liquids is for liquids with a viscosity similar to water and light oils.

Mixer for thick liquids is for liquids with a viscosity similar to honey and molasses. It has a high-flow propeller.

hp	Speed, rpm	Shaft Lg.	Shaft Dia.	Prop. Dia.	Volts AC @ 60 Hz (phase)	Amps		
For Thin Liquids								
½	1,750	48"	13/16"	3⅝"	240/460 (3)	1.5/0.8	1146N22	$3,123.45
For Thick Liquids								
½	350	48"	13/16"	10"	240/460 (3)	1.5/0.8	1146N24	4,195.13

Stand-Mount Variable-Speed Electric Mixers for Small Batches



Shown with Tabletop Stand (Sold Separately)

An adjustment dial lets you alter your mixing speed. Motor is totally enclosed nonventilated (TENV) and has a 6-ft. cord with plug. These mixers include a 9/16" Dia. x 10" Lg. aluminum rod for mounting to a stand (sold separately below).

Shaft and propeller are 316 stainless steel. They attach with set screws. Propeller is left hand and moves clockwise when viewed from above to direct flow downward for efficient mixing.

Mixers for thin liquids can be used with water. 1/15, 1/10, and 1/8 hp models can also be used with light oils. **Mixer for thick liquids** is for liquids with a viscosity similar to honey and molasses.

Stands have a swivel clamp. Container-mount stand fits containers up to 15" in diameter.

hp	Speed, rpm	Shaft Lg.	Shaft Dia.	Prop. Dia.	Volts AC @ 60 Hz (phase)	Amps		
For Thin Liquids								
1/40	80-4,000	12"	3/8"	2 1/2"	120 (1)	0.5	3522K41	$479.66
1/40	80-4,000	18"	3/8"	2 1/2"	120 (1)	0.5	3522K42	487.29
1/40	80-4,000	24"	3/8"	2 1/2"	120 (1)	0.5	3522K43	498.31
1/40	80-4,000	30"	3/8"	2 1/2"	120 (1)	0.5	3522K44	501.69
1/15	40-2,000	12"	3/8"	2 1/2"	120 (1)	1.1	34745K71	596.61
1/10	5-1,000	12"	3/8"	2 1/2"	120 (1)	0.8	34745K75	747.46
1/8	40-1,200	12"	3/8"	2 1/2"	120 (1)	0.8	3522K46	908.47
For Thick Liquids								
1/15	10-350	12"	3/8"	2 1/2"	120 (1)	1.1	3522K45	901.69
Tabletop Stand— For Mixers with 12" and 18" Shaft Lengths							35265K11	369.49
Container-Mount Stand— For Mixers with 24" and 30" Shaft Lengths							35265K12	525.42

Blenders



Tabletop



Immersion

Blend liquids and create slurries. All blenders meet NSF/ANSI standards for use with food and beverage.

Tabletop—These blenders come with a 304 stainless steel container, stainless steel blades, and a plastic cover. They have a 6-ft. cord with plug and are UL listed. **1-liter blenders** have a zinc housing. *Two-speed blender* has a 3-minute timer. **64-oz. blender** has a polycarbonate housing.

Immersion—Reduce sample loss by mixing in your container. Overall height is 27". Blender has a removable 12" stainless steel shaft with built-in blade. Housing is polycarbonate, fiberglass, and aluminum. Blender has a 12-ft. cord with plug.

Capacity	No. of Speeds	Max. Speed, rpm	Volts AC @ 60 Hz (phase)	Amps		
Tabletop						
1 L	1	22,000	120 (1)	3.6	34985K73	$347.63
1 L	2	22,000	120 (1)	3.6	34985K74	534.83
64 oz.	2	20,000	120 (1)	7.5	34985K75	656.20
Immersion						
40 L	1	18,000	120 (1)	6.3	34985K76	589.22

Stand Mixers



Mix adhesives, knead clays, stir coatings, and process small batches. This mixer meets NSF/ANSI standards for use with food and beverage. It comes with a stainless steel mixing bowl, an aluminum and stainless steel mixing paddle, and a splashguard with feed chute. Housing is aluminum. Dimensions are 15" Ht. x 12" Wd. x 16" Dp. Mixer has a 5-ft. cord with plug and thermal overload protection.

Capacity, qt.	No. of Speeds	Max. Speed, rpm	Volts AC @ 60 Hz (phase)	Amps		
7	12	195	120 (1)	6.6	1124N1	$1,091.36

Mixing Attachments for Power Tools

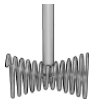

Energy-Efficient Coiled Spring



Paint and Drywall Mud—Small Batch

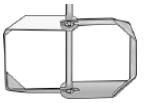

Paint and Drywall Mud—Large Batch



High-Flow Dual Propeller

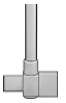

Chemical-Resistant Fixed T



Chemical-Resistant Fixed U



Chemical-Resistant Collapsible T

Turn your power tool into a mixer. Choose a shaft diameter that fits in your chuck.

Energy-Efficient Coiled-Spring Attachments—Generate the same mixing power as a standard propeller at half the rotation speed. Attachments are 304 stainless steel. Max. viscosity is 12,000 centipoise.

Paint and Drywall Mud Attachments—All are steel. **Small-batch** attachments have a twisted propeller. Maximum viscosity is 100,000 centipoise. **Large-batch** attachments have a large-diameter propeller for bigger jobs. Maximum viscosity is 10,000 centipoise.

High-Flow Dual-Propeller Attachments—Two propellers increase turnover. Attachments are 304 stainless steel. Max. viscosity is not rated.

Chemical-Resistant Plastic Attachments—Polypropylene propellers and a PVC-covered steel rod have excellent chemical resistance. Maximum viscosity and maximum rpm are not rated. **Collapsible T** attachments have a propeller that folds to fit in 2 NPT drum openings.

Energy-Efficient Coiled-Spring Attachments

Container Cap., gal.	Propeller Wd.	Shaft Dia.	Shaft Lg.	Max. rpm		
1/4	1 1/2"	1/4"	8"	2,500	35325K51	$30.20
1/2	2 1/2"	1/4"	12"	2,500	35325K53	38.43
1-2	3 1/2"	3/8"	12"	2,500	35325K55	53.53
2-10	5"	3/8"	24"	2,500	35325K57	71.37

Paint and Drywall Mud Attachments

Container Cap., gal.	Propeller Ht.	Propeller Dia.	Shaft Dia.	Shaft Lg.	Max. rpm		
Small Batch							
1-10	4"	2"	5/16"	16"	900	1145N1	$7.96
1-10	5 1/4"	4"	3/8"	24"	900	1145N2	14.15
1-10	7 1/2"	5"	3/8"	30"	900	1145N3	19.57
Large Batch							
5-40	4 1/2"	8 1/2"	3/8"	28"	550	34775K55	16.82
5-40	4 1/2"	8 1/2"	3/8"	36"	550	34775K57	18.63

High-Flow Dual-Propeller Attachments

Container Cap., gal.	Propeller Dia.	Shaft Dia.	Shaft Lg.	Max. rpm		
1/8	1 1/4"	1/4"	10 1/4"	1,200	3471K5	$16.05
1-2	2 5/8"	1/4"	14 3/4"	1,200	3471K2	20.62
1-2	2 5/8"	1/4"	30"	800	3471K4	24.84
1-2	2 5/8"	1/4"	10 1/4"	1,200	3471K7	17.17
2-5	3 3/4"	3/8"	20 1/2"	1,000	3471K25	63.83
5-10	5 1/8"	1/2"	20 1/2"	800	3471K1	70.31
10-50	5 1/8"	1/2"	40"	450	3471K28	86.49

Chemical-Resistant Attachments

Container Cap., gal.	Style	Propeller Dia.	Shaft Dia.	Shaft Lg.		
1	Fixed T	1 9/16"	5/16"	13 3/4"	34935K65	$20.76
1	Fixed U	2 9/16"	5/16"	13 3/4"	34935K66	24.23
1	Collapsible T	2 1/4"	5/16"	13 3/4"	34935K67	33.06
1	Collapsible T	3 7/8"	5/16"	13 3/4"	34935K68	47.99

Porcelain Mortars and Pestles



OD	Mortars		Pestles	
3 1/8"	43095T52	$26.00	43095T62	$27.28
5 1/8"	43095T53	63.54	43095T63	43.39
8 1/4"	43095T54	254.47	43095T64	120.09

Wood Mixing Sticks



For Container Size	Wd.	Lg.	Pkg. Qty.		Pkg.
Quart	1 1/8"	9"	12	77985T11	$2.82
Gallon	1 1/8"	14"	12	77985T12	3.44
5-Gallon	1 3/4"	21"	6	77985T72	8.57

Stirring Paddles



200 Series Stainless Steel Paddle



Food and Beverage Paddle with Holes

Wood and Metal—Use these paddles for general purpose mixing and scraping.

Plastic—Food and beverage stirring paddles are made of FDA-listed material. Choose a stirring paddle with holes to break up clumps in your mixture. *Metal-detector-grade stirring paddles* contain a compound that can be sensed by metal detectors. **Chemical-resistant** stirring paddles are often used with caustics such as detergents and cleaning fluids.

Wood and Metal Stirring Paddles

Handle Lg.	Paddle Wd.	Paddle Lg.	Without Holes	
Wood				
13″	3⅝″	11″	1138N11	$17.80
19″	3⅝″	11″	1138N13	19.92
25″	3⅝″	11″	1138N12	21.25
31″	3⅝″	11″	1138N14	24.32
200 Series Stainless Steel				
15″	4¾″	9″	1144N11	26.62
21″	4¾″	9″	1144N12	28.72
27″	4¾″	9″	1144N13	32.55
33″	4¾″	9″	1144N14	36.38
39″	4¾″	9″	1144N15	41.17
45″	4¾″	9″	1144N16	45.00

Plastic Stirring Paddles

Handle Lg.	Paddle Wd.	Paddle Lg.	Max. Temp., °F	With Holes		Without Holes	
Food and Beverage—Polypropylene							
27″	6″	13″	176°	3494K12	$57.34	3494K14	$57.34
39″	6″	13″	176°	3494K16	62.45	3494K18	62.45
Food and Beverage—Metal-Detector-Grade Polypropylene							
39″	6″	13″	176°	—	—	3494K22	146.81
Chemical Resistant—Polyethylene							
20″	2″	3″	240°	—	—	3485K13	21.80
34″	3″	6″	230°	—	—	3485K14	44.76
70″	3″	6″	230°	—	—	3485K15	56.78

Inline Pipe Mixers



Nylon PVC

Also known as static mixers, these install in your pipeline and mix liquid as it passes over fixed spiral blades. They have no moving parts and require no external power source. Connections are NPT male.

Nylon mixers have brass fittings and acetal blades. The body is translucent for monitoring the condition of the mixer.

PVC mixers have a clear body for monitoring your mixing process.

304 stainless steel mixers are highly corrosion and chemical resistant.

Number of Blades—Follow these steps to determine your Reynolds number, which indicates if you need a mixer with 6, 12, or 18 blades.

1. Multiply flow rate (gpm) by 3,157
2. Multiply specific gravity by total of Step 1
3. Multiply viscosity (cp) by pipe ID (inches)
4. Divide total of Step 2 by total of Step 3
5. Compare Reynolds number to chart

Reynolds Number	Required Blades
1,000+	6
500-1,000	12
10-500	18

Pipe Size	6 Blades for Thin Liquids Lg.			12 Blades for Thick Liquids Lg.		
Nylon—For Solvents, Adhesives, and Water-Based Liquids						
¼	—	—	—	7½″	3067K14	$21.18
¼	—	—	—	9⅝″	3067K15★	27.20
⅜	—	—	—	8½″	3067K16	29.64
⅜	—	—	—	11⅛″	3067K17★	36.87
PVC—For Polymers, pH Control, and Chlorination						
⅜	6½″	35385K21	$83.70	11″	35385K31	97.83
½	7″	35385K22	110.87	12″	35385K32	121.74
¾	9″	35385K23	117.39	15″	35385K33	133.70
1	11″	35385K24	128.26	18″	35385K34	169.57
1¼	14″	35385K25	143.48	25″	35385K35	181.52
1½	15″	35385K26	156.52	28″	35385K36	194.57
2	19″	35385K27	186.96	35″	35385K37	213.04
304 Stainless Steel—For Oils, Wastewater, and Chemicals						
¼	3″	3529K46	183.16	6″	3529K47	280.00
⅜	4″	3529K48	208.42	8″	3529K49	297.89
½	5″	3529K41	250.59	10″	3529K51	363.53
¾	7″	3529K42	264.71	13″	3529K52	385.88
1	9″	3529K43	283.53	17″	3529K53	441.18
1½	13″	3529K44	382.35	26″	3529K54	598.82
2	17″	3529K45	598.82	33″	3529K55	916.67

★ Mixer has 18 blades.

Inline Tube Mixers



(Cutaway View)

Blend liquid in your process line. Materials are mixed as they pass over the fixed spiral blades, so these mixers require no external power source. They're often used with adhesives, solvents, chemicals, and oils. Housing and blades are 316 stainless steel. Maximum temperature is 300° F. Mixers have unthreaded ends that can be secured with compression or push-to-connect fittings.

Tube OD	Tube ID	Tube Lg.	No. of Blades		
For Thin Liquids					
3/16″	0.132″	6″	21	3530K42	$144.21
⅜″	0.319″	11″	21	3530K51	144.83
½″	0.430″	16⅜″	21	3530K61	194.48
For Thick Liquids					
¼″	0.194″	11½″	34	3530K43	170.69
⅜″	0.319″	17″	32	3530K53	170.69
½″	0.430″	24¾″	32	3530K62	214.14

Drum-Mount Proportional Mixers

Dilute concentrated fluids and dispense the solution directly from your drum in a measured ratio. Attach your water line to the inlet and set your desired mixing ratio with the adjustment control. The water line connection has a quarter-turn shutoff valve. *PVC* and *bronze mixers* fit 2 NPT drum openings. *Aluminum mixers* fit 2 NPS drum openings.

Mixers for Soap and Water—PVC mixer has a metering screw. Intake and discharge tubes are vinyl. **Aluminum mixer** has an adjustment knob. Intake tube is nylon and discharge tube is PVC.

Mixers for Coolant and Water/Soluble Oil and Water—Bronze mixers have a heavy duty bronze body and a needle valve dial. Intake tubes are steel. Discharge tube is vinyl. **Aluminum mixer** has an adjustment knob. Intake tube is nylon and discharge tube is PVC.



PVC Mixer for Soap and Water



Bronze Mixer for Coolant and Water/Soluble Oil and Water

Container Size, gal.	Flow Rate, gpm	Mixing Ratio	Water Inlet Connection	Discharge Connection	Min. Inlet psi	Max. psi @ 70°F	Intake Tube Lg.	Discharge Tube Lg.	Max. Temp., °F		
For Soap and Water											
PVC											
15 to 55	5	4:1 to 128:1	¾″ GHT	For ½″ ID Tube	10	125	42″	36″	150°	3478K51	$88.87
Aluminum											
5 to 55	5	0 to 57%	½ NPT Female	For ½″ ID Tube	15	57	35″	39″	140°	3478K53	152.50
For Coolant and Water/Soluble Oil and Water											
Bronze											
5 to 55	3	15:1 to 45:1	⅜ NPT Female	½ NPT Male	25	75	14″, 34″	40″	150°	9977K1	448.30
5 to 55	3	4:1 to 35:1	⅜ NPT Female	½ NPT Male	25	75	14″, 34″	40″	150°	9977K3	448.30
Aluminum											
5 to 55	4	0 to 13%	½ NPT Female	For ½″ ID Tube	15	57	35″	39″	140°	9977K6	144.17

Mixing Nozzles



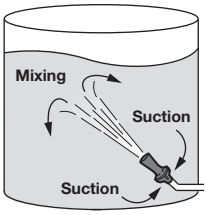

Circulate tank contents by pumping your liquid through one of these polypropylene nozzles. For every gallon of liquid that flows through the inlet, suction draws in and mixes about four gallons from the tank. Nozzles should be positioned close to the bottom of your tank. Connection is NPT male.

Orifice Size	Pipe Size	Dia.	Lg.	Max. Temp., °F	Max. psi @ 70° F		
0.06″	1/4	11/16″	1 5/8″	200°	50	8328K21	$52.78
3/16″	1/4	1 1/4″	3″	200°	50	8328K11	37.53
5/16″	3/8	1 11/16″	4 1/16″	200°	50	8328K12	42.80
3/8″	3/4	3″	6 3/8″	200°	50	8328K13	54.76
9/16″	1 1/2	4 1/2″	10″	200°	50	8328K14	90.56

Injectors

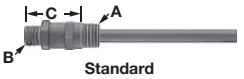

Standard


Easy Maintenance

Inject liquid into your process line or tank without draining your system. Tube length is 6″. Pipe connections are NPT male.

Standard Injectors—Also known as injection quills, these are for permanent installation.

Easy-Maintenance Injectors—Close the ball valve to isolate flow from your system to clean these injectors.

Injectors for water, pH control, and chlorination have a fluoroelastomer seal.

Injectors for wastewater and chemicals have an EPDM seal.

Pipe Size Process (A)	Pipe Size Inlet (B)	Lg. (C)	O'all Lg.		
Standard Injectors					
For Water, pH Control, and Chlorination—PVC Check Valve and Tube					
1/2	1/2	3 1/4″	9 1/4″	3347K52	$117.46
3/4	1/2	3 1/4″	9 1/4″	3347K54	117.46
For Wastewater and Chemicals—316 SS Check Valve and Tube					
1/2	1/2	3 1/4″	9 1/4″	3347K56	365.08
Easy-Maintenance Injectors					
For Water, pH Control, and Chlorination—CPVC Ball Valve and Tube					
3/4	1/2	12 1/4″	18 1/4″	3347K42	487.30
1	1/2	15″	21 1/4″	3347K44	598.41
For Wastewater and Chemicals—316 SS Ball Valve and Tube					
3/4	3/8	11″	17″	3347K32	904.76
1	1/2	12 1/2″	18 1/2″	3347K34	1,117.46
1 1/2	1	15 3/4″	21″	3347K38	1,797.74

Lightweight Aluminum Propellers



Lightweight yet sturdy, these aluminum propellers are often used in light duty mixing applications. They are left hand and come with two stainless steel set screws.

Propeller Dia.		
1/4″ Bore Size		
3″	3502K123	$23.53
3/8″ Bore Size		
3″	3502K124	23.53
4″	3502K126	29.41
5″	3502K128	38.24
1/2″ Bore Size		
3″	3502K125	23.53
4″	3502K122	29.41
5″	3502K129	38.24
6″	3502K132	47.06
7″	3502K182	57.35
8″	3502K137	81.76
5/8″ Bore Size		
4″	3502K142	29.41
5″	3502K131	38.24
6″	3502K133	47.06
7″	3502K222	57.35
8″	3502K138	81.76

Propeller Dia.		
5/8″ Bore Size (Cont.)		
10″	3502K282	$92.00
12″	3502K422	110.00
3/4″ Bore Size		
4″	3502K127	29.41
6″	3502K134	47.06
7″	3502K242	57.35
8″	3502K139	81.76
10″	3502K322	92.00
12″	3502K442	110.00
1″ Bore Size		
6″	3502K135	47.06
7″	3502K136	57.35
8″	3502K141	81.76
10″	3502K362	92.00
12″	3502K482	110.00
1 1/4″ Bore Size		
12″	3502K542	110.00

Adjustable Stainless Steel Propellers with Shaft



Bend the blades to your desired angle. Propeller is 316 stainless steel, left hand, and 2″ in dia. It comes riveted to a 1/4″ dia. 303 stainless steel shaft.

O'all Lg.		
6″	34865K51	$61.02
9″	34865K53	67.80

O'all Lg.		
12″	34865K55	$73.33
24″	34865K59	93.33

Stainless Steel Propellers



These 316 stainless steel propellers come with two stainless steel set screws.

Selecting a Left-Hand or Right-Hand Propeller—Propellers direct flow downward or upward based on the rotation of your shaft. Most mixers require a left-hand propeller. To determine whether you need a left- or right-hand propeller, view your existing propeller from the side. The blades of a left-hand propeller point up to the left, and the blades of a right-hand propeller point up to the right.

On most mixers, the shaft and propeller move clockwise when viewed from above. **Left-hand propellers** direct flow downward for efficient mixing. **Right-hand propellers** direct flow upward for aeration.





Propeller Dia.	Left Hand		Right Hand	
1/4″ Bore Size				
3″	8004K13	$75.88	8004K1	$75.88
3/8″ Bore Size				
3″	8004K15	75.88	8004K14	75.88
4″	8004K23	84.71	8004K22	84.71
5″	8004K3	98.82	8004K29	98.82
1/2″ Bore Size				
3″	8004K41	75.88	8004K81	75.88
3 1/2″	8004K16	81.18	8004K17	81.18
4″	8004K421	84.71	8004K821	84.71
4 1/2″	8004K25	93.53		
5″	8004K431	98.82	8004K831	98.82
6″	8004K34	109.41	8004K33	109.41
7″	8004K36	132.35	8004K35	132.35
8″	8004K52	176.47	8004K51	176.47
10″	8004K59	259.41	8004K58	259.41
5/8″ Bore Size				
3″	8004K11	75.88	8004K61	75.88
3 1/2″	8004K18	81.18	8004K19	81.18
4″	8004K131	84.71	8004K621	84.71
4 1/2″	8004K26	93.53		
5″	8004K151	98.82	8004K641	98.82
6″	8004K48	109.41	8004K86	109.41
7″	8004K38	132.35	8004K37	132.35
8″	8004K54	176.47	8004K53	176.47
9″	8004K57	224.12		
10″	8004K62	259.41	8004K63	259.41
3/4″ Bore Size				
3″	8004K12	74.78		
3 1/2″	8004K2	81.18	8004K21	81.18
4″	8004K141	84.71	8004K631	84.71
4 1/2″	8004K27	93.53		
5″	8004K161	98.82	8004K651	98.82
6″	8004K49	109.41	8004K87	109.41
7″	8004K221	132.35	8004K841	132.35
8″	8004K251	176.47	8004K731	176.47
9″	8004K441	212.26		
1″ Bore Size				
4″	8004K24	84.71		
4 1/2″	8004K28	93.53		
5″	8004K32	98.82	8004K88	98.82
6″	8004K191	109.41	8004K681	109.41
7″	8004K231	132.35	8004K711	132.35
8″	8004K56	176.47	8004K55	176.47
9″	8004K271	224.12		
10″	8004K281	259.41	8004K751	259.41
12″	8004K291	293.68	8004K761	293.68
1 1/4″ Bore Size				
6″	8004K211	109.41	8004K691	109.41
7″	8004K5	132.35	8004K39	132.35
8″	8004K261	176.47	8004K741	176.47
10″	8004K65	259.41	8004K64	259.41
12″	8004K471	293.68	8004K851	293.68
14″	8004K311	426.25	8004K771	426.25

Super-Mixing Stainless Steel Propellers

Also known as super-pitch propellers, these 316 stainless steel propellers have steeply angled blades for higher flow and more vigorous mixing than conventional propellers. They are left hand and come with two stainless steel set screws.



Propeller Dia.		
1/2" Bore Size		
3"	34695K68	$207.65
4"	34695K71	247.85
5"	34695K74	242.32
5/8" Bore Size		
3"	34695K69	207.65
4"	34695K72	247.85
5"	34695K75	284.73

Propeller Dia.		
5/8" Bore Size (Cont.)		
6"	34695K29	$311.50
3/4" Bore Size		
11"	34695K78	479.36
1" Bore Size		
8"	34695K77	355.05
1 1/2" Bore Size		
13"	34695K81	797.50

High-Flow Stainless Steel Propellers

Also known as hydrofoil propellers, these 316 stainless steel propellers produce 37% higher flow than conventional propellers. They are most effective when used with thin liquids such as water and light oils. Propellers are left hand and come with two stainless steel set screws.



Propeller Dia.		
5/8" Bore Size		
6"	80055K23	$290.00
3/4" Bore Size		
6"	80055K24	290.00
8"	80055K33	311.51
9"	80055K43	367.42
10"	80055K53	399.38
12"	80055K63	479.25
14"	80055K73	521.85

Propeller Dia.		
1" Bore Size		
6"	80055K25	$290.00
8"	80055K35	311.51
10"	80055K55	399.38
12"	80055K65	479.25
14"	80055K75	521.85
18"	80055K95	734.41
1 1/4" Bore Size		
8"	80055K36	310.00

Collapsible Stainless Steel Propellers

The blades on these 316 stainless steel propellers collapse to fit in small drum and tank openings for easy insertion and removal. They are left hand and come with two set screws.



For 5 1/2" Dia. Hole (Shown Collapsed)

Bore Size	Prop. Dia.		
For 7/8" Dia. Hole			
5/16"	2"	1128N31	$334.28
For 1 1/8" Dia. Hole			
3/8"	3"	1128N32	649.04
1/2"	3"	1128N33	671.00
5/8"	3"	1128N34	694.18
For 5 1/2" Dia. Hole			
5/8"	8"	1128N11	539.64
3/4"	8"	1128N12	539.64
3/4"	10"	1128N14	551.27

Bore Size	Prop. Dia.		
For 5 1/2" Dia. Hole (Cont.)			
3/4"	12"	1128N18	$558.55
1"	8"	1128N13	539.64
1"	10"	1128N15	551.27
1"	12"	1128N19	558.55
1 1/4"	10"	1128N16	551.27
1 1/4"	12"	1128N21	558.55
1 1/2"	10"	1128N17	551.27
1 1/2"	12"	1128N22	558.55

Mixer Clamps

Clamps for Drum, Tank, and IBC Mixers

For Mixer Part Number		
For Neptune Mixers		
B-1.0, B-2.0, B-3.0	3473K128	$285.09
BC-5.4, BC-7.4	3473K127	218.91
JD-4.0, JD-5.1, JD-5.3, JG-3.0, JG-3.2, JG-4.0, JG-4.2, JG-6.1, JG-6.3	3473K137	393.27
L-1-CL	3497K29	207.00
For Lightnin Mixers		
EV1P25, EV1P50, EV5P25, EV5P33, EV5P75	34945K49	413.81

Clamps for Small-Batch Mixers

Rod Dia.	Shaft Dia.		
Stationary Clamps			
3/8"-5/8"	3/8"-5/8"	1126N1	$70.00
3/8"-5/8"	1/2"-3/4"	1126N2	70.00
Swivel Clamp			
3/8"-5/8"	1/2"-3/4"	1126N3	167.27

Mixer Chucks

Quickly change mixing shafts with these keyless nylon chucks. They attach to your motor shaft with set screws.



For Mixer Shaft Dia.	For Motor Shaft Dia.		
1/16"-3/8"	1/4"	1130N2	$95.45
1/16"-3/8"	5/16"	1130N3	95.45
1/16"-3/8"	3/8"	1130N4	95.45
1/16"-1/2"	3/8"	1130N5	112.73
1/16"-1/2"	1/2"	1130N6	112.73

Stainless Steel Mixing Blades





Cut through solid particles in your mixture.

Mixing blades for thin liquids have shallow teeth for mixing efficiently at high speeds.

Mixing blades for thick liquids have steeply angled teeth that can handle thick slurries and emulsions.

Shafts come with a washer and a nut.

Mixing Blades—304 Stainless Steel

Bore Size	Blade Dia.		
For Thin Liquids			
1/2"	2"	3518K62	$63.76
1/2"	3"	3518K64	66.31
1/2"	4"	3518K65	67.58
1/2"	5"	3518K66	95.63
1/2"	6"	3518K67	114.76
1/2"	7"	3518K51	136.00
1/2"	8"	3518K52	149.33
1/2"	9"	3518K53	160.00
1/2"	10"	3518K54	177.33

Bore Size	Blade Dia.		
For Thick Liquids			
1/2"	4"	3518K73	$133.89
1/2"	6"	3518K78	240.99
1/2"	8"	3518K81	304.75
1/2"	9"	3518K83	336.00
1/2"	10"	3518K82	339.18
5/8"	12"	3518K84	409.33
5/8"	15"	3518K85	462.67
5/8"	16"	3518K86	517.33

Shafts—303 Stainless Steel

Shaft Dia.	Lg.		
1/2"	12"	3518K11	$52.69
1/2"	48"	3518K12	129.61

Threaded Stainless Steel Propellers

For faster attachment than propellers with set screws, these 316 stainless steel propellers have threaded hubs that install on threaded shafts. They are left hand.



Prop. Dia.	Thread Size		
2 5/8"	5/16"-24	1129N1	$167.86
3 1/8"	5/16"-24	1129N2	167.86
3 5/8"	5/16"-24	1129N3	177.38

Prop. Dia.	Thread Size		
4 1/4"	5/16"-24	1129N4	$186.90
4 3/4"	5/16"-24	1129N5	197.62
5 1/4"	5/16"-24	1129N6	209.27

Stainless Steel Mixer Shafts

The ends of these shafts are machined to fit mixer shaft couplings. They are 316 stainless steel.

Shafts for propellers with set screws have two machined ends.

Shafts for threaded propellers have one threaded end to fit threaded propellers and one machined end.





For Propellers with Set Screws

Shaft Lg.			
5/16" Shaft Dia.			
9"	3473K11	$45.82
12"	3473K12	45.82
15"	3473K16	48.36
18"	3473K17	48.36
20"	3473K18	50.90
24"	3473K19	50.90
1/2" Shaft Dia.		
10"	3513K45	69.09
12"	3513K46	72.73
15"	3473K2	112.73
18"	3473K21	112.73
20"	3473K22	112.73
24"	3473K23	112.73
27"	3473K24	100.55
30"	3473K26	100.55
32"	3473K113	100.55
5/8" Shaft Dia.		
12"	3473K27	70.91
15"	3473K108	70.91
18"	3473K28	132.73
20"	3473K29	132.73

Shaft Lg.			
5/8" Shaft Dia. (Cont.)			
24"	3473K3	$132.73
27"	3473K101	132.73
30"	3473K33	130.91
32"	3473K114	132.71
36"	3473K102	140.00
40"	3473K34	145.09
48"	3473K103	150.57
3/4" Shaft Dia.		
27"	3473K104	161.13
34"	3488K111	161.21
36"	3473K105	174.36
40"	3473K35	210.00
48"	3473K106	217.92
60"	3473K107	241.70
1" Shaft Dia.		
32"	3473K36	292.73
36"	3473K37	292.73
40"	3473K38	292.73
48"	3473K111	303.77
62"	3473K136	281.27

For Threaded Propellers

Shaft Lg.	Thread Size		
3/8" Shaft Dia.			
12"	5/16"-24	1123N1	$36.36
15"	5/16"-24	1123N2	40.91
20"	5/16"-24	1123N3	52.73

Shaft Lg.	Thread Size		
3/8" Shaft Dia. (Cont.)			
24"	5/16"-24	1123N4	$59.09
30"	5/16"-24	1123N5	63.64
36"	5/16"-24	1123N6	70.00

Mixer Stands for Small Batch Mixers

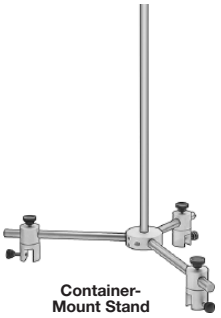
Container-Mount Stand

These stands have a 304 stainless steel shaft. Mixers can be mounted at any height on the stand.

Tabletop stands are for use with mixer shaft lengths up to 18″.

Container-mount stand fits containers up to 15″ in diameter. Maximum mixer shaft length is the depth of the container plus 18″.

Shaft Dia.	Base Wd.	Base Dp.	Base Ht.		
Tabletop Stands—Steel Base					
5/8″	14″	14″	28″	1131N1	$229.09
3/4″	17″	17″	28″	1131N2	243.64
Container-Mount Stand—Aluminum Base					
5/8″	14″	14″	26″	1131N3	396.36

Air-Powered Paint Shakers



Use plant air to shake paint cans 700 times per minute. This aluminum shaker adjusts to hold aerosol, pint, quart, and gallon cans. Air inlet connection is 1/4 PTF female and is compatible with NPTF. Shaker is rated for continuous duty. It must be mounted to a bench top or the optional pedestal stand.

Optional pedestal stand is steel. Dimensions are 31″ Ht. × 11″ Wd. × 8 1/2″ Dp.

Repair kit includes a bushing, wear ring, air hose, hose clamps, and O-rings.

Max. Container Size Wt.	Ht.	Dia.	Shaker Size Ht.	Wd.	Dp.	Air Consumption @ 70 psi, cfm		
16 lbs.	10 1/4″	6 7/8″	14″	8″	10 1/2″	4.3	9593T41	$633.33
Optional Pedestal Stand							9593T12	98.35
Repair Kit							9593T13	75.00

Electric Paint Shakers


Portable


Dual Can


Heavy Duty and Hazardous Location

Quickly and thoroughly mix paint and coatings. All shakers are rated for continuous-duty operation.

For Pint, Quart, and Gallon Containers—Portable shaker weighs only 24 pounds and doesn't require permanent mounting. This steel shaker has a 15-minute timer. It has an 8-ft. cord with plug. **Dual-can shaker** cuts mixing time in half by shaking two cans at once at 525 shakes per minute. Motor is UL listed. Housing is steel and has four 1/4″ dia. holes for bench-top mounting (fasteners not included). Shaker has a 30-minute timer. It has a 10-ft. cord with plug.

For 1- and 5-Gallon Containers—Mix at 325 shakes per minute. Housing is steel and has four 1/4″ dia. holes for floor mounting (fasteners not included). Motor is UL listed. **Heavy duty shaker** has a 30-minute timer. It has a 10-ft. cord with plug. **Hazardous-location shaker** is UL listed for Class I, Group D for environments with flammable fuels and solvents. It has wire leads for electrical connection.

	hp	Max. Container Size Wt., lbs.	Ht.	Dia.	Volts AC @ 60 Hz (phase)	Amps	Shaker Size Ht.	Wd.	Dp.		
For Pint, Quart, and Gallon Containers											
Portable	1/12	11	7 3/4″	6 1/2″	120 (1)	2.5	26″	15 3/8″	11 1/2″	7828T41	$433.13
Dual Can	1/3	18	10 1/2″	7″	120 (1)	7.8	22 1/2″	19″	10 1/2″	7910T2	1,586.47
For 1- and 5-Gallon Containers											
Heavy Duty	1/2	80	16 3/4″	12″	120/240 (1)	9/4.5	29 1/2″	29 1/2″	17 1/2″	9584T13	3,900.00
Hazardous Location	1/2	80	16 3/4″	12″	120/240 (1)	8/4	29 1/2″	29 1/2″	17 1/2″	9584T14	4,693.33

Vibrating Electric Shakers


Round Platform


Rectangular Platform

Combine small samples and settle mold and die castings at 3,600 vibrations per minute. These shakers have a variable-speed control and a single-phase motor that operates on 120 volts AC @ 60 Hz. Housing is zinc, unless otherwise stated.

Round Platform—Shakers have an intermittent-duty motor (15 minutes on; 5 minutes off) and a 6-ft. cord with plug. Platform is rubber-covered zinc.

Rectangular Platform—8-lb. capacity shaker has an intermittent-duty motor (15 minutes on; 5 minutes off) and a 5-ft. cord with plug. Platform is rubber-covered steel. **10-lb. capacity shaker** is powered by an electromagnetic vibrator and has a 7-ft. cord with plug. Housing is aluminum. Platform is plastic.

Weight Cap., lbs.	Platform Wd.	Platform Dp.	Shaker Size Dia.	Ht.	Wd.	Dp.	Amps		
Round Platform									
5	———	———	4″	4 1/2″	4 1/2″	4 1/2″	2.5	5817K15	$108.83
12	———	———	6″	6 1/2″	11″	4 1/2″	2	5817K17	263.33
Rectangular Platform									
8	10 1/2″	7 1/2″	—	4 1/2″	10 1/2″	7 1/2″	3	5817K18	363.33
10	10″	7″	—	5 15/16″	10″	7″	1	5714K61	958.33

Air-Powered Aerators



Also known as a diffuser and an air bubbler, this aerator connects to your compressed air line. It has notches at the base that create small bubbles for uniform aeration. Aerator is commonly used in wastewater treatment. Body is ABS plastic with a clog-resistant rubber diaphragm. Air inlet connection is NPT male.

Dia.	Lg.	Max. psi @ 70° F	Air Inlet		
5″	4 1/2″	9	1/2	3699K36	$27.46

Air-Powered Bin Aerators


Weld On


Bolt On

Also known as fluidization nozzles, these aerators create flow in your bin or hopper by combining vibration and aeration to dislodge compacted material. They're often used with dry, powdery materials such as cement, starch, and clay. Aerators are rated for continuous-duty operation and run on plant air. They install directly through a hole in your bin or hopper wall. For large containers, mount several aerators in rows set 6″ to 18″ apart.

Weld-on aerator comes with a bushing for welding to the outside of your tank.

Bolt-on aerator installs from inside your tank and secures with the included mounting bolt.

Air Inlet	Dia.	Mount. Hole Size	Air Supply, psi	Max. Temp., °F		
Weld On—Steel						
1/2 BSP Female	1 7/16″	1 7/16″	2-5	280°	59145K45	$31.58
Bolt On—Silicone and Stainless Steel						
1/4 NPT Female	4″	13/16″	5-60	400°	59145K12	43.86

Electric Aerators



Introduce fresh air into your liquid while mixing the contents of your tank. These aerators include a rubber air diffuser for uniform bubble distribution. They also come with an air pump and a PVC hose. Maximum water depth is 6 feet. Aerators are rated for continuous duty. They have a 7-ft. cord with plug.

Hose Lg., ft.	Ht.	Wd.	Dp.	Volts AC @ 60 Hz (phase)	Amps	Max. psi @ 70° F		
5	6 11/16″	8″	5 7/16″	120 (1)	0.1	1	3555K24	$360.34
10	6 11/16″	8″	5 7/16″	120 (1)	0.1	1	3555K26	377.59
20	6 11/16″	8″	5 7/16″	120 (1)	0.1	1	3555K28	394.83

About Selecting a Vibrator

For Dry Materials



Often used to loosen compacted powders and distribute grains, these vibrators emit a high-frequency vibration that shakes material to maintain a steady flow. They're also known as ball and turbine vibrators.

Vibrator strength is measured in pounds of force; every 10 pounds of dry material requires 1 pound of force to move it. If your bin has 200 pounds of dry material, you need a vibrator with at least 20 pounds of force.

- One vibrator can move the contents of a bin with a diameter up to 10 feet.
- For bins larger than 10 feet in diameter, add a second vibrator to the opposite side of the bin. Each vibrator should provide half the total required pounds of force.
- Align vibrators in the direction of flow for best results.

For Wet Materials



Commonly used with sticky slurries and caked-on substances, these vibrators produce a hammer-like pounding action that dislodges material from bin walls. Also known as piston vibrators, they're often used on materials with a moisture content of 5% or more.

Bin wall thickness determines the force required to move the material in the bin. To select a vibrator strong enough for your application, find your bin's wall thickness in the table.

- One vibrator can clear about 4 to 6 feet of a bin wall.
- To clear larger areas of a bin, add a second vibrator to the opposite side of the bin.
- Since they produce a strong pounding action, these vibrators require a solid mount.

Vibrator Mounting

Attach vibrators to a U-channel bracket that is welded to the bin rather than attaching vibrators directly to the bin wall.

To clear the contents of a large bin or move extremely compacted material, add a second vibrator to the opposite side of the bin for even vibration and optimal flow.

Vibrator 1
Mount between one quarter and one third of the way up the sloped section of the bin.

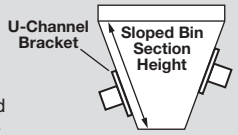

Vibrator 2
Mount halfway up the sloped section of the bin on the opposite side of the first vibrator.

Air-Powered Vibrators

Air-Powered Vibrators for Dry Materials


A


B


C


D


E


F

Also known as ball vibrators, these produce a high-frequency vibration that shakes powders, grains, and other dry materials to maintain a steady flow through your bin. All vibrators are rated for continuous duty and have a muffler. Air connections are female.

Corrosion-resistant plastic vibrators stand up to splashing water and outdoor environments.

Approx. Material Wt., lbs.	@ 80 psi: Force, lbs.	@ 80 psi: Vibrations per Minute	@ 80 psi: cfm	@ 80 psi: dB	Air Connection	Max. Temp., °F	Overall Size: Ht.	Overall Size: Wd.	Overall Size: Dp.	Mounting Holes: Size (Qty.)	Mounting Holes: Ctr.-to-Ctr.		
Iron													
(A) Right-Angle Mount with Side Inlet													
500	50	22,800	10.8	86	1/8 NPT	250°	1 7/8"	3 1/8"	1 1/8"	11/32" (2)	—	5807K46	$77.97
910	91	20,000	11.3	90	1/8 NPT	210°	2 5/16"	3 11/16"	1 1/4"	3/8" (2)	—	5807K27	105.00
1,240	124	14,800	10	85	1/4 NPT	250°	2 1/2"	4"	1 5/16"	13/32" (2)	—	5807K48	95.80
2,670	267	14,800	13.7	85	1/4 NPT	250°	2 13/16"	4 1/2"	1 1/2"	13/32" (2)	—	5807K49	112.51
3,140	314	9,600	19.8	84	1/4 NPT	250°	3 3/16"	5 3/16"	1 13/16"	17/32" (2)	—	5807K65	128.10
(B) Base Mount with Top Inlet													
190	19	26,000	6	89	1/8 NPT	210°	2 1/8"	3 3/4"	1 1/8"	1/4" (2)	3"	5807K21	115.00
1,330	133	22,400	19	85	1/8 NPT	250°	2 11/16"	5 3/16"	1 3/16"	13/32" (2)	4"	5807K66	104.71
2,750	275	15,000	16	84	1/4 NPT	250°	3 3/8"	5 1/8"	1 1/2"	13/32" (2)	4"	5807K7	119.19
5,680	568	6,200	31	85	3/8 NPT	250°	5 3/8"	7 7/8"	2 5/16"	11/16" (2)	6"	5807K75	202.73
(C) Base Mount with Side Inlet													
310	31	19,000	7.5	89	1/8 NPT	210°	2 3/16"	3 15/16"	1 3/16"	5/16" (2)	3"	5807K68	125.71
660	66	17,000	10	91	1/8 NPT	210°	2 5/8"	5 1/16"	1 5/16"	3/8" (2)	4"	5807K69	131.43
2,520	252	15,500	14.1	88	1/4 NPT	210°	3 5/16"	5 1/16"	1 11/16"	3/8" (2)	4"	5807K71	168.57
4,060	406	11,100	16.3	88	1/4 NPT	210°	4 3/8"	6 3/8"	2 5/16"	1/2" (2)	5"	5807K72	184.21
7,890	789	11,500	18.9	92	1/4 NPT	210°	4 3/8"	6 3/8"	2 5/16"	1/2" (2)	5"	5807K73	173.68
(D) Heavy Duty Base Mount with Side Inlet													
6,440	644	5,500	29	87	3/8 NPT	210°	6"	6 3/8"	3 1/8"	3/8" (4)	5 1/2"	5807K81	362.50
8,020	802	5,000	29	88	3/8 NPT	210°	6"	6 3/8"	3 1/8"	3/8" (4)	5 1/2"	5807K82	375.00
Corrosion-Resistant Plastic													
(E) Base Mount with Top Inlet													
900	90	24,000	9	83★	1/8 NPT	200°	2 5/8"	5"	1 7/16"	3/8" (2)	4"	5873K73	75.17
1,100	110	20,000	10	80★	1/8 NPT	200°	2 5/8"	5"	1 7/16"	3/8" (2)	4"	5873K75	91.67
1,750	175	15,000	17	87★	1/4 NPT	200°	3 1/2"	5 5/8"	1 3/4"	1/2" (2)	4 5/8"	5873K77	99.74
2,350	235	14,000	17	87★	1/4 NPT	200°	3 1/2"	5 5/8"	1 3/4"	1/2" (2)	4 5/8"	5873K79	110.25
2,750	275	9,000	19	82★	1/4 NPT	200°	4"	6 1/2"	2 5/16"	1/2" (2)	5 1/4"	5873K81	121.00
4,650	465	8,500	20	85★	1/4 NPT	200°	4"	6 1/2"	2 5/16"	1/2" (2)	5 1/4"	5873K83	125.50
10,000	1,000	5,300	32	98★	1/2 NPT	200°	5 7/8"	9"	2 1/2"	11/16" (2)	7 1/2"	5873K91	214.50
Aluminum													
(F) Base Mount with Top Inlet													
720	72	34,000	6	78	1/4 BSPP	210°	2"	3 3/8"	13/16"	0.27" (4)	2 11/16"	5874K61	145.00
1,410	141	29,000	6.5	80	1/4 BSPP	210°	2"	3 3/8"	13/16"	0.27" (4)	2 11/16"	5874K62	160.00
1,800	180	22,000	7	82	1/4 BSPP	210°	2 9/16"	4 7/16"	15/16"	0.35" (4)	3 9/16"	5874K63	192.50
2,250	225	18,000	9	85	1/4 BSPP	210°	2 9/16"	4 7/16"	1 1/16"	0.35" (4)	3 9/16"	5874K64	205.00
3,400	340	15,000	11	89	1/4 BSPP	210°	3 3/16"	5 1/16"	1 5/16"	0.35" (4)	4 1/8"	5874K65	262.50
4,200	420	13,000	14	86	1/4 BSPP	210°	3 3/16"	5 1/16"	1 1/2"	0.35" (4)	4 1/8"	5874K66	280.00

★ Decibels @ 60 psi.

Energy-Efficient Air-Powered Vibrators for Dry Materials



A



B



C



D



E



F&G

Also known as turbine vibrators, these use half the air of other air-powered vibrators to generate the same force. Often used to shake powders, grains, and flakes, they maintain a steady flow of dry material through bins, chutes, and screens. Vibrators are rated for continuous duty. *Styles A, B, D & E* have a muffler; *Style D* muffler is internal.

Miniature plastic vibrators are designed for small containers and tight spaces. Air connections are push to connect for tubing.

Iron and **aluminum vibrators** have female air connections.

Corrosion-resistant 303 stainless steel vibrators stand up to splashing water and harsh chemical environments. Air connections are female.

Approx. Material Wt., lbs.	@ 80 psi Force, lbs.	@ 80 psi Vibrations per Minute	@ 80 psi cfm	@ 80 psi dB	Air Connection	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Mounting Holes Size (Qty.)	Mounting Holes Ctr.-to-Ctr.		
Miniature Plastic												
(A) Side Mount with Side Inlet—Max. Temp. is 185° F												
110	11	20,000	0.81	82	For 1/4″ OD Tube	7/8″	1 15/16″	23/32″	5/32″ (1)	—	3987K69	$146.62
250	25	20,500	1.41	85	For 1/4″ OD Tube	1 1/4″	2 1/4″	15/16″	7/32″ (1)	—	3987K62	158.84
470	47	11,300	2.8	90	For 1/4″ OD Tube	1 3/4″	4″	1 1/4″	11/32″ (1)	—	3987K65	194.47
810	81	8,070	4.9	85	For 1/4″ OD Tube	2 1/2″	5 3/8″	1 5/8″	3/8″ (1)	—	3987K68	236.22
Iron												
(B) Right-Angle Mount with Side Inlet—Max. Temp. is 200° F												
1,050	105	16,890	3.2	90	1/8 NPT	1 3/4″	3 1/8″	1 1/4″	5/16″ (2)	—	3886K41	165.96
2,030	203	15,690	3.2	74	1/8 NPT	2 1/8″	3 9/16″	1 1/2″	3/8″ (2)	—	3886K45	182.25
2,650	265	14,560	5	85	1/4 NPT	2 1/2″	4″	1 5/8″	3/8″ (2)	—	3886K43	209.75
5,790	579	10,255	5.2	85	1/4 NPT	3 1/2″	5 3/8″	2 1/4″	17/32″ (2)	—	3886K44	292.22
(C) Base Mount with Top Inlet—Max. Temp. is 200° F												
750	75	10,500	5.5	67	1/8 NPT	2 5/8″	4 7/8″	1 7/8″	3/8″ (2)	4″	1148N5	189.04
1,600	160	11,000	8	70	1/4 NPT	3 5/8″	5 1/2″	2 7/8″	3/8″ (2)	4″	1148N6	207.49
2,700	270	7,200	8.5	71	1/4 NPT	3 7/16″	5 1/4″	3 3/16″	3/8″ (2)	4″	1148N7	233.86
4,800	480	7,200	9	72	1/4 NPT	3 15/16″	6 3/4″	3 9/16″	1/2″ (2)	5″	1148N8	267.28
(D) Base Mount with Side Inlet—Max. Temp. is 200° F												
750	75	10,500	5.5	67	1/8 NPT	2 5/16″	4 7/8″	2″	3/8″ (2)	4″	1148N1	166.88
1,600	160	12,000	8	70	1/4 NPT	3″	5 1/8″	2 7/8″	3/8″ (2)	4″	1148N2	189.04
2,700	270	7,200	9	70	1/4 NPT	3 1/16″	5 7/16″	3 1/4″	3/8″ (2)	4″	1148N3	218.56
5,000	500	7,200	10.5	70	1/4 NPT	3 11/16″	5 1/2″	3 5/8″	1/2″ (2)	4″	1148N4	267.28
Aluminum												
(E) Base Mount with Top Inlet—Max. Temp. is 230° F												
200	42	15,600	3.5	69	1/8 BSPP	1 5/8″	2 13/16″	1 1/8″	0.23″ (2)	2 1/4″	5794K69	191.84
300	55	12,500	3.5	68	1/8 BSPP	1 5/8″	2 13/16″	1 1/8″	0.23″ (2)	2 1/4″	5794K7	206.12
4,600	460	36,000	4	71	1/8 BSPP	2″	3 7/16″	1 5/16″	9/32″ (2)	2 11/16″	5794K52	255.67
5,800	580	44,000	4	73	1/8 BSPP	2″	3 7/16″	1 5/16″	9/32″ (2)	2 11/16″	5794K22	232.99
6,400	640	22,000	10	74	1/4 BSPP	2 9/16″	4 7/16″	1 11/16″	11/32″ (2)	3 9/16″	5794K24	340.21
7,500	750	31,000	10	77	1/4 BSPP	2 9/16″	4 7/16″	1 11/16″	11/32″ (2)	3 9/16″	5794K53	319.59
11,000	1,100	22,000	15	78	1/4 BSPP	3 3/16″	5 1/16″	2 3/16″	11/32″ (2)	4 1/8″	5794K55	441.24
12,300	1,230	18,000	15	82	3/8 BSPP	3 15/16″	6 5/16″	2 15/16″	7/16″ (2)	5 1/8″	5794K26	610.31
13,800	1,380	12,000	24	81	3/8 BSPP	3 15/16″	6 5/16″	2 15/16″	7/16″ (2)	5 1/8″	5794K57	647.42
(F) Base Mount with Top Inlet—Max. Temp. is 200° F												
750	75	10,500	5.5	68	1/8 NPT	2 1/2″	3 1/2″	1 7/8″	1/4″ (2)	2 3/4″	1150N1	237.84
2,700	270	7,200	8.5	71	1/4 NPT	3 3/16″	4 1/2″	3 3/8″	3/8″ (2)	3 1/2″	1150N2	277.61
4,800	480	7,200	9	72	1/4 NPT	3 3/8″	5″	3 1/2″	3/8″ (2)	4″	1150N3	320.46
5,300	600	6,800	10	70	3/8 NPT	4 1/4″	6″	4″	1/2″ (2)	5″	1150N4	394.30
Corrosion-Resistant 303 Stainless Steel												
(G) Base Mount with Top Inlet—Max. Temp. is 200° F												
750	75	10,500	5.5	68	1/8 NPT	2 9/16″	3 1/4″	1 7/8″	1/4″ (2)	2 3/4″	1149N1	399.12
2,700	270	7,200	8.5	71	1/4 NPT	3 1/16″	5 1/8″	3 3/8″	3/8″ (2)	3 1/2″	1149N2	460.53
6,000	600	6,800	10	70	3/8 NPT	4 9/16″	6″	4″	1/2″ (2)	5″	1149N3	690.79

Portable Magnetic-Mount Air-Powered Vibrators for Dry Materials

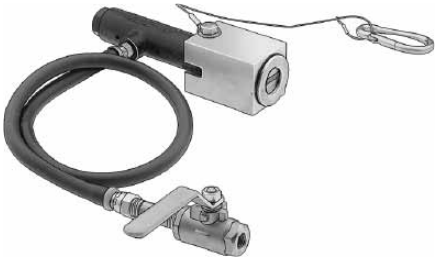

Move this vibrator to the source of your flow problem. It weighs only four pounds and has a magnetic mount, so it can be moved between ferrous containers. This vibrator is often used to shake powders, grains, and small parts in bins and hoppers with intermittent flow issues. It has a 5-ft. air hose with a valve and a safety cable with latch. Vibrator is rated for intermittent duty (1 to 3 seconds on; 10 seconds off). It has NPT female air connections and a side inlet. Maximum temperature is 250° F.

Optional adhesive-back metal pad allows use of vibrator on nonferrous containers.

Approx. Material Wt., lbs.	@ 60 psi Force, lbs.	@ 60 psi Vibrations per Minute	@ 60 psi cfm	@ 60 psi dB	Air Conn.	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.		
250	25	3,500	2.5	85	1/4	7 1/2″	1 15/16″	1 15/16″	1134N11	$784.00
Optional Adhesive-Back Metal Pad for Nonferrous Containers									1134N12	124.83

Air-Powered Vibrators for Wet Materials

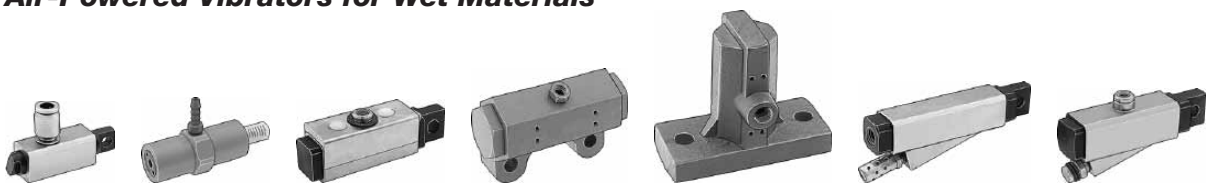

A B C D E&H F G

Also known as piston vibrators, these pound the sides of your bin to dislodge wet, sticky, and caked-on materials.

Light Duty—Commonly used on small bins that require periodic shaking, these vibrators are rated for intermittent duty (3 minutes on; 3 minutes off). They make direct contact with your container wall. Air connections are push to connect for tubing. *Vibrator with 15 lbs. of force* has a 304 stainless steel body. *Vibrator with 21 lbs. of force* has a steel body.

High Force—These vibrators make direct contact with your container wall for maximum impact. All are rated for continuous duty. Air connections are female. *Style B* have an aluminum body and a muffler. *Styles C, D & E* have a steel body.

Cushioned Impact—An air cushion prevents metal-to-metal contact. These vibrators are rated for continuous duty. Body is steel. Air connections are female. *Styles F & G* have a muffler.

For Bin Wall Thick.	@ 80 psi Force, lbs.	@ 80 psi Vibrations per Minute	@ 80 psi cfm	@ 80 psi dB	Air Connection	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Mounting Holes Size (Qty.)	Mounting Holes Ctr.-to-Ctr.		
Light Duty												
(A) Side Mount with Top Inlet—Max. Temp. is 200° F												
3/32"	15	16,000	2	95	For 1/4" OD Tube	1 1/4"	2 3/16"	5/8"	3/16" (1)	—	5804K25	$91.64
3/32"	21	11,400	2.1	95	For 1/4" OD Tube	1 1/4"	2 7/8"	5/8"	1/4" (1)	—	5804K26	98.76
High Force												
(B) End Mount with Top Inlet—Max. Temp. is 280° F												
1/32"	17	6,500	0.5	61	1/8 BSPP	1 1/4" Dia.	3 3/16"	—	M8 (1)	—	58765K57	248.68
1/16"	38	5,600	1.6	67	1/8 BSPP	1 9/16" Dia.	3 11/16"	—	M10 (1)	—	58765K58	290.73
1/8"	105	4,100	2.7	74	1/8 BSPP	1 7/8" Dia.	4 9/16"	—	M12 (1)	—	58765K59	355.30
3/16"	220	4,400	4.5	77	1/4 BSPP	2 1/4" Dia.	4 9/16"	—	M12 (1)	—	58765K61	459.96
(C) Side Mount with Top Inlet—Max. Temp. is 200° F												
1/8"	235	17,400	4.5	107	1/8 NPT	1 7/16"	5 3/16"	1"	5/16" (1)	—	5799K12	103.85
1/8"	267	14,700	4.5	106	1/4 NPT	1 9/16"	5 3/8"	1 1/8"	3/8" (1)	—	5799K13	109.96
1/8"	292	14,000	4.5	106	1/4 NPT	1 3/4"	5 3/8"	1 5/16"	3/8" (1)	—	5799K14	115.05
1/8"	405	12,200	4.5	105	1/4 NPT	2 1/16"	5 5/16"	1 5/8"	1/2" (1)	—	5799K16	137.45
1/8"	586	8,600	7	105	1/4 NPT	2 3/4"	7 5/8"	1 7/8"	1/2" (1)	—	5799K17	175.13
(D) Bottom Mount with Top Inlet—Max. Temp. is 260° F												
1/8"	438	11,500	6.8	97	1/8 NPT	2"	4 3/4"	1 3/4"	1/2" (2)	2 7/8"	5798K2	221.15
3/16"	403	6,500	14.4	99	1/4 NPT	2 1/4"	8"	2 1/8"	1/2" (2)	3 3/4"	5798K3	234.62
1/4"	758	4,100	10.9	102	1/4 NPT	2 3/4"	8"	2 3/8"	5/8" (2)	4"	5798K4	298.08
(E) Base Mount with Side Inlet—Max. Temp. is 350° F												
1/8"	242	11,000	5	92	1/4 NPT	3 7/8"	4 1/2"	2"	1/2" (2)	3 1/2"	1154N1	124.40
1/8"	325	7,000	9	93	1/4 NPT	5 5/8"	6"	2 1/2"	1/2" (2)	4 1/2"	1154N2	178.63
1/4"	610	5,000	15	95	1/4 NPT	7 1/4"	9"	3 13/16"	5/8" (2)	7 1/2"	1154N3	244.37
Cushioned Impact												
(F) Side Mount with Side Inlet—Max. Temp. is 200° F												
3/32"	38	3,550	2.8	69	1/4 NPT	1 15/16"	5 3/4"	1 3/16"	3/8" (1)	—	5884K12	149.67
(G) Side Mount with Top Inlet—Max. Temp. is 200° F												
3/32"	147	3,200	7	81	1/4 NPT	2 5/8"	7 3/4"	2"	1/2" (1)	—	5884K14	202.62
3/32"	113	3,900	3.7	78	1/4 NPT	2 3/4"	5 7/8"	1 1/2"	1/2" (1)	—	5884K13	145.60
(H) Base Mount with Side Inlet—Max. Temp. is 350° F												
1/8"	120	6,500	5	82	1/4 NPT	3 7/8"	4 1/2"	2"	1/2" (2)	3 1/2"	1153N1	128.09
1/8"	170	4,200	9	83	1/4 NPT	5 5/8"	6"	2 1/2"	1/2" (2)	4 1/2"	1153N2	182.32
1/4"	310	3,000	15	85	1/4 NPT	7 1/4"	9"	3 13/16"	5/8" (2)	7 1/2"	1153N3	248.05

Heavy Duty Air-Powered Vibrators for Wet Materials

To dislodge extremely thick, sticky materials from the sides of your bin, these iron vibrators have a sturdy, four-bolt base for secure mounting and even force distribution. They are continuous duty. Vibrators have NPT female air connections and a side inlet. Maximum temperature is 200° F.

High Force—These vibrators make direct contact with your container wall for maximum impact.

Cushioned Impact—These vibrators have an air cushion that prevents metal-to-metal contact.

Vibrators with setup kit come with a U-channel bracket, a manual air valve, an automatic lubricator, and a 5-ft. hose with fittings.



For Bin Wall Thick.	@ 80 psi Force, lbs.	@ 80 psi Vibrations per Minute	@ 80 psi cfm	@ 80 psi dB	Air Connection Inlet	Air Connection Exhaust	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Mounting Holes Size (Qty.)	Mounting Holes Ctr.-to-Ctr.	Vibrators		Vibrators with Setup Kit	
High Force															
1/8"	326	5,900	7	95	1/4	1/4	4 11/16"	3"	3"	3/8" (4)	2"	5800K81	$171.05	5800K21	$359.42
3/16"	601	4,600	12	99	1/4	3/8	6 3/8"	4 3/8"	4 3/8"	5/8" (4)	3"	5800K82	214.84	5800K22	425.60
1/4"	610	3,300	15	99	1/4	3/8	6 3/4"	4 3/8"	4 3/8"	5/8" (4)	3"	5800K83	254.55	5800K23	465.31
3/8"	1,917	3,000	21	102	3/8	1/2	8 7/16"	5 3/4"	5 3/4"	3/4" (4)	4 1/8"	5800K84	488.73	5800K24	749.38
3/8"	2,422	2,600	33	104	1/2	1/2	9 13/16"	5 3/4"	5 3/4"	3/4" (4)	4 1/8"	5800K86	519.27	5800K25	865.45
Cushioned Impact															
1/8"	260	5,300	7	86	1/4	1/4	4 11/16"	3"	3"	3/8" (4)	2"	5800K72	178.18	5800K2	365.53
1/8"	480	4,100	12	90	1/4	3/8	6 3/8"	4 3/8"	4 3/8"	5/8" (4)	3"	5800K73	220.95	5800K3	430.69
3/16"	490	2,900	16	90	1/4	3/8	6 3/4"	4 3/8"	4 3/8"	5/8" (4)	3"	5800K74	266.76	5800K4	458.18
1/4"	939	2,100	21	92	3/8	1/2	8 7/16"	5 3/4"	5 3/4"	3/4" (4)	4 1/8"	5800K75	502.98	5800K5	763.64
3/8"	1,350	1,810	32	94	1/2	1/2	9 13/16"	5 3/4"	5 3/4"	3/4" (4)	4 1/8"	5800K76	529.45	5800K6	905.16

Air-Powered, Battery-Operated & Electric Vibrators

For information about selecting a vibrator, see page 547.

Portable Vacuum-Mount Air-Powered Vibrators for Wet Materials

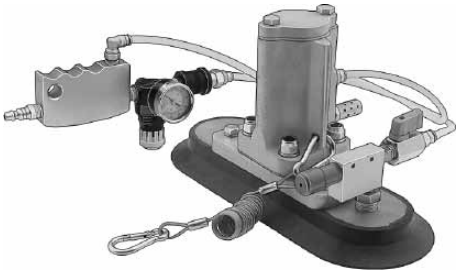

Mount these vibrators on any flat-sided container in seconds. They weigh 10 pounds and attach by generating a vacuum instead of bolting or welding, so you can place them at the source of the blockage and quickly move them between bins. These iron vibrators are often used to dislodge sticky, caked-on materials from trailers, railcars, and hoppers. They are rated for intermittent duty. Vibrators have a muffler. They have NPT female air connections and a side inlet. Maximum temperature is 200° F.

For Bin Wall Thick.	@ 80 psi Force, lbs.	@ 80 psi Vibrations per Minute	@ 80 psi cfm	@ 80 psi dB	Air Conn.	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.		
1/8"	260	5,300	8	86	1/4	6 3/4"	11 5/8"	4 3/8"	1136N11	$927.27
3/16"	490	2,900	17.5	90	1/4	8 9/16"	19 5/16"	6 3/8"	1136N12	1,063.64

Quick-Mount Air-Powered Vibrators for Wet Materials



For Large Bins and Railcars

Weld a bracket to each of your containers and move these iron vibrators from job to job. Vibrators and brackets are sold separately. They're commonly used to dislodge sticky, caked-on materials from container walls. They have NPT female air connections and a side inlet. Maximum temperature is 200° F.

Vibrator for small bins and hoppers is rated for intermittent duty. **Vibrators for large bins and railcars** are rated for continuous duty.

Weld-on bracket for small bins and hoppers is steel. Weld-on bracket for large bins and railcars is iron.

For Bin Wall Thick.	@ 80 psi Force, lbs.	@ 80 psi Vibrations per Minute	@ 80 psi cfm	@ 80 psi dB	Air Conn.	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Vibrators		Weld-On Brackets	
For Small Bins and Hoppers												
1/8"	326	5,900	7	95	1/4	5"	7 1/16"	3"	5728K21	$193.45	5728K33	$30.55
For Large Bins and Railcars												
1/4"	610	3,300	15.8	99	1/4	7 1/2"	10 1/4"	5 1/2"	5875K14	418.47	5875K24	113.02
3/8"	1,917	3,000	21	102	3/8	11 1/2"	13 9/16"	6"	5875K16	689.31	5875K27	140.00
3/8"	2,422	2,600	33	104	1/2	11 1/2"	15 1/4"	6"	5875K17	841.02	5875K27	140.00

Battery-Operated Vibrators for Dry Materials



Solve flow problems at construction sites and other locations without electricity. Often used to shake sand, gravel, and other small particles in drums and spreaders, these vibrators have wire leads for connecting to a 12-volt battery (sold separately). Body is aluminum, cast iron, and steel. Motor is continuous duty and totally enclosed fan cooled (TEFC) for use in environments with splashing water and dust. Maximum temperature is 104° F.

Approx. Material Wt., lbs.	Volts DC	Amps	Force, lbs.	Vibrations per Minute	dB	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Mounting Holes Size (Qty.)	Mounting Holes Ctr.-to-Ctr.		
200	12	3.7	20	3,500	68	3 1/2"	5"	5"	3/8" (2)	4"	1132N1	$345.83
500	12	3	50	3,600	71	3 1/2"	5"	5 5/8"	3/8" (2)	4"	1132N2	345.83
1,000	12	12	100	4,000	72	4 1/4"	6"	6 3/4"	3/8" (2)	5"	1132N3	638.60

Adjustable-Force Electric Vibrators for Dry Materials



A



B-D



E



F

Change force output for different materials in your bin. These vibrators come set at the maximum force; adjust the internal weight to reduce force. They're often used to shake and settle powders, flakes, and pellets in bins and hoppers. Motor is totally enclosed for use in environments with splashing water or dust. Maximum temperature is 104° F.

Adjustable Force—Vibrators are rated for continuous duty. *Style A* has a plastic body. *Styles B, C & D* have an aluminum body. *Styles A & B* have a 10-ft. cord with plug. *Styles C & D* have screw terminals for electrical connection. **Optional manual starters for Styles C & D** provide on/off motor control and have thermal overload protection.

Adjustable Force and Speed—Alter vibrations per minute in addition to force output. The speed adjustment dial lets you change speed while running these vibrators. Body is steel, plastic, and aluminum. They have a 10-ft. cord with plug. At 0-950 and 2,500-4,000 vibrations per minute, these vibrators are rated for intermittent duty (30 minutes on; 30 minutes off). At 950-2,500 vibrations per minute, they're rated for continuous duty.

	Approx. Material Wt., lbs.	Volts AC @ 60 Hz (phase)	Amps	Max. Force, lbs.	Vibrations per Minute	dB	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Mounting Holes Size (Qty.)	Mounting Holes Ctr.-to-Ctr.		
Adjustable Force													
A	850	120 (1)	0.3	85	4,000	65	3 5/16"	5"	6 1/16"	1/4" (4)	3 3/8", 2 3/8"	5808K61	$509.33
B	2,090	120 (1)	1.3	209	3,600	76	5 3/8"	8 5/16"	5 1/8"	3/8" (4)	4 3/16", 2 7/16"	5805K28	476.80
C	2,090	240/460 (3)	0.4/0.2	209	3,600	76	5 3/8"	8 5/16"	5 1/8"	3/8" (4)	4 3/16", 2 7/16"	5805K8	226.67
C	4,170	240/460 (3)	0.7/0.4	417	3,600	76	6 1/4"	8 5/8"	5 3/16"	3/8" (4)	4 3/16", 2 7/16"	5805K82	277.78
C	4,320	240/460 (3)	1/0.5	432	1,800	76	6 7/8"	10 3/4"	6 1/16"	1/2" (4)	4 15/16", 3 9/16"	5879K83	350.00
D	9,330	240/460 (3)	1.7/0.9	933	1,800	76	7 3/4"	13 1/8"	6 5/8"	1/2" (4)	5 1/2", 4 1/8"	5879K85	420.00
D	15,700	240/460 (3)	2.8/1.4	1,570	1,800	76	8 1/4"	15 3/8"	8 3/16"	11/16" (4)	6 11/16", 4 3/4"	5879K88	570.00
D	24,740	240/460 (3)	3.4/1.7	2,474	1,800	76	8 1/4"	17 3/4"	8 3/16"	11/16" (4)	6 11/16", 4 3/4"	5879K89	810.00
Optional Manual Starter for Style C												5879K84	167.51
Optional Manual Starter for Style D												5879K87	167.51
Adjustable Force and Speed													
E	1,000	120 (1)	1.3	100	0-4,000	68	4 1/4"	6 3/4"	6"	3/8" (2)	5"	5877K82	620.38
F	2,000	120 (1)	2.6	200	0-4,000	70	4 1/8"	8 3/16"	4 7/8"	1/2" (2)	3 1/2"	5877K84	771.37
F	5,000	120 (1)	3.5	500	0-4,000	70	6 1/2"	13 3/16"	5 3/4"	1/2" (4)	4 1/2", 8 5/16"	5877K86	1,284.07
F	10,000	120 (1)	6.5	1,000	0-4,000	72	7 1/2"	14 1/4"	6 1/2"	5/8" (4)	5", 9 3/8"	5877K88	1,562.18

For information about selecting a vibrator, see page 547.

Super-Quiet Electric Vibrators for Dry Materials

The quietest vibrators we offer, these produce less noise than normal conversation. They're often used to stimulate the flow of powders and flakes through chutes, parts feeding tracks, and screens. Vibrators have a continuous-duty motor and a 3-ft. cord with plug. Max. temp. is 104° F.

Standard vibrators have a steel, plastic, and aluminum body, except vibrator with 80-lb. material capacity has an aluminum body.

Water-resistant vibrators stand up to splashing water, dusty environments, and outdoor use. They are not submersible. Body is aluminum.



Standard



Water Resistant

Approx. Material Wt., lbs.	Volts AC @ 60 Hz (phase)	Amps	Force, lbs.	Vibrations per Minute	dB	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Mounting Holes Size (Qty.)	Mounting Holes Ctr.-to-Ctr.		
Standard with Open Fan-Cooled Motor												
80	120 (1)	0.5	8	1,600	45	3½″	5″	5″	⅜″ (2)	4″	**5802K16**	$296.50
150	120 (1)	0.5	15	1,600	45	3½″	5″	5″	⅜″ (2)	4″	**5802K11**	257.83
200	120 (1)	0.8	20	3,200	48	3½″	5″	5″	⅜″ (2)	4″	**5802K12**	247.70
Standard with Totally Enclosed Fan-Cooled (TEFC) Motor												
250	120 (1)	1.4	25	1,600	45	4¼″	7″	6″	⅜″ (2)	5″	**5802K13**	369.15
600	120 (1)	1.5	60	3,200	48	4¼″	7″	6″	⅜″ (2)	5″	**5802K14**	362.42
800	120 (1)	1.7	80	3,200	50	4¼″	7″	6″	⅜″ (2)	5″	**5802K15**	384.45
Water Resistant with Totally Enclosed Nonventilated Motor												
200	120 (1)	1.4	20	3,200	45	6½″	5⅜″	5½″	⅜″ (4)	4¾″, 2¾″	**58805K72**	450.52
600	120 (1)	1.5	60	3,200	48	6½″	5⅜″	5½″	⅜″ (4)	4¾″, 2¾″	**58805K74**	459.70
800	120 (1)	1.7	80	3,200	50	6½″	5⅜″	5½″	⅜″ (4)	4¾″, 2¾″	**58805K75**	480.77

Extended-Life Electric Vibrators for Wet Materials

Low-Force Vibrators | High-Force Vibrators | Required Controllers



A&B



C



D



E



F



G&H



J

Since they generate vibration with electromagnets, these vibrators have no moving parts that can wear out and shorten service life. They pound on container walls to dislodge sticky, caked-on materials. Vibrators require a controller (sold separately). Body is aluminum, except Style A have a steel body. Motor is continuous duty and has a 10-ft. cable with wire leads. Maximum temperature is 180° F.

Low-force vibrators are for use on small bins and hoppers.

High-force vibrators are powerful enough to move material in thick-walled bins. They are water resistant for use in environments with splashing water. *Style E* have an internal cushion for reduced noise. *Style F* make direct contact with the container wall for maximum impact.

Required controllers have an adjustable speed dial. Electrical connection is screw terminals. *Style G* has four 5⁄32″ dia. mounting holes. *Style H* has two 7⁄32″ dia. mounting holes. *Style J* has four 5⁄16″ dia. mounting holes. *Styles G & J* have an enclosure that meets NEMA 4 for indoor/outdoor use and resistance to splashing water and dust.

For Bin Wall Thick.	Volts AC @ 60 Hz (phase)	Amps	Force, lbs.	Vibrations per Minute	dB	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Mounting Holes Size (Qty.)	Mounting Holes Ctr.-to-Ctr.	Vibrators		Required Controllers	
Low Force														
A 1⁄32″	120 (1)	0.3	12	3,600	58	3 1⁄16″	4 3⁄16″	2 7⁄8″	13⁄32″ (1)	—	**5876K31**	$296.30	**G** **5876K88**	$301.85
A 1⁄32″	120 (1)	0.3	12	7,200	58	3 1⁄16″	4 3⁄16″	2 7⁄8″	13⁄32″ (1)	—	**5876K31**	296.30	**H** **5876K81**	257.41
B 1⁄32″	240 (1)	0.2	12	3,600	58	3 1⁄16″	4 3⁄16″	2 7⁄8″	13⁄32″ (1)	—	**5876K51**	246.15	**G** **5876K87**	294.44
C 1⁄32″	120 (1)	0.9	47	3,600	64	4 1⁄4″	7 1⁄4″	3″	17⁄32″ (1)	—	**5876K33**	375.93	**G** **5876K88**	301.85
C 1⁄32″	120 (1)	0.9	47	7,200	64	4 1⁄4″	7 1⁄4″	3″	17⁄32″ (1)	—	**5876K34**	383.33	**H** **5876K81**	257.41
D 1⁄32″	120 (1)	1.2	130	3,600	41	4 1⁄16″	10 1⁄4″	4 1⁄4″	7⁄16″ (2)	9 1⁄4″	**5876K35**	589.66	**G** **5876K88**	301.85
D 1⁄16″	120 (1)	2	245	3,600	57	4 5⁄16″	10 1⁄4″	5 1⁄8″	7⁄16″ (2)	9 1⁄4″	**5876K36**	591.97	**G** **5876K88**	301.85
High Force														
E 1⁄8″	120 (1)	3.5	525	3,600	68	6 1⁄2″	9 3⁄8″	7 3⁄8″	17⁄32″ (2)	8 1⁄4″	**5876K37**	973.33	**G** **5876K88**	301.85
E 1⁄8″	120 (1)	4.5	1,090	3,600	70	7 1⁄4″	10 3⁄4″	9 3⁄4″	11⁄16″ (2)	9 1⁄4″	**5876K38**	1,063.33	**G** **5876K88**	301.85
F 1⁄4″	120 (1)	4.5	1,270	3,600	95	7 1⁄4″	10 3⁄4″	9 3⁄4″	11⁄16″ (2)	9 1⁄4″	**5876K39**	1,063.33	**G** **5876K88**	301.85
F 5⁄16″	120 (1)	7	2,880	3,600	103	8 3⁄4″	11 1⁄2″	10 5⁄8″	11⁄16″ (4)	10″, 7″	**5876K42**	2,036.67	**J** **5876K85**	941.57

Electric Vibrating Feeders

A built-in vibrator shakes material to stimulate flow through the feeder trough. These vibrating feeders generate vibration with electromagnets, so there are no mechanical parts that can wear out and shorten service life. Motor is rated for continuous duty and has wire leads for electrical connection. Feeders are CSA certified. They require a controller (sold separately). Maximum temperature is 180° F.

Vibrating feeders with a 304 stainless steel trough are often used in wet and corrosive conditions.

Required controller adjusts speed. Electrical connection is screw terminals. It has four 5⁄32″ dia. mounting holes.

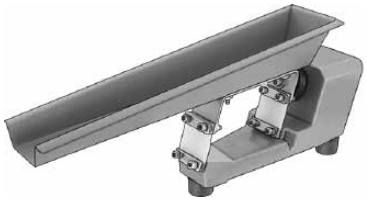

Vibrating Feeder



Required Controller

Maximum Capacity, lbs./hr.	Volts AC @ 60 Hz (phase)	Amps	dB	Trough Size Lg.	Trough Size Wd.	Trough Size Dp.	Vibrating Feeders with Steel Trough		Vibrating Feeders with 304 Stainless Steel Trough		*Required Controller*	
1,250	120 (1)	0.35	52	12″	1½″	2″	**58815K12**	$563.33	**58815K11**	$793.33	**5876K88**	$301.85
4,000	120 (1)	0.9	52	18″	3″	2¾″	**58815K14**	875.00	**58815K13**	1,113.33	**5876K88**	301.85
8,000	120 (1)	2	52	20″	5″	3″	**58815K16**	1,215.00	**58815K15**	1,470.00	**5876K88**	301.85
10,000	120 (1)	2.3	52	24″	6″	3″	**58815K18**	1,266.67	**58815K17**	1,511.67	**5876K88**	301.85

Air-Powered Vibrating Feeders



Vibrating Feeder



Required Solenoid Valve

Agitate and convey material through the feeder trough with the built-in air-powered vibrator. The vibrator has a muffler and an air cushion to prevent metal-to-metal contact. Air connections are NPT female and inlet is under the feeder trough. These vibrating feeders require a solenoid valve (sold separately). Maximum temperature is 200° F.

Vibrating feeders with a 304 stainless steel trough are often used in wet and corrosive conditions.

Required solenoid valve comes with an air filter/regulator/lubricator and a 5-ft. air hose. Valve has 1/4 NPT female connections. Body is brass and seal is Buna-N. Valve is closed unless energized (normally closed). It has wire leads, a 1/2″ conduit port, and draws a max. of 0.35 amps. Dimensions are 3″ Lg. × 3″ Ht. Mount in horizontal pipe with solenoid on top. Valve is UL listed.

Maximum Capacity, lbs./hr.	Air Consumption @ 80 psi, cfm	dB	Air Connection	Trough Size Lg.	Wd.	Dp.	Vibrating Feeders		Required Solenoid Valve	
With Steel Trough										
1,250	7	86	1/4	12″	1 1/2″	1″	1219N12	$1,104.55	1219N32	$327.27
4,000	7	86	1/4	18″	3″	1 1/2″	1219N14	1,118.18	1219N32	327.27
8,000	16	90	1/4	20″	4″	2 1/2″	1219N16	1,609.09	1219N32	327.27
10,000	16	90	1/4	24″	5″	2 1/2″	1219N18	1,636.36	1219N32	327.27
With 304 Stainless Steel Trough										
1,250	7	86	1/4	12″	1 1/2″	1″	1219N22	2,045.45	1219N32	327.27
4,000	7	86	1/4	18″	3″	1 1/2″	1219N24	2,318.18	1219N32	327.27
8,000	16	90	1/4	20″	4″	2 1/2″	1219N26	2,998.76	1219N32	327.27
10,000	16	90	1/4	24″	5″	2 1/2″	1219N28	3,136.36	1219N32	327.27

Electric Water Heaters



Standard

All heaters have a glass-lined steel tank and copper elements to protect against corrosion. They include a thermostat for accurate water-temperature output. Hardwiring is required (except 2 1/2-gallon heater includes a 6-ft. power cord with three-prong plug). UL listed.

Standard Water Heaters—Have polyurethane insulation. Connections are on the top of the heater for 2 1/2-, 30-, and 50-gal. capacity models; on the side for 6-, 10-, 19-, and 80-gal. capacity models. *Standard with heat pump* includes a heat pump that captures heat from the surrounding air and transfers it to the water in the tank. Electric water heaters with heat pump are more energy efficient than conventional electric water heaters. Heaters *not rated for an estimated yearly energy cost* cannot be sold in California.

Commercial Water Heater—Has 2″ of polyurethane insulation. Connections are on the top and side of the heater.

Cap., gal.	First Hour Rating, gal.★	Est. Yearly Energy Cost, $■	Pipe Connections, NPT	Watts	Amps	Ht.	Dia.		
Standard, 120V AC, Single Phase—Output Temp.: 80° to 160° F									
2 1/2	Not Rated	Not Rated	1/2 Male	1,500	12.5	13 3/4″	13 3/4″	3572K21	$458.85
6	Not Rated	Not Rated	3/4 Male	1,650	13.8	15 1/4″	14 1/4″	3572K22	529.70
10	Not Rated	Not Rated	3/4 Male	1,650	13.8	18 1/4″	16″	3572K23	558.18
20	Not Rated	Not Rated	3/4 Male	1,650	13.8	24 3/4″	18″	3572K24	630.75
Standard, 240V AC, Single Phase—Output Temp.: 80° to 160° F									
6	Not Rated	Not Rated	3/4 Male	1,500	6.3	15 1/4″	14 1/4″	3570K21	489.18
10	Not Rated	Not Rated	3/4 Male	1,500	6.3	18 1/4″	18 1/4″	3570K22	570.42
19	Not Rated	Not Rated	3/4 Male	1,500	10.5	24 3/4″	18″	3570K23	646.55
Standard, 240V AC, Single Phase—Output Temp.: 120° to 150° F									
30	47	555.00	3/4 Male	4,500	18.8	46 1/2″	19″	3570K24	712.88
50	62	555.00	3/4 Male	4,500	18.8	49 3/4″	24″	3570K25	695.45
Standard with Heat Pump, 240V AC, Single Phase—Output Temp.: 95° to 140° F									
80	95	194.00	3/4 Female	4,500	30	69″	27″	3570K17	2,684.42
Commercial, 480V AC, 3 Phase—Output Temp.: 80° to 180° F									
119	Not Rated	Not Rated	1 1/4 Male	54,000	65	62 1/4″	29 1/2″	3624K21	7,399.71

★ First hour rating is the maximum amount of hot water that a unit can supply in one hour, starting with a full tank of hot water.
■ The estimated yearly energy cost is based on electricity cost of $0.12 per kWh. For more information, visit www.ftc.gov/energy.

Water Heater Replacement Parts

Heater Elements



Screw-In



Bolt-In

All elements are copper and must be mounted horizontally. **Screw-in** style have 1″ NPSM threads. **Bolt-in** style have a steel flange with four bolt holes in a 2 1/2″ square pattern (gaskets are included; 5/16″ dia. bolts are not).

Watts	AC Voltage (Phase)	Amps	Min. Tank Dia.		
Screw-In					
1,500	120 (1)	12.5	8 1/2″	35555K31	$10.26
1,500	240 (1)	6.3	8 1/2″	35555K34	11.07
4,500	240 (1)	18.8	12″	35555K32	9.22
5,500	240 (1)	22.9	12″	35555K33	15.60
Bolt-In					
1,500	120 (1)	12.5	8 1/2″	35555K21	13.07
4,500	240 (1)	18.8	12″	35555K22	13.70
5,500	240 (1)	22.9	12″	35555K23	20.35

Thermostats

For 120 to 480 volts AC. Temperature range is 110° to 160° F.

Lower Thermostat for Two-Element Heater	35555K14	$10.88
Upper Thermostat for Two-Element Heater	35555K16	22.16
Thermostat for One-Element Heater	35555K18	19.72

Pilot-Light Thermocouples

Furnished with an adapter nut. CSA certified.

O'all Lg.			O'all Lg.		
18″	4148K14	$6.81	36″	4148K17	$7.88
24″	4148K15	7.19	48″	4148K19	9.12

Temperature-and-Pressure Bronze Pop-Safety Valve

This valve pops open if the temperature reaches 210° F or if the pressure exceeds the set pressure. Inlet connection is NPT male; outlet is NPT female. Meets ASME Code Section IV for hot water. CSA certified.

Pipe Size	Set Pressure		
3/4	150 psi	9761K63	$19.07

Heat-Transfer Fluids

With an added corrosion inhibitor, these fluids are suitable for both heating and cooling applications in heat exchangers. Color is clear.

Propylene Glycol and Ethylene Glycol—Temperature ranges are for closed (nonvented) systems. **Silicone—**For use in high temperature applications in open (vented) systems.

Size	Temp. Range		
Propylene Glycol			
1/2 gal.	–50° to 250° F	8673T12	$44.00
1 gal.	–50° to 250° F	8673T11	64.00
5 gal.	–50° to 250° F	8673T21	170.34
Ethylene Glycol			
1/2 gal.	–60° to 250° F	8673T26	38.00

Size	Temp. Range		
Ethylene Glycol (Cont.)			
1 gal.	–60° to 250° F	8673T25	$49.74
5 gal.	–60° to 250° F	8673T22	160.32
Silicone			
16.9 oz.	–70° to 450° F	8673T31	176.96

Point-of-Use Instant-Heat Electric Water Heaters

Get hot water on demand. Also known as tankless electric water heaters, these provide instant hot water at the point of use, while taking up less space than heaters with a tank. And compared to gas heaters, electric heaters are easier to install and don't require a relief valve. They turn on when water flows through the heater and turn off when the flow stops. All are UL and C-UL listed and meet ASSE 1070. Connections are compression tube fittings, unless otherwise stated. Use with water pressure between 25 and 150 psi.

Nonadjustable Water Heaters—The temperature of the water coming out depends on the temperature of the water going in. *Double-fixture heater* handles two side-by-side utility or handwashing sinks.

Adjustable Temperature-Maintaining Water Heaters—You can adjust the thermostat to the exact water temperature you need. *Sanitation heater* is for parts washing and dishwashing applications. Connections are NPT male. *Four-fixture heater* can be used with circular multistation wash fountains or a single shower. Connections are NPT male.

Also Available: Replacement elements. Please ask for 3556K99 and specify the McMaster-Carr part number.



Non-adjustable Single Fixture



Adjustable Temperature-Maintaining Single Fixture

Max. Temp. Rise @ Flow Rate	Max. Temp. Output	Flow Rate, gpm	Est. Yearly Energy Cost @ Flow Rate ■	Watts	AC Voltage (Phase)	Amps	For Tube OD	Size Ht.	Wd.	Dp.		
Nonadjustable Water Heaters												
Single Fixture												
41°F @ 0.5 gpm	160°F	0.5	$532 @ 0.2 gpm	3,000	120 (1)	25	3/8"	10 3/4"	5 1/4"	2 7/8"	3556K32	$267.12
48°F @ 0.5 gpm	160°F	0.5	$532 @ 0.3 gpm	3,500	240 (1)	15	3/8"	10 3/4"	5 1/4"	2 7/8"	3556K41	267.12
56°F @ 0.5 gpm	160°F	0.5	$527 @ 0.4 gpm	4,100	208 (1)	20	3/8"	10 3/4"	5 1/4"	2 7/8"	3556K52	272.04
56°F @ 0.5 gpm	160°F	0.5	Not Rated	4,100	277 (1)	15	3/8"	10 3/4"	5 1/4"	2 7/8"	3556K53	272.04
75°F @ 0.5 gpm	160°F	0.5	$532 @ 0.5 gpm	5,500	240 (1)	23	3/8"	10 3/4"	5 1/4"	2 7/8"	3556K42	267.12
Double Fixture												
65°F @ 1 gpm	160°F	0.7-2.0	$532 @ 0.8 gpm	9,500	240 (1)	40	5/8"	10 3/4"	5 1/4"	2 7/8"	3556K44	335.98
Adjustable Temperature-Maintaining Water Heaters												
Single Fixture												
59°F @ 0.75 gpm	100° to 140°F	0.7-2.5	Not Rated	6,500	240 (1)	27	1/2"	9 7/8"	5 1/4"	4"	57565K81	589.57
87°F @ 0.75 gpm	100° to 140°F	0.7-2.5	Not Rated	9,500	240 (1)	40	1/2"	9 7/8"	5 1/4"	4"	57565K85	640.13
Single-Fixture Sanitation												
87°F @ 1.5 gpm	180°F	1.5-4.0	Not Rated	19,000	240 (1)	80	3/4"	10"	10 1/2"	3"	57565K41	663.73
Four Fixture												
87°F @ 1.5 gpm	105° to 110°F	0.7-3.0	Not Rated	19,000	240 (1)	80	3/4"	10"	10 1/2"	3"	57565K42	578.69

■ The estimated yearly energy cost is based on electricity cost of $0.12 per KWh. For more information, visit www.ftc.gov/energy.

Portable Water Heater/Recirculators



Take these lightweight heaters anywhere you need to boost your water temperature. All have a heavy duty drive pump to recirculate the water in a process bath or sink. They also have a graduated control dial that lets you adjust and maintain the water temperature to within 0.25°F.

Heaters operate on 115 volts AC, single phase. They have a stainless steel cover, measure 7" Ht.×9" Wd.×17" Dp., and include a 7-ft. long power cord with standard three-prong plug (a ground fault outlet, sold separately, is recommended for safety). *8.7-amp* heater has a 5/8" OD smooth inlet and barbed outlet and two 6-ft. long, 5/8" ID water hoses. *14-amp* heater has a 1/2" OD smooth inlet and barbed outlet and two 6-ft. long, 1/2" ID water hoses.

Temp. Range	gpm @ 3-ft. Rise	Watts	Amps	Wt., lbs.		
75° to 110°F	8	1,000	8.7	13	36255K63	$913.34
75° to 175°F	8	1,500	14	15	36255K64	1,034.54
15-amp Ground Fault Outlet with One Outlet Connector					6975K63	19.48

Corrosion-Inhibiting Rods and Pads



Rod



Round Pad



Rectangular Pad

Guard tanks, pipelines, water heaters, and water-circulating process equipment from corrosion. Also known as sacrificial anodes, these rods and pads are attacked and consumed by any corrosive action that would otherwise attack and consume your equipment.

Corrosion-Inhibiting Rods—Have a reinforcing steel core that holds the zinc or magnesium in place until it's completely consumed. They include NPT hex brass plugs. Connections are NPT male. **Zinc rods** protect against corrosion and scaling in hot and cold saltwater. **Magnesium rods** protect against heavy corrosion in hot and cold freshwater.

Corrosion-Inhibiting Pads—*Round pads* have a 5/8" dia. mounting hole. *Rectangular pads* have a copper wire for attaching to your tank, except 6"×6" pads have a 5/8" dia. mounting hole. **Zinc alloy pads** provide corrosion protection in hot freshwater as well as saltwater. Meet MIL-A-18001. **Aluminum alloy pads** last longer than zinc alloy and can be used in hot and cold freshwater as well as saltwater. Meet MIL-A-24779.

Corrosion-Inhibiting Rods

Pipe Size	Rod Lg.	Rod Dia.		
Zinc				
1/4	3"	3/8"	3606K6	$7.92
1/4	6"	3/8"	3606K1	9.77
3/8	3"	1/2"	3606K7	8.75
3/8	6"	1/2"	3606K2	10.10
1/2	3"	5/8"	3606K8	9.67
1/2	6"	5/8"	3606K3	12.49
1/2	9"	5/8"	3606K31	25.24
1/2	12"	5/8"	3606K41	31.10
3/4	3 1/2"	13/16"	3606K9	14.66
3/4	7"	13/16"	3606K4	19.58
3/4	9"	3/4"	3606K32	34.99
3/4	12"	3/4"	3606K42	40.80
1	4"	1"	3606K21	25.13
1	6"	1"	3606K22	28.66
1	8"	1"	3606K23	36.26

Pipe Size	Rod Lg.	Rod Dia.		
Zinc (Cont.)				
1	12"	1"	3606K5	$39.10
1	14"	1"	3606K24	42.67
Magnesium				
1/2	4"	5/8"	3642K11	21.71
1/2	6"	5/8"	3642K12	22.86
1/2	8"	5/8"	3642K13	24.02
1/2	10"	5/8"	3642K14	25.18
1/2	12"	5/8"	3642K15	26.10
1/2	14"	5/8"	3642K16	27.29
3/4	4"	3/4"	3642K17	22.63
3/4	6"	3/4"	3642K18	23.49
3/4	8"	3/4"	3642K19	25.37
3/4	10"	3/4"	3642K21	27.22
3/4	12"	3/4"	3642K22	28.49
3/4	14"	3/4"	3642K23	30.06

Round Corrosion-Inhibiting Pads

Dia.	Thick.		
Zinc Alloy			
2"	1"	3609K2	$8.62
3"	1"	3609K3	13.45
4"	1"	3609K4	20.05
Aluminum Alloy			
2"	1"	3590K2	7.28
3"	1"	3590K3	9.75
4"	1"	3590K4	17.57

Rectangular Corrosion-Inhibiting Pads

Lg.	Wd.	Thick.		
Zinc Alloy				
4 1/2"	2 1/2"	0.46"	3609K51	$9.16
6"	3"	0.67"	3609K52	17.69
6"	4"	0.65"	3609K53	21.45
6"	6"	1"	3609K1	42.85
9"	5"	0.6"	3609K54	43.48
Aluminum Alloy				
6"	6"	1"	3590K1	34.25

Portable Magnetic-Mount Heaters

Place these magnetic heaters on any dry steel surface for quick heat. Each has a 40" long power cord with standard three-prong plug.

Watts	AC Voltage	Temp. Output Range	Heating Surface	Lg.	Wd.	Ht.		
200	120	300° to 400°F	8 sq. in.	3 3/4"	2 1/8"	1 5/8"	1619T1	$62.41
300	120	300° to 400°F	20 sq. in.	4"	4 7/8"	1 5/8"	1619T2	90.04



Immersion Heaters

For information about pipe size, see pages 2-3.

About Immersion Heaters

Heat water, oil, solvents, process solutions, and viscous liquids through direct contact with the liquid. When choosing a heater, make sure the heating element material and the wattage are right for your liquid. *Note:* To prevent heater failure, do not run heaters dry and keep elements free from sludge, scale, and mineral deposits.

Heating Element Materials and Compatible Liquids

Type 304 Stainless Steel—Offers good corrosion resistance. For use with mildly corrosive process water and liquid detergents. Also good for heat transfer fluids such as propylene and ethylene glycol.

Type 316 Stainless Steel—Offers excellent corrosion resistance. For use with moderately corrosive liquids such as process water with less than 3% acid or alkaline content. Also for use with deionized water.

Incoloy—Offers corrosion resistance. For use with corrosive liquids such as process water with less than 6% acid or alkaline content; up to 2% caustic solutions (unless otherwise indicated).

Steel—For use with oils.

Copper—For use with clean water.

Minimum Wattage Required to Heat Water

The chart shows the minimum wattage required to heat water in a tank. Multiply watts by 3.4 to convert to Btu/Hr.

	Minimum Wattage Required to Heat Water (6-Hr. Warm-Up Time)						
Gallons	10° F Temp. Rise	30° F Temp. Rise	50° F Temp. Rise	70° F Temp. Rise	90° F Temp. Rise	110° F Temp. Rise	130° F Temp. Rise
5	20	70	110	160	200	250	300
10	50	130	220	310	400	500	600
15	70	200	340	470	600	750	850
25	110	340	550	800	1,000	1,200	1,500
50	220	650	1,100	1,600	2,000	2,500	2,900
100	450	1,300	2,200	3,100	4,000	4,900	5,800
200	900	2,700	4,500	6,300	8,100	9,900	11,600
400	1,800	5,400	9,000	12,500	16,100	19,700	23,300

Wattage Required to Heat Other Liquids

To heat water-based solutions (50% or more water), multiply the watts value in the chart above by 0.90.

To heat corrosive solutions (20% or less water), multiply the watts value in the chart above by 0.75.

To heat oils, multiply the watts value in the chart above by 0.43.

Compact Cartridge-Style Immersion Heaters



Don't let their size fool you—these heaters are packed with the power you need to heat liquids in cramped spaces. All have an NPT male screw plug and wire leads for hardwiring. Maximum temperature is 212° F. Heaters should be used with a temperature switch (not included; see pages 637-639 and 641).

Type 316 Stainless Steel Element for Moderately Corrosive Liquids—For process water with less than 3% acid or alkaline content. Element is UL recognized and CSA certified. Screw plug is Type 316 stainless steel.

Incoloy Element for Water—Screw plug is Type 304 stainless steel. Note: Not for use with process water; alkaline, acid, or caustic solutions.

Watts	Amps	Pipe Size	Element Dia.	Element Lg. (A)		
Type 316 Stainless Steel Element for Moderately Corrosive Liquids						
120V AC, Single Phase						
55	0.46	1/8	1/4″	1 5/8″	**4668T51**	$70.91
75	0.63	1/4	3/8″	1 9/16″	**4668T53**	74.63
170	1.42	1/8	1/4″	4 5/8″	**4668T52**	81.47
250	2.08	1/4	3/8″	4 9/16″	**4668T54**	85.05
405	3.38	1/2	5/8″	4 7/16″	**4668T56**	113.56
800	6.7	1	1″	5 1/4″	**4668T1**	142.82
1,200	10	1	1″	7 3/4″	**4668T2**	155.18
1,750	14.6	1	1″	11 1/4″	**4668T3**	165.98
480V AC, Single Phase						
1,800	3.8	1 1/4	1 1/4″	9 1/4″	**4668T11**	186.24
3,000	6.3	1 1/4	1 1/4″	14 1/4″	**4668T12**	212.77

Watts	Amps	Pipe Size	Element Dia.	Element Lg. (A)		
Incoloy Element for Water						
120V AC, Single Phase						
500	4.2	3/4	5/8″	4 7/8″	**4654T11**	$143.56
750	6.3	3/4	5/8″	4 7/8″	**4654T12**	143.56
1,000	8.3	3/4	5/8″	4 7/8″	**4654T13**	143.56
240V AC, Single Phase						
500	2.1	3/4	5/8″	4 7/8″	**4654T21**	263.58
750	3.1	3/4	5/8″	4 7/8″	**4654T22**	143.56
1,000	4.2	3/4	5/8″	4 7/8″	**4654T23**	143.56
1,500	6.3	3/4	5/8″	5 3/8″	**4654T24**	146.25
2,000	8.3	3/4	5/8″	6 3/8″	**4654T25**	151.44
3,000	12.5	3/4	5/8″	7 7/8″	**4654T26**	158.81

Flange-Mount Immersion Heaters



For high-volume applications, these extra-large immersion heaters have a flange for mounting to large tanks. Element is Incoloy for use with corrosive liquids such as process water with less than 6% acid or alkaline content; up to 2% caustic solutions.

All heaters are three phase and accept a temperature switch with 3/8″ dia. probe (not included; see pages 638-639). They have screw terminals for hardwiring. UL listed and CSA certified. Heaters for *pipe size 3* have four 3/4″ dia. flange mounting holes; heaters for *pipe size 5* have eight 7/8″ dia. flange mounting holes.

To Order: Please specify 240 or 480 volts AC.

Watts	Amps @ 240V AC	Amps @ 480V AC	Flange Pipe Size	Flange OD	Flange Bolt Circle	Element Lg. (A)		
6,000	14.5	7.2	3	7 1/2″	6″	18″	**35065K11**	$645.83
12,000	29	14.5	3	7 1/2″	6″	33″	**35065K12**	740.33
12,000	29	14.5	5	10″	8 1/2″	18″	**35065K14**	1,008.00
18,000	43.4	21.7	3	7 1/2″	6″	48″	**35065K13**	834.83
24,000	58	29	5	10″	8 1/2″	33″	**35065K15**	1,198.83
40,000	96.4	48.2	5	10″	8 1/2″	52″	**35065K16**	1,329.54

Freeze-Protection Immersion Heaters

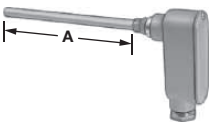

A built-in temperature controller keeps fluid between 70° and 80° F to guard against icing and freezing. All heaters have a cartridge-style, Type 316 stainless steel element for use with moderately corrosive liquids such as process water with less than 3% alkaline content. Also for deionized water as well as 10W-30 oil, mineral oil, and hydraulic oil.

Heaters are single phase and have a 1/2″ conduit connection and wire leads for hardwiring. A weatherproof NEMA 4 enclosure allows outdoor use. Screw plug is brass. Mount horizontally only. UL recognized and CSA certified.

To Order: Please specify 120 or 240 volts AC.

Watts	Amps @ 120V AC	Amps @ 240V AC	Pipe Size	Element Dia.	Element Lg. (A)	For Tank Size, gal.		
250	2.1	1.0	1/2	5/8″	10 1/2″	5- 25	**3493K11**	$177.41
500	4.2	2.1	3/4	3/4″	17″	25- 50	**3493K12**	261.04
1,000	8.4	4.2	3/4	3/4″	31″	50-100	**3493K13**	297.00

Floating Immersion Heaters



Keep tank fluid from icing and freezing. These heaters automatically turn on when fluid cools to about 45° F and turn off when fluid reaches about 65° F. They have an ABS plastic housing and are for use with clean and deionized water.

Heaters operate on 120V AC, single phase. They have a 6-ft. long power cord with standard three-prong plug and are UL listed. They are for use in metal tanks. To use them in a plastic tank, pair them with a clip-on *heater guard*.

Watts	Amps	O'all Dia.	O'all Ht.	For Max. Tank Size, gal.	Heaters		Heater Guards	
1,000	8.3	8″	4″	150	**3639K47**	$34.20	**3639K61**	$16.36
1,500	12.5	8″	4″	300	**3639K48**	34.90	**3639K61**	16.36

For information about immersion heaters, see page 554. For information about pipe size, see pages 2-3.

Screw-Plug Immersion Heaters

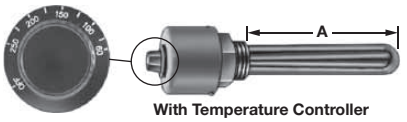

With Temperature Controller

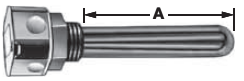

Without Temperature Controller

Whether you need to heat or provide freeze protection to liquids in a tank, these heaters will get the job done. All have a threaded plug that screws directly through a threaded opening in your tank wall or through a matching pipe coupling. The result is direct-contact heating of liquids for use in warming, boiler, and food-processing equipment; cleaning and rinsing tanks; liquid storage tanks; and heat-transfer systems.

Mount these heaters horizontally or vertically, as long as the element is completely immersed in your liquid. Enclosures are NEMA 1 rated (indoor use only), except for hazardous-location heaters. All have screw terminals for hardwiring. For through-wall fittings, see pages 112-114.

To calculate amps, use the following formulas:

For single phase, amps = total watts ÷ voltage.

For three phase, amps = total watts ÷ (voltage × 1.73).

Heaters with temperature controller have a thermostat dial and are adjustable from 60° to 250°F (except heaters with hazardous-location steel element for oils are adjustable from 60° to 240°F and have an internal thermostat that adjusts with a screwdriver).

Three-phase heaters require a three-pole magnetic contactor (see 6564K on page 952).

Type 304 Stainless Steel Element for Mildly Corrosive Liquids— For process water and liquid detergents. Also good for heat transfer fluids. Element is UL recognized and CSA certified. Screw plug is Type 304 stainless steel.

Type 316 Stainless Steel Element for Moderately Corrosive Liquids— For process water with less than 3% acid or alkaline content. Also for use with deionized water. Element is UL recognized and CSA certified. Screw plug is Type 316 stainless steel.

Incoloy Element for Corrosive Liquids— For process water with less than 6% acid or alkaline content; up to 2% caustic solutions. Element is UL recognized and CSA certified. Screw plug is Type 304 stainless steel.

Steel Element for Oils— Screw plug is steel.

Hazardous-Location Steel Element for Oils— Heaters are CSA certified and labeled for the United States and Canada. Their terminal enclosure meets Class I, Div. 1, Groups B, C, and D; Class II, Groups E, F, and G; and Class III specifications. Element is CSA certified. Screw plug is steel.

Copper Element for Clean Water— Element is UL recognized and CSA certified. Screw plug is brass.

Watts	Pipe Size, NPT	Element Lg. (A)	With Temperature Controller		Without Temperature Controller	
Type 304 Stainless Steel Element for Mildly Corrosive Liquids						
120V AC, Single Phase						
500	1	6 3/8"	3656K167	$279.03	3656K148	$234.35
750	1	6 3/8"	3656K187	276.29	3656K186	234.35
1,000	1	6 3/8"	3656K168	279.03	3656K149	234.35
1,000	1 1/4	6 1/8"	3656K169	285.16	3656K151	174.35
1,500	1	9 1/4"	3656K171	320.16	3656K152	215.16
1,500	1 1/4	6 1/8"	3656K172	355.81	3656K153	251.94
240V AC, Single Phase						
1,500	1 1/4	9 1/16"	3656K173	211.17	3656K154	143.39
3,000	2	8"	3656K174	337.68	3656K155	255.34
240V AC, Three Phase						
3,000	2	8"	3656K175	337.68	3656K156	255.34
4,500	2	12"	3656K176	344.16	3656K157	262.66
7,500	2	19 1/2"	3656K178	358.37	3656K159	278.63
10,500	2	28"	3656K181	373.24	3656K162	295.37
480V AC, Three Phase						
4,500	2	12"	3656K177	344.16	3656K158	262.66
7,500	2	19 1/2"	3656K179	358.37	3656K161	278.63
10,500	2	28"	3656K182	373.24	3656K163	295.37
12,000	2 1/2	32 1/4"	3656K183	385.82	3656K164	329.58
15,000	2 1/2	39 7/8"	3656K184	398.74	3656K165	346.53
18,000	2 1/2	47 3/8"	3656K185	408.55	3656K166	355.08
Type 316 Stainless Steel Element for Moderately Corrosive Liquids						
120V AC, Single Phase						
1,000	1	6 3/8"	3656K341	341.77	3656K342	295.81
1,500	1	9 1/4"	3656K343	341.77	3656K344	295.81
2,000	1 1/4	9 1/4"	3656K345	398.55	3656K346	311.45
480V AC, Three Phase						
4,500	2	12"	3656K2	365.30	3656K5	251.60
7,500	2	19 1/2"	3656K3	392.40	3656K6	287.70
10,500	2	28"	3656K4	417.20	3656K7	314.60
Incoloy Element for Corrosive Liquids						
120V AC, Single Phase						
475	1	12 9/16"	3656K211	215.89	3656K204	96.81
1,100	1	28 7/16"	3656K212	225.44	3656K205	106.36
1,325	1	34 7/8"	3656K213	230.08	3656K206	111.03
1,500	1 1/4	11"	3656K132	226.61	3656K79	107.56
3,000	1 1/4	15 1/2"	3656K133	248.81	3656K82	129.75
240V AC, Single Phase						
5,000	2	22"	3656K551	382.55	3656K541	268.39
240V AC, Three Phase						
5,000	2	13"	3656K134	336.26	3656K84	219.66
5,000	2	22"	3656K552	389.05	3656K542	274.89
7,500	2	20"	3656K136	358.03	3656K88	254.86
10,000	2	25"	3656K138	378.58	3656K93	262.00
480V AC, Single Phase						
5,000	2	22"	3656K553	393.71	3656K543	279.53
480V AC, Three Phase						
5,000	2	13"	3656K135	367.47	3656K86	250.87
5,000	2	22"	3656K554	382.55	3656K544	268.39
7,500	2	20"	3656K137	373.95	3656K91	257.37
10,000	2	25"	3656K139	378.58	3656K95	262.00
10,000	2	43"	3656K558	432.45	3656K548	318.34
Incoloy Element for Corrosive Liquids (Cont.)						
480V AC, Three Phase (Cont.)						
12,000	2 1/2	32 1/4"	3656K214	$428.76	3656K207	$314.61
15,000	2 1/2	39 7/8"	3656K215	453.32	3656K208	339.21
18,000	2 1/2	47 3/8"	3656K216	462.63	3656K209	350.61
Steel Element for Oils						
120V AC, Single Phase						
475	1	12 9/16"	3656K424	297.58	3656K221	177.26
1,000	1 1/4	12 3/4"	3656K322	252.90	3656K17	126.13
1,100	1	28 7/16"	3656K425	333.39	3656K222	222.10
1,325	1	34 7/8"	3656K326	338.55	3656K223	227.42
1,500	1 1/4	18 1/2"	3656K423	259.03	3656K18	128.71
240V AC, Three Phase						
3,000	2	18"	3656K724	364.68	3656K19	252.26
5,000	2	29"	3656K625	393.55	3656K21	278.87
7,500	2	43 1/2"	3656K627	424.52	3656K22	316.61
10,000	2	57 1/2"	3656K629	432.74	3656K75	334.52
480V AC, Three Phase						
5,000	2	29"	3656K526	393.55	3656K71	278.87
7,500	2	43 1/2"	3656K528	424.52	3656K73	316.61
10,000	2	57 1/2"	3656K531	445.48	3656K77	334.52
Hazardous-Location Steel Element for Oils						
120V AC, Single Phase						
1,000	1 1/4	12 3/4"	3656K811	848.75	3656K311	721.50
1,500	1 1/4	18 1/2"	3656K812	861.75	3656K312	736.00
240V AC, Single Phase						
3,000	2	18"	3656K813	846.00	3656K314	692.75
5,000	2	29"	3656K815	906.60	3656K317	755.53
480V AC, Three Phase						
5,000	2	29"	3656K819	906.60	3656K318	587.00
7,500	2	43 1/2"	3656K824	1,064.60	3656K323	946.00
Copper Element for Clean Water						
120V AC, Single Phase						
500	1	6 3/8"	3656K141	280.00	3656K103	161.45
750	1	6 3/8"	3656K232	280.00	3656K231	158.23
1,000	1	6 3/8"	3656K142	280.00	3656K104	158.23
1,000	1 1/4	6 1/4"	3656K111	249.03	3656K11	110.81
1,500	1	9 1/4"	3656K143	320.81	3656K105	204.68
1,500	1 1/4	7 1/4"	3656K112	266.13	3656K12	127.58
2,000	1 1/4	9 1/4"	3656K113	307.00	3656K13	130.32
240V AC, Single Phase						
1,500	1 1/4	9 1/16"	3656K144	346.61	3656K106	230.65
240V AC, Three Phase						
3,000	2	10"	3656K114	382.58	3656K14	265.97
4,000	2	11"	3656K236	397.74	3656K235	275.32
5,000	2	11"	3656K115	397.74	3656K15	275.32
7,500	2	16"	3656K117	416.61	3656K16	298.55
10,000	2	22"	3656K119	440.48	3656K65	326.61
480V AC, Three Phase						
5,000	2	11"	3656K116	397.74	3656K61	275.32
7,500	2	16"	3656K118	416.61	3656K63	298.55
10,000	2	22"	3656K121	440.48	3656K67	326.61
12,000	2 1/2	32 1/4"	3656K145	747.62	3656K107	676.61
18,000	2 1/2	47 3/8"	3656K147	810.00	3656K109	645.62

Side-Mount Immersion Heaters

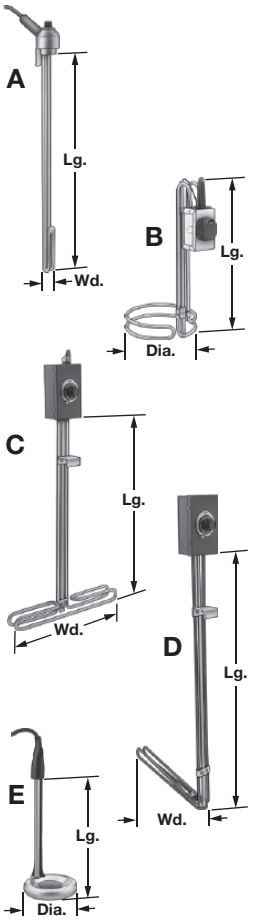

Attach these heaters to the side of your drums to warm their contents. *Note:* All heaters must be immersed in liquid up to at least the minimum liquid level. They are not for use in plastic drums.

Heaters with Type 316 and Type 321 stainless steel element for moderately corrosive liquids are for process water with less than 3% alkaline content. They're also for deionized water, except Styles A and B.

Heaters with Incoloy element are not for use with acid, alkaline, or caustic solutions.

Style A—For applications with stable liquid levels. All have a thermostat that adjusts from 70° to 212° F. They also have a 6-ft. power cord with standard three-prong plug.

Style B—For applications with fluctuating liquid levels. All have a 6-ft. power cord with standard three-prong plug. *Heaters with a cycling temperature controller* maintain constant heat by cycling on and off. They can be adjusted from 70° to 212° F. *Heaters with a thermostat* provide faster heating than cycling control and can be adjusted from 70° to 250° F.

Style C—The T-shaped element evenly distributes heat in low or fluctuating liquid levels. Heaters include a thermostat that adjusts from 60° to 212° F. All have a 6-ft. long power cord. *120V AC heaters* have a standard three-prong plug; *240V AC heaters* have a NEMA 6-30 plug.

Style D—Include a thermostat that adjusts from 60° to 250° F in a NEMA 1 enclosure (indoor use only). They have screw terminals for hardwiring.

Style E—Have a circular base that sits in your tank—good when there's nothing to clip onto. Remove from water when desired temperature is reached. All have a 5½-ft. long power cord. UL listed. *120V AC heaters* have a standard three-prong plug; *240V AC heater* has a NEMA 6-15 plug.

	Fits Drum Size, Gal.	Watts	AC Voltage (Phase)	Amps	Element Dia.	Element Lg.	Element Wd.	Min. Liquid Level	Mount Type	Temp. Controller		
Type 316 Stainless Steel Element for Moderately Corrosive Liquids												
A	1-5	500	115 (1)	4.3	—	6″	1⅜″	4½″	Clip On	Thermostat	**3551K31**	$181.09
A	1-5	1,100	115 (1)	9.6	—	6″	1⅜″	4½″	Clip On	Thermostat	**3551K33**	181.09
A	5-10	500	115 (1)	4.3	—	20″	1⅜″	18½″	Clip On	Thermostat	**3551K32**	221.45
A	5-10	1,100	115 (1)	9.6	—	20″	1⅜″	18½″	Clip On	Thermostat	**3551K34**	221.45
B	5-10	1,500	115 (1)	13	7″	14″	—	5″	Hanging	Cycling	**35605K68**	268.36
B	5-10	1,500	115 (1)	13	7″	14″	—	5″	Hanging	Thermostat	**35605K69**	313.09
B	5-10	1,500	115 (1)	13	10½″	14″	—	5″	Hanging	Cycling	**35605K71**	305.45
B	5-10	1,500	115 (1)	13	10½″	14″	—	5″	Hanging	Thermostat	**35605K72**	343.64
B	5-10	1,500	115 (1)	13	13″	14″	—	5″	Hanging	Cycling	**35605K73**	316.36
B	5-10	1,500	115 (1)	13	13″	14″	—	5″	Hanging	Thermostat	**35605K74**	362.18
C	8-20	1,000	120 (1)	8.3	—	26″	13″	4½″	Hanging	Thermostat	**35505K31**	520.46
C	8-20	1,500	120 (1)	12.5	—	26″	17″	4½″	Hanging	Thermostat	**35505K32**	540.19
C	8-20	4,000	240 (1)	16.7	—	26″	13″	4½″	Hanging	Thermostat	**35505K33**	520.19
C	8-20	6,000	240 (1)	25	—	26″	17″	4½″	Hanging	Thermostat	**35505K34**	540.19
Type 321 Stainless Steel Element for Moderately Corrosive Liquids												
D	55	1,000	120 (1)	8.3	—	36″	19″	7″	2″ Bung	Thermostat	**3567K411**	645.20
D	55	4,000	240 (1)	16.7	—	36″	19″	7″	2″ Bung	Thermostat	**3567K412**	645.20
Incoloy Element for Water												
E	5	1,150	120 (1)	9.6	5″	5½″	—	1½″	Hanging	None	**3583K91**	68.82
E	5	1,150	120 (1)	9.6	5″	11½″	—	1½″	Hanging	None	**3583K92**	73.12
E	5	1,550	240 (1)	6.5	5″	5½″	—	1½″	Hanging	None	**3583K93**	70.97
Steel Element for Oils												
D	55	1,000	120 (1)	8.3	—	36″	19″	7″	2″ Bung	Thermostat	**3567K811**	561.20
D	55	4,000	240 (1)	16.7	—	36″	19″	7″	2″ Bung	Thermostat	**3567K812**	572.50

Immersion Heaters with Overheat Protection

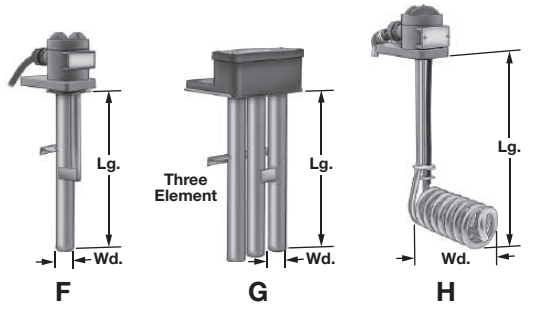

To prevent fire and element burnout, a replaceable fuse cuts off power to these heaters if the element exceeds 190° F. All elements are Type 304 stainless steel for use with liquid detergents and mild alkaline solutions. All heaters are single phase, unless noted. They have a flange with two mounting holes (¼″ OD for Style F and Style G; 9⁄32″ OD for Style H) for attaching to a tank. *Note:* All heaters must be immersed in liquid up to at least the minimum liquid level. Not for use with mildly corrosive process water (except Style H can be used with mildly corrosive process water).

(F) Heaters with temperature controller have a digital temperature control box with 8-ft. long power cord and standard three-prong plug.

(G&H) Heaters without temperature controller include 3 feet of flexible conduit with wire leads for hardwiring. Use with a temperature control switch (not included; see 35055K on page 638). *Style H* have a PTFE-covered element for added corrosion resistance and are UL listed and CE marked.

To Order: Where amps are listed, please specify AC voltage.

Watts	Amps @ AC Voltage 120	240	480	Element No.	Element Lg.	Element Wd.	Min. Liquid Level			
(F) Type 304 Stainless Steel Element with Temperature Controller										
500	4.2	—	—	1	11″	1¼″	9″	**3616K11**	$466.67
1,000	8.3	—	—	1	11″	1¼″	9″	**3616K12**	493.50
1,500	12.5	—	—	1	17″	2″	12″	**3616K33**	527.93
1,500	12.5	—	—	1	28″	2″	12″	**3616K34**	562.33
(G) Type 304 Stainless Steel Element										
1,000	8.3	4.2	—	1	11″	1¼″	9″	**35435K11**	203.00
2,000	—	8.3	4.2	1	17″	2″	12″	**35435K12**	242.20
3,000	—	12.5	6.3	1	22″	2″	16″	**35435K13**	274.40
3,000	—	7.3	—	3	11″	1¼″	9″	**35435K31** ★	533.90
4,000	—	16.7	8.3	1	29″	2″	21″	**35435K14**	298.20
6,000	—	25	12.5	1	38″	2″	30″	**35435K15**	371.00
6,000	—	14.5	7.3	3	17″	2″	12″	**35435K32** ★	638.45
9,000	—	37.5	18.8	1	52″	2″	43″	**35435K16**	490.00

★ Three phase.

Watts	Amps @ AC Voltage 120	240	480	Element No.	Element Lg.	Element Wd.	Min. Liquid Level			
(G) Type 304 Stainless Steel Element (Cont.)										
9,000	—	21.7	10.9	3	22″	2″	16″	**35435K33** ★	$720.52
12,000	—	29	14.5	3	29″	2″	21″	**35435K34** ★	804.39
18,000	—	43.4	21.7	3	38″	2″	30″	**35435K35** ★	996.07
27,000	—	65.1	32.6	3	52″	2″	43″	**35435K36** ★	1,290.48
(H) PTFE-Covered Type 304 Stainless Steel Element										
1,000	8.3	4.2	—	1	12″	8″	5″	**3617K71**	583.84
2,000	—	8.3	4.2	1	18″	12″	5″	**3617K73**	723.12
3,000	—	12.5	6.3	1	18″	17″	5″	**3617K75**	871.70
4,000	—	16.7	8.3	1	18″	20″	5″	**3617K77**	1,160.71
6,000	—	25	12.5	1	18″	29″	5″	**3617K82**	1,345.50
Replacement Fuse for Styles F and G								**3560K33**	49.81
Optional 329° F Fuse for Styles F and G								**3560K34**	50.78
Replacement Fuse for Style H								**3617K26**	68.90

For information about immersion heaters, see page 554. For information about pipe size, see pages 2-3.

Inline Immersion Heaters

No need to cut and tap a hole into your tank—these heaters install directly into pipelines.

Heaters with titanium element are for use with water and ammonium hydroxide. They have a 90° to 190° F thermostat with automatic shut off at 202° F. They also have screw terminals for hardwiring (except 1,500-watt heater has a 6-ft. long power cord with standard three-prong plug). Connections are NPT female. Enclosure is NEMA 1 rated (indoor use only).

Heaters with an Incoloy element are for use with corrosive liquids such as process water with less than 6% acid or alkaline content; up to 2% caustic solutions. All have a 60° to 250° F thermostat, wire leads for hardwiring, and NPT male connections.

Heaters with a copper element are for use with clean water. They have a 60° to 180° F thermostat, screw terminals for hardwiring, and NPT female connections.

Heaters with a steel element are for use with oils. They have a 150° to 560° F thermostat, screw terminals for hardwiring, and NPT female connections.

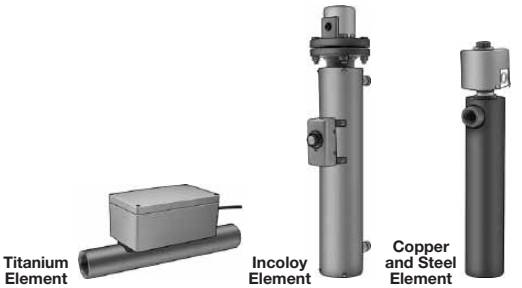

Watts	AC Voltage (Phase)	Amps	Pipe Size	O'all Lg.	Dia.		
Titanium Element and Type 304 Stainless Steel Body							
1,500	120 (1)	12.5	1½	15″	5.7″	4745T41	$393.40
3,000	240 (1)	12.5	1½	15″	5.7″	4745T43	393.40
4,000	240 (1)	16.7	1½	15″	5.7″	4745T44	525.96
6,000	240 (1)	25.0	1½	15″	5.7″	4745T46	525.96
Incoloy Element and Steel Body							
6,000	480 (3)	7.3	1	33″	6″	35705K112	966.66
12,000	480 (3)	14.5	1	43¼″	6″	35705K122	1,033.32
18,000	480 (3)	21.7	1	53¾″	6″	35705K132	1,109.36
24,000	480 (3)	29.0	2	43½″	8″	35705K152	1,366.29
40,000	480 (3)	48.0	2	60¼″	8″	35705K162	1,654.70

Watts	AC Voltage (Phase)	Amps	Pipe Size	O'all Lg.	Dia.		
Copper Element and Brass Body							
1,500	120 (1)	12.5	1	18″	4″	3595K31	$970.19
2,000	120 (1)	16.7	1	18″	4″	3595K32	988.37
3,000	240 (1)	12.5	1	22″	4″	3595K33	1,019.42
Steel Element and Body							
500	120 (1)	4.2	1	22″	4″	3595K61	734.23
750	120 (1)	6.3	1	22″	4″	3595K62	745.00
1,000	240 (1)	4.2	1	22″	4″	3595K63	816.35

Bendable Immersion Heater Elements

Form these heater elements into virtually any shape. They can even be bent by hand. All elements are made of Incoloy for use in corrosive environments to heat process water with less than 3% acid or alkaline content, up to 2% caustic solutions, and inert gases. Maximum operating temperature is 1700° F.

Each end of the heater elements has 2½″ of unheated length; a ceramic insulator; and a 10-32 threaded stud with washer, nut, and terminal. UL recognized. Heaters should be used with a temperature control switch (see 3626K and 7079K on page 638 and 7981K on page 641).



Element Lg.	Watts	Amps		
0.260″ Dia.—Min. Bend Radius is 15/16″				
120V AC, Single Phase				
16″	250	2.1	3540K31	$29.56
20″	350	2.9	3540K32	30.78
25″	450	3.8	3540K33	32.03
28″	500	4.2	3540K34	33.00
32″	650	5.4	3540K35	34.03
36″	750	6.3	3540K36	35.31
40″	850	7.1	3540K37	36.69
46″	1,000	8.3	3540K38	38.22
50″	1,100	9.2	3540K39	41.81
55″	1,200	10.0	3540K41	42.66
60″	1,350	11.3	3540K42	44.66
65″	1,500	12.5	3540K43	45.44
Replacement Ceramic Insulators (Pkg. of 10)			3540K75	11.56

Element Lg.	Watts	Amps		
0.315″ Dia.—Min. Bend Radius is 1 1/16″				
120V AC, Single Phase				
16″	275	2.3	3540K11	$27.28
20″	400	3.3	3540K12	28.44
25″	650	5.4	3540K13	30.50
28″	625	5.2	3540K14	31.41
32″	750	6.3	3540K15	33.50
40″	975	8.1	3540K17	36.88
50″	1,300	10.8	3540K29	42.06
240V AC, Single Phase				
36″	850	3.5	3540K16	34.38
46″	1,150	4.8	3540K18	38.50
55″	1,450	6.0	3540K21	44.09
60″	1,600	6.7	3540K22	46.28
65″	1,750	7.3	3540K23	48.44

Element Lg.	Watts	Amps		
0.430″ Dia.—Min. Bend Radius is 1½″				
240V AC, Single Phase				
16″	400	1.7	3540K51	$38.94
20″	550	2.3	3540K52	41.25
25″	750	3.1	3540K53	44.50
28″	850	3.5	3540K54	46.56
32″	1,000	4.2	3540K55	49.09
36″	1,100	4.6	3540K56	51.47
40″	1,250	5.2	3540K57	55.44
46″	1,500	6.3	3540K58	60.50
50″	1,700	7.1	3540K59	62.62
55″	1,850	7.7	3540K61	66.19
60″	2,000	8.3	3540K62	68.81
65″	2,250	9.4	3540K63	72.50

Disc and Ring Heaters

Use these heaters with tanks, hot plates, and dies where moisture is not present. A flat bottom means there's a large surface area for excellent heat transfer. All have two screw terminals and are CSA certified. They should be used with a temperature control switch (see 3626K and 7079K on page 638 and 7981K on page 641).

Half-sheath heaters provide faster heat-up. **Full-sheath heaters** are impervious to dirt and are UL recognized. For a secure hold, use the **optional mounting clamps**, sold individually.

Disc Heaters—Have a maximum heat output of 750° F. Sheath is iron with a center mounting hole. Screw terminal size is 6-32 × 7/16″ high.

Ring Heaters—Have a maximum heat output of 1200° F. Sheath is chrome steel. Screw terminal size is 10-32 × 9/16″ high.

Watts	AC Voltage (Phase)	Amps	OD	ID	Thick.		
Disc Heaters—Half Sheath							
200	120 (1)	1.7	3¼″	5/16″★	11/32″	3559K25	$49.67
400	120 (1)	3.3	3¼″	5/16″★	11/32″	3559K23	49.67
Disc Heaters—Full Sheath							
400	120 (1)	3.3	3¼″	13/64″★	5/16″	3559K24	51.33
Ring Heaters—Full Sheath							
200	120 (1)	1.7	3″	7/8″	1/4″	3682K21	62.83
300	120 (1)	2.5	3″	7/8″	1/4″	3682K22	62.83
500	120 (1)	4.2	4″	1 11/16″	5/16″	3682K23	62.83
660	120 (1)	5.5	6⅛″	3″	5/16″	3682K36	81.83
1,000	120 (1)	8.3	6⅛″	3″	5/16″	3682K25	81.83
1,800	120 (1)	15.0	11″	8½″	5/16″	3682K37	136.67
Optional Mounting Clamp (4 recommended)						3682K45	13.09

★ Center mounting hole diameter.



Disc Heater



Ring Heater with Optional Mounting Clamps

Heat-Transfer Putty

To conduct heat and prevent burnout when your heat cable can't make direct contact with your pipe, mold this putty around the cable and stick it directly to the pipe. Putty with a maximum temperature of 450° F stays pliable; 750° F and 1250° F sets to a rock-like hardness in 48 hours, unless noted.

	450° F Max.		750° F Max.		1250° F Max.	
1 caulk gun cartridge	3568K41	$25.00	3568K51	$18.33	3568K61	$21.67
1 quart	3568K42	41.67	3568K52	33.33	3568K62	45.00
1 gallon	3568K43	76.50	3568K1■	40.00	3568K63	86.42
5 gallon	—	—	3568K3■	146.69	—	—
Caulk Gun					9263T11	6.79

■ Sets in 24 hours.

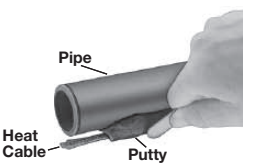

About Heat Cable

Maintain the temperature and viscosity of process fluids, protect pipes from freezing, and keep roofs and gutters free from snow and ice buildup. To secure heat cable to pipes, use fiberglass tape (see 7574A on page 3491). You should also wrap fiberglass insulation around pipe to protect the cable and ensure maximum heat output (see 5556K on page 3577).

Self-Regulating Heat Cable—Adjusts its heat output in response to surface as well as surrounding temperatures. The hotter the surrounding temperature, the lower the heat output. As a result, a temperature controller is not needed unless a specific, consistent temperature is desired.

Constant-Wattage Heat Cable—Always puts out the designated amount of watts/ft., regardless of the surrounding temperature. Because it's designed to continually supply wattage to the object being heated, it should be used with a temperature controller to prevent burnout. Using a controller also lets you maintain more precise temperatures. Note: To prevent burnout, the cable must not be overlapped and must be in full contact with the surface being heated.

How to Determine Your Power Needs

Total watt output = cable length × watts/ft.
Amp draw = total watt output ÷ volts.

Watts/ft. Needed for Temperature Change

Temperature rise is the fluid temperature you need to maintain minus the minimum surrounding temperature. Watts/ft. ratings are based on using fiberglass insulation.

Watts/ft. Needed for Temperature Change							
Temp. Rise	Insulation Thickness	*Pipe Size to be Heated*					
		½	¾	1	1¼	1½	2
50° F	1″	1.7	1.9	2.2	2.5	2.8	3.3
50° F	1½″	1.3	1.5	1.7	1.9	2.1	2.5
50° F	2″	1.2	1.3	1.4	1.6	1.8	2
100° F	1″	3.5	3.9	4.5	5.3	5.8	6.8
100° F	1½″	2.8	3.1	3.5	4.1	4.4	5.1
100° F	2″	2.4	2.7	3	3.4	3.7	4.3
200° F	1″	7.5	8.6	9.9	11.5	12.6	14.9
200° F	1½″	6.1	6.8	7.7	8.9	9.7	11.2
200° F	2″	5.3	5.9	6.6	7.5	8.1	9.3

For example, to maintain a fluid temperature of 150° F with a minimum ambient temperature of 50° F (temp. rise of 100° F) in an application with 1″ of insulation and a size 1 pipe, you need a heat cable with at least 4.5 watts/ft.

Self-Regulating Heat Cable



Heat Cable with Power-Connection/ Termination Kit



Heat Cable with LED Termination Kit

This cable automatically responds to surrounding temperatures to provide freeze protection and low-temperature maintenance on metal and plastic pipes and tanks. The colder it gets, the greater the heat output; as the temperature increases, the heat output decreases. A power-connection kit (sold below) is required for hardwiring.

All cable is braided copper with leads. It can be overlapped but is not suitable for burying underground. UL listed and CSA certified. **Heavy duty cable** has a plastic outer cover for added durability.

Low-Temperature Heat Cable—Maximum heat output is 150° F. All cable withstands –60° to 185° F temperatures. *Standard cable* is ½″ Wd. × 3⁄16″ Thick. *Heavy duty cable* is 9⁄16″ Wd. × ¼″ Thick.

Medium-Temperature Heat Cable—Maximum heat output is 250° F. Cable withstands –76° to 400° F temperatures and measures 7⁄16″ Wd. × ¼″ Thick. FM approved Class I, Div. 2, Groups B, C, and D.

Power-Connection/Termination Kit—Has what you need (including a junction box and a three-point DIN mount terminal block) to connect power to a run of cable. It also has an end cap, power-connection cover, and adhesive to make an end termination.

LED Termination Kit—This end termination kit has a high-visibility green LED to indicate when your cable is on.

Termination Kit—Includes an end cap, power-connection cover, and adhesive to make an end termination.

Splice Kit and T-Splice Kit—Have splice-connection covers, wire nuts, and adhesive to make an inline or T-splice connection.

Watts/ft.	Max. Lg., ft.		Per Ft. 1-99	Per Ft. 100-Up
Standard Low-Temperature Heat Cable				
120V AC, Single Phase				
3	500	3597K11	$4.31	$3.35
5	500	3597K12	5.06	3.87
8	500	3597K13	5.22	3.97
10	500	3597K14	6.52	4.96
240V AC, Single Phase				
3	500	3597K15	5.03	3.90
5	500	3597K16	5.73	4.32
8	500	3597K17	6.36	4.85
10	500	3597K18	7.87	6.03
Heavy Duty Low-Temperature Heat Cable				
120V AC, Single Phase				
3	500	3597K19	5.84	4.42
5	500	3597K21	6.67	5.16
8	500	3597K22	7.45	5.78
10	500	3597K23	8.00	6.24
240V AC, Single Phase				
8	500	3597K24	8.96	6.99
10	500	3597K26	9.79	7.68

Watts/ft.	Max. Lg., ft.		Per Ft. 1-99	Per Ft. 100-Up
Heavy Duty Medium-Temperature Heat Cable				
120V AC, Single Phase				
9	500	36005K15	$13.00	$9.83
12	500	36005K16	15.84	11.98
15	500	36005K17	18.45	13.95
20	500	36005K18	21.71	16.41
240V AC, Single Phase				
12	500	36005K19	16.65	12.59
20	500	36005K25	22.48	17.00

Power-Connection/Termination, Termination, and Splice Kits

For Heat Cable Temperature			
Low	Power-Connection/Termination Kit	3597K1	$126.00
Low	LED Termination Kit	3597K2	218.08
Low	Termination Kit	3597K31	12.35
Medium	Power-Connection/Termination Kit	36005K1	126.00
Medium	LED Termination Kit	36005K2	218.08
Medium	Termination Kit	36005K3	12.35
Low, Medium	Splice Kit	3597K4	22.41
Low, Medium	T-Splice Kit	3597K5	28.47

Ready-to-Use Self-Regulating Heat Cable



120V AC

No need for power-connection and termination kits—an included 30″ power cord means this heat cable is ready for action. It automatically responds to surrounding temperatures to provide freeze protection on metal and plastic pipes up to 2½″ diameter. The colder it gets, the greater the heat output; as the temperature increases, the heat output decreases.

All cable is braided copper with a waterproof plastic cover. It measures 7⁄16″ Wd. × 3⁄16″ Thick and can be overlapped. Cable provides 6 watts/ft. @ 40° F and withstands –40° to 150° F temperatures. CSA certified for pipe freeze protection. **120V AC cable** has a three-prong plug. It's also CSA certified for roof and gutter de-icing applications. **240V AC cable** has leads.

Lg., ft.	Watts	Amps		
120V AC, Single Phase				
6	36	0.3	3580K22	$57.42
12	72	0.6	3580K24	72.75
18	108	0.9	3580K26	91.36
24	144	1.2	3580K28	109.07

Lg., ft.	Watts	Amps		
120V AC, Single Phase (Cont.)				
50	300	2.5	3580K31	$198.09
75	450	3.8	3580K32	268.32
100	600	5	3580K33	345.31

Lg., ft.	Watts	Amps		
240V AC, Single Phase				
6	36	0.2	3580K52	$64.38
12	72	0.3	3580K54	84.89
18	108	0.5	3580K56	102.75
24	144	0.6	3580K58	124.62

Constant-Wattage Heat Cable



Heat Cable with Power-Connection/Termination Kit



Heat Cable with LED Termination Kit

Get continuous heat output for freeze protection and high-temperature maintenance on metal pipes and tanks regardless of the surrounding temperature. A power-connection kit (sold below) is required for hardwiring. A temperature controller is also required (see pages 637-639, 641).

All cable is braided copper with leads. It has a plastic outer cover for added durability and measures ½″ Wd. × 11⁄32″ Thick. UL listed, CSA certified, and FM approved Class I, Div. 2, Groups B, C, and D. Note: To prevent burnout, the cable must not be overlapped and must be in full contact with the surface being heated.

High-Temperature Heat Cable—Maximum heat output is 150° F. Cable withstands –40° to 400° F temperatures.

Ultra-High Temperature Heat Cable—Maximum heat output is 302° F. Cable withstands –60° to 500° F temperatures.

Power-Connection/Termination Kit—Has what you need (including a junction box and a three-point DIN mount terminal block) to connect power to a run of cable. It also has an end cap, power-connection cover, and adhesive to make an end termination.

LED Termination Kit—This end termination kit has a high-visibility green LED to indicate when your cable is on.

Termination Kit—Includes an end cap, power-connection cover, and adhesive to make an end termination.

Splice Kit and **T-Splice Kit—**Have splice connection covers, wire nuts, and adhesive to make an inline or T-splice connection.

Watts/ft.	Max. Lg., ft.		Per Ft. 1-99	Per Ft. 100-Up
High-Temperature Heat Cable				
120V AC, Single Phase				
2.5	500	35535K12	$7.24	$5.85
5	500	35535K13	7.24	5.85
8	500	35535K14	7.24	5.85
10	500	35535K15	7.24	5.85
240V AC, Single Phase				
5	500	35535K16	7.24	5.85
480V AC, Single Phase				
10	500	35535K17	10.90	9.45
Ultra High-Temperature Heat Cable				
120V AC, Single Phase				
10	500	35535K23	14.25	11.95
15	500	35535K24	15.65	13.56
240V AC, Single Phase				
10	500	35535K25	14.97	12.56
15	500	35535K26	16.26	14.09
480V AC, Single Phase				
10	500	35535K27	16.82	14.58
15	500	35535K28	18.16	15.74
20	500	35535K29	19.60	16.99

Power-Connection/Termination, Termination, and Splice Kits		
Power-Connection/Termination Kit	35535K21	$133.27
LED Termination Kit	35535K22	224.13
Termination Kit	35535K11	19.78
Splice Kit	3597K4	22.41
T-Splice Kit	3597K5	28.47

Copper-Tubing Heat Cable

The ¼″ diameter copper-tubing cover on this constant-wattage heat cable offers greater water and oil resistance than rubber-covered heat cable. It's also stiff so it stays in place to protect ½″ to 24″ diameter metal pipes both indoors and out. Use this cable on oil lines and compressor drain lines. It has a maximum heat output of 220° F and withstands a maximum temperature of 450° F.



Cable provides 10 watts/ft. It operates on 120V AC, single phase and has a 6-ft. power cord with three-prong plug. Note: To prevent burnout, cable must not be overlapped.

Lg., ft.	Watts	Amps		
5	50	0.4	3566K21	$235.29
10	100	0.8	3566K22	278.85
15	150	1.3	3566K23	349.06
20	200	1.7	3566K24	398.15

Ready-to-Use Freeze-Protection Heat Cable



Set to go right out of the box, this constant-wattage heat cable has a temperature controller and 2-ft. power cord with three-prong plug. The controller turns the cable on when the temperature goes below 38° F; turns it off when it reaches 45° F. Use this cable to keep water flowing through ¾″ to 1½″ dia. plastic and metal pipes.

Cable provides 7 watts/ft. and operates on 120V AC, single phase. It's PVC, measures ½″ Wd. × 3⁄8″ Thick., and withstands –40° to 155° F temperatures. CSA certified. Note: To prevent burnout, apply cable straight along pipe. It must not be overlapped or spiraled and must be in full contact with the surface being heated.

Lg., ft.	Watts	Amps			Lg., ft.	Watts	Amps		
3	21	0.18	3554K21	$38.33	24	168	1.4	3554K27	$56.13
6	42	0.35	3554K22	41.46	30	210	1.75	3554K28	60.23
9	63	0.53	3554K23	43.50	40	280	2.33	3554K29	71.34
12	84	0.7	3554K24	47.48	60	420	3.5	3554K31	89.81
15	105	0.88	3554K25	49.41	80	560	4.67	3554K32	116.23
18	126	1.1	3554K26	52.44					

Roof and Gutter Heat Cable



Before ice begins to form, install this constant-wattage heat cable on roofs and in gutters and downspouts to prevent damage caused by ice buildup. Cable operates on 120V AC, single phase and comes with a 6-ft. power cord with three-prong plug. CSA certified. Note: To prevent burnout, cable must not be overlapped.

Cable includes enough roof clips and downspout spacers for the length ordered. Extra clips and spacers are offered below.



Cable controller turns cable on when moisture is detected and temperature drops below 39° F; turns off when moisture is no longer detected. Includes a 6-ft. power cord with three-prong plug.

To determine the length of cable you need, multiply the length of your roof by the multiplier below, based on roof overhang. For example, for a 24-ft. long roof with a 12″ overhang: 24 × 4 = 96 ft. of cable.

Overhang	Multiplier	Overhang	Multiplier
12″	4	48″	8.1
24″	5.3	60″	9.6
36″	6.8	72″	11.2

Lg., ft.	Watts	Amps	No. of Clips	No. of Spacers		
30	150	1.3	19	16	3546K34	$65.44
60	300	2.5	38	32	3546K35	82.18
80	400	3.3	57	48	3546K36	98.20
100	500	4.2	76	64	3546K37	105.62
120	600	5	76	64	3546K44	143.20
160	800	6.7	95	80	3546K45	158.24
200	1,000	8.3	133	112	3546K46	194.50
240	1,200	10	152	128	3546K47	213.06
Cable Controller					3546K41	117.22
Extra Roof Clips (19) and Spacers (16)					3546K51	8.52

Ultra-Flexible Heat Cable



With 2.1 mm ID Connector

Bend, twist, or pack this 0.12″ Wd. × 0.06″ Thick. cable into tight spaces for freeze protection or added heat. It has a polymer-based fiber heating element for unbeatable flexibility. This cable can even be used around electronics because it does not produce an electromagnetic field. Use it on plastic and metal pipes. Cable provides 3 watts/ft. and withstands –30° to 221° F temps.

12V and 24V DC Cable—To Order: Please specify with leads or with a 2.1 mm ID connector. *Cable with 2.1 mm ID connector* can be used with an AC adapter (see 70235K on page 985) to convert it to AC power.

36V DC Cable—Has leads.

Lg., ft.	Watts	Amps			Lg., ft.	Watts	Amps		
12V DC					**24V DC (Cont.)**				
1	3	0.3	2156T1	$26.00	6	18	0.8	2156T7	$46.00
2	6	0.5	2156T2	30.00	8	24	1	2156T8	54.00
3	9	0.8	2156T3	34.00	**36V DC**				
4	12	1	2156T4	38.00	3	9	0.3	2156T13	32.60
24V DC					6	18	0.5	2156T14	44.60
2	6	0.3	2156T5	30.00	9	27	0.8	2156T15	56.60
4	12	0.5	2156T6	38.00	12	36	1	2156T16	68.60

High-Temperature Heat Cable with Temperature Controller



Made of silicone rubber, this flexible, constant-wattage heat cable withstands temperatures from –30° to 450°F. It also has a moisture and chemical resistant outer sheath. An attached controller lets you regulate the on and off heating time of the cable, which has a maximum heat output of 450°F. Use it for thawing frozen pipes and applications requiring rapid heating. You can even use it for bending plastics.

All heat cable is 3/16″ thick, single phase, and has a 6-ft. long power cord. Note: To prevent burnout, the cable must not be overlapped and must be in full contact with the surface being heated prior to energizing.

To Order: Please specify 120V or 240V AC. *120V AC cable* includes a two-prong plug. *240V AC cable* has leads.

Lg., ft.	½″ Wide Watts	Watts/ ft.			1″ Wide Watts	Watts/ ft.			2″ Wide Watts	Watts/ ft.			3″ Wide Watts	Watts/ ft.		
2	72	36	3631K15	$135.40	144	72	3631K26	$130.34	288	144	3631K37	$190.26	432	216	3631K48	$211.69
4	144	36	3631K16	144.18	288	72	3631K27	141.81	576	144	3631K38	202.92	864	216	3631K49	225.32
6	216	36	3631K17	153.62	432	72	3631K28	151.62	864	144	3631K39	215.91	1,296	216	3631K56	240.26
8	288	36	3631K18	163.77	576	72	3631K29	161.54	1,152	144	3631K46	230.19	1,440	180	3631K57	255.19
10	360	36	3631K19	173.12	720	72	3631K36	174.45	1,440	144	3631K47	248.38	1,440	144	3631K58★	275.32
12	432	36	3631K1	189.89	864	72	3631K6	191.33								
14	504	36	3631K2	204.18	1,008	72	3631K7	205.73								
16	576	36	3631K3	219.54	1,152	72	3631K8	213.87								
18	648	36	3631K4	226.98	1,296	72	3631K9	228.72								
20	720	36	3631K5	230.76	1,440	72	3631K59	245.93								

★ 240V AC heat cable is rated at 1,800 watts (180 watts/ft.).

High-Temperature Heat Cable



To warm up metal pipes and equipment, this constant-wattage heat cable has a maximum heat output of 900°F. It's made of flexible woven fiberglass and operates on 120V AC, single phase. UL recognized and CSA certified. Note: To prevent burnout, the cable must not be overlapped and must be in full contact with the surface being heated.

Cable with cord and plug is 0.300″ thick and withstands –50° to 900°F temperatures. **Cable with wire leads** is 0.165″ thick and withstands –100° to 900°F temperatures.

Lg.	Watts	Watts/ft.	Amps	With Cord and Plug		With Wire Leads	
6″	25	50	0.2			3641K21	$18.69
8″	35	52.5	0.3	3641K11	$80.71		
12″	50	50	0.4	3641K12	80.85	3641K22	18.92
24″	100	50	0.8	3641K13	82.44	3641K23	19.15
36″	125	41.5	1	3641K14	87.05	3641K24	22.51
60″	250	50	2.1	3641K15	95.70	3641K25	30.88
96″	400	50	3.3	3641K16	144.57	3641K26	54.33
120″	500	50	4.2	3641K17	172.96	3641K27	73.98
Variable Voltage Controller (0-118 Volts)						3641K43	92.50

Ultra-Thin Heat Sheets



Merely 0.007″ thick, these slim heat sheets conform to any flat or curved surface and slip into the smallest gaps. All sheets are polyimide to resist stretching and tearing. An adhesive backing facilitates installation. Use them on clean, metal surfaces.

Heat sheets have 1-ft. leads for hardwiring to a temperature controller (see pages 637-639, 641). They have a maximum heat output of 300°F and withstand –40° to 300°F temperatures.

To Order: Please specify 5 or 10 watts/sq. in. where available below. *5 watts/sq. in.* is a good all-purpose choice, and *10 watts/sq. in.* is good for rapid warm-up and high-temperature applications.

Size	AC Voltage (Phase)	@ 5 watts/ sq. in. Watts	Amps	@ 10 watts/ sq. in. Watts	Amps		
Round							
2″ Dia.	115 (1)			31.4	0.27	35475K12	$43.26
Square							
1″×1″	28 (1)	5	0.18	10	0.36	35475K24	41.69
2″×2″	28 (1)	20	0.71	40	1.43	35475K26	41.69
2″×2″	115 (1)	20	0.17	40	0.35	35475K16	43.26
3″×3″	115 (1)	45	0.39	90	0.78	35475K18	48.10
6″×6″	115 (1)	180	1.57	360	3.13	35475K63	74.34
Rectangular							
½″×2″	28 (1)	5	0.18	10	0.36	35475K28	41.69
1″×2″	28 (1)	10	0.36	20	0.71	35475K42	41.69
1″×3″	28 (1)	15	0.54	30	1.07	35475K44	42.64
1″×3″	115 (1)			30	0.26	35475K334	42.64
1″×5″	28 (1)	25	0.89	50	1.79	35475K46	44.95
1″×5″	115 (1)	25	0.22	50	0.43	35475K36	44.95
2″×5″	115 (1)	50	0.43	100	0.87	35475K71	49.57
4″×6″	115 (1)	120	1.04	240	2.09	35475K75	62.60
6″×12″	115 (1)	360	3.13	720	6.26	35475K77	109.49
10″×12″	115 (1)	600	5.22	1,200	10.43	35475K38	118.87

Extreme-Temperature Heat Cable



With a maximum heat output of 1400°F, this constant-wattage heat cable is the highest temperature heat cable we offer. Made of fiberglass yarn, it's flexible to conform to a variety of metal, ceramic, and glass surfaces. Note: Not for use on plastic.

Heat cable is 1/8″ thick, ½″ wide, and single phase. It withstands –60° to 1400°F temperatures. For a temperature controller, see pages 637-639, 641. Note: To prevent burnout, the cable must not be overlapped and must be in full contact with the surface being heated.

To Order: Please specify 120V AC with leads, 120V AC with power cord and two-prong plug, or 240V AC with leads.

Lg., ft.	Watts	Watts/ft.	Amps @ 120V AC	Amps @ 240V AC		
2	39	19.5	0.3	0.2	4550T15	$55.82
2	104	52	0.9	0.4	4550T21	46.05
2	156	78	1.3	0.7	4550T11	46.05
4	78	19.5	0.7	0.3	4550T16	54.81
4	208	52	1.7	0.9	4550T22	54.82
4	312	78	2.6	1.3	4550T12	54.82
6	117	19.5	1	0.5	4550T17	69.07
6	312	52	2.6	1.3	4550T23	69.07
6	468	78	3.9	2.0	4550T13	69.07
8	156	19.5	1.3	0.7	4550T18	85.52
8	416	52	3.5	1.7	4550T24	85.52
8	624	78	5.2	2.6	4550T14	85.52
10	195	19.5	1.6	0.8	4550T19	103.06
10	520	52	4.3	2.2	4550T25	103.06
12	234	19.5	2	1	4550T26	127.18
16	312	19.5	2.6	1.3	4550T27	156.78
Power Controller for 120V AC Cable with Cord and Plug (0-100% power)					4550T5	51.94

Super-Flexible Ultra-Thin Heat Sheets



You can bend these heat sheets around edges and corners without breaking the internal heating element. They're made of durable, formable aluminum foil and measure 0.20 thick.

Heat sheets have 18″ leads for hardwiring to a temperature controller (see pages 637-639, 641). They have a maximum heat output of 300°F and withstand –40° to 300°F temperatures.

Size	AC Voltage (Phase)	@ 2.9 watts/sq. in. Watts	Amps		
2″×6″	120 (1)	25	0.21	8009T11	$21.16
2″×10″	120 (1)	50	0.42	8009T12	23.08
2″×12″	120 (1)	60	0.5	8009T13	24.83
4″×6″	120 (1)	60	0.5	8009T14	32.72
4″×10″	120 (1)	110	0.92	8009T15	35.92
4″×12″	120 (1)	130	1.08	8009T16	37.56
6″×6″	120 (1)	95	0.79	8009T17	38.93
6″×10″	120 (1)	170	1.42	8009T18	44.31
6″×12″	120 (1)	205	1.71	8009T19	48.51
6″×24″	120 (1)	420	3.5	8009T21	92.47

Heavy Duty Silicone-Rubber Heat Sheets



For exceptional durability, the heating element is protected by a thick layer of fiberglass-reinforced silicone rubber. Use these sheets on flat and slightly curved tanks for slow, gentle warming. All heat sheets are single phase and measure 3/16″ thick. They include 4-ft. wire leads for hardwiring to a temperature controller (required for use; see pages 637-639, 641). Sheets withstand –60° to 450°F temperatures.

Adhesive-backed sheets have a nonreusable pressure-sensitive silicone adhesive. **Plain-backed sheets** can be attached with an RTV silicone adhesive (see page 3473).

Sheets for Plastic Containers—Provide 1.25 watts/sq. in. and have a maximum heat output of 185°F.

Sheets for Metal Containers—Provide 2.5 watts/sq. in. and have a maximum heat output of 450°F.

Size	Watts	AC Volts	Amps	Adhesive Backed		Plain Backed	
For Plastic Containers							
6″×12″	90	120	0.8	35285K211	$82.79	35285K411	$78.89
6″×24″	180	120	1.5	35285K231	129.53	35285K431	122.07
6″×36″	270	120	2.3	35285K251	199.74	35285K451	189.26
12″×12″	180	120	1.5	35285K271	129.54	35285K471	122.07
12″×24″	360	120	3	35285K291	230.19	35285K491	212.98
12″×36″	540	120	4.5	35285K311	376.94	35285K511	352.91
24″×36″	1,080	120	9	35285K391	584.40	35285K591	514.92
For Metal Containers							
6″×12″	180	120	1.5	3596K25	82.79	3596K111	78.89
6″×12″	180	240	0.8	3596K35	82.79	_____	_____

Size	Watts	AC Volts	Amps	Adhesive Backed		Plain Backed	
For Metal Containers (Cont.)							
6″×24″	360	120	3	3596K26	$127.09	3596K131	$122.07
6″×36″	540	120	4.5	3596K41	199.74	3596K151	189.27
12″×12″	360	120	3	3596K27	127.09	3596K171	122.07
12″×24″	720	120	6	3596K28	230.19	3596K191	212.98
12″×24″	720	240	3	3596K38	230.19	_____	_____
12″×36″	1,080	120	9	3596K43	376.94	3596K611	352.91
24″×24″	1,440	120	12	3596K29	439.27	3596K671	405.18
24″×36″	2,160	120	18	3596K45	584.40	3596K691	514.92
24″×36″	2,160	240	9	3596K55	584.40	_____	_____

Flexible Silicone-Rubber Heat Sheets



Round with Wire Leads



Rectangular with Wire Leads

With their thin profile, these sheets conform to flat and oddly shaped surfaces. For use on metal containers, all are fiberglass-reinforced silicone rubber and measure 0.030″ to 0.070″ thick. They operate on 115V AC, single phase. Heat sheets with wire leads are UL recognized and CSA certified.

Adhesive-backed sheets are for use on clean surfaces. They have a nonreusable, pressure-sensitive acrylic adhesive and withstand –60° to 300°F temperatures. **Plain-backed sheets** can be installed with Dow Corning 736 Silicone-Rubber Adhesive (see page 3472). They withstand –60° to 450°F temperatures.

To Order: Please specify low, medium, or high watts/sq. in. where available below. *Low* is for gentle warming, *medium* is a good all-purpose choice, and *high* is for rapid warm-up and high-temperature applications.

Size	*Low watts/sq. in.* Watts	Amps	*Medium watts/sq. in.* Watts	Amps	*High watts/sq. in.* Watts	Amps	Adhesive Backed		Plain Backed	
Round with Wire Leads—1-ft. wire leads for hardwiring to a temperature controller (see pages 637-639, 641).										
3″ Dia.	18	0.2	35	0.3	71	0.6	35765K122	$31.14	35765K111	$28.32
6″ Dia.	71	0.6	141	1.2	283	2.5	35765K123	50.20	35765K114	45.64
9″ Dia.	159	1.4	318	2.8	636	5.5	35765K124	66.87	35765K117	60.82
12″ Dia.	283	2.5	565	4.9	1,130	9.8	35765K125	90.41	35765K121	82.15
Rectangular with Wire Leads—1-ft. wire leads for hardwiring to a temperature controller (see pages 637-639, 641).										
1″×1″	–	—	—	—	10	0.1	35765K126	26.34	35765K14	23.94
1″×2″	–	—	10	0.1	20	0.2	35765K164	26.67	35765K132	24.23
1″×3″	8	0.1	15	0.1	30	0.3	35765K165	26.96	35765K133	24.26
1″×5″	13	0.1	25	0.2	50	0.4	35765K166	27.29	35765K135	24.83
1″×6″	15	0.1	30	0.3	60	0.5	35765K167	27.68	35765K139	25.14
1″×9″	23	0.2	45	0.4	90	0.8	35765K168	23.41	35765K144	21.27
1″×12″	30	0.3	60	0.5	120	1.0	35765K169	25.03	35765K148	22.79
1″×18″	45	0.4	90	0.8	180	1.6	35765K171	28.27	35765K154	25.70
1″×24″	60	0.5	120	1.0	240	2.1	35765K172	31.45	35765K158	28.59
1″×30″	75	0.7	150	1.3	300	2.6	35765K621	36.32	35765K521	33.04
2″×5″	25	0.2	50	0.4	100	0.9	35765K173	25.92	35765K136	23.53
2″×6″	30	0.3	60	0.5	120	1.0	35765K174	26.71	35765K141	24.30
2″×12″	60	0.5	120	1.0	240	2.1	35765K631	32.97	35765K531	30.00
2″×24″	120	1.0	240	2.1	480	4.2	35765K641	43.53	35765K541	39.56
3″×3″	23	0.2	45	0.4	90	0.8	35765K127	28.27	35765K134	25.70
3″×5″	38	0.3	75	0.7	150	1.3	35765K175	30.53	35765K137	27.79
3″×6″	45	0.4	90	0.8	180	1.6	35765K176	31.65	35765K142	28.80
3″×9″	68	0.6	135	1.2	270	2.4	35765K189	35.17	35765K145	31.98
3″×12″	90	0.8	180	1.6	360	3.1	35765K177	38.55	35765K149	35.06
3″×18″	135	1.2	270	2.4	540	4.7	35765K178	45.50	35765K155	41.35
3″×24″	180	1.6	360	3.1	720	6.3	35765K179	52.41	35765K159	47.65
4″×5″	50	0.4	100	0.9	200	1.7	35765K181	33.58	35765K138	30.53
6″×6″	90	0.8	180	1.6	360	3.1	35765K128	45.62	35765K143	41.45
6″×9″	135	1.2	270	2.4	540	4.7	35765K182	51.71	35765K146	47.03
6″×12″	180	1.6	360	3.1	720	6.3	35765K183	57.79	35765K151	52.56
6″×18″	270	2.4	540	4.7	1,080	9.4	35765K184	70.06	35765K156	63.67
6″×24″	360	3.1	720	6.3	1,440	12.5	35765K185	82.18	35765K161	74.69
6″×36″	540	4.7	1,080	9.4	2,160	18.8	35765K671	111.84	35765K571	101.68
9″×9″	203	1.8	405	3.5	810	7.0	35765K129	60.77	35765K147	55.27
9″×12″	270	2.4	540	4.7	1,080	9.4	35765K186	69.99	35765K152	63.64
10″×10″	250	2.2	500	4.4	1,000	8.7	35765K611	70.50	35765K511	67.11
12″×12″	360	3.1	720	6.3	1,440	12.5	35765K163	82.12	35765K153	75.17
12″×18″	540	4.7	1,080	9.4	2,160	18.8	35765K187	106.62	35765K157	96.88
12″×24″	720	6.3	1,440	12.5	_____	—	35765K188	131.01	35765K162	119.09
12″×48″	1,440	12.5	2,300	20.0	_____	—	35765K821	214.30	35765K721	211.79
Rectangular with Cord, 2-Prong Plug, and Temperature Controller										
3″×9″	68	0.6	135	1.2	270	2.4	35765K101	93.75	35765K501	90.48
3″×12″	90	0.8	180	1.6	360	3.1	35765K102	97.21	35765K502	93.63
4″×5″	50	0.4	100	0.9	200	1.7	35765K103	92.12	35765K503	89.00
6″×6″	90	0.8	180	1.6	360	3.1	35765K901	104.46	35765K11	99.74
6″×9″	135	1.2	270	2.4	540	4.7	35765K104	110.71	35765K504	105.90
6″×12″	180	1.6	360	3.1	720	6.3	35765K105	116.94	35765K505	111.60
6″×24″	360	3.1	720	6.3	1,440	12.5	35765K107	141.94	35765K507	134.27
12″×18″	540	4.7	1,080	9.4	_____	—	35765K108	167.00	35765K508	157.02
12″×24″	720	6.3	1,440	12.5	_____	—	35765K109	192.02	35765K509	179.79

DC Voltage Flexible Silicone-Rubber Heat Sheets



When you don't have access to electricity, these sheets run on battery power to provide the heat. Use them on metal and plastic tanks for mobile and laboratory applications. All sheets provide 5 watts/sq. in. and withstand –40° to 300°F temperatures. They have 1-ft. wire leads for hardwiring to a temperature controller (see page 641).

Adhesive-backed sheets facilitate installation and are for use on clean surfaces.

Plain-backed sheets can be attached with an RTV silicone rubber adhesive (see page 3473).

To Order: Please specify 12V or 24V DC where available below.

Lg.	Wd.	Watts	Amps @ 12V DC	Amps @ 24V DC	Adhesive Backed		Plain Backed	
1″	2″	10	0.8	0.4	7945T52	$19.40	7945T17	$33.00
1″	3″	15	1.3	0.6	7945T53	23.90	7945T18	33.80
1″	4″	20	1.7	0.8	7945T38	38.40	7945T37	34.40
1″	5″	25	2.1	1.0	7945T54	25.30	7945T19	35.00
1″	6″	30	2.5	1.3	7945T47	40.00	7945T39	35.60
1″	9″	45	3.8	1.9	7945T49	46.80	7945T48	37.60
1″	12″	60	—	2.5	7945T58	44.40	7945T57	39.40
1″	18″	90	—	5.0	7945T67	48.60	7945T59	43.00
2″	2″	20	1.7	0.8	7945T51	24.48	7945T27	34.40
2″	5″	50	4.2	2.1	7945T55	29.27	7945T28	38.00
2″	6″	60	5.0	2.5	7945T56	30.85	7945T29	39.40
2″	12″	120	—	5.0	7945T69	50.60	7945T68	44.60
3″	3″	45	3.8	1.9	7945T72	41.40	7945T71	36.60
3″	5″	75	6.3	3.1	7945T74	44.80	7945T73	39.60
3″	6″	90	7.5	3.8	7945T76	46.40	7945T75	41.00
3″	9″	135	11.3	5.6	7945T78	51.80	7945T77	45.40
3″	12″	180	—	7.5	7945T81	57.20	7945T79	49.97
3″	18″	270	—	11.3	7945T83	68.00	7945T82	58.80
4″	4″	80	6.7	3.3	7945T85	45.20	7945T84	40.00
4″	5″	100	8.3	4.2	7945T87	45.60	7945T86	41.80
4″	6″	120	10.0	5.0	7945T89	49.97	7945T88	43.60
4″	12″	240	—	10.0	7945T92	63.60	7945T91	55.20
6″	6″	180	15.0	7.5	7945T94	56.60	7945T93	49.00
6″	9″	270	—	11.3	7945T96	66.80	7945T95	57.60

Silicone-Rubber Pail and Drum Band Heaters



Wrap bands around pails and drums to keep contents at desired temperatures. All are single phase and have a 6-ft. long power cord. Note: Not for use with flammable materials or in hazardous areas. *120V AC heaters* have a three-prong plug. *240V AC heaters* have leads.

3″ wide heaters withstand –40° to 450°F temps. **4″ wide heaters** have three layers of silicone rubber for durability and withstand –40° to 450°F temps. **9½″ wide heaters** maximize surface area contact and heat distribution. They withstand –40° to 392°F temps. and are good for heating substances that are sensitive to high heat concentrations. *Expansion strap* fits the heaters to drums 1½″ to 11″ larger in circumference (2 required per heater).

For Drum Cap., gal.	For Drum Dia.	Watts	AC Voltage	Amps		
Heaters for Metal Drums						
3″ Wide Heaters with 50° to 425°F Thermostat						
5	11¼″	300	120	2.5	3545K41	$126.10
15	14½″	500	120	4.2	3545K42	142.29
30	18¼″	750	120	6.3	3545K43	151.33
55	22½″	1,000	120	8.3	3545K44	167.14
55	22½″	1,000	240	4.2	3545K54	165.52
4″ Wide Heaters with 50° to 425°F Thermostat						
5	11⅛″	550	120	4.6	3630K27	193.15
15	14″	700	120	5.8	3630K28	212.96
15	14″	700	240	2.9	3630K58	212.96
30	18 9/16″	1,000	120	8.3	3630K29	234.39
30	18 9/16″	1,000	240	4.2	3630K59	234.39
55	22⅜″	1,200	120	10.0	3630K31	262.41
55	22⅜″	1,200	240	5.0	3630K61	262.41
9½″ Wide Heaters with 70° to 190°F Thermostat						
5	11½″	1,000	120	8.3	3544K33	258.22
15	13½″	1,000	120	8.3	3544K35	328.70
55	22½″	1,500	120	12.5	3544K39	475.00
Heaters for Plastic Drums						
4″ Wide Heaters with 50° to 160°F Thermostat						
5	11⅛″	150	120	1.3	35275K27	194.26
15	14″	200	120	1.7	35275K28	214.18
15	14″	200	240	0.8	35275K58	214.18
30	18 9/16″	250	120	2.1	35275K29	235.74
30	18 9/16″	250	240	1.0	35275K59	235.74
55	22⅜″	300	120	2.5	35275K31	263.91
55	22⅜″	300	240	1.3	35275K61	263.91
9½″ Wide Heaters with 70° to 140°F Thermostat						
5	11½″	300	120	2.5	3544K31	258.22
55	22½″	750	120	6.3	3544K38	475.00
Expansion Strap for 9½″ Wide Heaters					3544K71	37.71

High-Temperature Barrel Band Heaters



Insulated with mica, these heaters provide the high temperatures you need to heat metal barrels of resins for extrusion as well as injection- and blow-molding machinery. All heaters are single phase. They have a rust-resistant steel sheath and screw terminals. Use them with a temperature controller (see 3626K and 7079K on page 638 and 7981K on page 641). Maximum heat output is 900°F. **To Order:** Please specify 120V or 240V AC.

For Barrel Dia.	Wd.	120V AC Watts	120V AC Amps	240V AC Watts	240V AC Amps		
3″	1½″	400	3.3	400	1.7	3671K51	$49.75
3½″	1½″	500	4.2	500	2.1	3671K52	50.74
3½″	2″	650	5.4	650	2.7	3671K53	54.71
4″	1″	400	3.3	400	1.7	3671K54	55.15
4″	2″	550	4.6	550	2.3	3671K55	59.26
4″	4″	1,250	10.4	1,250	5.2	3671K56	83.97
4½″	2½″	1,000	8.3	1,000	4.2	3671K58	65.29
5″	1½″	700	5.8	700	2.9	3671K59	60.00

For Barrel Dia.	Wd.	120V AC Watts	120V AC Amps	240V AC Watts	240V AC Amps		
6″	1½″	850	7.1	850	3.5	3671K62	$65.59
6″	2″	1,200	10	1,200	5	3671K63	73.09
7″	1½″	1,000	8.3	1,000	4.2	3671K64	71.76
8″	2″	1,500	12.5	1,500	6.3	3671K65	87.65
9″	1½″	1,200	10	1,800	5	3671K66	82.50
10″	1½″	1,300	10.8	1,300	5.4	3671K67	86.47
12″	2″	1,700	14.2	2,300	7.1	3671K68	114.41
14″	1½″	1,600	13.3	1,900	7.9	3671K69	109.56

Noncontact Pail and Drum Band Heaters for Sensitive Liquids



5-gal.



55-gal.

By warming the air around a pail or drum without coming into direct contact, these heaters eliminate hot spots to provide uniform heat to 80% of your container. Use them for heat-sensitive substances such as adhesives, sealants, and food. All heaters are thermostatically controlled and are for use on metal pails and drums only. They have an 8-ft. long power cord with the plug listed below (for illustrations of plugs, see pages 816 and 820). Note: Not for use with flammable materials or in hazardous areas.

5-gallon capacity heaters let you set a pail in from the top. **55-gallon capacity heaters** are mounted on casters and can be wrapped around a drum.

Watts	AC Voltage (Phase)	Amps	*O'all Size* OD	Ht.	NEMA Plug	With 60° to 250°F Thermostat		With 100° to 550°F Thermostat	
5-Gallon Capacity—12″ Max. Pail Dia.									
1,350	115 (1)	11.7	22″	13″	5-15	3542K93	$918.75	3542K95	$918.75
1,350	230 (1)	5.9	22″	13″	L6-20	—	—	3542K97	1,027.03
55-Gallon Capacity—23¾″ Max. Drum Dia.									
1,500	115 (1)	13	35″	30½″	L5-15	3542K11	2,685.85	—	—
4,400	230 (1)	19.1	35″	30½″	L6-20	3542K51	2,685.85	3542K5	2,685.85
4,400	230 (3)	12	35″	30½″	L15-20	3542K71	3,115.54	3542K7	3,115.54
4,400	460 (3)	6	35″	30½″	L16-20	3542K91	3,461.23	3542K9	3,461.23

High-Temperature Nozzle Band Heaters

Able to operate in temperatures up to 1200° F, these heaters clamp around nozzles of extrusion, injection, and blow-molding machines to keep material warm. All are single phase, have leads, and should be used with a temperature controller (see 3626K and 7079K on page 638 and 7981K on page 641). Maximum heat output is 1200° F.

All heaters have a Type 430 stainless steel sheath. Choose the **mineral-insulated heaters** if you require faster warm-up times.

To Order: Please specify 120V or 240V AC.

For Nozzle Dia.	Wd.	Mica Insulated Watts			Mineral Insulated Watts		
1″	1″	100	3594K11	$67.75	150	3594K191★	$83.26
1″	1½″	150	3594K12	67.75	200	3594K25	85.75
1″	2″	200	3594K13	67.75			
1½″	1″	150	3594K14	69.37	225	3594K49	83.21
1½″	1½″	300	3594K15	69.37	350	3594K97	85.69
1½″	2″	300	3594K16	69.37	400	3594K98	91.88
2″	1½″	300	3594K17	69.37	425	3594K99	85.69
2½″	1½″	350	3594K21	72.52	525	3594K111	85.69

★Not available in 240V AC.


Mica Insulated


Mineral Insulated

Pail and Drum Steel-Band Heaters



With a higher wattage output, these heaters warm up faster than silicone-rubber heaters. All are made of corrosion-resistant aluminized steel and have a spring-loaded toggle clamp for a snug fit around pails and drums. They also have a 6-ft. long power cord with plug listed below (for illustration of plugs, see page 820). UL listed and CSA certified.

Note: Not for use with flammable materials or in hazardous areas. Heaters should be positioned at the base of the pail or drum.

5″ Wide Heaters for Metal Pails and Drums— All have a dial with three heat output settings: high, medium, and low. *Heaters with a thermostat* have an adjustable thermostat that controls on and off settings. *Variable-cycle heaters* have a dial that regulates the ratio of on and off time.

9¼″ Wide Heater for Plastic Drums— Has an on/off switch and a nonadjustable thermostat that does not let the heater exceed 165° F.

For Drum Cap., gal.	For Drum Dia.	Watts	AC Voltage (Phase)	Amps	NEMA Plug		
5″ Wide Heaters for Metal Pails and Drums							
With 60° to 250° F Thermostat							
5	11¼″	1,500	120 (1)	12.5	5-15	3549K41	$250.45
16	14½″	1,500	120 (1)	12.5	5-15	3549K43	274.77
30	18½″	1,920	120 (1)	16.0	5-20	3549K45	281.71
55	22½″	1,750	120 (1)	14.6	5-15	3549K72	308.15
55	22½″	1,920	120 (1)	16.0	5-20	3549K47	299.94
55	22½″	3,000	240 (1)	12.5	6-15	3549K49	299.94
With 200° to 400° F Thermostat							
5	11¼″	1,500	120 (1)	12.5	5-15	3549K42	250.45
16	14½″	1,500	120 (1)	12.5	5-15	3549K44	274.77
30	18½″	1,920	120 (1)	16.0	5-20	3549K46	281.71
55	22½″	1,750	120 (1)	14.6	5-15	3549K73	308.15
55	22½″	1,920	120 (1)	16.0	5-20	3549K48	299.94
55	22½″	3,000	240 (1)	12.5	6-15	3549K51	299.94
Variable Cycle— Maximum temperature is 500° F.							
5	11¼″	1,500	120 (1)	12.5	5-15	3552K71	266.02
16	14½″	1,500	120 (1)	12.5	5-15	3552K72	286.06
30	18½″	1,750	120 (1)	14.6	5-20	3552K73	286.92
55	22½″	1,750	120 (1)	14.6	5-20	3552K74	299.94
55	22½″	3,000	240 (1)	12.5	6-15	3552K75	299.94
9¼″ Wide Heaters for Plastic Drums							
With Nonadjustable 165° F Thermostat							
55	22½″	800	120 (1)	6.6	5-15	3526K57	314.90

Drum-Insulating Heaters



Completely cover your 55-gallon drums to speed up heating time and increase heat retention. Made of silicone-impregnated fiberglass cloth with fiberglass insulation, these heaters are good for drums stored in unheated warehouses (for indoor use only). All fit 22 5/16″ Dia. × 34″ Ht. drums, have hook-and-loop edges for secure closing, and include a 6-ft. long power cord. Note: Not for use in hazardous areas. *120V AC heaters* have a three-prong plug. *240V AC heater* has leads.

Heaters for Metal Drums— Have a 50° to 450° F temperature controller.

Heater for Plastic Drums— Has a 50° to 160° F temperature controller.

Watts	AC Voltage (Phase)	Amps		
Heaters for Metal Drums				
1,600	120 (1)	13.3	3571K21	$941.05
1,600	240 (1)	6.7	3571K22	941.05
Heaters for Plastic Drums				
770	120 (1)	6.4	3571K31	941.05

Adjustable-Diameter Silicone-Rubber Band Heaters



Nonstandard sizes are no problem—these heaters have hook-and-loop to adjust to a wide range of metal and fiberglass beakers, pails, and drums. All are single phase and have a 6-ft. long power cord. They withstand –70° to 375° F temperatures. Maximum heat output is 375° F.

To Order: Please specify 120V or 220V AC. *120V AC heaters* have a two-prong plug. *220V AC heaters* have leads.

For Container Diameter	Lg.	Wd.	Watts	Amps @ 120V AC	Amps @ 220V AC		
2″- 4″	20″	4″	200	1.7	0.9	8063T51	$167.69
6″- 8″	32″	4 7/8″	400	3.3	1.8	8063T52	215.06
10″-12″	50″	5 7/8″	575	4.8	2.6	8063T53	266.20
14″-16″	65″	8″	1,300	10.8	5.9	8063T54	401.66
18″-20″	82″	10″	2,000	16.7	9	8063T55	647.89

Heated Drum Dollies



Heat 55-gallon metal drums while adding portability. A 15¼″ square plate contains the heating element. An adjustable control dial regulates the ratio of on and off time. Use these dollies to heat thick, nonflammable, and nonhazardous materials such as wax.

Dollies are 28½″ OD (24″ ID) × 6″ Ht. and hold up to 900 lbs. They have a 6-ft. long power cord with plug (for illustrations of plugs, see page 820). UL listed.

Watts	AC Voltage (Phase)	Amps	NEMA Plug		
1,750	120 (1)	14.6	5-20	3622K41	$570.69
1,920	240 (1)	8.0	6-15	3622K61	570.69

Strip Heaters





These 3/16″ thick, mica-insulated heaters deliver high heat on flat surfaces where space is limited. All are single phase and should be used with a temperature controller (see 3626K and 7079K on page 638 and 7981K on page 641). UL recognized and CSA certified.

1½″ Wide Heaters— Maximum heat output is 1200° F. All have a Type 430 stainless steel sheath and 10-24 screw terminals with ¾″ high threaded studs. Mounting holes are ¼″ dia.

3″ Wide Heaters— Maximum heat output is 900° F. All have a rust-resistant steel sheath and ¾″ high stud and nut terminals with 10-32 threads. Mounting holes are 9/32″ Lg. × 3/8″ Wd.

To Order: For all heaters, please specify 120V or 240V AC.

Watts	Amps @ 120V AC	Amps @ 240V AC	O'all Lg.	Mount. Hole Ctr.-to-Ctr.		
1½″ Wide Heaters						
75	0.6	0.3	4″	3½″	3619K11	$43.75
100	0.8	0.4	6″	5½″	3619K12	41.74
150	1.3	0.6	8″	7½″	3619K13	49.82
200	1.7	0.8	10″	9½″	3619K14	55.12
300	2.5	1.3	12″	11½″	3619K15	57.75
400	3.3	1.7	16″	15½″	3619K16	66.91
600	5	2.5	24″	23½″	3619K17	77.27
3″ Wide Heaters						
120	1	0.5	4″	3 3/8″	3619K81	19.72
180	1.5	0.8	6″	5 3/8″	3619K82	18.50
240	2	1	8″	7 3/8″	3619K83	21.38
300	2.5	1.3	10″	9 3/8″	3619K84	27.11
360	3	1.5	12″	11 3/8″	3619K85	35.00
450	3.8	1.9	16″	15 3/8″	3619K86	37.00
600	5	2.5	24″	23 3/8″	3619K87	44.50

Moisture-Resistant Strip Heaters



Flat Strip Heater

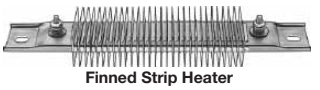
Finned Strip Heater



Style A | Style B | Style C

A seamless, Type 304 stainless steel sheath protects these ceramic-insulated heaters from moisture. All withstand a max. temperature of 1200°F, are single phase, and should be used with a temperature controller (see 7981K on page 641). Size is 1½″ Wd. × 5/16″ Thick. Heaters have two ½″ Lg. × 5/16″ Wd. mounting slots and two ⅝″ high stainless steel stud and nut terminals with 10-32 threads.

Finned Strip Heaters—The fins provide a large surface area for excellent heat dissipation and rapid heat transfer. Fins measure 2″ Wd. × 1⅜″ Ht. and are nickel-plated steel. UL recognized.

To Order: For all heaters where watts/sq. in. are listed, please specify Style A, B, or C terminal configuration. Note: Style B finned strip heaters have a fin length that is approximately ¾″ longer than listed.

Flat Strip Heaters

Watts	Watts/sq. in. Style A	Style B	Style C	Amps	O'all Lg.	Ctr.-to-Ctr. Lg.		
120V AC								
125	—	28	28	1.0	5¼″	4¼″	3576K1	$32.86
150	21	21	21	1.3	6″	5″	3576K3	32.86
250	13	11	12	2.1	10½″	9½″	3576K5	37.38
250	23	17	21	2.1	8″	7″	3576K7	32.86
300	—	47	—	2.5	5¾″	4¾″	3576K79	32.86
350	12	12	13	2.9	12″	11″	3576K114	35.48
500	15	14	15	4.2	14″	13″	3576K116	41.67
500	—	34	42	4.2	8″	7″	3576K118	32.86
750	8	8	8	6.3	29¼″	28¼″	3576K121	63.57
750	11	10	11	6.3	23¾″	22¾″	3576K123	54.88
750	16	15	16	6.3	17⅞″	16⅞″	3576K125	47.62
1,000	9	9	9	8.3	34⅝″	33⅝″	3576K127	73.81
1,000	9	9	9	8.3	35⅞″	34⅞″	3576K129	75.83
1,000	13	13	13	8.3	26¾″	25¾″	3576K37	56.79
1,200	23	21	23	10.0	19½″	18½″	3576K132	49.40
1,500	13	12	13	12.5	37¼″	36¼″	3576K134	79.88
240V AC								
125	—	28	28	0.5	5¼″	4¼″	3576K2	32.86
150	21	21	21	0.6	6″	5″	3576K4	32.86
250	13	11	12	1.0	10½″	9½″	3576K6	37.38
250	23	17	21	1.0	8″	7″	3576K111	32.86
300	—	47	—	1.3	5¾″	4¾″	3576K63	32.86
350	12	12	13	1.5	12″	11″	3576K115	35.48
500	15	14	15	2.1	14″	13″	3576K117	41.67
500	—	34	42	2.1	8″	7″	3576K119	32.86
750	8	8	8	3.1	29¼″	28¼″	3576K122	63.57
750	11	10	11	3.1	23¾″	22¾″	3576K124	54.88
750	16	15	16	3.1	17⅞″	16⅞″	3576K126	47.62
1,000	9	9	9	4.2	34⅝″	33⅝″	3576K128	73.81
1,000	9	9	9	4.2	35⅞″	34⅞″	3576K131	75.83
1,200	23	21	23	5.0	19½″	18½″	3576K133	49.40
1,500	11	11	11	6.3	42½″	41½″	3576K81	95.71
1,500	13	12	13	6.3	37¼″	36¼″	3576K135	79.88
2,250	14	14	14	9.4	47⅞″	46⅞″	3576K61	106.79

Finned Strip Heaters

Watts	Watts/sq. in. Style A	Style B	Style C	Amps	O'all Lg.	Fin Lg.	Ctr.-to-Ctr. Lg.		
120V AC									
350	18	18	18	2.9	10½″	5¾″	9½″	3575K59	$52.14
500	34	21	24	4.2	10½″	5¾″	9½″	3575K41	51.55
725	45	31	35	6.0	10½″	5¾″	9½″	3575K42	52.62
750	28	21	23	6.3	14″	9¼″	13″	3575K36	61.79
900	40	31	34	7.5	12″	7¼″	11″	3575K43	55.95
1,100	37	31	33	9.2	14″	9¼″	13″	3575K44	61.79
1,250	37	31	33	10.4	15¼″	10½″	14¼″	3575K45	69.29
1,550	38	31	33	12.9	17⅞″	13⅛″	16⅞″	3575K46	101.36
1,700	34	31	31	14.2	19½″	14¾″	18½″	3575K47	79.88
1,900	36	31	33	15.8	21″	16¼″	20″	3575K48	88.75
240V AC									
500	25	21	24	2.1	10½″	5¾″	9½″	3575K51	51.55
725	45	31	35	3.0	10½″	5¾″	9½″	3575K52	51.55
750	28	21	23	3.1	14″	9¼″	13″	3575K85	61.79
900	40	31	34	3.8	12″	7¼″	11″	3575K53	55.48
1,100	37	31	33	4.6	14″	9¼″	13″	3575K54	61.79
1,250	37	31	33	5.2	15¼″	10½″	14¼″	3575K55	69.29
1,550	38	31	33	6.5	17⅞″	13⅛″	16⅞″	3575K56	101.36
1,700	36	31	33	7.1	19½″	14¾″	18½″	3575K57	79.88
1,900	36	31	30	7.9	21″	16¼″	20″	3575K58	95.48
2,200	30	31	33	9.2	23¾″	19″	22¾″	3575K61	101.14
2,400	35	32	33	10.0	25½″	20¾″	24½″	3575K63	109.55
2,500	34	30	32	10.4	26¾″	22″	25¾″	3575K64	114.32
2,800	29	30	31	11.7	30½″	25¾″	29½″	3575K67	129.89
3,150	32	30	31	13.1	33½″	28¾″	32½″	3575K68	145.34
3,450	33	31	31	14.4	35⅞″	31⅛″	34⅞″	3575K69	153.64
4,150	31	31	31	17.3	42½″	37¾″	41½″	3575K71	178.52

Mounting Hardware for Flat Strip Heaters

Monel Stud (5/16″-18 × 1½″)	3576K94	$4.29
Monel Nut (5/16″-18)	3576K95	2.26
Surface-Mounting Clamp—For mounting two strip heaters	3576K91	16.90

Moisture-Resistant Strip Heaters with Wire Leads



In addition to a Type 304 stainless steel sheath to keep moisture out, these ceramic-insulated heaters have leads for hardwiring. All are single phase and should be used with a temperature controller (see 3626K, 7079K, and 7981K on pages 638, 641). Heaters withstand a max. temperature of 1000°F. Leads withstand a max. temperature of 482°F. Size is 1½″ Wd. × 5/16″ Thick. UL recognized.

Watts	Watts/sq. in.	O'all Lg.	120V AC Amps			240V AC Amps		
200	44	4″	1.7	3625K55	$65.26	—	—	—
240	46	4½″	2.0	3625K56	65.26	—	—	—
325	43	6″	2.7	3625K58	68.02	—	—	—
475	42	9″	4.0	3625K62	75.93	2.0	3625K82	$75.93
625	40	12″	5.2	3625K63	83.21	2.6	3625K83	83.21
950	38	18″	—	—	—	4.0	3625K84	91.74

Freeze-Protection Strip Heaters

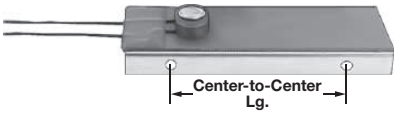


End View

A built-in thermostat maintains a set temperature to protect parts in enclosures from freezing, humidity, and condensation build-up. Made of silicone rubber, heaters are bonded to a 2″ wide aluminum plate with a ½″ wide angled mounting bracket. All operate on 115V AC, single phase and have leads for hardwiring. Mounting holes are ¼″ dia. (fasteners not included). UL recognized and CSA certified.

60-watt heaters are 6″ long with 4″ ctr.-to-ctr. between mounting holes. **120-watt heaters** are 12″ long with 10″ ctr.-to-ctr. between mounting holes.

Temp. Range	60 Watts Amps			120 Watts Amps		
40° to 60°F	0.5	3654K12	$118.63	1	3654K22	$129.44
105° to 140°F	0.5	3654K13	118.63	1	3654K23	129.44
150° to 180°F	0.5	3654K14	118.63	1	3654K24	129.44

Heavy Duty Freeze-Protection Strip Heaters

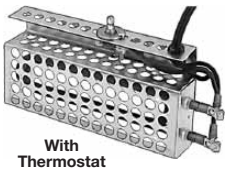
With Thermostat

These durable heaters have a Type 304 stainless steel alloy-sheathed element that's protected by a perforated steel cover. Use them on electrical panels and mechanical equipment for freeze, humidity, and condensation protection. All have 8-32 screw terminals and ⅜″ dia. mounting holes. Size is 8⅛″ Lg. × 1½″ Wd. × 3½″ Ht.

Heaters with thermostat have a temperature range of 30° to 150°F.

Watts	Watts/sq. in.	AC Voltage (Phase)	Amps	With Thermostat		Without Thermostat	
100	8.7	125 (1)	0.8	36415K22	$84.13	36415K32	$35.77
150	6.0	120 (1)	1.3	36415K23	84.13	36415K42	35.77
250	10.0	125 (1)	2.0	36415K24	84.13	36415K34	35.77
250	10.0	250 (1)	1.0	36415K57	84.13	36415K35	35.77
350	14.0	125 (1)	2.8	36415K25	84.13	36415K36	35.77
350	14.0	250 (1)	1.4	—	—	36415K37	35.77
500	20.0	120 (1)	4.2	36415K26	84.13	36415K43	35.77
500	20.0	240 (1)	2.1	36415K61	84.13	36415K45	35.77

Cartridge Heaters

Transfer heat across metal surfaces such as plates, molds, and dies. Heaters are insulated with magnesium oxide and encased in a Type 304 stainless steel sheath. All operate on 120V AC, are single phase, have leads for hardwiring, and should be used with a temperature controller (see 3626K, 7079K, and 7981K on pages 638 and 641). Cartridges withstand a max. temperature of 1000° F. Leads withstand a max. temperature of 842° F (unless noted). UL recognized and CSA certified.



Cart. Lg.	Watts	Amps		
3/16" (0.183") Dia.				
1½"	20	0.2	3618K511 ■	$19.41
2"	30	0.3	3618K308 ■	19.50
3"	45	0.4	3618K514 ■	24.12
4"	65	0.5	3618K123 ■	27.06
5"	80	0.7	3618K518 ■	30.66
1/4" (0.247") Dia.				
2"	32	0.3	3618K412	17.04
2½"	30	0.3	3618K413	19.14
4"	100	0.8	3618K416	22.32
6"	150	1.3	3618K419	27.99
3/8" (0.370") Dia.				
1½"	40	0.3	3618K311	19.14
2"	50	0.4	3618K312	17.43
3/8" (0.370") Dia. (Cont.)				
2½"	75	0.6	3618K313	$19.14
3"	100	0.8	3618K34	17.49
3½"	120	1.0	3618K35	21.00
4"	130	1.1	3618K314	22.80
4½"	150	1.3	3618K37	23.82
5"	200	1.7	3618K315	25.62
5½"	200	1.7	3618K38	26.73
6"	225	1.9	3618K39	27.48
1/2" (0.495") Dia.				
1½"	60	0.5	3618K21	16.23
2"	75	0.6	3618K22	18.03
2½"	125	1.0	3618K211	19.14
3"	150	1.3	3618K24	20.49
1/2" (0.495") Dia. (Cont.)				
4"	180	1.5	3618K26	$24.42
4½"	200	1.7	3618K27	25.98
5"	200	1.7	3618K212	27.24
5½"	300	2.5	3618K28	28.20
6"	300	2.5	3618K29	29.46
5/8" (0.620") Dia.				
2"	100	0.8	3618K12	19.14
2½"	150	1.3	3618K111	21.36
3"	175	1.5	3618K112	21.36
4"	200	1.7	3618K114	24.42
6"	300	2.5	3618K118	30.12

■ Leads withstand 392° F.

High-Temperature Cartridge Heaters

The heating elements are tightly wound and compressed to produce a durable heater with high heat output and resistance to impact and vibration. These heaters are insulated with magnesium oxide and encased in an Incoloy sheath. All are single phase, have leads for hardwiring, and should be used with a temperature controller (see 3626K, 7079K, and 7981K on pages 638 and 641). Cartridges withstand a max. temperature of 1400° F. Leads withstand a max. temperature of 842° F. CSA certified. Note: To calculate amps, divide watts by volts.

Braided Lead Covering—Leads have a braided stainless steel cover for added protection.

Armored Lead Covering—Leads are covered with stainless steel armor for superior protection against abrasion.

To Order: For all heaters, please specify 120V or 240V AC as well as wattage where there is more than one option listed.



Cartridge Heater with Standard Lead Covering



Braided Lead Covering



Armored Lead Covering

Standard Lead Covering and Braided Lead Covering

Cart. Lg.	Available Watts	Standard		Braided	
1/4" (0.247") Dia.					
1"	80, 100	3618K291★	$23.04	3618K398	$23.04
1½"	100, 150, 200	3618K292	36.96	3618K399	36.96
2"	125, 150, 200, 250	3618K293	25.53	3618K401	37.02
2½"	200, 250	3618K294	26.88	3618K402	38.40
3"	100, 200, 250, 300	3618K295	28.98	3618K403	40.47
3½"	300	3618K296	31.20	3618K404	42.72
4"	200, 265, 300	3618K297	32.64	3618K405	44.16
4½"	325	3618K298	34.77	3618K487	46.26
5"	350, 400	3618K299	36.57	3618K406	48.06
6"	300, 400, 450	3618K301	40.11	3618K407	51.63
7"	525, 600	3618K498	43.68	3618K499	54.84
7½"	525	3618K302	45.75	3618K488	57.27
8"	600	3618K303	47.40	3618K408	58.95
9½"	525	3618K501	52.20	3618K502	63.72
10"	750	3618K304	52.98	3618K409	64.47
5/16" (0.310") Dia.					
1½"	100	3618K305	25.44	3618K417	36.96
2"	150	3618K505	25.53	3618K506	37.02
3"	225	3618K507	28.98	3618K508	40.47
3/8" (0.370") Dia.					
1"	100, 150	3618K351	23.34	3618K451	46.26
1½"	100, 150, 200, 250	3618K352	23.22	3618K452	34.77
2"	100, 200, 300, 400	3618K353	23.73	3618K453	35.22
2½"	200, 250, 400, 500	3618K354	22.79	3618K454	36.51
3"	200, 250, 375, 400	3618K355	26.58	3618K455	38.13
3½"	250, 300, 350, 500	3618K356	28.26	3618K456	39.78
4"	250, 300, 400, 500	3618K357	27.39	3618K457	41.49
4½"	300, 450, 500	3618K358	31.65	3618K458	57.27
5"	150, 300, 400, 500	3618K359	33.57	3618K459	46.56
5½"	550, 600, 1,000	3618K361	36.63	3618K461	48.12
6"	250, 400, 500, 600	3618K362	36.96	3618K462	48.48
7"	350, 400, 600, 1,000	3618K363	40.65	3618K463	66.03
8"	300, 500, 600, 900	3618K364	43.95	3618K464	55.44
9½"	200, 600, 1,000	3618K365	48.12	3618K491	59.64
10"	600, 1,000	3618K366	49.59	3618K465	61.08
1/2" (0.495") Dia.					
1"	50, 150	3618K371	$28.08	3618K466	$39.60
1½"	150, 200	3618K372	25.26	3618K492	36.78
2"	200, 250, 300, 400	3618K373	25.44	3618K467	36.96
2½"	250, 300, 400, 500	3618K374	27.06	3618K468	38.55
3"	250, 300, 400, 500	3618K375	28.50	3618K469	40.02
3½"	250, 500	3618K376	30.66	3618K471	42.15
4"	300, 400, 500, 750	3618K377	32.37	3618K472	43.92
4½"	500, 650, 750	3618K378	34.38	3618K493	45.87
5"	200, 400, 500, 750	3618K379	36.36	3618K473	47.85
5½"	500, 750	3618K543	38.49	3618K544	50.01
6"	500, 750, 850, 1,000	3618K381	40.11	3618K474	51.63
7"	500, 600, 1,000	3618K382	43.68	3618K494	54.84
7½"	500, 1,000	3618K545	45.69	3618K546	57.21
8"	500, 750, 1,000	3618K383	47.40	3618K475	58.95
9½"	800, 1,000	3618K547	52.20	3618K548	63.72
10"	500, 1,000, 1,500	3618K384	53.04	3618K476	64.50
5/8" (0.620") Dia.					
2"	200, 250	3618K549	27.24	3618K551	38.76
2½"	275, 400	3618K385	28.50	3618K477	40.02
3"	250, 500, 750	3618K386	31.20	3618K478	42.72
4"	250, 500, 750	3618K387	34.05	3618K479	45.57
4½"	750	3618K552	36.63	3618K553	48.12
5"	500, 750, 1,000	3618K388	38.76	3618K481	44.22
6"	500, 750, 1,000, 1,500	3618K389	44.61	3618K482	56.13
8"	1,000, 1,200, 1,500	3618K554	51.30	3618K555	62.82
10"	800, 1,000, 1,500	3618K391	58.65	3618K483	70.17
3/4" (0.745") Dia.					
3"	500, 600	3618K392	37.35	3618K495	48.87
4"	500, 1,000	3618K393	43.08	3618K484	54.63
5"	500, 1,000	3618K556	48.48	3618K557	59.97
6"	1,000, 1,200, 2,000	3618K394	53.04	3618K485	54.00
7"	1,000, 1,500	3618K395	59.82	3618K496	71.31
8"	1,000, 2,000	3618K396	66.18	3618K497	77.70
10"	1,000, 2,000	3618K397	77.34	3618K486	88.86

★ 80 watt is only available in 120V AC.

Armored Lead Covering

Cart. Lg.	Available Watts		
1/4" (0.247") Dia.			
1"	80, 100	8222T11	$46.13
1½"	100, 150, 200	8222T12	46.36
2"	125, 150, 200, 250	8222T13	46.43
3"	100, 200, 250, 300	8222T15	50.07
4"	200, 265, 300	8222T16	53.85
6"	300, 400, 450	8222T17	61.69
3/8" (0.370") Dia.			
2"	100, 200, 300, 400	8222T22	$44.59
2½"	200, 250, 400, 500	8222T23	45.90
3"	200, 250, 375, 400	8222T24	47.58
4"	250, 300, 400, 500	8222T26	51.12
6"	250, 400, 500, 600	8222T28	58.37
10"	600, 1,000	8222T29	71.53
1/2" (0.495") Dia.			
3"	250, 300, 400, 500	8222T33	$49.55
4"	300, 400, 500, 750	8222T34	53.62
5"	200, 400, 500, 750	8222T35	57.75
6"	500, 750, 850, 1,000	8222T36	61.69
8"	500, 750, 1,000	8222T37	69.27
10"	500, 1,000, 1,500	8222T38	75.14

Easy-Maintenance High-Temperature Cartridge Heaters



A bonded-graphite coating acts as a dry lubricant to ease insertion and removal of these heaters for cleaning. Heaters are insulated with magnesium oxide and encased in an Incoloy sheath. All operate on 120V AC, are single phase, have leads for hardwiring, and should be used with a temperature controller (see 3626K, 7079K, and 7981K on pages 638 and 641). Cartridges withstand a max. temperature of 1400° F. Leads withstand a max. temperature of 842° F. Heaters are UL recognized and CSA certified, unless noted.

Cartridge Lg.	Watts	Amps		
¼″ (0.248″) Dia.				
1″	80	0.7	3614K34★	$44.92
1½″	100	0.8	3614K35	45.31
2″	200	1.7	3614K36★	45.41
⅜″ (0.371″) Dia.				
1″	100	0.8	3614K51	42.20
1½″	150	1.3	3614K52	42.00
2″	200	1.7	3614K531	42.65
2½″	250	2.1	3614K541	44.57
⅜″ (0.371″) Dia. (Cont.)				
3″	375	3.1	3614K551★	$46.92
4″	250	2.1	3614K571	52.05
4½″	450	3.8	3614K58	54.54
6″	600	5.0	3614K621	62.39
½″ (0.496″) Dia.				
2″	300	2.5	3614K691	45.31
6″	850	7.1	3614K781	67.21

★ Not UL recognized.

Miniature High-Temperature Cartridge Heaters



With a diameter of only ⅛″, these heaters are for use with very small hot plates and dies. They are insulated with magnesium oxide and encased in an Inconel sheath. All are single phase and have leads for hardwiring. Cartridges withstand a max. temperature of 1400° F. Leads withstand a max. temperature of 480° F.

Dia.	Cartridge Lg.	Watts	AC Voltage	Amps		
⅛″	1¼″	25	120	0.21	8376T21	$32.26
⅛″	1¼″	35	240	0.15	8376T23	32.26
⅛″	1¼″	50	120	0.42	8376T22	32.88
⅛″	1½″	30	120	0.25	8376T24	34.42
⅛″	1½″	60	120	0.50	8376T25	35.41
⅛″	2″	50	120	0.42	8376T26	36.21
⅛″	2″	100	120	0.83	8376T27	35.06

High-Temperature Cartridge Heaters with Internal Temperature Sensors



Monitor temperature at the heat source with an internal Type K thermocouple that measures from 32° to 2300° F. Heaters are insulated with magnesium oxide and encased in an Incoloy sheath. All are single phase and have leads for hardwiring. Cartridges withstand a max. temperature of 1400° F. Leads withstand a max. temperature of 480° F. Note: To calculate amps, divide watts by volts. **To Order:** Please specify 120V or 240V AC and wattage where there is more than one option listed.

Dia.	Cartridge Lg.	Available Watts		
¼″	2½″	200	8440T11	$89.24
¼″	3″	200	8440T12	90.42
¼″	4″	200, 300	8440T13	95.16
¼″	6″	300, 400	8440T14	103.06
⅜″	3″	200, 400	8440T15	90.42
⅜″	6″	400, 500	8440T16	101.41
⅜″	8″	600	8440T17	119.43
½″	4″	500	8440T18	96.74
½″	6″	500, 1,000	8440T19	104.63
½″	8″	500, 1,000	8440T21	123.24
½″	10″	500, 1,000	8440T22	131.13

Miniature Heat Exchangers



Perform high pressure condensing, evaporating, heating, and cooling in areas with space constraints. Heat exchangers have a Type 316 stainless steel shell and tube. Fluid enters the shell and flows over the tube, which heats or cools the fluid in the tube. Max. pressure is 1,000 psi shell side; 1,500 psi tube side. Max. pressure for steam is 125 psi. Max. temp. is 800° F. Pipe connections are ¼ NPT female for shell side; ⅜ NPT female for tube side. Note: Btu/hr. capacity is based on cooling 180° F process water with 85° F water and a 10 psi difference.

Btu/hr. Capacity	Surface Area, sq. ft.	*Flow Cap., gpm* Shell	Tube	*O'all Size* Head Dia.	Lg.			
59,000	0.4	4.8	10.9	1⅛″	9¾″	3771K14	$1,269.86
65,500	0.61	4.4	9.3	1⅛″	13¾″	3771K15	1,350.68
74,000	0.81	4.2	8.2	1⅛″	17¾″	3771K16	1,432.88
76,500	0.58	4.8	10.1	1⅛″	9¾″	3771K11	1,269.86
90,000	0.89	4.4	8.4	1⅛″	13¾″	3771K12	1,350.68
98,000	1.19	4.2	7.3	1⅛″	17¾″	3771K13	1,432.88

Metric High-Temperature Cartridge Heaters



Sized to fit metric dies, molds, and hot plates, these heaters are insulated with magnesium oxide and encased in an Incoloy sheath. All are single phase, have leads for hardwiring, and should be used with a temperature controller (see 3626K, 7079K, and 7981K on pages 638 and 641). Cartridges withstand a max. temperature of 1400° F. Leads withstand a max. temperature of 842° F. Note: To calculate amps, divide watts by volts.

To Order: Please specify 120V or 240V AC.

Dia., mm	Cartridge Lg., mm	*Watts @* 120V AC	240V AC		
6.5	60	250	250	8320T11	$65.22
8.0	80	500	500	8320T12	68.28
8.0	100	600	600	8320T14	73.69
10.0	80	600	600	8320T13	65.60
10.0	130	800	1,000	8320T24	79.56
10.0	200	800	1,200	8320T25	95.84
12.5	100	1,000	1,000	8320T15	85.97
12.5	200	1,150	1,300	8320T21	103.23
16.0	100	1,000	1,000	8320T16	80.85
16.0	200	1,900	2,000	8320T22	109.87
20.0	250	2,000	2,000	8320T23	143.45

Flat-Panel Open-Tank Heat Exchangers

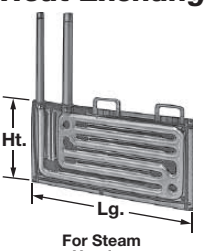

For Steam Heating

Quickly heat or cool fluids in open tanks. Heat exchangers have tube passageways that are embossed into both sides of the panel for the smooth flow of steam or liquids, which are used to heat or cool your tank contents. Pipe connections are NPT male and located above the fluid level, which means you can remove heat exchangers without emptying the tank. Flow capacity is 18 gpm. Heating and cooling capacity is not rated.

Steel heat exchangers have a maximum pressure of 300 psi and a maximum temperature of 500° F.

Type 316L stainless steel heat exchangers have a maximum pressure of 250 psi and a maximum temperature of 400° F.

Surface Area, sq. ft.	Ht.	Lg.	*Pipe Size* Inlet	Outlet	Steel		Type 316L Stainless Steel	
For Steam Heating								
4.3	12″	23″	1	¾	3603K111	$780.00	3603K541	$1,224.79
6.5	12″	35″	1	¾	3603K321	874.55	3603K561	1,431.92
6.8	18″	23″	1	¾	3603K11	864.33	3603K31	1,473.53
8.0	22″	23″	1	¾	3603K21	917.13	3603K41	1,495.74
10.1	22″	29″	1	¾	3603K22	1,052.82	3603K331	1,791.67
12.2	22″	35″	1	¾	3603K23	1,083.80	3603K43	1,860.08
16.4	22″	47″	1	¾	3603K24	1,196.58	3603K44	2,086.48
20.6	22″	59″	1½	¾	3603K25	1,471.91	3603K341	2,570.59
24.8	22″	71″	1½	¾	3603K26	1,520.68	3603K951	2,792.65
For Liquid Heating and Cooling								
4.3	12″	23″	¾	¾	3603K112	779.85	3603K542	1,224.57
5.4	12″	29″	¾	¾	3603K212	829.81	3603K552	1,382.63
6.5	12″	35″	¾	¾	3603K361	874.55	3603K562	1,431.61
10.1	22″	29″	¾	¾	3603K282	1,012.67	3603K371	1,791.67
12.2	22″	35″	¾	¾	3603K292	1,082.87	3603K722	1,762.69
16.4	22″	47″	¾	¾	3603K381	1,074.55	3603K732	2,083.46

Heat Exchangers



These heat exchangers have a shell and tube design to exchange thermal energy. Fluid enters the shell and flows over the tubes, which heats or cools the fluid in the tubes. For superior heat transfer, the tubes have baffles, which direct the fluid to make four passes through the tubes. All are for heating and cooling water. Connections are NPT female. Note: Btu/hr. capacity is based on cooling 180° F process water with 85° F water and a 10 psi pressure differential.

Steel Heat Exchangers—For cooling lube oil when brass can't be used and the corrosion resistance of stainless steel isn't necessary. All have a steel shell and copper tubes. Maximum pressure is 300 psi shell side; 150 psi tube side. Maximum temperature is 300° F.

Brass Heat Exchangers—Use these heat exchangers with fluids that are hard to heat and cool, such as oil. All have a brass shell and copper tubes. They also have corrosion inhibiting zinc rods. Maximum pressure is 300 psi shell side; 150 psi tube side. Maximum temperature is 300° F.

Stainless Steel Heat Exchangers—For heating and cooling deionized water. Maximum pressure is 225 psi shell side; 150 psi tube side. Maximum temperature is 450° F.

For additional dimensions for these heat exchangers, go to mcmaster.com and search for **3222KAC**.

Btu/hr. Capacity	Surface Area, sq. ft.	Flow Cap., gpm: Steel Shell	Brass Shell	SS Shell	Tube	Pipe Size: Shell	Tube	O'all Size: Head Dia.	Lg.	Steel		Brass		Stainless Steel	
130,000	2.4	—	24	32	12	1	¾	4½″	10⅞″	—	—	34965K52	$553.17	35185K42	$917.96
195,000	4.3	22	24	32	12	1	¾	4½″	17″	3222K53	$700.28	34965K53	593.80	35185K43	1,097.74
280,000	7.4	30	24	32	12	1	¾	4½″	27″	3222K54	751.19	34965K54	655.99	35185K44	1,272.51
350,000	9.1	32	60	76	30	1½	1	6¾″	18 11/16″	3222K55	1,032.26	34965K55	1,100.25	35185K45	1,576.23
560,000	15.7	43	60	76	30	1½	1	6¾″	28 11/16″	3222K56	1,128.60	34965K56	1,174.84	35185K46	1,759.47
890,000	23.0	51	73	126	57	2	1½	7¾″	29″	3222K57	1,390.14	34965K57	1,420.18	35185K47	2,357.99
1,115,000	34.0	103	73	126	57	2	1½	7¾″	41″	3222K58	1,496.80	34965K58	1,510.25	35185K48	2,534.88
1,585,000	41.0	103	140	220	104	3	2	10½″	30½″	3222K59	2,156.95	34965K59	2,068.92	35185K49	3,368.15
2,000,000	62.0	103	140	220	105	3	2	10½″	42½″	3222K61	2,178.02	34965K61	2,557.53	35185K51	4,013.71

Heavy Duty Heat Exchangers



Standard

In addition to excellent heat transfer, these heat exchangers have a U-shaped tube design that allows the tubing to expand and contract as necessary for durability. They're for using steam to heat water or other liquids. All have a steel shell and copper tubes. Connections are NPT female. Note: Btu/hr. capacity is based on changing water temperature from 60° to 120° F using 15 psi of steam.

Standard exchangers have a maximum pressure of 100 psi and a maximum temperature of 400° F.

ASME-code exchangers meet the American Society of Mechanical Engineers (ASME) pressure vessel code for overpressurization. Maximum pressure is 150 psi. Maximum temperature of 375° F.

Btu/hr. Capacity	Surface Area, sq. ft.	Flow Cap., gpm	Pipe Size: Shell Inlet/Outlet	Tube	O'all Size: Head Dia.	Lg.		
Standard								
Not Rated	15.0	38	2½/1¼	1¼	6″	28⅝″	3586K31	$2,037.79
Not Rated	21.5	100	4″ Flange/1½	2	8⅛″	27¾″	3586K32	2,874.32
Not Rated	30.2	100	4″ Flange/1½	2	8⅛″	39¾″	3586K33	3,245.09
Not Rated	38.8	100	4″ Flange/1½	2	8⅛″	51¾″	3586K34	3,566.81
Not Rated	72.4	180	6″ Flange/2	2½	10⅛″	53″	3586K35	5,179.94
ASME Code								
150,000	4.5	44	2/1	1½	7¼″	28½″	3586K41	1,368.97
420,000	6.8	44	2/1	1½	7¼″	40½″	3586K42	1,443.86
720,000	9.2	44	3/1	1½	7¼″	52½″	3586K43	1,484.58
1,350,000	17.4	175	2½/1	2	10½″	53¼″	3586K44	2,256.33

Space-Saving Heat Exchangers



Standard

Consisting of stacked, corrugated plates, these exchangers are compact for more efficient heat transfer than shell-and-tube exchangers. Also known as brazed-plate exchangers, their plates are brazed in a vacuum furnace to ensure 100% sealed construction.

Standard exchangers have a maximum temperature of 350° F. They have four ⅜″-24 × ⅞″ mounting studs (except 35115K61 has two ¼″-20 × 11/16″ studs; 35115K66 and 35115K67 have four ½″-13 × 1⅜″ studs; 3253K21 has four ½″-13 × 1½″ studs). Connections are NPT male. *Copper-brazed* units have a maximum pressure of 450 psi. Plates are Type 316 stainless steel. UL listed. Note: Btu/hr. capacity is based on cooling water from 120° to 100° F using 70° F water. *Nickel-brazed* units have a maximum pressure of 300 psi. Plates are Type 316L stainless steel. Note: Btu/hr. capacity is based on cooling oil from 140° to 120° F using 70° F water.

ASME-code exchangers meet the American Society of Mechanical Engineers (ASME) pressure vessel code for overpressurization; they have a U-1 code stamp. Maximum pressure is 435 psi and maximum temperature is 450° F. Plates are Type 316 stainless steel. They have two tabs on the frame with mounting holes. Mounting holes are 9/32″ dia. for pipe size ¾ unit, 13/32″ dia. for pipe size 1 units, and ½″ dia. for pipe size 2 units. Connections are NPT male. Note: Btu/hr. capacity is based on cooling 100 SSU oil to 125° F using 85° F water.

Btu/hr. Capacity	Surface Area, sq. ft.	Flow Cap., gpm	Pipe Size	O'all Size: Ht.	Wd.	Dp.		
Standard Copper Brazed—For water, glycol, and oils								
55,000	1.9	8	¾	7 13/16″	3 5/16″	2⅝″	35115K61	$217.11
75,000	3.1	6	1	12 3/16″	4⅞″	2 9/16″	35115K62	296.56
150,000	6.9	14	1	12 3/16″	4⅞″	3 7/16″	35115K63	450.69
285,000	14.6	28	1	12 3/16″	4⅞″	5⅜″	35115K64	639.02
405,000	22.2	40	1¼	12 3/16″	4⅞″	7⅜″	35115K65	829.96
740,000	36.8	76	2	20 5/16″	9 13/16″	4 15/16″	35115K66	1,766.73
1,235,000	63.0	121	2	20 5/16″	9 13/16″	6 13/16″	35115K67	2,204.69
Standard Nickel Brazed—For ground water, steam, oils, and solvents								
21,000	3.1	7	1	12 3/16″	4 15/16″	2 7/16″	3253K11	825.81
43,000	6.9	14	1	12 3/16″	4 15/16″	3¼″	3253K12	1,138.87
60,000	10.7	21	1	12 3/16″	4 15/16″	4 3/16″	3253K13	1,493.05
80,000	14.6	27	1	12 3/16″	4 15/16″	4 15/16″	3253K14	1,997.91
230,000	36.8	76	2	20 5/16″	9 13/16″	4⅝″	3253K21	2,862.55
ASME Code Copper Brazed—For water, glycol, and oils								
5,000	4.8	27	¾	8 7/16″	3 3/16″	4 7/16″	8546T11	387.91
12,000	7.9	29	1	12 3/16″	4⅜″	4¼″	8546T12	422.26
17,000	10.7	37	1	12 3/16″	4⅜″	5¼″	8546T13	499.03
50,000	15.6	22	1	20 11/16″	4⅜″	4¼″	8546T14	577.84
75,000	26.8	34	1	20 11/16″	4⅜″	6 3/16″	8546T15	778.16
125,000	29.7	57	2	24 5/16″	7½″	5¾″	8546T16	1,067.79
380,000	82.8	141	2	24 5/16″	7½″	11½″	8546T17	1,892.94

Portable Sampling Heat Exchangers



3613K26 and 3613K22

Test high-temperature liquid samples by first cooling them to safe levels. Sample liquid enters the steel shell and flows through a series of coiled tubes. Cold water from an external water supply flows around the tubes, reducing the temperature of the liquid so it can be drawn and safely tested. Cooling and flow capacities are not rated. Connections are NPT.

Copper tubes are for use with water. **Stainless steel tubes** are for use with deionized water and corrosive liquids.

Surface Area, sq. ft.	Max. psi Shell	Max. psi Tube	Max. Temp. Shell	Max. Temp. Tube	Pipe Size Shell	Pipe Size Tube	Head Dia.	O'all Lg.	Copper Tubes		Stainless Steel Tubes	
1.30	150	300	450°F	420°F	1/4 Female	1/4 Female	3 1/2"	17 1/4"	3613K31	$450.00	3613K41★	$710.00
1.64	250	300	650°F	400°F	1/2 Female	1/4 Male	7"	19"	3613K26	426.00	3613K22■	454.00
3.80	150	5,000	450°F	750°F	3/8 Female	1/4 Female	5"	34"	———	———	3613K61	1,150.00

★ Max. tube psi is 1,200; max. tube temp. is 750°F. ■ Max. tube psi is 900; max. tube temp. is 750°F.

Miniature Fan-Cooled Heat Sinks



Made for light duty applications in small spaces, a built-in fan directs hot air away from the heat sink to efficiently cool any liquid running through the tubes. Fan operates on 115V AC, single phase and includes a 24" long power cord with two-prong plug. Heat sinks have flanges with 7/32" wide slots for mounting to a frame or cabinet. Maximum pressure is 150 psi. Maximum temperature is 400°F. Note: Overall size does not include tube ends.

Heat sinks **with copper tubes** are for use with water. Heat sinks **with Type 316L stainless steel tubes** are for use with deionized water and corrosive liquids. **To Order:** For all heat sinks, please specify plain tube ends or tube ends with a 37° flared fitting.

Cooling Cap., Btu/Hr. at 2 gpm	Flow Cap., gpm	Tube OD	No. of Fans	With Copper Tubes O'all Size Ht.	Wd.	Dp.			With Type 316L Stainless Steel Tubes O'all Size Ht.	Wd.	Dp.		
1,300	2	3/8"	1	6 5/8"	5 13/16"	2 13/16"	35145K71	$248.50	6 5/8"	5 13/16"	2 13/16"	35145K81	$410.61
1,500	2	3/8"	1	5 13/16"	5 13/16"	3 5/16"	35145K72	248.50	5 13/16"	4 7/8"	3 3/8"	35145K82	555.59
2,200	2	3/8"	2	5 13/16"	10 1/2"	3 5/16"	35145K73	375.42	5 13/16"	9 11/16"	3 3/8"	35145K83	741.88
4,200	2	3/8"	1	9"	9 1/2"	4 1/2"	35145K74	442.93	9"	8"	4 1/2"	35145K84	807.54
4,400	4	1/2"	1	12"	11 1/2"	5 5/8"	35145K46	570.44	12"	10"	6"	35145K36	1,256.78
7,100	2	3/8"	2	9"	17 5/8"	4 1/2"	35145K75	678.70	9"	16 1/16"	4 1/2"	35145K85	1,115.88
8,800	4	1/2"	2	12"	21 5/8"	5 5/8"	35145K47	913.85	12"	20 1/16"	6"	35145K37	1,714.21

Flat-Surface Heat Sinks



Standard Pin Style



High-Efficiency Fin Style

Cool flat metal surfaces as well as electrical panels and components by dissipating heat. Heat sinks are made of black-anodized aluminum. Thermal mounting tape is included. **High-efficiency fin-style** heat sinks have more surface area to dissipate heat more efficiently.

O'all Size Lg.	Wd.	Ht.	No. of Pins/Fins		
Standard Pin Style					
1"	1"	3/8"	49 Pins	8822T11	$5.09
1 5/8"	1 5/8"	1/4"	225 Pins	8822T12	5.94
High-Efficiency Fin Style					
1 9/16"	2 1/4"	5/16"	15 Fins	8822T14	20.18
1 3/4"	2 5/8"	5/16"	34 Fins	8822T13	11.88

High-Capacity Fan-Cooled Heat Sinks



An aluminum bar and plate construction with louvered fins provides excellent heat transfer as a large fan allows high cooling capacities without using refrigerant. Use these heat sinks to cool hydraulic and lubricating oils in air compressors and hydraulic cylinders. Fan operates on 208-230V/460V AC, three phase and includes a junction box for hardwiring. Maximum pressure is 250 psi. Maximum temperature is 250°F. Note: Cooling capacity is based on an initial temperature differential of 50°F.

Cooling Cap., Btu/Hr.	Flow Cap., gpm	Pipe Size	O'all Size Ht.	Wd.	Dp.		
20,000	35	1 5/16	12 7/16"	15 3/4"	14 3/4"	3579K11	$944.27
25,000	40	1 5/16	16 1/4"	19 7/8"	15 5/8"	3579K12	1,130.83
65,000	60	1 5/8	20 5/8"	26 3/8"	17 3/4"	3579K13	1,606.66
90,000	60	1 5/8	22 7/16"	30 5/16"	18 3/4"	3579K14	1,851.80

Heat-Sink Compounds

These compounds operate as thermal transfer agents. **Silicone compound** has a thermal conductivity of 0.75 watt/mK at 97°F. **Dow Corning 340 silicone compound** has a thermal conductivity of 0.68 watt/mK. **Silicone-free compound** won't change its shape like silicone can. It has a thermal conductivity of 0.92 watt/mK at 97°F.

Compound Type	Temp. Range	Tube Size		
Silicone	–40° to 400°F	8 oz.	10405K79	$28.79
Dow Corning 340 Silicone	–40° to 392°F	5 oz.	10405K83	38.02
Silicone-Free	–40° to 320°F	2 oz.	3883K24	12.66

Fan-Cooled Heat Sinks



A built-in pump and internal reservoir ensure a consistent flow of cooled fluid, while a fan-cooled copper heat exchanger dissipates heat without using refrigerant. Use these heat sinks for liquid-to-air cooling of water and other noncorrosive fluids. All operate on 115V AC, single phase and include an 8-ft. power cord with three-prong plug. They are housed in a cabinet for quiet operation and to keep out debris. Maximum temperature is 131°F. Connections are NPT female. Note: Cooling capacity is based on water with an initial temperature differential of 77°F.

35205K13 has a maximum pressure of 15 psi. 35205K15 and 35205K16 have a maximum pressure of 60 psi.

Cooling Cap., Btu/Hr.	Flow Cap., gpm	Pipe Size	O'all Size Ht.	Wd.	Dp.		
4,450	1	1/2	13 5/16"	17 5/16"	15 1/8"	35205K13	$2,198.54
8,200	1.8	1/2	24"	15"	15"	35205K15	2,403.69
12,000	1.8	1/2	24"	15"	15"	35205K16	2,513.54

Radiator-Style Heat Sinks

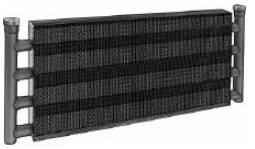

Dozens of heat-dissipating aluminum fins and copper coolant tubes quickly transfer unwanted heat to the atmosphere. Designed for cooling oil, these heat sinks are not for use with water. Maximum pressure is 300 psi. Maximum temperature is 350°F. Connections are NPT female. Note: Cooling and flow capacities are based on 50 SSU oil, 1,000 feet per minute of air, 50°F initial temperature differential, and 10 psi pressure drop.

Mounting kits (sold separately) are recommended for installation. They include two each of the following: rubber blocks, carriage bolts, nuts, flat washers, and locknut washers.

Cooling Cap., Btu/Hr.	Flow Cap., gpm	Pipe Size	O'all Size Ht.	Wd.	Dp.	Mounting Kits Needed		
3,300	7	1/2	4 1/2"	15"	1 1/2"	2	3525K11	$109.80
6,100	9	1/2	6 1/2"	18"	1 1/2"	4	3525K21	132.69
8,100	7	1/2	6 1/2"	24"	1 1/2"	4	3525K12	139.42
9,600	11	1/2	8 1/2"	21"	1 1/2"	4	3525K13	156.73
11,800	19	3/4	12 3/4"	18"	1 1/2"	4	3525K14	207.84
24,000	22	3/4	18 3/4"	24"	1 1/2"	6	3525K25	306.73
31,000	28	1	25"	24"	1 1/2"	8	3525K26	384.62
49,000	30	1	31"	30"	1 1/2"	8	3525K27	555.77
57,000	36	1 1/4	37 7/16"	30"	1 1/2"	8	3525K28	624.04
Mounting Kit							3525K41	14.70

About Liquid Chillers

Using refrigerant, liquid chillers provide constant, uniform cooling to temperature-sensitive equipment such as spot-welding systems, molds, lasers, X-ray diffraction equipment, and water jackets. The chillers we offer are designed to cool either water or water mixed with ethylene or glycol. They can also be used for cooling metalworking coolants or fluids.

To select a liquid chiller, determine the amount of heat (referred to as heat load) you need to remove from your process to maintain the required temperature. Heat load is typically expressed in Btu/Hr. Use the following formulas as a guide to determine the Btu/Hr. you'll need. Be sure to select a chiller that exceeds that value.

For Water: Btu/Hr. = gpm × 500 × Δtemp. °F (Difference between cooling liquid inlet and outlet temperature).

For Water Mixed with Ethylene or Glycol: Btu/Hr. = gpm × 450 × Δtemp. °F (Difference between cooling liquid inlet and outlet temperature).

Precision Circulating Process Chillers



Using refrigerant, these chillers maintain an accurate temperature between 14° and 158° F. Suitable for cooling water and ethylene glycol, all have an LED display that shows temperature, pressure, and flow for precise control of your process. Chillers have a 1.1-gallon internal tank and include an 8-ft. power cord with plug (see page 820 for plug illustrations). Maximum flow is 3.5 gpm. Refrigerant is 134A. Connections are NPT female. For indoor use only.

Btu/Hr.	AC Voltage (Phase)	Amps	Compressor hp	Pipe Size	NEMA Plug Style	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.		
2,720	120 (1)	12.5	1/4	1/2	5-15	22 5/8"	14 1/2"	27 5/8"	8886T11	$5,292.34
4,090	120 (1)	13.5	1/3	1/2	5-20	22 5/8"	14 1/2"	27 5/8"	8886T12	5,588.81
8,520	208/230 (1)	12.2	3/4	1/2	6-15	22 5/8"	14 1/2"	27 5/8"	8886T13	6,443.78
9,890	208/230 (1)	12.5	1	1/2	6-15	22 5/8"	14 1/2"	27 5/8"	8886T14	6,924.26

Circulating and Open-Loop Process Chillers



6,000-9,000 Btu/Hr.

These efficient chillers offer temperature control from 40° to 100° F. Use them to cool water or water mixed with a maximum of 30% ethylene or propylene glycol. Chillers have an air-cooled condenser and a low-pressure safety control (except the 1/2- and 6-gal. circulating chillers do not have a low-pressure safety control). Those rated 12,000 Btu/Hr. and up also have a high-pressure safety control and a relief valve that ensures the pump will continue to work if flow is restricted. Chillers have screw terminals for hardwiring (except the 1/2-gal. circulating chiller has a 10-ft. power cord with three-prong plug). Refrigerant is 134A. Connections are NPT female. For indoor use only. Note: Btu/Hr. is based on 68° F liquid temperature; 80° F ambient temperature.

Circulating liquid chillers have an internal tank and are for closed-loop cooling of liquids in process equipment (except the 1/2-gal. chiller has an external tank on the back and can be used for both circulating and open-loop applications).

Open-loop liquid chillers are for cooling liquids in a process bath, coolant spray system, or an external tank. Furnished without a tank.

									Circulating Liquid Chillers			
Btu/Hr.	AC Voltage (Phase)	Amps	Compressor hp	Pump Cap., gpm @ psi	Pipe Size	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.	Tank Size, gal.			Open-Loop Liquid Chillers
3,000	115 (1)	8	1/4	2 @ 8	1/2	13"	14"	17"	1/2	3538K65	$3,569.12	
6,000	115 (1)	14	1/2	2 @ 8	1/2	28"	15"	17"	2	3538K66	4,350.00	35045K56▲ $4,222.06
9,000	115 (1)	20	3/4	4 @ 10	3/4	30"	18"	25"	5	3538K67	5,231.88	35045K57 5,205.80
12,000	230 (1)	12	1	4 @ 60	3/4	38"	22"	26 1/2"	6	3538K68	7,370.00	
20,000	230 (3)	10	1 1/2	10 @ 35	3/4	41"	28"	28"	10	3538K75	9,654.67	35045K81 9,341.33
24,000	230 (3)	14	2	12 @ 50	3/4	41"	28"	28"	10	3538K79	9,815.58	35045K82 9,474.03

▲ Pump capacity is 4 gpm @ 10 psi.

High-Flow Circulating Process Chillers



5,500 and 12,000 Btu/Hr.

Equipped with a heavy duty pump, these self-contained chillers achieve higher flow rates than our other chillers for higher cooling capacities. Cooling liquid temperature is adjustable and thermostatically controlled from 50° to 95° F, except chillers rated 5,500 and 12,000 Btu/Hr. are controlled from 50° to 80° F. Use these chillers to cool plain water and water mixed with a maximum of 50% ethylene or propylene glycol. All have an air-cooled condenser, electrical controls with shut-off switch, and a liquid-level sight glass. Connect them to coolant lines and a power source to get them up and running. For indoor use only. Note: Btu/Hr. is based on 65° F liquid temperature; 95° F ambient temperature for chillers rated 5,500 and 12,000 Btu/Hr.; 90° F ambient temperature for chillers rated 24,000 to 60,000 Btu/Hr.

Chillers rated *5,500* and *12,000 Btu/Hr.* contain R134A refrigerant and have a polyethylene internal tank. They also have NPT female connections and casters. Chiller rated 5,500 Btu/Hr. has a 10-ft. power cord with a NEMA 5-20 plug; chiller rated 12,000 Btu/Hr. has a 10-ft. power cord with a NEMA L6-30 plug (see pages 816 and 820 for plug illustrations).

Chillers rated *24,000* to *60,000 Btu/Hr.* contain R407C refrigerant and have a high-density polypropylene internal tank. They also have screw terminals for hardwiring, NPT female connections, a cleanable air-intake filter, and a manual bypass valve to adjust flow.

Btu/Hr.	AC Voltage (Phase)	Amps	Compressor hp	Tank Size, gal.	Pump Cap., gpm @ psi	Pipe Size	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.		
5,500	115 (1)	17	1/2	5	4 @ 50	1/2	28 1/2"	21 1/4"	21 3/4"	3531K11	$4,346.48
12,000	230 (1)	17	1 13/16	10	4 @ 50	1/2	35 1/4"	25 1/8"	30 5/8"	3531K12	5,235.21
24,000	230 (1)	20	3	10	10 @ 35	1	50"	28"	31"	3531K21	7,556.34
24,000	230 (3)	20	3	10	10 @ 35	1	50"	28"	31"	3531K22	8,094.37
36,000	460 (3)	13	3	36	9 @ 45	1 1/4	70"	34"	37"	3531K23	9,098.59
60,000	460 (3)	17.5	5	36	15 @ 43	1 1/4	70"	34"	37"	3531K24	10,619.44

Cold Plates



For a continuously cooled surface that provides contact cooling, connect these plates to process chillers and liquid-to-air cooling systems. All have U-shaped tubes that pass through a thermally conductive aluminum plate. Drill or tap the plate for mounting. Maximum temperature is 392° F.

Cold plates **with copper tubes** are for use with water. Cold plates **with Type 316 stainless steel tubes** are for use with corrosive as well as high-purity fluids, such as deionized water.

Tube Material	Max. psi	Tube OD	Plate Size Lg.	Plate Size Wd.	Plate Size Thick.		
Copper	150	3/8"	6"	3 1/2"	1/2"	35035K32	$67.20
Copper	150	3/8"	12"	3 1/2"	1/2"	35035K42	84.00

Tube Material	Max. psi	Tube OD	Plate Size Lg.	Plate Size Wd.	Plate Size Thick.		
Stainless Steel	150	3/8"	6"	3 1/2"	1/2"	35035K36	$100.80
Stainless Steel	150	3/8"	12"	3 1/2"	1/2"	35035K46	123.90

Glass Sights



See inside tanks, gear cases, bearing housings, and mixers. *Sights for dark liquid* have a reflector that makes liquid easy to see, especially in low-light conditions.

Brass sights are for use with hydraulic oil and water. Seal is Buna-N.

Steel sights are for use with hydraulic oil, diesel fuel, and water. Window is fused to the body.

Type 303 stainless steel sights are for use with hydraulic oil, diesel fuel, and water. Seal is Buna-N. They are more corrosion resistant than brass and steel sights.

Pipe Size	Window Dia.	Hex Size	Max. psi @ 70°F	For Clear Liquid		For Dark Liquid	
Brass—Temp. Range is –40° to 180°F							
NPTF (Dryseal) Male Connection							
1/4	1/4"	5/8"	150	1210K21	$5.79		
1/4	1/4"	5/8"	675	1322K71	10.31		
3/8	3/8"	3/4"	100	1210K22	5.81	1210K32	$6.96
3/8	3/8"	3/4"	415	1322K72	12.16	1322K82	14.06
1/2	1/2"	7/8"	100	1210K23	6.02	1210K33	7.72
1/2	1/2"	7/8"	250	1322K73	7.63	1322K83	9.30
3/4	3/4"	1 1/8"	60	1210K24	7.30	1210K34	9.14
3/4	3/4"	1 1/8"	200	1322K74	10.72	1322K84	11.68
1	1"	1 3/8"	60	1210K25	10.38	1210K35	12.08
1	1"	1 3/8"	100	1322K75	13.96	1322K85	15.30
1 1/4	1 1/8"	1 3/4"	25	1210K26	21.04	1210K36	22.92
1 1/4	1 1/8"	1 3/4"	60	1322K76	23.45	1322K86	25.20
1 1/2	1 3/8"	2"	25	1210K27	22.67	1210K37	25.71
1 1/2	1 3/8"	2"	50	1322K77	32.84	1322K87	35.23
2	1 7/8"	2 1/2"	10	1210K28	42.44	1210K38	44.70
2	1 7/8"	2 1/2"	20	1322K78	45.84	1322K88	46.32
Steel—Temp. Range is –40° to 250°F							
NPT Male Connection							
1/2	1/2"	1"	125	3277K14	7.32	3277K34	9.04
1	1"	1 3/8"	125	3277K18	11.30	3277K38	12.18
1 1/4	1 1/4"	1 3/4"	125	3277K23	21.63	3277K43	23.26
1 1/2	1 1/2"	2"	125	3277K25	25.64	3277K45	29.37
2	2"	2 1/2"	125	3277K27	31.09	3277K47	34.64
NPTF (Dryseal) Male Connection							
3/8	3/8"	3/4"	125	3277K12	6.49	3277K32	8.15
3/4	3/4"	1"	125	3277K16	9.21	3277K36	12.21
Type 303 Stainless Steel—Temp. Range is 0° to 225°F							
NPT Male Connection							
1/4	1/4"	5/8"	125	6490T11	28.47		
3/8	3/8"	3/4"	125	6490T12	29.90	6490T19	34.05
1/2	5/8"	1"	125	6490T13	34.17	6490T21	38.32
3/4	3/4"	1"	125	6490T14	40.58	6490T22	44.73
1	1"	1 3/8"	100	6490T15	46.98	6490T23	51.14
1 1/4	1 1/4"	1 3/4"	50	6490T16	56.59	6490T24	60.75
1 1/2	1 1/2"	2"	50	6490T17	66.20	6490T25	70.36
2	2"	2 1/2"	50	6490T18	75.81	6490T26	79.97

High-Pressure Glass Sights

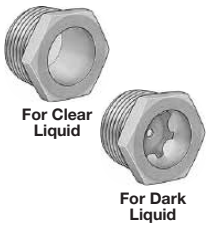

To resist cracking at high pressures, these sights have a thick glass window fused to a metal body. Use with hydraulic oil, diesel fuel, and water. Connection is NPT male. *Sights for dark liquid* have a reflector that makes liquid easy to see, especially in low-light conditions.

Type 2205 stainless steel sights are the most corrosion resistant we offer.

Pipe Size	Window Dia.	Hex Size	Max. psi @ 70°F	For Clear Liquid		For Dark Liquid	
Nickel-Plated Steel—Temp. Range is –40° to 500°F							
1/4	3/8"	5/8"	2,000	1079K18	$6.97		
3/8	3/8"	3/4"	1,850	1079K11	7.60	1079K41	$10.45
1/2	1/2"	1"	1,750	1079K12	9.17	1079K42	11.45
3/4	3/4"	1"	1,500	1079K13	9.62	1079K43	12.19
1	1"	1 3/8"	1,250	1079K14	13.38	1079K44	15.76
1 1/4	1 1/8"	1 3/4"	1,000	1079K15	18.51	1079K45	20.98
1 1/2	1 3/8"	2"	750	1079K16	25.84	1079K46	28.22
2	1 7/8"	2 1/2"	500	1079K17	31.89	1079K47	34.18
Type 2205 Stainless Steel—Temp. Range is –22° to 536°F							
1/4	1/4"	3/4"	1,400	5207K47	156.00		
3/8	3/8"	1"	1,400	5207K48	164.40		
1/2	1/2"	1"	1,400	5207K42	170.40		
3/4	5/8"	1 3/8"	1,400	5207K43	177.60		
1	7/8"	1 5/8"	1,400	5207K44	183.60		
1 1/2	1 1/8"	2 1/8"	1,400	5207K49	264.00		
2	1 3/8"	2 3/4"	1,400	5207K46	330.00		

Glass Sights with British Standard Threads



Often used with imported equipment, these sights have a BSPP (British Standard Pipe Parallel) male connection. They are for use with hydraulic oil, diesel fuel, and water. *Sights for dark liquid* have a reflector that makes liquid easy to see, especially in low-light conditions.

Brass and **aluminum** sights have a Buna-N seal.

Type 303 stainless steel sights have a fluoroelastomer seal and are more corrosion resistant than brass and aluminum sights.

Pipe Size	Window Dia.	Hex Size	Max. psi @ 70°F	For Clear Liquid		For Dark Liquid	
Brass—Temp. Range is –22° to 212°F							
3/8	3/8"	3/4"	725	6395T2	$14.07	6395T1	$15.55
1/2	1/2"	7/8"	725	6395T4	16.10	6395T3	17.79
3/4	5/8"	1 1/8"	360	6395T6	19.26	6395T5	21.29
1	1"	1 3/8"	290	6395T8	23.93	6395T7	26.45
Aluminum—Temp. Range is –20° to 212°F							
3/8	3/8"	3/4"	725	3434K11	12.59	3434K32	13.56
1/2	1/2"	7/8"	725	3434K13	12.78	3434K33	14.57
3/4	5/8"	1 1/8"	360	3434K15	18.08	3434K35	19.44
1	1"	1 3/8"	290	3434K17	21.40	3434K37	23.13
1 1/4	1 1/4"	1 3/4"	180	3434K19	25.76	3434K39	27.80
Type 303 Stainless Steel—Temp. Range is –4° to 350°F							
3/8	3/8"	3/4"	725	6396T1	27.93		
1/2	1/2"	7/8"	725	6396T2	30.29		
3/4	5/8"	1 1/8"	360	6396T3	39.67		
1	1"	1 3/8"	290	6396T4	45.43		

High-Visibility Glass Sights



An indicator ball makes liquid movement and level changes easy to see from a distance. These sights also have a reflector that makes dark liquid easy to see, especially in low-light conditions. Use with hydraulic oil, diesel fuel, and water. Window is fused to a steel body. Temperature range is –40° to 250°F.

Pipe Size	Window Dia.	Hex Size	Max. psi @ 70°F		
NPT Male Connection					
1/2	1/2"	1"	125	3277K54	$12.88
1	1"	1 3/8"	125	3277K58	16.56
1 1/4	1 1/4"	1 3/4"	125	3277K63	27.19
1 1/2	1 1/2"	2"	125	3277K65	31.58
2	2"	2 1/2"	125	3277K67	40.50
NPTF (Dryseal) Male Connection					
3/8	3/8"	3/4"	125	3277K52	11.71
3/4	3/4"	1"	125	3277K56	14.42

Through-Wall Glass Sights



Install these sights through an unthreaded hole in tank walls up to 1/4" thick. All mount from inside the tank and come with a locknut. Seal is Buna-N. *Sights for dark liquid* have a reflector that makes liquid easy to see, especially in low-light conditions.

Aluminum sights are for use with hydraulic oil and water.

Type 303 stainless steel sights are for use with hydraulic oil, diesel fuel, and water. They are more corrosion resistant than aluminum sights.

For Hole Size	Window Dia.	Hex Size	Max. psi @ 70°F	For Clear Liquid		For Dark Liquid	
Aluminum—Temp. Range is –40° to 180°F							
3/4"	1/2"	7/8"	50	1116K21	$8.79	1116K31	$11.18
1"	3/4"	1 1/8"	50	1116K22	11.00	1116K32	13.47
1 1/4"	1"	1 3/8"	25	1116K23	14.66	1116K33	16.95
1 7/8"	1 3/8"	2"	25	1116K24	33.94	1116K34	36.22
2 3/8"	1 7/8"	2 5/8"	10	1116K25	35.35	1116K35	38.22
Type 303 Stainless Steel—Temp. Range is 0° to 225°F							
5/8"	3/8"	3/4"	125	6191T11	33.22	6191T18	37.37
3/4"	1/2"	1"	125	6191T12	37.97	6191T19	42.12
1"	3/4"	1 1/4"	125	6191T13	45.08	6191T21	49.24
1 1/4"	1"	1 1/2"	100	6191T14	52.20	6191T22	56.36
1 1/2"	1 1/4"	1 3/4"	50	6191T15	62.88	6191T23	64.24
1 3/4"	1 1/2"	2"	50	6191T16	73.56	6191T24	77.71
2 1/4"	2"	2 1/2"	50	6191T17	84.24	6191T25	88.39

Shatter-Resistant All-Plastic Sights



A one-piece plastic window and body are more shatter resistant than sights with a glass window. Use with hydraulic oil, diesel fuel, and water. Seal is Buna-N. Sights are not rated for pressure.

Pipe Size	Window Dia.	Hex Size		
NPT Male Connection—Temp. Range is –20° to 210°F				
1/2	1/2"	1"	5095K11	$6.67
3/4	5/8"	1 1/4"	5095K12	8.07
1	7/8"	1 1/2"	5095K13	11.09
BSPP Male Connection—Temp. Range is –20° to 210°F				
1/4	3/8"	5/8"	5095K31	3.87
3/8	3/8"	3/4"	5095K32	3.93
1/2	1/2"	7/8"	5095K33	4.32
3/4	3/4"	1"	5095K34	5.58
1	1"	1 3/8"	5095K35	7.47
1 1/4	1 1/8"	1 5/8"	5095K36	9.31

Easy-View Plastic Sights

View tank contents from multiple angles through the domed, shatter-resistant plastic window. Use with hydraulic oil, diesel fuel, and water. Seal is neoprene, unless noted. Temperature range is 0° to 160°F.

NPT Male Connection—Zinc-Plated Steel



Pipe Size	Window Dia.	Hex Size	Max. psi @ 70°F		
3/4	1"	1 1/4"	10	1128K3★	$22.09
1	1"	1 1/2"	10	1128K4	24.45
1 1/4	1 1/4"	1 7/8"	10	1128K5	43.98
1 1/2	1 5/8"	2 1/8"	10	1128K6★	48.50

★ Seal is Buna-N.

Flange Connection—Zinc



Sight requires four No. 8 socket-head cap screws for mounting.

Flange OD	Bolt Circle	Window Dia.	Max. psi @ 70°F		
2 1/4"	1 7/8"	1 1/4"	10	1128K22★	$43.18

★ Seal is Buna-N.

Press-Fit Connection—Zinc-Plated Brass



Snap these sights into an unthreaded hole. They are not rated for pressure.

For Hole Size	OD	Window Dia.		
1 1/4"	1 1/4"	1"	1128K11	$18.82
1 1/2"	1 1/2"	1 1/4"	1128K12	21.82
2"	2"	1 5/8"	1128K13	34.73

Plastic Oil Sights



Machined from one piece of stain- and impact-resistant acrylic for durability. The clear cylindrical body protrudes from your tank for viewing from multiple angles. Use with hydraulic oil. Temperature range is –40° to 180°F. Connection is NPT male.

Pipe Size	Window Dia.	Max. psi @ 70°F		
1/4	1"	65	6406T21	$39.78
3/8	1 1/8"	65	6406T22	42.15
1/2	7/8"	65	6406T23	43.24
3/4	1 1/8"	65	6406T24	45.06
1	1 3/8"	65	6406T25	50.69
1 1/4	1 3/4"	65	6406T26	73.80
1 1/2	2"	65	6406T27	59.50
2	2 1/2"	65	6406T28	87.60

Quartz Sights for Ovens and Furnaces



Often used in kilns and other heating equipment, sights with a quartz window can withstand temperatures up to 1600°F. They're also known as peep sights. They have a nickel-plated steel body and a graphite seal. Connection is NPT male.

Pipe Size	Window Dia.	Hex Size	Max. psi @ 1600°F		
1/2	1/2"	1 1/4"	5	4791K51	$250.62
3/4	3/4"	1 1/2"	5	4791K52	274.15
1	1"	1 3/4"	5	4791K53	296.31
1 1/4	1 1/4"	2"	5	4791K54	314.31
1 1/2	1 1/2"	2 1/4"	5	4791K55	337.85
2	2"	2 3/4"	5	4791K56	371.08

Plastic Oil-Inspection Sights



Vertical Mount



Horizontal Mount

Continuously monitor oil quality through a clear acrylic reservoir, and use the attached drain valve to remove water accumulation. Connection is NPT male. *Sights with a Type 304 stainless steel connection* are more corrosion resistant than sights with a brass connection.

Vertical-Mount Sights—Install through a port on the bottom of your tank. There must be enough clearance for the sight to fit below the tank base. They can also be installed through a port on the side of your tank (requires an elbow).

Horizontal-Mount Sights—In areas with limited space under equipment, install one of these sights horizontally through a port on the side of your tank.

Pipe Size	Window Dia.	Max. psi @ 70°F	Vertical Mount		Horizontal Mount	
With Brass Connection—Temp. Range is 33° to 180°F						
1-oz. Reservoir						
1/4	1 3/4"	65	5729T71	$83.88	5729T74	$97.27
3/8	1 3/4"	65	5729T72	83.88	5729T75	97.27
1/2	1 3/4"	65	5729T73	83.88	5729T76	97.27
3-oz. Reservoir						
1/4	2 1/2"	65	5729T41	109.92	5729T44	124.48
3/8	2 1/2"	65	5729T42	109.92	5729T45	124.48
1/2	2 1/2"	65	5729T43	109.91	5729T46	124.48
With Type 304 SS Connection—Temp. Range is 33° to 180°F						
1-oz. Reservoir						
1/4	1 3/4"	65	5729T47	130.35	5729T51	133.10
3/8	1 3/4"	65	5729T48	130.35	5729T52	132.55
1/2	1 3/4"	65	5729T49	130.35	5729T53	132.55
3-oz. Reservoir						
1/4	2 1/2"	65	5729T54	149.97	5729T57	150.50
3/8	2 1/2"	65	5729T55	178.42	5729T58	191.10
1/2	2 1/2"	65	5729T56	178.42	5729T59	191.10

Plastic Sights for Quick-Clamp Fittings





Sight shown assembled with gasket, quick clamp, and tube fitting (all sold separately)

These sights detach from quick clamps for easy cleaning. Quick-clamp fittings are sold separately (see pages 228-232). Use with water. The window is plastic, which is more shatter resistant than glass. Temperature range is 33° to 200°F.

For Tube OD	For Flange OD	Window Dia.	Max. psi @ 70°F		
1" and 1 1/2"	1.984"	1 1/4"	250	4942K1	$34.07
2"	2.515"	1 3/4"	225	4942K3	38.55
2 1/2"	3.047"	2 1/2"	200	4942K5	46.91
3"	3.579"	2 3/4"	175	4942K7	55.64
4"	4.682"	3 1/2"	100	4942K9	64.35

Large-View Weld-On Glass Sights



With Easy-Access Window

Weld these sights to single-wall tanks to monitor contents. They're often used with process vessels, mixers, and bulk containers. Seal is silicone.

Sights with Easy-Access Window—Unscrew the viewing window from the body to clean the glass or access the tank. Sights meet DIN 11851 (dairy fitting standard). They're also for use with hydraulic oil, water, and compressed air.

Sight with Bolt-On Window—For use with hydraulic oil and water.

For Hole Size	Window Dia.	OD	Max. psi @ 70°F		
With Easy-Access Window					
Type 316L Stainless Steel—Temp. Range is –20° to 392°F					
2"	2"	3 5/8"	150	4814K54	$176.95
2 1/2"	2 1/2"	4 7/16"	150	4814K55	208.36
3 1/8"	3 1/8"	5"	150	4814K56	285.60
4"	4"	5 13/16"	150	4814K57	425.67
5"	5"	7"	90	4814K58	638.84
With Bolt-On Window					
Type 304 Stainless Steel—Temp. Range is –40° to 300°F					
4 11/16"	3 1/2"	5"	60	4201K32	281.11

Oil-Level Indicators

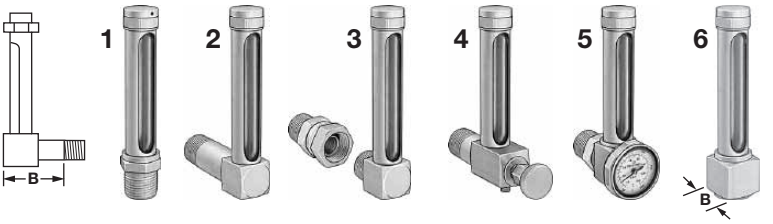

For optimal viewing of oil level in gear boxes, crank cases, and other reservoirs, these indicators have gauge shields that rotate 360°. All have one tank connection and install from outside the tank. They are for use with hydraulic oil in nonpressure applications. A vent prevents pressure from building up and causing an inaccurate level display. All have a brass connection and gauge shield, a glass sight, and a Buna-N seal. Temperature range is –40° to 250° F. Connection is NPTF (Dryseal).

(1) Male Straight

Pipe Size	O'all Ht.	Window Ht.	Indicators		Replacement Glass	
Standard						
1/8	2 13/16"	1 3/8"	1141K11	$13.35	6110T11	$4.17
1/8	3 5/16"	1 7/8"	1141K23	14.01	6110T12	4.52
1/8	5 13/16"	4 1/4"	1141K36	18.13	6110T15	5.95
1/4	3"	1 3/8"	1141K12	13.09	6110T11	4.17
1/4	3 1/2"	1 7/8"	1141K13	13.43	6110T12	4.52
1/4	4 1/2"	2 3/4"	1141K14	13.95	6110T13	5.60
1/4	6"	4 1/4"	1141K37	16.37	6110T15	5.95
1/4	9 1/4"	7 1/2"	1141K43	28.50	6110T19	7.14
3/8	3"	1 3/8"	1141K31	13.09	6110T11	4.17
3/8	3 1/2"	1 7/8"	1141K32	13.43	6110T12	4.52
3/8	4 1/2"	2 3/4"	1141K35	13.95	6110T13	5.60
3/8	6"	4 1/4"	1141K16	16.37	6110T15	5.95
3/8	11 1/4"	9 1/2"	1141K45	33.04	6110T21	7.98
3/8	14 1/4"	12 1/2"	1141K47	37.05	6110T22	8.93
1/2	6 3/16"	4 1/4"	1141K17	22.97	6110T18	6.79
1/2	9 7/16"	7 1/2"	1141K44	26.72	6110T19	7.14
1/2	11 7/16"	9 1/2"	1141K46	30.84	6110T21	7.98
1/2	14 7/16"	12 1/2"	1141K48	35.36	6110T22	8.93
With 40-Micron Filter—For particles as small as table salt						
1/8	3 5/16"	1 3/8"	1281K71	$25.63	6110T11	$4.17
1/8	3 13/16"	1 7/8"	1281K74	33.04	6110T12	4.52
1/8	6 5/16"	4 1/4"	1281K79	29.53	6110T15	5.95
1/4	3 1/2"	1 3/8"	1281K72	24.88	6110T11	4.17
1/4	4"	1 7/8"	1281K75	24.99	6110T12	4.52
1/4	5"	2 3/4"	1281K77	27.39	6110T13	5.60
1/4	6 1/2"	4 1/4"	1281K81	28.52	6110T15	5.95
1/4	9 3/4"	7 1/2"	1281K85	41.04	6110T19	7.14
3/8	3 1/2"	1 3/8"	1281K73	23.55	6110T11	4.17
3/8	4"	1 7/8"	1281K76	27.41	6110T12	4.52
3/8	5"	2 3/4"	1281K78	25.63	6110T13	5.60
3/8	6 1/2"	4 1/4"	1281K82	28.11	6110T15	5.95
3/8	11 3/4"	9 1/2"	1281K87	47.34	6110T21	7.98
3/8	14 3/4"	12 1/2"	1281K89	52.11	6110T22	8.93
1/2	6 11/16"	4 1/4"	1281K84	34.76	6110T18	6.79
1/2	9 15/16"	7 1/2"	1281K86	39.09	6110T19	7.14
1/2	11 15/16"	9 1/2"	1281K88	45.23	6110T21	7.98
1/2	14 15/16"	12 1/2"	1281K91	47.89	6110T22	8.93

(2-5) Male Elbow

Pipe Size	O'all Ht.	Window Ht.	(B)	Indicators		Replacement Glass	
(2) Standard							
1/8	2 3/4"	1 3/8"	1 1/4"	1224K11	$17.72	6110T11	$4.17
1/8	2 3/4"	1 3/8"	1 3/4"	1142K12	23.09	6110T11	4.17
1/8	3 1/4"	1 7/8"	1 1/4"	1224K14	18.60	6110T12	4.52
1/8	4 1/4"	2 3/4"	1 1/4"	1224K17	19.37	6110T13	5.60
1/8	4 1/4"	2 3/4"	1 3/4"	1142K24	23.93	6110T13	5.60
1/4	2 3/4"	1 3/8"	1 1/16"	1224K12	16.27	6110T11	4.17
1/4	2 3/4"	1 3/8"	1 9/16"	1142K13	17.96	6110T11	4.17
1/4	3 1/4"	1 7/8"	1 1/16"	1224K15	16.44	6110T12	4.52
1/4	3 1/4"	1 7/8"	1 9/16"	1142K16	19.80	6110T12	4.52
1/4	4 1/4"	2 3/4"	1 1/16"	1224K18	17.31	6110T13	5.60
1/4	4 1/4"	2 3/4"	1 9/16"	1142K17	21.32	6110T13	5.60
1/4	5 3/4"	4 1/4"	1 1/16"	1224K21	19.37	6110T15	5.95
3/8	2 3/4"	1 3/8"	1 1/16"	1224K13	16.56	6110T11	4.17
3/8	3 1/4"	1 7/8"	1 1/16"	1224K16	17.27	6110T12	4.52
3/8	3 1/4"	1 7/8"	1 9/16"	1142K23	20.62	6110T12	4.52
3/8	4 1/4"	2 3/4"	1 1/16"	1224K19	17.64	6110T13	5.60
3/8	4 1/4"	2 3/4"	1 9/16"	1142K25	22.57	6110T13	5.60
3/8	4 3/4"	3 1/4"	1 9/16"	1142K18	22.84	6110T14	5.83
3/8	5 3/4"	4 1/4"	1 9/16"	1142K19	23.53	6110T15	5.95
3/8	5 7/8"	4 1/4"	1 5/8"	1224K23	29.16	6110T18	6.79
3/8	9 1/8"	7 1/2"	1 5/8"	1224K25	34.29	6110T19	7.14
3/8	9 1/8"	7 1/2"	2 3/8"	1142K27	36.39	6110T19	7.14
3/8	14 1/8"	12 1/2"	1 5/8"	1224K27	42.28	6110T22	8.93
1/2	5 7/8"	4 1/4"	1 7/16"	1224K24	27.77	6110T18	6.79
1/2	5 7/8"	4 1/4"	2 3/16"	1142K21	31.29	6110T18	6.79
1/2	9 1/8"	7 1/2"	1 7/16"	1224K26	33.11	6110T19	7.14
1/2	9 1/8"	7 1/2"	2 3/16"	1142K28	35.38	6110T19	7.14
1/2	14 1/8"	12 1/2"	1 7/16"	1224K28	41.49	6110T22	8.93
1/2	14 1/8"	12 1/2"	2 3/16"	1142K31	42.26	6110T22	8.93
(3) With Swivel Fitting—For quick disconnection							
1/8	2 3/4"	1 3/8"	1 1/2"	1111K11	19.27	6110T11	4.17
1/8	3 1/4"	1 7/8"	1 1/2"	1111K14	19.91	6110T12	4.52
1/8	4 1/4"	2 3/4"	1 1/2"	1111K17	19.46	6110T13	5.60
1/4	2 3/4"	1 3/8"	1 13/16"	1111K12	19.27	6110T11	4.17
1/4	3 1/4"	1 7/8"	1 13/16"	1111K15	19.14	6110T12	4.52
1/4	4 1/4"	2 3/4"	1 13/16"	1111K18	18.92	6110T13	5.60
(3) With Swivel Fitting—For quick disconnection (Cont.)							
1/4	5 3/4"	4 1/4"	1 13/16"	1111K22	$21.32	6110T15	$5.95
1/4	8 3/4"	7 1/4"	1 13/16"	1111K24	25.20	6110T17	6.31
3/8	2 3/4"	1 3/8"	1 7/8"	1111K13	18.17	6110T11	4.17
3/8	3 1/4"	1 7/8"	1 7/8"	1111K16	19.14	6110T12	4.52
3/8	4 1/4"	2 3/4"	1 7/8"	1111K19	19.46	6110T13	5.60
3/8	5 7/8"	4 1/4"	2 7/16"	1111K25	30.38	6110T18	6.79
3/8	9 1/8"	7 1/2"	2 7/16"	1111K27	35.83	6110T19	7.14
3/8	14 1/8"	12 1/2"	2 7/16"	1111K29	44.79	6110T22	8.93
1/2	5 7/8"	4 1/4"	2 1/4"	1111K26	29.27	6110T18	6.79
1/2	9 1/8"	7 1/2"	2 1/4"	1111K28	34.69	6110T19	7.14
1/2	14 1/8"	12 1/2"	2 1/4"	1111K31	46.41	6110T22	8.93
(4) With Drain—For sampling oil from reservoir							
1/8	3 1/4"	1 7/8"	2 7/8"	1225K14	35.19	6110T12	4.52
1/8	4 1/4"	2 3/4"	2 7/8"	1225K17	46.20	6110T13	5.60
1/4	2 3/4"	1 3/8"	2 11/16"	1225K12	31.11	6110T11	4.17
1/4	3 1/4"	1 7/8"	2 11/16"	1225K15	34.80	6110T12	4.52
1/4	4 1/4"	2 3/4"	2 11/16"	1225K18	34.18	6110T13	5.60
1/4	5 3/4"	4 1/4"	2 11/16"	1225K21	36.00	6110T15	5.95
3/8	2 3/4"	1 3/8"	2 11/16"	1225K13	35.34	6110T11	4.17
3/8	3 1/4"	1 7/8"	2 11/16"	1225K16	33.60	6110T12	4.52
3/8	4 1/4"	2 3/4"	2 11/16"	1225K19	35.19	6110T13	5.60
3/8	5 7/8"	4 1/4"	3 3/16"	1225K23	45.19	6110T18	6.79
3/8	9 1/8"	7 1/2"	3 3/16"	1225K25	50.85	6110T19	7.14
3/8	14 1/8"	12 1/4"	3 3/16"	1225K27	58.12	6110T22	8.93
1/2	5 7/8"	4 1/4"	3"	1225K24	42.51	6110T18	6.79
1/2	9 1/8"	7 1/2"	3"	1225K26	51.02	6110T19	7.14
1/2	14 1/8"	12 1/4"	3"	1225K28	56.87	6110T22	8.93
(5) With Dial Thermometer—Scale is 50° to 300° F							
1/4	4 1/16"	1 7/8"	2 1/16"	1226K23	60.60	6110T12	4.52
1/4	5 1/16"	2 3/4"	2 1/16"	1226K24	59.96	6110T13	5.60
3/8	3 9/16"	1 3/8"	2"	1226K22	60.60	6110T11	4.17
3/8	5 1/16"	2 3/4"	2"	1226K25	61.73	6110T13	5.60
1/2	5 1/16"	2 3/4"	1 13/16"	1226K26	61.12	6110T13	5.60
1/2	6 9/16"	4 1/4"	1 13/16"	1226K27	64.52	6110T15	5.95
1/2	7 9/16"	5 1/4"	1 13/16"	1226K28	65.16	6110T16	6.19
3/4	9 9/16"	7 1/4"	1 13/16"	1226K31	72.77	6110T17	6.31

(6) Female Elbow

Pipe Size	O'all Ht.	Window Ht.	(B)	Indicators		Replacement Glass	
1/8	4 11/16"	2 3/4"	7/8"	1201K7	$19.41	6110T13	$5.60
1/4	3 3/16"	1 3/8"	7/8"	1201K2	17.10	6110T11	4.17
1/4	3 11/16"	1 7/8"	7/8"	1201K5	18.17	6110T12	4.52
1/4	4 11/16"	2 3/4"	7/8"	1201K8	18.71	6110T13	5.60
1/4	6 3/16"	4 1/4"	7/8"	1201K11	20.40	6110T15	5.95
1/4	7 3/16"	5 1/4"	7/8"	1201K12	21.52	6110T16	6.19
3/8	3 3/16"	1 3/8"	7/8"	1201K3	20.81	6110T11	4.17
3/8	3 11/16"	1 7/8"	7/8"	1201K6	22.26	6110T12	4.52
3/8	4 11/16"	2 3/4"	7/8"	1201K9	$19.07	6110T13	$5.60
3/8	6 1/4"	4 1/4"	1"	1201K13	26.70	6110T18	6.79
3/8	9 1/2"	7 1/2"	1"	1201K15	35.42	6110T19	7.14
3/8	14 1/2"	12 1/2"	1"	1201K17	45.45	6110T22	8.93
1/2	6 1/4"	4 1/4"	1"	1201K14	26.70	6110T18	6.79
1/2	9 1/2"	7 1/2"	1"	1201K16	35.42	6110T19	7.14
1/2	14 1/2"	12 1/2"	1"	1201K18	50.98	6110T22	8.93

High-Pressure Oil-Level Indicators

Check hydraulic oil levels in pressurized applications. Indicators have a glass window. *Styles 1 & 3-5* have an aluminum body and Buna-N seals; *Style 2* have a Type 304 stainless steel body and fluoroelastomer seals. Temperature range for *Style 1* is –40° to 250°F; for *Style 2*, it's 0° to 300°F; and for *Styles 3-5*, it's –40° to 220°F.

(1-4) Indicators with threaded tank connections have 1/2"-20 UNF male connections. Mount from outside the tank. *Styles 1, 3 & 4* also include nuts for mounting through tank walls up to 1/2" thick.

(5) Indicators with through-wall tank connections install from inside the tank through two 1/2" dia. unthreaded holes and include nuts for mounting through tank walls up to 3/4" thick.

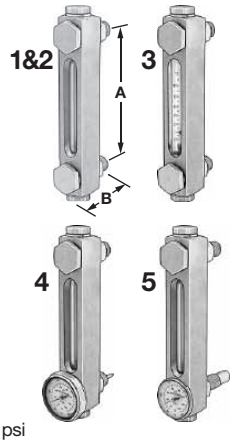

(A)	O'all Ht.	Window Ht.	(B)	Max. psi @ 70°F		
With Threaded Tank Connections						
(1) Standard						
3"	4 5/8"	1 1/2"	1 1/8"	290	1188K18	$19.65
5"	6 5/8"	3 1/2"	1 1/8"	290	1188K11	20.38
6"	7 5/8"	4 1/2"	1 1/8"	290	1188K15	22.18
7"	8 5/8"	5 1/2"	1 1/8"	290	1188K12	23.79
9"	10 5/8"	7 1/2"	1 1/8"	290	1188K13	29.01
10"	11 5/8"	8 1/2"	1 1/8"	275	1188K27	30.58
12"	13 5/8"	10 1/2"	1 1/8"	270	1188K25	42.48
(2) Corrosion Resistant						
3"	4"	1 1/2"	15/16"	125	6644T51	147.42
5"	6"	3 1/2"	15/16"	125	6644T52	153.10
6"	7"	4 1/2"	15/16"	125	6644T53	156.00
7"	8"	5 1/2"	15/16"	125	6644T54	159.56
9"	10"	7 1/2"	15/16"	125	6644T55	166.27
10"	11"	8 1/2"	15/16"	125	6644T56	169.21
12"	13"	10 1/2"	15/16"	125	6644T57	173.98
(3) With Thermometer—Scale is 0° to 220°F						
5"	6 5/8"	3 3/8"	1 11/16"	20	1305K62	23.25
10"	11 5/8"	8 3/8"	1 11/16"	20	1305K63	33.56
(3) With Thermometer—Scale is 60° to 180°F						
3"	4 5/8"	1 3/8"	1 11/16"	20	1305K61	22.09
(4) With Dial Thermometer—Scale is 50° to 300°F						
4"	5 5/8"	2 1/2"	1 1/2"	125	1118K61	50.25
5"	6 5/8"	3 1/2"	1 1/2"	125	1118K62	46.54
6"	7 5/8"	4 1/2"	1 1/2"	125	1118K63	50.62
7"	8 5/8"	5 1/2"	1 1/2"	125	1118K64	52.14
8"	9 5/8"	6 1/2"	1 1/2"	125	1118K65	53.29
12"	13 5/8"	10 1/2"	1 1/2"	125	1118K66	62.61
With Through-Wall Tank Connections						
(5) With Dial Thermometer—Scale is 50° to 300°F						
4"	5 5/8"	2 1/2"	1 1/2"	125	1118K67	44.92
5"	6 5/8"	3 1/2"	1 1/2"	125	1118K68	43.20
6"	7 5/8"	4 1/2"	1 1/2"	125	1118K69	47.79
7"	8 5/8"	5 1/2"	1 1/2"	125	1118K71	51.00
8"	9 5/8"	6 1/2"	1 1/2"	125	1118K72	52.82
12"	13 5/8"	10 1/2"	1 1/2"	125	1118K73	61.76

Flexible Liquid-Level Indicators

With a clear sight that bends to follow the contours of a tank, these indicators provide an unobstructed view of liquid level. Bend radius is 3 1/4". Use with hydraulic oil and water. Indicators have aluminum end blocks with steel connections. Seals are Buna-N. Temperature range is 33° to 165°F. Connections are 1/2"-20 UNF male.



(A)	O'all Ht.	Window Ht.	(B)	Max. psi @ 70°F		
3"	3 3/4"	1 1/2"	15/16"	30	3280K13	$23.20
5"	5 3/4"	3 1/2"	15/16"	30	3280K15	23.94
6"	6 3/4"	4 1/2"	15/16"	30	3280K16	23.94
7"	7 3/4"	5 1/2"	15/16"	30	3280K17	25.58
8"	8 3/4"	6 1/2"	15/16"	30	3280K18	25.58
10"	10 3/4"	8 1/2"	15/16"	30	3280K19	27.27
12"	12 3/4"	10 1/2"	15/16"	30	3280K22	29.06
14"	14 3/4"	12 1/2"	15/16"	30	3280K24	30.37
16"	16 3/4"	14 1/2"	15/16"	30	3280K26	33.28
18"	18 3/4"	16 1/2"	15/16"	30	3280K28	36.14
20"	20 3/4"	18 1/2"	15/16"	30	3280K29	38.97
22"	22 3/4"	20 1/2"	15/16"	30	3280K42	38.33
24"	24 3/4"	22 1/2"	15/16"	30	3280K44	40.91
30"	30 3/4"	28 1/2"	15/16"	30	3280K49	48.72

Shatter-Resistant Oil-Level Indicators

For better shatter resistance than glass, these indicators have a nylon body and sight. Use with hydraulic oil. Seal is Buna-N.

Unobstructed-View Indicators—Monitor liquid level from multiple angles through the clear 13/16" dia. sight. End blocks are aluminum. Temperature range is –40° to 225°F. Connections are 1/2"-20 UNF male. Mount from outside the tank.

Indicators with Thermometer—For outdoor applications, these indicators are UV resistant. Temperature range is –65° to 212°F. Indicators install from inside the tank through two 1/2" dia. unthreaded holes and include nuts for mounting through tank walls up to 1/2" thick.

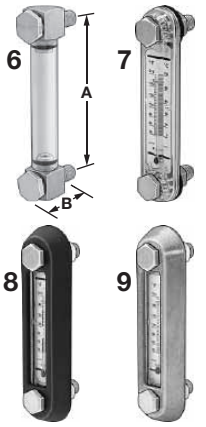

(A)	O'all Ht.	Window Ht.	(B)	Max. psi @ 70°F		
Unobstructed View						
(6) Without Guard						
3"	3 7/8"	1 5/16"	1 1/8"	125	1192K16	$19.07
5"	5 7/8"	3 5/16"	1 1/8"	125	1192K21	20.72
6"	6 7/8"	4 5/16"	1 1/8"	125	1192K11	22.65
7"	7 7/8"	5 5/16"	1 1/8"	125	1192K12	23.18
8"	8 7/8"	6 5/16"	1 1/8"	125	1192K13	24.02
10"	10 7/8"	8 5/16"	1 1/8"	125	1192K14	26.36
12"	12 7/8"	10 5/16"	1 1/8"	125	1192K15	27.34
With Thermometer—Scale is 30° to 210°F						
(7) Without Guard						
3"	4 1/4"	2 1/16"	13/16"	10	4748K21	15.54
5"	6 1/4"	4 1/16"	13/16"	10	4748K23	14.46
10"	11 1/4"	9 1/16"	13/16"	10	4748K26	26.60
(8) With Glass-Filled Nylon Guard						
5"	6 3/4"	4 1/16"	15/16"	10	4748K25	19.00
(9) With Aluminum Guard						
3"	4 3/4"	2 1/16"	15/16"	10	4748K22	17.04
5"	6 3/4"	4 1/16"	15/16"	10	4748K24	19.00
10"	11 3/4"	9 1/16"	15/16"	10	4748K27	32.92

Oil-Level Indicators with NPT Connections

Install these indicators in tanks with threaded holes. Use with hydraulic oil. Window is glass.

Standard indicators have an aluminum body, brass connections, and Buna-N seals. Temperature range is –40° to 250°F.

Corrosion-resistant indicators have a Type 304 stainless steel body and connections and fluoroelastomer seals. Temperature range is 0° to 300°F.

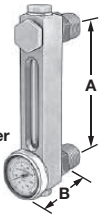

To Order: Please specify pipe size: 1/4, 3/8, 1/2, or 3/4.

(A)	O'all Ht.	Window Ht.	(B)	Max. psi @ 70°F		
Standard—NPTF (Dryseal) Male Connection						
Without Thermometer						
5"	6 5/8"	3 1/2"	1 13/16"	290	1106K1	$30.58
6"	7 5/8"	4 1/2"	1 13/16"	290	1106K2	34.35
7"	8 5/8"	5 1/2"	1 13/16"	290	1106K5	36.32
8"	9 5/8"	6 1/2"	1 13/16"	290	1106K6	39.06
9"	10 5/8"	7 1/2"	1 13/16"	290	1106K3	40.97
10"	11 5/8"	8 1/2"	1 13/16"	275	1106K7	41.68
12"	13 5/8"	10 1/2"	1 13/16"	270	1106K4	46.14
15"	16 5/8"	13 1/2"	1 13/16"	260	1106K12	68.77
18"	19 5/8"	16 1/2"	1 13/16"	240	1106K16	68.61
24"	25 5/8"	22 1/2"	1 13/16"	210	1106K18	94.39
With Dial Thermometer—Scale is 50° to 300°F						
5"	6 5/8"	3 1/2"	2 1/16"	125	1104K81	59.98
6"	7 5/8"	4 1/2"	2 1/16"	125	1104K82	61.80
9"	10 5/8"	7 1/2"	2 1/16"	125	1104K85	67.01
12"	13 5/8"	10 1/2"	2 1/16"	125	1104K87	71.96
15"	16 5/8"	13 1/2"	2 1/16"	125	1104K88	90.19
24"	25 5/8"	22 1/2"	2 1/16"	125	1104K97	131.54
Corrosion Resistant—NPT Male Connection						
Without Thermometer						
3"	4"	1 1/2"	15/16"	125	6644T41	177.04
5"	6"	3 1/2"	15/16"	125	6644T42	182.71
6"	7"	4 1/2"	15/16"	125	6644T43	185.62
7"	8"	5 1/2"	15/16"	125	6644T44	189.17
9"	10"	7 1/2"	15/16"	125	6644T45	195.88
10"	11"	8 1/2"	15/16"	125	6644T46	198.83
12"	13"	10 1/2"	15/16"	125	6644T47	203.60

Liquid-Level Indicators & Gauge Glass

For information about pipe size, see pages 2-3.

Build-Your-Own Liquid-Level Indicators

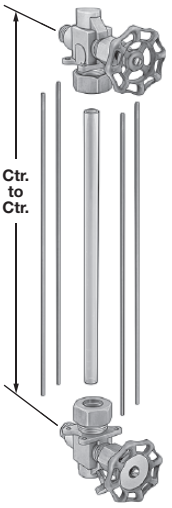

(1) Select a Pair of Valves

Includes two valves with automatic shutoff, aluminum handles, neoprene gaskets, graphite composite stem packing, and a 3/8" NPT female drain cock with a thumbwheel handle. Use with hydraulic oil, diesel fuel, and water. Not for use with steam. Connections are NPT male. **Ductile iron** valves withstand higher pressures than bronze valves; **Type 316 stainless steel** valves are more corrosion resistant than bronze or ductile iron valves.

Pipe Size	For Glass OD	For Glass Wall Thick.	Bronze Max. psi @ 300°F★	Bronze	Bronze Pair	Ductile Iron Max. psi @ 300°F★	Ductile Iron	Ductile Iron Pair	Type 316 Stainless Steel Max. psi @ 300°F★	Type 316 Stainless Steel	Type 316 Stainless Steel Pair
1/2	5/8"	3/32"	165	3713K3	$235.29	375	3700K11	$250.14	500	3700K13	$700.40
3/4	3/4"	7/64"	335	3713K4	235.27	375	3700K12	250.14	500	3700K14	700.40

★ Pressures listed are subject to the limitations of the gauge glass used.

(2) Select Your Gauge Glass

See our selection of tubular gauge glass below. To determine the length you need, subtract 2" from the center-to-center length between your valves. Then choose gauge glass based on the liquid pressure.

(3) Select a Set of Guard Rods

Construct one complete indicator with four 3/16" dia. rods. **Bronze** rods are for bronze and ductile iron valves. **Type 303 stainless steel** rods are for Type 316 stainless steel valves; they are more corrosion resistant than bronze.

For Glass Lg.	For Ctr.-to-Ctr. Lg.	Bronze	Bronze Set of 4	Type 303 Stainless Steel	Type 303 Stainless Steel Set of 4	For Glass Lg.	For Ctr.-to-Ctr. Lg.	Bronze	Bronze Set of 4	Type 303 Stainless Steel	Type 303 Stainless Steel Set of 4
8"	10"	3713K41	$14.38	3713K141	$28.22	18"	20"	3713K45	$31.14	3713K148	$61.10
9"	11"	3713K102	16.06	3713K161	33.69	20"	22"	3713K47	34.50	3713K171	69.80
10"	12"	3713K105	17.72	3713K162	36.94	22"	24"	3713K48	37.86	3713K63	74.29
11"	13"	3713K151	20.59	3713K163	40.22	23"	25"	3713K155	40.75	3713K142	77.58
12"	14"	3713K107	21.09	3713K164	43.52	24"	26"	3713K51	41.21	3713K65	80.87
13"	15"	3713K152	23.93	3713K165	46.79	30"	32"	3713K118	51.30	3713K67	100.64
14"	16"	3713K112	24.43	3713K166	50.09	36"	38"	3713K57	61.37	3713K144	120.42
15"	17"	3713K153	27.31	3713K167	53.37	42"	44"	3713K125	71.45	3713K72	142.06
16"	18"	3713K43	27.79	3713K147	54.52	48"	50"	3713K132	81.52	3713K149	159.97
17"	19"	3713K44	29.46	3713K168	59.93						

Tubular Gauge Glass


Clear


Easy View

Offering good resistance to clouding and pitting, this gauge glass provides a clear view of hydraulic oil, diesel fuel, and water. Sizes over 24" long are not for use with steam. Cut to size with a glass tube cutter (see 36755A21 on page 2357). Length tolerance is ±1/16".

Easy-view glass emphasizes liquid level with a red line between two white lines on the glass.

Glass Lg.	5/8" OD, 3/32" Wall Thick. Max. psi Liquid @ 150°F	Steam @ 425°F		1-5	6-Up	1/2" OD, 5/64" Wall Thick. Max. psi Liquid @ 150°F	Steam @ 425°F		1-5	6-Up	3/4" OD, 7/64" Wall Thick. Max. psi Liquid @ 150°F	Steam @ 425°F		1-5	6-Up
Clear															
8"	435	320	3724K11	$10.58	$9.39	460	340	3723K11	$9.17	$7.70	425	315	3725K11	$10.90	$8.48
9"	420	315	3724K12	12.63	11.23	445	335	3723K12	9.36	7.48	410	310	3725K12	12.28	9.82
10"	420	315	3724K13	13.25	11.91	445	335	3723K13	10.46	8.48	410	310	3725K13	13.19	10.45
11"	410	305	3724K14	15.38	12.61	435	325	3723K14	11.26	9.13	400	300	3725K14	15.62	12.93
12"	410	305	3724K15	17.63	15.48	435	325	3723K15	12.15	9.72	400	300	3725K15	15.94	13.43
13"	390	295	3724K16	14.44	12.93	415	315	3723K16	12.96	10.36	385	290	3725K16	16.54	13.53
14"	390	295	3724K17	15.47	13.63	415	315	3723K17	13.41	9.99	385	290	3725K17	16.97	13.75
15"	380	290	3724K18	16.26	13.84	405	310	3723K18	14.49	11.59	375	285	3725K18	18.03	16.33
16"	375	285	3724K19	16.92	14.34	400	300	3723K19	15.62	12.88	370	280	3725K19	18.91	17.29
17"	360	280	3724K21	17.83	14.54	385	295	3723K21	16.88	13.50	355	275	3725K21	21.61	17.50
18"	360	280	3724K22	20.18	15.07	385	295	3723K22	17.81	13.75	355	275	3725K22	23.08	18.29
20"	350	270	3724K24	21.13	18.42	375	285	3723K24	18.76	14.51	345	265	3725K24	24.38	19.27
22"	335	265	3724K26	25.17	19.90	355	280	3723K26	20.77	17.16	330	260	3725K26	27.73	21.38
23"	320	255	3724K27	26.56	21.02	340	270	3723K27	22.52	18.00	315	250	3725K27	29.38	22.26
24"	320	255	3724K28	28.13	21.53	340	270	3723K28	25.61	20.25	315	250	3725K28	32.12	23.56
30"	280	—	3724K29	30.18	22.62	295	—	3723K29	27.01	20.71	275	—	3725K29	33.48	24.44
36"	245	—	3724K31	33.49	25.12	260	—	3723K31	28.89	22.88	240	—	3725K31	39.46	27.15
42"	195	—	3724K32	37.82	30.50	205	—	3723K32	32.95	27.85	190	—	3725K32	44.90	33.44
48"	195	—	3724K33	43.38	33.57	205	—	3723K33	35.13	29.33	190	—	3725K33	48.98	36.42
Easy View															
8"	370	280	3729K11	12.76	10.19	390	300	3728K11	12.01	9.69	360	280	3730K11	15.75	12.66
9"	345	275	3729K12	13.25	10.60	370	295	3728K12	13.28	10.62	340	275	3730K12	16.90	15.12
10"	345	275	3729K13	13.72	10.97	370	295	3728K13	15.05	12.98	340	275	3730K13	17.82	15.25
11"	335	275	3729K14	16.50	13.39	360	295	3728K14	16.24	11.56	330	275	3730K14	18.42	15.45
12"	335	275	3729K15	16.98	13.79	360	295	3728K15	18.02	14.59	330	275	3730K15	19.76	16.82
13"	325	270	3729K16	17.89	14.72	345	290	3728K16	18.72	14.97	320	270	3730K16	21.57	19.48
14"	325	270	3729K17	19.57	15.65	345	290	3728K17	19.74	15.81	320	270	3730K17	23.31	20.62
15"	315	265	3729K18	21.35	17.08	335	285	3728K18	20.52	16.41	310	265	3730K18	25.16	20.65
16"	315	265	3729K19	22.30	17.84	335	285	3728K19	21.86	16.95	310	265	3730K19	26.73	22.25
17"	305	260	3729K61	22.71	20.27	325	280	3728K21	23.15	19.03	300	260	3730K21	27.68	22.82
18"	305	260	3729K22	23.91	21.26	325	280	3728K22	24.95	21.31	300	260	3730K22	28.74	24.91
20"	290	260	3729K24	27.09	24.29	310	280	3728K24	29.05	22.40	285	260	3730K24	31.87	25.92
22"	265	250	3729K26	27.99	24.41	280	270	3728K26	31.40	25.54	260	250	3730K26	36.35	28.63
23"	265	250	3729K27	29.71	24.13	280	270	3728K27	32.27	25.91	260	250	3730K27	37.87	29.11
24"	265	250	3729K28	31.37	25.06	280	270	3728K28	33.42	26.92	260	250	3730K28	39.36	31.75
30"	235	—	3729K29	36.81	31.21	250	—	3728K29	37.94	29.31	230	—	3730K29	47.54	34.44
36"	205	—	3729K71	40.24	35.40	215	—	3728K31	43.00	33.81	200	—	3730K31	56.23	39.00
42"	165	—	3729K32	46.84	43.19	175	—	3728K32	54.44	41.73	160	—	3730K32	61.47	46.25
48"	165	—	3729K33	53.44	47.05	175	—	3728K33	55.97	44.79	160	—	3730K33	72.99	57.61

Liquid-Level Indicators with Shutoff Valves

Shutoff valves stop flow so you can clean and replace gauge glass without removing these indicators from your equipment. Temperature range is 33° to 400° F. Connections are NPT male.

Indicators with Safety Spill Control—If gauge glass breaks, a ball check in each valve automatically closes for a temporary shutdown. The valves must be closed manually for permanent shutoff.

(1) Clog-resistant brass indicators have a needle point in the stem of the lower shutoff valve to clear the orifice as the valve closes. Use with hydraulic oil, water, saltwater, and steam. They have a 1/4" dia. drain cock, fluoroelastomer gaskets, and graphite stem packing.

(2) Type 316 stainless steel indicators are often used on expansion tanks. Use with hydraulic oil, water, and steam. They have a stainless steel drain valve, Hypalon-rubber reinforced PTFE gaskets, and PTFE stem packing.

(3) ASME-rated Type 316 stainless steel indicators conform to ASME Boiler Section I, A18 requirements. Use with alcohol-based solvents, acetic acid, and ketones as well as hydraulic oil, water, and steam. They have Type 316 stainless steel ball checks, a ball-valve style drain, Hypalon-rubber reinforced PTFE gaskets, and PTFE stem packing.

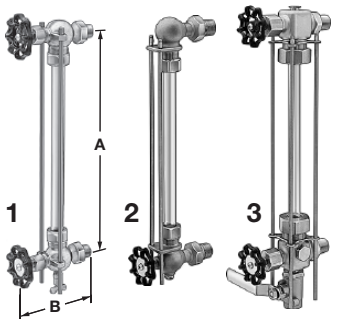

Pipe Size	(A)	O'all Ht.	Window Ht.	(B)	Max. psi Liquid @ 70° F	Max. psi Steam @ 400° F	Guard Rods, Qty.	Indicators		Replacement Glass	
Standard											
(1) Clog-Resistant Brass											
3/8	11 1/2"	14"	10"	3 15/16"	200	150	2	3695K11	$102.78	3724K13	$13.25
1/2	13 1/2"	15 3/4"	12"	3 7/8"	400	250	4	3695K19	255.95	3724K15	17.63
1/2	13 1/2"	16"	12"	3 15/16"	200	150	2	3695K12	105.93	3724K15	17.63
3/4	17 1/2"	20"	16"	3 7/8"	200	150	2	3695K13	134.18	3725K19	18.91
3/4	18"	20 1/4"	16"	4 1/4"	400	250	4	3695K21	276.90	3725K19	18.91
3/4	18"	20 1/2"	16"	4 1/16"	200	150	4	3695K18	196.83	3725K19	18.91
(2) Type 316 Stainless Steel											
1/2	14"	15 3/4"	10 1/4"	3 15/16"	250	250	2	3703K3	383.15	3724K15	17.63
3/4	14"	15 3/4"	10 1/4"	3 7/8"	250	250	2	3703K4	383.15	3724K15	17.63
With Safety Spill Control											
(1) Clog-Resistant Brass											
3/8	11 1/2"	14"	10"	3 15/16"	200	150	2	3695K41	109.62	3724K13	13.25
1/2	13 1/2"	15 3/4"	12"	4 1/4"	400	250	4	3695K49	283.98	3724K15	17.63
1/2	13 1/2"	16"	12"	3 15/16"	200	150	2	3695K42	112.77	3724K15	17.63
3/4	17 1/2"	20"	16"	3 7/8"	200	150	2	3695K43	141.13	3725K19	18.91
3/4	18"	20 1/4"	16"	4 1/4"	400	250	4	3695K51	302.17	3725K19	18.91
3/4	18"	20 1/2"	16"	4 1/16"	200	150	4	3695K48	203.72	3725K19	18.91
(3) ASME-Rated Type 316 Stainless Steel											
1/2	14"	18 1/16"	10"	4 7/8"	410	305	4	3712K43	661.15	3724K15	17.63
3/4	18"	22 1/16"	12"	4 13/16"	370	280	4	3712K44	657.04	3725K19	18.91

Flat Oval Gauge Glass and Gaskets

For use with armored flat-glass liquid-level gauges.

Gauge glass has a temperature range of –418° to 470° F. Maximum psi for liquid is 4,000; maximum psi for steam is 500. Gauge glass meets DIN 7080 and 7081, JIS B 8211, and MIL-G-16356D.

Gaskets are 1/16" thick. Temperature range is –40° to 600° F. Maximum psi for liquid is 1,200. Not rated for steam.


Gauge Glass

Gasket

Glass Size	Ht.	Thick.	Wd.	Gauge Glass		Gaskets	
1	4 1/2"	11/16"	1 5/16"	36885K21	$34.72	36885K81	$4.26
2	5 1/2"	11/16"	1 5/16"	36885K22	38.33	36885K82	4.26
3	6 1/2"	11/16"	1 5/16"	36885K53	39.44	36885K83	4.26
4	7 1/2"	11/16"	1 5/16"	36885K54	40.56	36885K84	4.26
5	8 5/8"	11/16"	1 5/16"	36885K55	42.08	36885K85	4.26
6	9 7/8"	11/16"	1 5/16"	36885K56	43.06	36885K86	4.26
7	11"	11/16"	1 5/16"	36885K57	49.44	36885K87	4.26
8	12 5/8"	11/16"	1 5/16"	36885K58	54.17	36885K88	4.26
9	13 3/8"	11/16"	1 5/16"	36885K59	57.22	36885K89	4.26

Gaskets for Tubular Gauge Glass



Fits Gauge Glass OD	O'all Size OD	ID	Thick.	Max. Temp.	Pkg. Qty.	Pkg.	
Neoprene—Gray							
1/2"	11/16"	7/16"	5/16"	200° F	24	3733K12	$8.33
5/8"	13/16"	9/16"	5/16"	200° F	24	3733K14	8.94
5/8"	1 1/8"	5/8"	1/4"	200° F	24	3733K16	10.38
3/4"	15/16"	11/16"	5/16"	200° F	24	3733K18	9.49
3/4"	1 1/4"	3/4"	1/4"	200° F	24	3733K21	11.10
EPDM Rubber—Black							
1/2"	11/16"	7/16"	5/16"	300° F	24	3250K22	9.73
5/8"	27/32"	39/64"	11/32"	300° F	24	3250K24	10.43
3/4"	29/32"	47/64"	25/64"	300° F	12	3250K26	12.99
TFE with Hypalon Rubber—White							
5/8"	15/16"	5/8"	7/16"	450° F	1	3712K52	2.49
3/4"	15/16"	3/4"	7/16"	450° F	1	3712K51	2.49

Liquid-Level Gauges

Install these gauges through the top opening of your tank or drum to check the level of hydraulic oil, diesel fuel, and water. They have an indicator with a UV-resistant acetate sight. Maximum tank/drum pressure is 70 psi. Maximum temperature is 110° F. Connection is NPT male.

Tank Gauges—They are graduated in volume fractions (Full, 7/8, 3/4, 5/8, 1/2, 3/8, 1/4, 1/8, and Empty). Float is polyethylene.

Drum Gauges—They are graduated in gallons, liters, and volume fractions (Full, 7/8, 3/4, 5/8, 1/2, 3/8, 1/4, 1/8, and Empty). Gauges with a 3/4 NPT connection have a Buna-N float; gauges with a 2 NPT connection have a polyethylene float. Gauges with a Type 316 stainless steel float rod are more corrosion resistant than gauges with a galvanized steel float rod.

To Order: For tank gauges, please specify exact tank depth within the inch ranges listed.

Tank Depth	Connection 1 1/2 NPT		2 NPT	
Tank Gauges				
Galvanized Steel Float Rod				
6" to 12"	3711K7	$49.24	3711K8	$49.24
13" to 18"	3711K9	49.24	3711K21	49.24
19" to 46"	3711K1	36.09	3711K2	36.09
47" to 60"	3711K41	43.59	3711K61	43.59
61" to 72"	3711K3	55.00	3711K5	55.00

Drum Size	Drum Depth	Connection 3/4 NPT		2 NPT	
Drum Gauges					
Galvanized Steel Float Rod					
30 Gal.	27 1/2"	1119K52	$67.33	1119K54	$51.11
55 Gal.	33 1/2"	1119K31	67.33	1119K33	51.11
Type 316 Stainless Steel Float Rod					
30 Gal.	27 1/2"	3753K21	114.67	3753K23	86.89
55 Gal.	33 1/2"	3753K32	114.67	3753K34	86.89


Drum Gauge

Liquid-Level Gauges & Transmitters

For information about pipe size, see pages 2-3.

Liquid-Level Gauges for Fuel

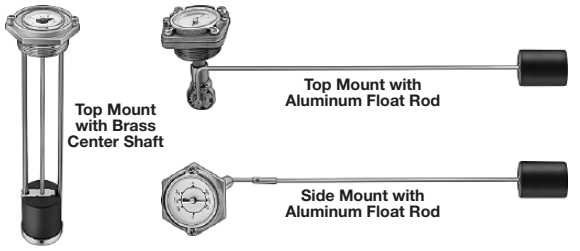

Designed for use with gasoline, diesel fuel, and fuel oil, these gauges indicate level in volume fractions (Full, 3/4, 1/2, 1/4, and Empty). They have a Buna-N float and a 2 5/16″ dia. zinc dial with a plastic lens. Temperature range is –40° to 158° F. Connection is NPT male.

Top-mount indicators with brass center shaft have zinc-plated steel guide rods.

Top- and **side-mount indicators with aluminum float rod** are UL listed MH8786 for flammable liquids. For shallower tanks, cut the rod 1/2″ to 1″ shorter than your tank depth to prevent it from touching the bottom.

Pipe Size	For Tank Depth	Max. psi		
Top Mount with Brass Center Shaft				
1 1/2	8″	25	3610K41	$58.80
1 1/2	12″	25	3610K43	60.11
1 1/2	18″	25	3610K44	72.67
1 1/2	19 1/2″	25	3610K45	75.00
1 1/2	24″	25	3610K46	86.57
1 1/2	30″	25	3610K47	101.28
1 1/2	36″	25	3610K42	114.35
Top Mount with Aluminum Float Rod				
1 1/2	Up to 36″	25	3718K73	123.43
2	Up to 36″	25	3718K74	120.28
Side Mount with Aluminum Float Rod				
1 1/4	Up to 25″	10	3717K66	44.22
1 1/2	Up to 21 1/2″	10	3717K67	42.93

Precision Liquid-Level Gauges



For liquid-level readings down to 1/8″, this gauge displays measurements on a 6″ dial face. The small hand displays feet, and the large hand displays inches. It comes with decals to mark high and low levels. Use with hydraulic oil, diesel fuel, and water.

It has an aluminum housing and a Type 304 stainless steel float and cable. Height from the top of the dial to the bottom of threads is 8 7/16″; float is 7 7/8″ long. Temperature range is 0° to 120° F. Connection is NPT male.

Pipe Size	Max. Tank Depth, ft.	Max. psi		
2	12	5	6151T83	$471.36

Liquid-Level Drum Gauges



Graduated in gallons and liters with sliding markers for calibration, these gauges keep tabs on the contents of 55-gallon drums. Vented for nonpressure applications, they are for use with hydraulic oil, diesel fuel, and water. Install through the opening of a horizontal drum, and attach a drain or valve to the second pipe connection. Gauges have an aluminum frame, a glass window, and TFE seals. Window height is 19 5/8″. Connections are NPT male.

Pipe Size	Temperature Range, °F	O'all Ht.	(B)		
PVC					
3/4	40° to 140°	22 1/8″	4″	3878K25	$60.97
Steel					
3/4	32° to 150°	22 1/8″	4 1/2″	3878K11	45.16
Type 304 SS					
3/4	32° to 150°	22 1/8″	4 1/2″	3878K21	56.45

Pop-Up Full-Tank Indicators



Avoid overfilling—these polyethylene indicators pop up when your tank is almost full. Use with hydraulic oil, diesel fuel, and water. Maximum pressure is not rated. Temperature range is 20° to 120° F. Connection is NPT male.

Pipe Size	O'all Ht.		
3/4	5″	3780K26	$15.31
3/4	11″	3780K27	21.37

Drop-In Liquid-Level Transmitters



Also known as level loggers, level sensors, and pressure transducers, these transmitters are designed to sit at the bottom of your tank in applications that make traditional mounting difficult. They have a 4-20 mA output signal, a 40-ft. cable, and operate on 10-35 volts DC. Accuracy is ±0.25%. Body is Type 316L stainless steel; seal is fluoroelastomer. Temperature range is –10° to 175° F. FM approved for Class I, II, and III; Division I; Groups A-G hazardous locations.

Transmitters for clean water have a nose cone that protects the sensing element from the effects of pressure surges.

Transmitters for water with solids have an unobstructed sensing element that resists clogging and sludge buildup in water with particulate and sewage.

Available Level Ranges, ft.	For Clean Water		For Water with Solids	
0-3	3450K51	$564.78	3450K31	$647.84
0-5	3450K53	564.78	3450K33	647.84
0-10	3450K55	564.78	3450K35	647.84
0-15	3450K57	564.78	3450K37	647.84
0-30	3450K59	564.78	3450K39	647.84

Noncontact Liquid-Level Transmitters



Since this ultrasonic transmitter measures liquid level with sound waves, you don't have to worry about fluid compatibility. It transmits readings with a 4-20 mA output signal. Mount at the top of your tank.

Housing is PVC and meets NEMA 4X for indoor/outdoor use and resistance to corrosive fluids and splashing water. Transmitter operates on 12-30 volts DC and has wire leads. Maximum pressure is 15 psi at 70° F. Temperature range is –40° to 140° F. Connection is NPT male.

Pipe Size	Operating Range	Dia.	Lg.		
1	4″ to 72″	4″	4 1/8″	5354K63	$579.03

Portable Sludge Indicators



Unspool the cable to lower the probe into your liquid and pull the trigger switch. When the probe encounters sludge, the indicator emits an alarm tone. The tone's pitch and volume increase with sludge thickness. Calibrate the indicator with a sensitivity control that can be set high enough to sound the alarm when the probe encounters even slightly cloudy water.

Body is aluminum. The indicator has a 33-ft. vinyl-jacketed cable that comes with marking decals. Six AA batteries are included. Temperature range is 0° to 120° F.

6164T1 ..... $1,376.92

Quick-Clamp Flow Sights



Sanitary quick-clamp connections make these sights great for food and dairy applications (see pages 228-232 for quick-clamp fittings). They are electropolished to eliminate any cavities that can collect debris. Sights also can be used with water. Flow can move in either direction and you can mount at any angle. Body is Type 316L stainless steel and window is glass. Seals are made of EPDM, are FDA compliant, and meet USP (United States Pharmacopeia) Class IV standard for food applications. Temperature range is –20° to 300° F.

For Tube OD	Window Lg.	O'all Lg.	Max. psi		
3/8″	3/4″	2 1/2″	150	4357K86	$542.32
1/2″	3/4″	3″	150	4357K81	522.58
3/4″	1 1/8″	3 3/8″	150	4357K82	577.16
1″	1 1/8″	3 1/2″	120	4357K83	584.13
1 1/2″	1 1/2″	4 1/8″	115	4357K84	610.88
2″	1 7/8″	4 3/4″	100	4357K85	758.18

Flow Sights

Designed with front and back windows for backlighting, these sights make it easy to see flow variations, even when used with dark liquid. Mount at any angle. They are for use with hydraulic oil and water, except *standard Type 316 stainless steel* sights are for use with water only. Windows are glass. Connections are NPT female.

Standard—Flow can move in either direction. *Bronze* sights have Buna-N seals. *Type 316 stainless steel* sights have PTFE seals.

Standard with Indicator—A Type 304 stainless steel flapper increases visibility of liquid movement. Seals are Buna-N. Flow can only move in one direction.

High-Temperature with Indicator—A Type 304 stainless steel flapper increases visibility of liquid movement. Seals are fluoroelastomer. Flow can only move in one direction.

High-Pressure with Indicator—A PPS flapper increases visibility of liquid movement. Flow can move in either direction.



Standard



Standard and High-Temperature with Indicator



High-Pressure with Indicator

Pipe Size	Window Dia.	*O'all* Lg.	*O'all* Ht.	Max. psi @ 70°F		
Standard						
Bronze—Temp. Range is –20° to 200°F						
3/8	1 3/4"	3 1/8"	2 1/8"	125	4206K22	$101.28
1/2	2"	3 3/4"	2 3/8"	125	4206K23	105.03
3/4	2"	3 3/4"	2 3/8"	125	4206K24	108.78
1	2"	4 3/8"	3 1/8"	125	4206K25	121.91
1 1/4	2"	4 3/8"	3 1/8"	125	4206K26	148.16
1 1/2	2"	4 5/8"	4"	125	4206K37	255.06
2	2"	4 5/8"	4"	125	4206K38	266.32
Type 316 Stainless Steel—Temp. Range is 40° to 200°F						
3/8	1 5/8"	3"	2 1/8"	125	4206K72	224.31
1/2	2"	4"	2 1/2"	125	4206K73	252.62
3/4	2"	4"	2 1/2"	125	4206K74	258.77
1	2"	4 3/8"	2 1/2"	125	4206K75	288.31
1 1/2	2 7/8"	5 1/2"	4"	125	4206K77	629.23
2	2 7/8"	5 1/2"	4"	125	4206K78	648.92
Standard with Indicator						
Brass—Temp. Range is 0° to 250°F						
3/8	1 7/8"	3 1/4"	2 1/4"	150	4213K161	123.33
1/2	1 7/8"	3 1/4"	2 1/4"	150	4213K162	119.66
3/4	1 7/8"	3 3/8"	2 1/4"	150	4213K163	121.18
1	2 5/8"	5 3/8"	3 1/8"	150	4213K164	168.50
1 1/2	2 5/8"	5 1/2"	3 1/8"	150	4213K166	174.47
2	2 5/8"	6 3/8"	3 1/8"	150	4213K167	203.39
High-Temperature with Indicator						
Brass—Temp. Range is 0° to 400°F						
3/8	1 7/8"	3 1/4"	2 1/4"	150	4213K141	126.79
1/2	1 7/8"	3 1/4"	2 1/4"	150	4213K142	126.70
3/4	1 7/8"	3 3/8"	2 1/4"	150	4213K143	128.32
1	2 5/8"	5 3/8"	3 1/8"	150	4213K144	184.67
1 1/4	2 5/8"	5 3/8"	3 1/8"	150	4213K145	184.67
1 1/2	2 5/8"	5 1/2"	3 1/8"	150	4213K146	182.96
2	2 5/8"	6 3/8"	3 1/8"	150	4213K147	217.17
Ductile Iron—Temp. Range is 0° to 400°F						
3/8	1 7/8"	3 1/4"	2 1/4"	150	4213K151	119.64
1/2	1 7/8"	3 1/4"	2 1/4"	150	4213K152	119.85
3/4	1 7/8"	3 3/8"	2 1/4"	150	4213K153	119.73
1	2 5/8"	5 3/8"	3 1/8"	150	4213K154	134.86
1 1/2	2 5/8"	5 1/2"	3 1/8"	150	4213K156	152.19
2	2 5/8"	6 3/8"	3 1/8"	150	4213K157	184.67
High-Pressure with Indicator						
Steel—Temp. Range is 0° to 150°F						
1/2	1 1/8"	3 5/8"	2"	400	4196K61	296.42
3/4	1 1/2"	4 1/4"	2 5/8"	400	4196K62	325.51
1	1 1/2"	4 1/4"	2 5/8"	400	4196K63	418.26
1 1/2	2"	5 5/8"	3 3/8"	400	4196K64	584.47
2	2"	5 5/8"	3 3/8"	400	4196K65	620.69
Type 316 Stainless Steel—Temp. Range is 0° to 150°F						
1/2	1 1/8"	3 5/8"	2"	400	4196K41	463.72
1	1 1/2"	4 1/4"	2 5/8"	400	4196K42	594.83

Flow Sights for Tubing

A nylon ball indicates flow in tubing lines. Mount horizontally or vertically. Flow can only move in one direction. The sight is made out of polycarbonate and is for use with water and compressed air. Maximum pressure is 10 psi at 70°F. Temperature range is 32° to 180°F. Connections are barbed and fit 1/4" to 3/8" ID tubing.



4218K61 ..... $33.33

High-Visibility Flow Sights

For monitoring flow at a glance, these sights have an internal rotor that spins when liquid moves through your line. All mount horizontally. Use with hydraulic oil and water. Connections are NPT female.

With Glass Front Window—Sights are bronze with an acetal rotor and Buna-N seals; flow can only move from right to left.

With Plastic Front Window—All have a nylon rotor. Flow can move in either direction. *Polypropylene* sights have Buna-N seals. *Brass* and *Type 316 stainless steel* sights have fluoroelastomer seals.

With Glass Front and Back Windows—They can be backlit to increase visibility of dark liquid. *Bronze* and *high-pressure bronze* sights permit flow from right to left; *Type 316 stainless steel* sights permit flow in either direction. *Bronze* sights have an acetal rotor and Buna-N seals. *High-pressure bronze* sights have a PPS rotor and fluoroelastomer seals. *Type 316 stainless steel* sights have a Type 316 stainless steel rotor and PTFE seals.



With Front Window



With Front and Back Windows

Pipe Size	Window Dia.	*O'all* Lg.	*O'all* Ht.	Max. psi @ 70°F	Rotor Color		
With Glass Front Window							
Bronze—Temp. Range is –20° to 200°F							
1/4	1 3/4"	3 1/8"	2 1/8"	125	White	4195K13	$93.33
3/8	1 3/4"	3 1/8"	2 1/8"	125	White	4195K14	95.56
1/2	2"	3 3/4"	2 3/8"	125	White	4195K15	99.89
3/4	2"	3 3/4"	2 3/8"	125	White	4195K16	106.67
1	2"	4 3/8"	3 1/8"	125	White	4195K17	126.67
1 1/4	2"	4 3/8"	3 1/8"	125	White	4195K18	173.33
1 1/2	2"	4 5/8"	4"	125	White	4195K19	199.74
2	2"	4 5/8"	4"	125	White	4195K21	217.78
With Plastic Front Window							
Polypropylene—Temp. Range is –20° to 180°F							
1/4	1 1/2"	3"	2 1/2"	100	Blue	80135K21	61.42
1/4	1 1/2"	3"	2 1/2"	100	Orange	80135K11	61.42
1/2	1 1/2"	3"	2 1/2"	100	Blue	80135K22	63.53
1/2	1 1/2"	3"	2 1/2"	100	Orange	80135K12	63.53
Brass—Temp. Range is –20° to 212°F							
1/4	1 1/2"	3"	2 1/2"	200	Blue	3468K31	142.89
1/4	1 1/2"	3"	2 1/2"	200	Orange	3468K11	142.87
1/2	1 1/2"	3"	2 1/2"	200	Blue	3468K32	145.04
1/2	1 1/2"	3"	2 1/2"	200	Orange	3468K12	145.00
3/4	1 1/2"	4"	2 1/2"	200	Blue	3468K33	149.48
3/4	1 1/2"	4"	2 1/2"	200	Orange	3468K13	149.46
1	1 1/2"	4"	2 1/2"	200	Blue	3468K34	151.84
1	1 1/2"	4"	2 1/2"	200	Orange	3468K14	151.80
Type 316 Stainless Steel—Temp. Range is –20° to 212°F							
1/2	1 1/2"	3"	2 1/2"	200	Blue	3468K42	206.58
1/2	1 1/2"	3"	2 1/2"	200	Orange	3468K22	206.58
3/4	1 1/2"	4"	2 1/2"	200	Blue	3468K43	228.65
3/4	1 1/2"	4"	2 1/2"	200	Orange	3468K23	228.65
1	1 1/2"	4"	2 1/2"	200	Blue	3468K44	232.34
1	1 1/2"	4"	2 1/2"	200	Orange	3468K24	232.34
With Glass Front and Back Windows							
Bronze—Temp. Range is –20° to 200°F							
1/8	1 3/4"	3 1/8"	2 1/8"	125	White	4200K38	124.44
1/4	1 3/4"	3 1/8"	2 1/8"	125	White	4200K41	120.00
3/8	1 3/4"	3 1/8"	2 1/8"	125	White	4200K42	124.44
1/2	2"	3 3/4"	2 3/8"	125	White	4200K43	128.89
3/4	2"	3 3/4"	2 3/8"	125	White	4200K31	131.11
1	2"	4 3/8"	3 1/8"	125	White	4200K32	148.89
1 1/4	2"	4 3/8"	3 1/8"	125	White	4200K35	177.78
1 1/2	2"	4 5/8"	4"	125	White	4200K33	252.73
2	2"	4 5/8"	4"	125	White	4200K34	263.64
High-Pressure Bronze—Temp. Range is 0° to 350°F							
1/4	1 1/8"	3 1/4"	2 1/2"	400	Brown	4195K31	264.44
3/8	1 1/8"	3 1/4"	2 1/2"	400	Brown	4195K32	264.44
1/2	1 1/8"	3 1/4"	2 1/2"	400	Brown	4195K33	294.45
3/4	1 1/2"	4 1/8"	3 3/8"	400	Brown	4195K34	303.83
1	1 1/2"	4 1/8"	3 3/8"	400	Brown	4195K35	341.38
Type 316 Stainless Steel—Temp. Range is 40° to 200°F							
1/4	1 5/8"	3"	2 1/8"	125	Gray	5088K53	217.85
3/8	1 5/8"	3"	2 1/8"	125	Gray	5088K54	230.15
1/2	2"	4"	2 1/2"	125	Gray	5088K55	248.62
3/4	2"	4"	2 1/2"	125	Gray	5088K56	260.92
1	2"	4 3/8"	2 1/2"	125	Gray	5088K57	291.69
1 1/4	2"	4 3/8"	2 1/2"	125	Gray	5088K58	297.85
1 1/2	2 7/8"	5 1/2"	4"	125	Gray	5088K59	615.69
2	2 7/8"	5 1/2"	4"	125	Gray	5088K61	640.31

Flow Sights

For information about pipe size, see pages 2-3.

Easy-Clean Flow Sights



Maintain a clear view without disrupting flow—twist the glass tube to clear buildup with internal wipers. When liquid moves through your line, it spins a rotor in these sights for flow monitoring at a glance. Use with water. Sights mount horizontally and permit flow in either direction. They have an acetal rotor and fluoroelastomer seals. Temperature range is 40° to 212°F. Connections are NPT female.

Type 316 stainless steel sights are more corrosion resistant than brass sights.

Pipe Size	Window Dia.	Lg.	Hex Size	Max. psi @ 70°F	Brass		Type 316 Stainless Steel	
1/4	1 3/8"	2 3/4"	1 1/2"	230	6416T1	$281.48	6416T8	$450.37
3/8	1 3/8"	2 3/4"	1 1/2"	230	6416T2	324.44	6416T9	494.81
1/2	1 3/4"	3 5/8"	2 1/4"	230	6416T3	343.70	6416T11	537.78
3/4	1 3/4"	3 5/8"	2 1/4"	230	6416T4	420.74	6416T12	586.67
1	2 3/8"	4 7/8"	2 3/4"	230	6416T5	448.89	6416T13	760.00
1 1/4	2 3/8"	4 7/8"	2 3/4"	230	6416T6	551.11	6416T14	970.37
1 1/2	2 3/8"	4 7/8"	2 3/4"	230	6416T7	622.22	6416T15	1,142.22

Slim-Line Flow Sights

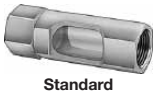

Standard



High Visibility

A compact body lets you see flow in lines with limited clearance. Sights have a front and back glass window. Mount horizontally or vertically; flow can move in either direction. Seals are Buna-N. *High-visibility sights* have a white indicator ball that makes flow easy to see from a distance.

Brass sights are for use with hydraulic oil and water.

Zinc-plated steel and **Type 303 stainless steel** sights are for use with hydraulic oil, diesel fuel, and water. *Type 303 stainless steel* sights are more corrosion resistant than brass or zinc-plated steel sights.

Pipe Size	Window Lg.	O'all Lg.	Hex Size	Max. psi @ 70°F	Standard		High Visibility	
NPTF (Dryseal) Female Connections								
Brass—Temp. Range is –40° to 180°F								
1/8	1"	3 1/4"	7/8"	435	1138K51	$33.36	1138K61	$37.58
1/4	1"	3 1/2"	7/8"	435	1138K52	25.56	1138K62	31.32
3/8	1 1/8"	4 1/4"	1"	425	1138K53	36.92	1138K63	43.74
1/2	1 1/4"	4 5/8"	1 1/4"	380	1138K54	46.24	1138K64	49.38
3/4	1 3/8"	5 1/4"	1 3/8"	345	1138K55	54.29	1138K65	61.39
1	1 1/2"	6 1/4"	1 5/8"	270	1138K56	147.59	1138K66	161.09
NPT Female Connections								
Zinc-Plated Steel—Temp. Range is 0° to 180°F								
1/8	1"	3"	3/4"	125	5069K51	13.40	5069K61	36.56
1/4	1"	3"	3/4"	125	5069K53	14.16	5069K62	23.98
3/8	1 3/8"	4 1/8"	1"	125	5069K55	17.11	5069K63	30.00
1/2	1 3/8"	5"	1"	125	5069K57	31.73	5069K64	41.78
3/4	1 1/2"	5 5/8"	1 1/4"	125	5069K59	36.41	5069K65	51.86
Type 303 Stainless Steel—Temp. Range is 0° to 180°F								
1/8	1"	3"	3/4"	125	6955T21	26.60	6955T26	77.96
1/4	1"	3"	3/4"	125	6955T22	32.20	6955T27	46.16
3/8	1 3/8"	4 1/8"	1"	125	6955T23	39.20	6955T28	56.32
1/2	1 1/4"	5"	1"	125	6955T24	47.60	6955T29	75.38
3/4	1 1/2"	5 5/8"	1 1/4"	125	6955T25	60.20	6955T31	92.88

Long-Length Flow Sights



With a long tubular window, these sights offer unobstructed visual inspection. Use with hydraulic oil, diesel fuel, and water. Mount at any angle. Flow can move in either direction. Type 316 stainless steel fittings and an FEP window provide excellent corrosion resistance. Temperature range is –100° to 250°F. Connections are NPT male.

O'all Lg.	Window Dia.	Window Lg.	Max. psi @ 70°F		
1/2 Pipe Size					
9"	5/8"	4"	150	5071K41	$119.76
11"	5/8"	6"	150	5071K61	125.35
17"	5/8"	12"	150	5071K31	142.14
29"	5/8"	24"	150	5071K81	175.68
1 Pipe Size					
10 1/4"	1 1/4"	4"	150	5071K43	242.88
12 1/4"	1 1/4"	6"	150	5071K63	256.54
18 1/4"	1 1/4"	12"	150	5071K33	297.46
30 1/4"	1 1/4"	24"	150	5071K83	379.26

High-Visibility Low-Flow Sights



Brass



Bronze

When liquid moves through these sights, indicator balls bounce in a domed window to show even small amounts of flow. Seals are Buna-N. Connections are NPT female.

Brass sights have two white balls and one green ball. Use with diesel fuel and water. Mount horizontally or vertically. Flow can move in either direction. Sights can also be panel mounted with a 2 3/8" cutout. They have a plastic window.

Bronze sights have one white ball. Use with hydraulic oil, water, and air. Sights mount horizontally and can be installed to permit flow in either direction. Window is glass.

Pipe Size	Temperature Range, °F	Window Dia.	O'all Lg.	O'all Ht.	Max. psi @ 70°F		
Brass							
1/4	35° to 120°	1 5/8"	3 1/8"	2 1/8"	150	4202K12	$83.41
3/8	35° to 120°	1 5/8"	3 1/8"	2 1/8"	150	4202K14	94.40
1/2	35° to 120°	1 5/8"	3 1/8"	2 1/8"	150	4202K16	103.45
3/4	35° to 120°	1 5/8"	3 1/8"	2 1/8"	150	4202K18	122.20
1	35° to 120°	1 5/8"	3 1/8"	2 5/8"	150	4202K19	193.97
Bronze							
1/2	32° to 250°	1 5/8"	2 7/8"	2 3/4"	100	4220K63	176.91
3/4	32° to 180°	2 7/8"	4 1/4"	3 3/4"	100	4220K17	351.62

Full-View Flow Sights



Standard



High Visibility

Monitor fluid movement, clarity, and color from multiple angles through the large cylindrical window.

Standard Sights—All are for use with water. They mount at any angle and permit flow in either direction. Connections are NPT female. *Bronze* sights have a glass window and neoprene seals. *PVC* sights have an acrylic window and fluoroelastomer seals; they provide excellent chemical resistance. *Type 316 stainless steel* sights have a glass window and PTFE seals; they are highly corrosion resistant.

High-Visibility Sights—A white indicator ball makes flow easy to see from a distance. Use with hydraulic oil and water. Mount horizontally or vertically. Flow can move in either direction when sights are mounted horizontally; when they are mounted vertically, flow must move from bottom to top to agitate the indicator ball. Sights have a brass body and a glass window. Connections are NPTF (Dryseal) female.

Pipe Size	Temperature Range, °F	Window Lg.	O'all Lg.	O'all Ht.	Max. psi @ 70°F		
Standard							
Bronze							
3/4	–20° to 250°	2 5/8"	4 1/2"	3 3/4"	150	4203K74	$285.00
1	–20° to 250°	2 5/8"	4 1/2"	4 1/4"	150	4203K75	342.50
1 1/2	–20° to 250°	2 5/8"	4 3/4"	4 3/4"	120	4203K83	399.60
2	–20° to 250°	3 1/4"	5 1/2"	5 3/4"	100	4203K84	510.00
PVC							
1/2	40° to 140°	2 1/4"	4 3/4"	2 1/2"	110	4338K21	229.80
3/4	40° to 140°	2 1/4"	4 3/4"	2 1/2"	110	4338K23	244.25
1	40° to 140°	2 1/4"	5 1/4"	3"	110	4338K25	257.37
1 1/2	40° to 140°	2 1/2"	5 7/8"	3 1/2"	110	4338K27	344.03
2	40° to 140°	3 1/8"	7 3/8"	4"	110	4338K29	416.27
Type 316 Stainless Steel							
1/2	40° to 200°	3"	4 1/2"	3 1/2"	50	4756K21	291.88
3/4	40° to 200°	3 1/2"	5 1/8"	3 7/8"	50	4756K22	315.94
1	40° to 200°	4"	5 5/8"	4 1/4"	50	4756K23	364.06
High Visibility							
Brass							
1/2	–40° to 212°	1 3/8"	4 1/4"	2"	130	4470K24	125.69
3/4	–40° to 212°	1 3/8"	4 1/4"	2"	130	4470K25	125.93
1	–40° to 212°	1 3/8"	4 7/8"	2 1/4"	130	4470K26	144.86
1 1/4	–40° to 185°	2 1/8"	5 5/8"	3"	100	4470K27	272.19
1 1/2	–40° to 185°	2 1/8"	5 7/8"	3"	100	4470K28	242.22
2	–40° to 150°	3 3/4"	7 1/2"	4"	60	4470K29	401.25

About Liquid-Level Switches

Activate pumps, motors, and process equipment based on the liquid level in your tank or vessel. Most of our switches can be set to empty a tank (normally open) or to fill a tank (normally closed).

Many liquid-level switches have an amp rating too low to activate equipment directly. If your equipment has a higher amp rating than the switch you're using, you must install a relay for operation. See 47475K on page 582. For additional relays, see pages 952-962.

Selecting a Float-Style Switch—Float-style switches activate when their float is moved by the changing level of your liquid. To ensure that the float is buoyant in your application, choose a switch with a minimum specific gravity at or below your liquid's specific gravity. For example, to use a float switch with gasoline, it must have a minimum specific gravity of 0.74 or less.

Specific Gravity of Common Liquids

	Specific Gravity @ 70° F		Specific Gravity @ 70° F
Water	1	Gasoline	0.74
Hydraulic Oil	0.90	Butane	0.60
Ethanol	0.79	Propylene	0.52

To Empty a Tank (Normally Open)

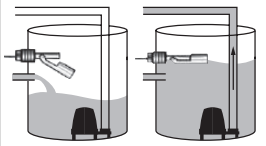

A switch installed to empty a tank (normally open) turns one circuit from "off" to "on" when the liquid level reaches the switch. In the example, the switch activates an internal pump to remove liquid from the tank.

To Fill a Tank (Normally Closed)

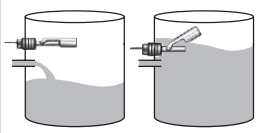

A switch installed to fill a tank (normally closed) turns one circuit from "on" to "off" when the liquid level reaches the switch. In the example, liquid is pumped into the tank until the level reaches the switch, which deactivates an external pump.

Horizontal-Mount Liquid-Level Float Switches

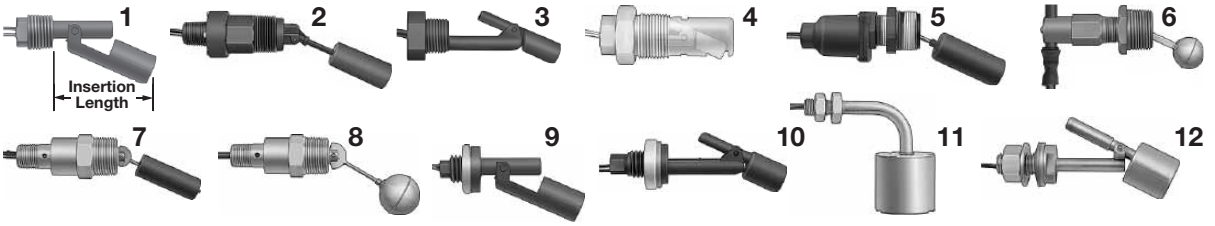

When liquid level moves the float, switches activate a pump to empty or fill a tank. They can be installed to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). *Styles 1, 3, 4, 6, & 9-12* are single pole, single throw (SPST); *Styles 2, 5, 7 & 8* are single pole, double throw (SPDT). They operate on 120/240 volts AC, unless noted. All mount horizontally through a tank wall. *Styles 4 & 11* have a shield around the float to minimize false switch activation in splashing liquid.

Choose switches with a metal body for durability in harsh conditions.

Switches with Threaded Tank Connection—Pipe and conduit connections are NPT male; spade connections are female. All switches mount from outside the tank.

Switches with Through-Wall Tank Connection—Install through an unthreaded hole in the tank wall. Switches mount from inside the tank and include a nut to secure.

	Tank Connection	Minimum Specific Gravity	Body/Float Material	Max. psi @ 70° F	Temperature Range, ° F	Insertion Lg.	Amps @ 120 volts AC	Electrical Connection		
With Threaded Tank Connection—Plastic Body										
For Water										
1	½ NPT	0.71	Polysulfone	150	40° to 225°	2 11/16″	0.16	Wire Leads	**49175K37**	$35.04
2	1 NPT	0.60	Polyphenylene Sulfide	150	40° to 212°	4¾″	1.00 ■	½ NPT Conduit	**46235K27**	81.22
2	1 NPT	0.60	Polyphenylene Sulfide	150	40° to 212°	4¾″	5.00	½ NPT Conduit	**46235K25**	69.08
For Hydraulic Oil and Diesel Fuel										
3	½ NPT	0.85	Polybutylene	100	-40° to 149°	2¾″	0.28	½ NPT Conduit	**50205K32**	28.61
3	½ NPT	0.85	Polybutylene	100	-40° to 149°	2¾″	0.28	¼″ Spade	**50205K35**	33.75
3	½ NPT	0.85	Polybutylene	100	-40° to 149°	2¾″	0.28	Wire Leads	**50205K31**	30.14
3	1¼ NPT	0.70	Polyphenylene Sulfide	200	-40° to 190°	4 1/8″	0.50	Wire Leads	**7040T11**	61.00
4	1 NPT	0.85	Polybutylene	100	-40° to 149°	1 7/8″	0.28	¼″ Spade	**50205K36**	81.11
5	1¼ NPT	0.70	Polyphenylene Sulfide	100	32° to 190°	4 13/16″	15.00	Wire Leads	**7040T12**	166.43
For Chemicals, Plating and Cleaning Solutions, and Solvents										
3	½ NPT	0.70	Polypropylene	100	-40° to 221°	2¾″	0.28	¼ NPT Conduit	**46515K43**	46.32
3	½ NPT	0.85	PVDF	100	-40° to 221°	2¾″	0.28	½ NPT Conduit	**5082K21**	37.89
4	1 NPT	0.70	Polypropylene	100	-40° to 221°	1 7/8″	0.28	½ NPT Conduit	**46515K81**	37.19
4	1 NPT	0.70	Polypropylene	100	-40° to 221°	1 7/8″	0.28	Wire Leads	**46515K71**	46.33
4	1 NPT	0.85	PVDF	100	-40° to 221°	1 7/8″	0.28	½ NPT Conduit	**5082K22**	85.19
With Threaded Tank Connection—Metal Body										
For Water										
6	1 NPT	0.70	303 SS/304 SS	350	40° to 200°	1¾″	0.50 ■	⅛ NPT Conduit	**48255K31**	179.17
6	1 NPT	0.90	Brass/Polypropylene	1,000	40° to 200°	1¾″	0.50 ■	⅛ NPT Conduit	**48255K26**	93.37
For Hydraulic Oil and Diesel Fuel										
1	½ NPT	0.55	316 SS/Polypropylene	100	-40° to 225°	3 11/16″	0.17	½ NPT Conduit	**46515K12**	218.61
1	½ NPT	0.65	316 SS/Nylon	100	-40° to 250°	3 11/16″	0.17	½ NPT Conduit	**5123K22**	218.61
7	1 NPT	0.80	Brass/Buna-N	150	-40° to 180°	3 7/8″	0.17	½ NPT Conduit	**5126K19**	247.66
7	1 NPT	0.85	316 SS/304 SS	500	-40° to 300°	5 5/16″	0.17	½ NPT Conduit	**46815K14**	310.88
8	1 NPT	0.90	316 SS	900	-40° to 300°	4 1/8″	0.17	½ NPT Conduit	**46815K12**	325.89
With Through-Wall Tank Connection—Plastic Body										
For Water										
9	½″ Hole	0.71	Polysulfone	150	40° to 225°	2 11/16″	0.16	Wire Leads	**49175K38**	37.43
9	⅝″ Hole	0.71	Polysulfone	150	40° to 225°	2 11/16″	0.16	Wire Leads	**49175K39**	37.84
For Hydraulic Oil and Diesel Fuel										
10	⅝″ Hole	0.85	Polybutylene	100	-40° to 149°	2 7/8″	0.28	Wire Leads	**50205K33**	35.43
With Through-Wall Tank Connection—Metal Body										
For Chemicals, Plating and Cleaning Solutions, and Solvents										
11	⅜″ Hole	0.80	316 SS	300	-40° to 392°	2 9/16″	0.28	Wire Leads	**46815K18**	71.76
12	½″ Hole	0.80	316 SS	100	-40° to 392°	3 3/16″	0.28	Wire Leads	**46815K23**	78.19

■ Not rated for 240 volts AC.

Liquid-Level Switches

For information about liquid-level switches, see page 579. For information about pipe size, see pages 2-3.

Hazardous Location Horizontal-Mount Liquid-Level Float Switches



Designed for use in areas where flammable substances are present, these switches are CSA certified for hazardous locations. Please see the chart to determine which switches meet the classifications you need. Switches can be installed to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). All operate on 120/240 volts AC and have wire leads. Mount horizontally through a tank wall. Pipe and conduit connections are NPT male, except *Style 3* have an NPT female conduit connection.

Switches with a stainless enclosure are more corrosion resistant than switches with a brass enclosure. *Styles 1 & 2* have a Type 303 enclosure; *Styles 3, 4 & 5* have a Type 316 enclosure.

Styles 1, 2 & 3 are single pole, double throw (SPDT). Enclosure meets NEMA 4 for indoor/outdoor use and resistance to splashing water.

Styles 4 & 5 are single pole, single throw (SPST).

CSA Hazardous Location Classifications					
	Style 1	Style 2	Style 3	Style 4	Style 5
Class I, Div. 1 & 2, Gases & Vapors					
Group A (Acetylene)				•	
Group B (Hydrogen)	•	•		•	
Group C (Ethylene)	•	•	•	•	•
Group D (Propane)	•	•	•	•	•
Class II, Div. 1 & 2, Combustible Dust					
Group E (Metals, Div. 1)	•	•	•	•	•
Group F (Coal)	•	•	•	•	•
Group G (Grain)	•	•	•	•	•
Class III, Div. 1 & 2, Fibers & Flyings					
_____				•	•

	Tank Connection	Minimum Specific Gravity	Body/ Float Material	Temperature Range, °F	Insertion Lg.	Amps @ 120 volts AC	Conduit Connection	Brass Enclosure Max. psi @ 70°F			Stainless Enclosure Max. psi @ 70°F		
For Water and Diesel Fuel													
1	1 NPT	0.90	Polypro.	–4° to 220°	1¾″	5.00	¾ NPT	1,000	**4909K63**	$175.94	2,000	**4909K65**	$224.51
For Water and Hydraulic Oil													
1	1 NPT	0.70	304 SS	–4° to 220°	1¾″	5.00	¾ NPT	350	**4909K12**	215.87	___	_____	_____
2	1 NPT	0.50	304 SS	–4° to 220°	2⅞″	5.00	¾ NPT	200	**4909K11**	204.00	200	**4909K13**	257.97
3	1½ NPT	0.70	316 SS	–4° to 275°	13³⁄₁₆″	10.00	¾ NPT	100	**4914K86**	405.77	100	**4914K87**	564.07
For Plating and Cleaning Solutions													
4	½ NPT	0.70	316 SS	–4° to 392°	4⅝″	0.28	¼ NPT	___	_____	_____	300	**46815K11**	135.80
4	½ NPT	0.70	316 SS	–4° to 392°	4⅝″	0.28	½ NPT	___	_____	_____	300	**46815K22**	143.56
4	1 NPT	0.70	316 SS	–4° to 392°	4⅝″	0.28	½ NPT	___	_____	_____	300	**46815K21**	162.89
For Chemicals, Fuels, and Solvents													
5	1½ NPT	0.40	316 SS	–4° to 300°	3¼″	0.83	½ NPT	___	_____	_____	1,500	**5300K55**	359.48
5	2 NPT	0.40	316 SS	–4° to 300°	3¼″	0.83	½ NPT	___	_____	_____	1,500	**5300K58**	403.88

Food and Beverage Horizontal-Mount Liquid-Level Float Switches

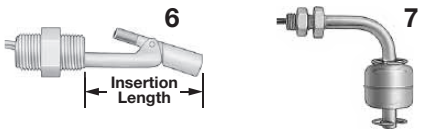

Often used in food-processing applications, these switches meet NSF/ANSI standards. They can be installed to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). Switches are single pole, single throw (SPST). All operate on 120/240 volts AC and have wire leads. Mount horizontally through a tank wall. Switches are CSA certified, and components are UL recognized.

Switches with Threaded Tank Connection—Pipe and conduit connections are NPT male. All switches mount from outside the tank.

Switch with Through-Wall Tank Connection—Install through an unthreaded hole in the tank wall. Switch mounts from inside the tank and includes a nut to secure.

	Tank Connection	Minimum Specific Gravity	Body/Float Material	Max. psi. @ 70°F	Temperature Range, °F	Insertion Lg.	Amps @ 120 volts AC	Electrical Connection		
With Threaded Tank Connection										
For Food and Beverage—Meet NSF/ANSI Standard 169										
6	½ NPT	0.70	Polypropylene	100	33° to 221°	2¾″	0.28	½ NPT Conduit	**46515K41**	$16.21
6	½ NPT	0.70	Polypropylene	100	33° to 221°	2¾″	0.28	Wire Leads	**46515K45**	14.07
With Through-Wall Tank Connection										
For Food and Beverage—Meets NSF/ANSI Standard 169										
7	⅜″ Hole	0.80	316 SS	300	33° to 392°	2³⁄₁₆″	0.28	Wire Leads	**46815K17**	45.57

Dual-Level Switch Kits for Liquids



Activate equipment to empty and fill your tank with a single switch. These kits include everything you need to build a custom dual-level switch: two single pole, single throw (SPST) float switches with wire leads, fittings, and cut-to-length tubing. Mount vertically at the top of your tank. Each float switch can be installed to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). Switches operate on 120/240 volts AC. Connections are NPT male.

Tank Connection	Minimum Specific Gravity	Float/Tube Material	Max. psi @ 70°F	Temperature Range, °F	Insertion Lg.	Float Lg.	O'all Lg.	O'all Dia.	Amps @ 120 volts AC		
For Water											
2 NPT	0.85	Polypropylene	100	33° to 221°	36″	2″	38⅝″	1½″	0.50	**5267K44**	$309.40
For Water, Hydraulic Oil, and Diesel Fuel											
2 NPT	0.55	Buna-N/Brass	150	33° to 180°	33½″	1¹¹⁄₁₆″	35″	1⅞″	0.17	**5267K84**	476.31
2 NPT	0.75	316 SS	750	33° to 275°	34″	2″	35½″	2¹⁄₁₆″	0.17	**5267K88**	938.00

For information about liquid-level switches, see page 579. For information about pipe size, see pages 2-3.

Vertical-Mount Liquid-Level Float Switches

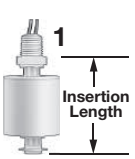













Automate tank emptying and filling—these switches activate pumps and other equipment when liquid level reaches the float. All are single pole, single throw (SPST). NO (normally open) switches turn one circuit from "off" to "on"; NC (normally closed) switches turn one circuit from "on" to "off"; and NO/NC switches can be installed either way. Switches operate on 120/240 volts AC and have wire leads, except *Style 6* are not rated for 240 volts AC. They mount vertically through the top or bottom of your tank, unless noted. *Styles 3 & 7* have a shield around the float to minimize false switch activation caused by splashing liquid.

Choose switches with a metal float for durability in harsh conditions.

Switches with Threaded Tank Connection—Pipe connection is NPT male. All switches mount from outside the tank.

Switches with Through-Wall Tank Connection—Install through an unthreaded hole in the tank wall. Switches mount from inside the tank and include a nut to secure.

Switches with Bracket-Mount Tank Connection—Install with two 9/32″ holes to the inside of the tank wall (fasteners not included).

	Tank Connection	Minimum Specific Gravity	Switch Type	Float/Stem Material	Max. psi @ 70° F	Temperature Range, ° F	Insertion Lg.	Float Ht.	O'all Dia.	Amps @ 120 volts AC		
With Threaded Tank Connection—Plastic Float												
For Water												
1	1/8 NPT	0.60	NO/NC	Polypropylene	50	33° to 225°	1 9/16″	1″	1″	0.17	**50195K11**	$39.48
1	1/8 NPT	0.90	NO/NC	Polypropylene	150	33° to 150°	1 9/16″	1″	1″	0.17	**50195K75**	50.25
1	1/8 NPT	0.90	NO/NC	Polypropylene	150	33° to 150°	1 11/16″	1″	3/4″	0.17	**50195K65**	28.73
1	1/4 NPT	0.85	NO/NC	CPVC	15	33° to 180°	2 15/16″	1 13/16″	1 1/2″	0.17	**5127K21**	85.30
1	1/4 NPT	0.55	NO/NC	Polysulfone	50	33° to 225°	2 7/8″	1 7/8″	1 7/8″	0.80	**5128K23**	100.50
2	1/8 NPT	0.62	NC	Buna-N/Polypropylene	50	33° to 150°	1 11/16″	1″	1 7/8″	0.17	**48095K41**	24.37
For Hydraulic Oil and Diesel Fuel												
1	1/8 NPT	0.45	NO/NC	Buna-N/Nylon	150	33° to 250°	1 9/16″	1″	1″	0.17	**48095K11**	39.96
1	1/8 NPT	0.55	NO/NC	Buna-N/PBT	150	33° to 149°	1 7/8″	1″	1″	0.28	**48095K61**	12.88
1	1/8 NPT	0.75	NO	PTFE/Type 316 SS	1,000	33° to 300°	1 11/16″	1″	7/8″	0.17	**48265K26**♦	64.67
1	1/8 NPT	0.75	NC	PTFE/Type 316 SS	1,000	33° to 300°	1 11/16″	1″	7/8″	0.17	**48265K46**♦	64.67
1	1/4 NPT	0.55	NO/NC	Buna-N/PBT	150	33° to 149°	2 7/8″	2″	1 1/4″	0.50	**48095K81**	37.39
3	1/8 NPT	0.55	NO/NC	Buna-N/PBT	150	33° to 149°	1 7/8″	1″	1 1/2″	0.28	**48095K62**	25.84
3	1/4 NPT	0.55	NO/NC	Buna-N/PBT	150	33° to 149°	2 7/8″	2″	2″	0.50	**48095K82**	48.88
For Chemicals, Plating and Cleaning Solutions, and Solvents												
1	1/4 NPT	0.85	NO/NC	Polypropylene/CPVC	100	33° to 221°	2 7/8″	2″	1 1/2″	1.00	**50195K62**	44.05
1	1/4 NPT	0.85	NO/NC	Polypropylene	100	33° to 221°	2 7/8″	2″	1 1/2″	0.50	**50195K85**	44.93
3	1/8 NPT	0.95	NO/NC	Buna-N/PVDF	15	33° to 221°	1 7/8″	1″	1 1/2″	0.28	**44785K16**	46.42
3	1/8 NPT	0.90	NO/NC	Polypropylene	100	33° to 221°	1 7/8″	1″	1 1/2″	0.28	**50195K94**	25.09
3	1/4 NPT	0.85	NO/NC	Polypropylene	100	33° to 221°	2 7/8″	2″	2″	0.50	**50195K84**	48.61
With Threaded Tank Connection—Metal Float												
For Water												
4	1/2 NPT	0.40	NO/NC	316 SS	300	33° to 300°	4 13/16″	3 1/2″	3 1/2″	0.83	**4646K37**	237.68
For Hydraulic Oil and Diesel Fuel												
5	1/8 NPT	0.80	NO/NC	316 SS/PTFE	300	33° to 300°	1 11/16″	1 1/16″	1 1/8″	0.17	**4646K82**	78.44
For Chemicals, Plating and Cleaning Solutions, and Solvents												
3	1/4 NPT	0.65	NO/NC	316 SS	200	33° to 482°	2 15/16″	2 1/8″	2 3/8″	0.50	**4646K16**	82.70
With Through-Wall Tank Connection—Plastic Float												
For Water												
1	3/8″ Hole	0.90	NO/NC	Polypropylene	150	33° to 150°	1 9/16″	1″	1″	0.17	**50195K76**	43.07
1	7/16″ Hole	0.90	NO/NC	Polypropylene	150	33° to 150°	1 11/16″	1″	3/4″	0.17	**50195K67**	32.80
For Chemicals, Plating and Cleaning Solutions, and Solvents												
6	3/8″ Hole	0.70	NO	Polypropylene	50	33° to 221°	1 1/4″	5/8″	9/16″	0.12	**50195K74**	24.80
6	3/8″ Hole	0.70	NC	Polypropylene	50	33° to 221°	1 1/4″	5/8″	9/16″	0.12	**50195K73**	24.80
With Bracket-Mount Tank Connection—Plastic Float												
For Hydraulic Oil and Diesel Fuel												
7	Bracket	0.55	NO	Buna-N/Type 316 SS	150	33° to 140°	3 3/16″	1 9/16″	2 5/8″	0.17	**4879K21**	170.55
7	Bracket	0.55	NO	Buna-N/Type 316 SS	150	33° to 140°	3 3/16″	1 9/16″	2 5/8″	0.40	**4879K25**	174.20
7	Bracket	0.55	NC	Buna-N/Type 316 SS	150	33° to 140°	3 3/16″	1 9/16″	2 5/8″	0.17	**4879K23**	170.55
7	Bracket	0.55	NC	Buna-N/Type 316 SS	150	33° to 140°	3 3/16″	1 9/16″	2 5/8″	0.40	**4879K27**	174.20
For Chemicals, Plating and Cleaning Solutions, and Solvents												
7	Bracket	0.85	NO/NC	Polypropylene	100	33° to 221°	3 7/8″	2″	2 1/2″	0.50	**4666K73**	83.21
With Bracket-Mount Tank Connection—Metal Float												
For Chemicals, Plating and Cleaning Solutions, and Solvents												
7	Bracket	0.65	NO/NC	316 SS	85	33° to 230°	3 7/8″	2″	2 1/2″	0.50	**4666K74**	133.61

♦ Top mount only.

Hazardous Location Vertical-Mount Liquid-Level Float Switches

For hazardous locations with flammable gases and combustible dust, these switches are UL listed and CSA certified. Both meet Class I, Groups C and D; Class II, Groups E, F, and G. Switches are single pole, double throw (SPDT) and can be installed to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). They operate on 120/240 volts AC and have wire leads. Mount vertically through the top of your tank. Pipe connection is NPT male; conduit connection is 3/4 NPT female. Enclosure meets NEMA 4 for indoor/outdoor use and resistance to splashing water.

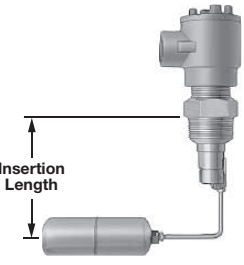

Tank Connection	Minimum Specific Gravity	Body/Float Material	Max. psi @ 70° F	Temperature Range, °F	Insertion Lg.	Float Lg.	Float Dia.	Amps @ 120 volts AC		
For Water										
1 1/2 NPT	0.70	Brass/316 SS	100	33° to 275°	6″	4 1/2″	1 5/8″	10	**4914K96**	$405.77
For Water, Hydraulic Oil, and Diesel Fuel										
1 1/2 NPT	0.70	316 SS	100	33° to 275°	6″	4 1/2″	1 5/8″	10	**4914K97**	564.07

Liquid-Level Switches

For information about liquid-level switches, see page 579. For information about pipe size, see pages 2-3.

Food and Beverage Vertical-Mount Liquid-Level Float Switches

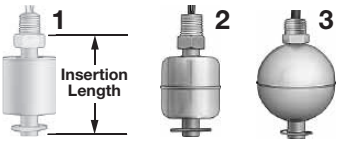

For use with food-processing equipment, these switches meet NSF/ANSI Standard 169. They are single pole, single throw (SPST) and can be installed to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). Switches operate on 120/240 volts AC and have wire leads. Mount vertically through the top or bottom of your tank. They are CSA certified and have UL-recognized components, except the 1-amp switch is not CSA certified and does not have UL-recognized components. Pipe connection is NPT male. **Switches with a metal float** withstand high pressures and temperatures.

	Tank Connection	Minimum Specific Gravity	Float/Stem Material	Max. psi @ 70°F	Temperature Range,°F	Insertion Lg.	Float Ht.	O'all Dia.	Amps @ 120 volts AC		
Plastic Float											
1	1/8 NPT	0.90	Polypropylene	100	33° to 221°	1 7/8"	1"	1"	0.28	**50195K93**	$13.14
1	1/8 NPT	0.95	PVDF	15	33° to 221°	1 7/8"	1"	1"	0.28	**44785K13**	31.33
1	1/4 NPT	0.85	Polypropylene/316 SS	100	33° to 221°	2 7/8"	2"	1 1/2"	0.50	**50195K13**	49.11
Metal Float											
2	1/8 NPT	0.80	316 SS	300	33° to 300°	1 11/16"	1 11/16"	1 1/8"	0.17	**4646K81**	52.25
2	1/8 NPT	0.80	316 SS	300	33° to 392°	1 7/8"	1 3/16"	1 1/8"	0.28	**4646K83**	49.61
2	1/4 NPT	0.65	316 SS	200	33° to 392°	2 15/16"	2 1/8"	2 1/8"	0.50	**4646K85**	53.79
2	1/4 NPT	0.65	316 SS	200	33° to 482°	2 15/16"	2 1/8"	2 1/8"	0.50	**4646K15**	62.67
3	1/4 NPT	0.73	316 SS	750	33° to 300°	2 7/8"	2"	2 3/16"	0.17	**4646K21**	65.47
3	1/4 NPT	0.73	316 SS	750	33° to 300°	2 7/8"	2"	2 3/16"	0.83	**4646K23**	64.05
3	1/4 NPT	0.80	316 SS	500	33° to 392°	2 7/8"	2 1/16"	2 1/16"	1.00	**4646K53**	79.16

Relays for Low-Amp Liquid-Level Switches



Relay with Sealed Connections

Install one of these relays to actuate equipment that has a higher amp rating than your switch. Relays are single pole, double throw (SPDT) and can be set to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). They can be used with any of our single pole, single throw (SPST) switches (see pages 579-582). They accept 120/240 volts AC signal input and have a terminal block connection. A 10-second time delay minimizes false switch activation in splashing liquid. Housing is plastic.

Compact relay has knockouts in the base and sides for easy cable entry. **Relay with sealed connections** meets IP65 for protection from dust and low-pressure jets.

	Temperature Range,°F	Ht.	Wd.	Dp.	Amps @ 120 volts AC		
Compact	–4° to 122°	3 3/8"	3 3/8"	1 9/16"	8	**47475K62**	$90.67
With Sealed Connections	–4° to 122°	3 3/16"	6 5/16"	2 3/8"	8	**47475K82**	189.09

Drop-In Liquid-Level Float Switches



Fixed-Level Switch for Water



Adjustable-Level Switch for Water



Adjustable-Level Switch for Thick Liquids

Hang these free-floating switches in your tank for liquid-level monitoring that doesn't require installation through a tank wall. Normally open switches turn one circuit from "off" to "on," and normally closed switches turn one circuit from "on" to "off."

Fixed-Level Float Switches—Often used to trigger an alarm, these switches have a single on/off set point. They are single pole, single throw (SPST). **Switches for water** have a three-prong piggyback switch and an ABS float. They operate on 120 volts AC and are UL listed. **Switches for thick liquids and slurries** have wire leads and a polypropylene float for buoyancy in viscous liquids. They operate on 120/240 volts AC and are CSA certified.

Adjustable-Level Float Switches—To prevent excessive switch activation in tanks with fluctuating levels, adjust the on/off set point by moving the weight along the cable or altering the cable length. Switches have wire leads and operate on 120/240 volts AC. **Switches for water** are single pole, single throw (SPST) and have an ABS float. **Switches for thick liquids and slurries** are single pole, double throw (SPDT) and have a polypropylene float for buoyancy in viscous liquids. CSA certified.

Cable Lg., ft.	Minimum Specific Gravity	Max. psi @ 70°F	Temperature Range, °F	On/Off Set Point	Float Dia.	Float Lg.	Amps @ 120 volts AC	Wired "Off" to "On" (Normally Open)		Wired "On" to "Off" (Normally Closed)	
Fixed-Level Float Switches											
For Water											
9 1/2	1.00	20	33° to 140°	10"	2 1/2"	3 1/4"	15.00	**51445K811**	$34.77	**51445K813**	$34.77
9 1/2	1.00	20	33° to 140°	10"	3 1/2"	3 1/4"	15.00	**51445K911**	34.77	**51445K912**	34.77
19 1/2	1.00	20	33° to 140°	10"	2 1/2"	3 1/4"	15.00	**51445K821**	43.40	**51445K823**	43.40
19 1/2	1.00	20	33° to 140°	10"	3 1/2"	3 1/4"	15.00	**51445K921**	43.40	**51445K922**	43.40
29 1/2	1.00	20	33° to 140°	10"	2 1/2"	3 1/4"	15.00	**51445K831**	54.97	**51445K832**	54.97
29 1/2	1.00	20	33° to 140°	10"	3 1/2"	3 1/4"	15.00	**51445K931**	54.97	**51445K932**	54.97
49 1/2	1.00	20	33° to 140°	10"	2 1/2"	3 1/4"	15.00	**51445K841**	66.57	**51445K842**	66.57
49 1/2	1.00	20	33° to 140°	10"	3 1/2"	3 1/4"	15.00	**51445K941**	66.57	**51445K942**	66.57
For Thick Liquids and Slurries											
16	0.70	28	14° to 140°	10"	6 3/4"	6 1/8"	6.00	**47025K39**	133.33	**47025K38**	133.33
16	0.95	28	14° to 140°	10"	3"	4 7/8"	6.00	**47025K15**	105.56	**47025K16**	105.56
Adjustable-Level Float Switches											
For Water											
19 1/2	0.70	29	33° to 122°	8" to 39"	2 7/8"	4 1/4"	0.50	**49045K2**	177.78	**49045K4**	177.78
For Thick Liquids and Slurries											
16	0.70	28	14° to 140°	10" to 50"	6 3/4"	6 1/8"	6.00	**47025K49**	209.72	**47025K48**	209.72
16	0.95	28	14° to 140°	10" to 40"	3"	4 7/8"	6.00	**47025K26**	154.17	**47025K27**	154.17

Liquid-Level Compressed-Air Switches

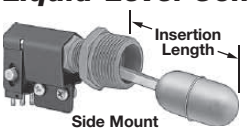

These switches activate with a three-way compressed air valve instead of an electrical signal. When liquid moves the float, it opens the air valve. Switches require a 30-100 psi air supply. Use with hydraulic oil, diesel fuel, and water. Stem is Type 301 stainless steel, and float is Type 304 stainless steel. Tank connection is NPT male; valve and air connections accept 3/32" ID tubing.

Switches with a Type 303 stainless steel body are more corrosion resistant than switches with a brass body.

Mounting Position	Tank Connection	Minimum Specific Gravity	Max. psi @ 70°F	Temperature Range, °F	Insertion Lg.	O'all Lg.	Brass Body		Type 303 Stainless Steel Body	
Side Mount	1 NPT	0.5	200	35° to 140°	2 7/8"	6 7/8"	**3792K31**	$299.09	**3792K41**	$343.64
Top Mount	1 NPT	0.5	200	35° to 140°	3 1/2"	7 5/8"	**3792K32**	385.64	**3792K42**	451.82

For information about liquid-level switches, see page 579. For information about pipe size, see pages 2-3.

Vibration-Resistant Liquid-Level Switches


NPT Male


BSPP Male

Since these switches detect liquid level with infrared light instead of a float, vibration in your tank won't cause false switch activation. Also known as optical switches, they sense liquid level by reflecting light into a receiver that sends an output signal to activate an alarm or control circuit. Switches are sensitive to light and should be shielded or used in enclosed tanks. They are single pole, single throw (SPST) and have wire leads. Mount horizontally or vertically. **Switches with an NPT connection** are for use with water. **Switches with a BSPP connection** are for use with acids, bases, and water. They have an external LED for visual indication of when the output signal is on.

Activates When Wet (Normally Open)—When the tip is submerged in liquid, light stops reflecting into the receiver and the output signal is activated.

Activates When Dry (Normally Closed)—When the tip is exposed to air, light reflects into the receiver and the output signal is activated.

Tank Connection	Max. psi @ 70° F	Temperature Range, °F	Insertion Lg.	O'all Lg.	Hex Size	Voltage, DC	Output Signal	Activates When Wet (Normally Open)		Activates When Dry (Normally Closed)	
NPT Male Connection											
1/4	150	0° to 176°	1/4"	2 3/16"	5/8"	10-28	40 mA	46455K48	$120.84	46455K38	$120.84
BSPP Male Connection											
3/8	145	–4° to 176°	1 3/4"	3"	1 1/16"	10-40	200 mA	4949K35	127.10	4949K33	127.10

Level Switches for Conductive Liquids



Designed to use the properties of conductive liquid for operation, these switches activate when conductive liquid reaches two Type 316 stainless steel tips to close the circuit. These switches can be used with dirty fluid and liquid with a high solid content, but they are not for use with flammable liquids. Housing meets NEMA 6 to withstand occasional submersion. Switches have a 6-ft. cable with wire leads. They are single pole, double throw (SPDT) and can be set to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). Switches mount horizontally or vertically. Tank connection is NPT male. **Standard** switches have a polypropylene body. **High-pressure** switches have a PPS body.

Tank Connection	Minimum Specific Gravity	Insertion Lg.	Amps @ 24 volts DC	Standard: Max. psi @ 70° F	Standard: Temperature Range, °F			High Pressure: Max. psi @ 70° F	High Pressure: Temperature Range, °F		
3/4 NPT	1	1 1/2"	1	85	–10° to 140°	3915K13	$205.00	290	–10° to 176°	3915K11	$215.79
3/4 NPT	1	3"	1	85	–10° to 140°	3915K14	229.53	290	–10° to 176°	3915K12	243.42

External-Mount Liquid-Level Switches



For visual monitoring and easy access for maintenance, these switches are encased in a clear reservoir that sits outside your tank. Use with water and hydraulic oil. Switches are single pole, single throw (SPST). Normally open switches turn one circuit from "off" to "on," and normally closed switches turn one circuit from "on" to "off." All switches operate on 120/240 volts AC and have wire leads; they are rated for 0.4 amps @ 120 volts AC. Mount vertically. Connections are 1/2 NPT female.

Switches have a Type 316 stainless steel float, an acrylic reservoir, aluminum alloy end plates, and Buna-N gaskets. Minimum specific gravity is 0.65, and maximum pressure is 125 psi at 70° F. Temperature range is 33° to 170° F. Overall size is 3 5/16" Dia. × 6 3/8" Ht., and center-to-center height is 4 3/8".

Wired "Off" to "On" (Normally Open)	4288K51	$131.29
Wired "On" to "Off" (Normally Closed)	4288K52	131.29

Cut-to-Length Level Switches for Conductive Liquids


Dual-Level Switch


Control Box

Cut the probes for a custom fit in your tank. These switches use the conductive properties of your liquid to complete a circuit. All operate on 120 volts AC and are rated for 10 amps @ 120 volts AC. They have screw terminals. Switches are single pole, double throw (SPDT) and can be set to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). They mount vertically and are for indoor and outdoor use. Control box is polycarbonate and probes are PTFE-encased stainless steel. Maximum pressure is 250 psi @ 70° F; temperature range is –40° to 150° F. Connection is 2 NPT male. UL listed and CSA certified. Do not use in flammable solutions.

Single-level switches detect one level change with two probes. **Dual-level** switches detect two level changes with three probes, so they can activate equipment when your tank is empty and when it's full.

Probe Lg.	Single Level		Dual Level	
12"	46715K22	$572.85	46715K92	$675.58
18"	46715K23	642.08	46715K93	779.43
24"	46715K24	642.08	46715K94	779.43
36"	46715K25	709.08	46715K95	879.93

Noncontact Level Switches for Plastic Tanks



Since this switch monitors tank levels without touching the contents, it can be used with harsh chemicals, viscous liquids, and dry materials. It detects levels through plastic tank walls by measuring the capacitance between the switch and tank contents; it cannot be used with metal tanks. Switch is single pole, single throw (SPST) and can be set to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). Rated for 0.25 amps at the supply voltage, the switch operates on 20 to 240 volts AC and has wire leads. Mount horizontally or vertically with the included mounting bracket. Switch is 1 3/16" Dia. × 3" Lg. Temperature range is –13° to 176° F. UL listed and CSA certified.

4696K21		$273.17

Level Switches for Dry Materials

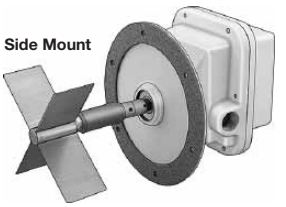
Side Mount

When dry material rises to the level of the rotating paddle, these switches turn equipment on or off. They are single pole, double throw (SPDT) and can be set to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). Enclosure is aluminum; it meets NEMA 4X for indoor/outdoor use and resistance to corrosive fluids and splashing water and IP66 for resistance to dust. Switches have a Type 316 stainless steel paddle that rotates at 1 rpm. Mounting plate is steel. Conduit connection is 3/4 NPT female. UL and C-UL listed.

Safety switches have a second SPDT relay for activating an additional alarm; relay is rated for 0.46 amps @ 120 volts AC. Two LEDs can be used to test functionality and indicate switch and alarm failure while the unit is in operation.

Insertion Lg.	Max. psi @ 70° F	Temperature Range, °F	Paddle Lg.	Paddle Wd.	Standard: O'all Lg.	Standard: Amps @ 120 volts AC			Safety: O'all Lg.	Safety: Amps @ 120 volts AC		
Side Mount—For materials less than 30 lbs./cu. ft.												
6 5/8"	30	–40° to 113°	7"	2"	13 3/16"	20	49005K51	$448.44	13 7/16"	8	49005K26	$577.02
Top Mount—For materials 30 to 70 lbs./cu. ft.												
12"	30	–40° to 113°	5"	1 1/2"	18 3/4"	20	49005K52	485.40	22 5/16"	8	49005K36	615.33

Liquid-Level & Flow Switches

For information about liquid-level switches, see page 579. For information about pipe size, see pages 2-3.

Noncontact Liquid-Level Switches



Designed for use with corrosive, dirty, and thick liquids, these ultrasonic switches use sound waves to detect liquid level without coming into contact with your liquid. For activating several alarms or automating tank filling and emptying, these switches have three relays that can be programmed for multiple set points. They are single pole, double throw (SPDT) and can be set to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). Switches operate on 95 to 250 volts AC and have screw terminals; they are rated for 0.5 amps @ 120 volts AC.

They have a polycarbonate enclosure that meets NEMA 4X for indoor/outdoor use and resistance to corrosive fluids and splashing water. Maximum pressure is 30 psi @ 70°F. Temperature range is –7° to 140°F. Tank connection is NPT male; conduit connections are ½ NPT female.

Tank Connection	Operating Range, ft.	Lg.	Wd.		
1 NPT	0.33 to 9.8	3 15/16"	5 3/16"	3785K11	$795.00

Flow Switches



These switches activate when flow in your pipeline reaches the set point. Use with hydraulic oil, diesel fuel, and water. They are single pole, double throw (SPDT) and can be installed to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). Switches operate on 120/240 volts AC and have wire leads; they are rated for 0.17 amps @ 120 volts AC.

Seals are fluoroelastomer. Maximum pressure is 400 psi @ 70°F; temperature range is –20° to 300°F. Mount at any angle. Components are UL recognized; switches are CSA certified and CE marked. Pipe connections are NPT female; conduit connection is ½ NPT male.

Type 316 stainless steel switches are more corrosion resistant than bronze switches.

Pipe Size	Available Flow Rate Settings, gpm	Port-to-Port Lg.	Bronze		Type 316 Stainless Steel	
1	0.5, 2, 4, 6, 8	3 1/4"	6486T21	$182.81	6486T26	$544.61
1 1/4	1, 4, 8, 12, 20	4"	6486T23	349.36	6486T27★	802.09
1 1/2	1.5, 5, 10, 20, 30	4 1/2"	6486T24	427.84	6486T28	843.24
2	2, 5, 15, 35, 50	5 3/8"	6486T25	517.81	6486T29	874.83

★ Port-to-port length is 4 1/2".

Washdown Adjustable Flow Switches



For indoor/outdoor use and resistance to splashing water and corrosive liquids, these switches have an enclosure that meets NEMA 4X. Alter the activation point with the adjustment screw. Use with hydraulic oil, diesel fuel, and water.

Switches are single pole, double throw (SPDT) and can be installed to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). They operate on 0.4 amps @ 120 volts AC and have screw terminals. Switches have a bronze body and mount at any angle. Maximum pressure is 400 psi at 70°F, and temperature range is –30° to 212°F. Pipe connections are NPT female; conduit connection is a ½" through hole.

Pipe Size	Available Flow Rate Settings, gpm	Port-to-Port Lg.		
1/4	0.3-2, 0.4-3, 0.5-4	3 1/16"	2913T21	$275.12
1/2	0.3-2, 0.4-3, 0.5-4, 0.5-6, 1.5-10	3 1/16"	2913T22	287.74
3/4	0.5-6, 1.5-10, 2-15, 3-20	3 1/16"	2913T23	299.03
1	2-15, 3-20, 4-30, 5-40	3 1/16"	2913T24	304.68
1 1/2	4-30, 5-40, 5-60, 15-100	3 1/16"	2913T25	327.25
2	5-40, 5-60, 15-100, 20-150, 30-200	3 3/16"	2913T26	366.73

Adjustable Flow Switches



When your flow rate changes, alter the set point on these switches with an adjustment screw. Use with hydraulic oil, diesel fuel, and water. They are single pole, double throw (SPDT) and can be installed to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). Switches operate on 120/240 volts AC and have wire leads; they are rated for 0.17 amps @ 120 volts AC.

They have a bronze body and fluoroelastomer seals. Maximum pressure is 400 psi @ 70°F. Mount at any angle. Switches are CSA certified and CE marked. Pipe connections are NPT female; conduit connection is ½ NPT male.

Straight switches have a temperature range of –20° to 200°F; components are UL recognized.

Elbow switches have a temperature range of –20° to 180°F.

Fitting Type	Pipe Size	Available Flow Rate Settings, gpm	Port-to-Port Lg. (P)		
Straight	1	1-6, 2-8, 5-15	3 1/4"	4980K2	$199.74
Elbow	3/4	0.75-4, 2-8, 7-14	1 3/8"	4980K4	208.34

Insertion Flow Switches

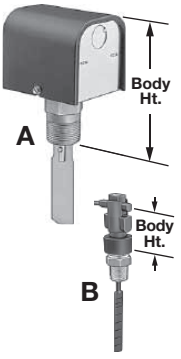

Install these switches into a tee or pipe outlet in horizontal pipe runs. A paddle extends into the pipe and activates the switch when flow reaches the set point. Paddles can be trimmed to fit a range of pipe sizes. Flow rate varies based on pipe size and paddle used. Switches operate on 120/240 volts AC. Use with water. NPT pipe connections are male. *Switches with a stainless steel paddle* are more corrosion resistant than switches with a brass or PVC paddle.

Style A are single pole, double throw (SPDT) and can be installed to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). They have 1", 2", 3", and 6" paddles and screw terminals. UL listed and CSA certified, except outdoor switch has UL recognized parts.

Style B are single pole, double throw (SPDT) and turn one circuit from "off" to "on" (normally open). They have a 5" paddle and an 8-ft. cable.

	Insertion Pipe Size	For Pipe Sizes	Flow Rate, gpm	Paddle/Body Material	Max. psi @ 70°F	Temperature Range, °F	Amps @ 120 volts AC	Body Ht.		
Indoor—NEMA 1 Enclosure										
A	1 NPT	1 to 6	6-166	304 SS/Brass	160	33° to 300°	7.4	5"	4971K3	$135.75
A	1 NPT	1 to 6	6-166	304 SS/316 SS	160	33° to 300°	7.4	5"	4971K4	417.81
Outdoor—NEMA 4X Enclosure										
A	1 NPT	1 to 6	5-245	304 SS/Brass	160	33° to 225°	7.4	5"	4971K5	184.31
B	1/2 NPT	3/4 to 8	4-130	Noryl	145	34° to 212°	1	2 1/2"	2766K43	103.20
B	3/4 Socket Weld	1 1/2 to 3	8-23	Noryl	145	34° to 212°	1	2 1/2"	2766K41	101.18

Hazardous Location High-Flow Insertion Switches



For installing into in a tee or pipe outlet in horizontal pipelines located in areas with flammable gases and combustible dust, these switches are UL listed for Class I, Groups C and D; and Class II, Groups E, F, and G hazardous locations. All are for use with carbon dioxide, nitrogen, hydraulic oil, diesel fuel, and air. *Switches with a Type 316 stainless steel body* are also for use with natural gas and methane, and they are more corrosion resistant than brass.

All switches include 1", 1½", 2 7/16", 3½", and 5½" paddles to fit various pipe sizes; they activate when flow reaches the paddle. Flow rate varies based on pipe size and paddle used. Switches operate on 120/240 volts AC and have wire leads. Temperature range is –4° to 275°F. They are CSA certified and CE marked. Insertion pipe connection is NPT male; conduit connection is NPT female.

Switches for one circuit are single pole, double throw (SPDT). They turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). **Switches for two circuits** are double pole, double throw (DPDT). They turn two circuits from "off" to "on" (normally open) or from "on" to "off" (normally closed).

Insertion Pipe Size	For Pipe Sizes	Flow Rate: For Air, scfm	Flow Rate: For Water, gpm	Body/Paddle Material	Max. psi @ 70°F	Amps @ 120 volts AC	Conduit Connection	For One Circuit (SPDT)		For Two Circuits (DPDT)	
1 1/2 NPT	1 1/2 to 20	17-10,000	3-2400	Brass/316 SS	1,000	10	3/4 NPT	48005K53	$381.24	48005K54	$421.22
1 1/2 NPT	1 1/2 to 20	17-10,000	3-2400	316 SS/316 SS	2,000	10	3/4 NPT	48005K55	543.69	48005K56	583.67

Hazardous Location Flow Switches

For use in areas with flammable gases and combustible dust, these switches are UL listed and CSA certified for hazardous locations, except *adjustable-flow switches* are not CSA certified. They meet Class I, Groups B, C, and D; and Class II, Groups E, F, and G; switches with a Type 304 stainless steel body also meet Class I, Group A. All switches are single pole, double throw (SPDT) and can be installed to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). They operate on 120/240 volts AC and have wire leads. Mount horizontally. Pipe connections are NPT female; conduit connections are NPT male. *Adjustable-flow switches* have adjustment screws to alter the set point.

Switches with a brass body are for use with diesel fuel, water, air, and nitrogen. **Switches with a Type 304 stainless steel body** are for use with methane, natural gas, and carbon dioxide as well as diesel fuel, water, air, and nitrogen. They are more corrosion resistant than switches with a brass body.



Fixed Flow



Adjustable Flow

Pipe Size	Flow Rate: For Air, scfm	Flow Rate: For Water, gpm	Max. psi. @ 70°F	Temperature Range, °F	Amps @ 120 volts AC	Conduit Connection	Port-to-Port Lg.		
Fixed Flow									
Brass Body									
1/2	6.5	1.5	250	–4° to 220°	5	3/4	2 1/4"	47565K31	$182.59
3/4	10	2	250	–4° to 220°	5	3/4	2 3/8"	47565K32	190.52
1	14	3	250	–4° to 220°	5	3/4	2 1/2"	47565K33	220.37
1 1/4	21	4	250	–4° to 220°	5	3/4	2 5/8"	47565K34	248.70
1 1/2	33	6	250	–4° to 220°	5	3/4	2 7/8"	47565K35	292.78
2	43	10	250	–4° to 220°	5	3/4	3"	47565K36	371.48
Type 304 Stainless Steel Body									
1/2	6.5	1.5	2,000	–4° to 220°	5	3/4	2 1/4"	47565K61	258.15
3/4	10	2	2,000	–4° to 220°	5	3/4	2 5/8"	47565K62	311.67
1	14	3	2,000	–4° to 220°	5	3/4	3"	47565K63	353.85
2	43	10	2,000	–4° to 220°	5	3/4	4 3/4"	47565K66	599.41
Adjustable Flow									
Brass Body									
1/2	0.18-2.7	0.04-0.75	1,450	–4° to 220°	5	3/4	3 5/8"	91445K23	248.70
Type 304 Stainless Steel Body									
1/2	0.18-2.7	0.04-0.75	1,450	–4° to 220°	5	3/4	3 5/8"	91445K24	372.30

Low-Flow Switches

Detect even small amounts of flow in your pipeline. Switches operate on 120/240 volts AC, except the 0.1-amp switch does not operate on 240 volts AC. They have wire leads, except *Style E* have a 1/2 NPT female conduit connection. Mount horizontally or vertically, unless noted. Components are UL recognized. Pipe connections are NPT. *Switches with a metal body* withstand higher temperatures and pressures than switches with a plastic body. Type 316 stainless steel is more corrosion resistant than brass.

Styles A, B & C are single pole, single throw (SPST) and turn one circuit from "off" to "on" (normally open).

Styles D & E are single pole, double throw (SPDT) and can be installed to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed).



A



B

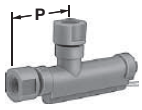

C&D

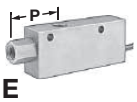

E

Style	Pipe Size: Female	Pipe Size: Male	Available Flow Rate Settings, gpm	Body/Seal Material	Max. psi @ 70°F	Temperature Range, °F	Amps @ 120 volts AC	Port-to-Port Lg. (P)		
Straight										
Plastic Body—For Water										
A	1/4	—	0.1, 0.25, 0.5, 0.75, 1	Polypro./Fluoroelast.	200	33° to 194°	—	4 7/8"	2371K4	$51.04
A	—	3/8	0.25, 0.5, 1, 1.5, 2	Polypro./Fluorocarbon	125	33° to 212°	0.1	4"	42015K2★	54.63
Metal Body—For Hydraulic Oil and Diesel Fuel										
A	—	1/2	0.25, 0.5, 1, 1.5, 2	Brass/Fluorocarbon	1,500	–20° to 275°	0.2	4"	4960K6	105.43
A	—	3/8	0.25, 0.5, 1, 1.5, 2	Brass/Fluorocarbon	1,500	–20° to 275°	0.2	3 7/16"	4960K5	105.43
A	—	3/8	0.25, 0.5, 1, 1.5, 2	316 SS/Fluorocarbon	1,500	–20° to 275°	0.2	3 7/16"	4960K7	267.01
Elbow										
Plastic Body—For Water										
B	1/2	—	0.5	PVC/Buna-N	120	33° to 120°	0.2	2 1/16"	42015K5★	83.49
C	1/4	—	0.1, 0.25, 0.5, 0.75, 1	Polypro./Fluoroelast.	200	33° to 194°	—	1 7/8"	2371K2	58.00
D	1/4	—	0.1, 0.25, 0.5, 0.75, 1, 1.5	PPS/Fluoroelast.	250	33° to 225°	0.2	1 7/8"	42015K4★	102.41
Metal Body—For Hydraulic Oil and Diesel Fuel										
E	1/4	—	0.013, 0.025, 0.055, 0.075	Brass/Fluoroelast.	1,000	–20° to 225°	0.2	2 1/16"	4960K8	229.57
E	1/4	—	0.013, 0.025, 0.055, 0.075	316 SS/Fluoroelast.	1,000	–20° to 300°	0.2	2 1/16"	4960K9	394.12
E	1/4	—	0.1, 0.25, 0.5, 0.75, 1, 1.5	Brass/Fluoroelast.	1,000	–20° to 225°	0.2	2 1/16"	4960K2	185.24
E	1/4	—	0.1, 0.25, 0.5, 0.75, 1, 1.5	316 SS/Fluoroelast.	1,000	–20° to 300°	0.2	2 1/16"	4960K4	389.19

★ Mount vertically only.

Quick-Check Flow Transmitters and Adjustable Switches



For flow monitoring at a glance, these transmitters and switches have a plastic window with a rotor that spins when flow is present. Use with water. Mount horizontally or vertically. They are CE marked and components are UL recognized. All have NPT female pipe connections and wire leads. *Transmitters and switches with a metal body* withstand higher temperatures and pressures than those with a polypropylene body. Type 316 stainless steel is more corrosion resistant than brass.

Transmitters send flow readings to a data recorder, logger, or display (sold separately on page 617) with a 70 mA output signal. They operate on 0.008 amps @ 24 volts DC.

Switches are single pole, double throw (SPDT) and can be installed to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). Set the activation point with the adjustment screw. They operate on 0.3 amps @ 120 volts AC.

Pipe Size	Flow Rate, gpm	Max. psi @ 70°F	Temperature Range, °F	Port-to-Port Lg.	Transmitters		Switches	
Polypropylene Body								
1/4	0.1-5	100	33° to 180°	3 1/16"	9687K11	$122.85	4138K11	$253.36
1/2	1.5-20	100	33° to 180°	3 1/16"	9687K12	128.44	4138K12	257.69
Brass Body								
1/4	0.1-5	200	33° to 212°	3"	9687K21	189.35	4138K13	394.12
1/2	1.5-20	200	33° to 212°	3"	9687K22	189.35	4138K14	399.15
3/4	5-30	200	33° to 212°	3 15/16"	9687K23	189.35	4138K15	462.07
1	8-60	200	33° to 212°	3 15/16"	9687K24	189.35	4138K16	470.18
Type 316 Stainless Steel Body								
1/2	1.5-20	200	33° to 212°	3"	9687K32	218.48	4138K18	466.09
3/4	5-30	200	33° to 212°	3 15/16"	9687K33	238.87	4138K19	470.18
1	8-60	200	33° to 212°	3 15/16"	9687K34	238.87	4138K21	478.57

Flowmeters

For information about pipe size, see pages 2-3.

About Flowmeters and Totalizers

Flowmeters measure the rate of flow for a liquid or gas. **Totalizers** measure the cumulative flow volume. **Flowmeter/totalizers** display both the flow rate and the cumulative flow volume.

For the highest degree of accuracy, select a meter that has a flow range with your anticipated flow near the top of the range. Install an inline strainer before your meter to prevent debris from clogging your pipeline and reducing accuracy. For inline strainers, see pages 401-405.

Because valves and other restrictions in your system cause turbulent liquid flow that leads to inaccurate readings, install your flowmeter or totalizer with enough straight pipe before and after the device to ensure uniform flow.

Panel-Mount Flowmeters

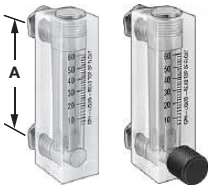

Standard | Flow Control

Monitor flow rate from your instrument panel. All flowmeters have an acrylic tube and EPR seals. They mount vertically, and flow moves from bottom to top. Connections are NPT; flowmeters with two pipe sizes have internal NPT female threads and external NPT male threads. **Flowmeters for water** have a maximum pressure of 125 psi @ 70°F and a temperature range of 33° to 130°F. **Flowmeters for air** have a maximum pressure of 100 psi @ 70°F and a temperature range of 33° to 100°F.

Standard Flowmeters—*Low flow* have brass fittings. *High flow* have PVC fittings, except 41945K31 and 3281K26 have brass fittings.

Flowmeters with Flow Control—A valve at the inlet allows you to adjust the flow rate within the range. Choose Type 316 stainless steel for greater corrosion resistance than brass. *Low flow with a brass valve* have brass fittings. *High flow with a brass valve* have PVC fittings, except 41945K73 and 3281K36 have brass fittings. *All with a Type 316 stainless steel valve* have Type 316 stainless steel fittings.

Flowmeters with NIST certificate have been tested and certified to fall within a required tolerance. The certificate comes marked with a calibration date. Record the date of installation to determine when to test the flowmeter again.

Also Available: Repair kits with replacement seals. Please ask for 6766T2 and specify overall height.

Pipe Size Female	Pipe Size Male	O'all Ht.	Ctr.-to-Ctr. Ht. (A)	Accuracy	Available Flow Ranges	Standard		Flow Control: With Brass Valve		Flow Control: With Stainless Steel Valve	
For Water											
Low Flow—Gallons per Hour											
1/4	—	4 1/8"	3"	±6%	0.7-7, 1-12, 2-22, 4-44, 6-60, 7.5-75 gph	4351K121	$58.00	4351K131	$74.00	4351K141	$116.00
Low Flow with NIST Certificate—Gallons per Hour											
1/4	—	4 1/8"	3"	±6%	0.7-7, 2.2-22 gph	3281K11	366.67	3281K12	380.71	3281K13	417.55
High Flow—Gallons per Minute											
1/4	1/2	6 7/8"	5"	±4%	0.1-1, 0.2-2, 0.3-3.5, 0.5-5 gpm	4351K151	75.51	4351K161	89.92	4351K171	192.86
1/4	1/2	8 7/16"	6 7/16"	±3%	0.1-1, 0.2-2, 0.5-5 gpm	4351K181	94.28	4351K191	109.91	4351K261	214.45
1/2	—	14 1/2"	12 1/4"	±2%	0.2-2, 0.35-3.5, 0.5-5, 1-10 gpm	4351K211	163.04	4351K221	199.25	4351K231	362.53
—	1	9 1/8"	6 1/2"	±7%	1-10, 1.5-15, 2-20 gpm	4351K241	112.87	4351K251	250.00	4351K271	366.47
High Flow with NIST Certificate—Gallons per Minute											
1/2	—	14 1/2"	12 1/4"	±2%	0.5-5 gpm	3281K23	524.77	3281K33	491.23	3281K43	635.10
For Air											
Low Flow—Standard Cubic Feet per Hour											
1/4	—	4 1/8"	3"	±6%	2-20, 3-30, 6-60, 10-100, 15-180 scfh	41945K56	58.00	41945K57	74.00	41945K58	116.00
Low Flow with NIST Certificate—Standard Cubic Feet per Hour											
1/4	—	4 1/8"	3"	±6%	2-20, 6-60 scfh	3281K14	366.67	3281K15	380.71	3281K16	417.55
High Flow—Standard Cubic Feet per Minute											
1/4	—	4 1/8"	3"	±6%	0.4-4 scfm	41945K31	58.00	41945K73	74.00	41945K16	116.00
1/4	1/2	6 7/8"	5"	±4%	0.8-8.2, 2.3-23 scfm	41945K59	74.75	41945K61	90.47	41945K62	192.86
1/4	1/2	8 7/16"	6 7/16"	±3%	0.8-8.2, 2.2-22 scfm	41945K63	90.47	41945K64	110.58	41945K71	214.45
1/2	—	14 1/2"	12 1/4"	±2%	2-20, 4.2-42 scfm	41945K72	169.36	41945K65	201.75	41945K66	362.53
—	1	9 1/8"	6 1/2"	±4%	4-40, 6-60 scfm	41945K67	124.26	41945K68	252.53	41945K69	366.47
High Flow with NIST Certificate—Standard Cubic Feet per Minute											
1/4	—	4 1/8"	3"	±6%	0.4-4 scfm	3281K26	366.67	3281K36	380.71	3281K46	417.55

High-Accuracy Panel-Mount Flowmeters

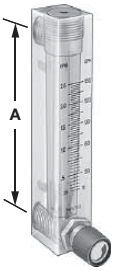

Use these flowmeters for more accurate readings than standard panel-mount flowmeters. All have an acrylic tube and a Type 303 stainless steel valve at the inlet for adjusting flow within the range. They mount vertically, and flow moves from bottom to top.

Maximum pressure is 100 psi @ 70°F; maximum temperature is 150°F. Connections are NPT female. *Flowmeters with 1/4 NPT connections* have Type 303 stainless steel fittings and fluoroelastomer seals. *Flowmeters with 1 NPT connections* have PVC fittings and Buna-N seals.

Pipe Size	O'all Ht.	Ctr.-to-Ctr. Ht. (A)	Accuracy	Flow Range		
For Water—Gallons per Minute						
1/4	6 5/8"	5 1/2"	±3%	0.25-2.5 gpm	2968K31	$165.96
1/4	6 5/8"	5 1/2"	±3%	0.5-5 gpm	2968K34	165.96
1	10 7/8"	8 1/2"	±2%	1-10 gpm	2968K36	262.20
1	10 7/8"	8 1/2"	±2%	2-20 gpm	2968K38	262.20
For Air—Standard Cubic Feet per Minute						
1/4	6 5/8"	5 1/2"	±3%	0.5-5 scfm	2968K42	165.96
1/4	6 5/8"	5 1/2"	±3%	4-20 scfm	2968K44	165.96
1	10 7/8"	8 1/2"	±2%	4-50 scfm	2968K46	262.20

Low-Flow Shatter-Resistant Panel-Mount Flowmeters



Standard | Flow Control

A polycarbonate tube and case make these flowmeters more shatter resistant than flowmeters with glass components. They mount vertically, and flow moves from bottom to top.

Flowmeters have Type 303 stainless steel fittings and fluoroelastomer seals. Accuracy is ±4%, and overall height is 4 13/16". Maximum pressure is 100 psi @ 70°F; maximum temperature is 150°F. Connections are NPT female.

Flowmeters with flow control have a Type 303 stainless steel valve at the inlet so you can adjust the flow rate within the range.

Pipe Size	Flow Range	Standard		Flow Control	
For Water—Gallons per Hour					
1/8	0.2-2.5 gph	5079K12	$55.16	5079K52	$61.40
1/8	0.4-5 gph	5079K15	55.16	5079K53	61.40
1/8	1-10 gph	5079K16	55.16	5079K54	61.40
1/8	2-25 gph	5079K17	55.16	5079K55	61.40
1/8	4-40 gph	5079K18	55.16	5079K56	61.40
For Air—Standard Cubic Feet per Hour					
1/8	0.1-1 scfh	5079K22	40.20	5079K62	44.75
1/8	0.2-2.5 scfh	5079K23	55.16	5079K63	61.40
1/8	0.4-5 scfh	5079K24	55.16	5079K64	61.40
1/8	1-11 scfh	5079K25	55.16	5079K65	61.40
1/8	2-22 scfh	5079K26	55.16	5079K66	61.40
1/8	4-60 scfh	5079K27	55.16	5079K67	61.40

For information about flowmeters, see page 586. For information about pipe size, see pages 2-3.

Low-Flow Panel-Mount Flowmeters with Protective Case

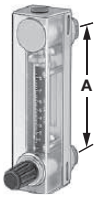

Designed for low-flow applications, these flowmeters have a Type 304 stainless steel case with a polycarbonate window for built-in protection. They have a Type 316L stainless steel valve at the inlet for adjusting the flow rate within the range. Mount vertically; flow moves from bottom to top. Flowmeters have a glass tube, Type 316L stainless steel fittings, and fluoroelastomer seals. Maximum pressure is 200 psi at 70°F. Temperature range for water is 33° to 200°F; for air, it's 33° to 250°F. Connections are NPT female.

Pipe Size	O'all Ht.	Ctr.-to-Ctr. Ht. (A)	Accuracy	Available Flow Ranges		
For Water—Gallons per Hour						
1/4	6 1/16"	4 9/16"	±6%	0.1-2.6, 0.15-1.75, 0.8-8.2, 1-19 gph	5084K23	$234.84
For Air—Standard Cubic Feet per Hour						
1/4	6 1/16"	4 9/16"	±6%	0.04-0.42, 0.4-4.4, 0.82-8.2, 1-28, 5-90 scfh	5084K24	234.84

High-Temperature Water Panel-Mount Flowmeters



Flow Control

These flowmeters have a polysulfone tube that can withstand temperatures as high as 212°F. They have a dual scale graduated in gallons per minute and liters per minute. Fittings mount vertically into your control panel. Flow moves from bottom to top. Flowmeters have polysulfone fittings and fluoroelastomer seals. Maximum pressure is 175 psi @ 70°F. Minimum temperature is 33°F. Connections are NPT male.

Flowmeters with flow control have a polypropylene valve at the inlet for adjusting flow within the range.

Pipe Size	O'all Ht.	Ctr.-to-Ctr. Ht. (A)	Accuracy	Available Flow Ranges, gpm	Standard		Flow Control	
3/8	7"	6"	±4%	0.025-.25, 0.1-1, 0.2-2, 0.5-5	4215K1	$110.75	4215K2	$164.42
1/2	7"	6"	±4%	0.025-.25, 0.1-1, 0.2-2, 0.5-5	4215K3	110.75	4215K4	164.42
3/4	8"	6 13/16"	±4%	1-10	4215K65	129.43	4215K75	183.13

Panel-Mount Flowmeters for Liquids and Gases

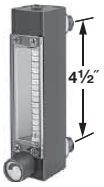

Compact

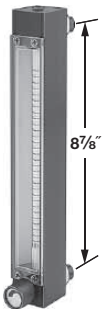

Standard

Monitor the flow rate of water, compressed air, nitrogen, oxygen, argon, and helium at different pressures. These flowmeters have a correlated scale and come with conversion charts for the liquids and gases listed above in cubic centimeters per minute. A Type 303 stainless steel valve lets you adjust the flow rate within the range. They mount vertically, and flow moves from bottom to top. Maximum pressure is 200 psi @ 70°F, and maximum temperature is 200°F. Connections are NPT female.

Flowmeters have an aluminum case with a polycarbonate magnifying window for easy viewing of the glass tube. *Flowmeters with aluminum fittings* have Buna-N seals. *Flowmeters with Type 316 stainless steel fittings* have fluoroelastomer seals and are more corrosion resistant than flowmeters with aluminum fittings.

Compact flowmeters have an overall height of 5 1/2" and are often used in areas with limited vertical space. Accuracy is ±5%.

Standard flowmeters have an overall height of 10". Accuracy is ±3%.

Flow Range, ccm For Water	For Air	With Aluminum Fittings		With Type 316 SS Fittings	
Compact—1/8 Pipe Size					
———	0-50	4112K91	$189.37	4112K92	$284.86
———	0-104	4112K93	189.37	4112K94	284.86
———	0-400	4112K95	189.37	4112K96	284.86
0-18.3	0-905	4112K34	189.37	4112K74	284.86
0-55.6	0-2,580	4112K35	189.37	4112K75	284.86
0-90.7	0-3,842	4112K36	189.37	4112K76	284.86
0-133	0-6,009	4112K37	189.37	4112K77	284.86
0-239	0-10,100	4112K38	189.37	4112K78	284.86
0-376	0-15,700	4112K39	189.37	4112K79	284.86
0-569	0-23,600	4112K41	189.37	4112K81	284.86
Standard—1/8 Pipe Size					
———	0-50	4112K97	236.47	4112K98	331.56
———	0-103	4112K431	236.47	4112K831	331.56
———	0-405	4112K441	236.47	4112K841	331.56
0-17.2	0-855	4112K45	236.47	4112K85	331.56
0-50	0-2,291	4112K46	236.47	4112K86	331.56
0-78.4	0-3,426	4112K47	236.47	4112K87	331.56
0-216	0-9,180	4112K48	236.47	4112K88	331.56
0-567	0-23,740	4112K49	236.47	4112K89	331.56

Flowmeters with Protective Case



A Type 304 stainless steel case with a polycarbonate window protects these flowmeters from impact. Measure water (gallons per minute) or air (standard cubic feet per minute) by installing one of the two interchangeable scales. Mount vertically; flow moves from bottom to top.

Flowmeters have a glass tube, Type 316 stainless steel fittings, and fluoroelastomer seals. Maximum pressure is 200 psi @ 70°F, and temperature range is 33° to 200°F. Connections are NPT female.

O'all Ht.	Accuracy	*Flow Range* For Water, gpm	For Air, scfm		
1/2 Pipe Size					
7 3/4"	±5%	0.05-0.5	0.2-2	5083K38	$469.20
7 3/4"	±5%	0.1-1	0.4-4	5083K12	469.20
7 3/4"	±5%	0.2-2	0.82-8.2	5083K39	469.20
3/4 Pipe Size					
19 11/16"	±2%	0.06-0.64	0.3-2.7	5083K31	807.06
19 11/16"	±2%	0.14-1.44	0.61-6.1	5083K32	807.06
19 11/16"	±2%	0.3-3	1.2-12	5083K33	807.06
19 11/16"	±2%	0.52-5.2	2.2-22	5083K34	807.06
19 11/16"	±2%	1.2-12	5-50	5083K36	1,116.92
19 11/16"	±2%	2-21.6	10-100	5083K37	1,116.92

Easy-to-Install Flowmeters



Quickly install and disconnect these flowmeters from your system for maintenance. They mount vertically with included union nuts, and flow moves from bottom to top. Seals are fluoroelastomer. Connections are NPT female.

Ultrapure flowmeters have no metal parts that can contaminate water-processing applications, so they are often used with deionized water. They have a polysulfone tube and PVC fittings. Accuracy is ±6%. Maximum pressure is 150 psi @ 70°F, and temperature range is 33° to 130°F.

High-flow flowmeters are designed to fit larger pipes and handle higher flow rates. They have an acrylic tube and Type 303 stainless steel fittings. Accuracy is ±5%. Maximum pressure is 100 psi @ 70°F, and maximum temperature is 150°F.

Pipe Size	O'all Ht.	Available Flow Ranges		
Ultrapure				
For Water—Gallons per Minute				
1/2	10"	0.05-.5, 0.1-1 gpm	9747K55	$235.00
3/4	10"	0.2-2.4, 0.5-5 gpm	9747K56	275.00
1	11 3/4"	0.76-7.6, 1-10, 1.5-15, 2-20 gpm	9747K57	347.00
High Flow				
For Water—Gallons per Minute				
1 1/2	13 3/8"	3-30, 4-40, 5-50 gpm	5077K13	641.29
2	13 1/2"	6-60, 8-80, 10-100 gpm	5077K17	1,085.26
For Air—Standard Cubic Feet per Minute				
1 1/2	13 3/8"	10-110, 15-160, 20-200 scfm	5077K18	641.29
2	13 1/2"	25-250, 30-330, 40-400 scfm	5077K19	1,085.26

Flowmeters

For information about flowmeters, see page 586. For information about pipe size, see pages 2-3.

Inline Flowmeters



NPT Female

Install these flowmeters directly into your pipeline. They mount vertically, and flow moves from bottom to top. Flowmeters have an acrylic tube and ethylene propylene (EPR) seals. Connections are NPT. Choose flowmeters with stainless steel fittings for more corrosion resistance than flowmeters with PVC fittings.

Flowmeters for water have a maximum pressure of 125 psi @ 70° F and a temperature range of 33° to 130° F. **Flowmeters for air** have a maximum pressure of 100 psi @ 70° F and a temperature range of 33° to 100° F.

Also Available: Repair kits with replacement seals. Please ask for 6766T1 and specify overall height.

Pipe Size Female	Pipe Size Male	O'all Ht.	Accuracy	Available Flow Ranges		
For Water						
Low Flow with PVC Fittings—Gallons per Hour						
—	1/4	4 3/4"	±6%	1-12, 2.2-22, 4.4-44, 6-60 gph	8051K39	$49.74
High Flow with PVC Fittings—Gallons per Minute						
1/2	—	6 1/2"	±5%	0.2-2, 0.4-5 gpm	8051K42	65.31
1/2	—	9 1/4"	±3%	0.2-2, 0.5-5 gpm	8051K43	92.93
3/4	—	14 13/16"	±2%	0.5-5, 1-10 gpm	8051K44	150.67
1	—	8 3/8"	±4%	1-10, 1.5-15, 2-20 gpm	8051K45	103.02
1	—	10 1/4"	±3%	0.5-5, 1-10, 1.5-15, 2.1-21 gpm	9746K13	200.87
1	—	10 1/4"	±3%	3.05-30.5 gpm	9746K33	213.04
—	1 1/2	12 1/16"	±6%	4-40, 5-50 gpm	9746K11	255.65
2	—	13 1/4"	±4%	6-60, 8-80, 20-100, 45-160, 55-200 gpm	9746K12	610.43
High Flow with Stainless Steel Fittings—Gallons per Minute						
1/2	—	6 1/2"	±5%	0.1-1, 0.5-5 gpm	8051K57	132.00
1/2	—	9 1/4"	±3%	0.2-2, 0.35-3.5 gpm	8051K58	158.00
For Air						
Low Flow with PVC Fittings—Standard Cubic Feet per Hour						
—	1/4	4 3/4"	±6%	6-70, 10-100, 10-180 scfh	8051K41	54.00
High Flow with PVC Fittings—Standard Cubic Feet per Minute						
—	1/4	4 3/4"	±6%	0.4-4 scfm	8051K34	54.00
1/2	—	6 1/2"	±5%	0.8-8, 2-20 scfm	8051K46	65.31
1/2	—	9 1/4"	±3%	0.8-8.2, 2-21 scfm	8051K47	92.93
3/4	—	14 13/16"	±2%	2-20, 4-42 scfm	8051K48	150.67
1	—	8 3/8"	±4%	4-40, 6-60 scfm	8051K49	103.02
High Flow with Stainless Steel Fittings—Standard Cubic Feet per Minute						
1/2	—	6 1/2"	±5%	1.5-15 scfm	8051K52	132.00
1/2	—	9 1/4"	±3%	0.82-8.2 scfm	8051K55	158.00

Dual-Scale Water Flowmeters



To indicate flow rate in both gallons per minute and liters per minute, these flowmeters have a dual scale. They mount vertically, and flow moves from bottom to top.

Flowmeters have an acrylic tube, polypropylene fittings, and fluoroelastomer seals. Accuracy is ±5%. Maximum pressure is 150 psi @ 70° F, and temperature range is 33° to 150° F. Connections are NPT female.

Pipe Size	O'all Ht.	Flow Range gpm	Flow Range lpm		
1/4	8 3/16"	0.025-0.25	0.1-1	4350K45	$112.10
3/8	8 3/16"	0.1-1	0.4-4	4350K41	95.88
3/8	8 3/16"	0.2-2	1-7.5	4350K46	95.88
3/8	8 3/16"	0.3-3	1.5-11	4350K47	103.37
1/2	8 3/16"	0.5-5	2-20	4350K42	95.88
3/4	11"	1-10	4-38	4350K43	184.69
1	11"	1-17	4-64	4350K48	184.69
1	11"	2-20	8-80	4350K44	184.69

Laboratory Flowmeters



A metric scale allows you to measure both water and air with one flowmeter. They mount vertically, and flow moves from bottom to top.

All have a glass tube, a polycarbonate shield, PTFE fittings, and fluoroelastomer seals. Accuracy is ±5% of the flow or 2 mm, whichever is greater. Temperature range is –15° to 150° F. Connections are NPT male.

Pipe Size	O'all Ht.	Max. psi @ 70° F	Flow Range For Water	Flow Range For Air		
Milliliters per Minute						
1/4	8"	125	0.002-1.1	0.2-90	41695K31	$348.00
1/4	8"	125	0.01-3.4	1-250	41695K32	313.20
1/4	8"	100	0.4-40	20-2,100	41695K33	302.40
Liters per Minute						
1/4	8"	75	0.002-0.3	0.2-14	41695K34	313.20
1/2	9 3/4"	60	0.01-0.85	1-36	41695K35	416.40
1/2	9 3/4"	50	0.03-1.9	3-77	41695K36	472.80

Easy-to-Install Dual-Scale Flowmeters



NPT Male



NPT Female

For easy installation and maintenance, these flowmeters mount vertically with included union nuts. They have a dual scale graduated in both gallons per minute and liters per minute. Flow moves from bottom to top. Use with water.

All flowmeters have a polysulfone tube and fluoroelastomer seals. They have polysulfone fittings, except the 0.1-1 and 0.2-2 gpm flowmeters with NPT female connections have polypropylene fittings. Maximum pressure is 150 psi @ 70° F and temperature range is 33° to 200° F.

Pipe Size	O'all Ht.	Accuracy	Flow Range gpm	Flow Range lpm		
NPT Male Connections						
1/2	8 7/8"	±4%	0.1-1	0.4-4	4400K62	$96.95
1/2	8 7/8"	±4%	0.2-2	1-7.5	4400K63	96.95
1/2	8 7/8"	±4%	0.5-5	2-20	4400K52	96.95
3/4	9 3/8"	±4%	0.5-5	2-20	4400K65	96.95
3/4	10"	±4%	1-10	4-40	4400K53	111.96
NPT Female Connections						
3/8	8 7/8"	±4%	0.1-1	0.4-4	4400K49	96.95
3/8	8 7/8"	±4%	0.2-2	1-7.5	4400K51	96.95
3/8	8 7/8"	±4%	0.5-5	2-20	4400K64	96.95
1	14 1/2"	±3%	2-20	6-76	4400K54	333.41
1	14 1/2"	±3%	3-30	10-110	4400K55	365.31
1	14 1/2"	±3%	4-40	15-155	4400K56	383.49
2	18 7/8"	±2%	6-100	20-380	4400K59	643.66
2	18 7/8"	±2%	20-130	80-500	4400K61	684.87

Oxygen Flowmeters



Calibrated, cleaned, and packaged for oxygen service, these flowmeters are often used in welding applications. They have a knob for adjusting flow within the range. Flowmeters mount vertically, and flow moves from the side inlet to the bottom outlet. They have a polycarbonate tube, a brass fitting, a Type 303 stainless steel valve, and Buna-N seals. Maximum pressure is 100 psi @ 70° F, and maximum temperature is 150° F. Side inlet connection is NPT female; bottom outlet connection is barbed and fits 1/4" ID tubing.

Pipe Size	O'all Ht.	Accuracy	Flow Range, lpm		
1/8	6 7/8"	±0.2	1/8-3 1/2	3505K44	$104.56
1/8	6 7/8"	±0.4	1/4-8	3505K45	104.56
1/8	6 7/8"	±0.6	1/2-15	3505K46	104.56

For information about flowmeters, see page 586. For information about pipe size, see pages 2-3.

High-Pressure Flowmeters

A dual scale shows flow rate in both standard and metric units and rotates 360° for easy viewing. These flowmeters mount at any angle. Scale has a polycarbonate shield, except high-temperature flowmeters for hydraulic oil have a glass shield. Connections are NPTF (Dryseal) female, except pipe size 1¼ flowmeter with pressure gauge and valve for hydraulic oil, which has an NPTF male inlet and an NPTF female outlet.

Flowmeters for Water—Body is brass, fittings are Type 303 stainless steel, and seals are fluoroelastomer.

Flowmeters for Hydraulic Oil—Body is aluminum, fittings are Type 303 stainless steel, and seals are fluoroelastomer. **Flowmeters with pressure gauge and valve** test flow and pressure. Open the valve to read maximum flow at zero pressure; close the valve to test the performance of pumps or other equipment under pressurized conditions. Gauge measures pressure from 0 to 3,500 psi; dial size is 2½″ and lens is plastic.

Flowmeters for Air—Body and fittings are aluminum, and seals are fluoroelastomer. **Flowmeters with pressure gauge** measure pressure from 0 to 160 psi; dial size is 2½″ and lens is glass.



Standard for Water and Hydraulic Oil



High Temperature

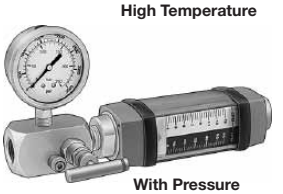

With Pressure Gauge and Valve for Hydraulic Oil



Standard for Air



With Pressure Gauge for Air

Pipe Size	Lg.	Max. psi @ 70° F	Accuracy	Available Flow Ranges		
For Water—Gallons per Minute						
Standard—Temp. Range is –20° to 240° F						
¼	4 13/16″	3,500	±5%	0.02-.2, 0.05-.5, 0.1-1, 0.2-2 gpm	4230K11	$245.45
½	6 5/8″	3,500	±2%	0.2-2, 0.5-5, 1-15 gpm	4230K16	305.45
¾	7 1/4″	3,500	±2%	0.5-5, 1-10, 2-20, 3-30 gpm	4230K17	469.09
1	7 1/4″	3,500	±2%	2-20, 3-30 , 5-50 gpm	4230K18	469.09
1¼	12 1/4″	3,500	±2%	5-50, 10-100, 10-150 gpm	4230K19	1,407.27
1½	12 1/4″	3,500	±2%	10-100, 10-150 gpm	4230K21	1,407.27
For Hydraulic Oil—Gallons per Minute						
Standard—Temp. Range is –20° to 240° F						
¼	4 13/16″	3,500	±5%	0.02-.2, 0.05-.5, 0.1-1, 0.2-2 gpm	4263K71	190.91
½	6 5/8″	3,500	±2%	0.1-1, 0.5-5, 1-10, 1-15 gpm	4263K72	245.45
¾	7 1/4″	3,500	±2%	1-10, 2-20, 3-30 gpm	4263K73	349.09
1	7 1/4″	3,500	±2%	1-10, 2-20, 3-30, 4-40 gpm	4263K74	349.09
1¼	12 1/4″	3,500	±2%	5-50, 10-100 gpm	4263K75	872.73
High Temperature—Temp. Range is –20° to 400° F						
¾	7 1/4″	3,500	±2%	0.5-5, 1-10 gpm	42145K22	496.36
1	7 1/4″	3,500	±2%	1-10, 3-30 gpm	42145K23	496.36
1½	12 1/4″	3,500	±2%	10-100 gpm	42145K57	1,020.00
With Pressure Gauge and Valve—Temp. Range is –20° to 240° F						
½	10 5/16″	3,500	±2%	1-15 gpm	4263K54	725.45
¾	11 5/16″	3,500	±2%	2-20, 3-30 gpm	4263K76	829.09
1¼	22″	3,500	±2%	10-100 gpm	4263K62	2,097.74
For Air—Standard Cubic Feet per Minute						
Standard—Temp. Range is –20° to 240° F						
¼	4 13/16″	1,000	±5%	0.5-5, 1-10, 2-20, 3-30 scfm	4216K61	190.91
½	6 5/8″	1,000	±2%	3-25, 5-50, 10-100, 15-150 scfm	4216K62	245.45
¾	7 1/4″	1,000	±2%	5-50, 10-100, 15-150, 25-250 scfm	4216K63	349.09
1	7 1/4″	1,000	±2%	15-150, 25-250 scfm	4216K64	349.09
1½	12 1/4″	1,000	±2%	40-400 scfm	4216K83	872.73
With Pressure Gauge—Temp. Range is –20° to 240° F						
¼	6 1/8″	600	±5%	0.5-5, 1-10, 2-20, 3-30 scfm	4216K65	349.09
½	8″	600	±2%	3-25, 5-50, 10-100, 15-150 scfm	4216K66	381.82
¾	8 15/16″	600	±2%	5-50, 10-100, 15-150, 25-250 scfm	4216K67	512.73
1	8 15/16″	600	±2%	15-150, 25-250 scfm	4216K68	512.73
1½	13 13/16″	600	±2%	40-400 scfm	4216K93	1,036.36

Full-View Flowmeters

Spot problems at a glance—visually inspect flow through a transparent body. The dual scale shows flow rate in both gallons per minute and liters per minute. Mount at any angle. Accuracy is ±5%. Maximum pressure is 325 psi @ 70° F, and temperature range is 33° to 200° F. Connections are NPTF (Dryseal). Choose brass fittings for more durability than polysulfone fittings.



Standard

Easy-to-install flowmeters have a union nut, so they can quickly be disassembled for maintenance and cleaning.

Pipe Size Female	Pipe Size Male	Lg.	Available Flow Ranges, gpm		
For Water					
Standard—Polysulfone Body and Fittings					
—	1	5 1/4″	0.5-4, 1-7, 1-10, 1-16, 3-18, 4-28	4197K51	$67.64
Standard—Polysulfone Body and Brass Fittings					
½	—	7 3/4″	0.5-4, 1-7, 1-10, 1-16	4197K52	114.55
—	¾	8 1/4″	0.5-4, 1-10, 1-16, 4-28	4197K53	120.00
Easy-to-Install—Polycarbonate Body and Polysulfone Fittings					
½	—	7 3/16″	0.5-5	4161A61	116.34
¾	—	7 9/16″	1-10, 1-15	4161A11	137.20
1	—	7 9/16″	3-30	4161A66	137.20
Easy-to-Install—Polycarbonate Body and Brass Fittings					
½	—	7 3/16″	0.5-5, 1-10	4161A12	172.32
¾	—	7 9/16″	1-10, 1-15	4161A13	192.07
1	—	7 9/16″	1-15, 3-30	4161A14	192.07
For Hydraulic Oil					
Easy-to-Install—Polysulfone Body and Fittings					
½	—	7 3/16″	0.5-5, 1-10	4161A15	121.83
¾	—	7 9/16″	1-10, 1-15	4161A16	143.78
1	—	7 9/16″	1-15, 3-30	4161A17	143.78
Easy-to-Install—Polysulfone Body and Brass Fittings					
½	—	7 3/16″	0.5-5, 1-10	4161A18	176.71
¾	—	7 9/16″	1-10, 1-15	4161A19	196.46
1	—	7 9/16″	1-15, 3-30	4161A21	196.46

Clog-Resistant Flowmeters

These flowmeters are designed for use with water containing particles up to ⅛″ dia. Seals are ethylene propylene. Maximum pressure is 200 psi @ 70° F, and temperature range is –10° to 400° F. Connections are NPT.



Flowmeters with a brass and steel body are more durable than flowmeters with a brass body.

To Order: Please specify mounting and flow direction: horizontal left to right, horizontal right to left, vertical up, or vertical down.

Pipe Size	Lg.	Accuracy	Flow Range, gpm		
NPT Female Connections—Brass Body					
½	5 11/16″	±2%	0.5-5	4165K111	$366.69
½	5 11/16″	±2%	1-10	4165K121	366.69
¾	5 11/16″	±2%	1.5-15	4165K131	366.69
1	5 11/16″	±2%	2-20	4165K141	366.69
1	5 11/16″	±2%	5-50	4165K151	366.69
NPT Male Connections—Brass and Steel Body					
1½	12″	±2%	15-150	4165K161	568.62
2	12″	±2%	25-250	4165K171	591.92

Corrosion-Resistant PVC Flowmeters

For monitoring flow of harsh liquids such as chlorinated water, these flowmeters have a highly corrosion-resistant PVC body. An easy-to-read dial permits flow monitoring at a glance. Mount at any angle. Seals are fluoroelastomer. Maximum pressure is 200 psi @ 70° F; maximum temperature is 120° F. Connections are NPT female.



Pipe Size	Accuracy	Flow Range, gpm	2½″ Dial Size		3½″ Dial Size	
¼	±2%	0-1	9079T21	$188.52	9079T28	$219.67
¼	±2%	0-2	9079T27	188.52	9079T29	219.67
½	±2%	0-10	9079T36	224.59	9079T38	254.10

Easy-Read Flowmeters



Quickly check flow rate on the large 3½" dial face. These flowmeters have a bronze body and Buna-N seals. Maximum pressure is 180 psi @ 70° F. Temperature range for water is 33° to 212° F; for air, it's –30° to 212° F.

For the most accurate readings, install these flowmeters a minimum distance of at least 10 times the pipe diameter from any fittings.

To Order: Please specify mounting and flow direction: horizontal left to right, horizontal right to left, vertical up, or vertical down.

Pipe Size	Lg.	Ht.	Accuracy	Flow Range		
For Water—Gallons per Minute						
½	4 9/16"	6 11/16"	±3%	0.5-4 gpm	9858K51	$483.43
½	4 9/16"	6 11/16"	±3%	0.5-6 gpm	9858K92	483.43
¾	4 9/16"	6 11/16"	±3%	1.5-10 gpm	9858K52	545.14
¾	4 9/16"	6 11/16"	±3%	2-15 gpm	9858K93	545.14
1	4 9/16"	6 15/16"	±3%	3-20 gpm	9858K53	570.86
1	4 9/16"	6 15/16"	±3%	4-30 gpm	9858K94	570.86
1½	4 9/16"	7 5/8"	±3%	5-60 gpm	9858K54	648.00
1½	4 9/16"	7 5/8"	±3%	15-100 gpm	9858K95	648.00
2	4 9/16"	8 3/8"	±3%	15-100 gpm	9858K55	750.86
2	4 9/16"	8 3/8"	±3%	30-200 gpm	9858K56	750.86
3	4 9/16"	9 13/16"	±3%	40-300 gpm	9858K57	915.17
For Air—Standard Cubic Feet per Minute						
¼	4 9/16"	6 11/16"	±3%	3-20 scfm	42005K38	637.98
½	4 9/16"	6 11/16"	±3%	5-40 scfm	42005K31	637.98
¾	4 9/16"	6 11/16"	±3%	20-150 scfm	42005K32	706.95
1	4 9/16"	6 15/16"	±3%	40-300 scfm	42005K33	735.70
1½	4 9/16"	7 5/8"	±3%	50-600 scfm	42005K34	821.91
2	4 9/16"	8 3/8"	±3%	100-800 scfm	42005K35	936.86
2	4 9/16"	8 3/8"	±3%	150-1,000 scfm	42005K36	936.86
3	4 9/16"	9 13/16"	±3%	300-2,000 scfm	42005K37	1,149.53

Easy-Read High-Pressure Flowmeters



Withstanding pressures up to 3,000 psi @ 70° F, these flowmeters display flow rate on a large dial face that makes readings easy to see. Mount at any angle. Temperature range for water is 33° to 150° F; for air, it's –40° to 150° F. Connections are NPT female. Choose Type 316 stainless steel for greater corrosion resistance than aluminum or brass.

Flowmeters for Water—Accuracy is ±2%.
Flowmeters for Air—Accuracy is ±5%.

Pipe Size	Lg.	Flow Range	2½" Dial Size		4½" Dial Size	
For Water—Gallons per Minute						
Aluminum Body—Buna-N Seals						
¼	3 5/8"	0-1 gpm	41995K41	$173.77	41995K71	$178.69
¼	3 5/8"	0-2 gpm	41995K42	173.77	41995K72	178.69
½	5 3/4"	0-5 gpm	41995K43	181.97	41995K73	188.52
½	5 3/4"	0-10 gpm	41995K44	181.97	41995K74	188.52
Brass Body—Buna-N Seals						
¼	3 5/8"	0-1 gpm	41995K51	232.79	41995K81	237.70
¼	3 5/8"	0-2 gpm	41995K52	232.79	41995K82	237.70
½	5 3/4"	0-5 gpm	41995K53	254.10	41995K83	260.66
½	5 3/4"	0-10 gpm	41995K54	254.10	41995K84	260.66
Type 316 Stainless Steel Body—Fluoroelastomer Seals						
¼	3 5/8"	0-1 gpm	41995K61	354.10	41995K91	357.38
¼	3 5/8"	0-2 gpm	41995K62	354.10	41995K92	357.38
½	5 3/4"	0-5 gpm	41995K63	368.85	41995K93	380.33
½	5 3/4"	0-10 gpm	41995K64	368.85	41995K94	380.33
For Air—Standard Cubic Feet per Minute						
Aluminum Body—Buna-N Seals						
¼	3 5/8"	0-10 scfm	9909K11	173.77	9909K31	178.69
¼	3 5/8"	0-15 scfm	9909K12	173.77	9909K32	178.69
¼	3 5/8"	0-20 scfm	9909K13	173.77	9909K33	178.69
¼	3 5/8"	0-25 scfm	9909K14	173.77	9909K34	178.69
½	5 3/4"	0-50 scfm	9909K15	186.89	9909K35	195.08
½	5 3/4"	0-100 scfm	9909K16	186.89	9909K36	195.08

Super-Low-Flow Air Flowmeters



These flowmeters pinpoint small amounts of air in heat-treating and welding applications. They mount horizontally and have an RS-232 port and a 4-20 mA output signal for transmitting readings to a remote display.

Body is ABS plastic, and fittings are Type 316 stainless steel. Flowmeters operate on 90 to 240 volts AC and have a 5-ft. cord with a two-prong plug. Maximum pressure is 150 psi @ 70° F, and temperature range is 32° to 122° F. Connections are compression and fit ⅛" OD tubing.

Flow Range	Accuracy	Lg.		
Cubic Centimeters per Minute				
1-50 ccm	±3%	4 7/8"	9365K61	$1,454.52
4-200 ccm	±3%	4 7/8"	9365K62	1,454.52
10-500 ccm	±3%	4 7/8"	9365K63	1,454.52
Liters per Minute				
0.02-1 lpm	±3%	4 7/8"	9365K64	1,454.52
0.1-5 lpm	±3%	4 7/8"	9365K65	1,454.52

Spot-Check Portable Flowmeters



Monitor flow throughout your system. These handheld flowmeters use ultrasonic waves to check flow in liquid containing particles 100 microns (similar to flour) or larger; meters cannot read flow in particle-free liquid. They are also known as Doppler flowmeters.

These flowmeters measure fluid velocity from 0.3 to 30 feet per second and include a calculator to convert velocity to flow rate in gallons per minute. Housing is ABS and meets NEMA 12K for resistance to oil seepage and dust. Overall size is 4" Lg. × 7 11/16" Ht. × 1 11/16" Dp. Temperature range is –28° to 140° F. Batteries are included.

For Pipe Sizes	Accuracy		
¼-120	±2%	42195K9	$2,411.11
1-120	±2%	42195K8	1,733.33

Super-Low-Flow Compact Flowmeters



Flowmeter



Optional Display Meter

Small enough to fit in tight spaces, these flowmeters measure liquid flow rates down to the milliliter per minute. Use with particle-free, low-viscosity liquids up to 25 centipoise (similar to antifreeze). Mount vertically to horizontal pipe. These flowmeters produce a 0-5 VDC pulse output signal.

Body is Type 316 stainless steel, and seals are PTFE. Flowmeters operate on 8 to 30 volts DC and have a 3-ft. cable with wire leads. Overall size is 2½" Dia. × 4 5/8" Ht. Maximum pressure is 3,000 psi @ 70° F, and temperature range is –40° to 180° F. Connections are NPT female.

Optional display meter accepts flowmeter output signals and registers flow rate and total. The display can be manually reset. Meter has screw terminals. Overall size is 1 7/8" Lg. × 1" Ht. × 2 3/4" Dp.

Pipe Size	Accuracy	Flow Range, ml/min.		
¼	±1%	1-250	4126K23	$1,605.28
¼	±1%	5-1,250	4126K24	1,470.95
Optional Display Meter			4126K38	234.48

Water Flowmeters for PVC Pipe



Install these flowmeters without disassembling your pipeline—drill a ⅝" dia. hole in horizontal pipe and use the included clamps to mount. Flowmeters have an acrylic body and a neoprene seal. Temperature range is 33° to 190° F.

Flowmeters for Schedule 40 PVC pipe have a dual scale that shows flow rate in both gallons per minute and liters per minute. Maximum pressure is 150 psi @ 70° F.

Flowmeters for Schedule 40/Schedule 80 PVC pipe have a dual scale that shows flow rate in gallons per minute for each schedule. Maximum pressure is 75 psi @ 70° F.

Pipe Size	Ht.	Accuracy	Flow Range gpm	Flow Range lpm		
For Schedule 40 PVC Pipe						
1 1/4	6"	±10%	15-75	60-280	4349K2	$90.30
4	6"	±10%	125-500	550-2,000	4349K7	136.18
For Schedule 40/Schedule 80 PVC Pipe						
1	7"	±5%	5-32.5/4-26■	_____	4349K11	90.30
1½	7½"	±5%	10-70/10-60■	_____	4349K33	90.30
2	7½"	±5%	20-120/18-100■	_____	4349K34	97.07
3	6"	±5%	45-240/40-215■	_____	4349K61	124.83

■ Schedule 40/Schedule 80

For information about flowmeter/totalizers, see page 586. For information about pipe size, see pages 2-3.

High-Accuracy Flowmeter/Totalizers



View flow rate in gallons per minute or liters per minute and register total flow volume up to 999,999 total units with these flowmeter/totalizers. Cumulative total flow volume is nonresettable; batch total volume can be reset. They mount horizontally or vertically. They are calibrated for water but can be calibrated for other liquids with viscosities from 1 to 100 centipoise.

Flowmeter/totalizers have Type 316 stainless steel seals. Temp. range is 14° to 140°F. Connections are NPT female. All meet NEMA 4 for indoor/outdoor use and resistance to splashing water; they are also FM approved as intrinsically safe for Class I, Div. 1 hazardous locations with flammable gases or vapors. Two 3-volt lithium batteries are included.

Flowmeter/totalizers with NIST certificate come with a calibration certificate traceable to NIST and includes the test measurements that confirm accuracy.

Optional Output Modules—Transmit output signals to an external device such as a data recorder, logger, or remote display (not included). Both modules include 10 feet of cable with wire leads and are for use with brass and Type 316 stainless steel flowmeter/totalizers. **Pulse output module** transmits a pulse signal to your external device from up to 5,000 feet away. **4-20 mA output module** transmits a 4-20 mA signal to your external device and comes with a circuit assembly.

Optional Remote Panel-Mounting Kit—Mount the meter's display up to 100 feet away. Kit includes a sensor module and 10 feet of cable with wire leads.

Pipe Size	Lg.	Accuracy	Max. psi @ 70°F	Flow Range, gpm	Flowmeter/ Totalizers		Flowmeter/Totalizers with NIST Certificate		Replacement Displays	
For Water										
Nylon Body										
1	4″	±5%	150	0.3-3	4352K63	$491.54	4352K23	$766.54	4352K631	$320.81
1	4″	±1.5%	150	3-50	4352K64	496.11	4352K24	771.11	4352K641	320.81
Brass Body										
3/4	4 3/8″	±1%	300	2-20	4118K42	672.78	4118K52	947.78	4352K521	320.81
1	4 1/2″	±1%	300	5-50	4118K43	698.69	4118K53	973.69	4352K531	320.81
For Water and Diesel Fuel										
Type 316 Stainless Steel Body										
1/2	4 1/4″	±1.5%	1,500	1-10	4352K51	677.09	4352K85	952.09	4352K511	320.81
3/4	4 3/8″	±1%	1,500	2-20	4352K52	690.91	4352K86	965.91	4352K521	320.81
1	4 1/2″	±1%	1,500	5-50	4352K53	704.73	4352K87	979.73	4352K531	320.81
1 1/2	5 3/8″	±0.75%	1,500	10-100	4352K54	943.96	4352K88	1,218.96	4352K541	320.81
2	6 3/8″	±0.75%	1,500	20-200	4352K55	1,198.02	4352K89	1,473.02	4352K551	320.81
For Petroleum Products										
Aluminum Body										
1	4″	±5%	300	0.3-3	4352K67	466.88	4352K91	741.88	4352K631	320.81
1	4″	±1.5%	300	3-50	4352K68	468.71	4352K92	743.71	4352K641	320.81
2	6″	±1.5%	300	30-300	4352K69	967.59	4352K93	1,242.59	4352K691	320.81
Accessories										
Optional Pulse Output Module for Brass and Type 316 Stainless Steel Flowmeter/Totalizers									4352K224	90.09
Optional 4-20 mA Output Module for Brass and Type 316 Stainless Steel Flowmeter/Totalizers									4352K226	332.50
Optional Remote Panel-Mounting Kit for All Flowmeter/Totalizers									4352K22	219.26
Replacement 3-Volt Lithium Battery									7821K71	11.50

Water Flowmeter/Totalizers for PVC Pipe



With NPT Female Connections



With Unthreaded Male Pipe End Connections

Monitor water flow in Schedule 80 PVC pipe. Flowmeter/totalizers show flow rate in gallons per minute or liters per minute and register total flow volume up to 999,999 total units. Cumulative total flow volume is nonresettable; batch total volume can be reset. Mount horizontally or vertically. They have a PVC body and Type 316 stainless steel seals. Maximum pressure is 225 psi @ 70°F; temperature range is 33° to 140°F. Two 3-volt lithium batteries are included.

Flowmeter/totalizers with NPT female connections fit Schedule 80 threaded pipe.

Flowmeter/totalizers with unthreaded male pipe end connections fit Schedule 80 unthreaded pipe fittings; connect with PVC cement and primer.

Flowmeter/totalizers with flange connections bolt to ANSI Class 150 flanges of the same pipe size. *Pipe size 3* has a 7 1/2″ OD with a 6″ dia. bolt circle and requires four 5/8″ bolts. *Pipe size 4* has a 9″ OD with a 7 1/2″ dia. bolt circle and requires eight 5/8″ bolts.

Pipe Size	Lg.	Accuracy	Flow Range, gpm		
With NPT Female Connections					
1/2	5 1/2″	±3%	1-10	2400T31	$283.07
3/4	5 1/2″	±3%	2-20	2400T32	308.64
1	6 1/4″	±3%	5-50	2400T33	356.26
1 1/2	7 5/8″	±3%	10-100	2400T34	405.64
2	7 7/8″	±3%	20-200	2400T35	437.39
With Unthreaded Male Pipe End Connections					
1/2	3 7/8″	±3%	1-10	5020T71	262.79
3/4	3 7/8″	±3%	2-20	5020T72	289.24
1	4 1/8″	±3%	5-50	5020T73	335.98
1 1/2	5 1/2″	±3%	10-100	5020T74	375.66
2	5 1/2″	±3%	20-200	5020T75	407.41
3	11 1/2″	±3%	40-400	3777K11	609.48
4	13 1/2″	±3%	60-600	3777K13	649.14
With Flange Connections					
3	12″	±3%	40-400	3777K12	769.83
4	14″	±3%	60-600	3777K14	818.97

Remote-Monitoring Water Flowmeter/Totalizers for PVC Pipe



Display



Sensor



Tee Fitting

Check water flow rate and volume from up to 25 feet away. For a complete unit, order a display, a sensor, and a tee fitting. Use in Schedule 80 unthreaded pipe. Maximum pressure is 180 psi at 70°F, and temperature range is 33° to 149°F.

Display

View flow rate in gallons or liters per second, minute, hour, or day. The display meets NEMA 4X for indoor/outdoor use and resistance to corrosive fluids and splashing water. Accuracy is ±0.5%. Designed for panel mounting, the display is 1/4 DIN (96 mm×96 mm×41 mm). Batteries are included. *Optional surface-mounting bracket* has four 3/16″×3/4″ mounting slots.

Display	4114K335	$633.62
Optional Surface-Mounting Bracket	4114K94	39.66

Sensor

Install this sensor in a tee fitting (sold separately below). Body is polypropylene and seal is fluoroelastomer. Sensor includes 25 feet of cable with wire leads. Accuracy is ±1%. Connection is 1 1/4 NPSM; sensor fits 1/2 to 3 pipe sizes.

4114K222		$434.62

Tee Fittings

Mount these PVC fittings in horizontal or vertical pipe. Connections are unthreaded female socket end; connect with PVC cement and primer.

Pipe Size	Flow Range, gpm		
1/2	1-18.9	4114K231	$153.85
3/4	1.7-33.2	4114K232	153.85
1	2.7-53.9	4114K233	153.85
1 1/2	6.4-126.9	4114K235	190.38
2	10.5-209.2	4114K236	271.15
3	23-460.8	4114K238	299.04

Flowmeters & Totalizers

For information about flowmeters and totalizers, see page 586. For information about pipe size, see pages 2-3.

Splash-Resistant Water Flowmeters and Totalizers



The display has an enclosure that meets NEMA 4X for outdoor use and protection against splashing water. All flowmeters and totalizers mount horizontally and have a polypropylene body and a fluoroelastomer seal. Maximum pressure is 300 psi @ 70° F, and temperature range is 33° to 200° F. Batteries are included. Connections are NPT male.

Flowmeters measure flow rate in gallons per minute. **Totalizers** register total flow volume up to 999,999 gallons. Total flow volume can be reset to zero; reset function can be disabled to prevent tampering. **Flowmeter/totalizers** perform both functions.

Pipe Size	Lg.	Accuracy	Flow Range, gpm	Flowmeters		Totalizers		Flowmeter/Totalizers	
3/8	4 3/4"	±2%	0.8-8	3562K11	$326.13	3562K21	$349.44	3562K31	$520.26
1/2	5 1/8"	±2%	2-20	3562K12	326.13	3562K22	349.44	3562K32	520.26
3/4	5 1/4"	±2%	3-30	3562K13	326.13	3562K23	349.44	3562K33	520.26
1	5 5/8"	±2%	5-50	3562K14	326.13	3562K24	349.44	3562K34	520.26
1 1/2	6 1/2"	±2%	6-60	3562K15	409.29	3562K25	432.51	3562K35	615.22
2	6 3/4"	±2%	10-100	3562K16	425.44	3562K26	450.16	3562K36	631.37

Drinking-Water Totalizers

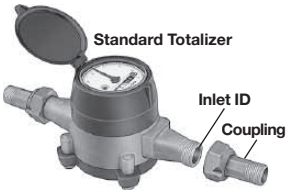

Often used for cold-water service, these totalizers meet NSF/ANSI Standard 61 and have a low-flow indicator to detect leaks in the system. All have a nonresettable dial that measures total flow volume. Totalizers mount horizontally. They have a brass body, bronze fittings, and an EPR seal. Maximum pressure is 150 psi @ 70° F; temperature range is 33° to 80° F. All come with NPT couplings.

Standard—Coupling connections are NPT male. *Totalizers* register up to 10,000,000 gallons. *Totalizers with a remote display* register up to 99,999,999 gallons.

High Volume—Coupling connections are NPT female. *Totalizers* register up to 100,000,000 gallons. *Totalizers with a remote display* register up to 99,999,999 gallons.

Totalizers with a remote display can be read up to 1,000 feet from the totalizer in environments where the dial face is difficult to access. Battery included. *Cable for remote display* (sold separately below) connects the display to the totalizer.



Inlet ID	Coupling Pipe Size	Lg.	Accuracy	Flow Range, gpm	Totalizers		Totalizers with Remote Display	
Standard								
5/8"	1/2	12 1/2"	±1.5%	0.5-20	4041K21	$112.96	3786K91	$652.09
5/8"	3/4	12 3/4"	±1.5%	0.5-20	4041K22	121.27	3786K92	656.21
3/4"	3/4	14 1/4"	±1.5%	0.75-30	4041K61	194.20	3786K81	712.68
3/4"	1	14 1/2"	±1.5%	0.75-30	4041K62	217.82	3786K82	729.98
1"	1	16 1/4"	±1.5%	1-50	4041K23	300.22	3786K93	793.49
1"	1 1/4	16 3/8"	±1.5%	1-50	4041K24	380.02	3786K94	847.42
High Volume								
1 1/2"	1 1/2	12 5/8"	±1.5%	2-100	4041K25	652.07	3786K95	1,132.82
2"	2	15 1/4"	±1.5%	2.5-160	4041K26	942.70	3786K96	1,307.22
Cable for Remote Display (250 ft.)							8278T115	23.30

High-Flow Flanged Drinking-Water Totalizers



Designed for large pipes and high flow rates, these totalizers meet NSF/ANSI Standard 61 for drinking water. They are often used for cold-water service and have a nonresettable dial that measures total flow volume up to 99,999,000 gallons. Totalizers mount horizontally. They have a bronze body and a Buna-N seal. Maximum pressure is 175 psi @ 70° F, and temperature range is 33° to 150° F. Connections are flanged.

Totalizers with round flanges are drilled to accommodate ANSI 150-lb. flanges.

Pipe Size	Lg.	Accuracy	Flange OD	Bolt Circle Dia.	Bolt Holes, Qty.	Hole Dia.	Flow Range, gpm		
With Elliptical Flanges—For Centrifugal Pumps									
2	10"	±1.5%	5 7/8"	4"	2	5/8"	4-350	4189K31	$706.45
With Round Flanges—For Pipe Connections									
3	12"	±1.5%	7 1/2"	6"	4	3/4"	5-530	4189K32	1,087.92
4	14"	±1.5%	8 7/8"	7 1/2"	8	3/4"	9-1,350	4189K33	1,714.65
6	18"	±1.5%	11 1/8"	9 1/2"	8	7/8"	25-2,700	4189K34	2,862.49
8	20"	±1.5%	13 5/8"	11 3/4"	8	7/8"	35-3,500	4189K35	4,941.46

Corrosion-Resistant Cold-Water Totalizers



To stand up to deionized water and reverse-osmosis processes, these totalizers have a corrosion-resistant nylon body. A nonresettable dial measures total flow volume up to 9,999,999 gallons. Mount horizontally. Seal is Buna-N. Maximum pressure is 100 psi @ 70° F, and temperature range is 35° to 120° F. Totalizers come with NPT male couplings.

Inlet ID	Coupling Pipe Size	Lg.	Accuracy	Flow Range, gpm	Totalizers		Replacement Couplings	
5/8"	1/2	10"	±1.5%	0.25-13	4119K41	$147.27	4119K77	$24.00
3/4"	3/4	11 1/2"	±1.5%	0.25-22	4119K42	161.82	4119K79	24.00
3/4"	1	10 3/4"	±1.5%	0.75-50	4119K43	221.82		

Hot-Water Totalizers



Measure the flow volume of water up to 194° F. These totalizers have a nonresettable dial that records up to 99,999,900 total gallons. They mount horizontally and have a bronze body with a rubber seal. Maximum pressure is 150 psi @ 70° F, and temperature range is 33° to 194° F. Totalizers come with NPT male couplings.

Inlet ID	Coupling Pipe Size	Lg.	Accuracy	Flow Range, gpm		
1"	3/4	7 1/2"	±1.5%	0.22-22	9817K13	$205.42
1 1/4"	1	10 1/4"	±1.5%	0.44-52	9817K14	332.92
2"	1 1/2	11 3/4"	±1.5%	0.88-88	9817K15	786.25

For information about totalizers, see page 586. For information about pipe size, see pages 2-3.

Corrosion-Resistant Hot-Water Totalizers

For metering mildly acidic water, these totalizers have a nickel-plated brass body that resists corrosion. A nonresettable display registers total flow volume up to 9,999,999.9 gallons. Mount horizontally or vertically. Seal is fluoroelastomer. Maximum pressure is 150 psi @ 200° F, and temperature range is 32° to 200° F. Totalizers come with NPT male couplings.

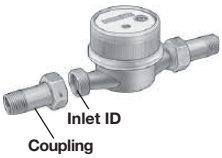

Inlet ID	Coupling Pipe Size	Lg.	Accuracy	Flow Range, gpm		
1/2"	1/2	9 5/8"	±1.5%	0.1-13	4115K41	$166.00
3/4"	3/4	10 1/8"	±1.5%	0.2-20	4115K42	178.00

Water and Fuel Totalizers

Track your system's total flow volume up to 9,999 units; these totalizers reset to zero when they reach the maximum reading. They mount horizontally or vertically and have Type 316 stainless steel seals. Batteries are included. Connections are NPT female.

Totalizers for water have a nylon body. Temperature range is 33° to 130° F.

Totalizers for fuel have an aluminum body and are for use with kerosene, gasoline, and diesel fuel. Temperature range is 14° to 130° F.



Pipe Size	Accuracy	Flow Range	For Water: Max. psi @ 70° F			For Fuel: Max. psi @ 70° F		
1	±5%	3-30 gpm	150	9978K75	$180.42	300	9978K77	$180.42
1	±5%	10-100 lpm	150	9978K76	180.42	300	9978K78	180.42

High-Accuracy Oil Totalizers

Measure the flow volume of hydraulic and motor oil with ±0.5% accuracy. These totalizers register total flow volume up to 999,999.9 units; they can be programmed to display readings in ounces, gallons, or liters. They activate automatically or manually and automatically shut down 40 seconds after flow stops. Totalizers mount at any angle and have a fluoroelastomer seal. Batteries are included. Connections are NPT male.

Totalizer with a Type 316 stainless steel body is more durable than the totalizer with a nylon body.



Pipe Size	Ht.	Wd.	Dp.	Max. psi @ 70° F	Temperature Range, °F	Flow Range, gpm		
Nylon Body								
1	5"	6"	4"	60	33° to 130°	2-30	41935K49	$233.46
Type 316 Stainless Steel Body								
1	6"	5"	4"	100	33° to 185°	2-30	41935K98	366.15

High-Accuracy Fuel Totalizers

For use with gasoline, diesel fuel, and kerosene, these totalizers have ±2% accuracy. They display total flow volume (up to 999,999.9 units; nonresettable) and batch total volume (up to 999.9 units; resettable). Mount horizontally or vertically. Both have an aluminum body, Buna-N seals, and a 10×10 mesh strainer. Temperature range is –20° to 125° F. Connections are NPT female.



Pipe Size	Ht.	Wd.	Dp.	Max. psi @ 70° F	Flow Range		
1	7"	8"	6"	50	5-30 gpm	9854K11	$211.00
1	7"	8"	6"	50	19-114 lpm	9854K12	211.00

High-Pressure Grease Totalizers

Accurately monitor grease dispensing to reduce waste at pressures up to 10,000 psi @ 70° F. Install this totalizer on a grease gun or valve. It can measure usage in ounces, grams, or cubic centimeters; reset the display to zero after each application. Body is aluminum, and seal is neoprene. Temperature range is –4° to 130° F. Battery is included. Connections are NPT female.



Pipe Size	Ht.	Wd.	Dp.	Accuracy		
1/8	2 1/2"	3"	2 1/2"	±3%	6727T11	$569.20

Calibration Columns

Use these clear tubes to calibrate flow rates on metering pumps. They have a PVC body and fittings and a scale graduated in gallons per hour. Temperature range is 32° to 140° F. Connections are NPT female.



Pipe Size	Ht.	Tube Volume, ml	Flow Range, gph		
1/2	12 1/2"	100	0-1.5	4446K71	$51.26
1/2	16 1/4"	250	0-4	4446K72	56.73
3/4	16"	500	0-8	4446K73	60.00
3/4	25"	1,000	0-16	4446K74	66.55
1	24"	2,000	0-32	4446K75	148.97
1	34"	4,000	0-64	4446K76	202.76
2	27"	10,000	0-160	4446K77	439.66
2	46"	20,000	0-320	4446K78	533.79

Natural Gas Totalizers

Meter natural gas with ±1% accuracy. These totalizers have a nonresettable display that registers total flow volume up to 999,900 cubic feet. Mount horizontally. They have an aluminum body and a Buna-N seal. Temperature range is –30° to 140° F. Connections are NPT.



Pipe Size	Ht.	Wd.	Dp.	Max. psi @ 70° F	Flow Range, cu. ft./hr.		
3/4 female	13"	9"	9"	5	0-250	4360K21	$239.80
1 1/4 male	13"	9"	9"	10	0-425	4360K22	593.80

About Pressure Gauges

Install gauges in pipelines and tanks to measure and display pressure. Consider the following in your selection:

Type of Gauge & Application

Pressure gauges measure positive pressure. The most common type of gauge, they're used with pumps, filters, regulators, and in process lines.

Vacuum gauges measure negative pressure (vacuum). They're used with vacuum pumps, packaging equipment, and in suction lines.

Compound gauges measure both pressure and vacuum. Use compound gauges with compressors, refrigeration equipment, and in pump start-up applications.

Differential gauges display the difference between two pressure measurements. They're often used with air-handling equipment to control ventilation for clean rooms and fume hoods.

Connection Material & Process Media

Choose a gauge with a **brass connection** for use with noncorrosive liquids and gases, such as air and water. For corrosive environments that could damage brass, choose a gauge with a **stainless steel connection**. If you require additional protection, use a *gauge guard* (page 609) between the process media and gauge.

For steam and other high-temperature media, install a *siphon tube* (page 609) to protect your gauge. Also known as a pigtail, the tube is filled with water to provide a protective barrier between the internal parts of the gauge and high-temperature media.

Dry or Liquid-Filled

Gauges with a dry dial work well for most applications. For environments prone to vibration, consider a gauge with a liquid-filled dial. They suppress needle flutter for more precise readings. They're also good for use in pipelines that incur pressure spikes because they absorb some of the shock, which may prevent damage to the gauge.

Pressure Range & Dial Face

Choose a range that is about double the normal operating pressure of your application. Your maximum operating pressure should not exceed 75% of the maximum pressure of the gauge.

When replacing an existing gauge, use the graduation marks and numeric increments to select a matching dial face.

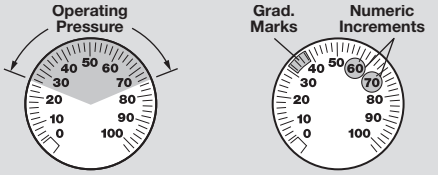

Accuracy

Mid-scale accuracy applies to readings that fall between 25% and 75% of the pressure range. *Full-scale accuracy* applies to readings for the entire pressure range.

Gauges with 5% to 2% accuracy are the most commonly used.

Gauges with 1.6% to 1% accuracy are typically required for critical processes, such as food processing and hydraulics.

Gauges with 0.5% to 0.05% accuracy are suitable for testing, laboratory, and calibration applications.

NIST Certification

Many gauges are available with a certificate of calibration traceable to the National Institute of Standards and Technology (NIST). It verifies that the gauge has been tested against a NIST-certified gauge and falls within a required tolerance. The certificate comes marked with a calibration date, which is the actual date of certification. Record the date you install the gauge to determine when to test it again.

Multipurpose Gauges



Single Scale with Bottom Connection



Bottom Connection with Cover



Dual Scale with Center Back Connection



Panel Mount Connection (Back View)

- Use with air, water, hydraulic oil, ethyl alcohol, natural gas, and nitrogen
- Pipe Connection: Brass NPT male
- Accuracy: ±2% mid scale (Grade B)

Our most popular gauges for pressure readings in a wide variety of applications. Lens is impact-resistant polycarbonate. Temp. range is –40° to 150° F. *Gauges with cover* have a rubber sleeve to protect the case from impact.

ABS-plastic-case gauges are more corrosion resistant than steel-case gauges. All have a single scale that displays pressure in psi. *Gauges with NIST certificate* come with a certificate of calibration traceable to NIST.

Steel-case gauges are more impact resistant than ABS-plastic-case gauges. *Single scale* display pressure in psi; *dual scale* display pressure in psi and kPa.

Available Pressure Ranges

Pressure Range psi	Pressure Range kPa	Grad. Marks, psi	Num. Inc., psi
0- 15	0- 100	0.5	1
0- 30	0- 200	0.5	5
0- 60	0- 400	1	5
0-100	0- 700	2	10
0-160	0-1,100	5	20
0-200	0-1,400	5	20
0-300	0-2,000	5	30
0-400	0-2,800	10	50
0- 600	0- 4,000	10	50
0-1,000	0- 7,000	20	200
0-2,000	0-14,000	50	400
0-3,000	0-20,000	100	500
0-4,000	0-28,000	100	1,000
0-5,000	0-35,000	100	1,000
0-6,000	0-40,000	200	1,000

To Order: Please specify pressure range in psi from the chart.

For a drawing of the dial face, go to mcmaster.com, search for the part number, and select a pressure range.

Dial Size	Pipe Size	Bottom Connection		Bottom Connection with Cover		Center Back Connection		Panel Mount Connection Cutout, Dia.		
ABS-Plastic-Case Gauges										
Single Scale										
1½″	1/8	3847K71★	$11.55	2201T23★	$23.84	3847K72★	$11.18	1 31/32″	3847K73★	$15.84
2″	1/4	4089K61	9.95	2201T25	22.46	4089K62	12.43	2 7/16″	4089K63	19.40
2½″	1/4	4089K64	11.35	2201T27	24.10	4089K65	13.62	3 7/64″	4089K66	23.77
3½″	1/4	4089K81	16.05	2201T29	29.06	4089K82	18.18	4 1/64″	4089K83	28.30
Single Scale with NIST Certificate										
1½″	1/8	9796T11★	88.04	2201T31★	100.17	9796T12★	87.71	1 31/32″	9796T13★	93.62
2″	1/4	9796T21	86.62	2201T33	99.05	9796T22	88.82	2 7/16″	9796T23	95.02
2½″	1/4	9796T31	87.87	2201T35	100.48	9796T32	89.89	3 5/64″	9796T33	98.91
3½″	1/4	9796T41	94.27	2201T37	104.92	9796T42	93.93	4 1/64″	9796T43	102.93
Steel-Case Gauges										
Single Scale										
1½″	1/8	3846K1★	11.55	2201T39★	23.84	3846K2★	11.18	1 3/4″	3846K4★	14.47
2″	1/8	3846K411★	10.16	2201T41★	22.67	3846K431★	12.03	2 7/32″	3846K451★	15.28
2″	1/4	3846K6	10.15	2201T43	22.67	3846K8	12.03	2 7/32″	3846K9	15.27
2½″	1/4	3846K312	10.68	2201T45	23.43	3846K313	12.57	2 3/4″	3846K99	17.60
3½″	1/4	3846K311	14.47	2201T47	27.48	3846K18	15.55	3 13/16″	3846K19	23.27
4½″	1/4	3846K21	21.49	2201T49	34.74					
Dual Scale										
1½″	1/8	4000K717★	11.55	2201T51★	23.84	4000K718★	11.18	1 3/4″	4000K719★	14.47
2″	1/8	4000K744★	10.16	2201T53★	22.67	4000K745★	12.03	2 7/32″	4000K746★	15.28
2″	1/4	4000K721	10.15	2201T55	22.67	4000K791	12.03	2 7/32″	4000K728	15.27
2½″	1/4	4000K722	10.68	2201T57	23.43	4000K726	12.57	2 3/4″	4000K729	17.60
3½″	1/4	4000K713	14.47	2201T59	27.48	4000K727	15.55	3 13/16″	4000K741	23.27
4½″	1/4	4000K724	21.49	2201T61	34.74					

★ Available only in pressure ranges up to 1,000 psi.

Metric Gauges with BSPT Threads

- Use with air, water, hydraulic oil, carbon dioxide, and natural gas
- Pipe Connection: Brass BSPT male
- Accuracy: ±2% mid scale (Grade B)



Center Back Connection

Keep an eye on the pressure of your imported equipment with BSPT (British Standard Pipe Taper) threads. Gauges have a dual scale that displays pressure in psi and kPa. Case is ABS plastic and lens is polystyrene. Temp. range is –4° to 140° F.

Available Pressure Ranges

Pressure Range psi	Pressure Range kPa	Grad. Marks, psi	Num. Inc., psi	Pressure Range psi	Pressure Range kPa	Grad. Marks, psi	Num. Inc., psi
0- 30	0- 200	1	5	0- 200	0-1,400	5	40
0- 60	0- 400	2	10	0- 300	0-2,000	10	50
0-100	0- 700	2	20	0- 600	0-4,000	20	100
0-160	0-1,100	5	20	0-1,000	0-7,000	20	200

To Order: Please specify pressure range in psi from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection	
1 9/16"	1/8	9804T51	$9.79	9804T61	$9.79
2"	1/4	9804T52	11.22	9804T62	11.22
2 1/2"	1/4	9804T53	12.76	9804T63	12.76

Miniature Gauges

- Use with air, water, hydraulic oil, ethyl alcohol, natural gas, and nitrogen
- Pipe Connection: Brass NPT male or brass BSPT male
- Accuracy: ±5% full scale (Grade D)



With a dial that's less than an inch in diameter, these gauges work well in tight spots. Case is ABS plastic and lens is impact-resistant polycarbonate. Temperature range is –40° to 150° F.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 60	5	10	0-200	10	40
0-100	5	20	0-300	25	50
0-160	10	40			

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Center Back Connection NPT Male		Center Back Connection BSPT Male	
29/32"	1/8	38105K51	$10.75	38105K61	$11.92

High-Pressure Miniature Gauges

- Use with air, water, hydraulic oil, and natural gas
- Pipe Connection: Nickel-plated brass NPT male
- Accuracy: ±5% full scale (Grade D)



Monitor high-pressure applications that are low on space. Case is nickel-plated brass and lens is impact-resistant polycarbonate. Temperature range is –50° to 160° F.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0-160	8	40	0-1,200	80	400
0-300	20	100	0-4,000	200	1,000
0-500	20	100	0-5,000	200	1,000
0-750	50	200	0-6,000	500	1,000

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Center Back Connection	
1"	1/8	9767T21	$12.35

Brass-Case Gauges

- Use with air, water, and hydraulic oil
- Pipe Connection: Brass NPT male
- Accuracy: ±2% mid scale (Grade B)



A brass case provides good water resistance. Gauges have a dual scale that displays pressure in psi and kPa. Lens is acrylic. Temperature range is –40° to 140° F.

Available Pressure Ranges

Pressure Range, psi	2 1/2" Dial: Pressure Range, kPa	2 1/2" Dial: Grad. Marks, psi	2 1/2" Dial: Num. Inc., psi	3 1/2" Dial: Pressure Range, kPa	3 1/2" Dial: Grad. Marks, psi	3 1/2" Dial: Num. Inc., psi
0- 15	0- 102	0.2	3	0- 100	0.2	3
0- 30	0- 205	0.5	5	0- 210	1	5
0- 60	0- 410	1	10	0- 400	1	10
0- 100	0- 680	2	20	0- 700	2	10
0- 160	0-1,100	2	20	0-1,100	2	20
0- 200	0-1,350	5	50	0-1,400	4	20
0- 300	0-2,050	5	50	0-2,100	10	50
0- 400	0-2,750	10	100	0-2,800	5	50
0- 600	0-4,100	10	100	0-4,000	10	100
0-1,000	0-6,800	20	200	—	—	—

To Order: Please specify pressure range in psi from the chart.

Dial Size	Pipe Size	Bottom Connection	
2 1/2"	1/4	4023K211	$29.40
3 1/2"	1/4	4023K311■	31.13

■ Not available in 0-1,000 psi pressure range.

Square Panel-Mount Gauges

- Use with air, water, hydraulic oil, carbon dioxide, and natural gas
- Pipe Connection: Brass NPT male and UNF female
- Accuracy: ±2.5% full scale (not graded)



Fit square cutouts in your instrument panel. Gauges are dual threaded with NPT male and UNF female threads for either connection. Case is ABS plastic and lens is acrylic. Temperature range is 0° to 140° F.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 15	0.5	1	0-160	5	20
0- 30	1	5	0-200	2	20
0- 60	2	10	0-300	10	50
0-100	1	10			

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Cutout, Square	Panel Mount Connection	
2"	1/8 NPT Male/ 10-32 UNF Female	1 49/64"	3814K11	$24.05

Top-Connect Gauges

- Use with water
- Pipe Connection: Brass GHT female
- Accuracy: ±2% mid scale (Grade B)



Get pressure readings from faucets and hose—gauges have garden hose threads (GHT) and a top connection. They have a dual scale that displays pressure in psi and kPa. Case is black-painted steel and lens is acrylic. Temperature range is 32° to 160° F.

Dial Size	Pipe Size	psi/kPa Pressure Range	psi/kPa Grad. Marks	psi/kPa Numeric Inc.	Top Connection	
2 1/2"	3/4	0-300/0-2,100	10/50	50/300	9823T11	$18.89

Pressure Gauges with Brass Connection

For information about pressure gauges, see page 594. For information about pipe size, see pages 2-3.

Compact Digital Gauges



- Use with air, carbon dioxide, hydrogen, natural gas, and nitrogen
- Pipe Connection: Brass NPT male
- Accuracy: ±1% full scale (Grade 1A)

Small and versatile, these gauges are commonly used on pneumatic regulators, filters, and compressors. Set the 4-digit LCD for digital pressure readings in psi, bar, MPa, or Kg/cm2. Gauges are powered by a 3-volt lithium battery (included) and shut off after five minutes to extend battery life. Lens and case are ABS plastic. Temperature range is -10° to 140° F.

Pressure Range, psi	Resolution, psi	Dial Size	Pipe Size	LCD Ht.	Center Back Connection	
0-145	0.1	1¾″	⅛	⅝″	1287N1	$36.67
0-145	0.1	1¾″	¼	⅝″	1287N2	36.67

Stainless Steel-Case Gauges



Center Back Connection

- Use with air, water, hydraulic oil, ethyl alcohol, natural gas, and nitrogen
- Pipe Connection: Brass NPT male
- Accuracy: ±2% mid scale (Grade B)

Corrosion resistance is combined with impact resistance for durability in harsh environments—case is Type 304 stainless steel and lens is polycarbonate. Temperature range is –40° to 150° F. 4003K93 fits a 2$^{35}/_{64}$″ dia. panel cutout; 4003K95 fits a 3$^{31}/_{32}$″ dia. panel cutout.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 15	0.5	3	0- 600	10	100
0- 30	0.5	5	0-1,000	10	200
0- 60	1	10	0-1,500	20	200
0-100	2	20	0-2,000	20	400
0-160	2	20	0-3,000	50	500
0-200	5	40	0-4,000	100	1,000
0-300	5	50	0-5,000	100	1,000
0-400	10	50	0-6,000	100	1,000

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection		Panel Mount Connection	
2½″	¼	4003K11	$23.66	4003K71	$27.55	4003K93	$32.72
4″	¼	4003K61	33.34	4003K81	37.26	4003K95	44.72

Colored-Case Gauges



- Use with air, water, hydraulic oil, and natural gas
- Pipe Connection: Brass NPT male
- Accuracy: ±1% full scale (Grade 1A)

Measure pressure while using color to identify an important spot in your process line. Gauges have a dual scale that displays pressure in psi and kPa. Case is polyester and lens is impact-resistant polycarbonate. Temperature range is –40° to 150° F.

Available Pressure Ranges

Pressure Range psi	Pressure Range kPa	Grad. Marks, psi	Num. Inc., psi	Pressure Range psi	Pressure Range kPa	Grad. Marks, psi	Num. Inc., psi
0- 15	0-100	0.1	2	0-160	0-1,100	1	20
0- 30	0-200	0.2	5	0-200	0-1,380	2	20
0- 60	0-400	0.5	10	0-300	0-2,000	2	50
0-100	0-690	1	10	0-400	0-2,760	4	40

To Order: Please specify pressure range in psi from the chart.

Case Color	Dial Size	Pipe Size	Bottom Connection	
Blue	4″	¼	4240K6	$81.72
Red	4″	¼	4240K5	81.72
Yellow	4″	¼	4240K8	81.72
Black	4″	¼	4240K7	81.72

Compact Stainless Steel-Case Gauges



- Use with air, water, hydraulic oil, ethyl alcohol, natural gas, and nitrogen
- Pipe Connection: Brass NPT male
- Accuracy: ±2% mid scale (not graded)

Small and durable, these gauges minimize needle bounce from shock and vibration for precise readings. They have a corrosion-resistant Type 304 stainless steel case with an impact-resistant polycarbonate lens. Temperature range is –40° to 150° F.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 60	2	10	0-1,200	50	300
0-100	2	20	0-1,500	50	300
0-160	5	20	0-2,000	50	500
0-200	5	20	0-3,000	100	1,000
0-300	10	50	0-4,000	100	1,000
0-700	25	100			

To Order: Please specify pressure range from the chart.

For Pressure Ranges	Dial Size	Pipe Size	Center Back Connection	
0-60 to 0-300	1½″	⅛	40565K51	$7.40
0-700 to 0-4,000	1½″	⅛	40565K52	12.55

Low-Pressure Gauges



Bottom Connection

- Use with air, water, hydraulic oil, carbon dioxide, and natural gas
- Pipe Connection: Brass NPT male
- Accuracy: ±1.5% full scale (not graded)

Get the right gauge to measure small pressure changes in ventilation systems. Case is black-painted steel and lens is acrylic. Temperature range is –4° to 140° F.

Gauges with NIST certificate come with a certificate of calibration traceable to NIST.

Available Pressure Ranges

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
inches of H_2O			**psi (Cont.)**		
0- 10	0.2	2	0- 5	0.1	1
0- 15	0.2	3	0-10	0.2	2
0- 30	0.5	5	**oz./inch²**		
0- 60	1	10	0- 10	0.2	2
0-100	2	20	0- 15	0.2	3
0-160	4	40	0- 30	0.5	5
0-200	4	40	0- 60	1	10
psi			0-100	2	20
0-3	0.05	0.5	0-160	4	40

To Order: Please specify scale (inches of H_2O, psi, or oz./inch²) and pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection	
Standard					
2½″	¼	4026K3	$60.49	4026K5	$62.23
With NIST Certificate					
2½″	¼	4026K4	148.85	4026K6	150.51

Fire-Sprinkler-System Gauges

- Use with: See table
- Pipe Connection: Brass NPT male
- Accuracy: ±2% mid scale (Grade B)

UL 393 listed for use with fire-protection service equipment. Case is ABS plastic and lens is impact-resistant polycarbonate. Temp. range is –40° to 150° F. Gauges are FM approved.
Gauges for use with water are for systems with lines that are always filled with water.
Gauges for use with air and water are for systems that are dry from 0-79 psi and fill with water at 80 psi.



For Air and Water

Use With	Dial Size	Pipe Size	Pressure Range, psi	Grad. Marks, psi	Numeric Increments, psi	Bottom Connection	
Water	3½"	¼	0-300	5	30	3806K11	$16.20
Air and Water	3½"	¼	0-250	2	10	3806K12	17.45

Welding and Compressed Gas Gauges

- Use with air, acetylene, carbon dioxide, and oxygen
- Pipe Connection: Brass NPT male
- Accuracy: ±2% mid scale (Grade B)



Monitor the pressure of compressed gas when welding. Gauges come cleaned to ASME B40.1, Level IV. Case is brass and lens is impact-resistant polycarbonate. Temp. range is –40° to 140° F. Gauges with a max. pressure up to 1,000 psi are UL 252A listed; gauges with a max. pressure of 2,000 psi and above are UL 404 listed.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 30	1	5	0- 600	10	100
0- 60	1	10	0-1,000	20	200
0-100	2	20	0-2,000	50	400
0-200	5	40	0-3,000	50	500
0-400	10	50	0-4,000	100	500

To Order: Please specify pressure range from the chart.



Dial Size	Pipe Size	Bottom Connection	
2"	¼	32255K7	$21.44
2½"	¼	32255K6	21.71

Pump Gauges with Feet of Head Scale

- Use with air, water, and hydraulic oil
- Pipe Connection: Brass NPT male
- Accuracy: ±1% full scale (Grade 1A)



Keep tabs on liquid levels in pump and tank applications—a dual scale displays pressure in feet of H_2O and psi. Case is aluminum and lens is glass. Temperature range is –40° to 180° F. Flange has three holes for mounting. Fasteners are not included.

Available Pressure Ranges

Pressure Range ft. of H_2O	Pressure Range psi	ft. of H_2O 4½" & 6" Dial Grad. Marks	ft. of H_2O 4½" & 6" Dial Numeric Increments	ft. of H_2O 8½" Dial Grad. Marks	ft. of H_2O 8½" Dial Numeric Increments
0- 35	0- 15	0.5	5	0.5	5
0- 70	0- 30	1	10	1	10
0-140	0- 60	2.5	10	1	10
0-230	0-100	5	50	5	50
0-370	0-160	5	50	5	40
0-460	0-200	5	50	10	40
0-690	0-300	10	100	10	50

To Order: Please specify pressure range in ft. of H_2O from the chart.



Dial Size	Pipe Size	Flange OD	Flange Bolt Circle Dia.	Flange Bolt Hole Dia.	Bottom Connection with Back Flange	
4½"	¼	5⅞"	5⅜"	13/64"	3704K24	$103.88
6"	¼	7½"	6¾"	13/64"	3704K26	157.31
8½"	¼	10¼"	9⅝"	13/64"	3704K28	303.75

Oxygen-Service Stainless Steel-Case Gauges

- Use with oxygen
- Pipe Connection: Brass NPT male
- Accuracy: 2½" Dial: ±1% mid scale (Grade A)
  4" Dial: ±1% full scale (Grade 1A)



Center Back Connection

Cleaned and bagged to ASME B40.1, Level IV for oxygen service, gauges have a dual scale that displays pressure in psi and kPa. Case is Type 304 stainless steel and lens is impact-resistant polycarbonate. Temp. range is –40° to 140° F.

Available Pressure Ranges

Pressure Range, psi	2½" Dial Pressure Range, kPa	2½" Dial Grad. Marks, psi	2½" Dial Num. Inc., psi	4" Dial Pressure Range, kPa	4" Dial Grad. Marks, psi	4" Dial Num. Inc., psi
0- 15	0- 102	0.2	3	0- 103	0.2	3
0- 30	0- 205	0.5	5	0- 206	0.5	5
0-100	0- 680	2	20	0- 680	1	10
0-200	0-1,350	5	50	0-1,360	2	20
0-300	0-2,050	5	50	0-2,060	5	50
0-600	0-4,100	10	100	0-4,100	10	100

To Order: Please specify pressure range in psi from the chart.





Dial Size	Pipe Size	Bottom Connection		Center Back Connection		Lower Back Connection	
2½"	¼	9816T11	$37.33	9816T21	$34.16		
4"	¼	9816T12	64.02			9816T22	$65.21

Low-Pressure Stainless Steel-Case Gauges

- Use with air, water, hydraulic oil, carbon dioxide, and natural gas
- Pipe Connection: Brass NPT male
- Accuracy: ±1% full scale (Grade 1A)



A Type 304 stainless steel case provides good corrosion resistance and durability to withstand harsh environments. Lens is glass. Temperature range is –4° to 140° F.

Available Pressure Ranges

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
inches of H_2O			**psi**		
0- 10	0.2	2	0- 3	0.05	0.5
0- 15	0.2	3	0- 5	0.1	1
0- 30	0.5	5	0-10	0.2	2
0- 60	1	10	**oz./inch²**		
0-100	2	20	0-10	0.2	2
0-160	2	20	0-15	0.2	3
0-200	4	40	0-30	0.5	5
			0-60	1	10

To Order: Please specify scale (inches of H_2O, psi, or oz./inch²) and pressure range from the chart.



Dial Size	Pipe Size	Bottom Connection	
4"	¼	4269K11	$133.35

Pressure Gauges with Brass Connection

For information about pressure gauges, see page 594. For information about pipe size, see pages 2-3.

Low-Pressure Gauges with Safety Case



- Use with air, argon, natural gas, and nitrogen
- Pipe Connection: Brass NPT male
- Accuracy: ±1% mid scale (Grade A)

Minimize the hazard of excess pressure—case blows out in the back to protect operators in front. All have a dual scale. Choose from gauges with inches of H_2O/oz./inch^2 and gauges with psi/inches of Hg. Case is polyester and lens is acrylic. Environment temperature range is –4° to 140° F and process temperature range is –40° to 212° F. Has three 1/4″ dia. holes for mounting (fasteners not included).

Available Pressure Ranges (inches of H_2O/oz./inch^2)

Pressure Range in. of H_2O	Pressure Range oz./inch^2	in. of H_2O Grad. Marks	in. of H_2O Num. Inc.	Pressure Range in. of H_2O	Pressure Range oz./inch^2	in. of H_2O Grad. Marks	in. of H_2O Num. Inc.
0-10	0- 6	0.1	1	0- 60	0-35	1	10
0-15	0- 9	0.2	3	0- 80	0-45	1	10
0-20	0-12	0.2	2	0-100	0-57	1	10
0-30	0-18	0.2	5	0-150	0-90	2	30
0-40	0-24	0.5	5				

Available Pressure Ranges (psi/inches of Hg)

Pressure Range psi	Pressure Range in. of Hg	psi Grad. Marks	psi Num. Inc.
0- 5	0-10	0.05	0.5
0- 8	0-16	0.1	1
0-10	0-20	0.1	1

To Order: Please specify scale (inches of H_2O/oz./inch^2 or psi/inches of Hg) and pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection	
4 1/2″	1/4	4221K31	$360.96

High-Accuracy Test Gauges



With 1/4 Pipe Size

- Use with air, water, hydraulic oil, and natural gas
- Pipe Connection: Brass NPT male
- Accuracy: ±0.5% full scale (Grade 2A)

Often used for testing and calibration, the dual scale displays pressure in psi and kPa. Gauges have an aluminum case and glass lens. Temperature range is –40° to 150° F. Gauges have three bolt holes for mounting (fasteners not included).

Available Pressure Ranges

Pressure Range, psi	With 1/4 Pipe Size: Pressure Range, kPa	Grad. Marks, psi	Num. Inc., psi	With 1/2 Pipe Size: Pressure Range, kPa	Grad. Marks, psi	Num. Inc., psi
0- 15	0- 100	0.1	1	0- 100	0.2	1
0- 30	0- 200	0.2	5	0- 200	0.5	5
0- 60	0- 400	0.5	5	0- 400	1	5
0- 100	0- 690	1	10	0- 700	1	10
0- 160	0-1,100	1	20	0-1,100	2	20
0- 200	0-1,380	2	20	0-1,400	2	20
0- 300	0-2,000	2	50	0-2,000	5	25
0- 400	0-2,700	5	50	0-3,000	5	50
0- 600	0-4,000	5	50	0-4,000	10	50
0-1,000	0-6,900	10	100	0-7,000	10	100

To Order: Please specify pressure range in psi from the chart.

Dial Size	Pipe Size	Flange OD	Flange Bolt Circle Dia.	Flange Bolt Hole Dia.	Bottom Connection with Back Flange	
4 1/2″	1/4	5 7/8″	5 3/8″	13/64″	4007K2	$100.78
4 1/2″	1/2	5 3/4″	5 3/8″	1/4″	4010K11	126.98
6″	1/4	7 1/2″	6 3/4″	13/64″	4007K3	133.47
6″	1/2	7 9/16″	7″	1/4″	4010K21	162.67

Large Dial Boiler Gauges



With Back Flange

- Use with air, water, and hydraulic oil
- Pipe Connection: Brass NPT male
- Accuracy: ±1% full scale (Grade 1A)

Read your pressure from a distance. *Gauges with 8 1/2″ dial* have a black-painted aluminum case and glass lens. Temperature range is –40° to 180° F. Flange has a 10 1/4″ OD, three 13/64″ dia. bolt holes, and a 9 5/8″ dia. bolt circle (fasteners not included).

Gauges with 10″ dial have a dual scale that displays pressure in psi and bar. Case is black-painted steel and lens is glass. Temperature range is –40° to 140° F.

Available Pressure Ranges (psi)

Pressure Range	8 1/2″ Dial Grad. Marks	8 1/2″ Dial Numeric Increments	10″ Dial Grad. Marks	10″ Dial Numeric Increments
0- 30	0.5	5	0.5	5
0- 60	1	10	1	10
0-100	2	20	1	10
0-200	2	20	2	20
0-300	5	50	5	50
0-400	4	40	5	50
0-600	10	50	10	100

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Bottom Connection with Back Flange	
8 1/2″	1/4			3705K38	$237.90
10″	1/2	3508K21	$292.93		

Ultra-High-Accuracy Test Gauges



- Use with air, water, hydraulic oil, ethyl alcohol, natural gas, and nitrogen
- Pipe Connection: NPT male
  Ranges up to 400 psi: Brass
  Ranges of 600 psi and above: Monel
- Accuracy: ±0.25% full scale (Grade 3A)

Get the accuracy you need for laboratory and testing applications. Case is epoxy-coated aluminum and lens is glass. Temp. range is –40° to 150° F. Has three bolt holes for mounting (fasteners not included).

Gauges with NIST certificate come with a certificate of calibration traceable to NIST.

Available Pressure Ranges (psi)

Pressure Range	4 1/2″ Dial Grad. Marks	4 1/2″ Dial Numeric Increments	6″ Dial Grad. Marks	6″ Dial Numeric Increments
0- 15	0.05	0.5	0.05	0.5
0- 30	0.1	1	0.1	1
0- 60	0.2	5	0.2	5
0- 100	0.5	5	0.2	5
0- 200	0.5	10	0.5	10
0- 400	1	20	1	20
0- 600	2	50	2	50
0- 1,000	5	50	2	50
0- 1,500	5	100	5	100
0- 3,000	10	200	10	200
0- 5,000	20	500	10	500
0-10,000	50	500	20	500

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size★	Flange OD	Flange Bolt Circle Dia.	Flange Bolt Hole Dia.	Bottom Connection with Front Flange	
Standard						
4 1/2″	1/4	6 3/32″	5 3/8″	10-24	4009K81	$238.89
6″	1/4	7 9/16″	7″	1/4″-20	4009K82	285.65
With NIST Certificate						
4 1/2″	1/4	6 3/32″	5 3/8″	10-24	4009K93	397.05
6″	1/4	7 9/16″	7″	1/4″-20	4009K94	475.67

★ Pipe size is 1/2 for ranges with a maximum of 1,000 psi and above.

Liquid-Filled Gauges

- Use with air, water, hydraulic oil, carbon dioxide, and natural gas
- Pipe Connection: Brass NPT male
- Accuracy: ±1% mid scale (Grade A)



Bottom Connection

A glycerin-filled dial reduces needle flutter for more accurate readings in locations prone to vibration. Gauges have a dual scale that displays pressure in psi and kPa. Case is ABS plastic and lens is acrylic. Temperature range is –4° to 140°F. 3845K5 fits a 2½" dia. panel cutout.

Available Pressure Ranges

Pressure Range				Grad. Marks		Numeric Increments	
psi		kPa		psi	kPa	psi	kPa
0-	30	0-	205	0.5	5	5	50
0-	60	0-	410	1	10	10	100
0-	100	0-	680	2	20	20	200
0-	160	0-	1,100	4	40	40	400
0-	200	0-	1,360	4	40	40	400
0-	300	0-	2,050	5	50	50	500
0-	400	0-	2,700	10	100	100	1,000
0-	600	0-	4,100	10	100	100	1,000
0-	1,000	0-	6,800	20	200	200	2,000
0-	1,500	0-	10,200	20	200	300	3,000
0-	2,000	0-	13,600	40	400	400	4,000
0-	3,000	0-	20,500	50	500	500	5,000
0-	5,000	0-	34,000	100	1,000	1,000	10,000
0-	6,000	0-	41,000	100	1,000	1,000	10,000

To Order Please specify pressure range in psi from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection		Panel Mount Connection	
2½"	¼	3845K1	$19.72	3845K7	$20.62	3845K5	$28.23

Max-Indicating Liquid-Filled Gauges

- Use with air, carbon dioxide, ethanol, hydraulic oil, natural gas, and water
- Pipe Connection: Brass NPT male
- Accuracy: ±1.5% full scale (not graded)



Center Back Connection

You can't monitor your system at all times, so these gauges have a red needle that indicates the highest pressure reached since the last setting. Gauges have a glycerin-filled dial to reduce needle flutter in environments prone to vibration. Case is brass and lens is acrylic. Temperature range is 0° to 140°F. 3842K81 and 3842K83 fit a 2½" dia. panel cutout.

Gauges with NIST certificate come with a certificate of calibration traceable to NIST.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 15	0.2	3	0- 600	10	100
0- 30	0.5	5	0- 1,000	20	200
0- 60	1	10	0- 1,500	20	300
0-100	2	20	0- 3,000	50	500
0-160	4	40	0- 5,000	100	1,000
0-200	4	40	0- 7,500	100	1,500
0-300	5	50	0-10,000	200	2,000
0-400	10	100	0-15,000	200	3,000

To Order Please specify pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection		Panel Mount Connection	
Standard							
2½"	¼	3842K11	$150.54	3842K21	$117.38	3842K81	$152.33
With NIST Certificate							
2½"	¼	3842K31	199.97	3842K41	203.95	3842K83	248.92

Brass-Case Liquid-Filled Gauges

- Use with air, water, hydraulic oil, and natural gas
- Pipe Connection: Brass NPT male or SAE male
- Accuracy:
  NPT: 2½" Dial: ±1% mid scale (Grade A)
  4" Dial: ±1% full scale (Grade 1A)
  SAE: ±1.5% full scale (not graded)



Bottom Connection

Get a more accurate pressure reading in wet environments that are prone to vibration. Gauges have a rugged one-piece brass case and a glycerin-filled dial to suppress needle flutter. Lens is acrylic. Temperature range is 0° to 140°F.

Available Pressure Ranges (psi)

Pressure Range	2½" Dial Grad. Marks	2½" Dial Numeric Increments	4" Dial Grad. Marks	4" Dial Numeric Increments
0- 60	1	10	1	10
0- 100	2	20	1	10
0- 160	2▲	20▲	2	20
0- 200	5▲	50▲	2	20
0- 300	5	50	5	50
0- 400	10	100	5	50
0- 600	10	100	10	100
0-1,000	20	200	10	100
0-1,500	20	300	20	300
0-2,000	50★	500★	20	200
0-3,000	50	500	50	500
0-5,000	100	1,000	50	500

▲ SAE connection has grad. marks at 4 psi and num. inc. at 40 psi.
★ SAE connection has grad. marks at 40 psi and num. inc. at 400 psi.

To Order Please specify pressure range from the chart.

Dial Size	Conn. Size	Bottom Connection		Center Back Connection		Lower Back Connection	
NPT Male							
2½"	¼	4090K15	$51.93	4090K12	$54.22		
4"	¼	4090K17	141.27			4090K14	$143.38
SAE Male							
2½"	7/16"-20	9842T21	63.19	9842T22	64.16		

Brass-Case Liquid-Filled Gauges with NIST Certificate

- Use with air, water, hydraulic oil, carbon dioxide, ethanol, and natural gas
- Pipe Connection: Brass NPT male
- Accuracy: 2½" Dial: ±1.5% full scale (not graded)
  4" Dial: ±1% full scale (Grade 1A)



Center Back Connection

Gauges come with a certificate of calibration traceable to NIST. They have a brass case for good water resistance and a glycerin-filled dial for reduced needle flutter in locations prone to vibration. Lens is acrylic. Temperature range is 0° to 140°F.

Available Pressure Ranges (psi)

Pressure Range	2½" Dial Grad. Marks	2½" Dial Numeric Increments	4" Dial Grad. Marks	4" Dial Numeric Increments
0- 30	0.5	5	0.5	5
0- 60	1	10	1	10
0- 100	2	20	2	20
0- 160	4	40	2	20
0- 200	4	40	4	40
0- 300	5	50	5	50
0- 400	10	100	5	50
0- 600	10	100	10	100
0- 800	20	200	10	100
0- 1,000	20	200	20	200
0- 1,500	20	300	20	300
0- 2,000	40	400	40	400
0- 3,000	50	500	50	500
0- 5,000	100	1,000	100	1,000
0- 6,000	100	1,000	100	1,000
0-10,000	200	2,000	200	2,000

To Order Please specify pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection		Lower Back Connection	
2½"	¼	3481K11	$152.84	3481K21	$150.44		
4"	¼	3481K12	238.00			3481K22	$244.28

Pressure Gauges with Brass/Stainless Steel Connection

For information about pressure gauges, see page 594. For information about pipe size, see pages 2-3.

Compact Liquid-Filled Gauges



- Use with air, water, hydraulic oil, carbon dioxide, and natural gas
- Pipe Connection: Brass NPT male
- Accuracy: ±2.5% full scale (not graded)

Get more accurate readings in tight locations that are prone to vibration—these small gauges have a glycerin-filled dial to suppress needle flutter. Case is ABS plastic and lens is acrylic. Temperature range is –4° to 140° F.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 30	0.5	5	0- 300	5	50
0- 60	1	10	0-2,000	40	400
0-100	2	20	0-3,000	50	500
0-160	4	40	0-5,000	100	1,000

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Center Back Connection	
1½"	⅛	38055K21	$35.85

Stainless Steel-Case Liquid-Filled Gauges



Center Back Connection

- Use with air, water, and hydraulic oil
- Pipe Connection: Brass NPT male
- Accuracy:
  1½" and 2½" Dials: ±1% mid scale (Grade A)
  4" Dial: ±1% full scale (Grade 1A)

Ideal for harsh environments that are prone to vibration, these gauges pair the corrosion resistance of a Type 304 stainless steel case with the reduced needle flutter of a glycerin-filled dial. They also have a dual scale that displays pressure in psi and kPa. Lens is impact-resistant polycarbonate.

Gauges with 1½" dial have a temperature range of 32° to 150° F. Gauges with 2½" and 4" dial have a temperature range of –4° to 140° F.

Gauges with NIST certificate come with a certificate of calibration traceable to NIST.

Available Pressure Ranges

Pressure Range psi	Pressure Range kPa	1½" Dial Grad. Marks, psi	1½" Dial Num. Inc., psi	2½" Dial Grad. Marks, psi	2½" Dial Num. Inc., psi	4" Dial Grad. Marks, psi	4" Dial Num. Inc., psi
0- 15	0- 100	0.2	2	0.2	3	0.2	3
0- 30	0- 200	0.5	5	0.5	5	0.5	5
0- 60	0- 400	1	10	1	10	1	10
0- 100	0- 680	2	20	2	20	1	10
0- 160	0- 1,100	2	20	2	20	2	20
0- 200	0- 1,350	5	50	5	50	2	20
0- 300	0- 2,000	5	50	5	50	5	50
0- 400	0- 2,700	10	100	10	100	5	50
0- 600	0- 4,000	10	100	10	100	10	100
0- 1,000	0- 6,800	20	200	20	200	10	100
0- 1,500	0- 10,000	20	200	20	300	20	300
0- 2,000	0- 13,500	50	500	50	500	20	200
0- 3,000	0- 20,000	50	500	50	500	50	500
0- 5,000	0- 34,000	100	1,000	100	1,000	50	500
0- 6,000	0- 41,000	—	—	100	1,000	50	500
0-10,000	0- 68,000	—	—	200	2,000	100	1,000
0-15,000	0-102,000	—	—	200	3,000	200	3,000

To Order: Please specify pressure range in psi from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection		Lower Back Connection	
Standard							
1½"	⅛	3850K2★	$24.12	3850K3★	$24.12	—	—
2½"	¼	4053K15	27.32	4053K18	27.32	—	—
4"	¼	4053K16	45.66	—	—	4053K17	$45.66
With NIST Certificate							
2½"	¼	4053K23	156.67	4053K25	157.29	—	—
4"	¼	4053K24	182.69	—	—	4053K26	183.82

★ Available only in pressure ranges up to 5,000 psi.

Low-Temperature Stainless Steel-Case Liquid-Filled Gauges



Center Back Connection

- Use with air, water, hydraulic oil, and natural gas
- Pipe Connection:
  Nickel-plated brass NPT male
- Accuracy: ±2% mid scale (Grade B)

A silicone-filled dial withstands lower temperatures than a glycerin-filled dial and provides greater resistance to sudden shocks such as water hammer. Gauges have a dual scale that displays pressure in psi and kPa. Case is corrosion-resistant Type 304 stainless steel and lens is acrylic. Temperature range is –30° to 200° F. 9780T21 fits a 1⅝" panel cutout.

Available Pressure Ranges

Pressure Range psi	Pressure Range kPa	Grad. Marks, psi	Num. Inc., psi	Pressure Range psi	Pressure Range kPa	Grad. Marks, psi	Num. Inc., psi
0- 15	0- 100	0.5	3	0- 600	0- 4,000	10	100
0- 30	0- 200	0.5	5	0-1,000	0- 7,000	20	200
0- 60	0- 400	1	10	0-1,500	0-10,000	50	300
0-100	0- 700	2	20	0-2,000	0-14,000	40	400
0-160	0-1,100	5	20	0-3,000	0-20,000	50	500
0-200	0-1,400	5	50	0-5,000	0-35,000	100	1,000
0-300	0-2,000	10	50				

To Order: Please specify pressure range in psi from the chart.

Dial Size	Pipe Size	Center Back Connection		Panel Mount Connection	
1½"	⅛	9780T11	$20.68	9780T21	$23.76

Leak-Resistant Liquid-Filled Gauges



Bottom Connection

- Use with air, water, and hydraulic oil
- Pipe Connection:
  Brass NPT male, unless noted
- Accuracy: ±1% full scale (Grade 1A)

Designed to prevent leaks from the glycerin-filled dial, these gauges have a unique case that also eliminates the air bubble on the dial face, which can distort readings. Case is nylon and lens is acrylic. Temp. range is –40° to 150° F.

Freeze-resistant gauges have an internal seal that also prevents clogging and corrosion.

Gauges with NIST certificate come with a certificate of calibration traceable to NIST.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 15	0.2	3	0-1,000	10	100
0- 30	0.5	5	0-1,500	20	300
0- 60	1	10	0-2,000	20	200
0-100	1	10	0-3,000	50	500
0-160	2	20	0-5,000	50	500
0-200	2	20	0-6,000	100	1,000
0-300	5	50	0-7,500	100	1,500
0-600	10	100			

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection	
Standard					
2½"	¼	3708K21	$42.60	3708K51	$44.28
3½"	¼	3708K31	90.34	3708K61	97.35
4½"	¼	3708K41■	108.33	3708K71	114.36
Freeze Resistant					
2½"	¼	3715K21	69.00	3715K51	73.26
3½"	¼	3715K31	108.29	3715K61	115.27
4½"	¼	3715K41■	124.43	3715K71	130.43
With NIST Certificate					
2½"	¼	3543K21	63.62	3543K51	65.37
3½"	¼	3543K31	116.37	3543K61	123.15
4½"	¼	3543K41■	131.71	3543K71	137.87

■ Connection is Type 316 stainless steel for ranges with a maximum of 1,500 psi and above.

Metric Stainless Steel-Case Liquid-Filled Gauges with bar/psi Scale

- Use with air, water, hydraulic oil, carbon dioxide, and natural gas
- Pipe Connection: Brass BSPP male
- Accuracy: ±1.5% full scale (not graded)



Bottom Connection

Well suited for use with imported equipment, these gauges have BSPP (British Standard Pipe Parallel) threads and a dual scale that displays pressure in bar and psi. They also have a glycerin-filled dial to reduce needle flutter in locations prone to vibration. Case is corrosion-resistant Type 304 stainless steel and lens is impact-resistant polycarbonate. Temperature range is –4° to 140°F.

Available Pressure Ranges (bar/psi)

Pressure Range bar	Pressure Range psi	Grad. Marks, bar	Num. Inc., bar
0- 1	0- 14.4	0.02	0.2
0- 1.6	0- 22.8	0.04	0.4
0- 2.5	0- 36	0.05	0.5
0- 4	0- 57.6	0.1	1
0- 6	0- 86	0.1	1
0-10	0-144	0.2	2
0-16	0-228	0.4	4
0-25	0-360	0.5	5
0- 40	0- 576	1	10
0- 60	0- 860	1	10
0-100	0-1,440	2	20
0-160	0-2,280	4	40
0-250	0-3,600	5	50
0-400	0-5,800	10	100
0-600	0-8,600	10	100

To Order: Please specify pressure range in bar from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection	
2½"	¼	3548K11	$30.54	3548K21	$32.41

Stainless Steel Gauges

- Use with air, water, hydraulic oil, gasoline, and natural gas
- Pipe Connection: Type 316 stainless NPT male
- Accuracy: ±2% mid scale (Grade B)



Dry with Bottom Connection



Liquid Filled with Center Back Connection

All-stainless construction stands up to corrosive environments. Case is Type 304 stainless steel. Gauges with 1½" dial have a glass lens; 2½" and 4" dial have an impact-resistant polycarbonate lens.

Gauges with panel mount connection require a cutout; 1½" dial fits a 1¾" dia. cutout, 2½" dial fits a 2⁹⁄₁₆" dia. cutout, and 4" dial fits a 3³¹⁄₃₂" dia. cutout.

Dry gauges have a temperature range of 0° to 200°F.

Liquid-filled gauges have a glycerin-filled dial to reduce needle flutter in locations prone to vibration. Temperature range is 20° to 150°F.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 15	0.5	3	0- 400	5▲	50
0- 30	0.5	5	0- 600	10	100
0- 60	1	10	0-1,000	20	200
0-100	2	20	0-2,000	50	400
0-160	2	20	0-3,000	50	500
0-200	5	40	0-4,000	50	500
0-300	5	50	0-5,000	100	1,000

▲ 2½" and 4" dial have grad. marks at 10 psi.

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection		Panel Mount Connection	
Dry							
1½"	⅛	4066K21	$71.72	4066K31	$80.55	4066K81	$85.39
2½"	¼	4066K41	43.98	4066K51	50.67	4066K83	56.13
4"	¼	4066K61	84.28	4066K71	93.11	4066K85	100.08
Liquid Filled							
1½"	⅛	3795K11	87.62	3795K12	92.89	3795K74	97.71
2½"	¼	3795K13	49.39	3795K14	56.65	3795K76	62.11
4"	¼	3795K15	93.84	3795K16	104.46	3795K78	112.35

Stainless Steel-Case Liquid-Filled Gauges with psi/bar Scale

- Use with air, water, hydraulic oil, carbon dioxide, and natural gas
- Pipe Connection: Brass NPT male
- Accuracy: ±1.5% full scale (not graded)



Center Back Connection

Measure pressure in psi and bar. Gauges have a glycerin-filled dial to reduce needle flutter in locations prone to vibration. Case is corrosion-resistant Type 304 stainless steel and lens is impact-resistant polycarbonate. Temperature range is –4° to 140°F.

Available Pressure Ranges (psi/bar)

Pressure Range psi	Pressure Range bar	Grad. Marks, psi	Num. Inc., psi	Pressure Range psi	Pressure Range bar	Grad. Marks, psi	Num. Inc., psi
0- 15	0- 1	0.2	3	0- 300	0- 20.5	5	50
0- 30	0- 2	0.5	5	0- 400	0- 27	10	100
0- 60	0- 4.1	1	10	0- 600	0- 41	10	100
0-100	0- 6.8	2	20	0-1,000	0- 68	20	200
0-160	0-11	4	40	0-1,500	0-100	20	300
0-200	0-13.6	4	40	0-2,000	0-136	40	400

To Order: Please specify pressure range in psi from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection	
2½"	¼	1798T11	$30.54	1798T21	$32.40

High-Accuracy Stainless Steel Gauges

- Use with air, water, hydraulic oil, gasoline, and natural gas
- Pipe Connection: Type 316 stainless steel NPT male
- Accuracy: 2½" Dial: ±1.5% full scale (not graded) 4" Dial: ±1% full scale (Grade 1A)



Dry with Bottom Connection

Often used in hydraulic applications, these high-accuracy gauges withstand corrosive environments. Case is Type 304 stainless steel. Gauges with 2½" dial have a nylon lens; 4" dial have a glass lens. *Gauges with NIST certificate* come with a certificate of calibration traceable to NIST.

Dry gauges have an environment temperature range of –40° to 140°F. Gauges with 2½" dial have a process temperature range of –40° to 212°F; 4" dial have a process temperature range of –40° to 392°F. *Gauges with panel-mount bracket* fit a 2½" dia. cutout.

Liquid-filled gauges have a glycerin-filled dial to reduce needle flutter in locations prone to vibration. Temperature range is –4° to 140°F.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 15	0.2	3	0- 600	10	100
0- 30	0.5	5	0- 1,000	20	200
0- 60	1	10	0- 1,500	20	300
0-100	2	20	0- 2,000	40	400
0-160	4◩	40◩	0- 3,000	50	500
0-200	4	40	0- 5,000	100	1,000
0-300	5	50	0- 6,000	100	1,000
0-400	10◆	100◆	0-10,000	200	2,000

◩ 4" dial has grad. marks at 2 psi and numeric increments at 20 psi.
◆ 4" dial has grad. marks at 5 psi and numeric increments at 50 psi.

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection		Lower Back Connection	
Dry							
2½"	¼	3852K125	$78.63	3852K225	$89.74		
4"	½	3852K875	119.71			3852K925	$132.32
Dry with Panel-Mount Bracket							
2½"	¼			3852K425	117.64		
Dry with NIST Certificate							
2½"	¼	3906K11	186.79	3906K31	200.61		
4"	½	3906K21	233.32			3906K41	250.39
Liquid Filled with NIST Certificate							
2½"	¼	3902K11	196.03	3902K41	213.55		
4"	½	3902K21	280.66			3902K51	277.66

Pressure Gauges with Stainless Steel Connection

For information about pressure gauges, see page 594. For information about pipe size, see pages 2-3.

Stainless Steel Gauges with Sanitary Quick-Clamp Connection



Dry

- Use with water, food, and dairy
- Pipe Connection:
  Type 316 stainless steel quick clamp
- Accuracy:
  Up to 60 psi: ±2% full scale (not graded)
  100 psi and above:
  ±1.5% full scale (not graded)

Meet 3-A sanitary standards. Gauges have a Type 304 stainless steel case and an impact-resistant polycarbonate lens. Environment temperature range is 0° to 150°F and process temp. range is 0° to 250°F. Use with quick-clamp fittings on pages 228-231.

Liquid-filled gauges have a glycerin-filled dial to reduce needle flutter for precise readings.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 30	0.5	5	0-300	5	30
0- 60	1	5	0-400	5	50
0-100	1	10	0-600	10	50
0-200	2	20			

To Order: Please specify pressure range from the chart.



Dial Size	For Tube OD	Connection Flange OD	Bottom Quick-Clamp Connection	
Dry				
2½″	1½″	1.98″	3844K91	$341.18
2½″	2″	2.49″	3844K92	350.39
3½″	1½″	1.98″	3844K93	356.12
3½″	2″	2.49″	3844K94	367.61
Liquid Filled				
2½″	1½″	1.98″	3844K95	350.39
2½″	2″	2.49″	3844K96	356.12
3½″	1½″	1.98″	3844K97	367.61
3½″	2″	2.49″	3844K98	371.66

High-Temperature Shock-Resistant Gauges



Aluminum-Case Gauge with Bottom Connection

- Use with air, water, hydraulic oil, gasoline, and natural gas
- Pipe Connection:
  Type 316 stainless steel NPT male
- Accuracy: ±0.5% mid scale (not graded)

Built to withstand high temperatures, these gauges also have a unique design that minimizes needle bounce from shock and vibration for more precise readings. All have a glass lens. Environment temperature range is –65° to 400°F; process temperature range is –65° to 600°F.

Gauge *with back flange* has a 4¾″ flange OD and three 7⁄32″ dia. bolt holes with a 4¼″ dia. bolt circle. Fasteners are not included. *Nylon-case* gauge has three 7⁄32″ dia. bolt holes with 5⅜″ bolt circle. Fasteners are not included.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 30	0.5	5	0- 500	5	50
0- 60	0.5	5	0- 600	5	100
0-100	1	10	0- 1,000	10	100
0-150	1	15	0- 3,000	25	500
0-200	2	20	0- 5,000	50	500♦
0-300	2	50	0-10,000	100	1,000

♦ 2½″ dial has numeric increments at 1,000 psi.

To Order: Please specify pressure range from the chart.





Dial Size	Pipe Size	Bottom Connection		Bottom Connection with Back Flange	
Aluminum Case					
2½″	¼	9891T23	$221.67		
3½″	¼			9891T24	$225.42
Nylon Case					
4½″	½	9891T25	229.31		

Gauges with Plastic Guard



With PVC Guard

- Use PVC and CPVC with water, hydraulic oil, and sodium hypochlorite
  Use polypropylene with water, salt water, hydraulic oil, hydrochloric acid, and sulfuric acid
- Pipe Connection: NPT female
- Accuracy: ±2% mid scale (Grade B)

Avoid damage from corrosive process media—these come with a guard to protect the gauge. A dual scale displays pressure in psi and kg/cm². Case is black-painted steel and lens is acrylic. All have an environment temp. range of –40° to 140°F.

PVC guards have a process temperature range of 32° to 140°F. Color is dark gray.

CPVC guards withstand higher process temperatures than PVC; process temperature range is 0° to 200°F. Color is light gray.

Polypropylene guards are more chemical resistant than PVC and CPVC. Process temperature range is 32° to 180°F. Color is white.

Available Pressure Ranges for Gauges

Pressure Range psi	Pressure Range kg/cm²	Grad. Marks, psi	Numeric Increments, psi
0- 30	0- 2.1	0.5	5
0- 60	0- 4.2	1	10
0-160▲	0-11.2	2	20

▲ Guard has a maximum pressure of 150 psi.

To Order: Please specify pressure range in psi from the chart.



Dial Size	Pipe Size	Bottom Connection with Guard PVC		CPVC		Polypropylene	
2″	¼	4091K23	$124.00	4147K41	$142.51	4134K23	$172.14
2″	½	4091K24	124.00	4147K42	142.51		

Stainless Steel Gauges with Guard



Dry with 4″ Dial (Dual Scale)

- Use with air, water, hydraulic oil, ammonia, gasoline, and natural gas
- Pipe Connection:
  Type 316 stainless steel NPT female
- Accuracy: ±1.6% full scale (not graded)

A Type 316 stainless steel guard protects these gauges from corrosive media. Case is Type 304 stainless steel and lens is acrylic. *Gauges with a 2½″ dial* have a single scale that displays pressure in psi; *gauges with a 4″ dial* have a dual scale that displays pressure in psi and kPa.

Dry gauges have a temperature range of –40° to 250°F. **Liquid-filled gauges** have a glycerin-filled dial to reduce needle flutter for precise readings. Temperature range is 33° to 250°F.

Available Pressure Ranges

Pressure Range psi	Pressure Range kPa	Grad. Marks, psi	Num. Inc., psi	Pressure Range psi	Pressure Range kPa	Grad. Marks, psi	Num. Inc., psi
0- 15	0- 100	0.2	1	0- 300	0- 2,000	5	30
0- 30	0- 200	0.5	5	0- 400	0- 2,800	5	50
0- 60	0- 400	0.5	5	0- 600	0- 4,000	10	50
0-100	0- 700	1	10	0-1,000	0- 7,000	10	100
0-160	0-1,100	2	20	0-2,000	0-14,000	20	200
0-200	0-1,400	2	20				

To Order: Please specify pressure range in psi from the chart.



Dial Size	Pipe Size	Bottom Connection with Guard	
Dry			
2½″	¼	3813K3	$133.60
2½″	½	3813K4	133.60
4″	¼	3813K1	160.89
4″	½	3813K2	160.89
Liquid Filled			
2½″	¼	3813K5	143.36
2½″	½	3813K6	143.36
4″	¼	3813K7	169.53
4″	½	3813K8	169.53

Test Gauges

- Use with air, water, hydraulic oil, liquid nitrogen, and natural gas
- Pipe Connection: Type 316 stainless steel NPT male
- Accuracy: ±0.5% full scale (Grade 2A)



Bottom Connection with Back Flange

An accuracy of ±0.5% makes these suitable for use in testing and calibration. Gauges have a dual scale that displays pressure in psi and kPa. Case is aluminum and lens is glass. Temp. range is –40° to 180° F. Flange has three 13⁄64″ dia. bolt holes with a 5⅜″ dia. circle for mounting (fasteners not included). 4008K2 has a 5⅞″ OD; 4008K6 has a 6″ OD.

Available Pressure Ranges

Pressure Range psi	Pressure Range kPa	Grad. Marks, psi	Num. Inc., psi
0- 15	0- 103	0.1	1
0- 30	0- 206	0.2	5
0- 60	0- 410	0.5	5
0-100	0- 685	1	10
0-160	0-1,100	1	20
0-200	0-1,370	2	20
0-300	0-2,060	2	50
0-400	0-2,740	5	50
0- 600	0- 4,100	5	50
0- 1,000	0- 6,850	10	100
0- 1,500	0-10,300	10	100
0- 2,000	0-13,700	20	200
0- 3,000	0-20,600	20	500
0- 5,000	0-34,400	50	500
0-10,000	0-68,500	100	1,000

To Order: Please specify pressure range in psi from the chart.

Dial Size	Pipe Size	Bottom Connection with Back Flange		Lower Back Conn. with Front Flange	
4½″	½	4008K2	$123.34	4008K6	$126.21

Test Gauges with Safety Case

- Use with air, water, hydraulic oil, gasoline, and natural gas
- Pipe Connection: Type 316 stainless steel NPT male
- Accuracy: Up to 15,000 psi: ±0.5% full scale (Grade 2A); 20,000 psi: ±1% full scale (Grade 1A)



Dry

For accuracy combined with safety, these gauges have a case that blows out in the back during overpressurization to protect operators in front. Case is polyester and lens is acrylic. Environment temp. range is –4° to 150° F; process temp. range is –4° to 212° F. Case has three ¼″ dia. mounting holes; fasteners not included.

Single-scale gauges display pressure in psi. *Gauges with a luminescent dial* glow in the dark after being exposed to light. ***Dual-scale gauges*** display pressure in psi and kPa.

Liquid-filled gauges have a glycerin-filled dial to reduce needle flutter for precise readings.

Available Pressure Ranges

Pressure Range psi	Pressure Range kPa	Grad. Marks, psi	Num. Inc., psi
0- 15	0- 103	0.1	1
0- 30	0- 206	0.2	5
0- 60	0- 410	0.5	5
0-100	0- 685	1	10
0-160	0-1,100	1	20
0-200	0-1,370	2	20
0-300	0-2,060	2	50
0-400	0-2,740	5	50
0-600	0-4,100	5	50
0- 1,000	0- 6,850	10	100
0- 1,500	0- 10,300	10	100
0- 2,000	0- 13,700	20	200
0- 3,000	0- 20,600	20	500
0- 5,000	0- 34,400	50	500
0-10,000	0- 68,500	100	1,000
0-15,000	0-103,000	100	2,000
0-20,000	0-137,000	200	2,000

To Order: Please specify pressure range in psi from the chart.

Scale	Dial Size	Pipe Size	Bottom Connection Standard Dial		Bottom Connection Luminescent Dial	
Dry						
Single	4½″	½	4065K7	$106.20	4063K11	$89.87
Dual	4½″	½	4065K3	104.15		
Liquid Filled						
Single	4½″	½	4065K8	123.01	4063K23	107.47
Dual	4½″	½	4065K6	122.95		

Stainless Steel Test Gauges

- Use with air, water, and hydraulic oil
- Pipe Connection: Type 316 stainless steel NPT male
- Accuracy: ±0.5% full scale (Grade 2A)



Lower Back Connection

Get the combined corrosion resistance of a Type 304 stainless steel case and a Type 316 stainless steel connection for testing in harsh environments. Gauges have an acrylic lens. Environment temp. range is –20° to 150° F and process temp. range is –20° to 250° F.

Gauges with a 3″ dial come with a lens cover and pouch.

Gauges with a 4½″ and 6″ dial have a heat-treated connection, so the Type 316 stainless steel has a yellow tint.

Available Pressure Ranges (psi)

Pressure Range	3″ Dial Grad. Marks	3″ Dial Numeric Increments	4½″ & 6″ Dial Grad. Marks	4½″ & 6″ Dial Numeric Increments
0- 15	0.1	1	0.1	1
0- 30	0.2	2	0.2	5
0- 60	0.5	5	0.5	5
0- 100	0.5	10	1	10
0- 160	1	20	2	20
0- 200	1	20	2	20
0- 300	2	20	2	50
0- 400	2	50	5	50
0- 600	5	50	5	50
0-1,000	5	100	10	100

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Lower Back Connection	
3″	¼	4005K4	$204.06		
4½″	½	3904K11	189.22	3904K21	$191.94
6″	½	3904K12	270.11	3904K22	284.15

Shock-Resistant High-Accuracy Gauges

- Use with air, water, and hydraulic oil
- Pipe Connection: Type 316 stainless steel NPT male
- Accuracy: Standard: ±0.5% mid scale (not graded); With NIST Certificate: ±0.5% full scale (Grade 2A)



With 4½″ and 6″ Dial

Designed to minimize needle bounce from shock for precise readings in applications that require high accuracy. Gauges have an ABS plastic case and acrylic lens. Environment temp. range is –65° to 190° F; process temp. range is –65° to 400° F. Gauges with 4½″ and 6″ dials have three bolt holes for mounting; fasteners not included.

Gauges with NIST certificate come with a certificate of calibration traceable to NIST.

Available Pressure Ranges (psi)

Pressure Range	Standard Grad. Marks	Standard Numeric Increments	With NIST Certificate Grad. Marks	With NIST Certificate Numeric Increments
0- 30	0.2	5	0.2	5
0- 60	0.5	5	0.5	10
0- 100	1	10	0.5	10
0- 150	1	10	1	10
0- 300	2	50	2	50
0-1,000	10	100	5	100
0-3,000	20	500	25	500

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Flange OD	Flange Bolt Circle Dia.	Flange Bolt Hole Dia.	Bottom Connection Standard		Bottom Connection With NIST Certificate	
2½″	¼				3929K11	$226.23	3920K41	$429.26
4½″	¼	5⅞″	5⅜″	¼″	3929K21	274.19	3920K51	471.87
6″	¼	7⅝″	7″	¼″			3920K61	571.96

Pressure Gauges with Stainless Steel Connection

For information about pressure gauges, see page 594. For information about pipe size, see pages 2-3.

Stainless Steel Test Gauges with NIST Certificate



- Use with air, water, hydraulic oil, liquid nitrogen, and natural gas
- Pipe Connection: Type 316 stainless NPT male
- Accuracy: ±0.5% full scale (Grade 2A)

High accuracy and all-stainless construction make these gauges ideal for testing in corrosive environments. All come with a certificate of calibration traceable to NIST. Case is Type 304 stainless steel and lens is glass. Environment temperature range is –40° to 180°F and process temperature range is –40° to 212°F.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 15	0.1	1	0- 600	5	50
0- 30	0.2	5	0- 800	10	100
0- 60	0.5	5	0- 1,000	10	100
0-100	1	10	0- 1,500	10	200
0-160	1	20	0- 2,000	20	200
0-200	2	20	0- 3,000	20	500
0-300	2	50	0- 5,000	50	500
0-400	5	50	0-10,000	100	1,000
0-500	5	50			

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection	
4½″	½	3702K44	$185.38

Extreme-Duty Mil. Spec. Gauges



Bottom Connection

- Use with air, water, hydraulic oil, gasoline, natural gas, refrigerant, and salt water
- Pipe Connection: Type 316 stainless steel NPT male
- Accuracy: ±1% full scale (Grade 1A)

Meet MIL-G-18997E for resistance to salt spray and washdown environments. The most shock-resistant gauges we offer, use these for precise readings in applications with high vibration. They have a safety case that blows out in the back during overpressurization to protect operators in front. Case is aluminum and lens is impact-resistant polycarbonate. Temperature range is –65° to 195°F. Has three 7/32″ dia. bolt holes for mounting; fasteners not included.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 100	1	10	0-2,000	20	200
0- 200	2	20	0-5,000	50	500
0-1,000	10	100			

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Flange OD	Flange Bolt Circle Dia.	Bottom Connection with Back Flange		Lower Back Connection with Back Flange	
4½″	¼	5 13/16″	5⅜″	9918T21	$253.04	9918T22	$253.04

Leak-Resistant Liquid-Filled Gauges with Stainless Steel Connection



Bottom Connection



Center Back Connection

- Use with air, water, hydraulic oil, gasoline, and natural gas
- Pipe Connection: Type 316 stainless steel NPT male
- Accuracy: ±1% full scale (Grade 1A)

Get precise pressure readings in locations prone to vibration without the annoying leakage and bubbles of most liquid-filled gauges. Gauges have a leak-resistant glycerin-filled dial that reduces needle flutter and a unique case design that eliminates the air bubble on the dial face, which can distort readings. Case is nylon and lens is acrylic. Environment temperature range is –40° to 150°F and process temperature range is –40° to 200°F.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 30	0.5	5	0-1,000	10	100
0- 60	1	10	0-1,500	20	300
0-100	1	10	0-2,000	20	200
0-160	2	20	0-3,000	50	500
0-200	2	20	0-5,000	50	500
0-300	5	50	0-6,000	100	1,000
0-600	10	100			

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection	
2½″	¼	9880T11	$78.05	9880T21	$78.05
3½″	¼	9880T12	89.80	9880T22	89.80
4½″	¼	9880T13	103.70	9880T23	103.70

Liquid-Filled Stainless Steel Gauges



Bottom Connection



Lower Back Connection with Front Flange

- Use with air, water, and hydraulic oil
- Pipe Connection: Type 316 stainless NPT male
- Accuracy:
  2½″ & 4″ Dials: ±1% full scale (Grade 1A)
  6″ Dial: ±0.5% full scale (Grade 2A)

Built for harsh locations prone to vibration, these gauges pair a corrosion-resistant Type 304 stainless steel case with a glycerin-filled dial to reduce needle flutter. Lens is glass. Gauges with front flange have three bolt holes for mounting; fasteners not included.

Gauges with 2½″ and 6″ dials have an environment temp. range of –32° to 200°F and a process temp. range of –32° to 400°F. Gauges with a 4″ dial have an environment temp. range of –4° to 140°F and a process temp. range of –4° to 212°F.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 15	0.25★	3	0- 600	10	100
0- 30	0.5	5	0- 1,000	10	100
0- 60	1	10	0- 1,500	25▲	300
0-100	1	10	0- 2,000	20	200
0-160	2	20	0- 3,000	50	500
0-200	2	20	0- 5,000	50	500
0-300	5	50■	0-10,000	100	1,000
0-400	5	50			

★ 4″ dial has grad. marks at 0.2 psi. ▲ 4″ dial has grad. marks at 20 psi.
■ 6″ dial has num. inc. at 30 psi.

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Lower Back Connection		Lower Back Connection with Front Flange: Flange OD	Flange Bolt Circle Dia.	Flange Bolt Hole Dia.	
2½″	¼	4088K3	$87.03	4088K6	$91.93	3⅜″	2 15/16″	9/64″	4088K7 $101.62
4″	¼	4088K511	107.82	4088K821	125.78	5 3/16″	4 9/16″	3/16″	4088K92 146.20
6″	¼	4088K1	234.99	4088K2	268.02	7¾″	7″	15/64″	4088K4 314.51

Liquid-Filled Stainless Steel Gauges with Yor-Lok Tube Connections



Bottom Connection

- Use with air, water, hydraulic oil, alcohol, carbon dioxide, and natural gas
- Tube Connection: Type 316 stainless steel Yor-Lok tube fittings
- Accuracy: ±1.5% full scale (not graded)

Measure pressure in instrumentation lines. Gauges have a tee fitting with Yor-Lok double-ferrule compression tube fittings that are compatible with Swagelok® and Parker A-Lok fittings. For information about Yor-Lok fittings, see page 184.

Gauges have a glycerin-filled dial to reduce needle flutter from vibration. Their dual scale displays pressure in psi and kPa. Case is Type 304 stainless steel and lens is impact-resistant polycarbonate. Temperature range is 14° to 150°F.

Available Pressure Ranges

Pressure Range psi	Pressure Range kPa	Grad. Marks, psi	Num. Inc., psi	Pressure Range psi	Pressure Range kPa	Grad. Marks, psi	Num. Inc., psi
0- 30	0-200	0.5	5	0- 160	0-1,100	2	20
0- 60	0-400	1	10	0- 300	0-2,000	5	50
0-100	0-700	2	20	0-1,000	0-7,000	20	200

To Order: Please specify pressure range in psi from the chart.

Dial Size	For Tube OD	Bottom Connection		Center Back Connection	
2½″	¼″	9871T45	$78.26	9871T46	$81.38

Digital Gauges



- Use Type 304 stainless steel with air, hydrogen, and nitrogen
  Use Type 316 stainless steel with air, water, hydraulic oil, gasoline, and natural gas
- Pipe Connection:
  Type 304 or Type 316 stainless steel NPT male
- Accuracy: ±1% full scale (not graded)

Set the four-digit LCD for digital pressure readings in psi, bar, or MPa. Gauges are powered by a 9-volt battery (included) and shut off after three minutes to extend battery life. Case is ABS plastic and lens is glass. Environment temperature range is -4° to 185°F and process temp. range is 14° to 140°F.

Also Available: Gauges with certificate of calibration traceable to NIST for an additional $125. For Type 304 stainless steel, order 2798K3 and specify pressure range. For Type 316 stainless steel, order 3834K3 and specify pressure range.



Pressure Range, psi	Resolution, psi	Dial Size	Pipe Size	LCD Ht.	Bottom Connection	
Type 304 Stainless Steel Connection						
0- 30	0.01	2½″	¼	9/16″	2798K21	$92.60
0- 100	0.1	2½″	¼	9/16″	2798K22	92.60
0- 300	0.1	2½″	¼	9/16″	2798K23	92.60
Type 316 Stainless Steel Connection						
0- 5	0.001	2½″	¼	9/16″	3834K11	161.40
0- 30	0.01	2½″	¼	9/16″	3834K12	161.40
0- 100	0.1	2½″	¼	9/16″	3834K13	161.40
0- 200	0.1	2½″	¼	9/16″	3834K14	161.40
0- 500	0.1	2½″	¼	9/16″	3834K15	161.40
0-1,000	1	2½″	¼	9/16″	3834K16	161.40
0-3,000	1	2½″	¼	9/16″	3834K17	161.40
0-5,000	1	2½″	¼	9/16″	3834K18	161.40

Liquid-Filled Test Gauges with Stainless Steel Guard



- Use with air, water, hydraulic oil, gasoline, and natural gas
- Pipe Connection: Type 316 SS NPT female
- Accuracy:
  High Accuracy: ±0.5% full scale (Grade 2A)
  High Temp.: ±1% full scale (Grade 1A)

A guard protects these gauges from corrosive media while a glycerin-filled dial reduces needle flutter from vibration. They also have a safety case that blows out in the back during overpressurization to protect operators in front. Has three ¼″ dia. mounting holes; fasteners not included.

High-accuracy gauges have a phenolic case and an acrylic lens. Temperature range is 33° to 250°F.

High-temperature gauges have a polypropylene case and an acrylic lens. Environment temperature range is 0° to 200°F and process temperature range is 0° to 400°F.

Available Pressure Ranges (psi)

Pressure Range	Grad. Marks	Numeric Increments	Pressure Range	Grad. Marks	Numeric Increments
0- 30	0.2	5★	0-160	1■	20
0-100	1	10	0-200	2	20

★ High accuracy has numeric increments at 3 psi.
■ High accuracy has grad. marks at 2 psi.

To Order: Please specify pressure range from the chart.



Dial Size	Pipe Size	Bottom Connection with Guard — High Accuracy		High Temperature	
4½″	½	3965K4	$228.40	3812K93	$432.16
4½″	1	—	—	3812K96	432.16

Solar-Powered Digital Gauges



- Use with air, water, hydraulic oil, deionized water, and ethyl alcohol
- Pipe Connection: Type 316 SS NPT male
- Accuracy: ±0.5% full scale (not graded)

Sensitive enough to operate on indoor light, these gauges have no batteries to replace. Set the four-digit LCD to show pressure in psi, kPa, kg/cm², or bar. Case is PBT plastic (polybutylene terephthalate) and lens is acrylic. Temperature range is 0° to 150°F. Case is rated IP65 (resists splashing water) and has three ¼″ dia. mounting holes; fasteners not included.

Available Pressure Ranges (psi)

Pressure Range	Resolution	Pressure Range	Resolution
0- 15	0.2	0- 200	0.5
0- 60	0.2	0- 400	1
0-100	0.25	0-1,000	2.5

To Order: Please specify pressure range from the chart.



Dial Size	Pipe Size	LCD Ht.	Bottom Connection	
4½″	¼	5/8″	2397T11	$198.00
4½″	½	5/8″	2397T12	198.00

Digital Gauges with Transmitter Output



- Use with air, water, hydraulic oil, argon, and nitrogen
- Pipe Connection:
  Type 304 stainless NPT male
- Accuracy:
  ±0.5% full scale (not graded)

Monitor your application locally and from a distance. Gauges convert pressure to an electrical signal for use in process control systems. Set the four-digit LED to show pressure in psi, bar, mbar, or MPa. Case is stainless steel and lens is plastic. Temperature range is –13° to 185°F. Gauges operate on 18-36 volts DC and have a four-pole M12 male electrical connection with a 0.3″ face dia. and single keyway. For multipole connectors, see page 805. Gauges meet IP67 for protection from temporary submersion.

Available Pressure Ranges (psi)

Pressure Range	Resolution	Pressure Range	Resolution
0- 25	0.1	0-1,400	1
0- 70	0.1	0-3,600	1
0-140	0.1	0-5,800	1
0-290	0.1	0-8,700	1
0-700	0.1		

To Order: Please specify pressure range from the chart.

Output Signal	Dial Size	Pipe Size	LED Ht.	Bottom Connection	
4-20 mA	1 5/16″	¼	5/16″	3160T15	$396.67
0-10 DC	1 5/16″	¼	5/16″	3160T13	396.67

Ultra-High-Accuracy Digital Gauges



Battery Powered

- Use with air, water, hydraulic oil, gasoline, and natural gas
- Pipe Connection: Type 316 stainless steel NPT male
- Accuracy: ±0.25% full scale (not graded)

For digital pressure readings with accuracy suitable for use in testing and calibration. Set the four-digit LCD to show pressure in psi, bar, or MPa, unless noted. Gauges have an aluminum case and polycarbonate lens. Temperature range is –4° to 180°F.

Gauges with NIST certificate come with a certificate of calibration traceable to NIST.

Battery-powered gauges operate on two AA batteries (included) and shut off after five minutes to extend battery life. *Gauges for hazardous locations* are FM approved as intrinsically safe for Class I, Division 1, Groups A, B, C, and D.

AC/DC-powered gauges operate on 8-24 volts AC or 9-32 volts DC and have 3-ft. wire leads.

DC-powered gauges with 4-20 mA transmitter output convert pressure to an electrical signal for remote monitoring. They operate on 8-32 volts DC and have 3-ft. wire leads. Case is NEMA 12 for protection from dripping oil and coolant. Displays pressure in psi only.

Available Pressure Ranges (psi)

Pressure Range	Resolution	Pressure Range	Resolution	Pressure Range	Resolution
0- 3	0.01	0-100	0.1	0-1,000	1
0- 5	0.01	0-199.9	0.1	0-3,000	1
0-15	0.01	0-300	1	0-5,000	1
0-30	0.1	0-500	1		

To Order: Please specify pressure range from the chart.

Dial Size Wd.	Dial Size Ht.	Pipe Size	LCD Ht.	Bottom Connection Standard		Bottom Connection With NIST Certificate	
Battery-Powered Gauges							
3 3/8"	2 7/8"	1/4	1/2"	**3943K12**	$428.45	**3943K21**	$549.14
Battery-Powered Gauges for Hazardous Locations							
3 3/8"	2 7/8"	1/4	1/2"	**3943K31**	578.10	**3943K33**	707.41
AC/DC-Powered Gauges							
3 3/8"	2 7/8"	1/4	1/2"	**3943K15**	428.45	**3943K23**	549.14
DC-Powered Gauges with 4-20 mA Transmitter Output							
3 3/8"	2 7/8"	1/4	1/2"	**2821K12**	497.00	**2821K14**	633.96

Extreme-Accuracy Digital Gauges with NIST Certificate



- Use with air, water, hydraulic oil, gasoline, and natural gas
- Pipe Connection: Type 316 stainless steel NPT male
- Accuracy: ±0.05% full scale (Grade 5A)

With the highest accuracy we offer, these gauges are commonly used in critical applications that require precision. All come with a certificate of calibration traceable to NIST. Set the five-digit LCD to show pressure in psi, Kpa, bar, inches of H_2O, or kg/cm^2.

Case is 300 series stainless steel and lens is polyester. Gauges operate on three AAA batteries (included) and shut off after five minutes to extend battery life. Temperature range is 0° to 150°F. Case is NEMA 4 (indoor/outdoor; washdown resistant). Gauges are CSA certified and FM approved as intrinsically safe for Class I, II, and III; Division 1; Groups A, B, C, D, E, F, and G; T4 temperature code.

Available Pressure Ranges (psi)

Pressure Range	Resolution	Pressure Range	Resolution	Pressure Range	Resolution
0- 10	0.001	0-160	0.01	0-1,000	0.1
0- 15	0.001	0-200	0.01	0-2,000	0.1
0- 30	0.001	0-300	0.01	0-3,000	0.1
0- 60	0.001	0-600	0.01	0-5,000	0.1
0-100	0.01	0-800	0.01		

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	LCD Ht.	Bottom Connection	
3"	1/4	1 1/8"	**3584K31**	$1,051.50

Vacuum and Compound Gauges


Center Back Connection

- Use with air
- Pipe Connection: Brass NPT male
- Accuracy: ±2% mid scale (Grade B)

Choose a vacuum gauge or a compound gauge that measures both vacuum and pressure. Temperature range is –40° to 140°F.

Vacuum Gauges

Vacuum range is 30" Hg to 0 with grad. marks at 0.5" Hg and numeric increments at 5" Hg. 4002K25 fits a 1 5/8" dia. cutout.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection		Panel Mount Connection	
ABS-Plastic-Case Gauges—Acrylic Lens							
1 1/2"	1/8	**3935K11**	$12.30	**3935K21**	$12.80		
2"	1/8	**3935K52**	14.60	**3935K62**	11.72		
Steel-Case Gauges—Polycarbonate Lens							
1 1/2"	1/8	**4002K15**	12.22	**4002K35**	11.88	**4002K25**	$15.60

Compound Gauges

Available Pressure Ranges (inches of Hg/psi)

Vacuum/ Pressure Range	2 1/2" Dial Grad. Marks	2 1/2" Dial Numeric Increments	4" Dial Grad. Marks	4" Dial Numeric Increments
30" Hg to 0/0- 15	1"/0.5	10"/ 5	1"/0.5	5"/ 3
30" Hg to 0/0- 30	2"/1	10"/10	1"/0.5	10"/ 5
30" Hg to 0/0- 60	2"/2	30"/20	2"/2	10"/10
30" Hg to 0/0-100	5"/2	30"/20	5"/2	30"/10
30" Hg to 0/0-160	10"/5	30"/20	5"/5	30"/20
30" Hg to 0/0-200	10"/5	30"/50	5"/5	30"/20

To Order: Please specify vacuum/pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection	
ABS-Plastic-Case Gauges—Acrylic Lens					
2 1/2"	1/4	**3941K53**	$13.10	**3941K63**	$13.90
4"	1/4	**3941K74**	16.48		

Dual-Scale Vacuum and Compound Gauges


Bottom Connection

- Use with air
- Pipe Connection: Brass NPT male
- Accuracy: ±2% mid scale (Grade B)

In addition to inches of Hg and psi, these gauges display pressure in kPa. Case is steel and lens is impact-resistant polycarbonate. Temperature range is –40° to 150°F. Panel mount connection requires a cutout; 2" dial fits a 2 7/32" dia. cutout, 2 1/2" dial fits a 2 3/4" dia., and 3 1/2" dial fits a 3 13/16" dia.

Available Vacuum/Pressure Ranges

Vacuum/Pressure Range in. of Hg/psi	Vacuum/Pressure Range kPa	Grad. Marks, in. of Hg/psi	Num. Inc., in. of Hg/psi
Vacuum Gauges			
30" Hg to 0/	–100 to 0	0.5"/	5"/
Compound Gauges			
30" Hg to 0/0- 15	–100 to 100	1" / 0.5	5"/ 5
30" Hg to 0/0- 30	–100 to 200	1" / 1	5"/ 5
30" Hg to 0/0- 75	–100 to 500	2" / 5	10"/10
30" Hg to 0/0-100	–100 to 700	5" / 2	15"/10
30" Hg to 0/0-160	–100 to 1,100	5" / 2	30"/20
30" Hg to 0/0-200★	–100 to 1,400	5" / 2	30"/20
30" Hg to 0/0-300	–100 to 2,100	15" /10	30"/50

★ Not available in 4 1/2" dial.

To Order: Please specify vacuum/pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection		Panel Mount Connection	
2"	1/4	**4004K62**	$10.93	**4004K72**	$12.43	**4004K52**	$15.65
2 1/2"	1/4	**4004K63**	12.13	**4004K73**	14.02	**4004K53**	18.25
3 1/2"	1/4	**4004K64**	16.70	**4004K74**	16.47	**4004K54**	24.20
4 1/2"	1/4	**4004K65**	21.76				

For information about pressure gauges, see page 594. For information about pipe size, see pages 2-3.

Ultra-High-Accuracy Vacuum Gauges

- Use with air
- Pipe Connection: Brass NPT male
- Accuracy: ±0.25% full scale (Grade 3A)

Get the accuracy you need for laboratory and testing applications. Gauges have a dual scale that displays vacuum in inches of Hg and kPa. Case is aluminum and lens is glass. Temperature range is –40° to 150° F. Flange has three bolt holes for mounting; fasteners not included.


Lower Back Connection

Dial Size	Pipe Size	Vacuum Range, in. of Hg/kPa	in. of Hg Grad. Marks	in. of Hg Num. Inc.	Flange OD	Flange Bolt Circle Dia.	Flange Bolt Hole Dia.	Bottom Connection with Front Flange		Lower Back Connection with Front Flange	
4½″	¼	30″ to 0/–100 to 0	0.1″	1″	6 3/32″	5⅜″	10-24	4105K21	$347.28	4105K23	$347.28
6″	¼	30″ to 0/–100 to 0	0.1″	1″	7 9/16″	7″	¼″-20	4105K22	415.19	4105K24	415.19

Liquid-Filled Vacuum and Compound Gauges

- Use with air
- Pipe Connection: Brass NPT male
- Accuracy: ±1.5% full scale (not graded)

A glycerin-filled dial reduces needle flutter for more precise readings. Gauges have a dual scale that displays inches of Hg/psi and kPa. Case is ABS plastic and lens is acrylic. Temp. range is –4° to 140° F.


Center Back Connection

Available Vacuum/Pressure Ranges

Vacuum/Pressure Range in. of Hg/psi	kPa	Grad. Marks, in. of Hg/psi	Num. Inc., in. of Hg/psi
Vacuum Gauges			
30″ Hg to 0/—	–100 to 0	0.5″/—	5″/—
Compound Gauges			
30″ Hg to 0/0-15	–100 to 100	1″/0.5	10″/5
30″ Hg to 0/0-30	–100 to 200	2″/1	30″/10
30″ Hg to 0/0-60	–100 to 400	5″/2	30″/20
30″ Hg to 0/0-100	–100 to 680	5″/2	30″/20

To Order: Please specify vacuum/pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection	
2½″	¼	38465K41	$23.26	38465K42	$23.24

Compound Gauges for Refrigerant Ammonia

- Use with air, ammonia, and refrigerant
- Pipe Connection: Type 316 stainless NPT male
- Accuracy: ±1.6% full scale (Grade B)

Often used with chillers and in refrigeration systems, these gauges display the temperature of ammonia relative to the pressure measurement. Case is Type 304 stainless steel and lens is impact-resistant polycarbonate. Environment temp. range is –40° to 200° F and process temp. range is 0° to 250° F.



Available Vacuum/Pressure Ranges (inches of Hg/psi)

Vacuum/Pressure Range	Grad. Marks	Numeric Increments
30″ Hg to 0/0-150	5″/5	30″/20
30″ Hg to 0/0-300	5″/5	30″/25

To Order: Please specify vacuum/pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection	
2½″	¼	3967K51	$45.37
4″	¼	3967K52	78.50

Ultra-Low Vacuum Gauges

- Use with air
- Pipe Connection: Brass NPT male
- Accuracy:
  2½″ Dial: ±1.5% full scale (not graded)
  4″ Dial: ±1% full scale (Grade 1A)



Accommodate applications with very low vacuum. Environment temperature range is –4° to 140° F and process temp. range is –4° to 176° F.

Gauges with 2½″ dial have a black-painted steel case and acrylic lens. *Gauges with 4″ dial* have a Type 304 stainless steel case and glass lens.

Available Vacuum Ranges (inches of H_2O)

Vacuum Range	Grad. Marks	Numeric Increments	Vacuum Range	Grad. Marks	Numeric Increments
15″ to 0	0.2	3	60″ to 0	1	10
30″ to 0	0.5	5	100″ to 0	2	20

To Order: Please specify vacuum range from the chart.

Dial Size	Pipe Size	Bottom Connection Standard		Bottom Connection With NIST Certificate	
2½″	¼	4106K1	$62.08	3843K3	$152.76
4″	¼	4106K2	133.35	3843K4	216.57

Absolute Pressure Gauges

- Use with air
- Pipe Connection: Brass NPT male
- Accuracy: ±2% full scale (not graded)



Unlike other pressure gauges that measure the difference between your system and the atmosphere, these give measurements relative to zero pressure. Also known as Torr gauges, they're often used in laboratory applications. Gauges are barometrically independent. A dual scale displays readings in mbar and Torr. Case is anodized aluminum and lens is glass. Temp. range is 0° to 150° F.

Available Absolute Pressure Ranges

Pressure Range mbar	Torr	Grad. Marks, mbar	Numeric Inc., mbar
0-25	0-20	5	0.5
0-50	0-40	10	1
0-130	0-100	20	2
0-1,000	0-760	200	20

To Order: Please specify pressure range in mbar from the chart.

Dial Size	Pipe Size	Bottom Connection	
4″	¼	1791T3	$426.72

3-in-1 Compound Test Gauges

- Use with air
- Pipe Connection: 36″ neoprene hose with steel NPTF (Dryseal) male fitting
- Accuracy: ±2% mid scale (Grade B)

Test vacuum and pressure in hydraulic applications. These portable gauges have three dual-scale dials for a wide range of measurements. Vacuum/pressure ranges are 30″ Hg to 0/0-150 psi (cm of Hg/kg/cm^2), 0-600 psi (kg/cm^2), and 0-5,000 psi (kg/cm^2). Case is steel and lens is butyrate plastic. Environment temperature range is –40° to 120° F and process temperature range is –40° to 190° F.



Overall Dia.	Pipe Size		
6 7/16″	⅛	4054K64	$329.75

Stainless Steel-Case Liquid-Filled Vacuum and Compound Gauges



Center Back Connection

- Use with air
- Pipe Connection: Brass NPT male
- Accuracy:
  1½″ and 2½″ Dials: ±1% mid scale (Grade A)
  4″ Dial: ±1% full scale (Grade 1A)

Designed for harsh environments that are prone to vibration, these gauges pair the corrosion resistance of a Type 304 stainless steel case with the reduced needle flutter of a glycerin-filled dial. Their dual scale displays readings in inches of Hg/psi and kPa. Lens is impact-resistant polycarbonate. Temperature range is 32° to 140° F.

Gauges with panel-mount bracket require a cutout; 38545K11 fits a 1 39/64″ dia. cutout and 38545K19 fits a 2 31/64″ dia. cutout.

Gauges with NIST certificate come with a certificate of calibration traceable to NIST.

Available Vacuum/Pressure Ranges (inches of Hg/psi)

Vacuum/ Pressure Range	1½″ Dial Grad. Marks	1½″ Dial Num. Inc.	2½″ Dial Grad. Marks	2½″ Dial Num. Inc.	4″ Dial Grad. Marks	4″ Dial Num. Inc.
Vacuum Gauges						
30″ Hg to 0/—	0.5″/—	5″/—	1″/—	5″/—	0.5″/—	5″/ —
Compound Gauges						
30″ Hg to 0/0- 15	1″/1	10″/ 5	1″/0.5	10″/ 5	1″/0.5	5″/ 3
30″ Hg to 0/0- 30	1″/1	10″/10	2″/1	10″/10	1″/0.5	10″/ 5
30″ Hg to 0/0- 60	2″/1	10″/10	2″/2	30″/20	2″/2	10″/10
30″ Hg to 0/0-100	5″/2	30″/20	5″/2	30″/20	5″/2	30″/10
30″ Hg to 0/0-160★	5″/2	30″/20	10″/5	30″/40	5″/5	30″/20
30″ Hg to 0/0-200	—	—	10″/5	30″/50	5″/5	30″/20
30″ Hg to 0/0-300	10″/5	30″/50	10″/5	30″/50	10″/5	30″/50

★ 1½″ dial has a range of 30″ Hg to 0/0-150.

To Order: Please specify vacuum/pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection		Lower Back Connection	
Standard							
1½″	1/8	38545K4	$24.06	38545K5■	$24.06	—	—
2½″	1/4	38545K16	24.71	38545K17	24.71	—	—
4″	1/4	38545K18	56.09	—	—	38545K12	$56.09
Standard with Panel-Mount Bracket							
1½″	1/8	—	—	38545K11■	28.83	—	—
2½″	1/4	—	—	38545K19	29.69	—	—
With NIST Certificate							
2½″	1/4	38545K32	117.92	38545K35	117.91	—	—
4″	1/4	38545K33	161.36	—	—	38545K36	166.16

■ Not available with a range of 30″ Hg to 0/0-300 psi.

Pressure and Temperature Gauges



Center Back Connection

- Use with water and steam
- Pipe Connection: Brass NPT male
- Accuracy: ±2.5% full scale (not graded)

Measure pressure and temperature simultaneously. Designed for use with boilers, gauges have a dual scale that displays pressure in psi and feet of H_2O and displays temperature in °F/°C. Case is black-painted steel and lens is acrylic. Environment temperature range is –40° to 140° F and process temperature range is 70° to 320° F.

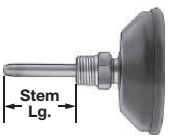

Available Pressure Ranges

Pressure Range, psi/ft. of H_2O	Grad. Marks, psi	Numeric Inc., psi
0- 75/0-170	5	20
0-230/0-500★	10	50

★ Center back connection is 0-200/0-460.

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection Stem Lg.		Center Back Connection Stem Lg.	
3¼″	½	2 3/8″	4013K61	$37.96	1 7/8″	4013K62	$25.20

Stainless Steel Vacuum and Compound Gauges



Dry with Bottom Connection

- Use with air
- Pipe Connection: Type 316 stainless NPT male
- Accuracy: 2½″ Dial: ±1.5% full scale (not graded)
  3″ Dial: ±0.5% full scale (Grade 2A)
  4″ Dial: ±1% full scale (Grade 1A)

Withstand corrosive environments—gauges have a Type 304 stainless steel case. Environment temperature range is –40° to 140° F and process temperature range is –40° to 212° F.

Gauges with a 2½″ dial have a nylon lens. Panel mount connection fits a 2 7/16″ dia. cutout.

Gauges with a 3″ dial come with a lens cover and pouch. Lens is acrylic.

Gauges with a 4″ dial have a glass lens.

Liquid-filled gauges have a glycerin-filled dial to reduce needle flutter caused by vibration.

Available Vacuum/Pressure Ranges (inches of Hg/psi)

Vacuum/ Pressure Range	2½″ Dial Grad. Marks	2½″ Dial Num. Inc.	3″ Dial Grad. Marks	3″ Dial Num. Inc.	4″ Dial Grad. Marks	4″ Dial Num. Inc.
Vacuum Gauges						
30″ Hg to 0/—	0.5″/—	5″/—	0.2″/—	2″/—	0.5″/—	5″/ —
Compound Gauges						
30″ Hg to 0/0- 15	1″/0.5	10″/ 5	0.5″/0.2	5″/ 2	1″/0.5	10″/ 5
30″ Hg to 0/0- 30	2″/1	30″/10	1″ /0.5	10″/ 5	1″/0.5	10″/ 5
30″ Hg to 0/0- 60	5″/2	30″/20	2″ /1	10″/10	2″/1	10″/10
30″ Hg to 0/0-100	5″/2	30″/20	2″ /1	30″/10	5″/2	30″/20
30″ Hg to 0/0-160	10″/4	30″/40	—	—	5″/2	30″/20
30″ Hg to 0/0-300	10″/5	30″/50	5″ /2	30″/50	10″/5	30″/50

To Order: Please specify vacuum/pressure range from the chart.

Dial Size	Pipe Size	Bottom Connection		Center Back Connection		Panel Mount Connection	
Dry							
2½″	1/4	38595K1	$69.58	38595K2	$79.60	38595K5	$90.84
3″	1/4	3961K2	219.93	—	—	—	—
4″	½	38595K3	104.34	—	—	—	—
Liquid Filled							
2½″	1/4	38605K1	83.46	38605K2	97.31	38605K7	109.25
4″	½	38605K3	134.06	—	—	—	—

Digital Vacuum and Compound Gauges



- Use with air
- Pipe Connection: Type 17-4 PH SS NPT female
- Accuracy: ±0.5% full scale (not rated)

Set the measurement unit on the four-digit LCD to get digital readings in vacuum applications. Vacuum gauge shows inches of Hg or psi and compound gauge shows psi, bar, kg/cm², or atmosphere. The LCD shuts off after an hour to extend battery life; operates on one 9-volt battery (sold separately). Case and lens are polycarbonate. Environment temperature range is –40° to 150° F and process temperature range is 32° to 130° F. Size is 4 1/16″ Ht. × 2 11/16″ Wd. × 1 7/8″ Dp.

Gauge Type	Vacuum/ Pressure Range	Resolution, psi	Pipe Size	Bottom Connection	
Vacuum	29.9″ Hg to 0	0.1	1/8	3840K8	$221.15
Compound	0-1,000 psi	1	1/8	3840K6	235.29
9-volt Battery				71455K56	2.75

Pressure Test Plugs



Check pressure without permanently installing a gauge. Plugs have an NPT male connection for installation in your pipe or tank. Use with air, water, and oil. Connect gauge adapters (sold separately) to gauges with 1/4 pipe size NPT male threads. *Standard* adapters are brass with a Type 304 stainless steel needle. *High-pressure* adapter is steel.

Pipe Size	Max. psi	Ht.	Plugs		Gauge Adapters	
Standard—Brass Plug						
1/8	1,000	1 1/4″	1493K11	$3.27	1493K28	$16.66
1/4	1,000	1 1/2″	1493K12	3.68	1493K29	17.68
High Pressure—Steel Plug						
1/8	5,800	1 7/8″	3194K55	13.69	3194K59	20.54
1/4	5,800	2″	3194K56	14.13	3194K59	20.54

For information about pressure gauges, see page 594. For information about pipe size, see pages 2-3.

Gauge-Protecting Steam Siphon Tubes

Also known as pigtails, use a siphon tube to protect non-liquid-filled gauges from steam and high-temperature fluids. Add water to the tube to make a protective barrier between your gauge and process media.

Style B is compact for use in tight locations.

Style C requires less maintenance than Styles A, B, and D because the extra bends prolong water retention.

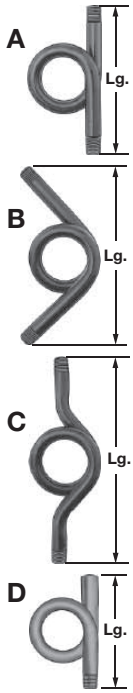

	Pipe Size	Lg.	Standard Max. psi			High Pressure Max. psi		
With NPT Male x NPT Male Connections								
Welded Steel—Meet ASTM A53, Grade F								
A	1/4	5 1/2"	308 @ 400° F	4031K11	$5.54	1,046 @ 400° F	4031K41	$6.75
A	1/2	8 7/8"	—	—	—	1,097 @ 400° F	4031K81	21.50
B	1/4	6 1/2"	308 @ 400° F	4031K13	7.41	1,046 @ 400° F	4031K43	7.62
C	1/4	7 1/4"	308 @ 400° F	4031K14	9.21	1,046 @ 400° F	4031K44	11.44
Seamless Steel—Meet ASTM A106, Grade B								
A	1/4	5 1/2"	588 @ 750° F	4031K21	10.82	2,000 @ 750° F	4031K51	13.44
A	1/2	8 7/8"	1,072 @ 700° F	4031K82	23.98	1,742 @ 800° F	4031K83	25.77
B	1/4	6 1/2"	588 @ 750° F	4031K23	12.92	2,000 @ 750° F	4031K53	15.57
C	1/4	7 1/4"	588 @ 750° F	4031K24	17.73	2,000 @ 750° F	4031K54	19.96
Brass—Meet ASTM B-43								
A	1/4	4"	245 @ 400° F	4031K28	8.40	1,022 @ 400° F	4031K68	13.20
A	1/4	5 5/8"	245 @ 400° F	4031K65	10.90	1,022 @ 400° F	4031K61	14.70
B	1/4	6 1/2"	245 @ 400° F	4031K66	13.43	1,022 @ 400° F	4031K63	15.25
C	1/4	7 1/2"	245 @ 400° F	4031K67	14.00	1,022 @ 400° F	4031K64	19.00
Type 304 Stainless Steel—Meet ASTM A312								
A	1/4	5 1/2"	443 @ 750° F	4031K71	19.17	1,538 @ 700° F	4031K26	31.06
Type 316 Stainless Steel—Meet ASTM A312								
A	1/4	5 1/2"	457 @ 750° F	4965K35	33.86	1,554 @ 750° F	4965K76	105.97
A	1/2	8 7/8"	737 @ 800° F	4965K36	75.05	1,596 @ 800° F	4965K67	122.85
B	1/4	6 1/2"	457 @ 750° F	4965K37	33.76	1,554 @ 750° F	4965K78	107.35
B	1/2	7 1/2"	737 @ 800° F	4965K38	95.70	1,596 @ 800° F	4965K69	149.05
C	1/4	9 1/2"	457 @ 750° F	4965K39	40.81	1,554 @ 750° F	4965K84	124.30
C	1/2	12"	737 @ 800° F	4965K42	104.27	1,596 @ 800° F	4965K86	172.25
With NPT Female x NPT Male Connections								
Brass—Meet ASTM B-43								
D	1/4	4"	245 @ 400° F	4031K31	10.45	1,022 @ 400° F	4031K32	15.51
D	1/4	5 1/2"	245 @ 400° F	4031K33	12.13	1,022 @ 400° F	4031K34	17.18

Pulsation-Damping Snubbers



Use a snubber to reduce the flow of fluids into your pressure gauge to dampen vibration, pulsation, and pressure spikes. Connections are NPT; process is male and gauge is female.

Standard snubbers have an orifice to restrict flow—the smaller the orifice, the greater the reduction in flow.

Snubbers with filtering disc also prevent damage to your gauge by trapping particles in your process media. Snubbers with 1/8 pipe size have a 3/16" orifice; and 1/4 and 1/2 pipe sizes have a 1/4" orifice.

To Order: For *standard snubbers*, please specify orifice size: 0.004", 0.008", or 0.015". For *snubbers with filtering disc*, please specify micron rating: 0.5, 1, 2-5, 7, 10, 40-45, or 75 microns.

	Pipe Size	Standard Max. psi	Ht.			With Filtering Disc Max. psi	Ht.		
Brass									
	1/8	2,000	7/8"	3820K26	$8.46	3,000	1 1/8"	4034K1	$9.31
	1/4	2,000	1 1/4"	3820K27	9.52	10,000	1 1/2"	4034K2	12.10
	1/2	2,000	1 11/16"	3820K28	19.41	10,000	2 3/16"	4034K3	24.25
Type 303 Stainless Steel									
	1/8	4,000	7/8"	3820K36	15.43	5,000	1 1/8"	4034K4	11.81
	1/4	4,000	1 1/4"	3820K37	18.35	15,000	1 1/2"	4034K5	15.07
	1/2	4,000	1 11/16"	3820K38	37.23	15,000	2 3/16"	4034K6	38.10

Adjustable Pulsation-Damping Snubbers



Change the level of vibration and pressure damping as needed—snubbers come with five orifice inserts for different levels of flow restriction. Remove the set screw to exchange inserts and then replace set screw to use. Connections are NPT; process is male and gauge is female.

Pipe Size	Max. psi	Ht.		
Brass				
1/4	6,000	1 9/16"	4072K6	$28.05
Type 316 Stainless Steel				
1/4	15,000	1 9/16"	4072K8	56.97
1/2	15,000	1 7/8"	4072K9	92.00

Gauge Guards



Protect gauges from corrosive process media. Also known as diaphragm seals, use guards with air, carbon dioxide, bleach, and boric acid. Body is plastic and seal is fluoroelastomer. Max. pressure is 150 psi at 70° F. Process and gauge connections are NPT female.

Fill guards with ISO Grade 32 hydraulic oil (not included) before use. See 2158K11 on page 2204.

	Pipe Size Process	Gauge	Max. Temp.	Ht.		
PVC						
	1/4	1/4	140° F	2 3/4"	4143K11	$71.18
	1/2	1/4	140° F	2 3/4"	4143K21	71.18
CPVC						
	1/4	1/4	200° F	2 3/4"	4334K31	87.85
	1/2	1/4	200° F	2 3/4"	4334K41	87.85
Polypropylene						
	1/4	1/4	180° F	2 3/4"	4199K51	142.26
PVDF						
	1/2	1/4	280° F	2 3/4"	4354K81	150.90

High-Temperature Gauge Guards



With Drain Port

A Type 316 stainless steel body and seal provide good resistance to high temperatures and pressures. Also known as diaphragm seals. Pressure range is 100-2,500 psi. Max. temperature is 300° F. Process and gauge connections are NPT female.

Fill guards with ISO Grade 32 hydraulic oil (not included) before use. See 2158K11 on page 2204.

Guards with drain port have an 1/8 NPT female port with plug so you can remove process media.

	Pipe Size Process	Gauge	Standard Ht.			With Drain Port Ht.		
	1/4	1/4	1 7/16"	3882K51	$82.40	2"	3882K54	$147.02
	1/2	1/4	1 9/16"	3882K52	82.40	2 1/8"	3882K55	147.02
	1/2	1/2	1 3/4"	3882K53	82.40	2 5/16"	3882K56	147.02

Pressure Indicators

Get a visual indication when the pressure of your compressed air line reaches 15 psi. **Compact** have a plunger that extends to reveal a green color display at 15 psi. Body is brass. Temp. range is 32° to 230° F. **Easy-view** has an acrylic window that displays green at 15 psi. Body is aluminum alloy. Temp. range is 23° to 140° F.

	Connection Size	Max. psi	Ht.	For Panel Cutout Dia.		
Compact						
Standard	1/8 NPT	150	1 1/2"	—	1808K221	$12.37
Panel Mount	10-32 UNF	150	1 1/4"	31/64"	1808K321	11.52
Easy-View						
Panel Mount	1/8 NPT	116	2 1/2"	7/8"	1249K11	43.49



Compact Panel Mount



Easy-View

Tire Gauges, Chucks & Compression Testers

For information about pressure gauges, see page 594. For information about pipe size, see pages 2-3.

Tire Gauges

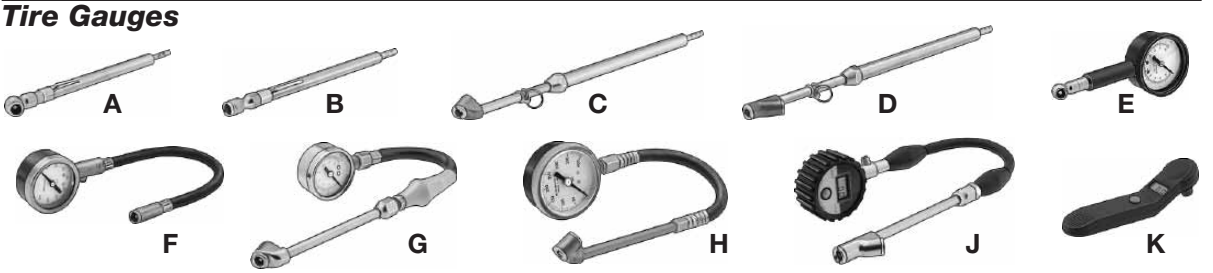

Styles A-D display pressure on a nylon indicator bar. Body and chuck are nickel-plated brass. *Styles A and B* have a pocket clip.

Styles E-H display pressure on a gauge with a 2″ dial, except Styles E and H have a 2½″ dial. *Style E* has a nickel-plated brass chuck and a gauge with a black rubber case. *Style F* has a chrome-plated steel chuck, an 11″ rubber hose, and a gauge with a painted steel case. *Style G* has a 6″ chrome-plated brass and zinc chuck, an 8″ PVC hose, and a gauge with a chrome-plated steel case. *Style H* has a nickel-plated brass chuck, an 8″ rubber hose, and a gauge with a painted steel case. It comes with a painted steel carrying case. Meets MIL-DTL-8348J Class B Size 1.

Styles J&K display pressure on an LCD. Battery is included. *Style J* has a chrome-plated brass chuck and a 10½″ rubber hose. *Style K* has a black ABS plastic body and chuck.

	Pressure Range psi	Pressure Range kPa	Numeric Increments, psi	Accuracy	O'all Lg.	Chuck		
A	5- 50	40- 350	1	±2 psi	6″	Angled, Single Head	**6723A92**	$6.31
A	10- 70	60- 500	2	±2 psi	6″	Angled, Single Head with Tread Depth Gauge	**6637A18**	8.04
A	20-120	120- 820	2	±2 psi	6″	Angled, Single Head	**6637A22**	7.00
B	5- 50	40- 350	1	±2 psi	6″	Straight, Single Head	**6638A26**	6.77
C	10-160	80-1,100	2	±2 psi	12¾″	Angled, Dual Head	**6637A24**	22.56
D	10-160	80-1,100	2	±2 psi	13¼″	Angled and Straight, Dual Head	**6637A66**	26.61
E	0- 15	0- 100	0.5	±3%	4¾″	Angled, Single Head	**6654A13**	24.58
E	0- 60	0- 400	2	±3%	4¾″	Angled, Single Head	**6654A11**	24.58
E	0-160	0-1,100	5	±3%	4¾″	Angled, Single Head	**6654A12**	24.58
F	5-160	———	1	±3%	16½″	Straight, Single Head	**6646A22**	16.67
G	0-300	———	5	±3%	17½″	Angled, Dual Head	**6643A23**	39.73
H	0-400	———	5	±2%	17″	Angled, Dual Head	**73395A69**	148.90
J	1-160	———	1	±1%	19½″	Angled and Straight, Dual Head	**6091A73**	34.84
K	3-100	———	0.5	±1%	5½″	Straight, Single Head	**6091A71**	12.33

Tire Inflator Gauges


With Nylon Indicator Bar

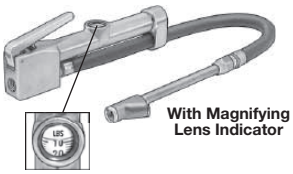
With Magnifying Lens Indicator

Strong enough to stand up to constant use, these lever-action gauges have a die cast zinc body and a rubber hose. Air inlet is ¼ NPT female.

6647A72 has a 15-ft. hose so you can inflate truck tires from a safe distance. It meets OSHA regulation No. 1910.177 for sidewall truck tires.

Pressure Range psi	Pressure Range kPa	Numeric Increments, psi	Hose Lg.	Chuck		
With Nylon Bar Indicator						
10-120	80-840	2	12″	Angled, Single Head	**6113A11**	$49.97
10-120	80-840	2	12″	Angled, Dual Head	**6113A12**	54.57
With Magnifying Lens Indicator						
10-160	———	2	15″	Angled, Single Head	**6647A32**	53.23
10-160	———	2	15″	Angled, Dual Head	**6647A34**	51.62
10-160	———	2	15″	Straight, Single Head	**6647A55**	54.19
10-160	———	2	15″	Angled and Straight, Dual Head	**6647A68**	57.46
10-160	———	2	15 ft.	Angled and Straight, Dual Head	**6647A72**	106.96

Air Chucks

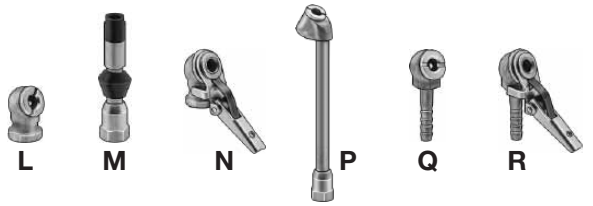

Chucks have all-metal construction and a maximum pressure of 150 psi.

Styles N and R have a clip that you can attach to the valve stem for hands-free filling.

	Connection Size	Chuck		
With NPT Female Air Inlet				
L	¼	Angled, Single Head	**6146A23**	$2.67
M	¼	Straight, Single Head	**6146A25**	10.11
N	¼	Angled, Locking Single Head	**6140A62**	7.87
P	¼	Angled, Dual Head	**6701A41**	9.22
With Barbed Air Inlet				
Q	For ¼″ Tube ID	Angled, Single Head	**6146A21**	3.88
Q	For ⅜″ Tube ID	Angled, Single Head	**6146A22**	4.17
R	For ¼″ Tube ID	Angled, Locking Single Head	**6140A61**	11.00

Compression Testers



Check engine compression to maintain top performance. Pressure range is 0-300 psi. Testers have a quick-release coupler between the hose and the gauge.

Dial tester displays pressure on a gauge with a 3″ dial that shows readings in psi, kg/cm^2, bar, and kPa. Accuracy is ±2%. It comes with a 15″ braided hose and a replacement valve core.

Digital tester displays pressure on an LED that shows readings in psi. Accuracy is ±1%. It comes with an 18″ rubber hose and a plastic case. Battery is included.

	For Engine Type	Included Adapters, mm		
Dial	Gasoline	14, 14 long reach	**6136A24**	$51.73
Digital	Gasoline, Diesel	12, 14 long reach	**6136A26**	69.73

Low-Pressure Differential Gauges



Measure small changes in air pressure. These gauges are commonly used to indicate clogged filters, monitor fans and blowers, and measure air velocity. Accuracy is ±2% full scale, unless noted. Max. pressure is 15 psi. Case is aluminum and lens is acrylic. Temperature range is 20° to 140° F. Gauges have two inlets and two outlets to fit various pipe configurations; they come with plugs for the unused ports. Connections are aluminum NPT female.

Gauges with NIST certificate come with a certificate of calibration traceable to NIST.

Accessory kit includes a case to carry your gauge, a mounting bracket, two pipe-to-tube adapters, and 9 feet of 3/16″ ID tubing.

Available Differential Pressure Ranges (inches of H_2O)

Pressure Range	Grad. Marks	Num. Inc.
Pressure Gauges		
0- 0.25★	0.005	0.05
0- 0.5■	0.01	0.1
0- 1	0.02	0.2
0- 2	0.05	0.25
0- 3	0.1	1
0- 4	0.1	1
0- 5	0.1	1
0- 6	0.2	1
0- 8	0.2	2
0-10	0.2	2
0-15	0.5	5
0-20	0.5	5
0-25	0.5	5
0-30	1	10
Pressure Gauges (Cont.)		
0- 40	1	5
0- 50	1	10
0- 80	2	20
0-100	2	20
0-150	5	50
Compound Gauges		
–0.05 to 0.2★	0.01	0.05
–0.25 to 0.25■	0.01	0.05
–0.5 to 0.5	0.02	0.1
–1 to 1	0.05	0.25
–5 to 5	0.2	1
–10 to 10	0.5	5
–15 to 15	1	5

★ Accuracy is ±4% full scale. ■ Accuracy is ±3% full scale.

To Order: Please specify pressure range from the chart.

	Dial Size	Pipe Size		
Standard	4″	1/8	**4021K11**	$76.42
With NIST Certificate	4″	1/8	**4021K71**	299.60
Accessory Kit			**4021K31**	58.38

Medium-Pressure Differential Gauges



Popular for use with natural gas, these gauges measure pressure differences in pipelines with a max. pressure of 1,500 psi. Also for use with water, hydraulic oil, and gasoline. Accuracy is ±2% full scale. Lens is acrylic. Temperature range is –40° to 150° F. All are CSA certified. Connections are NPT female.

Available Differential Pressure Ranges (psi)

Pressure Range	Grad. Marks	Num. Inc.
0-2	0.1	0.5
0-5	0.25	1
0-10	0.5	2
0-15	1	3

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Aluminum Case and Connections		Type 316 SS Case and Connections	
2 1/2″	1/4	**4028K1**	$259.62	**4028K4**	$532.76
4 1/2″	1/4	**4028K3**	288.46	**4028K6**	562.07

Color-Band Differential Pressure Indicators



Often used to indicate clogged filters, a band of green, yellow, and red provides a clear indication of changes in differential pressure. Accuracy is ±5% full scale. Case is glass-filled nylon and lens is acrylic. Max. pressure is 300 psi. Temperature range is –40° to 200° F. Size is 3 1/4″ Ht. × 3 1/4″ Lg. × 1 1/2″ Dp. Connections are NPT female.

Differential Pressure Ranges, psi Green	Yellow	Red	Pipe Size		
0- 2	2 - 2.5	2.5- 3.5	1/4	**2238K21**	$63.73
0- 3	3 - 4.5	4.5- 5	1/4	**2238K22**	63.73
0- 6	6 - 9	9 -12	1/4	**2238K24**	63.73
0- 7.5	7.5-12	12 -15	1/4	**2238K25**	63.73
0-13	13 -20	20 -30	1/4	**2238K27**	63.73
0-19.5	19.5-29.5	29.5-43	1/4	**2238K28**	63.73

High-Pressure Differential Gauges



Able to withstand line pressure up to 3,000 psi, these gauges are commonly used to monitor pressure changes in pumps and filters. Use with water, hydraulic oil, and gasoline. Accuracy is ±2% full scale. Lens is acrylic. Temperature range is –40° to 150° F. Gauges are CSA certified. Connections are NPT female.

Available Differential Pressure Ranges (psi)

Pressure Range	*2 1/2″ Dial* Grad. Marks	Num. Inc.	*4 1/2″ Dial* Grad. Marks	Num. Inc.
0- 10	0.5	2	0.5	2
0- 15	1	3	0.5	3
0- 20	1	5	1	5
0- 25	1	5	1	5
0- 30	2	10	1	10
0- 40	2.5	10	2	10
0- 50	2.5	10	2.5	10
0-100	5	20	5	20

To Order: Please specify pressure range from the chart.

Dial Size	Pipe Size	Aluminum Case and Connections		Type 316 SS Case and Connections	
2 1/2″	1/4	**4107K7**	$166.35	**4232K1**	$309.40
4 1/2″	1/4	**4107K5**	199.74	**4232K5**	336.75

U-Tube Manometers

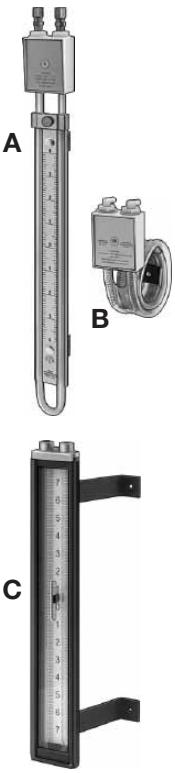

Measure pressure or differential pressure in your process. Manometers come with indicating liquid that moves up and down two columns—the difference in height between them is your pressure. Grad. marks are at 0.1″ H_2O and numeric increments are at 1″ H_2O. Accuracy is not rated.

Styles A and B have magnets for mounting so you can move them for use in multiple locations. *Style A* come with red indicating liquid with a specific gravity of 0.826. Max. pressure is 100 psi. *Style B* roll up for storage or transport. Indicating liquid is green and has a specific gravity of 1. Max. pressure is not rated.

Style C have brackets for wall mounting. Indicating liquid is green and has a specific gravity of 1. Max. pressure is 250 psi.

inches of H_2O Pressure Range	Scale Range	Ht.		
(A) With Compression Fittings for 1/4″ Tube OD				
0- 8	4-0- 4	20″	**3985K41**	$101.37
0-12	6-0- 6	25″	**3985K42**	102.00
0-16	8-0- 8	30″	**3985K13**	102.63
0-20	10-0-10	34″	**3985K14**	103.26
0-24	12-0-12	39″	**3985K15**	107.67
0-36	18-0-18	58″	**3985K17**	113.33
(B) With Barbed Fittings for 3/16″ Tube ID				
0- 8	4-0- 4	17″	**3986K11**	83.11
0-12	6-0- 6	21″	**3986K12**	91.93
0-16	8-0- 8	25″	**3986K13**	92.56
0-24	12-0-12	33″	**3986K14**	97.59
0-30	15-0-15	39″	**3986K15**	101.37
0-36	18-0-18	45″	**3986K16**	102.00
0-48	24-0-24	57″	**3986K17**	121.52
0-60	30-0-30	69″	**3986K18**	127.19
0-72	36-0-36	81″	**3986K19**	127.19
(C) With 1/4 NPT Female Connections				
0-10	5-0- 5	14″	**4044K32**	208.33
0-15	7-0- 7	18″	**4044K33**	225.83

Inclined-Scale Manometers



Easier to read than U-tube manometers, use these to measure pressure or velocity in air applications. Accuracy is ±3% full scale. Max. pressure is 10 psi. Manometers come with indicating liquid, 8 feet of tubing, and mounting hardware. Connections are barbed for 1/8″ ID tubing.

Range	*Indicating Liquid* Specific Gravity	Color	Ht.	Wd.		
For Air Pressure						
0-3 in. of H_2O	0.826	Red	6″	7 1/2″	**3974K1**	$42.05
0-7 in. of H_2O	1.91	Blue	6″	7 1/2″	**3974K2**	187.76
For Air Velocity						
0-7,000 ft./min.	0.826	Red	6″	7 1/2″	**3974K3**	149.12

Manometers & Pressure Transmitters

For information about pipe size, see pages 2-3.

Hand-Held Digital Manometers



Dual Scale

Check pressure, differential pressure, and vacuum on the go. Accuracy is ±0.5% full scale. All have a four-digit LCD. They operate on one 9-volt battery (included). Size is 6½″ Ht. x 2 13/16″ Wd. Connections are barbed.

Dual-scale manometers have two scales. Use with air and natural gas. 4125K21 and 4125K23 show readings in inches of H_2O or kPa; 4125K25 shows readings in psi or bar. FM approved as intrinsically safe for Class 1, Division 1, Groups A, B, C, and D; temperature code T4.

Multiscale manometers show readings in inches of H_2O, kPa, psi, inches of Hg, or millibars. Use with air. They store up to 40 readings and have overpressure alarms. CE approved.

Also Available: Manometers with a certificate of calibration traceable to NIST for an additional cost of $180.00. Please ask for 4125K71 and specify dual scale or multiscale and pressure range.

Pressure Range	Resolution	Max. psi	For Tube ID		
Dual Scale					
0- 20 in. of H_2O	0.01	10	1/8″-3/16″	**4125K21**	$238.00
0-200 in. of H_2O	0.1	30	1/8″-3/16″	**4125K23**	166.22
0- 30 psi	0.01	60	1/8″-3/16″	**4125K25**	166.22
Multiscale					
0- 20 in. of H_2O	0.01	10	1/8″-3/16″	**4125K41**	394.64
0-200 in. of H_2O	0.1	30	1/8″-3/16″	**4125K43**	327.86
0-553 in. of H_2O	0.01	60	1/8″-3/16″	**4125K46**	327.86
Optional Nylon Carrying Case				**4125K11**	52.57

Pressure Tubes for Manometers

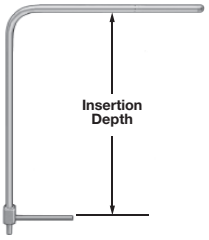

Also known as pitot tubes, use these with manometers and differential pressure gauges to measure air velocity. Tubes have inch graduation marks so you can monitor your insertion depth. Use in ducts with a minimum diameter of 10″.

For Tube ID	Insertion Depth		
5/16″	8 5/8″	**4039K17**	$81.03
5/16″	12 5/8″	**4039K11**	83.30
5/16″	18 5/8″	**4039K12**	89.53
5/16″	24 5/8″	**4039K13**	92.93

Pressure Sensors for Air Ducts

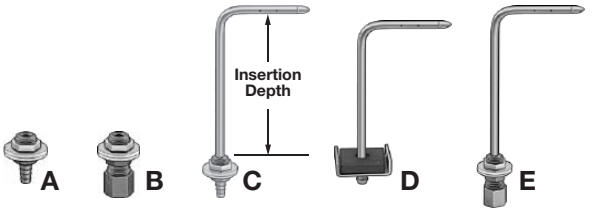

Use these sensors with differential pressure gauges, manometers, and pressure switches to measure the static pressure drop across air filters, cooling coils, and blowers in air-handling equipment. Install sensors in duct through a 3/8″ hole and connect to your gauge with tubing.

Sensors for high velocity have pressure tubes for more accurate measurements in applications with high air flow. *Style D* is held in place with a magnet so you can move it for use in multiple locations.

	Fitting	For Tube Size	Insertion Depth		
For Low Velocity					
A	Barbed	1/8″-3/16″ ID	—	**4077K56**	$4.65
B	Compression	1/4″ OD	—	**4077K55**	6.01
For High Velocity					
C	Barbed	1/8″-3/16″ ID	4″	**4077K52**	10.31
D	Barbed	3/16″ ID	3″	**4077K53**	11.28
E	Compression	1/4″ OD	4″	**4077K51**	11.22

Indicating Liquids for Manometers

Size	Specific Gravity	Color	Temp. Range		
Full-Strength Refills					
1 oz.	0.826	Red	–20° to 160°F	**3974K7**	$9.80
1 oz.	1.91	Blue	32° to 140°F	**3974K11**	135.02
7 oz.	1.75	Blue	30° to 110°F	**4037K26**	121.88
16 oz.	0.827	Red	35° to 125°F	**4037K21**	45.50
Concentrated Refills—Dilute with distilled water.					
1 oz.	1	Green	35° to 150°F	**3985K71**	14.28
15 oz.	1	Green	35° to 125°F	**4037K22**	69.00

About Pressure Transmitters

Pressure transmitters convert pressure to an electrical signal so you can monitor your application remotely. Also known as pressure sensors and pressure transducers, use them to control system automation or display pressure with a monitoring device (see panel monitors on page 1000). *Max. psi* is the maximum pressure a transmitter can withstand without damage.

Output Signal and Pressure

A transmitter's output signal increases as the application pressure increases. For example, the chart at right illustrates the changing output signal of a transmitter with a pressure range of 0-100 psi and an output signal of 4-20 mA. The transmitter produces a 4 mA signal at 0 psi, a 12 mA signal at 50 psi, and a 20 mA signal at 100 psi.

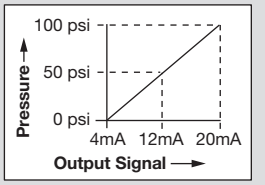

Pressure Transmitters



- Use with air, water, and hydraulic oil
- Pipe Connection: Type 316 stainless steel NPT male
- Accuracy: See below

Get remote pressure monitoring for automated applications—transmitters convert pressure to an electrical signal. They have screw terminals with a DIN electrical connection. Housing is stainless steel. Temperature range is 32° to 176°F. All are CE approved.

NIST-certified transmitters come with a certificate of calibration traceable to NIST.

High-Accuracy Transmitters—±0.5% Accuracy

Available Pressure Ranges (psi)

Pressure Range	Max. psi	Pressure Range	Max. psi	Pressure Range	Max. psi
0- 15	30	0- 200	400	0- 1,500	2,900
0- 25	60	0- 300	600	0- 3,000	6,000
0- 50	100	0- 500	1,000	0- 5,000	10,000
0- 60	100	0-1,000	1,740	0-10,000	17,400
0-100	200				

To Order: Please specify pressure range from the chart.

	Output Signal	DC Voltage	Pipe Size	Ht.		
Standard	4-20 mA	8-30	1/4	2 3/8″	**3196K5**	$147.71
Standard	0-10V DC	14-30	1/4	2 3/8″	**3196K2**	147.71
NIST Certified	4-20 mA	8-30	1/4	2 3/8″	**3196K7**	220.65
NIST Certified	0-10V DC	14-30	1/4	2 3/8″	**3196K9**	220.71

Ultra-High-Accuracy Transmitters—±0.25% Accuracy

Available Pressure Ranges (psi)

Pressure Range	Max. psi	Pressure Range	Max. psi	Pressure Range	Max. psi
0-10	58	0- 100	500	0- 1,500	2,900
0-15	72	0- 200	1,160	0- 3,000	7,200
0-25	145	0- 300	1,160	0- 5,000	11,600
0-50	240	0- 500	1,160	0-10,000	17,400
0-60	240	0-1,000	1,740		

To Order: Please specify pressure range from the chart.

	Output Signal	DC Voltage	Pipe Size	Ht.		
Standard	4-20 mA	10-30	1/2	3 1/4″	**3200K1**	$438.47
NIST Certified	4-20 mA	10-30	1/2	3 1/4″	**3200K3**	567.58

For information about pressure transmitters, see page 612. For information about pipe size, see pages 2-3.

Extended-Life Compact Pressure Transmitters

- Use with air, water, and hydraulic oil
- Pipe Connection: Type 316 stainless steel NPT male
- Accuracy: ±0.5%

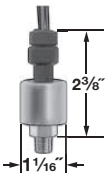

Designed to withstand vibration and shock for a long service life, these small transmitters also fit in tight spots. Housing is Type 316 stainless steel. Temperature range is –4° to 257° F. Transmitters have wire leads.

Available Pressure Ranges (psi)

Pressure Range	Max. psi	Pressure Range	Max. psi
0-15	75	0- 100	300
0-30	150	0- 200	600
0-50	250	0- 500	1,500
0-75	375	0-1,000	2,000

To Order: Please specify pressure range from the chart.

Output Signal	DC Voltage	Pipe Size		
0.5-4.5V DC	4-5.5	1/8	2388K11	$285.71
0.5-4.5V DC	4-5.5	1/4	2388K21	285.71

Washdown Vacuum and Pressure Transmitters

- Use with air, water, hydraulic oil, diesel fuel, and gasoline
- Pipe Connection: Type 316 stainless steel NPT male
- Accuracy: See below

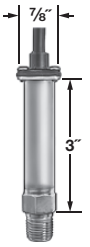

A NEMA 4X enclosure makes these transmitters washdown and corrosion resistant. Housing is 300 series stainless steel. Temperature range is –20° to 180° F. Transmitters have wire leads.

Available Vacuum/Pressure Ranges

Vacuum/ Pressure Range	Max. psi	Vacuum/ Pressure Range	Max. psi
Vacuum Transmitters		**Pressure Transmitters**	
30″ Hg to 0	60	0- 200 psi	400
Pressure Transmitters		0- 300 psi	600
0- 15 psi	30	0- 500 psi	1,000
0- 30 psi	60	0-1,000 psi	2,000
0- 60 psi	120	0-2,000 psi	4,000
0-100 psi	200	0-3,000 psi	4,500
0-150 psi	300	0-5,000 psi	7,500

To Order: Please specify vacuum or pressure range from the chart.

Output Signal	DC Voltage	Pipe Size		
With ±1% Accuracy				
4-20 mA	10-36	1/4	31685K7	$338.76
1-5V DC	10-36	1/4	31685K1	324.93
With ±0.5% Accuracy				
4-20 mA	10-36	1/4	31685K8♦	409.20
1-5V DC	10-36	1/4	31685K2♦	409.20

♦ Not available in 30″ Hg to 0, and 0-15, 0-30, 0-60, and 0-5,000 psi.

Ultra-High-Accuracy Vacuum and Compound Transmitters

- Use with air, water, hydraulic oil, diesel fuel, and gasoline
- Pipe Connection: Type 17-4 PH stainless steel NPT male
- Accuracy: ±0.25%



Often used in applications that require high accuracy, such as activating spray nozzles and vacuum pumps. Housing is Type 316 stainless steel. Temp. range is –5° to 180° F. Transmitters have wire leads. CE approved.

Available Vacuum/Pressure Ranges

Vacuum/Pressure Range, in. of Hg/psi	Max. psi
Vacuum Transmitters	
30″ Hg to 0/———	30
Compound Transmitters	
30″ Hg to 0/0- 15	60
30″ Hg to 0/0- 45	120
30″ Hg to 0/0-100	230

To Order: Please specify vacuum/pressure range from the chart.

Output Signal	DC Voltage	Pipe Size		
4-20 mA	7-35	1/4	3591K21	$455.19

Digital Pressure Transmitters

- Use with air, water, and hydraulic oil
- Pipe Connection: Type 316 stainless steel NPT female
- Accuracy: ±0.25%



Customize your process-control system. These transmitters can be set to send a signal at any pressure within the range; they do not require a HART communicator for operation. Use the test function, also known as a loop check, to verify the output signal.

Transmitters have an LCD for local readings; digit height is 3/8″. Housing is aluminum and diaphragm is Type 17-4 PH stainless steel. Enclosure is NEMA 4X (washdown/corrosion resistant). Environment temp. range is –4° to 158° F and process temp. range is 14° to 140° F. Transmitters have screw terminals and a 1/2 NPT female conduit port. CE approved.

Available Pressure Ranges (psi)

Pressure Range	Max. psi	Pressure Range	Max. psi
0-100	200	0-1,000	2,000
0-300	600	0-3,000	4,500

To Order: Please specify pressure range from the chart.

Output Signal	DC Voltage	Pipe Size		
4-20 mA	12-32	1/4	1803T2	$668.15

Differential Pressure Transmitters

- Use with air and water
- Pipe Connection: Type 17-4 PH stainless steel NPT female
- Accuracy: ±0.25%

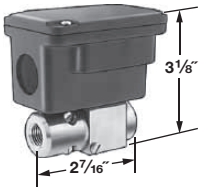

Monitor differential pressure from a distance. Housing is aluminum. Temp. range is –5° to 175° F. Enclosure is NEMA 4 (indoor/outdoor; washdown resistant). Transmitters have screw terminals and a 7/8″ dia. conduit port. They come with mounting hardware.

Available Differential Pressure Ranges (psi)

Pressure Range	Max. psi	Pressure Range	Max. psi
0-1	250	0-10	250
0-2	250	0-25	250
0-5	250	0-50	250

To Order: Please specify pressure range from the chart.

Output Signal	DC Voltage	Pipe Size		
0-5V DC	9-30	1/4	9917K6	$730.69
4-20 mA	9-30	1/4	9917K5	730.69

Dial-Indicating Differential Pressure Transmitters

- Use with air
- Pipe Connection: Aluminum NPT female
- Accuracy: See below



Popular for use in HVAC systems, these transmitters allow you to view differential pressure at the source and remotely. Housing is aluminum and lens is plastic. Temperature range is 20° to 120° F. Transmitters have screw terminals.

Available Differential Pressure Ranges

Pressure Range, in. of H_2O	Accuracy	Max. psi
0- 0.5	±3%	25
0- 1	±2%	25
0- 2	±2%	2
0- 3	±2%	2
0- 6	±2%	2
0-10	±2%	2
0-20	±2%	11
0-30	±2%	11

To Order: Please specify pressure range from the chart.

Output Signal	DC Voltage	Dial Size	Pipe Size		
4-20 mA	10-35	4″	1/8	38525K21	$362.11

Pressure Switches

For information about pipe size, see pages 2-3.

About Pressure Switches

Install a switch to automate controls or activate an alarm in your process. For information about electrical switches, see page 909.

Pressure switches operate based on pressure. When the pressure exceeds the actuation point, the switch is activated.

Differential pressure switches operate based on the difference between two pressure connections. When the differential pressure exceeds the actuation point, the switch is activated.

Follow these steps to select a switch for your application:

1. Determine your actuation point—the pressure at which the switch operates. Also known as the setpoint.
2. Determine your deactuation point—the pressure at which the switch resets.
3. Choose a switch with an **actuation range** that contains your actuation point. For best results, your actuation point should fall in the middle of the range.
4. Make sure the switch's **deactuation range** works with your deactuation point—subtract your deactuation point from your actuation point. The resulting value must fall within the deactuation range. Also known as deadband.

Example:

1. Actuation point = 100 psi
2. Deactuation point = 90 psi
3. In Extended-Life Pressure Switches (below), 4735K43 has an actuation range of 20 to 200 psi.
4. 100 psi – 90 psi = 10 psi, which falls in the deactuation range of 5 to 20 psi.

Compact Pressure Switches

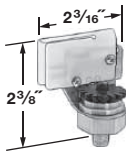

- Use with air, water, hydraulic oil, and diesel fuel
- Pipe Connection: Brass NPT male
- Amp Rating: 10 amps@125/250 volts AC

Activate controls from process lines in tight spaces. Switches are single pole, double throw (SPDT)—they switch one circuit. Accuracy is ±1 psi or ±5%, whichever value is greater. Housing is brass and seal is Buna-N. Temperature range is 0° to 225°F. Switches have spade terminals and are UL recognized.

Actuation Range, psi	Deactuation Range, psi	Max. psi	Pipe Size		
2- 10	0.3- 1.5	250	1/8	3460K21	$29.27
6- 30	0.9- 4.5	250	1/8	3460K41	29.27
20-120	3 -18	250	1/8	3460K61	29.27

Extended-Life Pressure Switches

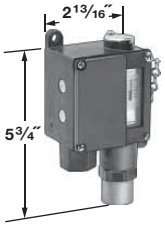

- Use with air, water, hydraulic oil, and diesel fuel
- Pipe Connection: Type 416 stainless steel NPT female
- Amp Rating: 10 amps@125/250/480 volts AC

Often used with hydraulic presses, compactors, and machine tools, a NEMA 13 enclosure protects these switches from dust and oil for a long service life in harsh environments. Switches are single pole, double throw (SPDT)—they switch one circuit. Accuracy is ±2%. Housing is aluminum and seal is Buna-N. Temperature range is –20° to 165°F. Switches have screw terminals and a ½ NPT female conduit port.

Actuation Range, psi	Deactuation Range, psi	Max. psi	Pipe Size		
20- 200	5- 20	200	1/4	4735K43	$415.28
75- 540	10- 35	540	1/4	4735K45	415.28
100-1,500	30-100	1,500	1/4	4735K46	405.56
235-3,400	60-300	3,400	1/4	4735K48	405.56
425-6,000	120-360	6,000	1/4	4735K49	405.56

High-Pressure Switches



- Use with: See table
- Pipe Connection: Brass NPT male
- Amp Rating: 5 amps@125/250 volts AC

Able to withstand at least 1,000 psi, these switches are often used in pump and hydraulic power applications. Switches are single pole, double throw (SPDT)—they switch one circuit. Accuracy is ±1.5%. Housing is aluminum. Environment temperature range is 0° to 160°F and process temperature range is 0° to 200°F. All are UL recognized, CSA certified, and CE approved.

Indoor switches have 1/4" quick-disconnect terminals. **Washdown switches** have wire leads.

For Air and Water—Switches have a Buna-N seal.

For Oxygen—Switches come cleaned and bagged. They have a fluoroelastomer seal.

Actuation Range, psi	Deactuation Range, psi	Max. psi	Pipe Size	Ht.		
For Air and Water						
Indoor Switches—NEMA 1 Enclosure						
4- 50	1- 6	1,000	1/8	2 3/4"	3427K81	$73.28
10- 150	2- 10	1,500	1/8	2 3/4"	3427K1	73.28
30- 600	8- 60	2,500	1/8	2 3/4"	3427K2	73.28
100-1,500	20-220	8,000	1/4	2 7/8"	3427K82	73.28
180-3,000	50-400	8,000	1/4	2 7/8"	3427K3	73.28
400-4,700	100-600	8,000	1/4	2 7/8"	3427K83	73.28
4,000-7,500	400-950	10,000	1/4	2 7/8"	3427K84	73.28
Washdown Switches—NEMA 4 Enclosure						
4- 50	1- 6	1,000	1/8	2 7/8"	3427K85	81.14
10- 150	2- 10	1,500	1/8	2 7/8"	3427K4	81.14
30- 600	8- 60	2,500	1/8	2 7/8"	3427K5	81.14
100-1,500	20-220	8,000	1/4	3"	3427K86	81.14
180-3,000	50-400	8,000	1/4	3"	3427K6	81.14
400-4,700	100-600	8,000	1/4	3"	3427K87	81.14
4,000-7,500	400-950	10,000	1/4	3"	3427K88	81.14
For Oxygen						
Washdown Switches—NEMA 4 Enclosure						
4- 50	1- 6	1,000	1/8	2 7/8"	3427K12	140.57
10- 150	2- 10	1,500	1/8	2 7/8"	3427K14	140.57
30- 600	8- 60	2,500	1/8	2 7/8"	3427K16	140.57

Washdown Pressure Switches

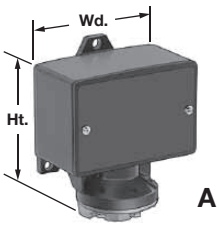

A



B

- Use with air, water, hydraulic oil, gasoline, and diesel fuel
- Pipe Connection: Type 316 stainless steel NPT female
- Amp Rating: 15 amps@125/250/480 volts AC

A NEMA 4X enclosure provides protection from washdowns and splashing water. Switches are single pole, double throw (SPDT). Accuracy is ±1%. Housing is aluminum and seal is fluoroelastomer. Environment temperature range is –20° to 150°F and process temperature range is 20° to 300°F. Switches have screw terminals and a 3/4 NPT female conduit port. They're UL listed and CE approved.

(A) Switches with one actuation point switch one circuit.

(B) Switch with two actuation points has two switches so you can switch two circuits.

Actuation Range	Deactuation Range	Max. psi	Pipe Size	Ht.	Wd.		
(A) With One Actuation Point							
4.5-30 in. of H_2O	2.1-3.5 in. of H_2O	20	1/4	5 1/8"	4"	46025K51	$299.38
2.25- 15 psi	0.7- 2.1 psi	500	1/4	5 1/8"	4"	46025K55	172.97
4.5 - 30 psi	0.7- 2.1 psi	500	1/4	5 1/8"	4"	46025K56	172.97
9 - 60 psi	1.4- 4.9 psi	500	1/4	5 1/8"	4"	46025K57	172.97
15 - 100 psi	2.1- 7 psi	1,000	1/4	5 1/8"	4"	46025K58	172.97
30 - 200 psi	7 - 18.2 psi	1,000	1/4	5 1/8"	4"	46025K59	172.97
60 - 400 psi	7 - 33.6 psi	2,400	1/4	5 1/8"	4"	46025K81	172.97
150 -1,000 psi	42 -154 psi	12,000	1/4	5 1/8"	4"	46025K83	224.77
(B) With Two Actuation Points							
4.5-30 in. of H_2O	2.9-6.8 in. of H_2O	20	1/4	4"	4 1/8"	46025K62	443.57

For information about pressure switches, see page 614. For information about pipe size, see pages 2-3.

Hazardous-Location Pressure Switches

- Use with air, water, hydraulic oil, gasoline, diesel fuel, and natural gas
- Pipe Connection: Type 316 SS NPT female
- Amp Rating: 5 amps@125/250 volts AC

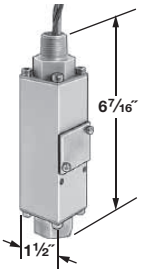

Built for use in hazardous locations, enclosure is rated NEMA 7 for Class I, Divisions 1 and 2, Groups A, B, C, and D. Switches are single pole, double throw (SPDT)—they switch one circuit. Accuracy is ±1%. Housing is aluminum and seal is Type 316 stainless steel. Environment temp. range is –20° to 150°F and process temp. range is 0° to 200°F. Switches have wire leads and a ½ NPT male conduit port. All are UL listed, CSA certified, and CE approved.

Actuation Range, psi	Deactuation Range, psi	Max. psi	Pipe Size		
6- 30	0.5- 3.5	1,000	½	46985K61	$416.05
12- 60	0.5- 4	1,000	½	46985K62	416.05
20-100	1 - 6	1,000	½	46985K63	416.05
40-200	1 -12	1,000	½	46985K64	416.05
80-400	2 -20	1,600	½	46985K65	416.05

Nonadjustable Pressure Switches

- Use with air, water, hydraulic oil, and diesel fuel
- Pipe Connection: Brass ⅛ NPT male
- Amp Rating: 10 amps @125/250 volts AC



This switch comes set at your actuation point to prevent unintentional changes. It is single pole, double throw (SPDT)—it switches one circuit. Accuracy is ±1 psi or 5%, whichever value is greater. Housing is brass and seal is Buna-N. Max. pressure is 2,000 psi. Temperature range is 0° to 225°F. Enclosure is NEMA 4 (indoor/outdoor; washdown resistant) and NEMA 13 (dust/oil resistant). Switches have #8-32 screw terminals. UL recognized.

To Order: Please specify actuation point from 10 to 300 psi in 5 psi increments. The deactuation point comes set at approximately 15% below the actuation point.

3454K1					$52.62

High-Temperature Pressure Switches

- Use with air, hydraulic oil, and water
- Pipe Connection: Type 316 SS NPT female
- Amp Rating: 15 amps@125/250/480 volts AC



Withstand process temperatures up to 300°F. Switches are single pole, double throw (SPDT)—they switch one circuit. Accuracy is ±1.5%. Housing is epoxy-coated aluminum and seal is Type 316 stainless steel. Environment temp. range is –40° to 160°F and process temp. range is –70° to 300°F. Enclosure is NEMA 4X (washdown/corrosion resistant). Switches have screw terminals and a ½ NPT female conduit port. They're UL and C-UL listed, and CE approved.

Actuation Range, psi	Deactuation Range, psi	Max. psi	Pipe Size		
5- 30	1- 3	1,500	½	47515K71	$190.59
10- 100	1- 8	1,500	½	47515K72	190.59
15- 300	3- 18	1,500	½	47515K73	190.59
20- 500	4- 30	1,500	½	47515K74	190.59
80-1,700	5-120	2,000	½	47515K75	190.59

Digital Pressure Switches

- Use with air, water, and hydraulic oil
- Pipe Connection: Type 316 SS NPT male
- Amp Rating: 10 amps@250 volts AC



Install a switch that provides pressure readings at the source of your application. Set the LED to show your pressure, actuation point, or deactuation point. Digit height is ½″. Accuracy is ±0.5%. Switches are single pole, double throw (SPDT)—they switch one circuit.

Housing is epoxy-coated aluminum and seal is Type 17-4 PH stainless steel. Temperature range is –20° to 180°F. Enclosure is NEMA 4X (washdown/corrosion resistant). Switches have screw terminals and a ¾ NPT female conduit port. Operate on 110 VAC, 50/60 Hz.

Actuation Range, psi	Deactuation Range, psi	Max. psi	Pipe Size		
3- 60	0.03- 57	120	¼	7564T11	$713.68
5- 100	0.05- 95	200	¼	7564T12	713.68
10- 200	0.1 - 190	400	¼	7564T13	713.68
150-3,000	1.5 -2,850	4,500	¼	7564T19	713.68

Ultra-Low-Pressure Switches

- Use with air, water, hydraulic oil, and diesel fuel
- Pipe Connection: Type 304 SS NPT female
- Amp Rating: 10 amps@125/250 volts AC

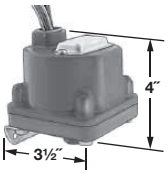

Sensitive to low pressures, these are often used in heating and ventilation systems. Switches are single pole, double throw (SPDT)—they switch one circuit. Accuracy is ±0.5%. Housing is aluminum and seal is Type 17-7 PH stainless steel. Temp. range is –65° to 165°F. Enclosure is NEMA 4 (indoor/outdoor; washdown resistant). Switches have wire leads and a ½ NPS female conduit port.

Actuation Range, psi	Deactuation Range, psi	Max. psi	Pipe Size		
0.018- 1.7	0.02-0.05	3	¼	5004K51	$219.44
0.03 - 3	0.07-0.15	10	¼	5004K52	219.44
0.4 -18	0.12-0.26	60	¼	5004K53	219.44

Well Water Pump and Air Compressor Pressure Switches

- Use with: See table
- Pipe Connection: Steel NPT female
- Amp Rating: See table

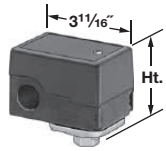

Standard

Meet pressure and electrical requirements of well water pumps and air compressors. Switches are double pole, single throw, and normally closed (DPST-NC)—they switch two circuits from "on" to "off." Accuracy is ±5%. Seal is rubber-coated nylon. Environment temperature range is –30° to 160°F and process temp. range is –30° to 212°F. Max. pressure is 200 psi. Switches have screw terminals and a port for ½″ conduit. UL listed and CSA certified.

Switches with air exhaust have a valve so you can release the compressed air after use.

Actuation Range, psi	Deactuation Range, psi	Amps@ 120/240 Volts AC	Pipe Size	Ht.		
For Well Water Pumps— Polycarbonate Housing						
Standard						
1- 12	3- 5	24/34	¼	3 3/16″	41535K98	$57.86
3- 35	6-15	24/34	¼	3 3/16″	41535K96	57.86
5- 65	15-30	24/24	¼	3 3/16″	41535K93	36.43
5- 80	15-30	24/34	¼	3 3/16″	41535K94	51.43
For Air Compressors— Polycarbonate Housing						
Standard						
60-110	15-25	24/24	¼	3 1/4″	4154K612	41.43
50-145	25-33	24/24	¼	3 1/4″	4154K616	41.43
With Air Exhaust						
60-110	15-25	24/24	¼	3 1/4″	4154K622	47.86
50-145	25-33	24/24	¼	3 1/4″	4154K626	47.86
With Air Exhaust and Manual Switch						
60-110	15-25	24/24	¼	3 1/4″	4154K242	48.57
50-145	25-33	24/24	¼	3 1/4″	4154K246	48.57
For Air Compressors— Steel Housing						
Standard						
10-125	20-35	35/24	⅜	4 1/16″	4154K825	139.29
40-250	35-60	35/24	⅜	4 1/16″	4154K811	139.29
With Air Exhaust						
10-125	20-35	35/24	⅜	4 1/16″	4154K265	167.14
40-250	35-60	35/24	⅜	4 1/16″	4154K261	167.14

Miniature Digital Pressure Switches

- Use with air, argon, and nitrogen
- Connection: Nickel-plated brass
- Amp Rating: 80 mA@28 volts DC

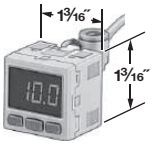

Small enough to fit in tight spaces, use these switches with your programmable logic controller (PLC) for process automation. Set the LCD to show your pressure, actuation point, or deactuation point. Digit height is ⅜″. Accuracy is ±0.2%. Housing is PBT plastic (polybutylene terephthalate) and seal is nitrile. Temperature range is 32° to 122°F. Switches have wire leads. Operate on 12-24 VDC. For information about NPN and PNP switches, see page 947.

Optional panel-mount bracket fits a 1 7/32″×1 7/32″ cutout.

Actuation Range, psi	Deactuation Range, psi	Max. psi	PLC Output Signal		
With ⅛ NPT Male Connection					
0-145	1-145	215	NPN	3167K13	$119.74
0-145	1-145	215	PNP	3167K14	119.74
With Push-to-Connect Fitting for ¼″ Tube OD					
0-145	1-145	215	NPN	3167K15	119.74
0-145	1-145	215	PNP	3167K16	119.74
Optional Panel-Mount Bracket				3167K91	4.09

Pressure Switches

For information about pressure switches, see page 614. For information about pipe size, see pages 2-3.

Vacuum and Pressure Switches

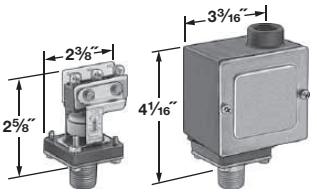

- Use with: See table
- Pipe Connection: NPT male
  For Vacuum:
  Nickel-plated aluminum
  For Air, Water, Hydraulic Oil, and Diesel Fuel: Brass
- Amp Rating:
  10 amps@125/250 volts AC

Switches are single pole, double throw (SPDT)—they switch one circuit. Accuracy is ±2%. Seal is Buna-N. Temperature range is –20° to 165°F. All are CSA certified.

Indoor switches have screw terminals. Components are UL recognized. **Washdown switches** have an aluminum housing, screw terminals, and a ½ NPT female conduit port. Switches are UL listed.

Actuation Range	Deactuation Range	Max. Pressure	Pipe Size		
For Vacuum					
Indoor Switches—NEMA 1 Rated					
30″-0.5″ Hg	0.3″-2.5″ Hg	30″ Hg	½	**40925K91**	$113.75
For Air, Water, Hydraulic Oil, and Diesel Fuel					
Indoor Switches—NEMA 1 Rated					
0.5- 15 psi	0.1- 1.2 psi	15 psi	½	**40925K92**	91.25
3 - 90 psi	0.5- 8 psi	90 psi	½	**40925K93**	91.25
10 -250 psi	1 -20 psi	250 psi	½	**40925K94**	91.25
Washdown Switches—NEMA 4 Enclosure					
0.5- 15 psi	0.1- 1.2 psi	15 psi	½	**40925K11**	131.25
3 - 90 psi	0.5- 8 psi	90 psi	½	**40925K12**	131.25

Vibration-Resistant Vacuum and Pressure Switches

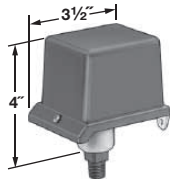

- Use with: See table
- Pipe Connection: Aluminum NPT male
- Amp Rating:
  15 amps@125/250/480 volts AC

Avoid false switch activation caused by vibration. Switches are single pole, double throw (SPDT)—they switch one circuit. Accuracy is ±1%. Housing is polycarbonate and seal is Buna-N. Environment temp. range is 0° to 160°F and process temp. range is 0° to 200°F. Enclosure is NEMA 1 (indoor only). Switches have screw terminals and a ⅞″ conduit port. All are UL listed and CE approved.

Actuation Range	Deactuation Range	Max. Pressure	Pipe Size		
For Vacuum					
30″-0″ Hg	3.5″-1″ Hg	30″ Hg	¼	**4779K11**	$136.00
For Air and Petroleum-Based Hydraulic Oil					
3- 30 psi	0.4-1.3 psi	50 psi	¼	**4779K22**	136.00
10-100 psi	1 -2.5 psi	200 psi	¼	**4779K23**	136.00
30-300 psi	1.3-4 psi	400 psi	¼	**4779K24**	136.00

Vacuum and Pressure Switches with On/Off Indicator

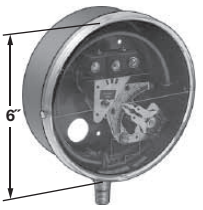

- Use with: See table
- Pipe Connection: Brass NPT male
- Amp Rating: 10 amps@120/240 volts AC

A clear polycarbonate lens allows you to see if the switch is on or off. Switches are single pole, double throw (SPDT)—they switch one circuit. Accuracy is ±1%. Housing is steel and seal is brass. Temperature range is 32° to 180°F. Enclosure is NEMA 1 (indoor only). Switches have screw terminals and a ½″ conduit port. All are UL listed and CSA certified.

Actuation Range	Deactuation Range	Max. Pressure	Pipe Size		
For Vacuum					
30″-0″ Hg	30″-13.5″ Hg	30″ Hg	¼	**4941K51**	$390.16
For Air, Water, Hydraulic Oil, Gasoline, and Diesel Fuel					
0.125-15 psi	6 - 15 psi	15 psi	¼	**4941K52**	390.16
2- 60 psi	9 - 60 psi	60 psi	¼	**4941K53**	390.16
5-100 psi	13.5-100 psi	100 psi	¼	**4941K54**	390.16
5-150 psi	24 -150 psi	150 psi	¼	**4941K55**	390.16
10-200 psi	24 -200 psi	200 psi	¼	**4941K56**	431.41
10-300 psi	37.5-300 psi	300 psi	¼	**4941K57**	431.41

Easy-Adjust Vacuum and Pressure Switches

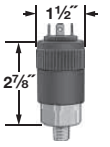

- Use with: See table
- Pipe Connection: Brass NPT male
- Amp Rating: 5 amps@125/250 volts AC

Change your actuation point with a twist of the outer ring. Switches are single pole, double throw (SPDT)—they switch one circuit. Accuracy is ±2%. Housing is brass and polysulfone. Seal is Buna-N. Temperature range is 0° to 165°F.

Indoor switches have ¼″ quick-disconnect terminals. Components are UL recognized. **Washdown switches** have wire leads and are UL listed.

Actuation Range	Deactuation Range	Max. Pressure	Pipe Size		
For Vacuum					
Indoor Switches—NEMA 1 Enclosure					
30″-1″ Hg	8″-0.5″ Hg	30″ Hg	¼	**46995K33**	$92.00
Washdown Switches—NEMA 4 Enclosure					
30″-1″ Hg	8″-0.5″ Hg	30″ Hg	¼	**46995K34**	113.85
For Air, Water, Hydraulic Oil, and Diesel Fuel					
Indoor Switches—NEMA 1 Enclosure					
2.5- 15 psi	0.3- 3 psi	1,000 psi	¼	**46995K8**	97.50
5 - 35 psi	0.5- 6 psi	1,000 psi	¼	**46995K13**	97.50
8.5- 50 psi	0.5- 8 psi	1,000 psi	¼	**46995K15**	97.50
22.5-125 psi	1 -15 psi	1,000 psi	¼	**46995K17**	97.50
70 -250 psi	5 -40 psi	1,000 psi	¼	**46995K21**	97.50
110 -500 psi	10 -75 psi	1,000 psi	¼	**46995K23**	97.50
Washdown Switches—NEMA 4 Enclosure					
2.5- 15 psi	0.3- 3 psi	1,000 psi	¼	**46995K98**	121.25
5 - 35 psi	0.5- 6 psi	1,000 psi	¼	**46995K14**	121.25
8.5- 50 psi	0.5- 8 psi	1,000 psi	¼	**46995K16**	121.25
22.5-125 psi	1 -15 psi	1,000 psi	¼	**46995K18**	121.25
70 -250 psi	5 -40 psi	1,000 psi	¼	**46995K22**	121.25
110 -500 psi	10 -75 psi	1,000 psi	¼	**46995K24**	121.25

Differential Pressure Switches

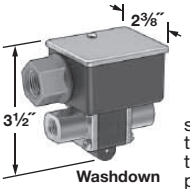

- Use with air, water, and petroleum-based hydraulic oil
- Pipe Connection: Brass NPT female
- Amp Rating: 5 amps@125/250 volts AC

Switch a circuit based on the difference in pressure between two process lines. Switches have two pressure connections; they operate when the pressure differential exceeds your actuation point. Often used to indicate clogged filters.

Switches are single pole, double throw (SPDT)—they switch one circuit. Accuracy is ±1%. Housing is polyester and 300 series stainless steel. Seal is Buna-N. Environment temp. range is 30° to 160°F and process temp. range is 0° to 200°F. Switches have screw terminals and a ⅞″ conduit port. All are UL listed, C-UL listed, and CE approved.

Actuation Range, psi	Deactuation Point, psi	Max. psi	Pipe Size		
Indoor Switches—NEMA 1 Enclosure					
1-10	0.75	150	¼	**46845K71**	$120.00
4-45	1	150	¼	**46845K72**	120.00
Washdown Switches—NEMA 4 Enclosure					
1-10	0.75	150	¼	**46845K81**	142.86
4-45	1	150	¼	**46845K82**	142.86

Low Differential Pressure Switches

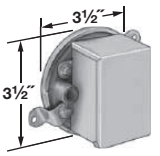

- Use with air
- Pipe Connection: Aluminum NPT female
- Amp Rating: 15 amps @ 120/240/480 volts AC

Often used with ovens, dryers, and HVAC systems, these measure in inches of H_2O for activation based on small pressure differences. Switches are single pole, double throw (SPDT)—they switch one circuit. Accuracy is ±3%. Housing is zinc-plated steel and seal is silicone. Temp. range is –30° to 180°F. Switches have screw terminals and a ⅞″ conduit port. They're UL listed, CSA certified, and FM and CE approved.

Actuation Range, in. of H_2O	Deactuation Point, in. of H_2O	Max. in. of H_2O	Pipe Size		
0.07″- 0.15″	0.04″	45″	⅛	**40915K54**	$52.35
0.15″- 0.55″	0.1″	45″	⅛	**40915K56**	49.38
0.4″ - 1.6″	0.16″	45″	⅛	**40915K61**	49.38
1.4″ - 5.5″	0.3″	45″	⅛	**40915K62**	49.38
3″ -11.75″	0.4″	45″	⅛	**40915K63**	49.38
4″ -20″	0.5″	45″	⅛	**40915K65**	49.38

For information about pressure switches, see page 614. For information about pipe size, see pages 2-3.

Dial-Indicating Differential Pressure Switches



- Use with air, water, and hydraulic oil
- Pipe Connection: Brass NPT female
- Amp Rating: 0.25 amps @ 120 volts AC

A gauge and switch in one, install one of these to view measurements at the source of your application. They activate based on the difference in pressure between two process lines. Switches are single pole, double throw (SPDT)—they switch one circuit. Accuracy is ±2%. Housing is brass, seal is Buna-N, and lens is glass. Temperature range is –40° to 176°F. Enclosure is NEMA 4X (washdown/corrosion resistant). Switches have screw terminals and a 1/2 NPT female conduit port. They are CSA certified.

Actuation Range, psi	Deactuation Point, psi	Max. psi	Pipe Size		
3-15	3	5,000	1/4	40945K81	$327.12
6-30	6	5,000	1/4	40945K82	327.12
10-50	10	5,000	1/4	40945K83	327.12

Easy-Grip Pressure Testers

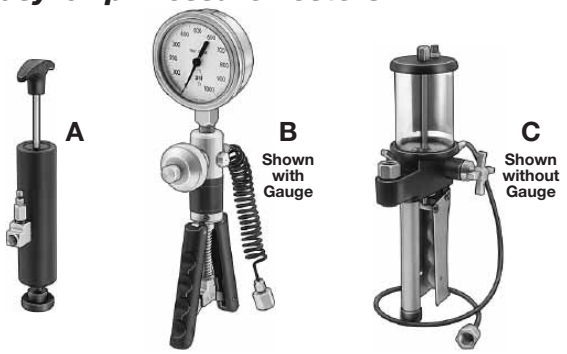

Test your gauges and other pressure-sensing equipment. All testers have adjustable pressure control. Housing is stainless steel and plastic and seal is Buna-N. Connection is NPT female.

Styles A and B use air to test pressure. They have an air exhaust to vent after use.

Style C uses hydraulic oil to test pressure. They have a polycarbonate reservoir for test fluids.

Testers with gauge can also be used for calibration. Accuracy is ±0.5%. They have a swivel fitting so you can rotate the gauge.

	Max. psi Tester	Max. psi Gauge	Pipe Size		
Without Gauge					
A	200	—	1/8	3363K22	$463.62
B	580	—	1/4	40135K11	576.49
C	3,000	—	1/4	40135K31	461.19
With Gauge					
B	30	30	1/4	40135K51	690.36
B	580	100	1/4	40135K52	690.36
B	580	200	1/4	40135K53	690.36
C	3,000	1,000	1/4	40135K54	575.06
C	3,000	2,000	1/4	40135K55	575.06
C	3,000	3,000	1/4	40135K56	575.06

Pressure Chart Recorders



Measure and record pressure in critical gas and liquid applications to troubleshoot system problems and track important process parameters. Accuracy is ±2%. Temperature range is –22° to 122°F. Recorders operate on one AA battery (included) and come with a red pen. Enclosure is NEMA 4X (washdown/corrosion resistant). Pipe connection is brass 1/4 NPT male. Charts are not included (sold separately below).

Recorders with a 4″ chart diameter can be set for 24 hour or 7 day recording speed. Response time is 1 second. Case is PBT plastic (polybutylene terephthalate) and has a 3/8″ dia. mounting hole. Size is 6 1/4″ Ht. × 6″ Wd. × 2 7/8″ Dp.

Recorders with a 8″ chart diameter have a response time of 5 seconds. Case is plastic and has two 3/8″ dia. keyhole slots for mounting. Size is 10 5/16″ Ht. × 9 1/2″ Wd. × 3 19/32″ Dp.

Pressure Range, psi	Recorders		Charts (Pkg. of 60) 24 Hour		7 Day	
With 4″ Chart Diameter—24 Hour and 7 Day Recording Speeds						
0- 100	4069K75	$486.42	4069K131		4069K141	$48.75
0- 200	4069K76	486.42	4069K133		4069K143	48.75
0- 300	4069K77	486.42	4069K136		4069K146	48.75
0- 500	4069K78	486.42	4069K137		4069K147	48.75
With 8″ Chart Diameter—24 Hour Recording Speed						
0- 200	38045K212	681.42	38045K623		—	48.75
0-1,000	38045K3	721.26	38045K625		—	48.75
With 8″ Chart Diameter—7 Day Recording Speed						
0- 200	38045K211	681.42	—		38045K723	48.75
Replacement Red Pen					4069K98	10.62

Washdown Pressure Data Loggers with Digital Display



Track and store pressure measurements in air and water applications. These loggers save up to 64,000 data samples that you can upload to your PC. Enclosure is IP68 rated for protection against prolonged water submersion. The LCD shows pressure for local readings; digit height is 9/16″. Operates on one DL123 lithium battery (included).

Sampling interval is 1 second to 24 hours; response time is 45 seconds. Use the USB connection or a flash drive to upload data.

Housing and lens are polycarbonate. Temperature range is –4° to 158°F. Size is 3 3/8″ Dia. × 2 13/16″ Ht. Pipe connection is Type 316 stainless steel NPT male.

Software is compatible with Windows 98 or better and must be used with a PC that has a USB port and CD-ROM drive. It can be used with more than one logger.

Pressure Range, psi	Resolution, psi	Pipe Size		
0-100	0.1	1/4	3053K21	$540.58
0-300	0.1	1/4	3053K22	540.58
0-500	0.1	1/4	3053K23	648.92
Software and Download Cable			3053K91	99.74

Pressure-Recording Film

Create an instant, permanent image of pressure variation. Place film between any two contacting surfaces and apply pressure. Commonly used to measure pressing forces in bolted joints, welding fixtures, and jigs.

For Low Pressure—Film produces a grayscale image. Accuracy and resolution are not rated. Temperature range is 0° to 150°F. Film cannot be cut.

For Medium Pressure—Film produces a color image. Accuracy is ±10% and resolution is 5-15 microns. Temperature range is 41° to 95°F. Film can be cut. Use the *color chart* (sold separately) to determine the magnitude of pressure measurements.

Sample pack includes one 3″ × 4″ piece of film for each of the five pressure ranges and a color chart.

Pressure Range, psi	10 5/8″ × 12″		10 5/8″ × 24″		10 5/8″ × 36″	
For Low Pressure						
					11″ × 17″	
0.020″ Thick						
2-20					3145K22	$21.35
For Medium Pressure						
0.008″ Thick ★						
28- 85	31705K631	$83.85	31705K632	$167.69	31705K633	$251.54
70- 350	31705K641	68.64	31705K642	137.27	31705K643	205.91
350- 1,400	31705K651	35.63	31705K652	71.25	31705K653	106.88
0.004″ Thick						
1,400- 7,100	31705K661	35.63	31705K662	71.25	31705K663	106.88
7,100-18,500	31705K671	35.63	31705K672	71.25	31705K673	106.88
Color Chart					31705K711	5.00
Sample Pack					31705K16	60.24

★ Includes two 0.004″ thick sheets of film that must be used together.

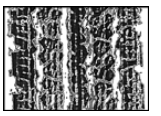

Tire Tread Pressure Distribution

Temperature-Indicating Labels



Horizontal

Continuously monitor surface-temperature changes. The temperature windows instantly turn from black to green when surface temperature reaches the temperature points. They return to black when the surface cools. Labels are self-adhesive and have °F/°C markings. Store in a cool, dry place below 64° F with less than 50% humidity.

Temp. Range, °F	Grads., °F	Accuracy, °F		Pkg. of 10
Horizontal, 7 Temp. Points—½″ Ht. x 1¾″ Wd.				
-22° to 32°	9°	±1.8°	59535K11	$12.16
32° to 86°	9°	±1.8°	59535K12	12.16
86° to 140°	9°	±3.6°	59535K13	12.16
140° to 194°	9°	±3.6°	59535K14	12.16
194° to 248°	9°	±5.4°	59535K15	12.16

Temp. Range, °F	Grads., °F	Accuracy, °F		Pkg. of 10
Vertical, 16 Temp. Points—5″ Ht. x ½″ Wd.				
26° to 56°	2°	±1.8°	59485K21	$16.64
58° to 88°	2°	±1.8°	59485K22	16.64
77° to 212°	9°	±3.6°	59485K26	16.64
90° to 120°	2°	±1.8°	59485K23	16.64
122° to 152°	2°	±3.6°	59485K24	16.64
154° to 184°	2°	±3.6°	59485K25	16.64

Temperature-Indicating "Hot" Labels



These self-adhesive labels indicate when pipes, ovens, and other machinery are too hot to touch. When your surface heats to the temperature point, these labels display a colored graphic with the message "hot." When the surface cools, the graphic and message disappear. Accuracy is ±4° F. Store in a dry place at 70° F with less than 50% humidity. Shelf life is one year from date of shipment.

Temp. Point, °F	Dia.	Pkg. Qty.		Pkg.
Yellow with Red Message				
122	1½″	10	83375T83	$11.15
Red with Black Message				
158	1½″	4	83375T82	6.69

One-Time-Use Single-Point Temperature-Indicating Labels



See at a glance whether inventory has been exposed to high temperatures during shipping and storage. The window on these self-adhesive labels permanently turns to black when your surface heats to the temperature point. Labels are ½″ Ht. x ½″ Wd. They have °F/°C markings. Accuracy is ±2%. Store in a cool, dry place below 64° F with less than 50% humidity. Comes on a sheet of 21 labels.

Choose a Temp. Point, °F		
100, 110, 120, 130, 140, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 400, 500	5952K21	$15.02

One-Time-Use Single-Point Low-Temperature-Indicating Labels



Often used with cold-sensitive chemicals, paints, and electronics, these labels have a window that permanently turns red when your surface's temperature drops to the temperature point. Labels are 11/16″ Ht. x 1⅜″ Wd. They are self-adhesive and have °F/°C markings. Accuracy is ±3.6° F. Store in a cool, dry place below 64° F with less than 50% humidity.

Choose a Temp. Point, °F		Pkg. of 2
32, 36, 41, 50	4655K811	$16.49

One-Time-Use Multiple-Point Temperature-Indicating Labels

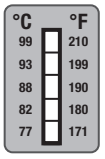

A,D,G-J

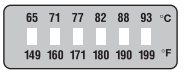

B&F

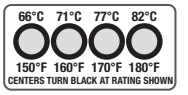

C


E

Record incremental temperature changes. The windows on these labels permanently turn black when the temperature reaches each temperature point. Labels are self-adhesive and have °F/°C markings. Accuracy is ±3%. Store in a cool, dry place below 64° F with less than 50% humidity.

Temp. Points, °F		Pkg. of 5
(A) 3 Temp. Points—1″ Ht. x ⅝″ Wd.		
129, 140, 149	5955K26 ★	$12.40
160, 171, 180	5955K27 ★	12.40
190, 199, 210	5955K28 ★	12.40
219, 230, 241	5955K29 ★	12.40
250, 261, 270	5955K31 ★	12.40
280, 289, 300	5955K32 ★	12.40
309, 320, 331	5955K33 ★	12.40
340, 350, 360	5955K34 ★	12.40
370, 379, 390	5955K35 ★	12.40
399, 410, 421	5955K36 ★	12.40
435, 450, 466	5955K37 ★	12.40
480, 489, 500	5955K38 ★	12.40
(B) 3 Temp. Points—½″ Ht. x 1¾″ Wd.		
150, 160, 180	5955K42 ★	11.42
(C) 4 Temp. Points—⅞″ Ht. x 1¾″ Wd.		
100, 110, 120, 130	5951K53 ★	39.36
100, 125, 150, 175	5951K41	9.80
100, 150, 200, 250	5951K51	9.80
120, 130, 140, 150	5951K54 ★	39.36
125, 150, 170, 200	5951K42	9.80
130, 140, 150, 160	5951K55 ★	39.36
140, 150, 160, 170	5951K25	9.80
150, 160, 170, 180	5951K26	9.80
150, 175, 200, 225	5951K43	9.80
150, 200, 250, 300	5951K52	9.80
160, 170, 180, 190	5951K27	9.80
170, 180, 190, 200	5951K28	9.80
175, 200, 225, 250	5951K44	9.80
180, 190, 200, 210	5951K29	9.80

★ Package quantity is 10.

Temp. Points,° F		Pkg. of 5
(C) 4 Temp. Points (Cont.)		
190, 200, 210, 220	5951K31	$9.80
200, 210, 220, 230	5951K32	9.80
200, 225, 250, 275	5951K45	9.80
220, 230, 240, 250	5951K34	9.80
225, 250, 275, 300	5951K46	9.80
270, 280, 290, 300	5951K39	9.80
(D) 5 Temp. Points—1½″ Ht. x 11/16″ Wd.		
84, 93, 99, 104, 107	5948K31 ★	30.86
99, 104, 109, 111, 115	5948K32 ★	31.71
120, 129, 140, 149, 160	5948K33 ★	31.71
171, 180, 190, 199, 210	5948K23 ★	15.31
219, 230, 241, 250, 261	5948K24 ★	15.31
270, 280, 289, 300, 309	5948K25 ★	15.31
320, 331, 340, 351, 360	5948K26 ★	15.31
370, 379, 390, 399, 410	5948K27 ★	15.31
421, 435, 450, 466, 480	5948K28 ★	15.31
(E) 5 Temp. Points—9/16″ Dia.		
105, 110, 115, 120, 130	9246T11	8.51
140, 150, 160, 170, 180	9246T13	8.51
190, 200, 210, 220, 230	9246T15	8.51
240, 250, 260, 270, 280	9246T17	8.51
290, 300, 310, 320, 330	9246T21	8.51
340, 350, 360, 370, 380	9246T23	8.51
390, 400, 410, 420, 435	9246T25	8.51
450, 465, 480, 490, 500	9246T27	8.51
(F) 6 Temp. Points—7/16″ Ht. x 1¼″ Wd.		
84, 93, 99, 104, 108, 111	5950K11 ★	30.86
111, 115, 120, 129, 140, 144	5950K12 ★	33.05

Temp. Points, °F		Pkg. of 5
(F) 6 Temp. Points (Cont.)		
149, 160, 171, 180, 190, 199	5950K32	$8.66
210, 219, 230, 241, 250, 261	5950K34	8.66
270, 280, 289, 300, 309, 320	5950K35	8.66
331, 340, 351, 360, 370, 379	5950K37	8.66
390, 399, 410, 421, 435, 450	5950K38	8.66
466, 480, 489, 500, 536, 554	5950K31	8.66
(G) 8 Temp. Points—2″ Ht. x 11/16″ Wd.		
99, 104, 109, 115, 120, 129, 140, 149	5956K21 ★	46.67
160, 171, 180, 190, 199, 210, 219, 230	5956K16	10.63
241, 250, 261, 270, 280, 289, 300, 309	5956K17	10.63
320, 331, 340, 351, 360, 370, 379, 390	5956K18	10.63
(H) 9 Temp. Points—2″ Ht. x 11/16″ Wd.		
399, 410, 421, 435, 450, 466, 480, 489, 500	5956K19	10.63
(J) 10 Temp. Points—2″ Ht. x 11/16″ Wd.		
104, 108, 111, 115, 120, 129, 140, 144, 149, 160	5957K66 ★	52.14
171, 180, 190, 199, 210, 219, 230, 241, 250, 261	5957K63	13.76
270, 280, 289, 300, 309, 320, 331, 340, 351, 360	5957K64	11.62
370, 379, 390, 399, 410, 421, 435, 450, 466, 480	5957K65	11.62

Adhesive-Back Temperature-Indicating Sheets

Liquid crystals on these sheets change color as surface temperature increases. The crystals change from black to red, red to green, and green to blue as the temperature rises to the temperature points. When the surface cools, the sheets return to black. Accuracy is ±2°F.

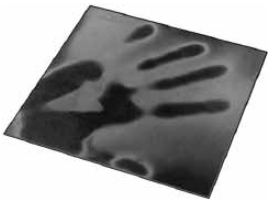

Temp. Points, °F	6″×6″		12″×12″	
77, 79, 86	5106K52	$10.08	5106K51	$31.25
86, 88, 95	5106K54	10.08	5106K53	31.25
95, 97, 104	5106K56	10.08	5106K55	31.25
104, 106, 113	5106K58	10.08	5106K57	31.25
113, 115, 122	5106K61	10.08	5106K59	31.25

Temperature-Indicating Crayons and Liquid

Apply directly on the surface you are monitoring. The mark melts when the surface heats to the temperature point for easy visual inspection. Accuracy is ±1%.

Crayons

Quickly apply temperature markings without the mess of a liquid.



To Order: Please specify temperature point.

104°F	188°F	256°F	350°F	463°F	650°F	1022°F	1500°F
109°F	194°F	263°F	363°F	475°F	700°F	1050°F	1550°F
119°F	200°F	275°F	375°F	488°F	750°F	1100°F	1600°F
125°F	206°F	288°F	388°F	500°F	800°F	1150°F	1650°F
140°F	213°F	300°F	400°F	518°F	850°F	1200°F	1700°F
150°F	219°F	313°F	413°F	525°F	900°F	1250°F	1800°F
158°F	225°F	325°F	425°F	550°F	932°F	1300°F	1900°F
169°F	239°F	338°F	437°F	575°F	950°F	1400°F	1950°F
175°F	250°F	344°F	450°F	600°F	1000°F	1450°F	2000°F

Crayon with Aluminum Holder (⅜″ Dia.×5″ Lg.) 3261K91 $13.44

Liquid

Liquid has a brush applicator in the cap. **Thinner** returns dried-out temperature-indicating liquid to a workable consistency.



To Order: Please specify temperature point.

175°F	313°F	425°F	550°F	750°F	1000°F	1200°F	1500°F
200°F	325°F	450°F	575°F	800°F	1022°F	1250°F	1600°F
225°F	350°F	475°F	600°F	850°F	1050°F	1300°F	1700°F
250°F	363°F	488°F	650°F	900°F	1100°F	1400°F	1800°F
275°F	375°F	500°F	700°F	950°F	1150°F	1450°F	1900°F
300°F	400°F	525°F					

Liquid (2-oz. Bottle)	3261K93	$18.33
Thinner (2-oz. Bottle)	3261K96	8.39

Crayon Assortments

Apply multiple temperature markings to workpieces, pipes, and equipment to visually identify a wide range of temperature changes. Crayons are ⅜″ Dia.×5″ Lg. and come in a plastic case.

Temp. Points, °F	No. of Crayons		
125 to 350 (in 25° increments)	10	3224K23	$161.77
125 to 500 (in 25° increments), 550, 600, 700, 800	20	3224K32	215.11
300 to 750 (in 50° increments)	10	3224K24	161.77

Threaded Thermometers

Monitor process temperature with these thermometers that install directly into threaded tank and pipe connections. Accuracy is ±1%. Thermometers are stainless steel. To calibrate, thermometers have either an external adjustment screw or accept a hex key. Stem dia. is ¼″. Connection is ½ NPT male.

Vibration Resistant—These thermometers have a silicone-filled dial that keeps the pointer from fluttering for accurate readings in high-vibration environments.

Thermometers with NIST certificate come with a calibration certificate traceable to NIST that states they've passed a test for accuracy.

Adjustable thermometers have a stem that pivots 180° and a head that rotates 360° for viewing at multiple angles. Tighten the set screws to secure the desired angle.



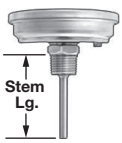

Back Connection



Bottom Connection



Adjustable with Bottom Connection

To Order: Please specify temperature range.

Available Temperature Ranges

Temp. Range	Grads.
-40° to 160°F	2°F
-20° to 120°F	2°F
0° to 200°F	2°F
20° to 240°F	2°F
50° to 300°F	2°F
50° to 400°F	5°F
50° to 550°F■	5°F
150° to 750°F■	10°F
-20° to 120°C	1°C
0° to 150°C	1°C
0° to 250°F/-20° to 120°C	2°F/1°C
25° to 125°F/-5° to 50°C▲	1°F/0.5°C
50° to 500°F/10° to 260°C♦	5°F/2°C

■ Not available in vibration resistant. ▲Not available for 1269N41 or 1269N71.
♦ Not available in vibration resistant, except 3897K53, 3897K55, 3897K57, and 3897K59.

Stem Lg.	Back Connection 3″ Dial Dia.	Back Connection 5″ Dial Dia.	Back Connection with NIST Cert. 3″ Dial Dia.	Bottom Connection 3″ Dial Dia.	Bottom Connection 5″ Dial Dia.	Adjustable with Bottom Connection 3″ Dial Dia.	Adjustable with Bottom Connection 5″ Dial Dia.
Standard—Glass Lens							
2½″	1269N11★ $51.69	$55.70	3897K11 $162.47	1269N41★ $79.62	$86.08	1269N71 $92.68	$117.94
4″	1269N12★ 51.69	55.70	3897K14 162.47	1269N42★ 79.62	86.08	1269N72 92.68	117.94
6″	1269N13★ 51.69	55.70	3897K17 162.49	1269N43★ 79.62	86.08	1269N73 92.68	117.94
9″	1269N14★ 51.69	55.70	3897K21 162.47	1269N44★ 79.62	86.08	1269N74 92.68	117.94
12″	1269N15★ 57.94	59.42	3897K24 166.98	1269N45★ 89.18	90.82	1269N75 100.05	124.25
15″	1269N16★ 66.72	67.21	3897K26 170.40	1269N46★ 99.26	96.51	1269N76 109.99	134.32
18″	1269N17★ 73.93	74.59	3897K31 175.27	1269N47★ 109.95	102.45	1269N77 119.29	143.34
24″	1269N18★ 89.41	87.57	3897K41 185.76	1269N48★ 127.70	115.11	1269N78 135.78	159.90
30″	1269N19 104.97	117.17	3897K92 195.16	1269N49★ 145.19	129.25	1269N79 151.84	176.39
36″	1269N21 121.02	135.92	3897K93 204.51	1269N51★ 163.74	143.00	1269N81 168.49	193.41
Vibration Resistant—Acrylic Lens							
2½″	1269N31 82.85	97.10	3897K51 200.67	1269N61 111.00	130.10	1269N91 124.15	151.52
4″	1269N32 82.85	97.10	3897K53 200.67	1269N62 111.00	130.10	1269N92 124.15	151.52
6″	1269N33 82.85	97.10	3897K55 200.67	1269N63 111.00	130.10	1269N93 124.15	151.52
9″	1269N34 82.85	97.10	3897K57 200.67	1269N64 111.02	130.10	1269N94 124.15	151.52
12″	1269N35 89.12	104.58	3897K59 206.93	1269N65 119.44	139.71	1269N95 132.70	159.21

★ 5″ dial dia. has 1°F grads. for the -20° to 120°F temp. range.

Side-Connection Threaded Thermometers

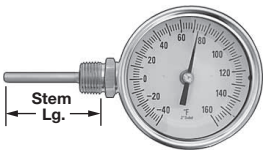

Left-Side Connection

For installation in tight spaces, these thermometers have a side connection and face upright for easy viewing. Accuracy is ±1%. Thermometers are stainless steel with a glass lens. They have an external calibration adjustment screw. Dial dia. is 3″. Stem dia. is ¼″. Connection is ½ NPT male.

To Order: Please specify temperature range.

Available Temperature Ranges

Temp. Range	Grads.	Temp. Range	Grads.
-40° to 160°F	2°F	50° to 400°F	5°F
0° to 200°F	2°F	50° to 550°F	5°F
20° to 240°F	2°F	0° to 250°F/-20° to 120°C	2°F/1°C

Stem Lg.	Left-Side Connection		Right-Side Connection	
2½″	38575K1	$85.47	38575K9	$85.47
4″	38575K2	85.47	38575K13	85.47
6″	38575K3	85.47	38575K16	85.47

Threaded Thermometers with Corrosion-Resistant Stem



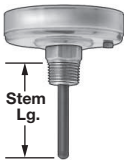

Monitor the temperature of corrosive fluids in harsh conditions. Accuracy is ±1%. Housing is stainless steel and lens is glass. Thermometers have an external calibration adjustment screw. Stem dia. is ¼″. All have a ½ NPT male back connection.

Stainless steel stems have excellent corrosion resistance in humid, wet environments. Made of 316 stainless steel. **PFA-coated stainless steel stems** have the best resistance to caustic chemicals and solvents.

To Order: Please specify temperature range.

Available Temperature Ranges

Temp. Range	Grads.	Temp. Range	Grads.
-40° to 160°F	2°F	50° to 300°F	2°F
0° to 200°F	2°F	50° to 500°F	5°F
0° to 250°F	2°F		

Stem Lg.	3″ Dial Dia.		5″ Dial Dia.	
Stainless Steel Stem				
2½″	3541K41	$58.98	3541K61	$79.04
4″	3541K42	58.98	3541K62	79.04
6″	3541K43	58.98	3541K63	79.04
9″	3541K44	66.47	3541K64	85.63
12″	3541K45	75.15	3541K65	90.12
PFA-Coated Stainless Steel Stem				
2½″	3541K11	62.86	3541K21	76.92
4″	3541K13	62.86	3541K23	76.92
6″	3541K15	62.86	3541K25	76.92
9″	3541K17	74.08	3541K27	93.09
12″	3541K19	92.49	3541K29	101.02

Heavy Duty Threaded Thermometers with Thermowell



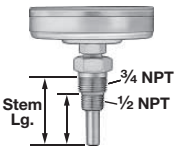

A thermowell covers the thermometer stem for protection from vibration, corrosion, shock, and pressure. Accuracy is ±1%. With the thermowell, thermometers have a max. pressure of 1,200 psi @ 70°F. Thermometers are stainless steel with an acrylic lens. They have an external calibration adjustment screw. Dial dia. is 3″. Stem dia. is ½″. All have a back connection with dual ½ and ¾ NPT male threads.

To Order: Please specify temperature range.

Available Temperature Ranges

Temp. Range	Grads.	Temp. Range	Grads.
0° to 200°F	2°F	50° to 400°F	5°F
20° to 240°F	2°F	50° to 500°F	5°F
50° to 300°F	2°F		

Stem Lg. ½ NPT	Stem Lg. ¾ NPT	With Brass Thermowell		With 316 Stainless Steel Thermowell	
1¾″	2½″	3470K51	$130.95	3470K61	$167.71
3¾″	4½″	3470K52	157.24	3470K62	191.19
5¾″	6½″	3470K53	194.45	3470K63	217.00

Compact Threaded Thermometers



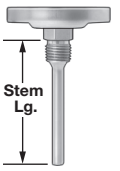

The ¼ NPT male back connection fits smaller equipment than other threaded thermometers. Accuracy is ±1%. Thermometers are stainless steel with a glass lens. They have an external calibration adjustment screw. Stem dia. is ¼″.

To Order: Please specify temperature range.

Available Temperature Ranges

Temp. Range	Grads.	Temp. Range	Grads.
-40° to 160°F	2°F	50° to 400°F	5°F
0° to 200°F	2°F	150° to 750°F	10°F
0° to 250°F	2°F	-50° to 100°C	2°C
50° to 300°F	2°F	0° to 200°C	2°C

Stem Lg.	2″ Dial Dia.		3″ Dial Dia.	
2½″	3989K2	$44.31	3989K81	$58.62
4″	3989K5	44.31	3989K82	58.62
6″	3989K7	44.31	3989K83	58.62
9″	3989K91	44.31	3989K84	63.34
12″	3989K92	50.31	3989K85	67.07
24″	3989K93	70.44	3989K86	86.92

Minimum/Maximum-Indicating Threaded Thermometers





In addition to a pointer that shows the current temperature, these thermometers have a second pointer that indicates the highest or lowest temperature reached. They are not recommended for high-vibration environments. Accuracy is ±1%. Thermometers are stainless steel with a glass lens. They have an external calibration adjustment screw. Dial dia. is 3″. Stem dia. is ¼″. All have a ½ NPT male back connection.

To Order: Please specify temperature range.

Available Temperature Ranges

Temp. Range	Grads.	Temp. Range	Grads.
-40° to 160°F	2°F	50° to 300°F	2°F
0° to 140°F	1°F	150° to 750°F	10°F
0° to 200°F	2°F		

Stem Lg.		
2½″	3988K2	$83.22
4″	3988K4	83.22
6″	3988K6	83.22
9″	3988K8	83.20
12″	3988K9	83.21

Food and Beverage Thermometers



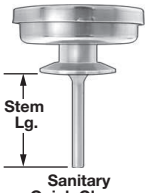

Dry dials with plastic lenses eliminate the risk of contamination in case of breakage, so these thermometers are often used in food-processing applications. Accuracy is ±1%. Thermometers are stainless steel. Lens is acrylic, except ½ NPT male thermometers with 3″ dial dia. have a polycarbonate lens. To calibrate, thermometers have either an internal or external adjustment screw. All have a back connection.

Sanitary quick-clamp thermometers are 3-A certified for use with dairy, food, and beverage. The quick-clamp connection facilitates easy removal from your system for cleaning.

To Order: Please specify temperature range.

Available Temperature Ranges

Temp. Range	Grads.	Temp. Range	Grads.
-40° to 120°F	2°F★	50° to 550°F■	5°F
0° to 200°F	2°F	0° to 100°C	1°C
0° to 250°F	2°F	0° to 150°C	1°C
50° to 300°F	2°F		

★For sanitary quick-clamp style, grads. are 1°F.
■Not available in sanitary quick-clamp style.

Stem Lg.	3″ Dial Dia.		5″ Dial Dia.	
½ NPT Male Threaded Connection—¼″ Stem Dia.				
2½″	32665K21	$65.40	32665K51	$103.59
4″	32665K22	65.40	32665K52	103.59
6″	32665K23	65.40	32665K53	103.59
1½″ Sanitary Quick-Clamp Connection—5/16″ Stem Dia.				
2½″	32665K11	243.07	32665K15	275.48
4½″	32665K12	243.07	32665K16	275.48
2″ Sanitary Quick-Clamp Connection—5/16″ Stem Dia.				
2½″	32665K41	278.18	32665K43	314.64
4½″	32665K42	278.18	32665K44	314.64

Deep-Reach Threaded Thermometers

An extra-long stem extends into deep tanks and hard-to-reach areas. These thermometers are often used to monitor internal temperatures in compost piles and waste containers. Accuracy is ±1%. Thermometers are stainless steel with an acrylic lens. They have an external calibration adjustment screw. Dial dia. is 3″. All have a ½ NPT male back connection.

Thermometers with grip handle have a removable aluminum handle that threads onto the ½ NPT male thermometer connection. Dial has a dual temp. range of 0° to 200°F/-15° to 90°C with 2°F/1°C graduations.

Thermometers without handle show a temp. range of 0° to 200°F with 2°F graduations.





Stem Lg.	With Grip Handle ¼″ Stem Dia.		With Grip Handle ⅜″ Stem Dia.		Without Handle ⅝″ Stem Dia.	
12″	3564K11	$100.97	3564K21	$141.79	3657K12	$79.32
18″	3564K12	112.08	3564K22	152.87	3657K18	89.05
24″	3564K13	126.21	3564K23	179.79	3657K24	92.79
36″	3564K14	151.37	3564K24	217.87	3657K36	109.25
48″	3564K15	176.58	3564K25	255.89	3657K48	142.47
60″	3564K16	201.92	3564K26	313.32	3657K61	179.05
72″	3564K17	237.11	3564K27	354.92	3657K72	220.95
Replacement Grip Handle					3564K3	39.59

High-Accuracy Threaded Thermometers with Calibration Certificate

The most accurate threaded thermometers we sell, these come with a calibration certificate traceable to NIST that states they've passed a test to fall within ±0.5°F accuracy. Thermometers have a temp. range of -75° to 750°F with 0.1 resolution. They are stainless steel with a glass lens. All have an LCD. Dial dia. is 5″. Stem dia. is ¼″. Batteries are included. Connection is ½ NPT male.

Adjustable thermometers have a stem that pivots 180° and a head that rotates 360° for viewing at multiple angles. Tighten the set screws to secure the desired angle.





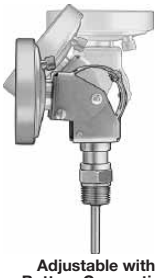

Stem Lg.	Back Connection		Bottom Connection		Adjustable with Bottom Connection	
2½″	1248N17	$586.26	1248N24	$588.95	1248N11	$603.22
4″	1248N18	586.26	1248N25	588.95	1248N12	603.22
6″	1248N19	586.26	1248N26	588.95	1248N13	603.22
9″	1248N21	586.26	1248N27	588.95	1248N14	603.22
12″	1248N22	598.73	1248N28	601.43	1248N15	615.69
15″	1248N23	608.87	1248N29	611.57	1248N16	625.84

Adjustable-Angle Quick-Response Threaded Thermometers

Obtain the best viewing angle and a fast response time with these pivoting thermometers filled with a blue, mercury-free fluid (kerosene) that registers temperature changes more quickly than dial thermometer stems. The case rotates 180° and the stem pivots 180° to support angled mounting. Tighten the set screws to secure the desired angle. Accuracy is ±2°F. Thermometers have an aluminum housing with a 7/16″ dia. zinc stem and an acrylic window. Connection is ¾ NPT male.

Thermometers with thermowell are protected from shock and pressure in tanks and pipelines. 316 stainless steel thermowells are more corrosion resistant than brass.

To Order: Please specify temperature range.

Available Temperature Ranges

Temp. Range	Grads.	Temp. Range	Grads.
-40° to 110°F	2°F	30° to 240°F	2°F
0° to 160°F	2°F	30° to 300°F	5°F▲
20° to 180°F	2°F	50° to 400°F	5°F

▲For 9″ scale, grads. are 2°F.



Stem Lg.	Without Thermowell		With Brass Thermowell		With 316 SS Thermowell	
7″ Scale Ht.						
3½″	3938T74	$64.76	3938T76	$52.37	3938T78	$124.04
9″ Scale Ht.						
3½″	3938T83	64.76	3938T85	52.37	3938T87	124.04
6″	3938T84	73.97	3938T86	67.76	3938T88	176.60

Heavy Duty Quick-Response Threaded Thermometers with Thermowell

The detachable brass thermowell covers the thermometer stem to protect it from vibration, corrosion, shock, and pressure. These thermometers are filled with a red, mercury-free fluid (kerosene) that responds to temperature changes more quickly than dial thermometer stems. They have °F/°C markings with an accuracy of ±2°F. Housing is plastic with a glass window. Scale is 5″ high. Thermometers have dual ½ and ¾ NPT male threads.

To Order: Please specify temperature range.

Available Temperature Ranges

Temp. Range	Grads.
-40° to 110°F/-40° to 40°C	2°F/2°C
20° to 180°F/-6° to 80°C	2°F/1°C
30° to 240°F/0° to 114°C	2°F/2°C
50° to 400°F/10° to 205°C	2°F/5°C

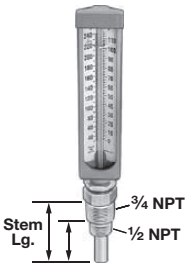

Stem Lg. ½ NPT	Stem Lg. ¾ NPT	Back Connection		Bottom Connection	
2″	2¾″	7671K43	$43.33	7671K41	$43.33

Adjustable-Angle Solar-Powered Threaded Thermometers

Since these thermometers operate on indoor light, there's no need for batteries. The case rotates 180° to obtain the best viewing angle, and the stem pivots 180° to support angled mounting. Thermometers are °F/°C selectable with a temp. range of -50° to 300°F/-45° to 150°C. Accuracy is ±1%. Resolution is 0.1. Housing is plastic and stem is aluminum. Thermometers have an LCD. To calibrate, they have an external adjustment screw.

Thermometers without thermowell have a 11¼″-18 UNEF male connection. Stem dia. is 7/16″.

Thermometers with brass thermowell are protected from shock and pressure in tanks and pipelines and have a ¾ NPT male connection. Stem dia. is ⅝″.



Stem Lg.	Without Thermowell		With Brass Thermowell	
3½″	8020K21	$70.18	8020K11	$82.55
6″	8020K22	83.23	8020K12	99.88

Panel-Mount Thermometers



For mounting on instrument and control panels, these thermometers have a back flange. Thermometers are stainless steel with a glass lens. Dial dia. is 2″. Stem dia. is 1/4″. Flange has three mounting holes.

Stem Lg.	Grads.	Accuracy	Flange OD	Bolt Circle Dia.	Mounting Hole Dia.		
-40° to 160°F Temp. Range							
4″	2°F	±3°F	3 1/2″	2 7/8″	5/32″	3561K12	$28.64
6″	2°F	±3°F	3 1/2″	2 7/8″	5/32″	3561K22	32.86
9″	2°F	±3°F	3 1/2″	2 7/8″	5/32″	3561K42	33.61
0° to 220°F Temp. Range							
4″	2°F	±2°F	3 1/2″	2 7/8″	5/32″	3561K13	28.64
6″	2°F	±2°F	3 1/2″	2 7/8″	5/32″	3561K23	32.86
9″	2°F	±2°F	3 1/2″	2 7/8″	5/32″	3561K43	33.61

Remote-Reading Panel-Mount Thermometers



Monitor the temperature of difficult-to-access system components from a distance. The probe is connected to a cable, so the dial can be mounted away from your system. Mount the dial no more than 5 feet above or below the probe to ensure accuracy. Accuracy is ±1%. Probe and cable are copper; probe is 7/16″ in dia. Housing is stainless steel and lens is polycarbonate. Connection is 1/2 NPT male. *Optional brass thermowell* protects thermometer probes from vibration, shock, pressure, and corrosive liquids.

Flange-mount thermometers have three mounting holes.

Bracket-mount thermometers have an adjustable bracket that allows the dial to pivot 90° front to back. The bracket has two mounting holes.

Available Temperature Ranges

Temp. Range	Grads.
-40° to 110°F/-40° to 43°C	1°F/1°C
-20° to 100°F/-30° to 35°C	2°F/1°C
0° to 150°F/-15° to 65°C	2°F/1°C
0° to 180°F/-20° to 80°C	1°F/1°C
30° to 300°F/0° to 150°C	2°F/1°C
40° to 240°F	2°F
100° to 350°F	2°F

To Order: Please specify temperature range.





Dial Dia.	Cable Lg.	Probe Lg.	*Flange Mount* Flange OD	Bolt Circle Dia.	Panel Cutout Dia.	Mounting Hole Dia.	Back Flange		Front Flange		*Bracket Mount* Mounting Hole Dia.		
3 1/2″	5 ft.	3 3/8″	4 3/4″	4 5/16″	3 5/8″	5/32″	3960K91	$75.76	3960K81	$75.76	1/4″	33125K11	$78.79
3 1/2″	10 ft.	3 3/8″	4 3/4″	4 5/16″	3 5/8″	5/32″	3960K92	95.45	3960K82	95.45	1/4″	33125K12	98.48
3 1/2″	15 ft.	3 3/8″	4 3/4″	4 5/16″	3 5/8″	5/32″	3960K93	115.15	3960K83	115.15	1/4″	33125K13	118.18
3 1/2″	20 ft.	3 3/8″	4 3/4″	4 5/16″	3 5/8″	5/32″	3960K94	134.85	3960K84	134.85	1/4″	33125K14	137.88
4 1/2″	5 ft.	3 3/8″	5 7/8″	5 3/8″	4 5/8″	7/32″	3952K81	104.55	3952K11	104.55	1/4″	33125K21	107.58
4 1/2″	10 ft.	3 3/8″	5 7/8″	5 3/8″	4 5/8″	7/32″	3952K82	124.24	3952K12	124.24	1/4″	33125K22	127.27
4 1/2″	15 ft.	3 3/8″	5 7/8″	5 3/8″	4 5/8″	7/32″	3952K83	143.94	3952K13	143.94	1/4″	33125K23	146.97
4 1/2″	20 ft.	3 3/8″	5 7/8″	5 3/8″	4 5/8″	7/32″	3952K84	163.64	3952K14	163.64	1/4″	33125K24	166.67
Optional Brass Thermowell												3960K3	35.61

Food and Beverage Panel-Mount Thermometers

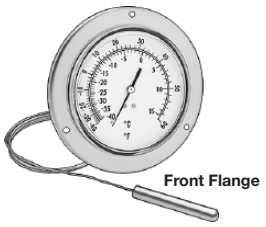

For use in food processing and preparation areas, these thermometers meet NSF/ANSI standards. They have an unthreaded probe attached to a cable for dropping into tanks, vats, and drums. Accuracy is ±1%. The probe is nickel-plated copper and 3/8″ in dia. The cable is copper. Housing is stainless steel and lens is acrylic. Flange has three mounting holes.

Available Temperature Ranges

Temp. Range	Grads.
-40° to 60°F/-40° to 15°C	2°F/1°C
-40° to 110°F/-40° to 43°C	2°F/1°C
40° to 240°F/0° to 115°C	2°F/1°C

To Order: Please specify temperature range.




Dial Dia.	Cable Lg.	Probe Lg.	Flange OD	Bolt Circle Dia.	Panel Cutout Dia.	Mounting Hole Dia.	Back Flange		Front Flange	
2″	4 ft.	2 1/2″	2 15/16″	2 9/16″	2 1/16″	9/64″	38515K51	$48.53	38515K53	$48.53
2 1/2″	4 ft.	2 1/2″	3 11/16″	3 5/16″	2 5/8″	11/64″	38515K25★	51.33	38515K55	51.33
4 1/2″	4 ft.	3 1/2″	5 7/8″	5 3/8″	4 5/8″	7/32″	38515K57	89.62	38515K59	89.61

★ Only available in -40° to 110°F/-40° to 43°C.

High-Accuracy Panel-Mount Thermometers with Calibration Certificate



Obtain the most accurate readings possible with these thermometers that include a calibration certificate traceable to NIST that states they've passed a test to fall within ±0.5°F accuracy. The probe is connected to a cable, so the display can be mounted away from your system for remote viewing. The probe is stainless steel and 1/4″ in dia. The cable is PTFE. Housing is plastic and lens is glass. Resolution is 0.1. All have an LCD. Thermometers have a back flange with three mounting holes. Batteries are included. Connection is 1/2 NPT male.

Dial Dia.	Temp. Range	Cable Lg.	Probe Lg.	Flange OD	Bolt Circle Dia.	Mounting Hole Dia.		
4 1/2″	-75° to 750°F	5 ft.	4″	4 1/2″	5 3/8″	1/4″	1265N11	$541.56
4 1/2″	-75° to 750°F	10 ft.	4″	4 1/2″	5 3/8″	1/4″	1265N12	550.14
4 1/2″	-75° to 750°F	15 ft.	4″	4 1/2″	5 3/8″	1/4″	1265N13	558.73
4 1/2″	-75° to 750°F	20 ft.	4″	4 1/2″	5 3/8″	1/4″	1265N14	567.31
4 1/2″	-75° to 750°F	25 ft.	4″	4 1/2″	5 3/8″	1/4″	1265N15	575.90

For information about thermocouples and RTDs, see page 628.

Heavy Duty Panel-Mount Thermometers with Thermowell

The included thermowell protects the probe from the effects of vibration, shock, pressure, and corrosive liquids in tanks and pipelines. The probe is connected to a cable, so the dial can be mounted away from your system or in a control panel. Accuracy is ±1%. Probe and cable are stainless steel; probe is 5/8" in dia. Housing is aluminum and lens is glass. Thermometers have a back flange with three mounting holes.

Thermowell has a 3/4 NPT male connection. Thermowells are brass and have a max. pressure of 5,000 psi @ 70°F, except thermowells for thermometers with a temp. range of 50° to 550°F and 50° to 750°F are 304 stainless steel and have a max. pressure of 7,000 psi @ 70°F.

To Order: Please specify temperature range.

Available Temperature Ranges

Temp. Range	Grads.
-40° to 180°F	2°F
0° to 300°F	5°F
20° to 240°F	2°F
50° to 550°F	5°F
50° to 750°F	5°F



Dial Dia.	Cable Lg.	Probe Lg.	Flange OD	Bolt Circle Dia.	Mounting Hole Dia.		
4 1/2"	5 ft.	2 1/2"	5 13/16"	5 3/8"	7/32"	3953K13	$503.80
4 1/2"	10 ft.	2 1/2"	5 13/16"	5 3/8"	7/32"	3953K16	526.66
4 1/2"	20 ft.	2 1/2"	5 13/16"	5 3/8"	7/32"	3953K18	567.50

Remote-Reading Panel-Mount Freezer Thermometers with Audible Alarm



Protect temperature-sensitive materials in refrigerators and freezers with one of these thermometers that sound an alarm and flash the LED display when temperature rises above your activation point.

Thermometer is °F/°C selectable with a temp. range of -25° to 99°F. Accuracy is ±3°F. Resolution is 1. Thermometer is 5" Ht.×3 1/8" Wd.×1 1/16" Dp. and has two 7/32" dia. mounting holes. To mount, use a panel cutout of 3 7/8" Ht.×2 7/8" Wd. Includes a 6-ft. cable with probe. Housing is metal with a stainless steel faceplate.

Alarm operates on 10.5 to 28V AC/12 to 28V DC. It has wire leads to connect to the required power supply (sold separately).

Thermometer	3825K2	$162.30
Power Supply—12V AC Output/120V AC Input	3825K11	38.15

Miniature Remote-Reading Panel-Mount Thermometers



Install the small display in tight spaces and crowded instrument panels up to 10 feet from the probe. Thermometer is °F/°C selectable with a temp. range of -40° to 300°F. Accuracy is ±1.8°F. Resolution is 0.1. Thermometer is 1 5/8" Ht.×2 15/16" Wd.×1" Dp. and has two 5/32" dia. mounting holes. It requires a panel cutout of 1 1/2" Ht.×2 3/4" Wd. Housing is plastic and lens is glass. Thermometer has an LCD. Batteries are included.

4141K11		$25.66

Clip-On Thermometers



Attach these thermometers to the rims of tanks, trays, vats, and other containers. They are stainless steel and come with a clip that fits containers with a 1/2" to 3/4" wall thickness. Accuracy is ±1%. Stem dia. is 5/32". Thermometers can be calibrated with a hex key. All have an unthreaded back connection.

1 3/4" dial dia. thermometers with a max. temp. of 300°F/110°C and below have a polycarbonate lens; those with a max. temp. of 400°F and above have a glass lens.

2" dial dia. thermometers have a glass lens.

3" dial dia. thermometers have a polycarbonate lens.

To Order: Please specify temperature range.

Available Temperature Ranges

Temp. Range	Grads.	Temp. Range	Grads.
-40° to 160°F	2°F	50° to 300°F	2°F
0° to 140°F	2°F	50° to 400°F	5°F
0° to 180°F	2°F	50° to 500°F	5°F
0° to 220°F	2°F	150° to 750°F	10°F
0° to 250°F	2°F	-10° to 110°C	1°C
25° to 125°F	1°F		

Stem Lg.	1 3/4" Dial Dia.		2" Dial Dia.		3" Dial Dia.	
5"	39675K21	$24.35	4101K51	$33.68		
8"	39675K11	24.35	4101K31	33.68	38305K33	$38.17
Replacement Clip					39675K31	3.09

High-Temperature Panel-Mount Thermometers



Often used to remotely monitor probe readings in high-temperature applications, these thermometers have a 1/8 DIN plastic housing designed for installation in instrument and control panels. They interpret data from a probe. Probes with wire leads are sold separately on pages 629-631.

Thermometers are °F/°C selectable, except 4068K73, 4068K58, 4068K59, and 4068K74, which are °F only. They are 1 7/8" Ht.×3 13/16" Wd.×4 1/8" Dp. and require a 1 25/32" Ht.×3 13/16" Wd. panel cutout. The LED display has a resolution of 1, unless noted. Thermometers have screw terminal connections and operate on 120/240 volts AC @ 60 Hz.

For Probe Type	Temp. Range	Accuracy		
Thermocouple Probes				
J	-346° to 1400°F	±3.7°F	4068K61	$119.02
J	0° to 1000°F	±5.0°F	4068K73	139.58
J	32° to 428°F	±2.8°F	4068K58	85.48
K	-157° to 1999°F	±3.7°F	4068K62	119.02
K	-2° to 752°F	±3.3°F	4068K59	85.48
K	0° to 1999°F	±10.0°F	4068K74	139.58
T	-157° to 752°F	±3.7°F	4068K63	119.02
RTD Probes				
100 ohm	-58° to 200°F	±0.3°F	4068K65■	119.02
100 ohm	-58° to 1562°F	±2.0°F	4068K66	119.02

■ Resolution is 0.1.

Quick-Response Food and Beverage Panel-Mount Thermometers



A resistance temperature detector (RTD) probe responds to temperature change faster than dial thermometers. Thermometers include a 2,000-ohm RTD probe. The LED display has a resolution of 1. Housing is plastic. Thermometers have a mounting bracket and require a 2" dia. panel cutout. They have screw terminal connections and operate on 120 volts AC.

Temp. Range	Accuracy	Cable Lg.		
-40° to 199°F	±2°F	8 ft.	38675K14	$152.54
0° to 250°F	±2°F	8 ft.	38675K15	152.54
-40° to 120°C	±2°C	8 ft.	38675K16	152.54

Clip-On Oven and Freezer Thermometers

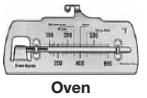

Oven



Freezer

Check internal oven temperature or monitor the temperature inside freezers, coolers, and storage areas. These thermometers have a glass tube filled with mercury-free fluid for a quick response time. Clip is stainless steel.

Oven thermometer is filled with blue Therminol 59.

Freezer thermometer is filled with red diesel fuel. It meets NSF/ANSI standards and has °F/°C markings.

Temp. Range	Grads.	Accuracy	Lg.	Ht.		
Oven Thermometer—Stainless Steel Housing						
100° to 600°F	10°F	±10°F	4 7/8"	2 3/8"	7974K32	$18.51
Freezer Thermometer—Plastic Housing						
-20° to 84°F	2°F	±3°F	4 7/8"	1 1/4"	4132K11	6.28

Remote-Reading Magnetic-Back Thermometers



Remotely check temperature on the go. These thermometers have a magnetic-back display for temporary mounting and a thermocouple probe with a 5-ft. long coiled cable. The probe can be used to monitor air, gas, liquid, solid, and surface temperatures. Resolution is 1. Housing is plastic. All have an LCD. Batteries are included.

With Thermocouple Probe Type	Temp. Range	Accuracy		
J	-50° to 1200°F	±0.25%	38855K72	$115.78
K	-50° to 1000°F	±0.25%	38855K74	115.78
T	-100° to 700°F	±0.25%	38855K76	115.78

Pipe-Mount Surface-Temperature Thermometers



Strap Mount



Clip-On Mount

Check the temperature of pipes, tubing, and other cylindrical surfaces. Thermometers have an aluminum housing and a glass lens.

Strap-mount thermometers wrap around pipes with a flexible strap.

Clip-on mount thermometers have a spring-loaded clip that snaps onto pipes.

To Order: Please specify temperature range.

Available Temperature Ranges

Temp. Range	Grads.	Temp. Range	Grads.
-50° to 250°F	2°F	-40° to 120°C	2°C
0° to 150°F	2°F	20° to 180°C	2°C
70° to 370°F	2°F	20° to 260°C★	2°C
70° to 500°F★	5°F		

★ Not available in clip-on mount.

For Pipe OD	Dial Dia.	Accuracy		
Strap Mount—Stainless Steel Strap				
3/4" to 6"	2"	±2%	4155K9	$63.55
Clip-On Mount—Steel Clip				
3/4" to 7/8"	2"	±2%	4100K4	63.55
1" to 1 5/8"	2"	±2%	4100K5	63.55
1 5/8" to 2 3/8"	2"	±2%	4100K6	63.55

Pipe-Mount Hazardous-Location Thermometers



Mount this thermometer on pipes in environments with flammable gases, combustible dust, and ignitable fibers. It is FM approved for Class I, Division 1, Groups B, C, and D; Class II, Division 1, Groups E, F, and G; and Class III hazardous locations. The enclosure meets NEMA 4X for indoor/outdoor use and resistance to corrosive fluids, splashing water, and dust. Thermometers are for use with Types J and K thermocouple probes and RTD probes with wire leads (sold separately on pages 629-631).

Thermometer is °F/°C selectable with a temp. range of -58° to 1832°F. Accuracy is ±1°F. Resolution is 1. Housing is aluminum and lens is glass. Thermometer has an LCD. Requires two AA batteries (not included). It requires a pipe size 2 mounting bracket (sold separately).

Thermometer	4128K25	$368.33
Pipe-Mounting Bracket—Stainless Steel Housing	4128K26	129.20

Floating Pocket Thermometers



A removable rubber float keeps these thermometers on the surface of liquid-filled containers for hands-free temperature readings. Accuracy is ±1%. Thermometers are stainless steel with a polycarbonate lens. Dial dia. is 1 3/4". Stem dia. is 5/32". Thermometers have an external calibration adjustment screw.

Temp. Range	Grads.	5" Stem Lg.		8" Stem Lg.	
0° to 140°F	2°F	3992K13	$30.05	3992K23	$30.05
0° to 220°F	2°F	3992K14	30.05	3992K24	30.05

Remote-Reading Magnetic-Back Thermometers with Calibration Certificate



Externally monitor the air temperature inside freezers, refrigerators, water baths, and incubators. These thermometers come with a calibration certificate traceable to NIST that states they've passed a test for accuracy.

They have a glass probe with a 10-ft. cable that connects to a magnetic-back external LCD. The probe is insulated in a bottle filled with mercury-free fluid (glycol) to prevent false readings from rapid temperature changes such as opening freezer doors. The display simultaneously shows the high, low, and current temperatures. These thermometers have a programmable alarm to indicate when temperature rises above or below your actuation point. They are °F/°C selectable. Housing is plastic. Batteries are included.

Temp. Range	Accuracy	Resolution		
-58° to 158°F	±1.8°F	1	9276T12	$55.87
-58° to 158°F	±0.9°F	0.1	9276T22	67.13

Magnetic-Back Surface-Temperature Thermometers



Min./Max. Indicating Dial

Check the surface temperature of tanks, generators, annealing ovens, boilers, and other metallic equipment. Accuracy is ±2%. Thermometers have an aluminum housing and a glass lens. Dial dia. is 2".

Min./Max. Indicating Dial—In addition to showing current surface temperature, these thermometers have pointers to indicate the min. and max. temperatures since the last reading. Reset the min. and max. pointers with the included magnetic wand.

Temp. Range	Grads.	Plain Dial		Min./Max. Indicating Dial	
-100° to 160°F	2°F	3982K17	$48.24	3982K41	$70.37
0° to 150°F	1°F	3982K19	48.24	3982K42	70.37
0° to 250°F	2°F	3982K11	48.24	3982K43	70.37
0° to 500°F	5°F	3982K12	48.24	3982K44	70.37
50° to 750°F	10°F	3982K13	48.24	3982K45	70.37
-20° to 120°C	1°C	3982K14	48.24	3982K47	70.37
-20° to 250°C	2°C	3982K15	48.24	3982K48	70.37
10° to 400°C	5°C	3982K16	48.24	3982K51	70.37

Pocket Thermometers



Small enough to fit in your pocket, these thermometers are stainless steel with a polycarbonate lens. Stem is 1/8" Dia. × 5" Lg. Thermometers have an external calibration adjustment screw.

Food and beverage thermometers meet NSF/ANSI standards.

Temp. Range	Dial Dia.	Grads.	Accuracy		
Standard					
-40° to 160°F	1"	2°F	±1%	3950K11	$13.08
50° to 550°F	1"	5°F	±1%	3950K14	13.08
50° to 550°F	1 3/4"	5°F	±5°F	3950K34	24.19
0° to 250°C	1 3/4"	2°C	±2°C	3950K37	24.19
Food and Beverage					
0° to 220°F	1"	2°F	±1%	3950K12	13.75
0° to 220°F	1 3/4"	2°F	±2°F	3950K32	20.62
25° to 125°F	1"	1°F	±1%	3950K13	13.75

Glow-in-the-Dark Pocket Thermometers



The luminescent dial face provides clear temperature readings in low-light conditions. Accuracy is ±1%. Thermometers are stainless steel with a polycarbonate lens. Stem is 5/32" Dia. × 5" Lg. Thermometers have an external calibration adjustment screw.

Temp. Range	Grads.	1" Dial Dia.		1 3/8" Dial Dia.	
-40° to 160°F	2°F	4129K11	$20.04	4129K25	$22.69
0° to 220°F	2°F	4129K12	20.04	4129K21	22.69

Quick-Response Pocket Thermometers

The red, mercury-free fluid (benzoic acid isoamyl ester) in these glass thermometers registers temperature changes more quickly than a dial thermometer stem. Thermometers must be totally immersed in liquid for accurate readings. They come with an aluminum sheath.

Heavy duty thermometers have a protective aluminum housing that keeps the thermometers from cracking or shattering when dropped.


Standard

Temp. Range	Grads.	Accuracy	Overall Lg.	Standard		Heavy Duty	
-30° to 120°F	2°F	±2°F	5½″	3913K71	$21.99	3913K81	$23.89
0° to 220°F	2°F	±2°F	5½″	3913K72	21.99	3913K82	23.89
-40° to 50°C	1°C	±1°C	5½″	3913K73	21.99	3913K83	23.89
-10° to 110°C	1°C	±1°C	5½″	3913K74	21.99	3913K84	23.89

Hand-Held Glass Thermometers

Mercury-free fluid (benzoic acid isoamyl ester) in these glass thermometers quickly responds to temperature changes. Thermometers are 12″ long, unless noted. *Thermometers with 3″ immersion depth* are known as partial immersion and are designed for use in shallow areas where total immersion is not possible. *Thermometers with 12″ immersion depth* are known as total immersion and must be completely submerged in fluid.

Shatter-resistant thermometers have an FEP coating that absorbs shock and contains glass and liquid for easy cleanup in case of breakage.

Heavy duty thermometers have a nickel-plated brass housing that protects the thermometers from cracking or shattering when dropped or bumped.


A&B C

			3″ Immersion Dp.				12″ Immersion Dp.			
Temp. Range	Grads.	Accuracy	Blue Fluid		Red Fluid		Blue Fluid		Red Fluid	
(A) Standard										
-30° to 120°F	1°F	±1°F	—	—	38935K41	$18.82	—	—	38935K21	$18.82
-4° to 230°F	2°F	±2°F	6182K51	$18.82	38935K42	18.82	6182K41	$18.82	38935K25	18.82
0° to 300°F	2°F	±2°F	6182K52	18.82	38935K43	18.82	6182K42	18.82	38935K26	18.82
20° to 500°F	2°F	±2°F	6182K53■	25.36	38935K45■	25.36	—	—	—	—
-35° to 50°C	1°C	±1°C	6182K54	18.82	38935K46	18.82	6182K43	18.82	38935K31	18.82
-20° to 110°C	1°C	±1°C	6182K55	18.82	38935K47	18.82	6182K44	18.82	38935K28	18.82
-20° to 150°C	1°C	±1°C	6182K56	18.82	38935K48	18.82	6182K45	18.82	38935K29	18.82
(B) Shatter Resistant										
-4° to 230°F	2°F	±2°F	6442K81	35.73	6442K94	35.73	6442K31	35.73	6442K74▲	37.33
0° to 300°F	2°F	±2°F	6442K82	35.73	6442K95	35.73	6442K32	35.73	6442K91	35.73
-20° to 110°C	1°C	±1°C	6442K83	35.73	6442K96	35.73	6442K33	35.73	6442K92	35.73
-20° to 150°C	1°C	±1°C	6442K84	35.73	6442K97	35.73	6442K34	35.73	6442K93	35.73
(C) Heavy Duty										
-30° to 120°F	1°F	±1°F	—	—	38935K71	39.09	—	—	38935K38	39.09
-4° to 230°F	2°F	±2°F	6182K71	39.09	38935K91	39.09	6182K61	39.09	38935K81	39.09
0° to 300°F	2°F	±2°F	6182K72	39.09	38935K92	39.09	6182K62	39.09	38935K82	39.09
20° to 500°F	2°F	±2°F	6182K73■	49.64	38935K93■	49.64	—	—	—	—
-35° to 50°C	1°C	±1°C	—	—	—	—	6182K63	39.09	38935K83	39.09
-20° to 110°C	1°C	±1°C	6182K74	39.09	38935K94	39.09	6182K64	39.09	38935K84	39.09
-20° to 150°C	1°C	±1°C	6182K75	39.09	38935K95	39.09	6182K65	39.09	38935K85	39.09

■ Length is 15″. ▲-4°F to 230°F/-20° to 110°C; grads. are 2°F/1°C.

Digital Pocket Thermometers

Keep one of these thermometers in your pocket for readings on the go. They are °F/°C selectable, unless noted. Resolution is 0.1. Stem is stainless steel. All have an LCD. Thermometers have an on/off switch, except Style C has an on button and automatically turns off in one hour and Style J turns on when the probe is unfolded. Thermometers include a plastic probe sheath, except Styles J and K. Batteries are included.

Thermometers with NIST certificate come with a calibration certificate traceable to NIST that states they've passed a test for accuracy. *Water-resistant* thermometers have a housing that stands up to washdown conditions and outdoor use.

Food and beverage thermometer meets NSF/ANSI standards.

Deep-reach thermometers have a long stem that reaches the bottom of flasks, test tubes, and beakers.

Extended-life thermometers have a probe that folds into the handle to prevent wear and damage.

Miniature thermometer has a clip for attaching to your belt loop or keys.


A


B


C


D&H


E


F


G


J


K

			Stem			
	Temp. Range	Accuracy	Lg.	Dia.		
A Standard	-58° to 302°F	±1.8°F	5″	⅛″	4135K27	$25.72
A Standard	-58° to 302°F	±1.8°F	12″	⅛″	4135K28	30.32
A With NIST Certificate	-58° to 302°F	±1.8°F	5¼″	5⁄32″	1446N71	41.88
A Food and Beverage	-40° to 450°F	±1°F	5″	⅛″	3099K42	20.14
B Standard	-58° to 536°F	±1.8°F	5″	9⁄64″	3305K54	31.75
B Standard	-40° to 450°F	±1.8°F	5″	9⁄64″	3305K34	29.95
C Standard	-58° to 572°F	±2°F	8″	9⁄64″	5643T52	30.25
D Standard	-58° to 572°F	±1.8°F	3⅜″	9⁄64″	39915K55	31.08
D Standard	-40° to 302°F	±1.8°F	3⅞″	9⁄64″	3312K3	18.84
D Water Resistant	-58° to 392°F	±1.8°F	5″	9⁄64″	3126K11	28.50
D Water Resistant	-58° to 536°F	±1.8°F	5″	9⁄64″	3126K16	31.50
E Water Resistant	-40° to 500°F	±2°F	4½″	⅛″	38285K29	28.34
F Water Resistant	-58° to 536°F	±2°F	4½″	⅛″	3051K33	46.42
G Water Resistant	-40° to 311°F	±1°F	4⅛″	⅛″	8058K22	29.42
G Deep Reach/Water Resistant with NIST Certificate and Min./Max. Memory	-58° to 572°F	±1.8°F	8″	9⁄64″	1620N31	39.08
H Deep Reach with NIST Certificate	-58° to 302°F	±1.8°F	8″	⅛″	3569K56	31.17
H Deep Reach with NIST Certificate	-58° to 302°F	±0.4°F	8″	⅛″	3569K58	61.40
H Deep Reach with NIST Certificate	-58° to 572°F	±0.9°F	11⅜″	⅛″	3569K69	62.09
J Extended Life	-58° to 428°F	±0.5°F	4⅝″	⅛″	3315K51♦	66.14
J Extended Life with Min./Max. Memory	-58° to 572°F	±1.8°F	4½″	⅛″	3129K11	33.85
K Miniature with NIST Certificate	-58° to 302°F	±1.8°F	1″	9⁄64″	1587N21	35.60

♦ Scale is in °F only.

Hand-Held Thermometers

For information about thermocouples and RTDs, see page 628.

Hand-Held Surface-Temperature Thermometers



Touch surfaces with these indicators for a quick temperature reading. They can read temperatures on both shiny and dull surfaces. Display is LED. Batteries are included. **Thermometer with NIST certificate** includes a calibration certificate traceable to NIST that states the thermometer has passed a test for accuracy.

Temp. Range	Accuracy	Thermometer		Thermometer with NIST Certificate	
32° to 999°F/0° to 537°C	± 2%	1232N11	$218.69	1232N12	$498.97

Hand-Held Thermometers with Calibration Certificate



Remote Reading



Remote Monitoring

These thermometers come with a calibration certificate traceable to NIST that states they've passed a test for accuracy. Thermometers are °F/°C selectable. They have a single-probe input, except remote-reading thermometer with ±0.6°F accuracy has two inputs. They have min./max. memory, unless noted. All have an LCD. Batteries are included.

Remote-reading thermometers have a probe on a cable that extends your reach in hard-to-access areas.

Remote-monitoring thermometer allows viewing of temperature readings up to 100 feet from the source. This thermometer includes one temperature sensor with a probe that transmits signals to the wireless monitor. The wireless monitor accommodates up to two additional sensors (sold separately).

Temp. Range	Accuracy	For Use With	Cable Lg.		
Remote Reading					
-58° to 158°F	±1.8°F	Air, Liquids	10 ft.	9268T24	$51.74
-58° to 158°F	±0.6°F	Air, Liquids	5 ft.	1351N21	141.49
-58° to 302°F	±1.8°F	Air, Liquids	1.5 ft.	9264T11★	35.81
-58° to 302°F	±0.1°F	Air, Liquids	5 ft.	9266T22	483.87
Replacement Probe for Remote-Reading Thermometer with ±0.1°F Accuracy				9266T23	84.25
Remote Monitoring					
-58° to 158°F	±1.8°F	Air	10 ft.	4097K12	94.81
Sensor with Probe for Remote-Monitoring Thermometer				4097K13	49.32

★ Does not have min./max. memory.

High-Temperature Hand-Held Thermometers



With Thermocouple Probe



With RTD Probe

Track slight temperature variations in critical applications with these high-temperature thermometers. All have a single-probe input. Thermometers have a backlit LCD, unless noted. Batteries are included. CE marked. *Thermometers with NIST certificate* come with a calibration certificate traceable to NIST that states it has passed a test for accuracy.

Extended Life with RTD Probe—Thermometers with resistance temperature detector (RTD) probes have a longer service life and more consistent readings over time compared to thermometers with thermocouple probes.

Water-resistant thermometer has a housing that meets IPX7 for protection from temporary submersion.

Food and beverage thermometer meets NSF/ANSI standards. The probe has a pointed tip to pierce dense meats and frozen foods. The housing meets IPX7 for protection from temporary submersion.

Temp. Range	Accuracy	Probe Type	For Use With	Cable Lg.		
With Thermocouple Probe						
Water Resistant	-100° to 500°F	+2.7°F, -6.3°F	K	Surfaces	3 ft.	38785K15 $313.24
With NIST Cert. and Min./Max. Memory	-40° to 482°F	±3.6°F	K	Air, Liquids	4 ft.	9277T26 137.74
With NIST Cert. and Min./Max. Memory	-58° to 1200°F	±0.5°F	K	Surfaces	5 ft.	6174K82 241.86
Food and Beverage	-100° to 500°F	±0.9°F	K	Air, Liquids, Solids	3 ft.	38785K11 313.24
Replacement Probe for Water-Resistant Thermometer						38785K32 181.23
Replacement Probe for Food and Beverage Thermometer						38785K31 156.65
Extended Life with RTD Probe						
With NIST Cert.	-58° to 752°F	±2°F	100 ohm	Air, Gases, Liquids	3 ft.	9282T22■ 351.55
With NIST Cert. and Min./Max. Memory	-76° to 500°F	±1°F	1,000 ohm	Liquids, Semisolids	3 ft.	3263K32 376.60

■ LCD is not backlit.

Water-Resistant Hand-Held Thermometers



A water-resistant housing and rubberized keypad stand up to washdown conditions and outdoor use. Thermometer is °F/°C selectable with a temp. range of -58° to 302°F. Accuracy is ±0.8°F. Thermometer comes with one immersion probe. It has min./max. memory. It also has a backlit LCD. Cable is 3.25 feet long. Batteries are included. To measure the temperature of air or solids, use an air or penetration probe (sold separately).

Thermometer	40055K11	$188.16
Replacement Immersion Probe	40055K21	77.54
Optional Air Probe	40055K22	102.63
Optional Penetration Probe	40055K23	74.12

Fluke High-Accuracy Hand-Held Thermometers



Single-Probe Input

Designed for laboratory applications, these thermometers determine temperature within ±0.75°F accuracy. Thermometers have a temp. range of -40° to 500°F and are °F/°C/Kelvin selectable. They come with a type K thermocouple probe that can be used to monitor air, gas, solid, and surface temperatures. All have a backlit LCD. Cable is 3.25 feet long. Batteries are included. CSA certified and CE marked.

Data-logging thermometers store up to 500 readings and have min./max. memory.

Thermometers with NIST certificate include a calibration certificate traceable to NIST that states the thermometer has passed a test for accuracy.

	Fluke No.	Thermometers		Thermometers with NIST Certificate	
Standard					
Single-Probe Input	51-2	40255K31	$295.82	40255K41	$424.74
Dual-Probe Input	52-2	40255K32	345.12	40255K42	473.94
Data Logging					
Single-Probe Input	53-2B	40255K33	415.01	40255K43	545.22
Dual-Probe Input	54-2B	40255K34	466.14	40255K44	596.36

For information about thermocouples and RTDs, see page 628.

Data-Logging Hand-Held Thermometers

Measure and store thousands of temperature readings and upload data to a PC. Thermometers are °F/°C selectable. All have min./max. memory. They also have a backlit LCD. Batteries are included. CE marked.

Thermometer with Type K Thermocouple Probe—Measure and store up to 8,800 temperature readings from two sources and upload using the RS-232 port. Software and cable are included.

Thermometer with Extended-Life 100-ohm RTD Probe—For more accurate and consistent readings than thermometers with thermocouple probes and a longer service life, this thermometer has a resistance temperature detector (RTD) probe. It logs up to 2,000 time- and date-stamped readings that can be uploaded using the USB port. Conserve battery life with the optional power adapter (sold separately).



With RTD Probe

With Probe Type	Temp. Range	Accuracy	For Use With	Cable Lg.		
Type K Thermocouple	-22° to 572°F	± 1.75°F	Air, Gases, Surfaces	3 ft.	9281T44	$259.19
Extended Life 100-ohm RTD	-58° to 932°F	± 0.1°F	Air, Gases, Liquids, Solids, Surfaces	5 ft.	38655K18	535.54
Optional 120V AC/240V AC Power Adapter for Extended-Life Thermometer					38655K52	72.70
Replacement Type K Thermocouple Probe					9281T21	19.19
Replacement Extended Life 100-ohm RTD Probe					38655K49	141.05

Infrared Thermometers

Check the temperature of hazardous, hard-to-reach, and moving surfaces without risking electrical shock or contamination. These thermometers are often used to locate and diagnose problems in electrical, heating, and ventilation systems. They are °F/°C selectable with a resolution of 0.1. All have an LCD. Response time is 1 second. Thermometers have a laser sight and shut off automatically. Batteries are included. CE marked.

Thermometers with NIST certificate come with a calibration certificate traceable to NIST that states they've passed a test for accuracy.

Thermometers with adjustable emissivity can be calibrated for more accurate readings of shiny surfaces than thermometers with fixed emissivity.



Temp. Range	Accuracy	Emissivity	Max. Working Distance	Overall Size Ht.	Wd.	Dp.	Thermometers		Thermometers with NIST Cert.	
Fixed Emissivity for Dark Surfaces										
-76° to 932°F	±2%	0.95	2 ft.	7″	1½″	3″	_____	_____	9248T57	$141.15
-58° to 1832°F	±1.5%	0.95	25 ft.	9″	2¼″	4″	_____	_____	40045K51	238.72
0° to 750°F	±2%	0.95	8 ft.	6″	1½″	4″	3734K42	$80.64	_____	_____
Adjustable Emissivity for Light, Dark, and Shiny Surfaces										
-58° to 1200°F	±1%	0.1 to 1	12 ft.	6⅜″	1⅝″	3¼″	9254T61	95.22	9254T72	257.93
-40° to 1022°F	±1%	0.3 to 0.95	12 ft.	7″	2″	6½″	11175K91	195.82	11175K51	347.30
-40° to 1202°F	±1%	0.1 to 1	30 ft.	7″	2″	6½″	11175K93	342.74	11175K53	494.19
-40° to 1472°F	±1%	0.1 to 1	50 ft.	7″	2″	6½″	11175K94	391.68	11175K54	536.95
-22° to 932°F	±1.5%	0.1 to 1	10 ft.	6⅞″	3″	3⅜″	3734K62	97.88	_____	_____

Pocket Infrared Thermometers

Keep these small thermometers in your pocket or toolkit to spot check the temperature of hazardous, hard-to-reach, and moving surfaces without touching them. They are °F/°C selectable with a resolution of 0.1, unless noted. All have an LCD. Response time is 1 second, except Style D is not rated for response time. Thermometers have a laser sight, unless noted. They shut off automatically. Batteries are included. CE marked, unless noted.

Thermometers with NIST certificate come with a calibration certificate traceable to NIST that states they've passed a test for accuracy.

Thermometers with adjustable emissivity can be calibrated for more accurate readings of shiny surfaces than thermometers with fixed emissivity.

Style E meets IP67 for protection against dust and water submersion.



A B C



D E F

	Temp. Range	Accuracy	Emissivity	Max. Working Distance	Overall Size Ht.	Wd.	Dp.		
Fixed Emissivity for Dark Surfaces									
A	-27° to 482°F	±2%	0.95	Not Rated	6″	½″	_____	4231K24♣♦	$63.27
B	-25° to 999°F	±5°F	0.95	2 ft.	8 1/16″	2 7/16″	2 3/16″	3612K12	105.66
Fixed Emissivity for Dark Surfaces with NIST Cert.									
C	-7° to 230°F	±2.7°F	0.95	10″	2½″	1½″	½″	9203T75♦	47.28
Adjustable Emissivity for Light, Dark, and Shiny Surfaces									
D	-4° to 518°F	±2.5%	0.1 to 1	6″	3¾″	2″	1″	9212T21	65.44
E	32° to 932°F	±3.6°F	0.7 to 0.95	15 ft.	6 5/16″	1 11/16″	1 11/16″	6614T31▲	313.19
Adjustable Emissivity for Light, Dark, and Shiny Surfaces with NIST Cert.									
F	-67° to 482°F	± 1.8°F	0.05 to 1	16″	4″	2″	¾″	9233T44	79.45

♣ Not CE marked. ♦ Does not have laser sight. ▲ Resolution is 1.

Thermal Imaging Guns

Detect hot spots, leaks, moisture problems, and construction defects invisible to the eye. These imaging guns translate thermal energy into a color image that indicates hotter areas as brighter and cooler areas as darker, so it's easy to identify and diagnose problems on instrument panels, HVAC systems, and other equipment. Imaging guns have adjustable emissivity and can be used on dark, dull, light, and shiny surfaces. They are° F/° C selectable. Both have an LCD. 4006K8 has a laser sight. Thermal imaging guns come with a rechargeable battery, charger, memory card, and USB cable. CE marked. Cannot be sold in California or Oregon.



Temp. Range	Accuracy	Emissivity	Screen Size	Resolution	Overall Size Ht.	Wd.	Dp.		
-4° to 482°F	±2%	0.1 to 1	3″	80×60	9 9/16″	3 11/16″	5½″	4006K5	$1,243.75
-4° to 1200°F	±2%	0.1 to 1	3½″	160×120	9 11/16″	3 13/16″	7 3/16″	4006K8	3,968.54

Thermocouple Probes

About Selecting Temperature Sensors

RTDs (resistance temperature detectors) and thermocouples are temperature sensors that convert readings into electrical signals that can be transmitted to instrumentation such as switches, controllers, recorders, and thermometers.

Selecting a New Temperature Sensor

Though RTDs and thermocouples both measure temperature, they vary in maximum temperature, accuracy, reliability over time, vibration resistance, and cost. Use this chart to determine which sensor type will work best in your application.

	RTDs	Thermocouples
Maximum Temperature	Moderate	Extremely High
Accuracy	High	Moderate
Reliability Over Time	Consistent	Decreases
Vibration Resistance	Low	High
Cost	Moderate	Low

Replacing a Temperature Sensor

RTDs and thermocouples are not interchangeable. RTDs generally have three wires; thermocouples have two wires.

RTDs are available in 100 ohms or 1,000 ohms. RTD types are not interchangeable.

Thermocouples are available in Types J, K, and T. Types are not interchangeable. If you don't know your thermocouple type, use this chart to identify it by the color of the wire leads or connecting plug.

Type	Best for Measuring	Wire Lead Colors	Plug Color
J	High Temperatures	White and Red	Black
K	High, Fluctuating Temperatures	Yellow and Red	Yellow
T	Low Temperatures	Blue and Red	Blue

Thermocouple performance is impacted by the sensor type.

Exposed Sensor



This sensor has no protective sheath, so it has the best response time but no protection from corrosion and damage.

Ungrounded Sensor

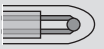

This sensor is isolated from the protective sheath, so it has the slowest response time but is protected from the environment and will not create a ground loop.

Grounded Sensor

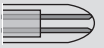

This sensor is welded to the protective sheath for a faster response time than an ungrounded sensor, but it can create a ground loop that interferes with readings.

Thermocouple Probes for Air



1-3



4



5



6

Monitor ambient air temperature throughout your facility. Accuracy is ±0.75%, unless noted. Probes have an exposed sensor.

Probes with armored cable have an armored cable that protects wiring from corrosion and damage in humid conditions and harsh environments. They have a bayonet mounting connection that securely holds the probe in place in high-vibration environments. The included mounting adapter converts the bayonet connection to a threaded connection. Probes have 2″ long, 20-ga. wire leads.

Type	Temp. Range	Probe Lg.	Response Time, sec.	Max. Cable Temp.		
Standard Cable with Flat-Pin Connector						
(1) Copper Probes (1/8″ dia.) with 3-ft. FEP Cable						
J	32° to 400°F	1/4″	7	400°F	6441T671	$43.15
K	-325° to 400°F	1/4″	7	400°F	6441T672★	43.15
T	-325° to 400°F	1/4″	7	400°F	6441T673	43.15
(2) Copper Probes (1/8″ dia.) with 4-ft. Fiberglass Cable						
J	32° to 895°F	1/4″	9	895°F	6441T941	58.07
K	32° to 895°F	1/4″	9	895°F	6441T942★	58.07
T	32° to 750°F	1/4″	9	895°F	6441T944	58.07
(3) Copper Probes (1/8″ dia.) with 15-ft. FEP Cable						
J	32° to 400°F	1/4″	7	400°F	6441T821	74.01
K	-325° to 400°F	1/4″	7	400°F	6441T822★	74.01
T	-325° to 400°F	1/4″	7	400°F	6441T823	74.01

★ Probe is nickel. ■ Accuracy is ±0.4%. ▲ Accuracy is ±0.2%.

Type	Temp. Range	Probe Lg.	Response Time, sec.	Max. Cable Temp.		
Standard Cable with Flat-Pin Connector (Cont.)						
(4) Stainless Steel Probes (1/8″ dia.) with 4-ft. Polyurethane Cable						
J	32° to 500°F	4″	10	175°F	3868K42■	$88.23
K	-100° to 500°F	4″	10	175°F	3868K43▲	88.23
(5) Stainless Steel Probes (1/4″ dia.) with 3.83-ft. Fiberglass Cable						
J	32° to 895°F	2 1/8″	10	895°F	3868K641	75.68
K	32° to 895°F	2 1/8″	10	895°F	3868K642	75.68
Armored Cable with Wire Leads						
(6) Stainless Steel Probes (3/16″ dia.) with 3-ft. Stainless Steel Cable						
J	32° to 900°F	1/4″	8	900°F	3860K96	44.94
K	32° to 900°F	1/4″	8	900°F	3860K97	43.82
Replacement Mounting Adapter for Style 6					3860K73	11.20

High-Temperature Thermocouple Probes for Air



Thick wire with ceramic insulation stands up to extreme air temperatures in forging, die casting, and heat treating. Probes have 1 1/2″ long wire leads. Accuracy is ±0.75%. Response time is 5 seconds. All have an exposed sensor. *Type J* probes are iron/nickel; *Type K* probes are nickel.

Probe Dia.	Wire Ga.	12″ Length		18″ Length		24″ Length	
Type J Probes—32° to 1400°F Temp. Range							
1/4″	14	3859K41	$5.62	3859K42	$8.09	3859K43	$10.56
1/2″	8	3859K31	10.79	3859K32	16.18	3859K33	21.35
Type K Probes—32° to 2300°F Temp. Range							
1/4″	14	3859K44	6.74	3859K45	10.11	3859K46	13.48
1/2″	8	3859K34	17.30	3859K35	25.84	3859K36	34.38

Thermocouple Probes for Surfaces



Standard



Heavy Duty

Touch the probe tip to your surface for a quick reading. Probes have 20-ga. wire leads. Wire leads are 2″ long, except heavy duty probes have 3″ long wire leads. Accuracy is ±0.75%.

Standard probes have a fiberglass cable. They have an exposed sensor. *Type J* probes are iron; *Type K* probes are nickel; *Type T* probe is copper.

Heavy duty probes have an armored stainless steel cable that resists wear, abrasion, and corrosion in humid and harsh conditions. A bayonet connection securely holds the probe in place in high-vibration environments. Probes are stainless steel and have a grounded sensor.

Type	Temp. Range	Cable Lg.	Response Time, sec.	Max. Cable Temp.		
Standard—1/16″ Dia. x 3/8″ Lg. Probe						
J	32° to 900°F	3 ft.	1.8	900°F	9251T91	$19.50
J	32° to 900°F	6 ft.	1.8	900°F	9251T92	21.40
K	32° to 900°F	3 ft.	1.8	900°F	9251T93	19.40
K	32° to 900°F	6 ft.	1.8	900°F	9251T94	22.10
T	32° to 500°F	6 ft.	1.8	900°F	9251T96	21.00
Heavy Duty—3/16″ Dia. x 1/2″ Lg. Probe						
J	32° to 1380°F	8 ft.	2.5	950°F	3860K53	32.86
K	32° to 2280°F	8 ft.	2.5	950°F	3860K59	32.86

Hand-Held Thermocouple Probes for Surfaces


Straight Probe


60° Angled Probe


90° Angled Probe

Often used with thermocouple thermometers, these probes have a handle for a comfortable grip. All have a flat-pin connector. Probes are stainless steel and have a 4-ft. polyurethane cable. Not rated for accuracy.

Type	Temp. Range	Probe Lg.	Response Time, sec.	Max. Cable Temp.		
Straight Probes (7/16" dia.)—Exposed Sensor						
J	32° to 1200°F	4"	1	175°F	3861K36	$146.17
K	-40° to 1200°F	4"	1	175°F	3861K37	146.17
T	-40° to 750°F	4"	1	175°F	3861K311	146.17
60° Angled Probes (11/16" dia.)—Grounded Sensor						
J	32° to 500°F	4 1/2"	4	175°F	3861K631	105.88
K	-40° to 500°F	4 1/2"	4	175°F	3861K632	105.88
T	-40° to 500°F	4 1/2"	4	175°F	3861K633	105.88
90° Angled Probes (7/16" dia.)—Exposed Sensor						
J	32° to 1200°F	5"	1	175°F	3861K321	150.84
K	-40° to 1200°F	5"	1	175°F	3861K322	150.84

Noncontact Infrared Thermocouple Probes for Surfaces



Monitor the temperature of hazardous, sensitive, and hard-to-reach surfaces without touching them. The 304 stainless steel enclosure meets NEMA 4 for use in washdown environments and IP65 for protection from dust and splashing water.

Thermocouples require 12V-24V DC power. Use the *optional power adapter* to convert AC voltage to DC voltage. Use the included nuts to install these probes through a panel with a 3/4" dia. cutout or use the optional mounting bracket to surface mount for continuous, hands-free temperature monitoring. Thermocouples have a 3.25-ft. PVC cable with wire leads. Accuracy is ±2%. Response time is 0.35 seconds.

Type	Temp. Range	Max. Working Distance	Probe Dia.	Probe Lg.	Max. Cable Temp.		
J	32° to 660°F	4 ft.	3/4"	3 1/2"	220°F	3889K111	$318.04
J	85° to 930°F	4 ft.	3/4"	3 1/2"	220°F	3889K211	318.04
Optional Power Adapter—120V AC/240V AC Input						3889K31	137.03
Optional Mounting Bracket						3889K32	45.04

Quick-Connect Thermocouple Probes for Surfaces


Hose-Clamp Probe


Hook-and-Loop Probe


Magnetic Probe


Clip-On Probe with 5-ft.Cable


Clip-On Probe with 10-ft. Cable


Bolt-On Probe


Adhesive-Back Probe

The probe tips come attached to mounting connections for fast installation. Accuracy is ±0.75%, unless noted.

Hose-clamp and **hook-and-loop** probes fit around pipes, tubes, and cylindrical containers. *Hose-clamp* probes have a 25 second response time. *Hook-and-loop* probes have a 60 second response time.

Magnetic probes mount on any flat, ferrous surface. They have a magnetic holding force of 16 lbs. Wire leads are 1/4" long. Not rated for response time.

Clip-on probes attach to vents, oven racks, circuit boards, and other irregular surfaces. Response time is 5 seconds.

Bolt-on probes mount on motors, machines, and other equipment for temperature readings in high-vibration environments. They have fiberglass insulation and a 300 series stainless steel jacket. Wire leads are 48" long. Response time is 2 seconds. Mounting bolt is not included.

Adhesive-back probes stick to your surface and have a slim profile that fits in tight spots. They have fiberglass insulation and jacket. Wire leads are 48" long. Response time is 2 seconds.

Hose-Clamp Probes with Flat-Pin Connector—Grounded Sensor

Type	Temp. Range	Opening Range	Max. Cable Temp.		
Stainless Steel Probes with 10-ft. Stainless Steel Cable					
J	32° to 250°F	11/16"-1 1/4"	950°F	37045K511	$26.69
J	32° to 250°F	13/16"-1 1/2"	950°F	37045K521	29.89
J	32° to 250°F	1 5/16"-2 1/4"	950°F	37045K531	32.03
K	32° to 250°F	11/16"-1 1/4"	950°F	37045K512	26.69
K	32° to 250°F	13/16"-1 1/2"	950°F	37045K522	29.89
K	32° to 250°F	1 5/16"-2 1/4"	950°F	37045K532	32.03

Hook-and-Loop Probes with Flat-Pin Connector—Exposed Sensor

Type	Temp. Range	Strap Lg.	Strap Wd.	Max. Cable Temp.		
Nylon Probes with 10-ft. PVC Cable						
J	-310° to 250°F	8"	1"	250°F	37045K191♦	$34.95
K	-415° to 250°F	8"	1"	250°F	37045K192♦	34.95

♦ Accuracy is ±3°F.

Magnetic Probes with 24-ga. Wire Leads—Exposed Sensor

Type	Temp. Range	Probe Dia.	Probe Lg.	Max. Cable Temp.		
Stainless Steel Probes with 6-ft. Fiberglass Cable						
J	32° to 1000°F	1"	1/2"	1000°F	6445T64	$141.00
K	32° to 1000°F	1"	1/2"	1000°F	6445T68	141.00

Clip-On Probes with Flat-Pin Connector—Exposed Sensor

Type	Temp. Range	Opening Size	Probe Lg.	Max. Cable Temp.		
Brass Probes with 5-ft. PVC Cable						
J	-310° to 250°F	3/8"	2"	250°F	6443T211♣	$30.51
K	-415° to 250°F	3/8"	2"	250°F	6443T212♣	30.51
Brass Probes with 10-ft. Stainless Steel Cable						
J	-310° to 850°F	3/8"	2"	900°F	6443T811♣	42.72
K	-415° to 850°F	3/8"	2"	900°F	6443T812♣	42.72

♣ Accuracy is ±5°F.

Bolt-On Probes with 24-ga. Wire Leads—Grounded Sensor

Type	Temp. Range	Probe Lg.	Probe Wd.	Probe Thick.	Bolt Hole Dia.		
Nickel Probes							
J	32° to 900°F	5/8"	5/16"	1/16"	3/16"	3648K22	$25.69
K	32° to 900°F	5/8"	5/16"	1/16"	3/16"	3648K24	25.69
T	32° to 900°F	5/8"	5/16"	1/16"	3/16"	3648K26	25.69

Adhesive-Back Probes with 30-ga. Wire Leads—Exposed Sensor

Type	Temp. Range	Probe Lg.	Probe Wd.	Probe Thick.		
Polyimide Probes						
J	32° to 400°F	1 1/4"	1"	1/16"	3648K32	$51.33
K	32° to 400°F	1 1/4"	1"	1/16"	3648K34	51.33
T	32° to 400°F	1 1/4"	1"	1/16"	3648K36	51.33

Threaded Thermocouple Probes for Liquids and Gases

For easy installation in thermowells, tanks, pipes, and other closed vessels, these thermocouples have a 1/2 NPT male probe connection and 3" long, 24-ga. wire leads. Probes are stainless steel and have a 4-ft. fiberglass cable. Accuracy is ±0.75%. Response time is 8 seconds. All have a grounded sensor.



Type	Temp. Range	Probe Dia.	Max. Cable Temp.	3" Length		6" Length		9" Length		12" Length	
J	32° to 900°F	3/16"	900°F	1245N11	$67.03	1245N14	$67.86	1245N17	$68.70	1245N21	$69.54
K	32° to 900°F	3/16"	900°F	1245N12	67.03	1245N15	67.86	1245N18	68.70	1245N22	69.54
T	32° to 700°F	3/16"	900°F	1245N13	67.03	1245N16	67.86	1245N19	68.70	1245N23	69.54

Thermocouple Probes

For information about thermocouples and RTDs, see page 628.

Thermocouple Probes for Liquids and Gases



Standard Cable with Wire Leads



Armored Cable with Flat-Pin Connector

Keep tabs on liquid and gas process temperatures. Accuracy is ±0.75%, unless noted. All probes have a grounded sensor.
Probes with standard cable have 20-ga. wire leads. They are not rated for response time.
Probes with armored cable protect thermocouple wiring from wear and corrosion. Response time is 1 second.

Standard Cable with Wire Leads

Stainless Steel Probes (3/16″ dia.) with 4-ft. Fiberglass Cable

Type	Temp. Range	Probe Lg.	Wire Lead Lg.	Max. Cable Temp.		
J	32° to 900°F	6″	1 3/4″	900°F	3871K52	$28.77
J	32° to 900°F	12″	3″	900°F	3871K811	35.65
J	32° to 1150°F	6″	3″	900°F	3871K911	53.75
K	32° to 900°F	6″	1 3/4″	900°F	3871K54	28.77
K	32° to 900°F	12″	3″	900°F	3871K812	35.65
K	32° to 1650°F	6″	3″	900°F	3871K912	61.00
T	-325° to 700°F	6″	1 3/4″	900°F	3871K66	30.99

Stainless Steel Probes (1/4″ dia.) with 4-ft. Fiberglass Cable

J	32° to 900°F	6″	1 3/4″	900°F	3871K53	29.64
J	32° to 900°F	12″	3″	900°F	3871K821	35.65
J	32° to 1330°F	6″	3″	900°F	3871K921	57.77

■ Accuracy is ±0.4%.

Standard Cable with Wire Leads (Cont.)

Stainless Steel Probes (1/4″ dia.) with 4-ft. Fiberglass Cable (Cont.)

K	32° to 900°F	6″	1 3/4″	900°F	3871K55	$30.21
K	32° to 900°F	12″	3″	900°F	3871K822	35.65
K	32° to 1650°F	6″	3″	900°F	3871K922	57.77
T	-325° to 700°F	6″	1 3/4″	900°F	3871K77	29.64
T	-325° to 700°F	12″	3″	900°F	3871K823	35.65

Armored Cable with Flat-Pin Connector

Stainless Steel Probes (3/16″ dia.) with 3-ft. Stainless Steel Cable

J	32° to 1150°F	24″	–	900°F	39095K11 ■	49.56
K	-325° to 1700°F	24″	–	900°F	39095K12 ■	46.67

Bendable Thermocouple Probes for Liquids and Gases



Probe without Cable



Probe with Cable

Bend these probes up to 90° for a custom fit. Probes are stainless steel. Accuracy is ±0.4%. All have a grounded sensor.

With Flat-Pin Connector

Type	Temp. Range	Probe Dia.	Response Time, sec.	12″ Length		18″ Length		24″ Length		36″ Length	
Without Cable											
J	32° to 970°F	1/8″	0.5	39095K61	$20.89	39095K62	$23.11	39095K63	$24.22	39095K241	$27.56
K	-325° to 1700°F	1/8″	0.5	39095K64	20.89	39095K65	23.11	39095K66	24.22	39095K242	27.56
T	-325° to 700°F	1/8″	0.5	39095K67	20.89	39095K68	23.11				
With 3-ft. Fiberglass Cable—900°F Max. Cable Temp.											
J	32° to 970°F	1/8″	0.5	39095K51	36.00	39095K52	37.78	39095K53	39.33		
K	-325° to 1700°F	1/8″	0.5	39095K54	36.00	39095K55	37.78	39095K56	39.33		
T	-325° to 700°F	1/8″	0.5	39095K57	36.00	39095K58	37.78	39095K59	39.33		
With 3-ft. PVC Cable—220°F Max. Cable Temp.											
J	32° to 825°F	1/16″	0.3	39095K95▲	39.11						
K	-325° to 1690°F	1/16″	0.3	39095K96▲	40.89						
T	-325° to 500°F	1/16″	0.3	39095K97▲	40.44						

▲ Probe length is 7″.

With Round-Pin Connector

To Order: Please specify thermocouple probe type: Type J (32° to 970°F), Type K (-325° to 1700°F), or Type T (-325° to 700°F).

Probe Dia.	Response Time, sec.	6″ Length		12″ Length		18″ Length		24″ Length	
Without Cable									
1/8″	0.6	3856K91	$22.00	3856K33	$23.37	3856K35	$23.78	3856K37	$25.55
3/16″	0.9	3856K71	24.66	3856K94	24.67	3856K95	27.56	3856K96	30.23
1/4″	1.3	3856K72	30.00	3856K74	29.99	3856K76	34.71	3856K77	39.01
With 3-ft. Fiberglass Cable—900°F Max. Cable Temp.									
1/8″	0.6	3857K21	37.33	3857K84	37.33	3857K86	38.89	3857K88	40.67
3/16″	0.9	3857K23	40.00	3857K24	41.33	3857K25	42.44	3857K26	45.33
1/4″	1.3	3857K22	45.11	3857K85	45.57	3857K87	49.56	3857K89	54.00

Heavy Duty Threaded Thermocouple Probes for Liquids and Gases

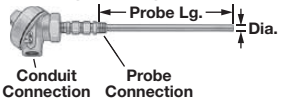

A protective head prevents dust and moisture from damaging the terminal block, and thick probe walls reduce wear on the sensing element. Terminal block has screw connections. Probes are stainless steel. Accuracy is ±0.75%. Not rated for response time. All have a grounded sensor.

To Order: Please specify thermocouple type from those listed.

With Aluminum Head

Terminal block accepts a maximum wire size of 20 ga.

Available Thermocouple Types

Type	Temp. Range
J	32° to 1400°F
K	32° to 1650°F
T	-325° to 700°F

⌐ Probe ¬ Dia.	Lg.	O'all Lg.	Probe Connection, NPT male	Conduit Connection, NPT female		
3/16″	6″	11″	1/2	3/4	3872K51	$109.33
1/4″	6″	11″	1/2	3/4	3872K52	109.33
3/16″	12″	17″	1/2	3/4	3872K81	111.83
1/4″	12″	17″	1/2	3/4	3872K91	120.14

With Cast Iron Head

Terminal block accepts a maximum wire size of 14 ga. Head is FM approved.

Available Thermocouple Types

Type	Temp. Range
J	32° to 1400°F
K	32° to 2000°F

⌐ Probe ¬ Dia.	Lg.	O'all Lg.	Probe Connection, NPT male	Conduit Connection, NPT female		
1/2″	10″	17 1/4″	1/2	3/4	3864K33	$212.23
1/2″	16″	23 1/4″	1/2	3/4	3864K34	232.67
1/2″	22″	29 1/4″	1/2	3/4	3864K35	253.12

For information about thermocouples and RTDs, see page 628.

Threaded Thermocouple Probes with Thermowell for Liquids and Gases

The included thermowell protects the probe from vibration, corrosion, and shock in tanks and pipelines. Probes have a terminal block with screw connections. Probe is ceramic and head is cast iron. Accuracy is ±0.75%. Not rated for response time.

Probes with a 304 stainless steel thermowell accept a maximum wire size of 20 ga.

Probes with a 316 stainless steel thermowell accept a maximum wire size of 14 ga.

Available Thermocouple Types	
Type	Temp. Range
J	32° to 1400°F
K	32° to 1600°F
T	-325° to 700°F

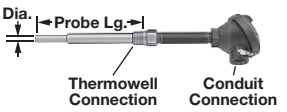

To Order: Please specify thermocouple type from those listed.

304 Stainless Steel Thermowell—Ungrounded Sensor

Probe Dia.	Probe Lg.	O'all Lg.	Thermowell Connection, NPT male	Conduit Connection, NPT female		
1/2"	6"	14"	3/4	3/4	3865K91	$131.62
1/2"	9"	17"	3/4	3/4	3865K92	174.44
1/2"	12"	20"	3/4	3/4	3865K93	193.36

316 Stainless Steel Thermowell—Grounded Sensor

Probe Dia.	Probe Lg.	O'all Lg.	Thermowell Connection, NPT male	Conduit Connection, NPT female		
1/2"	5 1/2"	13 1/8"	3/4	3/4	6447T77	$129.27
1/2"	8 1/2"	16 1/8"	3/4	3/4	6447T78	142.91
1/2"	11 1/2"	19 1/8"	3/4	3/4	6447T79	171.60

Thermocouple Probes for Solids

Pierce pliable plastics, rubber, and other soft solids to check the internal temperature. Probes have a flat-pin connector. All are stainless steel. Accuracy is ±0.75%, unless noted. Probes have a grounded sensor, except Style 8 has an ungrounded sensor.

Pointed-tip probes pierce dense solids more easily than round-tip probes. *Needle-tip* probes minimize puncture damage when inserted into sensitive materials and small objects.

Probes with armored cable have an armored stainless steel cable that protects wiring from corrosion and damage in humid conditions and harsh environments.

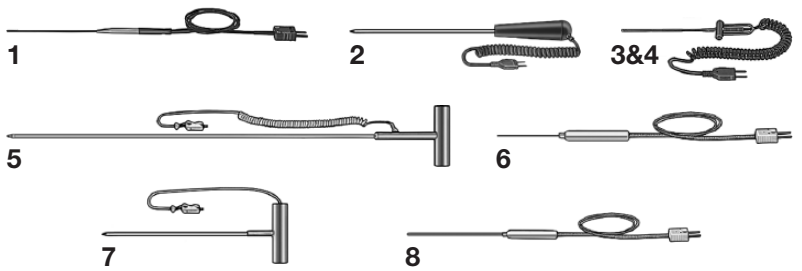

Standard Cable

Type	Temp. Range	Probe Lg.	Response Time, sec.	Max. Cable Temp.		
(1) Pointed-Tip Probes (1/16" dia.) with 3-ft. PVC Cable						
J	32° to 500°F	4"	3	220°F	39105K511	$132.51
K	-100° to 500°F	4"	3	220°F	39105K512	132.51
(2) Pointed-Tip Probes (1/16" dia.) with 4-ft. Polyurethane Cable						
J	32° to 930°F	12"	1	175°F	39105K411♦	261.84
K	32° to 930°F	12"	1	175°F	39105K412♦	261.84
(3) Pointed-Tip Probes (3/32" dia.) with 4-ft. Polyurethane Cable						
J	32° to 500°F	6"	2	175°F	39105K651♦	79.13
K	-40° to 500°F	6"	2	175°F	39105K652♣	79.13
(4) Pointed-Tip Probes (1/8" dia.) with 4-ft. Polyurethane Cable						
J	32° to 500°F	4 1/2"	4	175°F	39105K76♦	69.11
K	-40° to 500°F	4 1/2"	4	175°F	39105K72♣	69.11
T	-40° to 500°F	4 1/2"	4	175°F	39105K91♦	69.11
(5) Pointed-Tip Probe (3/8" dia.) with 5-ft. Polyurethane Cable						
K	-165° to 400°F	36"	6	220°F	9261T36	250.62

♦ Accuracy is ±0.4%. ♣ Accuracy is ±0.2%. ♠ Accuracy is ±10°F.

Armored Cable

Type	Temp. Range	Probe Lg.	Response Time, sec.	Max. Cable Temp.		
(6) Needle-Tip Probes (1/16" dia.) with 2.66-ft. Stainless Steel Cable						
J	-330° to 600°F	2"	1	550°F	9262T22	$115.20
K	-330° to 600°F	2"	1	550°F	9262T32	115.20
K	-330° to 600°F	6"	1	550°F	9262T34	115.20
K	-330° to 1500°F	2"	1	550°F	9262T62	115.20
(7) Pointed-Tip Probes (1/4" dia.) with 5-ft. Stainless Steel Cable						
J	-310° to 1400°F	11 1/2"	10	900°F	39105K211♠	124.39
K	-410° to 1650°F	11 1/2"	10	900°F	39105K212♠	124.39
(8) Round-Tip Probes (1/8" dia.) with 2.66-ft. Stainless Steel Cable						
J	-145° to 500°F	12"	15	500°F	9260T51	170.40
K	-145° to 500°F	12"	15	500°F	9260T53	170.40

Cut-to-Length Thermocouple and RTD Probes for Liquids and Gases

Trim these probes to the exact length you need with a pipe cutter. They have 6" long wire leads and a 3" long sensing tip. Probes are stainless steel. Accuracy is ±0.12%. Response time is 107 seconds. **Thermocouple** probes have a grounded sensor; **RTD** probes have a platinum sensing element.

24" long probes have a 20" cuttable length, except RTD probes have a 21" cuttable length.

48" long probes have a 44" cuttable length, except RTD probes have a 45" cuttable length.

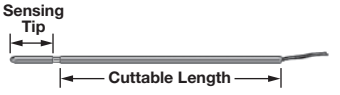

Type	Temp. Range	Probe Dia.	24" Length		48" Length	
Thermocouple Probes—20-ga. Wire Leads						
J	32° to 400°F	1/4"	38705K41	$64.67	38705K31	$106.72
J	32° to 900°F	1/4"	38705K26	63.28	38705K27	101.31
J	32° to 1300°F	1/4"	38705K51	72.67	38705K35	115.90
K	32° to 400°F	1/4"	38705K42	64.67	38705K32	106.72
K	32° to 900°F	1/4"	38705K28	72.13	38705K29	106.39
Thermocouple Probes—20-ga. Wire Leads (Cont.)						
K	32° to 1300°F	1/4"	38705K52	$82.83	38705K36	$121.80
T	-330° to 400°F	1/4"	38705K43	63.17	38705K33	103.44
100-ohm RTD Probes—24-ga. Wire Leads						
—	-55° to 400°F	1/4"	38705K44	82.83	38705K34	118.52
—	-55° to 900°F	1/4"	38705K37	86.17	38705K38	126.89

RTD Probes for Air



Use these RTD probes for more stable air-temperature readings than thermocouple probes. Probes are platinum and have a 100-ohm element. Temperature range is -55° to 400°F. Accuracy is ±0.12%. Cable is PTFE and has a maximum temperature of 400°F. Probes have 1/2" long, 24-ga. wire leads. Response time is 5 seconds.

Probe Dia.	Probe Lg.	Cable Lg.		
1/8"	5/8"	3 ft.	1237N11	$22.10
1/8"	5/8"	6 ft.	1237N12	25.60

RTD Probes with Armored Cable for Liquids and Gases



For a long service life in harsh conditions, this RTD probe has an armored stainless steel cable to protect wiring from corrosion, abrasion, and impact. Probe is stainless steel and has a 100-ohm element. Temperature range is -55° to 400°F. Accuracy is ±0.12%. Cable has a maximum temperature of 400°F. Probe has three, 24-ga. wire leads; leads are 36" long. Response time is 10 seconds.

Probe Dia.	Probe Lg.	Cable Lg.		
1/4"	6"	3 ft.	1220N11	$96.10

RTD Probes

For information about thermocouples and RTDs, see page 628.

RTD Probes for Liquids and Gases

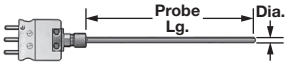

With Round-Pin Connector

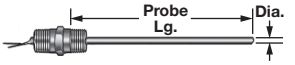

With Threaded Connection and Wire Leads

Obtain more accurate and reliable liquid and gas temperature measurements than thermocouple probes. These RTD probes are stainless steel and have a 100-ohm element. Temperature range is -55° to 400° F. Accuracy is ±0.12%. Response time is 10 seconds.

Probes with round-pin connector have a 3-pin connector.

Probes with threaded connection and wire leads are often used to measure temperature in water lines and low-pressure steam lines. They have a ½ NPT male probe connection for easy installation in pipes, tanks, and thermowells. Probes have three, 24-ga. wire leads; leads are 3″ long.

	With Round-Pin Connector			With Threaded Connection and Wire Leads		
Probe Dia.	Probe Lg.			Probe Lg.		
¼″	6″	3866K85	$85.32	6⅝″	3866K43	$87.10
¼″	12″	3866K86	87.42	12⅝″	3866K44	90.03

Threaded RTD Probes for Liquids and Gases



To protect the probe from vibration, corrosion, and shock, these RTD probes come with a 304 stainless steel thermowell. Probes are stainless steel and have a 100-ohm element. Temperature range is -55° to 400° F. Accuracy is ±0.12%. Head is cast iron and has a terminal block with screw connections to attach wire. Response time is 30 seconds.

Probe Dia.	Probe Lg.	O'all Lg.	Thermowell Connection, NPT male	Conduit Connection, NPT female		
½″	5½″	14⅛″	¾	¾	6581T51	$204.86
½″	8½″	17⅛″	¾	¾	6581T52	238.57
½″	11½″	20⅛″	¾	¾	6581T53	276.58

Threaded RTD Probes with 4-20 mA Output

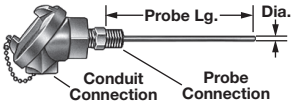

With NPT Conduit Connection

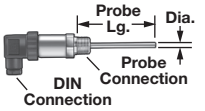

With DIN Connection

A built-in transmitter converts the probe's temperature readings to a 4-20 mA signal for use with switches, controllers, and data loggers. Probes are stainless steel and have a 100-ohm element. Probe connection is ½ NPT male. Probes operate on 10V-30V DC power.

Probes with NPT conduit connection measure air temperature. Conduit connection is ¾ NPT female. Accuracy is ±0.1%. Probes have an aluminum head with a screw-on cap and retaining chain. The transmitter has screw terminal connections. Response time is 6 seconds.

Probes with DIN connection measure both liquid and gas temperatures. Accuracy is ±0.5%. Probes have a plastic head. They have a maximum pressure of 600 psi @ 70° F. Response time is 10 seconds. Probes meet IP65 for protection from dust and splashing water. CE marked.

Temp. Range	Probe Dia.	Probe Lg.	O'all Lg.		
With NPT Conduit Connection					
0° to 400° F	¼″	4″	9″	40705K35	$227.29
0° to 400° F	¼″	6″	11″	40705K45	227.29
0° to 400° F	¼″	9″	14″	40705K55	227.29
0° to 400° F	¼″	12″	17″	40705K65	227.29

Temp. Range	Probe Dia.	Probe Lg.	O'all Lg.		
With DIN Connection					
-40° to 120° F	¼″	4″	7¼″	6467T21	$228.38
0° to 140° F	¼″	6″	9¼″	6467T24	235.07
0° to 200° F	¼″	9″	12¼″	6467T26	237.29

Food and Beverage RTD Probes with Sanitary Quick-Clamp Connection

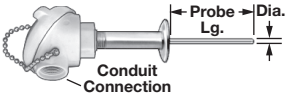

Designed for clean-in-place applications such as dairy processing and food-preparation areas, these 3-A certified RTDs have a sanitary quick-clamp probe connection for easy removal. For sanitary quick-clamp fittings, see pages 228-232. Probes are stainless steel and have a 100-ohm element. Temperature range is -325° to 400° F. Accuracy is ±0.1%. Head is plastic and flange is 316 stainless steel. Probes have screw terminal connections. Response time is 5 seconds.

Flange OD	For Tube OD	Probe Dia.	Probe Lg.	O'all Lg.	Conduit Connection, NPT female		
1.984″	1½″	¼″	4″	11″	¾	3858K11	$136.89
2.516″	2″	¼″	4″	11″	¾	3858K12	142.89

Quick-Connect RTD Probes for Surfaces



A B C D E F

For fast installation, the tips of these RTD probes come attached to mounting connections. Accuracy is ±0.12%. Probes have 40″ long wire leads.

Adhesive-back probes stick to your surface and have a slim profile that fits in tight spots. Probes are platinum.

Bolt-on probes securely mount on machines, motors, and other equipment. They meet MS-202 (Method 204, Test Condition D) for use in high-vibration environments. Probes are stainless steel, unless noted. They have a mounting hole, except for Style B which has an attached bolt that fits a ¼″-20 hole. Fasteners are not included.

Temp. Range	Probe Lg.	Probe Wd.	Probe Thick.	Bolt Hole Dia.	Wire Ga.	Response Time, sec.	100-ohm 3-Wire		1,000-ohm 2-Wire	
Adhesive-Back Probes										
With Polyimide Insulation and Jacket										
A -4° to 350° F	⅝″	3⁄16″	1⁄16″	—	26	0.4	6568T49	$88.33	6568T19	$117.38
A -4° to 350° F	13⁄16″	⅜″	1⁄16″	—	26	0.9	6568T46	48.33	6568T16	55.60
A -4° to 350° F	⅝″	3⁄16″	1⁄16″	—	26	1	6568T43	49.29	6568T13	75.36
A -4° to 350° F	⅝″	5⁄16″	1⁄16″	—	22	1.2	6568T47	53.57	6568T17	78.93
Bolt-On Probes										
With PTFE Insulation and Jacket										
B -55° to 500° F	⅜″	—	—	—	26	10	6577T38	68.69	6577T28★	78.93
C -55° to 500° F	⅜″	½″	3⁄16″	5⁄32″	26	10	6577T37	74.64	6577T27★	140.71
D -55° to 500° F	1″	½″	3⁄16″	17⁄64″	26	10	6577T35■	64.29	6577T25★■	67.86
With Mica-Glass Insulation and Jacket										
E -90° to 930° F	1″	½″	3⁄16″	5⁄32″	22	10	6577T31	109.52	6577T21	179.64
F -90° to 930° F	1¼″	5⁄16″	3⁄16″	5⁄32″	22	10	6577T32	91.90	6577T22	100.12

★ Wire leads are 24 ga. ■ Probe is nickel-plated copper.

For information about thermocouples and RTDs, see page 628.

Thermocouple and RTD Wire

Make your own thermocouples and RTDs. *Stranded* wire is more flexible than solid wire.
PVC insulation and jacket is good for general purpose applications.
FEP insulation and jacket is more abrasion and chemical resistant than PVC.
Fiberglass insulation and jacket is rated for higher temperatures than PVC and FEP and is highly resistant to chemicals.
Polyimide insulation and jacket stands up to humid conditions and rapid temperature changes.



Solid Thermocouple Wire



Stranded RTD Wire

Thermocouple Wire—Two Wires

Thermocouple extension wire carries thermocouple signals over longer distances than standard thermocouple wire by lengthening existing thermocouple connections. UL recognized.

Type	Max. Temp.	Wire Color: Positive	Wire Color: Negative	Jacket Color	24 Gauge	Per Ft. 1-99	Per Ft. 100-Up	20 Gauge	Per Ft. 1-99	Per Ft. 100-Up	16 Gauge	Per Ft. 1-99	Per Ft. 100-Up
Solid Thermocouple Wire													
With FEP Insulation and Jacket													
J	400°F	White	Red	Brown	3870K31	$1.05	$0.82	3870K61	$1.16	$0.96	3870K49	$1.82	$1.42
K	400°F	Yellow	Red	Brown	3870K32	1.20	.97	3870K62	1.24	.95	3870K51	3.04	2.36
T	400°F	Blue	Red	Brown	3870K33	.89	.69	3870K57	1.00	.78	3870K56	1.85	1.44
With Fiberglass Insulation and Jacket													
J	900°F	White	Red	Brown/Black	3870K34	1.00	.81	3870K63	1.04	.84	3870K52	2.09	1.61
K	900°F	Yellow	Red	Brown/Yellow	3870K35	1.08	.84	3870K64	1.09	.87	3870K53	2.20	1.71
T	900°F	Blue	Red	Brown/Blue	3870K36	1.02	.79	3870K59	1.06	.82	3870K58	2.09	1.61
With Vitreous Silica Insulation and Jacket													
KK	1600°F	White/Yellow	White/Red	White				3870K65	3.06	2.38	3870K54	6.45	4.99
With Ceramic Fiber Insulation and Jacket													
KK	2200°F	White/Yellow	White/Red	White/Yellow				3870K66	3.47	2.67	3870K55	6.97	5.37
Stranded Thermocouple Wire													
With FEP Insulation and Jacket													
J	400°F	White	Red	Brown	6579T37	1.20	.92	6579T21	1.32	1.01	6579T91	2.49	1.93
K	400°F	Yellow	Red	Brown	6579T38	1.32	1.01	6579T22	1.84	1.42	6579T92	3.34	2.60
T	400°F	Blue	Red	Brown	6579T39	1.26	.97	6579T23	1.37	1.05	6579T93	2.22	1.73
With Fiberglass Insulation and Jacket													
J	900°F	White	Red	Brown/Black	6579T41	1.04	.77	6579T24	1.28	.95	6579T94	2.29	1.78
K	900°F	Yellow	Red	Brown/Yellow	6579T42	1.34	1.00	6579T25	1.64	1.28	6579T95	2.83	2.20
T	900°F	Blue	Red	Brown/Blue	6579T43	1.18	.87	6579T26	1.46	1.08	6579T96	2.17	1.69
With Polyimide Insulation and Jacket													
J	600°F	White	Red	Brown				6579T53	1.75	1.36			
K	600°F	Yellow	Red	Brown				6579T51	2.22	1.72			
Solid Thermocouple Extension Wire													
With PVC Insulation and Jacket													
JX	220°F	White	Red	Black				3870K82	.52	.41	3870K69	.87	.67
KX	220°F	Yellow	Red	Yellow				3870K81	.85	.66	3870K71	1.44	1.10
TX	220°F	Blue	Red	Blue				3870K86	.52	.41	3870K72	.91	.78

RTD Wire—Three Wires

For use with 100-ohm and 1,000-ohm RTD probes. RTD wire is stranded.

	Max. Temp.	Wire Color: Positive	Wire Color: Negative	Jacket Color	24 Gauge	Per Ft. 1-99	Per Ft. 100-Up	22 Gauge	Per Ft. 1-99	Per Ft. 100-Up
With PVC Insulation and Jacket	220°F	White	Red	White				4062K61	$0.57	$0.46
With FEP Insulation and Jacket	400°F	White	Red	White				4062K62	1.18	0.96
With Fiberglass Insulation and Jacket	900°F	White	Red	White/Red	4062K66	$0.88	$0.71	4062K63	1.94	1.55

Thermocouple Extension Wire with Connectors



5-ft. Length



10-, 25-, and 50-ft. Lengths

Extend the reach of your thermocouple probe—plug-in connectors on both ends of this wire speed installation. *Stranded* wire is more flexible than solid wire.

5-ft. lengths have 28-ga. stranded wire with PTFE insulation and a polyurethane jacket. Temp. range is -30° to 220°F.

10-, 25-, and 50-ft. lengths have 24-ga. solid wire with PVC insulation and jacket. Temp. range is -15° to 220°F.

Lg.	Type J	Type K	Type T
Flat-Pin Connectors—Male to Female			
5 ft.	3873K271 $33.70	3873K272 $33.70	3873K273 $33.70
10 ft.	3873K211 30.45	3873K212 30.45	3873K213 30.45
25 ft.	3873K221 40.61	3873K222 40.61	3873K223 40.61
50 ft.	3873K231 56.84	3873K232 56.84	3873K233 56.84
Flat-Pin Connectors—Male to Male			
5 ft.	3873K61 38.46	3873K62 38.46	3873K63 38.46
10 ft.	3873K64 35.00	3873K65 35.00	3873K66 35.00
25 ft.	3873K67 45.71	3873K68 45.71	3873K69 45.71
50 ft.	3873K71 63.57	3873K72 63.57	3873K73 63.57
Round-Pin Connectors—Male to Female			
10 ft.	3873K241 32.47	3873K242 32.47	3873K243 32.47
25 ft.	3873K251 43.34	3873K252 43.34	3873K253 43.34
50 ft.	3873K261 56.84	3873K262 56.84	3873K263 56.84

Panel-Mount Thermocouple Connection Strips



Flat-Pin Connection



Round-Pin Connection

Connect multiple thermocouple probes to an instrument panel. All have female screw terminal connections. Body is plastic. Maximum temperature is 400°F. Mounting fasteners are included.

Flat-pin connection strips accept a maximum wire size of 24 ga. Panel cutout height is 1″.

Round-pin connection strips accept a maximum wire size of 16 ga. Panel cutout height is 1¼″.

Connection strips for Type J thermocouples are black and have iron contacts; *Type K* are yellow and have nickel contacts; *Type T* are blue and have copper contacts.

To Order: Please specify thermocouple probe type: Type J, Type K, or Type T.

No. of Connections	Flat-Pin Connection: Panel Cutout Wd.			Round-Pin Connection: Panel Cutout Wd.		
2	1¼″	3921K821	$14.13	1 5⁄16″	3921K825	$15.56
4	2 5⁄8″	3921K822	28.27	2 13⁄16″	3921K826	31.10
6	4″	3921K823	42.40	4 5⁄16″	3921K827	46.67
8	5 3⁄8″	3921K824	56.53	5 13⁄16″	3921K828	62.22

Thermocouple and RTD Connectors

Thermocouple Connectors and Adapters—*Type J* have iron contacts; *Type K* have nickel contacts; *Type T* have copper contacts.

Thermocouple Connectors



Add these connectors to thermocouple wire for easy attachment to thermometers and control panels.

(1) Flat Pin with Screw Terminal Connections—Accept a maximum wire size of 24 ga. Type J connectors are black; Type K are yellow; Type T are blue.

(2) Round Pin with Screw Terminal Connections—Accept a maximum wire size of 14 ga. Connectors are red.

(3) Round Pin with Exposed Screw Terminal Connections—The exposed screw terminal lets you quickly attach wire leads without disassembling the connectors. Accept a maximum wire size of 14 ga. Connectors are white.

Choose a Probe Type	Male		Female	
400° F Max. Temp.—Plastic Body				
1 J, K, T	3869K811	$3.41	3869K817	$4.38
2 J, K, T	3869K812	3.65	3869K818	5.30
3 J, K, T	3869K813	4.10	3869K819	5.97
800° F Max. Temp.—Plastic Body				
1 J, K, T	3869K814	6.67	3869K821	8.35
2 J, K, T	3869K815	10.37	3869K822	14.30
3 J, K, T	3869K816	10.37	3869K823	14.30
1000° F Max. Temp.—Ceramic Body				
3 J, K, T	3869K824	8.64	3869K825	9.52

Threaded Thermocouple Connectors


Round-Pin Connector

Also known as feedthrough connectors, these mount through threaded tank openings to make connections between thermocouple probes and external equipment. They have a female screw terminal connection on one end and 24-ga. wire leads on the other. Wire leads have PTFE insulation and jacket and are 48″ long. Body is stainless steel. Temperature range is -40° to 250° F.

Flat-pin connectors have a ½ NPT male probe connection; **round-pin** connectors have a ¾ NPT male probe connection.

Type	Flat-Pin Connector		Round-Pin Connector	
J	3877K221	$61.82	3877K241	$71.43
K	3877K222	61.82	3877K242	71.43
T	3877K223	61.82	3877K243	71.43

Panel-Mount Thermocouple Connectors


Flat-Pin Connector

Plug thermocouple probes into a control panel. Connectors have female screw terminal connections. Body is plastic. Maximum temperature is 400° F. Mounting fasteners are included.

Flat-pin connectors accept a maximum wire size of 20 ga.; **round-pin** connectors accept a maximum wire size of 14 ga.

Type	Color	Flat-Pin Connector Panel Cutout		Round-Pin Connector Panel Cutout	
J	Black	⅞″ Dia. 3869K47	$11.92	1⅛″ Dia. 3869K66	$12.95
K	Yellow	⅞″ Dia. 3869K48	11.92	1⅛″ Dia. 3869K67	12.95
T	Blue	⅞″ Dia. 3869K49	11.92	1⅛″ Dia. 3869K68	12.95

Thermocouple Round-Pin Male to Flat-Pin Male Adapters



Convert round-pin male connectors to flat-pin male connectors. Adapters have plastic bodies. Maximum temperature is 400° F.

Type	Color		
J	Black	3869K69	$9.27
K	Yellow	3869K71	9.27

RTD Connectors


Male


Female

Attach plug-in connectors to RTD probes with wire leads. These round-pin connectors can be used with both 100- and 1,000-ohm RTDs. They have screw terminal connections and accept a maximum wire size of 20 ga. Body is plastic and contacts are copper. Maximum temperature is 400° F.

Male	3869K77	$5.75
Female	3869K76	9.27

Wire-Clamp Brackets


For Flat-Pin Connectors


For Round-Pin Connectors

Install these brackets on thermocouple and RTD connectors to stabilize connections between wire leads and screw terminals. Brackets are stainless steel, except bracket for round-pin thermocouple connectors is steel.

For Flat-Pin Thermocouple Connectors	3869K62	$2.25
For Round-Pin Thermocouple Connectors	3869K19	1.93
For Round-Pin RTD Connectors	3869K61	2.37

Accessories for Thermocouple and RTD Probes

Terminal Blocks



Connect thermocouple probes to extension wire or instrumentation. Terminal blocks have screw terminal connections and accept a maximum wire size of 14 ga. Maximum temperature is 1000° F.

For Thermocouple Wire	38705K82	$11.43
For RTD Wire	38705K83	14.46

Thermocouple and RTD Fittings



Adapt unthreaded thermocouple and RTD connections for use with threaded tanks and connection heads. Fittings have ½ NPT male connections. They are stainless steel.

Standard	38705K81	$34.14
With Fluoroelastomer O-Ring	38705K91	43.00

Connection Heads


With Screw-On Cap


With Hinged Cap

A removable cap seals out dust and moisture and provides easy access to sensor connections. Heads have a ½ NPT female probe connection. Conduit connection is ¾ NPT female.

FM-approved connection heads are rated for use in Class I, Division 1, Groups A, B, C, and D and Class II, Division 1, Groups E, F, and G hazardous locations with flammable gases and combustible dust.

With Screw-On Cap and Retaining Chain		
Plastic	38705K22	$31.23
Cast Iron	38705K84	45.67
Aluminum	38705K85	32.33
Stainless Steel	38705K21	133.32
FM Approved with Screw-On Cap and Retaining Chain		
Aluminum	38705K94	96.71
Stainless Steel	38705K23	150.60
With Hinged Cap		
Plastic	38705K86	31.00

Adjustable Thermocouple and RTD Compression Fittings



Alter probe immersion depth with these fittings that can be repositioned along the probe sheath. Fittings are stainless steel.

For Probe OD	Pipe Size, NPT male		
1/16″	1/8	1695N21	$20.57
1/8″	1/8	1695N22	20.57
3/16″	1/8	1695N23	20.57
1/4″	1/4	1695N24	$77.14
5/16″	1/4	1695N25	77.14
3/8″	1/4	1695N26	77.14

Thermowells

Protect thermometers and temperature probes from pressure, vibration, shock, and corrosion in tanks and pipelines. These thermowells isolate the contents of your process, so you can replace temperature sensors without stopping flow or draining the system. Thermowells are for use with thermometers with a ½ NPT male connection.

Brass thermowells have a maximum temperature of 400° F and maximum pressure of 5,000 psi @ 70° F.

304 stainless steel and *316 stainless steel* thermowells have a maximum temperature of 1600° F and maximum pressure of 7,000 psi @ 70° F, unless noted.

304 stainless steel thermowells are more corrosion resistant than brass thermowells. 316 stainless steel thermowells are extremely resistant to corrosive chemicals.

Heavy Duty Thermowells—Thick walls and a tapered shank shield thermometers and temperature probes from higher pressure and flow than other thermowells.

Thermowells for Insulated Tanks—The extra-long nut on these thermowells lets you install thermometers and temperature probes through thick insulation.

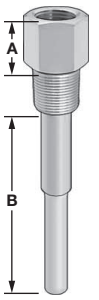

Standard

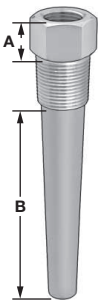

Heavy Duty

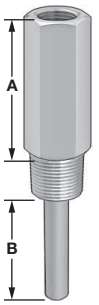

For Insulated Tanks

For Thermometer Stem Lg.	Dia.	Thermowell Connection, NPT male	Nut Lg. (A)	Insertion Lg. (B)	Brass		304 Stainless Steel		316 Stainless Steel	
Standard Thermowells										
2½″	¼″	½	1 1/16″	1⅛″	3957K67	$22.36	3957K68	$25.90	3957K69	$28.49
2½″	¼″	¾	⅜″	1⅝″	3957K77	22.36	3957K78	27.67	3957K79	34.93
2½″	⅞″	1	⅝″	1″		———	3957K98★	45.00	3957K97★	50.22
4″	¼″	½	1″	2½″	3957K64	24.36	3957K65	26.82	3957K66	33.74
4″	⅜″	½	1″	2½″	3957K221	26.82	3957K222	34.25	3957K223	49.39
4″	¼″	¾	1″	2½″	3957K11	24.75	3957K21	28.91	3957K54	36.81
4″	⅜″	¾	1″	2½″	3957K261	30.64	3957K262	33.43	3957K263	49.39
4″	¼″	1	¾″	2½″	3957K46	37.07	3957K47	48.46	3957K58	53.46
6″	¼″	½	1″	4½″	3957K37	32.25	3957K38	40.52	3957K51	48.89
6″	⅜″	½	1″	4½″	3957K231	34.25	3957K232	47.46	3957K233	59.82
6″	¼″	¾	1″	4½″	3957K12	34.04	3957K22	40.47	3957K55	50.75
6″	⅜″	¾	1″	4½″	3957K271	34.25	3957K272	50.36	3957K273	61.75
6″	¼″	1	¾″	4½″	3957K48	49.57	3957K49	67.15	3957K59	72.48
9″	¼″	½	1″	7½″	3957K39	49.93	3957K41	65.18	3957K52	72.91
9″	⅜″	½	1″	7½″	3957K241	52.32	3957K242	74.50	3957K243	91.39
9″	¼″	¾	1″	7½″	3957K13	49.93	3957K23	68.46	3957K56	75.97
9″	⅜″	¾	1″	7½″	3957K281	52.32	3957K282	74.54	3957K283	91.39
9″	¼″	1	¾″	7½″	3957K91	67.38	3957K92	91.00	3957K93	98.73
12″	¼″	½	1″	10½″	3957K42	69.36	3957K43	92.36	3957K53	109.05
12″	¼″	¾	1″	10½″	3957K44	69.36	3957K45	94.46	3957K57	109.05
12″	¼″	1	¾″	10½″	3957K94	91.31	3957K95	118.87	3957K96	130.73
18″	¼″	½	1″	16½″	3957K71	129.18	3957K72	142.32	3957K73	165.44
18″	¼″	¾	1″	16½″	3957K84	103.32	3957K85	147.00	3957K86	165.44
24″	¼″	¾	1″	22½″	3957K87	154.61	3957K88	193.89	3957K89	219.87
Heavy Duty Thermowells										
4″	¼″	¾	¾″	2½″	3957K137	30.96	3957K138	33.00	3957K139	47.04
4″	¼″	1	¾″	2½″	3957K162	39.75	3957K163	49.75	3957K164	59.75
6″	¼″	¾	¾″	4½″	3957K141	34.04	3957K142	45.00	3957K143	56.93
9″	¼″	¾	¾″	7½″	3957K144	49.93	3957K145	70.96	3957K146	90.75
12″	¼″	¾	¾″	10½″	3957K147	68.07	3957K148	90.75	3957K149	111.67
Thermowells for Insulated Tanks										
6″	¼″	¾	2¾″	2½″	3957K31	35.36	3957K32	40.50	3957K61	49.40
9″	¼″	½	4″	4½″	3957K24	52.32	3957K25	68.39	3957K26	73.11
9″	¼″	¾	3¾″	4½″	3957K33	52.32	3957K34	68.39	3957K62	73.00

★ Maximum temperature is 1000° F and maximum pressure is 5,000 psi @ 70° F

Weld-In Thermowells

To protect thermometers and temperature probes in steam lines and other high-temperature and high-pressure applications, these thermowells weld into place for a more secure connection than threaded thermowells. They are for use with thermometers with a ½ NPT male connection.

304 stainless steel thermowells have a maximum temperature 1650° F. Maximum pressure is 3,400 psi @ 1000° F.

316 stainless steel thermowells have a maximum temperature of 1700° F. Maximum pressure is 5,200 psi @ 1000° F.



For Thermometer Stem Lg.	Dia.	Nut Lg. (A)	Insertion Lg. (B)	304 Stainless Steel		316 Stainless Steel	
For ¾″ Dia. Hole							
2½″	¼″	¾″	1″	1251N11	$42.00	1251N21	$46.11
4″	¼″	¾″	2½″	1251N12	52.00	1251N22	56.00
6″	¼″	¾″	4½″	1251N13	66.00	1251N23	58.33
9″	¼″	¾″	7½″	1251N14	84.00	1251N24	95.67

For Thermometer Stem Lg.	Dia.	Nut Lg. (A)	Insertion Lg. (B)	304 Stainless Steel		316 Stainless Steel	
For 1″ Dia. Hole							
2½″	¼″	¾″	1″	1251N15	$45.00	1251N25	$50.22
4″	¼″	¾″	2½″	1251N16	56.00	1251N26	65.33
6″	¼″	¾″	4½″	1251N17	73.56	1251N27	85.78
9″	¼″	¾″	7½″	1251N18	94.67	1251N28	112.00

Food and Beverage Thermowells with Sanitary Quick-Clamp Connection

Isolate thermometers and temperature probes from the contents of dairy and food-processing equipment with these 3-A certified thermowells that have a sanitary quick-clamp connection for easy removal. Thermowells are 316 stainless steel and accept thermometers with a ½ NPT male connection. They require a quick-clamp fitting (not included) for installation. For sanitary quick-clamp fittings, see pages 228-232.

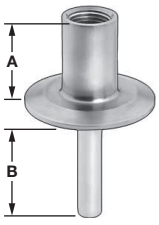

For Thermometer Stem Lg.	Dia.	Nut Lg. (A)	Insertion Lg. (B)	For 1″ and 1½″ Tube OD Flange OD			For 2″ Tube OD Flange OD		
2½″	¼″	1 1/16″	1⅝″	1.984″	3998K12	$94.63	2.516″	3998K31	$124.19
4″	¼″	1¾″	2½″	1.984″	3998K14	106.30	2.516″	3998K33	128.07
6″	¼″	1¾″	4½″	1.984″	3998K16	125.74	2.516″	3998K35	136.11
9″	¼″	1¾″	7½″	1.984″	3998K18	147.13	2.516″	3998K37	155.17

Thermocouple and RTD Protection Tubes

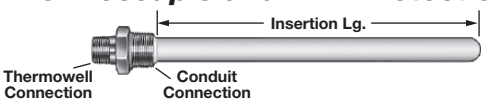

Designed for use with thermocouples and RTDs in large, nonpressurized tanks, these protection tubes are available in long lengths at a lower cost than thermowells.

Steel and **316 stainless steel** protection tubes are more durable than ceramic protection tubes.

316 stainless steel protection tubes are extremely resistant to corrosive chemicals, and they can handle higher temperatures than steel protection tubes.

Ceramic protection tubes withstand temperatures nearly twice as high as 316 stainless steel protection tubes.

Insertion Lg.	O'all Lg.	Conduit Connection, NPT male	Tube ID	Tube OD	For Max. Probe Dia.		
Steel—1000° F Max. Temp.							
¼ NPT Male Thermowell Connection							
10¼″	12″	½	⅜″	9⁄16″	⅜″	3822K31	$62.67
16¼″	18″	½	⅜″	9⁄16″	⅜″	3822K32	67.73
22¼″	24″	½	⅜″	9⁄16″	⅜″	3822K33	72.80
½ NPT Male Thermowell Connection							
10¼″	12″	¾	⅝″	⅞″	½″	3822K34	60.67
16¼″	18″	½	⅝″	⅞″	½″	3822K35	65.33
22¼″	24″	½	⅝″	⅞″	½″	3822K36	70.00
¾ NPT Male Thermowell Connection							
10¼″	12″	1	⅞″	1 1⁄16″	¾″	3822K37	60.67
16¼″	18″	1	⅞″	1 1⁄16″	¾″	3822K38	66.00
22¼″	24″	1	⅞″	1 1⁄16″	¾″	3822K39	71.33
316 Stainless Steel—1700° F Max. Temp.							
¼ NPT Male Thermowell Connection							
10¼″	12″	½	⅜″	9⁄16″	⅜″	3822K41	134.00
16¼″	18″	½	⅜″	9⁄16″	⅜″	3822K42	142.00

Insertion Lg.	O'all Lg.	Conduit Connection, NPT male	Tube ID	Tube OD	For Max. Probe Dia.		
316 Stainless Steel—1700° F Max. Temp. (Cont.)							
¼ NPT Male Thermowell Connection (Cont.)							
22¼″	24″	½	⅜″	9⁄16″	⅜″	3822K43	$150.00
½ NPT Male Thermowell Connection							
10¼″	12″	¾	⅝″	⅞″	½″	3822K44	141.33
16¼″	18″	¾	⅝″	⅞″	½″	3822K45	152.67
22¼″	24″	¾	⅝″	⅞″	½″	3822K46	164.00
¾ NPT Male Thermowell Connection							
10¼″	12″	1	⅞″	1 1⁄16″	¾″	3822K47	145.33
16¼″	18″	1	⅞″	1 1⁄16″	¾″	3822K48	158.67
22¼″	24″	1	⅞″	1 1⁄16″	¾″	3822K49	172.00
Ceramic—3100° F Max. Temp.							
½ NPT Male Thermowell Connection							
11¼″	13⅛″	¾	7⁄16″	1 1⁄16″	7⁄16″	3822K11	31.04
17¼″	19⅛″	¾	7⁄16″	1 1⁄16″	7⁄16″	3822K12	47.11
23¼″	25⅛″	¾	7⁄16″	1 1⁄16″	7⁄16″	3822K13	52.05

Temperature and Humidity Chart Recorders with Calibration Certificate



Track ambient temperature and humidity over time with this recorder that includes a calibration certificate traceable to NIST that states it has passed a test for accuracy. Temperature accuracy is ±1.8° F/±1° C. Relative humidity range is 0% to 95%; accuracy is ±3%. Charts (sold separately) are required.

Recorder is freestanding or can be wall mounted (fasteners included). Housing is plastic. Size is 9 3⁄16″ Ht. × 9 3⁄16″ Wd. × 3 1⁄8″ Dp. Recorder is battery operated (batteries included).

Recorder and Accessories

Recorder	39025K86	$534.55
Replacement Red Pen	4069K98	10.62
Replacement Blue Pen	39815K61	10.62

8″ Charts

Temp. Range	Recording Time	Pkg. of 60	
-20° to 120° F	24 hrs.	38755K151	$43.01
-20° to 120° F	7 days	38755K152	43.01
-20° to 50° C	7 days	38755K172	43.01

Temperature Chart Recorders



Record temperature in hard-to-access areas. These recorders have a stainless steel probe on a 15-ft. cable. Accuracy is ±2° F/±1° C. They include 60 assorted charts with a variety of recording times and temperature ranges.

Recorders are freestanding or can be wall mounted using the two ½″ dia. mounting holes. Housing is plastic. Size is 9 1⁄4″ Ht. × 7 1⁄4″ Wd. × 2 3⁄4″ Dp. Recorders operate on 120 volts AC with a 10-ft. cord and two-prong plug. The battery backup requires eight AA batteries (batteries sold separately). CE marked.

Recorders and Accessories

Fahrenheit Recorder	32635K31	$351.67
Celsius Recorder	32635K21	351.67
Replacement Black Pen	32635K4	12.50
AA Batteries (Pkg. of 4)	71455K53	2.94

Extra 6″ Charts

To Order Please specify 6-hour, 24-hour, or 7-day recording time.

Temp. Range	Pkg. of 60		Temp. Range	Pkg. of 60	
-40° to 30° F	32635K12	$27.25	-40° to 0° C	32635K15	$27.25
-20° to 50° F	32635K13	27.25	-30° to 10° C	32635K16	27.25
50° to 120° F	32635K14	27.25	10° to 50° C	32635K17	27.25

Compact Temperature Chart Recorders



About half the size of standard temperature chart recorders, these are often used to monitor temperature inside refrigerators, incubators, storage compartments, and other small spaces. Accuracy is ±2%. Charts (sold separately) are required.

Recorders are freestanding or can be wall mounted using the two 25⁄64″ dia. mounting holes. Housing is plastic. Size is 5 3⁄16″ Ht. × 5 3⁄16″ Wd. × 2 3⁄8″ Dp. Recorders are battery operated (batteries included).

Recorders and Accessories

For Chart Temp. Range		
-22° to 122° F	38395K43	$267.84
0° to 100° F	38395K42	267.84
Replacement Red Pen	4069K98	10.62

4″ Charts

Temp. Range	Recording Time	Pkg. of 60	
-22° to 122° F	7 days	39805K114	$43.01
0° to 100° F	7 days	4069K141	48.75

Temperature Chart Recorders with High/Low Alarm



To alert you of temperature fluctuations, this recorder sounds an alarm and flashes the display when temperature rises above or falls below the programmable temperature range. It has a nickel probe on a 4-ft. cable for taking readings in hard-to-access areas. Accuracy is ±3.8° F/±2.1° C. Charts (sold separately) are required.

Recorder is freestanding or can be wall mounted (fasteners included). Housing is plastic. Size is 9 3⁄16″ Ht. × 9 3⁄16″ Wd. × 3 1⁄8″ Dp. Recorder operates on 120 volts AC with a 6-ft. cord and two-prong plug. Also has a battery backup (batteries included).

Recorder and Accessories

Recorder	33185K11	$577.89
Probe Extension Cable (10 ft.)	33185K22	56.33
Replacement Red Pen	4069K98	10.62

8″ Charts

	24 Hours		7 Days	
Temp. Range	Pkg. of 60		Pkg. of 60	
-50° to 50° F/C	33185K311	$43.01	33185K312	$43.01
0° to 100° F/C	38045K621	48.75	38045K721	48.75
0° to 250° F/C	33185K331	43.01	33185K332	43.01
0° to 500° F/C	33185K341	43.01	33185K342	43.01

For information about electrical switches, see page 909.

Temperature, Humidity, and Dew Point Chart Recorders with High/Low Alarm



Remotely record temperature, humidity, and dew point and set the alarm to sound and flash the display if temperature readings rise above or fall below a set range. This recorder has a remote polycarbonate probe on a 10-ft. cable and a display that can be set to show current temperature, min./max. temperature, or relative humidity and calculated dew point. Charts (sold separately) are required.

Temperature accuracy is ±1.8°F/±1°C. Relative humidity range is 0% to 95% with ±3% accuracy. Dew point range is 32° to 122°F/0° to 50°C with ±3.6°F/±2°C accuracy. Recorder is freestanding or can be wall mounted (fasteners included). Housing is plastic. Size is 9 3/16″ Ht. × 9 3/16″ Wd. × 3 1/8″ Dp. Recorder operates on 120 volts AC with a 6-ft. cord and two-prong plug. It also has a battery backup (batteries included).

Recorder and Accessories

Recorder	38755K44	$689.61
Replacement Red Pen	4069K98	10.62
Replacement Blue Pen	39815K61	10.62

8″ Charts

To Order: Please specify 24-hour, 7-day, or 31-day recording period.

Temp. Range		Pkg. of 60
-20° to 120°F	38755K15	$43.01
40° to 110°F	38755K16	43.01
-20° to 50°C	38755K17	43.01

USB-Connection Temperature and Humidity Data Recorders



Standard



With LCD

The USB connection lets you upload up to 32,000 data points to a PC for analysis. Recorders can log data in intervals from once per second to once per day. Temperature can be recorded in both °F and °C with an accuracy of ±1.8°F. Relative humidity range is 0% to 95% with an accuracy of ±3%. Housing is plastic. Recorders are battery operated (batteries included). They require software and a USB cord (sold separately). *Recorder with LCD* has a resolution of 1.

	Temp. Range	Ht.	Wd.	Dp.		
Standard	-10° to 176°F	2″	3″	3/4″	3272K47	$198.23
With LCD	-4° to 158°F	2″	3″	1 1/4″	3272K57	248.05
Software and 6-ft. USB Cord					3053K91	99.74

Plug-In Adjustable Temperature Switches with Calibration Certificate



Plug heating and cooling equipment into this programmable switch for precise control over system elements. It comes with a calibration certificate traceable to NIST that states it has passed a test for accuracy. Switch is single pole, single throw (SPST) and turns one circuit from "off" to "on" (normally open). It has two actuation points; actuation tolerance is ±2°F. Switch accepts up to three pairs of timed off/on events per day and has a manual override that lets you turn equipment off or on without resetting the programmed settings.

Switch is °F/°C selectable. Accuracy is ±1.8°F. Housing is plastic and probe is copper. Size is 5 1/2″ Ht. × 2 3/4″ Wd. × 1 1/4″ Dp. Switch accepts a three-prong plug. Resolution is 0.1.

		AC Voltage	Probe			
Temp. Range	Amps	(Phase)	Dia.	Lg.		
-4° to 140°F	15	120 (1)	1/4″	1″	3313K21	$165.60

Quick-Export Temperature and Humidity Data Recorders



No cords or software required—this data recorder stores readings on an included SD card in Excel format for easy transfer to a PC. Recorder can log data in intervals from once per 5 seconds to once per 600 seconds. Temperature can be recorded in both °F and °C with an accuracy of ±1.5°F. Relative humidity range is 10% to 90% with an accuracy of ±4%. Housing is plastic. Resolution is 0.1. Recorder is battery operated (batteries included).

Temp. Range	Ht.	Wd.	Dp.		
32° to 122°F	5 3/16″	3 1/16″	1 5/16″	1255N1	$271.69

Remote-Reading Temperature and Pressure Data Recorders

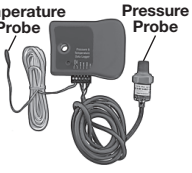

Monitor temperature and pressure in hard-to-access system components with this data recorder that has remote sensors that track and store up to 21,500 data points for upload to a PC. It can record data in intervals from once per second to once per 18 hours. Temperature can be recorded in both °F and °C with an accuracy of ±1°F. Pressure accuracy is ±3 psi. Temperature probe has a 15-ft. cable. Pressure probe has a 6-ft. cable and a 17-4 PH stainless steel probe with a 1/4 NPT male connection. Housing is plastic. It requires software, a USB cord, and one 9-volt battery (sold separately).

Temp. Range	Pressure Range	Ht.	Wd.	Dp.		
-40° to 150°F	0 to 500 psi	2 1/2″	3″	1 3/32″	3440K44	$228.92
Software and 6-ft. USB Cord					3440K54	65.00
9-Volt Battery					71455K56	2.75

Fixed Temperature Switches for Surfaces



Often used on heat-tracing and process-fluid pipelines, these switches keep the temperature of flat and curved surfaces within a preset range. They are single pole, double throw (SPDT) and can be set to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed).

Switches have wire leads and a 304 stainless steel flange with two 11/64″ mounting holes (fasteners not included). Housing is plastic. Size is 2 15/16″ Ht. × 2″ Wd. Switches are FM approved for use in Class I, Division 2, Groups A, B, C, and D hazardous locations. UL recognized and CSA certified.

Actuation Points Min.	Max.	Amps	AC Voltage (Phase)		
45°F	60°F	25	110-277 (1)	3599K42	$58.00
60°F	75°F	25	110-277 (1)	3599K43	58.00
90°F	105°F	25	110-277 (1)	3599K44	58.00
185°F	200°F	25	110-277 (1)	3599K45	58.00

Plug-In Adjustable Temperature Switches



To control the power supplied to immersion heaters and other equipment, plug your device into one of these switches that cycle on and off to maintain a constant temperature. Switches require a thermometer (not included) to monitor temperature. They are single pole, single throw (SPST) and turn one circuit from "on" to "off" (normally closed). Use the adjustment dial to alter the ratio of "on" to "off" time.

Switches have a 6-ft. cord with a three-prong plug. Housing is nickel-plated steel. Size is 3 13/16″ Ht. × 2 1/4″ Wd. × 2 1/4″ Dp. *Solid-state* switch reduces arcing of the circuit contacts for a long service life.

	Amps	AC Voltage (Phase)		
Standard Switch	13	120 (1)	35655K88	$108.57
Solid-State Switch	13	120 (1)	35655K89	125.71

Temperature Switches

For information about electrical switches, see page 909.

Compact Adjustable Temperature Switches

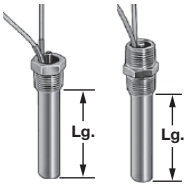

Install directly into tanks, pipes, and other process components to control temperature in tight spaces. These switches are single pole, single throw (SPST). Accuracy and actuation tolerance is ±2%. Use the adjustment screw to set the actuation point within the temperature range. Switches have 8″ long wire leads with fiberglass insulation. Housing and probe are stainless steel. UL recognized. Switches with 5/8″ dia. probe are also CSA certified.

Normally closed switches turn one circuit from "on" to "off." **Normally open** switches turn one circuit from "off" to "on."

Probe Dia.	Probe Lg.	Pipe Size	Temp. Range	Amps @ 120/240V AC (Phase)	Turns "On" to "Off" (Normally Closed)		Turns "Off" to "On" (Normally Open)	
Unthreaded								
1/2″	2 1/2″	—	-100° to 600°F	5/3 (1)	7079K23	$72.39	7079K91	$72.39
5/8″	3 5/8″	—	-100° to 600°F	10/5 (1)	7079K12	72.39	7079K92	72.39
Threaded—NPT Male								
1/2″	2″	3/8	-100° to 600°F	5/3 (1)	7079K51	88.43	7079K93	88.43
5/8″	3″	1/2	-100° to 600°F	10/5 (1)	7079K21	88.43	7079K94	88.43
Threaded—NPT Male x NPT Male								
1/2″	2″	3/8 x 3/8	-100° to 600°F	5/3 (1)	7079K61	94.48	7079K95	94.48
5/8″	3″	1/2 x 1/2	-100° to 600°F	10/5 (1)	7079K16	94.48	7079K96	94.48

Adjustable Temperature Switches


A


B

Immerse these switches in tanks, ovens, cleaning baths, and other equipment and automatically turn heating equipment off when the temperature reaches a set actuation point. Actuation tolerance is not rated. Accuracy is ±12°F, unless noted. Probe and cable are copper, unless noted. Housing is steel. Switches have screw terminal connections. Style A has two 7/32″ dia. mounting holes; Style B has three 3/16″ dia. mounting holes. Mounting fasteners not included. *Two-circuit* switches are double pole, single throw (DPST) to turn two circuits from "on" to "off" (normally closed). *Three-circuit* switches are triple pole, single throw (3PST) to turn three circuits from "on" to "off" (normally closed).

Switches with pilot light indicate when the switch is on.

Packing seal and brass fitting is required to seal the probe into threaded tanks and pipes. Fitting has 3/18″-18 male threads.

Temp. Range	Amps	AC Voltage (Phase)	Probe Dia.	Probe Lg.	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.	Without Pilot Light		With Pilot Light	
(A) Two-Circuit Switches											
60° to 250°F	30	120/277 (1 or 3)	1/4″	5 5/32″	4 1/16″	2 5/8″	3 1/16″	3626K47	$128.87	3626K87	$143.30
200° to 550°F	30	120/277 (1 or 3)	5/16″	4 1/2″	4 1/16″	2 5/8″	3 1/16″	3626K44	182.47	3626K84	195.88
(B) Two-Circuit Switches											
0° to 100°F	30	120/277 (1 or 3)	3/8″	4 3/16″	5 3/4″	3″	3 1/8″	3626K11	273.20	3626K61	284.54
60° to 250°F	30	120/277 (1 or 3)	1/4″	5 5/32″	5 3/4″	3″	3 1/8″	3626K17	162.89	3626K67	184.02
200° to 550°F	30	120/277 (1 or 3)	5/16″	4 7/8″	5 3/4″	3″	3 1/8″	3626K23	220.10	3626K73	229.90
300° to 700°F	30	120/277 (1 or 3)	3/16″	13″	5 3/4″	3″	3 1/8″	3626K19★	332.47	3626K66★	343.81
(B) Three-Circuit Switches											
60° to 250°F	30	120/277 (3)	3/8″	4 5/16″	5 3/4″	3″	3 1/8″	3626K14	357.73	3626K64	411.34
Packing Seal and Brass Fitting										3626K31	$27.03

★Accuracy is ±15°F. Probe and cable are nickel.

Water-Resistant Adjustable Temperature Switches


Dial Switch


Digital Switch

Actuate heating equipment in washdown environments with splashing water, corrosive liquids, and dust using these switches with an enclosure that meets NEMA 4X. Switches have °F and °C scales. Adjust the actuation point within the temperature range. Switches have screw terminal connections. Housing is plastic.

Two-circuit switch is double pole, single throw (DPST) and turns both circuits from "on" to "off" (normally closed). *Three-circuit* switches are triple pole, single throw (3PST) and can be set to turn three circuits from "on" to "off" (normally closed) or from "off" to "on" (normally open).

Dial switches are set with a dial. Accuracy is ±4°F. Actuation tolerance is ±8°F. Probe and cable are copper; probe is PFA coated. **Digital** switches are set with a keypad. The display shows a resolution of 0.1. Accuracy and actuation tolerance is ±0.25°F. Probe is PFA-coated PTFE and cable is PVC.

Temp. Range	Amps	AC Voltage (Phase)	Probe Dia.	Probe Lg.	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.		
Dial Switch—Two Circuits Controlled									
70° to 245°F	25	120/240 (1)	5/16″	6 1/2″	5 7/8″	3 1/8″	5″	35055K71	$248.50
Dial Switch—Three Circuits Controlled									
70° to 245°F	50	240 (1)	5/16″	6 1/2″	8 1/2″	8 1/2″	5″	35055K72	444.06
70° to 245°F	50	480 (1)	5/16″	6 1/2″	8 1/2″	8 1/2″	5″	35055K73	510.78
Digital Switch—Three Circuits Controlled									
-4° to 752°F	30	120 (1)	5/16″	1 1/4″	8 1/2″	8 1/2″	5″	5621T41	669.26
-4° to 752°F	30	240 (1)	5/16″	1 1/4″	8 1/2″	8 1/2″	5″	5621T42	669.28
-4° to 752°F	50	240 (1)	5/16″	1 1/4″	8 1/2″	8 1/2″	5″	5621T45	732.09
-4° to 752°F	30	480 (1)	5/16″	1 1/4″	8 1/2″	8 1/2″	5″	5621T43	734.52
-4° to 752°F	50	480 (1)	5/16″	1 1/4″	8 1/2″	8 1/2″	5″	5621T46	814.03

Remote Room-Monitoring Adjustable Temperature Switches



If ambient air temperature rises above or falls below an actuation point, this switch flashes the current temperature reading on the display and shows a "high" or "low" message. To actuate remote-mount buzzers (sold separately), it has two single pole, double throw (SPDT) relays that can each be set to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). Switch has four actuation points. Actuation tolerance is ±1°F.

Switch has a built-in ambient temperature sensor that is °F/°C selectable. Accuracy is ±2°F. Housing is plastic. Resolution is 1. Switch requires a 12-volt DC power supply with wire leads (sold separately).

Remote-mount buzzer emits an 86 dB alarm when temperature reaches the actuation point. **Optional remote temperature sensors** let you monitor temperature up to 1,000 feet from the switch. Remote sensors can be used simultaneously with the switch's built-in ambient temperature sensor for monitoring two areas.

Switch and Accessories

	Temp. Range	Ht.	Wd.	Dp.		
Switch	32° to 122°F	4 3/4″	6″	1 1/4″	7525K61	$117.85
Required 12V DC Power Supply					7525K92	30.74
Remote-Mount Buzzer					7525K95	55.28

Optional Remote Temperature Sensors

Temp. Range	Accuracy	Cable Lg.		
-58° to 158°F	±1°F	1,000 ft.	7525K12	$46.67
32° to 299°F	±1°F	1,000 ft.	7525K11	72.59

Heavy Duty Adjustable Temperature Switches



Direct-Reading Extended Life

Rugged enclosures make these switches suitable for harsh environments. Switches are single pole, double throw (SPDT) and can be set to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). Accuracy and actuation tolerance is ±1%, unless noted. Switches adjust with a dial. All have screw terminal connections. UL listed and CSA certified. *Switches with one actuation point* have one relay; *switches with two actuation points* have two relays. *Direct-reading* switches have a max. pressure of 1,897 psi.

Extended-Life Switches—The plastic enclosure meets NEMA 1 to protect switches when actuating heating and cooling equipment in dirty indoor conditions. *Direct-reading* switches have a brass probe with a ⅜ NPT male connection. *Remote-reading* switches have two 3/16″ dia. mounting holes. Probe and cable are copper.

Water-Resistant Switches—The aluminum enclosure meets NEMA 4X for use in washdown environments with splashing water, corrosive liquids, and dust. CE marked. *Directing-reading* switches have a probe with a ½ NPT male connection. Probe is brass, unless noted. *Remote-reading switches with one actuation point* have a copper probe and cable; *remote-reading switches with two actuation points* have a stainless steel probe and a 304 stainless steel cable.

Hazardous Location Switches—Control temperature in chemical plants, refineries, and other environments with flammable gases and combustible dust. Switches have an aluminum enclosure that's UL listed for Class I, Divisions 1 and 2, Groups B, C, and D and Class II, Divisions 1 and 2, Groups E, F, and G; and Class III hazardous locations. Enclosure also meets NEMA 4X for resistance to splashing water and corrosive fluids. C-UL certified. *Direct-reading* switches have a brass probe with a ½ NPT male connection. *Remote-reading* switches have a stainless steel probe and a 304 stainless steel cable.



Direct-Reading Hazardous Location

Temp. Range	Amps	AC Voltage (Phase)	Probe Dia.	Probe Lg.	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.	With One Actuation Point		With Two Actuation Points	
Direct-Reading Switches—NPT Male Threaded Probe											
Extended Life											
0° to 225°F	15	125/250/480 (1)	9/16″	2 1/8″	3 5/16″	3 13/32″	2 13/16″	47525K71	$175.69	—	—
200° to 425°F	15	125/250/480 (1)	9/16″	2 1/8″	3 5/16″	3 13/32″	2 13/16″	47525K72	175.69	—	—
Water Resistant											
0° to 225°F	15	125/250/480 (1)	9/16″	1 7/8″	7 3/8″	5 3/32″	5 1/2″	—	—	5029K76■	$444.40
0° to 225°F	15	125/250/480 (1)	9/16″	1 7/8″	9 3/8″	4″	2 3/8″	5029K56▲	287.08	—	—
200° to 425°F	15	125/250/480 (1)	9/16″	1 7/8″	7 3/8″	5 3/32″	5 1/2″	—	—	5029K72■	444.40
200° to 425°F	15	125/250/480 (1)	9/16″	1 7/8″	9 3/8″	4″	2 3/8″	5029K52▲	287.08	—	—
Hazardous Location											
0° to 225°F	15	125/250/480 (1)	9/16″	1 7/8″	10″	5 1/8″	5 3/16″	5032K67	488.04	5032K87	638.47
Remote-Reading Switches—Probes with 6-ft. Cable											
Extended Life											
-130° to 120°F	15	125/250/480 (1)	3/8″	4 1/2″	3 1/4″	3 1/2″	2 13/16″	47525K61	238.85	—	—
0° to 150°F	15	125/250/480 (1)	3/8″	6 7/8″	3 1/4″	3 1/2″	2 13/16″	47525K62	238.85	—	—
50° to 300°F	15	125/250/480 (1)	3/8″	4 1/2″	3 1/4″	3 1/2″	2 13/16″	47525K63	238.85	—	—
150° to 650°F	15	125/250/480 (1)	3/8″	3 5/8″	3 1/4″	3 1/2″	2 13/16″	47525K64	238.85	—	—
Water Resistant											
30° to 250°F	15	125/250/480 (1)	3/8″	2 5/8″	6 11/16″	5 5/32″	5 1/2″	—	—	5029K73■	546.60
30° to 250°F	15	125/250/480 (1)	3/8″	2 5/8″	8 11/16″	4″	2 3/8″	5029K53	346.79	—	—
100° to 400°F	15	125/250/480 (1)	3/8″	2 1/8″	6 11/16″	5 5/32″	5 1/2″	—	—	5029K74■	546.60
100° to 400°F	15	125/250/480 (1)	3/8″	2 1/8″	8 11/16″	4″	2 3/8″	5029K54	346.79	—	—
Hazardous Location											
30° to 250°F	15	125/250/480 (1)	3/8″	2 5/8″	9 5/16″	5 1/8″	5 3/16″	5032K66■♦	684.40	5032K86■♦	701.63

■ Accuracy is ±2%. ▲ Probe is nickel-plated brass. ♦ Actuation tolerance is ±2%.



Remote-Reading Water Resistant

Humidity and Temperature Meters



A



B



C



D



E

Get relative humidity and temperature readings from a single source. Meters have °F and °C scales. Housing is plastic.

(A) Remote-Reading Indoor/Outdoor Meter with Scale and Dial Display—Includes a probe with a 3-ft. cable for measuring outdoor temperatures. Wall mount using the included fasteners. Relative humidity graduations are 2%; temperature graduations are 2°F.

(B) Digital Indoor Meter—Mount using the two 1/4″ dia. mounting holes (fasteners not included) or use the pullout stand. Relative humidity resolution is 1; temperature resolution is 0.1. Requires two AAA batteries (not included).

(C) Digital Indoor Meter with Min./Max. Memory—Mount using the two 3/32″ dia. mounting holes (fasteners not included) or use the pullout stand. Resolution is 1. Batteries are included.

(D) Digital Remote-Reading Indoor/Outdoor Meter with Min./Max. Memory—Includes a remote sensor with 200-ft. wireless transmission range for monitoring outdoor relative humidity and temperatures. Meter has a built-in stand; remote can be wall-mounted using 1/4″ dia. mounting hole (fastener not included). Relative humidity resolution is 1; temperature resolution is 0.1. Meter requires two AA batteries; remote sensor requires two AAA batteries (batteries not included).

(E) Digital High-Accuracy Indoor Meter with NIST Certificate—Comes with a calibration certificate traceable to NIST that states it has passed a test for accuracy. Meter includes a probe on a 6-ft. cable. It has min./max. memory and audible high/low alarms. Meter also displays dew point or frost point. Dew point range is -40° to 140°F; accuracy is not rated. Resolution is 0.01. Batteries are included. *Optional software, RS-232 cable, and USB cable for Style E* allows you to upload data directly to your PC.

	Indoor/Outdoor Temp. Range	Indoor/Outdoor Temp. Accuracy	Relative Humidity Range	Relative Humidity Accuracy	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.		
A	-45° to 110°F/-45° to 110°F	±4°F	10 to 80%	±5%	9 3/4″	2″	11/16″	3933K21	$17.58
B	-40° to 158°F	±2°F	10 to 95%	±5%	2 7/8″	4 3/4″	9/16″	39175K41	38.89
C	32° to 122°F	±2°F	25 to 95%	±2%	3 7/8″	2 5/8″	5/8″	39175K21	53.08
D	32° to 122°F/-40° to 140°F	±2°F	20 to 95%	±5%	3 3/8″	5 1/16″	1 1/2″	39175K45	27.78
E	-40° to 220°F	±0.8°F	5 to 95%	±1.5%	5 1/2″	3 1/2″	1 1/4″	6455T17	622.09
Optional Software, RS-232 Cable, and USB Cable for Style E								6455T19	415.00

Humidity Meters & Controllers

For information about electrical switches, see page 909.

Easy-Read Humidity Meters


A


B

Wall mount these dial meters for a clear view of indoor conditions. Relative humidity graduations are 2%. Temperature graduations are 5° F (2° C). Meters have a glass lens.

(A) Humidity Meter— Mounting fasteners are included.

(B) Humidity and Temperature Meters with Calibration Certificate— These meters come with a document stating they've passed a test for accuracy. Accuracy is certified to DIN EN ISO 9001. *4 1/2" dia.* meter has one 1/4" dia. mounting hole (fastener not included). *5" dia.* meters include mounting fasteners.

	Dial Dia.	Temperature Range	Temperature Accuracy	Relative Humidity Range	Relative Humidity Accuracy	Housing		
A	3 1/8"			0 to 100%	±1%	Galvanized Steel	2131K5	$19.93
B	4 1/2"	10° to 170° F (-12° to 75° C)	±1.8° F (±1° C)	0 to 100%	±2.5%	Stainless Steel	3993K62	206.54
B	5"	10° to 170° F (-12° to 75° C)	±1.8° F (±1° C)	0 to 100%	±2.5%	Aluminum	3993K61	218.08
B	5"	10° to 170° F (-8° to 75° C)	±1.8° F (±1° C)	0 to 100%	±2.5%	Brass	3993K71	235.38

Portable Humidity and Temperature Meters


A&B


C


D


E

Carry one of these battery-operated meters with an easy-to-read display to make fast system checks. Meters are °F/°C selectable. Housing is plastic. Batteries are included.

(A&B) Pocket Meters— Meters have min./max. memory and include a belt clip. Style B comes with a calibration certificate traceable to NIST that states it has passed a test for accuracy.

(C-E) Hand-Held Meters— For comprehensive system checks and quality control, these meters can determine dew point in addition to humidity and temperature. All have a data-hold function. Styles C and D also have min./max. memory. Style E has a probe attached to a 3-ft. cable for use in hard-to-reach areas.

		Temperature Range	Temperature Accuracy	Relative Humidity Range	Relative Humidity Accuracy	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.		
A	Pocket	32° to 122° F	±1.8° F	20 to 95%	±3.5%	5 1/8"	7/8"	5/8"	32705K11	$65.22
B	Pocket with NIST Certificate	32° to 122° F	±1.8° F	20 to 95%	±3.5%	5 1/8"	7/8"	5/8"	32705K16	93.00
C	Hand-Held	-47° to 122° F	±1.8° F	10 to 90%	±3%	6 11/16"	1 7/8"	1/2"	3823K31	115.37
D	Hand-Held with Built-In Probe	-4° to 122° F	Not Rated	0 to 100%	±2%	8"	2 1/2"	1 3/8"	6495T98	424.27
E	Hand-Held with Remote Probe	32° to 140° F	±1° F	20 to 95%	±5%	6 1/2"	3"	1 13/16"	4103K22	162.50

Psychrometers



Obtain continuous temperature measurements from a wet-bulb and a dry-bulb thermometer to determine relative humidity. This wall-mount psychrometer consists of two mercury-free fluid-filled thermometers, a wick, a glass water bulb, and a relative humidity calculation table.

Temperature range is 0° to 120° F with ±2° F accuracy; graduations are 2° F. Relative humidity range is 14% to 95% with ±10% accuracy. Size is 10" Ht. × 4" Wd. × 1 3/16" Dp. Housing is plastic. Psychrometer has one 3/16" dia. mounting hole (fastener not included).

Psychrometer	3970K9	$41.52
Repl. Wicks (Pkg. of 12)	3970K6	11.85

Plug-In Adjustable Humidity Switches with Calibration Certificate



Plug humidifiers, dehumidifiers, and other devices into this programmable switch to turn your equipment on or off when humidity levels reach the actuation point. Switch can be set with two actuation points. It comes with a calibration certificate traceable to NIST that states it has passed a test for accuracy. Switch accepts any equipment with a three-prong plug. A manual override lets you turn equipment on or off without resetting the programmed settings.

Relative humidity range is 30% to 90% with an accuracy of ±5%. Maximum temperature is 100° F. Switch operates on 120 volts AC. Rated at 15 amps. Size is 4 1/8" Ht. × 2 3/8" Wd. × 1 1/2" Dp. Housing is plastic. Resolution is 1.

	1250N11	$180.60

Portable Psychrometers


With 9" High Scale

Also known as sling psychrometers, these calculate relative humidity in the field based on continuous temperature measurements from a wet-bulb and a dry-bulb thermometer. They consist of two mercury-free fluid-filled thermometers, a wick, a glass water bulb, and a handle. Housing is plastic.

Psychrometer with 5" high scale has a built-in slide rule for calculating humidity without a calculation table. Relative humidity range is 10% to 100% with ±5% accuracy.

Psychrometer with 9" high scale includes a relative humidity calculation table. Relative humidity range is 10% to 100% with ±10% accuracy.

Scale Ht.	Temperature Range	Temperature Accuracy	Temperature Graduations		
5"	25° to 120° F	±1° F	1° F	3980K7	$110.00
9"	20° to 120° F	±2° F	0.5° F	3995K14	135.33
Repl. 5" Thermometer				3980K9	53.80
Repl. Wicks for 5" Thermometer (Pkg. of 4)				3980K8	34.24
Repl. Wicks for 9" Thermometer (Pkg. of 12)				3970K6	11.85

Humidity Sensors and Controllers


Sensor


Controller

Monitor relative humidity with the sensor and turn equipment on or off with the controller. Relative humidity range is 10% to 100% with ±5% accuracy. Housing is plastic. Sensor and controller are sold separately.

Sensor has a maximum temperature of 140° F. It connects to the controller with 3-ft. long wire leads. To mount, it has two 1/4" dia. mounting holes (fasteners not included).

Controller is single pole, double throw (SPDT) and can be set to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). Adjust the two actuation points with the keypad. Maximum temperature is 158° F. Controller has screw terminal connections and operates on 24 volts AC. Rated at 4 amps. Install in a 1 11/32" Ht. × 3 3/32" Wd. panel cutout. Controller has a resolution of 1. UL recognized.

	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.		
Sensor	3 1/4"	2 1/4"	1 13/16"	39635K11	$109.09
Controller	1 1/2"	3 3/16"	2 1/2"	39635K22	90.00

Thermocouple and RTD Signal Converters

Convert thermocouple and RTD probe signals to a 4-20 mA signal for use with switches and controllers. Signal converters have screw terminal connections and accept probes with bare wire leads (probes not included; see pages 628-632). Accept a maximum 26-ga. wire.

Head-mount signal converters are 1 11/16″ Dia. × 13/16″ Dp. Operate on 12 to 36 volts DC.

Panel-mount signal converters are 1 7/8″ Ht. × 3 7/8″ Wd. × 6 1/16″ Dp. They have a 1/8 DIN housing that fits a 1 3/4″ Ht. × 3 5/8″ Wd. panel cutout. Resolution is 1. Operate on 120/240 volts AC (single phase).



Head Mount



Panel Mount

For Probe Type	Temp. Range		
Head Mount—Plastic Housing			
J Thermocouple	32° to 572°F	38875K81	$78.66
J Thermocouple	32° to 1292°F	38875K73	62.70
K Thermocouple	32° to 1112°F	38875K82	78.66
K Thermocouple	32° to 2192°F	38875K74	62.70
100-ohm RTD	0° to 250°F	38875K77	74.10
100-ohm RTD	0° to 500°F	38875K78	74.10
Panel Mount—Aluminum Housing			
J Thermocouple	-238° to 1400°F	38535K43	226.86
K Thermocouple	-58° to 1999°F	38535K42	226.86
100-ohm RTD	-50° to 850°C	38535K56	226.86

Programmable Temperature Controllers

Forget temperature switches with finicky adjustment screws and dials—these controllers have a digital display with a keypad and a simple menu for easily setting an actuation point. They turn heaters and other process components on or off when temperature reaches the actuation point. Controllers are °F/°C selectable. Accuracy and actuation tolerance is ±1%.

Controllers have a single pole, double throw (SPDT) relay that can be set to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). A thermocouple or RTD probe with bare wire leads (not included; see pages 628-632) is required. Controllers are 2 7/8″ Ht. × 2 7/8″ Wd. × 2″ Dp. and require a 2 11/16″ Ht. × 2 11/16″ Wd. panel cutout. They have screw terminal connections. Housing is plastic. Resolution is 1. UL recognized, CSA certified, and CE marked.



For Probe Type	Temp. Range	Amps	AC Voltage (Phase)		
J Thermocouple	32° to 392°F	8	120 (1)	4314K2	$189.92
K Thermocouple	32° to 2192°F	8	120 (1)	4314K6	189.92
100-ohm RTD	32° to 1472°F	8	120 (1)	4314K8	189.92

Precision Programmable Temperature Controllers

Since these controllers have fuzzy logic with proportional-integral-derivative (PID) software that learns the behavior of your process and eliminates actuation point overshoot, they have the fastest and most precise response to temperature changes. They turn equipment on or off when temperature reaches the actuation point. A thermocouple or RTD probe (not included; see pages 628-632) is required.

Controllers are auto/manual selectable and °F/°C selectable. Housing is plastic. All controllers have screw terminal connections. UL and C-UL recognized and CE marked.

Standard Controllers

Controllers accept input from Types J, K, and T thermocouple probes as well as 100-ohm RTD probes. They can be set to one actuation point. Actuation tolerance is not rated. Operate on 90 to 264 volts AC. *Controllers with 1/16 DIN size* have one control and two alarm relays; *1/4 DIN size* have two control and two alarm relays.

Relay output controllers are single pole, single throw (SPST) and turn one circuit from "off" to "on" (normally open).

Type	Temp. Range	Accuracy
J	-58° to 1832°F	±1.8°F
K	-58° to 2498°F	±1.8°F
T	-454° to 752°F	±1.8°F
RTD	-328° to 1652°F	±0.36°F



1/16 DIN



1/4 DIN

DIN Size	*O'all Size* Ht.	Wd.	Dp.	*For Panel Cutout* Ht.	Wd.	Relay Output Amps	AC Voltage (Phase)			4-20 mA Output	
1/16	1 7/8″	1 7/8″	4 3/16″	1 3/4″	1 3/4″	5	120 (1)	38615K71	$226.40	38615K73	$260.37
1/4	3 3/4″	3 3/4″	3 1/2″	3 5/8″	3 5/8″	5	120 (1)	38615K72	362.25	38615K74	396.22

Water-Resistant Controllers

With a faceplate that meets NEMA 4X, these controllers can turn equipment on and off in washdown environments with splashing water, corrosive liquids, and dust. Controllers accept input from Types J, K, and T thermocouple probes. They can be set to eight actuation points. Actuation tolerance is not rated. Operate on 100 to 240 volts AC. *Controllers with 1/32 DIN size* have one control relay; *1/16 DIN size* have one control and one alarm relay; *1/8 and 1/4 DIN* sizes have one control and two alarm relays.

Relay output controller with 1/32 DIN size is single pole, single throw and turns one circuit from "off" to "on" (normally open). *Relay output controllers with 1/16, 1/8, and 1/4 DIN sizes* are single pole, double throw (SPDT) and can be set to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed).

Solid-state relay output controllers actuate an external relay (not included; see 7456K on page 955).

Type	Temp. Range	Accuracy
J	32° to 1472°F	±0.5%
K	32° to 2192°F	±0.5%
T	-238° to 752°F	±0.5%



1/32 DIN



1/8 DIN

DIN Size	*O'all Size* Ht.	Wd.	Dp.	*For Panel Cutout* Ht.	Wd.	Relay Output Amps	AC Voltage (Phase)			Solid-State Relay Output DC Voltage			4-20 mA Output	
1/32	1″	2″	4″	7/8″	1 3/4″	3	240 (1)	7981K81	$183.16	12 to 16	7981K82	$183.16		
1/16	1 7/8″	1 7/8″	3 3/8″	1 3/4″	1 3/4″	3	240 (1)	7981K11	264.21	17 to 25	7981K14	264.21	7981K13	$264.21
1/8	3 3/4″	1 7/8″	3 3/4″	3 5/8″	1 3/4″	3	240 (1)	7981K21	309.47	17 to 25	7981K24	309.47	7981K23	309.47
1/4	3 15/16″	3 15/16″	3 3/4″	3 5/8″	3 5/8″	3	240 (1)	7981K31	335.79	17 to 25	7981K34	335.79	7981K33	335.79

Easy-Read Outdoor Thermometers



18″ Dial

Easily read your temperature with these extra-large dials that mount to a wall. Thermometers have °F and °C markings. Lens is plastic.

12″ dial thermometer with aluminum housing displays relative humidity from 30% to 90% with an accuracy of ±10%.

12″ dial thermometer with plastic housing displays relative humidity from 0% to 100% with an accuracy of ±5%.

Dial Dia.	Temp. Range	Graduations	Accuracy	Housing Material		
12″	-60° to 120° F/-50° to 50° C	2° F/1° C	±2° F/±1° C	Aluminum	3997K12	$25.44
12″	-40° to 120° F/-40° to 50° C	2° F/1° C	±5° F/±1.5° C	Plastic	3881K41	38.63
13¼″	-60° to 120° F/-50° to 50° C	2° F/1° C	±4° F/±3° C	Plastic	3881K56	16.36
18″	-60° to 130° F/-50° to 50° C	2° F/2° C	±2° F/±1° C	Aluminum	3881K15	33.71

Outdoor Thermometers


A
Bracket Mount


B

Get current temperature readings with these thermometers that can be mounted outdoors. Thermometers have a temperature range of -40° to 120° F/-40° to 50° C with graduations of 2° F/ 1° C.

Style A thermometer tubes are filled with red diesel fuel. Accuracy is ±2° F/±1° C. Housing is aluminum. *Bracket mount* has two ¼″ dia. mounting holes (fasteners included). *Wall mount* has two 7⁄32″ dia. mounting holes (fasteners not included).

Style B thermometer has min./max. indicating marks. The tube is filled with blue fluid. Accuracy is ±3° F/±1.5° C. Housing is plastic. Thermometer has two 5⁄16″ dia. mounting holes (fasteners not included).

	Ht.	Wd.		
(A) Bracket Mount	8¼″	4¼″	3934K2	$6.84
(A) Wall Mount	8¼″	2½″	11165K63	6.51
(B) Wall Mount w/ Min./Max. Marks	9⅞″	2⅜″	7859K58	26.60

Windsocks


Complete Kit

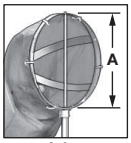

Inlet

Visually determine wind direction and approximate speed. Windsocks are orange nylon and have brass grommets. They slide over an inlet frame (sold separately) and secure with the included mounting ties.

To replace an existing windsock, you must determine the inlet diameter. Lay the windsock flat to measure the inlet (A) and multiply by 0.63 for the inlet diameter.

	Approximate Wind Speed	
Sock Position	**Low Velocity**	**High Velocity**
At Rest	0-4 mph (0-3 knots)	0-7 mph (0-6 knots)
At 45°	4-8 mph (3-7 knots)	7-13 mph (6-11 knots)
At 60°	8-14 mph (7-12 knots)	14-20 mph (12-17 knots)
Straight	14-18 mph (12-16 knots)	21-29 mph (19-25 knots)

Low-Velocity Windsocks

These lightweight windsocks react to the slightest wind movements. **Complete kits** include a windsock, mounting ties, an aluminum inlet frame, a 30″ long metal pole, and brackets to mount pole onto a flat vertical surface.

Diameter			Windsocks		Complete Kits	
Inlet	Outlet	Lg.				
8″	3⅞″	3 ft.	6491T42	$31.30	6491T12	$79.50
13″	6⅜″	4½ ft.	6491T44	42.55	6491T14	100.60
18″	9⅝″	5 ft.	6491T46	51.73	6491T16	120.66
18″	13¼″	8 ft.	6491T48	63.00	6491T18	132.67

High-Velocity Windsocks

Use these sturdy windsocks to track stronger wind movements than low-velocity windsocks. **Inlet frames** are aluminum and mount onto a 1¼ NPT male threaded pipe (sold separately; see page 61).

Diameter			Windsocks		Inlet Frames	
Inlet	Outlet	Lg.				
8″	4″	2 ft.	3836K11	$28.57	3836K21	$59.52
10″	5″	2½ ft.	3836K12	34.52	3836K22	62.14
13″	6½″	3 ft.	3836K13	38.10	3836K23	65.48
18″	9″	4 ft.	3836K14	41.67	3836K24	76.62
24″	12″	8 ft.	3836K15	51.19	3836K25	78.12
36″	18″	10 ft.	3836K16	83.33	3836K26	155.08

Remote-Reading Outdoor Thermometers



Standard


With Clock

A built-in temperature sensor and a remote-reading probe simultaneously monitor indoor and outdoor temperature. Temperature range is 23° to 122° F for indoor readings and -58° to 158° F for outdoor readings. Accuracy is ±6° F. Both have min./max memory and a probe with a 10-ft. cable. Thermometers have a plastic housing. They have a built-in stand or can be wall mounted. Resolution is 0.2. Thermometers are battery operated (batteries included).

Standard thermometer is 4″ Ht. × 4″ Wd. × 5⁄8″ Dp. Mounting fasteners are included.

Thermometer with clock shows the time of day and has an audible alarm. Size is 4⅛″ Ht. × 2½″ Wd. × ¾″ Dp. It has one 5⁄16″ dia. mounting hole (fastener not included).

Standard	40195K21	$27.32
With Clock	40195K11	46.51

Barometers



Measure atmospheric pressure changes in both inches of mercury (Hg) and millibars (mbar) with these LCD barometers. Barometric pressure range is 20″ to 32″ Hg/677 to 1,083 mbar. Accuracy is ±0.045″ Hg/±1.5 mbar. Barometer has an audible alarm and a trend indicator to track pressure changes. Housing is aluminum. Size is 2⅞″ Ht. × 9″ Wd. × 1½″ Dp. Resolution is 0.003. Barometer is freestanding or can be wall mounted using the 1″ dia. mounting hole (fastener not included). It is battery operated (battery included).

4109K5	$225.45

Desktop Multifunction Barometers



Check temperature, relative humidity, atmospheric pressure, and time with one barometer. The included remote sensor has a 100-ft. wireless transmission range for monitoring outdoor temperature and relative humidity in addition to indoor conditions. Barometer also has a trend indicator and audible alarm. It is °F/°C selectable and also displays inches of mercury.

Indoor temperature range is 14° to 158° F and outdoor temperature range is -4° to 158° F; accuracy is ±2° F and resolution is 0.1. Relative humidity range is 20% to 95%; accuracy is ±7% and resolution is 1. Barometric pressure range is 27.5″ to 31″ Hg; accuracy is ±0.15″ Hg and resolution is 0.01.

Housing is plastic. Overall size is 6″ Ht. × 8″ Wd. × 1″ Dp. Barometer can be wall mounted using the 5⁄16″ dia. mounting hole (fastener not included). Barometer requires two AA batteries; remote sensor requires two AAA batteries (batteries not included).

3964K61	$52.63

Wireless Remote-Reading Rain Gauges

Monitor rainfall up to 100 feet from the source. The rain gauge bucket transmits rainfall data to the wireless monitor in 0.01″ increments. Meets National Weather Service specifications for statistical accuracy. Requires five AA batteries (not included).

The rain bucket is plastic, 8″ Dia. × 7¾″ Ht., and includes mounting fasteners.

The monitor has dual displays that show current measurement of an individual rainfall (up to 9.99″) and accumulation measurement (up to 99.9″). Resolution is 0.01. Mounting fasteners are included.



Wireless Rain Gauge — **5729K5** — $297.80

Rain Gauges

Measure rainfall with this easy-to-read clear acrylic gauge. It has inch and mm markings and measures up to 5.5″ (140 mm) of rainfall. Graduations are 0.1″ (2 mm). Drive the pointed base into the ground or wall mount using the included fasteners. Overall length is 10″.



3940K1 — $19.02

Wireless Weather Stations

Monitor nine different weather conditions up to 1,000 feet away. The outdoor weather sensor measures outdoor temperature, humidity, wind speed and direction, rainfall rate, total rainfall, barometric pressure, heat index, wind chill, and dew point. It wirelessly transmits readings to the console by radio signal. Console has built-in sensors to measure indoor temperature and humidity. Humidity and temperature update every 1 minute; wind speed and wind direction update every 3 seconds; rainfall updates every 24 seconds.

Housing is plastic. Place the console on a desk or wall mount (fasteners not included). It operates on 100 to 240 volts AC with the included 10-ft. cord with two-prong plug. The outdoor sensor can be pipe mounted. It is solar powered and has a battery backup (battery is included).



Sensor



Console

Sensor	Range	Accuracy	Resolution
Indoor Temperature	32° to 140° F	±1° F	0.1
Indoor Relative Humidity	1% to 100%	±4%	1
Outdoor Temperature	–40° to 150° F	±2° F	0.1
Outdoor Relative Humidity	1% to 100%	±4%	1
Wind Speed	1 to 200 mph	±5%	1
Wind Direction	360°	±3°	22.5
Rainfall Rate	0.04 to 96 in. per hr.	±5%	0.01
Rainfall Total	0 to 200 in. per hr.	±4%	0.01
Barometric Pressure	16″ to 32.5″ Hg	±0.03″ Hg	0.01

Wireless Weather Station — **3011K38** — $534.25

Humidity-Indicating Cards with Calibration Certificate

Monitor current humidity levels in addition to maximum humidity exposure with these humidity-indicating cards that include a calibration certificate traceable to NIST that states they've passed a test for accuracy. The maximum humidity scale has dots that permanently change color when the humidity level reaches each humidity point. The current humidity scale is reversible and changes color as humidity increases or decreases. Maximum relative humidity range is 50% to 90%; current relative humidity range is 10% to 100%, both expressed in increments of 10%. Accuracy is ±5%. Size is 4″ Ht. × 4″ Wd.



5311K12 — Pkg. of 2 — $18.89

Hand-Held Weather Meters

Take field measurements of temperature, dew point, heat index, wind chill, wind speed, and relative humidity.

Temperature, dew point, heat index, and wind chill range is -20° to 158° F. Temperature accuracy is ±1° F; dew point accuracy is ±3.4° F; heat index accuracy is ±7° F; wind chill accuracy is ±1.6° F. Temperature and dew point readings are °F/°C selectable. Wind speed range is 1.3-90 mph and can be displayed in km/hr, m/sec, fpm, Beaufort, and knots. Relative humidity range is 5% to 95%; accuracy is ±3%. Resolution is 0.1.

Meter comes with a lanyard and a carrying case. Housing is plastic. Overall size is 4⅞″ Ht. × 1⅞″ Wd. × 1⅛″ Dp. Meter is battery operated (battery is included).



6273K6 — $192.00

Weather/Hazard Alert Radios

Get up-to-the-minute local weather and hazard alerts. These radios sound an alarm and display an alert message when they receive weather warnings in your area. Radios have siren, voice, and visual alert settings, as well as a display that indicates the degree of alert (watch or warning).

Bench-top radios operate on 120 volts AC with a 6-ft. cord and two-prong plug. In case of power loss, they have a battery backup. *Bench-top* radio can be programmed for up to 25 counties. Overall size is 2″ Ht. × 5⅛″ Wd. × 6¼″ Dp. Battery backup operates on three AA batteries (not included). *Bench-top radio with AM/FM reception* can be programmed for up to 23 counties. Overall size is 2½″ Ht. × 7″ Wd. × 5½″ Dp. Battery backup operates on four AA batteries (not included).

Hand-held radio operates up to 50 miles from the transmitter. It can be programmed for up to nine counties and has a digital clock. Overall size is 7″ Ht. × 3″ Wd. × 1½″ Dp. Operates on three AA batteries (not included).



Bench Top with AM/FM Reception



Hand Held

Bench-Top Radio — **3338K33** — $60.58
Bench-Top Radio with AM/FM Reception — **3338K32** — 97.08
Hand-Held Radio — **3338K31** — 65.45

pH Testing Paper

Check pH levels without a meter. When this testing paper is dipped in a sample, it changes color to indicate pH. Match the color of the testing paper to the color chart to determine the sample's pH.



pH Range	No. of Color Points	Increments	Wd.	Lg., ft.		
0-13.0	14	1	½″	50	**1434T31**	$12.82
1.0-6.0	6	1	¼″	15	**1434T32**	5.97
1.0-11.0	11	1	½″	50	**1434T11**	12.82
3.0-5.5	6	0.5	½″	50	**1434T15**	12.82
3.0-9.0	7	1	½″	50	**1434T13**	12.82
6.0-8.0	7	0.4	½″	50	**1434T16**	12.82
6.5-13.0	14	0.5	¼″	15	**1434T9**	6.70
8.0-9.5	4	0.5	¼″	15	**1434T33**	5.97
10.0-12.0	5	0.5	¼″	15	**1434T35**	5.97

Water-Quality Test Strips



Dip these strips into your liquid to quickly test water conditions. Strips change color to indicate the value reached; match the color of the strip to the color chart on the bottle to interpret the results.

Note: gpg = grains per gallon.

For Testing	No. of Strips		
Alkalinity (Total; 0-240 ppm)	50	11235T51	$15.94
Chloride (0.003-0.06%; 30-600 ppm)	40	11235T59	62.44
Chlorine (Free and Total; 0-10 ppm)	50	11235T53	22.19
Chlorine (Free; 0-800 ppm)	50	11235T31	19.25
Copper (0-3 ppm)	25	11235T55	30.36
Hardness (Total; 0-25 gpg)	50	11235T41	15.81
Hardness (Total; 0-180 ppm)	50	11235T32	11.20
Hydrogen Peroxide (0-90 ppm)	25	11235T33	8.45
Iron (0-5 ppm)	25	11235T42	30.36
Molybdenum (0-5 ppm)	50	11235T34	49.95
Nitrate (0-50 ppm)/Nitrite (0-3 ppm)	25	11235T45	27.74
Peracetic Acid (0-160 ppm)	50	11235T35	10.50
pH (0.0 to 6.0 pH)	100	11235T63	13.69
pH (0.0 to 14.0 pH)	100	11235T61	13.69
pH (4.0 to 9.0 pH)	50	11235T57	15.69
pH (6.5 to 13.0 pH)	100	11235T62	13.69
Salinity (0-150% concentration)	50	11235T38	16.98
5-in-1 Test Strips— Alkalinity (Total; 0-240 ppm), Chlorine (Free and Total; 0-10 ppm), Hardness (Total; 0-25 gpg), pH (6.2-8.4 pH)	50	11235T47	23.56

Water-Quality Test Kits

All the chemicals and labware you need for on-site sampling and water-quality testing.

Boiler/Cooling Tower Combination Test Kit—Keep boilers and cooling towers in top operating condition. This combination kit includes 100 tests for alkalinity (phenolthalein and total; 0-100/0-300 ppm), chloride (0-100/0-1,000 ppm), dissolved oxygen (0.0-10.0 ppm), hardness (total; 0.0-30.0/0-300 ppm), and sulfite (0.0-20.0/0-200 ppm), and 50 tests for phosphate (0-5 ppm).

Also Available: Refill chemicals, except for arsenic, bacteria, and lead. Please ask for 1439T31 and specify test type required.

For Testing	No. of Tests		
Alkalinity (Total; 0-200 ppm)	50	1439T15	$42.49
Arsenic (0.002-0.30 ppm)	5	1450T3	32.48
Bacteria (1 colony per 100 ml water)	1	1439T12	7.95
Chloride (0-200/0-20,000 ppm)	50	1439T17	56.84
Chlorine (Free and Total; 0.2-3.0 ppm)	50	1439T8	78.49
Dissolved Oxygen (0-10 ppm)	50	1439T13	61.64
Hardness (Total; 0-200 ppm)	50	1439T19	71.24
Iron (0.5-10 ppm)	90	1439T23	64.36
Lead (0.015 ppm)	2	5829T61	29.98
Molybdenum (1-10 ppm)	100	1439T33	85.85
Nitrate Nitrogen (0.25-10.0 ppm)	50	1439T22	90.16
Phosphate (1.0-10.0/10-100 ppm)	50	1439T21	115.31
pH (3.0 to 10.5 pH)	100	1439T2	46.36
Boiler/Cooling Tower Combination Test Kit		1439T11	375.43

Lead-Check Swabs

Rub these swabs on any surface to detect lead down to 2 micrograms.

	Pkg. of 8
58095T21	$35.86

Chemistry Controllers

Controllers compare the input from your sensor to a programmed actuation point and turn pumps, mixers, valves, and other equipment on or off when the reading reaches the actuation point. Relays are single pole, double throw (SPDT) and can be set to turn one circuit from "off" to "on" (normally open) or from "on" to "off" (normally closed). Controllers have automatic temperature compensation that standardizes readings at 77° F to prevent inaccurate results in fluctuating temperatures. Housing is plastic.

Single Function Controllers



Pair these controllers with sensors (sold separately) to turn equipment on or off based on the pH or conductivity of a solution. Controllers accept sensors with a bayonet connection. Set the actuation point with the dial. Controllers have one control relay and one alarm relay. They can be wall mounted using the four ½" dia. mounting holes (fasteners not included). They have an LED display. Resolution is 0.01. *pH* controller has an actuation tolerance of 0.5 to 2.5 pH; *conductivity* controller has an actuation tolerance of 0 to 1.6 mS.

For Testing	Range	Accuracy	*O'all Size* Ht.	Wd.	Dp.	Amps	AC Voltage (Phase)	Controllers		Sensors	
pH	0.0 to 14.0 pH	±0.02 pH	7⅛"	8¾"	3½"	2	120 (1)	13915T45	$688.30	13915T24	$162.50
Conductivity	0 to 10 mS	±2%	7⅛"	8¾"	3½"	2	120 (1)	13915T18	688.30	13915T27	235.62

Multifunction Controllers



Use the same controller to actuate equipment based on pH or oxidation reduction potential (ORP). Attach pH and ORP sensors (not included; see 14775T on this page) and set the current measurement type with the selection switch. Controllers accept sensors with a bayonet connection. Set the two actuation points using the keypad. Controllers have one control relay and two alarm relays. They have a ¼ DIN housing and can be panel mounted using a 3⅝" Ht. × 3⅝" Wd. cutout. *Controller with LED display* is more visible in low-light conditions than controller with LCD.

Function (Range)	*Accuracy* pH	ORP	*Resolution* pH	ORP	*O'all Size* Ht.	Wd.	Dp.	Amps	AC Voltage (Phase)	LCD		LED	
pH (0.0 to 14.0 pH)/ ORP (-1,999 to 1,999 mV)	±0.01 pH	±0.1%	0.01	1	3¾"	3¾"	4¾"	5	120 (1)	11305T44	$327.98	11305T66	$327.98

Chemistry Sensors



Hand Held



Threaded

A bayonet connection makes these sensors compatible with most chemistry meters and controllers. They can be used with both clean and dirty liquids. Sensor is glass. pH sensors have a range of 0 to 14 pH. Oxidation reduction potential (ORP) sensors have a range of -1,999 to 1,999 mV. Temperature range is 32° to 140° F.

Sensors with automatic temperature compensation (ATC) standardize readings at 77° F to prevent inaccurate results in fluctuating temperatures.

Threaded sensors have a ¾ NPT male connection for installation in pipes and tanks.

Extended-Life Sensors—These sensors have a flat sensing tip that resists deposit buildup and breakage for a long service life in harsh conditions.

To Order: For hand-held sensors, please specify cable length: 3, 10, or 20 feet. For threaded sensors, please specify cable length: 10 or 20 feet.

For Testing	Hand Held		Threaded	
Standard Sensors				
pH	14775T21	$65.44	14775T91	$154.50
pH with ATC	14775T22	96.34	14775T92	199.83
ORP	14775T25	113.96	14775T95	225.21
Extended-Life Sensors				
pH	14775T23	80.98	14775T93	154.76
pH with ATC	14775T24	125.83	14775T94	206.18

For additional information for the meters on this page such as resolution and dimensions, go to mcmaster.com and search for the part number.

Single-Function Chemistry Meters

Use these chemistry meters for on-the-go measurement. Meters have automatic temperature compensation (ATC), unless noted. ATC standardizes readings at 77° F to prevent inaccurate results in fluctuating temperatures. Use a calibration solution and the calibration adjustment screw or button to maintain accuracy. Calibration solution sold separately on page 646, unless noted. Meters are battery operated (batteries included). CE marked, unless noted. *Nonglass* sensors are more durable and resistant to breakage than glass sensors.

Water-resistant meters have a housing that meets IP67 for complete resistance to dust and protection from temporary submersion.

Remote-reading meters have a remote sensor with a 3-ft. cable. *Meter with PC output* transmits pH readings to a PC for analysis.

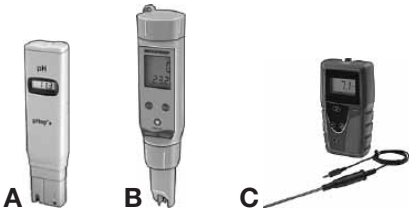

	Range	Accuracy	Sensor Material	ATC Range	Meters		Repl. Sensors	
pH Meters								
For Use With Dirty Liquids								
A Standard	0 to 14 pH	±0.1 pH	Glass	32° to 122° F	**1196T33**★	$68.86		
A Water Resistant	2 to 12 pH	±0.1 pH	Nonglass	41° to 104° F	**13945T17**■	413.18	**13945T72**	$103.83
B Water Resistant	-1 to 15 pH	±0.01 pH	Glass	32° to 122° F	**13945T19**	135.24	**13945T29**	71.49
C Remote Reading	0 to 14 pH	±0.01 pH	Nonglass	32° to 212° F	**1131T21**■	1,301.25	**1131T32**	562.50
For Use With Clean Liquids								
B Water Resistant	0 to 14 pH	±0.1 pH	Glass	32° to 122° F	**13945T12**	73.09		
C Remote Reading	0 to 14 pH	±0.01 pH	Glass	32° to 212° F	**1122T11**	288.45	**1122T62**	92.93
C Remote Reading with PC Output	0 to 14 pH	±0.01 pH	Glass	14° to 212° F	**14345T71**	691.58	**14345T73**	114.64
Oxidation Reduction Potential (ORP) Meters								
For Use With Dirty Liquids								
B Water Resistant	-999 to 1,000 mV	±2 mV	Glass	32° to 122° F	**13945T18**	238.39	**13945T28**	99.84
For Use With Clean Liquids								
A Standard	-999 to 999 mV	±5 mV	Nonglass		**1196T99**★▲	114.93		
Conductivity Meters								
For Use With Dirty Liquids								
A Standard	0 to 1,999 µS	±2%	Nonglass	32° to 122° F	**1196T55**★	66.93		
C Remote Reading; Multirange	0 to 2,000 µS/0 to 200 mS	±1%	Nonglass	32° to 122° F	**1122T32**	395.10	**1122T82**	190.19
For Use With Clean Liquids								
B Water Resistant; Multirange	0 to 2,000 µS/0 to 20 mS	±1%	Nonglass	32° to 122° F	**1145T72**	132.34	**1145T41**	70.03
Total Dissolved Solids (TDS) Meters								
For Use With Dirty Liquids								
A Standard	0 to 1,999 ppm	±2%	Nonglass	32° to 122° F	**1196T77**★	66.93		
C Remote Reading; Multirange	0 to 1,000 ppm/1 to 200 ppt	±1%	Nonglass	32° to 122° F	**1122T42**	421.94	**1122T82**	190.19
For Use With Clean Liquids								
B Water Resistant; Multirange	0 to 2,000 ppm/0 to 10 ppt	±1%	316 SS	32° to 122° F	**13945T34**	95.89	**13945T39**	55.01
B Water Resistant; Multirange	0 to 2,000 ppm/0 to 10 ppt	±1%	Nonglass	32° to 122° F	**1145T75**	130.09	**1145T41**	70.03
Dissolved Oxygen Meters								
For Use With Clean Liquids								
B Water Resistant	0 to 20 ppm	0.4 ppm	Nonglass	32° to 122° F	**13945T62**	272.72	**13945T64**	145.38

★ Not CE marked. ■ Includes calibration solution. ▲ Does not have ATC.

Multifunction Chemistry Meters

Get the convenience of multiple chemistry meter measurements from a single meter. Meters have automatic temperature compensation (ATC) that standardizes readings at 77° F to prevent inaccurate results in fluctuating temperatures. Use a calibration solution (not included; see page 646) and the calibration button to maintain accuracy. All meters are for use with clean liquids. They are battery operated (batteries included). CE marked.

(A) Water-resistant meters have a housing that meets IP57 for good resistance to dust and protection from temporary submersion.

(B) Remote-reading meters have a remote sensor on a 3-ft. cable. 14345T76 also has PC output which allows you to upload up to 500 readings to a PC.

(C) Bench-top meters have a housing that meets NEMA 6 and IP67 for complete resistance to dust and protection from temporary submersion. They also measure resistivity from 10 kilohms to 30 megohms with ±1% accuracy.



		Range	Accuracy	ATC Range	Sensor Material		
A	pH	0 to 14 pH	±0.01 pH				
	Oxidation Reduction Potential (ORP)	-999 to 999 mV	±1 mV				
	Chlorine	0.01 to 10 ppm	±10 ppm	23° to 194° F	Glass	**1160T11**	$262.34
A	Conductivity	0 to 1,999 µS/2 to 19.99 mS	±2%				
	Total Dissolved Solids (TDS)	0 to 999 ppm/1 to 9.99 ppt	±2%				
	Salinity	0 to 999 ppm/1 to 9.99 ppt	±2%	32° to 149° F	Nonglass	**13945T52**	114.53
B	pH	0 to 14 pH	±0.01 pH				
	Oxidation Reduction Potential (ORP)	-1,000 to 1,000 mV	±2 mV	32° to 212° F	Glass	**1122T26**	419.21
B	Conductivity	0 to 1,999 µS/0 to 199.9 mho	±1%				
	Total Dissolved Solids (TDS)	0 to 999 ppm/1 to 99.9 ppt	±1%	-17° to 230° F	Nonglass	**14345T76**	692.25
C	pH	0 to 14 pH	±0.01 pH				
	Oxidation Reduction Potential (ORP)	-999 to 999 mV	±1 mV				
	Conductivity	0 to 9,999 µS/10 to 200 mS	±1%				
	Total Dissolved Solids (TDS)	0 to 9,999 ppm/10 to 200 ppt	±1%	32° to 160° F	Glass	**1134T8**	1,026.36
C	Conductivity	0 to 9,999 µS/10 to 200 mho	±1%				
	Total Dissolved Solids (TDS)	0 to 9,999 ppm/10 to 200 ppt	±1%	32° to 160° F	Nonglass	**1134T6**	768.14

Replacement Sensors

For Testing	For Meter No.		
pH	1160T11	**1160T21**	$50.74
ORP	1160T11	**1160T22**	62.02
Chlorine	1160T11	**1160T23**	118.41
Conductivity/TDS/Salinity	13945T52	**13945T54**	50.39

For Testing	For Meter No.		
pH	1122T26	**1122T62**	$92.93
ORP	1122T26	**1122T23**	91.39
Conductivity	14345T76	**14345T79**	147.86
pH/ORP	1134T8	**1134T9**	195.20

Bench-Top Chemistry Meters



Check pH, conductivity, and total dissolved solids (TDS) measurements with these easy-to-read analog meters. Meters have automatic temperature compensation (ATC) that standardizes readings at 77° F to prevent inaccurate results in fluctuating temperatures. ATC range is 50° to 160° F, unless noted. Overall size is 4″ Ht. × 3½″ Wd. × 4½″ Dp. Housing is plastic. Use a calibration solution (sold separately on this page) and the calibration knob to maintain accuracy. Meters are battery operated (batteries included). *Single-function* meters have a nonglass sensor; *multifunction* meter has a glass sensor.

For Testing	Range	Accuracy		
Single-Function Meters—For Use With Dirty Liquids				
Conductivity	0 to 5,000 µS	±2%	1128T14★	$406.81
Conductivity	0 to 10,000 µS	±2%	1128T137	394.01
TDS	0 to 5,000 ppm	±2%	1128T16	361.77
Optional Carrying Case for Single-Function Meters			1128T15	69.14
Multifunction Meter—For Use With Clean Liquids				
pH/Conductivity	2 to 12 pH/ 0 to 10,000 µS	±0.2 pH/ ±2%	13485T64	574.01
Repl. pH/Conductivity Sensor for 13485T64			13485T62	156.21

★ ATC range is 32° to 120° F.

Liquid Samplers



T-Handle Sampler

Extract noncorrosive liquid samples from drums, vats, tanks, and other containers. Samplers are plastic.

Cleaned samplers are individually packaged in accordance with EPA protocol B. They are often used to collect environmental water samples.

Open-Top Samplers—Also known as thief samplers. Insert the sampler into your liquid and seal the top opening with your thumb to collect liquid.

T-Handle Samplers—Also known as coliwasa (composite liquid waste) samplers. The syringe-like design lets you sample liquid without manually creating a vacuum.

OD	Lg., ft.	Cap., ml	Standard		Cleaned	
Open-Top Samplers						
½″	3½	100	8221K11	$2.64	8221K13	$3.44
⅝″	3½	150	8221K16	3.05	8221K18	3.86
T-Handle Samplers						
⅞″	1½	75	8221K26	4.84	8221K28	6.39
⅞″	3½	250	8221K33	6.87	8221K35	8.80
⅞″	7	500	8221K47	9.14	_____	____
1⅝″	3½	1,000	_____	____	8221K57	10.54

Calibration Solutions

Maintain the accuracy of your pH, conductivity, and total dissolved solids (TDS) sensors with one of these solutions.

Solutions with certificate come with an analysis certificate traceable to NIST that states they've passed a test for concentration.

Use the *cleaning solution* to remove deposits and contaminants from pH sensors. *Storage solution* prevents pH sensors from drying between uses to extend service life.

Concentration	Size	Without Certificate		With Certificate	
For Calibrating pH					
4.0 pH	500 ml	21315T396	$12.00	3108T35	$31.86
4.0 pH	1 gal.	21315T496	33.14	3108T37	98.14
7.0 pH	500 ml	21315T397	12.00	3108T25	31.86
7.0 pH	1 gal.	21315T497	33.14	3108T27	98.14
10.0 pH	500 ml	21315T398	12.00	3108T45	31.86
10.0 pH	1 gal.	21315T498	33.14	3108T47	98.14
Cleaning Solution for pH Sensors—500 ml				21315T501	26.00
Storage Solution for pH Sensors—500 ml				21315T502	26.00
For Calibrating Conductivity					
84 µS	500 ml	21315T601	26.00	3108T55	28.04
1,413 µS	500 ml	21315T602	26.00	3108T56	28.04
12,880 µS	500 ml	21315T603	26.00	3108T65	26.76
For Calibrating Total Dissolved Solids (TDS)					
1,382 ppm	500 ml	21315T605	26.00	3108T57	28.04

Density Meters



Also known as hydrometers, these measure the density of a liquid compared to the density of water. Pour your liquid into a tall container and immerse the meter into the liquid until it floats. Take the reading where the surface of the liquid touches the scale on the meter. Heavy liquids sink in water and light liquids float in water. Meters are glass. Length is 12″.

Scale	Range	Graduations	OD		
For Light Liquids					
Specific Gravity	0.65 to 1	0.005	9⁄16″	4099K16	$22.72
Specific Gravity	0.7 to 0.81	0.001	13⁄16″	38865K11	22.72
Specific Gravity	0.8 to 0.91	0.001	11⁄16″	38865K12	22.72
Specific Gravity	0.9 to 1	0.001	11⁄16″	38865K13	22.72
Specific Gravity/ Baume	0.6 to 1/ 10° to 100°	0.005/ 1°	9⁄16″	4099K24	21.86
For Heavy Liquids					
Specific Gravity	1 to 1.22	0.002	11⁄16″	38865K14	22.72
Specific Gravity	1 to 2	0.010	9⁄16″	4099K14	21.86
Specific Gravity	1.2 to 1.42	0.002	11⁄16″	38865K15	22.72
Specific Gravity	1.6 to 1.82	0.002	11⁄16″	38865K17	22.72
Specific Gravity/ Baume	1 to 2/ 0° to 72°	0.010/ 1°	9⁄16″	4099K23	21.86
Baume	0° to 50°	1°	9⁄16″	4099K11	21.86
Baume	0° to 70°	1°	9⁄16″	4099K13	21.86
For Salt Water					
Saturation	0 to 100%	1%	11⁄16″	4099K17	22.72

Concentration Meters



Eyepiece Meter



Easy-Read Meter

Also known as refractometers, these measure concentration with two or three drops of a solution. Meters come in a plastic case.

Eyepiece Meters—Place your sample on the reflecting prism and look through the eyepiece to view the concentration on the internal scale.

Easy-Read Meters—Don't strain your eyes reading a scale—these concentration meters indicate exact results on the display. Resolution is 0.1. Meters meet HACCP (Hazard Analysis Critical Control Points) standards for use in food applications.

Meters with automatic temperature compensation (ATC) standardize readings at 68° F to prevent inaccurate results in fluctuating temperatures. ATC range is 50° to 86° F, unless noted.

Meters with Brix (sugar) scale measure sugar concentration. *Meters with 0% to 18% and 0% to 90% concentration range* also measure cutting/grinding coolants, oil/water, cleaning solutions, anodizing solutions, plating/acid baths, and chromating solutions.

Meters with freezing-point scale measure the freezing point of propylene glycol and ethylene glycol as well as the specific gravities of battery acids from 1.15 to 1.30.

Range	Graduations	Lg.	With ATC		Without ATC	
Eyepiece Meters with Brix (Sugar) Scale—Aluminum Body						
0-10%	0.1%	7½″	8500T11	$105.77	8500T511	$95.26
0-18%	0.2%	6¾″	8500T12	105.77	8500T531	95.26
0-32%	0.2%	6⅜″	8500T15	105.77	_____	____
0-32%	0.2%	6⅝″	_____	_____	8500T551	95.26
0-90%	0.2%	7½″	_____	_____	8500T591	343.75
Eyepiece Meters with Freezing-Point Scale—Nickel-Plated Brass Body						
-60° to 32° F	2° F	7″	7718K2	97.90	_____	____
-50° to 0° C	1° C	7″	7718K1■	114.08	_____	____
Easy-Read Meters with Brix (Sugar) Scale—Plastic Body						
0-53%	_	4½″	2982T64▲	390.00	_____	____
45-93%	_	4½″	2982T68▲	428.33	_____	____

■ ATC temperature range is 10° to 30° C. ▲ ATC temperature range is 50° to 212° F.

Heating & Cooling

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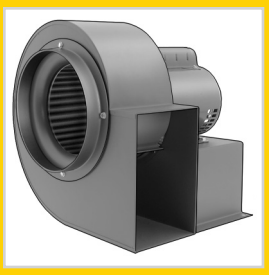





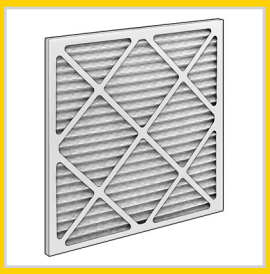

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About Choosing a Heater

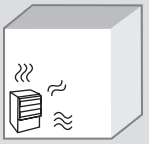

Space Heaters

Heaters use a built-in fan or convection to distribute heated air throughout an area. They are best suited for indoor spaces that are well insulated.



Direct Heaters

Also known as radiant heaters, these heaters transmit waves to warm people and objects rather than the surrounding air. Effective near exposed areas such as loading docks, these heaters are less affected by drafts than space heaters. They can heat spaces but generally take longer than space heaters to do so.

Calculating Heat Output for Space Heaters

To estimate the Btu/Hr. required to heat a space, insert the length, width, and height of the space into the following formula: (Lg. × Wd. × Ht.) × Desired Temperature Increase × 3/4

If your space is not well insulated, double the values. In the table below, we show the Btu/Hr. required for some common applications.

Max. Cu. Ft. Heated (Lg.×Wd.×Ht.)	Btu/Hr. Needed to Increase Temp. +10° F	+20° F	+30° F	+40° F
Small Spaces—Enclosures, Workstations, Small Offices				
800 cu. ft. (10 ft.×10 ft.×8 ft.)	6,000	12,000	18,000	24,000
Large Spaces—Shops, Garages, Warehouses				
4,800 cu. ft. (20 ft.×20 ft.×12 ft.)	36,000	72,000	108,000	144,000

Calculating Heat Output for Direct Heaters

To estimate the Btu/Hr. required to heat a space, insert the length and width of the space into the following formula: (Lg. × Wd.) × Desired Temperature Increase/0.293

For outdoor use, double the values. In the table below, we show the Btu/Hr. required for some common applications.

Max. Sq. Ft. Heated (Lg.×Wd.)	Btu/Hr. Needed to Increase Temp. +10° F	+20° F	+30° F	+40° F
Short Range—One or Two People				
225 sq. ft. (15 ft.×15 ft.)	7,600	15,300	23,000	30,700
Long Range—Several People				
1,600 sq. ft. (40 ft.×40 ft.)	54,600	109,200	163,800	218,400

Space Heaters

Small-Space Portable Electric Heaters



A



B



NEMA 6-30 Plug

C

Carry these heaters to offices, workstations, and other small spaces.

Style A—Adjust the built-in thermostat from 40° to 85° F. Housing is black plastic and is safe to touch during use. Heater shuts off if tipped over or airflow is obstructed. Cord is 6-ft. long and has a two-prong plug. ETL listed.

Style B—Adjust the built-in thermostat from 25° to 95° F. Heater has a steel housing and a 6-ft. cord with a three-prong plug. UL and ETL listed.

Style C—Adjust the built-in thermostat from 35° to 85° F. Use the bracket as a stand or to mount to the wall or ceiling with the 5/16″ mounting holes (fasteners not included). Heaters have a steel housing and a 6-ft. cord with a NEMA 6-30 plug. When operating at 208 volts AC, max. area heated and heat output are reduced by 25%. UL and C-UL listed.

	Max. Cu. Ft. Heated	Heat Output, Btu/Hr.	Airflow, cfm	Watts	Amps	Overall Ht.	Overall Wd.	Overall Dp.		
120 Volts AC, Single Phase										
A	680	5,100	90	1,500	12.5	12″	11″	8″	**1810K11**	$64.81
B	750	5,630	120	1,650	13.5	14″	9″	13″	**1810K12**	222.55
208/240 Volts AC, Single Phase										
C	2,540	19,100	260	5,600	23.4	18″	14″	12″	**3688K72**	265.18

Electric Enclosure Heaters



Surface Mount



DIN-Rail Mount

Protect electrical equipment from low temperatures and condensation. Heaters must be hardwired. Components are UL recognized.

Surface-mount heaters have an aluminum housing and a built-in thermostat that adjusts from 0° to 100° F. Mounting fasteners are included. CSA certified.

DIN-rail mount heaters have a plastic housing. *120-volt AC* heaters have a built-in thermostat that adjusts from 32° to 140° F. *Thermostat for 120/240-volt AC heaters* (sold separately) adjusts from 32° to 140° F and is SPST (single pole, single throw).

Surface Mount

Max. Cu. Ft. Heated	Heat Output, Btu/Hr.	Watts	Overall Ht.	Overall Wd.	Overall Dp.	120 Volts AC Single Phase Amps			230 Volts AC Single Phase Amps		
45	340	100	6″	4″	4″	1.0	**19095K711**	$283.76	0.5	**19095K712**	$283.76
90	680	200	6″	4″	4″	1.9	**19095K721**	337.20	1.0	**19095K722**	337.20
180	1,360	400	8″	5″	5″	3.7	**19095K731**	389.76	1.9	**19095K732**	389.76
360	2,730	800	8″	5″	5″	7.4	**19095K741**	443.12	3.7	**19095K742**	443.12

DIN-Rail Mount

Max. Cu. Ft. Heated	Heat Output, Btu/Hr.	Watts	Amps	Overall Ht.	Overall Wd.	Overall Dp.	Heaters		Thermostats	
120 Volts AC, Single Phase										
290	2,210	650	15.0	4″	7″	5″	**1365K2**	$232.50	———	———
430	3,240	950	7.9	4″	7″	8″	**1365K1**	275.13	———	———
120/240 Volts AC, Single Phase										
5	65	20	2.5	4″	2″	3″	**1365K5**	53.33	**1365K6**	$29.51
20	170	50	2.5	5″	3″	4″	**1365K3**	84.67	**1365K6**	29.51
45	340	100	4.5	5″	3″	4″	**1365K4**	122.51	**1365K6**	29.51

Electric Vehicle Heaters



Don't shiver in slow-to-warm vehicles. Hardwire these compact units to your battery. Heaters have a built-in thermostat that adjusts from 0° to 100° F, a remote on/off switch, a fuse, and hardware for floor or wall mounting. Housing is black plastic.

Max. Cu. Ft. Heated	Heat Output, Btu/Hr.	Airflow, cfm	Watts	Amps	Overall Ht.	Overall Wd.	Overall Dp.		
12 Volts DC									
140	1,100	100	300	25	8″	6″	5″	**17075K71**	$119.70
24 Volts DC									
290	2,100	100	600	25	8″	6″	5″	**17075K81**	196.00

Small-Space Wall-Mount Electric Heaters


Standard


Low Clearance


Hazardous Location

Heat storage rooms, offices, bathrooms, and other small spaces without taking up floor space. Heaters must be hardwired.

Standard—Heaters recess mount into a wall. Housing is steel with a white finish. Built-in thermostat adjusts from 40° to 90°F, except 1726K24 and K26 adjust from 40° to 85° F. ETL listed. *Optional mounting frames* allow you to surface mount the heater. They have 3/16″ × 1/2″ mounting slots (fasteners not included).

Low Clearance—Heaters are designed to recess mount under counters and cabinets. Housing is galvanized steel with a white grille. The included thermostat adjusts from 45° to 80°F. Mounting fasteners are included. UL listed.

Hazardous Location—Heaters meet NEC Class 1, Div. 1 and 2, Groups C and D for use in the presence of flammable gases and vapors. They use convection to circulate warm air and have a built-in thermostat that adjusts from 50° to 90° F. Housing is gray steel. Heaters have a wall-mount bracket with 13/32″ dia. holes (fasteners not included). ETL listed.

Max. Cu. Ft. Heated	Heat Output, Btu/Hr.	Airflow, cfm	Watts	Amps	Overall Ht.	Overall Wd.	Overall Dp.	Heaters		Optional Mounting Frames	
Standard											
120 Volts AC, Single Phase											
1,200	5,120	50	1,500	12.6	12 1/4″	10 1/2″	4 1/4″	1726K24	$127.00	1726K37	$40.44
208/240 Volts AC, Single Phase—When operating at 208 volts AC, max. area heated and heat output are reduced by 25%.											
1,600	6,820	50	2,000	8.3	12 1/4″	10 1/2″	4 1/4″	1726K26	127.00	1726K37	40.44
1,820	13,650	100	4,000	16.7	19 5/16″	15 3/4″	4″	1726K854	248.64	1726K618	63.17
2,180	16,380	100	4,800	20.0	19 5/16″	15 3/4″	4″	1726K27	251.22	1726K618	63.17
240/277 Volts AC, Single Phase—When operating at 240 volts AC, max. area heated and heat output are reduced by 25%.											
1,820	13,650	100	4,000	14.5	19 5/16″	15 3/4″	4″	1726K833	248.62	1726K618	63.17
Low Clearance											
120 Volts AC, Single Phase											
680	5,110	70	1,500	12.5	4″	15″	8″	17045K72	201.68		
208/240 Volts AC, Single Phase—When operating at 208 volts AC, max. area heated and heat output are reduced by 25%.											
680	5,110	70	1,500	6.3	4″	15″	8″	17045K82	206.02		
Hazardous Location											
120 Volts AC, Single Phase											
810	6,140	—	1,800	15.0	18″	40″	9″	1752K61	1,196.55		
208 Volts AC, Single Phase											
810	6,140	—	1,800	8.7	18″	40″	9″	1752K62	1,196.55		
1,630	12,280	—	3,600	17.3	18″	40″	9″	1752K64	1,497.74		
3,450	25,930	—	7,600	36.5	18″	66″	9″	1752K67	2,715.52		
240 Volts AC, Single Phase											
810	6,140	—	1,800	7.5	18″	40″	9″	1752K63	1,196.55		
1,630	12,280	—	3,600	15.0	18″	40″	9″	1752K65	1,497.74		
3,450	25,930	—	7,600	31.7	18″	66″	9″	1752K68	2,715.52		
480 Volts AC, Single Phase											
1,630	12,280	—	3,600	7.5	18″	40″	9″	1752K66	1,497.97		
3,450	25,930	—	7,600	15.8	18″	64″	9″	1752K69	2,068.97		

Small-Space Baseboard Electric Heaters

A low profile design keeps these heaters out of the way. Often installed below windows, they use convection to circulate warm air. Housing is steel with a beige finish and has indentations for you to punch your own mounting holes. Heaters must be hardwired. UL listed.

Heater-mount thermostats adjust from 45° to 80°F. Thermostat *for 120-volt AC heaters* is SPST (single pole, single throw). Thermostat *for 208/240-volt AC heaters* is DPDT (double pole, double throw).


Shown with Heater-Mount Thermostat Installed

Max. Cu. Ft. Heated	Heat Output, Btu/Hr.	Watts	Amps	Overall Ht.	Overall Wd.	Overall Dp.	Heaters		Heater-Mount Thermostats	
120 Volts AC, Single Phase										
220	1,700	500	4.2	7″	30″	3″	1778K41	$42.04	1778K71	$21.14
340	2,550	750	6.3	7″	36″	3″	1778K42	48.98	1778K71	21.14
450	3,410	1,000	8.3	7″	48″	3″	1778K43	57.55	1778K71	21.14
680	5,110	1,500	12.5	7″	72″	3″	1778K44	77.55	1778K71	21.14
208/240 Volts AC, Single Phase—When operating at 208 volts AC, max. area heated and heat output are reduced by 25%.										
220	1,700	500	2.1	7″	30″	3″	1778K52	43.83	1778K72	34.09
340	2,550	750	3.1	7″	36″	3″	1778K54	51.06	1778K72	34.09
450	3,410	1,000	4.2	7″	48″	3″	1778K56	60.00	1778K72	34.09
560	4,260	1,250	5.2	7″	60″	3″	1778K57	69.60	1778K72	34.09
680	5,110	1,500	6.3	7″	72″	3″	1778K58	76.00	1778K72	34.09
900	6,820	2,000	8.3	7″	96″	3″	1778K19	95.60	1778K72	34.09
1,130	8,530	2,500	10.4	7″	96″	3″	1778K23	117.20	1778K72	34.09

Large-Space Portable Electric Heaters



Plug Style
- CS8365C
- NEMA 14-50
- NEMA L16-30
- CS8165C

Roll these electric heaters to warm large spaces without requiring fuel and ventilation like gas heaters. They have a built-in thermostat that adjusts from 40° to 100° F. Housing is yellow steel with a black steel stand and two wheels. Cord is 8-ft. long. ETL and C-ETL listed.

Max. Cu. Ft. Heated	Heat Output, Btu/Hr.	Airflow, cfm	Watts	Amps	Overall Ht.	Overall Wd.	Overall Dp.	Plug Style		
208 Volts AC, Three Phase										
6,820	51,190	800	15,000	42	40″	27″	21″	CS8365C	1714K18	$1,101.45
Receptacle for CS8365C Plug									7175K53	87.09
240 Volts AC, Single Phase										
4,550	34,130	800	10,000	42	39″	24″	21″	NEMA 14-50	1714K19	875.00
240 Volts AC, Three Phase										
6,820	51,190	800	15,000	36	40″	27″	21″	CS8365C	1714K21	1,101.45
Receptacle for CS8365C Plug									7175K53	87.09
480 Volts AC, Three Phase										
6,820	51,190	800	15,000	18	40″	27″	21″	NEMA L16-30	1714K23	978.26
13,650	102,390	1,100	30,000	36	40″	27″	23″	CS8165C	1714K24	1,588.65
Receptacle for CS8165C Plug									7175K63	81.48

Large-Space Portable Gas Heaters



A

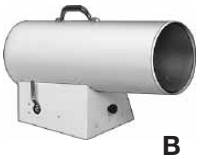

B



C



D

Built for big jobs, these are our most powerful portable space heaters. They have a steel housing and a safety shut-off that cuts the gas supply if the flame goes out. CSA certified.

Heaters for Use with Propane Gas—Include a hose and regulator with POL connection (the same connection between your gas grill and propane tank). Style A heaters include a 20-ft. hose; Style B heaters include a 10-ft. hose.

Style A heaters use convection to circulate warm air. They have a pilot light starter and do not require electricity. Turn the control knob to adjust heat output.

Styles B-D heaters have an electronic spark starter and operate on 120 volts AC. They have a 4″ long cord with three-prong plug. Heaters have a built-in thermostat that adjusts from 40° to 105° F, except Style B heater that covers a max. area of 13,330 cu. ft. does not have a thermostat. It has a control knob that adjusts heat output.

	Max. Cu. Ft. Heated	Max. Heat Output, Btu/Hr.	Max. Airflow, cfm	Max. Fuel Consumption	Built-In Tank Cap.	Min. Req'd Tank Cap.	Amps	Overall Ht.	Overall Wd.	Overall Dp.		
For Use with Propane Gas—POL Connection												
A	10,660	80,000	—	3.7 lbs./hr.	—	20 lbs.	—	16″	19″	22″	1738K11	$132.88
A	26,660	200,000	—	9.3 lbs./hr.	—	100 lbs.	—	19″	15″	28″	1738K16	143.00
B	13,330	100,000	350	4.6 lbs./hr.	—	20 lbs.	2	14″	10″	26″	1722K18	262.10
B	22,660	170,000	625	7.9 lbs./hr.	—	100 lbs.	2.1	16″	9″	24″	1722K14	408.34
B	53,330	400,000	1,580	18.5 lbs./hr.	—	500 lbs.	1.5	22″	13″	35″	1722K16	671.20
For Use with Natural Gas—½ SAE Flared Male Connection												
A	8,000	60,000	—	60 cu. ft./hr.	—	—	—	17″	19″	19″	1738K21	129.74
For Use with Natural Gas—½ NPT Female Connection												
B	20,000	155,000	625	155 cu. ft./hr.	—	—	2.1	16″	9″	24″	1722K24	408.42
For Use with Kerosene and Diesel Fuel—Built-In Tank												
C	10,000	75,000	265	0.57 gph	5 gal.	—	1.6	17″	12″	32″	1744K3	263.02
D	16,660	125,000	520	0.95 gph	10 gal.	—	2.5	25″	23″	38″	1744K2	378.15
D	23,330	175,000	600	1.3 gph	13 gal.	—	3.2	27″	24″	44″	1744K26	418.89
D	86,660	650,000	3,600	4.9 gph	50 gal.	—	7.1	49″	31″	70″	1744K75	2,214.76

Large-Space Ceiling-Mount Gas Heaters



E & F



G

More economical to operate than electric heaters, these gas heaters warm shops, garages, and other large spaces. They have an electronic spark starter and an automatic safety shut-off that cuts the gas supply if the flame goes out. Motors are single phase, operate on 120 volts AC, and must be hardwired. They have a built-in transformer for a 24-volt AC thermostat (sold separately). Housing is steel. CSA certified. Note: Heaters need to be vented to the outdoors. Vent pipe is not included; see page 665.

Style E include mounting brackets.

Style F can be suspended from the ceiling with ⅜″-16 threaded rod (not included) or optional mounting brackets (sold separately).

Style G can be suspended from the ceiling with ⅜″-16 threaded rod (not included).

Wall-mount thermostat adjusts from 50° to 90° F. It's SPST (single pole, single throw). Mounting hardware is included.

	Max. Cu. Ft. Heated	Heat Output, Btu/Hr.	Airflow, cfm	Gas Conn., NPT Female	Amps	Overall Ht.	Overall Wd.	Overall Dp.	Max. Mount Ht., ft.	Req'd Vent Dia.	Propane Gas		Natural Gas	
E	4,800	36,000	720	½	3.7	13″	27″	22″	10	3″	1736K112	$658.88	1736K132	$658.88
F	10,660	80,000	1,490	½	4.7	21″	36″	31″	12	4″	1736K114	860.81	1736K134	860.81
F	13,330	100,000	1,980	½	4.2	21″	36″	31″	16	4″	1736K115	973.03	1736K135	973.03
Optional Mounting Brackets for Style F (Pair)													1736K98	73.80
G	26,660	200,000	3,700	½	7.7	41″	26″	35″	19	6″	1736K121	1,514.85	1736K141	1,514.85
G	42,660	320,000	5,440	¾	11.1	41″	40″	39″	19	6″	1736K241	2,012.18	1736K242	2,012.18
Wall-Mount Thermostat													17225K51	16.36

Large-Space Ceiling- and Wall-Mount Electric Heaters


A


B


C


D

No need for gas lines and vent pipes—install these electric heaters in shops, garages, and other large spaces without the hassles of a gas heater installation. Heaters must be hardwired. Adjust the louvers to direct airflow.

Standard—Housing is steel. *Heater-mount thermostats* and *wall-mount thermostats* adjust from 50° to 90° F.

Style A can be wall-mounted and ceiling-mounted. When wall-mounted with the included bracket, heaters evenly warm large spaces. Bracket has 11/32″ dia. holes (fasteners not included). When installed with a *ceiling-mount bracket*, heaters focus warm air in a specific spot. Bracket has 17/32″ dia. holes (fasteners not included). *Heater-mount thermostats* are SPDT (single pole, double throw), unless noted.

Style B include a wall-mount bracket with 11/32″ dia. holes (fasteners not included). *Heater-mount thermostats* and *wall-mount thermostats* are SPST (single pole, single throw).

Washdown—Heaters have a wiring compartment that is sealed to NEMA 4X standards to withstand washdowns and dust. Housing is stainless steel. Mount to the wall or ceiling with the included hardware.

Wall-mount thermostats adjust from 40° to 100° F and are SPST (single pole, single throw). They meet NEMA 4X standards to withstand washdowns and dust.

Hazardous Location—Heaters meet NEC Class I, Div. 1 and 2, Groups C and D; and Class II, Div. 1 and 2, Groups E, F, and G for use in the presence of flammable gases, vapors, and dusts. Housing is steel. The built-in thermostat adjusts from 50° to 90° F. The included wall-mount bracket has 1/2" dia. holes (fasteners not included).

	Max. Cu. Ft. Heated	Heat Output, Btu/Hr.	Airflow, cfm	Watts	Amps	Overall Ht.	Overall Wd.	Overall Dp.	Heaters		Heater-Mount Thermostats		Wall-Mount Thermostats		Ceiling-Mount Brackets	
Standard																
208/240 Volts AC, Single Phase—At 208 volts AC, max. area heated and heat output are reduced 25%; Heaters can be wired to three phase.																
A	2,280	17,100	400	5,000	20.8	18″	15″	7″	**2022K51**	$591.84	**2022K41**	$62.00			**2022K34**	$140.00
A	3,410	25,600	700	7,500	31.3	25″	22″	7″	**2022K52**	768.52	**2022K41**	62.00			**2022K35**	174.00
A	4,540	34,100	700	10,000	41.2	25″	22″	7″	**2022K53**	766.67	**2022K41**	62.00			**2022K35**	174.00
Optional Heater-Mount Thermostat (DPST) for heater that covers 2,280 cu. ft. when wired to three phase only															**2022K43**	103.00
208/240 Volts AC, Three Phase—At 208 volts AC, max. area heated and heat output are reduced 25%.																
A	6,820	51,200	1,100	15,000	36.1	29″	22″	7″	**2022K54**	1,231.48	**2022K41**	62.00			**2022K35**	174.00
240 Volts AC, Single Phase																
B	2,280	17,100	400	5,000	21	20″	13″	11″	**1702K41**	650.00	**1702K62**	82.50	**17395K93**	$22.73		
B	3,410	25,600	575	7,500	31	20″	13″	11″	**1702K91**	680.00	**1702K62**	82.50	**17225K51**	16.36		
B	4,540	34,100	575	10,000	42	20″	13″	11″	**1702K92**	793.48	**1702K62**	82.50	**17225K51**	16.36		
480 Volts AC, Three Phase																
A	2,280	17,100	400	5,000	6.1	18″	15″	7″	**2022K55**	692.31	**2022K41**	62.00			**2022K34**	140.00
A	3,410	25,600	700	7,500	9.1	25″	22″	7″	**2022K56**	768.52	**2022K41**	62.00			**2022K35**	174.00
A	4,540	34,100	700	10,000	12.1	25″	22″	7″	**2022K57**	833.33	**2022K41**	62.00			**2022K35**	174.00
A	6,820	51,200	1,100	15,000	18.1	29″	22″	7″	**2022K58**	1,228.07	**2022K41**	62.00			**2022K35**	174.00
A	9,100	68,300	1,100	20,000	24.1	29″	22″	7″	**2022K59**	1,429.82	**2022K41**	62.00			**2022K35**	174.00
A	11,370	85,300	2,000	25,000	30.1	34″	30″	11″	**2022K61**	1,540.71	**2022K41**	62.00			**2022K36**	192.08
A	17,740	133,100	3,100	39,000	47	34″	30″	11″	**2022K62**	2,310.34	**2022K41**	62.00			**2022K36**	192.08
A	22,740	170,600	3,100	50,000	60.3	34″	30″	11″	**2022K63**	2,816.67	**2022K41**	62.00			**2022K36**	192.08
B	2,280	17,100	400	5,000	6	20″	13″	11″	**1702K93**	653.85	**1702K62**	82.50	**17225K51**	16.36		
B	3,410	25,600	575	7,500	9	20″	13″	11″	**1702K94**	730.00	**1702K62**	82.50	**17225K51**	16.36		
B	4,540	34,100	575	10,000	12	20″	13″	11″	**1702K46**	830.43	**1702K62**	82.50	**17225K51**	16.36		
B	6,820	51,200	800	15,000	18	22″	15″	11″	**1702K47**	1,020.83	**1702K62**	82.50	**17225K51**	16.36		
B	9,100	68,300	1,350	20,000	24	24″	17″	17″	**1702K48**	1,384.62	**1702K62**	82.50	**17225K51**	16.36		
B	13,650	102,400	1,350	30,000	36	24″	17″	17″	**1702K49**	1,540.82	**1702K62**	82.50	**17225K51**	16.36		
B	18,200	136,500	2,275	40,000	48	26″	19″	23″	**1702K54**	1,953.70	**1702K62**	82.50	**17225K51**	16.36		
B	21,840	163,800	2,275	48,000	58	26″	19″	23″	**1702K55**	2,053.57	**1702K62**	82.50	**17225K51**	16.36		
Washdown																
208/240 Volts AC, Single Phase—At 208 volts AC, max. area heated and heat output are reduced 25%.																
C	2,280	17,100	400	5,000	20.8	17″	15″	11″	**19625K24**	1,715.77			**19625K71**	132.18		
208/240 Volts AC, Three Phase—At 208 volts AC, max. area heated and heat output are reduced 25%.																
C	4,540	34,100	725	10,000	24	17″	15″	18″	**19625K25**	2,935.44			**19625K71**	132.18		
C	9,100	68,300	1,100	20,000	48.1	17″	15″	18″	**19625K26**	4,288.64			**19625K71**	132.18		
480 Volts AC, Three Phase																
C	2,280	17,100	400	5,000	6	17″	15″	18″	**19625K27**	2,876.60			**19625K71**	132.18		
C	4,540	34,100	725	10,000	12	17″	15″	18″	**19625K28**	3,020.19			**19625K71**	132.18		
C	9,100	68,300	1,100	20,000	24.1	17″	15″	18″	**19625K29**	3,857.63			**19625K71**	132.18		
Hazardous Location																
240 Volts AC, Three Phase																
D	3,410	25,600	580	7,500	19.4	18″	23″	20″	**1799K25**	4,666.67						
D	4,540	34,100	1,500	10,000	25.5	21″	27″	21″	**1799K27**	4,791.67						
480 Volts AC, Three Phase																
D	3,410	25,600	580	7,500	9.7	18″	23″	20″	**1799K26**	4,666.67						
D	4,540	34,100	1,500	10,000	12.7	21″	27″	21″	**1799K28**	4,791.67						
D	11,380	85,400	2,450	25,000	31.1	25″	31″	23″	**1799K33**	5,491.67						

Large-Space Ceiling-Mount Steam and Water Heaters



Horizontal Air Flow for Steam



Horizontal Air Flow for Steam and Water



Vertical Air Flow for Steam and Water

Use steam and water from your existing boilers to heat your facility. Heaters have a steel cabinet and mount to the ceiling. They must be hardwired. Heat output is based on steam at 2 psi. Hazardous location motors are rated for NEMA Class I, Division 1, Group D and Class II, Division I, Groups F and G for indoor use in the presence of flammable gases, vapors, and dusts and NEMA Class III, Division I and II for indoor use in the presence of flammable fibers, unless noted.

Horizontal Air Flow—Heaters evenly warm large spaces. Connections are NPT female. **Heaters for steam** have 1/2″ mounting holes (fasteners not included). **Heaters for steam and water** are CSA certified. Heaters that cover a max. area of 11,460 cu. ft. and less have 3/8″-16 threaded mounting holes; heaters that cover 16,130 cu. ft. and more have 1/2″-13 threaded mounting holes. Fasteners are not included.

Vertical Air Flow—Heaters focus warm air in a specific spot. They have NPT male connections. CSA certified. 120-volt AC heaters have 1/2″-13 threaded mounting holes; 230/460-volt AC heaters have 5/8″ mounting holes. Fasteners are not included.

							Standard					Hazardous Location				
									Steam					Steam		
Max. Cu. Ft. Heated	Heat Output, Btu/Hr.	Airflow, cfm	NPT Conn. Inlet	NPT Conn. Outlet	Overall Ht.	Overall Wd.	O'all Dp.	Amps	Max. psi	Max. Temp., °F			O'all Dp.	Amps	Max. psi	Max. Temp., °F		
Horizontal Air Flow Heaters for Steam																		
120/230 Volts AC, Single Phase																		
9,410	70,600	1,265	1 1/2	1 1/2	18″	16″	21″	2.5	200	600°	1732K3	$1,285.07	21″	2.5	200	600°	1732K13★	$1,597.18
14,130	106,000	1,940	2	2	21″	19″	21″	2.5	200	600°	1732K5	1,431.00	21″	2.5	200	600°	1732K15★	1,742.96
16,040	120,300	1,910	2	2	25″	22″	25″	3.0	200	600°	1732K6	1,810.29	—	—	—	—	—	—
20,970	157,300	2,890	2	2	25″	22″	25″	3.7	200	600°	1732K8	1,684.93	25″	3.7	200	600°	1732K18★	2,065.56
35,700	267,800	4,770	2 1/2	2 1/2	33″	29″	25″	4.0	200	600°	1732K9	2,759.79	25″	4.0	200	600°	1732K19★	3,200.07
230/460 Volts AC, Three Phase																		
35,700	267,800	4,770	2 1/2	2 1/2	33″	29″	25″	1.9	200	600°	1732K39	2,587.82	—	—	—	—	—	—
Horizontal Air Flow Heaters for Steam and Water																		
120 Volts AC, Single Phase																		
3,200	24,000	370	3/4	3/4	13″	13″	11″	1.6	150	375°	1836K81	433.46	19″	3.1	87	329°	1836K91	1,172.93
6,260	47,000	730	1 1/4	1 1/4	17″	18″	15″	2.2	150	375°	1836K82	582.25	21″	3.1	87	329°	1836K92	1,244.64
8,400	63,000	1,120	1 1/4	1 1/4	21″	22″	17″	2.2	150	375°	1836K83	637.28	21″	3.1	87	329°	1836K93	1,302.55
11,460	86,000	1,340	1 1/4	1 1/4	21″	22″	17″	2.3	150	375°	1836K84	691.63	21″	3.1	87	329°	1836K94	1,401.85
16,130	121,000	1,775	1 1/4	1 1/4	25″	26″	17″	2.8	150	375°	1836K85	917.88	23″	4.1	87	329°	1836K95	1,648.72
22,000	165,000	3,240	1 1/4	1 1/4	31″	31″	18″	5.4	150	375°	1836K86	1,129.85	24″	6.1	87	329°	1836K96	2,056.24
25,730	193,000	2,900	1 1/4	1 1/4	31″	31″	18″	5.4	150	375°	1836K88	1,281.37	24″	6.1	87	329°	1836K97	2,241.73
34,400	258,000	4,560	1 1/4	1 1/4	39″	39″	23″	7.5	150	375°	1836K87	1,577.59	28″	5.8	87	329°	1836K98	2,564.43
45,330	340,000	5,130	1 1/4	1 1/4	39″	45″	23″	7.5	150	375°	1836K48	2,197.21	28″	5.8	87	329°	1836K99	3,169.85
230/460 Volts AC, Three Phase																		
45,330	340,000	5,130	1 1/4	1 1/4	39″	45″	23″	7.5	150	375°	1836K9	2,468.11	—	—	—	—	—	—
Vertical Air Flow Heaters for Steam and Water																		
120 Volts AC, Single Phase																		
7,860	59,000	1,155	1 1/4	1 1/4	10″	25″ Dia.	—	1.9	150	375°	1880K1	595.84	—	4.1	87	329°	1880K71	1,463.91
12,660	95,000	1,665	1 1/4	1 1/4	11″	25″ Dia.	—	2.4	150	375°	1880K2	760.94	—	4.1	87	329°	1880K72	1,677.54
18,530	139,000	2,660	1 1/2	1	10″	35″ Dia.	—	2.8	150	375°	1880K3	897.50	—	4.1	87	329°	1880K73	1,720.04
21,460	161,000	2,940	1 1/2	1	12″	35″ Dia.	—	5.4	150	375°	1880K4	951.85	—	6.1	87	329°	1880K74	1,972.81
25,730	193,000	3,500	1 1/2	1	13″	35″ Dia.	—	5.4	150	375°	1880K5	1,102.68	—	6.1	87	329°	1880K75	2,283.28
32,930	247,000	4,820	2	1 1/4	16″	35″ Dia.	—	7.5	150	375°	1880K6	1,617.00	—	5.8	87	329°	1880K76	2,604.43
37,200	279,000	5,460	2	1 1/4	18″	35″ Dia.	—	7.5	150	375°	1880K7	1,713.47	—	5.8	87	329°	1880K77	2,769.23
230/460 Volts AC, Three Phase																		
51,330	385,000	7,680	2 1/2	1 1/2	18″	44″ Dia.	—	4.0	150	375°	1880K38	2,292.32	—	—	—	—	—	—
66,660	500,000	10,390	2 1/2	1 1/2	23″	44″ Dia.	—	5.2	150	375°	1880K39	3,043.76	—	—	—	—	—	—

★ Not rated for NEMA Class III, Div. I and II.

Electric Desk Heaters

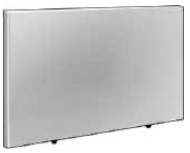

Stay warm at a desk, counter, or table. This direct heater has a built-in floor stand and can be mounted under desks with the included hook and loop. Housing is off-white steel and is safe to touch during use. Heating element is fiberglass. Control the heater with the on/off switch or add a thermostat (sold separately). Heater operates on 120 volts AC and has a 7-ft. cord with a three-prong plug. It is 15″ Ht. × 22″ Wd. × 1″ Dp. UL listed.

Thermostat adjusts from 40° to 100° F. It operates on 120 volts AC and has a 5-ft. cord with three-prong plug. Mount with the included hook and loop.

Max. Sq. Ft. Heated	Heat Output, Btu/Hr.	Watts	Amps	Heater		Thermostat	
17	580	170	1.5	1733K11	$98.65	1733K21	$68.40

Bulb Socket Heaters



Prevent freezing and reduce moisture in lockers, cabinets, and enclosures with these direct heaters. Screw them into medium-base (1 1/16″ dia.) light sockets. Heating element is ceramic. Heaters are 1 3/8″ Dia. × 4 3/4″ Ht.

Max. Sq. Ft. Heated	Heat Output, Btu/Hr.	Watts	Amps		
120 Volts AC					
5	170	50	0.4	1900K11	$96.80
8	255	75	0.6	1900K12	96.80
10	340	100	0.8	1900K14	96.80
15	510	150	1.3	1900K15	96.80
20	680	200	1.7	1900K16	96.80
240 Volts AC					
8	255	75	0.3	1900K22	96.80
10	340	100	0.4	1900K24	96.80
15	510	150	0.6	1900K25	96.80
20	680	200	0.8	1900K26	96.80

Direct Short-Range Portable Electric Heaters

Move these heaters to worksites, loading docks, and other cold spots to warm people in indoor and sheltered outdoor areas. Heaters have an aluminum housing and a quartz heating element. Cord is 8-ft. long, except the 120-volt AC heater has a 15-ft. long cord.

For permanent installation, add a *wall-mount thermostat*. It adjusts from 40° to 110°F and must be hardwired. Thermostat is SPDT (single pole, double throw) and operates on 120-250 volts AC. Mounting holes are 5/16" dia. (fasteners not included). UL listed. For 480-volt AC heater, a relay is required between the heater and thermostat; see page 952.



Plug Style



NEMA 5-15 | NEMA L6-20 | NEMA L8-20

Max. Sq. Ft. Heated	Heat Output, Btu/Hr.	Watts	Amps	Overall Ht.	Overall Wd.	Overall Dp.	Plug Style		
120 Volts AC, Single Phase									
150	4,950	1,450	12.1	29"	12"	14"	NEMA 5-15	1747K11	$485.71
208 Volts AC, Single Phase									
320	10,750	3,100	15.1	50"	12"	14"	NEMA L6-20	1747K12	671.43
240 Volts AC, Single Phase									
320	10,750	3,100	13.1	50"	12"	14"	NEMA L6-20	1747K13	671.43
480 Volts AC, Single Phase									
320	10,750	3,100	6.6	50"	12"	14"	NEMA L8-20	1747K14	671.43
Wall-Mount Thermostat								1747K87	76.60

Direct Short-Range Portable Gas Heaters

Built for outdoor use, these heaters warm people at worksites and other cold spots without access to electricity. Connect heaters to a propane tank and light with a match. Heaters have a safety shut-off that cuts the gas supply to the heater if the flame goes out. They are steel with a stainless steel heating element and include a regulator with a POL connection (the same connection between your gas grill and propane tank). Mounting hardware is included. These heaters cannot be sold in California.



With One Burner

Max. Sq. Ft. Heated	Max. Heat Output, Btu/Hr.	No. of Burners	Req'd. Tank Cap., lbs.	Max. Fuel Consumption, lbs./Hr.	Overall Ht.	Overall Wd.	Overall Dp.		
440	15,000	1	20	0.71	13"	10"	8"	1719K2	$50.55
880	30,000	2	20	1.4	16"	17"	7"	1719K3	107.11

Direct Short-Range Ceiling- and Wall-Mount Electric Heaters

Install these heaters near loading docks and other drafty areas to warm people and objects. ETL listed.

Ceiling Mount—Hang heaters indoors and in sheltered outdoor areas using the included chains and S-hooks. Heating element is quartz. Heaters have a galvanized steel housing and a 6-ft. cord. *Wall-mount thermostat* adjusts from 40° to 110°F and must be hardwired. It's SPDT (single pole, double throw) and operates on 120/250 volts AC. Mounting holes are 5/16" dia. (fasteners not included). UL listed.

Wall/Ceiling Mount—Heaters have a plated steel housing with a stainless steel grille and heating element to resist corrosion in pump houses and other moist locations. They must be hardwired. Built-in thermostat adjusts from 40° to 90°F. The included mounting bracket has 1/8" dia. holes (fasteners not included).



Ceiling Mount

Plug Style



NEMA 5-15 | NEMA 6-15



Wall/Ceiling Mount

Max. Sq. Ft. Heated	Heat Output, Btu/Hr.	Watts	Amps	Max. Mount Ht., ft.	Overall Ht.	Overall Wd.	Overall Dp.	Heaters		Replacement Elements	
Ceiling Mount											
120 Volts AC, Single Phase—NEMA 5-15 Plug											
150	5,120	1,500	12.5	9	7"	48"	6"	1896K58	$175.36	1896K71	$62.11
240 Volts AC, Single Phase—NEMA 6-15 Plug											
300	10,230	3,000	12.5	10	7"	59"	6"	1896K59	205.80	1896K72	70.31
Wall-Mount Thermostat										1747K87	76.60
Wall/Ceiling Mount											
120 Volts AC, Single Phase											
50	1,700	500	4.2	—	17"	7"	4"	1991K65	169.72	—	—
80	2,560	750	6.3	—	17"	7"	4"	1991K66	169.72	—	—
100	3,410	1,000	8.3	—	17"	7"	4"	1991K67	169.72	—	—
240 Volts AC, Single Phase											
50	1,700	500	2	—	17"	7"	4"	1991K75	169.72	—	—
80	2,560	750	3.1	—	17"	7"	4"	1991K76	169.72	—	—
100	3,410	1,000	4.2	—	17"	7"	4"	1991K77	169.72	—	—

Direct Short-Range Ceiling Tile Electric Heaters

Eliminate cold spots without taking up space. Slip these heaters into your drop-ceiling grid above windows and doorways to complement your existing heating system. Panels are steel with a white finish and have a stainless steel heating element. They must be hardwired. ETL listed.

Wall-mount thermostat adjusts from 50° to 90°F and must be hardwired. It's DPST (double pole, single throw) and operates on 120 to 277 volts AC. Mounting hardware is included. ETL listed.

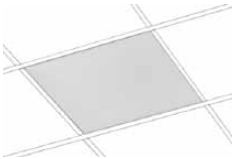

Max. Sq. Ft. Heated	Heat Output, Btu/Hr.	Watts	Max. Mount Ht., ft.	Overall Ht.	Overall Wd.	Overall Dp.	120/240 Volts AC Single Phase Amps			277 Volts AC Single Phase Amps		
40	1,280	375	8	24"	24"	1"	3.1	1775K24	$172.31	1	1775K44	$172.31
80	2,560	750	8	48"	24"	1"	6.3	1775K23	238.33	3	1775K43	238.33
Wall-Mount Thermostat											17395K95	28.98

Direct Heaters

For information about choosing a heater, see page 648.

Direct Long-Range Portable Electric Heaters



Plug Style



NEMA L15-20



NEMA L15-30



NEMA L16-20

Wheel these heaters to warm people at large worksites. Housing is aluminum. Heating element is quartz. Cord is 8-ft. long.

For permanent installation, add a *wall-mount thermostat*. It adjusts from 40° to 110°F and must be hardwired. Thermostat is SPDT (single pole, double throw) and operates on 120/250 volts AC. Mounting holes are 5/16″ dia. (fasteners not included). UL listed. For 480-volt AC heaters, a relay is required between the heater and thermostat; see page 952.

Max. Sq. Ft. Heated	Heat Output, Btu/Hr.	Watts	Amps	Overall Ht.	Overall Wd.	Overall Dp.	Plug Style		
240 Volts AC, Three Phase									
430	14,670	4,300	10.4	38″	20″	17″	NEMA L15-20	**1747K15**	$835.71
950	32,410	9,500	22.9	58″	20″	19″	NEMA L15-30	**1747K16**	835.71
480 Volts AC, Three Phase									
430	14,670	4,300	5.2	38″	20″	17″	NEMA L16-20	**1747K17**	1,250.00
950	32,410	9,500	11.4	58″	20″	19″	NEMA L16-20	**1747K18**	1,128.57
Wall-Mount Thermostat								**1747K87**	76.60

Direct Long-Range Portable Gas Heaters



A



B



C

No electricity needed—place these heaters to warm people at large worksites and other well-ventilated areas. These heaters have a pilot light starter and a safety shut-off that cuts the gas supply to the heater if the flame goes out. They have a steel housing and a stainless steel heating element. **Styles A** and **B** cannot be sold in California.

Heaters for Use with Propane Gas—Include a 20-ft. hose and regulator with POL connection (the same connection between your gas grill and propane tank).

Max. Sq. Ft. Heated	Max. Heat Output, Btu/Hr.	Req'd Tank Cap., lbs.	Max. Fuel Consumption, lbs./Hr.	Overall Ht.	Overall Wd.	Overall Dp.		
For Use with Propane Gas—POL Connection								
A 1,030	35,000	20	1.6	35″	10″	13″	**1719K8**	$179.93
B 3,660	125,000	40	5.8	35″	15″	15″	**1715K11**	256.02
For Use with Natural Gas—½ NPT Female Connection								
B 3,660	125,000	—	—	35″	15″	15″	**1715K12**	233.45
C 6,210	212,000	—	—	50″	18″ Dia.	—	**1715K14**	526.00

Direct Long-Range Ceiling-Mount Electric Heaters



Designed to warm people in large, drafty spaces, such as shops and garages, these heaters are easier to install than gas heaters. They have an aluminum housing and quartz heating element. Heaters must be hardwired. They have 3/8″ dia. mounting holes, except heaters that cover 320 sq. ft. have 1/4″ dia. holes. ETL listed.

Wall-mount thermostat adjusts from 40° to 110°F and must be hardwired. It's SPDT (single pole, double throw) and operates on 120/250 volts AC. Mounting holes are 5/16″ dia. (fasteners not included). UL listed. For 480-volt AC heaters, a relay is required between the heater and thermostat; see page 952.

Max. Sq. Ft. Heated	Heat Output, Btu/Hr.	Watts	Amps	Max. Mount Ht., ft.	Overall Ht.	Overall Wd.	Overall Dp.		
240 Volts AC, Single Phase									
320	10,750	3,150	13.1	14	9″	48″	20″	**1818K26**	$514.29
240 Volts AC, Three Phase									
430	14,670	4,300	10.4	16	9″	32″	20″	**1818K27**	628.57
950	32,410	9,500	22.9	20	9″	53″	20″	**1818K28**	928.57
480 Volts AC, Single Phase									
320	10,750	3,150	6.6	14	9″	48″	20″	**1818K29**	514.29
480 Volts AC, Three Phase									
430	14,670	4,300	5.2	16	9″	32″	20″	**1818K33**	628.57
950	32,410	9,500	11.4	20	9″	53″	20″	**1818K34**	928.57
Wall-Mount Thermostat								**1747K87**	76.60

Direct Long-Range Ceiling- and Wall-Mount Gas Heaters



Wall Mount



Ceiling Mount

Our most powerful ceiling- and wall-mount direct heaters, these heaters warm people in large, drafty spaces, such as warehouses. They have a steel housing and stainless steel burners. Heaters have a safety shut-off that cuts off the gas supply if the flame goes out. Mounting hardware is included. CSA certified. These heaters cannot be sold in California.

Wall Mount—Gas connections are ½ NPT female. They include a wall-mount thermostat that adjusts from 35° to 75°F.

Ceiling Mount—Heaters include multiple burners than can be switched out to increase or decrease heat output. Gas connections are ¾ NPT female. They include a wall-mount thermostat that adjusts from 50° to 90°F.

Heaters with a **pilot light starter** don't require electricity.

Heaters with an **electronic spark starter** are good for drafty areas where pilot lights could be extinguished. They operate on 120 volts AC and are single phase. Heaters include a 24-volt transformer and must be hardwired.

Max. Sq. Ft. Heated	Heat Output, Btu/Hr.	Max. Mount Ht., ft.	Overall Ht.	Overall Wd.	Overall Dp.	For Use with Propane Gas: Pilot Light Starter		For Use with Propane Gas: Electronic Spark Starter		For Use with Natural Gas: Pilot Light Starter		For Use with Natural Gas: Electronic Spark Starter	
Wall Mount													
650	22,000	9	7″	30″	13″	**17855K35**	$352.36	—	—	**17855K37**	$352.36	—	—
Ceiling Mount													
1,170	30,000-40,000	12	12″	31″	20″	**17855K14**	404.75	**17855K15**	$421.67	**17855K16**	398.00	**17855K17**	$428.81
2,050	50,000-70,000	15	12″	46″	20″	—	—	—	—	**17855K18**	470.83	**17855K19**	536.67
2,930	80,000-100,000	28	11″	61″	22″	**17855K32**	652.38	**17855K33**	681.54	**17855K34**	721.05	**17855K36**	720.33
4,100	100,000-140,000	36	11″	83″	22″	—	—	—	—	**17855K48**	843.86	**17855K49**	860.00

About Duct Connections

Duct Connections

Some duct and fittings press-fit together while others require connectors, clamps, and brackets. When replacing a component in your system, be sure to match the connection style of your existing duct.

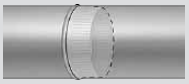

Standard Duct and Fittings

Duct and fittings press-fit together. This design allows you to assemble duct without connectors or clamps.



Spiral Duct and Fittings

To connect two duct ends, you need a fitting. Fittings have a slightly smaller diameter to press-fit into duct.

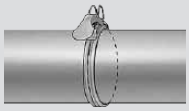

Quick-Assembly Duct and Fittings

Use a clamp to connect the rolled ends on either end of duct and fittings. Clamps have a quick-release latch that opens and closes to allow access.

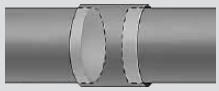

Chemical-Resistant PVC Duct and Fittings

To connect two duct ends, you need a fitting. Fittings have a slightly larger diameter to press-fit over duct.



Low-Profile Rectangular Duct and Fittings

Both ends of the duct and fittings have interconnecting ends that lock together with brackets.

Duct-to-Duct Hose Connections



Slip duct hose over duct with a slightly smaller diameter. Standard duct, spiral duct, and chemical-resistant duct generally make the best connections because they have round, even surfaces. To secure the connection, use a worm-drive clamp (see pages 302-306) or duct tape (see pages 3500-3503).

Standard Duct and Fittings



No need for clamps or connectors—duct and fittings have a male end that is slightly smaller than its female end for simple assembly.

Galvanized steel has good corrosion resistance. **Aluminum** is lighter in weight than steel and stainless steel and has good corrosion resistance. **304 stainless steel** is more corrosion resistant than steel and aluminum.

Duct

The male end is crimped.

Easy-to-cut duct has an open seam allowing it to be cut with snips prior to installation. The seam snaps together without tools.

Rigid duct has a seam that is already locked in place for greater strength than easy-to-cut duct.





Trade Size/ Female ID	Male OD	Easy-to-Cut: Galvanized Steel 2 ft.	Galvanized Steel 5 ft.	Aluminum 2 ft.	Aluminum 5 ft.	304 Stainless Steel 3 ft.	304 Stainless Steel 5 ft.	Rigid: Galvanized Steel 2 ft.	Galvanized Steel 5 ft.	304 Stainless Steel 2 ft.	304 Stainless Steel 5 ft.
3″	2 7/8″	1766K11 $6.85	—	1773K1 $7.80	$15.52	1767K1 $62.80	$95.00	1768K19 $22.73	$32.50	—	—
4″	3 7/8″	1766K1 6.73	$15.66	1773K2 8.51	16.54	1767K2 56.00	79.48	1768K29 23.20	38.67	18005K1 $72.24	$133.78
5″	4 7/8″	1766K2 6.95	16.16	1773K3 10.78	59.40	1767K3 60.62	86.28	1768K39 35.74	59.56	18005K2 86.52	160.22
6″	5 7/8″	1766K3 8.28	19.26	1773K611 14.00	59.40	1767K4 69.21	100.82	1768K49 38.14	63.56	18005K3 102.00	188.89
7″	6 7/8″	1766K4 9.37	21.80	1773K4 14.35	86.40	1767K5 77.41	115.97	1768K59 40.13	66.89	18005K4 109.68	203.11
8″	7 7/8″	1766K5 10.72	24.92	1773K5 20.21	86.40	1767K6 91.70	136.08	1768K61 43.46	72.44	18005K5 123.24	228.22
9″	8 7/8″	1766K6 11.82	27.49	1773K6 17.78	86.40	1767K7 106.86	136.96	—	—	—	—
10″	9 7/8″	1766K7 12.81	30.11	1773K7 24.56	88.80	1767K8 120.24	157.72	1768K46 49.46	82.44	18005K6 148.44	274.89
12″	11 7/8″	1766K8 15.37	35.74	1773K8 28.75	120.00	1767K9 140.00	188.65	1768K56 55.33	92.22	18005K7 169.78	339.56
14″	13 7/8″	1766K9 18.68	43.44	—	—	—	—	—	—	—	—
16″	15 7/8″	1766K22 23.92	—	—	—	—	—	—	—	—	—
18″	17 7/8″	1766K23 25.83	—	—	—	—	—	—	—	—	—
20″	19 7/8″	1766K24 68.02	—	—	—	—	—	—	—	—	—
22″	21 7/8″	1766K25 88.49	—	—	—	—	—	—	—	—	—
24″	23 7/8″	1766K26 106.59	—	—	—	—	—	—	—	—	—

90° Elbows

Standard elbows can adjust from 90° to straight. The male end is crimped.

Airtight elbows have welded seams to prevent leaks. The male end is tapered.



Standard



Airtight

Trade Size/ Female ID	Male OD	Standard: Galv. Steel	Aluminum	304 SS	Airtight: Galv. Steel	304 SS
3″	2 7/8″	1773K65 $6.28	$6.29	$35.41	1768K88 $114.60	—
4″	3 7/8″	1773K66 6.78	6.19	40.85	17805K81 119.38	$211.33
5″	4 7/8″	1773K67 8.25	8.53	42.09	17805K82 104.60	212.44
6″	5 7/8″	1773K68 9.19	11.42	45.81	17805K83 110.80	242.89
7″	6 7/8″	1773K71 11.94	19.12	53.81	17805K84 115.20	256.00
8″	7 7/8″	1773K9 12.92	20.28	63.03	17805K85 125.00	298.20
9″	8 7/8″	1773K911 16.83	19.60	75.01	—	—
10″	9 7/8″	1773K921 19.33	24.56	87.34	17805K86 178.60	422.60
12″	11 7/8″	1773K931 26.22	44.22	106.20	17805K87 211.20	547.00
14″	13 7/8″	1766K41 42.51	—	—	—	—
16″	15 7/8″	1766K42 69.33	—	—	—	—
18″	17 7/8″	1766K43 77.27	—	—	—	—
20″	19 7/8″	1766K44 91.11	—	—	—	—
22″	21 7/8″	1766K45 111.18	—	—	—	—
24″	23 7/8″	1766K46 135.83	—	—	—	—

(Continued on following page)

Standard Duct and Fittings *(Continued from previous page)*



No need for clamps or connectors—duct and fittings have a male end that is slightly smaller than its female end for simple assembly.

Galvanized steel has good corrosion resistance. **Aluminum** is lighter in weight than steel and stainless steel and has good corrosion resistance. **304 stainless steel** is more corrosion resistant than steel and aluminum.

45° Elbows



Standard



Airtight

Standard elbows can adjust from 45° to straight, except 18″ to 24″ trade sizes are not adjustable. The male end is crimped.

Airtight elbows have welded seams to prevent leaks. The male end is tapered.

Trade Size/ Female ID	Male OD	Standard Galv. Steel	Airtight Galv. Steel	Airtight 304 SS
3″	2 7/8″	1766K871 $5.17	1768K71 $80.83	—
4″	3 7/8″	1766K872 5.84	17805K1 86.22	$139.78
5″	4 7/8″	1766K873 6.67	17805K2 78.67	140.67
6″	5 7/8″	1766K874 7.61	17805K3 81.33	154.44
7″	6 7/8″	1766K875 10.19	17805K4 88.33	179.56
8″	7 7/8″	1766K876 10.97	17805K5 92.89	186.40
9″	8 7/8″	1766K877 12.14	—	—
10″	9 7/8″	1766K878 13.47	17805K6 123.33	258.40
12″	11 7/8″	1766K879 16.21	17805K7 144.79	329.40
14″	13 7/8″	1766K881 33.92	—	—
16″	15 7/8″	1766K882 51.81	—	—
18″	17 7/8″	1766K883 63.72	—	—
20″	19 7/8″	1766K884 75.72	—	—
22″	21 7/8″	1766K888 79.11	—	—
24″	23 7/8″	1766K889 83.19	—	—

Tees, Reducing Tees, and 45° Reducing Wyes

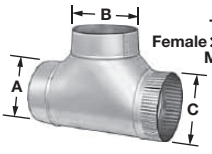

Tee
Female × Female × Male

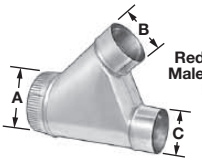

45° Reducing Wye
Male × Female × Female

Join or split runs of duct with tees and wyes. Male ends are crimped.

Trade Size/ Female ID	(A)	(B)	(C)	Galv. Steel	Aluminum	304 SS
Tees—Female × Female × Male						
3″	3″	3″	2 7/8″ 1767K121	$20.28	$91.00	$103.20
4″	4″	4″	3 7/8″ 1767K123	20.97	114.40	94.20
5″	5″	5″	4 7/8″ 1767K125	23.25	128.60	119.20
6″	6″	6″	5 7/8″ 1767K128	26.39	150.80	63.10
7″	7″	7″	6 7/8″ 1767K129	29.89	163.00	79.88
8″	8″	8″	7 7/8″ 1767K131	31.96	170.80	88.54
9″	9″	9″	8 7/8″ 1767K132	33.56	189.40	202.80
10″	10″	10″	9 7/8″ 1767K133	36.75	200.40	265.96
12″	12″	12″	11 7/8″ 1767K134	45.56	215.80	292.02
14″	14″	14″	13 7/8″ 1767K135	—	231.20	298.74
16″	16″	16″	15 7/8″ 1767K136	—	264.40	344.60
18″	18″	18″	17 7/8″ 1767K137	—	285.60	374.00
20″	20″	20″	19 7/8″ 1767K138	—	305.20	458.40
Tees—Female						
14″	14″	14″	14″ 1766K671	46.22	—	—
16″	16″	16″	16″ 1766K672	56.97	—	—
18″	18″	18″	18″ 1766K673	67.56	—	—
20″	20″	20″	20″ 1766K674	71.90	—	—
Reducing Tees—Female × Female × Male						
4″	4″	3″	3 7/8″ 1767K122	—	107.00	110.00
5″	5″	3″	4 7/8″ 1767K124	—	123.60	115.80
6″	6″	3″	5 7/8″ 1767K126	—	135.20	61.01
6″	6″	4″	5 7/8″ 1767K127	—	139.40	61.23
6″	6″	5″	5 7/8″ 1767K53	—	—	61.70
Reducing Tees—Female × Male × Male						
4″	4″	2 7/8″	3 7/8″ 1766K626	29.78	—	—
5″	5″	2 7/8″	4 7/8″ 1766K69	33.19	—	—
6″	6″	2 7/8″	5 7/8″ 1766K64	35.22	—	—
6″	6″	3 7/8″	5 7/8″ 1766K66	35.22	—	—
45° Reducing Wyes—Female × Male × Male						
12″	12″	9 7/8″	9 7/8″ 1766K845	66.58	—	—
14″	14″	9 7/8″	9 7/8″ 1766K846	73.89	—	—
16″	16″	11 7/8″	11 7/8″ 1766K847	102.05	—	—
16″	16″	13 7/8″	13 7/8″ 1766K848	114.10	—	—
45° Reducing Wyes—Male × Female × Female						
4″	3 7/8″	3″	3″ 1766K861	22.64	—	—
5″	4 7/8″	3″	4″ 1766K862	21.37	—	—
5″	4 7/8″	3″	5″ 1766K866	24.31	—	—
6″	5 7/8″	3″	4″ 1766K867	24.31	—	—
6″	5 7/8″	4″	4″ 1766K868	26.64	—	—
6″	5 7/8″	4″	5″ 1766K863	35.22	—	—
7″	6 7/8″	5″	6″ 1766K864	36.81	—	—
8″	7 7/8″	6″	6″ 1766K865	41.03	—	—
10″	9 7/8″	8″	8″ 1766K869	47.06	—	—
12″	11 7/8″	8″	8″ 1766K843	52.33	—	—

(Continued on following page)

Reducers



Female × Male



Male × Female

Use reducers to connect duct with different diameters. The male end is crimped.

Trade Size/ Female ID	(A)	(B)		Galv. Steel	Alum.	304 SS
Female × Male						
4″ to 3″	4″	2 7/8″	2013K71	$8.18	$42.81	$58.26
5″ to 4″	5″	3 7/8″	2013K72	9.20	45.60	—
6″ to 4″	6″	3 7/8″	2013K73	9.85	47.87	59.58
6″ to 5″	6″	4 7/8″	2013K15	9.97	—	—
7″ to 4″	7″	3 7/8″	1773K34	—	49.06	—
7″ to 5″	7″	4 7/8″	1773K35	—	49.63	—
7″ to 6″	7″	5 7/8″	2013K21	11.33	—	—
8″ to 4″	8″	3 7/8″	1767K83	—	—	65.58
8″ to 6″	8″	5 7/8″	2013K74	12.58	52.33	67.22
8″ to 7″	8″	6 7/8″	2013K26	11.40	—	—
9″ to 6″	9″	5 7/8″	2013K23	15.61	—	—
9″ to 8″	9″	7 7/8″	2013K31	15.24	—	—
10″ to 6″	10″	5 7/8″	2013K75	16.11	54.43	74.26
10″ to 7″	10″	6 7/8″	2013K28	18.46	—	—
10″ to 8″	10″	7 7/8″	2013K76	15.49	57.24	75.94
10″ to 9″	10″	8 7/8″	2013K34	17.28	—	—
12″ to 6″	12″	5 7/8″	2013K25	19.58	—	—
12″ to 7″	12″	6 7/8″	2013K29	20.07	—	—
12″ to 8″	12″	7 7/8″	2013K77	18.12	61.99	—
12″ to 10″	12″	9 7/8″	2013K78	21.99	63.53	105.33
Male × Female						
4″ to 3″	3 7/8″	3″	1773K51	—	42.81	—
5″ to 4″	4 7/8″	4″	1773K52	—	45.60	—
6″ to 4″	5 7/8″	4″	2013K81	10.10	47.87	55.93
7″ to 5″	6 7/8″	5″	1773K55	—	49.63	—
7″ to 6″	6 7/8″	6″	2013K41	11.33	—	—
8″ to 6″	7 7/8″	6″	2013K82	12.27	52.33	67.22
8″ to 7″	7 7/8″	7″	2013K46	12.66	—	—
9″ to 6″	8 7/8″	6″	2013K43	15.61	—	—
9″ to 8″	8 7/8″	8″	2013K51	15.64	—	—
10″ to 6″	9 7/8″	6″	2013K83	16.11	54.43	—
10″ to 8″	9 7/8″	8″	2013K84	16.30	57.24	74.74
10″ to 9″	9 7/8″	9″	2013K54	17.28	—	—
12″ to 6″	11 7/8″	6″	2013K45	17.72	—	—
12″ to 7″	11 7/8″	7″	2013K49	18.10	—	—
12″ to 8″	11 7/8″	8″	2013K85	18.58	61.99	84.89
12″ to 10″	11 7/8″	10″	2013K86	21.99	63.53	—
14″ to 10″	13 7/8″	10″	2013K59	18.62	—	—
14″ to 12″	13 7/8″	12″	2013K61	18.62	—	—
16″ to 12″	15 7/8″	12″	2013K62	25.53	—	—
16″ to 14″	15 7/8″	14″	2013K63	25.53	—	—
18″ to 16″	17 7/8″	16″	2013K64	31.23	—	—

Connectors



Wrap these connectors around two female duct ends to join them. Connectors are galvanized steel.

Choose a Trade Size/Female ID	
4″, 5″, 6″, 7″, 8″, 10″, 12″	1766K98

Standard Duct and Fittings *(Continued from previous page)*

Ball Joints

Create adjustable-angle connections with these galvanized steel ball joints. They are often used to connect duct to duct hose. Hold duct hose in place with a clamp (see pages 302-306).



Choose a Trade Size/Female ID	
3″, 4″, 5″, 6″, 7″, 8″, 10″	1790K2

Dampers

Adjust dampers to control airflow through duct.
Female×Male—Dampers have a crimped male end.
Airtight dampers have a blade with a neoprene seal.



Trade Size/ Female ID	Male OD		Galv. Steel	Aluminum	304 SS
Female × Male					
3″	2 7/8″	1767K201	—	$40.22	$113.76
4″	3 7/8″	1767K202	—	44.23	121.13
5″	4 7/8″	1767K203	—	45.15	124.84
6″	5 7/8″	1767K204	—	48.07	130.27
7″	6 7/8″	1767K205	—	53.62	132.99
8″	7 7/8″	1767K206	—	59.26	136.70
9″	8 7/8″	1767K887	—	—	140.41
10″	9 7/8″	1767K207	—	153.96	148.32
12″	11 7/8″	1767K208	—	169.58	158.21
Male × Male					
4″	3 3/4″	17355K59	$49.53	—	—
5″	4 3/4″	17355K51	56.00	—	—
6″	5 3/4″	17355K61	49.83	—	—
7″	6 3/4″	17355K53	57.67	—	—
8″	7 3/4″	17355K63	51.02	—	—
9″	8 3/4″	17355K55	59.11	—	—
10″	9 3/4″	17355K65	44.43	—	—
12″	11 3/4″	17355K67	49.21	—	—
14″	13 3/4″	17355K69	52.54	—	—
16″	15 3/4″	17355K71	59.43	—	—
18″	17 3/4″	17355K73	63.02	—	—
20″	19 3/4″	17355K75	78.01	—	—
22″	21 3/4″	17355K57	98.89	—	—
24″	23 3/4″	17355K76	88.40	—	—
Airtight Male × Male					
4″	3 7/8″	2041K31	119.82	—	—
6″	5 7/8″	2041K32	129.82	—	—
8″	7 7/8″	2041K33	135.64	—	—
10″	9 7/8″	2041K34	144.18	—	—
12″	11 7/8″	2041K35	150.00	—	—

Damper Blades and Damper Hardware

Add **damper blades** to duct to control airflow. Blades are galvanized steel and include a handle.
Attach **damper hardware** to a sheet metal blade up to 0.022″ thick to create a damper. A threaded mount acts as the pivot. Hardware is galvanized steel.

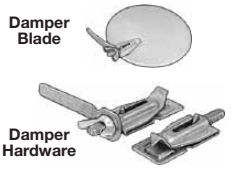

Choose a Trade Size/Female ID		
Damper Blades	4″, 5″, 6″, 7″, 8″, 9″, 10″, 12″, 14″	3996K1
Damper Hardware		1786K21 $4.45

Vents

Exhaust vents have a damper and a female end.
Intake vents have a screen and a crimped male end.





Trade Size	Exhaust Female ID		Intake Male OD		
Galvanized Steel					
4″	4″	1766K484 $18.28	3 7/8″	1766K481	$13.89
5″	5″	1766K485 19.00	4 7/8″	1766K482	14.03
6″	6″	1766K492 20.36	5 7/8″	1766K497	14.22
7″	7″	1766K486 25.50	6 7/8″	1766K483	25.11
8″	8″	1766K493 22.47	7 7/8″	1766K498	15.50
Aluminum					
3″	3″	1773K61 8.64	—	—	—
4″	4″	1773K62 9.23	—	—	—
6″	6″	1773K63 52.40	—	—	—
8″	8″	1773K64 79.07	—	—	—

Register Boots

Boots connect duct to registers to release air through ceilings, walls, and floors. They are galvanized steel.





Trade Size/ Female ID	Opening Lg.	Opening Wd.	90°		Straight	
6″	10″	2 1/4″	1844K14	$8.21	1844K34	$8.94
6″	10″	4″	1844K17	8.28	1844K37	9.53
6″	12″	2 1/4″	1844K15	8.34	1844K35	9.53
6″	12″	4″	1844K21	9.90	1844K41	10.11

Collars


Standard Male


Standard Female


Self-Sealing


Take Off

To create branches from a rectangular duct, cut a hole in the duct and use a collar to attach standard duct.
Self-Sealing—Collars have an adhesive-back polyethylene gasket.
Take Off—Collars have a built-in elbow.
Male collars are crimped.

Trade Size/ Female ID	Standard Galv. Steel	Standard 304 SS	Self-Sealing Galv. Steel		Take Off Galv. Steel	
Male—Male OD is 1/8″ less than female ID						
3″	2015K56 $2.96	—	—	—	—	—
4″	2015K71 2.97	$42.66	—	—	—	—
5″	2015K72 3.25	45.36	6766K41	$10.35	2015K26	$13.34
6″	2015K73 3.50	46.23	6766K42	11.38	2015K44	7.24
7″	1767K774 —	47.39	6766K43	11.89	2015K27	17.64
8″	2015K74 4.61	48.57	6766K44	12.27	2015K28	22.80
9″	1767K776 —	50.45	—	—	—	—
10″	2015K75 5.04	51.74	6766K45	13.88	—	—
12″	2015K76 6.33	52.96	6766K46	20.78	—	—
14″	2015K61 7.00	—	6766K47	29.69	—	—
16″	2015K62 9.31	—	6766K48	36.20	—	—
18″	2015K63 11.75	—	6766K49	48.95	—	—
20″	2015K64 13.31	—	—	—	—	—
Female						
3″	2015K36 2.96	—	—	—	—	—
4″	2015K32 2.97	—	—	—	—	—
5″	2015K37 3.02	—	—	—	—	—
6″	2015K45 3.09	—	—	—	—	—
8″	2015K34 4.61	—	—	—	—	—
10″	2015K38 5.04	—	—	—	—	—
12″	2015K39 6.53	—	—	—	—	—
14″	2015K41 7.00	—	—	—	—	—
16″	2015K42 9.31	—	—	—	—	—
18″	2015K43 11.75	—	—	—	—	—
20″	2015K51 13.31	—	—	—	—	—

Downdraft Diverters

Diverters have an internal cone that prevents drafts from extinguishing pilot lights. They are galvanized steel and have a crimped male end.



Choose a Trade Size/Female ID	
3″, 4″, 5″, 6″, 7″, 8″, 9″, 10″, 12″	1785K1

Rain Caps


Galvanized Steel

Trade Size/ Female ID	Galvanized Steel		304 Stainless Steel	
3″	1766K71	$14.36	1767K31	$53.52
4″	1766K72	12.17	1767K32	54.89
5″	1766K73	17.44	1767K33	56.71
6″	1766K74	13.67	1767K34	58.50
7″	1766K75	17.10	1767K35	64.32
8″	1766K76	19.96	1767K36	65.74
9″	1766K77	24.31	—	—
10″	1766K78	30.36	1767K37	67.88
12″	1766K79	39.06	1767K38	93.02

End Caps

Male end caps are crimped.

Choose a Trade Size/Female ID		Choose a Connection	
Galvanized Steel	3″, 4″, 5″, 6″, 7″, 8″, 9″, 10″, 12″, 14″, 16″, 18″, 20″, 22″, 24″	Female, Male	17135K3
304 Stainless Steel	3″, 4″, 5″, 6″, 7″, 8″, 9″, 10″, 12″	Female	1767K71


Female


Male

Crush-Resistant Spiral Duct and Fittings



A spiral seam gives this duct greater strength and rigidity than standard duct. Both ends of duct are female and have the same diameter. Fittings have male ends with a slightly smaller diameter than the duct.

Galvanized steel has good corrosion resistance. **PVC-coated steel** combines the strength of steel with the corrosion-resistance of plastic. **304 stainless steel** is more corrosion resistant than steel.

Duct



Both ends of duct are female.

Trade Size	Female ID	Galvanized Steel 2-ft. Lg.		Galvanized Steel 5-ft. Lg.		PVC-Coated Steel 5-ft. Lg.		304 Stainless Steel 2-ft. Lg.		304 Stainless Steel 5-ft. Lg.	
3	3″			5078K16	$25.23						
4	4″	5078K71	$10.09	5078K19	25.23	1889K211	$41.65	2561K11	$19.60	2561K41	$43.56
5	5″	5078K72	10.09	5078K22	25.23	1889K212	51.95				
6	6″	5078K73	11.53	5078K15	28.83	1889K213	57.83	2561K12	29.48	2561K42	65.52
7	7″					1889K214	72.06				
8	8″	5078K74	15.36	5078K17	38.40	1889K215	76.09	2561K13	39.37	2561K43	87.48
9	9″					1889K216	86.19				
10	10″	5078K75	19.19	5078K18	47.97	1889K217	95.41	2561K14	49.03	2561K44	108.96
12	12″	5078K76	20.60	5078K21	51.51	1889K219	118.29				
14	14″	5078K78	24.31	5078K81	60.78						
16	16″	5078K79	27.79	5078K82	69.47						

Duct-to-Duct Connectors



Required to connect two pieces of duct, connectors have male ends.

Trade Size	Male OD	Galvanized Steel		PVC-Coated Steel		304 Stainless Steel	
3	2 7/8″	5078K44	$6.80				
4	3 7/8″	5078K45	6.80	1889K311	$16.14	2561K33	$20.82
5	4 7/8″	5078K47	6.80	1889K312	17.24		
6	5 7/8″	5078K48	6.80	1889K313	18.15	2561K34	21.56
7	6 7/8″			1889K314	20.71		
8	7 7/8″	5078K51	7.03	1889K315	22.96	2561K35	23.08
9	8 7/8″			1889K316	28.22		
10	9 7/8″	5078K53	7.80	1889K317	31.57	2561K36	26.10
12	11 7/8″	5078K54	7.70	1889K319	40.40		
14	13 7/8″	5078K83	8.80				
16	15 7/8″	5078K84	9.17				

Fitting-to-Fitting Connectors



To join two fittings, use these connectors with female ends.

Trade Size	Female ID	Galvanized Steel	
3	3″	5078K223	$5.82
4	4″	5078K224	5.82
5	5″	5078K225	5.82
6	6″	5078K226	5.82
8	8″	5078K227	6.55
10	10″	5078K228	7.64
12	12″	5078K229	8.55
14	14″	5078K231	9.18
16	16″	5078K232	10.00

Elbows



90° PVC-Coated Steel



45° 304 Stainless Steel

Both ends are male. **90° galvanized steel** elbows are crimped on both ends.

Trade Size	Male OD	*90° Elbows* Galvanized Steel		*90° Elbows* PVC-Coated Steel		*90° Elbows* 304 Stainless Steel		*45° Elbows* Galvanized Steel		*45° Elbows* PVC-Coated Steel		*45° Elbows* 304 Stainless Steel	
3	2 7/8″	5078K23	$10.83					5078K771	$12.47				
4	3 7/8″	5078K24	10.83	1889K351	$56.13	2561K15	$60.38	5078K772	12.47	1889K341	$34.71	2561K19	$53.60
5	4 7/8″	5078K26	12.63	1889K352	69.58			5078K773	13.80	1889K342	39.78		
6	5 7/8″	5078K27	12.63	1889K353	75.88	2561K16	78.22	5078K774	13.80	1889K343	43.39	2561K21	68.03
7	6 7/8″			1889K354	85.88					1889K344	50.32		
8	7 7/8″	5078K29	15.53	1889K355	91.72	2561K17	107.97	5078K776	16.68	1889K345	58.98	2561K22	88.44
9	8 7/8″			1889K356	100.37					1889K346	76.03		
10	9 7/8″	5078K31	20.33	1889K357	120.56	2561K18	163.88	5078K778	20.00	1889K347	79.78	2561K23	129.26
12	11 7/8″	5078K32	25.40	1889K359	179.44			5078K779	25.27	1889K348	115.09		
14	13 7/8″	5078K87	32.65					5078K781	30.03				
16	15 7/8″	5078K89	46.88					5078K782	37.70				

Reducers



Use reducers to connect duct with different diameters. Both ends are male.

Trade Size Large End	*Trade Size* Small End	*Male OD* Large End	*Male OD* Small End	Galvanized Steel		PVC-Coated Steel		304 Stainless Steel	
4	3	3 7/8″	2 7/8″	5078K56	$30.90				
5	4	4 7/8″	3 7/8″	5078K57	30.90	1889K372	$43.32		
6	4	5 7/8″	3 7/8″	5078K59	30.90	1889K381	46.16	2561K28	$60.01
6	5	5 7/8″	4 7/8″	5078K63	30.90	1889K382	47.35		
7	6	6 7/8″	5 7/8″			1889K374	52.13		
8	6	7 7/8″	5 7/8″	5078K62	24.73	1889K383	57.22	2561K29	65.56
8	7	7 7/8″	6 7/8″			1889K384	58.70		
9	8	8 7/8″	7 7/8″			1889K376	63.66		
10	6	9 7/8″	5 7/8″	5078K61	23.83			2561K31	78.47
10	8	9 7/8″	7 7/8″	5078K65	27.80	1889K385	68.98	2561K32	70.60
10	9	9 7/8″	8 7/8″			1889K386	70.75		
12	6	11 7/8″	5 7/8″	5078K66	39.00				
12	8	11 7/8″	7 7/8″	5078K68	26.91				
12	10	11 7/8″	9 7/8″	5078K69	26.91	1889K387	85.18		
14	12	13 7/8″	11 7/8″	5078K91	29.29				
16	14	15 7/8″	13 7/8″	5078K92	35.03				

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Crush-Resistant Spiral Duct and Fittings

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Tees and 45° Wyes

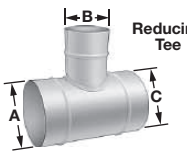

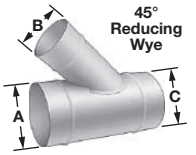

Join or split runs of duct with tees and wyes. They have male ends.

Trade Size	(A)	(B)	(C)	Galvanized Steel		PVC-Coated Steel	
Tees							
3	2 7/8"	2 7/8"	2 7/8"	5078K881	$25.33		
4	3 7/8"	3 7/8"	3 7/8"	5078K882	26.21	1889K321	$41.72
5	4 7/8"	4 7/8"	4 7/8"	5078K883	27.14		
6	5 7/8"	5 7/8"	5 7/8"	5078K884	39.15	1889K324	62.46
8	7 7/8"	7 7/8"	7 7/8"	5078K886	47.58	1889K326	74.44
10	9 7/8"	9 7/8"	9 7/8"	5078K888	53.47	1889K328	100.62
12	11 7/8"	11 7/8"	11 7/8"	5078K889	65.38	1889K302	128.65
14	13 7/8"	13 7/8"	13 7/8"	5078K891	92.40		
16	15 7/8"	15 7/8"	15 7/8"	5078K892	107.53		
Reducing Tees							
6	5 7/8"	3 7/8"	5 7/8"			1889K323	60.89
8	7 7/8"	5 7/8"	7 7/8"			1889K325	72.72
10	9 7/8"	7 7/8"	9 7/8"			1889K327	90.78
12	11 7/8"	7 7/8"	11 7/8"			1889K329	111.73
45° Wyes							
3	2 7/8"	2 7/8"	2 7/8"	5078K931	77.97		
4	3 7/8"	3 7/8"	3 7/8"	5078K932	62.42		
5	4 7/8"	4 7/8"	4 7/8"	5078K933	52.85		
6	5 7/8"	5 7/8"	5 7/8"	5078K934	38.33	1889K362	70.04
8	7 7/8"	7 7/8"	7 7/8"	5078K936	46.87	1889K364	83.57
10	9 7/8"	9 7/8"	9 7/8"	5078K938	49.62	1889K366	115.70
12	11 7/8"	11 7/8"	11 7/8"	5078K939	64.08		
14	13 7/8"	13 7/8"	13 7/8"	5078K941	121.90		
16	15 7/8"	15 7/8"	15 7/8"	5078K942	142.07		
45° Reducing Wyes							
6	5 7/8"	3 7/8"	5 7/8"			1889K361	66.71
8	7 7/8"	5 7/8"	7 7/8"			1889K363	79.86
10	9 7/8"	7 7/8"	9 7/8"			1889K365	96.69
12	11 7/8"	9 7/8"	11 7/8"			1889K367	147.98

Collars

To create branches from a rectangular duct, cut a hole in the duct and use a collar to attach spiral duct. Collars are galvanized steel and have an adhesive-back gasket to form a tight seal. They have a gasket on the male end, except collar with trade size 5 does not have a gasket.



With Damper

Trade Size	Male OD	Standard		With Damper	
4	3 7/8"	5078K11	$8.93		
5	4 7/8"	5078K12	8.93		
6	5 7/8"	5078K111	6.70	5078K121	$11.60
8	7 7/8"	5078K112	7.08	5078K122	12.88
10	9 7/8"	5078K113	7.85	5078K123	14.68
12	11 7/8"	5078K114	10.43	5078K124	18.27
14	13 7/8"	5078K115	11.07	5078K125	22.15
16	15 7/8"	5078K116	11.85	5078K126	40.17

Floor Sweeps

Connect floor sweeps to your dust collection system. They are galvanized steel and have a female end.



Trade Size	Female ID		
6	6"	17345K11	$279.05

End Caps



Galvanized Steel and 304 Stainless Steel



PVC-Coated Steel

Galvanized steel and **304 stainless steel** end caps are male.
PVC-coated steel caps have a male side to fit inside duct and a female side to fit over duct.

	Choose a Trade Size	
Galvanized Steel	3, 4, 5, 6, 8, 10, 12, 14, 16	5078K58
PVC-Coated Steel	4, 5, 6, 7, 8, 9, 10, 12	1889K41
304 Stainless Steel	4, 6, 8, 10	2561K45

Sure-Seal Spiral Duct and Fittings

No need to seal joints with coatings or tape—these fittings have EPDM gaskets to create a tight seal. Duct and fittings are galvanized steel. Both ends of duct are female and have the same diameter. Fittings have male ends with a slightly smaller diameter than the duct. Sure-seal duct and fittings are compatible with crush-resistant spiral duct and fittings on pages 658-659.



Duct and Duct-to-Duct Connectors

Duct has two female ends.
Duct-to-duct connectors are required to join two pieces of duct. They have two male ends.





Trade Size	5-ft. Long Duct Female ID			Duct-to-Duct Connectors Male OD		
4	4"	2226K45	$18.23	3 7/8"	2226K26	$8.51
6	6"	2226K46	25.88	5 7/8"	2226K27	9.77
8	8"	2226K47	33.75	7 7/8"	2226K28	12.65
10	10"	2226K48	41.85	9 7/8"	2226K29	18.46
12	12"	2226K49	50.40	11 7/8"	2226K31	22.24

Elbows

Both ends are male.





Trade Size	90° Elbows Male OD			45° Elbows Male OD		
4	3 7/8"	2226K11	$17.42	3 7/8"	2226K15	$15.75
6	5 7/8"	2226K12	21.58	5 7/8"	2226K16	17.61
8	7 7/8"	2226K13	30.38	7 7/8"	2226K17	21.64
10	9 7/8"	2226K14	44.40	9 7/8"	2226K18	29.81
12	11 7/8"	2226K43	55.51	11 7/8"	2226K44	37.63

Reducers

Use reducers to connect duct with different diameters. They have male ends.



Trade Size		Male OD			
Large End	Small End	Large End	Small End		
6	4	5 7/8"	3 7/8"	2226K19	$23.00
8	6	7 7/8"	5 7/8"	2226K21	27.84
10	6	9 7/8"	5 7/8"	2226K22	35.06
10	8	9 7/8"	7 7/8"	2226K23	35.06
12	8	11 7/8"	7 7/8"	2226K24	41.70
12	10	11 7/8"	9 7/8"	2226K25	41.70

Tees

Join or split runs of duct with tees. They have male ends.



Trade Size	Male OD		
4	3 7/8"	2226K37	$24.39
6	5 7/8"	2226K38	30.86
8	7 7/8"	2226K39	40.17
10	9 7/8"	2226K41	57.35
12	11 7/8"	2226K42	73.26

End Caps

End caps are male.



Trade Size	Male OD		
4	3 7/8"	2226K32	$10.02
6	5 7/8"	2226K33	11.29
8	7 7/8"	2226K34	16.17
10	9 7/8"	2226K35	$23.47
12	11 7/8"	2226K36	26.33

Quick-Assembly Duct and Fittings

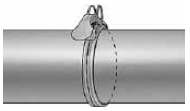

Join duct and fittings with quick-release clamps for faster installation, cleanout, and disassembly than other duct systems. Both ends of duct and fittings have rolled ends with the same diameter. ID is slightly less than trade size.
Galvanized steel has good corrosion resistance. **Aluminum** is lightweight and has good corrosion resistance. **304 stainless steel** is more corrosion resistant than steel and aluminum and costs approximately twice as much.

Duct, Adjustment Sleeves, and Clamps

To change your duct length, cut duct and slide on an **adjustment sleeve**. The sleeve extends duct up to 7″. It includes an o-ring for clamps to grasp.





Trade Size	59″ Long Duct		Adjustment Sleeves		Clamps	
Galvanized Steel						
4	1761K12	$30.64	1761K32	$18.57	1761K22	$10.45
5	1761K13	33.54	1761K33	19.04	1761K23	11.03
6	1761K14	40.39	1761K34	19.50	1761K24	11.49
7	1761K601	50.35	1761K629	23.87	1761K603	12.30
8	1761K117	55.60	1761K127	23.91	1761K137	12.42
9	1761K602	61.22	1761K631	25.65	1761K604	13.11
10	1761K118	64.65	1761K128	25.54	1761K138	13.99
12	1761K119	77.54	1761K129	29.25	1761K139	15.21
14	1761K121	91.64	1761K123	38.32	1761K145	16.02
16	1761K122	119.02	1761K124	43.93	1761K146	17.60

304 Stainless Steel—Choose a trade size: 4 to 16

59″ Long Duct	2538K881
Adjustment Sleeves	2538K882
Clamps	2538K883

Replacement O-Rings for Adjustment Sleeves

Choose a trade size: 4 to 16	1761K51

Tees and Wyes





Trade Size	Tees		45° Wyes		Double Wyes	
Galvanized Steel						
4	1761K52	$117.22	1761K175	$115.48	1761K191	$148.42
5	1761K53	120.98	1761K176	121.55	1761K192	156.43
6	1761K54	127.29	1761K181	125.67	1761K193	163.04
7	1761K618	141.11	1761K614	139.22	1761K616	183.06
8	1761K619	144.65	1761K182	130.65	1761K194	175.28
9	1761K621	151.15	1761K615	149.15	1761K617	201.03
10	1761K622	161.20	1761K183	145.82	1761K195	187.74
12	1761K623	179.16	1761K184	162.07	1761K196	215.69
14	1761K625	210.48	1761K185	190.23	1761K201	259.57
16	1761K626	242.04	1761K186	218.83	1761K202	288.82

304 Stainless Steel—Choose a trade size: 4 to 16

Tees	2538K885
45° Wyes	2538K886
Double Wyes	2538K887

Dampers and Blast Gates

Adjust **dampers** to regulate airflow.
Close **blast gates** to stop airflow. *Aluminum* blast gates have a galvanized steel blade.




Trade Size	*Dampers* Galvanized Steel		*Blast Gates* Aluminum	
4	1761K151	$58.17	1761K66	$34.24
5	1761K152	58.61	1761K67	35.68
6	1761K153	59.15	1761K68	46.88
7	1761K627	68.43	1761K69	58.00
8	1761K154	63.05	1761K257	68.64
9	1761K628	69.85	1761K256	95.00
10	1761K155	64.78	1761K258	120.72
12	1761K156	68.25	1761K259	156.48
14	1761K161	78.00	1761K133	232.08
16	1761K162	83.53	1761K134	337.76

304 Stainless Steel—Choose a trade size: 4 to 16

Dampers	2538K896
Blast Gates	2538K895

Elbows





Trade Size	90° Elbows		45° Elbows		30° Elbows	
Galvanized Steel						
4	1761K42	$55.37	1761K424	$47.24	1761K427	$47.24
5	1761K43	61.40	1761K435	52.35	1761K438	52.35
6	1761K44	69.06	1761K446	62.21	1761K449	64.54
7	1761K607	93.84	1761K609	89.23	1761K612	89.23
8	1761K147	134.29	1761K157	94.60	1761K167	89.03
9	1761K608	142.05	1761K611	98.21	1761K613	93.84
10	1761K148	140.09	1761K158	97.05	1761K168	93.13
12	1761K149	172.03	1761K159	99.02	1761K169	95.03
14	1761K125	176.76	1761K131	106.71	1761K241	102.71
16	1761K126	181.48	1761K132	143.11	1761K242	115.24

304 Stainless Steel—Choose a trade size: 4 to 16

90° Elbows	2538K897
45° Elbows	2538K898
30° Elbows	2538K899

Saddles

Add a branch to an existing run of duct. Cut a hole in the duct and fit the saddle over the hole.




Trade Size	90° Saddles		30° Saddles	
Galvanized Steel				
6	1761K522	$61.63	1761K56	$61.63
8	1761K532	67.68	1761K57	67.68
10	1761K542	69.03	1761K58	69.03
12	1761K235	76.70	1761K225	76.70

304 Stainless Steel—Choose a trade size: 6 to 12

90° Saddles	2538K889
30° Saddles	2538K891

Reducers



Use reducers to connect duct with different diameters.

	Trade Size		
Large End	Small End		
Galvanized Steel			
5	4	1761K203	$48.91
6	4	1761K72	56.06
6	5	1761K73	56.06
8	6	1761K206	52.75
10	6	1761K207	60.75
10	8	1761K208	60.75
12	8	1761K209	71.61
12	10	1761K211	71.61
14	12	1761K212	85.35
16	14	1761K213	117.75

304 Stainless Steel

Choose a large end/small end trade size: 5/4, 6/4, 6/5, 8/6, 10/6, 10/8, 12/8, 12/10, 14/12, 16/14	2538K884

Ball Joints



Create adjustable-angle connections with these galvanized steel ball joints.

Trade Size		
4	1761K639	$195.95
5	1761K641	237.19
6	1761K642	247.59
7	1761K643	257.87
8	1761K644	329.96
9	1761K645	392.01
10	1761K647	433.25
12	1761K648	484.78
14	1761K649	845.71

(Continued on following page)

For information about duct connections, see page 655.

Quick-Assembly Duct and Fittings *(Continued from previous page)*

Adapters—Join quick-assembly duct to other systems.

Duct-to-duct adapters connect to standard and spiral duct.

Duct-to-duct hose adapters are slightly undersized. Slide hose over the adapter and hold it in place with a clamp (see pages 302-306).

Duct-to-duct with flange adapters provide a secure connection between duct. For flanges, see page 664.







Trade Size	Duct-to-Duct		Duct-to-Duct Hose		Duct-to-Duct with Flange	
Galvanized Steel						
4	1761K742	$23.83	1761K62	$23.33	1761K752	$48.63
5	1761K743	26.36	1761K63	26.00	1761K753	51.19
6	1761K744	31.06	1761K64	30.53	1761K754	61.17
7	1761K632	32.74	1761K634	33.45	1761K637	67.25
8	1761K177	34.59	1761K197	35.29	1761K187	68.83
9	1761K633	37.22	1761K636	37.94	1761K638	78.47
10	1761K178	39.00	1761K198	39.70	1761K188	81.13
12	1761K179	41.44	1761K199	42.48	1761K189	89.96
14	1761K135	42.48	1761K141	43.26	1761K143	90.55
16	1761K136	44.39	1761K142	45.28	1761K144	98.51

304 Stainless Steel—Choose a trade size: 4 to 16

Duct-to-Duct	2538K892
Duct-to-Duct Hose	2538K893
Duct-to-Duct with Flange	2538K894

Intake Hoods and End Caps

Intake hoods exhaust fumes from your work area.





Trade Size	Intake Hoods		End Caps	
Galvanized Steel				
4	1761K77	$166.07	1761K163	$14.84
5	1761K78	170.62	1761K164	16.03
6	1761K79	176.15	1761K165	18.10
7	—	—	1761K605	22.22
8	1761K81	186.55	1761K166	21.56
9	—	—	1761K606	25.76
10	1761K82	205.76	1761K171	24.70
12	—	—	1761K172	26.00
14	—	—	1761K173	27.73
16	—	—	1761K174	29.14

304 Stainless Steel—Choose a trade size: 4 to 16

End Caps	2538K901

Chemical-Resistant PVC Duct and Fittings



Designed to withstand acids, alkalies, salts, and other corrosive vapors and fumes, duct and fittings are gray PVC. Use PVC pipe cement (sold separately on page 3466) to secure components. Both ends of duct are male. Fittings have female ends with a slightly larger diameter than the duct.

Duct and Duct-to-Duct Connectors

Duct has two male ends. **Duct-to-duct connectors** have two female ends and are required to connect two pieces of duct.

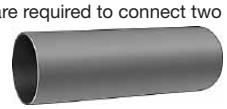



Trade Size	Duct: Male OD		5-ft.	10-ft.	Duct-to-Duct Connectors: Female ID		
4	4.5″	2051K881	$22.85	$43.11	4.52″	2051K357	$20.50
6	6.63″	2051K882	60.04	113.28	6.64″	2051K15	27.22
8	8.63″	2051K887	90.40	170.57	8.64″	2051K35	30.54
10	10.75″	2051K889	113.76	218.77	10.77″	2051K55	35.80
12	12.75″	2051K991	133.85	254.95	12.77″	2051K75	39.22
14	14″	2051K992	169.13	319.11	14.02″	2051K95	47.62

Tees and 45° Saddles

Tees have female ends.

45° saddles have a female end.





Trade Size (A)	Female ID (A)	Tees		Trade Size (B)	Female ID (B)	45° Saddles	
4	4.52″	2051K281	$51.75	—	—	—	—
6	6.64″	2051K282	122.43	8	8.64″	2051K742	$127.55
8	8.64″	2051K283	133.74	10	10.77″	2051K743	138.33
10	10.77″	2051K284	161.18	12	12.77″	2051K744	191.87
12	12.77″	2051K285	191.45	14	14.02″	2051K745	200.57
14	14.02″	2051K286	228.73	—	—	—	—

Dampers and Blast Gates

Adjust **dampers** to regulate airflow.

Close **blast gates** to stop airflow.



Damper



Blast Gate

Trade Size	Female ID	Dampers		Blast Gates	
4	4.52″	2051K165	$158.58	3445K7	$113.29
6	6.64″	2051K16	180.43	3445K17	123.31
8	8.64″	2051K36	199.74	3445K37	138.77
10	10.77″	2051K56	215.22	3445K57	186.54
12	12.77″	2051K76	230.02	3445K77	217.38

Elbows

Both ends are female.





Trade Size	Female ID	90° Elbows		45° Elbows	
4	4.52″	2051K27	$32.64	2051K145	$44.10
6	6.64″	2051K12	87.69	2051K14	68.75
8	8.64″	2051K32	107.02	2051K34	72.84
10	10.77″	2051K52	116.80	2051K54	82.05
12	12.77″	2051K72	132.50	2051K74	88.38
14	14.02″	2051K92	173.27	2051K94	115.48

Reducers

Use reducers to connect duct with different diameters. Both ends are female.



Trade Size: Large End	Trade Size: Small End	Female ID: Large End	Female ID: Small End		
6	4	6.64″	4.52″	2051K21	$47.20
8	6	8.64″	6.64″	2051K22	67.90
10	8	10.77″	8.64″	2051K23	78.34
12	8	12.77″	8.64″	2051K273	183.83
12	10	12.77″	10.77″	2051K24	92.41
14	10	14.02″	10.77″	2051K276	242.28
14	12	14.02″	12.77″	2051K25	129.70

Intake Hoods

Exhaust fumes from your work area.



Trade Size	Female ID		
4	4.52″	2051K873	$226.70
6	6.64″	2051K874	301.60
8	8.64″	2051K875	344.62
10	10.77″	2051K876	470.60
12	12.77″	2051K877	632.37

Rain Caps and End Caps



Rain Cap



End Cap

Trade Size	Female ID	Rain Caps		End Caps	
4	4.52″	2051K8	$151.58	2051K127	$29.95
6	6.64″	2051K18	164.88	2051K121	67.05
8	8.64″	2051K38	185.20	2051K122	84.12
10	10.77″	2051K58	193.20	2051K123	84.80
12	12.77″	2051K78	224.78	2051K124	89.64
14	14.02″	2051K98	252.20	2051K125	88.47

Low-Profile Rectangular Duct and Fittings

Often used in tight spaces, such as in walls and ceilings, rectangular duct allows you to select larger sizes without increasing duct height. Duct and fittings have interconnecting ends that lock together with brackets. Both ends have the same width and height. All are galvanized steel.



Duct and Fittings

Duct comes as two halves that lock together. Duct includes two S-brackets and two drive brackets to connect to duct and fittings.









Size Wd.	Ht.	4-ft. Duct		90° Horizontal Elbows		45° Horizontal Elbows		90° Vertical Elbows		45° Vertical Elbows		Tab Collars		End Caps	
8″	8″	1964K81	$35.39	1964K31	$31.01	1964K21	$24.52	1964K51	$31.01	1964K41	$22.94	1964K61	$10.79	1964K71	$4.37
10″	8″	1964K82	38.81	1964K32	34.50	1964K22	25.15	1964K52	32.41	1964K42	24.12	1964K62	11.72	1964K72	4.63
12″	8″	1964K83	42.09	1964K33	38.07	1964K23	27.30	1964K53	33.76	1964K43	25.40	1964K63	12.33	1964K73	4.97
14″	8″	1964K84	44.64	1964K34	42.06	1964K24	30.74	1964K54	35.95	1964K44	26.85	1964K64	12.83	1964K74	5.29
16″	8″	1964K85	51.42	1964K35	43.05			1964K55	32.07			1964K65	21.70	1964K75	9.02
20″	8″	1964K86	58.48	1964K36	59.99			1964K56	42.11			1964K66	26.80	1964K76	10.21
24″	8″	1964K87	77.37	1964K37	67.72			1964K57	47.65			1964K67	28.75	1964K77	11.73

Connecting Brackets and Reducers

Also known as cleats, **S-** and **drive brackets** can be cut to length. **Reducer** decreases duct width by 2″.





Lg.	Connecting Brackets S-Brackets		Drive Brackets		Reducers	
5 ft.	1964K92	$4.84	1964K94	$4.64	1964K12	$8.47

Turning Vane

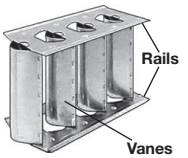

Direct air flow around corners. To assemble, cut vane and rail to size. Rail has mounting tabs to hold vanes. Tabs are 2½″ apart. Mount in duct using tapping screws (not included).

	Lg.		
Vane	6 ft.	1000K5	$16.14
Rail	6 ft.	1000K2	16.73

Straight-Run Fabric Duct



Evenly distribute air from fans and blowers throughout large spaces. Duct is durable, off-white polyethylene with evenly spaced air holes. Connect duct to fans and blowers with worm-drive clamps (sold separately). Duct has sewn-in snap hooks to hang from beams or cable. It is flame retardant and has a maximum temperature of 180° F.

Trade Size	Female ID	Suggested Airflow, cfm	25-ft. Duct		50-ft. Duct		Worm-Drive Clamps	
12	12½″	1,000-1,500	1771K25	$151.51	1771K55	$281.00	1771K13	$15.05
15	15½″	1,500-2,500	1771K26	164.00	1771K56	303.08	1771K13	15.05
18	18½″	2,500-3,500	1771K27	176.51	1771K57	326.00	1771K13	15.05
24	24½″	3,500-5,000	1771K28	210.00	1771K58	387.00	1771K14	20.16
30	30½″	6,500-8,000	1771K31	234.51	1771K61	431.00	1771K14	20.16

Duct Noise Reducers



Mount these noise reducers directly to spiral duct to decrease noise by as much as 50%. They are galvanized steel and have male ends for connecting to duct. Both ends have a rubber gasket to create a tight seal.

For Trade Size	Male OD	Overall Dia.	Overall Lg.		
4	3⅞″	8¼″	23⅝″	2775K1	$89.25
5	4⅞″	9¼″	23⅝″	2775K2	102.33
6	5⅞″	10⅝″	23⅝″	2775K3	116.37
8	7⅞″	12¾″	23⅝″	2775K4	131.25
10	9⅞″	14⅜″	35⅜″	2775K5	199.67
12	12⅜″	16¾″	35⅜″	2775K6	281.25

Vibration-Damping Duct Connectors



Add a flexible joint to your system to reduce vibration caused by fans and blowers. Connectors consist of a 4″ wide fabric strip attached to 2″ wide strips of galvanized steel on each end. To install, cut to length using sheet metal snips. Wrap connector around duct and fasten with screws (not included).

Fiberglass fabric resists most acids, alkalies, and solvents. Install on the warm side of your system. Color is off-white.

Neoprene fabric is waterproof and resists grease. Install on the warm or cool side of your system. Color is black.

	Max. Temp.	25-ft. Roll		50-ft. Roll	
Fiberglass	500° F	1781K88	$76.50	1781K7	$134.27
Neoprene	200° F	1781K47	90.34	1781K3	159.49

Airflow Dampers for Square Duct



Regulate airflow by adjusting dampers from fully open to fully closed. Dampers are ¼″ undersized to fit inside duct; the handle mounts outside the duct. Dampers are galvanized steel with a vinyl seal. They are 5½″ deep.

For Duct Size Wd.	Ht.		
12″	12″	2041K12	$140.91
14″	14″	2041K13	158.18
16″	16″	2041K14	164.09
24″	24″	2041K22	248.00
36″	36″	2041K27	412.55

Fire Dampers

Automatically stop airflow through duct in the event of a fire. Dampers have a fusible link that melts at 165° F, releasing a spring and causing the blades to close. Dampers are galvanized steel and 4⅞″ deep. They meet UL 555 and are UL fire-rated to help prevent the spread of fire for 1½ hours.

Dampers **for square duct** are ¼″ undersized to fit inside duct.




Trade Size	Male OD	For Round Duct		For Duct Size Ht.	Wd.	For Square Duct	
4	3¾″	19215K26	$63.18	8″	8″	2263K29	$27.79
6	5¾″	19215K27	64.47	12″	12″	2263K88	36.71
8	7¾″	19215K28	74.25	14″	14″	2263K91	58.40
10	9¾″	19215K29	89.62	18″	18″	2263K93	70.36
12	11¾″	19215K31	91.57	24″	24″	2263K97	88.29
Replacement Fusible Link		19215K32	5.25				

Automatic Airflow Dampers

Save energy and increase comfort by heating and cooling only the areas that need it. Dampers automatically close when signaled by a thermostat or switch (not included). They are galvanized steel and have a crimped male end. Dampers operate on 24 volts AC.



Trade Size	Female ID	Male OD	Overall Ht.	Overall Wd.		
5	5″	4 7/8″	9 21/32″	7″	1179N15	$136.37
6	6″	5 7/8″	10 21/32″	8″	1179N16	141.58
7	7″	6 7/8″	11 21/32″	9″	1179N17	142.60
8	8″	7 7/8″	12 21/32″	10″	1179N18	146.52
9	9″	8 7/8″	13 21/32″	11″	1179N19	148.07
10	10″	9 7/8″	14 21/32″	12″	1179N21	150.40
12	12″	11 7/8″	16 21/32″	14″	1179N22	157.42
14	14″	13 7/8″	18 21/32″	16″	1179N24	173.78
16	16″	15 7/8″	20 21/32″	18″	1179N26	204.97
18	18″	17 7/8″	22 21/32″	20″	1179N28	217.92
20	20″	19 7/8″	24 21/32″	22″	1179N31	237.02

Blast Gates

Open and close gates to control airflow. A locking screw holds the gate's slide in position.

Standard Gates—Fit into duct ends, unless noted.

Self-Cleaning Gates—Often used in dust collection systems, the slide pushes through the top of the gate to clear debris. Gates fit into duct ends, unless noted.

Half Gates—Often added to existing systems, gates can be installed without disassembling duct. Cut a thin slot in the duct, insert the slide, and mount the collar to the duct.

Aluminum is lighter in weight than stainless steel and has good corrosion resistance. **304 stainless steel** is more corrosion resistant than galvanized steel. **316 stainless steel** has excellent corrosion resistance.



Standard Gate



Self-Cleaning Gate



Half Gate

Standard Gates

Trade Size	Aluminum Gates: Male OD	Overall Ht.	Overall Wd.	Dp.	Galvanized Steel Slide		304 SS Slide		316 Stainless Steel Gates: Male OD	Overall Ht.	Overall Wd.	Dp.	316 SS Slide	
2	2″	6 1/4″	3 5/8″	1 7/8″	1788K41★	$10.28			1 7/8″	6 1/8″	3 1/2″	2 5/16″	2712K2	$133.15
3	2 13/16″	7 5/8″	4″	1 7/8″	1788K11	12.56	1822K312	$17.03	2 7/8″	8 13/16″	5″	2 7/8″	2712K4	149.97
3 1/2	3 3/8″	9″	4 5/8″	2 5/8″	1788K42	19.04								
4	3 13/16″	10″	5″	1 7/8″	1788K12	12.21	1822K313	21.69	3 7/8″	11 1/4″	6″	3 5/16″	2712K5	176.32
4 1/2	4 3/8″	11 3/8″	5 3/4″	2 5/8″	1788K43	21.64								
5	4 3/4″	12 1/2″	6″	2 1/8″	1788K13	18.08	1822K314	25.03	4 7/8″	14 3/8″	7″	3 5/16″	2712K6	193.23
6	5 9/16″	14 1/2″	7″	2 1/8″	1788K14	18.75	1822K315	30.13	5 7/8″	16 7/8″	8″	3 5/16″	2712K8	212.26
7	6 13/16″	15 5/8″	8″	2 1/2″	1788K15	28.38	1822K316	39.88	6 7/8″	19 1/4″	9″	3 5/16″	2712K9	233.47
8	7 13/16″	18 3/4″	9 5/8″	4″	1788K16	31.17	1822K317	50.65	7 7/8″	21 5/16″	10″	4 1/4″	2712K11	266.33
9	8 15/16″	20 1/2″	10 5/8″	3 3/16″	1788K17	53.88			8 7/8″	23 13/16″	11″	4 1/4″	2712K13	295.14
10	9 13/16″	22 3/8″	11 3/8″	3 3/4″	1788K18	64.69	1822K319	65.02	9 7/8″	26 5/8″	12″	4 5/16″	2712K15	341.00
12	11 13/16″	27 3/8″	13 1/4″	3 5/8″	1788K19	69.31	1822K322	77.30	11 7/8″	31 7/8″	14″	4 5/16″	2712K17	504.14
14	13 11/16″	30 3/8″	15 3/4″	4 3/8″	1788K25	121.50	1822K324	117.18	13 7/8″	36 7/8″	16″	4 5/16″	2712K24	615.22
16	15 11/16″	35 9/16″	17 7/8″	4 3/8″	1788K27	140.96	1822K326	161.82	15 7/8″	42 1/8″	18″	4 5/16″	2712K26	910.74
18	17 11/16″	41 1/4″	20 1/8″	7″	1788K29	260.78	1822K328	274.48						

★ Gate fits over duct ends. OD shown is female ID.

Self-Cleaning Gates and Half Gates

Trade Size	Aluminum Self-Cleaning Gates: Male OD	Overall Ht.	Overall Wd.	Dp.	Galvanized Steel Slide		304 SS Slide		Aluminum Half Gates: Overall Ht.	Overall Wd.	Dp.	Galvanized Steel Slide		304 SS Slide	
2	2″	6 1/4″	3 5/8″	1 7/8″	17385K71★	$10.38									
3	2 13/16″	7 5/8″	4″	1 7/8″	17385K72	11.55	1822K412	$17.00	6″	4 1/2″	2 1/4″	1789K1	$16.73	1822K212	$36.95
3 1/2									7 1/4″	5 3/8″	2 1/2″	1789K23	30.00		
4	3 13/16″	10″	5″	1 7/8″	17385K74	13.11	1822K414	23.23	7 1/8″	5 5/8″	2 3/8″	1789K2	18.96	1822K213	41.52
4 1/2									8″	6 1/2″	2 1/2″	1789K24	36.00		
5	4 3/4″	12 1/2″	6″	2 1/8″	17385K76	15.68	1822K416	25.52	9″	6 3/4″	2 1/4″	1789K3	19.20	1822K214	44.90
6	5 9/16″	14 1/2″	7″	2 1/8″	17385K77	17.29	1822K417	31.05	10 1/2″	7 7/8″	2 3/4″	1789K4	26.29	1822K215	61.48
7	6 13/16″	15 5/8″	8″	2 1/2″	17385K78	24.25	1822K418	43.42	12 1/8″	8 1/2″	2 1/2″	1789K5	32.40	1822K216	69.75
8	7 13/16″	18 3/4″	9 5/8″	4″	17385K79	29.65	1822K419	57.37	13″	10″	2 3/4″	1789K6	34.80	1822K217	75.60
9									15 3/4″	11 1/4″	2 3/4″	1789K7	55.56	1822K218	108.40
10	9 13/16″	22 3/8″	11 3/8″	3 3/4″	17385K82	49.16	1822K422	91.17	16 3/4″	12″	3″	1789K8	64.44	1822K219	125.53
12	11 13/16″	27 3/8″	13 1/4″	3 5/8″	17385K83	57.56	1822K424	109.67	19 1/4″	14 1/8″	3″	1789K9	77.78	1822K222	180.11
14									25″	16 1/2″	4″	1789K21	133.33	1822K223	256.76
16									26 1/2″	18 1/2″	4 1/4″	1789K22	140.00	1822K224	309.64

★ Gate fits over duct ends. OD shown is female ID.

Plastic Blast Gates

Stop airflow through plastic duct and duct hose with these black plastic blast gates. Gates are built to withstand impact and abrasion. The slide stays in position without a locking screw.



Trade Size	Male OD	Overall Ht.	Overall Wd.	Dp.		
3	2 7/8″	8 1/8″	4 1/2″	3 1/16″	38405K91	$5.95
4	3 7/8″	10 1/8″	5 1/2″	3 5/16″	38405K92	7.47
5	4 7/8″	12 1/8″	6 1/2″	3 5/16″	38405K97	11.83
6	5 7/8″	14 1/4″	7 1/2″	3 5/16″	38405K98	14.83

Automatic Blast Gates



More convenient than manual blast gates, these automatic gates can open and close in sync with dust collectors, fume exhausters, and other machines. A double-acting air cylinder with 1/4" push-to-connect ports moves the gate. Maximum air pressure is 90 psi. Gates are galvanized steel. They operate on 120 volts AC.

Trade Size	Male OD	Overall Ht.	Overall Wd.	Overall Dp.		
2	1 7/8"	12 7/8"	6 1/4"	6 1/4"	1189N12	$509.09
3	2 7/8"	12 3/4"	6 1/4"	5 7/8"	1189N13	534.55
4	3 7/8"	15 5/16"	7"	5 13/16"	1189N14	534.55
5	4 7/8"	18 1/4"	7 7/8"	5 7/8"	1189N15	547.27
6	5 7/8"	21 5/16"	9"	5 15/16"	1189N16	547.27
8	7 7/8"	27 1/16"	10 7/8"	6 1/16"	1189N18	572.73
10	9 7/8"	33 1/16"	14 5/8"	5 13/16"	1189N19	588.64
12	11 7/8"	40"	16 9/16"	5 13/16"	1189N22	604.55

Chemical-Resistant PVC Duct Flanges



Designed to withstand harsh environments, these gray PVC flanges are compatible with Chemical-Resistant PVC Duct and Fittings on page 661. Mount flanges to equipment to start a run of duct. They can also create a secure connection between two duct ends by mounting a flange to each end and then joining the flanges.

Trade Size	Female ID	Flange Dp.	Flange Ht.	Flange Thick.	Mount. Holes Dia.	Mount. Holes Qty.		
4	4.52"	2 1/4"	1 3/4"	1/4"	5/16"	4	5124K9	$47.08
6	6.64"	3 1/4"	1 1/2"	1/4"	5/16"	8	5124K19	54.29
8	8.64"	3 1/4"	1 1/2"	1/4"	5/16"	10	5124K39	56.27
10	10.77"	3 1/4"	1 3/8"	1/4"	5/16"	12	5124K59	70.64
12	12.77"	3 1/2"	1 3/8"	1/4"	5/16"	16	5124K79	73.98
14	14.02"	3 1/2"	1 3/4"	1/4"	5/16"	16	5124K99	103.18
16	16.02"	3 1/2"	1 3/4"	1/4"	5/16"	18	5124K49	130.72

Duct Flanges


Without Holes


With Holes



Mount flanges to equipment to start a run of duct. They can also create a secure connection between two duct ends by mounting a flange to each end and then joining the flanges. Duct flanges are also known as angle rings.

Weld flanges **without holes** in place. Bolt flanges **with holes** in place (fasteners not included).

Galvanized steel flanges have good corrosion resistance. *304 stainless steel* flanges are more corrosion resistant than steel.

					Without Holes			With Holes					
Trade Size	Female ID	Flange Dp.	Flange Ht.	Flange Thick.	Steel		304 Stainless Steel	Mount. Holes Dia.	Mount. Holes Qty.	Steel		Galvanized Steel	304 Stainless Steel
3	3 1/16"	1"	1"	1/8"	1764K81	$3.90		9/32"	6	1764K41	$3.90	1758K12 $5.95	
4	4 1/16"	1"	1"	1/8"	1764K82	4.69	1734K12 $20.83	9/32"	6	1764K42	4.69	1758K13 7.72	1734K83 $20.83
5	5 1/16"	1"	1"	1/8"	1764K83	5.12	1734K13 21.88	9/32"	6	1764K43	5.12	1758K14 8.65	1734K53 21.88
6	6 1/8"	1 1/4"	1 1/4"	1/8"	1764K51	6.40	1734K14 22.68	3/8"	6	1764K11	6.40	1758K15 11.38	1734K54 22.68
7	7 1/8"	1 1/4"	1 1/4"	1/8"	1764K52	7.74	1734K15 24.07	3/8"	6	1764K12	7.74	1758K16 13.45	1734K55 24.07
8	8 1/8"	1 1/4"	1 1/4"	1/8"	1764K53	9.05	1734K16 25.21	3/8"	6	1764K23	9.05	1758K17 15.45	1734K26 25.21
9	9 1/8"	1 1/4"	1 1/4"	1/8"	1764K54	10.40	1734K17 27.12	3/8"	6	1764K25	10.40	1758K18 17.52	1734K28 27.12
10	10 1/8"	1 1/4"	1 1/4"	1/8"	1764K55	11.62	1734K18 27.27	3/8"	6	1764K27	11.62	1758K19 19.45	1734K31 27.27
11	11 1/8"	1 1/4"	1 1/4"	1/8"	1764K56	13.45	1734K19 29.87	3/8"	6	1764K88	13.45	1758K36 22.02	1734K33 29.87
12	12 1/8"	1 1/2"	1 1/2"	1/8"	1764K57	15.67	1734K21 36.67	7/16"	8	1764K32	15.67	1758K21 26.95	1734K35 36.67
13	13 1/8"	1 1/2"	1 1/2"	1/8"	1764K58	17.50	1734K22 40.11	7/16"	8	1764K34	17.50	1758K22 29.57	1734K37 40.11
14	14 1/8"	1 1/2"	1 1/2"	1/8"	1764K59	19.29	1734K23 40.11	7/16"	8	1764K37	19.29	1758K23 32.75	1734K39 40.11
15	15 1/8"	1 1/2"	1 1/2"	1/8"	1764K61	20.48	1734K24 48.47	7/16"	8	1764K38	20.48	1758K24 34.65	1734K42 48.47
16	16 1/8"	1 1/2"	1 1/2"	3/16"	1764K62	22.14	1734K25 56.04	7/16"	8	1764K39	22.14	1758K25 44.05	1734K43 56.04
18	18 1/8"	1 1/2"	1 1/2"	3/16"	1764K64	23.76	1734K27 61.80	7/16"	8	1764K44	23.76	1758K27 47.83	1734K44 61.80
20	20 1/8"	1 1/2"	1 1/2"	3/16"	1764K66	25.86	1734K29 77.91	7/16"	12	1764K45	25.86	1758K29 52.70	1734K45 77.91
22	22 1/8"	1 1/2"	1 1/2"	3/16"	1764K68	27.10	1734K32 88.58	7/16"	12	1764K46	27.10	1758K33 57.38	1734K46 88.58
24	24 1/8"	1 1/2"	1 1/2"	3/16"	1764K71	28.93	1734K34 91.33	7/16"	12	1764K47	28.93	1758K35 61.25	1734K47 91.33
26	26 1/8"	2"	2"	3/16"	1764K73	39.83	1734K36 125.28	7/16"	16	1764K48	39.83	1758K37 77.09	1734K48 125.28
28	28 1/8"	2"	2"	3/16"	1764K75	41.81	1734K38 132.24	7/16"	16	1764K49	41.81	1758K39 82.63	1734K49 132.24
30	30 1/8"	2"	2"	3/16"	1764K76	44.60	1734K41 142.44	7/16"	16	1764K63	44.60	1758K41 88.70	1734K82 142.44

Duct Access Doors


A

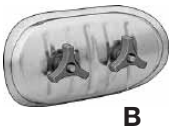
B


C


D

Also known as cleanouts, doors cover cutouts in duct to provide access for inspection and cleaning.

Bolt-on doors are aluminum. They have 5/32" dia. mounting holes (fasteners not included).

Easy access doors open and close by turning the knobs. Doors are galvanized steel. They are insulated and have a gasket to create a tight seal. Use the included template to create the cutout.

	For Trade Size	Cutout Size Ht.	Cutout Wd.		
Bolt On for Round Duct					
A	4	2 1/2"	3 3/4"	3978K41	$49.74
A	6	3 7/8"	6"	3978K42	49.74
A	8	4"	6 3/8"	3978K43	49.74
A	10	4"	6 1/4"	3978K44	49.74
A	12	4"	6 1/8"	3978K45	49.74
Easy Access for Round Duct					
B	6-7	6"	10"	5252K1	72.90
B	8-9	6"	10"	5252K2	72.90
B	10-12	6"	10"	5252K3	72.90
B	13-14	6"	10"	5252K4	72.90
B	15-16	6"	10"	5252K5	72.90

	For Trade Size	Cutout Size Ht.	Cutout Wd.		
Easy Access for Round Duct (Cont.)					
B	17-20	6"	10"	5252K6	$72.90
B	21-24	6"	10"	5252K7	72.90
B	24-28	6"	10"	5252K8	72.90
		For Duct Size Ht.	For Duct Size Wd.	Cutout Size Ht.	Cutout Wd.	
Easy Access for Rectangular Duct						
C	10"	14"	6"	10"	1815K66	$35.32
C	12"	16"	8"	12"	1815K67	50.84
C	18"	22"	14"	18"	1815K68	98.26
D	22"	28"	18"	24"	1815K71	168.64

High-Temperature Chimney Vents and Fittings

Built to withstand temperatures up to 1000° F, these vents and fittings are for use with boilers, furnaces, stoves, and other equipment that is fired by gas, oil, wood, or coal. UL listed, except for roof flashing and storm collars.

Vents

Vents are 304 stainless steel. They are double-walled and have 1″ of insulation. To join pieces, twist a male end into a female end and secure them with the included locking band.

Pipe has one female end and one male end.

Tees have two female ends and one male end. They include a removable cap.


Pipe


Tee

Trade Size	ID	OD	18″ Long Pipe		36″ Long Pipe		Tees	
6	6″	8″	1716K16	$83.87	1716K136	$158.24	1716K26	$239.43
8	8″	10″	1716K17	120.98	1716K137	228.26	1716K27	351.10
10	10″	12″	1716K18	211.07	1716K138	398.25	1716K28	499.47
12	12″	14″	1716K19	248.54	1716K139	468.94	1716K29	636.89

Fittings

Pipe adapters connect chimney vents to duct. They are 430 stainless steel. Adapters with *trade size 6* and *8* have a black finish.

Ceiling supports fit into a joist opening framed on all four sides. Nail the support to the framing (nails not included). Supports are steel and come with a pipe adapter. Supports with *trade size 6* and *8* have a black finish.

Wall bands should be placed every 8 feet to support chimney vents. They are 430 stainless steel.

Rain caps are 304 stainless steel.

Roof flashing is for roofs with a pitch up to 6/12. They are galvanized steel and include a storm collar.











Trade Size	Pipe Adapters OD	(A)		Ceiling Supports (A)	(B)		Wall Bands		Rain Caps		Roof Flashing		Repl. Storm Collars	
6	8″	5 15/16″	1716K56	$34.01	5 15/16″	12 3/8″	1716K66	$100.68	1716K76	$32.15	1716K46	$91.50	1716K711	$65.61	1716K96	$20.32
8	10″	7 15/16″	1716K57	46.16	7 15/16″	14 3/8″	1716K67	121.57	1716K77	42.04	1716K47	136.02	1716K8	84.07	1716K97	23.07
10	12″	9 15/16″	1716K58	55.85	9 15/16″	16 1/4″	1716K68	247.07	1716K78	51.48	1716K48	253.24	1716K9	106.32	1716K98	29.69
12	14″	11 15/16″	1716K59	105.79	—	—	—	—	1716K79	65.61	1716K49	383.06	1716K6	143.43	1716K99	49.45

Gas Chimney Vents and Fittings

Exhaust heat and gases from gas-fired equipment, such as boilers and furnaces. Vents and fittings are also known as Type B gas vents. Maximum temperature is 400° F. UL listed, except for roof flashing and storm collars.

Vents—Have an aluminum inner wall and a galvanized steel outer wall. To join pieces, insert a male end into a female end and secure with the included locking band.

Pipe has one female end and one male end.

Adjustable elbows can be used at an angle or straight. They have one female end and one male end.

Tees have two female ends and one male end.

Rain caps are aluminum.

Roof flashing is for roofs with a pitch up to 6/12. It requires a **storm collar** (sold separately). Flashing and collars are galvanized steel.













Trade Size	Vents OD	ID	18″ Long Pipe		Adjustable Elbows Angle		Tees		Fittings ID	Rain Caps		Roof Flashing		Storm Collars	
4	4 1/2″	4″	2117K12	$15.78	60°	2117K27	$17.93	2117K32	$36.68	4 1/2″	2117K42	$16.62	2117K52	$12.91	2117K62	$3.02
5	5 1/2″	5″	2117K13	18.45	60°	2117K28	20.91	2117K33	48.92	5 1/2″	2117K43	23.90	2117K53	21.29	2117K63	7.85
6	6 1/2″	6″	2117K14	21.49	60°	2117K29	25.52	2117K34	54.13	6 1/2″	2117K44	30.55	2117K54	29.11	2117K64	7.54
7	8″	7″	2117K15	34.16	45°	2117K25	37.80	2117K35	71.20	8″	2117K45	41.49	2117K55	36.54	2117K65	8.96
8	9″	8″	2117K16	36.54	45°	2117K26	45.31	2117K36	76.98	9″	2117K46	55.23	2117K56	40.02	2117K66	9.83

Inline Furnace Boosters

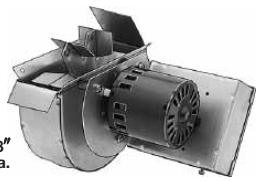

Increase airflow through exhaust duct to improve furnace performance. Create a cutout in your duct, insert the blower wheel, and mount the booster's housing to the duct. Boosters are galvanized steel and have an open motor. They operate on 120 volts AC and must be hardwired. Maximum temperature at inlet is 575° F. Boosters cannot be used for sidewall venting applications. Mounting hardware is included.

Optional safety switch (sold separately) prevents furnace from firing if booster fails. Switch is zinc-plated steel and includes mounting hardware.

For Vent Dia.	Cutout Size Ht.	Wd.	Amps	rpm		
3″-6″	2 5/8″	7 5/8″	0.5	1,550	1902K11	$145.97
5″-8″	3 1/8″	8 5/8″	1.0	1,550	1902K14	197.40
8″-12″	4″	12 3/4″	5.4	1,725	1902K27	486.63
Optional Safety Switch					1902K51	86.73

Sidewall Furnace Venters

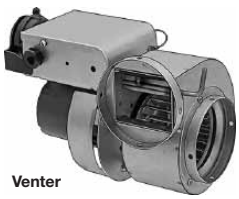
Venter


Vent Hood

Often used for electric-to-gas conversions and renovations, these venters allow gas- or oil-fired equipment to be vented through a sidewall rather than a chimney. A thermostat signal starts the venter and a sensor ensures proper draft prior to operation. Maximum temperature at inlet is 600° F. Venters are compatible with 24- and 120-volt AC furnaces. A vent hood (sold separately) is required for the exterior of the sidewall.

Venters are galvanized steel and have an open dripproof, 3,000 rpm motor. They operate on 24 or 120 volts AC and must be hardwired.

Vent hoods are aluminum and include mounting hardware.

Furnace Btu/Hr.	For Vent Dia.	Amps	Venters		Vent Hoods	
150,000-300,000	4″-6″	1.8	3972K4	$369.60	3972K13	$139.40
300,000-600,000	6″-8″	2	3972K7	520.80	3972K18	152.10

Furnace Draft Controls



Also known as barometric dampers, controls improve furnace performance by automatically opening and closing to maintain consistent airflow through duct and chimneys despite changing environmental conditions. Controls are steel.

Controls **with single-acting damper** open inward to prevent strong drafts from pulling too much heat into the chimney vent.

Controls **with double-acting damper** open both inward and outward to relieve pressure caused by obstructions and downdrafts.

Controls **with single/double-acting damper** can be set to open inward for use with oil and coal or to open inward and outward for use with gas.

For Trade Size	For System Type		
With Single-Acting Damper			
5, 6, 7	Oil, Coal	1782K22	$80.84
7, 8, 9	Oil, Coal	1782K24	119.40
With Double-Acting Damper			
5, 6	Gas	1782K18	94.710
7, 8	Gas	1782K12	130.89
With Single/Double-Acting Damper			
9, 10	Oil, Coal, Gas	1782K13	207.76
11, 12	Oil, Coal, Gas	1782K14	271.15

Vent Caps

Cover external vents to reduce downdrafts and prevent obstructions from entering the vent.

Chimney Caps



Round



Square Steel

Round caps are UL listed.

Square and **rectangular** caps have expanded mesh for spark protection. *Steel* caps have a black finish. *304 stainless steel* caps have excellent corrosion resistance.

For Duct Size	Material		
Round			
2 7/8" to 4 7/8" Dia.	Aluminum	1803K11	$38.82
4 7/8" to 6 7/8" Dia.	Aluminum	1803K13	51.11
6 7/8" to 8 7/8" Dia.	Aluminum	1803K15	70.89
8 7/8" to 10 7/8" Dia.	Aluminum	1803K17	104.53
11 7/8" to 14 1/2" Dia.	Aluminum	1803K19	163.62
Square			
7 1/2" x 7 1/2" to 9 1/2" x 9 1/2"	Steel	1826K31	67.18
11 1/2" x 11 1/2" to 13 1/2" x 13 1/2"	Steel	1826K37	80.71
11 1/2" x 11 1/2" to 13 1/2" x 13 1/2"	304 SS	1826K57	110.54
Rectangular			
7 1/2" x 11 1/2" to 9 1/2" x 13 1/2"	Steel	1826K33	68.87

Roof and Wall Caps



Flat Roof



Sloped Roof



Wall

Caps have a bird screen.

Flat roof cap is aluminum.

Sloped roof cap is steel with a black finish and has a backdraft damper.

Wall cap is steel with a black finish and has a backdraft damper. It has 3/16" dia. mounting holes (fasteners not included).

	For Duct Size	Lg.	Wd.	Ht.		
Flat Roof	8" Dia.	15"	15"	9 7/8"	6904K22	$68.13
Sloped Roof	3 1/4" x 10"★	18 3/4"	14 1/4"	6 5/8"	6904K34	35.40
Wall	3 1/4" x 10"	8 7/8"	12 3/4"	5 5/8"	6904K36	23.82

★ Also fits up to 8" dia. duct.

Registers



Floor



Wall/Ceiling One-Way Airflow



Wall/Ceiling Three-Way Airflow



Wall/Ceiling Four-Way Airflow

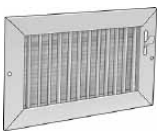

Wall/Ceiling Adjustable Airflow

Adjust the damper on these registers to control airflow. Registers are steel and fit into duct. Faceplate is 1 3/8" greater than duct size. *Wall/ceiling* registers include mounting screws.

Adjustable airflow registers have fins that can be turned to alter the airflow direction.

For Duct Size Wd.	Ht.	Choose a Color		
Floor—One-Way Airflow				
10"	2 1/4"	Brown, White	2004K31	$7.09
10"	4"	Brown, White	2004K34	6.49
10"	6"	Brown, White	2004K37	11.70
12"	2 1/4"	Brown, White	2004K32	7.46
12"	4"	Brown, White	2004K35	8.51
12"	6"	Brown, White	2004K38	12.55
14"	2 1/4"	Brown, White	2004K33	8.48
14"	4"	Brown, White	2004K36	9.73
14"	6"	Brown, White	2004K39	13.16
Wall/Ceiling—One-Way Airflow				
8"	4"	White	18425K81	9.21
10"	4"	White	18425K83	10.04
12"	6"	White	18425K87	11.67
14"	6"	White	18425K89	12.35
Wall/Ceiling—Three-Way Airflow				
10"	4"	White	18425K65	8.71
10"	6"	White	18425K67	9.17
12"	6"	White	18425K69	10.26
Wall/Ceiling—Four-Way Airflow				
10"	10"	White	18425K57	18.02
12"	12"	White	18425K59	23.29
14"	14"	White	18425K72	32.05
16"	16"	White	18425K74	38.75
Wall/Ceiling—Adjustable Airflow				
8"	6"	White	18395K62	22.65
10"	6"	White	18395K64	24.07
12"	4"	White	18395K52	24.07
12"	6"	White	18395K66	26.18
12"	8"	White	18395K68	31.54
14"	6"	White	18395K72	30.29
14"	8"	White	18395K74	33.73
16"	4"	White	18395K76	32.19
16"	6"	White	18395K83	32.73
16"	8"	White	18395K78	37.76

Ceiling Diffusers

Evenly disperse airflow into a room to maintain a consistent temperature throughout the space.

Steel

Diffusers are steel with a white finish and include mounting screws.

Collars connect diffusers to duct. They are galvanized steel and fit into duct. *Collars with damper* can be opened and closed to adjust airflow.







For Trade Size	O'all Dia.	Diffusers		Collars: Without Damper		Collars: With Damper	
6	10"	1988K31	$9.33	1988K41	$6.35	1988K35	$14.45
8	12"	1988K32	10.54	1988K42	7.41	1988K36	14.73
10	14"	1988K33	13.08	1988K43	9.36	1988K37	18.09
12	16"	1988K29	17.19	1988K44	11.14	1988K39	23.20
14	18"	1988K34	21.62	1988K46	12.61	1988K45	27.70

Plastic with Damper

Diffusers come with a collar and damper already in place for simple installation. Collar is adjustable to fit a range of duct sizes. Diffusers are white plastic for impact, abrasion, and chemical resistance. Mounting clips are included.





For Trade Size	Square O'all Lg.	Square O'all Wd.			Round O'all Dia.		
6, 7, 8	11 1/4"	11 1/4"	2559K5	$30.29	12 1/8"	2559K9	$30.29

Drop-Ceiling Diffusers

Place these diffusers in the 2 ft.×2 ft. grid of a drop ceiling to evenly distribute airflow. Diffusers are steel with a white finish.

Diffusers

Diffusers have insulation with an R-value of 6. They connect to round duct with a snap-on collar (sold separately).

Perforated—Have more openings than grid diffusers to release more air.

Grid—Often used with cooling systems, diffusers disperse a thin layer of air along the ceiling for even distribution.

Diffusers **with steel back panel** have a vapor barrier for moisture protection.

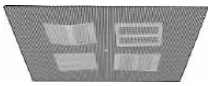

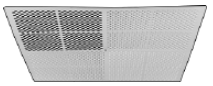

For Trade Size	Perforated		Grid	
With Fiberglass Back Panel				
6-12	1837K21	$30.37	1837K45	$40.01
With Steel Back Panel				
6-12	1837K23	68.47	1837K46	65.63
Replacement Faces				
Perforated			1837K22	27.33
Grid			1837K47	29.08

Snap-on collars are galvanized steel and attach to diffusers with the included push-in fasteners. They have a male end that fits inside duct.



For Trade Size	Male OD		
6	5 15/16″	18525K44	$6.83
8	7 15/16″	18525K45	6.83
10	9 15/16″	18525K46	6.99
12	11 15/16″	18525K47	7.15

Ready-to-Connect Diffusers

Connect these diffusers to round duct using the included collar. Collars have a male end that fits inside duct. Back panel is steel.

Insulated diffusers have insulation with an R-value of 1 and a foil vapor blanket for moisture protection.





For Trade Size	Male OD	Standard		Insulated	
6	5 7/8″	17905K38	$56.45	17905K54	$75.26
8	7 7/8″	17905K39	56.45	17905K55	75.26
10	9 7/8″	17905K41	56.45	17905K56	75.26
12	11 7/8″	17905K42	57.88	17905K57	77.59
14	13 7/8″	17905K43	58.70		

Dampers

For use with diffusers and ready-to-connect diffusers, these dampers mount to the collar and have a removable handle to control airflow. Made of galvanized steel.



For Trade Size		
6	18525K81	$11.30
8	18525K82	11.53
10	18525K83	12.55
12	18525K84	13.98

Fire-Rated Drop-Ceiling Diffusers

Fit these diffusers into your drop ceiling to stop airflow in the event of a fire. The damper has a fusible link that melts at 165° F, causing the blades to close and stop airflow. Diffusers are white steel and fit 2 ft.× 2 ft. openings. Dampers are UL fire-rated for up to 3 hours.





For Trade Size	Male OD	Perforated		Louvered	
6	5 7/8″	1572K5	$121.50	1572K1	$137.98
8	7 7/8″	1572K6	126.00	1572K2	142.23
10	9 7/8″	1572K7	130.50	1572K3	150.72
12	11 7/8″	1572K8	137.26	1572K4	154.96

Wall Return Grilles

Cover the opening through which air is pulled into your HVAC system. Grilles have a white finish.

Steel and **Aluminum**—Overall size is 1 3/4″ greater than duct size. Includes mounting screws.

Steel with Filter Holder—Grilles hold a 1″ thick air filter (not included; see pages 702-706 for a filter that matches your duct size). Overall grille size is 2 13/16″ greater than duct size. Grilles have 3/8″ mounting holes (fasteners not included).

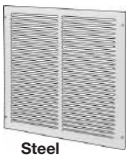

Steel



Steel with Filter Holder



Aluminum

For Duct Size Wd.	Ht.			For Duct Size Wd.	Ht.		
Steel				**Steel with Filter Holder**			
12″	6″	2009K1	$4.80	12″	24″	20105K26	$35.52
12″	8″	2009K2	6.15	14″	14″	20105K32	28.55
12″	10″	2009K3	9.05	14″	20″	20105K34	34.93
12″	12″	2009K4	9.36	14″	24″	20105K35	38.31
14″	6″	2009K5	5.19	16″	16″	20105K42	35.39
14″	8″	2009K6	6.30	16″	20″	20105K43	37.41
14″	10″	2009K7	10.32	16″	25″	20105K45	49.91
14″	12″	2009K8	11.14	20″	14″	20105K52	35.47
14″	14″	2009K18	12.30	20″	16″	20105K53	38.38
14″	24″	2009K31	21.64	25″	16″	20105K62	50.35
14″	30″	2009K32	27.24	25″	20″	20105K63	49.75
16″	16″	2009K36	16.13	30″	14″	20105K72	50.79
16″	20″	2009K37	19.77	**Aluminum**			
20″	16″	2009K23	20.24	6″	6″	1847K11	22.22
20″	20″	2009K19	24.98	8″	8″	1847K13	24.19
24″	14″	2009K43	21.98	10″	10″	1847K16	29.03
24″	24″	2009K87	39.15	12″	12″	1847K19	31.25

Drop-Ceiling Return Grilles



Perforated



Louvered

Designed to keep dust out of your HVAC system, these grilles have a filter holder that accepts trade size 20×20×1 air filters (not included; see pages 702-706). Grilles fit into the 2 ft.×2 ft. grid of a drop ceiling. They are steel with a white finish.

Perforated	2532K5	$48.19
Louvered	2532K7	48.19

Airflow-Actuated Switches

Detect airflow in duct with these adjustable switches. They are SPDT (single pole, double throw) and have screw terminal connections. Switches are rated NEMA 1 for indoor use. UL listed and CSA certified.

Paddle Switch

Senses changes in airflow velocity. The paddle extends into the duct and actuates the switch when airflow reaches the setpoint. Temperature range is 32° to 104° F. Enclosure is steel and has a 7/8″ hole for 1/2 trade size conduit and a 13/32″ knockout for 3/4 trade size conduit. Paddle is stainless steel. It is 3 1/8″ Wd.×6 7/8″ Ht. and can be trimmed to fit in duct.



Setpoint Range, fpm	Amps @ 120V AC	Amps @ 240V AC		
350-500	16	8	1783K13	$159.21

High-Sensitivity Diaphragm Switches

Often used to detect clogged air filters and iced air conditioner coils, switches sense small changes in pressure between two points in your duct. They have a 1/8 NPT female connection for the low-pressure side and a 1/8 NPT female inside×1/2 NPSM outside connection for the high-pressure side. Maximum pressure is 1 psi.

Enclosure is steel and plastic. Temperature range is –40° to 165° F.



Setpoint Range, inches of H_2O	Accuracy, inches of H_2O	Amps @120V AC	Amps @240V AC		
0.05-5	0.025	5.8	2.9	1795K1	$107.14
0.05-5	0.04	9.8	4.9	1795K6	108.70

Damper Actuators, Thermostat Guards & Thermostats

Damper Actuators



Without Spring Return



With Spring Return

Automatically adjust dampers to regulate airflow. Actuator attaches to the damper shaft to rotate it open and closed when signaled by a controller (not included). They can rotate clockwise and counterclockwise and are for indoor use. UL listed.

Incremental—Actuators open and close until the system requirement is met.

Proportional—Actuators provide improved control because they are constantly being positioned in response to system requirements. The actuator responds to a 0-10V DC or 0-20 mA control signal.

Actuators **without spring return** have a plastic enclosure. CSA certified.

Actuators **with spring return** can be set to return the damper to an open or closed position if the power fails. They have a manual crank for precise adjustment. Enclosure is aluminum.

Torque, in.-lbs.	Voltage	Amps	Max. Damper Shaft Size, Round	Max. Damper Shaft Size, Square	Rotation Range	Overall Ht.	Overall Wd.	Overall Dp.	Incremental		Proportional	
Without Spring Return												
35	24V AC	0.08	1/2"	3/8"	0°-90°	5 1/8"	2 3/4"	2 1/4"	1742K16	$94.23		
53	24V AC	0.13	1/2"	3/8"	30°-90°	6"	4 1/4"	2 3/4"	1742K17	99.28	1742K24	$125.62
70	24V AC/DC	0.27	3/4"	5/8"	0°-90°	6"	4"	2 3/4"	1742K61	144.25	1742K69	200.28
140	24V AC/DC	0.27	3/4"	5/8"	0°-90°	6"	4"	2 3/4"	1742K63	194.45	1742K71	212.82
210	24V AC/DC	0.31	3/4"	5/8"	0°-90°	6"	4"	2 3/4"	1742K65	255.25	1742K73	281.48
With Spring Return												
177	24V AC/DC	0.65	3/4"	1/2"	30°-90°	10 3/8"	4"	3 1/4"	1742K81	321.18	1742K82	361.80

Thermostat Guards



Plastic



Steel Solid Base



Steel Ring Base

Restrict access and protect thermostats from damage. Guards mount horizontally and vertically and are vented and keyed alike (one key included). Guards with a ring base mount without removing the thermostat from the wall.

Plastic guards include both a solid base and a ring base, except guard for maximum thermostat height of 3 7/8" only has a solid base. Guards are clear.

Steel guards are painted beige. Guards for maximum thermostat height of 6 1/4" and 6" have a hinged cover.

Plastic

Max. Thermostat Size for Solid Base, Ht.	Wd.	Dp.	Max. Thermostat Size for Ring Base, Ht.	Wd.	Dp.		
3 7/8"	3 1/2"	2 1/2"	____	____	____	1852K61	$18.93
5 1/4"	4 5/8"	3"	5 1/4"	4 5/8"	3 1/4"	1852K62	16.18
6 3/8"	3 1/2"	3"	6 3/8"	3 1/2"	3 1/4"	1852K63	17.89
7 5/8"	4 1/4"	2 1/8"	7 1/16"	4 1/8"	2 1/4"	1852K641	21.24
8 1/4"	5 3/8"	3 1/2"	8 1/8"	4 5/8"	3 5/8"	1852K65	16.89
Extra Keys (Pkg. of 2)						1852K6	3.56

Steel

Max. Thermostat Size, Ht.	Wd.	Dp.		
Solid Base				
6 1/4"	4 3/4"	3"	1852K66	$25.31
7 1/8"	4 5/8"	3 1/4"	1852K67	26.73
Ring Base				
6"	3 13/16"	3 1/8"	1852K68	25.31
6 5/8"	4 1/2"	3 3/8"	1852K69	26.73
Extra Keys (Pkg. of 2)			1852K6	3.56

Low-Voltage Thermostats



A



B



C



D



E



F

Control low-voltage heating and cooling systems. Thermostats are white plastic and include mounting fasteners. *Programmable* thermostats can be set for four temperature changes per day.

Single Stage—Control systems that only have one speed.

Multistage—Control systems that have up to three heating speeds and two cooling speeds.

Style A can be mounted vertically and horizontally.

Style C can have individual programs for weekdays, Saturday, and Sunday. It has battery backup (two AA batteries included) to retain your program if the power fails.

Style D can have an individual program for each day of the week. They have a touch-screen display and battery backup (two AA batteries included) to retain your program if the power fails. Add an *optional remote sensor* to take temperature readings up to 300 ft. from the thermostat. Thermostats can support one remote sensor.

Styles E and **F** connect to WiFi networks so you can remotely monitor and control the temperature from a computer, tablet, or smart phone. Set an individual program for each day of the week. *Style F* has a color touch-screen display.

For System Type	AC Voltage	Amps	Temp. Range, °F	Overall Ht.	Overall Wd.	Overall Dp.		
Single Stage								
Nonprogrammable								
A Heating (Electric)	<1 and 24	1	50° to 90°	5"	3 1/4"	1 3/8"	17225K51	$16.36
A A/C	24	1	50° to 90°	5"	3 1/4"	1 3/8"	17225K52	17.39
A Heating (Gas, Oil, Electric) and A/C	24	1	50° to 90°	5"	3 1/4"	1 3/8"	17225K57	19.89
B Heating (Gas, Oil)	20-30	1	40° to 90°	____	4" Dia.	1 3/4"	1893K44	33.79
B Heating (Gas, Oil, Electric) and A/C	20-30	1	40° to 90°	____	4" Dia.	1 3/4"	1893K45	52.55
Programmable								
C Heating (Gas, Oil, Electric, Heat Pump) and A/C	<1 to 30	1.5	45° to 99°	3 3/4"	6"	1 1/8"	1821K34	59.22
D Heating (Gas, Oil, Electric, Heat Pump) and A/C	<1 to 30	1.5	45° to 99°	4 5/8"	5 7/8"	1 1/4"	1821K17	140.23
Multistage								
Programmable								
D Heating (Gas, Oil, Electric, Hydronic, Heat Pump) and A/C	<1 to 30	1.5	45° to 99°	4 5/8"	5 7/8"	1 1/4"	1821K19	168.38
Programmable with WiFi Access								
E Heating (Gas, Oil, Electric, Hydronic, Heat Pump) and A/C	20-30	1	40° to 99°	3 1/2"	5 7/8"	1 1/2"	1821K32	130.32
F Heating (Gas, Oil, Electric, Hydronic, Heat Pump) and A/C	18-30	1	40° to 99°	3 1/2"	4 1/2"	7/8"	1821K31	245.57
Optional Remote Sensor for Style D							1821K23	30.82

Line-Voltage Thermostats


A


B


C


D


E

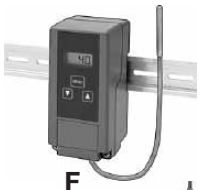
F


G


H


J


K


L


M

Regulate line-voltage heating and cooling systems. Thermostats must be hardwired, except Style A has a 6-ft. cord with a three-prong plug. Styles A, C-H, and L-M are UL listed. Styles B and K are ETL listed.

Standard—For indoor use.

Style A includes a wire hanger for mounting. Plug your heater into the back of the thermostat's plug.

Style B mount to a surface-mount outlet box (see page 893).

Style C includes mounting fasteners.

Styles D and **E** have 3/4" x 1/8" mounting slots.

DIN-Rail Mount—Has an LCD display, a three-button keypad, and 1/4" x 11/16" mounting slots. Thermostat is for indoor use.

With 1/2 NPT Thermowell—Sense the temperature of liquids, such as in hydronic heating systems. Thermostats are for indoor use.

Style H has 1/4" dia. mounting holes.

Washdown—Meet NEMA 4 for indoor/outdoor use and protection against washdowns and dust.

Style J can be used with one- and two-speed heaters and air conditioners. Thermostat can be set to activate the device's second speed when the temperature surpasses the setting for the first speed by 3.6° to 9° F. Mounting fasteners are included.

Style K have 5/32" dia. mounting holes. They also meet NEMA 4X for protection against corrosion.

Hazardous Location—Meet NEMA 7 (Class I, Group D) for protection against gasoline, propane, and other gases and NEMA 9 (Class II, Groups E, F, and G) for protection against dust from metal, carbon, grain, and other sources. They are for indoor use.

Style L have 1/4" dia. mounting holes. They also meet NEMA 7 (Class I, Group C) for protection against diethyl ether, ethylene, and other gases.

Style M has 3/8" dia. mounting holes.

	AC Voltage	Amps	Temp. Range, °F	Switch Type★	Sensor	Overall Ht.	Overall Wd.	Overall Dp.	Enclosure Rating		
Heating Only											
Standard											
A	120	13	40° to 90°	SPST	Built In	5 1/2"	2 1/8"	2 5/8"	Not Rated	**1940K8**	$85.80
B	120-277	22	50° to 90°	SPST	Built In	4 1/2"	2 3/4"	1 1/2"	Not Rated	**17395K93**	22.73
B	120-277	22	50° to 90°	DPST	Built In	4 1/2"	2 3/4"	1 1/2"	Not Rated	**17395K95**	28.98
Heating/Cooling											
Standard											
C	24-277	22	40° to 90°	SPDT	Built In	4 3/4"	3"	1 3/8"	Not Rated	**1856K12**	153.26
D	120-277	22	–30° to 100°	SPDT	8-ft. Remote	5"	2 1/4"	1 5/8"	NEMA 1	**1846K26**	72.64
E	120-277	22	40° to 110°	SPDT	2-ft. Remote	5 1/2"	2 1/8"	2 5/8"	Not Rated	**1846K29**	69.77
DIN-Rail Mount											
F	120-240	15	–30° to 212°	SPDT	6 1/2-ft. Remote	5"	2 3/8"	2 3/8"	NEMA 1	**1760K77**	77.63
With 1/2 NPT Thermowell											
G	120-240	10	100° to 240°	SPDT	Built In	4 1/2"	2 1/4"	1 7/8"	NEMA 1	**1962K6**	126.26
H	120-240	10	100° to 240°	SPDT	8-ft. Remote	4 1/2"	2 1/4"	1 7/8"	NEMA 1	**1962K7**	131.74
Washdown											
J	24-250	15	32° to 140°	Two SPDT	Built In	6"	2 3/4"	3 3/8"	NEMA 4	**9207K14**	154.00
K	120-277	22	40° to 100°	SPDT	Built In	6 7/8"	3 1/8"	4"	NEMA 4X	**9705K54**	120.00
K	120-277	22	40° to 100°	DPDT	Built In	6 7/8"	3 1/8"	4"	NEMA 4X	**9705K56**	124.00
Hazardous Location											
L	24-277	22	50° to 90°	SPDT	Built In	5 3/4"	6 3/8"	5 5/8"	NEMA 7, 9	**1877K23**	229.79
L	24-277	22	50° to 90°	DPDT	Built In	5 3/4"	6 3/8"	5 5/8"	NEMA 7, 9	**1877K25**	230.00
M	120-277	22	20° to 80°	SPDT	6-ft. Remote	5 7/8"	3"	3 1/4"	NEMA 7, 9	**1877K24**	483.44

★ SPST = single pole, single throw; DPST = double pole, single throw; SPDT = single pole, double throw; DPDT = double pole, double throw.

Air-Powered Thermostats



Use compressed air to power thermostats when electricity is not practical or available. Also known as two-pipe thermostats, the air supply feeds through the thermostat and then to your equipment. Max. pressure is 30 psi. Thermostats use 15 scim (standard cubic inches/minute) @ 20 psi. Air connections have internal filters. Calibration point is set at 9 psi.

Thermostats have a built-in sensor and include a universal fitting kit that consists of a cover, mounting plate, dial stops, screws, tubing reducers, tubing, and mounting hardware.

Direct Action—As the temperature goes up, the pressure in the system goes up.

Reverse Action—As the temperature goes up, the pressure in the system goes down.

Calibration kit enables quick adjustment of air-powered thermostats. Kit includes a pressure gauge with 1/8 NPT male connection, a 3/16 NPT male adapter, adjustment wrenches, a screwdriver, and a hand pump.

	Temp. Range, °F	Overall Ht.	Overall Wd.	Overall Dp.		
Direct Action	55° to 85°	2 1/8"	2 1/8"	1 3/8"	**17245K73**	$268.86
Reverse Action	55° to 85°	2 1/8"	2 1/8"	1 3/8"	**17245K74**	262.89
Calibration Kit					**17245K75**	228.57

Humidity Controls



For Humidifiers



For Humidifiers and Dehumidifiers

Turn the knob to control humidity equipment. Controls are SPDT (single pole, double throw). Mounting hardware is included.

Control **for humidifiers** mounts to a wall or duct.

Control **for humidifiers and dehumidifiers** fits surface-mount outlet boxes (see page 893).

AC Voltage	Amps	Relative Humidity	Overall Ht.	Overall Wd.	Overall Dp.	Color		
For Humidifiers								
24-30	1	10-85%	3″	4¾″	1¾″	White	**2123K18**	$29.85
For Humidifiers and Dehumidifiers								
120/208/240	6/3.5/3	0-70%	4¾″	3″	3″	Beige	**2123K14**	140.79

Digital Airflow/Temperature Meters



A&B



C



D



E

Test airflow to optimize HVAC system performance. Meters can display airflow in fpm, mph, knots, m/sec., and km/hr. Temperature can be displayed in °F and °C. Batteries are included.

Compact—Small enough to fit in your pocket, meters extend to 9″ when unfolded. In addition to airflow and temperature, they can measure windchill. The LCD displays airflow and one other measurement simultaneously. Meters include a lanyard.

Style B also measures relative humidity and dew point (32° to 122° F).

Remote-Reading—Meters have a probe attached to a 4-ft. cable to access hard-to-reach places in duct. They have an LCD that simultaneously displays airflow and temperature and an RS-232 port to transmit data. To transfer data from meters to a Windows-based PC, add *data software and cable for remote meters* (sold separately). The cable has a 9-pin connector. For a USB connection, you'll need a *USB adapter cable* (sold separately).

Style C includes a hard case.

Styles D and **E** have a ½″ dia. probe that extends to 36″ to reach into narrow openings.

Meter Type	Airflow, fpm	Temp. Range, °F	Relative Humidity	Air Volume, cfm	Overall Ht.	Overall Wd.	Overall Dp.		
Compact									
Fan Probe									
A Airflow/Temperature	100-5,500	0° to 122°			5¼″	2¾″	¾″	**1410K14**	$116.94
B Airflow/Temperature/Humidity	100-5,500	0° to 122°	10-95%		5¼″	2¾″	¾″	**1410K15**	157.62
Accessories									
Vinyl Carrying Case								**1410K18**	12.21
Replacement Lithium Battery								**7701K34**	1.92
Remote-Reading									
Fan Probe									
C Airflow/Temperature/Air Volume	100-6,890	32° to 175°		0-999,900	7″	2 15/16″	1 5/16″	**4120K35**	399.99
Telescoping Probe									
D Airflow/Temperature	40-3,940	32° to 122°			7″	2 15/16″	1 5/16″	**4120K54**	439.99
E Airflow/Temperature/Air Volume	40-3,346	32° to 122°		0-1,271,200	8″	3″	1½″	**4120K37**	519.00
Accessories									
Data Software and Cable								**4120K65**	76.35
USB Adapter Cable								**4120K67**	54.53
Vinyl Carrying Case								**4120K66**	22.90

Low-Velocity Airflow Meters



Measure airflow in spray booths and exhaust hoods. This swinging vane-style meter has a range of 25-400 fpm. It's 3 7/8″ Ht. × 3 13/16″ Wd. × 1 9/16″ Dp. and includes a spare vane and steel mounting bracket with 3/16″ dia. holes (fasteners not included).

Air Flow Meter	**4075K61**	$42.04
Replacement Vanes (Pkg. of 2)	**4075K74**	14.80

Smoke Generators

Detect airflow and leaks in duct with short bursts of smoke.

Candles



Light the wick to produce dense gray-white smoke.

Burning Time	Smoke Volume, cu. ft.		Each 1-11	Each 12-Up
30 sec.	4,000	**4093K14**	$8.11	$5.90
1 min.	8,000	**4093K13**	8.89	6.46
3 min.	40,000	**4093K12**	16.25	11.82

Pen



Expose 3/8″ of the pen's wick and light it to produce a continuous trail of smoke. Pen includes six wicks, which provide up to 360 individual 30-second tests.

Pen	**4101T5**	$54.42
Refill Wicks (Pkg. of 6)	**4101T7**	43.50

Powdered Smoke

Squeeze this 1-oz. bottle of talc to produce a white cloud.

3880K31 ..... $3.97

Airflow/Static Pressure Meters



Often used to test airflow through supply and return grilles and air filters, this meter measures airflow and static pressure.

Meter includes a 14″ long tube, grille probes, an airflow calculator, and a carrying case.

Airflow, fpm	Static Pressure, inches of H_2O		
260-4,000	0.005-1.0	**4020K71**	$50.12

Fog Generators



(Fluid Sold Separately)

Produce a continuous fog to detect airflow and leaks in duct. Generator warms up in six minutes and holds 45 ounces of fog fluid, which produces 45 minutes of fog. The fluid level is visible from outside the machine. Generator is 15″ Lg. × 10½″ Wd. × 9¾″ Ht. and has a remote control with 10-ft. cord. The generator operates on 120 volts AC and has a 5½-ft. cord with three-prong plug.

Fog Generator	**38985K62**	$250.00
Fog Fluid (1 gal.)	**38985K65**	20.31

Air Conditioning Charging and Testing Hoses

Hoses are rubber with Kevlar reinforcement and a nitrile cover for a long service life. Fittings are brass. Hoses and couplings are compatible with most common refrigerants, including R-12, R-22, R134a, R404A, R-407C, and R-502.

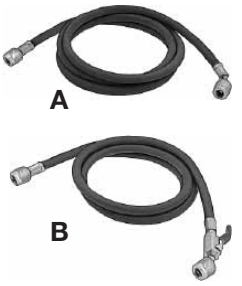

SAE Thread Size	Hose Lg.	Pressure, psi Working	Pressure, psi Max.	Available Colors	Individual Hoses		3-Color Hose Sets	
(A) One Straight Female and One 45° Flared Female Fitting								
1/4"	36"	800	4,000	Blue, Red, Yellow	1874K3	$16.15	1874K49	$47.73
1/4"	60"	800	4,000	Blue, Red, Yellow	1874K5	20.08	1874K59	58.08
1/4"	72"	800	4,000	Blue, Red, Yellow	1874K7	23.25	1874K69	66.20
(A) Two Straight Female Fittings								
3/8"	36"	600	3,000	Black	1874K11	32.40	_____	____
3/8"	72"	600	3,000	Black	1874K12	47.08	_____	____
(B) One Straight Female Fitting and One 45° Flared Ball Valve								
1/4"	72"	800	4,000	Blue, Red, Yellow	1874K26	39.03	1874K96	116.32
1/4" SAE Male x 1/4" Quick-Disconnect Female Brass Coupling							1884K12	8.72
1/4" SAE Male x 3/8" Quick-Disconnect Female Brass Coupling							1884K14	13.38

Air Conditioning Charging and Testing Manifolds


Standard Two Valve


Standard Four Valve


Digital Three Valve

Monitor refrigerant pressure when servicing air conditioning systems.

Standard two-valve and four-valve manifolds have double O-ring aluminum piston valves, two 3 1/8" dia. gauges (one blue and one red) with a plastic lens, and a sight glass (except two-valve manifold for R-410A refrigerant has brass valves, 2 1/2" dia. gauges, and does not have a sight glass). *Two-valve manifolds* have 1/4" SAE flared fittings. *Four-valve manifolds* have three 1/4" SAE flared fittings and one 3/8" fittings.

Digital three-valve manifold has a 5" LCD. It calculates how much refrigerant is needed in a system based on measurements taken with its thermocouples. Valves are brass. Has 1/4" NPT flared fittings. Operates on six AA batteries (included).

Automotive two-valve manifold has double O-ring brass piston valves and two 2 1/2" dia. gauges (color-coded blue and red) with a plastic lens, SAE flared vacuum ports, a sight glass, and hoses with 1/2" Acme fittings. Ports have 1/4" SAE flared fittings.

Optional gauge cover set includes one blue and one red gauge cover. Use with *standard two-valve and four-valve manifolds*, except two-valve manifold for R-410A refrigerant.

Refrigerant Types	Hose Qty.	Hose Lg.		
Standard Two-Valve Manifolds				
R-22, R-410A, R-404A	3	60"	1873K29	$179.83
R-134a, R-404A, R-407C	3	60"	1873K32	179.83
R-410A	3	60"	1873K79	151.98
Standard Four-Valve Manifolds				
R-22, R-410A, R-404A	4	60"	1873K33	204.55
R-134a, R-404A, R-407C	4	60"	1873K35	204.55
Digital Three-Valve Manifold				
R-22, R-410A, R-134a, R-404A	_	___	1873K71	485.84
Automotive Two-Valve Manifold				
R-134a	3	60"	1873K23	325.00
Replacement Gauges—Available colors: blue, red				
R-22, R-410A, R-404A			1873K89	19.51
R-134a, R-404A, R-407C			1873K92	19.51
R-410A			1873K93	15.12
Optional Gauge Cover Set			1873K81	17.67

Condenser and Evaporator Fin-Straightening Combs

Select the comb that matches the fin spacing on your condenser and evaporator. Combs and comb heads are made of nylon.

Comb kits include a handle and six heads.


Double-Ended Comb


Comb Kit

Fins per Inch	Color		
Double-Ended Combs			
8, 10	Orange	1727K11	$2.96
9, 15	Yellow	1727K12	3.15
11, 13	Blue	1727K13	3.20
12, 14	Green	1727K14	2.90
16, 17	Bright Green	1727K16	2.99
18, 20	Red	1727K18	3.17
Comb Kits			
8, 9, 10, 11, 12, 14		1750K11	9.63
13, 15, 16, 17, 18, 20		1750K21	9.84
Additional Comb Heads for Comb Kits			
21, 22		1750K31	2.67

Refrigerant Recovery Machines



Pump liquid and vapor refrigerant out of a system and into a cylinder (sold separately). Use with CFC (chlorofluorocarbon), HFC (hydrofluorocarbon), and HCFC (hydrochlorofluorocarbon) refrigerants. The compressor is oilless. After use, switch to purge mode to expel excess refrigerant from unit. Compatible with most common refrigerants, including R-12, R-22, R-134a, R-407C, and R-502.

Machine has a 1/4" SAE flared hose connection. It has a 12.5" Ht. x 12.4" Wd. x 19.3" Dp. HDPE (high-density polyethylene) housing. Operates on 115 volts AC and has a 5-ft. cord with three-prong plug.

18035K7 ..... $990.55

Refrigerant Recovery Cylinders



Store recovered refrigerant in these reusable steel cylinders. All meet D.O.T. specifications 4BA and 4BW. Cylinders are compatible with most common refrigerants, including R-12, R-22, R134a, R404A, R-407C, and R-502. They have a 1/4" air tank valve opening, except 17305K77.

SAE Y-valve cylinders are gray and yellow. **Acme Y-valve** cylinders are blue.

Optional fill-level switch can be added to the 30- and 50-lb. capacity cylinders to prevent overfilling.

Cap., lbs.	Max. psi	Dia.	Ht.	1/4" SAE Y-Valve		1/2" Acme Y-Valve	
15	400	8"	12 1/2"	17305K77	$88.57	_____	____
30	350	8 7/8"	18 3/16"	17305K72	89.38	17305K73	$99.74
50	350	12 1/4"	18 5/8"	17305K74	117.28	_____	____
50	400	12"	18 5/8"	17305K76	113.43	17305K75	134.67
Fill-Level Switch for 30- and 50-lb. Cap. Cylinders				17305K41	54.51		

Refrigerant Cylinder Charging Scales



Weigh cylinders to dispense the correct amount of refrigerant. The LCD displays weight in lbs. and kg.

Nonprogrammable scale operates on one 9-volt battery (included).

Programmable scale has 1/4" male flared fittings and 1/2" ACME fittings to connect to your cylinder. It dispenses programmed amounts of refrigerant. Operates on four AA batteries and one 9-volt battery (included).

	Charging Range	Lg.	Wd.	Dp.		
Nonprogrammable	0-110 lbs.	15 1/4"	10 1/2"	2 1/2"	1779K8	$194.68
Programmable	0-220 lbs.	16 1/2"	11 3/4"	2 3/4"	1779K7	453.75
Replacement 9-volt Battery (Pkg. of 1)					71455K56	2.75
Replacement AA Batteries (Pkg. of 4)					71455K53	2.94

Coil Cleaners

Aerosol cleaner removes dirt, oil, and contaminants without rinsing.

1- and 5-gal. cleaners contain sodium hydroxide for tough jobs. Spray or brush on, then rinse off.

Brush has a 10" long section of nylon bristles. Handle is polypropylene. Overall length is 26".

Spray gun is for use with 1- and 5-gal. cleaners. Add cleaner to the included bottle and connect to a garden hose.

18-oz. Aerosol Cleaner	17315K25	$11.67
1-gal. Cleaner	17315K41	17.34
5-gal. Cleaner	17315K42	89.38
Brush	7326T11	11.17
Spray Gun with 2-qt. Bottle	17315K29	104.60

Air Conditioning Pan Cleaners


Pad


Tablets

Keep your condensate pan clean and odor-free.

Pads release an antibacterial agent when wet. Replace pad after six months.

Tablets gradually dissolve, preventing deposits from developing on the pan. Use one tablet per ton of system capacity each month.

Pad (For units up to 5 tons)	3745T12	$7.70
Pad (For units up to 15 tons)	3745T15	17.64
Tablets (Pkg. of 200)	3745T11	31.10

Air Conditioning Filter Dryers


Liquid Line

Remove moisture and contaminants from your system to prevent corrosion and maintain efficient operation. They contain desiccants that are compatible with all HFC (hydrofluorocarbon) and HCFC (hydrochlorofluorocarbon) refrigerant and lubricant combinations. Braze in place with the copper connections.

Note: Max. unit capacity is based on use with R-22 refrigerant.

	Tube Size	Particle Size, Microns	Max. A/C Unit Cap.		
Liquid Line	3/8"	25	6 tons	3915T11	$30.28
Two-Way Liquid Line	3/8"	25	5 1/2 tons	3915T14	62.10
Suction Line	5/8"	25	5 tons	3915T12	69.20
Suction Line	7/8"	25	7 tons	3915T13	65.24

Air Conditioning Service Valves


A B C D E F

Tap into refrigerant lines to drain and fill your system. All valves have a 1/4" SAE flared male port. **Styles A and B** have a 1/4" nickel-plated brass valve core. **Style C** does not have a valve core. **Style D** has a 1/4" stainless steel valve core.

Self-piercing valves can be installed without drilling a hole into the line.

Extended valves are longer than other valves to provide easy access in tight spaces.

Valves with removable core provide unobstructed flow for your refrigerant once the core is removed.

Solder-On Valves

For Tube OD	Lg.		Each
(A) Self-Piercing—Copper with 1/4" brass cap			
1/4"	1 1/2"	1804K31	$4.92
5/16"	1 1/2"	1804K32	4.92
3/8"	1 1/2"	1804K33	4.92
1/2"	1 1/2"	1804K34	5.34
5/8"	1 1/2"	1804K35	6.71
3/4"	1 1/2"	1804K36	7.54

For Tube OD	Lg.	Pkg. Qty.		Pkg.
(B) Extended with Removable Core—Brass with 1/4" cap				
1/8"	3"	5	1885K12	$8.24
1/4"	2 15/16"	5	1885K14	8.35
5/16"	2 13/16"	5	1885K15	9.04
3/8"	2 13/16"	5	1885K16	9.04
1/2"	2 1/8"	3	1885K17	16.10

Clamp-On Valves—Die cast zinc with 1/4" cap

For Tube OD	Lg.		Each
(C) Self-Piercing			
1/4", 5/16", 3/8"	1 3/4"	9778K12	$4.87
1/2", 5/8"	2 1/8"	9778K14	5.30
(D) Self-Piercing with Removable Core			
1/4", 5/16", 3/8"	1 1/2"	1809K28	6.93
1/2", 5/8"	1 13/16"	1809K29	9.07

Accessories

(E) 1/4" SAE Brass Caps (Pkg. of 10)	1883K12	$5.26
(E) 3/8" SAE Brass Caps (Pkg. of 3)	1883K14	5.31
(F) 1/4" Core Remover with 4 Valve Cores (Each)	1756K31	9.80
1/4" Replacement Valve Cores (Pkg. of 6)	1756K33	2.90

Fan-Motor Kits for Refrigeration Equipment



Get everything you need to replace a fan motor on refrigeration units, appliances, small fans, and blowers. Kits contain a reversible motor, two adjustable H mounting brackets, fan blades, and all necessary hardware. Motor is single speed, except 19265K7 is two speed. All have leads for hardwiring. Motor components are UL recognized.

Included Fan Blades, dia.	Max. Airflow, cfm	Max. rpm	Shaft Dia.	Shaft Lg.		
120 Volts AC, 60 Hz, Single Phase						
3 1/2", 4"	110	3,000	3/16"	1 3/8"	19265K8	$19.98
4", 5 1/2"	240	3,000	3/16"	1 3/8"	19265K5	17.76
4", 5 1/2"	240	3,000	3/16"	1 3/8"	19265K7	23.11
4", 5 1/2", 5 9/16"	240	3,000	3/16"	1 3/8"	19265K9	24.18
230 Volts AC, 50/60 Hz, Single Phase						
4", 5 1/2"	240	3,000	3/16"	1 3/8"	19265K6	22.69

Air-Powered Equipment-Cooling Vortex Tubes

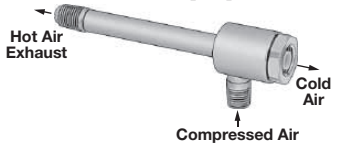

Cool electronic components and machine parts. Vortex tubes convert compressed air into a stream of cold air. The temperature is adjustable and can reach –20° F. Coolers are Type 303 stainless steel and have no moving parts for a long service life.

Note: Air supply must be filtered to remove moisture and contaminants.

Airflow adjusters can be switched out to increase or decrease the vortex tube's airflow (cfm) to alter its cooling capacity. To Order: Please specify cfm from the options listed.

Mufflers reduce the sound level to protect your hearing.

Filter removes moisture and solid particles. Pipe size is 1/4".

Kits include one vortex tube, airflow adjusters, a cold-air muffler, tubing, and a tube fitting.

Airflow, cfm @ 100 psi	Cooling Cap., Btu/hr. @ 100 psi	Volume, dB	Lg.	Air Inlet, NPT Male	Air Outlet, NPT Female		
Small Vortex Tubes							
2	135	68	4 1/8"	1/8"	1/4"	31035K11	$191.82
4	275	70	4 1/8"	1/8"	1/4"	31035K12	191.82
8	550	76	4 1/8"	1/8"	1/4"	31035K13	191.82
Medium Vortex Tubes							
10	650	80	5 5/8"	1/4"	3/8"	31035K14	242.19
15	1,000	81	5 5/8"	1/4"	3/8"	31035K15	242.19
25	1,700	82	5 5/8"	1/4"	3/8"	31035K16	242.19
30	2,000	84	5 5/8"	1/4"	3/8"	31035K17	242.19
40	2,800	88	5 5/8"	1/4"	3/8"	31035K18	242.19
Airflow Adjusters							
For Small Vortex Tubes—Available cfm: 2, 4, 8						31035K31	17.63
For Medium Vortex Tubes—Available cfm: 10, 15, 25, 30, 40						31035K41	15.17
Mufflers and Filters							
Cold-Air Muffler for Small Vortex Tubes						31035K51	44.08
Cold-Air Muffler for Medium Vortex Tubes						31035K52	43.90
Hot-Air Exhaust Muffler for All Vortex Tubes						31035K55	41.25
Filter						4274K31	87.94
Vortex Tube Kits							
Small Vortex Tube Kit with 2, 4, 8 cfm Airflow Adjusters						31035K21	252.97
Medium Vortex Tube Kit with 10, 15, 25, 30, 40 cfm Airflow Adjusters						31035K22	339.52

About Sound Levels

Measured in decibels (dB), volume ratings indicate how much noise equipment makes. Some common volume levels include a whisper @ 20 dB, a refrigerator @ 40 dB, a conversation @ 60 dB, and a light machine shop @ 90 dB. OSHA recommends hearing protection for exposure to 80 dB and greater.

Equipment-Cooling Blowers

Blow away the heat generated by electronic equipment, induction heaters, and high-wattage bulbs. All blowers have leads for hardwiring.

Standard blowers have an aluminum housing and a galvanized steel wheel. Inlet is round and outlet is rectangular. They have 1/4" dia. mounting holes, except 91-cfm blower has 5/16" dia. mounting holes. Fasteners are not included.

Crossflow blowers create a wide stream of air for uniform cooling and ventilating. They have an aluminum housing and wheel and stainless steel flanges with 1/4" x 1/2" mounting slots. Fasteners are not included. Components are UL recognized and CSA certified.



Standard



Crossflow

Airflow, cfm	Temp. Range	Volume, dB @ 5 ft.	Overall Size Ht.	Wd.	Dp.	Outlet Size Ht.	Wd.	rpm		
Standard Blowers										
120 Volts AC, Single Phase										
56	–13° to 158° F	57	4 9/16"	3"	4 5/8"	1 5/8"	2 1/4"	2,800	1699K23	$204.21
91	–13° to 131° F	54	6 5/8"	4 1/2"	6 1/4"	2"	3"	1,800	1699K24	187.92
150	–13° to 140° F	62	7 1/2"	4 1/2"	6 7/8"	2"	3"	2,450	1699K21	172.37
Crossflow Blowers										
120 Volts AC, Single Phase										
120	30° to 140° F	61	4 1/4"	11"	3 1/2"	7/8"	7 1/2"	2,600	2087K14	83.08
160	30° to 140° F	69	4 1/4"	14"	3 1/2"	7/8"	10 1/2"	2,600	2087K17	94.45
220	30° to 140° F	58	4 1/4"	17 5/8"	3 1/2"	7/8"	13 1/2"	2,600	2087K22	107.85
12 Volts DC										
58	–4° to 140° F	51	2"	10 1/8"	1 7/8"	5/8"	7 3/4"	4,250	2087K12	81.37
91	–4° to 140° F	51	2"	16 1/4"	1 7/8"	5/8"	13 7/8"	3,600	2087K15	101.97
24 Volts DC										
58	–4° to 140° F	51	2"	10 1/8"	1 7/8"	5/8"	7 3/4"	4,250	2087K13	81.37
91	–4° to 140° F	51	2"	16 1/4"	1 7/8"	5/8"	13 7/8"	3,600	2087K16	101.97

Edge-Flow Equipment-Cooling Blowers

Use in tight spaces where traditional fans won't fit. Air enters through the center of the unit and then expels along the edges. All have leads for hardwiring. AC fans operate at 60 Hz, unless noted.

Square blowers have a fiberglass-reinforced plastic frame with a galvanized steel base plate. Components are UL recognized. Fans are CSA certified.

Round blowers are also known as motorized impellers. Frame is plastic.



Square



Round

Size	Dp.	Airflow, cfm	Volume, dB	Mounting Holes		
Square Blowers						
120 Volts AC, Single Phase						
5.31" (135 mm)	1.5"	28	50	0.17"	8677K47	$64.83
7.09" (180 mm)	1.6"	55	49	0.17"	8677K48	75.08
8.66" (220 mm)	2.2"	130	62	0.21"	8677K49	116.57
12 Volts DC						
5.31" (135 mm)	1.5"	32	55	0.17"	8677K31	69.33
7.09" (180 mm)	1.6"	52	58	0.17"	8677K33	82.31
8.66" (220 mm)	2.2"	120	66	0.21"	8677K35	141.48
24 Volts DC						
5.31" (135 mm)	1.5"	32	55	0.17"	8677K32	69.33
7.09" (180 mm)	1.6"	52	58	0.17"	8677K34	82.31
8.66" (220 mm)	2.2"	120	66	0.21"	8677K36	141.48
Round Blowers						
120 Volts AC, Single Phase						
5.24" (133 mm)	3.6"	200	66	0.16"	19285K54	103.88
7.48" (190 mm)	2.7"	365	64	0.16"	19285K56 ★	114.56
8.66" (220 mm)	2.8"	530	74	0.16"	19285K57 ★	123.30
230 Volts AC, Single Phase						
8.66" (220 mm)	2.8"	530	74	0.16"	19285K72	123.31

★ Operates at 50/60 Hz.

Equipment-Cooling Fan Trays





Keep unenclosed electronic components cool. Place tray on top of equipment to direct a stream of cool air below. A temperature switch turns the unit on when the temperature reaches 90° F and off when it falls to 86° F. Trays contain two fans. They are single phase, operate on 120 volts AC, and have a 6-ft. cord with two-prong plug. UL listed and CSA certified.

Note: Not for use in enclosed spaces.

Airflow, cfm	Volume, dB	Size Ht.	Wd.	Dp.		
20	18	2 1/16"	15"	7 1/8"	3805T11	$138.51

Machine-Mount Fans

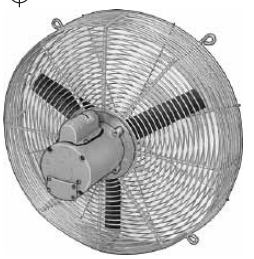

Often used to cool transformers, these single-speed fans have aluminum blades, a galvanized steel guard, and a single phase, dust-resistant totally enclosed air-over (TEAO) motor. They operate on 120/208-230 volts AC and have leads for hardwiring. Mounting holes are 1/2" dia. (fasteners not included).

Optional mounting kit includes a bracket and hardware for attaching fans to machinery.

Blade Dia.	Airflow, cfm	Volume, dB @ 6 ft.	rpm	hp	Size Dia.	Dp.		
18"	5,100	58	1,725	1/4	20 1/2"	15"	1929K11	$650.77
24"	6,800	62	1,725	1/2	28"	15"	1929K17	694.62
Optional Mounting Kit							1929K81	73.75

Equipment-Cooling Fans



Square



Round



Oblong

Quiet and compact, these fans are the most popular choice for cooling heat-sensitive equipment. They're also known as muffin fans. All have UL recognized components and are CSA certified. Fasteners not included. For fan guards, filters, and thermostats, see page 675.

AC fans operate at 50/60 Hz, unless noted. They are single phase. Fans with quick-disconnect (QD) terminals are compatible with the power cords on page 675.

High-performance AC fans produce greater airflow and consume less power than standard AC fans. They are single phase and can operate on a wide range of voltages at 50/60 Hz.

Size	Dp.	Connections	Airflow, cfm	Volume, dB	Mount. Holes	*Material* Frame	*Material* Blade	120 Volts AC Amps			230 Volts AC Amps		
AC Fans													
Square													
3.15″ (80 mm)	1″	Wire Leads	21	33	0.17″	Aluminum	Plastic	0.17	1976K91	$22.97	0.08	1976K92	$24.05
3.15″ (80 mm)	1.5″	Wire Leads	17	18	0.17″	Aluminum	Steel	—	—	—	0.04	1976K84	44.15
3.15″ (80 mm)	1.5″	Wire Leads	21	21	0.17″	Aluminum	Steel	0.07	1976K67	32.34	—	—	—
3.15″ (80 mm)	1.5″	Wire Leads	35	34	0.17″	Aluminum	Steel	0.10	1976K37	29.91	0.05	1976K32	26.59
3.62″ (92 mm)	1″	Wire Leads	30	37	0.18″	Aluminum	Plastic	0.20	1976K93	23.78	0.09	1976K94	24.86
3.62″ (92 mm)	1.5″	Wire Leads	40	37	0.17″	Aluminum	Plastic	0.12	1976K71	25.00	0.12	1976K72	26.08
3.62″ (92 mm)	1.5″	Wire Leads	44	42	0.17″	Aluminum	Steel	0.10	1976K14	49.33	0.05	1976K12	49.33
4.69″ (119 mm)	1″	QD Terminals	49	34	0.17″	Aluminum	Plastic	0.07	1976K11	50.43	0.04	1976K13	53.57
4.69″ (119 mm)	1″	QD Terminals	69	42	0.17″	Aluminum	Plastic	0.10	1976K18	48.43	0.06	1976K16	46.73
4.69″ (119 mm)	1″	Wire Leads	64	44	0.18″	Aluminum	Plastic	0.18	1976K95	24.32	0.11	1976K96	20.89
4.69″ (119 mm)	1.5″	QD Terminals	58	28	0.17″	Aluminum	Steel	0.10	1976K41	27.36	0.06	1976K44	27.36
4.69″ (119 mm)	1.5″	QD Terminals	67	32	0.17″	Aluminum	Steel	0.10	1976K42	27.36	0.06	1976K45	27.36
4.69″ (119 mm)	1.5″	QD Terminals	94	45	0.17″	Aluminum	Steel	0.16	1976K43	26.94	0.08	1976K46	27.22
5″ (127 mm)	1.5″	QD Terminals	105	44	0.19″	Aluminum	Plastic	0.12	1976K47	46.83	0.08	1976K61	50.34
5″ (127 mm)	1.5″	QD Terminals	120	47	0.19″	Aluminum	Plastic	0.12	1976K48	47.82	—	—	—
5″ (127 mm)	1.5″	Wire Leads	105	43	0.19″	Aluminum	Plastic	—	—	—	0.08	1976K62	47.82
5.31″ (135 mm)	1.5″	QD Terminals	135	50	0.17″	Aluminum	Steel	0.23	1976K15	74.97	0.13	1976K17	78.16
8.86″ (225 mm)	3.15″	Screw Terminals	605	61	0.18″	Aluminum	Steel	0.70	1976K81	189.46	0.28	1976K82	191.54
11.02″ (280 mm)	3.15″	Screw Terminals	1,100	73	0.21″	Aluminum	Steel	1.52	1976K27★	233.19	0.87	1976K29	210.88
Round													
5.91″ (150 mm)	2.17″	QD Terminals	220	53	0.17″	Aluminum	Steel	0.33	1976K77	65.69	0.17	1976K78	65.69
5.91″ (150 mm)	2.17″	Wire Leads	250	62	0.17″	Aluminum	Steel	0.40	1976K35	69.04	0.20	1976K28	71.92
6.75″ (172 mm)	2″	QD Terminals	290	58	0.18″	Aluminum	Steel	0.25	1976K19	95.12	0.13	1976K21	95.12
10″ (254 mm)	3.5″	QD Terminals	600	49	0.18″	Aluminum	Plastic	0.22	1976K98	76.20	0.14	1976K99	80.20
Oblong													
5.91″ Ht. x 6.75″ Wd.	1.5″	QD Terminals	175	54	0.17″	Aluminum	Steel	0.14	1976K63♣	74.51	0.07	1976K65♣	70.94
5.91″ Ht. x 6.75″ Wd.	1.5″	QD Terminals	230	57	0.17″	Aluminum	Steel	0.21	1976K64♣★	68.21	0.12	1976K66♣	68.21
High-Performance AC Fans													
Square											85-265 Volts AC		
3.15″ (80 mm)	1.25″	Wire Leads	47	48	0.17″	Plastic	Plastic				0.12	1976K56	$62.54
3.62″ (92 mm)	1.5″	Wire Leads	84	55	0.17″	Plastic	Plastic				0.17	1976K51	68.47
4.69″ (119 mm)	1″	Wire Leads	120	53	0.17″	Plastic	Plastic				0.17	1976K53	74.65
4.69″ (119 mm)	1.25″	Wire Leads	120	51	0.17″	Plastic	Plastic				0.16	1976K52	69.12
Round													
6.75″ (172 mm)	2″	Wire Leads	205	50	0.17″	Aluminum	Plastic				0.12	1976K55	98.58
DC Fans													
Square								12 Volts DC			24 Volts DC		
0.98″ (25 mm)	0.39″	Wire Leads	1	50	0.11″	Plastic	Plastic	0.20	1939K18	$26.26	—	—	—
1.57″ (40 mm)	0.39″	Wire Leads	3	16	0.14″	Plastic	Plastic	0.05	1939K17	17.25	—	—	—
1.57″ (40 mm)	0.39″	Wire Leads	5	31	0.13″	Plastic	Plastic	—	—	—	0.06	1939K43	$22.50
1.57″ (40 mm)	0.39″	Wire Leads	7	28	0.15″	Plastic	Plastic	0.23	1939K41	22.50	—	—	—
1.57″ (40 mm)	0.79″	Wire Leads	5	23	0.15″	Plastic	Plastic	0.12	1939K44	22.50	0.09	1939K45	22.50
1.57″ (40 mm)	0.79″	Wire Leads	7	29	0.17″	Plastic	Plastic	0.13	1939K39	26.47	0.07	1939K22	25.98
1.97″ (50 mm)	0.59″	Wire Leads	11	30	0.15″	Plastic	Plastic	0.08	1939K46	21.53	0.04	1939K42	21.53
2.36″ (60 mm)	1″	Wire Leads	12	22	0.17″	Plastic	Plastic	0.09	1939K58	23.75	0.09	1939K59	23.75
2.36″ (60 mm)	1″	Wire Leads	17	29	0.15″	Plastic	Plastic	0.08	1939K31	28.76	0.06	1939K32	30.04
2.36″ (60 mm)	1″	Wire Leads	20	30	0.13″	Plastic	Plastic	—	—	—	0.12	1939K57	23.75
2.36″ (60 mm)	1″	Wire Leads	20	30	0.17″	Plastic	Plastic	0.13	1939K56	23.75	—	—	—
2.36″ (60 mm)	1″	Wire Leads	23	35	0.15″	Plastic	Plastic	0.16	1939K48	32.35	0.09	1939K47	33.27
2.36″ (60 mm)	1″	Wire Leads	33	43	0.15″	Plastic	Plastic	0.29	1939K113	37.64	0.15	1939K114	37.64
2.36″ (60 mm)	1.26″	Wire Leads	41	53	0.17″	Plastic	Plastic	0.64	1939K111	41.06	0.32	1939K112	41.06
3.15″ (80 mm)	1″	Wire Leads	26	21	0.17″	Plastic	Plastic	0.05	1939K33	27.69	0.05	1939K34	24.52
3.15″ (80 mm)	1″	Wire Leads	40	32	0.17″	Plastic	Plastic	0.17	1939K55	23.34	0.08	1939K49	23.34
3.15″ (80 mm)	1″	Wire Leads	46	37	0.17″	Plastic	Plastic	0.18	1939K65	28.88	0.10	1939K66	28.88
3.15″ (80 mm)	1.26″	Wire Leads	18	24	0.17″	Plastic	Plastic	0.10	1939K11	28.05	0.04	1939K12	28.34
3.15″ (80 mm)	1.26″	Wire Leads	31	36	0.17″	Plastic	Plastic	0.22	1939K13	28.05	0.11	1939K14	28.34
3.15″ (80 mm)	1.5″	Wire Leads	77	55	0.17″	Plastic	Plastic	0.83	1939K51	46.86	0.42	1939K52	46.86
3.15″ (80 mm)	1.5″	Wire Leads	110	66	0.17″	Plastic	Plastic	2.08	1939K115	58.71	1.04	1939K117	58.71
3.15″ (80 mm)	1.5″	Wire Leads	130	71	0.17″	Plastic	Plastic	3.25	1939K116	63.25	1.58	1939K118	63.25
3.62″ (92 mm)	1″	Wire Leads	49	32	0.17″	Plastic	Plastic	0.18	1939K35	28.43	0.10	1939K36	28.84
3.62″ (92 mm)	1″	Wire Leads	60	39	0.17″	Plastic	Plastic	0.24	1939K67	31.12	0.11	1939K68	30.81
3.62″ (92 mm)	1.26″	Wire Leads	50	43	0.17″	Plastic	Plastic	0.23	1939K61	38.57	0.13	1939K62	39.00
3.62″ (92 mm)	1.5″	Wire Leads	135	69	0.17″	Plastic	Plastic	2.50	1939K92	58.27	1.25	1939K94	56.17
3.62″ (92 mm)	1.5″	Wire Leads	160	73	0.17″	Plastic	Plastic	4.17	1939K93	69.33	2.08	1939K95	67.35
4.69″ (119 mm)	1″	Wire Leads	82	38	0.17″	Plastic	Plastic	0.27	1939K28	37.75	0.13	1939K29	37.75
4.69″ (119 mm)	1″	Wire Leads	130	55	0.17″	Plastic	Plastic	1.00	1939K98	59.00	0.35	1939K99	59.00

★ Operates at 60 Hz. ♣ 150 mm Ht. x 172 mm Wd.

(Continued on following page)

Equipment-Cooling Fans *(Continued from previous page)*

Size	Dp.	Connections	Airflow, cfm	Volume, dB	Mount. Holes	Material: Frame	Material: Blade	12 Volts DC: Amps			24 Volts DC: Amps		
DC Fans (Cont.)													
Square (Cont.)													
4.69″ (119 mm)	1.5″	QD Terminals	94	44	0.15″	Aluminum	Plastic				0.08	1939K119♦	$58.98
4.69″ (119 mm)	1.5″	QD Terminals	94	44	0.15″	Aluminum	Plastic				0.15	1939K24	61.17
4.69″ (119 mm)	1.5″	QD Terminals	105	49	0.15″	Aluminum	Plastic	0.38	1939K25	$40.70	0.38	1939K26	47.03
4.69″ (119 mm)	1.5″	Wire Leads	88	37	0.18″	Plastic	Plastic	0.21	1939K23	37.11			
4.69″ (119 mm)	1.5″	Wire Leads	205	67	0.15″	Aluminum	Plastic	2.67	1939K96	73.42	1.25	1939K97	73.42
5″ (127 mm)	1.5″	Wire Leads	125	46	0.17″	Plastic	Plastic	0.50	1939K121	68.14	0.25	1939K122	68.90
5″ (127 mm)	1.5″	Wire Leads	145	51	0.17″	Plastic	Plastic	0.82	1939K77	77.78	0.40	1939K69	76.12
Round													
5.91″ (150 mm)	1.5″	Wire Leads	210	55	0.17″	Aluminum	Aluminum	1.00	1939K79	119.36	0.50	1939K78	91.40
5.91″ (150 mm)	1.5″	Wire Leads	245	59	0.17″	Aluminum	Aluminum				0.79	1939K82	91.89
5.91″ (150 mm)	2.17″	Wire Leads	210	53	0.17″	Aluminum	Plastic	1.00	1939K73	111.00	0.50	1939K74	126.17
6.75″ (172 mm)	2″	QD Terminals	206	52	0.17″	Aluminum	Plastic	1.00	1939K153	122.50			
6.75″ (172 mm)	2″	Wire Leads	230	51	0.17″	Aluminum	Plastic				0.54	1939K124	116.07
6.75″ (172 mm)	2″	Wire Leads	275	56	0.17″	Aluminum	Plastic				0.96	1939K125	95.48
7.87″ (200 mm)	2.76″	Wire Leads	530	68	0.17″	Aluminum	Plastic				3.88	1939K86	279.03

♦ Operates on 48 volts DC.

Equipment-Cooling Fan Accessories

Fan Guards—For use with the fans on pages 674-676.



Steel and Stainless Steel



EMI/RFI Shielding



Plastic



Plastic with Foam Filter

EMI/RFI shielding fan guards have stainless steel screens in an aluminum frame to prevent electromagnetic and radio-frequency interference.
Plastic fan guards with foam filter have a plastic retainer to keep the filter in place. Original and replacement filters for 19155K2, 19155K3, and 19155K4 have 30 ppi (pores per inch), 19155K22 and 19155K23 have 45 ppi, and 19155K5 has 60 ppi.

For Fan Size	Nickel-Plated Steel		Type 304 Stainless Steel		EMI/RFI Shielding		Plastic		Plastic with Foam Filter		Repl. Foam Filters Pkg. of 5	
Square												
0.98″ (25 mm)	19155K89	$1.08	19155K118	$1.30								
1.57″ (40 mm)	19155K91	1.16	19155K119	1.63			19155K42	$0.77	19155K2	$2.09	19155K6	$2.33
1.97″ (50 mm)	19155K92	1.20	19155K121	2.00								
2.36″ (60 mm)	19155K93	1.24	19155K122	2.40	19155K35	$2.46	19155K43	.80	19155K3	2.40	19155K7	2.33
3.15″ (80 mm)	19155K94	1.24	19155K123	3.10	19155K36	2.51	19155K44	1.00	19155K4	2.68	19155K8	2.62
3.62″ (92 mm)	19155K95	1.24	19155K124	3.43	19155K37	5.89	19155K45	1.10	19155K22	2.72	19155K52	2.83
4.69″ (119 mm)★	19155K96	1.56	19155K125	3.90	19155K38	6.00	19155K46	1.17	19155K23	3.20	19155K53	3.67
5″ (127 mm)	19155K97	2.00	19155K126	5.25	19155K39	6.86						
5.31″ (135 mm)	19155K97	2.00	19155K126	5.25	19155K39	6.86						
6.89″ (175 mm)	19155K14	2.48										
8.86″ (225 mm)	19155K28■	8.76										
11.02″ (280 mm)	19155K29	9.14										
Round												
5.91″ (150 mm)▲	19155K98	3.12	19155K127	5.85	19155K48	11.67	19155K47	2.67	19155K5	7.00	19155K9	5.33
7.87″ (200 mm)	19155K27	8.32										
10″ (254 mm)	19155K99	6.00	19155K128	10.72								

★ Also for fan size 4.72″ (120 mm). ■ Material is powder-coated steel. ▲ Also for fan size 6.75″ (172 mm).

Quick-Disconnect (QD) Power Cords

Cords have quick-disconnect receptacles to plug into fans with quick-disconnect terminals. UL listed. CSA certified.
Cords with temperature switch are set to turn on when the temperature reaches 88° F and off when it falls to 80° F. They are not adjustable.
Daisy chain cords have multiple receptacles on the same line to connect a series of fans.

Lg.	120 Volts AC with Wire Leads		120 Volts AC with Two-Prong Plug		120 Volts AC with Three-Prong Plug		230 Volts AC with NEMA 6-15 Plug	
Standard Cords—Available receptacle angle: straight, 45°, 90°								
2 ft.	19155K141	$1.96			19155K145	$14.52		
3 ft.	19155K142	2.10	19155K143	$6.00	19155K146	14.58		
6 ft.			19155K144	6.92	19155K147	15.71	19155K148	$22.12
Cords with Temperature Switch—45° receptacle								
2 ft.	19155K111	11.25			19155K112	20.62		
3 ft.	19155K113	11.88	19155K116	15.62	19155K114	24.00		
6 ft.			19155K117	17.00	19155K115	25.62		
Daisy Chain Cords—Available number of 45° receptacles: 2, 3, 4								
6 ft.	19155K151	5.30	19155K152	7.50				

QD Receptacles



Straight 45° 90°

Leads and Plugs

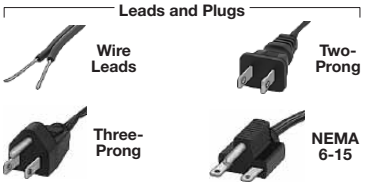

Wire Leads, Two-Prong, Three-Prong, NEMA 6-15

Thermostat

This thermostat mounts on a 35 mm DIN rail inside an enclosure. It adjusts from 32° to 140° F and has screw terminals to connect your fan. Overall size is 2.4″ Ht. x 1.3″ Wd. x 1.7″ Dp.

19155K16 ..... $33.20



Corrosion-Resistant Equipment-Cooling Fans



Square



Round

Able to withstand dust and water splashes, these fans are IP54 rated. They're also known as muffin fans. All have leads for hardwiring. Fasteners not included.

AC fans have plastic blades. They operate at 50/60 Hz. All have UL recognized components and are CSA certified. *Square fans* have a plastic frame. *Round fans* have an aluminum frame.

DC fans have a plastic frame and blades. Components are UL and C-UL recognized.

Size	Dp.	Airflow, cfm	Volume, dB	Mount. Holes	85-265 Volts AC Single Phase	
AC Fans						
Square						
3.15″ (80 mm)	1.26″	47	48	0.17″	9602K31	$87.60
3.62″ (92 mm)	1.5″	84	55	0.17″	9602K32	102.13
Round						
6.75″ (172 mm)	2″	205	50	0.17″	9602K33	130.34
DC Fans						
Square					12 Volts DC	24 Volts DC
4.72″ (120 mm)	1.5″	105	47	0.18″	9602K41 $93.33	9602K42 $93.33
5″ (127 mm)	1.5″	160	53	0.18″	9602K43 93.33	9602K23 93.33

Equipment-Cooling Fan Kits



With Steel Fan Guard



With Plastic Fan Guard

Kits include a fan, guard, and 6 ft. cord. Fans have an aluminum frame, plastic blades, and operate at 50/60 Hz. Cord is UL listed. Fasteners not included. *120-volt AC fans* have a two-prong plug; *230-volt AC fans* have a three-prong plug.

Kits with temperature switch include a plug that has a nonadjustable built-in thermostat. It is set to turn on when the temperature reaches 85° F and off when it falls to 73° F.

Kits with plastic guard include a foam filter held in place by a plastic retainer. 3.15″ fans have a 30 ppi (pores per inch) filter; 4.69″ and 6.77″ fans have a 45 ppi filter. For replacement filters, see page 675.

Size	Dp.	Airflow, cfm	Volume, dB	Mount. Holes	Available Guards	Fan Kits		Fan Kits with Temp. Switch	
120 Volts AC, Single Phase									
Square									
3.15″ (80 mm)	1.5″	31	27	0.17″	Plastic, Steel	9191K13	$41.12	9191K15	$48.98
4.69″ (119 mm)	1.5″	80	34	0.17″	Plastic, Steel	9191K23	39.63	9191K25	51.19
4.69″ (119 mm)	1.5″	100	39	0.17″	Plastic, Steel	9191K33	41.23	9191K35	51.79
Round									
10″ (254 mm)	3.5″	600	49	0.16″	Steel	9191K8	108.56	9191K82	115.25
Oblong									
6.77″ (172 mm) × 5.90″ (150 mm)	2″	240	48	0.17″	Plastic, Steel	9191K43	72.95	9191K45	76.43
230 Volts AC, Single Phase									
Square									
3.15″ (80 mm)	1.5″	31	27	0.17″	Plastic, Steel	9191K14	60.68		
4.69″ (119 mm)	1.5″	80	34	0.17″	Plastic, Steel	9191K24	63.72		
4.69″ (119 mm)	1.5″	100	39	0.17″	Plastic, Steel	9191K34	68.50		
Round									
10″ (254 mm)	3.5″	600	49	0.16″	Steel	9191K81	112.75		
Oblong									
6.77″ (172 mm) × 5.90″ (150 mm)	2″	240	48	0.17″	Plastic, Steel	9191K44	97.63		

Heaters for Equipment-Cooling Fans



Heat the airflow from equipment-cooling fans to warm equipment and reduce humidity. Heaters are for use with the square equipment-cooling fans on pages 674-676. Install in place of a fan guard using the 3⁄16″ dia. mounting holes (fasteners not included). Frame is black-painted aluminum. All have leads for hardwiring. Components are UL recognized.

For Fan Size	Dp.	Watts	120 Volts AC Single Phase		230 Volts AC Single Phase	
3.15″ (80 mm)	1.25″	200	20055K111	$64.92	20055K311	$64.92
3.15″ (80 mm)	1.25″	400	20055K112	64.92	20055K312	64.92
4.69″ (119 mm)	1.25″	200	20055K24	64.92	20055K44	64.92
4.69″ (119 mm)	1.25″	400	20055K25	64.92	20055K45	64.92
4.69″ (119 mm)	1.25″	600	20055K26	64.92	20055K46	64.92
4.69″ (119 mm)	1.25″	800	20055K27	64.92	20055K47	64.92

Enclosure-Cooling Blowers



60 cfm

155 cfm

To save space inside enclosures, these blowers can mount outside. They draw cooler outside air into your enclosure or exhaust hot air through a louvered outlet vent. Incoming air is filtered to keep out dust and contaminants. The main filter is made of pleated paper and wrapped in a polyester prefilter. Blowers have a steel housing and galvanized steel fan blades. Both units are single phase and operate on 120 volts AC.

60 cfm blower has an open dripproof (ODP) motor and leads for hardwiring.

155 cfm blower has a dust-resistant totally enclosed nonventilated (TENV) motor and connections for hardwiring.

Airflow, cfm	Volume, dB	rpm	Size Ht.	Size Wd.	Size Dp.	Blowers		Replacement Prefilters		Replacement Main Filters	
60	56	3,030	10½″	6½″	6½″	1730K11	$333.33	1730K21	$23.64	1730K22	$78.18
155	56	2,350	11¼″	7¾″	7″	1730K12	508.33	1730K23	32.73	1730K24	98.18

Enclosure-Cooling Fans

Circulate air to dissipate heat in your electrical enclosure. These fans are reversible to exhaust hot air out or draw cooler outside air in through a filter that removes dirt and dust. Motors are single phase, operate on 120 volts AC, 50/60 Hz and have UL recognized components.

With Disposable Filter—Rated IP54 for protection against dust and water splashes. Guard is plastic. Fans include mounting fasteners, except 39-cfm fan has 0.138″ dia. mounting holes and 71-cfm fan has 0.177″ dia. mounting holes.

With Washable Filter—Have an aluminum mesh filter and zinc-plated steel guard. Fans have 0.22″ dia. mounting holes (fasteners not included).



With Disposable Filter



With Washable Filter

Airflow, cfm	rpm	Connections	Volume, dB	Size Ht.	Size Wd.	Size Dp.	Fits Opening Ht.	Fits Opening Wd.	Fans		Repl. Filters Pkg. of 5	
With Disposable Filter												
39	3,100	Terminal Block	46	5 7/8″	5 7/8″	2 5/16″	4 7/8″	4 7/8″	19115K5	$208.80	19115K15	$28.82
71	3,100	Terminal Block	49	8″	8″	3 9/16″	7″	7″	19115K6	247.20	19115K16	41.82
145	3,250	Terminal Block	56	10 1/16″	10 1/16″	4 1/4″	8 13/16″	8 13/16″	19115K7	291.60	19115K17	47.38
350	2,800	Terminal Block	61	12 3/4″	12 3/4″	4 1/2″	11 1/2″	11 1/2″	19115K8	396.00	19115K18	63.20
With Washable Filter												Each
275	3,000	2 1/2-ft. Cord w/ 3-Prong Plug	63	8 7/8″	10 1/8″	4 13/16″	8 7/8″	8 7/8″	19115K1	331.14	19115K11	32.08
390	1,600	4 1/2-ft. Cord w/ 3-Prong Plug	66	8 7/8″	10 1/8″	4 13/16″	8 7/8″	8 7/8″	19115K2	379.88	19115K11	32.08
725	1,600	4 1/2-ft. Cord w/ 3-Prong Plug	66	12 1/8″	13 3/8″	4 13/16″	12 1/8″	12 1/8″	19115K3	431.14	19115K12	34.22
1,200	1,500	4 1/4-ft. Cord w/ 3-Prong Plug	71	15 1/8″	16 3/8″	7 11/16″	15 1/8″	15 1/8″	19115K4	670.00	19115K13	38.50

Enclosure-Cooling Fan Trays

Slide these trays in to cool standard 19″ wide enclosures. They are sized and notched in accordance with Electronic Industry Association (EIA) standards. Tray is steel; fan blades are plastic. They operate on 50/60 Hz and have a 6-ft. cord with three-prong plug. Components are UL listed. Mounting fasteners included.

Expandable fan trays come with three fans but can hold up to nine. Select a three-fan expansion module to add fans to your expandable tray.

Three-Fan Tray



Expandable Fan Tray



Three Fan Expansion Module



Airflow, cfm	No. of Fans	Volume, dB	Size Ht.	Size Wd.	Size Dp.	120 Volts AC Single Phase		230 Volts AC Single Phase	
Fan Trays									
330	3	53	1 3/4″	19″	7″	1985K11	$190.91	1985K23	$190.91
660	6	56	1 3/4″	19″	12 1/4″	1985K13	298.74	1985K24	298.74
990	9	57	1 3/4″	19″	18″	1985K15	375.00	1985K27	375.00
Expandable Fan Trays									
330	3	53	1 3/4″	19″	18″	1985K21	190.91	1985K25	190.91
Three-Fan Expansion Module for 1985K21								1985K22	177.97
Three-Fan Expansion Module for 1985K25								1985K26	177.97

Air-Powered Enclosure-Cooling Vortex Tubes

Prevent electronic components within enclosures from overheating. These vortex-tube coolers chill compressed air by 50°F or more while also keeping dust and other contaminants out of enclosures. Coolers require a compressed air source of 80 to 100 psi. They come with an inline compressed air filter and a ducting kit to distribute cool air throughout the enclosure.

Coolers without thermostat operate on compressed air; no electricity is required. *Coolers with thermostat* switch on only when needed. *Mechanical thermostats* don't require electricity. They're nonadjustable and maintain a temperature of 80° to 90°F. *Electric thermostats* operate on 120 volts AC and have leads for hardwiring. They require a second opening of 7/8″ dia. They adjust from 50° to 140°F.

Indoor and **quiet indoor coolers** are rated NEMA 12 to resist dirt and light water splashes. UL listed. *Quiet coolers* are often used in low-noise environments such as labs and clean rooms.

Hazardous-location indoor coolers have a check valve that seals the air outlet when the unit is not in use, allowing the enclosure to be pressurized. UL listed for Class I, Division II, Groups A, B, C, and D; Class II, Division II, Groups F and G; and Class III hazardous locations.

Indoor/outdoor coolers are rated NEMA 4 to withstand washdowns. UL listed.

Corrosion-resistant indoor/outdoor coolers are rated NEMA 4X to withstand washdowns and corrosion. UL listed.



Indoor/Outdoor



Corrosion Resistant Indoor/Outdoor

Cooling Cap., Btu/Hr.	Airflow, cfm	Air Connect., NPT	Volume, dB	Size Ht.	Size Dia.	Size Dp.	Fits Opening Dia.	Vortex Tubes Without Thermostat		Vortex Tubes With Thermostat Operation			Repl. Filters	
Indoor—Aluminum														
400	8	1/8″ Male	70	7 1/16″	7/8″	—	1 1/8″	1754K29	$382.80	Electric	1754K28	$625.90	1754K52	$93.17
900	15	1/4″ Female	72	10 3/4″	1 3/4″	—	1 1/8″	1754K27	476.30	Electric	1754K26	654.50	1754K52	93.17
1,500	25	1/4″ Female	73	10 3/4″	1 3/4″	—	1 1/8″	1754K32	476.30	Electric	1754K33	655.60	1754K52	93.17
2,500	35	1/4″ Female	83	10 3/4″	1 3/4″	—	1 1/8″	1754K25	525.80	Electric	1754K24	743.60	1754K53	106.17
Quiet Indoor—Polycarbonate														
900	15	3/8″ Female	59	8″	4 3/4″ wd.	3 9/16″	—	—	—	Mechanical	1754K43	769.17	1754K52	93.17
1,500	25	3/8″ Female	66	8″	4 3/4″ wd.	3 9/16″	—	—	—	Mechanical	1754K44	791.92	1754K52	93.17
2,500	35	3/8″ Female	72	8″	4 3/4″ wd.	3 9/16″	—	—	—	Mechanical	1754K45	814.67	1754K53	106.17
Hazardous-Location Indoor—Polycarbonate														
900	15	3/8″ Female	59	8″	4 3/4″ wd.	5 3/8″	1 15/16″	—	—	Mechanical	1754K48	1,189.00	1754K52	93.17
1,500	25	3/8″ Female	66	8″	4 3/4″ wd.	5 3/8″	1 15/16″	—	—	Mechanical	1754K49	1,204.00	1754K52	93.17
2,500	35	3/8″ Female	72	8″	4 3/4″ wd.	5 3/8″	1 15/16″	—	—	Mechanical	1754K51	1,219.00	1754K53	106.17
Indoor/Outdoor—Aluminum														
900	15	1/4″ Female	82	6 3/4″	2 1/8″	—	1 15/16″	—	—	Mechanical	1754K34	802.10	1754K52	93.17
900	15	3/8″ Female	71	8″	4 3/4″ wd.	5 3/8″	—	1754K46	516.00	—	—	—	1754K52	93.17
1,500	25	1/4″ Female	82	6 3/4″	2 1/8″	—	1 15/16″	—	—	Mechanical	1754K31	802.10	1754K52	93.17
1,500	25	3/8″ Female	84	8″	4 3/4″ wd.	5 3/8″	—	1754K47	562.91	—	—	—	1754K52	93.17
2,500	35	1/4″ Female	86	6 3/4″	2 1/8″	—	1 15/16″	—	—	Mechanical	1754K35	856.70	1754K53	106.17
2,500	35	1/4″ Female	86	9 15/16″	2″	—	1 15/16″	1754K36	612.70	Electric	1754K37	1,049.10	1754K53	106.17
Corrosion-Resistant Indoor/Outdoor—Type 304 Stainless Steel														
900	15	1/4″ Female	72	9 15/16″	2″	—	1 15/16″	1754K38	1,034.40	—	—	—	1754K52	93.17
1,700	25	1/4″ Female	78	9 15/16″	2″	—	1 15/16″	1754K22	948.20	Electric	1754K23	1,223.20	1754K52	93.17

About Air Conditioner Cooling Capacity

To determine the cooling capacity in Btu/Hr. required to cool an area, you need to know the size of the area and how much you want the temperature to cool. The table at right shows the approximate Btu/Hr. required to achieve the listed temperature reductions in some common spaces.

To estimate the Btu/Hr. required for other spaces, insert the length, width, and height of the space into the following formula:

$$(Lg. \times Wd.) + 2(Lg. \times Ht.) + 2(Wd. \times Ht.)$$

Then multiply the result by your desired temperature reduction in degrees Fahrenheit. The result is the Btu/Hr. you need.

	Lg.	Wd.	Ht.	Btu/Hr. to Reduce Temp. 10° F	20° F	30° F
Enclosure	3 ft.	4 ft.	5 ft.	800	1,600	2,400
Small Room	10 ft.	10 ft.	8 ft.	4,200	8,400	12,600
Medium Room	15 ft.	15 ft.	10 ft.	8,200	16,500	24,700
Large Room	20 ft.	20 ft.	12 ft.	13,600	27,200	40,800

Enclosure Air Conditioners



Indoor Ceiling Mount



Indoor Wall Mount



Indoor/Outdoor Wall Mount

Upgrade to an air conditioner when the heat in your enclosure is too much for a fan. These have an adjustable thermostat (68° to 131° F) and terminal blocks for hardwiring. Components are UL and C-UL recognized. Units include mounting hardware and templates. They have integrated condensate evaporators, except 1,000-, 1,700-, and 2,000-Btu units, which drain condensate through a tube. Units also have a programmable alarm and a temperature display, except 1,000-Btu units. *120 volts AC units* operate at 60 Hz, *230 and 460 volts AC units* operate at 50/60 Hz.

Indoor air conditioners are rated NEMA 12 to resist dirt, light water splashes, and oil/coolant dripping.

Indoor/outdoor air conditioners are rated NEMA 4X to resist dirt, washdowns, and corrosion.

Cooling Cap., Btu/Hr.	Size Ht.	Size Wd.	Size Dp.	Fits Opening Ht.	Fits Opening Wd.	120 Volts AC Single Phase Amps			230 Volts AC Single Phase Amps			460 Volts AC Three Phase Amps		
Indoor—Ceiling Mount														
3,600	16 5/16"	23 1/2"	18 3/4"	15 3/8"	19 5/16"	8.7	17495K12	$2,824.55	—	—	—	—	—	—
5,100	16 5/16"	23 1/2"	18 3/4"	15 3/8"	19 5/16"	14.1	17495K13	3,080.61	—	—	—	—	—	—
7,200	16 5/16"	23 1/2"	18 3/4"	15 3/8"	19 5/16"	14.2	17495K29	4,343.18	—	—	—	—	—	—
Indoor—Wall Mount														
1,000	21 5/8"	11"	5 1/2"	21 5/8"	11"	3.3	17495K19	1,577.93	1.7	17495K25	$1,628.39	—	—	—
2,000	21 5/8"	11"	7 7/8"	21 5/8"	11"	5.7	17495K21	1,834.91	2.6	17495K26	1,893.38	—	—	—
3,600	37 3/8"	15 3/4"	10 3/16"	10"	13 3/4"	10	17495K22 ■	2,174.12	4.4	17495K27 ■	2,267.27	—	—	—
5,100	37 3/8"	15 3/4"	10 3/16"	10"	13 3/4"	12.5	17495K23 ■	2,549.36	6	17495K31 ■	2,718.75	2.6	17495K32 ■	$3,287.87
8,000	62 3/16"	15 3/4"	11 3/8"	62 1/8"	15 3/4"	—	—	—	8.5	17495K33	3,081.25	3	17495K34	3,554.31
Indoor/Outdoor—Wall Mount														
1,700	24 3/8"	11 3/16"	11 11/16"	21 5/8"	11"	5.7	17495K41	2,593.43	2.6	17495K42	2,691.02	—	—	—
3,600	40 3/16"	15 7/8"	14 1/8"	10"	13 3/4"	10	17495K43 ■	3,091.49	4.4	17495K44 ■	3,226.83	—	—	—

■ Requires two openings. Second opening is 13 3/4" square.

Air Conditioners



A



B



C With Optional Mounting Sleeve

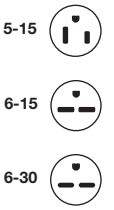

Stay cool. These air conditioners have an adjustable thermostat (60° to 90° F) and adjustable louvers for directing airflow. All have a control panel and remote control. They also have a 6-ft. cord with a three-prong NEMA plug. UL and C-UL listed. The higher the energy efficiency ratio, the more energy efficient the unit. Your operating costs will depend on your utility rates and use. The estimated yearly energy cost is based on electricity cost of $0.12 per kWh. For more information, visit www.ftc.gov/energy.

	Cooling Cap., Btu/Hr.	Energy Efficiency Ratio (EER)	Est. Yearly Energy Cost, $	Airflow, cfm	Amps	NEMA Plug Style	Size Ht.	Size Wd.	Size Dp.	Fits Opening Size		
Window Mount												
120 Volts AC, Single Phase												
A	5,800	12.3	42.00	190	4.5	5-15	14 1/4"	19 3/4"	21 3/8"	22" to 42" Wd.	1843K81	$586.67
A	8,000	12.2	62.00	220	6.5	5-15	14 1/4"	19 3/4"	21 3/8"	22" to 42" Wd.	1843K84	644.00
B	11,900	12.2	88.00	300	9.5	5-15	15 15/16"	25 15/16"	29"	27 3/8" to 42" Wd.	1843K45	882.67
208-230 Volts AC, Single Phase												
B	20,500	9.8	188.00	425	10.2	6-15	17 15/16"	25 15/16"	29"	27 3/8" to 42" Wd.	1843K51	1,020.00
B	36,000	9.0	360.00	725	17.5	6-30	20 3/16"	28"	35 1/2"	29 7/8" to 42" Wd.	1843K57	1,684.00
Through-the-Wall Mount												
120 Volts AC, Single Phase												
C	12,000	9.8	110.00	295	10.8	5-15	15 3/4"	26 1/2"	21"	16 3/4" Ht. x 27" Wd.	1843K92	808.00
208-230 Volts AC, Single Phase												
C	14,500	9.3	140.00	290	7.6	6-15	15 3/4"	26 1/2"	21"	16 3/4" Ht. x 27" Wd.	1843K97	916.90
Optional Mounting Sleeve for Through-the-Wall Mount Units (required for new installations)											1843K93	122.73

For information about air conditioner cooling capacity, see page 678.

Combination Air Conditioner/Heaters

Be comfortable year-round with units that cool and heat your space. They have an adjustable thermostat (60° to 90°F) and a remote control. All are single phase and operate on 208/230 volts AC. UL and C-UL listed. The higher the energy efficiency ratio, the more energy efficient the unit. The estimated yearly energy cost is based on electricity cost of $0.12 per kWh. For more information, visit www.ftc.gov/energy.

Mount through a wall (max. wall thickness is 7 3/8", except 18505K13 is 16 1/2"). 18505K22 requires a 16 3/16" Ht. x 26 3/16" Wd. wall cutout; 18505K24 requires an 18 3/16" Ht. x 26 3/16" Wd. wall cutout; 18505K13 requires a 20 3/8" Ht. x 28 1/4" Wd. wall cutout.

Optional window mounting kits can be used to mount unit in a 27 3/8" to 42" wide window (18505K26 and 18505K27) or 29 7/8" to 42" wide window (18505K28).


6-20


6-30



Cap., Btu/Hr. Cooling	Heating	Energy Efficiency Ratio (EER)	Est. Yearly Energy Cost, $	Airflow, cfm	Amps Cool	Heat	NEMA Plug Style	Size Ht.	Wd.	Dp.	Air Conditioner/ Heaters		Optional Window Mounting Kits	
12,000	10,700	11.3	96.00	325	4.9	16.0	6-20	15 15/16"	25 15/16"	29"	18505K22	$1,084.62	18505K26	$50.91
20,000	13,000	9.8	184.00	425	10.2	19.5	6-30	17 15/16"	25 15/16"	29"	18505K24	1,236.92	18505K27	50.91
24,000	17,300	9.0	220.00	649	11.4	24.0	6-30	20 3/16"	28"	35 1/2"	18505K13	1,487.69	18505K28	52.73

Hazardous-Location Air Conditioners

Built to withstand harsh environments, these air conditioners meet ANSI/ISA 12.12.01 and NFPA 70 for hazardous locations. They have an adjustable temperature control and adjustable louvers for directing airflow. Units are single phase, operate on 208/230 volts AC, and have leads for hardwiring. The higher the energy efficiency ratio, the more energy efficient the unit. 19,000-btu unit cannot be sold in California.

Mount in a 27 7/8" to 42" wide window or through a wall with a maximum thickness of 6". 14,500-btu unit requires a 16 3/16" Ht. x 26 3/16" Wd. wall cutout. 19,000-btu unit requires an 18 3/16" Ht. x 26 3/16" Wd. wall cutout.



Cooling Cap., Btu/Hr.	Energy Efficiency Ratio (EER)	Airflow, cfm	Amps	Size Ht.	Wd.	Dp.		
14,500	9.7	375	7.5	15 15/16"	25 15/16"	27 3/8"	1817K79	$2,572.06
19,000	9.7	375	9.4	17 15/16"	25 15/16"	27 3/8"	1817K89	2,988.24

Portable Air Conditioners

Roll these air conditioners to the area that needs cooling. All have a 5 1/2-ft. cord with three-prong plug.

Light duty air conditioner is for temporary spot cooling. It evaporates condensate so there is no tank to empty. Vent to outdoors with included hoses.

Heavy duty air conditioners are for continuous use. They have two 2.5-gallon condensate tanks. Choose cooling or fan operation. Exhaust air into the space above your ceiling with the included kit. It fits 24" wide ceiling tiles and includes a 6-ft. long duct, a flange, and a ceiling tile. *Optional thermostat* is adjustable from 50° to 99°F.


5-15


6-20


Light Duty


Heavy Duty

Cooling Cap., Btu/Hr.	Max. Airflow, cfm	Amps	NEMA Plug Style	Size Ht.	Wd.	Dp.		
Light Duty								
120 Volts AC, Single Phase								
11,600	235	11.5	5-15	33 1/2"	19 1/4"	15 1/2"	7669K8	$560.00
Heavy Duty								
120 Volts AC, Single Phase								
13,500	440	11.7	5-15	45"	18 1/2"	32 3/4"	7669K4	3,930.12
208-230 Volts AC, Single Phase								
28,000	1,100	16.0	6-20	55"	36"	24"	7669K7	4,811.09
Optional Thermostat for Heavy Duty Air Conditioners							7669K9	183.08

Evaporative Cooling Fans

Get cool air where air conditioning is impractical. Also known as swamp coolers, fans take in water, which soaks into pads. When air is blown through the wet pads, the evaporation produces cool air. Fans have a leakproof molded plastic housing, casters with plastic wheels, and an open dripproof (ODP) motor. Fans are direct drive, except fan with 48" dia. blade is belt drive. All have a 3/4" GHT water connection, except the 16" heavy duty fan does not have a water connection. They are single phase, operate on 120 volts AC, and have a 10-ft. cord with three-prong plug.

Light duty fans have blowers instead of fan blades.

Optional water tank allows extended operation when you don't have access to another water supply.

Light Duty



Heavy Duty



Blade Dia.	Max. Airflow, cfm	Tank Cap., Gal.	Max. rpm	Speeds	hp	Size Ht.	Wd.	Dp.	Evaporative Cooling Fans		Replacement Pads Qty. Req'd	
Light Duty												
—	2,000	10	1,060	2	1/6	31"	24"	25"	2073K45	$607.46	1	2073K56 $104.82
—	3,000	16	800	2	1/3	38"	29"	25"	2073K46	850.94	1	2073K55 133.10
Heavy Duty												
16"	3,900	42	1,725	3	1/2	59"	37 1/2"	23"	2073K42	1,420.03	3	2073K54 62.80
24"	6,700	14	1,080	Variable	1/3	53"	50"	25"	2073K41	2,096.52	4	2073K51 56.16
36"	10,100	32	780	Variable	1/2	67"	62"	32"	2073K47	2,862.69	5	2073K52 66.04
48"	20,000	40	1,725	2	1	86"	74"	36"	2073K49	3,878.49	6	2073K53 72.94
Optional 50-Gallon Water Tank—41" Ht. x 20" Wd. x 36" Dp.												2073K62 634.64

For information about sound levels, see page 673.

Industrial Duty Fans

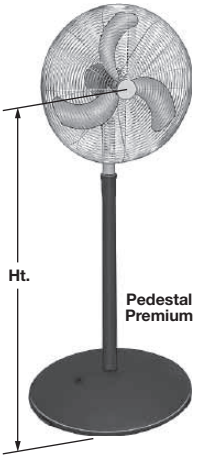

Pedestal Premium

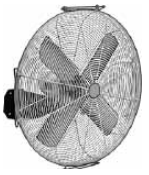

Wall Mount High Output

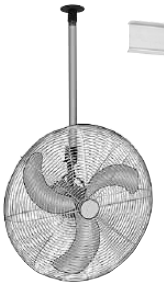

Ceiling Mount Premium with Extension Pipe (Sold Separately)

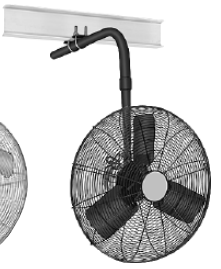

I-Beam Mount Valu-Cool

Circulate air in large spaces. All fans are direct drive with a dust-resistant totally enclosed motor. They are designed to run continuously.

Pedestal—Height is adjustable. Base and pedestal are powder-coated steel.

Wall Mount—Mounting bracket has 3⁄8″ dia. holes. Fasteners not included.

Ceiling Mount—Extension pipe for mounting is sold separately on page 61. Mounting bracket has 3⁄8″ dia. holes. Fasteners not included.

I-Beam Mount—Fit 4″ to 14″ wide I-beams.

Valu-Cool fans have steel blades and a powder-coated steel guard. They have a 9-ft. cord with three-prong plug. ETL listed.

Premium fans have corrosion-resistant aluminum blades that are cupped to focus airflow. Guard is chrome-plated steel. They have a ball bearing motor and a 15-ft. cord with three-prong plug. UL listed.

High-output fans deliver greater airflow than valu-cool and premium fans. They have a chrome-plated steel guard and a ball bearing motor. *120-volt AC* fans have aluminum blades and a 15-ft. cord with three-prong plug. *208-230/460-volt AC* fans have steel blades and wire leads.

Blade Dia.	Max. Airflow, cfm	Volume, dB @ 5 ft.	Max. rpm	Speeds	hp	Pedestal Max. Ht., ft.		Wall Mount		Ceiling Mount Required Pipe Size		I-Beam Mount	
Nonoscillating													
Valu-Cool—120 Volts AC, Single Phase													
18″	3,100	67	1,500	3	1⁄6	5	2035K71	$186.67	2035K51	$154.76	1½	2035K67■	$198.89	2035K68	$244.44
20″	3,600	62	1,500	3	1⁄6	5	2035K73	191.11	2035K52	167.86	1½	2035K69■	210.56	2035K72	259.52
24″	5,100	72	1,050	3	1⁄4	7	2035K83	281.77	2035K53	260.56	1½	2035K87■	283.33	2035K88	313.33
30″	7,400	75	1,025	3	1⁄4	7	2035K85	286.46	2035K54	267.28	1½	2035K89■	295.56	2035K92	357.78
Premium—120 Volts AC, Single Phase													
24″	5,500	71	1,050	3	1⁄3	8	1718K51	463.86	1718K53	419.64	1	1718K55	401.12	1718K57	444.19
30″	8,400	75	1,025	3	1⁄3	8	1718K52	481.77	1718K54	439.00	1	1718K56	435.64	1718K58	483.14
High Output—120 Volts AC, Single Phase													
24″	7,400	87	1,100	2	1⁄2	8	2024K41	574.33	2024K45	565.98	1½	2024K49	537.31	2024K47	614.02
30″	9,700	89	1,100	2	1⁄2	8	2024K42	584.38	2024K46	582.28	1½	2024K51	584.86	2024K48	661.76
High Output—208-230/460 Volts AC, Three Phase													
30″	12,400	81	1,125	1	1	8	2024K61	836.18	2024K62	756.20	1	2024K64	745.82	2024K63	798.85
Oscillating													
Valu-Cool—120 Volts AC, Single Phase													
24″	5,100	72	1,050	3	1⁄4	7	2035K11	312.50	2035K55	272.22	—	—	—	2035K57	353.19
30″	7,400	75	1,025	3	1⁄4	7	2035K13	322.92	2035K56	288.89	—	—	—	2035K58	373.33
Premium—120 Volts AC, Single Phase													
24″	5,300	71	1,050	3	1⁄3	8	1718K91	658.72	1718K93	577.00	—	—	—	1718K95	619.72
30″	7,900	75	1,025	3	1⁄3	8	1718K92	673.92	1718K94	643.52	—	—	—	1718K96	653.04

■ Cannot be sold in California.

High-Visibility Fans

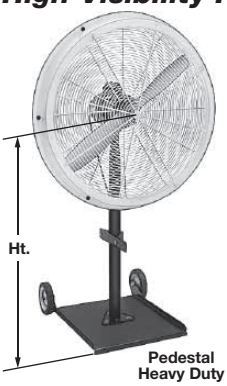

Pedestal Heavy Duty

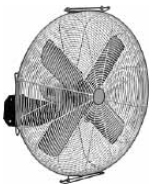

Wall Mount Standard

The guard is bright yellow to reduce the chance of accidental contact. These direct-drive fans are nonoscillating and have a dust-resistant totally enclosed motor.

Pedestal—All have wheels for mobility. *Standard fans* have an adjustable-height pedestal. *Heavy duty fans* have a fixed height.

Wall Mount—Mounting bracket has 7⁄16″ dia. holes (fasteners not included).

Standard fans have galvanized steel blades and a PVC-coated steel guard. They have an 18-ft. cord with three-prong plug.

Heavy duty fans have cast aluminum blades and a powder-coated steel guard that's supported by a polyethylene ring. Operate on 120 volts AC but can be field-wired for 230 volts AC. They have a 6-ft. cord with three-prong plug.

Blade Dia.	Max. Airflow, cfm	Volume, dB @ 5 ft.	Max. rpm	Speeds	hp	Pedestal Max. Ht., ft.		Wall Mount	
Standard—120 Volts AC, Single Phase									
24″	5,200	72	1,100	2	1⁄3	8	4789T21	$508.09	4789T22	$433.64
30″	6,900	74	1,100	2	1⁄3	8	4789T23	549.84	4789T24	446.42
Heavy Duty—120 Volts AC, Single Phase									
32″	11,100	71	1,100	2	1⁄2	4	4789T3	1,178.33	4789T6	948.33
36″	13,400	74	1,100	2	1⁄2	4	4789T4	1,285.00	4789T9	1,055.00

Swivel-Arm Fans



With Optional Light Kit

Often used on loading docks, these fans have a pivoting steel extension arm so you can direct air where it's needed. Fans are nonoscillating and direct-drive. They have aluminum blades and a chrome-plated steel guard. Fans have a single-phase, dust-resistant totally enclosed motor. They operate on 120 volts AC and have a 5-ft. cord with three-prong plug. Mounting hardware not included. ETL and C-ETL listed.

Optional light kit requires a PAR38 or R40 medium screw-base bulb up to 300 watts (not included; see pages 713-714). ETL and C-ETL listed.

Blade Dia.	Max. Airflow, cfm	Volume, dB @ 15 ft.	Max. rpm	Speeds	hp	With 24″ Arm		With 40″ Arm		With 60″ Arm	
18″	5,700	45	1,650	3	1⁄8	2102K25	$216.07	2102K27	$268.97	2102K29	$293.10
Optional Light Kit										2102K351	52.53
Replacement Motor										2102K43	81.36

For information about sound levels, see page 673.

Washdown Food-Service Fans

Made of corrosion-resistant materials, these fans meet UL 507 spray test requirements for washdowns. All are nonoscillating and direct-drive with a dust-resistant totally enclosed motor. Motor is Bakery Industry Sanitation Standards Committee (BISSC) approved for food-service use.

Steel fans are FDA compliant. They are white epoxy-painted steel with a zinc-plated steel guard. Components are UL recognized. *Wall-mount fans* have a bracket with 3/8″ dia. mounting holes (fasteners included).

Type 304 stainless steel fans are USDA compliant. Meet NSF/ANSI Standard 51. UL and C-UL listed. *Wall-mount fans* have a bracket with 3/8″ dia. mounting holes (fasteners not included).

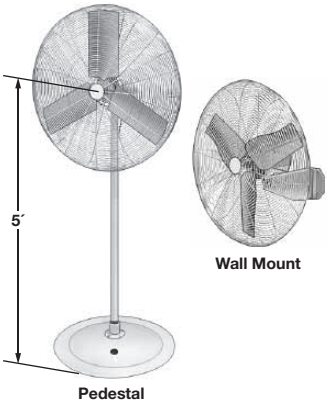

Blade Dia.	Max. Airflow, cfm	Volume, dB	Max. rpm	Speeds	hp	Pedestal		Wall Mount	
Steel with Aluminum Blades—120 Volts AC, Single Phase									
5-ft. Cord with Three-Prong Plug									
24″	6,800	69 @ 15 ft.	1,100	2	1/3	**1729K2**	$674.99	**1729K41**	$515.42
30″	8,600	73 @ 15 ft.	1,100	2	1/3	**1729K5**	730.79	**1729K43**	573.25
Type 304 Stainless Steel—120/230 Volts AC, Single Phase									
Leads for Hardwiring									
30″	8,800	76 @ 3 ft.	1,075	1	1/3	**1729K11**	1,319.49	**1729K21**	1,164.15
8-ft. Cord with Three-Prong Plug									
30″	8,800	76 @ 3 ft.	1,075	1	1/3	**1729K13**	1,540.51	**1729K23**	1,349.61

Hazardous-Location Fans

Often used in welding shops, oil refineries, and other hazardous settings, the motor on these direct-drive fans is UL listed for Class 1, Group D and Class 2, Groups E, F, and G environments. Fans are nonoscillating. They are single phase, operate on 120/230 volts AC, and have leads for hardwiring. Blades are aluminum, and the guard is chrome-plated steel.

Pedestal fans adjust from 5 ft. to 8 ft. high and have a black-painted steel base and pedestal.

Wall-mount fans have a bracket with 15/16″ dia. mounting holes (fasteners not included).

Ceiling-mount fans require a pipe size 1 extension pipe for mounting (sold separately on page 61). They have a bracket with 5/16″ dia. mounting holes (fasteners not included).

I-beam-mount fans fit 2″ to 15″ wide I-beams. Mounting hardware is included.

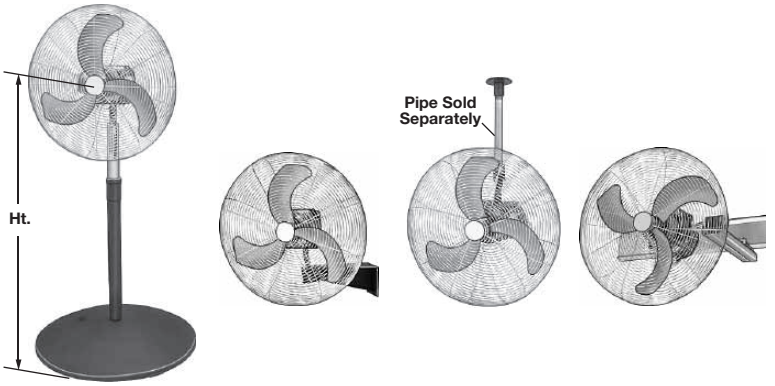

Blade Dia.	Max. Airflow, cfm	Volume, dB @ 3 ft.	Max. rpm	Speeds	hp	Pedestal		Wall Mount		Ceiling Mount		I-Beam Mount	
24″	5,700	74	1,125	1	1/4	**2188K33**	$916.90	**2188K42**	$879.33	**2188K51**	$813.06	**2188K61**	$879.35
30″	8,700	76	1,125	1	1/4	**2188K34**	990.18	**2188K43**	901.49	**2188K52**	834.16	**2188K62**	907.22

U.S. Navy Fans

Rugged and dependable, this steel fan meets U.S. Navy specification MIL-F-68F. It is two speed, nonoscillating, and adjusts 90° vertically and horizontally. Wall or bench mount using the included bracket with 3/8″ dia. holes (fasteners not included). Fan has a single-phase, direct-drive, open dripproof (ODP) motor. It operates on 120 volts AC and has leads for hardwiring.

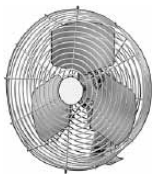

Blade Dia.	Max. Airflow, cfm	Volume, dB @ 3 ft.	Max. rpm	hp		
12″	2,200	22	1,400	1/15	**1936K44**	$212.52

Misting Fans

Connect this fan to a garden hose to produce a fine mist. Fan has three built-in misting nozzles, each with an inline filter to prevent clogging. It can also be operated in fan only mode.

Fan is two speed and nonoscillating. It can be used indoors and outdoors. The blades, guard, barrel, and pedestal are powder-coated steel. Fan has a single phase, direct-drive, dust-resistant totally enclosed motor. It operates on 120 volts AC and has a 10-ft. cord with three-prong plug. Water connections are 5/8 female garden hose thread (GHT). UL listed.

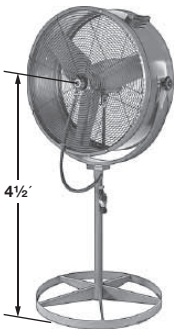

Blade Dia.	Max. Airflow, cfm	Volume, dB @ 15 ft.	Max. rpm	hp		
30″	8,800	65	1,140	1/3	**1711K71**	$721.99

Ultra Quiet Fans

Position these powerful fans near conference rooms and other meeting spaces to circulate air without drowning out voices. Fans are three speed; the lowest speed is a quiet setting. They oscillate or lock in a fixed position. Blades and guards are powder-coated steel. Fans have a dust-resistant totally enclosed motor. They are single phase, operate on 120 volts AC, and have a 10-ft. cord with three-prong plug. ETL listed.

Pedestal fans adjust from 4 ft. to 6 ft. high and have a powder-coated steel pedestal.

Wall-mount fans have a bracket with 3/8″ dia. mounting holes (fasteners not included).

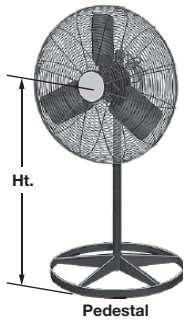

Blade Dia.	Airflow, cfm: Quiet Setting	Airflow, cfm: Max. Setting	Volume, dB @ 3 ft.: Quiet Setting	Volume, dB @ 3 ft.: Max. Setting	Max. rpm	hp		
Pedestal								
24″	2,280	5,030	48	69	1,025	1/4	**1029N11**	$337.43
30″	3,450	7,450	50	68	1,010	1/4	**1029N12**	394.55
Wall Mount								
24″	2,280	5,030	48	69	1,025	1/4	**1029N21**	324.77
30″	3,450	7,450	50	68	1,010	1/4	**1029N22**	356.77

Fan Guards

These two-piece guards attach to NEMA frame motors. Guards are chrome-plated steel.

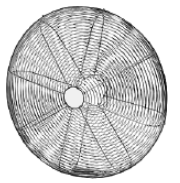

Fits Blade Dia.	Guard Dia.	For NEMA Motor		
18″ to 20″	23″	42Y	**1938K1**	$58.70
24″	27″	48, 48Y, 48YZ, 56, 56Y, 56YZ	**1938K2**	74.08
30″	33½″	48, 48Y, 48YZ, 56, 56Y, 56YZ	**1938K3**	100.29

Jet Stream Fans

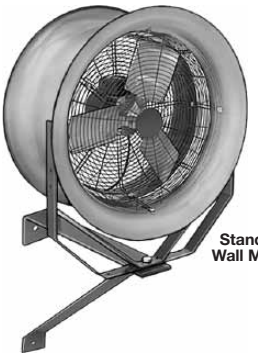

Standard Wall Mount

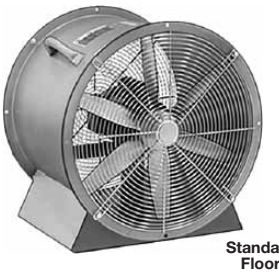

Standard Floor



Hazardous Location Mobile

Often used to cool warehouse aisles and production lines, these fans generate a stream of air that travels farther than air from conventional fans. All are nonoscillating, single speed, and have a steel housing. They are direct drive, except 2137K71 and 2137K75 are belt drive.

Standard Fans—Blades are aluminum and guard is steel. They have a dust-resistant totally enclosed motor.

Hazardous-Location Fans—Motor is UL listed for Class I, Group D and Class II, Groups F and G hazardous environments. Blades are aluminum and guard is steel.

Style	Blade Dia.	Airflow, cfm	Volume, dB	rpm	hp	Overall Size Ht.	Wd.	Dp.	Connection		
Standard											
120 Volts AC, Single Phase											
Mobile	22″	5,500	78 @ 25 ft.	1,725	½	55″	32″	35″	Three-Prong Plug	2138K93	$980.00
Wall Mount	22″	5,500	78 @ 25 ft.	1,725	½	29″	29″	16″	Three-Prong Plug	2138K73	913.33
120/230 Volts AC, Single Phase											
Floor	18″	4,000	78 @ 10 ft.	1,750	½	21″	18″	20″	Junction Box	2029K1	1,011.11
Floor	24″	7,800	83 @ 10 ft.	1,750	1	28″	24″	21″	Junction Box	2029K5	1,292.00
Floor	30″	11,000	92 @ 10 ft.	1,725	1½	34″	30″	20″	Wire Leads	2029K9	1,406.56
208-230/460 Volts AC, Three Phase											
Mobile	30″	12,000	90 @ 25 ft.	1,800	1	70″	32″	35″	Wire Leads	2138K94	1,475.24
Wall Mount	30″	12,000	90 @ 25 ft.	1,800	1	37″	37″	22″	Wire Leads	2138K74	1,418.67
230/460 Volts AC, Three Phase											
Floor	18″	4,000	78 @ 10 ft.	1,750	½	21″	18″	20″	Junction Box	2029K2	980.77
Floor	24″	7,800	83 @ 10 ft.	1,750	1	28″	24″	21″	Junction Box	2029K6	1,238.00
Floor	36″	20,000	90 @ 10 ft.	1,725	3	40″	36″	24″	Wire Leads	2029K46	1,660.00
Hazardous Location											
120/230 Volts AC, Single Phase											
Floor	18″	4,000	76 @ 10 ft.	1,725	⅓	38″	24″	32″	Wire Leads	1903K54	1,367.14
Floor	24″	7,800	82 @ 10 ft.	1,725	1	41″	30″	32″	Wire Leads	1903K112	1,495.71
Mobile	24″	7,800	82 @ 10 ft.	1,725	1	45″	30″	32″	Wire Leads	1903K58	1,595.71
Mobile	36″	14,500	60 @ 15 ft.	500	½	61″	48″	27″	Junction Box	2137K71	1,420.69
Mobile	48″	22,700	65 @ 15 ft.	375	1	72″	58″	30″	Junction Box	2137K75	1,745.45
230/460 Volts AC, Three Phase											
Floor	24″	7,800	82 @ 10 ft.	1,725	1	41″	30″	32″	Wire Leads	1903K65	1,490.00
Floor	36″	20,000	90 @ 10 ft.	1,725	3	47″	42″	32″	Wire Leads	1903K74	2,071.17
Mobile	36″	20,000	90 @ 10 ft.	1,725	3	51″	42″	32″	Wire Leads	1903K72	2,227.14

NEMA 48YZ and 56YZ Pedestal AC Fan Motors CAD



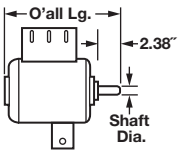

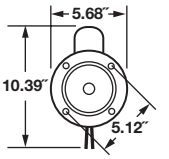

Build your own fan or replace a fan motor. Mount one of these reversible, totally enclosed air-over (TEAO) motors directly to a fan column. Motors have thermal overload protection. They are single phase, operate on 120 volts AC, and have a terminal panel for hardwiring. Four 8-32 threaded mounting studs extend 1″ for mounting a fan guard. Mounting bracket on motor base has a 0.44″ dia. hole (fasteners not included). Service factor is 1.0. Components are UL recognized. CSA certified.

For information about motors, see page 1066.

Note: When selecting a fan blade, be sure the rpm and hp are compatible and the bore size of the blade matches the shaft diameter of the motor.

rpm	hp	Shaft Dia.	Amps	Overall Lg.		
NEMA 48YZ Frame						
1,075	¼	½″	2.9	10.68″	1912K34	$172.33
1,075	⅓	½″	3.8	10.68″	1912K46	186.27
1,075	½	½″	5.5	11.31″	1912K63	194.39
1,625	¼	½″	2.6	10.68″	1912K53	156.20
1,625	⅓	½″	3.4	10.68″	1912K18	164.27
1,625	½	½″	5.1	10.68″	1912K29	191.40
NEMA 56YZ Frame						
1,625	⅓	⅝″	3.4	10.68″	1912K65	167.20
1,625	½	⅝″	5.1	10.68″	1912K22	195.07

For information about sound levels, see page 673.

Mobile Fans

Wheels make it easy to move these powerful fans. All are single phase and operate on 120 volts AC. They have a 10-ft. cord with three-prong plug. Direct-drive fans have fewer moving parts than belt-drive fans for less maintenance. Belt-drive fans are quieter and have a longer life span than direct-drive fans because components can be replaced if worn or damaged.

Valu-cool fans have a dust-resistant totally enclosed motor, except the 8,200-cfm fan has an open dripproof motor. Housing and guard are steel. UL listed. *Valu-cool* are C-UL listed. *Valu-cool with tilt stand* allow you to adjust the angle of the fan. The stand for 30″ and 36″ blade diameter fans can also mount to the wall and ceiling.

Standard fans have an open dripproof motor, except 48″ blade diameter fans have a totally enclosed motor. Housing and guard are steel. UL listed.

Corrosion-resistant fans have a dust-resistant totally enclosed motor, except the 42″ blade diameter fan has an open dripproof motor. Housing is aluminum and guard is powder-coated steel.



Valu-Cool



Direct-Drive Corrosion Resistant



Belt-Drive with Tilt Stand

Blade Dia.	Max. Airflow, cfm	Volume, dB @ 15 ft.	Max. rpm	Speeds	hp	Size Ht.	Size Wd.	Size Dp.	Blade Material		
Direct-Drive Fans											
Valu-Cool											
30″	8,200	70	1,075	2	1/4	34″	33″	15″	Aluminum	20445K21	$301.72
36″	10,900	69	825	1	1/2	40″	39″	21″	Steel	20445K13	445.23
42″	13,600	70	825	1	1/2	46″	45″	21″	Aluminum	20445K15	473.61
48″	19,100	75	850	1	1	52″	51″	25″	Aluminum	20445K31	758.79
Valu-Cool with Tilt Stand											
30″	5,600	76	1,110	3	1/4	36″	35″	14″	Steel	20375K12	503.11
36″	11,200	78	830	2	1/2	40″	39″	15″	Steel	20375K14	531.15
42″	13,600	70	825	1	1/2	54″	51″	27″	Aluminum	20375K21	792.94
48″	19,100	75	850	1	1	60″	58″	26″	Aluminum	20375K23	1,112.23
Corrosion Resistant											
30″	9,100	65	825	1	1/2	32″	34″	15″	Aluminum	3721T21	679.62
36″	11,800	68	825	1	1/2	41″	40″	17″	Steel	3721T27	718.85
Belt-Drive Fans											
Standard											
36″	12,100	63	500	1	1/2	42″	40″	21″	Aluminum	2214K21	609.70
42″	15,800	65	500	1	3/4	47″	45″	24″	Aluminum	2214K63	828.50
48″	19,400	66	475	1	1	51″	50″	28″	Steel	2214K65	1,090.42
Standard with Tilt Stand											
36″	12,100	63	500	1	1/2	47″	45″	21″	Aluminum	2214K71	888.92
42″	16,900	65	500	1	3/4	54″	52″	27″	Aluminum	2214K73	1,110.05
48″	19,400	66	475	1	1	60″	58″	26″	Steel	2214K75	1,489.90
Corrosion Resistant											
42″	14,400	68	475	2	3/4	44″	46″	22″	Steel	3721T34	905.57
48″	23,500	72	525	1	1	51″	56″	22″	Steel	3721T38	1,018.29

Ceiling Fans

All fans have steel blades with a white epoxy finish and leads for hardwiring. Fans are nonreversible and have a dust-resistant totally enclosed motor. They operate at 50/60 Hz. UL listed. C-UL listed, except the three-speed fan.

Mount fans on flat ceilings at least 10 ft. above the floor. All include mounting hardware and a support cable to mount fans into joists. To mount between joists, use the o*ptional installation kit*. It includes an adjustable brace, an electrical box, and mounting hardware.

Three-speed fan has a pull chain.



Blade Dia.	Max. Airflow, cfm	Volume, dB @ 4 ft.	Included Downrod Lg.		
Single Speed—120 Volts AC, Single Phase					
36″	12,500	50	8″, 24″	2056K82	$131.04
48″	21,000	49	8″, 24″	2056K84	156.02
56″	24,000	50	24″	2056K88	160.51
56″	25,500	50	8″, 24″	2056K86	196.97
60″	46,000	55	24″	2056K95	216.74
Single Speed—277 Volts AC, Single Phase					
56″	26,000	50	24″	2056K93	178.36
Three Speed—120 Volts AC, Single Phase					
56″	25,500	50	8″, 24″	1917K33	214.67
Optional Installation Kit				2042K77	21.47

Ceiling Fan Speed Controls

Convert one or more single-speed ceiling fans to variable speed. Connect them to a single-gang switch box using the wire leads. Mounting fasteners are included.



8- and 12-amp

Capacity	Voltage		
3 amps	120 Volts AC	2042K58	$24.96
8 amps	120 Volts AC	2042K59	57.30
12 amps	120 Volts AC	2042K71	81.60

Light Duty Tilt Fans



Multi-Mount



12″ and 18″ Portable with Floor Stand



Portable with Wheeled Stand

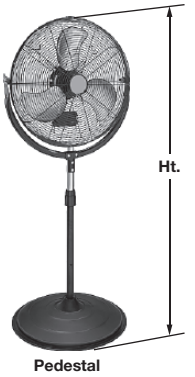

Pedestal

Tilt these nonoscillating fans to direct air where it's needed. Fans have a steel guard. Blades are steel, except 2,800- and 6,800-cfm fans have aluminum blades. Fans are single phase, operate on 120 volts AC, and have a 6-ft. cord with three-prong plug. They are ETL listed, except the 6,800-cfm fan is also C-ETL listed and the 2,800-cfm fan is UL listed.

Multi-mount fans can be mounted on walls, ceilings, and I-beams. They have a steel bracket with a 3/4″ dia. mounting hole (fastener not included). Cannot be sold in California. **Pedestal fan** has an adjustable-height pedestal. The fan's maximum overall height is 60″.

Blade Dia.	Max. Airflow, cfm	Overall Ht.	Overall Wd.	Overall Dp.	Speeds		
Multi-Mount							
12″	1,300	15″	15″	12″	3	1907K14	$82.00
18″	3,100	21″	22″	16″	3	1907K15	112.98
Portable with Floor Stand							
12″	1,300	17″	17″	9″	3	1907K12	94.75
18″	3,100	22″	22″	10″	3	1907K13	107.90
24″	6,800	30″	29″	15″	2	1907K25	294.29
Portable with Wheeled Stand							
18″	3,100	48″	24″	25″	3	1907K11	136.50
Pedestal							
18″	2,800	60″	—	—	3	20965K65	106.86

Light Duty Pedestal Fans

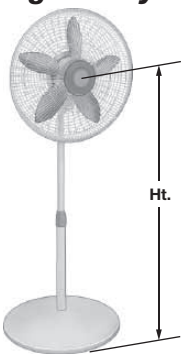

Adjust the height of this three-speed fan to direct airflow where it is needed. Fan oscillates through a 90° arc or locks in a fixed position. Front guard is steel; rear guard, blades, and base are plastic. It is single-phase, operates on 120 volts AC, and has a 6-ft. cord with three-prong plug. ETL listed.

Blade Dia.	Max. Airflow, cfm	Max. Ht.		
18″	1,900	45″	20965K82	$53.80

Light Duty Box Fans



With Optional Wheeled Stand

Mount this three-speed fan in a window, set it on the floor, or use the optional stand.

Fan has a steel housing, plastic blades and guard, and a single-phase, open drip-proof (ODP) motor. Operates on 120 volts AC and has a 6-ft. cord with three-prong plug. Overall size is 24″ Ht. × 21″ Wd. × 6″ Dp. ETL listed.

Optional wheeled stand raises the fan 25″ or 27″ above the floor and allows it to pivot 360°.

Blade Dia.	Max. Airflow, cfm		
20″	2,200	2027K34	$34.33
Optional Wheeled Stand		2027K26	26.49

Light Duty Desk and Wall-Mount Fans



Clip-On Tilt



Desk Tilt

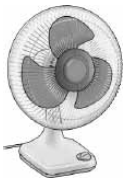

Desk Oscillating

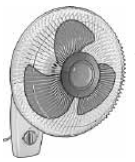

Wall Mount Oscillating

Keep cool with one of these compact personal fans. The base and blades are plastic; the guard is steel. They are single phase, operate on 120 volts AC, and have a 6-ft. cord with three-prong plug. ETL listed.

Blade Dia.	Max. Airflow, cfm	Overall Ht.	Overall Wd.	Overall Dp.	Speeds		
Clip-On Tilt—For surfaces up to 1 1/8″ thick							
6″	190	10″	6″	8″	2	2021K32	$17.76
Desk Tilt							
6″	190	10″	6″	8″	2	2021K31	17.18
Desk Oscillating							
12″	900	19″	14″	11″	3	1908K51	35.21
16″	1,700	23″	18″	12″	3	1908K52	46.67
Wall Mount Oscillating							
12″	900	21″	16″	15″	3	1908K53	46.73
16″	1,700	23″	18″	14″	3	1908K54	53.31
18″	1,900	23″	21″	16″	3	1908K55	64.27

Light Duty Window-Mount Fans

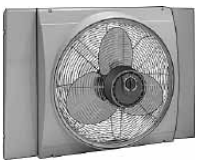

Draw fresh air in or push stale air out. Reverse the airflow of this three-speed fan with the flip of a switch. Side panels expand to fit the width of your window. Fan has a plastic housing, a steel guard, and steel blades. It is single-phase, operates on 120 volts AC, and has a 7-ft. cord with three-prong plug. ETL listed.

Blade Dia.	Max. Airflow, cfm	Overall Ht.	Overall Wd.	Overall Dp.	Max. Wd. Expanded		
20″	3,500	26 1/4″	27″	10″	38″	2098K22	$182.32

Light Duty DC Bench-Top Fans



Mount these nonoscillating fans on your bench top, in your vehicle, or wherever you need cooling. Base is zinc, blades are aluminum, and guard is chrome-plated steel. Fans are direct-drive with a dust resistant totally enclosed motor. They have one lead for hardwiring. Mounting fasteners included.

Voltage	Blade Dia.	Max. Airflow, cfm	Overall Ht.	Overall Wd.	Overall Dp.	Speeds		
12V DC	6 1/2″	270	9″	8″	5″	2	19065K85	$78.27
24V DC	6 1/2″	270	9″	8″	5″	2	19065K89	82.79
36V DC	6 1/2″	270	9″	8″	5″	Variable	19065K92	93.04

Fan Blades

Replace worn and damaged fan blades. Blades rotate clockwise, except Style F rotate counterclockwise. Fasten fan blades to shaft using the included set screws or shaft collar, except Style F with 30″ and 36″ diameter blades. Fan blades with a keyway are for use on motors with a keyed shaft. For difficult-to-remove hubs and fan blades, see fan blade pullers on page 1115.

Light duty fan blades are for use in low-airflow applications. **Medium duty fan blades** are sturdier than light duty fan blades and produce higher airflow. **Heavy duty fan blades** are corrosion resistant and built to last. They produce high airflow. *Style E* has cupped blades to create a focused stream of air.



Blade Dia.	No. of Blades	Pitch	Max. rpm	⌐ @ Max. rpm ¬ cfm	hp	Available Bore Dia.		
Light Duty—Aluminum Blades								
(A) Include set screw								
2½″	10	45°	4,200	25	0.01	3⁄16″	17545K61	$3.27
3″	10	45°	4,200	40	0.01	3⁄16″	17545K62	3.30
3½″	10	45°	4,200	60	0.01	3⁄16″	17545K63	3.39
4″	10	45°	4,200	85	0.01	3⁄16″	17545K64	3.44
4½″	10	45°	4,200	120	0.01	3⁄16″	17545K65	4.09
5″	10	45°	4,200	190	0.03	3⁄16″	17545K66	4.18
6″	4	20°	4,200	320	0.02	3⁄16″	17545K31	3.81
6½″	4	20°	4,200	350	0.03	3⁄16″	17545K32	4.21
7″	5	30°	3,600	550	0.1	1⁄4″	17545K41	5.67
8″	5	30°	3,600	850	0.17	1⁄4″	17545K42	6.77
9″	5	25°	3,600	870	0.12	1⁄4″	17545K83	7.42
10″	5	21°	1,725	820	0.06	1⁄4″	17545K44	8.17
12″	5	24°	1,725	1,300	0.18	5⁄16″	17545K45	11.76
14″	5	32°	1,725	1,900	0.27	1⁄2″	17545K46	15.12
(B) Include shaft collar; blades with 5⁄8″ bore dia. have a keyway								
10″	3	27°	1,725	700	0.03	5⁄16″, 1⁄2″, 5⁄8″	2090K179	34.89
10″	4	23°	1,725	640	0.03	5⁄16″, 1⁄2″, 5⁄8″	2090K199	34.10
12″	4	23°	1,725	1,100	0.06	5⁄16″, 1⁄2″, 5⁄8″	2090K219	35.52
14″	4	23°	1,725	1,800	0.12	5⁄16″, 1⁄2″, 5⁄8″	2090K329	39.13
14″	5	27°	1,725	2,000	0.19	5⁄16″, 1⁄2″, 5⁄8″	2090K419	47.17
16″	4	23°	1,725	2,600	0.21	5⁄16″, 1⁄2″, 5⁄8″	2090K339	45.11
16″	5	27°	1,550	2,800	0.32	5⁄16″, 1⁄2″, 5⁄8″	2090K429	52.80
18″	3	27°	1,725	4,400	0.53	5⁄16″, 1⁄2″, 5⁄8″	2090K619	47.64
18″	3	33°	1,725	4,800	0.68	5⁄16″, 1⁄2″, 5⁄8″	2090K629	47.64
18″	5	27°	1,625	4,000	0.45	5⁄16″, 1⁄2″, 5⁄8″	2090K439	62.68
20″	3	22°	1,550	3,800	0.5	1⁄2″, 5⁄8″	2090K639	51.99
20″	3	30°	1,125	3,700	0.22	1⁄2″, 5⁄8″	2090K649	51.99
20″	5	27°	1,625	5,400	0.95	1⁄2″, 5⁄8″	2090K449	69.66
22″	5	27°	1,625	7,600	1.37	1⁄2″, 5⁄8″	2090K459	75.10
24″	3	33°	1,625	10,000	1.85	1⁄2″, 5⁄8″	2090K659	64.84
24″	5	27°	1,125	6,900	0.74	1⁄2″, 5⁄8″	2090K469	79.26
26″	5	27°	1,125	8,800	1.2	1⁄2″, 5⁄8″	2090K479	78.28
(C) Include shaft collar; blades with 5⁄8″ bore dia. have a keyway								
12″	3	23°	1,725	750	0.02	5⁄16″, 1⁄2″, 5⁄8″	2090K129	35.64
14″	3	23°	1,725	1,200	0.04	5⁄16″, 1⁄2″, 5⁄8″	2090K139	39.07
16″	3	23°	1,725	2,000	0.07	5⁄16″, 1⁄2″, 5⁄8″	2090K149	45.26
18″	3	23°	1,725	2,600	0.15	5⁄16″, 1⁄2″, 5⁄8″	2090K159	47.64
18″	4	23°	1,725	2,700	0.18	5⁄16″, 1⁄2″, 5⁄8″	2090K249	56.22
20″	3	23°	1,725	3,500	0.34	1⁄2″, 5⁄8″	2090K169	51.99
20″	4	23°	1,725	3,500	0.32	1⁄2″, 5⁄8″	2090K259	59.84
24″	3	18°	1,725	5,400	0.52	1⁄2″, 5⁄8″	2090K189	64.84
24″	4	18°	1,725	5,300	0.65	1⁄2″, 5⁄8″	2090K279	73.96
30″	3	23°	1,140	7,700	0.57	1⁄2″	2090K512	76.83
Medium Duty—Galvanized Steel Blades								
(D) All have a shaft collar and keyway								
18″	4	36°	2,125	4,400	0.8	1⁄2″, 5⁄8″, 7⁄8″, 1″, 1 3⁄16″, 1 3⁄8″	19055K67	103.31
20″	4	36°	1,925	5,600	1	1⁄2″, 5⁄8″, 7⁄8″, 1″, 1 3⁄16″, 1 3⁄8″	19055K68	108.69
24″	4	36°	1,325	7,900	1	1⁄2″, 5⁄8″, 7⁄8″, 1″, 1 3⁄16″, 1 3⁄8″	19055K81	114.67
26″	4	38°	1,125	9,000	1.1	1⁄2″, 5⁄8″, 7⁄8″, 1″, 1 3⁄16″, 1 3⁄8″	19055K82	122.42
28″	4	38°	950	10,200	1	1⁄2″, 5⁄8″, 7⁄8″, 1″, 1 3⁄16″, 1 3⁄8″	19055K83	128.40
30″	4	35°	950	10,500	1.3	1⁄2″, 5⁄8″, 7⁄8″, 1″, 1 3⁄16″, 1 3⁄8″	19055K84	133.78
30″	6	38°	1,125	16,100	3.5	1⁄2″, 5⁄8″, 7⁄8″, 1″, 1 3⁄16″, 1 3⁄8″	19055K16	230.58
36″	4	38°	750	15,100	1.5	1⁄2″, 5⁄8″, 7⁄8″, 1″, 1 3⁄16″, 1 3⁄8″	19055K85	159.64
36″	6	38°	850	20,600	3.8	1⁄2″, 5⁄8″, 7⁄8″, 1″, 1 3⁄16″, 1 3⁄8″	19055K18	247.78
42″	4	38°	625	19,400	2	1⁄2″, 5⁄8″, 7⁄8″, 1″, 1 3⁄16″, 1 3⁄8″	19055K86	179.52
42″	6	32°	650	23,100	3.7	1⁄2″, 5⁄8″, 7⁄8″, 1″, 1 3⁄16″, 1 3⁄8″	19055K22	276.82
48″	4	39°	525	24,900	2.5	1⁄2″, 5⁄8″, 7⁄8″, 1″, 1 3⁄16″, 1 3⁄8″	19055K87	213.92
48″	6	34°	500	28,200	3	1⁄2″, 5⁄8″, 7⁄8″, 1″, 1 3⁄16″, 1 3⁄8″	19055K24	335.40
Heavy Duty—Cast Aluminum Blades								
(E) Include set screws								
18″	3	—	1,125	2,600	0.2	5⁄8″	5352K21	138.64
20″	3	—	1,100	3,100	0.2	5⁄8″	5352K42	148.60
24″	3	—	1,050	5,300	0.25	5⁄8″	5352K43	164.36
30″	3	—	1,025	8,000	0.25	5⁄8″	5352K44	174.31
36″	3	—	850	9,800	0.5	5⁄8″	5352K45	202.33
Heavy Duty—Polypropylene Blades with Aluminum Hub								
(F) 12″-24″ dia. blades have set screws and a keyway; 30″ and 36″ dia. blades require an SH bushing (see **6086K12** on page 1092)								
12″	6	35°	5,675	4,800	4	5⁄8″	5352K31	65.16
14″	6	35°	5,000	6,300	4.6	5⁄8″	5352K32	66.64
15″	6	35°	4,725	7,400	5	5⁄8″	5352K33	68.19
16″	6	35°	4,500	8,400	5.28	5⁄8″	5352K34	69.81
18″	6	35°	4,100	10,300	5.83	5⁄8″	5352K35	73.88
20″	6	35°	3,800	11,900	6.1	5⁄8″	5352K36	75.72
24″	6	35°	3,175	17,100	9.27	7⁄8″	5352K37	102.42
30″	6	30°	2,575	24,900	11.6	Requires SH bushing	5352K38	155.70
36″	6	30°	2,175	30,400	10.6	Requires SH bushing	5352K39	221.70


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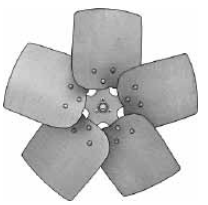
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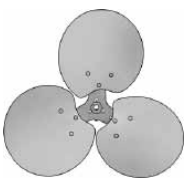
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About Exhaust Fans

To select the exhaust fan that's right for your facility, you'll need to calculate your rate of air exchange—measured in cfm (cubic feet per minute). Divide the cubic feet of your facility by how often you want to exchange the air.

For example, if your facility is 10,000 cubic feet and you want to exchange the air every 5 minutes, you need an exhaust fan that produces airflow of 2,000 cfm.

$$\text{cfm} = \frac{\text{10,000 cubic feet}}{\text{5 minutes}} = 2{,}000$$

Air Exchange Frequency	
Type of Facility	**Air Exchange**
Engine Room	Every 1 to 3 Minutes
Boiler Room, Foundry, Laboratory	Every 1 to 5 Minutes
Factory	Every 2 to 5 Minutes
Office, Warehouse	Every 2 to 10 Minutes

Room Exhaust Fans


A


B


C


D

Remove stale air and humidity. All fans have a single-phase, permanently lubricated motor, operate on 120 volts AC, and have leads for hardwiring. They are UL listed. All have a white plastic grille. A damper prevents backdrafts, except 10″ dia. duct fan does not have a damper. Fans mount in the ceiling. *Styles A & D* can also mount in the wall. Mounting fasteners are not included. *Styles A & B* have a galvanized steel housing. *Styles C & D* have a black-painted steel housing.

Style B have a light that can operate alone or share a switch with the fan. Use a screw-in medium base bulb up to 100 watts (sold separately).

Duct Size	Airflow, cfm	Volume, dB	*Grille Size* Lg.	*Grille Size* Wd.	*Mounting Size* Lg.	*Mounting Size* Wd.	*Mounting Size* Dp.	Mounting Hole Dia.		
(A) Fans for Round Duct										
3″ Dia.	50	48	9 1/4″	9″	7 1/2″	7 1/4″	3 5/8″	1/8″	**2213K31**	$17.93
3″ Dia.	70	54	9 1/4″	9″	7 1/2″	7 1/4″	3 5/8″	1/8″	**2213K32**	36.53
4″ Dia.	80	34	12″	11 1/2″	10″	9 1/4″	5 3/4″	3/16″	**2213K33**	65.55
4″ Dia.	110	44	12″	11 1/2″	10″	9 1/4″	5 3/4″	3/16″	**2213K1**	93.64
(B) Fans for Round Duct with Light										
4″ Dia.	50	41	11 1/8″	10 5/8″	8 1/4″	8″	5 3/4″	3/16″	**2213K48**	47.95
4″ Dia.	70	38	12 1/8″	11 1/2″	10″	9 1/4″	5 3/4″	3/16″	**2213K56**	75.53
4″ Dia.	110	32	12 1/8″	11 1/2″	10″	9 1/4″	5 3/4″	3/8″	**2213K57**	157.93
100-Watt Incandescent Light Bulb for Style B (Pkg. of 6)									**1728K271**	14.52
(C) Fans for Round Duct										
8″ Dia.	180	55	11 1/2″	11 1/2″	—	8 1/4″ Dia.	7″	3/16″	**2213K17**	67.33
10″ Dia.	350	55	13 1/2″	13 1/2″	—	10 1/4″ Dia.	7″	3/16″	**2213K36**	135.09
(D) Fans for Rectangular Duct										
3 1/4″ Ht. x 10″ Wd.	160	51	11 1/2″	11 1/2″	14″	12″	3 1/4″	3/16″	**2213K46**	123.35
3 1/4″ Ht. x 10″ Wd.	270	58	13 1/2″	13 1/2″	16 3/4″	13 7/8″	3 1/4″	3/16″	**2213K54**	171.48

Ultra-Quiet Room Exhaust Fans


For Round Duct


For Rectangular Duct

Keep noise to a minimum with these ceiling/wall-mount exhaust fans. They have a low rpm motor, 1/2″ thick acoustical insulation, and vibration-resistant motor mounts for quiet operation. Housing is galvanized steel and grille is white-painted steel, except 8″ dia. duct fan has a plastic grille. A damper prevents backdrafts. Fans have a single-phase, permanently lubricated motor, leads for hardwiring, and operate on 120 volts AC. UL listed. Mounting fasteners are not included.

Optional variable-speed fan control fits a single gang electrical box and has leads for hardwiring. Mounting fasteners are included.

Duct Size	Airflow, cfm	Volume, dB	*Grille Size* Lg.	*Grille Size* Wd.	*Mounting Size* Lg.	*Mounting Size* Wd.	*Mounting Size* Dp.	Mounting Hole Dia.		
Fans for Round Duct										
8″ Dia.	230	35	14″	14″	12 1/4″	12 1/4″	11 3/4″	1/2″	**2083K41**	$148.62
Fans for Rectangular Duct										
4 1/2″ Ht. x 18 1/2″ Wd.	480	38	23 1/4″	14″	21 1/2″	12 1/4″	11 3/4″	1/2″	**2083K42**	300.48
8″ Ht. x 12″ Wd.	910	47	23 7/8″	19 7/8″	22″	18″	18″	1/2″	**2083K43**	539.20
Optional Variable-Speed Fan Control									**2083K24**	65.95

Through-the-Wall Room Exhaust Fans


Interior Wall


Exterior Wall

Exhaust air and humidity directly into another room or outdoors without using duct. Grille is white plastic. Fans are single phase, operate on 120 volts AC, and have leads for hardwiring. UL listed.

Interior wall fan has an adjustable sleeve for mounting. Housing is galvanized steel. A knob controls the variable-speed, open dripproof motor.

Exterior wall fans vent to the outside. Fans have a black-painted steel housing and permanently lubricated motor. Fasteners are not included. *180 cfm and 270 cfm fans* wire to your wall switch and have a backdraft damper. *470 cfm fan* has a pull chain.

Airflow, cfm	Volume, dB	*Grille Size* Ht.	*Grille Size* Wd.	*Fits Opening* Ht.	*Fits Opening* Wd.	Mounting Hole Dia.		
Interior Wall—For 3 3/4″ to 5″ thick walls								
250	39	11″	13 3/4″	10 1/4″	12 3/4″	—	**1895K11**	$131.32
Exterior Wall—For 4 1/2″ to 9 1/2″ thick walls								
180	55	11 1/2″	11 1/2″	14 1/4″	14 1/4″	3/16″	**2089K5**	105.25
270	54	13 1/2″	13 1/2″	14 1/4″	14 1/4″	3/16″	**2089K34**	171.28
470	58	13 1/2″	13 1/2″	14 1/4″	14 1/4″	3/16″	**2089K6**	171.28

Wall Exhaust Fans with Louvers

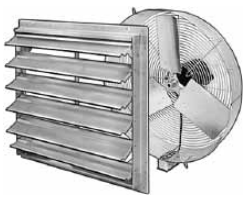

Direct-Drive Light Duty



Direct-Drive Standard

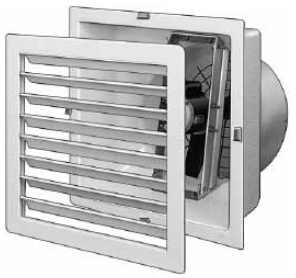

Direct-Drive Corrosion Resistant



Belt-Drive Standard

Don't worry about finding the right louver for your fan—these units combine a powerful fan and a movable-blade louver. Louvers are gravity operated. They open only when air flows through them, which prevents backdrafts. Direct-drive fans have fewer moving parts than belt-drive fans for less maintenance. Belt-drive fans are quieter and have a longer life span than direct-drive fans because components can be replaced if worn or damaged.

Direct-drive light duty fans are designed for use without duct. Frame and guard are steel; fan and louver blades are aluminum. Fans have a dust-resistant totally enclosed motor and leads for hardwiring. Recess mount using the 1/2" x 1/4" mounting slots (fasteners not included). *12" and 16" blade dia. fans* have a dial speed control. *24" and 30" blade dia. fans* have a pull chain and UL recognized components.

Direct-drive standard fans have a galvanized steel frame, cabinet, and louvers. Blades are aluminum. Fans have a wire mesh inlet guard, open dripproof motor, and leads for hardwiring. UL and C-UL listed. They recess mount. Drill mounting holes as needed.

Direct-drive corrosion-resistant fans have a durable fiberglass housing and polypropylene blades that won't rust. Louvers are polypropylene; guard is galvanized steel. Fans have a dust-resistant totally enclosed motor and connections for hardwiring. They recess mount. Drill mounting holes as needed.

Belt-drive standard fans have a steel housing, blades, and frame. Louvers are aluminum. All have leads for hardwiring. Drop-in mount using the 3/16" dia. mounting holes (fasteners not included). *120-volt AC fans* have an open dripproof motor. *230/460-volt AC fans* have a dust-resistant totally enclosed motor.

Blade Dia.	Max. Airflow, cfm	Volume, dB	Max. rpm	Speeds	hp	Fits Opening Ht.	Fits Opening Wd.	Overall Ht.	Overall Wd.	Overall Dp.		
Direct-Drive Light Duty Fans												
120 Volts AC, Single Phase												
12"	2,000	Not Rated	1,550	3	1/5	12 1/2"	12 1/2"	15"	15"	8 1/2"	19455K21	$173.66
16"	3,000	Not Rated	1,775	3	1/5	16 1/2"	16 1/2"	19"	19"	9"	19455K22	259.17
24"	5,000	Not Rated	1,200	2	1/4	24 1/2"	24 1/2"	27"	27"	13 1/2"	19455K23	360.33
30"	7,800	Not Rated	1,200	2	1/4	30 1/2"	30 1/2"	33"	33"	13 3/4"	19455K24	418.66
Direct-Drive Standard Fans												
120 Volts AC, Single Phase												
10"	870	54	1,550	1	1/20	17 1/4"	17 1/4"	19 1/2"	19 1/2"	20 3/4"	19105K18	578.15
12"	1,500	59	1,550	1	1/8	17 1/4"	17 1/4"	19 1/2"	19 1/2"	20 3/4"	19105K19	591.22
16"	2,500	61	1,300	1	1/2	21 1/4"	21 1/4"	23 1/2"	23 1/2"	25 1/4"	19105K24	781.56
18"	3,800	63	1,300	1	3/4	25 1/4"	25 1/4"	27 1/2"	27 1/2"	26 1/4"	19105K25	865.27
24"	6,600	66	1,075	1	3/4	31 1/4"	31 1/4"	33 1/2"	33 1/2"	30 1/4"	19105K26	1,155.82
208-230/460 Volts AC, Three Phase												
24"	5,200	69	1,125	1	1/2	31 1/4"	31 1/4"	33 1/2"	33 1/2"	30 1/4"	19105K27	1,328.95
230/460 Volts AC, Three Phase												
30"	8,400	77	1,125	1	1	37 1/4"	37 1/4"	39 1/2"	39 1/2"	27 1/2"	19105K28	1,585.80
36"	12,300	76	850	1	1 1/2	43 1/4"	43 1/4"	45 1/2"	45 1/2"	31 1/2"	19105K32	2,068.14
Direct-Drive Corrosion Resistant Fans												
120/230 Volts AC, Single Phase												
12"	1,300	Not Rated	1,700	1	1/3	17 1/2"	18 1/2"	21 1/4"	20 3/4"	20 5/8"	6658T81	421.67
16"	2,400	58	1,725	1	1/3	21 1/2"	23"	24 5/8"	24 1/8"	23"	6658T82	510.00
20"	3,100	60	1,700	1	1/3	25 3/4"	25 3/4"	28 1/4"	28 3/4"	25 1/2"	6658T83	584.00
24"	4,700	62	1,700	1	1/2	31 1/2"	31 1/2"	34 3/8"	34 1/2"	27 1/2"	6658T84	798.00
Belt-Drive Standard Fans												
120 Volts AC, Single Phase												
30"	6,000	62	550	1	1/2	37"	37"	36 1/2"	36 1/2"	19"	2101K12	1,144.76
36"	8,100	60	400	1	1/2	43"	43"	42 1/2"	42 1/2"	19"	2101K13	1,276.45
42"	11,000	65	400	1	3/4	49"	49"	48 1/2"	48 1/2"	19"	2101K14	2,001.89
48"	14,900	64	350	1	1	55"	55"	54 1/2"	54 1/2"	19"	2101K15	2,189.96
230/460 Volts AC, Three Phase												
30"	6,000	62	550	1	1/2	37"	37"	36 1/2"	36 1/2"	25"	2101K22	1,418.40
36"	8,100	60	400	1	1/2	43"	43"	42 1/2"	42 1/2"	25"	2101K23	1,622.76
42"	11,000	65	400	1	3/4	49"	49"	48 1/2"	48 1/2"	25"	2101K24	2,055.52
48"	14,900	64	350	1	1	55"	55"	54 1/2"	54 1/2"	25"	2101K25	2,198.64

Wall Fan Guards

Protect fans from debris. Mounting hardware is included. Guards are galvanized steel.



Fits Fan Blade Dia.	Supply Side Fan Guards Overall Ht.	Overall Wd.	Overall Dp.			Exhaust Side Fan Guards Overall Ht.	Overall Wd.	Overall Dp.		
12"	16 1/4"	16 1/4"	16"	19555K11	$145.24	13 3/4"	13 3/4"	6"	19555K51	$110.41
14" to 16"	22 1/4"	22 1/4"	16"	19555K12	171.11	19 3/4"	19 3/4"	6"	19555K52	123.19
18"	24 1/4"	24 1/4"	16"	19555K13	186.73	21 3/4"	21 3/4"	6"	19555K53	124.32
20" to 24"	30 1/2"	30 1/2"	25"	19555K14	212.24	27 3/4"	27 3/4"	6"	19555K54	143.16
30"	36 1/2"	36 1/2"	25"	19555K16	259.95	33 3/4"	33 3/4"	6"	19555K56	175.14
36"	42 1/2"	42 1/2"	28"	19555K18	315.38	39 3/4"	39 3/4"	6"	19555K58	203.43
42"	48 1/2"	48 1/2"	34 1/2"	19555K21	409.25	45 3/4"	45 3/4"	6"	19555K61	228.38
48"	54 1/2"	54 1/2"	36 1/2"	19555K22	473.62	51 3/4"	51 3/4"	6"	19555K63	277.52

Wall Exhaust Fans



A
8″ to 14″ Blade Dia.



B&C

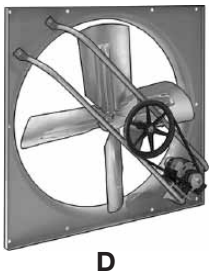

D
Belt Drive

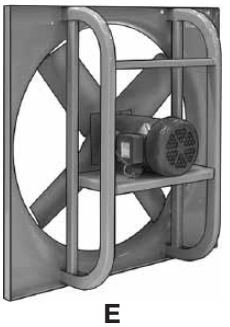

E
Direct Drive

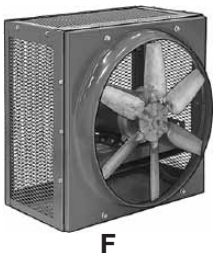

F

Expel stagnant and humid air. Fans must be hardwired. Wall collars and louvers are also available (see pages 689-690). Direct-drive fans have fewer moving parts than belt-drive fans for less maintenance. Belt-drive fans are quieter and have a longer life span than direct-drive fans because components can be replaced if worn or damaged.

Low-profile fans mount flush to the wall. They have a totally enclosed motor. Frame and blades are steel.

Standard fans are for use in clean, dry environments. They have an open dripproof motor and a steel frame. *Direct-drive fans* have aluminum blades. *Belt-drive fans* have steel blades.

Dust-resistant fans are better suited to damp and dirty environments than standard fans. All have a totally enclosed motor. They have a steel frame. *Styles B&C* have aluminum blades. *Styles D&E* have steel blades.

Hazardous location fans have a motor that is UL listed for Class I, Group D and Class II, Groups F and G hazardous environments, except 2208K44 is UL listed for Class I, Group D. All have a steel frame and aluminum blades.

	Blade Dia.	Airflow, cfm	Volume, dB	rpm	hp	Amps	Overall Ht.	Overall Wd.	Overall Dp.		
Direct-Drive Low-Profile Fans											
120 Volts AC, Single Phase											
A	8″	520	Not Rated	3,125	1/10	0.6	12 1/4″	12 1/4″	3 1/8″	**2058K1**	$219.88
A	10″	1,000	Not Rated	2,650	1/4	1.5	14 5/8″	14 5/8″	3 1/4″	**2058K2**	239.31
A	12″	1,500	Not Rated	2,850	1/4	1.9	17″	17″	3 3/4″	**2058K3**	290.16
A	14″	1,800	Not Rated	1,525	1/4	1.8	19″	19″	4 1/8″	**2058K4**	303.92
A	16 1/2″	3,300	Not Rated	1,650	3/8	2.5	21 3/8″ dia.	—	6 1/2″	**2058K7**	402.75
Direct-Drive Standard Fans											
120 Volts AC, Single Phase											
B	12″	1,500	59	1,550	1/8	1.7	16 1/8″	16 1/8″	8″	**1932K13**	309.49
B	20″	4,100	63	1,075	1/2	9.8	24 1/8″	24 1/8″	10 5/8″	**1932K17**	524.60
B	24″	6,600	66	1,075	3/4	13.8	30 1/8″	30 1/8″	11 1/8″	**1932K18**	594.85
Direct-Drive Dust-Resistant Fans											
120 Volts AC, Single Phase											
B	8″	400	48	1,550	1/40	1.0	13″	13″	6 5/8″	**2187K28**	198.00
B	10″	600	54	1,550	1/40	1.0	13″	13″	6 5/8″	**2187K29**	224.06
B	12″	1,300	54	1,650	1/4	3.5	20″	20″	7 7/8″	**2187K31**	309.16
B	16″	2,900	61	1,750	1/3	5.6	24″	24″	12 5/8″	**2187K32**	375.44
B	18″	4,200	64	1,750	1/2	8.0	26″	26″	13 7/8″	**2187K33**	486.00
B	20″	6,200	67	1,750	3/4	10.6	28″	28″	15 5/8″	**2187K34**★	560.95
B	24″	4,800	63	850	1/2	5.0	30″	30″	15 1/2″	**2187K22**	512.94
C	12″	2,000	Not Rated	1,550	1/5	1.1	18″	18″	5 1/4″	**1915K81**	196.92
C	16″	3,000	Not Rated	1,775	3/10	1.1	21″	21″	6 1/4″	**1915K82**	288.61
C	22″	4,200	Not Rated	1,200	1/4	2.1	28″	28″	10 1/4″	**1915K83**	362.49
D	30″	7,300	69	825	1/2	9.6	36″	36″	13 3/4″	**2187K23**	911.98
D	36″	8,600	72	825	1/2	9.6	42″	42″	12 1/4″	**2187K24**	985.18
208-230/460 Volts AC, Three Phase											
D	30″	7,300	70	825	1/2	2.0/1.0	36″	36″	13 3/4″	**2187K26**	826.00
D	36″	8,600	73	825	1/2	2.0/1.0	42″	42″	12 1/4″	**2187K27**	949.28
230/460 Volts AC, Three Phase											
B	24″	4,600	68	825	1/4	1.0/0.5	30″	30″	15 1/2″	**2187K25**	798.03
E	18″	3,900	73	1,750	1/2	2.0/1.0	24″	24″	10″	**2222K5**	658.03
E	24″	6,800	80	1,750	1	3.6/1.8	30″	30″	12 1/4″	**2222K7**	815.51
E	30″	14,400	88	1,750	3	9.6/4.2	36″	36″	14 1/4″	**2222K11**	1,073.95
E	36″	20,300	91	1,750	5	15.2/7.6	42″	42″	15 3/4″	**2222K14**	1,387.49
E	42″	26,600	88	1,150	5	15.2/7.6	48″	48″	20″	**2222K17**	1,898.74
E	48″	37,100	90	1,150	7 1/2	22.0/11.1	54″	54″	22 1/2″	**2222K19**	2,640.10
Direct-Drive Hazardous Location Fans											
120/230 Volts AC, Single Phase											
F	12″	1,600	63	1,725	1/4	4.2/2.1	16 1/8″	16 1/8″	17 3/4″	**2208K41**	805.93
F	16″	2,800	71	1,725	1/3	6.0/3.0	20 1/8″	20 1/8″	15″	**2208K42**	1,004.72
F	20″	4,800	75	1,725	1/2	7.4/3.7	24 1/8″	24 1/8″	19 1/2″	**2208K43**	1,091.45
F	24″	6,500	71	1,125	3/4	11.4/5.7	30 1/8″	30 1/8″	29 1/8″	**2208K44**	1,626.49
230/460 Volts AC, Three Phase											
F	20″	4,800	75	1,725	1/2	2.0/1.0	24 1/8″	24 1/8″	19 1/2″	**2208K51**	1,248.69
F	30″	11,000	79	1,125	1 1/2	5.2/2.6	36 1/8″	36 1/8″	29 1/4″	**2208K52**	1,823.46
F	36″	15,500	82	1,125	2	7.0/3.5	42 1/8″	42 1/8″	29 3/4″	**2208K53**	2,048.33
Belt-Drive Standard Fans											
120 Volts AC, Single Phase											
D	30″	8,200	63	600	1/2	6.0	36″	36″	18 3/8″	**2192K64**	633.86
D	36″	10,600	63	425	1/2	6.0	42″	42″	18 5/8″	**2192K67**	717.98
D	48″	18,500	69	400	1	11.0	54″	54″	24 3/4″	**2192K77**	1,166.00
230/460 Volts AC, Three Phase											
D	30″	8,200	63	600	1/2	2.0/1.0	36″	36″	18 3/8″	**2192K22**	681.95
D	36″	10,600	63	425	1/2	2.0/1.0	42″	42″	18 5/8″	**2192K32**	760.14
D	48″	18,500	69	400	1	3.6/1.8	54″	54″	24 3/4″	**2192K53**	1,281.32
Belt-Drive Dust-Resistant Fans											
230/460 Volts AC, Three Phase											
E	36″	14,200	76	800	1 1/2	5.2/2.6	42″	42″	19 1/8″	**1922K93**	1,227.87
E	48″	26,800	80	600	3	9.6/4.8	54″	54″	24 7/8″	**1922K95**	1,561.34
E	54″	37,600	78	525	5	15.2/7.6	60″	60″	23 1/2″	**1922K96**	2,773.96
E	60″	50,000	87	500	7 1/2	22.2/11.1	66″	66″	23 1/2″	**1922K97**	3,271.02

★ Operates on 120/230 Volts AC.

Supply/Exhaust 12-Volt DC Fans



Draw fresh air in or push stale air out with these reversible fans. Guard and blades are impact-resistant nylon. Fans have a dust-resistant totally enclosed motor and leads for hardwiring. Mounting holes are 1/4″ dia. (fasteners not included).

Blade Dia.	Airflow, cfm	rpm	Amps	O'all Dia.		
10″	950	2,700	7.9	12″	**5159T41**	$134.05
12″	1,100	2,300	7.7	14 3/8″	**5159T42**	140.81
14″	1,500	2,200	10.1	15 9/16″	**5159T43**	148.37
16″	2,100	2,700	18	17 1/16″	**5159T45**	183.81

Wall Collars for Exhaust Fans

Connect your wall exhaust fan to a louver. One side of the collar fits around your exhaust fan and the other includes a flange for mounting a louver. Collars are for use in interior and exterior walls. Made of galvanized steel.

Collars with 1⅛″ flange fit the direct-drive standard and hazardous location fans on page 688.

Collars with 1¼″ flange fit the direct-drive dust-resistant and all belt-drive fans on page 688.

Note: To be compatible, the collar must be larger than the overall fan dimensions.



For Fan Blade Dia.	For Louvers That Fit Opening Ht.	Wd.	Overall Ht.	Wd.	With 1⅛″ Flange: For Wall Opening Ht.	Wd.			With 1¼″ Flange: For Wall Opening Ht.	Wd.		
12″	16″	16″	19½″	19½″	17¼″	17¼″	5353K22	$164.62	17″	17″	5353K11	$118.85
16″	20″	20″	23½″	23½″	21½″	21½″	5353K24	197.92	21″	21″	5353K12	119.83
18″	24″	24″	27½″	27½″					25″	25″	5353K13	158.52
20″	24″	24″	27½″	27½″	25¼″	25¼″	5353K25	223.73				
24″	30″	30″	33½″	33½″	31¼″	31¼″	5353K26	251.14	31″	31″	5353K14	182.12
30″	36″	36″	39½″	39½″	37¼″	37¼″	5353K27	250.31	37″	37″	5353K15	227.67
36″	42″	42″	45½″	45½″	43¼″	43¼″	5353K28	327.83	43″	43″	5353K16	265.62
42″	48″	48″	51½″	51½″					49″	49″	5353K17	305.98
48″	54″	54″	57½″	57½″					55″	55″	5353K18	338.74
54″	60″	60″	63½″	63½″					61″	61″	5353K19	436.48
60″	66″	66″	69½″	69½″					67″	67″	5353K21	523.06

Heavy Duty Movable-Blade Wall Louvers



Surface Mount



Recess Mount



Flush Mount

Thicker than standard movable-blade wall louvers, these are rugged and dependable. Blades are 0.020″-0.025″ thick aluminum. Louvers that fit 38″ openings and smaller are single panel; 40″-60″ are double panel, and 66″ are triple panel. Maximum air velocity is 2,500 fpm. Temperature range is –10° to 200°F, except motorized units have a maximum temperature of 130°F. Choose from surface, recess, and flush mount.

Surface Mount—Frame and flange mount outside the wall. Flange has ¼″ dia. mounting holes (fasteners not included). Overall size is 3″ larger than opening size.

Recess Mount—Frame rests in the wall. The flange has ¼″ dia. holes for mounting to the outside of the wall (fasteners not included). When the blades close, they're flush with the wall surface. Overall size is 3″ larger than opening size.

Flush Mount—Fit inside a wall or duct. Overall size is ⅛″ smaller than opening size.

Aluminum Frame Louvers—0.063″ thick and 1⅞″ deep except for drop-in mount louvers smaller than 50″ wide, which are 0.05″ thick and have a frame depth of 1½″.

Galvanized Steel Frame Louvers—0.079″ thick and 1½″ deep.

Gravity-operated louvers stay open only when air flows, which prevents backdrafts.

Pull-chain louvers stay closed unless the chain is tugged and secured. **Motorized louvers** have one single-phase motor, unless noted. They operate on 120/240 volts AC, and have leads for hardwiring.

To Order: Please specify mounting style: surface, recess, or flush.

Fits Opening Wd.	Ht.	Aluminum Frame: Gravity Operated		Pull Chain		Motorized		Galvanized Steel Frame: Gravity Operated		Pull Chain		Motorized	
10″	10″	2047K311	$41.69	2047K411	$101.30	2047K511	$234.22	2030K111	$62.85	2030K211	$111.55	2030K311	$220.40
12″	12″	2047K312	50.77	2047K412	113.70	2047K512	237.50	2030K112	73.00	2030K212	123.18	2030K312	227.82
14″	14″	2047K336	52.22	2047K436	118.33	2047K536	244.72	2030K142	79.83	2030K242	131.15	2030K342	242.87
16″	16″	2047K313	56.21	2047K413	126.60	2047K513	253.21	2030K113	84.46	2030K213	136.18	2030K313	247.34
18″	18″	2047K314	62.38	2047K414	131.30	2047K514	257.55	2030K114	87.31	2030K214	139.36	2030K314	252.02
20″	20″	2047K315	73.69	2047K415	144.50	2047K515	265.93	2030K115	99.62	2030K215	153.55	2030K315	264.60
22″	22″	2047K316	83.08	2047K416	157.10	2047K516	269.72	2030K116	110.00	2030K216	165.45	2030K316	268.71
24″	24″	2047K317	93.08	2047K417	170.70	2047K517	276.09	2030K117	121.15	2030K217	178.18	2030K317	279.84
26″	26″	2047K318	94.08	2047K418	172.00	2047K518	283.45	2030K118	123.00	2030K218	180.18	2030K318	287.42
28″	28″	2047K319	107.77	2047K419	187.20	2047K519	295.73	2030K119	137.92	2030K219	197.00	2030K319	299.35
30″	30″	2047K321	109.62	2047K421	192.70	2047K521	298.74	2030K121	140.38	2030K221	199.74	2030K321	304.92
32″	32″	2047K322	126.85	2047K422	211.96	2047K522	322.91	2030K122	159.08	2030K222	221.27	2030K322	310.92
34″	34″	2047K337	137.15	2047K437	221.15	2047K537	323.45	2030K143	187.80	2030K243	226.05	2030K343	316.95
36″	24″	2047K339	140.94	2047K439	225.47	2047K539	326.54	2030K145	190.73	2030K245	236.98	2030K345	321.64
36″	36″	2047K323	150.38	2047K423	238.37	2047K523	377.27	2030K123	194.03	2030K223	246.45	2030K323	348.47
38″	38″	2047K324	157.85	2047K424	243.30	2047K524	352.09	2030K124	209.42	2030K224	260.45	2030K324	355.00
40″	40″	2047K325	212.00	2047K425	320.18	2047K525	422.09	2030K125	311.04	2030K225	348.27	2030K325	445.17
42″	42″	2047K326	219.08	2047K426	328.91	2047K526	429.64	2030K126	320.00	2030K226	356.82	2030K326	453.14
44″	44″	2047K327	245.00	2047K427	360.64	2047K527	461.45	2030K127	348.15	2030K227	381.34	2030K327	476.92
48″	48″	2047K328	270.00	2047K428	391.27	2047K528	539.55	2030K128	385.91	2030K228	415.61	2030K328	516.67
50″	50″	2047K329	273.31	2047K429	395.36	2047K529	510.55	2030K129	384.46	2030K229	420.79	2030K329	535.67
54″	54″	2047K331	304.15	2047K431	433.18	2047K531★	538.18	2030K131	416.75	2030K231	442.88	2030K331★	564.33
56″	56″	2047K333	323.54	2047K433	456.82	2047K533★	564.82	2030K133	440.96	2030K233	457.75	2030K333★	592.33
60″	60″	2047K334	351.15	2047K434	491.36	2047K534★	597.82	2030K134	460.76	2030K234	490.67	2030K334★	626.17
66″	66″	2047K335	489.23	2047K435	697.74	2047K535■	932.00	2030K135	615.25	2030K235	682.50	2030K335■	950.17

★ Has two single-phase motors. ■ Has three single-phase motors.

Movable-Blade Wall Louvers

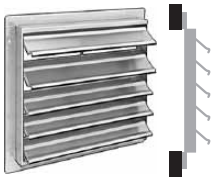

Surface Mount

These gravity-operated louvers remain open only when air flows, preventing backdrafts. All have a flange with 1/4" Ht. x 1/2" Wd. slots (fasteners not included). Frame is made of 0.037" galvanized steel. Blades are 0.017" thick aluminum. Louvers that fit 36 1/2" and smaller openings are single panel; louvers that fit 42 1/2" and larger openings are double panel. Maximum air velocity is 2,500 fpm. Temperature range is -40° to 180° F.

Fits Opening Wd.	Fits Opening Ht.	Overall Wd.	Overall Ht.	Frame Dp.		
Surface Mount						
10 1/2"	10 1/2"	13"	13"	2 1/2"	20015K61	$37.11
12 1/2"	12 1/2"	15"	15"	2 1/2"	20015K62	41.09
16 1/2"	16 1/2"	19"	19"	2 1/2"	20015K63	46.50
18 1/2"	18 1/2"	21"	21"	2 1/2"	20015K64	54.82
20 1/2"	20 1/2"	23"	23"	2 1/2"	20015K65	63.46
24 1/2"	24 1/2"	27"	27"	3"	20015K66	75.69
30 1/2"	30 1/2"	33"	33"	3"	20015K67	90.29
36 1/2"	36 1/2"	39"	39"	3"	20015K68	101.93
42 1/2"	42 1/2"	45"	45"	3"	20015K72	129.88
48 1/2"	48 1/2"	51"	51"	3"	20015K73	144.60
54 1/2"	54 1/2"	57"	57"	3"	20015K74	220.26

Heavy Duty Fixed-Blade Wall Louvers

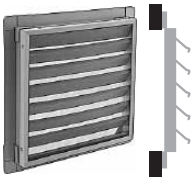

Surface Mount

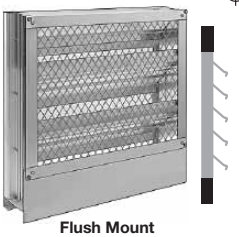

Flush Mount

Constructed with a thick frame and blades, these louvers have a long service life.

Surface-mount louvers have a 1 1/4" wide flange for mounting outside your wall. They're 1 3/4" deep and have a 1/8" thick frame. Blades are 1/16" thick. They include a plastic insect screen.

Flush-mount louvers mount inside your wall. They're 4" deep and include a bird screen. Blades are designed to direct water away from the louvers. *Extruded aluminum louvers* are 0.081" thick. *Galvanized steel louvers* are 0.064" thick.

Surface Mount

Fits Opening Wd.	Fits Opening Ht.	Overall Wd.	Overall Ht.	PVC	
12"	12"	13 3/4"	13 3/4"	20405K11	$95.00
12"	18"	13 3/4"	19 3/4"	20405K12	107.25
12"	24"	13 3/4"	25 3/4"	20405K13	143.75
14"	24"	15 3/4"	25 3/4"	20405K14	150.38

Flush Mount

Fits Opening Wd.	Fits Opening Ht.	Overall Wd.	Overall Ht.	Extruded Aluminum		Galvanized Steel	
18"	18"	17 1/2"	17 1/2"	2100K251	$169.29	2100K151	$194.17
24"	24"	23 1/2"	23 1/2"	2100K252	247.02	2100K152	228.57
24"	36"	23 1/2"	35 1/2"	2100K254	299.40	2100K154	296.43
36"	24"	35 1/2"	23 1/2"	2100K253	307.50	2100K153	295.24
36"	36"	35 1/2"	35 1/2"	2100K255	386.67	2100K155	377.98
36"	48"	35 1/2"	47 1/2"	2100K258	397.90	2100K158	383.20
48"	36"	47 1/2"	35 1/2"	2100K256	387.70	2100K156	383.80
48"	48"	47 1/2"	47 1/2"	2100K259	431.25	2100K159	416.79
60"	48"	59 1/2"	47 1/2"			2100K161	489.29
60"	60"	59 1/2"	59 1/2"	2100K264	591.47	2100K164	585.93

Corrosion-Resistant Movable-Blade Wall Louvers

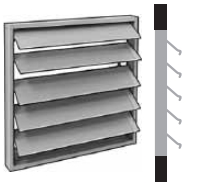

Flush-Mount PVC

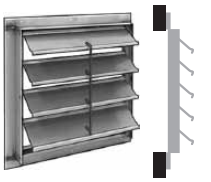

Surface-Mount Type 304 Stainless Steel

Able to withstand harsh environments, these louvers won't rust. They are gravity operated. The louvers remain open only when air flows, preventing backdrafts.

Flush-mount PVC louvers have a 1 3/4" deep frame and 1/16" thick blades. Louvers that fit 18" and smaller openings are single panel; 24" and higher are double panel. Max. air velocity is 1,200 fpm. Temperature range is 5° to 140° F.

Surface-mount Type 304 stainless steel louvers have a flange with 1/4" dia. holes (fasteners not included). Frame is 2 3/8" deep; blades are 0.019" thick. They are single panel. Max. air velocity is 2,500 fpm. Temperature range is –20° to 200° F.

Fits Opening Wd.	Fits Opening Ht.	Overall Wd.	Overall Ht.		
Flush-Mount PVC					
12"	12"	11 7/8"	11 7/8"	19615K35	$80.62
16"	16"	15 7/8"	15 7/8"	19615K37	94.00
18"	18"	17 7/8"	17 7/8"	19615K39	96.75
24"	24"	23 7/8"	23 7/8"	19615K47	138.22
30"	30"	29 7/8"	29 7/8"	19615K53	166.11
36"	36"	35 7/8"	35 7/8"	19615K57	195.56
Surface-Mount Type 304 Stainless Steel					
12"	12"	15"	15"	6420T18	217.98
16"	16"	19"	19"	6420T22	263.96
18"	18"	21"	21"	6420T24	279.38
20"	20"	23"	23"	6420T26	321.77
24"	24"	27"	27"	6420T29	382.59
30"	30"	33"	33"	6420T33	428.00
36"	36"	39"	39"	6420T37	520.42

Adjustable-Width Fixed-Blade Wall Louvers

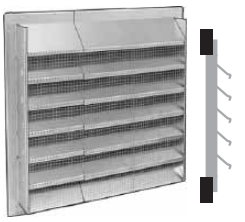

Recess Mount

Get an exact fit for your opening by sliding out the louver to the width you need. Made of corrosion-resistant aluminum, they have a 4" deep frame (mounting fasteners included) and 0.04" thick blades. Louvers include a galvanized steel bird screen.

Fits Opening Wd.	Fits Opening Ht.		
Recess Mount			
12" to 18"	14"	1152T52	$99.02
18" to 24"	18"	1152T54	136.02
21" to 36"	30"	1152T58	242.02
24" to 36"	36"	1152T63	295.00
36" to 48"	48"	1152T61	379.27

Fixed-Blade Wall Louvers

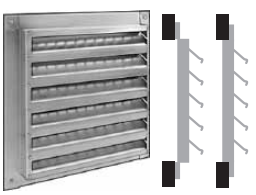

Surface/Recess Mount

Always open, these are our most basic wall louvers. They surface or recess mount. All have a 1 1/4" wide flange.

White plastic louvers have 1/16" thick blades. Frame is 0.06" thick and 1 3/8" deep.

Aluminum louvers have 0.015" thick blades. Frame is 0.04" thick and 1 1/2" deep.

Fits Opening Wd.	Fits Opening Ht.	White Plastic Overall Wd.	White Plastic Overall Ht.			Aluminum Overall Wd.	Aluminum Overall Ht.	Aluminum Plain		Aluminum White Painted	
8"	8"	10 1/2"	10 1/2"	2038K1	$9.69						
12"	12"	14 1/2"	14 1/2"	2038K2	11.40	14 1/2"	14 5/8"	2038K14	$19.00	2038K61	$21.34
12"	18"	14 1/2"	20 1/2"	2038K3	15.54	14 1/2"	20 1/2"	2038K16	23.46	2038K62	26.60
14"	24"	16 3/4"	26 3/4"	2038K6	19.12	16 1/2"	26 3/8"	2038K59	31.66	2038K63	36.60
18"	24"	20 3/4"	26 3/4"	2038K7	28.60	20 1/2"	26 3/8"	2038K21	41.37	2038K64	44.77
24"	30"					26 1/2"	32 1/4"	2038K23	59.94	2038K65	69.11

Louvers for Block and Brick Walls

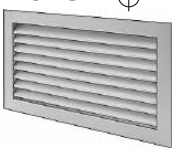

Sized for use in block and brick walls, these louvers recess mount into short openings that are too small for most louvers. They're 1½" deep and made of ⅛" thick aluminum. All include an insect screen.

Fits Opening Wd.	Ht.	Overall Wd.	Ht.	Replaces Blocks	No. of Bricks		
8⅝"	8"	10⅛"	9¾"	½	3	19715K76	$76.47
16"	8"	17⅝"	9¾"	1	6	19715K78	101.47
17"	8"	18½"	9¾"	—	6	19715K79	101.47

Fixed-Blade Wall Louvers with Adjustable Register

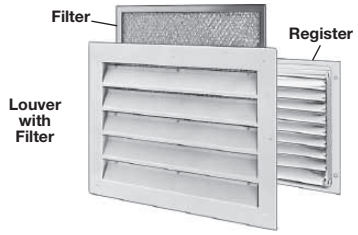

Mount these louvers through an outside wall and control airflow from the inside by adjusting the register. Louvers are 2½" deep. They have a white powder-coated 0.036" thick steel frame and blades. Flange is 1½" wide with ⅛" dia. mounting holes (fasteners not included). Overall size is 3" larger than opening size. All include an insect screen.

Louvers with filter include a washable aluminum filter.

Fits Opening Wd.	Ht.	Louvers		Louvers with Filter		Replacement Filters	
14"	10"	2039K4	$161.11	2039K1	$175.15	2039K91	$24.55
20"	14"	2039K5	192.00	2039K2	202.32	2039K92	31.30

Mini Wall Louvers



Polypropylene



Aluminum



Steel

Relieve heat buildup in small, enclosed areas.

Lightweight round louvers are flush mount.

Heavy duty rectangular louvers are rugged and durable. They are surface mount and include mounting fasteners. *Steel louvers* have a gray powder-coated finish.

Lightweight Round Louvers

Fits Opening Size, Dia.	Overall Dia.	Dp.	Pkg. Qty.		Pkg.
White Polypropylene—0.07" Thick					
2"	2½"	1"	1	2016K23	$3.01
3"	3½"	1"	1	2016K25	4.52
4"	4½"	1"	1	2016K26	5.90
Aluminum—0.015" Thick					
1"	1¼"	⅜"	12	2016K1	7.85
1½"	1¾"	⅜"	12	2016K2	11.97
2"	2½"	½"	12	2016K3	14.47
2½"	3"	¾"	1	2016K4	1.38
3"	3½"	⅝"	1	2016K35	1.56
4"	4½"	⅞"	1	2016K36	1.93
White Painted Aluminum—0.015" Thick					
1"	1¼"	⅜"	12	2016K11	9.93
2"	2½"	½"	1	2016K43	1.54
3"	3½"	⅝"	1	2016K45	1.99
4"	4½"	⅞"	1	2016K46	2.47
Black Anodized Aluminum—0.015" Thick					
4"	4½"	⅞"	1	2016K9	13.53

Heavy Duty Rectangular Louvers—0.075" Thick

Fits Opening Wd.	Ht.	Overall Wd.	Ht.	Steel	Each	Type 316 SS	Each
1¾"	2"	3¼"	3¼"	1667T34	$30.86	1667T71	$127.56
3"	2⅝"	4½"	3⅞"	1667T36	32.22	1667T73	133.67
3"	3½"	4½"	4¾"	1667T51	32.73	1667T75	139.28
4"	3¼"	5½"	4½"	1667T38	31.00	1667T77	139.24
4"	4⅜"	5½"	5⅝"	1667T55	33.05	1667T79	148.19
6"	4⅜"	7½"	5⅝"	1667T59	36.08	1667T82	157.82
6"	6⅝"	7½"	7⅞"	1667T62	37.52	1667T84	164.00
8"	4 9⁄16"	9½"	5 13⁄16"	1667T43	41.38	1667T86	162.90
8"	6 15⁄16"	9½"	8⅜"	1667T45	46.92	1667T88	180.55
8"	9 5⁄16"	9½"	10 9⁄16"	1667T68	52.30	1667T91	201.30
8"	14 1⁄16"	9½"	15 5⁄16"	1667T47	61.84	1667T93	237.50

Door Louvers



Allow air to circulate through doors. These louvers have fixed blades and include fasteners.

Indoor steel louvers have a 0.036" thick frame and 0.024" thick blades.

Indoor/outdoor aluminum louvers are 0.040" thick. **Indoor/outdoor Type 304 stainless steel louvers** have a 0.047" thick frame and 0.030" thick blades.

Indoor/outdoor fire-rated steel louvers have a spring-loaded, fusible link that locks blades closed if the temperature reaches 167° F. They are UL fire-rated for 90 minutes. Thickness is 0.060".

Fits Opening Wd.	Ht.	Overall Wd.	Ht.		
Indoor Steel					
For 1⅜"-1¾" thick doors					
12½"	12½"	14"	14"	1911K31	$44.47
18½"	12½"	20"	14"	1911K32	52.86
24½"	12½"	26"	14"	1911K33	57.72
24½"	18½"	26"	20"	1911K34	73.13
24½"	24½"	26"	26"	1911K35	81.28
For 1⅜"-2¼" thick doors					
8½"	8½"	10¼"	10¼"	2037K511	57.60
10½"	4½"	12¼"	6¼"	2037K521	56.80
10½"	6½"	12¼"	8¼"	2037K531	56.80
12½"	6½"	14¼"	8¼"	2037K541	62.40
12½"	8½"	14¼"	10¼"	2037K551	64.80
12½"	12½"	14¼"	14¼"	2037K561	70.40
14½"	8½"	16¼"	10¼"	2037K581	68.80
14½"	10½"	16¼"	12¼"	2037K591	70.40
14½"	12½"	16¼"	14¼"	2037K611	73.60
16½"	6½"	18¼"	8¼"	2037K631	68.80
16½"	8½"	18¼"	10¼"	2037K641	70.40
16½"	10½"	18¼"	12¼"	2037K651	63.20
16½"	12½"	18¼"	14¼"	2037K661	80.00
16½"	16½"	18¼"	18¼"	2037K671	74.40
18½"	12½"	20¼"	14¼"	2037K68	83.20
18½"	24½"	20¼"	26¼"	2037K831	115.83
20½"	8½"	22¼"	10¼"	2037K691	80.00
20½"	10½"	22¼"	12¼"	2037K711	83.20
20½"	12½"	22¼"	14¼"	2037K721	90.40
20½"	14½"	22¼"	16¼"	2037K731	92.80
20½"	16½"	22¼"	18¼"	2037K741	95.20
20½"	20½"	22¼"	22¼"	2037K751	106.43
24½"	6½"	26¼"	8¼"	2037K761	83.20
24½"	10½"	26¼"	12¼"	2037K771	92.80
24½"	12½"	26¼"	14¼"	2037K781	95.20
24½"	16½"	26¼"	18¼"	2037K791	106.43
24½"	18½"	26¼"	20¼"	2037K811	115.83
24½"	24½"	26¼"	26¼"	2037K821	142.50
Indoor/Outdoor Aluminum					
For 1⅜"-1¾" thick doors					
8½"	8½"	10¼"	10¼"	19605K511	55.97
10½"	4½"	12¼"	6¼"	19605K521	50.91
12½"	8½"	14¼"	10¼"	19605K551	64.93
12½"	12½"	14¼"	14¼"	19605K561	71.82
14½"	8½"	16¼"	10¼"	19605K581	79.20
14½"	12½"	16¼"	14¼"	19605K611	86.35
16½"	8½"	18¼"	10¼"	19605K641	68.97
16½"	16½"	18¼"	18¼"	19605K671	95.93
18½"	12½"	20¼"	14¼"	19605K891	69.46
20½"	10½"	22¼"	12¼"	19605K711	84.20
20½"	12½"	22¼"	14¼"	19605K721	92.01
20½"	14½"	22¼"	16¼"	19605K731	98.86
20½"	16½"	22¼"	18¼"	19605K741	107.71
20½"	20½"	22¼"	22¼"	19605K751	120.19
24½"	12½"	26¼"	14¼"	19605K781	87.88
24½"	16½"	26¼"	18¼"	19605K791	117.88
24½"	18½"	26¼"	20¼"	19605K811	123.90
24½"	24½"	26¼"	26¼"	19605K821	155.34
Indoor/Outdoor Type 304 Stainless Steel					
For 1¾" thick doors					
12"	12"	12⅞"	12⅞"	19475K72	229.02
18"	12"	18⅞"	12⅞"	19475K74	258.46
24"	12"	24⅞"	12⅞"	19475K76	307.92
24"	18"	24⅞"	18⅞"	19475K78	342.86
24"	24"	24⅞"	24⅞"	19475K82	402.76
Indoor/Outdoor Fire-Rated Steel					
For 1¾" thick doors					
12"	12"	12⅞"	12⅞"	1157T3	199.53
18"	12"	18⅞"	12⅞"	1157T4	227.41
18"	18"	18⅞"	18⅞"	1157T5	248.10
18"	24"	18⅞"	24⅞"	1157T6	287.83
24"	12"	24⅞"	12⅞"	1157T7	254.45
24"	18"	24⅞"	18⅞"	1157T8	287.83
24"	24"	24⅞"	24⅞"	1157T9	291.05
Replacement Fusible Link				1157T11	$18.30

Movable-Blade Louvers for Roof Exhaust Fans


Louver


Mounting Base

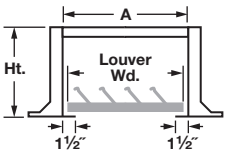

The blades on these louvers are gravity operated. They open when your roof-mounted exhaust fan goes on and close when it's off, preventing backdrafts. They have a galvanized steel frame and aluminum blades for corrosion resistance. Felt seals on the face of the blades ensure quiet closing and better protection from the weather. Mounting bases (sold separately) are galvanized steel. Louvers fit the bottom of the mounting base and must be secured to the lip of the base with sheet metal screws (not included; see pages 2996-3005). Louver is 0.040″ thick; blades are 0.016″ thick. Temperature range is –40° to 180° F. Maximum air velocity is 2,000 fpm.

Also Available: Additional louver sizes. Please ask for 8061T999 and specify louver dimensions.

Louvers				8″ High Mounting Bases			12″ High Mounting Bases		
Overall Lg.	Overall Wd.			Inside Wd. (A)			Inside Wd. (A)		
13¾″	13¾″	8061T3	$41.37	14½″	2230K11	$98.74	14½″	2230K64	$118.64
15¾″	15¾″	8061T5	44.40	16½″	2230K13	105.11	16½″	2230K31	123.67
17¾″	17¾″	8061T9	48.69				19½″	2230K33	135.80
19¾″	19¾″	8061T14	52.86	21½″	2230K16	121.60			
21¾″	21¾″	8061T16	60.29				23½″	2230K35	147.48
23¾″	23¾″	8061T19	66.10				25½″	2230K36	154.68
27¾″	27¾″	8061T26	76.22				28½″	2230K39	163.68
34¾″	34¾″	8061T28	106.62	35½″	2230K63	161.20	35½″	2230K94	186.87
36¾″	36¾″	8061T29	112.75				37½″	2230K45	189.83

Wind-Driven Turbine Exhaust Fans



Designed to spin freely with the slightest breeze, these fans create a vacuum that draws air out from buildings and ventilation systems. No electricity is required. Mount fans on your roof away from wind obstructions. Optional mounting bases are sold separately on this page. Maximum temperature is 150° F. For information about exhaust fans, see page 686.

Steel exhaust fans have a galvanized finish for added corrosion resistance.

Dia.	Max. Ht.	Airflow, cfm @ 4 mph	Thick.	Steel		Type 304 Stainless Steel	
6″	14½″	110	0.018″	1992K12	$56.52	1992K43	$159.62
8″	15½″	195	0.018″	1992K14	60.66	1992K45	165.47
10″	16¾″	305	0.018″	1992K16	69.59	1992K47	181.08
12″	17¼″	440	0.024″	1992K17	71.98	1992K48	210.58
14″	20″	600	0.024″	1992K18	88.68	1992K49	255.37
16″	22½″	790	0.024″	1992K21	137.80	1992K52	307.40
18″	24″	1,000	0.024″	1992K22	156.64	1992K53	376.80
20″	24½″	1,200	0.024″	1992K23	175.69	1992K54	406.90
24″	29½″	1,700	0.024″	1992K24	220.44	1992K55	535.38
30″	32″	2,700	0.030″	1992K25	493.59	1992K56	1,292.73
36″	38″	4,000	0.030″	1992K27	672.56		

Bases for Wind-Driven Exhaust Fans



Flat Base



Straight Base



Slope Base

Made of corrosion-resistant galvanized steel, these bases have a square bottom and round top. All have 4″ wide flashing to simplify installation.

To Order: For slope bases, please specify pitch: 1/12-11/12 in increments of 1/12. To determine pitch, use an angle indicator (see page 2313) or divide rise by run (see illustration). For instance, if your roof rises 5″ in 12″ of horizontal space, your pitch is 5/12.

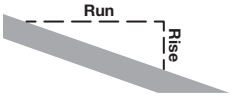

(A)	(B)	Ht.	Flat Bases		Straight Bases		Slope Bases	
8″	10″	10″	2003K91	$49.61	2003K51	$49.61	2003K31	$77.17
10″	12″	10″	2003K92	51.45	2003K52	51.45	2003K32	80.85
12″	14″	10″	2003K93	53.29	2003K53	53.29	2003K33	84.55
14″	16″	10″	2003K94	84.55	2003K54	84.55	2003K34	121.30
16″	18″	10″	2003K95	113.95	2003K55	113.95	2003K35	172.75
18″	22″	10″	2003K96	115.53	2003K56	115.53	2003K36	141.37
20″	24″	10″	2003K97	126.03	2003K57	126.03	2003K37	196.02
24″	30″	12″	2003K98	150.29	2003K58	150.29	2003K38	222.16

Exterior-Mount Wall Exhaust Fans


Fan


Grille


Louver

Attach to an outside wall. Ideal when you don't have room to mount an exhaust fan inside your facility, these fans work with or without duct. To use with duct, add an angle ring (sold separately; see 1764K on page 664). Motor is single-phase, open dripproof, and sealed against contaminants. All have a junction box. They are direct-drive and operate on 120 volts AC, except 18″ dia. fan operates on 120/230 volts AC. Mounting fasteners not included. Maximum temperature is 180° F. UL and C-UL listed. For information about exhaust fans, see page 686. For information about sound levels, see page 673.

Grilles are aluminum. They have fixed blades.

Louvers are aluminum. They are gravity operated. The blades open when air flows and close when it stops, preventing backdrafts.

Blade Dia.	Airflow, cfm★ @0″ SP	@1/4″ SP	Volume, dB	rpm	hp	Fits Opening Dia.	Sq.	Overall Dia.	Dp.	Fans		Grilles		Louvers	
7″	190		49	1,050	1/25	8″	8″	17 1/8″	13″	1925K1	$420.30	1925K81	$34.56	1925K91	$51.37
10″	550	250	52	1,050	1/25	10″	10″	21 1/8″	16″	1925K2	441.78	1925K82	38.29	1925K92	52.30
13″	1,600	1,400	59	1,075	1/6	12″	12″	30 3/16″	28 3/4″	1925K4	763.08	1925K84	44.83	1925K93	54.17
16″	2,800	2,400	65	1,075	1/3	14″	16″	34 11/16″	30 7/8″	1925K5	985.37	1925K85	62.58	1925K94	63.51
18″	4,300	4,000	69	1,125	3/4	18″	20″	39 7/16″	35 5/8″	1925K62	1,383.65	1925K87	99.00	1925K97	80.32

★ Airflow depends on the resistance created by louvers, filters, and ductwork in your system. This resistance, known as static pressure (SP), is measured in inches of water.

Roof Exhaust Fans

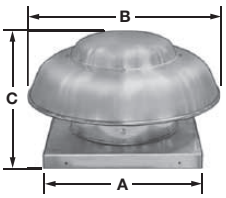

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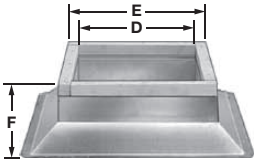

Mounting Base

Exhaust stagnant and humid air through your roof. All fans have a disconnect switch so power can be turned off during servicing. Direct-drive fans have fewer moving parts than belt-drive fans for less maintenance. Belt-drive fans are quieter and have a longer life span than direct-drive fans because components can be replaced if worn or damaged.

Downdraft—More economical than upblast units, these fans draw air out and then direct it back toward the roof.

Upblast—Often used with air containing dirt and other contaminants, these fans draw air out and expel it away from your roof.

(1) Downdraft direct-drive fans are aluminum and include a bird screen. Fans have a dust-resistant totally enclosed motor and screw terminals for hardwiring, except 2050K21 has an open motor. Not rated for maximum temperature. ETL listed.

(2&3) Downdraft high-output fans are aluminum and include a bird screen. They have an open dripproof motor and screw terminals for hardwiring. Not rated for maximum temperature. Fans are ETL listed. *Style 2* has a speed-control box.

(4) Upblast direct-drive fans are aluminum. They have an open dripproof motor, screw terminals for hardwiring, and a speed-control box. Maximum temperature is 300° F. ETL listed.

(5) Upblast direct-drive high-output fans are steel with cast aluminum blades. All have a dust-resistant totally enclosed motor and leads for hardwiring. They can be wired to 230 volts AC. Not rated for maximum temperature.

(6) Upblast belt-drive high-output fans are aluminum. They have an open dripproof motor and screw terminals for hardwiring. Maximum temperature is 300° F. ETL listed and AMCA (Air Movement and Control Association) rated.

Blade Dia.	*Airflow, cfm* ★ @0″ SP	@1/2″ SP	Volume, dB	rpm	hp	(A)	(B)	(C)	Exhaust Fans		Mounting Bases (D)	(E)	(F)		
(1) Downdraft Direct-Drive															
120 Volts AC, Single Phase															
10″	500	60	Not rated	1,500	1/30	19″	18 5/16″	11 1/4″	**2050K21**	$252.50	14 1/2″	17 1/2″	8″	**2230K11**	$98.74
12″	830	430	Not rated	1,500	1/10	19″	20 5/16″	11 3/4″	**2050K22**	323.20	14 1/2″	17 1/2″	8″	**2230K11**	98.74
14″	1,100	520	Not rated	1,100	1/6	21″	27 5/16″	14 5/8″	**2050K13**	418.14	16 1/2″	19 1/2″	8″	**2230K13**	105.11
18″	2,400	1,200	Not rated	1,100	1/3	26″	33 9/16″	16 3/8″	**2050K16**	559.54	21 1/2″	24 1/2″	8″	**2230K16**	121.60
(2) Downdraft Direct-Drive High-Output															
120 Volts AC, Single Phase															
11″	800	600	62	1,625	3/16	19″	23 3/4″	16 1/4″	**2011K54**	424.53	14 1/2″	17 1/2″	8″	**2230K11**	98.74
12″	1,400	1,200	65	1,625	1/4	21″	26 1/4″	19 1/8″	**2011K65**	451.67	16 1/2″	19 1/2″	8″	**2230K13**	105.11
14″	2,400	2,200	70	1,625	1/2	21″	29 3/4″	21 3/4″	**2011K57**	590.91	16 1/2″	19 1/2″	8″	**2230K13**	105.11
(3) Downdraft Belt-Drive High-Output															
120/208-230 Volts AC, Single Phase															
16″	3,000	2,400	66	1,175	1/2	24 3/4″	33 1/4″	30 5/8″	**2207K11**	751.44	20″	23″	12″	**2230K34**	135.80
21″	5,200	4,500	68	900	1	28″	38 1/4″	32 3/4″	**2207K12**	1,133.22	23 1/2″	26 1/2″	12″	**2230K35**	147.48
208-230/460 Volts AC, Three Phase															
25″	7,300	6,500	70	775	1 1/2	33″	42 1/2″	37 3/4″	**2207K13**	1,476.62	28 1/2″	31 1/2″	12″	**2230K39**	163.68
(4) Upblast Direct-Drive															
120 Volts AC, Single Phase															
11″	710	400	60	1,625	3/16	19″	22″	18″	**2232K55**	541.73	14 1/2″	17 1/2″	12″	**2230K64**	118.64
12″	1,300	1,100	65	1,625	1/3	21″	25 1/2″	25 1/4″	**2232K23**	653.75	16 1/2″	19 1/2″	12″	**2230K31**	123.67
16″	3,100	2,700	71	1,625	3/4	24 3/4″	31 7/8″	30 1/2″	**2232K24**	868.60	20″	23″	12″	**2230K34**	135.80
(5) Upblast Direct-Drive High-Output															
460 Volts AC, Three Phase															
24″	7,400	____	76	1,750	3/4	36″	30″	20 3/4″	**2081K19**	1,650.77	31 1/2″	34 1/2″	12″	**2230K66**	176.31
30″	11,700	7,300	76	1,150	2	42″	36″	23 1/2″	**2081K13**	2,107.69	37 1/2″	40 1/2″	12″	**2230K45**	189.83
36″	14,800	____	78	1,150	1	48″	44″	26 3/4″	**2081K21**	2,394.03	43 1/2″	46 1/2″	12″	**2230K48**	207.65
42″	24,700	17,000	85	1,150	3	54″	50″	29 1/2″	**2081K15**	2,838.46	49 1/2″	52 1/2″	12″	**2230K49**	230.53
48″	34,300	25,500	86	1,150	5	60″	56″	38 3/4″	**2081K17**	3,167.16	55 1/2″	58 1/2″	8″	**2230K26**	210.49
(6) Upblast Belt-Drive High-Output															
120/208-230 Volts AC, Single Phase															
19″	3,900	3,200	67	1,725	3/4	28″	39 3/8″	33 3/4″	**6905K35**	1,044.72	23 1/2″	26 1/2″	12″	**2230K35**	147.48
208-230/460 Volts AC, Three Phase															
24″	6,600	5,400	69	1,700	1 1/2	33″	43 3/8″	37 1/2″	**6905K18**	1,560.74	28 1/2″	31 1/2″	12″	**2230K39**	163.68
30″	10,200	9,000	72	1,725	3	40″	52 3/4″	40″	**6905K19**	2,058.85	35 1/2″	38 1/2″	12″	**2230K94**	186.87

★ Airflow depends on the resistance created by ductwork. This resistance, known as static pressure (SP), is measured in inches of water.

Duct Fans



1

Install at any point in your ductwork for use as an exhaust, supply, or booster fan. Fans with a totally enclosed motor are dust resistant. Fans with a hazardous location motor are UL listed for Class I, Group D, and Class II, Groups F and G locations. **Direct-drive fans** have fewer moving parts than belt-drive fans for less maintenance. **Belt-drive fans** have a longer life span than direct-drive fans because components can be replaced if worn or damaged.

(1) Direct-Drive Corrosion-Resistant Fans—A tough plastic housing and a moisture-resistant seal make these corrosion and weather resistant. Blades are plastic. Maximum temperature is 140° F. UL and C-UL listed.

(2) Direct-Drive Corrosion-Resistant Fans—Blades are plastic. Maximum temperature is 140° F. UL and C-UL listed.

(3) Direct-Drive High-Output Fans—Blades are aluminum. Attach to duct using the flanges with 7/16″ dia. mounting holes (fasteners not included). Maximum temperature is 104° F.

(4) Belt-Drive High-Output Fans—Blades are aluminum. Attach to duct using the flanges with 7/16″ dia. mounting holes (fasteners not included). Maximum temperature is 175° F.

(5) Belt-Drive Corrosion-Resistant High-Output Fans—Blades are Type 316 stainless steel. Attach to duct using the flanges with 7/16″ dia. mounting holes (fasteners not included). Maximum temperature is 200° F.

Also Available: Mounting clamps to connect Styles 1 and 2 fans to duct. Please ask for 1967K74 and specify your duct diameter.



2



3



4&5

For Duct Dia.	Airflow, cfm★ @1/8″ SP	Airflow, cfm★ @3/8″ SP	Volume, dB @ 10 ft.	rpm	hp	Housing Lg.	Housing Dia.	Overall Ht.	Totally Enclosed Motor		Hazardous Location Motor	
(1) Direct-Drive Corrosion Resistant—Plastic Housing												
120 Volts AC, Single Phase—Terminal Block												
4″	110	81	Not Rated	2,950	1/40	9 5/8″	9 1/2″	9 1/2″	19135K65	$182.26		
5″	130	96	Not Rated	2,950	1/40	7 7/8″	9 1/2″	9 1/2″	19135K92	190.19		
6″	245	205	Not Rated	2,750	1/10	9 5/8″	11 3/4″	11 3/4″	19135K66	207.03		
8″	380	310	Not Rated	2,750	1/6	12 1/4″	13 1/4″	13 1/4″	19135K67	289.25		
8″	410	375	Not Rated	3,100	1/6	12 1/4″	13 1/4″	13 1/4″	19135K95	337.78		
10″	620	565	Not Rated	2,850	1/3	9 1/4″	13 1/4″	13 1/4″	19135K96	386.32		
(2) Direct-Drive Corrosion Resistant—Galvanized Steel Housing												
120 Volts AC, Single Phase—6-ft. Cord with Three-Prong Plug												
4″	115	89	Not Rated	3,000	1/40	6 1/2″	8 3/4″	10 3/4″	1967K21	187.22		
5″	135	105	Not Rated	3,000	1/40	5 1/2″	8 3/4″	10 3/4″	1967K22	196.13		
6″	280	240	Not Rated	2,700	1/10	6″	11 3/8″	13 3/8″	1967K23	208.02		
8″	425	360	Not Rated	2,550	1/6	6″	13 3/8″	15 3/8″	1967K24	285.28		
8″	480	435	Not Rated	2,950	1/5	6″	13 3/8″	15 3/8″	1967K25	334.81		
10″	570	540	Not Rated	3,100	1/4	5 7/8″	13 3/8″	15 3/8″	1967K26	380.38		
12″	700	620	Not Rated	2,600	1/4	8 1/4″	16″	18″	1967K27	457.64		
120 Volts AC, Single Phase—Junction Box												
4″	115	89	Not Rated	3,000	1/40	6 1/2″	8 3/4″	10 3/4″	1967K11	172.36		
5″	135	105	Not Rated	3,000	1/40	5 1/2″	8 3/4″	10 3/4″	1967K12	181.27		
6″	280	240	Not Rated	2,700	1/10	6 ″	11 3/8″	13 3/8″	1967K13	193.16		
8″	425	360	Not Rated	2,550	1/6	6″	13 3/8″	15 3/8″	1967K14	270.42		
8″	480	435	Not Rated	2,950	1/5	6″	13 3/8″	15 3/8″	1967K15	322.45		
10″	570	540	Not Rated	3,100	1/4	5 7/8″	13 3/8″	15 3/8″	1967K16	365.52		
12″	700	620	Not Rated	2,600	1/4	8 1/4″	16″	18″	1967K17	442.78		
(3) Direct-Drive High-Output—Steel Housing												
120/230 Volts AC, Single Phase—Junction Box												
12″	2,000	1,900	72	3,450	1/2	20″	14 1/16″	14 1/16″	1927K51	563.79	1927K61	$810.91
15″	2,700	2,100	63	1,750	1/2	20″	17 1/16″	17 1/16″	1927K53	729.31	1927K63	1,037.29
18″	4,500	3,900	69	1,750	3/4	20″	20 1/16″	20 1/16″	1927K14	840.00	1927K34	1,118.97
24″	5,800	4,900	69	1,750	3/4	21″	26 11/16″	26 11/16″	1927K16	840.00	1927K36	1,136.84
230/460 Volts AC, Three Phase—Junction Box												
12″	2,000	1,900	72	3,450	1/2	20″	14 1/16″	14 1/16″	1927K52	569.09	1927K62	1,029.09
15″	2,700	2,100	63	1,750	1/2	20″	17 1/16″	17 1/16″	1927K54	707.27	1927K64	1,045.76
18″	4,500	3,900	63	1,750	3/4	20″	20 1/16″	20 1/16″	1927K56	732.73	1927K66	1,067.80
24″	5,800	4,900	69	1,750	3/4	21″	26 11/16″	26 11/16″	1927K57	736.36	1927K67	1,116.95
(4) Belt-Drive High-Output—Steel Housing												
120/230 Volts AC, Single Phase—Junction Box												
12″	1,600	1,400	67	3,025	1/2	12″	14 1/16″	23 7/16″	2097K32	789.23	2097K52	988.71
15″	3,200	2,800	66	2,275	3/4	12″	17 1/16″	26 15/16″	2097K93	926.15	2097K94	1,209.23
18″	3,400	2,500	61	1,600	1/2	12″	20 1/16″	30 3/16″	2097K35	928.33	2097K55	1,209.68
230/460 Volts AC, Three Phase—Junction Box												
18″	4,800	4,400	66	2,150	1	12″	20 1/16″	30 3/16″	2097K36	1,148.33	2097K56	1,486.15
24″	7,900	7,000	74	1,800	1 1/2	16″	26 11/16″	36 11/16″	2097K38	1,183.87	2097K58	1,652.31
36″	15,200	13,300	69	1,000	2	16″	39 1/4″	49 1/4″	2097K88	1,764.62	2097K96	2,384.62
(5) Belt-Drive Corrosion Resistant High-Output—Type 304 Stainless Steel Housing												
230/460 Volts AC, Three Phase—Junction Box												
12″	1,800	1,600	60	3,050	3/4	20″	14 1/16″	25 5/8″	2357K13	2,543.33		
18″	4,800	4,600	67	2,350	1 1/2	20″	20 1/16″	32 11/16″	2357K37	3,278.33		
24″	7,900	7,200	69	1,700	2	21″	26 11/16″	38 3/4″	2357K62	3,953.33		

★ Airflow depends on the resistance created by ductwork. This resistance, known as static pressure (SP), is measured in inches of water.

12-Volt DC Duct Fans



Often used in vehicles, these plastic units operate on DC power and mount at any point along your ductwork. They have leads for hardwiring. Max. temperature is 200° F. Install using the 3/16″ × 3/8″ mounting slots (fasteners not included).

For Duct Dia.	Airflow, cfm @ 0″ SP★	Volume, dB @ 3 ft.	Overall Lg.	Overall Wd.	Overall Ht.		
3″	130	68	5 1/4″	5″	3 3/16″	19665K11	$41.09
4″	230	68	5 1/4″	6″	4 3/16″	19665K21	44.97

★ Airflow depends on the resistance created by ductwork. This resistance, known as static pressure (SP), is measured in inches of water.

Duct Booster Fans

Increase airflow through ductwork. Fans have a single phase open motor. They operate on 120 volts AC and have leads for hardwiring, except 4″ dia. duct fan has a 6-ft. cord with three-prong plug. Housing is galvanized steel.

Inline-mount fans have one crimped end for insertion into duct, except 4″ dia. duct fan is crimped on both ends. *Single-speed fans* have aluminum blades, except 4″ dia. duct fan has plastic blades. *Two-speed fans* have plastic blades.

Cutout-mount fan installs into a hole in your duct. A template is included. Blades are plastic.

Optional thermostat adjusts from 40° to 110° F. It has a 6-ft. cord with three-prong plug, operates on 120 volts AC, and is rated for 5 amps.

For Duct Dia.	Max. Airflow, cfm @ 0″ SP★	Max. rpm	Overall Lg.	Max. Temp.		
Inline Mount—Single Speed						
4″	80	1,500	6″	140° F	1850K21	$48.45
6″	240	2,250	7 1/4″	265° F	1850K12	50.70
8″	420	2,700	7 1/4″	265° F	1850K14	63.65
10″	650	1,400	8″	255° F	1850K16	94.67
12″	800	1,300	8″	140° F	1850K18	75.00
14″	1,350	1,500	9 1/8″	255° F	1850K27	119.15
Inline Mount—Two Speed						
6″	300	2,200	6″	140° F	1850K13	49.74
8″	600	1,750	8″	140° F	1850K15	70.12
Cutout Mount—Single Speed						
6″ to 8″	250	1,950	11″	140° F	1850K22	38.00
Optional Thermostat					1850K52	32.73

★ Airflow depends on the resistance created by ductwork. This resistance, known as static pressure (SP), is measured in inches of water.



Inline Mount



Cutout Mount

Portable Blowers

Position wherever you need to circulate air and dry surfaces. These blowers operate on 120 volts AC.

Light duty blowers are compact for use in tight spaces. Housing is plastic. They have a 10-ft. cord with three-prong plug. ETL listed.

Medium duty blowers move enough air to ventilate a room and dry large surfaces. Housing is plastic. They have a 25-ft. cord with three-prong plug. UL and C-UL listed, except the downdraft blower is ETL listed. *Downdraft medium-duty blower* directs air down to dry floors quickly. It can also be turned on its side.

Heavy duty blower generates a powerful air stream for use in large spaces. It has a steel housing and pneumatic wheels for rough environments. It has a 3-ft. cord with three-prong plug.



Light Duty



Medium Duty

Max. Airflow, cfm	Volume, dB @ 5 ft.	hp	Amps	Outlet Ht.	Outlet Wd.	Overall Ht.	Overall Wd.	Overall Dp.		
Light Duty—Three Speed										
310	60	1/16	0.8	3 1/4″	7″	11 1/4″	9 1/4″	13″	3225K34	$82.40
350	77	1/13	0.9	4 1/4″	8 3/8″	14 1/2″	11″	11 1/2″	3225K35	134.84
425	78	1/11	1.1	4″	12″	15 1/4″	12″	15″	3225K36	144.20
Medium Duty—Three Speed										
2,700	65	1/3	4	4 3/4″	16 3/4″	18 7/8″	17″	18 3/8″	3225K31	366.67
3,500	75	1	10	4 3/4″	16 3/4″	18 7/8″	17″	18 3/8″	3225K32	497.74
Downdraft Medium Duty—Two Speed										
5,500	78	1	7.5	—	20″ Dia.	14 3/4″	25 1/2″	26″	3225K33	596.67
Heavy Duty—Variable Speed										
9,100	97	1 1/2	15	—	16″ Dia.	23″	17 1/2″	18 1/2″	3225K37	2,173.00



Downdraft Medium Duty



Heavy Duty

Blowers

Use for equipment cooling, material conveying, drying, ventilating, and exhausting.

Standard blowers have a steel housing and wheel for strength and durability. Inlet is round and outlet is rectangular. All must be hardwired. Base has 3/8″ dia. mounting holes (fasteners not included). Temperature range is –15° to 180° F.

Corrosion- and spark-resistant blowers have a cast aluminum housing with a round inlet and outlet. All have a junction box. Base has 7/16″ dia. mounting holes (fasteners not included). Temperature range is 0° to 150° F. *Blowers with totally enclosed motor* have a steel wheel. *Blowers with hazardous location motor* are UL listed for Class I, Group D, and Class II, Groups F and G hazardous locations. Wheel is aluminum, except 1,070-cfm blower has a steel wheel.

ⓘ For blower performance curves, go to mcmaster.com and search for **1963KAC**.



With Rectangular Outlet

Standard—Rectangular Outlet

Airflow, cfm★ @ 1/4″ SP	@ 3/4″ SP	Volume, dB @ 5 ft.	rpm	hp	Amps	Inlet Dia.	Outlet Ht.	Outlet Wd.	Wheel Dia.	Overall Ht.	Overall Wd.	Overall Dp.	Open Dripproof Motor	
120 Volts AC, Single Phase														
515	300	54	1,750	1/6	3.9	6″	7 3/8″	4 1/4″	6 1/4″	15 5/8″	15″	11″	1963K13	$323.46
120/230 Volts AC, Single Phase														
1,000	865	59	1,750	1/3	6/3	8″	8 1/4″	5 3/8″	7 3/4″	16 1/2″	16 1/4″	13 5/8″	1963K15	397.27
1,100	855	56	1,140	1/3	7.6/3.8	9″	10 3/4″	6 1/2″	9″	18 5/8″	17 5/8″	14 7/8″	1963K37	635.71
1,800	1,500	61	1,150	3/4	12.6/6.3	10″	11 3/4″	8″	10 5/8″	22 1/2″	18 7/8″	17 1/4″	1963K39	1,036.31
230/460 Volts AC, Three Phase														
515	300	54	1,750	1/4	1.3/0.7	6″	7 3/8″	4 1/4″	6 1/4″	15 5/8″	15″	11″	1963K24	402.75
1,000	865	59	1,750	1/3	1.6/0.8	8″	8 1/4″	5 3/8″	7 3/4″	16 1/2″	16 1/4″	13 5/8″	1963K26	480.22
1,100	855	56	1,150	1/3	2.2/1.1	9″	10 3/4″	6 1/2″	9″	18 5/8″	17 5/8″	14 7/8″	1963K48	699.58
1,800	1,500	61	1,150	3/4	3/1.5	10″	11 3/4″	8″	10 5/8″	22 1/2″	18 7/8″	17 1/4″	1963K31	774.55

Corrosion and Spark Resistant—Round Outlet

Airflow, cfm★ @ 1/4″ SP	@ 1″ SP	Volume, dB @ 5 ft.	rpm	hp	Amps	Inlet Dia.	Outlet Dia.	Wheel Dia.	Overall Ht.	Overall Wd.	Overall Dp.	Totally Enclosed Motor		Hazardous Location Motor	
120/230 Volts AC, Single Phase															
375	320	70	3,450	1/3	7/3.5	5″	4″	4 3/4″	12 5/8″	9 7/8″	12 1/4″	1955K52	$526.67	1955K62	$856.25
505	295	65	1,750	1/4	6/3	6″	6″	6 1/4″	14 1/8″	12 1/4″	13 1/4″	1955K53	550.00	1955K63	996.88
1,045	—	65	1,150	1/3	7.8/3.9	8″	8″	8 1/4″	18 3/4″	14 3/4″	15 3/8″	1955K55	978.33	1955K81	1,387.50
1,070	995	77	3,450	1 1/2	17/8.5	6″	6″	6 1/4″	14 1/8″	12 1/4″	13 1/4″	1955K54	806.67	1955K82	1,179.69

★ Airflow depends on the resistance created by ductwork. This resistance, known as static pressure (SP), is measured in inches of water.

Heavy Duty Blowers



With Round Outlet

Powerful and durable, these blowers are able to blow air through larger systems that have more airflow resistance than standard blowers can handle. All blowers have a round inlet and an aluminum wheel. They have a direct-drive motor and a junction box. Maximum rpm is 3,450. Mounting fasteners are not included.

Standard blowers have a thick steel housing that resists vibration. *Blowers with rectangular outlet* have 3/8" dia. mounting holes. Temperature range is –15° to 180° F. *Blowers with a round outlet* have 7/16" dia. mounting holes. Temperature range is –15° to 150° F.

Spark-resistant blowers are also corrosion resistant. They have a cast aluminum housing with 7/16" dia. mounting holes. Temperature range is 0° to 150° F. *Hazardous location motor* is UL listed for Class I, Group D, and Class II, Groups F and G hazardous locations.

Corrosion-resistant blowers have a Type 304 stainless steel housing. Blowers have 3/8" dia. mounting holes. Temperature range is –15° to 180° F.

For blower performance curves, go to mcmaster.com and search for **1953KAC.**

Standard

Airflow, cfm★ @3" SP	Airflow, cfm★ @5" SP	Volume, dB @ 5 ft.	hp	Inlet Dia.	Outlet Ht.	Outlet Wd.	Wheel Dia.	Overall Ht.	Overall Wd.	Overall Dp.	Open Dripproof Motor Amps			Totally Enclosed Motor Amps		
120/230 Volts AC, Single Phase—Rectangular Outlet																
345	195	77	3/4	5"	3 1/2"	3 1/2"	9"	15 3/4"	20 3/4"	13 5/8"	9.4/4.7	1953K13	$436.27	9.6/4.8	1953K22	$455.92
635	505	84	1 1/2	6"	4"	3 1/2"	10 5/8"	19"	20 3/4"	15 5/8"	12.8/6.4	1953K14	530.35	16/8	1953K23	592.31
230/460 Volts AC, Three Phase—Rectangular Outlet																
345	195	77	3/4	5"	3 1/2"	3 1/2"	9"	15 3/4"	20 3/4"	13 5/8"				2.6/1.3	1953K52	702.50
635	505	84	1 1/2	6"	4"	3 1/2"	10 5/8"	19"	20 3/4"	15 5/8"				4.6/2.3	1953K53	689.00
1,800	1,600	92	7 1/2	8"	7 1/8"	5 3/4"	13 1/2"	23 1/8"	22"	22 3/8"	17.4/8.7	1953K35	1,091.77	17.4/8.7	1953K55	1,306.92
230/460 Volts AC, Three Phase—Round Outlet																
315	120	74	1/3	5"	___	4" Dia.	9"	17 3/4"	15 3/8"	17 3/4"				1.4/0.7	1953K26	509.72
680	515	75	1	6"	___	6" Dia.	11"	21 1/8"	19 1/8"	18 1/4"				2.8/1.4	1953K27	686.11
1,200	1,000	78	3	7"	___	6" Dia.	13"	21 1/8"	19 1/8"	18 1/4"				7.6/3.8	1953K66	833.85
1,900	1,500	83	5	8"	___	8" Dia.	14"	26 1/8"	23 3/4"	25 1/4"				11.8/5.9	1953K67	1,350.77

Spark Resistant

Airflow, cfm★ @3" SP	Airflow, cfm★ @5" SP	Volume, dB @ 5 ft.	hp	Inlet Dia.	Outlet Dia.	Wheel Dia.	Overall Ht.	Overall Wd.	Overall Dp.	Totally Enclosed Motor Amps			Hazardous Location Motor Amps		
120/230 Volts AC, Single Phase—Round Outlet															
130	___	83	1/3	4"	4"	7"	13 5/8"	11 3/4"	11 1/2"	5.6/2.8	1954K51	$571.67	7/3.5	1954K61	$941.67
250	___	84	1/2	4"	4"	8 1/8"	13 5/8"	11 3/4"	11 1/2"	7.2/3.6	1954K52	595.00	7.4/3.7	1954K62	950.00
520	460	86	1	6"	5"	9 3/4"	18"	14 1/2"	16 1/8"	13.6/6.8	1954K54	835.00	12/6	1954K64	1,116.13
685	530	88	1 1/2	6"	5"	10 5/8"	18"	14 1/2"	16 1/8"	17.8/8.9	1954K55	958.33	15/7.5	1954K65	1,575.81
230/460 Volts AC, Three Phase—Round Outlet															
250	___	84	1/2	4"	4"	8 1/8"	13 5/8"	11 3/4"	11 1/2"	1.8/0.9	1954K57	608.33	2.2/1.1	1954K67	923.33
520	460	86	1	6"	5"	9 3/4"	18"	14 1/2"	16 1/8"	3.1/1.6	1954K59	813.33	3.6/1.8	1954K69	1,172.58
685	530	88	1 1/2	6"	5"	10 5/8"	18"	14 1/2"	16 1/8"	4.2/2.1	1954K72	898.33	3.8/1.9	1954K73	1,270.97

Corrosion Resistant

Airflow, cfm★ @3" SP	Airflow, cfm★ @5" SP	Volume, dB @ 5 ft.	hp	Inlet Dia.	Outlet Ht.	Outlet Wd.	Wheel Dia.	Overall Ht.	Overall Wd.	Overall Dp.	Totally Enclosed Motor Amps		
120/230 Volts AC, Single Phase—Rectangular Outlet													
345	195	77	3/4	5"	3 1/2"	3 1/2"	9"	15 3/4"	20 3/4"	13 5/8"	9.6/4.8	2283K27	$882.69
635	505	84	1 1/2	6"	4"	3 1/2"	10 5/8"	19"	20 3/4"	15 5/8"	16/8	2283K33	1,108.11
230/460 Volts AC, Three Phase—Rectangular Outlet													
345	195	77	3/4	5"	3 1/2"	3 1/2"	9"	15 3/4"	20 3/4"	13 5/8"	2.6/1.3	2283K39	949.20
635	505	84	1 1/2	6"	4"	3 1/2"	10 5/8"	19"	20 3/4"	15 5/8"	4.6/2.3	2283K44	1,057.64
1,800	1,600	92	7 1/2	8"	7 1/8"	5 3/4"	13 1/2"	23 1/8"	22"	22 3/8"	17.4/8.7	2283K56	1,843.57

★ Airflow depends on the resistance created by ductwork. This resistance, known as static pressure (SP), is measured in inches of water.

Chemical-Resistant Blowers



With Round Outlet

A heavy duty plastic housing withstands chemicals and resists corrosion in harsh environments. Air enters the blowers through a side round inlet and discharges out of the top. Base is polyurethane-coated steel with 3/8" dia. mounting holes (fasteners not included). Blowers have a direct-drive motor and a junction box, except 2093K27 has leads for hardwiring. Maximum rpm is 1,725. Not rated for temperature or sound level.

Blowers with a fiberglass-reinforced polyester housing can be used in environments with organic chemicals, such as ammonia, antifreeze, and mineral oils. Wheel is polypropylene. *Hazardous location motor* is UL listed for Class I, Group D, and Class II, Groups F and G hazardous locations.

Blowers with a PVC housing have greater chemical and corrosion resistance than fiberglass-reinforced polyester blowers. PVC resists strong oxidizing acids such as sulfuric acid but will not withstand contact with perchloric acid. 120/230-volt AC blowers have a polypropylene wheel; 230/460-volt AC blowers have a PVC wheel. *Hazardous location motor* is UL listed for Class I, Group D, and Class II, Groups F and G hazardous locations.

Airflow, cfm★ @ 1/2" SP	Airflow, cfm★ @ 1" SP	hp	Inlet Dia.	Outlet Ht.	Outlet Wd.	Wheel Dia.	Overall Ht.	Overall Wd.	Totally Enclosed Motor Dp.			Hazardous Location Motor Dp.		
Fiberglass-Reinforced Polyester Housing														
120/230 Volts AC—Round Outlet														
960	810	1/3	8"	___	8" Dia.	7 1/8"	16 3/4"	15 1/8"	18 1/2"	2093K11	$1,840.07	21 1/2"	2093K12	$2,216.16
PVC Housing														
120/230 Volts AC—Round Outlet														
185	___	1/6	6"	___	5" Dia.	5 1/2"	12 1/4"	11"	14 1/2"	2093K24	1,847.83	15 1/2"	2093K17▲	2,130.88
230/460 Volts AC—Rectangular Outlet														
2,300	2,300	1 1/2	10"	9 3/8"	6 3/4"	11 3/4"	24 1/4"	23"	24 1/4"	2093K75■	3,673.14	24 1/4"	2093K76	4,495.44
4,900	4,700	5	13"	11 7/8"	9 3/4"	14 1/2"	31 1/2"	30"	29 3/4"	2093K85■	4,453.19	29 3/4"	2093K95	6,326.00

★ Airflow depends on the resistance created by ductwork. This resistance, known as static pressure (SP), is measured in inches of water.

▲ Operates on 120V AC. ■ Operates on 208-230/460V AC.

DC Blowers

Operate these blowers with a DC power source, such as your vehicle battery. The housing is polypropylene and the wheel is acetal. Inlet and outlet are round. All blowers have a direct-drive motor and leads for hardwiring. Maximum temperature is 130° F. The included mounting bracket lets you rotate the blower to discharge air in any direction. Bracket has 1/4″ dia. mounting holes (fasteners not included).



Airflow, cfm @ 0″ SP★	Volume, dB @ 10 ft.	rpm	Inlet Dia.	Outlet Dia.	Wheel Dia.	Overall Ht.	Overall Wd.	Overall Dp.		
12 Volts DC										
105	86	1,000	3″	3″	3″	5 1/2″	5″	6 3/4″	2059K12	$82.82
250	86	1,000	4″	4″	4″	9 5/8″	9 1/4″	8 3/4″	2059K14	136.97
24 Volts DC										
250	86	1,000	4″	4″	4″	9 5/8″	9 1/4″	8 3/4″	2059K24	195.63

★ Airflow depends on the resistance created by ductwork. This resistance, known as static pressure (SP), is measured in inches of water.

Portable Blower/Exhausters

Powerful enough for use with duct, these blowers are light enough to carry from job to job. Connect flexible duct directly to the inlet or outlet.

Air-Powered Blower/Exhausters

Use your compressed air source to power these blower/exhausters. Inlet housing is cast aluminum. Blowers have a static grounding cable with clamp. Maximum air pressure is 150 psi. Mounting slots are 3/8″ wide, except 7,300-cfm blower has 1″ wide slots (fasteners not included). Note: Airflow is based on an air supply of 80 psi.

Blowers with steel diffuser have a yellow powder-coated finish, except 1,000- and 7,300-cfm blowers are galvanized. Temperature range is –15° to 350° F.

Blowers with polyethylene diffuser are lightweight and durable. Temperature range is –15° to 160° F. Color is black.



Airflow, cfm: Without Duct	Airflow, cfm: With 50-ft. Duct	Air Consumption, cfm	Air Supply Connection, NPT Female	Volume, dB @ 5 ft.	For Duct Dia.	Overall Lg.	Base Dia.	With Steel Diffuser		With Polyethylene Diffuser	
1,000	600	50	1/2	83	6″	16 3/4″	7 5/16″	2002K26	$347.50	—	—
1,500	Not Rated	60	1/2	88	6″	16 1/2″	7 1/2″	2002K11	348.19	2002K21	$426.65
1,700	1,350	60	1/2	88	8″	33″	7 1/2″	2002K12	406.22	2002K22	426.65
4,500	3,580	125	1	92	12″	44 1/4″	11 1/2″	2002K14	685.58	2002K24	719.83
7,300	4,000	380	1	85	16″	48″	17″	2002K29	831.67	—	—

Electric Blower/Exhausters

Standard blowers have a steel housing with a powder-coated finish. Blades are polypropylene. Temperature range is –10° to 150° F. All have a cord with three-prong plug. 775-cfm blower has a 6-ft. cord. 1,700-cfm blower has a 20-ft. cord.

Corrosion-resistant blowers have a polyethylene housing and polypropylene blades. They are stackable for increased airflow and storage. All have a 20-ft. cord with three-prong plug. Temperature range is –20° to 150° F.

High-output blowers have a steel and cast aluminum housing and cast aluminum blades, except 1,500-cfm blowers have ABS blades. They rest on the floor with the built-in base or mount on the optional stand. Temperature range is –15° to 125° F.

Blowers with totally enclosed motor have a 15-ft. cord. 120-volt AC units include three-prong plug. 230-volt AC units can be hardwired or add your own plug.

Blowers with hazardous location motor have a junction box for hardwiring. Motor is UL listed for Class I, Division I, Group D, and Class II, Division I, Groups E, F, and G hazardous locations.



Standard & Corrosion Resistant



High Output with Optional Stand

Airflow, cfm: Without Duct	Airflow, cfm: With 50-ft. Duct	Volume, dB	rpm	hp	For Duct Dia.	Overall Lg.	Overall Wd.	Overall Ht.	Totally Enclosed Motor		Hazardous Location Motor	
Standard												
120 Volts AC, Single Phase												
775	Not Rated	70 @ 10 ft.	3,200	1/3	8″	12″	8″	10″	1983K1	$407.89	—	—
1,700	Not Rated	84 @ 10 ft.	3,200	1/3	12″	15 1/2″	12″	16″	1983K5	671.98	—	—
Corrosion Resistant												
120 Volts AC, Single Phase												
875	480	76 @ 5 ft.	3,200	1/4	8″	18 1/2″	12 1/2″	18 1/2″	20025K11	360.00	—	—
2,000	1,600	86 @ 5 ft.	3,425	1	12″	17″	14″	21″	20025K12	508.33	—	—
High Output												
120 Volts AC, Single Phase												
1,500	1,000	90 @ 5 ft.	3,450	3/4	8″	39″	11 3/8″	13 3/4″	2215K11	1,857.17	2215K13	$2,292.94
3,000	2,300	92 @ 5 ft.	3,450	1	12″	36″	13 1/4″	15 5/8″	2215K15	2,712.86	2215K16	3,224.69
230 Volts AC, Single Phase												
3,000	2,300	92 @ 5 ft.	3,450	1	12″	36″	13 1/4″	15 5/8″	2215K25	2,712.86	2215K26	3,224.69
Optional 26″ Stand for High-Output Blower/Exhausters											2215K14	487.53

Duct and Accessories

Quick-attach PVC-coated polyester duct includes connectors. **Neoprene/polyester duct** requires connectors (sold separately).

Steel clamp connector attaches duct to your blower. **Aluminum couplings** connect multiple sections of duct.

Polyethylene duct carriers allow one person to carry up to 25 feet of duct.



Duct Carrier

Quick-Attach PVC-Coated Polyester Duct		
6″ Dia. x 25 ft. Lg. Duct	5473K34	$121.17
8″ Dia. x 25 ft. Lg. Duct	5473K35	165.28
12″ Dia. x 25 ft. Lg. Duct	5473K39	177.40
Neoprene/Polyester Duct		
16″ Dia. x 25 ft. Lg. Duct	9429K72	447.81
Steel Clamp Connector		
Connector for 16″ Dia. Duct	53185K57	26.47

Aluminum Couplings		
Coupling for 6″ Dia. Duct	5518K15	$18.48
Coupling for 8″ Dia. Duct	5518K17	20.82
Coupling for 12″ Dia. Duct	5518K21	25.10
Polyethylene Duct Carriers		
Carrier for 8″ Dia. Duct	8193K3	98.48
Carrier for 12″ Dia. Duct	8193K7	108.33

Fume Exhausters



Floor Mount

Remove fumes, vapors, and fine dust particles from your space. Exhausters operate on 120 volts AC. Housing is galvanized steel. Base is steel and has 9/32″ dia. mounting holes.

Standard exhausters have an open dripproof motor, a steel wheel, and a 1/2″ conduit connection.

Hazardous location exhausters have an aluminum wheel and leads for hardwiring. Motor is UL listed for Class I, Groups C and D; Class II, Groups E, F, and G locations.

Mount Style	Airflow, cfm @ 1/2″ SP★	Volume, dB @ 4 ft.	hp	Inlet/ Outlet Dia.	Ht.	Dp.	Standard Wd.			Hazardous Location Wd.		
Wall	300	72	1/4	4″	16″	8 7/8″	16″	1951K3	$415.31	17 5/8″	1951K7	$780.45
Floor	800	76	1/3	6″	15 1/8″	20 3/8″	16″	1951K1	548.98	18 1/4″	1951K5	953.58

★ Airflow depends on the resistance created by ductwork. This resistance, known as static pressure (SP), is measured in inches of water.

Portable Fume Exhausters



Use the foam-grip handle to carry these exhausters, or mount them to a wall, bench, or floor. They have a flexible 10-ft. polypropylene hose with nozzle to capture fumes at the source. Exhausters have rubber pads on the base to reduce vibration. Motor is totally enclosed. Mounting holes are 7/16″ dia. 2154K have a cast aluminum housing and steel wheel. 2111K have a steel housing and cast aluminum wheel.

120-volt AC exhausters are single phase and have an 8-ft. cord with three-prong plug, except 2111K14 has leads for hardwiring and can also operate at 230 volts AC.

230/460-volt AC exhausters are three phase and have leads for hardwiring.

Optional *dual-duct kit* has a Y connector, two 4″ Dia. × 5 ft. Lg. hoses, and two nozzles to collect fumes at two points.

Airflow, cfm★ @0″ SP	@1/4″ SP	@1 1/2″ SP	Volume, dB @ 5 ft.	hp	Inlet/ Outlet Dia.	Ht.	Wd.	Dp.	Nozzle Size	120 Volts AC Amps			230/460 Volts AC Amps		
335	310	—	69	1/4	6″	17 7/8″	13 3/4″	18 1/4″	8″×8″	5.4	2154K15	$746.15	1.3	2154K25	$687.69
345	330	280	72	1/2	4″	18 3/4″	17 1/2″	16″	4″×8″	6.8	2111K11	651.43	1.9	2111K18	611.43
670	655	575	69	1	6″	17 7/8″	13 3/4″	18 1/4″	8″×8″	11.2	2154K32	775.38	2.8	2154K33	816.92
810	795	730	83	1 1/2	6″	21 3/8″	21 1/2″	16 1/2″	8″×8″	16.0	2111K14	762.86	4.4	2111K15	701.43
Dual-Duct Kit for 2154K32, 2154K33, 2111K14, and 2111K15														2154K62	201.79

★ Airflow depends on the resistance created by ductwork. This resistance, known as static pressure (SP), is measured in inches of water.

Suspended-Hood Fume Exhausters



Equipped with a pulley system, these hoods can be positioned above drums, distillers, and tanks to exhaust fumes. All include a blower, aluminum hood, 10-ft. of 6″ dia. duct, and an outside vent kit. Use the pulley system to adjust hood height. Add an *optional swivel wall bracket* for side-to-side movement. Brackets have 7/16″ dia. mounting holes.

Standard exhausters operate on 120 volts AC and have a 10″ cord with three-prong plug.

Hazardous location exhausters operate on 120/230 volts AC and have leads for hardwiring. Motor is UL listed for Class 1, Groups C and D and Class 2, Groups F and G locations.

Hood Dia.	Airflow, cfm @ 0″ SP★	Volume, dB @ 5 ft.	Standard hp			Hazardous Location hp			Optional Swivel Wall Bracket	
27″	400	68	1/8	21105K21	$646.67	1/2	21105K41	$1,444.44	21105K75	$110.83
32″	400	68	1/8	21105K22	674.44	1/2	21105K42	1,472.22	21105K75	110.83
37″	400	68	1/8	21105K23	701.11	1/2	21105K43	1,498.89	21105K75	110.83
44″	400	68	1/8	21105K24	788.89	1/2	21105K44	1,578.89	21105K76	149.33

★ Airflow depends on the resistance created by ductwork. This resistance, known as static pressure (SP), is measured in inches of water.

Bench-Top Fume Exhausters



With Tilt Base

Draw fumes into an odor-removing carbon filter through the 8 1/2″ Ht. × 8 1/4″ Wd. × 4″ Dp. hood. Housing is ABS plastic. Exhausters operate on 120 volts AC and have a 6-ft. cord with three-prong plug. *Static dissipative exhausters* have a surface resistivity of 10^9 ohms.

Exhausters with tilt base sit on your bench top.

Exhausters with adjustable arm clamp to benches up to 2 1/2″ thick. They have a 24″ long painted steel arm.

	Airflow, cfm	Exhausters with Tilt Base		Exhausters with Adjustable Arm	
Standard	105	4518T45	$120.67	4518T47	$272.60
Static Dissipative	105	4518T46	146.63	4518T48	302.88
Replacement Filters (Pkg. of 3)				4518T49	$23.50

Fume Exhaust Hose Support Arms

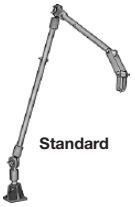

Standard

Hold your exhaust hose in place. Arms rotate and have up-and-down and in-and-out movement. They are made of plated steel tubing and have cast aluminum fittings. Arms have 9/32″ dia. mounting holes for bench or wall mounting. Secure hose to arms with the included wire ties. Hose is not included; see pages 248-253.

Standard arm has thumb screws to lock arm in place.

Counterbalanced arms have steel tension springs to keep arm in place.

For Hose Dia.	For Hose Lg.	Arm Lg.		
Standard				
Up to 6″	5 ft.	50″	2116K1	$209.00
Counterbalanced				
Up to 6″	10 ft.	50″-80″	2116K3	263.06
Up to 8″	10-15 ft.	120″	2116K5	329.50

Positionable Fume Exhaust Hoses



Compact



High-Volume Wall Mount



High-Volume Ceiling Mount

Move the hose into position and the included support arm will hold it in place. Hoses come with a nozzle and mounting bracket.

Compact hoses have a 360° swivel bracket for exact positioning. They can be bench or wall mounted. Hose is fiberglass/PVC and nozzle is powder-coated aluminum.

High-volume wall-mount hoses have a large diameter for high-volume fume extraction. They can also be mounted to the ceiling. *4″ dia. hoses* are thermoplastic rubber and have an aluminum nozzle; *6″ and 8″ dia. hoses* are neoprene-coated cotton/polyester and have a steel nozzle.

High-volume ceiling-mount hoses have an adjustable-length arm for use in low ceiling/confined space areas. Hose is PVC-coated woven polyamide and nozzle is powder-coated steel with a plastic collar.

Dia.	Hose Lg.	Nozzle Dia.	Mounting Holes		
Compact					
3″	5 ft.	5″	3/8″	2105K36	$347.37
High-Volume Wall Mount					
4″	4 ft.	9″	1/2″	2105K11	978.18
4″	6 ft.	9″	1/2″	2105K12	1,357.14
4″	8 ft.	9″	1/2″	2105K13	1,554.55
6″	8 ft.	10 3/4″	7/16″	2105K14	1,627.44
6″	10 ft.	10 3/4″	7/16″	2105K15	1,813.79
8″	10 ft.	12 1/2″	7/16″	2105K18	2,086.96
High-Volume Ceiling Mount					
6 1/4″	3.3-6.6 ft.	11 3/4″	1/2″	2105K21	1,254.39

Air Cleaners

Remove dust, smoke, mold spores, and other contaminants from the air. Cleaners have a HEPA filter that collects 99.97% of particles down to 0.3 microns. They operate on 120 volts AC. Cleaners are compliant under all state air cleaner rules in effect on January 1, 2013.

Style A has three speeds and comes with an odor filter. Housing is black polystyrene. Cleaner has a 7-ft. cord with two-prong plug. Size is 22¼″ Ht.×20″ Wd.×10¾″ Dp. ETL listed.

Style B has a variable speed control. Housing is blue polyethylene. Odor filters are sold separately. Cord is 25 ft. long with three-prong plug. Size is 24¾″ Ht.×26¼″ Wd.×18¼″ Dp. Add optional duct (sold separately; see 1289T13 on page 247) to exhaust filtered air outside of the space that you are cleaning. UL and C-UL listed.


A


B

	Max. Airflow, cfm	Volume, dB	Cleaners		Replacement HEPA Filters		Replacement Prefilters		Replacement Odor Filters		Optional Odor Filters	
A	328	56	**21265K21**	$246.92	**21265K22**♦	$32.10	—	—	**21265K64**	$13.92	—	—
B	500	72	**21265K81**	935.00	**21265K85**	158.96	**21265K82**	$13.83	—	—	**21265K84**	$51.00

♦ 3 required.

Portable Air Cleaners



Carry these cleaners wherever you need to remove welding fumes and other contaminants from the air. Cleaners have a prefilter and a HEPA filter that traps 99.97% of particles down to 0.3 microns. Housing is steel. Hose is rubber and 10 ft. long. Cleaners operate on 120 volts AC and have a 10-ft. cord with three-prong plug. Size is 17″ Ht.×23½″ Wd.×12″ Dp. UL listed. Cleaners are compliant under all state air cleaner rules in effect on January 1, 2013.

Airflow, cfm	Volume, dB @ 5 ft.	hp	Inlet Dia.	Cleaners		Replacement HEPA Filters		Replacement Prefilters		Optional Odor Prefilters	
110	85	¼	2¼″	**2141K14**	$1,389.47	**2141K32**	$287.23	**2141K36**	$14.68	**2141K34**	$27.81
225	85	½	2¼″	**2141K16**	1,578.95	**2141K32**	287.23	**2141K36**	14.68	**2141K34**	27.81

Combination Mobile/Bench-Top Air Cleaners


In Mobile Position

Roll this air cleaner to the contaminant source or place it on a bench top. It has two 4′5″ flexible polypropylene hoses and a detachable base with casters. Attach the included acrylic hood to use as an air cleaning booth. Housing is powder-coated steel. Cleaner operates on 120 volts AC and has a 7-ft. cord with three-prong plug. Volume @ 6 ft. is 66 dB. Size is 19½″ Ht.×12½″ Wd.×12½″ Dp. It is compliant under all state air cleaner rules in effect on January 1, 2013.

Filters are sold separately, except polyester prefilters are included with the cleaner. *Standard filters* trap 95% of particles down to 3 microns. *HEPA filters* trap 99.97% of particles down to 0.3 microns. *Odor filters* have carbon to remove odors and a pleated filter that traps 60% of particles down to 3 microns. Add an optional *odor after-filter* to standard and HEPA filters for light duty odor control.


In Bench-Top Position

Airflow, cfm	Inlet Dia.	Cleaner		Standard Filter		HEPA Filter		Odor Filter		Optional Odor After-Filter	
350	2½″	**2113K11**	$1,424.01	**2113K22**	$167.67	**2113K23**	$233.25	**2113K25**	$437.07	**2113K24**	$300.95

Replacement Filters

Polyester Prefilters (Pkg. of 4)	**2113K27**	93.85
Carbon for 2113K25 and 2113K24	**2113K26**	103.49
Pleated Filter for 2113K25	**2113K28**	44.83

Heavy Duty Air Cleaners



Constructed with a thick metal housing, these durable cleaners offer greater cleaning capacity than standard air cleaners. They have a HEPA filter that collects 95% of particles down to 0.3 microns. A prefilter and after-filter are also included. Cleaners have a galvanized steel housing, except 500-cfm cleaner is stainless steel. They have two speeds, operate on 120 volts AC, and have a 6-ft. cord with a three-prong plug, except 4,000-cfm cleaner is single speed. Cleaners are compliant under all state air cleaner rules in effect on January 1, 2013, except in California.

Airflow, cfm	Volume, dB @ 6 ft.	hp	Amps	Inlet Size	Outlet Dia.	Overall Ht.	Overall Wd.	Overall Dp.	Cleaners		Replacement HEPA Filters		Replacement Prefilters Pkg. Qty.	Replacement Prefilters Pkg.	Replacement After-Filters	
										Each		Each				Each
500	68	½	7	12″×12″	10″	14″	14″	35″	**2106K41**	$1,883.22	**2106K51**	$301.98	3	**2106K53**	$9.60	**2106K55** $13.63
2,000	72	¾	15	25″×24″	12″	31″	26″	42″	**2106K42**	2,217.29	**2106K52**	373.96	1	**2106K43**	6.79	**2106K45** 18.37
4,000	72	2	26	44″×24″	18″	48″	26″	46″	**2106K64**	4,667.46	**2106K67**	714.75	1	**2106K65**	13.57	**2106K66** 41.73

Ceiling-Mount Air Cleaners

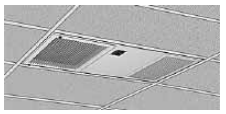

Save floor space—cleaners mount in a 2′×4′ grid of a T-bar style ceiling. Housing is steel. Cleaners are two speed, operate on 120 volts AC, and have leads for hardwiring. They are compliant under all state air cleaner rules in effect on January 1, 2013, except in California.

Cleaners with a HEPA/odor filter trap 99.97% of particles down to 0.3 microns and include a washable prefilter.

Cleaners with an electrostatic filter trap 95% of particles down to 0.1 microns. The filter is washable and has an inherent electrical charge that attracts particles. They include a washable prefilter and a disposable odor after-filter.

Included Filter	Airflow, cfm	Volume, dB @ 3 ft.	Overall Lg.	Overall Wd.	Overall Ht.	White Housing		Black Housing		Replacement Filters Filter Type	
HEPA/Odor	800	57	23¾″	47¾″	11″	**2274K54**	$1,264.43	**2274K35**	$1,264.43	HEPA/Odor	**2274K55** $219.30
Electrostatic	1,000	59	23¾″	47¾″	11″	**2274K74**	1,246.36	**2274K31**	1,246.36	Odor After-Filter	**2274K57** 35.85

Mist-Collecting Air Cleaners



Often used in machine shops, these cleaners remove oil and coolant mist from the air. Air is passed through a spinning drum to remove 98% of mist particles down to 1 micron. Cleaners are steel. They have a three-phase, totally enclosed motor with a junction box and operate on 208/230/460 volts AC, 50/60 Hz. All have 9/16″ dia. mounting holes (fasteners not included). Cleaners are compliant under all state air cleaner rules in effect on January 1, 2013.

Airflow, cfm	Volume, dB @ 3 ft.	hp	Inlet Dia.	Overall Ht.	Overall Wd.	Overall Dp.	Cleaners		Replacement Filters	
165	70	½	4″	19″	15″	15″	**2210K1**	$3,301.29	**2210K14**	$14.16
380	72	1	4″	21″	17″	22″	**2210K3**	3,677.26	**2210K15**	17.80
1,000	74	3	6″	23″	21″	22″	**2210K6**	4,520.30	**2210K16**	18.61

Humidifiers & Dehumidifiers

Humidifiers



2 Gallon



9 Gallon

Add cool moisture to the air. Refill the reservoir with water as necessary to reach daily output. Humidifiers are three speed and include one evaporative filter. Housing is plastic. Humidifiers operate on 120 volts AC and have a 6-ft. cord with two-prong plug. ETL listed.

Output, gal./day	For Area, cu. ft.	Reservoir Capacity, gal.	Overall Ht.	Overall Wd.	Overall Dp.	Humidifiers		Replacement Filters	
2	4,500	1.5	10 1/2"	15 1/2"	8"	2120K61	$75.09	2120K62	$10.33
9	15,200	3.4	15 3/4"	13 3/4"	21 7/8"	2120K78	98.59	2120K88	20.50
Bacteria Treatment—Fights bacteria and algae buildup (32-oz.)								2121K15	4.88

Heavy Duty Steam Humidifiers

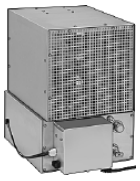

Free Standing



Wall Mount

No need to refill reservoirs—these rugged humidifiers connect to a water supply. An electrical heater boils water to generate steam. Connect humidifiers to a water supply with 1/4" copper tubing. UL listed.

Free-standing humidifier releases humidity directly into a room or connects to a 12"×12" square duct. Housing is Type 304 stainless steel. Humidifier includes a low-water safety cutoff switch, built-in overflow protection, remote humidity control, and installation kit. It operates on 120 volts AC and has a 5-ft. cord with three-prong plug.

Wall-mount humidifier releases humidity directly into a room. It includes a built-in blower for humidity distribution, a residue collector to trap mineral deposits, and a remote fan relay. Housing is gray and white polycarbonate. Humidifier operates on 120 or 208-240 volts AC, 50/60 Hz, single phase, and has terminal block connections for hardwiring. Output varies depending on voltage from 11.5 gal./day (120 volts AC) to 23 gal./day (240 volts AC). Requires a humidistat (sold separately).

	Output, gal./day @120V AC	Output, gal./day @208-240V AC	For Area, cu. ft. @120V AC	For Area, cu. ft. @208-240V AC	Overall Ht.	Overall Wd.	Overall Dp.		
Free Standing	13	—	11,300	—	19"	13"	18 1/2"	2170K11	$876.61
Wall Mount	11.5	23	16,000	32,000	21 3/8"	11 3/8"	6 7/8"	2170K21	1,475.78
Required Humidistat for 2170K21								2123K14	140.79
Replacement Residue Collector for 2170K21								2170K51	209.14

Fine-Mist Humidifiers



This humidifier spins water at high speeds to produce a fine atomized mist that rapidly evaporates. Mount nozzle through a wall to release moisture directly into a room or attach to your forced-air system return duct. Housing is plastic. Humidifier operates on 120 volts AC, 60 Hz, and has leads for hardwiring. Use 1/4" copper tubing to connect to water supply. Unit has a 1/2" OD brass nipple drain. Mounting hardware is included.

Output, gal./day	For Area, cu. ft.	Overall Dia.	Overall Ht.		
6	7,000	10 1/2"	12"	2165K14	$302.78

Storage Space Dehumidifiers



Warm the air in small rooms, such as storage closets and tool rooms, to reduce humidity. Housing is aluminum. Dehumidifiers operate on 120 volts AC, 50/60 Hz, and have a 10-ft. cord with two-prong plug. Mounting hardware is included. UL listed.

For Area, cu. ft.	Lg.		
96	18"	8226K18	$42.54
128	24"	8226K22	46.63
192	36"	8226K25	53.91
320	48"	8226K27	65.86

High-Output Fine-Mist Humidifiers



With 2 Spray Heads

Designed to release more moisture and cover larger spaces than our other humidifiers, these humidifiers are often used in textile, paper, and printing plants. They have spray heads that atomize water to produce a fine mist. Moisture output is adjustable. Humidifiers operate on 120 volts AC and have a 6-ft. cord with three-prong plug.

They have 1/4" NPT male threaded connections for water and compressed air (50-60 psi air pressure is required). They also have a pressure gauge and regulator. Each spray head requires 1/2 cfm @ 50 psi air pressure.

Output, gal./day	For Area, cu. ft.	No. of Spray Heads	Overall Ht.	Overall Wd.	Overall Dp.		
30	30,000	2	16"	12"	9"	2134K14	$835.43
60	60,000	4	16"	12"	9"	2134K18	1,117.24
Replacement Parts							
Spray Head						2134K72	143.16
Needle for Spray Head						2134K71	6.61
Fluid Tip for Spray Head						2134K74	9.90
Spray Hose Assembly						2134K73	11.70

Mobile Dehumidifiers



A

B

Powder-Coated Steel

C

Wheel dehumidifiers to damp areas to remove moisture from the air. They operate on 120 volts AC and have a cord with a three-prong plug. Temperature range is 41° to 95°F. Removal capacity is based on 80°F and 60% relative humidity.

Style A have a reservoir to collect water. Reservoir must be emptied when full or can be drained directly through a 9/16" ID×6" Lg. plastic hose (included). Cord is 6 ft. long. UL listed.

Style B has a 25-ft. long cord. *Powder-coated steel dehumidifier* has a 25-ft. long hose to drain water. *Polyethylene dehumidifier* has a 40-ft. long hose to drain water. UL listed.

Style C has a 25-ft. long hose to drain water. Cord is 25 ft. long.

	Housing Material	Removal Capacity, gal./day	Reservoir Capacity, gal.	Ht.	Wd.	Dp.		
A	ABS Plastic	3	3/4	20 1/8"	14 3/4"	9 7/8"	2149K62	$214.22
A	ABS Plastic	6	1 1/2	23 1/4"	15 3/8"	10 13/16"	2149K65	271.20
A	ABS Plastic	8	1 1/2	23 1/4"	15 3/8"	10 13/16"	2149K67	297.99
B	Powder-Coated Steel	6	—	29"	20"	15"	2129K35	926.67
B	Polyethylene	8	—	29"	20"	19 1/2"	2129K54	1,204.00
C	Powder-Coated Steel	13	—	44"	25"	22"	2129K38	2,086.67
Replacement Filter for 2129K54							2129K55	23.66

Disposable Desiccant Bags

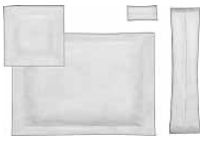

Remove moisture from sealed containers during shipping and storage. Volume covered is calculated at 77°F and 40% relative humidity. Desiccants are enclosed in tear-resistant Tyvek bags, except anhydrous calcium sulfate is enclosed in paper bags.

Silica gel is the most popular desiccant material. It works best when relative humidity is higher than 40%.

Odor-removing silica gel contains carbon to remove odors as well as moisture.

Indicating silica gel changes from blue to pink when it has absorbed 8% of its weight. Bags have a window for monitoring color change.

Low-humidity molecular sieve is more effective than other desiccants when relative humidity is below 40% or temperatures exceed 77°F.

Clay is our most economical desiccant per ounce.

Anhydrous calcium sulfate is suitable for large spaces.

For Area, cu. in.	Lg.	Wd.	Wt., oz.		Small Qty. Pkg. Qty.	Small Qty. Pkg.	Large Qty. Pkg. Qty.	Large Qty. Pkg.
Silica Gel—Up to 20% absorption weight								
2	0.8″	0.6″	0.01	2189K81	10	$3.97	3,000	$110.54
3	1.1″	0.6″	0.02	2189K82	10	4.18	2,000	83.37
4	1.3″	0.6″	0.03	2189K83	10	4.20	1,500	67.08
6	1.4″	0.8″	0.04	2189K84	10	4.29	1,000	51.46
24	1.8″	1.0″	0.11	2189K85	10	5.51	400	41.94
235	2.8″	1.0″	0.21	2189K86	10	6.17	250	39.18
1,425	6.0″	1.5″	1	2189K87	5	7.90	300	96.25
2,855	6.0″	5.0″	2	2189K88	5	14.17	150	145.86
5,700	7.1″	5.0″	4	2189K89	2	7.83	100	138.09
11,420	8.5″	5.0″	8	2189K91	2	13.55	50	169.61
22,860	9.3″	7.5″	16	2189K92	1	15.44	30	123.68
Odor-Removing Silica Gel—Up to 21% absorption weight								
3	1.5″	0.8″	0.04	2189K93	10	5.56	1,000	58.73
6	1.9″	0.9″	0.07	2189K94	10	5.84	600	47.40
15	3.0″	1.0″	0.18	2189K95	10	6.29	250	39.00
Indicating Silica Gel—Up to 18% absorption weight								
6	1.4″	0.8″	0.04	3492T51	10	5.57	1,000	69.61
18	1.8″	1.0″	0.11	3492T52	10	6.09	400	56.85
36	2.6″	1.0″	0.21	3492T53	10	7.06	300	68.27
60	2.8″	1.5″	0.35	3492T54	10	9.46	150	63.95
84	3.1″	1.5″	0.5	3492T55	10	10.96	115	59.96
Low-Humidity Molecular Sieve—Up to 20% absorption weight								
18	1.8″	1.0″	0.11	1523T2	10	6.35	400	55.12
42	2.1″	1.5″	0.25	1523T3	10	7.55	200	52.07
1,425	3.5″	5.0″	1	1523T4	5	11.82	300	582.74
2,855	5.0″	5.0″	2	1523T5	5	15.62	150	272.68
5,700	7.0″	5.0″	4	1523T6	2	13.03	100	380.35
Clay—Up to 18% absorption weight								
2	1.0″	0.6″	0.01	2139K11	400	18.18	2,500	66.26
5	1.5″	0.7″	0.03	2139K12	300	16.24	2,000	67.94
9	1.5″	0.9″	0.04	2139K13	250	14.76	1,500	55.57
30	2.3″	0.9″	0.11	2139K14	125	12.29	1,000	67.94
235	3.1″	0.9″	0.21	2139K15	50	8.24	500	58.58
715	2.9″	2.1″	0.58	2139K16	75	19.93	550	98.62
1,425	4.5″	3.0″	1.16	2139K17	50	19.00	300	72.67
2,855	4.5″	5.0″	2.33	2139K18	25	15.67	150	98.83
5,710	6.3″	5.0″	4.66	2139K19	15	15.20	100	66.79
11,420	8.3″	4.5″	9.31	2139K21	7	13.38	50	63.60
22,855	11.0″	4.5″	18.62	2139K22	3	20.58	25	73.52
Anhydrous Calcium Sulfate—Up to 6% absorption weight								
1,295	1.8″	1.0″	0.11	2140K21	25	7.94	750	87.58
2,590	2.6″	1.0″	0.21	2140K22	25	10.05	750	103.62
12,265	4.0″	3.8″	1	2140K23	25	17.09	200	49.78
24,535	4.8″	3.8″	2	2140K24	20	18.01	400	127.77
49,075	6.3″	3.8″	4	2140K25	10	18.33	200	93.19
98,150	6.3″	5.8″	8	2140K26	5	17.45	100	84.85

Large Disposable Desiccant Bags



Often used to protect cargo sent in large containers, these desiccants absorb up to 280% of their weight in moisture at 77°F and 90% relative humidity. The bags are filled with a mixture of starch and calcium chloride and weigh 4.4 oz. They are 5¾″×10¼″. 32 bags are recommended for a 20-ft. shipping container.

Adhesive-back bags come in strips of six bags.

Standard Bags per Pkg.		Standard Pkg.	Adhesive Back Bags per Pkg.		Adhesive Back Pkg.
4	2228K6	$21.05	6	2228K7	$37.42
32	2228K8	70.35	36	2228K9	177.68

Disposable Desiccant Capsules



An alternative to disposable desiccant bags, these plastic capsules are often used in automated applications that pass desiccants through machinery. Capsules are transparent.

Indicating silica gel changes from blue to pink after absorbing 8% of its weight.

For Area, cu. in.	Lg.	Dia.	Wt., oz.		Small Qty. Pkg. Qty.	Small Qty. Pkg.	Large Qty. Pkg. Qty.	Large Qty. Pkg.
Silica Gel—Up to 21% absorption weight								
4	⅞″	0.3″	0.03	5570T1	10	$9.84	1,700	$196.70
8	1⅝″	0.3″	0.05	5570T2	10	12.07	800	180.37
Indicating Silica Gel—Up to 21% absorption weight								
4	⅞″	0.3″	0.03	5570T3	10	11.72	1,700	237.14
8	1⅝″	0.3″	0.05	5570T4	10	14.36	800	252.57

Reusable Bulk Desiccants



After use, heat these desiccants in a 255°F oven for 12 hours to reactivate. They absorb 23% of their weight in moisture at 77°F and 40% relative humidity.

Indicating silica gel changes from blue to pink when it has absorbed 6% of its weight in moisture.

For Area, cu. in.	Wt., lbs.	Silica Gel		Indicating Silica Gel	
23,030	1	2181K91	$8.91	2181K93	$14.38
115,170	5	2181K92	35.00	2181K94	52.43
230,340	10	2181K98	66.88	2181K97	89.38

Reusable Desiccant Canisters



Indicating Silica Gel Canister



Anhydrous Calcium Sulfate Canister

Housed in durable canisters, these desiccants can be reactivated after use.

Indicating silica gel changes from blue to pink when absorption capacity is reached. To reactivate, heat in a 300°F oven for three hours. 2219K91 has an aluminum housing with a window. 2219K92 has a transparent plastic housing and can also be reactivated in a microwave oven.

Anhydrous calcium sulfate covers large spaces. It has an aluminum housing. To reactivate, heat 2202K67 at 425°F for one hour; heat 2202K66 at 450°F for three hours.

For Area, cu. ft.	Overall Lg.	Overall Wd.	Overall Dp.	Wt.		
Indicating Silica Gel—Up to 18% absorption weight						
3	4⅛″	2¼″	⅝″	1.4 oz.	2219K91	$12.03
3	4¼″	2⅝″	¾″	1.4 oz.	2219K92	30.82
Anhydrous Calcium Sulfate—Up to 6% absorption weight						
6	6″	1½″ Dia.	—	5.3 oz.	2202K67	24.96
200	16″	4½″ Dia.	—	10 lbs.	2202K66	53.32

Reusable Desiccant Vacuum Canisters



Canister



Cartridge

Protect materials from moisture and dust by storing them inside these compact, shatter-resistant canisters. Canisters can hold a vacuum of 29″ Hg for 24 hours. To create a vacuum, use the ¼″ ID tubing connection. Top is clear polycarbonate; bottom and release valve are white polypropylene. You need both the canister and the desiccant cartridge, each sold separately. The cartridge has indicating silica gel that absorbs 20% of its weight in moisture and changes from blue to pink when maximum absorption is reached. To reactivate, heat cartridge in a 300°F oven for three hours.

Canisters OD	ID	Ht.			Desiccant Cartridges Wt., lbs.		
6¾″	5⅞″	8⅛″	2204K5	$89.76	½	2204K51	$43.26
10¾″	9⁷⁄₁₆″	12⅛″	2204K7	151.87	3	2204K71	149.60

Humidity Indicating Cards

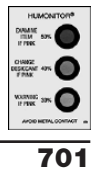

Dots on the card change color to indicate the amount of moisture in the air.

Humidity Range	Ht.	Wd.		Pkg. of 100
10%-60%	4″	1⁷⁄₁₆″	2175K12	$27.75
30%-50%	3″	2″	2175K11	25.42

About Air Filter Efficiency Ratings

Select a filter that has an appropriate MERV (minimum efficiency rating value) rating for your application. Filters with high MERV ratings are effective at trapping small particles but also reduce airflow and may need to be replaced more often than filters with lower ratings.

MERV Rating	1-4	5-8	9-12	13-16
Filter Type	Low Efficiency/Prefilter	General Purpose	High Efficiency	Ultra Efficiency/HEPA
Dust Captured	60-80%	80-95%	90-98%	95-99%
Traps Contaminants Down to	10 microns	3 microns	1 micron	0.3 micron
Typically Used to Trap	Sanding dust, pollen, textile fibers	Cement dust, mold spores	Humidifier dust, auto emissions, oil mist	Bacteria, most smoke
Typical Environments	Equipment protection	Industrial workplaces, office buildings	Office buildings, data centers	Hospitals, laboratories

Panel Air Filters

Often used as replacement filters in HVAC equipment, these filters remove dust and other particles from the air. They meet UL 900 flame retardance requirements. Actual size is up to 5⁄8″ less than trade size.

Pleated filters are our most popular panel air filters. The pleated design creates greater surface area for filtering, which makes these more effective than unpleated panel filters without reducing airflow. The filter media is a blend of polyethylene and polypropylene. A galvanized steel support grill is bonded to the filter media to prevent sagging. The frame is made of cardboard that's treated to resist humidity. Maximum temperature is 150° F.

Poly-coated fiberglass filters trap more dust than fiberglass filters. They have a fiberboard frame with a tin-plated steel grill bonded to each side. Maximum temperature is 180° F.

Fiberglass filters are an economical option. They can be an effective prefilter to protect more expensive filters that catch finer particles. Frame is fiberboard. Maximum temperature is 180° F.

1″ and 2″ Thick







Trade Size	Pleated—MERV 8				Poly-Coated Fiberglass—MERV 5				Fiberglass—Not MERV Rated			
	1″ Thick		2″ Thick		1″ Thick		2″ Thick		1″ Thick		2″ Thick	
		Pkg. of 2		Pkg. of 12		Pkg. of 12		Pkg. of 12		Pkg. of 12		Pkg. of 12
6×6	2209K401	$16.20		$89.70	2191K15	$62.53			2063K19	$51.90		
7×7	2209K402	16.20		89.70	2191K21	62.53			2063K431	51.90		
8×8	2209K403	16.20		89.70	2191K23	62.53			2063K21	51.90		
8×16	2209K404	16.20		89.70								
10×10	2209K405	9.85	2209K464	56.70	2191K22	34.17	2191K63	$48.52	2063K543	32.84	2063K164	$41.10
10×16	2209K406	16.70		90.90	2191K25	68.78			2063K24	65.83		
10×20	2209K407	10.35	2209K465	58.50	2191K11	37.43	2191K67	48.43	2063K144	35.66	2063K165	41.10
10×24	2209K408	16.30	2209K466	93.00	2191K13	37.43	2191K71	80.47	2063K145	35.66	2063K171	75.04
10×25	2209K409	16.30		93.00	2191K94	37.30			2063K174	33.94		
10×30	2209K411	16.85	2209K467	96.30	2191K95	37.70			2063K175	36.21		
12×12	2209K413	10.65	2209K468	58.50	2191K14	46.29	2191K88	66.73	2063K453	43.54	2063K172	62.57
12×15	2209K414	15.80		90.00								
12×16	2209K415	15.80	2209K469	90.00	2191K37	42.01						
12×18	2209K416	16.40	2209K471	93.60	2191K39	52.68			2063K463	48.90		
12×20	2209K417	11.25	2209K472	61.80	2191K16	35.73			2063K467	35.66		
12×24	2209K418	9.40	2209K473	54.00	2191K38	35.73	2191K69	50.09	2063K146	35.66	2063K683	43.20
12×25	2209K419	16.85	2209K474	96.30	2191K17	34.17			2063K28	31.20		
12×30	2209K421	16.85	2209K475	96.30	2191K33	45.46			2063K147	43.50		
12×36	2209K422	22.30	2209K476	126.80	2191K96	66.18			2063K176	61.00		
14×14	2209K423	15.55	2209K477	88.80	2191K41	48.27			2063K473	44.40		
14×18	2209K424	16.30		93.00	2191K43	53.48			2063K177	47.38		
14×20	2209K425	10.00	2209K478	57.60	2191K19	35.73	2191K89	50.54	2063K148	34.63	2063K42	43.20
14×24	2209K426	10.20	2209K479	59.10	2191K42	50.45			2063K31	46.74		
14×25	2209K427	10.70	2209K481	61.50	2191K35	34.70	2191K91	50.54	2063K149	30.30	2063K685	43.20
14×30	2209K428	18.75	2209K482	107.10	2191K36	52.61			2063K34	48.90		
14×36	2209K429	22.30		126.80								
15×20	2209K431	10.00	2209K483	57.60	2191K44	35.73	2191K75	49.30	2063K151	35.66	2063K168	41.70
15×25	2209K432	13.92	2209K484	79.50					2063K35	33.90		
15×30	2209K433	18.75	2209K485	107.10					2063K154	42.30		
16×16	2209K434	11.70	2209K486	66.60	2191K26	36.82			2063K533	36.00		
16×20	2209K435	9.75	2209K487	56.40	2191K47	32.08	2191K76	49.30	2063K153	31.20	2063K72	41.70
16×24	2209K436	10.50	2209K488	60.00	2191K45	48.27	2191K72	53.22	2063K553	44.40	2063K713	48.60
16×25	2209K437	10.50	2209K489	66.00	2191K48	33.55	2191K79	49.30	2063K155	31.20	2063K78	41.70
16×30	2209K438	15.25	2209K491	87.00	2191K46	62.45			2063K66	60.63		
16×32	2209K439	22.30	2209K492	126.80					2063K178	58.11		
18×18	2209K441	17.00	2209K493	97.20	2191K53	48.27			2063K563	44.40		
18×20	2209K442	13.10	2209K494	72.90	2191K57	46.36			2063K565	42.63		
18×22	2209K443	17.00		97.20					2063K179	50.20		
18×24	2209K444	12.10	2209K495	69.60	2191K58	48.27	2191K73	55.29	2063K36	44.40	2063K59	53.05
18×25	2209K445	12.10	2209K496	69.60	2191K49	44.57			2063K156	41.70		
18×30	2209K446	21.89	2209K497	120.30	2191K59	65.45			2063K566	60.00		
18×36	2209K447	22.05	2209K498	128.44	2191K97	70.20			2063K181	63.67		
19×27	2209K448	21.89	2209K499	120.30	2191K98	46.72			2063K182	38.01		
20×20	2209K449	10.50	2209K501	60.30	2191K51	32.08	2191K83	49.30	2063K158	27.30	2063K79	41.70

(Continued on following page)

Panel Air Filters *(Continued from previous page)*

1″ and 2″ Thick (Cont.)

Trade Size	Pleated—MERV 8 1″ Thick Pkg. of 2	Pleated—MERV 8 1″ Thick Pkg. of 12	Pleated—MERV 8 2″ Thick Pkg. of 2	Pleated—MERV 8 2″ Thick Pkg. of 12	Poly-Coated Fiberglass—MERV 5 1″ Thick Pkg. of 12	Poly-Coated Fiberglass—MERV 5 2″ Thick Pkg. of 12	Fiberglass—Not MERV Rated 1″ Thick Pkg. of 12	Fiberglass—Not MERV Rated 2″ Thick Pkg. of 12
20×22	2209K451 $18.30	$104.70			2191K55 $75.43		2063K157 $40.50	
20×24	2209K452 12.00	69.30	2209K502 $12.80	$72.69	2191K29 48.27	2191K87 $55.29	2063K573 44.40	2063K62 $50.40
20×25	2209K453 11.40	65.40	2209K503 13.11	74.06	2191K52 33.91	2191K85 55.30	2063K161 31.20	2063K798 48.00
20×30	2209K454 13.45	78.30	2209K504 16.25	92.70	2191K61 53.48		2063K37 49.80	
20×32	2209K455 22.05	128.44	2209K505 25.30	145.00			2063K183 59.60	
20×36	2209K456 23.52	137.00	2209K506 25.30	145.00	2191K99 81.71		2063K184 68.75	
22×22	2209K457 18.30	104.70	2209K507 19.65	112.20	2191K64 46.96		2063K69 41.70	
24×24	2209K458 12.25	70.50	2209K508 12.95	74.40	2191K54 46.96	2191K86 57.90	2063K773 43.20	2063K753 50.40
24×30	2209K459 16.55	93.60	2209K509 34.50	197.73	2191K65 51.72		2063K41 50.70	
24×36	2209K461 25.81	151.00						
25×25	2209K462 15.15	86.70	2209K511 15.75	87.90	2191K66 46.96	2191K93 57.41	2063K163 43.20	2063K67 51.60
25×30	2209K463 23.47	137.00						

½″ Thick

Trade Size	Fiberglass—Not MERV Rated Pkg. of 12	Trade Size	Fiberglass—Not MERV Rated Pkg. of 12	Trade Size	Fiberglass—Not MERV Rated Pkg. of 12
7 3/16×9 11/16	2063K114 $51.90	8×22	2063K117 $57.60	10 1/2×14	2063K127 $51.90
7 3/8×16 1/2	2063K115 51.90	8 3/8×11 1/4	2063K18 51.90	11 3/4×13 1/2	2063K132 57.60
8×8	2063K141 51.90	9 3/8×16 1/2	2063K123 57.60	12×12	2063K323 51.90
8×10 3/8	2063K116 51.90	10 1/2×12	2063K126 51.90	12×20	2063K133 60.00

4″ Thick

Trade Size	Pleated—MERV 8 Pkg. of 2	Pleated—MERV 8 Pkg. of 6	Trade Size	Pleated—MERV 8 Pkg. of 2	Pleated—MERV 8 Pkg. of 6	Trade Size	Pleated—MERV 8 Pkg. of 2	Pleated—MERV 8 Pkg. of 6
12×24	2209K512 $14.10	$40.05	16×25	2209K516 $15.55	$44.40	20×24	2209K519 $17.35	$49.80
14×25	2209K513 23.90	66.45	18×24	2209K517 16.45	47.40	20×25	2209K521 17.15	49.05
14×30	2209K514 41.10	112.95	20×20	2209K518 15.75	44.40	24×24	2209K522 18.90	54.15
16×20	2209K515 14.50	40.50						

Made-to-Order Sizes

Don't see the size you need? We'll get it for you. Multiply the length×width you need to determine square inches. Then, see square inch ranges for pricing. Minimum filter size is 4″×4″. Maximum filter size is 23″×30″. **To Order:** Please specify length and width. **Pleated filters** are sold as trade size; add ½″ to the length and width you need. **Fiberglass filters** are sold as actual size.

Also Available: Filters larger than 23″×30″. Please ask for 3923T999 and specify material, thickness, actual length, and actual width.

Square Inches	Pleated—MERV 8 1″ Thick Pkg. of 12	Pleated—MERV 8 2″ Thick Pkg. of 12	Fiberglass—Not MERV Rated 1″ Thick Pkg. of 12	Fiberglass—Not MERV Rated 2″ Thick Pkg. of 12
16-149	3923T41 $86.90	3923T51 $88.78	3884T11 $49.92	3884T34 $54.53
150-199	3923T47 91.25	3923T57 93.45	3884T13 55.40	3884T36 59.11
200-249	3923T48 95.58	3923T58 99.48	3884T15 57.75	3884T38 67.76
250-299	3923T42 95.58	3923T52 99.48	3884T17 60.26	3884T42 77.06
300-399	3923T43 97.23	3923T53 110.15	3884T21 64.66	3884T44 82.77
400-499	3923T44 107.23	3923T54 125.08	3884T22 67.79	3884T46 89.16
500-599	3923T45 120.23	3923T55 140.95	3884T23 74.39	3884T48 96.08
600-690	3923T46 132.16	3923T56 146.50	3884T25 76.35	3884T53 103.40

Odor-Removal Panel Air Filters



Carbon granules remove odors while the polyester filter media traps dust and contaminants. The frame is made of cardboard that's treated to resist humidity. A galvanized steel backing supports the frame and prevents the filter media from sagging. Actual size is up to 5/8″ less than trade size.

Filters with **10 grams of carbon/sq. ft.** control light odors. Filters are pleated to create greater surface area for filtering. Maximum temperature is 225° F. MERV rating is 5.

Filters with **300 grams of carbon/sq. ft.** control heavy odors. They meet UL 900 flame retardance requirements. Maximum temperature is 250° F. MERV rating is 7.

Trade Size	10 grams of Carbon/sq. ft. 1″ Thick	10 grams of Carbon/sq. ft. 2″ Thick	300 grams of Carbon/sq. ft. 2″ Thick
12×24	20695K61 $13.21	20695K81 $15.35	4043T41 $46.38
16×20	20695K62 13.81	20695K82 16.19	4043T42 47.30
16×25	20695K63 15.60	20695K83 19.41	4043T43 58.00
18×24			4043T44 59.45
20×20	20695K64 15.60	20695K84 19.41	4043T45 48.72
20×24			4043T46 52.80
20×25	20695K65 18.58	20695K85 22.85	4043T47 53.78
24×24	20695K66 20.48	20695K86 25.72	4043T48 58.84

Reusable Electrostatic Panel Air Filters



An inherent electrostatic charge attracts particles to the layered polypropylene and polyester filter media. Filters can be washed and reused. Frame is galvanized steel. All meet UL 900 flame retardance requirements. Maximum temperature is 180° F. Actual size is up to ½" less than trade size.

Trade Size	MERV 6 1″ Thick	MERV 6 2″ Thick
10×10	2065K41 $49.01	
10×20	2065K42 55.66	
12×12	2065K43 55.66	
12×24	2065K44 59.20	
14×20	2065K45 59.20	
16×20	2065K46 62.57	2065K61 $71.03
16×24	2065K32 62.57	
16×25	2065K52 62.57	2065K62 71.03
18×25	2065K33 69.82	
20×20	2065K53 62.57	2065K63 71.03
20×24	2065K34 69.82	
20×25	2065K54 69.82	2065K64 78.13
20×30	2065K35 73.35	
24×24	2065K36 73.35	

Panel Air Filters

For information about air filter efficiency ratings, see page 702.

High-Efficiency Panel Air Filters



Use in data centers, hospitals, and other locations that require extra-clean air. Filters trap smaller particles than standard panel air filters and have a pleated design that creates greater surface area for filtering without reducing airflow. Filter media is a blend of polyethylene and polypropylene. The frame is made of cardboard that's treated to resist humidity. A galvanized steel support grill is bonded to the filter media to prevent sagging. Filters meet UL 900 flame retardance requirements. Maximum temperature is 150° F. Actual size is up to 5/8" less than trade size.

1" and 2" Thick

	MERV 11						MERV 13					
	1" Thick			2" Thick			1" Thick			2" Thick		
Trade Size		Pkg. of 2	Pkg. of 12		Pkg. of 2	Pkg. of 12		Pkg. of 2	Pkg. of 12		Pkg. of 2	Pkg. of 12
10 × 10	3881T315	$21.78	$124.67	3881T325	$23.00	$131.33	3881T334	$46.94	$262.67	3881T355	$54.61	$311.67
10 × 20	3881T316	13.06	74.67	—	—	—	3881T335	26.72	148.33	—	—	—
12 × 12	3881T317	21.78	124.67	3881T326	23.00	131.33	3881T336	46.94	262.67	3881T356	54.61	311.67
12 × 16	3881T318	21.78	124.67	3881T327	23.00	131.33	3881T337	46.94	262.67	3881T357	54.61	311.67
12 × 20	3881T319	13.06	74.67	3881T328	13.06	72.00	3881T338	26.72	148.33	3881T358	30.83	175.67
12 × 24	3881T251	11.11	63.33	3881T271	11.33	63.45	3881T339	26.72	148.33	3881T359	27.56	155.67
14 × 25	3881T252	11.89	67.77	3881T272	13.11	74.73	3881T341	29.00	161.67	3881T361	35.17	195.00
15 × 20	3881T253	11.61	66.18	3881T273	11.83	66.25	3881T342	26.72	148.33	3881T362	30.17	165.00
16 × 16	3881T321	22.61	129.33	3881T329	25.50	146.67	3881T343	38.91	221.71	3881T363	41.81	225.77
16 × 20	3881T254	11.39	64.92	3881T274	11.83	66.25	3881T344	26.17	145.00	3881T364	30.50	167.00
16 × 24	—	—	—	3881T275	13.11	74.73	—	—	—	3881T365	36.06	199.74
16 × 25	3881T255	12.17	69.37	3881T331	14.94	83.00	3881T345	27.78	154.67	3881T366	36.06	199.74
16 × 30	3881T322	31.28	183.13	—	—	—	3881T346	66.56	378.74	—	—	—
18 × 18	3881T323	23.94	137.33	3881T332	28.61	165.33	3881T347	39.69	222.68	3881T367	68.89	397.33
18 × 24	3881T256	13.94	79.46	3881T276	14.41	82.14	3881T348	29.78	166.00	3881T368	37.06	206.33
20 × 20	3881T257	12.17	69.37	3881T277	13.11	74.73	3881T349	27.89	155.00	3881T369	36.06	199.74
20 × 24	3881T258	13.94	79.46	3881T278	14.17	80.77	3881T351	31.39	176.00	3881T371	42.67	240.00
20 × 25	3881T259	13.17	75.07	3881T279	14.39	82.02	3881T352	28.94	161.33	3881T372	41.33	232.00
20 × 30	3881T324	19.44	110.00	3881T333	23.22	128.00	3881T353	36.00	202.67	3881T373	55.17	315.00
24 × 24	3881T261	14.17	80.77	3881T281	16.44	93.71	3881T354	34.17	192.00	3881T374	44.61	251.67

4" Thick

	MERV 11			MERV 13				MERV 11			MERV 13	
Trade Size		Pkg. of 2	Pkg. of 6		Pkg. of 2	Pkg. of 6	Trade Size		Pkg. of 2	Pkg. of 6		Pkg. of 2	Pkg. of 6
12 × 24	3881T301	$19.75	$51.30	3881T305	$49.74	$135.30	20 × 20	3881T292	$19.40	$55.87	3881T311	$63.95	$176.85
14 × 25	3881T302	34.75	94.35	3881T306	101.55	289.65	20 × 24	3881T293	20.15	58.03	3881T312	70.45	196.35
16 × 20	3881T303	17.65	49.95	3881T307	55.10	150.30	20 × 25	3881T294	20.80	59.90	3881T313	72.80	203.40
16 × 25	3881T291	19.40	55.87	3881T308	63.95	176.85	24 × 24	3881T295	22.55	64.94	3881T314	80.20	225.60
18 × 24	3881T304	20.60	58.65	3881T309	64.85	179.55							

Long-Life High-Efficiency Panel Air Filters



Our premium panel air filters have tightly pleated filter media that creates a large surface area for long service life. The filter media is synthetic fiber and is housed in a moisture-resistant plastic frame. Filters meet UL 900 flame retardance requirements. Maximum temperature is 150° F. Actual size is up to 5/8" less than trade size.

Trade Size	Thick.	MERV 11	Each	MERV 13	Each	Trade Size	Thick.	MERV 11	Each	MERV 13	Each
12 × 24	2"	1729T19	$67.64	1729T29	$70.12	20 × 24	2"	1729T26	$76.42	1729T34	$86.07
16 × 20	2"	1729T21	71.00	1729T31	78.40	20 × 25	2"	1729T27	78.00	1729T35	86.00
16 × 25	2"	1729T22	78.09	1729T32	86.05	24 × 24	2"	1729T28	82.04	1729T36	90.36
20 × 20	2"	1729T24	70.89	1729T33	78.24						

Tackified Panel Air Filters



Filter media is pleated polyester with a tacky surface to retain particles. It contains a compound to inhibit the growth of mold and mildew on the filter. Frame is cardboard. Filters meet UL 900 flame retardance requirements. Max. temp. is 200° F. Actual size is up to 5/8" less than trade size.

1" and 2" Thick—MERV 7

	1" Thick			2" Thick		
Trade Size		Pkg. of 2	Pkg. of 12		Pkg. of 2	Pkg. of 12
12 × 24	2211K211	$19.40	$95.06	2211K411	$20.88	$102.31
14 × 25	2211K212	20.77	101.77	2211K412	24.97	122.35
15 × 20	2211K213	19.47	95.40	2211K413	22.49	110.20
16 × 20	2211K214	19.47	95.40	2211K414	22.52	110.35
16 × 25	2211K215	20.77	101.77	2211K415	25.00	122.50
18 × 24	2211K216	22.48	110.15	2211K416	27.43	134.41
20 × 20	2211K217	20.60	100.94	2211K417	25.49	124.90
20 × 24	—	—	—	2211K418	28.45	139.41
20 × 25	2211K219	23.24	113.88	2211K419	28.83	141.27
24 × 24	2211K221	24.29	119.02	2211K421	31.28	153.27

4" Thick—MERV 7

Trade Size		Pkg. of 2		Pkg. of 6
12 × 24	2211K122	$35.67	2211K82	$92.74
16 × 20	2211K123	38.43	2211K83	99.92
16 × 25	2211K124	44.07	2211K84	114.58
20 × 25	2211K125	50.77	2211K85	132.00
24 × 24	2211K126	53.23	2211K86	138.40

Snug-Fit Panel Air Filters



Create a seal to prevent air from bypassing your filter around its edges. The polyester filter media extends beyond the wire frame for a tight fit. Filters have a tacky surface that retains particles.

1" thick filters have a maximum temperature of 220° F. Actual size is 5/8" less than trade size.

1½" thick filters contain a compound to inhibit the growth of mold, mildew, and fungi on the filter. They meet UL 900 flame retardance requirements. Maximum temperature is 200° F. Actual size is 3/4" greater than trade size.

1" Thick—MERV 8

Trade Size		Pkg. of 2		Pkg. of 12
16 × 20	2167K32	$10.46	2167K62	$62.76
16 × 25	2167K33	11.65	2167K63	69.90
20 × 20	2167K34	11.66	2167K64	69.96
20 × 25	2167K35	13.07	2167K65	78.42
20 × 50	2167K37	25.20	2167K67	151.20
24 × 24	2167K36	14.19	2167K66	85.14

1½" Thick—MERV 8

Trade Size		Each	Trade Size		Each
12 × 24	2096K71	$7.86	20 × 20	2096K75	$9.40
16 × 20	2096K72	8.37	20 × 25	2096K76	10.34
16 × 24	2096K73	9.46	20 × 50	2096K77	19.29
16 × 25	2096K74	9.17	24 × 24	2096K78	11.77

For information about air filter efficiency ratings, see page 702.

Reusable Metal Panel Air Filters



Made of expanded corrugated aluminum sheets with an aluminum frame, these filters can be washed and reused. They are also known as metal mesh filters. Maximum temperature is 240° F. Filters meet UL 900 flame retardance requirements.

Light duty filters are not MERV rated. They have a 0.019″ thick frame, except ½″ thick filters have a 0.012″ thick frame.

Heavy duty filters have a 0.04″ thick frame.

Light Duty—Dimensions shown are actual size

Actual Size			Actual Size		
½″ Thick			**1″ Thick (Cont.)**		
13″ × 16½″	2061K73	$10.52	11½″ × 23½″	2061K81	$18.72
1″ Thick			13″ × 13″	2061K77	13.15
10″ × 10″	2061K74	10.58	20″ × 28″	2061K86	31.93
11⅜″ × 17⅜″	2061K84	15.55	23½″ × 23½″	2061K82	31.67

Light Duty—Actual size is up to ½″ less than trade size

Trade Size			Trade Size		
½″ Thick			**1″ Thick (Cont.)**		
13 × 16	2061K21	$10.52	20 × 25	2061K11	$16.60
1″ Thick			24 × 24	2061K26	28.42
12 × 12	2061K23	12.62	25 × 25	2061K27	37.30
15 × 20	2061K15	11.67	**2″ Thick**		
16 × 20	2061K14	12.75	16 × 20	2061K19	28.86
16 × 25	2061K13	14.50	20 × 20	2061K17	28.58
18 × 18	2061K25	22.50	20 × 24	2061K28	49.40
20 × 20	2061K12	14.65	20 × 25	2061K16	32.38

Heavy Duty MERV 4—Dimensions shown are actual size

Actual Size			Actual Size		
½″ Thick			**1″ Thick (Cont.)**		
7″ × 23⅜″	2150K41	$25.78	12″ × 12″	2150K12	$27.07
8¾″ × 20⅞″	2150K42	27.56	12″ × 14″	2150K13	28.15
9⅜″ × 16½″	2150K43	30.89	12″ × 16″	2150K14	29.89
12 1/16″ × 21¾″	2150K45	30.77	14″ × 14″	2150K36	27.50
13⅛″ × 13⅛″	2150K46	25.78	16″ × 16″	2150K38	28.18
1″ Thick			20″ × 30″	2150K39	46.00
10″ × 12″	2150K11	25.54			

Heavy Duty MERV 4—Actual size is up to ½″ less than trade size

Trade Size			Trade Size		
½″ Thick			**1″ Thick (Cont.)**		
6 × 18	2150K15	$23.33	18 × 18	2150K28	$34.00
12 × 12	2150K16	24.78	18 × 24	2150K29	40.44
13 × 16	2150K17	28.55	20 × 20	2150K56	27.56
18 × 18	2150K18	34.00	20 × 25	2150K57	29.22
1″ Thick			22¼ × 30¼	2150K31	51.22
9½ × 9½	2150K19	19.23	24 × 24	2150K59	29.78
10 × 10	2150K21	23.33	30 × 30	2150K32	89.22
10 × 20	2150K22	28.33	**2″ Thick**		
12 × 20	2150K35	29.50	10 × 20	2150K61	26.11
12 × 24	2150K23	32.55	15 × 20	2150K33	37.78
14 × 20	2150K37	30.00	16 × 20	2150K63	28.56
14 × 25	2150K24	36.89	16 × 25	2150K64	30.11
15 × 20	2150K25	34.00	20 × 20	2150K65	30.11
15 × 24	2150K26	36.89	20 × 25	2150K66	34.76
15 × 30	2150K27	41.44	24 × 24	2150K67	35.79
16 × 20	2150K54	23.78	**4″ Thick**		
16 × 25	2150K55	27.56	24 × 24	2150K34	82.78

Heavy Duty Made-to-Order Sizes

Don't see the size you need? We'll get it for you. Multiply the length × width you need to determine square inches. Then, see sq. inch ranges for pricing. **To Order:** Please specify actual length and width, as opposed to trade size.

Also Available: Filters larger than 599 square inches. Please ask for 2150K999 and specify thickness, actual length, and actual width.

Sq. Inch	½″ Thick		1″ Thick		2″ Thick	
1-299	2150K91	$28.30	2150K93	$28.96	2150K95	$32.56
300-599	2150K92	42.39	2150K94	43.37	2150K96	47.44

Long-Life Ultra-Efficiency Box Air Filters



4 Panel

Boxes contain multiple panels that are arranged to maximize filtering surface area for long service life. Filter media is microfiber fiberglass. Frame is plastic. Maximum temperature is 180° F. Actual size is up to ⅝″ less than trade size. MERV rating is 14.

8-panel filters have more surface area than 4-panel filters for an even longer service life.

Trade Size	Thick.	4 Panel		8 Panel	
12 × 24	12″	1729T11	$66.36	1729T16	$109.26
20 × 24	12″	1729T12	91.18	1729T17	154.72
24 × 24	12″	1729T14	96.88	1729T18	159.48

High-Temperature Reusable Metal Panel Air Filters



All-metal construction holds up under heat. Filters can be washed and reused. They meet UL 900 flame retardance requirements. Actual size is ½″ less than trade size, except 10 × 10 and 30 × 30 filters are actual size. MERV rating is 4.

Galvanized steel filters have a maximum temperature of 425° F. Filters do not have handles. Optional handles are sold separately.

Stainless steel filters are Type 304. Maximum temperature is 900° F. Filters have handles.

Trade Size	Thick.	Galvanized Steel		Stainless Steel	
10 × 10	2″	2157K11	$22.86	22115K21	$82.22
10 × 20	2″	2157K12	16.88	22115K22	66.67
12 × 24	2″	2157K13	19.32	22115K13	78.33
16 × 20	2″	2157K14	23.86	22115K24	81.56
16 × 25	2″	2157K16	29.97	22115K26	90.56
20 × 20	2″	2157K18	29.97	22115K28	87.89
20 × 25	2″	2157K22	33.67	22115K32	97.78
24 × 24	2″	2157K15	36.43	22115K15	89.09
30 × 30	2″	2157K17	47.00	22115K27	153.85
Handles for Galvanized Steel Units (Pair)				2157K32	6.07

Electronic Equipment Air Filters



Panels



Pads

Designed for use with electronic and telecommunication equipment, these filters can withstand prolonged exposure to heat and humidity.

Panels are replacement air filters for specific manufacturers. They are NEBS (Network Equipment Building Systems) certified.

Also Available: Other panel models. Please ask for 5307T999 and specify filter part number.

Pads can be cut to the size you need. Max. temp. is 240° F. *Polyester* pads meet UL 94 flame retardance requirements. *Polyurethane foam* pads can be washed and reused. They have 45 pores per inch and meet UL 900 flame retardance requirements.

Panels

Manufacturer	Filter Part Number		
Alcatel-Lucent	1AD014270002	5307T231	$35.22
Alcatel-Lucent	1AD014270005	5307T234	40.33
Alcatel-Lucent	3CM-02508-ABAA	5307T253	89.82
Alcatel-Lucent	3CM-02509-AAAA	5307T248	56.87
Alcatel-Lucent	3FE 24901 AAAA	5307T246	60.89
Alcatel-Lucent	600044-641-001	5307T225	26.73
Alcatel-Lucent	600044-641-005	5307T224	26.50
Alcatel-Lucent	87-0717-02	5307T252	82.20
Alcatel-Lucent	8DG02896AAAA	5307T247	54.60
Alcatel-Lucent	8DG24314AAAA	5307T243	51.13
Alcatel-Lucent	8DG26012AAAA	5307T251	75.45
Alcatel-Lucent	8DG26111AAAA	5307T254	113.69
Alcatel-Lucent	8DG59320AAAA	5307T245	59.91
Alcatel-Lucent	UAF 233	5307T226	28.85
Alcatel-Lucent	UAF 252A	5307T235	40.82
Alcatel-Lucent	UAF 354	5307T238	44.00
Alcatel-Lucent	UAF 355	5307T233	39.51
Avaya	UAF 217	5307T223	24.80
Cisco	700-06374-01	5307T249	64.00
Cisco	700-16068-02	5307T255	125.67
Genband	710-0024-161	5307T241	46.33
Nortel	AO344437	5307T228	30.35
Nortel	AO346832	5307T229	33.28
Nortel	AO361371	5307T227	30.08
Nortel	AO377837	5307T242	51.11
Nortel	AO665487	5307T232	38.82
Nortel	PO874870	5307T237	43.82
Nortel	PO913909	5307T236	41.67
Tellabs	179.0137-B	5307T244	54.33
Tellabs	179.1353	5307T239	46.16

Pads

Actual Size		Polyester ½″ Thk.	Polyester 1″ Thk.		Polyurethane Foam ¼″ Thk.	Polyurethane Foam ½″ Thk.	Polyurethane Foam 1″ Thk.
8″ × 8″	5307T201	$4.28	$5.00	5307T212	$4.50	$6.30	$8.65
10″ × 10″	5307T202	4.96	6.24	5307T213	6.22	8.12	11.96
10″ × 20″	5307T203	6.86	9.67	5307T214	9.01	13.15	21.11
14″ × 14″	5307T204	6.79	9.53	5307T215	8.92	12.95	20.75
16″ × 20″	5307T205	9.12	13.78	5307T216	12.39	19.19	32.09
16″ × 25″	5307T206	10.65	16.53	5307T217	14.62	23.22	39.42
20″ × 20″	5307T207	10.65	16.53	5307T218	14.62	23.22	39.42
20″ × 25″	5307T208	12.51	19.96	5307T219	17.38	28.26	48.56
20″ × 30″	5307T211	14.39	23.40	5307T222	20.21	33.31	57.73
24″ × 24″	5307T209	13.95	22.58	5307T221	19.55	32.10	55.53

Box & Bag Air Filters, Frames, and Air Filter Rolls

For information about air filter efficiency ratings, see page 702.

HEPA Air Filters



Control dust and contaminants in hospitals, laboratories, and other demanding environments. These HEPA filters capture 99.97% of particles down to 0.3 microns. They have a rigid frame that can withstand fluctuations in airflow, such as those created by variable air volume systems. Filter media is microfiber fiberglass. All have a neoprene gasket on the downstream side of the filter for a tight seal. Filters meet UL 900 flame retardance requirements, except 3″ thick filters. Maximum temperature is 180° F, except 2¾″ thick filters have a maximum temperature of 160° F.

Actual Size	Particleboard Frame		Aluminum Frame		Galvanized Steel Frame		Type 304 SS Frame	
2¾″ Thick								
12″ × 12″			5612T2	$158.58			5612T24	$316.00
24″ × 12″			5612T3	181.89			5612T25	335.07
24″ × 24″			5612T4	220.06			5612T26	378.31
3″ Thick								
12″ × 12″	2153K31	$78.96						
24″ × 12″	2153K33	110.10						
24″ × 24″	2153K35	171.60						
36″ × 24″	2153K37	217.07						
5⅞″ Thick								
8″ × 8″	2153K49	71.20			5612T5	$160.95	5612T27	282.87
12″ × 12″	2153K59	95.28			5612T6	176.28	5612T28	313.44
24″ × 12″	2153K69	152.39			5612T7	208.70	5612T31	443.08
24″ × 24″	2153K73	196.71			5612T8	246.94	5612T32	413.07
11½″ Thick								
23⅜″ × 23⅜″	2153K14	242.52			5612T11	318.00	5612T34	532.19
24″ × 12″	2153K75	182.12			5612T9	240.94	5612T33	428.33
24″ × 24″	2153K71	242.55			5612T12	336.47	5612T35	552.06
24″ × 30″	2153K16	319.85			5612T13	430.22	5612T36	733.85

High-Efficiency Metal Box Air Filters



A rigid metal frame withstands fluctuations in airflow, such as those created by variable air volume systems. Filter media is fiberglass. Filters meet UL 900 flame retardance requirements. Actual size is ⅝″ less than trade size.

Trade Size	MERV 11 6″ Thick		MERV 11 12″ Thick		MERV 14 6″ Thick		MERV 14 12″ Thick	
Galvanized Steel—Maximum temperature is 180° F								
12 × 24	8231T15	$63.20	8231T12	$78.93	8231T22	$65.33	8231T18	$79.41
20 × 24	8231T16	76.41	8231T13	105.13	8231T23	76.41	8231T19	104.48
24 × 24	8231T14	81.24	8231T11	112.61	8231T21	83.72	8231T17	114.74
Aluminum-Coated Steel—Maximum temperature is 900° F								
12 × 24			8231T45	134.58			8231T42	145.02
20 × 24			8231T46	180.10			8231T43	184.83
24 × 24			8231T44	177.08			8231T41	187.17

High-Efficiency Bag Air Filters



Filter media is formed into deep pocket-like bags to maximize filtering surface area with minimal airflow resistance. Filter media is polypropylene and is supported by a galvanized steel frame. Maximum temperature is 175° F. Actual size is ⅝″ less than trade size.

Trade Size	Dp.	MERV 10		MERV 12		MERV 15	
20 × 20	22″	22905K22	$36.30	22905K24	$38.74	22905K28	$45.71
24 × 20	22″	22905K21	30.00	22905K23	32.52	22905K27	37.64
24 × 24	12″	22905K43	32.10				
24 × 24	20″	22905K41	34.42				
24 × 24	22″			22905K25	36.22	22905K29	42.43
24 × 24	30″			22905K26	40.67	22905K61	48.90
24 × 24	36″					22905K63	53.94

Pad Air Filter Frames

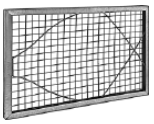

Add support to filter pads and media that have been cut to size. Frames are 24-ga. galvanized steel with a 16-ga. back grill. All have retaining wires to keep filter media in place. Actual size is ½″ less than trade size.

1″ and 2″ Thick

Trade Size	½″ Thick		1″ Thick		2″ Thick	
12 × 24	2169K63	$7.48	2169K41	$10.42	2169K51	$10.63
16 × 20	2169K64	7.80	2169K12	10.20	2169K22	10.39
16 × 25	2169K65	8.40	2169K13	10.68	2169K23	11.53
20 × 20	2169K68	8.40	2169K14	10.90	2169K24	11.53
20 × 25	2169K66	8.40	2169K15	11.10	2169K25	11.94
24 × 24	2169K67	8.80	2169K16	11.09	2169K26	12.50

Reusable Grease Filters

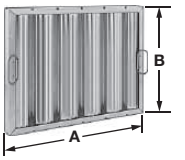

Use in exhaust hoods to remove grease and oil from the air. These filters have layers of baffled metal that collect grease while allowing air to pass through. Filters can be washed and reused. All are UL classified and meet NFPA Standard 96. Actual size is ½″ less than trade size.

Aluminum filters have a max. temperature of 250° F. **Galvanized steel** filters have a max. temperature of 450° F. **Type 304 stainless steel** filters have a max. temperature of 900° F.

Note: Install so baffles are vertical (as shown).

Trade Size (A × B)	Thick.	Aluminum		Galvanized Steel		Type 304 Stainless Steel	
16 × 25	2″	2092K17	$25.40	2092K27	$15.64	2092K37	$61.82
20 × 10	2″	2092K15	24.20	2092K25	13.36	2092K35	49.09
20 × 16	2″	2092K14	23.60	2092K24	14.55	2092K34	58.18
20 × 20	2″	2092K12	25.40	2092K22	15.82	2092K32	61.82
20 × 25	2″	2092K16	31.30	2092K26	19.19	2092K36	77.27
25 × 16	2″	2092K13	25.70	2092K23	15.82	2092K33	63.00
25 × 20	2″	2092K11	31.70	2092K21	19.45	2092K31	76.36

Panel Air Filter Frames



Hold panel filters in place. Frames are 2⅛″ thick and made of 16-ga. galvanized steel. They hold filters up to 2″ thick. Frames have mounting holes (hardware included) and can be welded together to hold multiple filters. All have filter retaining clips and a foam gasket for a tight seal.

Actual Size		Actual Size	
12″ × 24″	20615K91 $20.14	20″ × 20″	20615K94 $21.86
16″ × 20″	20615K92 20.86	20″ × 25″	20615K95 22.71
16″ × 25″	20615K93 21.86	24″ × 24″	20615K96 23.57

Metal-Reinforced Reusable Polyurethane Foam Air Filter Rolls



Wrapped in aluminum mesh for added support, this polyurethane foam filter media can be used without a frame. Cut to the size you need. Media can be washed and reused. It has 30 pores per inch and meets UL 900 flame retardance requirements. Color is green. Maximum temperature is 250° F.

Wd.	½″ Thick 5 ft.		½″ Thick 10 ft.		½″ Thick 25 ft.		1″ Thick 5 ft.		1″ Thick 10 ft.		1″ Thick 25 ft.	
15⅛″	2072K21	$20.00	2072K11	$37.60	2072K3	$85.09	2072K22	$21.50	2072K14	$39.50	2072K6	$89.82
19⅛″	2072K23	26.00	2072K12	45.40	2072K4	103.55	2072K24	28.00	2072K15	51.60	2072K7	112.73
24⅛″	2072K25	32.00	2072K13	62.80	2072K5	142.73	2072K26	34.00	2072K16	63.80	2072K8	145.00

For information about air filter efficiency ratings, see page 702.

General Purpose Polyester Air Filter Rolls and Pads

Our most popular filter material, polyester traps more particles than fiberglass. Cut rolls and pads to the size you need; frames are sold separately (see page 706). Filter media meets UL 900 flame retardance requirements.

Rolls

Maximum temperature for 1/2" and 1" thick rolls is 225° F; for 2" thick rolls, it's 150° F.
Dry rolls are white, except 2" thick × 5 ft. length dry rolls, which are white and yellow. They are rated MERV 6.
Tacky rolls have a tacky surface that retains particles. Rolls are blue on one side and white on the other. *1/2" thick* rolls are rated MERV 6; *1" thick* rolls are MERV 7; *2" thick* rolls are MERV 8.



Wd.	Available Surfaces	1/2" Thick 5 ft.	1/2" Thick 15 ft.	1/2" Thick 135 ft.	1" Thick 5 ft.	1" Thick 15 ft.	1" Thick 90 ft.	2" Thick 5 ft.	2" Thick 15 ft.	2" Thick 45 ft.
6"	Dry, Tacky	2122K701 ___	$7.03	$30.23	2122K716 ___	$7.88	$25.27	___	___	___
8"	Dry, Tacky	2122K702 ___	7.49	36.09	2122K717 ___	10.38	29.64	2122K732 ___	$13.38	$29.77
10"	Dry, Tacky	2122K703 ___	8.49	40.98	2122K718 ___	11.97	34.80	___	___	___
12"	Dry, Tacky	2122K704 ___	9.14	49.51	2122K719 ___	13.44	41.38	2122K733 ___	16.48	38.51
14"	Dry, Tacky	2122K705 ___	10.28	56.57	2122K721 ___	14.74	43.45	___	___	___
16"	Dry, Tacky	2122K706 ___	11.65	63.86	2122K722 ___	16.76	49.90	___	___	___
20"	Dry, Tacky	2122K707 $7.10	12.33	69.32	2122K723 $8.93	19.47	58.43	2122K734 $11.24	21.00	43.91
25"	Dry, Tacky	2122K708 8.33	14.58	86.56	2122K724 10.61	23.19	72.94	2122K735 13.64	24.17	55.05
26"	Dry, Tacky	2122K709 8.57	14.95	89.38	2122K725 10.89	23.75	76.81	___	___	___
28"	Dry, Tacky	2122K711 9.53	16.60	104.00	2122K726 11.46	25.12	82.27	___	___	___
30"	Dry, Tacky	2122K712 9.60	16.72	109.64	2122K727 12.21	26.69	84.94	___	___	___
36"	Dry, Tacky	2122K713 11.17	19.47	129.56	2122K728 14.32	31.34	104.03	2122K736 18.96	35.10	79.14
40"	Dry, Tacky	2122K714 12.10	22.73	152.51	2122K729 15.57	34.00	134.69	___	___	___
48"	Dry, Tacky	2122K715 14.90	27.22	174.64	2122K731 18.54	40.53	164.50	___	___	___

Pads

Maximum temperature is 220° F. Pads are not MERV rated. *1/2"* and *1" thick* pads have a tacky surface that retains particles. They are blue on one side and white on the other. *2" thick* pads are white.



Actual Size	1/2" Thick Pkg. of 10	1" Thick Pkg. of 10	2" Thick Pkg. of 10
12"×12"	2182K51 $12.35	2182K59 $15.60	2182K61 $15.91
12"×24"	2182K52 15.52	2182K11 17.79	2182K62 20.03
16"×20"	2182K53 16.45	2182K12 18.20	2182K32 22.25
16"×25"	2182K54 19.13	2182K13 22.55	2182K33 25.25

Actual Size	1/2" Thick Pkg. of 10	1" Thick Pkg. of 10	2" Thick Pkg. of 10
20"×20"	2182K55 $19.13	2182K14 $22.55	2182K34 $25.25
20"×25"	2182K57 24.96	2182K15 28.13	2182K35 31.39
24"×24"	2182K58 30.52	2182K16 30.75	2182K36 40.00

Reusable Rigid Polyester Air Filter Rolls and Pads

No frame needed—rigid polyester is firm enough to be used without one. Filter media can be washed and reused. *1/2"* and *1" thick* rolls and pads are blue and have a maximum temperature of 225° F; *2" thick* rolls and pads are green and have a maximum temperature of 200° F. All meet UL 900 flame retardance requirements. *1/2" thick* rolls and pads are rated MERV 5; *1" thick* rolls and pads are MERV 6; *2" thick* rolls and pads are not MERV rated.

Rolls

Wd.	1/2" Thick 6 ft.	1/2" Thick 12 ft.	1/2" Thick 36 ft.	1" Thick 6 ft.	1" Thick 12 ft.	1" Thick 36 ft.	2" Thick 6 ft.	2" Thick 12 ft.
6"	2069K1 $5.75	$9.27	$23.73	2069K201 $6.00	$9.71	$26.47	___	___	___
8"	2069K2 7.65	12.37	31.65	2069K202 7.88	12.73	34.76	2069K216 $12.20	$22.18
10"	2069K3 8.51	14.50	35.81	2069K203 8.66	15.78	38.72	___	___	___
12"	2069K4 9.34	15.96	39.40	2069K204 10.35	16.94	46.18	2069K217 15.64	28.44
14"	2069K5 10.94	18.63	45.97	2069K205 12.02	19.66	50.60	___	___	___
16"	2069K6 12.46	20.42	52.55	2069K206 13.18	21.54	55.42	___	___	___
20"	2069K7 14.06	25.52	65.66	2069K207 14.81	26.94	69.25	2069K218 22.93	41.67
25"	2069K8 17.54	32.02	82.08	2069K208 18.52	33.68	86.57	2069K219 28.38	51.58
26"	2069K9 18.24	33.18	85.38	2069K209 19.24	34.98	90.04	___	___	___
28"	2069K14 19.66	35.74	91.94	2069K211 20.70	37.72	96.96	___	___	___
30"	2069K17 21.06	38.30	98.49	2069K212 22.22	40.41	103.87	___	___	___
36"	2069K19 25.28	45.94	118.21	2069K213 26.66	48.49	124.66	2069K221 40.31	73.31
48"	2069K29 33.68	61.26	157.60	2069K214 35.55	64.66	166.21	___	___	___
72"	2069K36 50.54	86.68	227.82	2069K215 51.39	91.53	240.24	___	___	___

Pads

Actual Size	1/2" Thick Pkg. of 5	1" Thick Pkg. of 5	2" Thick Pkg. of 5
12"×12"	21205K13 $7.78	21205K29 $8.85	21205K42 $14.44
12"×24"	21205K14 13.82	21205K31 15.75	21205K43 24.80
14"×25"	21205K16 16.80	21205K32 19.16	21205K44 29.56
15"×24"	21205K18 17.29	21205K33 19.69	21205K45 31.42
16"×20"	21205K19 18.21	21205K34 20.71	21205K46 31.71
16"×25"	21205K21 19.20	21205K35 21.86	21205K47 34.04
20"×20"	21205K23 19.20	21205K36 21.86	21205K48 33.90

Actual Size	1/2" Thick Pkg. of 5	1" Thick Pkg. of 5	2" Thick Pkg. of 5
20"×25"	21205K24 $24.01	21205K37 $27.35	21205K49 $41.70
20"×30"	21205K26 28.80	21205K38 32.82	21205K51 48.73
24"×24"	21205K27 29.62	21205K39 34.59	21205K52 50.48
25"×48"	21205K28 49.87	21205K41 56.79	21205K53 87.53
25"×48"	21205K22★ 12.97	21205K12★ 14.75	___	___
30"×48"	___	___	21205K25★ 17.68	___	___

★ Package quantity is 1.

Air Filter Rolls for Automatic Roll Machines

Replace the filter roll in your automatic filtering equipment. Filter media is wrapped onto a core and has pull tabs for installation. Rolls meet UL 900 flame retardance requirements. They are 65 ft. long. Rolls are not MERV rated.
Fiberglass rolls have a tacky surface that retains particles. Color is blue. Rolls are 2" thick. Maximum temperature is 250° F.
Polyester rolls trap more particles than fiberglass. Color is white. Rolls are 5/8" thick. Max. temperature is 220° F.



Replacement For	Wd.	Fiberglass		Polyester	
American Air Filter	32 3/4"	2115K11	$109.74	2179K12	$109.09
American Air Filter	44 3/4"	2115K17	132.96	2179K13	132.17
American Air Filter	56 3/4"	2115K23	156.19	2179K14	155.26
Continental	43 7/8"	2115K41	132.96	2179K33	132.17
Continental	55 7/8"	2115K42	156.19	2179K34	155.26

Replacement For	Wd.	Fiberglass		Polyester	
Continental	67 7/8"	2115K43	$182.85	2179K35	$178.30
Farr	32 3/4"	2115K31	109.74	2179K42	109.09
Farr	44 3/4"	2115K32	132.96	2179K43	132.17
Farr	56 3/4"	2115K33	156.19	2179K44	155.26

Reusable Polyurethane Foam Air Filter Rolls and Pads

Filter, rinse, repeat—polyurethane foam can be washed and reused. It is lightweight and mildew resistant. Cut rolls and pads to the size you need; frames are sold separately (see page 706). Polyurethane foam with more pores per inch catches smaller particles than foam with fewer pores per inch. Rolls and pads meet UL 900 flame retardance requirements.

Rolls



Color is gray. Maximum temperature is 200° F.

To Order: Please specify pores per inch: 30 or 60.

Wd.	1/8″ Thick 5 ft.	10 ft.	25 ft.	1/4″ Thick 5 ft.	10 ft.	25 ft.	1/2″ Thick 5 ft.	10 ft.	25 ft.	1″ Thick 5 ft.	10 ft.	25 ft.
8″	2195K301 $4.04	$6.71	$11.94	2195K302 $8.33	$14.32	$23.86	2195K303 $12.55	$28.62	$47.70	2195K304 $33.33	$57.12	$127.22
12″	2195K305 5.47	7.81	16.27	2195K306 10.15	15.65	32.53	2195K307 20.30	31.29	65.05	2195K308 40.59	62.58	130.11
24″	2195K309 8.32	14.43	29.82	2195K311 16.64	28.86	59.63	2195K312 31.25	57.73	119.27	2195K313 62.49	115.45	238.53
36″	2195K314 12.10	20.08	41.31	2195K315 22.46	40.21	82.57	2195K316 45.08	80.42	165.14	2195K317 89.84	160.85	330.28
48″	2195K318 15.01	26.70	53.40	2195K319 30.05	53.36	106.94	2195K321 60.02	106.80	213.60	2195K322 120.05	213.60	427.21

Pads



Color is gray, except pads with 65 pores per inch are green. Maximum temperature is 250° F.

Actual Size	Available Pores Per Inch	1/8″ Thick	1/4″ Thick	1/2″ Thick	1″ Thick	2″ Thick
12″×12″	30, 60	9803K301 $4.29	9803K302 $4.69	9803K303 $6.00	9803K304 $8.57	9803K305 $15.00
12″×24″	30, 60	9803K306 5.00	9803K307 5.56	9803K308 12.00	9803K309 17.14	9803K311 30.00
16″×20″	30, 60	9803K312 5.60	9803K313 6.22	9803K314 13.40	9803K315 19.14	9803K316 33.50
16″×25″	30, 60	9803K317 7.14	9803K318 7.81	9803K319 14.29	9803K321 28.57	9803K322 49.74
20″×20″	30, 60	9803K323 7.14	9803K324 7.81	9803K325 14.29	9803K326 28.57	9803K327 49.74
20″×25″	30, 60	9803K328 10.71	9803K329 11.72	9803K331 21.43	9803K332 42.86	9803K333 75.00
24″×24″	30, 60	9803K334 12.14	9803K335 13.28	9803K336 24.29	9803K337 48.57	9803K338 60.00
48″×72″	20, 45, 65, 80, 100	9803K2 25.49	9803K3 50.39	9803K4 89.27	9803K6 188.84	9803K7 396.84
Sample Pack—30 and 60 Pores per Inch (Each piece is 3″×3″×1/4″ Thick.)						2195K99 7.14
Sample Pack—20, 45, 65, 80, and 100 Pores per Inch (Each piece is 6″×6″×1/8″ Thick.)						9803K99 11.94

Odor-Removal Air Filter Rolls and Pads

In addition to catching dust and other particles, this filter media contains carbon granules to remove odors. Color is black. Rolls and pads meet UL 900 flame retardance requirements. Maximum temperature is 120° F. For information about air filter efficiency ratings, see page 702.

Rolls—MERV 6

Control light odors. Cut to the size you need; frames are sold separately (see page 706).

Wd.	5 ft.	25 ft.	50 ft.
3/16″ Thick—45 grams of carbon/sq. ft.			
8″	3722T48 $10.36	3722T59 $23.96	3722T69 $44.23
10″	3722T49 12.96	3722T61 29.94	3722T71 55.27
12″	3722T51 15.56	3722T62 35.94	3722T72 66.35
15″	3722T53 19.44	3722T63 44.92	3722T73 82.92
19″	3722T54 24.62	3722T64 56.90	3722T74 105.04
20″	3722T55 25.91	3722T65 59.90	3722T75 110.58
24″	3722T56 31.11	3722T66 71.88	3722T76 132.69
25″	3722T57 32.40	3722T67 74.85	3722T77 138.21
30″	3722T58 38.89	3722T68 89.83	3722T78 165.87
1/2″ Thick—30 grams of carbon/sq. ft.			
8″	3722T11 9.62	3722T23 19.44	3722T36 35.88
10″	3722T12 12.02	3722T26 24.29	3722T38 44.87
12″	3722T13 14.44	3722T27 29.17	3722T39 53.85
15″	3722T14 18.04	3722T28 36.46	3722T41 67.31
19″	3722T15 22.87	3722T29 46.17	3722T43 85.23
20″	3722T17 24.07	3722T31 48.60	3722T44 89.73
24″	3722T18 28.89	3722T33 58.33	3722T45 107.69
25″	3722T19 30.09	3722T34 60.75	3722T46 112.15
30″	3722T22 36.11	3722T35 72.92	3722T47 134.62

Pads—MERV 7

Pads have more carbon than rolls to handle heavy odors.

Pads with **375 grams of carbon/sq. ft.** provide greater odor control than our other filters and can handle ammonia, hydrogen sulfide, and other gases. They are often used in hospitals and laboratories.

Actual Size	300 grams of Carbon/sq. ft.	375 grams of Carbon/sq. ft.
1″ Thick		
12″ × 12″	3722T79 $14.27	3722T99 $18.96
12″ × 24″	3722T82 25.62	3722T101 34.58
14″ × 25″	3722T83 30.15	3722T102 40.20
15″ × 24″	3722T84 31.02	3722T103 41.36
16″ × 20″	3722T86 30.68	3722T104 43.84
16″ × 25″	3722T89 31.22	3722T105 40.60
20″ × 20″	3722T95 31.22	3722T106 40.60
20″ × 25″	3722T96 34.91	3722T107 40.60
20″ × 30″	3722T97 47.38	3722T108 63.18
24″ × 24″	3722T98 37.60	3722T109 49.87

Fiberglass Air Filter Rolls and Pads

Often used as a prefilter to protect more expensive filters, fiberglass is our most economical air filter media. Cut rolls and pads to the size you need; frames are sold separately (see page 706). Filter media meets UL 900 flame retardance requirements. For information about air filter efficiency ratings, see page 702.

Rolls—Not MERV rated

Color is white. Maximum temperature is 300° F. Rolls are 20 ft. long.

Wd.	1″ Thick	2″ Thick
8″	4438K1 $7.39	4438K16 $10.24
10″	4438K5 10.44	4438K17 11.76
12″	4438K8 11.47	4438K18 15.90
20″	4438K9 15.52	4438K6 16.00
24″	4438K4 16.08	4438K19 19.11
25″	4438K14 16.56	4438K7 18.86
30″	4438K2 17.03	4438K21 23.34
36″	4438K3 20.88	4438K22 25.75
48″	4438K15 23.36	4438K23 28.38

Pads—MERV 4

Color is blue. Maximum temperature is 350° F.

Actual Size	Pkg. of 3	Pkg. of 6	Pkg. of 50
1″ Thick			
12″ × 12″	2173K1 ____	$9.29	$47.73
12″ × 24″	2173K2 ____	10.00	49.74
16″ × 20″	2173K3 ____	10.67	52.00
16″ × 25″	2173K4 ____	12.93	57.69
20″ × 20″	2173K5 ____	12.93	57.69
20″ × 25″	2173K6 ____	13.93	75.00
24″ × 24″	2173K7 $12.10	____	81.00
2″ Thick			
12″ × 12″	2173K8 ____	9.86	49.99
12″ × 24″	2173K9 ____	11.71	60.00
16″ × 20″	2173K11 ____	12.10	57.00
16″ × 25″	2173K17 ____	15.40	67.31
20″ × 20″	2173K18 ____	15.40	67.31
20″ × 25″	2173K19 11.73	____	84.62
24″ × 24″	2173K21 12.10	____	95.19

Air Filter Tackifiers



Spray clean filters with a light coat of these water-soluble tackifiers to create a sticky surface that retains particles.

10-oz. Pump Spray	2071K3	$9.00
1-gal. Container	2071K1	47.06
5-gal. Container	2071K2	199.74

Lighting & Electrical

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About Screw-In Light Bulbs

The emergence of new technologies has increased the number of lighting options. When selecting a bulb, consider the following:

Make sure the bulb will fit your socket.
To determine the size of your current bulb, measure its base.

Select a bulb that is bright enough for your application.
We've used *equivalent incandescent bulb wattage* to help compare the amount of light produced by incandescent, halogen, CFL, and LED bulbs. Brightness is also measured in *lumens*; the higher the lumens, the brighter the light.

Consider the bulb type, including its energy efficiency and light appearance.
Energy efficiency varies substantially among different types of bulbs. A bulb's *rated life*, as well as its *estimated yearly energy cost,* is based on 3 hours of usage per day at $0.11 per kWh. *Light appearance*, measured in Kelvins, can be warm, neutral, or cool.

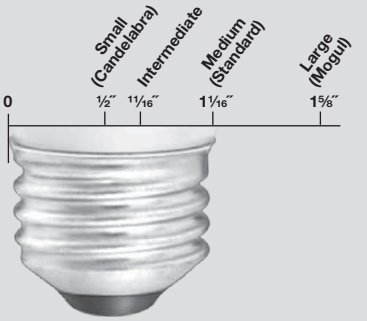

Bulb Types	Initial Cost	Energy Efficiency	Light Appearance: Warm Red/Yellow Tones General Purpose (2,400-3,200K)	Light Appearance: Neutral Tones Workspaces (3,200-4,500K)	Light Appearance: Cool White/Blue Tones Inspecting & Reading (4,500-6,500K)
 **Incandescent—**The traditional light bulb. Many have been phased out due to governmental energy requirements but some are still available for special applications. **Halogen—**The closest substitute to incandescent bulbs, these are slightly more energy efficient but generate more heat.	$	Poor	✓		
 **CFL (Compact Fluorescent Light)—**Bulbs are efficient and long lasting but can take several seconds to reach full brightness, and they contain small amounts of mercury (for disposal information, visit www.epa.gov/cfl).	$$	Good	✓	✓	✓
 **LED (Light-Emitting Diode)—**The newest technology. Bulbs generate little heat, tolerate vibration, and are the most efficient and long lasting.	$$$	Excellent	✓	✓	✓

Medium-Base Light Bulbs



Built with a 1 1/16″ dia. base, these bulbs fit standard household light sockets. They are 120 volts, except the low-voltage and high-voltage bulbs. Bulbs are dimmable, except CFL bulbs (unless noted).

3-way bulbs are for fixtures that have low, medium, and high settings.

Rough-service bulbs have reinforced filaments to tolerate vibration.

Shatter-resistant bulbs have an outer coating that prevents them from breaking as easily as other bulbs, yet retains glass shards if they do break. They are often used in food service environments.

Equiv. Incand. Bulb Watts	Brightness, lumens	Bulb Type	Shape No.	Color	Light Appearance	Watts	Rated Life, years	Est. Yearly Energy Cost, $	Overall Dia.	Overall Lg.		Small Pack Qty.	Small Pack Pkg.	Large Pack Qty.	Large Pack Pkg.
Standard and Spiral															
General Purpose															
15	100	Incand.	A15	Frosted	Warm (2,850K)	15	2.2	1.90	1 7/8″	3 1/2″	15115K72	2	$3.92	—	—
25	190	Incand.	A19	Frosted	Warm (2,850K)	25	2.2	3.10	2 3/8″	4″	15115K61	2	3.39	—	—
40	380	Halogen	A19	Clear	Warm (2,790K)	29	0.9	3.49	2 3/8″	4 1/8″	1721K45	2	5.60	—	—
40	405	Incand.	A15	Frosted	Warm (2,700K)	40	0.9	4.82	1 7/8″	3 1/2″	1628K32	2	2.12	—	—
40	475	CFL	A19	Clear	Warm (2,700K)	9	7.3	1.08	2″	3 7/8″	1685K83	1	4.80	12	$48.96
40	475	LED	A20	Frosted	Warm (3,000K)	7	22.8	1.32	2 1/2″	4 3/8″	8715K65	1	5.70	12	60.99
40	500	LED	A20	Frosted	Neutral (4,100K)	7	22.8	1.32	2 1/2″	4 3/8″	8715K52	1	5.70	12	60.99
40	550	CFL	Spiral	Frosted	Warm (2,700K)	9	9.1	1.08	1 7/8″	4″	1949K79	1	3.12	12	31.82
40	550	CFL	Spiral	Frosted	Neutral (4,100K)	9	9.1	1.08	1 7/8″	4″	1949K84	1	3.12	12	31.82
60	750	Halogen	A19	Clear	Warm (2,920K)	43	0.9	5.18	2 3/8″	4 1/8″	1721K44	2	5.60	—	—
60	750	Halogen	A19	Frosted	Warm (2,920K)	43	0.9	5.18	2 3/8″	4 1/8″	1721K43	2	5.44	—	—

(Continued on following page)

For information about screw-in light bulbs, including their light appearance, rated life, and energy cost, see page 710.

Medium-Base Light Bulbs *(Continued from previous page)*

Equiv. Incand. Bulb Watts	Bright-ness, lumens	Bulb Type	Shape No.	Color	Light Appearance	Watts	Rated Life, years	Est. Yearly Energy Cost, $	Overall Dia.	Overall Lg.		Small Pack Qty.	Small Pack Pkg.	Large Pack Qty.	Large Pack Pkg.
Standard and Spiral (Cont.)															
General Purpose (Cont.)															
60	800	CFL	A19	Clear	Neutral (3,500K)	14	7.3	1.69	2½″	4½″	1685K64	1	$4.80	12	$48.96
60	825	LED	A19	Frosted	Warm (3,000K)	10	22.8	1.32	2½″	4⅜″	8715K63	1	5.85	12	62.59
60	850	CFL	Spiral	Frosted	Cool (6,500K)	14	7.3	1.69	1⅞″	4½″	1949K92	1	3.12	12	31.82
60	850	LED	A19	Frosted	Neutral (4,100K)	10	22.8	1.32	2½″	4⅜″	8715K64	1	5.85	12	62.59
60	900	CFL	Spiral	Frosted	Warm (2,700K)	14	9.1	1.69	1⅞″	4½″	1949K95	1	3.12	12	31.82
60	900	CFL	Spiral	Frosted	Neutral (4,100K)	14	9.1	1.69	1⅞″	4½″	1949K89	1	3.12	12	31.82
75	1,100	LED	A21	Frosted	Warm (2,700K)	13	22.8	1.57	2⅝″	5″	8715K86	1	10.64	12	112.63
75	1,225	CFL	Spiral	Frosted	Warm (2,700K)	19	9.1	2.29	2⅜″	4½″	1949K96	1	4.05	12	41.31
75	1,225	CFL	Spiral	Frosted	Neutral (4,100K)	19	9.1	2.29	2⅜″	4½″	1949K93	1	4.26	12	43.45
75	1,225	CFL	Spiral	Frosted	Cool (6,500K)	19	9.1	2.29	2⅜″	4½″	1949K94	1	4.05	12	41.31
100	1,450	CFL	Spiral	Frosted	Neutral (4,100K)	23	10.9	2.77	2½″	5″	1949K87★	1	8.20	12	83.64
100	1,450	CFL	Spiral	Frosted	Cool (6,500K)	23	9.1	2.77	2⅜″	4⅞″	1949K1	1	4.30	12	43.86
100	1,490	Halogen	A19	Clear	Warm (2,990K)	72	0.9	8.67	2⅜″	4⅛″	1721K41	2	4.02	—	—
100	1,490	Halogen	A19	Frosted	Warm (3,000K)	72	0.9	8.67	2⅜″	4⅛″	1721K42	2	4.02	—	—
100	1,500	CFL	Spiral	Frosted	Warm (2,700K)	23	10.9	2.77	2½″	5″	1949K69★	1	9.22	12	94.04
100	1,600	CFL	Spiral	Frosted	Warm (2,700K)	23	9.1	2.77	2⅜″	4⅞″	1949K97	1	4.30	12	43.86
100	1,600	CFL	Spiral	Frosted	Neutral (4,100K)	23	9.1	2.77	2⅜″	4⅞″	1949K85	1	4.30	12	43.86
125	2,000	CFL	Spiral	Frosted	Warm (2,700K)	30	7.3	3.61	2¼″	5⅜″	1949K99	1	9.30	6	47.43
125	2,000	CFL	Spiral	Frosted	Neutral (4,100K)	32	22.8	3.85	2⅞″	6″	1949K3	1	7.98	6	40.70
150	2,650	CFL	Spiral	Frosted	Warm (2,700K)	40	7	4.90	2¾″	6⅞″	1949K58	1	12.09	6	61.66
150	2,700	CFL	Spiral	Frosted	Neutral (4,100K)	42	10.5	5.10	2¾″	5¾″	1949K86	1	10.16	12	103.63
150	2,800	CFL	Spiral	Frosted	Warm (2,700K)	42	10.5	5.10	2¾″	5¾″	1949K82	1	10.16	12	103.63
150	2,810	Incand.	A23	Frosted	Warm (2,850K)	150	0.6	18.07	2⅞″	6″	1728K87	6	16.74	—	—
200	3,930	Incand.	A23	Frosted	Warm (2,850K)	200	0.7	24.10	2⅞″	6″	15115K69	1	3.76	—	—
300	3,900	CFL	Spiral	Frosted	Warm (2,700K)	65	5.5	7.90	4″	10½″	1949K83	1	26.89	6	137.14
500	6,400	CFL	Spiral	Frosted	Cool (6,500K)	105	7	12.70	4″	13¼″	1949K88	1	46.40	6	236.64
Colored															
25	155	Incand.	A19	Blue	Warm (2,800K)	25	4.5	3.10	2⅜″	4″	1473K21	1	3.57	—	—
25	155	Incand.	A19	Green	Warm (2,800K)	25	4.5	3.10	2⅜″	4″	1473K23	1	3.57	—	—
25	155	Incand.	A19	Red	Warm (2,800K)	25	4.5	3.10	2⅜″	4″	1473K19	1	3.57	—	—
25	155	Incand.	A19	Yellow	Warm (2,800K)	25	4.5	3.10	2⅜″	4″	1473K61	1	3.59	—	—
60	Not Rated	CFL	Spiral	Yellow	Not Rated	13	7	1.60	1⅞″	4⅜″	9653K2	1	10.53	6	53.70
60	Not Rated	Incand.	A19	Blue	Not Rated	60	2.2	7.30	2⅜″	4¼″	1473K17	1	3.89	—	—
60	Not Rated	Incand.	A19	Green	Not Rated	60	2.2	7.30	2⅜″	4¼″	1473K13	1	3.71	—	—
60	Not Rated	Incand.	A19	Yellow	Warm (2,850K)	60	0.9	7.30	2⅜″	4½″	1473K36	2	3.79	—	—
100	1,140	Incand.	A19	Yellow	Warm (2,850K)	100	0.9	12.10	2⅜″	4½″	1473K87	2	5.43	—	—
3-Way															
30/ 70/	270/ 840/					30/ 70/		3.61/ 8.43/							
100	1,110	Incand.	A21	Frosted	Warm (2,660K)	100	1.6	12.05	2⅝″	5⅜″	1628K43	1	2.31	—	—
50/ 100/	600/ 1,500/					12/ 21/		1.45/ 2.53/							
125	2,200	CFL	Spiral	Frosted	Warm (2,700K)	32	9.1	3.85	2¾″	5¼″	1949K59	1	13.78	6	70.28
50/ 100/	465/ 1,160/					50/ 100/		6.02/ 12.05/							
150	1,625	Incand.	A21	Frosted	Warm (2,770K)	150	1.6	18.07	2⅝″	5⅜″	1628K45	1	2.36	—	—
Rough Service															
40	320	Incand.	A19	Frosted	Warm (2,700K)	40	18	4.90	2⅜″	4½″	1728K48	1	2.61	—	—
40	330	Incand.	A19	Clear	Warm (2,700K)	40	18	4.81	2⅜″	4½″	1728K471	6	14.52	—	—
50	510	Incand.	A19	Frosted	Warm (2,850K)	50	0.9	6.10	2⅜″	4½″	1506K51	2	4.91	—	—
60	575	Incand.	A19	Clear	Warm (2,700K)	60	18	7.22	2⅜″	4½″	1728K952	6	14.52	—	—
60	575	Incand.	A19	Frosted	Warm (2,700K)	60	18	7.22	2⅜″	4½″	1728K571	6	14.52	—	—
70	712	Incand.	A19	Frosted	Not Rated	70	1.6	8.50	2⅜″	4″	1506K52	1	3.42	—	—
75	715	Incand.	A19	Clear	Warm (2,700K)	75	18	9.03	2⅜″	4½″	1728K691	6	21.38	—	—
75	715	Incand.	A19	Frosted	Warm (2,700K)	75	18	9.03	2⅜″	4½″	1728K982	6	14.52	—	—
75	1,000	Incand.	A21	Frosted	Warm (2,800K)	75	0.9	9.03	2⅝″	5⅜″	1532K43	1	6.06	—	—
100	1,000	Incand.	A19	Clear	Warm (2,700K)	100	18	12.05	2⅜″	4½″	1728K881	6	14.52	—	—
100	1,000	Incand.	A19	Frosted	Warm (2,700K)	100	18	12.05	2⅜″	4½″	1728K271	6	14.52	—	—
141	1,915	Incand.	A21	Frosted	Not Rated	141	1.5	17.00	2⅝″	5⅜″	1506K54	2	10.65	—	—
150	1,620	Incand.	A21	Clear	Warm (2,700K)	150	18	18.06	2⅝″	5¼″	1728K921	6	20.88	—	—
150	1,750	Incand.	A21	Frosted	Warm (2,700K)	150	18	18.10	2⅝″	5¼″	1728K93	2	5.85	—	—
Shatter Resistant															
34	300	Incand.	A15	Frosted	Warm (2,850K)	34	2.5	4.20	1¼″	3½″	1532K61	2	14.62	12	74.56
40	500	LED	A19	Frosted	Warm (2,700K)	6	22.5	0.75	2½″	4⅜″	1532K71	1	26.67	10	226.70
60	Not Rated	Incand.	A19	Clear	Warm (2,700K)	60	18	4.81	2⅜″	4½″	1728K442	6	27.96	—	—
70	660	Incand.	A19	Frosted	Not Rated	70	4	8.50	2⅜″	4″	1532K63	2	15.00	12	76.50
75	1,225	CFL	Spiral	Clear	Warm (2,700K)	19	9	2.30	1⅜″	4⅜″	9591K4	1	23.05	10	195.93
75	Not Rated	Incand.	A19	Clear	Warm (2,700K)	75	18	9.03	2⅜″	4½″	1728K492	6	27.96	—	—

★ Bulb is dimmable.

(Continued on following page)

Medium-Base Light Bulbs *(Continued from previous page)*



Built with a 1 1/16″ dia. base, these bulbs fit standard household light sockets. They are 120 volts, except the low-voltage and high-voltage bulbs. Bulbs are dimmable, except CFL bulbs.

Rough-service bulbs have reinforced filaments to tolerate vibration.

Shatter-resistant bulbs have an outer coating that prevents them from breaking as easily as other bulbs, yet retains glass shards if they do break. They are often used in food service environments.

Equiv. Incand. Bulb Watts	Bright-ness, lumens	Bulb Type	Shape No.	Color	Light Appearance	Watts	Rated Life, years	Est. Yearly Energy Cost, $	Overall Dia.	Overall Lg.		Small Pack Qty.	Small Pack Pkg.	Large Pack Qty.	Large Pack Pkg.
Standard and Spiral (Cont.)															
Shatter Resistant (Cont.)															
94	945	Incand.	A21	Frosted	Not Rated	94	1.6	11.40	2 5/8″	5 3/8″	1532K45	2	$11.18	__	_____
100	1,600	CFL	Spiral	Clear	Warm (2,700K)	23	9	2.80	2 3/8″	4 7/8″	9591K5	1	23.33	10	$198.30
100	Not Rated	Incand.	A21	Clear	Warm (2,700K)	100	18	12.04	2 5/8″	5 1/4″	1728K892	6	31.56	__	_____
137	1,380	Incand.	A21	Frosted	Warm (2,700K)	137	9	16.50	2 5/8″	5″	1532K47	2	10.30	__	_____
Low-Temperature Refrigerator— Minimum temperature is -40° F															
40	410	Incand.	A15	Frosted	Warm (2,850K)	40	0.9	4.90	1 7/8″	3 1/2″	1628K56	6	14.09	__	_____
60	Not Rated	Incand.	A19	Frosted	Not Rated	60	0.9	7.30	2 3/8″	4 1/2″	1532K33	2	8.89	__	_____
94	945	Incand.	A21	Frosted	Not Rated	94	1.5	11.40	2 5/8″	5 3/8″	1506K53	2	6.00	__	_____
High-Temperature Oven— Maximum temperature is 500° F															
25	210	Incand.	A15	Frosted	Not Rated	25	0.9	3.10	1 7/8″	3 1/2″	1628K55	1	5.14	__	_____
40	430	Incand.	A15	Clear	Warm (2,850K)	40	0.9	4.90	1 7/8″	3 1/2″	1628K54	1	1.28	__	_____
Low Voltage— 12 volts															
25	385	Incand.	A19	Frosted	Warm (2,850K)	25	0.9	3.10	2 3/8″	4″	8357K13	2	7.50	__	_____
50	875	Incand.	A19	Frosted	Warm (2,700K)	50	0.9	6.10	2 3/8″	4 1/4″	8357K14	1	4.19	__	_____
75	1,420	Incand.	A21	Frosted	Warm (2,850K)	75	0.9	9.10	2 5/8″	5 3/8″	8357K16	1	4.56	__	_____
100	980	Incand.	A21	Frosted	Warm (2,600K)	100	1.4	12.10	2 5/8″	5 5/16″	8357K27	1	11.41	__	_____
High Voltage— 240 volts															
100	1,230	Incand.	A21	Frosted	Warm (2,850K)	100	0.9	12.10	2 5/8″	5 3/8″	8358K45	1	5.17	__	_____
100	1,260	Incand.	A21	Frosted	Warm (2,850K)	100	0.9	12.10	2 5/8″	5 3/8″	8358K16	1	4.16	__	_____
Short															
General Purpose															
9.5	45	Incand.	S14	Clear	Not Rated	9.5	2.7	1.20	1 3/4″	3 1/2″	1628K61	1	2.20	__	_____
11	80	CFL	S14	Clear	Warm (2,700K)	2	22.5	0.20	1 3/4″	3 5/8″	1685K2	1	11.98	__	_____
25	225	CFL	S14	Clear	Warm (2,700K)	4	7	0.50	1 3/4″	3 7/8″	1685K48	1	4.80	12	48.96
Pear															
General Purpose															
265	4,625	Incand.	PS25	Clear	Not Rated	265	1.9	32.00	3 1/8″	7″	15115K68	1	5.31	__	_____
300	5,860	Incand.	PS30	Frosted	Warm (2,850K)	300	0.6	36.20	3 3/4″	8 1/8″	1449T24	1	5.02	__	_____
Shatter Resistant															
150	2,145	Incand.	PS25	Frosted	Warm (2,850K)	150	0.9	18.10	3 1/8″	7″	1532K37	1	6.86	__	_____
Globe															
General Purpose															
25	235	Incand.	G25	Clear	Warm (2,500K)	25	1.8	3.10	3 1/8″	4 1/2″	1449T15	1	1.79	__	_____
40	335	Incand.	G40	Frosted	Warm (2,850K)	40	2.2	4.90	5″	7″	1449T18	1	5.92	__	_____
40	350	Incand.	G40	Clear	Warm (2,850K)	40	2.2	4.90	5″	7″	1449T19	1	6.24	__	_____
40	460	Incand.	G25	Clear	Warm (2,550K)	40	1.8	4.90	3 1/8″	4 1/2″	1449T16	1	1.93	__	_____
60	525	LED	G25	Frosted	Warm (3,000K)	8	22.5	1.00	3 1/8″	4 3/8″	8715K53	1	8.30	12	88.81
60	800	CFL	G25	Frosted	Warm (2,700K)	14	7.3	1.69	3 1/8″	4 1/2″	1685K46	1	5.38	6	27.44
Cone															
General Purpose															
25	200	LED	B11	Clear	Warm (2,700K)	3.7	22.5	0.50	1 3/8″	3 7/8″	8697K63	1	7.38	12	78.97
25	200	LED	B11	Frosted	Warm (2,700K)	3.7	22.5	0.50	1 3/8″	3 7/8″	8697K64	1	7.38	12	78.97
40	320	Incand.	B10	Clear	Warm (2,850K)	40	2.7	4.90	1 1/4″	3 7/8″	1628K65	2	3.65	__	_____
40	425	CFL	B10	Clear	Warm (2,700K)	9	7	1.10	1 3/4″	4 7/8″	1685K78	1	5.38	12	54.88
60	575	Incand.	B10	Clear	Warm (2,850K)	60	2.7	7.23	1 1/4″	3 7/8″	1628K66	2	3.78	__	_____
60	720	CFL	B10	Clear	Warm (2,700K)	14	7	1.70	1 3/4″	5 1/2″	1685K82	1	5.38	12	54.88
Tubular															
General Purpose															
25	230	Incand.	T10	Clear	Warm (2,850K)	25	0.9	3.01	1 1/4″	5 5/8″	1611K48	1	3.94	__	_____
25	230	Incand.	T10	Frosted	Warm (2,400K)	25	0.9	3.00	1 1/4″	5 5/8″	1611K15	1	3.51	__	_____
34	280	Incand.	T10	Clear	Not Rated	34	1.3	4.10	1 1/4″	5 5/8″	1611K19	1	3.08	__	_____
34	280	Incand.	T10	Frosted	Not Rated	34	1.3	4.10	1 1/4″	5 5/8″	1611K16	1	3.19	__	_____
75	950	CFL	T24	Clear	Warm (2,700K)	19	7	2.30	3 1/2″	5 5/8″	1685K68	1	7.62	6	38.86

For information about screw-in light bulbs, including their light appearance, rated life, and energy cost, see page 710.

Medium-Base Spotlight and Floodlight Bulbs

Often used in recessed can fixtures and track lighting, these bulbs produce a focused beam of light. Base is 1 1/16" dia. and fits standard light sockets. Bulbs are 120 volts. They are dimmable, except CFL bulbs. *PAR-shape* bulbs can be used outdoors in an open fixture, except LED bulbs require an enclosed fixture.

Shatter-resistant bulbs have an outer coating that prevents them from breaking as easily as other bulbs, yet retains glass shards if they do break. They are often used in food service environments.



Spotlight



Floodlight

Equiv. Incand. Bulb Watts	Bright-ness, lumens	Bulb Type	Shape No.	Beam Spread	Color	Light Appearance	Watts	Rated Life, years	Est. Yearly Energy Cost, $	Overall Dia.	Overall Lg.		Small Pack Qty.	Small Pack Pkg.	Large Pack Qty.	Large Pack Pkg.
PAR-Shape Spotlight																
General Purpose																
39	475	Halogen	PAR20	10°	Clear	Warm (2,750K)	39	4	4.70	2½"	3¼"	2291K51	1	$9.55	10	$81.18
39	475	Halogen	PAR20	10°	Clear	Warm (2,850K)	39	1.4	4.70	2½"	3¼"	14675K49	1	7.09	10	60.27
42	750	Halogen	PAR30	10°	Clear	Warm (2,750K)	42	4.1	5.06	3¾"	3⅝"	2291K52Ⓔ	1	11.66	10	99.11
50	525	LED	PAR16	20°	Frosted	Warm (3,000K)	8	22.8	0.84	2"	3"	8715K23	1	13.25	12	141.77
50	950	Halogen	PAR38	10°	Clear	Warm (2,800K)	50	4.1	6.02	4¾"	5⅜"	2291K53Ⓔ	1	14.60	10	124.10
60	680	Halogen	PAR38	10°	Clear	Warm (2,800K)	39	3.5	4.70	4¾"	5⅜"	14675K74	1	16.69	12	170.24
60	1,200	Halogen	PAR38	10°	Clear	Warm (2,825K)	60	4.1	7.23	4¾"	5⅜"	2291K54Ⓔ	1	12.66	10	107.61
75	825	LED	PAR30	15°	Frosted	Warm (3,000K)	12	22.5	1.50	3⅞"	3½"	8715K72	1	19.20	12	205.44
75	875	LED	PAR30	15°	Frosted	Neutral (4,100K)	12	22.5	1.50	3⅞"	3½"	8715K74	1	19.20	12	205.44
75	900	Halogen	PAR30	10°	Clear	Warm (2,750K)	50	4	6.02	3¾"	4½"	14675K62Ⓔ	1	14.64	15	186.66
75	1,020	Halogen	PAR30	10°	Clear	Warm (2,760K)	55	3.8	6.62	3¾"	3⅝"	14675K54Ⓔ	1	13.33	15	169.96
90	1,100	LED	PAR30	15°	Frosted	Warm (3,000K)	14	22.5	1.70	3⅞"	4⅞"	8715K68	1	20.22	12	216.35
90	1,100	LED	PAR38	15°	Frosted	Warm (3,000K)	14	22.5	1.70	4⅞"	5⅜"	8715K47	1	20.22	12	216.35
90	1,500	Halogen	PAR38	10°	Clear	Warm (2,860K)	70	3.8	8.43	4¾"	5⅜"	14675K78Ⓔ	1	13.89	12	141.68
PAR-Shape Floodlight																
General Purpose																
39	475	Halogen	PAR20	30°	Clear	Warm (2,750K)	39	4	4.70	2½"	3¼"	2291K55	1	9.55	10	81.18
39	475	Halogen	PAR20	30°	Clear	Warm (2,850K)	39	1.4	4.70	2½"	3¼"	14675K83	1	7.09	10	60.27
39	520	Halogen	PAR30	25°	Clear	Warm (2,800K)	39	2.7	4.70	3¾"	3⅝"	14675K85	1	8.18	10	69.53
42	750	Halogen	PAR30	25°	Clear	Warm (2,750K)	42	4.1	5.06	3¾"	3⅝"	2291K56Ⓔ	1	11.67	10	99.19
45	420	Halogen	PAR16	27°	Clear	Warm (2,800K)	45	2.2	5.42	2"	3¼"	14675K39	1	12.69	15	161.80
50	515	LED	PAR20	40°	Frosted	Warm (3,000K)	8	22.5	1.00	2½"	3½"	8715K83	1	13.33	12	142.63
50	530	LED	PAR20	40°	Frosted	Neutral (4,100K)	8	22.5	1.00	2½"	3½"	8715K81	1	13.33	12	142.63
50	850	Halogen	PAR30	25°	Clear	Warm (2,825K)	50	2.7	6.02	3¾"	3⅝"	14675K52Ⓔ	1	11.09	10	94.27
50	950	Halogen	PAR38	25°	Clear	Warm (2,800K)	50	4.1	6.02	4¾"	5⅜"	2291K59Ⓔ	1	14.61	10	124.15
60	580	Halogen	PAR16	27°	Clear	Warm (2,900K)	60	2.2	7.23	2"	3¼"	14675K43	1	12.69	15	161.80
60	650	LED	PAR20	40°	Frosted	Warm (3,000K)	10	22.5	1.30	2½"	3½"	8715K59	1	16.83	12	180.08
60	1,070	Halogen	PAR30	25°	Clear	Warm (2,900K)	60	1.4	7.23	3¾"	3⅝"	14675K88Ⓔ	1	8.18	10	69.53
60	1,070	Halogen	PAR30	50°	Clear	Warm (2,900K)	60	1.4	7.23	3¾"	3⅝"	14675K92Ⓔ	1	8.18	10	69.53
60	1,070	Halogen	PAR30	50°	Clear	Warm (2,900K)	60	1.4	7.23	3¾"	4⅝"	14675K94Ⓔ	1	9.27	10	78.80
60	1,070	Halogen	PAR38	25°	Clear	Warm (2,900K)	60	1.4	7.23	4¾"	5⅜"	14675K96Ⓔ	1	8.18	10	69.53
60	1,200	Halogen	PAR38	25°	Clear	Warm (2,825K)	60	4.1	7.23	4¾"	5⅜"	2291K58Ⓔ	1	12.66	10	107.61
75	750	CFL	PAR30	120°	Clear	Warm (2,700K)	16	7	2.00	3¾"	5¾"	1685K115	1	7.30	12	74.46
75	825	LED	PAR30	40°	Frosted	Warm (3,000K)	12	22.5	1.50	3⅞"	3½"	8715K71	1	19.20	12	205.44
75	825	LED	PAR30	40°	Frosted	Warm (3,000K)	12	22.5	1.50	3⅞"	4⅞"	8715K69	1	20.95	12	224.16
75	875	LED	PAR30	40°	Frosted	Neutral (4,100K)	12	22.5	1.50	3⅞"	3½"	8715K73	1	19.20	12	205.44
75	1,000	CFL	PAR38	120°	Clear	Warm (2,700K)	23	7	2.80	4⅞"	5½"	1685K125	1	8.20	12	83.64
80	1,545	Halogen	PAR38	25°	Clear	Warm (2,950K)	80	1.4	9.64	4¾"	5⅜"	14675K98Ⓔ	1	9.55	10	81.18
85	1,000	CFL	PAR38	120°	Clear	Warm (2,700K)	19	7	2.30	4¾"	6"	1685K123	1	7.00	12	71.40
90	1,100	LED	PAR30	40°	Frosted	Warm (3,000K)	14	22.5	1.70	3⅞"	4⅞"	8715K67	1	22.05	12	235.94
90	1,100	LED	PAR38	25°	Frosted	Warm (3,000K)	14	22.5	1.70	4⅞"	5⅜"	8715K46	1	20.22	12	216.35
90	1,100	LED	PAR38	40°	Frosted	Warm (3,000K)	14	22.5	1.70	4⅞"	5⅜"	8715K84	1	24.56	12	262.79
90	1,150	LED	PAR30	40°	Frosted	Neutral (4,100K)	14	22.5	1.70	3⅞"	4⅞"	8715K45	1	20.22	12	216.35
90	1,200	CFL	PAR38	120°	Clear	Warm (2,700K)	23	7	2.80	4⅞"	6¼"	1685K141	1	7.30	12	74.46
90	1,300	CFL	PAR38	120°	Clear	Warm (2,700K)	23	9	2.80	4¾"	5⅞"	1685K138	1	11.44	6	58.34
120	1,200	LED	PAR38	40°	Frosted	Cool (5,000K)	17	46	2.10	4⅞"	5⅜"	8715K82	1	21.28	12	227.70
120	1,250	LED	PAR38	40°	Frosted	Warm (3,000K)	17	22.5	2.10	4⅞"	5⅜"	8715K66	1	22.73	12	243.21
Shatter Resistant																
70	1,305	Halogen	PAR38	25°	Clear	Warm (2,875K)	70	2.7	8.43	4¾"	5⅜"	1532K12	1	30.36	12	256.92
BR-Shape Spotlight																
General Purpose																
65	620	Incand.	BR30	20°	Clear	Warm (2,710K)	65	2.3	7.83	3¾"	5⅜"	1509K52Ⓔ	1	3.80	12	38.76
BR-Shape Floodlight																
General Purpose																
65	600	Incand.	BR30	60°	Frosted	Warm (2,850K)	65	1.8	7.83	3¾"	5⅜"	14725K16Ⓔ	1	3.44	24	70.18
65	625	Incand.	BR40	60°	Frosted	Warm (2,740K)	65	2.3	7.83	5"	6½"	14725K18Ⓔ	1	6.17	8	41.96
65	650	LED	BR30	120°	Frosted	Warm (2,700K)	10	22.5	1.30	3⅞"	5½"	8715K85	1	8.75	12	93.62
65	700	LED	BR30	120°	Frosted	Neutral (4,100K)	10	22.5	1.30	3⅞"	5½"	8715K79	1	8.75	12	93.62
65	750	CFL	BR30	120°	Frosted	Neutral (4,100K)	15	7	1.90	3¾"	5⅜"	1685K127	1	8.50	6	43.35
75	950	CFL	BR38	120°	Clear	Warm (2,700K)	18	9	2.17	4¾"	5"	1685K133	1	10.70	6	54.57

ⒺBulb meets Federal minimum efficiency standards.

(Continued on following page)

Medium-Base Spotlight and Floodlight Bulbs *(Continued from previous page)*

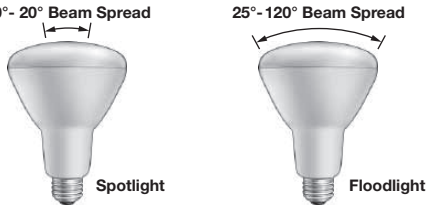

Often used in recessed can fixtures and track lighting, these bulbs produce a focused beam of light. Base is 1 1/16" dia. and fits standard light sockets. Bulbs are 120 volts. They are dimmable, except CFL bulbs. *PAR-shape* bulbs can be used outdoors in an open fixture, except LED bulbs require an enclosed fixture.

Shatter-resistant bulbs have an outer coating that prevents them from breaking as easily as other bulbs, yet retains glass shards if they do break. They are often used in food service environments.

Equiv. Incand. Bulb Watts	Brightness, lumens	Bulb Type	Shape No.	Beam Spread	Color	Light Appearance	Watts	Rated Life, years	Est. Yearly Energy Cost, $	Overall Dia.	Overall Lg.		Small Pack Qty.	Small Pack Pkg.	Large Pack Qty.	Large Pack Pkg.
BR-Shape Floodlight																
General Purpose																
85	875	LED	BR30	120°	Frosted	Warm (3,000K)	12	22.5	1.50	3 7/8"	5 1/2"	8715K76	1	$10.93	12	$116.95
85	900	LED	BR40	120°	Frosted	Neutral (4,100K)	12	22.5	1.50	5"	6 5/8"	8715K78	1	15.31	12	163.82
120	1,250	LED	BR40	120°	Frosted	Warm (3,000K)	17	22.5	2.10	5"	6 5/8"	8715K75	1	16.64	12	178.05
250	1,500	Incand.	BR40	80°	Frosted	Not Rated	250	2.7	30.20	5"	6 1/2"	14725K12 Ⓔ	1	12.22	24	249.29
Shatter Resistant																
55	390	Incand.	BR30	55°	Frosted	Warm (2,680K)	55	2.7	6.70	3 3/4"	5 3/8"	1532K84	1	14.05	12	143.31
55	425	Incand.	BR40	60°	Frosted	Warm (2,750K)	55	3.5	6.70	5"	6 1/2"	1532K65	1	15.86	—	—
60	865	LED	BR30	120°	Frosted	Warm (3,000K)	12	22.8	1.45	3 3/4"	5"	1532K86	1	48.33	6	289.98
ER-Shape Floodlight																
General Purpose																
50	430	Incand.	ER30	Not Rated	Frosted	Warm (2,710K)	50	1.8	6.02	3 3/4"	6 3/8"	14725K14 Ⓔ	1	5.30	24	108.12
R Shape Floodlight																
General Purpose																
25	400	CFL	R20	120°	Clear	Warm (2,700K)	9	7	1.10	2 1/2"	3 7/8"	1685K111	1	5.78	6	29.48
30	205	Incand.	R20	30°	Frosted	Warm (2,550K)	30	2.3	3.70	2 1/2"	4"	1509K54	1	5.00	12	51.00
50	500	CFL	R20	120°	Clear	Warm (2,700K)	14	7	1.70	2 1/2"	4 3/8"	1685K113	1	5.78	12	58.96
50	530	LED	R20	120°	Frosted	Neutral (4,100K)	8	22.5	1.00	2 1/2"	3 1/2"	8715K54	1	8.75	12	93.62
65	675	LED	R20	120°	Frosted	Warm (3,000K)	10	22.5	1.30	2 1/2"	3 1/2"	8715K77	1	9.18	12	98.23
65	720	CFL	R30	40°	Clear	Warm (2,700K)	15	5	1.90	3 7/8"	5 5/8"	1685K131	1	14.21	6	72.47
85	950	CFL	R40	120°	Clear	Warm (2,700K)	19	7	2.30	4 3/4"	6"	1685K121	1	7.08	12	72.22

Ⓔ Bulb meets Federal minimum efficiency standards.

Small-Base Light Bulbs



Light up signs, control panels, and other devices that have small light sockets. Built with a 1/2" dia. base, these bulbs are also known as candelabra-base bulbs. They are dimmable, except CFL bulbs.

Rough-service bulb has reinforced filaments to tolerate vibration.

Equiv. Incand. Bulb Watts	Brightness, lumens	Bulb Type	Shape No.	Color	Light Appearance	Volts	Watts	Rated Life, years	Est. Yearly Energy Cost, $	Overall Dia.	Overall Lg.		Small Pack Qty.	Small Pack Pkg.	Large Pack Qty.	Large Pack Pkg.
Short																
General Purpose																
3	5	Incand.	S6	Clear	Warm (2,400K)	120	3	0.9	0.40	3/4"	1 7/8"	1628K26	1	$1.24	—	—
6	40	Incand.	S6	Clear	Warm (2,400K)	120	6	1.4	0.80	3/4"	1 7/8"	1628K34	—	—	10	$11.56
Low Voltage																
6	45	Incand.	S6	Clear	Warm (2,400K)	12	6	1.3	0.80	3/4"	1 7/8"	8357K25	—	—	10	9.03
6	45	Incand.	S6	Clear	Warm (2,400K)	75	6	1.4	0.80	3/4"	1 7/8"	1628K74	—	—	10	11.56
6	50	Incand.	S6	Clear	Warm (2,400K)	24	6	1.4	0.80	3/4"	1 7/8"	1628K73	—	—	10	11.56
High Voltage																
10	30	Incand.	S6	Clear	Warm (2,400K)	220	10	1.4	1.20	3/4"	1 7/8"	8358K11	1	2.05	—	—
Globe																
General Purpose																
25	200	LED	G16	Clear	Warm (2,700K)	120	3.7	22.5	0.50	2"	3 1/2"	8697K61	1	7.38	12	75.28
25	200	LED	G16	Frosted	Warm (2,700K)	120	3.7	22.5	0.50	2"	3 1/2"	8697K62	1	7.38	12	75.28
25	220	Incand.	S11	Clear	Warm (2,400K)	120	25	0.4	3.10	1 3/8"	2 1/4"	1317T11	1	2.57	—	—
Cone																
General Purpose																
4	20	Incand.	C7	Clear	Warm (2,400K)	120	4	2.7	0.50	3/4"	2 1/8"	1628K175	—	—	10	6.67
7	30	Incand.	C7	Clear	Warm (2,400K)	120	7	2.7	0.90	3/4"	2 1/8"	1628K178	—	—	10	6.67
40	280	CFL	B12	Frosted	Warm (2,700K)	120	7	7	0.90	1 5/8"	4 1/2"	8806K14	1	7.87	6	40.14
40	320	Incand.	B10	Clear	Warm (2,850K)	120	40	2.7	4.90	1 1/4"	3 7/8"	1628K35	2	3.06	—	—
60	540	Halogen	B11	Clear	Warm (2,900K)	120	40	2.3	4.82	1 3/8"	4 1/8"	1721K32	2	7.36	—	—
Tubular																
General Purpose																
15	110	Incand.	T6	Clear	Not Rated	120	15	1.8	1.90	3/4"	3 1/8"	1611K26	1	3.25	—	—
25	160	Incand.	T8	Clear	Warm (2,400K)	120	25	0.2	3.10	1"	2 5/8"	1611K27	1	1.50	—	—
High Voltage																
15	102	Incand.	T6	Clear	Warm (2,700K)	145	15	1.4	1.90	3/4"	3 1/8"	1611K61	1	1.84	—	—
Rough Service																
10	30	Incand.	T6	Clear	Warm (2,700K)	120	10	18	1.20	3/4"	4 1/2"	1317T12	1	3.11	—	—

For information about screw-in light bulbs, including their light appearance, rated life, and energy cost, see page 710.

Intermediate-Base Light Bulbs

Commonly used in machines and appliances, intermediate-base bulbs have an 11/16″ dia. base. Bulbs are 120 volts and are dimmable.


Standard


Globe


Tubular


Floodlight

Watts	Bright-ness, lumens	Bulb Type	Shape No.	Color	Light Appearance	Rated Life, years	Est. Yearly Energy Cost, $	Overall Dia.	Overall Lg.	Pkg. Qty.		Pkg.
Standard												
40	420	Incand.	A15	Clear	Warm (2,700K)	2.2	4.90	1 7/8″	3 1/2″	2	1317T21	$2.66
60	650	Incand.	A15	Clear	Warm (2,700K)	2	7.20	1 7/8″	3 1/2″	2	1317T22	3.07
Globe												
9	45	Incand.	S11	Clear	Warm (2,700K)	7	1.10	1 3/8″	2 3/8″	1	1317T17	2.92
10	70	Incand.	S11	Clear	Warm (2,400K)	1.3	1.20	1 3/8″	2 3/8″	1	1317T16	2.42
40	435	Incand.	S11	Frosted	Warm (2,400K)	0.5	4.90	1 3/8″	2 3/8″	1	1317T18	2.48
Tubular												
10	30	Incand.	T6	Clear	Warm (2,700K)	18	0.80	3/4″	4 1/4″	1	1317T19	3.11
15	100	Incand.	T7	Clear	Not Rated	0.9	1.90	7/8″	2 1/4″	1	1611K13	2.94
20	150	Incand.	T6 1/2	Frosted	Not Rated	4.5	2.50	7/8″	5 1/2″	1	1611K22	4.87
22	165	Incand.	T6 1/2	Frosted	Warm (2,850K)	2.3	2.65	7/8″	5 1/2″	1	1611K14	4.42
25	185	Incand.	T6 1/2	Clear	Warm (2,600K)	0.9	3.10	7/8″	5 3/8″	1	1611K17	4.25
25	230	Incand.	T8	Clear	Warm (2,850K)	0.9	3.10	1″	2 5/8″	1	1611K91	4.29
40	365	Incand.	T6 1/2	Clear	Warm (2,850K)	0.9	4.90	7/8″	5 1/2″	1	1611K37	5.39
Floodlight												
25	150	Incand.	R14	Frosted	Warm (2,800K)	1.4	3.10	1 3/4″	3 1/2″	1	1509K32	6.47

Large-Base Light Bulbs

Also known as mogul-base bulbs, these have a 1 5/8″ dia. base to produce a lot of light. Bulbs are 120 volts and are dimmable.


Pear


Floodlight

Watts	Bright-ness, lumens	Bulb Type	Shape No.	Beam Spread	Color	Light Appearance	Rated Life, years	Est. Yearly Energy Cost, $	Overall Dia.	Overall Lg.		Pkg. of 1
Pear												
264	3,995	Incand.	PS35	Not Rated	Clear	Warm (2,850K)	2.2	31.80	4 3/8″	9 3/8″	1449T21	$7.74
Floodlight												
300	3,000	Incand.	R40	60°	Frosted	Not Rated	1.8	36.20	5″	7 1/4″	1509K4	33.21
500	6,500	Incand.	R40	30°	Frosted	Warm (2,700K)	1.8	60.30	5″	7 1/4″	1509K44	47.51

Side-Prong Floodlight Bulbs

Prongs on the side of the base plug in to specialty track lighting fixtures. Base is 1 1/2″ dia. Bulb is 120 volts and is dimmable.



Watts	Bright-ness, lumens	Bulb Type	Shape No.	Beam Spread	Color	Light Appearance	Rated Life, years	Est. Yearly Energy Cost, $	Overall Dia.	Overall Lg.		Small Pack Qty.	Small Pack Pkg.	Large Pack Qty.	Large Pack Pkg.
75	1,040	Incand.	PAR38	30°	Clear	Warm (2,850K)	1.8	9.10	4 3/4″	5 3/8″	1509K56	1	$16.28	12	$166.06

Medium-Base Infrared Heat Bulbs

Radiate warmth to heat, dry, or bake. Bulbs have a 1 1/16″ dia. medium base. They are 120 volts and are dimmable. Maximum temperature is not rated.

Shatter-resistant bulbs have an outer coating that prevents them from breaking as easily as other bulbs, yet retains glass shards if they do break.



Watts	Shape No.	Color	Rated Life, years	Est. Yearly Energy Cost, $	Overall Dia.	Overall Lg.		Pkg. of 1
General Purpose								
125	BR40	Clear	4.5	15.10	5″	6 1/2″	1547K13	$5.84
175	PAR38	Clear	4.5	21.10	4 3/4″	5 3/8″	1547K17	15.48
250	R40	Red	4.5	30.20	5″	6 7/8″	1547K15	14.55
250	BR40	Clear	4.5	30.20	5″	6 1/2″	1547K14	6.02
375	R40	Clear	4.5	45.20	5″	7 5/8″	1547K16	18.80

Watts	Shape No.	Color	Rated Life, years	Est. Yearly Energy Cost, $	Overall Dia.	Overall Lg.		Pkg. of 1
Shatter Resistant								
125	BR40	Clear	4.5	15.06	5″	6 1/2″	2300K11	$21.13
175	PAR38	Clear	4.5	21.10	4 7/8″	5 3/8″	1532K691	22.50
250	BR40	Clear	4.5	30.11	5″	6 1/2″	2300K13	18.49
250	R40	Clear	4.5	30.11	5″	6 1/2″	2300K15	16.02

Bi-Pin & Bayonet-Base Light Bulbs and Bulb Holders

Bi-Pin CFL (Compact Fluorescent Light) Bulbs





Designed to fit energy-efficient GU24 light sockets, these spiral bulbs have pins that lock into sockets with a twist. Bulbs are 120 volts and are not dimmable. They are frosted and have a built-in ballast.

Medium base-to-GU24 base socket adapter permanently converts a standard 1 1/16" dia. screw-in light socket to a GU24 socket.

Equiv. Incand. Bulb Watts	Bright-ness, lumens	Light Appearance	Watts	Rated Life, years	Est. Yearly Energy Cost, $	Overall Dia.	Overall Lg.		Each
45	550	Neutral (4,100K)	9	9	1.10	1 7/8"	3 1/2"	1528K23	$2.98
60	800	Neutral (4,100K)	13	9	1.60	1 7/8"	3 5/8"	1528K84	2.98
60	900	Warm (2,700K)	13	9	1.60	2 1/8"	3 5/8"	1528K12	6.20
75	1,200	Warm (2,700K)	18	9	2.20	2 3/8"	3 7/8"	1528K8	4.24
75	1,200	Neutral (4,100K)	18	9	2.20	2 3/8"	3 7/8"	1528K3	4.24
90	1,600	Neutral (4,100K)	23	9	2.80	2 1/2"	4 1/2"	1528K111	5.07
100	1,600	Warm (2,700K)	23	9	2.80	2 3/8"	4 3/8"	1528K16	7.86
100	1,750	Neutral (4,100K)	27	9	3.30	2 1/2"	4 7/8"	1528K4	5.87
100	1,800	Warm (2,700K)	27	9	3.30	2 1/2"	4 7/8"	1528K9	5.87
120	2,200	Neutral (4,100K)	32	9	3.90	2 3/4"	5 1/8"	1528K59	7.82
150	2,600	Neutral (4,100K)	42	9	5.10	2 7/8"	6"	1528K7	7.56
Medium Base-to-GU24 Base Socket Adapter								1528K1	3.60

Bayonet-Base Light Bulbs









Double-Contact Bayonet Base



Single-Contact Bayonet Base

Pins on the base of the bulb lock into sockets to tolerate vibration. They are often used in machines, vehicles, and elevators. Incandescent bulbs are dimmable; LED bulbs are not.

Equiv. Incand. Bulb Watts	Bright-ness, lumens	Bulb Type	Shape No.	Color	Light Appearance	Volts	Watts	Rated Life, years	Est. Yearly Energy Cost, $	Overall Dia.	Overall Lg.	Pkg. Qty.		Pkg.
Double-Contact Bayonet Base (0.59" Base Dia.)														
Short														
6	40	Incand.	S6	Clear	Warm (2,400K)	120	6	1.3	0.80	3/4"	1 7/8"	10	1628K82	$11.56
6	50	Incand.	S6	Clear	Warm (2,400K)	24	6	1.3	0.80	3/4"	1 7/8"	10	1628K81	11.56
Globe														
30	Not Rated	Incand.	S11	Clear	Not Rated	32	30	0.9	3.70	1 3/8"	2"	1	1317T13	5.78
30	300	Incand.	S11	Clear	Warm (2,400K)	75	30	1.8	3.70	1 3/8"	2 3/8"	1	1317T14	2.31
Tubular														
10	30	Incand.	T6	Clear	Warm (2,700K)	120	10	18	1.20	3/4"	4 1/4"	1	1317T15	3.11
20	90	Incand.	T6 1/2	Frosted	Warm (2,850K)	120	20	9	2.50	7/8"	5 5/8"	1	1611K21	3.46
20	110	Incand.	T6 1/2	Frosted	Warm (2,850K)	120	20	1.2	2.50	7/8"	5 1/2"	1	1611K31	2.67
20	125	Incand.	T6 1/2	Clear	Warm (2,400K)	120	20	4.5	2.50	7/8"	5 1/2"	1	1611K72	2.70
22	145	Incand.	T6 1/2	Clear	Warm (2,850K)	120	22	1.2	2.70	7/8"	5 1/2"	1	1611K32	2.48
25	195	Incand.	T8	Clear	Warm (2,700K)	120	25	0.9	3.10	1"	2 5/8"	1	1611K29	3.66
Floodlight														
20	125	LED	R12	Frosted	Warm (2,700K)	12	2	22.5	0.30	1 1/2"	1 7/8"	1	8715K26	23.06
Single-Contact Bayonet Base (0.59" Base Dia.)														
Floodlight														
20	125	LED	R12	Frosted	Warm (2,700K)	12	2	22.5	0.30	1 1/2"	2 1/2"	1	8715K27	23.06

Holders and Lens Caps for Miniature Light Bulbs



Miniature Bayonet



Midget Flanged

For Single Bulbs



Miniature Bayonet

Oil-Tight for Single Bulbs



Miniature Bayonet

For Four-Bulb Clusters

Pair a bulb holder with a lens cap to create a miniature lamp in control panels, machines, and other devices. Holders and lens caps work with incandescent and LED light bulbs.

Bulb holders are metal, except holder for *four-bulb clusters* is plastic. *Oil-tight* holder has a sealing gasket.

Lens caps are plastic. They protect the bulb and diffuse the light.

For Bulb Base Type	Fits Cutout Dia.	Bulb Holders Ht.		Each	Lens Caps Dia.	Ht.	Choose a Color		Each
For Single Bulbs									
Miniature Bayonet	11/16"	1.88"	8275K21	$15.67	0.63"	0.63"	Clear, Green, Red, White, Yellow	8275K22	$6.90
Midget Flanged	1/2"	0.84"	8275K11	22.23	0.5"	0.7"	Clear, Green, Red, White, Yellow	8275K12	7.35
Oil-Tight for Single Bulbs									
Miniature Bayonet	11/16"	1.55"	8275K31	23.12	0.83"	0.86"	Clear, Green, Red, White, Yellow	8275K32	11.17
For Four-Bulb Clusters									
Miniature Bayonet	7/8"	1.67"	8275K42	8.69	1.14"	0.52"	Clear, Green, Red	8275K52	2.03

Miniature LED Light Bulbs

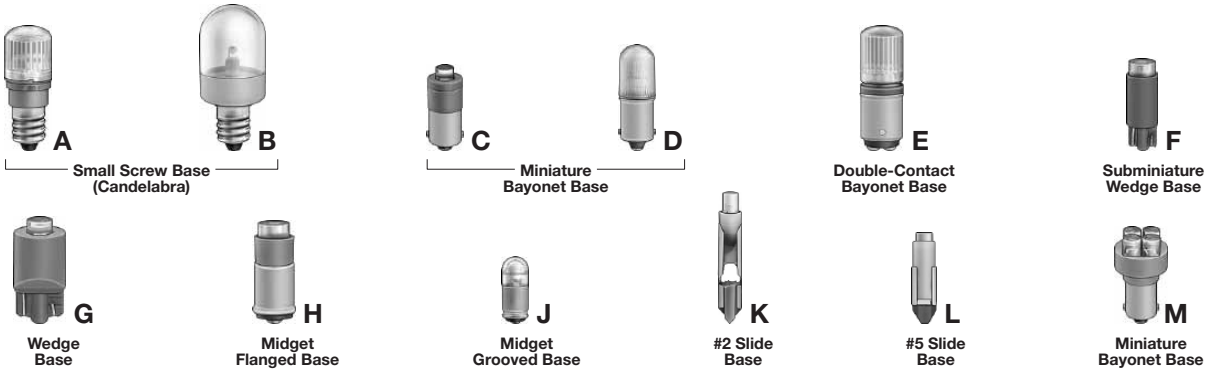

Illuminate instruments, indicators, vehicle lights, and signs with these long-lasting, energy-efficient alternatives to miniature incandescent bulbs. LED bulbs last as long as 100,000 hours and withstand vibration and temperature changes.

Replaces Miniature Incandescent Bulb Trade Number	Style	Volts	Watts	Amps	Overall Dia.	Overall Lg.	Choose a Color		Each
Single Bulbs									
Small Screw Base (Candelabra) (1½″ Base Dia.)									
3S6, 6S6	A	120/130 AC/DC	1.62	0.012	0.59″	1.66″	Green, Red, White	8607K1	$16.46
6S6	A	30/33 AC/DC	0.91	0.024	0.59″	1.66″	Green, Red, White	8607K2	16.46
4C7, 6S6	B	120 AC	1.2	0.01	0.83″	2.13″	Green, Red, White	8607K3	13.84
Miniature Bayonet Base (0.36″ Base Dia.)									
6MB, 44, 47, 240, 755, 1302, 1810, 1847, 1866	C	5/6 DC	0.14	0.028	0.38″	1.05″	Blue, Green, Red, White, Yellow	6570T1	7.12
8-3995, 120MB, 120MB-6, 130MB, 949, 967	C	120/130 AC/DC	0.6	0.006	0.4″	1″	Green, Red, White	6570T98	4.98
12MB, 756	C	12/14 DC	0.33	0.025	0.38″	1.05″	Blue, Green, Red, White, Yellow	6570T2	7.12
24MB, 28MB, 313, 757, 1818, 1819, 1820, 1829, 1843, 1864, 1873	C	24/28 AC/DC	0.49	0.019	0.4″	1″	Green, Red, White	6570T96	5.38
24MB, 1437, 1450, 1818	C	24/26 DC	0.49	0.02	0.38″	1.05″	Blue, Green, Red, White, Yellow	6570T3	7.12
28MB, 313, 356, 757, 1819, 1820, 1829, 1843, 1873	C	28/30 DC	0.52	0.018	0.38″	1.05″	Blue, Green, Red, White, Yellow	6570T5	7.12
120MB	C	120/130 AC	0.52	0.006	0.38″	1.05″	Blue, Green, Red, White, Yellow	6570T12	8.53
130MB	C	130 DC	0.52	0.004	0.4″	1.1″	Blue, Green, Red, White, Yellow	6570T13	9.07
44, 47, 1847, 1866	D	6/7 AC/DC	0.19	0.027	0.39″	1.12″	Blue, Green, Red, White, Yellow	6570T93	12.22
51	D	8/9 AC/DC	0.24	0.026	0.39″	1.12″	Blue, Green, Red, White, Yellow	6570T94	12.22
1815	D	12/14 AC/DC	0.33	0.023	0.39″	1.12″	Blue, Green, Red, White, Yellow	6570T95	12.22
Miniature Bayonet Base (0.36″ Base Dia.) for ET-16 Socket									
1835	D	48/56 DC	0.91	0.017	0.39″	1.12″	Blue, Green, Red, White, Yellow	6570T91	12.22
1835	D	120/130/240/260 AC	0.94	0.092	0.39″	1.12″	Blue, Green, Red, White, Yellow	6570T92	12.22
Double-Contact Bayonet Base (0.59″ Base Dia.)									
3S6, 6S6	E	30/33 AC/DC	0.83	0.025	0.59″	1.66″	Green, Red, White	8620K2	16.50
3S6, 6S6	E	120/130 AC	1.66	0.013	0.59″	1.66″	Green, Red, White	8620K1	16.50
Subminiature Wedge Base (0.2″ Base Dia.)									
17, 85	F	24/28 AC/DC	0.18	0.007	0.23″	0.8″	Red, White	6932K5	5.38
18, 37, 73, 74	F	12/14 DC	0.21	0.02	0.23″	0.8″	Green, Red, White	6932K1	6.72
56, 79, 86	F	6 DC	0.12	0.02	0.23″	0.74″	White, Yellow	6932K55	4.60
Wedge Base (0.37″ Base Dia.)									
124, 658, 936, 2080	G	12/14 DC	0.28	0.02	0.4″	0.9″	Green, Red, White	7997K1	12.92
400, 464, 655, 656, 657	G	24/28 DC	0.56	0.02	0.4″	0.9″	Green, Red, White	7997K2	12.92
Midget Flanged Base (0.28″ Base Dia.)									
327, 370, 376, 387, 459	H	24/26 DC	0.5	0.019	0.25″	0.61″	Green, Red, White	7890K2	6.70
327, 376, 385, 387	H	28/30 DC	0.52	0.17	0.25″	0.61″	Green, Red, White	7890K3	6.70
330, 382, 8918	H	15/17 DC	0.38	0.023	0.25″	0.61″	Green, Red, White	7890K1	6.70
345	H	6/7 AC/DC	0.21	0.03	0.24″	0.61″	Green, Red, White	7890K34	12.22
Midget Grooved Base (0.23″ Base Dia.)									
276, 334, 388	J	24/28 AC/DC	0.18	0.007	0.24″	0.63″	White	6570T972	5.38
#2 Slide Base (0.28″ Base Dia.)									
24E, 24X	K	48 DC, 130 AC/DC	0.74	0.017	0.27″	1.6″	Green, Red, White	8034K56	12.22
#5 Slide Base (0.28″ Base Dia.)									
6PSB	L	6/7 AC/DC	0.21	0.029	0.25″	1.07″	Green, Red, White	8034K54	12.22
24PSB, 28PSB	L	24/28 AC/DC	0.23	0.01	0.27″	1.1″	Green, Red, White	8034K5	5.38
48PSB	L	48/52 AC/DC	0.84	0.016	0.25″	1.07″	Green, Red, White	8034K55	12.22
120PSB	L	120/130 AC	0.6	0.005	0.27″	1.1″	Green, Red, White	8034K3	4.97
Four-Bulb Clusters									
Miniature Bayonet Base (0.36″ Base Dia.)									
6MB, 44, 47, 755	M	5/6 DC	0.36	0.06	0.58″	1.09″	Green, Red, White	6570T6	22.20
12MB, 756	M	12/14 DC	0.42	0.03	0.58″	1.09″	Green, Red, White	6570T7	22.20
24MB	M	24 DC	0.48	0.02	0.58″	1.09″	Green, Red, White	6570T8	22.20
130MB	M	130 DC	1.3	0.01	0.58″	1.09″	Green, Red, White	6570T9	22.20
313, 757, 1819, 1829	M	28 DC	0.56	0.02	0.58″	1.09″	Green, Red, White	6570T11	22.20

Miniature Incandescent Light Bulbs

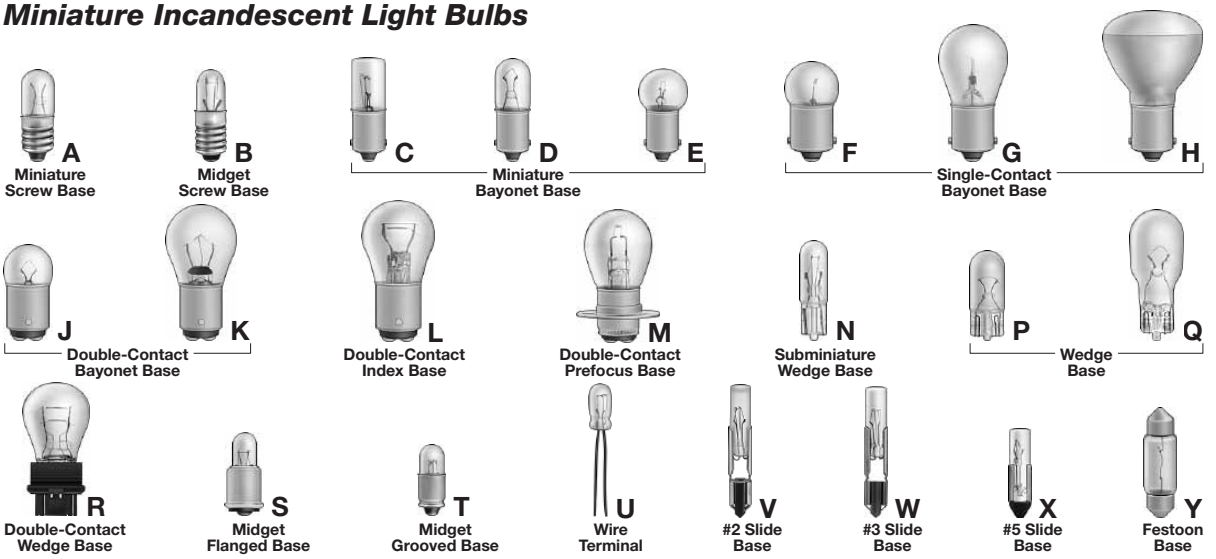

Sized to fit tight spaces, these bulbs are often used in instruments, indicators, vehicle lights, and signs. Bulbs are clear, except trade number 1383 is frosted and trade numbers 7443NA and 7507 are amber.

Trade Number	Style	Volts	Watts	Amps	Overall Dia.	Overall Lg.	Pkg. Qty.		Pkg.
Miniature Screw Base (0.39″ Base Dia.)									
40	A	6.3	0.9	0.15	0.41″	1.19″	10	1505K355	$5.63
46	A	6.3	1.6	0.25	0.41″	1.19″	10	9527T184	5.63
1477	A	24	4.1	0.17	0.38″	1.19″	10	9527T175	9.38
1821	A	28	4.8	0.17	0.41″	1.19″	10	1505K199	12.60
Midget Screw Base (0.2″ Base Dia.)									
1767	B	2.5	0.5	0.2	0.22″	0.63″	1	1505K114	1.23
1767-69L	B	2.5	0.5	0.2	0.22″	0.63″	1	1505K555	2.83
Miniature Bayonet Base (0.36″ Base Dia.)									
24MB	C	24	1.7	0.07	0.31″	1.19″	5	1505K563	10.28
28MB	C	28	1.1	0.04	0.31″	1.19″	5	1505K257	8.40
44	D	6.3	1.6	0.25	0.41″	1.19″	10	1505K15	4.48
47	D	6.3	0.9	0.15	0.41″	1.19″	10	1505K21	4.48
51	E	7.5	1.7	0.22	0.44″	0.94″	10	1505K197	5.23
53	E	14.4	1.7	0.12	0.44″	0.94″	10	1505K214	4.86
55	E	7	2.9	0.41	0.56″	1.07″	10	1505K13	4.60
57	E	14	3.4	0.24	0.56″	1.07″	10	1505K52	4.99
60MB	C	60	3	0.05	0.31″	1.19″	5	1505K256	8.40
120MB	C	120	3	0.025	0.31″	1.19″	5	1505K95	7.92
130MB	C	130	3.3	0.025	0.31″	1.19″	5	1505K226	11.00
155MB	C	155	3.9	0.025	0.31″	1.19″	1	1505K572	3.00
313	D	28	4.8	0.17	0.41″	1.19″	10	1505K96	10.50
316	D	6	4.2	0.7	0.39″	1.19″	10	1505K251	6.60
755	D	6.3	0.9	0.15	0.41″	1.19″	10	1505K81	5.98
756	D	14	1.1	0.08	0.41″	1.19″	10	1505K392	5.98
757	D	28	2.2	0.08	0.41″	1.19″	10	1505K393	6.23
949	D	130	2.9	0.022	0.43″	1.19″	1	1505K422	8.94
967	D	130	2	0.02	0.39″	1.19″	5	1505K247	8.70
1450	E	24	0.8	0.035	0.44″	0.94″	10	1505K398	11.25
1815	D	14	2.8	0.2	0.41″	1.19″	10	1505K17	4.86
1816	D	13	4.3	0.33	0.41″	1.19″	10	9527T301	4.85
1818	D	24	4.1	0.17	0.41″	1.19″	5	1505K399	6.52
1819	D	28	1.1	0.04	0.41″	1.19″	10	1505K94	8.89
1820	D	28	2.8	0.1	0.41″	1.19″	10	1505K97	9.36
1822	D	36	3.6	0.1	0.41″	1.19″	5	1505K92	6.52
1828	D	37.5	1.9	0.05	0.41″	1.19″	5	1505K411	6.52
1829	D	28	2	0.07	0.41″	1.19″	10	1505K98	9.57
1835	D	55	2.8	0.05	0.41″	1.19″	5	1505K412	6.52
1847	D	6.3	0.9	0.15	0.41″	1.19″	10	1505K22	5.98
1850	D	5	0.5	0.09	0.41″	1.02″	10	1505K76	7.48
1866	D	6.3	1.6	0.25	0.41″	1.19″	10	1505K18	9.24
1873	D	28	5.6	0.2	0.41″	1.19″	10	1505K222	8.25
1891	D	14	3.4	0.24	0.41″	1.19″	10	1505K93	5.23
1893	D	14	4.6	0.33	0.41″	1.19″	10	9527T505	4.82
1906	D	5	0.4	0.07	0.41″	0.94″	10	1505K413	7.92
3797	D	24	1.9	0.08	0.34″	0.93″	10	1505K255	9.00
Single-Contact Bayonet Base (0.59″ Base Dia.)									
63	F	7	4.4	0.63	0.75″	1.44″	10	9527T06	5.59
67	F	13.5	8	0.59	0.75″	1.44″	10	1505K53	5.40
89	F	13	7.5	0.58	0.75″	1.44″	10	1505K373	5.63
93	G	12.8	13.3	1.04	1.04″	2″	10	1505K11	5.98
105	G	12.8	12.8	1	0.75″	1.75″	10	1505K374	5.98
311	G	28	36.1	1.29	1.38″	2.38″	1	1505K383	2.78
Single-Contact Bayonet Base (0.59″ Base Dia.) (Cont.)									
623	F	28	10.4	0.37	0.75″	1.44″	5	1505K389	$6.52
1073	G	12.8	23	1.8	1″	2″	10	1505K23	5.98
1133	G	6.2	24.2	3.91	1.38″	2.25″	5	1505K12	8.32
1141	G	12.8	18.4	1.44	1″	2″	10	1505K461	5.98
1156	G	12.8	26.9	2.1	1″	2″	10	1505K71	5.98
1183	G	5.5	34.4	6.25	1.38″	2.25″	1	1505K72	2.72
1195	G	12.5	37.5	3	1.38″	2.25″	5	1505K442	9.20
1383	H	13	19.5	1.5	1.5″	2.63″	1	9527T09	5.21
2233	G	28	22.4	0.8	1.04″	2″	10	9527T881	36.00
7506	G	12	21	1.75	0.98″	2.07″	10	1505K238	9.00
7507	G	12	21	1.75	1.04″	2.07″	5	1505K237	7.50
7511	G	24	21.1	0.88	1.04″	2.06″	10	1505K236	12.00
Double-Contact Bayonet Base (0.59″ Base Dia.)									
64	J	7	4.4	0.63	0.75″	1.44″	10	1505K358	6.75
306	K	28	14.3	0.51	1.04″	2″	5	1505K382	10.10
624	J	28	10.4	0.37	0.75″	1.44″	10	9527T086	14.25
1004	K	12.8	12	0.94	0.75″	1.75″	10	9527T008	5.98
1062	K	40	36.8	0.92	1.38″	2.25″	1	1505K48	13.70
1076	K	12.8	23	1.8	1″	2″	10	9527T26	5.98
1184	K	5.5	34.4	6.25	1.38″	2.25″	1	1505K56	2.92
1196	K	12.5	37.5	3	1.38″	2.25″	5	1505K443	10.10
1252	J	28	6.4	0.23	0.75″	1.44″	10	9527T082	14.25
1493	K	6.5	17.9	2.75	1″	2″	1	1505K61	5.91
1594	K	6	30	5	1.04″	2″	10	1505K246	6.00
1612	K	5.4	10	1.86	1.04″	2″	10	1505K245	9.00
1638	K	28	28.6	1.02	1.04″	2″	10	9527T771	13.50
Double-Contact Index Base (0.6″ Base Dia.)									
1157	L	12.8	26.9	2.1	1″	2″	10	1505K58	4.86
2057	L	12.8	26.9	2.1	1″	2″	10	1505K87	5.23
2357	L	12.8	28.2	2.2	1″	2″	10	1505K215	5.98
Double-Contact Prefocus Base (0.59″ Base Dia.)									
1460	M	6.5	17.9	2.75	1″	2″	1	1505K59	9.56
1460X	M	6.5	17.9	2.75	1″	2″	1	1505K79	14.40
1630	M	6.5	17.9	2.75	1″	2″	1	1505K62	4.29
1631X	M	6.5	17.9	2.75	1″	2″	1	1505K63	6.56
1634	M	20	20	1	1.04″	2″	1	1505K259	3.00
Subminiature Wedge Base (0.2″ Base Dia.)									
73	N	14	1.1	0.08	0.22″	0.8″	10	1505K198	5.98
74	N	14	1.4	0.1	0.22″	0.8″	10	1505K359	5.98
85	N	28	1.1	0.04	0.22″	0.8″	10	1505K371	7.69
86	N	6.3	1.3	0.2	0.22″	0.8″	10	1505K372	7.48
Wedge Base (0.37″ Base Dia.)									
147	P	7	3	0.43	0.41″	1.06″	10	1505K378	6.75
161	P	14	2.7	0.19	0.41″	1.06″	10	1505K82	5.23
168	P	14	4.9	0.35	0.41″	1.06″	10	1505K83	5.23
193	P	14	4.6	0.33	0.41″	1.06″	10	9527T506	5.21
194	P	14	3.8	0.27	0.41″	1.06″	10	1505K84	4.48
259	P	6.3	1.6	0.25	0.41″	1.06″	10	1505K381	4.86
285	P	5	0.5	0.09	0.41″	1.06″	10	1505K91	9.36
655	P	28	5.6	0.2	0.41″	1.06″	10	9527T702	7.61
656	P	28	1.7	0.06	0.41″	1.06″	10	1505K86	7.48
657	P	28	2.2	0.08	0.41″	1.06″	10	1505K391	7.48
908	Q	6	9	1.5	0.63″	1.49″	10	1505K394	7.48

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Miniature Incandescent Light Bulbs *(Continued from previous page)*

Trade Number	Style	Volts	Watts	Amps	Overall Dia.	Overall Lg.	Pkg. Qty.		Pkg.
Wedge Base (0.37″ Base Dia.) (Cont.)									
909	Q	6	3.7	0.62	0.63″	1.49″	10	1505K395	$7.48
912	Q	12.8	12.8	1	0.63″	1.49″	10	1505K341	7.48
915	Q	12	9	0.75	0.63″	1.49″	10	1505K342	7.48
918	Q	12.8	7.2	0.56	0.63″	1.49″	10	1505K218	7.48
921	Q	12.8	17.9	1.4	0.63″	1.49″	10	1505K396	7.48
923	Q	12.8	11.6	0.91	0.63″	1.49″	10	1505K219	7.48
927	Q	6	7.2	1.2	0.63″	1.49″	10	1505K224	7.48
939	Q	6	5.4	0.9	0.63″	1.49″	10	1505K421	7.48
7440LL	P	12	21	1.75	0.83″	1.85″	1	1505K241	3.30
7443NA	P	12	5/21	0.42/ 1.75	0.83″	1.87″	1	1505K239	3.60
Double-Contact Wedge Base (0.63″ Base Dia.)									
3157	R	12.8	27	2.11	1.04″	2.13″	10	1505K216	12.77
Midget Flanged Base (0.28″ Base Dia.)									
327	S	28	1.1	0.04	0.22″	0.63″	10	1505K64	9.36
328	S	6	1.2	0.2	0.22″	0.63″	5	1505K65	5.33
330	S	14	1.1	0.08	0.22″	0.63″	5	1505K66	6.30
338	S	2.7	0.2	0.06	0.22″	0.63″	5	1505K32	6.52
345	S	6	0.2	0.04	0.22″	0.63″	5	1505K67	6.52
382	S	14	1.1	0.08	0.22″	0.63″	5	1505K35	6.52
385	S	28	1.1	0.04	0.22″	0.63″	10	1505K249	13.50
387	S	28	1.1	0.04	0.22″	0.63″	5	1505K36	5.08

Trade Number	Style	Volts	Watts	Amps	Overall Dia.	Overall Lg.	Pkg. Qty.		Pkg.
Midget Grooved Base (0.23″ Base Dia.)									
334	T	28	1.1	0.04	0.22″	0.63″	10	9527T147	$13.10
386	T	14	1.1	0.08	0.22″	0.63″	5	1505K385	6.52
388	T	28	1.1	0.04	0.22″	0.63″	5	1505K89	6.52
Wire Terminal									
7219	U	12	0.7	0.06	0.13″	0.25″	10	1505K414	7.48
#2 Slide Base (0.28″ Base Dia.)									
24X	V	24	1	0.04	0.25″	1.69″	5	1505K565	11.00
48C2	V	48	1.9	0.04	0.25″	1.69″	5	1505K233	9.00
#3 Slide Base (0.28″ Base Dia.)									
24E	W	24	1	0.04	0.25″	1.69″	5	1505K561	10.28
#5 Slide Base (0.27″ Base Dia.)									
120PSB	X	120	3	0.03	0.25″	1.11″	10	1505K571	16.99
#5 Slide Base (0.28″ Base Dia.)									
6PSB	X	6	0.8	0.14	0.25″	0.91″	5	1505K559	9.20
12PSB	X	12	2	0.17	0.25″	0.91″	5	1505K235	7.50
24PSB	X	24	1.7	0.07	0.25″	0.91″	5	1505K564	9.20
28PSB	X	28	1.1	0.04	0.25″	0.91″	5	1505K566	9.20
48PSB	X	48	2.4	0.05	0.25″	0.91″	5	1505K568	10.28
60PSB	X	60	3	0.05	0.25″	0.91″	5	1505K231	8.40
Festoon Base (0.33″ Base Dia.)									
6411	Y	12	10	0.83	0.39″	1.61″	10	1505K243	7.50
6418	Y	12	5	0.42	0.39″	1.38″	10	1505K258	7.50
Other Trade Numbers								9527T888	

Flashlight Bulbs

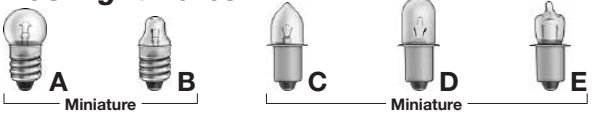

Bulbs are clear.
Krypton and **halogen** bulbs last longer than incandescent bulbs.
Xenon bulbs last longer than krypton and halogen bulbs.

Trade Number	Style	Volts	Watts	Overall Dia.	Overall Lg.	Pkg. Qty.		Pkg.
Miniature Screw Base (0.39″ Base Dia.)								
Incandescent								
13	A	3.7	1.1	0.44″	0.94″	10	1505K111	$5.40
14	A	2.5	0.7	0.44″	0.94″	10	1505K34	5.04
27	A	4.9	1.5	0.56″	1.06″	10	1505K123	5.23
112	B	1.2	0.3	0.41″	0.94″	10	1505K581	6.05
222	B	2.3	0.6	0.41″	0.94″	10	1505K41	5.44
243	B	2.3	0.6	0.41″	0.94″	10	1505K116	13.50
245	A	2.5	1.2	0.44″	0.94″	10	1505K415	5.98
425	A	5	2.5	0.56″	1.06″	10	1505K47	9.38
502	A	5.1	0.8	0.56″	1.06″	10	1505K582	7.48
605	A	6.2	3.1	0.56″	1.06″	10	1505K583	7.69
Miniature Flanged Base (0.36″ Base Dia.)								
Incandescent								
PR2	C	2.4	1.2	0.52″	1.25″	10	1505K24	7.20
PR3	C	3.6	1.8	0.52″	1.25″	10	1505K25	7.60
PR4	C	2.3	0.6	0.52″	1.25″	10	1505K26	7.20
PR6	C	2.5	0.7	0.52″	1.25″	10	1505K27	7.20
PR7	C	3.7	1.1	0.52″	1.25″	10	1505K28	7.20
PR12	C	6	3	0.52″	1.25″	10	1505K29	7.20
PR13	C	4.8	2.4	0.52″	1.25″	10	1505K31	7.20
PR15	C	4.8	2.4	0.52″	1.25″	10	1505K51	7.20
PR17	C	4.9	1.5	0.52″	1.25″	10	1505K584	7.20
PR18	C	7.2	4	0.52″	1.25″	10	1505K127	7.20
PR20	C	8.6	4.3	0.52″	1.25″	10	1505K128	7.20
PR29	C	3.6	0.7	0.52″	1.25″	10	1505K585	7.20
Krypton								
KPR12	D	12	8.4	0.52″	1.10″	1	1505K588	3.64
KPR101	C	2.4	1.3	0.52″	1.25″	10	1505K155	7.60
KPR102	C	2.4	1.7	0.52″	1.25″	10	1505K137	7.60
KPR103	C	3.6	2.7	0.52″	1.25″	10	1505K146	7.60
KPR104	C	2.2	1	0.52″	1.25″	10	1505K225	7.60
KPR112	C	6	4.5	0.52″	1.25″	10	1505K151	7.60
KPR113	C	4.8	3.6	0.52″	1.25″	10	1505K143	7.60
KPR118	C	7.2	4	0.52″	1.25″	10	1505K587	7.60
Halogen								
HPR50	E	5.2	4.4	0.52″	1.25″	1	1505K172	7.72
HPR51	E	6.5	4.6	0.52″	1.25″	1	1505K173	7.72
HPR52	E	3.8	3.2	0.52″	1.25″	1	1505K174	7.72
HPR53	E	4	3.4	0.52″	1.25″	1	1505K175	7.72
Xenon								
XPR12	D	12	8.4	0.52″	1.18″	1	9722T114	3.64
XPR14	D	14.4	10.1	0.52″	1.18″	1	1505K589	3.60
XPR18	D	18	10.8	0.52″	1.18″	1	1505K591	3.78
Other Trade Numbers								
2A001, 3A001, 233, 458, 503, 1651, PR16, PR30, PR33, PR9, XPR16, or XPR19							9722T888	

Halogen Headlamp Bulbs

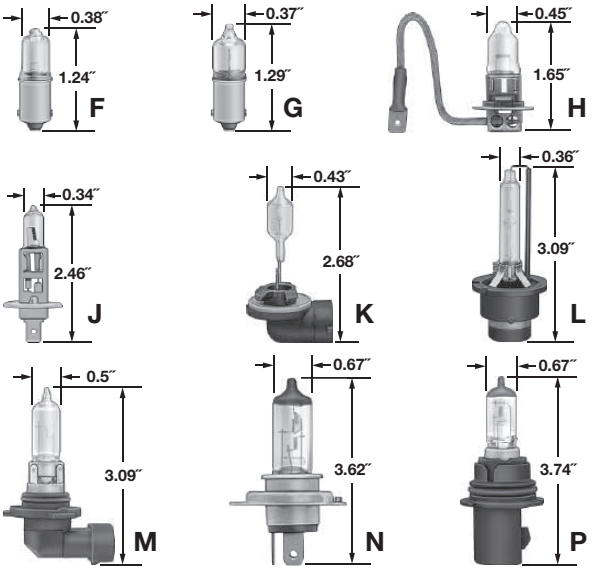

Bulbs are designed for use in vehicles and are clear.

Trade Number	Style	Brightness, lumens	Volts	Watts		Each
767	F	Not Rated	6	12	9613T41	$2.55
862	K	750	12	37.5	9613T39	6.00
886	K	1,250	12	50	9613T138	7.25
894	K	940	12	37	9613T146	7.25
9003	N	1,500/910	12	60/55	9613T29	9.90
9004	P	1,200/700	12	65/45	9613T31	4.90
9005	M	1,700	12	65	9613T32	6.53
9006	M	1,000	12	55	9613T33	5.43
9007	P	1,350/1,000	12	65/55	9613T34	6.38
9040	M	600	12	40	9613T38	7.50
64111	G	80	12	5	9613T37	6.30
D2R	L	2,800	85	35	9613T36	75.24
D2S	L	3,200	85	35	9613T35	70.14
H1 55W	J	1,410	12	55	9613T102	5.98
H1 70W/24V	J	1,900	24	70	9613T21	7.25
H1 100W	J	1,850	12	100	9613T22	6.75
H1 130W	J	2,600	12	130	9613T23	9.00
H3 55W	H	1,450	12	55	9613T24	5.29
H3 55W HD	H	1,450	12	55	9613T107	5.50
H3 70W/24V	H	1,750	24	70	9613T25	6.67
H3 100W	H	1,950	12	100	9613T26	6.00
H3 130W	H	2,600	12	130	9613T108	7.25
H4 60/55W	N	1,730/1,040	12	60/55	9613T27	7.58
H4 100/80W	N	2,400/1,500	12	100/80	9613T28	7.49
Other Trade Numbers					9613T888	

Tubular Halogen Light Bulbs



Double-Ended Recessed Single-Contact Base



Mini-Screw Base (Mini-Candelabra)



Medium Single-Contact Prefocus Base



Double-Contact Bayonet Base



Medium Bi-Pin Base

Small but powerful, these slender bulbs provide brilliant light for photography, stage lighting, and security lighting. They are clear and dimmable.

Trade Number	Watts	Brightness, lumens	Volts	Rated Life, hours	Operating Position	Overall Dia.	Overall Lg.		Each
Double-Ended Recessed Single-Contact Base (1/4″ Base Dia.)									
100T3Q/CL	100	1,600	120	2,000	Horizontal	3/8″	3 1/8″	1513K19	$10.35
150T3Q/CL	150	2,400	120	2,000	Horizontal	3/8″	3 1/8″	1513K21	9.64
150T3Q/117/CL	150	2,400	120	1,500	Any	3/8″	4 3/4″	1513K16	6.17
250T3Q/CL	250	4,500	120	2,000	Any	3/8″	3 1/4″	1513K17	6.17
300T3Q/CL (EHM)	300	5,200	120	2,000	Horizontal	3/8″	4 5/8″	1513K5	6.82
300T4Q/CL	300	5,900	120	2,000	Any	3/8″	3 1/4″	1513K18	5.69
500T3Q/CL	500	9,200	130	2,000	Horizontal	3/8″	4 5/8″	1513K24	6.02
500T3Q/CL (FCL)	500	9,500	120	2,000	Horizontal	3/8″	4 5/8″	1513K2	6.30
1500T3Q/CL	1,500	33,000	277	2,000	Horizontal	3/8″	10″	1513K42	13.89
1500T3Q/P/CL	1,500	36,300	240	2,000	Horizontal	3/8″	10″	1513K4	13.94
FCM	1,000	27,000	120	300	Horizontal	1/2″	4 3/4″	2286K11	13.24
Mini-Screw Base (Mini-Candelabra) (7/16″ Base Dia.)									
100Q/CL (ESN)	100	1,600	120	1,000	Any	1/2″	2 7/8″	1513K22	11.11
150Q/CL (ETG)	150	2,800	120	1,000	Any	1/2″	3″	1513K23	22.20
250Q/CL (EHT)	250	5,000	120	1,000	Any	1/2″	3 1/8″	1513K11	18.83
500Q/CL (EVR)	500	10,450	120	2,000	Any	1/2″	3 3/4″	1513K26	21.11
Medium Single-Contact Prefocus Base (1 1/8″ Base Dia.)									
BTL	500	11,000	120	500	Base-Down or Horizontal	3/4″	5″	2286K51	38.24
BTM	500	13,000	120	100	Base-Down or Horizontal	3/4″	5″	2286K52	42.65
BTR	1,000	28,500	120	250	Base-Down or Horizontal	1″	5″	2286K55	41.88
Double-Contact Bayonet Base (0.59″ Base Dia.)									
100Q/CL/DC (ESR)	100	1,600	120	1,000	Any	1/2″	2 1/2″	1513K32	19.93
150Q/CL/DC (ETC)	150	2,800	120	2,000	Any	1/2″	2 1/2″	1513K33	13.75
250Q/CL/DC (ESS)	250	5,000	120	2,000	Any	1/2″	3 1/8″	1513K8	17.91
FEV	200	5,500	120	50	Any	1/2″	2 1/2″	2286K21	16.91
Medium Bi-Pin Base (13/16″ Base Dia.)									
FEL	1,000	27,500	120	375	Any	3/4″	4″	2286K31	29.41

Audiovisual/Projector Bulbs



A



B



C



D



E



F

Bulbs are designed for projectors, microscopes, printers, fiber-optic systems, video equipment, and other optical instruments. They are clear and dimmable.

Trade Number	Style	Base Type	Volts	Watts	Rated Life, hours	Overall Dia.	Overall Lg.		Each
Bi-Pin Base—Halogen									
DDL	A	GX5.3	20	150	500	2″	1.75″	1535K31	$16.39
DDM	A	GX5.3	19	80	50	2″	1.75″	1535K79	27.22
DYS/DYV/BHC	B	GY9.5	120	600	75	0.87″	2.5″	1535K51	16.67
EFM	A	GZ6.35	8	50	50	2″	1.64″	1535K33	18.08
EFP	A	GZ6.35	12	100	50	2″	1.65″	1535K34	29.07
EFR	A	GZ6.35	15	150	50	2″	1.65″	1535K53	19.86
EHJ	C	G6.35	24	250	50	0.53″	2.17″	1535K97	13.30
EJA	A	GX5.3	21	150	40	2″	1.75″	1535K35	19.85
EJL	A	GX5.3	24	200	50	2″	1.75″	1535K74	28.85
EJV	A	GX5.3	21	150	40	2″	1.75″	1535K56	18.99
EKE	A	GX5.3	21	150	200	2″	1.75″	1535K36	21.67
EKZ	A	GX5.3	11	30	200	2″	1.75″	1535K54	29.56
ELC	A	GX5.3	24	250	50	2″	1.76″	1535K37	18.60
ELH	A	GY5.3	120	300	35	2″	1.75″	1535K75	18.23
ENH	A	GY5.3	120	250	175	2″	1.75″	1535K38	25.70
ENX	A	GY5.3	82	360	75	2″	1.75″	1535K39	19.25
EPX	A	GX5.3	15	90	500	2″	1.75″	1535K77	33.24
ETJ	A	GY5.3	120	250	175	2″	1.75″	1535K55	31.70
EVA	C	GY6.35	12	100	2,000	0.45″	1.73″	1535K41	18.19
EVD	C	G6.35	36	400	50	0.63″	2.36″	1535K42	19.44
EVW	A	GY5.3	82	250	50	2″	1.75″	1535K57	20.68
EYB	D	G5.3	82	360	75	0.45″	2.24″	1535K43	15.53
FCR	C	GY6.35	12	100	50	0.43″	1.61″	1535K44	9.70
FCS	C	G6.35	24	150	50	0.53″	1.97″	1535K78	9.57
FDT	D	GY9.5	12	100	50	0.45″	2.24″	1535K58	19.64
FHE/ESB	C	G4	6	20	100	0.35″	1.18″	1535K45	7.29
FHS	E	GX5.3	82	300	70	1.65″	1.75″	1535K46	20.68
FTB	A	GZ4	12	20	2,000	1.38″	1.38″	1535K98	9.85
FTD	A	GZ4	12	20	2,000	1.38″	1.38″	1535K59	12.74
FXL	A	GY5.3	82	410	75	2″	1.75″	1535K47	22.82
JCR	A	GZ6.35	12	100	1,000	2″	1.65″	1535K99	28.75
Medium Single-Contact Prefocus Base (1 1/8″ Base Dia.)—Incandescent									
CZX/DAB	F	P28S	120	500	25	1.26″	5.75″	1535K61	39.24

Other Trade Numbers
BRL, CAX, DAY/DAK, DEK/DFW, DYH, ENX-5, EPN, EVC, EXR, EXY, FDV, GCA, or JCD — 9992T888

Bi-Pin Spotlight and Floodlight Bulbs

These clear bulbs are often used in recessed can fixtures and track lighting. Light intensity is measured in candlepower; the higher the candlepower, the brighter the bulb.

Bulbs with Protective Lens—The lens contains glass shards if the bulb breaks.



MR-16 Halogen



MR-16 LED



PAR16 Halogen

Trade Number	Equiv. Incand. Bulb Watts	Candlepower	Bulb Type	Beam Spread	Light Appearance	Volts	Watts	Rated Life, hours	Overall Dia.	Overall Lg.		Pkg. of 1
MR-16 Spotlight Bulbs—GU5.3 Base												
Without Lens												
ESX	20	3,500	Halogen	12°	Warm (2,950K)	12	20	5,000	2″	1¾″	**1465K1**	$4.68
EXT	50	11,000	Halogen	12°	Warm (3,000K)	12	50	5,000	2″	1¾″	**1465K4**	4.68
EXZ	50	3,600	Halogen	24°	Warm (3,000K)	12	50	5,000	2″	1¾″	**1465K5**	4.68
EYF	75	13,000	Halogen	12°	Warm (3,000K)	12	75	5,000	2″	1¾″	**1465K8**	4.68
With Protective Lens												
EXT	50	8,600	Halogen	12°	Warm (3,100K)	12	50	10,000	2″	1¾″	**1835K3**	11.76
EXZ	50	2,700	Halogen	24°	Warm (3,100K)	12	50	10,000	2″	1¾″	**1835K4**	11.76
FMV	35	1,700	Halogen	24°	Warm (3,000K)	12	35	10,000	2″	1¾″	**1835K1**	11.76
MR-16 Floodlight Bulbs—GU5.3 Base												
Without Lens												
BAB	20	600	Halogen	36°	Warm (2,950K)	12	20	5,000	2″	1¾″	**1465K3**	4.68
EXN	50	2,000	Halogen	36°	Warm (3,000K)	12	50	5,000	2″	1¾″	**1465K6**	4.68
EYC	75	2,700	Halogen	36°	Warm (3,000K)	12	75	5,000	2″	1¾″	**1465K7**	4.68
With Protective Lens												
BAB	20	450	Halogen	36°	Warm (3,000K)	12	20	12,000	2″	1¾″	**1835K6**	19.19
BAB	20	600	Halogen	36°	Warm (2,950K)	12	20	5,000	2″	1¾″	**1465K35**	5.81
EXN	50	1,500	Halogen	36°	Warm (3,100K)	12	50	10,000	2″	1¾″	**1835K5**	11.76
FMW	35	370	Halogen	60°	Warm (3,000K)	12	35	18,000	2″	1¾″	**1835K7**	19.19
FMW	35	950	Halogen	36°	Warm (3,000K)	12	35	10,000	2″	1¾″	**1835K2**	11.76
FNV	50	620	Halogen	60°	Warm (3,100K)	12	50	18,000	2″	1¾″	**1835K8**	19.19
—	35	720	LED	40°	Warm (3,000K)	12	6	25,000	2″	2″	**8643T5**	9.90
PAR16 Floodlight Bulbs—GU10 Base												
With Protective Lens												
—	35	500	Halogen	30°	Warm (2,750K)	120	35	3,000	2″	2¼″	**14675K12**	8.64
—	50	640	Halogen	35°	Warm (2,850K)	120	50	1,000	2″	2⅛″	**14675K13**	8.64
—	50	800	Halogen	30°	Warm (2,800K)	120	50	3,000	2″	2¼″	**14675K11**	8.64

Miniature Bi-Pin Light Bulbs

Equip optical instruments and task lights with compact, clear bulbs. **Xenon** bulbs last longer than halogen bulbs.



Trade Number	Base Type	Brightness, lumens	Volts	Watts	Rated Life, hours	Overall Dia.	Overall Lg.		Each
Halogen									
35T4Q/CL/AX	GY6.35	580	12	35	4,000	0.47″	1.75″	**2451K21**	$7.12
50T4Q/CL/AX	GY6.35	900	12	50	4,000	0.47″	1.75″	**2451K22**	6.04
778	G4	400	6	20	100	0.37″	1.24″	**1997K38**	1.54
780	G4	277	12	12	50	0.37″	1.24″	**1997K37**	1.63
782	G4	314	12	20	2,000	0.37″	1.24″	**1997K36**	1.76
783	G4	277	12	12	50	0.37″	1.24″	**1997K35**	1.76
784	G4	113	6	6	50	0.37″	1.24″	**1997K34**	1.54
785	G4	163	6	8	50	0.37″	1.24″	**1997K33**	1.54
786	G4	239	6	12	50	0.37″	1.24″	**1997K32**	1.54
788	G4	400	6	20	100	0.37″	1.24″	**1997K31**	1.71
789	G4	277	12	22	200	0.37″	1.24″	**1997K29**	1.80
Q100T4/CL	G6.35	1,800	24	100	2,000	0.43″	1.73″	**2288K13**	15.91
Q100T4/CL	GY6.35	2,300	12	100	2,000	0.43″	1.73″	**1997K27**	13.65
Q10T3/CL	G4	140	12	10	2,000	0.39″	1.3″	**1997K22**	6.79
Q20T3/CL	G4	350	12	20	2,000	0.35″	1.18″	**1997K23**	6.11
Q20T3/CL/24	G4	280	24	20	2,000	0.35″	1.18″	**2288K11**	12.45
Q35T4/CL	G6.35	650	12	35	2,000	0.43″	1.73″	**1997K24**	10.95
Q50T4/CL	G6.35	750	24	50	2,000	0.43″	1.73″	**2288K12**	15.45
Q50T4/CL	GY6.35	1,000	12	50	2,000	0.43″	1.73″	**1997K25**	7.50
Q5T3/CL	G4	60	12	5	4,000	0.38″	1.25″	**1997K21**	6.88
Q75T4/CL	GY6.35	1,600	12	75	2,000	0.43″	1.73″	**1997K26**	9.50
Xenon									
10W12V	G4	100	12	10	10,000	0.35″	1.61″	**2794K13**	7.80
10W24V	G4	95	24	10	10,000	0.35″	1.61″	**2874K13**	7.80
15W12V	G4	150	12	15	10,000	0.35″	1.61″	**2794K14**	7.80
15W24V	G4	150	24	15	10,000	0.35″	1.61″	**2874K14**	7.80
20W12V	G4	200	12	20	5,000	0.35″	1.61″	**2794K15**	7.80
20W24V	G4	200	24	20	5,000	0.35″	1.61″	**2874K15**	7.80

Miniature Neon Light Bulbs

A no-filament design allows these bulbs to withstand vibration. They are often used in control panels and electronic equipment. Bulbs cast an orange glow. They are 120 volts.



Small Screw Base (Candelabra)



Miniature Bayonet Base



Double-Contact Bayonet Base



Wire Terminal

	Trade Number	Watts	Amps	Rated Life, hours	Overall Dia.	Overall Lg.	Pkg. Qty.		Pkg.
Small Screw Base (Candelabra) (½″ Base Dia.)	B7A	0.25	0.002	7,500	0.56″	1.5″	1	**1510K45**	$5.60
Miniature Bayonet (0.36″ Base Dia.)	B1A	0.04	0.0003	15,000	0.41″	1.19″	5	**1510K28**	7.24
Miniature Bayonet (0.36″ Base Dia.)	B2A	0.25	0.0012	25,000	0.41″	1.19″	5	**1510K36**	7.24
Double-Contact Bayonet (0.59″ Base Dia.)	B9A	0.25	0.002	7,500	0.56″	1.5″	1	**1510K46**	5.60
Wire Terminal	A1A	0.059	0.0005	25,000	0.25″	1.06″	10	**1510K29**	9.75
Wire Terminal	A9A	0.067	0.0007	25,000	0.25″	0.75″	10	**1510K31**	9.64
Wire Terminal	C2A	0.25	0.002	25,000	0.25″	0.75″	10	**1510K34**	7.50

Sealed-Beam & LED Light Bulbs

Sealed-Beam Light Bulbs



Circular



Rectangular



Base Types

2 Contact Lugs



3 Contact Lugs



Screw Terminals



Slip-On Terminals

Often used in vehicles, these clear bulbs have a sealed assembly to withstand the rigors of outdoor use. They are also used for spot, flood, and emergency lighting. Light intensity is measured in candlepower; the higher the candlepower, the brighter the bulb.

Trade numbers H6024 and H6054 can be used as high/low beam bulbs.

Trade Number	Shape Number	Candlepower	Bulb Type	Volts	Watts	Rated Life, hours	Overall Wd.	Overall Ht.	Overall Lg.		Each
Circular											
2 Contact Lugs											
H5001	PAR46	Not Rated	Halogen	12.8	50	200	5¾″	5¾″	4″	8351K99	$14.44
3 Contact Lugs											
H6024	PAR56	35,000/27,000	Halogen	12.8	65/35	150/320	7″	7″	5″	8351K56	11.74
Screw Terminals											
4014	PAR36	1,500	Incand.	6.4	18	200	4½″	4½″	2¾″	8351K53	10.69
4406	PAR36	600	Incand.	12.8	35	300	4½″	4½″	2¾″	8351K951	9.70
4411	PAR36	3,000	Incand.	12.8	35	300	4½″	4½″	2¾″	8351K681	7.93
4412	PAR46	11,000	Incand.	12.8	35	300	5¾″	5¾″	3¾″	8351K541	10.36
4416	PAR36	35,000	Incand.	12.8	30	300	4½″	4½″	2¾″	8351K161	8.32
4419	PAR46	1,600	Incand.	12	35	300	5¾″	5¾″	3¾″	8351K232	13.10
4422	PAR36	600	Incand.	12.8	35	300	4½″	4½″	2¾″	8351K71	16.51
4505	PAR36	45,000	Incand.	28	50	400	4½″	4½″	2¾″	8351K271	20.63
4509	PAR36	110,000	Incand.	12.8	100	25	4½″	4½″	2¾″	8351K233	8.83
4515	PAR36	55,000	Incand.	6.4	30	100	4½″	4½″	2¾″	8351K211	8.75
4537	PAR46	200,000	Incand.	12.8	100	25	5¾″	5¾″	3⅛″	8351K741	15.04
4589	PAR36	5,000	Incand.	28	50	400	4½″	4½″	2¾″	8351K771	10.32
7613	PAR36	400	Incand.	6.4	8	75	4½″	4½″	2¾″	8351K871	9.35
H7550	PAR36	25,000	Halogen	6	8	50	4½″	4½″	2¾″	8351K98	27.34
H7551	PAR36	550	Halogen	6	8	50	4½″	4½″	2¾″	8351K57	24.12
H7553	PAR36	850	Halogen	6	12	50	4½″	4½″	2¾″	8351K58	24.56
H7557	PAR36	850	Halogen	12	12	50	4½″	4½″	2¾″	8351K59	22.22
H7604	PAR36	100,000	Halogen	13	50	100	4½″	4½″	2¾″	8351K94	29.89
H7635	PAR46	160,000	Halogen	13	50	100	5¾″	5¾″	3¾″	8351K841	28.57
Slip-On Terminals											
4340	PAR36	2,500	Incand.	48	80	400	4½″	4½″	2¾″	8351K651	14.43
4350	PAR36	2,100	Incand.	36	60	400	4½″	4½″	2¾″	8351K66	26.74
Rectangular											
3 Contact Lugs											
H4656	REC-58	15,000	Halogen	12.8	35	300	4″	4¾″	6½″	8351K61	9.06
H6054	REC-68	40,000/35,000	Halogen	12.8	65/35	150/300	5½″	5¼″	7⅞″	8351K42	9.47
Other Trade Numbers											
4013, 4049, 4413, 4510, 4511, 4545, 4546, 6052, H4651, or H7609										9855T888	

Status-Indicating LED Light Bulbs



Medium Screw Base



Single-Contact Bayonet Base



Double-Contact Bayonet Base

Bulbs communicate a device's state.

Medium screw-base bulbs, also known as beacon lights and signal lamps, provide high-intensity light. They are often used in security warning devices and machinery. Each bulb contains 48 LEDs.

Bayonet-base bulbs can be used as replacements for bulbs in stack lights. Each bulb contains 4 LEDs.

Overall Dia.	Overall Lg.	Rated Life, hours	Choose a Color	120V AC Watts	120V AC	Each	24V DC Watts	24V DC	Each
Medium Screw Base (11/16″ Base Dia.)									
1¾″	3½″	100,000	Blue, Green, White	1.44	6585T1	$128.64	—	—	—
1¾″	3½″	100,000	Amber, Red	1.8	6585T2	86.44	—	—	—
Single-Contact Bayonet Base (0.59″ Base Dia.)									
⅝″	1 13/16″	50,000	Blue, Green, White	3.25	6575T77	23.40	0.68	6575T75	$23.40
⅝″	1 13/16″	100,000	Amber, Red	3.25	6575T78	18.90	0.68	6575T76	18.90
Double-Contact Bayonet Base (0.59″ Base Dia.)									
⅝″	1 13/16″	50,000	Blue, Green, White	3.25	6575T73	23.40	0.68	6575T71	23.40
⅝″	1 13/16″	100,000	Amber, Red	3.25	6575T74	18.90	0.68	6575T72	18.90

Exit Sign LED Light Bulbs with Panels



Small Screw Base (Candelabra)

Replace incandescent bulbs in exit signs with longer-lasting, energy-efficient alternatives. Each kit contains two bulbs and two diffuser panels. They meet UL 924 requirements and are compatible with exit signs that are viewable from one or both sides. Bulbs are 120 volts and last up to 100,000 hours.

Replaces Incand. Bulb Shape	Color	Watts	Bulb Dia.	Bulb Lg.	Panel Lg.	Panel Ht.	Panel Thick.		Each
Small Screw Base (Candelabra) (1/2″ Base Dia.)									
T6 (¾″ Dia.)	Green	2.2	0.51″	4.65″	12″	8″	0.032″	1557K26	$45.27
T6 (¾″ Dia.)	Red	2.2	0.51″	4.65″	12″	8″	0.032″	1557K25	35.61
Intermediate Screw Base (11/16″ Base Dia.)									
T6½ (13/16″ Dia.)	Red	2.2	0.51″	4.85″	12″	8″	0.032″	1557K35	35.61
Double-Contact Bayonet Base (0.59″ Base Dia.)									
T6½ (13/16″ Dia.)	Red	2.2	0.51″	4.85″	12″	8″	0.032″	1557K15	35.61

Plug-In Compact LED Light Bulbs



More durable and energy-efficient than CFLs (Compact Fluorescent Lights), this bulb contains 30 LEDs and is 120 volts.

Base Type	Watts	Brightness, lumens	Light Appearance	Rated Life, hours	Overall Wd.	Overall Lg.		Each
GX23	3	175	Cool (5,500K)	50,000	1¾″	7¼″	8746T1	$35.47

Plug-In CFL (Compact Fluorescent Light) Bulbs

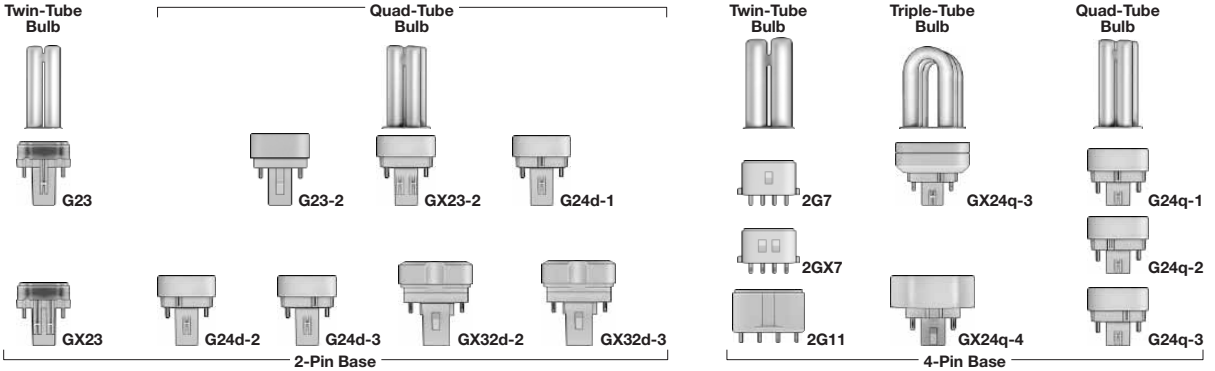

Energy efficient and long lasting, these bulbs are comparable to PL, Dulux, and Biax bulbs. They require a ballast (see page 731). *2-pin base* bulbs are not dimmable; *4-pin base* bulbs are dimmable.

Base Type	Watts	Brightness, lumens	Light Appearance	Rated Life, hours	O'all Lg.	*Equivalent To* Philips	Osram/Sylvania	General Electric		Each
2-Pin Base										
Twin-Tube Bulbs										
G23	5	250	Warm (2,700K)	10,000	4.2″	PL-S 5W/827/2P/ALTO	CF5DS/827	F5BX/SPX27	1528K94	$4.11
G23	7	400	Warm (2,700K)	10,000	5.3″	PL-S 7W/827/2P/ALTO	CF7DS/827	F7BX/SPX27	1528K91	4.11
G23	7	400	Neutral (3,500K)	10,000	5.3″	PL-S 7W/835/2P/ALTO	CF7DS/835	F7BX/SPX35	1528K49	4.11
G23	7	400	Neutral (4,100K)	10,000	5.3″	PL-S 7W/841/2P/ALTO	CF7DS/841	F7BX/SPX41	1528K66	4.11
G23	9	600	Warm (2,700K)	10,000	6.6″	PL-S 9W/827/2P/ALTO	CF9DS/827	F9BX/SPX27	1528K92	4.11
G23	9	600	Neutral (3,500K)	10,000	6.6″	PL-S 9W/835/2P/ALTO	CF9DS/835	F9BX/SPX35	1528K52	4.11
G23	9	600	Neutral (4,100K)	10,000	6.6″	PL-S 9W/841/2P/ALTO	CF9DS/841	F9BX/SPX41	1528K65	4.11
GX23	13	800	Cool (5,000K)	10,000	7″	PL-S 13W/850/2P/ALTO	CF13DS/850	F13BX/SPX50	1528K101	4.11
GX23	13	825	Warm (2,700K)	10,000	7″	PL-S 13W/827/2P/ALTO	CF13DS/827	F13BX/SPX27	1528K93	4.11
GX23	13	825	Neutral (3,500K)	10,000	7″	PL-S 13W/835/2P/ALTO	CF13DS/835	F13BX/SPX35	1528K53	4.11
GX23	13	825	Neutral (4,100K)	10,000	7″	PL-S 13W/841/2P/ALTO	CF13DS/841	F13BX/SPX41	1528K51	4.11
Shatter-Resistant Twin-Tube Bulbs										
G23	7	350	Neutral (4,100K)	10,000	5.5″	PL-S 7W/841	CF7DS/841	F7BX/SPX41	8621K1	12.59
G23	9	590	Neutral (4,100K)	10,000	6.6″	PL-S 9W/841	CF9DS/841	F9BX/SPX41	8621K2	12.59
GX23	13	800	Neutral (4,100K)	10,000	6.9″	PL-S 13W/841	CF13DS/841	F13BX/SPX41	8621K3	12.59
Quad-Tube Bulbs										
G23-2	9	525	Warm (2,700K)	10,000	4.3″	_____	CF9DD/827	F9DBX23T4/SPX27	1528K55	10.53
GX23-2	13	860	Warm (2,700K)	10,000	4.6″	PL-C 13W/827/2P/ALTO	CF13DD/827	F13DBX23T4/SPX27	1528K74	10.79
GX23-2	13	860	Neutral (3,500K)	10,000	4.6″	PL-C 13W/835/2P/ALTO	CF13DD/835	F13DBX23T4/SPX35	1528K33	10.89
GX23-2	13	860	Neutral (4,100K)	10,000	4.6″	PL-C 13W/841/2P/ALTO	CF13DD/841	F13DBX23T4/SPX41	1528K47	10.89
G24d-1	13	900	Warm (2,700K)	10,000	5.5″	PL-C 13W/827/ALTO	_____	F13DBXT4/SPX27	1528K85	9.87
G24d-2	18	1,250	Warm (2,700K)	10,000	6″	PL-C 18W/827/ALTO	CF18DD/827	F18DBXT4/SPX27	1528K86	11.34
G24d-2	18	1,250	Neutral (3,500K)	10,000	6″	PL-C 18W/835/ALTO	CF18DD/835	F18DBXT4/SPX35	1528K32	11.34
G24d-2	18	1,250	Neutral (4,100K)	10,000	6″	PL-C 18W/841/ALTO	CF18DD/841	F18DBXT4/SPX41	1528K89	11.34
G24d-3	26	1,800	Warm (2,700K)	10,000	6.8″	PL-C 26W/827/ALTO	CF26DD/827	F26DBXT4/SPX27	1528K87	11.42
G24d-3	26	1,800	Neutral (3,500K)	10,000	6.8″	PL-C 26W/835/ALTO	CF26DD/835	F26DBXT4/SPX35	1528K31	11.42
G24d-3	26	1,800	Neutral (4,100K)	10,000	6.8″	PL-C 26W/841/ALTO	CF26DD/841	F26DBXT4/SPX41	1528K14	11.42
GX32d-2	22	1,200	Warm (2,700K)	10,000	6″	PL-C 15MM/22W/827	_____	_____	1528K71	19.34
GX32d-3	28	1,600	Warm (2,700K)	10,000	6.8″	PL-C 15MM/28W/827	_____	_____	1528K73	17.39
4-Pin Base										
Twin-Tube Bulbs										
2G7	9	580	Neutral (4,100K)	20,000	5.7″	_____	CF9DS/E/841	_____	1528K54	7.78
2GX7	13	800	Warm (2,700K)	10,000	6.2″	_____	CF13DS/E/827	_____	1528K57	7.52
2GX7	13	800	Neutral (4,100K)	10,000	6.2″	_____	CF13DS/E/841	_____	1528K56	7.52
2G11	18	1,250	Warm (3,000K)	15,000	8.9″	PL-L 18W/830/4P	FT18DL/830	F18BX/SPX30	1528K81	15.05
2G11	18	1,250	Neutral (3,500K)	15,000	8.9″	PL-L 18W/835/4P	FT18DL/835/RS	F18BX/SPX35/RS	1528K26	15.05
2G11	18	1,250	Neutral (4,100K)	15,000	8.9″	PL-L 18W/841/4P	FT18DL/841	F18BX/SPX41	1528K98	15.05
2G11	24	1,800	Neutral (4,100K)	15,000	12.7″	PL-L 24W/841/4P	FT24DL/841	F27BX/SPX41/RS	1528K99	15.05
2G11	36	2,900	Warm (3,000K)	15,000	16.4″	PL-L 36W/830/4P	FT36DL/830	F39BX/SPX30/RS	1528K83	15.05
2G11	36	2,900	Neutral (3,500K)	15,000	16.4″	PL-L 36W/835/4P	FT36DL/835	F39BX/SPX35/RS	1528K24	15.05
2G11	36	2,900	Neutral (4,100K)	15,000	16.4″	PL-L 36W/841/4P	FT36DL/841	F39BX/SPX41/RS	1528K79	15.05
2G11	40	3,300	Warm (3,000K)	20,000	22.5″	PL-L 40W/830/4P RS/IS	FT40DL/830/RS	F40/30BX/SPX30	1528K88	14.50
2G11	40	3,300	Neutral (4,100K)	20,000	22.5″	PL-L 40W/841/4P RS/IS	FT40DL/841/RS	F40/30BX/SPX41	1528K78	14.50
2G11	50	4,300	Warm (3,000K)	20,000	22.5″	PL-L 50W/830/4P RS	_____	F50BX/SPX30/RS	1528K41	17.71
2G11	55	4,800	Neutral (4,100K)	12,000	21.1″	_____	FT55DL/841	F55BX/841	1528K42	22.37
Triple-Tube Bulbs										
GX24q-3	26	1,800	Warm (3,000K)	16,000	5″	PL-T 26W/830/4P/ALTO	CF26DT/E/IN/830	F26TBX/SPX30/A/4P	1528K61	15.00
GX24q-3	32	2,400	Warm (3,000K)	16,000	5.6″	PL-T 32W/830/4P/ALTO	CF32DT/E/IN/830	F32TBX/SPX30/A/4P	1528K63	15.05
GX24q-3	32	2,400	Neutral (4,100K)	16,000	5.6″	PL-T 32W/841/4P/ALTO	CF32DT/E/IN/841	F32TBX/SPX41/A/4P	1528K18	15.06
GX24q-4	42	3,200	Warm (3,000K)	16,000	6.5″	PL-T 42W/830/4P	CF42DT/E/IN/830	F42TBX/830/A/4P	1528K45	10.60
GX24q-4	42	3,200	Neutral (4,100K)	16,000	6.5″	PL-T 42W/841/4P	CF42DT/E/IN/841	F42TBX/841/A/4P	1528K21	10.60
Quad-Tube Bulbs										
G24q-1	13	900	Warm (2,700K)	12,000	5.2″	PL-C 13W/827/4P/ALTO	CF13DD/E/827	F13DBX/SPX27/4P	1528K72	10.74
G24q-1	13	900	Neutral (3,500K)	12,000	5.2″	PL-C 13W/835/4P/ALTO	CF13DD/E/835	F13DBX/SPX35/4P	1528K29	10.74
G24q-1	13	900	Neutral (4,100K)	12,000	5.2″	PL-C 13W/841/4P/ALTO	CF13DD/E/841	F13DBX/SPX41/4P	1528K77	10.74
G24q-2	18	1,250	Warm (2,700K)	12,000	5.7″	PL-C 18W/827/4P/ALTO	CF18DD/E/827	F18DBX/SPX27/4P	1528K69	12.03
G24q-2	18	1,250	Neutral (3,500K)	12,000	5.7″	PL-C 18W/835/4P/ALTO	CF18DD/E/835	F18DBX/SPX35/4P	1528K28	12.03
G24q-2	18	1,250	Neutral (4,100K)	12,000	5.7″	PL-C 18W/841/4P/ALTO	CF18DD/E/841	F18DBX/SPX41/4P	1528K76	12.03
G24q-3	26	1,800	Warm (2,700K)	12,000	6.5″	PL-C 26W/827/4P/ALTO	CF26DD/E/827	F26DBX/SPX27/4P	1528K67	12.13
G24q-3	26	1,800	Neutral (3,500K)	12,000	6.5″	PL-C 26W/835/4P/ALTO	CF26DD/E/835	F26DBX/SPX35/4P	1528K27	12.13
G24q-3	26	1,800	Neutral (4,100K)	12,000	6.5″	PL-C 26W/841/4P/ALTO	CF26DD/E/841	F26DBX/SPX41/4P	1528K68	12.13

Fluorescent Light Bulbs

About Replacing Tubular Fluorescent Light Bulbs

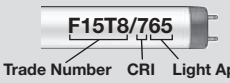

When replacing a fluorescent bulb, check its label and match the trade number, CRI, and light appearance. Low-mercury bulbs are labeled Alto, Eco, Ecologic, or Ecolux.

CRI (Color Rendering Index)—Measures on a scale of 0-100 how accurately the light from a bulb represents an object's true colors; the higher the number, the more natural the colors appear. A value of 7 on the label indicates that the bulb's CRI is in the 70s.

Light Appearance—Measured in Kelvins, a light's appearance can be warm, neutral, or cool. Use the table to the right to find the light appearance that corresponds to your bulb. A value of 65 on the bulb label means it produces cool light at 6,500K.

Light Appearance

Bulb Label	
Warm Red/Yellow Tones—General Purpose	
27	2,700K
30 or WW	3,000K
Neutral Tones—Workspaces	
35	3,500K
41, CW, CWX	4,100K
Cool White/Blue Tones—Inspecting/Reading	
50	5,000K
65, D, DX	6,500K

T12 Tubular Fluorescent Light Bulbs


Medium Bi-Pin Base


Single-Pin Base


Recessed Double-Contact Base

A design common in older installations, these bulbs are 1½″ dia. **Shatter-resistant** bulbs have an outer coating that prevents them from breaking as easily as other bulbs, yet retains glass shards if they do break. USDA compliant and meet OSHA regulations.

Watts	Bulb Lg.	Trade Number	Light Appearance	Brightness, lumens	Rated Life, hours	CRI	Low Mercury	Small Pack Qty.	Small Pack	Small Pack Pkg.	Large Pack Qty.	Large Pack	Large Pack Pkg.
For Use with Preheat Ballasts—Medium Bi-Pin Base													
General Purpose													
14	15″	F14T12	Neutral (4,200K)	650	9,000	60	No	6	1501K6	$50.94	30	1501K1	$188.67
15	18″	F15T12	Neutral (4,100K)	800	9,000	62	No	6	1501K7	51.99	30	1501K3	199.98
20	24″	F20T12	Neutral (4,100K)	1,200	9,000	59	Yes	6	1501K44	28.26	30	1501K4	86.90
Shatter Resistant													
20	24″	F20T12	Neutral (4,100K)	1,200	11,000	62	Yes	15	1539K48	196.65	30	1539K38	297.96
For Use with Rapid-Start Ballasts—Medium Bi-Pin Base													
General Purpose													
30	36″	F30T12	Neutral (4,100K)	2,250	18,000	59	Yes	6	1501K71	45.60	30	1501K53	190.02
34	48″	F34T12	Neutral (4,100K)	1,925	28,800	87	Yes	6	1683K65	28.26	30	1683K64	87.50
34	48″	F34T12	Cool (6,500K)	1,930	28,800	88	Yes	6	1683K67	31.88	30	1683K66	109.38
40	48″	F40T12	Neutral (3,500K)	2,550	20,000	88	Yes	6	1683K75	48.77	30	1683K19	180.62
40	48″	F40T12	Neutral (4,100K)	2,550	24,000	89	Yes	6	1683K69	40.61	30	1683K68	162.45
40	48″	F40T12	Neutral (4,100K)	2,600	20,000	89	Yes	6	1683K63	37.46	30	1683K11	138.75
40	48″	F40T12	Cool (5,000K)	2,500	20,000	90	Yes	6	1683K59	43.23	30	1683K58	175.00
40	48″	F40T12	Cool (6,500K)	2,325	20,000	90	Yes	6	1683K74	35.00	30	1683K16	125.00
Shatter Resistant													
40	48″	F40T12	Neutral (4,100K)	2,600	24,000	89	Yes	6	1539K54	77.50	30	1539K44	378.31
For Use with Instant-Start Ballasts—Single-Pin Base													
General Purpose													
39	48″	F48T12	Neutral (4,100K)	2,950	9,000	62	Yes	6	8355K43	78.93	15	8355K72	167.93
56	72″	F72T12	Neutral (4,100K)	4,450	12,000	59	Yes	6	8355K52	68.55	15	8355K75	142.81
75	96″	F96T12	Neutral (3,500K)	5,000	12,000	88	Yes	6	8355K48	90.97	15	8355K47	184.91
75	96″	F96T12	Neutral (4,100K)	4,400	18,800	87	No	6	8355K44	76.82	15	8355K78	140.81
75	96″	F96T12	Neutral (4,100K)	5,000	12,000	89	Yes	6	8355K54	78.13	15	8355K37	162.78
75	96″	F96T12	Cool (5,000K)	5,000	12,000	90	Yes	6	8355K46	125.06	15	8355K81	231.60
Shatter Resistant													
75	96″	F96T12	Neutral (4,100K)	5,000	14,000	89	Yes	6	1539K56	191.61	15	1539K46	361.53
For Use with High-Output Ballasts—Recessed Double-Contact Base													
General Purpose													
35	24″	F24T12/HO	Neutral (4,200K)	1,650	9,000	60	No	6	1504K97	79.50	30	1504K44	331.27
60	48″	F48T12/HO	Neutral (4,100K)	4,050	12,000	59	Yes	6	1504K65	56.52	15	1504K67	113.04
75	60″	F60T12/HO	Neutral (4,100K)	4,945	12,000	82	Yes	6	1504K28	97.04	15	1504K24	202.17
85	72″	F72T12/HO	Neutral (4,100K)	6,350	12,000	59	Yes	6	1504K16	62.95	15	1504K25	131.15
110	96″	F96T12/HO-O	Neutral (4,100K)	8,800	12,000	59	Yes	6	1504K18	51.06	15	1504K87	111.00
110	96″	F96T12/HO-O	Cool (6,500K)	7,800	12,000	73	Yes	6	1504K75	59.41	15	1504K74	104.15
Shatter Resistant													
110	96″	F96T12/HO-O	Neutral (4,100K)	8,800	14,000	62	Yes	6	1539K24	189.49	15	1539K34	403.16
For Use with Very-High-Output Ballasts—Recessed Double-Contact Base													
General Purpose													
110	48″	F48T12/VHO	Neutral (4,100K)	7,050	12,000	59	No	6	1504K93	115.68	15	1504K34	257.07
185	96″	F96T12/VHO	Neutral (4,100K)	13,000	12,000	59	No	6	1504K94	134.44	15	1504K57	280.09
215	96″	F96T12/VHO	Neutral (4,100K)	15,200	12,000	59	No	6	1504K95	136.16	15	1504K59	272.33

T8 Tubular Fluorescent Light Bulbs


Medium Bi-Pin Base


Single-Pin Base


Recessed Double-Contact Base

Bulbs produce a lot of light while using little energy. They are 1″ dia. **Shatter-resistant** bulbs have an outer coating that prevents them from breaking as easily as other bulbs, yet retains glass shards if they do break. USDA compliant and meet OSHA regulations.

Watts	Bulb Lg.	Trade Number	Light Appearance	Brightness, lumens	Rated Life, hours	CRI	Low Mercury	Small Pack Qty.	Small Pack	Small Pack Pkg.	Large Pack Qty.	Large Pack	Large Pack Pkg.
For Use with Preheat Ballasts—Medium Bi-Pin Base													
General Purpose													
15	18″	F15T8	Warm (3,000K)	1,000	7,500	85	Yes	2	1501K12	$18.72	6	1501K55	$48.00
15	18″	F15T8	Neutral (4,100K)	870	7,500	59	No	2	1501K13	15.29	25	1501K2	163.64
15	18″	F15T8	Cool (6,500K)	750	7,500	73	No	2	1501K14	22.55	25	1501K51	225.48
18	24″	F18T8	Neutral (4,100K)	1,175	7,500	59	No	6	1501K35	78.27	24	1501K19	289.88
30	36″	F30T8	Neutral (4,200K)	2,180	7,500	60	No	6	1501K27	37.06	24	1501K28	137.26
Shatter Resistant													
15	18″	F15T8	Neutral (4,100K)	830	13,000	63	Yes	2	1539K23	28.27	25	1539K33	297.60

(Continued on following page)

For information about replacing tubular fluorescent light bulbs, see page 724.

T8 Tubular Fluorescent Light Bulbs *(Continued from previous page)*

Watts	Bulb Lg.	Trade Number	Light Appearance	Brightness, lumens	Rated Life, hours	CRI	Low Mercury	Small Pack Qty.	Small Pack Pkg.	Large Pack Qty.	Large Pack Pkg.
For Use with Rapid-Start Ballasts—Medium Bi-Pin Base											
General Purpose											
17	24″	F17T8, FO17	Neutral (3,500K)	1,350	30,000	84	Yes	6	1501K32 $45.17	30	1501K16 $180.70
17	24″	F17T8, FO17	Neutral (4,100K)	1,350	30,000	82	Yes	6	1501K81 45.83	30	1501K15 143.21
25	36″	F25T8, FO25	Neutral (3,500K)	2,150	30,000	85	Yes	6	1501K34 45.08	30	1501K18 128.79
25	36″	F25T8, FO25	Neutral (4,100K)	2,150	30,000	84	Yes	6	1501K75 38.64	30	1501K43 128.79
28	48″	F28T8, FO28	Neutral (3,500K)	2,725	42,000	85	Yes	6	1683K95Ⓔ 51.92	30	1683K91Ⓔ 173.08
32	48″	F32T8, FO32	Warm (3,000K)	2,850	30,000	85	Yes	6	1683K32 32.02	30	1683K22 95.17
32	48″	F32T8, FO32	Warm (3,000K)	2,950	36,000	85	Yes	6	1683K34 46.37	30	1683K24 132.41
32	48″	F32T8, FO32	Neutral (3,500K)	2,850	30,000	84	Yes	6	1683K72Ⓔ 38.65	30	1683K26Ⓔ 121.55
32	48″	F32T8, FO32	Neutral (3,500K)	2,850	30,000	85	Yes	6	1683K71 31.05	30	1683K28 95.17
32	48″	F32T8, FO32	Neutral (4,100K)	2,850	30,000	82	Yes	6	1683K73Ⓔ 38.65	30	1683K27Ⓔ 135.58
32	48″	F32T8, FO32	Neutral (4,100K)	2,850	30,000	85	Yes	6	1683K14 34.12	30	1683K15 95.17
32	48″	F32T8, FO32	Neutral (4,100K)	2,950	36,000	85	Yes	6	1683K35 45.85	30	1683K25 132.41
32	48″	F32T8, FO32	Neutral (4,100K)	3,000	42,000	85	Yes	6	1683K82Ⓔ 49.85	30	1683K78Ⓔ 171.88
32	48″	F32T8, FO32	Cool (5,000K)	2,850	30,000	82	Yes	6	1683K33 33.75	30	1683K23 95.17
32	48″	F32T8, FO32	Cool (5,000K)	3,000	42,000	85	Yes	6	1683K83Ⓔ 40.15	30	1683K79Ⓔ 138.46
40	60″	F40T8, FO40	Neutral (4,100K)	3,725	30,000	82	Yes	6	1501K36 63.77	25	1501K59 219.90
Shatter Resistant											
17	24″	F17T8	Neutral (4,100K)	1,375	36,000	85	Yes	2	1539K25 34.88	30	1539K35 451.15
32	48″	F32T8, FO32	Neutral (4,100K)	2,850	36,000	85	Yes	6	1539K21 93.05	30	1539K45 398.84
For Use with Programmed-Start Ballasts—Medium Bi-Pin Base											
General Purpose											
25	48″	F32T8	Neutral (3,500K)	2,400	84,000	85	Yes	6	1683K88Ⓔ 61.00	30	1683K98Ⓔ 234.60
25	48″	F32T8	Neutral (4,100K)	2,400	84,000	85	Yes	6	1683K89Ⓔ 61.00	30	1683K99Ⓔ 234.60
28	48″	F28T8	Neutral (3,500K)	2,600	84,000	85	Yes	6	1683K86Ⓔ 53.38	30	1683K96Ⓔ 195.00
28	48″	F28T8	Neutral (4,100K)	2,600	84,000	85	Yes	6	1683K87Ⓔ 53.38	30	1683K97Ⓔ 195.00
For Use with Instant-Start Ballasts—Single-Pin Base											
General Purpose											
59	96″	F96T8, FO96	Neutral (4,100K)	5,900	30,000	85	Yes	6	8355K85Ⓔ 91.53	25	8355K95Ⓔ 295.26
Shatter Resistant											
59	96″	FO96	Neutral (4,100K)	5,900	24,000	82	Yes	6	1539K22 138.82	24	1539K32 533.91
For Use with High-Output Ballasts—Recessed Double-Contact Base											
General Purpose											
86	96″	F96T8/HO	Neutral (4,100K)	8,200	30,000	85	Yes	6	1504K92Ⓔ 125.31	25	1504K81Ⓔ 464.11

Ⓔ Bulb meets Federal minimum efficiency standards.

T5 Tubular Fluorescent Light Bulbs

These slender 5/8″ dia. bulbs are the most energy-efficient tubular fluorescent bulbs we offer.

Shatter-resistant bulbs have an outer coating that prevents them from breaking as easily as other bulbs, yet retains glass shards if they do break. USDA compliant and meet OSHA regulations.



Miniature Bi-Pin Base

Watts	Bulb Lg.	Trade Number	Light Appearance	Brightness, lumens	Rated Life, hours	CRI	Low Mercury	Small Pack Qty.	Small Pack Pkg.	Large Pack Qty.	Large Pack Pkg.
For Use with Preheat Ballasts—Miniature Bi-Pin Base											
General Purpose											
4	6″	F4T5	Neutral (4,100K)	135	6,000	59	No	2	1562K41 $16.84	25	1562K14 $127.78
6	9″	F6T5	Neutral (4,100K)	295	7,500	59	No	2	1562K42 12.39	25	1562K15 123.89
8	12″	F8T5	Warm (3,000K)	400	7,500	52	No	2	1562K19 16.15	6	1562K47 29.70
8	12″	F8T5	Neutral (4,100K)	400	7,500	59	No	2	1562K45 14.04	25	1562K16 121.67
8	12″	F8T5	Cool (6,500K)	330	10,000	79	No	2	1562K21 22.29	—	— —
13	21″	F13T5	Neutral (4,100K)	820	7,500	59	No	2	1562K48 26.29	25	1562K17 198.35
Shatter Resistant											
6	9″	F6T5	Neutral (4,100K)	260	10,000	60	No	2	1539K78 37.23	25	1539K61 333.65
8	12″	F8T5	Neutral (4,100K)	410	10,000	60	No	2	1539K79 39.23	25	1539K62 335.00
For Use with Programmed Start Ballasts—Miniature Bi-Pin Base											
General Purpose											
14	22″	F14T5, FP14	Neutral (3,500K)	1,350	20,000	85	Yes	2	1562K22 22.73	40	1562K71 320.00
14	22″	F14T5, FP14	Neutral (4,100K)	1,350	20,000	85	Yes	2	1562K51 22.73	40	1562K72 320.00
21	34″	F21T5, FP21	Neutral (3,500K)	2,100	20,000	85	Yes	6	1562K23 69.56	40	1562K73 340.00
21	34″	F21T5, FP21	Neutral (4,100K)	2,100	20,000	85	Yes	6	1562K52 69.56	40	1562K74 340.00
28	46″	F28T5, FP28	Neutral (3,500K)	2,900	20,000	85	Yes	6	1562K24 69.56	40	1562K75 320.00
28	46″	F28T5, FP28	Neutral (4,100K)	2,900	20,000	85	Yes	6	1562K53 69.56	40	1562K76 320.00
Shatter Resistant											
28	46″	F28T5	Neutral (4,100K)	2,900	24,000	82	Yes	6	1539K81 197.04	40	1539K63 696.00
For Use with High-Output Programmed Start Ballasts—Miniature Bi-Pin Base											
General Purpose											
24	22″	F24T5/HO, FP24/HO	Neutral (4,100K)	2,000	20,000	85	Yes	2	1562K55 36.66	40	1562K77 452.00
39	34″	F39T5/HO, FP39/HO	Neutral (4,100K)	3,500	20,000	85	Yes	6	1562K56 98.55	40	1562K78 452.00
54	46″	F54T5/HO, FP54/HO	Neutral (3,500K)	4,450	45,000	85	Yes	6	1562K58 83.17	40	1562K79 299.75
54	46″	F54T5/HO, FP54/HO	Neutral (3,500K)	4,450	60,000	85	Yes	6	1562K62Ⓔ 88.00	40	1562K32Ⓔ 454.55
54	46″	F54T5/HO, FP54/HO	Neutral (4,100K)	4,450	45,000	85	Yes	6	1562K59Ⓔ 83.17	40	1562K81Ⓔ 299.75
54	46″	F54T5/HO, FP54/HO	Neutral (4,100K)	4,450	60,000	85	Yes	6	1562K63Ⓔ 88.00	40	1562K33Ⓔ 454.55
54	46″	F54T5/HO, FP54/HO	Cool (5,000K)	4,310	45,000	85	Yes	6	1562K61Ⓔ 84.38	40	1562K82Ⓔ 308.00
Shatter Resistant											
24	22″	F24T5/HO	Neutral (4,100K)	1,950	24,000	85	Yes	2	1539K82 75.69	40	1539K64 868.00
54	46″	F54T5/HO	Neutral (4,100K)	5,000	30,000	86	Yes	6	1539K83 115.73	25	1539K65 428.64
54	46″	F54T5/HO	Neutral (4,100K)	5,000	35,000	85	Yes	1	1539K77 23.66	—	— —
54	46″	F54T5/HO	Cool (5,000K)	5,000	30,000	86	Yes	6	1539K84 115.73	25	1539K66 428.64

Ⓔ Bulb meets Federal minimum efficiency standards.

Fluorescent Light Bulbs

For information about replacing tubular fluorescent light bulbs, see page 724.

T12-to-T5 Light Fixture Converters



Switch from T12 to energy-efficient T5 bulbs without replacing ballasts or fixtures. Converters plug directly into existing fixtures and reduce energy costs by up to 50%. They have a built-in programmed-start ballast and allow fixtures with a magnetic ballast that hold 48″ T12 bulbs with a medium bi-pin base to accept 46″ T5 bulbs. UL listed.

Converter	1110N1	Each	$44.55
46″ T5 Tubular Fluorescent Bulbs with Neutral (4,100K) Light Appearance (Pkg. of 6)	1562K53	Pkg.	$69.56

T8 Tubular LED Light Bulbs



Plug these bulbs into existing fluorescent lights to convert them to longer-lasting, energy-efficient LED lights without having to replace your ballast. The bulbs are shatter resistant and have a rated life of 50,000 hours. Use them in ballasts with an input voltage of 120-277 volts. Bulbs are 1″ diameter. Light appearance is neutral (4,100K). ETL and C-ETL listed.

Watts	Bulb Lg.	Trade Number	Brightness, Lumens	CRI	Pkg. Qty.		Pkg.
For Use with Instant-Start Ballasts— Medium Bi-Pin Base							
9	24″	LED10T8	1,050	85	2	1335N11	$73.64
14	36″	LED16T8	1,600	85	6	1335N21	222.29
For Use with Instant-Start and Programmed-Start Ballasts— Medium Bi-Pin Base							
16	48″	LED15T8	2,200	82	6	1335N31	211.38

U-Shaped Fluorescent Light Bulbs

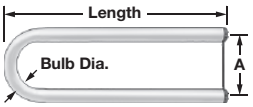



T12 Bulb



T8 Bulb

Watts	Ctr.-to-Ctr. (A)	Bulb Lg.	Trade Number	Light Appearance	Bright-ness, lumens	Rated Life, hours	CRI	Low Mercury		Each
T12 (1½″ Dia.) Bulbs— Medium Bi-Pin Base										
For Use with Rapid-Start Ballasts										
40	6″	22½″	FB40	Neutral (3,500K)	2,300	18,000	90	No	8315K38	$16.45
40	6″	22½″	FB40	Neutral (4,100K)	2,300	18,000	90	No	8315K37	13.67
40	6″	22½″	FB40	Cool (6,500K)	2,250	18,000	90	No	8315K39	12.22
T8 (1″ Dia.) Bulbs— Medium Bi-Pin Base										
For Use with Rapid-Start and Instant-Start Ballasts										
31	1⅝″	22½″	FBO31	Neutral (3,500K)	2,725	20,000	82	No	8315K83Ⓔ	15.38
31	1⅝″	22½″	FBO31	Neutral (4,100K)	2,725	20,000	82	No	8315K84Ⓔ	15.38
32	6″	22½″	FB32T8, FBO32	Warm (3,000K)	2,750	20,000	75	Yes	8315K85Ⓔ	13.81
32	6″	22½″	FB32T8, FBO32	Neutral (4,100K)	2,750	20,000	75	Yes	8315K19Ⓔ	13.81
32	6″	22½″	FBO32	Neutral (3,500K)	2,900	24,000	85	Yes	8315K28Ⓔ	19.05
For Use with Programmed-Start and Instant-Start Ballasts										
29	1⅝″	22½″	F32T8, FBO29	Neutral (3,500K)	2,775	24,000	85	Yes	8315K24Ⓔ	20.24
29	1⅝″	22½″	F32T8, FBO29	Neutral (4,100K)	2,775	24,000	85	Yes	8315K25Ⓔ	20.24
30	6″	22½″	F32T8, FBO30	Neutral (3,500K)	2,800	24,000	85	Yes	8315K26Ⓔ	17.74
30	6″	22½″	F32T8, FBO30	Neutral (4,100K)	2,800	24,000	85	Yes	8315K27Ⓔ	17.74

Ⓔ Bulb meets Federal minimum efficiency standards.

Circline Fluorescent Light Bulbs

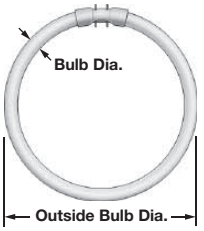



T9 Bulb



T5 Bulb

Watts	Outside Bulb Dia.	Trade Number	Light Appearance	Brightness, lumens	Rated Life, hours	CRI		Each
T9 (1⅜″ Dia.) Bulbs— G10q Base								
For Use with Preheat and Rapid-Start Ballasts								
20	6½″	FC6T9	Neutral (4,100K)	800	12,000	59	1614K13	$13.11
22	8″	FC8T9	Warm (3,000K)	1,150	12,000	85	1614K24	9.97
22	8″	FC8T9	Neutral (4,100K)	1,050	12,000	59	1614K14	4.47
22	8″	FC8T9	Cool (6,200K)	910	12,000	79	1614K25	12.73
40	16″	FC16T9	Neutral (4,100K)	2,500	12,000	60	1614K26	12.55
For Use with Rapid-Start Ballasts								
32	12″	FC12T9	Neutral (4,100K)	1,800	12,000	59	1614K15	5.80
32	12″	FC12T9/D	Cool (6,200K)	1,570	12,000	73	1614K18	15.73
T5 (⅝″ Dia.) Bulbs— 2GX13 Base								
For Use with Rapid-Start and Instant-Start Ballasts								
22	8⅞″	FPC22	Neutral (3,500K)	1,800	12,000	82	1614K21	33.86
For Use with Programmed-Start and Instant-Start Ballasts								
40	11¾″	FPC40	Neutral (3,500K)	3,200	12,000	82	1614K22	31.82
55	11¾″	FPC55	Neutral (3,500K)	4,200	12,000	82	1614K23	40.62

Ultraviolet Germicidal Light Bulbs



T8 Bulb



T5 Bulb

Disinfect and sterilize air, water, and surfaces with shortwave ultraviolet radiation. Ultraviolet radiation is harmful to skin and eyes; only install bulbs in fixtures that provide adequate protection. Bulbs are clear.

Watts	Bulb Lg.	Trade Number	Rated Life, hours	Amps		Each
T8 (1″ Dia.) Bulbs— Medium Bi-Pin Base						
For Use with Preheat Ballasts						
15	18″	G15T8	8,000	0.34	9188K13	$42.79
30	36″	G30T8	8,000	0.37	9188K14	59.25
T5 (⅝″ Dia.) Bulbs— Miniature Bi-Pin Base						
For Use with Preheat Ballasts						
8	12″	G8T5	11,000	0.02	9188K12	42.12

Blacklight Blue Fluorescent Light Bulbs

Detect UV-reflective materials that are invisible to the naked eye. Bulbs contain a blue filter that absorbs the visible light they produce while allowing long wave ultraviolet (UVA) light to pass through. They appear black when they are turned off. For blacklight bulbs used in bug zappers, which appear white when turned off, see page 2143.

Shatter-resistant bulbs have an outer coating that prevents them from breaking as easily as other bulbs, yet retains glass shards if they do break. USDA compliant and meet OSHA regulations.


T12 Bulb


T8 Bulb


T5 Bulb

Watts	Bulb Lg.	Trade Number	Rated Life, hours	General Purpose	Each	Shatter Resistant	Each
T12 (1½″ Dia.) Bulbs—Medium Bi-Pin Base							
For Use with Rapid Start Ballasts							
40	48″	F40T12	20,000	8311K37	$31.54	1539K52	$42.56
T8 (1″ Dia.) Bulbs—Medium Bi-Pin Base							
For Use with Preheat Ballasts							
15	18″	F15T8	7,500	8311K38	23.90	1539K37	50.67
T5 (⅝″ Dia.) Bulbs—Miniature Bi-Pin Base							
For Use with Preheat Ballasts							
4	6″	F4T5	6,000	8311K41	19.21	_____	_____
6	9″	F6T5	8,000	8311K42	19.14	_____	_____
8	12″	F8T5	10,000	8311K43	18.29	_____	_____

Medium-Base Metal Halide Light Bulbs

These high-intensity discharge (HID) bulbs produce bright, white light and are commonly used for security lighting. They have a 1 1/16″ dia. base and fit standard light sockets. Initial start time is 2-5 minutes. Light appearance ranges from warm to neutral (3,000K-4,000K). CRI (Color Rendering Index) is a measure on a scale of 0-100 of how accurately the light from a bulb represents an object's true colors; the higher the number, the more natural the colors appear.

For Open and Enclosed Fixtures—Bulbs will not burst when they fail.

General purpose bulbs take 10-15 minutes to restart.

Pulse-start bulbs restart faster than general purpose bulbs. They take 2-8 minutes to restart.



Watts	Bright-ness, lumens	Shape No.	Color	CRI	Rated Life, hours	For ANSI Ballast No.	*Overall* Dia.	*Overall* Lg.	*Equivalent To* Philips	*Equivalent To* Osram/Sylvania	Each	
For Enclosed Fixtures												
General Purpose—Any Operating Position												
150	12,500	BD17	Clear	65	10,000	M107	2 1/8″	5 7/16″	MH150/U/M	_____	8293K27	$43.15
150	12,800	ED17	Frosted	70	10,000	M57, M107	2 1/8″	5 7/16″	MH150/C/U/M	_____	8293K19	41.82
150	12,900	E17	Clear	75	15,000	M102	2 1/8″	5 7/16″	_____	_____	8352K51	34.00
175	13,000	E17	Frosted	70	10,000	M57	2 1/8″	5 7/16″	MH175/C/U/M	M175/C/U/MED	8293K28	31.11
175	14,400	E17	Clear	65	10,000	M57	2 1/8″	5 7/16″	MH175/U/M	M175/U/MED	8293K29	28.89
Pulse Start—Base-Up Operating Position												
175	17,500	ED17	Clear	65	15,000	M137, M152	2 1/8″	5 7/16″	MS175/M/BU/PS	MS175/PS/BU-ONLY/MED	1970K15	48.89
For Open and Enclosed Fixtures												
Pulse Start—Any Operating Position												
50	3,450	E17	Clear	70	20,000	M110	2 1/8″	5 7/16″	_____	MP50/U/MED	8293K21	35.56
70	5,200	E17	Clear	75	15,000	M98	2 1/8″	5 7/16″	_____	MP70/U/MED	8293K23	35.56
100	8,500	EDX17	Clear	65	15,000	M90	2 1/8″	5 7/16″	_____	MP100/U/MED	8293K25	48.78

Medium-Base High-Pressure Sodium Light Bulbs

Often used for security lighting, these energy-efficient high-intensity discharge (HID) bulbs produce warm, yellow light. Bulbs have a 1 1/16″ dia. base and fit standard light sockets. Initial start time is 3-5 minutes with a 1-minute restart. Light appearance is warm (1,900-2,100K). CRI (Color Rendering Index) is a measure on a scale of 0-100 of how accurately the light from a bulb represents an object's true colors; the higher the number, the more natural the colors appear.

End-of-Life Shut-Off—Bulbs remain off at the end of their service life instead of cycling on and off like general purpose bulbs.



Watts	Bright-ness, lumens	Shape No.	Color	CRI	Rated Life, hours	For ANSI Ballast No.	*Overall* Dia.	*Overall* Lg.	*Equivalent To* Philips	*Equivalent To* Osram/Sylvania	Each	
General Purpose												
35	2,250	E17	Clear	22	16,000	S76	2 1/8″	5 7/16″	C35S76/M	LU35/MED	8293K55	$22.22
50	3,700	E17	Frosted	22	24,000	S68	2 1/8″	5 7/16″	C50S68/D/M	LU50/D/MED	8293K66	22.22
50	4,000	E17	Clear	21	24,000	S68	2 1/8″	5 7/16″	C50S68/M	LU50/MED	8293K56	22.22
70	5,800	E17	Frosted	22	24,000	S62	2 1/8″	5 7/16″	C70S62/D/M	LU70/D/MED	8293K67	22.22
70	6,300	E17	Clear	22	24,000	S62	2 1/8″	5 7/16″	C70S62/M	LU70/MED	8293K57	22.22
100	9,500	E17	Clear	22	24,000	S54	2 1/8″	5 7/16″	C100S54/M	LU100/MED	8293K58	22.22
150	14,500	E17	Frosted	22	24,000	S55	2 1/8″	5 7/16″	C150S55/D/M	LU150/55/D/MED	8293K69	25.57
150	15,800	E17	Clear	22	24,000	S55	2 1/8″	5 7/16″	C150S55/M	LU150/55/MED	8293K59	22.22
End-of-Life Shut-Off												
100	10,000	E17	Clear	22	40,000	S54	2 1/8″	5 7/16″	_____	LU100/PLUS/MED	8135K27	35.62

Large-Base Metal Halide Light Bulbs

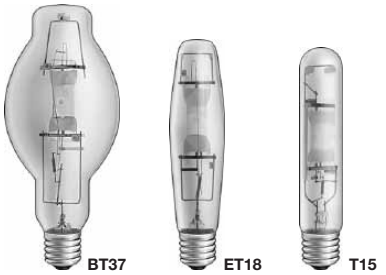

Our most popular high-intensity discharge (HID) bulbs, these bulbs produce white light and illuminate large spaces, such as warehouses, factories, arenas, parking lots, and roads. They have a large (mogul) 1⁵⁄₈″ dia. base. Initial start time is 2-5 minutes. Light appearance ranges from neutral to cool (3,200-5,000K). CRI (Color Rendering Index) is a measure on a scale of 0-100 of how accurately the light from a bulb represents an object's true colors; the higher the number, the more natural the colors appear.

E39 Base—Bulbs are for use in enclosed fixtures, except shatter-resistant bulbs can also be used in open fixtures.

EX39 Base—For use in open and enclosed fixtures, bulbs will not burst when they fail.

General purpose bulbs take 10-20 minutes to restart.

Pulse-start bulbs restart faster than general purpose bulbs. They take 3-15 minutes to restart.

Shatter-resistant bulbs have an outer coating that prevents them from breaking as easily as other bulbs, yet retains glass shards if they do break. They are often used in food service environments. They take 7-12 minutes to restart.

Watts	Brightness, lumens	Shape No.	Color	CRI	Rated Life, hours	For ANSI Ballast No.	Overall Dia.	Overall Lg.	Equivalent To Philips	Equivalent To Osram/Sylvania		Each
E39 Base—Any Operating Position												
General Purpose												
150	13,500	ED28	Clear	65	10,000	M57, M107	3½″	8³⁄₈″		M150/SS/U/BT28	8352K42	$45.36
175	14,000	ED28	Frosted	70	10,000	M57	3½″	8³⁄₈″	MH175/C/U	M175/C/U	8352K75	24.44
175	14,400	ED28	Clear	65	10,000	M57	3½″	8³⁄₈″	MH175/U	M175/U	8352K61	22.22
250	21,500	ED28	Frosted	70	10,000	M58	3½″	8³⁄₈″	MH250/C/U	M250/C/U	8352K76	24.44
250	22,000	ED28	Clear	65	10,000	M58	3½″	8³⁄₈″	MH250/U	M250/U	8352K62	22.22
400	36,000	ED28	Clear	65	20,000	M59	3½″	8³⁄₈″	MH400/U/ED28	M400/U/BT28	8352K72	34.15
400	36,000	ED28	Frosted	70	20,000	M59	3½″	8³⁄₈″		M400/C/U/ED28	8352K13	33.33
400	36,000	ED37	Clear	65	20,000	M59	4⅝″	11½″	MH400/U	M400/U	8352K63	21.51
400	36,000	ED37	Frosted	70	20,000	M59	4⅝″	11½″	MH400/C/U	M400/C/U	8352K77	24.44
400	36,000	ET18	Clear	65	20,000	M59	2¼″	9¾″		M400/U/ET18	8352K79	37.78
400	36,000	T15	Clear	65	20,000	M59	1⅞″	11½″			8352K43	68.42
1,000	107,000	BT56	Frosted	70	18,000	M47	7″	15³⁄₈″	MH1000/C/U	M1000/C/U	8352K26	47.62
1,000	110,000	BT37	Clear	65	15,000	M47	4⅝″	11½″	MH1000/U/BT37	M1000/U/BT37	8352K19	48.89
1,000	110,000	BT56	Clear	65	18,000	M47	7″	15³⁄₈″	MH1000/U	M1000/U	8352K64	45.24
Pulse Start												
250	21,000	ED28	Clear	65	15,000	M138, M153	3½″	8³⁄₈″	MS250/U/PS	M250/PS/U	1970K27	36.67
320	30,000	ED28	Clear	62	20,000	M132, M154	3½″	8³⁄₈″	MS320/U/PS		1970K11	47.07
400	36,000	ED37	Clear	65	20,000	M135, M155	4⅝″	11½″	MS400/U/PS	M400/PS/U	1970K28	37.78
400	40,000	ED28	Clear	65	20,000	M155	3½″	8³⁄₈″			8352K52	42.00
1,000	110,000	BT37	Clear	65	15,000	M141	4⅝″	11½″	MS1000/BU/BT37/PS	M1000/PS/U/BT37	1970K18	88.89
E39 Base—Base-Up Operating Position												
General Purpose												
360	36,000	ED37	Clear	65	20,000	M59, M165	4⅝″	11½″	MS360/C/BU/EW	MS360/C/SS/BU-HOR	8352K12	31.11
400	40,000	ED28	Clear	65	20,000	M59	3½″	8³⁄₈″	MS400/BU/ED28	MS400/BU-ONLY/BT-28	8352K14	31.11
400	42,000	ED37	Clear	65	20,000	M59	4⅝″	11½″	MS400/BU	MS400/BU-ONLY	8352K73	42.22
400	42,000	ED37	Frosted	70	20,000	M59	4⅝″	11½″	MS400/C/BU	MS400/C/BU-ONLY	8352K17	44.54
1,500	170,000	BT56	Clear	70	3,000	M48	7″	15³⁄₈″	MH1500/BU	M1500/BU-HOR	8352K65	66.67
Pulse Start												
175	17,500	ED28	Clear	68	15,000	M137, M152	3½″	8³⁄₈″			8352K49	48.31
250	23,000	ED28	Clear	65	20,000	M138, M153	3½″	8³⁄₈″	MS250/BU/PS	MS250/PS/BU-ONLY	1970K26	44.44
350	37,000	ED37	Clear	68	20,000	M131	4⅝″	11½″	MS350/BU/PS		1970K12	47.40
400	42,000	ED37	Clear	65	20,000	M135, M155	4⅝″	11½″	MS400/BU/PS	MS400/PS/BU-ONLY	1970K24	36.93
400	44,000	ED37	Clear	68	30,000	M135, M155	4⅝″	11½″	MS400/BU/PS	MS400/PS/BU-ONLY	1970K13	48.31
750	78,000	BT37	Clear	65	20,000	M149	4⅝″	11½″	MS750/BU/BT37/PS	MS750/PS/BU-HOR	1970K17	86.49
Shatter Resistant												
250	15,000	ED28	Clear	65	10,000	M58	3½″	8³⁄₈″			8144K23	53.70
400	22,500	ED37	Frosted	70	20,000	M59	4⅝″	11½″			8144K22	57.68
400	25,000	ED37	Clear	65	20,000	M59	4⅝″	11½″			8144K21	54.28
E39 Base—Horizontal Operating Position												
Pulse Start												
250	22,000	ED28	Clear	68	15,000	M138, M153	3½″	8³⁄₈″			8352K47	53.33
400	40,000	ED28	Clear	68	20,000	M135, M155	3½″	8³⁄₈″			8352K48	62.22
400	40,000	ED37	Clear	68	20,000	M135, M155	4⅝″	11½″			8352K53	54.56
EX39 Base—Base-Up Operating Position												
General Purpose												
175	14,000	ED28	Clear	65	10,000	M57	3½″	8³⁄₈″	MP175/BU	MP175/BU-ONLY	8352K44	38.76
175	14,400	BT28	Clear	65	10,000	M57	3½″	8³⁄₈″	MP175/BU	MP175/BU-ONLY	8352K27	46.67
250	23,000	BT28	Clear	65	10,000	M58	3½″	8³⁄₈″	MP250/BU	MP250/BU-ONLY	8352K29	60.78
360	34,000	BT37	Frosted	70	20,000	M59, M165	4⅝″	11½″	MP360/C/BU/EW	MSP360/C/SS/BU-ONLY	8352K46	46.98
360	36,000	BT37	Clear	65	20,000	M59, M165	4⅝″	11½″	MP360/BU/EW	MSP360/SS/BU-ONLY	8352K45	44.49
400	38,500	BT37	Frosted	70	20,000	M59	4⅝″	11½″	MP400/C/BU	MP400/C/BU-ONLY	8352K37	53.33
400	40,000	BT37	Clear	65	20,000	M59	4⅝″	11½″	MP400/BU	MP400/BU-ONLY	8352K36	51.11
1,000	102,000	BT56	Frosted	70	15,000	M47	7″	15³⁄₈″		MP1000/C/BU-ONLY	8352K39	102.22
1,000	109,000	BT56	Clear	65	15,000	M47	7″	15³⁄₈″	MP1000/BU	MP1000/BU-ONLY	8352K38	107.14
Pulse Start												
175	16,000	ED28	Clear	68	15,000	M137, M152	3½″	8³⁄₈″			1970K32	44.44
250	16,500	ED28	Clear	90	20,000	M138, M153	3½″	8³⁄₈″	CDM250/V/O/PS/4K ALTO	MCP250/PS/BU-ONLY	8469K1	66.24
250	23,800	ED28	Clear	68	20,000	M138, M153	3½″	8³⁄₈″		MP250/PS/BU-ONLY	1970K33	46.67
320	22,500	ED28	Clear	90	26,000	M132, M154	3½″	8³⁄₈″			8469K2	80.40
320	22,500	ED37	Clear	90	26,000	M132, M154	4⅝″	11½″	CDM320/O/PS/4K/ALTO		8469K3	78.00
320	31,000	ED28	Clear	68	20,000	M132, M154	3½″	8³⁄₈″			1970K21	53.00
350	26,000	ED28	Clear	90	30,000	M131	3½″	8³⁄₈″			8469K4	62.40
350	26,000	ED37	Clear	90	30,000	M131	4⅝″	11½″	CDM350/V/O/PS/4K/ALTO		8469K5	62.40
350	35,000	ED37	Clear	68	20,000	M131	4⅝″	11½″	MP350/BU/PS	MP350/400/PS/BU-ONLY	1970K22	55.24
400	30,500	ED28	Clear	90	30,000	M135, M155	3½″	8³⁄₈″	CDM400/O/PS/4KED28/ALTO		8469K6	84.42
400	30,500	ED37	Clear	90	30,000	M135, M155	4⅝″	11½″			8469K7	65.87
400	41,000	ED37	Clear	68	20,000	M135, M155	4⅝″	11½″	MP400/BU/PS	MP350/400/PS/BU-ONLY	1970K23	51.98

Large-Base Metal Halide Light Bulbs for High-Pressure Sodium Ballasts

Switch from the yellow light of high-pressure sodium bulbs to the white light of metal halide bulbs without changing ballasts. These high-intensity discharge (HID) bulbs have a large (mogul) 1⅝″ dia. base. Initial start time is 2-4 minutes; restart time is 10-20 minutes. Light appearance is neutral (3,700-4,000K). CRI (Color Rendering Index) is a measure on a scale of 0-100 of how accurately the light from a bulb represents an object's true colors; the higher the number, the more natural the colors appear.

E39 Base—Bulbs are for use in enclosed fixtures.

EX39 Base—For use in open and enclosed fixtures, bulbs will not burst when they fail.



BT37 Bulb with E39 Base



ED28 Bulb with EX39 Base

Watts	Brightness, lumens	Shape No.	Color	CRI	Rated Life, hours	For ANSI Ballast No.	Overall Dia.	Overall Lg.	Equivalent To: General Electric	Equivalent To: Venture		Each
E39 Base—Any Operating Position												
250	20,000	ED28	Clear	65	10,000	S50	3½″	8⅜″		MH 250W/U/LU	16135K55	$43.90
400	39,000	ED37	Frosted	70	20,000	S51	4⅝″	11½″	MVR400/C/VBU/R	MH 400W/C/U/LU	16135K77	46.13
400	41,000	ED28	Clear	65	20,000	S51	3½″	8⅜″	MVR400/U/ED28/R	MH 400W/U/LU	16135K49	41.85
400	41,000	ED37	Clear	65	20,000	S51	4⅝″	11½″	MVR400/VBU/R	MH 400W/U/LU	16135K75	44.27
750	72,000	BT37	Clear	65	12,000	S111	4⅝″	11½″		MH 750W/U/LU	16135K79	78.65
E39 Base—Base-Up and Base-Down Operating Position												
1,000	110,000	BT37	Clear	65	15,000	S52	4⅝″	11½″		MS 1000W/V/LU	16135K46	86.52
EX39 Base—Base-Up Operating Position												
250	19,000	ED28	Clear	65	10,000	S50	3½″	8⅜″		MPI 250W/BU/LU	16135K51	47.98
400	39,000	ED37	Clear	65	20,000	S51	4⅝″	11½″		MPI 400W/BU/LU	16135K78	46.13

Large-Base High-Pressure Sodium Light Bulbs

Bulbs are energy-efficient, produce warm, yellow light, and illuminate large spaces, such as parking lots and roads. These high-intensity discharge (HID) bulbs have a large (mogul) 1⅝″ dia. base. Initial start time is 3-5 minutes with a 1-minute restart, except instant-restart bulbs rapidly restart. Light appearance is warm (1,900-2,200K). CRI (Color Rendering Index) is a measure on a scale of 0-100 of how accurately the light from a bulb represents an object's true colors; the higher the number, the more natural the colors appear.

High-color rendering bulbs provide whiter light than other high-pressure sodium bulbs.

End-of-life shut-off bulbs remain off at the end of their service life instead of cycling on and off like other high-pressure sodium bulbs.

Instant-restart bulbs quickly restart so you're not left in the dark.

Shatter-resistant bulbs have an outer coating that prevents bulbs from breaking as easily as other bulbs, yet retains glass shards if they do break. They are often used in food service environments.

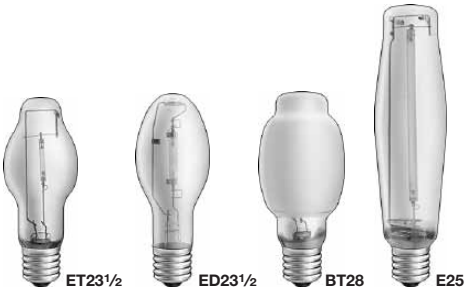

ET23½ ED23½ BT28 E25

Watts	Brightness, lumens	Shape No.	Color	CRI	Rated Life, hours	For ANSI Ballast No.	Overall Dia.	Overall Lg.	Equivalent To: Philips	Equivalent To: Osram/Sylvania		Each
General Purpose												
50	4,000	ET23½	Clear	22	30,000	S68	2¹⁵⁄₁₆″	7¾″	C50S68/ALTO	LU50/ECO	8352K15	$21.74
70	5,500	ED23½	Frosted	21	24,000	S62	2¹⁵⁄₁₆″	7¾″	C70S62/D/ALTO		8352K18	23.72
70	6,300	ET23½	Clear	22	30,000	S62	2¹⁵⁄₁₆″	7¾″	C70S62/ALTO	LU70/ECO	8352K5	21.74
100	9,500	ET23½	Clear	22	30,000	S54	2¹⁵⁄₁₆″	7¾″	C100S54/ALTO	LU100/ECO	8352K58	21.74
150	14,000	ET23½	Frosted	22	30,000	S55	2¹⁵⁄₁₆″	7¾″	C150S55/D/ALTO	LU150/55/D	8352K22	25.01
150	16,000	ET23½	Clear	22	30,000	S55	2¹⁵⁄₁₆″	7¾″	C150S55/ALTO	LU150/55/ECO	8352K54	21.74
250	26,000	BT28	Frosted	22	30,000	S50	3½″	9″	C250S50/D/ALTO	LU250/D	8352K23	30.61
250	29,000	ET18	Clear	22	30,000	S50	2¼″	9¾″	C250S50/ALTO	LU250/ECO	8352K55	21.74
400	50,000	ET18	Clear	22	30,000	S51	2¼″	9¾″	C400S51/ALTO	LU400/ECO	8352K56	20.00
1,000	130,000	E25	Clear	22	24,000	S52	3⅛″	15⅛″	C1000S52/ALTO	LU1000/ECO	8352K57	57.61
High-Color Rendering												
150	10,500	ED23½	Clear	65	15,000	S55	2¹⁵⁄₁₆″	7⅝″			8352K95	63.21
End-of-Life Shut-Off												
150	16,000	ET23½	Clear	22	40,000	S55	2¹⁵⁄₁₆″	7¾″	C150S55/ALTO/NC	LU150/55/PLUS/ECO	8135K22	34.39
200	22,000	ET18	Clear	22	40,000	S66	2¼″	9¾″	C200S66/ALTO/NC	LU200/PLUS/ECO	8135K26	35.60
250	29,000	ET18	Clear	22	40,000	S50	2¼″	9¾″	C250S50/ALTO/NC	LU250/PLUS/ECO	8135K23	34.38
400	50,000	ET18	Clear	22	40,000	S51	2¼″	9¾″	C400S51/ALTO/NC	LU400/PLUS/ECO	8135K24	35.61
End-of-Life Shut-Off with Instant Restart												
100	9,800	ET23½	Clear	22	80,000	S54	2¹⁵⁄₁₆″	7¾″	C100S54/ALTO/NC	LU100/PLUS/XL/ECO	8352K84	31.00
150	15,200	ET23½	Clear	22	80,000	S55	2¹⁵⁄₁₆″	7¾″	C150S55/ALTO/NC	LU150/PLUS/XL/ECO	8352K86	31.00
Instant Restart												
250	27,500	ET18	Clear	22	40,000	S50	2¼″	9¾″	C250S50/2	LU250/SBY	8352K87	47.81
400	47,500	ET18	Clear	22	40,000	S51	2¼″	9¾″	C400S51/2	LU400/SBY	8352K89	47.79
1,000	127,000	E25	Clear	22	30,000	S52	3⅛″	15⅛″	C1000S52/2	LU1000/SBY	8352K88	128.41
Shatter Resistant												
250	25,600	ED18	Clear	21	24,000	S50	2¼″	9¾″			8144K11	39.57
400	45,000	ED18	Clear	21	24,000	S51	2¼″	9¾″			8144K12	48.92

Large-Base Mercury Vapor Light Bulbs

A traditional bulb type often found in older high-intensity discharge (HID) fixtures, these bulbs have a large (mogul) 1⅝″ dia. base. Initial start and restart time is 15 minutes. Light appearance is neutral (3,700-4,000K). Bulbs are frosted. CRI (Color Rendering Index) is a measure on a scale of 0-100 of how accurately the light from a bulb represents an object's true colors; the higher the number, the more natural the colors appear.

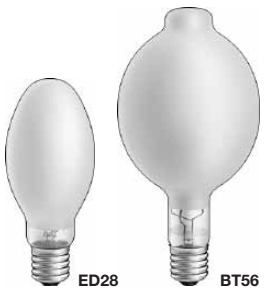

ED28 BT56

Watts	Brightness, lumens	Shape No.	CRI	Rated Life, hours	For ANSI Ballast No.	Overall Dia.	Overall Lg.	Equivalent To: Philips and Osram/Sylvania	Equivalent To: General Electric		Each
100	4,400	ED23½	45	24,000	H38	2¹⁵⁄₁₆″	7½″	H38JA-100/DX	HR100DX38	8352K41	$19.64
175	7,900	ED28	45	24,000	H39	3½″	8⅜″	H39KC-175/DX	HR175DX39	8352K31	16.47
250	13,000	ED28	45	24,000	H37	3½″	8⅜″	H37KC-250/DX	HR250DX37	8352K32	20.02
400	23,000	ED37	45	24,000	H33	4⅝″	11½″	H33GL-400/DX	HR400DX33	8352K34	20.02
1,000	58,000	BT56	45	24,000	H36	7″	15⅜″	H36GW-1000/DX	HR1000DX36	8352K35	51.40

About Replacing a Ballast

Ballast Label

Voltage	120V TO 277V 50/60Hz		
	Lamp Type	Line Current 120V	Line Current 277V	Min. Start Temp.
(Quantity) and Bulb Trade Number	(4) F32T8	0.97A	0.41A	0°F
	(4) F25T8	0.74A	0.32A	0°F
	(4) F17T8	0.53A	0.23A	0°F
	Also Compatible with: (3) F32T8; (3) F25T8; (3) F17T8: 0°F (3) F40T8: 32°F			
Start Type and Ballast Type	Instant Start	Electronic Ballast		

When replacing a ballast, check its label and follow these steps to find an equivalent ballast:

1. Choose a ballast type. Electronic ballasts are lighter, quieter, and more energy-efficient than magnetic ballasts, which are often found in older installations. Upgrading from a magnetic to an electronic ballast may require rewiring.
2. Select the same voltage and start type (preheat, instant start, rapid start, or programmed start) as your existing ballast.
3. Find a ballast that operates the same bulb trade number and quantity as your current model. For example, (4)F32T8 means the ballast will power four 32-watt, T8-sized bulbs.
4. Confirm that the ballast's dimensions will fit in your fixture and that the ballast has as many wires as your current ballast. Ballasts that can operate multiple bulbs may have more wires than you need. Be sure to cap off any unused wires.

Ballasts for Tubular Fluorescent Light Bulbs



Ballasts are UL listed. For fluorescent light bulbs, see pages 724-727.
Electronic—Lighter, quieter, and more energy-efficient than magnetic ballasts.
Magnetic—Often found in older installations.
Preheat ballasts take several seconds to start and require a starter (see page 732).
Instant-start ballasts turn on fastest and are the most energy-efficient but shorten the bulb's life.
Rapid-start ballasts have a slight turn-on delay but produce a longer bulb life than instant-start ballasts. *Low-frequency* ballasts don't interfere with high-frequency electronic equipment.
Programmed-start ballasts produce the longest bulb life but take longer than rapid-start ballasts to turn on. They are often used with motion-sensing light controls.

For Bulb Trade Number	For Bulb Type	For Bulb Watts	For No. of Bulbs	No. of Wires	Min. Start Temp.	Lg.	Wd.	Dp.	120 Volts AC		277 Volts AC	
Electronic Ballasts												
Instant Start												
F17T8, F25T8, F32T8	T8	17, 25, 32	1	4	0°F	9½"	1⅛"	1⅛"	8345K91	$38.54	8345K91	$38.54
F17T8, F25T8, F32T8	T8	17, 25, 32	2	5	0°F	9½"	1⅛"	1⅛"	8345K92	40.67	8345K92	40.67
F17T8, F25T8, F32T8	T8	17, 25, 32	3 or 4	8	0°F	9½"	1⅜"	1"	8345K81	19.05	8345K81	19.05
F17T8, F25T8, F32T8, F40T8	T8	17, 25, 32, 40	1 or 2	5	0°F	9½"	1⅜"	1"	8345K94★	19.14	8345K94★	19.14
F25T8, F32T8	T8	25, 32	2 or 3	6	0°F	9½"	1⅜"	1"	8345K57	18.35	8345K57	18.35
F72T12, F96T12	T12	55, 75	1 or 2	5	0°F	9½"	1¾"	1¼"	8345K53	35.75	8345K53	35.75
F96T12	T12	60	1 or 2	5	60°F	9½"	1¾"	1¼"	8345K53	35.75	8345K53	35.75
F96T8	T8	59	1 or 2	5	32°F	9½"	1¼"	1"	8345K78	40.81	8345K78	40.81
FBO16, FBO24, FBO31, FBO32, FB32T8	T8 U-Shaped	16, 24, 31, 32	1 or 2	5	-20°F	9½"	1⅝"	1⅛"	9127K25	15.98	9127K25	15.98
Rapid Start												
F30T12, F34T12, F40T12	T12	30, 34, 40	2	8	50°F	9½"	1⅜"	1"	8345K47	21.81	8345K47	21.81
F34T12, F40T12	T12	34, 40	2	8	50°F	9½"	1⅜"	1"	8345K56	24.87	_____	_____
Rapid Start for High-Output Bulbs												
F48T12/HO, F60T12/HO, F72T12/HO, F96T12/HO	T12	60, 75, 85, 110	1 or 2	8	-20°F	9½"	1¾"	1¼"	8345K71♦	38.05	8345K71♦	38.05
F96T12/HO/SS	T12	95	1 or 2	8	60°F	9½"	1¾"	1¼"	8345K71♦	38.05	8345K71♦	38.05
Low-Frequency Rapid Start												
F32T8	T8	32	2	8	50°F	9½"	2⅜"	1½"	8345K27	36.82	8345K28	37.88
Programmed Start												
F14T5, F21T5, F28T5, F35T5	T5	14, 21, 28, 35	1 or 2	8	0°F	9½"	1⅜"	1"	8345K46■	46.12	8345K46■	46.12
F17T8, F25T8, F32T8	T8	17, 25, 32	1	6	0°F	9½"	1⅜"	1"	8345K61	49.03	8345K61	49.03
F17T8, F25T8, F32T8	T8	17, 25, 32	2	8	0°F	9½"	1⁵⁄₁₆"	1"	8345K63	49.03	8345K63	49.03
Dimmable Programmed Start												
FBO31, FBO32, FO32	T8	32	1	8	50°F	9½"	1¾"	1"	8345K11Ⓔ	54.09	8345K11Ⓔ	54.09
FBO31, FBO32, FO32	T8	32	2	11	50°F	9½"	1¾"	1"	8345K12	54.09	8345K12	54.09
FBO31, FBO32, FO32	T8	32	3	14	50°F	16¾"	1¾"	1"	8345K13	63.64	8345K13	63.64
FBO31, FBO32, FO32	T8	32	4	17	50°F	16¾"	1¾"	1"	8345K14	70.91	8345K14	70.91
FP54T5/HO, FPC55, FT55DL, L58T8	T5	54	2	11	50°F	16¾"	1¾"	1"	8345K16	136.36	8345K16	136.36
FPC55, FT55DL, L58T8	T5	54	1	8	50°F	9½"	1¾"	1"	8345K15	118.18	8345K15	118.18
Programmed Start for High-Output Bulbs												
F24T5/HO, F39T5/HO, FP24/HO, FP39/HO	T5	24, 39	1 or 2	8	-20°F	14¼"	1¼"	⅞"	8345K43	40.80	8345K43	40.80
F54T5/HO	T5	54	3 or 4	15	-20°F	16¾"	1¾"	1¼"	8345K45	97.21	8345K45	97.21
F54T5/HO, FP54/HO	T5	54	1 or 2	8	-20°F	16¾"	1¼"	1"	8345K431	41.67	8345K431	41.67
F96T8/HO	T8	86	1 or 2	8	-20°F	9½"	1¾"	1³⁄₁₆"	8345K95	71.48	8345K95	71.48
Magnetic Ballasts												
Preheat (Requires a Starter)												
F15T8	T8	15	1	2	50°F	3⅛"	1⅜"	1⅞"	8345K131	5.51	_____	_____
F20T12	T12	20	1	2	50°F	3⅛"	1⅜"	1⅞"	8345K131	5.51	_____	_____
F4T5, F6T5, F8T5	T5	4, 6, 8	1	2	50°F	3⅛"	1⅜"	1⅞"	8345K151	6.50	_____	_____
Preheat with Built-In Starter												
F13T8	T8	13	1	5	20°F	6½"	2"	1⅜"	8345K111	22.60	_____	_____
F13T8	T8	13	2	8	30°F	6½"	2⅜"	1½"	8345K121	34.64	_____	_____
F14T12, F15T12, F20T12	T12	14, 15, 20	1	5	50°F	6½"	2"	1⅜"	8345K111	22.60	_____	_____
F15T12, F20T12	T12	15, 20	2	8	50°F	6½"	2⅜"	1½"	8345K121	34.64	_____	_____

★ Operates one bulb when using F40T8 bulbs. Min. start temperature for F40T8 is 32°F. ♦ Operates one bulb when using F96T12/HO bulbs.
■ Operates one bulb when using F35T5 bulbs. Ⓔ Ballast meets Federal minimum efficiency standards.

(Continued on following page)

Ballasts for Tubular Fluorescent Light Bulbs *(Continued from previous page)*

For Bulb Trade Number	For Bulb Type	For Bulb Watts	For No. of Bulbs	No. of Wires	Min. Start Temp.	Lg.	Wd.	Dp.	120 Volts AC		277 Volts AC	
Magnetic (Cont.)												
Preheat with Built-In Starter												
F15T8	T8	15	1	5	50°F	6½″	2″	1⅜″	8345K111	$22.60		
F15T8	T8	15	2	8	50°F	6½″	2⅜″	1½″	8345K121	34.64		
Rapid Start												
FC6T9, FC8T9	T9 Circline	20, 22	1	6	50°F	6½″	2″	1⅜″	9131K52	26.33		
FC12T9, FC16T9	T9 Circline	32, 40	1	6	50°F	6½″	2″	1⅜″	9131K53	26.33		
Rapid Start for Very-High-Output Bulbs												
F48T12/VHO, F72T12/VHO	T12	116, 168	1 or 2	8	–20°F	143⅜″	3¼″	2⅝″	8345K342♣	126.35	8345K352♣	$133.82
F72T12/VHO, F96T12/VHO	T12	168, 215	2	8	–20°F	143⅜″	3¼″	2⅝″	8345K341	115.43	8345K351	138.05
F96T12/VHO	T12	185	2	8	60°F	143⅜″	3¼″	2⅝″	8345K341	115.43	8345K351	138.05

♣ Operates one bulb when using F72T12/VHO bulbs.

Ballasts for Plug-In CFL (Compact Fluorescent Light) Bulbs

Ballasts are UL listed. For plug-in CFL bulbs, see page 723.
Electronic instant-start ballasts are the most energy-efficient but shorten the bulb's life.
Electronic programmed-start ballasts produce the longest bulb life but have a slight turn-on delay.
Magnetic preheat ballasts take several seconds to start. They do not require a starter.



For Bulb Watts	For No. of Bulbs	No. of Wires	Min. Start Temp.	Lg.	Wd.	Dp.		
Electronic Instant Start—120-277 Volts AC								
For Twin-Tube Bulbs with 4-Pin Base								
40	1 or 2	5	0°F	9½″	1¾″	1¼″	8305K18	$6.19
40	2 or 3	6	0°F	9½″	1¾″	1¼″	8305K19	5.98
Electronic Programmed Start—120-277 Volts AC								
For Twin-Tube Bulbs with 4-Pin Base								
24, 36, 40	1	9	0°F	14¼″	1¼″	1⅛″	1492T15	42.49
24, 36, 40	1 or 2	9	0°F	14¼″	1¼″	1″	8305K43	66.56
36, 50, 55	1 or 2	9	–20°F	14¼″	1¼″	1⅛″	8305K71	77.31
36, 50, 55	3 or 4	15	–20°F	16¾″	1¾″	1¼″	8345K45	97.21
For Triple-Tube and Quad-Tube Bulbs with 4-Pin Base								
13	1 or 2	9	0°F	4⅝″	2½″	1″	1492T11	37.00
18	1 or 2	9	0°F	4⅝″	2½″	1″	1492T12	37.00
26	1 or 2	9	0°F	4⅝″	2½″	1″	1492T13	34.99
26, 32, 42	2	9	0°F	4⅝″	3″	1⅜″	1492T14	45.22

For Bulb Watts	For No. of Bulbs	No. of Wires	Min. Start Temp.	Lg.	Wd.	Dp.		
Magnetic Preheat—120 Volts AC								
For Twin-Tube Bulbs with 2-Pin Base								
5, 7	1	2	0°F	2⅜″	1⅜″	1⅜″	8305K21	$9.50
9	1	2	25°F	2⅜″	1⅜″	1⅜″	8305K21	9.50
13	1	2	32°F	3⅛″	1½″	1⅞″	8305K24	5.94
For Twin-Tube Bulbs with 4-Pin Base								
18	1	2	50°F	3⅛″	1½″	1⅞″	8305K24	5.94
For Quad-Tube Bulbs with 2-Pin Base								
9	1	2	25°F	2⅜″	1⅜″	1⅜″	8305K21	9.50
13	1	2	32°F	3⅛″	1½″	1⅞″	8305K24	5.94
26	1	3	50°F	6½″	2⅜″	1½″	8305K44	47.13

Ballasts for Metal Halide and High-Pressure Sodium Light Bulbs

Ballasts are magnetic. They include a capacitor and mounting hardware. Ignitors are included with ballasts that require them. For metal halide and high-pressure sodium light bulbs, see pages 727-729.



For Bulb Watts	ANSI Number	Lg.	Wd.	Dp.		
Metal Halide						
120, 208, 240, 277 Volts AC						
1,500	M48	6″	4¼″	6⅛″	14615K72	$274.58
120, 208, 240, 277, 480 Volts AC						
175	M57	4″	2⅞″	4″	14615K71	66.65
250	M58	4¾″	4¼″	3⅛″	14615K94	102.98
400	M59	4¾″	4¼″	4″	14615K95	107.62
1,000	M47	6″	4¼″	5⅝″	14615K96	183.99
Dimmable Metal Halide						
120, 208, 240, 277 Volts AC						
250	M138, M153	7⅝″	5½″	1½″	14615K11	289.09
350	M131	7⅝″	5½″	1½″	14615K12	290.91
400	M135, M155	7⅝″	5½″	1½″	14615K13	209.09
Metal Halide Pulse Start						
120, 208, 240 Volts AC						
750	M149	6″	4¼″	4¼″	14615K77	250.73
120, 208, 240, 277 Volts AC						
50	M110	4″	2⅞″	2½″	14615K69	70.45
70	M98	4″	2⅞″	3″	14615K32	70.45
100	M90	4″	2⅞″	3″	14615K34	70.45

For Bulb Watts	ANSI Number	Lg.	Wd.	Dp.		
Metal Halide Pulse Start (Cont.)						
120, 208, 240, 277 Volts AC (Cont.)						
150	M81	4″	2⅞″	3¾″	14615K36	$85.23
320	M132, M154, M170	4¾″	4¼″	3¾″	14615K58	130.49
350	M131, M171	4¾″	4¼″	3¾″	14615K68	130.35
120, 208, 240, 277, 480 Volts AC						
400	M135, M155	4¾″	4¼″	4⅛″	14615K73	156.46
277, 347, 480 Volts AC						
1,000	M141	6″	4¼″	5¼″	14615K98	258.01
High-Pressure Sodium						
120, 277 Volts AC						
50	S68	4″	2⅞″	2¼″	14615K22	97.56
120, 208, 240, 277 Volts AC						
70	S62	4″	2⅞″	2⅞″	14615K66	80.08
100	S54	4″	2⅞″	3½″	14615K45	69.60
150	S55	4″	2⅞″	3⅞″	14615K67	73.17
120, 208, 240, 277, 480 Volts AC						
250	S50	4¾″	4¼″	3⅝″	14615K91	136.61
400	S51	4¾″	4¼″	4⅜″	14615K92	150.32
1,000	S52	6″	4¼″	6″	14615K93	249.94

Flexible Rubber Funnels

Twist and mold these funnels for a custom fit. They hold their shape and can be flattened for easy storage. Funnels are aluminum coated with Buna-N rubber.



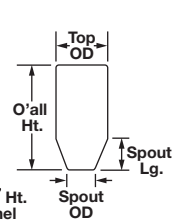

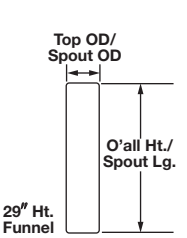

O'all Ht.	Top OD	Spout OD	Spout Lg.	Color		
9″	4¾″	1¾″	3½″	Red	1426N1	$18.89
14⅝″	6¾″	2½″	5″	Green	1426N2	26.64
22″	8⅝″	3½″	6½″	Green	1426N3	44.42
29″	5″	5″	29″	Green	1426N4	44.42

Fluorescent Starters



Use these starters with preheat fluorescent ballasts. UL listed and CSA certified.

Starter Trade Number	For Bulb Watts	Dia.	Lg.		
FS-2	14, 15, 20	3/4"	1 1/2"	1623K1	$1.07
FS-4	30, 40	3/4"	1 1/2"	1623K2	1.07
FS-5	4, 6, 8	3/4"	1 1/2"	1623K3	1.07
FS-25	22 (Circline), 25	3/4"	1 1/2"	1623K8	1.36

Fluorescent Ballast Connectors



Two Circuit



Three Circuit

Avoid exposure to live wires when replacing ballasts. To install these quick-disconnect connectors, push the wires between the ballast and power source into the connector. Connectors accept solid 18-12 AWG wire and stranded 14-12 AWG wire. They are orange and white plastic with copper alloy contacts. Maximum temperature is 220° F and maximum voltage is 600 volts AC. Connectors comply with NEC requirements for connecting fluorescent lights. UL listed and CSA certified.

Choose the **three-circuit** ballast connector if your fixture has an integral switch or dimmer.

Number of Circuits	Amps @ 120V AC	Pkg. Qty.		Pkg.
2	3	25	8807K2	$35.92
3	3	20	8807K4	50.61

High-Pressure Sodium Starters



For 35-400-Watt Bulbs



For 1,000-Watt Bulbs

Pair these starters with high-pressure sodium ballasts. UL recognized and CSA certified.

For Bulb Watts	For ANSI Ballast No.	Max. Dist. from Ballast	Dia./ Wd.	Lg.	Dp.		
35-150	S54, S55, S62, S68, S76	2 ft.	1 1/4"	2"	____	14595K48	$52.48
150-400	S50, S51, S56, S66, S67	2 ft.	1 1/4"	2 1/2"	____	14595K49	52.27
1,000	S52	15 ft.	2 1/4"	4 3/4"	1 3/8"	14595K52	70.02

Light Bulb Lubricants



Prevent bulbs from sticking in sockets by applying a light coating of this lubricant to the bulb's base before installation. It won't run, drip, or harden.

0.5-oz. Container	7112K1	$5.43

Tubular Fluorescent Bulb Locking Clips



Stop vibration from shaking bulbs loose with these clips. They are beige plastic. UL listed and CSA certified.

For Bulb Type	For Base Type		
T12/T8	Medium Bi-Pin	8364K12	$2.79
T12	Single Pin/Recessed Double-Contact	8364K14	4.08

Sockets for Tubular Fluorescent Light Bulbs



1



2



3



4



5

Repair or convert tubular fluorescent-bulb fixtures with these sockets. They are white plastic. UL listed and CSA certified.

Styles 1-4 slide into your fixture. They are rated up to 660 watts and 600 volts AC. Sockets accept solid or stranded 18 AWG wire.

	For Ballast Type	Ht.	Wd.	Dp.	For Panel Thick.		
For T12 and T8 Bulbs							
Medium Bi-Pin Base							
1	Preheat, Rapid Start	1 3/4"	1 1/4"	3/4"	20-18 ga.	1462K75	$4.26
1	Preheat, Rapid Start	2 1/8"	1 1/4"	3/4"	20-18 ga.	1462K77	4.26
1	Instant Start	1 3/4"	1 1/4"	3/4"	20-18 ga.	1462K76	4.26
1	Instant Start	2 1/8"	1 1/4"	3/4"	18 ga.	1462K71	4.92
2	Preheat, Rapid Start	1 3/8"	1"	3/8"	25-22 ga.	1462K72	4.92
Single-Pin Base							
3	Instant Start	1 7/8"	1 3/8"	1 7/8"	20 ga.	1462K16	5.36
Recessed Double-Contact Base							
4	Preheat, Rapid Start	2 3/8"	1 1/2"	2"	20 ga.	1462K14	10.82

Style 2 locks bulbs in place to prevent vibration from shaking them loose.

Style 5 has 1/8" dia. mounting holes. They are rated up to 75 watts and 250 volts AC and have two 6" 18 AWG wire leads.

	For Ballast Type	Ht.	Wd.	Dp.	For Panel Thick.		
For T8 Bulbs							
Medium Bi-Pin Base							
2	Rapid Start	1 3/8"	1 1/8"	3/4"	25-22 ga.	1462K73	$4.92
2	Instant Start	1 3/8"	1 1/8"	3/4"	25-22 ga.	1462K74	4.92
For T5 Bulbs							
Miniature Bi-Pin Base							
5	Rapid Start	3/4"	1 3/8"	1/2"	_____	1462K78	9.32

Sockets for Plug-In CFL (Compact Fluorescent Light) Bulbs



6



7



8



9



10



11

Repair CFL-bulb fixtures with these sockets. They are rated up to 75 watts and 600 volts AC. Sockets are white plastic and accept solid or stranded 18 AWG wire, except Style 10 is only for solid wire. UL listed and CSA certified.

Styles 6 and **7** snap into 0.023"-0.039" thick panels.

Styles 8-11 have mounting holes to screw onto panels. *Styles 8*, *9*, and *11* have 5/32" dia. holes; *Style 10* has 3/8" dia. holes.

	For Base Type	Watts	Ht.	Wd.	Dp.		
For 2-Pin Base							
Twin-Tube Bulbs							
6	G23, G23-2	5, 7, 9	1 1/8"	1 1/2"	1 3/8"	8310K11	$4.67
6	GX23, GX23-2	13	1 1/8"	1 1/2"	1 3/8"	8310K21	4.67
7	G23	5, 7, 9	1 3/8"	1 1/2"	1 3/8"	8310K12	4.67
7	GX23	13	1 3/8"	1 1/2"	1 3/8"	8310K22	4.67
8	G23, G23-2	5, 7, 9	1 1/4"	1 3/8"	1 1/4"	8310K13	4.67
8	GX23, GX23-2	13	1 1/4"	1 3/8"	1 1/4"	8310K23	4.67
Quad-Tube Bulbs							
9	G24d-2	18	1 3/8"	1 1/2"	1 1/2"	8310K33	7.14
9	G24d-3	26, 32	1 3/8"	1 1/2"	1 1/2"	8310K34	7.14

	For Base Type	Watts	Ht.	Wd.	Dp.		
For 4-Pin Base							
Twin-Tube Bulbs							
10	2G11	18-75	1"	1 7/8"	1 1/2"	8310K62	$5.07
Triple-Tube Bulbs							
11	GX24q-4	42	1 3/8"	1 1/2"	1 1/2"	8310K58	11.77
Triple-Tube and Quad-Tube Bulbs							
11	G24q-3, GX24q-3	26, 32	1 3/8"	1 1/2"	1 1/2"	8310K57	10.84
11	GX24q-1	10, 13	1 3/8"	1 1/2"	1 1/2"	8310K55	10.84
11	GX24q-2	18	1 3/8"	1 1/2"	1 1/2"	8310K56	10.84

Light Bulb Sockets, Adapters, and Lamp Replacement Parts

Build a new fixture or replace lamp components. UL listed, except Style M.

Sockets


A


B


C


D


E

Create a fixture for medium-base (1 1/16″ dia.) screw-in bulbs. Sockets are porcelain and have screw-terminal connections, unless otherwise stated.

Styles A-C—Mount to 3 1/4″ and 4″ outlet boxes. Overall diameter is 4 1/2″. CSA certified. Style C has a three-prong grounded receptacle rated for 125 volts AC and 15 amps.

Style D—Base is 2″×2″ and has 3/16″ dia. mounting holes.

Style E—Also called a pigtail holder, socket has a rubber lip that molds around the bulb to form a seal. Socket is ceramic and has wire leads.

		Max. Watts	Max. Volts		
A	Without Switch	660	250	**16895K12**	$3.68
B	With Pull Switch	250	250	**16895K8**	6.00
C	With Pull Switch and Receptacle	250	125	**16895K9**	9.44
D	Without Switch	600	600	**14695K18**	6.71
E	Without Switch	300	600	**8289K31**	8.18

Socket Extenders and Lamp Replacement Parts


F


G
Push-Through Switch


H
Pull-Chain Switch


J


K


L


M

Medium-Socket (1 1/16″ Dia.) Extender		
F 1 1/4″ Extension	**14695K94**	$5.69
Medium Sockets (1 1/16″ Dia.) with 1/8 NPSM Female Threaded Base		
G Push-Through Switch—Brass	**14695K52**	4.63
G Knob Switch—Brass	**14695K82**	5.56
G Pull-Chain Switch—Brass	**14695K53**	4.17
G No Switch—Brass	**14695K51**	6.74
H Pull-Chain Switch—Plastic	**14695K56**	8.29
H No Switch—Plastic	**14695K55**	3.29
Medium Socket (1 1/16″ Dia.) with Bracket Clip		
J Two 6″ Leads—Plastic	**14695K96**	4.11
Medium Socket (1 1/16″ Dia.) with Plug		
K Two-Prong Plug—Plastic	**14695K97**	3.65
Switch		
L Inline On/Off	**14695K91**	2.64
Pull Cord		
M 3-ft. Lg.	**14695K65**	.60
Pipe and Fasteners		
1/8 NPSM Male Threaded Pipe—30″ Lg.	**14695K11**	7.86
Nut/Washer Assortment for 1/8 NPSM Pipe (2 nuts, 2 lock washers, 2 flat washers)	**14695K14**	.84

Glass-Retaining Tubular Fluorescent Light Bulb Guards



Slip guards over bulbs to retain glass if a bulb breaks. Guards are transparent plastic and have two end caps. They meet OSHA requirements and NEC standards. Guards for *high-output* and *very-high-output* bulbs have a heat sink screen that distributes heat build-up.

UV-filtering guards block light rays that may cause colors to fade.

For Bulb Lg.	Fits Bulb Trade Number	Choose a Color	Guards		Replacement End Caps	
Standard						
For T12 Bulbs—Medium Bi-Pin and Single-Pin Base						
48″	F40T12	Clear	**1626K31**	$3.45	**1626K13**	$0.67
48″	F40T12	Amber, Green, Red, Yellow	**1626K4**	6.37	**1626K13**	.67
96″	F96T12	Clear	**1626K32**	7.51	**1626K13**	.67
96″	F96T12	Amber, Green, Red, Yellow	**1626K5**	11.58	**1626K13**	.67
For T12 High-Output Bulbs—Recessed Double-Contact Base						
96″	F96T12/HO	Clear	**1626K84**	12.02	**1626K13**	.67
Replacement Heat Sink Screen					**1626K14**	1.13
For T12 Very-High-Output Bulbs—Recessed Double-Contact Base						
96″	F96T12/VHO	Clear	**1626K85**	12.02	**1626K13**	.67
Replacement Heat Sink Screen					**1626K14**	1.13
For T8 Bulbs—Medium Bi-Pin and Single-Pin Base						
48″	F32T8	Clear	**1626K61**	3.08	**1626K11**	.67
48″	F32T8	Amber, Green, Red, Yellow	**1626K7**	5.84	**1626K11**	.67
96″	F96T8	Clear	**1626K62**	7.27	**1626K11**	.67
For T5 Bulbs—Miniature Bi-Pin Base						
48″	F28T5	Clear	**1626K29**	3.93	**1626K12**	1.16
UV Filtering						
For T12 Bulbs—Medium Bi-Pin and Single-Pin Base						
48″	F40T12	Clear	**1626K81**	13.78	**1626K13**	.67
96″	F96T12	Clear	**1626K83**	25.98	**1626K13**	.67
For T8 Bulbs—Medium Bi-Pin and Single-Pin Base						
48″	F32T8	Clear	**1626K71**	12.77	**1626K11**	.67

Light Bulb Guards


Socket Collar Dia.


N


P


Q

Prevent breaking bulbs with accidental contact. Guards flip open to fit around bulbs and socket collars. They meet OSHA requirements.

Style N snaps closed. **Styles P** and **Q** have screws to hold them closed.

For Socket Collar Dia.	For Bulb Shape No.	For Bulb Max. Dia.	For Bulb Ht.	For Bulb OD		
Polypropylene—Color is yellow.						
N 1 5/8″	A23	2 7/8″	6″	4 1/2″	**8349K11**	$3.02
Steel						
P 1 1/2″	A19, A21	2 5/8″	5 1/8″	3 1/2″	**1591K11**	18.78
P 1 1/2″	A23, PS25	3 1/8″	7 3/4″	4 3/4″	**1591K12**	20.92
Q 2 5/8″	PAR38, R38	4 3/4″	5″	6 1/4″	**1591K14**	32.88

Glass-Retaining Light Bulb Guards

Protect medium-base (1 1/16″ dia.) screw-in bulbs and retain glass shards if one breaks with these guards. Each guard is clear plastic and consists of a base and globe. They meet OSHA requirements and NEC standards.



For Bulb Watts	For Bulb Dia.	For Bulb Lg.	Overall Dia.	Overall Ht.	Guards		Repl. Globes	
75	2 7/8″	4 3/4″	3 3/4″	8″	**8350K14**	$67.40	**8350K51**	$33.55
100	2 7/8″	7 1/8″	4 3/4″	10 1/2″	**8350K18**	86.37	**8350K52**	45.48
150	3 7/8″	7 1/8″	4 3/4″	10 1/2″	**8350K26**	122.55	**8350K53**	45.58

Tubular Fluorescent Light Bulb and Ballast Testers



There's no need to replace bulbs or dismantle fixtures to determine whether your bulb or ballast has failed. Touch the tester's 2½-ft. telescoping probe against a bulb to diagnose the problem. The tester will beep and flash to indicate the results. Operates on four AA batteries (included).

1107N1 ..... $152.31

Tubular Fluorescent Light Bulb Changers



Install and remove T12 (1½″ dia.) bulbs up to 96″ long. Changer has nylon clips that snap onto bulbs for a secure grip and a 12½-ft. telescoping pole.

8376K11 ..... $215.42

Miniature Light Bulb Changers



Friction Grip



Spring Loaded

Replace hard-to-grip miniature bulbs in panels, instruments, indicators, and signs without leaving behind oil from your skin that can cause bulbs to break.

Friction-grip bulb changer has two ends to accommodate a wide range of bulbs. It is rubber.

Spring-loaded bulb changer grasps bulbs securely when you pull the lever. Changer is plastic and steel.

	For Bulb Diameter	Overall Lg.		
Friction Grip	0.25″-0.38″ and 0.75″-1″	3″	**9820K1**	$5.64
Spring Loaded	0.2″-0.31″	4″	**9820K2**	26.88

Light Bulb Changers and Broken Bulb Removers



Spring Clip Bulb Changer



Adjustable-Angle Spring Clip Bulb Changer



Suction Cup Bulb Changer



Locking Suction Cup Bulb Changer



Broken Bulb Remover

Connect up to four poles to extend your reach.

Adjustable-angle spring clip bulb changers have a flexible joint to change bulbs mounted at an angle.

Suction cup and **locking suction cup bulb changers** are often used with recessed fixtures. *Locking suction cup bulb changer* has a slide rod that creates a tight seal when pulled.

Broken bulb remover has a built-in dish to collect glass shards. Insert remover into broken bulbs and twist to remove.

For Bulb Shape No.	Overall Lg.	Bulb Changers		Optional/Add-On Poles Pole Lg., ft.		
Spring Clip Bulb Changers—Pole Included						
B17, E17, E18, ED17, ED18	5′10″	**1701K13**	$102.55	5	**1701K18**	$32.00
BT28, E21, E23, E23½, E25, E28, ED23½, ED28	5′10″	**1701K12**	76.00	5	**1701K18**	32.00
BT37, BT46, E37, ED37	5′10″	**1701K11**	142.18	5	**1701K18**	32.00
ER30, ER40, PAR30, PAR36, PAR38, R30, R40	5′10″	**1701K17**	113.15	5	**1701K18**	32.00
G40, G48, PS35, PS40	5′10″	**1701K16**	85.49	5	**1701K18**	32.00
Adjustable-Angle Spring Clip Bulb Changers—Pole Included						
A15, A17, A19, G16½, G18½	5′9″	**1701K14**	94.67	5	**1701K18**	32.00
A19, A21, A23, G25, G30, P25, PS25, PS30, PS35	5′9″	**1701K15**	77.80	5	**1701K18**	32.00
Suction Cup Bulb Changers—Pole Not Included						
ER30, PAR20, R20, R30	5⅛″	**1701K31**	27.42	5	**1701K18**	32.00
PAR30, PAR36, PAR38	5⅛″	**1701K21**	28.43	5	**1701K18**	32.00
R40, R52, RB52	5⅛″	**1701K22**	71.10	5	**1701K18**	32.00
Locking Suction Cup Bulb Changer—Pole Included						
Most 15- to 1500-Watt Bulbs	4′3″	**1689K1**	98.15	4	**1689K12**	62.96
Broken Bulb Remover—Pole Not Included						
Medium and Large (Mogul) Bases	6⅜″	**1701K19**	27.66	5	**1701K18**	32.00

Light Meters



For General Lighting



For General Lighting with Analog Output



For General and White LED Lighting

Monitor the brightness of your lights in footcandles and lux. One footcandle is one lumen per square foot. One lux is one lumen per square meter. Meters measure light from incandescent, fluorescent, and HID bulbs but are not for use with lasers.

For General Lighting—Meters include a light sensor with a 3-ft. long cable and a 9-volt battery. They are not for use with LED lighting. Meters *with analog output* can transmit data to a recorder. Meters *with computer interface* have an RS-232 output for connecting to a PC (optional Windows 7 compatible data software and cable sold separately below).

For General and White LED Lighting—Meters include an integral light sensor, a protective pouch, and 2 AAA batteries.

For General and Colored LED Lighting—Meters store up to 99 readings. They include a light sensor with a 5-ft. long cable, a hard case, and a 9-volt battery.

	Measurement Range Footcandles	Lux	Accuracy	Meters		Meters with NIST Certificate		Optional Protective Pouch	
For General Lighting	0-2,000	—	±5%	**14855K31**	$103.44	**14855K32**	$235.88	—	—
For General and White LED Lighting	40-40,000	400-400,000	±3%	**14855K61**	119.99	**14855K62**	319.98	—	—
For General and Colored LED Lighting	40-40,000	400-400,000	±3%	**14855K71**	349.99	—	—	—	—
For General Lighting with Analog Output	0-5,000	0-50,000	±5%	**14855K41**	155.16	**14855K42**	288.30	**14855K43**	$17.45
For General Lighting with Computer Interface	0-5,000	0-50,000	±4%	**14855K51**	206.89	**14855K52**	353.66	**14855K44**	22.90
Data Software and Cable for Meters with Computer Interface								**4120K65**	76.35

Light Bulb Recycling Containers

Safely dispose of used light bulbs by recycling them. Containers include a paid shipping label to send the bulbs to a recycling facility. Once the bulbs are received, you get a certificate verifying that the bulbs were recycled.



For Bulb Lg.	For Bulb Type (Capacity)		
For Tubular Fluorescent Light Bulbs			
4 ft.	T12 (28), T8 (64), or T5 (102)	7580K11	$89.91
4 ft.	T12 (56), T8 (121), or T5 (192)	7580K31	146.91
8 ft.	T12 (15), T8 (30), or T5 (48)	7580K21	104.55
For CFL (Compact Fluorescent Light) Bulbs			
—	Up to 69 lbs.	7580K42	116.25
For Fluorescent, HID, and LED Light Bulbs			
Up to 2 ft.	Up to 69 lbs.	7580K43	161.25

Ballast Recycling Containers

Recycle your nonleaking magnetic and electronic ballasts. This plastic container holds up to 55 lbs. Use the paid shipping label to send the ballasts to a recycling facility. Once the ballasts are received, you get a certificate verifying that the ballasts were recycled.



9710K1 ..... $142.08

Light-Absorbing Black-Out Paper

Block out stray and unwanted light. Paper has a raised, velvet-like surface that absorbs light.

	Size	Thick.	Pkg. Qty.		Pkg.
Plain Back	27″×36″	0.01″	2	9019T1	$33.90
Adhesive Back	20″×30″	0.02″	2	9019T2	39.90

Lighting Maintenance Carts

Keep all the supplies you need to change a light bulb ready to roll. Cart includes a tool box and has four compartments for storing fluorescent bulbs up to 4-ft. long, as well as screw-in bulbs. Use the built-in steps to reach ceilings up to 9-ft. high. Maximum capacity is 500 lbs. Cart is black plastic and is 31¾″ Lg.×22″ Wd.×54½″ Ht.



1603K44 ..... $744.51

Light Filters

Also called lighting gels, these filters block or transmit specific types of light.

Red, blue, and **green** filters allow only the same color lightwave to pass through.

Infrared filter has a coating that reflects the infrared spectrum and reduces radiated heat. It's rated for use with up to 1000-watt light bulbs.

Ultraviolet filter blocks the transmission of ultraviolet light.

Polarizer filter reduces glare from reflective surfaces.

	Size	Thick.	Max. Temp.		
Filters					
Red	20″×24″	0.002″	320°F	7769T1	$15.73
Blue	20″×24″	0.002″	320°F	7769T2	15.73
Green	20″×24″	0.002″	255°F	7769T3	15.73
Infrared	12″×12″	0.007″	255°F	7769T4	47.62
Ultraviolet	20″×24″	0.002″	255°F	7769T5	15.73
Polarizer	17″×20″	0.006″	140°F	7769T6	82.60
Multicolor Selector Pack—Includes swatches of over 200 colors				7769T9	9.38
Other Filter Colors—Please specify a color number from multicolor selector pack				7769T88	15.73

Colored Light Bulb Covers

Slip these reusable silicone covers over bulbs to change colors. Temperature range is –112° to 400°F.





For Bulb Dia.	For Bulb Shape No.	Ht.	Choose a Color	Pkg. Qty.		Pkg.
For Medium-Base Bulbs						
2⅝″	A19/A21	3½″	Amber, Blue, Green, Red, Yellow	1	16925K22	$22.18
For Small-Base and Bayonet-Base Bulbs						
¾″	S6	1¼″	Amber, Blue, Green, Red, Yellow	1	16925K16	6.50
For Miniature Bulbs						
⅛″	—	5/16″	Amber, Blue, Green, Red, Yellow	10	16925K11	6.50
¼″	—	5/16″	Amber, Blue, Green, Red, Yellow	10	16925K12	6.50
7/16″	—	11/16″	Amber, Blue, Green, Red, Yellow	10	16925K14	6.50

Light Diffuser Panels

Cut these 2 ft.×4 ft. diffusers to size.

Solid—Diffuse light while keeping bulbs hidden.

Open Cell—Allow more light through than solid diffusers, as well as more air circulation to cool bulbs. *Parabolic* panels are mirrored to reflect light and reduce glare.

Polystyrene panels are the most economical but may yellow over time. **Acrylic** panels have UV stabilizers to prevent yellowing. **Polyester** panels do not yellow and are stronger than acrylic. **Polycarbonate** panels are suitable for rough-service environments but may yellow over time. **Aluminum** panels can withstand high temperatures.

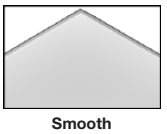
Smooth

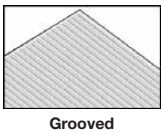
Grooved

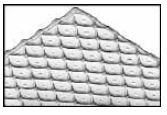
Prismatic


Cracked Ice

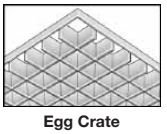
Egg Crate

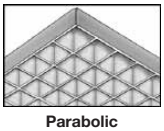
Parabolic

Panel Thick.	Material	Color	Cell Size Lg.	Wd.	Dp.	Small Pack Qty.		Pkg.	Large Pack Qty.		Pkg.
Solid											
Smooth											
5/64″	Acrylic	White	—	—	—	2	1624K54	$90.11	10	1624K29	$281.94
Grooved											
5/64″	Acrylic	Clear	—	—	—	2	1624K36	119.97	10	1624K38	363.08
⅛″	Acrylic	Clear	—	—	—	2	1624K37	154.86	10	1624K39	468.31
Prismatic											
3/32″	Polystyrene	Clear	—	—	—	2	1624K48	39.81	10	1624K18	111.02
7/64″	Acrylic	Clear	—	—	—	2	1624K49	47.86	10	1624K24	129.97
⅛″	Polyester	Clear	—	—	—	2	1624K55	87.69	10	1624K56	287.36
⅛″	Polycarbonate	Clear	—	—	—	2	1624K3	115.15	—	—	—
Cracked Ice											
5/64″	Acrylic	Clear	—	—	—	2	1624K52	72.65	25	1624K26	604.88
Open Cell											
Egg Crate											
⅜″	Polystyrene	White	½″	½″	⅜″	2	1624K45	31.87	5	1624K15	77.45
⅜″	Acrylic	White	½″	½″	⅜″	2	1624K47	71.14	5	1624K17	109.92
½″	Polystyrene	White	½″	½″	½″	2	1624K44	41.06	5	1624K14	108.04
½″	Acrylic	White	½″	½″	½″	2	1624K46	120.45	5	1624K16	156.23
½″	Aluminum	White	½″	½″	½″	2	14655K11	103.10	5	14655K1	198.92
½″	Aluminum	Silver	½″	½″	½″	2	14655K12	84.02	5	14655K2	171.92
Parabolic											
⅜″	Polystyrene	Silver	⅝″	⅝″	⅜″	2	1624K27	88.15	—	—	—

Strip Lights

Fluorescent Strip Lights



With Rapid-Start Ballast

With Instant-Start Ballast

The traditional strip light; these lights are energy efficient and long lasting. They have an electronic ballast and operate on 120 volts AC. UL listed.

With Rapid-Start Ballast—Bulbs last longer than with instant-start ballasts but have a slight turn-on delay. Housing and lens are white plastic. Lights have an on/off switch, a 6″ connecting cable to attach additional lights, a two-prong plug, and mounting hardware.

With Instant-Start Ballast—Bulbs turn on faster than with rapid-start ballasts but don't last as long. Lights have a steel housing with a white finish and a white plastic lens. They have an on/off switch. Lights with 5-ft. cord have a 3-prong plug. Lights require 1/2″ dia. screws for mounting.

Bulbs have a neutral (4,100K) light appearance.

Overall Lg.	Overall Wd.	Overall Ht.	No. of Bulbs Req'd	Lights with 5-ft. Cord		Lights with Hardwire Connections		Bulbs Watts	Bulbs Pkg. Qty.	Bulbs	Bulbs Pkg.	Repl. Lenses	
With Rapid-Start Ballast													
For T5 Bulbs with Miniature Bi-Pin Base (Bulb Included)													
10 1/2″	7/8″	13/4″	1	3963K22	$19.00			6	2	1562K42	$12.39		
22″	1″	15/8″	1	3963K24	22.00			13	2	1562K48	26.29		
With Instant-Start Ballast													
For T5 Bulbs with Miniature Bi-Pin Base (Bulbs Included)													
12 3/8″	3 5/8″	1 1/4″	1	8342K31	43.33	8342K41	$26.67	8	2	1562K45	14.04	8342K37	$5.00
21 3/8″	3 5/8″	1 1/4″	1	8342K32	49.74	8342K42	32.22	13	2	1562K48	26.29	8342K38	7.00
33 3/8″	3 5/8″	1 1/4″	2	8342K73	63.02	8342K74	44.50	8	2	1562K45	14.04		
For T8 Bulbs with Medium Bi-Pin Base (Bulb Not Included)													
24″	4 1/2″	15/16″	1	8342K76	46.50	8342K86	30.50	17	6	1501K81	45.83	8342K96	6.20
36″	4 1/2″	15/16″	1	8342K77	53.12	8342K87	35.00	25	6	1501K75	38.64	8342K97	8.75
48″	4 1/2″	15/16″	1	8342K78	57.90	8342K88	42.00	32	6	1683K14	34.12	8342K98	10.90

Exposed-Bulb Fluorescent Strip Lights



Shown with Bulb and Optional Reflector

These lights are designed without a lens to maximize light output. Housing is steel with a white finish. Lights have an electronic rapid-start ballast that has a slight turn-on delay. Lights operate on 120 volts AC. Mounting hardware is included. UL listed.

Bulbs (sold separately) have a neutral (4,100K) light appearance.

Optional reflectors concentrate light in one direction. They are steel with a white finish.

Overall Lg.	Overall Wd.	Overall Ht.	No. of Bulbs Req'd	Lights with Hardwire Connections		Bulbs Watts	Bulbs Pkg. of 2		Optional Reflectors	
For T5 Bulbs with Miniature Bi-Pin Base										
9″	1 3/8″	2 1/4″	1	8343K31	$39.29	4	1562K41	$16.84	8343K21	$9.52
12″	1 3/8″	2 1/4″	1	8343K32	40.48	6	1562K42	12.39	8343K22	9.52
15″	1 3/8″	2 1/4″	1	8343K35	41.07	8	1562K45	14.04	8343K25	9.52
For T8 Bulbs with Medium Bi-Pin Base										
21″	1 3/8″	2 1/4″	1	8343K33	42.02	15	1501K13	15.29	8343K23	9.52
40 5/8″	1 3/8″	2 1/4″	2	8343K34	58.33	15	1501K13	15.29	8343K24	9.52

Ultra-Slim Incandescent Strip Lights



A low profile allows these lights to be concealed beneath cabinets and shelves. The included bulbs last up to 40,000 hours and are not replaceable. They have a warm (2,700K) light appearance. Lights include an 8-ft cord with two-prong plug, an on/off switch, and an adhesive strip for mounting. They operate on 120 volts AC. These products cannot be sold in California.

Overall Lg.	Overall Wd.	Overall Ht.	No. of Bulbs	Total Watts	Steel Housing		Aluminum Housing Choose a Finish		
10″	1/2″	1/2″	5	7.5	15015K72	$20.21	Black, White	15015K11	$20.21
20″	1/2″	1/2″	10	15	15015K82	28.19	Black, White	15015K22	28.19
30″	1/2″	1/2″	15	22.5	15015K32	37.00	Black, White	15015K55	37.00
40″	1/2″	1/2″	20	30	15015K42	44.81	Black, White	15015K66	44.81

Xenon Strip Lights



The xenon bulbs in these lights burn cooler than incandescent bulbs and produce warmer light than fluorescent bulbs. The included bulbs last up to 10,000 hours and have a warm (2,800K) light appearance. Lights have an aluminum housing with a white finish, a frosted glass lens, and a high/low/off switch. Lights operate on 120 volts AC. Mounting hardware is included. UL listed.

Overall Lg.	Overall Wd.	Overall Ht.	No. of Bulbs	Lights with 5-ft. Cord		Lights with Hardwire Connections	
9″	4 5/8″	1 1/4″	1	1657K12	$50.98	1657K11	$48.04
17 1/2″	4 5/8″	1 1/4″	2	1657K14	60.78	1657K13	57.84
26″	4 5/8″	1 1/4″	3	1657K16	76.47	1657K15	73.53
34 1/2″	4 5/8″	1 1/4″	4	1657K18	92.16	1657K17	89.22
18-Watt Replacement Bulb						1657K19	3.00

LED Strip Lights

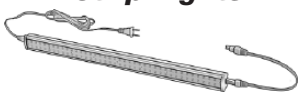

Save energy with these long-life LED lights. The included bulbs last up to 50,000 hours and are not replaceable. They have a neutral (4,400K) light appearance. Lights have an aluminum housing and include a 5-ft. cord with two-prong plug, an on/off switch, and mounting hardware. Use the 6″ connecting cable to attach additional lights. Lights operate on 120 volts AC. UL listed.

Overall Lg.	Overall Wd.	Overall Ht.	No. of Bulbs	Total Watts		
12 1/8″	1 1/2″	1″	56	5.1	2714K1	$69.73
19″	1 1/2″	1″	80	6.9	2714K2	86.45

DIN-Rail/Magnet Mount CFL (Compact Fluorescent) Lights



Illuminate enclosures and control cabinets. Mount this light on 35 mm DIN rail or use its magnetic back to mount to steel surfaces. Housing is gray plastic with a protective plastic lens. The included twin-tube bulb has a neutral (4,000K) light appearance. Light has an electronic instant-start ballast that turns on fast but shortens the bulb's life. It has an on/off switch and a three-prong receptacle rated for 15 amps. It must be hardwired and operates on 120 volts AC. CE approved.

Overall Ht.	Overall Wd.	Overall Dp.	No. of Bulbs	Light		Repl. Bulb Watts	
14″	2 1/2″	2 3/4″	1	9185K5	$145.10	9	1528K65	$4.11
35 mm DIN Rail (1 m Long)							8961K15	5.07

Can Lights

Create a recessed fixture by pairing the housing with a reflector of your choice. UL and C-UL listed for damp locations, except Style H.

Housing

Housing has a socket for medium-base (1 1/16″ dia.) bulbs. It operates on 120 volts AC and must be hardwired. Mount housing in ceilings with or without insulation (mounting hardware included). Hanger bars are adjustable. Housing requires a 7″ diameter cutout.

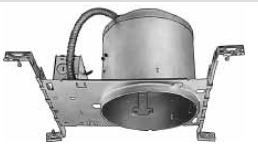

Housing Lg.	Wd.	Dp.	Hanger Bar Lg.		
15″	13 7/8″	6 7/8″	13 1/4″-25 1/4″	1495K41	$12.75

Reflectors

Reflectors fit securely inside the housing to direct light. They have a white flange. *Styles A-G* do not include bulbs (see pages 710-714); *Style H* includes a bulb.

Styles E and **F** swivel to focus light.

Style G is water resistant. It is UL and C-UL listed for wet locations.

Style H has an integral 13-watt LED bulb that produces a warm (2,700K) light appearance. Bulb will last up to 50,000 hours and is not replaceable. It swivels to focus light. ETL and C-ETL listed.

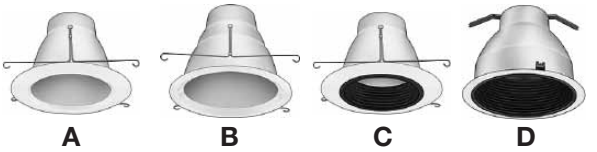

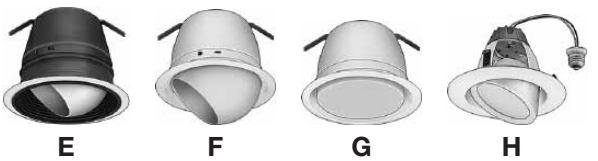

	Dia.	Ht.	For Bulb Shape No. (Max. Watts)		
A	7 5/8″	6 1/2″	BR30 (65), PAR30 (75)	1495K51	$13.07
B	7 5/8″	7 1/4″	A19 (100), BR40 (120), PAR38 (150)	1495K58	13.07
C	7 5/8″	6 1/2″	A19 (40), BR30 (65), PAR30 (75)	1495K62	15.68
D	7 5/8″	7 3/8″	A19 (100), BR40 (120), PAR38 (150)	1495K53	49.74
E	6 7/8″	7 3/8″	BR30 (65), PAR30 (75)	1495K54	38.24
F	7 5/8″	6 1/2″	BR30 (65), PAR30 (75)	1495K56	24.79
G	7 5/8″	5 3/4″	A19 (60)	1495K61	17.23
H	7 1/4″	4 1/2″	_____	1108N3	50.91

Track Lights

Swivel and slide individual fixtures along the track to focus light where you need it. Operate on 120 volts AC. UL and C-UL listed. Bulbs are not included (see pages 710-714).

4-ft. Track with Three Fixtures—Track is aluminum with a white finish and includes mounting hardware and screw terminals for hardwire connections. Fixtures are white.

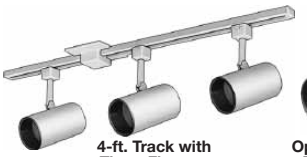
4-ft. Track with Three Fixtures


Optional Large Bulb Fixture

	Fixture Size Dia.	Lg.	For Bulb Shape No. (Max. Watts)		
4-ft. Track with Three Fixtures	3 1/2″	6 1/8″	PAR20 (50), R20 (75)	1467K11	$67.85
Optional Large Bulb Fixture	4 7/16″	6 5/8″	A19 (100), BR30 (65), PAR30 (75)	1467K62	27.69

Wall-Mount Lights

A three-sided white acrylic lens directs light up, down, and outward. Lights use T8 bulbs with a medium bi-pin base. Housing is steel and aluminum, except 48 1/8″-long light is steel with a white finish. They have an electronic instant-start ballast that turns on fast and is energy efficient but shortens the bulb's life. Lights must be hardwired and operate on 120 volts AC. They have an on/off switch and a three-prong receptacle. UL listed for damp locations.



Bulbs (sold separately) have a neutral (4,100K) light appearance.

Overall Lg.	Wd.	Ht.	No. of Bulbs Req'd	Lights		Bulbs Watts		Pkg. of 6	Repl. Lenses	
24 3/8″	4 1/4″	2 5/8″	1	1634K32	$79.50	17	1501K81	$45.83	1634K51	$9.50
36 3/8″	4 1/4″	2 5/8″	1	1634K33	88.50	25	1501K75	38.64	1634K53	9.90
48 1/8″	5 1/4″	3 3/8″	2	1634K38	93.70	32	1683K14	34.12	1634K45	13.90
48 3/8″	4 1/4″	2 5/8″	1	1634K36	91.20	32	1683K14	34.12	1634K54	13.40

Recessed Ceiling Lights

Also known as troffers, lights fit standard drop-ceiling grids. They are for fluorescent bulbs with a medium bi-pin base. Housing is steel with a white finish. Lights operate on 120/277 volts AC and must be hardwired. UL listed.

With Prismatic Lens—Disperse light evenly. Lens is semi-clear acrylic.

With Parabolic Diffuser—Direct light downward and reduce glare. Diffusers are aluminum.

Lights have electronic ballasts. *Instant-start ballasts* turn on immediately and are the most energy efficient, but shorten the bulb's life. *Programmed-start ballasts* produce the longest bulb life, but take longer than instant-start ballasts to turn on.

Bulbs (sold separately) have a neutral (4,100K) light appearance.


With Prismatic Lens


With Parabolic Diffuser

Overall Lg.	Wd.	Ht.	Ballast Start Type	Min. Start Temp.	For Bulb Shape	Trade Size	Dia.	Lg.	No. of Bulbs Req'd	Max. Watts per Bulb	Lights		Bulbs Pkg. Qty.	Pkg.
With Prismatic Lens														
24″	24″	3 3/4″	Instant	0°F	U-Shaped	T8	1″	24″	2	32	8340K81	$78.80	1	8315K27 $17.74
24″	24″	4 1/2″	Programmed	0°F	U-Shaped	T8	1″	24″	2	32	8340K251	92.18	1	8315K27 17.74
48″	12″	4 1/2″	Instant	0°F	Tubular	T8	1″	48″	2	32	8340K34	71.97	6	1683K14 34.12
48″	12″	4 1/2″	Programmed	0°F	Tubular	T8	1″	48″	2	32	8340K261	74.96	6	1683K14 34.12
48″	24″	3 1/4″	Instant	0°F	Tubular	T8	1″	48″	2	32	8340K91	73.82	6	1683K14 34.12
48″	24″	3 1/4″	Programmed	0°F	Tubular	T8	1″	48″	2	32	8340K271	83.07	6	1683K14 34.12
48″	24″	3 1/4″	Instant	0°F	Tubular	T8	1″	48″	4	32	8340K92	76.71	6	1683K14 34.12
48″	24″	3 1/4″	Programmed	0°F	Tubular	T8	1″	48″	4	32	8340K281	107.40	6	1683K14 34.12
With Parabolic Diffuser														
24″	24″	4 1/2″	Instant	0°F	U-Shaped	T8	1″	24″	2	32	1466K87	97.70	1	8315K27 17.74
48″	12″	7 1/4″	Instant	0°F	Tubular	T8	1″	48″	2	32	1466K68	132.08	6	1683K14 34.12
48″	24″	4 1/2″	Instant	0°F	Tubular	T8	1″	48″	2	32	1466K69	102.50	6	1683K14 34.12
48″	24″	4 1/2″	Instant	0°F	Tubular	T8	1″	48″	3	32	1466K62	98.83	6	1683K14 34.12
48″	24″	4 1/2″	Instant	0°F	Tubular	T8	1″	48″	4	32	1466K71	117.40	6	1683K14 34.12

Enclosed-Bulb Ceiling and Wall Lights



Lights have a semi-clear, acrylic prismatic lens to reduce glare, disperse light evenly, and protect bulbs from damage. They are good for illuminating storage rooms and offices. Lights are for fluorescent bulbs with a medium bi-pin base. Housing is steel with a white finish. Lights operate on 120/277 volts AC and must be hardwired. They have 1/2" dia. mounting holes (hardware not included) for surface mounting. UL listed.

Lights have electronic ballasts. *Instant-start ballasts* turn on immediately and are the most energy efficient, but shorten the bulb's life. *Programmed-start ballasts* produce the longest bulb life, but take longer than instant-start ballasts to turn on.

Bulbs (sold separately) have a neutral (4,100K) light appearance.

Overall Lg.	Overall Wd.	Overall Ht.	Ballast Start Type	Min. Start Temp.	For Bulb Trade Size	For Bulb Dia.	For Bulb Lg.	No. of Bulbs Req'd	Max. Watts per Bulb	Lights		Bulbs Pkg. Qty.	Bulbs Pkg.
24"	24 3/4"	4 5/8"	Programmed	0°F	T8	1"	24"	4	17	1654K71	$153.26	6	1501K81 $45.83
48"	24 3/4"	3 3/4"	Instant	0°F	T8	1"	48"	2	32	1654K52	164.58	6	1683K14 34.12
48"	24 3/4"	3 3/4"	Instant	0°F	T8	1"	48"	4	32	1654K53	176.79	6	1683K14 34.12
48"	24 3/4"	3 3/4"	Programmed	0°F	T8	1"	48"	4	32	1654K75	222.09	6	1683K14 34.12

Wraparound-Lens Ceiling and Wall Lights



In addition to reducing glare and protecting bulbs from damage, wraparound lenses allow light to shine from the sides as well as the bottom to illuminate storage rooms and offices. They have a semi-clear, acrylic prismatic lens that disperses light evenly. Housing is steel with a white finish. Lights operate on 120/277 volts AC and must be hardwired. They can be surface or suspension mounted.

Fluorescent—Lights have electronic ballasts. *Instant-start ballasts* turn on immediately and are the most energy efficient, but shorten the bulb's life. *Programmed-start ballasts* produce the longest bulb life, but take longer than instant-start ballasts to turn on.

Mounting hardware is not included. UL and C-UL listed. Lights *with tandem bulb arrangement* have bulbs mounted end-to-end.

Bulbs (sold separately) have a neutral (4,100K) light appearance.

LED—Lights are more energy efficient and last longer than fluorescent lights. Bulbs and mounting hardware are included. CSA certified.

Overall Lg.	Overall Wd.	Overall Ht.	Ballast Start Type	Min. Start Temp.	Mount. Hole Dia.	For Bulb Lg.	No. of Bulbs Req'd	Max. Watts per Bulb	Watts	Lights		Bulbs Pkg. Qty.	Bulbs Pkg.	Repl. Lens	
For T5 (5/8" Dia.) Fluorescent Bulbs with Miniature Bi-Pin Base															
48"	8 3/8"	2 7/8"	Programmed	–20°F	5/16"	48"	2	54	—	1619K11	$93.50	6	1562K59 $83.17		
48"	14 5/8"	2 7/8"	Programmed	–20°F	5/16"	48"	4	54	—	1619K12	133.77	6	1562K59 83.17		
For T8 (1" Dia.) Fluorescent Bulbs with Medium Bi-Pin Base															
24"	8 5/8"	2 5/8"	Instant	0°F	11/16"	24"	2	17	—	1619K38	83.63	6	1501K81 45.83	1619K62	$20.34
24"	8 5/8"	2 5/8"	Programmed	0°F	11/16"	24"	2	17	—	1619K711	95.54	6	1501K81 45.83	1619K62	20.34
48"	7"	4 1/2"	Instant	0°F	11/16"	48"	1	32	—	1619K36	102.29	6	1683K14 34.12	1619K67	42.52
48"	7"	4 1/2"	Programmed	0°F	11/16"	48"	1	32	—	1619K721	97.84	6	1683K14 34.12	1619K67	42.52
48"	8 5/8"	2 5/8"	Instant	0°F	11/16"	48"	2	32	—	1619K83	64.62	6	1683K14 34.12	1619K64	23.15
48"	8 5/8"	2 5/8"	Programmed	0°F	11/16"	48"	2	32	—	1619K731	67.50	6	1683K14 34.12	1619K64	23.15
48"	14 1/4"	2 3/4"	Instant	0°F	11/16"	48"	4	32	—	1619K84	88.72	6	1683K14 34.12	1619K65	28.93
48"	14 1/4"	2 3/4"	Programmed	0°F	11/16"	48"	4	32	—	1619K741	116.19	6	1683K14 34.12	1619K65	28.93
For T8 (1" Dia.) Fluorescent Bulbs with Medium Bi-Pin Base—Tandem Bulb Arrangement															
96"	8 5/8"	2 5/8"	Programmed	0°F	11/16"	48"	4	32	—	1619K751	155.74	6	1683K14 34.12		
With LED Bulbs															
24"	10"	2 3/4"	—	32°F	1/8"	—	—	—	26	1619K66	143.64	—	—		
48"	10"	2 3/4"	—	32°F	1/8"	—	—	—	50	1619K68	180.00	—	—		

Heat-Resistant Ceiling Lights



Without Guard



With Guard

Designed to withstand heat and grease, these lights are commonly used in commercial cooking hoods. They are also known as hood lights and are for compact fluorescent, halogen, incandescent, and LED bulbs with a medium screw-in base. Lens is clear tempered glass. Housing is aluminum. Lights operate on 120 volts AC and must be hardwired. They have 3/16" dia. mounting holes (hardware not included) for surface mounting. UL and C-UL listed, CSA certified, and meet NEC 410 and NFPA 96.

Bulbs are not included (see pages 710-712).

Overall Dia.	No. of Bulbs Req'd	Max. Watts per Bulb	Without Guard Overall Ht.		With Guard Overall Ht.	
5 3/8"	1	100	8 3/8"	7533T11 $51.22	8 3/4"	7533T21 $53.58

Plug-In Enclosed-Bulb Ceiling Lights



Ready-to-use lights offer plug-in convenience and have a lens that reduces glare and protects the bulb from damage. Lights have an LED bulb and a semi-clear, acrylic parabolic lens that directs light downward. Housing is steel with a white finish. Lights operate on 120 volts AC. They have a 5-ft. cord with three-prong plug and a pull-string switch. Suspension mount with the included hardware. UL and C-UL listed.

Overall Lg.	Overall Wd.	Overall Ht.	Watts	Min. Start Temp.		
46 5/8"	3 3/4"	2 3/8"	25	0°F	1602K6	$67.09

Plug-In Ceiling Lights with Reflectors



No need for wiring, these lights are ready to use. Also known as turret lights, they have reflectors that direct light down to maximize light distribution and are used in manufacturing and warehouse spaces. Lights are for fluorescent bulbs and have an electronic instant-start ballast. Housing and reflectors are steel with a white finish. Lights operate on 120 volts AC. They have a pull-string switch and a cord with three-prong plug. Suspension mount with the included hardware. UL and C-UL listed.

Bulbs (sold separately) have a neutral light appearance.

Overall Lg.	Overall Wd.	Overall Ht.	Min. Start Temp.	Cord Lg., ft.	For Bulb Base Type	For Bulb Trade Size	For Bulb Dia.	For Bulb Lg.	No. of Bulbs Req'd	Max. Watts per Bulb	Lights		Bulbs Pkg. Qty.	Bulbs Pkg.
48″	6½″	2⅜″	0°F	5	Medium Bi-Pin	T8	1″	48″	2	32	1602K2■	$55.18	6	1683K71 $31.05
96″	11¼″	4″	–20°F	6	Recessed Double-Contact	T8 High Output	1″	96″	2	86	1602K43	99.77	6	1504K92 125.31

■ This product cannot be sold in California.

Cord-Suspended Ceiling Lights



Also known as pendant lights, these lights are for compact fluorescent, halogen, incandescent, and LED bulbs with a medium screw-in base. Housing and reflector are aluminum with a white finish. Lights operate on 120 volts AC and have a 10-ft. cord with three 18-ga. wires for hardwiring. Mounting hardware is included. C-UL listed and ETL and C-ETL listed for damp locations.

Bulbs are not included (see pages 710-712).

Overall Dia.	Overall Ht.	No. of Bulbs Req'd	Max. Watts per Bulb		
12″	8¾″	1	300	14685K31	$101.98
14″	9⅜″	1	300	14685K32	102.49
16″	10″	1	300	14685K33	$104.64
18″	10⅞″	1	300	14685K34	119.04

Ceiling and Wall Lights with Reflectors

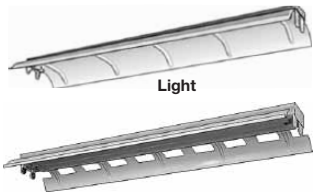

Reflectors capture light that shines from the top and sides of bulbs and directs it down to maximize light distribution. Also known as turret lights, these are good for use in manufacturing and warehouse spaces. Housing and reflectors are steel with a white finish. Lights operate on 120/277 volts AC and must be hardwired. Surface or suspension mount (hardware not included). UL listed.

Lights with Uplight Reflectors—Openings allow some light to escape through the top of the reflector to provide more ambient lighting and reduce glare.

Lights have an electronic ballast. *Instant-start ballasts* turn on immediately and are the most energy efficient, but shorten the bulb's life. *Programmed-start ballasts* produce the longest bulb life, but take longer than instant-start ballasts to turn on.

Lights *with tandem bulb arrangement* have bulbs mounted end-to-end.

Bulbs (sold separately) have a neutral (4,100K) light appearance.

Overall Lg.	Overall Wd.	Overall Ht.	Ballast Start Type	Min. Start Temp.	Mount. Hole Dia.	For Bulb Lg.	No. of Bulbs Req'd	Max. Watts per Bulb	Lights		Lights with Uplight Reflectors		Bulbs Pkg. Qty.	Bulbs Pkg.
For T5 High Output (⅝″ Dia.) Fluorescent Bulbs with Miniature Bi-Pin Base														
46″	6⅛″	2¾″	Programmed	–20°F	⅞″	46″	2	54	16235K8	$124.50			6	1562K59 $83.17
For T5 High Output (⅝″ Dia.) Fluorescent Bulbs with Miniature Bi-Pin Base—Tandem Bulb Arrangement														
92″	6⅛″	2¾″	Programmed	–20°F	⅞″	46″	4	54	16235K7	202.10			6	1562K59 83.17
For T8 (1″ Dia.) Fluorescent Bulbs with Medium Bi-Pin Base														
48″	12″	4″	Instant	0°F	11⁄16″	48″	2	32	16235K62	68.37	1613K46	$56.76	6	1683K14 34.12
48″	12″	4″	Programmed	0°F	11⁄16″	48″	2	32	16235K61	85.03	1613K67	70.63	6	1683K14 34.12
For T8 (1″ Dia.) Fluorescent Bulbs with Medium Bi-Pin Base—Tandem Bulb Arrangement														
96″	12″	4″	Instant	0°F	11⁄16″	48″	4	32	16235K59	120.77	1613K62	120.77	6	1683K14 34.12
For T8 (1″ Dia.) Fluorescent Bulbs with Single-Pin Base														
96″	12″	4″	Instant	0°F	11⁄16″	96″	2	59	16235K64	97.27	1613K64	110.14	6	8355K85 91.53
For T8 High Output (1″ Dia.) Fluorescent Bulbs with Recessed Double-Contact Base														
96″	12″	4″	Programmed	–20°F	11⁄16″	96″	2	86	16235K66	146.18	1613K65	181.26	6	1504K92 125.31

Heavy Duty Ceiling and Wall Lights with Reflectors

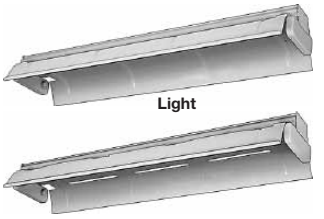

Enclosed pressure-lock bulb holders stand up to vibration in manufacturing and warehouse environments while reflectors direct light down to maximize light distribution. Housing and reflectors are steel with a white finish. Lights must be hardwired. They have 11⁄16″ dia. mounting holes (hardware not included) for surface or suspension mounting. UL listed.

Lights with Uplight Reflectors—Openings allow some light to escape through the top of the reflector to provide more ambient lighting and reduce glare.

Lights have electronic ballasts. *Instant-start ballasts* turn on immediately and are the most energy efficient, but shorten the bulb's life. *Programmed-start ballasts* produce the longest bulb life, but take longer than instant-start ballasts to turn on. *Rapid-start ballasts* have a slight turn-on delay but produce longer bulb life than instant-start ballasts.

Lights *with tandem bulb arrangement* have bulbs mounted end-to-end.

Bulbs (sold separately) have a neutral (4,100K) light appearance.

Overall Lg.	Overall Wd.	Overall Ht.	AC Voltage	Ballast Start Type	Min. Start Temp.	For Bulb Lg.	No. of Bulbs Req'd	Max. Watts per Bulb	Lights		Lights with Uplight Reflectors		Bulbs Pkg. Qty.	Bulbs Pkg.
For T8 (1″ Dia.) Fluorescent Bulbs with Medium Bi-Pin Base														
49¾″	13⅜″	6⅝″	120/277	Instant	0°F	48″	2	32	8338K22	$92.48	8338K57	$92.48	6	1683K14 $34.12
49¾″	13⅜″	6⅝″	120/277	Programmed	0°F	48″	2	32	8338K111	102.10	8338K121	102.10	6	1683K14 34.12
For T8 (1″ Dia.) Fluorescent Bulbs with Medium Bi-Pin Base—Tandem Bulb Arrangement														
99⅝″	13⅜″	6⅝″	120/277	Programmed	–20°F	48″	4	32	8338K171	170.56	8338K181	170.56	6	1683K14 34.12
For T8 (1″ Dia.) Fluorescent Bulbs with Single-Pin Base														
99⅝″	13⅜″	6⅝″	120/277	Instant	0°F	96″	2	59	8338K131	141.98	8338K141	172.08	6	8355K85 91.53
For T8 High Output (1″ Dia.) Fluorescent Bulbs with Recessed Double-Contact Base														
99⅝″	13⅜″	6⅝″	120/277	Programmed	–20°F	96″	2	86	8338K154	188.10	8338K164	188.10	6	1504K92 125.31
For T12 Very High Output (1½″ Dia.) Fluorescent Bulbs with Recessed Double-Contact Base														
99⅝″	13⅜″	6⅝″	277	Rapid	–20°F	96″	2	215	8338K21	193.06	8338K19	193.11	6	1504K95 136.16

Exposed-Bulb & Bay Lights

Continuous-Row Ceiling and Wall Lights



Also known as strip or channel lights, the ends of these lights are designed to be wired together to create long rows of lights. They are used in manufacturing and warehouse spaces. Housing is steel with a white finish. Lights operate on 120/277 volts AC and must be hardwired. They can be surface or suspension mounted (hardware not included). UL listed.

Lights have electronic ballasts. *Instant-start ballasts* turn on immediately and are the most energy efficient, but shorten the bulb's life. *Programmed-start ballasts* produce the longest bulb life, but take longer than instant-start ballasts to turn on.

Lights *with tandem bulb arrangement* have bulbs mounted end-to-end.

Bulbs (sold separately) have a neutral (4,100K) light appearance.

Overall Lg.	Overall Wd.	Overall Ht.	Ballast Start Type	Min. Start Temp.	Mount. Hole Dia.	For Bulb Lg.	No. of Bulbs Req'd	Max. Watts per Bulb	Lights		Bulbs Pkg. Qty.	Bulbs Pkg.
For T8 (1″ Dia.) Fluorescent Bulbs with Medium Bi-Pin Base												
24″	2 1/8″	1 1/2″	Instant	0°F	7/8″	24″	1	17	1612K91	$76.92	6	1501K81 $45.83
24″	2 1/8″	1 1/2″	Programmed	–20°F	7/8″	24″	1	17	1612K92	72.79	6	1501K81 45.83
24″	4 3/8″	3″	Programmed	0°F	11/16″	24″	2	17	1612K631	75.00	6	1501K81 45.83
36″	2 1/8″	1 1/2″	Instant	0°F	7/8″	36″	1	25	1612K93	82.84	6	1501K75 38.64
36″	2 1/8″	1 1/2″	Programmed	–20°F	7/8″	36″	1	25	1612K94	80.61	6	1501K75 38.64
48″	2 1/8″	1 1/2″	Instant	0°F	7/8″	48″	1	32	1612K96	56.59	6	1683K14 34.12
48″	2 1/8″	1 1/2″	Programmed	0°F	7/8″	48″	1	32	1612K95	68.81	6	1683K14 34.12
48″	4 3/8″	3″	Instant	0°F	11/16″	48″	2	32	1612K82	49.96	6	1683K14 34.12
48″	4 3/8″	3″	Programmed	0°F	11/16″	48″	2	32	1612K661	59.48	6	1683K14 34.12
For T8 (1″ Dia.) Fluorescent Bulbs with Medium Bi-Pin Base—Tandem Bulb Arrangement												
96″	2 1/8″	1 1/2″	Instant	0°F	7/8″	48″	2	32	1612K98	90.63	6	1683K14 34.12
96″	2 1/8″	1 1/2″	Programmed	0°F	7/8″	48″	2	32	1612K97	86.35	6	1683K14 34.12
96″	4 3/8″	3″	Instant	0°F	11/16″	48″	4	32	1612K86	72.16	6	1683K14 34.12
96″	4 3/8″	3″	Programmed	0°F	11/16″	48″	4	32	1612K741	108.66	6	1683K14 34.12
For T8 (1″ Dia.) Fluorescent Bulbs with Single-Pin Base												
96″	4 3/8″	3″	Instant	0°F	11/16″	96″	1	59	1612K671	122.20	6	8355K85 91.53
96″	4 3/8″	3″	Instant	0°F	11/16″	96″	2	59	1612K681	99.60	6	8355K85 91.53
For T8 High Output (1″ Dia.) Fluorescent Bulbs with Recessed Double-Contact Base												
96″	4 3/8″	3″	Programmed	–20°F	11/16″	96″	2	86	1612K691	172.05	6	1504K92 125.31

Linear Bay Lights

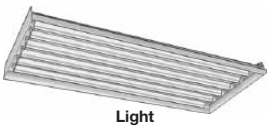

Light



Louvered Light with Uplight Reflectors

With a lower profile design than other bay lights, these mount close to ceilings to keep them out of the way. Use them in manufacturing and warehouse spaces. They operate on 120/277 volts AC and must be hardwired.

Lights—Mounting hardware is included. UL and C-UL listed for damp locations. **Low-bay lights** are for fluorescent bulbs with a medium bi-pin base. Light have an electronic instant-start ballast that turns on immediately and is energy efficient, but shortens the bulb's life. Housing and reflectors are steel with a white finish. **High-bay lights** are for fluorescent bulbs with a miniature bi-pin base. Lights have an electronic programmed-start ballast that produces the longest bulb life, but takes longer than instant-start ballasts to turn on. Housing and reflectors are aluminum with a white finish.

Louvered Lights with Uplight Reflectors—Louvers direct light output and reduce glare. Openings allow some light to escape through the top of the reflector to provide more ambient lighting. Lights are for fluorescent bulbs with a miniature bi-pin base. They have an electronic programmed-start ballast that produces the longest bulb life, but takes longer than instant-start ballasts to turn on. Housing and reflectors are steel with a white finish. Lights have 3/4″ mounting holes (hardware not included). UL and C-UL listed.

Bulbs (sold separately) have a neutral (4,100K) light appearance.

Overall Lg.	Overall Wd.	Overall Ht.	Min. Start Temp.	For Bulb Trade Size	For Bulb Dia.	For Bulb Lg.	No. of Bulbs Req'd	Max. Watts per Bulb	Lights Narrow Beam		Lights Wide Beam		Bulbs Pkg. Qty.	Bulbs Pkg.
Lights—Suspension Mount														
Low-Bay Lights—15-ft. Max. Ceiling Ht.														
48 1/8″	14 1/4″	3 7/8″	0°F	T8	1″	48″	4	32			8442K5	$159.04	6	1683K35 $45.85
48 1/8″	20 3/8″	3 7/8″	0°F	T8	1″	48″	6	32			8442K6	185.08	6	1683K35 45.85
High-Bay Lights—15-ft. Min. Ceiling Ht.														
48 1/8″	14 1/4″	3 7/8″	–20°F	T5 High Output	5/8″	46″	4	54			8442K1	183.15	6	1562K59 83.17
48 1/8″	20 3/8″	3 7/8″	–20°F	T5 High Output	5/8″	46″	6	54			8442K2	255.08	6	1562K59 83.17
Louvered Lights with Uplight Reflectors—Surface/Suspension Mount														
High-Bay Lights—15-ft. Min. Ceiling Ht.														
46 1/8″	9 3/4″	4 1/4″	–20°F	T5	5/8″	46″	3	54	2132T11	$250.73	2132T12	231.47	6	1562K59 83.17
High-Bay Lights with Tandem Bulb Arrangement—15-ft. Min. Ceiling Ht.														
92 1/8″	9 3/4″	4 1/4″	–20°F	T5	5/8″	46″	6	54	2132T41	307.66	2132T42	304.44	6	1562K59 83.17

Bay Lights



Low-Bay Light



High-Bay Light

A round reflector creates a wide beam of uniform light for open areas such as manufacturing and warehouse spaces. Lights are for bulbs with a large (mogul) screw-in base. Housing is aluminum with a white finish. Lights operate on 120/208/240/277 volts AC and must be hardwired. They have a 3/4 NPS female conduit connection and include mounting hardware and a bulb. UL and C-UL listed. *Aluminum* reflectors have a white finish.

Low-Bay Lights—A clear, acrylic prismatic lens protects the bulb and disperses light evenly.

High-Bay Lights with Uplight Reflector—Openings allow some light to escape through the top of the reflector to provide more ambient lighting and reduce glare.

Metal halide lights produce a neutral white light. They have a minimum start temperature of –20° F. These products cannot be sold in California. **High-pressure sodium lights** produce a warm yellow light and are more energy efficient than metal halide lights. They have a minimum start temperature of –40° F.

Overall Dia.	Overall Ht.	Reflector Material	No. of Bulbs Req'd	Max. Watts per Bulb	Metal Halide		High-Pressure Sodium	
Low-Bay Lights—25-ft. Max. Ceiling Ht.								
23″	27″	Aluminum	1	400	1807K23 Ⓔ	$238.54	1807K13	$286.58
High-Bay Lights—25-ft. Min. Ceiling Ht.								
14″	22 1/2″	Aluminum	1	400	1807K21 Ⓔ	227.75		
22″	28″	Acrylic	1	400	1807K22 Ⓔ	258.42	1807K12	247.08
High-Bay Lights with Uplight Reflector—25-ft. Min. Ceiling Ht.								
14″	24 1/2″	Aluminum	1	400			1807K11	198.74

Ⓔ Light meets Federal minimum efficiency standards.

Ballasts, Reflectors, Lenses, and Hooks for Bay Lights

Build your own bay light or replace existing ballasts, reflectors, lenses, and hooks. Components are compatible with Hubbell or Lithonia bay lights only.

Ballasts

Supply power to your bay light. Ballasts are for use with bulbs that have a large (mogul) screw-in base. Housing is aluminum with a white finish. Ballasts operate on 120/208/240/277 volts AC and must be hardwired. UL listed for damp locations.

Hubbell—Mounting hardware included. They have ¾ NPT female conduit connections. CSA certified. Minimum start temp. for ballasts *for metal halide lights* is –20°F; temp. *for high-pressure sodium lights* is –40°F.

Lithonia—Minimum start temp. is –40°F. They have ¾ NPS female conduit connections. Mounting hardware not included. **Lithonia with sensor** power on when heat changes from body or equipment movement fall within sensor range.

Metal halide lights produce cool white light. **High-pressure sodium lights** produce a warm yellow light and are more energy efficient than metal halide lights.



Hubbell Ballast



Lithonia Ballast

Watts	For Metal Halide Lights		For High-Pressure Sodium Lights	
Hubbell				
175	14815K44	$177.33	_____	_____
250	14815K45	156.75	14815K37	$153.83
400	14815K43	156.75	14815K38	153.83
1,000	14815K84	198.33	14815K49	231.67
Lithonia				
150	_____	_____	2135T11	132.60
250	2135T27★	127.97	2135T12	134.73
400	2135T28★	179.28	2135T13	170.57
1,000	2135T29★	169.22	2135T14	282.24
Lithonia with Sensor				
250	2135T37	361.00	_____	_____
400	2135T38	354.93	_____	_____
1,000	2135T39	387.00	_____	_____

★ This product cannot be sold in California.

Hooks

Thread a hook into a bay light ballast for suspension mounting. **Hubbell** hook is CSA certified.



Hubbell Hook

Manufacturer	Overall Lg.	Conduit Connection		
Hubbell	4″	¾ NPS Male	14815K81	$8.17
Lithonia	3¾″	¾ NPT Male	2135T41	13.14

Reflectors

Compatible with Hubbell brand bay lights only.

Reflector for Low-Bay Lights—Beam spread is wide.

Reflectors for High-Bay Lights—*Aluminum reflector* is sealed and has a wide beam spread. UL listed for damp locations and C-UL listed. *Acrylic reflector* has an adjustable beam spread from medium to wide.

Uplight Reflectors for High-Bay Lights—Openings allow some light to escape through the top to provide more ambient lighting and reduce glare. Beam spread is adjustable from narrow to wide.

Note: High-bay reflectors require a lens when used with 175- and 250-watt metal halide ballasts unless they're used with a bulb that is rated for open fixtures.



Uplight Reflector

Overall Dia.	Overall Ht.	Reflector Material	Lens Material		
Reflector for Low-Bay Lights—25-ft. Max. Ceiling Ht.					
23″	17½″	Aluminum	Acrylic	14815K54	$121.75
Reflectors for High-Bay Lights—25-ft. Min. Ceiling Ht.					
19″	13¼″	Aluminum	Glass	14815K53	113.30
22″	14″	Acrylic	_____	14815K56	83.18
Uplight Reflectors for High-Bay Lights—25-ft. Min. Ceiling Ht.					
14¼″	9⅞″	Aluminum	_____	14815K52	33.21
19″	11¾″	Aluminum	_____	14815K55	70.66
23″	15¾″	Aluminum	_____	14815K91	86.79

Lenses

Lenses are compatible with Hubbell brand bay lights only. They are clear. **Prismatic** lens disperses light evenly. **Acrylic** lenses are light-weight and nonyellowing.



Lens for High-Bay Reflector

Bay Light Type	Overall Dia.	Overall Ht.	Material	Lens Type		
Low	23″	5″	Acrylic	Prismatic	14815K61	$64.57
High	14″	½″	Glass	_____	14815K71	26.03
High	19″	½″	Glass	_____	14815K73	38.88
High	22″	½″	Acrylic	_____	14815K75	63.71

Wet-Location Wall Lights

The lens and housing are sealed to keep out dripping, splashing, and falling liquids as well as dirt. Lights are for fluorescent bulbs with a medium bi-pin base. They have a clear, acrylic prismatic lens that disperses light evenly. Housing is steel with a white finish. Lights have an electronic ballast, operate on 120/277 volts AC, and must be hardwired. They have 5/16″ dia. mounting holes (hardware not included) for surface mounting. UL and C-UL listed for wet locations with covered ceilings. ETL and C-ETL listed.

Bulbs (sold separately) have a neutral (4,100K) light appearance.



Overall Lg.	Overall Ht.	Overall Dp.	Ballast Start Type	Min. Start Temp.	For Bulb Trade Size	For Bulb Dia.	For Bulb Lg.	No. of Bulbs Req'd	Max. Watts per Bulb	Lights		Bulbs Pkg. Qty.	Bulbs	Bulbs Pkg.
24″	6⅞″	5⅞″	Instant	0°F	T8	1″	24″	2	17	1642K31	$254.00	6	1501K81	$45.83
48″	6⅞″	5⅞″	Instant	0°F	T8	1″	48″	2	32	1642K41	326.00	6	1683K14	34.12

Wet-Location Ceiling Lights

A sealed lens and one-piece housing withstand dripping, splashing, and falling liquids as well as dirt. Housing is white plastic. Lights operate on 120/277 volts AC and must be hardwired. They can be surface or suspension mounted. UL listed for wet locations.

For T5 Bulbs—Lights have a clear, impact resistant, polycarbonate prismatic lens that disperses light evenly but can yellow over time. They have 5/16″ dia. mounting holes (hardware not included). C-ETL listed.

For T8 Bulbs—Lights have a semi-clear, nonyellowing, acrylic lens that is less impact resistant than polycarbonate lenses. Mounting hardware is included. Lights meet IP65 and are C-UL listed for wet locations with covered ceilings.

Lights have electronic ballasts. *Instant-start ballasts* turn on immediately and are the most energy efficient, but shorten the bulb's life. *Programmed-start ballasts* produce the longest bulb life, but take longer than instant-start ballasts to turn on.

Bulbs (sold separately) have a neutral (4,100K) light appearance.



Overall Lg.	Overall Wd.	Overall Ht.	Ballast Start Type	Min. Start Temp.	For Bulb Lg.	No. of Bulbs Req'd	Max. Watts per Bulb	Lights		Bulbs Pkg. Qty.	Bulbs	Bulbs Pkg.	Repl. Lens		Repl. Latch	
For T5 (5/8″ Dia.) Fluorescent Bulbs with Miniature Bi-Pin Base																
26″	7″	5¼″	Programmed	0°F	22″	2	24	5511T11	$228.86	2	1562K55	$36.66	5511T91	$114.36	1616K56	$1.55
50″	7″	5¼″	Programmed	0°F	46″	2	54	5511T21	286.78	6	1562K59	83.17	5511T92	154.72	1616K56	1.55
For T8 (1″ Dia.) Fluorescent Bulbs with Medium Bi-Pin Base																
50″	7⅝″	4¾″	Instant	0°F	48″	2	32	1616K22	129.50	6	1683K14	34.12	1616K89	40.15	1616K56	1.55
50″	7⅝″	4¾″	Programmed	0°F	48″	2	32	1616K671	154.61	6	1683K14	34.12	1616K89	40.15	1616K56	1.55
For T8 (1″ Dia.) Fluorescent Bulbs with Single-Pin Base																
98″	7⅝″	5⅝″	Instant	0°F	96″	2	59	1616K471	265.63	6	8355K85	91.53	1616K98	65.40	1616K56	1.55
For T8 High Output (1″ Dia.) Fluorescent Bulbs with Recessed Double-Contact Base																
98″	7⅝″	5⅝″	Programmed	–20°F	96″	2	86	1616K871	325.94	6	1504K92	125.31	1616K98	65.40	1616K56	1.55

Wraparound-Lens Wet-Location Ceiling Lights



Sealed wraparound lenses protect lights from dripping, splashing, and falling liquids and allow light to shine from the sides as well as the bottom to illuminate large spaces. Lights have a semi-clear, acrylic prismatic lens that disperses light evenly. They are for fluorescent bulbs with a medium bi-pin base. Housing is steel with a white finish. Lights have an electronic ballast, operate on 120/277 volts AC, and must be hardwired. They have 5/16″ dia. mounting holes (hardware not included) for surface mounting. UL and C-UL listed for wet locations with covered ceilings.

Bulbs (sold separately) have a neutral (4,100K) light appearance.

Overall Lg.	Overall Wd.	Overall Ht.	Ballast Start Type	Min. Start Temp.	For Bulb Trade Size	For Bulb Dia.	For Bulb Lg.	No. of Bulbs Req'd	Max. Watts per Bulb	Lights		Bulbs Pkg. Qty.	Bulbs	Bulbs Pkg.
48 3/4″	8 3/8″	2 3/4″	Instant	32° F	T8	1″	48″	2	32	16215K73	$223.64	6	1683K14	$34.12
48 3/4″	12 3/8″	2 3/4″	Instant	32° F	T8	1″	48″	4	32	16215K74	278.18	6	1683K14	34.12

Vandal-Resistant Wet-Location Ceiling Lights



Tamper-resistant Torx screws secure the impact-resistant lens to the housing to protect lights from vandals while a seal between the lens and housing protect them from dripping, splashing, and falling liquids. To remove screws, use a T20 pin-in-head Torx driver. Lights are for fluorescent bulbs with a medium bi-pin base. They have a clear, polycarbonate prismatic lens that disperses light evenly. Housing is steel with a white finish. Lights have an electronic ballast and must be hardwired. Surface mount (hardware not included). ETL and C-ETL listed for wet locations with covered ceilings; light that operates on 120 volts AC only is UL and C-UL listed for wet locations with covered ceilings.

Bulbs (sold separately) have a neutral (4,100K) light appearance.

Overall Lg.	Overall Wd.	Overall Ht.	AC Voltage	Ballast Start Type	Min. Start Temp.	Mount. Hole Dia.	For Bulb Trade Size	For Bulb Dia.	For Bulb Lg.	No. of Bulbs Req'd	Max. Watts per Bulb	Lights		Bulbs Pkg. Qty.	Bulbs	Bulbs Pkg.
25 1/2″	4 3/4″	4 1/2″	120	Instant	0° F	7/16″	T8	1″	24″	1	17	1695K72	$210.00	6	1501K81	$45.83
50″	4 7/8″	4 5/8″	120/277	Instant	0° F	11/16″	T8	1″	48″	1	32	1695K81	259.54	6	1683K14	34.12
50 1/2″	9 1/2″	3 1/4″	120/277	Instant	0° F	11/16″	T8	1″	48″	2	32	1695K82	278.69	6	1683K14	34.12

Wet-Location Ceiling and Wall Lights with Guard



Stem Mount



Ceiling Mount



Wall Mount

Also known as jelly jar lights, these have a heat-resistant lens that's sealed to keep out moisture and dirt. Lights have an aluminum housing and can be used outdoors. They operate on 120 volts AC and must be hardwired. UL listed for wet locations. Lights have a clear, impact-resistant tempered glass lens, except LED lights have a frosted glass lens. Mounting hardware is not included, except LED lights include hardware. For medium-base bulbs, see pages 710-712.

For Compact Fluorescent, Halogen, Incandescent, and LED Bulbs—C-UL listed and meet NEMA 3R and IP55.

With Compact Fluorescent Bulbs—Lights include a bulb. C-UL listed and meet NEMA 4X.

With LED Bulbs—Lights are more energy efficient and last longer than fluorescent lights. They have an LED bulb and are C-UL listed for wet locations.

Replacement lens with PFA-coated tempered glass has added crack resistance.

Lights

Mounting Location	Mount Type	Overall Dia.	Overall Ht.	Overall Dp.	Lens Dia.	Outlet Box Dia.	Conduit Connection	Max. Watts per Bulb	Watts		
For Compact Fluorescent, Halogen, Incandescent, and LED Bulbs with Medium Screw-In Base											
Ceiling	Stem	4 3/8″	9 3/4″	—	3 1/2″	4″	1/2 NPT Female	100	—	14915K55	$34.42
Ceiling	Stem	5 3/8″	10 7/8″	—	4 3/8″	4″	1/2 NPT Female	200	—	14915K59	45.90
Ceiling	Surface	4 1/4″	9 1/8″	—	3 1/2″	4″	1/2 NPT Female	100	—	14915K53	37.70
Ceiling	Surface	4 1/4″	9 1/8″	—	3 1/2″	4″	3/4 NPT Female	100	—	14915K57	35.25
Ceiling	Surface	5 1/4″	10 7/8″	—	4 3/8″	4″	1/2 NPT Female	200	—	14915K61	40.16
Ceiling	Surface	5 1/4″	10 7/8″	—	4 3/8″	4″	3/4 NPT Female	200	—	14915K63	38.11
Wall	Surface	4 1/4″	9 3/4″	7 1/4″	3 1/2″	4″	1/2 NPT Female	100	—	14915K54	37.70
Wall	Surface	5 1/4″	11 3/8″	7 1/2″	4 3/8″	4″	1/2 NPT Female	200	—	14915K66	60.25
With Compact Fluorescent Bulbs with 4-Pin (GX24q-3) Base											
Ceiling	Surface	4 1/2″	11″	—	3 1/2″	4 3/4″	3/4 NPT Female	26	—	15005K53	190.81
Wall	Surface	4 1/2″	12 3/8″	7 1/8″	3 1/2″	4 3/4″	3/4 NPT Female	26	—	15005K54	204.39
With LED Bulbs											
Ceiling	Surface	4 5/8″	10 5/8″	—	3 3/4″	4 9/16″	1/2 NPS Female	—	15	15005K61	136.94
Wall	Surface	4 1/2″	11 3/8″	7 1/2″	3 3/4″	4 3/8″	1/2 NPS Female	—	15	15005K62	141.95

Replacement Lenses

Overall Dia.	Overall Ht.	Max. Watts per Bulb	Color		
Tempered Glass					
3 1/2″	6 3/4″	60	Semi-Clear Blue	14915K42	$36.51
3 1/2″	6 3/4″	60	Semi-Clear Green	14915K44	28.26
3 1/2″	6 3/4″	60	Semi-Clear Red	14915K43	28.61
3 1/2″	6 3/4″	100	Clear	14915K41	12.11
4 3/8″	8 3/8″	75	Semi-Clear Blue	14915K46	37.70
Tempered Glass (Cont.)					
4 3/8″	8 3/8″	75	Semi-Clear Green	14915K48	$42.79
4 3/8″	8 3/8″	75	Semi-Clear Red	14915K47	49.66
4 3/8″	8 3/8″	200	Clear	14915K45	17.23
PFA-Coated Tempered Glass					
3 1/2″	6 3/4″	100	Clear	14915K39	25.76

Tubular High-Pressure Washdown Ceiling and Wall Lights



These lights meet NSF/ANSI Standard C-2 to withstand sprayed water for use in washdowns in food-processing and corrosive environments. Lights have a clear, nonyellowing acrylic lens and silicone gaskets. Housing is stainless steel; reflector is aluminum with a white finish. Lights operate on 120/277 volts AC and must be hardwired. Surface or suspension mount with the included hardware. UL, ETL, and C-ETL listed for wet locations.

Lights have electronic ballasts. *Instant-start ballasts* turn on immediately and are the most energy efficient, but shorten the bulb's life. *Rapid-start ballasts* have a slight turn-on delay, but produce a longer bulb life than instant-start ballasts.

Bulbs (sold separately) have a neutral (4,100K) light appearance.

Overall Lg.	Overall Dia.	Ballast Start Type	Min. Start Temp.	For Bulb Lg.	No. of Bulbs Req'd	Max. Watts per Bulb	Lights		Bulbs Pkg. Qty.	Bulbs	Bulbs Pkg.	Repl. Lens	
For T12 (1 1/2″ Dia.) Fluorescent Bulbs with Recessed Double-Contact Base													
50 3/8″	5 7/8″	Rapid	–20° F	48″	2	60	8333K13	$369.81	6	1504K65	$56.52	8333K9	$108.33
For T8 (1″ Dia.) Fluorescent Bulbs with Medium Bi-Pin Base													
50 3/8″	5 7/8″	Instant	0° F	48″	2	32	8333K11	321.63	6	1683K14	34.12	8333K9	108.33

Washdown Ceiling and Wall Lights



IP66 rated for protection from powerful jets of water, these sealed lights are resistant to water, dust, and corrosion. Lights have a clear polycarbonate prismatic lens that disperses light evenly. Housing is off-white polycarbonate. Lights operate on 120/277 volts AC and must be hardwired. Surface or suspension mount with the included hardware. Lights can be used outdoors. ETL listed.

Lights have electronic ballasts. *Instant-start ballasts* turn on immediately and are the most energy efficient, but shorten the bulb's life. *Programmed-start ballasts* produce the longest bulb life, but take longer than instant-start ballasts to turn on.

Bulbs have a neutral (4,100K) light appearance.

Overall Lg.	Overall Wd.	Overall Ht.	Ballast Start Type	Min. Start Temp.	For Bulb Length	No. of Bulbs Req'd	Max. Watts per Bulb	Bulbs Included	Lights		Bulbs Pkg. Qty.	Bulbs Pkg.
For T5 (5/8") Fluorescent Bulbs with Miniature Bi-Pin Base												
26"	6 3/4"	4 1/4"	Programmed	–20° F	22"	2	24	Yes	8295K12	$165.00	2	1562K55 $36.66
50 1/2"	6 3/4"	4 1/4"	Programmed	–20° F	46"	2	54	No	8295K13	182.50	6	1562K59 83.17
For T8 (1") Fluorescent Bulbs with Medium Bi-Pin Base												
26"	6 3/4"	4 1/4"	Instant	0° F	24"	2	17	Yes	8295K551	137.50	6	1501K81 45.83
50 1/2"	6 3/4"	4 1/4"	Instant	0° F	48"	2	32	No	8295K11	155.00	6	1683K14 34.12

Hazardous Location Ceiling and Wall Lights



Aluminum Housing



Stainless Steel Housing

A sealed lens and corrosion-resistant housing resist heat, moisture, dust, and fumes found in hazardous locations. Reflectors are aluminum with a white finish. Lights operate on 120/277 volts AC and must be hardwired. They can be surface mounted. Lights are UL 1598A listed and meet IP66 and NEMA 4X.

Aluminum Housing—Lights have a clear glass lens. Bulbs are included. Mounting hardware is not included. UL 844 listed; UL listed for Class I, Division 1, Groups C, D; Class I, Division 2, Groups C, D; Class II, Division 1, Groups E, F, G; Class II, Division 2, Groups E, F, G; Class III.

Stainless Steel Housing—Lights provide more corrosion resistance than those with an aluminum housing. Lens is clear nonyellowing acrylic, which is more impact resistant than glass. Bulbs are not included. Mounting hardware is included. UL and C-UL listed for Class I, Division 2, Groups A, B, C, D.

Ballasts are electronic. *Instant-start ballasts* turn on immediately and are the most energy efficient, but shorten the bulb's life. *Rapid-start ballasts* have a slight turn-on delay, but produce a longer bulb life than instant-start ballasts. *Programmed-start ballasts* produce the longest bulb life, but take longer than rapid-start ballasts to turn on.

Bulbs (sold separately) have a neutral light appearance.

Mounting Location	Overall Lg.	Overall Wd.	Overall Ht.	Conduit Connection	Ballast Start Type	Min. Start Temp.	For Bulb Lg.	No. of Bulbs Req'd	Max. Watts per Bulb	Lights		Bulbs Pkg. Qty.	Bulbs Pkg.
Aluminum Housing													
For T5 (5/8" Dia.) Fluorescent Bulbs with Miniature Bi-Pin Base													
Ceiling/Wall	53"	11 1/2"	7"	1/2 NPT Female	Programmed	–20°F	46"	2	54	8335K7	$943.08	—	—
For T8 (1" Dia.) Fluorescent Bulbs with Medium Bi-Pin Base													
Ceiling/Wall	53"	11 1/2"	7"	1/2 NPT Female	Instant	–20° F	48"	2	32	8335K13	964.41	—	—
Stainless Steel Housing													
For T12 (1 1/2" Dia.) Fluorescent Bulbs with Recessed Double-Contact Base													
Ceiling	28 1/4"	8 1/4"	5 3/4"	3/4 NPT Female	Rapid	–20°F	24"	2	35	1698K87	598.39	6	1504K97 $79.50
Ceiling	52 1/4"	8 1/4"	5 3/4"	3/4 NPT Female	Rapid	–20° F	48"	2	60	1698K88	650.00	6	1504K65 56.52
For T8 (1" Dia.) Fluorescent Bulbs with Medium Bi-Pin Base													
Ceiling	28 1/4"	8 1/4"	5 3/4"	3/4 NPT Female	Instant	–20°F	24"	2	17	1698K13	561.29	6	1501K81 45.83
Ceiling	52 1/4"	8 1/4"	5 3/4"	3/4 NPT Female	Instant	–20° F	48"	2	32	1698K12	661.29	6	1683K14 34.12

Hazardous Location Recessed Ceiling and Wall Lights

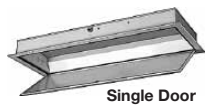

Single Door

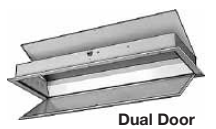

Dual Door

Commonly used in paint-spray booths, lights have a sealed lens and housing to withstand moisture, dust, and fumes. An access door makes quick work of light bulb changes. Lights are for fluorescent bulbs with a medium bi-pin base. Lens is clear, tempered glass. Housing is steel with a white finish. Lights have an electronic ballast, operate on 120/277 volts AC, and must be hardwired. Minimum start temp. is 0° F. Mounting hardware is included. ETL and C-ETL listed for Class I, Division 2, Groups A, B, C, and D; Class II, Division 2, Groups F and G.

Dual-door lights allow access from both sides of the ceiling or wall. The door with the lens has a safety interlock switch that can be wired to disable equipment (such as paint sprayers) when the door is opened.

Bulbs (sold separately) have a neutral (4,100K) light appearance.

	Overall Lg.	Overall Wd.	Overall Dp.	Ballast Start Type	For Bulb Trade Size	For Bulb Dia.	For Bulb Lg.	No. of Bulbs Req'd	Max. Watts per Bulb	Lights		Bulbs Pkg. Qty.	Bulbs Pkg.
Single Door	53 1/4"	21 3/4"	5 3/4"	Instant	T8	1"	48"	4	32	16375K43	$412.73	6	1683K14 $34.12
Dual Door	53 1/4"	21 3/4"	5 3/4"	Instant	T8	1"	48"	4	32	16375K41	460.00	6	1683K14 34.12

Hazardous Location Bay Lights



A round reflector creates a wide beam of light for hazardous open areas with heat, moisture, dust, and fumes. These lights are low-bay lights for a maximum ceiling height of 20 feet. They have a semi-clear, nonyellowing, acrylic prismatic lens that disperses light evenly. Housing and reflectors are aluminum with a white finish. Lights must be hardwired. They have a 3/4 NPT female conduit connection and include mounting hardware and bulbs. UL listed for wet locations and Class I, Division 2/Zone 2, Groups A, B, C, and D. C-UL listed, IP65 rated, and meet NSF standards.

Lights *for fluorescent bulbs* produce a warm yellow light. They have an electronic program-start ballast.

Lights *for metal halide bulbs* produce a cool white light and are more energy efficient than fluorescent lights.

Lights *for high-pressure sodium bulbs* produce a warm yellow light and are more energy efficient than metal halide lights.

Overall Dia.	Overall Ht.	Min. Start Temp.	AC Voltage	No. of Bulbs Req'd	Max. Watts per Bulb		
For Compact Fluorescent Bulbs with 4-Pin (GX24q-4) Base							
14 3/4"	14 1/4"	0° F	120	2	42	1948K41	$440.29
14 3/4"	14 1/4"	0° F	277	2	42	1948K42	440.20
For Metal Halide Bulbs with Large (Mogul) Screw-In Base							
14 3/4"	14 1/4"	–20°F	120/208/240/277	1	150	1948K46 Ⓔ	726.45
For High-Pressure Sodium Bulbs with Large (Mogul) Screw-In Base							
14 3/4"	14 1/4"	–40° F	120/208/240/277	1	150	1948K43	403.43

Ⓔ Light meets Federal minimum efficiency standards.

Hazardous Location Ceiling and Wall Lights with Guard


Ceiling Mount


Stem Mount


Wall Mount

Also known as jelly jar lights, these have a sealed lens and housing to withstand heat, moisture, dust, and fumes in hazardous locations. Lights can be used outdoors and are for compact fluorescent, halogen, incandescent, and LED bulbs with a medium screw-in base. They must be hardwired. Mounting hardware is not included. *Ceiling-mount* lights mount with their conduit connection.

Aluminum Housing—Lights operate on 120 volts AC.

Lights **with glass lens** have a semi-clear prismatic lens that disperses light evenly. Housing has a tan finish. UL listed for Class I, Division 1, Groups C, D; Class I, Division 2, Groups C, D; Class II, Division 1, Groups E, F, G; Class II, Division 2, Groups E, F, G; Class III, Division 1; Class III, Division 2. CSA certified and meet NEMA 4X.

Lights **with tempered glass lens** have a clear lens. Housing has a gray finish. UL listed for Class I, Division 2, Groups A, B, C, D and meet NEMA 4.

Fiberglass Housing—Lights have better corrosion resistance than those with an aluminum housing. They operate on 120/277 volts AC. UL listed for Class I, Division 2, Groups A, B, C, D; Class I, Zone 2, Groups IIA, IIB, IIC; Class II, Division 2, Groups F and G hazardous locations. CSA certified to U.S. and Canadian standards for marine luminaries. Meet NEMA 4X and IP66.

Bulbs are not included (see pages 710-712).

Mounting Location	Mount Type	Overall Dia.	Overall Ht.	Conduit Connection	Mount. Hole Dia.	No. of Bulbs Req'd	Max. Watts per Bulb		
Aluminum Housing with Glass Lens									
Ceiling	Surface	7½″	14⅜″	¾ NPT Female	—	1	150	**1576K13**	$313.58
Wall	Surface	14½″	15⅞″	¾ NPT Female	5/16″	1	150	**1576K12**	370.11
Aluminum Housing with Tempered Glass Lens									
Ceiling	Stem	4½″	9½″	¾ NPT Female	—	1	150	**1586K84**	112.87
Ceiling	Surface	5½″	12½″	¾ NPT Female	—	1	150	**1586K85**	136.02
Ceiling	Surface	5½″	12½″	¾ NPT Female	—	1	300	**1586K45**	163.32
Wall	Surface	4⅞″	12¼″	¾ NPT Female	9/32″	1	150	**1586K87**	158.36
Fiberglass Housing with Tempered Glass Lens									
Ceiling	Stem	4½″	11¼″	¾ NPT Female	—	1	150	**14835K95**	117.30
Ceiling	Surface	4¾″	10⅞″	¾ NPT Female	—	1	150	**14835K96**	125.50
Wall	Surface	4½″	12¼″	¾ NPT Female	5/16″	1	150	**14835K94**	160.54

Emergency Backup Lights


A


B


C


D


E


F


G


H

When the power goes out, these lights go on. They have adjustable bulb heads and a test switch. Bulbs and rechargeable batteries are included. All wall mount (hardware not included). UL 924 listed.

Lights have a low-voltage disconnect, except Style B LED light. Lights have a status indicator, except Styles D, F, and 1474K24 Style H krypton lights.

Halogen lights last longer than incandescent lights. *Krypton* lights last longer than halogen lights. *LED* lights are the longest lasting. They have bulbs that cannot be replaced.

Plug-In—Light has a 2-ft. cord with three-prong plug.

Hardwire with Delayed Shut-Off—Lights stay on after power is restored, making them a good backup for systems with long restart times.

Styles A-E have a beige steel housing. New York City approved. *Style B halogen* lights are also City of Chicago approved. *Style B with delayed shut-off* stays on for 60 minutes after power is restored.

Style F has a white plastic housing. It can also mount to the ceiling.

Style G has a brown steel housing. New York City approved.

Style H has a white plastic housing. It can also mount to the ceiling. C-UL listed. Light *with delayed shut-off* stays on for 15 minutes after power is restored.

Note: Maximum output wattage is the combined wattage of the attached bulbs and any add-on bulbs. If you exceed this maximum, lights may not run for the 11½ hours required by law.

For Bulb Type	Run Time, hrs.	Overall Ht.	Overall Wd.	Overall Dp.	AC Voltage	For Bulb Trade Size	Battery Size	Max. Output Wattage	Max. Watts per Bulb	Mount. Hole Dia.	Lights		Repl. Battery	
Plug-In														
A Incandescent	1.5	12″	13″	3″	120/277	PAR36	6V	18	8	⅜″	**16035K21**	$106.86	**7448K61**	$82.39
Hardwire														
B Incandescent	1.5	12″	13″	3″	120/277	PAR36	6V	18	8	⅜″	**8368K85**	107.26	**7448K24**	16.83
B Halogen	2	12″	13″	3″	120/277	PAR36	6V	32	12	⅜″	**8368K81**	115.36	**7448K34**	22.47
B LED	5	12″	13″	3″	120/277	———	6V	42	—	⅜″	**8368K87**	224.21	———	———
C Incandescent	1.5	13½″	13½″	4¾″	120/277	PAR36	6V	36	18	⅜″	**8319K22**	244.93	**7448K61**	82.39
C Incandescent	2	13½″	13½″	4¾″	120/277	PAR36	6V	18	7	⅜″	**8319K21**	217.27	**7448K61**	82.39
C Incandescent	2	13½″	13½″	4¾″	120/277	PAR36	6V	64	25	⅜″	**8319K23**	291.24	**8302T12**	55.64
D Incandescent	1.5	6½″	15½″	4½″	120/277	939	6V	12	6	3/16″	**7922K11**	111.51	**7448K53**	11.89
E Incandescent	2	12″	13″	3″	120/277	927	6V	18	7	⅜″	**8298K31**	117.83	**7448K61**	82.39
F Halogen	1.5	5¼″	13¼″	3⅝″	120/277	MR-16	6V	10	5	⅜″	**1488K31**	60.65	**7448K53**	11.89
G Halogen	3	15⅜″	10¼″	3½″	120/277	PAR36	12V	60	12	⅜″	**1500K41**	241.98	**7448K36**	29.61
G Halogen	6	15⅜″	10¼″	3½″	120/277	PAR36	6V	100	12	⅜″	**1500K31**	243.33	**7448K38**	72.00
H Krypton	1.5	7″	12¾″	5⅞″	120/208/240/277	ELPL184	12V	54	9	3/16″	**1474K24**	156.45	**1474K42**	46.97
H LED	1.5	4¼″	10¼″	2¾″	120/277	———	3.6V	3	—	3/16″	**1474K25**	54.92	**1474K43**	20.42
Hardwire with Delayed Shut-Off														
B Halogen	2	12″	13″	3″	120/277	PAR36	6V	32	12	⅜″	**1996K87**	167.16	**7448K34**	22.47
H Krypton	1.5	7″	12¾″	5⅞″	120/208/240/277	ELPL184	12V	72	9	3/16″	**1474K26**	263.24	**1474K42**	46.97

Wet-Location and Washdown Emergency Backup Lights


Wet Location

Lights are sealed to withstand wet environments. They have adjustable bulb heads, a test switch, and a low-voltage disconnect; washdown lights also have a status indicator. All have 5/16″ dia. holes for wall mounting (hardware not included). Lights operate on 120/277 volts AC. Bulbs and rechargeable batteries are included.

Wet Location—Sealed to withstand humidity, moisture, and dripping and splashing liquids. Housing is gray plastic. *Incandescent* light is UL and ETL listed. *LED* light has a battery that cannot be replaced. UL 924 listed.

Washdown—With a NEMA 4X and 13 rating, lights provide more protection against moisture and liquids than wet-location lights. Lights have a gray fiberglass housing. UL 924 listed. Light *for outdoor use* has a built-in heater to keep the batteries from freezing in temperatures as low as –4° F.

LED lights are more energy efficient and last longer than incandescent and halogen lights. LEDs cannot be replaced.

Note: Maximum output wattage is the combined wattage of the attached bulbs and any add-on bulbs. If you exceed this maximum, lights may not run for the 1½ hours required by law.


Washdown

For Bulb Type	Run Time, hrs.	Overall Ht.	Overall Wd.	Overall Dp.	For Bulb Trade Size	Battery Size	Max. Output Wattage	Max. Watts per Bulb	Lights		Repl. Battery	
Wet Location												
Incandescent	1.5	12½″	8½″	6″	T5	6V	18	7	9296T11	$199.13	7448K61	$82.39
LED	3	12½″	8½″	6″	—	6V	10	—	9296T13	229.23	—	—
Washdown												
Halogen	3	16⅞″	9⅜″	5½″	PAR36	6V	32	8	8369K32	304.08	7448K34	22.47
Halogen	6	16⅞″	9⅜″	5½″	PAR36	6V	64	8	8369K44	374.50	7448K34	22.47
LED	5	16⅞″	9⅜″	5½″	—	6V	42	—	8369K51	399.88	—	—
Washdown for Outdoor Use												
Halogen	3	16⅞″	9⅜″	5½″	PAR36	6V	36	8	8369K45	408.83	8369K47	75.58

Hazardous Location Emergency Backup Lights



These spark-resistant lights are UL listed for Class I, Division 2, Groups A, B, C, and D and Class II, Division 2, Groups F and G hazardous environments with flammable gases and combustible dust. They have adjustable bulb heads, a test switch, status indicator, and low-voltage disconnect. Housing is gray plastic. Lights have 5/16″ dia. holes for wall mounting (hardware not included). They operate on 120/277 volts AC and include incandescent bulbs and rechargeable batteries.

Note: Maximum output wattage is the combined wattage of the attached bulbs and any add-on bulbs. If you exceed this maximum, lights may not run for the 1½ hours required by law.

Run Time, hrs.	Overall Ht.	Overall Wd.	Overall Dp.	For Bulb Trade Size	Battery Size	Max. Output Wattage	Max. Watts per Bulb	Lights		Repl. Battery	
1.5	21⅜″	13¼″	7⅛″	PAR36	6V	25	8	15955K51	$1,043.86	7448K34	$22.47
1.5	21⅜″	13¼″	7⅛″	PAR36	6V	50	12	15955K61	1,104.84	7448K34	22.47

Add-On Heads for Emergency Backup Lights


5⅛″ Head Dia.


3⅛″ Head Dia.

Extend the reach of your emergency backup lights by adding these remote bulb heads. Heads are plastic, adjust to any angle, and include one bulb. They must be hardwired and mount to a ¾″ knockout with the included hardware. UL 924 listed.

Incandescent head is NEMA 3R rated. **Halogen heads** last longer than incandescent heads. The 5⅛″ dia. head is UL listed for Class I, Division 2 hazardous locations.

For Bulb Type	Head Dia.	Overall Ht.	For Bulb Trade Size	Max. Watts per Bulb	Housing Color	6V DC		12V DC	
Incandescent	5⅛″	6¼″	PAR36	25	Gray	1499K28	$40.52	1499K29	$40.52
Halogen	3⅛″	3½″	T2 ¼	12	Beige	1499K22	40.75	1499K21	44.45
Halogen	3⅛″	3½″	T2 ¼	12	Black	1499K12	40.75	1499K11	44.45
Halogen	5⅛″	6¼″	PAR36	8	Gray	1499K51	46.30	1499K52	46.30

Emergency-Light Conversion Kits for Fluorescent Lights

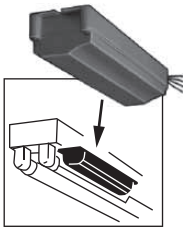

Connect these battery packs to your existing fluorescent lights to convert them into emergency backup lights. Packs illuminate one or two bulbs (see chart at right) for 1.5 hours. Housing is black plastic and has 5/16″ dia. holes for mounting (hardware not included). Packs operate on 120/208/240/277 volts AC, have a test switch, and include a nonreplaceable rechargeable battery. UL 924 listed.

Brightness, lumens	Battery Size	Overall Lg.	Overall Wd.	Overall Ht.		
500	3.6V	9½″	2½″	1½″	8385K11	$90.70
600	4.8V	9⅜″	2¼″	1¼″	8385K23	130.52
1,400	9.4V	13⅜″	2¼″	1¼″	8385K15	168.24

	8385K11	8385K23	8385K15
Brightness, lumens	500	600	1,400
For Bulb Types:	*No. of Bulbs Operated*		
T5 (5⁄8″ Dia.), 2 ft. to 4 ft.		1	1
T5 (5⁄8″ Dia.) High Output, 2 ft. to 4 ft.		1	1
T8 (1″ Dia.) and T12 (1½″ Dia.), 2 ft. to 4 ft.	1	1 or 2	1 or 2
T8 (1″ Dia.) and T12 (1½″ Dia.), 5 ft. to 8 ft.		1	1 or 2
T8 (1″ Dia.) and T12 (1½″ Dia.), U-Shape	1	1 or 2	1 or 2
T12 (1½″ Dia.) High Output and Very-High Output, 2 ft. to 8 ft.		1	1
T9 (1⅛″ Dia.) Circline	1	1	1
4-Pin Twin-Tube Compact	1	1	1
4-Pin Quad-Tube Compact		1	1 or 2

Entryway Lights



Mount near entry and exit doors to cast a soft, even glow of light. Light uses compact fluorescent, halogen, incandescent, or LED bulbs with a medium screw-in base (bulb sold separately on pages 710-712). It has a frosted polycarbonate lens and a black polycarbonate housing. Wall mount with the included hardware. Light operates on 120 volts AC and must be hardwired. ETL listed for wet locations.

Overall Ht.	Overall Wd.	Overall Dp.	No. of Bulbs Req'd	Max. Watts per Bulb		
9⅛″	6⅛″	7¼″	1	100	14755K73	$74.44

Security Lights

Perimeter Wall Security Lights



Light up building perimeters for safety and security. Also known as wall packs, lights have a semi-clear, glass prismatic lens to disperse light evenly. Housing is bronze-colored aluminum. Lights must be hardwired. Mount on a 4″ outlet box (hardware not included). The included bulbs have a cool (5,000K) light appearance. UL and C-UL listed for wet locations.

High-pressure sodium lights are more energy efficient than metal halide lights.

LED lights are the longest lasting and most energy efficient lights. LEDs cannot be replaced.

Overall Ht.	Overall Wd.	Overall Dp.	Min. Start Temp.	Mount. Hole Dia.	Max. Watts per Bulb	Watts		
For Metal Halide Bulbs—120/208/240/277 Volts AC								
10″	16⅝″	12¾″	–20° F	⅜″	250	—	16935K66 Ⓔ	$324.58
10″	16⅝″	12¾″	–20° F	⅜″	400	—	16935K67 Ⓔ	334.83
For High-Pressure Sodium Bulbs—120/208/240/277 Volts AC								
10″	16⅝″	12¾″	–40° F	⅜″	250	—	16935K56	282.92
10″	16⅝″	12¾″	–40° F	⅜″	400	—	16935K57	304.67
For LED Bulbs—120/277 Volts AC								
9″	13″	7½″	–40° F	½″	—	35	16935K31	258.85
9″	13″	7½″	–40° F	½″	—	41	16935K32	409.15
9″	13″	7½″	–40° F	½″	—	59	16935K33	501.00
9″	17″	9⅜″	–40° F	½″	—	79	16935K34	626.25

Ⓔ Light meets Federal minimum efficiency standards.

Vandal-Resistant Perimeter Wall Security Lights



In addition to lighting up building perimeters, lights have an impact-resistant polycarbonate lens to protect them from vandals. The lens is prismatic to disperse light evenly. Lights must be hardwired. Mounting hardware is not included.

Metal halide and **high-pressure sodium** lights have tamper-resistant screws for added protection. To remove screws, use a pin-in-head T20 Torx driver. Lights are for bulbs with a medium screw-in base. They have a semi-clear lens and a bronze-colored polycarbonate housing. ETL and C-ETL listed for wet locations.

Metal halide light produces neutral white light. Bulbs (sold separately) have a neutral light appearance.

High-pressure sodium lights produce warm (2,100K) yellow light and are more energy efficient than metal halide lights.

LED lights produce cool (5,000K) white light and are the longest lasting and most energy efficient lights. They have a clear lens and a bronze-colored aluminum housing. LEDs cannot be replaced. CSA certified.

Overall Ht.	Overall Wd.	Overall Dp.	AC Voltage	Min. Start Temp.	Mount. Hole Dia.	Max. Watts per Bulb	Watts	Lights		Bulb	
For Metal Halide Bulbs with Medium Screw-In Base—One Bulb Required (Not Included)											
12″	11⅜″	8⅞″	120/208/240/277	–20° F	7⁄16″	70	—	15985K31	$272.08	8293K23	$35.56
For High-Pressure Sodium Bulbs—Bulb Included											
12″	11⅜″	8⅞″	120	–40° F	7⁄16″	70	—	15985K23	226.27		
12″	11⅜″	8⅞″	120	–40° F	7⁄16″	100	—	15985K25	278.27		
12″	11⅜″	8⅞″	120	–40° F	7⁄16″	150	—	15985K27	294.33		
For LED Bulbs—Bulb Included											
15½″	16⅛″	7¾″	120/277	–40° F	⅜″	—	26	15985K41	445.90		
15½″	16⅛″	7¾″	120/277	–40° F	⅜″	—	45	15985K42	464.10		

Adjustable-Head Security Lights



With Clear Lens



With Semi-Clear Visored Lens

Bulb heads move up and down so you can direct light where needed. Lights have a tempered glass lens and a bronze-colored aluminum housing. They operate on 120 volts AC and must be hardwired. Mount to a wall (hardware included) or a pole (pole mounting bracket sold separately below).

The light **with clear lens** includes LED modules that have a neutral (5,000K) light appearance. UL listed for wet locations and C-UL 1598 listed. The light **with semi-clear visored lens** reduces glare. It includes a halogen bulb that has a warm (3,000K) light appearance. UL listed. C-UL listed for wet locations.

No. of Heads	Overall Ht.	Overall Wd.	Overall Dp.	Max. Watts per Bulb	Min. Start Temp.	Conduit Connection		
With Clear Lens								
2	5″	8 5⁄16″	6⅝″	—	-22° F	½ Male	1594K22	$82.19
With Semi-Clear Visored Lens								
1	3″	5″	4¾″	150	-40° F	½ NPS Male	8308K54	13.75
Pole Mounting Bracket (for 2⅜″ OD pole)							1594K53	25.10

Vandal-Resistant Ceiling and Wall Security Lights



A



B



C

Also known as canopy lights, these have impact-resistant lenses that are held in place with tamper-resistant screws. To remove screws, use a pin-in-head T20 Torx driver. Lights have a semi-clear polycarbonate prismatic lens to disperse light evenly. They have ¼″ dia. mounting holes (hardware not included). The included LED bulbs have a neutral (3500K) appearance. ETL and C-ETL listed for wet locations.

Styles A and **B** have a white polycarbonate housing.

Style C have a bronze-colored aluminum housing.

	Mounting Location	Overall Lg.	Overall Wd.	Overall Ht.	Overall Dp.	AC Voltage	Max Watts		
A	Ceiling	12⅛″	12⅛″	4⅝″	—	120/277	20	1687K111	$260.00
A	Ceiling, Wall	8½″	8½″	3⅝″	—	120/277	16	1687K112	193.33
B	Wall	8½″	5⅞″	—	3⅝″	120/277	12	1687K117	164.62
C	Ceiling, Wall	9″	9″	7⅛″	—	120/277	25	1687K115	210.29
C	Ceiling, Wall	12⅜″	12⅜″	8⅞″	—	120/277	50	1687K113	292.86

Large-Area Security Lights

Also known as floodlights, fill large spaces such as parking lots with light. Lights have a clear lens and bronze-colored aluminum housing, except Style A is gray. They mount to a pole or wall (brackets sold separately) and must be hardwired. UL listed for wet locations. 8421K31, 8421K881, 84005K45, and 84005K47 cannot be sold in California.

Metal halide and **high-pressure sodium** lights have an impact-resistant tempered glass lens. They use one bulb and have a minimum start temperature of –20° F. *Metal halide* lights produce neutral white light. *High-pressure sodium* lights produce warm yellow light and are more energy efficient than metal halide lights.

LED lights produce white light and are the longest lasting and most energy efficient lights. Min. start temp. is –30° F. LEDs can't be replaced. *Stem mount* have an impact-resistant, nonyellowing acrylic lens. *Surface mount* have a glass lens.


A


B


C


D


LED E

	Ht.	Overall Wd.	Dp.	AC Voltage	Bulbs Incl.	Light Appearance	Max. Watts per Bulb	Watts	Lights		Bulb	
Stem Mount—½ NPS Male Conduit Connection												
For Halogen Bulbs with Recessed Single-Contact Base												
A	8½″	14″	5¼″	208/220/240/277	No		1,500		1594K62	$61.79	1513K4	$13.94
A	8⅞″	8⅝″	5¼″	120	No		500		1594K61	38.94	1513K2	6.30
For LED Bulbs												
B	8″	7½″	4″	120/277	Yes	Cool (5,100K)		27	14775K34	236.80		
B	10¼″	9⅝″	4½″	120/277	Yes	Cool (5,100K)		53	14775K35	362.60		
Stem Mount—½ NPSM Male Conduit Connection												
For Metal Halide Bulbs with Medium Screw-In Base												
C	8⅛″	9″	6⅞″	120/208/240/277	Yes	Neutral (4,000K)	100		14775K23	229.07		
For High-Pressure Sodium Bulbs with Medium Screw-In Base												
C	8⅛″	9″	6⅞″	120	Yes	Warm (2,100K)	150		14775K13	111.11		
Surface Mount												
For Metal Halide Bulbs with Large (Mogul) Screw-In Base												
D	17⅞″	16⅜″	9″	120/208/240/277	No		400		8421K31	382.58	8352K53	54.56
D	17⅞″	16⅜″	9″	480	No		400		8421K881	386.25	8352K53	54.56
D	21¾″	16″	10⅛″	120/208/240/277	No		1,000		8421K32	547.92	8352K19	48.89
D	21¾″	16″	10⅛″	480	No		1,000		8421K882	538.92	8352K19	48.89
E	12″	16¼″	14½″	120/208/240/277	Yes	Neutral (4,000K)	250		84005K45 Ⓔ	270.83		
E	12″	16¼″	14½″	120/208/240/277	Yes	Neutral (4,000K)	400		84005K47 Ⓔ	278.57		
For High-Pressure Sodium Bulbs with Large (Mogul) Screw-In Base												
D	17⅞″	16⅜″	9″	120/208/240/277	No		400		8421K11	407.28	8352K56	20.00
D	21¾″	16″	10⅛″	120/208/240/277	No		1,000		8421K12	630.42		
E	12″	16¼″	14½″	120/208/240/277	Yes	Warm (2,100K)	400		84005K27	332.50		
For LED Bulbs												
E	12″	16¼″	14½″	120/277	Yes	Cool (5,100K)		71	84005K31 ★	546.70		
E	12″	16¼″	14½″	120/277	Yes	Warm (3,000K)		71	84005K32 ★	546.70		
E	13¼″	15″	6″	120/277	Yes	Cool (5,100K)		97	84005K33 ★	876.26		
E	13¼″	15″	6″	120/277	Yes	Neutral (4,200K)		97	84005K34 ★	876.26		
E	19⅝″	15″	6″	120/277	Yes	Cool (5,100K)		200	8421K41	999.57		
Mounting Brackets												
Pole-Mount Bracket for Styles A-C (fits 2⅜″ OD pole)											1594K53	25.10
Wall-Mount Bracket for Styles A-C											1594K31	90.80
Pole-Mount Bracket for Styles D and E (fits 2⅜″ OD pole)											8421K22	39.11
Wall-Mount Bracket for Styles D and E											8421K21	87.50

Ⓔ Light meets Federal minimum efficiency standards. ★ Have ¾″ and ⅞″ dia. mounting holes.

Hazardous Location Large-Area Security Lights



Also known as floodlights, these are UL listed for use in environments with flammable gases and combustible dust as well as salt water. They have a clear, tempered glass lens and a bronze-colored aluminum housing. Wall mount with the included hardware. Lights operate on 120/208/240/277 volts AC and have a ½ NPT female conduit connection for hardwiring. UL 1598A and 844 listed; UL listed for Class I, Division 2, Groups A, B, C, D; C-UL listed.

Use large (mogul) screw-in bulbs (sold separately). **Metal halide** produce cool light; **high-pressure sodium** produce warm light.

For Bulb Type	Overall Ht.	Wd.	Dp.	Min. Start Temp.	No. of Bulbs Req'd	Max. Watts per Bulb	Lights		Bulb	
Metal Halide	16¼″	17¼″	7⅝″	–20° F	1	175	14555K2 Ⓔ	$391.38	1970K31	$43.64
Metal Halide	16¼″	17¼″	7⅝″	–20° F	1	400	14555K3 Ⓔ	390.43	8352K53	54.56
High-Pressure Sodium	16¼″	17¼″	7⅝″	–40° F	1	400	14555K1	420.69	8352K56	20.00

Ⓔ Light meets Federal minimum efficiency standards.

Adjustable-Head Motion-Sensing Lights


A


B

Lights automatically turn on when motion is detected by a sensor within a 70-ft., 180° radius. Housing is bronze-colored aluminum and has heads that adjust to any angle. Wall mount with the included hardware. Lights operate on 120 volts AC and must be hardwired. UL and C-UL listed for wet locations.

Style B includes LEDs that cannot be replaced. It is the longest lasting and most energy efficient light. Minimum start temperature is –20° F.

	Overall Ht.	Wd.	Dp.	Max. Watts per Bulb	Watts	Light Appearance	Lens Material	
For Compact Fluorescent, Halogen, Incandescent, and LED Bulbs with Medium Screw-In Base—Two Bulbs Required (Not Included)								
A	9″	14″	9″	150				1459K57 $35.07
For LED Bulbs—Bulb Included								
B	7½″	7″	6¼″		19	Neutral (4,000K)	Glass	1459K41 107.80

Battery-Powered Adjustable-Head Motion-Sensing Lights



Mount these lights anywhere you need light, but don't have electricity. They only turn on when the sensor detects motion in darkness to conserve battery life. Lights have a clear polycarbonate lens, a black plastic housing, and LEDs. They operate on three D batteries (not included). Ceiling or wall mount with the included hardware. Meets IPX4 for wet locations.

For Bulb Type	Overall Ht.	Wd.	Dp.	Sensing Radius	Max. Sensing Distance, ft.	Battery Life, hrs.	Light Appearance	Min. Start Temp.		
LED	6½″	3½″	5″	180°	30	40	Cool (5,000K)	0° F	1336N21	$31.64

Dusk-to-Dawn & Landscape Lights

Dusk-to-Dawn Wall Lights



No need for timers, a sensor automatically turns lights on at dusk and off at dawn. Lights have a semi-clear polycarbonate lens and a bronze-colored aluminum housing. They operate on 120 volts AC and must be hardwired. Mounting hardware and bulbs are included. UL listed for wet locations and C-UL listed.

Compact fluorescent light produces neutral (3,500K) white light.

LED light produces cool (5,000K) white light and is the longest lasting and most energy efficient light. LEDs cannot be replaced.

For Bulb Type	Overall Ht.	Overall Wd.	Overall Dp.	Max. Watts per Bulb	Watts	Min. Start Temp.		
Compact Fluorescent	11″	6 7/8″	5 3/8″	42	—	0°F	16905K27	$166.75
LED	11″	6 7/8″	5 3/8″	—	20	–4°F	16905K51	223.33

Adjustable-Head Dusk-to-Dawn Wall Lights



Similar to our Dusk-to-Dawn Wall Lights that automatically turn on at dusk and off at dawn, except this has bulb heads that adjust to any angle. Light uses compact fluorescent, halogen, incandescent, or LED bulbs with a medium screw-in base. Housing is aluminum. Light operates on 120 volts AC and must be hardwired. Mounting hardware is included. UL listed for wet locations.

Bulbs are not included (see pages 710-712).

Overall Ht.	Overall Wd.	Overall Dp.	No. of Bulbs Req'd	Max. Watts per Bulb		
2 7/8″	9 7/8″	4 1/2″	2	150	8300K2	$15.62

Dusk-to-Dawn Pole Lights





Mount these lights on a pole to illuminate large, open areas such as parking lots. They automatically turn on at dusk and off at dawn and have a semi-clear, acrylic prismatic lens to disperse light evenly. Housing is aluminum. Lights operate on 120 volts AC and must be hardwired. Mounting hardware and bulbs are included. UL listed for wet locations.

High-pressure sodium light produces warm (2,100K) yellow light. C-UL listed.

LED light produces cool (5,100K) white light and is the longest lasting and most energy efficient light. LEDs cannot be replaced.

For Bulb Type	Overall Dia.	Overall Ht.	Overall Dp.	Arm Lg.	Max. Watts per Bulb	Watts	Min. Start Temp.		
High-Pressure Sodium	12″	18″	22 1/2″	24″	150	—	–10°F	1643K79	$111.63
LED	9 1/2″	8 1/4″	29 3/4″	24″	—	40	–10°F	1643K45	227.60
Replacement Photo Eye for High-Pressure Sodium Light								1643K93	22.80

Landscape Lights















Mounting Box for Styles B and C



Mounting Stake for Style C

Lights operate on 120 volts AC and have a bulb head that adjusts to any angle. Styles B-F are UL listed for wet locations.

Compact fluorescent lights produce a warm (2,700K) white light and last longer than incandescent and halogen lights. They have a clear acrylic lens and are C-UL listed for wet locations.

	Overall Ht.	Overall Wd.	Overall Dp.	Housing Material	Housing Color	For Bulb Trade Size	Max. Watts per Bulb	Min. Start Temp.		
Plug In—6-ft. Cord with Three-Prong Plug										
For Incandescent, Halogen, Compact Fluorescent, and LED Bulbs with Medium Screw-In Base—One Bulb Required (Not Included)										
A	11 5/8″	2 1/8″ Dia.	—	Aluminum	Gray	PAR38	150	—	8301K11	$10.07
Hardwire—½ NPT Male Conduit Connection										
For Incandescent and Halogen Bulbs with Medium Screw-In Base—One Bulb Required (Not Included)										
B	6 1/4″	3″ Dia.	—	Aluminum	Gray	PAR38	250	—	1700K12	11.95
C	8 1/2″	6″ Dia.	—	Aluminum	Gray	PAR38	300	—	1700K34	49.16
Aluminum Mounting Box for Styles B and C—½ NPS Female Conduit Connection									7219K92	9.25
18″ Black PVC Mounting Stake for Style C—½ NPT Female Connection									1700K52	26.15
For Compact Fluorescent Bulbs—Bulb Included										
D	4 1/2″	8 1/2″	2 1/2″	Steel	Black	———	13	15°F	15215K27	53.36
E	5″	9 1/4″	7″	Aluminum	Black	———	26	0°F	15215K29	83.96
E	5″	9 1/4″	7″	Aluminum	Black	———	13	15°F	15215K17	70.51
E	5″	9 1/4″	7″	Aluminum	Black	———	13	15°F	15215K18■	84.36
F	6 3/4″	9″	2 1/2″	Steel	Black	———	13	15°F	15215K28■	75.38

■ Uses two bulbs.

Low-Voltage Landscape Lights



These 12-volt lights are easier to install and move than other landscape lights because their wires can be run just beneath the soil. Lights have a tempered glass lens and an aluminum housing. Bulbs are included. Lights require a transformer (sold separately) and must be hardwired. ETL and C-ETL listed.

Transformers have a 6-ft. cord with three-prong plug for 120-volt AC outlets. Housing is steel with a gray finish. Note: When selecting a transformer, make sure your total bulb wattage does not exceed the transformer wattage.

For Bulb Type	Overall Dia.	Overall Ht.	For Bulb Trade Size	Max. Watts per Bulb		
A Halogen	2″	13 3/8″	Q20T3/CL	20	14635K52	$69.03
B Halogen	2 3/4″	17 5/8″	MR-16	50	14635K53	66.83
300W Transformer					14635K17	215.00
600W Transformer					14635K18	310.86

Lights for T-Slotted Framing



Mount lights directly to workstations created with T-slotted framing. The included fasteners slide into your framing and will hold lights in place anywhere along the framing. Lights have a clear polycarbonate lens and an aluminum housing. They have a switch, operate on 120 volts AC, and have a 9-ft. cord with three-prong plug. Bulbs are included. ETL and C-ETL listed.

Fluorescent lights have an electronic programmed-start ballast.

LED lights last longer, generate less heat, and are more tolerant of vibration and sudden impacts than fluorescent lights. LEDs cannot be replaced.

For Extrusion Ht.	Overall Lg.	Overall Wd.	Overall Ht.	Max. Watts per Bulb	Watts	Included Bulb Brightness, lumens	Lights		Repl. Bulbs Pkg. Qty.	Repl. Bulbs	Repl. Bulbs Pkg.
For T5 Fluorescent Bulbs											
1½", 30 mm, 40 mm	25⅞"	7⅜"	2"	24	—	1,750	1346N16	$330.84	2	1562K55	$36.66
1½", 30 mm, 40 mm	37⅝"	7⅜"	2"	39	—	3,100	1346N13	385.17	6	1562K56	98.55
1½", 30 mm, 40 mm	49½"	7⅜"	2"	54	—	4,450	1346N14	410.40	6	1562K59	83.17
For LED Bulbs											
1½", 30 mm, 40 mm	25⅞"	7⅜"	2"	—	18	1,250	1346N15	496.75	_	_____	____
1½", 30 mm, 40 mm	37⅝"	7⅜"	2"	—	26	1,250	1346N11	574.36	_	_____	____
1½", 30 mm, 40 mm	49½"	7⅜"	2"	—	33	1,500	1346N12	668.47	_	_____	____

Adjustable-Arm Bench Lights

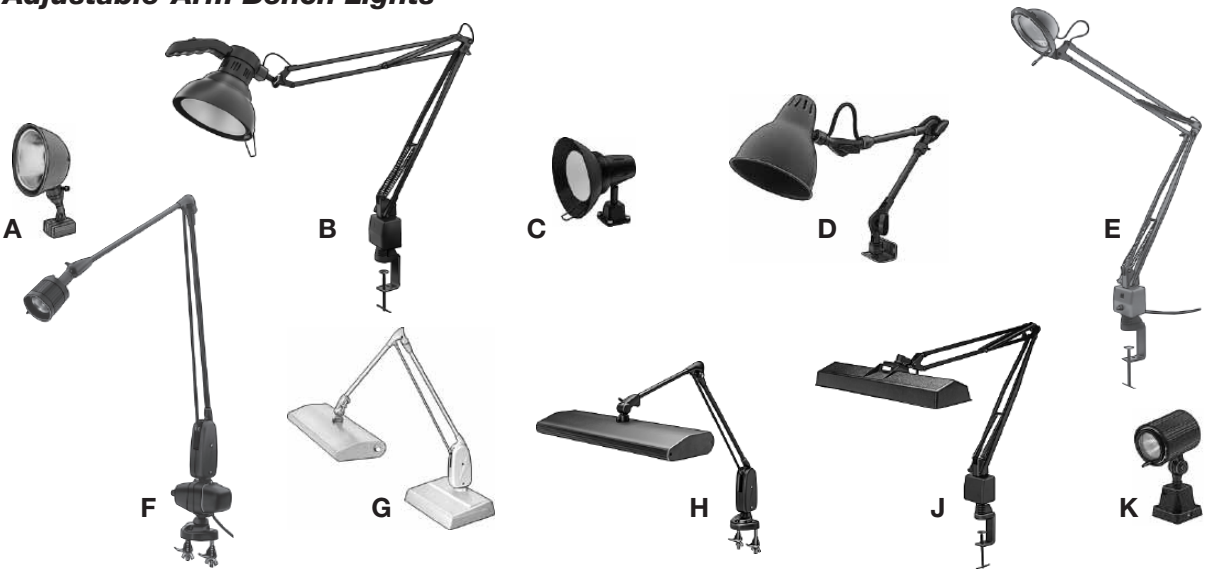

Arm adjusts horizontally and vertically, except Style K adjusts vertically. Lights have a switch and include bulbs; *Styles A-D* include a compact fluorescent bulb. Fluorescent lights last longer and generate less heat than halogen lights.

Plug In—Cords have a three-prong plug.

Hardwire—Requires a transformer (sold separately) to connect to 120 volts AC.

Style A has a vented shade.

Style B has a vented shade. Light mounts to surfaces up to 2¾" thick. ETL listed.

Style C includes mounting hardware. UL listed.

Style D has a polycarbonate lens that is more impact resistant than glass, but can yellow over time. Light has a vented shade. Mounting hardware is included. ETL and C-ETL listed.

Style E has a glass lens. Light mounts to surfaces up to 2¾" thick.

Style F has a dimmer switch and a glass lens. It mounts to surfaces up to 2" thick. UL and C-UL listed.

Style G is UL and C-UL listed.

Style H mounts to surfaces up to 2" thick. UL and C-UL listed.

Style J mounts to surfaces up to 2¾" thick. UL listed.

Style K has a glass lens. Mounting hardware is included.

	Mount Type	Arm Reach	Head Dia.	Head Material	Cord Lg., ft.	Max. Watts per Bulb	Included Bulb Brightness, lumens	Choose a Color	Lights		Repl. Bulbs Pkg. Qty.	Repl. Bulbs	Repl. Bulbs Pkg.
Plug In—120 volts AC													
For Compact Fluorescent, Halogen, Incandescent, and LED Bulbs													
A	Magnet	4"	5½" Lg. × 5¾" Wd.	Plastic	10	60	800	Gray	1564K5	$160.55	_	_____	____
B	Clamp On	45"	6"	Aluminum	9	100	800	Black	1523K22	135.10	_	_____	____
C	Screw On	1¾"	6½"	Aluminum	9	100	800	Black	8374K41	65.58	_	_____	____
D	Screw On	30"	5¼"	Steel	8	100	800	Gray	8400K21	125.29	_	_____	____
For Halogen Bulbs													
E	Clamp On	38"	5"	Plastic	7	50	1,000	Gray	2060K32	123.01	1	1997K25	$7.50
F	Clamp On	38"	2"	Plastic	10	20	300	Black	2060K4	246.75	1	1997K23	6.11
For Fluorescent Bulbs													
G	Weighted Base	33"	18" Lg. × 6" Wd.	Aluminum	7	15	700	Gray	1625K92	267.23	2	1501K13	15.29
H	Clamp On	33"	18" Lg. × 6" Wd.	Aluminum	7	15	700	Black, Gray	1625K8	232.62	2	1501K13	15.29
H	Clamp On	43"	18" Lg. × 6" Wd.	Aluminum	7	15	700	Black, Gray	1625K6	253.67	2	1501K13	15.29
J	Clamp On	45"	18½" Lg. × 4¼" Wd.	Plastic	9	15	700	Black	1625K91	118.92	1	1625K13	6.87
Hardwire—12 volts AC													
For Halogen Bulbs													
K	Screw On	3¼"	2¾"	Aluminum	—	20	5,000	Black	16415K35	190.92	1	16415K75	19.47
Transformer for Style K												16415K54	57.79

Any-Which-Way-Arm Bench Lights

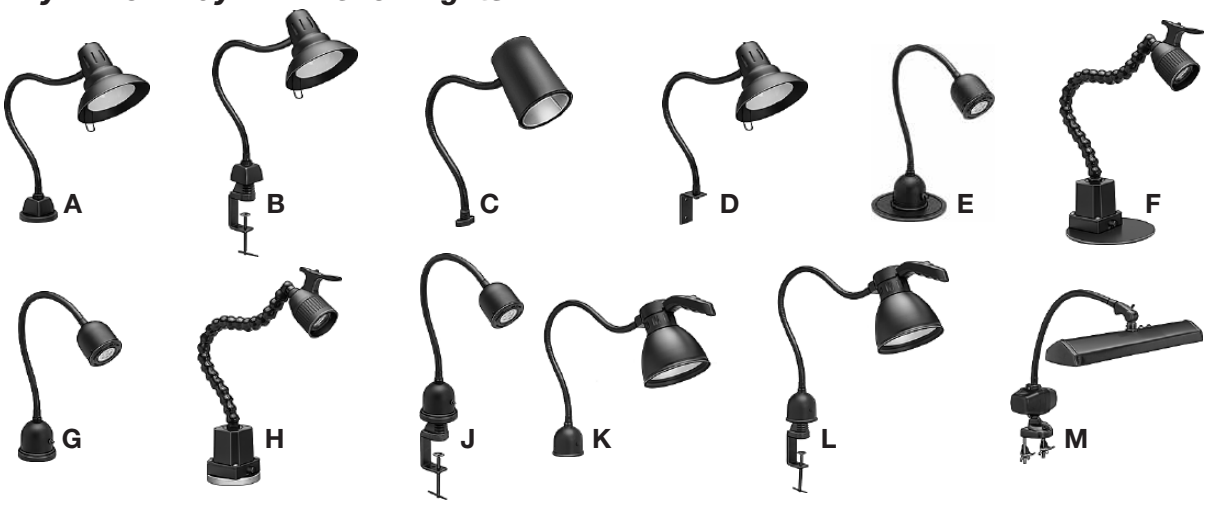

Lights have a switch, operate on 120 volts AC, and have a cord with three-prong plug. Color is black.

Fluorescent lights last longer and generate less heat than halogen lights.

LED lights last the longest, generate the least heat, and are the most tolerant of vibration and sudden impacts.

Style A is UL listed.

Style B mounts to surfaces up to 2¾″ thick. UL listed.

Style C includes mounting hardware. UL listed.

Style D has ¼″ dia. mounting holes (hardware not included). UL listed.

Style E *halogen* light has a glass lens and is UL listed. *LED* light is C-UL listed and meets IP50.

Style F has a glass lens and meets IP54.

Style G *halogen* light has a glass lens and is UL listed. *LED* light is C-UL listed and meets IP50.

Style H has a glass lens and meets IP54.

Style J mounts to surfaces up to 2¾″ thick. *Halogen* light has a glass lens and is UL listed. *LED* light is C-UL listed and meets IP50.

Style K is ETL listed.

Style L mounts to surfaces up to 2¾″ thick. ETL listed.

Style M mounts to surfaces up to 2″ thick.

	Mount Type	Arm Reach	Head Dia.	Head Material	Cord Lg., ft.	Max. Watts per Bulb	Watts	Included Bulb Brightness, lumens	Lights		Bulbs Pkg. Qty.	Bulbs	Bulbs Pkg.
For Compact Fluorescent, Halogen, Incandescent, and LED Bulbs—Compact Fluorescent Bulb Included													
A	Magnet	22″	6½″	Aluminum	9	100	_	800	**1568K43**	$80.13	_	_____	____
B	Clamp On	22″	6½″	Aluminum	9	100	_	800	**1568K63**	89.69	_	_____	____
B	Clamp On	33″	6½″	Aluminum	9	100	_	800	**1568K67**	98.50	_	_____	____
C	Screw On	24″	4½″	Plastic	6	100	_	1,600	**8394K14**	69.00	_	_____	____
D	Screw On	22″	6½″	Aluminum	9	100	_	800	**1568K61**	77.50	_	_____	____
For Halogen Bulbs—Bulb Included													
E	Weighted Base	22″	3″	Aluminum	9	20	_	350	**8366K36**	116.91	1	**1997K23**	$6.11
F	Weighted Base	20″	2⅞″	Plastic	5	35	_	550	**8366K91**	190.76	1	**1835K2**	11.76
G	Magnet	22″	3″	Aluminum	9	20	_	350	**8366K34**	115.12	1	**1997K23**	6.11
H	Magnet	20″	2⅞″	Plastic	5	35	_	550	**8366K92**	185.05	1	**1835K2**	11.76
J	Clamp On	22″	3″	Aluminum	9	20	_	350	**8366K35**	113.84	1	**1997K23**	6.11
For Compact Fluorescent Bulbs—One Bulb Required (Not Included)													
K	Magnet	33½″	6″	Aluminum	9	22	_	_____	**1569K11**	103.89	1	**1528K71**	19.34
L	Clamp On	33½″	6″	Aluminum	9	22	_	_____	**1569K21**	100.53	1	**1528K71**	19.34
For Fluorescent Bulbs—Bulb Included													
M	Clamp On	22″	18″ Lg. × 4″ Wd.	Aluminum	7	15	_	700	**8394K16**	225.00	2	**1501K14**	22.55
For LED Bulbs—Bulb Included													
E	Weighted Base	25″	3″	Aluminum	9	___	7	525	**1920K112**	160.71	1	**1920K21**	69.34
G	Magnet	25″	3″	Aluminum	9	___	7	525	**1920K111**	188.21	1	**1920K21**	69.34
J	Clamp On	25″	3″	Aluminum	9	___	7	525	**1920K1**	190.19	1	**1920K21**	69.34

Any-Which-Way-Arm Bench Lights with Cool-Touch Heads



Lights have an aluminum heat sink that keeps the head from getting too hot. They include a compact fluorescent bulb but also can use incandescent and LED bulbs with a medium screw-in base. Lights have a switch, operate on 120 volts AC, and have a 6-ft. cord with three-prong plug. Mounting hardware is included. UL and C-UL listed.

Mount Type	Head Dia.	Head Material	Max. Watts per Bulb	Included Bulb Brightness, lumens	Choose a Color	12″ Arm Reach		18″ Arm Reach		24″ Arm Reach	
Lights											
Screw On	4½″	Plastic	100	1,600	Beige, Black, Gray	**1606K19**	$69.67	**1606K11**	$71.33	**1606K12**	$76.98
Right-Angle Screw On	4½″	Plastic	100	1,600	Beige, Black, Gray	**1606K32**	69.67	**1606K33**	71.33	**1606K34**	76.98
Accessories											
Clamp On Base (fits surfaces up to 2″ thick)										**1606K411**	20.40
Magnet Base with Adhesive Back Disc										**1606K15**	29.10
2X (200%) Magnifier										**1606K61**	31.50
Wire Guard										**1606K52**	5.40
Replacement Head (Choose a color: beige, black, or gray)										**1606K51**	17.82

Ultra-Flexible Fiber-Optic-Arm Lights

Get high-intensity illumination for work on small and microscopic parts. To create a complete lighting system, you need a fiber-optic light, fiber-optic cable, and an adapter to connect the cable to the light.

Fiber-optic light includes a halogen bulb. Housing is gray plastic and has a handle. Light has a switch, operates on 120/230 volts AC, and has a 7-ft. cord with three-prong plug.

Add a **probe** to 1/8" dia. fiber-optic cables to illuminate small areas that have recessed or deep orifices.

Pair a **focusing lens** with a positionable cable to focus a concentrated beam of light on your work. Lens is glass.

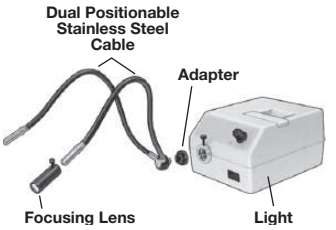

Fiber-Optic Light

Overall Lg.	Overall Wd.	Overall Ht.	Max. Watts per Bulb	Light		Repl. Bulb	
6"	8 1/2"	5 1/4"	150	14815T41	$386.04	1535K36	$21.67

Fiber-Optic Cables and Adapters

Tip Dia.	Dia.	Lg.	PVC-Coated Steel Cables		Stainless Steel Cables		Adapters	
Single Flexible Cable								
0.187"	1/16"	48"	6593T4	$64.34	1082T22	$86.13	1040T11	$29.18
0.187"	1/8"	48"	6593T5	62.26	1082T23	89.25	1040T11	29.18
0.187"	1/8"	72"	6593T56	86.13	1082T26	106.89	1040T11	29.18
0.312"	3/16"	48"	6593T59	136.98	1082T29	111.05	1040T12	29.18
0.312"	1/4"	48"	6593T7	116.23	1082T25	138.02	1040T12	29.18
0.312"	1/4"	72"	6593T57	151.51	1082T27	178.49	1040T12	29.18
0.562"	1/2"	36"	6593T58	239.72	1082T28	269.81	1040T13	29.18
Dual Flexible Cable								
0.312"	11/64", 1/4"	36"	6593T91	145.28			1040T12	29.18
Single Positionable Cable								
0.588"	1/4"	20"	1082T91 ★	207.55			1040T14	37.03
Dual Positionable Cable								
0.588"	9/32"	23"	1082T92 ★	262.55			1040T14	37.03

★ Not PVC coated.



Single Flexible PVC-Coated Steel Cable

Accessories

	Dia.	Lg.				Dia.	Lg.		
Probe	3/32"	4 1/2"	1046T11	$73.68	90° Probe	3/32"	4"	1046T13	$84.06
45° Probe	3/32"	4 1/8"	1046T12	84.06	Focusing Lens	7/8"	2 1/2"	1046T21	45.66

Tubular Machine Lights

Lights are rated NEMA 13 to protect from splashing water, oils, and coolants. Their clear polycarbonate lens is impact resistant, but can yellow over time. Lights have a black rubber housing and must be hard-wired. Includes a compact fluorescent bulb and mounting hardware. ETL and C-ETL listed.



Overall Lg.	Overall Dia.	Voltage	Max. Watts per Bulb	Included Bulb Brightness, lumens	Lights		Repl. Bulb	
23"	2 3/4"	24V DC	18	1,250	1522K43	$286.00	1528K98	$15.05
29"	2 3/4"	120V AC	50	4,300	1522K31	362.00	1528K41	17.71

Plug-In Tubular Machine Lights



Lights have a cord with three-prong plug. Lens is clear and housing is black plastic. Bulbs and mounting hardware are included.

Lights with acrylic lens are best for water-only areas. **Lights with glass lens** resist discoloration and are for applications involving water as well as heat and chemicals.

LED lights last longer, generate less heat, and are more tolerant of vibration and sudden impacts than fluorescent lights. LEDs cannot be replaced.

Style A is UL listed and rated NEMA 13 to protect against splashing water, oils, and coolants. *20" long lights* have an external ballast.

Styles B and *C* are ETL listed and meet IP67 to protect against temporary submersion in water.

Style D is ETL listed.

Overall Lg.	Overall Dia.	Cord Lg., ft.	Max. Watts per Bulb	Watts	Included Bulb Brightness, lumens	Lights with Acrylic Lens		Lights with Glass Lens		Repl. Bulbs Pkg. Qty.	Repl. Bulbs Pkg.	
For Compact Fluorescent Bulbs—120 volts AC												
A 17"	2 3/4"	9	18	—	1,250	1522K11	$174.55	1522K21	$206.31	1	1528K26	$15.05
A 20"	2 3/4"	14	36	—	2,900	1522K12	250.78	1522K22	270.65	1	1528K24	15.05
B 19"	2 3/4"	8	18	—	1,250	14795K55	288.35	14795K56	327.27	1	1528K98	15.05
For Compact Fluorescent Bulbs—120/277 volts AC												
B 31"	2 3/4"	8	36	—	2,900	14795K87	326.67	14795K93	424.22	1	1528K79	15.05
For T8 Fluorescent Bulbs—120/277 volts AC												
C 41"	2 3/4"	8	17	—	1,375	14795K18	318.24	14795K19	347.52	6	1501K81	45.83
For LED Bulbs—120 volts AC												
D 11"	2 3/4"	9	—	7	860	1522K53	133.44			—		
D 20"	2 3/4"	9	—	7	965	1522K51	174.81			—		
D 24"	2 3/4"	9	—	9	1,025	1522K55	232.49			—		

Panel Machine Lights

With its flat, clear tempered glass lens, these lights have a lower-profile design than tubular machine lights. They have a black aluminum housing and are IP67 rated to protect against temporary submersion in water. Magnet mount or screw mount (fasteners not included). The included LEDs cannot be replaced.

Plug-in light has a 12-ft. cord with three-prong plug.



For Bulb Type	Overall Lg.	Overall Wd.	Overall Ht.	Watts	Mount. Hole Dia.	Hardwire 24V DC		Plug In 120V AC	
LED	19"	3 3/8"	2 1/2"	38	1/4"	1672N31	$609.39	1672N41	$664.89

Machine & Dock Lights

Adjustable-Arm Machine Lights

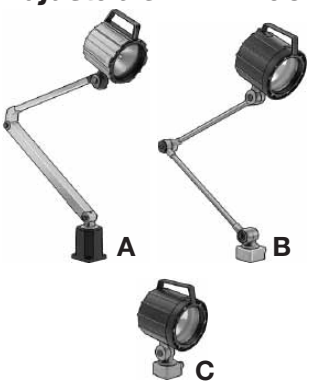

These halogen lights have a clear glass lens that resists discoloration and is for applications involving water as well as heat and chemicals. Lights have an aluminum head. They include screws for mounting. Bulbs are included.

Plug In—Arm adjusts horizontally and vertically. Lights have a cord with three-prong plug and switch.
Hardwire—Arm adjusts vertically. Require a transformer (sold separately) to connect to 120 volts AC.
Style A has head that is IP65 rated to protect against spraying water.
Style B is IP65 rated to protect against spraying water.
Style C is IP67 rated to protect against temporary submersion in water.

	Arm Reach	Head Dia.	Cord Lg., ft.	Max. Watts per Bulb	Included Bulb Brightness, lumens	Color	Lights		Repl. Bulb	
Plug In—120 volts AC										
A	33″	5″	6	50	1,000	Gray	14805K56	$210.61	1997K25	$7.50
B	32″	5⅜″	16	55	1,450	Black	14805K77	370.09	9613T24	5.29
Hardwire—24 volts AC										
C	23⁄8″	5⅛″	—	70	1,750	Black	16415K47	253.79	9613T25	6.67
Transformer for Style C									16415K57	189.65

Any-Which-Way-Arm Machine Lights

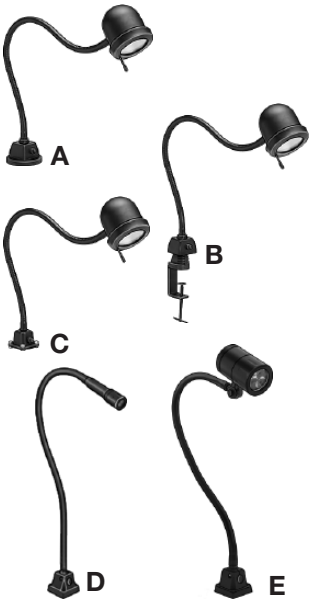

Lights have a clear glass lens and a black aluminum head. Bulbs are included.
LED lights last longer, generate less heat, and are more tolerant of vibration and sudden impacts than halogen lights. LEDs cannot be replaced.
Styles A-C have a switch and are UL listed. *Style B* fits surfaces up to 2¾″ thick. *Style C* includes mounting hardware.
Style D are IP67 rated to protect against temporary submersion in water. Lights have ¼″ dia. mounting holes (hardware not included).
Style E is IP65 rated to protect against spraying water. It has ¼″ dia. mounting holes (hardware not included). ETL and C-ETL listed.

	Mount Type	Arm Reach	Head Dia.	Cord Lg., ft.	Plug Type	Max. Watts per Bulb	Watts	Included Bulb Brightness, lumens	Light Setting		
Plug In											
For Halogen Bulbs—120V AC											
A	Magnet	30″	3⅜″	7	3 Prong	50	—	490	Wide Beam	16335K23	$125.20
B	Clamp On	32″	3⅜″	7	3 Prong	50	—	490	Wide Beam	16335K24	123.82
C	Screw On	32″	3⅜″	7	3 Prong	50	—	490	Wide Beam	16335K25	136.29
Replacement Bulb for Styles A-C										16335K11	7.86
For LED Bulbs—95-240V AC											
D	Screw On	23⁄8″	1⅛″	25	2 Prong	—	3	190	Narrow Beam	6799T11	411.42
D	Screw On	23⁄8″	1⅛″	25	2 Prong	—	3	190	Wide Beam	6799T21	411.42
For LED Bulbs—100-240V AC											
E	Screw On	23⁄8″	2½″	9	2 Prong	—	6	575	Narrow Beam	6799T4	583.55
Hardwire											
For LED Bulbs—24V AC/DC											
D	Screw On	23⁄8″	1⅛″	—	———	—	3	190	Narrow Beam	6799T12	411.42
D	Screw On	23⁄8″	1⅛″	—	———	—	3	190	Wide Beam	6799T22	411.42
Optional Bases for Styles D and E											
Clamp On (fits surfaces up to 2¾″ thick)										6799T413	48.18
Magnet										6799T412	56.58

Clearance Lights



Use these dual-bulb fixtures to avoid misjudging clearance. Lights have an acrylic lens and a polypropylene base. All metal parts are stainless steel. Overall size is 2″ Ht.×4″ Wd.×1⅛″ Dp. Each bulb has a 2500-hour life. Surface mount using the two 3⁄16″ dia. mounting holes (screws not included). They have one 4½″ wire lead.

	Amps @ 12 VDC		
Light with Amber Lens	0.67	8720T561	$3.79
Light with Green Lens	0.67	8720T563	4.86
Light with Red Lens	0.67	8720T562	3.79
Replacement Bulb		14335T95	.45

Forklift Tail Lights



Improve safety around forklifts with these multifunctional, long-lasting LED lights. They have an amber turn light, red stop light, and a clear backup light. Lights have five 12″ wire leads. Lens is polycarbonate and base is ABS plastic. Overall size is 8½″ Ht.×2″ Wd.×1⅛″ Dp. Surface mount using the two ¼″ dia. mounting holes (screws not included). UL recognized for lift trucks.

12 VDC light has a continuous red tail light in addition to the lights listed above.

	Amps		
12 V DC	0.4	58065T16	$61.27
36 V DC	0.4	58065T17	72.77

Any-Which-Way-Arm Dock Lights



Compared to other dock lights that can only adjust vertically and horizontally, these bend at any angle to illuminate loading-dock work areas as well as trailers. They have a black steel arm and a yellow polycarbonate head. Lights have a switch, operate on 120 volts AC, and have a 7-ft. cord with three-prong plug. Mounting hardware is included. The included LEDs cannot be replaced. UL and C-UL listed.

For Bulb Type	Arm Reach	Head Dia.	Watts	Included Bulb Brightness, lumens		
LED	42″	6″	16	600	2546K23	$511.57

Adjustable-Arm Dock Lights

Lights swing out from the wall and adjust horizontally and/or vertically to illuminate loading-dock work areas as well as trailers. Arms are yellow steel. Lights have a switch, operate on 120 volts AC, and have a cord with three-prong plug. They have 3/8″ dia. mounting holes (hardware not included).

Lights **for compact fluorescent, halogen, incandescent, and LED bulbs** and **for incandescent bulbs** use bulbs with a medium screw-in base (for bulbs, see pages 713-714). They have a yellow head and a steel wire guard. Lights are UL and C-UL listed, except lights that include a compact fluorescent bulb are ETL and C-ETL listed.

Lights **for halogen bulbs** have a black head, a steel wire guard, and a tempered glass lens. ETL and C-ETL listed.

Lights **for LED bulbs** last the longest, generate the least heat, and are the most tolerant of vibration and sudden impacts. They have a yellow head and a polycarbonate lens that is more impact resistant than tempered glass, but can yellow over time. LEDs cannot be replaced. UL, ETL, and C-ETL listed.

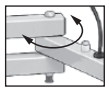

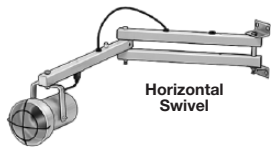

Horizontal Swivel

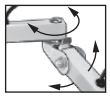



LED Horizontal and Vertical Swivel

Arm Reach	No. of Arms	Head Dia.	Head Material	Cord Lg., ft.	Max. Watts per Bulb	Watts	Included Bulb Brightness, lumens		
Horizontal Swivel									
For Compact Fluorescent, Halogen, Incandescent, and LED Bulbs—One Bulb Required (Not Included)									
46″	2	6″	Steel	6	300	—	—	8403K52	$130.91
64 1/2″	2	6″	Steel	4	300	—	—	8403K53	145.64
For Incandescent Bulbs—One Bulb Required (Not Included)									
24″	1	8 1/4″	Polycarbonate	5	250	—	—	1553K14	114.31
Horizontal and Vertical Swivel									
For Compact Fluorescent, Halogen, Incandescent, and LED Bulbs—One Bulb Required (Not Included)									
95 1/4″	3	6″	Steel	3	300	—	—	8403K74	250.36
For Compact Fluorescent, Halogen, Incandescent, and LED Bulbs—Compact Fluorescent Bulb Included									
40″	2	5 3/4″	Plastic	5	55	—	3,000	6778T11	188.12
60″	2	5 3/4″	Plastic	5	55	—	3,000	6778T12	218.00
For Halogen Bulbs—Bulb Included									
40″	2	10 3/4″	Aluminum	5	500	—	11,000	1489K14	152.73
60″	2	10 3/4″	Aluminum	5	500	—	11,000	1489K16	178.18
For Incandescent Bulbs—One Bulb Required (Not Included)									
42″	2	8 1/4″	Polycarbonate	5	250	—	—	1553K16	148.33
60″	2	8 1/4″	Polycarbonate	5	250	—	—	1553K18	159.73
For LED Bulbs—Bulb Included									
42″	2	5″	Aluminum	5	—	16	800	2546K11	345.10
60″	2	5″	Aluminum	5	—	16	800	2546K12	363.80

Wet-Location Adjustable-Arm Dock Lights

Similar to our other dock lights, except these have a sealed head and switch to keep them shining in wet environments. Lights use incandescent bulbs with a medium screw-in base. They have a yellow steel arm that adjusts horizontally and vertically, a tempered glass lens, a yellow aluminum head, and a steel guard. Lights operate on 120 volts AC and must be hardwired. They have 1/2″ dia. mounting holes (hardware not included). UL listed for wet locations. CSA certified.

Bulbs are sold separately (see pages 713-714).

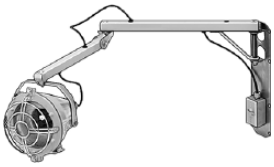

Head Dia.	Max. Watts per Bulb	No. of Bulbs Req'd	**42″ Arm Reach**		**60″ Arm Reach**	
11 1/2″	300	1	15205K42	$623.51	15205K43	$623.51

Adjustable-Arm Desk Lights

Lights have a switch and operate on 120 volts AC. They use compact fluorescent, halogen, incandescent, and LED bulbs. Lights have a cord with two-prong plug and include a compact fluorescent bulb. Color is black. ETL listed.

Style A has a vented shade and an arm that adjusts horizontally and vertically. Lights mount to surfaces up to 2 3/4″ thick.

Style B has an arm that adjusts vertically. C-UL and C-ETL listed.



	Mount Type	Arm Reach	Head Dia.	Head Material	Cord Lg., ft.	Max. Watts per Bulb	Included Bulb Brightness, lumens		
A	Clamp On	30″	6″	Metal	8	100	800	1650K11	$80.03
A	Clamp On	45″	6″	Metal	8	100	800	1650K12	82.39
B	Weighted Base	18 1/2″	4 7/8″	Metal	5	75	960	1650K83	92.84

Any-Which-Way-Arm Desk Lights

Lights have a switch, operate on 120 volts AC, and have a 9-ft. cord with three-prong plug. They have a weighted base. Color is black. UL listed.



For T8 Fluorescent Bulbs

For Compact Fluorescent, Halogen, Incandescent, and LED Bulbs

Arm Reach	*Head* Lg.	*Head* Wd.	Head Material	Max. Watts per Bulb	Included Bulb Brightness, lumens	**Lights**		**Repl. Bulb** Pkg. Qty.	**Repl. Bulb** Pkg.	
For Compact Fluorescent, Halogen, Incandescent, and LED Bulbs—Compact Fluorescent Bulb Included										
21″	6 1/2″ Dia.	—	Metal	60	800	15575K11	$80.04	—	—	—
For T8 Fluorescent Bulbs—Bulb Included										
12″	18 1/2″	4 1/4″	Plastic	15	875	1682K11	81.14	2	1501K13	$15.29
12″	18 1/2″	4 1/4″	Plastic	15	1,750	1682K12	85.57	2	1501K13	15.29

Portable Lights

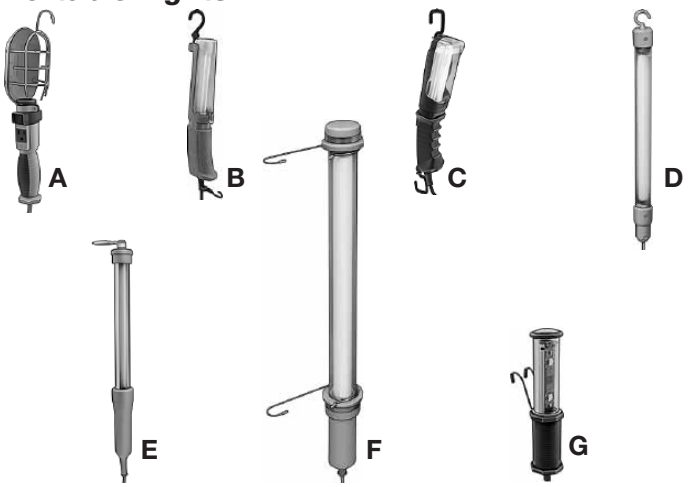

All have a hook. Lights operate on 120 volts AC.

LED lights last longer, generate less heat, and are more tolerant of vibration and sudden impacts than fluorescent lights.

Style A has a black and yellow plastic handle with a three-prong outlet, a steel guard, a switch, and a cord with three-prong plug. UL and C-UL listed.

Style B has a yellow plastic handle and a plastic lens. It has a switch and a cord with two-prong plug. UL and C-UL listed.

Style C has a black plastic handle and a plastic lens. It has a three-prong outlet in the handle, a switch, and a cord with three-prong plug. ETL listed.

Style D has a yellow plastic handle and a plastic lens. It has a switch and a cord with three-prong plug. UL listed.

Styles E&F have a yellow rubber handle and a plastic lens. They have a cord with three-prong plug.

Style G has a black plastic handle and a plastic lens. It has an LED flashlight on the end, a three-prong outlet inline with the cord, a switch, and a three-prong plug. ETL and C-ETL listed. LEDs cannot be replaced.

	Overall Lg.	Overall Dia.	Max. Watts per Bulb	Watts	Included Bulb Brightness, lumens	Cord Type	Lights with 25-ft. Cord		Lights with 50-ft. Cord		Repl. Bulb Pkg. Qty.	Repl. Bulb	Repl. Bulb Pkg.
For Halogen, Incandescent, and LED Bulbs with Medium Screw-In Base—One Bulb Required (Not Included)													
A	15¼″	3¾″	75	—	—	SJEOW	1550K31	$26.29	1550K33	$37.31	—	—	—
For Compact Fluorescent Bulbs—Bulb Included													
B	14½″	2½″	13	—	825	SJT	1675K21	24.94	1675K23	31.17	1	1528K51	$4.11
C	14″	4″	13	—	1,600	SJT	1541K32	50.93	—	—	1	1528K51	4.11
For Fluorescent Bulbs—Bulb Included													
D	26½″	2″	15	—	870	SJT	1675K41	24.85	1675K43	35.00	2	1501K13	15.29
E	21½″	1⅞″	8	—	400	SJOW	8413K32	89.22	—	—	2	1562K45	14.04
E	28½″	2⅜″	15	—	870	SJOW	8413K34	106.26	—	—	2	1501K13	15.29
F	31½″	3⅛″	20	—	1,200	SJOW	8413K14	135.45	—	—	6	1501K44	28.26
For LED Bulbs—Bulb Included													
F	53″	2⅛″	—	18	1,800	SJO	8413K44	150.38	—	—	—	—	—
G	10¼″	2″	—	4	925	SJTOW	2163K1	118.09	—	—	—	—	—

Heavy Duty Portable Lights



With a heavy duty steel guard, these durable lights stand up to rough environments. They have a yellow plastic handle with a three-prong outlet. Lights have a switch, operate on 120 volts AC, and have a cord with three-prong plug. UL listed and CSA certified.

Use one halogen, incandescent, or LED bulb with a medium screw-in base (sold separately on pages 710-712).

Overall Lg.	Overall Dia.	Max. Watts per Bulb	Cord Type	With 25-ft. Cord		With 50-ft. Cord	
15″	4″	100	SJTW	8407K11	$74.93	8407K12	$96.44

Adjustable-Head Magnet-Mount Portable Lights



A magnetic swivel base allows easy positioning of light heads while mounted to metal surfaces. Lights also have a hook for hanging. Handle is black rubber with a steel guard. Lights have a switch, operate on 120 volts AC, and have a cord with three-prong plug.

Use one halogen, incandescent, or LED bulb with a medium screw-in base (sold separately on pages 710-712).

Overall Lg.	Overall Dia.	Max. Watts per Bulb	Cord Type	With 25-ft. Cord		With 50-ft. Cord	
14″	3⅜″	75	SJ	1526K5	$92.75	1526K6	$97.05

Magnet-Mount Portable Lights



In addition to a hook for hanging, lights have a magnet for mounting to metal surfaces. Handle is yellow plastic. Lights have a switch, operate on 120 volts AC, and have a cord with three-prong plug. Bulbs are included. UL and C-UL listed.

Fluorescent lights last longer and generate less heat than halogen lights.

Style A has a tempered glass lens. **Style B** has an impact-resistant plastic lens and a three-prong outlet inline with the cord.

	Overall Lg.	Overall Dia.	Max. Watts per Bulb	Included Bulb Brightness, lumens	Cord Type	Lights with 25-ft. Cord		Lights with 50-ft. Cord		Repl. Bulb	
For Halogen Bulbs											
A	9½″	3″	20	900	SJT	1490K11	$26.34	1490K12	$34.70	1465K35	$5.81
For Compact Fluorescent Bulbs											
B	11¼″	2″	13	900	SJTOW	16635K63	66.25	16635K65	82.35	1528K51	4.11

Replacement Handles and Guards for Portable Lights



Handle and guard are for portable lights that use medium screw-in bulbs. They are not for use with insulated, wet-location, or hazardous location portable lights.

Handle is red plastic, has a switch, operates on 120 volts AC, and has a three-prong outlet. CSA certified.

Guard is zinc-plated steel. It fits handles up to 1½″ dia.

	Overall Lg.	Overall Dia.		
Handle	7″	1⅞″	1559K2	$6.63
Guard	6¾″	3⅝″	1559K3	5.27

Insulated Portable Lights

Lights have a thick rubber handle to protect against electrical shock. They have a plastic lens and a yellow housing. Lights have a switch, operate on 120 volts AC, and have a cord with three-prong plug. They include a 13-watt compact fluorescent bulb. UL listed and CSA certified.



Cord		Overall		Included Bulb Brightness, lumens		
Lg., ft.	Type	Lg.	Dia.			
25	SJTOOW	13½″	2⅝″	900	1477K66	$166.60
50	SJTOOW	13½″	2⅝″	900	1477K67	185.45
Replacement Bulb					1528K51	4.11

Low-Voltage Portable Lights

Furnished with a 12-volt DC cigarette-lighter plug, this light can be powered by your vehicle or a battery pack. It has a yellow housing, a plastic lens, a switch, and includes a 13-watt compact fluorescent bulb. UL and C-UL listed.





Cord		Overall		Included Bulb Brightness, lumens		
Lg., ft.	Type	Lg.	Dia.			
20	SJTOW	13¼″	2″	900	15045K31	$58.06
Replacement Bulb					1528K51	4.11

Portable Lights with Retractable Cord Reels

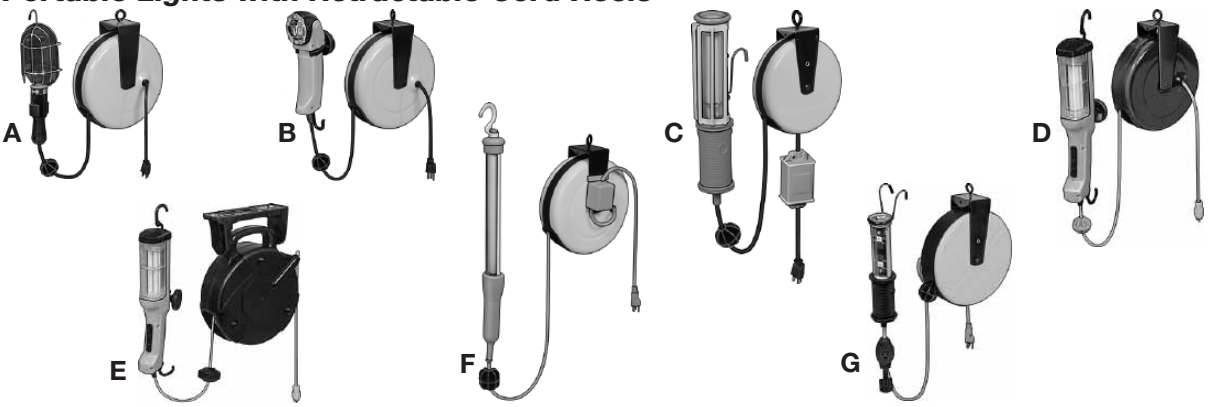

Keep excess cords out of your way—the retractable cord reel locks your cord at any length and retracts it when not in use. Lights operate on 120 volts AC and have a cord with three-prong plug. They have a switch, except Style F. Mount the reel using the eye loop, except Style E has a mounting bracket. They have a plastic housing with a steel reel, except Style E has a plastic reel and Style F has a rubber housing.

Fluorescent lights last longer and generate less heat than halogen lights. **LED** lights last the longest, generate the least heat, and are the most tolerant of vibration and sudden impacts. LEDs cannot be replaced.

Style A has a steel guard and a three-prong outlet in the handle. Housing is black and reel is yellow. UL listed.

Style B has a tempered glass lens and a magnet for mounting the light. Housing and reel are yellow. UL listed.

Style C has an impact-resistant plastic lens. Housing is yellow, white, and black. Reel is white. UL and C-UL listed.

Styles D and **E** have an impact-resistant plastic lens, a magnet for mounting the light, and a three-prong outlet in the handle. They have a black and yellow housing and a black reel. ETL and C-ETL listed.

Style F has an impact-resistant plastic lens. Housing is yellow and reel is white.

Style G has an LED flashlight on the end and a three-prong outlet inline with the cord. Housing is black and reel is white. ETL and C-ETL listed.

	Cord		Overall		Reel	Feeder Cord	Max. Watts	Included Bulb Brightness,			Repl. Bulbs		
	Lg., ft.	Type	Lg.	Dia.	Dia.	Lg., ft.	per Bulb	lumens	Lights		Pkg. Qty.		Pkg.
For Halogen, Incandescent, and LED Bulbs with Medium Screw-In Base—One Bulb Required (Not Included)													
A	30	SJT	13½″	4″	9½″	2	100	____	1655K3	$51.57	__	_____	____
A	50	SVT	13½″	4″	9½″	2	100	____	1655K4	55.35	__	_____	____
For Halogen Bulbs—Bulb Included													
B	40	SJT	9½″	3″	9½″	2	20	900	1491K31	63.38	1	1465K35	$5.81
For Compact Fluorescent Bulbs—Bulb Included													
C	20	SVT	11″	2¼″	6½″	2	13	900	1649K6	73.15	1	1528K93	4.11
C	40	SJTOW	11″	2¼″	9″	2	13	900	1649K7	75.31	1	1528K93	4.11
D	30	SJT	17″	3½″	9½″	2	26	1,800	1620K6	72.82	1	1528K68	12.13
E	50	SJT	17″	3½″	11½″	3	26	1,800	1620K56	131.64	1	1528K68	12.13
For Fluorescent Bulbs—Bulb Included													
F	40	SJO	21½″	1⅞″	9½″	1¼	8	400	1615K24	173.24	2	1562K45	14.04
F	40	SJO	28½″	2⅜″	9½″	1¼	15	870	1615K25	192.17	2	1501K13	15.29
For LED Bulbs—Bulb Included													
G	40	SJTOW	10¼″	2″	9″	2	4	925	1794K1	159.55	__	_____	____

Heavy Duty Portable Lights with Retractable Cord Reels

Made of heavy duty steel, these durable lights keep excess cords out of your way—the retractable cord reel locks your cord at any length and retracts it when not in use. Lights have a steel guard and a yellow rubber handle with a three-prong outlet. Lights have a switch, operate on 120 volts AC, and have a cord with a three-prong plug. Mounting bracket has ⅜″ dia. holes (hardware not included). UL listed and CSA certified.

Use one halogen, incandescent, or LED bulb with a medium screw-in base (sold separately on pages 710-712).



Overall		Cord	Reel	Feeder Cord	Max. Watts	With		With		With	
Lg.	Dia.	Type	Dia.	Lg., ft.	per Bulb	25-ft. Cord		35-ft. Cord		50-ft. Cord	
13⅜″	4⅛″	SOOW	12″	6	100	1596K76	$369.72	1596K77	$385.41	1596K78	$432.54

Cordless Portable Lights



Fluorescent LED

Bring light to areas that don't have an electrical power source. Lights have a switch and include a rechargeable battery and 120-volt AC charger. They have a plastic lens and handle. Bulbs are included. UL and C-UL listed. Lights cannot be sold in California or Oregon.

Compact fluorescent light has a black and yellow housing. It also includes a 12-volt DC charger with cigarette-lighter plug.

LED light lasts longer, generates less heat, and is more tolerant of vibration and sudden impacts than fluorescent lights. Housing is yellow. LEDs cannot be replaced.

Overall Lg.	Overall Dia.	Charging Time, hrs.	Max. Watts per Bulb	Included Bulb Brightness, lumens	Lights		Repl. Bulb		Repl. Battery	
For Compact Fluorescent Bulbs										
15″	3½″	2	13	825	7752T21	$48.03	7752T26	$6.34	7752T27	$22.41
For LED Bulbs										
12″	2″	3	4	480	1600K2	150.00			1600K21	51.12

Washdown Portable Lights



With Tempered Glass Lens With PTFE Lens

Completely sealed to keep dirt and water out, lights have a NEMA 4X rating to provide protection against washdowns. Lights use halogen, incandescent, or LED bulbs with a medium screw-in base and operate on 120 volts AC. They have a yellow housing. CSA certified.

Without Cord—Light has a steel guard and a rubber handle. UL listed. For cords, see page 844. For plugs, see page 820.

With Cord—Lights have an SOOW cord. Lights **with tempered glass lens** have a steel guard, rubber handle, and a three-prong plug. Lights **with PTFE lens** have a plastic handle and a two-prong plug. Lens is impact resistant. UL listed.

Bulbs are not included (see pages 710-712).

Cord Lg., ft.	Max. Watts per Bulb	No. of Bulbs Req'd	With Tempered Glass Lens: Overall Lg.	With Tempered Glass Lens: Overall Dia.			With PTFE Lens: Overall Lg.	With PTFE Lens: Overall Dia.		
Without Cord										
—	100	1	18″	4¾″	1548K84	$148.27	—	—		
With Cord										
25	100	1	18″	4¾″	1548K15	214.92	10″	5″	1546K11	$258.47
50	100	1	18″	4¾″	1548K16	263.49	10″	5″	1546K12	293.33
Replacement Lenses										
Tempered Glass									1548K91	31.55
PTFE									1546K13	123.36

Hazardous Location Portable Lights



For Halogen, Incandescent, and LED Bulbs For Fluorescent Bulbs

These spark-resistant lights are rated for use in hazardous environments with flammable gases and combustible dust. Lights operate on 120 volts AC.

Lights **for halogen, incandescent, and LED bulbs** have a tempered glass lens, which is more durable than annealed glass. They have a plastic handle and an aluminum guard. Lights have an SOOW cord and three-prong plug. UL listed for Class I, Division 1, Groups C and D with bulbs up to 100 watts; Class II, Division 1, Groups F and G with bulbs up to 75 watts.

Lights **for fluorescent bulbs** have a glass lens, an aluminum handle, and an SOOW cord. Plugs are not included (see page 822). FM approved. Meets NEC Class I, Division 1 and 2, Group D; Class II, Division 1 and 2, Groups E, F, and G; Class III, Division 1 and 2.

Cord Lg., ft.	Overall Lg.	Overall Dia.	Housing Color	Max. Watts per Bulb	Included Bulb Brightness, lumens	Lights		Repl. Bulbs: Pkg. Qty.	Repl. Bulbs: Pkg.	Repl. Lens	
For Halogen, Incandescent, and LED Bulbs with Medium Screw-In Base—One Bulb Required (Not Included)											
50	16½″	5″	Red, Silver	100	—	1545K6	$800.40	—	—	—	1545K5	$108.10
For Fluorescent Bulbs—Bulb Included											
25	29½″	3¼″	Yellow	15	870	8415K11	611.76	2	1501K13	$15.29		
50	29½″	3¼″	Yellow	15	870	8415K12	694.56	2	1501K13	15.29		

Hanging Light Strings

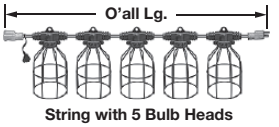

String with 5 Bulb Heads





A



B

A series of bulb heads are attached to a power cord to provide overhead lighting for jobsites. The cord has a plug on one end and a female connector on the other end so you can connect multiple strings to illuminate larger areas. Housing is black. Lights operate on 120 volts AC.

Light strings **for compact fluorescent, halogen, incandescent, and LED bulbs** have a plastic housing with steel guard and a three-prong plug. UL listed.

Light strings **for LED bulbs** have a plastic lens, an aluminum housing, five carabiners for hanging, and a two-prong plug. LEDs cannot be replaced. Meets IP44. ETL and C-ETL listed.

	No. of Bulb Heads	Cord Lg., ft.	Cord Type	Bulb Spacing, ft.	Max. Watts per Bulb	Watts	Included Bulb Brightness, lumens	Light Strings		Repl. Bulb Guard	
For Compact Fluorescent, Halogen, Incandescent, and LED Bulbs with Medium Screw-In Base—Bulbs Not Included											
A	5	50	SJTW	10	150	—	—	1560K56	$133.86	1560K55	$5.28
A	10	100	SJTW	10	150	—	—	1560K58	259.67	1560K55	5.28
For LED Bulbs—Bulbs Included											
B	5	50	SJTW	10	—	6	500	1560K63	97.98	—	—

Wraparound Rope Lights



Lights are clear and have nonreplaceable bulbs spaced every inch in a 1/2″ dia. cord. They operate on 120 volts AC and have a two-prong plug. An end cap and mounting clips are included. UL listed for indoor and outdoor use.

The LED lights last longer, generate less heat, and are more tolerant of vibration and sudden impacts than incandescent lights.

Cord Lg.	Feeder Cord Lg.	Incandescent		LED	
30 ft.	5 ft.	16995K113	$54.01	16995K95	$125.43

Magnet-Mount Hanging Lights





Hang these lights by their eyelet hook or mount them to ferrous surfaces with their built-in magnet. Lens is plastic. They have a switch, operate on 120 volts AC, and have a 6-ft. cord with three-prong plug. ETL and C-ETL listed.

High-pressure sodium and **metal halide** lights last longer than halogen lights. *High-pressure sodium* lights produce yellow light, while *metal halide* lights produce white light. **Fluorescent** lights last longer and generate less heat than halogen lights. **LED** lights last the longest, generate the least heat, and are the most tolerant of vibration and sudden impacts. LEDs cannot be replaced.

Overall Wd.	Overall Ht.	Overall Dp.	Cord Type	Max. Watts per Bulb	Watts	Included Bulb Brightness, lumens	Lights		Repl. Bulb	
Yellow Polycarbonate Housing										
For Compact Fluorescent, Halogen, Incandescent, and LED Bulbs with Medium Screw-In Base—One Bulb Required (Not Included)										
6 1/4″	9 1/4″	6 3/8″	SJTOW	75	—	—	14965K33	$104.89	—	—
For High-Pressure Sodium Bulbs—Bulb Included										
6 1/4″	9 1/4″	7 3/4″	SJTOW	70	—	6,300	14965K42	205.18	8293K57	$22.22
12″	12″	9 1/2″	SJOW	100	—	9,500	14965K44	283.49	8293K58	22.22
For Metal Halide Bulbs—Bulb Included										
6 1/4″	9 1/4″	7 3/4″	SJTOW	50	—	3,400	14965K41	310.78	8293K21	35.56
12″	12″	9 1/2″	SJOW	100	—	8,500	14965K43	372.33	8293K25	48.78
For Fluorescent Bulbs—Bulb Included										
4 3/4″	10 1/8″	4 1/4″	SJTOW	42	—	3,200	14965K22	161.40	1528K45	10.60
For LED Bulbs—Bulb Included										
12″	12″	9 1/2″	SJOOW	—	46	4,000	14965K86	339.27	—	—
White Plastic Housing										
For Fluorescent Bulbs—Bulb Included										
26″	7″	5 1/4″	SJTOW	40	—	6,300	15145K32	324.93	1528K78	14.50

Freestanding Floodlights



Lights have an aluminum housing and a head that adjusts vertically. Bulbs are included.

Halogen light has a tempered glass lens, steel guard, and aluminum stand. Housing is yellow. Light operates on 120 volts AC. UL and C-UL listed for outdoor use.

LED lights last longer, generate less heat, and are more tolerant of vibration and sudden impacts than halogen lights. They have an impact-resistant plastic lens, an iron stand, and a switch. Housing is black. Light operates on 120/240 volts AC. LEDs cannot be replaced. Meets IP44. UL and C-UL listed. ETL and C-ETL listed.

For Bulb Type	Overall Ht.	Overall Wd.	Overall Dp.	Cord Lg., ft.	Cord Type	Max. Watts per Bulb	Watts	Included Bulb Brightness, lumens	Lights		Repl. Bulb	
Halogen	12 1/4″	8″	10 1/2″	3	SJTW	500	—	8,500	1549K13★	$21.83	1513K2	$6.30
LED	11 1/4″	7 1/4″	10 1/4″	6	SJT	—	40	4,000	1549K15	75.35	—	—

★ This product cannot be sold in California.

Adjustable-Height Freestanding Floodlights

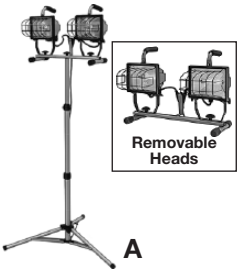

A



B

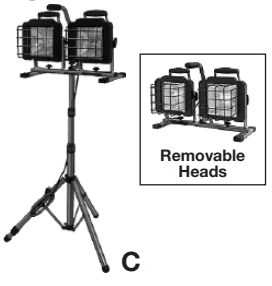

C



D



E

With a height-adjustable stand and swiveling light heads, you can aim light exactly where you need it. Lights have a switch and a cord with three-prong plug. Bulbs are included.

LED light lasts longer, generates less heat, and is more tolerant of vibration and sudden impacts than halogen lights. LED cannot be replaced.

Styles A-C have removable heads that can be used as portable lights. Housing, guard, and stand are steel. UL and C-UL listed. *Styles B* and *C* have two independently controlled bulbs in each head.

Styles D&E have an aluminum housing. *Style D* has a steel guard and stand. ETL and C-ETL listed. *Style E* has an iron stand. ETL, UL, and C-UL listed. Meets IP42.

Plastic lenses are impact resistant.

	Overall Ht.	Overall Wd.	Base Dia.	Cord Lg., ft.	Cord Type	Lens Material	Housing Color	Max. Watts per Bulb	Watts	Included Bulb Brightness, lumens		
For Halogen Bulbs—120 volts AC												
A	3-6 ft.	21″	35″	6	SJTW	Tempered Glass	Yellow	500	—	19,000	1498K97★	$49.35
B	3 3/4-7 ft.	8 1/2″	49″	10	SJTW	Glass	Red	500	—	4,500; 9,500	1571K21★	86.37
C	4-8 ft.	24″	48 1/4″	10	SJTW	Glass	Red	500	—	4,500; 9,500	1571K22★	131.57
D	5 3/4-8 3/4 ft.	36″	24 3/4″ Lg. × 22″ Wd.	15	SJTW	Tempered Glass	Black	500	—	22,000	8436K11★	429.38
Replacement 500W Bulb for Styles A-D											1513K2	6.30
Replacement 250W Bulb for Styles B-C											1513K17	6.17
For LED Bulbs—120/240 volts AC												
E	2 1/4-5 ft.	10 1/4″	36″	6	SJT	Plastic	Black	—	40	4,000	1498K41	100.24

★ This product cannot be sold in California.

Freestanding & Clip-On Portable Lights

DeWalt Cordless Freestanding Floodlights



You don't have to be tied to an outlet—lights operate on 12V, 14.4V, and 18V rechargeable tool batteries (sold separately) as well as 120 volts AC. Battery life is one hour.

Light includes a 38-watt fluorescent bulb. It has a plastic lens, black rubber housing, and plastic stand. Light has a switch and a 6-ft. cord with three-prong plug. UL and C-UL listed.

Overall Ht.	Overall Wd.	Overall Dp.	Included Bulb Brightness, lumens	Light		Repl. Bulb	
13¾″	12½″	8⅜″	2,700	7042T3	$126.29	7042T9	$15.56
12V Rechargeable Battery						29835A11	74.35
14.4V Rechargeable Battery						29835A12	85.33
18V Rechargeable Battery						29835A13	97.20

Submersible Freestanding Lights



Safely illuminate and inspect the interiors of liquid storage tanks and pools. Light uses halogen, incandescent, or LED bulbs with a medium screw-in base. It has a clear, tempered glass lens and a bronze housing. Light operates on 120 volts AC and must be hardwired. UL and C-UL listed for fountains and decorative pools.

Bulb is sold separately (see pages 713-714).

Overall Dia.	Overall Ht.	Max. Watts per Bulb	For Bulb Trade Size	No. of Bulbs Req'd		
7⅝″	14″	250	PAR38, R40	1	14845K68	$657.35

Lanterns



Provide 360° of lighting with this fluorescent bulb lantern. It has a black rubber housing and a plastic lens. It requires eight D batteries (not included).

Overall Dia.	Overall Ht.	Battery Life, hrs.	Included Bulb Brightness, lumens	Lanterns		Repl. Bulb	
7¾″	12″	14	300	1129T25	$38.16	1528K54	$7.78

Clip-On Portable Lights







Lights operate on 120 volts AC and have an aluminum head. Use one compact fluorescent, halogen, incandescent, or LED bulb with a medium screw-in base (sold separately on pages 710-712).

Style A has a switch and a white cord with two-prong plug. UL and C-UL listed.

Style B has a black cord with three-prong plug. UL and C-UL listed.

Style C has a switch and a black cord with two-prong plug. UL listed.

	Head Dia.	For Max. Surface Thick.	Cord Lg., ft.	Max. Watts per Bulb		
A	5½″	2″	6	60	1627K12	$7.07
B	8″	4⅛″	8	300	1627K46	26.93
C	8½″	2″	12	150	1627K13	16.01

Clip-On Portable Floodlights



Flood your worksite with bright portable light. Includes a 500-watt halogen bulb, a tempered glass lens, an aluminum head with a steel guard, and a switch. It operates on 120 volts AC and has a 15-ft. cord with three-prong plug. ETL and C-ETL listed.

Head Lg.	Head Wd.	For Max. Surface Thick.	Included Bulb Brightness, lumens	Light		Repl. Bulb	
10¾″	12″	3″	11,000	8430K21 ★	$94.00	1513K2	$6.30

★ This product cannot be sold in California.

Any-Which-Way-Arm Clip-On Portable Lights



Light includes a 9-watt compact fluorescent bulb but can also use halogen, incandescent, and LED bulbs with a medium screw-in base. Light has a black steel head with switch, operates on 120 volts AC, and has a 5-ft. cord with two-prong plug. UL listed.

Head Dia.	For Max. Surface Thick.	Arm Reach	Max. Watts per Bulb	Included Bulb Brightness, lumens		
4½″	1½″	8″	100	550	1627K15	$86.21

Flashlights

When comparing light brightness and battery life for these flashlights, halogen lights are better than incandescent lights, krypton lights are better than halogen lights, xenon lights are better than krypton lights, while LED lights are the best.

Lights have an impact-resistant plastic lens, except Style B has a glass lens. Batteries are not included, unless noted. *Rechargeable flashlights* include a battery charger.

Style A are aluminum and have a push-button switch on the handle. Twist the head to adjust beam focus. *LED* lights have high- and low-beam, momentary, and strobe settings, except 2036K2 and K3. *Xenon* lights include a spare bulb. 2036K9 charges in 4 hours.

Style B is aluminum and has a push-button switch on the handle. Light has high-, low-, and medium-beam, momentary, and strobe settings.

Style C is rubber and has a push-button switch on the handle.

Style D are plastic and have a slide switch on the handle. 6619T3 also has a push-button switch.

Style E is plastic and has push-button switches on the handle and tail. Light has high-, low-, and medium-beam, momentary, and strobe settings. It charges in 5 hours. Cannot be sold in California or Oregon.

Style F is plastic and has a push-button switch on the handle. Light has high- and low-beam and momentary settings. It charges in 8 hours and includes a carrying strap. Cannot be sold in California or Oregon.

Style G is plastic and has a toggle switch on the head. It charges in 8 hours and includes a carrying strap and wall mounting bracket.

Note: Battery life is significantly reduced when flashlights are used at the high-beam light setting.

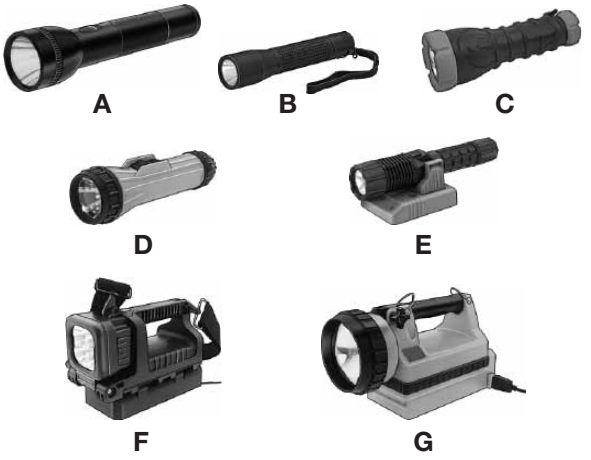

	Brightness, lumens	Beam Distance, ft.	Battery Life, hrs.	Battery Size (Qty.)	Handle Dia.	Overall Lg.	Choose a Color	Flashlights		Repl. Bulb	
Flashlights											
LED											
A	137	1,000	48	C (2)	1¼″	9⅛″	Black	2036K7 ★	$58.13		
A	137	1,000	78	C (3)	1¼″	11⅛″	Black	2036K8 ★	59.85		
A	168	1,350	7	D (2)	1½″	10″	Black, Blue, Gray, Red, Silver	2036K2	30.24		
A	168	1,350	80	D (3)	1½″	12⅜″	Black, Blue, Gray, Red, Silver	2036K3	31.12		
B	672	775	40	3V (3)	1⅛″	9″	Black	8446T4 ★	104.17		
C	170	300	6	AA (3)	2″	7⅝″	Black	6619T6 ★	13.90		
Xenon											
A	27	675	8	D (2)	1½″	10″	Black, Blue, Red, Silver	6714T3	26.00	6714T34	$3.12
A	31	725	4	C (2)	1¼″	9″	Black	6714T85	24.06	6714T34	3.12
A	45	825	10	D (3)	1½″	12⅜″	Black, Blue, Red, Silver	6714T4	26.91	6714T35	4.06
A	60	950	4	C (3)	1¼″	10⅞″	Black	6714T86	25.02	6714T35	4.06
A	98	1,225	9	D (4)	1½″	14¾″	Black, Blue, Red	6714T5	27.81	6714T36	3.28
A	105	875	4	C (4)	1¼″	12¾″	Black	6714T68	25.95	6714T36	3.28
A	136	975	11	D (6)	1½″	19½″	Black, Red	6714T7	36.85	6714T91	4.06
A	151	1,025	9	D (5)	1½″	17⅛″	Black, Red	6714T6	33.13	6714T37	3.12
Krypton											
D	16	15	6	D (2)	1¾″	8¼″	Yellow	6539T11	7.51	8394T12	1.16
D	16	20	6	D (3)	1¾″	10¾″	Yellow	6539T16	9.78	8394T13	1.16
Krypton with Magnet											
D	16	15	6	D (2)	1¾″	8¼″	Yellow	6539T12	10.00	8394T12	1.16
Incandescent											
D	10	150	15	D (2)	1¾″	8⅛″	Yellow	1064T1	9.24	8394T21	.83
D	19	25	6	D (3)	1¾″	10¾″	Yellow	6619T3	14.78	6619T53	.60
Rechargeable Flashlights											
LED											
A	643	1,325	17	6V (1)	1½″	12¾″	Black	2036K9 ★	142.48		
E	368	653	45	3.7V (1)	1¼″	8⅝″	Black	8455T2 ★	161.88		
F	1,130	1,425	9	7.4V (1)	—	8¾″ Lg.×3¾″ Wd.×4″ Ht.	Black	2387K2 ★	302.71		
Replacement Battery for Style E										8455T51	35.72
Replacement Battery for Style F										2387K21	74.78
Halogen											
G	150	—	9	6V (1)	—	11½″ Lg.×5⅛″ Wd.×7″ Ht.	Orange	6762T1 ★	147.94	6762T7	11.08

★ Batteries are included.

Slide-to-Focus Flashlights

Slide the flashlight head forward and back with your thumb to adjust the focus with just one hand. These LED flashlights are black aluminum with a plastic lens. They have a push-button switch and high- and low-beam settings, unless otherwise stated. Batteries are included.

Style A has a tail switch. *Rechargeable flashlights* include a holster, mini USB charging cable, and wall mounting bracket.

Style B has a switch on the handle. Light has high-, low-, and medium-beam and momentary settings.

Style C has a switch on the handle. Light has momentary and strobe settings. Includes a belt ring, carrying case, and carrying strap.

Note: Battery life significantly reduced when flashlights are used at the high-beam setting.



	Brightness, lumens	Beam Distance, ft.	Battery Life, hrs.	Battery Size (Qty.)	Handle Dia.	Overall Lg.	Charging Time, hrs.	Flashlights		Repl. Battery	
Flashlights											
A	251	650	6	AAA (4)	1¼″	5⅝″	—	1926N21	$49.80		
A	339	575	5	AA (4)	1⅜″	8⅜″	—	1926N31	68.78		
B	970	1,570	8	D (3)	1⅝″	13⅛″	—	6551T3	103.02		
C	1,132	2,240	4	D (4)	1½″	17⅛″	—	6551T4	220.87		
Rechargeable Flashlights											
A	181	575	3	3.7V (2)	⅞″	4⅝″	5	1926N12	96.93	1926N13	$12.05
A	201	1,000	8	3.7V (2)	1¼″	5⅝″	8	1926N22	118.18	1926N23	20.07

Flashlights

Mini Flashlights

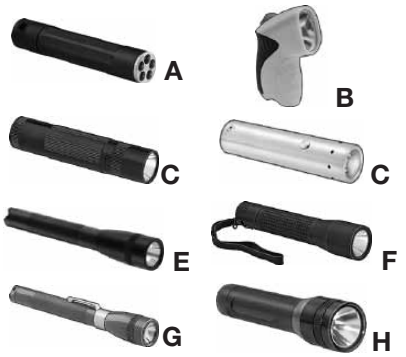

You don't have to sacrifice brightness for a compact design—mini flashlights offer both. Batteries are included.

LED lights produce more light and consume less battery power than xenon lights.

Style A are aluminum with a glass lens. They have a push-button tail switch and a twist head. Lights have high- and low-beam and momentary settings.

Style B is plastic with an impact-resistant plastic lens. It has a slide switch on the head. Batteries cannot be replaced.

Style C is aluminum with an impact-resistant plastic lens. It has a push-button tail switch and a twist head to adjust beam focus. Light has high- and medium-beam and strobe settings.

Style D is stainless steel with an impact-resistant plastic lens. It has a push-button head switch.

Style E are aluminum with an impact-resistant plastic lens. They have a twist head to turn the light on and adjust beam focus. *LED* light includes a holster. *Xenon* light includes a spare bulb.

Style F is aluminum with a glass lens. It has high- and low-beam, momentary, and strobe settings. Light has a push-button tail switch and includes a lanyard.

Style G is aluminum with an impact-resistant plastic lens. It has a twist head to turn the light on and adjust beam focus. Light includes a pocket clip and a spare bulb.

Style H is aluminum with an impact-resistant plastic lens. It has a push-button tail switch and a twist head to adjust beam focus. Light has a momentary setting.

Note: Battery life is significantly reduced when flashlights are used at the high-beam light setting.

	Brightness, lumens	Beam Distance, ft.	Battery Life, hrs.	Battery Size (Qty.)	Handle Dia.	Overall Lg.	Choose a Color	Flashlights		Repl. Bulbs Pkg. Qty.		Pkg.
LED												
A	31	125	85	3V (2)	7/8"	4 3/4"	Black	65195T21	$35.04			
A	80	250	70	AA (1)	3/4"	4"	Black	65195T9	24.02			
B	53	235	9	AA (3)	—	3 1/4" Wd. x 4 3/4" Ht.	Assorted	6544T12	5.62			
C	200	700	25	AAA (3)	1"	4 3/4"	Black	6545T5	37.03			
D	194	425	4	AAA (3)	1"	4"	Silver	2918K18	53.40			
E	272	525	2	AA (2)	3/4"	6 5/8"	Black, Blue, Gray, Red, Silver	2036K52	27.13			
F	313	625	50	3V (3)	1"	6 1/4"	Black	8446T3	81.36			
Xenon												
E	14	325	5	AA (2)	3/4"	5 3/4"	Black, Blue, Gray, Red, Silver	6545T4	12.87	2	6545T12	$3.12
G	2	100	2	AAA (2)	1/2"	5"	Black, Blue, Gray, Red, Silver	6545T3	11.05	2	6545T12	3.12
H	78	575	1	3V (2)	1"	5"	Black	6552T2	57.25	1	6552T47	8.89

Penlights



These pen-sized flashlights are small enough to fit in pockets. They have a push-button switch and an impact-resistant plastic lens. Batteries and a pocket clip are included.

LED lights produce more light and consume less battery power than incandescent lights. 6551T1 has a twist head to adjust beam focus and has high- and low-beam and momentary settings.

Incandescent light batteries cannot be replaced.

Note: Battery life is significantly reduced when flashlights are used at the high-beam light setting.

	Brightness, lumens	Beam Distance, ft.	Battery Life	Battery Size (Qty.)	Handle Dia.	Overall Lg.	Material	Color	Switch Location		
LED											
A	5	75	8 hrs.	AAA (2)	3/4"	6"	Stainless Steel	Silver	Tail	2918K16	$11.10
B	10	6	20 hrs.	AAA (2)	1/2"	6"	Aluminum	Black	Tail	1168T3	4.91
B	36	75	12 hrs.	AAA (2)	5/8"	5 5/8"	Aluminum	Black	Tail	6655T56	16.28
B	79	300	3 hrs.	AAA (2)	1/2"	5 3/4"	Aluminum	Black	Tail	6551T1	39.76
Incandescent											
B	20	6	20 hrs.	AAA (2)	1/2"	5"	Plastic	Black	Handle	1169T2	3.13

Keychain Flashlights



The smallest flashlights we offer, these attach to a key ring. Lens is plastic. Batteries are included.

LED light produces more light and consumes less battery power than incandescent lights. It is plastic and has a push-button switch on the head. It has high- and low-beam, momentary, and strobe settings.

Incandescent light is aluminum and includes a spare bulb. It has a twist head to turn it on and adjust beam focus.

Note: Battery life is significantly reduced when flashlights are used at the high-beam light setting.

Bulb Type	Brightness, lumens	Beam Distance, ft.	Battery Life, hrs.	Battery Size (Qty.)	Overall Lg.	Overall Wd.	Choose a Color	Choose a Beam Color		
LED	6	50	22	CR2016 (2)	1 7/8"	1"	Black	Blue, Green, Red, White	1444T211	$8.17
Incandescent	2	75	4	AAA (1)	3 1/4"	1/2" Dia.	Black, Blue, Gray, Red, Silver	White	6545T2	8.71

Plug-In Emergency Flashlights

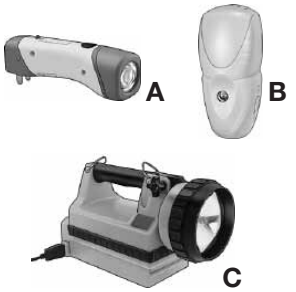

When plugged in, these flashlights automatically light up when the power goes out. Lights are plastic with a plastic lens. Rechargeable batteries are included.

LED lights produce more light and consume less battery power than halogen lights.

Styles A and **B** are white and have a built-in battery charger. They charge in 24 hours. *Style A* have a push-button switch and fold-away plug. *Style B* has a slide switch and includes a night light. UL and C-UL listed. It cannot be sold in California or Oregon. **Style C** is orange, has a toggle switch, and includes a battery charger and wall mounting bracket. It charges in eight hours. CE approved.

	Brightness, lumens	Beam Distance, ft.	Battery Life, hrs.	Battery Size (Qty.)	Overall Lg.	Overall Wd.	Overall Ht.	Flashlights		Repl. Battery	
LED											
A	12	98	8	2.4V (1)	6"	1 1/2"	1 3/4"	6521T22	$17.55	6521T221	$5.00
A	23	50	8	AA (2)	7 1/4"	3 1/2"	3 1/2"	11635T77	30.91		
B	—	—	8	AAA (3)	4 1/8"	2"	1 3/8"	1663K45	13.22		
Halogen											
C	150	—	9	6V (1)	11 1/2"	5 1/8"	7"	6762T3	233.23	7448K34	22.47
Replacement Bulb for Style C										6762T7	11.08

Flexible Flashlights

Angle the flexible shaft around corners and into hard-to-reach spaces. Lights have a push-button switch and include batteries.

LED lights produce more light and consume less battery power than krypton lights.

Styles A and **B** are black aluminum and have a momentary setting. *Style A* have a glass lens and a tail switch. They include a pocket clip. *Style B* has a head switch and an impact-resistant plastic lens. It includes a magnetic clip holder.

Style C has a 2″ Lg. x 1¼″ Wd. removable mirror and a twist head. Handle is nickel-plated brass and extends from 6½″ to 30½″.

Style D is black plastic with a glass lens. It has a tail switch and includes an 18″ extension/protective cover.

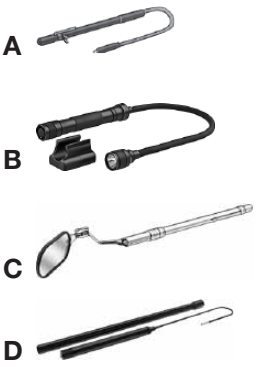

	Brightness, lumens	Beam Distance, ft.	Battery Life, hrs.	Battery Size (Qty.)	Arm Length	Handle Dia.	Overall Lg.		
LED									
A	11	75	24	AAAA (3)	7″	3/8″	14″	3954T11	$27.17
A	11	75	24	AAAA (3)	18″	3/8″	25½″	3954T21	28.84
B	85	250	3	AA (2)	14″	¾″	20″	1842T4	47.89
C	10	—	—	LR41 (3)	24″	¼″	30½″	3954T13	22.92
Krypton									
D	15	—	25	AA (3)	15¾″	11/16″	24″	10245T15	62.35

Wet-Location Flashlights

This waterproof flashlight is sealed to keep water out. Flashlight is green plastic and has a head that tilts 90°. It includes a krypton bulb and four plastic lenses that store in the base: blue, red, white, and a diffusion lens. It has a slide switch on the handle and a strobe setting. Requires two D batteries (not included). Meets MIL-F-3747.



Brightness, lumens	Beam Distance, ft.	Battery Life, hrs.	Handle Dia.	Overall Lg.		
16	20	6	1¾″	8½″	1031T1	$16.69
Replacement Bulb					8394T12	1.16

Submersible Flashlights

Also known as dive lights, these are submersible up to 500 feet. Flashlight is yellow plastic with a plastic lens. It has a rocker switch on the handle and includes a xenon bulb and a spare bulb. Requires eight C batteries (not included).



Brightness, lumens	Beam Distance, ft.	Battery Life, hrs.	Overall Lg.	Overall Wd.	Overall Ht.		
175	475	6	7½″	3¾″	7½″	65245T21	$73.25
Replacement Bulb						65245T23	11.57

Floating Flashlights

Flashlights are plastic with a plastic lens. They have a push-button switch on the handle and include krypton bulbs. Style A includes batteries; Style B does not.

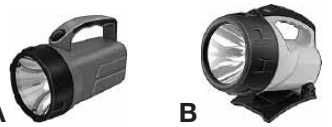

	Brightness, lumens	Beam Distance, ft.	Battery Life, hrs.	Battery Size (Qty.)	Overall Lg.	Overall Wd.	Overall Ht.	Color		
A	40	70	12	6V (1)	7″	4″	5⅝″	Assorted	10815T21	$5.88
B	75	625	11	D (4)	7½″	4⅞″	5¾″	Yellow	1144T15	9.52
Replacement Bulb									8394T16	1.16

Hazardous Location Flashlights

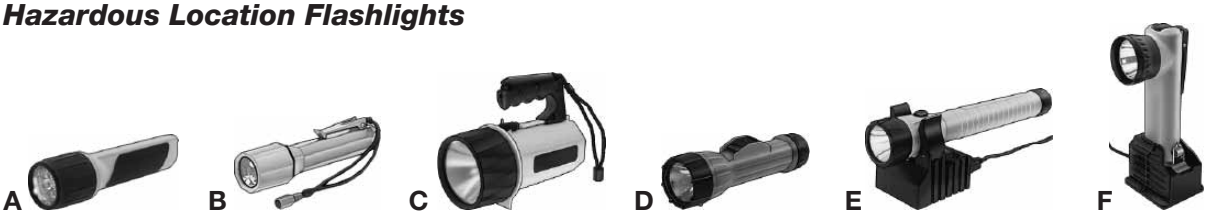

Flashlights are rated for use in environments with flammable gases. Lights are plastic with a plastic lens. Styles A-D do not include batteries; Styles E and F include batteries and a battery charger.

LED lights produce more light and consume less battery power than incandescent and xenon lights.

Style A has a push-button switch on the tail and a momentary setting. UL listed for Class I, Division 1. UL and C-UL listed for Class I, Division 2; Class II, Division 2; Class III.

Style B have a twist head. *LED* light is ETL and C-ETL listed for Classes I, II, III, Division 1, Groups A, B, C, D, F, G. *Xenon* light is UL listed for Class I, Division 1, Groups C, D and is CSA certified.

Style C has a rotary switch on the head and has a removable handle so you can change the grip. FM approved for Class I, Division 2, Groups C, D, Temperature T1.

Style D have a slide switch on the handle and a strobe setting. UL listed for Class I, Division 1, Groups C, D; Class II, Division 1, Group G. MSHA approved nonincendive. *10-lumen* light is also UL listed for Class I, Division 2, Groups C, D; Class III, Temperature T5.

Style E has a push-button switch on the head and high-, low-, and medium-beam and strobe settings. It takes 10 hours to charge. UL listed for Class I, II, Division 1, Groups C, D, F, G; Class I, Division 2, Groups A, B, C, D; Class III, T3C.

Style F has a push-button switch on the head and high-, low-, and medium-beam and strobe settings. It takes one hour to charge. UL and C-UL listed for Class I, Division 1, Groups C, D; Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups F, G; Class III. Meets NFPA 1901-14.11.2.

Note: Battery life is significantly reduced when flashlights are used at the high-beam light setting.

	Brightness, lumens	Beam Distance, ft.	Battery Life, hrs.	Battery Size (Qty.)	Handle Dia.	Overall Lg.	Choose a Color	Flashlights		Repl. Bulb	
Flashlights											
LED											
A	85	—	335	C (3)	1½″	8½″	Black, Yellow	1088T11	$51.73	—	—
B	109	475	32	C (3)	1⅜″	8⅛″	Yellow	8391T1	62.30	—	—
Xenon											
B	53	525	5	C (3)	1⅜″	7⅞″	Yellow	6518T13	38.95	6518T14	$14.92
C	249	350	11	D (8)	—	9⅜″ Lg. x 3¾″ Wd. x 5″ Ht.	Yellow	65245T65	111.70	65245T63	18.19
Incandescent											
D	10	175	15	D (2)	1¾″	8⅛″	Orange	1065T1	13.84	8394T23	.83
D	19	350	15	D (3)	1¾″	10¼″	Orange	1065T2	15.74	8394T22	.87
Rechargeable Flashlights											
LED											
E	130	800	12	4.8V	1⅜″	10¼″	Yellow	11085K93	171.97	—	—
F	175	1,250	13	4.8V	2¼″	7⅛″	Orange	11085K61	194.27	—	—

Hazardous Location Mini Flashlights


A


B


C


D


E


F


G


H


J

Small in size, but not lighting power, these flashlights are rated for use in environments with flammable gases. They are plastic with a plastic lens. Bulbs and batteries are included, except Style G does not include batteries.

LED lights produce more light and consume less battery power than xenon lights.

Styles A and **B** have a push-button tail switch and a momentary setting. *Style A* is UL and C-UL listed for Class I, II, Division 1, Groups A, B, C, D, E, F, G; Class III, T4A. *Style B* is UL listed for Class I, Division 1, Groups C, D. UL and C-UL listed for Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups F, G; Class III, T3C.

Style C has a slide switch on the handle and is ETL listed for Class I, II, III, Division 1, Groups A, B, C, D, E, F, G, Temperature T4.

Style D has a push-button switch on the head. It attaches to a key ring and has high- and low-beam and strobe settings. It includes a pocket clip. UL listed for Class I, Division 2, Groups A, B, C, D; C-UL listed. **To Order:** Please specify beam color: blue, green, red, or white.

Style E has a push-button tail switch and a momentary setting. ETL listed for Class I, Division 1, Groups C, D. CSA certified for Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Group G.

Style F has a twist head and includes a fiber-optic inspection adapter for bending beam 90°. ETL listed for Class I, Division 1, Groups C, D. CSA certified for Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Group G.

Style G has a twist head and is UL listed for Class I, Division 2, Group D. CSA certified for Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Group G.

Style H has a push-button switch on the handle and is UL listed for Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Group G; Class III, Division 2, Temperature T2A.

Style J has a rotary switch on the handle and is CSA certified for Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Group G. It includes a battery charger. Charges in three hours. Cannot be sold in California or Oregon.

	Brightness, lumens	Beam Distance, ft.	Battery Life, hrs.	Battery Size (Qty.)	Handle Dia.	Overall Lg.	Choose a Color	Flashlights		Repl. Bulb	
Flashlights											
LED											
A	30	—	120	N (3)	¾″	5¼″	Black, Yellow	1088T31	$24.14	—	—
B	67	—	155	AA (4)	1¼″	6½″	Black, Yellow	1088T21	36.72	—	—
C	183	600	5.75	AA (4)	—	7½″ Lg. × 3⅝″ Wd. × 1⅞″ Dp.	Yellow	10735T14	64.09	—	—
D	10	30	36	CR2016 (2)	—	2 ¾″ Lg. × 1 ¼″ Wd.	Black	2049K1	10.39	—	—
Xenon											
E	10	150	4	AA (2)	¾″	6¼″	Black	6561T5	24.94	6561T8	$8.07
F	11	150	1	AAA (2)	⅝″	4⅛″	Yellow	6522T11	16.46	6522T12	6.24
G	21	425	7	C (2)	1¼″	6″	Black, Orange	6526T1	32.28	6526T13	14.20
H	38	300	5	AA (4)	1⅝″	6⅛″	Black	65115T31	34.17	65115T47	15.50
Hard-Hat Swivel Attachment for Style H										65115T41	19.10
Rechargeable Flashlights											
Xenon											
J	35	400	3	AA (4)	1½″	6½″	Yellow	8665T11	101.39	8665T13	13.82
Hard-Hat Swivel Attachment for Style J										8665T15	22.27

Hazardous Location Penlights



These pen-sized LED flashlights are rated for use in environments with flammable gases. They are black aluminum with a glass lens. Press the push-button tail switch for momentary light or twist the head for continuous on. Three AAAA batteries and a pocket clip are included. UL and C-UL listed for Class I, Division 1, Groups A, B, C, D.

Beam Distance, ft.	Battery Life, hrs.	Handle Dia.	Overall Lg.		
75	24	⅜″	6¼″	6535T21	$22.13

Wet-Location Penlights



These pen-sized LED flashlights meet IPX4 for water resistance. They are black aluminum with a glass lens. Press the push-button tail switch for momentary light or twist the head for continuous on. Three AAAA batteries and a pocket clip are included.

Beam Distance, ft.	Battery Life, hrs.	Handle Dia.	Overall Lg.	Choose a Beam Color		
69	24	⅜″	6¼″	Blue, White	6535T5	$22.13

Headbands for Mini Flashlights



Headband is black fabric with a hook-and-loop fastener.

For Handle Dia.		
½″-⅞″	11525T85	$6.70

Holsters and Belt Loops for Flashlights


A B C


D E F

Holsters are for mini flashlights, except Style C can also be used with flashlights. They are black.

Style A has a flap.

Style C has a 360° rotating belt clip.

Style E has a pocket for a folding knife.

	For Handle Dia.	Material		
Holsters				
A	⅜″-½″	Nylon	6545T25	$4.02
A	½″-¾″	Nylon	6545T27	4.48
B	¾″	Fabric	10685T33	6.00
C	½″-1½″	Nylon	10685T49	8.10
D	½″-¾″	Leather	6545T13	9.78
E	½″-¾″	Leather	6545T31	25.34
Belt Loops				
F	Up to 1¼″	Leather	6714T32	7.54
F	Up to 1½″	Leather	6714T31	7.54

Flashlight Mounts


Any-Which-Way Clip-On Mount


Swivel

Mounts are black.

For Handle Dia.	Mount Type	Arm Lg.		
Any-Which-Way				
For Mini Flashlights				
½″-1″	Clip On	5⅞″	65955T41	$24.49
½″-1″	Magnet	5⅞″	65955T43	24.49
For Flashlights				
1¼″-2¼″	Clip On	7¼″	65955T42	38.46
1¼″-2¼″	Magnet	5½″	65955T44	38.46
Swivel				
For Mini Flashlights				
½″	Magnet	—	12105A81	17.76

LED Conversion Kits for Mini Maglite Flashlights

Convert incandescent, halogen, krypton, and xenon mini Maglite flashlights into LED flashlights to produce more light and consume less battery power. 6545T47 includes a tail switch.


6545T47


6545T53

For Handle Dia.	Brightness, lumens	Beam Distance, ft.	Battery Life, hrs.	For Battery Size		
¾″	30	125	25	AA	6545T47	$10.76
¾″	55	175	15	AA	6545T53	14.74

Magnifiers for Mini Flashlights



For Handle Dia.	Magnification		
¾″	4X (400%)	6545T41	$9.95

Flexible Fiber-Optic Cables for Mini Flashlights

Attach fiber-optic cables to your flashlight to extend light into hard-to-reach areas.



For Handle Dia.	Includes		
¾″	6″, 12″, and 18″ Cables	6545T52	$16.76

Mini Tripod Flashlights

This LED flashlight has a head that tilts 120°. It is black plastic with aluminum legs, a plastic lens, and a push-button switch. Flashlight requires three AA batteries (not included). Battery life is 41 hours.



Brightness, lumens	Beam Distance, ft.	Overall Dia.	Overall Lg.		
30	250	2½″	10¾″	9023T1	$18.89

Hands-Free Flashlights

Wear these LED flashlights on your head or hard hat to keep hands free for work. Lights are black plastic with a plastic lens. They have high-, low-, and medium-beam light settings. Batteries are included.

Style A has a push-button switch on the head and a strobe setting. It has a nylon strap.

Style B have a twist head to adjust beam focus. They have a rocker switch on the head and a push-button switch on the tail. They have an elastic strap. *Rechargeable flashlight* charges in 8 hours and includes a battery charger.

Style C has a twist head to adjust beam focus and a rocker switch on the head. It has an elastic strap.

Note: Battery life is significantly reduced when flashlights are used at the high-beam light setting.


A

B

C

	Brightness, lumens	Beam Distance, ft.	Battery Life, hrs.	Battery Size (Qty.)	Overall Dia.	Head Tilt		
Flashlights								
A	70	175	146	AAA (3)	1¼″ Wd. × 1″ Ht.	90°	2048K61	$32.20
B	196	350	76	AAA (3)	1⅛″	75°	2048K62	50.36
C	309	400	99	AA (3)	1⅛″	75°	2048K64	58.91
Rechargeable Flashlights								
B	150	375	38	AAA (3)	1⅛″	75°	2048K63	77.20

Hazardous Location Hands-Free Flashlights

Wear these flashlights on your head or hard hat to keep hands free for work in hazardous environments with flammable gases. Flashlights are black plastic with a plastic lens, except Style C has a glass lens. Batteries are included.

LED lights produce more light and consume less battery power than xenon lights.

Style A have a push-button switch on the head and a nylon strap. They have high- and low-beam settings. 2048K6 is UL listed for Class I, Division 1, Groups A, B, C, D. 2048K53 also has medium-beam and strobe settings. UL listed for Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups F, G.

Style B has a push-button switch on the head and a nylon strap. It has high- and low-beam settings. UL listed for Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups F, G.

Style C has a clip to attach flashlight to clothing as well as hard hats. UL listed for Class I, Division 1, Groups A, B, C, D.

Style D has a twist head. FM approved for Class I, Division 2, Groups A, B, C, D, Temperature T4.

Note: Battery life is significantly reduced when flashlights are used at the high-beam light setting.


A

B

C

D

	Brightness, lumens	Beam Distance, ft.	Battery Life, hrs.	Battery Size (Qty.)	Overall Wd.	Overall Ht.	Head Tilt	Flashlights		Repl. Bulb	
LED											
A	105	200	121	AAA (3)	2″	1½″	90°	2048K6	$57.21		
A	105	200	120	AAA (3)	2″	1½″	90°	2048K53	59.45		
B	78	275	120	AA (3)	1½″ Dia.		90°	2048K57	69.29		
C	9	40	34	CR2032 (2)	1¼″	3½″	180°	8669T1	24.68		
Xenon											
D	7	175	6	AA (2)	1⅝″	3⅞″		65135T61	26.56	65135T65	$6.24

Spotlights

Good for inspections and temporary lighting, these lights accommodate a spot or flood bulb. They use one compact fluorescent, halogen, incandescent, or LED PAR38 bulb with a medium screw-in base (sold separately). They have a yellow steel housing and rubber handle. Lights operate on 120 volts AC and have a cord with three-prong plug.



	Overall Dia.	Overall Lg.		
Light with 25-ft. Cord	5½″	11⅞″	8408K22	$139.15
Light with 50-ft. Cord	5½″	11⅞″	8408K32	147.80
Replacement Light Head	5½"	11⅞"	8408K12	63.05
Spot Bulb—70W PAR38 Halogen			14675K203	13.89
Flood Bulb—23W PAR38 Compact Fluorescent			1685K98	32.40
Replacement Bulb Guard			8408K41	44.24

Low-Voltage Spotlights

Furnished with a 6-ft. power cord with cigarette-lighter plug, this halogen spotlight operates while plugged into your vehicle. When unplugged, it can run for up to 30 min. on its own 12-volt battery. It charges in six hours with the included battery charger. Light has a black plastic housing with a plastic lens and a push-button tail switch.


Spotlight


12-Volt Battery Adapter

Overall Lg.	Overall Wd.	Overall Ht.	Lens Dia.		
7¾″	5¾″	14½″	5¼″	1521K12	$52.93
Replacement Bulb				6594T93	10.33
10-ft. Ext. Cable w/ 12-Volt Cigarette-Lighter Plug				65045T47	7.76
12-Volt Battery Adapter with 3-ft. Cord				65045T43	7.00

Spotlights & Lightsticks

Wet-Location Spotlights



Spotlight with Retractable Cord Reel

Lights are completely sealed to keep moisture out. They have a black plastic housing with a plastic lens and plastic handle. Lights have a switch on the handle, operate on 120 volts AC, and have a cord with three-prong plug. They include a 30-watt incandescent PAR36 bulb and a transformer.

Spotlights with retractable cord reels have a steel reel with a white finish.

Cord Lg., ft.	Cord Type	Overall Lg.	Lens Dia.	Reel Dia.	Feeder Cord Lg., ft.		
Spotlights							
56	SJO	9½″	4½″	–	–	8423K11	$421.82
Spotlights with Retractable Cord Reels							
25	SJO	9½″	4½″	9″	6	8424K11	476.36
42	SVO	9½″	4½″	9″	6	8424K12	514.55
Replacement Bulb						8351K211	8.75
Replacement Lens						8423K13	32.86

Lightsticks



Snap to light. Lightsticks are 6″ Lg. × ¾″ Dia. and are made of plastic.

Lightsticks with shorter run times provide higher light intensity. The 8-hour lightsticks work best at temperatures of 35° to 80° F, while the 5- and 30-minute lightsticks can be used at temperatures below 35° F.

Run Time	Choose a Color		1-9	10-Up
5 min.	Orange	5712T52	$3.03	$2.53
30 min.	Red, White, Yellow	5712T43	2.53	2.11
8 hrs.	Blue, Green, Orange, Red, White, Yellow	5712T42	2.51	2.09

Battery-Operated Lightsticks





180° Light



360° Light

These reusable lightsticks turn on and off with the twist of the base. Lightsticks are black plastic with a plastic lens and are 5⅛″ Lg. × 1⅛″ Dia. They require two AA batteries (not included). Battery life is 50 hours.

180° lightsticks have almost twice the light output of the 360° lightsticks.

360° lightsticks provide area-wide illumination.

Light Spread	Choose a Color		
180°	Blue, Green, Orange, Red, White, Yellow	5716T1	$30.91
360°	Blue, Green, Orange, Red, White, Yellow	5716T2	33.13

Vehicle-Mount Spotlights



Screw Mount



Screw Mount with Handle Control



Magnetic Mount

Illuminate any spot around your vehicle. Lights rotate 360° horizontally and 180° vertically. All operate on 12 VDC. Bulb is included.

Screw-Mount Spotlight— Made of chrome-plated brass/zinc. Light has a switch, a 5-ft. 16-ga. wire lead, and a 3″ dia. screw-mount bracket (fasteners included).

Screw-Mount Spotlight with Handle Control— Aim the spotlight from inside your vehicle with the interior control handle and fingertip switch. Head is plastic; shaft is metal. Shaft length inside vehicle is 7⅛″. Includes a 6-ft. 16-ga. wire lead, a roof bracket (fasteners included), and a mounting template.

Magnetic-Mount Spotlight— Base is magnetic for easy mounting and removal on metal surfaces. Made of chrome steel. Light has a switch and a 10-ft. cord with 12-volt cigarette-lighter plug.

10-ft. extension cable for magnetic-mount spotlight has a 12-volt cigarette-lighter plug.

Candle-power	Lens Dia.	O'all Ht.	Lights		Replacement Bulb Watts	Replacement Bulb	
Screw Mount— Halogen							
160,000	5¾″	9″	14735K66	$184.25	50	8351K841	$28.57
Screw Mount with Handle Control— Halogen							
160,000	5¾″	7⅛″	8303K13	250.00	50	8351K841	28.57
Magnetic Mount— Incandescent							
200,000	6″	9½″	65035T82	68.80	100	65035T84	22.41
10-ft. Ext. Cable for Magnetic-Mount Light						65045T47	7.76

Vehicle Lights



A



B



C



D

Position the pedestal mount to shine light where you need it. All come with a 5⁄16″ bolt and nut for mounting.

(A) Housing is polycarbonate. The head moves horizontally and vertically. Light has two 12″ 16-ga. wire leads. Bulbs are included. Meets IP69K for protection against dust, pressure, and steam.

(B) Housing is aluminum with a black finish. The head moves vertically. Light has two 12″ 18-ga. wire leads. Bulbs are included. Meets IP69K for protection against dust, pressure, and steam.

(C) Housing is polycarbonate. The head moves horizontally and vertically. Light has two 12″ 16-ga. wire leads. Bulbs are included. Meets IP67 for protection against dust and temporary immersion in water.

(D) Housing is rubber. The head moves horizontally and vertically. Light has two 10″ 18-ga. wire leads. Bulb is included. Meets IP67 for protection against dust and temporary immersion in water.

	Voltage, VDC	Head Size	Lens Material	Lumens	Bulb Type	Lights	
A	12-24	3½″ × 5 7⁄16″	Polycarbonate	900	LED	8404K31	$118.14
B	12-24	4½″ × 4½″	Polycarbonate	1600	LED	1934K2	214.62
C	12-48	3 15⁄16″ × 5 11⁄16″	Polycarbonate	700	LED	8404K32	132.30
D	12	5″ Dia.	Polycarbonate	280	Incandescent	1635K56	12.48

About Batteries

When choosing a battery, you can compare the **capacity** among similar sizes. The higher the rating, the longer the battery should last. If you know the milliamp draw of your device, the capacity will give you an estimate of battery life.

Note: For many batteries, recycling or other proper disposal is required by law. They should not be thrown in the trash. For rechargeable batteries, visit www.call2recycle.org or call 1-877-2-RECYCLE. For all other batteries, contact the manufacturer.

Don't see the battery you need? Just tell us what you're looking for and we'll get it for you.

Disposable Batteries

Alkaline batteries offer a good balance of longevity, cost, and performance in low-drain devices such as clocks and radios.
Carbon zinc batteries are an economical choice and are especially suited to low-drain devices such as clocks and radios.
Lithium batteries are lightweight and long lasting. They work well in high-drain devices such as digital cameras.





Batteries

All have a button-top connection, except 9-volt batteries have a snap-on connection.

	Voltage	Cap., mA-hrs.	Small Packs: Pkg. Qty.		Small Packs: Pkg.	Large Packs: Pkg. Qty.		Large Packs: Pkg.
AA								
Alkaline	1.5	2,850	4	71455K53	$2.94	144	71455K58	$81.82
Alkaline	1.5	2,850	—	—	—	24	71455K61	16.74
Alkaline with Battery Life Indicator	1.5	2,850	4	6959K31	5.79	24	6959K41	31.07
Carbon Zinc	1.5	1,100	4	7697K21	1.38	48	7697K31	14.90
Lithium	1.5	3,025	2	7745K55	6.25	12	7745K65	28.05
AAA								
Alkaline	1.5	1,250	4	71455K62	2.82	24	71455K64	16.46
Alkaline with Battery Life Indicator	1.5	1,200	4	6959K32	6.32	24	6959K42	33.49
Carbon Zinc	1.5	450	4	7697K36	1.33	48	7697K26	14.12
Lithium	1.5	1,200	2	7745K11	6.25	—	—	—
AAAA								
Alkaline	1.5	625	2	71455K57	4.12	24	71455K66	45.82
C								
Alkaline	1.5	8,350	6	71455K54	6.49	72	71455K63	67.92
Carbon Zinc	1.5	2,800	6	7697K22	3.18	72	7697K32	34.34
Lithium	3	4,800	1	7821K67	21.92	—	—	—
D								
Alkaline	1.5	20,500	6	71455K55	7.32	72	71455K65	79.71
Carbon Zinc	1.5	5,600	6	7697K23	3.66	72	7697K33	39.49
N								
Alkaline	1.5	1,000	2	71455K69	3.06	12	71455K67	16.24
9V								
Alkaline	9	625	1	71455K56	2.75	12	71455K68	27.11
Carbon Zinc	9	350	1	7697K24	1.32	12	7697K34	14.36
Lithium	9	1,200	1	7745K56	10.73	—	—	—
Battery-Life Tester for AA, AAA, C, D, 9-Volt, and Button/Coin Cell Batteries							6946K34	15.60



3LR50, 4LR44, CR12600SE, CR17345, and CR17355

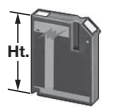

4LR61

Specialty Size Batteries

Battery Size	Mfr. Equivalent No.	Voltage	Cap., mA-hrs.	Battery Connection	Ht.	Wd.	Dp.		
Alkaline									
3LR12	1289, 4912, MN1203	4.5	6,100	Spring Clip	2.6″	2.4″	0.87″	7735K11	$3.78
3LR50	A23, KE23A-1, LR-V08, MN21, V23GA	12	40	Button Top	1.12″	0.41″ Dia.	—	7735K33	1.41
4LR44	4LR44H, A544, PX28A, V34PX	6	140	Button Top	1″	0.51″ Dia.	—	7735K31	3.87
4LR61	4018, 539, 7K67, RJ-1	6	500	Flat Terminal	1.91″	1.4″	0.36″	7735K24	4.27
Lithium									
2CR5	2CR5M, DL245, EL2CR5, RL2CR5-1	6	1,400	Flat Terminal	1.77″	1.34″	0.67″	7821K66	10.71
CRP2	DL223A, EL223A, RL223A-1	6	1,600	Flat Terminal	1.38″	1.42″	0.77″	7821K65	10.15
CR12600SE	—	3	1,400	Button Top	2.36″	0.47″ Dia.	—	7821K71	11.50
CR17345	CR123A, DL123A, EL123A, RL123A-1	3	1,600	Button Top	1.36″	0.67″ Dia.	—	7821K63	5.64
CR17355	CR2, DLCR2, EL1CR2, RLCR2-1	3	1,400	Button Top	1.06″	0.61″ Dia.	—	7821K62	11.00
CRV3	DLCRV3B, ELCRV3, RLCRV3-1	3	3,300	Flat Terminal	2.07″	1.14″	0.58″	7821K81	15.88



3LR12



2CR5, CRP2, and CRV3

Extreme-Temperature Disposable Batteries

Designed for long life, these batteries maintain performance in low-to-high temperature environments. They also resist humidity. These lithium batteries are lightweight and long lasting. They have a button-top connection, unless noted.
For Continuous Use—Power devices with low, long-term energy needs such as sensors and memory backup.
For High-Demand Use—Use in alarms, metering systems, and other equipment with high energy needs.



AA



C

Battery Size	Mfr. Equivalent No.	Voltage	Cap., mA-hrs.	Current Output, mA: Continuous	Current Output, mA: Max.	Temp. Range, °F		
For Continuous Use								
½ AA	LS14250, TL-2150	3.6	1,200	35	100	–76° to 185°	6951K59	$5.19
AA	LS14500, TL-2100	3.6	2,600	50	250	–76° to 185°	6951K57	7.70
⅔ A	LS17330	3.6	2,100	25	120	–76° to 185°	6951K65	8.65
A	LS17500	3.6	3,600	100	250	–76° to 185°	6951K66	10.28
C	LS26500, TL-2200	3.6	7,700	150	300	–76° to 185°	6951K13	20.20
D	LS33600, TL-5930	3.6	17,000	250	400	–76° to 185°	6951K12	26.63
For High-Demand Use								
C	LO29SHX	3	3,750	2,500	6,000	–76° to 158°	6951K16	15.87
C	LSH14	3.6	5,800	1,300	2,000	–76° to 185°	6951K14	32.21
D	LO26SHX	3	7,500	4,000	15,000	–76° to 158°	6951K18★	15.58
D	LO26SX	3	7,750	2,500	5,000	–76° to 158°	6951K17	15.87
D	LSH20, TL-2300	3.6	13,000	1,800	4,000	–76° to 185°	6951K15	40.77

★ Has a solder connection.

Batteries

For information about batteries, see page 765.

Don't see the battery you need? Just tell us what you're looking for and we'll get it for you.

Rechargeable Batteries



AA AAA C



D 9V



Charger for AA, AAA, C, D, and 9V



Specialty Size Batteries



Charger for Specialty Sizes

Suitable for high-drain devices such as digital cameras. They have a button-top connection, except 9-volt batteries have a snap-on connection.

Batteries

Nickel cadmium (NiCad) batteries should be drained completely before recharging for maximum battery life.

Nickel metal hydride (NiMH) batteries last longer than nickel cadmium batteries, and recharging without completely draining them does not affect battery life.

Charger (sold separately) has a 6-ft. power cord with two-prong plug and operates on 120V AC @ 60 Hz. It charges batteries in 4-8 hours. It is ETL listed.

	Voltage	Cap., mA-hrs.	Max. Recharge Cycles	Pkg. Qty.		Pkg.
AA						
Nickel Cadmium (NiCad)	1.2	850	1,000	2	7685K1	$5.31
Nickel Metal Hydride (NiMH)	1.2	2,300	200	2	6762K46	13.62
AAA						
Nickel Cadmium (NiCad)	1.2	350	1,000	2	7685K8	4.56
Nickel Metal Hydride (NiMH)	1.2	1,000	275	2	6762K43	11.74
C						
Nickel Cadmium (NiCad)	1.2	1,800	1,000	2	7685K2	10.64
Nickel Metal Hydride (NiMH)	1.2	3,000	300	2	6762K47	13.64
D						
Nickel Cadmium (NiCad)	1.2	1,800	1,000	2	7685K3	15.00
Nickel Metal Hydride (NiMH)	1.2	3,000	200	2	6762K48	17.14
9V						
Nickel Cadmium (NiCad)	9	120	1,000	1	7685K4	8.93
Nickel Metal Hydride (NiMH)	9	200	275	1	6762K45	11.94
Charger					7685K5	25.96

Specialty Size Batteries

These lithium ion (Li-Ion) batteries are lightweight and long lasting. For maximum battery life, recharge before they are drained completely. *3-volt* batteries can be recharged up to 1,000 times. *3.7-volt* batteries can be recharged up to 500 times.

Chargers (sold separately) operate on 120/240V AC @ 50/60 Hz.

Mfr. Equivalent No.	Voltage	Cap., mA-hrs.	Ht.	Dia.		
RCR123A	3	600	1.36″	0.66″	1109K3	$5.18
18650, CGR18650CG, LIC1865026CC	3.7	2,600	2.74″	0.75″	1109K1	12.00
Charger for 3-Volt Batteries—Has 4½-ft. power cord with two-prong plug					1109K92	19.75
Charger for 3.7-Volt Batteries—Has 3½-ft. power cord with two-prong plug					1109K91	17.25

Battery Holders

For AA, AAA, C, and D Batteries



One Cell



Side-by-Side, Two Cells



End-to-End, Two Cells

All holders have springs. **Plastic** holders are polypropylene. They have steel contacts and two 6″ long, 26-ga. wire leads. **Aluminum** holders have brass contacts and tin-plated brass solder lugs. **Steel** holders are nickel plated with brass contacts and tin-plated brass solder lugs.

	One Cell		Side-by-Side: Two Cells		Side-by-Side: Three Cells		Side-by-Side: Four Cells		End-to-End: Two Cells		End-to-End: Three Cells	
AA												
Plastic	7712K11	$1.24	7712K12	$1.38	7712K13	$1.83	7712K14	$2.31	7712K15	$1.34		
Aluminum	7712K59	1.81	7712K65	2.88	7712K711	5.20	7712K761	8.24	7712K821	2.47		
Steel	7712K31	3.19	7712K32	5.79	7712K33	8.66	7712K37	11.06	7712K34	4.47	7712K35	$5.53
AAA												
Plastic	7712K16	1.14	7712K17	1.41	7712K18	2.00	7712K19	2.79				
Aluminum	7712K58	1.85	7712K64	4.69								
C												
Plastic	7712K92	1.38	7712K93	2.06			7712K95	3.69			7712K94	2.51
Aluminum	7712K611	1.85	7712K66	3.83	7712K721	6.56			7712K831	6.27		
Steel	7712K41	3.91	7712K42	7.57	7712K43	10.96	7712K47	15.02	7712K44	5.66	7712K45	5.98
D												
Plastic	7712K21	1.66	7712K27	2.77	7712K23	3.60	7712K24	3.89			7712K26	3.14
Aluminum	7712K621	2.21	7712K67	5.14	7712K73	7.87	7712K89★	10.89	7712K841	4.84		
Steel	7712K51	4.51	7712K52	8.70	7712K53	12.64	7712K57	18.32	7712K54	6.15	7712K55	6.85

★ Two side-by-side by two end-to-end.

For 9-Volt Batteries



Snap Holder



I-Shape Snap Holder



T-Shape Snap Holder

Snap holder is aluminum with steel contacts and tin-plated brass solder lugs.

7712K62 ..... $2.58

I- and **T-shape** holders are plastic-coated fiberboard with brass contacts and two 24-ga. wire leads.

Lead Lg.	I-Shape Snap Holders		T-Shape Snap Holders	
6″	7712K513	$0.74	7712K511	$0.74
12″	7712K614	.85	7712K612	.85

For N-Cell Batteries



This polypropylene holder has brass contacts, a spring, and two 6″ long, 26-ga. wire leads.

7712K91 ..... $1.17

For Button/Coin Cell Batteries



These clip-style holders are polyester, except 6961T13 is nylon. All have steel contacts.

For Battery Size	For Battery Ht.	For Battery Dia.		
CR2016, CR2025, CR2032	0.06″-0.14″	0.79″	6961T11	$1.18
CR2430, DL2430, ECR2430	0.12″	0.97″	6961T12	1.48
CR2450, DL2450	0.2″	0.97″	6961T13	1.03

Don't see the battery you need? Just tell us what you're looking for and we'll get it for you.

Long Shelf-Life Rechargeable Batteries

These nickel metal hydride (NiMH) batteries last longer than alkaline batteries, and recharging without completely draining them does not affect battery life. Shipped fully charged, they hold their charge even after months on your shelf. Each has a button-top connection. Ideal for use in high-drain devices such as digital cameras.

Chargers have a two-prong plug and operate on 120V AC at 60 Hz. They charge batteries in 12 hours. Include four AA batteries. They are ETL and C-ETL listed.



AA



AAA

	Voltage	Cap., mA-hrs.	Max. Recharge Cycles	Batteries Pkg. of 4		Chargers	
AA							
Nickel Metal Hydride (NiMH)	1.2	2,400	150	6762K12	$13.01	7685K5	$25.96
AAA							
Nickel Metal Hydride (NiMH)	1.2	900	150	6762K13	13.01	7685K5	25.96

Button/Coin Cell Batteries

Fit into devices with small battery compartments, such as watches, sensors, and calculators. All have a flat-terminal connection.

Silver oxide batteries perform better and last longer than alkaline batteries.
Alkaline batteries offer a good balance of longevity, cost, and performance.
Lithium batteries are the lightest and longest-lasting button/coin cell batteries.
Zinc air batteries use oxygen to create power. They are lightweight, long lasting, and often used in hearing aids.



Silver Oxide, Alkaline, and Zinc Air


Lithium

Silver Oxide (1.5V)

Battery Size	Mfr. Equivalent No.	Cap., mA-hrs.	Ht.	Dia.		
SR41	384, D384, V384	40	0.14″	0.31″	7604K43	$1.32
SR41	392, D392, V392	40	0.14″	0.31″	7604K92	0.86
SR42	344, D344, V344	100	0.14″	0.46″	7604K87	2.68
SR42	350, D350, V350	110	0.14″	0.46″	7604K89	2.74
SR43	301, D301, V301	95	0.17″	0.46″	7604K95	1.99
SR43	386, D386, V386	115	0.17″	0.46″	7604K76	1.90
SR43	386, D386/301, RW44, V386	127	0.17″	0.46″	7604K81	1.76
SR44	303, V303, WS14/D303	160	0.21″	0.46″	7604K83	2.34
SR44	D357, 357, V357	145	0.21″	0.46″	7604K117	2.08
SR44	EPX76, RW22/42, V76PX	160	0.21″	0.46″	7604K22	3.14
SR45	394, D394, V394	56	0.14″	0.37″	7604K66	1.66
SR48	309, D309, V309	70	0.21″	0.31″	7604K96	1.31
SR48	393, D393, V393	75	0.21″	0.31″	7604K47	1.27
SR54	389, D389, V389	81	0.12″	0.46″	7604K93	1.27
SR54	390, D390, V390	60	0.12″	0.46″	7604K44	1.27
SR55	381, D381, V381	45	0.08″	0.46″	7604K77	1.74
SR55	391, D391, V391	42	0.08″	0.46″	7604K82	1.32
SR57	395, D395, V395	42	0.11″	0.37″	7604K67	1.19
SR57	399, D399, V399	42	0.11″	0.37″	7604K46	$1.19
SR58	361, D361, V361	20	0.08″	0.31″	7604K75	1.27
SR58	362, D362, V362	21	0.08″	0.31″	7604K118	0.96
SR59	396, D396, V396	27	0.1″	0.31″	7604K78	1.19
SR59	397, D397, V397	23	0.1″	0.31″	7604K45	0.97
SR60	364, D364, V364	17	0.09″	0.27″	7604K94	0.88
SR62	317, D317, V317	12.5	0.06″	0.23″	7604K114	2.03
SR63	379, D379, V379	14	0.09″	0.23″	7604K84	1.15
SR64	319, D319, V319	22.5	0.11″	0.23″	7604K97	2.04
SR65	321, D321, V321	16	0.07″	0.27″	7604K115	1.89
SR66	377, D377, SR626SW	24	0.1″	0.27″	7604K85	0.92
SR67	315, D315, V315	23	0.07″	0.31″	7604K113	2.26
SR68	373, D373, V373	30	0.06″	0.37″	7604K48	2.52
SR69	370, D370, V370	34	0.08″	0.37″	7604K119	1.07
SR69	371, D371, V371	35	0.08″	0.37″	7604K79	1.04
____	322, 341, V341	15	0.06″	0.31″	7604K116	3.29
____	329, D329, V329	39	0.12″	0.31″	7604K98	1.79
____	335, V335	6	0.05″	0.23″	7604K99	3.81
____	346, V346	9	0.05″	0.31″	7604K88	3.44

Alkaline (1.5V)

Battery Size	Mfr. Equivalent No.	Cap., mA-hrs.	Ht.	Dia.		
LR41	192, LR41, V3GA	24	0.14″	0.31″	7604K71	$2.00
LR44	A76, LR44, PX76A	105	0.21″	0.46″	7604K74	1.44
LR54	189, LR1130, V10GA	50	0.12″	0.46″	7604K51	$1.48
LR9	EPX625G, R625, V625U	178	0.24″	0.61″	7604K931	1.97

Lithium (3V)

Battery Size	Mfr. Equivalent No.	Cap., mA-hrs.	Ht.	Dia.		
BR2325	DL2325	165	0.1″	0.91″	7701K36	$3.83
BR2330	____	255	0.12″	0.91″	7701K61	5.75
CR1025	____	30	0.1″	0.39″	7701K12	2.54
CR11108	2L76, 3N, CR1, DL1	170	0.43″	0.46″	7821K61	4.80
CR1216	BR1216	27	0.06″	0.49″	7701K27	1.94
CR1220	BR1220, DL1220	35	0.08″	0.49″	7701K28	2.23
CR1616	BR1616, DL1616	50	0.06″	0.63″	7701K29	2.53
CR1620	DL1620	79	0.08″	0.63″	7701K31	1.79
CR1632	6632, BR1632	140	0.13″	0.63″	7701K11	$2.50
CR2016	DL2016	90	0.06″	0.79″	7701K32	1.57
CR2025	DL2025	165	0.1″	0.79″	7701K33	1.63
CR2032	DL2032	230	0.13″	0.79″	7701K34	1.92
CR2320	DL2320	135	0.08″	0.91″	7701K55	2.82
CR2430	DL2430	280	0.12″	0.97″	7701K37	2.47
CR2450	CR2450-1, DL2450	560	0.2″	0.97″	7701K58	4.17
CR2450N	____	540	0.2″	0.97″	7701K62	3.96

Zinc Air (1.4V)

Battery Size	Mfr. Equivalent No.	Cap., mA-hrs.	Ht.	Dia.	Pkg. Qty.		Pkg.
PR41	312A, AC312, DA312	120	0.14″	0.31″	8	71015K41	$10.56
PR44	675A, AC675, DA675	510	0.21″	0.46″	6	71015K42	7.49
PR48	13A, AC13, DA13	217	0.21″	0.31″	8	71015K43	$10.56
PR70	10A, AC10, DA10	84	0.14″	0.23″	8	71015K44	10.56

Battery Recycling Container

Dispose of your dead batteries with ease. These plastic buckets hold up to 55 lbs. of dry-cell batteries including alkaline, nickel, cadmium, nickel metal hydride, iron, zinc carbon, and silver. The price of the container includes pickup and transportation costs, as well as a certificate of recycling once the batteries are received and recycled.



Cap., lbs.		
25	8393K2	$123.61
55	8393K1	164.69

Don't see the battery you need? Just tell us what you're looking for and we'll get it for you.

Rechargeable Battery Packs

Side-by-Side



4 Wide × 1 Deep



5 Wide × 2 Deep

Stacked End-to-End



2 High × 1 Wide | 2 High × 2 Wide

Battery cells are wired together for use in portable devices. All have a solder connection.
Nickel cadmium (NiCad) batteries should be drained completely before recharging for maximum battery life.
Nickel metal hydride (NiMH) batteries last longer than nickel cadmium batteries, and recharging without completely draining them does not affect battery life.

Battery Configuration	Total No. of Batteries	Total Voltage	AA Battery Packs: Cap., mA-hrs.	AA Pack Size: Ht.	Wd.	Dp.			Sub C Battery Packs: Cap., mA-hrs.	Sub C Pack Size: Ht.	Wd.	Dp.		
Side-by-Side														
Nickel Cadmium (NiCad)														
2 Wide×1 Deep	2	2.4	750	2″	1.1″	0.6″	69485K11	$7.00	1,800	1.7″	1.8″	0.9″	69485K15	$13.23
2 Wide×2 Deep	4	4.8	750	2″	1.1″	1.1″	69485K16	18.60	1,800	1.7″	1.8″	1.8″	69485K24	24.19
3 Wide×1 Deep	3	3.6	750	2″	1.7″	0.6″	69485K12	8.40	1,800	1.7″	2.7″	0.9″	69485K26	28.98
3 Wide×2 Deep	6	7.2	750	2″	1.7″	1.1″	69485K28	19.57	1,800	1.7″	2.7″	1.8″	69485K29	33.70
4 Wide×1 Deep	4	4.8	750	2″	2.2″	0.6″	69485K13	12.13	1,800	1.7″	3.6″	0.9″	69485K35	23.66
5 Wide×1 Deep	5	6	750	2″	2.9″	0.6″	69485K27	18.17	1,800	1.7″	4.6″	0.9″	69485K36	26.13
5 Wide×2 Deep	10	12	750	2″	2.9″	1.1″	69485K18	30.34	1,800	1.7″	4.6″	1.8″	69485K37	63.74
6 Wide×1 Deep	6	7.2	750	2″	3.4″	0.6″	69485K14	29.90	1,800	1.7″	5.5″	0.9″	69485K38	34.17
Nickel Metal Hydride (NiMH)														
2 Wide×1 Deep	2	2.4	2,000	2″	1.1″	0.6″	6964T11	10.30	3,000	1.7″	1.8″	0.9″	6964T71	30.85
2 Wide×2 Deep	4	4.8	2,000	2″	1.1″	1.1″	6964T21	20.55	3,000	1.7″	1.8″	1.8″	6964T72	50.87
3 Wide×1 Deep	3	3.6	2,000	2″	1.7″	0.6″	6964T12	15.32	3,000	1.7″	2.7″	0.9″	6964T73	38.62
3 Wide×2 Deep	6	7.2	2,000	2″	1.7″	1.1″	6964T22	27.13	3,000	1.7″	2.7″	1.8″	6964T74	75.21
4 Wide×1 Deep	4	4.8	2,000	2″	2.2″	0.6″	6964T13	18.79	2,500	1.7″	3.6″	0.9″	6964T43	43.40
5 Wide×2 Deep	10	12	2,000	2″	2.9″	1.1″	6964T23	38.45	3,000	1.7″	4.5″	1.8″	6964T76	95.54
6 Wide×1 Deep	6	7.2	2,000	2″	3.4″	0.6″	6964T15	27.02	3,000	1.7″	5.5″	0.9″	6964T77	74.68
Stacked End-to-End														
Nickel Cadmium (NiCad)														
1 High×1 Wide	1	1.2	700	2″	0.6″	0.6″	69485K31	5.66	1,800	1.7″	0.9″	0.9″	69485K39	6.60
2 High×1 Wide	2	2.4	750	3.9″	0.6″	0.6″	69485K19	7.87	1,800	3.4″	0.9″	0.9″	69485K45	12.55
2 High×2 Wide	4	4.8	750	3.9″	1.1″	0.6″	69485K22	12.45	1,800	3.4″	1.8″	0.9″	69485K54	26.28
3 High×1 Wide	3	3.6	750	5.9″	0.6″	0.6″	69485K33	11.60	1,800	5.1″	0.9″	0.9″	69485K51	17.02
Nickel Metal Hydride (NiMH)														
2 High×1 Wide	2	2.4	2,000	3.9″	0.6″	0.6″	6964T31	12.43	3,000	3.4″	0.9″	0.9″	6964T78	26.60
2 High×2 Wide	4	4.8	2,000	3.9″	1.1″	0.6″	6964T32	16.91	3,000	3.4″	1.8″	0.9″	6964T79	67.02
3 High×2 Wide	6	7.2	2,000	5.9″	1.1″	0.6″	6964T33	25.09	3,000	5.1″	1.8″	0.9″	6964T81	68.79

Two-Way Radio Batteries



A | B | C | D | E | F

Nickel cadmium (NiCad) batteries should be drained completely before recharging for maximum battery life.
Nickel metal hydride (NiMH) batteries can be recharged before they are drained completely without affecting battery life.
Lithium ion (Li-Ion) batteries achieve maximum battery life when they are recharged before they are drained completely.

	Mfr. Equivalent No.	For Motorola Radio Number	Voltage	Cap., mA-hrs.	Ht.	Wd.	Dp.		
Nickel Cadmium (NiCad)									
A	HNN9018	SP50	7.5	1,200	3.39″	2.01″	0.69″	7784K77	$33.33
A	HNN9044A	HT10, Radius P10/P50/P60, SP10	7.5	600	2.17″	2″	0.69″	7784K96	30.00
Nickel Metal Hydride (NiMH)									
B	HNN9049	Radius P1225	7.5	2,000	5.47″	2.25″	0.85″	7784K81	82.05
B	WPNN4013A	GP900/1200, HT1000, MT2000	7.5	2,100	6.08″	2.35″	0.82″	7784K12	53.90
C	NNTN4190	Powerphone i500, XU1100/2100/2600, XV1100/2100/2600	4.8	1,200	4.09″	1.22″	0.59″	7784K69	27.58
Lithium Ion (Li-Ion)									
B	NTN-9009L	GP320/340/360, HT750/1250/1550	7.4	2,500	4.72″	2.05″	0.89″	7784K14	64.68
D	PMNN4434	RMU2040/2080/2080d, RMV2080	3.6	2,100	4.25″	2″	0.38″	1467T65	60.00
E	56557	CLS1110/1410/1450	3.6	1,100	4.25″	2″	0.75″	1467T74	38.71
F	RLN6308	RDU2020/2080d/4100, RDV2020/2080d/5100	7.2	2,400	4.25″	2″	0.75″	1532T53	93.50

Ultracapacitors



A | B | C | D | E | F | G | H

Charge in minutes to deliver high power for a short time to drive systems and actuators, power tools, and telecommunications networks. These ultracapacitors have solder connections, except Style G has an M12 threaded stud and Style H has an M5 screw terminal. They can be recharged up to 500,000 times.

	Voltage	Capacitance, F	Current Output, A: Continuous	Max.	Ht.	Wd.	Dp.		
A	2.5	10	2.5	4.5	1.16″	0.93″	0.19″	1135K51	$10.88
B	2.5	10	2.5	4.5	1.41″	0.93″	0.19″	1135K52	11.11
C	2.5	10	2.5	4.5	1.41″	0.93″	0.19″	1135K53	11.11
D	2.7	5	1.6	3.6	0.79″	0.39″ Dia.	___	1135K11	2.86
D	2.7	25	4.9	16.5	1.02″	0.63″ Dia.	___	1135K13	7.12
D	2.7	50	7.1	33.8	1.61″	0.71″ Dia.	___	1135K14	9.68
E	2.7	150	9.1	65.3	1.97″	0.98″ Dia.	___	1135K16	25.40
F	2.7	350	25	220	2.40″	1.30″ Dia.	___	1135K22	20.32
G	2.7	3,000	147	2,170	5.43″	2.38″ Dia.	___	1135K27	100.75
H	16	58	20	204	2.99″	8.92″	1.95″	1135K31	260.33

Don't see the battery you need? Just tell us what you're looking for and we'll get it for you.

Cordless Phone Batteries

Nickel cadmium (NiCad) batteries should be drained completely before recharging for maximum battery life.

Nickel metal hydride (NiMH) batteries can be recharged before they are drained completely without affecting battery life.









For Mfr.	Mfr. Equivalent No.	Voltage	Cap., mA-hrs.	Ht.	Wd.	Dp.		
Nickel Cadmium (NiCad)								
A Bell South, HAC, Southwind	CO100P5, P3305	3.6	400	1.2″	1.7″	0.6″	**6745K25**	$12.93
B AT&T, Panasonic, Uniden	CO101P2	3.6	600	2″	1.7″	0.5″	**6745K11**	15.11
Nickel Metal Hydride (NiMH)								
B Panasonic, Sony, Toshiba, Uniden	CO100P2, P3302	3.6	750	1.2″	1.7″	0.6″	**6745K23**	14.92
C AT&T, GE, Goldstar	CO100P3, P3303	3.6	750	0.57″	1.21″	1.68″	**6745K24**	14.13
C AT&T, GE	CO114P3	3.6	1,500	2″	1.7″	0.6″	**6745K14**	19.46
D Bell South	CO111P1	3.6	700	1.8″	1.2″	0.4″	**6745K13**	17.28
E AT&T, GE, Sanyo, Sharp	CO108P4	3.6	1,200	2.1″	1.7″	0.6″	**6745K12**	19.54

Backup Batteries for Mobile Devices

Always have backup power for your mobile devices. Recharge these batteries by plugging the included USB cord into a computer or charger (not included). The cord is backward compatible, so it works with cords and connectors that meet the same or a lower USB standard. For maximum battery life, recharge these lithium ion (Li-Ion) batteries before they are drained completely. All have an LED charge status indicator.

Batteries for USB devices work with any USB-powered device. Plug devices into the USB ports to power and charge them.

Batteries for Apple iPhone smartphones are built into ultra-thin protective cases that snap onto your smartphone.


For USB Devices


For iPhone Smartphones

Compatible With	No. of USB Charging Ports	USB Standard	Voltage	Cap., mA-hrs.	Color		
USB Devices	2	2.0	5	16,000	Black	**3935T28**	$39.30
USB Devices	3	2.0	5	11,000	Black	**3746T22**	55.05
iPhone 5/5S Smartphone	_	2.0	5	1,700	Black	**3746T15**	121.56
iPhone 6/6S Smartphone	_	2.0	5	2,750	Black	**3746T18**	120.23
iPhone 6/6S Plus Smartphone	_	2.0	5	2,600	Black	**3746T19**	120.23

Disposable Lantern Batteries

Run flashlights and barricade lights as well as lanterns.

Alkaline batteries offer a good balance of longevity, cost, and performance.

Carbon zinc batteries are an economical choice.


With Spring Terminal

Mfr. Equivalent No.	Voltage	Cap., mA-hrs.	Ht.	Wd.	Dp.		
Alkaline—Screw Terminal							
915A	6	13,000	4.3″	2.7″	2.7″	**7690K35**	$10.68
918A	6	35,000	5″	5.4″	2.9″	**7690K33**	26.58
Alkaline—Spring Terminal							
908AC	6	20,500	4.5″	2.7″	2.7″	**7690K31**	12.94

Mfr. Equivalent No.	Voltage	Cap., mA-hrs.	Ht.	Wd.	Dp.		
Carbon Zinc—Screw Terminal							
903	7.5	23,000	6.4″	7.3″	4.1″	**7690K16**	$27.52
915D	6	6,100	4.3″	2.7″	2.7″	**7690K22**	5.20
918	6	12,400	5″	5.4″	2.9″	**7690K14**	9.67
926	12	7,900	4.9″	5.4″	2.9″	**7690K17**	13.74
Carbon Zinc—Spring Terminal							
908CD	6	6,100	4.5″	2.7″	2.7″	**7690K13**	3.29
908CS	6	8,600	4.5″	2.7″	2.7″	**7690K61**	4.89

Disposable Long-Life Lantern Batteries

Change batteries less often—these last at least two times longer than standard disposable lantern batteries. They power barricade lights, lanterns, and telecommunications devices. Because they are alkaline air batteries, they require oxygen to create power. Activate by removing the tape from the holes in the battery case, allowing oxygen to flow inside. They maintain voltage at a constant level, even during power peaks and pulses that can temporarily drain the oxygen. Mountable in any position with access to air. **12-volt battery** has a 3 mm negative and a 4 mm positive socket connection.


With Screw Terminal

Mfr. Equivalent No.	Voltage	Cap., mA-hrs.	Battery Connection	Ht.	Wd.	Dp.		
ALR-40	1.5	200,000	Screw Terminal	6.3″	2.6″ Dia.	—	**7759K11**	$28.45
4AS2	6	45,000	Spring Terminal	4.3″	2.6″	2.6″	**7759K12**	13.79
8AS3/120	12	120,000	Socket Terminal	4.4″	5.4″	5.8″	**7759K14**	68.63

Rechargeable Lightweight Fast-Charging Large-Cell Batteries

A step up from sealed lead-acid batteries, these lithium ion batteries weigh less than half as much and charge more quickly. Maintenance free and mountable in any position, they're a good choice for uninterruptible power supplies (UPS) and emergency lights. They charge in about two hours and can be recharged thousands of times.

Chargers (sold separately) automatically switch from fast charging to maintaining the charge level, so they won't overcharge and damage the battery. They have a charge status indicator, a 4-ft. power cord with two-prong plug, and 4-ft. leads with sheathed alligator clips. Chargers operate on 120/240V AC @ 50/60 Hz. They charge batteries in two hours. These chargers cannot be sold in California or Oregon.

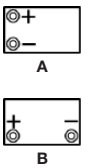


With Polarized Top Quick-Disconnect Tab


With Threaded Insert

Voltage	20-hr. Rate: Cap., amp-hrs.	20-hr. Rate: Discharge Rate, mA	Terminal Location and Polarity	Battery Connection	Ht.	Wd.	Dp.		
12.8	6	320	A	Polarized Top Quick-Disconnect Tab	3.8″	5.9″	2.5″	**2803K1**	$145.45
12.8	9	480	A	Polarized Top Quick-Disconnect Tab	3.8″	5.9″	2.5″	**2803K2**	190.91
12.8	19	960	B	Threaded Insert	6.5″	4.5″	3.5″	**2803K3**	381.82
25.6	9	480	B	Threaded Insert	6.5″	4.5″	3.5″	**2803K4**	350.00
Charger for 12.8-Volt Batteries—Has 4-amp charging current								**2803K9**	64.92
Charger for 25.6-Volt Batteries—Has 2-amp charging current								**2803K8**	72.64

Selecting the Right Large-Cell Battery

When choosing a large-cell battery, make sure the terminal location and polarity as well as the battery connection work with your application.

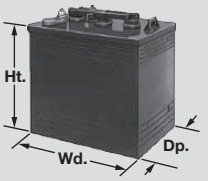

Rechargeable Large-Cell Battery



Rechargeable Maintenance-Free Large-Cell Battery

Terminal Locations and Polarity

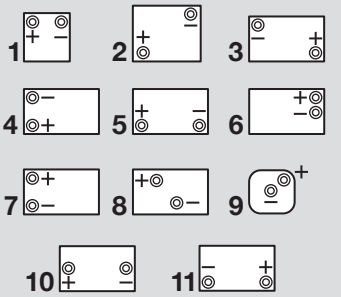

Battery Connections

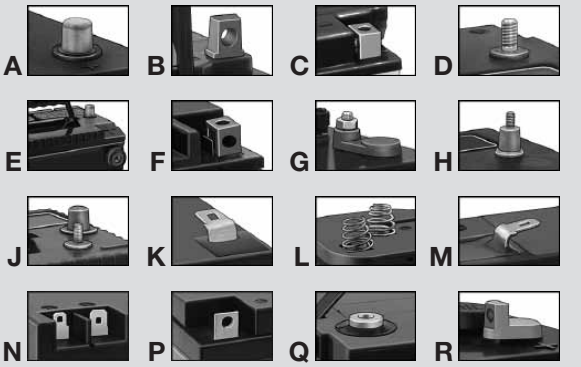

Rechargeable Large-Cell Batteries

Also known as wet-cell lead-acid batteries, occasionally these may need to be filled with distilled water. The electrolyte is in an unsealed container, so they must be mounted upright.

For Starting—Deliver a surge of power to start automobiles and other vehicles.

For Continuous Use—For use in floor-cleaning machines, lift trucks, personnel carriers, and other vehicles that require power over a long time, these deep-cycle batteries can handle many charge/deep discharge cycles.

For Starting and Continuous Use—These dual-purpose batteries provide a surge of power to start automobiles and other vehicles, and they also deliver power over a long time. They're deep cycle, so they can handle many charge/deep discharge cycles.

Cold cranking amps is the discharge load a new, fully charged battery can continuously deliver for 30 seconds at 0° F. *Reserve capacity* is how many minutes a new, fully charged battery can be continuously discharged at 25 amps at 80° F. *Marine cranking amps* is the discharge load a new, fully charged battery can continuously deliver for 30 seconds at 32° F.

Warning: Batteries should always be charged or discharged in a ventilated area.

For Starting

Battery Size	Voltage	Cold Cranking Amps	Terminal Location and Polarity	Battery Connection	Ht.	Wd.	Dp.		
1	6	625	3	A	8.6″	8.8″	6.8″	7238K17	$131.82
U1	12	300	5	B	7.3″	7.8″	5.2″	7238K57	85.34
12N14-3A	12	Not rated	1	C	6.6″	5.3″	3.6″	7238K52	65.10
24	12	585	5	A	9.1″	10.6″	6.8″	7238K67	130.64
31	12	925	10	D	9.4″	13″	6.8″	7238K85	217.74
34/78	12	800	10	E	8.1″	10.2″	6.9″	7597K13	149.84
50-N18L-A3	12	Not rated	11	F	6.4″	8.1″	3.6″	7238K56	122.49
75DT	12	630	10	E	8.1″	9.4″	6.9″	7597K12	147.34
8D	12	1,300	4	A	10″	20.8″	11″	7238K64	345.45

For Continuous Use

Battery Size	Voltage	Cap., amp-hrs.	Reserve Cap., min.	Marine Cranking Amps	Terminal Location and Polarity	Battery Connection	Ht.	Wd.	Dp.		
GC2	6	186	390	Not rated	3	G	10.9″	10.3″	7.1″	71805K81	$159.68
31M	12	115	205	900	10	H	9.4″	13″	6.8″	71805K94	195.26

For Starting and Continuous Use

Battery Size	Voltage	Cap., amp-hrs.	Reserve Cap., min.	Marine Cranking Amps	Terminal Location and Polarity	Battery Connection	Ht.	Wd.	Dp.		
24M	12	70	120	625	5	J	9.4″	10.3″	6.8″	71805K82	$123.57
27M	12	100	160	730	5	J	9.4″	12″	6.8″	71805K83	123.21

Rechargeable Maintenance-Free Large-Cell Batteries

More leak resistant than standard rechargeable large-cell batteries, these have an absorbed glass mat (AGM) that soaks up the electrolyte, making them usable in any position except upside down. They are also known as sealed lead-acid batteries.

For Starting—Start automobiles and other vehicles with a surge of power.

For Continuous Use—Provide backup power for emergency lights, alarm systems, uninterruptible power supplies (UPS) for computers, and other systems that require power over a long time. **Long-life continuous use** batteries last at least twice as long as standard continuous use batteries. **Chargers** (sold separately) automatically switch from fast charging to maintaining the charge level, so they won't overcharge and damage the battery. They have a charge status indicator, a two-prong plug, and 3-ft. leads with sheathed alligator clips. They operate on 120/240V AC at 50/60 Hz, except chargers with 10A charging current operate on 120V AC at 60 Hz. Chargers with 1A and 1.8A charging current are UL recognized. Chargers cannot be sold in California or Oregon, except 7448K68.

For Starting and Continuous Use—These batteries can be used to deliver a surge of power for starting vehicles, and they are deep-cycle batteries that can deliver power over a long time and handle many charge/deep discharge cycles. *Cold cranking amps* is the discharge load a new, fully charged battery can continuously deliver for 30 seconds at 0° F. *Reserve capacity* is how many minutes a new, fully charged battery can be continuously discharged at 25 amps at 80° F. *Marine cranking amps* is the discharge load a new, fully charged battery can continuously deliver for 30 seconds at 32° F.

Warning: Batteries should always be charged or discharged in a ventilated area.

For Starting

Battery Size	Voltage	Cold Cranking Amps	Terminal Location and Polarity	Battery Connection	Ht.	Wd.	Dp.		
YB14-A2	12	190	5	F	6.6″	5.3″	3.5″	7238K11	$92.71
Y50-N18L-A	12	300	1	F	6.4″	8.1″	3.6″	7238K12	146.35
75/25	12	720	5	E	7.6″	9.3″	6.8″	7238K13	280.90

(Continued on following page)

Rechargeable Maintenance-Free Large-Cell Batteries *(Continued from previous page)*

For Continuous Use

Voltage	20-hr. Rate Cap., amp-hrs.	Discharge Rate, mA	Terminal Location and Polarity	Battery Connection	Quick-Disconnect Tab Size Positive	Negative	Ht.	Wd.	Dp.	Batteries		Chargers Charging Current		
Continuous Use														
4	4.5	225	5	K	0.25″	0.25″	3.7″	1.9″	2.1″	7448K57	$25.33	—	—	—
4	9	450	5	K	0.25″	0.25″	3.7″	4″	1.7″	7448K25	30.13	—	—	—
4	10	500	5	K	0.187″	0.187″	3.7″	4″	2″	7448K33	25.74	—	—	—
6	1.1	55	2	K	0.187″	0.187″	2″	2″	1.7″	7448K71	21.22	0.3A	7448K62	$35.17
6	1.2	60	5	K	0.187″	0.187″	2.2″	3.8″	0.98″	9579T35	52.50	—	—	—
6	1.4	70	5	K	0.187″	0.187″	2″	3.8″	0.9″	7448K14	15.33	0.3A	7448K62	35.17
6	3.5	175	5	K	0.187″	0.187″	2.4″	5.3″	1.3″	7448K13	24.31	0.5A	7448K63	36.38
6	4.5	225	2	K	0.187″	0.187″	3.9″	2.8″	1.9″	7448K53	11.89	0.5A	7448K63	36.38
6	5	250	9	K	0.187″	0.187″	3.9″	2.6″	2.6″	7448K23	25.33	1A	7448K59	43.60
6	5	250	9	L	—	—	3.9″	2.6″	2.6″	7448K29	25.33	1A	7448K59	43.60
6	7	350	5	K	0.187″	0.187″	3.7″	6″	1.3″	7448K24	16.83	1A	7448K59	43.60
6	8	350	5	M	0.25″	0.187″	3.7″	6″	1.4″	7448K61★	82.39	1A	7448K59	43.60
6	9	450	3	K	0.187″	0.187″	4.7″	3.9″	2.2″	7448K15	26.37	1A	7448K59	43.60
6	12	600	5	K	0.187″	0.187″	3.7″	6″	2″	7448K34	22.47	4A	7448K64	118.13
6	13	650	6	N	0.25″	0.187″	5.6″	4.3″	2.8″	7448K36	29.61	4A	7448K64	118.13
6	20	1,000	5	P	—	—	4.9″	6.2″	3.3″	7448K58	71.57	4A	7448K64	118.13
6	35	1,800	8	K	0.25″	0.25″	6.5″	6.3″	3.4″	7448K38	72.00	4A	7448K64	118.13
6	210	10,500	3	Q	—	—	8.7″	12.1″	6.7″	7448K27	327.42	—	—	—
8	3.2	160	4	K	0.187″	0.187″	2.5″	5.3″	1.4″	7448K12	35.61	—	—	—
12	1.4	70	4	K	0.187″	0.187″	2″	3.8″	1.7″	7448K17	25.33	0.3A	7448K65	35.17
12	2.5	125	5	K	0.187″	0.187″	2.4″	7″	1.4″	7448K18	27.68	0.5A	7448K66	36.38
12	2.9	145	5	K	0.187″	0.187″	2.4″	7″	1.4″	7448K22	40.79	0.5A	7448K66	36.38
12	3.4	170	4	K	0.187″	0.187″	2.4″	5.2″	2.6″	7448K19	37.84	0.5A	7448K66	36.38
12	5	250	5	K	0.187″	0.187″	4″	3.5″	2.8″	7448K49	21.22	0.8A	7448K67	38.33
12	5	250	5	K	0.25″	0.25″	4″	3.5″	2.8″	7448K26	21.22	0.8A	7448K67	38.33
12	6	300	5	K	0.25″	0.25″	4″	3.5″	2.8″	7448K81	26.19	0.8A	7448K67	38.33
12	7	350	7	K	0.187″	0.187″	3.7″	6″	2.6″	7448K39	26.19	0.8A	7448K67	38.33
12	7	350	7	K	0.25″	0.25″	3.7″	6″	2.6″	7448K87	26.19	0.8A	7448K67	38.33
12	8	425	7	K	0.25″	0.25″	3.7″	5.9″	2.6″	7448K82	33.45	1.8A	7448K6	108.00
12	9	450	7	K	0.25″	0.25″	3.7″	6″	2.6″	7448K21	38.87	1.8A	7448K6	108.00
12	12	600	4	K	0.187″	0.187″	3.7″	6″	4″	7448K28	56.07	1.8A	7448K6	108.00
12	12	600	4	K	0.25″	0.25″	3.7″	6″	4″	7448K31	56.07	1.8A	7448K6	108.00
12	12	600	7	K	0.25″	0.25″	3.7″	6″	3.9″	7448K32	58.00	1.8A	7448K6	108.00
12	12	600	8	N	0.25″	0.187″	5.8″	8.5″	2.8″	7448K35	70.30	1.8A	7448K6	108.00
12	14	700	7	K	0.25″	0.25″	3.7″	6″	3.9″	7448K11	60.21	1.8A	7448K6	108.00
12	18	900	1	K	—	—	6.57″	7.13″	2.99″	7195K75	61.24	—	—	—
12	18	900	11	P	—	—	6.6″	7.1″	3″	7448K51	69.98	1.8A	7448K6	108.00
12	25	1,300	11	K	0.25″	0.25″	4.9″	6.6″	7″	7448K43	96.84	4A	7448K68	118.17
12	25	1,400	5	P	—	—	7″	6.5″	4.9″	7448K37	99.75	4A	7448K68	118.17
12	35	1,750	5	B	—	—	6.2″	7.7″	5.1″	7448K52	94.52	4A	7448K68	118.17
12	40	2,000	11	P	—	—	6.7″	7.8″	6.5″	7448K45	131.10	4A	7448K68	118.17
12	55	2,750	5	B	—	—	8.2″	9″	5.5″	7448K83	159.92	10A	7448K79	286.67
12	75	3,750	5	B	—	—	8.2″	10.3″	6.6″	7448K44	191.08	10A	7448K79	286.67
12	100	5,000	5	B	—	—	8.2″	12″	6.6″	7448K48	245.60	10A	7448K79	286.67
12	110	5,500	5	Q	—	—	8.4″	13″	6.7″	7448K85	256.92	—	—	—
12	140	7,000	5	Q	—	—	10.8″	13.5″	6.7″	7448K86	340.94	—	—	—
Long-Life Continuous Use														
6	7	360	5	K	0.187″	0.187″	3.7″	5.9″	1.3″	2920K1	30.84	1A	7448K59	43.60
6	12	600	5	K	0.187″	0.187″	3.7″	5.9″	2″	2920K2	38.21	4A	7448K64	118.13
6	225	11,300	2	Q	—	—	9″	12.7″	7″	2920K5	350.72	—	—	—
12	7	360	7	K	0.187″	0.187″	3.7″	5.9″	2.5″	2920K3	44.20	0.8A	7448K67	38.33
12	17	850	11	P	—	—	6.6″	7.1″	3″	2920K4	89.62	1.8A	7448K6	108.00
12	30	1,500	11	Q	—	—	4.9″	6.6″	7″	2920K6	103.15	4A	7448K68	118.17
12	35	1,800	5	Q	—	—	6.2″	7.8″	5.2″	2920K7	120.27	4A	7448K68	118.17
12	45	2,250	11	Q	—	—	6.7″	7.8″	6.5″	2920K8	166.00	10A	7448K79	286.67
12	60	3,000	5	Q	—	—	8.3″	9″	5.4″	2920K9	210.71	10A	7448K79	286.67
12	80	4,000	5	Q	—	—	7″	13.7″	6.6″	2920K11	263.73	10A	7448K79	286.67
12	80	4,000	5	Q	—	—	8.3″	10.2″	6.6″	2920K12	268.70	10A	7448K79	286.67
12	100	5,200	5	Q	—	—	8.3″	12.1″	6.6″	2920K13	314.32	—	—	—
12	110	5,550	5	Q	—	—	8.4″	13″	6.8″	2920K14	328.20	—	—	—
12	125	6,450	5	Q	—	—	8.9″	16.1″	7″	2920K15	379.04	—	—	—
12	165	8,300	5	Q	—	—	9.5″	19.1″	6.7″	2920K16	458.04	—	—	—
12	225	11,300	4	Q	—	—	8.6″	20.6″	9.5″	2920K17	566.13	—	—	—

★ Lead-calcium battery.

For Starting and Continuous Use

Battery Size	Voltage	Cap., amp-hrs.	Reserve Cap., min.	Marine Cranking Amps	Terminal Location and Polarity	Battery Connection	Ht.	Wd.	Dp.		
GC2	6	190	380	900	3	J	10.9″	10.3″	7.1″	71805K18	$289.50
U1	12	32	48	240	5	B	7.3″	8.3″	5.1″	71805K11	106.28
22NF	12	55	85	420	1	R	9.3″	9.4″	5.5″	71805K12	160.44
24	12	79	135	800	5	J	9.9″	10.9″	6.8″	71805K13	213.36
27	12	92	175	900	5	J	9.9″	12.8″	6.8″	71805K14	251.67
31	12	100	190	1,060	10	D	9.5″	13″	6.8″	71805K42	368.38
31	12	105	200	1,000	10	J	9.4″	12.9″	6.8″	71805K15	278.70
34/78	12	55	120	955	5	E	8″	10.8″	6.9″	71805K41	258.73
4D	12	198	380	1,420	4	A	10″	20.8″	8.5″	71805K16	497.15
65	12	75	150	955	5	A	7.6″	12″	7.4″	71805K43	258.85
8D	12	245	480	1,800	4	A	10″	20.8″	11″	71805K17	591.49

Solar Panel Chargers for Large-Cell Batteries


Rigid Panel


Flexible Panel

When utility power isn't available, you can still charge your batteries. Use with wet- and AGM dry-cell lead-acid batteries. Increase amp output by wiring panels in parallel.

Rigid panels have a built-in controller that prevents overcharging by shutting off the charger when the battery is fully charged. They have a 6-ft. output cable with two-pin SAE connector and 5-ft. leads with sheathed alligator clips. These panels mount to flat surfaces; mounting fasteners are included.

Flexible panels power 12-volt devices in addition to trickle charging batteries—they continuously provide a low-level charge after the battery is fully charged. They conform to curved surfaces and roll for storage. Wire panels in series to increase voltage output. Backing is made of vinyl. They have a pin-and-socket connection and 15-ft. leads with 3/8″ and 5/16″ ring terminals. Mount using 3/8″ diameter holes; fasteners not included.

Accessories—*18″ battery post adapter cord* has 5/16″ ring terminals. *12-ft. extension cord* has a two-pin SAE connector.

Output							
Watts	Volts	Amps	Ht.	Wd.	Dp.		
Rigid Panels							
5	12	0.27	16″	14″	1″	69205K11	$94.59
10	12	0.54	28″	14″	1″	69205K12	142.97
15	12	0.83	40″	14″	1″	69205K13	182.43
Accessories for Rigid Panels							
18″ Battery Post Adapter Cord						69205K14	6.33
18″ Vehicle Adapter Cord						69205K15	6.33
12-ft. Extension Cord						69205K16	9.31

Output							
Watts	Volts	Amps	Ht.	Wd.	Dp.		
Flexible Panels							
7	12	0.45	23″	14 1/2″	3/64″	4859T15	$150.06
14	12	0.9	42″	14 1/2″	3/64″	4859T16	223.63
21	12	1.35	60 3/4″	14 1/2″	3/64″	4859T17	303.00
28	12	1.8	79 3/4″	14 1/2″	3/64″	4859T18	380.90
42	12	2.7	60 3/4″	26″	3/64″	4859T19	543.21
60	12	3.9	86″	26″	3/64″	4859T21	741.61
Accessory for Flexible Panels							
5-ft. Vehicle Adapter Cord with Adapter Plug						4859T14	15.82

Battery-Powered Starters


12 Volt


12/24 Volt

Jump-start batteries at sites without an AC power source. These portable starters have LED charge status indicators and an outlet to power/charge DC power tools and work lights. Use with wet- and AGM dry-cell lead-acid batteries. Recharge starters using the DC adapter cord with cigarette lighter plug or by plugging them into a 120V AC, 60 Hz outlet.

12-volt starter is powered by a 12-volt battery (included) and has a 4-ft. power cord with a two-prong plug.

12/24-volt starter runs on two 12-volt, 22 amp-hour batteries (included). Turn the knob to switch between 12 and 24 volts. It does not include a power cord; use an extension cord with two-prong plug.

Starter							
Voltage	Amps	Ht.	Wd.	Dp.	Booster Cable Lg.		
12	360	12″	12″	6″	2 1/2 ft.	7117K21	$161.57
12/24	720/360	13″	11 1/2″	6 1/2″	4 ft.	7117K23	382.84

Chargers for Large-Cell Batteries


A


B

To prevent overcharging, these chargers switch modes to maintain the charge level after the battery is fully charged. All have LED charge status indicators and reverse polarity protection. They operate on 120V AC @ 60 Hz.

Automatic charger has a 6-ft. power cord with two-prong plug, a 5-ft. output cable with two-pin SAE connector, 18″ leads with 5/16″ ring terminals and 18″ leads with clamps. Use with wet- and AGM dry-cell lead-acid batteries.

Waterproof automatic chargers have a sealed housing, a 6-ft. power cord with three-prong plug, a 4-ft. output cable with two-pin SAE connector, and 18″ leads with 5/16″ ring terminals. Mount using 3/16″ diameter holes (fasteners not included). Use with wet- and AGM dry-cell lead-acid batteries. They are UL listed.

Harsh-environment automatic chargers have a sealed housing that resists water and dirt, a 2-ft. power cord with three-prong plug, and 6-ft. leads with 3/8″ ring terminals. Mount using 3/8″ diameter holes (fasteners not included). Use with wet-cell lead-acid batteries.

	For Battery Voltage	Charging Amps	Ht.	Wd.	Dp.		
Automatic Charger							
A	12	1.25	2″	7″	3 3/8″	76025K14	$67.27
Waterproof Automatic Chargers							
A	12	5	5″	5 1/4″	2″	76025K22	110.45
A	24	2.5	5″	5 1/4″	2″	76025K23	110.45
Harsh-Environment Automatic Chargers							
B	12	25	6 1/2″	6″	9″	5672T11	291.63
B	24	25	6 1/2″	6″	9″	5672T12	357.38

Hand-Held Chargers and Charger/Starters for Large-Cell Batteries


A


B


C

To prevent overcharging, these chargers switch modes to maintain the charge level after the battery is fully charged. They operate on 120V AC @ 60 Hz and have a power cord with a three-prong plug, except 1458K5 and 7206K42 have a two-prong plug. All have a charge status indicator. They have reverse polarity protection, except 7558K68 and 7558K69 do not. *Style A* is UL listed.

Automatic chargers are for use with wet- and AGM dry-cell lead-acid batteries, except 7206K51 is for use with wet-cell lead-acid batteries only.

Automatic chargers with dual-polarity connections automatically select the correct polarity so you can connect either clamp to the negative or positive terminals. They are for use with wet-cell lead-acid batteries.

Automatic charger/starter can jump or charge batteries. It is for use with wet- and AGM dry-cell lead-acid batteries.

Waterproof automatic chargers keep water out with the sealed housing so you can charge batteries even in wet environments. They have auto shut-off, electronic-overload protection, and thermal protection. They are for use with wet-cell lead-acid batteries. These chargers cannot be sold in California or Oregon.

	For Battery Voltage	Charging Amps	Starting Amps	Ht.	Wd.	Dp.	Booster Cable Lg.	Power Cord Lg.		
Automatic Chargers										
A	6/12	2/4/6	—	7 3/8″	10 1/8″	3 1/8″	6 ft.	6 ft.	7206K51	$43.60
A	6/12	2/10	—	7 7/8″	10 1/2″	3 5/8″	6 ft.	6 ft.	1458K5	67.28
A	12	20	—	11″	8″	6″	6 ft.	6 ft.	1458K2	388.27
B	24	10	—	6 1/2″	7″	8″	8 ft.	7 ft.	1458K3	246.20
B	24	25	—	8 1/2″	10″	9 1/2″	8 ft.	7 ft.	1458K4	368.75
Automatic Chargers with Dual-Polarity Connections										
C	12/24	10	—	7″	10″	8 1/2″	6 ft.	8 ft.	7558K68	307.41
C	12/24	25	—	7″	9″	12″	6 ft.	8 ft.	7558K69	418.45
Automatic Charger/Starter										
C	6/12	2/15-40	125	5 3/8″	9 3/4″	9″	6 ft.	6 ft.	7206K42	124.19
Waterproof Automatic Chargers										
A	12	6	—	3 1/2″	5″	2 3/8″	4 ft.	6 ft.	6061T11	103.85
A	12	10	—	7 1/2″	5″	2 3/8″	4 ft.	6 ft.	6061T12	175.29

Roll-Around Charger/Starters for Large-Cell Batteries

For jumping batteries, these charger/starters provide higher starting currents than Hand-Held Charger/Starters for Large-Cell Batteries. They have a three-prong plug and operate on 120V AC @ 60 Hz, except 7322K52 has a continental European two-prong plug and operates on 240V AC @ 50/60 Hz. They have plastic wheels, except 1269K1 has rubber wheels.

Indoor Charger/Starters—All have a 2¼-hour timer, a hold position for continuous charging, and overload protection. Use with wet- and AGM dry-cell lead-acid batteries. They are UL listed. 7173K21 has a voltmeter. *Charger/starter with load tester* checks how well a battery handles a load to see if the battery needs to be replaced. 7173K21 and 7173K25 cannot be sold in California or Oregon.

Outdoor Charger/Starters—All have a 1½-hour timer, an ammeter, a hold position for continuous charging, and reverse polarity protection. Use with wet-cell lead-acid batteries. 7322K48 is CSA certified, 7322K51 is UL listed, and 7322K52 is CE marked.

Outdoor Automatic Charger/Starter—After the battery is fully charged, this charger/starter switches modes to maintain the charge level. For extended servicing of forklifts and other 12-volt industrial equipment, use this charger/starter as a stable power supply. It has an ammeter, reverse polarity protection, and auto shut-off. Use with wet- and AGM dry-cell lead-acid batteries. It is UL listed.



Continental European Plug

For Battery Voltage	Charging Amps	Starting Amps	Ht.	Wd.	Dp.	Booster Cable Lg.	Power Cord Lg.		
Indoor Charger/Starters									
6/12	2/10/40	200	29″	11.75″	9.88″	6 ft.	6 ft.	7173K21	$172.92
6/12/24	1.5/10/30/35/40/80	250	40″	15.5″	14.5″	9 ft.	9 ft.	7173K26	379.44
Indoor Charger/Starter with Load Tester									
6/12	30/60	300	29″	11.75″	9.88″	6 ft.	6 ft.	7173K25	294.35
Outdoor Charger/Starters									
6/12/24	30/65/70	280	27″	14″	13″	7 ft.	6 ft.	7322K48	604.15
6/12/18/24	40/50/80/100	400	34″	11.5″	12″	8 ft.	10 ft.	7322K51	953.48
Outdoor Charger/Starter with Continental European Plug									
6/12/24	55/75/90	180/270/325	34″	14″	12″	10 ft.	8 ft.	7322K52	1,132.99
Outdoor Automatic Charger/Starter									
12	45	130	33″	12″	12″	6 ft.	6 ft.	1269K1	609.58

Industrial Vehicle Battery Chargers

Designed to charge batteries in lift trucks, pallet jacks, and order pickers. These chargers automatically shut off when battery is fully charged to avoid overcharging. They have a charge status indicator, an ammeter, an 8-ft. battery connection cord with a 175-amp North American style connector, and a 7-ft. power cord with a three-prong plug. They operate on 120V AC @ 60 Hz. Use with wet-cell lead-acid batteries.



For Battery Voltage	Charging Amps	Ht.	Wd.	Dp.		
12	60	18⅞″	12¼″	13½″	7559K81	$875.61
24	40	18⅞″	12¼″	13½″	7559K82	775.00
36	30	18⅞″	12¼″	13½″	7559K84	855.12

Battery-Testing Density and Concentration Meters

Check the condition of battery fluid by testing its state of charge. Use the scale to measure specific gravity.

Battery-Testing Density Meters



4058K81



4058K21



4058K11

Meter with specific gravity range of 1.1 to 1.35 can withstand drops as high as 10 feet.

Meter with built-in thermometer compensates for temperature variations for more accurate readings.

	Specific Gravity Range		
Plastic Body	1.1 to 1.3	4058K81	$7.02
Plastic Body	1.1 to 1.35	4058K21	56.00
Glass Body with Built-In Thermometer	1.1 to 1.3	4058K11	11.16

Concentration Meters

Also known as refractometers, these measure concentration with two or three drops of a solution. Place your sample on the reflecting prism and look through the eyepiece to view the concentration on the internal scale. Meters also measure the freezing point of propylene glycol and ethylene glycol. They are nickel-plated brass and come in a plastic case. Length is 7″.



Freezing-Point Range	Specific Gravity Range		
-60° to 32° F	1.15 to 1.3	7718K2	$97.90
-50° to 0° C	1.15 to 1.3	7718K1	114.08

Multiple-Battery Chargers

Charge up to eight 12-volt, 2- to 12-amp batteries at once, then monitor each to ensure it stays fully charged. Charger is 12″ Ht. × 19″ Wd. × 12″ Dp. and has eight detachable 6-ft. cords with booster clamps, one 6-ft. power cord with three-prong plug, and digital charge status indicator. It operates on 120V AC @ 60 Hz. Use with wet- and AGM dry-cell lead-acid batteries.



7318K31 ..... $594.67

Battery Water-Filling Equipment



Filler with Flexible Nozzle



Filler with Rigid Nozzle



Water-Filling Cart



Vent Cap



Water-Filling Gun

Add distilled water to wet-cell lead-acid batteries to maintain performance.

Fillers are polyethylene. *72-oz. capacity filler* has auto shut-off to prevent overfilling.

Water-filling gun has a ⅝″ Dia. × 9¼″ Lg. bent-end nozzle, auto shut-off, and a built-in regulator that reduces high water pressure to 1.7 gpm. It attaches to a ¾″ GHT (garden hose thread) hose or water-filling cart (sold separately) to fill batteries in hard-to-reach spaces. Made of ABS plastic. *Replacement couplings* (sold separately) include six ¾″ GHT quick-disconnect couplings with check valve.

Water-filling cart has a 10-gallon polypropylene tank, a battery-powered pump with shut-off switch, and a 9-ft. hose that attaches to a water-filling gun (sold separately). It's 37″ Ht. × 17″ Wd. × 17″ Dp. and has two wheels. Cart includes a 12-volt rechargeable AGM dry-cell lead-acid battery and a charger with a 6-ft. power cord and two-prong plug.

Vent cap flips open so you can check the water level and fill a wet-cell lead-acid battery. It attaches to quarter-turn bayonet battery vent openings. Cap has a 1″ ID and is made of polypropylene with an EPDM rubber washer for a tight seal.

6-oz. Filler with 6″ Flexible Nozzle	7656K3	$3.54
72-oz. Filler with 2½″ Rigid Nozzle	7663K1	21.53
Water-Filling Gun	7661K9	86.81
Water-Filling Cart	7667K65	698.74
Replacement Shut-Off Nozzle for 72-oz. Filler	7663K2	13.69
Replacement Couplings for Water-Filling Gun	7661K64	5.99
Replacement Battery for Water-Filling Cart	7667K81	61.74
Replacement Charger for Water-Filling Cart	7667K82	64.58
Vent Cap (Pkg. of 6)	7045K8	11.76

Large-Cell Battery Surge Protector/Charge Monitors



See the charge level of your 12-volt battery while protecting it from power surges. This monitor also checks the condition of your charging system. It has a charge status indicator and mounts easily to the top of your battery with the attached adhesive backing. Monitor is 1¾″ Ht. × 2¼″ Wd. × 1″ Dp. and includes 20″ wire leads with ⅜″ diameter ring terminal connections. Use with wet- and AGM dry-cell lead-acid batteries.

4261T11	$26.32

Rechargeable Large-Cell Battery Monitors



Install on lift trucks and other electric vehicles to show battery condition. These monitors also have a 6-digit hour meter that tracks use throughout the life of the battery. They have a low discharge indicator that flashes at 70% discharge and indicates empty at 80% discharge. Accuracy is ±1%.

They're 2″ Dia. × 2 3/16″ Dp., fit a 2 1/16″ dia. panel cutout, and include quick-disconnect terminals with a tab size of 0.25″ Wd. × 0.032″ Thick.

For Battery Voltage		
12	71165K71	$125.71
24/36	71165K72	125.71
36/48	71165K73	125.71

Battery Selector Switch



Alternate between two batteries without interrupting your power. Switch has a polycarbonate housing and three ⅜″ dia. tin-plated copper stud terminals with hex nuts. Surface mount using the ¼″ dia. mounting holes or panel mount in a 5⅝″ dia. cutout.

Switch is rated 32 VDC and has a maximum 350-amp continuous rating when used with 4/0 AWG battery cables. It's 3.9″ Ht. × 3.9″ Wd. × 3.1″ Dp. and for use in marine applications. UL listed.

69685K61	$48.01

Large-Cell Battery Trays and Hold-Downs

Trays



Drain slots prevent fluid accumulation. Trays hold one battery at a time. They are vinyl-coated steel.

Fits Battery BCI Group	Wd.	Dp.		
1, 2, 17, 22, 23, 24, 42, 54, 55, 56, 72, 74	11″	7½″	7731K4	$9.65
4, 27, 29, 31, 53, 60, 77	13″	7½″	7731K5	10.11

Hold-Downs



Hold-Down for Raised Cover



Hold-Down for Flush Cover

Secure batteries to trays with these adjustable hold-downs. They are fiberglass-reinforced polypropylene and include zinc-plated steel L-bolts and fasteners.

For Battery Cover	For Battery Wd. and Dp.	For 8″ Max. Battery Ht.		For 10″ Max. Battery Ht.	
Raised	4″ to 6⅛″	7764K11	$9.48	7764K12	$9.48
Raised	5½″ to 9″	7764K8	9.48	7764K9	9.48
Flush	8⅝″ to 14¾″	7764K3	9.48	7764K6	9.48

Battery Load Testers for Large-Cell Batteries



Load Tester



Adjustable Load Tester

See how well a starting battery handles a load. These testers measure the capacity and cold cranking amps as indicators of the battery's health. All include booster cables with clamps. Use with wet- and AGM dry-cell lead-acid batteries.

Load Testers— Apply a fixed load to small engine batteries that draw up to 125 amps. 7579K23 includes side terminal adapters. 7579K41 offers two fixed loads and is better for testing smaller batteries that draw up to 60 amps.

Load Tester with Alternator Test Lead— In addition to applying a fixed load to small engine batteries that draw up to 125 amps, this tester has a 4-ft. test lead to check for defective alternator diodes. It has side terminal adapters.

Adjustable Load Tester— Test large engine batteries that draw up to 500 amps. Turn the dial to vary the load applied to the battery to see how it performs at different loads.

For Battery Voltage	Load Cap., amps	Ht.	Wd.	Dp.	Booster Cable Lg.		
Load Testers							
6/12	125	9½″	3½″	3½″	2 ft.	7579K23	$127.52
6/12	60/125	9½″	3½″	3½″	2 ft.	7579K41	169.52
Load Tester with Alternator Test Lead							
6/12	125	9½″	3½″	3½″	2 ft.	7579K25	172.93
Adjustable Load Tester							
12	0-500	10″	5″	10½″	3½ ft.	7240K3	110.16

Voltage and Conductivity Testers for Large-Cell Batteries



Measure the voltage of your batteries as well as the current they can supply to check battery health. Use on 6- and 12-volt wet- and AGM dry-cell lead-acid batteries with 1.2 to 55 amp-hour capacity. Tester measures voltage from 6- to 14-volt DC and conductance from 20 to 1,200 siemens. It's 7½″ Ht. × 3½″ Wd. × 2″ Dp. It has an LED display and 12″ leads with sheathed alligator clips.

4863T11	$325.28

Hand-Held Battery Carriers

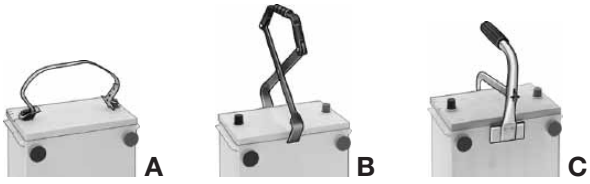

Add a handle to a large-cell battery to lift and move it.

Style A is for use with top-post terminal batteries. It is plastic.

Styles B and **C** are for use with top- and side-post terminal batteries. They are steel with a plastic handle. *Style B* has spring-action jaws; as you lift the battery, the grip increases. The handle provides a nonslip grip. *Style C* has an adjustable handle and two rubber pads.

Warning: Never use to lift items over people.

	For Max. Battery Post Spacing	For Battery Wd.		
A	18″	___	7531K21	$8.26
B	—	0″-10″	69985K78	17.79
C	—	4½″-7″	69985K79	18.44

Battery Terminal Fasteners, Protectors, and Adapters

Square Head Bolts with Shoulder Nuts



Use with battery terminal clamps. Bolt size is 5/16″-18 × 1 1/4″. Made of steel with a corrosion-resistant coating.

		Pkg. of 10
Negative (Black)	7752K211	$12.50
Positive (Red)	7752K212	12.50

Side Terminal Bolt



Bolt size is 3/8″-16 × 13/32″. Made of zinc-plated steel.

	Pkg. of 10
7752K23	$11.50

Protectors



Cover battery terminals to protect against corrosion and dirt. Thread size is 3/8″-16. Made of stainless steel.

Negative (Black)	7752K241	$3.17
Positive (Red)	7752K242	3.17

Side Terminal Adapter Bolt with Stud



Use this adapter to power two accessories with the same battery. Bolt size is 3/8″-16 × 1″. Stud size is 5/16″-18 × 1/2″. Made of brass with a zinc-plated steel nut and washer.

7752K31	$10.10

Stud Terminal to Post Terminal Converters



Made of lead with a 3/8″-16 threaded insert. Includes two adapters—one for a negative terminal and one for a positive terminal.

	Pair
7752K41	$6.08

Side Terminal to Post Terminal Converters



Made of lead with a steel stud. Thread size is 3/8″-16 × 5/16″. Includes two adapters—one for a negative terminal and one for a positive terminal.

	Pair
7752K42	$6.85

Mil. Spec. Terminal Fasteners



Clamp is made of lead and includes zinc-plated steel nuts and bolts. Thread size is 3/8″-16 × 1 1/4″. Meet MIL-A-52425-1/A-52425-2.

Negative (Black)	7738K2	$5.06
Positive (Red)	7738K1	5.06

Marine Terminal Clamps



These clamps fit both negative and positive terminals.

With 5/16″ Stud	69645K59	$3.42
With 3/8″ Stud	69645K58	3.60

Terminal- and Lug-Crimping Tools

Hammer Style



Compact and economical, this tool crimps 8 to 4/0 AWG battery terminal clamps and lugs. Raise the pin to place connector and cable in slot, then hammer the top of the pin to crimp. Tool is 3 1/2″ Ht. × 2 1/4″ Wd. × 2 1/4″ Dp. and has a malleable iron body and hardened steel pin.

7061K12	$37.50

Lever Style



Adjustable rotating dies provide more consistent crimps than hammer style. Dies are coded to match battery cable and connector. Made of heat-treated carbon steel with vinyl grips.

With Ratchet—Tool won't open until fully crimped.

O'all Lg.	Connector Range	Without Ratchet		With Ratchet	
15″	8 AWG to 1/0 AWG	7061K25	$163.80		
19″	8 AWG to 1 AWG	7061K16	261.31	7061K26	$302.26
26″	8 AWG to 4/0 AWG	7061K18	297.07	7061K28	343.80

Battery Terminal Covers

Insulate ungrounded terminals with these plastic covers to prevent short circuits. **Push-on** covers are PVC. **Snap-on** covers are polyethylene.

To Order: Please specify terminal polarity: negative (black) or positive (red).





For Wire Gauge	Push-On for Straight Clamp		Snap-On for Straight Clamp	
6, 4			69875K64	$2.13
4	69875K84	$1.56		
2, 1	69875K85	1.56	69875K65	1.93
1/0, 2/0	69875K86	1.56		





For Wire Gauge	Push-On for Lug		Push-On for Marine Clamp	
2, 1	69875K94	$2.00	69875K96	$3.08
1/0, 2/0	69875K95	2.00	69875K97	3.08

Battery Terminal Corrosion Preventatives

Extend battery life, reduce maintenance costs, and protect exposed parts from moisture, dirt, and other contaminants.

Felt Washers—Impregnated with a corrosion preventative to stop corrosion caused by battery acid fumes leaking at the post or bolt. Washers fit top- and side-mount terminals and are 1 3/4″ OD × 11/16″ ID × 1/8″ Thick.

Cleaner—Neutralizes acid and dissolves and removes corrosion. Use on batteries prior to applying washers and coating.

Cleaner and Acid Detector—You'll know acid is present when this yellow foam turns pink. It neutralizes and cleans it away.

Coatings—Form a protective barrier that makes surfaces impregnable to corrosion-causing acid fumes.

		Pkg.
Felt Washers (50/Pkg.)	7450K31	$12.56
		Each
Cleaner, 14-oz. Aerosol	7450K41	$5.34
Cleaner and Acid Detector, 14-oz. Aerosol	7450K32	3.80
Coating, 12-oz. Aerosol	7450K21	11.98
Brush-On Coating, 4-oz. Can	7450K79	13.82

Battery Terminal Brushes and Tools



Knob-Handle Brush



Straight-Handle Brush



Spreader/Cleaner



Clamp Puller

Knob-Handle Brush—Bristles made of steel and brass clean battery top posts and terminals. Includes a cover.

7455K5	$5.79

Straight-Handle Brush—Has stainless steel brush to clean side terminals and battery contacts.

7455K8	$9.98

Spreader/Cleaner—Spreads clamp and cleans the terminal all at once. This spreader/cleaner is also known as a battery reamer. Made of steel.

7455K4	$14.54

Clamp Puller—Removes corroded terminals. It's made of steel and has a 1 1/2″ jaw spread and 1 3/4″ jaw depth.

7455K3	$7.58

Battery Boxes



Polypropylene

Protect batteries from dirt, debris, and water.
Polypropylene boxes include a tie-down, screws, and a mounting bracket.
Polyethylene boxes do not include mounting hardware.

For Battery Size	For No. of Batteries	Inside Ht.	Inside Wd.	Inside Dp.	Outside Ht.	Outside Wd.	Outside Dp.		
Polypropylene									
U1	1	7 1/2"	8"	5 1/4"	8"	10 1/2"	7 1/2"	69995K81	$13.13
24	1	10 1/8"	11 1/8"	7 3/4"	10 5/8"	14"	9 5/8"	69995K85	16.69
24-31	1	9 3/4"	14 1/2"	7 7/8"	10 7/8"	17 5/8"	9 5/8"	69995K82	21.97
27	1	10 1/2"	13 7/8"	7 1/4"	10 7/8"	16 7/8"	9 5/8"	69995K86	20.07
6V	1	11 3/4"	11"	7 7/8"	12 1/2"	14 1/8"	10"	69995K84	15.59
Polyethylene									
4D	1	11"	21"	9 1/2"	13 3/8"	24 3/8"	12 7/8"	69995K83	129.33
6V	2	12"	14 3/4"	10 3/4"	14"	18 1/4"	14 1/4"	69995K71	134.56
8D	1	10 1/2"	21"	11 1/2"	13"	24 1/2"	15"	69995K87	91.44

Portable Generators



Pull Start



Gasoline-Fueled Electric Start

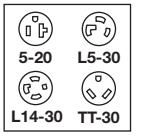

Outlet NEMA Styles

The overhead-valve engine in these generators is cool running and fuel efficient. The 5-20 outlets are GFCI.
Gasoline-fueled generators include wheels. The e*lectric-start* generator includes a 12-volt battery.
Diesel-fueled generator shuts down when it is low on oil to protect the engine. A 12-volt battery is required (sold separately). Wheels and handle are sold separately.

Max. Continuous Watts	Surge Watts	Engine Volume, cc	Output AC Voltage	Output Amps	Outlet NEMA Style (Qty.)	Fuel Tank Cap.	Run Time @ 50% Load	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.	Wt., lbs.		
Gasoline-Fueled Generators with Pull Start													
3,500	4,375	250	120	29.2	5-20 (2); TT-30 (1)	4 gal.	8 hrs.	22"	18"	26"	130	7195K81	$597.33
5,000	6,250	306	120/240	41.6/20.8	5-20 (4); L14-30 (1)	7 gal.	13 hrs.	28"	27 1/4"	28 3/8"	173	7195K82	972.00
Gasoline-Fueled Generator with Electric Start													
7,500	8,750	420	120/240	62.5/31.2	5-20 (4); L14-30 (1)	7 gal.	9 hrs.	25 7/8"	22 1/4"	38 3/4"	250	7195K83	1,534.67
Diesel-Fueled Generator with Electric Start													
5,000	5,500	435	120/240	41.7/20.8	5-20 (4); L5-30 (1); L14-30 (1)	12 gal.	32 hrs.	26 1/8"	22 5/8"	33 1/8"	252	9931K61	3,698.92
Accessories													
Replacement Battery for Gasoline-Fueled Generator with Electric Start												7195K75	61.24
Battery for Diesel-Fueled Generator												7238K57	85.34
Wheel and Handle Kit for Diesel-Fueled Generator												9931K81	148.99

Batteries and Chargers for Makita Cordless Tools

These Makita batteries and chargers are not interchangeable with other brands.

Batteries



A



B



C



D



E



F



G



H

Nickel cadmium (NiCad) batteries should be drained completely before recharging for maximum battery life.
Nickel metal hydride (NiMH) batteries can be recharged before they are drained completely without affecting battery life.
Lithium ion (Li-Ion) batteries achieve maximum battery life when they are recharged before they are drained completely.

	Battery No.	Voltage	Cap., amp-hrs.		
Nickel Cadmium (NiCad)					
A	1210, 632277-5	12	1.3	27875A86	$80.28
B	1220, 192681-5	12	1.3	27875A55	94.44
B	1222, 192598-2	12	2	27875A82	77.60
B	9120, 192638-6	9.6	1.3	27875A85	61.43
C	1422, 192600-1	14.4	2	27875A83	88.64
C	1822, 192827-3	18	2	27875A77	95.38
C	PA14, 194712-2	14.4	1.3	51455A74	76.93
D	B7000	7.2	1.3	8777A31	52.14
D	B9000	9.6	1.3	3972A22	55.86

	Battery No.	Voltage	Cap., amp-hrs.		
Nickel Metal Hydride (NiMH)					
D	9034, 193890-9	9.6	2.6	29435A33	$96.22
E	1234, 193157-5	12	2.6	27835A32	105.36
F	1434, 193158-3	14.4	2.6	27875A93	106.70
F	1834, 193159-1	18	2.6	39815A89	108.41
Lithium Ion (Li-Ion)					
G	BL1014	12	1.3	3972A32	71.62
H	BL1820	18	2	27875A13	92.52
H	BL1830	18	3	27875A15	114.91

Chargers



These chargers can charge one battery at a time. They operate on 120V AC.

Charger No.	For Battery No.	For Battery Voltage	Charging Time, min.		
For Nickel Cadmium (NiCad) and Nickel Metal Hydride (NiMH) Batteries					
DC1804	1200, 1210, 1220, 1222, 1234, 1422, 1434, 1435F, 1822, 1834, 1835F, 192019-4, 192271-4, 192534-A, 192596-6, 192598-2, 192600-1, 192638-6, 192681-5, 192827-3, 193156-7, 193157-5, 193158-3, 193159-1, 193782-2, 193784-8, 193890-9, 194172-2, 632277-5, 9034, 9100, 9102, 9120, 9122, 9134, B7000, B9000, PA14	7.2, 9.6, 12, 14.4, 18	60	27875A78	$56.26
For Lithium Ion (Li-Ion) Batteries					
DC10WB	BL1014	7.2, 9.6, 12	60	27875A88	49.95
DC18RC	BL1430, BL1815, BL1820, BL1830, BL1840, BL1850, BL7010	14.4, 18	30	27875A17	122.97

Batteries and Chargers for Milwaukee Cordless Tools

These Milwaukee batteries and chargers are not interchangeable with other brands.

Batteries



A B C D E F G H J K

Nickel cadmium (NiCad) batteries should be drained completely before recharging for maximum battery life.
Lithium ion (Li-Ion) batteries achieve maximum battery life when they are recharged before they are drained completely.

	Battery No.	Voltage	Cap., amp-hrs.		
Nickel Cadmium (NiCad)					
A	48-11-1024	14.4	2.4	29735A83	$81.63
B	48-11-1970	12	2.4	29735A43	71.43
C	48-11-2230	18	2.4	29735A84	106.06
Lithium Ion (Li-Ion)					
D	48-11-1815	18	1.5	29735A123	86.15
E	48-11-1828	18	2.8	29735A124	127.69

	Battery No.	Voltage	Cap., amp-hrs.		
Lithium Ion (Li-Ion) (Cont.)					
F	48-11-1840	18	4	29735A211	$152.31
G	48-11-2001	4	2	7183A47	44.62
H	48-11-2401	12	1.5	4443A33	49.23
J	48-11-2402	12	3	4443A35	79.40
K	48-11-2830	28	3	54275A31	170.00

Chargers



48-59-0255 48-59-0280 48-59-1812 48-59-2001 48-59-2401 48-59-2819

Chargers operate on 120V AC. **Milwaukee 48-59-0255** cannot be sold in California or Oregon.

Charger No.	For Battery No.	For Battery Voltage	For No. of Batteries	Charging Time, min.		
For Nickel Cadmium (NiCad) Batteries						
48-59-0255	48-11-1024, 48-11-1970, 48-11-2230	12, 14.4, 18	1	60	29735A85	$56.76
For Nickel Cadmium (NiCad) and Lithium Ion (Li-Ion) Batteries						
48-59-0280	48-11-1830, 48-11-2830, 48-11-1024, 48-11-1970, 48-11-2230	12, 14.4, 18	3	45-60	29735A127	219.98
For Lithium Ion (Li-Ion) Batteries						
48-59-1812	2620-21, 2625-21, 2720-21, 48-11-1815, 48-11-1828, 48-11-1840, 48-11-2401	12, 18	2	30-60	29735A128	64.62
48-59-2001	48-11-2001	4	1	45	7183A46	44.62
48-59-2401	48-11-2401	12	1	30	4443A22	56.92
48-59-2819	48-11-2830	28	1	60	54275A33	66.00

Batteries and Chargers for DeWalt Cordless Tools

These DeWalt batteries and chargers are not interchangeable with other brands.

Batteries

Switch your DeWalt nickel cadmium (NiCad) battery for a lighter DeWalt lithium ion (Li-Ion) battery—DeWalt batteries can be used interchangeably in all DeWalt tools except Univolt tools. They are not interchangeable with other brands.
Nickel cadmium (NiCad) batteries should be drained completely before recharging for maximum battery life.
Lithium ion (Li-Ion) batteries achieve maximum battery life when they are recharged before they are drained completely.



A



B

	Battery No.	Voltage	Capacity, amp-hrs.		
Nickel Cadmium (NiCad)					
A	DC9071	12	2.4	29835A11	$74.35
A	DC9091	14.4	2.4	29835A12	85.33
A	DC9096	18	2.4	29835A13	97.20
A	DW9057	7.2	1.3	6978A48	33.72
A	DW9061	9.6	1.7	29835A42	54.82
Lithium Ion (Li-Ion)					
A	DC9182	18	2	29835A121	161.11
B	DCB127	12	2	6978A72	61.54
B	DCB201	20	1.5	29835A109	121.04
B	DCB204	20	4	29835A115	136.00
B	DCB361	36	2.4	29835A102	184.75

Chargers

These chargers can charge one battery at a time in 60 minutes. They cannot be used with DeWalt Univolt batteries.



DC9310



DCB1115

Charger No.	For Battery No.	For Battery Voltage	Input Voltage		
For Nickel Cadmium (NiCad) and Lithium Ion (Li-Ion) Batteries					
DC9310	DC9071, DC9091, DC9096, DC9180, DC9182, DW9057, DW9061	7.2, 9.6, 12, 14.4, 18	120V AC	29835A631	$81.82
For Lithium Ion (Li-Ion) Batteries					
DCB115	DC9182, DCB201	12, 14.4, 18, 20	120V AC	29835A112	80.86

Battery Jumper Cables and Clamps

Cables are stranded copper, insulated, and have PVC-insulated metal clamps. Temperature range is –40° to +176°F. Clamps only are PVC-insulated metal. All clamps are color-coded black (negative) and red (positive).

Jumper Cables with Clamps



Wire Size (AWG)	Max. Cranking Amps		Pair
12-ft. Length			
5	500	7234K21	$104.13
4	500	7234K12	114.69
1	800	7234K62	196.25
16-ft. Length			
5	500	7234K22	123.73
4	500	7234K18	134.40
1	800	7234K63	232.55
20-ft. Length			
4	500	7234K19	$133.92
1	800	7234K49	268.87
1/0	800	7234K47	348.78
25-ft. Length			
4	500	7234K23	165.22
1	800	7234K46	314.25
1/0	800	7234K25	402.15

Clamps Only



Max. Amps		Pair
500	7178K12	$26.23
800	7178K9	30.80

Battery Terminal Connectors

A color-coded barrel identifies clamps and lugs by AWG size.

Clamps secure to unthreaded battery terminals by tightening the included nut and bolt except for side-post clamps, which attach to internally threaded battery terminals. **To Order:** Please specify for negative (black) or positive (red) battery terminal connection.

Lugs are typically used on threaded terminals and require a nut (not included) to secure to the terminal.

Crimp or Solder Style—Made of tin-plated copper.

Connect to cable with a crimping tool or by soldering. UL listed. *Note:* UL listed products are only UL listed if crimped.

Antirotational lugs have serrations on both sides to lock them in place.





For Wire Size (AWG)	*Left Elbow Clamps*		*Right Elbow Clamps*		*Flag Clamps*	
2	7106K514	$8.90	7106K524	$8.90	7106K43	$8.64
1/0	7106K516	8.94	7106K526	8.94	7106K536	12.23
2/0	7106K517	9.00	7106K527	8.67	7106K537	12.23
3/0	7106K518	8.91	7106K528	8.16	7106K538	12.47
4/0	7106K519	15.00	7106K529	14.90	7106K539	17.00




For Wire Size (AWG)	*Straight Clamps*		*Antirotational 3/8" Lugs*	
8	7106K11	$5.29		
6	7106K82	5.95	7106K92	$5.30
4	7106K83	7.17	7106K93	5.33
2	7106K84	7.08	7106K94	5.78
1	7106K85	7.08	7106K95	5.45
1/0	7106K86	7.08	7106K96	5.53
2/0	7106K27	7.08	7106K97	5.58
3/0	7106K88	7.45	7106K98	5.83
4/0	7106K89	9.32	7106K99	6.65



For Wire Size (AWG)	*Standard 3/8" Lugs*		*Heavy Duty 3/8" Lugs*		*Heavy Duty 1/2" Lugs*	
8	7106K711	$3.18	7106K721	$5.82		
6	7106K712	3.11	7106K722	4.68		
4	7106K713	3.04	7106K723	4.56	7106K733	$5.43
2	7106K714	3.27	7106K724	4.90	7106K734	5.57
1	7106K714	3.27	7106K725	4.90	7106K735	5.34
1/0	7106K716	3.47	7106K726	4.90	7106K736	5.57
2/0	7106K717	3.47	7106K727	4.57	7106K737	5.57
3/0	7106K718	5.00	7106K728	4.57	7106K738	5.24
4/0	7106K719	6.11	7106K729	7.43	7106K739	7.77

Quick Solder Style—Made of tin-plated copper.

Applying heat to the flux and solder mixture creates a metallic bond nearly twice as strong as crimping or compression connections.





For Wire Size (AWG)	*Left Elbow Clamps*		*Right Elbow Clamps*		*Straight Clamps*	
6 and 4					7908K41	$6.52
2 and 1	7908K1	$7.70	7908K21	$7.70	7908K42	6.63
1/0	7908K2	7.80	7908K22	7.80	7908K43	6.96
2/0	7908K3	8.04	7908K23	8.04	7908K44	7.26
3/0	7908K4	8.54	7908K24	8.54	7908K45	7.37
4/0	7908K5	10.87	7908K25	10.87	7908K46	8.78

3/8" Lugs



For Wire Size (AWG)		
6 and 4	7908K51	$4.52
2 and 1	7908K52	4.80
1/0	7908K53	5.02
2/0	7908K54	5.35
3/0	7908K55	5.50
4/0	7908K56	5.91

Screw-On Style—Made of tin-plated copper.

Insert your stripped cable into the compression nut provided and tighten with ordinary hand tools; no crimping or heat required.





For Wire Size (AWG)	*Left Elbow Clamps*		*Right Elbow Clamps*		*Straight Clamps*	
6					7980K51	$9.60
4	7980K61	$12.55	7980K71	$12.55	7980K52	9.60
2 and 1	7980K62	12.55	7980K72	12.55	7980K53	10.43
1/0	7980K63	12.55	7980K73	12.55	7980K54	10.31
2/0	7980K64	14.03	7980K74	14.03	7980K55	11.08
3/0	7980K65	17.10	7980K75	17.10	7980K56	13.75

3/8" Lugs



For Wire Size (AWG)		
6	7980K31	$7.62
4	7980K32	7.62
2 and 1	7980K33	8.25
1/0	7980K34	8.85
2/0	7980K35	10.11
3/0	7980K36	12.67

Multi-Wire-Size Crimpless Style—Made of lead.

Clamp onto a wide range of wire sizes without crimping or soldering. All have universal (negative and positive) polarity. Not color coded.

Tie-bolt clamps tighten around cable for complete wire contact.






For Wire Size (AWG)	*Top-Post Clamps*		*Side-Post Clamp*		*Top-Post Tie-Bolt Clamp*		*Side-Post Tie-Bolt Clamp*	
6 to 2/0			69645K71	$2.31				
6 to 1	69645K56	$2.40			7118K2	$5.83	7118K3	$6.59
1/0 to 4/0	69645K57	4.16						

Battery Disconnect Switches

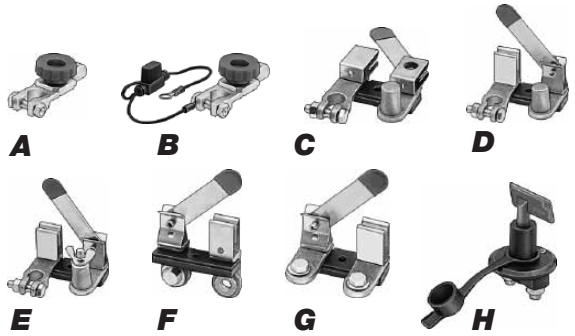

Stop battery drain and prevent theft and unauthorized use. Switches are made of copper and brass except Styles A and B, which are brass only. For *Styles C-G,* flip the lever to stop the current (lever extends 3″). *Style H* has a key.

(A&B) Install on a negative battery post. Turn the knob to disconnect the battery. *Style B* has a fused bypass to maintain trickle current to accessories such as radios and computers.

(C-E) Install on a negative battery post. *Style E* has a threaded post and a wing nut that also accommodates lugs.

(F) Attaches directly to negative side terminals.

(G) Ideal in space-restricted areas or where a battery box prevents normal mounting to battery posts. Mount switch in a remote location, run a new battery cable to switch, and connect battery cable to post on switch. Mounting hole is 1/4″ dia.

(H) A removable key prevents unauthorized use; turn 90° to connect or disconnect the battery. Switch has two keys, a waterproof cover, and 3/16″ dia. mounting holes.

	Continuous Amp Rating @ 12 Volts	Lg.	Wd.	Ht.		
Top Mount						
A	125	3 1/2″	1 1/2″	1 1/2″	7110K11	$8.11
B	125	3 1/2″	1 1/2″	1 1/2″	7110K41	14.23
C	250	3 3/4″	3 1/2″	1 1/2″	7110K22	34.52
D	250	4″	3″	2″	7110K21	35.18
E	250	4″	3″	2 1/4″	7110K23	37.57
Side Mount						
F	250	3 3/4″	3 1/4″	1 1/2″	7110K39	35.18
Remote Mount						
G	250	4″	3″	2″	7110K24	35.18
H	100	2 1/4″ Dia.	× 2 1/2″ Ht.		7110K42	23.00

Battery Cables with Fittings

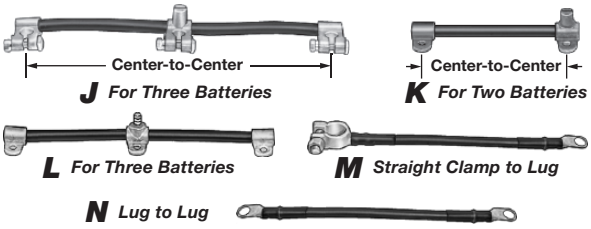

Get maximum conductivity from these copper cables that are insulated with oil-resistant PVC. Temperature range is –40° to +221° F. **To Order:** Please specify black (negative) or red (positive).

Styles J-L allow you to wire two or three batteries in parallel for maximum starting power. Connect the positive terminals together and the negative terminals together to get the combined amp-hours of the batteries (voltage remains the same). All have lead connectors. *Style J* has flag clamps with post connection. *Style K* has lugs with post connection. *Style L* has lugs with 3/8″ dia. stud.

Styles M and ***N*** allow you to connect batteries either to electrical systems or to each other. Clamps and lugs are tin-plated copper; lugs have a 3/8″ dia stud.

For battery cable without fittings, see 6948K on page 837.

Ctr.-to-Ctr.	Style J 2/0 AWG		Style K 2/0 AWG		Style L 2/0 AWG	
For Two Batteries						
6 13/16″	7749K1	$15.21	7749K4	$13.00	7749K7	$13.35
7 3/8″	7749K2	15.21	7749K5	13.23	7749K8	13.62
14″	7749K3	18.25	7749K6	15.58	7749K9	21.90
For Three Batteries						
13 5/8″	7749K11	26.85	7749K13	24.98	7749K15	25.27
14 3/4″	7749K12	26.85	7749K14	25.33	7749K16	25.27

	Style M 4 AWG		Style M 1 AWG		Style M 2/0 AWG	
For Two Batteries						
10″	69735K51	$14.87	69735K41	$16.50	69735K71	$17.65
20″	69735K52	17.04	69735K42	20.43	69735K73	22.24
30″	69735K53	19.57	69735K43	24.59	69735K75	28.17
60″	69735K54	26.93	69735K44	30.20	69735K77	47.50

	Style N 4 AWG		Style N 1 AWG		Style N 2/0 AWG	
For Two Batteries						
10″	69735K21	$10.89	69735K26	$12.93	69735K31	$14.87
20″	69735K22	13.35	69735K27	17.07	69735K32	19.67
30″	69735K23	15.85	69735K28	21.28	69735K33	25.91
60″	69735K24	23.22	69735K29	33.57	69735K34	45.33

Battery Charging Cable Connectors

High-amp battery charging is no problem for these connectors.

North American Style Connectors

No need to distinguish between male and female—any two connectors of the same size and color will fit together. You'll need two to make a connection. Designed for use with industrial battery cable and battery charger cable, connectors are polycarbonate with two copper contacts. The amps listed below are based on the largest wire size shown. UL recognized.

To Order: For battery connectors, please specify wire size and color. For replacement contacts, please specify AWG size.



Amps	Available Wire Sizes (AWG)	Available Colors	O'all Size Lg.	O'all Size Wd.	O'all Size Ht.	Connectors	Connectors Each	Repl. Contacts	Repl. Contacts Pair
50	12-10, 6	Black, Blue, Gray, Red	1.9″	1.4″	0.6″	7043K21	$8.27	7043K41	$4.20
120	6, 4, 2	Gray	2.5″	1.9″	0.8″	7043K22	12.64	7043K42	7.53
175	6, 4, 2, 1/0	Blue, Gray, Orange, Red, Yellow	3.1″	2.2″	1.0″	7043K23	15.04	7043K46	10.73
350	1/0, 2/0, 3/0, 4/0	Blue, Gray, Green, Orange, Red, Yellow	4.3″	2.8″	1.3″	7043K24	24.31	7043K52	16.90

Optional handles include mounting screws.

Fits Connector Size (amps)	Handle Material		Each
50	Vinyl-Coated Steel	7043K87	$6.03
50 and 120	Polycarbonate	7043K86	5.59
175 and 350	Vinyl-Coated Steel	7043K88	14.63

Optional dust covers protect the connector end when not in use. Covers for *50-* and *120-amp connectors* are rubber.

To Order: For *175-* and *350-amp connector* covers, please specify color of battery connector. Covers for blue, gray, and red connectors are nylon; covers for green, orange, and yellow connectors are rubber.

Fits Connector Size (amps)		Each
50	7043K15	$3.91
120	7043K14	6.56

Fits Connector Size (amps)		Each
175	7043K26	6.73
350	7043K28	9.57

Euro Style Connectors

Designed for use with European industrial vehicles, these connectors are CE approved and meet DIN 43589. You'll need a female and a male to make a complete connection. All connectors are made of black nylon and have two copper contacts. ***320-amp connectors*** come with a handle.

Optional handles are black nylon and include mounting screws.

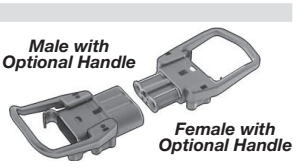

Amps	Wire Size (AWG)	Mated Size Lg.	Mated Size Wd.	Mated Size Ht.	Female		Male		Optional Handle	
80	4	5.8″	2.7″	1.0″	5731T11	$48.21	5731T21	$33.47	5731T52	$5.55
160	1/0	8.2″	3.3″	1.3″	5731T12	52.56	5731T22	38.19	5731T53	4.17
320	1/0	7.6″	3.5″	1.6″	5731T13	62.61	5731T23	55.26		

Terminal Blocks

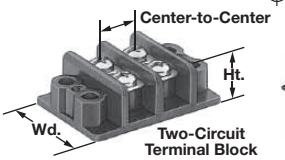

Two-Circuit Terminal Block


Cover for Two-Circuit Terminal Block


Marker Strip for Two-Circuit Terminal Block


Jumper


Quick Disconnect


45° Quick Disconnect


90° Quick Disconnect

Mount blocks to a panel or the surface of your machine and connect multiple wires. Also known as barrier terminal strips, blocks have screw terminals and four mounting holes (screws not included). Maximum temperature is 302° F, except 3/8″ and 7/16″ center-to-center blocks have a maximum temperature of 257° F. Color is black. UL recognized, CSA certified, and CE marked.

Accessories—*Covers* protect the top of the block and prevent accidental contact with a live circuit. They include mounting clips to place between the block and its mounting screws. Color is black. *Marker strips* extend from underneath the blocks to provide a blank space for labeling. Color is black. *Jumpers* connect side-by-side terminals. *Quick disconnects* convert screw terminal connections into 0.25″ wide quick-disconnect connections, except disconnects for 3/8″ center-to-center blocks are 0.187″ wide.

Also Available: Multicircuit jumpers. Please ask for 7527K991 and specify for terminal blocks with 3/8″ or 7/16″ center-to-center, as well as the number of circuits.

300V AC/DC

For Blocks with Center-to-Center	Amps Per Circuit	For Wire Size, AWG	Terminal Size	Mounting Hole Dia.
3/8″	20	22-12	#6	0.17″
7/16″	20	22-12	#6	0.18″

For Blocks with Center-to-Center	Amps Per Circuit	For Wire Size, AWG	Terminal Size	Mounting Hole Dia.
9/16″	30	18-10	#8	0.21″
11/16″	65	16-6★	#10	0.20″

★ Use with lug or ring terminal.

No. of Circuits	3/8″ Center-to-Center (7/8″ Wd. x 1/2″ Ht.) Lg.			7/16″ Center-to-Center (1 1/8″ Wd. x 1/2″ Ht.) Lg.			9/16″ Center-to-Center (1 5/16″ Wd. x 5/8″ Ht.) Lg.			11/16″ Center-to-Center (1 13/16″ Wd. x 3/4″ Ht.) Lg.		
Terminal Blocks												
2	1 7/16″	7527K42	$1.38	1 5/8″	7527K62	$1.54	2 1/8″	7527K82	$4.22	2 1/2″	7527K22	$7.73
3	1 3/4″	7527K43	1.49	2 1/16″	7527K63	1.92	2 11/16″	7527K83	4.89	3 3/16″	7527K23	8.76
4	2 3/16″	7527K44	2.03	2 1/2″	7527K64	2.41	3 1/4″	7527K84	5.46	3 7/8″	7527K24	9.55
5	2 1/2″	7527K45	2.54	2 15/16″	7527K65	2.89	3 13/16″	7527K85	6.29	4 9/16″	7527K25	11.25
6	2 15/16″	7527K46	3.00	3 3/8″	7527K66	3.51	4 3/8″	7527K86	6.97	5 1/4″	7527K26	13.35
7	3 1/4″	7527K47	3.32	3 13/16″	7527K67	3.97	4 15/16″	7527K87	7.68	5 15/16″	7527K32	14.33
8	3 11/16″	7527K48	3.78	4 1/4″	7527K68	4.46	5 1/2″	7527K88	8.39	6 11/16″	7527K28	16.95
9	4″	7527K49	4.24	4 11/16″	7527K69	4.76	6 1/16″	7527K89	9.47	7 5/16″	7527K34	18.23
10	4 7/16″	7527K51	4.51	5 1/8″	7527K71	5.00	6 5/8″	7527K91	9.65	8″	7527K31	20.65
12	5 3/16″	7527K53	4.95	6″	7527K73	6.08	7 3/4″	7527K93	10.88	9 3/8″	7527K33	24.50
14	5 15/16″	7527K54	5.63	6 7/8″	7527K74	7.32	8 7/8″	7527K94	12.47	____	____	____
16	6 11/16″	7527K55	6.58	7 3/4″	7527K75	8.40	10″	7527K95	12.97	____	____	____
18	7 7/16″	7527K56	7.24	8 5/8″	7527K76	9.35	11 1/8″	7527K96	14.12	____	____	____
20	8 3/16″	7527K41	7.67	9 1/2″	7527K61	10.12	12 1/4″	7527K97	15.52	____	____	____
Accessories—To Order: For covers and marker strips, please specify number of circuits.												
Covers		7527K21	3.35	____	7527K27	3.38	____	7527K35	3.43	____	____	____
Marker Strips		7527K15	1.86	____	7527K17	1.93	____	7527K18	1.98	____	7527K19	1.98
Jumpers (Pkg. of 25)		7527K59	4.71	____	7527K79	4.71	____	7527K99	6.53	____	7527K39	7.37
Quick Disconnects (Pkg. of 25)		7527K11	5.53	____	7527K12	6.53	____	7527K13	7.37	____	7527K2	9.05
45° Quick Disconnects (Pkg. of 25)		7527K57	5.53	____	7527K77	6.53	____	7527K37	7.37	____	7527K3	8.80
90° Quick Disconnects (Pkg. of 25)		7527K58	5.53	____	7527K78	6.53	____	7527K38	7.37	____	7527K36	8.80

600V AC/DC

For Blocks with Center-to-Center	Amps Per Circuit	For Wire Size, AWG	Terminal Size	Mounting Hole Dia.
7/16″	20	22-12	#6	0.18″
9/16″	30	14-10	#8	0.20″

For Blocks with Center-to-Center	Amps Per Circuit	For Wire Size, AWG	Terminal Size	Mounting Hole Dia.
11/16″	30	22-10	#10	0.21″
1 1/8″	90	8-2★	1/4″	0.27″

★ Use with lug or ring terminal.

No. of Circuits	7/16″ Center-to-Center (1 3/8″ Wd. x 3/4″ Ht.) Lg.			9/16″ Center-to-Center (1 5/16″ Wd. x 11/16″ Ht.) Lg.			11/16″ Center-to-Center (1 13/16″ Wd. x 3/4″ Ht.) Lg.			1 1/8″ Center-to-Center (2 1/2″ Wd. x 1 1/8″ Ht.) Lg.		
Terminal Blocks												
2	1 5/8″	5566T81	$2.00	2 1/8″	5566T31	$2.06	2 1/2″	5566T51	$5.16	4″	5566T71	$20.20
3	2 1/16″	5566T82	2.95	2 11/16″	5566T32	3.40	3 3/16″	5566T52	7.24	5 1/8″	5566T72	29.65
4	2 1/2″	5566T83	4.08	3 1/4″	5566T33	4.50	3 7/8″	5566T53	8.22	6 1/4″	5566T73	35.52
5	2 15/16″	5566T84	4.47	3 13/16″	5566T34	5.20	4 9/16″	5566T54	10.93	7 3/8″	5566T74	38.95
6	3 3/8″	5566T85	5.18	4 3/8″	5566T35	6.45	5 1/4″	5566T55	13.93	8 1/2″	5566T75	40.05
7	3 13/16″	5566T86	5.95	4 15/16″	5566T36	7.03	5 15/16″	5566T56	15.93	____	____	____
8	4 1/4″	5566T87	6.87	5 1/2″	5566T37	7.63	6 11/16″	5566T57	17.85	____	____	____
9	4 11/16″	5566T88	7.45	6 1/16″	5566T38	7.92	7 5/16″	5566T58	19.88	____	____	____
10	5 1/8″	5566T89	7.92	6 11/16″	5566T39	8.60	8″	5566T59	21.82	____	____	____
12	6″	5566T91	9.18	7 3/4″	5566T41	10.03	9 3/8″	5566T61	25.73	____	____	____
14	6 7/8″	5566T92	10.70	8 7/8″	5566T42	11.32	____	____	____	____	____	____
16	7 3/4″	5566T93	12.25	10″	5566T43	12.97	____	____	____	____	____	____
18	8 5/8″	5566T94	13.53	11 1/8″	5566T44	14.05	____	____	____	____	____	____
20	9 1/2″	5566T95	15.10	12 1/4″	5566T45	15.62	____	____	____	____	____	____
Accessories—To Order: For covers and marker strips, please specify number of circuits.												
Covers		5566T62	6.87	____	7527K35	3.43	____	____	____	____	____	____
Marker Strips		5566T1	1.77	____	5566T3	1.80	____	5566T5	.90	____	5566T6	1.70
Jumpers		5566T26	.70	____	5566T46	.27	____	5566T66	.30	____	5566T76	.84
Quick Disconnects (Pkg. of 25)		7527K12	6.53	____	7527K13	7.37	____	7527K2	9.05	____	____	____
45° Quick Disconnects (Pkg. of 25)		7527K77	6.53	____	7527K37	7.37	____	7527K3	8.80	____	____	____
90° Quick Disconnects (Pkg. of 25)		7527K78	6.53	____	7527K38	7.37	____	7527K36	8.80	____	____	____

Space Saver Terminal Blocks

A single row of screw terminals fits in narrow spaces. These blocks are also known as barrier terminal strips. Color is black. Maximum temperature is 302° F. UL recognized, CSA certified, and CE marked.

3/8″ center-to-center blocks have #5 screw terminals and two 0.17″ dia. mounting holes (screws not included).

9/16″ center-to-center blocks have #8 screw terminals and two 0.21″ dia. mounting holes (screws not included).

Note: Voltage ratings in the table apply only when the included insulation strip is attached to the bottom of the block.

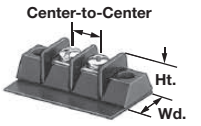

Two Circuit

	3/8″ Center-to-Center (9/16″ Wd. x 7/16″ Ht.)						9/16″ Center-to-Center (3/4″ Wd. x 3/4″ Ht.)					
No. of Circuits	AC/DC Voltage	Amps Per Circuit	For Wire Size, AWG	Lg.			AC/DC Voltage	Amps Per Circuit	For Wire Size, AWG	Lg.		
2	150	15	22-16	1 7/16″	8173T11	$3.22	600	30	14-12	2 1/16″	8173T51	$3.46
4	150	15	22-16	2 3/16″	8173T12	3.95	600	30	14-12	3 1/4″	8173T52	4.59
6	150	15	22-16	2 15/16″	8173T13	4.84	600	30	14-12	4 5/16″	8173T53	5.51
8	150	15	22-16	3 11/16″	8173T14	5.59	600	30	14-12	5 1/2″	8173T54	6.49
10	150	15	22-16	4 7/16″	8173T15	6.27	600	30	14-12	6 5/8″	8173T55	7.41
12	150	15	22-16	5 3/16″	8173T16	7.16	600	30	14-12	7 3/4″	8173T56	8.46

Touch-Safe Terminal Blocks

Recessed screws prevent accidental contact with a live circuit—without the need for an additional cover. Blocks have screw-clamp terminals and can be cut into smaller sections. There is a mounting hole between every circuit (screws not included). Blocks are white. Maximum temperature is 221° F. UL recognized and CSA certified.

For Blocks with Center-to-Center	AC/DC Voltage	Amps Per Circuit	For Wire Size, AWG	Mounting Hole Dia.
5/16″	600	20	22-12	0.12″
3/8″	600	30	18-10	0.15″
1/2″	600	40	20-8	0.17″
9/16″	600	63	14-6	0.17″

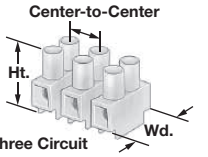

Three Circuit

	5/16″ Center-to-Center (3/4″ Wd. x 3/4″ Ht.)			3/8″ Center-to-Center (3/4″ Wd. x 13/16″ Ht.)			1/2″ Center-to-Center (15/16″ Wd. x 7/8″ Ht.)			9/16″ Center-to-Center (1 1/8″ Wd. x 1 1/16″ Ht.)		
No. of Circuits	Lg.			Lg.			Lg.			Lg.		
2	1/2″	7618K611	$0.66	11/16″	7618K631	$0.77	13/16″	7618K651	$0.97	1″	7618K671	$1.66
3	7/8″	7618K612	.94	1 1/16″	7618K632	1.11	1 1/4″	7618K652	1.40	1 9/16″	7618K672	2.43
4	1 3/16″	7618K613	1.20	1 7/16″	7618K633	1.46	1 3/4″	7618K653	1.86	2 3/16″	7618K673	3.20
6	1 13/16″	7618K614	1.74	2 1/4″	7618K634	2.14	2 11/16″	7618K654	2.74	3 3/8″	7618K674	4.74
8	2 7/16″	7618K615	2.31	3″	7618K635	2.83	3 5/8″	7618K655	3.60	4 1/2″	7618K675	6.31
9	2 3/4″	7618K616	2.60	3 7/16″	7618K636	3.14	4 1/16″	7618K656	4.03	5 1/8″	7618K676	7.09
10	3 1/16″	7618K617	3.31	3 13/16″	7618K637	4.09	4 9/16″	7618K657	5.26	5 11/16″	7618K677	9.31
12	3 11/16″	7618K618	3.17	4 5/8″	7618K638	3.94	5 1/2″	7618K658	5.03	6 7/8″	7618K678	8.91

Pluggable Touch-Safe Terminal Blocks

Combine a plug and a receptacle to form a terminal block—the two-piece design allows quick disconnection for equipment repairs. The screws and terminals are recessed to prevent accidental contact with a live circuit without the need for additional covers. Blocks have screw-clamp terminals and can be cut into smaller sections. There is a 0.13″ dia. mounting hole between every circuit (screws not included). Color is white. Maximum temperature is 221° F. UL and C-UL recognized.

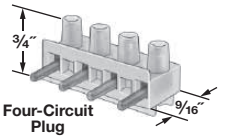

Four-Circuit Plug

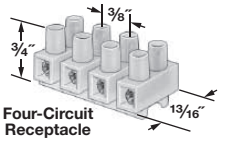

Four-Circuit Receptacle

No. of Circuits	AC/DC Voltage	Amps Per Circuit	For Wire Size, AWG	Lg.	Plugs		Receptacles	
2	600	20	24-10	5/8″	81905K11	$1.23	81905K21	$1.12
4	600	20	24-10	1 7/16″	81905K12	2.45	81905K22	2.28
6	600	20	24-10	2 1/4″	81905K13	3.65	81905K23	3.31
8	600	20	24-10	3″	81905K14	4.82	81905K24	4.54
10	600	20	24-10	3 13/16″	81905K15	6.04	81905K25	5.49
12	600	20	24-10	4 5/8″	81905K16	7.25	81905K26	6.80

Quick and Secure Connect Terminal Blocks

Try blocks with spring-clamp terminals for faster wire installation than screw clamps. Push wire into the spring clamp for a secure connection that withstands vibration and temperature changes better than screw terminal connections. There are four terminals for every circuit and a 0.13″ dia. mounting hole between each circuit (screws not included). Temperature range is –31° to 221° F. UL recognized and CSA certified. **Optional DIN-rail adapter** allows you to mount blocks to 35 mm DIN rail. Two adapters per block are required, except the two-circuit blocks need only one adapter.

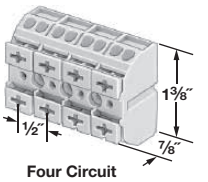

Four Circuit

No. of Circuits	Amps Per Circuit @ 300V AC/DC	600V AC/DC	For Wire Size, AWG	Lg.	Black	White	
2	20	5	20-12	15/16″	8841T11	8841T12	$1.24
3	20	5	20-12	1 7/16″	8841T21	8841T22	1.87
4	20	5	20-12	1 7/8″	8841T31	8841T32	2.49
5	20	5	20-12	2 3/8″	8841T41	8841T42	3.14
DIN-Rail Adapter						8841T7	$0.80

High-Amp Terminal Blocks

Blocks have higher amp ratings than ordinary terminal blocks to handle demanding applications. All have screw-clamp terminals. Color is black. Maximum temperature is 302° F. UL recognized, CSA certified, and CE marked.

7/16″ center-to-center blocks have two 0.22″ dia. mounting holes (screws not included).

5/8″ center-to-center blocks have a 0.18″ dia. mounting hole between each circuit (screws not included).

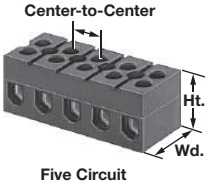

Five Circuit

	7/16″ Center-to-Center (13/8″ Wd. x 1″ Ht.)						5/8″ Center-to-Center (1 1/4″ Wd. x 1 1/8″ Ht.)					
No. of Circuits	AC/DC Voltage	Amps Per Circuit	For Wire Size, AWG	Lg.			Amps Per Circuit	For Wire Size, AWG	Lg.			
2	600	65	18-6	1 11/16″	9130K21	$7.05	85	18-4	1 3/16″	9130K41	$4.76
3	600	—	—	—	—	—	85	18-4	1 3/4″	9130K42	7.03
4	600	65	18-6	2 1/2″	9130K23	11.89	85	18-4	2 7/16″	9130K43	9.47
5	600	—	—	—	—	—	85	18-4	3″	9130K44	11.68
6	600	65	18-6	3 3/8″	9130K25	15.70	85	18-4	3 11/16″	9130K45	13.22
8	600	65	18-6	4 1/4″	9130K26	21.30	85	18-4	4 15/16″	9130K46	17.73
10	600	—	—	—	—	—	85	18-4	6 3/16″	9130K47	22.00
12	600	65	18-6	6″	9130K28	32.92	85	18-4	7 7/16″	9130K48	26.40

High-Temperature Terminal Blocks

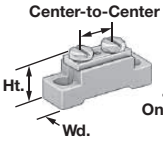





Blocks are made of ceramic to withstand elevated temperatures.
460° F blocks have #10 screw terminals. Color is off-white. Mounting screws are not included.
840° F blocks have #8 screw terminals. Color is off-white. Mounting screws are included.
1110° F blocks have recessed screw-clamp terminals to prevent accidental contact with a live circuit. Color is white. Mounting screws are not included. *1-, 2-,* and *3-circuit* blocks are UL and C-UL recognized.

No. of Circuits	AC/DC Voltage	Amps Per Circuit	For Wire Size, AWG	Lg.	Wd.	Ht.	Center-to-Center	Mounting Hole Size (No.)		
460° F										
1	500	44	14-12	1 11/16″	9/16″	7/8″	9/16″	0.14″ (2)	1322T13	$8.56
3	500	44	14-12	2 13/16″	1 1/8″	15/16″	11/16″	0.24″ (2)	1322T14	28.56
4	500	44	14-12	3 9/16″	1 1/8″	15/16″	11/16″	0.24″ (2)	1322T15	35.22
6	500	44	14-12	5″	1 1/8″	15/16″	11/16″	0.24″ (2)	1322T16	56.44
840° F										
2	600	20	20-12	1 9/16″	1 1/4″	13/16″	7/8″	0.19″ (1)	1322T11	15.33
3	600	20	20-12	2 7/16″	1 1/4″	13/16″	7/8″	0.19″ (2)	1322T12	20.78
1110° F										
1	300	20	24-12	7/16″	15/16″	3/4″	—	—	5602T25	1.13
2	300	30	20-10	1″	1″	3/4″	9/16″	0.14″ (2)	5602T21	1.77
2	300	65	18-6	1 1/4″	1 1/8″	15/16″	11/16″	0.14″ (2)	5602T22	2.53
3	300	30	20-10	1 5/8″	1″	3/4″	9/16″	0.14″ (2)	5602T23	2.57
3	300	65	18-6	1 7/8″	1 1/16″	15/16″	11/16″	0.14″ (2)	5602T24	3.33
4	300	30	20-10	1 9/16″	13/16″	5/8″	5/16″	0.14″ (1)	5602T26	3.77

PC-Board Mount Terminal Blocks

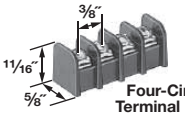


Jumper


Quick Disconnect


45° Quick Disconnect


90° Quick Disconnect

Solder the pins on these blocks directly to your printed circuit board. Pins are tin-plated brass and 0.19″ long. You can connect the screw terminals to bare wires, ring terminals, or spade terminals. Barriers separate the screw terminals. Max. temperature is 230° F. UL recognized, CSA certified, and meet UL 94V0 for flammability. Color is black.
Accessories—*Jumpers* connect side-by-side terminals. *Quick disconnects* convert screw terminal connections into 0.187″ wide quick-disconnect connections.

No. of Circuits	AC/DC Voltage	Amps Per Circuit	For Wire Size, AWG	Lg.		
Terminal Blocks						
2	300	25	22-12	13/16″	8076K12	$0.97
4	300	25	22-12	1 9/16″	8076K14	1.68
6	300	25	22-12	2 5/16″	8076K16	2.49
8	300	25	22-12	3 1/16″	8076K18	3.27
12	300	25	22-12	4 9/16″	8076K23	6.57
Accessories						
Jumpers (Pkg. of 50)					8076K29	9.38
Quick Disconnects (Pkg. of 100)					8076K31	10.82
45° Quick Disconnects (Pkg. of 100)					8076K27	10.95
90° Quick Disconnects (Pkg. of 50)					8076K28	8.68

Modular Channel-Mount Terminal Blocks

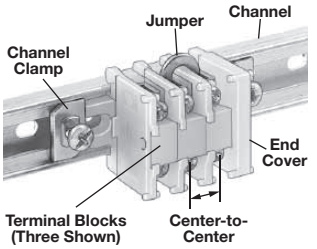

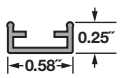

Channel 7606K33



Channel 7606K71

Mount blocks to a channel and add as many circuits as you need for power distribution, control wiring, and instrumentation cabinets. All of these NEMA-style blocks have one circuit and screw-clamp terminals. Maximum temperature is 302° F. Blocks are UL and C-UL recognized, except 7606K62 is UL recognized and CSA certified.
Surface/Channel-Mount Terminal Block—Mount to channel or use the mounting hole for surface mounting (screw not included). Block has a 0.16″ dia. hole and is gray.
Channel-Mount Terminal Blocks—7606K25 is gray. 7606K62 is black.
End covers fit on the open side of a block to prevent accidental contact with a live circuit. One end cover is required per group of terminal blocks.
Channels come in 3-ft. lengths and accommodate up to 48 terminals per foot. They are aluminum and have a center row of mounting holes (screws not included). 7606K33 has 0.13″ dia. holes. 7606K71 has 0.19″ dia. holes.
Channel clamps secure a group of terminal blocks to a channel. A clamp is required on each end of a group of blocks.
Jumpers connect side-by-side terminals.
Note: Prices are 15% lower when you buy 25 or more of the same size.

Mount Style	AC Voltage	Amps Per Circuit	For Wire Size, AWG	Center-to-Center	Terminal Blocks		End Covers		Channels		Channel Clamps		Jumpers	
Surface/Channel	600	30	22-10	3/8″	7606K23	$2.48	7606K24	$1.20	7606K33	$49.27	7606K34	$1.80	7606K38	$1.05
Channel	600	30	22-10	3/8″	7606K25	2.48	7606K26	1.20	7606K71	46.10	7606K75	6.97	7606K38	1.05
Channel	600	65	18-6	9/16″	7606K62	7.25	7606K63	7.50	7606K71	46.10	7606K75	6.97	—	—

Touch-Safe DIN-Rail Mount Terminal Blocks

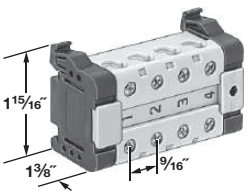

Because the screw-clamp terminals are concealed, you won't make accidental contact with a live circuit. Blocks mount to 35 mm DIN rail and have captive screws. Color is white. Temperature range is –55° to 300° F. UL recognized and CE marked.
Blocks **for stripped wire** have grooved clamps for a secure connection that prevents your wire from moving.
Blocks **for ring terminals** give the most secure connection. They allow you to attach ring terminals without removing the screw. Blocks have #8 screw terminals.

No. of Circuits	AC Voltage	Amps Per Circuit	Lg.	For Stripped Wire: For Wire Size, AWG			For Ring Terminals: For Wire Size, AWG		
4	600	30	3 1/16″	18-10	8839T21	$40.47	22-10	8839T11	$40.47
6	600	30	4 3/16″	18-10	8839T22	46.25	22-10	8839T12	46.25
12	600	30	7 9/16″	18-10	8839T24	58.25	22-10	8839T14	58.25

Modular DIN-Rail Mount Terminal Blocks

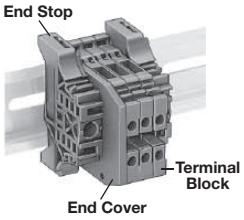


Standard One Circuit


Standard Two Circuit


Standard Three Circuit


Ground Block


Thermocouple Block

Mount as many circuits as you need to DIN rail. Terminal blocks mount to DIN 1 and DIN 3 rails, unless noted. The terminal blocks clip onto the rail and can be removed without disrupting adjacent blocks. All blocks have screw-clamp connections. Temperature range is –40° to 221°F. UL recognized and CE marked, unless noted. Terminal blocks, end covers, and end stops are IP20 touchproof.

Thermocouple blocks accept thermocouple wire Types J, K, and T. For wire, see page 633.

Blocks with fuse holder allow inline fuse wiring to protect components and wires from short-circuit damage. *8 mm blocks* accept 5 mm dia. fuses. *13 mm blocks* accept 1/4″ dia. (3AG) fuses. *22 mm blocks* accept 13/32″ Dia. × 1 1/2″ Lg. (midget) fuses. For fuses, see pages 970 and 972.

End covers fit on the open side of a block to prevent accidental contact with a live circuit. Color is gray, unless noted. Where end covers aren't offered, the terminal block's side is closed, so an end cover is not required.

End stops mount at the end of a group of blocks to prevent movement. Color is gray. 7641K35 is for DIN 3 rail only.

Jumpers connect terminals on adjacent blocks of the same width. They have 10 circuits and can be cut to size, except 7641K883 and 7641K873 are insulated and cannot be cut.

Marker cards have 100 markers per card. Color is white. Numbered cards have black numbers. To Order: Please specify block width: 5, 6, or 8 mm. For numbered cards, also specify numbering, 1-100 or 101-200.

Note: Prices are 15% lower when you buy 25 or more of the same size.


with Disconnect Tab for Testing


with Fuse Holder


Jumpers



Horizontal Rail Marker Card



Vertical Rail Marker Card

Wd., mm	No. of Circuits	AC/DC Voltage	Amps Per Circuit	For Wire Size, AWG	Terminal Blocks: Available Colors		End Covers		End Stops		Jumpers	
Standard Blocks												
5	1	600	30	22-12	Beige, Black, Blue, Gray, Orange, Red, White, Yellow	7641K921 $1.19	7641K33★	$0.42	7641K35	$1.00	7641K925	$8.35
6	1	600	30	22-10	Beige, Black, Blue, Gray, Green, Orange, Red, White, Yellow	7641K51 1.19	7641K33★	.42	7641K35	1.00	7641K15	7.21
6	2	300	20	22-12	Beige, Black, Blue, Gray, Green, Orange, Red, White, Yellow	7641K71 3.51	7641K72	1.14	7641K73	2.19	7641K74	7.49
6	3	300	26	20-12	Gray	7641K361■ 5.53	7641K275	.88	7641K73	2.19	7641K281	5.35
8	1	600	50	22-8	Beige, Black, Blue, Gray, Green, Orange, Red, White, Yellow	7641K52 1.72	7641K33★	.42	7641K35	1.00	7641K16	7.49
8	2	600	50	18-8	Beige, Gray	7641K34 6.16	7641K251	.88	7641K73	2.19	7641K16	7.49
10	1	600	65	20-6	Beige, Black, Blue, Gray, Red, White, Yellow	7641K53 2.19	7641K33★	.42	7641K35	1.00	7641K17	9.12
12	1	600	85	18-6	Beige, Black, Blue, Gray, Red, White, Yellow	7641K151 4.19	7641K191★	.86	7641K35	1.00	7641K221	11.60
16	1	600	150	10-0	Beige, Black, Blue, Gray, Red, White, Yellow	7641K161 6.70			7641K35	1.00	7641K231	16.98
Ground Blocks												
5	1			22-12	Green/Yellow	7641K931 5.67	7641K84▲	.42	7641K35	1.00		
6	1			22-12	Green/Yellow	7641K81 5.60	7641K84▲	.42	7641K35	1.00		
8	1			22-8	Green/Yellow	7641K82 5.98	7641K84▲	.42	7641K35	1.00		
10	1			20-6	Green/Yellow	7641K83 6.53			7641K35	1.00		
12	1			14-4	Green/Yellow	7641K171 8.21			7641K35	1.00		
16	1			8-0	Green/Yellow	7641K181 11.28			7641K35	1.00		
Thermocouple Blocks												
6	1	500		24-2	Gray	7641K381♣ 13.09	7641K33★	.42	7641K35	1.00		
Blocks with Disconnect Tab for Testing												
6	1	300	10	22-10	Gray	7641K87 5.16	7641K871	.67	7641K35	1.00	7641K883	3.81
8	1	300	20	22-10	Gray	7641K88 4.98	7641K881	.72	7641K35	1.00	7641K873	5.19
Blocks with Fuse Holder												
8	1	600	10	22-12	Gray, Orange	7641K55 6.84	7641K37	.58	7641K35	1.00		
13	1	600	25	22-10	Black	7641K36 10.74	7641K49	.86	7641K35	1.00		
22	1	600	55	18-6	Gray	7641K932 14.91			7641K35	1.00		
Blocks with Fuse Holder and Blown-Fuse Indicator—To Order: Please specify 110-230V AC or 24V DC indicator.												
8	1	600	10	22-12	Gray	7641K941 11.93	7641K37	.58	7641K35	1.00		
13	1	600	25	22-10	Black	7641K944 16.58	7641K49	.86	7641K35	1.00		
Marker Cards												
Blank											7641K59	$5.12
Numbered—For Blocks on Horizontal DIN Rail											7641K115	5.60
Numbered—For Blocks on Vertical DIN Rail											7641K116	5.60

★ To Order: Please specify blue, gray, or yellow. ■ For DIN 3 rails only; Uses 7641K79, 7641K117, and 7641K118 marker cards on page 785.
▲ Color is yellow. ♣ CE marked; not UL recognized.

Quick and Secure Modular DIN-Rail Mount Terminal Blocks

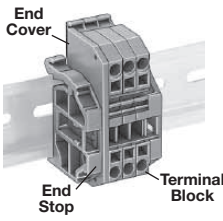

One-Circuit Terminal Blocks


Standard Two Terminal


Standard Three Terminal


Standard Four Terminal


Ground


with Disconnect Tab for Testing


with Fuse Holder

Two-Circuit Terminal Blocks



Three-Circuit Terminal Blocks

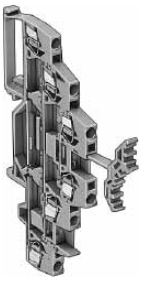


Jumper

35
Horizontal Rail Marker Card

35
Vertical Rail Marker Card

Speed wire installation with spring-clamp connections that won't come loose in high-vibration applications and are unaffected by changes in temperature. Temperature range is –31° to 221°F. UL recognized and CSA certified, unless noted.

Mount blocks side-by-side on DIN 3 (35 mm) rail. They all accept thermocouple wire Types J, K, and T (for wire, see page 633). Two- and three-circuit terminal blocks include a marker card holder.

Blocks with fuse holder allow inline fuse wiring to protect components and wires from short-circuit damage. 9553T1 and 9553T11 accept 5 mm dia. fuses. 9553T8 and 9553T12 accept blade-style fuses. 9553T3 and 9553T13 accept 1/4" dia. (3AG) fuses. For fuses, see pages 970 and 972.

End covers fit on the open side of a block to prevent accidental contact with a live circuit. Color is orange, except 9553T2 and 9553T9 are gray. An end cover is included with 16 mm and 25 mm standard one-circuit blocks.

End stops mount at the end of a group of blocks to prevent movement. Color is gray.

Jumpers connect terminals on adjacent blocks of the same width. Color is gray, except jumpers for ground blocks are green/yellow.

Marker cards have 100 markers per card. Color is white. Numbered cards are numbered 1-50 (two of each number). Numbers are black.

Also Available: Alternate jumpers for standard blocks that are 4.2-12 mm wide and blocks with disconnect tab. Alternate jumpers connect terminals on two blocks of the same width, skipping a block in between. Color is gray. Please ask for 9473T148 and specify block width.

Note: Prices are 15% lower when you buy 25 or more of the same size.

Wd., mm	Available Terminals Per Circuit	AC/DC Voltage	Amps Per Circuit	For Wire Size, AWG	Terminal Blocks Available Colors		End Covers		End Stops		Jumpers	
Standard Blocks—One Circuit												
4.2	2	600	15	22-14	Black, Blue, Gray, Orange, Red, Yellow	9473T173	$1.46	9473T191	$0.88	9473T144	$1.30	9473T193	$0.58
4.2	3	600	15	22-14	Black, Blue, Gray, Orange, Red, Yellow	9473T177	1.86	9473T192	.88	9473T144	1.30	9473T193	.58
4.2	4	600	15	22-14	Black, Blue, Gray, Orange, Red, Yellow	9473T182	2.16	9473T195	.88	9473T144	1.30	9473T193	.58
5	2	600	20	28-12	Black, Blue, Gray, Orange, Red, Yellow	9473T1	2.29	9473T131	.98	9473T144	1.30	9473T112	.75
5	3	600	20	28-12	Black, Blue, Gray, Orange, Red, Yellow	9473T8	2.73	9473T132	.98	9473T144	1.30	9473T112	.75
5	4	600	20	28-12	Black, Blue, Gray, Orange, Red, Yellow	9473T16	3.56	9473T133	.98	9473T144	1.30	9473T112	.75
6	2	600	20	28-12	Black, Blue, Gray, Orange, Red, Yellow	9473T24	2.52	9473T134	.98	9473T144	1.30	9473T115	.82
6	3	600	20	28-12	Black, Blue, Gray, Orange, Red, Yellow	9473T32	3.24	9473T135	.98	9473T144	1.30	9473T115	.82
6	4	600	20	28-12	Black, Blue, Gray, Orange, Red, Yellow	9473T39	4.05	9473T136	.98	9473T144	1.30	9473T115	.82
8	2	600	30	24-10	Blue, Gray, Orange	9473T47	3.87	9473T137	1.06	9473T144	1.30	9473T118	1.12
8	3	600	30	24-10	Blue, Gray, Orange	9473T52	5.52	9473T138	1.06	9473T144	1.30	9473T118	1.12
10	2	600	50	24-8	Blue, Gray, Orange	9473T56	5.35	9473T139	1.09	9473T144	1.30	9473T122	1.73
10	3	600	50	24-8	Blue, Gray, Orange	9473T61	8.93	9473T141	1.09	9473T144	1.30	9473T122	1.73
12	2	600	65	24-6	Blue, Gray, Orange	9473T65	6.97	9473T142	1.48	9473T144	1.30	9473T125	2.52
12	3	600	65	24-6	Blue, Gray, Orange	9473T69	10.35	9473T143	1.48	9473T144	1.30	9473T125	2.52
16	2	600	115	8-2	Blue, Gray	9473T74	12.91			9473T144	1.30	9473T128	2.54
25	2	600	200	4-4/0	Blue, Gray	9473T77	37.66			9473T144	1.30	9473T129	11.79
Standard Blocks—Two Circuit												
5	2	300	15	28-12	Blue, Gray	9473T151	5.08	9473T154	1.03	9473T144	1.30	9473T112	.75
6	2	600	20	28-12	Blue, Gray	9473T157	5.28	9473T161	.92	9473T144	1.30	9473T115	.82
Standard Blocks—Three Circuit												
5	2	300	15	28-12	Blue, Gray	9473T162	8.61	9473T165	.99	9473T144	1.30	9473T112	.75
Ground Blocks—One Circuit **To Order:** Please specify number of terminals from those listed.												
4.2	2, 3, 4			22-14	Green/Yellow	9473T186	6.04	9473T196	.88	9473T144	1.30		
5	2, 3, 4			28-12	Green/Yellow	9473T81	7.66	9473T212	.98	9473T144	1.30	9473T114	.82
6	2, 3, 4			28-12	Green/Yellow	9473T85	7.61	9473T213	.98	9473T144	1.30	9473T117	.87
8	2, 3			24-10	Green/Yellow	9473T89	9.64	9473T214	1.06	9473T144	1.30	9473T121	1.20
10	2, 3			24-8	Green/Yellow	9473T93	11.68	9473T215	1.09	9473T144	1.30	9473T124	1.86
12	2, 3			24-6	Green/Yellow	9473T96	14.23	9473T216	1.48	9473T144	1.30	9473T127	2.68
16	2			8-2	Green/Yellow	9473T99	20.39			9473T144	1.30		
25	2			4-4/0	Green/Yellow	9473T111	54.52			9473T144	1.30		
Ground Blocks—Two Circuit												
5	2			28-12	Green/Yellow	9473T155★	15.33	9473T154	1.03	9473T144	1.30	9473T114	.82
Blocks with Disconnect Tab for Testing—One Circuit												
5	2	600	15	28-12	Gray	9473T168	6.26	9473T167	.99	9473T144	1.30	9473T112	.75
8	2	600	30	24-10	Gray	9473T171	9.20	9473T172	1.09	9473T144	1.30	9473T118	1.12

★ Not UL recognized or CSA certified.

(Continued on following page)

Quick and Secure Modular DIN-Rail Mount Terminal Blocks *(Cont. from previous page)*

Wd., mm	Available Terminals Per Circuit	AC/DC Voltage	Amps Per Circuit	For Wire Size, AWG	Terminal Blocks Available Colors		End Covers		End Stops		Jumpers	
Blocks with Fuse Holder—One Circuit												
8	2	600	10	28-12	Gray	9553T1	$9.77	9553T2	$1.03	9473T144	$1.30	9473T115	$0.82
8	2	600	30	24-10	Gray	9553T8	9.24	9553T9	1.09	9473T144	1.30	9473T118	1.12
10	2	600	10	28-12	Gray	9553T3	11.54	9553T2	1.03	9473T144	1.30	9473T115	.82
Blocks with Fuse Holder and Blown Fuse Indicator—One Circuit												
8	2	24	30	24-10	Gray	9553T12■	22.04	9553T9	1.09	9473T144	1.30	9473T118	1.12
8	2	110	10	28-12	Gray	9553T11	19.00	9553T2	1.03	9473T144	1.30	9473T115	.82
10	2	110	10	28-12	Gray	9553T13	20.58	9553T2	1.03	9473T144	1.30	9473T115	.82

Marker Cards—To Order: Please specify block width.

Blank	9473T231	$5.96
Numbered—For Blocks on Horizontal DIN Rail	9473T232	6.77
Numbered—For Blocks on Vertical DIN Rail	9473T233	6.77

■ Not CSA certified.

Modular Terminal Blocks for Mini DIN Rail



Standard Terminal Block

Clip as many terminal blocks as you need onto DIN 2 (15 mm) rail. Temperature range is –40° to 221°F. UL recognized and CE marked, unless noted. Terminal blocks, end covers, and end stops are IP20 touchproof. Terminal blocks **with screw-clamp connections** have a screw that you tighten to secure your wire. Terminal blocks **with spring-clamp connections** have a screwless connection for easy wiring. The connection withstands vibration.

Blocks with fuse holder allow inline fuse wiring to protect components and wires from short-circuit damage. They accept 5 mm dia. fuses. For fuses, see page 972.

End covers fit on the open side of a block to prevent accidental contact with a live circuit. Color is gray, unless noted.

End stops mount at the end of a group of blocks to prevent movement. Color is gray.

Jumpers connect terminals on adjacent blocks of the same width. They have 10 circuits and can be cut to size, except 7641K94 is insulated and cannot be cut.

Marker cards have 100 markers per card. Color is white. Numbered cards have black numbers. To Order: Please specify block width. For numbered cards, also specify numbering, 0-100 or 101-200.

Note: Prices are 15% lower when you buy 25 or more of the same size.

Wd., mm	No. of Circuits	AC/DC Voltage	Amps Per Circuit	For Wire Size, AWG	Terminal Blocks Available Colors		End Covers		End Stops		Jumpers	
Standard Blocks—Screw-Clamp Connections												
5	1	300	20	28-12	Gray	7641K61	$1.67	7641K66	$0.56	7641K69	$1.05	7641K56	$8.93
6	1	250	20	22-12	Blue, Gray	7641K62	1.56	7641K67▲	.56	7641K69	1.05	7641K57	9.77
Standard Blocks—Spring-Clamp Connections												
5	1	600	15	26-12	Blue, Gray, Orange	7641K85	1.44	7641K86	.81	7641K69	1.05	7641K94	5.37
Ground Blocks—Screw-Clamp Connections												
6	1	—	—	22-12	Green/Yellow	7641K63	4.21	7641K961♣	.72	7641K69	1.05	—	—
Blocks with Fuse Holder—Screw-Clamp Connections												
8	1	600	6.3	18-12	Gray	7641K58♠	5.86	7641K37	.58	7641K69	1.05	—	—

Blank Marker Cards	7641K79	$5.12
Numbered Marker Cards—For Blocks on Horizontal DIN Rail	7641K117	5.60
Numbered Marker Cards—For Blocks on Vertical DIN Rail	7641K118	5.60

▲ To Order: Please specify blue or gray. ♣ Color is yellow. ♠ CSA certified; not UL recognized.

Enclosure-Mounted Terminal Blocks

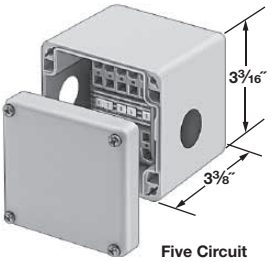

Five Circuit

Save time when you need to make wiring connections in a junction box. These blocks come already installed inside an enclosure that's rated NEMA 4X for protection from washdowns and corrosion. The enclosure also meets IP65 for protection from water projected from a nozzle. Use indoors and outdoors. Blocks have spring-clamp terminals to make quick and secure connections. Maximum temperature is 176°F. Terminal blocks are UL and C-UL recognized and CE marked. Enclosures are UL listed.

Made of beige polycarbonate, enclosures have a neoprene gasket, a lift-off cover with captive screws, and two water-tight cord grips for 0.14″-0.32″ dia. cord. All have two 0.7″ dia. knockouts and four 0.16″ dia. mounting holes (screws not included).

No. of Circuits	AC/DC Voltage	Amps Per Circuit	For Wire Size, AWG	Lg.		
5	600	35	22-8	3 1/4″	3691T11	$58.98
10	600	35	22-8	4 3/4″	3691T12	68.35
15	600	35	22-8	6 5/16″	3691T13	74.27
20	600	26	22-10	6 5/16″	3691T14	79.07

Through-Panel Terminal Blocks

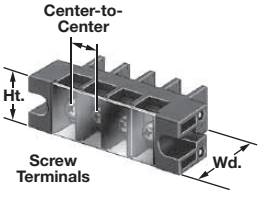

Screw Terminals

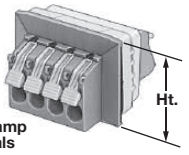

Lever-Clamp Terminals

Make electrical connections through a panel—blocks mount in a cutout and have terminals on both sides.

Screw Terminals—Blocks have M5 (5 mm) screw terminals and include a cover. They have two 0.21″ dia. mounting holes (screws not included). Color is black. Max. temperature is 194°F. UL and C-UL recognized.

Lever-Clamp Terminals—The lever design makes installation and maintenance quick and convenient. Lower the lever to secure a wire; lift the lever to disconnect it. A mounting clip holds the block in place. Color is gray. Maximum temperature is 221°F. UL recognized, CSA certified, and CE marked.

No. of Circuits	AC/DC Voltage	Amps Per Circuit	For Wire Size, AWG	Center-to-Center	Terminal Block Lg.	Terminal Block Wd.	Terminal Block Ht.	Panel Cutout Lg.	Panel Cutout Ht.		
Screw Terminals											
1	600	60	10-3	0.63″	1 3/4″	1 13/16″	1 3/16″	3/4″	1″	8056T11	$10.64
2	600	60	10-3	0.63″	2 3/8″	1 13/16″	1 3/16″	1 3/8″	1″	8056T12	15.74
3	600	60	10-3	0.63″	3″	1 13/16″	1 3/16″	2″	1″	8056T13	18.04
4	600	60	10-3	0.63″	3 11/16″	1 13/16″	1 3/16″	2 5/8″	1″	8056T14	23.68
5	600	60	10-3	0.63″	4 5/16″	1 13/16″	1 3/16″	3 1/4″	1″	8056T15	29.40
6	600	60	10-3	0.63″	4 15/16″	1 13/16″	1 3/16″	3 7/8″	1″	8056T16	40.58
Lever-Clamp Terminals											
4	600	40	16-6	0.45″	2 9/16″	2 13/16″	1 15/16″	2 1/16″	1 1/4″	8056T41	32.47

High-Amp Distribution Blocks

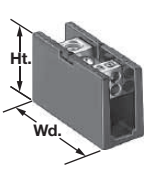

Screw-Clamp Terminals One Circuit



Screw-Clamp Terminals Three Circuits



Stud Terminals Two Circuits

With the help of distribution blocks, you can take a large wire from your power source and connect it to one or more wires going to your electrical devices. Blocks have 0.21″ dia. mounting holes, except the 380-amp blocks have 0.27″ dia. holes (screws not included). Maximum temperature is 302°F, except 115-amp blocks have a maximum temperature of 257°F. UL recognized, CSA certified, and CE marked.

Blocks with **screw-clamp terminals** have an amp rating based on NEC table 310-16 using 75°C copper wire. Blocks with **stud terminals** allow you to place wires with ring- or spade-terminals around the stud to make a connection.

Optional cover protects the top of the block and prevents accidental contact with live circuits. Cover is clear and fastens to the block with two screws (included). **To Order:** Please specify the part number of the distribution block.

Amps Per Circuit	Per Circuit	*Input Connections* For Wire Size, AWG	Per Circuit	*Output Connections* For Wire Size, AWG	Ht.	Wd.	One Circuit Lg.		Two Circuits Lg.		Three Circuits Lg.	
Screw-Clamp Terminals—600V AC/DC												
115	1	14-2	1	14-2	1½″	2⁵⁄₁₆″	1³⁄₁₆″	**7626K21** $7.40	1⁷⁄₁₆″	**7626K22** $10.60	2⅛″	**7626K23** $15.78
115	1	14-2	4	18-10	1½″	2⁵⁄₁₆″	1³⁄₁₆″	**7626K11** 15.84	1⁷⁄₁₆″	**7626K12** 24.43	2⅛″	**7626K13** 34.98
175	1	14-2/0	4	14-4	1¾″	2⅞″	1⅛″	**7626K41** 17.44	1¹⁵⁄₁₆″	**7626K42** 26.28	2¾″	**7626K43** 34.84
175	1	14-2/0	6	14-4	2⅛″	2⅞″	—	—	4⅛″	**7626K32** 37.72	5⅜″	**7626K33** 43.88
335	1	6-400★	6	14-2	2⅝″	4″	1¹⁵⁄₁₆″	**7626K61** 35.60	3½″	**7626K62** 48.42	5″	**7626K63** 59.02
350	2	14-2/0	6	14-4	2⅝″	4″	1¹⁵⁄₁₆″	**7626K51** 34.18	3½″	**7626K52** 50.64	5″	**7626K53** 59.21
380	1	4-500■	12	14-2	3⅛″	5½″	3³⁄₁₆″	**7626K71** 73.89	5⅞″	**7626K72** 105.19	8⁹⁄₁₆″	**7626K73** 131.91
Stud Terminals—600V AC/DC												
200	1	¼″▲	1	¼″▲	1¾″	2⅞″	1⅛″	**7626K81** 10.10	1¹⁵⁄₁₆″	**7626K82** 16.68	2¾″	**7626K83** 23.33
260	1	⅜″▲	2	¼″▲	2⅞″	4¾″	2⁵⁄₁₆″	**7626K91** 36.72	4³⁄₁₆″	**7626K92** 56.52	6¹⁄₁₆″	**7626K93** 70.23
Optional Cover												**7626K86** $5.13

★ 6 AWG-400 MCM. ■ 4 AWG-500 MCM. ▲ Stud size.

DIN-Rail Mount High-Amp Distribution Blocks

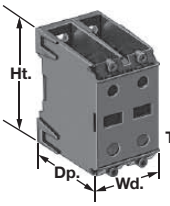

Standard Two Circuits



Touch-Safe One Circuit

Blocks handle high-amp distribution and mount to 35 mm DIN rail for quick installation and removal. They take a large wire from your power source and connect it to one or more wires going to your electrical devices. All have screw-clamp connections. Maximum temperature is 221°F. Amp rating is based on NEC table 310-16 using 75°C copper wire.

Standard blocks are black. Blocks with a quick-disconnect load connection allow you to connect an auxiliary device, such as a horn or light. All are UL recognized, CSA certified, and CE marked.

Touch-safe blocks meet IP20 and prevent accidental contact with a live circuit. Color is gray. UL recognized and CE marked, except one-circuit ¾″ and 1⅛″ wide blocks are UL listed, CSA certified, and CE marked.

Amps Per Circuit	Per Circuit	*Input Connections* For Wire Size, AWG	Per Circuit	*Output Connections* For Wire Size, AWG (No.)	Ht.	Dp.	One Circuit Wd.		Two Circuits Wd.		Three Circuits Wd.	
Standard—600V AC/DC												
175	1	14-2/0	1	14-2/0	3″	2⁹⁄₁₆″	1″	**6367T11** $12.15	1¹³⁄₁₆″	**6367T12** $19.35	2⁹⁄₁₆″	**6367T13** $21.10
175	1	14-2/0	4	14-4 (4), Quick-Disc. (1)	3″	2⁹⁄₁₆″	1″	**6367T22** 16.82	1¹³⁄₁₆″	**6367T23** 28.07	2⁹⁄₁₆″	**6367T24** 29.22
175	1	14-2/0	4	14-4	3″	2⁹⁄₁₆″	1″	**6367T14** 21.65	1¹³⁄₁₆″	**6367T15** 30.24	2⁹⁄₁₆″	**6367T16** 39.50
175	1	14-2/0	6	14-4	3″	2⁹⁄₁₆″	1″	**6367T17** 25.84	1¹³⁄₁₆″	**6367T18** 40.93	2⁹⁄₁₆″	**6367T19** 57.87
230	1	2-4/0	11	14-2 (2), 14-6 (5), 14-8 (4)	3¾″	2″	1¾″	**6367T21** 25.96	—	—	—	—
Touch-Safe—600V AC/DC												
80	1	14-4	6	14-4 (2), 14-10 (4)	2⅝″	1⅞″	1¹⁄₁₆″	**6367T29** 23.18	—	—	—	—
115	1	14-2	1	14-2	4⅛″	1¹¹⁄₁₆″	¾″	**6367T25** 17.30	—	—	—	—
115	1	14-2	4	14-10	4⅛″	1¹¹⁄₁₆″	¾″	**6367T26** 23.48	—	—	—	—
115	1	8-2	6	14-4	2⅞″	1⅝″	—	—	—	—	3⅛″	**6367T33** 65.55
115	1	8-2	10	14-4	2⅞″	1¹¹⁄₁₆″	1¾″	**6367T32** 29.49	—	—	—	—
125	1	10-2	6	14-6	3″	1⅞″	1¹⁄₁₆″	**6367T31** 38.09	—	—	—	—
200	1	14-3/0	4	14-2	3⅝″	2¹¹⁄₁₆″	1⅛″	**6367T27** 26.27	—	—	—	—
335	1	6-400♦	8	14-2	4¾″	3⁵⁄₁₆″	2¼″	**6367T28** 50.07	—	—	—	—

♦ 6 AWG-400 MCM.

Modular Distribution Bars

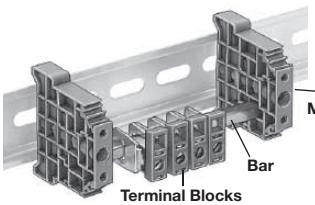

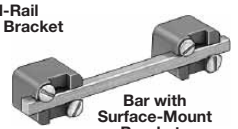

Bar with Surface-Mount Brackets

Enjoy the convenience of connecting multiple wires at a single location in neutral and grounding distribution applications. Slide terminal blocks onto the bar, also known as a bus bar, and then attach mounting brackets to the bar. All wires make contact with the bar, distributing the current among the terminal blocks. Maximum temperature is 221°F.

Bars are copper. **Surface-mount brackets** have a 0.16″ dia. mounting hole (screw not included). **DIN-rail brackets** clip onto 35 mm DIN rail. **Terminal blocks** have screw-clamp connections. The connections secure the wire as well as the block to the bar. Color is green. Blocks are UL recognized for grounding applications. **Marker cards** come blank and are white.

Bars and Brackets

Bar—1-meter×6 mm×6 mm	**1529T22**	$21.92
Bar—1-meter×10 mm×3 mm	**1529T21**	21.92
Surface-Mount Brackets (Pkg. of 5)	**1529T31**	3.89
DIN-Rail Mount Brackets (Pkg. of 5)	**1529T32**	7.44

Terminal Blocks

No. of Circuits	For Wire Size, AWG	Wd., mm	Terminal Blocks Pkg. of 5		Marker Cards Pkg. of 100	
1	22-10	7.5	**1529T11**	$3.56	**1529T33**	$4.44
1	10-4	9.8	**1529T12**	4.44	**1529T34**	4.44
1	8-2	14.5	**1529T13**	6.56	**1529T34**	4.44

Harsh Environment High-Amp Distribution Bars

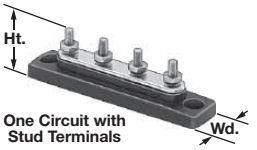

One Circuit with Stud Terminals


One Circuit with Stud and Screw Terminals


Two Circuit with Screw Terminals


Two Circuit with Stud and Screw Terminals

Also known as bus bars, these serve as connection points between wires with ring or spade terminals. They have a tin-plated copper bar and stainless steel screws and studs to protect against corrosion. The underside is sealed, so the bars can be safely mounted to conductive surfaces. Bars have two 0.21″ dia. mounting holes, except 9290T3 has four 0.26″ dia. holes (screws not included). Maximum temperature is 185° F. CE marked.

Optional covers protect the top of the bar and prevent accidental contact with live circuits. They are clear, except 9290T23, 9290T25, and 9290T26 are black. 9290T11 includes a clear cover.

No. of Circuits	Amps @ 300V AC	Amps @ 48V DC	Stud Terminals No. Per Circuit	Stud Terminals Size	Screw Terminals No. Per Circuit	Screw Terminals Size	Lg.	Wd.	Ht.	Bars		Optional Covers	
1	100	100	2	#10	5	#8	4 3/16″	7/8″	1 1/8″	9290T31	$15.32	9290T27	$3.80
1	100	100	4	#10	—	—	4 3/16″	7/8″	1 1/8″	9290T32	17.03	9290T27	3.80
1	130	150	2	1/4″	10	#8	5 7/8″	1 1/4″	1 1/2″	9290T14	20.49	9290T21	4.38
1	130	150	2	1/4″	20	#8	9 1/8″	1 1/4″	1 1/2″	9290T15	31.84	9290T24	7.30
1	130	150	4	1/4″	—	—	5 7/8″	1 1/4″	1 1/2″	9290T16	26.65	9290T21	4.38
1	250	250	2	5/16″	12	#10	7 3/4″	1 1/2″	1 11/16″	9290T18	66.89	9290T28	33.98
1	250	250	4	5/16″	—	—	5 7/8″	1 1/2″	1 11/16″	9290T17	46.35	9290T29	28.58
1	545	600	4	3/8″	4	#8	7″	2″	2″	9290T3	116.10	9290T23	29.05
2	100	100	—	—	5	#8	3″	1 13/16″	9/16″	9290T12	20.16	9290T25	15.12
2	100	100	—	—	10	#8	5 1/16″	1 13/16″	9/16″	9290T13	26.16	9290T26	17.65
2	130	150	2	1/4″	5	#10	4 7/8″	2 9/16″	1 1/4″	9290T11	32.35	—	—

High-Amp Distribution Posts

A round design saves space while you connect high-amp wire. Posts have two mounting holes (screws are not included) and come with a red cover. Color is black. Maximum temperature is 185° F. CE marked.

Posts with stud terminal allow you to stack multiple ring terminals or spade terminals on the stud; the current flows among the stacked terminals.

Posts with stud and screw terminals distribute current from the center stud to eight circuits.

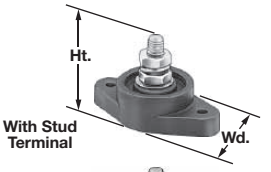

With Stud Terminal


With Stud and Screw Terminals

Stud Terminal Size	Screw Terminal Size	DC Voltage	Amps	Lg.	Wd.	Ht.	Mounting Hole Dia.		
Posts with Stud Terminal									
1/4″	—	48	—	1 5/8″	13/16″	1 3/8″	3/8″	9365T6	$10.49
3/8″	—	48	—	3 5/16″	1 3/4″	2″	1/4″	9365T5	15.76
Posts with Stud and Screw Terminals									
1/4″	#8	48	150	3 5/16″	1 3/4″	2 3/16″	1/4″	9365T3	27.82
3/8″	#8	48	150	3 5/16″	1 3/4″	2″	1/4″	9365T4	27.82

DIN Rails

Mount terminal blocks, power supplies, relays, and other control and distribution devices on walls and other flat surfaces and in enclosures.

DIN Rails

Rails conform to EN 60715 and EN 50022. **DIN 3 rail** is the most commonly used rail. Rails without mounting holes allow you to drill holes where you need them. Zinc-plated rails without mounting holes have a centerline to guide you.


DIN 3 and 2 Rail


DIN 3 Rail with Built-In Bracket

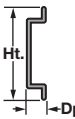

DIN 3 and 2 Rail

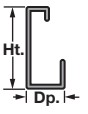

DIN 1 Rail

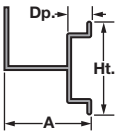

DIN 3 Rail with Built-In Bracket

DIN	Ht., mm	Dp., mm	Dp., mm (A)	Mounting Holes Dia.	Mounting Holes Center-to-Center	1-meter Lg.		2-meter Lg.	
Zinc-Plated Steel									
3	35	7.5	—	0.25″	1″	8961K15	$5.07	8961K16	$8.67
3	35	7.5	—	—	—	8961K45	5.07	8961K44	8.40
3	35	15	—	—	—	8961K47	7.83	8961K46	11.94
2	15	5.5	—	0.17″	0.78″	8961K13	4.83	8961K14	8.55
1	32	15	—	0.25″	1″	8961K11	8.53	8961K12	13.73
Heavy Duty Zinc-Plated Steel									
3	35	15	—	0.25″	1″	8961K18	9.00	8961K19	13.21
Aluminum with Built-In Bracket									
3	35	7.5	58	0.21″	2.95″	8961K31	20.34	—	—
3	35	7.5	120	0.21″	2.95″	—	—	8961K48	75.82
Type 304 Stainless Steel									
3	35	7.5	—	—	—	8961K42	21.29	8961K43	31.57

Accessories

Brackets provide extra mounting space behind the DIN rail to accommodate bulky items. They have two 0.26″ dia. holes for surface mounting (screws not included). Screw for mounting DIN rail is included.

Mounting adapters allow you to mount items not designed for DIN rail. Adapters clip onto the rail. Use two or more for large items. Screws are not included.

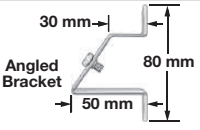

Angled Bracket

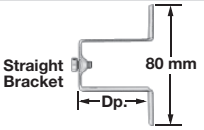

Straight Bracket


Steel Mounting Adapter


Plastic Mounting Adapter

For DIN Rail	Wd., mm	Dp., mm	Mounting Holes Dia. (No.)		
Angled Brackets					
3, 2, 1	25	50	0.24″ (1)	8961K22	$2.83
Straight Brackets					
3, 2, 1	20	25	0.24″ (1)	8961K23	3.47
3, 2, 1	20	50	0.24″ (1)	8961K24	3.83
3, 2, 1	20	70	0.24″ (1)	8961K25	4.87
3, 2, 1	20	90	0.24″ (1)	8961K26	5.03

For DIN Rail	Material	Ht., mm	Wd., mm	Dp., mm	Mounting Holes Dia. (No.)		
Mounting Adapters							
3	Steel	37	14	13	0.14″ (1)	8961K28	$2.03
3	Steel	37	14	13	0.19″ (1)	8961K29	2.03
3	Plastic	48	48	12	0.08″ (12)	8961K32	2.07
1	Steel	24	16	13	0.14″ (1)	8961K27	2.03

Wire Ferrules and Ferrule Crimpers



Insulated Ferrule



Two-Wire Insulated Ferrule



Noninsulated Ferrule

Add strength and stability to stranded wire to protect it from damage and speed insertion into terminal blocks. Unlike pin terminals, which have a solid pin, ferrules have a hollow pin that you crimp around the wire strands to improve the electrical connection. All are tin-plated copper and rated to 221°F. CE marked.

Insulated wire ferrules have polypropylene insulation. They are rated to 600 volts. Use *two-wire insulated* wire ferrules to combine two wires and insert into one terminal block.

Wire Ferrules

For Wire Size, AWG	Pin Lg.	Insulation Color	Pkg. Qty.		Pkg.
Insulated					
28-26	0.24″	Gray	100	7950K47	$5.70
26-24	0.24″	Aqua	100	7950K45	5.75
26-24	0.24″	Yellow	100	7950K43	5.73
26-24	0.31″	Aqua	100	7950K46	5.83
26-24	0.31″	Yellow	100	7950K44	5.87
24-20	0.24″	White	100	7950K11	4.96
24-20	0.31″	White	100	7950K12	4.98
24-20	0.39″	White	100	7950K13	5.00
22-20	0.24″	Gray	100	7950K14	5.41
22-20	0.31″	Gray	100	7950K15	5.39
22-20	0.39″	Gray	100	7950K16	5.46
22-20	0.47″	Gray	100	7950K17	5.49
18	0.24″	Red	100	7950K71	5.39
18	0.31″	Red	100	7950K72	5.41
18	0.39″	Red	100	7950K73	5.43
18	0.47″	Red	100	7950K74	5.47
16	0.31″	Black	100	7950K23	5.21
16	0.39″	Black	100	7950K24	5.25
16	0.47″	Black	100	7950K25	5.25
16	0.71″	Black	100	7950K26	5.28
14	0.31″	Blue	100	7950K27	5.31
14	0.47″	Blue	100	7950K28	5.82
14	0.71″	Blue	100	7950K29	6.25
12	0.39″	Gray	100	7950K31	6.27
12	0.47″	Gray	100	7950K32	6.75
12	0.71″	Gray	100	7950K33	6.92
Insulated (Cont.)					
10	0.47″	Yellow	100	7950K34	$9.70
10	0.71″	Yellow	100	7950K35	10.00
8	0.47″	Red	100	7950K51	10.87
8	0.71″	Red	10	7950K143	2.90
6	0.47″	Blue	10	7950K144	3.00
6	0.71″	Blue	10	7950K145	3.25
4	0.63″	Yellow	10	7950K146	3.52
4	0.87″	Yellow	10	7950K147	4.45
2	0.63″	Red	10	7950K148	4.58
2	0.98″	Red	10	7950K149	5.67
1	0.98″	Blue	5	7950K63	10.07
1/0	0.79″	Yellow	5	7950K64	10.32
2/0	1.06″	Yellow	5	7950K66	10.43
3/0	0.98″	Red	5	7950K67	10.50
4/0	1.06″	Blue	5	7950K68	10.88
Two-Wire Insulated					
24-20	0.31″	White	100	9703K11	8.64
22-20	0.39″	Gray	100	9703K13	8.64
18	0.31″	Red	100	9703K14	9.13
18	0.39″	Red	100	9703K15	9.13
16	0.31″	Black	100	9703K16	8.75
16	0.47″	Black	100	9703K17	8.82
14	0.39″	Blue	100	9703K18	9.13
14	0.51″	Blue	100	9703K19	9.13
12	0.47″	Gray	100	9703K21	14.29
10	0.55″	Yellow	100	9703K22	14.52

For Wire Size, AWG	Pin Lg.	Pkg. Qty.		Pkg.
Noninsulated				
26-24	0.20″	100	9681K11	$6.31
26-24	0.28″	100	9681K12	6.35
26-22	0.20″	100	9681K13	6.37
26-22	0.28″	100	9681K14	6.30
24-20	0.31″	100	9681K15	6.32
24-20	0.39″	100	9681K16	6.35
18	0.31″	100	9681K17	6.27
18	0.39″	100	9681K18	6.29
18	0.47″	100	9681K19	6.31
16	0.28″	100	9681K21	6.25
16	0.39″	100	9681K22	6.28
16	0.47″	100	9681K23	6.30
16	0.71″	100	9681K24	6.34
14	0.39″	100	9681K25	6.37
14	0.47″	100	9681K26	6.40
14	0.71″	100	9681K27	6.42
12	0.35″	100	9681K28	6.92
12	0.47″	100	9681K29	6.92
12	0.71″	100	9681K31	6.99
10	0.47″	100	9681K32	7.05
10	0.71″	100	9681K33	7.58
8	0.47″	100	9681K35	7.69
8	0.71″	100	9681K36	7.69
6	0.71″	100	9681K38	8.46
4	0.71″	10	9681K133	3.14
2	0.71″	10	9681K134	3.60
1	0.98″	10	9681K135	4.18
2/0	0.98″	10	9681K136	5.18
3/0	0.98″	10	9681K137	8.00

Wire Ferrule Assortments



You'll have the most popular ferrule sizes ready to go in a compartmented plastic case. Ferrules are made of tin-plated copper with polypropylene insulation. Rated to 600 volts and 221°F. CE marked.

	For Wire Size, AWG	Pin Lg.	No. of Pieces		
Single Wire	12-6	0.39″-0.47″	100	9689K12	$23.53
Single Wire	22-14	0.31″	400	9689K11	23.53
Two Wire	22-14	0.31″-0.39″	225	9689K13	27.45

Wire Ferrule Crimpers



Ratchet Style



Self-Adjusting Ratchet Style

Ratchet-style crimpers have individual square crimping slots for each wire size. Wire loads from the side.

Self-adjusting ratchet-style crimper automatically adjusts to the proper square crimp size. Wire loads from the front for easy use in tight spaces.

For Wire Size, AWG		
Ratchet Style		
22-12	5722K12	$63.89
10-6	5722K14	63.89
Self-Adjusting Ratchet Style		
28-7	5722K16	324.29

Pin Terminals

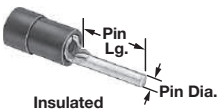

Insulated



Noninsulated

Crimp stranded wire to a solid pin for easy insertion into screw-clamp connections. Terminals are tin-plated copper. UL listed and CSA certified.

Insulated terminals are rated to 600 volts and 221°F. *Nylon-insulated* terminals have an internal brass sleeve that provides an extra-tight crimp for high-vibration applications.

Noninsulated terminals are rated to 300°F.

For Wire Size, AWG	Pin Dia.	Vinyl Insulated					Nylon Insulated					Noninsulated			
		Color	Pin Lg.	Pkg. Qty.		Pkg.	Color	Pin Lg.	Pkg. Qty.		Pkg.	Pin Lg.	Pkg. Qty.		Pkg.
22-18	0.08″	Red	0.37″	50	8009K36	$8.12	Red	0.41″	25	8009K46	$6.45	0.37″	100	8009K15	$10.00
16-14	0.08″	Blue	0.37″	50	8009K43	9.59	Blue	0.35″	25	8009K47	6.00	0.37″	100	8009K16	11.22
12-10	0.12″	Yellow	0.46″	50	8009K45	11.01	Yellow	0.35″	25	8009K48	8.83	0.46″	50	8009K17	7.52

Ring Terminals



Crimp ring terminals onto your wire and mount them on a threaded post or stud for a reliable connection. Terminals are tin-plated copper, except extra-grip terminals are tin-plated steel.

Insulated—Rated to 600 volts and 221° F. *Nylon-insulated* terminals for wire sizes 26-10 AWG have an internal metal sleeve that provides an extra-tight crimp for high-vibration applications.

Noninsulated—Rated to 300° F.

Standard terminals are UL listed and CSA certified, except terminals for wire sizes 26-22 AWG.

Heavy duty terminals are 25% thicker than standard terminals. UL listed and CSA certified.

Extra-grip terminals have a serrated edge that digs into coatings to grip the metal underneath. UL recognized and CSA certified.

Multistud terminals have an elongated stud hole that holds on to different stud sizes. UL listed and CSA certified.

For Wire Size, AWG	For Screw/ Stud Size	Ring Wd.	Vinyl Insulated Color	Vinyl Insulated Pkg. Qty.		Vinyl Insulated Pkg.	Nylon Insulated Color	Nylon Insulated Pkg. Qty.		Nylon Insulated Pkg.	Noninsulated Pkg. Qty.		Noninsulated Pkg.
Standard													
26-22	#2 (0.09″)	0.19″					Yellow	25	7113K263	$11.88			
26-22	#4 (0.11″)	0.19″					Yellow	25	7113K264	9.87			
26-22	#6 (0.14″)	0.24″					Yellow	25	7113K265	9.87			
26-22	#8 (0.16″)	0.25″					Yellow	25	7113K266	9.87			
26-22	#10 (0.19″)	0.31″					Yellow	25	7113K267	11.89			
22-18	#6 (0.14″)	0.31″	Red	100	7113K35	$14.68	Red	50	7113K451	11.97	100	7113K11	$9.53
22-18	#8 (0.16″)	0.33″	Red	100	7113K611	14.66	Red	50	7113K731	13.13	100	7113K551	8.70
22-18	#10 (0.19″)	0.33″	Red	100	7113K98	14.68	Red	50	7113K452	12.01	100	7113K97	9.58
22-18	1/4″	0.47″	Red	50	7113K612	9.38	Red	50	7113K732	14.12	100	7113K552	13.87
22-18	5/16″	0.47″	Red	50	7113K613	9.96	Red	25	7113K733	7.91	100	7113K553	14.20
22-18	3/8″	0.56″	Red	50	7113K614	12.08	Red	25	7113K734	8.96	100	7113K554	14.63
16-14	#6 (0.14″)	0.25″	Blue	50	7113K23	7.91	Blue	50	7113K453	12.73	100	7113K34	10.04
16-14	#8 (0.16″)	0.33″	Blue	50	7113K49	7.52	Blue	50	7113K454	11.92	100	7113K38	7.37
16-14	#10 (0.19″)	0.33″	Blue	50	7113K24	7.52	Blue	50	7113K455	11.93	100	7113K12	8.84
16-14	1/4″	0.47″	Blue	50	7113K25	8.81	Blue	50	7113K456	14.64	100	7113K13	11.50
16-14	5/16″	0.47″	Blue	50	7113K92	8.81	Blue	50	7113K457	14.81	100	7113K91	11.77
16-14	3/8″	0.56″	Blue	50	7113K95	11.87	Blue	25	7113K458	9.17	100	7113K94	14.12
12-10	#8 (0.16″)	0.38″	Yellow	50	7113K48	10.74	Yellow	25	7113K459	9.75	100	7113K37	11.99
12-10	#10 (0.19″)	0.38″	Yellow	50	7113K29	10.75	Yellow	25	7113K461	9.67	100	7113K17	14.58
12-10	1/4″	0.53″	Yellow	50	7113K31	12.66	Yellow	25	7113K462	10.69	50	7113K18	8.97
12-10	3/8″	0.59″	Yellow	25	7113K32	7.26	Yellow	25	7113K464	11.19	50	7113K19	9.44
12-10	1/2″	0.75″	Yellow	25	7113K82	9.27	Yellow	25	7113K463	13.96	50	7113K81	12.71
8	#10 (0.19″)	0.48″	Red	25	7113K221	8.57	Red	25	7113K449	12.40	25	7113K241	8.14
8	1/4″	0.48″	Red	25	7113K222	8.57	Red	25	7113K444	12.92	25	7113K242	8.14
8	5/16″	0.60″	Red	25	7113K223	9.09	Red	25	7113K443	13.60	25	7113K243	8.62
8	3/8″	0.60″	Red	25	7113K224	9.06	Red	25	7113K442	14.00	25	7113K244	8.62
8	7/16″	0.83″	Red	10	7113K715	5.84	Red	10	7113K735	8.75	25	7113K555	13.60
8	1/2″	0.83″	Red	10	7113K716	6.50	Red	10	7113K736	9.00	25	7113K556	13.60
8	5/8″	1.14″	Red	10	7113K717	8.54	Red	10	7113K737	12.64	10	7113K473	6.12
8	3/4″	1.14″					Red	10	7113K738	11.29	10	7113K474	6.43
6	#10 (0.19″)	0.49″	Blue	10	7113K225	6.30	Blue	10	7113K365	11.07	25	7113K445	9.28
6	1/4″	0.49″	Blue	10	7113K226	6.22	Blue	10	7113K366	11.07	25	7113K446	9.38
6	5/16″	0.65″	Blue	10	7113K227	6.21	Blue	10	7113K367	11.07	25	7113K447	9.84
6	3/8″	0.65″	Blue	10	7113K228	6.09	Blue	10	7113K368	11.07	25	7113K448	10.00
6	7/16″	0.84″	Blue	10	7113K719	7.59	Blue	10	7113K739	10.68	25	7113K475	12.50
6	1/2″	0.84″	Blue	10	7113K721	7.22	Blue	10	7113K741	10.68	25	7113K476	12.50
6	3/4″	1.14″	Blue	10	7113K722	9.05	Blue	10	7113K479	12.32	10	7113K477	10.78
4	1/4″	0.68″	Yellow	10	7113K229	9.20	Yellow	10	7113K441	12.07	10	7113K249	10.65
4	5/16″	0.68″	Yellow	10	7113K231	9.27	Yellow	10	7113K469	12.07	10	7113K251	10.65
4	3/8″	0.68″	Yellow	10	7113K232	9.33	Yellow	10	7113K471	12.07	10	7113K252	10.65
4	1/2″	0.68″	Yellow	10	7113K233	9.47	Yellow	10	7113K472	12.07	10	7113K253	10.65
4	5/8″	1.28″	Yellow	10	7113K478	12.63	Yellow	5	7113K743	8.77	10	7113K563	13.14
4	3/4″	1.28″					Yellow	5	7113K744	8.87	10	7113K564	12.11
Heavy Duty													
16-14	#6 (0.14″)	0.38″					Yellow	10	9388K31	5.60	10	9388K41	3.61
16-14	#8 (0.16″)	0.28″					Yellow	10	9388K32	5.42			
16-14	#10 (0.19″)	0.38″	Yellow	10	9388K53	3.69	Yellow	10	9388K33	5.87	10	9388K43	3.61
16-14	1/4″	0.61″	Yellow	10	9388K54	4.13	Yellow	10	9388K34	6.63			
16-14	5/16″	0.61″	Yellow	10	9388K55	4.23	Yellow	10	9388K35	6.62	10	9388K45	3.79
16-14	3/8″	0.61″	Yellow	10	9388K56	4.31	Yellow	10	9388K36	7.05			
16-14	7/16″	0.76″	Yellow	10	9388K57	4.90							
16-14	1/2″	0.75″					Yellow	10	9388K38	8.17			
Extra Grip													
22-18	#6 (0.14″)	0.39″	Red	100	69665K74	11.43	Red	50	69665K57	9.64	100	69665K71	6.43
22-18	#8 (0.16″)	0.39″	Red	100	69665K75	11.79	Red	50	69665K58	10.36	100	69665K72	6.43
22-18	#10 (0.19″)	0.39″	Red	100	69665K76	11.43	Red	50	69665K59	10.00	100	69665K73	6.43
16-14	#6 (0.14″)	0.39″	Blue	100	69665K84	11.79	Blue	50	69665K67	13.21	100	69665K81	6.43
16-14	#8 (0.16″)	0.39″	Blue	100	69665K85	11.79	Blue	50	69665K68	13.21	100	69665K82	6.43
16-14	#10 (0.19″)	0.39″	Blue	100	69665K86	11.79	Blue	50	69665K69	12.86	100	69665K83	6.43
Multistud													
22-18	#2 (0.09″)-#6 (0.14″)	0.28″					Red	25	8010K31	6.10			
22-18	#6 (0.14″)-#10 (0.19″)	0.34″					Red	25	8010K42	9.24			
16-14	#2 (0.09″)-#6 (0.14″)	0.28″	Blue	50	8010K13	9.10	Blue	25	8010K33	7.76			
16-14	#6 (0.14″)-#10 (0.19″)	0.34″	Blue	50	8010K14	11.79	Blue	25	8010K44	9.65	100	8010K24	12.33
12-10	#6 (0.14″)-#10 (0.19″)	0.39″	Yellow	50	8010K15	13.86	Yellow	25	8010K35	10.77	50	8010K25	8.24

Ring Terminals

For information about wire size (AWG), see page 834.

Ring Terminal Assortments



Our most popular ring terminals are conveniently organized in a compartmented plastic box. All assortments contain terminals for 22-18 and 16-14 AWG sizes for #6, #8, #10, and 1/4" screws/studs and 12-10 AWG size for #8, #10, 1/4", and 3/8" screws/studs. Terminals crimp onto wire and are made of tin-plated copper.

Insulated terminals are rated to 600 volts and 221°F. *Nylon-insulated* terminals have an internal tin-plated brass sleeve that provides an extra-tight crimp for high-vibration applications.

Noninsulated terminals are rated to 300°F.

	180 Pieces		300 Pieces	
Vinyl Insulated	8853T18	$53.42	8853T19	$71.89
Nylon Insulated	8853T25	66.95	8853T26	93.91
Noninsulated	8853T11	49.39	8853T12	68.66

Metric Ring Terminals

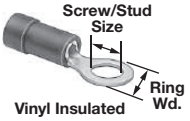


Nylon Insulated


Noninsulated

Find a terminal that's sized to match your metric wire, screws, and studs. Terminals are tin-plated copper.

Insulated terminals are rated to 600 volts and 221°F. *Nylon-insulated* terminals have an internal brass sleeve that provides an extra-tight crimp for high-vibration applications.

Noninsulated terminals are rated to 300°F.

For Wire Size, mm^2	For Screw/ Stud Size	Vinyl Insulated: Ring Wd., mm	Color		Pkg. of 10	Nylon Insulated: Ring Wd., mm	Color		Pkg. of 5	Noninsulated: Ring Wd., mm		Pkg. of 10
0.5-1.5	M3 (3 mm)	5.9	Red	8429T51	$8.59	5.9	Red	8429T31	$7.71	6.5	8429T11★	$3.46
0.5-1.5	M5 (5 mm)	8.9	Red	8429T53	8.64	8.9	Red	8429T33	7.99	11.9	8429T13★	3.77
1.5-2.5	M3 (3 mm)	5.9	Blue	8429T55	8.71	5.9	Blue	8429T35	7.98	6.4	8429T14	3.85
1.5-2.5	M5 (5 mm)	8.9	Blue	8429T57	8.77	8.9	Blue	8429T37	7.88	8.7	8429T16	3.54
4.0-6.0	M3 (3 mm)	6.0	Yellow	8429T59	10.13	6.0	Yellow	8429T39	10.63	—	—	—
4.0-6.0	M5 (5 mm)	9.5	Yellow	8429T62	12.53	9.5	Yellow	8429T42	13.74	9.5	8429T19	4.11

★For 0.5-1 mm^2 wire size.

Flag Ring Terminals

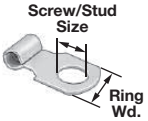

The flag-on-a-flagpole design lets you connect wire at a right angle, making these crimp-on terminals a good choice when space is limited. Terminals are made of noninsulated tin-plated copper. All are rated to 300°F. For a crimper, see 7179K41 on page 801.

For Wire Size, AWG	For Screw/ Stud Size	Ring Wd.	Pkg. Qty.		Pkg.
22-18	#6 (0.14")	0.38"	100	73125K61	$12.40
22-18	#8 (0.16")	0.38"	100	73125K62	12.40
22-18	#10 (0.19")	0.38"	100	73125K63	11.60
16-14	#8 (0.16")	0.38"	100	73125K65	12.80
16-14	#10 (0.19")	0.38"	100	73125K66	$12.80
12-10	#8 (0.16")	0.38"	50	73125K68	7.49
12-10	#10 (0.19")	0.38"	50	73125K69	7.88

High-Temperature Ring Terminals

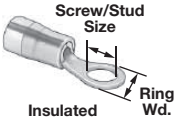


Noninsulated

Meet the demands of hot environments with these crimp-on terminals.

Insulated terminals are made of tin-plated copper with PVDF insulation. They are rated to 600 volts. UL listed.

Noninsulated terminals for wire sizes 22-10 AWG are UL recognized, unless noted. *Terminals rated to 900°F* are nickel-plated steel. *Terminals rated to 1200°F* are nickel.

For Wire Size, AWG	For Screw/ Stud Size	Ring Wd.	Insulated, 302°F: Color	Pkg. Qty.		Pkg.	Noninsulated, 900°F: Pkg. Qty.		Pkg.	Noninsulated, 1200°F: Pkg. Qty.		Pkg.
22-18	#4 (0.11")	0.25"	Red	5	8408T11	$9.44	—	—	—	—	—	—
22-18	#6 (0.14")	0.26"	Red	5	8408T12	9.41	100	69405K5	$7.41	—	—	—
22-18	#8 (0.16")	0.31"	Red	5	8408T13	9.54	100	69405K4	7.41	—	—	—
22-18	#10 (0.19")	0.32"	Red	5	8408T14	9.53	100	69405K51	7.41	—	—	—
20-18	#8 (0.16")	0.31"	—	—	—	—	—	—	—	5	69405K115★	$14.53
20-18	#10 (0.19")	0.31"	—	—	—	—	—	—	—	5	69405K116★	9.52
16-14	#4 (0.11")	0.25"	Blue	5	8408T21	9.75	—	—	—	—	—	—
16-14	#6 (0.14")	0.34"	Blue	5	8408T22	9.74	100	69405K52	7.60	10	69405K83	4.67
16-14	#8 (0.16")	0.37"	Blue	5	8408T23	9.74	100	69405K53	8.00	10	69405K84	4.67
16-14	#10 (0.19")	0.31"	Blue	5	8408T24	9.75	100	69405K54	7.60	10	69405K85	4.67
16-14	1/4"	0.47"	Blue	5	8408T25	10.57	100	69405K55	10.58	10	69405K91	7.73
12-10	#6 (0.14")	0.39"	Yellow	5	8408T31	8.84	100	69405K56	12.36	10	69405K92	9.81
12-10	#8 (0.16")	0.39"	Yellow	5	8408T32	8.86	100	69405K41	11.25	10	69405K93	10.31
12-10	#10 (0.19")	0.39"	Yellow	5	8408T33	8.89	100	69405K57	10.40	10	69405K94	11.02
12-10	1/4"	0.54"	Yellow	5	8408T34	9.57	50	69405K58	7.21	10	69405K95	11.88
12-10	5/16"	0.59"	—	—	—	—	50	69405K42	6.80	10	69405K96	14.40
12-10	3/8"	0.59"	—	—	—	—	50	69405K2	6.89	10	69405K97	13.63
8	1/4"	0.47"	—	—	—	—	25	69405K29	11.14	—	—	—
6	3/8"	0.63"	—	—	—	—	25	69405K9	15.47	—	—	—
4	3/8"	0.68"	—	—	—	—	10	69405K98	10.09	—	—	—

★Not UL recognized.

For information about wire size (AWG), see page 834.

Heat-Shrink Ring Terminals

Crimp terminals onto wire and apply heat—the heat-shrink insulation forms a strain-resistant seal that keeps out water, salt, and harsh contaminants. Terminals are tin-plated copper. Rated to 600 volts and 221°F, except multistud terminals are rated to 257°F.

Standard terminals have nylon-like polymer heat-shrink insulation with a minimum shrink temperature of 194°F. UL listed and CSA certified, except terminals for 8 AWG wire with 0.46″ wide rings are not UL listed.

Sure-connect terminals have an enclosed solder that melts when heat is applied to the polyolefin heat-shrink insulation; this provides the most reliable electrical connection. Minimum shrink temperature is 275°F.

Multistud terminals have an elongated stud hole for mounting on different stud sizes. They have polyolefin heat-shrink insulation with a minimum shrink temperature of 266°F.

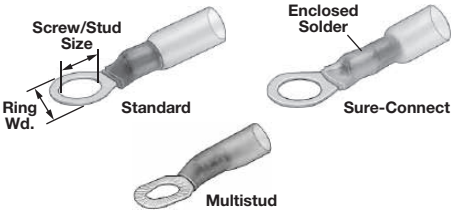

For Wire Size, AWG	For Screw/ Stud Size	Ring Wd.	Insulation Color		Pkg. of 10
Standard					
22-18	#6 (0.14″)	0.32″	Red	7036K81	$6.57
22-18	#8 (0.16″)	0.32″	Red	7036K61	6.28
22-18	#10 (0.19″)	0.32″	Red	7036K32	6.08
22-18	1/4″	0.48″	Red	7036K62	7.06
22-18	3/8″	0.54″	Red	7036K63	7.06
16-14	#6 (0.14″)	0.32″	Blue	7036K83	6.00
16-14	#8 (0.16″)	0.32″	Blue	7036K31	6.00
16-14	#10 (0.19″)	0.32″	Blue	7036K34	6.00
16-14	1/4″	0.48″	Blue	7036K35	6.86
16-14	5/16″	0.48″	Blue	7036K36	7.06
16-14	3/8″	0.48″	Blue	7036K37	7.06
12-10	#6 (0.14″)	0.39″	Yellow	7036K64	7.29
12-10	#8 (0.16″)	0.39″	Yellow	7036K72	7.14
12-10	#10 (0.19″)	0.54″	Yellow	7036K76	7.40
12-10	1/4″	0.54″	Yellow	7036K78	7.40
12-10	5/16″	0.54″	Yellow	7036K65	8.23
12-10	3/8″	0.60″	Yellow	7036K77	7.40
12-10	1/2″	0.76″	Yellow	7036K33	7.50
8	#10 (0.19″)	0.38″	Red	7036K71	10.26
8	1/4″	0.46″	Red	7036K82	10.26
8	5/16″	0.46″	Red	7036K73	10.26
8	3/8″	0.82″	Red	7036K74	11.26

For Wire Size, AWG	For Screw/ Stud Size	Ring Wd.	Insulation Color		Pkg. of 10
Sure-Connect					
22-18	#6 (0.14″)	0.31″	Red	9983K11	$8.86
22-18	#8 (0.16″)	0.31″	Red	9983K12	8.86
22-18	#10 (0.19″)	0.31″	Red	9983K13	8.86
22-18	1/4″	0.47″	Red	9983K14	9.19
22-18	5/16″	0.47″	Red	9983K15	9.19
22-18	3/8″	0.56″	Red	9983K16	9.36
16-14	#6 (0.14″)	0.31″	Blue	9983K17	8.86
16-14	#8 (0.16″)	0.31″	Blue	9983K18	8.86
16-14	#10 (0.19″)	0.31″	Blue	9983K19	8.86
16-14	1/4″	0.47″	Blue	9983K21	9.24
16-14	5/16″	0.47″	Blue	9983K22	9.24
16-14	3/8″	0.56″	Blue	9983K23	9.33
12-10	#6 (0.14″)	0.38″	Yellow	9983K24	9.88
12-10	#8 (0.16″)	0.38″	Yellow	9983K25	9.88
12-10	#10 (0.19″)	0.38″	Yellow	9983K26	9.88
12-10	1/4″	0.59″	Yellow	9983K27	10.26
12-10	5/16″	0.59″	Yellow	9983K28	10.26
12-10	3/8″	0.59″	Yellow	9983K29	10.26
12-10	1/2″	0.75″	Yellow	9983K31	11.52
Multistud					
22-18	#6 (0.14″)-#10 (0.19″)	0.34″	Red	8332K11	5.11
16-14	#6 (0.14″)-#10 (0.19″)	0.34″	Blue	8332K12	5.11
12-10	#6 (0.14″)-#10 (0.19″)	0.39″	Yellow	8332K13	6.84

Heat-Shrink Spade Terminals

After you crimp the terminals onto your wire, apply heat to shrink the insulation and create a strain-resistant seal that keeps out water, salt, and harsh contaminants. The terminals have a spade design that allows you to install them without removing the mounting screw. Made of tin-plated copper. Rated to 600 volts and 221°F.

Standard terminals have adhesive-lined nylon-like polymer insulation with a minimum shrink temperature of 194°F, except terminal for 12-10 AWG wire with 0.38″ spade width has adhesive-lined polyolefin insulation with a minimum shrink temperature of 275°F. All are UL listed.

Locking sure-connect terminals have spring-action forks that lock in place around the stud, holding the terminal in place before tightening. When heat is applied to the polyolefin insulation, the enclosed solder melts to create the most reliable electrical connection. Minimum shrink temperature is 275°F.

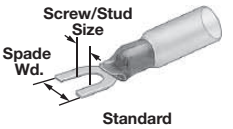

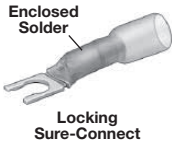

For Wire Size, AWG	For Screw/ Stud Size	Insulation Color	Standard Spade Wd.		Pkg. of 10	Locking Sure-Connect Spade Wd.		Pkg. of 10
22-18	#6 (0.14″)	Red	0.32″	71425K21	$5.75	0.25″	9237K11	$8.88
22-18	#8 (0.16″)	Red	0.32″	71425K54	5.75	0.30″	9237K12	8.88
22-18	#10 (0.19″)	Red	0.32″	71425K22	5.76	0.32″	9237K13	8.88
16-14	#6 (0.14″)	Blue	0.37″	71425K23	5.75	0.24″	9237K14	8.93
16-14	#8 (0.16″)	Blue	0.40″	71425K55	5.75	0.30″	9237K15	8.93
16-14	#10 (0.19″)	Blue	0.40″	71425K24	5.75	0.32″	9237K16	8.93
12-10	#6 (0.14″)	Yellow	0.39″	71425K27	6.76	0.28″	9237K17	9.95
12-10	#8 (0.16″)	Yellow	0.39″	71425K25	6.47	0.32″	9237K18	9.95
12-10	#10 (0.19″)	Yellow	0.38″	71425K56	9.67	0.32″	9237K19	9.95

Flag Spade Terminals

Connect wires at a right angle in awkward tight spots. Plus, the spade design allows you to install terminals without removing the mounting screw. Terminals are made of noninsulated tin-plated copper and are rated to 300°F. For a crimper, see 7179K41 on page 801.

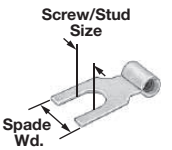

For Wire Size, AWG	For Screw/ Stud Size	Spade Wd.		Pkg. of 100
16-14	#8 (0.16″)	0.38″	72815K52	$12.80
16-14	#10 (0.19″)	0.38″	72815K53	12.40

High-Temperature Spade Terminals

Rated to 900°F, these noninsulated crimp-on terminals are suitable for high-heat applications. The spade design allows you to install them without removing the mounting screw. All are made of nickel-plated steel.

Block terminals have square shoulders and straight sides that fit tightly in terminal blocks and prevent wire turning.

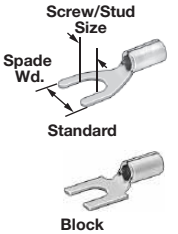

	For Wire Size, AWG	For Screw/ Stud Size	Spade Wd.		Pkg. of 100
Standard	22-18	#10 (0.19″)	0.34″	7874K5	$9.24
Standard	16-14	#10 (0.19″)	0.34″	7874K6	8.63
Standard	12-10	#10 (0.19″)	0.38″	7874K7	12.44
Block	22-18	#6 (0.14″)	0.30″	7874K8	8.20
Block	16-14	#6 (0.14″)	0.30″	7874K9	9.31

Spade & Hook Terminals

For information about wire size (AWG), see page 834.

Spade Terminals



Loosen the mounting screw to install—the spade design eliminates the need to completely remove it. Terminals crimp onto wire and are made of tin-plated copper. UL listed and CSA certified.

Insulated—Rated to 600 volts and 221° F. *Nylon-insulated* terminals have an internal tin-plated brass sleeve that provides an extra-tight crimp for high-vibration applications.

Noninsulated—Rated to 300° F, except locking terminals are rated to 347° F.

Block terminals have square shoulders and straight sides that fit tightly in terminal blocks and prevent wire turning.

Flanged terminals have turned-up edges to keep the terminal secure, even if the screw loosens. They're ideal for vertical applications.

Locking terminals have spring-action forks that lock around the stud, holding the terminal in place before tightening.

For Wire Size, AWG	For Screw/ Stud Size	Spade Wd.	Vinyl Insulated Color	Vinyl Insulated Pkg. Qty.		Vinyl Insulated Pkg.	Nylon Insulated Color	Nylon Insulated Pkg. Qty.		Nylon Insulated Pkg.	Noninsulated Pkg. Qty.		Noninsulated Pkg.
Standard													
22-18	#6 (0.14″)	0.34″	Red	50	69145K211	$7.86	Red	50	69145K321	$12.22	100	69145K431	$7.18
22-18	#8 (0.16″)	0.34″	Red	50	69145K212	7.86	Red	50	69145K322	12.24	100	69145K432	7.18
22-18	#10 (0.19″)	0.34″	Red	50	69145K213	7.86	Red	50	69145K323	12.23	100	69145K433	7.18
16-14	#6 (0.14″)	0.34″	Blue	50	69145K214	8.75	Blue	50	69145K324	12.97	100	69145K434	7.67
16-14	#8 (0.16″)	0.34″	Blue	50	69145K215	8.75	Blue	50	69145K325	12.99	100	69145K435	7.67
16-14	#10 (0.19″)	0.34″	Blue	50	69145K216	8.75	Blue	50	69145K326	12.99	100	69145K436	10.23
12-10	#6 (0.14″)	0.38″	Yellow	50	69145K219	12.27	Yellow	25	69145K329	10.01	100	69145K439	11.59
12-10	#8 (0.16″)	0.38″	Yellow	50	69145K217	12.29	Yellow	25	69145K327	9.92	100	69145K437	12.38
12-10	#10 (0.19″)	0.38″	Yellow	50	69145K218	12.29	Yellow	25	69145K328	8.46	100	69145K438	13.12
Block													
22-18	#4 (0.11″)	0.25″	Red	100	69145K65	13.87	Red	50	69145K791	11.51	100	69145K51	8.76
22-18	#6 (0.14″)	0.25″	Red	100	69145K66	13.67	Red	50	69145K811	11.89	100	69145K52	8.87
22-18	#6 (0.14″)	0.30″	Red	100	69145K67	13.88	Red	50	69145K821	11.86	100	69145K53	9.18
22-18	#8 (0.16″)	0.30″	Red	100	69145K68	14.43	Red	50	69145K831	11.88	100	69145K54	9.77
22-18	#10 (0.19″)	0.30″	Red	100	69145K69	13.24	Red	50	69145K841	11.32	100	69145K55	8.68
16-14	#4 (0.11″)	0.25″	Blue	100	69145K71	14.43	Blue	50	69145K851	11.89	100	69145K56	8.85
16-14	#6 (0.14″)	0.25″	Blue	100	69145K72	14.47	Blue	50	69145K861	11.95	100	69145K57	8.15
16-14	#6 (0.14″)	0.30″	Blue	100	69145K73	14.47	Blue	50	69145K871	14.82	100	69145K58	8.15
16-14	#8 (0.16″)	0.30″	Blue	100	69145K74	14.47	Blue	50	69145K881	11.95	100	69145K59	8.15
16-14	#10 (0.19″)	0.30″	Blue	100	69145K75	14.47	Blue	50	69145K891	11.92	100	69145K61	8.15
12-10	#6 (0.14″)	0.32″	Yellow	50	69145K76	9.00	Yellow	25	69145K911	9.71	100	69145K62	12.30
12-10	#8 (0.16″)	0.32″	Yellow	50	69145K77	9.02	Yellow	25	69145K921	9.72	100	69145K63	12.44
12-10	#10 (0.19″)	0.32″	Yellow	50	69145K78	9.03	Yellow	25	69145K931	9.43	100	69145K64	12.45
Flanged													
22-18	#6 (0.14″)	0.30″	Red	100	7869K21	12.97	Red	50	7869K41	12.05	—	—	—
22-18	#8 (0.16″)	0.30″	Red	100	7869K22	14.40	Red	50	7869K42	12.80	—	—	—
22-18	#10 (0.19″)	0.30″	Red	100	7869K23	12.97	Red	50	7869K43	12.65	100	7869K13	10.66
16-14	#6 (0.14″)	0.30″	Blue	50	7869K24	7.25	Blue	50	7869K44	12.24	100	7869K14	12.30
16-14	#8 (0.16″)	0.30″	Blue	50	7869K25	7.25	Blue	50	7869K45	11.53	100	7869K15	12.30
16-14	#10 (0.19″)	0.30″	Blue	50	7869K26	7.25	Blue	50	7869K46	12.24	100	7869K16	11.08
12-10	#6 (0.14″)	0.35″	Yellow	50	7869K27	10.20	Yellow	25	7869K47	7.82	—	—	—
12-10	#8 (0.16″)	0.39″	Yellow	50	7869K28	10.20	Yellow	25	7869K48	7.53	50	7869K18	7.65
12-10	#10 (0.19″)	0.39″	Yellow	50	7869K29	10.20	Yellow	25	7869K49	7.82	50	7869K19	7.20
Locking													
22-18	#4 (0.11″)	0.25″	—	—	—	—	Red	50	8007K58	14.89	100	8007K54	10.62
22-18	#6 (0.14″)	0.25″	Red	50	8007K21	10.10	Red	50	8007K41	12.61	100	8007K11	10.38
22-18	#8 (0.16″)	0.30″	Red	50	8007K22	10.10	Red	50	8007K42	14.48	100	8007K12	11.51
22-18	#10 (0.19″)	0.32″	Red	50	8007K23	10.10	Red	50	8007K43	14.83	100	8007K13	10.95
16-14	#4 (0.11″)	0.25″	Blue	50	8007K51	9.70	Blue	50	8007K59	14.88	—	—	—
16-14	#6 (0.14″)	0.25″	Blue	50	8007K24	10.10	Blue	50	8007K44	14.91	100	8007K14	11.49
16-14	#8 (0.16″)	0.30″	Blue	50	8007K25	10.12	Blue	50	8007K45	14.33	100	8007K15	10.81
16-14	#10 (0.19″)	0.32″	Blue	50	8007K26	10.10	Blue	50	8007K46	14.64	100	8007K16	10.59
16-14	1/4″	0.43″	Blue	50	8007K52	12.21	Blue	25	8007K47	9.23	100	8007K56	13.70
12-10	#6 (0.14″)	0.28″	Yellow	50	8007K27	12.08	Yellow	25	8007K37	11.32	50	8007K17	8.98
12-10	#8 (0.16″)	0.32″	Yellow	50	8007K28	12.08	Yellow	25	8007K38	10.50	50	8007K18	8.96
12-10	#10 (0.19″)	0.32″	Yellow	50	8007K29	12.08	Yellow	25	8007K39	10.35	50	8007K19	8.49
12-10	1/4″	0.43″	Yellow	25	8007K53	7.79	Yellow	25	8007K48	11.84	50	8007K57	12.47

Hook Terminals



A hybrid of ring and spade terminals, hook terminals install without removal of the mounting screw, yet they resist being pulled off. Terminals are tin-plated copper. UL listed and CSA certified.

Insulated terminals are rated to 600 volts and 221° F. *Nylon-insulated* terminals have an internal tin-plated brass sleeve that provides an extra-tight crimp for high-vibration applications.

Noninsulated terminals are rated to 300° F.

For Wire Size, AWG	For Screw/ Stud Size	Hook Wd.	Vinyl Insulated Color	Vinyl Insulated Pkg. Qty.		Vinyl Insulated Pkg.	Nylon Insulated Color	Nylon Insulated Pkg. Qty.		Nylon Insulated Pkg.	Noninsulated Pkg. Qty.		Noninsulated Pkg.
22-18	#6 (0.14″)	0.33″	—	—	—	—	Red	50	7472K81	$11.56	—	—	—
22-18	#8 (0.16″)	0.33″	Red	100	7472K42	$13.75	Red	50	7472K82	11.56	—	—	—
22-18	#10 (0.19″)	0.33″	Red	100	7472K43	12.68	Red	50	7472K83	13.50	—	—	—
16-14	#6 (0.14″)	0.35″	Blue	50	7472K44	7.39	Blue	50	7472K84	12.66	100	7472K34	$8.89
16-14	#8 (0.16″)	0.35″	Blue	50	7472K45	7.61	Blue	50	7472K85	12.73	100	7472K35	9.07
16-14	#10 (0.19″)	0.35″	Blue	50	7472K46	8.00	Blue	50	7472K86	12.14	100	7472K36	9.22
12-10	#10 (0.19″)	0.37″	Yellow	50	7472K74	11.11	Yellow	25	7472K95	8.48	50	7472K73	8.55

For information about wire size (AWG), see page 834.

About Quick-Disconnect Terminals

Quick-disconnect terminals provide fast and secure connections for your wiring. Because they are easy to connect and disconnect, these terminals are convenient for applications that require frequent repair or replacement. When an application calls for a ¼″ quick-disconnect, choose a terminal with a 0.250″ tab width.

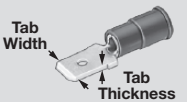

Quick-Disconnect Terminals

Slide terminals together and pull them apart with ease. All crimp onto your wire and offer fast, secure connections. UL listed and CSA certified, unless noted. **Standard-barrel** terminals require one crimp. **Double-crimp barrel** terminals accept two crimps and provide an extra-tight grip for high-vibration applications.

Insulated Barrel

Terminals are rated to 600 volts and 221°F, unless noted. They are made of tin-plated brass, except male double-crimp terminals are zinc-plated brass. **Standard-barrel** terminals have vinyl insulation. **Double-crimp barrel** terminals have nylon insulation, except male terminals with 0.110″ wide tabs have vinyl insulation.


Standard Barrel Female


Standard Barrel Male


Double-Crimp Barrel Female


Double-Crimp Barrel Male

For Wire Size, AWG	Tab Size Wd.	Tab Size Thick.	Insulation Color	Female Pkg. Qty.	Female	Female Pkg.	Male Pkg. Qty.	Male	Male Pkg.
Standard Barrel									
26-22	0.110″	0.020″	Yellow	10	7060K41 ★ ■	$5.89	50	7060K71 ★ ■	$16.82
26-22	0.110″	0.032″	Yellow	—	—	—	50	7060K78 ★ ■	15.79
22-18	0.110″	0.020″	Red	10	7060K13	3.48	100	7060K17	13.94
22-18	0.187″	0.020″	Red	10	7060K18	3.64	100	7060K15	14.58
22-18	0.250″	0.032″	Red	10	7060K19	3.10	100	7060K16	12.40
16-14	0.110″	0.020″	Blue	10	7060K28	3.64	100	7060K27	14.58
16-14	0.187″	0.020″	Blue	10	7060K29	3.69	100	7060K11	14.78
16-14	0.250″	0.032″	Blue	10	7060K38	3.52	100	7060K12	14.09
12-10	0.250″	0.032″	Yellow	10	7060K39	4.14	100	7060K14	16.56
Double-Crimp Barrel									
22-18	0.110″	0.020″	Red	10	7060K48 ▲	4.34	50	7060K61 ▲	12.41
22-18	0.187″	0.020″	Red	10	7060K49 ▲	4.26	50	7060K62 ▲	12.18
22-18	0.250″	0.032″	Red	10	7060K58 ▲	4.11	50	7060K63 ▲	11.73
16-14	0.110″	0.020″	Blue	10	7060K59 ▲	4.02	50	7060K64 ▲	11.50
16-14	0.187″	0.020″	Blue	10	7060K68 ▲	4.22	50	7060K65 ▲	12.05
16-14	0.250″	0.032″	Blue	10	7060K69 ▲	4.07	50	7060K66 ▲	11.64
12-10	0.250″	0.032″	Yellow	10	7060K74 ▲	4.91	50	7060K67 ▲	14.04

For Wire Size, AWG	Male	Male Pkg. Qty.	Male Pkg.
Standard Barrel			
26-22	—	—	—
26-22	—	—	—
22-18	7060K221 ■	50	7060K222 ■ $21.16
22-18	7060K79	100	7060K25 12.40
22-18	7060K81	100	7060K26 11.96
16-14	7060K223 ■	50	7060K224 ■ 18.36
16-14	7060K84 ■	100	7060K211 ■ 12.40
16-14	7060K88	100	7060K22 12.83
12-10	7060K89	100	7060K24 17.24
Double-Crimp Barrel			
22-18	7060K98 ■ ♣	100	7060K97 ■ ♣ 13.40
22-18	7060K91	50	7060K82 12.73
22-18	7060K92	50	7060K83 11.32
16-14	7060K23 ■ ♣	100	7060K212 ■ ♣ 13.35
16-14	7060K93 ■	50	7060K96 ■ 9.46
16-14	7060K94	50	7060K85 11.04
12-10	7060K95	50	7060K87 13.82

★ Not voltage rated. ■ Not UL listed or CSA certified. ▲ Rated 300 volts. ♣ Rated 167°F. Made of tin-plated brass.

Fully Insulated

The connection tab is completely covered with nylon insulation. Terminals are rated to 600 volts and 221°F, unless noted. **Female** terminals are tin-plated brass. **Male** terminals are tin-plated copper.


Standard Barrel Female


Standard Barrel Male


Double-Crimp Barrel Female


Double-Crimp Barrel Male

For Wire Size, AWG	Tab Size Wd.	Tab Size Thick.	Insulation Color	Female Pkg. Qty.	Female	Female Pkg.	Male Pkg. Qty.	Male	Male Pkg.
Standard Barrel									
26-24	0.187″	0.020″	Yellow	25	7243K46 ■	$9.57	—	—	—
22-18	0.250″	0.032″	Red	50	7243K11	13.08	50	7243K12	$12.91
16-14	0.250″	0.032″	Blue	50	7243K21	13.05	50	7243K22	13.68
12-10	0.250″	0.032″	Yellow	25	7243K31	9.11	25	7243K32	8.28
Double-Crimp Barrel									
22-18	0.110″	0.020″	Red	25	7243K111 ▲	14.50	—	—	—
22-18	0.187″	0.020″	Red	25	7243K112	11.03	25	7243K118	11.86
22-18	0.250″	0.032″	Red	25	7243K114	11.00	25	7243K119	11.92
16-14	0.110″	0.020″	Blue	25	7243K115 ▲	14.50	—	—	—
16-14	0.187″	0.020″	Blue	25	7243K116	11.12	25	7243K121	12.00
16-14	0.250″	0.032″	Blue	25	7243K117	11.01	25	7243K122	11.75
12-10	0.250″	0.032″	Yellow	25	7243K69	13.46	25	7243K33	11.75

■ Not UL listed or CSA certified. ▲ Rated 300 volts.

Noninsulated

Terminals are rated to 300°F. **Female** terminals are tin-plated brass. **Male** terminals are zinc-plated brass, except 69525K46 and 69525K47 are tin-plated brass.


Standard Barrel Female


Standard Barrel Male


Double-Crimp Barrel Female


Double-Crimp Barrel Male

For Wire Size, AWG	Tab Size Wd.	Tab Size Thick.	Female Pkg. Qty.	Female	Female Pkg.	Male Pkg. Qty.	Male	Male Pkg.
Standard Barrel								
26-24	0.110″	0.020″	100	69525K93 ■	$8.65	—	—	—
22-18	0.110″	0.020″	100	69525K11	6.85	50	69525K46	$16.56
22-18	0.187″	0.020″	100	69525K12	6.67	100	69525K65	5.59
22-18	0.250″	0.032″	100	69525K13	7.20	100	69525K66	6.90
16-14	0.110″	0.020″	100	69525K14	6.76	50	69525K47 ■	12.48
16-14	0.187″	0.020″	100	69525K15	7.20	100	69525K77 ■	7.41
16-14	0.250″	0.032″	100	69525K16	7.20	100	69525K68	6.87
12-10	0.250″	0.032″	100	69525K17	7.58	100	69525K79 ■	9.71
Double-Crimp Barrel								
22-18	0.187″	0.020″	100	69525K19	8.40	—	—	—
22-18	0.250″	0.032″	100	69525K61	10.00	25	69525K32 ■	7.51
16-14	0.187″	0.020″	100	69525K63	8.40	25	69525K33 ■	7.23
16-14	0.250″	0.032″	100	69525K64	10.40	25	69525K34 ■	7.52

■ Not UL listed or CSA certified.

Quick-Disconnect Terminal Assortments



Open the compartmented plastic box to find male/female pairs of quick-disconnects in 22-18, 16-14, and 12-10 AWG sizes. Tab size is 0.250″ Wd. × 0.032″ Thick.

Insulated terminals are rated to 600 volts and 221° F. Female terminals are tin-plated brass. Male terminals are zinc-plated brass. *Insulated-barrel* terminals have vinyl insulation. *Fully insulated* terminals have nylon insulation that fully covers the terminal, leaving no exposed metal when connected.

Noninsulated terminals are rated to 300° F and are made of tin-plated copper.

	150 Pieces		280 Pieces	
Insulated Barrel	70335K42	$29.40	70335K44	$43.24
Fully Insulated	70335K81	34.94	70335K82	54.30
Noninsulated	70335K7	19.79	70335K8	32.17

Flag Quick-Disconnect Terminals



Fully Insulated Standard Barrel



Fully Insulated Double-Crimp Barrel



Noninsulated Standard Barrel

A good solution for making connections in tight spaces, terminals have a flag-on-a-flagpole design that places your wire at a right angle. These female crimp-on terminals connect with any male quick-disconnect tab of the same wire size and tab size. Terminals are tin-plated brass.

Fully Insulated—Nylon insulation completely covers the terminal, leaving no exposed metal when connected. Rated to 600 volts and 221° F. UL listed and CSA certified.

Noninsulated—Terminals are rated to 300° F. UL listed and CSA certified, except terminal for 12-10 AWG wire.

Standard-barrel terminals require one crimp.

Double-crimp barrel terminals accept two crimps and are good for high-vibration applications.

For Wire Size, AWG	Tab Size Wd.	Tab Size Thick.	Insulation Color	Pkg. Qty.		Pkg.
Fully Insulated						
Standard Barrel						
22-18	0.187″	0.020″	Red	25	7820K11	$8.14
22-18	0.250″	0.032″	Red	25	7820K12	8.14
16-14	0.187″	0.020″	Blue	25	7820K13	7.70
16-14	0.250″	0.032″	Blue	25	7820K14	7.76
12-10	0.250″	0.032″	Yellow	10	7820K84	7.56
Double-Crimp Barrel						
22-18	0.187″	0.020″	Red	25	7820K41	12.14
22-18	0.250″	0.032″	Red	25	7820K42	12.27
16-14	0.187″	0.020″	Blue	25	7820K43	13.33
16-14	0.250″	0.032″	Blue	25	7820K44	13.29
12-10	0.250″	0.032″	Yellow	10	7820K94	8.23
Noninsulated						
Standard Barrel						
22-18	0.187″	0.020″	_____	100	7769K81	9.20
22-18	0.250″	0.032″	_____	100	7769K82	9.60
16-14	0.187″	0.020″	_____	100	7769K83	7.39
16-14	0.250″	0.032″	_____	100	7769K84	9.60
12-10	0.250″	0.032″	_____	100	7769K96	13.78

Vibration-Resistant Terminals



Nylon Insulated

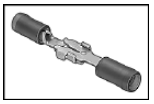

Terminals interlock with each other

Easy to install, connect, and disconnect, yet difficult to shake loose. These terminals interlock with each other to make a secure connection; they do not have a gender. Terminals crimp onto wire and are made of tin-plated brass.

Nylon-insulated terminals are rated to 600 volts and 221° F.

Noninsulated terminal is rated to 300° F.

For Wire Size, AWG	Nylon Insulated Insulation Color		Each	Noninsulated	Each
22-18	Red	8414T22	$3.58	_____	____
16-14	Blue	8414T23	3.58	8414T21	$2.07

High-Temperature Quick-Disconnect Terminals



Straight Female



Straight Male



Flag Female

With a 900° F temperature rating, these quick-disconnect terminals can withstand high-heat applications. Terminals crimp onto wire and are made of noninsulated nickel-plated steel.

Flag terminals allow you to connect wires at a right angle, making them a good choice for tight spaces.

For Wire Size, AWG	Tab Size Wd.	Tab Size Thick.	Female	Pkg. of 100	Male	Pkg. of 100
Straight						
16-14	0.187″	0.020″	8013K21	$14.43	8013K11	$12.35
16-14	0.250″	0.032″	8013K22	13.88	8013K12	12.15
Flag						
16-14	0.250″	0.032″	8013K41	12.66	_____	____

Heat-Shrink Quick-Disconnect Terminals



Standard Insulated-Barrel Female

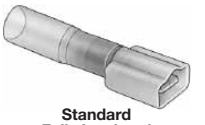

Standard Fully Insulated Male



Sure-Connect Insulated-Barrel Female

Crimp and apply heat for a moisture- and corrosion-resistant connection that seals out water, salt, and harsh contaminants. Terminals are rated to 600 volts and 221° F. Tab size is 0.250″ Wd. × 0.032″ Thick. Terminals are tin-plated brass, except standard male terminals with insulated barrel are zinc-plated brass and sure-connect male terminals with insulated barrel are tin-plated copper.

Standard—Terminals have nylon-like polymer insulation with a minimum shrink temperature of 194° F. *Fully insulated* terminals are UL listed.

Sure-Connect—When heat is applied, the enclosed solder melts to create the most reliable electrical connection. Terminals have polyolefin insulation with a minimum shrink temperature of 275° F.

Fully insulated terminals have insulation that completely covers the terminal and barrel, leaving no exposed metal when connected.

For Wire Size, AWG	Insulation Color	Pkg. Qty.	Female	Pkg.	Male	Pkg.
Standard						
Insulated Barrel						
22-18	Red	25	7849K31	$11.70	7849K34	$11.95
16-14	Blue	25	7849K32	12.24	7849K35	12.28
12-10	Yellow	10	7849K33	5.71	7849K36	5.83
Fully Insulated						
22-18	Red	10	72625K75	7.29	72625K74	6.84
16-14	Blue	10	72625K77	8.54	72625K76	7.12
12-10	Yellow	10	72625K79	9.23	72625K78	8.54
Sure-Connect						
Insulated Barrel						
22-18	Red	10	9397K11	8.64	9397K13	8.67
16-14	Blue	10	9397K14	8.69	9397K16	8.74
12-10	Yellow	10	9397K17	9.43	9397K19	9.62
Fully Insulated						
22-18	Red	10	9397K12	10.38	_____	____
16-14	Blue	10	9397K15	10.38	_____	____
12-10	Yellow	10	9397K18	11.45	_____	____

Stud to Quick-Disconnect Adapters

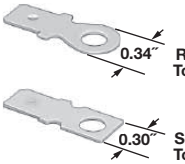

Turn screw and stud terminals into quick-disconnect connections. These male adapters are made of noninsulated tin-plated copper. Rated to 347° F.

Square-tongue adapters fit into terminal block slots to reduce loosening caused by vibration.

For Screw/ Stud Size	Tab Size Wd.	Tab Size Thick.	Round Tongue	Pkg. of 100	Square Tongue	Pkg. of 100
#6 (0.14″)	0.250″	0.030″	8015K33	$14.38	8015K53	$15.00
#8 (0.16″)	0.250″	0.030″	8015K32	15.01	8015K52	15.08
#10 (0.19″)	0.250″	0.030″	8015K31	12.70	8015K51	14.38

For information about wire size (AWG), see page 834.

Flame-Retardant Quick-Disconnect Terminals

Reduce the risk of fire with female crimp-on terminals that are made of special flame-retardant, self-extinguishing materials. All meet UL 94V0 for flame resistance. Connect with any male quick-disconnect tab of the same wire size and tab size. Terminals are made of tin-plated brass and are fully insulated with nylon. The insulation completely covers the terminal, leaving no exposed metal when connected. Rated to 600 volts and 221°F. UL listed, except straight terminal for 26-24 AWG wire.



Straight



Flag

For Wire Size, AWG	Tab Size Wd.	Tab Size Thick.	Insulation Color	Pkg. Qty.		Pkg.
Straight						
26-24	0.187″	0.020″	Yellow	50	9240K17	$14.09
22-18	0.187″	0.020″	Red	50	9240K12	14.78
22-18	0.250″	0.032″	Red	50	9240K13	12.65
16-14	0.187″	0.020″	Blue	50	9240K14	15.22
16-14	0.250″	0.032″	Blue	50	9240K15	13.64
12-10	0.250″	0.032″	Yellow	25	9240K16	7.47
Flag						
22-18	0.187″	0.020″	Red	50	9240K21	15.45
22-18	0.250″	0.032″	Red	50	9240K22	14.40
16-14	0.187″	0.020″	Blue	50	9240K23	14.55
16-14	0.250″	0.032″	Blue	50	9240K24	14.09
12-10	0.250″	0.032″	Yellow	25	9240K25	12.00

Piggyback Quick-Disconnect Terminals

Connect two wires to the same terminal. These female crimp-on terminals have a male tab piggy-backed onto them that connects with a female quick-disconnect. Tab size is 0.250″ Wd. × 0.032″ Thick. Terminals are tin-plated brass and have vinyl insulation, except double-crimp barrel terminals have nylon insulation. All are rated to 221°F.

Fully Insulated—Insulation covers the entire female terminal and barrel, leaving no exposed metal when connected.

Standard- and **expanded-barrel** terminals are rated to 600 volts. UL listed. *Expanded barrel* have a wider barrel for fast wire insertion.

Double-crimp barrel accepts two crimps for a secure connection that's suitable for high-vibration applications. Rated to 300 volts. *Insulated-barrel* terminals are UL listed.



Insulated Double-Crimp Barrel



Fully Insulated Expanded Barrel

For Wire Size, AWG	Insulation Color	Insulated Barrel Pkg. Qty.		Pkg.	Fully Insulated Pkg. Qty.		Pkg.
Standard Barrel							
22-18	Red	50	72065K31	$13.40	25	72065K24	$10.67
16-14	Blue	50	72065K32	13.12	25	72065K25	11.52
12-10	Yellow	25	72065K33	7.14	25	72065K26	12.08
Expanded Barrel							
22-18	Red	—	—	—	25	72065K51	11.60
16-14	Blue	—	—	—	25	72065K52	10.84
Double-Crimp Barrel							
22-18	Red	25	72065K21	11.52	10	72065K141	5.08
16-14	Blue	25	72065K22	12.56	10	72065K151	5.00
12-10	Yellow	25	72065K23	12.56	10	72065K161	13.80

Quick-Disconnect Terminal Splitters and Adapters



Side-by-Side Male Splitter



Piggyback Male Splitter

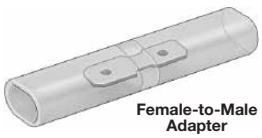

Female-to-Male Adapter

Modify any standard quick-disconnect terminal that has a 0.250″ wide tab. Splitters and adapter are made of tin-plated brass.

Male splitters let you divide one male quick-disconnect connection into two. They are noninsulated and rated to 300°F.

Female-to-male adapter allows you to connect two female quick-disconnects. Insulation is translucent polypropylene. Rated to 221°F.

	Tab Size Wd.	Tab Size Thick.		Pkg. of 25
Side-by-Side Male Splitter	0.250″	0.032″	8019K98	$5.81
Piggyback Male Splitter	0.250″	0.032″	8019K96	5.11
Female-to-Male Adapter	0.250″	0.032″	8021K96	10.64

PC Board Quick-Disconnect Terminals

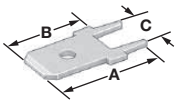

Without Tab Support



With Tab Support

Add quick-disconnect convenience to a printed circuit board. These male terminals work with female quick-disconnect terminals that accept the same tab size. Terminals have solder tails for attachment to your circuit board. Made of noninsulated tin-plated brass. Rated to 300°F. UL recognized.

Terminals with tab support prevent side-to-side movement during connection.

Tab Size Wd.	Tab Size Thick.	(A)	(B)	(C)		Pkg. of 100
Without Tab Support						
0.187″	0.020″	0.51″	0.36″	0.20″	7956K1	$7.60
0.250″	0.032″	0.56″	0.41″	0.20″	7956K2	9.20
With Tab Support						
0.187″	0.032″	0.71″	0.56″	0.20″	7956K3	9.20
0.250″	0.032″	0.56″	0.41″	0.20″	7956K4	9.20
0.250″	0.032″	0.71″	0.56″	0.20″	7956K5	10.21

Snap-Plug Terminals

Insulated



Vinyl Female



Vinyl Male



Double-Crimp Female



Double-Crimp Male

Heat-Shrink Insulated

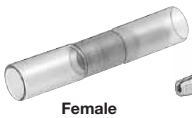

Female



Male

Noninsulated



Female



Male

Also known as bullet terminals, these have a round tab that saves space compared to the flat tab found on most quick-disconnects. Terminals crimp onto your wire. UL recognized and CSA certified. **Female** terminals are tin-plated brass. **Male** terminals are tin-plated copper.

Vinyl-insulated terminals are rated to 600 volts and 122°F.

Nylon-insulated double-crimp terminals accept two crimps on the barrel for a secure connection that's suitable for high-vibration applications. Rated to 300 volts, unless noted. All are rated to 221°F.

Heat-shrink-insulated terminals have adhesive-lined nylon-like polymer insulation that shrinks when heated after crimping. It forms a strain-resistant seal that keeps out water, salt, and harsh contaminants. Minimum shrink temperature is 194°F. Rated to 600 volts and 221°F.

Noninsulated terminals are rated to 300°F.

For Wire Size, AWG	Insulation Color	Pkg. Qty.	Female	Pkg.	Male	Pkg.
0.156″ Plug Diameter						
Vinyl Insulated						
22-18	Red	50	71285K91	$9.89	71285K93	$12.10
16-14	Blue	50	71285K92	9.89	71285K98	12.10
Nylon-Insulated Double-Crimp						
22-18	Red	50	71285K86	11.60	71285K88★	13.60
16-14	Blue	50	71285K87	11.32	71285K85	13.60
Heat-Shrink Insulated						
22-18	Red	10	7835K55	10.12	7835K53	8.23
16-14	Blue	10	7835K56	10.44	7835K54	8.42
Noninsulated						
22-18	—	100	71285K11	8.40	71285K13	12.40
16-14	—	100	71285K12	8.40	71285K14	13.20
0.180″ Plug Diameter						
Vinyl Insulated						
22-18	Red	50	71285K94	8.80	71285K96	11.60
16-14	Blue	50	71285K95	8.80	71285K97	11.60
Nylon-Insulated Double-Crimp						
22-18	Red	50	71285K81	12.00	71285K83■	15.20
16-14	Blue	25	71285K82	5.96	71285K84■	7.44
Noninsulated						
16-14	—	100	71285K42	9.20	71285K44	14.80

★Not rated for voltage. ■Rated to 600 volts.

Butt Splices



A&B C D&E F G

These crimp-on butt splices provide a compact and reliable way to connect two wires. Splices are made of tin-plated copper. UL listed, except Styles D and E. CSA certified, except Style B for 12-10 AWG wire and Styles D and E. **Insulated splices (Styles A-F)** are rated to 600 volts and 221°F, unless noted.

(B) Nylon-insulated splices are more durable than vinyl insulated.

(C) Nylon-insulated double-crimp splices have a barrel that can be crimped twice on each end to provide an extra-tight grip in high-vibration applications.

(D) Nylon-insulated moisture-resistant splices are filled with grease to resist moisture and corrosion.

(E) Nylon-insulated sealed splices are filled with a sealant. Crimp the splice and the sealant creates a barrier to completely keep out moisture. Compared to heat-shrink splices, these are quicker to install and are more suitable for tight spaces where heat can damage equipment.

(F) Heat-shrink-insulated sealed splices have adhesive-lined nylon insulation. When heated, the insulation shrinks to form a seal against moisture and corrosion. Minimum shrink temperature is 194°F.

(G) Noninsulated splices are rated to 347°F.

For Wire Size, AWG	Lg.	Insulation Color	Pkg. Qty.		Pkg.
(A) Vinyl Insulated					
22-18	1″	Red	100	7227K12	$13.15
16-14	1″	Blue	100	7227K13	14.87
12-10	1″	Yellow	50	7227K14	12.66
(B) Nylon Insulated					
26-22	0.9″	Yellow	5	7227K74★	6.80
22-18	1.1″	Red	50	7227K22	11.23
16-14	1.1″	Blue	50	7227K23	11.24
12-10	1.1″	Yellow	50	7227K24	15.34
8	1.4″	Red	10	7227K81★	9.04
6	1.8″	Blue	10	7227K82★	10.51
4	2″	Yellow	10	7227K83★	14.29
(C) Nylon-Insulated Double-Crimp					
22-18	1″	Red	25	7227K84	11.14
16-14	1″	Blue	25	7227K85	11.91
12-10	1.2″	Yellow	10	7227K86	9.28
(D) Nylon-Insulated Moisture-Resistant					
22-18	1″	Red	10	7227K91	7.59
16-14	1.1″	Blue	10	7227K92	9.41
12-10	1.2″	Yellow	10	7227K73	11.05
(E) Nylon-Insulated Sealed					
22-18	1.1″	Red	10	7227K41	9.72
16-14	1″	Blue	10	7227K46	10.12
12-10	1.2″	Yellow	10	7227K47	12.32
(F) Heat-Shrink-Insulated Sealed					
22-18	1.6″	Red	10	7227K62	9.02
16-14	1.6″	Blue	10	7227K63	8.73
12-10	1.8″	Yellow	10	7227K64	11.78
8	2.1″	Red	5	7227K65	9.38
(G) Noninsulated					
22-18	0.6″	_____	100	7227K32	9.11
16-14	0.6″	_____	100	7227K33	9.71
12-10	0.6″	_____	100	7227K34	14.37
8	0.8″	_____	10	7227K35	6.07
6	1″	_____	10	7227K36	10.23
4	1.1″	_____	10	7227K77	14.70

★ Rated to 300 volts.

Butt Splices with Inspection Window



Visually confirm your connection—all of these tin-plated copper splices have a window.

Nylon-insulated splices are rated to 300 volts and 221°F. Meet MIL-T-7928/5.

Heat-shrink-insulated splices have adhesive-lined polyolefin insulation that shrinks when heated to form a watertight seal. Rated to 600 volts and 257°F. Minimum shrink temperature is 194°F.

For Wire Size, AWG	Lg.	Insulation Color	Pkg. Qty.		Pkg.
Nylon Insulated					
22-18	1.3″	Red	25	7949K31	$13.60
16-14	1.3″	Blue	25	7949K32	14.80
12-10	1.6″	Yellow	10	7949K33	7.73
Heat-Shrink Insulated					
22-18	1.5″	Clear with Red Stripe	10	7949K41	9.16
16-14	1.5″	Clear with Blue Stripe	10	7949K42	10.44
12-10	1.6″	Clear with Yellow Stripe	10	7949K43	12.93

High-Temperature Butt Splices



Designed for use with stranded copper wire and rated to 900°F, these crimp-on splices are suitable for high-heat applications such as ovens, motors, and light fixtures. Made of noninsulated nickel-plated steel.

For Wire Size, AWG	Lg.	Pkg. of 100	
22-18	0.6″	7971K41	$8.65
16-14	0.6″	7971K42	8.75
12-10	0.6″	7971K43	13.35

Sure-Connect Sealed Butt Splices

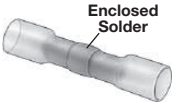

Crimp these butt splices and use a heat gun to melt the heat-shrink insulation and the enclosed solder—the result is the most secure, electrically conductive, and environmentally sealed connection we offer. All are tin-plated copper with polyolefin insulation. Rated to 600 volts and 221°F. Minimum shrink temperature is 275°F.

For Wire Size, AWG	Lg.	Insulation Color	Pkg. of 10	
24-22	1.1″	Clear	9895K11	$11.76
22-18	1.6″	Red	9895K13	10.00
16-14	1.6″	Blue	9895K15	10.45
12-10	1.6″	Yellow	9895K17	12.33

Multi-Wire Heat-Shrink Butt Splices



Connect a single wire to two wires of the same size. Crimp one wire into the small end of the splice and two into the large end. Use a heat gun to melt the heat-shrink polyolefin insulation; the adhesive lining forms a seal against moisture and corrosion. Insulation is clear and has color-coded dashes on each end to indicate which crimp die to use. An inspection window allows you to check the connection. Splices are made of tin-plated copper and are for use with stranded copper wire. All are rated to 600 volts and 221°F. Minimum shrink temperature is 250°F.

For Wire Size, AWG	Lg.	Dash Color	Pkg. Qty.		Pkg.
24-22	1.8″	White and Red	10	7617K11	$8.27
22-18	2.1″	Red and Blue	10	7617K12	9.24
16-14	2.4″	Blue and Yellow	5	7617K13	7.37
12-10	2.6″	Yellow and Red	5	7617K14	9.30

Reducing Butt Splices



One end of the splice is larger than the other, so you can connect two wires of different sizes. Splices crimp onto wire and have a color-coded stripe on the end for the smaller AWG size. Made of tin-plated copper.

Insulated splices are rated to 600 volts and 221°F. The insulation is color coded according to the larger AWG size. *Heat-shrink-insulated* splices have a nylon sleeve with adhesive-lined insulation that shrinks when heated to form a seal against moisture and corrosion. Minimum shrink temperature is 194°F.

Noninsulated are rated to 300°F. UL listed and CSA certified.

For Wire Size, AWG	Lg.	Color: Insulation	Color: Stripe	Pkg. Qty.		Pkg.
Vinyl Insulated						
16-14 to 22-18	1.1″	Blue	Red	10	7934K15	$7.79
12-10 to 16-14	1.3″	Yellow	Blue	10	7934K16	8.71
8 to 12-10	1.5″	Red	Yellow	10	7934K17	10.56
6 to 8	1.8″	Blue	Red	5	7934K18	11.77
Heat-Shrink Insulated						
16-14 to 22-18	1.6″	Blue	Red	10	7934K13	12.37
12-10 to 16-14	1.8″	Yellow	Blue	5	7934K14	8.47
Noninsulated						
16-14 to 22-18	0.7″	_____	Red	10	7934K1	5.23
12-10 to 16-14	0.8″	_____	Blue	10	7934K2	6.67
8 to 12-10	0.9″	_____	Yellow	10	7934K3	9.67
6 to 8	1.1″	_____	Red	10	7934K4	11.61

For information about wire size (AWG), see page 834.

Underground Heat-Shrink Butt Splices

Make watertight, abrasion-resistant connections underground. Each butt-splice connector comes with heavy-wall polyolefin heat-shrink tubing that fits over the connector. Splices have a set screw and work with both stranded and solid wire. They can withstand burial in rocky soil. Minimum shrink temperature is 248° F. Rated to 600 volts and 194° F. UL listed.

Splice for wire is for use with copper and aluminum wire. It comes with 2″ and 5″ lengths of tubing.

Splice for UF (underground feeder) cable is for use with UF copper cable. It comes with an 8″ length of tubing.



For UF Cable

For Wire Size, AWG	No. of Wires		
For Wire			
8-2	1	7924K12	$13.17
For UF (Underground Feeder) Cable			
14-8	4 (1 ground)	7924K11	16.57

3-Way and 4-Way Splices

Connect three or four wires with a single splice. All of these crimp-on splices are made of insulated tin-plated copper. Rated to 600 volts and 221° F.

Nylon-insulated splices are more durable than vinyl insulated.

Heat-shrink-insulated splices have adhesive-lined nylon-like polymer insulation that shrinks when heated to form a seal against moisture and corrosion. Minimum shrink temperature is 194° F.



Vinyl- and Nylon-Insulated 3-Way Splice

For Wire Size, AWG	Insulation Color	Pkg. Qty.	3-Way Splices	Pkg.	4-Way Splices	Pkg.
Vinyl Insulated						
22-18	Red	10	69885K62	$10.00	69885K72	$10.93
16-14	Blue	10	69885K64	11.10	69885K74	11.90
12-10	Yellow	10	69885K66	11.10	69885K76	13.79
Nylon Insulated						
22-18	Red	10	69885K63	11.79	69885K73	13.24
16-14	Blue	10	69885K65	11.90	69885K68	13.88
12-10	Yellow	5	69885K67	6.15	69885K71	7.61
Heat-Shrink Insulated						
22-18	Red	5	69885K79	12.07		
16-14	Blue	5	69885K77	12.79		
12-10	Yellow	5	69885K78	12.00		

No-Crimp Butt Splices



Push-On



Twist-On

Because no crimping tools are required, these splices are a convenient way to make connections in the field. All are rated to 600 volts. UL listed, except weather-resistant splices.

Push-On for Solid Wire—This is the fastest way to connect; push stripped wire into each end of the splice. Made of polycarbonate with tin-plated copper contacts. Rated to 221° F. CSA certified.

Twist-On for Stranded Wire—These splices are a good choice for high-vibration applications. Insert wires and tighten the threaded end caps on the splice to lock them into place. Splices are made of nylon with a tin-plated brass insert. Rated to 248° F. *Weather-resistant* splices have insulation and sealed threads.

For Wire Size, AWG	Lg.	Color	Pkg. Qty.		Pkg.
Push-On for Solid Wire					
20-12	1″	Orange	10	7829K21	$3.50
Twist-On for Stranded Wire					
24-18	1.1″	Red	9	7829K1	10.22
16-14	1.1″	Blue	9	7829K12	10.22
12-10	1.5″	Yellow	7	7829K13	10.22
8-6	1.7″	Green	6	7829K14	10.22
Weather-Resistant Twist-On for Stranded Wire					
18	1.1″	Red	4	7829K18	10.22
16-14	1.5″	Blue	4	7829K15	10.22
12	1.5″	Yellow	4	7829K16	10.22
10	1.7″	Green	4	7829K17	10.22

Terminal and Butt-Splice Assortments

We've grouped the most common sizes of terminals and connectors and included a crimping tool. Terminals and connectors are UL listed, unless otherwise stated.

Vinyl-insulated terminals are rated to 600 volts and 221° F, unless otherwise stated.

Heat-shrink-insulated terminals have a polyolefin sleeve that shrinks when heated after crimping to form an environmental seal against moisture and corrosion. Rated to 600 volts and 221° F. Min. shrink temperature is 266° F.

Noninsulated terminals are rated to 300° F.



Vinyl-Insulated Assortments

120-Piece—Includes ring terminals (16-10 AWG), spade terminals (22-14 AWG), male and female quick-disconnect terminals (16-14 AWG), butt splices (22-10 AWG), and a plastic case. CSA certified.

7121K13 ..... $59.88

490-Piece—Includes ring terminals (22-10 AWG), spade terminals (22-10 AWG), male and female quick-disconnect terminals (16-14 AWG), butt splices (22-10 AWG), crimp-on wire connectors (22-10 AWG; 22-14 AWG is rated to 300 volts), insulation-piercing wire taps (16-14 AWG), and a metal case.

7123K1 ..... $133.65

Heat-Shrink-Insulated Assortments

50-Piece Butt Splice—Includes butt splices in sizes 22-18 AWG, 16-14 AWG, and 12-10 AWG. Comes in a plastic case. The crimping tool is ratcheted to ensure the correct pressure is applied to every crimp.

69185K33 ..... $77.55

80-Piece—Includes ring terminals (22-10 AWG), spade terminals (16-14 AWG), male and female quick-disconnect terminals (16-14 AWG; not UL listed), butt splices (22-10 AWG), and a plastic case.

69185K53 ..... $54.44

Noninsulated Assortments

240-Piece—Includes ring terminals (16-10 AWG), spade terminals (22-14 AWG), male and female quick-disconnect terminals (16-14 AWG), butt splices (22-10 AWG), and a plastic case. CSA certified.

7121K11 ..... $60.71

900-Piece—Includes ring terminals (22-10 AWG), spade terminals (22-10 AWG), male and female quick-disconnect terminals (16-14 AWG), butt splices (22-10 AWG), and a metal case.

7123K2 ..... $139.00

Terminals Connected to Wire



Female Quick-Disconnect Terminal on One End



Ring Terminal on Both Ends

Save preparation time—the terminals are already connected to single-conductor wire. Wire is made of stranded copper with PVC insulation. Rated to 300 volts. UL listed and CSA certified.

Quick-disconnect terminals are made of nylon-insulated tin-plated brass. Tab size is 0.250″ Wd. × 0.032″ Thick.

Ring terminals and **flanged spade** terminals are tin-plated copper with vinyl-insulated barrels. They accept #10 (0.19″) stud size. Width is 0.31″ for ring terminals; 0.35″ for flanged spade terminals.

22, *18*, and *16 AWG* wires meet UL 1007/UL 1569 (221° F max.). *14 AWG* wire meets UL 1569 (221° F max.).

To Order: Please specify wire gauge (22 AWG, 18 AWG, 16 AWG, or 14 AWG, unless noted) and wire color (black, green, red, or white).

	Pkg. Qty.		Pkg. 6″ Lg.	Pkg. 12″ Lg.	Pkg. 24″ Lg.
Terminal on One End, ¼″-Stripped Wire on the Other End					
Female Quick-Disconnect	10	7548K3	$10.25	$11.47	$13.25
Male Quick-Disconnect	10	7548K4	10.40	11.03	13.45
Ring	10	7548K1	11.50	13.12	13.38
Flanged Spade	10	7548K2★	10.15	10.87	13.25
Terminal on Both Ends					
Female Quick-Disconnect	10	7548K7	11.62	13.82	16.27
Male Quick-Disconnect	10■	7548K8	13.11	13.51	12.72
Ring	10	7548K5	15.28	15.81	16.00
Flanged Spade	10	7548K6★	13.85	14.31	15.49

★ Available only in 16 and 14 AWG. ■ Package quantity is 5 for 24″ Lg.

Wire Taps & Connectors

For information about wire size (AWG), see page 834.

Insulation-Piercing Wire Taps



Standard, Flame Retardant, and Moisture Resistant (7063K32)



Moisture Resistant (7063K31)

Connection Types

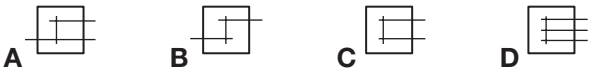

Connect a tap wire to a through (main) wire and insulate the connection without stripping. To install, squeeze the tap with standard pliers—a built-in U-shaped metal contact penetrates the insulation and grips the wire. Rated to 600 volts and 221°F, except 7063K32 is rated to 194°F.

Standard taps are UL listed.

Flame-retardant taps are UL listed V2 for flame retardance. CSA certified.

Moisture-resistant taps are filled with gel that seals out moisture. UL listed and CSA certified.

For Wire Size, AWG Stranded	Solid	Connection Type	Color	Pkg. Qty.		Pkg.
Standard						
22-18	18	A, B, C	Red	50	7063K33	$7.57
18-14	16	A, B, C	Blue	50	7063K34	7.57
12-10	—	A, B, C	Yellow	50	7063K26	10.64
Flame Retardant						
22-16	22-16	A	Red	25	7063K25	8.93
18-10★	18-10★	A	Brown	25	7063K17	13.86
Moisture Resistant						
22-14	22-14	C, D	Blue	10	7063K31	11.09
18-14	18-16	A	Blue	25	7063K32	14.40

★ 12-10 AWG for main; 18-14 AWG for tap.

Quick-Disconnect T-Taps



Tap into a wire without cutting or stripping; crimping is all that's required. Taps connect to wires with male quick-disconnect terminals that have a 0.250″ Wd.×0.032″ Thick. tab. Made of tin-plated brass with nylon insulation. Rated to 600 volts and 221°F. UL listed and CSA certified.

For Wire Size, AWG	Color		Pkg. of 25
22-18	Red	69515K23	$9.08
18-14	Blue	69515K24	9.08
12	Yellow	69515K25	9.70

Snap Plugs and Parallel Taps



Snap Plug



Parallel Tap

Combine a snap plug and a parallel tap to access wire by crimping—no cutting or splicing necessary. Plug and tap each have a tin-plated copper terminal.

Snap plug allows you to rapidly connect and disconnect a wire. Plug is male and has blue nylon insulation. Plug dia. is 0.16″. Overall length is 0.93″.

Parallel tap is rated to 32 volts and 194°F. It has a black polypropylene housing.

	For Wire Size, AWG		Pkg. of 10
Snap Plug	16-14	9675K2	$4.24
Parallel Tap	18-14	9675K1	4.35

Twist-On Wire Connectors



Standard and High Temperature



High Temperature with Set Screw



Ultra High Temperature



Watertight

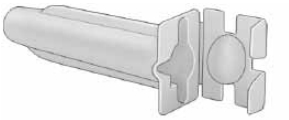



Underground

Twist connectors to obtain a quick, secure wire connection without crimping. Rated to 600 volts, unless noted. UL listed and CSA certified, unless noted.

Standard connectors are rated to 221°F.

High-temperature connectors are similar to standard connectors, but they are rated to 302°F. They are excellent for high-wattage applications, such as HID lighting and electric heat.

High-temperature connectors with set screw have an inner barrel with a set screw that firmly holds wires; the connector twists into the barrel. Use for a secure grip in high-vibration applications. Rated to 302°F.

Ultra high-temperature connectors are made of porcelain to withstand temperatures up to 1200°F.

Watertight connectors are filled with silicone to seal out moisture and prevent corrosion. They are suitable for underground use. Rated to 221°F.

Underground connector consists of a twist-on wire connector and a plastic insulator tube filled with grease. The tube protects your connection from abrasion and the grease creates a moisture-resistant seal. Use for irrigation and sprinkler systems, outdoor lighting, and other underground wiring applications. Rated to 120°F.

No. of Wires (AWG Wire Size) Minimum	Maximum	Color	Pkg. Qty.		Pkg.
Standard					
2 (#22 Stranded)	2 (#16)	Gray	100	7108K51■	$6.83
2 (#22)	3 (#16)	Blue	100	7108K81■	7.71
1 (#18) & 1 (#20)	4 (#16) & 1 (#20)	Orange	100	7108K2	8.92
2 (#18)	4 (#14) & 1 (#18)	Yellow	100	7108K6	10.22
2 (#14)	2 (#10) & 2 (#12)	Red	100	7108K7	15.25
High Temperature					
1 (#18) & 1 (#20)	4 (#16) & 1 (#20)	Black	100	6877K7	10.15
2 (#20)	3 (#14)	Black	100	6877K8	12.86
High Temperature with Set Screw					
1 (#14) & 1 (#20)	3 (#14) & 2 (#18)	Black	10	6878K95	8.77
1 (#16) & 3 (#18)	2 (#10) & 1 (#12)	Black	10	6878K97	10.73
Ultra High Temperature					
2 (#18)	2 (#16) & 1 (#18)	White	10	8206T2■	8.30
2 (#18)	2 (#16) & 2 (#18)	White	10	8206T3■	11.20
2 (#18)	4 (#16)	White	10	8206T4■	11.80
Watertight					
5 (#22)	1 (#12)	Gray	20	70615K71	13.45
3 (#20)	3 (#12)	Dark Blue	20	70615K79▲	13.45
4 (#18)	3 (#10)	Yellow	10	70615K64	10.43
2 (#14)	2 (#10) & 2 (#14)	Red	10	70615K65	11.43
3 (#14) & 1 (#22)	1 (#8)	Light Blue	2	70615K11	4.15
4 (#14)	1 (#6) & 1 (#8)	Dark Blue	2	70615K67	4.12
Underground					
2 (#18)	3 (#10)	Red/Yellow	2	6879K88▲	5.26

■ Rated to 300 volts. ▲ Not CSA certified.

Twist-On Wire Connector Installation Tools



Installation Tool/ Screwdriver (Shown with Wire Connector)



Power Drive Installation Tool

Reduce excessive wrist twisting and sore fingers. These tools let you securely install wire connectors without having to twist wires.

Installation tool/screwdriver provides leverage and comfort when twisting connectors. The handle fits most twist-on connectors and includes a screwdriver with two double-ended bits. Each bit has a slotted blade and a Phillips blade.

Power drive installation tool attaches to your power drill or screwdriver for fast, easy installation.

Installation Tool/Screwdriver	8859T4	$14.21
Power Drive Installation Tool for Blue, Orange, Yellow, and Red Connectors	8859T2	12.17
Power Drive Installation Tool for Large Blue and Gray Connectors	8859T3	13.87

Twist-On Wire Connectors with Wings

Grip the wings on these connectors to increase leverage when tightening. Rated to 600 volts and 221°F, except grounding and space-saver grounding connectors are not rated for voltage. UL listed and CSA certified.

Wide-range connectors cover more wire sizes than other connectors, yet they still fit into cramped outlet boxes. The rigid plastic top and flexible bottom skirt protect the connection and allow it to conform to tight spaces. CE marked.

Space-saver connectors have a narrow profile that takes up less space than standard connectors with wings.

Finger-friendly connectors have soft molding over the wings to provide a comfortable grip.

Grounding and **space-saver grounding** connectors have a hole in the top that allows a single grounding wire through while multiple ground wires remain connected inside the connector.



No. of Wires (AWG Wire Size) Minimum	Maximum	Color	Pkg. Qty.		Pkg.
Standard					
2 (#18)	3 (#12)	Yellow	100	7062K32	$13.12
3 (#22)	3 (#10)	Tan	100	7062K21	14.80
2 (#18)	4 (#10)	Red	100	7062K34	14.80
3 (#12)	2 (#6) & 1 (#12)	Blue	25	7062K36	12.30
Wide Range					
2 (#22)	2 (#12)	Orange/Blue	25	6903K41	4.61
2 (#18)	2 (#8)	Red/Yellow	25	6903K42	6.43
4 (#14)	2 (#6)	Blue/Gray	25	6903K43	15.61
Space Saver					
2 (#18)	3 (#12)	Yellow	100	7906K51	12.56
2 (#18)	2 (#10) & 1 (#12)	Red	100	7906K53	13.84
3 (#12)	2 (#6)	Blue	50	7906K45	11.90
Finger Friendly					
2 (#18)	4 (#10)	Red/Yellow	50	8337T3	12.56
2 (#18)	4 (#10)	Red/Yellow	250	8337T5	54.04
Grounding					
2 (#14)	5 (#12)	Green	50	69495K68	7.73
Space-Saver Grounding					
2 (#14)	5 (#12)	Green	50	7906K43	7.87

Wire Connector and Tap Assortments

A compartmented plastic case holds 75 twist-on wire connectors for wire sizes 22-8 AWG (orange, yellow, and red) and 25 insulation-piercing wire taps for wire sizes 16-10 AWG for the main connection and wire sizes 18-10 AWG for the tap connection. Use with stranded and solid wire. Rated to 300 volts and 221°F. UL listed.



7064K22 ..... $29.63

Push-On Wire Connectors

Push connectors onto stripped wires for a reliable connection that's faster to install than twisting or crimping. All have individual ports for each wire and a clear polycarbonate housing so you can inspect the connection. Rated to 600 volts and 221°F. UL listed and CSA certified. Green color is for grounding applications. Connectors can be mounted to 35 mm DIN rail using an adapter (sold separately).


Four Wire


DIN-Rail Mount Adapter with Four Four-Wire Connectors

No. of Wires	For Wire Size, AWG Stranded	Solid	Color	Pkg. Qty.		Pkg.
2	16-12	18-12	Yellow	100	9915K11	$10.94
2	16-12	18-12	Green	100	9915K19	10.62
3	14-10	14-10	Red	50	9915K14	15.21
4	16-12	18-12	Orange	100	9915K13	11.88
4	16-12	18-12	Green	100	9915K21	11.88
6	16-12	18-12	Black	50	9915K15	9.28
6	16-12	18-12	Green	50	9915K23	9.28
8	16-12	18-12	Dark Gray	50	9915K17	11.12
DIN-Rail Mount Adapters (Pkg. of 10)					9915K32	5.53

Crimp-On Wire Connectors

Twist stripped wires together, insert them into the connector, and then crimp for a dependable connection. For use with stranded and solid wire, unless noted.

Insulated connectors have a translucent nylon sleeve around a copper insert. Rated to 600 volts and 221°F, unless noted. UL listed and CSA certified.

Noninsulated connectors are made of tin-plated copper.


Insulated


Noninsulated

No. of Wires (AWG Wire Size) Minimum	Maximum		Pkg. of 50
Insulated			
3 (#20) & 1 (#22)	1 (#16) & 1 (#18)	7242K111★	$6.53
3 (#20) & 1 (#22)	1 (#14) & 1 (#16)	7242K64	5.35
1 (#16) & 1 (#18)	1 (#12) & 1 (#16)	7242K21	6.32
4 (#16) & 1 (#18)	1 (#8) & 1 (#14)	7242K65■	13.19
Noninsulated			
3 (#20) & 1 (#22)	1 (#16) & 1 (#18)	7242K61	4.82
3 (#20) & 1 (#22)	1 (#14) & 1 (#16)	7242K62	5.13
1 (#16) & 1 (#18)	1 (#12) & 1 (#16)	7242K63	5.46
4 (#16) & 1 (#18)	1 (#8) & 1 (#14)	7242K58■	8.45

★Rated to 300 volts. ■For use with stranded wire.

Reusable Lever-Clamp Wire Connectors

Lower the levers to connect wire and raise them to disconnect. The lever clamps are convenient for applications where temporary disconnection is required, such as motor maintenance. Connectors have a gray polycarbonate housing and orange levers. Rated to 600 volts and 185°F. UL listed.


Three Wire

No. of Wires	For Wire Size, AWG		Pkg. of 5
3	28-12	8904T2	$4.33
5	28-12	8904T3	5.42

Rotating Connector Rings

Maintain an electrical link between a moving part and a stationary part. These rings, also known as slip rings, are typically used on rotating jib cranes, rotating signs, and test equipment.

Rings have 35-amp, 600-volt AC copper alloy contacts with moisture-resistant insulators and copper graphite brushes. All have 24″ long 10 AWG wire leads. Rings rotate in either direction and mount in any position. Housing is steel and has a 9¾″ dia. mounting plate with four ¼″ dia. holes on 9¼″ centers (bolts not included).



No. of Poles	Dia.	Ht.		
2	10¼″	8¾″	7519K42	$608.39
3	10¼″	10⅛″	7519K43	658.09
4	10¼″	10⅛″	7519K44	689.11
5	10¼″	10⅛″	7519K45	764.66

Multipurpose Wire Strippers

Among its wide variety of functions, this tool strips and cuts 20-10 AWG stranded and solid copper wire. It also has a plier nose for pulling and looping wire, two slotted screwdrivers, a Phillips screwdriver, a wire bender, inch and metric rulers, a metal file, a wood file, a serrated knife, and a can/bottle opener. Made of stainless steel. Closed length is 4″. Includes a nylon pouch with belt loop.



7893K5 ..... $55.89

Wire Strippers

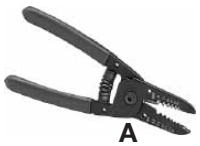
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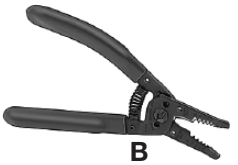
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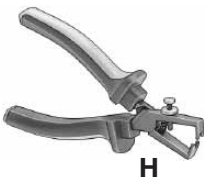
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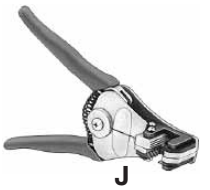
J


K

(A&B) Plier Nose—The elongated nose is useful for pulling and looping wire. Made of steel. *Style A* strippers have wire cutters. *Style B* strippers have wire and bolt cutters.

(C) Plier Nose with Built-In Voltage Detector—The handle flashes and beeps when it detects a live circuit (batteries are included). Stripper is made of stainless steel and has a bolt cutter. UL listed.

(D&E) Compact—These tools are small enough to fit in your pocket. Made of steel.

(F) Precise-Length Compact—Strippers are small to fit in your pocket and have a slide adjustment to set the strip length up to a maximum of 2.25″. Wire loads from the front for use in tight spaces. All are made of plastic and have an AWG-to-mm conversion table printed on the side. The *ESD-safe* stripper is for areas where static-free conditions are required.

(G&H) High Voltage—Handles are insulated to provide protection up to 1,000 volts. Made of steel. *Style G* has a plier nose for pulling and looping wire. *Style H* loads wire from the front for use in tight spaces. Maximum strip length is 1″.

(J&K) Squeeze and Strip—Squeeze the handle and release it; the blades strip the insulation and pull it off the wire. *Replacement blades* include both the upper and lower blades.

Style J strippers are made of zinc and have a maximum strip length of 0.88″.

Style K stripper has blades that automatically adjust to the wire size. It also has wire cutters and an adjustable stop to set the strip length. Wire loads from the front for use in tight spaces. Stripper strips multiple wires at the same time. It's made of reinforced plastic and has a maximum strip length of 0.71″.

Style J wire stripper kit includes a Style J stripper and a pair of each of the following blades: 30-20 AWG, 22-10 AWG, RG-59, and RG-58.

	For AWG Wire Sizes				
	Solid	Stranded	Lg.		
Plier Nose					
A	30-22	____	6″	**7294K59**	$12.66
A	30-22	32-24	6¼″	**7294K15**	16.85
A	24-14	26-16	6¼″	**7294K14**	14.28
A	20-10	____	6″	**7294K57**	10.87
A	14-12 Romex Cable	____	7¾″	**7294K62**	16.01
A	____	26-16	6″	**7294K58**	12.01
A	____	16-8	6″	**7294K56**	10.89
B	30-20	32-22	7¼″	**7294K22**	19.16
B	18-10	20-12	7¼″	**7294K21**	18.90
B	16-8	18-10	7″	**7294K16**	21.23
B	14-8	16-8	7″	**7294K17**	21.23
Plier Nose with Built-in Voltage Detector					
C	18-10	20-12	7″	**8802T21**	28.09
Compact					
D	20-10	20-10	5″	**7660K11**	9.92
E	26-12	26-12	5″	**7660K14**	7.18
Compact with Spring-Return Handle					
D	20-10	20-10	5″	**7660K12**	$11.31
Precise-Length Compact					
F	36-26	36-26	4½″	**7897K13**	43.87
F	30-20	30-20	4½″	**7897K11**	43.87
Precise-Length Compact—ESD Safe					
F	30-20	30-20	4½″	**7897K12**	57.30
High Voltage					
G	20-10	22-12	7⅝″	**71495K88**	48.69
H	22-10	22-10	6″	**71495K85**	56.56
Squeeze and Strip					
J	26-16	26-16	7½″	**7292K44**	31.39
J	22-10	22-10	7½″	**7292K42**	33.90
J	12-8	12-8	7½″	**7292K46**	34.06
Multiwire Squeeze and Strip					
K	34-8	34-8	7½″	**7221K24**	66.73
Style J Wire Stripper Kit				**7292K66**	60.69
Replacement Blades for Style J (7292K44)				**7292K554**	13.62
Replacement Blades for Style J (7292K42)				**7292K552**	13.62
Replacement Blades for Style J (7292K46)				**7292K556**	16.69
Replacement Blades for Style K				**7221K25**	20.27

Insulation-Melting Wire Strippers



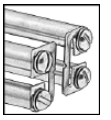
Replacement Tips

Melt off wire insulation to achieve the cleanest possible strip while eliminating the risk of nicking the wire. A press of the button heats the tip to selected temperatures up to 1700°F in two seconds. Use the heated tip to melt PTFE, Kynar, nylon, vinyl, and neoprene insulation from solid, stranded, and shielded wire. Pull off the melted insulation sleeve to complete the strip. Maximum strip length is 1½″.

Stripper has a plastic housing and a temperature controller. It comes with tips for 25-10 AWG; tips for 38-26 AWG are sold separately. Use as a hand tool or mount in the included metal bench-top stand. Overall length is 8″. Operates on 120 volts AC and has a 6-ft. cord with three-prong plug. UL listed.

Stripper	**69165K81**	$455.79
Replacement Tips for 25-10 AWG (Pair)	**69165K93**	13.18
Tips for 38-26 AWG (Pair)	**69165K94**	13.18

Cable Jacket Strippers


Standard


Comfort Grip

Strip the outer jacketing of cable. Handles are plastic with a steel blade.

Standard strippers have a swivel blade that allows you to make end and center strips on PVC, rubber, and nylon jacketing up to ⅛″ thick. Use on solid and stranded wire.

Comfort-grip stripper has a handle designed to protect your knuckles from scrapes. The blade strips plastic and fabric jacketing up to 3⁄32″ thick. Use on solid and stranded wire. Includes two extra blades.

	Strippers			Replacement Blades		
For Cable OD	Lg.		Each	Pkg. Qty.		Pkg.
Standard						
¼″-3⁄4″	5¾″	**7312K11**	$26.75	2	**7312K13**	$11.71
3⁄4″-1½″	6⅜″	**7312K12**	34.67	2	**7312K13**	11.71
Comfort Grip						
Up to 1″	6″	**7298K11**	67.87	6	**7298K13**	5.03
Replacement Blade Guide for 7298K11					**7298K15**	21.80

For information about wire size (AWG), see page 834.

Multipurpose Wire Strippers/Crimpers

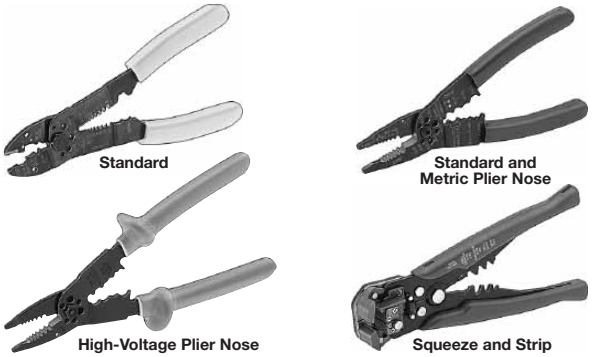

Strip, crimp, and cut wire with one tool. Strippers/crimpers also cut bolts, except the squeeze-and-strip tool. Made of steel. **Plier nose** tools are useful for pulling and looping wire.

Standard—Strips 26-10 AWG stranded wire and 22-8 AWG solid wire. Crimps 26-10 AWG insulated terminals and 22-10 AWG noninsulated terminals. Tool has a notch for crimping automotive terminals and holes for looping wire.

Standard Plier Nose—Strips 22-10 AWG stranded and solid wire. Crimps 22-10 AWG insulated and noninsulated terminals and 7 mm and 8 mm automotive noninsulated terminals.

Metric Plier Nose—The tool is marked with metric and AWG sizes. Strips 0.75 mm to 6 mm (22-10 AWG) stranded and solid wire. Crimps 1.5 mm, 2.5 mm, and 6 mm (22-10 AWG) insulated and noninsulated terminals and 7 mm and 8 mm automotive noninsulated terminals.

High-Voltage Plier Nose—Handles are insulated to provide protection up to 1,000 volts. Strips 22-10 AWG stranded and solid wire. Crimps 16-10 AWG insulated terminals, 22-18 AWG noninsulated terminals, and 7 mm and 8 mm noninsulated terminals.

Squeeze and Strip—Squeeze the handle and release it; the blades strip the insulation and pull it off the wire. They automatically adjust to the wire size. This tool strips 24-10 AWG stranded and solid wire and crimps 16-10 AWG insulated and noninsulated terminals. Maximum strip length is 3/4″.

	Lg.		
Standard	8 1/2″	7007K92	$15.23
Standard Plier Nose	8 1/4″	69275K84	17.17
Metric Plier Nose	8 1/4″	69275K86	26.42
High-Voltage Plier Nose	9″	6908K87	48.69
Squeeze and Strip	7 1/2″	8372K11	32.42

Plier Crimpers

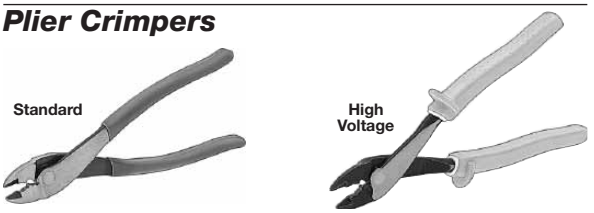

They appear ordinary, but these pliers have a built-in crimping die for insulated and noninsulated terminals and splices from 22-10 AWG. Nose has a wire cutter. Made of steel. **High-voltage** crimper has an insulated handle that provides protection up to 1,000 volts.

	Lg.		
Standard	9 1/2″	7289K1	$28.69
High Voltage	10 1/2″	7289K2	65.27

Contact Insertion and Extraction Tools



Insert and remove round pin or socket contacts in electrical connectors. Tools are made of stainless steel and have aluminum handles. **Insertion** tools are 5.3″ long. **Extraction** tools are 6″ long.

Tool kits contain each of the three tools (insertion or extraction) in a leather zipper case.

Contact Size, AWG	Contact Dia.	Handle Color	Insertion Tools		Extraction Tools	
20	0.040″	Red	7867K21	$43.55	7867K31	$51.82
16	0.063″	Blue	7867K22	43.55	7867K32	56.27
12	0.093″	Yellow	7867K23	43.55	7867K33	51.82
Tool Kits			7867K41	139.91	7867K42	169.27

Squeeze-and-Strip Flat Cable Strippers



Feed cable through the front of the stripper and squeeze the handle. When you release the handle, the blades strip the cable in the middle or at the end and pull off both the outer sheathing and the inner insulation without nicking the wire. Blades are steel and automatically adjust for cable size. Use to strip flat cable up to 15/32″ wide with 18-10 AWG stranded or solid conductors. It's often used with Romex, telephone wire, and ribbon cables. Body is plastic. Length is 5 1/4″.

8079K11 ..... $73.59

Ratchet Crimpers

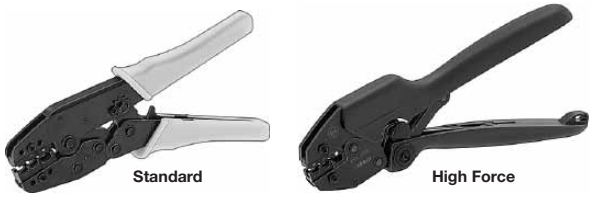

A built-in ratchet applies the correct pressure to ensure a complete crimp every time. Crimpers are made of steel. **Standard** crimpers require a screwdriver to change dies. Length is 9″. **High-force crimper** gives you one ton of crimping force and has an ergonomic design to reduce fatigue. Use a Torx driver to change dies. Length is 10″.

For Connector Type	For Wire Size, AWG	Crimpers		Repl. Die Sets	
Standard for Ring Terminals, Spade Terminals, and Splices					
Insulated	22-10	69555K62	$61.45	69555K77	$25.00
Noninsulated	20-8	69555K63	61.45	69555K76	25.00
Standard for Quick-Disconnect Terminals					
Insulated	22-10	69555K66	61.45	69555K75	25.00
Standard for Pin-and-Socket Connectors					
Open Barrel	20-10	69555K65	61.45	69555K74	25.00
High Force for Ring Terminals, Spade Terminals, and Splices					
Insulated	22-10	69555K64	163.05	69555K78	71.64

Quick-Change Ratchet Crimpers

Dies snap in and out of this ratcheting tool, so you can quickly change from one terminal type to another.

Crimper is plastic-covered steel. Length is 9 1/4″.

Dies are one piece and are marked with a drawing of the terminal style for easy identification.

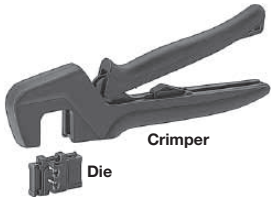

Crimper—Dies sold separately

8568T1 ..... $62.20

Dies

For Connector Type	For Wire Size, AWG		
For Ring Terminals, Spade Terminals, and Splices			
Insulated	26-22, 12-10	8568T12	$51.60
Insulated	22-14	8568T13	51.60
Noninsulated	22-10	8568T11	44.30
For Ferrules			
Insulated and Noninsulated	24-8	8568T14	44.30
Insulated and Noninsulated	6-4	8568T15	44.30
Insulated and Noninsulated	2-1/0	8568T16	44.30
For Quick-Disconnect Terminals			
Noninsulated with 0.110″ Tab	26-18	8568T18	65.00
Noninsulated with 0.187″ Tab	22-14	8568T19	65.00
Noninsulated with 0.250″ Tab	22-10	8568T17	65.00
For Plugs			
RJ-45	____	8568T21	44.30

Pin-and-Socket Connector Crimpers

Crimp open- and closed-barrel terminals used in connectors. This tool also crimps flag terminals and cuts bolts. For use with 22-10 AWG insulated and noninsulated wire. Made of steel. Length is 8 1/2″.



7179K41 ..... $44.33

About Compression Connectors and Crimpers

Use compression connectors and crimpers to achieve an extra-tight connection when you're working with wire sizes 8 AWG and larger. The tables below list lug markings from two common manufacturers. You can use them to identify your lug or choose the correct die for the hydraulic compression crimpers on this page.

Copper Wire Size (AWG)	Color Code	Lug Markings T&B	Lug Markings Burndy
8	Red	21	6
6	Blue	24	7
4	Gray	29	8
2	Brown	33	10
1	Green	37	11
1/0	Pink	42	12
2/0	Black	45	13
3/0	Orange	50	14
4/0	Purple	54	15
250 MCM	Yellow	62	16
300 MCM	White	66H or 66	17
350 MCM	Red	71H or 71	18
400 MCM	Blue	76H or 76	19
500 MCM	Brown	87	20
600 MCM	Green	94H or 94	22
750 MCM	Black	106H or 106	24

Compression Lugs



Standard Barrel One Hole



Standard Barrel Two Holes



Long Barrel Two Holes

Intended for use with compression crimpers, these lugs mount to a stud and are made of seamless tin-plated copper or aluminum tubing. Rated to 600 volts and 194° F. UL listed and CSA certified, unless noted.

Copper lugs are for use with stranded copper wire. Lugs are color coded by wire size (see About Compression Connectors and Crimpers above for colors). *Long-barrel* lugs accept more than one crimp for a connection that's suitable for high-vibration applications.

Aluminum lugs can be used with stranded aluminum and copper wire.

For Wire Size, AWG	For Stud Size	One Hole Lg.			Two Holes Lg.	Ctr.-to-Ctr.		
Copper Standard Barrel								
8	#10★	1 1/8"	6926K73	$1.84	1 3/4"	5/8"	6926K211	$4.04
8	1/4"	1 1/4"	6926K74	1.84	2 1/8"	5/8"	6926K13	3.65
8	3/8"	1 3/8"	6926K36	1.91	2 5/8"	1"	6926K38	3.82
6	1/4"	1 3/4"	6926K75	1.86	2 1/4"	5/8"	6926K212	4.55
6	3/8"	1 7/8"	6926K37	1.99	2 3/8"	3/4"	6926K39	4.26
4	1/4"	1 3/4"	6926K51	2.71	2 1/4"	5/8"	6926K213	5.20
4	5/16"	1 3/4"	6926K76	2.52	2 5/8"	1"	6926K52	7.93
4	3/8"	1 3/4"	6926K53	2.73	2 5/8"	1"	6926K59	7.66
2	1/4"	1 3/4"	6926K54	4.54	2 3/8"	5/8"	6926K214	5.96
2	3/8"	2"	6926K77	4.54	2 7/8"	7/8"	6926K61	9.15
1	3/8"	2"	6926K78	4.88	2 7/8"	1"	6926K72	8.68
1/0	5/16"	2 1/8"	6926K55	5.12	2 7/8"	7/8"	6926K215	7.89
1/0	3/8"	2 1/8"	6926K79	5.12	3"	1"	6926K41	7.85
2/0	3/8"	2 1/8"	6926K56	5.67	3 1/8"	1"	6926K89	8.03
2/0	1/2"	2 3/8"	6926K81	5.88	4 1/8"	1 3/4"	6926K42	8.04
3/0	3/8"	2 1/4"	6926K57	6.96	3 1/4"	1"	6926K216	10.23
3/0	1/2"	2 1/2"	6926K82	6.96	4 1/4"	1 3/4"	6926K43	9.92
4/0	3/8"	2 3/8"	6926K58	8.04	3 1/4"	1"	6926K217	11.27
4/0	1/2"	2 5/8"	6926K83	8.04	4 3/8"	1 3/4"	6926K44	10.96
250 MCM	1/2"	2 3/4"	6926K84	9.15	4 1/2"	1 3/4"	6926K45	12.12
300 MCM	1/2"	2 3/4"	6926K85	10.92	4 1/2"	1 3/4"	6926K46	23.23
350 MCM	1/2"	2 7/8"	6926K86	11.19	4 5/8"	1 3/4"	6926K47	15.50
400 MCM	5/8"	3 3/8"	6926K87	13.92	4 3/4"	1 3/4"	6926K48■	16.00
500 MCM	5/8"	3 5/8"	6926K88	16.04	5"	1 3/4"	6926K49■	22.58
Copper Long Barrel								
6	1/4"	2 1/8"	6926K11	1.90	2 5/8"	5/8"	6926K96	5.41
4	1/4"	2 1/8"	6926K12	2.78	2 3/4"	5/8"	6926K97	6.69
2	5/16"	2 1/4"	6926K14	5.10	3 1/4"	3/4"	6926K98	6.91
1	5/16"	2 3/8"	6926K15	5.53	3 3/8"	7/8"	6926K99	9.09
1/0	5/16"	2 1/2"	6926K16	5.70	3 3/8"	7/8"	6926K62	8.32
2/0	3/8"	2 3/4"	6926K17	6.70	4 7/8"	1 3/4"	6926K63■	10.11
3/0	1/2"	3 1/8"	6926K18	7.93	4 7/8"	1 3/4"	6926K64	11.33
4/0	1/2"	3 3/8"	6926K19	8.87	5 1/8"	1 3/4"	6926K65	11.26
250 MCM	1/2"	3 3/8"	6926K91	10.32	5 1/8"	1 3/4"	6926K66	12.58
300 MCM	1/2"	3 7/8"	6926K92	12.27	5 5/8"	1 3/4"	6926K67	15.55
350 MCM	1/2"	3 7/8"	6926K93	12.83	5 5/8"	1 3/4"	6926K68	16.53
500 MCM	5/8"	4 1/2"	6926K95	17.31	6"	1 3/4"	6926K71■	23.21
Aluminum Standard Barrel								
8	1/4"	1 5/8"	6896K41▲	4.14	—	—	—	—
6	1/4"	1 7/8"	6896K12	4.62	—	—	—	—
4	5/16"	1 7/8"	6896K13	4.94	—	—	—	—
2	3/8"	2 1/8"	6896K14	5.90	—	—	—	—
1	3/8"	2 1/2"	6896K15	7.18	—	—	—	—
1/0	3/8"	2 1/4"	6896K16	8.18	3 1/2"	1"	6896K3	16.07
2/0	1/2"	2 5/8"	6896K17	10.56	4 5/8"	1 3/4"	6896K31	16.33

★ #10 stud size is 0.19". ■ 1/2" stud size. ▲Not UL listed.

Compression Butt Splices



Standard Barrel

Insert wires into these splices and crimp them using a compression crimper to create connections in electrical distribution systems. Splices are made of seamless tin-plated copper. All have a center stop to make sure wire is inserted to the proper depth. Wire size, color, and crimping die reference number are marked on each splice. Use with stranded copper wire. Rated to 600 volts and 194° F. UL listed and CSA certified. **Long-barrel** splices accept more than one crimp for a connection that's suitable for high-vibration applications.

For Wire Size, AWG	Standard Barrel Lg.			Long Barrel Lg.		
8	1 3/4"	8031K21	$2.43	—	—	—
6	1 3/4"	8031K22	3.69	2 3/8"	8031K51	$4.21
4	1 3/4"	8031K23	4.16	2 3/8"	8031K52	4.74
2	1 7/8"	8031K24	5.21	2 5/8"	8031K53	5.80
1	1 7/8"	8031K25	6.11	2 7/8"	8031K54	6.80
1/0	1 7/8"	8031K26	6.13	2 7/8"	8031K55	7.71
2/0	2"	8031K27	6.70	3 1/8"	8031K56	8.14
3/0	2 1/8"	8031K28	7.63	3 1/8"	8031K57	9.34
4/0	2 1/8"	8031K29	8.30	3 3/8"	8031K58	10.41
250 MCM	2 1/4"	8031K31	10.78	3 3/8"	8031K59	11.14
350 MCM	2 3/8"	8031K33	11.13	4 1/8"	8031K62	14.87

Compression Crimpers



Mechanical Rotating Die

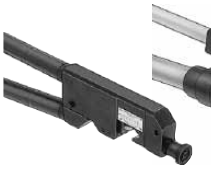

Mechanical Dieless



Hydraulic

Use these tools to crimp compression lugs and splices for secure, reliable connections.

Mechanical Rotating Die—The dies are built-in to the rotating head and a reference chart on the tool shows you which one to use. The ratchet is controlled and won't open until the crimp is complete. Crimper also works with 8-4/0 AWG battery terminals and heavy duty power lugs (you must use comparable battery terminal settings). Made of steel with vinyl grips.

Mechanical Dieless—No dies to buy or change. A reference chart on the tool shows you the correct settings and a single screw offers easy adjustment. The head has a flat surface for standing the tool up. Made of steel with rubber grips. Handles telescope 13" for increased leverage.

Hydraulic—The most crimping force we offer. Tools have a high-pressure pumping system with a replaceable pressure cartridge that lasts for 10,000 to 12,000 compressions. The head swivels 180°. Made of steel with fiberglass handles. A plastic carrying case is included. Crimpers require a die (sold separately below). They accept U-type dies for Alcoa, Burndy, Panduit, T&B, and Blackburn 12-ton tools.

To Order: For hydraulic-crimper dies, please specify wire size from the tables in About Compression Connectors and Crimpers on this page.

Lug/Splice Wire Sizes, AWG For Copper	For Aluminum	Lg.	Compression Force		
Mechanical Rotating Die—For Stranded Wire					
6-250 MCM	8-3/0	25"	5 tons	7333K15	$251.48
Mechanical Dieless—For Solid and Stranded Wire					
8-250 MCM	8-4/0	26"	3 tons	7996K12	392.53
8-500 MCM	8-500 MCM	28"	3 tons	7996K11	792.87
Hydraulic—For Solid and Stranded Wire					
8-750 MCM	8-750 MCM	25"	12 tons	7357K7	1,831.05
8-750 MCM♣	8-750 MCM♣	23"	12 tons	7357K5	1,636.48
Required Die for Hydraulic Crimpers				7357K8	113.47
Repl. Pressure Cartridge for Hydraulic Crimpers				7357K6	172.44

♣ 8-750 MCM for lugs; 10-400 MCM for splices.

For information about wire size (AWG), see page 834.

Copper Set Screw Lugs

To make a connection, tighten the set screw down onto stranded copper wire. No crimping tools required. These lugs are used in power distribution systems and with large motors and generators. Rated to 600 volts and 194° F.



Offset Tongue


Straight Tongue

Offset-tongue lugs give you extra space to insert wire. Made of copper. UL and C-UL listed, except for 6923K29, which is UL listed and CSA certified. **Straight-tongue** lugs allow more surface contact for improved conductivity. Made of copper alloy. UL listed and CSA certified, except 6923K65 is not CSA certified.

For Wire Size, AWG	For Stud Size	Lg.	Wd.	Ht.		
Offset Tongue						
14-10	#6 (0.14″)	0.94″	0.31″	0.5″	6923K29	$1.25
14-6	#10 (0.19″)	1.31″	0.38″	0.63″	6923K31	1.40
14-4	1/4″	1.41″	0.5″	0.84″	6923K32	1.90
8-2	1/4″	1.55″	0.5″	1.05″	6923K33	1.92
8-1/0	1/4″	1.97″	0.63″	1.14″	6923K51	4.47
6-4/0	5/16″	2.38″	1″	1.6″	6923K36	8.30
4-3/0	3/8″	2.19″	0.75″	1.45″	6923K35	6.74
1/0-350 MCM	3/8″	3.16″	1″	2.15″	6923K37	15.56
4/0-500 MCM	3/8″	4.25″	1.5″	2.5″	6923K38	23.31
600-1000 MCM	1/2″	4.63″	2″	3″	6923K39	54.38
Straight Tongue						
14-8	#10 (0.19″)	0.8″	0.38″	0.42″	6923K61	1.82
14-4	1/4″	1.09″	0.53″	0.55″	6923K62	2.04
8-1/0	5/16″	1.5″	0.75″	0.63″	6923K63	5.50
6-250 MCM	3/8″	1.97″	0.94″	1.06″	6923K64	10.30
4/0-500 MCM	1/2″	2.97″	1.38″	1.44″	6923K65	34.20

Set Screw Butt Splices

Tighten the set screws to connect wires—no crimping required. Splices are made of tin-plated aluminum. Use with copper and aluminum wire. Rated to 600 volts and 194° F. UL listed and CSA certified.


Noninsulated

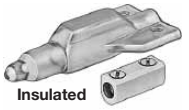
Insulated

Insulated butt splices have a transparent plastic cover that provides electrical insulation and allows you to see the connection. The tip can be trimmed to fit wire size. Holes on the wings allow you to use the included cable tie to secure the cover to the wire.

For Wire Size, AWG	Noninsulated Lg.			Insulated Lg.		
14-2	1.19″	6922K51	$3.74	3.83″	7957K1	$13.25
14-1/0	1.91″	6922K42	4.76	4.8″	7957K2	17.78
6-250 MCM	2.31″	6922K53	13.60	7.91″	7957K4	40.64
10-350 MCM	2.46″	6922K55	13.90	7.91″	7957K5	46.18

Split-Bolt Connectors

Tap and splice wire without any special tools. Insert wire and tighten the hex nut to make a connection. In power applications, insulate wire with tape. Connectors are rated to 600 volts and 194° F. UL listed and CSA certified.

Copper connectors are for use with copper wire and copper weld wire. Suitable for underground use, unless noted. **Aluminum** connectors can be used with any combination of copper and aluminum wire.



Main Wire Size, AWG★ Min.	Max.	Min. Tap Wire Size, AWG■	Wire Slot Wd. (A)	Head Wd. (B)		
Copper						
16 Str.	8 Str.	16 Str.	0.15″	0.38″	6921K56	$2.87
10 Solid	6 Solid	16 Solid	0.17″	0.5″	6921K57	3.12
8 Solid	4 Solid	16 Solid	0.22″	0.56″	6921K58	3.37
6 Solid	2 Solid	12 Solid	0.33″	0.69″	6921K591	5.00
6 Solid	2 Str.	14 Str.	0.33″	0.69″	6921K61	5.40
4 Solid	1/0 Str.	14 Solid	0.38″	0.75″	6921K62	7.23
2 Solid	2/0 Str.	14 Str.	0.42″	0.81″	6921K63	11.69
2 Solid	3/0 Str.	12 Solid	0.47″	0.88″	6921K64	16.03
1/0 Solid	250 MCM	10 Solid	0.58″	1″	6921K65	18.74
4/0 Str.	350 MCM	8 Solid	0.75″	1.5″	6921K66	29.68
250 MCM	500 MCM	8 Solid	0.83″	1.63″	6921K67	38.50
350 MCM	750 MCM	8 Solid	1.03″	1.94″	6921K68♣	65.08
Aluminum						
10 Solid	6 Str.	10 Solid	0.21″	0.56″	6921K81	7.59
8 Solid	4 Str.	10 Solid	0.26″	0.62″	6921K82	10.47
6 Str.	2 Str.	8 Str.	0.33″	0.69″	6921K83	11.32
2 Str.	2/0 Str.	8 Str.	0.44″	0.88″	6921K85	19.52
2 Str.	4/0 Str.	6 Str.	0.55″	1.13″	6921K86	35.05

★ Based on equal size main and tap wires. Str. = stranded.
■ Based on one maximum size main wire. ♣ Not for use underground.

Aluminum Set Screw Lugs

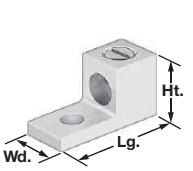

Single Wire, One Mounting Hole

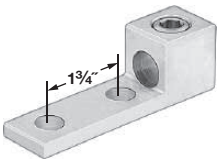

Single Wire, Two Mounting Holes


Dual Wire, One Mounting Hole

Made of high-strength tin-plated aluminum alloy, these lugs are for use with stranded copper and aluminum wire. To install, tighten the set screw down onto the wire; you don't need crimping tools. Lugs are lightweight and are often used on electrical distribution systems. Rated to 600 volts and 190° F. UL listed and CSA certified.

For Wire Size, AWG	For Stud Size	Lg.	Wd.	Ht.		
Single Wire—One Mounting Hole						
14-4	1/4″	1.06″	0.5″	0.5″	6920K21	$0.84
14-2	1/4″	1.16″	0.5″	0.56″	6920K22	1.15
14-1/0	1/4″	1.47″	0.63″	0.78″	6920K23	1.53
14-2/0	1/4″	1.47″	0.63″	0.78″	6920K24	1.72
6-250 MCM	5/16″	2″	1″	1.13″	6920K25	3.88
6-350 MCM	1/4″	2″	0.86″	1.13″	6920K27	4.34
4-500 MCM	3/8″	2.81″	1.5″	1.81″	6920K29	8.36
2-600 MCM	3/8″	3.19″	1.5″	1.56″	6920K31	10.76
300-800 MCM	5/8″	3.38″	1.75″	1.94″	6920K33	15.40
350-1000 MCM	5/8″	3.38″	1.75″	1.94″	6920K35	19.18
Single Wire—Two Mounting Holes						
6-350 MCM	1/2″	4.31″	1.13″	1.38″	6920K28	11.79
2-600 MCM	1/2″	4.69″	1.5″	1.38″	6920K32	16.58
300-800 MCM	1/2″	6.19″	1.75″	1.88″	6920K34	28.74
Dual Wire—One Mounting Hole						
14-1/0	1/4″	1.47″	1.13″	0.8″	6920K51	2.79
14-2/0	1/4″	1.47″	1.25″	0.8″	6920K52	3.14
6-250 MCM	3/8″	2.56″	1.66″	1.19″	6920K53	9.59
6-350 MCM	1/2″	2.88″	1.89″	1.25″	6920K54	12.06
2-600 MCM	1/2″	3.19″	2.41″	1.56″	6920K55	15.66

Insulated Set Screw Connectors


Standard Four Wire


Compact Two Wire

All of these connectors provide electrical insulation and make connections without crimping tools. They have set screws that you tighten down onto wire. Connectors are rated to 600 volts and 194° F.

Standard connectors are for use with copper and aluminum wire in most tap or splice applications. Insert your main wire into one of the through-hole ports and then insert each tap wire into either side of each remaining port and tighten the set screws. One side of each port must remain open. Connectors are aluminum alloy. They have transparent plastic insulation that allows you to see the connection. UL listed.

Compact connectors join copper wires in tight spaces such as cable trays, raceways, wireways, and ducts. They're also good for motor leads. Connectors are copper alloy with PVC insulation. Plastic plugs cover the set screw opening to prevent contamination. UL and C-UL listed.

For Wire Size, AWG	No. of Wires	Lg.	Wd.	Ht.		
Standard						
14-2/0	2	2.61″	2.3″	1.97″	7915K11	$19.46
14-2/0	4	4.3″	2.3″	1.97″	7915K12	25.16
14-2/0	6	5.98″	2.3″	1.97″	7915K13	30.65
6-4/0	2	2.75″	2.49″	2.25″	7915K14	22.27
6-4/0	4	4.61″	2.49″	2.25″	7915K15	27.87
6-350 MCM	4	5.62″	2.69″	2.65″	7915K18	39.06
4-600 MCM	4	5.73″	3.2″	3.27″	7915K22	53.07
Compact						
18 Solid-4 Stranded	2	1.37″	1.25″	1.4″	8447K11	27.85
18 Solid-4 Stranded	3	2″	1.25″	1.4″	8447K12	31.85
8 Solid-1/0 Stranded	2	1.75″	1.5″	1.62″	8447K13	36.79
8 Solid-1/0 Stranded	3	2.56″	1.5″	1.62″	8447K14	40.47
4-350 MCM	2	2.56″	2.25″	2.68″	8447K15	74.94
4-350 MCM	3	3.56″	2.25″	2.68″	8447K16	77.54
4-500 MCM	2	2.81″	2.4″	2.75″	8447K17	94.38
4-500 MCM	3	4.12″	2.4″	2.75″	8447K18	124.40

About 0.2″ to 0.8″ Face Diameter Sensor Connectors

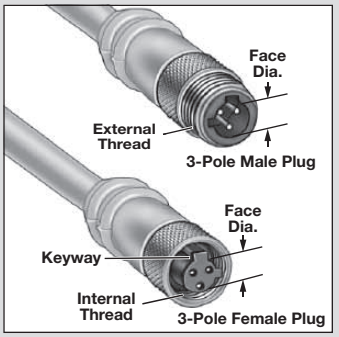

Sensor connectors allow you to quickly replace a damaged component or cable without hardwiring to minimize labor costs and reduce equipment downtime. Primarily used to connect proximity sensors, photoelectric sensors, and limit switches, these connectors are commonly referred to as nano (or pico), micro, and mini connectors.

Factors to Consider when Replacing an Existing Sensor Connector

Face Diameter—Measure the face diameter of your plug or receptacle as shown in the illustration at left. Do not include the threading, coupling nut, or keyways in your measurement.

Keyway—Most connectors have keyways on the face to prevent mismating. Each keyway on the female aligns with a keyway notch on the male. Do you have a single or dual keyway?

Number of Poles—Count the number of pins on a male plug or receptacle, or decide how many wires your device needs for power and control.

Gender and Threading—Male connectors have pins that mate with female connectors. The threading of the collar or locknut is either internal or external. Both the gender and threading need to be opposite to join sensor connectors. For example, a male plug with external thread mates with a female plug or receptacle with internal thread.

Plug or Receptacle—Plugs typically have a cable attached and are connected to a sensor while receptacles have wire leads and are mounted in panels.

Characteristics of Sensor Connectors

Face Dia.	Common Name	Keyway	Number of Poles	Current Ratings (amps)	Max. Voltage (AC/DC)	Available Materials	Typical Application	Pages
0.2″	Nano, Pico	None	3-5	3-4	60/75	PVC, Plastic	8 mm and smaller sensors	804
0.3″	Micro	Single, Dual	2-5	4-5	300/300	PVC, Plastic, Rubber	12 mm and 18 mm sensors	805-806
0.55″-0.8″	Mini	Single	2-12	5-13	600/600	PVC, Plastic, Rubber	18 mm and 30 mm sensors	806-807

0.2″ Face Diameter Nano Connectors



Also called pico and M8 connectors, these are the smallest sensor connectors we offer. Use them for low-current devices such as 8 mm and smaller proximity sensors, miniature photoelectric sensors, and other miniature control components. Connectors have a 0.2″ face diameter. They do not have a keyway.

All meet IP67 for protection against temporary water submersion.

Plugs

Plugs accept 0.14″ to 0.2″ dia. cable with up to 20 AWG wires. They are made of black plastic and are rated to 176°F. Plugs with **insulation-piercing terminals** save time because you don't need to strip your wire. The terminals grip the insulation for a secure hold in high-vibration applications. UL and C-UL recognized.








No. of Poles	AC/DC Voltage	Amps	Male Plugs with External Thread		90° Male Plugs with External Thread		Female Plugs with Internal Thread		90° Female Plugs with Internal Thread	
Screw Terminals										
3	60	4	6889K81	$16.31			6889K82	$13.54		
4	30	4	6889K83	17.46			6889K84	13.54		
Insulation-Piercing Terminals										
3	32	3	6889K11	14.83			6889K12	12.82		
4	32	3	6889K13	15.72			6889K14	13.58		
Solder Terminals										
3	60/75	4	6889K51	24.01	6889K52	$24.15	6889K53	24.15	6889K54	$24.15
4	60/75	4	6889K61	28.74	6889K62	29.32	6889K63	27.54	6889K64	27.92

Plugs with Cable and Receptacles with Leads

All of these plugs and receptacles are rated to 221°F. UL listed and CSA certified. **Plugs** are made of plastic molded to a 13-ft. 24 AWG cable with yellow PVC jacket. **Receptacles** are made of nickel-plated brass and have 12″ long 24 AWG wire leads with PVC insulation. There are M8 external threads for panel mounting.

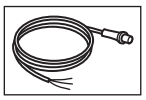


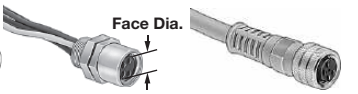



No. of Poles	AC/DC Voltage	Amps	Male Plugs with External Thread		90° Male Plugs with External Thread		Female Receptacles with Internal Thread		Female Plugs with Internal Thread		90° Female Plugs with Internal Thread		Male Receptacles with External Thread	
3	60/75	4	7138K11	$19.23	7138K17	$19.23	7138K27	$12.96	7138K14	$19.23	7138K21	$19.23	7138K24	$10.77
4	60/75	4	7138K12	22.87	7138K18	22.87	7138K28	14.33	7138K15	22.87	7138K22	22.87	7138K25	11.90
5	60/75	3	7138K13	26.85	7138K19	26.85	7138K29	15.92	7138K16	26.85	7138K23	26.85	7138K26	13.63

Cables with Plugs on Each End

Make connections without hardwiring. Connectors consist of a 13-ft. 24 AWG cable with yellow PVC jacket and yellow plastic plugs on each end. One end has a female plug with internal threads and the other end has a male plug with external threads. All are rated to 221°F. UL listed and CSA certified.

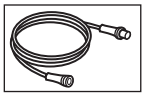
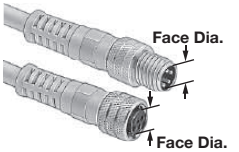



No. of Poles	AC/DC Voltage	Amps	Female Plug and Male Plug		Female Plug and 90° Male Plug	
3	60/75	4	7138K51	$32.38	7138K52	$32.38
4	60/75	4	7138K53	37.83	7138K54	37.83

0.3″ Face Diameter Micro Connectors

These connectors are also known as micro and M12 connectors. They are often used with 12 mm proximity sensors. All have a 0.3″ face diameter. Dual-keyway connectors are typically used in AC applications while single-keyway connectors are used in DC applications.

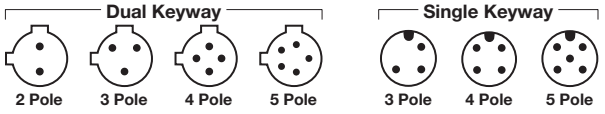

Plugs

Turn an existing cable into a quick-disconnect cable or replace a damaged connector on a cable. Plugs are made of black plastic and rated to 185°F. All meet IP67 for protection against temporary water submersion.

Plugs with screw terminals accept 0.13″ to 0.26″ dia. cable with up to 18 AWG wires. *Single-keyway* plugs are CSA certified. **Plugs with insulation-piercing terminals** save time because you don't need to strip your wire. The terminals grip the insulation for a secure hold in high-vibration applications. They accept cable with up to 24 AWG wires. 4-pole accept 0.16″ to 0.20″ dia. cable; 5-pole accept 0.19″ to 0.23″ dia. cable. UL and C-UL recognized.



No. of Poles	AC/DC Voltage	Amps	Male Plugs with External Thread		90° Male Plugs with External Thread		Female Plugs with Internal Thread		90° Female Plugs with Internal Thread	
Screw Terminals—Dual Keyway										
3	250	4	7209K22	$23.56	7209K24	$23.56	7209K21	$23.56	7209K23	$23.56
Screw Terminals—Single Keyway										
4	250/300	4	7209K41	26.82	7209K42	26.82	7209K43★	26.82	7209K25★	24.14
5	30/36	4	7209K44	29.02	7209K45	29.02	7209K46	29.02	7209K26	26.12
Insulation-Piercing Terminals—Single Keyway										
4	32	4	7209K11	10.82	7209K13	13.52	7209K12★	11.18		
5	50	4	7209K14	38.74			7209K15	46.90		

★ Same face as the five pole with one pole not used.

Plugs with Cable and Receptacles with Leads

Standard—Meet IP67 for protection against temporary water submersion. CSA certified. **Plugs** are made of PVC molded to a 12-ft. 22 AWG cable with yellow PVC jacket. Rated to 221°F. *Dual-keyway* plugs are UL listed. *Single-keyway* plugs are UL recognized. **Receptacles** are anodized aluminum and have 12″ long 22 AWG wire leads with PVC insulation. There are ¼″ NPT external threads (unless noted) for panel mounting. Rated to 176°F. UL listed.

Harsh Environment—Connectors resist abrasion, oil, and welding slag. They meet IP68 and NEMA 6P for protection against water submersion. UL and C-UL recognized. **Plugs** are made of rubber molded to a 12-ft. 18 AWG cable with yellow rubber jacket. Rated to 194°F. **Receptacles** are stainless steel and have 12″ long 18 AWG wire leads with PVC insulation. There are external threads for panel mounting; male receptacles have ½″ NPT threads and female receptacles have ¼″ NPT threads. Rated to 176°F.

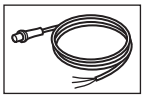



No. of Poles	AC/DC Voltage	Amps	Male Plugs with External Thread		90° Male Plugs with External Thread		Female Receptacles with Internal Thread		Female Plugs with Internal Thread		90° Female Plugs with Internal Thread		Male Receptacles with External Thread	
Standard—Dual Keyway														
2	250	4	6897K51	$22.82	6897K17	$22.82	6897K52	$13.84	6897K82	$22.82	6897K18	$22.82	6897K83	$11.53
3	250	4	6897K53	25.65	6897K19	25.65	6897K54	13.20	6897K86	25.65	6897K2	25.65	6897K87	11.89
4	250	4	6897K55	33.22	6897K29	33.22	6897K56	15.95	6897K92	33.22	6897K41	33.22	6897K93	13.67
5	250	4	6897K57	41.78	6897K42	41.78	6897K58	16.11	6897K96	41.78	6897K49	41.78	6897K97	14.62
Standard—Single Keyway														
3	250	4	6897K25	29.07	6897K11	29.07	6897K28■	13.98	6897K26■	26.65	6897K12■	26.65	6897K27▲♣	11.60
4	250	4	6897K35	34.93	6897K13	34.93	6897K38■	17.13	6897K36■	32.02	6897K14■	32.02	6897K37▲	14.25
5	250	4	6897K45	39.85	6897K15	43.47	6897K48	19.29	6897K46	39.85	6897K16	39.85	6897K47▲	16.05
Harsh Environment—Dual Keyway														
2	250/300	5	3214K14	36.11	3214K15	36.11	3214K16	26.43	3214K11	36.11	3214K12	36.11	3214K13	25.43
3	250/300	5	3214K21	41.17	3214K22	41.17	3214K23	29.07	3214K17	41.17	3214K18	41.17	3214K19	27.26
4	250/300	5	3214K27	46.65	3214K28	46.65	3214K29	31.61	3214K24	46.65	3214K25	46.65	3214K26	29.24
5	250/300	5	3214K34	52.34	3214K35	52.34	3214K36	33.98	3214K31	52.34	3214K32	52.34	3214K33	30.91
Harsh Environment—Single Keyway														
3	250/300	5	3214K45	42.17	3214K46	42.17	3214K47	29.07	3214K42	42.17	3214K43	42.17	3214K44	27.26
4	250/300	5	3214K52	49.74	3214K53	49.74	3214K54	31.61	3214K48	49.74	3214K49	49.74	3214K51	29.24
5	250/300	5	3214K58	56.37	3214K59	56.37	3214K61	34.00	3214K55	56.37	3214K56	56.37	3214K57	30.91

■ Same face as five pole with one or two poles not used. ▲Has ½″ NPT threads. ♣ Same face as four pole with one pole not used.

Cables with Plugs on Each End

A plug on each end means no hardwiring. Connectors have a 6-ft. cable with a male plug with external threads on one end and a female plug with internal threads on the other end.

Standard cables are 22 AWG with a yellow PVC jacket. Rated to 221°F. Meet IP67 for protection against temporary water submersion. CSA certified. *Dual-keyway* cables are UL listed. *Single-keyway* cables are UL recognized.

Harsh environment cables are 18 AWG with a yellow rubber jacket. Rated to 194°F. Meet IP68 and NEMA 6P for protection against water submersion. UL and C-UL recognized.

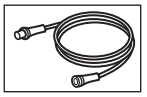



No. of Poles	AC/DC Voltage	Standard Amps		Harsh Environment Amps	
Dual Keyway					
2	250	4	6897K64 $32.15	5	3214K37 $52.00
3	250	4	6897K65 33.36	5	3214K38 57.04
4	250	4	6897K66 38.13	5	3214K39 62.96
5	250	4	6897K67 47.60	5	3214K41 68.04

No. of Poles	AC/DC Voltage	Standard Amps		Harsh Environment Amps	
Single Keyway					
3	250	4	6897K43 $34.38	5	3214K62 $54.69
4	250	4	6897K68 38.27	5	3214K63 62.96
5	250	4	6897K69 43.55	5	3214K64 68.04

Closure Caps for Plugs and Receptacles

Protect the ends of connectors when they are not in use.

Keyway	For Male Connectors		For Female Connectors	
Aluminum				
Dual	6897K61	$8.55	6897K62	$8.24
Single	6897K73	8.29	6897K74	8.24

Keyway	For Male Connectors		For Female Connectors	
Stainless Steel				
Dual	6897K63	23.18	6897K39	$23.18
Single	6897K75	23.18	6897K59	23.18


For Male Connectors


For Female Connectors

0.3″ Face Diameter Quick and Secure Micro Connectors



4 Pole

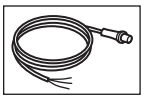

Plugs with Cable

Push these unthreaded connectors together to make secure, reliable connections in less time than it takes to twist coupling nuts on threaded connectors. All have a 0.3″ face diameter, a single keyway, and four poles (female plugs have a five-pole face with the center pole not used). Rated to 194°F. Connectors meet IP67 for protection against temporary water submersion. CSA certified.

Note: Plugs mate with a receptacle of the opposite gender. The male plugs and the female plugs cannot be connected.

Plugs turn an existing cable into a quick-disconnect cable or replace a damaged connector on a cable. Made of nylon. They accept 0.13″ to 0.26″ dia. cable with up to 18 AWG wires.

Plugs with cable are made of polyurethane molded to a 6½-ft. 22 AWG cable with yellow PVC jacket.

Receptacles are nickel-plated brass and have 12″ long 22 AWG wire leads with PVC insulation. There are ½″ NPT external threads for panel mounting.









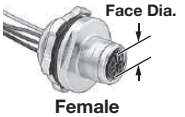

No. of Poles	AC/DC Voltage	Amps	Male Plug		Male Plug with Cable		90° Male Plug		90° Male Plug with Cable		Female Receptacle with Internal Thread	
4	250	4	8902T13	$26.80	8902T19	$17.17	8902T14	$26.80	8902T21	$17.58	8902T16	$19.47









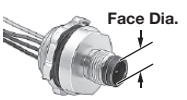

No. of Poles	AC/DC Voltage	Amps	Female Plug		Female Plug with Cable		90° Female Plug		90° Female Plug with Cable		Male Receptacle with External Thread	
4	250	4	8902T11	$26.80	8902T17	$17.93	8902T12	$26.80	8902T18	$17.93	8902T15	$16.20

0.55″ to 0.8″ Face Diameter Mini Connectors



2 Pole | 3 Pole | 4 Pole | 5 Pole | 6 Pole | 7 Pole | 8 Pole | 9 Pole | 10 Pole | 12 Pole

Use mini connectors to carry higher currents than 0.2″ and 0.3″ face diameter connectors. They are often used with 18 mm and 30 mm proximity sensors and limit switches. All have a single keyway.

Plugs

Turn an existing cable into a quick-disconnect cable or replace a damaged connector on a cable. Plugs are made of plastic and rated to 176°F. They accept 0.2″ to 0.45″ dia. cable with up to 16 AWG wires. Meet IP67 for protection against temporary water submersion. CSA certified.







No. of Poles	AC/DC Voltage	Amps	Face Dia.	Male Plugs with Internal Thread		Male Plugs with External Thread		Female Plugs with Internal Thread	
3	600	13	0.55″	7152K71	$26.32	7152K61	$26.33	7152K62	$26.33
4	600	10	0.55″	7152K53	27.70	7152K52	28.79	7152K51	27.95
5	600	8	0.55″	7152K72	29.89	7152K63	29.89	7152K64	29.89

Plugs with Cable and Receptacles with Leads

Standard—Rated to 221°F. Meet IP67 for protection against temporary water submersion. UL recognized and CSA certified. **Plugs** are made of PVC molded to a 12-ft. oil-resistant 16 AWG cable with yellow PVC jacket. **Receptacles** are die cast zinc and have 12″ long 16 AWG wire leads with PVC insulation. There are ½″ NPT external threads for panel mounting.

Harsh Environment—Connectors resist abrasion, oil, and welding slag. Rated to 194°F. Meet IP68 and NEMA 6P for protection against water submersion. UL and C-UL recognized. **Plugs** are made of rubber molded to a 12-ft. oil-resistant 16 AWG cable with yellow rubber jacket. **Receptacles** are stainless steel and have 12″ long 16 AWG wire leads with PVC insulation. There are ½″ NPT external threads for panel mounting.

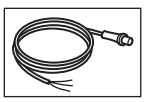



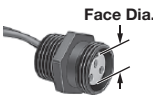







No. of Poles	AC/DC Voltage	Amps	Face Dia.	Male Plugs with Internal Thread		Female Receptacles with External Thread		Female Plugs with Internal Thread		90° Female Plugs with Internal Thread		Male Receptacles with External Thread	
Standard													
2	600	13	0.55″	69355K51	$25.84	69355K54	$16.77	69355K52	$25.84	69355K75	$25.84	69355K53	$12.53
3	600	13	0.55″	69355K55	29.61	69355K58	17.79	69355K56	30.74	69355K76	29.04	69355K57	12.95
4	600	10	0.55″	69355K61	39.96	69355K64	18.23	69355K62	40.32	69355K77	38.96	69355K63	14.95
5	600	8	0.55″	69355K65	48.12	69355K68	18.63	69355K66	49.02	69355K78	47.02	69355K67	15.89
6	600	8	0.55″	69355K71	63.47	69355K74	24.77	69355K72	63.47	69355K79	62.05	69355K73	22.77
7	600	8	0.7″	69355K21	97.63	69355K24	43.42	69355K22	97.63	69355K81	95.53	69355K23	34.60
8	600	7	0.7″	69355K31	111.04	69355K34	48.95	69355K32	111.04	69355K82	108.58	69355K33	39.82
9	600	7	0.8″	69355K41	120.11	69355K44	66.04	69355K42	120.11	69355K83	121.00	69355K43	54.93
10	600	7	0.8″	69355K45	138.30	69355K48	73.75	69355K46	138.30	69355K84	139.26	69355K47	61.35
12	600	5	0.8″	69355K15	160.96	69355K18	81.14	69355K16	160.96	69355K85	162.14	69355K17	67.63

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0.55″ to 0.8″ Face Diameter Mini Connectors *(Continued from previous page)*

Plugs with Cable and Receptacles with Leads (Cont.)

No. of Poles	AC/DC Voltage	Amps	Face Dia.	Male Plugs with Internal Thread		Female Receptacles with External Thread		Female Plugs with Internal Thread		90° Female Plugs with Internal Thread		Male Receptacles with External Thread	
Harsh Environment													
2	600	13	0.55″	3216K11	$35.56	3216K45	$28.81	3216K12	$35.56	3216K13	$36.23	3216K44	$25.70
3	600	13	0.55″	3216K14	40.57	3216K47	31.91	3216K15	40.57	3216K16	41.38	3216K46	26.15
4	600	10	0.55″	3216K17	52.89	3216K49	32.46	3216K18	52.89	3216K19	55.65	3216K48	28.39
5	600	8	0.55″	3216K21	61.73	3216K52	32.89	3216K22	61.73	3216K23	64.93	3216K51	29.63
6	600	8	0.55″	3216K24	70.26	3216K56	35.41	3216K25	70.26	3216K26	80.39	3216K55	31.07
7	600	8	0.7″	3216K27	136.02	3216K58	59.25	3216K28	136.02	3216K29	137.88	3216K57	52.35
8	600	7	0.7″	3216K31	156.17	3216K61	65.15	3216K32	156.17	3216K33	154.96	3216K59	55.40
10	600	7	0.8″	3216K37	188.66	3216K65	90.40	3216K38	188.66	3216K39	191.20	3216K64	77.46
12	600	5	0.8″	3216K41	221.77	3216K67	98.16	3216K42	221.77	3216K43	229.32	3216K66	81.42

Cables with Plugs on Each End

Plugs on each end allow you to make connections without hardwiring. Connectors consist of a 6-ft. 16 AWG cable that has a male plug with internal threads on one end and a female plug with internal threads on the other end.

Standard cables are oil-resistant and have a yellow PVC jacket. Rated to 221°F. Meet IP67 for protection against temporary water submersion. UL recognized and CSA certified.

Harsh environment cables resist abrasion, oil, and welding slag. They have a yellow rubber jacket. Rated to 194°F. Meet IP68 and NEMA 6P for protection against water submersion. UL and C-UL recognized.



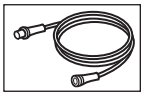

No. of Poles	AC/DC Voltage	Amps	Face Dia.	Standard		Harsh Environment	
2	600	13	0.55″	69285K11	$35.30	3216K68	$49.96
3	600	13	0.55″	69285K62	37.56	3216K69	50.87
4	600	10	0.55″	69285K64	47.54	3216K71	63.42
5	600	8	0.55″	69285K66	55.25	3216K72	72.62
6	600	8	0.55″	69285K12	$74.44	3216K73	$98.06
7	600	8	0.7″	69285K13	108.19	3216K74	143.54
8	600	7	0.7″	69285K14	119.58	3216K75	156.88
12	600	5	0.8″	69285K17	166.40	3216K78	220.45

Closure Caps and Male-to-Female Plug Adapters

Closure caps protect the ends of connectors when they are not in use. **Adapters** allow you to connect male and female plugs that both have internal threads.







Fits No. of Poles	Closure Caps with External Thread for Plugs		Closure Caps with Internal Thread for Receptacles		Male-to-Female Plug Adapters with External Thread	
Aluminum						
2 to 6	69005K21	$13.00	69005K22	$11.53	69005K51	$3.58
7 to 8	69005K31	17.81	69005K32	15.79	69005K52	4.09
9 to 12	69005K41	19.09	69005K42	17.14	69005K53	4.42
Stainless Steel						
2 to 6	69005K61	$28.98	69005K62	$27.14	69005K67	$9.12
7 to 8	69005K63	33.86	69005K64	31.48	69005K68	10.56
9 to 12	69005K65	35.84	69005K66	33.46	69005K69	11.88

Servomotor Connectors

Also known as M23 connectors, these are commonly used in servomotor and servodrive applications. All have solder terminals. The gender, threading, and pole layout must be opposite to join these connectors.

All are made of nickel-plated copper-zinc alloy and are rated NEMA 4X to withstand washdowns and resist corrosion. They meet IP67 for protection against temporary water submersion and IP69K for protection against water from high-pressure, high-temperature washdowns. Temperature range is –40° to 257°F. UL listed and CSA certified.

Plugs accept 0.12″ to 0.67″ dia. cable. **Male receptacles** have four 0.13″ dia. mounting holes (screws not included). **Panel-mount male receptacles** have M25 external threads for mounting in a 1″ dia. panel cutout.



Poles are Numbered Counterclockwise (CCW)



Poles are Numbered Clockwise (CW)



6 Pole



12 Pole



16 Pole



17 Pole



19 Pole

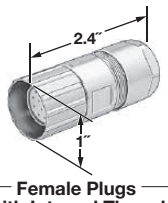







No. of Poles	AC/DC Voltage	Amps	For Wire Size, AWG	Female Plugs with Internal Thread: Pole Layout★		Male Plugs with External Thread: Pole Layout★		Male Receptacles with External Thread: Pole Layout★		Panel-Mount Male Receptacles with External Thread: Pole Layout★	
6	300	20	14	CCW	1807T11 $28.69	CW	1807T21 $32.87	CW	1807T31 $21.62	CW	1807T41 $30.65
12	200	8	17	CCW	1807T12 27.88	CW	1807T22 34.21	CW	1807T32 22.94	CW	1807T42 32.00
12	200	8	17	CW	1807T13 27.88	CCW	1807T23 34.21	CCW	1807T33 22.94	CCW	1807T43 32.00
16	160	8	17	CCW	1807T15 29.15	CW	1807T24 34.65	CW	1807T34 23.40	CW	1807T44 33.85
17	160	8	17	CCW	1807T16 29.63	CW	1807T25 35.29	CW	1807T35 24.04	CW	1807T45 33.10
19	100	8	17	CCW	1807T17 27.88	CW	1807T26 39.52	CW	1807T36 28.25	CW	1807T46 37.31

★CCW = Counterclockwise; CW = Clockwise.

Harsh Environment Molded Connectors with Cable


3 Pole


4 Pole

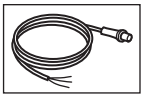

The toughness to resist abrasion, oil, and welding slag is combined with the highest amp ratings we offer for sensor connectors. All have a 0.85″ face diameter and are also known as 7/8″ connectors. Use them on conveyors, cooling fans, and grinders. Connectors have a single keyway and are rated to 221°F. Meet IP68 and NEMA 6P for protection against water submersion. UL recognized and CSA certified.

Plugs are made of rubber molded to a 6-ft. oil-resistant cable with yellow rubber jacket.

Receptacles are plastic and have 12″ wire leads with PVC insulation. There are 1/2″ NPS external threads for panel mounting.









No. of Poles	AC/DC Voltage	Amps	Face Dia.	Cable Size, AWG	Male Plugs with Internal Thread		Female Receptacles with External Thread		Female Plugs with Internal Thread		Male Receptacles with External Thread	
3	600	18	0.85″	14/3	70595K51	$44.93	70595K54	$30.60	70595K52	$53.58	70595K53	$22.13
3	600	30	0.85″	10/3	70595K55	61.27	70595K58	32.11	70595K56	71.29	70595K57	23.62
4	600	15	0.85″	14/4	70595K61	51.27	70595K64	35.27	70595K62	59.93	70595K63	26.93
4	600	25	0.85″	10/4	70595K65	71.15	70595K68	37.31	70595K66	79.98	70595K67	28.93

Compact Push-In Connectors

Push the plugs and receptacles together to make a connection. Small and lightweight, connectors fit in tight spaces, such as the interior of machines. A complete connector requires a plug, a receptacle, and enough pins and sockets for the number of poles you're connecting. Choose your own components or select an assembled connector.

Plugs and Receptacles

All are made of white nylon and rated to 221°F.

Space-saver connectors accept smaller pins to fit the same number of circuits in less space than other connectors.

600V AC connectors lock together for a secure connection. They are UL recognized and CSA certified.





No. of Poles	Amps	*Mated Housings* Lg.	Wd.	Ht.	Plugs Pkg. of 10		Receptacles Pkg. of 10	
250V AC Connector Housings—For 0.093″ Dia. Pin								
1	14	1.63″	0.36″	Dia.	69295K81	$1.27	69295K61	$1.08
2	14	1.63″	0.64″	0.35″	69295K82	1.78	69295K62	1.68
3	14	1.31″	0.77″	0.34″	69295K83	2.14	69295K63	2.51
4	11	1.63″	0.97″	0.34″	69295K87	2.43	69295K67	4.40
6	11	1.56″	0.54″	0.73″	69295K84	3.65	69295K64	3.24
9	11	1.63″	0.77″	0.73″	69295K85	4.62	69295K65	4.53
12	10	1.61″	0.98″	0.74″	69295K86	5.16	69295K66	4.49
Space-Saver 250V AC Connector Housings—For 0.062″ Dia. Pin								
1	5	1.25″	0.30″	Dia.	69295K19	1.38	69295K1	1.14
2	5	1.25″	0.44″	0.3″	69295K25	1.51	69295K2	1.51
3	5	1.19″	0.59″	0.3″	69295K95	2.05	69295K3	1.92
4	5	1.13″	0.73″	0.29″	69295K96	3.38	69295K4	3.16
5	5	1.19″	0.89″	0.31″	69295K97★	1.53	69295K5	3.05
6	5	1.13″	0.45″	0.6″	69295K98★	1.74	69295K6	2.92
9	5	1.13″	0.59″	0.59″	69295K35	3.22	69295K7	3.92
12	5	1.34″	0.74″	0.59″	69295K99	3.86	69295K8	3.86
600V AC Connector Housings—For 0.084″ Dia. Pin								
2	14	1.71″	0.55″	0.62″	69295K51	2.25	69295K41	5.24
3	14	1.71″	0.8″	0.62″	69295K52	2.80	69295K42	5.65
4	14	1.71″	1.55″	0.62″	69295K53	3.16	69295K43	7.70
6	11	1.71″	1.12″	0.55″	69295K54	3.94	69295K44	8.38
9	11	1.71″	1.12″	0.8″	69295K55	3.92	69295K45	10.00

★ Package quantity is 5.

Insertion and Extraction Tools


Insertion Tool


Extraction Tool

Insertion tools are helpful for assembling small wires. **Extraction tools** release the locking mechanism on pins and sockets so you can remove them from a housing.

Tool Type	For Wire Size, AWG		
For 250V AC Connectors—0.093″ Dia. Pin			
Insertion	22-14	69295K57	$24.75
Extraction	22-14	69295K91	23.37
For Space-Saver 250V AC Connectors—0.062″ Dia. Pin			
Insertion	30-18	69295K56	25.00
Extraction	30-18	69295K48	18.00
For 600V AC Connectors—0.084″ Dia. Pin			
Extraction	20-14	69295K89	35.94

Pins and Sockets

Made of tin-plated brass.





For Wire Size, AWG	Pins Pkg. of 100		Sockets Pkg. of 100	
For 250V AC Connectors—0.093″ Dia. Pin				
22-18	69295K23	$11.62	69295K33	$10.00
20-14	69295K22	11.59	69295K32	10.27
For Space-Saver 250V AC Connectors—0.062″ Dia. Pin				
30-24	69295K112	9.46	69295K116	7.30
24-18	69295K111	11.35	69295K115	10.27
For 600V AC Connectors—0.084″ Dia. Pin				
20-14	69295K21	4.00	69295K31	5.30

Assembled Connectors with Wire Leads

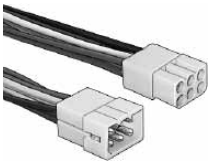
Standard 6 Pole

Save installation time—these connectors come assembled with wire leads, so you don't need a crimper.

Standard connectors have a white nylon housing. They have 0.093″ dia. pins and 18 AWG wire leads that meet UL 1015. Rated to 221°F.

Weatherproof connectors have a sealed black polymer housing to withstand harsh environments. They have 0.059″×0.031″ pins and 18 AWG wire leads that meet SAE J1128. Rated to 257°F.

No. of Poles	AC Voltage	Amps	With 6″ Lg. Wire Leads		With 48″ Lg. Wire Leads	
Standard						
2	250	10	9552T1	$4.85	9552T21	$9.00
3	250	7	9552T61	6.62	9552T62	11.25
4	250	7	9552T4	8.87	9552T22	13.50
6	250	7	9552T2	11.62	9552T23	16.86
9	250	7	9552T3	16.50	9552T24	21.62
12	250	7	9552T65	20.93	9552T66	37.56
Weatherproof						
2	50	10	_____	____	9552T31	22.28
4	50	7	_____	____	9552T32	30.52
6	50	7	_____	____	9552T33	41.16
8	50	7	_____	____	9552T34	49.81

Ratchet Crimpers



A built-in ratchet ensures the correct pressure is applied to every crimp you make as you build your connector.

For Wire Size, AWG		
For 250V AC Connectors—0.093″ Dia. Pin		
22-14	69295K92	$150.80
For Space-Saver 250V AC Connectors—0.062″ Dia. Pin		
30-24	69295K59	150.80
24-18	69295K58	150.80
For 600V AC Connectors—0.084″ Dia. Pin		
20-14	69295K79	326.92

Compact Enclosed Latching Connectors

Surround your connections to protect them from the environment. The hood and base latch together, making these small connectors convenient for external machine components that require frequent disconnection for repair or replacement. A complete connector consists of a female insert, a male insert, a hood, and a base. Choose your own components or select a connector kit.

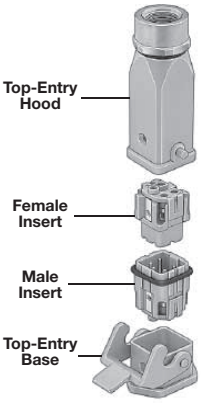

Connector Kit Top Entry

Inserts

Made of plastic and have silver-plated copper alloy pins and sockets. All have screw terminals. The inserts work with any hood and base below. UL recognized and CSA certified.

No. of Poles	AC Voltage	Amps	For Wire Size, AWG	Female Inserts		Male Inserts		Set of Female and Male Inserts	
3 & Ground	600	10	18-14	7979K21	$8.07	7979K22	$7.13	7979K55	$14.52
4 & Ground	600	10	18-14	7979K23	8.51	7979K24	8.07	7979K56	15.52
6	50	10	18-16	7979K25	8.53	7979K26	7.16	7979K57	15.10

Hoods and Bases

Pair any hood with any base of the same material. Once connected, they are NEMA 4 rated and meet IP67 for protection against temporary water submersion. **Plastic** and **zinc** hoods and bases are UL recognized.

Hoods—All have a ½″ NPT threaded hub.

Bases—*Top-* and *side-entry bases* have two ⅛″ dia. mounting holes (screws not included). *Cable couplers* hang from your cable.

	Hoods					Bases				
	Lg.	Wd.	Ht.			Lg.	Wd.	Ht.		
Plastic										
Top Entry	1″	1.4″	2.4″	7979K31	$11.49	1.4″	1.6″	0.9″	7979K35	$3.62
Side Entry	1.5″	1.4″	2.1″	7979K32	11.73	1.8″	1.6″	1″	7979K36	5.42
Cable Coupler	—	—	—	—	—	0.9″	1.4″	2.2″	7979K37	12.16
Zinc										
Top Entry	1″	1.4″	2.4″	7979K33	13.96	1.4″	1.6″	0.9″	7979K38	6.16
Side Entry	1.5″	1.4″	2.1″	7979K34	14.67	1.8″	1.6″	1″	7979K39	9.29
Cable Coupler	—	—	—	—	—	0.9″	1.4″	2.2″	7979K41	15.02
Stainless Steel										
Top Entry	1.1″	1.3″	2.4″	7979K51	72.89	1.4″	1.6″	0.9″	7979K53	40.86
Side Entry	1.8″	1.3″	2.1″	7979K52	82.25	2.3″	1.6″	1.1″	7979K54	66.98


Top-Entry Hood with Side-Entry Base


Top-Entry Hood with Cable Coupler Base

Connector Kits

Kits include everything you need for a complete connector. Meet IP67 for protection against temporary water submersion.

Plastic and **zinc** connectors have ⅜″ NPT threaded hubs. UL recognized and CSA certified.

Stainless steel connectors have ½″ NPT threaded hubs.

No. of Poles	Hood Entry	Base Entry	AC Voltage	Amps	Plastic		Zinc		Stainless Steel	
3 & Ground	Top	Top	600	10	2419K21	$26.54	2419K11	$30.33	2419K31	$118.60
3 & Ground	Top	Side	600	10	2419K22	27.53	2419K12	36.33	2419K33	142.50
3 & Ground	Side	Top	600	10	2419K23	26.47	2419K15	41.54	2419K32	127.33
4 & Ground	Top	Top	600	10	2419K24	27.69	2419K13	28.33	2419K34	119.08
4 & Ground	Top	Side	600	10	2419K25	28.67	2419K14	34.13	2419K36	142.98
4 & Ground	Side	Top	600	10	2419K26	27.54	2419K16	32.46	2419K35	127.82


Side-Entry Hood with Top-Entry Base

Solenoid Valve Connectors

Make connections with hydraulic valves, pneumatic valves, motors, pumps, and pressure switches. Connectors have a plastic housing. Contact distance is the distance from the center of one pin or slot to the center of the opposite side pin or slot.

Plugs and Receptacles—Meet IP65 for protection against water projected from a nozzle. Housing includes a rubber gasket. **Female plugs** have screw terminals and a vibration-resistant locking screw. All are square and rated to 194° F. UL recognized. 4985K16 has a power indicator. **Male receptacles** have solder terminals. *Type A receptacles* are round and rated to 257° F. *Type C receptacles* are square and include two mounting screws. Rated to 194° F. UL recognized.

LED Plugs with Cable—An LED indicates power to the plug. Plugs are square and rated to 176° F. Meet IP67 for protection against temporary water submersion. *Type A plugs* are molded to an 18 AWG cable with PVC jacket. *Type C plugs* are molded to a 20 AWG cable with polyurethane jacket.

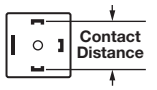



Female Plug


Male Receptacle, Type A


Male Receptacle, Type C

No. of Poles	AC/DC Voltage	Amps	Female Plugs Ht.	Female Plugs Thread Size		Male Receptacles Ht.	Male Receptacles Thread Size		
DIN 43650 Type A—18 mm (0.71″) Contact Distance									
2 & Ground	120	8	1.08″	PG-11	4985K16 $10.98	1.32″	½ NPT Male	4985K22	$6.02
2 & Ground	250	16	1.08″	½ NPT Female	4985K15 4.16	1.32″	½ NPT Male	4985K22	6.02
2 & Ground	250	16	1.08″	PG-11	4985K11 4.09	1.32″	½ NPT Male	4985K22	6.02
3 & Ground	250	16	1.08″	½ NPT Female	4985K19 4.53	1.32″	½ NPT Male	4985K28	4.78
3 & Ground	250	16	1.08″	PG-11	4985K17 4.27	1.32″	½ NPT Male	4985K28	4.78
DIN 43650 Type C—8 mm (0.31″) Contact Distance									
2 & Ground	250	6	0.62″	PG-7	4985K31 2.96	0.67″	—	4985K32	2.82
3 & Ground	250	6	0.62″	PG-7	4985K33 3.40	0.67″	—	4985K34	3.04
Industrial Standard Type C—9.4 mm (0.37″) Contact Distance									
2 & Ground	250	4	0.62″	PG-7	4985K24★ 3.09	0.64″	—	4985K35	3.13
3 & Ground	250	4	0.62″	PG-7	4985K26★ 3.22	0.64″	—	4985K37	3.13

★ Rated 6 amps.


Female LED Plug with Cable

No. of Poles	AC/DC Voltage	Amps	Ht.	Female LED Plugs with Cable 6-ft. Lg.		16-ft. Lg.	
DIN 43650 Type A—18 mm (0.71″) Contact Distance							
2 & Ground	24	10	1.09″	4985K81	$21.44	4985K82	$26.38
DIN 43650 Type C—8 mm (0.31″) Contact Distance							
2 & Ground	24	4	0.59″	4985K91	26.69	4985K92	29.58
Industrial Standard Type C—9.4 mm (0.37″) Contact Distance							
2 & Ground	24	4	0.59″	4985K93	23.00	4985K94	30.13

Build-Your-Own Push-In Connectors

Create a single connector or stack the housings and lock them together to form a multipole connector. Also known as power-pole connectors, these are genderless; push them together to mate. A complete connector consists of a housing and a contact.

Connectors

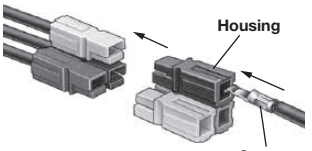

Six Housings Shown

Connector kits consist of housings with contacts. **Housings** are polycarbonate. **Contacts** are silver-plated copper alloy, except 15- and 30-amp contacts are silver-plated copper and 45-amp contacts are tin-plated copper. An internal stainless steel spring ensures that the contacts maintain constant pressure.

The given amp rating is based on a single-pole configuration using the largest wire shown within each range. Rated to 221° F. UL and C-UL recognized.

To Order For *connector kits* and *housings*, please specify black, blue, green, red, or white.

For Wire Size, AWG	AC/DC Voltage	Amps	*Mated Housing* Lg.	Wd.	Ht.	Pkg. Qty.	Connector Kits	Pkg.	Housings	Pkg.	Contacts	Pkg.
20-16	600	15	1.62″	0.31″	0.31″	5	8026K76	$3.66	8026K5	$2.49	8026K96	$1.37
16-12	600	30	1.62″	0.31″	0.31″	5	8026K1	3.66	8026K5	2.49	8026K91	1.36
14-10	600	45	1.62″	0.31″	0.31″	5	8026K9	5.50	8026K5	2.49	8026K95	3.08
6	600	75	3.2″	0.63″	0.63″	1	8026K2	3.45	8026K6	2.08	8026K92	1.42
2	600	120	4.63″	0.88″	0.88″	1	8026K3	10.26	8026K7	5.02	8026K93	5.83
1/0	600	180	5.5″	1.13″	1.13″	1	8026K4	15.18	8026K8	8.38	8026K94	6.97

Enclosures for 15-, 30-, and 45-amp Connectors


Standard (Shown with Four Connectors)


Plug


Inline Receptacle


Panel-Mount Receptacle

Enclosures hold four complete connectors. Color is black. *Plug* and *inline receptacle* enclosures meet IP68 for protection against continuous water submersion when used with PG-16 cord grips (sold separately). *Panel-mount receptacle* enclosure has four 0.12″ dia. mounting holes (screws not included). Meets IP68 for protection against continuous water submersion.

Covers protect connectors and allow the enclosure to maintain its IP68 rating when not in use.

	Lg.	Wd.	Ht.	Enclosures		Covers	
Standard	1.9″	1.2″	0.9″	8026K19	$4.85		
Plug	2.7″	2″	1.4″	8026K26	12.40	8026K36	$8.69
Inline Receptacle	3.2″	2″	1.7″	8026K27	13.19	8026K38	7.55
Panel-Mount Receptacle	1.5″	2″	1.8″	8026K28	14.35	8026K37	8.21
PG-16 Cord Grip for 0.22″-0.44″ Dia. Cord						8026K46	3.96
PG-16 Cord Grip for 0.31″-0.56″ Dia. Cord						8026K47	3.96

Build-Your-Own Locking Connectors

Join as many connectors as you need—these clamp together for secure connections. Housing is polycarbonate with copper alloy pins and sockets. Rated to 257° F. UL recognized.

2-pole connectors have screw terminals that require a 2 mm hex key to install wire.

5-pole connectors have screw-clamp connections.




No. of Poles	AC/DC Voltage	Amps	For Wire Size, AWG	*Mated Housing* Lg.	Wd.	Ht.	Plugs		Receptacles	
2	600	40	14-8	2.8″	1.8″	0.9″	1864K31	$20.76	1864K33	$24.05
5	600	16	26-14	2.2″	1.8″	0.9″	1864K35	13.17	1864K37	13.55

Weatherproof Low-Voltage DC Connectors

Also known as weather-pack connectors, these DC connectors withstand moisture, chemicals, and extreme temperatures. Use them in forklifts, trucks, and trailer lighting. A complete connector requires a plug, a receptacle, and enough pins, sockets, and wire seals for the number of poles you're connecting. Choose your own components or select a kit. Rated to 16 volts DC.

Plugs and Receptacles

Made of heat-stabilized black nylon. Temperature range is –40° to 257° F. Rated 20 amps.




No. of Poles	*Mated Housing* Lg.	Wd.	Ht.	Pkg. Qty.	Plugs	Pkg.	Receptacles	Pkg.
1	2.63″	0.64″	0.82″	5	9171T18	$8.74	9171T23	$6.14
2	2.69″	0.95″	0.82″	5	9171T19	8.43	9171T24	6.06
3	2.69″	1.25″	0.82″	5	9171T21	8.74	9171T25	5.80
4	2.72″	1.55″	0.82″	2	9171T22	4.86	9171T26	3.40
6	2.72″	2.15″	0.82″	1	9171T27	5.63	9171T28	5.40

Kits

Include a plug, receptacle, pin, socket, and wire seal for each pole.


3 Pole

No. of Poles	Amps	For Wire Size, AWG	*Mated Housing* Lg.	Wd.	Ht.		
1	20	20-18	2.63″	0.64″	0.82″	9171T35	$6.71
1	20	16-14	2.63″	0.64″	0.82″	9171T31	6.63
1	30	14-12	2.69″	0.72″	0.93″	9171T51	12.20
2	20	20-18	2.69″	0.95″	0.82″	9171T36	7.80
2	20	16-14	2.69″	0.95″	0.82″	9171T32	7.71
2	30	14-12	2.66″	1.04″	1.01″	9171T52	12.06
3	20	20-18	2.69″	1.25″	0.82″	9171T37	9.34
3	20	16-14	2.69″	1.25″	0.82″	9171T33	9.26
3	30	14-12	2.87″	1.33″	1.07″	9171T53	12.86
4	20	20-18	2.72″	1.55″	0.82″	9171T38	10.69
4	20	16-14	2.72″	1.55″	0.82″	9171T34	10.60

Pins, Sockets, and Wire Seals

Pins and **sockets** are tin-plated brass. Rated 20 amps.

Wire seals provide an environmental seal between the wire and the plug or socket.

Cavity plugs fill unused connector cavities to keep out dust.





For Wire Size, AWG	Pins	Pkg. of 25	Sockets	Pkg. of 25	Wire Seals	Pkg. of 25
24-22	9171T44	$11.94	9171T45	$11.77	9171T46	$9.54
20-18	9171T11	11.11	9171T13	10.66	9171T16	5.80
16-14	9171T12	11.11	9171T14	10.66	9171T15	5.80
12	9171T41	11.31	9171T42	11.20	9171T43	8.31
Cavity Plugs (Pkg. of 25)					9171T17	8.20

Tools

Extraction tools release the locking mechanism on pins and sockets so you can remove them from a housing.


Extraction Tool


Non-Ratchet Crimper


Ratchet Crimper

	For Amp Rating	For Wire Size, AWG		
Extraction Tool	20	24-14	9171T7	$3.03
Extraction Tool	30	14-12	9171T6	5.30
Non-Ratchet Crimper	20 and 30	24-12	9171T9	41.30
Ratchet Crimper	20	20-14	9171T8	150.32

Harsh Environment Low-Voltage DC Connectors

A sealed plastic housing resists corrosion and allows these connectors to endure temporary submersion in up to 3 ft. of water. Connectors consist of a plug, a receptacle, and enough pins and sockets to correspond to the number of poles. They are compatible with Deutsch-style connectors. Pins and sockets are made of nickel-plated copper alloy, except pins and sockets for 7.5-amp connectors are nickel-plated copper. Crimp wire onto the pins and sockets (crimper sold separately below). Temperature range is –67° to 257° F.

7.5-amp connectors are UL recognized.

13-amp connectors meet IP67 for protection against temporary water submersion and IP69K for protection against high-pressure, high-temperature washdowns. UL recognized.

25-amp connectors meet IP67 for protection against temporary water submersion.



4 Pole

No. of Poles	Amps	For Wire Size, AWG	Lg.	Wd.	Ht.		
2	7.5	20	2″	0.7″	0.6″	6084T31	$9.00
2	13	18-16	2.1″	0.7″	0.8″	6084T21	8.50
2	25	14-12	2.4″	0.9″	0.9″	6084T27	16.87
3	7.5	20	2″	0.9″	0.6″	6084T32	12.08
3	13	18-16	2.1″	0.8″	1″	6084T22	7.56
4	7.5	20	2.2″	0.8″	0.8″	6084T33	15.40
4	13	18-16	2.3″	0.8″	0.9″	6084T23	8.92

No. of Poles	Amps	For Wire Size, AWG	Lg.	Wd.	Ht.		
4	25	14-12	2.5″	1.1″	1.1″	6084T28	$21.62
6	7.5	20	2.2″	0.8″	0.9″	6084T34	21.85
6	13	18-16	2.3″	0.8″	1.1″	6084T24	11.85
8	7.5	20	2.2″	1.3″	0.8″	6084T35	26.75
8	13	18-16	2.3″	1.4″	1″	6084T25	15.10
12	7.5	20	2.2″	1.6″	0.8″	6084T36	38.37
12	13	18-16	2.3″	1.8″	0.9″	6084T26	20.13

Crimper — 6084T3 — 54.13

Mil. Spec. Connectors



2 Pole (10SL-4) · 3 Pole (10SL-3) · 4 Pole (14S-2) · 5 Pole (14S-5) · 6 Pole (14S-6) · 7 Pole (16S-1) · 10 Pole (18-1) · 14 Pole (20-27) · 17 Pole (20-29) · 37 Pole (28-21)

Meet the need for tough connectors that work well in high-vibration applications and withstand frequent connection and disconnection. Connectors meet MIL-DTL-5015, so they're compatible with other manufacturers' products that meet the same standard. All come assembled with pins and sockets in place. They have solder terminals and accept 16 AWG wire. Housing is aluminum alloy with a green cadmium finish. Rated to 13 amps. Temperature range is –67° to 257° F.

Plugs have a built-in clamp to relieve strain on your cable. **Receptacles** have four 0.12″ dia. mounting holes. **Closure caps** are made of metal and protect connectors when they are not mated.





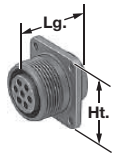

No. of Poles	Voltage AC	Voltage DC	Ht.	Male Plugs with Internal Thread Lg.	Trade No. MS3106F		Female Plugs with External Thread Lg.	Trade No. MS3101F		Female Receptacles with External Thread Lg.	Trade No. MS3102R	
2	500	700	1.1″	2.3″	10SL-4P	8903T11	2.3″	10SL-4S	8903T61 $28.78	1″	10SL-4S	8903T41 $11.06
3	500	700	1.1″	2.3″	10SL-3P	8903T12	2.3″	10SL-3S	8903T62 29.60	1″	10SL-3S	8903T42 12.65
4	200	250	1.2″	2.3″	14S-2P	8903T13	2.3″	14S-2S	8903T63 26.80	1″	14S-2S	8903T43 13.49
5	200	250	1.2″	2.3″	14S-5P	8903T14	2.3″	14S-5S	8903T64 27.38	1″	14S-5S	8903T44 14.66
6	200	250	1.2″	2.3″	14S-6P	8903T15	2.3″	14S-6S	8903T65 28.00	1″	14S-6S	8903T45 15.11
7	500	700	1.3″	2.3″	16S-1P	8903T16	2.3″	16S-1S	8903T66 37.71	1″	16S-1S	8903T46 18.35
10	200	250	1.4″	2.7″	18-1P	8903T17	2.7″	18-1S	8903T67 37.19	1.4″	18-1S	8903T47 21.64
14	500	700	1.5″	2.8″	20-27P	8903T18	2.8″	20-27S	8903T68 45.44	1.4″	20-27S	8903T48 30.16
17	500	700	1.5″	2.8″	20-29P	8903T19	2.8″	20-29S	8903T69 46.94	1.4″	20-29S	8903T49 31.18
37	500	700	2″	3″	28-21P	8903T71	3″	28-21S	8903T76 69.47	1.4″	28-21S	8903T74 41.53







No. of Poles	Voltage AC	Voltage DC	Ht.	Female Plugs with Internal Thread Lg.	Trade No. MS3106F		Male Plugs with External Thread Lg.	Trade No. MS3101F		Male Receptacles with External Thread Lg.	Trade No. MS3102R	
2	500	700	1.1″	2.3″	10SL-4S	8903T21	2.3″	10SL-4P	8903T51 $28.46	1″	10SL-4P	8903T31 $10.83
3	500	700	1.1″	2.3″	10SL-3S	8903T22	2.3″	10SL-3P	8903T52 28.73	1″	10SL-3P	8903T32 11.71
4	200	250	1.2″	2.3″	14S-2S	8903T23	2.3″	14S-2P	8903T53 27.37	1″	14S-2P	8903T33 14.09
5	200	250	1.2″	2.3″	14S-5S	8903T24	2.3″	14S-5P	8903T54 26.38	1″	14S-5P	8903T34 13.34
6	200	250	1.2″	2.3″	14S-6S	8903T25	2.3″	14S-6P	8903T55 26.63	1″	14S-6P	8903T35 13.62
7	500	700	1.3″	2.3″	16S-1S	8903T26	2.3″	16S-1P	8903T56 37.21	1″	16S-1P	8903T36 15.95
10	200	250	1.4″	2.7″	18-1S	8903T27	2.7″	18-1P	8903T57 34.55	1.4″	18-1P	8903T37 17.02
14	500	700	1.5″	2.8″	20-27S	8903T28	2.8″	20-27P	8903T58 38.88	1.4″	20-27P	8903T38 20.72
17	500	700	1.5″	2.8″	20-29S	8903T29	2.8″	20-29P	8903T59 42.41	1.4″	20-29P	8903T39 23.98
37	500	700	2″	3″	28-21S	8903T72	3″	28-21P	8903T75 54.44	1.4″	28-21P	8903T73 27.27

For No. of Poles	Closure Caps For Plugs		For Receptacles	
2 and 3	8903T81	$15.71	8903T82	$11.31
4, 5, and 6	8903T83	15.69	8903T84	12.91
7	8903T85	16.60	8903T86	13.93

For No. of Poles	Closure Caps For Plugs		For Receptacles	
10	8903T87	$16.73	8903T88	$13.20
14 and 17	8903T89	17.58	8903T91	15.07
37	8903T92	24.67	8903T93	22.58

Quick-Connect Mil. Spec. Connectors

After you push these military-grade connectors together, lock them with a quarter turn. The turn-lock design provides a secure hold in high-vibration applications and saves time during frequent connections and disconnections. Connectors meet MIL-DTL-26482 standards, so they're compatible with other manufacturers' products that meet the same standard. All come assembled with pins and sockets in place.

Connectors have solder terminals. They accept 24-20 AWG wire, except 3-pole connectors accept 20-16 AWG wire and 15-pole connectors have one pole that accepts 20-16 AWG wire. Environmentally sealed to resist moisture, the housing is aluminum alloy with a green cadmium finish. Temp. range is –67° to 257°F. UL and C-UL recognized.

Plugs have a built-in clamp to relieve strain on your cable. **Receptacles** have four 0.12″ dia. mounting holes.

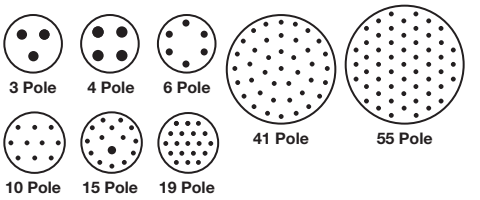

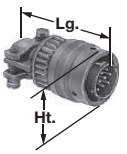



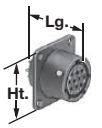

No. of Poles	Voltage AC	Voltage DC	Amps	Ht.	Lg.	Male Plugs with Internal Turn-Lock Trade No. MS3116F		Lg.	Female Plugs with External Turn-Lock Trade No. MS3111F		Lg.	Female Receptacles with External Turn-Lock Trade No. MS3112E	
3	1,000	1,275	13	1.1″	1.9″	12-3P	6134T41 $29.33	1.9″	12-3S	6134T71 $36.85	0.8″	12-3S	6134T31 $17.63
4	600	850	7.5	0.8″	1.9″	8-4P	6134T42 22.63	1.9″	8-4S	6134T72 33.58	0.8″	8-4S	6134T32 14.84
6	600	850	7.5	1″	1.9″	10-6P	6134T43 26.08	1.9″	10-6S	6134T73 39.63	0.8″	10-6S	6134T33 14.09
10	600	850	7.5	1.1″	1.9″	12-10P	6134T44 28.05	1.9″	12-10S	6134T74 44.31	0.8″	12-10S	6134T34 24.35
15	600	850	7.5★	1.2″	1.9″	14-15P	6134T45 46.46	1.9″	14-15S	6134T75 58.90	0.8″	14-15S	6134T35 32.51
19	600	850	7.5	1.2″	1.9″	14-19P	6134T46 33.65	1.9″	14-19S	6134T76 59.84	0.8″	14-19S	6134T36 36.94
41	600	850	7.5	1.5″	2.3″	20-41P	6134T47 77.68	2.3″	20-41S	6134T77 94.27	1.1″	20-41S	6134T37 61.21
55	600	850	7.5	1.7″	2.3″	22-55P	6134T48 89.87	2.3″	22-55S	6134T78 99.49	1.1″	22-55S	6134T38 95.62

★ One pole is rated 13 amps.







No. of Poles	Voltage AC	Voltage DC	Amps	Ht.	Lg.	Female Plugs with Internal Turn-Lock Trade No. MS3116F		Lg.	Male Plugs with External Turn-Lock Trade No. MS3111F		Lg.	Male Receptacles with External Turn-Lock Trade No. MS3112E	
3	1,000	1,275	13	1.1″	1.9″	12-3S	6134T51 $28.72	1.9″	12-3P	6134T61 $32.94	0.8″	12-3P	6134T21 $11.71
4	600	850	7.5	0.8″	1.9″	8-4S	6134T52 24.77	1.9″	8-4P	6134T62 31.43	0.8″	8-4P	6134T22 11.58
6	600	850	7.5	1″	1.9″	10-6S	6134T53 31.75	1.9″	10-6P	6134T63 35.35	0.8″	10-6P	6134T23 11.03
10	600	850	7.5	1.1″	1.9″	12-10S	6134T54 33.57	1.9″	12-10P	6134T64 37.27	0.8″	12-10P	6134T24 12.83
15	600	850	7.5★	1.2″	1.9″	14-15S	6134T55 58.43	1.9″	14-15P	6134T65 49.06	0.8″	14-15P	6134T25 21.49
19	600	850	7.5	1.2″	1.9″	14-19S	6134T56 47.50	1.9″	14-19P	6134T66 46.29	0.8″	14-19P	6134T26 23.22
41	600	850	7.5	1.5″	2.3″	20-41S	6134T57 106.27	2.3″	20-41P	6134T67 77.72	1.1″	20-41P	6134T27 52.87
55	600	850	7.5	1.7″	2.3″	22-55S	6134T58 127.80	2.3″	22-55P	6134T68 91.71	1.1″	22-55P	6134T28 57.69

★ One pole is rated 13 amps.

Quick-Connect Crimp-Style Connectors

A quarter turn locks connectors securely together, yet this turn-lock design is also easy to disconnect. Connectors have crimp-style terminals for easier wire installation than solder terminals (crimper sold separately below). To assemble, insert the included pins and sockets into the connectors. The connectors rated to 7.5 amps accept 20 AWG wire; the connectors rated to 13 amps accept 16 AWG wire.

All have the same pin and socket configurations as MIL-DTL-26482 connectors, so they're compatible with other manufacturers' products that meet that standard. Housing is nickel-plated zinc alloy. Temperature range is –40° to 221°F. Meet IP67 for protection against temporary water submersion. UL listed.

Receptacles have four 0.12″ dia. mounting holes.

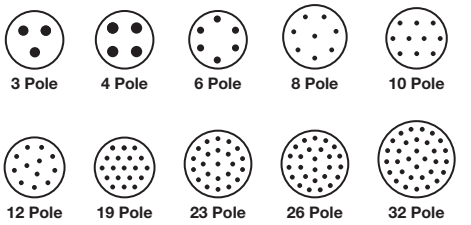

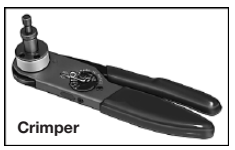



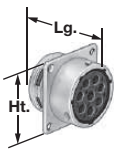





No. of Poles	AC/DC Voltage	Amps	Ht.	Male Plugs with Internal Turn-Lock Lg.		Female Receptacles with External Turn-Lock Lg.		Female Plugs with Internal Turn-Lock Lg.		Male Receptacles with External Turn-Lock Lg.	
3	250	13	1″	2.9″	6168T17 $22.44	1.3″	6168T77 $11.13	2.9″	6168T37 $25.47	1.3″	6168T57 $11.02
4	250	13	0.9″	2.7″	6168T16 21.65	1.3″	6168T76 11.42	2.7″	6168T36 24.62	1.3″	6168T56 11.27
6	150	7.5	0.9″	2.7″	6168T11 22.78	1.3″	6168T71 12.73	2.7″	6168T31 25.93	1.3″	6168T51 12.38
8	250	13	1″	2.9″	6168T18 25.25	1.3″	6168T78 14.11	2.9″	6168T38 28.47	1.3″	6168T58 13.82
10	150	7.5	1″	2.9″	6168T12 26.56	1.3″	6168T72 15.56	2.9″	6168T32 30.27	1.3″	6168T52 14.95
12	250	13	1.2″	2.9″	6168T19 28.29	1.3″	6168T79 17.51	2.9″	6168T39 31.95	1.3″	6168T59 16.84
19	150	7.5	1.2″	2.9″	6168T13 32.22	1.3″	6168T73 25.20	2.9″	6168T43 38.33	1.3″	6168T53 20.76
19	250	13	1.3″	3.1″	6168T21 33.85	1.3″	6168T81 22.55	3.1″	6168T41 39.76	1.3″	6168T62 21.47
23	250	13	1.4″	3.1″	6168T22 36.82	1.3″	6168T82 25.80	3.1″	6168T42 43.51	1.3″	6168T63 24.49
26	150	7.5	1.3″	3.1″	6168T14 37.65	1.3″	6168T74 30.22	3.1″	6168T34 44.09	1.3″	6168T54 25.42
32	150	7.5	1.4″	3.1″	6168T15 41.87	1.3″	6168T75 34.69	3.1″	6168T35 49.07	1.3″	6168T55 29.56
Crimper											6168T3 453.27

Heavy Duty Enclosed Connectors

Made for signal and power circuits in harsh environments, the mated components create a connector that is rated NEMA 12 for protection against oil and coolant seepage and meets IP65 for protection against water projected from a nozzle. They are rated NEMA 4X to withstand washdowns, except vibration-resistant kits do not meet NEMA 4X and compact kits meet NEMA 4.

A complete connector consists of a male insert, female insert, hood, and base. The hood and base latch together for quick disconnection for equipment repairs. Choose your own components or select a kit. Rated to 257°F, except vibration-resistant kits are rated to 194°F.

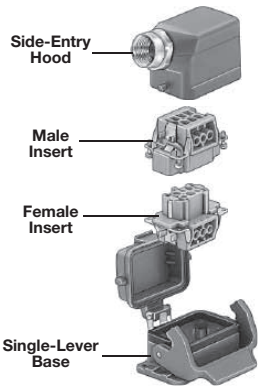

Inserts

Inserts have notches to prevent mismating. They are made of plastic with silver-plated pins and sockets. UL recognized and CSA certified. **Inserts with screw terminals** are for 18-14 AWG wire. **Inserts with spring-clamp terminals** are for 26-14 AWG wire and offer a secure connection in high-vibration applications.

No. of Poles	AC/DC Voltage	Amps	*With Screw Terminals* Male		*With Screw Terminals* Female		*With Spring-Clamp Terminals* Male		*With Spring-Clamp Terminals* Female	
6	600	16	8037K46	$12.35	8037K47	$13.63	8037K16	$10.10	8037K17	$10.20
10	600	16	8037K56	15.92	8037K57	14.71	8037K18	13.63	8037K19	12.75
16	600	16	8037K66	18.71	8037K67	18.02	8037K26	19.12	8037K27	17.94
24	600	16	8037K76	22.31	8037K77	22.55	8037K38	24.02	8037K39	25.59
32	600	16	8037K86	40.63	8037K87	38.73	8037K28	31.48	8037K29	34.02
48	600	16	8037K96	48.80	8037K97	52.88	8037K36	45.15	8037K37	44.32

Hoods and Bases

Housing is aluminum. **Bases** have four mounting holes (screws not included). They have an attached cover that provides protection when a hood is not connected. UL recognized and CSA certified.

No. of Poles	Side-Entry Hoods: Hub Size, NPT Female	Lg.	Wd.	Ht.			Top-Entry Hoods: Hub Size, NPT Female	Lg.	Wd.	Ht.			Bases: Mounting Hole Dia.	Lg.	Wd.	Ht.		
Single Lever																		
6	½″	2.4″	1.7″	1.8″	8037K49	$18.88	½″	2.4″	1.7″	1.6″	8037K48	$19.18	0.17″	3.2″	3.6″	1.8″	8037K92	$25.73
10	½″	2.9″	1.7″	2.2″	8037K59	23.75	½″	2.9″	1.7″	1.8″	8037K58	22.45	0.17″	3.7″	3.6″	1.9″	8037K93	32.96
16	¾″	3.7″	1.7″	2.5″	8037K69	21.82	¾″	3.7″	1.7″	1.8″	8037K68	22.16	0.17″	4.5″	3.7″	1.9″	8037K94	35.47
24	¾″	4.7″	1.7″	2.5″	8037K79	21.25	¾″	4.7″	1.7″	2.2″	8037K78	23.41	0.17″	5.5″	3.7″	1.9″	8037K95	41.06
48	1″	5.2″	3.5″	3.9″	8037K89	63.24	1″	5.2″	3.5″	3.9″	8037K88	68.14	0.25″	6.5″	5.1″	4″	8037K71	70.41
Dual Lever																		
32	1″	3.7″	3.3″	3.7″	8037K91	48.04	1″	3.7″	3.3″	3.7″	8037K98	45.10	0.22″	5.2″	4″	2.3″	8037K72	114.02

Connector Kits

Kits include everything you need for a complete connector. They are UL recognized.

Standard—Inserts have screw terminals. *Single-lever bases* have an attached plastic cover, unless noted.

Vibration Resistant—Inserts have spring-clamp terminals.

Harsh Environment—Connectors have stainless steel hardware and fluoroelastomer seals for chemical and UV resistance. Bases have a removable aluminum cover, except the 48-pole connector has an attached plastic cover. All inserts have screw terminals.

Compact—Inserts have screw terminals, except the 5-pole kit has spring-clamp terminals.

High Amp—Inserts have screw terminals. The *4-pole kit* has two control pins to prevent arcing if it is disconnected before the power is turned off. Ideal for brakes or thermo sensors on large motors. Control pins are rated to 300 volts AC.


Standard Top Entry, Dual Lever


Vibration Resistant Side Entry, Single Lever

No. of Poles	Hub Size, NPT Female	AC/DC Voltage	Amps	For Wire Size, AWG	Mounting Hole Dia.	Lg.	Wd.	Side Entry Ht.			Top Entry Ht.		
Standard—Aluminum Housing													
Single Lever													
6	½″	600	16	18-14	0.17″	3.2″	1.7″	2.8″	3240K11★	$59.75	2.7″	3240K21	$67.50
6	½″	600	16	18-14	0.17″	3.2″	1.7″	2.8″	3240K15	65.00	—	—	—
10	½″	600	16	18-14	0.17″	3.7″	1.7″	3.4″	3240K16	83.33	2.9″	3240K22	85.91
16	¾″	600	16	18-14	0.17″	4.5″	1.7″	3.6″	3240K17	85.23	2.9″	3240K23	93.18
24	¾″	600	16	18-14	0.17″	5.5″	1.7″	3.6″	3240K18	103.41	4.1″	3240K24	105.50
48	1¼″	600	16	18-14	0.25″	6.5″	3.8″	5.4″	3240K19	226.92	5.4″	3240K25	232.08
Dual Lever													
10	½″	600	16	18-14	0.17″	3.7″	1.7″	3.4″	3240K12	78.25	2.9″	3240K26	77.50
16	¾″	600	16	18-14	0.17″	4.5″	1.7″	3.6″	3240K13	85.00	2.9″	3240K27	80.95
24	¾″	600	16	18-14	0.17″	5.5″	1.7″	3.6″	3240K14	88.41	4.1″	3240K28	101.14
32	1¼″	600	16	18-14	0.22″	4.9″	3.5″	5″	3240K31	181.91	5″	3240K29	178.72
Vibration Resistant—Plastic Housing													
Single Lever													
6	½″	600	16	26-14	0.18″	3.3″	2.6″	3.9″	3240K33	66.62	4.5″	3240K32	66.62
Dual Lever													
10	½″	600	16	26-14	0.18″	4.4″	2.3″	3.9″	3240K35	81.00	4.5″	3240K34	81.00
16	¾″	600	16	26-14	0.18″	5.3″	2.3″	4.2″	3240K37	86.70	4.6″	3240K36	86.70
24	¾″	600	16	26-14	0.18″	6.3″	2.3″	4.2″	3240K39	102.27	4.6″	3240K38	102.27
Harsh Environment—Aluminum Housing													
Single Lever													
6	½″	600	16	18-14	0.17″	3.2″	1.7″	2.9″	3240K41	175.53	—	—	—
48	1¼″	600	16	18-14	0.25″	6.5″	3.8″	5.4″	3240K45	482.73	—	—	—
Dual Lever													
10	½″	600	16	18-14	0.17″	3.7″	1.7″	3.4″	3240K42	221.28	—	—	—
16	¾″	600	16	18-14	0.17″	4.5″	1.7″	3.6″	3240K43	225.53	—	—	—
24	¾″	600	16	18-14	0.17″	5.5″	1.7″	3.6″	3240K44	242.86	—	—	—
Compact—Zinc Housing													
Single Lever													
3	¾″	600	40	14-10	0.13″	1.9″	1.4″	3.3″	8735T2	92.73	—	—	—
5	¾″	600	16	26-14	0.13″	1.9″	1.4″	3.3″	8735T1	75.00	—	—	—
High-Amp—Aluminum Housing													
Dual Lever													
4	1″	600	80	16-6	0.17″	4.5″	1.7″	4.1″	8754T6	209.09	—	—	—
6	1″	600	35	10	0.17″	4.5″	1.7″	4.1″	8754T5	106.82	—	—	—

★ Does not have a cover.

Build-Your-Own Heavy Duty Enclosed Connectors

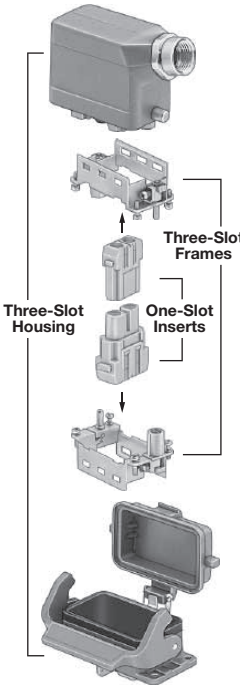

Combine different types of inserts to build a connector that meets your requirements for machine power and control applications. A complete connector consists of male and female inserts, two frames, and a housing. The inserts snap into the frames, and the frames fit into the housing.

Inserts


Male Standard 2 Pole/1 Slot


Female Standard 2 Pole/1 Slot


Male USB


Female USB


Male Compressed Air


Female Compressed Air

Select a male and a female insert for each slot in your frame. **Standard inserts** have a polycarbonate housing with copper alloy contacts. UL recognized. **USB inserts** are for standard USB cords and have gold-plated copper alloy contacts. **Compressed air inserts** are for ¼″ ID tubing. They have a Buna-N seal and acetal contacts. *Female insert* has a polypropylene shut-off valve. UL recognized.

No. of Poles	No. of Slots	AC/DC Voltage	Amps	For Wire Size, AWG	Male		Female	
Standard								
2	1	600	40	14-8	1829K46	$18.88	1829K47	$22.02
2	1	600	70	8-6	1829K15	27.19	1829K16	40.48
2	2	600	100	6-2	1829K21	39.02	1829K22	47.17
3	1	600	40	14-8	1829K17	26.00	1829K18	28.43
5	1	600	16	26-14	1829K48	11.19	1829K49	11.55
USB								
4	1	50	1	—	1829K62	6.94	1829K61	31.84
Compressed Air								
2	1	—	—	—	1829K64	10.90	1829K63	49.10
Space Holder—1 Slot							1829K23	3.36

Frames and Housings

Frames and housings are UL recognized. **Frames** are zinc. **Housings** are aluminum and rated to NEMA 4 and 12 to withstand washdowns and oil seepage. They have a single-lever base and four 0.17″ dia. mounting holes (screws not included). Rated to 257° F. **Kits** include two frames and a housing.

No. of Slots	Frames		Housings: Hub Size, NPT Female	Lg.	Wd.	Ht.			Frame and Housing Kits	
2	1829K41	$21.99	½″	3.1″	1.7″	2.8″	1829K51	$37.83	1829K11	$56.28
3	1829K42	21.36	½″	3.7″	1.7″	3.4″	1829K52	49.74	1829K12	66.72
4	1829K43	21.49	¾″	4.5″	1.7″	3.6″	1829K53	49.74	1829K13	72.78
6	1829K44	22.45	¾″	5.5″	1.7″	4.1″	1829K54	67.50	1829K14	71.12

High-Amp Single-Pole Plugs and Connectors

A high amp rating means the ability to handle big jobs such as industrial machinery and floodlights. Plugs and connectors are easy to connect and disconnect; give them a twist and a push or pull.

Sleeves are shatter- and crack-resistant thermoplastic elastomer, except 570- and 690-amp plugs and connectors have neoprene rubber sleeves. Contacts are brass. Amp ratings are based on using these plugs and connectors with the largest size 194° F rated cable in the wire size range listed (amp ratings decrease as cable size decreases). *140-, 300-,* and *400-amp plugs* and *connectors* are rated NEMA 3R for outdoor use and are UL listed and CSA certified.


Male Plugs


Female Connectors

Amps @ 600V AC	For Wire Size, AWG	O'all Dia.	Available Colors	Male Plugs		Female Connectors	
140	8-4	1″	Black, Blue, Green, Red, White	8030K61	$16.87	8030K71	$16.87
300	2-2/0	1.8″	Black, Blue, Green, Red, White	8030K42	26.98	8030K52	26.98
400	2/0-4/0	1.8″	Black, Blue, Green, Red, White	8030K63	26.98	8030K73	26.98
570	250-350 MCM	2.5″	Black, Blue, Green, Red, White	8030K44	151.05	8030K54	151.05
690	350-500 MCM	2.5″	Black, Blue, Green, Red, White	8030K45	151.05	8030K55	151.05

Flat Power Plugs and Connectors

Designed so they won't roll when stepped on, these plugs and connectors reduce the likelihood of slips and falls in high-traffic areas. All have two poles and one ground. Housing is plastic. Pins and sleeves are brass. UL and C-UL listed.


Male Plugs


Female Connectors

Amps @ 125V AC	Amps @ 250V AC	Cord Connection	Accepts Cord, AWG	Ht.	Wd.	Color	Male Plugs		Female Connectors	
20	15	Crimp Lug	12/3	0.8″	2.2″	Black	8172K1	$7.10	8172K5	$7.10
20	15	Screw Terminal	12/3	0.8″	2″	Black	8172K2	5.92	8172K6	5.92
60	60	Set Screw	6/3	1.2″	3.4″	Black	8172K3	32.07	8172K7	32.07
100	100	Set Screw	2/3 to 4/3	1.3″	4.1″	Gray	8172K4	42.93	8172K8	42.93

Chemical-Resistant Connectors

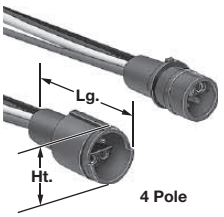

Made of PVC, connectors withstand exposure to chemicals, oils, fuels, salt water, and harsh weather. Use them in construction vehicles and machine tool applications. When mated, the connectors meet IP67 for temporary submersion.

Connectors come assembled with tin-plated copper pins and sockets in place. They have 12″ wire leads, so you don't need a crimper. Housing is black. Temperature range is –40° to 221° F. UL recognized and CSA certified.

No. of Poles	Wire Size, AWG	AC/DC Voltage	Amps	Lg.	Ht.		
1	18	400	15	2.3″	0.6″	9193T11	$13.25
2	20	400	8	2.2″	0.6″	9193T17	14.31
2	18	400	15	2.3″	0.7″	9193T12	13.25
3	20	400	8	2.2″	0.6″	9193T18	16.29
3	18	400	15	2.3″	0.8″	9193T13	15.52
4	20	400	8	2.2″	0.6″	9193T19	18.25
4	18	400	15	2.3″	0.8″	9193T14	18.04
7	18	400	15	2.4″	1.2″	9193T15	26.75
10	18	400	15	2.4″	1.3″	9193T16	32.69

Power Plugs, Connectors, and Receptacles



All of these pin-and-sleeve plugs, connectors, and receptacles meet international standards IEC 309-1 and 309-2, so they are fully interchangeable with other manufacturers' IEC 309 devices. A rugged nylon housing makes them nonconductive, so they are safer than components made of steel. Use them for temporary power systems and portable processing equipment. All are three pole, four wire (three power and one larger ground) and are for use in three-phase voltage systems. Pins and sleeves are brass. There is a single keyway. To prevent incorrect mating, components are color coded by voltage (250V AC devices are blue, 480V AC are red) and housings are sized by amp rating.

Standard—Meet IP44 for protection against splashing water. UL and C-UL listed. CE marked. *Receptacles* have four 1/4″ dia. mounting holes (screws not included).

Washdown—Meet IP67 for protection against water projected from a nozzle. UL listed, CSA certified, and CE marked. *Receptacles* have four mounting holes (screws are included).

To Order: Please specify AC voltage.

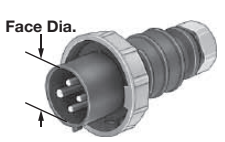





Amps	Available AC Voltages	Male Plugs: Face Dia.			Female Connectors		Female Receptacles	
Standard								
20	250, 480	2″	68965K71	$27.64	68965K73	$37.74	68965K75	$37.08
30	250, 480	2.3″	68965K72	35.72	68965K74	48.51	68965K76	57.20
Washdown								
30	250, 480	2″	68965K31	177.07	68965K34	184.11	68965K37	146.38
60	250, 480	2.5″	68965K32	259.76	68965K35	304.11	68965K38	246.31
100	250, 480	3″	68965K33	396.96	68965K36	504.01	68965K39	364.62

Corrosion-Resistant Power Plugs, Connectors, and Receptacles



When used together, these pin-and-sleeve plugs, connectors, and receptacles maintain a NEMA 4X watertight, corrosion-resistant connection and meet UL 1686 standards. They are fully interchangeable with UL 1686 configured and listed devices including Crouse-Hinds Arktite, Appleton Powertite, and Killark Versamate. Use them to supply power to both fixed and portable electrical equipment including pumps, welders, and blowers. Housing is copper-free aluminum with an epoxy/polyester finish. Contacts are brass with a beryllium-copper tension spring. All have a single keyway. Rated to 600 volts AC and 250 volts DC. UL listed and CSA certified.

Receptacles include a mounting box with a conduit entry hub. All have mounting holes (screws not included). *30-amp receptacles* have two 5/16″ dia. holes, *60-amp receptacles* have two 3/8″ dia. holes, and *100-amp receptacles* have four 7/16″ dia. holes.







Pin Configuration	Amps	Male Plugs: Face Dia.			Female Connectors		Female Receptacles: Hub Size, NPT Female		
Three Pins—Not Grounded (Marked 3W3P)									
A	30	1.9″	7316K15	$209.47	7316K41	$212.30	1″	7316K11	$214.85
A	60	2.3″	7316K25	294.51	7316K42	367.09	1½″	7316K21	333.88
A	100	2.5″	7316K35	453.24	7316K43	528.72	1½″	7316K31	558.85
Four Pins—Grounded (Marked 3W4P)									
C	30	1.9″	7316K18	258.61	7316K44	258.61	1″	7316K14	264.56
C	60	2.5″	7316K28	356.83	7316K45	453.18	1½″	7316K24	418.78
B	100	2.8″	7316K38	539.99	7316K46	611.81	1½″	7316K34	655.18
Four Pins—Not Grounded (Marked 4W4P)									
B	30	1.9″	7316K16	234.06	7316K47	234.06	1″	7316K12	239.48
B	60	2.5″	7316K26	307.85	7316K48	430.46	1½″	7316K22	382.90
C	100	2.8″	7316K36	502.75	7316K49	577.86	1½″	7316K32	621.19

Safe-Break Power Plugs, Connectors, and Receptacles





Male Plug

No need for a separate disconnect switch—plug, connector, and receptacle combinations have spring-loaded contacts that act like a switch and open to make a safe break, allowing you to connect and disconnect with the power on. They can withstand a 100,000-amp short circuit. Made of fiberglass-reinforced polyester with silver-nickel contacts. Components lock together to form a connection that is rated NEMA 4X to withstand washdowns and resist corrosion. UL 2682 listed as a switch-rated plug and receptacle for branch circuit disconnect switching and motor circuit disconnect switching. CSA certified. *20-, 30-,* and *60-amp plugs, connectors,* and *receptacles* meet IP67 for protection against temporary water submersion.

Plugs have three power pins plus one ground pin. **Receptacles** have a 30° angle and a junction box with conduit entry hub. They have four 1/4″ dia. mounting holes, except 100-amp receptacle has 5/16″ dia. mounting holes. Screws are not included.



Female Connector



Female Receptacle

To Order: Please specify AC voltage.

Amps	Available AC Voltages	Male Plugs: Face Dia.			Female Connectors		Female Receptacles: Hub Size, NPT Female		
20	250, 480	1.3″	6737K31	$61.77	6737K32	$98.89	1″	6737K33	$173.90
30	250, 480, 600	1.8″	6737K34	131.85	6737K35	261.10	1″	6737K36	320.35
60	250, 480, 600	2.2″	6737K37	245.34	6737K38	414.89	1″	6737K39	470.09
100	250, 480, 600	2.6″	6737K44	366.85	6737K45	609.77	1½″	6737K46	689.52

About NEMA Turn-Lock Plugs, Connectors, and Receptacles

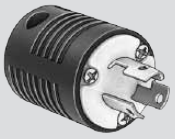

Plug



Connector



Receptacle



After mating plugs with connectors or receptacles, give them a quarter turn to lock the connection. The locked connection remains secure in high-vibration applications and prevents accidental disconnection, so it is suitable for critical connections. All conform to National Electrical Manufacturers' Association (NEMA) configurations for plugs and connectors/receptacles.

To replace a device, first check it for a NEMA-style number. It may have a NEMA number ending with a P, C, or R, signifying either a plug, connector, or receptacle. For example, an L5-15P is an L5-15 plug. If you are buying a plug, the NEMA style must match your existing NEMA connector or receptacle. Different NEMA turn-lock styles are not compatible; for example, an L5-15 plug will not fit an L5-20 receptacle.

If you do not have a NEMA-style number, match the plug, connector, or receptacle you're replacing to a diagram in the chart below, making sure the voltage and amp ratings match your requirements. If you don't see a diagram that matches your configuration, see page 819 for space-saver (NEMA midget) styles and non-NEMA styles, and page 820 for NEMA straight-blade styles.

Three Blades—Grounded



125V AC, 15 Amps
L5-15



125V AC, 20 Amps
L5-20



125V AC, 30 Amps
L5-30



250V AC, 15 Amps
L6-15

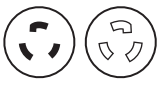

250V AC, 20 Amps
L6-20



250V AC, 30 Amps
L6-30



277V AC, 15 Amps
L7-15



277V AC, 20 Amps
L7-20



277V AC, 30 Amps
L7-30

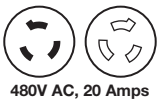

480V AC, 20 Amps
L8-20

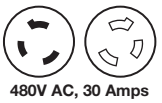

480V AC, 30 Amps
L8-30

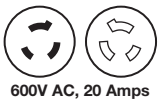

600V AC, 20 Amps
L9-20

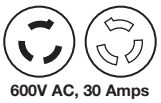

600V AC, 30 Amps
L9-30

Four Blades—Grounded

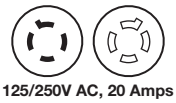

125/250V AC, 20 Amps
L14-20

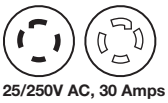

125/250V AC, 30 Amps
L14-30

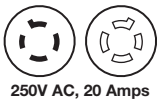

250V AC, 20 Amps
L15-20

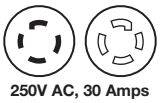

250V AC, 30 Amps
L15-30

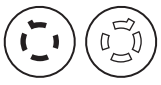

480V AC, 20 Amps
L16-20

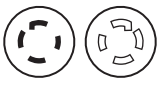

480V AC, 30 Amps
L16-30

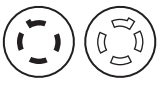

600V AC, 30 Amps
L17-30

Five Blades—Grounded



120/208V AC
20 Amps
L21-20



120/208V AC
30 Amps
L21-30

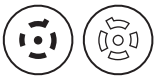

277/480V AC
20 Amps
L22-20



277/480V AC
30 Amps
L22-30

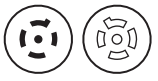

347/600V AC
20 Amps
L23-20

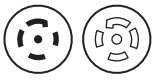

347/600V AC
30 Amps
L23-30

Two Blades—Non-Grounded



125V AC, 15 Amps
L1-15



250V AC, 20 Amps
L2-20

Three Blades—Non-Grounded



125/250V AC, 20 Amps
L10-20



125/250V AC, 30 Amps
L10-30

Four Blades—Non-Grounded

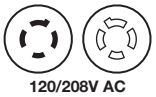

120/208V AC
20 Amps
L18-20



120/208V AC
30 Amps
L18-30

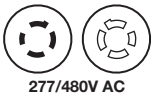

277/480V AC
20 Amps
L19-20

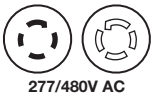

277/480V AC
30 Amps
L19-30

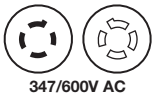

347/600V AC
20 Amps
L20-20

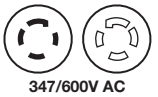

347/600V AC
30 Amps
L20-30

Turn-Lock Plugs, Connectors, and Receptacles

Mate plugs with connectors or receptacles and give them a quarter turn to lock the connection. This connection remains secure in high-vibration applications and prevents accidental disconnection. Made of plastic. UL listed. For receptacle wall plates, see page 893.

Plugs and **connectors** have a cord grip for strain relief.

Flanged Receptacles—*15-amp receptacles* mount in a 1.7″ dia. cut-out. *20-amp receptacles* mount in a 2.1″ dia. cutout, except two-blade receptacles mount in a 1.7″ dia. cutout and four- and five-blade male receptacles mount in a 2.3″ dia. cutout. *30-amp receptacles* mount in a 2.3″ dia. cutout.








NEMA Style	AC Voltage	Amps	OD	Male Plugs		90° Male Plugs		Female Connectors		Female Receptacles		Male Flanged Receptacles		Female Flanged Receptacles	
Three Blades—Grounded															
L5-15	125	15	1.5″	7162K29	$9.41	2351K2	$12.05	7162K32	$16.62	7162K1	$14.89	7162K8	$12.29	7162K77	$16.32
L5-20	125	20	2.2″	7162K36	11.82	2351K5	21.70	7162K38	18.35	7162K4	16.50	7162K9	14.94	7162K94	21.00
L5-30	125	30	2.2″	7162K41	18.35	2351K6	26.75	7162K46	36.59	7162K47	23.39	7162K11	26.68	7162K34	33.91
L6-15	250	15	1.5″	7162K48	9.94	2351K3	14.68	7162K49	17.03	7162K2	15.95				
L6-20	250	20	2.2″	7162K5	11.82	2351K7	21.70	7162K51	18.35	7162K52	16.64	7162K12	14.94	7162K37	25.12
L6-30	250	30	2.2″	7162K53	18.47	2351K8	26.84	7162K54	36.94	7162K55	25.64	7162K13	22.82	7162K39	32.32
L7-15	277	15	1.5″	7162K56	10.82	2351K61	15.50	7162K57	17.82	7162K42	15.75				
L7-20	277	20	2.2″	7162K59	11.82	2351K9	21.70	7162K6	19.32	7162K61	17.30	7162K14	16.03	7162K83	24.76
L7-30	277	30	2.2″	7162K62	19.47	2351K14	27.61	7162K63	38.74	7162K64	26.11	7162K15	30.18	7162K84	34.59
L8-20	480	20	2.2″	7162K65	12.59	2351K15	22.30	7162K66	21.26	7162K67	18.14	7162K16	16.38	7162K85	24.06
L8-30	480	30	2.2″	7162K68	20.35	2351K16	28.30	7162K69	39.56	7162K7	31.61	7162K17	29.62	7162K86	35.09
L9-20	600	20	2.2″	7162K71	13.50	2351K17	23.00	7162K72	20.68	7162K73	23.07	7162K18	16.44	7162K87	24.38
L9-30	600	30	2.2″	7162K74	19.65	2351K18	27.75	7162K75	39.62	7162K76	31.61	7162K19	27.38	7162K88	33.06
Four Blades—Grounded															
L14-20	125/250	20	2.2″	7164K41	19.09	2351K22	25.91	7164K43	26.41	7164K45	24.11	7164K71	25.06	7164K81	33.25
L14-30	125/250	30	2.2″	7164K55	26.09	2351K23	31.00	7164K56	53.66	7164K57	38.43	7164K72	33.00	7164K82	41.06
L15-20	250	20	2.2″	7164K46	20.41	2351K24	26.86	7164K47	26.50	7164K48	25.11	7164K73	25.06	7164K83	33.25
L15-30	250	30	2.2″	7164K49	26.38	2351K25	31.20	7164K5	53.84	7164K51	38.60	7164K74	35.66	7164K84	41.06
L16-20	480	20	2.2″	7164K52	20.53	2351K26	26.95	7164K53	27.28	7164K54	28.32	7164K75	26.00	7164K85	34.56
L16-30	480	30	2.2″	7164K58	26.50	2351K27	31.30	7164K59	54.25	7164K6	38.93	7164K76	37.03	7164K86	42.53
L17-30	600	30	2.2″	7164K61	26.78	2351K28	31.50	7164K62	55.50	7164K63	40.58	7164K77	39.78	7164K87	42.53
Five Blades—Grounded															
L21-20	120/208	20	2.2″	7184K31	23.06	2351K36	29.84	7184K32	39.71	7184K33	30.26	7184K51	36.21	7184K61	63.24
L21-30	120/208	30	2.2″	7184K34	27.35	2351K37	33.16	7184K35	49.97	7184K36	42.43	7184K52	32.85	7184K62	72.47
L22-20	277/480	20	2.2″	7184K37	25.68	2351K38	31.86	7184K38	43.00	7184K39	31.07	7184K53	38.18	7184K63	63.59
L22-30	277/480	30	2.2″	7184K41	30.41	2351K39	35.52	7184K42	54.41	7184K43	43.14	7184K54	34.06	7184K64	75.21
L23-20	347/600	20	2.2″	7184K44	25.68	2351K41	31.86	7184K45	43.15	7184K46	31.12	7184K55	38.18	7184K65	55.35
L23-30	347/600	30	2.2″	7184K47	31.53	2351K42	36.39	7184K48	56.47	7184K49	44.90	7184K56	39.65	7184K66	76.62
Two Blades—Non-Grounded															
L1-15	125	15	1.6″	7162K116	24.38			7162K115	27.09	7162K112	23.44	7162K78	20.34	7162K79	15.11
L2-20	250	20	1.5″	7162K114	24.15			7162K111	26.09	7162K113	24.88	7162K81	18.98	7162K82	24.52
Three Blades—Non-Grounded															
L10-20	125/250	20	2.2″	7162K45	14.91	2351K19	24.09	7162K44	21.29	7162K43	26.27	7162K21	19.59	7162K89	27.44
L10-30	125/250	30	2.2″	7162K95	22.68	2351K21	30.09	7162K96	43.79	7162K97	29.89	7162K23	28.65	7162K93	27.59
Four Blades—Non-Grounded															
L18-20	120/208	20	2.2″	7164K3	23.19	2351K29	28.89	7164K4	30.28	7164K1	29.56	7164K78	28.31	7164K88	37.97
L18-30	120/208	30	2.2″	7164K22	26.97	2351K31	31.64	7164K23	57.59	7164K21	42.25	7164K79	41.06	7164K89	46.50
L19-20	277/480	20	2.2″	7164K31	33.09	2351K32	36.09	7164K32	44.72	7164K33	36.81	7164K34	32.00	7164K35	38.09
L19-30	277/480	30	2.2″	7164K12	41.66	2351K33	42.32	7164K13	85.69	7164K14	53.72	7164K15	48.78	7164K16	49.06
L20-20	347/600	20	2.2″	7164K36	33.22	2351K34	36.18	7164K37	44.84	7164K38	36.81	7164K39	30.97	7164K11	35.25
L20-30	347/600	30	2.2″	7164K17	41.66	2351K35	42.32	7164K18	85.84	7164K19	53.88			7164K25	49.19

Impact-Resistant Rubber Turn-Lock Plugs and Connectors

Rubber construction resists abrasion and damage from drops and other types of impact. The rubber also provides more oil resistance than plastic plugs and connectors. Not intended for use in wet or damp environments. All have a cord grip for strain relief. Color is yellow. UL listed and CSA certified.




NEMA Style	AC Voltage	Amps	OD	Male Plugs		Female Connectors	
Three Blades—Grounded							
L5-15	125	15	1.5″	7720K15	$11.89	7720K16	$19.55
L5-20	125	20	1.9″	7720K22	18.58	7720K23	28.46
L5-30	125	30	2.1″	7720K28	26.85	7720K29	56.03
L6-15	250	15	1.5″	7720K17	12.36	7720K18	20.35
L6-20	250	20	1.9″	7720K24	18.43	7720K25	28.17
L6-30	250	30	2.1″	7720K31	28.19	7720K32	58.46
Four Blades—Grounded							
L14-20	125/250	20	1.9″	7720K35	28.12	7720K36	38.20
L14-30	125/250	30	2.1″	7720K42	38.20	7720K43	81.93
L15-20	250	20	1.9″	7720K37	28.12	7720K38	38.20
L15-30	250	30	2.1″	7720K44	38.20	7720K45	81.93

NEMA Style	AC Voltage	Amps	OD	Male Plugs		Female Connectors	
Four Blades—Grounded (Cont.)							
L16-20	480	20	1.9″	7720K39	$28.41	7720K41	$38.51
L16-30	480	30	2.1″	7720K46	38.54	7720K47	82.71
L17-30	600	30	2.1″	7720K48	38.29	7720K49	81.46
Five Blades—Grounded							
L21-20	120/208	20	1.9″	7720K51	35.00	7720K52	58.37
L21-30	120/208	30	2.1″	7720K57	42.25	7720K58	78.15
L22-30	277/480	30	2.1″	7720K59	44.25	7720K61	80.94
Two Blades—Non-Grounded							
L1-15	125	15	1.5″	7720K11	11.37	7720K12	24.43
L2-20	250	20	1.9″	7720K13	15.61	7720K14	24.54

Weather-Resistant Covers for Plugs and Connectors

Protect your turn-lock connections from moisture and light splashing (covers are not intended for liquid immersion or direct spray). Slide a cover over your plug and another over your connector; screw the covers together to conceal the connection. Covers work with NEMA and non-NEMA configurations. Made of rubber.




For Amp Rating	ID	Color	For Plugs		For Connectors	
15	1.6″	Black	7305K1	$7.63	7305K2	$11.04
20/30	2.2″	Black	7305K3	10.87	7305K4	12.83

For Amp Rating	ID	Color	For Plugs		For Connectors	
20/30	2.2″	Yellow	7305K5	$12.70	7305K6	$15.35
50	2.4″	Yellow	7305K7	38.39	7305K8	36.20

Premium Turn-Lock Plugs, Connectors, and Receptacles

Also known as twist-lock devices, these plugs, connectors, and receptacles are built to handle tough, repetitive-use applications. All have a plastic housing and are UL listed. For receptacle wall plates, see page 893.

Plugs and **connectors** have a ribbed housing for easy gripping and an internal dust seal to protect contacts from contaminants. A two-piece cord grip provides strain relief and keeps your cable securely attached.







NEMA Style	AC Voltage	Amps	Male Plugs OD			Female Connectors		Female Receptacles		Male Flanged Receptacles		Female Flanged Receptacles	
Three Blades—Grounded													
L5-15	125	15	1.5″	9081T11	$16.58	9081T31	$29.03	9081T51	$22.46	9081T79	$18.42	9081T213	$23.07
L5-20	125	20	2.3″	9081T12	20.79	9081T32	32.11	9081T52	26.50	9081T81	23.07	9081T214	38.16
L5-30	125	30	2.3″	9081T13	32.11	9081T33	63.68	9081T53	37.19	9081T82	40.61	9081T215	48.95
L6-15	250	15	1.5″	9081T14	17.55	9081T34	29.92	9081T54	25.35	9081T83	19.91	9081T216	26.85
L6-20	250	20	2.3″	9081T15	20.79	9081T35	32.11	9081T55	26.50	9081T84	23.07	9081T217	38.51
L6-30	250	30	2.3″	9081T16	32.54	9081T36	64.12	9081T56	40.26	9081T85	40.61	9081T218	49.04
Four Blades—Grounded													
L14-20	125/250	20	2.3″	9081T17	31.32	9081T37	43.86	9081T57	36.75	9081T86	32.19	9081T219	45.36
L14-30	125/250	30	2.3″	9081T18	42.89	9081T38	88.25	9081T58	58.25	9081T87	50.78	9081T221	57.02
L15-20	250	20	2.3″	9081T19	33.60	9081T39	43.86	9081T59	36.94	9081T88	32.19	9081T222	45.36
L15-30	250	30	2.3″	9081T21	43.07	9081T41	88.42	9081T61	58.77	9081T89	50.78	9081T223	57.02
L16-20	480	20	2.3″	9081T22	40.21	9081T42	53.85	9081T62	44.48	9081T91	33.51	9081T224	46.92
L16-30	480	30	2.3″	9081T23	51.35	9081T43	108.02	9081T63	70.00	9081T92	52.98	9081T225	58.95
Five Blades—Grounded													
L21-20	120/208	20	2.3″	9081T24	40.26	9081T44	65.70	9081T64	44.65	9081T97	52.19	9081T231	95.61
L21-30	120/208	30	2.3″	9081T25	47.63	9081T45	87.72	9081T65	62.11	9081T98	53.94	9081T232	101.14
Two Blades—Non-Grounded													
L1-15	125	15	1.5″	9081T71	15.09	9081T75	18.16	9081T73	16.58	9081T77	20.79	9081T211	15.61
L2-20	250	20	1.5″	9081T72	15.79	9081T76	19.21	9081T74	18.42	9081T78	17.54	9081T212	22.46
Four Blades—Non-Grounded													
L18-20	120/208	20	2.3″	9081T26	52.44	9081T46	72.44	9081T66	59.10	9081T93	34.82	9081T226	49.22
L18-30	120/208	30	2.3″	9081T27	65.77	9081T47	138.33	9081T67	86.92	9081T94	56.05	9081T227	61.32
L19-20	277/480	20	2.3″	9081T28	52.44	9081T48	72.44	9081T68	59.36	9081T95	34.82	9081T228	49.30
L19-30	277/480	30	2.3″	9081T29	65.77	9081T49	138.72	9081T69	86.92	9081T96	56.05	9081T229	61.40

Ground-Monitoring Turn-Lock Plugs and Connectors

Know the power and ground status of your plugs and connectors at a glance. Dual LEDs, visible from all angles, light up green to indicate when plugs and connectors have power and are safely grounded. The LEDs are red when plugs and connectors have power, but are not grounded. Plugs and connectors are made of plastic. They have a cord grip to provide strain relief and keep your cable securely attached. The cord grip also has a dust seal to block contaminants. UL and C-UL listed.




NEMA Style	AC Voltage	Amps	Male Plugs OD			Female Connectors	
Three Blades—Grounded							
L5-15	125	15	1.5″	4978T25	$25.39	4978T24	$45.23
L5-20	125	20	2.2″	4978T12	24.59	4978T11	46.20
L5-30	125	30	2.2″	4978T14	51.11	4978T13	102.02
L6-15	250	15	1.5″	4978T27	32.30	4978T26	49.59
L6-20	250	20	2.2″	4978T16	34.09	4978T15	51.11
Three Blades—Grounded (Cont.)							
L6-30	250	30	2.2″	4978T18	$51.59	4978T17	$102.95
L7-15	277	15	1.5″	4978T29	32.30	4978T28	41.43
Four Blades—Grounded							
L14-20	125/250	20	2.2″	4978T21	49.98	4978T19	69.95
L14-30	125/250	30	2.2″	4978T23	68.45	4978T22	142.14

Corrosion-Resistant Turn-Lock Plugs, Connectors, and Receptacles

For use in damp and corrosive environments, these plugs, connectors, and receptacles have a plastic housing, nickel-plated blades and contacts, and stainless steel hardware for corrosion resistance. UL listed. CSA certified, except four-blade receptacles. For receptacle wall plates, see page 893.

Plugs and **connectors** have a ribbed housing for easy gripping and an internal dust seal to protect contacts from contaminants. A two-piece cord grip provides strain relief and keeps your cable securely attached.





NEMA Style	AC Voltage	Amps	Male Plugs OD			Female Connectors		Female Receptacles	
Three Blades—Grounded									
L5-15	125	15	1.5″	4966T11	$16.16	4966T31	$28.41	4966T51	$49.74
L5-20	125	20	2″	4966T61	21.00	4966T34	31.84	4966T52	27.58
L5-30	125	30	2″	4966T21	28.75	4966T41	56.67	4966T53	35.50
L6-15	250	15	1.5″	4966T12	17.50	4966T32	29.25		
L6-20	250	20	2″	4966T62	21.92	4966T35	33.49	4966T55	19.01
L6-30	250	30	2″	4966T22	30.08	4966T42	62.33	4966T54	37.83
L7-15	277	15	1.5″	4966T13	18.84	4966T33	31.74		
Four Blades—Grounded									
L14-20	125/250	20	2.2″	4966T16	32.34	4966T36	44.00	4966T56	26.93
L14-30	125/250	30	2.2″	4966T23	41.08	4966T43	88.08	4966T58	43.07
L15-20	250	20	2.2″	4966T17	37.17	4966T37	50.50	4966T57	26.64
L15-30	250	30	2.2″	4966T24	48.08	4966T44	104.83		
L16-20	480	20	2.2″	4966T18	38.42	4966T38	52.17		
L16-30	480	30	2.2″	4966T25	49.58	4966T45	109.00		
L17-30	600	30	2.2″	4966T26	49.75	4966T46	109.17		
Five Blades—Grounded									
L21-20	120/208	20	2.2″	4966T19	46.33	4966T39	83.67		
L21-30	120/208	30	2.2″	4966T27	54.92	4966T47	101.08		

Watertight Turn-Lock Plugs, Connectors, and Receptacles

A multiple-ring seal keeps out water, oil, and other contaminants. When used together, these plugs, connectors, and receptacles form a connection that meets NEMA 4X, 6P, 12, and IP67 for protection against washdowns, submersion, and corrosive agents. Housing is made of insulated rubber to resist heat, weather, and chemicals. Color is yellow. Blades and contacts are nickel-plated brass. UL listed, except male receptacles and female connectors for male receptacles.

Plugs and **connectors** have a cord grip for strain relief. Male plugs cannot mate with female connectors for male receptacles.

Outlet boxes for receptacles have two NPT female threaded hubs.

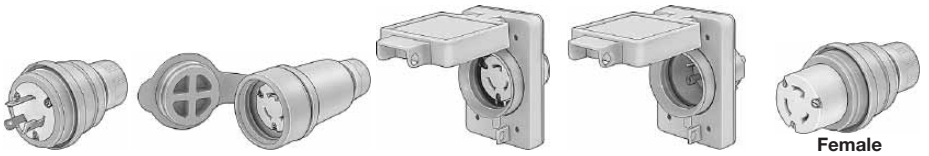

NEMA Style	AC Voltage	Amps	OD	Male Plugs		Female Connectors		Female Receptacles		Male Receptacles		Female Connectors for Male Receptacles	
Three Blades—Grounded													
L5-15	125	15	1.9″	69435K41	$19.26	69435K42	$29.33	69435K43	$56.81	69435K256	$59.36	69435K237	$27.28
L5-20	125	20	2.5″	69435K44	29.75	69435K45	44.41	69435K46	66.44	69435K257	74.29	69435K238	40.02
L5-30	125	30	2.8″	69435K47	41.47	69435K48	69.03	69435K49	72.75	69435K258	92.66	69435K239	59.95
L6-15	250	15	1.9″	69435K27	19.43	69435K28	29.33	69435K29	56.81	69435K259	64.60	69435K241	37.99
L6-20	250	20	2.5″	69435K51	29.75	69435K52	44.41	69435K53	66.44	69435K261	74.29	69435K242	37.62
L6-30	250	30	2.8″	69435K54	41.47	69435K55	70.66	69435K56	72.75	69435K262	92.66	69435K243	61.14
L7-15	277	15	1.9″	69435K57	20.64	69435K58	32.01	69435K59	56.81	69435K263	62.05	69435K244	29.87
Four Blades—Grounded													
L14-20	125/250	20	2.5″	69435K77	41.04	69435K78	54.14	69435K79	70.11	69435K266	83.56	69435K247	46.35
L14-30	125/250	30	2.8″	69435K81	52.78	69435K82	88.02	69435K83	83.63	69435K267	102.15	69435K248	76.76
L15-20	250	20	2.5″	69435K84	41.04	69435K85	54.14	69435K86	70.11	69435K268	83.56	69435K249	46.35
L15-30	250	30	2.8″	69435K87	52.78	69435K88	88.02	69435K89	83.63	69435K269	102.15	69435K251	76.76
L16-20	480	20	2.5″	69435K91	40.58	69435K92	53.54	69435K93	70.11	69435K271	84.86	69435K252	45.86
L16-30	480	30	2.8″	69435K94	52.20	69435K95	86.56	69435K96	83.63	69435K272	103.87	69435K253	75.48
Five Blades—Grounded													
L21-20	120/208	20	2.5″	69435K223	51.71	69435K224	82.50	69435K225	76.40	69435K273	104.25	69435K254	71.98
L21-30	120/208	30	2.8″	69435K228	61.06	69435K229	102.07	69435K231	90.80	69435K274	105.19	69435K255	89.42
Two Blades—Non-Grounded													
L1-15	125	15	1.9″	69435K234	17.26	69435K235	31.58	69435K33	56.81	69435K264	60.66	69435K245	28.93
L2-20	250	20	2.5″	69435K34	25.69	69435K236	39.54	69435K36	62.85	69435K265	66.48	69435K246	34.83
Outlet Box for Receptacles—½″ Trade Size Hub												69435K11	50.55
Outlet Box for Receptacles—¾″ Trade Size Hub												69435K12	48.52

Space-Saver Plugs, Connectors, and Receptacles

Also known as NEMA midget plugs, connectors, and receptacles, these smaller versions of their standard-size NEMA equivalents are a good fit for tight spaces. Housing is plastic. UL listed and CSA certified.

Male plugs have a 1.26″ OD, except the ML1-15 plug has a 1.07″ OD.

Receptacles have a plastic or stainless steel flange for mounting into a panel cutout. *ML1-15 receptacles* require a 1.1″ dia. cutout; *ML2-15* and *ML3-15 receptacles* require a 1.25″ dia. cutout.

Turn Lock—These are compatible only with other turn-lock midget devices that have the same NEMA style. Meet Fed. Spec. WC596, except receptacles with stainless steel flange.

Straight Blade—Plugs fit standard NEMA 1-15 and 5-15 connectors and receptacles.

To Order: For *receptacles*, please specify plastic or stainless steel flange.





NEMA Style	AC Voltage	Amps	Male Plugs		90° Male Plugs		Female Connectors		90° Female Connectors		Male Flanged Receptacles		Female Flanged Receptacles	
Turn Lock														
ML2-15	125	15	6755K15	$12.91	6755K51	$13.99	6755K16	$16.15	6755K43	$18.30	6755K17	$13.31	6755K28	$15.82
ML1-15	125	15	6755K11	12.17	6755K41	13.31	6755K12	12.44	6755K42	15.41	6755K13	12.74	6755K14	12.91
ML3-15	125/250	15	6755K18	13.18	6755K61	17.51	6755K21	17.01	6755K44	21.95	6755K22	15.82	6755K23	18.11
Straight Blade														
1-15	125	15	6755K71	10.06	6755K72	11.20								

Non-NEMA Turn-Lock Plugs, Connectors, and Receptacles

Although not compatible with NEMA devices, these plugs, connectors, and receptacles conform to Pass & Seymour standards and are UL listed. After mating, give them a quarter turn to lock the connection. Housing is plastic. For receptacle wall plates, see page 893.

Plugs and **connectors** have a cord grip for strain relief. *Style A* and *Style B* devices, also known as California Standard plugs and connectors, have a 2.3″ OD and are CSA certified. *Style C* and *Style D* devices have a 2.2″ OD.

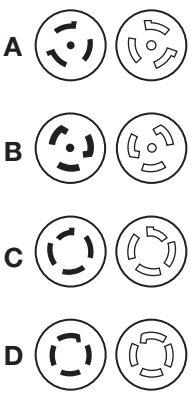



AC Voltage	Amps	Male Plugs Trade No.		Female Connectors Trade No.		Female Receptacles Trade No.	
Four Blades—Grounded							
A 125/250	50	CS6365	7175K41 $88.94	CS6364	7175K42 $111.70	CS6369	7175K43 $84.33
A 480	50	CS8165	7175K61 81.48	CS8164	7175K62 112.96	CS8169	7175K63 81.48
B 250	50	CS8365	7175K51 81.48	CS8364	7175K52 112.96	CS8369	7175K53 87.09
Four Blades—Non-Grounded							
C 120/208	20		7175K21 25.24		7175K22 40.08		7175K23 35.22
D 120/208	30		7175K31 30.33		7175K32 54.12		7175K33 35.80

About NEMA Straight-Blade Plugs, Connectors, and Receptacles

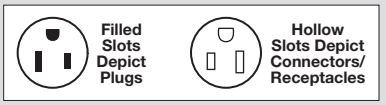

Straight-blade plugs, connectors, and receptacles conform to National Electrical Manufacturers' Association (NEMA) requirements. The diagrams below show the NEMA configurations for plugs and connectors/receptacles.

Note: The 15-amp (5-15, 6-15) connectors and receptacles are not compatible with the 20-amp (5-20, 6-20) plugs. For example, a 5-20 plug will not fit in a 5-15 connector or receptacle.

Three Blades—Grounded

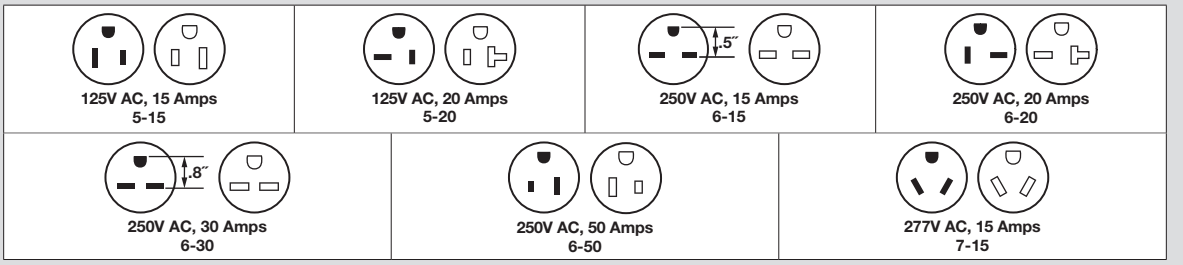

Four Blades—Grounded

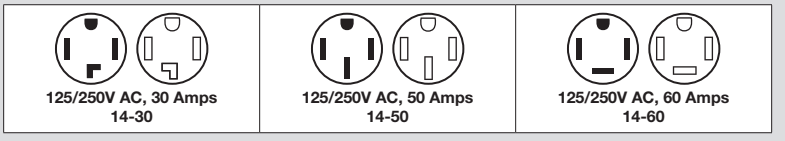

Two Blades—Non-Grounded

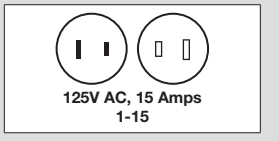

Three Blades—Non-Grounded

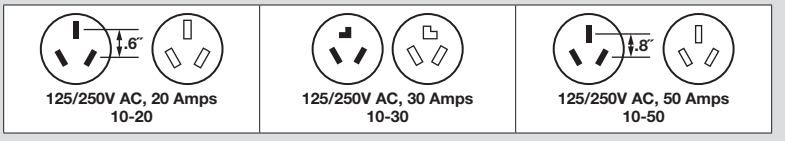

Four Blades—Non-Grounded

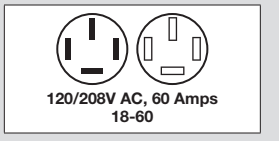

Straight-Blade Plugs, Connectors, and Receptacles

Meet the durability requirements of industrial applications. All of these straight-blade devices have a plastic housing. UL listed, unless noted.

Plugs and **connectors** have a cord grip for strain relief. *90° male plugs* have a rotating face to allow cord entry at the most convenient angle, unless noted.

Female receptacles fit standard wall plates (see page 893). *Single female receptacles* can be wired from the back. *Duplex female receptacles* can be wired from the back and side.

Flanged receptacles mount in a 1.6″ dia. panel cutout and can be wired from the back. Color is white.

Note: The amp rating of your plug should not exceed that of your connector or receptacle.




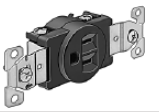


NEMA Style	AC Voltage	Amps	Male Plugs		90° Male Plugs		Female Connectors		Available Colors	Single Female Receptacles		Duplex Female Receptacles	
Three Blades—Grounded													
5-15	125	15	7196K31	$9.48	8035K51	$13.28	7196K41	$13.01	Black, Brown, Ivory, White	7120K85	$12.93	7120K91	$8.16
5-20	125	20	7196K34	12.45	8035K52	16.97	7196K44	18.82	Black, Brown, Ivory, White	7120K86	14.49	7120K92	8.63
6-15	250	15	7196K32	12.45	8035K53	14.72	7196K42	16.17	Black, Brown, Ivory, White	7120K87	15.40	7120K93	14.44
6-20	250	20	7196K33	12.45	8035K54	19.45	7196K43	17.13	Black, Brown, Ivory, White	7120K88	18.22	7120K94	18.14
6-30	250	30	7120K51	32.72	8035K55	49.36	7120K61	91.25	Black	7120K25	16.71	_____	___
6-50	250	50	7120K81	52.55	7120K82	53.60	7120K83	58.22	Black	7120K89	19.04	_____	___
7-15	277	15	7120K52★	14.68	_____	___	7120K69★	16.53	Black	_____	___	7120K35	16.42
Four Blades—Grounded													
14-30	125/250	30	7120K31	45.67	8035K56	42.22	_____	___	Black	7120K11	35.76	_____	___
14-50	125/250	50	7120K57	42.31	8035K57	51.47	_____	___	Black	7120K13	27.60	_____	___
14-60	125/250	60	7120K66	54.44	7120K67	61.07	_____	___	Black	7120K68	60.12	_____	___
Three Blades—Non-Grounded													
10-20	125/250	20	7120K53	17.59	_____	___	7120K73★	23.89	Black, Ivory	7120K95	15.62	_____	___
10-30	125/250	30	7120K54	23.27	7120K71	45.60	7120K65	78.06	Black	7120K32	7.79	_____	___
10-50	125/250	50	7120K55	50.30	7120K41■	21.75	7120K64	82.89	Black	7120K7	7.83	_____	___
Four Blades—Non-Grounded													
18-60	120/208	60	7120K58	43.63	8035K58	61.72	_____	___	Black	7120K19	46.52	_____	___

★ Not UL listed. ■ Does not have a rotating face.




NEMA Style	AC Voltage	Amps	Male Flanged Receptacles		Female Flanged Receptacles	
Three Blades—Grounded						
5-15	125	15	8036K1	$15.23	8036K5	$21.27
5-20	125	20	8036K2	19.36	8036K6	24.27




NEMA Style	AC Voltage	Amps	Male Flanged Receptacles		Female Flanged Receptacles	
Three Blades—Grounded (Cont.)						
6-15	250	15	8036K3	$17.45	8036K7	$21.50
6-20	250	20	8036K4	23.32	8036K8	27.32

Premium Straight-Blade Plugs, Connectors, and Receptacles

It's the design details that make these rugged devices stand out. All have a plastic housing that's durable enough to handle repeated use. UL listed. *Grounded* devices are also CSA certified.

Plugs and **connectors** have a ribbed housing for easy gripping. A two-piece cord grip provides strain relief and keeps your cable securely attached.

Receptacles can be wired from the back. 15-amp and 20-amp receptacles can also be wired from the side. All fit standard wall plates (see page 893).

Flanged receptacles mount in a 1.72″ dia. panel cutout and can be wired from the back. Color is white.

Note: The amp rating of your plug should not exceed that of your connector or receptacle.







NEMA Style	AC Voltage	Amps	Male Plugs		90° Male Plugs		Female Connectors		Available Colors	Single Female Receptacles		Duplex Female Receptacles	
Three Blades—Grounded													
5-15	125	15	9096T11	$15.36	9096T51	$20.18	9096T21	$24.50	Brown, Ivory	9096T41	$20.74	9096T31	$20.25
5-20	125	20	9096T12	21.57	9096T52	30.55	9096T22	35.73	Brown, Ivory	9096T42	23.05	9096T32	23.67
6-15	250	15	9096T13	18.98	9096T53	27.07	9096T23	32.69	Brown, Ivory	9096T43	24.53	9096T33	27.22
6-20	250	20	9096T14	24.81	9096T54	35.10	9096T24	38.89	Brown, Ivory	9096T44	26.75	9096T34	33.43
6-30	250	30			9096T55	70.93			Black	9096T45	32.22		
6-50	250	50			9096T56	73.70			Black	9096T46	36.76		
Four Blades—Grounded													
14-50	125/250	50	9096T17	95.76	9096T57	105.65			Black	9096T47	114.89		
Three Blades—Non-Grounded													
10-50	125/250	50	9096T18	91.74	9096T58	99.57	9096T28	118.80	Black	9096T48	33.04		






NEMA Style	AC Voltage	Amps	Male Flanged Receptacles		Female Flanged Receptacles	
Three Blades—Grounded						
5-15	125	15	9096T61	$16.75	9096T62	$23.25
5-20	125	20	9096T63	21.83	9096T64	27.50
Three Blades—Grounded (Cont.)						
6-15	250	15	9096T65	$19.08	9096T66	$23.08
6-20	250	20	9096T67	25.67	9096T68	29.92

Hospital-Grade Straight-Blade Plugs, Connectors, and Receptacles

Look for the green dot to confirm devices are certified for use in hospitals. Once mated, they have a tight connection that remains secure in high-vibration applications. Compared to industrial-grade devices, these resist a higher level of abuse and have a longer service life. All have three blades and are grounded. Made of plastic. UL listed and CSA certified. Meet Fed. Spec. WC596, except quad female receptacles.

Male plugs and **female connectors** have a transparent face, so you can visually confirm the connection.

90° male plugs have a rotating face to permit cord entry at the most convenient angle. The housing is transparent, so you can visually confirm the connection.

Duplex female receptacles can be wired from the back and side. Terminals accept 14-10 AWG wire. For wall plates, see page 893. **To Order:** Please specify ivory or red (6-15 style only available in ivory).

Quad female receptacles have four outlets that are internally connected and can be wired as a single circuit or split into two circuits. Terminals accept up to 12 AWG wire. Mount directly to a 4″ square outlet box. **To Order:** Please specify gray, ivory, red, or white.

Note: The amp rating of your plug should not exceed that of your connector or receptacle.




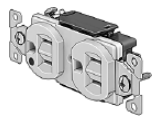


NEMA Style	AC Voltage	Amps	Male Plugs		90° Male Plugs		Female Connectors		Duplex Female Receptacles		Quad Female Receptacles	
5-15	125	15	7462K11	$11.84	7213K11	$14.53	7213K31	$20.86	7462K31	$11.92	7213K83	$24.03
5-20	125	20	7462K12	18.44	7213K12	17.44	7213K32	25.75	7462K32	14.60	7213K84	26.18
6-15	250	15	7213K46	25.32	7213K13	15.88	7213K33	26.28	7462K23	21.00		
6-20	250	20	7213K47	18.62	7213K14	18.97	7213K34	28.89	7462K33	22.56		

Impact-Resistant Rubber Straight-Blade Plugs and Connectors

A durable rubber housing gives these plugs and connectors the ability to resist damage from drops and other types of impact. The rubber also resists oil and abrasion. Not intended for use in wet or damp environments. All are UL listed. CSA certified, except the three-blade connector with power indicating light.

Note: The amp rating of your plug should not exceed that of your connector or receptacle.




NEMA Style	AC Voltage	Amps	Available Colors	Male Plugs		Female Connectors	
Three Blades—Grounded							
5-15	125	15	Black, Yellow	71435K71	$12.61	71435K72	$24.59
5-20	125	20	Black, Yellow	71435K73	15.45	71435K74	23.44
6-15	250	15	Yellow	71435K45	16.08	71435K46	23.76
6-20	250	20	Yellow	71435K47	16.48	71435K48	25.57
7-15	277	15	Yellow	71435K51	12.26	71435K52	17.97
Three Blades with Power Indicating Light—Grounded							
5-15	125	15	Yellow			71435K67	26.69
Two Blades—Non-Grounded							
1-15	125	15	Yellow	71435K23	12.25	71435K22	23.02

Corrosion-Resistant Straight-Blade Plugs, Connectors, and Receptacles

Meet the demands of corrosive environments. Devices have an impact-resistant plastic housing, nickel-plated blades and contacts, and stainless steel hardware. They have three blades and are grounded. Color is yellow. Meet Fed. Spec. WC596. UL listed and CSA certified.

Plugs and **connectors** have a built-in seal to protect terminals.

Receptacles can be wired from the back and side. They fit standard wall plates (see page 893).

Note: The amp rating of your plug should not exceed that of your connector or receptacle.




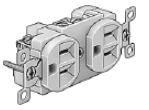

NEMA Style	AC Voltage	Amps	Male Plugs		Female Connectors		Single Female Receptacles		Duplex Female Receptacles	
5-15	125	15	70145K21	$9.54	70145K31	$18.89	70145K41	$17.47	70145K51	$17.03
5-20	125	20	70145K22	14.40	70145K32	20.95	70145K42	24.30	70145K54	22.50
6-15	250	15	70145K23	22.58	—	—	—	—	70145K53	21.43
6-20	250	20	70145K24	29.92	—	—	70145K44	25.97	70145K56	25.50

Watertight Straight-Blade Plugs, Connectors, and Receptacles

The multiple-ring seal and synthetic rubber housing are like a built-in raincoat for these devices. They resist water, heat, oils, and chemicals. When mated with each other, devices meet NEMA 4X, 6P, and IP67 for protection against corrosion, washdowns, and submersion. They have three blades and are grounded. Color is yellow. UL listed, except male receptacles and female connectors for male receptacles.

Male plugs cannot mate with female connectors for male receptacles.

Note: The amp rating of your plug should not exceed that of your connector or receptacle.



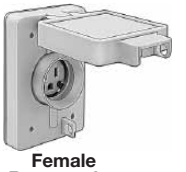
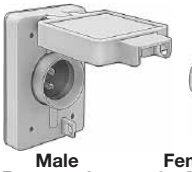


NEMA Style	AC Voltage	Amps	Male Plugs		Female Connectors		Female Receptacles		Male Receptacles		Female Connectors for Male Receptacles	
5-15	125	15	7140K21	$18.82	7140K22	$27.53	7140K31	$55.28	7140K55	$55.68	7140K65	$24.31
5-20	125	20	7140K23	20.81	7140K24	30.13	7140K32	56.37	7140K56	58.54	7140K66	28.56
6-15	250	15	7140K25	20.32	7140K26	33.00	7140K33	55.28	7140K57	55.19	7140K67	31.33
6-20	250	20	7140K27	23.37	7140K28	34.44	7140K34	56.37	7140K58	60.51	7140K68	32.77

Power-Indicating Straight-Blade Plugs and Connectors

A light, visible from any angle, visually confirms if your plugs and connectors have power. All have three blades and are grounded.

Standard and **hospital-grade** devices have a transparent plastic housing. *Hospital-grade* plug has an extra-tight fit and is marked with a green dot. **Ground-monitoring** plugs and connectors have a black plastic housing. Light is green when device has power and is safely grounded. Light is red when device has power, but is not grounded. UL and C-UL listed.

Note: The amp rating of your plug should not exceed that of your connector or receptacle.




NEMA Style	AC Voltage	Amps	Male Plugs		Female Connectors	
Standard						
5-15	125	15	8094T11	$12.74	8094T21	$20.94
Hospital Grade						
5-15	125	15	8094T13	17.68	—	—
Ground Monitoring						
5-15	125	15	8094T31	19.81	8094T32	36.08
5-20	125	20	8094T33	28.27	8094T34	48.88
6-15	250	15	8094T35	24.25	8094T36	42.12
6-20	250	20	8094T37	31.52	8094T38	49.74

Hazardous-Location Straight-Blade Plugs and Receptacles

For use where ignitable gas and dust may be present, these plugs and receptacles are UL listed for Class I, Div. 1 and 2, Groups C and D; Class II, Div. 1 and 2, Groups F and G; and Class III hazardous environments. Housing is aluminum. They have three blades and are grounded. CSA certified. **Receptacle** has a spring-loaded cover and accepts both the 5-15 and 5-20 plugs. Color is gray.

To Order: For *receptacle,* please specify ½″, ¾″, or 1″ NPT female threaded hub for conduit entry.

Note: The amp rating of your plug should not exceed that of your connector or receptacle.




NEMA Style	AC Voltage	Amps	Male Plugs		Female Receptacle	
5-15	125	15	7461K21	$92.60	—	—
5-20	125	20	7461K22	92.60	7461K31	$277.44

Quick-Wire Straight-Blade Plugs and Connectors



With Blade Terminals

Because the housing is hinged, these devices open up and remain in one piece for fast wire installation. Housing is impact-resistant plastic. All have three blades and are grounded. They meet Fed. Spec. WC596, except 7216K5, 7216K6, and 7216K13. All are UL listed.

Plugs and connector **with blade terminals** eliminate wire stripping; blades pierce the wire insulation when you close the housing. CSA certified. *Hospital-grade* plug has an extra-tight fit and is marked with a green dot.

Note: The amp rating of your plug should not exceed that of your connector or receptacle.




NEMA Style	AC Voltage	Amps	Available Colors	Male Plugs		Female Connectors	
With Screw Terminals							
5-15	125	15	Gray, Yellow	7216K5	$6.91	7216K6	$12.07
5-20	125	20	Gray, Yellow	7216K7	9.45	7216K8	14.37
6-15	250	15	Yellow	7216K55	7.16	7216K56	14.41
6-20	250	20	Yellow	7216K57	9.57	7216K58	16.07
With Blade Terminals							
5-15	125	15	Black, Yellow	7216K11	5.48	7216K12	10.45
Hospital Grade with Blade Terminals							
5-15	125	15	White	7216K13	13.45	—	—

Straight-Blade Plugs with Fuse



Place a fuse in these NEMA 5-15 plugs to protect your equipment from current overload. If the amps exceed your fuse rating, the fuse breaks the circuit. Plugs accept a ¼-amp to 15-amp ceramic fuse (sold separately).

Plugs

Plugs have three blades and are grounded. Made of plastic. UL listed. *Hospital-grade* plug has an extra-tight fit and is marked with a green dot.

	AC Voltage		
Standard Yellow Plug	125	7155K11	$33.75
Hospital-Grade Transparent Plug	125	7155K12	34.31

Fuses

To Order: Please specify amp rating from those listed.

Available Amps	AC Voltage	Dia.	Lg.		Pkg. of 5
¼, ½, ¾, 1, 1½	250	¼″	1¼″	71385K8	$6.32
2, 2½, 3, 4, 5, 6	250	¼″	1¼″	71385K9	6.21
7, 8, 10, 12, 15	250	¼″	1¼″	71385K11	6.21

For information about turn-lock and straight-blade plugs and receptacles, see pages 816 and 820.

DC Voltage Plugs, Receptacles, and Extension Cords


Plug


Receptacle


Extension Cord

Supply power from a battery in vehicle and marine applications. When used together, the plug and receptacle create a moisture-resistant seal. Used separately, they are compatible with devices that have standard 12-volt plugs and receptacles. All have a moisture-proof and corrosion-resistant plastic housing. Contacts are nickel-plated copper alloy.

Plug has an LED power indicator and a 10-amp, 1/4″ Dia. × 1 1/4″ Lg. glass-tube fuse. Length is 3.7″.

Receptacle has a cap to seal out moisture when not in use. It also has two male quick-disconnect terminals with 0.25″ Wd. × 0.032″ Thick. tabs.

Extension cord has a plug on one end and a receptacle on the other. Retracted length is 14″; extended length is 6 ft.

	DC Voltage	Amps		
Plug	12	10	6860K1	$10.63
Receptacle	12	15	6860K2	16.69
Extension Cord	12	10	6860K3	36.49

Interference-Limiting Receptacles


Turn-Lock 1-Outlet Receptacle

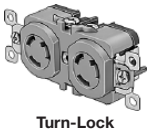
Turn-Lock 2-Outlet Receptacle


Straight-Blade 2-Outlet Receptacle

Protect computers and other sensitive devices from electromagnetic interference caused by high currents or surges from nearby equipment. Housing is plastic, except NEMA 5-20 straight-blade male plug has a rubber housing. UL listed, except NEMA 5-20 straight-blade male plug. All are CSA certified.

Receptacles, also known as isolated ground receptacles, have a ground terminal that's insulated from the mounting strap so an isolated ground wire can be run through the conduit. They can be wired from the back and side, except 4-outlet receptacles can be wired from the back. All are orange and marked with a green triangle. *Turn-lock* receptacles provide a secure connection in high-vibration applications.

Male plugs do not limit interference, but they are orange to match the interference-limiting receptacles. Rated 125 volts AC.


Straight-Blade 4-Outlet Receptacle


Straight-Blade Male Plug

Note: The amp rating of your plug should not exceed that of your connector or receptacle.

No. of Outlets	NEMA Style	AC Voltage	Amps		
Turn-Lock Receptacles					
For Three Blades—Grounded					
1	L5-15	125	15	7174K12	$21.66
1	L5-20	125	20	7174K15	14.96
1	L5-30	125	30	7174K17	20.98
1	L6-15	250	15	7174K14	21.76
1	L6-20	250	20	7174K16	15.43
1	L6-30	250	30	7174K18	22.44
2	L5-15	125	15	7174K11	21.75
2	L6-15	250	15	7174K13	21.66
For Four Blades—Grounded					
1	L14-20	125/250	20	7174K19	20.42
1	L14-30	125/250	30	7174K21	30.57
For Five Blades—Grounded					
1	L21-20	120/208	20	7174K22	24.13
1	L21-30	120/208	30	7174K23	34.09
Straight-Blade Receptacles					
For Three Blades—Grounded					
1	5-15	125	15	7174K53	15.05
1	5-20	125	20	7174K54	17.33
2	5-15	125	15	7174K63	12.88
2	5-20	125	20	7174K64	16.38
4	5-15	125	15	7174K73	25.30
4	5-20	125	20	7174K74	32.25
Straight-Blade Male Plug—NEMA 5-15, 15 amps				7174K83	10.10
Straight-Blade Male Plug—NEMA 5-20, 20 amps				7174K65	15.27

DC Voltage Turn-Lock Plugs and Receptacles

A unique locking configuration provides a secure connection in high-vibration environments and prevents attachment to AC connectors. Use in vehicle and marine applications to supply power from a battery or generator. Housing is plastic. All have corrosion-resistant electrical components and nickel-plated brass blades and contacts.

Plugs have an O-ring that seals out moisture when connected to a receptacle. *Plug with wire entry* has three entry holes. *Plug with cord entry* has one entry hole.

Receptacle fits into a 1 1/8″ dia. mounting hole and accepts two or three wires. It has a watertight cap for protection when not in use.


Plug with Wire Entry


Receptacle

	DC Voltage	Amps	For Wire Size, AWG		
Plug with Wire Entry	48	40	16-8	2671K11	$24.22
Plug with Cord Entry	48	40	16-12	2671K13	24.22
Receptacle	48	40	10-8	2671K15	28.81

Straight-Blade Receptacles


Economy


Flush Mount

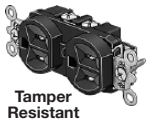
Tamper Resistant

Keep it simple with these grounded receptacles that accommodate standard straight-blade plugs with two or three blades. Made of plastic. All fit standard wall plates (see page 893).

Economy—Can be wired from the side. UL listed and CSA certified.

Flush Mount—Have a flat face that lies flush with a wall plate for a neat appearance. They can be wired from the back and side. Meet Fed. Spec. WC596. UL and C-UL listed.

Tamper Resistant—Have internal shutters to prevent insertion of foreign objects and accidental contact with power. They are good for use in hospitals and schools. Receptacles can be wired from the back and side. Meet Fed. Spec. WC596. UL listed and CSA certified.

NEMA Style	AC Voltage	Amps	Available Colors		
Economy					
5-15	125	15	Brown, Gray, Ivory, White	7159K3	$2.13
5-20	125	20	Brown, Gray, Ivory, White	7159K4	2.80
Flush Mount					
5-15	125	15	Gray, Ivory, White	69105K6	9.16
5-20	125	20	Gray, Ivory, White	69105K7	12.84
Tamper Resistant					
5-15	125	15	Brown, Gray, Ivory, White	7159K1	12.28
5-20	125	20	Brown, Gray, Ivory, White	7159K2	13.59

Straight-Blade Receptacles with USB Chargers



Charge mobile devices without a separate adapter. Receptacles have two straight-blade receptacles and two USB ports. They replace duplex receptacles and fit standard GFCI wall plates (see page 893). For use with electrical boxes 2″ or deeper. Receptacles are plastic. UL and C-UL listed.

The straight-blade receptacles are tamper resistant; internal shutters prevent insertion of foreign objects and accidental contact with power. They are NEMA 5-15 and grounded. Accept standard straight-blade plugs with two or three blades. Receptacles can be wired from the back and side. Rated 15 amps and 125 volts AC. USB ports deliver 3 amps to charge tablet computers and smartphones.

Color		
Black	6130T4	$32.22
Gray	6130T5	32.22
Ivory	6130T2	32.22
White	6130T1	32.22

Panel-Mount Straight-Blade Receptacles



Snap this grounded receptacle into a 1″ square cutout in electrical panels. No screws or clips are needed. It fits panels 0.03″ to 0.07″ thick and accepts standard straight-blade plugs with two or three blades. Made of black plastic with blade terminals that pierce the insulation of 14-12 AWG solid copper wire. Rated 15 amps and 125 volts AC. UL recognized. CSA certified.

7168K1 ..... $1.60

DIN-Rail Mount Straight-Blade Receptacles


Single


Duplex

Add outlets to your DIN rail to bring power to tools, lights, test equipment, and computers that have a standard straight-blade plug with two blades (NEMA 1-15) or three blades (NEMA 5-15). These grounded receptacles have screw-clamp terminals for wire connection. Made of plastic. Rated 15 amps and 120 volts AC. UL recognized.

Single receptacle fits both 32 mm (DIN 1) and 35 mm (DIN 3) rail. It accepts 26-12 AWG wire. Color is black. CSA certified.

Duplex receptacle fits 35 mm (DIN 3) rail and accepts 18-14 AWG wire. Color is ivory.

	Ht.	Wd.	Dp.		
Single Receptacle	2¾″	1⅜″	2¼″	1671K11	$26.00
Duplex Receptacle	3⅝″	1¾″	1¾″	1671K13	22.62

GFCI Receptacles

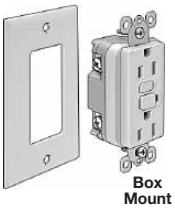
Box Mount


DIN-Rail Mount

Install these GFCI receptacles to provide ground fault protection to all outlets that are downline on the same circuit. Receptacles have test and manual-reset buttons. They are made of impact-resistant plastic.

Box Mount—Install in a standard outlet box. Receptacles can be wired from the back and side and come with a wall plate. UL listed. *Tamper-resistant/weather-resistant* receptacles have internal shutters to prevent insertion of foreign objects and accidental contact with power. They are also suitable for use in wet or damp locations. CSA certified. *Hospital-grade* receptacles meet UL 498 for hospital-grade requirements and have an indicator light. They are marked with a green dot.

DIN-Rail Mount—Install on 35 mm DIN rail. Housing is black. Size is 5⅜″ Ht. × 3″ Wd. × 2½″ Dp. UL recognized.

NEMA Style	AC Voltage	Amps	Available Colors		
Box Mount					
5-15	125	15	Brown, Ivory, White	7160K73	$20.00
5-20	125	20	Brown, Ivory, White	7160K74	21.82
Tamper-Resistant/Weather-Resistant Box Mount					
5-15	125	15	Brown, Ivory, White	7160K21	21.73
5-20	125	20	Brown, Ivory, White	7160K22	23.65
Hospital-Grade Box Mount					
5-15	125	15	Brown, Ivory, White	7160K75	32.24
5-20	125	20	Brown, Ivory, White	7160K76	34.18
DIN-Rail Mount					
5-15	120	15	White	7656T11	87.93

Surge Suppressor Receptacles


Box Mount


DIN-Rail Mount

Prevent damage to electronic equipment from current spikes and meet UL 498 hospital-grade requirements for plug holding strength. These duplex receptacles have an LED status indicator.

Box-mount receptacles can be wired from the back and side. They are UL listed and fit standard GFCI wall plates (see page 893). *Interference-limiting* receptacles, also known as isolated ground receptacles, have an isolated ground connection to protect computers and other equipment from electromagnetic interference.

DIN-rail mount receptacle mounts to 35 mm DIN rail. Housing is black. Size is 5″ Ht. × 2½″ Wd. × 2″ Dp. UL recognized.

NEMA Style	AC Voltage	Amps	Outlet Color		
Box Mount					
5-15	125	15	Ivory	7647K71	$49.92
5-20	125	20	Ivory	7647K5	59.58
Interference-Limiting Box Mount					
5-15	125	15	Orange	7647K8	81.78
5-20	125	20	Orange	7647K9	72.28
DIN-Rail Mount					
5-15	125	15	Blue	4472T11	84.20

Outlet Adapters


Grounding Adapter


Triple Adapter


Three-Way Adapter


Six-Outlet Adapter

Use adapters with standard straight-blade outlets. They are for indoor use. Rated 15 amps and 120 volts AC. Made of plastic. UL listed.

Grounding Adapter—Converts a two-blade outlet into a three-blade grounded outlet.

Triple Adapters—Convert a three-blade outlet into 3 three-blade outlets.

Three-Way Adapter—Converts a three-blade outlet into 3 three-blade outlets that are in a T-shape to provide space for large plugs.

Six-Outlet Adapter—Converts a three-blade outlet into 6 three-blade outlets. Size is 3⅛″ Ht. × 3¼″ Wd. × 1⅞″ Dp. C-UL listed.

	Color		
Grounding Adapter	Gray	7211K16	$1.29
Triple Adapter	Orange	7163K35	6.45
Lighted Triple Adapter	Clear	9508T3	7.38
Three-Way Adapter	Orange	9508T2	6.97
Six-Outlet Adapter	Ivory	7276K4	5.14

Turn-Lock and Straight-Blade Adapters



Plug in an adapter to change the NEMA blade configuration of an existing receptacle or connector. Adapters have a male plug on one end and a female receptacle with a different configuration on the other end. Housing is plastic with a rubber coating for impact resistance. Rated 125 volts AC. UL listed, except 6379K37 and 6379K33. All are CSA certified.


L5-15 Male Plug — 5-15 Female Receptacle

6379K31 $35.83


L5-20 Male Plug — 5-20 Female Receptacle

6379K34 $54.65


5-15 Male Plug — L5-15 Female Receptacle

6379K36 $35.83


5-15 Male Plug — Non-NEMA 15-amp Turn-Lock Receptacle

6379K37 $35.83


Non-NEMA 15-amp Turn-Lock Plug — 5-15 Female Receptacle

6379K33 $35.83

GFCI Outlet Converters


With 1 Outlet


With 5 Outlets

Convert standard three-blade wall outlets into GFCI-protected outlets. All have a plastic housing and NEMA 5-15 outlets. UL listed. *Automatic reset* allows the converter to regain power after it's grounded again. *Manual reset* prevents unexpected restarts.

No. of Outlets	Reset	AC Voltage	Amps	Color		
1	Automatic	125	15	Yellow	6975K633	$17.00
1	Manual	120	15	White	6975K63	19.48
1	Manual	120	15	Yellow	6975K632	20.33
5	Automatic	125	15	White	6975K73	25.77

For information about NEMA plugs and receptacles, see pages 816 and 820.

Surge Suppressor Outlet Converters

Change any outlet that accepts a standard three-blade plug (NEMA 5-15) into a surge suppressor to protect sensitive equipment from current spikes. All converters have NEMA 5-15 outlets. Housing is plastic, except standard 2-outlet converters have a metal housing.

Standard converters are ETL and C-ETL listed, except 4-outlet converter is UL and C-UL listed, and 6-outlet converter is UL listed.

Converter with USB ports has two USB ports and two outlets that rotate 360° to accommodate large plugs. USB ports deliver 2.1 amps to charge tablet computers, smartphones, and other mobile devices. UL and C-UL listed.



Standard 1 Outlet



With USB Ports

No. of Outlets	AC Voltage	Amps	Color		
Standard Converters					
1	125	15	White	6966K32	$11.28
2	120	15	Black	6966K3	38.54
2	120	15	Gray	6966K41	38.54
4	120	15	White	6966K12	19.70
6	120	15	Gray	6966K51	22.56
Converter with USB Ports					
2	120	15	White	6966K7	27.22

Portable Impact-Resistant Rubber Outlet Boxes

Wire boxes to an electrical cable to bring outlets to areas far from a power source. They are for indoor use. Made of rubber, boxes withstand drops and other types of impact. The rubber also resists oil, chemicals, and abrasion. A strain-relief fitting at the cord entrance protects the internal wire connections. Boxes accept 0.32″ to 0.63″ OD cord. They are 3⅜″ deep and rated 15 amps and 125 volts AC. Interior box size is 2.6″ Ht. × 1.8″ Wd. × 3″ Dp. Color is yellow. UL listed and CSA certified.

Boxes with Outlet Covers—A spring-loaded flip cover for every outlet keeps out dust and moisture.

Boxes are empty so you can build your own outlet box or replace a damaged box. They accept a standard-size duplex receptacle on two sides. **Boxes with outlets** have four NEMA 5-15 outlets; there is a duplex receptacle on two sides of the box.



Box with Outlets and Outlet Covers

	Without Outlet Covers		With Outlet Covers	
Boxes	1831K31	$47.51	1831K81	$110.49
Boxes with Outlets	1831K32	83.50	1831K82	145.43

Portable GFCI Outlet Boxes

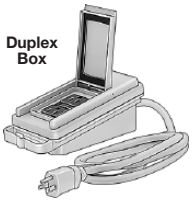

Duplex Box

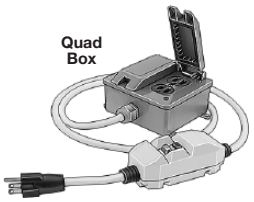

Quad Box

NEMA 5-15

NEMA 5-20

Take ground-fault protection to areas where permanent GFCI outlets are unavailable. Boxes have a test button and manual reset to prevent unexpected restarts. Housing is impact-resistant plastic and has a cover to protect outlets from contaminants when not in use. UL listed.

NEMA Style	AC Voltage	Amps	Cord Lg., ft.		
Duplex Box					
5-15	120	15	6	7683K85	$62.62
Quad Boxes					
5-15	120	15	6	7048K31	97.80
5-20	120	20	6	7048K32	147.33
Quad Box with 90° Plug					
5-15	120	15	6	7048K35	90.87

Temporary Power Distribution Boxes

Plug these portable distribution boxes into a power source, such as a generator, to power tools and other equipment when permanent outlets are not available. Each box has four GFCI-protected outlets that are rated 20 amps and 125 volts AC. Made of steel with a rust-resistant yellow finish. Boxes can be used outdoors. Size is 16″ Lg. × 12½″ Wd. × 12″ Ht. Meet OSHA requirements. UL and C-UL listed.

California Standard Plug—The plug is rated 50 amps and 125/250 volts AC.

Turn-Lock Plug (NEMA L14-30)—The plug is rated 30 amps and 125/250 volts AC.



California Standard Plug | Turn-Lock Plug | NEMA 5-20 Outlet | NEMA L5-20 Outlet

	Outlet NEMA Style		
California Standard Plug			
Straight-Blade Outlets	5-20	70855K52	$480.36
Turn-Lock Outlets	L5-20	70855K54	480.36
Turn-Lock Plug (NEMA L14-30)			
Straight-Blade Outlets	5-20	70855K51	444.64
Turn-Lock Outlets	L5-20	70855K53	444.64

Covered-Cord Outlet Boxes

A combination of outlet box, cord, and duct, this all-in-one unit minimizes indoor tripping hazards and protects cable from damage. The outlet box has a duplex three-blade (NEMA 5-15) outlet and a 16-ga. flat cord that is protected by plastic lay-flat duct. The cord has a NEMA 5-15 plug that extends two feet beyond the end of the duct. To secure duct, use tape with adhesive on both sides (sold separately below). Outlet box is 4½″ long and rated 13 amps, 125 volts AC. UL listed.



Duct Lg., ft.	Cord Lg., ft.	Black		Beige	
4	6	6961K16	$33.03	6961K36	$33.03
5	7	6961K17	35.77	6961K37	35.77
6	8	6961K18	38.50	6961K38	38.50
10	12	6961K19	47.78	6961K39	47.78

Tape with Adhesive on Both Sides—2″ Wd. × 10-ft. Lg. 6961K24 4.28

Cabinet-Mount Outlet Strips

Strips are extra-long to mount on the frame of your electrical cabinet. Screw the included clips to the cabinet and snap the strips into place (mounting screws are included). Strips have a resettable circuit breaker and an aluminum housing with gray finish. Rated 120 volts AC. UL listed.

15-amp outlet strips have a 14-ga. cord with standard three-blade (NEMA 5-15) plug and outlets.

20-amp outlet strips have a 12-ga. cord with NEMA 5-20 plug and outlets.



NEMA 5-15

NEMA 5-20

No. of Outlets	Outlets, Ctr.-to-Ctr.	Cord Lg., ft.	Lg.	15-amp Outlet Strips		20-amp Outlet Strips	
10	4″	6	48″	71195K51	$71.40	71195K54	$86.40
10	4″	15	48″	71195K71	85.10	71195K74	107.29
11	6″	6	70″	71195K52	82.24	71195K55	108.86
11	6″	15	70″	71195K72	96.81	71195K75	112.90
12	6″	6	77″	71195K53	91.08	71195K56	121.18
12	6″	15	77″	71195K73	104.28	71195K76	127.54

Outlet Caps

Protect unused outlets from dust and contaminants. These round plastic caps fit receptacles that accept standard straight-blade plugs with two or three blades.



	Pkg. of 12	
Clear	9534T5	$2.72
Yellow	9534T1	4.77

Outlet Strips

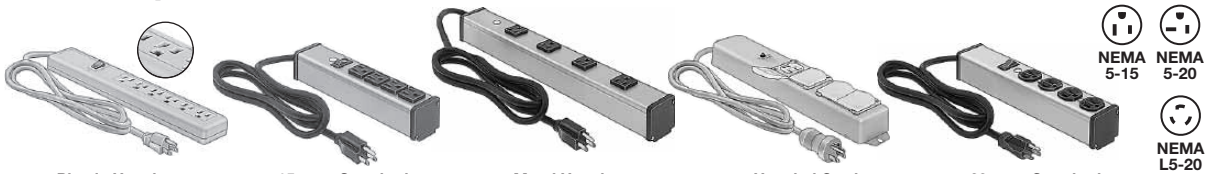

Plastic Housing with 90° Outlets | 15-amp Standard with Power Switch | Metal Housing with 90° Outlets | Hospital Grade with Outlet Covers | 20-amp Standard

Make power readily accessible with multiple outlets. These strips have a built-in resettable circuit breaker and most have a lighted power switch (see table). All are rated 120 volts AC. Mounting clips are included, except 71675K44 and 71675K43. UL and C-UL listed, except 71675K44 and 71675K43.

15-amp Outlet Strips—All have a 14-ga. cord with three-blade NEMA 5-15 plug and outlets.

20-amp Outlet Strips—Have a 12-ga. cord with a three-blade NEMA 5-20 plug, unless noted. *4-outlet* and *6-outlet* strips have NEMA 5-20 outlets. *24-outlet* strips have two NEMA 5-20 outlets and 22 NEMA 5-15 outlets.

Outlet strips **with 90° outlets** have rotated outlets to accommodate large plugs and power supplies.

Hospital-grade outlet strips are marked with a green dot and have a hospital-grade plug and outlets. They are more durable than most other outlet strips and have an extra-tight fit to stay secure in high-vibration applications. Not intended for use in patient-care areas, except outlet strips *with outlet covers* meet NEC Article 517 requirements for use in patient-care areas. The covers protect the outlets from dust and contaminants when not in use.

No. of Outlets	Outlets, Ctr.-to-Ctr.	Power Switch	Cord Lg., ft.	Lg.		
15-amp Outlet Strips with Plastic Housing						
With 90° Outlets						
6	1¼″	Yes	6	12″	7147K21★	$13.40
6	1¼″	Yes	15	12″	7147K22★	23.62
15-amp Outlet Strips with Metal Housing						
Standard						
4	1¼″	No	6	9¼″	7361K43	25.71
4	1¼″	No	15	9¼″	7361K44	30.68
4	1¼″	Yes	6	9¼″	7361K41	26.67
4	1¼″	Yes	15	9¼″	7361K42	31.17
6	1¼″	No	6	12¼″	7361K47	32.47
6	1¼″	No	15	12¼″	7361K48	37.91
6	1¼″	Yes	6	12¼″	7361K45	31.55
6	1¼″	Yes	15	12¼″	7361K46	34.27
8	1¼″	No	6	13″	7361K49	33.50
8	1¼″	No	15	13″	7361K52	38.53
8	2″	Yes	6	24″	7503K21	61.78
8	2″	Yes	15	24″	7503K22	68.26
8	5¼″	Yes	6	48″	7503K23	69.92
8	5¼″	Yes	15	48″	7503K24	75.69
10	2″	Yes	6	13″	7361K53★	52.82
10	2″	Yes	15	13″	7361K54★	59.46
12	2⅝″	Yes	15	36″	7503K9★	60.71
12	5¼″	Yes	6	72″	7503K31	71.72
12	5¼″	Yes	15	72″	7503K32	77.45
Replacement Mounting Clips (Pkg. of 3)					7361K21	$3.56

No. of Outlets	Outlets, Ctr.-to-Ctr.	Power Switch	Cord Lg., ft.	Lg.		
15-amp Outlet Strips with Metal Housing (Cont.)						
Standard (Cont.)						
16	2½″	Yes	6	48″	7503K33	$87.37
16	2½″	Yes	15	48″	7503K34	93.33
24	2½″	Yes	6	72″	7503K35	97.50
24	2½″	Yes	15	72″	7503K36	102.92
With 90° Outlets						
4	3″	No	6	16″	70225K21	37.57
4	3″	No	15	16″	70225K22	43.96
Hospital Grade						
4	1½″	No	6	10¾″	71675K61	70.91
4	1½″	No	15	10¾″	71675K62	78.41
6	1½″	No	1½	13¾″	71675K45★	60.19
6	1½″	No	6	13¼″	71675K71	93.55
6	1½″	No	15	13¼″	71675K72	94.59
Hospital Grade with Outlet Covers						
4	3½″	No	15	13¾″	71675K44★	121.82
6	1½″	No	15	13¾″	71675K43★	98.18
20-amp Outlet Strips with Metal Housing						
Standard						
4	1½″	Yes	6	10¾″	71515K31	99.68
4	1½″	Yes	15	10¾″	71515K32	107.84
6	1½″	Yes	6	13¾″	71515K33	102.84
6	1½″	Yes	15	13¾″	71515K34	110.98
24	2¾″	Yes	15	72″	71515K17★	120.00
24	2¾″	Yes	15	72″	71515K18★■	127.41

★ Replacement mounting clips not available. ■ Has a NEMA L5-20 turn-lock plug.

Outlet Strips with Individual Outlet Switches



Separately control each device you plug into these strips—each outlet has its own lighted power switch. All strips have a metal housing, resettable circuit breaker, and 14-ga. cord with three-blade (NEMA 5-15) plug and outlets. Mounting hardware is included. Rated 15 amps and 120 volts AC. UL and C-UL listed.

No. of Outlets	Outlets, Ctr.-to-Ctr.	Cord Lg., ft.	Lg.		
4	2⅛″	6	13″	7166K5	$41.29
4	2⅛″	15	13″	7166K6	46.25
8	1⅜″	6	13″	7362K21	92.04
8	1⅜″	15	13″	7362K31	98.65

Outlet Strips with Remote Switch

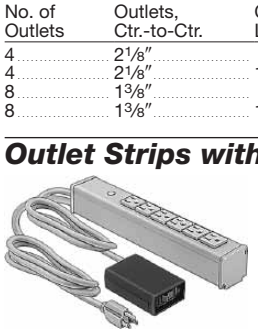

Control power to your outlet strip from a distance—the power switch is on a 44″ long cord. Strips have surge protection, an aluminum housing, resettable circuit breaker, and 14-ga. cord with three-blade (NEMA 5-15) plug and outlets. Mounting clips are included. Rated 15 amps and 120 volts AC. UL and C-UL listed.

No. of Outlets	Outlets, Ctr.-to-Ctr.	Cord Lg., ft.	Lg.		
6	1¼″	6	13¼″	69565K41	$79.88
6	1¼″	15	13¼″	69565K51	84.63

Impact-Resistant Rubber Outlet Strips



Made of rubber to resist damage from drops and other types of impact, these are the most durable outlet strips we offer. All are 10⅜″ long with three outlets that are 2¼″ center-to-center. Color is yellow.

Strips **without cord** accept 0.33″ to 0.66″ OD cord. UL listed and CSA certified.

Strips **with cord** are wired with a 25-ft. long 12-ga. cord with plug. The plug and outlets have the same NEMA configuration. CSA certified.

NEMA Style	AC Voltage	Amps	Without Cord		With Cord	
5-15	120	15	8056K74	$100.30	8056K75	$223.34
5-20	120	20	8056K94	150.21	8056K95	252.65

Pole-Mount Outlet Strips



Tighten the knob to mount this curved outlet box on a ¾″ to 1½″ dia. pole or table leg. It also has two 3⁄16″ dia. holes for wall mounting (screws not included).

Strip has three NEMA 5-15 duplex outlets and includes a 15-ft. long 14-ga. cord with three-blade (NEMA 5-15) plug. Housing is blue plastic and has a power-indicating light. Rated 12 amps and 125 volts AC. Size is 5⅝″ Ht.×5¼″ Wd.×3¼″ Dp. UL listed.

8331K1 $119.09

Surge Suppressor Outlet Strips


Standard with Plastic Housing


With USB Ports


With Coaxial Jacks


Energy Saving


Bench Mount with USB Ports


Standard with Metal Housing

One outlet strip protects multiple devices from spikes in current. Strips have a 14-ga. cord, three-blade (NEMA 5-15) plug and outlets, and a power switch, unless noted. They have a 15-amp circuit breaker, except interference-limiting outlet strips have a 12-amp circuit breaker. Phone jacks are RJ-11. Rated 120 volts AC. UL listed, except bench-mount strips are ETL and C-ETL listed.

With USB Ports—This strip has two USB ports to charge electronic devices. The outlets rotate 360° to accommodate large plugs. Strip also has LED status indicators.

With Coaxial Jacks—14″ long strip has four coaxial jacks. 9½″ long strip has two coaxial jacks, LED status indicators, and an audible alarm that alerts you if strip is damaged and needs replacement.

Energy Saving—Has a master outlet, five outlets controlled by the master, and two outlets that are always on. Plug your main device, such as a computer, into the master outlet; plug accessory devices, such as a monitor and printer, into the outlets controlled by the master. Turn your computer on and off to control power to the accessory devices. The outlets have sliding covers.

Bench Mount with USB Ports—Has two USB ports to charge electronic devices. Clamp to the edge of your bench or desktop, or surface mount over a 1½″ to 3″ dia. opening. Clamp and mounting plate are included.

With GFCI Plug—Housing is yellow. Include four outlet covers.

Interference Limiting—These isolated ground strips protect computers and other sensitive equipment from electromagnetic interference.

Hospital Grade—This strip has tight-fitting outlets and meets UL 498 requirements for plug holding strength. It is more durable than most other outlet strips.

No. of Outlets	Phone Jacks	Outlets, Ctr.-to-Ctr.	Cord Lg., ft.	Lg.		
Plastic Housing						
Standard						
6	0	1″	4	10¾″	7693K59	$12.47
7	0	1″	7	10¼″	7181K61	27.33
8	0	2¼″	6	14″	7693K81	22.05
8	2	2¼″	6	14″	7693K83	26.63
With USB Ports						
5	0	1½″	4	10¾″	7693K73	45.20
With Coaxial Jacks						
8	2	2¼″	6	14″	7693K85	47.04
8	3	1½″ (5), 2¼″ (3)	8	9½″	7693K86	49.20
Energy Saving						
8	0	1″ (5), 2¼″ (3)	8	9½″	7693K84	72.13
Bench Mount with USB Ports						
3	0	1½″	6	6½″	7693K71★	68.55
Metal Housing						
Standard						
5	0	3″	6	24″	7181K45	119.56
6	0	1½″	6	12½″	7693K93	30.34
6	2	1½″ (4), 1¾″ (2)	15	12¼″	7693K94	44.28
10	0	4″	15	48″	7693K96★	128.68
11	0	6″	15	70″	7693K97★	141.66
With GFCI Plug						
6	0	1¼″ (4), 1¾″ (2)	9	16″	7693K49	61.48
8	0	1″ (5), 2″ (3)	12	10¼″	7693K53	69.63
8	0	1″ (5), 2″ (3)	25	10¼″	7693K56	81.48
Interference Limiting						
2	0	1½″	6	5″	7330K21	48.80
4	0	1½″	6	6″	7330K22	65.60
6	0	1½″	6	6″	7330K53	78.72
6	2	1½″	6	7″	7330K63	93.83
8	0	1½″	12	9″	7330K64	90.67
Hospital Grade						
6	0	1½″	15	13¾″	7181K65	96.67

★ Does not have a power switch.

Rack-Mount Outlet Strips


Standard

Outfit your standard 19″ wide electronics racks, enclosures, and cabinets with an outlet strip. Front outlets power external components and rear outlets power components inside your cabinet. All outlet strips have a resettable circuit breaker, a 14-ga. cord, and three-blade (NEMA 5-15) plug and outlets. Strips that have a power switch also have a power indicator. Rated 15 amps and 120 volts AC. Housing is steel with a black finish. All have four ¼″ dia. mounting holes (screws not included, unless noted). UL and C-UL recognized, unless noted.

With Surge Suppressor—Protect equipment from spikes in current.

With 90° Outlets—Outlets are rotated to accommodate large plugs and power supplies.

No. of Outlets Front	Rear	Outlets, Ctr.-to-Ctr.	Power Switch	Cord Lg., ft.		
Standard						
0	6	1½″	No	6	71145K52	$65.08
0	6	1½″	No	15	71145K53	70.76
2	4	1½″	Yes	6	71145K54	65.08
2	4	1½″	Yes	15	71145K55	70.74
6	0	1½″	Yes	6	71145K56	64.96
6	0	1½″	Yes	15	71145K57	70.88
6	6	1½″	Yes	15	71145K51■	87.83
With Surge Suppressor						
0	6	1½″	Yes	6	7705K42	99.60
0	6	1½″	Yes	15	7705K44	125.41
0	10	1½″	Yes	10	7705K22▲	101.43
4	4	3¼″	Yes	10	7705K23▲	139.58
With 90° Outlets						
0	8	1½″	Yes	6	71145K61	65.08
0	8	1½″	Yes	15	71145K62	70.76
6	0	1½″	Yes	6	71145K63	65.43
6	0	1½″	Yes	15	71145K64	71.30

■ Comes with screws. ▲UL and C-UL listed.

Hardwired Outlet Strips

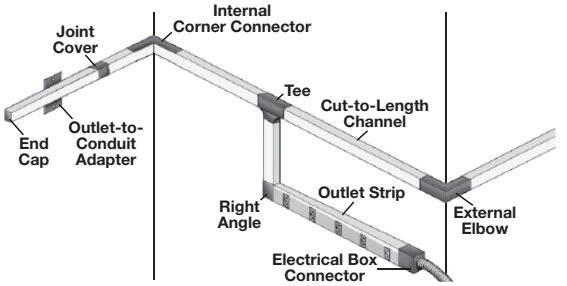

Combine outlet strips and accessories to create a permanent outlet system without rewiring or opening walls. You can also hardwire the outlet strips into an existing electrical system. Outlet strips and accessories are made of steel and are UL and C-UL listed.

Outlet Strips

Strips have three-blade (NEMA 5-15) outlets with 12-ga. insulated solid wire. There are knockouts in the back for ½″ trade size conduit and cable connectors. Two end caps are included. Rated 15 amps and 125 volts AC.

No. of Outlets	Outlets, Ctr.-to-Ctr.	Lg., ft.	Available Colors		
4	18″	6	Ivory	8050K41	$52.29
5	12″	5	Black, Ivory, White	8050K11	52.64
6	6″	3	Black, Ivory, White	8050K12	48.50
6	12″	6	Black, Ivory, White	8050K13	62.65
8	9″	6	Ivory	8050K45	67.00
10	6″	5	Black, Ivory, White	8050K14	73.01
12	6″	6	Black, Ivory, White	8050K15	83.44

Accessories

	Available Colors		
Cut-to-Length Channel (5 ft.)	Ivory	8050K71	$17.18
End Cap	Black, Ivory, White	8050K16	1.23
Outlet-to-Conduit Adapter	Black, Ivory, White	8050K17	14.68
Joint Cover	Black, Ivory, White	8050K18	1.79
Internal Corner Connector	___	8050K97	3.22
Tee	Ivory	8050K96	18.80
Right Angle	Black, Ivory, White	8050K21	7.86
External Elbow	Black, Ivory, White	8050K19	6.23
Electrical Box Connector	Black, Ivory, White	8050K22	7.19
Mounting Clip	Ivory	8050K91	2.18

Power Cords

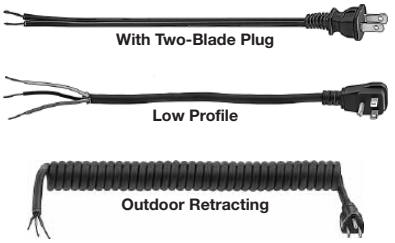

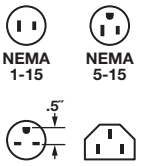

With a plug on one end and wires on the other, these cords are ready for installation. Rated 125 volts AC, unless noted.

Power Cords

Cords have a PVC jacket and stay flexible in temperatures from –4° to 140°F. Color is black, except 70355K72 is gray and hospital-grade cords are gray with a clear plug marked with a green dot. All are UL listed and CSA certified. For SPT cord type, the numbers 1, 2, and 3 following SPT designate the relative thickness of the cord insulation (1-thinnest to 3-thickest).

Continuous-flex cords have the pliability of vacuum cleaner cords, so they are good for applications where cord is repeatedly wound.

Hospital-grade cords resist abuse and the plug has an extra-tight fit to remain secure in high-vibration applications.

Low-profile cords have a plug angled 90° to allow the cord to fit tight against a wall.

Wire Ga.	Lg.	Amps	NEMA Plug Style	Cord Shape	Cord Wd.	Cord Type		
With Two-Blade Plug								
18	6′	10	1-15	Flat	3/16″	SPT-1	7248K21	$2.29
18	6′	10	1-15	Flat	1/4″	SPT-2	7248K23	3.08
18	8′	10	1-15	Flat	1/4″	SPT-2	7248K24	3.35
18	9′	10	1-15	Flat	3/16″	SPT-1	7248K22	3.02
With Three-Blade Plug								
18	6′	10	5-15	Flat	5/16″	SPT-1	70355K85	3.14
18	6′	10	5-15	Flat	5/16″	SPT-2	7025K21	3.30
18	6′	10	5-15	Flat	3/8″	SPT-3	70355K87	4.14
18	6′7″	10	5-15	Round	5/16″	SJT	70355K76	3.92
18	6′7″	10	6-15	Round	1/4″	SVT	70355K93★	4.12
18	6′7″	10	6-15	Round	5/16″	SJT	70355K77★	4.31
18	6′7″	10	IEC 320	Round	5/16″	SJT	70355K22★	6.41
18	8′	10	5-15	Flat	5/16″	SPT-1	70355K86	3.62
18	8′	10	5-15	Flat	5/16″	SPT-2	7025K22	3.95
18	8′	10	5-15	Flat	3/8″	SPT-3	70355K88	4.33
18	9′10″	10	5-15	Round	5/16″	SJT	70355K82	4.81
16	6′	13	5-15	Flat	3/8″	SPT-2	7025K24	4.47
16	6′	13	5-15	Flat	7/16″	SPT-3	70355K89	5.86
16	8′	13	5-15	Flat	3/8″	SPT-2	7025K25	4.89
16	8′	13	5-15	Flat	7/16″	SPT-3	70355K91	5.81
16	9′10″	13	5-15	Round	5/16″	SJT	70355K83	6.19
14	9′10″	15	5-15	Round	3/8″	SJT	70355K84	7.76
Continuous Flex with Three-Blade Plug								
18	6′7″	10	5-15	Round	1/4″	SVT	70355K71	3.88
18	8′	10	5-15	Round	1/4″	SVT	70355K72	4.21
18	9′10″	10	5-15	Round	1/4″	SVT	70355K81	4.50
Hospital Grade with Three-Blade Plug								
18	8′	10	5-15	Round	5/16″	SJT	70355K21	12.93
18	10′	10	5-15	Round	5/16″	SJT	70355K78	16.60
16	12′	13	5-15	Round	5/16″	SJT	70355K79	16.60
Low Profile with Three-Blade Plug								
18	8′2″	10	5-15	Round	5/16″	SJT	9570T1	6.87
16	8′2″	13	5-15	Round	5/16″	SJT	9570T2	8.33
14	8′2″	15	5-15	Round	3/8″	SJT	9570T3	10.64

★ Rated 250 volts AC.

Outdoor Power Cords

Durable enough for use outdoors, cords have a thermoplastic rubber jacket to resist oil and moisture. They are round and stay flexible in temperatures from –58° to 221°F. Color is black. UL listed.

Wire Ga.	Lg.	Amps	NEMA Plug Style	Cord Dia.	Cord Type		
With Two-Blade Plug							
16	6′	13	1-15	5/16″	SJEOW	7248K25	$9.19
16	9′	13	1-15	5/16″	SJEOW	7248K26	12.33
With Three-Blade Plug							
16	6′	13	5-15	5/16″	SJEOW	70355K33	11.55
16	9′	13	5-15	5/16″	SJEOW	70355K34	12.53
14	6′	15	5-15	3/8″	SJEOW	70355K35	11.82
14	9′	15	5-15	3/8″	SJEOW	70355K36	14.11
Retracting with Three-Blade Plug							
18	1′ to 6′	7	5-15	3/8″	SJEOW	7025K37	50.48

Electronic Equipment Power Cords

Use for computers, lab equipment, and office machines that have IEC 320 male receptacles. Cords are black, except hospital-grade cords are gray with a clear plug marked with a green dot.

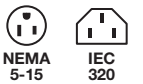

North American Cords



Cords have an IEC 320 female connector on one end. Rated 125 volts AC. Temperature range is –4° to 140°F, except hospital-grade cords have a range of –4° to 221°F. UL listed and CSA certified.

Interference-limiting cords have an insulated ground wire and are shielded to prevent electromagnetic interference.

Continuous-flex cords have the pliability of vacuum cleaner cords, so they are good for applications where cord is repeatedly wound.

Hospital-grade cords resist abuse and the plug has an extra-tight fit to remain secure in high-vibration applications.

Wire Ga.	NEMA Plug Style	Lg.	Amps	Cord Wd.	Cord Type		
Standard							
18	5-15	3′	10	5/16″	SJT	71535K42	$4.50
18	5-15	6′7″	10	5/16″	SJT	71535K54	5.77
18	5-15	9′10″	10	5/16″	SJT	71535K64	6.76
18	IEC 320	1′8″	10	5/16″	SJT	71535K63	6.50
18	IEC 320	3′3″	10	5/16″	SJT	71535K59	6.47
16	5-15	3′	13	5/16″	SJT	71535K43	4.82
16	5-15	6′7″	13	5/16″	SJT	71535K65	6.24
16	5-15	7′6″	13	5/16″	SJT	71535K56	7.78
Interference Limiting							
18	5-15	6′7″	10	5/16″	SJT	71535K84	9.08
Continuous Flex							
18	5-15	3′	10	1/4″	SVT	71535K41	4.31
18	5-15	6′	10	1/4″	SVT	71535K51	5.04
18	5-15	7′6″	10	1/4″	SVT	71535K52	6.16
18	5-15	9′10″	10	1/4″	SVT	71535K62	7.36
Continuous-Flex Interference Limiting							
18	5-15	6′7″	10	1/4″	SVT	71535K81	6.80
18	5-15	9′10″	10	1/4″	SVT	71535K82	9.66
Hospital Grade							
18	5-15	8′	10	5/16″	SJT	71535K61	7.41
18	5-15	10′	10	5/16″	SJT	71535K68	8.54
16	5-15	8′	13	5/16″	SJT	71535K66	12.48

International Cords

All have a country-specific straight-blade male plug on one end and an IEC 320 female connector on the other (1447K21 has an IEC 320 C7 connector for two pins). Cords have three blades, except 1447K21 has two pins. Temperature range is –4° to 140°F.

Location	Plug Type	Lg.	AC Voltage	Amps	Cord Wd.		
Australia	AS 3112	8′2″	250	10	5/16″	1447K11	$9.48
China	GB2099	8′2″	250	10	5/16″	1447K22	7.72
Europe	CEE 7/16	6′	250	2.5	1/4″	1447K21	3.56
Europe	CEE 7/7	8′2″	250	10	5/16″	1447K13	9.20
Hong Kong, South Africa	BS 546	8′2″	250	10	5/16″	1447K14	9.12
Israel	SI 32	8′2″	250	10	5/16″	1447K15	9.60
Italy	CEI 23-16	8′2″	250	10	5/16″	1447K16	11.76
Japan	JIS 8303	8′2″	125	12	5/16″	1447K17	9.24
Switzerland	SEV 1011	8′2″	250	10	5/16″	1447K18	7.92
United Kingdom	BS 1363	8′2″	250	10	5/16″	1447K19	10.96

Turn-Lock Power Cords



One end of these round cords has a turn-lock plug to offer a locked connection that remains secure in high-vibration applications and prevents accidental disconnection. There are wires on the other end. Rated 125 volts AC, unless noted. Cords have a PVC jacket and stay flexible in temperatures from –4° to 140°F. Color is black. UL and C-UL listed.

Wire Ga.	Lg.	Amps	NEMA Plug Style	Cord Dia.	Cord Type		
14	8′2″	15	L5-15	3/8″	SJT	70355K101	$17.73
14	8′2″	15	L6-15	3/8″	SJT	70355K102★	17.73
12	8′2″	20	L5-20	7/16″	SJT	70355K103	23.25
12	8′2″	20	L6-20	7/16″	SJT	70355K104★	23.25
10	8′2″	30	L5-30	9/16″	SJT	70355K105	30.24
10	8′2″	30	L6-30	9/16″	SJT	70355K106★	30.24

★ Rated 250 volts AC.

For information about cord type, see page 844. For information about wire gauge, see page 834.

About Extension Cords

Voltage dissipates over the length of an extension cord—the longer the cord, the less power available to run your tool. Too much voltage loss can decrease the efficiency of your tool and shorten its operating life.

To minimize voltage drop, choose the proper gauge cord based on the power required by your tool and the shortest possible cord length you need. The chart at right provides some examples of tools that are commonly used with extension cords.

	Power Draw	Recommended Wire Gauge for 50-ft. Cord	Recommended Wire Gauge for 100-ft. Cord
Industrial Fan, Floodlight	10 amps	16	16
Power Drill, Wet/Dry Vacuum	13 amps	16	14
Circular Saw, Angle Grinder	15 amps	14	12
Air Compressor, Pressure Washer	20 amps	12	10

Outdoor Extension Cords

All of these extension cords have a PVC jacket and resist water, making them suitable for outdoor use. They have a three-blade NEMA 5-15 plug and connector, except turn-lock cords have a NEMA L5-20 plug and connector. All are rated 125 volts AC. Cords stay flexible in temperatures from –4° to 140° F. Meet OSHA requirements. UL listed, except red cord with white stripe and 50-ft. and 100-ft. neon cords are ETL listed.

Cords—All are type SJTW.

Cords with Power-Indicating Light—The connector end is transparent and illuminates when the cord has power. Cords are type SJTW.

Abrasion-Resistant Cords—The jacket is extra thick to protect the internal wires. Use in areas with high traffic or where the cord comes in contact with rough surfaces. Cords are type STW.

Turn-Lock Cords—The connection locks to stay secure in high-vibration applications and prevent accidental disconnection. These cords have a higher amp rating than the other cords to handle high-power tools. 8049K21 and 8049K22 have an SJTW cord. 8049K23 has an STW cord.



Wire Gauge	Cord Color	Stripes	Cord Dia.	10 ft. to 50 ft. Amps		10 ft.	25 ft.	50 ft.	100 ft. Amps		100 ft.
Cords											
16	Orange	—	5/16″	13	7438K51	$7.57	$13.24	$21.74	10	7438K35	$42.50
16	Dark Green	—	5/16″	13	7438K57	8.53	20.30	35.32	10	7438K93	69.91
14	Orange	—	3/8″	15	7438K54	13.10	19.46	39.17	13	7438K84	62.63
12	Orange	—	7/16″	15	7438K55	18.52	47.04	83.52	15	7438K43	160.84
12	Yellow	Black	7/16″	15	8208K501	17.24	33.82	46.52	15	6911K761	77.15
10	Orange	—	5/8″	15	7438K56	36.06	76.77	146.97	15	7438K46	279.21
Cords with Power-Indicating Light											
12	Blue	—	7/16″	15	8208K111	—	35.87	48.01	15	8208K81	79.64
12	Yellow	—	7/16″	15	7438K58	—	32.33	53.29	15	7438K28	76.12
12	Neon Green	—	7/16″	15	8208K112	—	35.87	60.33	15	8208K42	98.74
12	Neon Pink	—	7/16″	15	8208K113	—	35.87	60.33	15	8208K46	98.74
12	Neon Red	—	7/16″	15	8208K114	—	35.87	60.33	15	8208K83	98.74
12	Blue	Red	7/16″	15	8208K502	18.24	34.80	47.14	15	8208K63	77.45
12	Green	Yellow	7/16″	15	8208K52	—	—	47.14	15	8208K62	77.45
12	Orange	Blue	7/16″	15	8208K503	18.24	34.80	47.14	15	8208K65	77.45
12	Pink	Lime Green	7/16″	15	8208K504	18.24	34.80	47.14	15	8208K64	77.45
12	Red	White	7/16″	15	6911K771	—	—	56.62	—	—	—
12	Neon Green	Red	7/16″	15	8208K505	20.22	39.75	56.69	—	—	—
10	Yellow	—	9/16″	15	7438K59	—	77.31	102.37	15	7438K85	158.65
10	Blue	Red	9/16″	15	8208K92	—	—	92.71	15	8208K94	157.71
10	Green	Red	9/16″	15	8208K91	—	—	92.71	15	8208K93	157.71
Abrasion-Resistant Cords											
14	Orange	—	1/2″	15	7522K11	—	31.13	72.55	13	7522K53	111.14
12	Orange	—	9/16″	15	7522K12	—	55.02	98.88	15	7522K77	172.64
Turn-Lock Cords											
12	Yellow	—	7/16″	20	8049K21	—	—	59.63	15	8049K22	89.38
12	Yellow	—	5/8″	20	8049K23	—	—	72.95	—	—	—

Harsh Environment Extension Cords

A thermoplastic rubber jacket gives these extension cords the ability to resist moisture, oils, chemicals, and UV light. They are suitable for outdoor use and are a good choice for dirty and greasy environments. Cords have a three-blade NEMA 5-15 plug and connector. Rated 125 volts AC. Cords stay flexible in temperatures from –58° to 194° F. Meet OSHA requirements. UL listed, except 50-ft. and 100-ft. striped cords are ETL listed.

Cords—All are type SJEOW.

Cords with Power-Indicating Light—The connector end is transparent and illuminates when the cord has power. Cords are type SJEOW.

Abrasion-Resistant Cords with Power-Indicating Light—The jacket is extra thick to protect the internal wires. Use in areas with high traffic or where the cord comes in contact with rough surfaces. The connector end is transparent and illuminates when the cord has power. Cords are type SEOW.



Wire Gauge	Cord Color	Stripes	Cord Dia.	10 ft. to 50 ft. Amps		10 ft.	25 ft.	50 ft.	100 ft. Amps		100 ft.
Cords											
16	Blue	—	3/8″	13	6953K21	$10.60	$21.65	$36.52	10	6953K13	$62.36
14	Blue	—	7/16″	15	6953K22	12.77	26.60	46.94	13	6953K16	81.53
14	Green	—	3/8″	15	8146K11	—	29.56	54.16	13	8146K33	94.26
12	Blue	—	5/8″	15	6953K23	19.60	41.57	72.33	15	6953K18	141.71
12	Green	—	7/16″	15	8146K12	—	38.49	83.95	15	8146K36	115.89
Cords with Power-Indicating Light											
16	Yellow	—	5/16″	13	8047K11	13.29	23.08	35.07	10	8047K63	58.74
14	Yellow	—	3/8″	15	8047K12	16.94	29.58	43.50	13	8047K66	73.41
12	Yellow	—	7/16″	15	8047K13	22.84	38.92	64.56	15	8047K69	111.74
12	Blue	Orange	7/16″	15	8208K15	—	36.01	69.56	15	8208K34	120.70
10	Yellow	—	9/16″	15	8047K14	—	67.44	95.88	15	8047K73	199.74
10	Blue	Orange	7/16″	15	8208K97	—	—	107.12	15	8208K98	199.12
Abrasion-Resistant Cords with Power-Indicating Light											
14	Yellow	—	1/2″	15	7522K13	—	41.62	64.02	13	7522K63	130.96
12	Yellow	—	9/16″	15	7522K14	—	54.57	105.57	15	7522K66	159.44

Extension Cords

For information about extension cords, see pg. 829. For information about wire gauge and cord type, see pgs. 834 and 844.

Black Extension Cords



Less conspicuous than brightly colored extension cords, these black cords also resist moisture for outdoor use. Cords have a three-blade (NEMA 5-15) plug and connector. Rated 125 volts AC. Meet OSHA requirements. UL listed, except 1-ft. cord.

Cords—Jacket is PVC. *14-ga. cords* stay flexible in temperatures from –22° to 140° F. *12-ga. cords* stay flexible in temperatures from –40° to 140° F.

Harsh Environment Cords with Power-Indicating Light—Cords resist oils, chemicals, and UV light. They are a good choice for dirty and greasy environments. A light in the connector illuminates when the cord has power. Cords have a thermoplastic rubber jacket and stay flexible in temperatures from –58° to 221° F.

Wire Ga.	Cord Dia.	Cord Type	1 ft. to 50 ft. Amps		1 ft.	3 ft.	6 ft.	10 ft.	25 ft.	50 ft.	100 ft. Amps		100 ft.
Cords													
14	3/8"	SJTOW	15	9581T41	$8.05	$10.00	$12.08	$14.85	$27.92	$46.75	13	9581T13	$84.31
12	7/16"	SJTW	15	9581T42	—	10.29	12.87	16.40	30.82	52.65	15	9581T19	98.31
Harsh Environment Cords with Power-Indicating Light													
10	5/8"	SJEOW	15	9581T43	—	—	—	35.74	67.53	121.90	15	9581T34	227.80

Multi-Outlet Extension Cords



Three Outlet



Three Outlet with Circuit Breaker

Power multiple devices with a single extension cord. Cords have three-blade (NEMA 5-15) plug and outlets. They have a PVC jacket, except SJEOW, SEOW, and SJEOOW cords have a rubber jacket. Cords with a power-indicating light have a light on the outlet end that illuminates when the cord has power. Rated 15 amps and 125 volts AC, unless noted. Meet OSHA requirements. UL listed.

Abrasion-resistant cords have an extra-thick jacket to protect the internal wires. Use in areas with high traffic or where the cord comes in contact with rough surfaces.

Cords **with circuit breaker** have a resettable circuit breaker that prevents overload damage.

Harsh environment cords resist moisture, oils, and solvents.

Wire Ga.	Lg., ft.	Color	Cord Dia.	Power-Indicating Light	Cord Type		
Indoor Cords							
Three Outlets (–4° to 140° F)							
14	8	Black	3/8"	No	SJT	9574T11	$13.76
14	15	Black	3/8"	No	SJT	9574T12	20.21
Abrasion Resistant with Three Outlets (–58° to 221° F)							
12	25	Blue/Orange	7/16"	Yes	SJEOW	9574T21	40.71
12	50	Blue/Orange	7/16"	Yes	SJEOW	9574T22	55.46
12	100	Blue/Orange	7/16"	Yes	SJEOW	9574T23	106.79
Abrasion Resistant with Three Outlets and Circuit Breaker (–58° to 221° F)							
14	25	Red	3/8"	No	SJTW	9574T31	28.27
14	50	Red	3/8"	No	SJTW	9574T32	44.78
14	100	Red	3/8"	No	SJTW	9574T33★	83.46
Outdoor Cords							
Three Outlets (–40° to 140° F)							
14	10	Orange	3/8"	No	SJTW	7468K51	17.39
14	25	Orange	3/8"	No	SJTW	7468K11	24.23
14	50	Black/Yellow	3/8"	No	SJTW	6786K25	37.82
14	50	Orange	3/8"	No	SJTW	7468K12	36.89
14	100	Orange	3/8"	No	SJTW	7468K13★	62.23
12	25	Yellow	7/16"	No	SJTW	7468K34	38.34
12	50	Neon Blue	7/16"	Yes	SJTW	6786K31	75.25
12	50	Neon Red	7/16"	Yes	SJTW	6786K41	75.25
12	50	Yellow	7/16"	No	SJTW	7468K35	58.47
12	100	Neon Blue	7/16"	Yes	SJTW	6786K32	141.07
12	100	Neon Red	7/16"	Yes	SJTW	6786K42	141.07
12	100	Yellow	7/16"	No	SJTW	7468K36	111.90
Three Outlets with Circuit Breaker (–40° to 167° F)							
14	6	Yellow	3/8"	No	SJTW	74695K65	15.22
14	25	Yellow	3/8"	No	SJTW	74695K66	29.75
14	50	Yellow	3/8"	No	SJTW	74695K67	54.55
12	6	Yellow	7/16"	No	SJTW	74695K61	18.44
12	25	Yellow	7/16"	No	SJTW	74695K62	42.62
12	50	Yellow	7/16"	No	SJTW	74695K63	77.38
12	100	Yellow	7/16"	No	SJTW	74695K64	125.04
Harsh Environment with Three Outlets (–58° to 194° F)							
12	2	Yellow	5/8"	No	STOW	7468K27	10.72
12	2	Yellow	5/8"	Yes	SEOW	7468K41	15.86
12	25	Yellow	7/16"	Yes	SJEOOW	7468K42	46.21
12	50	Yellow	7/16"	Yes	SJEOOW	7468K43	66.48
12	100	Yellow	7/16"	Yes	SJEOOW	7468K44	114.55

★ Rated 13 amps.

High-Power Extension Cords







Bring power to high-amp equipment such as compressors and generators. These cords can be used outdoors and have an extra-thick jacket to protect the internal wires. Use in areas with high traffic or where the cord comes in contact with rough surfaces. Color is yellow. UL listed, except NEMA L5-20 turn-lock cords.

Turn-Lock Cords—The connection locks to stay secure in high-vibration applications. Cords have a plug and connector and a PVC jacket.

Harsh Environment Cords—All have a rubber jacket and a heavy duty rubber plug and connector to resist oil and withstand impact from accidental drops.

NEMA Style	AC Voltage	Amps	Wire Ga.	Lg., ft.	Cord Dia.	Cord Type		
Turn-Lock Cords (–40° to 221° F)								
L5-20	125	20	10	25	5/8"	STW	5839K26	$68.62
L5-20	125	20	10	50	5/8"	STW	5839K27	119.68
L5-30	125	30	10	25	11/16"	STW	5839K28	84.23
L5-30	125	30	10	50	11/16"	STW	5839K29	127.64
L14-20	125/250	20	10	25	11/16"	STW	5839K31	103.38
L14-20	125/250	20	10	50	11/16"	STW	5839K32	163.38
L14-30	125/250	30	10	25	11/16"	STW	5839K33	116.40
L14-30	125/250	30	10	50	11/16"	STW	5839K34	192.17
L15-20	250	20	12	25	1/2"	SJTW	5839K35	83.94
L15-20	250	20	12	50	1/2"	SJTW	5839K36	158.72
L15-30	250	30	10	25	5/8"	SJTW	5839K37	116.40
L15-30	250	30	10	50	5/8"	SJTW	5839K38	192.17
Harsh Environment Turn-Lock Cords (–40° to 140° F)								
L5-20	125	18	14	25	1/2"	SOOW	5839K18	162.74
L5-30	125	25	12	25	9/16"	SOOW	5839K19	208.20
L6-20	250	18	14	25	1/2"	SOOW	5839K21	162.74
L6-30	250	25	12	25	9/16"	SOOW	5839K22	230.43
L14-20	125/250	20	12	25	11/16"	SOOW	5839K39	204.60
L15-30	250	30	10	25	3/4"	SOOW	5839K42	311.02
L16-20	480	20	12	25	11/16"	SOOW	5839K41	228.84
L16-30	480	30	10	25	3/4"	SOOW	5839K43	236.98
L17-30	600	30	10	25	3/4"	SOOW	5839K44	271.91
Harsh Environment Straight-Blade Cords (–40° to 140° F)								
5-20	125	18	14	25	1/2"	SOOW	5839K12	145.82
6-20	250	18	14	25	1/2"	SOOW	5839K13	202.52

Locking Extension Cords



A locking mechanism on the connector end prevents your device from becoming unplugged. Cords have a three-blade (NEMA 5-15) plug and connector. They are for outdoor use; cords are type SJTW and have a PVC jacket to resist moisture. A light in the connector illuminates when the cord has power. 14-ga. cords are yellow and 12-ga. cords are red with a blue stripe. Rated 125 volts AC. Temperature range is –40° to 140° F. Meet OSHA requirements. UL listed and CSA certified.

Wire Ga.	Cord Dia.	25 ft. to 50 ft. Amps		25 ft.	50 ft.	100 ft. Amps		100 ft.
14	3/8"	15	9609T17	$21.31	$38.53	13	9609T3	$71.10
12	7/16"	15	9609T14	30.76	58.22	15	9609T4	111.53

For information about extension cords, see pg. 829. For information about wire gauge and cord type, see pgs. 834 and 844.

GFCI Cord Converters


90° Plug


Inline with Plug


Inline


Inline with Three Outlets

Hardwire one of these converters to your power or extension cord to add GFCI protection. Housing is plastic.

Manual Reset—Prevent unexpected start-ups of equipment. Color is yellow. UL listed and CSA certified, except inline GFCIs with plug or outlets are UL and C-UL listed.

Automatic Reset—Devices automatically regain power after ground is established. 90° GFCI plug is black; inline GFCI with plug is yellow. UL and C-UL listed.

90° GFCI plugs have a NEMA 5-15 GFCI plug. **Inline GFCIs** require cord to be hardwired on each end of the converter. **Inline GFCIs with plug** have a NEMA 5-15 plug on one end. **Inline GFCI with three outlets** has three NEMA 5-15 outlets on one end.

GFCI Style	AC Voltage	Amps	For Cord Dia.		
Manual Reset					
90° Plug	120	15	5/16"-7/16"	7228K11	$34.47
Inline	120	20	5/16"-7/16"	7228K12	45.95
Dual-Voltage Inline	120/240	20	5/16"-7/16"	7228K13	63.77
Inline with Plug	120	15	5/16"-5/8"	7228K17	31.73
Inline w/Three Outlets	120	15	5/16"-5/8"	7228K18	40.06
Automatic Reset					
90° Plug	120	15	5/16"-5/8"	7228K15	26.06
Inline with Plug	120	15	5/16"-5/8"	7228K16	31.73

Retracting Extension Cords



No winding necessary—these self-coiling cords stretch to full length and then return to their retracted length for tangle-free storage. The stretch allows easy movement without having loose cord in your way. All have a three-blade (NEMA 5-15) plug and connector. Rated 125 volts AC. Meet OSHA requirements. UL listed.

Indoor—Cord is type SJT with a 90° plug and PVC jacket. The cord stays flexible in temperatures from –4° to 140°F.

Outdoor—Cords resist water, oil, and UV light. They have a straight plug, except black cords have a 90° plug. Jacket is thermoplastic rubber. Cords stay flexible in temperatures from –20° to 194°F. They are type SJEO, except gray cord is type SVEO. 5-ft. long black cord includes a belt clip to keep the cord out of your way.

Length Extended	*Length* Retracted	Wire Ga.	Amps	Color	Cord OD	Coil OD		
Indoor Cord								
10 ft.	36"	16	13	Orange	5/16"	1 5/8"	1448K23	$28.58
Outdoor Cords								
5 ft.	12"	16	13	Black	3/8"	1 3/16"	1448K22	26.18
8 ft.	5"	14	15	White	5/16"	2 3/8"	1448K32	43.17
20 ft.	10"	14	15	Orange	5/16"	3 3/8"	1448K33	64.53
20 ft.	10"	12	15	Orange	3/8"	3 3/4"	1448K35	61.67
20 ft.	14"	10	20	Orange	1/2"	4 1/16"	1448K36	91.40
20 ft.	48"	16	13	Black	3/8"	1 3/16"	1448K21	36.55
45 ft.	20"	16	13	Gray	1/4"	2 3/4"	1448K31	66.05
45 ft.	20"	14	15	Orange	5/16"	3 3/8"	1448K34	94.41

Outdoor Extension Cords with Inline Outlets

In addition to the end connector, these type STW cords have multiple inline outlets. The cords are suitable for outdoor use and have an extra-thick PVC jacket for abrasion resistance. They have three-blade (NEMA 5-15) plug and outlets. End connector and inline outlets each have a power-indicating light. The inline outlets also have weather-resistant covers to keep out moisture. Cords stay flexible in temperatures from –40° to 167°F. UL and C-UL listed.



Lg., ft.	Wire Ga.	Amps	Color	Cord OD	No. of Outlets		
25	14	15	Yellow	1/2"	3	7591K42	$33.29
50	12	15	Black	5/8"	6	7591K44	90.86

GFCI Extension Cords


Single Outlet


Triple Outlet

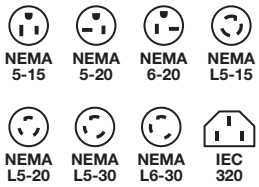

Bring along ground fault protection wherever you take these extension cords—they have a built-in GFCI. Cords are type SJTW to resist moisture and withstand outdoor use. Jacket is PVC. Housing is plastic. Connectors and plugs are the same NEMA style, unless otherwise stated. *Manual reset* prevents unexpected start-ups of equipment. Cords with *automatic reset* automatically regain power after ground is established. **Turn-lock** cords have a locking connection that stays secure in high-vibration applications.

Single outlet and **single outlet with power-indicating light** cords have an inline GFCI, unless noted. Color is yellow. UL listed and CSA certified, unless noted.

Single outlet with power-indicating light and IEC 320 connector cord has an inline GFCI and a 90° plug. Use with computers and other office machines that have an IEC 320 plug. Color is black. UL and C-UL listed.

Triple outlet cords have a 90° GFCI plug, unless noted. Color is yellow. UL listed and CSA certified.

Plug NEMA Style	AC Voltage	Amps	Wire Ga.	Lg., ft.	Reset		
Straight-Blade Cords							
Single Outlet							
5-15	120	15	14	2	Manual	7348K49	$42.49
5-15	120	15	14	6	Manual	7348K51	49.40
5-15	120	15	14	25	Manual	7348K52	62.81
5-15	120	15	12	1	Manual	7348K67★	36.16
5-15	120	15	12	6	Manual	7348K68★	44.72
5-20	120	20	12	2	Manual	7348K53	52.72
5-20	120	20	12	6	Manual	7348K55	69.88
5-20	120	20	12	25	Manual	7348K57	96.84
6-20	240	20	12	2	Manual	7348K54	79.98
6-20	240	20	12	6	Manual	7348K56	86.28
6-20	240	20	12	25	Manual	7348K58	110.13
Single Outlet with Power-Indicating Light							
5-15	120	15	14	2	Manual	7348K48	45.95
5-15	120	15	12	50	Automatic	73495K18▲	75.56
Single Outlet with Power-Indicating Light and IEC 320 Connector							
5-15	120	15	14	10	Automatic	7348K71	41.50
Triple Outlet							
5-15	120	15	12	2	Manual	73495K11	42.96
5-15	120	15	12	2	Manual	73495K16■	37.36
5-15	120	15	12	6	Manual	73495K12	44.80
5-15	120	15	12	25	Manual	73495K13	59.06
5-15	120	15	12	50	Manual	73495K14	88.28
5-15	120	15	12	100	Manual	73495K15	147.16
Triple Outlet with Power-Indicating Light							
5-15	120	15	12	2	Manual	73495K17	44.48
Turn-Lock Cords							
Single Outlet							
L5-15	120	15	14	2	Manual	7348K43	58.56
L5-20	120	20	12	2	Manual	7348K44	76.15
L5-30	120	30	10	2	Manual	7348K41	145.53
L6-30	240	30	10	3	Manual	7348K42	161.19
L6-30	240	30	10	6	Manual	7348K65	178.33
L6-30	240	30	10	25	Manual	7348K66	202.45

★ Has a 90° GFCI plug. ▲ UL and C-UL listed. ■ Has an inline GFCI.

Safety Start-Up Power Cords

Cords shut off equipment in the event of a power failure and must be manually reset, preventing unexpected start-up of tools and equipment. They replace the three-wire power cord on equipment driven by small single-phase motors. Cords are 14-ga. with a 3/8" OD. They are type SJTO with a black thermoplastic jacket that resists oil. Plug and connector are NEMA 5-15. Temperature range is 32° to 167°F. Cords meet OSHA, NEC, and NFPA safety standards. UL and C-UL recognized.


Plug and Cable

AC Voltage	Amps	*Power End* Type	Lg.	*Equipment End* Type	Lg.		
120	15	Plug	14"	Connector	12"	6906K85	$120.00
120	15	Plug	96"	Cable	20"	6906K83	120.00
120	18	Cable	96"	Cable	20"	6906K82	120.00
200-240	15	Cable	96"	Cable	20"	6906K84	120.00

Extension Cords & Cord Reels

For information about extension cords, see pg. 829. For information about wire gauge and cord type, see pgs. 834 and 844.

Extension Cord Adapters and Splitters

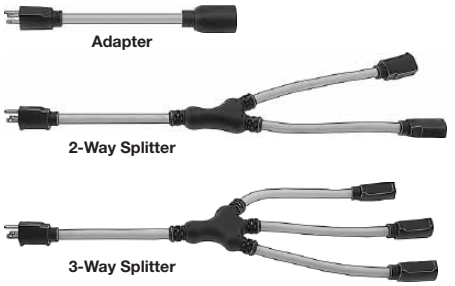

All of these adapters and splitters have an extra-thick yellow thermoplastic jacket that resists water and abrasion, making them suitable for outdoor use. The cords are 12-ga. with a 9/16″ dia., except cord for 2-way splitter/adapter with turn-lock plug is 10-ga. with a 3/4″ dia. Rated 125 volts AC. Temperature range is –31° to 140° F. UL listed, except 30-amp splitter/adapters.

Adapters and **splitter/adapters** change the connection style between your outlet and your tool. **Splitters** have multiple connectors.

	NEMA Style				
	Plug	Connector(s)	Amps	Lg.	
With Straight-Blade Plug					
Adapter	5-15	L5-20	15	9″	**7197K18** $10.93
2-Way Splitter	5-15	5-15	15	2 ft.	**7197K39** 20.73
2-Way Splitter	5-20	5-20	20	25 ft.	**7197K34** 77.47
3-Way Splitter	5-15	5-15	15	2 ft.	**7197K38** 24.79
With Turn-Lock Plug					
Adapter	L5-20	5-15	15	9″	**7197K17** 10.54
2-Way Splitter	L5-20	L5-20	20	20″	**7197K29** 23.61
2-Way Splitter/ Adapter	L14-30	5-20	30	3 ft.	**7197K33** 24.10
3-Way Splitter	L5-20	L5-20	20	20″	**7197K28** 27.64
3-Way Splitter/ Adapter	L5-30	5-20	30	2 ft.	**7197K32** 25.46

Appliance Indoor Extension Cords



The 90° plug on these cords has a low profile to fit flush behind equipment. Cords are flat and have a PVC jacket (SPT-3) and three-blade (NEMA 5-15) plug and connector. Color is beige. Rated 125 volts AC. Temperature range is –4° to 140° F. Meet OSHA requirements. UL listed.

Amps	Wire Ga.	Cord Wd.		3 ft.	6 ft.	9 ft.	15 ft.
15	14	9/16″	**7469K15**	$6.23	$7.81	$9.53	$13.83

Indoor Light Duty Extension Cords



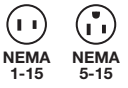

A plug with a thin, angled profile means you can keep office furniture close to walls while reducing strain on the plug and keeping other outlets accessible. Cords are 16-ga. and flat. They have a PVC jacket (SPT-2). The connector end has three outlets with the same NEMA style as the plug. Rated 13 amps and 125 volts AC. Temperature range is –4° to 140° F. UL listed.

NEMA Style	Lg., ft.	Available Colors	Cord Wd.		
1-15	3	White	5/16″	**69075K11**	$3.82
1-15	7	Tan, White	5/16″	**69075K1**	5.37
1-15	13	White	5/16″	**69075K31**	7.40
5-15	8	Black, White	3/8″	**69075K2**	9.30

Extension Cord Holders

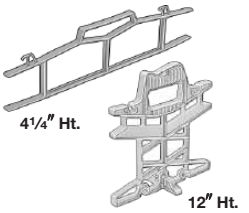

Keep your cord tangle-free and ready to use. Holders accommodate 150 ft. of 16-ga. cord, 100 ft. of 14-ga. cord, or 50 ft. of 12-ga. cord. Made of plastic with a carrying handle. 12″ high holder has a snap-on stand.

Ht.	Wd.	Color		
4 1/4″	18 1/4″	Orange	**7046K7**	$2.01
12″	11 3/4″	Yellow	**7046K8**	7.76

Manual-Rewind Reels with Outlets


Light Duty without Extension Cord


Light Duty with Extension Cord



Medium Duty without Extension Cord

Make power more accessible at the jobsite while keeping excess cord out of the way. Reels have outlets on the side and a carrying handle. All have a three-blade (NEMA 5-15) plug rated 15 amps and 125 volts AC. They also have a 15-amp resettable circuit breaker, except 9346T5 has a 10-amp circuit breaker. *Light duty* reels are ETL and C-ETL listed. *Medium duty* reels have a power indicator and are UL and C-UL listed.

Without Extension Cord—Use reels upright or lay them on their side. *Light duty* reel has a plastic housing and a metal stand. Connect your extension cord to the plug on the reel; plug the other end into a power source. *Medium duty* reel is all steel. It has an adjustable brake to control tension during unwinding or to stop the cord at the desired length. Connect your extension cord to an outlet on the reel. Connect to a power source using the attached 6″ long 12-ga. type SJTW power cord with three-blade (NEMA 5-15) plug.

With Extension Cord—Reels have a type SJT extension cord that also acts as your power cord. The cord has a PVC jacket. *Light duty* reel is all plastic and can be used upright or on its side. Cord is yellow. *Medium duty* reels have a plastic housing and a steel stand. Cord is the same color as the reel and has black stripes.

	Cord Lg., ft.	Cord Capacity Lg., ft.	Cord Capacity Dia.	Outlet NEMA Style	No. of Outlets	Color	Lg.	Wd.	Ht.		
Without Extension Cord											
Light Duty	—	100	3/8″ (14 ga.)	5-15	4	Yellow	10 3/4″	7″	11 1/2″	**9346T4**	$17.43
Medium Duty	—	100	9/16″ (10 ga.)	5-20	4	Yellow	17 1/4″	11 1/2″	17 5/8″	**9346T1**	122.28
With Extension Cord											
Light Duty	25	25	5/16″ (16 ga.)	5-15	4	Yellow	7 1/4″	2 1/2″	11″	**9346T5**	22.92
Medium Duty	50	50	3/8″ (14 ga.)	5-15	6	Red	7 1/2″	16″	12″	**9346T2**	70.09
Medium Duty	50	50	7/16″ (12 ga.)	5-15	6	Green	7 1/2″	16″	12″	**9346T3**	90.51

Heavy Duty Manual-Rewind Reels


Carrying Reel


Reel with Outlets

Heavy gauge steel construction makes these the toughest manual reels we offer. They have a brake to prevent unwanted rewind, a carrying handle, and nonslip rubber feet. Finish is gray.

Carrying Reels—Use for storing and transporting your cord.

Reels with Outlets—Connect an extension cord to a power source and take the reel where you need power. The outlets have covers to keep out water and dust when not in use. Hardwire your extension cord to the reel.

Reel with Outlets and 100-ft. Extension Cord—The outlets have covers to keep out water and dust when not in use. The reel comes with a 12-ga. SOOW extension cord that also acts as your power cord; the cord has a black rubber jacket and a three-blade (NEMA 5-15) plug rated 15 amps and 125 volts AC to connect to a power source.

Cord Capacity Lg., ft.	Cord Capacity Dia.	Outlet NEMA Style	No. of Outlets	Lg.	Wd.	Ht.		
Carrying Reels								
100	9/16″ (12 ga.)	—	—	11 7/8″	10 3/4″	14 3/4″	**7069K13**	$163.33
250	9/16″ (12 ga.)	—	—	15 1/2″	15″	19″	**7069K15**	215.83
Reels with Outlets								
100	9/16″ (12 ga.)	5-15	2	11 7/8″	13 1/2″	14 3/4″	**73015K31**	204.17
150	9/16″ (12 ga.)	5-15	2	15 1/2″	13 1/2″	19 1/2″	**73015K32**	250.83
Reel with Outlets and 100-ft. Extension Cord								
100	9/16″ (12 ga.)	5-15	2	11 7/8″	13 1/2″	14 3/4″	**73015K311**	468.55

For information about wire gauge, see page 834.

Cord Locks



Hook and Loop



Weather Resistant

Cover a mated plug and connector to prevent disconnection (cords not included). **Hook and loop** lock is UL listed. **Weather-resistant** locks slide over plugs and connectors and the halves twist together. Made of plastic.

	For Cord Gauge	Color	Lg.		
Hook and Loop	16-12	Black	4¼"-5½"	7494K65	$4.50
Weather Resistant	14	Yellow	8"	7494K61	11.98
Weather Resistant	12	Yellow	8"	7494K62	11.98

Light Duty Spring-Rewind Reels



Single Outlet

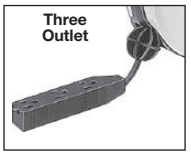

Three Outlet

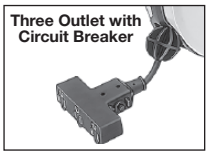

Three Outlet with Circuit Breaker

A spring-driven rewind mechanism neatly retracts cord into these light-gauge steel reels. They have a ratchet to hold the cord at any length; a quick pull releases the cord. An adjustable ball stop controls how much cord retracts into the reel. Reels come with a 30-ft. long extension cord on the outlet side; connect to a power source with the included 18" long power cord. All have three-blade (NEMA 5-15) plug and outlets. Rated 125 volts AC. Mount using the included swivel eye hook, mounting bracket, and hardware. Reels are 9½" Lg.×3" Wd.×11¼" Ht. UL listed.

	Wire Ga.	Amps	Color		
Single Outlet	16	10	White	7016K16	$46.00
Three Outlet	16	10	White	7016K71	47.07
Three Outlet w/Circuit Breaker	16	10	Yellow	7016K81	51.85
Three Outlet w/Circuit Breaker	14	13	Yellow	7016K88	60.00

Medium Duty Spring-Rewind Reels



More rugged than our light duty reels, these are made of impact-resistant black plastic. A ratchet holds the cord at any length; a quick pull releases the cord and the spring-driven rewind mechanism retracts the cord into the reel. Reels come with an extension cord with three outlets and a circuit breaker; connect to a power source with the included 3-ft. long power cord. They have three-blade (NEMA 5-15) plug and outlets. Cord is yellow. Rated 125 volts AC. Mount reel with the quick-release mounting bracket (hardware is included) or use the carrying handle to transport it. Base is 9¼" Lg.×3" Wd. Reels are 11½" Lg.×4½" Wd.×15¼" Ht. UL and C-UL listed.

Wire Ga.	Cord Lg., ft.	Amps		
14	50	13	4804K11	$153.39
12	40	15	4804K12	158.92

Heavy Duty Spring-Rewind Reels

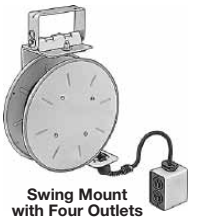

Swing Mount with Four Outlets

Intended for demanding, frequent-use applications, these reels have a heavy-gauge steel housing with a yellow finish. They have a slip ring, adjustable cord tension, and automatic take-up that maintains constant tension on the cord. An adjustable ball stop controls how much cord retracts into the reel. All come with a heavy duty cord that resists oil and water. Connect to a power source with the included 6-ft. long power cord. Rated 125 volts AC. Base is 5½" Lg.×4½" Wd. and has three ⅜" Wd. mounting slots (fasteners not included). UL listed.

Rigid mount reels are 12" Lg.×7¾" Wd.×13 13/16" Ht. **Swing mount** reels allow you to dispense cord at an angle. They are 12" Lg.×7¾" Wd.×13⅞" Ht.

NEMA 5-15 NEMA 5-20

Wire Ga.	Cord Lg., ft.	Amps	Rigid Mount		Swing Mount	
With NEMA 5-15 Plug and Wire Leads						
16	25	10	74705K11	$303.80	7608K44	$323.00
16	35	10	74705K46	330.35	7608K14	402.15
16	50	10	74705K66	357.81	7608K16	433.96
With NEMA 5-15 Plug and Four NEMA 5-15 Outlets						
16	25	10	74705K12	366.24	7608K64	391.44
16	35	10	74705K48	396.98	7608K15	463.48
16	50	10	74705K68	432.55	7608K17	499.83
14	50	15	74705K14	504.58	7608K18	522.56
With NEMA 5-20 Plug and Wire Leads						
12	25	20	74705K71	450.94	7608K11	447.60
12	50	20	74705K72	483.14	7608K19	486.19
With NEMA 5-20 Plug and Four NEMA 5-20 Outlets						
12	25	20	74705K13	515.75	7608K12	513.48
12	50	20	74705K15	547.33	7608K21	549.81
With GFCI NEMA 5-20 Plug and Two NEMA 5-20 Outlets						
12	25	20	74705K73	512.79	7608K13	522.56
12	50	20	74705K74	536.94	7608K22	556.65

Heavy Duty Controlled-Rewind Reels



NEMA 5-20

Rewind is slower and more controlled than with other spring-rewind reels to prevent cord-whipping action at the end of recoiling. This makes rewind safer and extends the life of the cord and reel. A ratchet holds the cord at any length; a quick pull retracts the cord at a rate of 5 ft. per second.

Reels have a steel housing with a blue finish. They have an adjustable rubber cord stop; an adjustable arm for mounting to walls, floors, ceilings, and vehicles; and a heavy duty cord on the outlet side. Connect to a power source with the included 5-ft. long heavy duty power cord. Plugs and outlets are NEMA 5-20. Rated 115 volts AC. Base has four ½" dia. mounting holes (fasteners not included).

Reels **with 50-ft. cord** are 13½" Lg.×8½" Wd.×14⅞" Ht. and have a 5" Lg.×6" Wd. base. UL listed. Reels **with 100-ft. cord** are 24" Lg.×10¼" Wd.×25½" Ht. and have a 6" Lg.×6" Wd. base.

No. of Outlets	Wire Ga.	Amps	With 50-ft. Cord		With 100-ft. Cord	
1	12	20	2781K1	$493.31	2781K4	$868.61
2 (GFCI)	12	20	2781K3	541.67	2781K6	965.07
4	12	20	2781K2	557.15	2781K5	982.75

Extra-Heavy-Duty Hardwired Reels



A direct-drive, lifetime-lubricated spring provides reliable operation and long life. A ratchet holds the cord at any length; a quick pull retracts the cord. Or, flip a switch to disengage the ratchet and use the automatic take-up feature to maintain constant tension on the cord. A roller guide provides smooth winding. Housing is steel with a rust-resistant yellow finish.

The slip ring is enclosed in a gasketed dust-tight and watertight NEMA 4 plastic enclosure and has screw terminals for hard-wiring to your power source. Rated 35 amps and 600 volts AC. Reels come with a heavy duty cord that resists oil and water. Base is 9¼" Lg.×4½" Wd. and has eight ⅜" dia. mounting holes (fasteners not included). Reels are 13½" Lg.×15" Wd.×15" Ht. UL listed and CSA certified, except 70-ft. long 12-ga. cord.

Swivel base permits 345° rotation. **Cord stops** allow you to control how much cord retracts into the reel.

				Three Wires—Grounded						*Four Wires—Grounded*					
				Cord Length						Cord Length					
Wire Ga.	Amps	Cord Dia.		20 ft.	30 ft.	40 ft.	50 ft.	70 ft.	Amps	Cord Dia.		20 ft.	30 ft.	40 ft.	50 ft.	70 ft.
16	10	7/16"	7353K53	———	$571.83	$580.46	$586.75	$889.12	8	½"	7353K59	———	$633.62	$645.12	$677.81	$1,003.44
14	15	9/16"	7353K55	———	607.71	635.04	———	1,044.52	12	5/8"	7353K61	———	666.63	692.83	———	1,169.40
12	20	5/8"	7353K51	$586.21	622.12	693.71	722.17	1,175.42	16	11/16"	7353K56	$652.31	672.87	720.73	890.52	———
10	25	11/16"	7353K52	593.15	683.15	725.08	1,119.94	———	20	¾"	7353K58	684.00	728.60	861.52	1,250.60	———

Accessories

Swivel Base (6" Lg.×1" Wd.×7" Ht.)	7353K105	$86.47
Cord Stop for 16- and 14-Ga. Cord	7353K71	24.38
Cord Stop for 12- and 10-Ga. Cord	7353K75	24.38

About Wire and Cable





Shown with Three 18-ga. Wires (18/3)

Wire consists of a metal conductor, usually copper or tinned copper, that is covered by insulation. The diameter of a wire without its insulation is known as wire gauge or American Wire Gauge (AWG). The smaller the wire gauge, the larger the diameter of the wire. Gauges with the largest wire diameters have the designation MCM.

Cable consists of two or more wires. In addition to the insulation covering each wire, cable has a layer of outer insulation surrounding all the wires. The wire gauge of cable is the diameter of each individual wire without its insulation. One wire is usually used as a ground.

Wire Gauge Dimensions

Wire Gauge	Wire Dia. Inches	Wire Dia. mm	Wire Gauge	Wire Dia. Inches	Wire Dia. mm	Wire Gauge	Wire Dia. Inches	Wire Dia. mm	Wire Gauge	Wire Dia. Inches	Wire Dia. mm
36	0.005″	0.13	22	0.025″	0.64	8	0.129″	3.26	3/0	0.410″	10.40
34	0.006″	0.16	20	0.032″	0.81	6	0.162″	4.12	4/0	0.460″	11.68
32	0.008″	0.20	18	0.040″	1.02	4	0.204″	5.19	250 MCM	0.500″	12.70
30	0.010″	0.26	16	0.051″	1.29	2	0.258″	6.54	300 MCM	0.540″	13.72
28	0.013″	0.32	14	0.064″	1.63	1	0.289″	7.35	350 MCM	0.590″	14.99
26	0.016″	0.41	12	0.080″	2.05	1/0	0.324″	8.25	400 MCM	0.630″	16.00
24	0.020″	0.51	10	0.102″	2.59	2/0	0.365″	9.27	500 MCM	0.700″	17.78

Amp Rating

The larger the wire diameter, the more current the wire can carry (as measured in amps). However, the amp rating of wire decreases when the temperature of its surrounding environment increases, when the wire is close to or bundled with other wires, or when the wire is enclosed in conduit or a raceway. To allow comparisons among different types of wire, we present the maximum amps for an unenclosed single wire or cable at an 86° F ambient temperature. For more information on amp ratings for your specific environment, reference Article 310 in the National Electrical Code (NEC).

Flexibility



Bend and Stay—Useful for long, straight runs and other applications where you need wire to stay in the shape you bend it. This wire is usually solid and easier to terminate than stranded wire.



Flexible—You can bend this wire, but it does not hold its shape. Use it for jobs that require pulling wire around curves and corners in conduit. This wire is usually stranded.



Ultra Flexible—This spaghetti-like wire is limp, so it can handle tighter curves than flexible wire. Also for use in applications that require periodic flexing, such as CNC machines. This wire is usually stranded.



Continuous-Flex—This wire is designed to be in motion, so it's a good choice for robotics applications. It is usually stranded.

Wire



Stranded Wire



Solid Wire

- Stranded Wire: Flexible; Solid Wire: Bend and Stay
- Temperature Range: -40° to 220° F
- Insulation: PVC

This wire is also known as hook-up wire. Use for internal wiring of electrical panels and equipment. UL flame rated VW-1. UL recognized and CSA certified.

300V AC—Meets UL 1007/1569.
600V AC—Meets UL 1015.

Wire

To Order: Please specify black, blue, brown, gray, green, green/yellow, orange, purple, red, white, or yellow.

Wire Ga.	Amps @ 86° F	300V AC OD		25 ft.	50 ft.	100 ft.	200 ft.	500 ft.	600V AC OD		25 ft.	50 ft.	100 ft.	200 ft.	500 ft.
Stranded Wire															
28	4	0.05″	8054T31	$2.82	$5.12	$9.30	$16.74	$34.88							
26	5	0.05″	8054T11	2.88	5.23	9.50	17.10	35.62	0.08″	8054T21	$3.12	$5.66	$10.29	$18.52	$38.59
24	7	0.06″	8054T12	3.18	5.78	10.50	18.90	39.38	0.09″	8054T22	3.34	6.07	11.03	19.85	41.36
22	10	0.06″	8054T13	3.43	6.22	11.31	20.36	42.41	0.1″	8054T23	3.58	6.50	11.82	21.28	44.33
20	13	0.07″	8054T14	4.17	7.57	13.76	24.77	51.60	0.1″	8054T24	4.72	8.56	15.57	28.03	58.39
18	18	0.08″	8054T15	5.30	9.61	17.48	31.46	65.55	0.11″	8054T25	5.85	10.63	19.32	34.78	72.45
16	24	0.09″	8054T16	7.35	13.34	24.26	43.67	90.98	0.12″	8054T26	7.69	13.96	25.39	45.70	95.21
14	33	0.11″	8054T17	11.87	21.54	39.17	70.51	146.89	0.14″	8054T27	12.26	22.25	40.45	72.81	151.69
12	45	0.12″	8054T18	17.28	31.36	57.02	102.64	213.83	0.16″	8054T28	20.45	37.11	67.48	121.46	253.05
10	58	0.16″	8054T19	27.29	49.53	90.05	162.09	337.69	0.19″	8054T29	30.63	55.59	101.08	181.94	379.05
Solid Wire															
24	7	0.05″	8251T1	2.55	4.62	8.40	15.12	31.50	0.08″	8428T1	3.18	5.76	10.48	18.86	39.30
22	10	0.06″	8251T2	3.25	5.91	10.74	19.33	40.27	0.09″	8428T2	3.89	7.06	12.84	23.11	48.15
20	13	0.06″	8251T3	4.79	8.69	15.80	28.44	59.25	0.1″	8428T3	5.02	9.12	16.58	29.84	62.17
18	18	0.07″	8251T4	6.35	11.53	20.96	37.73	78.60	0.1″	8428T4	6.86	12.46	22.65	40.77	84.94

Wire Assortments



Have multiple colors of 300V AC wire on hand. Carry the included rack or wall mount it using the two 1/4″ dia. mounting holes (fasteners not included).

Stranded Wire—Includes spools of wire in five colors: black, blue, green, red, and white.

Solid Wire—Includes spools of wire in eight colors: black, blue, brown, green, orange, red, white, and yellow.

Wire Ga.	Stranded Wire Five 25-ft. Spools		Stranded Wire Five 100-ft. Spools		Solid Wire Eight 25-ft. Spools	
26	9948T23	$44.38	9948T28	$73.00		
24	9948T24	45.62	9948T29	75.63	9948T21	$54.25
22	9948T25	48.25	9948T31	87.38	9948T22	65.75
20	9948T26	56.88	9948T32	112.88	9948T17	86.87
18	9948T27	60.50	9948T33	149.13	9948T18	94.75

Mil. Spec. Wire

- Flexible
- Temperature Range:
  150V AC: -65° to 175° F
  1,000V AC: -40° to 175° F
- Insulation: PVC

This stranded wire is also known as hook-up wire. Use for internal wiring of panels and electrical equipment

150V AC—Has insulation that resists abrasion and chemicals. Meets MIL-W-16878/1-Type B. UL recognized and CSA certified. Meets UL 1429.

1,000V AC—Meets MIL-W-76D Type MW, except 10-ga. wire is Type HW. Meets UL 1423.



Wire

To Order: For *150V AC* wire, please specify black, blue, green, orange, red, white, or yellow. For *1,000V AC* wire, please specify black, blue, brown, gray, green, green/yellow, orange, purple, red, white, or yellow.

Wire Ga.	Amps @ 86° F	150V AC OD		25 ft.	50 ft.	100 ft.	200 ft.	500 ft.	1,000V AC OD		25 ft.	50 ft.	100 ft.	200 ft.	500 ft.
26	4	0.04″	8624T1	$4.12	$7.47	$13.59	$24.46	$50.96	___	___	___	___	___	___	___
24	6	0.04″	8624T2	5.22	9.48	17.24	31.03	64.65	0.06″	6981T1	$2.81	$5.16	$9.38	$16.88	$35.18
22	8	0.05″	8624T3	6.18	11.23	20.41	36.74	76.54	0.06″	6981T2	3.50	6.42	11.67	21.01	43.76
20	10	0.06″	8624T4	7.65	13.88	25.24	45.43	94.65	0.07″	6981T3	5.02	9.20	16.72	30.10	62.70
18	15	0.07″	8624T5	11.20	20.34	36.98	66.56	138.67	0.08″	6981T4	6.51	11.94	21.70	39.06	81.38
16	19	0.08″	8624T6	14.80	26.86	48.83	87.89	183.11	0.1″	6981T5	9.45	17.33	31.50	56.70	118.12
14	27	___	___	___	___	___	___	___	0.11″	6981T6	14.27	26.16	47.57	85.63	178.39
12	36	___	___	___	___	___	___	___	0.12″	6981T7	19.90	36.48	66.32	119.38	248.70
10	47	___	___	___	___	___	___	___	0.21″	6981T8	29.97	54.94	99.89	179.80	374.59

Wire Assortments

Have multiple colors of 1,000V AC Mil. Spec. wire on hand. Carry the included rack or wall mount it using the two 1/4″ dia. mounting holes (fasteners not included).

Five 100-ft. Spools—Includes spools of wire in five colors: black, blue, green, red, and white.

Eight 25-ft. Spools—Includes spools of wire in eight colors: black, blue, brown, green, orange, red, white, and yellow.

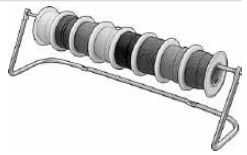

Wire Ga.	Five 100-ft. Spools		Eight 25-ft. Spools	
22	6808K24	$102.75	___	___
20	6808K25	129.75	6808K22	$90.62
18	___	___	6808K21	95.50

Metric Wire

- Flexible
- Temperature Range:
  -40° to 220° F
- Insulation: PVC

Also known as Harmonized European Wire, this meets European sizing requirements (mm^2). It can also be used on North American electrical panels and machines.

Wire is UL recognized, CSA certified, and CE marked. *0.5* to *1 mm^2* wire conforms to European Harmonization document HD-21, HAR H05V-K and meets UL 1007/1569. *1.5* to *6 mm^2* wire conforms to European Harmonization document HD-21, HAR H07V-K; meets UL 1015; and is type MTW for use in machine tool wiring.



To Order: Please specify black, blue, or green/yellow, except 6 mm^2 wire is not available in blue and 500-ft. length of 0.5 mm^2 wire is not available in green/yellow.

Wire Size mm^2	Wire Size Ga.	Amps @ 86° F	AC/DC Voltage	OD		10 ft.	25 ft.	50 ft.	100 ft.	500 ft.
0.5	22	3	300/300	0.09″	6513T1	$4.17	$8.34	$16.68	$33.36	$138.99
0.75	20	5	300/300	0.09″	6513T2	4.38	8.77	17.54	35.08	146.15
1	18	18	300/300	0.1″	6513T3	5.34	10.67	21.34	42.69	177.86
1.5	16	24	600/600	0.12″	6513T4	6.63	13.27	26.53	53.07	221.12
2.5	14	35	600/600	0.15″	6513T5	8.61	17.21	34.43	68.86	286.90
4	12	40	600/600	0.17″	6513T6	13.18	26.36	49.42	92.25	329.47
6	10	55	600/600	0.19″	6513T7	19.54	39.09	73.29	136.80	488.57

Building Wire

- Stranded Wire: Flexible; Solid Wire: Bend and Stay
- Temperature Range:
  -10° to 190° F
- Insulation: Inner is PVC; outer is nylon

Install in conduit and cable trays to carry electricity to outlets in commercial and industrial buildings. It is also known as branch circuit wire. The insulation resists oil and water. Rated 600 volts AC/DC. UL flame rated VW-1, except 18-ga., 16-ga., 1/0, and 2/0 wire. UL listed.

TFFN wire connects light fixtures to power circuits. It is also known as fixture wire.

THHN wire can be used in damp and dry locations.



Stranded



Solid

To Order: Please specify black, blue, brown, gray, green, orange, red, white, or yellow, except TFFN wire is not available in gray or yellow.

Wire Ga.	Amps @ 86° F	OD	Shorter Lengths, ft.		Per Ft.	500-ft. Spools	Each
Stranded TFFN Wire							
18	6	0.09″	50, 100, 250	7715T11	$0.12	7715T51	$28.99
16	8	0.1″	50, 100, 250	7715T12	.16	7715T52	42.63
Stranded THHN Wire							
14	15	0.11″	25, 50, 100, 250	7715T13	.19	7715T53	53.40
12	20	0.13″	25, 50, 100, 250	7715T14	.26	7715T54	80.28
10	30	0.16″	10, 25, 50, 100, 250	7715T15	.38	7715T55	123.58
8	55	0.21″	10, 25, 50, 100, 250	7715T16	.49	7715T56	198.01
6	75	0.25″	10, 25, 50, 100, 250	7715T17	.69	7715T57	303.11
4	95	0.32″	10, 25, 50, 100, 250	7715T18	1.57	7715T58	480.72
3	110	0.35″	10, 25, 50, 100, 250	7715T19	1.81	7715T59	604.44
2	130	0.38″	10, 25, 50, 100, 250	7715T21	2.21	7715T61	745.23
1/0	170	0.47″	10, 25, 50, 100, 250	7715T22	3.46	7715T62	1,111.10
2/0	195	0.52″	10, 25, 50, 100, 250	7715T23	3.80	7715T63	1,416.54
Solid THHN Wire							
14	15	0.1″	25, 50, 100, 250	7715T31	.17	7715T71	48.62
12	20	0.12″	25, 50, 100, 250	7715T32	.23	7715T72	73.63
10	30	0.15″	25, 50, 100, 250	7715T33	.32	7715T73	115.06

Machine Tool Wire



- Flexible
- Temperature Range: 0° to 190° F
- Insulation: PVC

Also known as type MTW, this more flexible alternative to standard building wire is for use in machine tool wiring. The insulation resists oil and coolants. Wire is stranded and rated 600 volts AC. UL flame rated VW-1. UL listed and CSA certified.

To Order: Please specify black, blue, brown, green, orange, red, white, or yellow, except 8-ga. and 6-ga. wire is not available in brown, orange, or yellow.

Wire Ga.	Amps @ 86° F	OD	Shorter Lengths: Lengths, ft.		Shorter Lengths: Per Ft.	500-ft. Spools:	500-ft. Spools: Each
18	7	0.11″	25, 50, 100, 250	9874T11	$0.16	9874T21	$42.48
16	10	0.12″	25, 50, 100, 250	9874T12	.20	9874T22	54.05
14	15	0.14″	25, 50, 100, 250	9874T13	.25	9874T23	72.17
12	20	0.16″	25, 50, 100, 250	9874T14	.35	9874T24	109.50
10	30	0.18″	10, 25, 50, 100, 250	9874T15	.54	9874T25	173.75
8	50	0.24″	10, 25, 50, 100, 250	9874T16	.88	9874T26	294.58
6	65	0.31″	10, 25, 50, 100, 250	9874T17	1.32	9874T27	455.50

Space-Saver Wire



- Flexible
- Temperature Range: -40° to 220° F
- Insulation: mPPE

In areas where space is tight, choose this alternative to standard building wire and machine tool wire—it's up to 40% lighter and has up to a 45% smaller OD. The insulation is halogen-free modified polyphenylene ether (mPPE). This stranded wire is also known as hook-up wire. Rated 600 volts AC. UL flame rated VW-1. UL and C-UL listed.

To Order: Please specify black, green, red, or white.

Wire Ga.	Amps @ 86° F	OD	Lengths, ft.		Per Ft. 1-499	Per Ft. 500-Up
28	1	0.03″	25, 50, 100, 500	6450T21	$0.22	$0.16
26	1	0.04″	25, 50, 100, 500	6450T22	.24	.18
24	2	0.04″	25, 50, 100, 500	6450T23	.28	.21
22	3	0.05″	25, 50, 100, 500	6450T24	.33	.25
20	6	0.06″	25, 50, 100, 500	6450T25	.39	.29
18	8	0.07″	10, 25, 50, 100, 500	6450T26	.52	.39
16	12	0.08″	10, 25, 50, 100, 500	6450T27	.68	.52
14	24	0.1″	10, 25, 50, 100, 500	6450T28	1.04	.78
12	30	0.12″	10, 25, 50, 100, 500	6450T29	1.59	1.20
10	43	0.14″	10, 25, 50, 100, 500	6450T31	2.58	1.95

Chemical-Resistant Wire



- Flexible
- Temperature Range: -65° to 390° F
- Insulation: PTFE

Our most chemical-resistant wire, this wire also resists abrasion, oil, and solvents. This stranded copper wire is silver plated for corrosion resistance and strength. It is also known as hook-up wire. Rated 600 volts AC. Meets MIL-W-16878/4 and is UL flame rated VW-1.

To Order: Please specify black, green, red, or white.

Wire Ga.	Amps @ 86° F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
30	0.8	0.03″	10, 25, 50, 100	7304K21	$0.74	$0.58
28	1.3	0.04″	10, 25, 50, 100	7304K22	.76	.59
26	1.6	0.04″	10, 25, 50, 100	7304K24	.97	.75
24	3.3	0.04″	10, 25, 50, 100	7304K23	1.07	.83
22	5	0.05″	10, 25, 50, 100	7304K11	.73	.57
20	8	0.06″	10, 25, 50, 100	7304K12	.83	.65
18	12	0.07″	10, 25, 50, 100	7304K13	1.02	.80
16	17	0.08″	10, 25, 50, 100	7304K14	1.58	1.24
14	35	0.1″	10, 25, 50, 100	7304K15	1.91	1.50
12	44	0.11″	10, 25, 50, 100	7304K16	3.08	2.42
10	61	0.13″	10, 25, 50, 100	7304K17	3.49	2.74

Harsh Environment Wire



- Flexible
- Temperature Range: -90° to 390° F
- Insulation: Teflon® FEP

This stranded wire withstands abrasion, chemicals, and the extreme temperature fluctuations that often occur in manufacturing environments. It is also known as hook-up wire. Rated 600 volts AC. UL flame rated VW-1 and UL recognized.

To Order: Please specify black, red, or white.

Wire Ga.	Amps @ 86° F	OD	Lengths, ft.		Per Ft. 1-499	Per Ft. 500-Up
26	7	0.06″	10, 25, 50, 100, 500	6276T11	$0.67	$0.55
24	10	0.06″	10, 25, 50, 100, 500	6276T12	.73	.60
22	13	0.07″	10, 25, 50, 100, 500	6276T13	.82	.68
20	17	0.08″	10, 25, 50, 100, 500	6276T14	.91	.75
18	24	0.09″	10, 25, 50, 100, 500	6276T15	1.06	.88
16	32	0.1″	10, 25, 50, 100, 500	6276T16	1.15	.95
14	54	0.11″	10, 25, 50, 100, 500	6276T17	1.42	1.18
12	68	0.13″	10, 25, 50, 100, 500	6276T18	1.70	1.40
10	90	0.15″	10, 25, 50, 100, 500	6276T19	2.30	1.90
8	124	0.23″	10, 25, 50, 100, 500	6276T21	4.06	3.35

Radiation-Resistant Wire



Stranded

- Stranded Wire: Flexible; Solid Wire: Bend and Stay
- Temperature Range: -140° to 500° F
- Insulation: PEEK

The insulation stays intact when exposed to radiation. Use in areas with nuclear or X-ray radiation as well as applications involving mining or oil and gas exploration. The insulation also resists chemicals. It's also known as hook-up wire. Rated 1,000 volts AC. Color is beige. Meets UL 94V0 for flame retardance. **Stranded wire** is silver-plated copper for added strength. **Solid wire** is bare copper.

Wire Ga.	Amps @ 86° F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Stranded Wire						
26	8	0.04″	10, 25, 50, 100	7030T11	$1.17	$0.95
24	11	0.04″	10, 25, 50, 100	7030T12	1.40	1.14
22	14	0.05″	10, 25, 50, 100	7030T13	1.87	1.51
20	19	0.07″	10, 25, 50, 100	7030T14	2.43	1.97
18	29	0.08″	10, 25, 50, 100	7030T18	2.90	2.35
Solid Wire						
26	8	0.03″	10, 25, 50, 100	7030T21	.80	.65
24	11	0.04″	10, 25, 50, 100	7030T22	1.00	.81
22	14	0.05″	10, 25, 50, 100	7030T23	1.20	.97
20	19	0.06″	10, 25, 50, 100	7030T24	1.50	1.22
18	29	0.07″	10, 25, 50, 100	7030T25	1.87	1.51

Stretchable Wire and Cable

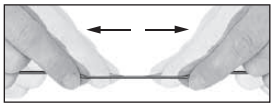



- Continuous Flex
- Temperature Range: -30° to 175° F
- Insulation: Inner is polypropylene; outer is polyurethane

When pulled lengthwise, this wire and cable extends 30% and returns to its original length, making it useful for high-vibration and continuous-motion applications. Rated 300 volts AC. Color is black. Maximum continuous length is 100 ft.

Shielded—Foil shielding in this wire prevents electromagnetic interference (EMI) to minimize signal distortion.

Pinch clamps act as ferrules to hold insulation in place in continuous-motion applications. Crimp the pinch points to install (for tools, see 6541K on page 310).

Wire Ga.	No. of Wires	Amps @ 86° F	OD	Wire and Cable: Per Ft. 1-99	Wire and Cable: Per Ft. 100-Up	Pinch Clamps	Pinch Clamps: Pkg. of 25
Unshielded							
28	1	2	0.11″	6720T11 $3.09	$2.78	6541K31	$8.42
28	2	1.5	0.12″	6720T12 7.45	6.70	6541K31	8.42
28	3	1	0.19″	6720T13 11.29	10.16	6541K33	8.42

Wire Ga.	No. of Wires	Amps @ 86° F	OD	Wire and Cable: Per Ft. 1-99	Wire and Cable: Per Ft. 100-Up	Pinch Clamps	Pinch Clamps: Pkg. of 25
Shielded							
28	1	2	0.12″	6720T14 $5.11	$4.62	6541K31	$8.42
28	2	1.5	0.13″	6720T15 7.77	7.04	6541K31	8.42
28	3	1	0.2″	6720T16 12.06	10.93	6541K34	8.84

Outdoor Wire



- Flexible
- Temperature Range: -55° to 220° F
- Insulation: EPDM rubber

Protected with a thick insulation to resist chemicals, oil, UV light, and water, this stranded wire is for use outdoors and in harsh environments. Use in lighting and generators. Rated 600 volts AC/DC. Color is black. UL listed and CSA certified.

Wire Ga.	Amps @ 86° F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
6	105	0.42″	10, 25, 50, 100	6584T17	$1.34	$1.13
4	140	0.48″	10, 25, 50, 100	6584T16	1.97	1.65
2	190	0.52″	10, 25, 50, 100	6584T15	2.91	2.43
1/0	260	0.6″	10, 25, 50, 100	6584T14	5.13	4.53
2/0	300	0.65″	10, 25, 50, 100	6584T13	6.08	5.37
4/0	405	0.77″	10, 25, 50, 100	6584T11	8.97	7.91

Vehicle Wire



- Flexible
- Temperature Range: -10° to 175° F
- Insulation: PVC

Also known as primary wire and type GPT, this stranded wire meets SAE J1128 for low-voltage wiring in trucks, boats, trailers, and other vehicles. Rated 25 volts AC/60 volts DC.

To Order: Please specify black, red, or white.

Wire Ga.	Amps @ 86° F	OD	Small Spools Lg., ft.			100-ft. Spools	
20	9	0.09″	—	—	—	6659T64	$9.18
18	17	0.1″	45	6659T58	$6.87	6659T54	8.88
16	21	0.11″	35	6659T48	4.80	6659T44	10.27
14	29	0.12″	20	6659T38	5.33	6659T34	13.51
12	38	0.15″	12	6659T28	5.24	6659T24	18.58
10	51	0.18″	8	6659T18	5.35	6659T14	30.21

Battery Wire



- Temperature Range: -40° to 190° F
- Insulation:
  Flexible: PVC
  Ultra Flexible: EPDM rubber, except 250 MCM to 500 MCM is CPE (chlorinated polyethylene)

The insulation resists abrasion and chemicals. Wire is stranded.

Flexible—Connect vehicle batteries in addition to other types of batteries. This wire meets SAE standards for low-voltage wiring in vehicle electrical systems. Rated 60 volts DC.

Ultra Flexible—Thinner strands make this wire more bendable than standard flexible battery wire. Rated 600 volts AC/DC.

To Order: For *8-ga. to 4/0 wire*, please specify black or red. *250 MCM to 500 MCM wire* is black.

Wire Ga.	Amps @ 86° F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Flexible						
8	57	0.22″	10, 25, 50, 100	6948K89	$1.16	$0.95
6	82	0.33″	10, 25, 50, 100	6948K71	1.84	1.51
4	110	0.38″	10, 25, 50, 100	6948K72	2.54	2.08
2	147	0.45″	10, 25, 50, 100	6948K73	4.01	3.28
1	172	0.49″	10, 25, 50, 100	6948K74	4.52	3.70
1/0	200	0.55″	10, 25, 50, 100	6948K75	5.70	4.67
2/0	233	0.61″	10, 25, 50, 100	6948K76	7.34	6.00
3/0	270	0.66″	10, 25, 50, 100	6948K77	9.61	7.86
4/0	315	0.73″	5, 10, 25, 50	6948K78	12.19	9.97
Ultra Flexible						
6	105	0.31″	10, 25, 50, 100	6948K91	1.75	1.45
4	140	0.34″	10, 25, 50, 100	6948K92	2.37	1.95
2	190	0.42″	10, 25, 50, 100	6948K93	3.69	3.04
1	220	0.49″	10, 25, 50, 100	6948K94	4.49	3.70
1/0	260	0.54″	10, 25, 50, 100	6948K95	5.41	4.46
2/0	300	0.59″	10, 25, 50, 100	6948K96	6.84	5.64
3/0	350	0.64″	10, 25, 50, 100	6948K97	8.43	6.95
4/0	405	0.72″	5, 10, 25, 50	6948K98	11.12	9.17
250 MCM	255	0.84″	5, 10, 25, 50	6948K235	12.14	10.12
350 MCM	310	1.05″	5, 10, 25, 50	6948K255	16.80	14.00
500 MCM	380	1.13″	5, 10, 25, 50	6948K275	28.81	24.16

Tangle-Free Wire



- Ultra Flexible
- Temperature Range: -30° to 175° F
- Insulation: Blended polyurethane/PVC

Eliminate tangles—the insulation is slippery so it won't catch on itself or rough surfaces. Use wherever multiple wires are in motion near each other. This stranded wire is also known as hook-up wire. Rated 300 volts AC. Color is gray.

Wire Ga.	Amps @ 86° F	OD	Lengths, ft.		Per Ft. 1-499	Per Ft. 500-Up
28	0.8	0.04″	25, 50, 100, 500	8675T3	$0.31	$0.28
24	2	0.05″	10, 25, 50, 100, 500	8675T2	.66	.57
22	3	0.06″	10, 25, 50, 100, 500	8675T4	1.40	1.23
18	7	0.07″	10, 25, 50, 100, 500	8675T1	.89	.78

High-Temperature Braided Wire

Made of heat-resistant materials, the braided insulation allows this stranded wire to withstand higher temperatures than other wire.

480° F Wire



- Flexible
- Temperature Range: -65° to 480° F
- Insulation: Inner is PTFE; outer is fiberglass

Suitable for applications with repeated flexing, this hook-up wire is also called type TGGT wire. The insulation resists chemicals and moisture. Wire is nickel-plated copper. Rated 600 volts AC. Color is beige. UL recognized and CSA certified.

Wire Ga.	Amps @ 86° F	Amps @ 400° F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
18	12	4	0.11″	10, 25, 50, 100	8240K31	$1.96	$1.49
16	17	6	0.12″	10, 25, 50, 100	8240K32	3.00	2.27
14	35	12	0.14″	10, 25, 50, 100	8240K33	3.65	2.77
12	44	15	0.16″	10, 25, 50, 100	8240K34	3.99	3.02
10	61	21	0.18″	10, 25, 50, 100	8240K35	6.09	4.61
8	88	30	0.23″	10, 25, 50, 100	8240K36	9.79	7.42
6	114	39	0.32″	5, 10, 25, 50	8240K37	15.29	12.74

Oven 840° F Wire



- Flexible
- Temperature Range: -40° to 840° F
- Insulation: Inner is mica tape; outer is fiberglass

Also known as lead wire and type MG wire, it's a good choice for internal wiring of ovens and furnaces. Wire is nickel-plated copper. Rated 600 volts AC/DC. Color is beige. UL listed and CSA certified.

Wire Ga.	Amps @ 86° F	Amps @ 600° F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
20	23	12	0.11″	10, 25, 50, 100	8209K11	$1.24	$0.94
18	31	17	0.12″	10, 25, 50, 100	8209K13	1.45	1.12
16	40	22	0.13″	10, 25, 50, 100	8209K15	1.74	1.32
14	55	30	0.14″	10, 25, 50, 100	8209K17	2.20	1.75
12	75	41	0.16″	10, 25, 50, 100	8209K19	3.17	2.37
10	100	55	0.21″	10, 25, 50, 100	8209K21	4.77	3.62
8	159	87	0.27″	10, 25, 50, 100	8209K22	5.63	4.66
6	242	133	0.31″	10, 25, 50, 100	8209K23	7.81	6.47
4	304	167	0.37″	5, 10, 25, 50	8209K24	11.00	9.17
2	419	230	0.45″	5, 10, 25, 50	8209K25	16.70	13.92

Open Flame 1830° F Wire



- Bend and Stay
- Temperature Range: -40° to 1830° F
- Insulation: Inner is mica tape; outer is ceramic fiber braid

This wire has the highest temperature rating we offer. Use it in furnaces, kilns, and other open-flame applications. The insulation resists chemicals. Wire is nickel. Rated 300 volts AC. Color is white. UL flame rated VW-1.

Wire Ga.	Amps @ 86° F	Amps @ 750° F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
18	11	3	0.16″	10, 25, 50, 100	9457T21	$5.24	$4.19
16	14	4	0.17″	10, 25, 50, 100	9457T22	6.05	4.83
14	21	7	0.18″	10, 25, 50, 100	9457T23	7.03	5.62
12	26	8	0.2″	10, 25, 50, 100	9457T24	8.46	6.76
10	35	11	0.23″	5, 10, 25, 50	9457T25	11.89	9.52

Miniature High-Temperature Wire



- Temperature Range:
  Flexible: -235° to 390° F
  Ultra Flexible: -100° to 400° F
- Insulation:
  Flexible: FEP
  Ultra Flexible: Silicone rubber

When space and temperature are both concerns, this small, lightweight wire withstands extreme temperature. Its thin insulation accommodates repeated flexing. Wire is stranded and rated 50 volts AC/DC.

Flexible—Has chemical-resistant insulation and is silver plated for corrosion resistance and strength.

Ultra Flexible—Silicone rubber insulation makes this wire highly bendable for applications that require tight turns.

To Order: Please specify black, green, red, or white.

Wire Ga.	Amps @ 86° F	OD		10 ft.	25 ft.	50 ft.
Flexible						
36	0.1	0.01″	**9510T1**	$8.32	$18.91	$31.52
29	0.5	0.02″	**9510T2**	8.50	19.32	32.20
26	1	0.02″	**9510T3**	10.36	23.54	39.23
Ultra Flexible						
36	0.1	0.02″	**9564T1**	11.85	26.94	44.90
29	0.5	0.03″	**9564T2**	10.29	23.39	38.99
26	1	0.04″	**9564T3**	10.19	23.15	38.58

Continuous-Flex Wire

Miniature
- Temperature Range: -40° to 175° F
- Insulation: PVC



Standard
- Temperature Range: 45° to 190° F
- Insulation: PVC



Harsh Environment
- Temperature Range: -30° to 190° F
- Insulation: TPE

With fine copper strands, this wire has excellent flexibility for use in cable carriers. It can also be used in automated applications such as robotics.

Miniature—Use this small-gauge wire in thermostats and electronics. The insulation resists acid, oil, and solvents. *36-ga.* to *30-ga.* wire is UL recognized for applications up to 30 volts AC. *28-ga.* to *18-ga.* wire is UL recognized for applications up to 150 volts AC.

Standard—The insulation resists oil. UL flame rated VW-1. UL recognized and CSA certified.

Harsh Environment—With insulation that resists abrasion as well as water, UV light, oil, and coolant, this wire is a good choice for continuous-movement applications in challenging environments. UL flame rated FT-1. UL and C-UL recognized.

Wire Ga.	Amps @ 86° F	AC Voltage	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Miniature—Choose a color: black, green, red, white							
36	0.1	150	0.02″	10, 25, 50, 100	**7071K51**	$2.32	$1.66
32	0.3	300	0.02″	10, 25, 50, 100	**7071K13**	.64	.46
30	0.5	600	0.03″	10, 25, 50, 100	**7071K15**	.88	.63
28	0.8	600	0.04″	10, 25, 50, 100	**7071K17**	1.26	.90
26	1.3	600	0.04″	10, 25, 50, 100	**7071K19**	1.20	.86
24	2	600	0.05″	10, 25, 50, 100	**7071K61**	1.44	1.03
22	2.8	600	0.05″	10, 25, 50, 100	**7071K62**	2.24	1.60
20	4.8	600	0.06″	10, 25, 50, 100	**7071K63**	3.19	2.29
18	7	600	0.07″	10, 25, 50, 100	**7071K64**	4.80	3.43
Standard—Color is black							
14	35	600	0.23″	10, 25, 50, 100	**9192K1**	1.55	1.39
12	40	600	0.26″	10, 25, 50, 100	**9192K2**	2.12	1.90
10	55	600	0.29″	10, 25, 50, 100	**9192K3**	2.53	2.27
8	80	600	0.36″	10, 25, 50, 100	**9192K4**	3.44	3.08
Harsh Environment—Color is black							
12	41	1,000	0.26″	10, 25, 50, 100	**9192K11**	2.14	1.71
10	53	1,000	0.28″	10, 25, 50, 100	**9192K12**	2.41	1.92
8	74	1,000	0.31″	10, 25, 50, 100	**9192K13**	2.97	2.38
6	99	1,000	0.37″	10, 25, 50, 100	**9192K14**	4.50	3.60
4	131	1,000	0.45″	10, 25, 50, 100	**9192K15**	7.49	6.00
2	162	1,000	0.49″	10, 25, 50, 100	**9192K16**	9.45	7.43

Ultra-Flexible Wire for Tight Turns



- Temperature Range: -40° to 300° F
- Insulation: Silicone rubber

Fine strands and silicone rubber insulation make this wire highly bendable. Use it in applications requiring tight turns in small spaces, such as in motors. It is also known as hook-up wire and appliance and fixture wire. Rated 600 volts AC. UL recognized and CSA certified.

To Order: Please specify black or white.

Wire Ga.	Amps @ 86° F	OD	Lengths, ft.		Per Ft. 1-499	Per Ft. 500-Up
22	4	0.12″	10, 25, 50, 100, 500	**7479K11**	$0.86	$0.65
20	7	0.13″	10, 25, 50, 100, 500	**7479K12**	1.27	.95
18	10	0.14″	10, 25, 50, 100, 500	**7479K21**	1.18	.89
16	14	0.15″	10, 25, 50, 100, 500	**7479K22**	1.95	1.54
14	29	0.17″	10, 25, 50, 100, 500	**7479K23**	1.50	1.13
12	36	0.19″	10, 25, 50, 100, 500	**7479K24**	1.75	1.33
10	51	0.21″	10, 25, 50, 100, 500	**7479K25**	2.26	1.72
8	73	0.3″	10, 25, 50, 100, 500	**7479K13**	3.58	3.03
6	95	0.34″	10, 25, 50, 100, 500	**7479K14**	4.65	3.99

High-Voltage Wire



- Flexible
- Temperature Range: -40° to 300° F
- Insulation: Silicone rubber

Able to handle high DC voltages, this stranded wire is used in high-power signs and lasers. It's also known as corona-resistant hook-up wire. The insulation resists abrasion. Color is white. UL listed and CSA certified.

Wire Ga.	Amps @ 86° F	DC Voltage	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
22	13	10K	0.11″	10, 25, 50, 100	**8296K11**	$2.01	$1.64
22	13	15K	0.12″	10, 25, 50, 100	**8296K12**	2.08	1.70
20	18	10K	0.12″	10, 25, 50, 100	**8296K13**	2.18	1.78
20	18	15K	0.13″	10, 25, 50, 100	**8296K14**	2.08	1.70
20	18	20K	0.14″	10, 25, 50, 100	**8296K15**	2.38	1.94
20	18	30K	0.19″	10, 25, 50, 100	**8296K16**	3.19	2.61
18	24	15K	0.14″	10, 25, 50, 100	**8296K17**	2.73	2.24
18	24	25K	0.17″	10, 25, 50, 100	**8296K18**	2.83	2.32
18	24	40K	0.24″	10, 25, 50, 100	**8296K19**	3.24	2.65
16	32	15K	0.15″	10, 25, 50, 100	**8296K21**	3.04	2.49
16	32	25K	0.18″	10, 25, 50, 100	**8296K22**	3.35	2.73
16	32	40K	0.25″	10, 25, 50, 100	**8296K23**	3.54	2.90
14	42	15K	0.16″	10, 25, 50, 100	**8296K24**	3.38	2.76
14	42	25K	0.2″	10, 25, 50, 100	**8296K25**	3.36	2.74
14	42	40K	0.27″	10, 25, 50, 100	**8296K26**	6.01	4.91
12	57	15K	0.18″	10, 25, 50, 100	**8296K27**	4.46	3.65
12	57	40K	0.29″	10, 25, 50, 100	**8296K28**	6.05	4.95
10	76	15K	0.21″	10, 25, 50, 100	**8296K29**	4.55	3.72

High-Voltage Continuous-Flex Wire

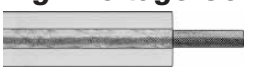

- Temperature Range: -85° to 390° F
- Insulation: Silicone rubber

Although the insulation is thick for high-voltage protection, this stranded wire remains flexible to handle tight bends and automated applications. The clear insulation also resists moisture. Meets UL 94V0 for flame retardance. UL recognized.

To Order: Please specify 5, 10, 25, 50, or 100 ft.

Wire Ga.	Amps @ 86° F	*Voltage* AC	*Voltage* DC	OD		Per Ft. 1-99	Per Ft. 100-Up
30	3	14K	10K	0.21″	**9620T11**	$1.64	$1.47
28	5	17K	12K	0.21″	**9620T12**	1.67	1.50
26	6	17K	12K	0.22″	**9620T13**	1.78	1.60
24	8	17K	12K	0.22″	**9620T14**	1.78	1.60
22	11	44K	31K	0.23″	**9620T15**	2.08	1.88
20	13	44K	31K	0.24″	**9620T16**	2.31	2.07
18	20	59K	42K	0.25″	**9620T17**	2.81	2.52
16	26	59K	42K	0.26″	**9620T18**	3.06	2.75
14	40	59K	42K	0.28″	**9620T19**	3.89	3.50
12	50	59K	42K	0.3″	**9620T21**	3.97	3.57
10	70	28K	20K	0.33″	**9620T22**	4.89	4.40
8	65	59K	42K	0.39″	**9620T23**	8.15	7.50
6	95	59K	42K	0.44″	**9620T24**	10.60	9.75

Long-Life Continuous-Flex Wire

Carbon Fiber
- Temperature Range: 0° to 140° F
- Insulation: PVC



Metallic Tinsel
- Temperature Range: -20° to 175° F
- Insulation: Polypropylene



The strands in this wire have better fatigue resistance under repeated flexing than the copper strands in standard continuous-flex wire, so it will last longer. Use it in automated applications such as robotics and cable carriers; it is also for use in low-current signal applications. Rated 300 volts AC. Color is gray.

Carbon fiber wire has 12,000 flexible strands that are nearly invisible on X-rays and imaging equipment. It cannot be soldered—you must use a crimped connection.

Metallic tinsel wire has thin strands of metal wrapped around a fiber core to provide better flexibility and longer service life than carbon fiber wire. The *33-ga.* wire has a Kevlar core and can be soldered in addition to crimped. The *30-ga.* wire has a polyester core and cannot be soldered—you must use a crimped connection.

Wire Ga.	Amps @ 86° F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Carbon Fiber						
38	0.1	0.09″	10, 25, 50, 100	8692T3	$1.94	$1.70
Metallic Tinsel						
33	0.3	0.05″	10, 25, 50, 100	8692T1	.66	.57
30	0.4	0.06″	10, 25, 50, 100	8692T2	.89	.78

Motor Winding Wire

- Bend and Stay
- Maximum Temperature: 390° F
- Insulation: Enamel



Also known as magnet wire, it's commonly used in motors, transformers, relays, and other high-speed winding applications. The enamel insulation resists moisture, so this solid wire can be used in hermetic motors. Meets NEMA 1000 MW-73C and 1000 MW-35C. UL recognized.

Wire Ga.	Spool Lg., ft.		Per Spool	Wire Ga.	Spool Lg., ft.		Per Spool
36	6,150	7588K27	$19.20	24	2,000	7588K57	71.89
36	12,300	7588K85	38.39	22	750	7588K79	41.75
34	3,900	7588K28	18.30	22	1,500	7588K59	83.50
34	7,800	7588K87	36.39	20	500	7588K81	54.93
32	4,350	7588K89	34.38	20	900	7588K61	82.38
32	8,700	7588K88	68.77	18	300	7588K83	40.62
30	3,000	7588K71	32.38	18	600	7588K63	74.34
30	6,000	7588K41	64.52	16	125	7588K21	26.79
28	2,000	7588K73	31.25	16	250	7588K22	53.36
28	4,000	7588K43	62.29	14	80	7588K23	26.57
26	1,500	7588K75	29.70	14	160	7588K24	52.91
26	3,000	7588K55	59.39	12	50	7588K25	29.02
24	790	7588K77	28.80	12	100	7588K26	52.70

Flat Control Cable

- Flexible
- Temperature Range: -40° to 220° F
- Insulation: Inner and outer is PVC



This slim cable, also known as festoon cable, is made for frequent movement in confined spaces such as overhead cranes and hoists. Wire is stranded and has color-coded insulation (1-black, 2-red, 3-blue, 4-orange, 5-yellow, 6-brown, 7-red with black tracer, 8-blue with black tracer, 9-orange with black tracer, 10-yellow with black tracer, 11-brown with black tracer, 12-black with red tracer). The outer insulation resists oil and UV light and is yellow. Rated 600 volts AC. UL listed and CSA certified.

To provide a secure connection between a single flat cable and a junction box, use a cord grip for flat cable (for cord grips, see page 890).

Wire Ga.	No. of Wires	Amps @ 86° F	Wd.	Thick.	Lengths, ft.		Per Ft.
16	8	15	1.11″	0.2″	10, 25, 50, 100, 500	3120T43	$3.96
16	12	15	1.61″	0.2″	10, 25, 50, 100, 500	3120T44	5.36
14	4	25	0.73″	0.25″	10, 25, 50, 100, 500	3120T39	2.94
14	8	20	1.18″	0.21″	10, 25, 50, 100, 500	3120T45	5.48
14	12	20	1.7″	0.21″	10, 25, 50, 100, 500	3120T41	8.09
12	4	30	0.71″	0.23″	10, 25, 50, 100, 500	3120T42	4.10
12	8	24	1.65″	0.23″	10, 25, 50, 100, 500	3120T46	7.70
10	4	40	0.88″	0.27″	10, 25, 50, 100, 500	3120T47	5.78
8	4	55	1.19″	0.37″	10, 25, 50, 100, 500	3120T71	9.96
6	4	75	1.45″	0.43″	5, 10, 25, 50, 100	3120T72	15.61

Control Cable

- Flexible
- Temperature Range: 45° to 190° F
- Insulation: Inner and outer is PVC



Unshielded



Shielded

Control conveyors, CNC machines, and other types of automated equipment that requires cable to periodically bend and flex. Wires are stranded. Cable with three or more wires has a ground wire with green/yellow insulation. All other wires have black insulation and are numbered. The outer insulation resists oil and is gray. Rated 600 volts AC. UL flame rated VW-1. UL recognized and CSA certified.

Shielded cable has braided shielding to prevent electromagnetic interference (EMI) to minimize signal distortion.

Wire Ga.	No. of Wires	Amps @ 86° F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Unshielded							
20	3	6	0.22″	10, 20, 30, 50, 100	9936K11	$0.88	$0.74
20	4	6	0.24″	10, 20, 30, 50, 100	9936K12	.97	.81
20	7	4	0.28″	10, 20, 30, 50, 100	9936K13	1.56	1.31
20	9	4	0.36″	10, 20, 30, 50, 100	9936K41	3.10	2.60
20	12	3	0.38″	10, 20, 30, 50, 100	9936K14	3.21	2.70
20	16	3	0.43″	10, 20, 30, 50, 100	9936K42	4.43	3.73
20	18	3	0.45″	10, 20, 30, 50, 100	9936K15	4.59	3.86
20	25	2	0.55″	10, 20, 30, 50, 100	9936K43	6.68	5.62
20	34	2	0.61″	10, 20, 30, 50, 100	9936K44	8.90	7.51
20	41	2	0.67″	5, 10, 20, 30, 50	9936K45	13.26	11.05
20	61	2	0.78″	5, 10, 20, 30, 50	9936K46	18.35	15.29
18	2	14	0.24″	10, 20, 30, 50, 100	9936K16	.87	.73
18	3	14	0.25″	10, 20, 30, 50, 100	9936K17	.97	.82
18	4	14	0.28″	10, 20, 30, 50, 100	9936K18	1.26	1.06
18	5	11	0.31″	10, 20, 30, 50, 100	9936K19	1.60	1.34
18	7	11	0.34″	10, 20, 30, 50, 100	9936K21	2.23	1.87
18	12	7	0.45″	10, 20, 30, 50, 100	9936K22	3.94	3.31
18	18	7	0.54″	10, 20, 30, 50, 100	9936K23	5.33	4.48
18	25	6	0.65″	10, 20, 30, 50, 100	9936K47	7.62	6.41
18	41	5	0.78″	5, 10, 20, 30, 50	9936K48	12.54	10.45
16	2	18	0.26″	10, 20, 30, 50, 100	9936K24	1.19	1.00
16	3	18	0.28″	10, 20, 30, 50, 100	9936K25	1.58	1.33
16	4	18	0.31″	10, 20, 30, 50, 100	9936K26	1.99	1.67
16	5	14	0.34″	10, 20, 30, 50, 100	9936K27	2.53	2.13
16	7	14	0.38″	10, 20, 30, 50, 100	9936K28	3.18	2.67
16	9	12	0.48″	10, 20, 30, 50, 100	9936K49	4.99	4.19
16	12	9	0.5″	10, 20, 30, 50, 100	9936K29	5.97	5.02
16	18	9	0.6″	10, 20, 30, 50, 100	9936K31	8.55	7.19
16	25	8	0.73″	10, 20, 30, 50, 100	9936K32	10.45	8.71
16	34	7	0.83″	5, 10, 20, 30, 50	9936K89	14.68	12.23
16	41	7	0.9″	5, 10, 20, 30, 50	9936K91	17.62	14.69
14	2	25	0.32″	10, 20, 30, 50, 100	9936K33	1.94	1.63
14	3	25	0.34″	10, 20, 30, 50, 100	9936K34	2.46	2.07
14	4	25	0.37″	10, 20, 30, 50, 100	9936K35	2.94	2.48
14	7	20	0.46″	10, 20, 30, 50, 100	9936K92	5.09	4.28
14	18	12	0.74″	5, 10, 20, 30, 50	9936K93	12.00	10.00
12	3	30	0.4″	10, 20, 30, 50, 100	9936K36	4.26	3.58
12	5	24	0.5″	10, 20, 30, 50, 100	9936K94	6.02	5.06
10	3	40	0.48″	10, 20, 30, 50, 100	9936K37	6.10	5.13
Shielded							
20	3	6	0.32″	10, 20, 30, 50, 100	9936K51	3.07	2.58
20	7	4	0.39″	10, 20, 30, 50, 100	9936K53	3.88	3.26
20	12	3	0.48″	10, 20, 30, 50, 100	9936K54	6.48	5.45
20	25	2	0.66″	10, 20, 30, 50, 100	9936K81	9.35	7.79
18	3	14	0.34″	10, 20, 30, 50, 100	9936K57	5.01	4.21
18	4	14	0.37″	10, 20, 30, 50, 100	9936K58	5.81	4.88
18	5	11	0.4″	10, 20, 30, 50, 100	9936K59	6.33	5.32
18	7	11	0.43″	10, 20, 30, 50, 100	9936K61	7.43	6.25
18	12	7	0.54″	10, 20, 30, 50, 100	9936K62	10.04	8.36
18	18	7	0.63″	5, 10, 20, 30, 50	9936K63	12.69	10.58
16	3	18	0.38″	10, 20, 30, 50, 100	9936K65	5.55	4.67
16	5	14	0.43″	10, 20, 30, 50, 100	9936K67	7.27	6.11
16	7	14	0.47″	10, 20, 30, 50, 100	9936K68	8.40	7.06
16	12	9	0.61″	5, 10, 20, 30, 50	9936K69	11.65	9.71
16	18	9	0.71″	5, 10, 20, 30, 50	9936K71	16.10	13.42
16	25	8	0.85″	5, 10, 20, 30, 50	9936K72	21.67	18.06
14	4	25	0.47″	10, 20, 30, 50, 100	9936K75	8.23	6.92
14	7	20	0.57″	10, 20, 30, 50, 100	9936K78	9.86	8.21

For information about wire and cable, see page 834.

No-Conduit-Required Control Cable



Unshielded



Double Shielded

- Flexible
- Temperature Range: -10° to 190°F
- Insulation: Inner is blended PVC/nylon; outer is PVC

This cable meets UL TC-ER crush and impact requirements for use in open cable trays or other exposed runs. It is also known as cable-tray-rated cable. It bends easily for installation and works well in applications that require periodic bending. Wires are stranded. One wire has green/yellow insulation to indicate ground; the other wires have black insulation and are numbered. The outer insulation resists oil and is black. Rated 600 volts AC. UL and C-UL listed.

Double-shielded cable has foil and braided shielding to prevent electromagnetic interference (EMI) to minimize signal distortion.

Wire Ga.	No. of Wires	Amps @ 86°F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Unshielded							
18	3	14	0.3″	10, 20, 30, 50, 100	6452T41	$0.60	$0.52
18	4	14	0.32″	10, 20, 30, 50, 100	6452T42	.77	.66
18	5	11	0.35″	10, 20, 30, 50, 100	6452T43	.88	.76
18	7	11	0.37″	10, 20, 30, 50, 100	6452T44	1.19	1.02
18	9	9	0.43″	10, 20, 30, 50, 100	6452T45	1.56	1.34
18	12	7	0.48″	10, 20, 30, 50, 100	6452T46	2.06	1.78
18	18	7	0.59″	10, 20, 30, 50, 100	6452T47	2.83	2.43
18	25	6	0.66″	10, 20, 30, 50, 100	6452T48	3.70	3.17
16	3	18	0.33″	10, 20, 30, 50, 100	6452T61	.70	.61
16	4	18	0.35″	10, 20, 30, 50, 100	6452T62	.87	.75
16	5	14	0.38″	10, 20, 30, 50, 100	6452T63	1.08	.93
16	7	14	0.41″	10, 20, 30, 50, 100	6452T64	1.51	1.30
16	12	9	0.57″	10, 20, 30, 50, 100	6452T65	2.39	2.05
16	18	9	0.65″	10, 20, 30, 50, 100	6452T66	3.35	2.87
14	3	15	0.36″	10, 20, 30, 50, 100	6452T16	.92	.79
14	4	15	0.39″	10, 20, 30, 50, 100	6452T17	1.14	.98
14	5	12	0.43″	10, 20, 30, 50, 100	6452T18	1.38	1.19
14	7	12	0.46″	10, 20, 30, 50, 100	6452T19	1.94	1.66
12	3	20	0.42″	10, 20, 30, 50, 100	6452T81	1.52	1.30
12	4	20	0.46″	10, 20, 30, 50, 100	6452T82	1.87	1.59
12	5	16	0.5″	10, 20, 30, 50, 100	6452T83	2.24	1.92
12	7	16	0.58″	10, 20, 30, 50, 100	6452T84	3.20	2.74
10	4	30	0.58″	10, 20, 30, 50, 100	6452T67	2.76	2.35
10	5	24	0.63″	10, 20, 30, 50, 100	6452T68	3.61	3.10
8	4	55	0.7″	10, 20, 30, 50, 100	6452T59	4.07	3.49
6	4	75	0.9″	10, 20, 30, 50, 100	6452T77	7.27	6.23

Wire Ga.	No. of Wires	Amps @ 86°F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Unshielded (Cont.)							
4	4	95	1.09″	5, 10, 20, 30, 50	6452T78	$9.06	$7.77
2	4	130	1.27″	5, 10, 20, 30, 50	6452T85	15.53	13.32
Double Shielded							
18	3	14	0.32″	10, 20, 30, 50, 100	6452T51	1.07	.92
18	4	14	0.35″	10, 20, 30, 50, 100	6452T52	1.27	1.08
18	5	11	0.37″	10, 20, 30, 50, 100	6452T53	1.46	1.26
18	7	11	0.4″	10, 20, 30, 50, 100	6452T54	1.85	1.60
18	12	7	0.51″	10, 20, 30, 50, 100	6452T56	3.61	3.06
18	18	7	0.62″	10, 20, 30, 50, 100	6452T57	4.86	4.17
18	25	6	0.7″	10, 20, 30, 50, 100	6452T58	5.72	4.90
16	3	18	0.35″	10, 20, 30, 50, 100	6452T71	1.21	1.03
16	4	18	0.38″	10, 20, 30, 50, 100	6452T72	1.42	1.21
16	5	14	0.41″	10, 20, 30, 50, 100	6452T73	1.83	1.58
16	7	14	0.44″	10, 20, 30, 50, 100	6452T74	2.54	2.17
16	12	9	0.6″	10, 20, 30, 50, 100	6452T75	3.81	3.26
16	18	9	0.68″	10, 20, 30, 50, 100	6452T76	5.56	4.77
14	3	15	0.39″	10, 20, 30, 50, 100	6452T26	1.68	1.44
14	4	15	0.42″	10, 20, 30, 50, 100	6452T27	1.91	1.64
14	5	12	0.46″	10, 20, 30, 50, 100	6452T28	2.53	2.16
14	7	12	0.49″	10, 20, 30, 50, 100	6452T29	3.13	2.69
12	4	20	0.49″	10, 20, 30, 50, 100	6452T92	2.68	2.30
12	5	16	0.57″	10, 20, 30, 50, 100	6452T93	4.78	4.10
12	7	16	0.61″	10, 20, 30, 50, 100	6452T94	5.20	4.46
8	4	55	0.74″	10, 20, 30, 50, 100	6452T69	6.27	5.37
6	4	75	0.92″	5, 10, 20, 30, 50	6452T87	12.05	10.32
4	4	95	1.13″	5, 10, 20, 30, 50	6452T88	28.35	24.31
2	4	130	1.31″	5, 10, 20, 30, 50	6452T95	29.16	25.01

Space-Saver Control Cable



Unshielded



Double Shielded

- Flexible
- Temperature Range: -40° to 220°F
- Insulation: Inner and outer is mPPE

An alternative to standard control cable, this cable is 55% lighter and has up to a 32% smaller OD. It is for tight spaces or areas where you need to install multiple cables. Use it to control conveyors, CNC machines, and other types of automated equipment that requires cable to periodically bend and flex. Wires are stranded and have color-coded insulation (1-black, 2-red, 3-white, 4-green, 5-orange, 6-blue, 7-brown, 8-yellow, 9-purple, 10-gray, 11-pink, 12-beige). The cable's outer insulation is gray. All of the insulation is halogen-free modified polyphenylene ether (mPPE). Rated 600 volts AC. UL flame rated VW-1. UL and C-UL listed.

Double-shielded cable has foil and braided shielding to prevent electromagnetic interference (EMI) to minimize signal distortion.

Wire Ga.	No. of Wires	Amps @ 86°F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Unshielded							
20	3	6	0.19″	10, 20, 30, 50, 100	6650T11	$3.31	$2.93
20	4	4	0.21″	10, 20, 30, 50, 100	6650T12	4.18	3.70
20	7	4	0.24″	10, 20, 30, 50, 100	6650T13	7.03	6.23
20	9	4	0.3″	10, 20, 30, 50, 100	6650T14	7.82	6.93
20	12	3	0.3″	10, 20, 30, 50, 100	6650T15	10.48	9.29
18	2	8	0.21″	10, 20, 30, 50, 100	6650T16	3.19	2.83
18	3	8	0.22″	10, 20, 30, 50, 100	6650T17	4.51	3.99
18	4	6	0.24″	10, 20, 30, 50, 100	6650T18	5.66	5.01
18	5	6	0.26″	10, 20, 30, 50, 100	6650T19	6.63	5.87
18	7	6	0.28″	10, 20, 30, 50, 100	6650T21	9.11	8.07
18	12	4	0.35″	5, 10, 20, 30, 50	6650T22	12.32	10.91
16	3	12	0.25″	10, 20, 30, 50, 100	6650T23	6.55	5.80
16	4	9	0.27″	10, 20, 30, 50, 100	6650T24	7.21	6.38
14	3	24	0.28″	10, 20, 30, 50, 100	6650T25	7.47	6.62
14	4	19	0.31″	10, 20, 30, 50, 100	6650T26	9.46	8.38

Wire Ga.	No. of Wires	Amps @ 86°F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Double Shielded							
20	3	6	0.23″	10, 20, 30, 50, 100	6650T27	$5.27	$4.67
20	4	4	0.24″	10, 20, 30, 50, 100	6650T28	7.43	6.58
20	7	4	0.27″	5, 10, 20, 30, 50	6650T29	11.31	10.02
20	9	4	0.33″	5, 10, 20, 30, 50	6650T31	13.70	12.13
20	12	3	0.34″	5, 10, 20, 30, 50	6650T32	16.96	15.02
18	2	8	0.24″	10, 20, 30, 50, 100	6650T33	5.52	4.89
18	3	8	0.25″	10, 20, 30, 50, 100	6650T34	8.00	7.08
18	4	6	0.27″	10, 20, 30, 50, 100	6650T35	10.11	8.95
18	5	6	0.29″	5, 10, 20, 30, 50	6650T36	11.86	10.51
18	7	6	0.31″	5, 10, 20, 30, 50	6650T37	14.83	13.14
18	12	4	0.39″	5, 10, 20, 30, 50	6650T38	21.76	19.27
16	3	12	0.28″	10, 20, 30, 50, 100	6650T39	9.96	8.82
16	4	9	0.3″	5, 10, 20, 30, 50	6650T41	12.65	11.21
14	3	24	0.32″	5, 10, 20, 30, 50	6650T42	12.79	11.33
14	4	19	0.34″	5, 10, 20, 30, 50	6650T43	16.14	14.30

Double-Shielded Motor Cable



- Flexible
- Temperature Range: -40° to 220°F
- Insulation: Inner is blended PVC/nylon; outer is PVC

Block electromagnetic interference (EMI) caused by voltage fluctuations and current spikes in variable-frequency drive motors. Also known as VFD motor cable, this cable is double shielded with foil and braiding to minimize signal distortion. Wires are stranded. One wire has green/yellow insulation to indicate ground; the other wires have black insulation and are numbered. The outer insulation resists oil and is black. Rated 600 volts AC. UL and C-UL listed.

Wire Ga.	No. of Wires	Amps @ 86°F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
14	4	15	0.52″	5, 10, 20, 30, 50, 100	7777T21	$2.37	$2.03
12	4	20	0.58″	5, 10, 20, 30, 50, 100	7777T22	3.18	2.74
10	4	30	0.7″	5, 10, 20, 30, 50, 100	7777T23	3.87	3.31

Wire Ga.	No. of Wires	Amps @ 86°F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
8	4	40	0.84″	5, 10, 20, 30, 50, 100	7777T24	$7.30	$6.26
6	4	55	1″	5, 10, 20, 30, 50, 100	7777T25	10.53	9.03
4	4	70	1.19″	5, 10, 20, 30, 50, 100	7777T26	13.88	11.90

Continuous-Flex Cable

300V AC Standard and 1,000V AC Oil Resistant
- Temperature Range: 25° to 155° F
- Insulation: Inner is TPE; outer is PVC

600V AC Standard
- Temperature Range: 25° to 155° F
- Insulation: Inner and outer is PVC

300V AC Oil Resistant and 300V AC Long Life
- Temperature Range: -30° to 175° F
- Insulation: Inner is TPE; outer is polyurethane

600V AC Oil Resistant
- Temperature Range: 45° to 190° F
- Insulation: Inner and outer is PVC

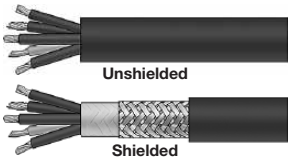

Use this cable when continuous movement is required in automated equipment such as robotics and cable carriers. Wires are stranded. Cable has a ground wire with green/yellow insulation, except 24-ga. cable does not have a ground. The other wires are numbered and have black insulation, except 24-ga. cable has color-coded wires and 600V AC oil-resistant cable has wires with red insulation, unless noted. **Shielded** cable has braided shielding to prevent electromagnetic interference (EMI) to minimize signal distortion.

Standard—UL flame rated FT-1. UL and C-UL recognized. *300V AC* cable has gray outer insulation. *600V AC* has green outer insulation.

Oil Resistant—Outer insulation is black, except 300V AC cable has gray outer insulation. *300V AC* and *1,000V AC* cable are UL flame rated FT-1. UL and C-UL recognized. *600V AC* cable is UL flame rated VW-1. UL recognized and CSA certified.

Long Life—This cable has a life span of more than 20 million high-speed flex cycles. Outer insulation is gray.

To Order: Please specify 5, 10, 20, 30, 50, or 100 ft. Prices are approximately 15% lower for 100-ft. lengths.

Unshielded

Wire Ga.	No. of Wires	Amps @ 86° F	OD		Per Ft.
300V AC Standard					
24	25	2	0.45″	8082K11	$2.85
20	3	10	0.24″	8082K12	.54
20	7	8	0.31″	8082K13	1.17
20	12	6	0.37″	8082K14	1.92
20	18	5	0.47″	8082K15	2.87
20	25	4	0.53″	8082K16	3.89
18	3	14	0.26″	8082K17	.69
18	4	14	0.28″	8082K18	.76
18	5	11	0.3″	8082K19	.95
18	7	11	0.33″	8082K21	1.37
18	12	8	0.41″	8082K22	2.39
18	18	7	0.51″	8082K23	3.20
18	25	6	0.61″	8082K24	5.07
16	3	21	0.3″	8082K25	1.04
16	4	21	0.31″	8082K26	1.30
16	5	16	0.37″	8082K27	1.61
16	7	14	0.41″	8082K28	2.31
16	12	12	0.51″	8082K29	4.22
16	18	11	0.59″	8082K31	5.92
16	25	8	0.75″	8082K32	8.42
14	3	30	0.34″	8082K33	1.66
14	4	30	0.39″	8082K34	2.09
14	7	20	0.51″	8082K35	3.89
14	12	17	0.63″	8082K36	6.74
300V AC Oil Resistant					
18	5	14	0.28″	8082K61	1.91
18	7	11	0.31″	8082K62	2.76
18	12	8	0.45″	8082K63	4.59
16	4	21	0.3″	8082K65	2.63
16	7	16	0.39″	8082K66	4.04
16	12	12	0.55″	8082K67	6.09
14	4	30	0.35″	8082K78	3.64
14	7	23	0.49″	8082K79	6.18
300V AC Long Life					
18	3	14	0.24″	9221K51	5.50
18	5	11	0.28″	9221K52	7.77
18	7	11	0.33″	9221K53	10.16
18	12	7	0.41″	9221K54	16.13
16	3	18	0.26″	9221K55	7.05
16	5	14	0.32″	9221K56	9.30
300V AC Long Life (Cont.)					
16	7	14	0.38″	9221K57	$13.62
16	12	9	0.47″	9221K58	21.15
16	18	9	0.56″	9221K59	27.84
16	25	8	0.67″	9221K61	37.92
14	4	25	0.37″	9221K62	11.59
14	7	20	0.49″	9221K63	17.56
12	4	30	0.43″	9221K64	16.85
600V AC Standard					
24	36	2	0.57″	7673K53	6.70
20	3	7	0.24″	7673K21	.88
20	7	5	0.31″	7673K54	2.52
20	12	4	0.45″	7673K22	3.02
20	18	4	0.53″	7673K55	5.78
20	25	3	0.67″	7673K56	5.78
18	4	12	0.28″	7673K57	1.20
18	5	9	0.31″	7673K23	1.30
18	7	9	0.35″	7673K24	2.12
18	12	7	0.55″	7673K25	3.40
18	18	6	0.71″	7673K58	4.50
18	25	5	0.75″	7673K59	6.33
18	36	5	0.87″	7673K61	8.82
18	42	4	0.91″	7673K62	13.78
16	4	18	0.35″	7673K63	1.70
16	5	14	0.39″	7673K28	1.88
16	7	14	0.51″	7673K29	3.10
16	12	10	0.63″	7673K31	4.60
16	18	9	0.87″	7673K64	6.60
16	25	7	0.94″	7673K32	8.97
14	4	26	0.43″	7673K33	2.58
14	7	20	0.59″	7673K34	4.92
14	18	13	1.08″	7673K65	10.95
600V AC Oil Resistant					
20	3	6	0.23″	9204K11	3.22
20	4	6	0.25″	9204K12	3.62
20	5	4	0.28″	9204K13★	4.03
20	7	4	0.32″	9204K14	5.96
20	12	3	0.4″	9204K71	9.51
20	18	3	0.47″	9204K72	11.38
20	25	2	0.57″	9204K73	16.28
600V AC Oil Resistant (Cont.)					
20	34	2	0.64″	9204K74	$19.31
20	50	2	0.75″	9204K75★	35.85
18	3	14	0.26″	9204K15	3.66
18	4	14	0.28″	9204K16	4.28
18	5	11	0.31″	9204K17	4.83
18	7	11	0.37″	9204K18	7.25
18	12	7	0.45″	9204K19	10.90
18	18	7	0.54″	9204K21	13.67
18	25	6	0.65″	9204K22	19.06
18	34	5	0.74″	9204K77	25.91
16	3	18	0.29″	9204K23	4.85
16	4	18	0.32″	9204K24	5.77
16	5	14	0.35″	9204K25	7.25
16	7	14	0.42″	9204K26★	10.19
16	12	9	0.51″	9204K27★	16.07
16	18	9	0.61″	9204K28	22.55
16	25	8	0.74″	9204K29★	31.06
14	3	25	0.37″	9204K31	6.04
14	4	25	0.41″	9204K32	7.11
14	5	20	0.46″	9204K82	9.08
14	7	20	0.55″	9204K33★	14.77
14	12	12	0.68″	9204K34	23.22
14	18	12	0.82″	9204K83★	35.30
12	3	30	0.45″	9204K84	8.85
12	4	30	0.49″	9204K35★	11.01
12	7	24	0.66″	9204K85	21.66
10	4	40	0.57″	9204K86★	13.80
1,000V AC Oil Resistant					
14	4	30	0.41″	9243K11	2.88
12	4	41	0.47″	9243K13	4.10
12	5	31	0.53″	9243K14	4.77
10	4	53	0.57″	9243K15	5.67
8	4	74	0.71″	9243K17	9.78
8	5	56	0.79″	9243K18	12.85
6	4	99	0.83″	9243K19	13.18
6	5	74	0.95″	9243K21	16.18
4	4	131	1.02″	9243K22	21.85
2	4	162	1.14″	9243K23	29.07
1	4	202	1.38″	9243K24	38.33

Shielded

Wire Ga.	No. of Wires	Amps @ 86° F	OD		Per Ft.
300V AC Standard					
20	3	10	0.32″	8082K37	$1.34
20	5	8	0.35″	8082K38	1.73
20	18	5	0.53″	8082K39	4.13
18	3	14	0.33″	8082K41	1.46
18	5	14	0.35″	8082K42	1.94
18	12	8	0.51″	8082K43	3.80
16	3	21	0.37″	8082K44	1.92
16	4	21	0.39″	8082K45	2.37
16	5	16	0.43″	8082K46	2.87
16	7	14	0.49″	8082K47	3.63
16	12	12	0.57″	8082K48	5.55
300V AC Oil Resistant					
20	5	10	0.33″	8082K81	3.13
18	3	14	0.31″	8082K82	2.78
18	5	14	0.37″	8082K83	3.28
18	12	8	0.53″	8082K84	6.54
16	4	21	0.39″	8082K85	4.00
16	7	16	0.49″	8082K86	6.17
16	12	12	0.61″	8082K87	8.85
600V AC Standard					
20	5	5	0.35″	7673K41	$3.15
20	9	5	0.49″	7673K42	5.40
20	12	4	0.51″	7673K43	6.10
18	5	9	0.39″	7673K44	3.38
18	7	9	0.47″	7673K45	4.45
18	12	7	0.55″	7673K46	6.47
16	5	14	0.43″	7673K49	4.33
16	7	14	0.55″	7673K51	5.95
16	12	10	0.71″	7673K52	8.80
600V AC Oil Resistant					
18	3	14	0.35″	9204K55	6.15
18	5	11	0.41″	9204K57	7.49
18	7	11	0.48″	9204K58	9.40
18	12	7	0.58″	9204K59★	14.10
18	18	7	0.67″	9204K61★	17.34
18	25	6	0.79″	9204K62	22.57
16	3	18	0.38″	9204K63	9.10
16	5	14	0.45″	9204K65	9.80
16	7	14	0.53″	9204K66	13.02
600V AC Oil Resistant (Cont.)					
16	12	9	0.64″	9204K67	$19.87
16	18	9	0.74″	9204K68	26.27
16	25	8	0.89″	9204K69	34.51
1,000V AC Oil Resistant					
16	4	21	0.43″	9243K31	4.25
14	4	30	0.49″	9243K32	5.12
14	5	23	0.53″	9243K33	6.97
12	4	41	0.55″	9243K34	6.85
12	5	31	0.61″	9243K35	8.20
10	4	53	0.67″	9243K36	9.57
10	5	40	0.73″	9243K37	10.65
8	4	74	0.83″	9243K38	13.22
8	5	56	0.91″	9243K39	14.82
6	4	99	0.95″	9243K41	17.82
4	4	131	1.16″	9243K42	28.80
2	4	162	1.32″	9243K43	39.25
1	4	202	1.52″	9243K44	45.05
2/0	4	250	1.85″	9243K45	62.12

★ Has wires with black insulation.

For information about wire and cable, see page 834.

No-Conduit-Required Continuous-Flex Cable



Unshielded



Shielded

- Temperature Range: 25° to 175° F
- Insulation: Inner is blended PVC/nylon; outer is PVC

This cable meets UL TC-ER crush and impact requirements for exposed runs in cable trays. It is also known as cable-tray-rated cable. It's designed to handle the continuous movement required in automated equipment such as robotics and cable carriers. Wires are stranded. Cable with three or more wires has a ground wire with green/yellow insulation. All other wires have black and green/yellow insulation. Black insulation is numbered. The cable's outer insulation is gray. Rated 600 volts AC. UL listed and CSA certified.

Shielded cable has braided shielding to prevent electromagnetic interference (EMI) to minimize signal distortion.

Wire Ga.	No. of Wires	Amps @ 86° F	OD	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Unshielded							
20	2	8	0.27″	10, 20, 30, 50, 100	9700T61	$1.57	$1.25
20	3	8	0.28″	10, 20, 30, 50, 100	9700T62	1.77	1.41
20	4	8	0.31″	10, 20, 30, 50, 100	9700T63	1.82	1.45
20	5	6	0.33″	10, 20, 30, 50, 100	9700T64	2.02	1.61
20	7	5	0.38″	10, 20, 30, 50, 100	9700T65	2.97	2.38
20	12	4	0.47″	10, 20, 30, 50, 100	9700T66	3.98	3.18
20	18	4	0.55″	10, 20, 30, 50, 100	9700T67	5.40	4.32
20	25	3	0.66″	10, 20, 30, 50, 100	9700T68	6.14	4.91
18	4	14	0.33″	10, 20, 30, 50, 100	9700T11	1.52	1.30
18	5	9	0.35″	10, 20, 30, 50, 100	9700T69	2.18	1.74
18	7	8	0.4″	10, 20, 30, 50, 100	9700T71	3.28	2.62
18	12	7	0.5″	10, 20, 30, 50, 100	9700T12	4.42	3.77
18	18	7	0.58″	10, 20, 30, 50, 100	9700T13	5.28	4.49
18	25	6	0.69″	10, 20, 30, 50, 100	9700T14	7.03	5.98
16	3	18	0.33″	10, 20, 30, 50, 100	9700T15	1.95	1.66
16	4	18	0.36″	10, 20, 30, 50, 100	9700T16	2.15	1.83
16	5	14	0.39″	10, 20, 30, 50, 100	9700T17	2.15	1.83
16	7	14	0.45″	10, 20, 30, 50, 100	9700T18	3.83	3.26
16	10	12	0.56″	10, 20, 30, 50, 100	9700T72	3.96	3.17
16	12	9	0.56″	10, 20, 30, 50, 100	9700T19	4.28	3.64
16	18	9	0.65″	10, 20, 30, 50, 100	9700T21	6.25	5.32
16	22	8	0.71″	10, 20, 30, 50, 100	9700T73	7.44	5.95
16	25	8	0.77″	10, 20, 30, 50, 100	9700T22	7.72	6.57
16	33	7	0.85″	10, 20, 30, 50, 100	9700T23	10.28	8.74
14	4	25	0.39″	10, 20, 30, 50, 100	9700T24	2.55	2.17
14	7	20	0.51″	10, 20, 30, 50, 100	9700T25	3.75	3.19
14	10	17	0.63″	10, 20, 30, 50, 100	9700T74	5.22	4.18
14	12	13	0.62″	10, 20, 30, 50, 100	9700T26	5.65	4.81
12	4	30	0.49″	10, 20, 30, 50, 100	9700T27	4.55	3.87
10	4	40	0.56″	10, 20, 30, 50, 100	9700T28	6.67	5.68
10	5	32	0.61″	10, 20, 30, 50, 100	9700T29	8.00	6.81
Shielded							
20	2	8	0.35″	10, 20, 30, 50, 100	9700T75	2.34	1.87
20	3	8	0.36″	10, 20, 30, 50, 100	9700T76	2.79	2.24
20	4	8	0.39″	10, 20, 30, 50, 100	9700T77	3.06	2.45
20	5	6	0.41″	10, 20, 30, 50, 100	9700T78	3.09	2.47
20	7	5	0.46″	10, 20, 30, 50, 100	9700T79	4.27	3.42
20	12	4	0.55″	10, 20, 30, 50, 100	9700T81	5.34	4.27
20	18	4	0.64″	10, 20, 30, 50, 100	9700T82	6.95	5.57
20	25	3	0.78″	10, 20, 30, 50, 100	9700T83	8.30	6.63
18	4	14	0.4″	10, 20, 30, 50, 100	9700T41	2.60	2.21
18	5	9	0.43″	10, 20, 30, 50, 100	9700T84	3.50	2.80
18	7	8	0.48″	10, 20, 30, 50, 100	9700T85	5.25	4.20
18	12	7	0.58″	10, 20, 30, 50, 100	9700T42	6.47	5.51
18	18	7	0.66″	10, 20, 30, 50, 100	9700T43	7.65	6.51
18	25	6	0.78″	5, 10, 20, 30, 50	9700T44	10.57	9.00
16	3	18	0.41″	10, 20, 30, 50, 100	9700T45	2.58	2.19
16	4	18	0.43″	10, 20, 30, 50, 100	9700T46	3.62	3.09
16	5	14	0.46″	10, 20, 30, 50, 100	9700T47	4.25	3.62
16	7	14	0.53″	10, 20, 30, 50, 100	9700T48	5.22	4.45
16	12	9	0.64″	10, 20, 30, 50, 100	9700T49	8.32	7.09
16	18	9	0.73″	10, 20, 30, 50, 100	9700T51	8.65	7.36
16	22	8	0.76″	5, 10, 20, 30, 50	9700T86	12.01	9.60
16	25	8	0.85″	5, 10, 20, 30, 50	9700T52	13.47	11.47
16	33	7	0.93″	5, 10, 20, 30, 50	9700T53	15.20	12.94
14	4	25	0.47″	10, 20, 30, 50, 100	9700T54	5.28	4.49
14	7	20	0.59″	10, 20, 30, 50, 100	9700T55	7.70	6.55
14	12	13	0.69″	5, 10, 20, 30, 50	9700T56	10.47	8.91
12	4	30	0.57″	10, 20, 30, 50, 100	9700T57	6.40	5.45
10	4	40	0.64″	10, 20, 30, 50, 100	9700T58	8.53	7.26
10	5	32	0.69″	10, 20, 30, 50, 100	9700T59	11.30	9.62

Servomotor Continuous-Flex Cable

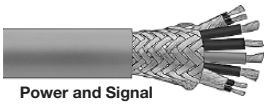

Power and Signal

- Temperature Range: -40° to 175° F
- Insulation: Inner is polypropylene; outer is polyurethane

Connect servocontrollers and servomotors in automated equipment and on assembly lines. This cable withstands frequent and sudden movement. It has foil and braided shielding that prevents electromagnetic interference (EMI) to minimize signal distortion. Wires are stranded. Cable has a ground wire with green/yellow insulation. The other wires have black insulation. The cable's outer insulation is orange. Rated 1,000 volts AC. UL flame rated VW-1. UL recognized and CSA certified. For servomotor connectors, see page 807.

Power and signal cable transmits data such as positioning information from the motor to the controller. There are four power wires and two pairs of signal wires twisted together.

To Order: Please specify 5, 10, 20, 30, or 50 ft.

⌐ Wire Ga. (No. of Wires) ¬ Power	Signal	Amps @ 86° F	OD		Per Ft. 1-49	Per Ft. 50-Up
Power						
14 (4)	—	15	0.42″	8815T11	$4.77	$4.09
12 (4)	—	20	0.47″	8815T13	6.62	5.68
10 (4)	—	30	0.57″	8815T14	8.37	7.18
Power and Signal						
14 (4)	18 (4)	15	0.57″	8815T16	7.61	6.53
12 (4)	18 (2), 16 (2)	20	0.64″	8815T17	9.48	8.17
10 (4)	18 (2), 16 (2)	30	0.71″	8815T18	10.88	9.33

High-Voltage Continuous-Flex Flat Cable



- Temperature Range: -85° to 325° F
- Insulation: Silicone rubber

Thick insulation provides protection from high voltage and stays flexible in extreme temperatures. The flat shape fits better in tight spaces than round cable. Made for repeated flexing, this cable is suitable for use in automated equipment. Wires are stranded and have clear insulation. Meets UL 94V0 for flame retardance.

To Order: Please specify 10, 20, 30, 50, or 100 ft.

Wire Ga.	No. of Wires	Amps @ 86° F	AC Voltage	Wd.	Thick.		Per Ft. 1-99	Per Ft. 100-Up
28	2	5	17K	0.13″	0.08″	9634T101	$1.60	$1.28
28	3	5	17K	0.18″	0.08″	9634T102	1.73	1.38
28	4	5	17K	0.23″	0.08″	9634T103	1.73	1.38
28	6	5	17K	0.33″	0.08″	9634T104	1.88	1.50
28	8	5	17K	0.43″	0.08″	9634T105	2.05	1.64
28	10	5	17K	0.53″	0.08″	9634T106	2.21	1.76
26	2	6	17K	0.14″	0.09″	9634T201	1.75	1.40
26	3	6	17K	0.19″	0.09″	9634T202	2.08	1.66
26	4	6	17K	0.25″	0.09″	9634T203	2.08	1.66
26	6	6	17K	0.35″	0.09″	9634T204	2.38	1.90
26	8	6	17K	0.46″	0.09″	9634T205	2.71	2.16
26	10	6	17K	0.57″	0.09″	9634T206	3.00	2.40
24	2	7	17K	0.15″	0.09″	9634T301	1.75	1.40
24	3	7	17K	0.21″	0.09″	9634T302	2.10	1.68
24	4	7	17K	0.27″	0.09″	9634T303	2.10	1.68
24	6	7	17K	0.38″	0.09″	9634T304	2.45	1.96
24	8	7	17K	0.5″	0.09″	9634T305	2.77	2.22
24	10	7	17K	0.62″	0.09″	9634T306	3.11	2.48
22	2	8	25K	0.18″	0.11″	9634T401	1.86	1.48
22	3	8	25K	0.25″	0.11″	9634T402	2.23	1.78
22	4	8	25K	0.32″	0.11″	9634T403	2.23	1.78
22	6	8	25K	0.45″	0.11″	9634T404	2.62	2.10
22	8	8	25K	0.59″	0.11″	9634T405	3.00	2.40
22	10	8	25K	0.73″	0.11″	9634T406	3.38	2.70
20	2	10	25K	0.2″	0.12″	9634T501	2.23	1.78
20	3	10	25K	0.28″	0.12″	9634T502	3.00	2.40
20	4	10	25K	0.36″	0.12″	9634T503	3.00	2.40
20	6	10	25K	0.51″	0.12″	9634T504	3.78	3.02
20	8	10	25K	0.67″	0.12″	9634T505	4.55	3.64
20	10	10	25K	0.83″	0.12″	9634T506	5.33	4.26
18	2	15	28K	0.24″	0.14″	9634T601	2.62	2.10
18	3	15	28K	0.33″	0.14″	9634T602	3.78	3.02
18	4	15	28K	0.43″	0.14″	9634T603	3.78	3.02
18	6	15	28K	0.62″	0.14″	9634T604	4.95	3.96
18	8	15	28K	0.81″	0.14″	9634T605	6.08	4.86
18	10	15	28K	1″	0.14″	9634T606	6.48	5.18
16	2	19	28K	0.26″	0.15″	9634T701	3.00	2.40
16	3	19	28K	0.37″	0.15″	9634T702	4.55	3.64
16	4	19	28K	0.48″	0.15″	9634T703	4.55	3.64
16	6	19	28K	0.7″	0.15″	9634T704	6.08	4.86
16	8	19	28K	0.92″	0.15″	9634T705	7.05	5.64
16	10	19	28K	1.14″	0.15″	9634T706	8.47	6.78

Continuous-Flex and -Twist Robotics Cable



Unshielded

- Temperature Range: 300V AC and 600V AC: -40° to 175°F
  1,000V AC: -10° to 175°F
- Insulation: Inner is TPE; outer is polyurethane

This cable handles the repeated flexing and extreme twisting common in robotics. The insulation resists moisture, oil, and UV light. Wires are stranded. Cable with three or more wires has a ground wire with green/yellow insulation. All other wires have black and white insulation and are numbered. UL flame rated VW-1. **Shielded** cable has braided shielding to prevent electromagnetic interference (EMI) to minimize signal distortion.

300V AC and **600V AC—**The outer insulation is black. UL recognized and CSA certified.

1,000V AC—The outer insulation is blue. UL and C-UL recognized.

Wire Ga.	No. of	Amps @ 86°F	OD	Lengths, ft.		Per Ft. 1-99	100-Up
Unshielded							
300V AC							
24	3	4	0.23″	10, 20, 30, 50, 100	8559K41	$4.25	$3.60
24	4	4	0.24″	10, 20, 30, 50, 100	8559K42	5.07	4.31
24	7	2.6	0.28″	10, 20, 30, 50, 100	8559K43	8.84	7.50
22	2	6	0.23″	10, 20, 30, 50, 100	8559K44	4.36	3.71
600V AC							
18	3	14	0.31″	10, 20, 30, 50, 100	8559K21	6.21	5.16
18	4	14	0.33″	10, 20, 30, 50, 100	8559K45	7.18	6.11
18	7	11	0.41″	10, 20, 30, 50, 100	8559K46	8.28	7.03
18	12	7	0.5″	10, 20, 30, 50, 100	8559K47	10.28	8.73
18	18	7	0.59″	5, 10, 20, 30, 50	8559K48	17.72	15.05
18	25	6	0.68″	5, 10, 20, 30, 50	8559K22	21.55	17.91
16	3	18	0.34″	10, 20, 30, 50, 100	8559K23	7.51	6.24
16	7	14	0.46″	10, 20, 30, 50, 100	8559K24	10.51	8.74
16	12	9	0.58″	5, 10, 20, 30, 50	8559K25	15.70	13.12
16	18	9	0.67″	5, 10, 20, 30, 50	8559K26	19.85	16.59
16	25	8	0.79″	5, 10, 20, 30, 50	8559K27	28.96	24.20
14	3	25	0.41″	10, 20, 30, 50, 100	8559K28	7.77	6.49
14	4	25	0.44″	10, 20, 30, 50, 100	8559K49	8.91	7.57
1,000V AC							
8	3	74	0.65″	5, 10, 20, 30, 50	8559K31	13.00	10.84
6	3	99	0.75″	5, 10, 20, 30, 50	8559K32	16.54	13.78
4	3	131	0.93″	5, 10, 20, 30, 50	8559K33	22.98	19.15
2	3	162	1.02″	5, 10, 20, 30, 50	8559K34	27.62	23.01
Shielded							
1,000V AC							
16	3	21	0.31″	10, 20, 30, 50, 100	8559K35	7.65	5.91
16	4	21	0.33″	10, 20, 30, 50, 100	8559K37	7.78	6.25
14	3	30	0.37″	10, 20, 30, 50, 100	8559K36	8.35	6.48
14	4	30	0.41″	10, 20, 30, 50, 100	8559K38	8.80	7.04

Drop-Down Cable





Standard
- Flexible
- Temperature Range: -40° to 140°F
- Insulation: Inner is PVC; outer is polypropylene covered by PVC

With Strain Relief
- Flexible
- Temperature Range: 15° to 220°F
- Insulation: Inner and outer is PVC

Use this cable for overhead wiring of tools and equipment, such as pendant switches, where cable hangs down. It is also known as bus drop cable. The insulation resists abrasion, chemicals, and oil. Wires are stranded and have color-coded insulation. Rated 600 volts AC.

Standard cable is for wet environments. The ground wires are not counted in the number of wires. The cable's outer insulation is gray. UL listed.

Cable with strain relief has galvanized steel strain cables on the sides to provide strength and reduce pull stress. Wires are numbered. The cable's outer insulation is yellow. UL listed and CSA certified. Use the *strain relief kit* (sold separately) to secure the cable to your equipment. The kit includes two eyebolts, three cable clamps, two cable ties, four hex nuts, and four washers.

Wire Ga.	No. of Wires	Amps @ 86°F	OD	Lengths, ft.		Per Ft. 1-99	100-Up
Standard							
12	3	25	0.42″	10, 25, 50, 100	7128K11	$1.86	$1.48
10	3	30	0.47″	10, 25, 50, 100	7128K13	2.71	2.16
8	3	40	0.63″	10, 25, 50, 100	7128K15	3.84	3.05
With Strain Relief							
16	8	12	0.52″	10, 25, 50, 100	7741K11	4.32	3.93
16	12	9	0.58″	10, 25, 50, 100	7741K13	5.45	4.98
16	16	9	0.63″	10, 25, 50, 100	7741K15	6.70	6.13
16	24	8	0.76″	10, 25, 50, 100	7741K17	8.93	8.20
Strain Relief Kit					7741K2	9.22	

High-Temperature Cable

The outer insulation protects wires from heat. Rated 600 volts AC.

Shielded Cable for Ovens



- Flexible
- Temperature Range: -65° to 390°F
- Insulation: Inner and outer is PTFE

This cable has braided shielding that prevents electromagnetic interference (EMI) to minimize signal distortion. The insulation resists chemicals, moisture, and water, and the wires are silver plated for corrosion resistance and strength. Wires are stranded and have color-coded insulation (1-white, 2-black, 3-red, 4-green). The cable's outer insulation is white. Meets MIL-W-16878/4.

Wire Ga.	No. of Wires	Amps @ 300°F	OD	Lengths, ft.		Per Ft. 1-99	100-Up
26	2	0.8	0.12″	10, 20, 50, 100	8219K67	$2.42	$1.85
26	3	0.8	0.13″	10, 20, 50, 100	8219K68	2.66	2.03
26	4	0.6	0.14″	10, 20, 50, 100	8219K69	3.02	2.31
24	2	1.6	0.14″	10, 20, 50, 100	8219K51	2.46	2.09
24	3	1.6	0.14″	10, 20, 50, 100	8219K52	3.00	2.54
24	4	1.3	0.16″	10, 20, 50, 100	8219K53	4.72	4.00
22	2	2.4	0.15″	10, 20, 50, 100	8219K54	2.97	2.52
22	3	2.4	0.15″	10, 20, 50, 100	8219K55	4.05	3.43
22	4	1.9	0.17″	10, 20, 50, 100	8219K56	4.44	3.76
20	2	4	0.16″	10, 20, 50, 100	8219K57	2.90	2.46
20	3	4	0.17″	10, 20, 50, 100	8219K58	3.87	3.28
20	4	3.2	0.19″	10, 20, 50, 100	8219K59	5.26	4.46
18	2	5.6	0.19″	10, 20, 50, 100	8219K61	3.59	3.04
18	3	5.6	0.2″	10, 20, 50, 100	8219K62	4.54	3.85
18	4	4.5	0.22″	10, 20, 50, 100	8219K63	6.08	5.15
16	2	8	0.21″	10, 20, 50, 100	8219K64	4.08	3.46
16	3	8	0.22″	10, 20, 50, 100	8219K65	5.44	4.61
16	4	6.4	0.24″	10, 20, 50, 100	8219K66	7.31	6.20

Furnace Cable



- Flexible
- Temperature Range: -40° to 840°F
- Insulation: Inner is fiberglass and mica tape; outer is fiberglass, mica tape, and PTFE

Fiberglass braiding and mica tape around the wires add an extra layer of protection. The insulation resists oil. Wires are stranded and nickel plated. They have insulation with color-coded tracer threads (1-black, 2-white, 3-red, 4-green). The cable's outer insulation is black.

Wire Ga.	No. of Wires	Amps @ 700°F	OD	Lengths, ft.		Per Ft. 1-99	100-Up
18	2	9	0.28″	10, 20, 50, 100	9464T11	$5.88	$4.71
18	3	9	0.29″	10, 20, 50, 100	9464T12	7.18	5.75
16	2	12	0.31″	10, 20, 50, 100	9464T13	6.53	5.23
16	3	12	0.33″	10, 20, 50, 100	9464T14	8.46	6.77
16	4	10	0.34″	10, 20, 50, 100	9464T15	10.25	8.21
14	2	18	0.3″	10, 20, 50, 100	9464T16	7.23	5.78
14	3	18	0.35″	10, 20, 50, 100	9464T17	9.70	7.76
14	4	15	0.38″	5, 10, 20, 50	9464T18	11.97	9.57
12	3	23	0.39″	5, 10, 20, 50	9464T19	12.13	9.70
12	4	18	0.43″	5, 10, 20, 50	9464T21	14.64	11.71
10	2	31	0.49″	5, 10, 20, 50	9464T22	12.54	10.03
10	3	31	0.53″	5, 10, 20, 50	9464T23	19.06	15.25

Abrasion-Resistant Cable



Unshielded

- Flexible
- Temperature Range: -20° to 190°F
- Insulation: Inner is PVC; outer is polyurethane

The insulation resists cuts and abrasion as well as chemicals, moisture, oil, solvents, and water. The outer insulation is black. Wires are stranded. Rated 300 volts AC. UL flame rated VW-1. UL and C-UL recognized.

Unshielded—Wires have color-coded insulation (1-black, 2-red, 3-white, 4-green, 5-orange, 6-blue, 7-brown, 8-yellow, 9-purple, 10-gray, 11-pink, 12-beige, 13-red/green, 14-red/yellow, 15-red/black).

Shielded—Has foil shielding to prevent electromagnetic interference (EMI) to minimize signal distortion. There is an uninsulated ground wire that is not counted in the number of wires. Wires have color-coded insulation (1-black, 2-brown, 3-red, 4-orange, 5-yellow, 6-green).

Wire Ga.	No. of Wires	Amps @ 86°F	OD	Lengths, ft.		Per Ft. 1-99	100-Up
Unshielded							
18	2	13	0.23″	5, 10, 25, 50, 100	8237K11	$3.55	$2.69
18	4	11	0.26″	5, 10, 25, 50, 100	8237K13	5.43	4.12
18	6	10	0.31″	5, 10, 25, 50, 100	8237K15	8.59	6.52
18	15	6	0.43″	5, 10, 25, 50, 100	8237K17	18.61	14.12
Shielded							
22	6	5	0.22″	5, 10, 25, 50, 100	8237K19	5.91	4.48

Cable



Tough and durable, this cable is commonly used for temporary power and with portable equipment. It's for use outdoors, except black PVC. Wires are stranded and have color-coded insulation (1-black, 2-white, 3-green, 4-red, 5-orange, 6-blue, 7-white with black tracer, 8-red with black tracer, 9-green with black tracer, 10-orange with black tracer). UL listed and CSA certified, unless noted.

To Order: Please specify 10, 25, 50, 100, or 250 ft. Prices are approximately 25% lower for 250-ft. lengths.

Cable Type Characteristics

The letters in the industry designation represent cable characteristics based on Underwriters Laboratories (UL) and National Electrical Code (NEC) Article 400.

Letter	Cable Characteristics
S	Standard; rated at 600V AC
SJ	Junior; rated at 300V AC
E	Elastomer (thermoplastic rubber)
T	Thermoplastic
O	Oil-resistant outer insulation
OO	Oil-resistant inner and outer insulation
W	Approved for outdoor use

Ultra-Flexible Neoprene Rubber

- Temperature Range: Black: -40° to 190° F; Yellow: -55° to 220° F
- Insulation: Inner is EPDM rubber

Wire Ga.	No. of Wires	Amps @ 86° F	OD		Per Ft.
300V AC (SJOOW)— Black					
18	2	10	0.29″	7422K2	$0.52
18	3	10	0.31″	7422K21	.60
18	4	7	0.33″	7422K11	.84
16	2	13	0.31″	7422K61	.61
16	3	13	0.33″	7422K22	.74
16	4	10	0.37″	7422K23	.99
14	2	18	0.34″	7422K62	.91
14	3	18	0.37″	7422K24	1.12
14	4	15	0.41″	7422K25	1.59
12	3	25	0.43″	7422K26	1.30
12	4	20	0.48″	7422K27	2.11
10	3	30	0.58″	7422K28	2.42
10	4	25	0.66″	7422K29	2.83
300V AC (SJOOW)— Yellow					
18	2	10	0.31″	8042K11	.89
18	3	10	0.32″	8042K12	1.04
16	2	13	0.32″	8042K13	1.05
16	3	13	0.34″	8042K14	1.33
16	4	10	0.37″	8042K15	1.69
14	3	18	0.38″	8042K16	1.97
600V AC (SOOW)— Black					
18	2	10	0.35″	7081K11	.63
18	3	10	0.37″	7081K12	.80
18	4	7	0.39″	7081K13	$0.88
18	5	5	0.47″	7081K18	1.46
18	6	5	0.5″	7081K19	1.62
18	8	4	0.53″	7081K39	2.14
18	10	4	0.6″	7081K79	2.51
16	2	13	0.37″	7081K14	.78
16	3	13	0.39″	7081K22	.94
16	4	10	0.42″	7081K31	1.25
16	5	8	0.5″	7081K87	1.86
16	6	8	0.52″	7081K37	1.99
16	8	7	0.58″	7081K38	2.69
16	10	5	0.62″	7081K81	3.09
14	2	18	0.51″	7081K15	1.21
14	3	18	0.54″	7081K23	1.40
14	4	15	0.58″	7081K32	1.84
14	5	12	0.65″	7081K85	2.55
12	2	25	0.57″	7081K16	1.65
12	3	25	0.6″	7081K24	1.96
12	4	20	0.65″	7081K33	2.24
12	5	16	0.72″	7081K88	3.39
12	6	16	0.74″	7081K69	3.91
10	2	30	0.62″	7081K17	2.30
10	3	30	0.66″	7081K41	2.53
10	4	25	0.72″	7081K42	2.86
10	5	20	0.77″	7081K89	$4.53
10	6	20	0.88″	7081K59	5.70
8	3	40	0.85″	7081K35	4.49
8	4	35	0.96″	7081K82	5.79
8	5	28	0.84″	7081K44★	5.57
6	3	55	0.98″	7081K84	7.19
6	4	45	1.08″	7081K25	8.81
6	5	36	1.2″	7081K26	11.18
4	4	60	1.26″	7081K28	13.61
4	5	48	1.37″	7081K29	15.96
2	4	80	1.46″	7081K34	18.64
600V AC (SOOW)— Yellow					
18	3	10	0.38″	8041K51	1.21
16	2	13	0.37″	8041K52	1.16
16	3	13	0.4″	8041K53	1.42
16	4	10	0.43″	8041K54	1.88
14	3	18	0.53″	8041K55	2.09
14	4	15	0.58″	8041K56	2.75
12	3	25	0.6″	8041K58	3.07
12	4	20	0.65″	8041K59	3.49
10	3	30	0.66″	8041K61	3.97
10	4	25	0.71″	8041K62	4.47

★Not UL listed or CSA certified.

Flexible TPE

- Temperature Range: Black: -55° to 220° F; Yellow: -75° to 220° F
- Insulation: Inner is TPE

Wire Ga.	No. of Wires	Amps @ 86° F	OD		Per Ft.
300V AC (SJEOOW)— Black					
18	2	10	0.29″	7082K26	$0.53
18	3	10	0.31″	7082K21	.65
16	2	13	0.31″	7082K27	.66
16	3	13	0.33″	7082K22	.79
16	4	10	0.35″	7082K82	.92
14	2	18	0.34″	7082K28	.96
14	3	18	0.36″	7082K23	1.07
14	4	15	0.39″	7082K83	1.41
12	2	25	0.41″	7082K29	1.31
12	3	25	0.43″	7082K24	1.45
12	4	20	0.47″	7082K84	1.71
10	3	30	0.57″	7082K85	2.28
10	4	25	0.63″	7082K86	2.83
300V AC (SJEOOW)— Yellow					
18	3	10	0.31″	8046K11	.76
16	3	13	0.33″	8046K12	.87
16	4	10	0.36″	8046K13	1.01
14	3	18	0.37″	8046K14	$0.96
14	4	15	0.4″	8046K15	1.86
12	3	25	0.43″	8046K16	1.73
10	3	30	0.58″	8046K17	2.08
600V AC (SEOOW)— Black					
18	2	10	0.34″	7080K71	.61
18	3	10	0.36″	7080K72	.81
18	4	7	0.39″	7080K61	1.03
16	2	13	0.37″	7080K73	.78
16	3	13	0.39″	7080K42	.96
16	4	10	0.42″	7080K51	1.25
14	2	18	0.5″	7080K74	1.12
14	3	18	0.52″	7080K43	1.46
14	4	15	0.56″	7080K52	1.93
12	2	25	0.57″	7080K75	1.68
12	3	25	0.59″	7080K44	2.07
12	4	20	0.64″	7080K53	2.55
10	3	30	0.65″	7080K45	$2.74
10	4	25	0.7″	7080K54	3.14
8	3	40	0.7″	7080K66★	2.91
8	4	35	0.78″	7080K67★	4.28
6	3	55	0.81″	7080K79★	3.82
6	4	45	0.89″	7080K89★	6.17
600V AC (SEOOW)— Yellow					
18	3	10	0.36″	7080K11	1.21
16	3	13	0.39″	7080K22	1.14
16	4	10	0.41″	7080K31	1.39
14	3	18	0.52″	7080K23	1.82
14	4	15	0.56″	7080K32	2.29
12	3	25	0.6″	7080K24	2.38
12	4	20	0.64″	7080K33	3.02
10	3	30	0.65″	7080K25	3.15
10	4	25	0.7″	7080K34	4.02

★Not UL listed or CSA certified.

Flexible PVC

- Temperature Range: Black: 0° to 140° F; Yellow and Orange: -40° to 165° F
- Insulation: Inner is PVC

Wire Ga.	No. of Wires	Amps @ 86° F	OD		Per Ft.
300V AC (SJT)— Black					
18	3	10	0.31″	8157K62	$0.73
16	3	13	0.34″	8157K64	.90
300V AC (SJTW)— Orange					
18	2	10	0.27″	7394K31	.62
18	3	10	0.29″	7394K11	.59
16	2	13	0.31″	7394K32	.72
16	3	13	0.32″	7394K33	.76
14	3	18	0.35″	7394K12	.98
300V AC (SJTW)— Orange (Cont.)					
12	3	25	0.42″	7394K13	$1.38
300V AC (SJTW)— Yellow					
10	3	30	0.57″	7394K14	2.00
300V AC (SJTOW)— Yellow					
18	3	10	0.31″	8169K31	.45
16	3	13	0.33″	8169K32	.54
16	4	10	0.37″	8169K33	.61
600V AC (STOW)— Yellow					
18	3	10	0.37″	8201K41	$0.68
16	3	13	0.4″	8201K42	.69
16	4	10	0.43″	8201K43	.63
14	3	18	0.54″	8201K44	.93
14	4	15	0.59″	8201K45	1.38
12	3	25	0.6″	8201K46	1.49
12	4	20	0.67″	8201K47	1.76

Retracting Cable

After stretching to provide extra reach, this cable returns to its retracted length and coils up for tangle-free storage. It is often connected to hand tools and other portable devices. Wires are stranded and have color-coded insulation. Color coding is 1-black, 2-white, 3-green, 4-red, 5-orange, 6-blue, 7-yellow, 8-brown, 9-gray, 10-purple, unless noted. The cable's outer insulation is black. The 2-ft. cable extends to 10 feet, 4-ft cable extends to 20 feet, 6-ft. cable extends to 30 feet, and 8-ft. cable extends to 40 feet.



Ultra-Flexible Neoprene Rubber

- Temperature Range: Standard and Low-Current Communication: -40° to 140° F; Water and Oil Resistant and High Voltage: -40° to 190° F
- Insulation: Inner is EPDM, except Low-Current Communication is neoprene rubber

This cable is UL listed, except cable with 15 wires.

Wire Ga.	No. of Wires	Amps @ 86° F	Cord OD	Coil OD		Retracted Length 2 ft.	4 ft.
300V AC—Standard							
18	2	10	0.26″	0.88″	7088K211	$25.52	$41.43
18	3	7	0.28″	1″	7088K212	31.12	53.67
18	7	4	0.5″	1.88″	7088K213★	66.17	113.50
18	15	3	0.58″	2.03″	7088K214■	117.45	194.71
300V AC—Low-Current Communication							
23	2	1	0.22″	0.75″	69115K11	21.74	38.71
23	3	1	0.22″	0.75″	69115K12▲	28.33	46.71
23	4	1	0.25″	0.88″	69115K13	34.00	49.74
23	6	1	0.31″	1.13″	69115K14♣	46.07	69.24
300V AC—Water and Oil Resistant							
18	2	10	0.32″	1.19″	7088K231	33.74	54.02
18	3	7	0.35″	1.25″	7088K232	38.05	66.52
18	4	5	0.38″	1.31″	7088K233	41.69	74.02
18	5	5	0.44″	1.63″	7088K234	59.88	107.83
16	2	13	0.36″	1.25″	7088K235	35.29	63.60
16	3	10	0.39″	1.31″	7088K236	44.10	78.31

Wire Ga.	No. of Wires	Amps @ 86° F	Cord OD	Coil OD		Retracted Length 2 ft.	4 ft.
600V AC—High Voltage							
18	3	7	0.39″	1.31″	7088K215	$43.45	$72.19
18	4	5	0.42″	1.5″	7088K216	53.86	88.62
16	3	10	0.42″	1.5″	7088K217	45.24	82.83
16	4	8	0.45″	1.63″	7088K218	58.10	107.10
16	5	8	0.53″	1.81″	7088K219	69.95	119.14
16	6	8	0.58″	2.03″	7088K221	84.33	147.38
16	7	7	0.58″	2.03″	7088K222	101.17	193.19
16	8	7	0.61″	2.1″	7088K223	101.19	162.86
14	2	18	0.52″	1.81″	7088K224	56.67	95.48
14	3	15	0.55″	2″	7088K225	68.07	124.19
14	4	12	0.59″	2.06″	7088K226	73.71	134.36
12	2	25	0.6″	2.25″	7088K227	81.45	146.26
12	3	20	0.63″	2.25″	7088K228	92.83	167.02
12	4	16	0.68″	2.38″	7088K229	103.26	195.60

★ Has a brown wire instead of orange. ■ Has two each of the first five wire colors. ▲ Has a red wire instead of green.
♣ Has a yellow wire instead of orange.

Flexible TPE

- Temperature Range: 0° to 175° F
- Insulation: Inner is TPE, except 18-ga. cable with 5 or 6 wires has polypropylene inner insulation

300V AC—UL listed, except cable with 5 or 6 wires.
600V AC—14-ga., 3-wire cable and 12-ga. cable are UL listed.

Wire Ga.	No. of Wires	Amps @ 86° F	Cord OD	Coil OD		Retracted Length 2 ft.	4 ft.	6 ft.	8 ft.
300V AC—Standard									
18	2	10	0.31″	1.14″	7520K11	$23.63	$27.94	$34.08	$54.85
18	3	10	0.33″	1.25″	7520K12	27.80	33.24	48.87	67.25
18	4	7	0.37″	1.5″	7520K13	33.49	40.32	55.02	79.23
18	5	6	0.36″	1.41″	7520K14	56.67	89.17	142.25	174.57
18	6	6	0.4″	1.48″	7520K15	60.38	95.85	152.12	187.58
16	2	13	0.34″	1.3″	7520K16	29.27	33.24	47.17	71.03
16	3	13	0.37″	1.5″	7520K17	32.28	37.45	52.25	75.33
16	4	10	0.4″	1.6″	7520K18	40.98	47.69	74.62	100.03
16	5	8	0.42″	1.55″	7520K19	61.13	95.69	152.73	187.27
16	6	7	0.46″	1.64″	7520K21	65.25	102.87	168.13	201.29
600V AC—High Voltage									
18	3	7	0.36″	1.41″	7520K31	51.88	79.77	128.60	156.63
18	4	7	0.39″	1.46″	7520K22	55.05	85.80	137.35	167.93
16	3	10	0.39″	1.46″	7520K24	53.98	81.34	132.23	159.42
16	4	8	0.42″	1.53″	7520K32	58.23	89.25	143.62	174.64
16	6	7	0.53″	1.94″	7520K25	68.72	111.70	175.47	218.45
14	3	18	0.57″	2.39″	7520K26	63.60	87.83	136.83	187.92
14	4	12	0.56″	2.01″	7520K27	68.12	104.75	187.28	214.92
12	3	25	0.62″	2.45″	7520K28	66.76	95.54	140.42	192.50

Building Cable

- Bend and Stay
- Temperature Range: 10° to 190° F
- Insulation: Inner and outer is PVC



Dry Location



Wet Location

Designed to be used without conduit, this cable is typically used for wiring buildings. Cable has type THHN solid wires and an uninsulated ground wire that is not counted in the number of wires. Wires have color-coded insulation (two-wire cable has black and white; three-wire cable has black, red, and white). Rated 600 volts AC. UL listed. To connect to enclosures or outlet boxes, use cord grips for building cable (for cord grips, see page 890).

Dry Location—Also known as Romex type NM-B, this cable is made to run through walls, ceilings, and concrete blocks. 14-ga. cable has white outer insulation, 12-ga. cable has yellow outer insulation, and 10-ga. cable has orange outer insulation. All cable meets UL 719.

Wet Location—Often used as outdoor feeder cable for pumps and lighting, this cable is also known as type UF-B. It can be used for direct burial. The insulation resists moisture and UV light. The cable's outer insulation is gray. Meets UL 493.

Wire Ga.	No. of Wires	Amps @ 86° F	Lengths, ft.	Dry Location Wd.	Thick.		Per Ft. 1-249	250-Up	Wet Location Wd.	Thick.		Per Ft. 1-249	250-Up
14	2	15	10, 25, 50, 100, 250	0.36″	0.16″	69935K61	$0.38	$0.28	0.42″	0.17″	7116K91	$0.45	$0.32
14	3	15	10, 25, 50, 100, 250	0.34″	0.34″	69935K64	.52	.39	0.58″	0.17″	7116K95	.55	.45
12	2	20	10, 25, 50, 100, 250	0.41″	0.18″	69935K62	.61	.43	0.46″	0.18″	7116K92	.63	.45
12	3	20	10, 25, 50, 100, 250	0.38″	0.38″	69935K65	.82	.60	0.63″	0.18″	7116K96	.86	.67
10	2	30	10, 25, 50, 100, 250	0.49″	0.21″	69935K63	.89	.67	0.52″	0.22″	7116K93	.91	.69
10	3	30	10, 25, 50, 100, 250	0.42″	0.42″	69935K66	1.16	.91	0.73″	0.22″	7116K97	1.24	1.02

For information about wire and cable, see page 834.

Armored Building Cable

The metal armor works as conduit to protect THHN building wires and make installation convenient. Use this cable in dry locations. The amp rating @ 86°F is 15 amps for 14-ga. cable, 20 amps for 12-ga. cable, and 30 amps for 10-ga. cable. Rated 600 volts AC. UL listed.

Cable



With Uninsulated Ground Wire



With Insulated Ground Wire

- Flexible
- Temperature Range: 15° to 190°F
- Insulation: Inner is PVC; outer is aluminum

Wires are solid. The ground wire is not counted in the cable AWG. The other wires have color-coded insulation (1-black, 2-white, 3-red, 4-blue).

With Insulated Ground Wire—This standard armored cable is also known as type MC. The ground wire has green insulation. For use in NEC Class I, Division 2; Class II, Division 2; and Class III, Division 1 and 2 hazardous locations.

With Uninsulated Ground Wire—Also known as type AC and BX, this cable has an uninsulated aluminum ground wire that's in constant contact with the armor so it can be used for bonding and grounding.

		With Insulated Ground Wire								With Uninsulated Ground Wire						
Wire Ga.	Cable AWG	No. of Wires	OD		10 ft.	25 ft.	50 ft.	100 ft.	250 ft.	No. of Wires	OD		10 ft.	25 ft.	50 ft.	100 ft.	250 ft.
14	14/2	3	0.44″	6730T21	$10.16	$23.11	$42.10	$76.54	$147.20	2	0.46″	6755T41	$10.33	$23.50	$42.80	$77.82	$149.66
14	14/3	4	0.46″	6730T22	15.05	34.23	62.36	113.39	218.05	3	0.48″	6755T42	16.36	37.22	67.80	123.28	237.07
14	14/4	5	0.49″	6730T23	19.87	45.22	82.37	149.77	288.02								
12	12/2	3	0.48″	6730T24	10.88	24.75	45.08	81.97	157.63	2	0.5″	6755T44	12.61	28.69	52.26	95.02	182.74
12	12/3	4	0.51″	6730T25	18.34	41.73	76.01	138.20	265.77	3	0.52″	6755T45	16.87	38.38	69.92	127.13	244.48
12	12/4	5	0.54″	6730T26	19.82	45.10	82.16	149.39	287.29								
10	10/2	3	0.54″	6730T27	20.97	47.71	86.91	158.01	303.87	2	0.56″	6755T47	17.85	40.62	73.99	134.52	258.70
10	10/3	4	0.58″	6730T28	28.69	65.29	118.93	216.24	415.85	3	0.59″	6755T48	23.58	53.66	97.76	177.74	341.81
10	10/4	5	0.62″	6730T29	42.53	96.77	176.28	320.51	616.37								

Cable with Fittings



- Flexible
- Temperature Range: –10° to 190°F
- Insulation: Inner is PVC; outer is steel

The easiest to install of our armored building cable, this comes with locknut fittings attached and 6″ long wire leads. It has an insulated ground wire. Wires are solid type THHN, except cable with three 12-ga. wires are stranded. All wires have color-coded insulation (1-black, 2-white, 3-green, 4-red, 5-blue).

Wire Ga.	No. of Wires	Cable AWG	OD	6-ft. Lengths
14	3	14/3	0.46″	9340T12 $11.49
14	4	14/4	0.49″	9340T13 13.13
14	5	14/5	0.92″	9340T15 19.75
12	3	12/3	0.52″	9340T11 15.93
12	4	12/4	0.92″	9340T18 18.75

Wire Ga.	No. of Wires	Cable AWG	OD	6-ft. Lengths
12	5	12/5	0.92″	9340T19 $23.05
10	3	10/3	0.92″	9340T21 22.58
10	4	10/4	0.92″	9340T22 25.68
10	5	10/5	0.92″	9340T23 28.78

Harsh Environment Cable



Standard and Armored
- Flexible
- Temperature Range: –40° to 230°F
- Insulation: Inner is polyolefin; outer is chlorinated polyethylene



Flat
- Flexible
- Temperature Range: 0° to 165°F
- Insulation: Inner and outer is PVC

Meet the challenge of extreme environmental conditions. The wires are heat treated for corrosion resistance, and the insulation resists chemicals, oil, salt water, and solvents. Rated 600 volts AC.

Standard and **Armored—**Wires are stranded and have color-coded insulation (1-black, 2-red, 3-white, 4-green). The cable's outer insulation is black. UL listed and CSA certified. *Armored* cable has bronze braided armor surrounded by insulation that is flame retardant and resists abrasion and other types of physical damage.

Flat—At 0.22″ thick, this cable has a low profile to fit in tight spaces. Wires are stranded and have color-coded insulation (black, green, and white). The cable's outer insulation is white. UL flame rated VW-1. UL listed. Meets UL 1426.

Wire Ga.	No. of Wires	Amps @ 86°F	Wd.	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Standard							
16	3	19	0.37″	10, 25, 50, 100	8248K16	$1.77	$1.50
16	4	19	0.4″	10, 25, 50, 100	8248K21	1.80	1.52
14	3	30	0.4″	10, 25, 50, 100	8248K17	1.80	1.52
14	4	30	0.44″	10, 25, 50, 100	8248K22	2.35	1.98
12	3	37	0.45″	10, 25, 50, 100	8248K18	2.42	2.05
12	4	37	0.49″	10, 25, 50, 100	8248K23	3.02	2.55
10	3	49	0.49″	10, 25, 50, 100	8248K19	3.22	2.72
10	4	49	0.55″	10, 25, 50, 100	8248K24	3.91	3.31
8	4	63	0.7″	10, 25, 50, 100	8248K25	5.73	4.85
6	4	84	0.79″	10, 25, 50, 100	8248K26	8.79	7.43
4	4	111	1.04″	5, 10, 25, 50	8248K27	13.58	11.44
2	4	148	1.19″	5, 10, 25, 50	8248K28	17.16	14.60
Armored							
16	3	19	0.52″	10, 25, 50, 100	8248K46	4.20	3.55
16	4	19	0.58″	10, 25, 50, 100	8248K51	4.53	3.83

Wire Ga.	No. of Wires	Amps @ 86°F	Wd.	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Armored (Cont.)							
14	3	30	0.58″	10, 25, 50, 100	8248K47	$4.71	$3.98
14	4	30	0.62″	10, 25, 50, 100	8248K52	4.87	4.12
12	3	37	0.63″	10, 25, 50, 100	8248K48	5.11	4.32
12	4	37	0.67″	10, 25, 50, 100	8248K53	5.47	4.63
10	3	49	0.67″	10, 25, 50, 100	8248K49	6.04	5.11
10	4	49	0.73″	10, 25, 50, 100	8248K54	7.07	5.96
8	4	63	0.92″	10, 25, 50, 100	8248K55	9.67	8.24
6	4	84	1.02″	5, 10, 25, 50	8248K56	14.04	11.94
4	4	111	1.26″	5, 10, 25, 50	8248K57	19.33	16.50
2	4	148	1.42″	5, 10, 25, 50	8248K58	27.37	23.24
Flat							
16	3	14	0.45″	10, 25, 50, 100	7589K11	1.16	.97
14	3	19	0.5″	10, 25, 50, 100	7589K13	1.39	1.15
12	3	26	0.56″	10, 25, 50, 100	7589K15	2.03	1.68

Cable Repair Resins



Protect and insulate electrical connections and repair damaged insulation. All of these two-part resins bond to the insulation of most cable. Size listed is the total of the two parts. Temperature range is 35° to 190°F.

Easy-flow resin is thin, so it completely fills gaps. **Removable** resins are soft even after setting. Use on splices that may be accessed later.

	Max. Volts	Size	Begins to Harden	Reaches Full Strength	Color	Material		
Easy Flow	1,000	23.8 oz.	20 min.	20 hrs.	Green	Polyurethane	6366K44	$71.00
Flame Retardant	1,000	7.5 oz.	20 min.	24 hrs.	Black	Polyurethane	6366K47	23.90
Flame Retardant	1,000	21.5 oz.	20 min.	24 hrs.	Black	Polyurethane	6366K48	56.42
Oil Resistant	8,000	3.1 oz.	20 min.	8 hrs.	Black	Epoxy	6366K41	18.23
Oil Resistant	8,000	7.2 oz.	20 min.	8 hrs.	Black	Epoxy	6366K42	29.83
Oil Resistant	8,000	14.6 oz.	20 min.	8 hrs.	Black	Epoxy	6366K43	55.63
Removable	1,000	12.3 oz.	60 min.	24 hrs.	Amber	Polybutadiene	6366K45	51.98
Removable	1,000	21.2 oz.	60 min.	24 hrs.	Amber	Polybutadiene	6366K46	68.90

Water-Block Control Cable



- Flexible
- Temperature Range: –68° to 221°F
- Insulation: Inner and outer is PVC

Keep water from damaging wires—a layer of absorbent material traps moisture before it reaches the wires. Use in low-current control and signal applications, such as communication and security systems. It's suitable for washdown areas, indoor/outdoor transitions, and direct burial without conduit. Wires are stranded and have color-coded insulation (1-black, 2-white, 3-red, 4-green). The cable's outer insulation is black. Rated 300 volts AC. UL listed.

Wire Ga.	No. of Wires	Amps @ 77°F	OD	Lengths, ft.		Per Ft. 1-249	Per Ft. 250-Up
18	2	5	0.22″	10, 25, 50, 100, 250	7000T32	$0.43	$0.33
18	4	7.2	0.25″	10, 25, 50, 100, 250	7000T33	.74	.58
16	4	9	0.29″	10, 25, 50, 100, 250	7000T34	.85	.66
14	2	8	0.29″	10, 25, 50, 100, 250	7000T35	.90	.70
14	4	13	0.36″	10, 25, 50, 100, 250	7000T36	1.51	1.18
12	2	12	0.32″	10, 25, 50, 100, 250	7000T37	1.71	1.33

Rodent-Repellent Cable



- Flexible
- Temperature Range: 0° to 175°F
- Insulation:
  300V AC: Inner is polypropylene; outer is TPE
  600V AC: Inner and outer is TPE

It's not necessary to enclose this cable in conduit to prevent pest damage. An additive in the insulation has a bitter smell and taste to rodents and other animals and discourages them from snacking on the cable. The insulation also resists abrasion, gasoline, and oil. Wires are stranded and have color-coded insulation (1-black, 2-white, 3-green). The cable's outer insulation is black.

To Order: Please specify 10, 25, 50, 100, or 250 ft.

Wire Ga.	No. of Wires	Amps @ 86°F	AC Voltage	OD		Per Ft. 1-249	Per Ft. 250-Up
18	3	7	300	0.31″	8688T1	$3.71	$3.34
16	3	10	300	0.37″	8688T2	4.48	4.04
14	3	15	600	0.57″	8688T3	6.89	6.20
12	3	20	600	0.6″	8688T4	8.31	7.48

Direct-Burial Cable

- Flexible
- Temperature Range: 0° to 140°F
- Insulation:
  Landscape Lighting: PVC
  Sprinkler System: Inner is polypropylene; outer is polyethylene

Weather-resistant insulation makes this cable suitable for outdoor use and direct burial without conduit. UL listed.

Landscape Lighting—The wires can be separated for installation. Wires are stranded and have black insulation.

Sprinkler System—Wires are solid and have color-coded insulation (1-red, 2-white, 3-green, 4-blue, 5-yellow, 6-brown, 7-orange, 8-black, 9-pink). The cable's outer insulation is black.



Landscape Lighting



Sprinkler System

Wire Ga.	No. of Wires	Amps @ 86°F	Voltage	Wd.	Thick.		10 ft.	25 ft.	50 ft.	100 ft.	250 ft.	500 ft.
Landscape Lighting												
16	2	10	30V AC	0.31″	0.16″	8246T11	$7.02	$13.55	$24.48	$44.88	$102.00	$163.20
14	2	15	30V AC	0.34″	0.17″	8246T12	11.50	22.19	40.11	73.53	167.12	267.40
12	2	20	30V AC	0.42″	0.19″	8246T13	13.87	26.78	48.39	88.72	201.62	322.60
Sprinkler System												
18	2	—	30V AC/30V DC	0.2″	—	8070T11	6.49	10.16	16.94	28.23	58.81	94.10
18	3	—	30V AC/30V DC	0.21″	—	8070T12	7.71	12.93	23.51	39.18	81.62	130.60
18	4	—	30V AC/30V DC	0.23″	—	8070T13	8.07	14.52	26.41	44.01	91.69	146.70
18	5	—	30V AC/30V DC	0.25″	—	8070T14	9.19	16.39	27.20	49.53	112.56	180.10
18	6	—	30V AC/30V DC	0.27″	—	8070T15	9.86	17.41	31.66	57.67	131.06	209.70
18	7	—	30V AC/30V DC	0.27″	—	8070T16	10.23	19.75	35.92	65.42	148.69	237.90
18	8	—	30V AC/30V DC	0.29″	—	8070T17	12.15	23.15	41.96	76.40	173.64	289.40
18	9	—	30V AC/30V DC	0.31″	—	8070T18	12.98	24.72	44.80	81.58	185.40	309.00

Communication and Security System Cable

- Flexible
- Temperature Range:
  General Purpose: 0° to 140°F; Duct Rated: 0° to 165°F
- Insulation: Inner and outer is PVC



Unshielded

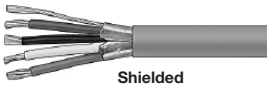

Shielded

Use this cable in low-current circuits and communication and security systems, including intercoms and remote controls. The insulation is flame retardant. Wires are stranded and have color-coded insulation (1-black, 2-red, 3-white, 4-green, 5-brown, 6-blue, 7-orange, 8-yellow, 9-purple, 10-gray, 11-pink, 12-beige). Rated 300 volts AC/DC. ETL and C-ETL listed. **Shielded** cable has foil shielding to prevent electromagnetic interference (EMI) to minimize signal distortion. There is an uninsulated ground wire that is not counted in the number of wires.

General Purpose—Meets NEC Article 725 and 800, Type CMR/CL3R for use in vertical shafts and floor-to-floor wiring (risers), except unshielded 22-ga., 2- and 4-wire cable meet NEC Article 725 and 800, Type CM/CL2 (not for use in vertical shafts or risers). The cable's outer insulation is gray.

Duct Rated—Also known as plenum cable, this has low-smoke insulation and can be used without conduit in duct work and above a drop ceiling. Meets NEC Article 725 and 800, Type CMP/CL3P. The cable's outer insulation is white.

Wire Ga.	No. of Wires	OD	General Purpose Cable	10 ft.	25 ft.	50 ft.	100 ft.	250 ft.	Duct-Rated Cable	10 ft.	25 ft.	50 ft.	100 ft.	250 ft.
Unshielded														
22	2	0.11″	8280T31	$6.15	$9.40	$12.65	$23.14	$36.15	8280T11	$5.89	$9.10	$13.92	$23.56	$53.55
22	4	0.13″	8280T32	7.87	12.30	17.71	29.52	49.20	8280T12	9.11	14.91	28.16	46.38	82.83
22	6	0.16″	8280T33	8.22	16.44	25.48	46.03	82.20	8280T13	9.47	16.83	25.24	46.27	105.17
22	8	0.17″	8280T34	9.60	18.00	28.80	52.79	119.98	8280T14	9.86	18.48	29.57	54.21	123.21
22	12	0.21″	8280T35	11.30	22.61	40.98	73.48	141.30	8280T15	12.66	23.74	37.99	69.64	158.28
18	2	0.14″	8280T36	7.56	12.60	18.27	35.28	63.00	8280T16	9.62	16.35	27.88	50.00	96.15
18	3	0.15″	8280T37	8.41	14.03	22.44	41.14	93.50	8280T17	8.20	15.23	28.12	51.55	117.15
18	4	0.17″	8280T38	9.77	18.45	31.48	56.45	108.55	8280T18	11.84	23.68	42.92	76.96	148.00
18	6	0.21″	8280T39	10.63	23.03	42.52	77.95	177.17	8280T19	10.42	22.57	41.67	76.39	173.61
16	2	0.16″	8280T41	8.30	15.56	24.89	45.64	103.72	8280T21	9.71	18.21	29.13	53.41	121.38
16	4	0.2″	8280T42	11.50	21.36	39.44	72.30	164.32	8280T22	12.77	23.72	43.78	80.27	182.43
14	2	0.21″	8280T43	9.70	18.02	33.27	61.00	138.63	8280T23	11.05	20.53	37.90	69.48	157.91
Shielded														
22	2	0.14″	8233T31	7.96	12.21	20.17	33.97	53.08	8233T11	6.46	10.34	16.81	28.44	64.64
22	4	0.15″	8233T32	8.68	14.69	24.03	40.05	66.75	8233T12	9.28	17.40	27.84	51.04	116.00
22	8	0.21″	8233T33	8.70	14.14	26.10	47.85	108.74	8233T13	9.97	18.51	34.17	62.65	142.38
18	2	0.16″	8233T34	10.32	18.57	31.99	57.78	103.18	8233T14	10.17	18.30	34.57	56.94	101.68
18	3	0.19″	8233T35	7.62	12.39	22.86	41.92	95.27	8233T15	8.85	15.48	26.54	48.66	110.59
18	4	0.2″	8233T36	11.30	20.35	35.05	63.31	113.05	8233T16	10.74	19.82	33.86	56.15	82.58
18	6	0.23″	8233T37	12.07	22.42	41.38	75.87	172.43	8233T17	12.68	23.54	43.46	79.68	181.10
16	2	0.19″	8233T38	10.13	18.24	31.41	56.74	101.33	8233T18	8.94	16.76	26.82	49.17	111.76
16	4	0.22″	8233T39	12.15	22.57	41.66	76.38	173.59	8233T19	12.22	26.47	48.88	89.61	203.65
14	2	0.22″	8233T41	10.83	20.12	37.14	68.09	154.75	8233T21	11.12	20.65	38.13	69.91	158.88

Cable

For information about wire and cable, see page 834.

Audio Cable



- Flexible
- Temperature Range: 0° to 140° F
- Insulation: PVC

Power speakers, intercoms, public address systems, and other low-current circuits and communication systems with this two-wire cable. The wires are stranded and can be separated for installation. One wire is marked for polarity. ETL and C-ETL listed.

22-ga. and *18-ga.* cable have white insulation. They meet NEC Article 725 and 800, Type CMR/CL3R for use in vertical shafts and floor-to-floor wiring (risers).

16-ga., 14-ga., and *12-ga*. cable have clear insulation. They meet NEC Article 725, Type CL2.

Wire Ga.	No. of Wires	AC/DC Voltage	Wd.	Thick.		10 ft.	25 ft.	50 ft.	100 ft.	250 ft.
22	2	300/300	0.16″	0.07″	8260T11	$5.28	$7.77	$11.11	$18.51	$30.85
18	2	300/300	0.2″	0.09″	8260T16	6.51	10.14	14.52	24.20	46.53
16	2	150/150	0.27″	0.13″	8260T13	8.12	14.55	24.20	43.99	84.60
14	2	150/150	0.38″	0.18″	8260T14	10.28	19.69	35.86	65.21	125.40
12	2	150/150	0.41″	0.19″	8260T15	16.62	31.83	57.98	105.42	202.73

Fire Alarm Cable



Unshielded

- Flexible
- Temperature Range:
  Riser Rated: 0° to 140° F;
  Duct Rated: 0° to 165° F
- Insulation: Inner and outer is PVC

Flame-retardant insulation makes this cable the correct choice for critical control circuits in fire alarm systems and smoke detectors. Wires are solid and have color-coded insulation (1-black, 2-red, 3-green, 4-yellow). The cable's outer insulation is red. Rated 300 volts AC/DC. Cable is ETL listed, unless noted.

Shielded cable has foil shielding to prevent electromagnetic interference (EMI) to minimize signal distortion. There is an uninsulated ground wire that is not counted in the number of wires.

Riser-Rated Cable—Use in vertical shafts and floor-to-floor wiring (risers). Meets NEC Article 760, Type FPLR.

Duct-Rated Cable—Also known as plenum cable, this has low-smoke insulation and can be used without conduit in duct work and above a drop ceiling. Meets NEC Article 760, Type FPLP.

Wire Ga.	No. of Wires	Riser-Rated Cable OD		10 ft.	25 ft.	50 ft.	100 ft.	250 ft.	Duct-Rated Cable OD		10 ft.	25 ft.	50 ft.	100 ft.	250 ft.
Unshielded															
18	2	0.13″	8435T41	$6.63	$10.60	$15.91	$29.16	$66.28	0.15″	8435T21★	$13.56	$24.65	$41.90	$69.01	$123.23
18	4	0.15″	8435T43	8.53	15.51	26.37	43.43	—	0.18″	8435T23★	10.17	23.47	43.02	78.22	—
Shielded															
18	2	0.15″	8435T42	8.50	15.46	26.28	43.29	—	0.16″	8435T22	10.69	20.19	36.84	66.54	—

★UL listed.

Thermostat Cable



- Bend and Stay
- Temperature Range: 0° to 140° F
- Insulation: Inner is polyethylene; outer is PVC

Wire thermostats, air-conditioning units, security systems, and other low-voltage equipment. Wires are solid and have color-coded insulation (1-red, 2-white, 3-green, 4-blue, 5-yellow, 6-brown, 7-orange, 8-black). The outer insulation is flame retardant and brown; it's also smooth for easy pulling. Rated 150 volts AC/DC. Meets NEC Article 725, Type CL2. ETL listed.

Wire Ga.	No. of Wires	OD		10 ft.	25 ft.	50 ft.	100 ft.	250 ft.	Wire Ga.	No. of Wires	OD		10 ft.	25 ft.	50 ft.	100 ft.	250 ft.
20	2	0.11″	8278T11	$5.01	$7.83	$10.44	$14.91	$23.30	18	2	0.13″	8278T21	$6.31	$9.86	$13.15	$18.78	$29.35
20	3	0.12″	8278T12	5.83	9.07	12.98	18.54	33.10	18	3	0.14″	8278T22	6.97	11.62	17.85	27.47	49.05
20	4	0.13″	8278T13	7.02	10.93	15.64	22.34	39.90	18	4	0.15″	8278T23	7.57	13.59	20.88	32.12	57.35
20	5	0.15″	8278T14	7.42	12.38	20.60	34.33	61.30	18	5	0.17″	8278T24	8.06	14.36	23.96	39.94	76.80
20	6	0.16″	8278T15	7.89	14.11	23.47	39.12	69.85	18	6	0.19″	8278T25	8.44	15.03	25.08	41.81	80.40
20	8	0.17″	8278T16	8.98	15.99	26.68	44.46	85.50	18	8	0.2″	8278T26	10.68	20.60	34.37	57.28	110.15

Appliance Cable



- Flexible
- Temperature Range:
  18 ga.: 0° to 140° F;
  16 ga.: 0° to 190° F
- Insulation:
  18 ga.: PVC;
  16 ga.: Neoprene rubber

Also known as zip cord, use this cable in lamps, radios, heat guns, and other small appliances. The wires are stranded and can be separated for installation. Rated 300 volts AC/DC. UL listed and CSA certified.

Wire Ga.	No. of Wires	Amps @ 86° F	Wd.	Thick.	Choose a Color		10 ft.	25 ft.	50 ft.	100 ft.	250 ft.
18	2	10	0.21″	0.11″	Black, Brown, White	7870T21	—	—	$17.51	$31.84	$58.96
16	2	15	0.3″	0.16″	Black	7870T31	$9.82	$21.33	38.87	70.68	130.88

Easy-ID Low-Voltage Cable



- Flexible
- Temperature Range: -40° to 175° F
- Insulation: PVC

This cable has one red wire and one black wire, so you can identify polarity in low-voltage power applications such as radios and battery and vehicle wiring. It is also known as type GPT. The wires are stranded and can be separated for installation. The insulation resists oil. Rated 12 volts DC.

Wire Ga.	No. of Wires	Wd.	Thick.	Lengths, ft.		Per Ft. 1-249	Per Ft. 250-Up
24	2	0.11″	0.06″	10, 25, 50, 100, 250	9697T1	$0.12	$0.10
18	2	0.21″	0.1″	10, 25, 50, 100, 250	9697T2	.31	.26
14	2	0.29″	0.15″	10, 25, 50, 100, 250	9697T3	.65	.55
12	2	0.33″	0.16″	10, 25, 50, 100, 250	9697T4	.88	.76
10	2	0.4″	0.2″	10, 25, 50, 100, 250	9697T5	1.40	1.21
8	2	0.49″	0.25″	10, 25, 50, 100, 250	9697T6	2.02	1.75

About Wire and Cable Protection

Protect wire and cable from the environment with heat-shrink tubing and sleeving. **Heat-shrink tubing** is tight-fitting protective insulation for electrical connections. **Sleeving** has a looser fit and is used to bundle multiple wires and cables, and offer protection from heat and abrasion. Sleeving can also be used over heat-shrink tubing to bundle wires and cables or provide extra protection.

Heat-Shrink Tubing (pages 849-856)

When heat is applied, the tubing contracts to conform to whatever it's surrounding. To fit inside the tubing, your wire or cable assembly must be smaller than the tubing's ID before shrinking. To have a tight fit, the smallest portion of your assembly must be the same as or larger than the ID after shrinking.

Shrink ratio is the relationship between the ID before shrinking and the ID after shrinking. For example, a 2 to 1 shrink ratio means that the tubing ID will be half as large after shrinking. When heat is applied, the length of the tubing also shrinks slightly (usually less than 15%). For tools to apply heat, see pages 856 and 2725-2726.



● Excellent ◓ Good

Heat-Shrink Tubing Material Characteristics

Material	Properties	Shrink Temp., °F	Minimum Temp., °F	Flexibility	Electrical Insulation	Abrasion Resistance	Chemical Resistance
Polyolefin/ Olefin	A general purpose heat-shrink tubing that is more flexible than PVC and easy to shrink.	195° to 285°	–65° to –40°	●	◓		◓
PVC	More economical than polyolefin with excellent chemical resistance.	215° to 285°	0°	●	◓	◓	●
Rubber/ Elastomer	Stays flexible at temperature extremes and resists oils and fuels.	275° to 350°	–100° to –65°	●	◓	◓	◓
PVDF (Kynar)	High strength at a low shrink temperature.	350°	–65°	◓	◓	●	●
FEP	Excellent chemical and abrasion resistance at a lower shrink temperature than PTFE.	420°	–400°	◓	●	●	●
PTFE	Good for harsh environments and high temperatures.	660°	–450°	◓	●	●	●
PEEK	Rigid material with the best strength and chemical resistance.	575°	–20°		●	●	●

Sleeving (pages 856-863)

Most sleeving slides over wire and cable. It's easiest to use for new installations and areas where there is not an electrical connector. **Wrap-around** sleeving has a slit along its length, making it convenient for field installations.

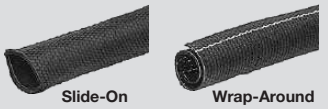

● Excellent ◓ Good

Sleeving Material Characteristics

Material	Application	Maximum Temp., °F	Minimum Temp., °F	Flexibility	Abrasion Resistance
Polyethylene	Bundling	190° to 200°	–75° to –40°	●	◓
Polyester	Bundling	175° to 300°	–100° to 0°	●	◓
PVC	Chemical Protection	220°	0°	◓	◓
Corrugated Plastic	Abrasion Protection	200° to 300°	–40°	◓	●
Nylon	Abrasion Protection	200° to 300°	–75° to –40°	●	●
Nomex	Abrasion Protection	400°	–320°	●	●
PTFE	Abrasion Protection	480° to 500°	–450° to –90°	◓	●
PEEK	Abrasion Protection	480°	–90°	●	●
Metal	Abrasion Protection	Not Rated	Not Rated	◓	●
Fiberglass	Heat Protection	1000° to 1400°	–90° to 0°	●	◓
Silica	Heat Protection	1800° to 2300°	–100° to –40°	●	◓
Ceramic	Heat Protection	1100° to 2600°	Not Rated	●	◓

Heat-Shrink Tubing

- Material: Polyolefin
- Shrink Ratio: 2 to 1
- Shrink Temperature: 250°F
- UL recognized and CSA certified (except clear tubing)
- AMS (formerly MIL)-DTL-23053/5 Classes 1 (color tubing) & 2 (clear tubing)

The most popular choice for general purpose use, polyolefin tubing is flexible and doesn't shrink much lengthwise. Temperature range is –65° to 275°F.

To Order: Please specify black, blue, clear, green, red, white, or yellow.



ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	1-ft. Lengths Pkg. of 10	1-ft. Lengths Each	4-ft. Lengths Each	25-ft. Spools Each	Large Spools Lg., ft.	Large Spools Each	Jumbo Spools Lg., ft.	Jumbo Spools Each
0.06″	0.03″	0.02″	7496K41 $6.90	7856K11 $1.71	7856K71 $10.68		100	7856K31 $32.44	1,000	7856K51 $264.57
0.09″	0.05″	0.02″	7856K67 7.49	7856K12 1.81	7856K72 10.77		100	7856K32 34.09	500	7856K52 136.26
0.13″	0.06″	0.02″	7856K63 7.97	7856K13 1.91	7856K73 12.42		100	7856K33 36.43	500	7856K53 150.94
0.19″	0.09″	0.02″	7496K42 9.47	7856K14 2.27	7856K74 15.56		100	7856K34 43.33	250	7856K54 91.85
0.25″	0.13″	0.03″	7496K43 11.75	7856K15 2.82	7856K75 20.09		100	7856K35 52.95	200	7856K55 91.68
0.38″	0.19″	0.03″	7496K44 13.08	7856K16 3.17	7856K76 23.73		100	7856K36 58.64	200	7856K56 102.27
0.5″	0.25″	0.03″	7496K45 14.60	7856K17 3.59	7856K77 26.24		100	7856K37 65.61	200	7856K57 115.37
0.75″	0.38″	0.03″	7496K46 19.60	7856K18 4.77	7856K78 32.92		50	7856K38 45.24	200	7856K58 154.07
1″	0.5″	0.04″	7856K65 33.17	7856K19 7.14	7856K79 39.27		50	7856K39 64.16	100	7856K59 114.95
1.5″	0.75″	0.04″	7856K64 65.37	7856K21 13.33	7856K81 73.81		___	_____ ____	100	7856K61 207.62
2″	1″	0.05″	7856K66 77.38	7856K22 18.44	7856K82 86.24		___	_____ ____	100	7856K62 286.90

Heat-Shrink Tubing Assortments



Multi-Color

- Material: Polyolefin
- Shrink Ratio: 2 to 1

Keep on hand a convenient variety of general purpose tubing. Made of polyolefin, it's flexible and doesn't shrink much lengthwise. Temperature range is –65° to 275° F.

Multi-Color 133-Piece Assortment

- Shrink Temperature: 215° F
- UL recognized and CSA certified (except clear tubing)
- AMS (formerly MIL)-DTL-23053/5 Classes 1 (color tubing) & 2 (clear tubing)

Assortment— Includes ½-ft. lengths of the six sizes listed below. Each size comes in seven colors: black, blue, clear, green, red, white, and yellow. Supplied in a compartmented plastic box.

6334K41 ..... $75.54

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	Refills Pkg. Qty.		Refills Pkg.
0.09″	0.05″	0.02″	35	**6334K411**	$11.99
0.13″	0.06″	0.02″	28	**6334K412**	11.99
0.19″	0.09″	0.02″	21	**6334K413**	11.99
0.25″	0.13″	0.03″	21	**6334K414**	11.99
0.38″	0.19″	0.03″	14	**6334K415**	11.99
0.5″	0.25″	0.03″	14	**6334K416**	11.99

Transparent 25-Piece Assortment

- Shrink Temperature: 195° F
- AMS (formerly MIL)-DTL-23053/5 Class 2

Assortment— Clear transparent tubing lets you visually inspect your connection. Includes ½-ft. lengths of the five sizes listed below. Supplied in a compartmented plastic box.

73095K48 ..... $27.12

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	Refills Pkg. Qty.		Refills Pkg.
0.13″	0.06″	0.02″	5	**73095K43**	$3.73
0.25″	0.13″	0.02″	5	**73095K44**	4.69
0.38″	0.19″	0.02″	5	**73095K45**	4.87
0.5″	0.25″	0.03″	5	**73095K46**	5.36
0.75″	0.38″	0.03″	5	**73095K47**	6.91

Black 102-Piece Assortment

- Shrink Temperature: 215° F
- UL recognized and CSA certified
- AMS (formerly MIL)-DTL-23053/5 Class 1

Assortment— Includes ½-ft. lengths of the six sizes listed below. Supplied in a compartmented plastic box.

6363K21 ..... $75.54

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	Refills Pkg. Qty.		Refills Pkg.
0.19″	0.09″	0.02″	10	**6363K211**	$3.99
0.25″	0.13″	0.03″	10	**6363K212**	4.61
0.38″	0.19″	0.03″	10	**6363K213**	4.99
0.5″	0.25″	0.03″	10	**6363K214**	5.99
0.75″	0.38″	0.03″	10	**6363K215**	8.57
1″	0.5″	0.04″	10	**6363K216**	11.63

Black 45-Piece Assortment

- Shrink Temperature: 195° F
- UL recognized and CSA certified
- AMS (formerly MIL)-DTL-23053/5 Classes 1 & 3

Assortment— Includes ½-ft. lengths of the nine sizes listed below.

7496K21 ..... $36.16

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	Refills Pkg. Qty.		Refills Pkg.
0.05″	0.02″	0.02″	5	**7496K81**	$2.53
0.06″	0.03″	0.02″	5	**7496K82**	2.77
0.09″	0.05″	0.02″	5	**7496K83**	2.91
0.13″	0.06″	0.02″	5	**7496K84**	3.17
0.19″	0.09″	0.02″	5	**7496K85**	3.67
0.25″	0.13″	0.03″	5	**7496K86**	4.42
0.38″	0.19″	0.03″	5	**7496K87**	5.21
0.5″	0.25″	0.03″	5	**7496K88**	6.26
0.75″	0.38″	0.03″	5	**7496K89**	8.50

Yellow/Green Striped Ground Wire Tubing



- Material: Polyolefin
- Shrink Ratio: 2 to 1
- Shrink Temperature: 250° F
- UL recognized and CSA certified

Use the yellow and green stripes along the length of the tubing to identify ground wire and cable. Temperature range is –65° to 275° F.

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	Lg., ft.		
0.12″	0.06″	0.02″	4	**2597K11**	$7.06
0.24″	0.12″	0.02″	4	**2597K12**	10.20
0.39″	0.2″	0.03″	4	**2597K13**	13.62
0.47″	0.24″	0.03″	4	**2597K14**	12.62
0.75″	0.35″	0.03″	4	**2597K15**	17.84
1.02″	0.51″	0.04″	2	**2597K17**	15.37

High-Shrink-Ratio Tubing



Abrasion Resistant

- Material: Polyolefin
- Shrink Temperature: 250° F

A high shrink ratio allows this tubing to accommodate large size differences between cables and their connectors. It also covers irregularly shaped objects. Color is black.

Flexible

- Shrink Ratio: 4 to 1
- UL recognized
- AMS (formerly MIL)-DTL-23053/5 Class 1

This flexible tubing has a temperature range of –65° to 275° F.

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking		½ ft.	4 ft.
1″	0.28″	0.05″	**2746K21**	$12.36	$72.04
2″	0.55″	0.05″	**2746K22**	17.15	102.87
3″	0.81″	0.05″	**2746K23**	22.60	146.55
4″	1.05″	0.05″	**2746K24**	33.09	218.20

Abrasion Resistant

- Shrink Ratio: 6 to 1

Extra-thick walls protect wire and cable from physical damage. Temperature range is –65° to 230° F.

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking		½ ft.	1 ft.	4 ft.
0.75″	0.13″	0.12″	**7831K11**	$23.89	$39.82	$132.75
1.3″	0.22″	0.14″	**7831K12**	25.12	41.87	139.55
1.75″	0.29″	0.14″	**7831K13**	25.63	42.71	142.37
2″	0.33″	0.17″	**7831K14**	26.59	44.32	147.74
2.75″	0.46″	0.19″	**7831K15**	30.00	49.99	166.65
3.5″	0.67″	0.17″	**7831K16**	37.07	61.78	205.92
4.7″	0.9″	0.19″	**7831K17**	48.41	80.69	268.97

Miniature Tubing

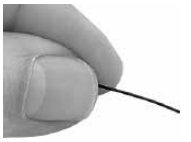

- Material: Polyolefin
- Shrink Ratio: 2 to 1
- Shrink Temperature: 285° F

Protect wires that have a very small outside diameter. This flexible tubing can be sterilized. Color is black, except 6699T14 and 6699T18 are clear. Temperature range is –40° to 220° F.

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	½-ft. Lengths		4-ft. Lengths	
0.014″	0.007″	0.005″	**6699T11**	$11.46	**6699T15**	$60.31
0.024″	0.012″	0.006″	**6699T12**	12.31	**6699T16**	64.81
0.025″	0.01″	0.013″	**6699T14**	11.81	**6699T18**	62.17
0.045″	0.017″	0.007″	**6699T13**	12.00	**6699T17**	63.15

Chemical-Resistant Tubing

Choose-a-Color Tubing

- Material: PVC
- Shrink Ratio: 2 to 1
- Shrink Temperature: 215°F
- UL recognized, UL 224, flame rated VW-1, and CSA certified
- AMS (formerly MIL)-DTL-23053/2 Class 2

Although it's less flexible than polyolefin, PVC offers better resistance to chemicals. It is flame retardant and resists UV light, so it's a good choice for outdoor applications. Temperature range is 0° to 220°F.

To Order: Please specify black, blue, clear, green, red, white, or yellow.



ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	½-ft. Lengths Pkg. Qty.		Pkg.	Small Spools Lg., ft.		Each	Large Spools Lg., ft.		Each	Jumbo Spools Lg., ft.		Each
0.05″	0.02″	0.02″	5	7132K583	$2.46	25	7132K579	$15.94	125	7132K581	$39.85	250	7132K582	$63.76
0.06″	0.03″	0.02″	5	7132K511	2.56	25	7132K565	16.15	125	7132K531	40.38	250	7132K551	64.61
0.13″	0.06″	0.03″	5	7132K512	2.64	25	7132K566	16.70	125	7132K532	41.75	250	7132K552	66.80
0.19″	0.09″	0.03″	5	7132K513	2.76	25	7132K567	17.24	125	7132K533	43.10	250	7132K553	68.96
0.25″	0.13″	0.03″	5	7132K514	2.90	25	7132K568	18.54	125	7132K534	46.36	250	7132K554	74.18
0.38″	0.19″	0.03″	5	7132K515	3.43	25	7132K569	21.44	125	7132K535	53.61	250	7132K555	85.78
0.5″	0.25″	0.03″	5	7132K516	3.50	25	7132K571	22.79	50	7132K536	35.06	100	7132K556	54.69
0.63″	0.31″	0.03″	5	7132K517	3.57	25	7132K572	24.24	50	7132K537	37.29	100	7132K557	58.17
0.75″	0.38″	0.03″	5	7132K518	5.02	25	7132K573	35.43	50	7132K538	54.51	100	7132K558	85.04
1″	0.5″	0.04″	5	7132K519	7.24	25	7132K574	46.34	50	7132K539	71.29	100	7132K559	111.21
1.5″	0.75″	0.04″	5	7132K521	9.51	10	7132K575	29.64	25	7132K541	61.75	100	7132K561	185.25
2″	1″	0.05″	5	7132K522	12.13	10	7132K576	38.21	25	7132K542	79.60	100	7132K562	238.80
3″	1.5″	0.07″	5	7132K523	14.79	5	7132K577	36.24	25	7132K543	90.59	50	7132K563	163.06
4″	2″	0.07″	3	7132K524	13.80	5	7132K578	51.08	25	7132K544	127.70	50	7132K564	229.86

Assortments

- Shrink Ratio: 2 to 1
- Shrink Temperature: PVC: 215°F; Kynar: 350°F; Polyolefin: 195°F
- PVC: UL recognized, UL 224, flame rated VW-1, and CSA certified
- PVC: AMS (formerly MIL)-DTL-23053/2 Class 2; Kynar: AMS (formerly MIL)-DTL-23053/8; Polyolefin: AMS (formerly MIL)-DTL-23053/4 Class 2

Enjoy the convenience of having a variety of tubing sizes. Tubing is black, except Kynar tubing is clear. **PVC** tubing has excellent chemical resistance. Temperature range is 0° to 220°F. **Kynar** tubing has excellent chemical resistance combined with high strength. Temperature range is –65° to 345°F. **Polyolefin** tubing has good chemical resistance and an adhesive lining that melts when the tubing is heated; the lining bonds to the underlying surface and creates a water-resistant seal. Temperature range is –65° to 275°F.

175 Pieces of PVC—Tubing comes in a canister.

Five Spools of PVC—The spools come on a rack. Carry the rack with you, or wall mount it using the two ¼″ dia. mounting holes (screws not included).

150 Pieces of PVC, Kynar, and Moisture-Seal Polyolefin—Tubing comes in a case.



Five Spools of PVC

	ID Before Shrinking		
100 Pieces of PVC (½-ft. lengths)	0.06″, 0.13″, 0.25″, 0.38″, 0.5″, 0.75″	8061K5	$46.43
175 Pieces of PVC (½-ft. lengths)	0.09″, 0.13″, 0.19″, 0.25″, 0.38″	8061K3	32.80
Five Spools of PVC (one 100-ft. spool and four 25-ft. spools)	0.06″, 0.13″, 0.19″, 0.25″, 0.38″	8061K7	111.28
150 Pieces of PVC, Kynar, and Moisture-Seal Polyolefin (½-ft. lengths)	0.13″, 0.19″, 0.25″, 0.38″, 0.5″	8061K4	124.64
Replacement Spools for 8061K7 (Please specify ID before shrinking)			8061K8

Food-Grade Tubing

- Material: Acrylated olefin
- Shrink Ratio: 2 to 1
- Shrink Temperature: 250°F
- FDA CFR 177.1330

Made of FDA-compliant materials for contact with food, this tubing resists moisture. Temperature range is –65° to 250°F.



ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	Choose a Color	½-ft. Lengths Pkg. of 5		25-ft. Spools Each		100-ft. Spools Each	
0.13″	0.06″	0.02″	Black, Clear, White	8098K21	$4.97	8098K31	$17.77	8098K41	$59.23
0.19″	0.09″	0.02″	Black, Clear, White	8098K22	5.48	8098K32	18.07	8098K42	60.25
0.25″	0.13″	0.03″	Black, Clear, White	8098K23	5.55	8098K33	20.09	8098K43	66.95
0.38″	0.19″	0.03″	Black, Clear, White	8098K24	5.59	8098K34	20.32	8098K44	67.72
0.5″	0.25″	0.03″	Black, Clear, White	8098K25	7.63	8098K35	25.42	8098K45	84.72

Weather-Resistant Large-Diameter Tubing

- Material: PVC
- Shrink Ratio: 2 to 1
- Shrink Temperature: 215°F

Thanks to its large diameter, this tubing can protect thick cables as well as poles, conveyor rollers, tool and equipment handles, and irregularly shaped objects. It withstands weather, chemicals, and UV light. Temperature range is 0° to 220°F.



ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	Choose a Color	1-ft. Lengths Pkg. Qty.		Pkg.	Small Spools Lg., ft.		Each	Large Spools Lg., ft.		Each
0.63″	0.31″	0.03″	Black, Clear, Orange, Red, White	5	9920T11	$5.05	25	9920T41	$23.79	100	9920T31	$72.10
0.75″	0.38″	0.03″	Black, Clear, Orange, Red, White	5	9920T12	5.89	25	9920T42	27.77	100	9920T32	84.15
1″	0.5″	0.04″	Black, Clear, Orange, Red, White	5	9920T13	7.70	25	9920T43	36.28	100	9920T33	109.95
1.5″	0.75″	0.04″	Black, Clear, Orange, Red, White	5	9920T14	13.61	25	9920T44	64.16	100	9920T34	194.43
2″	1″	0.05″	Black, Clear, Orange, Red, White	3	9920T15	9.82	25	9920T45	81.02	100	9920T35	245.50
3″	1.5″	0.07″	Black, Clear, Orange, Red, White	1	9920T16	5.71	5	9920T46	26.66	50	9920T36	190.40
4″	2″	0.07″	Black, Clear, Orange, Red, White	1	9920T17	9.15	5	9920T47	42.70	50	9920T37	305.00

Moisture-Seal Tubing



Create a water-resistant seal as you shrink this tubing. It has an adhesive lining that melts when the tubing is heated and bonds to the underlying surface to keep out moisture. Temperature range is –65° to 230° F, except 4 to 1 shrink ratio high-temperature tubing has a temperature range of –40° to 265° F.

Black and Clear

- Material: Polyolefin
- Shrink Temperature:
  2 to 1 and 3 to 1 Shrink Ratios: 250° F;
  4 to 1 Shrink Ratio: 230° F;
  4 to 1 Shrink Ratio High Temperature: 275° F
- UL recognized, except 6855K11 and 6855K21

Tubing with a small shrink ratio is more flexible than tubing with a large shrink ratio. Tubing with a large shrink ratio is more abrasion resistant and accommodates irregularly shaped objects and larger size differences between cables and connectors.

ID		Wall Thick.		½-ft. Lengths		4-ft. Lengths	
Before Shrinking	After Shrinking	After Shrinking	Choose a Color	Pkg. Qty.	Pkg.		Each
2 to 1 Shrink Ratio							
0.13″	0.06″	0.03″	Black	5	74965K51	$4.39	74965K61 $4.50
0.19″	0.09″	0.03″	Black	5	74965K52	5.11	74965K62 5.33
0.25″	0.13″	0.03″	Black	5	74965K53	6.42	74965K63 6.67
0.38″	0.19″	0.03″	Black	5	74965K54	7.25	74965K64 7.50
0.5″	0.25″	0.03″	Black	5	74965K55	7.95	74965K65 8.50
0.75″	0.38″	0.04″	Black	5	74965K56	9.90	74965K66 11.33
1″	0.5″	0.04″	Black	2	74965K57	5.43	74965K67 16.83
1.5″	0.75″	0.05″	Black	2	74965K58	11.53	74965K68 30.00
2″	1″	0.07″	Black	1	74965K59	13.02	74965K69 62.86
3 to 1 Shrink Ratio							
0.13″	0.04″	0.04″	Black	22	7861K41	29.12	7861K51 7.66
0.19″	0.06″	0.04″	Black	10	7861K42	11.79	7861K52 8.32
0.25″	0.08″	0.04″	Black	10	7861K43	15.48	7861K53 10.31
0.38″	0.12″	0.06″	Black	10	7861K44	17.68	7861K54 11.82
0.5″	0.16″	0.07″	Black	10	7861K45	24.07	7861K55 13.38
0.75″	0.25″	0.09″	Black	5	7861K46	14.65	7861K56 18.29
1″	0.32″	0.1″	Black	5	7861K47	17.20	7861K57 27.32
1.5″	0.51″	0.1″	Black	1	7861K48	8.15	7861K58 42.19
4 to 1 Shrink Ratio							
0.16″	0.04″	0.04″	Black	1	6855K11	4.32	6855K21 16.28
0.32″	0.08″	0.04″	Black	1	6855K12	5.30	6855K22 21.20
0.47″	0.12″	0.06″	Black	1	6855K13	6.90	6855K23 29.28
0.63″	0.16″	0.07″	Black	1	6855K14	8.38	6855K24 36.32
0.95″	0.24″	0.09″	Black	1	6855K15	12.44	6855K25 56.72
1.26″	0.32″	0.1″	Black	1	6855K16	17.38	6855K26 61.82
2.05″	0.51″	0.1″	Black	1	6855K17	21.92	6855K27 79.14
4 to 1 Shrink Ratio—High Temperature							
0.23″	0.05″	0.05″	Black, Clear	2	2735K11	4.06	2735K21 13.52
0.29″	0.07″	0.06″	Black, Clear	2	2735K12	4.56	2735K22 15.19
0.43″	0.1″	0.08″	Black, Clear	2	2735K13	5.70	2735K15 19.00
0.7″	0.18″	0.1″	Black, Clear	2	2735K14	13.02	2735K24 43.40

Color Coded

- Material: Polyolefin
- Shrink Ratio: 2.5 to 1
- Shrink Temperature: 275° F
- UL recognized
- AMS (formerly MIL)-DTL-23053/4 Class 1

Each size is a different color for easy identification. This tubing is not as flexible as the 3 to 1 shrink ratio tubing above.

ID		Wall Thick.		
Before Shrinking	After Shrinking	After Shrinking	Color	4-ft. Lengths
0.13″	0.02″	0.04″	Brown	73115K71 $7.52
0.19″	0.06″	0.04″	Gray	73115K72 8.00
0.25″	0.08″	0.05″	White	73115K73 10.12
0.38″	0.13″	0.05″	Red	73115K74 11.24
0.5″	0.2″	0.06″	Blue	73115K75 13.40
0.75″	0.31″	0.07″	Yellow	73115K76 21.40
1″	0.4″	0.08″	Black	73115K77 27.88

Moisture-Seal Chemical-Resistant Tubing



- Material: PVC
- Shrink Ratio: 2 to 1
- Shrink Temperature: 215° F

Made of PVC for better chemical and UV resistance than polyolefin, this tubing has an adhesive lining that melts when heated and bonds to the underlying surface to form a water-resistant seal. Use to protect connections outdoors and in washdown areas. Temp. range is 0° to 220° F. Color is black.

ID		Wall Thick.	½-ft. Lengths		25-ft. Spools	100-ft. Spools
Before Shrinking	After Shrinking	After Shrinking	Pkg. of 5		Each	Each
0.19″	0.09″	0.04″	8195K21	$4.37	8195K31 $17.28	8195K41 $57.61
0.25″	0.13″	0.04″	8195K22	4.43	8195K32 32.24	8195K42 107.46
0.38″	0.19″	0.04″	8195K23	4.64	8195K33 33.79	8195K43 112.62
0.5″	0.25″	0.04″	8195K24	4.93	8195K34 36.03	8195K44 120.11
0.75″	0.38″	0.04″	8195K25	6.26	8195K35 46.31	8195K45 154.38
1″	0.5″	0.05″	8195K26	12.01	8195K36 60.78	8195K46 202.60

Wrap-Around Moisture-Seal Tubing



- Material: Polyolefin
- Shrink Ratio: 3 to 1
- Shrink Temperature: 250° F

Unlike most tubing that slides over cable, this tubing wraps around it and fastens with an adhesive strip. It's ideal for field repairs because your cable assembly can stay connected. The adhesive lining melts when the tubing is heated and bonds to the underlying surface to create a water-resistant seal. Temperature range is –65° to 230° F. Color is black.

ID		Wall Thick.			
Before Shrinking	After Shrinking	After Shrinking	8″ Lengths		3-ft. Lengths
1.2″	0.47″	0.08″	7852K11	$12.95	7852K21 $48.40
1.8″	0.6″	0.08″	7852K12	16.45	7852K22 61.60
2.7″	0.95″	0.08″	7852K13	18.00	7852K23 67.38
3.6″	1.3″	0.08″	7852K14	19.39	7852K24 72.55
4.95″	1.65″	0.08″	7852K15	27.36	7852K25 92.62
6.75″	2.5″	0.08″	7852K16	44.73	7852K26 151.38

Heavy Duty Moisture-Seal Tubing



Extra-thick walls provide protection from physical damage, and the adhesive lining keeps out moisture. When the tubing is heated, the adhesive melts and bonds to the underlying surface to create a water-resistant seal. Temperature range is –65° to 230° F.

Standard Lengths

- Material: Polyolefin
- Shrink Ratio: 3 to 1
- Shrink Temperature: 250° F
- UL listed and CSA certified for underground applications

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	9″ Lengths		4-ft. Lengths	
Black						
0.4″	0.15″	0.09″	7270K1	$3.76	7270K81	$22.62
0.8″	0.2″	0.11″	7270K2	5.03	7270K82	23.32
1.1″	0.37″	0.12″	7270K3	5.48	7270K83	25.35
1.5″	0.5″	0.17″	7270K4	6.79	7270K84	31.43
2″	0.65″	0.17″	7270K5	12.23	7270K85	56.58
3″	1″	0.17″	7270K7	13.69	7270K87	63.31
Red						
0.4″	0.15″	0.07″	7270K11	3.56	7270K12	17.80
0.75″	0.22″	0.09″	7270K21	4.01	7270K22	20.04
1.1″	0.38″	0.12″	7270K31	4.34	7270K32	21.71
1.5″	0.5″	0.16″	7270K41	5.93	7270K42	29.59
2″	0.75″	0.16″	7270K51	8.51	7270K52	42.54
3.5″	1.2″	0.16″	7270K61	12.61	7270K62	63.04

Color-Coded Short Lengths

- Material: Polyolefin
- Shrink Ratio: 3 to 1
- Shrink Temperature: 275° F
- UL recognized, except 72675K51

Each size is a different color for easy identification.

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	Lg.	Color	Pkg. Qty.		
0.18″	0.06″	0.05″	0.75″	Red	100	72675K51	$7.83
0.18″	0.06″	0.05″	1.5″	Red	100	72675K52	15.29
0.22″	0.07″	0.05″	0.75″	Blue	100	72675K53	8.06
0.22″	0.07″	0.05″	1.5″	Blue	100	72675K54	15.93
0.26″	0.1″	0.06″	0.88″	Yellow	100	72675K55	11.61
0.26″	0.1″	0.06″	1.7″	Yellow	50	72675K56	10.56

Moisture-Seal Wrap



Use this wrap with standard heat-shrink tubing to create a moisture-resistant seal. Apply it like tape around the ends of wire, cable, or irregularly shaped objects. Then, slide your tubing over the wrap; the wrap melts when the tubing is heated and bonds to the underlying surface to keep out moisture.

0.026″ thick wrap has thermoplastic adhesive, which is similar to the adhesive found inside most moisture-seal tubing. Temperature range is –65° to 245° F. **0.062″ thick wrap** has butyl adhesive. It seals larger gaps than thermoplastic adhesive, making it good for irregular shapes. Temperature range is –40° to 190° F.

Thick.	Wd.	Color	1-ft. Lengths		5-ft. Lengths	
0.026″	1″	Translucent Yellow	1428T1	$5.62	1428T2	$22.49
0.062″	1″	Gray	1428T3	6.49	1428T4	25.94

High-Purity Tubing



- Material: Olefin
- Shrink Ratio: 2 to 1
- Shrink Temperature: 250° F

Heat this tubing to create a moisture-resistant seal on metal, glass, and most plastics. It has excellent chemical resistance and resists cuts and abrasion. The tubing is cleaned with alcohol and then bagged and sealed in a clean room. It can be sterilized with steam (autoclaving), gas, and radiation. Temperature range is –65° to 250° F. Color is black.

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	½-ft. Lengths Pkg. of 5		100-ft. Spools Each	
0.09″	0.05″	0.02″	9919T11	$6.12	9919T12	$68.46
0.13″	0.06″	0.02″	9919T13	6.42	9919T14	72.93
0.19″	0.09″	0.02″	9919T15	6.52	9919T16	108.23
0.25″	0.13″	0.03″	9919T17	7.21	9919T18	126.59
0.38″	0.19″	0.03″	9919T19	7.70	9919T21	211.15
0.5″	0.25″	0.03″	9919T22	8.28	9919T23	253.73

Moisture-Seal End Caps



- Material: Polyolefin
- Shrink Temperature: 275° F

Seal the ends of cylindrical objects and crimped connections to protect them from moisture. These end caps have an adhesive lining that melts when heated. The adhesive bonds to the underlying surface and creates a moisture-resistant seal. Temperature range is –65° to 230° F. Color is black. 72855K21, 72855K23, 72855K24, and 72855K25 are UL recognized.

ID Before Shrinking	ID After Shrinking	Length After Shrinking		
0.13″	0.02″	0.5″	72855K21	$0.34
0.25″	0.08″	0.6″	72855K23	.69
0.38″	0.09″	0.72″	72855K24	1.22
0.47″	0.15″	1.57″	3435T21	3.35
0.5″	0.09″	0.85″	72855K25	1.70
0.55″	0.19″	1.77″	3435T22	3.15
0.79″	0.3″	2.18″	72855K71	3.53
0.98″	0.33″	2.68″	3435T23	3.74
1.38″	0.63″	3.27″	3435T24	4.63
1.57″	0.59″	3.54″	72855K51	4.37
2.17″	1.02″	4.06″	3435T25	5.83
2.95″	1.42″	4.72″	3435T26	6.80
3.94″	2.05″	5.51″	3435T27	9.43
3.94″	1.77″	6.4″	72855K73	15.23
4.72″	2.36″	5.91″	3435T28	10.90
6.3″	3.29″	5.91″	3435T29	22.77

Moisture-Seal Cable Splitters

- Material: Polyolefin
- Shrink Temperature: 250° F

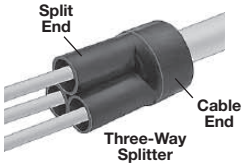

Also known as breakout boots, these flame-retardant splitters insulate and seal cables at the point where they transition to individual wires. They are often used with armored cable, sheathed cable, and conduit ends. Splitters have an adhesive lining that melts when heated. The adhesive bonds to the underlying surface to create a moisture-resistant seal. Temperature range is –65° to 230° F. Color is black.

ID Before Shrinking Cable End	ID Before Shrinking Split Ends	ID After Shrinking Cable End	ID After Shrinking Split Ends	Length After Shrinking		
Two-Way Splitters						
0.8″	0.33″	0.37″	0.11″	2.7″	73575K61	$16.72
1.2″	0.5″	0.6″	0.17″	3.5″	73575K62	18.20
1.9″	0.75″	0.9″	0.3″	4.2″	73575K63	21.05
Three-Way Splitters						
0.9″	0.33″	0.36″	0.12″	2.7″	73575K65	19.73
1.2″	0.5″	0.5″	0.16″	3.3″	73575K66	20.97
1.5″	0.65″	0.69″	0.18″	4″	73575K67	22.43
2.4″	1.25″	1.4″	0.5″	5.1″	73575K69	29.26
Four-Way Splitters						
0.9″	0.28″	0.43″	0.11″	2.75″	73575K73	19.62
1.25″	0.5″	0.8″	0.19″	3.3″	73575K74	22.17

Wrap-Tight Tubing



- Material: PVC
- Shrink Ratio: 2 to 1
- Shrink Temperature: 285° F
- UL recognized and flame rated VW-1

With extra-thin walls that tightly conform to objects, this tubing acts like shrink wrap to bundle batteries, capacitors, and other electronics. Temperature range is 0° to 210° F. Color is white.

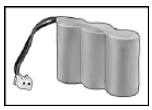

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	25-ft. Spools		100-ft. Spools	
0.48″	0.26″	0.004″	9902T12	$5.29	9902T51	$15.11
0.6″	0.33″	0.004″	9902T13	5.43	9902T52	15.51
0.85″	0.47″	0.004″	9902T14	6.83	9902T53	24.38
0.91″	0.5″	0.004″	9902T15	6.83	9902T54	24.38
1.04″	0.57″	0.004″	9902T16	6.51	9902T55	23.24
1.13″	0.62″	0.004″	9902T17	7.14	9902T56	25.49
1.2″	0.66″	0.004″	9902T18	7.16	9902T57	25.58
1.45″	0.8″	0.004″	9902T19	12.82	9902T58	45.80
1.6″	0.88″	0.004″	9902T29	10.73	9902T59	38.31

Heat-Shrink Tubing

For information about heat-shrink tubing, see page 849.

Flame-Retardant Tubing



A flame-retardant additive gives this tubing the ability to resist combustion and minimize the spread of flames to surrounding areas.

Standard

- Material: Polyolefin
- Shrink Ratio: 2 to 1
- Shrink Temperature: 195° F
- UL recognized, UL 224, flame rated VW-1, and CSA certified
- AMS (formerly MIL)-DTL-23053/5 Classes 1 & 3

Polyolefin tubing is flexible and doesn't shrink much lengthwise. Temperature range is –65° to 275° F. Color is black.

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	4-ft. Lengths		25-ft. Spools		100-ft. Spools	
0.14″	0.06″	0.02″	7864K21	$2.02	7864K31	$10.19	7864K41	$36.12
0.21″	0.09″	0.02″	7864K22	2.16	7864K32	11.14	7864K42	39.16
0.28″	0.13″	0.03″	7864K23	2.48	7864K33	12.89	7864K43	45.29
0.4″	0.19″	0.03″	7864K24	3.45	7864K34	15.78	7864K44	56.41
0.54″	0.25″	0.03″	7864K25	3.96	7864K35	18.38	7864K45	65.40
0.81″	0.38″	0.03″	7864K26	4.88	7864K36	24.95	7864K46	88.74
1.05″	0.5″	0.04″	7864K27	8.42	7864K37	36.41	7864K47	128.51
1.6″	0.75″	0.04″	7864K28	13.36	7864K38	60.49	7864K48	209.30

Low Smoke

- Material: Polyolefin
- Shrink Ratio: 3 to 1
- Shrink Temperature: 250° F
- MIL-C-24643

For use in enclosed areas such as ships, tunnels, and mass transit vehicles, tubing emits minimal amounts of smoke and toxic gases during combustion. Also known as halogen-free tubing, it meets ABS (American Bureau of Shipping) standards. Temp. range is –65° to 230° F. Color is black.

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	½-ft. Lengths		4-ft. Lengths	
0.3″	0.1″	0.06″	1402T21	$6.38	1402T11	$41.68
0.4″	0.15″	0.06″	1402T22	8.02	1402T12	54.67
0.75″	0.22″	0.08″	1402T23	8.74	1402T13	54.28
1.1″	0.38″	0.11″	1402T24	11.66	1402T14	72.32
1.5″	0.5″	0.12″	1402T25	14.26	1402T15	92.56
2″	0.75″	0.12″	1402T26	17.43	1402T16	109.44
3″	1.25″	0.16″	1402T27	28.61	1402T17	176.52

Abrasion Resistant

- Material: Fluoropolymer
- Shrink Ratio: 2 to 1
- Shrink Temperature: 305° F
- UL recognized and flame rated VW-1
- AMS (formerly MIL)-DTL-23053/18 Class 2

Strong, flexible tubing resists abrasion and withstands contact with other objects. Temperature range is –65° to 275° F.

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	Choose a Color	½-ft. Lengths Pkg. Qty.		Pkg.	4-ft. Lengths Each	
0.19″	0.09″	0.01″	Black, Clear	5	6823K66	$7.24	6823K29	$7.21
0.25″	0.13″	0.01″	Black, Clear	5	6823K67	8.04	6823K45	8.59
0.38″	0.19″	0.01″	Black, Clear	5	6823K68	8.60	6823K46	9.76
0.5″	0.25″	0.01″	Black, Clear	5	6823K69	9.34	6823K47	11.02
0.75″	0.38″	0.02″	Black, Clear	5	6823K85	11.54	6823K48	14.18
1″	0.5″	0.02″	Black, Clear	1	6823K86	2.86	6823K49	22.19

Ultra-Flex Tubing



Even at extreme temperatures, this tubing maintains its flexibility. It also resists oil and chemicals. Color is black.

Standard

- Material: Neoprene rubber
- Shrink Ratio: 2 to 1
- Shrink Temperature: 275° F
- AMS (formerly MIL)-DTL-23053/1 Classes 1 & 2; MIL-R-46846 Type I, Class 1

Rubber tubing has good abrasion and cut resistance. Temperature range is –90° to 250° F.

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	½-ft. Lengths Pkg. of 5	
0.19″	0.11″	0.04″	7505K81	$7.61
0.25″	0.13″	0.04″	7505K82	6.13
0.38″	0.19″	0.04″	7505K83	7.14
0.5″	0.25″	0.05″	7505K84	7.86
0.63″	0.31″	0.05″	7505K85	8.76
0.75″	0.38″	0.06″	7505K86	9.99

High Temperature

- Material: Viton® fluoroelastomer
- Shrink Ratio: 2 to 1
- Shrink Temperature: 350° F
- AMS (formerly MIL)-DTL-23053/13; MIL-R-46846 Type III, Class 1

With a temperature range of –65° to 390° F, this tubing withstands higher temperatures than standard neoprene rubber tubing. It also has better abrasion resistance.

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	½-ft. Lengths Each	
0.19″	0.11″	0.04″	7501K81	$3.88
0.25″	0.13″	0.04″	7501K82	3.71
0.38″	0.19″	0.04″	7501K83	4.38
0.5″	0.25″	0.04″	7501K84	5.26
0.63″	0.31″	0.04″	7501K85	7.16
0.75″	0.38″	0.04″	7501K86	8.09
1″	0.5″	0.05″	7501K87	11.45

Fuel-Resistant High-Flex Tubing



- Material: Elastomer
- Shrink Ratio: 2 to 1
- Shrink Temperature: 350° F
- AMS (formerly MIL)-DTL-23053/16

Ideal for vehicles and machines subject to harsh environments, this tubing resists diesel fuels, hydraulic fluids, and lubricating oils. It also provides good abrasion resistance while remaining flexible at extreme temperatures. Temperature range is –100° to 300° F. Color is black.

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking		½ ft.	4 ft.
0.13″	0.06″	0.03″	2595K1	$3.83	$19.13
0.19″	0.09″	0.03″	2595K2	4.70	23.51
0.25″	0.13″	0.04″	2595K3	4.43	22.16
0.38″	0.19″	0.04″	2595K4	4.71	23.56

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking		½ ft.	4 ft.
0.5″	0.25″	0.05″	2595K5	$5.33	$26.63
0.75″	0.38″	0.06″	2595K6	7.88	39.38
1″	0.5″	0.07″	2595K7	10.23	51.16
1.5″	0.75″	0.1″	2595K8	25.05	125.24

Abrasion-Resistant Fabric Heat-Shrink Tubing



- Material: Polyethylene/polyester woven fabric
- Shrink Ratio: 2 to 1
- Shrink Temperature: 230° F
- UL recognized

Get the flexibility of fabric sleeving with the fit and protection of heat-shrink tubing. This woven fabric shrinks when heated to conform to the underlying surface. It has excellent abrasion resistance and can be used to muffle sound. It also resists trapping water. Temperature range is –40° to 255° F. Color is black.

ID		Wall Thick.	3-ft. Lengths		Spools		
Before Shrinking	After Shrinking	After Shrinking			Lg., ft.		
0.47″	0.24″	0.04″	2587K11	$7.60	25	2587K21	$52.00
0.79″	0.39″	0.04″	2587K12	9.61	25	2587K22	61.80
1.18″	0.59″	0.04″	2587K13	12.41	20	2587K23	63.48
1.57″	0.79″	0.04″	2587K14	13.12	20	2587K24	63.60
1.97″	0.98″	0.04″	2587K15	14.75	20	2587K25	73.42
2.36″	1.18″	0.04″	2587K16	19.54	10	2587K26	51.22
2.76″	1.38″	0.04″	2587K17	24.06	10	2587K27	63.75

High-Strength Tubing



- Material: PVDF
- Shrink Ratio: 2 to 1
- Shrink Temperature: 350° F
- UL recognized, UL 224, flame rated VW-1, and CSA certified
- AMS (formerly MIL)-DTL-23053/8

This tubing has superior strength and cut resistance. It also maintains its chemical resistance at high temperatures. Temperature range is –65° to 345° F. Tubing is clear.

ID		Wall Thick.	½-ft. Lengths		4-ft. Lengths	
Before Shrinking	After Shrinking	After Shrinking	Pkg. Qty.	Pkg.		Each
0.06″	0.03″	0.01″	—	—	7478K79	$4.32
0.13″	0.06″	0.01″	10	7478K91 $8.38	7478K81	4.41
0.25″	0.13″	0.01″	10	7478K92 14.39	7478K82	8.95
0.38″	0.19″	0.01″	10	7478K93 16.79	7478K83	9.96
0.5″	0.25″	0.01″	10	7478K94 25.17	7478K84	14.13
0.75″	0.38″	0.02″	2	7478K95 12.58	7478K85	27.72
1″	0.5″	0.02″	1	7478K96 12.32	7478K86	54.29

Interference-Shielding Tubing



- Material: Polyolefin
- Shrink Ratio: 2 to 1
- Shrink Temperature: 215° F
- UL 224

A layer of conductive cloth shields wire and cable from electromagnetic interference (EMI). Use to protect unshielded wire and cable, add extra protection to shielded items, or cover a terminal where an existing shield has been stripped for a connector. Temperature range is –65° to 275° F. Color is black.

Note: For proper grounding, a conductive wire (see pages 834-836) or braid strip (see page 978) should be wound around the outside of wires or attached by conductive epoxy (see page 3466) prior to shrinking.

ID		Wall Thick.	1-ft. Lengths		4-ft. Lengths	
Before Shrinking	After Shrinking	After Shrinking				
0.19″	0.09″	0.02″	7937K21	$21.37	7937K31	$61.05
0.25″	0.13″	0.03″	7937K22	21.60	7937K32	61.72
0.38″	0.19″	0.03″	7937K23	21.99	7937K33	62.83
0.5″	0.25″	0.03″	7937K24	22.53	7937K34	64.37
0.75″	0.38″	0.03″	7937K25	23.52	7937K35	67.20
1″	0.5″	0.04″	7937K26	25.03	7937K36	71.51

Harsh Environment Tubing



- Material: FEP
- Shrink Ratio: 1.3 to 1
- Shrink Temperature: 420° F

Made of FEP, this tubing combines strength with excellent abrasion and chemical resistance. It also has a lower shrink temperature than PTFE tubing, which has similar properties. Temperature range is –400° to 400° F. Tubing is clear.

Small Diameter

- AMS (formerly MIL)-DTL-23053/11

Use as extra protection for wires.

To Order: Please specify 1, 2, 3, or 4 ft.

ID		Wall Thick.			
Before Shrinking	After Shrinking	After Shrinking	For Wire Size		Per Ft.
0.031″	0.027″	0.01″	24 ga.	8703K111	$1.16
0.04″	0.03″	0.01″	22 ga.	8703K112	1.21
0.05″	0.04″	0.01″	20 ga.	8703K113	1.27
0.06″	0.05″	0.01″	18 ga.	8703K114	1.32
0.08″	0.06″	0.01″	16 ga.	8703K115	1.35
0.09″	0.07″	0.01″	14 ga.	8703K116	1.37
0.12″	0.09″	0.01″	12 ga.	8703K117	1.40
0.14″	0.11″	0.01″	10 ga.	8703K118	1.51
0.18″	0.14″	0.01″	8 ga.	8703K119	2.28

ID		Wall Thick.			
Before Shrinking	After Shrinking	After Shrinking	For Wire Size		Per Ft.
0.23″	0.18″	0.01″	6 ga.	8703K121	$2.83
0.29″	0.23″	0.01″	4 ga.	8703K122	3.14
0.37″	0.28″	0.01″	2 ga.	8703K123	3.91
0.44″	0.35″	0.01″	1/0 ga.	8703K124	4.65
0.58″	0.45″	0.02″	7/16″	8703K125	8.23
0.67″	0.51″	0.02″	1/2″	8703K128	8.38
0.83″	0.64″	0.03″	5/8″	8703K129	9.50
1″	0.76″	0.03″	3/4″	8703K133	12.58

Large Diameter

The large-diameter openings allow this tubing to fit over conveyor rollers and printing rollers.

ID		Wall Thick.						
Before Shrinking	After Shrinking	After Shrinking		1 ft.	2 ft.	3 ft.	4 ft.	6 ft.	8 ft.
1.1″	0.88″	0.02″	8703K87	$11.83	$29.95	$40.81	$51.21	$68.73	$79.14
1.3″	1″	0.02″	8703K88	12.52	32.92	43.20	54.20	72.75	83.77
1.7″	1.4″	0.02″	8703K89	14.92	39.23	51.49	64.61	86.72	99.85
2.1″	1.8″	0.02″	8703K91	19.98	52.52	68.93	86.50	116.10	133.69
2.6″	2.2″	0.02″	8703K92	24.37	64.07	84.09	105.52	131.67	163.08
3.1″	2.7″	0.02″	8703K93	30.12	76.28	103.77	130.42	175.04	201.75
4.2″	3.5″	0.02″	8703K94	43.91	115.43	151.50	190.12	252.61	293.82
5.2″	4.4″	0.02″	8703K95	54.58	143.47	188.31	236.31	317.15	365.21
6.2″	5.4″	0.02″	8703K96	65.58	172.38	226.25	283.92	381.06	439.35

Extreme Environment Tubing



- Material: PEEK
- Shrink Ratio: 1.4 to 1
- Shrink Temperature: 575°F

Excellent abrasion resistance makes PEEK tubing the toughest we offer. It resists caustic fluids and withstands high-temperature, high-pressure applications. It's suitable for use in oil and gas exploration and other demanding environments. Temperature range is –20° to 500°F. Tubing is translucent. Maximum continuous length is 4 ft.

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking		Per Ft.
0.05″	0.03″	0.01″	9906T11	$6.40
0.09″	0.06″	0.01″	9906T12	7.33
0.1″	0.07″	0.01″	9906T13	7.79
0.13″	0.09″	0.01″	9906T14	8.98
0.16″	0.11″	0.01″	9906T15	9.71
0.2″	0.14″	0.01″	9906T16	10.23
0.25″	0.18″	0.01″	9906T17	11.65
0.32″	0.23″	0.01″	9906T18	14.35
0.39″	0.28″	0.01″	9906T19	14.35

No-Heat Shrink Tubing



Create a permanent seal without a heat gun or wand. This tubing, also known as cold-shrink tubing, has a removable spiral-wound core. Slide the tubing over your object and pull out the core; the removal of this internal support causes the tubing to contract and conform to the underlying object. Tubing is rated to 1,000 volts and insulates wire and cable splices. It resists acids, alkalies, ozone, and UV light. It also resists water and can be buried or submerged. Made of EPDM rubber. Color is black. Meets ANSI C119.1 water seal requirements. CE marked.

ID Before Shrinking	ID After Shrinking	Length Before Shrinking	Max. Length Covered		
0.82″	0.1″	8″	3″	6341K81	$16.46
0.82″	0.4″	8″	3″	6341K82	14.42
1.18″	0.55″	9″	5″	6341K83	17.15
1.18″	0.55″	11″	7″	6341K84	20.60
1.38″	0.67″	6″	2″	6341K85	12.97
1.38″	0.67″	12″	8″	6341K86	25.69
1.38″	0.67″	16″	12″	6341K87	34.26
1.94″	0.95″	6″	2″	6341K88	18.31
1.94″	0.95″	12″	8″	6341K89	36.55
1.94″	0.95″	18″	14″	6341K91	54.96
2.67″	1.27″	6″	2″	6341K92	20.03
2.67″	1.27″	9″	5″	6341K93	29.99
2.67″	1.27″	18″	14″	6341K94	60.06

Radiant Heat-Shrink Wand

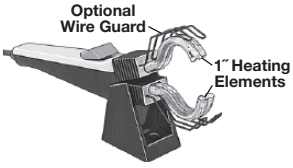

Within seconds, this wand reaches its operating temperature of 1500°F and creates a circle of radiant heat for heat-shrink tubing, bendable plastic tubing, and solder sleeves. Use for applications where a heat gun is not practical, such as in clean rooms and other controlled environments. This wand can be hand held or bench mounted with the included stand. Wand is 7½″ Lg. × 1½″ Wd. × 1¾″ Ht. and operates on 120 volts AC. It has a 6-ft. cord with three-prong plug. CE marked.

Heating elements (sold separately) are required for proper operation. Designed for heating intervals of less than two minutes, they are specially plated to reflect and focus heat. They are surrounded by quartz glass.

Optional wire guards protect you from direct contact with the heating elements.

Heat-Shrink Wand and Stand

7498K21	$861.77

Components

Max. Tubing ID	Watts	Heating Elements Pair		Optional Wire Guards Pair	
½″	264	7498K12	$334.33	7498K31	$69.42
1″	348	7498K13	355.58	7498K32	69.42
2″	348	7498K14	392.42	7498K33	77.92

High-Temperature Harsh Environment Tubing



- Material: PTFE
- Shrink Temperature: 660°F

A high maximum temperature along with excellent abrasion and chemical resistance allows PTFE tubing to withstand harsh environments. Tubing is translucent.

2 to 1 Shrink Ratio

- AMS (formerly MIL)-DTL-23053/12, except 7564K91, 7564K92, and 7564K93

Often used to insulate wire. Temperature range is –450° to 500°F.

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking	For Wire Gauge		½ ft.	4 ft.
0.03″	0.02″	0.01″	30	7564K91	$2.07	$5.17
0.04″	0.02″	0.01″	28	7564K92	1.93	4.83
0.05″	0.02″	0.01″	26	7564K93	1.90	4.75
0.05″	0.03″	0.01″	24	7564K61	1.90	4.74
0.06″	0.03″	0.01″	22	7564K65	1.90	4.74
0.06″	0.04″	0.02″	20	7564K66	1.85	4.62
0.08″	0.05″	0.02″	18	7564K67	2.04	5.10
0.09″	0.06″	0.02″	16	7564K68	2.30	5.76
0.12″	0.07″	0.02″	14	7564K69	2.36	5.90
0.15″	0.09″	0.02″	12	7564K71	2.92	7.29
0.19″	0.11″	0.02″	10	7564K72	3.25	8.12
0.24″	0.14″	0.02″	8	7564K73	5.60	14.01
0.3″	0.18″	0.02″	6	7564K62	6.31	15.78
0.37″	0.22″	0.02″	4	7564K63	7.39	18.47
0.43″	0.28″	0.02″	2	7564K64	8.82	22.06

4 to 1 Shrink Ratio

- AMS (formerly MIL)-DTL-23053/12

Temperature range is –450° to 500°F.

ID Before Shrinking	ID After Shrinking	Wall Thick. After Shrinking		½ ft.	4 ft.
0.08″	0.03″	0.01″	75665K55	$2.56	$8.53
0.13″	0.04″	0.01″	75665K56	1.79	5.96
0.19″	0.05″	0.01″	75665K61	1.63	5.42
0.25″	0.06″	0.01″	75665K62	2.21	7.36
0.31″	0.08″	0.01″	75665K63	2.74	9.14
0.38″	0.1″	0.01″	75665K84	2.44	8.12
0.44″	0.11″	0.01″	75665K85	3.88	12.95
0.5″	0.14″	0.02″	75665K86	4.23	14.10
0.56″	0.16″	0.02″	75665K87	5.25	17.51
0.63″	0.18″	0.02″	75665K88	5.71	19.04
0.69″	0.2″	0.02″	75665K89	6.32	21.08
0.75″	0.22″	0.02″	75665K91	6.85	22.82
0.88″	0.24″	0.02″	75665K92	8.37	27.90
1″	0.28″	0.02″	75665K93	8.78	29.27

Moisture Seal

An adhesive lining melts when heated and bonds to the underlying surface to seal out moisture. Temperature range is –450° to 450°F.

ID Before Shrinking	ID After Shrinking	Shrink Ratio	Wall Thick. After Shrinking		½ ft.	4 ft.
0.07″	0″★			7960K21	$3.98	$19.23
0.19″	0.07″	2.7 to 1	0.02″	7960K22	6.90	39.50
0.24″	0.15″	1.6 to 1	0.02″	7960K23	8.86	51.45
0.35″	0.21″	1.7 to 1	0.03″	7960K24	11.49	68.99
0.48″	0.32″	1.5 to 1	0.03″	7960K25	22.38	141.96
0.7″	0.5″	1.4 to 1	0.04″	7960K26	29.35	188.46
1″	0.7″	1.4 to 1	0.05″	7960K27	49.69	308.87

★ Inner layers will melt together if no wire or object is present.

Snap-Closed Wrap-Around Sleeving



A row of snaps secures this sleeving, yet permits easy access to wires and allows you to route wires between the snaps. Sleeving is flexible and stays fastened in flexing applications. Made of flame-retardant PVC-coated polyester. Temperature range is 0° to 175°F. Color is gray.

ID	Wall Thick.		Per Ft. 1-99	Per Ft. 100-Up
½″	1/64″	9052T21	$9.18	$8.10
¾″	1/64″	9052T22	9.27	8.18
1″	1/64″	9052T23	9.96	8.78
1½″	1/64″	9052T24	10.78	9.51
2¾″	1/64″	9052T25	12.93	11.41
4″	1/64″	9052T26	14.44	12.75

Spiral Bundling Wrap



Use this flexible spiral wrap instead of tape or cable ties to bundle wire, tubing, and hose. Unlike tape, it's reusable and allows you to route wires between the spirals. It also provides abrasion resistance. Supplied on a spool.

Polyethylene—Resists solvents and is for indoor use. Temperature range is –75° to 190° F. UL recognized.

UV-Resistant Polyethylene—Resists solvents and is suitable for outdoor use in direct sunlight. Temperature range is –75° to 190° F. UL recognized.

Choose-a-Color Polyethylene—Use color to identify your bundles. This wrap resists solvents and is for indoor use. Temperature range is –75° to 190° F. UL recognized.

Self-Extinguishing Nylon—This lightweight wrap does not produce toxic fumes if exposed to an open flame or high temperatures, so it's suitable for enclosed areas. Temperature range is –40° to 250° F. UL recognized. The black wrap is UV resistant, so it withstands outdoor use in direct sunlight.

Harsh Environment PTFE—The best choice for demanding environments, this wrap has excellent chemical resistance and withstands extreme temperatures. Temperature range is –450° to 500° F. Meets UL 94V0 for flame retardance.

ID	Expanded ID	Wall Thick.	Choose a Color		10 ft.	25 ft.	50 ft.	100 ft.
Polyethylene								
1/16"	1/2"	1/32"	Clear	7432K36	$2.07	$4.77	$8.75	$15.90
3/16"	2"	1/32"	Clear	7432K37	3.25	7.50	13.76	25.01
5/16"	3"	1/16"	Clear	7432K38	4.99	11.53	21.13	38.42
3/8"	4"	1/16"	Clear	7432K39	6.47	14.92	27.36	49.74
1/2"	4 1/2"	1/16"	Clear	7432K47	10.43	24.08	44.14	80.26
3/4"	5"	1/16"	Clear	7432K46	11.82	27.29	50.03	90.96
1"	7"	3/32"	Clear	7432K48	17.70	40.84	74.87	136.13
1 1/2"	10"	3/32"	Clear	7432K49	44.20	81.04	147.35	—
UV-Resistant Polyethylene								
1/16"	1/2"	1/32"	Black	7432K69	2.27	5.25	9.62	17.50
3/16"	2"	1/32"	Black	7432K162	3.58	8.25	15.13	27.50
5/16"	3"	1/16"	Black	7432K63	5.49	12.67	23.23	42.23
3/8"	4"	1/16"	Black	7432K164	7.16	16.51	30.27	55.04
1/2"	4 1/2"	1/16"	Black	7432K66	11.48	26.49	48.57	88.30
3/4"	5"	1/16"	Black	7432K165	12.97	29.92	54.86	99.74
1"	7"	3/32"	Black	7432K67	18.58	42.88	78.62	142.95
1 1/2"	10"	3/32"	Black	7432K68	46.41	85.09	154.71	—
Choose-a-Color Polyethylene								
1/16"	1/2"	1/32"	Blue, Green, Orange, Red, White, Yellow	7378K41	3.57	8.24	15.11	27.48
3/16"	2"	1/32"	Blue, Green, Orange, Red, White, Yellow	7378K42	3.57	8.24	15.11	27.48
5/16"	3"	1/16"	Blue, Green, Orange, Red, White, Yellow	7378K43	5.50	12.68	23.25	42.27
3/8"	4"	1/16"	Blue, Green, Orange, Red, White, Yellow	7378K44	7.16	16.52	30.29	55.07
3/4"	5"	1/16"	Blue, Green, Orange, Red, White, Yellow	7378K45	11.96	27.60	50.60	92.00
1"	7"	3/32"	Blue, Green, Orange, Red, White, Yellow	7378K46	14.16	32.67	59.90	108.90
Self-Extinguishing Nylon								
1/16"	1/2"	1/32"	Black, Clear	7432K56	3.87	8.94	16.39	29.80
3/16"	2"	1/32"	Black, Clear	7432K57	6.10	14.07	25.79	46.89
5/16"	3"	1/32"	Black, Clear	7432K58	9.37	21.61	39.62	72.04
3/8"	4"	1/32"	Black, Clear	7432K59	12.20	28.16	51.62	93.86
1/2"	5"	1/32"	Black, Clear	7432K28	19.57	45.16	82.80	150.55
1"	7"	1/32"	Black, Clear	7432K29	22.18	51.19	93.85	170.63
Harsh Environment PTFE								
1/16"	1/2"	1/32"	Black, Translucent	7432K111	12.97	25.93	50.87	99.74
1/8"	1"	1/32"	Black, Translucent	7432K112	18.00	36.00	70.61	138.46
3/16"	2"	1/32"	Black, Translucent	7432K113	23.23	46.47	91.15	178.72
5/16"	3"	1/32"	Black, Translucent	7432K114	41.18	82.36	161.54	316.75
7/16"	4"	1/32"	Black, Translucent	7432K115	49.72	99.43	195.04	382.44
11/16"	6"	1/32"	Black, Translucent	7432K116	81.40	162.81	319.36	626.19
15/16"	8"	1/32"	Black, Translucent	7432K117	127.60	255.20	500.58	981.52

Wrap-Around Sleeving

A slit in this flexible sleeving allows you to bundle cable and wires without disconnecting them. Wrap the sleeving around items, yet have access to them along the entire length. Made of black polyester.

Braided



The sleeving wraps around itself to stay closed without an adhesive strip, cable ties, or special tools. It won't gap when flexed. Temperature range is –90° to 255° F. UL recognized and CSA certified.

ID	Wall Thick.	3-ft. Lengths		25-ft. Lengths	
1/8"	1/32"	1459T11	$1.78	1459T21	$11.44
1/4"	1/32"	1459T12	2.72	1459T22	17.44
1/2"	1/32"	1459T13	3.55	1459T23	22.78
3/4"	1/32"	1459T14	5.24	1459T24	33.56
1"	1/32"	1459T15	6.76	1459T25	43.33
1 1/2"	1/32"	1459T16	11.65	1459T26	74.67
2"	1/32"	1459T17	15.30	1459T27	98.09

Abrasion-Resistant Woven



Sleeving is tightly woven to provide better abrasion resistance than braided sleeving. It wraps around itself to stay closed without an adhesive strip, cable ties, or special tools. It is flame retardant and won't gap when flexed. Temperature range is –55° to 255° F. Meets ASTM E162.

ID	Wall Thick.	3-ft. Lengths	
3/16"	1/32"	2649K51	$5.68
5/16"	1/32"	2649K52	6.79
1/2"	1/32"	2649K53	8.29
3/4"	1/32"	2649K54	10.45
1"	1/32"	2649K55	13.97
1 1/2"	1/32"	2649K56	15.69

Braided with Hook-and-Loop Closure



Temperature range is –100° to 255° F. UL recognized and CSA certified.

ID	Wall Thick.	3-ft. Lengths		10-ft. Lengths		25-ft. Lengths		100-ft. Lengths	
1/2"	1/32"	70085K11	$7.76	70085K21	$21.54	70085K31	$44.87	70085K41	$161.53
3/4"	1/32"	70085K12	8.87	70085K22	24.61	70085K32	51.28	70085K42	184.61
1 1/4"	1/32"	70085K13	12.20	70085K23	33.84	70085K33	70.51	70085K43	253.84
2"	1/32"	70085K14	13.31	70085K24	36.92	70085K34	76.92	70085K44	276.91

Expandable Sleeving

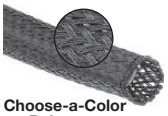

Choose-a-Color Polyester



Fray-Resistant Polyester



Thick-Wall Polyester



Heavy Duty Nylon

This sleeving expands for easy installation over wire, cable, or tubing; it then tightens around its contents for a secure fit. Sleeving is double braided to provide flexibility and permit heat and moisture dissipation. It also provides good resistance to abrasion and chemicals. Temperature range is –90° to 255° F, except heavy duty nylon has a temperature range of –75° to 300° F. All polyester sleeving is UL recognized and CSA certified.

Choose-a-Color Polyester—Use color to identify your bundles.

Fray-Resistant Polyester—Has tighter braiding than other sleeving to resist fraying when cut with scissors.

Thick-Wall Polyester—Braided from strands that are 50% thicker than strands in other polyester sleeving for better resistance to cuts and abrasion. Use to protect wire, cable, and tubing that comes in contact with rough surfaces.

Heavy Duty Nylon—Braided with flat, thick strands for excellent abrasion resistance. Use for hose, wire, cable, and tubing that is constantly in contact with rough surfaces.

ID	Expanded ID	Wall Thick.	3-ft. Lengths		10-ft. Lengths		Standard Spools Lg., ft.			Jumbo Spools Lg., ft.		
Choose-a-Color Polyester—Choose black, blue, green, orange, red, white, or yellow												
1/8"	1/4"	1/32"			9284K1	$2.08	100	9284K11	$16.01	500	9284K21	$68.84
1/4"	7/16"	1/32"			9284K2	2.31	100	9284K12	17.79	500	9284K22	76.50
3/8"	1/2"	1/32"			9284K3	3.69	50	9284K13	14.18	500	9284K23	121.95
1/2"	3/4"	1/32"			9284K4	4.89	50	9284K14	18.82	500	9284K24	161.85
3/4"	1 1/4"	1/32"			9284K5	7.15	50	9284K15	27.50	250	9284K25	118.25
1 1/4"	1 3/4"	1/32"			9284K6	10.16	50	9284K16	39.08	250	9284K26	168.04
1 1/2"	2 1/8"	1/32"			9284K7	11.25	50	9284K17	46.89	200	9284K27	168.80
1 3/4"	2 3/4"	1/32"			9284K8	15.11	50	9284K18	62.96	200	9284K28	226.66
2"	3 1/2"	1/32"			9284K9	15.72	50	9284K19	65.48	200	9284K29	235.73
Fray-Resistant Polyester—Color is black												
1/8"	1/4"	1/32"			2837K11	2.99	100	2837K21	23.02	1,000	2837K41	195.67
1/4"	7/16"	1/32"			2837K12	3.66	100	2837K22	28.14	1,000	2837K42	239.19
3/8"	5/8"	1/32"			2837K13	5.65	50	2837K31	21.74	500	2837K51	184.79
1/2"	3/4"	1/32"			2837K14	6.32	50	2837K32	24.30	500	2837K52	206.55
3/4"	1"	1/32"			2837K15	7.98	50	2837K33	30.70	250	2837K61	138.15
1"	1 3/16"	1/32"			2837K16	8.98	50	2837K34	34.53	250	2837K62	155.38
1 1/4"	1 1/2"	1/32"			2837K17	11.31	50	2837K35	43.49	250	2837K63	195.71
1 1/2"	2"	1/32"			2837K18	14.30	50	2837K36	55.00	250	2837K64	247.50
Thick-Wall Polyester—Color is black												
3/8"	3/4"	1/32"	9142K31	$2.22	9142K1	6.21	100	9142K11	51.73	500	9142K21	231.23
5/8"	7/8"	1/32"	9142K32	3.22	9142K2	9.03	75	9142K12	56.41	250	9142K22	159.64
1"	1 1/2"	1/32"	9142K33	4.27	9142K3	11.91	50	9142K13	49.64	250	9142K23	210.97
1 1/2"	2"	1/32"	9142K34	5.34	9142K4	14.89	50	9142K14	62.05	250	9142K24	263.71
2"	3"	1/32"	9142K35	9.70	9142K5	27.08	50	9142K15	112.82	200	9142K25	383.59
3"	4"	1/32"	9142K36	11.64	9142K6	32.49	50	9142K16	135.38	100	9142K26	230.15
4"	5 1/2"	1/32"	9142K37	14.25	9142K7	39.77	50	9142K17	165.71	100	9142K27	281.71
Heavy Duty Nylon—Color is black												
1/2"	5/8"	1/16"	9337K1	3.97	9337K6	11.07	100	9337K12	92.22			
3/4"	1"	1/16"	9337K2	5.36	9337K7	14.96	50	9337K13	62.33			
1 1/4"	1 1/2"	1/16"	9337K4	7.33	9337K9	20.45	50	9337K15	85.22			
1 3/4"	2"	1/16"	9337K5	9.76	9337K11	27.07	25	9337K16	56.40			

Flame-Retardant Expandable Sleeving



Reduce the threat of flame spread from wire, cable, and tubing bundles. Sleeving expands for easy installation and then tightens around its contents. It's braided to provide flexibility and permit heat and moisture dissipation. Color is black with a white strand.

Standard—Made of braided polyester. Temperature range is –90° to 255° F. Flame rated VW-1 and FR1. Meets MIL-STD-202 for flammability. UL recognized and CSA certified.

Duct Rated—Suitable for use in plenum (air-handling) spaces, duct-work, and other confined spaces. Sleeving is self-extinguishing and emits minimal amounts of smoke and toxic gases during combustion. It resists corrosive chemicals and organic solvents. Made of braided Halar (ECTFE). Temperature range is –90° to 300° F. UL 2024 and NFPA 262 rated for use in plenums. Flame rated VW-1.

ID	Expanded ID	Wall Thick.	Lengths, ft.		Per Ft. 1-49	50-Up
Standard						
1/8"	1/4"	1/32"	10, 25, 50, 100	9196K11	$0.23	$0.19
1/4"	7/16"	1/32"	10, 25, 50, 100	9196K12	.24	.20
3/8"	5/8"	1/32"	10, 25, 50	9196K13	.47	.39
1/2"	3/4"	1/32"	10, 25, 50	9196K14	.58	.48
3/4"	1 1/4"	1/32"	10, 25, 50	9196K15	.86	.72
1 1/4"	1 3/4"	1/32"	10, 25, 50	9196K16	1.22	1.02
1 1/2"	2 1/2"	1/32"	10, 25, 50	9196K17	1.57	1.31
1 3/4"	2 3/4"	1/32"	5, 10, 25, 50	9196K18	2.11	1.76
2"	3 1/2"	1/32"	5, 10, 25, 50	9196K19	2.52	2.10
Duct Rated						
1/4"	1/2"	1/32"	10, 25, 50, 100	9344K2	.89	.70
1/2"	3/4"	1/32"	5, 10, 25, 50	9344K4	2.39	1.90
3/4"	1 1/4"	1/32"	5, 10, 25, 50	9344K5	3.53	2.82
1 1/4"	1 3/4"	1/32"	5, 10, 25, 50	9344K6	5.37	4.32
1 3/4"	2 1/2"	1/32"	5, 10, 25, 50	9344K7	7.42	6.01
2"	3"	1/32"	5, 10, 25, 50	9344K8	8.09	6.58

Abrasion-Resistant Sleeving

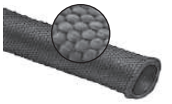

Tightly woven nylon fibers create abrasion-resistant sleeving that offers more protection as it wears; the worn fibers frizz and make the outer wall thicker. The interior is smooth to reduce snags during installation over hose, cable, chains, or springs. Temperature range is –40° to 250° F. Color is black. MSHA (Mine Safety and Health Administration) approved.

ID	Wall Thick.	Lengths, ft.		Per Ft. 1-99	100-Up
3/4"	3/32"	10, 25, 50, 100	55545K69	$0.90	$0.73
7/8"	3/32"	10, 25, 50, 100	55545K71	1.00	.82
1"	3/32"	10, 25, 50, 100	55545K72	1.05	.86
1 1/8"	3/32"	10, 25, 50, 100	55545K73	1.12	.92
1 1/4"	3/32"	10, 25, 50, 100	55545K75	1.15	.94
1 1/2"	3/32"	10, 25, 50, 100	55545K79	1.29	1.06
1 5/8"	3/32"	10, 25, 50, 100	55545K81	1.33	1.10
1 3/4"	3/32"	10, 25, 50, 100	55545K83	1.40	1.16
1 7/8"	3/32"	10, 25, 50, 100	55545K85	1.55	1.27
2 1/16"	3/32"	10, 25, 50, 100	55545K87	1.60	1.31
2 1/4"	3/32"	5, 10, 25, 50, 100	55545K89	1.80	1.49
2 5/8"	3/32"	5, 10, 25, 50, 100	55545K92	2.16	1.79
2 15/16"	3/32"	5, 10, 25, 50, 100	55545K94	2.80	2.32
3 11/16"	3/32"	5, 10, 25, 50, 100	55545K96	3.05	2.53

Abrasion-Resistant Wrap



Apply this wrap to hose or cable to protect against abrasion and extend service life, especially where hose and cable are in motion. Secure the ends with the included tape. Made of 1" Wd. x 1/8" thick neoprene rubber. Temperature range is –20° to 200° F. Color is black.

3-ft. Roll	9043T41	$10.40
6-ft. Roll	9043T42	19.30

Zippered Sleeving

Wrap this nylon sleeving around your wire and cable bundles and zip it closed. The nylon provides abrasion resistance, and the zipper allows quick access to contents. Use to protect cables that come in contact with rough surfaces or are dragged across shop floors, such as welding cables. Max. temperature is 300° F. Color is black.



ID	Wall Thick.	10-ft. Lengths		22-ft. Lengths	
15/16"	1/32"	9500T11	$28.66	9500T12	$49.55
1 5/16"	1/32"	9500T13	36.84	9500T14	57.96

Super-Abrasion-Resistant Expandable Metal Sleeving

Strong yet flexible, this braided metal sleeving protects wire, cable, and hose from abrasion. The sleeving expands for installation over irregularly shaped items; pull it tight around its contents for a secure fit. Cut with sheet metal snips (see page 2364).

Interference Shielding—Made of copper to protect wire and cable signals from electrical noise and electromagnetic interference (EMI).

Corrosion Resistant—Made of stainless steel.

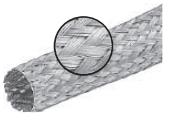

ID	Expanded ID	Wall Thick.	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Interference Shielding						
1/4"	5/16"	1/32"	10, 25, 50, 100	5537K26	$1.34	$1.05
3/8"	7/16"	1/32"	10, 25, 50, 100	5537K14	1.45	1.14
1/2"	9/16"	1/32"	5, 10, 25, 50, 100	5537K27	2.05	1.61
25/32"	7/8"	1/32"	5, 10, 25, 50, 100	5537K28	3.00	2.36
1"	1 1/8"	1/16"	5, 10, 25, 50, 100	5537K32	4.40	3.46
1 1/8"	1 1/4"	1/16"	5, 10, 25, 50, 100	5537K33	5.32	4.18
1 1/4"	1 3/8"	1/16"	5, 10, 25, 50, 100	5537K34	5.59	4.39
1 1/2"	1 5/8"	1/16"	5, 10, 25, 50, 100	5537K36	7.05	5.54
Corrosion Resistant						
1/4"	5/16"	1/32"	5, 10, 25, 50, 100	1478T1	2.10	1.63
3/8"	7/16"	1/32"	5, 10, 25, 50, 100	1478T2	2.19	1.70
1/2"	9/16"	1/32"	5, 10, 25, 50, 100	1478T3	2.86	2.22
25/32"	7/8"	1/32"	5, 10, 25, 50, 100	1478T4	4.10	3.19
1"	1 1/8"	1/16"	5, 10, 25, 50, 100	1478T5	5.24	4.07
1 1/8"	1 1/4"	1/16"	5, 10, 25, 50, 100	1478T6	6.43	5.00
1 1/4"	1 3/8"	1/16"	5, 10, 25, 50, 100	1478T7	6.76	5.26
1 1/2"	1 5/8"	1/16"	5, 10, 25, 50, 100	1478T8	7.38	5.74

High-Temperature Chemical-Resistant Expandable Sleeving

Use this braided sleeving for superior protection from chemicals, even in extreme temperatures. It also resists salt water for use in marine applications. Sleeving expands for installation over irregularly shaped items. Temperature range is –90° to 480° F.

High-Flex PEEK—Has open weave construction to offer flexibility and resist trapping water, heat, and humidity. Use to protect cable assemblies, hose, and wire harnesses from abrasion, chafing, and cutting. Color is black. Flame rated VW-1.

Heavy Duty PTFE—This is the toughest expandable sleeving we offer. With thicker strands than PEEK sleeving, PTFE has better resistance to abrasion and chemicals. Color is clear.



High-Flex PEEK

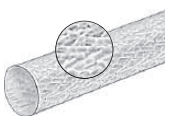

Heavy Duty PTFE

ID	Expanded ID	Wall Thick.	Lengths, ft.		Per Ft. 1-49	Per Ft. 50-Up
High-Flex PEEK						
1/4"	1/2"	1/32"	10, 25, 50, 100	2656K11	$2.05	$1.56
1/2"	7/8"	1/32"	5, 10, 25, 50	2656K12	6.21	4.72
3/4"	1 1/8"	1/32"	5, 10, 25, 50	2656K13	9.00	6.84
1 1/4"	1 3/4"	1/32"	5, 10, 25, 50	2656K14	12.76	9.70
1 3/4"	2 1/2"	1/32"	5, 10, 25, 50	2656K15	18.55	14.10
2 1/2"	3"	1/32"	5, 10, 25, 50	2656K16	22.08	16.78
Heavy Duty PTFE						
1/4"	5/16"	1/32"	10, 25, 50, 100	1398T1	2.62	2.03
1/2"	3/4"	1/32"	5, 10, 25, 50	1398T3	9.10	7.28
3/4"	1"	1/32"	5, 10, 25, 50	1398T4	10.09	8.08
1"	1 1/4"	1/32"	5, 10, 25, 50	1398T5	13.34	10.67
1 1/4"	1 1/2"	1/32"	5, 10, 25, 50	1398T6	14.20	11.37

Ballistic Nylon Wrap-Around Sleeving

Tightly woven ballistic nylon has the toughness of metal, yet remains flexible. A heavy duty hook-and-loop closure makes it easy to install and access items. Temperature range is –60° to 200° F. Color is black. Max. continuous length is 25 ft.



ID	Wall Thick.		Per Ft. 1-24	Per Ft. 25-Up
1 1/2"	1/32"	7257K2	$5.69	$4.34
2 1/2"	1/32"	7257K4	7.21	5.50
3 1/2"	1/32"	7257K6	10.34	7.89
4 1/2"	1/32"	7257K8	10.97	8.37

Chemical-Resistant Tube Sleeving

Sleeving is made of PVC to resist many chemicals, oils, and acids. It acts as an additional layer of insulation to protect wire and cable from heat and abrasion. Temperature range is 0° to 220° F. Color is black. UL listed, UL 224, and flame rated VW-1.



ID	For Wire Size	Wall Thick.	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
0.022"	24 ga.	0.012"	10, 25, 50, 100	1508T11	$0.23	$0.18
0.027"	22 ga.	0.012"	10, 25, 50, 100	1508T12	.23	.18
0.034"	20 ga.	0.016"	10, 25, 50, 100	1508T13	.23	.18
0.04"	18 ga.	0.016"	10, 25, 50, 100	1508T14	.24	.18
0.05"	16 ga.	0.016"	10, 25, 50, 100	1508T15	.25	.20
0.07"	14 ga.	0.016"	10, 25, 50, 100	1508T16	.26	.20
0.09"	12 ga.	0.016"	10, 25, 50, 100	1508T17	.26	.20
0.11"	10 ga.	0.016"	10, 25, 50, 100	1508T18	.27	.21
0.13"	8 ga.	0.02"	10, 25, 50, 100	1508T19	.30	.23
0.17"	6 ga.	0.02"	10, 25, 50, 100	1508T21	.31	.24
0.19"	5 ga.	0.02"	10, 25, 50, 100	1508T22	.32	.26
0.21"	4 ga.	0.02"	10, 25, 50, 100	1508T23	.35	.27
0.23"	3 ga.	0.02"	10, 25, 50, 100	1508T24	.36	.28
0.25"	1/4"	0.02"	10, 25, 50, 100	1508T25	.38	.28
0.26"	2 ga.	0.02"	10, 25, 50, 100	1508T26	.36	.28
0.29"	1 ga.	0.02"	10, 25, 50, 100	1508T27	.38	.29
0.31"	5/16"	0.025"	10, 25, 50, 100	1508T28	.39	.30
0.33"	1/0 ga.	0.025"	10, 25, 50, 100	1508T29	.47	.37
0.38"	3/8"	0.025"	10, 25, 50, 100	1508T31	.47	.37
0.44"	7/16"	0.025"	10, 25, 50, 100	1508T32	.48	.38
0.5"	1/2"	0.025"	10, 25, 50, 100	1508T33	.53	.41
0.56"	9/16"	0.03"	10, 25, 50, 100	1508T34	.57	.44
0.63"	5/8"	0.03"	10, 25, 50, 100	1508T35	.68	.53
0.75"	3/4"	0.035"	10, 25, 50, 100	1508T36	.93	.72
1"	1"	0.035"	10, 25, 50, 100	1508T37	1.28	.99
1.5"	1 1/2"	0.045"	10, 25, 50	1508T38	2.01	1.55
2"	2"	0.06"	10, 25, 50	1508T39	3.10	2.41

High-Temperature Chemical-Resistant Tube Sleeving

Also known as spaghetti tubing because of its small diameter and flexibility, this PTFE sleeving resists acids and solvents. It has a smooth, friction-resistant surface. Temperature range is –450° to 500° F. Color is white. Meets AMS 3655 and UL 94V0 for flame resistance. UL recognized and CSA certified.



ID	For Wire Gauge	Wall Thick.	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
0.012"	30	0.009"	10, 25, 50, 100	5335K9	$0.16	$0.13
0.015"	28	0.009"	10, 25, 50, 100	5335K11	.16	.14
0.022"	24	0.01"	10, 25, 50, 100	5335K12	.16	.14
0.034"	20	0.012"	10, 25, 50, 100	5335K13	.25	.21
0.038"	19	0.012"	10, 25, 50, 100	5335K14	.28	.24
0.047"	17	0.012"	10, 25, 50, 100	5335K15	.32	.27
0.053"	16	0.012"	10, 25, 50, 100	5335K16	.35	.29
0.066"	14	0.012"	10, 25, 50, 100	5335K17	.40	.34
0.076"	13	0.012"	10, 25, 50, 100	5335K18	.45	.38
0.095"	11	0.012"	10, 25, 50, 100	5335K19	.56	.47
0.106"	10	0.012"	10, 25, 50, 100	5335K21	.60	.50
0.133"	8	0.015"	10, 25, 50, 100	5335K22	.96	.81
0.166"	6	0.015"	10, 25, 50, 100	5335K23	1.16	.98
0.208"	4	0.015"	10, 25, 50, 100	5335K24	1.44	1.22

Chemical-Resistant Wrap-Around Sleeving



A vinyl coating gives this polyester sleeving resistance to mild chemicals, solvents, and abrasion. Sleeving wraps around cable and wire bundles, so you don't have to disconnect them. Permanently secure with the adhesive strip. Temperature range is –40° to 180°F. Color is black. UL recognized, UL 224, and flame rated VW-1. Meets MIL-C-43006E, Type II, Class 1. Max. continuous length is 25 ft.

ID	Wall Thick.		Per Ft. 1-24	Per Ft. 25-Up
3/8"	1/32"	7946K51	$12.37	$10.72
1/2"	1/32"	7946K52	11.85	10.27
1"	1/32"	7946K53	11.80	10.62
1 1/2"	1/32"	7946K54	13.47	11.79
2"	1/32"	7946K55	13.33	11.55

Interference-Shielding Wrap-Around Sleeving



Interior shielding protects cable and wire bundles from electromagnetic interference (EMI). Sleeving is polyurethane and has good resistance to abrasion and excellent resistance to solvents. It has a sewn-in grounding strap to dissipate any stored charge. You can wrap this sleeving around cable and wires without disconnecting them. Permanently secure with the adhesive strip. Color is black. Max. continuous length is 25 ft.

Standard—Use in stationary applications to prevent damage to the interior foil shielding. Temperature range is –65° to 225°F. UL recognized, UL 224, and flame rated VW-1.

Continuous Flex—Interior is highly flexible conductive cloth. Use in robotics and other automated applications. Temperature range is –45° to 220°F.

		Standard			Continuous Flex		
ID	Wall Thick.		Per Ft. 1-24	Per Ft. 25-Up		Per Ft. 1-24	Per Ft. 25-Up
3/8"	1/32"	7940K31	$36.56	$31.68	7940K41	$42.87	$37.15
1/2"	1/32"	7940K32	35.72	32.15	7940K42	44.79	38.82
1"	1/32"	7940K33	41.32	36.25	7940K43	50.84	44.60
1 1/2"	1/32"	7940K34	43.76	38.39	7940K44	52.58	45.57
2"	1/32"	7940K35	44.44	38.52	7940K45	56.25	48.75

Interference-Shielding High-Flex Wrap-Around Sleeving



Copper filaments woven into flexible polyester fabric provide protection from electromagnetic interference (EMI). A ground wire is also woven into the fabric to dissipate any stored charge. Use this abrasion-resistant sleeving to bundle cable and wires without disconnecting them. The sleeving wraps around itself to stay closed without an adhesive strip, cable ties, or special tools. Temperature range is –75° to 300°F. Color is black. Max. continuous length is 50 ft.

ID	Wall Thick.		Per Ft. 1-49	Per Ft. 50-Up
3/16"	1/32"	6971T11	$2.70	$2.33
5/16"	1/32"	6971T12	4.08	3.51
1/2"	1/32"	6971T13	4.84	4.16
3/4"	1/32"	6971T14	5.65	4.86
1"	1/32"	6971T15	6.81	5.86
1 1/4"	1/32"	6971T16	8.35	7.19
1 1/2"	1/32"	6971T17	9.00	7.74

High-Temperature Mica Wrap



Withstanding temperatures up to 2100°F, this nonadhesive wrap is made of heat-resistant mica paper bonded to glass cloth and infused with silicone to provide a fire barrier. It works well as a protective wrap for wire and cable. When wrapping, it should overlap half of its width. Wrap is 0.005" thick. Color is silver.

Wd.	15-ft. Lengths		100-ft. Lengths	
1/2"	6811A21	$2.76	6811A11	$10.60
1"	6811A22	5.38	6811A12	20.68
2"	6811A23	10.75	6811A13	41.34
3"	6811A24	16.08	6811A14	61.84

High-Temperature Sleeving

Made of fiberglass to withstand the high heat that plastic cannot.

Uncoated 1000°F



The sleeving is braided and resists alkalies, water, solvents, and oil. Use for general long-term heat protection. Temperature range is –40° to 1000°F. Color is white.

ID	Wall Thick.		5 ft.	10 ft.	25 ft.	50 ft.	100 ft.
1/16"	1/16"	7324T11	$3.08	$4.24	$7.51	$12.52	$19.26
1/8"	1/16"	7324T12	3.98	5.82	11.03	18.38	30.63
3/16"	1/16"	7324T13	3.99	5.83	11.05	18.41	30.69
1/4"	1/16"	7324T14	4.05	5.92	11.21	18.69	31.15
5/16"	1/16"	7324T15	4.53	6.61	12.53	20.89	34.81
3/8"	1/16"	7324T16	4.55	6.65	12.60	21.00	35.00
1/2"	1/16"	7324T17	5.13	7.47	15.40	28.00	46.67
5/8"	1/16"	7324T18	5.20	8.32	17.16	31.20	52.00
3/4"	1/16"	7324T19	5.36	8.57	17.68	32.14	53.57
1"	1/16"	7324T21	6.15	9.99	23.06	42.28	76.88
1 1/4"	1/16"	7324T22	6.30	10.24	23.62	43.31	78.75
1 1/2"	1/16"	7324T23	7.90	14.67	33.86	62.08	112.88
2"	1/16"	7324T24	8.85	16.43	37.91	69.50	126.37
3"	1/16"	7324T25	10.54	19.57	45.15	82.78	150.50

Coated 1200°F

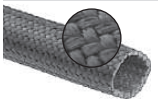

Sleeving is braided from fiberglass that is heat-treated and coated with high-temperature resins. It resists abrasion, chemicals, solvents, and oil. Use where toughness and durability are essential in high-temperature, physically abrasive applications. Temperature range is –90° to 1200°F. Color is black. UL recognized.

ID	Wall Thick.		5 ft.	10 ft.	25 ft.	50 ft.	100 ft.
3/8"	1/16"	8760T21	$7.66	$15.31	$38.28	$76.56	$127.60
1/2"	1/16"	8760T22	10.96	21.91	54.78	109.56	182.60
5/8"	1/16"	8760T23	12.28	24.55	61.38	122.76	204.60
3/4"	1/16"	8760T24	14.65	29.30	73.26	146.52	244.20
7/8"	1/16"	8760T25	15.84	31.68	79.20	158.40	264.00
1"	1/16"	8760T26	18.67	37.33	93.34	186.67	311.12

Heavy Duty 1400°F

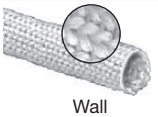

This tightly knitted sleeving resists most acids (excluding hydrofluoric), alkalies, oil, grease, ammonia, and detergents. Temperature range is –50° to 1400°F. Color is white.

ID	Wall Thick.		1 ft.	5 ft.	10 ft.	25 ft.	50 ft.
1/2"	1/16"	8637T51	$5.86	$26.27	$47.85	$108.75	$167.31
3/4"	1/16"	8637T52	9.25	41.48	75.57	171.75	264.23
1"	1/16"	8637T53	10.46	46.92	85.47	194.25	298.85
1 1/2"	1/16"	8637T54	19.34	86.77	158.07	359.25	552.69
1 3/4"	1/16"	8637T55	20.56	92.20	167.96	381.74	587.29
2"	1/16"	8637T56	22.13	99.27	180.84	411.00	632.31

High-Temperature Expandable Sleeving



Protection from temperatures up to 1000°F is combined with the ability to accommodate irregularly shaped objects. Sleeving is fiberglass and resists burning. Use to protect hose and cable located near ovens and furnaces. Temperature range is –60° to 1000°F. Color is beige.

Standard sleeving is more flexible than abrasion-resistant sleeving.

Abrasion-resistant sleeving has an acrylic coating to add rigidity and minimize fraying.

ID	Expanded ID	Wall Thick.		10 ft.	25 ft.	50 ft.	100 ft.
Standard							
1/4"	3/8"	1/32"	8994T11	$8.23	$19.51	$37.24	$70.93
3/8"	1/2"	1/32"	8994T12	12.40	29.39	56.11	106.88
1/2"	3/4"	1/32"	8994T13	18.65	44.22	84.43	160.81
5/8"	1"	1/16"	8994T14	24.65	58.43	111.56	212.49
3/4"	1 1/4"	1/16"	8994T15	31.04	73.60	140.50	267.62
1"	1 3/4"	1/16"	8994T16	43.20	102.42	195.54	372.45
1 1/2"	2 1/4"	1/16"	8994T17	62.41	147.96	282.46	538.02
Abrasion Resistant							
1/4"	3/8"	1/32"	8994T21	8.94	21.20	40.47	77.09
3/8"	1/2"	1/32"	8994T22	13.48	31.95	61.00	116.19
1/2"	3/4"	1/32"	8994T23	20.28	48.07	91.76	174.79
5/8"	1"	1/16"	8994T24	26.79	63.51	121.25	230.95
3/4"	1 1/4"	1/16"	8994T25	33.74	79.99	152.72	290.89
1"	1 3/4"	1/16"	8994T26	46.96	111.33	212.54	404.84
1 1/2"	2 1/4"	1/16"	8994T27	67.84	160.82	307.02	584.80

Ultra-High-Temperature Silica Sleeving



Silica sleeving withstands higher temperatures than fiberglass and resists open flame and molten metal splash. Color is white. Max. continuous length is 50 ft.

1800° F— Has 96% silica content and braided continuous fibers for superior strength and abrasion resistance. The sleeving is coated to aid in installation; the coating then decomposes when used in high-temperature applications. Sleeving resists acids, grease, alcohol, solvents, and petroleum. Temperature range is –100° to 1800° F.

2300° F— Sleeving is braided and has 98% silica content. It resists alkalies, water, detergents, petroleum, UV light, and salt. Temperature range is –40° to 2300° F.

ID	Wall Thick.		Per Ft. 1-49	Per Ft. 50-Up
1800° F				
1/4"	3/32"	8829K87	$2.54	$2.11
1/2"	3/32"	8829K81	4.06	3.38
1"	3/32"	8829K82	5.56	4.63
1 1/2"	3/32"	8829K83	8.04	6.70
2"	3/32"	8829K84	9.44	7.87
3"	3/32"	8829K85	12.32	10.27
4"	3/32"	8829K86	14.98	12.48
6"	3/32"	8829K88	19.74	16.45
2300° F				
3/8"	1/8"	88155K61	5.51	4.66
1/2"	1/8"	88155K62	5.71	4.83
5/8"	1/8"	88155K63	5.93	5.02
3/4"	1/8"	88155K64	6.55	5.54
7/8"	1/8"	88155K65	7.98	6.75
1"	1/8"	88155K66	8.13	6.88
1 1/4"	1/8"	88155K67	8.38	7.09
1 1/2"	1/8"	88155K68	8.76	7.42
1 3/4"	1/8"	88155K69	10.11	8.55
2"	1/8"	88155K71	10.31	8.72
2 1/2"	1/8"	88155K72	14.80	12.52
3"	1/8"	88155K73	15.78	13.35

High-Temperature Abrasion-Resistant Sleeving



Made from a mix of Kevlar and fiberglass, this braided sleeving delivers strength, flexibility, and better abrasion resistance than plain fiberglass and silica. It also resists acids, alkalies, and flame. Wall thickness is 1/16". Maximum temperature is 650° F. Color is light yellow.

ID		1 ft.	5 ft.	10 ft.	25 ft.	50 ft.	100 ft.
650° F							
1/4"	8622T11	$2.72	$7.47	$14.95	$37.37	$74.75	$135.90
3/8"	8622T12	4.47	12.29	24.57	61.44	122.87	223.40
1/2"	8622T13	5.21	14.33	28.65	71.63	143.26	260.47
5/8"	8622T14	5.86	16.12	32.23	80.58	161.16	293.02
3/4"	8622T15	6.22	17.11	34.22	85.56	171.11	311.11
7/8"	8622T16	6.80	18.70	37.40	93.50	187.00	340.00
1"	8622T17	7.56	20.79	41.58	103.95	207.90	378.00
1 1/4"	8622T18	8.28	22.77	45.54	113.85	227.70	414.00
1 1/2"	8622T19	9.52	26.18	52.36	130.90	261.80	476.00
1 3/4"	8622T21	13.46	37.02	74.04	185.10	370.19	673.08
2"	8622T22	14.41	39.62	79.24	198.10	396.20	720.37

Spark-Resistant Wrap-Around Sleeving



Protect cable, hose, and wire from sparks and molten metal splash, plus have the accessibility of a heavy duty hook-and-loop closure. Sleeving is braided fiberglass with a silicone rubber coating. It resists hydraulic fuels and lubricating oils. Temperature range is –65° to 500° F. Color is orange. Max. continuous length is 50 ft.

ID	Wall Thick.		Per Ft.	ID	Wall Thick.		Per Ft.
7/8"	5/32"	8266K11	$12.60	2"	5/32"	8266K16	$19.10
1"	5/32"	8266K12	13.29	2 1/4"	5/32"	8266K17	22.74
1 1/4"	5/32"	8266K13	14.05	2 1/2"	5/32"	8266K18	24.64
1 1/2"	5/32"	8266K14	15.40	3"	5/32"	8266K19	25.69
1 3/4"	5/32"	8266K15	17.45	3 1/2"	5/32"	8266K21	26.21

Ultra-High-Temperature Ceramic Sleeving



Ceramic sleeving will not burn and it won't irritate your skin like fiberglass and silica. It resists abrasion, molten metal splash, acids, alkalies, alcohol, solvents, and petroleum. Sleeving expands slightly to aid installation. Color is white. Meets MIL-I-24244B.

1100° F— Woven from calcium aluminum silicate.

2600° F— Woven from alumina, boria, and silica fibers. It has better strength and flexibility at extreme temperatures than the 1100° F sleeving.

1100° F

ID	Wall Thick.		3 ft.	10 ft.	25 ft.	100 ft.
1/8"	1/16"	88175K31	$3.62	$12.07	$24.14	$80.46
1/4"	1/16"	88175K32	3.89	12.97	25.95	86.49
3/8"	1/16"	88175K33	3.79	12.62	25.24	84.12
1/2"	1/16"	88175K34	4.33	14.44	28.88	96.27
3/4"	1/16"	88175K35	8.55	28.50	57.01	190.02
1"	1/16"	88175K36	10.14	33.80	67.60	225.33
1 1/2"	1/16"	88175K37	13.62	45.39	90.78	302.60
2"	1/16"	88175K38	18.89	62.95	125.91	419.70

2600° F

ID	Wall Thick.		1 ft.	3 ft.	5 ft.	10 ft.
1/16"	1/32"	87675K1	$10.77	$25.84	$39.48	$71.78
1/8"	1/32"	87675K2	15.93	38.23	58.41	106.20
1/4"	1/32"	87675K3	23.29	55.90	85.40	155.27
1/2"	1/32"	87675K4	33.52	80.44	122.89	223.44
1"	1/32"	87675K5	60.66	145.59	222.44	404.43

Spark-Resistant Sleeving



A coating of silicone rubber gives this fiberglass sleeving the ability to shed sparks and molten metal splash. It also prevents fraying and resists hydraulic fuels and lubricating oils. Exposure to a torch will char the coating, but won't scorch the fiberglass inner layer. Temperature range is –65° to 500° F. Color is orange. Max. continuous length is 50 ft.

Standard— Sleeving is knitted.

High Performance— Sleeving is braided with thicker and denser fiberglass than standard sleeving for greater strength and abrasion resistance. It withstands short-term flame exposure up to 2000° F. Flame rated VW-1. C-UL listed.

ID	Wall Thick.		Per Ft. 1-49	Per Ft. 50-Up
Standard				
1/4"	5/32"	8772K51	$3.10	$2.48
3/8"	5/32"	8772K52	3.25	2.60
1/2"	5/32"	8772K54	4.36	3.56
5/8"	5/32"	8772K56	4.55	3.70
3/4"	5/32"	8772K58	5.05	4.11
7/8"	5/32"	8772K11	6.14	5.00
1"	5/32"	8772K61	6.55	5.33
1 1/4"	5/32"	8772K63	7.77	6.33
1 1/2"	5/32"	8772K65	9.00	7.33
1 3/4"	5/32"	8772K12	10.59	8.63
2"	5/32"	8772K69	12.23	9.96
2 1/4"	5/32"	8772K13	13.45	10.96
2 1/2"	5/32"	8772K73	14.23	11.59
2 3/4"	5/32"	8772K14	15.74	12.93
3"	5/32"	8772K77	19.22	15.79
3 1/2"	5/32"	8772K15	21.33	17.29
4"	5/32"	8772K16	27.83	22.57
High Performance				
1/4"	5/32"	6172T11	3.27	2.67
3/8"	5/32"	6172T12	4.05	3.30
1/2"	5/32"	6172T13	4.86	3.96
5/8"	5/32"	6172T14	5.59	4.56
3/4"	5/32"	6172T15	6.82	5.56
1"	5/32"	6172T16	8.41	6.85
1 1/4"	5/32"	6172T17	9.12	7.41
1 1/2"	5/32"	6172T18	9.57	7.88
2"	5/32"	6172T19	11.89	9.79
2 1/2"	5/32"	6172T21	15.57	12.62
3"	5/32"	6172T22	19.73	16.00

Heat-Dissipating Sleeving



Reduce the outer temperature of hot hoses and pipes to protect personnel. This thick, braided fiberglass sleeving has a silicone rubber coating that allows heat to dissipate. It can reduce the outer temperature of a 380° F steam hose to 130° F. Use with hose and pipe operating up to 600° F. Also for use with cable and tubing. Ambient temperature range is –65° to 500° F. Color is blue. Maximum continuous length is 50 ft.

ID	Wall Thick.		Per Ft. 1-49	50-Up
1/2"	7/32"	7569K11	$3.98	$3.18
3/4"	7/32"	7569K12	4.90	3.92
1"	7/32"	7569K13	5.95	4.76
1 1/4"	7/32"	7569K14	6.92	5.54
1 1/2"	7/32"	7569K15	7.40	5.92
1 3/4"	7/32"	7569K16	8.32	6.66
2"	7/32"	7569K17	8.92	7.14
2 1/2"	7/32"	7569K18	13.25	10.60
3"	7/32"	7569K19	20.05	16.04
3 1/2"	7/32"	7569K21	22.72	18.18

Heat-Reflective Wrap-Around Sleeving



Woven fiberglass is laminated with aluminum foil to reflect heat in ambient temperatures up to 390° F. The foil on this sleeving also prevents electromagnetic interference (EMI) and has good fluid and chemical resistance. Wrap sleeving around cable and wires without disconnecting them and permanently secure with the adhesive strip. Temperature range is –40° to 390° F. Meets ASTM D350 requirements as self extinguishing.

ID	Wall Thick.		3-ft. Lengths
3/8"	1/32"	2627K31	$10.74
1/2"	1/32"	2627K32	12.63
3/4"	1/32"	2627K33	15.55
1"	1/32"	2627K34	17.29
1 1/4"	1/32"	2627K35	18.67
1 1/2"	1/32"	2627K36	22.20

Electrical-Insulating Sleeving



General Purpose Vinyl



High-Flex Acrylic



High-Temperature Silicone Rubber



High-Temperature Expandable Rubber

Add a layer of insulation to individual wires or bundles of wire while boosting resistance to temperature and abrasion. Made of coated fiberglass, sleeving remains highly flexible and insulates up to 7,000 volts. Use in motors, generators, and transformers. UL recognized.

General Purpose Vinyl—Resists waxes, alcohols, esters, and many alkalies and acids. Temperature range is 0° to 265° F. Color is black. Flame rated VW-1. CSA certified.

High-Flex Acrylic—Insulation made of acrylic resin gives this sleeving more flexibility than silicone rubber. It resists corrosion and many acids, organic solvents, and oils. Temperature range is –10° to 310° F. Color is tan. Flame rated VW-1. CSA certified.

High-Temperature Silicone Rubber—This sleeving maintains excellent flexibility throughout its temperature range of –90° to 390° F. It resists ozone and weathering and will self extinguish, leaving a nonconductive ash. Flame rated VW-1. CSA certified.

High-Temperature Expandable Rubber—Stretches to twice its relaxed ID to snugly fit over irregularly shaped objects. It has excellent abrasion, chemical, and moisture resistance. Temperature range is –65° to 390° F.

General Purpose Vinyl

ID	For Wire Size	Wall Thick.	10-ft. Lengths		50-ft. Spools	
0.09"	12 ga.	0.02"	7408K42	$1.97	7408K21	$8.20
0.11"	10 ga.	0.02"	7408K43	2.23	7408K23	9.28
0.12"	9 ga.	0.02"	7408K44	2.33	7408K24	9.72
0.13"	8 ga.	0.02"	7408K45	2.48	7408K25	10.35
0.17"	6 ga.	0.02"	7408K46	2.90	7408K27	12.10
0.21"	4 ga.	0.02"	7408K47	3.64	7408K29	15.17
0.26"	2 ga.	0.02"	7408K48	4.53	7408K31	18.88

ID	For Wire Size	Wall Thick.	5-ft. Lengths		25-ft. Spools	
0.33"	1/0 ga.	0.03"	7408K49	$3.05	7408K33	$12.70
0.39"	3/8"	0.03"	7408K51	4.55	7408K34	18.95
0.45"	7/16"	0.03"	7408K52	6.05	7408K35	25.20
0.51"	1/2"	0.03"	7408K53	6.78	7408K36	28.27
0.64"	5/8"	0.03"	7408K54	7.91	7408K37	32.95
0.77"	3/4"	0.03"	7408K55	9.76	7408K38	40.66
1.02"	1"	0.03"	7408K56	13.83	7408K41	57.62

High-Flex Acrylic

ID	For Wire Size	Wall Thick.	3-ft. Lengths		50-ft. Spools	
0.09"	12 ga.	0.02"	8268K11	$1.44	8268K41	$20.64
0.11"	10 ga.	0.02"	8268K12	1.64	8268K42	23.48
0.12"	9 ga.	0.02"	8268K13	1.72	8268K43	24.53
0.13"	8 ga.	0.02"	8268K14	1.83	8268K44	26.17
0.17"	6 ga.	0.02"	8268K15	2.10	8268K45	30.04
0.21"	4 ga.	0.03"	8268K16	2.79	8268K46	39.88
0.26"	2 ga.	0.03"	8268K17	3.51	8268K47	50.15

ID	For Wire Size	Wall Thick.	3-ft. Lengths		25-ft. Spools	
0.33"	1/0 ga.	0.03"	8268K18	$4.70	8268K48	$33.59
0.38"	3/8"	0.03"	8268K19	6.29	8268K49	44.94
0.44"	7/16"	0.03"	8268K21	7.87	8268K51	56.20
0.50"	1/2"	0.03"	8268K22	9.13	8268K52	65.22
0.63"	5/8"	0.03"	8268K23	10.30	8268K53	73.57
0.75"	3/4"	0.04"	8268K24	12.40	8268K54	88.56
1.00"	1"	0.04"	8268K25	17.14	8268K55	122.40

High-Temperature Silicone Rubber

To Order: Please specify black or white.

ID	For Wire Size	Wall Thick.	10-ft. Lengths		50-ft. Spools	
0.09"	12 ga.	0.02"	7453K83	$4.57	7453K43	$19.03
0.11"	10 ga.	0.02"	7453K84	5.09	7453K44	21.22
0.12"	9 ga.	0.02"	7453K85	5.31	7453K45	22.14
0.13"	8 ga.	0.02"	7453K86	5.71	7453K46	23.81
0.17"	6 ga.	0.02"	7453K87	6.54	7453K47	27.23
0.21"	4 ga.	0.02"	7453K88	8.19	7453K48	34.11
0.26"	2 ga.	0.02"	7453K89	10.82	7453K49	45.10

ID	For Wire Size	Wall Thick.	5-ft. Lengths		25-ft. Spools	
0.33"	1/0 ga.	0.03"	7453K91	$7.00	7453K51	$29.16
0.39"	3/8"	0.03"	7453K92	9.75	7453K52	40.63
0.45"	7/16"	0.03"	7453K93	12.35	7453K53	51.45
0.51"	1/2"	0.03"	7453K94	13.61	7453K54	56.69
0.64"	5/8"	0.03"	7453K95	15.22	7453K55	63.43
0.77"	3/4"	0.03"	7453K96	17.97	7453K56	74.88

High-Temperature Expandable Rubber

To Order: Please specify black or white.

ID	For Wire Size	Wall Thick.	10-ft. Lengths		50-ft. Spools	
0.08"	13 ga.	0.02"	2573K11	$4.21	2573K21	$17.56
0.12"	9 ga.	0.02"	2573K12	5.13	2573K22	21.38
0.17"	6 ga.	0.02"	2573K13	6.34	2573K23	26.40
0.23"	3 ga.	0.02"	2573K14	8.88	2573K24	37.02

ID	For Wire Size	Wall Thick.	5-ft. Lengths		25-ft. Spools	
0.33"	1/0 ga.	0.03"	2573K15	$7.06	2573K25	$29.42
0.39"	3/8"	0.03"	2573K16	9.85	2573K26	41.03
0.51"	1/2"	0.03"	2573K17	14.48	2573K27	60.33
0.64"	5/8"	0.03"	2573K18	16.06	2573K28	66.92

High-Strength Abrasion-Resistant Sleeving



Get strength, cut resistance, and excellent abrasion resistance that's unmatched by fiberglass, silica, and ceramic. This Nomex sleeving is knitted from aramid fibers and doesn't irritate the skin like fiberglass and silica. It resists most acids and alkalies, water, hydraulic fluid, alcohol, solvents, waxes, petroleum, flame, and salt. Temperature range is –320° to 400°F. Color is white.

ID	Wall Thick.	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
1/4"	1/16"	5, 10, 25, 50, 100	8798K31	$1.56	$1.37
3/8"	1/16"	5, 10, 25, 50, 100	8798K32	1.81	1.59
1/2"	1/16"	5, 10, 25, 50, 100	8798K33	2.56	2.24
5/8"	1/16"	5, 10, 25, 50, 100	8798K34	2.86	2.52
3/4"	1/16"	5, 10, 25, 50, 100	8798K35	3.59	3.17
1"	1/16"	5, 10, 25, 50, 100	8798K36	4.37	3.86
1 1/4"	1/16"	5, 10, 25, 50, 100	8798K37	4.97	4.40
1 1/2"	1/16"	5, 10, 25, 50, 100	8798K38	5.49	4.86
1 3/4"	1/16"	5, 10, 25, 50, 100	8798K39	6.41	5.68
1 7/8"	1/16"	5, 10, 25, 50, 100	8798K41	6.27	5.58
2"	1/16"	5, 10, 25, 50, 100	8798K42	6.95	6.18

Heat-Reflective Corrugated Wrap-Around Sleeving



A highly reflective aluminum covering over nylon protects wire, cable, tube, and hose from ambient heat up to 300°F. The corrugated construction provides impact and abrasion resistance similar to conduit while the slit along the length allows you to bundle items without disconnecting them. Sleeving resists gasoline, oil, brake fluid, and antifreeze. Temperature range is –40° to 300°F. Color is silver.

ID	OD	3-ft. Lengths	
1/4"	3/8"	2652K31	$5.61
3/8"	1/2"	2652K32	5.74
1/2"	5/8"	2652K33	7.50
5/8"	3/4"	2652K34	8.00
3/4"	7/8"	2652K35	8.84

Heat-Reflective Flex-and-Stay Corrugated Sleeving



Bend this flexible, crush-resistant sleeving and it holds its shape. Use it for routing wire, cable, and hose in environments subject to heat and abrasion, such as vehicle engines. Made of aluminum with woven fiberglass, it has a reflective surface to protect contents from high heat. Temperature range is –65° to 900°F. Color is silver. Max. continuous length is 15 ft.

ID	OD		Per Ft.
1/2"	9/16"	7293K1	$2.74
3/4"	13/16"	7293K2	3.45
1"	1 1/16"	7293K3	3.97
1 1/4"	1 5/16"	7293K4	4.47
1 3/4"	1 13/16"	7293K6	6.55
2"	2 1/16"	7293K7	8.74

Ultra-Flex Corrugated Sleeving



The most flexible metal sleeving we offer, it bends around sharp corners with ease.

Stainless steel sleeving provides corrosion resistance.

ID	OD	Lengths, ft.	Steel	Steel Per Ft.	Stainless Steel	Stainless Steel Per Ft.
5/32"	1/4"	5, 10, 15, 25	54885K11	$0.57	54915K41	$1.94
3/16"	9/32"	5, 10, 15, 25	54885K12	.77	54915K42	1.96
7/32"	5/16"	5, 10, 15, 25	54885K13	.83	54915K43	1.99
1/4"	11/32"	5, 10, 15, 25	54885K14	.93	54915K44	2.02
5/16"	13/32"	5, 10, 15, 25	54885K16	1.03	54915K46	2.09
3/8"	1/2"	5, 10, 15, 25	54885K18	1.10	54915K48	2.31
1/2"	5/8"	5, 10, 15, 25	54885K21	1.33	54915K51	2.73
3/4"	31/32"	5, 10, 15, 25	54885K25	2.07	54915K55	3.78

Corrugated Wrap-Around Sleeving



Corrugated construction gives this sleeving the impact and abrasion resistance of conduit, yet offers flexibility for routing wire and cable. A slit along the length allows the sleeving to wrap around items without the need for disconnection. It does not gap during flexing and resists acids and solvents.

Polyethylene—Temperature range is –40° to 200°F. *Flame-retardant* polyethylene meets UL 94V2.

High-Strength Nylon—Has better impact resistance than polyethylene. Temperature range is –40° to 300°F.

ID	OD		5 ft.	25 ft.	50 ft.	100 ft.
Polyethylene—Color is black						
1/4"	3/8"	7840K71	$1.94	$8.72	$16.03	$29.12
3/8"	1/2"	7840K72	2.52	11.34	20.79	37.79
1/2"	11/16"	7840K73	2.82	12.70	23.28	42.33
5/8"	13/16"	7840K74	3.48	15.68	28.73	52.24
3/4"	1"	7840K75	4.01	18.05	33.10	60.18
1"	1 1/4"	7840K76	6.41	28.86	52.94	96.21
1 1/4"	1 7/16"	7840K77	8.47	38.10	69.84	127.03
1 1/2"	1 7/8"	7840K78	11.49	51.71	94.78	172.33
2"	2 3/8"	7840K79	—	115.94	212.58	386.48
Choose-a-Color Polyethylene—Choose blue, orange, or red						
1/4"	3/8"	7700K51	3.06	13.12	24.05	43.72
3/8"	1/2"	7700K52	3.21	13.75	25.20	45.81
1/2"	11/16"	7700K53	4.74	20.30	37.22	67.67
5/8"	13/16"	7700K54	5.81	24.91	45.66	83.02
3/4"	1"	7700K55	7.08	30.35	55.64	101.16
1"	1 1/4"	7700K56	11.92	51.07	93.63	213.49
1 1/4"	1 7/16"	7700K57	15.40	66.01	121.00	220.00
1 1/2"	1 7/8"	7700K58	20.84	89.31	163.72	297.66
2"	2 3/8"	7700K59	38.42	194.67	301.87	548.84
Flame-Retardant Polyethylene—Color is gray						
1/4"	3/8"	7840K211	3.55	15.97	29.27	53.24
3/8"	1/2"	7840K212	3.94	17.73	32.52	59.12
1/2"	11/16"	7840K213	4.94	22.32	40.74	74.06
5/8"	13/16"	7840K214	6.42	28.91	52.96	96.30
3/4"	1"	7840K215	8.37	37.66	69.06	125.55
1"	1 1/4"	7840K216	12.16	54.73	100.33	182.42
1 1/4"	1 7/16"	7840K217	15.51	69.81	127.96	232.70
1 1/2"	1 7/8"	7840K218	23.41	105.34	193.12	351.11
2"	2 3/8"	7840K219	—	195.84	359.00	652.67
High-Strength Nylon—Color is black with gray stripe						
1/4"	3/8"	2569K91	2.40	10.27	18.83	34.24
3/8"	1/2"	2569K92	2.72	11.64	21.33	38.79
1/2"	11/16"	2569K93	3.52	15.09	27.66	50.29
5/8"	13/16"	2569K94	3.93	16.86	30.90	56.19
3/4"	1"	2569K95	4.71	20.18	36.99	67.25
1"	1 1/4"	2569K96	7.33	31.42	57.61	104.75
1 1/4"	1 7/16"	2569K97	9.43	40.42	74.11	134.75
1 1/2"	1 7/8"	2569K98	12.40	53.13	97.41	177.11

Full-Coverage Corrugated Wrap-Around Sleeving



Two Piece



Hinged

Offering the protection of conduit and the convenience of wrap-around sleeving, this corrugated polypropylene sleeving has interlocking ridges that overlap when closed to fully protect contents from dirt, dust, and abrasion. The sleeving opens along its length to allow you to bundle cable and wires without disconnecting them. It does not gap during flexing. Temperature range is –40° to 275°F. Color is black.

ID	OD		1 ft.	5 ft.	25 ft.	50 ft.	100 ft.
Two Piece							
1/4"	3/8"	8796T21	$3.37	$14.01	$63.70	$106.16	—
3/8"	9/16"	8796T22	3.99	16.60	75.46	125.76	—
7/16"	5/8"	8796T23	4.67	19.43	88.32	147.20	—
Hinged							
1/2"	3/4"	8796T24	—	4.51	18.81	31.35	$52.25
5/8"	13/16"	8796T25	—	5.51	22.97	38.28	63.80
3/4"	15/16"	8796T26	—	6.49	27.09	45.15	75.25
7/8"	1 1/8"	8796T27	—	7.81	32.56	54.27	90.45
1"	1 1/4"	8796T28	—	8.61	36.03	60.05	100.09

About Conduit

Conduit protects wire and cable from damage. When selecting conduit, consider where it will be installed and how flexible it needs to be for your application. Each type of conduit has specific fittings. The fittings are not interchangeable among conduit types.

Choosing Flexible or Rigid Conduit

	Conduit Type	Characteristics	Applications	Pages
Flexible Conduit—Use where wire needs to make tight bends or withstand vibration, such as connection points to machines or fixtures.				
	Plastic	Not as strong as metal conduit, but is lightweight and resists corrosion.	Wiring inside walls, robotics, automated equipment.	864-865
	Liquid-Tight Plastic and Metal	Has an outer cover with a metallic or non-metallic core. Resists oil and moisture.	Environments where liquids, oil, or grease are present.	866-868
	Metal	Good strength and crush resistance. Typically has the ability to make tight bends.	Areas where there is potential for physical damage. Often used for motor connections.	868-869
Rigid Conduit—Use for long, straight runs along building walls and floors. Also provides good crush protection.				
	Thin-Wall (EMT) Metal	General purpose metal conduit that is easier to bend and cut than medium- and thick-wall conduit.	Runs along walls and ceilings, away from high-traffic areas.	870-871
	Medium- and Thick-Wall (Rigid) Metal	Intended for heavy duty applications, this is our most crush-resistant metal conduit.	Areas where there is potential for physical damage.	872-873
	PVC	Lightweight, easy to install, and resists corrosion.	Outdoor use, including burial.	875

Bend Radius for Flexible Conduit

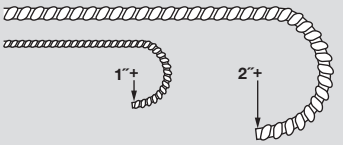

Bend radius, measured from the center of the bend to the edge of the conduit, can be used to compare flexibility among conduit. It indicates how tightly you can bend conduit without damaging it or shortening its life. The smaller the bend radius, the greater the flexibility.

Determining Conduit Trade Size

To be compatible, conduit and fittings must be of the same type and have the same trade size. **Trade size** is an industry designation for conduit and fittings. For threaded fittings, trade size also designates the NPT or NPSM pipe size of the threaded end.

You can use the scale below to find the trade size of your conduit. Measure the inside diameter (ID) of your conduit, then select the trade size on the scale that corresponds to your measurement.

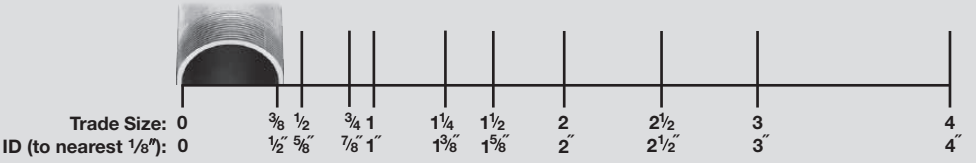

Flexible Plastic Conduit and Fittings

Make tight bends in machine and equipment wiring with this corrugated nylon conduit. Also known as electrical nonmetallic tubing (ENT), it withstands vibration, is flame retardant, and resists oil, solvents, and UV light. When used with fittings for flexible plastic conduit, it seals out air and liquid. Color is black.

Conduit



Temperature range is -40° to 220° F. UL recognized.
Crush resistant conduit has thicker corrugations than standard conduit.

Trade Size	ID	OD	Bend Radius	Lengths, ft.	Standard	Per Ft. 1-99	Per Ft. 100-Up	Crush Resistant	Per Ft. 1-99	Per Ft. 100-Up
3/8	0.45″	0.62″	1″	10, 25, 50, 100	6959T11	$0.76	$0.61	6959T17	$1.44	$1.15
1/2	0.63″	0.83″	2″	10, 25, 50, 100	6959T12	1.21	.97	6959T18	2.11	1.69
3/4	0.89″	1.12″	2″	5, 10, 25, 50, 100	6959T13	1.93	1.54	6959T19	3.49	2.79
1	1.08″	1.36″	3″	5, 10, 25, 50	6959T14	2.11	1.73	6959T21	3.86	3.15
1 1/4	1.4″	1.67″	4″	2, 5, 10, 25, 50	6959T15	3.01	2.46	6959T22	5.48	4.48
1 1/2	1.85″	2.15″	4″	2, 5, 10, 25, 50	6959T16	4.26	3.48	6959T23	7.63	6.25

Fittings

Tabs on one end snap into grooves in conduit; the other end attaches to a knockout in an outlet box or enclosure. All are nylon and meet IP68 for continuous submersion and IP69K for high-pressure, high-temperature washdowns.

Straight and **90° elbow adapters** have a temperature range of -40° to 235° F. UL recognized.

Tee connectors and **wye connectors and reducers** have a temperature range of -20° to 210° F.





Trade Size	Straight Adapters		90° Elbow Adapters		Tee Connectors	
3/8	6963T11	$5.30	6963T18	$9.93	6963T25	$16.91
1/2	6963T12	5.53	6963T19	10.23	6963T26	17.27
3/4	6963T13	9.82	6963T21	17.00	6963T27	19.10
1	6963T14	12.33	6963T22	21.07	6963T28	21.96
1 1/4	6963T15	18.19	6963T23	29.38	6963T29	25.09
1 1/2	6963T17	22.89	6963T24	34.99	6963T31	26.11



Wye Connectors and Reducers

Trade Size (A)	(B)		
3/8	3/8	6963T32	$17.47
1/2	3/8	6963T33	18.78
3/4	1/2	6963T34	19.57
1	3/4	6963T35	19.74
1 1/4	1	6963T36	21.53
1 1/2	1 1/4	6963T37	23.23

Choose-a-Color Flexible Plastic Conduit and Fittings

Visually identify different runs of wire and cable in machine and equipment wiring. Also known as electrical nonmetallic tubing (ENT), this corrugated PVC conduit is often used in areas with tight bends in walls, floors, and ceilings. Temperature range is 0° to 140°F. Conduit and fittings are UL listed and CSA certified.

Conduit

When used with the fittings below, this conduit provides protection from moisture and corrosion and can be embedded in concrete.
To Order: Please specify blue, red, or yellow.



Trade Size	ID	OD	Bend Radius	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
½	0.56″	0.84″	4″	10, 25, 50, 100, 200	8067K11	$0.86	$0.73
¾	0.76″	1.05″	5″	10, 25, 50, 100	8067K12	1.19	1.01
1	1″	1.32″	6″	5, 10, 25, 50, 100	8067K13	1.91	1.62

Fittings

Color is blue.

Adapters have tabs on one end that snap into grooves in conduit; the other end attaches to a knockout in an outlet box or enclosure. *Threaded adapters* have NPT male threads and require a locknut (not included).

Connectors have tabs on each end that snap into grooves in conduit to join pieces of conduit.







Trade Size	Threaded Adapters		Snap-In Adapters		Connectors	
½	8065K21	$3.21	8065K31	$1.86	8065K11	$2.29
¾	8065K22	6.20	8065K32	3.83	8065K12	3.00
1	8065K23	9.34	8065K33	5.50	8065K13	5.26

Shielded Flexible Plastic Conduit and Fittings

Covered with a copper braid, this corrugated nylon conduit protects wire and cable from electromagnetic interference (EMI) caused by motors and other equipment. This conduit is also known as electrical nonmetallic tubing (ENT).

Conduit

Temperature range is -40° to 220°F.



Trade Size	ID	OD	Bend Radius	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
5/16	0.39″	0.55″	2″	5, 10, 25, 50, 100	9126T11	$3.71	$2.97
⅜	0.47″	0.66″	2″	5, 10, 25, 50, 100	9126T12	4.58	3.67
½	0.65″	0.87″	3″	5, 10, 25, 50, 100	9126T13	5.16	4.13
1	1.14″	1.4″	5″	5, 10, 25, 50	9126T14	10.29	8.23
1¼	1.41″	1.71″	6″	5, 10, 25, 50	9126T15	12.75	10.20
1½	1.85″	2.18″	7″	5, 10, 25, 50	9126T16	15.84	12.68

Fittings

Straight adapters provide electromagnetic interference (EMI) protection when connecting shielded flexible plastic conduit to a knockout in an outlet box or enclosure. Twist the compression end over the conduit; tighten the compression ring to secure. Temperature range is -40° to 245° F. Made of brass.

Locknuts are brass. They are required when installing in an unthreaded knockout.





Trade Size	Thread Size	Straight Adapters		Locknuts	
5/16	M12	9147T11	$28.41	9147T17	$2.89
⅜	M16	9147T12	33.26	9147T18	3.10
½	M20	9147T13	42.63	9147T19	3.47
1	M32	9147T14	94.73	9147T21	5.86
1¼	M40	9147T15	133.71	9147T22	8.95
1½	M50	9147T16	202.05	9147T23	14.69

Continuous-Flex Plastic Conduit and Fittings

In addition to continuous-motion applications such as robotics, this corrugated nylon conduit is suitable for high-vibration applications. Also known as electrical nonmetallic tubing (ENT). Conduit and fittings resist solvents, fuels, hydraulic and lubricating oils, and UV light. Color is black.

Conduit

Temperature range is -55° to 200°F. UL and C-UL recognized, except 3146K29 and 3146K31. All are CE marked.



ID	OD	Bend Radius	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
0.24″	0.39″	2″	10, 25, 50, 100	3146K29	$1.88	$1.48
0.38″	0.51″	2″	10, 25, 50, 100	3146K31	1.88	1.48
0.47″	0.62″	3″	5, 10, 25, 50, 100	3146K23	2.42	1.91
0.64″	0.84″	3″	5, 10, 25, 50, 100	3146K24	3.91	3.09
0.89″	1.12″	4″	5, 10, 25, 50, 100	3146K26	6.38	5.04
1.14″	1.36″	4″	5, 10, 25, 50, 100	3146K27	8.09	6.39
1.44″	1.67″	7″	5, 10, 25, 50	3146K28	11.48	9.08
1.87″	2.15″	7″	2, 5, 10, 25, 50	3146K32	16.17	12.76

Fittings

Tabs on one end snap into grooves in the conduit; the other end attaches to a knockout in an outlet box or enclosure. Fittings are nylon. Temperature range is -40° to 220°F. All meet IP66 for protection from dust and water jets.

Straight adapters are UL recognized. **90° elbow adapters** are UL recognized, CSA certified, and CE marked.





For Conduit OD	Fitting OD	Thread Size	Straight Adapters		90° Elbow Adapters	
NPT Male Threads						
0.62″	1.02″	½ NPT	3185K62	$3.96	3185K63	$9.77
0.84″	1.16″	½ NPT	3185K64	4.29	3185K65	9.90
1.12″	1.46″	¾ NPT	3185K66	9.11	3185K67	18.02
1.36″	1.73″	1 NPT	3185K68	12.93	3185K69	26.27
1.67″	2.17″	1¼ NPT	3185K71	24.12	3185K72	42.02
2.15″	2.72″	1½ NPT	3185K121	31.59	3185K125	45.49
PG Threads						
0.39″	0.91″	PG-11	3185K122	4.29	3185K126	9.85
0.51″	0.91″	PG-11	3185K123	3.99	3185K127	9.85
0.62″	0.93″	PG-11	3185K11	3.96	3185K16	9.77
0.84″	1.16″	PG-16	3185K12	4.29	3185K17	9.95
1.12″	1.46″	PG-21	3185K13	9.11	3185K18	18.15
1.36″	1.73″	PG-29	3185K14	12.93	3185K19	26.43
1.67″	2.17″	PG-36	3185K15	24.12	3185K21	42.23
2.15″	2.72″	PG-48	3185K124	31.59	3185K128	45.49

Clips for Flexible Plastic Conduit

Hold flexible plastic conduit in place along walls and machines. Clips are nylon and have a 0.2″ dia. mounting hole (screw not included). Temperature range is -40° to 220°F. Color is black.



For Max. Conduit OD	Ht.	Wd.		
0.39″	0.85″	0.67″	3185K129	$1.83
0.51″	0.96″	0.81″	3185K131	1.85
0.62″	1.06″	0.94″	3185K78	2.54
0.84″	1.34″	1.18″	3185K79	2.96
1.12″	1.65″	1.52″	3185K81	5.64
1.36″	1.89″	1.79″	3185K82	6.88
1.67″	2.2″	2.19″	3185K88	9.48
2.15″	2.68″	2.66″	3185K132	9.46

Locknuts for Plastic Conduit Fittings

Secure threaded plastic conduit fittings to a knockout in an outlet box or enclosure. Locknuts are nylon. Color is black.



For Thread Size		
⅜ NPT	3185K111	$0.36
½ NPT	3185K112	.44
¾ NPT	3185K113	.67
1 NPT	3185K114	1.30
1¼ NPT	3185K115	2.16
1½ NPT	3185K116	5.32
2 NPT	3185K117	6.04

For Thread Size		
PG-11	3185K91	$0.85
PG-16	3185K93	1.00
PG-21	3185K94	1.47
PG-29	3185K95	3.26
PG-36	3185K96	5.95
PG-48	3185K133	7.66

Liquid-Tight Flexible Plastic Conduit and Fittings

When used with liquid-tight fittings, this PVC conduit seals out liquid and resists oil, corrosion, and UV light. It has a smooth interior that protects wire and cable from abrasion when being pulled.

Conduit



Ultra Flexible



Abrasion Resistant

Ultra Flexible—The spiral design makes this conduit flexible. Route it around tight bends and use in high-vibration applications or those that require periodic flexing. This conduit cuts cleanly with no jagged edges. Temperature range is 0° to 155° F. Color is black. UL recognized.

Abrasion Resistant—Also known as Type B, this conduit is crush and abrasion resistant. Use a tube cutter (not included) for clean cuts with no jagged edges. Temperature range is 0° to 165° F. Color is gray. UL listed and CSA certified.

Trade Size	ID	OD	Ultra Flexible: Lengths, ft.	Ultra Flexible: Bend Radius		Ultra Flexible: Per Ft. 1-99	Ultra Flexible: Per Ft. 100-Up	Abrasion Resistant: Lengths, ft.	Abrasion Resistant: Bend Radius		Abrasion Resistant: Per Ft. 1-99	Abrasion Resistant: Per Ft. 100-Up
1/4	0.39"	0.57"	5, 10, 25, 50, 100	1"	7609K1	$1.47	$1.19					
3/8	0.49"	0.7"	5, 10, 25, 50, 100	2"	7609K2	1.58	1.28	5, 10, 25, 50, 100	4"	7581K41	$1.12	$0.88
1/2	0.63"	0.83"	5, 10, 25, 50, 100	2"	7609K3	1.73	1.40	5, 10, 25, 50, 100	4"	7581K42	1.18	.92
3/4	0.83"	1.04"	5, 10, 25, 50, 100	2"	7609K4	2.23	1.80	2, 5, 10, 25, 50, 100	5"	7581K43	1.46	1.14
1	1.05"	1.3"	5, 10, 25, 50, 100	3"	7609K5	3.40	2.75	5, 10, 25, 50, 100	6"	7581K44	2.46	1.93
1 1/4	1.39"	1.64"	5, 10, 25, 50, 100	4"	7609K6	4.32	3.50	5, 10, 25, 50, 100	7"	7581K45	3.25	2.55
1 1/2	1.59"	1.88"	2, 5, 10, 25, 50	4"	7609K7	6.18	5.00	2, 5, 10, 25, 50	8"	7581K46	4.38	3.42
2	2.03"	2.36"	2, 5, 10, 25, 50	5"	7609K8	8.50	6.88	2, 5, 10, 25, 50	10"	7581K47	5.64	4.42

Fittings

Fittings are UL listed when used with abrasion-resistant liquid-tight flexible plastic conduit (Type B). Maximum temperature is 175° F. Adapters are nylon; connectors are gray PVC.

Push-In Fittings—Fittings are removable and reusable. They have NPT male threads, except 75145K51 has PG-7 threads. They have a steel locknut for securing to an enclosure (75145K21 has a nylon locknut). C-UL listed, except 75145K16 and 75145K21 are CSA certified. *Multi-angle elbow adapters* can be positioned at any angle from 0° to 90°.

Twist-In Fittings—Attach to conduit with a few quick turns. They have NPT male threads and zinc locknuts. Adapters are CSA certified. Connectors are C-UL listed.

To Order: For adapters, please specify black or gray. 75145K51 comes only in black. 75145K16 comes only in gray.













Trade Size	Push-In Straight Adapters		Push-In 90° Elbow Adapters		Push-In Multi-Angle Elbow Adapters		Twist-In Straight Adapters		Twist-In 90° Elbow Adapters		Twist-In Straight Connectors	
1/4	75145K51	$2.69										
3/8★	75145K31	2.63	75145K81	$4.13	75145K16	$13.11	9106K41	$1.68	9106K51	$2.74	9106K91	$1.26
1/2	75145K32	2.63	75145K82	4.13	75145K18	5.87	9106K42	1.68	9106K52	2.74	9106K88	1.41
3/4	75145K33	3.81	75145K83	6.27	75145K19	7.88	9106K43	2.44	9106K53	4.09	9106K89	1.97
1	75145K34	5.37	75145K84	10.73	75145K21	17.21	9106K54	4.78	9106K55	9.61	9106K92	2.56
1 1/4	75145K35	8.43	75145K85	16.48								
1 1/2	75145K36	11.61	75145K86	20.14								
2	75145K37	20.27	75145K87	29.44								

★ Fits into a 1/2 trade size opening.

Liquid-Tight Flexible Metal Conduit and Fittings

When used with liquid-tight fittings, this conduit seals out liquid. The metal core provides crush resistance, and the PVC cover is UV light resistant. Use this bendable conduit for connections to motors and other equipment in tight areas.

Conduit



Conduit is made of steel, except standard (UL listed) conduit is zinc-plated steel. Cover is PVC unless otherwise stated. Prices are approximately 25% less for the longest length listed.

Standard—Temperature range is 0° to 140° F. Color is gray.

Standard (UL Listed)—Can be used underground. It has a built-in copper ground, except 1 1/2 and 2 trade sizes do not. Temperature range is 0° to 140° F. CSA certified. **To Order:** Please specify blue or gray, except 7127K66 comes only in gray. Blue conduit is often used for data lines.

Ultra Flexible—Bends and twists for installation in tighter areas than standard conduit. Temperature range is 0° to 140° F. Color is black.

Food Grade—Has a cover that can be cleaned and sterilized without weakening or splitting. Temperature range is 0° to 140° F. Color is white. Meets NSF/ANSI standard 169 for special-purpose food equipment.

Trade Size	ID	OD	Lengths, ft.	Standard: Bend Radius		Standard: Per Ft.	Standard (UL Listed): Bend Radius		Standard (UL Listed): Per Ft.	Ultra Flexible: Bend Radius		Ultra Flexible: Per Ft.	Food Grade: Bend Radius		Food Grade: Per Ft.
3/8	0.49"	0.7"	5, 10, 25, 50, 100	2"	74525K79	$1.03	3"	7127K66	$2.02	2"	8069K11	$1.48			
1/2	0.63"	0.83"	5, 10, 25, 50, 100	3"	74525K81	1.10	4"	7127K2	2.17	2"	8069K12	1.67	3"	8235K58	$1.73
3/4	0.83"	1.04"	5, 10, 25, 50, 100	3"	74525K82	1.55	5"	7127K3	2.83	3"	8069K13	2.20	3"	8235K59	2.04
1	1.05"	1.3"	5, 10, 25, 50, 100	4"	74525K83	2.24	6"	7127K4	4.32	3"	8069K14	2.86	4"	8235K61	2.56
1 1/4	1.39"	1.65"	2, 5, 10, 25, 50	5"	74525K84	3.13	7"	7127K5	6.11	4"	8069K15	4.49	5"	8235K62	4.06
1 1/2	1.59"	1.88"	2, 5, 10, 25, 50	6"	74525K85	4.29	6"	7127K6	6.53	4"	8069K16	5.15	6"	8235K63	5.48
2	2.03"	2.36"	2, 5, 10, 25, 50	7"	74525K86	5.44	7"	7127K7	8.35	5"	8069K17	6.40	7"	8235K64	7.04

(Continued on following page)

Liquid-Tight Flexible Metal Conduit and Fittings *(Continued from previous page)*

Conduit (Cont.)

Prices are approximately 25% less for the longest length listed.

Oil Resistant—UL listed. Resists oil, lubricants, and grease. It can be used underground. It has a built-in copper ground, except 1½ and 2 trade sizes do not. Temperature range is -20° to 175° F. Color is gray. CSA certified.

Extreme Temperature (UL Listed)—Stays flexible in temperatures of -50° to 220° F. It can be used underground. It has a built-in copper ground, except 1½ and 2 trade sizes do not. Color is gray.

Extreme Temperature—Stays flexible in temperatures from -75° to 300° F. It has a TPE rubber cover. Color is black.

Harsh Environment—The toughest liquid-tight flexible metal conduit we offer. It has a silicone rubber cover and resists oil, chemicals, and extreme temperature fluctuations. Temperature range is -90° to 390° F. Conduit is halogen-free and has a built-in copper ground. Color is gray.



Trade Size	ID	OD	Lengths, ft.	Oil Resistant Bend Radius		Per Ft.	Extreme Temperature (UL Listed) Bend Radius		Per Ft.	Extreme Temperature Bend Radius		Per Ft.	Harsh Environment Bend Radius		Per Ft.
3/8	0.49″	0.7″	2, 5, 10, 25, 50, 100	2″	8071K41	$5.16	3″	8068K31	$2.78	2″	8235K51	$4.62	—	—	—
1/2	0.63″	0.83″	2, 5, 10, 25, 50, 100	3″	8071K42	6.56	4″	8068K32	3.26	3″	8235K52	5.36	4″	8235K65	$7.27
3/4	0.83″	1.04″	2, 5, 10, 25, 50, 100	4″	8071K43	8.50	5″	8068K33	4.50	3″	8235K53	7.33	5″	8235K66	9.07
1	1.05″	1.3″	2, 5, 10, 25, 50, 100	6″	8071K44	12.40	6″	8068K34	6.84	4″	8235K54	10.69	6″	8235K67	12.54
1 1/4	1.39″	1.65″	2, 5, 10, 25, 50	7″	8071K45	17.43	7″	8068K35	9.66	5″	8235K55	16.38	—	—	—
1 1/2	1.59″	1.88″	2, 5, 10, 25, 50	5″	8071K46	19.10	6″	8068K36	10.32	6″	8235K56	19.64	—	—	—
2	2.03″	2.36″	2, 5, 10, 25, 50	6″	8071K47	24.47	7″	8068K37	13.22	7″	8235K57	24.56	—	—	—

Fittings

Twist into conduit with a few quick turns. Fittings have NPT male threads, except zinc fittings have NPSM threads. They include a locknut, except 304 stainless steel. UL listed and CSA certified, except zinc fittings are UL and C-UL listed.

304 stainless steel adapters are corrosion resistant.

Adapters with **grounding lug** ground conduit outside an outlet box or enclosure. Run a ground wire through the lug. Adapters with **wire-mesh grip** provide strain relief and added protection against conduit pullout.







Trade Size	Zinc		Steel		Steel with Grounding Lug		Steel with Wire-Mesh Grip Mesh Lg.			304 Stainless Steel	
Straight Adapters											
3/8 ★	7119K71	$2.05	7119K11	$3.05	7951K61	$8.08	6″	75535K31	$28.94	1848T11	$31.45
1/2	7119K72	2.05	7119K12	3.25	7951K62	8.31	5 1/4″	75535K41	31.42	1848T12	45.36
3/4	7119K73	3.22	7119K13	4.69	7951K63	13.01	6 1/2″	75535K42	37.86	1848T13	66.73
1	7119K74	4.91	7119K61	7.63	7951K64	17.35	7 3/4″	75535K43	47.62	1848T14	90.25
1 1/4	7119K75	9.14	7119K91	13.31	7951K65 ■	20.87	10 5/8″	75535K51	54.30	1848T15	128.17
1 1/2	7119K76	12.99	7119K92	20.29	7951K66 ■	51.33	11″	75535K54	80.11	1848T16	156.33
2	7119K77	14.77	7119K93	33.09	7951K67 ■	65.40	14″	75535K57	118.06	1848T17	215.11

★ Fits into a 1/2 trade size opening. ■ Made of iron.







Trade Size	Iron		Zinc-Plated Iron		Iron with Grounding Lug		Iron with Wire-Mesh Grip Mesh Lg.			304 Stainless Steel	
45° Elbow Adapters											
3/8 ★	7119K37	$4.05	7119K15	$6.79	7951K11	$13.36	6″	75535K33	$33.90	—	—
1/2	7119K38	4.26	7119K16	6.94	7951K12	13.36	5 1/4″	75535K44	34.05	1848T22	$78.68
3/4	7119K39	6.49	7119K17	10.50	7951K13	19.74	6 1/2″	75535K45	44.53	1848T23	108.22
1	7119K41	12.37	7119K62	16.82	7951K14	35.06	7 3/4″	75535K46	66.75	1848T24	147.38
1 1/4	7119K42	17.75	7119K97	24.85	7951K15	57.93	10 5/8″	75535K53	82.75	1848T25	192.69
1 1/2	7119K43	22.71	7119K98	38.94	7951K16	67.53	11″	75535K56	108.68	1848T26	265.62
2	7119K44	32.68	7119K99	53.92	7951K17	96.01	14″	75535K59	130.35	1848T27	365.99

★ Fits into a 1/2 trade size opening.







Trade Size	Zinc		Zinc-Plated Iron		Iron with Grounding Lug		Iron with Wire-Mesh Grip Mesh Lg.			304 Stainless Steel	
90° Elbow Adapters											
3/8 ★	7119K81	$4.08	7119K19	$6.52	7951K81	$11.78	6″	75535K32	$33.90	1848T31	$78.67
1/2	7119K82	4.28	7119K21	6.70	7951K82	10.95	5 1/4″	75535K47	36.66	1848T32	91.25
3/4	7119K83	6.52	7119K22	10.50	7951K83	11.37	6 1/2″	75535K48	44.53	1848T33	111.86
1	7119K84	10.60	7119K63	17.42	7951K84	13.40	7 3/4″	75535K49	66.75	1848T34	170.12
1 1/4	7119K85	19.05	7119K94	30.45	7951K85	43.24	10 5/8″	75535K52	82.75	1848T35	235.69
1 1/2	7119K86	22.87	7119K95	36.54	7951K86	46.29	11″	75535K55	108.68	1848T36	304.51
2	7119K87	28.84	7119K96	46.10	7951K87	72.71	14″	75535K58	130.35	1848T37	386.36

★ Fits into a 1/2 trade size opening.

Continuous-Flex Liquid-Tight Plastic Conduit and Fittings

Also known as Type A, this conduit meets the demands of continuous motion while sealing out liquid when used with liquid-tight fittings.

Conduit



Conduit is PVC with a PVC cover. A layer of nylon provides strength during flexing. This conduit is crush and abrasion resistant as well as flame retardant. It also resists oil, chemicals, and UV light. Temperature range is 0° to 140° F. Color is orange. UL listed and CSA certified.

Trade Size	ID	OD	Bend Radius	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
3/8	0.5″	0.77″	3″	2, 5, 10, 25, 50, 100	8465K26	$5.16	$3.89
1/2	0.63″	0.92″	3″	2, 5, 10, 25, 50, 100	8465K22	6.90	5.21
3/4	0.83″	1.16″	4″	2, 5, 10, 25, 50, 100	8465K23	9.75	7.36
1	1.04″	1.43″	6″	2, 5, 10, 25, 50, 100	8465K24	12.35	9.32
1 1/4	1.38″	1.81″	7″	2, 5, 10, 25, 50	8465K25	16.18	12.21
1 1/2	1.6″	2.06″	8″	2, 5, 10, 25, 50	8465K27	25.52	19.26
2	2.06″	2.62″	9″	2, 5, 10, 25, 50	8465K28	35.48	26.78

Fittings

One end twists into a piece of conduit for a quick connection; the other end attaches to a knockout in an outlet box or enclosure. Temperature range is 0° to 140° F. UL listed.

Acetal fittings resist corrosion and chemicals. Color is blue.
Steel fittings are stronger than acetal.





Acetal

Trade Size	Straight Adapters		90° Elbow Adapters	
1/2	9082K52	$10.09	9082K62	$11.67
3/4	9082K53	12.32	9082K63	14.53
1	9082K54	17.50	9082K64	20.48
1 1/4	9082K55	20.01	9082K65	27.05





Steel

Trade Size	Straight Adapters		90° Elbow Adapters	
3/8	9082K41	$20.90	9082K49	$31.69
1/2	9082K42	22.51	9082K71	31.44
3/4	9082K43	28.94	9082K72	45.14
1	9082K44	45.03	9082K73	84.03
1 1/4	9082K45	61.46	9082K74	133.34
1 1/2	9082K47	88.89	9082K75	171.54
2	9082K48	143.76	9082K76	252.09

Flexible Metal Conduit and Fittings

Also known as FMC, this conduit offers the crush resistance of metal combined with flexibility to handle bends in tight spaces.

Conduit



Prices are approximately 35% less for the longest length listed.

Zinc-plated steel conduit has a heavy zinc coating for corrosion resistance. UL listed, except 5/16 trade size is UL recognized.

Aluminum conduit is lighter than steel and has good corrosion resistance. It's often used to hook up motors and light fixtures. UL listed, except 5/16 trade size is UL recognized.

304 stainless steel conduit has superior corrosion resistance.

Bend-and-stay steel conduit stays in position after bending; it is not intended for repeated bending.

Trade Size	ID	OD	Bend Radius	Lengths, ft.		Per Ft.
Zinc-Plated Steel						
5/16	0.31″	0.51″	4″	10, 25, 50, 100	74115K1	$0.57
3/8	0.38″	0.61″	4″	10, 25, 50, 100	74115K2	.57
1/2	0.63″	0.92″	4″	10, 25, 50, 100	74115K3	.70
3/4	0.81″	1.11″	5″	10, 25, 50, 100	74115K4	.98
1	1″	1.38″	6″	5, 10, 25, 50	74115K5	2.07
1 1/4	1.25″	1.63″	8″	5, 10, 25, 50	74115K6	2.32
1 1/2	1.5″	1.95″	10″	5, 10, 25	74115K7	3.44
2	2″	2.45″	12″	5, 10, 25	74115K8	5.38
Aluminum						
5/16	0.31″	0.51″	4″	10, 25, 50, 100	73145K1	.69
3/8	0.38″	0.61″	2″	10, 25, 50, 100	73145K2	.61
1/2	0.63″	0.92″	3″	10, 25, 50, 100	73145K3	.83
3/4	0.81″	1.11″	4″	10, 25, 50, 100	73145K4	1.13
1	1″	1.38″	5″	5, 10, 25, 50	73145K5	2.87
1 1/4	1.25″	1.63″	6″	5, 10, 25, 50	73145K6	3.41
1 1/2	1.5″	1.95″	10″	5, 10, 25	73145K7	3.81
2	2″	2.45″	12″	5, 10, 25	73145K8	5.00
304 Stainless Steel						
3/8	0.44″	0.58″	1″	5, 10, 25	3994K11	2.50
1/2	0.63″	0.84″	2″	5, 10, 25	3994K12	3.08
3/4	0.83″	1.02″	2″	5, 10, 25	3994K13	3.99
1	1″	1.21″	2″	2, 5, 10, 25	3994K14	5.84
1 1/4	1.25″	1.52″	2″	2, 5, 10, 25	3994K15	6.60
Bend-and-Stay Steel						
3/8	0.44″	0.58″	2″	5, 10, 25, 50, 100	74115K91	1.13
1/2	0.63″	0.8″	3″	5, 10, 25, 50, 100	74115K92	1.35
3/4	0.83″	1″	3″	5, 10, 25, 50, 100	74115K93	1.45
1	1″	1.17″	4″	5, 10, 25, 50	74115K94	1.71
1 1/4	1.25″	1.41″	5″	5, 10, 25, 50	74115K95	1.97
1 1/2	1.61″	1.77″	6″	5, 10, 25	74115K96	2.39
2	2″	2.16″	8″	2, 5, 10, 25	74115K97	2.87

(Continued on following page)

Flexible Metal Conduit and Fittings *(Continued from previous page)*

Standard Fittings

Attach flexible metal conduit to a knockout in an outlet box or enclosure. Adapters have NPSM male threads, except 7920K84, 7920K85, 7920K86, and 7920K87 screw-clamp adapters and screw-on adapters have NPT male threads. Locknut is included.

Screw-clamp adapters and **screw-clamp 90° elbow adapters** have a screw-clamp end that tightens around conduit with a screw.

Twist-in adapters and **twist-in connectors** have an end that attaches to conduit with a few quick turns.

Screw-on adapters have an end that screws onto the OD of conduit.

Grommets, also known as antishort bushings, slide into the ends of conduit and types AC and MC armored cable to protect wire and cable from sharp edges. Made of red plastic.

Zinc—For light duty applications. UL listed and CSA certified. Screw-clamp adapters and screw-clamp 90° elbow adapters can be used with armored cable.

Iron—Stronger and more durable than zinc. UL listed.

316 stainless steel—The most corrosion resistant.

Aluminum—Provides some corrosion resistance.








Trade Size	Screw-Clamp Adapters		Screw-Clamp 90° Elbow Adapters		Twist-In Adapters		Twist-In Connectors	
Zinc								
3/8★	7267K26	$0.98	7267K33	$1.31	7267K51	$0.83		
1/2	7267K27	1.23	7267K34	1.76	7267K52	.82	8180K11	$0.84
3/4	7267K28	1.89	7267K35	3.28	7267K53	1.41	8180K12	1.73
1	7267K21	3.40	7267K36	6.44	7267K54	3.74	8180K13	2.24
1 1/4	7267K22	5.22	7267K37	7.92	7267K55	6.23	8180K14	4.44
1 1/2	7267K11	6.42	7267K15	14.29	7267K13	7.86	8180K15	5.64
2	7267K12	8.33	7267K16	18.43	7267K14	11.14	8180K16	9.33
Iron								
3/8★	7920K81	3.42	7920K71	4.23				
1/2	7920K82	3.03	7920K72	5.25				
3/4	7920K83	3.63	7920K73	7.83				
1	7920K84	8.04	7920K74	15.31				
1 1/4	7920K85	11.46	7920K75	26.09				
1 1/2	7920K86	18.12	7920K76	38.27				
2	7920K87	26.20	7920K77	52.19				
316 Stainless Steel								
3/8★	8533K11	11.31	8533K31	15.89	8533K21	9.67		
1/2	8533K12	13.25	8533K32	14.53	8533K22	8.97	8533K41	4.99
3/4	8533K13	16.42	8533K33	23.85	8533K23	10.71	8533K42	5.51
1	8533K14	21.76	8533K34	29.82	8533K24	13.08	8533K43	7.25
1 1/4	8533K15	23.20	8533K35	27.56	8533K25	21.39		

★ Fits into a 1/2 trade size opening.

Screw-On Adapters		
Trade Size		
Aluminum		
1/2	7969K42	$4.71
3/4	7969K44	5.79
Steel		
1/2	7969K41	4.71
3/4	7969K43	5.79

Grommets			
Trade Size	Pkg. Qty.		Pkg.
5/16	100	8216K41	$9.89
3/8	100	8216K42	10.54
7/16	50	8216K43	9.97
1/2	50	8216K44	14.74
3/4	50	8216K45	14.98

Specialty Fittings

Attach flexible metal conduit and types AC and MC armored cable to a knockout in an outlet box or enclosure. Fittings are made of zinc. UL listed and CSA certified. *Wye* adapters join two pieces of conduit or armored cable to one knockout.

The **threaded** end has NPSM male threads. The **snap-in** end has tabs that snap into the knockout without locknuts or tools.

The **screw-clamp** end tightens around conduit with a screw.








Trade Size	For Armored Cable OD	*Threaded* Screw-Clamp Straight		*Threaded* Screw-Clamp Wye		*Snap-In* Push-In Straight		*Snap-In* Push-In Wye		*Snap-In* Screw-Clamp Straights		*Snap-In* Screw-Clamp Wye	
3/8★	0.44″-0.61″	8180K21	$1.39	8180K22	$2.86	7969K21	$1.66	7969K31	$3.88	8180K31	$1.11	8180K34	$2.37
1/2	0.71″-0.91″									8180K32	1.46		
3/4	0.84″-1.11″									8180K33	3.19		

★ Fits into a 1/2 trade size opening.

Conduit Adapters

Transition between types of metal conduit. UL listed, except 7984K1, 7984K21, and 7984K22.








Trade Size (A)	Trade Size (B)	*Thin-Wall (EMT) × Flexible Metal (FMC)* Screw-Clamp		*Thin-Wall (EMT) × Flexible Metal (FMC)* Compression		*Thin-Wall (EMT) Rigid × Liquid-Tight Flexible Metal*		*Thin-Wall (EMT) Rigid × Thick-Wall (Rigid)*		*Thick-Wall (Rigid) × Liquid-Tight Flexible Metal*	
1/2	3/8	7984K1	$3.65								
1/2	1/2	7984K2	2.37	7984K11	$3.79	7984K23	$4.76	7984K21	$3.11	7984K26	$5.42
3/4	3/4	7984K3	3.39	7984K12	5.02	7984K24	6.74	7984K22	3.89	7984K15	13.03
1	1			7984K13	6.11	7984K25	9.24	7984K14	14.48	7984K16	18.55

Rigid Aluminum Conduit and Fittings

This nonmagnetic aluminum conduit withstands damp and corrosive environments. It is lightweight, but its walls are strong enough to resist damage while remaining easy to bend and cut.

Conduit



Bend with a conduit bender (not included) and cut with a hacksaw. This conduit has one threaded male end; the other end has a threaded female connector. UL listed.

5-ft. lengths can be shipped via small-parcel carrier.

Trade Size	ID	OD	5-ft. Lengths		10-ft. Lengths	
½	0.74″	0.84″	9175T21	$11.41	9175T11	$17.25
¾	0.94″	1.05″	9175T22	14.81	9175T12	22.96
1	1.19″	1.32″	9175T23	19.94	9175T13	33.45
1¼	1.53″	1.66″	9175T24	24.88	9175T14	43.96
1½	1.76″	1.9″	9175T25	29.91	9175T15	54.44
2	2.23″	2.38″	9175T26	39.59	9175T16	72.75

Fittings

Connectors, 90° elbow connectors, and **bushings** have NPT threads. UL listed. *Bushings* join two different sizes of rigid aluminum conduit.

Adapters, also known as hubs, have NPT female threads on the conduit end and NPSM male threads on the enclosure end.

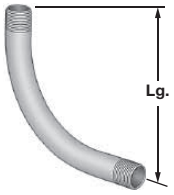







Trade Size	90° Elbow Connectors Lg.			Connectors		Adapters	
½	6¼″	7864T51	$6.06	7864T71	$1.94	7864T41	$5.39
¾	7½″	7864T52	8.25	7864T72	2.94	7864T42	6.31
1	8½″	7864T53	11.47	7864T73	3.86	7864T43	7.53
1¼	10¾″	7864T54	18.27	7864T74	4.73	7864T44	9.43
1½	12″	7864T55	24.30	7864T75	5.47	7864T45	10.69
2	14″	7864T56	35.78	7864T76	7.75	7864T46	13.98

Bushings

Trade Size (A)	Trade Size (B)			Trade Size (A)	Trade Size (B)		
¾	½	7864T21	$1.55	1½	¾	7864T27	$6.45
1	½	7864T22	2.12	1½	1	7864T28	6.45
1	¾	7864T23	2.12	2	¾	7864T29	11.37
1¼	½	7864T24	3.67	2	1	7864T31	8.92
1¼	¾	7864T25	3.67	2	1¼	7864T32	8.92
1¼	1	7864T26	3.67	2	1½	7864T33	8.92

Thin-Wall (EMT) Steel Conduit and Fittings

Also known as electrical metallic tubing (EMT), this conduit has thin walls that easily bend with a conduit bender and can be cut with a hacksaw. Run it along walls and ceilings, away from high-traffic areas.

Conduit



Conduit is unthreaded. UL listed.

5-ft. lengths can be shipped via small-parcel carrier.

Trade Size	ID	OD	5-ft. Lengths		10-ft. Lengths	
½	0.62″	0.71″	7126K11	$2.75	7126K1	$4.43
¾	0.82″	0.92″	7126K12	4.50	7126K2	7.25
1	1.05″	1.16″	7126K13	7.61	7126K3	12.28
1¼	1.38″	1.51″	7126K14	12.38	7126K4	19.96
1½	1.61″	1.74″	7126K15	15.17	7126K5	24.47
2	2.07″	2.2″	7126K16	18.06	7126K6	29.13
2½	2.73″	2.88″	7126K17	28.74	7126K7	46.36
3	3.36″	3.5″	7126K18	36.86	7126K8	59.45
4	4.33″	4.5″	7126K19	49.69	7126K9	80.15

Straight Fittings

A compression end offers a more reliable hold on conduit than a screw-clamp end.

Adapters have NPSM male threads and include a locknut. *Adapters with grommet* protect wire and cable from abrasion when being pulled.

Zinc—UL listed and CSA certified.

Raintight Zinc—Fittings have an O-ring to prevent liquid from entering the conduit. They meet UL raintight standards when used with EMT conduit.

Steel—UL listed. C-UL listed, except the 2½, 3, and 4 trade size screw-clamp adapters and screw-clamp connectors are CSA certified.













Trade Size	Compression Adapters Without Grommet		Compression Adapters With Grommet		Screw-Clamp Adapters Without Grommet		Screw-Clamp Adapters With Grommet		Compression Connectors		Screw-Clamp Connectors	
Zinc												
½	7150K71	$1.02	7150K11	$1.35	7150K74	$0.62	7150K17	$1.03	7150K77	$1.61	7150K81	$0.68
¾	7150K72	1.81	7150K12	2.38	7150K75	1.02	7150K18	1.59	7150K78	2.06	7150K82	1.08
1	7150K73	2.98	7150K13	3.69	7150K76	1.95	7150K19	2.85	7150K79	3.41	7150K83	1.80
1¼	7150K87	4.44	7150K14	6.21	7150K91	3.43	7150K21	5.12	7150K94	5.36	7150K84	3.16
1½	7150K88	5.78	7150K15	7.66	7150K92	4.18	7150K22	6.25	7150K95	7.97	7150K85	4.35
2	7150K89	9.24	7150K16	11.38	7150K93	5.60	7150K23	8.39	7150K96	10.25	7150K86	5.80
2½	7150K311	18.40	7150K314	28.62	7150K317	12.68	7150K411	21.31	7150K414	23.71	7150K417	11.10
3	7150K312	22.45	7150K315	33.59	7150K318	15.31	7150K412	24.79	7150K415	25.03	7150K418	12.68
4	7150K313	31.62	7150K316	48.96	7150K319	21.56	7150K413	31.85	7150K416	40.12	7150K419	16.93
Raintight Zinc												
½	1841T11	2.29	1841T21	2.85					1841T31	2.60		
¾	1841T12	3.26	1841T22	3.82					1841T32	3.41		
1	1841T13	6.06	1841T23	6.72					1841T33	5.96		
1¼	1841T14	10.44	1841T24	12.23					1841T34	10.75		
1½	1841T15	12.99	1841T25	14.87					1841T35	13.96		
2	1841T16	17.17	1841T26	18.85					1841T36	16.91		

(Continued on following page)

Thin-Wall (EMT) Steel Conduit and Fittings *(Continued from previous page)*

Straight Fittings (Cont.)








Trade Size	Compression Adapters Without Grommet		Compression Adapters With Grommet		Screw-Clamp Adapters Without Grommet		Screw-Clamp Adapters With Grommet		Compression Connectors		Screw-Clamp Connectors	
Steel												
1/2	7150K31	$1.18	7150K24	$2.19	7150K34	$1.04	7150K61	$1.16	7150K37	$2.25	7150K41	$1.34
3/4	7150K32	2.68	7150K25	2.98	7150K35	1.89	7150K62	2.01	7150K38	3.35	7150K42	2.19
1	7150K33	3.96	7150K26	4.26	7150K36	2.92	7150K63	3.09	7150K39	4.63	7150K43	3.04
1 1/4	7150K51	9.60	7150K27	10.66	7150K44	5.60	7150K64	6.21	7150K54	11.89	7150K47	6.59
1 1/2	7150K52	13.01	7150K28	13.40	7150K45	7.15	7150K65	7.65	7150K55	16.30	7150K48	11.55
2	7150K53	16.91	7150K29	18.98	7150K46	10.22	7150K66	11.05	7150K56	22.16	7150K49	15.02
2 1/2	7150K111	23.93	7150K114	39.91	7150K117	13.33	7150K211	17.64	7150K214	29.88	7150K217	15.93
3	7150K112	31.78	7150K115	50.31	7150K118	15.91	7150K212	21.61	7150K215	37.34	7150K218	17.04
4	7150K113	48.91	7150K116	75.68	7150K119	24.00	7150K213	30.64	7150K216	60.07	7150K219	19.67

Specialty Fittings

Compression ends offer a more reliable hold than screw-clamp or push-in ends.

Space-Saver Adapters—These secure conduit to a knockout without a locknut, leaving more space inside your outlet box or enclosure. Made of zinc-plated steel. UL and C-UL listed.

Screw-Clamp Offset Elbows—They have NPSM threads and include a locknut. Made of zinc. UL listed and CSA certified.

90° Compression Elbows—Have NPSM threads and include a locknut. Made of zinc. UL listed and CSA certified.

Screw-Clamp 90° Elbows with Removable Cover—The cover allows for quick access to pull wire and cable. Made of zinc. UL listed and CSA certified.

Screw-Clamp 90° Elbows—Made of zinc. UL listed.

Wye Reducers—Made of zinc. UL and C-UL listed.

Push-In 90° Elbows—Made of galvanized steel. UL listed and CSA certified.

Grommets—Slide into conduit ends to protect wire and cable from abrasion when being pulled. Made of plastic. UL listed and CSA certified.








Trade Size	Space-Saver Compression Adapters		Space-Saver Screw-Clamp Adapters		Screw-Clamp Offset Elbow Adapters		90° Compression Elbow Adapters		Screw-Clamp 90° Elbow Connectors with Removable Cover		Screw-Clamp 90° Elbow Connectors	
1/2	8081K61	$1.81	8081K71	$1.10	8081K41	$1.76	8081K31	$3.36	8081K21	$3.08	8081K91	$5.75
3/4	8081K62	2.51	8081K72	1.77	8081K42	3.26	8081K32	4.03	8081K22	4.04	8081K92	6.62
1	8081K63	4.15	8081K73	2.93			8081K33	5.33	8081K23	7.75		



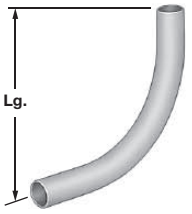



Wye Reducers

Trade Size (A)	Trade Size (B)		
3/4	1/2	8081K81	$8.78
1	3/4	8081K82	10.11

90° Push-In Elbow Connectors

Trade Size	Lg.		
1/2	6 1/8"	8081K11	$2.26
3/4	7 1/8"	8081K12	2.79
1	9"	8081K13	3.95
1 1/4	11"	8081K14	5.43
1 1/2	12 1/2"	8081K15	6.99
2	14 1/4"	8081K16	10.42
2 1/2	15 3/4"	8081K17	21.94
3	19"	8081K18	31.47
4	22 1/2"	8081K19	47.54

Grommets

Trade Size		
1/2	8096K61	$0.12
3/4	8096K62	.18
1	8096K63	.64
1 1/4	8096K64	1.13
1 1/2	8096K65	1.54
2	8096K66	2.06
2 1/2	8096K67	3.71
3	8096K68	4.46
4	8096K69	6.69

Choose-a-Color Thin-Wall (EMT) Steel Conduit and Fittings

Visually identify different runs of wire and cable along walls and ceilings with this conduit that has a painted exterior. Also known as electrical metallic tubing (EMT), it has thin walls that are easy to bend with a conduit bender and cut with a hacksaw.

Conduit

Conduit is unthreaded and UL listed.

5-ft. lengths can be shipped via small-parcel carrier.



To Order: Please specify black, blue, red, or white.

Trade Size	ID	OD	5-ft. Lengths		10-ft. Lengths	
1/2	0.62"	0.71"	1829T4	$3.11	1829T1	$4.66
3/4	0.82"	0.92"	1829T5	6.18	1829T2	7.77
1	1.05"	1.16"	1829T6	10.10	1829T3	13.11

Fittings

Fittings are made of steel and UL listed. **Adapters** have NPSM threads.




Trade Size	Choose a Color	Screw-Clamp Adapters		Screw-Clamp Connectors	
1/2	Blue, Red	9150T22	$1.31	9150T32	$1.68
3/4	Black, Blue, Red, White	9150T21	2.27	9150T31	2.67
1	Blue, Red	9150T23	3.74	9150T33	3.98

Medium-Wall (IMC) and Thick-Wall Steel Conduit and Fittings

With thicker walls than EMT, this steel conduit provides better strength and protection from impact in heavy duty applications.

Conduit



This conduit has one threaded NPT male end; the other end has a threaded NPT female connector. *5-ft. lengths* are cut from UL listed material and can be shipped via small-parcel carrier. *10-ft. lengths* are UL listed.

Medium Wall (IMC)—Also known as intermediate metallic conduit (IMC), this conduit is lightweight and strong. A smooth coating protects wire and cable from abrasion when being pulled.

Thick Wall (Rigid)—This impact- and crush-resistant conduit is also known as galvanized rigid conduit (GRC).

Trade Size	ID	OD	5-ft. Lengths		10-ft. Lengths	
Medium Wall (IMC)						
1/2	0.68"	0.82"	7385K11	$11.69	7385K71	$13.96
3/4	0.88"	1.03"	7385K12	13.55	7385K72	16.44
1	1.12"	1.29"	7385K13	18.20	7385K73	23.80
1 1/4	1.47"	1.64"	7385K14	22.29	7385K74	32.35
1 1/2	1.7"	1.88"	7385K15	32.97	7385K75	40.23
2	2.17"	2.36"	7385K16	33.12	7385K76	45.75

Trade Size	ID	OD	5-ft. Lengths		10-ft. Lengths	
Thick Wall (Rigid)						
1/2	0.63"	0.84"	7307K11	$19.85	7307K21	$22.96
3/4	0.84"	1.05"	7307K12	20.19	7307K22	23.65
1	1.06"	1.32"	7307K13	26.28	7307K23	37.68
1 1/4	1.39"	1.66"	7307K14	34.52	7307K24	53.61
1 1/2	1.62"	1.9"	7307K15	40.70	7307K25	60.36
2	2.08"	2.38"	7307K16	42.85	7307K26	74.88

Fittings

Attach medium-wall (IMC) and thick-wall (rigid) steel conduit to a knockout in an outlet box or enclosure. Fittings are UL listed.

Compression straight adapters offer a reliable hold on conduit. Made of zinc-plated steel. Locknut is included. CSA certified.

Compression straight connectors join two pieces of unthreaded conduit. Made of zinc-plated steel. CSA certified.

Straight connectors are made of galvanized steel and have NPSM female threads.

Three-piece straight connectors have two outer pieces that turn independently so you don't need to rotate the conduit. Made of zinc-plated, malleable iron. Have NPT threads.

Flanged straight adapters are also known as conduit nipples, chase nipples, and box adapters. The flange installs through a knockout from inside an outlet box or enclosure. Use with a locknut (not included) to create a short raceway between boxes or enclosures. Made of zinc and have NPSM threads. CSA certified.

90° elbow connectors with removable cover allow for quick access to pull wire and cable. Made of zinc and have NPSM threads. CSA certified.

90° elbow adapters are for tight spaces where conduit can't be bent. Made of iron. Trade sizes 1, 1 1/4, 1 1/2, and 2 are CSA certified. They have NPSM threads.

90° elbow connectors are made of galvanized steel and have NPT threads. CSA certified.

Straight adapters are also known as hubs. They have an insulated throat to protect wire and cable from abrasion when being pulled. Use in wet or dry locations. Made of zinc and have NPT threads on the conduit end and NPSM threads on the enclosure end. CSA certified.

Offset elbow connectors join knockouts on outlet boxes or enclosures that do not align. Offset is 3/4". Made of zinc and have NPSM threads. CSA certified.

Grommets connect to the end of conduit or a fitting to protect wire and cable from abrasion when being pulled. Made of polypropylene and have NPSM threads. CSA certified.

Grounding clamps ground conduit by running a ground wire through the attached lug. They are compatible with aluminum and copper wire. The included grommet protects wire and cable from abrasion when being pulled. They have a hinge to open for quick installation around conduit and secure with a screw, except 7513K251 is not hinged. They are made of zinc and are unthreaded, except 7513K251 has NPSM threads.








Trade Size	Compression Straight Adapters		Compression Straight Connectors		Straight Connectors		Three-Piece Straight Connectors		Flanged Straight Adapters Lg.			90° Elbow Connectors with Removable Cover	
1/2	7513K11	$3.99	7513K44	$5.88	7755K21	$1.09	7513K41	$4.30	5/8"	7513K17	$0.49	7513K51	$5.76
3/4	7513K12	5.89	7513K45	9.23	7755K22	1.36	7513K42	5.50	3/4"	7513K18	.77	7513K52	6.61
1	7513K13	8.54	7513K46	17.01	7755K23	1.88	7513K43	9.53	13/16"	7513K19	1.59	7513K53	11.79
1 1/4	7513K14	13.63	7513K47	20.74	7755K24	2.31	7513K34	19.37	7/8"	7513K21	2.38	7513K54	18.34
1 1/2	7513K15	19.29	7513K48	26.30	7755K25	2.92	7513K35	21.64	15/16"	7513K22	3.02		
2	7513K16	37.76	7513K49	54.14	7755K26	4.08	7513K36	41.78	1"	7513K23	4.70		


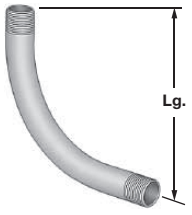






Trade Size	90° Elbow Adapters		90° Elbow Connectors Lg.			Straight Adapters		Offset Elbow Connectors		Grommets		Grounding Clamps	
1/2	7513K71	$3.83	6 1/8"	7513K31	$4.68	7513K81	$6.24	7513K24	$2.16	7513K211	$0.22	7513K251	$9.34
3/4	7513K72	4.85	7 1/8"	7513K32	5.52	7513K82	7.30	7513K25	2.70	7513K212	.30	7513K252	9.33
1	7513K78	28.41	9"	7513K33	8.59	7513K83	10.21	7513K26	3.29	7513K213	.55	7513K253	9.90
1 1/4	7513K74	36.54	11"	7513K37	13.14	7513K84	11.80	7513K27	4.94	7513K214	.64	7513K254	12.53
1 1/2	7513K75	50.34	12 1/2"	7513K38	16.57	7513K85	14.16	7513K28	6.73	7513K215	.82	7513K255	13.34
2	7513K76	61.83	14 1/4"	7513K39	23.71	7513K86	20.79	7513K29	9.40	7513K216	1.64	7513K256	18.44

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Medium-Wall (IMC) and Thick-Wall Steel Conduit and Fittings

(Continued from previous page)

Fittings (Cont.)

Fittings are UL listed.

Straight connectors are also known as nipple extensions. They extend the length of conduit or connect two outlet boxes or enclosures. They are zinc-plated steel and have NPT male threads. CSA certified.

Bushings join two different sizes of threaded conduit. They are zinc-plated steel and have NPSM threads.

Reducing washers reduce the knockout size in an outlet box or enclosure so you can attach a different size of conduit to it. Two reducing washers are required per knockout. They are steel, and CSA certified.

Raintight reducing washers seal out moisture while reducing a knockout size in an outlet box or enclosure. Each includes a steel washer and a rubber-coated steel gasket. C-UL listed.









Straight Connectors

Trade Size	Lg.		Each
Fully Threaded			
1/2	1 3/8"	7513K55	$0.95
3/4	1 3/8"	7513K58	1.18
1	1 1/2"	7513K68	2.00
Threaded Ends			
1/2	3"	7513K56	1.47
1/2	6"	7513K57	2.07
3/4	3"	7513K59	1.74
3/4	6"	7513K67	2.78
1	3"	7513K69	2.26
1	6"	7513K77	3.38

Trade Size (A)	Trade Size (B)	Bushings	Each	Reducing Washers	Pkg. of 10	Raintight Reducing Washers	Each
3/4	1/2	7514K31	$1.46	7513K371	$1.87	7513K221	$4.67
1	1/2	7514K32	2.38	7513K372	2.29	7513K222	5.78
1	3/4	7514K33	2.64	7513K373	2.29	7513K223	6.22
1 1/4	1/2	7514K34	4.49	7513K374	3.30		
1 1/4	3/4	7514K35	4.63	7513K375	3.30	7513K224	9.11
1 1/4	1	7514K36	4.82	7513K376	3.30		
1 1/2	1	7514K43	6.20	7513K383	4.83		
2	1/2	7514K37	11.09	7513K377	5.38	7513K225	11.67
2	3/4	7514K38	11.09	7513K378	5.38		
2	1	7514K39	11.09	7513K379	5.38		
2	1 1/4	7514K41	11.09	7513K381	5.38		
2	1 1/2	7514K42	11.09	7513K382	5.38		

Stainless Steel Conduit and Fittings

Use in food-processing and chemical plants—this is the most corrosion-resistant conduit we offer.

Conduit

Conduit is 304 stainless steel.

Thin-Wall (EMT) Conduit—Also known as electrical metallic tubing (EMT), this tubing has thin walls that are easy to bend with a conduit bender and cut with a hacksaw.

Rigid Conduit—This conduit is crush and impact resistant. It has one NPT threaded male end; the other end has an NPT threaded female connector. UL listed.

5-ft. lengths can be shipped via small-parcel carrier.





Trade Size	ID	*Thin-Wall (EMT) Conduit* OD	5-ft. Lengths		10-ft. Lengths		*Rigid Conduit* OD	5-ft. Lengths		10-ft. Lengths	
1/2	0.62"	0.71"	1831T11	$39.55	1831T21	$63.27	0.84"	5150K11	$57.55	5150K31	$92.50
3/4	0.82"	0.92"	1831T12	50.91	1831T22	81.45	1.05"	5150K12	71.13	5150K32	114.33
1	1.05"	1.16"	1831T13	75.42	1831T23	120.67	1.32"	5150K13	92.83	5150K23	149.33

Fittings

Fittings are 316 stainless steel.

Thin Wall (EMT)—The compression end provides a reliable hold on conduit in high-vibration applications.

Rigid—UL listed. *Straight connectors* have NPSM threads; *90° elbow connectors* have NPT threads. *Straight adapters* are also known as hubs. They have NPT male and female threads. They attach rigid stainless steel conduit to a knockout in an outlet box or enclosure.







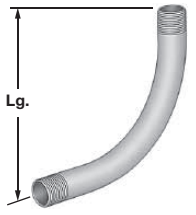



Trade Size	*Thin Wall (EMT)* Straight Compression Adapters		Straight Compression Connectors		*Rigid* Straight Connectors		90° Elbow Connectors Lg.		Straight Adapters	
1/2	1843T11	$31.98	1843T21	$43.30	3403K11	$24.67	6 11/16"	3403K21	$25.51	3403K31	$95.88
3/4	1843T12	33.74	1843T22	50.40	3403K12	27.56	7 3/16"	3403K22	28.36	3403K32	115.50
1	1843T13	41.22	1843T23	56.25	3403K13	37.80	9 9/16"	3403K23	47.76	3403K33	142.51

Locknuts for Metal Conduit Fittings

Secure threaded metal conduit fittings to a knockout in an outlet box or enclosure. Locknuts are compatible with NPT and NPSM threads.

Zinc-plated steel locknuts are UL listed and CSA certified.

Zinc-plated steel locknut with PVC molded gasket creates a seal for moisture protection. UL listed and CSA certified.

316 stainless steel locknuts are UL listed and C-UL listed.







Thread Size	Zinc-Plated Steel	Pkg. of 10	Zinc-Plated Steel with PVC Molded Gasket	Pkg. of 2	316 Stainless Steel	Each
1/2	7513K241	$2.55	7513K311	$1.98	7513K317	$6.35
3/4	7513K242	2.85	7513K312	2.52	7513K318	6.73
1	7513K243	3.78	7513K313	3.39	7513K319	7.12
1 1/4	7513K244	4.76	7513K314	4.25	7513K411	14.77
1 1/2	7513K245	5.38	7513K315	4.81	7513K412	14.77
2	7513K246	7.11	7513K316	6.72	7513K413	17.13

Access Ports for Metal Conduit

Also known as conduit bodies, these ports provide access to wire and cable inside conduit for pulling, splicing, and maintenance. They are also used to change the direction of a run. All are corrosion resistant and connect to medium-wall (IMC) and thick-wall (rigid) metal conduit. **Aluminum ports with set screw** also connect to thin-wall (EMT) steel conduit without a compression connector.

Aluminum—Ports have NPSM threads. UL listed.

Aluminum with Set Screw—Ports are UL listed. *Straights, tees,* and *90° elbows* have NPSM threads and are CSA certified. *90° elbows with two removable covers* have NPT threads. They are UL listed raintight for thick-wall (rigid) steel conduit and C-UL listed. *Any-style* ports can be configured as a straight, tee, 90° elbow, left elbow, or right elbow. They come with three ports with NPT threads and multiple cover plates for openings not in use. They are UL listed raintight for thick-wall (rigid) conduit and concrete-tight for thin-wall (EMT) conduit. CSA certified.

Iron—Ports are zinc plated and have NPT threads. UL listed and CSA certified.

316 Stainless Steel—Offer the best corrosion resistance. Ports have NPT threads. UL listed.









Trade Size	Straights (C)		Tees (T)		90° Elbows (LB)		90° Elbows with Two Removable Covers (LL, LR)		Any Style (C,T, LB, LL, LR)	
Aluminum										
1/2	7153K11	$5.23	7153K81	$6.54	7154K71	$5.05				
3/4	7153K12	6.63	7153K82	8.11	7154K72	6.80				
1	7153K13	9.60	7153K83	12.23	7154K73	9.70				
1 1/4	7153K14	19.11	7153K84	20.94	7154K74	19.98				
1 1/2	7153K15	20.26	7153K85	23.57	7154K75	20.50				
2	7153K16	29.87	7153K86	32.28	7154K76	31.74				
Aluminum with Set Screw										
1/2	9128K31	6.67	9128K51	8.15	9128K41	6.67	9128K61	$10.82	9128K21	$9.35
3/4	9128K32	8.10	9128K52	9.74	9128K42	7.86	9128K62	13.65	9128K22	13.88
1	9128K33	12.42	9128K53	13.84	9128K43	12.12	9128K63	19.82	9128K23	20.01
1 1/4	9128K34	21.39	9128K54	24.37	9128K44	21.46	9128K64	30.58	9128K24	32.38
1 1/2	9128K35	23.00	9128K55	27.31	9128K45	23.00	9128K65	37.24	9128K25	38.42
2	9128K36	40.47	9128K56	46.79	9128K46	40.39	9128K66	61.54	9128K26	65.34
Iron										
1/2	9190K71	13.30	9190K81	15.13	9190K91	13.30				
3/4	9190K72	15.50	9190K82	17.62	9190K92	15.50				
1	9190K73	23.25	9190K83	26.52	9190K93	20.93				
1 1/4	9190K74	33.80	9190K84	36.83	9190K94	30.42				
1 1/2	9190K75	39.54	9190K85	44.40	9190K95	39.54				
2	9190K76	61.53	9190K86	66.26	9190K96	61.53				
316 Stainless Steel										
1/2	8140K71	136.34	8140K81	145.57	8140K91	132.24				
3/4	8140K72	140.71	8140K82	160.95	8140K92	138.39				
1	8140K73	156.84	8140K83	182.47	8140K93	151.72				
1 1/4	8140K76	215.83	8140K86	247.50	8140K96	215.83				
1 1/2	8140K74	215.83	8140K84	291.14	8140K94	254.12				
2	8140K75	329.50	8140K88	350.60	8140K95	318.82				

Hazardous Location Conduit Fittings

Use to connect thick-wall (rigid) metal conduit to a knockout in an outlet box or enclosure. These fittings meet Class I and II, Division 1 and 2 standards for flammable gases and combustible dust in hazardous locations. Fittings are aluminum with NPT threads. UL listed and CSA certified.

Connectors have three pieces; the outer two pieces turn independently, so you don't need to rotate the conduit.

Fittings with **sealant chamber** require packing fiber and sealing compound (sold separately). They minimize the travel of gases and flames through conduit.





Trade Size	Adapters		Connectors	
1/2	7862T31	$13.35	7862T21	$11.78
3/4	7862T32	16.83	7862T22	15.30
1	7862T33	29.30	7862T23	28.07
1 1/4	7862T34	41.67	7862T24	46.16
1 1/2	7862T35	54.47	7862T25	50.31
2	7862T36	69.67	7862T26	64.59

Bushings

Trade Size (A)	(B)			Trade Size (A)	(B)		
3/4	1/2	7862T41	$2.57	1 1/4	1	7862T46	$5.24
1	1/2	7862T42	3.63	1 1/2	1	7862T47	8.54
1	3/4	7862T43	3.63	2	1	7862T48	11.63
1 1/4	1/2	7862T44	5.24	2	1 1/2	7862T49	12.28
1 1/4	3/4	7862T45	5.24				







Trade Size	Adapters with Sealant Chamber		Connectors with Sealant Chamber		Connectors with Removable Cover (C)		Tee Connectors with Removable Cover (T)		90° Elbow Connectors with Removable Cover (LB)	
1/2	7862T12	$19.89	7862T11	$16.93	7862T51	$59.73	7862T71	$61.02	7862T61	$59.73
3/4	7862T14	24.09	7862T13	20.24	7862T52	70.61	7862T77	71.63	7862T62	70.61
1	7862T16	30.74	7862T15	25.72	7862T53	108.84	7862T78	120.61	7862T63	108.84

Packing Fiber for Fittings with Sealant Chamber (2 oz.)	7862T91	$22.54
Sealing Compound for Fittings with Sealant Chamber (8 oz.)	7862T81	$10.15

Rigid PVC Conduit and Fittings

This conduit is corrosion resistant and UV light resistant for outdoor use. It is lightweight with strong walls to provide protection from damage. It can be buried or encased in concrete.

PVC cement is required (not included) when joining conduit and push-in ends on fittings and access ports.

Conduit

Also known as PVC Schedule 40 conduit. Both ends are unthreaded; the female end is expanded so another piece of conduit can be pushed in to connect without a fitting. Color is gray.

8-ft. lengths are cut from UL listed material and can be shipped via small-parcel carrier. *10-ft. lengths* are ETL listed.



Trade Size	ID	OD	8-ft. Lengths		10-ft. Lengths	
½	0.62″	0.84″	7912K11	$4.82	7912K1	$3.66
¾	0.82″	1.05″	7912K12	5.16	7912K2	4.56
1	1.05″	1.32″	7912K13	6.11	7912K3	6.53
1¼	1.38″	1.66″	7912K14	10.19	7912K4	9.53
1½	1.61″	1.9″	7912K15	10.31	7912K5	11.06
2	2.07″	2.38″	7912K16	$12.56	7912K6	$14.12
2½	2.47″	2.88″	7912K17	20.16	7912K7	22.68
3	3.07″	3.5″	7912K18	25.76	7912K8	27.52
4	4.03″	4.5″	7912K19	30.87	7912K9	38.50

Fittings

Use fittings to attach PVC Schedule 40 or Schedule 80 conduit to a knockout in an outlet box or enclosure. Fittings are UL listed, except 90° elbows are ETL listed and locknuts are UL recognized. The ends are unthreaded, unless otherwise stated. Color is gray.

Fittings with **NPSM threads** connect unthreaded conduit to threaded fittings and knockouts.

Push-in male × flanged end male adapters, also known as box adapters, install through a knockout from inside an electrical enclosure.

Reducing adapters connect two different sizes and genders of conduit.

Multi-angle elbow connectors also attach conduit to a knockout when you take off the removable ends to access the NPT threaded connections.













Trade Size	Straight Connectors		Push-In Female × NPSM Female Adapters		Push-In Female × NPSM Male Adapters		Push-In Male × Flanged-End Male Adapters		90° Elbow Connectors Lg.			Reducing Adapters (A)	(B)	
½	7945K11	$0.16	7945K21	$0.27	7945K31	$0.22	7945K71	$1.22	5½″	7945K41	$0.59	¾	½	7945K61 $1.14
¾	7945K12	.19	7945K22	.41	7945K32	.38	7945K72	1.22	6″	7945K42	.65	1	½	7945K62 3.40
1	7945K13	.30	7945K23	.54	7945K33	.49	7945K73	1.30	7⅝″	7945K43	1.03	1	¾	7945K63 2.65
1¼	7945K14	.41	7945K24	.76	7945K34	.62	7945K74	1.41	9¼″	7945K44	1.49	1¼	¾	7945K64 2.77
1½	7945K15	.57	7945K25	.78	7945K35	.76	7945K75	1.43	10¼″	7945K45	1.97	1¼	1	7945K65 3.43
2	7945K16	.76	7945K26	1.08	7945K36	1.08	7945K76	1.57	11½″	7945K46	2.68	1½	1	7945K66 4.93
2½	7945K17	1.32	7945K27	2.38	7945K37	2.08	7945K77	6.46	13½″	7945K47	4.70	1½	1¼	7945K67 3.57
3	7945K18	2.19	7945K28	2.97	7945K38	2.68	7945K78	6.49	16⅛″	7945K48	8.30	2	1¼	7945K68 5.93
4	7945K19	3.35	7945K29	3.97	7945K39	4.59	7945K79	7.49	19⅜″	7945K49	12.26	2	1½	7945K69 7.84
												2½	2	7945K84 12.09
												3	2	7945K85 14.53
												4	3	7945K86 16.19

Locknuts

Trade Size		
½	7945K81	$0.42
¾	7945K82	.52
1	7945K83	.63



Multi-Angle Elbow Connectors

Trade Size	Lg.		
½	10½″	7945K87	$5.11
¾	13″	7945K89	6.73
1	13½″	7945K91	14.57



Access Ports

Also known as conduit bodies, these ports provide access to wire and cable inside PVC Schedule 40 or Schedule 80 conduit for pulling, splicing, and maintenance. They are also used to change the direction of a run. PVC cement is required (not included) to secure the connection.

Ports are unthreaded. All include a cover and a rubber gasket. Color is gray. UL listed and CSA certified.

Any-style ports can be configured as a straight, tee, or 90° elbow. They come with multiple cover plates for openings not in use.













Trade Size	Straights (C)		Tees (T)		90° Elbows (LB)		Any Style (C, LB, LL, LR, T)	
½	7905K11	$5.23	7905K21	$6.02	7905K31	$4.69	7905K92	$3.85
¾	7905K12	6.70	7905K22	7.38	7905K32	5.98	7905K93	4.96
1	7905K13	6.29	7905K23	7.68	7905K33	6.59	7905K94	5.46
1¼	7905K14	12.10	7905K24	12.51	7905K34	10.01	7905K95	8.29
1½	7905K15	14.07	7905K25	16.47	7905K35	12.04	7905K96	9.96
2	7905K16	20.65	7905K26	23.40	7905K36	21.31	7905K97	17.63

About Cable and Hose Carriers

Carriers support and protect cable and hose during machine movement while also reducing safety hazards. They are often used between fixed and moving portions of machines. During installation, evenly distribute cable and hose weight within the carrier. The fixed end of the carrier should be mounted at the midpoint of travel. See pages 839-843 for flexible cable that is suitable for use with carriers.

Selecting the Right Carrier for Your Cable or Hose

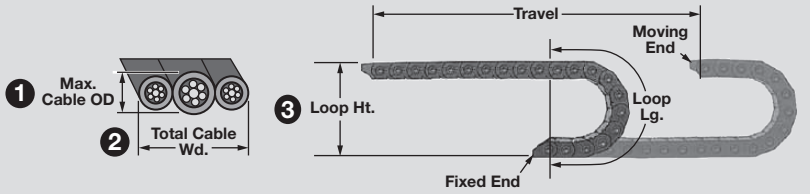

1. Measure the OD of your largest cable.

2. Measure the total width of your cables. This will enable you to choose a carrier that is wider than the sum of the ODs of your cables (total cable width).

3. Keep in mind how much vertical clearance you have. The loop height indicates the minimum vertical clearance required for the carrier. Also, take into account the flexibility of the carrier. The bend radius indicates how tightly the carrier can bend. To prevent damage to your cable, the bend radius of the carrier should be larger than or equal to the bend radius of your cable.

4. Once you have selected a part number, use the formula to determine the carrier length you need. We provide Loop Lg. for all of our carriers and you supply the travel length according to your application.

$$\text{Loop Lg., ft.} + \frac{\text{Travel, ft.}}{2} = \text{Carrier Length, ft.}$$

Example: Suppose you've selected a carrier with a loop length of 0.4 ft. and your application requires 6 ft. of travel. Using the formula, the carrier length necessary is 3.4 ft. Round up to the nearest foot and order a total of 4 ft. of carrier.

Snap-Together Cable and Hose Carriers

Connect lengths of carrier without tools—snap the links together to create the exact length you need to support and protect moving cable and hose. Lengths can be joined by hand, but a screwdriver is required for disassembly. Carriers are made of black nylon. Operating temperature is –40° to 245°F.

Open carriers promote air flow to prevent heat buildup and keep cable and hose visible. *Feed-through carriers* require cable and hose to be threaded through the entire length. *Lay-in carriers* have snap-on cross bars that allow access at any point along the length and make it easy to install cable and hose without threading it through.

Enclosed lay-in carriers protect cable and hose from damage caused by dirt, chips, and debris. They have snap-on cross bars that allow access at any point along the length and make it easy to install cable and hose without threading it through.

Mounting brackets are black nylon. Mounting fasteners are not included.

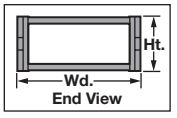









For Total Cable Wd.	Ht.	Wd.	Bend Radius	Loop Ht.	Loop Lg., ft.	Lengths, ft.	Open Feed-Through Carriers	Per Ft.	Open Lay-In Carriers	Per Ft.	Enclosed Lay-In Carriers	Per Ft.	Mounting Brackets	Pair
For 0.2″ Max. Cable OD														
0.2″	0.6″	0.5″	1.1″	2.8″	0.4	1, 3, 6	4516T44	$11.07	4409T21	$14.28			4556T31	$6.51
For 0.3″ Max. Cable OD														
0.3″	0.6″	0.7″	1.1″	2.8″	0.4	1, 3, 6	4516T45	11.81	4409T22	15.56			4556T32	7.30
0.3″	0.8″	0.7″	1.5″	3.7″	0.5	1, 3, 6	4516T52	14.40	4409T28	18.14			4556T38	8.44
0.5″	0.6″	0.9″	1.1″	2.8″	0.4	1, 3, 6	4516T46	12.47	4409T23	15.74			4556T33	8.12
0.6″	0.6″	1.1″	1.1″	2.8″	0.4	1, 3, 6	4516T47	13.35	4409T24	15.98			4556T34	9.21
0.9″	0.6″	1.5″	1.1″	2.8″	0.4	1, 3, 6	4516T48	16.05	4409T25	18.56			4556T35	10.05
1.3″	0.6″	1.9″	1.1″	2.8″	0.4	1, 3, 6	4516T49	16.47	4409T26	18.95			4556T36	10.72
1.6″	0.6″	2.3″	1.1″	2.8″	0.4	1, 3, 6	4516T51	17.28	4409T27	19.60			4556T37	11.40
For 0.5″ Max. Cable OD														
0.5″	0.8″	0.9″	1.5″	3.7″	0.5	1, 3, 6	4516T53	15.05	4409T29	18.33			4556T39	9.49
0.5″	0.9″	1.0″	1.5″	3.9″	0.6	1, 3, 6	55835K93	12.43	4409T35	19.67			55835K121	9.83
0.6″	0.8″	1.1″	1.5″	3.7″	0.5	1, 3, 6	4516T54	15.93	4409T31	18.58			4556T41	10.56
0.9″	0.8″	1.5″	1.5″	3.7″	0.5	1, 3, 6	4516T55	18.63	4409T32	21.14			4556T42	11.40
1.3″	0.8″	1.9″	1.5″	3.7″	0.5	1, 3, 6	4516T56	19.07	4409T33	21.56			4556T43	12.07
1.6″	0.8″	2.3″	1.5″	3.7″	0.5	1, 3, 6	4516T57	19.86	4409T34	22.21			4556T44	12.74
For 0.6″ Max. Cable OD														
0.8″	0.9″	1.4″	1.5″	3.9″	0.6	1, 3, 6	55835K94	12.83	4409T36	20.19			55835K122	9.83
1.2″	0.9″	1.9″	1.5″	3.9″	0.6	1, 3, 6	55835K95	13.98	4409T37	21.30			55835K123	9.83
1.6″	0.9″	2.4″	1.5″	3.9″	0.6	1, 3, 6	55835K96	14.74	4409T38	22.42			55835K124	9.83
For 0.9″ Max. Cable OD														
1.2″	1.4″	2.1″	2.2″	5.7″	0.9	1, 3, 6	4516T21	14.95	4409T51	18.09			4556T82	11.00
1.2″	1.4″	2.1″	3.9″	9.3″	1.4	1, 3, 6	4516T22	14.95	4409T52	18.09	4591T11	$30.70	4556T82	11.00
1.2″	1.4″	2.1″	4.9″	11.2″	1.6	1, 3, 6	4516T23	14.95	4409T53	18.09	4591T12	30.70	4556T82	11.00
1.8″	1.4″	2.9″	2.2″	5.7″	0.9	1, 3, 6	4516T24	16.60	4409T54	19.74			4556T83	11.00
1.8″	1.4″	2.9″	3.9″	9.3″	1.4	1, 3, 6	4516T25	16.60	4409T55	19.74	4591T13	32.28	4556T83	11.00
1.8″	1.4″	2.9″	4.9″	11.2″	1.6	1, 3, 6	4516T26	16.60	4409T56	19.74	4591T14	32.28	4556T83	11.00
2.4″	1.4″	3.7″	2.2″	5.7″	0.9	1, 3, 6	4516T27	18.67	4409T57	21.56			4556T84	11.00
2.4″	1.4″	3.7″	3.9″	9.3″	1.4	1, 3, 6	4516T28	18.67	4409T58	21.56	4591T15	32.79	4556T84	11.00
2.4″	1.4″	3.7″	4.9″	11.2″	1.6	1, 3, 6	4516T29	18.67	4409T59	21.56	4591T16	32.79	4556T84	11.00
3.3″	1.4″	4.7″	2.2″	5.7″	0.9	1, 3, 6	4516T31	21.86	4409T61	25.62			4556T85	11.00
3.3″	1.4″	4.7″	3.9″	9.3″	1.4	1, 3, 6	4516T32	21.86	4409T62	25.62	4591T17	34.35	4556T85	11.00
3.3″	1.4″	4.7″	4.9″	11.2″	1.6	1, 3, 6	4516T33	21.86	4409T63	25.62	4591T18	34.35	4556T85	11.00

(Continued on following page)

Snap-Together Cable and Hose Carriers *(Continued from previous page)*

For Total Cable Wd.	Ht.	Wd.	Bend Radius	Loop Ht.	Loop Lg., ft.	Lengths, ft.	Open Feed-Through Carriers	Per Ft.	Open Lay-In Carriers	Per Ft.	Enclosed Lay-In Carriers	Per Ft.	Mounting Brackets	Pair
For 1.3″ Max. Cable OD														
1.6″	2.0″	2.6″	2.5″	7.1″	1.1	1, 3, 6	4516T34	$22.95	4409T64	$29.51			4556T65	$14.57
1.6″	2.0″	2.6″	3.9″	9.8″	1.6	1, 3, 6	4516T35	22.95	4409T65	29.51	4591T19	$44.72	4556T65	14.57
1.6″	2.0″	2.6″	5.9″	13.8″	2.1	1, 3, 6	4516T36	22.95	4409T66	29.51	4591T21	44.72	4556T65	14.57
2.4″	2.0″	3.6″	2.5″	7.1″	1.1	1, 3, 6	4516T37	23.43	4409T67	29.95			4556T66	14.57
2.4″	2.0″	3.6″	3.9″	9.8″	1.6	1, 3, 6	4516T38	23.43	4409T68	29.95	4591T22	46.44	4556T66	14.57
2.4″	2.0″	3.6″	5.9″	13.8″	2.1	1, 3, 6	4516T39	23.43	4409T69	29.95	4591T23	46.44	4556T66	14.57
3.2″	2.0″	4.6″	2.5″	7.1″	1.1	1, 3, 6	4516T41	24.00	4409T71	30.86			4556T67	14.57
3.2″	2.0″	4.6″	3.9″	9.8″	1.6	1, 3, 6	4516T42	24.00	4409T72	30.86	4591T24	47.70	4556T67	14.57
3.2″	2.0″	4.6″	5.9″	13.8″	2.1	1, 3, 6	4516T43	24.00	4409T73	30.86	4591T25	47.70	4556T67	14.57
For 1.5″ Max. Cable OD—To Order: For mounting brackets, please specify for open or enclosed carrier.														
4.7″	2.5″	7.0″	5.9″	14.4″	2.0	1, 5			4617T31	48.55	4617T51	58.00	4617T711	28.99
4.7″	2.5″	7.0″	7.9″	18.3″	2.5	1, 5			4617T32	48.55	4617T52	58.00	4617T711	28.99
For 1.7″ Max. Cable OD														
2.4″	2.5″	3.7″	3.9″	10.4″	1.6	1, 3, 6			4409T74	30.93			4556T68	18.62
2.4″	2.5″	3.7″	5.9″	14.4″	2.4	1, 3, 6			4409T75	30.93	4591T27	46.52	4556T68	18.62
2.4″	2.5″	3.7″	7.9″	22.2″	3.0	1, 3, 6			4409T76	30.93	4591T28	46.52	4556T68	18.62
3.6″	2.5″	5.3″	3.9″	10.4″	1.6	1, 3, 6			4409T77	33.13			4556T69	18.62
3.6″	2.5″	5.3″	5.9″	14.4″	2.4	1, 3, 6			4409T78	33.13	4591T31	49.09	4556T69	18.62
3.6″	2.5″	5.3″	7.9″	22.2″	3.0	1, 3, 6			4409T79	33.13	4591T32	49.09	4556T69	18.62
5.5″	2.5″	7.7″	3.9″	10.4″	1.6	1, 3, 6			4409T81	43.98			4556T71	18.62
5.5″	2.5″	7.7″	5.9″	14.4″	2.4	1, 3, 6			4409T82	43.98	4591T34	55.30	4556T71	18.62
5.5″	2.5″	7.7″	7.9″	22.2″	3.0	1, 3, 6			4409T83	43.98	4591T35	55.30	4556T71	18.62
For 2″ Max. Cable OD—To Order: For mounting brackets, please specify for open or enclosed carrier.														
4.7″	3.3″	7.3″	5.9″	15.2″	2.5	1, 5			4617T37	56.56	4617T57	67.78	4617T712	47.38
4.7″	3.3″	7.3″	7.9″	19.1″	3.0	1, 5			4617T38	56.56	4617T58	67.78	4617T712	47.38
For 2.9″ Max. Cable OD—To Order: For mounting brackets, please specify for open or enclosed carrier.														
4.7″	4.3″	7.9″	5.9″	16.1″	2.2	1, 5			4617T44	72.76	4617T64	85.47	4617T713	57.00
4.7″	4.3″	7.9″	7.9″	20″	2.7	1, 5			4617T45	72.76	4617T65	85.47	4617T713	57.00

Dura-Guard Cable and Hose Carriers

Bands of stainless steel surround flexible black nylon to make these the most durable, protective carriers we offer. They resist corrosion and fully enclose cable and hose to minimize damage from dirt, chips, and debris. Remove the rivets in the links to make length adjustments. Operating temperature is –40° to 265°F.

Mounting brackets are aluminum and include fasteners. *Surface-mount* brackets can be attached with the mounting holes facing inside or outside the loop of the carrier.

Repair kit has two top and bottom stainless steel pieces, two center nylon pieces, and four connecting rivets.

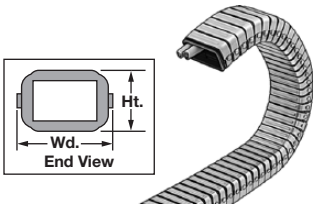







For Max. Cable OD	For Total Cable Wd.	Ht.	Wd.	Bend Radius	Loop Ht.	Loop Lg., ft.	Lengths, ft.	Carriers	Per Ft.	Surface-Mount Brackets	Pair	Side-Mount Brackets	Pair	Top-Mount Brackets	Pair
0.8″	1.4″	1.5″	2.4″	2.6″	6.6″	1.3	1, 2, 3, 4, 5	5608K71	$39.72	5608K511	$24.72	5608K513	$24.72	5608K514	$24.72
0.8″	1.4″	1.5″	2.4″	5.9″	13.3″	2.2	1, 2, 3, 4, 5	5608K72	39.72	5608K511	24.72	5608K513	24.72	5608K514	24.72
1.3″	2.3″	2.1″	3.6″	3.9″	9.9″	1.7	1, 2, 3, 4, 5	5608K73	44.62	5608K521	29.97	5608K523	29.97	5608K524	29.97
1.3″	2.3″	2.1″	3.6″	5.9″	13.9″	2.2	1, 2, 3, 4, 5	5608K74	44.62	5608K521	29.97	5608K523	29.97	5608K524	29.97
1.5″	3.2″	2.6″	4.9″	5.5″	13.7″	2.3	1, 2, 3, 4, 5	5608K75	60.25	5608K531	33.57	5608K533	33.57	5608K534	33.57
1.5″	3.2″	2.6″	4.9″	8.9″	20.4″	3.2	1, 2, 3, 4, 5	5608K76	60.25	5608K531	33.57	5608K533	33.57	5608K534	33.57
2.3″	3.2″	3.4″	5″	6.1″	15.6″	2.4	1, 2, 3, 4, 5	5608K77	68.22	5608K541	40.95				

Repair Kit (Please specify carrier part number) 5608K888

Heavy Duty Cable and Hose Carriers

A zinc-plated steel frame provides strength for a long service life. The open design of these carriers promotes air flow to prevent heat buildup and keeps cable and hose visible. Remove the steel pins in the links to make length adjustments. All of these carriers have aluminum cross-bars that twist out of the frame, allowing installation of cable from the top and access at any point along the length. Operating temperature is –10° to 265°F.

Mounting brackets can mount inside or outside the carrier frame. All are made of zinc-plated steel. Each set includes two brackets for the fixed end, two brackets for the moving end, and fasteners.

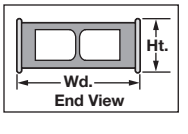



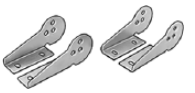

For Max. Cable OD	For Total Cable Wd.	Ht.	Wd.	Bend Radius	Loop Ht.	Loop Lg., ft.	Lengths, ft.	Carriers	Per Ft.	Mounting Brackets	Set
1″	2.7″	2″	4.7″	4.5″	11″	2	1, 2, 3, 4, 5	56135K61	$59.17	56135K71	$16.75
1″	2.7″	2″	4.7″	6.1″	14.2″	2.5	1, 2, 3, 4, 5	56135K62	59.17	56135K71	16.75
1″	4.3″	2″	6.7″	4.5″	11″	2	1, 2, 3, 4, 5	56135K63	62.50	56135K71	16.75
1″	4.3″	2″	6.7″	6.1″	14.2″	2.5	1, 2, 3, 4, 5	56135K64	62.50	56135K71	16.75
1.5″	5.9″	2.7″	9″	6.7″	16.1″	3	1, 2, 3, 4, 5	56135K65	68.35	56135K72	24.58
1.5″	7.5″	2.7″	11″	6.7″	16.1″	3	1, 2, 3, 4, 5	56135K66	72.60	56135K72	24.58

Low-Vibration Cable and Hose Carriers

A flexible one-piece design minimizes vibration, clicking, and jumping for smooth, quiet travel. Use for vibration-sensitive applications such as printing and scanning. There are no links or hinges, making these carriers suitable for Class 3 clean room use. Snap off the crossbars to load the cable and hose into the carrier. They are made of black nylon and can be shortened with a screwdriver. Operating temperature is –40° to 158° F.

Mounting brackets are black nylon. Mounting fasteners are not included.



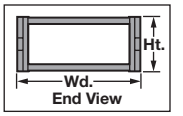



For Max. Cable OD	For Total Cable Wd.	Ht.	Wd.	Bend Radius	Loop Ht.	Loop Lg., ft.	Lengths, ft.	Carriers	Per Ft.	Mounting Brackets	Pair
0.9″	1.7″	1.4″	2.6″	3″	7.5″	0.9	1, 3, 6	5607K94	$31.02	5607K101	$20.38
1.2″	2″	1.7″	3.1″	3″	9″	1	1, 3, 6	5607K95	46.03	5607K102	33.27
1.4″	2.1″	2.1″	3.2″	3″	8.2″	1	1, 3, 6	5607K96	52.67	5607K103	33.87
1.8″	2.5″	2.6″	4″	3″	8.7″	1	1, 3, 6	5607K97	54.77	5607K104	45.47
2.1″	2.9″	3.3″	5″	5″	13″	1.5	1, 3, 6	5607K98	66.75	5607K105	57.08
2.8″	3.3″	4.3″	6″	6″	20.3″	2	1, 3, 6	5607K99	101.02	5607K106	99.33

Any-Which-Way Snap-Together Cable and Hose Carriers

Capable of turning and flexing up to 380° in any direction, these round carriers are a perfect match for robotic arms. Press cable and hose into the interior. The carriers hold cable in both the top and bottom chambers. Lengths can be snapped together by hand, but a screwdriver is required for disassembly. Made of black nylon. Operating temperature is –40° to 175° F.

Mounting brackets are black nylon. Mounting fasteners are not included. *End brackets* have teeth for strain relief. Use *supporting brackets* as needed along the length of the carrier.



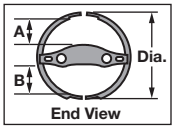





For Max. Cable OD (A)	(B)	Dia.	Bend Radius	Lengths, ft.	Carriers	Per Ft.	End Mounting Brackets	Each	Supporting Mounting Brackets	Each
0.4″	0.5″	1.7″	2.3″	1, 3, 6	5614K1	$65.72	5614K5	$97.86	5614K9	$97.86
0.7″	0.8″	2.6″	3.4″	1, 3, 6	5614K2	67.37	5614K6	113.90	5614K11	113.90
0.9″	1.0″	3.2″	4.3″	1, 3, 6	5614K3	71.45	5614K7	126.88	5614K12	126.88
1.2″	1.4″	4.3″	5.7″	1, 3, 6	5614K4	79.38	5614K8	139.72	5614K13	139.72

Cable and Hose Trays

For ease of installation and great accessibility, lay cable and hose in trays instead of pulling it through conduit or raceway. The trays support the weight and prevent sagging while routing. Trays and accessories are aluminum, except hanging clamps and hanging bars are steel.

Trays

Trays offer excellent ventilation and support up to 280 lbs. per foot (based on a tray support, such as a pair of hanging clamps or a hanging bar, every 8 feet). Usable depth is 3″. Trays include two straight connectors to join sections, except horizontal tees include four straight connectors.

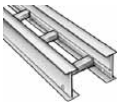

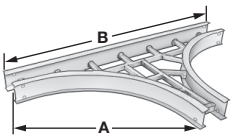

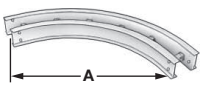

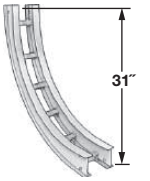

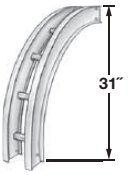

Wd.	Dp.	Straights	6 ft.	12 ft.	Horizontal Tees (A)	(B)		90° Horizontal Bends (A)		90° Vertical Inside Bends		90° Vertical Outside Bends	
6″	4″	30065T11	$115.33	$187.45	30″	60″	30065T321 $282.09	30″	30065T317 $125.60	30065T334	$167.16	30065T734	$167.16
12″	4″	30065T12	122.79	200.43	33″	66″	30065T421 357.95	33″	30065T417 148.19	30065T434	179.89	30065T834	179.89
18″	4″	30065T13	135.08	220.97	36″	72″	30065T422 331.61	36″	30065T418 164.88	30065T534	186.14	30065T836	186.14
24″	4″	30065T14	146.27	240.68	39″	78″	30065T453 359.62	39″	30065T419 218.66	30065T634	196.08	30065T838	196.08

Accessories

Accessories include mounting hardware, unless otherwise stated. Threaded rod is not included, please see pages 3182-3197. **Drop outs** relieve stress on cable as it exits the tray. **Hanging clamps** attach to the sides of a tray section to suspend it from ½″-13 threaded rod using two hex nuts (not included) on each clamp. **Hanging bars** have slotted strut channel that you suspend from ½″-13 threaded rod; the tray rests on the channel.













For Tray Wd.	Straight Connectors	Pair	Hinged Connectors	Pair	Vertical-Adjustment Connectors	Pair	Drop Outs	Each	Hanging Clamps	Pair	Hanging Bars	Each
6″	30065T513	$12.93	30065T511	$76.87	30065T512	$74.46	30065T331	$13.40	30065T518	$16.20	30065T222	$21.33
12″	30065T513	12.93	30065T511	76.87	30065T512	74.46	30065T441	21.36	30065T518	16.20	30065T223	23.46
18″	30065T513	12.93	30065T511	76.87	30065T512	74.46	30065T551	24.56	30065T518	16.20	30065T224	25.90
24″	30065T513	12.93	30065T511	76.87	30065T512	74.46	30065T443	27.76	30065T518	16.20	30065T225	29.12

Formable Cable and Hose Trays

Cut, bend, and connect these wire mesh trays to route cable and hose in configurations such as curves, slopes, and tees. They are a lightweight option for organizing larger groups of cable than can fit in most conduit and raceway. Trays can be cut with bolt cutters.

Black-painted steel blends into dark backgrounds. **Zinc-plated steel** offers good corrosion resistance in most environments. **Stainless steel** provides the best corrosion resistance.

Trays

Each package contains two 78″ long sections of tray and two straight connectors for joining the two sections in a straight line.

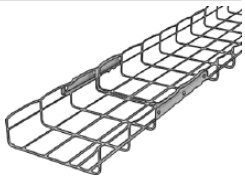

Wd.	Dp.	Work Load Limit, lbs.★	Black-Painted Steel	Pkg.	Zinc-Plated Steel	Pkg.	Stainless Steel	Pkg.
2″	2″	10	1823T43	$61.23	1823T11	$61.23	1823T21	$77.62
4″	2″	10	1823T44	104.88	1823T12	104.88	1823T22	128.27
8″	2″	20	1823T45	117.57	1823T13	117.57	1823T23	171.25
12″	2″	29	1823T46	140.13	1823T14	140.13	1823T24	197.17

★ Based on mounting brackets spaced every 6 feet.

Accessories

Use two **straight connectors** to join two sections in a straight line.

Connecting clamps join two straight or curved sections.

Drop outs relieve stress on cable as it exits the tray.

Hanging clips attach to sides of tray to suspend it from 1/4″-20, 3/8″-16, or 1/2″-13 threaded rod (not included, see pages 3182-3197). Two nuts and two washers (not included) are required for each clamp.

Wall mounting brackets have 1/4″ dia. mounting holes (fasteners not included).

Ceiling and **straight mounting brackets** have 5/16″ dia. mounting holes (fasteners not included).



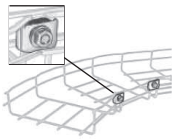



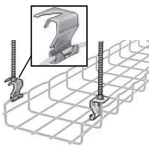







For Tray Wd.	Straight Connectors	Each	Connecting Clamps	Pkg. of 2	Drop Outs	Each	Hanging Clips	Pkg. of 2	Mounting Brackets: Wall	Each	Ceiling	Each	Straight	Each
Black-Painted Steel														
2″	1823T47	$4.84	1823T51	$3.12	1823T55	$7.40								
4″	1823T47	4.84	1823T51	3.12	1823T55	7.40			1823T52	$7.40	1823T87	$12.94		
8″	1823T47	4.84	1823T51	3.12	1823T55	7.40			1823T57	10.88	1823T88	14.62	1823T91	$7.26
12″	1823T47	4.84	1823T51	3.12	1823T55	7.40			1823T65	13.54	1823T89	19.88	1823T92	10.88
Zinc-Plated Steel														
2″	1823T58	4.84	1823T61	3.12	1823T54	7.40	1823T63	$5.04						
4″	1823T58	4.84	1823T61	3.12	1823T54	7.40	1823T63	5.04	1823T71	7.40	1823T81	12.94		
8″	1823T58	4.84	1823T61	3.12	1823T54	7.40	1823T63	5.04	1823T73	10.88	1823T83	14.62	1823T93	7.26
12″	1823T58	4.84	1823T61	3.12	1823T54	7.40	1823T63	5.04	1823T75	13.54	1823T85	19.88	1823T95	10.88
Stainless Steel														
2″	1823T59	15.37	1823T62	3.98	1823T56	25.38	1823T64	9.58						
4″	1823T59	15.37	1823T62	3.98	1823T56	25.38	1823T64	9.58	1823T72	25.52	1823T82	65.12		
8″	1823T59	15.37	1823T62	3.98	1823T56	25.38	1823T64	9.58	1823T74	53.76	1823T84	77.42	1823T94	26.26
12″	1823T59	15.37	1823T62	3.98	1823T56	25.38	1823T64	9.58	1823T76	51.28			1823T96	39.50

Raceway

Also known as wireway and wire trough, raceway routes and protects cable, hose, and electrical wiring. It's made of 0.06″ thick steel with a gray finish. A removable screw-on cover allows you to lay cable in the raceway instead of pulling it through (10-ft. raceway section has two overlapping covers). Raceway sections have four 1/4″ dia. mounting holes (10-ft. lengths have six) for wall or ceiling mounting. Mounting fasteners are not included. UL listed, CSA certified, and meets NEMA 1 standards for indoor use.

Raceway with knockouts has combination 1/2 and 3/4 trade size and combination 1 and 1 1/4 trade size knockouts. It has an equal number of knockouts on the top and bottom.

90° elbows and **tees** have removable covers. A **connector** is required to join components, except end caps and end flanges. Connectors have a swing gate for easy connection and include connecting hardware. **End caps** terminate a raceway or fitting and include connecting hardware. They have a combination 1 1/4 and 1 1/2 trade size knockout. **End flanges** create a secure raceway connection to an enclosure or wall.





Lg., ft.	Raceway		Raceway with Knockouts: No. of Knockouts	
4″ Wd. × 4″ Dp.				
1	8130K112	$13.63	6	8130K111 $13.63
2	8130K132	21.64	14	8130K131 21.64
5	8130K152	47.26	38	8130K151 47.26
10	8130K172	95.34	78	8130K171 95.34
6″ Wd. × 6″ Dp.				
1	8130K122	27.43	6	8130K121 27.43
2	8130K142	38.71	14	8130K141 38.71
5	8130K162	72.78	38	8130K161 72.78
10	8130K182	162.60	78	8130K181 162.60







Wd.	Dp.	90° Elbows		Tees		6″ to 4″ Reducer	
4″	4″	8130K21	$38.93	8130K23	$43.17	8130K36	$55.44
6″	6″	8130K24	44.97	8130K28	50.05		







Wd.	Dp.	Connectors		End Caps		End Flanges	
4″	4″	8130K19	$4.96	8130K29	$4.81	8130K27	$14.34
6″	6″	8130K22	7.01	8130K34	6.25	8130K32	19.96

Dust-Tight Raceway

Gaskets on the covers and at connection points protect against dust as well as seeping oils and coolant. Raceway, 90° elbows, tees, and the reducer have a hinged cover, allowing you to lay cable, hose, and electrical wiring in the raceway instead of pulling it through. All are made of 0.08″ thick steel with a gray finish. The cover gaskets are urethane foam and the end gaskets are neoprene rubber. Rated NEMA 12 for indoor use and resistance to falling liquids and light splashing; nonhazardous dust, lint, and fibers; and oil and coolant seepage. **Raceway, 90° elbows,** and **tees** are UL listed and CSA certified.

All components include connecting hardware. A **box connector** is required to join raceway to an enclosure. **End caps** terminate a raceway or fitting. **Wall hangers** have four 5/16″ dia. mounting holes; mounting fasteners are not included.



Lg., ft.	Raceway	
4″ Wd. × 4″ Dp.		
1	9892T11	$99.56
2	9892T12	127.31
5	9892T13	209.88
10	9892T14	346.60
6″ Wd. × 6″ Dp.		
1	9892T31	127.02
2	9892T32	170.75
5	9892T33	301.38
10	9892T34	518.63







Wd.	Dp.	90° Elbows		Tees	
4″	4″	9892T15	$167.90	9892T16	$203.21
6″	6″	9892T35	199.48	9892T36	244.02

6″ to 4″ Reducer
9892T21 $127.31







Wd.	Dp.	Box Connectors		End Caps		Wall Hangers	
4″	4″	9892T18	$34.00	9892T17	$30.99	9892T19	$16.18
6″	6″	9892T38	40.83	9892T37	37.17	9892T39	22.52

Corrosion Resistant Washdown Raceway

In areas exposed to washdowns, chemicals, and corrosion, install this 0.08″ thick stainless steel raceway that has oil-resistant polyurethane gaskets at the connection points. Size is 4″ Wd. × 4″ Dp. UL listed, CSA certified, and meets NEMA 4X standards for indoor and outdoor protection against corrosion and water projected from a hose.

Raceway has a cover secured with heavy duty hinges on one side and screw clamps on the other. This allows you to lay cable, hose, and electrical wiring in the raceway instead of pulling it through.

All components include connecting hardware. A **box connector** is required to join raceway to an enclosure. An **end cap** terminates a raceway or fitting. **Overhead hanger** and **wall hanger** can be mounted to the raceway flange in various configurations. They have 9/32″ dia. mounting holes; mounting fasteners are not included.





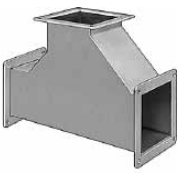









Lg., ft.	Raceway		90° Elbow		Tee		Box Connector		End Cap		Overhead Hanger		Wall Hanger	
1	8511K11	$314.33	8511K21	$295.34	8511K23	$354.89	8511K19	$61.36	8511K27	$55.79	8511K33	$62.20	8511K37	$40.54
2	8511K13	386.98												
5	8511K15	616.78												
10	8511K17	988.09												

Low-Voltage Raceway

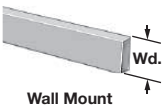

Wall Mount



Lay-In Wall Mount

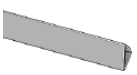
Corner Mount

Route low-voltage data and control cables (up to 90 volts AC/DC) while keeping them organized and hidden from view. Raceway has an adhesive back for mounting and can be painted.

Wall-mount raceway comes flat on a roll, ready to be cut to length and folded around cable. One surface has an additional adhesive strip for closing, except 1767T1 and 1767T2 snap closed. Made of polypropylene, except 1767T1 and 1767T2 are PVC and meet UL 94V0 for flame retardance.

Lay-in wall-mount raceway allows you to insert and remove cable at any point along the length. Made of PVC.

Corner-mount raceway has a triangular shape to fit in corners. It comes flat on a roll, ready to be cut to length and folded around cable. One surface has an additional adhesive strip for closing. Made of polypropylene.

Wd.	Dp.	Lg., ft.	Black		White	
Wall Mount						
1/4″	1/8″	50	_____	____	1767T1	$36.76
3/8″	3/8″	50	_____	____	1767T2	43.13
3/4″	1/2″	10	1767T13	$10.78	1767T14	10.78
3/4″	1/2″	25	1767T15	27.27	1767T16	27.27
1 1/8″	1/2″	10	1767T4	12.75	1767T3	12.75
1 1/8″	1/2″	25	1767T8	29.09	1767T7	29.09
Lay-In Wall Mount						
1 3/4″	7/8″	5	1767T17	10.78	_____	____
2 1/4″	1 3/16″	5	1767T18	14.71	_____	____
Corner Mount						
3/4″	3/4″	10	_____	____	1767T11	13.24
3/4″	3/4″	25	_____	____	1767T12	30.00

Low-Profile Single-Channel Raceway

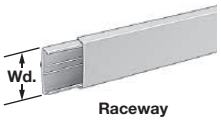

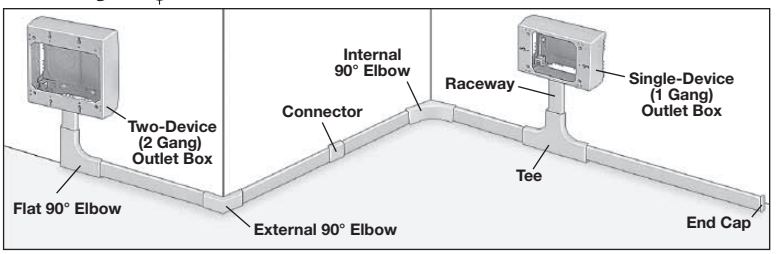

Surface mount this small raceway on walls that you can't get inside of to run power, data, and control wiring. It conceals wires and takes up little space. Each section of raceway includes a cover and can be cut with a hacksaw. Raceway and components are ivory and can be painted. All are compatible with Wiremold raceway of the same size. UL and C-UL listed.

PVC with Snap-On Cover—This cover style provides easy access to wires. For low-voltage applications less than 30 volts AC/42 volts DC, you can mount raceway using its adhesive back. For applications up to 600 volts AC/DC, mount raceway with screws (not included).

Steel—Raceway is 0.04″ thick and has a slide-on cover. To install, fasten a **wall hanger** to the wall and press the raceway onto the hanger. Wall hanger has a 9⁄32″ dia. hole (screw not included).

Steel with Snap-On Cover—Provides easy access to wires. Raceway is 0.04″ thick and has 9⁄32″ dia. mounting holes (screws not included).

Outlet boxes accept any standard wall plate; see page 893.

	PVC with Snap-On Cover						*Steel*		*Steel with Snap-On Cover*	
	7⁄8″ Wd. x 7⁄16″ Dp.		1 5⁄16″ Wd. x 7⁄16″ Dp.		2 1⁄4″ Wd. x 11⁄16″ Dp.		3⁄4″ Wd. x 17⁄32″ Dp.		1 29⁄32″ Wd. x 7⁄8″ Dp.	
Raceway (5-ft. Lg.)	70075K21	$13.36	70075K22	$15.02	70075K23	$21.55	9274K1	$9.52	9320K1	$15.61
Connectors	70075K24	.76	70075K25	.69	70075K26	1.19	9274K11	.61	9320K11	1.64
End Caps	70075K27	1.09	70075K28	1.25	70075K29	1.86	_____	___	9320K16	1.14
Flat 90° Elbows	70075K31	2.94	70075K32	3.04	70075K33	3.30	9274K12	2.36	9320K12	9.07
Internal 90° Elbows	70075K34	2.71	70075K35	2.83	70075K36	3.30	9274K13	2.95	9320K13	7.30
External 90° Elbows	70075K37	2.71	70075K38	2.83	70075K39	3.30	9274K14	2.71	9320K14	12.14
Tees	70075K41	3.86	70075K42	3.96	70075K43	4.00	9274K32	5.70	9320K19	13.00
Wire Retention Clips	70075K44	.50	70075K45	.56	70075K46	.86	_____	___	9320K15	.72
Wall Hanger	_____	___	_____	___	_____	___	9274K31	.66	_____	___
Single-Device (1 Gang) Outlet Boxes	70075K87	8.85	70075K87	8.85	70075K87	8.85	9274K33	8.55	9320K17	12.47
Two-Device (2 Gang) Outlet Boxes	70075K88	14.38	70075K88	14.38	70075K88	14.38	9274K34	15.41	9320K18	26.76

Low-Profile Multichannel Raceway



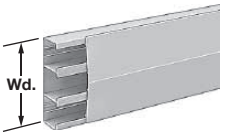

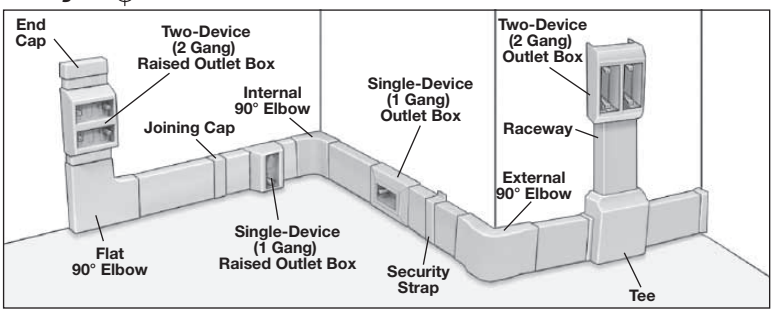

With more than one channel, this raceway allows you to separate power and data wiring to prevent interference. Surface mount raceway where you can't get inside walls. It conceals wires and has a low profile and a cover that provides easy access. The elbows meet the 1 1⁄4″ bend radius required for fiber optic cable. Raceway and components are made of PVC and are flame retardant. They are off-white and can be painted. Raceway sections can be cut with a hacksaw. Use in applications up to 600 volts AC/DC. UL listed and CSA certified.

Two-Channel Raceway—Raceway section has a hinged cover and is 2.12″ Wd. x 1.04″ Dp. For low-voltage applications less than 50 volts AC/DC, you can mount raceway using its adhesive back. For applications up to 600 volts AC/DC, mount with screws (not included).

Three-Channel Raceway—Raceway section has a snap-on cover and is 4.5″ Wd. x 1.63″ Dp. Mount with screws (not included).

Outlet Box Covers—For two- and three-channel raceway. One cover is required for single-device boxes; two are required for two-device boxes.

Data Cable Jacks (RJ-45)—Snap jacks into the outlet box cover for data cable jacks (71865K14).

Raceway

	Two Channel		Three Channel	
Raceway (5-ft. Lg.)	71865K261	$19.36	71865K411	$35.73
Joining Caps	71865K421	1.22	71865K551	3.62
Security Straps	71865K461	1.58	71865K891	4.74
End Caps	71865K431	2.27	71865K511	5.86
Flat 90° Elbows	71865K311	6.06	71865K221	18.26
Internal 90° Elbows	71865K331	6.06	71865K231	12.11
External 90° Elbows	71865K351	6.36	71865K241	12.75
Tees	71865K371	7.06	71865K561	20.94
Single-Device (1 Gang) Outlet Boxes	71865K271	9.68	71865K611	11.92
Two-Device (2 Gang) Outlet Boxes	71865K281	13.86	71865K612	12.20
Single-Device (1 Gang) Raised Outlet Box	_____	___	71865K621	12.04
Two-Device (2 Gang) Raised Outlet Box	_____	___	71865K631	15.69
Wire Retention Clips (Pkg. of 10)	_____	___	71865K725	10.60

Accessories

Outlet Box Covers		
Toggle Switch	71865K11	$2.26
Duplex Receptacle	71865K12	2.14
GFCI Receptacle	71865K64	2.26
Two Data Cable Jacks	71865K14	2.26
Blank	71865K13	2.16
Data Cable Jacks (RJ-45)		
Category 5E	1209T18	3.49
Category 6	7355T21	5.73

Wire Duct

Often used as an alternative to cable ties, wire duct guides and organizes short runs of wire and cable in electrical enclosures, control panels, and machines. For longer runs, mount lengths end-to-end (they do not connect). Duct is made of PVC and comes with a cover. UL recognized, CSA certified, and meets UL 94V0 for flame retardance.

Slotted duct has fingers that hold wires in, yet allow you to direct wires in and out of the duct (remove fingers to enlarge the opening size). Duct has 0.2″ dia. mounting holes (screws not included).

Solid duct completely encloses wire. It does not have mounting holes (except 69865K51 has 0.2″ dia. mounting holes), so you can drill your own or use adhesive to mount.

Snap-on Cover

All of this duct has a removable cover that snaps on. **Solid** duct is gray.

To Order: For *slotted* duct, please specify gray or white, unless noted.



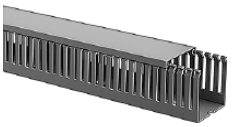


		Slotted				Slotted with Adhesive Back				Narrow Slotted				Solid		
Ht.	Wd.	Slot Wd.		3′3″	6′6″	Slot Wd.		3′3″	6′6″	Slot Wd.		3′3″	6′6″		3′3″	6′6″
5/8″	1/2″	0.20″	7578K11★	$13.67	$20.86	0.20″	7578K41★	$16.48	$25.36					69865K11	$13.70	$19.66
3/4″	3/4″													69865K51■		16.87
1″	1/2″	0.20″	7578K12★	14.28	21.63	0.20″	7578K42★	17.10	26.13					69865K12	14.30	20.60
1″	1″	0.40″	7578K13■		20.62	0.40″	7578K43■		24.83	0.20″	75835K11	$17.35	$26.27	69865K13	17.43	25.48
1 1/2″	1″	0.31″	7578K14	20.98	31.67	0.31″	7578K44	24.45	39.00	0.16″	75835K12	20.37	31.67	69865K14	21.01	30.53
1 1/2″	1 1/2″	0.31″	7578K16	21.93	33.20	0.31″	7578K46	26.48	40.77	0.16″	75835K14	22.73	36.31	69865K42	23.92	34.08
2 1/4″	1 1/2″	0.31″	7578K17	23.99	36.38	0.31″	7578K47	28.98	44.43	0.16″	75835K15	24.25	38.30	69865K43	25.15	37.83
2 1/4″	2 1/4″	0.31″	7578K19	23.42	35.32	0.31″	7578K49	28.25	43.37	0.16″	75835K17	23.42	35.32	69865K45	24.33	39.51
2 1/4″	3″	0.31″	7578K91	31.70	50.38	0.31″	7578K62	37.74	61.76	0.16″	75835K19	31.87	50.24	69865K72	29.87	49.81
3″	1″	0.31″	7578K15	23.25	39.02	0.31″	7578K45	31.13	47.54	0.16″	75835K13	26.32	39.73	69865K41	28.25	41.20
3″	1 1/2″	0.31″	7578K18	28.31	42.92	0.31″	7578K48	34.09	52.37	0.16″	75835K16	28.31	42.92	69865K44	30.00	45.69
3″	2 1/4″	0.31″	7578K21	29.66	44.80	0.31″	7578K61	35.71	54.52	0.16″	75835K18	29.76	44.95	69865K71	29.05	48.32
3″	3″	0.31″	7578K92	35.33	53.64	0.31″	7578K63	42.51	65.39	0.16″	75835K21	33.99	53.65	69865K73	34.29	58.24
3″	4″	0.31″	7578K94	40.99	67.53	0.31″	7578K65	46.52	75.82	0.16″	75835K23	39.02	64.67	69865K75	36.78	61.80
4″	3″	0.31″	7578K93	44.08	67.02	0.31″	7578K64	51.45	78.90	0.16″	75835K22	42.28	66.88	69865K74	40.26	66.11
4″	4″	0.31″	7578K95	43.04	70.52	0.31″	7578K66	51.86	85.91	0.16″	75835K24	43.04	70.52	69865K76	44.80	74.53

★ Available in gray only. ■ Length is 6 ft.

Hinged Cover

A hinged cover saves time when you need frequent access to your wires. It also prevents cover loss and secures the sidewalls, making this duct sturdier than duct with a snap-on cover. Color is gray.




		Slotted			Solid		
Ht.	Wd.	Slot Wd.		3 ft.	6 ft.		3 ft.	6 ft.
2″	1 3/4″	0.31″	9401K1	$35.33	$54.40	1376K1	$34.05	$52.42
3 1/16″	1 3/4″	0.31″	9401K2	42.33	65.15	1376K2	41.08	63.23
2″	2 3/16″	0.31″	9401K3	36.32	55.91	1376K3	32.88	52.64
3 1/16″	2 3/16″	0.31″	9401K4	44.85	69.02	1376K4	43.11	66.82
4 1/8″	2 3/16″	0.31″	9401K5	50.41	80.70	1376K5	48.39	78.51
3 1/16″	3 1/4″	0.31″	9401K6	52.82	84.57	1376K6	50.70	82.35
4 1/8″	3 1/4″	0.31″	9401K7	60.08	100.18	1376K7	58.91	98.24
4 1/8″	4 1/4″	0.31″	9401K8	66.29	110.51	1376K8	65.24	108.80

Flexible Wire Duct



Made of flexible polypropylene, this duct bends to route wire around curves. The slotted fingers overlap to form a canopy over wires, yet allow you to direct wires in and out. For mounting, duct has an adhesive back and 10 mounting holes, unless noted (mounting screws not included). Color is gray.

Ht.	Wd.	Lg.	Mounting Hole Dia.		
1/2″	1/2″	19 3/4″	0.16″	69775K83▲	$7.11
3/4″	1/2″	19 3/4″	0.18″	69775K11	7.80
1 3/8″	1″	19 3/4″	0.17″	69775K12	10.86
1 3/4″	1 3/8″	19 3/4″	0.25″	69775K13	14.21

▲ 20 mounting holes.

Cable Protection Tape



Adhesive on the edges keeps this cloth tape in place on any clean surface, including carpeting. A vinyl coating on the underside of the tape creates a smooth channel that makes it easy to pull through cables, cords, and wires. The tape can be repositioned several times without loss of adhesion. It is 0.01″ thick and can be torn by hand. Temperature range is 50° to 200° F.

Wd.	Channel Wd.	Lg., yds.	Black/Yellow		Black	
3″	1 1/2″	40	77065A1	$33.28	77065A4	$33.28
6″	3 1/2″	40	77065A2	66.57	77065A5	66.57

Connectable Cable Protectors

Snap together as many of these interlocking protectors as you need to span sidewalks, roads, and plant floors. They reduce tripping hazards and prevent damage to cable and hose. Protectors resist weather and abrasion.

Single Channel



Drop Over



Lay In

Made of polyurethane with a tread pattern that improves traction.

Drop-over protectors can be placed over existing cable and hose. *Light duty* protector is for areas with pedestrian traffic.

Lay-in protectors have a slit on the top that allows you to place your cable in the channel, keeping it off the floor.

Wd.	Channel Wd.	Channel Ht.	Work Load Limit, lbs.	Choose a Color	3-ft. Protectors	
Light Duty Drop Over						
5 1/4"	1 1/2"	1/2"	———	Black, Orange	9384K4	$27.49
Drop Over						
5 1/4"	1 1/2"	1/2"	6,125	Black, Red	9384K2	42.31
10 1/2"	4"	1"	8,850	Black, Red	9384K1	95.53
11 1/2"	1 1/4"	1 1/4"	11,700	Orange	1686K21	209.09
14 1/4"	2 1/4"	2 1/4"	8,500	Orange	1686K61	213.96
20"	7 3/4"	1 3/4"	7,450	Black, Red	9384K3	299.12
Lay In						
11 1/2"	1 1/4"	1 1/4"	11,700	Orange	1686K22	172.91
14 1/4"	2 1/4"	2 1/4"	8,500	Orange	1686K82	213.96

Multichannel



Heavy Duty Protector (4 Channel)

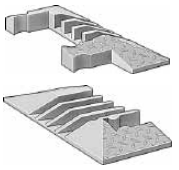

End Caps for Heavy Duty Protector (4 Channel)

Multiple channels let you separate different types of cable and hose. Protectors consist of a base with a hinged cover that opens for cable access. All are made of polyurethane.

Light duty protector is gray and yellow.

Heavy duty protectors are black and yellow. **End caps** come in pairs: one female and one male. Color is yellow.

No. of Channels	Channel Wd.	Channel Ht.	3-ft. Protectors	Each	1-ft. End Caps	Pair
Light Duty—5,000 lbs. Work Load Limit						
5	16 7/16"	1 1/4"	1 1/4"	73085K41	$179.42	———
Heavy Duty—14,200 lbs. Work Load Limit						
3	18 1/2"	2 1/8"	2 1/8"	73085K51	395.62	73085K52 $208.98
4	17 1/2"	1 1/4"	1 1/4"	73085K61	304.95	73085K71 147.77
5	19 3/4"	1 3/8"	1"	73085K62	316.98	73085K72 158.32

Bendable Cable Protectors



Curve these protectors left or right to route cable around bends and corners while minimizing tripping hazards. Protectors are segmented and curve without leaving a gap between sections. The sections snap together for easy length adjustment. Made of ABS plastic with nonskid pads on the bottom. Color is black and yellow. For indoor use.

Wd.	Channel Wd.	Channel Ht.	Work Load Limit, lbs.	3-ft. Lengths		1-ft. Extensions	
3"	3/4"	3/8"	16,000	9882T11	$38.89	9882T13	$14.44
9 3/4"	3"	3/4"	6,750	9882T15	99.54	9882T17	35.65
13 5/8"	3"	1 1/2"	6,750	9882T19	133.33	9882T25	48.15

Light Duty Cable Protectors



Protector



Connector

Protect wire, cord, and cable from carts, pedestrians, and other light traffic. Made of thick, flexible PVC, these durable protectors have a tapered profile with a flat bottom. Thread your cable through the channel or slit the underside of the protector with a utility knife and insert the cable. Includes tape with adhesive on both sides for easy installation. For indoor use.

Connector fits all sizes and serves as a tee, riser, L, 4-way, or terminal box. Made of PVC.

To Order: Please specify beige, black, brown, gray, or yellow.

Lg., ft.	Channel Wd.	Channel Ht.		
5	3"	3/4"	1/2"	7350K8 $17.10
10	2 3/4"	1/2"	5/16"	7350K9 22.71
25	3"	3/4"	1/2"	7350K11 73.65
Connector				7350K12 12.44

Heavy Duty Cable Protectors

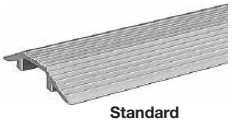

Standard

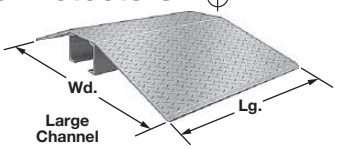

Large Channel

Made of aluminum with a textured surface, these cable protectors resist corrosion and withstand heavy pedestrian and equipment traffic.

Standard protectors have serrations for slip resistance.

Large channel protectors span large hose, wire, pipe, and cable. They have a diamond tread surface for improved traction.

Lg., ft.	Wd.	Channel Wd.	Channel Ht.	Work Load Limit, lbs.		
Standard						
2	7"	2 1/2"	3/4"	10,000	8085K8	$95.98
3	7"	2 1/2"	3/4"	10,000	8085K9	121.18
4	7"	2 1/2"	3/4"	10,000	8085K11	170.50
4	9 1/8"	2 1/2"	1 1/4"	10,000	8085K1	212.73
6	9 1/8"	2 1/2"	1 1/4"	10,000	8085K2	303.18
Large Channel						
2	36"	4"	4"	2,000	2233T71	310.10
2	40"	8"	4"	2,000	2233T72	333.04
2	44"	12"	4"	2,000	2233T73	355.10
2	48"	16"	4"	2,000	2233T74	362.75
4	36"	4"	4"	2,000	2233T75	598.82
4	40"	8"	4"	2,000	2233T76	644.90
4	44"	12"	4"	2,000	2233T77	684.31
4	48"	16"	4"	2,000	2233T78	727.45

Wire Pulling Clamps

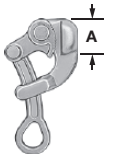

Without Latch (7285K4 and 7285K5)

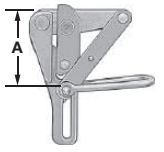

Without Latch (7285K1 and 7285K9)



With Latch

Pull wire and cable and maintain tension until the line can be permanently anchored. Use with stranded bare steel wire and cable. Clamps have a tight grip and are for applications where marring can be tolerated. Made of steel. Warning: Do not use as an anchor.

Without Latch—7285K1 and 7285K9 have spring-loaded jaws that grip the cable before tensioning to aid proper positioning.

With Latch—These clamps provide a more secure grip that prevents wire and cable from slipping out of the jaws. 7285K8 and 7285K22 can be used with wire rope.

Cable Dia. Range	Cable Guide Lg. (A)	Work Load Limit, lbs.		
Without Latch				
0.06"-0.25"	1 9/16"	2,500	7285K4	$69.66
0.08"-0.2"	3"	1,500	7285K1	105.49
0.13"-0.5"	2 1/8"	5,000	7285K5	104.30
0.22"-0.55"	5"	8,000	7285K9	264.56
With Latch				
0.13"-0.5"	2 1/8"	5,000	7285K21	117.66
0.28"-0.75"	2 1/2"	8,000	7285K8	141.62
0.5"-1"	2 1/2"	8,000	7285K22	173.44

Fish Tape & Cable Pullers

Fish Tape



Steel



Compact Steel



Stainless Steel and Fiberglass

Move wire through conduit and raceway—attach your wire to the tape and fish it through. Tape comes on a plastic reel with a handle; the reel for compact steel tape also has a winding knob.

Steel and **compact steel** tape is flat, so it's good for long runs without multidirectional bends.

Stainless steel tape is flat for long runs without multidirectional bends. It won't rust or corrode, making it suitable for damp areas.

Super-flex stainless steel tape is round and stranded. It's flexible enough for pulling through multiple bends, yet it's stiff enough to push through tough runs without backing up. Tape has a stainless steel core surrounded by a hard nylon jacket to resist rust and corrosion in damp areas.

Nonconductive fiberglass tape is oval. It has a plastic tip and is safer to use around energized equipment than metal tape. Use for pushing only.

Lg., ft.	Tape Wd.	Tape Thick.		
Steel				
65	1/8″	1/16″	7313K21	$48.79
125	1/8″	1/16″	7313K23	68.41
250	1/8″	1/16″	7313K25	94.04
Compact Steel				
25	1/4″	1/32″	7100K11	10.93
Stainless Steel				
120	1/8″	1/16″	3466K11	82.91
240	1/8″	1/16″	3466K12	112.16
Super-Flex Stainless Steel				
50	3/16″ Dia.	___	7288K22	90.02
100	3/16″ Dia.	___	7288K33	121.32
Nonconductive Fiberglass				
60	3/16″	3/32″	7423K12	74.09
120	3/16″	3/32″	7423K13	103.58

Conduit Threading Line



Bucket

Use a blower or vacuum to insert this lightweight pulling line into conduit or raceway, attach your pulling rope, and guide the rope through. Note: Not for directly pulling wire or cable.

1,000-ft. roll is nylon and has a breaking strength of 80 lbs. Color is white.

6,500-ft. bucket has a handle and center hole for easy dispensing. Rope is polypropylene and has a breaking strength of 210 lbs. Line is mildew resistant, so it can be left in place for future use. Color is white with a blue marking strand.

1,000-ft. Roll	5043K3	$21.41
6,500-ft. Bucket	5043K2	45.78

Fish Tape Pullers

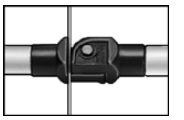



The two-piece hinged design allows you to use both hands for twice the pulling force. It also prevents tape from kinking and is safer than using pliers for pulling tasks. Overall length is 12″.

4861K66 ..... $41.96

Fish Tape Leaders



Single-Loop Leader



Multi-Loop Leader

Attach your steel fish tape or pulling wires to the end of these leaders for guiding through conduit bends. Leaders have a blunt nose for smooth travel inside conduit.

Single-loop leader handles up to six 10-ga. bare wires. Use with flat and round fish tape.

Multi-loop leader has six staggered eyelet loops to prevent bunching and snagging in tight bends. Use with flat fish tape.

	Lg.		
Single-Loop Leader	12 1/4″	6611K62	$16.03
Multi-Loop Leader (6 Loops)	11 1/4″	6611K65	19.04

Cable-Pulling Grips



The greater the pulling force, the tighter the wire mesh grips your cable. Use for pulling one or more cables through conduit. A flexible pulling loop allows you to pull at an angle. Mesh is galvanized steel. For more than one cable, measure the circumference of the bundle and divide by 3.14 to determine the cable diameter range you need. CSA certified.

For Cable Dia.	Mesh Lg.	Work Load Limit, lbs.		
Standard Duty Single Weave				
0.25″-0.36″	4 3/4″	340	7283K1	$20.76
0.37″-0.49″	7″	340	7283K2	25.31
0.50″-0.61″	8″	340	7283K3	27.53
0.62″-0.74″	10″	560	7283K4	31.93
0.75″-0.99″	10″	820	7283K5	36.35
1.00″-1.24″	12″	820	7283K6	38.53
6-Pc. Single Weave Grip Set (one of each above)			7283K7	170.58
Heavy Duty Double Weave				
0.37″-0.49″	13″	520	7283K8	60.93
0.50″-0.74″	17″	680	7283K9	67.84
0.75″-0.99″	20″	1,100	7283K11	75.47
1.00″-1.24″	28″	1,620	7283K12	79.17
1.25″-1.49″	32 1/2″	1,620	7283K13	82.05
1.50″-1.99″	36″	1,620	7283K14	84.83
6-Pc. Double Weave Grip Set (one of each above)			7283K15	430.63

Wire and Cable Push-Pull Rods



6-ft. Rod with Eyelet on Each End

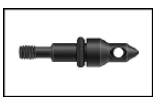

Eyelet

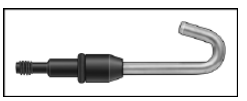

Hook

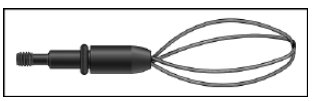

Whisk

Route wire and cable outside of conduit in drop ceilings and behind walls. Rods are nonconductive fiberglass, which is safer to use around energized equipment than metal rods. The rods glow in the dark for good visibility. The smaller the rod diameter, the more flexible the rod and the better its ability to make tight bends. Rods with multiple sections are threaded and have removable ends.

O'all Lg.	Rod Sections	Rod Dia.	Ends		
6 ft.	Single 6-ft.	5/32″	Eyelet on each end	4078K12	$15.35
20 ft.	Four 5-ft.	3/16″	One eyelet and one hook	4078K13	79.17
24 ft.	Three 6-ft. and two 3-ft.	1/4″	One eyelet and one hook	4078K11	83.14
35 ft.	Six 5-ft. and two 2.5-ft.	Four 3/16″; four 1/4″	One whisk, two eyelets, two hooks	4078K14	132.92

Cord Grips

Relieve tension at connection points and prevent cable pull out. As you tighten these grips, a nylon inner ring and a rubber bushing secure your cable and prevent overtightening. All have NPT threads. Temperature range is –30° to 225°F. UL listed and CSA certified. Prices are approximately 10% lower for 10 or more of the same item.

Liquid-tight cord grips include a zinc-plated steel locknut and a metal-clad rubber O-ring for the threaded end to seal panel connections. Rated IP66 for protection from power jets of water, and NEMA 4X and 13 for protection from washdowns, corrosion, and oil/coolant spraying.

Aluminum—Lightweight, yet durable.

Steel—Has good strength and zinc plating for corrosion resistance. *90° elbows* have a zinc-plated iron body and a zinc-plated steel outer compression nut.

Nylon—Chemical resistant with thick walls and a knurled collar for hand tightening. Color is gray.

Standard





For Cord Dia.	Trade Size	Straights				90° Elbows			
			Aluminum	Steel	Nylon		Aluminum	Steel	Nylon
0.06″-0.13″	1/4	7529K101	—	—	$7.60	—	—	—	—
0.06″-0.13″	3/8	7529K201	$7.30	—	—	—	—	—	—
0.06″-0.13″	1/2	7529K39	7.61	—	7.90	—	—	—	—
0.06″-0.13″	3/4	7529K401	7.90	—	—	—	—	—	—
0.13″-0.19″	1/4	7529K12	7.30	—	7.60	—	—	—	—
0.13″-0.19″	3/8	7529K73	7.30	$8.40	7.60	—	—	—	—
0.13″-0.19″	1/2	7529K16	7.60	8.60	7.90	7466K71	$12.60	—	$13.20
0.13″-0.19″	3/4	7529K74	7.91	9.31	—	—	—	—	—
0.19″-0.25″	1/4	7529K72	7.30	—	7.60	—	—	—	—
0.19″-0.25″	3/8	7529K15	7.30	—	7.60	—	—	—	—
0.19″-0.25″	1/2	7529K17	7.60	8.60	7.90	7466K8	12.60	$15.40	13.20
0.19″-0.25″	3/4	7529K79	7.90	9.30	—	—	—	—	—
0.25″-0.31″	1/4	7529K37	7.30	—	7.60	—	—	—	—
0.25″-0.31″	3/8	7529K1	7.30	8.40	7.60	7466K311	12.60	—	—
0.25″-0.31″	1/2	7529K302	7.60	—	—	—	—	—	—
0.25″-0.38″	1/2	7529K4	7.60	8.60	7.90	7466K1	12.60	15.40	13.20
0.25″-0.38″	3/4	7529K6	7.90	9.30	—	—	—	—	—
0.31″-0.35″	1/4	7529K38	7.30	—	7.60	—	—	—	—
0.31″-0.38″	3/8	7529K2	7.30	—	7.60	7466K322	12.60	—	—
0.31″-0.38″	1/2	7529K303	7.60	—	—	—	—	—	—
0.38″-0.44″	1/4	7529K104	—	—	7.60	—	—	—	—
0.38″-0.44″	3/8	7529K3	7.30	8.40	7.60	7466K331	12.60	—	—
0.38″-0.44″	1/2	7529K304	7.60	—	—	—	—	—	—
0.38″-0.5″	1/2	7529K5	7.60	8.60	7.70	7466K2	12.60	15.40	13.20
0.38″-0.5″	3/4	7529K7	7.90	9.30	8.50	7466K3	15.20	18.50	16.50
0.38″-0.5″	1	7529K49	10.41	—	10.60	—	—	—	—
0.5″-0.6″	1/2	7529K18	7.60	8.90	7.90	7466K9	12.60	15.40	13.20
0.5″-0.63″	3/4	7529K8	7.90	9.30	8.50	7466K4	15.20	18.50	16.50
0.5″-0.63″	1	7529K11	10.40	14.20	10.60	7466K611	23.90	—	—
0.63″-0.72″	1/2	7529K45	7.90	9.30	—	—	—	—	—
0.63″-0.75″	3/4	7529K9	9.80	14.20	8.50	7466K5	15.20	18.50	16.50
0.63″-0.75″	1	7529K71	10.40	15.20	10.60	7466K12	23.90	29.90	25.50
0.75″-0.85″	1/2	7529K46	7.91	9.31	—	—	—	—	—
0.75″-0.85″	3/4	7529K19	10.40	14.20	8.50	7466K11	15.20	18.50	16.50
0.75″-0.88″	1	7529K55	10.40	15.20	10.80	7466K13	23.90	—	25.50
0.88″-0.97″	1	7529K59	10.40	22.70	10.80	7466K14	23.90	—	25.50
0.88″-1″	1 1/4	7529K631	32.20	—	—	7466K161	47.10	—	—
1″-1.1″	1	7529K62	10.20	—	10.80	7466K404	23.90	—	—
1″-1.13″	1 1/4	7529K641	32.20	—	—	7466K171	47.10	—	—
1.13″-1.25″	1 1/4	7529K661	32.20	—	—	7466K181	47.10	—	—
1.25″-1.38″	1 1/2	7529K681	37.60	—	—	—	—	—	—
Locknut and O-Ring Kit (Please specify trade size)									7466K88

Liquid Tight





For Cord Dia.	Trade Size	Straights				90° Elbows			
			Aluminum	Steel	Nylon		Aluminum	Steel	Nylon
0.13″-0.19″	1/2	8302K11	$12.40	$13.60	$12.60	—	—	—	—
0.19″-0.25″	1/2	8302K12	12.40	13.60	12.60	8317K2	$17.30	$18.90	$17.80
0.25″-0.38″	1/2	8302K13	12.30	13.60	12.60	8317K3	17.30	20.00	17.80
0.25″-0.38″	3/4	8302K16	13.20	15.30	—	—	—	—	—
0.38″-0.5″	1/2	8302K14	12.30	13.60	12.50	8317K4	17.30	20.00	17.80
0.38″-0.5″	3/4	8302K17	13.20	15.30	13.60	8317K6	20.20	24.30	21.80
0.38″-0.5″	1	8302K42	16.40	—	16.60	—	—	—	—
0.5″-0.6″	1/2	8302K15	12.40	14.00	12.60	8317K5	17.30	20.60	17.80
0.5″-0.63″	3/4	8302K18	13.20	15.30	13.60	8317K7	20.20	24.30	21.80
0.5″-0.63″	1	8302K22	16.80	19.10	17.00	8317K11	30.60	—	—
0.63″-0.75″	3/4	8302K19	15.00	19.10	13.60	8317K8	20.20	24.30	21.80
0.63″-0.75″	1	8302K23	16.80	22.20	17.00	—	—	—	—
0.75″-0.85″	3/4	8302K21	15.40	19.10	13.60	8317K9	20.40	24.30	21.80
0.88″-1″	1 1/4	8302K261	42.60	—	—	8317K121	42.60	—	—
1″-1.13″	1 1/4	8302K271	42.60	—	—	8317K131	42.60	—	—
1.13″-1.22″	1 1/4	8302K281	42.60	—	—	8317K141	42.60	—	—

Compact Liquid-Tight Cord Grips

Sized to fit in tight areas, grips have a rubber bushing and O-ring to provide liquid-tight entry for cable, wire, and tubing. They are rated IP68 for protection from water submersion, and NEMA 4X and 6 for protection from washdowns, corrosion, and temporary water submersion. Grips are nylon. They include nylon locknuts, except 1¼ and 1½ trade sizes have zinc-plated steel locknuts. Grips have NPT threads, except ¼ trade size has PG-7 threads. Temperature range is –20° to 210°F. Color is black. UL listed, except ¼ and ⅜ trade sizes are UL recognized. All are CSA certified.

Continuous-flex grips provide extra support for moving cables and prevent kinking for longer cable life.

Standard




For Cord Dia.	Trade Size	Straights		90° Elbows	
0.08″-0.2″	¼	69915K46	$2.43		
0.08″-0.24″	⅜	69915K52	2.82	7008K71	$9.11
0.12″-0.26″	¼	69915K47	2.43		
0.16″-0.31″	⅜	69915K51	2.82	7008K72	9.11
0.2″-0.35″	½	69915K54	3.24	7008K73	10.82
0.24″-0.47″	½	69915K53	3.24	7008K74	10.78
0.35″-0.63″	¾	69915K56	4.43	7008K75	17.45
0.39″-0.55″	½	69915K57	3.46	7008K77	12.20
0.51″-0.71″	¾	69915K55	4.43	7008K76	17.45
0.51″-0.79″	1	69915K72	7.57		
0.51″-0.79″	1¼	69915K74	9.17		
0.71″-0.98″	1	69915K71	7.57		
0.71″-0.98″	1¼	69915K73	9.17		
0.79″-1.02″	1½	69915K77	22.05		
0.87″-1.26″	1½	69915K75	22.05		

Continuous Flex




For Cord Dia.	Trade Size	Straights		90° Elbows	
0.08″-0.2″	¼	69915K48	$2.73		
0.08″-0.24″	⅜	69915K62	3.24	7008K81	$9.96
0.12″-0.26″	¼	69915K49	2.73		
0.16″-0.31″	⅜	69915K61	3.24	7008K82	9.96
0.2″-0.35″	½	69915K64	3.73	7008K83	12.58
0.24″-0.47″	½	69915K63	3.73	7008K84	12.58
0.35″-0.63″	¾	69915K66	6.36	7008K85	18.74
0.39″-0.55″	½	69915K67	3.97	7008K87	13.40
0.51″-0.71″	¾	69915K65	6.36	7008K86	18.74

Submersible Cord Grips

Use these nickel-plated brass grips in up to 300 feet of water, underground, and in other locations where protection from corrosion, salt, oil, and fuel is essential. They have a rubber seal and O-rings for a liquid-tight connection. All are rated IP68 and IP69K to withstand water submersion and high-temperature, high-pressure washdowns. Grips include a nickel-plated brass locknut. They have NPT threads, except ¼ trade size has PG-7 threads. Temperature range is –20° to 210°F. UL listed, except ¼ and ⅜ trade sizes are UL recognized. All are CSA certified.

Continuous-flex grips provide extra support for moving cables and prevent kinking for longer cable life.




For Cord Dia.	Trade Size	Standard		Continuous Flex	
0.08″-0.2″	¼	6907K8	$5.64	6907K21	$20.18
0.08″-0.24″	⅜	6907K11	8.00	6907K23	23.76
0.12″-0.26″	¼	6907K9	5.58	6907K22	20.18
0.16″-0.31″	⅜	6907K12	8.18	6907K24	23.76
0.2″-0.35″	½	6907K13	10.30	6907K25	30.30
0.24″-0.47″	½	6907K14	10.30	6907K26	30.30
0.35″-0.63″	¾	6907K15	17.73	6907K27	45.94
0.51″-0.71″	¾	6907K16	17.73	6907K28	45.94
0.51″-0.79″	1	6907K17	50.70		
0.71″-0.98″	1	6907K18	50.70		

Dust-Tight Cord Grips with Mesh



Prevent dust and cable pull-out from compromising your connections. A plastic bushing seals out dust and dirt while steel mesh provides a secure hold in applications where cable is pulled or in motion. The mesh reduces stress on the cable and prevents kinking for longer cable life. Grips are aluminum and include a zinc-plated steel locknut. All have NPT threads. Temperature range is –40° to 220°F. UL listed and CSA certified.

For Cord Dia.	Trade Size	Mesh Lg.		
0.22″-0.32″	½	4½″	70175K1	$14.48
0.3″-0.43″	½	4¾″	70175K2	16.06
0.4″-0.54″	½	6″	70175K3	16.58
0.52″-0.73″	¾	7½″	70175K4	18.72
0.7″-0.97″	1	9¼″	70175K5	21.40
0.94″-1.25″	1¼	11″	70175K6	29.02
1.2″-1.5″	1½	11¾″	70175K7	48.71
1.4″-1.75″	2	14″	70175K8	60.12
1.62″-2″	2½	15½″	70175K9	88.87
2″-2.45″	2½	17″	70175K11	99.22

Chemical-Resistant Cord Grips with Mesh

With a polyester body and flexible nylon mesh, these grips resist most chemicals and are corrosion resistant. They have a nitrile/PVC bushing and a rubber O-ring to provide a liquid-tight seal. The mesh offers a secure hold in applications where cable is pulled or in motion. It reduces stress on the cable and prevents kinking for longer cable life. Grips include a zinc-plated steel locknut. All have NPT threads. Temperature range is –40° to 225°F. Color is gray. UL listed and CSA certified.




For Cord Dia.	Trade Size	Mesh Lg.	Straights		90° Elbows	
0.38″-0.44″	½	5½″	8083K14	$46.97	8083K36	$64.87
0.44″-0.5″	½	5½″	8083K15	46.97	8083K37	64.87
0.44″-0.56″	¾	5½″	8083K19	50.70	8083K42	79.89
0.5″-0.63″	¾	5¾″	8083K21	50.70	8083K43	79.89
0.63″-0.75″	¾	9″	8083K23	50.70	8083K45	81.45
0.75″-0.88″	1	8″	8083K29	66.72	8083K52	86.40
0.88″-1″	1	7⅛″	8083K32	66.72	8083K54	86.40

Harsh Environment Cord Grips with Mesh

All of these heavy duty aluminum grips meet Class I, Div. 2; Class II, Div. 1 and 2; and Class III, Div. 1 and 2 standards for use in hazardous locations. They have stainless steel mesh for a secure hold in applications where cable is pulled or in motion. The mesh reduces stress on the cable and prevents kinking for longer cable life. Grips have rubber O-rings clad with zinc-plated steel and include a zinc-plated steel locknut. All have NPT threads. Temperature range is –30° to 240°F. UL listed and CSA certified.

Prices are approximately 10% lower for 10 or more of the same item.




For Cord Dia.	Trade Size	Mesh Lg.	Straights		90° Elbows	
0.25″-0.38″	½	3⅝″	6957K43	$56.95	6957K59	$86.52
0.38″-0.5″	½	4⅛″	6957K45	56.91	6957K61	86.52
0.38″-0.5″	¾	4⅛″	6957K73	64.09	6957K82	97.41
0.5″-0.6″	½	4⅜″	6957K71	58.55	6957K81	80.00
0.5″-0.63″	¾	4⅜″	6957K55	62.08	6957K62	101.50
0.5″-0.63″	1	4⅝″	6957K57	80.26	6957K64	108.18
0.63″-0.72″	½	6″	6957K72	58.36		
0.63″-0.75″	¾	6″	6957K56	65.57	6957K63	101.50
0.63″-0.75″	1	5¾″	6957K58	80.26	6957K65	108.18
0.75″-0.85″	¾	5⅞″	6957K74	70.82	6957K83	97.50
0.75″-0.88″	1	6″	6957K75	85.82	6957K84	104.48
0.88″-0.97″	1	6¼″	6957K76	85.82	6957K85	104.48
1″-1.1″	1	5⅝″	6957K77	85.82	6957K86	104.48
1″-1.13″	1¼	5¾″	6957K78	119.48	6957K87	142.24

PG- and Metric-Thread Liquid-Tight Cord Grips

These grips have PG (European standard) or metric male threads, plus rubber bushings and O-rings to seal out liquid. UL listed, unless noted. All are CE marked.

Chemical Resistant—Grips resist most corrosives as well as salt water, oil, and grease. They are also flame retardant and self extinguishing. Made of nylon and include a nylon locknut. Temperature range is 0° to 175° F. Color is gray. CSA certified.

Submersible—Rated IP68 for protection from water submersion. Made of nickel-plated brass and include a nickel-plated brass locknut. Temperature range is 0° to 210° F.

Corrosion Resistant—Made of stainless steel for the best protection from corrosion. They include a nickel-plated brass locknut. Temperature range is –20° to 210° F. Grips are rated IP68 for protection from water submersion. CSA certified.



Chemical Resistant



Submersible and Corrosion Resistant

For Cord Dia.	Thread Size		
PG Threads			
Chemical Resistant			
0.08″–0.28″	PG-11	7310K13★	$3.30
0.1″–0.26″	PG-7	7310K11★	2.96
0.14″–0.32″	PG-9	7310K12★	3.11
0.24″–0.47″	PG-13	7310K23	3.47
0.35″–0.55″	PG-16	7310K14	3.77
0.51″–0.71″	PG-21	7310K15	5.02
0.55″–0.98″	PG-29	7310K16★	8.48
0.95″–1.26″	PG-36	7310K17	26.59
Submersible			
0.08″–0.26″	PG-7	9448K11■	7.11
0.12″–0.28″	PG-11	9448K13■	9.87
0.16″–0.32″	PG-9	9448K12■	8.22
0.20″–0.47″	PG-13	9448K23■	11.00
0.32″–0.55″	PG-16	9448K14■	12.03
0.43″–0.71″	PG-21	9448K15■	13.00
0.63″–0.99″	PG-29	9448K16■	23.87
0.75″–1.26″	PG-36	9448K17■	38.69
Corrosion Resistant			
0.08″–0.2″	PG-7	7680K12★	32.49
0.12″–0.26″	PG-7	7680K11★	32.49
0.16″–0.31″	PG-9	7680K13★	33.09
0.2″–0.39″	PG-11	7680K14★	41.22
0.24″–0.47″	PG-13	7680K15	43.53
0.28″–0.47″	PG-16	7680K17	44.11
0.39″–0.55″	PG-16	7680K16	44.11
0.51″–0.71″	PG-21	7680K18	65.98
0.51″–0.79″	PG-29	7680K19	87.56

★ UL recognized; not UL listed. ■ Not UL listed.

For Cord Dia.	Thread Size		
Metric Threads			
Chemical Resistant			
0.14″–0.28″	M12	7310K31★	$3.19
0.18″–0.39″	M16	7310K32★	3.76
0.28″–0.51″	M20	7310K33	4.99
0.35″–0.67″	M25	7310K34	6.98
0.43″–0.83″	M32	7310K35	9.55
Submersible			
0.08″–0.13″	M6	8183K5■	8.96
0.12″–0.2″	M8	8183K6■	9.83
0.12″–0.28″	M12	9448K31★	7.80
0.16″–0.24″	M10	8183K7■	6.73
0.18″–0.39″	M16	9448K32★	10.36
0.28″–0.51″	M20	9448K33	11.82
0.35″–0.67″	M25	9448K34	18.16
0.43″–0.83″	M32	9448K35	22.86
Corrosion Resistant			
0.08″–0.2″	M12	7680K22★	32.56
0.12″–0.26″	M12	7680K21★	32.56
0.12″–0.28″	M16	7680K24★	38.27
0.2″–0.39″	M16	7680K23★	38.27
0.28″–0.47″	M20	7680K26	41.16
0.35″–0.63″	M25	7680K28	61.73
0.39″–0.55″	M20	7680K25	41.16
0.51″–0.71″	M25	7680K27	61.29
0.71″–0.98″	M32	7680K29	81.20

Corrosion-Resistant Cord Grips

Meet the demands of wet, corrosive environments indoors and out. Grips are stainless steel and have a rubber bushing and O-ring to seal out dirt, moisture, coolant, and corrosive fumes. They include a zinc-plated steel locknut (stainless steel locknuts are sold separately). Grips have NPT threads. Temperature range is –40° to 250° F. Rated IP67 for protection from temporary water submersion. UL listed.

Straights with mesh have flexible stainless steel mesh to provide a secure hold in applications where cable is pulled or in motion. The mesh reduces stress on the cable and prevents kinking for longer cable life.



Straights



Straights with Mesh

For Cord Dia.	Trade Size	Straights		Straights with Mesh Mesh Lg.		
0.13″–0.19″	1/2	7458K11	$48.44			
0.19″–0.25″	1/2	7458K12	48.44	4 5/8″	7458K32	$75.42
0.25″–0.31″	3/8	7458K51	34.44	4 3/4″	7458K45	57.62
0.25″–0.31″	1/2	7458K13	48.44	4 1/2″	7458K33	75.42
0.31″–0.38″	3/8	7458K52	34.44	6 3/4″	7458K46	57.62
0.31″–0.38″	1/2	7458K14	48.44	4 1/2″	7458K34	75.42
0.38″–0.44″	1/2	7458K15	48.44	6 7/8″	7458K35	75.42
0.44″–0.5″	1/2	7458K16	48.44	6 7/8″	7458K36	75.42
0.44″–0.56″	1	7458K19	92.16	7 3/8″	7458K39	146.74
0.5″–0.56″	1/2	7458K53	48.44	7 1/2″	7458K47	75.42
0.5″–0.56″	3/4	7458K17	68.38	7 3/8″	7458K37	109.96
0.56″–0.69″	3/4	7458K18	69.12	9 1/8″	7458K38	109.96
0.56″–0.69″	1	7458K21	92.16	9 1/8″	7458K41	146.74
0.63″–0.75″	3/4	7458K54	69.12	9 1/8″	7458K48	109.96
0.69″–0.81″	1	7458K22	92.16	9 7/8″	7458K42	146.74
0.75″–0.88″	1	7458K55	92.16	9 7/8″	7458K49	146.74
0.81″–0.94″	1	7458K23	92.16	9 3/4″	7458K43	146.74
0.88″–1″	1	7458K24	92.16	9 3/4″	7458K44	146.74

3/8 Trade Size Stainless Steel Locknut	7458K4	8.15
1/2 Trade Size Stainless Steel Locknut	7458K1	8.30
3/4 Trade Size Stainless Steel Locknut	7458K2	13.00
1 Trade Size Stainless Steel Locknut	7458K3	21.38

Sure-Clamp Liquid-Tight Cord Grips

Tighten the screw-down clamp on these grips for superior pull-out resistance. Grips are nylon to resist corrosion and are rated IP68 for protection from water submersion. They have rubber bushings and O-rings. Grips include a nylon locknut. All have metric threads. Temperature range is 0° to 155° F. Color is black. CSA certified and UL listed, except 1013N11 is UL recognized.



For Cord Dia.	Thread Size		
0.16″–0.31″	M16	1013N11	$15.06
0.24″–0.47″	M20	1013N12	18.00
0.51″–0.71″	M25	1013N13	32.08
0.71″–0.98″	M32	1013N14	47.30
0.87″–1.26″	M40	1013N15	59.93

Heat Shrink-Sealed Liquid-Tight Cord Grips

Add a layer of moisture protection to your connection. The cable-entry side has heat-shrinkable polyolefin with an adhesive lining. Use a heat gun to melt the lining; the adhesive bonds to your cable to form a liquid-tight, fume-tight seal. Shrink temperature is 250° F. Grips have a two-piece design; the pieces screw into each other to save space inside your enclosure. Made of black plastic. Temperature range is –65° to 190° F.



For One Cord



For Three Cords

For No. of Cords	Cord Seal ID After Shrinking	Cord Seal ID Before Shrinking	Mounting Hole Dia.		
1	0.17″	0.5″	1″	55595K1	$13.60
1	0.25″	0.75″	1″	55595K2	14.77
1	0.5″	1.12″	1 3/8″	55595K3	22.78
2	0.17″	0.6″	1 3/8″	55595K4	63.95
3	0.11″	0.4″	1″	55595K5	63.96
4	0.17″	0.6″	1 3/8″	55595K6	81.48

Moisture-Resistant Plastic Cord Grips

Low moisture absorption and good corrosion resistance make these polyester grips a practical choice for washdown areas and food-processing applications. They have a rubber bushing and O-ring and include a zinc-plated steel locknut. Temperature range is –40° to 250° F. Color is black. Rated IP68 for protection from water submersion. UL listed and CSA certified.

Straights have NPSM threads. **90° elbows** have NPT threads.





For Cord Dia.	Trade Size	Straights		90° Elbows	
0.13″-0.19″	3/8	7489K11	$6.47		
0.13″-0.19″	1/2	7489K16	6.93	7489K28	$12.60
0.19″-0.25″	3/8	7489K12	6.47		
0.19″-0.25″	1/2	7489K17	6.47	7489K29	12.60
0.25″-0.31″	3/8	7489K13	6.93		
0.25″-0.31″	1/2	7489K18	6.47	7489K31	12.60
0.31″-0.38″	3/8	7489K14	6.47		
0.31″-0.38″	1/2	7489K19	6.47	7489K32	12.60
0.38″-0.44″	3/8	7489K15	6.47		
0.38″-0.44″	1/2	7489K21	6.47	7489K33	12.60
0.44″-0.5″	1/2	7489K22	6.47	7489K34	12.60
0.5″-0.56″	1/2	7489K23	6.47	7489K35	12.60
0.5″-0.56″	3/4	7489K43	8.03	7489K53	15.29
0.56″-0.63″	1/2	7489K24	6.47	7489K36	12.60
0.56″-0.69″	3/4	7489K26	8.30	7489K38	15.29
0.63″-0.75″	3/4	7489K44	8.30	7489K41	15.29
0.69″-0.81″	3/4	7489K27	8.30	7489K39	15.29

High-Temperature Liquid-Tight Cord Grips



Heat and moisture won't keep these grips from performing; they withstand temperatures from –30° to 300° F and have a fluoroelastomer rubber bushing and O-ring to seal out liquids. Made of white PVDF, grips resist chemicals and corrosion. They include a nickel-plated brass locknut. All have NPT threads and meet IP68 for protection from water submersion. UL listed, except 7799K82 and 7799K81 are UL recognized. CSA certified.

For Cord Dia.	Trade Size		
0.08″-0.24″	3/8	7799K82	$10.22
0.16″-0.31″	3/8	7799K81	10.22
0.2″-0.35″	1/2	7799K84	15.27
0.24″-0.47″	1/2	7799K83	12.89
0.35″-0.63″	3/4	7799K86	20.28
0.51″-0.71″	3/4	7799K85	20.28

Snap-In Cord Grips



Straight



Continuous Flex

Quickly relieve cord strain in applications that don't require a moisture-resistant seal. To install, snap a grip onto your cable and push it into your panel opening. Installation pliers (sold separately) make it easier to insert the grip into a panel. Grips are black nylon. Maximum temperature is 220° F. UL recognized and CSA certified.

Continuous-flex grips provide extra support for moving cables and prevent kinking for longer cable life.

For Cord Dia.	Max. Panel Thickness	For Panel Hole Dia.	Pkg. Qty.		Pkg.
Straight					
0.13″-0.19″	0.06″	3/8″	100	74125K11	$7.43
0.22″-0.25″	0.1″	1/2″	100	74125K71	8.17
0.25″-0.29″	0.1″	1/2″	100	74125K72	8.70
0.3″	0.12″	5/8″	100	74125K73	13.03
0.33″-0.36″	0.12″	5/8″	100	74125K74	13.41
0.36″-0.43″	0.12″	3/4″	50	74125K75	10.44
0.37″-0.43″	0.12″	7/8″	50	74125K76	14.14
Continuous Flex					
0.22″-0.27″	0.1″	1/2″	25	74125K81	13.89
0.25″-0.29″	0.12″	1/2″	25	74125K82	11.93
0.3″	0.12″	5/8″	10	74125K83	10.95
0.32″-0.36″	0.12″	5/8″	10	74125K84	11.29
0.36″-0.43″	0.12″	3/4″	10	74125K85	11.50
Installation Pliers				7413K37	60.61

Interference-Shielding Liquid-Tight Cord Grips



An internal ring keeps cables with braided shielding grounded to the body of the grip so that the grip doesn't affect the shielding's ability to block electromagnetic interference (EMI). Grips are nickel-plated brass and have a rubber seal and O-ring to keep out liquids. They include a nickel-plated brass locknut. All have NPT threads. Temperature range is –40° to 210° F. Rated to IP68 for protection from water submersion. UL listed, except 7802K21 and 7802K22 are UL recognized. CSA certified.

For Cord Dia.	Trade Size		
0.08″-0.24″	3/8	7802K21	$21.09
0.16″-0.31″	3/8	7802K22	21.09
0.2″-0.35″	1/2	7802K23	27.88
0.24″-0.47″	1/2	7802K24	27.70
0.35″-0.63″	3/4	7802K25	32.30
0.51″-0.71″	3/4	7802K26	32.09

Multicord Liquid-Tight Cord Grips



Standard Nylon



Break-Through

Save space and have fewer cutouts in your enclosure by running more than one cord through a single cord grip. All have NPT threads.

Standard— Grips have a rubber inner grommet with multiple holes and a rubber O-ring. Temperature range is –40° to 210° F. Rated IP65 for protection from water projected from a nozzle and NEMA 4X for protection from washdowns and corrosion. UL recognized and CSA certified. *Nylon* grips are black. 3/8 to 1 trade sizes include a nickel-plated brass locknut. 1 1/4 and 1 1/2 trade sizes include a zinc-plated steel locknut. *Nickel-plated brass* grips include a nickel-plated brass locknut.

Break-Through— Grips have a thin, flexible seal that covers the holes until you push cord through them. Made of black nylon and include a zinc-plated steel locknut. Temperature range is –20° to 210° F. Rated IP68 for protection from water submersion. Grips for 0.17″-0.22″ dia. cord are UL and C-UL recognized. Grips for 0.24″-0.3″ dia. cord are UL listed and CSA certified.

For Cord Dia.	Trade Size	For No. of Cords	Nylon		Nickel-Plated Brass	
Standard						
0.05″-0.06″	3/8	4	7807K32	$3.74	7091K11	$12.71
0.06″-0.07″	3/8	2	7807K11	3.91	7091K13	12.71
0.06″-0.07″	3/8	3	7807K54	5.42		
0.06″-0.07″	3/8	4	7807K12	3.91	7091K14	12.71
0.06″-0.08″	1/2	3	7807K35	4.33	7091K15	14.71
0.07″-0.09″	3/8	4	7807K55	5.42		
0.08″-0.1″	1/2	2	7807K56	6.52		
0.1″-0.12″	3/8	2	7807K31	3.74	7091K12	12.71
0.1″-0.12″	1/2	3	7807K36	4.33	7091K19	14.71
0.1″-0.12″	1/2	4	7807K57	6.64		
0.1″-0.12″	1/2	6	7807K42	4.33	7091K16	14.71
0.12″-0.15″	1/2	2	7807K13	4.64	7091K21	14.71
0.13″-0.16″	1/2	3	7807K37	4.33	7091K17	14.71
0.13″-0.16″	1/2	4	7807K39	4.33		
0.13″-0.16″	1/2	5	7807K41	4.33		
0.13″-0.16″	1/2	6	7807K43	4.33		
0.16″-0.2″	1/2	2	7807K33	4.33	7091K18	14.71
0.16″-0.2″	3/4	3	7807K15	6.39	7091K26	19.69
0.16″-0.2″	3/4	4	7807K14	6.39	7091K25	19.69
0.18″-0.22″	1/2	3	7807K38	4.33		
0.2″-0.24″	1/2	2	7807K34	4.33		
0.2″-0.24″	3/4	4	7807K46	6.24	7091K22	20.31
0.22″-0.26″	1	6	7807K48	9.20	7091K27	36.98
0.22″-0.26″	1 1/4	6	7807K16	15.00		
0.24″-0.28″	3/4	3	7807K45	6.24	7091K23	20.31
0.27″-0.31″	3/4	2	7807K44	6.24	7091K24	19.69
0.27″-0.31″	1 1/2	6	7807K52	28.88		
0.31″-0.35″	1	4	7807K47	9.20	7091K28	36.98
0.31″-0.35″	1 1/2	5	7807K51	28.88		
0.31″-0.35″	1 1/2	7	7807K53	28.88		
0.33″-0.37″	1	4	7807K58	16.52		
0.55″-0.59″	1 1/2	2	7807K49	28.88		
Break-Through						
0.17″-0.22″	3/4	5	7807K94	2.82		
0.17″-0.22″	1	9	7807K95	5.02		
0.17″-0.22″	1 1/4	13	7807K93	9.69		
0.17″-0.22″	1 1/2	21	7807K96	24.75		
0.24″-0.3″	1	5	7807K97	5.02		
0.24″-0.3″	1 1/4	9	7807K91	9.69		
0.24″-0.3″	2	19	7807K92	28.37		

Wrap-Around Cord Grips


Round Grip


Rectangular Grip


Insert for One Cord


Insert for Two Cords


Insert for Four Cords

Attach a cord grip to cable without the hassle of removing connectors and rewiring. Choose a cord grip and then select inserts (sold separately). The cord grips have a two-piece design to fit around cables with connectors; the inserts have a slit, eliminating the need to thread cable through them. Temperature range is –20° to 190°F. UL and C-UL listed.

Round Grips—Made of gray polycarbonate with a rubber gasket. Thread into panels up to 0.31″ thick. Grips include a nylon locknut.

Rectangular Grips—Made of black nylon and have four 0.22″ dia. mounting holes (screws not included).

Inserts—Made of gray elastomer.

Round Grips

For No. of Inserts	Thread Size		
1	M32	1016N21	$33.77
2	M50	1016N22	47.55
4	M63	1016N23	54.08

Rectangular Grips

For No. of Inserts	Lg.	Wd.	Dp.	*Panel Cutout* Lg.	*Panel Cutout* Wd.		
4	2.9″	2.3″	0.7″	1.8″	1.8″	1016N14	$34.11
6	3.9″	2.3″	0.7″	2.6″	1.4″	1016N13	38.84
8	4.7″	2.3″	0.7″	3.4″	1.4″	1016N12	45.54
10	5.8″	2.3″	0.7″	4.4″	1.4″	1016N11	49.18

Inserts

For Cord Dia.			For Cord Dia.		
For One Cord			**For Two Cords**		
0.2″-0.23″	1016N31	$3.27	0.17″-0.2″	1016N41	$4.54
0.24″-0.27″	1016N32	3.27	0.21″-0.24″	1016N42	4.54
0.28″-0.31″	1016N33	3.27	0.25″-0.28″	1016N43	4.54
0.32″-0.35″	1016N34	3.27	0.29″-0.32″	1016N44	4.54
0.36″-0.39″	1016N35	3.27	**For Four Cords**		
0.4″-0.43″	1016N36	3.27	0.13″-0.16″	1016N45	7.08
0.44″-0.47″	1016N37	3.27	0.17″-0.2″	1016N46	7.08
0.48″-0.51″	1016N38	3.27	0.21″-0.24″	1016N47	7.08
0.52″-0.55″	1016N39	3.27			

Break-Through Cord Grips

Push cable through the thin, flexible seal that covers the holes in these grips. The unused holes remain sealed until you break through them. This design also allows installation of additional cables without changing cord grips. Made of nylon with an elastomer seal. Color is gray. Temperature range is –40° to 190°F.


Round


Rectangular

Round

Grips include a black nylon locknut. Thread into panels up to 0.39″ thick. Rated IP68 for protection from water submersion. UL and C-UL listed.

For No. of Cords	For Cord Dia. (Qty.)	Thread Size		
4	0.13″-0.26″ (3), 0.28″-0.49″ (1)	M32	1777N11	$20.00
8	0.2″-0.4″ (5), 0.28″-0.49″ (3)	M50	1777N12	25.47
10	0.13″-0.26″ (7), 0.2″-0.4″ (2), 0.63″-0.87″ (1)	M50	1777N13	25.47
19	0.13″-0.26″ (19)	M50	1777N14	25.47

Rectangular

Have four 0.22″ dia. holes for mounting in a 1.8″×1.8″ cutout (screws not included). Rated IP66 for protection from power jets of water.

For No. of Cords	For Cord Dia. (Qty.)		
13	0.13″-0.26″ (8), 0.2″-0.4″ (4), 0.63″-0.87″ (1)	1777N15	$30.90
17	0.13″-0.26″ (10), 0.2″-0.4″ (4), 0.29″-0.47″ (2), 0.35″-0.64″ (1)	1777N16	30.90
25	0.13″-0.26″ (25)	1777N17	30.97

Multidiameter Liquid-Tight Cord Grips

Modify inserts to get the perfect fit for your cord—it's not necessary to know your exact cord diameter. Grips have two-piece blue rubber inserts that have layers you peel away to fit your cord. And because the inserts split into halves, they fit around cables with connectors. All meet IP67 for protection from temporary water submersion and NEMA 4X and 13 for protection from washdowns, corrosion, and oil/coolant spraying. UL listed.

Replacement inserts make it easy to change cord sizes and configurations.


Shown with Cords of Different Diameters

Metal Round

Thread the outer housing into a 2.48″-2.52″ dia. knockout, pull your cords through, and then add the inserts and adapt each hole to the cords. Max. panel thickness is 0.16″. Temperature range is –75° to 185°F.

Nickel-plated brass grips include a nickel-plated brass locknut.

Stainless steel grips include a stainless steel locknut.


For One Cord

For No. of Cords	For Cord Dia.	Thread Size	Nickel-Plated Brass		Stainless Steel	
1	0.37″-1.28″	M63	7702K1	$65.06	6995K1	$202.24
4	0.14″-0.65″	M63	7702K2	65.06	6995K2	202.24
9	0.14″-0.41″	M63	7702K3	65.06	6995K3	202.24

Replacement Inserts

For 0.14″-0.41″ Cord Dia. (For 3 Cords)	7702K8	13.85
For 0.14″-0.65″ Cord Dia. (For 2 Cords)	7702K7	9.05
For 0.37″-1.28″ Cord Dia. (For 1 Cord)	7702K4	16.26

Plastic Rectangular

Surface mount the frame (screws are included), pull your cords through, and then add the inserts and adapt each hole to the cords. Made of black nylon. Temperature range is –75° to 140°F.


For 16 Cords

For No. of Cords	For Cord Dia. (Qty.)	Lg.	Wd.	Dp.	*Panel Cutout* Lg.	*Panel Cutout* Wd.		
4	0.14″-0.65″ (4)	3.8″	2.8″	1.2″	2.1″	2.1″	7035K5	$44.43
7	0.14″-0.65″ (6), 0.37″-1.28″ (1)	6.6″	2.8″	1.2″	4.3″	1.5″	7035K6	78.36
10	0.14″-0.65″ (8), 0.37″-1.28″ (2)	9.0″	3.5″	1.3″	6.2″	1.5″	7035K8	120.93
10	0.14″-0.65″ (10)	6.6″	2.8″	1.2″	4.3″	1.5″	7035K7	78.52
16	0.14″-0.65″ (16)	9.0″	3.5″	1.3″	6.2″	1.5″	7035K9	121.25

Replacement Inserts

For 0.14″-0.65″ Cord Dia. (For 2 Cords)	7035K15	9.05
For 0.37″-1.28″ Cord Dia. (For 1 Cord)	7035K16	16.26

Metal Rectangular

Mount the frame into a 7.36″ Lg.×2.8″ Wd. cutout in your panel, pull cords through, and then add the inserts and adapt each hole to the cords. Max. panel thickness is 0.16″. Overall size is 9.21″ Lg.×3.66″ Wd.×1.65″ Dp. Grips have a rubber gasket. Temperature range is –75° to 185°F.


For 19 Cords

For No. of Cords	For Cord Dia. (Qty.)	Steel		Stainless Steel	
4	0.37″-1.28″ (4)	7035K1	$125.42	7099K1	$318.34
10	0.14″-0.65″ (8), 0.37″-1.28″ (2)	7035K2	128.93	7099K2	321.66
16	0.14″-0.65″ (16)	7035K3	131.76	7099K3	324.97
19	0.14″-0.41″ (12), 0.14″-0.65″ (6), 0.37″-1.28″ (1)	7035K4	157.05	7099K4	348.84

Replacement Inserts

For 0.14″-0.41″ Cord Dia. (For 3 Cords)	7035K19	14.34
For 0.14″-0.65″ Cord Dia. (For 2 Cords)	7035K18	9.41
For 0.37″-1.28″ Cord Dia. (For 1 Cord)	7035K17	16.92

Cord Grips for Building Cable


Screw Connector


Snap-In Connector


Locking Snap-In Connector

Connect multiconductor jacketed building cable, also known as Romex cable, to enclosures and outlet boxes. UL listed and CSA certified.

Screw Connectors—Secure into a knockout with the included locknut, insert cable, and tighten the two screws. Made of zinc.

Snap-In Connectors—Push into a knockout and insert cable. Made of PVC.

Locking Snap-In Connectors—Snap into a knockout and push in the cable. An insert clamps the cable in place and provides strain relief. Made of PVC.

Trade Size	Cable Dia.		1-19	20-Up
Screw Connectors				
3/8	0.18″-0.64″	7798K41★	$0.98	$0.83
3/4	0.3″-0.83″	7798K42	1.15	.97
1	0.33″-1.04″	7798K43	1.88	1.60
1 1/4	0.36″-1.06″	7798K44	3.93	3.34
1 1/2	0.63″-1.6″	7798K45	4.50	3.87
2	0.86″-2.06″	7798K46	6.33	5.38
Snap-In Connectors				
3/8	0.16″-0.68″	7963K21★	.30	.25
3/4	0.16″-0.87″	7963K22	.59	.51
Locking Snap-In Connectors				
3/8	0.16″-0.49″	7963K31★	.33	.29
1/2	0.16″-0.68″	7963K32	.58	.50
3/4	0.51″-0.87″	7963K33	.87	.75
1	0.58″-0.96″	7963K34	1.14	.98
1 1/4	0.58″-1.43″	7963K35	1.78	1.53

★Fits into a 1/2 trade size knockout.

Liquid-Tight Cord Grips for Building Cable



A rubber bushing with an oval slot provides liquid-tight entry for building cable, also known as Romex type NM-B or type UF-B. Grips are black nylon to resist corrosion and have a rubber O-ring and a nylon locknut. All have NPT threads. Temperature range is –40° to 210°F. Rated IP68 for protection from water submersion. CSA certified.

1/2 trade size fits NM-B Romex 14/2, 14/3, 12/2, and 12/3 AWG cable, and UF-B Romex 14/2, 12/2, and 10/2 AWG cable.

3/4 trade size fits NM-B Romex 12/2, 12/3, and 10/2 AWG cable, and UF-B Romex 14/3 and 12/3 AWG cable.

Trade Size	For Cable Wd.	For Cable Thick.		
1/2	0.55″	0.24″	7935K11	$4.21
3/4	0.55″	0.24″	7935K12	5.51

Thread Adapters

Install connectors in threaded holes that have a different thread type. Adapters are nickel-plated brass and have a rubber O-ring to seal out moisture. Temperature range is –40° to 210°F.

NPT to Metric



Thread Size: NPT Female (A)	Thread Size: Metric Male (B)		
1/2	M16	7537K1	$8.46
1/2	M20	7537K2	8.71
1/2	M25	7537K3	8.95
3/4	M25	7537K4	10.05
1	M32	7537K5	20.20
1 1/4	M32	7537K6	26.43

NPT to PG



Thread Size: NPT Female (A)	Thread Size: PG Male (B)		
1/2	PG-9	7805K77	$16.90
1/2	PG-11	7805K71	7.10
1/2	PG-13	7805K72	7.10
1/2	PG-16	7805K73	7.83
1/2	PG-21	7805K74	12.61
3/4	PG-21	7805K75	12.61
1	PG-29	7805K76	18.73

PG to NPT



Thread Size: PG Female (A)	Thread Size: NPT Male (B)		
PG-7	1/4	7842K11	$15.20
PG-9	1/2	7842K12	11.36
PG-11	1/2	7842K1	11.58
PG-13	1/2	7842K2	11.14
PG-21	1/2	7842K13	17.06
PG-21	3/4	7842K7	16.74
PG-29	1	7842K14	28.32

Cord Grips for Flat Cable



Connect a single flat cable to a junction box. Grips are aluminum and include a mounting nut and a sealing gasket. Temperature range is 0° to 210°F.

Thread Size	Thread OD	For Cable Wd.	For Cable Thick.		
PG-21	1.11″	0.62″	0.22″	3120T35	$27.82
PG-29	1.46″	1.11″	0.2″	3120T51	39.49
PG-36	1.85″	1.34″	0.22″	3120T52	59.07
PG-42	2.13″	1.69″	0.49″	3120T36	74.75

Cable-Support Grips


Single Loop


Self-Tightening


Double Loop


Midcable

Also known as bus drop grips, these grips relieve tension on cables, support cable weight, and reduce vibration in vertical, straight runs of cable, rod, and tubing. CSA certified, except optional safety springs.

Single Loop—Can be supported with a hook. *Standard* grips are galvanized steel. *Corrosion-resistant* grips are stainless steel.

Self-Tightening—The loops tighten by the weight of your cable or by manual adjustment. These grips are often wrapped around a beam or pipe. Made of galvanized steel.

Double Loop—Loops offer support at two points, often at an angle. The loops must be equally supported to balance the load. *Standard* grips are tinned bronze. *Corrosion-resistant* grips are stainless steel.

Midcable—When the end of a cable is not accessible, wrap the mesh around a continuous length of cable (anywhere along the length). Lace the mesh closed with the included lacing wire. *Standard* grips are tinned bronze. *Corrosion-resistant* grips are stainless steel.

Optional safety spring alleviates strain from sudden pulls. It reduces work load limit for single-loop and self-tightening grips. 8″ long.

For Cable Dia.	Work Load Limit, lbs.	O'all Lg.	Mesh Lg.	Standard		Corrosion Resistant	
Single Loop							
0.22″-0.32″	110	11″	3 1/2″	69675K23	$11.53	69675K61	$21.10
0.3″-0.43″	110	12″	4 1/2″	69675K24	12.38	69675K62	22.67
0.41″-0.56″	110	13″	5″	69675K25	14.10	69675K63	25.79
0.53″-0.73″	110	15″	6 1/2″	69675K46	16.80	69675K64	30.76
0.7″-0.85″	190	17″	8 1/2″	69675K27	19.52	69675K65	35.74
0.82″-1″	190	17″	8 1/2″	69675K28	19.82	69675K66	36.26
0.96″-1.25″	190	19″	11″	69675K29	21.04	69675K67	38.52
Optional Safety Spring—40-lb. Work Load Limit				69675K31	9.39		
Optional Safety Spring—80-lb. Work Load Limit				69675K32	13.59		
Self-Tightening							
0.22″-0.32″	110	14″	3 1/2″	69675K33	15.82		
0.3″-0.43″	110	15″	4 1/2″	69675K34	16.21		
0.41″-0.56″	110	17″	5″	69675K35	19.89		
0.53″-0.73″	110	20″	6 1/2″	69675K56	21.43		
0.7″-0.85″	190	23″	8 1/2″	69675K37	25.19		
0.82″-1″	190	23″	8 1/2″	69675K38	24.46		
0.96″-1.25″	190	27″	11″	69675K39	26.15		
Optional Safety Spring—40-lb. Work Load Limit				69675K31	9.39		
Optional Safety Spring—80-lb. Work Load Limit				69675K32	13.59		
Double Loop							
0.5″-0.61″	77	17″	11″	70095K12	22.57	70095K32	50.66
0.63″-0.75″	115	18″	11″	70095K13	24.80	70095K33	52.14
0.75″-0.99″	132	20″	14″	70095K14	27.65	70095K34	57.10
1″-1.24″	192	22″	15″	70095K15	32.08	70095K35	68.95
1.25″-1.49″	192	21″	16″	70095K16	33.36	70095K36	75.54
1.5″-1.74″	192	25″	18″	70095K17	38.13	70095K37	75.48
1.75″-1.99″	315	25″	20″	70095K18	51.27	70095K38	73.44
2″-2.49″	336	28″	22″	70095K19	57.87	70095K39	82.94
2.5″-2.99″	336	30″	24″	70095K21	69.98	70095K61	91.30
3″-3.49″	528	35″	26″	70095K22	85.45	70095K62	113.05
Midcable							
0.5″-0.61″	77	18″	11″	70095K41	29.03	70095K71	54.51
0.63″-0.75″	115	18″	11″	70095K42	35.98	70095K72	66.19
0.75″-0.99″	132	22″	14″	70095K43	38.95	70095K73	68.41
1″-1.24″	192	22″	15″	70095K44	41.48	70095K74	74.00
1.25″-1.49″	192	21″	16″	70095K45	41.60	70095K75	73.07
1.5″-1.74″	192	25″	18″	70095K46	45.44	70095K76	53.13
1.75″-1.99″	315	26″	20″	70095K47	56.93	70095K77	98.72
2″-2.49″	336	28″	22″	70095K48	72.36	70095K78	125.04
2.5″-2.99″	336	29″	24″	70095K49	85.72	70095K79	144.06
3″-3.49″	528	36″	26″	70095K51	108.53	70095K81	199.37

Steel Outlet/Switch Boxes with Knockouts and Covers

Knockouts allow you to modify these boxes to fit your application. Boxes and covers are galvanized steel and are UL listed. When needed, screws are included for attaching covers to boxes.

Standard Square Boxes and Covers

Size is 4″×4″, except the 3½″ Dp. box is 3¾″×3¾″ (it accepts 4″×4″ covers).



Dp.	Cap., cu. in.	Knockouts No. of	Trade Sizes		
1½″	21	16	½	71695K12	$1.96
1½″	21	16	½, ¾	71695K41	1.98



Dp.	Cap., cu. in.	Knockouts No. of	Trade Sizes		
1½″	21	14	½, ¾	71695K15	$2.59



Dp.	Cap., cu. in.	Knockouts No. of	Trade Sizes		
2⅛″	30.3	13	½, ¾, 1	71695K14	$4.37
2⅛″	30.3	16	½, ¾	71695K13	2.87
3½″	40.5	16	½, ¾	71695K113	10.26



Dp.	Cap., cu. in.	Knockouts No. of	Trade Sizes		
1½″	22.5	12	½, ¾	71695K42★	$3.22

★ Not compatible with 3½″ Dp. box.



Without Knockout	71695K43	$0.68
One ½ Trade Size Knockout	71695K71	.75





Dp.				
½″	71695K72	$1.19	71695K73	$1.59
⅝″	71695K74	1.49	71695K75	1.83















Dp.								
½″	71695K114	$3.72	71695K44	$2.03	71695K47	$2.03	71695K45	$2.13

Dp.				
½″	71695K48	$2.44	71695K76	$2.54

Dp.		
½″	71695K115	$4.61







Dp.				
½″	71695K46	$2.24	71695K77	$2.59

Dp.		
½″	71695K116	$8.68



Hole Dia.	Dp.		
1.4″	½″	71695K65	$2.24
1.6″	½″	71695K67	4.37
1.7″	½″	71695K66	3.05
2.1″	½″	71695K68	4.37
2.6″	½″	71695K69	3.18

Large Square Boxes and Covers

Size is 4 11/16″×4 11/16″. The **voltage partition for 3¼″ Dp. box** separates power cable and low-voltage data cable to prevent electromagnetic interference (EMI).



Dp.	Cap., cu. in.	Knockouts No. of	Trade Sizes		
2⅛″	42	12	½, ¾, 1	71695K16	$5.28
3¼″	66.5	10	½, ¾, 1, 1¼, 2	71695K111	11.84
Voltage Partition for 3¼″ Dp. Box				71695K112	4.61



Dp.	Cap., cu. in.	Knockouts No. of	Trade Sizes		
1½″	29.5	12	½, ¾	71695K117	$7.37



One ½ Trade Size Knockout	71695K17	$2.03





Dp.				
½″	71695K61	$3.12	71695K63	$3.12
⅝″	71695K62	5.05	71695K64	6.47

(Continued on following page)

Steel Outlet/Switch Boxes with Knockouts and Covers *(Continued from previous page)*

Boxes and covers are galvanized steel and are UL listed. Screws are included for attaching covers to boxes.

Rectangular Boxes and Covers

Size is 4½″×8⅞″.



Dp.	Cap., cu. in.	Knockouts No. of	Knockouts Trade Sizes		
2½″	90	24	½, ¾, 1	71695K122	$36.32

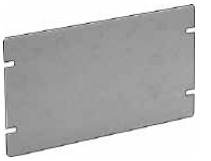

71695K124 ..... $15.53

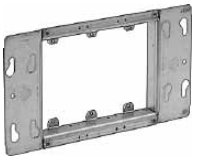

Dp.		
¾″	71695K126	$9.61

Octagonal Boxes and Covers

Size is 4″×4″.



Dp.	Cap., cu. in.	Knockouts No. of	Knockouts Trade Sizes		
1½″	15.5	8	½, ¾	71695K54	$2.00
1½″	15.5	9	½	71695K51	1.79
2⅛″	21.5	9	½	71695K11	3.15



Dp.	Cap., cu. in.	Knockouts No. of	Knockouts Trade Size		
1½″	15.5	4	½	71695K55	$2.57



Use this hanger bar to position an octagonal box between joists. It adjusts from 14¼″ to 22½″.

71695K91 ..... $2.78



Without Knockout	71695K52	$0.75
One ½ Trade Size Knockout	71695K56	.78



71695K53 ..... $1.79

Switch (Handy) Boxes and Covers

Boxes are 2⅛″×4″. Covers are 2⁵⁄₁₆″×4³⁄₁₆″.



Dp.	Cap., cu. in.	Knockouts No. of	Knockouts Trade Size		
1⅞″	13	10	½	71695K21	$1.86
2⅛″	16.5	11	½	71695K26	2.48



Dp.	Cap., cu. in.	Knockouts No. of	Knockouts Trade Size		
1½″	11.5	8	½	71695K25	$2.59



71695K23 ..... $0.68



71695K24 ..... $0.68



Without Knockout	71695K27	$0.68
One ½ Trade Size Knockout	71695K22	.75



Hole Dia.	Dp.		
1.4″	⅛″	71695K118	$0.53
1.6″	⅛″	71695K119	1.58

In-Wall Switch Boxes

Boxes are 2″×3″ and have mounting flanges for installation in wall cutouts. 71695K83 has two screws on each side for an extra secure grip.



Dp.	Cap., cu. in.	Knockouts No. of	Knockouts Trade Size		
1½″	7.5	3	½	71695K81	$2.78
2″	10	8	½	71695K31	3.32
2½″	12.5	8	½	71695K82	2.59
3½″	18	9	½	71695K84	3.59



Dp.	Cap., cu. in.	Knockouts No. of	Knockouts Trade Size		
2½″	12.5	4	½	71695K83	$5.82

Outlet Boxes with Receptacles



NEMA 5-15 with Duplex Receptacle

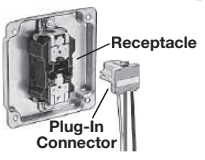

Interior of Cover

These ready-to-use boxes have a receptacle installed in the cover. Use the included plug-in connector with wire leads to connect the receptacle and screw on the cover (mounting screws are included). Boxes are galvanized steel. Plug-in connector has three 6″ long 12-ga. THHN wire leads. Receptacles are brown. For information about NEMA straight-blade receptacles, see page 820.

Amps	AC Voltage	NEMA Style	Ht.	Wd.	Dp.	Cap., cu. in.	Knockouts No. of	Knockouts Trade Sizes	One Duplex Receptacle		Two Duplex Receptacles	
15	125	5-15	4″	4″	2⅛″	21	17	½, ¾	1826T1	$24.14	1826T3	$42.34
20	125	5-20	4″	4″	2⅛″	21	17	½, ¾	1826T2	24.42	1826T4	42.86
Replacement Plug-In Connector											1826T13	2.08

Plastic Outlet Boxes

Attach these plastic boxes to studs or joists behind drywall. They are not intended for exposed areas. UL listed.

Nail On and **Clamp On**—Designed for commercial use, these heavy duty boxes have rigid, thick walls. Knockouts are 9/16" Ht. x 1/2" Wd.; single-device boxes have four knockouts and two-device boxes have eight. Color is blue. *Nail-on* boxes attach to wall studs. *Clamp-on* boxes have swing clamps to attach to drywall.

Low-Voltage Nail On—Boxes attach to wall studs and have an open back to accommodate extra-deep low-voltage devices. They have two combination knockouts with 3/4, 1, and 1 1/4 trade sizes. Color is orange.



Nail On (Single Device)



Clamp On (Two Devices)



Low-Voltage Nail On (Single Device)

	Single-Device (1 Gang)						Two-Device (2 Gang)				
	Ht.	Wd.	Dp.	Cap., cu. in.			Wd.	Dp.	Cap., cu. in.		
Nail On	3 7/8"	2 3/8"	3 3/4"	22	9547T13	$2.58	4 1/8"	3 1/2"	35	9547T14	$5.72
Clamp On	4 5/16"	2 9/16"	3 5/8"	18	9547T15	10.33	4 3/8"	3 5/8"	34	9547T16	14.17
Low-Voltage Nail On	3 3/4"	2 5/16"	3 1/8"	—	9547T17	3.08	4 1/16"	3 1/8"	—	9547T18	4.71

Surface-Mount Outlet Boxes

Mount these boxes on the surface of your wall in areas where you can't create a recess. Boxes are for use with standard single-device wall plates. They are plastic and include mounting hardware.



	Ht.	Wd.	Dp.		
Ivory	4 3/4"	2 15/16"	1 7/8"	2105T11	$5.62
White	4 3/4"	2 15/16"	1 7/8"	2105T12	5.62

Wall Plates

Give switches and receptacles a finished look. Mounting screws are included. For replacement screws, see 99050A on page 3045. UL listed and CSA certified.

Standard Wall Plates

Single-device (1 gang) wall plates are 4 11/16" Ht. x 2 15/16" Wd., unless noted. **Two-device (2 gang)** wall plates are 4 11/16" Ht. x 4 3/4" Wd., unless noted. **Three-device (3 gang)** wall plates are 4 11/16" Ht. x 6 9/16" Wd.

Nylon—To Order: Please specify brown, ivory, or white. 7526K25 also comes in black or gray; 7526K26 also comes in gray.

Aluminum—Plates have a satin finish, except 8033K41, 8033K42, and 8033K43 have a brushed finish.

Stainless Steel—Provides excellent corrosion resistance and has a brushed finish.

Single-Device (1 Gang)



Nylon	7526K21	$0.47	7526K23	$0.47	7526K25	$0.61	7526K27	$0.81	8033K81 ★	$1.06	8033K82 ★	$2.12	8033K83 ■	$5.04
Aluminum	7533K41	3.98	7533K51	4.05	7533K81	4.39	7533K85	3.00	8033K41 ★	2.04	_____	___	8033K42 ★	2.42
Stainless Steel	7533K42	1.84	7533K52	1.84	7533K82	1.84	7533K86	2.44	8033K59 ★	2.24	8033K61 ★	4.78	8033K65 ★	4.46

Two-Device (2 Gang)

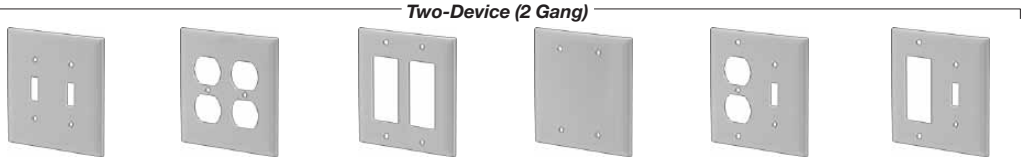

Nylon	7526K22	$1.21	7526K24	$1.21	7526K26	$1.21	7526K28	$2.85	7526K13	$1.22	7526K14	$1.32
Aluminum	7533K43	7.70	7533K53	8.21	7533K83	8.44	7533K89	6.38	_____	___	7533K18	7.18
Stainless Steel	7533K44	4.27	7533K54	4.66	7533K84	4.89	7533K91	7.74	7533K15	4.18	7533K17	6.89

Two-Device (2 Gang)



Nylon	8033K84 ▲	$4.04	_____	___
Aluminum	8033K43 ▲	4.85	_____	___
Stainless Steel	8033K71 ▲	8.35	8033K31 ▲	$6.89

★ 4 1/2" Ht. x 2 3/4" Wd. ■ 4 7/8" Ht. x 3 1/8" Wd. ▲ 4 9/16" Ht. x 4 1/2" Wd.

Three-Device (3 Gang)



Nylon	7526K11	$1.82	_____	___
Stainless Steel	7533K46	7.59	7533K94	$7.59

Sectional Wall Plates

Snap end and center sections together to create your own two-device (2 gang) or wider wall plate. Made of white nylon. **End sections** are 4 11/16" Ht. x 2 5/8" Wd. **Center sections** are 4 11/16" Ht. x 2 1/32" Wd.

For Use With	End Sections		Center Sections	
One Toggle Switch	8032K11	$3.33	8032K21	$3.33
One Duplex Receptacle	8032K12	3.33	8032K22	3.34
One GFCI Receptacle	8032K13	3.33	8032K23	3.33
Blank	8032K14	3.33	8032K24	3.33



End Section for Toggle Switch



Blank Center Section



End Section for Duplex Receptacle

Corrosion-Resistant Wall Plates with Covers


Single-Device Blank


Single-Device (Duplex Receptacle Horizontal)


Locking Single-Device (GFCI Receptacle Vertical)


Two-Device (Two Toggle Switches)

Keep switches and receptacles under cover for protection from dust and dirt. Wall plates have gasketed, flip-down covers (except blanks) and are stainless steel to resist corrosion. Mounting screws are included. UL listed and CSA certified.

Locking wall plates have a lockable cover to prevent tampering. They include two keys.

	Ht.	Wd.		
Single-Device (1 Gang)				
Blank	2 7/8"	4 5/8"	7790K66	$5.51
Duplex Receptacle—Vertical	4 1/2"	2 3/4"	7790K63	25.24
Duplex Receptacle—Horizontal	2 3/4"	4 1/2"	7790K64	25.24
GFCI Receptacle—Vertical	4 1/2"	2 3/4"	7790K65	25.24
Toggle Switch—Vertical	4 1/2"	2 3/4"	7790K61	31.74
Locking Single-Device (1 Gang)				
Duplex Receptacle—Horizontal	2 3/4"	4 1/2"	7790K82	74.36
GFCI Receptacle—Vertical	4 1/2"	2 3/4"	7790K83	67.88
Toggle Switch—Horizontal	2 3/4"	4 1/2"	7790K81	65.68
Two-Device (2 Gang)				
Blank	4 5/8"	4 7/8"	7790K67	4.95
Two Toggle Switches—Vertical	4 1/2"	4 9/16"	7790K62	47.54

Multicord Wall Plates


Single-Device


Two-Device

A large angled opening provides an exit point for cords that run behind walls. Plates are PVC and include mounting screws.

Ht.	Wd.	Choose a Color		
Single-Device (1 Gang)				
4 1/2"	2 3/4"	Black, Ivory, White	8163T1	$3.89
Two-Device (2 Gang)				
4 9/16"	4 9/16"	Black, Ivory, White	8163T2	5.97

Floor Outlet Boxes


Floor Box


Duplex Cover


Carpet Flange

Access outlets in concrete and under carpeted or tile floors. Box is zinc-coated stamped steel and is adjustable—external leveling screws allow 1 1/4" adjustment before concrete pour; internal screws allow 0.38" adjustment after pour. There are 13 knockouts in 1/2 and 3/4 trade sizes. UL listed and CSA certified.

Duplex cover and **carpet flange** are brass.

Floor Box, 37.3 cu. in. (4 11/16" Sq. × 2 7/8" Dp.)	6372K1	$57.06
Duplex Cover, 3 7/8" Dia.	6372K3	72.65
Carpet Flange, 5 1/4" Dia.	6372K2	67.69

Outlet Boxes and Covers

Make secure connections to conduit without using fittings. UL listed.

PVC Boxes—Have unthreaded connections for attaching PVC Schedule 40 rigid conduit using PVC cement (see page 3466). Boxes are gray and have four 0.2" dia. mounting holes. *Single-device (1 gang)* boxes are 2 13/16" Ht. × 5 11/16" Wd. × 2 5/16" Dp. (19 cu. in.). *Two-device (2 gang)* boxes are 4 5/8" Ht. × 4 5/8" Wd. × 2" Dp. (32 cu. in.).

Aluminum Boxes—Have NPT female threaded connections for attaching medium and thick wall (rigid) conduit. Boxes with one or two connections have two 5/16" dia. mounting holes; boxes with three connections do not have mounting holes. All are 2 7/8" Ht. × 4 5/8" Wd. × 2" Dp. (18 cu. in.).

PVC Covers—All are gray and include mounting screws. CSA certified. *Single-device (1 gang)* covers are 3 3/16" Ht. × 4 7/8" Wd., unless noted. *Two-device (2 gang)* covers are 4 7/8" Ht. × 4 7/8" Wd.

Aluminum Covers—Mounting screws are included. 7169K53 and 7169K52 are 2 13/16" Ht. × 4 9/16" Wd.; 7169K49 is 2 13/16" Ht. × 4 3/16" Wd.

Single-Device (1 Gang) — *Two-Device (2 Gang)*


One Connection


Two Connections


Three Connections


One Connection


Two Connections

Connection Trade Size	One Connection		Two Connections		Three Connections		One Connection		Two Connections	
PVC										
1/2	7954K11	$12.38	7954K14	$13.01	_____	____	7954K21	$16.64	7954K24	$16.96
3/4	7954K12	13.01	7954K15	14.23	_____	____	7954K22	16.64	7954K25	16.96
1	7954K13	14.58	7954K16	8.92	_____	____	7954K23	16.64	7954K26	16.96
Aluminum										
1/2	7169K34	18.27	7169K31	18.72	7169K37	$26.10	_____	____	_____	____
3/4	7169K35	19.50	7169K32	22.83	7169K38	32.39	_____	____	_____	____
1	7169K36	20.72	7169K33	27.41	_____	____	_____	____	_____	____

Single-Device (1 Gang)













PVC	7954K31★	$6.02	_____	____	7954K32■	$18.85	7954K33	$10.31	7954K34■	$14.22	7954K35	$12.18
Aluminum	7169K53	4.72	7169K52	$4.72	_____	____	_____	____	_____	____	_____	____

Single-Device (1 Gang) — *Two-Device (2 Gang)*











PVC 7954K36▲ $11.41 Aluminum 7169K49 $10.18

PVC 7954K41 $6.91 7954K42 $22.25 7954K46 $22.69

★4 5/8" Ht. × 2 7/8" Wd. ■4 3/4" Ht. × 3 3/16" Wd. ▲4 3/4" Ht. × 3" Wd.

Weatherproof Outlet Boxes and Covers

Exposure to rain, snow, and wet indoor conditions won't hurt these corrosion-resistant boxes, extension rings, and covers. They have a gray powder-coated finish. Mounting hardware is included. UL listed, except 7219K6, 7219K8, and 7219K13 are UL recognized.

Boxes are aluminum and have NPT threaded connections for attaching conduit and fittings. Include plugs for unused connections and a grounding screw. Mount horizontally or vertically. *Single-device (1 gang)* boxes are 2¾″ Ht.×4½″ Wd.×2″ Dp., except 7219K81 is 2⅝″ Dp. *Two-device (2 gang)* boxes are 4½″ Ht.×4½″ Wd.×2″ Dp. 7219K7 and 7219K71 are 4″ Dia.×1½″ Dp.

Extension rings are aluminum and provide additional depth to increase the volume of a box. 7219K15 is 4½″ Ht.×2¾″ Wd.×1″ Dp. 7219K16 is 4″ Dia.×1½″ Dp. and has four ½ trade size holes.

Covers are metal and have a gasket. *Single-device (1 gang)* covers are 4⁹⁄₁₆″ Ht.×2¹³⁄₁₆″ Wd. *Two-device (2 gang)* covers are 4⁹⁄₁₆″ Ht.×4⁹⁄₁₆″ Wd. 7219K78, 7219K13, and 7219K8 are 4⅛″ Dia.

Single-Device (1 Gang)





Connection Trade Size	Cap., cu. in.	Three Connections		Four Connections		Five Connections	
½	18.3	7219K22	$4.86	7219K2	$5.57	7219K11	$8.00
½	22.5	7219K81	12.89				
¾	18.3	7219K23	5.43	7219K24	6.43	7219K12	6.74

Two-Device (2 Gang)





Cap., cu. in.	Three Connections		Four Connections		Five Connections	
31	7219K25	$13.00	7219K27	$16.43	7219K21	$15.00
31	7219K26	14.14	7219K28	16.57	7219K29	15.57

Single-Device (1 Gang)





7219K5 $1.43 | 7219K61 $6.44 | 7219K4 $4.71

Extension Rings





Connection Trade Size	Cap., cu. in.	Five Connections	For Single-Device (1 Gang) Boxes	For Round Boxes
½	16	7219K7 $9.14	7219K15 $4.71	7219K16 $13.57
¾	16	7219K71 14.14		

Single-Device (1 Gang)




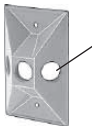



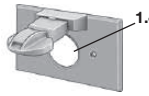

7219K62 $7.70 | 7219K3 $6.44 | 7219K63 $5.46 | 7219K6 $4.71 | 7219K75 $5.28 | 7219K76 $5.33

Two-Device (2 Gang)









7219K67 $3.14 | 7219K41 $14.14 | 7219K31 $17.57 | 7219K64 $17.38 | 7219K51 $21.40 | 7219K66 $15.00 | 7219K65 $28.50

Two-Device (2 Gang)

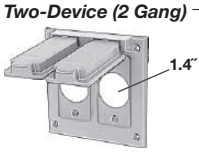


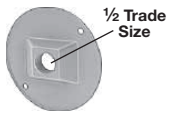

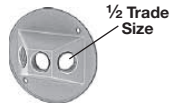

7219K77 $22.83 | 7219K78 $1.88 | 7219K13 $3.71 | 7219K8 $4.14

Weatherproof While-in-Use Covers

Keep the cover closed during operation to completely shield the outlet and plug from rain and snow outdoors as well as wet locations indoors. Covers are corrosion resistant and include sealing gaskets and zinc-plated steel mounting hardware. They comply with NEC requirements for plugs in wet locations and are rated NEMA 3R for protection from falling liquids and light splashing. UL listed.

Single-device (1 gang) covers include adapter plates for toggle switches, duplex receptacles, GFCI receptacles, and circular receptacles. *Polycarbonate two-device (2 gang)* cover includes adapter plates to create any combination of the previously listed switches and receptacles; *aluminum two-device (2 gang)* cover has adapter plates for nine combinations.

Polycarbonate—Semi-clear with a locking hasp for OSHA lockout/tagout requirements.

Low-Profile Polycarbonate—Has an accordion-style bellows that can project up to 3½″ from the wall to accommodate plugs and cable. When not in use, the bellows collapses to give the cover a slim profile. The cover has a clear window.

Aluminum—Covers have a locking hasp for OSHA lockout/tagout requirements. CSA certified.


Polycarbonate Two-Device


Low-Profile Polycarbonate Single-Device

	Ht.	Wd.	Dp.		
Polycarbonate—Vertical					
Single-Device (1 Gang)	5½″	4″	3⅛″	70025K64	$9.38
Two-Device (2 Gang)	5⅞″	5⅜″	3⅛″	70025K65	18.75
Low-Profile Polycarbonate—Vertical					
Single-Device (1 Gang)	6⅛″	4″	1″	70025K51	15.97

	Ht.	Wd.	Dp.		
Aluminum—Horizontal					
Single-Device (1 Gang)	4¼″	5⅛″	3½″	6888K13	$20.88
Aluminum—Vertical					
Single-Device (1 Gang)	6″	3⅜″	3½″	6888K14	20.88
Two-Device (2 Gang)	6″	5⅛″	4½″	6888K21	28.64

Indoor Steel Enclosures



Rated NEMA 1 for indoor use, these enclosures protect components in areas where dust and liquids are not a concern. They are steel and have steel hinges, a slotted latch, and mounting holes. UL listed and CSA certified.

Panels are steel and are for mounting components inside enclosures.

Gray Enclosures					Choose-a-Color Enclosures			Panels			
Ht.	Wd.	Dp.						Ht.	Wd.		
6″	6″	4″	7561K22	$46.60	Black, Blue, White, Yellow	7561K111	$77.22	4¼″	4¼″	7561K811	$4.91
8″	6″	4″	7561K23	56.12	Black, Blue, White, Yellow	7561K112	81.87	6¼″	4¼″	7561K821	5.79
8″	6″	6″	7561K24	63.27	Black, Blue, White, Yellow	7561K113	88.13	6¼″	4¼″	7561K821	5.79
8″	8″	4″	7561K26	62.29	Black, Blue, White, Yellow	7561K114	87.98	6¼″	6¼″	7561K89	6.77
8″	8″	6″	7561K63	73.15	Black, Blue, White, Yellow	7561K115	95.62	6¼″	6¼″	7561K89	6.77
10″	8″	4″	7561K27	63.23	Black, Blue, White, Yellow	7561K116	93.95	8¼″	6¼″	7561K841	7.94
10″	8″	6″	7561K28	77.41	Black, Blue, White, Yellow	7561K117	102.67	8¼″	6¼″	7561K841	7.94
10″	10″	6″	7561K29	85.51	Black, Blue, White, Yellow	7561K118	110.55	8¼″	8¼″	7561K321	9.26
12″	10″	4″	7561K39	78.47	Black, Blue, White, Yellow	7561K119	107.56	10¼″	8¼″	7561K871	10.77
12″	10″	6″	7561K36	85.22	Black, Blue, White, Yellow	7561K121	118.16	10¼″	8¼″	7561K871	10.77
12″	12″	4″	7561K38	82.51	Black, Blue, White, Yellow	7561K122	115.24	10¼″	10¼″	7561K861	12.79
12″	12″	6″	7561K41	101.31	Black, Blue, White, Yellow	7561K123	127.16	10¼″	10¼″	7561K861	12.79
14″	12″	6″	7561K42	100.81	Black, Blue, White, Yellow	7561K124	136.16	12¼″	10¼″	7561K881	14.34
14″	12″	8″	7561K43	111.93	Black, Blue, White, Yellow	7561K125	148.95	12¼″	10¼″	7561K881	14.34
16″	12″	6″	7561K44	118.46	Black, Blue, White, Yellow	7561K126	145.18	14¼″	10¼″	7561K912	16.11
16″	12″	8¾″	7561K48	184.18	Black, Blue, White, Yellow	7561K127	222.34	13″	10½″	7561K913	15.26
20″	12″	6″	7561K57	144.72	Black, Blue, White, Yellow	7561K128	174.74	18¼″	10¼″	7561K331	19.74
20″	16″	6¾″	7561K49	206.35	Black, Blue, White, Yellow	7561K129	249.32	17″	14½″	7561K921	24.32
20″	16″	8¾″	7561K55	223.98	Black, Blue, White, Yellow	7561K131	276.20	17″	14½″	7561K921	24.32
20″	20″	6¾″	7561K58	224.86	Black, Blue, White, Yellow	7561K132	277.14	17″	18½″	7561K341	33.02
20″	20″	8¾″	7561K59	245.82	Black, Blue, White, Yellow	7561K133	300.42	17″	18½″	7561K341	33.02
24″	20″	6¾″	7561K61	248.48	Black, Blue, White, Yellow	7561K134	303.36	21″	18½″	7561K931	37.28
24″	20″	8¾″	7561K62	271.80	Black, Blue, White, Yellow	7561K135	329.06	21″	18½″	7561K931	37.28
24″	24″	8¾″	7561K64	277.62	Black, Blue, White, Yellow	7561K136	335.42	21″	22½″	7561K351	70.19
30″	24″	8¾″	7561K69	308.76	Black, Blue, White, Yellow	7561K137	369.68	26″	22½″	7561K941	92.98
30″	24″	10¾″	7561K76	333.64	Black, Blue, White, Yellow	7561K138	397.44	26″	22½″	7561K941	92.98
36″	24″	8¾″	7561K77	357.26	Black, Blue, White, Yellow	7561K139	423.42	32″	22½″	7561K951	95.38
36″	30″	12¾″	7561K78	461.40	Black, Blue, White, Yellow	7561K141	538.32	32″	28½″	7561K961	137.38

Indoor Steel Enclosures with Knockouts



Hinged Cover



Lift-Off Cover

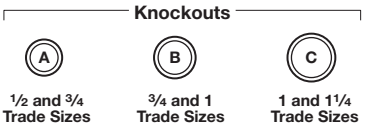

Punch out the knockouts on the top, bottom, or sides for convenient connection to conduit fittings and cord grips—no special tools required. Enclosures are rated NEMA 1 for indoor applications where dust and liquids are not a concern. They are steel and have mounting holes. Color is gray. UL listed and CSA certified.

Hinged Cover—Have steel hinges and a slotted latch.

Lift-Off Cover—Screws fasten the cover to the enclosure, but the cover has keyhole-shaped slots that allow you to slide it off without removing the screws.

			Knockout Style (No.)			
Ht.	Wd.	Dp.	Each Side	Top and Bottom		
Hinged Cover						
6″	4″	4″	A(2), B(1)	A(1), B(1)	75065K51	$14.81
6″	6″	4″	A(2), B(1)	A(2), B(1)	75065K52	17.77
6″	6″	6″	A(2), B(1)	A(2), B(1)	75065K63	21.53
8″	6″	4″	A(2), B(2)	A(2), B(1)	75065K53	20.86
8″	8″	4″	A(2), B(2)	A(2), B(2)	75065K54	24.38
8″	8″	6″	A(2), B(2)	A(2), B(2)	75065K64	29.25
10″	8″	4″	A(2), B(2)	A(2), B(2)	75065K55	27.92
10″	8″	6″	A(2), B(2)	A(2), B(2)	75065K65	33.33
10″	10″	4″	A(2), B(2)	A(2), B(2), C(1)	75065K56	32.16
10″	10″	6″	A(2), B(2)	A(2), B(2), C(1)	75065K66	38.04
12″	8″	4″	A(2), B(2), C(1)	A(2), B(2)	75065K57	31.80
12″	10″	4″	A(2), B(2), C(1)	A(2), B(2), C(1)	75065K58	36.29
12″	10″	6″	A(2), B(2), C(1)	A(2), B(2), C(1)	75065K67	42.94
12″	12″	4″	A(2), B(2), C(1)	A(2), B(2), C(1)	75065K59	41.22
12″	12″	6″	A(2), B(2), C(1)	A(2), B(2), C(1)	75065K68	48.31
16″	12″	4″	A(4), B(2), C(1)	A(2), B(2), C(1)	75065K61	49.80
16″	12″	6″	A(4), B(2), C(1)	A(2), B(2), C(1)	75065K69	58.02
16″	16″	6″	A(4), B(2), C(1)	A(4), B(2), C(1)	75065K71	67.73
18″	12″	4″	A(4), B(4), C(1)	A(2), B(2), C(1)	75065K62	55.49
18″	12″	6″	A(4), B(4), C(1)	A(2), B(2), C(1)	75065K72	64.51
18″	18″	6″	A(4), B(4), C(1)	A(4), B(4), C(1)	75065K73	86.25
24″	18″	6″	A(4), B(4), C(1)	A(4), B(4), C(1)	75065K74	130.24
24″	24″	6″	A(4), B(4), C(1)	A(4), B(4), C(1)	75065K75	162.04

			Knockout Style (No.)			
Ht.	Wd.	Dp.	Each Side	Top and Bottom		
Lift-Off Cover						
4″	4″	4″	A(1), B(1)	A(1), B(1)	75065K22	$9.32
6″	4″	4″	A(2), B(1)	A(1), B(1)	75065K23	13.10
6″	6″	3″	A(2), B(1)	A(2), B(1)	75065K21	15.23
6″	6″	4″	A(2), B(1)	A(2), B(1)	75065K11	12.53
6″	6″	6″	A(2), B(1)	A(2), B(1)	75065K35	17.03
8″	6″	4″	A(2), B(2)	A(2), B(1)	75065K12	17.95
8″	8″	4″	A(2), B(2)	A(2), B(2)	75065K13	20.05
8″	8″	6″	A(2), B(2)	A(2), B(2)	75065K36	23.91
8″	8″	8″	A(2), B(2)	A(2), B(2)	75065K37	32.61
10″	8″	4″	A(2), B(2)	A(2), B(2)	75065K14	23.72
10″	10″	4″	A(2), B(2)	A(2), B(2)	75065K24	26.03
10″	10″	6″	A(2), B(2), C(1)	A(2), B(2), C(1)	75065K38	32.66
12″	6″	4″	A(2), B(2), C(1)	A(2), B(1)	75065K15	25.15
12″	8″	4″	A(2), B(2), C(1)	A(2), B(2)	75065K16	27.05
12″	10″	4″	A(2), B(2), C(1)	A(2), B(2), C(1)	75065K25	31.87
12″	12″	4″	A(2), B(2), C(1)	A(2), B(2), C(1)	75065K17	32.71
12″	12″	6″	A(2), B(2), C(1)	A(2), B(2), C(1)	75065K39	38.69
12″	12″	8″	A(2), B(2), C(1)	A(2), B(2), C(1)	75065K41	50.36
16″	12″	4″	A(4), B(2), C(1)	A(2), B(2), C(1)	75065K18	51.02
16″	12″	8″	A(4), B(2), C(1)	A(2), B(2), C(1)	75065K42	61.56
18″	12″	4″	A(4), B(4), C(1)	A(2), B(2), C(1)	75065K26	52.85
18″	18″	8″	A(4), B(4), C(1)	A(4), B(4), C(1)	75065K43	82.63
24″	18″	8″	A(4), B(4), C(1)	A(4), B(4), C(1)	75065K44	135.87
24″	24″	8″	A(4), B(4), C(1)	A(4), B(4), C(1)	75065K45	155.16

Weather-Resistant Steel Enclosures

Keep components safe from rain, snow, and ice. Rated NEMA 3R, enclosures have a top that overhangs the cover for protection from dirt, falling liquids, and light splashing. Enclosures are gray powder-coated steel and have mounting holes. UL listed and CSA certified, unless noted.

Hinged Cover

Enclosures have a continuous steel hinge and a removable inner panel where components can be mounted. The cover can be secured with a padlock (3/8" max. shackle dia.).

With Knockouts—Have knockouts on the bottom for attaching conduit fittings and cord grips as well as a quick-release latch.

Without Knockouts—Two screws keep the cover closed.

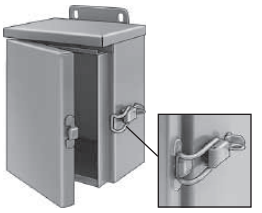

With Knockouts—Quick-Release Latch



Without Knockouts—Screw Closure

Knockouts

A — 1/2 and 3/4 Trade Sizes

B — 3/4 and 1 Trade Sizes

Ht.	Wd.	Dp.	Knockout Style (No.)	Enclosures with Panel		Replacement Panels	
With Knockouts—Quick-Release Latch							
8"	6"	4"	A(2), B(1)	7649K11	$44.47	7649K41	$4.38
10"	8"	6"	A(2), B(1)	7649K45	60.87	7649K47	6.10
12"	10"	6"	A(2), B(1)	7649K12	78.49	7649K42	8.32
Without Knockouts—Screw Closure							
16"	12"	6"	_____	7649K13	120.37	75505K46	22.87
20"	20"	8"	_____	7649K14	220.44	7649K44	41.48
24"	24"	8"	_____	7649K46	299.26	7649K48	59.29

Lift-Off Cover

Screws hold the cover in place. There are knockouts on the bottom for attaching conduit fittings and cord grips. The cover can be secured with a padlock (3/8" max. shackle dia.), unless noted.



Knockouts

A — 1/2 and 3/4 Trade Sizes

B — 3/4 and 1 Trade Sizes

C — 1 and 1 1/4 Trade Sizes

Ht.	Wd.	Dp.	Knockout Style (No.)		
4"	4"	4"	A(1)	7649K36★	$21.38
6"	4"	4"	A(1)	7649K51★	21.54
6"	6"	4"	A(2), B(1)	7649K37	23.28
8"	6"	4"	A(2), B(1)	7649K38	25.82
8"	8"	4"	A(2), B(1)	7649K52	29.76
10"	8"	4"	A(2), B(1)	7649K53	33.62
10"	10"	6"	A(2), B(1), C(2)	7649K39	46.00
12"	10"	6"	A(2), B(1), C(2)	7649K54	49.74
15"	12"	6"	A(2), B(2), C(2)	7649K95	64.68

★ Not UL listed and does not accept a padlock.

Oil-Resistant Steel Enclosures

Enclosures have a gasketed cover and are rated NEMA 13 for indoor protection from dust, dirt, and oil/coolant spraying. They are gray powder-coated steel and have mounting holes. UL listed. **Panels** are steel and are for mounting components inside enclosures.

Hinged Cover with Screw-Down Clamps—Enclosures have a continuous steel hinge and screw-down clamps to keep the cover closed. Enclosures 20" high and taller have a padlock hasp (3/8" max. shackle dia.) and are CSA certified.

Hinged Cover with Quick-Release Latch—A latch offers easy access without screws or clamps to unfasten. Enclosures have a continuous steel hinge and are C-UL listed.

Lift-Off Cover with Screw-Down Clamps—The cover is secured with screw-down clamps. CSA certified.



Hinged Cover with Screw-Down Clamps



Hinged Cover with Quick-Release Latch

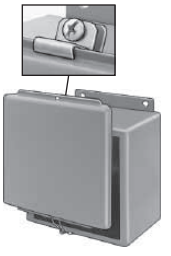

Lift-Off Cover with Screw-Down Clamps

Ht.	Wd.	Dp.	Enclosures	Panels Ht.	Panels Wd.		
Hinged Cover with Screw-Down Clamps							
4"	4"	3"	7605K19	$47.91	_____	_____	_____
6"	4"	3"	7605K21	56.71	4 7/8"	2 7/8"	7847K21 $4.42
6"	6"	4"	7605K23	62.92	4 7/8"	4 7/8"	7847K22 5.30
8"	6"	3 1/2"	7605K22	68.71	6 3/4"	4 7/8"	7847K23 6.06
8"	8"	4"	7605K66	76.70	6 3/4"	6 7/8"	7605K51 7.10
10"	8"	4"	7605K24	83.78	8 3/4"	6 7/8"	7847K24 8.26
10"	8"	6"	7605K41	95.57	8 3/4"	6 7/8"	7847K24 8.26
10"	10"	6"	7605K29	108.47	8 3/4"	8 7/8"	7605K39 9.78
12"	6"	4"	7605K28	86.91	10 3/4"	4 7/8"	7605K59 7.74
12"	10"	5"	7605K25	108.57	10 3/4"	8 7/8"	7847K25 11.16
12"	10"	8"	7605K42	135.02	10 3/4"	8 7/8"	7847K25 11.16
12"	12"	6"	7605K49	125.51	10 3/4"	10 7/8"	7605K38 13.14
14"	8"	6"	7605K67	118.77	12 3/4"	6 7/8"	7605K52 10.72
14"	12"	6"	7605K26	137.20	12 3/4"	10 7/8"	7847K26 14.60
14"	12"	8"	7605K43	160.44	12 3/4"	10 7/8"	7847K26 14.60
16"	10"	6"	7605K68	141.52	14 3/4"	8 7/8"	7605K53 14.26
16"	14"	6"	7605K27	161.54	14 3/4"	12 7/8"	7847K27 19.30
16"	14"	8"	7605K44	182.88	14 3/4"	12 7/8"	7847K27 19.30
16"	14"	10"	7605K69	207.38	14 3/4"	12 7/8"	7847K27 19.30
20"	16"	7 1/4"	75545K72	362.58	17"	13"	75545K92 44.40
20"	16"	9 1/4"	75545K74	382.85	17"	13"	75545K92 44.40
24"	20"	7 1/4"	75545K73	419.79	21"	17"	75545K93 69.42
24"	20"	9 1/4"	75545K75	444.08	21"	17"	75545K93 69.42
24"	20"	11 1/4"	75545K85	468.48	21"	17"	75545K93 69.42
24"	20"	13 1/4"	75545K86	506.77	21"	17"	75545K93 69.42

Ht.	Wd.	Dp.	Enclosures	Panels Ht.	Panels Wd.		
Hinged Cover with Screw-Down Clamps (Cont.)							
30"	24"	9 1/4"	75545K76	$531.88	27"	21"	75545K94 $96.90
30"	24"	11 1/4"	75545K78	561.81	27"	21"	75545K94 96.90
36"	30"	9 1/4"	75545K77	657.44	33"	27"	75545K95 154.58
36"	30"	11 1/4"	75545K79	694.06	33"	27"	75545K95 154.58
36"	30"	13 1/4"	75545K82	731.02	33"	27"	75545K95 154.58
42"	30"	11 1/4"	75545K81	782.79	39"	27"	75545K96 176.81
42"	30"	13 1/4"	75545K83	821.38	39"	27"	75545K96 176.81
48"	36"	13 1/4"	75545K84	970.81	45"	33"	75545K97 234.75
Hinged Cover with Quick-Release Latch							
6"	4"	3"	7847K11	60.04	4 7/8"	2 7/8"	7847K21 4.42
6"	6"	4"	7847K12	70.10	4 7/8"	4 7/8"	7847K22 5.30
8"	6"	3 1/2"	7847K13	74.42	6 3/4"	4 7/8"	7847K23 6.06
10"	8"	4"	7847K14	89.78	8 3/4"	6 7/8"	7847K24 8.26
12"	10"	5"	7847K15	114.90	10 3/4"	8 7/8"	7847K25 11.16
14"	12"	6"	7847K16	145.54	12 3/4"	10 7/8"	7847K26 14.60
16"	14"	6"	7847K17	170.52	14 3/4"	12 7/8"	7847K27 19.30
Lift-Off Cover with Screw-Down Clamps							
4"	4"	3"	7871K11	45.64	_____	_____	_____
6"	4"	3"	7871K12	51.32	4 7/8"	2 7/8"	7871K62 4.27
6"	6"	4"	7871K13	59.82	4 7/8"	4 7/8"	7871K63 5.10
8"	6"	3 1/2"	7871K14	63.50	6 3/4"	4 7/8"	7871K64 5.86
10"	8"	4"	7871K15	78.88	8 3/4"	6 7/8"	7871K65 7.98
12"	10"	5"	7871K16	93.52	10 3/4"	8 7/8"	7871K66 10.80
14"	12"	6"	7871K17	121.48	12 3/4"	10 7/8"	7871K67 14.12
16"	14"	6"	7871K18	142.98	14 3/4"	12 7/8"	7871K68 18.68

Easy-Access Washdown Enclosures



Steel, Choose-a-Color Steel, and Stainless Steel



Sloped-Top Stainless Steel



Steel with Top Hinge



Locking Handle

Give the slotted latch a quarter turn to open these enclosures—there are no clamps or screws to unfasten. A gasketed cover protects components from washdowns. All have mounting holes. **Panels** are steel and are for mounting components inside enclosures.

Steel and **Choose-a-Color Steel**—Rated NEMA 4 and 12 for protection from dust, dirt, washdowns, and oil/coolant dripping. Enclosures have concealed steel hinges. UL listed and CSA certified. *Steel* has a gray powder-coated finish.

Steel with Top Hinge—Enclosures are gray powder-coated steel and are rated NEMA 4 and 12 for protection from dust, dirt, washdowns, and oil/coolant dripping. They have steel hinges. UL and C-UL listed. CSA certified.

Stainless Steel—The best choice for environments with corrosive liquids or frequent moisture, enclosures are rated NEMA 4X and IP66 for protection from dirt, washdowns, corrosion, and power jets of water. They have plastic hinges and mounting feet, except the 16″ and 20″ wide enclosures have stainless steel hinges and do not have mounting feet. UL listed and CSA certified.

Sloped-Top Stainless Steel—A 20° sloped top and door edge allows washdown solutions to run off, eliminating standing water to meet NSF/ANSI Standard 169. Enclosures are rated NEMA 4X and 12 as well as IP66 for protection from dirt, washdowns, corrosion, oil/coolant dripping, and power jets of water. UL and C-UL listed.

Accessories—*Locking handle* replaces the slotted latch and includes two keys. *Standoffs* are 1″ long and create space between the enclosure and the wall to allow thorough washdowns.

Ht.	Wd.	Dp.	Enclosures		Panels Ht.	Wd.		
Steel								
6″	6″	4¾″	7812K11	$61.57	5″	5″	7812K51	$7.25
8″	6″	4¾″	7812K12	75.37	7″	5″	7812K52	8.92
9¾″	8″	6″	7812K13	91.61	9″	7″	7812K53	10.79
11¾″	9¾″	6″	7812K14	104.14	11″	9″	7812K54	12.21
12″	12″	6″	7812K21	245.49	10″	10″	7812K61	16.29
16″	12″	6″	7812K22	261.92	14″	10″	7812K62	20.98
16″	16″	6″	7812K23	281.98	14″	14″	7812K63	40.62
20″	16″	8″	7812K24	318.47	18″	14″	7812K64	46.81
20″	20″	8″	7812K25	344.39	18″	18″	7812K65	56.17
24″	20″	8″	7812K26	370.00	22″	18″	7812K66	71.77
24″	24″	8″	7812K27	399.53	22″	22″	7812K67	83.38
30″	24″	12″	7812K28	482.84	28″	22″	7812K68	100.65
36″	30″	12″	7812K29	584.18	34″	28″	7812K69	155.60
42″	36″	12″	7812K31	698.35	40″	34″	7812K71	214.06
Steel with Top Hinge								
9″	12¼″	6¼″	7812K81	117.36	8″	11″	75345K63	12.73
9″	18″	6¼″	7812K82	118.64	8″	17″	75345K64	17.94
9″	23¾″	6¼″	7812K83	122.14	8″	23″	75345K65	19.64
9″	30¼″	6¼″	7812K84	122.98	8″	29″	75345K66	21.52
9″	36½″	6¼″	7812K85	125.47	8″	35″	75345K67	23.57
Choose-a-Color Steel—Choose black, blue, white, or yellow								
6″	6″	4¾″	7309K31	96.27	5″	5″	7812K51	7.25
8″	6″	4¾″	7309K32	109.95	7″	5″	7812K52	8.92
9¾″	8″	6″	7309K33	126.00	9″	7″	7812K53	10.79
11¾″	9¾″	6″	7309K34	138.13	11″	9″	7812K54	12.21
12″	12″	6″	7309K35	291.22	10″	10″	7812K61	16.29
16″	12″	6″	7309K36	310.71	14″	10″	7812K62	20.98

Ht.	Wd.	Dp.	Enclosures		Panels Ht.	Wd.		
Choose-a-Color Steel—Choose black, blue, white, or yellow (Cont.)								
16″	16″	6″	7309K37	$334.50	14″	14″	7812K63	$40.62
20″	16″	8″	7309K38	377.84	18″	14″	7812K64	46.81
20″	20″	8″	7309K39	408.72	18″	18″	7812K65	56.17
24″	20″	8″	7309K41	436.38	22″	18″	7812K66	71.77
24″	24″	8″	7309K42	468.01	22″	22″	7812K67	83.38
30″	24″	12″	7309K43	541.88	28″	22″	7812K68	100.65
36″	30″	12″	7309K44	634.92	34″	28″	7812K69	155.60
42″	36″	12″	7309K45	750.53	40″	34″	7812K71	214.06
Stainless Steel								
6″	6″	4″	6942K12	165.88	5″	5″	6942K102	4.46
8″	6″	6″	6942K14	197.96	7″	5″	6942K103	5.12
10″	8″	6″	6942K16	284.40	9″	7″	6942K105	7.00
12″	10″	8″	6942K18	345.46	11″	9″	6942K107	9.48
12″	12″	6″	6942K19	348.08	11″	11″	6942K109	11.17
14″	12″	8″	6942K22	392.56	13″	11″	6942K211	12.46
16″	14″	6″	6942K23	435.60	15″	13″	6942K213	24.54
16″	16″	8″	6942K24	666.69	13″	13″	6942K214	30.21
20″	20″	8″	6942K26	827.10	17″	17″	6942K216	43.56
Sloped-Top Stainless Steel								
19″	12″	8″	7235K11	1,078.70	13″	9″	75545K91	30.35
19¼″	16″	8″	7235K12	1,186.72	13″	13″	7235K32	37.64
23¼″	16″	8″	7235K13	1,313.47	17″	13″	75545K92	44.40
24¾″	20″	12″	7235K15	1,721.77	17″	17″	7235K34	53.96
27½″	24″	8″	7235K17	1,748.68	21″	21″	7235K36	80.36
35″	24″	12″	7235K21	2,255.67	27″	21″	75545K94	96.90
41″	30″	12″	7235K23	2,872.50	33″	27″	75545K95	154.58
66½″	36″	16″	7235K25	5,184.27	57″	33″	7235K42	290.58

Accessories

Locking Handle for Steel, Steel with Top Hinge, and Choose-a-Color Steel Enclosures 11¾″ High and Shorter	7812K4	37.78
Locking Handle for Steel and Choose-a-Color Steel Enclosures 12″ High and Taller	7812K8	69.84
Standoffs for Sloped-Top Stainless Steel Enclosures (Set of 4)	7235K1	149.45

Washdown Enclosures with Hinged Cover

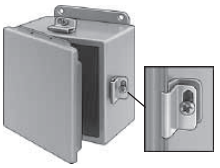

Components stay dry during washdowns because the cover has a gasket. Stainless steel screw-down clamps on three sides resist corrosion and keep the cover closed. Enclosures have mounting holes and are UL listed and CSA certified. **Panels** are steel and are for mounting components inside enclosures.

Steel—Enclosures are gray powder-coated steel and are rated NEMA 4 and 13 for protection from dust, dirt, washdowns, and oil/coolant spraying. Enclosures 4″ to 16″ high have a continuous steel hinge. Enclosures 20″ high and taller have a continuous stainless steel hinge and a padlock hasp (⅜″ max. shackle dia.).

Stainless Steel—Use in areas with constant moisture. Enclosures are rated NEMA 4X and 12 for protection from dirt, washdowns, corrosion, and oil/coolant dripping. They have a continuous stainless steel hinge.

Ht.	Wd.	Dp.	Enclosures		Panels Ht.	Wd.		
Steel								
4″	4″	3″	7563K31	$77.04				
6″	4″	3″	7563K32	87.22	4⅞″	2⅞″	7847K21	$4.42
6″	6″	4″	7563K34	91.42	4⅞″	4⅞″	7847K22	5.30
8″	6″	3½″	7563K36	97.50	6¾″	4⅞″	7847K23	6.06
10″	8″	4″	7563K38	120.85	8¾″	6⅞″	7847K24	8.26
10″	8″	6″	7563K37	135.11	8¾″	6⅞″	7847K24	8.26
12″	10″	5″	7563K43	153.41	10¾″	8⅞″	7847K25	11.16
12″	12″	6″	7563K46	164.46	10¾″	10⅞″	7605K38	13.14
14″	12″	6″	7563K41	196.56	12¾″	10⅞″	7847K26	14.60
16″	14″	6″	7563K45	230.48	14¾″	12⅞″	7847K27	19.30
20″	16″	7¼″	75705K72	450.86	17″	13″	75545K92	44.40
20″	16″	9¼″	75705K74	475.65	17″	13″	75545K92	44.40
24″	20″	7¼″	75705K73	537.24	21″	17″	75545K93	69.42
24″	20″	9¼″	75705K75	552.06	21″	17″	75545K93	69.42
24″	20″	11¼″	75705K85	582.61	21″	17″	75545K93	69.42
24″	20″	13¼″	75705K86	602.69	21″	17″	75545K93	69.42
30″	24″	9¼″	75705K76	661.45	27″	21″	75545K94	96.90

Ht.	Wd.	Dp.	Enclosures		Panels Ht.	Wd.		
Steel (Cont.)								
30″	24″	11¼″	75705K78	$684.98	27″	21″	75545K94	$96.90
36″	30″	9¼″	75705K77	787.29	33″	27″	75545K95	154.58
36″	30″	11¼″	75705K79	814.90	33″	27″	75545K95	154.58
36″	30″	13¼″	75705K82	858.33	33″	27″	75545K95	154.58
48″	36″	13¼″	75705K84	1,078.71	45″	33″	75545K97	234.75
Stainless Steel								
6″	6″	4″	75505K11	199.17	4⅞″	4⅞″	75505K41	4.23
10″	8″	4″	75505K12	308.07	8⅞″	6⅞″	75505K42	6.81
12″	10″	6″	75505K13	431.76	10⅞″	8⅞″	75505K43	8.83
14″	12″	6″	75505K14	503.45	12⅞″	10⅞″	75505K44	11.58
16″	14″	6″	75505K15	599.03	14⅞″	12⅞″	75505K45	15.37
20″	16″	6″	75505K22	851.77	17″	13″	75505K47	33.87
20″	16″	10″	75505K23	972.55	17″	13″	75505K47	33.87
24″	20″	8″	75505K24	1,103.95	21″	17″	75505K48	53.50
30″	24″	8″	75505K25	1,380.88	27″	21″	75505K49	78.90
36″	24″	10″	75505K26	1,649.03	33″	21″	75505K52	94.71
48″	36″	12″	75505K27	2,653.32	45″	33″	75505K53	178.71

Washdown Enclosures with Lift-Off Cover

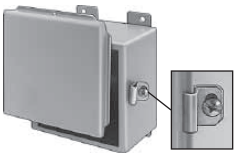

Use where frequent access isn't necessary, but NEMA 4 and 13 protection from dust, dirt, washdowns, and oil/coolant spraying is required. Enclosures are gray powder-coated steel. The cover has a gasket and is secured with stainless steel screw-down clamps on four sides. Enclosures have mounting holes. UL listed and CSA certified.

Panels are steel and are for mounting components inside enclosures.

					Panels			
Ht.	Wd.	Dp.	Enclosures		Ht.	Wd.		
4″	4″	3″	7865K41	$55.10				
6″	4″	3″	7865K42	62.63	4 7/8″	2 7/8″	7871K62	$4.27
6″	6″	4″	7865K43	72.85	4 7/8″	4 7/8″	7871K63	5.10
8″	6″	3 1/2″	7865K44	77.27	6 3/4″	4 7/8″	7871K64	5.86
10″	8″	4″	7865K45	96.37	8 3/4″	6 7/8″	7871K65	7.98
12″	10″	5″	7865K46	123.31	10 3/4″	8 7/8″	7871K66	10.80
14″	12″	6″	7865K47	155.56	12 3/4″	10 7/8″	7871K67	14.12
16″	14″	6″	7865K48	182.88	14 3/4″	12 7/8″	7871K68	18.68

Lightweight Corrosion-Resistant Washdown Enclosures

Stronger and more durable than plastic enclosures, these are aluminum to resist corrosion, plus they weigh less than other metals. They are rated NEMA 4X for protection from dirt, washdowns, and corrosion. All have a gasketed lift-off cover and mounting holes.

Screw-Down Clamp Cover

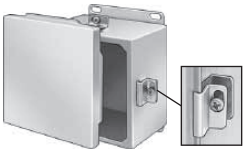

The cover is secured with stainless steel screw-down clamps on four sides. Enclosures have a brushed finish. UL listed and CSA certified.

Panels are steel and are for mounting components inside enclosures.

					Panels			
Ht.	Wd.	Dp.	Enclosures		Ht.	Wd.		
6″	6″	4″	75775K11	$211.15	4 7/8″	4 7/8″	7847K22	$5.30
8″	6″	3 1/2″	75775K12	220.62	6 3/4″	4 7/8″	7847K23	6.06
10″	8″	4″	75775K13	260.66	8 3/4″	6 7/8″	7847K24	8.26
12″	10″	5″	75775K14	317.64	10 3/4″	8 7/8″	7847K25	11.16
14″	12″	6″	75775K15	386.17	12 3/4″	10 7/8″	7847K26	14.60
16″	14″	6″	75775K16	417.44	14 3/4″	12 7/8″	7847K27	19.30

Screw Cover



Screws secure the cover. Enclosures meet IP66 for protection from power jets of water.

Standard—Have a brushed finish. UL and C-UL listed.

Heavy Duty—Have thicker walls than standard enclosures and a beige powder-coated finish. CSA certified.

Ht.	Wd.	Dp.		
Standard				
2″	1 3/4″	1 1/4″	75895K27	$6.09
3 1/2″	1 3/8″	1 1/4″	75895K28	6.37
3 7/8″	2 1/2″	1 3/8″	75895K29	9.07
4 1/2″	2 5/8″	1 1/4″	75895K31	8.68
4 1/2″	2 5/8″	2 1/8″	75895K32	11.09
4 1/2″	3 5/8″	2 1/4″	75895K33	13.51
4 3/4″	4 3/4″	4″	75895K34	27.02
5″	3 1/8″	2 1/4″	75895K35	14.47
6″	2 1/2″	1 3/8″	75895K36	13.51
6 1/4″	4″	2 3/8″	75895K37	23.16
6 3/4″	4 3/4″	2 1/8″	75895K38	24.12
8 3/4″	5 3/4″	2 1/8″	75895K39	25.09
Heavy Duty				
2 5/8″	2 5/8″	1 5/8″	75895K21	30.00
3 1/4″	3 1/4″	2 3/8″	75895K11	43.94
4″	2 5/8″	1 5/8″	75895K22	36.09
4″	4″	3 1/4″	75895K13	66.69
4 3/4″	3 1/4″	2 3/8″	75895K24	57.52
4 3/4″	4 3/4″	4″	75895K15	101.52
6″	2 5/8″	1 5/8″	75895K23	47.49
6″	4″	3 1/4″	75895K14	81.53
6 1/4″	3 1/4″	2 3/8″	75895K12	65.49
6 1/2″	6 1/2″	4″	75895K16	133.19
8″	8″	4 3/4″	75895K26	298.21
9 1/2″	4 3/4″	4″	75895K25	128.52
9 1/2″	9 1/2″	4 3/4″	75895K17	297.83

Tamper-Resistant Washdown Enclosures



Prevent unauthorized access. Enclosures have a key-operated pin lock (30″ high enclosures have two locks) and come with one key. Locks are keyed alike (all open with the same key). Enclosures have a gasketed cover with stainless steel hinges and a steel inner panel for mounting components. They are rated NEMA 4 and 12 for dust, dirt, washdowns, and oil/coolant dripping. Meet IP66 for protection from power jets of water. UL listed and CSA certified.

Steel—Have a gray powder-coated finish.

Stainless Steel—Have a brushed finish. They are also rated NEMA 4X for corrosion resistance.

			Steel		Stainless Steel	
Ht.	Wd.	Dp.				
12″	12″	6″	7619K87	$261.38	7619K12	$441.45
16″	16″	6″	7619K88	312.59	7619K13	547.09
16″	20″	8″	7619K89	356.03	7619K14	638.21
20″	16″	8″	7619K91	356.03	7619K15	638.21
20″	20″	8″	7619K92	377.59	7619K16	705.47
24″	16″	8″	7619K93	373.97	7619K18	696.37
30″	30″	8″	7619K94	597.74	7619K19	1,080.21
Replacement Key					7619K86	14.50

Washdown Enclosures with Window





Visually inspect components and video monitors through a clear polycarbonate window. Enclosures are rated NEMA 4 and 12 for protection from dust, dirt, washdowns, and oil/coolant dripping. They are gray powder-coated steel and have mounting holes. Cover has a slotted latch and a gasket. UL listed and CSA certified. **Panels** are steel and are for mounting components inside enclosures.

					Panels			
Ht.	Wd.	Dp.	Enclosures		Ht.	Wd.		
With Side Hinge—Hinges are stainless steel								
16″	12″	6″	75345K21	$315.75	14″	10″	75345K31	$14.08
16″	12″	8″	75345K51	331.42	14″	10″	75345K31	14.08
20″	16″	6″	75345K22	361.35	18″	14″	75345K32	38.44
20″	16″	8″	75345K24	384.33	18″	14″	75345K32	38.44
20″	20″	8″	75345K52	415.39	18″	18″	75345K61	46.14
24″	20″	6″	75345K23	422.01	22″	18″	75345K33	58.95
24″	20″	8″	75345K25	446.18	22″	18″	75345K33	58.95
24″	24″	12″	75345K53	534.73	22″	22″	75345K62	68.50
30″	24″	8″	75345K26	534.73	28″	22″	75345K34	82.70
30″	24″	12″	75345K27	595.31	28″	22″	75345K34	82.70
With Top Hinge—Hinges are steel								
9″	12″	6 1/4″	75345K54	181.00	8″	11″	75345K63	12.73
9″	18″	6 1/4″	75345K55	182.86	8″	17″	75345K64	17.94
9″	23 3/4″	6 1/4″	75345K56	199.22	8″	23″	75345K65	19.64
9″	30 1/4″	6 1/4″	75345K57	201.43	8″	29″	75345K66	21.52
9″	36 1/2″	6 1/4″	75345K58	203.31	8″	35″	75345K67	23.57

See-Through Washdown Enclosures



View all sides of your installed components through clear blue polycarbonate. Enclosures have good acid resistance and are rated NEMA 4X and 13 for protection from dirt, washdowns, corrosion, and oil/coolant spraying; they also meet IP65 for protection from water projected from a nozzle. They have a lift-off cover with gasket, stainless steel screws to secure the cover, and mounting holes. UL listed.

Ht.	Wd.	Dp.		
4 1/2″	3 1/2″	2 1/8″	7092K11	$15.21
6 3/4″	4 3/4″	2 1/8″	7092K12	22.19
6 3/4″	4 3/4″	3 1/8″	7092K14	25.94
7 7/8″	4 3/4″	3″	7092K15	25.31
8 3/4″	5 3/4″	2 1/8″	7092K13	29.27
9 1/2″	6 1/4″	3 1/2″	7092K16	35.52
11 3/4″	9″	3 3/8″	7092K17	82.29

Corrosion-Resistant Washdown Enclosures

Made of gray fiberglass, these enclosures are stronger than polycarbonate enclosures. They have a gasketed cover and mounting holes. Padlockable enclosures accept a 3/8" max. shackle dia.

Panels are for mounting components inside enclosures.

Lift-Off Cover



Rated NEMA 4X and 12, these enclosures protect components from dirt, washdowns, corrosion, and oil/coolant dripping. They have stainless steel captive screws to hold the cover in place. UL and C-UL listed.

Panels are aluminum.

Ht.	Wd.	Dp.	Enclosures		Panels Ht.	Panels Wd.	Panels	
7 1/4"	7 1/4"	5"	74995K61	$116.19	4 7/8"	4 7/8"	6917K12	$9.38
9 1/4"	7 1/4"	5"	74995K62	117.96	6 7/8"	4 7/8"	6917K13	10.57
11 1/4"	9 1/4"	6"	74995K63	130.58	8 7/8"	6 7/8"	6917K14	14.32
13 1/4"	11 1/4"	6 5/8"	74995K64	140.79	10 7/8"	8 7/8"	6917K15	15.51
15 1/4"	13 1/4"	7"	74995K65	159.98	12 7/8"	10 7/8"	6917K16	18.56
Optional Flange-Style Mounting Feet (Set of 4)							74995K99	24.67

Hinged Cover

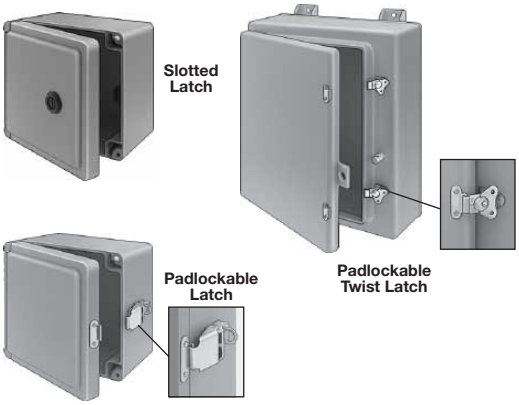

Enclosures are rated NEMA 4X and 12 for protection from dirt, washdowns, corrosion, and oil/coolant dripping. The screws, hinges, and latches are stainless steel. UL and C-UL listed. **Panels** are aluminum.

Slotted Latch—Give the latch a quarter turn to open the cover.

Padlockable Twist Latch—Have flange-style mounting feet.

Ht.	Wd.	Dp.	Enclosures		Panels Ht.	Panels Wd.	Panels	
Slotted Latch								
7 1/4"	7 1/4"	5"	74995K81	$173.52	4 7/8"	4 7/8"	6917K12	$9.38
9 1/4"	7 1/4"	5"	74995K82	177.65	6 7/8"	4 7/8"	6917K13	10.57
11 1/4"	9 1/4"	6"	74995K83	182.35	8 7/8"	6 7/8"	6917K14	14.32
13 1/4"	11 1/4"	6 5/8"	74995K84	204.08	10 7/8"	8 7/8"	6917K15	15.51
15 1/4"	13 1/4"	7"	74995K85	221.88	12 7/8"	10 7/8"	6917K16	18.56
Optional Flange-Style Mounting Feet (Set of 4)							74995K99	24.67
Padlockable Latch								
7 1/4"	7 1/4"	5"	74995K71	142.17	4 7/8"	4 7/8"	6917K12	9.38
9 1/4"	7 1/4"	5"	74995K72	143.90	6 7/8"	4 7/8"	6917K13	10.57
11 1/4"	9 1/4"	6"	74995K73	152.27	8 7/8"	6 7/8"	6917K14	14.32
13 1/4"	11 1/4"	6 5/8"	74995K74	169.92	10 7/8"	8 7/8"	6917K15	15.51
15 1/4"	13 1/4"	7"	74995K75	177.84	12 7/8"	10 7/8"	6917K16	18.56
Optional Flange-Style Mounting Feet (Set of 4)							74995K99	24.67
Padlockable Twist Latch								
22 3/4"	17"	7 3/4"	76515K51	369.33	17"	13"	76515K61	49.60
22 3/4"	17"	10 1/4"	76515K52	417.70	17"	13"	76515K61	49.60
22 3/4"	17"	12 1/4"	76515K53	462.56	17"	13"	76515K61	49.60
27"	13 3/4"	12 1/2"	76515K54	549.43	21"	9"	76515K62	47.76
27"	21 1/4"	10"	76515K55	641.13	21"	17"	76515K63	97.38
27"	25 1/4"	12"	76515K71	750.88	21"	21"	76515K65	119.62
33 1/2"	26 1/4"	8 3/4"	76515K56	754.77	27"	21"	76515K64	153.00
33 1/2"	26 1/4"	12"	76515K72	764.09	27"	21"	76515K64	153.00
39 1/4"	32 1/2"	12"	76515K73	955.10	33"	27"	76515K66	238.86
39 1/4"	32 1/2"	14"	76515K74	977.95	33"	27"	76515K66	238.86
51 1/4"	36 1/2"	14"	76515K75	1,599.84	45"	33"	76515K67	346.12
51 1/4"	36 1/2"	18"	76515K76	1,774.19	45"	33"	76515K67	346.12

Hinged Cover with Window

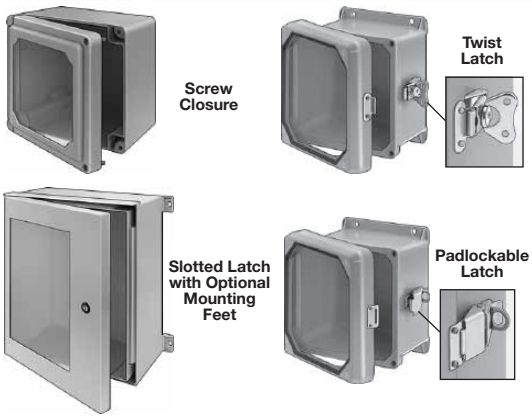

A window allows inspection of components without opening the cover. Enclosures are rated NEMA 4X for protection from dirt, washdowns, and corrosion. **Panels** are aluminum, except panels for slotted-latch enclosures are steel.

Screw Closure—Also rated NEMA 12 for protection from oil/coolant dripping. Enclosures have stainless steel captive screws to keep the cover closed, stainless steel hinges, and an acrylic window. UL and C-UL listed.

Slotted Latch—Also rated NEMA 12 and 13 for protection from oil/coolant dripping and spraying. Enclosures have polyamide hinges and a polycarbonate window. UL and C-UL listed.

Twist Latch and **Padlockable Latch**—Have flanged mounting holes and stainless steel hinges and latches. Also rated NEMA 13 for protection from oil/coolant spraying, except the 7 1/2" high enclosures are rated NEMA 12 for protection from oil/coolant dripping. Enclosures have a polycarbonate window and are UL listed and CSA certified, except the 7 1/2" high enclosures have an acrylic window and are UL and C-UL listed.

Ht.	Wd.	Dp.	Enclosures		Panels Ht.	Panels Wd.	Panels	
Screw Closure								
7 1/4"	7 1/4"	5"	74995K91	$179.31	4 7/8"	4 7/8"	6917K12	$9.38
9 1/4"	7 1/4"	5"	74995K92	193.85	6 7/8"	4 7/8"	6917K13	10.57
11 1/4"	9 1/4"	6"	74995K93	211.40	8 7/8"	6 7/8"	6917K14	14.32
13 1/4"	11 1/4"	6 5/8"	74995K94	259.19	10 7/8"	8 7/8"	6917K15	15.51
15 1/4"	13 1/4"	7"	74995K95	294.33	12 7/8"	10 7/8"	6917K16	18.56
Optional Flange-Style Mounting Feet (Set of 4)							74995K99	24.67
Slotted Latch								
20 1/4"	16 1/4"	9"	2258K51	528.35	17 3/4"	13 3/4"	2258K61	74.31
24 1/4"	16 1/4"	9"	2258K52	594.86	21 3/4"	13 3/4"	2258K62	88.53
29"	21"	10 1/2"	2258K53	860.63	25 1/2"	17 3/4"	2258K63	147.27
33"	25"	11 3/4"	2258K54	914.82	29 1/2"	21 3/4"	2258K64	178.82
40 3/4"	33"	11 3/4"	2258K55	1,164.18	37 1/2"	29 1/2"	2258K65	312.71
Optional Flange-Style Mounting Feet (Set of 4)							2258K88	41.76
Twist Latch								
7 1/4"	7 1/4"	5"	6919K62	133.03	4 7/8"	4 7/8"	6919K42	7.08
7 1/2"	5 1/2"	4 3/4"	6919K61	132.05	4 7/8"	2 7/8"	6917K11	9.12
9 1/4"	7 1/4"	5"	6919K63	137.79	6 3/4"	4 7/8"	6919K43	8.47
11 1/4"	9 1/4"	5 1/2"	6919K64	157.84	8 3/4"	6 7/8"	6919K44	12.53
13 1/4"	11 1/4"	5 1/2"	6919K65	185.79	10 3/4"	8 7/8"	6919K45	15.53
15 1/4"	13 1/4"	6 1/2"	6919K66	247.55	12 3/4"	10 7/8"	6919K46	18.50
17 1/4"	15 1/4"	6 3/4"	6919K67	271.71	14 3/4"	12 7/8"	6919K47	22.53
19 1/4"	17 1/4"	9 1/2"	6919K68	333.63	16 3/4"	14 7/8"	6919K48	26.97
Padlockable Latch								
7 1/4"	7 1/4"	5"	6919K22	133.03	4 7/8"	4 7/8"	6919K42	7.08
7 1/2"	5 1/2"	4 3/4"	6919K21	132.05	4 7/8"	2 7/8"	6917K11	9.12
9 1/4"	7 1/4"	5"	6919K23	137.79	6 3/4"	4 7/8"	6919K43	8.47
11 1/4"	9 1/4"	5 1/2"	6919K24	157.84	8 3/4"	6 7/8"	6919K44	12.53
13 1/4"	11 1/4"	5 1/2"	6919K25	185.79	10 3/4"	8 7/8"	6919K45	15.53
15 1/4"	13 1/4"	6 1/2"	6919K26	247.55	12 3/4"	10 7/8"	6919K46	18.50
17 1/4"	15 1/4"	6 3/4"	6919K28	271.71	14 3/4"	12 7/8"	6919K47	22.53
19 1/4"	17 1/4"	9 1/2"	6919K29	333.63	16 3/4"	14 7/8"	6919K48	26.97

Impact- and Corrosion-Resistant Washdown Enclosures

Made of polycarbonate, these enclosures resist denting better than metal and resist chipping and cracking better than other nonmetallic enclosures. Polycarbonate also has good acid resistance. Enclosures have a gasketed cover and are rated NEMA 4X for protection from dirt, washdowns, and corrosion. They have a gray body and mounting holes. UL listed. **Panels** are steel and are for mounting components inside enclosures.

With Lift-Off Cover

Plastic screws hold the cover in place, unless noted.

Ht.	Wd.	Dp.	Choose a Cover Color	Enclosures		Panels Ht.	Panels Wd.	Panels	
Flat Cover									
2″	2″	1 5/8″	Gray	69945K91★	$17.04	1″	1 3/4″	69945K94	$2.55
2″	2 5/8″	1 3/4″	Clear, Gray	69945K92★	19.98	1″	2 1/4″	69945K95	2.98
3 1/8″	3 1/4″	2 5/8″	Clear, Gray	69945K93★	30.77	2 1/4″	2 3/4″	69945K96	3.25
3 1/8″	3 1/4″	3 3/4″	Clear, Gray	69945K1★	31.98	2 1/4″	2 3/4″	69945K96	3.25
3 7/8″	2 5/8″	1 5/8″	Clear, Gray	69945K2★	22.88	—	—	—	—
3 7/8″	3 7/8″	1 3/8″	Clear, Gray	69945K3	18.25	3 1/8″	2 5/8″	69945K114	3.00
3 7/8″	3 7/8″	3″	Clear, Gray	69945K4	20.16	3 1/8″	2 5/8″	69945K114	3.00
5″	3 1/8″	1 3/8″	Clear, Gray	69945K5	19.82	3 7/8″	1 7/8″	69945K21	2.67
5″	3 1/8″	3″	Clear, Gray	69945K107	21.63	3 7/8″	1 7/8″	69945K21	2.67
5″	5″	1 3/8″	Clear, Gray	69945K6	23.68	3 7/8″	3 7/8″	69945K22	3.33
5″	5″	3″	Clear, Gray	69945K108	26.42	3 7/8″	3 7/8″	69945K22	3.33
6 3/4″	3 1/8″	3 1/4″	Clear, Gray	69945K87	38.51	5 1/2″	2 1/8″	69945K111	4.65
7″	5″	1 3/8″	Clear, Gray	69945K7	28.56	5 3/4″	3 7/8″	69945K23	3.92
7″	5″	3″	Clear, Gray	69945K8	29.60	5 3/4″	3 7/8″	69945K23	3.92
7″	7″	2 3/8″	Clear, Gray	69945K9	37.32	5 3/4″	5 3/4″	69945K24	4.65
7 1/2″	7 1/2″	5″	Clear, Gray	69945K116	61.35	5 3/4″	5 3/4″	69945K53	5.08
7 1/2″	7 1/2″	7″	Clear, Gray	69945K131	68.84	5 3/4″	5 3/4″	69945K53	5.08
9″	3 1/8″	3 1/4″	Clear, Gray	69945K119	43.59	7 7/8″	2 1/8″	69945K112	6.90
9″	5 1/2″	3 3/4″	Clear, Gray	69945K89	55.39	7 1/4″	3 3/4″	69945K113	12.43
9″	5 1/2″	5″	Clear, Gray	69945K59	60.33	7 1/4″	3 3/4″	69945K113	12.43
11″	7 1/2″	5″	Clear, Gray	69945K121	77.67	9 3/8″	5 3/4″	69945K54	7.78
11″	7 1/2″	7″	Clear, Gray	69945K132	81.77	9 3/8″	5 3/4″	69945K54	7.78
11″	11″	5″	Clear, Gray	69945K122	89.35	9 3/8″	9 3/8″	69945K56	11.52
11″	11″	7″	Clear, Gray	69945K133	95.14	9 3/8″	9 3/8″	69945K56	11.52
15″	7 1/2″	5″	Clear, Gray	69945K123	86.70	13 1/4″	5 3/4″	69945K55	9.97
15″	7 1/2″	7″	Clear, Gray	69945K134	97.51	13 1/4″	5 3/4″	69945K55	9.97
15″	11″	5″	Clear, Gray	69945K124	103.40	13 1/4″	9 3/8″	69945K57	14.70
15″	11″	7″	Clear, Gray	69945K135	110.44	13 1/4″	9 3/8″	69945K57	14.70
22″	11″	5″	Clear, Gray	69945K125	138.65	20 3/8″	9 3/8″	69945K58	32.86
22″	15″	7″	Clear, Gray	69945K136	187.74	20 3/8″	13 1/4″	69945K98	39.14
Raised Cover									
5″	3 1/8″	5″	Clear, Gray	69945K126	22.79	3 7/8″	1 7/8″	69945K21	2.67
5″	5″	5″	Clear, Gray	69945K127	27.33	3 7/8″	3 7/8″	69945K22	3.33
7″	5″	4″	Clear, Gray	69945K109	31.54	5 3/4″	3 7/8″	69945K23	3.92
7″	5″	6″	Clear, Gray	69945K128	34.82	5 3/4″	3 7/8″	69945K23	3.92
7″	7″	4″	Clear, Gray	69945K115	39.65	5 3/4″	5 3/4″	69945K24	4.65
7″	7″	6″	Clear, Gray	69945K129	46.19	5 3/4″	5 3/4″	69945K24	4.65

★ Cover has stainless steel screws.



Gray Flat Cover



Clear Raised Cover

With Lift-Off Cover and Knockouts

Knockouts offer convenient connection to conduit fittings and cord grips. Plastic screws hold the cover in place. C-UL listed.

Ht.	Wd.	Dp.	*Knockout Style (No.)* Each Side	Top and Bottom	Choose a Cover Color	Enclosures		Panels Ht.	Panels Wd.	Panels	
Flat Cover											
3 7/8″	3 7/8″	2 3/8″	C(2)	—	Clear, Gray	7360K58	$20.63	3 1/8″	2 5/8″	69945K114	$3.00
3 7/8″	3 7/8″	3″	C(2)	—	Clear, Gray	7360K59	20.86	3 1/8″	2 5/8″	69945K114	3.00
5″	3 1/8″	3″	B(2)	A(1)	Clear, Gray	7360K61	22.42	3 7/8″	1 7/8″	69945K21	2.67
5″	5″	3″	B(2)	A(2)	Clear, Gray	7360K63	26.95	3 7/8″	3 7/8″	69945K22	3.33
7″	5″	3″	A(3)	B(2)	Clear, Gray	7360K65	31.46	5 3/4″	3 7/8″	69945K23	3.92
Raised Cover											
5″	3 1/8″	3 7/8″	B(2)	A(1)	Clear, Gray	7360K1	22.40	3 7/8″	1 7/8″	69945K21	2.67
5″	3 1/8″	5″	B(2)	A(1)	Clear, Gray	7360K62	23.30	3 7/8″	1 7/8″	69945K21	2.67
5″	5″	3 7/8″	B(2)	A(2)	Clear, Gray	7360K2	27.25	3 7/8″	3 7/8″	69945K22	3.33
5″	5″	5″	B(2)	A(2)	Clear, Gray	7360K64	28.25	3 7/8″	3 7/8″	69945K22	3.33
7″	5″	5″	A(3)	B(2)	Clear, Gray	7360K66	33.44	5 3/4″	3 7/8″	69945K23	3.92
7″	5″	6″	A(3)	B(2)	Clear, Gray	7360K3	35.68	5 3/4″	3 7/8″	69945K23	3.92
7″	7″	3 7/8″	B(3)	A(3)	Clear, Gray	7360K67	41.09	5 3/4″	5 3/4″	69945K24	4.65
7″	7″	6″	B(3)	A(3)	Clear, Gray	7360K68	47.84	5 3/4″	5 3/4″	69945K24	4.65
10″	7″	3 7/8″	A(3), B(2)	B(3)	Clear, Gray	7360K69	70.68	8 7/8″	5 7/8″	7360K55	6.28
10″	7″	6″	A(3), B(2)	B(3)	Clear, Gray	7360K91	74.02	8 7/8″	5 7/8″	7360K55	6.28



Clear Flat Cover



Gray Raised Cover



With Hinged Cover

Enclosures have polycarbonate hinges and mounting holes with M6 threads. In addition to NEMA 4X, they are rated NEMA 13 for protection from oil/coolant spraying.

Enclosures with Padlockable Latch—Cover accepts a padlock with a 3/8″ max. shackle dia.

Enclosures with Key Lock—Include one key. Locks are keyed alike (all open with the same key).

Ht.	Wd.	Dp.	Choose a Cover Color	Enclosures with Padlockable Latch		Enclosures with Key Lock		Panels Ht.	Panels Wd.	Panels	
11 3/4″	8″	7″	Clear, Gray	7335K21	$94.19	7335K31	$112.66	10 5/8″	6 3/4″	7335K41	$9.53
11 3/4″	11 3/4″	7″	Clear, Gray	7335K22	110.93	7335K32	129.24	10 5/8″	10 5/8″	7335K42	11.65
15 3/4″	11 3/4″	7″	Clear, Gray	7335K23	141.26	7335K33	154.07	14 5/8″	10 5/8″	7335K43	15.65
19 3/4″	15 3/4″	8″	Clear, Gray	7335K24	210.34	7335K34	270.00	18 1/2″	14 5/8″	7335K44	22.27
23 1/2″	15 3/4″	8 3/4″	Clear, Gray	7335K25	303.48	7335K35	363.14	22 3/8″	14 5/8″	7335K45	29.30



With Latch and Clear Cover

Chemical-Resistant Washdown Enclosures



Shelter components from water and corrosive chemicals. Made of PVC, enclosures resist solvents, alkalies, and acids. They are rated NEMA 4X and 13 for protection from dirt, washdowns, corrosion, and oil/coolant spraying. Enclosures have a lift-off cover with gasket that's secured by four brass captive screws. They include mounting feet, which are removable except on the 2¼" deep enclosures. Color is gray. UL and C-UL listed. CSA certified.

Ht.	Wd.	Dp.		
4"	4"	2⅜"	8261K21	$17.12
4"	4"	4½"	8261K22	28.42
4"	4"	6½"	8261K23	32.29
5"	5"	2¼"	8261K24	33.58
6¾"	6¾"	4½"	8261K25	34.85

Ht.	Wd.	Dp.		
6¾"	6¾"	6½"	8261K26	$40.62
9"	9"	4½"	8261K27	65.31
9¼"	9¼"	7¾"	8261K28	90.81
13"	13"	4¾"	8261K29	103.31
13"	13"	6¾"	8261K31	105.94

Submersible Enclosures

Able to withstand periodic submersion in water, these enclosures offer our highest level of protection from liquids. They have a gasketed cover and are rated NEMA 6P and 4X for protection from dirt, washdowns, corrosion, and water submersion.

Hinged Cover



With Screw Cover



With Padlockable Latch

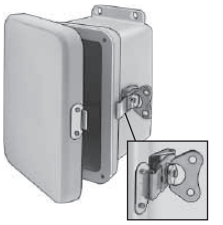

With Twist Latch

These fiberglass enclosures are also rated NEMA 12 for protection from oil/coolant dripping. They have stainless steel hinges and flanged mounting holes. UL and C-UL listed. CSA certified. **Panels** are aluminum and are for mounting components inside enclosures.

With Screw Cover—Have two stainless steel captive screws to keep the cover closed.

With Padlockable Latch—Have a stainless steel padlock hasp (⅜" max. shackle dia.).

With Twist Latch—Have a stainless steel quick-closing latch.

			Enclosures with Screw Cover			Enclosures with Padlockable Latch			Enclosures with Twist Latch		Panels			
Ht.	Wd.	Dp.		Gray	White		Gray	White		Gray	Ht.	Wd.		
7½"	5½"	4¾"	7583K1	$56.88	$63.19	7740K11	$84.75	$86.08	6917K31	$84.79	4⅞"	2⅞"	6917K11	$9.12
7½"	7½"	4¾"	7583K2	65.21	72.46	7740K12	87.96	89.35	6917K32	87.98	4⅞"	4⅞"	6917K12	9.38
9½"	9½"	4¾"	7583K101	71.40	—	7740K191	86.40	—	6917K51	86.31	6⅞"	6⅞"	6917K21	13.36
9¾"	7½"	4¾"	7583K3	67.35	74.85	7740K13	89.08	90.52	6917K33	89.15	6⅞"	4⅞"	6917K13	10.57
11¾"	9½"	4¼"	7583K4	79.00	87.85	7740K14	90.12	94.67	6917K34	90.02	8⅞"	6⅞"	6917K14	14.32
12"	9½"	6½"	7583K15	87.88	—	7740K22	100.19	—	6917K53	102.60	8⅞"	6⅞"	6917K14	14.32
13½"	11½"	5¼"	7583K5	92.56	102.94	7740K15	103.96	108.90	6917K35	103.85	10⅞"	8⅞"	6917K15	15.51
13½"	13½"	6¼"	7583K911	104.50	—	7740K211	119.12	—	6917K52	119.35	10⅞"	10⅞"	6917K22	17.28
15½"	13½"	6¼"	7583K6	107.27	119.29	7740K16	139.60	142.25	6917K36	139.69	12⅞"	10⅞"	6917K16	18.56
16"	8¾"	6¾"	7583K16	113.56	—	7740K23	144.27	—	6917K54	147.79	12⅞"	5⅞"	6917K56	17.48
17½"	15½"	6¼"	7583K7	123.23	137.04	7740K17	152.06	154.50	6917K37	152.15	14⅞"	12⅞"	6917K17	24.01
19¾"	17½"	8¾"	7583K8	163.27	181.58	7740K18	197.62	200.81	6917K38	197.75	16⅞"	14⅞"	6917K18	30.71
22"	17¾"	8¾"	7583K17	293.94	—	7740K24	305.94	—	6917K55	330.42	18⅞"	14⅞"	6917K57	37.60

Raised Hinged Cover

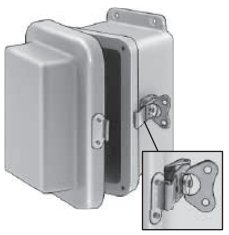

With Twist Latch

A raised cover gives these fiberglass enclosures additional depth. They are also rated NEMA 12 for protection from oil/coolant dripping. They have stainless steel hinges and flanged mounting holes. Color is gray. UL and C-UL listed. CSA certified. **Panels** are aluminum and are for mounting components inside enclosures.

With Padlockable Latch—Have a stainless steel padlock hasp (⅜" max. shackle dia.).

With Twist Latch—Have a stainless steel quick-closing latch.

				Enclosures		Panels		
Ht.	Wd.	Dp.	Choose a Latch			Ht.	Wd.	
7½"	5½"	6¼"	Padlockable Latch, Twist Latch	6918K51	$88.42	4⅞"	2⅞"	6917K11 $9.12
7½"	7½"	6¼"	Padlockable Latch, Twist Latch	6918K52	91.88	4⅞"	4⅞"	6917K12 9.38
9½"	9½"	6¼"	Padlockable Latch	6918K111	93.71	6⅞"	6⅞"	6917K21 13.36
9¾"	7½"	6¼"	Padlockable Latch, Twist Latch	6918K53	92.96	6⅞"	4⅞"	6917K13 10.57
11¾"	9¼"	6½"	Padlockable Latch, Twist Latch	6918K54	94.08	8⅞"	6⅞"	6917K14 14.32
13½"	11½"	6½"	Padlockable Latch, Twist Latch	6918K55	108.46	10⅞"	8⅞"	6917K15 15.51
13½"	13½"	7¾"	Padlockable Latch, Twist Latch	6918K12	127.12	10⅞"	10⅞"	6917K22 17.28
15½"	13½"	7¾"	Padlockable Latch, Twist Latch	6918K56	141.21	12⅞"	10⅞"	6917K16 18.56
17½"	15½"	7¾"	Padlockable Latch, Twist Latch	6918K57	153.46	14⅞"	12⅞"	6917K17 24.01
19¾"	17½"	10¾"	Padlockable Latch, Twist Latch	6918K58	199.46	16⅞"	14⅞"	6917K18 30.71

Lift-Off Cover



Often used for switches, push buttons, and pilot lights, these fiberglass enclosures are also rated NEMA 12 for protection from oil/coolant dripping. They have stainless steel screws to secure the cover and mounting holes. Color is gray. UL and C-UL listed. CSA certified.

Ht.	Wd.	Dp.		
3¾"	3¾"	3"	2266K11	$38.61
6"	3¾"	3⅛"	2266K12	38.00
6¾"	3¾"	4"	2266K13	38.13
8½"	3¾"	3⅛"	2266K14	42.74
9"	3¾"	4"	2266K15	42.20

Ht.	Wd.	Dp.		
9¼"	3¾"	3⅛"	2266K16	$48.93
11¼"	3¾"	4"	2266K17	51.74
13¾"	3¾"	3⅛"	2266K18	55.24
17¼"	3¾"	3⅛"	2266K19	80.46

Direct Burial with Lift-Off Cover



Suitable for installing in the ground, these thermoplastic enclosures have stainless steel screws to secure the cover. They are gray and have mounting holes. UL listed.

Ht.	Wd.	Dp.		
4"	4"	2¼"	7896K1	$22.88
4"	4"	4¼"	7896K2	37.20

Ht.	Wd.	Dp.		
4"	4"	6¼"	7896K4	$42.89
6"	6"	4¼"	7896K3	42.93

Watertight Enclosures with Versa-Mount System

Place panels or DIN rail in these enclosures to mount components—they have internal mounting bosses that accept No. 10 self-tapping screws. Enclosures are polycarbonate to resist corrosion as well as chipping and cracking. They have polycarbonate hinges, a gasketed cover, and four mounting brackets with hardware. Body is gray. UL and C-UL listed.

Washdown Enclosures—The cover has a stainless steel padlockable latch (3/8" max. shackle dia.). Enclosures are rated NEMA 4X and 13 for protection from dirt, washdowns, corrosion, and oil/coolant spraying.

Submersible Enclosures—Four captive screws keep the cover closed. Enclosures are rated NEMA 6P, 4X, and 13 for protection from dirt, washdowns, corrosion, water submersion, and oil/coolant spraying.

Panels are aluminum and are for mounting components inside enclosures.

DIN rail is cut to fit inside enclosures. Mounting screws are included.

Panel adjustment mounting pads allow you to position your panel at almost any depth inside the enclosure. You'll get four mounting pads that slide on rails. Mounting hardware is included.



Washdown with Clear Cover



Submersible with Clear Cover

Washdown Enclosures						Submersible Enclosures			Panels				DIN Rail	
Ht.	Wd.	Dp.		Clear Cover	Gray Cover		Clear Cover	Gray Cover	Ht.	Wd.				
6 1/2"	6 1/2"	5 1/2"	5376K62	$89.44	$83.22	5376K51	$84.44	$75.56	5"	5"	7624K21	$12.00	5376K81	$16.89
8 1/2"	6 1/2"	5 1/4"	5376K63	99.56	87.89	5376K52	96.89	82.67	6 3/4"	5"	5376K22	13.60	5376K81	16.89
8 1/2"	8 1/2"	5 1/2"	5376K64	108.89	98.00	5376K53	105.80	95.11	6 3/4"	6 3/4"	5376K23	15.75	5376K82	21.11
10 1/2"	8 1/2"	3 1/4"	5376K65	114.33	94.89	5376K56	112.00	99.56	8 3/4"	7"	5376K27	15.80	5376K82	21.11
10 1/2"	8 1/2"	5 1/4"	5376K66	118.22	106.56	5376K57	119.11	105.78	8 3/4"	7"	5376K29	15.55	5376K82	21.11
10 1/2"	8 1/2"	7 1/4"	5376K67	126.00	112.78	5376K54	126.22	111.11	8 3/4"	7"	5376K29	15.55	5376K82	21.11
12 1/2"	10 1/2"	5 1/4"	5376K68	145.44	129.89	5376K58	135.11	118.22	10 3/4"	9"	5376K25	20.20	5376K83	22.80
12 1/2"	10 1/2"	7 1/4"	5376K69	164.11	147.78	5376K55	149.33	129.78	10 3/4"	9"	5376K25	20.20	5376K83	22.80
14 1/2"	12 1/2"	7 1/2"	5376K7	181.22	173.44	5376K59	179.56	166.22	12 3/4"	11"	5376K26	22.40	5376K84	28.60
19"	17"	11 1/2"	5376K72	257.44	230.22	5376K61	262.22	237.33	16 3/4"	15"	5376K28	34.40	5376K86	38.22
Panel Adjustment Mounting Pads													5376K31	22.73

Hazardous Location Enclosures

For use in hazardous locations, these enclosures meet NEMA 7 (Class I, Groups B, C, and D) and 9 (Class II, Groups E, F, and G). They are also rated NEMA 4 for dust, dirt, and washdowns. Enclosures are made of aluminum and resist corrosion. They have steel screws to secure the cover as well as mounting holes. The 16 1/2" high enclosures have a hinged cover; all others have a lift-off cover. UL listed and CSA certified. **Panels** are aluminum and are for mounting components inside enclosures.



Overall			*Inside*			Wall			Panels			
Ht.	Wd.	Dp.	Ht.	Wd.	Dp.	Thick.	Enclosures		Ht.	Wd.		
10 1/4"	10 1/4"	6"	5 3/4"	5 3/4"	4 1/4"	1/2"	7624K21	$603.90	5"	5"	7624K31	$57.50
12 1/4"	12 1/4"	8"	7 5/8"	7 5/8"	6"	1/2"	7624K22	994.10	7"	7"	7624K32	75.14
12 1/4"	14 1/4"	8 1/4"	7 5/8"	9 5/8"	6"	1/2"	7624K23	1,180.39	7"	9"	7624K33	94.96
16 1/2"	16 1/2"	8 3/4"	11 1/2"	11 1/2"	6"	3/4"	7624K24	1,677.63	10 1/2"	10 1/2"	7624K34	108.38
16 1/2"	16 1/2"	10 3/4"	11 3/8"	11 3/8"	8"	3/4"	7624K25	1,724.12	10 1/2"	10 1/2"	7624K34	108.38

Underground Enclosures

Access electrical service and other underground utilities. Lighter than enclosures made entirely of concrete, these enclosures are polymer concrete reinforced with fiberglass. Bury them in the ground or in concrete. They withstand freeze/thaw conditions and have an open bottom for water drainage. Enclosures withstand occasional vehicular traffic, are nonconductive, and are impact and corrosion resistant. You can stack multiple enclosures in deep holes with only one cover (sold separately). Color is gray. UL listed. **Covers** include two bolts for attaching to enclosure. **Cover hook** makes it easier to lift a cover; it's steel and 7" long.



Enclosure with Optional Cover



Bottom View

Overall			*Inside*			Load			Covers	
Ht.	Wd.	Dp.	Ht.	Wd.	Dp.	Rating, lbs.	Enclosures			
12"	14 3/4"	14 3/4"	11 1/4"	12"	12"	8,000	7941K21	$116.55	7941K51	$81.72
12"	20 1/2"	13 1/2"	11 1/4"	17 1/2"	10 1/2"	8,000	7941K22	141.13	7941K52	89.45
12"	27 1/4"	16 1/4"	11 1/4"	24"	13"	5,000	7941K23	177.30	7941K53	102.98
12"	33 1/8"	20 1/8"	11 1/4"	29 7/8"	16 7/8"	5,000	7941K24	221.93	7941K54	119.72
Cover Hook									7941K85	26.27

Wiring Trough Enclosures

Long, narrow enclosures protect runs of wire, cable, and hose. Enclosures are gray powder-coated steel and have mounting holes. UL listed and CSA certified.

Oil Tight—Rated NEMA 12 for protection from dust, dirt, and oil/coolant dripping. They're also rated IP55 for protection from water projected from a nozzle. The cover has a gasket and steel hinges. Screw-down clamps on one side keep the cover closed.

Weather Resistant—Rated NEMA 3R for protection from falling liquids and light splashing. Enclosures have a lift-off cover and steel screws to secure the cover. The top overhangs the cover to keep out rain.



Oil Tight

Ht.	Wd.	Dp.		
Oil Tight				
2 1/2"	12"	2 1/2"	7743K41	$113.84
2 1/2"	24"	2 1/2"	7743K42	131.62
2 1/2"	36"	2 1/2"	7743K43	149.40
4"	12"	4"	7743K44	132.18
4"	24"	4"	7743K45	166.42
4"	36"	4"	7743K46	200.13
6"	12"	6"	7743K47	156.76
6"	24"	6"	7743K48	207.38
6"	36"	6"	7743K49	242.27
8"	12"	8"	7743K51	188.93
8"	24"	8"	7743K52	234.98
8"	36"	8"	7743K53	299.08

Ht.	Wd.	Dp.		
Weather Resistant				
4"	24"	4"	75215K21	$82.92
4"	36"	4"	75215K22	107.96
4"	48"	4"	75215K23	132.46
6"	24"	6"	75215K24	113.00
6"	36"	6"	75215K25	150.15
6"	48"	6"	75215K26	186.48
8"	24"	8"	75215K27	151.40
8"	48"	8"	75215K28	252.88



Weather Resistant

Electronics Enclosures



Small and lightweight, these indoor enclosures are used with sensors, switches, testing devices, and circuit boards. They are ABS plastic for impact resistance and have a lift-off cover and steel screws to secure the cover. For use in dry locations.

Black enclosures are opaque. **Choose-a-color** enclosures are semi-clear.

Ht.	Wd.	Dp.		
Black				
2 1/8"	1 3/8"	9/16"	7593K21	$3.09
2 1/4"	1 5/8"	3/4"	7593K22	3.09
2 3/8"	1 7/8"	15/16"	7593K23	3.09
3 1/4"	2 5/16"	13/16"	7593K35	3.46
3 5/8"	2 1/4"	1"	7593K24	3.89
3 5/8"	2 1/4"	1 1/2"	7593K25	4.49
4 1/2"	3 1/4"	1 1/2"	7593K26	6.14
4 1/2"	3 1/4"	2 1/2"	7593K27	6.94
5 3/4"	3 1/4"	1 1/2"	7593K28	7.26
5 3/4"	3 1/4"	2 1/2"	7593K29	8.26
7"	5"	1 1/2"	7593K31	10.57
7"	5"	2 1/2"	7593K32	12.20
9 1/2"	6 1/4"	1 1/2"	7593K33	15.94
9 1/2"	6 1/4"	2 1/2"	7593K34	16.63
Choose a Color—Choose blue, gray, green, or red				
2 1/8"	1 3/8"	9/16"	7593K11	5.14
2 1/4"	1 5/8"	3/4"	7593K12	5.14
2 3/8"	1 7/8"	15/16"	7593K13	5.14
3 1/4"	2 5/16"	13/16"	7593K14	5.83

Washdown Electronics Enclosures



A gasket in the cover protects your electronic components from dust and washdowns indoors. Enclosures are ABS plastic for impact resistance. They have a lift-off cover, four plastic screws to secure the cover, mounting holes, and internal bosses for mounting DIN rail. Color is gray.

Panels are steel and are for mounting components inside enclosures.

			Enclosures		Panels		
Ht.	Wd.	Dp.			Ht.	Wd.	
4 1/4"	3 1/8"	2 5/8"	7301K11	$12.19	3 1/8"	2 1/8"	7301K71 $2.92
4 1/4"	3 1/8"	3 1/4"	7301K31	13.72	3 1/8"	2 1/8"	7301K71 2.92
5 1/2"	3 1/8"	2 5/8"	7301K12	13.47	4 1/4"	2 1/8"	7301K72 3.65
5 1/2"	3 1/8"	3 1/4"	7301K32	15.58	4 1/4"	2 1/8"	7301K72 3.65
6 3/4"	3 1/8"	2 5/8"	7301K13	14.93	5 1/2"	2 1/8"	69945K111 4.65
6 3/4"	3 1/8"	3 1/4"	7301K33	17.19	5 1/2"	2 1/8"	69945K111 4.65
6 3/4"	5 1/2"	3 3/4"	7301K34	22.19	4 7/8"	3 3/4"	7301K74 9.53
7 1/2"	7 1/2"	5"	7301K15	44.72	5 3/4"	5 3/4"	69945K53 5.08
7 1/2"	7 1/2"	7"	7301K35	57.74	5 3/4"	5 3/4"	69945K53 5.08
9"	3 1/8"	2 5/8"	7301K16	17.09	7 7/8"	2 1/8"	69945K112 6.90
9"	3 1/8"	3 1/4"	7301K36	19.33	7 7/8"	2 1/8"	69945K112 6.90
9"	5 1/2"	3 3/4"	7301K37	26.81	7 1/4"	3 3/4"	69945K113 12.43
11"	7 1/2"	5"	7301K18	53.84	9 3/8"	5 3/4"	69945K54 7.78
11"	7 1/2"	7"	7301K38	63.04	9 3/8"	5 3/4"	69945K54 7.78
11"	11"	5"	7301K19	71.86	9 3/8"	9 3/8"	69945K56 11.52
11"	11"	7"	7301K39	82.98	9 3/8"	9 3/8"	69945K56 11.52
15"	7 1/2"	5"	7301K21	68.72	13 1/4"	5 3/4"	69945K55 9.97
15"	7 1/2"	7"	7301K41	79.39	13 1/4"	5 3/4"	69945K55 9.97
15"	11"	5"	7301K22	86.89	13 1/4"	9 3/8"	69945K57 14.70
15"	11"	7"	7301K42	100.75	13 1/4"	9 3/8"	69945K57 14.70

Circuit Board Enclosures

Circuit boards are at home in these aluminum enclosures—internal slots hold them in place.

Enclosures



The included end caps are secured with steel screws. Remove the end caps and the front panel can slide off on enclosures 4 3/4" high and taller to provide access to components.

Ht.	Wd.	Dp.		
2 3/8"	1 3/4"	1"	3686K58	$13.15
3 1/8"	1 3/4"	1"	3686K59	13.46
3 1/8"	2 1/8"	7/8"	3686K61	16.48
4 3/4"	3 1/8"	1"	3686K62	22.90
4 3/4"	4"	1 1/4"	3686K63	26.40
4 3/4"	4"	2 1/8"	3686K64	26.40
6 1/4"	3 1/8"	1"	3686K65	25.56
6 1/4"	4"	1 1/4"	3686K66	29.69
6 1/4"	4"	2 1/8"	3686K67	29.69
6 1/4"	5"	2"	3686K68	32.00
6 1/4"	6 1/2"	1 1/4"	3686K69	34.10
6 1/4"	6 1/2"	2"	3686K71	34.63
8 3/4"	4"	2 1/8"	3686K72	33.71
8 3/4"	5"	1 1/4"	3686K73	33.06
8 3/4"	6 1/2"	1 1/4"	3686K74	38.17
8 3/4"	6 1/2"	2"	3686K75	38.92

Build-Your-Own Enclosures

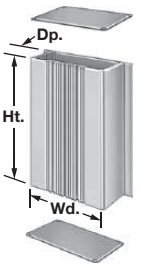

Choose an enclosure body and two matching end caps to make your own dust-tight or watertight enclosure.

Enclosure bodies can be cut to height. Those with a side flange have a 1/2" flange; all others require drilling and tapping new holes on one end when cut.

Dust-tight end caps provide IP40 protection from dust. They require four M4×16 mm flat head screws (not included) for mounting to the enclosure body, except those for enclosure bodies with a side flange require M3×6 mm flat head screws.

Watertight end caps have a gasket to provide IP65 protection from water projected from a nozzle. Four screws for mounting to the enclosure body are included.

			Enclosure Bodies		End Caps★	
Ht.	Wd.	Dp.				
Dust Tight						
6"	6 1/2"	4"	3686K31	$47.82	3686K35	$29.50
12"	6 1/2"	4"	3686K32	76.16	3686K35	29.50
12"	7 3/4"	6 1/2"	3686K42	119.78	3686K45	31.50
18"	6 1/2"	4"	3686K33	104.46	3686K35	29.50
18"	7 3/4"	6 1/2"	3686K43	169.90	3686K45	31.50
Dust Tight with Side Flange						
6"	4"	2 3/4"	3686K11	17.96	3686K15	7.68
12"	4"	2 3/4"	3686K12	30.22	3686K15	7.68
39 1/2"	4"	2 3/4"	3686K14	73.46	3686K15	7.68
Watertight						
6"	6 1/2"	4"	3686K31	47.82	3686K36	52.80
12"	6 1/2"	4"	3686K32	76.16	3686K36	52.80
12"	7 3/4"	6 1/2"	3686K42	119.78	3686K46	75.46
18"	6 1/2"	4"	3686K33	104.46	3686K36	52.80
18"	7 3/4"	6 1/2"	3686K43	169.90	3686K46	75.46

★ Two are required.

Dual-Access Instrumentation Enclosures

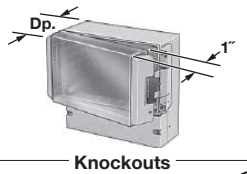

Knockouts

A	B	C	D
PG-9 1/2" Dia.	PG-11 3/4" Dia.	PG-13.5 13/16" Dia.	PG-16 7/8" Dia.

Two chambers with separate covers allow you to access wiring connections in the lower section without disturbing instrumentation that you install in the upper section (such as displays, monitors, and meters). Mount indoors on walls or machines. Enclosures are rated NEMA 12 for indoor protection from dust, dirt, and oil/coolant dripping. They are also rated IP65 for protection from water projected from a nozzle, except the 6 1/4" high enclosure is rated IP40 for protection from dust. Enclosures are ABS plastic, except the 7 1/4" high enclosure is polycarbonate. The upper section has a clear polycarbonate cover with an ABS plastic hinge, a push-button latch, and a gasket. The lower section has a lift-off cover that is secured with screws. Enclosures are gray and have mounting holes.

Panels are aluminum and are for mounting instrumentation inside the upper section of the enclosure.

			Lower Chamber Knockout Style (No.)					
					Enclosures		Panels	
Ht.	Wd.	Dp.	Bottom	Back				
6 1/4"	6 1/2"	3 3/4"	A(1), B(2), C(1)	B(3)	9230K11	$51.79	9230K31	$12.36
7 1/4"	8 1/2"	4"	A(1), B(4), C(1)	B(5)	9230K13	57.55	9230K33	12.48
8 1/2"	10"	5 1/4"	A(1), B(5), C(1)	B(6)	9230K14	83.93	9230K34	14.62
12 1/2"	14 1/4"	6"	B(1), C(6), D(1)	C(8)	9230K16	110.04	9230K36	40.05

Machine-Mount Electronics Enclosures

Molded-in flanged mounting feet make attachment to machines and walls hassle-free. Made of polycarbonate, enclosures resist chipping and cracking, and are rated NEMA 4X and 13 for protection from dirt, washdowns, corrosion, and oil/coolant spraying. They are rated IP65 for protection from water projected from a nozzle. Enclosures have a lift-off cover with a gasket and four stainless steel screws to secure the cover. Internal slots hold circuit boards, unless noted. UL listed.



With Clear Cover

Ht.	Wd.	Dp.	Choose a Cover Color		
2 1/2"	2 1/4"	1 3/8"	Clear, Gray	1037N1 ★	$8.22
4 1/2"	2 1/2"	1 5/8"	Clear, Gray	1037N2	11.89
4 1/2"	2 1/2"	2 1/8"	Clear, Gray	1037N3	12.44
4 1/2"	3 1/2"	2 1/8"	Clear, Gray	1037N4	14.00
4 1/2"	3 1/2"	3 1/8"	Clear, Gray	1037N8 ★	16.11
6 3/4"	4 3/4"	2 1/8"	Clear, Gray	1037N5	23.00
6 3/4"	4 3/4"	3 1/8"	Clear, Gray	1037N7	24.78
8 3/4"	5 3/4"	2 1/8"	Clear, Gray	1037N6	30.00
8 3/4"	5 3/4"	3"	Clear, Gray	1037N9	32.44

★ Does not have internal slots.

Potting Boxes

Use these open boxes with adhesive for electronics (also known as potting compound) to encase electronic assemblies and protect them from vibration, tampering, moisture, and corrosives. Boxes are black ABS plastic. For adhesive for electronics, see pages 3464-3465.



Ht.	Wd.	Dp.		
7/16"	7/16"	3/8"	1040N11	$2.25
7/8"	9/16"	7/16"	1040N12	2.31
1"	13/16"	9/16"	1040N13	2.38
1 3/16"	13/16"	9/16"	1040N14	2.13
1 3/16"	1 3/16"	13/16"	1040N15	2.59
1 9/16"	1 3/8"	13/16"	1040N16	2.91
1 9/16"	1 9/16"	13/16"	1040N17	2.78
1 9/16"	1 9/16"	1 1/8"	1040N18	2.66
1 15/16"	1 9/16"	1 3/16"	1040N19	2.78
1 15/16"	1 15/16"	1 3/16"	1040N21	3.09
3 1/2"	2 1/2"	1 1/4"	1040N22	5.72
3 15/16"	2 3/8"	1"	1040N23	4.88

Hand-Held Enclosures

The unique shape of these enclosures provides a handle to hold scanners, detectors, and remote switches. They meet IP65 for protection from water projected from a nozzle. Housing is yellow glass-filled nylon for impact resistance. The removable front panel is polyester and has a gasket. Enclosures include wall-mount brackets, mounting screws, and a cord grip with M20 threads for strain relief (accepts 0.24" to 0.47" dia. cord).



Overall Ht.	Overall Wd.	Overall Dp.	Front Panel Ht.	Front Panel Wd.		
7 1/2"	2 3/4"	3 3/4"	2 1/4"	2 3/8"	9215K11	$56.94
7 1/2"	3 3/8"	3 3/8"	3"	3"	9215K13	58.72
8"	4 1/2"	3 3/4"	2 3/4"	4 1/4"	9215K12	60.83
8 1/4"	6 1/4"	3 3/8"	3 3/4"	6"	9215K14	64.00
8 3/4"	3 3/8"	3 3/8"	4 1/4"	3"	9215K15	61.62

DIN-Rail Mount Enclosures

Snap enclosures onto 35 mm DIN rail and lock them in place. They have internal slots to hold circuit boards. Enclosures are aluminum and have nylon end caps that are secured with two steel screws on each end. Remove the end caps and the front panel can slide off to provide access to components.

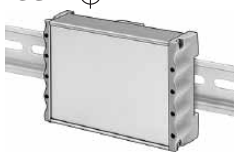

Wd.	Dp.	3" Ht.		4 1/8" Ht.	
4 1/8"	1"	1038N11	$23.06	1038N16	$25.35
5 1/2"	1"	1038N12	25.82	1038N17	29.23
7"	1"	1038N13	28.94	1038N18	33.31
8 1/4"	1"	1038N14	32.37	1038N19	38.31
9 3/4"	1"	1038N15	35.82	1038N21	43.10

Enclosures with Terminal Blocks



Side-Mounted Terminals



Center-Mounted Terminals

Terminal blocks molded into the body create a ready-to-wire junction box for use on machinery and in control systems and robotics applications. Enclosures have a gray ABS plastic body and are rated IP65 for protection from water projected from a nozzle. They have a lift-off cover with a gasket, four steel screws to secure the cover, and mounting holes (screws are included). There are two #6 screw terminals per circuit. Terminals are 5/16" center-to-center and accommodate 20-14 ga. wire. Rated 120 volts AC and 15 amps per circuit.

Clear cover is polycarbonate. *Gray cover* is ABS plastic.

No. of Circuits	Ht.	Wd.	Dp.	Knockouts No. of	Knockouts Trade Size		Clear Cover	Gray Cover
Side-Mounted Terminals								
4	2 1/2"	2 1/2"	1 3/4"	3	1/2	1041N2	$15.55	$13.23
6	3 1/8"	2 1/2"	1 3/4"	3	1/2	1041N4	21.00	15.94
10	4 3/8"	2 1/2"	1 3/4"	4	1/2	1041N6	21.00	15.94
15	6 3/4"	3"	2 1/8"	5	1/2	1041N32	38.90	31.12
20	9 1/4"	3 1/8"	2 1/4"	—	—	1041N34	52.89	38.90
Center-Mounted Terminals								
4	1 3/4"	3 1/2"	1 3/4"	2	1/4	1041N1	15.56	13.22
6	2 1/2"	3 1/2"	1 3/4"	2	1/2	1041N3	21.00	15.94
10	4"	3 1/2"	1 3/4"	4	1/2	1041N5	24.50	18.28
15	7 7/8"	4"	2 1/2"	—	—	1041N31	38.90	31.12
20	5 7/8"	6 1/4"	2 1/2"	—	—	1041N33	46.67	35.78

Battery Enclosures

For use in enclosures and panels where components require battery power, these enclosures have contacts for AA and 9-volt batteries. Body is nylon with a plastic lift-off cover. Color is black.

Four-contact enclosure snaps into a 1 5/16" Ht. × 2 7/16" Wd. cutout. *Eight-contact* enclosure snaps into a 2 7/16" Ht. × 2 7/16" Wd. cutout.



For Use With	No. of Contacts	Ht.	Wd.	Dp.		
Two AA or One 9-Volt	Four	1 1/2"	2 1/2"	7/8"	1042N11	$11.18
Four AA or Two 9-Volt	Eight	2 1/2"	2 1/2"	7/8"	1042N12	13.65

Hand-Held Enclosures with Battery Holder

A 9-volt battery fits inside a compartment in these enclosures to power testing devices and other hand-held instruments. Enclosures are black ABS plastic and have a lift-off cover that is secured with zinc-plated steel screws. Battery is not included.

Protective boots prevent damage to the enclosure and make it easy to grip. They are rubber and have a built-in stand to keep the enclosure upright.



Enclosure



Protective Boot

Enclosures

Ht.	Wd.	Dp.		
3 3/4"	2 3/8"	1"	7156K1	$7.27
4 1/2"	2 3/4"	1"	7156K2	8.09
5"	2 3/4"	1"	7156K3	10.66
5 3/4"	3 5/8"	1 1/4"	7156K4	9.79
7 1/2"	4"	1 1/4"	7156K5	11.07

Protective Boots

Ht.	Wd.	Dp.	Choose a Color		
4 1/2"	3"	1 1/4"	Black, Dark Blue, Light Blue, Orange, Red, Yellow	7156K11	$10.26
5 1/2"	3 1/4"	1 3/8"	Black, Dark Blue, Light Blue, Orange, Red, Yellow	7156K21	10.89
5 1/2"	3"	1 1/4"	Black, Dark Blue, Light Blue, Orange, Red, Yellow	7156K31	12.11
7"	4 1/4"	1 3/4"	Black, Dark Blue, Light Blue, Orange, Red, Yellow	7156K41	18.56
9"	4 1/2"	1 3/4"	Black, Dark Blue, Light Blue, Orange, Red, Yellow	7156K51	19.77

Tablet Enclosures CAD



Protect tablet computers, touch displays, and readouts in specially sized watertight enclosures that mount on desktops, walls, and machines. Enclosures are Rated IP65 for protection from water projected from a nozzle They are black ABS plastic and have a lift-off cover, a gasket, and zinc-plated steel screws to secure the cover.

			Holds Tablets				
Ht.	Wd.	Dp.	Ht.	Wd.	Dp.		
5 1/2"	4"	1 1/8"	3 5/8"	2 1/8"	1"	1039N11	$9.48
7 1/2"	6"	1 1/8"	5 5/8"	4 1/8"	1"	1039N12	17.30
8 3/4"	6 1/4"	1 1/8"	6 3/4"	4 3/8"	7/8"	1039N13	19.59
11"	8"	1 1/8"	8"	5 5/8"	1"	1039N14	27.49
12 3/4"	9 1/4"	1 1/8"	9 1/2"	7 1/4"	7/8"	1039N15	35.00

Slant-Top Enclosures CAD

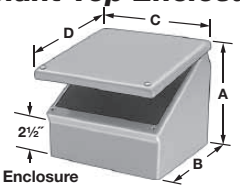

Enclosure



Enclosure Shown with Pedestal and Pedestal Base

Mount these enclosures on either of two sides, creating a 30° or 60° slanted surface on a desktop, wall, or machine. Use for displays, touch screens, and other interactive devices. Enclosures are rated NEMA 12 for protection from dust, dirt, and oil/coolant dripping and IP65 for water projected from a nozzle. They are gray powder-coated steel and have a continuous steel hinge, a cover with a gasket, and zinc-plated steel captive screws to keep the cover closed. UL listed and CSA certified.

Add a pedestal and a pedestal base to make your enclosure free-standing. **Pedestal** is steel and includes mounting flanges, mounting hardware, and a gasketed access plate. **Pedestal base** is steel with leveling screws and four 5/16" dia. holes for bolting to the floor.

(A)	(B)	(C)	(D)		
7"	7 1/2"	8 1/4"	8 1/4"	70015K11	$146.61
7"	7 1/2"	12 1/4"	8 1/4"	70015K12	178.32
7"	7 1/2"	16 1/4"	8 1/4"	70015K18	188.90
9"	11"	12 1/4"	12 1/4"	70015K13	202.46
9"	11"	16 1/4"	12 1/4"	70015K14	215.61
9"	11"	24 1/4"	12 1/4"	70015K19	263.40
11"	14 1/2"	20 1/4"	16 1/4"	70015K21	275.36
Pedestal (35" Ht. x 4" Wd. x 4" Dp.)				70015K15	267.43
Pedestal Base (1" Ht. x 18" Wd. x 18" Dp.)				70015K17	180.96

Milwaukee Quik-Lok Power Cords

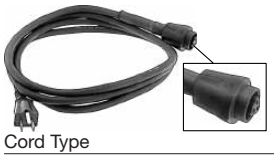

Replacement cords for Milwaukee tools with Quik-Lok connections.

Cord Type	Milwaukee No.		
8-ft. Cord with 3-Prong Plug	48-76-4008	2744A68	$21.17
10-ft. Cord with 2-Prong Plug	48-76-4008	2744A78	21.17
25-ft. Cord with 2-Prong Plug	48-76-5025	2744A79	33.83
25-ft. Cord with 3-Prong Plug	48-76-4025	2744A69	33.83

Solderless Ready-to-Use Circuit Boards



Also known as solderless breadboards, these boards have contact points inside each hole. Insert wires into the holes to create a custom circuit board. The holes are numbered and lettered to organize your connections. Holes are 0.025" dia. and spaced 0.100" center-to-center. Boards have 100 contacts per distribution strip and 630 contacts per terminal strip, unless noted. All are made of white ABS plastic and have a max. temperature of 180° F.

6 1/2" Lg. circuit boards include 70 jumper wires, unless noted. *2 1/8" Lg. circuit board* includes 70 jumper wires, three connection posts, and five rubber feet. *6 7/8" Lg. circuit board* includes 140 jumper wires, four connection posts, and five rubber feet. Jumper wires are 22 AWG and come in 0.1" to 5" lengths.

Total No. of Contact Points	No. of Distribution Strips	No. of Terminal Strips	Wd.	Lg.		
400	2	1	2 1/8"	3 5/16"	1388N13■	$8.00
830	2	1	2 1/8"	6 1/2"	1388N11▲	10.00
830	2	1	2 1/8"	6 1/2"	1388N14	15.39
830	2	1	6 1/2"	2 1/8"	1388N15	22.61
2,390	5	3	6 1/2"	6 7/8"	1388N12	42.89

■ Has 50 contacts per distribution strip and 300 contacts per terminal strip. ▲ Does not include jumper wires.

Push-Button Enclosures CAD



Steel Six Holes



Stainless Steel One Hole



Polycarbonate Four Holes



Fiberglass Three Holes

Holes are cut for push buttons, switches, and lights. Enclosures have a gasketed lift-off cover with captive screws to secure it, unless noted. NEMA ratings apply when used with equivalently rated components.

Oil-Tight Steel—Rated NEMA 13 for indoor protection from dust, dirt, and oil/coolant spraying. Made of gray powder-coated steel. Screws are zinc-plated steel. UL listed. Enclosures with *22 mm (7/8") dia. holes* are CSA certified. Enclosures with *30 mm (1 3/16") dia. holes* are C-UL listed.

Corrosion-Resistant Stainless Steel—Rated NEMA 4X for protection from dirt, washdowns, and corrosion. Screws are stainless steel. UL listed and CSA certified.

Washdown Polycarbonate—Rated NEMA 4X and 13 for protection from dirt, washdowns, corrosion, and oil/coolant spraying. Screws are stainless steel. Color is gray. UL and C-UL listed.

Submersible Fiberglass—Rated NEMA 4X, 6P, and 12 for protection from dirt, washdowns, corrosion, water submersion, and oil/coolant dripping. Made of fiberglass-reinforced polyester. Screws are stainless steel. Color is gray. UL and C-UL listed.

No. of Holes	No. of Columns	No. of Rows	Ht.	Wd.	Dp.		
Oil-Tight Steel							
22 mm (7/8") Dia. Holes							
1	1	1	4 1/4"	3"	3 1/2"	7724K51	$54.69
2	1	2	6 1/8"	3"	3 1/2"	7724K52	60.74
3	1	3	8"	3"	3 1/2"	7724K53	68.16
4	1	4	9 7/8"	3"	3 1/2"	7724K54	75.68
6	2	3	9 1/2"	5 1/4"	4 1/4"	7724K55★	95.88
30 mm (1 3/16") Dia. Holes							
1	1	1	3 3/4"	3 1/2"	3"	75045K91	51.37
2	1	2	6"	3 1/2"	3"	75045K92	58.58
3	1	3	8 1/4"	3 1/2"	3"	75045K93	66.28
4	1	4	10 1/2"	3 1/2"	3"	75045K97	74.58
4	2	2	7 1/2"	6 1/2"	3 1/4"	75045K94	82.08
6	2	3	9 3/4"	6 1/2"	3 1/4"	75045K95	91.58
9	3	3	9 3/4"	8 3/4"	3 1/4"	75045K96	117.78
Corrosion-Resistant Stainless Steel							
22 mm (7/8") Dia. Holes							
1	1	1	4 1/2"	3 1/2"	2 3/4"	5639K11	171.55
2	1	2	6 3/4"	3 1/2"	2 3/4"	5639K12	202.89
3	1	3	9"	3 1/2"	2 3/4"	5639K13	234.60
4	1	4	11 1/4"	3 1/2"	2 3/4"	5639K14	265.24
30 mm (1 3/16") Dia. Holes							
1	1	1	4 1/2"	3 1/2"	2 3/4"	75725K11	154.78
2	1	2	6 3/4"	3 1/2"	2 3/4"	75725K12	182.70
3	1	3	9"	3 1/2"	2 3/4"	75725K13	210.93
4	1	4	11 1/4"	3 1/2"	2 3/4"	75725K14	245.52
6	2	3	10 1/2"	6 1/2"	3"	75725K15★	323.32
9	3	3	10 1/2"	8 3/4"	3"	75725K16★	384.00
Washdown Polycarbonate							
22 mm (7/8") Dia. Holes							
1	1	1	3 1/2"	3 1/2"	2 3/8"	7758K31	22.54
2	1	2	6 1/4"	3 1/2"	2 3/8"	7758K32	27.24
3	1	3	8"	4 3/4"	3 1/2"	7758K33	33.58
4	1	4	8"	4 3/4"	3 1/2"	7758K34	35.29
6	2	3	9 1/2"	6 1/4"	3 1/2"	7758K35	44.76
30 mm (1 3/16") Dia. Holes							
1	1	1	3 1/2"	3 1/2"	2 3/8"	7758K36	22.54
2	1	2	6 1/4"	3 1/2"	2 3/8"	7758K37	27.24
3	1	3	8"	4 3/4"	3 1/2"	7758K38	33.58
4	2	2	8"	4 3/4"	3 1/2"	7758K39	35.29
6	2	3	9 1/2"	6 1/4"	3 1/2"	7758K41	48.14
Submersible Fiberglass							
22 mm (7/8") Dia. Holes							
1	1	1	6 3/4"	3 3/4"	4"	7758K21	50.30
2	1	2	6 3/4"	3 3/4"	4"	7758K22	51.49
3	1	3	6 3/4"	3 3/4"	4"	7758K23	56.05
4	1	4	9"	3 3/4"	4"	7758K24	58.28
5	1	5	11 1/4"	3 3/4"	4"	7758K28	66.21
30 mm (1 3/16") Dia. Holes							
1	1	1	6 3/4"	3 3/4"	4"	6916K31	50.30
2	1	2	6 3/4"	3 3/4"	4"	6916K32	51.63
3	1	3	9"	3 3/4"	4"	6916K33	56.05
4	1	4	11 1/4"	3 3/4"	4"	6916K34	58.28
4	2	2	7 1/2"	7 1/2"	4 3/4"	6916K35	70.23
5	1	5	13 3/4"	3 5/8"	3 1/8"	6916K38	66.21
6	2	3	9 3/4"	7 1/2"	4 3/4"	6916K36	78.05
9	3	3	11 3/4"	9 1/2"	4 1/4"	6916K37	98.95

★ Has a hinged cover.

Push-Button Slant-Top Enclosures

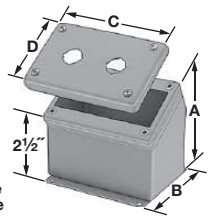

Two-Hole Enclosure



Four-Hole Enclosure Shown with Pedestal and Pedestal Base

Make your push-buttons, switches, and indicating lights more visible and ergonomic to use. Enclosures mount on either of two sides, creating a 30° or 60° slanted surface. Mount directly onto a desktop or wall. Enclosures are gray powder-coated steel and have a lift-off cover with a gasket, captive screws to secure the cover, and mounting holes. They are rated NEMA 13 for indoor protection from oil/coolant spraying when used with NEMA 13 rated switches. UL listed and CSA certified.

Add a pedestal and a pedestal base to enclosures with two or more rows to make the enclosure freestanding. **Pedestal** is steel with mounting flanges, mounting hardware, and a gasketed access plate. **Pedestal base** is steel with leveling screws and four 5/16″ dia. holes for bolting to the floor.

No. of Holes	No. of Columns	No. of Rows	(A)	(B)	(C)	(D)		
22 mm (7/8″) Dia. Holes								
1	1	1	4 3/4″	4 1/2″	3 1/2″	3 1/2″	9203K11	$86.39
2	2	1	4 3/4″	4 1/2″	5 3/4″	3 1/2″	9203K12	102.32
3	3	1	4 3/4″	4 1/2″	8″	3 1/2″	9203K13	114.33
4	2	2	6 3/4″	7 3/4″	6 1/2″	7 1/4″	9203K15	153.91
4	4	1	4 3/4″	4 1/2″	10 1/4″	3 1/2″	9203K14	128.33
6	3	2	6 3/4″	7 3/4″	8 3/4″	7 1/4″	9203K16	163.33
8	4	2	6 3/4″	7 3/4″	11″	7 1/4″	9203K17	201.78
9	3	3	8″	9 3/4″	8 3/4″	9 1/2″	9203K18	210.78
10	5	2	6 3/4″	7 3/4″	13 1/4″	7 1/4″	9203K19	223.62
12	6	2	6 3/4″	7 3/4″	15 1/2″	7 1/4″	9203K21	244.36
30 mm (1 3/16″) Dia. Holes								
1	1	1	4 3/4″	4 1/2″	3 1/2″	3 1/2″	7756K21	89.01
2	2	1	4 3/4″	4 1/2″	5 3/4″	3 1/2″	7756K22	105.29
3	3	1	4 3/4″	4 1/2″	8″	3 1/2″	7756K23	119.21
4	2	2	6 3/4″	7 3/4″	6 1/2″	7 1/4″	7756K25	158.73
4	4	1	4 3/4″	4 1/2″	10 1/4″	3 1/2″	7756K24	132.58
6	3	2	6 3/4″	7 3/4″	8 3/4″	7 1/4″	7756K26	169.40
8	4	2	6 3/4″	7 3/4″	11″	7 1/4″	7756K27	207.60
9	3	3	8″	9 3/4″	8 3/4″	9 1/2″	7756K28	216.91
10	5	2	6 3/4″	7 3/4″	13 1/4″	7 1/4″	7756K29	230.42
12	6	2	6 3/4″	7 3/4″	15 1/2″	7 1/4″	7756K31	251.60
Pedestal (35″ Ht. × 4″ Wd. × 4″ Dp.)							70015K15	267.43
Pedestal Base (1″ Ht. × 18″ Wd. × 18″ Dp.)							70015K17	180.96

Extra-Large Steel Enclosures

A large interior provides space for many components. Enclosures are gray powder-coated steel. They have heavy duty lifting eyes, gasketed doors, and a welded-on 12″ high floor stand with mounting feet. UL listed and CSA certified. **Panels** are steel and are for mounting components inside enclosures.

Oil Tight—Rated NEMA 12 for indoor protection from dust, dirt, and oil/coolant dripping. Enclosures have a steel hinge, key-locking handle, and two keys. Locks are keyed alike (all open with the same key).

Washdown—Rated NEMA 4 for protection from dust, dirt, and washdowns, enclosures have stainless steel clamps on each door to ensure a watertight seal. They have a steel continuous hinge and a padlock hasp (3/8″ max. shackle dia.).



Oil Tight

					Panels			
Ht.	Wd.	Dp.	Enclosures		Ht.	Wd.		
Oil Tight								
60″	48″	10″	70105K31	$1,816.13	56″	44″	70105K42	$346.56
72″	60″	12″	70105K34	2,397.25	68″	56″	70105K44	508.83
Washdown								
62″	48″	10″	70105K36	2,346.95	56″	44″	70105K42	346.56
74″	72″	24″	70105K41	3,607.85	68″	68″	70105K45	607.15

Electronics Cabinets

House automation controls, data communication, and networking equipment. The internal rails hold standard 19″ wide components. Cabinets are steel.

Small Cabinets



Cabinets have rails on the front and back. They include handles, rubber feet, 10-32 clip nuts for mounting components, and 10-32 screws. Capacity is 800 lbs. Color is light gray.

Solid rear panels are aluminum and allow access for repairs and maintenance.

Solid and **vented front panels** fit all cabinets and cover the front area where no components are present. *Solid panels* are aluminum; *vented panels* are steel.

					Solid Rear Panels	
Ht.	Wd.	Dp.	Cabinets		Thick.	
16″	21″	24 1/2″	7648K61	$352.26	1/8″	7648K68	$47.34
19 1/2″	21″	24 1/2″	7648K62	364.01	1/8″	7648K69	57.92
30″	21″	24 1/2″	7648K63	391.36	1/8″	7648K71	95.62

Ht.	Wd.	Thick.	Solid Front Panels		Vented Front Panels	
5 1/4″	21″	1/8″	7648K64	$21.93	7648K66	$20.83
10 1/2″	21″	1/8″	7648K65	35.10	7648K67	34.68

Large Cabinets



The front and rear doors are perforated for ventilation and visibility. Both doors are lockable and include two keys. They are keyed alike (all open with the same key). Cabinets have a top cable access panel, removable locking sidewalls, and an open base for cable exit as well as ventilation. They have two sets of depth-adjustable mounting rails and four leveling feet. Capacity is 3,200 lbs. Color is black.

Shelf can be mounted at any level. Size is 17 3/4″ Wd. × 23 5/8″ Dp. Capacity is 150 lbs.

Ht.	Wd.	Dp.		
47 1/4″	31 1/2″	39 1/2″	46365T24	$1,622.56
78 3/4″	23 5/8″	39 1/2″	46365T25	1,686.13
Shelf			46365T26	233.75

Electronics Racks



Freestanding



Wall Mount

Mount standard 19″ wide components to these racks. They are black painted steel.

Freestanding—Rack is 15″ deep. The rails have 10-32 threaded holes on the front and back. *Shelf* is vented and has eight 1/4″ dia. mounting holes (screws not included). *Dolly* has four lockable casters and includes hardware for mounting to rack.

Wall Mount—Depth is adjustable from 12″ to 18″. Racks are double-hinged for rear access to components.

Ht.	Wd.	Capacity, lbs.		
Freestanding				
83″	20 1/2″	800	18505T13	$204.55
Shelf—5 1/4″ Ht. × 15″ Dp.		200	18505T34	79.75
Dolly		1,000	18505T22	240.91
Wall Mount				
7″	19 1/4″	80	18505T41	104.45
14″	19 1/4″	80	18505T42	137.36
21″	19 1/4″	80	18505T43	164.69

Threaded Hole Plugs


Standard NPT


Standard PG and Metric


Liquid-Tight

Close off threaded holes in enclosures and outlet boxes.

Standard—*NPT* plugs are aluminum. UL listed and CSA certified. *PG* and *metric* plugs are nickel-plated brass.

Liquid-Tight—Made of nylon and rated IP68 for protection from water submersion. Color is gray.

Thread Size	Standard Head Dia.			Liquid-Tight Head Dia.		
NPT						
1/2	3/4"	7280K11	$2.33	1"	7280K161	$0.91
3/4	1"	7280K12	2.60	1 5/16"	7280K17	1.06
1	1 1/4"	7280K13	3.52	1 3/4"	7280K18	2.06
1 1/4	1 1/2"	7280K14	4.22	2 1/16"	7280K19	3.93
1 1/2	1 3/4"	7280K15	5.02			
2	2 1/4"	7280K16	9.05			
PG						
PG-7	9/16"	7381K11	1.25	5/8"	7381K241	.67
PG-9	11/16"	7381K12	1.57	13/16"	7381K25	.71
PG-11	13/16"	7381K13	1.84			
PG-16	15/16"	7381K14	2.76			
PG-21	1 3/16"	7381K15	4.58	1 5/16"	7381K26	1.06
PG-29	1 9/16"	7381K16	7.89	1 3/4"	7381K27	2.06
Metric						
M12 x 1.5	9/16"	7381K21	2.27	5/8"	7381K28	.67
M16 x 1.5	11/16"	7381K22	2.53	13/16"	7381K29	.71
M20 x 1.5	7/8"	7381K23	2.78	1"	7381K31	.91
M25 x 1.5	1 1/8"	7381K34	5.98			

Submersible Hole Plugs



Prevent water from entering unused knockouts and holes in enclosures and boxes. Plugs are rated NEMA 4X for protection from washdowns and corrosion and NEMA 6P and IP68 for protection from water submersion. Plugs are fiberglass and have a gasket. Use on panels up to 1/4" thick. Color is gray. UL recognized.

Hole/Knockout Trade Size	Dia.	Head Dia.		
	1/2"-13/16"	1"	9357K11	$6.69
1/2	7/8"	1 3/16"	9357K15	6.65
1/2, 3/4	7/8"-1 9/32"	1 1/2"	9357K12	7.71
1, 1 1/4	1 3/8"-1 3/4"	2"	9357K13	13.42
1 1/2, 2	2"-2 9/16"	2 3/4"	9357K14	17.07
3	3 5/8"	4"	9357K16	26.16
4	4 5/8"	5"	9357K17	43.34

Snap-In Hole Plugs


Standard


Liquid-Tight Strain Relief

Cover holes and knockouts in electrical panels and boxes.

Standard—Made of steel.

Liquid-Tight Strain Relief—Rated IP65 for protection from washdowns. Plugs are black nylon with an elastomer membrane; push round wire or cable through the membrane to use plug for strain relief. UL recognized.

Hole/Knockout Trade Size	Dia.	Head Dia.	For Cable Dia.	Pkg. Qty.		Pkg.
Standard—Fits panels up to 1/8" thick						
1/2	7/8"	1 1/16"		25	8087K12	$7.26
3/4	1 1/8"	1 1/4"		25	8087K14	8.06
1	1 3/8"	1 1/2"		25	8087K16	10.15
1 1/4	1 3/4"	1 13/16"		25	8087K18	12.33
1 1/2	2"	2 3/16"		25	8087K25	13.21
2	2 1/2"	2 11/16"		10	8087K27	7.60
Liquid-Tight Strain Relief—Fits panels 1/64" to 1/16" thick						
	1/2"	15/16"	0.08"-0.2"	10	9750K82	8.68
	5/8"	1"	0.13"-0.38"	10	9750K83	8.96
	3/4"	1 1/8"	0.18"-0.4"	10	9750K84	9.10
1/2	7/8"	1 1/4"	0.13"-0.45"	10	9750K85	9.69
	1"	1 7/16"	0.2"-0.72"	10	9750K86	10.35
3/4	1 3/32"	1 1/2"	0.25"-0.77"	10	9750K87	10.99
Liquid-Tight Strain Relief—Fits panels 1/16" to 1/4" thick						
	1/2"	15/16"	0.08"-0.2"	10	9750K88	8.68
	5/8"	1"	0.13"-0.38"	10	9750K89	8.96
	3/4"	1 1/8"	0.18"-0.4"	10	9750K91	9.10
1/2	7/8"	1 1/4"	0.13"-0.45"	10	9750K92	9.69
	1"	1 7/16"	0.2"-0.72"	10	9750K93	10.35
3/4	1 3/32"	1 1/2"	0.25"-0.77"	10	9750K94	10.99

Washdown Hole Plugs



A gasket provides a tight seal in unused push-button holes and knockouts. Plugs are rated NEMA 4 and 13 for protection from dust, dirt, washdowns, and oil/coolant spraying. Use on panels up to 0.31" thick. UL recognized and CSA certified.

Steel plugs are galvanized and have a gray powder-coated finish.

Stainless steel plugs are also rated NEMA 4X for corrosion resistance.

Hole/Knockout Trade Size	Dia.	Head Dia.	Steel		Stainless Steel	
For Push-Button Holes						
22 mm	7/8"	1 1/4"	7845K51	$8.03	7845K61	$18.38
30 mm	1 1/4"	1 3/4"	7845K52	10.94	7845K62	23.44
For Knockouts and Conduit Openings						
1/2	7/8"	1 3/8"	7845K53	7.28	7845K63	18.38
3/4	1 1/16"	1 9/16"	7845K54	9.17	7845K64	22.61
1	1 3/8"	1 7/8"	7845K55	12.61	7845K65	30.35
1 1/4	1 11/16"	2 3/16"	7845K56	14.00	7845K66	34.79
1 1/2	2"	2 1/2"	7845K57	16.01	7845K67	39.17
2	2 1/2"	3"	7845K58	17.61	7845K68	43.38
2 1/2	3"	3 1/2"	7845K33	21.60	7845K34	65.42
3	3 5/8"	4 1/8"	7845K35	28.54	7845K36	71.22
4	4 5/8"	5 1/8"	7845K37	47.44	7845K38	95.02

Self-Centering Hole Plugs



A circular groove quickly centers plug in unused holes and knockouts. Plugs are for use on panels up to 1/8" thick. They are zinc-plated galvanized steel. UL recognized.

Hole/Knockout Trade Size	Dia.	Head Dia.		
1/2	7/8"	1 1/8"	71995K81	$0.64
3/4	1 1/8"	1 3/8"	71995K82	.85
1	1 3/8"	1 5/8"	71995K83	1.22
1 1/4	1 3/4"	2 1/16"	71995K89	1.58
1 1/2	2"	2 7/16"	71995K84	2.45
2	2 7/16"	2 15/16"	71995K85	3.01
2 1/2	2 15/16"	3 3/4"	71995K86	3.62
3	3 9/16"	4 1/2"	71995K87	4.38
4	4 5/8"	5 1/2"	71995K88	6.60

Enclosure Vents


Snap-In Breather Vent


Washdown Threaded Breather Vent


Liquid-Tight Threaded Breather Vent


Drain Vent

Maintain a stable environment inside your enclosure as temperatures fluctuate. **Breather vents** allow air to flow through sealed enclosures, preventing inside pressure changes. **Drain vent** mounts to the outside of your enclosure to prevent moisture being trapped inside.

Snap-In Breather Vents—Made of black nylon, vents have louvers with foam filters. For panels up to 1/8" thick.

Washdown Threaded Breather Vent—Made of gray nylon with a gasket. Vent is rated NEMA 4X for protection from washdowns and corrosion and IP66 for protection from power jets of water. For panels up to 11/32" thick. UL recognized.

Liquid-Tight Threaded Breather Vents—Made of gray nylon and rated IP68 for protection from water submersion.

Drain Vent—Made of gray fiberglass with a gasket. Vent is rated NEMA 4X for protection from washdowns and corrosion. To install, drill ventilation holes and mounting holes into your enclosure (screws are included). Size is 2 3/4" Ht. x 2" Wd. x 11/16" Dp. UL recognized.

Hole/Knockout Trade/Thread Size	Dia.	Head Dia.		
Snap-In Breather Vents				
1/2	7/8"	1"	7066K5	$3.35
3/4	1 1/8"	1 1/4"	7066K6	3.57
1	1 3/8"	1 1/2"	7066K7	3.57
	1 1/2"	1 11/16"	7066K8	3.86
Washdown Threaded Breather Vent				
M40 x 1.5	1 5/8"	2 3/8"	7066K1	16.14
Liquid-Tight Threaded Breather Vents				
3/8 NPT	11/16"	13/16"	7066K9	3.18
1/2 NPT	7/8"	1"	7066K111	3.21
3/4 NPT	1 1/16"	1 5/16"	7066K121	3.33
M12 x 1.5	1/2"	5/8"	7066K131	3.02
M16 x 1.5	5/8"	13/16"	7066K14	3.18
M20 x 1.5	13/16"	1"	7066K15	3.21
Drain Vent			7066K4	42.04

About Choosing an Electrical Switch

An electrical switch is used to turn power to a device on and off. This occurs when the switch closes or opens a set of contacts within an electrical circuit. The contacts act like a bridge that closes to allow electricity to pass through the circuit.

Switch Style— Choose the style that's right for your application. The following pages include push-button, toggle, rocker, foot switch, limit switch, and relay styles, among others.

Industry Designation— A standard naming convention that describes the contact for each switch.

Number of Poles: Determine the number of circuits you'll need to switch. Each circuit requires at least one set of contacts or "poles." The number of poles on a switch is indicated by the first two letters of the contact type (SP for single pole, DP for double pole, etc.).

A *single throw (ST)* switch is designed to be either open (off) or closed (on) before switching. A switch designed to be open is called normally open (NO), while a switch designed to be closed is normally closed (NC).

A *double throw (DT)* switch can be wired to be normally open or normally closed, offering greater flexibility. Another advantage of a double throw switch is that it can shift power between devices.

For example, in the diagrams at right, **SPST-NO** shows a single circuit that controls one device (a light bulb) and requires a single pole switch. **SPDT** shows a single pole double throw switch used to switch power between two lights. **DPST-NO** shows two circuits that power two light bulbs and require a double pole switch.

Switch Action— Decide if you want the switch to stay on only while you press it, such as your car horn (momentary), or if you want the switch to stay on when released, as with most light switches (maintained). Momentary switches "spring back" and maintained switches "stay switched."

Amp or Load Rating— You need to know how much electrical current will flow through the switch at the voltage of your circuit. You can compute this current if you know the amount of power required by the device you want to control.

For example, you have a 60 watt bulb powered by a 120 volt AC power supply. Use the formula **Current (amps) = Power (watts) ÷ Voltage (volts)** to calculate that the light bulb will draw 0.5 amps of current. You must select a switch with an amp rating higher than 0.5 amps at 120 volts AC. Remember, the required amp rating may change when there is a change in voltage.

Input Voltage— Some switches are activated by pressing a button (physical force), while other switches, such as relays, are activated by applying a voltage (electrical force). Relays need an input voltage (also known as a control or coil voltage) to operate. If your switch requires electrical activation, make sure your system can supply the appropriate voltage. If you need to use multiple relays, you may also want to look at power consumption (the amps or volt-amps drawn by the coil of the relay) to ensure your system can supply the required amount.

Industry Designation (● = Terminal)	No. of Circuits	Before Switching, Circuit Is	No. of Terminals
 **SPST-NO—** Single Pole Single Throw, Normally Open	1	Off	2
 **SPST-NC—** Single Pole Single Throw, Normally Closed	1	On	2
 **SPDT—** Single Pole Double Throw, Can Be Wired Normally Open or Normally Closed	1	1 Off or 1 On	3
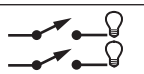 **DPST-NO—** Double Pole Single Throw, Normally Open	2	2 Off	4
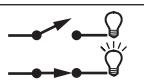 **DPST-NO/NC—** Double Pole Single Throw, 1 Normally Open and 1 Normally Closed	2	1 Off and 1 On	4
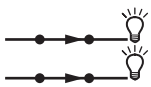 **DPST-NC—** Double Pole Single Throw, Normally Closed	2	2 On	4
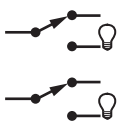 **DPDT—** Double Pole Double Throw, Can Be Wired Normally Open or Normally Closed	2	2 Off or 2 On	6

30 mm Panel Cutout Metal Push-Button Switches

Their durable construction withstands abuse in demanding environments. Body is metal; button is plastic, unless noted. Switches mount in a 30 mm (1 3/16") dia. panel cutout and have screw terminal connections. Depth behind panel is 1 3/4". Rated 6 amps @ 120 volts AC and 5 amps @ 24 volts DC with a maximum voltage of 600 AC and DC. UL listed and CSA certified. For replacement contacts and accessories, see 65575K on page 911.

Washdown switches are rated NEMA 4 and 13 for splashing water and oil/coolant spraying. 1 3/4" dia. mushroom switch has a metal button. ***Corrosion-resistant washdown*** switches are oil- and watertight as well as rated NEMA 4X for protection from corrosion.

To Order: Please specify button color where necessary.


Flush


Projecting


Mushroom

No. of Circuits	Before Switching, Circuit Is	Switch Action	No. of Terminals	Industry Designation	Available Colors	Washdown		Corrosion-Resistant Washdown	
Flush (1" Dia.)									
1	Off	Springs Back (Momentary)	2	SPST-NO	Black, Green, Red	75759K2	$34.93	75759K41	$37.81
1	On	Springs Back (Momentary)	2	SPST-NC	Black, Green, Red	75759K8	37.81	75759K42	37.81
2	1 Off, 1 On	Springs Back (Momentary)	4	DPST-NO/NC	Black, Green, Red	75759K5	50.49	75759K43	51.32
Projecting (1" Dia.)									
1	Off	Springs Back (Momentary)	2	SPST-NO	Black, Green, Red	75759K3	37.03	75759K44	37.81
1	On	Springs Back (Momentary)	2	SPST-NC	Red	75759K34	37.03	75759K45	37.81
2	1 Off, 1 On	Springs Back (Momentary)	4	DPST-NO/NC	Black, Green, Red	75759K6	50.49	75759K46	51.32
Mushroom (1 3/4" Dia.)									
2	1 Off, 1 On	Springs Back (Momentary)	4	DPST-NO/NC	Red	75759K51	76.24	75759K47	78.17
2	1 Off, 1 On	Stays Switched (Maintained)	4	DPST-NO/NC	Red	75759K53	100.79	75759K48	95.86
Mushroom (2 1/2" Dia.)									
1	Off	Springs Back (Momentary)	2	SPST-NO	Red	75759K13	59.19	75759K49	73.63
1	On	Springs Back (Momentary)	2	SPST-NC	Red	75759K17	61.87	75759K52	73.63

30 mm Panel Cutout Premium Metal Switches

Push-Button



Flush



Projecting



Mushroom

Illuminated Push-Button



Projecting with Guard

Lever



Short

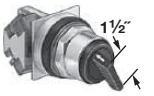

Long

Key



Two Position



Switch Label

Sealed to keep out dirt and other contaminants, these switches have a long operating life. Body is metal; button is plastic (except key switches, which are all metal). Switches mount in a 30 mm (1 3/16") dia. panel cutout and have screw terminal connections. Depth behind panel is 1 13/16". Rated 6 amps @ 120 volts AC and 2.5 amps @ 24 volts DC with a maximum voltage of 600 AC and DC. They're oil- and watertight, meeting NEMA 4, NEMA 13, and IP66. UL listed, CSA certified, and CE marked.

Two-position lever and ***key*** switches prevent the switch from being caught between two positions. Key switches are opened with the same key (keyed alike) and include two keys; turn left to remove. ***Three-position*** switches are off in the center position. ***Illuminated lever*** switches have an input voltage of 120 AC.

To Order: Please specify color where necessary: black, green (Grn), red, or yellow (Yel). For illuminated push-button switches, also specify input voltage: 24 AC/DC, 120 AC, or 240 AC/DC.

Switch labels are black plastic with white letters, unless stated otherwise. **To Order:** Please specify message: Blank (black), Blank (red), Open, Close, Up, Down, Forward, Reverse, On, Off (red with black letters), Off-On, Hand-Off-Auto, Jog, Reset, Run, Start, Start-Stop, Stop (red with black letters), or Emergency Stop (red with black letters).

No. of Circuits	Before Switching, Circuit Is	Switch Action	No. of Terminals	Industry Designation	Available Colors		
Push-Button							
Flush (1" Dia.)							
1	Off	Springs Back (Momentary)	2	SPST-NO	Multicolor■	9235K17	$43.85
1	On	Springs Back (Momentary)	2	SPST-NC	Multicolor■	9235K18	43.85
2	1 Off, 1 On	Springs Back (Momentary)	4	DPST-NO/NC	Multicolor■	9235K19	59.35
Projecting (1" Dia.)							
1	Off	Springs Back (Momentary)	2	SPST-NO	Multicolor■	9235K27	43.85
1	On	Springs Back (Momentary)	2	SPST-NC	Multicolor■	9235K28	43.85
2	1 Off, 1 On	Springs Back (Momentary)	4	DPST-NO/NC	Multicolor■	9235K29	59.35
Mushroom (1 3/8" Dia.)							
2	1 Off, 1 On	Springs Back (Momentary)	4	DPST-NO/NC	Black, Grn, Red, Yel	9235K31	91.21
Mushroom (2 1/4" Dia.)							
1	Off	Springs Back (Momentary)	2	SPST-NO	Red	9235K33	74.73
1	On	Springs Back (Momentary)	2	SPST-NC	Red	9235K34	74.73
Illuminated Push-Button							
Projecting (1" Dia.)							
1	Off	Springs Back (Momentary)	4	SPST-NO	Grn, Red, Yel	9235K61	103.58
1	On	Springs Back (Momentary)	4	SPST-NC	Grn, Red, Yel	9235K62	103.58
2	1 Off, 1 On	Springs Back (Momentary)	6	DPST-NO/NC	Grn, Red, Yel	9235K63	122.00
Projecting with Guard (1" Dia.)							
1	Off	Springs Back (Momentary)	4	SPST-NO	Grn, Red, Yel	9235K64	113.08
1	On	Springs Back (Momentary)	4	SPST-NC	Grn, Red, Yel	9235K65	113.08
2	1 Off, 1 On	Springs Back (Momentary)	6	DPST-NO/NC	Grn, Red, Yel	9235K66	129.22
Lever							
Short Two Position (1 3/8" Dia.)							
1	Off	Stays Switched (Maintained)	2	SPST-NO	Black	9235K41	54.42
2	1 Off, 1 On	Stays Switched (Maintained)	4	DPST-NO/NC	Black	9235K42	70.35
Short Three Position (1 3/8" Dia.)							
2	1 Off, 1 On	Stays Switched (Maintained)	4	DPST-NO/NC	Black	9235K5	70.35
4	2 Off, 2 On	Stays Switched (Maintained)	8	4PST-2NO/2NC	Black	9235K6	101.12
Long Two Position (1 3/8" Dia.)							
1	Off	Stays Switched (Maintained)	2	SPST-NO	Black	9235K43	54.27
2	1 Off, 1 On	Stays Switched (Maintained)	4	DPST-NO/NC	Black	9235K44	70.35
Illuminated Lever							
Short Two Position (1 3/8" Dia.)							
1	Off	Stays Switched (Maintained)	4	SPST-NO	Grn, Red, Yel	9235K74	164.67
2	1 Off, 1 On	Stays Switched (Maintained)	6	DPST-NO/NC	Grn, Red, Yel	9235K76	157.61
Long Two Position (1 3/8" Dia.)							
1	Off	Stays Switched (Maintained)	4	SPST-NO	Grn, Red, Yel	9235K75	140.91
2	1 Off, 1 On	Stays Switched (Maintained)	6	DPST-NO/NC	Grn, Red, Yel	9235K77	159.23
Key							
Two Position (1 1/16" Dia.)							
1	Off	Stays Switched (Maintained)	2	SPST-NO	Aluminum	9235K51	117.60
2	1 Off, 1 On	Stays Switched (Maintained)	4	DPST-NO/NC	Aluminum	9235K52	129.22
Replacement Contacts							
1	Off	———	2	SPST-NO	———	9235K97	15.69
1	On	———	2	SPST-NC	———	9235K98	15.69
2	1 Off, 1 On	———	4	DPST-NO/NC	———	9235K99	31.29
Accessory							
Switch Label						9235K57	3.93

■Includes seven caps: black, blue, green, orange, red, white, and yellow.

Palm-Button Switches



With Optional Ring Guard

Designed for machine actuation and other heavy duty applications, these rugged switches are easy to operate, even while wearing gloves. They have spring back (momentary) switch action and screw terminal connections. Rated 6 amps @ 120 volts AC and 2.2 amps @ 120 volts DC with a maximum voltage of 600 AC and 250 DC. Body is metal. Mushroom button is plastic; flat button is metal. Depth behind panel is 1 1/16". Switches have a 4 5/16"×2 13/16" plate for mounting on single-device outlet boxes (see 7169K on page 894). They meet NEMA 13 and IP65 for oil and water resistance. UL listed, CSA certified, and CE marked.

Optional ring guards surround the switch to protect the actuator and reduce the chance of accidental actuation.

Dia.	No. of Circuits	Before Switching, Circuit Is	No. of Terminals	Industry Designation	Button Color	*Switches*		*Optional Ring Guards*	
Mushroom	2 1/4"	2	1 Off, 1 On	4	DPST-NO/NC	Black	6560K71	$176.14	6560K83	$77.74
Mushroom	2 1/4"	2	1 Off, 1 On	4	DPST-NO/NC	Green	6560K73	176.14	6560K83	77.74
Mushroom	2 1/4"	2	1 Off, 1 On	4	DPST-NO/NC	Red	6560K72	176.14	6560K83	77.74
Flat	2 1/4"	2	1 Off, 1 On	4	DPST-NO/NC	Chrome	6560K74	208.32	6560K82	77.74

30 mm Panel Cutout Metal Switch Components

Build the right switch for your environment with an ***actuator*** and a ***contact*** (each sold separately). They mount in a 30 mm (1 3/16″) dia. panel cutout. Rated 6 amps @ 120 volts AC and 5 amps @ 24 volts DC with a maximum voltage of 600 AC and DC. UL listed and CSA certified.

Actuators

All have a threaded locknut for panel mounting. **To Order:** Please specify button color where necessary. ***Washdown*** actuators are rated NEMA 4 and 13 for splashing water and oil/coolant spraying. *Key* actuators open with the same key (keyed alike) and include two keys. ***Corrosion-resistant washdown*** actuators are oil- and watertight as well as rated NEMA 4X for protection from corrosion.


Flush Push-Button

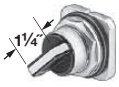

Short Lever


Projecting Push-Button



Long Lever


Mushroom Push-Button


Key

	Dia.	Switch Action	Available Colors		
Washdown					
Push-Button					
Flush	1″	Springs Back (Momentary)	Black, Green, Red, Yellow	65575K1	$23.60
Projecting	1″	Springs Back (Momentary)	Black, Green, Red, Yellow	65575K2	23.60
Mushroom	1 3/4″	Springs Back (Momentary)	Black, Green, Red, Yellow	65575K3	49.97
Mushroom	1 3/4″	Stays Switched (Maintained)	Black, Green, Red	65575K5	67.66
Mushroom	2 1/2″	Springs Back (Momentary)	Black, Green, Red, Yellow	65575K4	59.12
Lever					
Short Two Position	1″	Stays Switched (Maintained)	Black	65575K15	32.73
Short Three Position	1″	Stays Switched (Maintained)	Black	65575K16	32.73
Long Two Position	1″	Stays Switched (Maintained)	Black	65575K17	32.73
Long Three Position	1″	Stays Switched (Maintained)	Black	65575K18	32.73
Key					
Two Position	1″	Springs Back (Momentary)	Chrome	65575K25	103.07
Two Position	1″	Stays Switched (Maintained)	Chrome	65575K27	85.83
Three Position	1″	Springs Back (Momentary)	Chrome	65575K29	103.07
Three Position	1″	Stays Switched (Maintained)	Chrome	65575K28	85.83
Corrosion-Resistant Washdown					
Push-Button					
Flush	1″	Springs Back (Momentary)	Black, Green, Red	65575K54	23.60
Projecting	1″	Springs Back (Momentary)	Black, Green, Red	65575K55	23.60
Mushroom	1 3/4″	Springs Back (Momentary)	Black, Red	65575K56	49.97
Mushroom	1 3/4″	Stays Switched (Maintained)	Black, Red	65575K57	68.83

Contacts

All have screw terminals. Depth behind panel is 1 3/4″.



No. of Circuits	Before Switching, Circuit Is	No. of Terminals	Industry Designation		
1	Off	2	SPST-NO	65575K35	$13.32
1	On	2	SPST-NC	65575K36	13.14
2	1 Off, 1 On	4	DPST-NO/NC	65575K37	26.30

Accessories

Switch labels are brushed aluminum with black letters, unless stated otherwise. **To Order:** Please specify message: Blank, Open, Close, Up, Down, Forward, Reverse, On, Off, Off-On, On-Off-Auto, Hand-Off-Auto, Man. Auto, Jog, Reset, Run, Start, Start-Stop, Stop (red background with brushed aluminum letters), or Emergency Stop (red background with brushed aluminum letters).

Custom switch labels have a two-line maximum and are brushed aluminum with black letters. **To Order:** Please specify up to 14 characters for the first line and 10 characters for the second line.


Push-Button Guard

Switch Label	65575K46	$2.88
Custom Switch Label	65575K96	11.47
Replacement Key for Key Actuators	65575K95	6.20
Push-Button Guard (for Washdown Flush and Projecting Actuators)	65575K45	8.81

30 mm Panel Cutout Plastic Switches

Mount these corrosion-resistant switches in a 30 mm (1 3/16″) dia. panel cutout. They have screw terminal connections. Depth behind panel is 1 13/16″. Rated 6 amps @ 120 volts AC and 2.5 amps @ 24 volts DC with a maximum voltage of 600 AC and DC. Switches are oil- and watertight, meeting NEMA 4X, 13, and IP65. UL listed, CSA certified, and CE marked.

To Order: Please specify color where necessary: black (Blk), green (Grn), red, or yellow (Yel). For illuminated push-button switches, also specify input voltage: 24 AC or 120 AC.


Flush Push-Button


Projecting Push-Button


Mushroom Push-Button

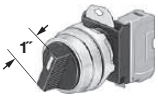

Lever

	Dia.	No. of Circuits	Before Switching, Circuit Is	Switch Action	No. of Terminals	Industry Designation	Available Colors		
Push-Button									
Flush	17/16″	1	Off	Springs Back (Momentary)	2	SPST-NO	Blk, Grn	7403K19	$17.98
Flush	17/16″	1	On	Springs Back (Momentary)	2	SPST-NC	Blk, Red	7403K53	17.98
Projecting	17/16″	1	Off	Springs Back (Momentary)	2	SPST-NO	Blk, Grn	7403K27	18.76
Projecting	17/16″	1	Off	Stays Switched (Maintained)	2	SPST-NO	Blk, Grn	7403K28	36.53
Projecting	17/16″	1	On	Springs Back (Momentary)	2	SPST-NC	Blk, Red	7403K29	18.76
Projecting	17/16″	1	On	Stays Switched (Maintained)	2	SPST-NC	Blk, Red	7403K31	36.53
Mushroom	19/16″	1	Off	Springs Back (Momentary)	2	SPST-NO	Blk, Grn, Red	7403K32	24.10
Mushroom	19/16″	1	On	Springs Back (Momentary)	2	SPST-NC	Blk, Grn, Red	7403K33	24.10
Mushroom	2 3/4″	1	Off	Springs Back (Momentary)	2	SPST-NO	Red	7403K41	34.77
Mushroom	2 3/4″	1	On	Springs Back (Momentary)	2	SPST-NC	Red	7403K42	34.77
Mushroom (Turn-to-Reset)	19/16″	1	Off	Stays Switched (Maintained)	2	SPST-NO	Red	7403K43	34.17
Mushroom (Turn-to-Reset)	19/16″	1	On	Stays Switched (Maintained)	2	SPST-NC	Red	7403K46	34.17
Illuminated Push-Button									
Flush	17/16″	1	Off	Springs Back (Momentary)	4	SPST-NO	Grn, Yel	7403K47	40.09
Projecting	17/16″	1	Off	Springs Back (Momentary)	4	SPST-NO	Grn, Yel	7403K48	41.67
Projecting	17/16″	1	Off	Stays Switched (Maintained)	4	SPST-NO	Grn, Yel	7403K49	53.33
Mushroom	19/16″	1	On	Springs Back (Momentary)	4	SPST-NC	Red	7403K51	43.84
Lever									
Two-Position	17/16″	1	Off	Stays Switched (Maintained)	2	SPST-NO	Blk	7403K52	26.08
Replacement Contacts									
———	———	1	Off	———	2	SPST-NO	———	7557K1	6.56
———	———	1	On	———	2	SPST-NC	———	7557K2	6.56
Guard for Mushroom 19/16″ Dia. Switches								7403K97	6.32

30 mm Panel Cutout Flush-Mount Plastic Push-Button Switches



Shown Installed

Easy to clean and hard to damage, these switches mount flush in a 30 mm (13/16″) dia. panel cutout and have screw terminal connections. Depth behind panel is 31/16″. Rated 6 amps @ 230 volts AC and 10 amps @ 24 volts DC with a maximum voltage of 500 AC and 110 DC. Switches are oil- and watertight, meeting NEMA 4, 13, and IP65. UL listed and CSA certified. To illuminate your switch, add an incandescent bulb (sold separately).

To Order: Please specify button color.

Dia.	No. of Circuits	Before Switching, Circuit Is	Switch Action	No. of Terminals	Industry Designation	Available Colors		
Switches								
13/8″	2	1 Off, 1 On	Stays Switched (Maintained)	4	DPST-NO/NC	Blue, Green, Red, Yellow	6971K1	$49.54
13/8″	2	1 Off, 1 On	Springs Back (Momentary)	4	DPST-NO/NC	Blue, Green, Red, Yellow	6971K3	48.11
Replacement Contacts (DPST-NO/NC)							6971K8	11.64
Bulbs								
12 volts AC/DC, 1.2 Watt							6971K91	2.71
24 volts AC/DC, 1.2 Watt							6971K92	2.71
110 volts AC/DC, 2.4 Watt							6971K93	6.52

30 mm Panel Cutout Multifunction Metal Push-Button Switches



8230K23



8230K25



8230K26



8230K24



8230K21



8230K22

Perform multiple switching functions while saving panel space. Switches have a 1½″ square face with plastic buttons and a metal body. They mount in a 30 mm (13/16″) dia. panel cutout and have screw terminal connections. Depth behind panel is 111/16″. Rated 6 amps @ 120 volts AC and 5.7 amps @ 24 volts DC with a maximum voltage of 600 AC and 250 DC. Switches resist corrosion and are oil- and watertight, meeting NEMA 4X and 13. UL listed and CSA certified.

***Multifunction with Indicating Light*—** Motor Run is illuminated in red. **To Order:** Please specify input voltage: 24 AC/DC or 120 AC/DC.

No. of Buttons	Switch Label	No. of Circuits	Before Switching, Circuit Is	Switch Action	No. of Terminals	Industry Designation	Button Color		
Multifunction									
2	Start/Stop	2	1 Off, 1 On	Stays Switched (Maintained)	4	DPST-NO/NC	Green/Red	8230K23	$167.20
3	Hand/Auto/Off	2	2 Off	Stays Switched (Maintained)	4	(2)SPST-NO	Blk/Blk/Red	8230K25	129.30
3	Run/Jog/Off	2	2 Off	Stays Switched (Maintained)■	4	(2)SPST-NO	Blk/Blk/Red	8230K26	129.30
Multifunction with Indicating Light									
2	Start/Motor Run/Stop	2	1 Off, 1 On	Springs Back (Momentary)	6	DPST-NO/NC	Green/Red	8230K24	224.98
Single Function									
1	Start	1	Off	Springs Back (Momentary)	2	SPST-NO	Black	8230K21	65.02
1	Stop	1	On	Springs Back (Momentary)	2	SPST-NC	Red	8230K22	65.02
Replacement Contacts									
—	—	1	Off	—	2	SPST-NO	—	8230K61	19.16
—	—	1	On	—	2	SPST-NC	—	8230K62	19.16

■Jog button springs back (momentary).

Heavy Duty Metal Emergency Stop Switches



Panel Mount



Panel Mount with Lockout



Box Mount with Lockout

Push the button to immediately break the circuit and cut off electrical power. All switches have a red plastic mushroom-style button, metal body, and screw terminal connections. UL listed and CSA certified.

Panel Mount and ***Illuminated Panel Mount*—** Switches mount in a 30 mm (13/16″) dia. panel cutout. Pull to reset. Depth behind panel is 113/16″. Rated 6 amps @ 120 volts AC and 2.5 amps @ 24 volts DC with a maximum voltage of 600 AC and DC. They're oil- and watertight, meeting NEMA 4, NEMA 13, and IP66.

To Order: For illuminated switch, please specify input voltage: 24 AC/DC or 120 AC/DC.

Panel Mount with Lockout and ***Box Mount with Lockout*—** Switches latch when you depress the button and can be locked in that position using a lockout or padlock with a 9/32″ shackle dia. (not included). Rated 6 amps @ 120 volts AC and 2.2 amps @ 125 volts DC. They meet NEMA 13 and IP65 for oil and water resistance.

Panel-mount switch mounts in a 30 mm (13/16″) dia. panel cutout. Pull to reset. Depth behind panel is 17/8″. Maximum voltage is 600 AC and 150 DC.

Box-mount switch has a 45/16″×213/16″ faceplate that mounts on a single-device outlet box (see 7169K on page 894). Push to reset. Maximum voltage is 600 AC and 250 DC.

Dia.	No. of Circuits	Before Switching, Circuit Is	Switch Action	No. of Terminals	Industry Designation		
Panel Mount							
15/8″	1	On	Stays Switched (Maintained)	2	SPST-NC	9235K2	$111.02
15/8″	2	1 Off, 1 On	Stays Switched (Maintained)	4	DPST-NO/NC	9235K32	125.98
15/8″	2	2 On	Stays Switched (Maintained)	4	DPST-2NC	9235K3	125.98
Replacement SPST-NC Contact						9235K98	15.69
Replacement DPST-NO/NC Contacts						9235K99	31.29
Illuminated Panel Mount							
15/8″	2	1 Off, 1 On	Stays Switched (Maintained)	6	DPST-NO/NC	9235K49	164.02
Replacement DPST-NO/NC Contacts						9235K99	31.29
Panel Mount with Lockout							
2″	2	1 Off, 1 On	Stays Switched (Maintained)	4	DPST-NO/NC	66185K71	186.01
Replacement DPST-NO/NC Contacts						66185K85	48.12
Box Mount with Lockout							
21/4″	2	1 Off, 1 On	Stays Switched (Maintained)	4	DPST-NO/NC	66185K61	245.12

22 mm Panel Cutout Metal Switches

Made of metal for long life, these include everything you need to assemble a complete switch. They mount in a 22 mm (7/8") dia. panel cutout and have screw terminal connections. Depth behind panel is 1 13/16". Rated 6 amps @ 120 volts AC and 2.5 amps @ 24 volts DC with a maximum voltage of 600 AC. Switches are oil- and watertight, meeting NEMA 4, 13, and IP66. UL listed, CSA certified, and CE marked. For replacement contacts, see 9209K accessories on this page.

To Order: Please specify color where necessary. For illuminated switches, also specify input voltage: 24 AC/DC or 120 AC.


Flush Push-Button


Projecting Push-Button


Mushroom Push-Button



Lever

	Dia.	No. of Circuits	Before Switching, Circuit Is	Switch Action	No. of Terminals	Industry Designation	Available Colors		
Push-Button									
Flush	1 3/16"	1	Off	Springs Back (Momentary)	2	SPST-NO	Black, Green	8382K21	$23.65
Flush	1 3/16"	1	Off	Stays Switched (Maintained)	2	SPST-NO	Black, Green	8382K23	23.65
Flush	1 3/16"	1	On	Springs Back (Momentary)	2	SPST-NC	Black, Red	8382K22	23.65
Flush	1 3/16"	1	On	Stays Switched (Maintained)	2	SPST-NC	Black, Red	8382K24	27.03
Projecting	1 3/16"	1	Off	Springs Back (Momentary)	2	SPST-NO	Black, Green	8382K31	24.38
Projecting	1 3/16"	1	On	Springs Back (Momentary)	2	SPST-NC	Black, Red	8382K32	24.38
Mushroom	1 9/16"	1	Off	Springs Back (Momentary)	2	SPST-NO	Black, Green	8382K41	32.33
Mushroom	1 9/16"	1	On	Springs Back (Momentary)	2	SPST-NC	Black, Red	8382K42	32.33
Illuminated Push-Button									
Flush	1 3/16"	1	Off	Springs Back (Momentary)	2	SPST-NO	Green, Red, White, Yellow	8382K54	50.83
Flush	1 3/16"	1	On	Springs Back (Momentary)	2	SPST-NC	Green, Red, White, Yellow	8382K51	50.83
Lever									
Short Two Position	1 3/16"	1	Off	Stays Switched (Maintained)	2	SPST-NO	Black	8382K66	22.80
Short Two Position	1 3/16"	1	On	Stays Switched (Maintained)	2	SPST-NC	Black	8382K63	22.80

22 mm Panel Cutout Metal Switch Components

Select an ***actuator*** and a ***contact block kit*** (each sold separately) to custom-build a metal switch. They mount in a 22 mm (7/8") dia. panel cutout and are oil- and watertight, meeting NEMA 4, 13, and IP66. UL listed, CSA certified, and CE marked.

Actuators

Illuminated push-button actuators require a contact block kit with bulbholder. ***Key*** actuators open with the same key (keyed alike) and include two keys. Turn key to the left to remove except for the two-position springs-back actuator, which turns to the right.

To Order: Please specify color where necessary.


Flush Push-Button



Short Lever


Projecting Push-Button

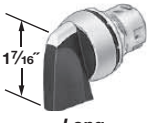

Long Lever


Mushroom Push-Button


Key

	Dia.	Available Colors	Springs Back (Momentary)		Stays Switched (Maintained)	
Push-Button						
Flush	1 3/16"	Black, Green, Red, White, Yellow	9209K11	$8.80	9209K21	$11.74
Projecting	1 3/16"	Black, Green, Red, White, Yellow	9209K12	8.80		
Mushroom	1 9/16"	Black, Green, Red, Yellow	9209K13	17.59		
Mushroom	2 3/8"	Black, Green, Red, Yellow	9209K14	22.02		
Illuminated Push-Button						
Flush	1 3/16"	Green, Red, Yellow	9209K31	14.65	9209K41	17.59
Projecting	1 3/16"	Green, Red, Yellow	9209K32	11.74		
Mushroom	1 9/16"	Green, Red, Yellow	9209K33	22.02		
Lever						
Short Two Position	1 3/16"	Black	9209K511	14.63	9209K551	14.63
Short Three Position	1 3/16"	Black	9209K531	14.63	9209K571	14.63
Long Two Position	1 3/16"	Black	9209K521	17.59	9209K561	14.63
Long Three Position	1 3/16"	Black	9209K541	17.59	9209K581	14.63
Key						
Two Position	1 3/16"	Black	9209K61	43.74	9209K63	40.80
Three Position	1 3/16"	Black	9209K62♣	43.74	9209K64	40.80

♣Springs back from right only.

Contact Block Kits

All kits consist of a contact mounting latch and one or more single-pole contacts. Rated 6 amps @ 120 volts AC and 2.5 amps @ 24 volts DC with a maximum voltage of 600 AC. They have screw terminal connections. Depth behind panel is 1 13/16".

Kits with bulbholder are used with illuminated push-button actuators. **To Order:** Please specify input voltage: 24 AC/DC, 120 AC, or 240 AC and bulb color: green, red, or white. *Note:* White bulbs are used for illuminated push-button actuators with yellow lenses.


Kit


Kit with Bulbholder

			KITS				KITS WITH BULBHOLDER		
No. of Circuits	Before Switching, Circuit Is	Industry Designation	No. of Terminals	For Push-Button Actuators		For Lever and Key Actuators	No. of Terminals	For Illuminated Actuators	
1	Off	SPST-NO	2	9209K138	$13.61	9209K127	$16.81	4	9209K22	$38.31
1	On	SPST-NC	2	9209K128	16.35	9209K128	16.35	4	9209K25	38.76
2	1 Off, 1 On	DPST-NO/NC	4	9209K139	22.35	9209K129	27.78	6	9209K28	47.54
2	2 Off	DPST-2 NO	4	9209K146	22.35	9209K136	27.78	6	9209K35	47.54
2	2 On	DPST-2 NC	4	9209K137	27.78	9209K137	27.78	6	9209K38	47.54

Accessories

Contacts are rated 6 amps @ 120 volts AC and 2.5 amps @ 24 volts DC with a maximum voltage of 600 AC.

Bulbholder and ***LED bulbs*** provide more ways to customize your switch. **To Order:** Please specify bulb color: blue, green, red, white, or yellow.

No. of Circuits	Before Switching, Circuit Is	No. of Terminals	Industry Designation	For Push-Button Actuators		For Lever and Key Actuators	
Contacts							
1	Off	2	SPST-NO	9209K147	$8.70	9209K117	$10.50
1	On	2	SPST-NC	9209K116	10.50	9209K116	10.50
Bulbholder and LED Bulbs							
Bulbholder						9209K26★	$24.24
24-volt AC/DC Bulb						7557K95	9.35
120-volt AC Bulb						7557K96	9.35

★Not compatible with 9209K41.

22 mm Panel Cutout Plastic Switch Components


Contact Block


Contact Retaining Clip


Locking Ring (Included with Actuator)


Panel Cutout


Switch Label


Actuator

Select an ***actuator*** and a ***contact block kit*** (each sold separately) to build a custom corrosion-resistant switch. They mount in a 22 mm (7/8″) dia. panel cutout and are oil- and watertight, meeting NEMA 4X, NEMA 13, and IP66 (unless stated otherwise).

Actuators

Push-Button


Flush


Flush with Transparent Boot


Projecting


Mushroom


Triangular Mushroom



Twin Start-Stop

Lever



Short

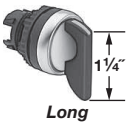

Long

Key



All have a plastic button and body. UL recognized. *Key-to-reset* actuators include two keys.
Illuminated actuators require a contact block kit with LED bulbholder.
Push-button actuators with transparent boot are rated IP67 for temporary water submersion.
Key actuators open with the same key (keyed alike) and come with two keys. Two-position actuator key is removable in the left position. Three-position actuator key is removable in the center position.
To Order: Please specify color where necessary: black, green, red, white (Wh), or yellow (Yel).

	Dia.	Available Colors	Springs Back (Momentary)		Stays Switched (Maintained)	
Push-Button						
Flush	13/16″	Black, Green, Red, Wh, Yel	7544K3	$6.32	7544K64	$14.04
Flush with Transparent Boot	1 1/4″	Green, Red, Wh, Yel	7544K98	13.80		
Projecting	13/16″	Black, Green, Red, Wh, Yel	7544K6	6.32	7544K65	14.04
Mushroom	1 1/4″	Black, Green, Red, Yel	7544K7	14.04		
Mushroom	2 3/4″	Red	7544K61	26.21		
Mushroom (Turn-to-Reset)	1 1/4″	Black, Green, Red, Yel			7544K66	18.49
Triangular Mushroom (Turn-to-Reset)	15/8″	Black, Green, Red, Yel			7544K97	18.49
Triangular Mushroom (Key-to-Reset)	15/8″	Red			7544K96	43.99
Twin Start-Stop	2 1/8″ × 1 3/16″	Green/Red	7544K62	18.72		
Illuminated Push-Button						
Flush	13/16″	Green, Red, Wh, Yel	7544K1	11.23	7544K69	16.38
Flush with Transparent Boot	1 1/4″	Green, Red, Wh, Yel	7544K87	18.72		
Projecting	13/16″	Green, Red, Wh, Yel	7544K4	11.23	7544K71	16.38
Mushroom	1 1/4″	Green, Red, Yel	7544K5	11.23		
Mushroom (Turn-to-Reset)	1 1/4″	Green, Red, Yel			7544K72	20.12
Twin Start-Stop	2 1/8″ × 1 3/16″	Green/Red	7544K73	20.59		
Lever						
Short Two Position	13/16″	Black, Red	7556K32	12.17	7556K31	12.17
Short Three Position	13/16″	Black, Red	7556K42	12.17	7556K41	12.17
Long Two Position	13/16″	Black, Red	7556K52	12.17	7556K51	12.17
Long Three Position	13/16″	Black, Red	7556K62	12.17	7556K61	12.17
Key						
Two Position	13/16″	Black	7556K72	38.39	7556K71	38.39
Three Position	13/16″	Black	7556K83	38.39		
Three Position	13/16″	Black	7556K82♣	38.39	7556K81	38.39

♣Springs back from right only.

Contact Block Kits


Kit


Kit with LED Bulbholder

All kits include a contact retaining clip and one or more single-pole contacts. Rated 6 amps @ 120 volts AC and 2.5 amps @ 24 volts DC with a maximum voltage of 600 AC and DC. Contacts have protected screw terminals. Depth behind panel is 1 11/16″. UL listed, CSA certified, and CE marked.
Kits with LED bulbholder are used with illuminated actuators and include a bulb. **To Order:** Please specify input voltage: 24 AC/DC, 120 AC, or 240 AC and bulb color: green, red, white, or yellow.

			Kits			Kits with LED Bulbholder		
No. of Circuits	Before Switching, Circuit Is	Industry Designation	No. of Terminals			No. of Terminals		
1	Off	SPST-NO	2	7557K41	$8.43	4	7557K11	$29.95
1	On	SPST-NC	2	7557K42	8.43	4	7557K13	31.82
2	1 Off, 1 On	DPST-NO/NC	4	7557K43	14.98	6	7557K15	36.51
2	2 Off	DPST-2NO	4	7557K44	14.98	6	7557K17	38.39
2	2 On	DPST-2NC	4	7557K45	14.98	6	7557K19	36.51
4	2 Off, 2 On	4PST-2NO/2NC	8	7557K46▲	29.95	10	7557K25♥	49.61

▲Requires 2″ depth behind panel. ♥Requires 2 9/16″ depth behind panel.

Accessories

Contacts are rated 6 amps @ 120 volts AC and 2.5 amps @ 24 volts DC with a maximum voltage of 600 AC and DC. They have screw terminal connections. UL listed, CSA certified, and CE marked.
To Order: For LED bulbholder, please specify bulb color: green, red, white, or yellow.

No. of Circuits	Before Switching, Circuit Is	No. of Terminals	Industry Designation		
Contacts					
1	Off	2	SPST-NO	7557K1	$6.56
1	On	2	SPST-NC	7557K2	6.56
Contact Retaining Clip				7557K7	2.09
LED Bulbholders					
24 volts AC/DC				7557K74	21.53
120 volts AC				7557K75	21.53
240 volts AC				7557K76	23.41

(Continued on following page)

22 mm Panel Cutout Plastic Switch Components *(Continued from previous page)*

Accessories (Cont.)

Padlockable cover prevents unauthorized use.

Switch labels are black plastic. *Black* and *red inserts* are engraved with your choice of message (letters are white). **To Order:** Please specify message: Blank, Open, Close, Up, Down, Forward, Reverse, On, Off, Off-On, Hand-Off-Auto, Jog, Reset, Run, Start, Stop, Stop-Start, or Emergency Stop. *Transparent inserts* let you write or print message on a 3/8″ x 1″ card.

Also Available: Custom labels. Please ask for 7550K97 and specify color (black or red) and message. They have a maximum of two lines, 13 characters per line. (Not compatible with 2 3/4″ dia. mushroom or twin start-stop push-button switches.)

Mounting tool makes it easy to install a 22 mm or 30 mm switch in a crowded panel.


Padlockable Cover

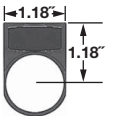

Switch Label

Padlockable Cover for Flush Push-Button Actuators (5/16″ shackle dia.)	7550K3	$17.44
Switch Label with Black Insert	7550K74	3.76
Switch Label with Red Insert	7550K76	3.76
Switch Label with Transparent Insert	7550K79	2.82
Mounting Tool	7550K95	8.33
Replacement Keys for Key Actuators (Set of 2)	7556K91	9.35


Mounting Tool

22 mm Panel Cutout Plastic Switches

Made of corrosion-resistant plastic, these complete switches include everything you need. They mount in a 22 mm (7/8″) dia. panel cutout and have screw terminal connections. Depth behind panel is 1 11/16″. Rated 6 amps @ 120 volts AC and 2.5 amps @ 24 volts DC with a maximum voltage of 600 AC and DC. Switches are oil- and watertight, meeting NEMA 4X, 13, and IP66. UL listed, CSA certified, and CE marked. ***Three-position*** switches are off in the center position.

For accessories, see 22 mm Panel Cutout Plastic Switch Components on this page.

To Order: Please specify color where necessary: black, green, red, white (Wh), or yellow (Yel). For illuminated switches, also specify input voltage: 24 AC/DC or 120 AC.

No. of Circuits	Before Switching, Circuit Is	Switch Action	No. of Terminals	Industry Designation	Available Colors		
Push-Button							
Flush (1 3/16″ Dia.)							
1	Off	Springs Back (Momentary)	2	SPST-NO	Black, Green, Red, Wh, Yel	6749K25	$14.74
1	Off	Stays Switched (Maintained)	2	SPST-NO	Black, Green, Red	6749K27	22.47
1	On	Springs Back (Momentary)	2	SPST-NC	Black, Green, Red, Wh, Yel	6749K29	14.74
1	On	Stays Switched (Maintained)	2	SPST-NC	Black, Green, Red	6749K32	22.47
Flush with Transparent Boot (1 1/4″ Dia.)							
1	Off	Springs Back (Momentary)	2	SPST-NO	Green	6749K34	22.23
1	On	Springs Back (Momentary)	2	SPST-NC	Red	6749K35	22.23
Projecting (1 3/16″ Dia.)							
1	Off	Springs Back (Momentary)	2	SPST-NO	Black, Green, Red	6749K39	14.74
1	Off	Stays Switched (Maintained)	2	SPST-NO	Black, Green, Red	6749K49	22.47
1	On	Springs Back (Momentary)	2	SPST-NC	Black, Green, Red	6749K83	14.74
1	On	Stays Switched (Maintained)	2	SPST-NC	Black, Green, Red	6749K84	22.47
Mushroom (1 1/4″ Dia.)							
1	Off	Springs Back (Momentary)	2	SPST-NO	Black, Green, Yel	6749K87	22.47
1	On	Springs Back (Momentary)	2	SPST-NC	Black, Red	6749K88	22.47
Mushroom (1 9/16″ Dia.)							
1	Off	Springs Back (Momentary)	2	SPST-NO	Black, Green	6749K89	22.47
1	On	Springs Back (Momentary)	2	SPST-NC	Black, Red	6749K91	22.47
1	On	Stays Switched (Maintained)	2	SPST-NC	Red	6749K92●	27.15
1	On	Stays Switched (Maintained)	2	SPST-NC	Red	6749K93▲	26.91
Twin Start-Stop (2 1/8″ Lg. x 1 3/16″ Wd.)							
2	1 Off, 1 On	Springs Back (Momentary)	4	DPST-NO/NC	Green/Red	6749K4	33.69
Illuminated Push-Button							
Flush (1 3/16″ Dia.)							
1	Off	Springs Back (Momentary)	4	SPST-NO	Green, Red, Wh, Yel	6749K36	41.19
1	Off	Stays Switched (Maintained)	4	SPST-NO	Green, Red, Wh, Yel	6749K37	46.34
Projecting (1 3/16″ Dia.)							
1	On	Springs Back (Momentary)	4	SPST-NC	Green, Red, Wh, Yel	6749K85	41.19
1	On	Stays Switched (Maintained)	4	SPST-NC	Green, Red, Wh, Yel	6749K86	46.34
Mushroom (1 9/16″ Dia.)							
1	On	Stays Switched (Maintained)	4	SPST-NC	Green, Red, Yel	6749K94●	50.31
1	On	Stays Switched (Maintained)	4	SPST-NC	Green, Red, Yel	6749K95▲	49.74
Lever							
Short Two Position (1 3/16″ Dia.)							
1	Off	Stays Switched (Maintained)	2	SPST-NO	Black	6749K96	20.59
1	On	Stays Switched (Maintained)	2	SPST-NC	Black, Red	6749K97	20.59
Short Three Position (1 3/16″ Dia.)							
2	Off	Stays Switched (Maintained)	4	DPST-NO	Black	6749K1	27.15
Long Two Position (1 3/16″ Dia.)							
1	Off	Stays Switched (Maintained)	2	SPST-NO	Black	6749K98	20.59
1	On	Stays Switched (Maintained)	2	SPST-NC	Black, Red	6749K99	20.59
Long Three Position (1 3/16″ Dia.)							
2	Off	Stays Switched (Maintained)	4	DPST-NO	Black	6749K2	27.15
Key							
Two Position (1 3/16″ Dia.)							
1	Off	Stays Switched (Maintained)	2	SPST-NO	Black	6749K3	45.87
Replacement Contacts							
1	Off	—	2	SPST-NO	—	7557K1	6.56
1	On	—	2	SPST-NC	—	7557K2	6.56

●Pull to reset. ▲Turn to reset. Button has a triangular shape.

Push-Button


Flush


Flush with Transparent Boot


Projecting


Mushroom



Twin Start-Stop

Lever



Short



Long

Key



22 mm Panel Cutout Compact Switches



Flush



Projecting



Projecting with Boot



Mushroom



Mushroom with Guard

The integral contact block in these one-piece plastic switches extends just 1″ behind your panel, saving valuable space. They are NEMA 4X rated for washdowns and corrosion resistance and have an internal PTFE-coated seal to keep dirt and moisture away from the contacts. Switches mount in a 22 mm (7/8″) dia. panel cutout and have screw terminal connections. You can add up to three contacts (sold separately) to control a maximum of eight circuits. Rated 6 amps @ 120 volts AC and 5 amps @ 24 volts DC with a maximum voltage of 600 AC and 250 DC. UL and C-UL listed, CSA certified, and CE marked. *Note:* When installing, ensure the panel gaskets are behind the panel.

To Order: Please specify color: black, green, red, or yellow.

Dia.	No. of Circuits	Before Switching, Circuit Is	Switch Action	No. of Terminals	Industry Designation	Plastic Bezel		Metal Bezel	
Switches									
Flush 9/16″	1	Off	Springs Back (Momentary)	2	SPST-NO	5374T21	$16.81	5374T11	$19.05
Flush 9/16″	1	On	Springs Back (Momentary)	2	SPST-NC	5374T22	16.81	5374T12	19.05
Projecting 9/16″	1	Off	Springs Back (Momentary)	2	SPST-NO	5374T23	16.81	5374T13	19.05
Projecting 9/16″	1	On	Springs Back (Momentary)	2	SPST-NC	5374T24	16.81	5374T14	19.05
Projecting with Boot 3/4″	1	Off	Springs Back (Momentary)	2	SPST-NO	5374T33	26.00	—	—
Projecting with Boot 3/4″	1	On	Springs Back (Momentary)	2	SPST-NC	5374T34	26.00	—	—
Mushroom 1 3/16″	1	Off	Springs Back (Momentary)	2	SPST-NO	5374T25	22.41	5374T15	24.65
Mushroom 1 5/16″	1	On	Stays Switched (Maintained)	2	SPST-NC	5374T26	35.85	5374T16	38.09
Mushroom with Guard 1 3/16″	1	On	Springs Back (Momentary)	2	SPST-NC	5374T37	27.11	—	—
Additional Contacts									
—	2	1 Off, 1 On	—	4	DPST-NO/NC	5374T51	13.44	5374T51	13.44
—	2	2 Off	—	4	DPST-2NO	5374T52	13.44	5374T52	13.44

22 mm Panel Cutout Emergency Stop Switches



Plastic Pull-to-Reset



Plastic Key-to-Reset



Plastic Turn-to-Reset



High-Vibration Turn-to-Reset



Metal Pull-to-Reset



Pull-to-Reset with Lockout



Metal Turn-to-Reset

Immediately cut power with a single push. These switches meet EN 418 for compliance with European machine directives for emergency stop applications. All stay switched (maintained) and have a red plastic button and screw terminal connections. They mount in a 22 mm (7/8″) dia. panel cutout. Depth behind panel is 1 13/16″. UL listed and CSA certified.

Plastic— Switches are oil- and watertight and corrosion resistant, meeting NEMA 4X, 12, and 13. CE marked.

Standard switches are rated 6 amps @ 120 volts AC and 2.5 amps @ 24 volts DC with a maximum voltage of 600 AC and DC. They also meet IP66. Key-to-reset switches open with the same key (keyed alike) and include two keys.

High-vibration switches have a single-piece construction that prevents the contact from separating from the actuator in high-vibration applications. Rated 3 amps @ 220 volts AC and 1.1 amps @ 110 volts DC with a maximum voltage of 600 AC. They also meet IP65. Illuminated switches have a 24-volt LED bulb.

Metal— Switches are rated 6 amps @ 120 volts AC and 2.5 amps @ 24 volts DC with a maximum voltage of 600 AC. They're oil-tight, meeting NEMA 13. NEMA 4 and IP65 rated for washdowns, except pull-to-reset with lockout is IP65 rated only. **To Order:** For illuminated switches, please specify input voltage: 24 AC/DC or 120 AC.

Also Available: Emergency stop switch labels. Please ask for 6741K7 and specify switch part number. Labels are yellow plastic.

Also Available: Replacement contacts. Please ask for 6741K8 and specify switch part number.

Dia.	No. of Circuits	Before Switching, Circuit Is	No. of Terminals	Industry Designation		
Plastic						
Standard Pull-to-Reset						
1 1/4″	1	On	2	SPST-NC	6741K41	$32.76
1 1/4″	2	2 On	4	DPST-2NC	6741K42	39.32
1 9/16″	1	On	2	SPST-NC	6741K43	32.76
1 9/16″	2	2 On	4	DPST-2NC	6741K44	39.32
Standard Key-to-Reset						
1 1/4″	1	On	2	SPST-NC	6741K47	55.24
1 1/4″	2	2 On	4	DPST-2NC	6741K48	61.78
1 9/16″	1	On	2	SPST-NC	6741K49	55.24
1 9/16″	2	2 On	4	DPST-2NC	6741K51	61.78
Standard Turn-to-Reset						
1 9/16″	1	On	2	SPST-NC	6741K45	38.39
1 9/16″	2	2 On	4	DPST-2NC	6741K46	44.92
High-Vibration Turn-to-Reset						
1 9/16″	2	1 Off, 1 On	4	DPST-NO/NC	7480T12	28.71
1 9/16″	2	2 On	4	DPST-2NC	7480T11	28.71
Illuminated High-Vibration Turn-to-Reset						
1 9/16″	2	1 Off, 1 On	6	DPST-NO/NC	7480T14★	42.52
1 9/16″	2	2 On	6	DPST-2NC	7480T13★	42.52
Metal						
Standard Pull-to-Reset						
1 9/16″	1	On	2	SPST-NC	8382K45	36.50
Illuminated Pull-to-Reset						
1 9/16″	2	2 On	4	DPST-2NC	6741K61■	91.14
Pull-to-Reset with Lockout						
1 9/16″	2	1 Off, 1 On	4	DPST-NO/NC	6741K67★	190.33
Turn-to-Reset						
1 9/16″	1	On	2	SPST-NC	8382K44	37.60

★ Depth behind panel is 2 1/2″. ■ Depth behind panel is 2 11/16″.

22 mm Panel Cutout Plastic Knob Selector Switches



Set switches to either spring back (momentary) or stay switched (maintained). They mount in a 22 mm (7/8″) dia. panel cutout and have a 13/16″ dia. selector knob and screw terminal connections. Depth behind panel is 2 13/16″ except DPST-NO/NC switch is 1 3/4″. Rated 6 amps @ 120 volts AC and 3 amps @ 24 volts DC with a maximum voltage of 500 AC and 250 DC. NEMA 4X and IP66 rated for washdowns and corrosion resistance. UL listed, CSA certified, and CE marked.

Also Available: Replacement contacts. Please ask for 6299T88 and specify normally open or normally closed.

No. of Circuits	Switch Position: Left	Center	Right	No. of Terminals	Industry Designation		
Two Position 2	—	2 Off	2 On	4	DPST-2NO	6299T11	$62.30
Two Position 2	—	Off, On	On/Off	4	DPST-NO/NC	6299T12	61.92
Three Position 3	2 On/1 Off	3 Off	2 Off/1 On	6	3PST-3NO	6299T13	74.92
Three Position 3	1 On/2 Off	3 Off	1 Off/2 On	6	3PST-2NO/1NC	6299T14	74.92
Switch Label (Blank)						6299T17	1.34

16 mm Panel Cutout Plastic Switches

Mount these corrosion-resistant switches in a 16 mm (5/8″) dia. panel cutout. For removal tools and mounting wrench, see 16 mm Panel Cutout Plastic Switch Components on this page.

Push-Button and ***Illuminated Push-Button***—Switches don't project from panel, protecting them from damage. They have solder terminal connections. Depth behind panel is 1 3/16″. Rated 0.1 amps @ 42 volts AC and DC. *Illuminated* switches have a 2.0-volt DC LED bulb in red, 3.0-volt DC bulb in yellow, and 3.2-volt DC bulb in green.

Emergency Stop Push-Button, Lever, and ***Key***—Switches are oil- and watertight, meeting NEMA 4, 13, and IP65. Depth behind panel is 1 11/16″. Rated 2.5 amps @ 125 volts AC and 6 amps @ 24 volts DC with a maximum voltage of 250 AC. UL recognized, CSA certified, and CE marked. Three-position switches are off in the center position.

Emergency stop push-button switches meet EN 418 directive for emergency stop applications. They have screw terminal connections.

Lever switches have 0.11″ quick-disconnect/solder terminal connections. To illuminate, add an incandescent bulb up to 60 volts AC (sold separately). **To Order:** For bulb, please specify voltage: 6.3, 14, 28, 48, or 60 AC.

Key switches open with the same key (two included). They have 0.11″ quick-disconnect/solder-terminal connections.

To Order: Please specify button color.


Push-Button



Emergency Stop Push-Button


Lever


Key

	Dia.	No. of Circuits	Before Switching, Circuit Is	No. of Terminals	Industry Designation	Available Colors	Springs Back (Momentary)		Stays Switched (Maintained)	
Push-Button										
Flush	3/4″	1	Off	4	SPST-NO	Black, Grn, Red, Yel	6886K2	$22.37	6886K1	$23.59
Illuminated Push-Button										
Flush	3/4″	1	Off	4	SPST-NO	Grn, Red, Yel	6886K91	24.85	6886K93	26.08
Emergency Stop Push-Button										
Mushroom (Turn-to-Reset)	1 1/16″	1	On	2	SPST-NC	Red	———	———	65645K61	81.16
Mushroom (Key-to-Reset)	1 1/16″	1	On	2	SPST-NC	Red	———	———	65645K62	106.35
Lever										
Two Position	1 1/16″	1	Off	4	SPST-NO	Blk, Grn, Red, Wh, Yel	65645K31	28.11	65645K32	28.11
Two Position	1 1/16″	2	2 Off	6	DPST-NO	Blk, Grn, Red, Wh, Yel	———	———	65645K33	31.41
Three Position	1 1/16″	2	2 Off	6	DPST-NO	Blk, Grn, Red, Wh, Yel	65645K34	34.32	65645K35	34.32
Incandescent Bulb for All Lever Switches									65645K71	$2.79
Key										
Two Position	1 1/16″	1	Off	4	SPST-NO	Black	65645K41	44.70	65645K42	44.70
Two Position	1 1/16″	2	2 Off	6	DPST-NO	Black	———	———	65645K43	48.00
Three Position	1 1/16″	2	2 Off	6	DPST-NO	Black	65645K44	53.67	65645K45	53.67
Replacement Key for All Key Switches									65645K86	7.60

16 mm Panel Cutout Plastic Switch Components

Custom build a plastic switch by selecting an actuator and contact block (each sold separately). They mount in a 16 mm (5/8″) dia. panel cutout and are oil- and watertight, meeting NEMA 4 and 13 and IP65. Rated 2.5 amps @ 125 volts AC and 6 amps @ 24 volts DC with a maximum voltage of 250 AC. UL recognized, CSA certified, and CE marked.

Push-Button Actuators


Square


Rectangular


Round

Actuators can be permanently converted to stay switched (maintained) from springs back (momentary) action. To illuminate, add an incandescent bulb up to 60 volts AC (sold separately).

To Order: Please specify button color: black, green, red, white, or yellow.

Small Square (1 1/16″ × 1 1/16″)	65645K13	$18.33
Large Square (15/16″ × 15/16″)	65645K11	18.61
Rectangular (15/16″ × 1 1/16″)	65645K12	18.33
Round (1 1/16″ Dia.)	65645K14	18.33

Contact Blocks

Connections are 0.11″ quick-disconnect/solder terminals. Depth behind panel is 1 5/8″.

No. of Circuits	Before Switching, Circuit Is	No. of Terminals	Industry Designation		
1	Off	4	SPST-NO	65645K15	$10.77
2	2 Off	6	DPST-NO	65645K16	14.06
2	1 Off, 1 On	6	DPST-NO/NC	65645K18	14.06
3	3 Off	8	3PST-NO	65645K17	17.23

Accessories

To Order: For incandescent bulb, please specify voltage: 6.3, 14, 28, 48, or 60 AC.

Incandescent Bulb	65645K71	$2.79
Bulb Removal Tool	65645K52	2.94
Lens Removal Tool	65645K51	6.57
Contact Block Removal Tool	65645K54	8.25
Mounting Wrench	65645K53	6.41

Finger-Touch Switches

An infrared light beam senses the lightest finger contact to switch a circuit on or off. These switches do not require any pressure to operate, easing stress caused by repetitive motion. They stay switched only when touched (momentary), mount in a 30 mm (1 3/16″) dia. panel cutout, and have LEDs that indicate "power on" and "output activated." Housing is sealed, impact-resistant black plastic and has a guard to prevent accidental activation. Overall size is 1 7/16″ Ht. × 2 3/8″ Wd. × 1 11/16″ Dp. Meet NEMA 4X, NEMA 13, and IP66 for use in wet and corrosive environments. UL listed, CSA certified, and CE marked. Rated 7 amps @ 120 volts AC except the NPN switch, which has a 150-mA transistor output and is typically used with a programmable logic controller (PLC).

Switches with ***5-pole male connector*** allow you to quickly change out and repair. They have a single-keyway male receptacle with external threads to accept 0.55″ face dia. female plugs with internal threads.


With 6-ft. Cable

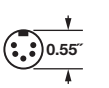

5-Pole Connector

No. of Circuits	Before Switching, Circuit Is	Industry Designation	Operating Voltage AC	Operating Voltage DC		
With 6-ft. Cable						
1	Off or On	SPDT	120	———	72025K91	$119.19
1	Off or On	SPDT	20-30	20-30	72025K93	119.19
———	———	NPN	———	10-30	72025K94	119.19
With 5-Pole Male Connector						
1	Off or On	SPDT	120	———	72025K92	119.19
5-Pole Female Connector with 12-ft. Cable					69355K66	49.02
Replacement Guard					72025K71	16.67

Electrical Switches

For information about choosing an electrical switch, see page 909.

Two-Hand Safety Switch System

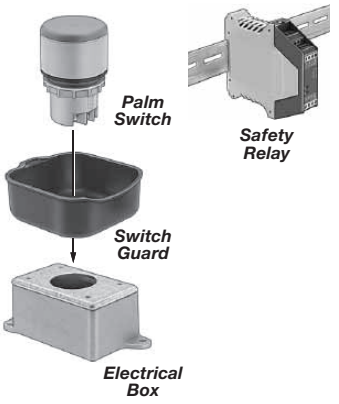

Simultaneous two-hand touch operation promotes safety when starting machinery. For a complete system, you'll need a safety relay, two palm switches, and two electrical boxes (sold separately).

Palm switch meets OSHA requirements and ANSI standards for machine operator safety. It's plastic with a 2 3/8″ dia. gray flat-head button. Depth behind panel is 1 3/4″. Rated 1 amp @ 250 volts AC and 90 volts DC. It switches two circuits, one from off to on and one from on to off (DPST-NO/NC). Contacts stay switched only when switch is touched (momentary). Operates on 120 volts AC. IP64 rated for protection from splashing water. UL listed and CSA certified.

Safety relay controls the two palm switches. It sends an output when both switches are activated within 0.5 seconds of each other. Self-monitoring circuitry offers double protection—if any part of the system fails, the entire system shuts down until repaired. It switches two circuits from off to on or on to off (DPDT) and is rated 4 amps @ 230 volts AC and 2 amps @ 24 volts DC. It has screw terminal connections, mounts on a 35 mm DIN rail, and operates on 115 volts AC. Overall size is 4 1/2″ Ht. x 7/8″ Wd. x 3 7/8″ Dp. UL listed and CE marked.

Switch guard protects against damage and accidental actuation. You'll need one per switch.

Electrical boxes have a drilled hole for the palm switch and two 5/16″ dia. mounting holes (hardware included).

Palm Switch	65945K11	$518.75
Safety Relay	65945K21	414.62
Switch Guard	65945K31	109.47
Electrical Box with One 3/4″ Conduit Hub	65945K33	103.03
Electrical Box with Two 3/4″ Conduit Hubs	65945K34	112.05

Flush-Mount Stainless Steel Push-Button Switches



Mount flush to your panel for protection against damage. Switches are stainless steel and have 0.11″ quick-disconnect terminals. Depth behind panel is 1 5/16″. IP67 rated for temporary water submersion. Rated 5 amps @ 125 volts AC and 24 volts DC with a maximum voltage of 250 AC and DC.

Panel Cutout	Dia.	No. of Circuits	Before Switching, Circuit Is	Switch Action	No. of Terminals	Industry Designation		
16 mm (5/8″)	3/4″	1	Off or On	Springs Back (Momentary)	3	SPDT	6023T12	$13.82
19 mm (3/4″)	7/8″	1	Off or On	Springs Back (Momentary)	3	SPDT	6023T13	14.43
22 mm (7/8″)	1″	1	Off or On	Springs Back (Momentary)	3	SPDT	6023T14	16.17

Compact Harsh Environment Push-Button Switches

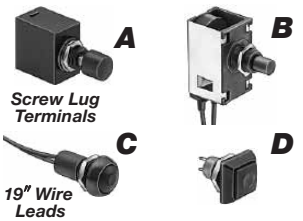

Sealed for protection from moisture and debris, these switches also take up less space in your panel than 16 mm switches.

Style A are IP67 rated for temporary water submersion. Rated 6 amps @ 125 volts AC and 6 amps @ 30 volts DC with a maximum voltage of 600 AC and 30 DC. Button and body are black plastic.

Style B have a stainless steel and plastic housing that protects the internal mechanism. IP68 rated for continuous submersion, so they're good for marine applications. Rated 5 amps @ 120 volts AC and 28 volts DC. Button is black plastic.

Styles C and ***D*** are IP67 rated for temporary water submersion. Rated 0.5 amps @ 48 volts AC and 0.2 amps @ 50 volts DC with a maximum voltage of 250 AC and 50 DC. Button and body are plastic; bezel is metal. 6915K23 is illuminated with a red LED. **To Order:** Please specify button color: black or red.

	No. of Circuits	Before Switching, Circuit Is	Switch Action	No. of Terminals	Industry Designation	Connections	Button Size	Dp. Behind Panel		
12 mm (15/32″) Dia. Panel Cutout										
A	1	Off or On	Springs Back (Momentary)	3	SPDT	Solder Lug	1/2″ Dia.	1 5/16″	8259K42	$24.00
A	1	Off or On	Stays Switched (Maintained)	3	SPDT	Solder Lug	1/2″ Dia.	1 5/16″	8259K41	23.06
A	1	Off or On	Springs Back (Momentary)	3	SPDT	Screw Lug	1/2″ Dia.	1 7/16″	8259K44	25.18
A	1	Off or On	Stays Switched (Maintained)	3	SPDT	Screw Lug	1/2″ Dia.	1 7/16″	8259K43	24.24
B	1	Off	Springs Back (Momentary)	–	SPST-NO	24″ Wire Leads	5/16″ Dia.	15/16″	8185K11	35.90
B	1	On	Springs Back (Momentary)	–	SPST-NC	24″ Wire Leads	5/16″ Dia.	15/16″	8185K12	41.75
B	1	Off or On	Springs Back (Momentary)	–	SPDT	24″ Wire Leads	5/16″ Dia.	15/16″	8185K13	42.98
14 mm (17/32″) Dia. Panel Cutout										
C	1	Off	Springs Back (Momentary)	2	SPST-NO	19″ Wire Leads	11/16″ Dia.	1″	6915K24	15.42
C	1	Off	Springs Back (Momentary)	2	SPST-NO	Solder Lug	11/16″ Dia.	11/16″	6915K22	12.74
C	1	Off	Springs Back (Momentary)	2	SPST-NO	Solder Lug	11/16″ Dia.	11/16″	6915K23	14.90
D	1	Off	Springs Back (Momentary)	2	SPST-NO	Solder Lug	11/16″ Sq.	11/16″	6915K21	12.53

Miniature Metal Push-Button Switches



The smallest panel cutout switches we offer. They have solder terminal connections and include panel mounting hardware. Buttons are black plastic except Style H, which is white plastic. Maximum voltage is 120 AC and 28 DC.

	No. of Circuits	Before Switching, Circuit Is	Switch Action	No. of Terminals	Industry Designation	Amp Rating @ 120V AC/ 28V DC	Button Dia.	Dp. Behind Panel		
4 mm (5/32″) Dia. Panel Cutout										
E	1	Off	Springs Back (Momentary)	2	SPST-NO	1/2	1/8″	1/2″	7397K11	$6.70
E	1	On	Springs Back (Momentary)	2	SPST-NC	1/4	1/8″	1/2″	7397K13	7.60
6 mm (1/4″) Dia. Panel Cutout										
F	1	Off	Springs Back (Momentary)	2	SPST-NO	1	5/32″	9/16″	7397K21	7.25
F	1	On	Springs Back (Momentary)	2	SPST-NC	1	5/32″	5/8″	7397K23	6.65
F	1	Off	Springs Back (Momentary)	2	SPST-NO	3	5/32″	5/8″	7397K25	7.25
G	1	Off or On	Springs Back (Momentary)	3	SPDT	6	3/8″	5/8″	7400K41	7.46
G	1	Off or On	Stays Switched (Maintained)	3	SPDT	6	3/8″	5/8″	7400K61	7.46
H	2	Off or On	Springs Back (Momentary)	6	DPDT	1	1/8″	5/8″	7400K72	15.17

Low-Voltage Metal Push-Button Switches

Operate doorbells, buzzers, and other low-voltage circuits. Switches spring back (momentary), switch one circuit from off to on (SPST-NO), and have two screw terminals. Button is plastic.

Styles A-C are panel mount. *Style A* snaps into a panel; *Styles B* and *C* have a hex nut. **Styles D&E** are surface mount and include mounting hardware.



A B C D E

	Panel Cutout Dia.	Amp Rating AC	Amp Rating DC	Max. Voltage AC	Max. Voltage DC	Overall Size	Dp. Behind Panel	Button Color		
A	16 mm (5/8″)	3 @ 30V	3 @ 30V	30V	30V	3/4″ Dia.	13/16″	White	69755K31	$6.22
A	19 mm (3/4″)	4 @ 24V	1 @ 24V	48V	48V	1″ Dia.	1 9/16″	Black	69755K64★	31.72
B	16 mm (5/8″)	10 @ 24V	2 @ 24V	48V	48V	3/4″ Dia.	7/8″	White	69755K62	14.82
C	16 mm (5/8″)	10 @ 24V	2 @ 24V	48V	48V	3/4″ Dia.	15/16″	White	69755K63	14.82
D	_____	3 @ 30V	3 @ 30V	30V	30V	2 1/2″ Dia. × 1 3/8″ Ht.	_____	Gold	69755K58 ■	39.60
E	_____	3 @ 16V	3 @ 16V	16V	___	2 3/4″ Lg. × 1″ Wd. × 3/4″ Ht.	_____	White	69755K71	11.25

★Has one input terminal and three output terminals. ■Body and button are brass.

Touch-Sensor Flush-Mount Switches

Whether you create a single switch or a large panel of switches, it's easy to build your own finger-touch sensor switch. The adhesive front of the switch mounts behind a piece of plastic or glass, which you can customize with labels or graphics. Switches are momentary, switch one circuit from off to on, and have solder connections. Operate on 5 volts DC and have a 1 mA output rating.

Illuminated switches have a green LED.

For plastic mounting, choose a material with a maximum thickness of 0.078″ (5/64″). If you need plastic sheets, see 8574K on page 3627 and 85815K on page 3631.

For glass mounting, choose a material with a maximum thickness of 0.157″ (5/32″). If you need glass sheets, see 8476K on page 3690.

Note: Maximum thickness includes anything applied to the plastic or glass.



One Switch (Front)



(Back)

No. of Switches	Size	Nonilluminated		Illuminated	
For Plastic Mounting					
One	1 13/32″ × 1 13/32″	2792K11	$26.65	2792K15	$28.21
Two	2 13/16″ × 1 13/32″	2792K21	33.90	2792K25	34.31
Four	5 5/8″ × 1 13/32″	2792K31	51.83	2792K35	52.37
For Glass Mounting					
One	1 13/32″ × 1 13/32″	2792K13	26.65	2792K17	28.21
Two	2 13/16″ × 1 13/32″	2792K23	33.90	2792K27	34.31
Four	5 5/8″ × 1 13/32″	2792K33	51.83	2792K37	52.37

30 mm Panel Cutout Indicating Lights



Metal Plastic

Mount in a 30 mm (1 3/16″) dia. panel cutout. Lights have screw terminal connections. UL listed.

Metal indicating lights have a durable construction for long-term operation. *LED* bulbs last longer than incandescent bulbs and provide years of maintenance-free operation. Minimum panel depth is 2 1/4″. Lights withstand washdowns and oil spraying, meeting NEMA 4 and 13. CSA certified.

Plastic indicating light resists corrosion. Minimum panel depth is 1 3/16″. Rated NEMA 4X for protection from corrosion and washdowns. C-UL listed. Note: When bulb burns out, the entire light must be replaced.

To Order: For indicating lights, replacement LED bulbs, and replacement lenses, please specify color: green, red, or yellow.

Voltage	Lens Dia.	Indicating Lights	Each	Repl. Bulbs Pkg. Qty.		Pkg.
Metal with Incandescent Bulb						
12V AC/12V DC	1 1/16″	1759K16	$69.55	10	1759K26	$4.29
24V AC/24V DC	1 1/16″	1759K6	69.55	10	1505K98	9.57
120V AC	1 1/16″	1759K11	85.02	10	1505K81	5.98
120V AC/120V DC	1 1/16″	1759K7	69.55	5	1505K95	7.92
240V AC	1 1/16″	1759K12	85.02	10	1505K81	5.98
480V AC	1 1/16″	1759K13	85.02	10	1505K81	5.98
Metal with LED Bulb						Each
24V AC/24V DC	1 1/16″	1759K4	111.61	__	1759K36	67.49
120V AC	1 1/16″	1759K5	111.61	__	1759K37	67.49
240V AC	1 1/16″	1759K3	111.61	__	1759K38	67.49
Replacement Lens for Metal Lights					1759K1	10.35
Plastic with LED Bulb						
20-240V AC/DC	1 9/16″	8247K4	77.30	__	_____	_____

22 mm Panel Cutout Indicating Lights



Metal Bezel Plastic Bezel

These lights meet NEMA 13 for oil resistance and have an LED bulb for years of maintenance-free operation. They mount in a 22 mm (7/8″) panel cutout and have screw terminal connections. UL listed, CSA certified, and CE marked. Note: When bulb burns out, the entire light must be replaced.

Metal Bezel—Provide durability for longer life. Minimum panel depth is 1″. Rated NEMA 4 for protection from washdowns.

Plastic Bezel—Minimum panel depth is 1 3/4″. They resist corrosion and are oil- and watertight, meeting NEMA 4X and 13.

To Order: Please specify color: blue, green, red, white, or yellow.

Voltage	Lens Dia.	Indicating Lights		Replacement Bulbs	
Metal Bezel with LED Bulb					
6V AC/DC	1 1/16″	5453T11	$49.38	5453T15	$15.96
12V AC/DC	1 1/16″	5453T12	49.38	5453T16	15.96
24V AC/DC	1 1/16″	5453T13	49.38	5453T17	15.96
120V AC/DC	1 1/16″	5453T14	49.38	5453T18	15.96
Plastic Bezel with LED Bulb					
12-24V AC/DC	1 3/16″	7380K3	18.25	7557K95	9.35
120V AC/DC	1 3/16″	7380K4	18.25	7557K96	9.35
240V AC/DC	1 3/16″	7380K5	18.25	7557K97	14.98

22 mm and 30 mm Panel Cutout Plastic Indicating Light Components



Lens Cap LED Bulbholder Label

Select a lens cap and LED bulbholder (each sold separately) to build a custom indicating light. All components are made of plastic. Assembled lights resist corrosion and are oil- and watertight, meeting NEMA 4X, 12, and 13, and IP65. CSA certified and CE marked.

Lens caps are UL recognized for use with LED bulbholders. **To Order:** Please specify cap color: blue, clear (30 mm light only), green, red, white (22 mm light only), or yellow.

LED bulbholders have screw terminal connections and include a clip for attaching a lens cap. UL listed. **To Order:** Please specify bulb color: blue, green, red, white, or yellow.

Optional **labels** make it easy to identify function. Message is printed in white. **To Order:** Please specify message: Blank, Open, Close, Up, Down, Forward, Reverse, On, Off, Off-On, Hand-Off-Auto, Jog, Reset, Run, Start, Stop, Stop-Start, or Emergency Stop.

Panel Cutout Dia.	Lens Dia.	Dp. Behind Panel		
Lens Caps				
22 mm (7/8″)	1 3/16″	1 11/16″	7545K7	$5.62
30 mm (1 3/16″)	1 7/16″	1 13/16″	6591K2	7.12
LED Bulbholders				
24 volt AC/DC			7545K316	23.41
120 volt AC			7545K317	23.41
240 volt AC			7545K318	23.41
Label for 22 mm Lens Cap			7550K74	3.76
Label for 30 mm Lens Cap			6591K51	6.03

16 mm Panel Cutout Plastic Indicating Lights


Incandescent Cylindrical


Incandescent Square


LED

Mount these compact indicating lights in a 16 mm (5/8″) dia. panel cutout.

Incandescent lights meet NEMA 4 and 13 and are IP65 rated to be oil- and watertight and withstand washdowns. They have 0.11″ quick-disconnect terminals. Minimum panel depth is 1 9/16″. UL recognized, CSA certified, and CE marked. Lights require a 28-volt miniature bulb (sold separately).

LED light resists corrosion and is oil- and watertight, meeting NEMA 4X, 13, and IP65. It has screw terminal connections. Minimum panel depth is 1 3/4″. UL and C-UL listed and CE marked. Note: When bulb burns out, the entire light must be replaced.

To Order: Please specify lens color: blue (LED only), green, red, white, or yellow.

	Voltage	Lens Size		
Incandescent				
Cylindrical	28V AC/DC	3/4″ Dia.	59305K24	$13.20
Square	28V AC/DC	11/16″ Sq.	59305K23	13.20
Square	28V AC/DC	15/16″ Sq.	59305K21	13.49
Rectangular	28V AC/DC	11/16″ x 15/16″	59305K22	13.20
28-volt Bulb			65645K713	2.79
LED				
Conical	20-277V AC/DC	3/4″ Dia.	5339T3	78.85

Panel Mount Indicating Lights

Specially designed for small-scale applications such as control panels, alarm devices, and computer equipment.

Incandescent



Lights have solder lug connections and a dome-shaped lens except 7642K31 is conical shaped. They're metal except 7642K71 is plastic. Bulb sold separately. **Watertight** light has a neoprene O-ring seal for harsh environments.

For Panel Cutout Dia.	Voltage	Max. Power, W	Accepts Bulb Size	Lens Dia.	For Min. Panel Depth	Choose a Color	Lights		Bulbs	
Standard										
8 mm (5/16″)	30V AC	1	T1	1/4″	9/16″	Green, Red, White, Yellow	7642K31	$17.50	7642K81	$3.48
12 mm (1/2″)	30V AC	2	T1 3/4	7/16″	3/4″	Green, Red, White, Yellow	7642K32	15.70	7642K14	.98
18 mm (11/16″)	120V AC	3	T3 1/4	5/8″	1 11/16″	Green, Red, White, Yellow	7642K71	10.85	7642K82	6.96
Watertight										
12 mm (1/2″)	30V AC	2	T1 3/4	9/16″	3/4″	Green, Red, White, Yellow	7642K41	18.47	7642K14	.98

LED


Standard with Quick-Disconnects


Standard with Wire Leads


Watertight Dome


Watertight Conical


Sunlight-Visible Watertight

Lights have an LED bulb for years of maintenance-free operation. They're made of plastic. Note: When bulb burns out, the entire light must be replaced.

Standard lights are UL recognized and CSA certified. 2779K15 and K4 are CE marked. Bezel is metal.

Watertight lights resist corrosion and meet NEMA 4X and 13. UL and C-UL listed. Bezel is plastic.

Sunlight-visible watertight lights can be used outdoors and still be seen. Rated IP67 for washdown applications. UL recognized and CSA certified. Bezel is metal.

Use a **wire lead adapter** (sold separately) to power the light using wire leads rather than a quick-disconnect terminal.

For Panel Cutout Dia.	Voltage	Lens Dia.	Lens Shape	Connections	For Min. Panel Depth	Choose a Color		
Standard								
8 mm (5/16″)	12V DC	3/16″	Dome	0.11″ Wd. Quick-Disconnect Terminals	1 1/2″	Blue, Green, Red, Yellow	2779K11	$5.72
8 mm (5/16″)	24V DC	3/16″	Dome	0.11″ Wd. Quick-Disconnect Terminals	1 1/2″	Blue, Green, Red, Yellow	2779K1	5.72
8 mm (5/16″)	12V AC/DC	5/16″	Dome	4″ Wire Leads	1 5/16″	Green, Red, Yellow	2779K5★	4.62
8 mm (5/16″)	24V AC/DC	5/16″	Dome	4″ Wire Leads	1 5/16″	Green, Red, Yellow	2779K6★	4.62
14 mm (9/16″)	120V AC	3/8″	Dome	0.11″ Wd. Quick-Disconnect Terminals	1 7/16″	Blue, Green, Red, White, Yellow	2779K15	12.84
14 mm (9/16″)	240V AC	3/8″	Dome	0.11″ Wd. Quick-Disconnect Terminals	1 7/16″	Green, Red, Yellow	2779K4	12.84
14 mm (9/16″)	12V DC	3/8″	Dome	0.11″ Wd. Quick-Disconnect Terminals	1 15/16″	Green, Red, Yellow	2779K14	9.18
14 mm (9/16″)	24V DC	3/8″	Dome	0.11″ Wd. Quick-Disconnect Terminals	1 15/16″	Green, Red, Yellow	2779K3	9.18
Watertight								
13 mm (1/2″)	6V AC/DC	3/4″	Dome	Screw Terminals	1 5/8″	Amber, Blue, Green, Red, White	5339T11	15.19
13 mm (1/2″)	6V AC/DC	3/4″	Conical	Screw Terminals	1 5/8″	Amber, Blue, Green, Red, White	5339T21	15.19
13 mm (1/2″)	12V AC/DC	3/4″	Dome	Screw Terminals	1 5/8″	Amber, Blue, Green, Red, White	5339T12	15.19
13 mm (1/2″)	12V AC/DC	3/4″	Conical	Screw Terminals	1 5/8″	Amber, Blue, Green, Red, White	5339T22	15.19
13 mm (1/2″)	24V AC/DC	3/4″	Dome	Screw Terminals	1 5/8″	Amber, Blue, Green, Red, White	5339T13	15.19
13 mm (1/2″)	24V AC/DC	3/4″	Conical	Screw Terminals	1 5/8″	Amber, Blue, Green, Red, White	5339T23	15.19
13 mm (1/2″)	120V AC/DC	3/4″	Dome	Screw Terminals	1 5/8″	Amber, Blue, Green, Red, White	5339T14	15.19
13 mm (1/2″)	120V AC/DC	3/4″	Conical	Screw Terminals	1 5/8″	Amber, Blue, Green, Red, White	5339T24	15.19
Sunlight-Visible Watertight								
8 mm (5/16″)	12V AC/DC	3/16″	Dome	0.11″ Wd. Quick-Disconnect Terminals	1 1/2″	Blue, Green, White	2779K12	14.52
8 mm (5/16″)	12V AC/DC	3/16″	Dome	0.11″ Wd. Quick-Disconnect Terminals	1 1/2″	Red, Yellow	2779K13	9.62
8 mm (5/16″)	24V AC/DC	3/16″	Dome	0.11″ Wd. Quick-Disconnect Terminals	1 1/2″	Blue, Green, White	2779K2	14.52
8 mm (5/16″)	24V AC/DC	3/16″	Dome	0.11″ Wd. Quick-Disconnect Terminals	1 1/2″	Red, Yellow	2779K7	9.62
Wire Lead Adapters for Quick-Disconnect Connections								
Black							2779K802	2.76
Red							2779K801	2.76

★Not UL and C-UL recognized.

Neon


Flat without Bezel


Conical with Bezel

Neon lights last longer than incandescent but not as long as LED. They're plastic and have 10″ wire leads. The **lights for 10 mm** panel cutouts come with a retaining clip to hold the light in place after installation. The **lights for 13 mm** panel cutouts have a metal snap-in bezel for easy mounting. UL recognized and CSA certified. Note: When bulb burns out, the entire light must be replaced.

For Panel Cutout Dia.	Voltage	Lens Dia.	Lens Shape	Color	For Min. Panel Depth		
10 mm (3/8″)	120V AC	7/16″	Flat	Red	1 9/16″	1514K7	$4.98
10 mm (3/8″)	120V AC	7/16″	Conical	Red	1 3/8″	1514K9	4.98
13 mm (1/2″)	120V AC	7/16″	Flat	Red	1 1/2″	1514K8	6.28
13 mm (1/2″)	120V AC	7/16″	Conical	Red	1 5/16″	1514K6	6.28

Enclosure-Mounted Switches

Housed in a steel enclosure, these switches have contacts rated 3 amps @ 120 volts AC with a maximum voltage of 600 AC. Buttons switch one circuit and spring back (SPDT momentary) and have two screw terminal connections. Enclosure has 1/2" and 3/4" trade size conduit knockouts. NEMA 1 rated for indoor use. UL listed and CSA certified.



	Before Switching, Circuit Is	Industry Designation	Button Color	Switch Label		
Single Button—4 1/8" Ht. x 2 11/16" Wd. x 2 3/16" Dp.						
Flush	Off or On	NO or NC	Green	Start	6748K31	$51.45
Flush	Off or On	NO or NC	Red	Stop	6748K32	51.45
Mushroom	Off or On	NO or NC	Red	Stop	6748K33	60.82
Two Buttons—4 1/8" Ht. x 2 11/16" Wd. x 2 3/16" Dp.						
Flush	1 Off/1 On	1 NO/1 NC	Green/Red	Start-Stop	6748K36★	51.45
1 Flush/1 Mushroom	1 Off/1 On	1 NO/1 NC	Green/Red	Start-Stop	6748K37★	67.14
Flush	1 Off/1 Off	1 NO/1 NO	Green/Red	Up-Down	6748K38	51.39
Three Buttons—5 11/16" Ht. x 2 11/16" Wd. x 2 11/16" Dp.						
Flush	1 Off, 1 On/1 On, 1 Off/1 Off or On	1 NO, 1 NC/1 NC, 1 NO/NO or NC	Grn/Or/Red	For.-Rev.-Stop	6748K39	102.84
Flush	1 Off, 1 On/1 On, 1 Off/1 Off or On	1 NO, 1 NC/1 NC, 1 NO/NO or NC	Grn/Or/Red	Up-Down-Stop	6748K41	102.84
Flush	1 Off, 1 On/1 On, 1 Off/1 Off or On	1 NO, 1 NC/1 NC, 1 NO/NO or NC	Grn/Or/Red	Open-Close-Stop	6748K42	102.84
Lever—4 1/8" Ht. x 2 11/16" Wd. x 2 3/16" Dp.						
Two Position	Off	2 NO	Black	Off-On	6748K34★■	51.45
Three Position	Off	2 NO	Black	Hand-Off-Auto	6748K35★■	51.45

★Switches one circuit (SPST). ■Stays switched (maintained).

Corrosion-Resistant Washdown Enclosure-Mounted Switches

Whether you select one of our styles or design your own, you'll get a switch that's ready to install and meets NEMA 4X for washdown and corrosion protection. Buttons switch one circuit (SPST) and have two screw terminal connections. Enclosure has 1/2" trade size conduit knockouts except 7546K32-K45 has PG-13.5 knockouts. UL listed, CSA certified, and CE marked.

Switches with plastic enclosure also meet NEMA 13 for oil protection. Rated 6 amps @ 120 volts AC and 2.5 amps @ 24 volts DC with a maximum voltage of 600 AC and DC except 7546K32-K45, which are rated 6 amps @ 120 volts AC and 5 amps @ 24 volts DC with a maximum voltage of 600 AC and 250 DC.

Switches with aluminum enclosure are rated 10 amps @ 120 volts AC and 4 amps @ 24 volts DC with a max. voltage of 600 AC and DC.

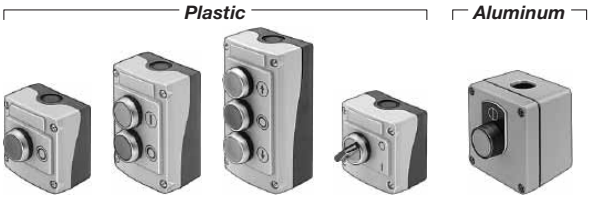

	Before Switching, Circuit Is	Switch Action	Industry Designation	Button Color	Switch Label		
With Plastic Enclosure							
Single Button—2 7/8" Ht. x 2 7/8" Wd. x 1 7/8" Dp.							
Flush	Off	Springs Back (Momentary)	NO	Green	ⓘ	7546K21	$25.96
Flush	On	Springs Back (Momentary)	NC	Red	◎	7546K22	25.96
Mushroom	On	Springs Back (Momentary)	NC	Red	◎	7546K23	32.21
Two Buttons—4 3/16" Ht. x 2 7/8" Wd. x 1 7/8" Dp.							
Flush	1 Off/1 On	Springs Back (Momentary)	1 NO/1 NC	Green/Red	ⓘ ◎	7546K27	41.30
Flush	1 Off/1 On	Springs Back (Momentary)	1 NO/1 NC	Green/Red	ⓘ ◎	7546K28◢	63.45
Flush	1 Off/1 Off	Springs Back (Momentary)	1 NO/1 NO	Green/Green	Forward-Reverse	7546K32♣	47.87
Three Buttons—5 3/8" Ht. x 2 11/16" Wd. x 2 1/8" Dp.							
Flush	1 Off/1 On/1 Off	Springs Back (Momentary)	1 NO/1 NC/1 NO	Grn/Red/Grn	ⓘ ◎ ⓘ	7546K29▲	55.90
Flush	1 Off/1 On/1 Off	Springs Back (Momentary)	1 NO/1 NC/1 NO	Grn/Red/Grn	Open-Stop-Close	7546K43	94.26
Flush	1 Off/1 On/1 Off	Springs Back (Momentary)	1 NO/1 NC/1 NO	Grn/Red/Grn	Forward-Stop-Reverse	7546K44	94.26
Flush	1 Off/1 On/1 Off	Springs Back (Momentary)	1 NO/1 NC/1 NO	Grn/Red/Grn	Up-Stop-Down	7546K45	94.26
Lever—2 7/8" Ht. x 2 7/8" Wd. x 1 7/8" Dp.							
Two Position	Off	Stays Switched (Maintained)	NO	Black	ⓘ ◎	6837K11	33.30
Replacement Contact Blocks							
Switches One Circuit from Off to On (NO)—For 6837K11 and 7546K21-K29						7546K34	5.01
Switches One Circuit from Off to On (NO)—For 7546K32 and K43-K45						7546K14	12.06
Switches One Circuit from On to Off (NC)—For 7546K21-K29						7546K35	5.01
Switches One Circuit from On to Off (NC)—For 7546K32 and K43-K45						7546K15	11.89
With Aluminum Enclosure							
Single Button—2 15/16" Ht. x 3 1/8" Wd. x 2 1/4" Dp.							
Flush	Off	Springs Back (Momentary)	NO	Green	ⓘ	6156K41	99.62
Flush	On	Springs Back (Momentary)	NC	Red	◎	6156K42	99.62
Two Buttons—4 7/8" Ht. x 3 1/8" Wd. x 2 1/4" Dp.							
Flush	1 Off/1 On	Springs Back (Momentary)	1 NO/1 NC	Green/Red	ⓘ ◎	6156K45	129.89
Three Buttons—6 7/8" Ht. x 3 1/8" Wd. x 2 1/4" Dp.							
Flush	1 Off/1 On/1 Off	Springs Back (Momentary)	1 NO/1 NC/1 NO	Grn/Red/Grn	ⓘ ◎ ⓘ	6156K46	154.47
Replacement Contact Blocks							
Switches One Circuit from Off to On (NO)—For All Aluminum Switches						6156K21	7.02
Switches One Circuit from On to Off (NC)—For All Aluminum Switches						6156K22	7.02

◢ Has a red indicating light. Size is 5 1/2" Ht. x 2 7/8" Wd. x 1 7/8" Dp. ♣ Size is 4 3/16" Ht. x 2 11/16" Wd. x 2 1/8" Dp.
▲ Size is 5 1/2" Ht. x 2 7/8" Wd. x 1 7/8" Dp.

Design Your Own Enclosure-Mounted Switch

Customize your own switch with plastic enclosure. All meet NEMA 4X for corrosion and washdown protection.
To Order: Please ask for 7546K888 and select from the options listed below. Indicate selections for each button from top to bottom.

- Panel Cutout: 22 or 30 mm
- No. of Buttons: 1, 2, or 3
- Button Style: flush, projecting, mushroom, lever, or key
- Contact Block: 1 Circuit Off to On (SPST-NO), 1 Circuit On to Off (SPST-NC), 1 Circuit Off to On or On to Off (SPDT), or 2 Circuits Off to On or On to Off (DPST)
- Switch Action: Springs Back (Momentary) or Stays Switched (Maintained)
- Button Color: black, green, red, or yellow
- Switch Label: Forward, Reverse, Up, Down, Open, Close, Auto, Stop, or Emergency Stop

Emergency Stop Corrosion-Resistant Washdown Enclosure-Mounted Switches



Plastic Enclosure Pull-to-Reset



Plastic Enclosure Pull-to-Reset with Indicator



Aluminum Enclosure Turn-to-Reset

Mounted in an enclosure with a yellow cover, these switches conform to EN418 for machine safety. They have a 1 9/16″ dia. red mushroom button except switches with indicator, which have a 2 1/8″ dia. button. Rated 6 amps @ 120 volts AC and 2.5 amps @ 24 volts DC with a maximum voltage of 600 AC and DC. UL listed, CSA certified, and CE marked.

With Plastic Enclosure— All have 1/2″ trade size conduit knockouts. Meet NEMA 4X and 13 and IP66 for washdown, oil, and corrosion protection. *Key-to-reset* switches stay locked out until switch is reset with a key. They include two keys. Switches *with indicator* alert you from the front and sides when the switch has been actuated.

With Aluminum Enclosure— All have 0.89″ (PG-16) knockouts. Meet NEMA 4 and 13 and IP66 for washdown and oil protection.

Replacement contact blocks switch one circuit from on to off (SPST-NC).

	Before Switching, Circuit Is	Industry Designation	Switch Action	No. of Terminals		
With Plastic Enclosure— *2 7/8″ Ht. × 2 7/8″ Wd. × 1 7/8″ Dp.*						
Pull-to-Reset	On	NC	Stays Switched (Maintained)	2	6785K21	$40.54
Pull-to-Reset	2 On	2 NC	Stays Switched (Maintained)	4	6785K22	45.85
Turn-to-Reset	On	NC	Stays Switched (Maintained)	2	6785K23	45.09
Turn-to-Reset	2 On	2 NC	Stays Switched (Maintained)	4	6785K24	50.40
Key-to-Reset	On	NC	Stays Switched (Maintained)	2	6785K25	57.61
Key-to-Reset	2 On	2 NC	Stays Switched (Maintained)	4	6785K26	61.63
Pull-to-Reset with Indicator	On	NC	Stays Switched (Maintained)	2	6785K27	53.52
Pull-to-Reset with Indicator	2 On	2 NC	Stays Switched (Maintained)	4	6785K28	58.73
Replacement Contact Block for Plastic Enclosure Switches					7546K35	$5.01
With Aluminum Enclosure— *3 5/16″ Ht. × 3 3/8″ Wd. × 3 3/16″ Dp.*						
Pull-to-Reset	On	NC	Stays Switched (Maintained)	2	6785K33	154.76
Pull-to-Reset	2 On	2 NC	Stays Switched (Maintained)	4	6785K34	158.91
Turn-to-Reset	On	NC	Stays Switched (Maintained)	2	6785K31	150.28
Turn-to-Reset	2 On	2 NC	Stays Switched (Maintained)	4	6785K32	158.91
Replacement Contact Block for Aluminum Enclosure Switches					6785K81	11.82

Stainless Steel Corrosion-Resistant Washdown Enclosure-Mounted Switches



Two Button, One Flush/ One Projecting

Protected by a tough stainless steel enclosure that stands up to abuse, these switches meet NEMA 4X for washdown and corrosion resistance. Rated 6 amps @ 120 volts AC and 5 amps @ 24 volts DC with a maximum voltage of 600 AC and DC. Buttons have screw terminal connections and each switches two circuits: one from off to on and one from on to off (DPST-NO/NC). Start buttons are black (except start button for switch with one flush/one mushroom is green); stop buttons are red. Enclosure has 7/32″ dia. mounting holes. UL listed and CSA certified.

	Before Switching, Circuit Is	Industry Designation	Switch Action	Switch Label		
Single Button— *4 1/2″ Ht. × 3 1/2″ Wd. × 2 7/8″ Dp.*						
Flush	1 Off, 1 On	1 NO, 1 NC	Springs Back (Momentary)	Start	6758K31	$201.59
Mushroom	1 Off, 1 On	1 NO, 1 NC	Springs Back (Momentary)	Stop	6758K32	225.43
Two Buttons— *6 3/4″ Ht. × 3 1/2″ Wd. × 2 7/8″ Dp.*						
One Flush/One Projecting	2 Off, 2 On	2 NO, 2 NC	Springs Back (Momentary)	Start-Stop	6758K34	256.26
One Flush/One Mushroom	2 Off, 2 On	2 NO, 2 NC	Springs Back (Momentary)	Start-Stop	6758K35	280.37

Hazardous-Location Enclosure-Mounted Switches



Two Button

Enclosed in corrosion-resistant cast aluminum alloy, these switches meet NEMA 7 and 9 for use in hazardous locations Class 1, Groups C and D; Class 2, Groups E, F, and G; and Class 3. Rated 6 amps @ 120 volts AC and 5 amps @ 24 volts DC with a maximum voltage of 600 volts AC and DC. Buttons have screw terminal connections and each switches two circuits: one from off to on and one from on to off (DPST-NO/NC). Start buttons are black; stop buttons are red. Lever is black with white insert. Enclosure has one 3/4″ trade size conduit hole and 3/8″ dia. mounting holes. UL listed and CSA certified.

	Before Switching, Circuit Is	Industry Designation	Switch Action	Switch Label		
Single Button— *6″ Ht. × 4 5/16″ Wd. × 4 7/8″ Dp.*						
Flush	1 Off, 1 On	1 NO, 1 NC	Springs Back (Momentary)	Start	6883K51	$302.94
Mushroom	1 Off, 1 On	1 NO, 1 NC	Springs Back (Momentary)	Stop	6883K52	330.00
Three-Position Lever	1 Off, 1 On	1 NO, 1 NC	Stays Switched (Maintained)	Hand-Off-Auto	6883K53	360.38
Two Buttons— *8 1/4″ Ht. × 4 5/16″ Wd. × 4 7/8″ Dp.*						
One Flush/One Mushroom	2 Off, 2 On	2 NO, 2 NC	Springs Back (Momentary)	Start-Stop	6883K55	490.68

Enclosure Disconnect Switches

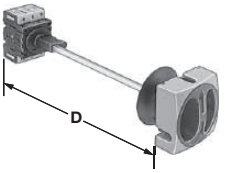

Make sure your enclosure can't be opened unless it's safe—turn the switch to disconnect power before you open the door. Also known as door interlock disconnect switches, they are lockable in the off position using a padlock with a 5/16″ dia. shackle (not included). All switch three circuits (3PST) and have screw terminal connections. They're also 35 mm DIN-rail mountable. Switches have an 11 13/16″ long metal shaft that you can cut to fit your application and 3/16″ dia. mounting holes. Mount in a 7/8″ dia. panel cutout. Switch is yellow and red plastic. UL and C-UL listed and CE marked.

Auxiliary contact block can be used to power an indicating light; send a signal to a PLC, relay, or small motor; or to connect to another device. It switches one circuit from off to on (SPST-NO) and one circuit from on to off (SPST-NC). Rated 10 amps @ 600 volts AC.

Amp Rating @ 600V AC	*Single Phase* hp @ 120V AC	*Single Phase* hp @ 240V AC	*Three Phase* hp @ 120V AC	*Three Phase* hp @ 240V AC	Ht.	Wd.	Mounting Depth (D)●		
25	0.75	1.5	1.5	3	3″	1 11/16″	4 7/8″-15 3/4″	7277K51	$58.84
32	1	2	2	5	3″	1 11/16″	4 7/8″-15 3/4″	7277K52	62.87
50	1.5	3	3	7.5	3 3/8″	2 1/8″	5 5/16″-16 1/8″	7277K53	72.36
63	3	5	5	10	3 3/8″	2 1/8″	5 5/16″-16 1/8″	7277K54	83.36
80	3	10	7.5	20	3 11/16″	2 13/16″	5 11/16″-16 1/2″	7277K55	101.17
100	5	10	10	25	3 11/16″	2 13/16″	5 11/16″-16 1/2″	7277K56	131.52
Auxiliary Contact Block								7277K11	11.16
35 mm DIN Rail (7.5 mm Ht. × 1 Meter Lg.)								8961K15	5.07

●Distance from the panel door to the DIN rail within the enclosure.

Disconnect Switches

These high-amp switches stay switched (maintained). They switch three circuits (3PST) and have six screw terminal connections except DC-rated padlockable switches, which switch two circuits (DPST) and have four screw terminal connections. Maximum voltage for AC-rated switches is 600. Maximum voltage for DC-rated 20- to 50-amp switches is 800; 63-amp switch is 650. UL listed and C-UL listed, CSA certified, and CE marked except DC-rated 32-amp switch is CSA certified and CE marked only.

***Panel Mount*—** Padlockable and nonpadlockable switches are plastic and require a 3/8″ dia. panel cutout. They can also mount on a 35 mm DIN rail. Harsh-environment padlockable switches are stainless steel and require a 7/8″ dia. panel cutout. They're IP69K rated for high-pressure and high-temperature washdowns.

***Enclosed*—** Padlockable, DC-rated padlockable, and nonpadlockable switches are plastic. Padlockable and nonpadlockable switches have 1.2″ (PG-21) knockouts. Harsh-environment padlockable switches are stainless steel and IP66 rated for washdown protection.

Padlockable switches have a dial selector knob and lock in the off position. Lock out using a padlock with a maximum shackle dia. of 5/16″ (not included). ***Nonpadlockable*** switches have a lever selector knob.

To Order: Please specify color: yellow with red knob or gray (except enclosed harsh-environment and DC-rated switches come in yellow with red knob only). Use yellow with red knob for a main disconnect switch. Gray is for other disconnect applications.

Also Available: Additional power poles, neutral poles, and terminal blocks. Please ask for 6759K88 and specify switch part number and accessory type.







Amp Rating	Single Phase hp @ 120V AC	Single Phase hp @ 240V AC	Three Phase hp @ 240V AC	Panel Mount Ht.	Panel Mount Wd.	Panel Mount Dp. Behind Panel			Enclosed Ht.	Enclosed Wd.	Enclosed Dp.		
Padlockable													
25 @ 600V AC	0.75	1.5	3	3″	2 15/16″	2″	6759K21	$40.49	5 7/8″	3 7/8″	3 13/16″	6759K34♠	$62.62
32 @ 600V AC	1	2	5	3″	2 15/16″	2″	6759K22	44.51	5 7/8″	3 7/8″	3 13/16″	6759K35♠	66.64
50 @ 600V AC	1.5	3	7.5	3 5/16″	3 1/2″	2 3/8″	6759K23	54.00	8 11/16″	5 7/8″	3 7/8″	6759K36	101.84
63 @ 600V AC	3	5	10	3 5/16″	3 1/2″	2 3/8″	6759K24	70.32	8 11/16″	5 7/8″	3 7/8″	6759K37	117.50
80 @ 600V AC	3	10	20	3 11/16″	4 9/16″	2 11/16″	6759K25	85.63	8 11/16″	5 7/8″	3 7/8″	6759K38	202.91
100 @ 600V AC	5	10	25	3 11/16″	4 9/16″	2 11/16″	6759K26	116.60	8 11/16″	5 7/8″	3 7/8″	6759K39	233.27
Harsh Environment Padlockable													
20 @ 600V AC	0.33	1	2	—	—	—	—	—	7 7/8″	5 15/16″	4 11/16″	6759K6	287.12
30 @ 600V AC	1	1.5	5	—	—	—	—	—	7 7/8″	5 15/16″	4 11/16″	6759K61	291.50
40 @ 600V AC	1.5	3	7.5	4 5/16″	4 5/16″	3 3/8″	6759K51	291.38	7 7/8″	5 15/16″	4 11/16″	6759K62	296.97
60 @ 600V AC	3	7.5	15	4 5/16″	4 5/16″	3 3/8″	6759K52	318.97	7 7/8″	5 15/16″	4 11/16″	6759K63	299.81
80 @ 600V AC	3	10	20	—	—	—	—	—	7 7/8″	5 15/16″	4 11/16″	6759K64	309.18
DC-Rated Padlockable													
20 @ 800V DC	—	—	—	—	—	—	—	—	9 13/16″	6 5/16″	4 3/4″	6759K72	114.59
32 @ 800V DC	—	—	—	—	—	—	—	—	11″	7 1/2″	5 1/8″	6759K73	196.21
50 @ 800V DC	—	—	—	—	—	—	—	—	12 5/8″	8 11/16″	7 1/16″	6759K74	302.81
63 @ 650V DC	—	—	—	—	—	—	—	—	12 5/8″	8 7/8″	7 1/16″	6759K71	294.69
Nonpadlockable													
25 @ 600V AC	0.75	1.5	3	3″	2 15/16″	2″	6759K27	43.32	5 7/8″	4 5/16″	3″	6759K41♠	65.44
32 @ 600V AC	1	2	5	3″	2 15/16″	2″	6759K28	47.34	5 7/8″	4 5/16″	3″	6759K42♠	69.46
50 @ 600V AC	1.5	3	7.5	3 5/16″	3 1/2″	2 3/8″	6759K29	57.51	8 11/16″	5 7/8″	3 7/8″	6759K43	105.21
63 @ 600V AC	3	5	10	3 5/16″	3 1/2″	2 3/8″	6759K31	70.83	8 11/16″	5 7/8″	3 7/8″	6759K44	120.87
80 @ 600V AC	3	10	20	3 11/16″	4 9/16″	2 11/16″	6759K32	88.88	8 11/16″	5 7/8″	3 7/8″	6759K45	206.08
100 @ 600V AC	5	10	25	3 11/16″	4 9/16″	2 11/16″	6759K33	119.86	8 11/16″	5 7/8″	3 7/8″	6759K46	236.45
"Main Switch" Adhesive-Backed Label (0.79″ Ht. × 3.15″ Wd.)												6759K65	$6.18

♠ Has 0.87″ (PG-16) knockouts and is rated IP66 for washdown protection.

Compact Disconnect Switches

Just because your electrical load is large doesn't mean your switch needs to be. These switches are a smaller, cam-style alternative to other disconnect switches. Disconnect power to electrical panels, motors, and appliances with high amp ratings. Switches can be used in single- and three-phase applications with a maximum voltage of 600 AC and 24 DC. They stay switched (maintained) and switch three circuits (3PST). All have ground connections, eight screw terminal connections, and a red lever knob. They are marked as "Main Switch" and have a safety lockout that can be secured using a padlock with a maximum shackle dia. of 5/16″ (not included). When locked, the knob can't be turned to the on position. Enclosure is corrosion-resistant gray plastic. IP65 rated for oil and water resistance. UL recognized and CSA certified.

Panel-mount switches require a 3/8″ dia. panel cutout. ***Enclosed 12-*** to ***25-amp*** switches have four 0.87″ (PG-16) knockouts; ***50-*** and ***63-amp*** switches have six 1.14″ (PG-21) and four 1.5″ (PG-29) knockouts.





Amp Rating @ 600V AC	Amp Rating @ 24V DC	Single Phase hp @ 120V AC	Three Phase hp @ 120V AC	Three Phase hp @ 240V AC	Panel Mount Ht.	Panel Mount Wd.	Panel Mount Dp. Behind Panel			Enclosed Ht.	Enclosed Wd.	Enclosed Dp.		
12	16	0.5	1	3	1 11/16″	1 5/8″	1 13/16″	65915K11	$51.06	4 11/16″	3 13/16″	4 1/2″	65915K21	$88.36
16	20	1	2	5	1 7/8″	2″	1 13/16″	65915K12	62.06	4 11/16″	3 13/16″	4 1/2″	65915K22	98.68
20	25	1.5	3	5	1 7/8″	2″	1 13/16″	65915K13	67.11	4 11/16″	3 13/16″	4 1/2″	65915K23	103.44
25	32	2	3	7.5	2 3/8″	2 1/8″	2″	65915K14	88.46	4 11/16″	3 13/16″	4 1/2″	65915K24	117.03
50	50	3	7.5	15	3 3/16″	3 3/16″	3 3/16″	65915K15	132.34	5 5/16″	6 11/16″	5 11/16″	65915K25	205.36
63	80	5	10	20	3 3/16″	3 3/16″	3 3/16″	65915K16	147.37	5 5/16″	6 11/16″	5 11/16″	65915K26	218.38

Joystick Switch Components

Assemble a complete switch with an actuator and at least one contact block (sold separately) to operate up to eight circuits. Actuators fit in a 22 mm (7/8″) dia. panel cutout. Depth behind panel is 2 5/8″. Made of black rubber. NEMA 4X and 13 and IP66 rated for water, oil, and corrosion resistance. UL listed, CSA certified, and CE marked.

Actuators include a mounting clip that accepts two contact blocks. ***Two-position actuators*** move up and down and require one to four contact blocks. ***Four-position actuators*** move up, down, left, and right and are off in the center position. Require two to four contact blocks.

Contact block switches two circuits: one from off to on and one from on to off (DPST-NO/NC). It has screw terminal connections. Rated 6 amps @ 120 volts AC and 2.5 amps @ 24 volts DC with a maximum voltage of 600 AC and 300 DC.

Optional mounting clip connects up to four contact blocks.

Switch Action		
Two-Position Actuators		
Stays Switched (Maintained)	71025K51	$68.54
Springs Back (Momentary)	71025K52	68.54
Four-Position Actuators		
Stays Switched (Maintained)	71025K53	74.93
Springs Back (Momentary)	71025K54	74.93
Contact Block (DPST-NO/NC)	71025K55	18.67
Optional Mounting Clip	71025K45	14.01



Actuator



Contact Block

Disconnect & Pendant Switches

For information about choosing an electrical switch, see page 909.

Heavy Duty Steel Disconnect Switches



240V AC/ 250V DC Indoor



600V AC/DC Indoor

Also known as safety switches, these have spring-driven, quick-make/quick-break action to eliminate arcing and prolong switch life. All stay switched (maintained) and have wire lug connections.

Switches have two separate lockouts that prevent door access and lock the handle—secure with padlocks (not included). Knockout sizes range from 1/2″ to 3″ trade size. UL listed.

Note: Fusible hp ratings are based on time-delay fuses installed.

Rain-tight outdoor enclosures are rated NEMA 3R for falling liquid and light splashing.

240V AC/250V DC Maximum Voltage Switches

Switches have an interlock feature that prevents opening the cover when the switch is on, unless noted. Enclosure has a 3/4″ slot and 1/4″ dia. mounting holes on the back panel. Lockouts accept a padlock with a 5/16″ dia. shackle.

Fusible switches are designed with fuse holders inside the enclosure so there's no need for additional wiring for circuit protection. *Note:* If Class RK1, Class RK5, or Class T fuses are used, a rejection clip kit is required. Ask for 7524K888 and specify the McMaster-Carr switch part number and the fuse class. *DPST* switches use two fuses; *3PST* switches use three fuses (see pages 966-968).

Nonfusible switches are used where overload protection is not needed.

No. of Circuits	Industry Designation	Amp Rating @ 240V AC	Single Phase hp @ 240V AC	Three Phase hp @ 240V AC	Ht.	Wd.	Dp.	For Fuse Class	Indoor		Rain-Tight Outdoor	
Fusible												
2	DPST, 3-Wire	30	3	—	8 1/8″	5 1/2″	3 1/8″	RK1, RK5, K5, H	7524K21	$47.86	7524K24★	$76.34
2	DPST, 3-Wire	60	10	—	14 3/8″	6 5/8″	5 1/8″	RK1, RK5, K5, H	7524K22	83.57	7524K25	132.18
2	DPST, 3-Wire	100	15	—	21 7/8″	9 5/8″	5 1/8″	RK1, RK5, K5, T, H	7524K23	173.67	7524K26	195.04
3	3PST, 4-Wire	30	3	7 1/2	8 1/8″	7 3/16″	3 1/8″	RK1, RK5, K5, H	7524K11	76.34	7524K14★	118.91
3	3PST, 4-Wire	60	10	15	14 3/8″	6 5/8″	5 1/8″	RK1, RK5, K5, H	7524K12	132.18	7524K15	179.87
3	3PST, 4-Wire	100	15	30	21 7/8″	9 5/8″	5 1/8″	RK1, RK5, K5, T, H	7524K13	230.06	7524K16	332.41
Nonfusible												
3	3PST, 3-Wire	30	—	7 1/2	8 1/8″	7 3/16″	3 1/8″	—	7524K31	62.91	7524K34★	125.57
3	3PST, 3-Wire	60	—	15	11 1/8″	6 5/8″	5 1/8″	—	7524K32	83.41	7524K35	185.98
3	3PST, 3-Wire	100	—	30	21 7/8″	9 5/8″	5 1/8″	—	7524K33	194.95	7524K36	348.54

★ Does not have interlock feature.

600V AC/600V DC Maximum Voltage Switches

Use with heavy duty motor loads. Switches have an interlock feature that prevents opening the cover when the switch is on or from turning on the switch when the cover is open. Handle is red on one side and black on the other. Enclosure has 5/16″ dia. mounting holes on the back panel. Lockouts accept a padlock with a 3/8″ dia. shackle. Switches meet Fed. Spec. WS-865c.

Fusible switches use three fuses (see pages 966-968). *Note:* If Class RK1 or Class RK5 fuses are used, a rejection clip kit is required. Ask for 7499K888 and specify the McMaster-Carr switch part number and the fuse class.

Nonfusible switches are used where overload protection is not needed.

No. of Circuits	Industry Designation	Amp Rating @ 600V AC	Single Phase hp @ 600V AC	Three Phase hp @ 600V AC	Ht.	Wd.	Dp.	For Fuse Class	Indoor		Rain-Tight Outdoor	
Fusible												
3	3PST, 3-Wire	30	—	20	14 7/8″	6 5/8″	4 7/8″	RK1, RK5, J, H	7499K51	$283.30	7499K61	$480.06
3	3PST, 3-Wire	60	—	50	17 1/2″	9″	6 3/8″	RK1, RK5, J, H	7499K52	342.04	7499K62	563.40
3	3PST, 4-Wire	30	—	20	14 7/8″	6 5/8″	4 7/8″	RK1, RK5, J, H	7499K53	330.78	7499K63	526.51
3	3PST, 4-Wire	60	—	50	17 1/2″	9″	6 3/8″	RK1, RK5, J, H	7499K54	380.69	7499K64	605.87
3	3PST, 4-Wire	100	—	75	21 5/16″	8 1/2″	6 3/8″	RK1, RK5, J, H	7499K55	685.69	7499K65	928.03
3	3PST, 4-Wire	200	—	150	29 5/16″	17 5/16″	8 1/2″	RK1, RK5, J, H	7499K56	1,002.79	7499K66	1,286.27
Nonfusible												
3	3PST, 3-Wire	30	10	30	14 7/8″	6 5/8″	4 7/8″	—	7499K71	148.99	7499K81	259.24
3	3PST, 3-Wire	60	30	60	17 1/2″	9″	6 3/8″	—	7499K72	260.33	7499K82	465.84

Pendant Switches with Cable

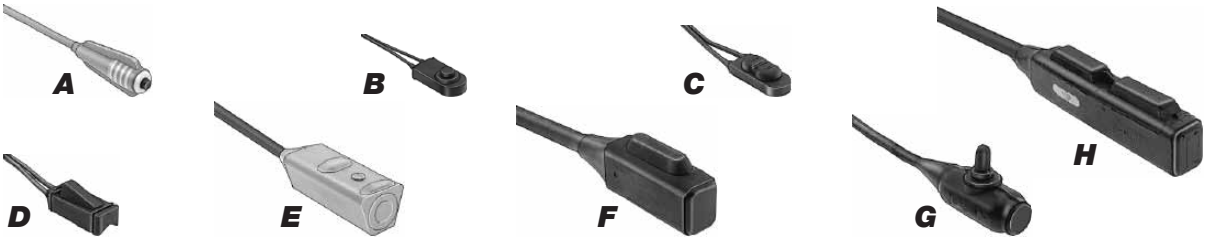

These switches are already wired and ready to operate your mobile machinery except Style E, which must be wired for either 1 NO or 1 NC. Switches spring back (momentary) except Style C, which stays switched (maintained). ***Switch*** is gray.

Sealed switches withstand dirt, water, and corrosion. Color is black except Style E which is yellow. *Styles B-D* are IP68 rated for continuous submersion in water. *Styles F-H* are IP66 and NEMA 4 rated for washdown protection. *Styles G* and *H* are labeled "Up/Down."

Pendant Type	No. of Circuits	Before Switching, Circuit Is	Industry Designation	Amp Rating @ 120V AC/ 24V DC	Max. Voltage, AC/DC	Lg.	Wd.	Ht.	Cable Lg., ft.	Cable AWG		
Switch												
A Push-Button	1	Off	1 NO	0.4/0.5	120/48	2 13/16″	3/4″ Dia.	—	6	18/2	6944K62	$24.45
Sealed Switches												
B Push-Button	1	Off	1 NO	5/5	120/28	1 5/8″	13/16″	1/2″	1 1/2	18/2	6944K11	18.98
C Push-Button (On/Off)	1	Off	1 NO	5/15	120/28	1 7/8″	13/16″	5/16″	1 1/2	16/2	6944K12	80.89
D Push-Button (Lever)	1	Off	1 NO	5/15	120/28	2 1/8″	13/16″	5/8″	1 1/2	16/2	6944K13	57.92
E Push-Button	1	Off	—	20/5	480/250	4 1/2″	1 1/2″	1 5/16″	18	16/2	6944K44	101.42
F Push-Button	2	1 Off, 1 On	1 NO, 1 NC	5/—	250/—	3 5/8″	1 3/16″	1 15/16″	12	14/4	6944K42	421.33
G Toggle (w/Center Off)	2	1 Off/1 Off	1 NO/1 NO	10/—	250/—	3″	1 3/8″	2 3/16″	6 1/2	16/3	6944K25	155.17
H Two Push-Button	2	1 Off/1 Off	1 NO/1 NO	15/—	250/—	6 5/8″	1 3/16″	1 15/16″	18	14/3	6944K43	366.00

Pendant Switches

Operate hoists, trolleys, cranes, and bridges with these handheld, multiple-button switches. All have push-buttons that spring back (momentary) and screw terminal connections. They can be wired to prevent operating two buttons simultaneously. Housing is yellow. CSA certified.

Two-speed switches have staged contacts. Push button halfway to close first contact (for slow speed) and all the way to close second contact (for high speed).

Corrosion-resistant washdown switches are polycarbonate and NEMA 4X and 12 rated for washdown, corrosion, and oil resistance. UL listed except 7161K18.

Also Available: Corrosion-resistant washdown pendant switches in other configurations. Please ask for 7161K999 and tell us what you are looking for.

Impact-tough switches are made of durable rubber.



Corrosion-Resistant Washdown



Impact Tough

No. of Buttons	Per Button: No. of Circuits	Per Button: Before Switching, Circuit Is	Per Button: No. of Terminals	Industry Designation	Amp Rating @ 120V AC	Max. Voltage, AC/DC	Cord Dia. Range	Lg.	Wd.	Ht.		
Corrosion-Resistant Washdown Switches												
Single Speed												
2	1	Off	2	1 NO	5	250/120	0.30″-0.77″	4½″	3⅛″	2″	7161K11	$104.15
4	1	Off	2	1 NO	5	250/120	0.30″-0.77″	7⅛″	3⅛″	2″	7161K13	166.22
6	1	Off	2	1 NO	5	250/120	0.30″-0.77″	10 5⁄16″	3 3⁄16″	2″	7161K14	244.94
Single Speed (One of the buttons is green “on” and one is red “off”)												
4	1	Off	2	1 NO▲	5	250/120	0.30″-0.77″	7⅛″	3⅛″	2″	7161K15	211.54
6	1	Off	2	1 NO▲	5	250/120	0.30″-0.77″	10 5⁄16″	3 3⁄16″	2″	7161K16	248.54
8	1	Off	2	1 NO▲	5	250/120	0.30″-0.77″	12 11⁄16″	3 3⁄16″	2″	7161K17	354.78
Single Speed (One of the buttons is an emergency stop button)												
3	1	Off	2	1 NO●	5	250/120	0.30″-0.77″	7⅛″	3⅛″	2″	7161K18	240.54
Two Speed												
2	2	Off	4	2 NO	5	250/120	0.30″-0.77″	4½″	3⅛″	2″	7161K36	125.30
4	2	Off	4	2 NO	5	250/120	0.30″-0.77″	7⅛″	3⅛″	2″	7161K37	231.98
6	2	Off	4	2 NO	5	250/120	0.30″-0.77″	10 5⁄16″	3 3⁄16″	2″	7161K38	338.80
Impact-Tough Switches												
Single Speed												
2	2	Off or On	4	1 NO, 1 NC	20	250/250	0.50″-0.69″	5⅞″	3″	2 11⁄16″	7161K51	235.95
3	2	Off or On	4	1 NO, 1 NC	20	250/250	0.50″-0.75″	7½″	3″	2 11⁄16″	7161K62	341.31
4	2	Off or On	4	1 NO, 1 NC	20	250/250	0.50″-0.75″	9⅛″	3″	2 11⁄16″	7161K63	442.21
6	2	Off or On	4	1 NO, 1 NC	20	250/250	0.56″-0.81″	12 5⁄16″	3″	2 11⁄16″	7161K64	638.20
Replacement Contact Blocks												
For Corrosion-Resistant Washdown Switches (Replaces Contacts for Two Buttons)												
For Single-Speed Switches											7161K31	40.58
For Two-Speed Switches											7161K32	74.45
For Impact-Tough Switches (Replaces Contact for One Button)												
For Single-Speed Switches											7161K6	49.26

▲Red button is 1 NC. ●Emergency stop button is 1 NC.

Easy-Grip Pendant Switches

The slim shape of these pendant switches fits comfortably in your hand. They have a mechanical interlock that prevents operating both buttons simultaneously (except 7987K32, which must be wired for this feature). Buttons spring back (momentary) and have screw terminal connections. Enclosure is yellow plastic. NEMA 4X rated for wash-down and corrosion protection except 7987K31, which is NEMA 4 rated for washdowns. 7987K32 is also NEMA 6 rated for temporary submersion in water. UL listed except 7987K32. CSA certified except 7987K31 is C-UL listed.

Two-speed switch has staged contacts. Push halfway to close first contact (for slow speed) and all the way to close the second contact (for high speed).









No. of Buttons	Per Button: No. of Circuits	Per Button: Before Switching, Circuit Is	Per Button: No. of Terminals	Industry Designation	Amp Rating @ 120V AC/ 24V DC	Max. Voltage, AC/DC	Cord Dia. Range	Lg.	Wd.	Ht.		
Single Speed												
A 2	1	Off	2	1 NO	5/⎓	250/⎓	0.32″-0.63″	11″	2⅛″	1⅝″	7987K31	$67.59
B 2	1	Off	2	1 NO	6/0.5	600/600	0.35″-0.51″	10⅞″	2″	2⅜″	7987K28	98.55
B 2	1	1 Off/1 On	2	1 NO/1 NC	6/0.5	600/600	0.35″-0.51″	10⅞″	2″	2⅜″	7987K29	123.20
C 2	2	Off or On	4	1 NO or 1 NC	10/7	250/ 28	0.31″-0.63″	5⅝″	1⅞″	1⅞″	7987K32	84.80
Two Speed												
D 2	1	2 Off	3	2 NO	3/⎓	120/⎓	0.38″-0.63″	9⅛″	1⅛″	2⅜″	7999K14	117.08

Wireless Pendant Switch Systems

Control power from a distance without being tethered by a cord. Systems include two transmitters and one receiver. Buttons switch one circuit (SPST-NO), spring back (momentary), and are single speed. Transmitters operate up to 330 feet away and have a turn-to-reset stop button and a start/on dial. Transmitters run on two AA batteries (included); receivers have a 6-ft. cable with spade terminals. They operate on one of 45 channels, so you can use up to 45 systems in the same area. Rated 5 amps @ 250 volts AC and 24 volts DC. Housing is blue nylon. IP65 rated for washdowns.

To Order: Please specify for new or existing systems. For existing systems, please advise which channels are currently in use so a different channel can be provided. For the replacement transmitter, please specify the serial number.



Receiver



Transmitter

No. of Buttons	No. of Circuits	Before Switching, Circuit Is	Max. Voltage	Receiver: Lg.	Receiver: Wd.	Receiver: Ht.	Transmitter: Lg.	Transmitter: Wd.	Transmitter: Ht.		
6	6	Off	110/220V AC	6½″	3″	2⅜″	6½″	2″	2¼″	7985K71	$603.47
6	6	Off	12/24V DC	6½″	3″	2⅜″	6½″	2″	2¼″	7985K81	603.47
Replacement Transmitter										7985K9	192.86

Variable Output & Rotary Switches

For information about choosing an electrical switch, see page 909.

Variable Output Switches



Also known as potentiometers, variable output switches fine-tune electrical current, giving you control over speed, volume, or light intensity. Select a switch and a dial (except digital switches, which include a dial or buttons) to adjust electrical current easily and accurately. For additional dial knobs, see 3148K on page 2249.

Switches have a plastic housing and three solder lug connections except on/off control switch, which is metal with five solder terminals.

Economy switch offers good resolution at an economical price.

Standard switches have a finer resolution than economy style.

Compact switch saves valuable panel space.

High-resolution switch offers the finest resolution, plus it's built to withstand demanding environments.

Digital switches have a three-position digital display and snap into your panel. *Optional cover for digital switch with buttons* is clear rubber.

Long-life switch is metal and has ball bearings for smoother rotation. Service life is twice that of the other switches.

On/off control switch shuts off power to your device when turned all the way to the left. It switches one circuit from off to on (SPST-NO). On/off control is rated 1.5 amps @ 12 volts DC.

To Order: Please specify maximum resistance.

Dials have an unthreaded hole with set screw. *Style J* has a locking feature that holds the dial setting. The more marks per turn, the more precise.

Switches

	No. of Turns	Watt Rating	Panel Cutout	Dp. Behind Panel	O'all Dia.	Shaft Dia.	Shaft Lg.	Available Max. Resistance, Ohms		
A Economy	10	2 @ 450V AC	7/16" Dia.	3/4"	7/8"	1/4"	1/2"	1K, 5K, 10K	7436K31	$11.39
A Standard	5	1.5 @ 273V AC	7/16" Dia.	3/4"	7/8"	1/4"	1/2"	1K, 5K, 10K	7436K34	19.89
A Standard	10	2 @ 447V AC	7/16" Dia.	3/4"	7/8"	1/4"	1/2"	1K, 5K, 10K	7436K32	32.14
A Washdown	10	2 @ 325V AC	7/16" Dia.	1"	7/8"	1/4"	1/2"	1K, 5K, 10K	7436K42	44.90
B Compact	1	1 @ 300V AC	7/16" Dia.	7/16"	7/8"	1/4"	1/2"	1K, 5K, 10K	7436K37	14.32
C High Resolution	10	5 @ 1,000V AC	7/16" Dia.	1 3/4"	1 13/16"	1/4"	1/2"	1K, 5K, 10K	7436K33	110.88
D Digital with Buttons	—	2 @ 500V AC	13/16" Ht. x 17/16" Wd.	1 3/8"	—	—	—	1K, 5K, 10K	7436K36	40.46
E Digital with Dial	10	1.5 @ 385V AC	1" Dia.	5/8"	1 1/4"	—	—	1K, 5K, 10K	7436K43	114.33
F Long Life	1	2 @ 350V AC	7/16" Dia.	5/8"	2"	1/4"	3/8"	1K, 5K, 10K	7436K44	177.15
G On/Off Control	1	0.125 @ 350V AC	3/16" Dia.	1/4"	7/16"	1/8"	5/16"	5K, 10K, 20K, 25K	3980T1	10.34
Optional Cover for Digital Switch with Buttons									7436K51	41.06

Dials

	Fits Shaft Dia.	Marks per Turn	Dial Dia.	Dial Ht.		
H Analog	1/8"	—	1/2"	1"	5856T2	$6.84
J Analog	1/8"	50	7/8"	7/8"	3980T2	20.18

	Fits Shaft Dia.	Marks per Turn	Dial Dia.	Dial Ht.		
J Analog	1/4"	50	7/8"	15/16"	7436K39	$10.91
J Analog	1/4"	100	1 13/16"	1"	7436K38	22.28

Heavy Duty Variable Output Switches



22 mm



30 mm

NEMA-rated for tough environments, these switches let you adjust speed, volume, or light intensity. Also known as potentiometers, they have a single-turn dial and screw terminal connections. Maximum voltage is 500 AC and DC. UL listed and CSA certified.

22 mm dia. panel cutout switch is NEMA 4X rated to protect against washdowns and corrosion. Depth behind panel is 2 1/4". Housing is polyester; dial is 1 1/8" dia. black plastic with a white face.

30 mm dia. panel cutout switch is rated NEMA 13 for protection against oil and coolant spray. Depth behind panel is 1 3/4". Housing is metal; dial is 1 1/4" dia. black plastic.

To Order: Please specify maximum resistance.

Panel Cutout Dia.	Watt Rating	Available Max. Resistance, Ohms		
22 mm (7/8")	2 @ 120V AC/24V DC	1K, 2.5K, 5K, 10K	7506T1	$57.69
30 mm (1 3/16")	2 @ 120V AC/24V DC	50, 250, 500, 1K , 2.5K, 5K, 10K, 15K, 25K, 100K, 500K, 2M, 5M	6787K51	155.37

Rotary Selector Switches



13/32" with Screw Terminals



13/32" with Solder Lugs



1/4"

Control multiple devices with one switch. Each position closes a set of contacts in each circuit, so you can select between multiple devices on one or more circuits. Contacts stay switched (maintained).

13/32" dia. panel cutout switches are plastic and have a 1/4" shaft dia. Dial knobs not included; see page 2249.

1/4" dia. panel cutout switches are nickel-plated brass and have a 1/8" shaft dia. They include a black plastic knob.

No. of Circuits	Industry Designation	No. of Positions	No. of Terminals	Amp Rating AC	Amp Rating DC	Dp. Behind Panel	O'all Dia.	Shaft Lg.	Connections		
13/32" Dia. Panel Cutout											
1	Single Pole	11	12	6 @ 125/250V	—	1"	1 3/4"	5/8"	Screw Terminal	6550K43	$35.08
1	Single Pole	11	12	30 @ 125/250V	—	1 13/16"	3"	9/16"	Screw Terminal	6588K51	39.05
1	Single Pole	12	13	2.5 @ 125V	0.35 @ 125V	13/16"	1"	1 1/2"	Solder Lug	65865K31	8.82
2	Double Pole	6	14	2.5 @ 125V	0.35 @ 125V	13/16"	1"	1 1/2"	Solder Lug	65865K32	9.68
2	Double Pole	11	24	6 @ 125/250V	—	1 1/2"	1 3/4"	5/8"	Screw Terminal	6550K44	47.75
3	3 Pole	4	15	2.5 @ 125V	0.35 @ 125V	13/16"	1"	1 1/2"	Solder Lug	65865K33	9.47
3	3 Pole	11	36	6 @ 125/250V	—	1 15/16"	1 3/4"	5/8"	Screw Terminal	6550K45	60.76
4	4 Pole	3	16	2.5 @ 125V	0.35 @ 125V	13/16"	1"	1 1/2"	Solder Lug	65865K34	11.61
5	5 Pole	11	60	6 @ 125/250V	—	2 13/16"	1 3/4"	5/8"	Screw Terminal	6550K47	126.61
1/4" Dia. Panel Cutout											
1	Single Pole	6	7	3 @ 125V	2 @ 30V	1"	9/16"	13/16"	Solder Pin	6548K23	13.31
1	Single Pole	8	9	2 @ 125V	1 @ 30V	1 1/16"	9/16"	13/16"	Solder Pin	6548K21	13.98
2	Double Pole	4	10	2 @ 125V	1 @ 30V	1 1/16"	9/16"	13/16"	Solder Pin	6548K22	14.75

Key Switches

Ensure security and prevent accidental actuation. Key switches have a threaded body and stay switched (maintained). Include two keys and a hex nut for tightening the switch to a panel.

Standard— Made of die cast zinc. 65635K14 and K13 have a stainless steel face. Switches with *6″ wire leads, quick-disconnects,* and *solder lugs* are rated 4 amps @ 125 volts AC and 24 volts DC. UL recognized and CSA certified. Switches with *screw terminals* are rated 6 amps @ 120 volts AC. UL recognized and CSA certified. Switches with *10″ wire leads* are rated 7 amps @ 28 volts AC and DC.

High Security— Switches have a round key that is difficult to duplicate. Rated 7 amps @ 28 volts AC and DC. Made of die cast zinc.

High Amp— Use in high-current applications such as motor and pump loads. Rated 20 amps and 1.5 hp @ 120 volts AC. Made of plastic and steel. UL recognized.

Also Available: Replacement keys. Please ask for 7188K888 and specify the McMaster-Carr part number of your switch.



Standard


High Security


High Amp

When Switch Is: Center Circuit Is	When Switch Is: Right Circuit Is	Key Removal Positions	No. of Terminals	Industry Designation	Panel Cutout Dia.	Cylinder Lg.	Connections	Includes Key No.		
Switch One Circuit										
Standard— *Two Position*										
Off	On	Center	2	SPST-NO	15/32″	1 1/16″	6″ Wire Leads	0029	65635K14	$29.25
Off	On	Center	2	SPST-NO	15/32″	1 1/16″	0.11″ Quick-Disc.	0029	65635K13	26.63
Off	On	Center	2	SPST-NO	3/4″	3/4″	Screw Terminal	2335	7188K32	12.50
Off	On	Center	2	SPST-NO	3/4″	1″	Screw Terminal	H2166	7188K34★	13.75
Off	On	Center, Right	2	SPST-NO	3/4″	3/4″	Screw Terminal	H2158	7188K33	12.50
Off	On	Center, Right	2	SPST-NO	3/4″	1 1/8″	10″ Wire Leads	211	7188K22	16.94
Off	On	Center, Right	2	SPST-NO	3/4″	1 1/8″	10″ Wire Leads	Random	7188K21	16.93
Off	On	Center, Right	2	SPST-NO	3/4″	1 1/8″	10″ Wire Leads	Random■	7188K23	18.21
Off or On	On or Off	Center	3	SPDT	3/4″	13/16″	Solder Lug	A126A	7278K12	14.10
Off or On	On or Off	Center, Right	3	SPDT	3/4″	13/16″	Solder Lug	A127A	7278K13	14.10
Standard— *Three Position (Switch is On in Left Position)*										
Off	On	Left, Center, Right	4	(2)SPST-NO	3/4″	13/16″	Solder Lug	A133A	7278K19	14.10
Off	On	Center	4	(2)SPST-NO	3/4″	13/16″	Solder Lug	A132A	7278K18	14.10
High Security— *Two Position*										
Off	On	Center, Right	2	SPST-NO	3/4″	1 3/8″	10″ Wire Leads	V6202	7188K26	34.38
Off	On	Center, Right	2	SPST-NO	3/4″	1 3/8″	10″ Wire Leads	Random	7188K25	29.40
Off	On	Center, Right	2	SPST-NO	3/4″	1 3/8″	10″ Wire Leads	Random▲	7188K27	36.28
Switch Two Circuits										
Standard— *Two Position*										
Off or On	On or Off	Center	6	DPDT	3/4″	13/16″	Solder Lug	A128A	7278K14	14.10
Off or On	On or Off	Center, Right	6	DPDT	3/4″	13/16″	Solder Lug	A129A	7278K15	14.10
Standard— *Three Position (Switch is Off or On in Left Position)*										
Off	On or Off	Center	8	DPDT	3/4″	13/16″	Solder Lug	A131A	7278K17	14.10
High Amp— *Two Position*										
Off	On	Center	4	DPST-NO	15/32″	___	0.25″ Quick-Disc.	13-8173	5049T1♣	53.93

★ Springs back (momentary). ■ Can also be operated by a master key. Please ask for 7188K14.
▲ Can also be operated by a master key. Please ask for 7188K18. ♣ Includes one key; depth behind panel is 1 1/16″.

Washdown Key Switches

With a stainless steel face, dust shutter, and rubber O-ring, these NEMA 4-rated key switches are ready for washdown environments. Switches have a threaded zinc body, stay switched (maintained), and mount in a 3/4″ dia. panel cutout. They include two keys and mounting hardware. UL recognized and CSA certified.

One-circuit switches are rated 4 amps @ 125 volts AC and 28 volts DC.
Two-circuit switches are rated 10 amps @ 300 volts AC and 24 volts DC.

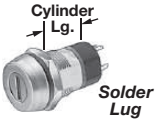

Solder Lug


Screw Terminal

No. of Circuits	When Switch Is: Center Circuit Is	When Switch Is: Right Circuit Is	Key Removal Positions	No. of Terminals	Industry Designation	Cylinder Lg.	Connections	Includes Key No.		
1	Off or On	On or Off	Center, Right	3	SPDT	1 1/16″	Solder Lug	400R	7182K11	$20.20
1	Off or On	On or Off	Center, Right	3	SPDT	1 1/16″	Solder Lug	Random	7182K12	20.20
2	1 Off, 1 On	1 On, 1 Off	Center, Right	4	DPST-NO/NC	1 15/16″	Screw Terminal	400R	7182K13	41.48
2	1 Off, 1 On	1 On, 1 Off	Center, Right	4	DPST-NO/NC	1 15/16″	Screw Terminal	Random	7182K14	41.48

Sealed Touch Pad Switches

Where push-buttons or toggles won't work, try a low-profile touch pad switch. The sealed design provides water resistance; switches also resist mild acids, bases, and alcohols (but not suitable for continuous contact). Often used for machine start/stop and door opening applications, they switch one circuit from off to on (SPST-NO) and spring back (momentary). Rated 1 amp @ 28 volts AC and DC. Switches have wire leads and a black PVC housing. UL recognized. ***Optional mounting frames*** are metal and secure your switch to a wall or bench top. Holes are 1/8″ dia. (fasteners not included).


With Optional Mounting Frame

	Lg.	Wd.	Thick.	Actuation Force	Switch		Optional Mounting Frame Lg.	Optional Mounting Frame Wd.		
Rectangular	1″	3/4″	3/16″	2.5 lbs.	7692K4	$20.54	1 11/16″	1 7/16″	7692K8	$2.56
Round	1 1/2″ Dia.	___	1/4″	2.5 lbs.	7692K3	20.54	2 3/16″ Dia.	___	7692K7	2.56

DIN-Rail Mount Toggle Switches

Conveniently built into a terminal block, these switches mount on a 35 mm DIN rail. They have screw terminal connections and can be mounted side-by-side. UL recognized and CE marked.

Note: Switches that stay switched are also known as maintained; switches that spring back are also known as momentary. Parentheses in the industry designation indicate momentary switch action.



No. of Circuits	When Switch Is: Left Circuit Is	When Switch Is: Right Circuit Is	Switch Action	No. of Terminals	Industry Designation	Amp Rating @ 120V AC/ 28V DC	Toggle Ht.		
Two Position									
1	Off or On	On or Off	Stays Switched	4	SPDT ON-ON	3	0.40″	7218K24	$34.62
1	Off or On	On or Off	Springs Back	4	SPDT (ON)-ON	3	0.40″	7218K25	44.72
Three Position— *Switch is Off in Center Position*									
1	Off or On	On or Off	Stays Switched	4	SPDT ON-OFF-ON	3	0.40″	7218K26	36.51

Toggle Switches

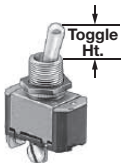

With Screw Terminals



With Quick-Disconnects



With Solder Lugs

Controlling a circuit is as easy as flipping a switch. Switches have a 15⁄32″-32 bushing and hex nut for mounting in a 1⁄2″ dia. panel cutout. Maximum voltage is 250 AC and 28 DC. UL recognized and CSA certified.

Optional "Off/On" toggle switch labels and switch boots are sold on page 930. See 70205K4 boot for toggles that switch one or two circuits and 70205K75 boot for toggles that switch three or four circuits.

Two-position illuminated flat toggle switch has a 14-volt incandescent bulb.

Note: Switches that stay switched are also known as maintained; switches that spring back are also known as momentary. Parentheses in the industry designation indicate momentary switch action.

To Order: Please specify connections: screw terminal, 1⁄4″ quick-disconnect, or solder lug. For illuminated flat toggle switch, also specify green or red.

No. of Circuits	When Switch Is Left Circuit Is	When Switch Is Right Circuit Is	Switch Action	No. of Terminals	Industry Designation	Amp Rating @ 125V AC	Amp Rating @ 28V DC	Toggle Ht.		
Two Position										
1	Off	On	Stays Switched	2	SPST OFF-ON	6	6	0.56″	7343K184	$6.53
1	Off	On	Stays Switched	2	SPST OFF-ON	15	15	0.56″	7343K711	6.74
1	Off	On	Springs Back	2	SPST OFF-(ON)	10	10	0.56″	7343K763★	10.40
1	Off or On	On or Off	Stays Switched	3	SPDT ON-ON	6	6	0.56″	7343K243★	7.12
1	Off or On	On or Off	Stays Switched	3	SPDT ON-ON	15	15	0.56″	7343K751	7.15
1	Off or On	On or Off	Springs Back	3	SPDT ON-(ON)	10	10	0.56″	7343K29★	14.31
2	Off	On	Stays Switched	4	DPST OFF-ON	6	6	0.56″	7343K253★	10.12
2	Off	On	Stays Switched	4	DPST OFF-ON	15	15	0.56″	7343K771	10.16
2	Off	On	Springs Back	4	DPST OFF-(ON)	15	15	0.56″	7343K57♦	14.98
2	Off or On	On or Off	Stays Switched	6	DPDT ON-ON	6	6	0.56″	7343K273★	11.45
2	Off or On	On or Off	Stays Switched	6	DPDT ON-ON	15	15	0.56″	7343K821	11.65
2	Off or On	On or Off	Springs Back	6	DPDT ON-(ON)	15	15	0.56″	7343K58★	17.76
3	Off	On	Stays Switched	6	3PST OFF-ON	15	15	0.69″	7343K841	16.96
3	Off or On	On or Off	Stays Switched	9	3PDT ON-ON	15	15	0.69″	7343K861	21.41
4	Off	On	Stays Switched	8	4PST OFF-ON	15	15	0.69″	7343K871■	22.23
4	Off or On	On or Off	Stays Switched	12	4PDT ON-ON	15	15	0.69″	7343K891■	27.72
Two Position Illuminated Flat Toggle										
1	Off	On	Stays Switched	3	SPST OFF-ON	15	15	0.65″	7343K93♣	23.46
Three Position — *Switch is Off in Center Position*										
1	Off or On	On or Off	Stays Switched	3	SPDT ON-OFF-ON	6	6	0.56″	7343K193★	6.91
1	Off or On	On or Off	Stays Switched	3	SPDT ON-OFF-ON	15	15	0.56″	7343K731	6.97
1	Off or On	On or Off	Springs Back to Center	3	SPDT (ON)-OFF-(ON)	10	10	0.56″	7343K783★	10.45
1	Off or On	On or Off	Springs Back Right to Center	3	SPDT ON-OFF-(ON)	10	10	0.56″	7343K28★	14.31
2	Off or On	On or Off	Stays Switched	6	DPDT ON-OFF-ON	6	6	0.56″	7343K263★	11.45
2	Off or On	On or Off	Stays Switched	6	DPDT ON-OFF-ON	15	15	0.56″	7343K791	11.65
2	Off or On	On or Off	Springs Back to Center	6	DPDT (ON)-OFF-(ON)	15	15	0.56″	7343K923★	23.65
3	Off or On	On or Off	Stays Switched	9	3PDT ON-OFF-ON	15	15	0.69″	7343K851	23.62
4	Off or On	On or Off	Stays Switched	12	4PDT ON-OFF-ON	15	15	0.69″	7343K881■	27.72

★ Not offered with solder lug connections. ♦ Screw terminal connections only. ■ Not offered with quick-disconnect connections.
♣ Quick-disconnect connections only.

Miniature Toggle Switches

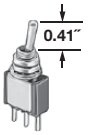

Standard with Quick-Disconnects

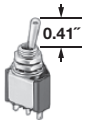

Standard with Solder Lugs



Mil. Spec.

Half the size of most toggle switches, you can fit more of them in your panel. UL recognized.

Standard switches include a 1⁄4″-40 bushing and hex nuts for mounting in a 1⁄4″ dia. panel cutout. Maximum voltage is 250 AC and 30 DC. CSA certified. For optional switch boot, see 70205K3 on page 930. **To Order:** Please specify connections: 1⁄16″ quick-disconnect or solder lug.

Mil. Spec. switches meet MIL-S-83731 to withstand splashing, dirt, and high vibration. They have a water-resistant silicone seal and solder lug connections. Mount in a 1⁄2″ dia. panel cutout using the included 15⁄32″-32 bushing and hex nuts. Maximum voltage is 125 AC and 30 DC. For "Off/On" toggle switch labels, see page 930. For optional switch boot, see 70205K4 on page 930.

Note: Switches that stay switched are also known as maintained; switches that spring back are also known as momentary. Parentheses in the industry designation indicate momentary switch action.

No. of Circuits	When Switch Is Left Circuit Is	When Switch Is Right Circuit Is	Switch Action	No. of Terminals	Industry Designation	Amp Rating @ 125V AC	Amp Rating @ 30V DC		
Standard									
Two Position									
1	Off or On	On or Off	Stays Switched	3	SPDT ON-ON	6	4	7347K75	$7.86
1	Off or On	On or Off	Springs Back	3	SPDT ON-(ON)	6	4	7347K76	8.03
2	Off or On	On or Off	Stays Switched	6	DPDT ON-ON	6	4	7347K82	9.06
2	Off or On	On or Off	Springs Back	6	DPDT ON-(ON)	6	4	7347K24■	9.11
3	Off or On	On or Off	Stays Switched	9	3PDT ON-ON	6	4	7347K96■	16.43
4	Off or On	On or Off	Stays Switched	12	4PDT ON-ON	6	4	7347K99■	19.93
Three Position — *Switch is Off in Center Position*									
1	Off or On	On or Off	Stays Switched	3	SPDT ON-OFF-ON	6	4	7347K73	8.24
1	Off or On	On or Off	Springs Back to Center	3	SPDT (ON)-OFF-(ON)	6	4	7347K74	9.33
2	Off or On	On or Off	Stays Switched	6	DPDT ON-OFF-ON	6	4	7347K79	9.02
2	Off or On	On or Off	Springs Back to Center	6	DPDT (ON)-OFF-(ON)	6	4	7347K81	9.44
Mil. Spec.									
Two Position									
1	Off	On	Stays Switched	2	SPST OFF-ON	5	5	7535K51	34.03
1	Off or On	On or Off	Stays Switched	3	SPDT ON-ON	5	5	7535K52	30.92
2	Off or On	On or Off	Stays Switched	6	DPDT ON-ON	5	5	7535K55	44.71
Three Position — *Switch is Off in Center Position*									
1	Off or On	On or Off	Stays Switched	3	SPDT ON-OFF-ON	5	5	7535K53	31.95
1	Off or On	On or Off	Springs Back to Center	3	SPDT (ON)-OFF-(ON)	5	5	7535K54	38.85
2	Off or On	On or Off	Springs Back to Center	6	DPDT (ON)-OFF-(ON)	5	5	7535K57	38.61

■ Not offered with quick-disconnect connections.

Harsh Environment Toggle Switches

Sealed to hold up in demanding environments, these switches come with a hex nut for mounting in a 1/2" dia. panel cutout. For "Off-On" toggle switch labels, see page 930.

Washdown switches meet IP67. They have a Buna-N rubber seal that covers the opening in the panel and an M12 mounting bushing. Maximum voltage is 250 AC and 30 DC. For optional switch boot, see 70205K26 on page 930.

Oil-tight and ***Mil. Spec. washdown switches*** have a silicone rubber seal around the toggle and a 15/32"-32 mounting bushing. UL recognized, CSA certified, and CE marked. For optional switch boot, see 70205K75 on page 930 (not for use with flat toggles). *Oil-tight washdown switches* are IP68 and NEMA 4 and 13 rated for washdown and oil spray protection. Maximum voltage is 277 AC and 28 DC. Flat toggles are high-visibility yellow. *Mil. Spec. washdown switches* meet MIL-S-3950. Maximum voltage is 125 AC and 28 DC.

Note: Switches that stay switched are also known as maintained; switches that spring back are also known as momentary. Parentheses in the industry designation indicate momentary switch action.

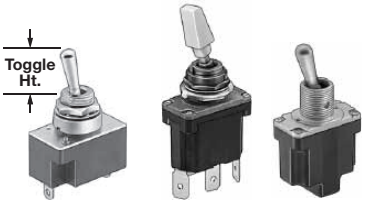

Washdown with Solder Lugs | *Oil-Tight Flat Toggle w/ Quick-Disconnects* | *Mil. Spec.*

No. of Circuits	When Switch Is: Left Circuit Is	When Switch Is: Right Circuit Is	Switch Action	No. of Terminals	Industry Designation	Amp Rating @ 125V AC	Amp Rating @ 28V DC	Toggle Ht.		
Washdown Switches—To Order: *Please specify connections: 1/4" quick-disconnect or solder lug.*										
Two Position										
1	Off	On	Stays Switched	2	SPST OFF-ON	15	20	0.69"	7172K21	$11.04
1	Off or On	On or Off	Stays Switched	3	SPDT ON-ON	15	20	0.69"	7172K22	11.96
1	Off or On	On or Off	Springs Back	3	SPDT ON-(ON)	15	20	0.69"	7172K24	11.44
2	Off	On	Stays Switched	4	DPST OFF-ON	15	15	0.69"	7172K27	14.04
2	Off or On	On or Off	Stays Switched	6	DPDT ON-ON	20	20	0.69"	7172K28	15.60
2	Off or On	On or Off	Springs Back	6	DPDT ON-(ON)	15	20	0.69"	7172K31	15.69
Three Position—*Switch is Off in Center Position*										
1	Off or On	On or Off	Stays Switched	3	SPDT ON-OFF-ON	15	20	0.69"	7172K23	12.60
1	Off or On	On or Off	Springs Back to Center	3	SPDT (ON)-OFF-(ON)	15	20	0.69"	7172K25	12.07
1	Off or On	On or Off	Springs Back Right to Center	3	SPDT ON-OFF-(ON)	15	20	0.69"	7172K26	12.07
2	Off or On	On or Off	Stays Switched	6	DPDT ON-OFF-ON	20	20	0.69"	7172K29	15.60
2	Off or On	On or Off	Springs Back to Center	6	DPDT (ON)-OFF-(ON)	15	20	0.69"	7172K32	16.29
2	Off or On	On or Off	Springs Back Right to Center	6	DPDT ON-OFF-(ON)	15	20	0.69"	7172K33	16.29
Oil-Tight Washdown Switches—To Order: *Please specify connections: screw terminal, 1/4" quick-disconnect, or solder lug.*										
Two Position										
1	Off	On	Stays Switched	2	SPST OFF-ON	15	12	0.68"	8002K71	17.19
1	Off	On	Springs Back	2	SPST OFF-(ON)	10	10	0.68"	8002K11★	17.18
1	Off or On	On or Off	Stays Switched	3	SPDT ON-ON	15	12	0.68"	8002K75★	16.45
1	Off or On	On or Off	Springs Back	3	SPDT ON-(ON)	10	10	0.68"	8002K192◆	18.59
2	Off	On	Stays Switched	4	DPST OFF-ON	15	15	0.68"	8002K77★	27.28
2	Off	On	Springs Back	4	DPST OFF-(ON)	10	10	0.68"	8002K212◆	26.36
2	Off or On	On or Off	Stays Switched	6	DPDT ON-ON	15	15	0.68"	8002K82★	26.89
2	Off or On	On or Off	Springs Back	6	DPDT ON-(ON)	10	10	0.68"	8002K282◆	24.09
4	Off	On	Stays Switched	8	4PST OFF-ON	15	12	0.68"	8002K292◆	67.03
4	Off or On	On or Off	Stays Switched	12	4PDT ON-ON	15	12	0.68"	8002K38★	46.68
Two Position Flat Toggle										
1	Off	On	Stays Switched	2	SPST OFF-ON	15	12	0.88"	8002K41♣	45.26
1	Off	On	Springs Back	2	SPST OFF-(ON)	10	10	0.88"	8002K59♣	30.59
1	Off or On	On or Off	Stays Switched	3	SPDT ON-ON	15	12	0.88"	8002K49♣	33.97
2	Off	On	Springs Back	4	DPST OFF-(ON)	10	10	0.88"	8002K48♣	52.73
Three Position—*Switch is Off in Center Position*										
1	Off or On	On or Off	Stays Switched	3	SPDT ON-OFF-ON	15	12	0.68"	8002K18★	17.18
1	Off or On	On or Off	Springs Back to Center	3	SPDT (ON)-OFF-(ON)	10	10	0.68"	8002K91★	17.20
2	Off or On	On or Off	Stays Switched	6	DPDT ON-OFF-ON	15	15	0.68"	8002K79★	23.38
2	Off or On	On or Off	Springs Back to Center	6	DPDT (ON)-OFF-(ON)	10	10	0.68"	8002K98★	25.10
4	Off or On	On or Off	Stays Switched	12	4PDT ON-OFF-ON	15	12	0.68"	8002K312◆	41.85
Three Position Flat Toggle—*Switch is Off in Center Position*										
1	Off or On	On or Off	Springs Back to Center	3	SPDT (ON)-OFF-(ON)	15	10	0.88"	8002K84♣	35.75
2	Off or On	On or Off	Stays Switched	6	DPDT ON-OFF-ON	15	15	0.88"	8002K51♣	47.69
2	Off or On	On or Off	Springs Back to Center	6	DPDT (ON)-OFF-(ON)	10	10	0.88"	8002K58♣	50.54
Mil. Spec. Washdown Switches—*Screw Terminal Connections*										
Two Position										
1	Off	On	Stays Switched	2	SPST OFF-ON	10	15	0.68"	8002K114	27.98
1	On	On	Stays Switched	3	SPDT ON-ON	10	15	0.68"	8002K115	27.98
2	Off	On	Stays Switched	4	DPST OFF-ON	15	15	0.68"	8002K118	37.42
Three Position—*Switch is Off in Center Position*										
1	On	On	Stays Switched	3	SPDT ON-OFF-ON	10	15	0.68"	8002K113	27.98
1	On	On	Springs Back to Center	3	SPDT (ON)-OFF-(ON)	7	10	0.68"	8002K116	27.98
2	On	On	Stays Switched	6	DPDT ON-OFF-ON	15	15	0.68"	8002K117	38.15
2	On	On	Springs Back to Center	6	DPDT (ON)-OFF-(ON)	8	10	0.68"	8002K119	37.42

★Not offered with solder lug connections. ◆Screw terminal connections only. ♣1/4" quick-disconnect connections only.

Pull-to-Unlock Toggle Switches

Prevent accidental movement—these toggles must be pulled up before they can switch a circuit. Rated IP68 and NEMA 4 and 13 for washdown and oil spray protection, they have a completely sealed switching chamber. Switches have a silicone seal, screw terminal connections, and a 15/32"-32 bushing for mounting in a 1/2" dia. panel cutout. Maximum voltage is 277 AC and 28 DC. UL recognized, CSA certified, and CE marked. For optional switch seal, see 70205K38 on page 930.

Note: Switches that stay switched are also known as maintained; switches that spring back are also known as momentary. Parentheses in the industry designation indicate momentary switch action.



No. of Circuits	When Switch Is: Left Circuit Is	When Switch Is: Right Circuit Is	Switch Action	No. of Terminals	Industry Designation	Amp Rating @ 125V AC	Amp Rating @ 28V DC		
Two Position									
1	Off or On	On or Off	Stays Switched	3	SPDT ON-ON	15	12	7337K97	$31.96
2	Off or On	On or Off	Stays Switched	6	DPDT ON-ON	15	15	7337K98	42.72
Three Position—*Switch is Off in Center Position*									
1	Off or On	On or Off	Stays Switched	3	SPDT ON-OFF-ON	15	12	7337K95	36.11
1	Off or On	On or Off	Springs Back to Center	3	SPDT (ON)-OFF-(ON)	10	10	7337K96	28.65

Toggle Switches & Switch Boots

For information about choosing an electrical switch, see page 909.

High-Amp Toggle Switches

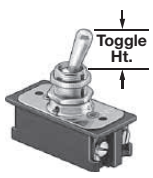

With Screw Terminals



With Quick-Disconnects



With Solder Lugs

Built to handle large electrical loads. Switches include an M12 metric bushing and hex nut for mounting in a 1/2″ dia. panel cutout. Maximum voltage is 250 AC and 30 DC. Switches with screw terminals rated 16 and 20 amps @ 125 volts AC are UL recognized and CSA certified; switches with screw terminals rated 30 and 50 amps @ 125 volts AC are UL recognized except 8001K32

Note: Switches that stay switched are also known as maintained.

Optional "Off/On" toggle switch labels and switch boots and seals are sold separately on this page. See 70205K5 seal for 8001K51-K54 and K85; see 70205K26 boot for switches with 1/4″ quick-disconnect connections and solder lug connections.

No. of Circuits	When Switch Is Left	When Switch Is Right	Circuit Is	Switch Action	No. of Terminals	Industry Designation	Amp Rating @ 125V AC	Amp Rating @ 30V DC	Toggle Ht.		
Two Position											
With Screw Terminal Connections											
1	Off	On		Stays Switched	2	SPST OFF-ON	16	8	0.69″	8001K51♣	$11.00
1	Off	On		Stays Switched	2	SPST OFF-ON	20	10	0.69″	8001K52♣	15.00
2	Off	On		Stays Switched	4	DPST OFF-ON	16	8	0.69″	8001K53♣	10.54
2	Off	On		Stays Switched	4	DPST OFF-ON	20	10	0.69″	8001K54♣	15.77
2	Off	On		Stays Switched	4	DPST OFF-ON	20▲	20	0.81″	8001K85♣	26.94
2	Off	On		Stays Switched	4	DPST OFF-ON	30	30	0.87″	8001K11	26.35
2	Off or On	On or Off		Stays Switched	6	DPDT ON-ON	30	30	0.87″	8001K12	27.33
2	Off or On	On or Off		Stays Switched	6	DPDT ON-ON	50	50	1.16″	8001K32	67.20
3	Off	On		Stays Switched	6	3PST OFF-ON	30	30	0.87″	8001K31	38.60
3	Off or On	On or Off		Stays Switched	9	3PDT ON-ON	30	30	0.87″	8001K14	49.19
With 1/4″ Quick-Disconnect Connections											
3	Off	On		Stays Switched	6	3PST OFF-ON	25	20	0.69″	8001K39	14.19
3	Off or On	On or Off		Stays Switched	9	3PDT ON-ON	25	20	0.69″	8001K41	14.47
4	Off	On		Stays Switched	8	4PST OFF-ON	25	20	0.69″	8001K24	16.44
4	Off or On	On or Off		Stays Switched	12	4PDT ON-ON	25	20	0.69″	8001K26	16.92
With Solder Lug Connections											
3	Off	On		Stays Switched	6	3PST OFF-ON	25	20	0.69″	8001K33	12.59
4	Off or On	On or Off		Stays Switched	12	4PDT ON-ON	25	20	0.69″	8001K37	15.55
Three Position—*Switch is Off in Center Position*											
With Screw Terminal Connections											
2	Off or On	On or Off		Stays Switched	6	DPDT ON-OFF-ON	30	30	0.87″	8001K13	27.65
3	Off or On	On or Off		Stays Switched	9	3PDT ON-OFF-ON	30	30	0.87″	8001K15	49.25
With 1/4″ Quick-Disconnect Connections											
3	Off or On	On or Off		Stays Switched	9	3PDT ON-OFF-ON	25	20	0.69″	8001K42	15.60
4	Off or On	On or Off		Stays Switched	12	4PDT ON-OFF-ON	25	20	0.69″	8001K28	18.01
With Solder Lug Connections											
3	Off or On	On or Off		Stays Switched	9	3PDT ON-OFF-ON	25	20	0.69″	8001K35	13.89
4	Off or On	On or Off		Stays Switched	12	4PDT ON-OFF-ON	25	20	0.69″	8001K38	16.68

♣Has a 15/32″-32 mounting bushing. Maximum voltage is 250 AC/DC. ▲Also rated 20 amps @ 250V AC.

Toggle Switch Guards and Labels



Guard

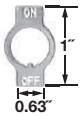

Vertical Label



Horizontal Label

Use these accessories with toggle switches that have a 15/32″-32 or M12 threaded bushing and mount in a 1/2″ dia. panel cutout.

Guard protects your two-position switch (0.69″ maximum toggle height) from accidental activation. Cover is spring loaded and stays open until you close it, returning your switch to the off position.

Labels indicate whether your switch is in the on or off position. Made of steel.

Guard	1143T1	$18.76
Vertical Labels (Pkg. of 5)	9423T11	3.28
Horizontal Labels (Pkg. of 5)	9423T12	5.96

Switch Boots and Seals



Protect your toggle, push-button, and rotary switches from moisture and dust by replacing your panel mounting nuts with switch boots and seals. All are high-strength silicone and include a nut. UL and C-UL recognized.

(B) Quick-install toggle boot fits over the existing mounting bushing, so you don't have to remove the switch from the panel to install.

(C) Armored toggle boot has a nickel-plated brass cap.

(G) Armored push-button boot has a stainless steel housing.

To Order: Please specify color where necessary.

For Bushing Size	Max. Toggle Dia.	O'all Ht.	Available Colors		
(A) Toggle Boots					
1/4″-40	0.06″	0.50″	Black, Gray, Red, White	70205K2	$5.68
1/4″-40	0.06″	0.59″	Black, Gray, Red, White	70205K3	5.68
15/32″-32	0.22″	0.94″	Black, Gray, Red, White	70205K4	4.20
15/32″-32	0.22″	1.09″	Black, Gray	70205K75	5.28
15/32″-32	0.30″	1.11″	Black, Gray	70205K29	7.53
1/2″-32	0.22″	0.84″	Black, Gray	70205K77	4.92
M12	0.23″	0.86″	Black	70205K26	5.28
(B) Quick-Install Toggle Boots					
15/32″-32	0.25″	0.98″	Black, Gray, Red	70205K28	6.78
(C) Armored Toggle Boots					
15/32″-32	0.22″	0.88″	Gray	70205K8	8.72
(D) Toggle Seals					
1/4″-40	0.19″	0.25″	Black, Gray, Red, White	70205K6	5.68
15/32″-32	0.21″	0.85″	Gray	70205K38	12.53
15/32″-32	0.24″	0.44″	Black, Gray, Red, White	70205K5	4.88

For Bushing Size	Max. Toggle Dia.	O'all Ht.	Available Colors		
(E) Panel Seals for Toggles					
15/32″-32	0.47″	0.12″	Gray	70205K37	$4.72
(F) Push-Button Boots					
1/4″-40	0.19″	0.31″	Black, Gray	70205K74	5.68
1/4″-40	0.19″	0.43″	Black, Gray, Red, White	70205K7	5.52
3/8″-27	0.30″	0.65″	Black, Clear	70205K32	4.96
3/8″-32	0.30″	0.65″	Black, Clear	70205K33	4.96
15/32″-32	0.42″	0.55″	Black, Gray	70205K73	4.88
15/32″-32	0.42″	0.72″	Black, Clear, Gray	70205K34	4.88
1/2″-32	0.42″	0.55″	Black, Gray	70205K36	4.88
5/8″-24	0.52″	0.61″	Black, Gray	70205K35	4.88
(G) Armored Push-Button Boots					
15/32″-32	0.42″	0.98″	Gray	70205K11	23.62
(H) 1/4″ Rotary Shaft Seals					
3/8″-32	—	0.22″	Black, Gray	70205K81	4.52

Rocker Switches

For a lower profile and smoother look than toggle switches, snap these rocker switches into your panel. Maximum voltage is 250 AC except illuminated miniature are 125 AC and illuminated high-amp switches are 110 AC. Miniature and illuminated miniature switches have 3/16″ quick-disconnects; standard and illuminated standard switches have 1/4″ quick-disconnects; and all others have solder lugs. Two-position switches are UL recognized and CSA certified, unless noted. Three-position switches are UL and C-UL recognized.

Illuminated switches include a bulb. *Illuminated standard* switches light up when the power is switched on. *Illuminated high-amp* switch has a red square on one side of the rocker. *Three-position illuminated* switches stay lit regardless of switch position. Bulb is 28 volts and replaceable.

Note: Switches that stay switched are also known as maintained; switches that spring back are also known as momentary. Parentheses in the industry designation indicate momentary switch action.

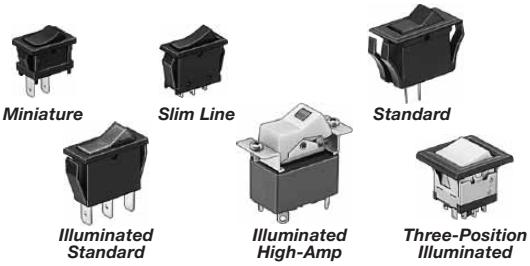

No. of Circuits	When Switch Is Left	When Switch Is Right	Switch Action	No. of Terminals	Industry Designation	Amp Rating @ 125V AC	Amp Rating @ 28V DC	Panel Cutout Lg.	Panel Cutout Wd.		
Two-Position Switches											
Miniature— *Rocker is black.*											
1	Off	On	Stays Switched	2	SPST OFF-ON	10	—	3/4″	1/2″	7395K28	$5.45
1	Off or On	On or Off	Stays Switched	3	SPDT ON-ON	10	—	3/4″	1/2″	7395K29	5.45
2	Off	On	Stays Switched	4	DPST OFF-ON	10	—	3/4″	1/2″	7395K33 ♠	7.72
2	Off	On	Stays Switched	4	DPST OFF-ON	10	—	3/4″	7/8″	7395K31	7.55
Illuminated Miniature— **To Order:** *Please specify amber, green, or red.*											
2	Off	On	Stays Switched	4	DPST OFF-ON	6	—	3/4″	1/2″	7395K51	5.17
Slim Line— *Rocker is black.*											
1	Off or On	On or Off	Stays Switched	3	SPDT ON-ON	6	4	3/4″	9/32″	7395K35	3.65
Standard— *Rocker is black.*											
1	Off	On	Stays Switched	2	SPST OFF-ON	16	—	1 1/8″	9/16″	7395K11	6.52
1	Off or On	On or Off	Stays Switched	3	SPDT ON-ON	16	—	1 1/8″	9/16″	7395K12	6.42
2	Off	On	Stays Switched	4	DPST OFF-ON	16	—	1 3/16″	7/8″	7395K13	8.90
2	Off or On	On or Off	Stays Switched	6	DPDT ON-ON	16	—	1 3/16″	7/8″	7395K14	8.90
Illuminated Standard— **To Order:** *Please specify green or red.*											
1	Off	On	Stays Switched	3	SPST OFF-ON	15	—	1 1/8″	13/32″	7395K45	8.42
2	Off	On	Stays Switched	4	DPST OFF-ON	15	—	1 1/8″	7/8″	7395K46	13.10
Illuminated High-Amp— *Rocker is white.*											
2	Off	On	Stays Switched	4	DPST OFF-ON	20★	—	1 1/8″	9/16″	7395K252 ■	13.75
Three-Position Switches— *Switch is Off in Center Position*											
Illuminated— *Rocker is white.*											
2	Off or On	On or Off	Stays Switched	8	DPDT ON-OFF-ON	5	3	3/4″	3/4″	7393K15	17.80
2	Off or On	On or Off	Springs Back to Center	8	DPDT (ON)-OFF-(ON)	5	3	3/4″	3/4″	7393K16	19.11
Switch Boots											
For 3/4″ Lg. × 1/2″ Wd. Panel Cutout Switches										7395K91	2.46
For 1 1/8″ Lg. × 13/32″ Wd. Panel Cutout Switches										7395K93	2.74
For 1 1/8″ Lg. × 9/16″ Wd. Panel Cutout Switches with One Circuit										7395K92	2.74
For 1 1/8″ Lg. × 9/16″ Wd. Panel Cutout Switches with Two Circuits										7395K94	2.74

♠ 0.110″ quick-disconnect connections. ★ Amp rating is @ 110V AC. ■ Includes mounting screws. Not UL recognized or CSA certified.

Heavy Duty Rocker Switches

A durable steel housing holds up in tough environments. These rocker switches have solder lug connections and stainless steel retaining clips for mounting in a 1 1/4″ Lg. × 3/4″ Wd. panel cutout. Rated 10 amps @ 125 volts AC and 6 amps @ 30 volts DC. Maximum voltage is 250 AC and 30 DC. UL and C-UL recognized.

Illuminated rocker switches are lit on each side by a separate replaceable 28-volt bulb (included) and stay lit regardless of switch position. One side of the rocker has a green lens; the other has a red lens.

Note: Switches that stay switched are also known as maintained; switches that spring back are also known as momentary. Parentheses in the industry designation indicate momentary switch action.



No. of Circuits	When Switch Is Left	When Switch Is Right	Switch Action	No. of Terminals	Industry Designation	White Rocker		Illuminated Rocker	
Two Position									
2	Off or On	On or Off	Stays Switched	10	DPDT ON-ON	7246K16	$15.55	7246K11	$20.70
2	Off or On	On or Off	Springs Back	10	DPDT ON-(ON)	7246K18	17.10	7246K13	22.58
Three Position— *Switch is Off in Center Position*									
2	Off or On	On or Off	Stays Switched	10	DPDT ON-OFF-ON	7246K17	16.70	7246K12	21.85
2	Off or On	On or Off	Springs Back to Center	10	DPDT (ON)-OFF-(ON)	7246K19	17.60	7246K14	22.75
2	Off or On	On or Off	Springs Back Right to Center	10	DPDT ON-OFF-(ON)	7246K21	17.60	7246K15	22.75

Washdown Rocker Switches

Get the dust and washdown protection you need. Switches with wire leads are rated IP67. The front side of switches with screw terminals and 1/4″ quick-disconnects is rated IP67. All are black and snap in a 1 11/32″ Lg. × 11/16″ Wd. panel cutout. Rated 15 amps @ 125 volts AC and 30 volts DC. Maximum voltage is 250 AC and 30 DC. UL and C-UL recognized.

Note: Switches that stay switched are also known as maintained; switches that spring back are also known as momentary. Parentheses in the industry designation indicate momentary switch action.



No. of Circuits	When Switch Is Left	When Switch Is Right	Switch Action	No. of Terminals	Industry Designation	With Wire Leads		With Screw Terminals		With Quick-Disconnects	
Two Position											
1	Off	On	Stays Switched	2	SPST OFF-ON	6797T11	$22.09	6797T21	$12.88	6797T31	$12.05
1	Off or On	On or Off	Stays Switched	3	SPDT ON-ON	6797T12	22.71	6797T22	13.50	6797T32	12.67
1	Off or On	On or Off	Springs Back	3	SPDT ON-(ON)	6797T14	24.72	6797T24	15.52	6797T34	14.69
Three Position— *Switch is Off in Center Position*											
1	Off or On	On or Off	Stays Switched	3	SPDT ON-OFF-ON	6797T13	23.38	6797T23	14.17	6797T33	13.34
1	Off or On	On or Off	Springs Back to Center	3	SPDT (ON)-OFF-(ON)	6797T15	26.64	6797T25	17.43	6797T35	16.60
1	Off or On	On or Off	Springs Back Right to Center	3	SPDT ON-OFF-(ON)	6797T16	26.64	6797T26	17.43	6797T36	16.60

High-Amp Rocker Switches



Designed for high currents, these switches mount in a 1 7/16" Lg. × 15/16" Wd. panel cutout (mounting hardware included) and have screw terminal connections. Rocker is white. UL recognized.

AC-rated switches are rated 30 amps @ 125 volts AC. Maximum voltage is 250 AC.

DC-rated switches are rated 30 amps @ 30 volts DC. Maximum voltage is 125 DC.

Note: Switches that stay switched are also known as maintained.

No. of Circuits	When Switch Is: Left	When Switch Is: Right	Switch Action	No. of Terminals	Industry Designation	AC Rated		DC Rated	
Two Position									
2	Off	On	Stays Switched	4	DPST OFF-ON	**7165K23**	$25.66	**7165K29**	$31.66
2	Off or On	On or Off	Stays Switched	6	DPDT ON-ON	**7165K24**	26.64	**7165K31**	32.43
Three Position—Switch is Off in Center Position									
2	Off or On	On or Off	Stays Switched	6	DPDT ON-OFF-ON	**7165K25**	27.14	**7165K32**	33.47

High-Starting Amp Rocker Switches



Horizontal Label



Vertical Label

Built to handle starting currents up to 10 times greater than their amp rating, these rockers are also known as high-inrush current switches. They are used with amplifiers, power supplies, and other high-starting amp devices. Switches snap into a 1 3/16" Lg. × 13/16" Wd. panel cutout and have solder lug connections. Rated 16 amps @ 125 volts AC and 5 amps @ 30 volts DC. Maximum voltage is 250 AC and 72 DC. UL recognized and CSA certified.

To Order: Please specify rocker color: black or red.

Note: Switches that stay switched are also known as maintained.

No. of Circuits	When Switch Is: Left	When Switch Is: Right	Switch Action	No. of Terminals	Industry Designation	Blank		Horizontal Label		Vertical Label	
1	Off	On	Stays Switched	2	SPST OFF-ON	**7194K28**	$8.17	**7194K33**	$8.55	**7194K34**	$8.55
1	Off or On	On or Off	Stays Switched	3	SPDT ON-ON	**7194K29**	9.72	____	___	____	___
2	Off	On	Stays Switched	4	DPST OFF-ON	**7194K31**	11.29	**7194K35**	11.64	**7194K36**	11.64
2	Off or On	On or Off	Stays Switched	6	DPDT ON-ON	**7194K32**	14.05	____	___	____	___

Push-Pull Switches



Push-pull operation lets you easily see the position of these DC switches. Made of brass, they're good for marine environments and mount in a 3/8" dia. hole (hardware included). Maximum voltage is 24 DC. 8795T13 has a plastic-covered body for extra protection from moisture and dirt.

Three Position—Pull to the middle position to close one contact or all the way to close two contacts.

Note: Switches that stay switched are also known as maintained.

No. of Circuits	When Switch Is: In	When Switch Is: Out	Switch Action	No. of Terminals	Industry Designation	Amp Rating @ 12V DC	Knob Dia.	Dp. Behind Panel	Connections		
Two Position											
1	Off	On	Stays Switched	2	SPST OFF-ON	10	7/8"	2"	8" Wire Leads	**8795T13**	$17.46
1	Off	On	Stays Switched	3	SPST OFF-ON	10	3/4"	2 1/8"	Screw Terminal	**8795T12**	17.02
1	Off or On	On or Off	Stays Switched	3	SPDT ON-ON	10	7/8"	2 1/8"	Screw Terminal	**8795T14**	16.75
Three Position—One Contact is Closed (On) in the Middle Position											
1	Off	On	Stays Switched	3	SPDT OFF-ON-ON	10	3/4"	2 7/8"	Screw Terminal	**8795T11**	28.35

Light-Sensing Light Controls



Standard with Plastic Housing



Flush Mount

Conserve electricity with photoelectric controls that turn lights on after dark and off at daybreak. Typically used outdoors, they work with any bulb type within the specified watt rating, unless stated otherwise. All switch one circuit (single pole).

Standard controls have a 1/2" NPT male conduit fitting and 6" wire leads. 7078K13 has a weatherproof housing. ETL and C-ETL listed and CSA certified. 7078K17 has a weatherproof housing and is CSA certified. 7078K15 has a weather-resistant housing. Use a sealant (sold separately, see page 3472) to weatherproof the housing. UL listed and CSA certified.

Swivel-head controls swivel 180° for a better sensing position. They have a weatherproof plastic housing, 1/2" NPT male conduit fitting, and 6" wire leads. UL listed and CSA certified.

Flush-mount controls have a weather-resistant plastic housing and 6" wire leads. A built-in delay prevents false switching due to light flashes. UL listed and CSA certified. 7000K21 mounts through an 11/16" hole in a post or light fixture. 7000K19 mounts through a 3/8" hole in a post or light fixture. 7000K22 mounts to an outlet box and includes a gasketed aluminum wall plate.



Socket Mount for Standard Bulb



Twist Lock

Socket-mount controls screw in between the bulb and socket of any medium-base incandescent or halogen fixture. They have a weather-resistant plastic housing and are designed for incandescent and halogen lighting only. ETL and C-ETL listed and CSA certified. Choose *standard-bulb* type for small enclosed fixtures and *PAR-bulb* type for floodlights.

Twist-lock controls make replacement easy. They require a twist-lock base and bracket (sold separately). Housing is plastic.

Twist-lock base and bracket has 14" wire leads, a square top mounting hole with a 5/16" wide hanger notch, and a 3/8" dia. bottom mounting hole (screws not included). Base is weather-resistant plastic and bracket is aluminum.



Twist-Lock Base and Bracket

	AC Voltage	Watt Rating	Ht.	Wd.	Dp.		
Standard with Plastic Housing	120	1,800	2"	1 1/2"	1"	**7078K13**	$9.73
Standard with Plastic Housing	208-277	1,800	2"	1 1/2"	1"	**7078K17**	11.04
Standard with Aluminum Housing	120/208-277	2,000	3 3/4"	2"	1 1/2"	**7078K15**	18.67
Swivel Head	120	1,800	3 1/2"	1 1/4"	1 1/4"	**7677K56**	10.66
Swivel Head	208-240	1,800	3 1/2"	1 1/4"	1 1/4"	**7677K58**	13.78
Flush Mount	120	2,000	2"	1"	1 1/2"	**7000K21**	10.32
Flush Mount	208-277	1,200	2"	1 1/8"	1 5/8"	**7000K19**	13.05
Flush Mount with Wall Plate	120	2,000	2"	1"	1 1/2"	**7000K22**	11.78
Socket Mount for Standard Bulb	120	75	2 1/8"	1 1/2" Dia.	____	**7204K12**	5.81
Socket Mount for PAR Bulb	120	100	3 3/4"	2 13/16" Dia.	____	**7204K11**	13.72
Twist Lock	105-285	1,800	2 3/16"	3 1/16" Dia.	____	**7027K31**	12.00
Twist-Lock Base and Bracket						**7027K32**	10.30

Light Switches


Toggle


Rocker


Key Actuated


High Security Key Actuated


Switch Lockout

Durable for use throughout your facility, these specification-grade switches work with incandescent, halogen, fluorescent, and high-intensity discharge lighting. You can also use them with AC motor loads up to 80% of the amp rating. They stay switched (maintained) and have screw terminal connections. Switches can be back- or side-wired and fit standard single-device (single-gang) wall boxes and plates. Wall plates are not included (except with high-security key-actuated switches); sold separately on page 893. UL listed and CSA certified.

Key-actuated switches include a key that is removable in the on and off positions. The same key is provided for all switches.

High-security key-actuated switches include a hard-to-duplicate round key that's removable in the on and off positions.

Switch lockout mounts on a switch to secure it in an on or off position. Use with a 9/32″ shackle dia. padlock (not included).

To Order: Please specify color where necessary: white, ivory, brown, clear, gray, or stainless steel.

No. of Circuits	No. of Terminals	Amp Rating @ 120/277V AC	Available Colors		
Toggle					
1 (Single Pole)	2	15	Wh, Ivory, Brn	7030K32	$9.36
1 (Single Pole)	2	20	Wh, Ivory, Brn	7030K35	15.51
1 (Single Pole)	2	30	Ivory, Brn	7030K38	29.28
2 (Double Pole)	4	15	Wh, Ivory, Brn	7030K33	18.80
2 (Double Pole)	4	20	Wh, Ivory, Brn	7030K36	18.71
2 (Double Pole)	4	30	Wh, Ivory, Brn	7030K39	32.83
3-Way	3	15	Wh, Ivory, Brn	7030K34	10.67
3-Way	3	20	Wh, Ivory, Brn	7030K37	17.07
3-Way	3	30	Ivory, Brn	7030K43	35.18
4-Way	4	20	Wh, Ivory, Brn	7030K51	38.75
Illuminated Toggle—Glow When Off					
1 (Single Pole)	2	15	Ivory	7030K27	21.72
1 (Single Pole)	2	20	Ivory	7030K29	32.16
Illuminated Toggle—Glow When On					
1 (Single Pole)	2	15♠	Clear	7030K54	25.14
1 (Single Pole)	2	20♠	Clear	7030K57	32.61
Rocker					
1 (Single Pole)	2	15	Wh, Ivory	7030K45	9.22
1 (Single Pole)	2	20	Wh, Ivory	7030K52	12.30
3-Way	3	15	Wh, Ivory	7030K46	13.37
3-Way	3	20	Wh, Ivory	7030K53	13.58
Key Actuated					
1 (Single Pole)	2	15	Gray	7030K64	17.63
1 (Single Pole)	2	20	Gray	7030K67	22.40
3-Way	3	20	Gray	7030K69	24.37
Replacement Key				7030K99	2.80
High Security Key Actuated					
1 (Single Pole)	3	20	Stain. Steel	7977T25	65.60
Replacement Key				7977T99	3.80
Switch Lockout for Toggle and Rocker Switches				12135A72	8.21

♠ Not rated @ 277V AC.

Wireless Light Switches

Turn fluorescent fixtures on and off with a wireless signal. To set up, surface mount a switch and install a control relay in the fixture. No batteries or secondary power source is necessary.

Switch transmits a 902 MHz wireless signal up to 150 ft.

Control relays have 16″ wire leads. UL and C-UL listed. *SPST* relays switch one circuit on. Rated 5 amps @ 120/277 volts AC. *SPDT* relays switch one circuit on or off. Rated 20 amps @ 120/277 volts AC.


Switch shown with Wall Plate


Control Relay

No. of Circuits	Color	Switch		Wall Plate	
1 (Single Pole)	White	1171T51	$95.20	1171T21	$1.08
Control Relays					
SPST—120 AC Control Voltage				1171T61	$123.43
SPST—277 AC Control Voltage				1171T62	123.43
SPDT—120 AC Control Voltage				1171T63	161.45
SPDT—277 AC Control Voltage				1171T64	161.45

Light Dimmers


Rotary


Slide with Wall Plate


Toggle


Slide with Mini On/Off Rocker

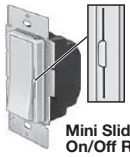
Mini Slide with On/Off Rocker

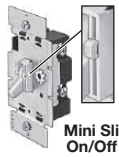
Mini Slide with On/Off Toggle

Save energy by setting your lights at the appropriate brightness. These dimmers fit single-device (single-gang) wall boxes and plates. Wall plates are not included (unless stated otherwise); sold separately on page 893. They have wire leads except toggle and mini slide switches have screw terminals. UL listed.

Rotary dimmer pushes on and off. **Rotary with wall plate** dimmers switch off when turned all the way to the left.

7083K55 and K56 can be used for three-way applications.

To Order: Please specify color where necessary.

No. of Circuits	No. of Terminals	Watt Rating @ 120V AC	Available Colors		
For Incandescent Bulbs					
Rotary					
1 (Single Pole)	2	600	White, Ivory	7083K23	$7.59
Rotary with Wall Plate					
1 (Single Pole)	2	1,000	White, Beige	7083K26	61.11
1 (Single Pole)	2	1,500	White, Beige	7083K27	114.44
1 (Single Pole)	2	2,000	White, Beige	7083K28	137.22
Slide with Wall Plate					
1 (Single Pole)	3	600	White	7083K51	31.82
1 (Single Pole)	3	1,000	White	7083K52	76.36
1 (Single Pole)	3	1,500	White	7083K53	133.33
1 (Single Pole)	3	2,000	White	7083K54	178.95
Toggle					
1 (Single Pole)	2	600	White, Ivory	7233K11	16.67
Slide with Mini On/Off Rocker					
1 (Single Pole)	2	600	White, Ivory	7083K35	17.59
1 (Single Pole)	2	1,000	White, Ivory	7083K36	71.48
Mini Slide with On/Off Rocker					
1 (Single Pole)	2	600	White, Ivory	7233K21	32.29
1 (Single Pole)	2	1,000	White, Ivory	7233K22	89.20
For Incandescent and Dimmable Compact Fluorescent Bulbs					
Slide with Mini On/Off Rocker					
1 (Single Pole)	4	600	White	7083K55	30.55
Mini Slide with On/Off Toggle					
1 (Single Pole)	4	600	White	7083K56	26.36

Motion-Sensing Light Switches


One Circuit

When personnel enter an area, infrared sensors detect their presence and turn on the lights. Switches have a 5-minute to 30-minute user-selectable time delay to turn lights off. A manual override lets you switch lights off when area is occupied. Switches have wire leads and fit in a single-device (single-gang) wall box. They are for incandescent and fluorescent lights. Incandescent watt rating is 800 @ 120 volts AC. Fluorescent watt rating is 1,200 @ 277 volts AC. UL and C-UL listed.

One Circuit—Switch one circuit from off to on (SPST-NO). Include a wall plate. **Two Circuit—**Switch two circuits from off to on (2 SPST-NO). Wall plates not included; sold separately on page 893.

No. of Circuits	Amp Rating @ 120/277V AC	White		Ivory	
1 (Single Pole)	6.6/4.3	7704K34	$50.76	7704K33	$49.76
2 (Double Pole)	6.6/4.3	7704K64	98.51	7704K63	98.51

Slide Switches



Screw mount these compact nylon slide switches into a 1/2″ Lg.×1/4″ Wd. panel cutout. They switch two circuits from off to on and on to off (DPDT), stay switched (maintained), and have six terminals. Rated 6 amps @ 125 volts AC and 1 amp @ 125 volts DC. Mounting holes are 5/32″ dia. and 1 1/8″ center to center (screws not included). UL recognized and CSA certified.

Connections		
Solder Lugs	66065K23	$5.23
6″ Wire Leads	66065K27	6.53

Light Controls & Pull Switches

For information about choosing an electrical switch, see page 909.

Motion-Sensing Light Controls



Ceiling Mount



Wall/Ceiling Mount



Fixture Mount



Fixture Mount for Wet Locations

Also called occupancy sensors, these controls turn your lights on when movement is detected and off when an area is unoccupied. They have a white plastic housing and wire leads except 7477K32 and K36 have screw terminal connections. Use indoors with fluorescent or incandescent lights. Fixture-mount controls for wet locations can also be used outdoors. UL and C-UL listed.

Ultrasonic sensors respond to movement and don't require a direct view of the occupants. *Infrared sensors* detect moving heat sources and require a direct view of the occupants. *Ultrasonic/infrared sensors* minimize false activation.

Ceiling- and **fixture-mount** controls are ready to operate your 120-volt lighting circuit. Incandescent watt rating is 800 @ 120 volts AC. Fluorescent watt rating is 1,200 watts @ 277 volts AC except 7477K52 is rated 1,800 watts @ 277 volts AC. *Ceiling-mount* controls fit a 4″ outlet box. *Fixture-mount* controls have a ½″ NPT male connection. Improve the position of your control with a *mounting extension*, which threads onto your fixture.

Wall/ceiling mount control operates at low voltage and requires a power controller to switch a 120- or 277-volt AC lighting circuit. Mounting bracket and screws are included. *Power controller* has a relay that can switch a maximum 20 amp load.

Voltage	Sensor Type	No. of Circuits	Coverage, Sq. Ft.	Max. Mount Ht.	Ht.	Wd.	Dp.		
Ceiling Mount									
120/277 AC	Ultrasonic	1 (Single Pole)	2,000	10 ft.	1½″	4½″ Dia.	—	**7477K32**	$160.36
120/277 AC	Infrared	1 (Single Pole)	1,500	12 ft.	1⅞″	4″ Dia.	—	**7477K52**	125.22
120/277 AC	Ultrasonic/Infrared	1 (Single Pole)	1,000	10 ft.	1½″	4½″ Dia.	—	**7477K36**	152.73
Guard for 120/277V AC Ceiling-Mount Controls								**7477K62**	44.56
Wall/Ceiling Mount									
24 DC	Ultrasonic/Infrared	1 (Single Pole)	2,000	10 ft.	4⅜″	3⅜″	2″	**7477K45**	189.82
Power Controller								**7477K51**	51.84
Fixture Mount									
120/277 AC	Infrared	1 (Single Pole)	155	45 ft.	2³⁄₁₆″	4³⁄₃₂″	4⅝″	**7477K53**	76.50
120/277 AC	Infrared	2 (Double Pole)	155	45 ft.	2³⁄₁₆″	4³⁄₃₂″	4⅝″	**7477K54**	92.50
Mounting Extension								**7477K65**	9.09
Fixture Mount for Wet Locations									
120/277 AC	Infrared	1 (Single Pole)	500	40 ft.	2⅜″	3 1¹⁄₁₆″ Dia.	—	**7477K34**	82.91
120/277 AC	Infrared	1 (Single Pole)	1,200	20 ft.	2¼″	3 1¹⁄₁₆″ Dia.	—	**7477K33**	82.91

Cable-Pull Emergency Stop Switches



One Direction



One Direction with LED



Two Direction



One-Direction Accessory Kit

Pull the cable to immediately break the circuit and cut off electrical power. All stay switched (maintained) and have screw terminal connections and a manual reset. Rated NEMA 4 for washdowns and NEMA 12 for oil protection. Enclosures are aluminum, unless stated otherwise. Mounting hardware not included.

One-direction switches have a ½″ NPT female threaded conduit entry and four ¼″ dia. mounting holes. CSA certified and CE marked.

One-direction switch with LED indicator illuminates when switch has been pulled. It has a ½″ NPT threaded conduit entry and four ¼″ dia. mounting holes. Enclosure is die cast zinc and a tension indicator helps you set the correct cable tension. UL listed, CSA certified, and CE marked.

Two-direction switch has a ¾″ NPT female threaded conduit entry and two 5⁄16″ dia. mounting holes. When used with the tension springs in the cable accessory kit (sold separately), contacts open to stop machinery if the cable breaks. UL and C-UL listed and CE marked.

Accessory kits simplify installation of a new cable-pull switch. Kits for *one-direction* switches include cable (in max. lengths shown below), tension screws, clamps, and thimbles. Kit for *one-direction switch with LED indicator* includes a cable, J-hook turnbuckle, thimbles, clamps, and cable supports (eyebolts with hardware). Kit for *two-direction* switch includes the same items as the one-direction kits plus eyebolts (instead of thimbles) and tension springs.

Max. Cable Lg. per Direction	No. of Circuits	Industry Designation	Amp Rating @ 120V AC	Max. AC Voltage	Actuation Force	Ht.	Wd.	Dp.	Switch		Accessory Kit	
One Direction												
15 ft.	1	DPST-NO/NC	10	400	18 lbs.	6⅜″	1 9⁄16″	1⅝″	**65975K51**	$248.98	**65975K81**	$196.46
30 ft.	1	SPDT	10	380	27 lbs.	6⅛″	3¼″	2⅝″	**65975K62**	412.44	**65975K82**	279.46
75 ft.	2	DPDT	10	380	45 lbs.	7¾″	3¼″	2⅝″	**65975K63**	541.10	**65975K83**	407.24
One Direction with LED Indicator												
250 ft.	1	SPDT	6	300	40 lbs.	10⅞″	3⅞″	2⅝″	**65975K75**	260.88	**65975K85**	357.21
Two Direction												
165 ft.	2	DPST-NO/NC	1.1	240	5 lbs.	4 13⁄16″	3 3⁄16″	7½″	**65975K84**	471.43	**65975K94**	284.27

Cable-Pull Stop Switches



Turn off production lines and material handling systems. This switch mounts in any position and has a manual reset for added safety. It switches one circuit from on to off (SPST-NC) and stays switched after released (maintained). Rated 6 amps @ 120 volts AC, 3 amps @ 240 volts AC, and 0.55 amps @ 125 volts DC. Maximum voltage is 600 AC and DC. Enclosure is aluminum with a ½″ NPT female threaded conduit entry, screw terminal connections, and two mounting holes (fasteners included). Overall size is 6½″ Ht.×5″ Wd.×3¼″ Dp. Meets NEMA 1 for indoor use. UL listed, CSA certified, and CE marked.

Note: Cable (not included) should be supported with eyebolts every 5 ft.

Max. Cable Length	No. of Circuits	Actuation Force		
75 ft.	1	2 to 6 lbs.	**7186K53**	$215.49

Overhead Rope-Pull Switches



Keep your switch out of the way. Pull the hanging rope in any direction to actuate. Switches two circuits, one from off to on and one from on to off (DPST-NO/NC). It springs back after released (momentary).

Rated 6 amps @ 120 volts AC, 3 amps @ 240 volts AC, and 0.55 amps @ 125 volts DC. Maximum voltage is 600 AC and 600 DC. Enclosure is aluminum with a ½″ NPT female threaded conduit entry and screw terminal connections. Overall size is 5½″ Ht.×5¼″ Wd.×3⅛″ Dp. Meets NEMA 4 for washdowns. UL listed, CSA certified, and CE marked.

Included Rope Lg.	No. of Circuits	Actuation Force		
15 ft.	2	5 lbs.	**8488K61**	$221.11

About Motor Switches and Starters

Motor switches provide manual on/off control of a motor circuit. They can also be used in other circuits, including lighting and electric heat circuits. There is no overload protection.

Motor starters provide on/off control of a motor circuit with the additional benefit of overload protection. This protection monitors the current flowing to a motor and opens the circuit if the current exceeds the full-load amp rating. The full-load amp rating is the current the motor is expected to continuously draw under normal conditions. This rating is often found on the motor's faceplate.

ⓘ If the full-load amp rating is not shown on your motor's faceplate, you can estimate the amp rating (given the motor's hp and voltage) using a chart. Go to mcmaster.com and search for **7603KAC**.

Manual Motor Switches

Silver contacts dissipate heat and extend switch life. All stay switched (maintained) and have screw terminal connections. UL listed and CSA certified.

Indoor enclosure is nylon and rated NEMA 1.

Rain-tight enclosure is aluminum and rated NEMA 3R.

Washdown enclosure is polyester and rated NEMA 4X. It can also be used as a motor disconnect switch.

Hazardous-location enclosure is aluminum and rated NEMA 7 and 9.

	Amps @ 600V AC	AC Motor hp Rating @ 240V	Ht.	Wd.	Dp.		
Switch Two Circuits (DPST-NO)—For Single-Phase Motors							
Open	30	3	3.7″	1.8″	1.8″	7657K33	$31.04
Open	60	5	3.8″	1.7″	1.7″	7657K35	129.70
Indoor Enclosure	30	3	3.9″	2.8″	2.8″	7657K31	35.64
Indoor Enclosure	60	5	4.3″	4.7″	3.9″	7657K36	158.21
Rain-Tight Enclosure	30	3	5.8″	4.5″	3.3″	7657K34	58.42
Haz. Loc. Enclosure	30	3	5.9″	2.3″	4.3″	7657K32	195.28
Switch Three Circuits (3PST-NO)—For Three-Phase Motors							
Open	30	7.5	3.7″	1.8″	1.8″	7657K23	65.73
Open	60	10	3.8″	1.7″	1.7″	7657K25	158.77
Indoor Enclosure	30	7.5	3.9″	2.8″	2.8″	7657K21	69.38
Indoor Enclosure	60	10	4.3″	4.7″	3.9″	7657K26	185.76
Rain-Tight Enclosure	30	7.5	5.8″	4.5″	3.3″	7657K24	99.32
Washdown Enclosure	30	7.5	7.6″	5.1″	4.1″	7657K61	260.78
Haz. Loc. Enclosure	30	7.5	5.9″	2.3″	4.3″	7657K22	254.88



Open



Indoor Enclosure



Rain-Tight Enclosure



Washdown Enclosure



Hazardous Location Enclosure

Manual Reversing Motor Switches

Also known as drum switches, these motor switches have three positions: forward, off, and reverse. All have screw terminal connections. UL listed and CSA certified.

Indoor steel and **plastic enclosures** are rated NEMA 1.

Watertight enclosure is rated NEMA 4.

AC Motor hp Rating								
Single Phase	*Three Phase*							
115V	230V	440V	Switch Action	Ht.	Wd.	Dp.		
Indoor Steel Enclosure								
1½	_	_	Stays Switched (Maintained)	4.5″	2.4″	4.5″	7065K21	$44.45
1½	2	1	Springs Back (Momentary)	4.5″	2.4″	4.5″	7065K22	56.90
1½	2	1	Stays Switched (Maintained)	4.5″	2.4″	4.5″	7065K23	53.58
1½	3	3	Stays Switched (Maintained)	4.8″	3.2″	3.6″	7826K24★	293.22
2	5	7½	Stays Switched (Maintained)	4.8″	3.2″	3.6″	7826K25★	318.64
2	5	7½	Stays Switched (Maintained)	5.4″	3.5″	5.8″	7065K25	107.14
Indoor Plastic Enclosure								
1½	2	2	Stays Switched (Maintained)	5.3″	2.5″	2.8″	7826K22	151.43
Watertight Steel Enclosure								
1½	2	2	Stays Switched (Maintained)	5.2″	4.6″	3.8″	7826K42	423.73
2	5	7½	Stays Switched (Maintained)	7.6″	5.1″	4.3″	7826K45★	503.39

★ Contacts can be converted to spring back (momentary).



Indoor Steel Enclosure



Watertight Steel Enclosure

Manual Motor Starters

Compact size makes these starters ideal when multiple motor circuits are housed in one panel. Built to IEC standards, they have three poles, screw clamp connections, and an adjustable overload relay that allows you to set the exact overload amperage you need. Mount on a standard 35 mm DIN rail (see page 787) or in an *enclosure*, which you don't have to open to control the starter. Rated 25 amps @ 600 volts AC. UL listed, CSA certified, and CE marked.

Note: Ensure the full-load amp rating of your motor falls within the starter's adjustable overload amp range.

Enclosure with external lever has four PG-16 threaded holes for conduit.

Auxiliary contacts allow you to add a signal, alarm, or other device. They have one normally open and one normally closed contact. Rated 1 amp @ 400 volts AC.

	AC Motor hp Rating								
	Single Phase		*Three Phase*						
Overload Amp Range	120V	240V	240V	480V	Ht.	Wd.	Dp.		
Starters									
1-1.6	___	1/10	___	¾	3.5″	2.1″	3″	6559K61	$102.36
1.6-2.5	___	⅙	½	1	3.5″	2.1″	3″	6559K62	102.36
2.5-4	⅛	⅓	1	2	3.5″	2.1″	3″	6559K63	102.36
4-6.3	¼	½	1½	3	3.5″	2.1″	3″	6559K64	102.36
6.3-9	⅓	1	2½	5	3.5″	2.1″	3″	6559K65	119.69
9-12.5	½	2	3	7½	3.5″	2.1″	3″	6559K66	119.69
12.5-16	1	2½	5	10	3.5″	2.1″	3″	6559K67	119.69
16-20	1½	3	5	10	3.5″	2.1″	3″	6559K68	126.21
20-25	2	3	7½	15	3.5″	2.1″	3″	6559K69	133.38
Accessories									
Enclosure (7.1″ Ht. × 4.9″ Wd. × 4.5″ Dp.)								6559K53	20.48
Enclosure with Lever (5.9″ Ht. × 3.7″ Wd. × 5.2″ Dp.)								6559K52	37.24
Auxiliary Contacts								6559K45	20.20
PG-16 to ½″ NPT Thread Adapter								7805K73	7.83



Starter



Enclosure



Enclosure with Lever

ⓘ If the full-load amp rating is not shown on your motor's faceplate, you can estimate the amp rating (given the motor's hp and voltage) using a chart. Go to mcmaster.com and search for **7603KAC**.

Motor Starters



Open Standard



Open Reversing



Enclosed Standard

Built to IEC standards, these motor starters activate via an electrical signal (control voltage) and can be operated remotely. An adjustable overload relay allows you to set the exact overload amperage you need. It trips in less than 10 seconds (Class 10 trip time) and has a manual reset and includes auxiliary contacts, unless noted. **Additional auxiliary contacts** for adding a signal, alarm, or other device are sold separately.

Open starters can be mounted on 35 mm DIN rail (see page 787 for rail). **Enclosed starters** have a watertight plastic enclosure that's rated NEMA 4X for corrosion resistance. They have an overload reset on the cover. **Reversing** starters are for use with reversible motors.

Note: Ensure the full-load amp rating of your motor falls within the starter's adjustable overload amp range. Match control voltage to your control circuit; motor voltage may be different.

To Order: Please specify control voltage: 24 AC, 24 DC, 120 AC, 200/240 AC, or 480 AC.

Motor Starters

Overload Amp Range	AC Motor hp Rating: Single Phase 115V	Single Phase 230V	Three Phase 230V	Three Phase 480V	Open Starter: Ht.	Wd.	Dp.			Enclosed Starter: Ht.	Wd.	Dp.		
Miniature—Includes one normally open (NO) auxiliary contact														
1.1-1.6	—	—	—	½-¾	4.2″	1.8″	2.4″	7603K13	$123.18	5.9″	5.9″	5.9″	7603K31	$173.76
1.8-2.5	—	—	½	1	4.2″	1.8″	2.4″	7603K14	123.18	5.9″	5.9″	5.9″	7603K32	173.76
2.3-3.2	—	¼	¾	1½	4.2″	1.8″	2.4″	7603K15	123.18	5.9″	5.9″	5.9″	7603K33	173.76
3.5-4.8	⅙	⅓	1	3	4.2″	1.8″	2.4″	7603K16	123.18	5.9″	5.9″	5.9″	7603K34	173.76
5.5-7.5	⅓	¾	2	—	4.2″	1.8″	2.4″	7603K17	123.18	5.9″	5.9″	5.9″	7603K35	173.76
Standard—Includes one normally open (NO) auxiliary contact														
1.1-1.6	—	—	—	½-¾	4.3″	1.8″	3.2″	7603K18★	173.89	8.7″	5.9″	5.9″	7603K37	228.74
1.8-2.5	—	—	½	1	4.3″	1.8″	3.2″	7603K19★	173.89	8.7″	5.9″	5.9″	7603K39	228.74
2.3-3.2	—	¼	¾	1½	4.3″	1.8″	3.2″	7603K21★	173.89	8.7″	5.9″	5.9″	7603K41	228.74
3.5-4.8	⅙	⅓	1	3	4.3″	1.8″	3.2″	7603K22★	173.89	8.7″	5.9″	5.9″	7603K42	228.74
5.5-7.5	⅓	¾	2	5	4.3″	1.8″	3.2″	7603K23★	173.89	8.7″	5.9″	5.9″	7603K43	228.74
9.0-12.5	½	2	3	7½	4.3″	1.8″	3.2″	7603K24★	208.37	8.7″	5.9″	5.9″	7603K44	264.54
11.3-16.0	1	2	5	10	4.3″	1.8″	3.2″	7603K26★	208.37	8.7″	5.9″	5.9″	7603K46	264.54
17.5-21.5	1½	3	7½	15	4.9″	2.2″	3.6″	7603K27■	289.74	8.7″	5.9″	5.9″	7603K47	342.48
24.5-30.0	—	5	10	20	4.9″	2.2″	3.6″	7603K28■	337.82	8.7″	5.9″	5.9″	7603K48	434.68
24.5-36.0	3	5	10	25	5.9″	2.7″	3.9″	7603K29♣	377.26	8.7″	5.9″	5.9″	7603K49♣	467.65
35.0-47.0	—	7½	15	30	5.9″	2.7″	3.9″	7603K11♣	377.26	8.7″	5.9″	5.9″	7603K12♣	467.65
45.0-60.0	5	10	20	40	6.7″	3.7″	4.9″	7603K3♣	523.38	11.8″	8.7″	5.9″	7603K93♣	697.74
58.0-75.0	—	—	25	50	6.7″	3.7″	4.9″	7603K94♣	597.74	11.8″	8.7″	5.9″	7603K96♣	803.87
Standard with Wide Overload Range—Includes one normally open (NO) auxiliary contact														
1.0-5.0	¼	1	2	3	5.6″	1.8″	4.4″	7603K95	187.16	9.5″	6.3″	6.3″	7603K286	296.32
4.0-20.0	1	2	3	10	5.6″	1.8″	4.4″	7603K97	218.56	9.5″	6.3″	6.3″	7603K287	303.26
9.0-45.0	3	5	10	20	6.3″	1.8″	4.4″	7603K98	329.38	9.5″	6.3″	6.3″	7603K288	428.30
Standard with Extra Wide Overload Range—Includes one normally open (NO) and one normally closed (NC) auxiliary contact, unless noted														
20.0-100.0	5	15	25	50	7.2″	2.2″	4.4″	7603K99▲	526.05	11.7″	9.3″	6.9″	7603K289	717.66
Reversing—Includes one normally closed (NC) auxiliary contact, unless noted														
1.1-1.6	—	—	⅓	¾	4.3″	4.0″	3.2″	7636K21★	314.14	11.8″	8.7″	5.9″	7636K31	398.14
1.8-2.5	—	—	½	1	4.3″	4.0″	3.2″	7636K22★	314.14	11.8″	8.7″	5.9″	7636K32	398.14
2.3-3.2	—	—	¾	1½	4.3″	4.0″	3.2″	7636K23★	314.14	11.8″	8.7″	5.9″	7636K33	398.14
3.5-4.8	—	—	1	3	4.3″	4.0″	3.2″	7636K24★	314.14	11.8″	8.7″	5.9″	7636K34	398.14
5.5-7.5	—	—	2	—	4.3″	4.0″	3.2″	7636K25★	314.14	11.8″	8.7″	5.9″	7636K35	398.14
9.0-12.5	—	—	3	7½	4.3″	4.0″	3.2″	7636K26★	361.24	11.8″	8.7″	5.9″	7636K36	442.19
11.3-16.0	—	—	5	10	4.3″	4.0″	3.2″	7636K28★	412.29	11.8″	8.7″	5.9″	7636K38	503.56
17.5-21.5	—	—	—	15	4.9″	4.7″	3.6″	7636K29■♦	492.01	11.8″	8.7″	5.9″	7636K39♦	591.76
Reversing with Wide Overload Range—Includes two normally open (NO) and one normally closed (NC) auxiliary contact														
1.0-5.0	¼	1	2	3	7.5″	4.3″	4.4″	7636K61	419.18	11.0″	7.9″	6.3″	7636K248	435.31
4.0-20.0	1	2	3	10	7.5″	4.3″	4.4″	7636K71	441.11	11.0″	7.9″	6.3″	7636K249	455.09
9.0-45.0	3	5	10	20	5.8″	3.6″	4.4″	7636K81	711.16	—	—	—	—	—
Reversing with Extra Wide Overload Range—Includes two normally open (NO) and one normally closed (NC) auxiliary contact														
20.0-100.0	5	15	25	50	6.7″	3.5″	4.4″	7636K91	1,102.80	—	—	—	—	—

★ 24 DC enclosure is 5.5″ high. ■ 24 DC enclosure is 6.1″ high. ♣ Not available in 24 DC. ▲ Does not include auxiliary contacts.
♦ Includes one normally open (NO) and one normally closed (NC) auxiliary contact.

Additional Auxiliary Contacts—Rated 10 amps @ 600V AC

	For Miniature Starters		For Standard and Reversing Starters		For Starters with Wide Overload Range		For Starters with Extra Wide Overload Range	
Two Normally Open (NO)	7603K6	$16.67	7603K8	$30.35	7603K296	$22.74	7603K298	$23.42
One Normally Open (NO) and One Normally Closed (NC)	7603K7	16.67	7603K9	30.35	7603K297	22.74	7603K299	22.74

Manual Motor Starter Components

Build your own starter by combining a switch and a thermal overload element.

Switches

Switches have screw terminal connections and are for use with single-phase motors rated 1 hp @ 115/230 volts AC. Flush plate and indoor (NEMA 1) enclosure are steel; water/oil-tight enclosure is die cast zinc and rated NEMA 4 and 12 for outdoor use.

Switches **with pilot light** indicate when the starter is on.

Two-circuit switches can also be used on DC motors up to ¾ hp.



Flush Plate



Indoor Enclosure

	Ht.	Wd.	Dp.	Without Pilot Light: Switches One Circuit		Without Pilot Light: Switches Two Circuits		With Pilot Light: Switches One Circuit		With Pilot Light: Switches Two Circuits	
Flush Plate	4.5″	2.8″	1.4″	7254K21	$49.26	7254K31	$57.71	7254K25	$74.67	7254K35	$84.57
Indoor Enclosure	4.3″	2.4″	2.8″	7254K23	52.74	7254K33	62.67	7254K27	79.59	7254K37	88.54
Water/Oil-Tight Enclosure	5.8″	3.2″	3.7″	7254K24	187.02	7254K34	256.67	—	—	—	—

Thermal Overload Elements

To Order: Please specify the full-load amp rating of your motor.

Available Amp Range			Available Amp Range			Available Amp Range		
0.157-0.321	7254K61	$15.17	1.3-2.15	7254K64	$15.17	4.33-8.98	7254K66	$15.17
0.322-0.65	7254K62	15.17	2.16-4.32	7254K65	15.17	8.99-16	7254K67	15.17
0.66-1.25	7254K63	15.17						

For information about electrical switches, see page 909. For information about motor switches and starters, see page 935.

ⓘ If the full-load amp rating is not shown on your motor's faceplate, you can estimate the amp rating (given the motor's hp and voltage) using a chart. Go to mcmaster.com and search for **7603KAC**.

Heavy Duty Motor Starters

A NEMA-size contactor and solid state overload relay extend motor life and reduce energy costs in demanding applications. Motor starters have encapsulated coils that protect against moisture, heat, dirt, and mechanical and thermal stress. They are three phase, activate via an electrical signal (control voltage), and can be operated remotely. The adjustable overload relay allows you to set the exact overload amperage you need. The relay also provides phase-loss protection and has a tripping accuracy of ±1%. All have screw terminal or screw clamp connections and come with a normally open (NO) auxiliary contact for additional signaling capability.

NEMA contact sizes 0-1 are universal mount, which fit Cutler-Hammer, GE, and Square D installations. **Enclosed starters** are rated NEMA 1 for indoor use.

Note: Ensure the full-load amp rating of your motor falls within the starter's adjustable overload amp range. Match control voltage to your control circuit; your motor voltage may be different.

To Order: Please specify control voltage: 24 AC, 110/240 AC, 208 AC, or 220/480 AC.



Open



Enclosed

NEMA Contact Size	Overload Amp Range	AC Motor hp Rating 200V	230V	460V	575V	Open Starter Ht.	Wd.	Dp.			Enclosed Starter Ht.	Wd.	Dp.		
0	0.25-1	1/6	1/6	1/3	1/2	7.4″	5.8″	3.8″	7463K32	$380.31	11.0″	6.4″	5.0″	7463K34	$439.77
0	0.75-3.4	1/2	3/4	1 1/2	2	7.4″	5.8″	3.8″	7463K33	359.68	11.0″	6.4″	5.0″	7463K35	378.80
0	3-12	2	2	5	5	7.4″	5.8″	3.8″	7463K12	359.68	11.0″	6.4″	5.0″	7463K42	377.88
0	5.5-22	3	3	—	—	7.4″	5.8″	3.8″	7463K13	359.68	11.0″	6.4″	5.0″	7463K43	377.88
1	3-12	2	2	5	5	7.4″	5.8″	3.8″	7463K15	406.04	11.0″	6.4″	5.0″	7463K45	425.65
1	5.5-22	3	3	10	10	7.4″	5.8″	3.8″	7463K16	406.04	11.0″	6.4″	5.0″	7463K46	425.65
1	10-40	7 1/2	7 1/2	—	—	7.4″	5.8″	3.8″	7463K17	406.04	11.0″	6.4″	5.0″	7463K47	425.65
2	13-52	10	15	25	25	8.1″	5.8″	3.8″	7463K22	666.04	13.5″	8.0″	6.4″	7463K52	799.32
Replacement Coil														7463K71	$70.00

Heavy Duty Manual Motor Starter Components

Combine these switches and thermal overload elements to build heavy duty three-phase starters for high-amp-rated motors. Also known as NEMA starters, they have screw terminal connections. UL listed.

Indoor enclosure is rated NEMA 1. **Oil-tight enclosure** is rated NEMA 12. Both are made of steel.

Thermal Overload Element—**To Order:** Please specify the full-load amp rating of your motor from 0.36 to 26.8 amps.



Open



Indoor Enclosure

	NEMA Contact Size	AC Motor hp Rating 115V	230V	460V	Ht.	Wd.	Dp.		
Open	M0	2	3	5	5.8″	3.2″	4.6″	7595K61	$227.15
Open	M1	3	7 1/2	10	5.8″	3.2″	4.6″	7595K23	260.14
Indoor Enclosure	M0	2	3	5	7.6″	4.7″	5″	7595K62	249.60
Indoor Enclosure	M1	3	7 1/2	10	7.6″	4.7″	5″	7595K26	282.84
Oil-Tight Enclosure	M0	2	3	5	9.4″	5.1″	5″	7595K64	332.99
Oil-Tight Enclosure	M1	3	7 1/2	10	9.4″	5.1″	5″	7595K33	366.30
Thermal Overload Element (Three Required)								7595K2	19.46

Heavy Duty Overload Relays



Upgrade starters that use thermal overload protection with these solid state overload protection relays. They don't use heater elements, so enclosure ventilation and cooling is not required. Relays have a full-load amp adjustment dial to accommodate circuits with different full-load amp ratings. They also provide phase-loss protection. All are adjustable to trip in 5, 10, 20, or 30 seconds (Class 5, 10, 20, and 30 overload protection).

Relays have one normally open (NO) and one normally closed (NC) built-in auxiliary contact and screw terminal connections. UL listed and CSA certified.

Overload Amp Range	Ht.	Wd.	Dp.		
For Single-Phase Motors					
3-12	2.2″	3.5″	3.2″	7730K53	$109.42
5.5-22	2.2″	3.5″	3.2″	7730K54	109.42
For Three-Phase Motors					
0.75-3.4	3.2″	3.5″	3.2″	7730K62	119.61
3-12	2.2″	3.5″	3.1″	7730K63	119.55
5.5-22	2.2″	3.5″	3.1″	7730K64	119.55
10-40	2.2″	3.5″	3.1″	7730K65	119.55
13-52	2.2″	4.5″	4.0″	7730K66	157.23
25-100	2.2″	4.5″	4.0″	7730K67	202.42

Energy-Saving Motor Starters



Reduce the starting current to your motor, saving electricity and extending motor life. These soft starters gradually start and stop your three-phase, 208- to 600-volt AC motors. Acceleration time adjusts from 1 to 20 seconds; deceleration time adjusts from 0 to 20 seconds. Starters accept a control voltage of 24 DC and are used on motors where torque varies, such as pumps, compressors, and conveyors. Enclosure is plastic and can be surface or DIN-rail mounted except 59-amp starter is surface mount only. See page 787 for DIN rail. Starters have a remote indicator contact for a signal, alarm, or other device (sold separately). UL and C-UL listed and CE marked.

Thermal Overload Element—**To Order:** Please specify the full-load amp rating of your motor from 0.1 to 32 amps.

AC Motor hp Rating 240V	480V	Amps	Ht.	Wd.	Dp.		
3/4	2	3	4.7″	1.8″	4.5″	7112T5	$138.67
2	5	9	5.5″	1.8″	4.5″	7112T42	190.07
5	10	15	5.5″	1.8″	4.5″	7112T44	222.34
10	20	28	6.3″	1.8″	5.0″	7112T46	284.27
20	40	59	8.7″	2.8″	7.1″	7112T48	469.49
Thermal Overload Element (One Required)						7112T8	125.26

Low-Voltage DC Motor Speed Controls



Control the speed of low-voltage, permanent-magnet DC motors. These accept DC input voltage and supply a variable DC voltage output. Adjust the speed and current limit of the motor as well as set a minimum and maximum speed with the included variable switch (potentiometer) or with an external input signal (not included). Controls have an open design, overload protection, and screw terminal connections. C-UL listed.

For hp	DC Voltage Output	Input	Amps	Ht.	Wd.	Dp.		
1/6, 1/3	12/24	12/24	16	6.9″	4.4″	2.2″	7729K13	$364.24
3/4, 1	12/24	12/24	60	7.8″	6.9″	3.3″	7729K11	444.16

ⓘ If the full-load amp rating is not shown on your motor's faceplate, you can estimate the amp rating (given the motor's hp and voltage) using a chart. Go to mcmaster.com and search for **7603KAC**.

Programmable Three-Phase AC Motor Speed Controls


DIN-Rail Mount


Indoor Enclosure


Washdown Enclosure

Vary the speed of three-phase, 230- or 480-volt AC motors with these easy-to-program speed controls. All have built-in thermal overload protection, forward/reverse control, and adjustable acceleration/deceleration times. They accept a 4- to 20-mA or 0- to 10-volt DC signal to control speed, or you can wire a variable switch (potentiometer) for remote manual control. UL and C-UL listed and CE marked.

DIN-Rail Mount—Can be installed inside a control panel or surface mounted. Enclosure is plastic. Output frequency is 0 to 320 Hz.

Indoor and **Washdown Enclosures—**Made of steel. Output frequency is 0 to 120 Hz. Indoor is rated NEMA 1; washdown is rated NEMA 4.

For hp	AC Voltage Output	Input	Amps	Ht.	Wd.	Dp.		
DIN-Rail Mount—Single-Phase Input								
½	230	100-120	2.4	7.7″	3.5″	4.0″	**7786K51**	$268.56
¾	230	200-240	2.8	6.2″	2.6″	3.9″	**7786K54**	342.66
1	230	100-120	3.7	7.7″	3.5″	4.0″	**7786K52**	328.78
1½	230	100-120	4.8	10.3″	3.9″	4.3″	**7786K53**	416.74
2	230	200-240	7	7.7″	3.5″	4.0″	**7786K55**	492.68
3	230	200-240	9.6	10.3″	3.9″	4.3″	**7786K56**	576.04
DIN-Rail Mount—Three-Phase Input								
¾	230	200-240	2.8	6.2″	2.6″	3.9″	**7786K57**	333.40
1	230	200-240	3.7	7.7″	3.5″	4.0″	**7786K58**	424.16
1	460	380-480	2.4	6.2″	2.6″	3.9″	**7786K62**	409.34
2	230	200-240	7	7.7″	3.5″	4.0″	**7786K59**	506.58
3	230	200-240	11	10.3″	3.9″	4.3″	**7786K61**	560.28
3	460	380-480	5.6	7.7″	3.5″	4.0″	**7786K63**	673.28
5	460	380-480	9	10.3″	3.9″	4.3″	**7786K64**	791.82
7½	460	380-480	12	10.3″	3.9″	4.3″	**7786K65**	1,201.16
Indoor Enclosure—Single-Phase Input								
1	230	115/230	4	7.5″	6.1″	4.2″	**7786K42**	587.95
1½	230	115/230	5.2	7.5″	6.1″	4.2″	**7786K43**	635.95
2	230	200-230	6.8	7.5″	6.1″	5.1″	**7786K44**	663.49
3	230	200-230	9.6	7.5″	6.1″	5.1″	**7786K45**	717.75
Indoor Enclosure—Three-Phase Input								
1	200-240	200-240	4	7.5″	4.7″	4.3″	**7786K12**	504.63
1	400-480	400-480	2	7.5″	4.7″	3.6″	**7786K17**	587.35
2	200-240	200-240	6.8	7.5″	6.1″	5.1″	**7786K14**	555.65
3	200-240	200-240	9.6	7.5″	6.1″	5.1″	**7786K15**	643.02
5	200-240	200-240	15.2	7.9″	7.9″	5.9″	**7786K16**	885.95
5	400-480	400-480	7.6	7.5″	6.1″	5.1″	**7786K18**	884.30
Washdown Enclosure—Three-Phase Input								
1	200-240	200-240	4	7.9″	6.1″	4.4″	**7786K32**	678.13
2	200-240	200-240	6.8	7.9″	7.9″	4.9″	**7786K33**	745.35
2	400-480	400-480	3.4	7.9″	7.9″	4.9″	**7786K36**	856.62
3	400-480	400-480	4.8	7.9″	7.9″	4.9″	**7786K37**	931.30

Three-Phase AC Motor Speed Controls



A compact alternative to programmable controls, these take a single-phase input and allow you to manually control the speed of a three-phase motor. Controls have an open aluminum chassis design for mounting inside your machine or control cabinet. Use in packaging machines, conveyors, and vacuum equipment. Controls also have forward and reverse capabilities as well as a variable switch (potentiometer) for remote speed adjustment. Internal adjustments let you control the maximum speed, acceleration/deceleration times, run and jog speed modes, and torque boost. Output frequency range is 0 to 120 Hz. UL and C-UL listed.

Input kit allows controls to accept an input of 0 to 5 volts DC, 0 to 10 volts DC, or 4 to 20 mA. It mounts on the bottom of the controls.

For hp	AC Voltage Output	Input	Ht.	Wd.	Dp.		
1/15-1/2	230	115/230	3.0″	4.3″	3.7″	**6488K21**	$352.27
1/15-1	230	115/230	4.0″	6.0″	4.4″	**6488K22**	446.48
Input Kit						**6488K31**	88.61

AC to DC Motor Speed Controls


Open



Indoor Enclosure


Washdown Enclosure

Supply a single-phase AC voltage and you'll get a variable DC voltage to control the speed of a 90- or 180-volt DC permanent-magnet motor. Controls have an on/off switch, knob for DC output adjustment (except open control has a variable switch), and screw terminal connections. UL and C-UL listed. *Reversing* controls allow you to reverse the motor's shaft rotation.

Indoor enclosure is steel and rated NEMA 1.

Washdown enclosure is plastic and rated NEMA 4X.

Heat sinks are required for open and indoor enclosure controls when an output greater than 5 amps is needed.

Ratings for all AC to DC Motor Speed Controls

For hp	DC Output Voltage	AC Input Voltage	Amps
1/8-1	0-90	115	10
1/4-2	0-180	230	10

	Ht.	Wd.	Dp.		
Open					
Nonreversing	3.5″	4.3″	1.3″	**7793K12**	$158.17
Heat Sink for Open Control				**7793K65**	52.98
Indoor Enclosure					
Nonreversing	8.0″	6.2″	2.9″	**7793K51**	287.08
Reversing	8.0″	6.2″	2.9″	**7793K52**	392.29
Heat Sink for Indoor-Enclosure Control				**7793K55**	73.40
Washdown Enclosure					
Nonreversing	7.5″	5.6″	3.8″	**7793K63**	390.71
Reversing	7.5″	5.6″	3.8″	**7793K64**	529.92

Three-Phase AC Voltage-Monitoring Controls


Plug-In


DIN-Rail Mount


Surface Mount

Protect three-phase motors from phase loss and reversal, voltage imbalance, and over/under voltage. Also known as voltage-monitoring relays, these controls monitor your system and cut power to your motor when a fault occurs. All switch one circuit on or off (SPDT) and are rated 10 amps @ 240 volts AC.

Plug-in control has eight pins and a trip-delay range of 0.25 to 30 seconds to prevent nuisance tripping. Voltage imbalance adjusts from 2% to 10%. UL recognized and CSA certified.

DIN-rail mount controls have a trip-delay range of 1 to 30 seconds to prevent nuisance tripping. Voltage imbalance adjusts from 2% to 10%. They have screw terminals and can also be surface mounted. Rated 1/3 hp @ 240 volts AC. UL and C-UL listed.

Surface-mount controls have a memory function to store the last 10 fault conditions, allowing you to diagnose voltage problems. They have a trip-delay range of 0.25 to 30 seconds. Switch between automatic restart and delayed automatic restart (adjusts from 0.25 to 64 seconds after tripping). They have screw terminals. UL listed and CSA certified.

Socket is DIN-rail or surface mountable. It has two 5/32″ dia. mounting holes (hardware not included).

Mount Type	For Three-Phase AC Voltage		
Plug-In	200-480	**6973K73**	$117.81
DIN Rail	200-480	**6969K52**	159.58
Surface	240	**7632K72**	369.21
Surface	480	**7632K74**	493.54
Socket for Plug-In Control (1″ Ht.×1.6″ Wd.×2″ Dp.)		**7122K26**	4.65

Heavy Duty Foot Switches

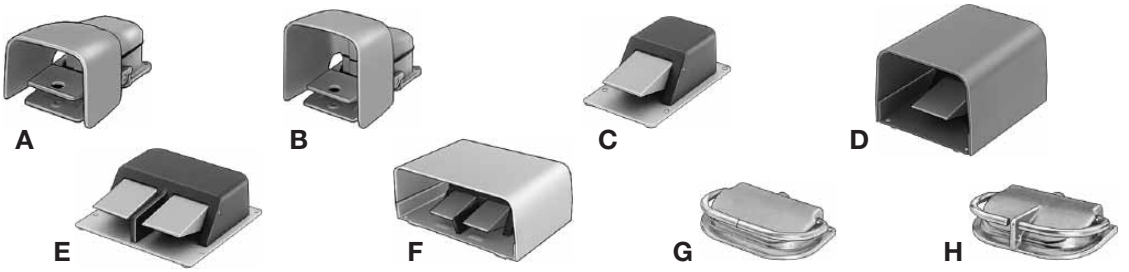

A heavy duty construction handles your toughest environment. Switches meet NEMA 4 and 13 for washdown and oil resistance. UL listed.

Washdown switches have a 3/4" NPT female threaded conduit entry and cast iron housing. Guard is aluminum. Switches *with two stages* let you actuate one piece of equipment at two speeds. Push the pedal halfway to actuate the first stage (slow speed) or all the way to actuate the second stage (high speed). Switches *with oversized guard* provide additional opening height to accommodate bulky footwear. *Push-to-unlock* switches have a safety lever inside to prevent accidental actuation. You must push the lever forward before you can depress the pedal.

Corrosion-resistant washdown switches meet IP68 and NEMA 6P. They have an aluminum housing and a 1/2" NPT female threaded conduit entry except Styles E and F have a 3/4" NPT female threaded conduit entry. *Guards* are steel. *Low-profile* switches are C-UL listed.

Note: Switches that spring back are also known as momentary; switches that stay switched are also known as maintained.

No. of Circuits	Before Switching, Circuit Is	No. of Stages	Switch Action	Industry Designation	Amp Rating @ 125V AC	Amp Rating @ 250V AC	Amp Rating @ 28V DC	Connections		
Washdown Switches										
(A) With Guard—9" Lg. x 5 7/8" Wd. x 4 3/8" Ht.										
1	Off or On	1	Springs Back	SPDT	20	20	3	Screw Terminals (3)	7372K11	$116.96
1	Off or On	1	Stays Switched	SPDT	20	20	3	Screw Terminals (3)	7372K14	166.38
1	Off or On	2	Springs Back	SPDT	20	20	3	Screw Terminals (6)	7372K51	185.61
2	Off or On	1	Springs Back	DPDT	20	20	3	Screw Terminals (6)	7372K12	138.05
(B) With Oversized Guard—9 1/8" Lg. x 6" Wd. x 5 3/4" Ht.										
1	Off or On	1	Springs Back	SPDT	20	20	3	Screw Terminals (3)	7372K31	148.04
1	Off or On	1	Stays Switched	SPDT	20	20	3	Screw Terminals (3)	7372K32	197.66
1	Off or On	2	Springs Back	SPDT	20	20	3	Screw Terminals (6)	7372K71	207.88
2	Off or On	1	Springs Back	DPDT	20	20	3	Screw Terminals (6)	7372K34	171.00
(B) Push-to-Unlock with Oversized Guard—9 1/8" Lg. x 6" Wd. x 5 7/8" Ht.										
1	Off or On	1	Springs Back	SPDT	20	20	3	Screw Terminals (3)	7344K31	216.69
2	Off or On	1	Springs Back	DPDT	20	20	3	Screw Terminals (6)	7344K32	232.64
Corrosion-Resistant Washdown Switches										
(C) Without Guard—4 1/4" Lg. x 7" Wd. x 2 1/2" Ht.										
1	Off or On	1	Springs Back	SPDT	16	16	–	0.187" Quick-Disc. (3)	7670K81	94.23
2	Off or On	1	Springs Back	DPDT	16	16	–	0.187" Quick-Disc. (6)	7670K82	112.02
(D) With Guard—6" Lg. x 7" Wd. x 4 1/2" Ht.										
1	Off or On	1	Springs Back	SPDT	16	16	–	0.187" Quick-Disc. (3)	7670K83	121.12
2	Off or On	1	Springs Back	DPDT	16	16	–	0.187" Quick-Disc. (6)	7670K84	139.09
(E) Twin Pedal without Guard—7 3/8" Lg. x 7" Wd. x 2 1/2" Ht.										
2	Off or On	1	Springs Back	(2)SPDT	16	16	–	0.187" Quick-Disc. (6)	7670K85	114.77
4	Off or On	1	Springs Back	(2)DPDT	16	16	–	0.187" Quick-Disc. (12)	7670K86	183.97
(F) Twin Pedal with Guard—11" Lg. x 7" Wd. x 4 1/2" Ht.										
2	Off or On	1	Springs Back	(2)SPDT	16	16	–	0.187" Quick-Disc. (6)	7670K87	148.58
4	Off or On	1	Springs Back	(2)DPDT	16	16	–	0.187" Quick-Disc. (12)	7670K88	211.72
(G) Low Profile—4 3/4" Lg. x 7 1/4" Wd. x 1 1/2" Ht.										
1	Off	1	Springs Back	SPST-NO	18	18	–	8-ft. Cord with 3 Leads	8225K51	113.46
(H) Twin Pedal Low Profile—4 3/4" Lg. x 7 1/4" Wd. x 1 1/2" Ht.										
2	Off	1	Springs Back	(2)SPST-NO	15	15	–	8-ft. Cord with 4 Leads	8225K52	128.64
Optional Steel Guard for Low-Profile Switches—5 3/4" Lg. x 11" Wd. x 4 3/4" Ht.									8225K53	42.04

Wireless Heavy Duty Foot Switches



With no wires to tangle or trip over, these switches install quickly and transmit up to 40 ft. away. Transmission frequency is 2.41 to 2.48 GHz. Switches have an orange cast iron housing with aluminum guard and meet IP68 for protection against water submersion. Operate on three AA batteries (included). Receiver has a 10-ft. cord. Maximum voltage is 380 AC and 48 DC. Overall size is 9 1/8" Lg. x 6" Wd. x 5 3/4" Ht. UL and C-UL listed and CE marked.

One-circuit switch has three leads; *two-circuit* switch has six leads.

Note: Switches that spring back are also known as momentary.

No. of Circuits	Before Switching, Circuit Is	No. of Stages	Switch Action	Industry Designation	Amp Rating @ 125V AC	Amp Rating @ 250V AC	Amp Rating @ 24V DC		
1	Off	1	Springs Back	SPDT	10	10	8	6907T1	$616.59
2	Off	1	Springs Back	DPDT	10	10	8	6907T2	626.58

Heavy Duty Variable-Output Foot Switches



Without Guard

A rugged cast iron housing provides strength and durability. Also called potentiometers, these switches adjust resistance to vary output current for motor drives. You can wire them to increase or decrease the current when you press down. Switches meet NEMA 4 and 13 for washdown and oil resistance. An auxiliary contact switches one circuit from off to on or on to off (SPDT) and springs back (momentary). Contact is rated 15 amps @ 125/250 volts AC. Maximum voltage is 250 AC and 500 DC. Switches have three solder lug connections, three 0.187" quick-disconnect connections for the auxiliary contact, and a 3/4" NPT female conduit entry. UL and C-UL recognized. *Guard* is aluminum.

To Order: Please specify maximum resistance.

	Watt Rating	Lg.	Wd.	Ht.	Available Max. Resistance, Ohms		
Without Guard	2 @ 250V AC	8 3/8"	4"	3 1/4"	100, 1K, 2.5K, 5K,10K,1M, 5M	6817K11	$329.58
With Guard	2 @ 250V AC	9 1/8"	5 7/8"	5"	100, 1K, 2.5K, 5K,10K,1M, 5M	6817K31	377.40

Foot & Air-Actuated Switches

For information about electrical switches, see page 909.

Foot Switches

Cord with Adapter for Styles A, D, E, and G

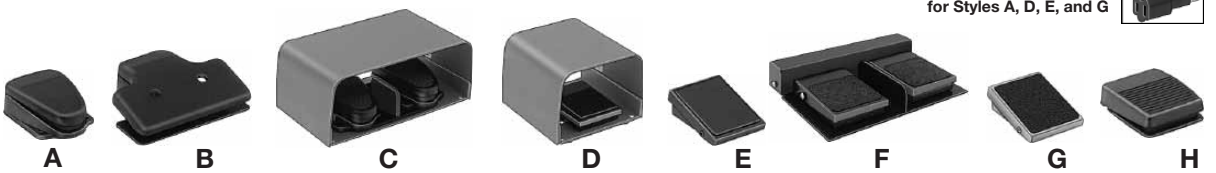

A B C with Optional Guard D with Optional Guard E F G H

Styles A-C—Use in production applications that don't require harsh environment ratings. UL listed except 7024K3 and K4 are UL and C-UL recognized.

Styles D-H—Use in intermittent, light duty applications. *(D) Steel Switches*—7376K1 is UL listed and CE marked. 7376K2 is UL recognized and CE marked. 7376K3 is UL and C-UL listed. *(E) Steel switches with front pivot* reduce user fatigue. UL and C-UL listed. *(F) Steel switch with twin pedal* is UL and C-UL listed and CE marked. *(G) Watertight stainless steel switches* meet IP67 for washdown protection. UL and C-UL listed. *(H) Light duty plastic* is more corrosion resistant than steel. UL and C-UL recognized and CE marked. **To Order:** Please specify blue, gray, or yellow.

Switches *with adapter* let you plug your device directly into the switch, which has a three-prong receptacle and plug.

Optional guards are steel except for Style G, which is stainless steel. Overall size is 6″ Lg.×6″ Wd.×5″ Ht. except Styles B, C, and F are 11″ wide.

Note: Switches that spring back are also known as momentary; switches that stay switched are also known as maintained.

No. of Circuits	Before Switching, Circuit Is	Switch Action	Industry Designation	Amp Rating @ 125V AC	250V AC	28V DC	Connections	Switch		Optional Guard	
(A) Cast Iron—4½″ Lg.×3½″ Wd.×1½″ Ht.											
1	Off	Springs Back	SPST-NO	15	—	—	8-ft. Cord w/ Adapter	7614K32	$61.23	7024K5	$30.88
1	Off or On	Springs Back	SPDT	20	20	3	Screw Terminals (3)	7024K11	39.53	7024K5	30.88
1	Off or On	Stays Switched	SPDT	20	10	—	Wire Leads (3)	7024K14	56.39	7024K5	30.88
2	Off or On	Springs Back	DPDT	15	10	3	0.187″ Quick-Disc. (6)	7024K3	59.65	7024K5	30.88
2	Off or On	Stays Switched	DPDT	10	10	3	Solder Lugs (6)	7024K4	93.53	7024K5	30.88
(B) Cast Iron with Wide Pedal—5½″ Lg.×7″ Wd.×1⅞″ Ht.											
1	Off or On	Springs Back	SPDT	20	20	3	Screw Terminals (3)	7024K41	71.62	7024K17	43.66
(C) Cast Iron with Twin Pedal—4¼″ Lg.×8⅜″ Wd.×1⅞″ Ht.											
2	Off or On	Springs Back	(2)SPDT	20	20	2.5	Screw Terminals (6)	7024K16	103.04	7024K17	43.66
(D) Steel—3⅝″ Lg.×2¾″ Wd.×1⅛″ Ht.											
1	Off	Springs Back	SPDT-NO	10	—	—	6-ft. Cord w/ Adapter	7376K1	26.89	7024K5	30.88
1	Off or On	Springs Back	SPDT	15	15	3	0.187″ Quick-Disc. (3)	7376K2	15.60	7024K5	30.88
1	Off or On	Stays Switched	SPDT	15	15	3	0.187″ Quick-Disc. (3)	7376K3	35.50	7717K31	26.98
(E) Steel with Front Pivot—3⅝″ Lg.×2¾″ Wd.×1½″ Ht.											
1	Off	Springs Back	SPST-NO	10	—	—	6-ft. Cord w/ Adapter	7717K13	25.86	7717K31	26.98
1	Off	Springs Back	SPST-NO	10	10	0.1	6-ft. Cord w/ 3 Leads	7717K12	23.62	7717K31	26.98
1	Off	Stays Switched	SPST-NO	10	—	—	6-ft. Cord w/ Adapter	7717K23	31.44	7717K31	26.98
1	Off	Stays Switched	SPST-NO	10	10	0.1	6-ft. Cord w/ 3 Leads	7717K22	31.50	7717K31	26.98
1	Off or On	Springs Back	SPDT	15	15	0.1	0.187″ Quick-Disc. (3)	7717K14	16.94	7717K31	26.98
1	Off or On	Stays Switched	SPDT	15	15	0.1	0.187″ Quick-Disc. (3)	7717K24	18.68	7717K31	26.98
(F) Steel with Twin Pedal—3⅝″ Lg.×6⅛″ Wd.×1½″ Ht.											
2	Off	Springs Back	SPDT-NO	13	13	3	8-ft. Cord w/ 4 Leads	7376K5	83.69	7024K17	43.66
(G) Watertight Stainless Steel—3⅝″ Lg.×2¾″ Wd.×1½″ Ht.											
1	Off	Springs Back	SPST-NO	3	—	—	8-ft. Cord w/ Adapter	9518T13	72.19	9518T21	79.38
1	Off	Springs Back	SPST-NO	3	3	3	8-ft. Cord w/ 3 Leads	9518T12	66.58	9518T21	79.38
1	Off or On	Springs Back	SPDT	3	3	3	Butt Splices (3)	9518T11	44.52	9518T21	79.38
(H) Light Duty Plastic—4″ Lg.×3½″ Wd.×1¼″ Ht.											
1	Off or On	Springs Back	SPDT	15	15	3	0.187″ Quick-Disc. (3)	7516K21	15.94	7024K5	30.88

Air-Actuated Switches

Keep live electrical circuits away from you and your work area. Choose a complete switch or build your own.

Note: Switches that spring back are also known as momentary; switches that stay switched are also known as maintained.

Complete Switches



Foot Operated with Plastic Guard



Hand Operated

Switches include 10 ft. of tubing. **Foot-operated** switches allow you to plug your device directly into the switch, which has a three-prong receptacle and plug. Rated 15 amps @ 120 volts AC. UL and C-UL listed. **Hand-operated** switches are rated 20 amps @ 125/250 volts AC. They have three 0.187″ quick-disconnect connections. UL recognized.

No. of Circuits	Before Switching, Circuit Is	Switch Action	Industry Designation		
Foot Operated—3¾″ Dia.×1½″ Ht.					
1	Off	Springs Back	SPST-NO	8152K11	$29.82
1	Off	Stays Switched	SPST-NO	8152K12	29.82
Foot Operated with Plastic Guard—6″ Lg.×6½″ Wd.×4 11/16″ Ht.					
1	Off	Springs Back	SPST-NO	8152K21	38.36
1	Off	Stays Switched	SPST-NO	8152K22	38.36
Hand Operated—2⅛″ Lg.×1¾″ Wd.×1¼″ Ht.					
1	Off or On	Springs Back	SPDT	7695K11	38.50
1	Off or On	Stays Switched	SPDT	7695K12	40.80

Switch Components



SPDT Switching Mechanism



Metal Foot Switch Actuator



Hand Switch Actuator

You'll need a switching mechanism and an actuator.

Switching mechanisms are rated 21 amps @ 250 volts AC and have ¼″ quick-disconnect connections.

Actuators include 6 ft. of tubing.

No. of Circuits	Before Switching, Circuit Is	Switch Action	Industry Designation		
Switching Mechanisms					
1	Off or On	Springs Back	SPDT	6573K82	$14.71
1	Off or On	Stays Switched	SPDT	6573K81	14.71
2	Off or On	Springs Back	DPDT	6573K84	21.89
2	Off or On	Stays Switched	DPDT	6573K83	21.89
Actuators					
Metal Foot Switch—6″ Lg.×3⅝″ Wd.×1⅞″ Ht.				7467K51	100.36
Plastic Foot Switch—5⅝″ Lg.×4⅛″ Wd.×1¾″ Ht.				7467K52	37.90
Plastic Hand Switch—2⅝″ Dia.×1″ Ht.				7467K53	11.50

For information about electrical switches, see page 909.

Switch Mats

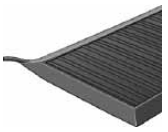

Step on these mats to open doors and perform other hands-free tasks (not intended for use as an emergency stop or safety control switch). Mats require an actuation force of 10-15 lbs. and are made of durable molded vinyl. They're 3/8″ thick and have a 6-ft. cord with two wire leads. All switch one circuit from off to on (SPST-NO) and spring back (momentary). Rated 1 amp @ 24 volts AC and DC. Maximum capacity is 3,000 psi.

Size	Black		Brown	
10″×17″	7351K61	$117.74	7351K3	$117.74
14″×23″	7351K62	142.64	7351K1	142.64
18″×30″	7351K63	193.58	7351K2	193.58
30″×30″	7351K64	319.64	7351K51	319.64

Safety Switch Mats

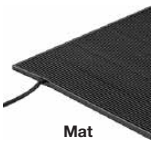

Mat



Controller

Select a mat and controller to create a four-wire system that will turn machinery off if someone steps on the mat or if a fault is detected. Meet ANSI/RIA 15.06-1999 and conform to OSHA safety requirements.

Mats switch one circuit from off to on (SPST-NO) and spring back (momentary). They're made of black PVC with a beveled edge and have a 6-ft. cable with four wire leads. Rated 1 amp @ 24 volts AC and DC. IP65 and NEMA 4 rated for washdowns. *Standard mats* require an actuation force of 22 lbs. They're 1/2″ thick with a maximum weight capacity of 1,100 psi. *High-abuse mats* can withstand repeated impact from heavy and sharp objects and require an actuation force of 20 lbs. They're 5/8″ thick and have a maximum capacity of 1,500 psi.

Optional frames firmly secure the switch mat to the floor. Made of aluminum.

Controllers mount on a 35 mm DIN rail. Rated 5 amps @ 240 volts AC. UL and C-UL listed and CE marked.

Size	Standard Mat		High-Abuse Mat		Optional Frame	
24″×36″	7666K21	$428.30	7666K41	$663.16	7666K81	$108.56
24″×48″	7666K27	558.96	7666K47	963.16	7666K87	124.23
24″×60″	7666K22	647.37	7666K42	1,080.70	7666K82	139.42
24″×72″	7666K23	772.12	7666K43	1,275.89	7666K83	156.25
36″×48″	7666K25	772.12	7666K45	1,248.04	7666K85	140.04
36″×60″	7666K28	863.16	7666K48	1,724.14	7666K88	156.44
36″×72″	7666K26	1,164.91	7666K46	1,855.17	7666K86	173.56
Controller—24V AC/DC Input					7666K61	$330.19
Controller—115V AC Input					7666K62	330.19

Mini Switch Mats



A tap of your foot actuates machinery, doors, or alarms. These black vinyl mats require an actuation force of 10-15 lbs. They're 3/8″ thick and have a corrugated surface and 15-ft. cord with two wire leads. They switch one circuit from off to on (SPST-NO) and spring back (momentary). Maximum capacity is 3,000 psi.

Standard mat is rated 4 amps @ 24 volts AC and DC. **Water-resistant** mat is rated 1 amp @ 24 volts AC and DC.

Size	Standard		Water Resistant	
6″×8″	7374K31	$82.64	7374K42	$101.42

Low-Profile Switch Mats



At only 3/32″ thick, these mats fit under carpeting or anywhere else you want to hide them. They require an actuation force of 5 lbs., switch one circuit from off to on (SPST-NO), and spring back (momentary). Rated 1 amp @ 24 volts AC and DC.

Mats are green PVC and UL listed.

Cut-to-length mat is yellow polyethylene and comes on a roll (width cannot be cut).

Size	Connections		
Mats			
6″×23″	18″ Wire Leads (2)	7676K1	$50.96
17″×23″	72″ Wire Leads (2)	7676K2	106.06
Cut-to-Length Mats			
30″×25 ft.	Bare Wires (2)	7676K3	740.00

Low-Profile Strip Switches

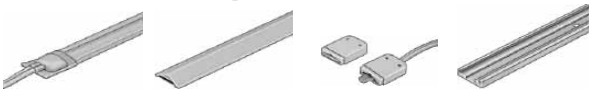

Switch | Cut-to-Length Switch | Termination Kit | Mounting Channel

Detect people and objects to control lights and alarms. These strip switches are 3/4″ Wd.×3/16″ Thick. PVC and can be actuated anywhere along their length. All switch one circuit from off to on (SPST-NO) and spring back (momentary). Rated 1 amp @ 24 volts AC and DC. Maximum voltage is 32 AC/DC. UL and C-UL recognized and CE marked.

Gray switches require an actuation force of 3.7 lbs.

Yellow switches require an actuation force of 1.5 lbs.

Switches have two wire leads.

Cut-to-length switches come on a roll and require a *termination kit*, which includes one live-end and one dead-end connector. Live end has two wire leads. Use *vinyl adhesive* to seal ends.

Optional mounting channels are 1/4″ Ht.×7/8″ Wd. aluminum. Holes are 5/32″ dia. and spaced 7″ apart.

Lg.	Gray		Yellow	
Switches				
3 ft.	7379K13	$58.85	7379K23	$58.85
6 ft.	7379K16	94.42	7379K26	94.42
Cut-to-Length Switches				
50 ft.	7379K1	645.00	7379K2	645.00
Accessories for Cut-to-Length Switches				
Gray Termination Kit			7379K3	19.44
Yellow Termination Kit			7379K4	19.44
Vinyl Adhesive (1-oz. tube)			7504A11	6.53
Optional Mounting Channels				
3-ft. Length			7379K5	17.44
6-ft. Length			7379K6	32.02

Bumper Switches



With Optional Mounting Channel

Often used to signal when an overhead door closes or an item reaches the end of a conveyor, these switches are sensitive along their entire length. They're made of heavy duty flexible urethane, sealed and insulated for weather resistance, and require an actuation force of 3-5 lbs. Switches are 1/2″ Ht.×1″ Wd. and have a 2-ft. cord with two wire leads. All switch one circuit from off to on (SPST-NO) and spring back (momentary). Rated 1 amp @ 24 AC and DC. Lengths cannot be cut.

To Order Please specify color.

Optional mounting channel is made of aluminum and includes hardware for mounting to walls or conveyors.

Lg.	Available Colors	Switch		Optional Mounting Channel	
1 ft.	Black, Red, Yellow	7571K21	$49.20	7571K911	$8.10
2 ft.	Black, Red, Yellow	7571K22	70.80	7571K912	16.20
3 ft.	Black, Red, Yellow	7571K23	87.60	7571K913	24.30
4 ft.	Black, Red, Yellow	7571K24	111.60	7571K914	32.40
5 ft.	Black, Red, Yellow	7571K25	132.00	7571K915	40.50
6 ft.	Black, Red, Yellow	7571K26	154.80	7571K916	48.60

Safety Bumper Switches



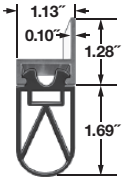

Prevent power-operated doors from closing on a person or an object. Combine a bumper switch with a controller to create a four-wire system that will turn machinery off if the switch is actuated or if a fault is detected. Switches require an actuation force of 10 lbs. They have a weather- and chemical-resistant rubber bumper; an aluminum channel that mounts to your door (screws not included); and two 6-ft. cords with two wire leads.

All switch one circuit from off to on (SPST-NO) and spring back (momentary). Rated 1 amp @ 28 volts AC and DC. Meet IP67 for temporary submersion. UL and C-UL listed and CE marked. Lengths cannot be cut.

Controllers are rated 5 amps @ 240 volts AC. UL and C-UL listed and CE marked.

Lg.			Lg.		
2 ft.	7703K41	$262.75	5 ft.	7703K43	$360.78
3 ft.	7703K42	302.00	6 ft.	7703K44	404.00
4 ft.	7703K47	327.45	8 ft.	7703K45	469.23
Controller—24V AC/DC Input				7666K61	330.19
Controller—115V AC Input				7666K62	330.19

Snap-Acting Switches

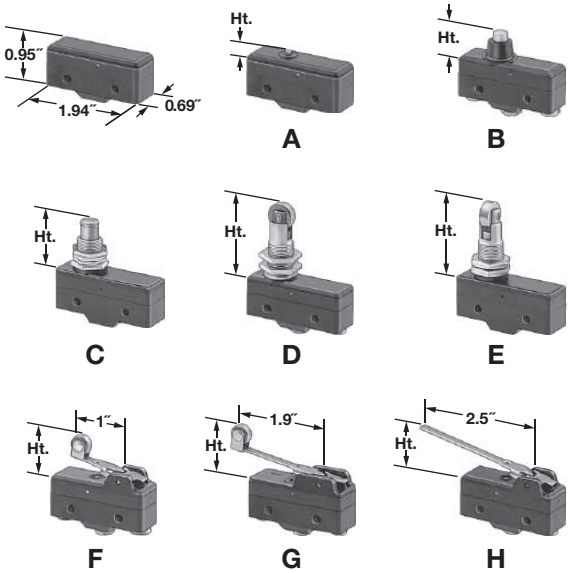

Switches have rapid snap closing action that minimizes arcing to extend switch life and let you control high currents in small spaces. Often the internal switches in limit, pressure, and temperature switches, these are also used as door-open indicators on appliances and enclosures. Switches spring back (momentary). They have a plastic housing with two 0.17″ dia. mounting holes spaced 1″ center to center, except one-circuit switches with screw terminals, which have 0.14″ dia. mounting holes (fasteners not included). UL recognized and CSA certified. Styles C, D, and E can be mounted in a ½″ dia. cutout.

One-circuit switches have three terminals. Switches *with screw terminals* are also rated for horsepower. 15-amp switches are rated ¼ hp @ 250 volts AC, 20-amp switches are rated 2 hp @ 250 volts AC, and 25-amp switches are rated 1 hp @ 125 volts AC and 2 hp @ 250 volts AC.

Two-circuit switches have six screw terminals. Rated ¼ hp @ 250 volts AC.

Plastic cover for switches with screw terminals fits over the bottom of the switch to prevent contact with live terminals.

		Amp Rating	Ht.		
Switch One Circuit—From Off to On or On to Off (SPDT)					
With Screw Terminals					
A	Pin Plunger	15 @ 250V AC	0.05″	7090K36	$7.87
A	Pin Plunger	20 @ 250V AC	0.06″	7090K46	9.14
A	Pin Plunger	25 @ 125V AC	0.1″	7539K1	13.97
B	Plunger	25 @ 125V AC	0.49″	7539K2	20.47
C	Plunger	15 @ 250V AC	0.9″	7090K39	11.28
C	Plunger	20 @ 250V AC	0.9″	7090K49	15.60
D	Roller Plunger	15 @ 250V AC	1.4″	7090K11	16.95
D	Roller Plunger	20 @ 250V AC	1.4″	7090K21	22.13
E	Cross Roller Plunger	15 @ 250V AC	1.4″	7090K12	16.97
E	Cross Roller Plunger	20 @ 250V AC	1.4″	7090K22	28.43
F	Short Roller Lever	15 @ 250V AC	0.64″	7090K41	11.18
F	Short Roller Lever	20 @ 250V AC	0.62″	7090K51	12.03
F	Short Roller Lever	25 @ 125V AC	0.75″	7539K4	24.45
G	Long Roller Lever	15 @ 250V AC	0.64″	7090K38	11.30
G	Long Roller Lever	20 @ 250V AC	0.64″	7090K48	11.45
G	Long Roller Lever	25 @ 125V AC	1″	7539K5	24.45
H	Rigid Lever	15 @ 250V AC	0.2″	7090K37	8.88
H	Rigid Lever	20 @ 250V AC	0.17″	7090K47	10.70
H	Rigid Lever	25 @ 125V AC	0.2″	7539K3	20.93
With Solder Terminals					
A	Pin Plunger	15 @ 250V AC	0.05″	7783K11	9.44
C	Plunger	15 @ 250V AC	0.9″	7783K15	15.80
D	Roller Plunger	15 @ 250V AC	1.3″	7783K16	18.49
E	Cross Roller Plunger	15 @ 250V AC	1.3″	7783K17	18.49
F	Short Roller Lever	15 @ 250V AC	0.6″	7783K13	11.82
G	Long Roller Lever	15 @ 250V AC	0.6″	7783K14	12.54
H	Rigid Lever	15 @ 250V AC	0.2″	7783K12	10.32
Switch Two Circuits—From Off to On or On to Off (DPDT)					
With Screw Terminals					
A	Pin Plunger	10 @ 250V AC	0.04″	7765K1	40.26
F	Short Roller Lever	10 @ 250V AC	0.58″	7765K3★	39.03
G	Long Roller Lever	10 @ 250V AC	0.68″	7765K4	41.48
H	Rigid Lever	10 @ 250V AC	0.29″	7765K2	41.93
Plastic Cover for Switches with Screw Terminals				7090K55	1.59

★ Lever length is 1.2″.

Miniature Snap-Acting Switches

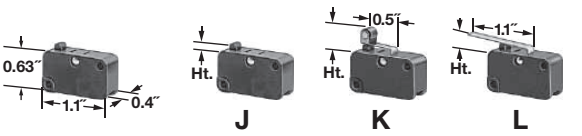

Switches turn one circuit from off to on or on to off (SPDT) and have three terminals except Style J with 0.25″ quick-disconnect terminals, which switches from off to on (SPST-NO) and has two terminals. They spring back (momentary) and have a plastic housing with two 0.11″ dia. mounting holes spaced 0.87″ center to center (fasteners not included). UL recognized and CSA certified.

10- and **15-amp** switches are rated ½ hp @ 250 volts AC.

25-amp switches are rated 2 hp @ 250 volts AC and have a maximum voltage of 277 AC.

		Amp Rating	Ht.		
With Screw Terminals					
J	Pin Plunger	10 @ 250V AC	0.11″	7779K11	$4.93
J	Pin Plunger	15 @ 250V AC	0.11″	7779K12	4.93
K	Roller Lever	10 @ 250V AC	0.36″	7779K14	5.71
K	Roller Lever	15 @ 250V AC	0.36″	7779K15	5.91
L	Rigid Lever	10 @ 250V AC	0.21″	7779K13	4.45
With 0.187″ Quick-Disconnect Terminals					
J	Pin Plunger	0.1 @ 125V AC	0.11″	7779K19	6.03
J	Pin Plunger	5 @ 250V AC	0.11″	7779K41	3.73
J	Pin Plunger	10 @ 250V AC	0.11″	7779K51	3.09
J	Pin Plunger	15 @ 250V AC	0.11″	7779K61	3.14
K	Roller Lever	0.1 @ 125V AC	0.34″	7779K22	5.88
K	Roller Lever	5 @ 250V AC	0.36″	7779K42	4.10
K	Roller Lever	10 @ 250V AC	0.36″	7779K52	3.81
K	Roller Lever	15 @ 250V AC	0.36″	7779K62	3.51
L	Rigid Lever	0.1 @ 125V AC	0.22″	7779K23	6.55
L	Rigid Lever	5 @ 250V AC	0.24″	7779K43	4.00
L	Rigid Lever	10 @ 250V AC	0.21″	7779K53	3.03
L	Rigid Lever	15 @ 250V AC	0.21″	7779K63	2.93
With 0.25″ Quick-Disconnect Terminals					
J	Pin Plunger	25 @ 250V AC	0.11″	7510T11	5.34
L	Rigid Lever	25 @ 250V AC	0.22″	7510T12	5.69

Harsh-Environment Snap-Acting Switches

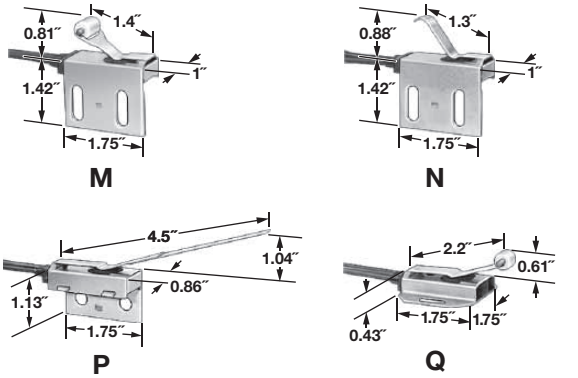

Tough enough for environments exposed to water, oil, dirt, and vibration, these switches are encased in rubber and have a corrosion-resistant stainless steel bracket. IP68 rated for water submersion. All switch one circuit from off to on or on to off (SPDT), spring back (momentary), and have three wire leads. Mounting fasteners not included.

Side Mount—*Roller lever* and *curved rigid lever* switches have two 0.22″ dia. mounting holes spaced 1″ center to center. *Rigid lever* switch has two 0.27″ dia. mounting holes spaced 1″ center to center.

Bottom Mount—Mounts on a flat surface. It has two 0.2″ dia. mounting holes spaced 1.34″ center to center.

		Amp Rating		
Side Mount				
M	Roller Lever	5 @ 120V AC	7287K12	$48.35
N	Curved Rigid Lever	5 @ 120V AC	7287K13	44.45
P	Rigid Lever	5 @ 120V AC	7287K11	60.27
Bottom Mount				
Q	Roller Lever	5 @ 120V AC	7303K11	62.30

Subminiature Snap-Acting Switches



With Solder Lug Terminals



With Wire Leads

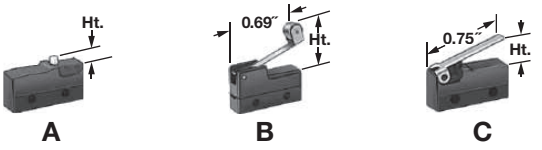

Even smaller than miniature switches, these fit the tiniest of spaces. They have a rapid snap closing action that minimizes arcing to prevent welded contacts. All switches spring back (momentary) and have a plastic housing with two 0.09″ dia. mounting holes spaced 0.37″ center to center (fasteners not included). UL and C-UL recognized.

SPST switches have two connections; *SPDT* switches have three connections.

Washdown switches meet IP67 for temporary water submersion. Switches *with solder lug terminals* are rated 1/4 hp @ 125 volts AC.

		Amp Rating	Ht.		
Standard—With Solder Lug Terminals					
Switch One Circuit from Off to On (SPST-NO)					
A	Pin Plunger	10 @ 250V AC	0.09″	**7658K17**	$3.45
B	Roller Lever	10 @ 250V AC	0.48″	**7658K12**	3.52
C	Rigid Lever	10 @ 250V AC	0.29″	**7658K11**	3.70
Switch One Circuit from On to Off (SPST-NC)					
A	Pin Plunger	10 @ 250V AC	0.09″	**7658K18**	4.39
B	Roller Lever	10 @ 250V AC	0.48″	**7658K14**	3.52
C	Rigid Lever	10 @ 250V AC	0.29″	**7658K13**	3.30
Switch One Circuit from Off to On or On to Off (SPDT)					
A	Pin Plunger	10 @ 250V AC	0.09″	**7658K19**	3.12
B	Roller Lever	10 @ 250V AC	0.48″	**7658K16**	3.30
C	Rigid Lever	10 @ 250V AC	0.29″	**7658K15**	3.27
Washdown—With Solder Lug Terminals					
Switch One Circuit from Off to On or On to Off (SPDT)					
A	Pin Plunger	10 @ 250V AC	0.08″	**8085T11**	6.41
B	Roller Lever	10 @ 250V AC	0.42″	**8085T12**	8.08
C	Rigid Lever	10 @ 250V AC	0.22″	**8085T13**	7.57
Washdown—With Wire Leads					
Switch One Circuit from Off to On or On to Off (SPDT)					
A	Pin Plunger	5 @ 250V AC	0.12″	**8085T14**	7.97
B	Roller Lever	5 @ 250V AC	0.39″	**8085T16**	8.70
C	Rigid Lever	5 @ 250V AC	0.22″	**8085T15**	8.51

Mil. Spec. Subminiature Snap-Acting Switches

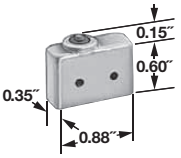

Pin Plunger

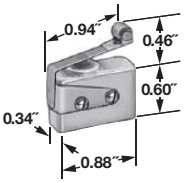

Roller Lever

Keep dirt and moisture out of your switch—the corrosion-resistant aluminum body is watertight and meets MIL-PRF-8805. Switches have a stainless steel plunger surrounded by a silicone rubber seal and epoxy-sealed wire leads. All spring back (momentary) and have two 0.09″ dia. mounting holes spaced 0.38″ center to center (fasteners not included).

SPST switches have two leads; *SPDT* switches have three.

		Amp Rating		
Switch One Circuit from Off to On (SPST-NO)				
Pin Plunger		5 @ 125/250V AC	**7517K31**	$67.91
Roller Lever		5 @ 125/250V AC	**7517K34**	69.46
Switch One Circuit from On to Off (SPST-NC)				
Pin Plunger		5 @ 125/250V AC	**7517K32**	49.41
Roller Lever		5 @ 125/250V AC	**7517K35**	53.47
Switch One Circuit from Off to On or On to Off (SPDT)				
Pin Plunger		5 @ 125/250V AC	**7517K33**	78.91
Roller Lever		5 @ 125/250V AC	**7517K36**	78.77

Precision Subminiature Snap-Acting Switches

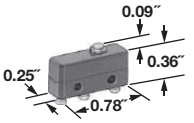

Pin Plunger

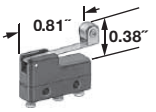

Roller Lever

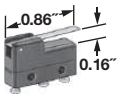

Rigid Lever

Actuate these switches with half the force required of subminiature switches. They switch one circuit from off to on or on to off (SPDT), spring back (momentary), and have three solder lug terminals. Housing is plastic with two 0.09″ dia. mounting holes spaced 0.38″ center to center (fasteners not included). UL recognized, CSA certified, and CE marked.

	Amp Rating		
Pin Plunger	5 @ 250V AC	**7193K1**	$5.97
Roller Lever	5 @ 250V AC	**7193K2**	7.89
Rigid Lever	5 @ 250V AC	**7193K3**	7.17

Enclosed Snap-Acting Switches

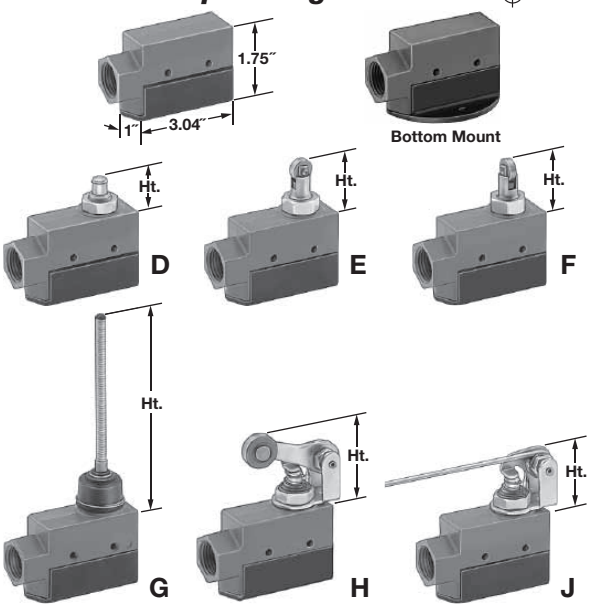

A rugged die cast zinc housing holds up in tough environments. These switch one circuit from off to on or on to off (SPDT), spring back (momentary), and have three internal screw terminal connections. Rated 1/4 hp @ 250 volts AC. Housing has a 1/2″ NPT female conduit entry. UL recognized and CSA certified.

Washdown switches have a neoprene rubber seal around the actuator and are rated NEMA 4.

Side-mount switches have two 0.14″ dia. mounting holes spaced 1″ center to center (fasteners included).

Bottom-mount switches have two 0.17″ dia. mounting holes spaced 1.63″ center to center (fasteners not included).

		Amp Rating	Ht.		
Standard					
Side Mount					
D	Pin Plunger	15 @ 250V AC	0.8″	**7778K13**	$48.71
E	Roller Plunger	15 @ 250V AC	1.2″	**7778K14**	54.51
F	Cross Roller Plunger	15 @ 250V AC	1.2″	**7778K15**	54.51
H	Roller Lever	15 @ 250V AC	1.8″	**7778K16**	59.13
J	Rod Lever	15 @ 250V AC	1.7″	**7778K17**	56.82
Bottom Mount					
H	Roller Lever	15 @ 250V AC	1.8″	**7778K22**	62.61
Washdown					
Side Mount					
D	Pin Plunger	15 @ 250V AC	1″	**7778K66**	52.15
E	Roller Plunger	15 @ 250V AC	1.6″	**7778K68**	69.56
F	Cross Roller Plunger	15 @ 250V AC	1.6″	**7778K12**	71.88
G	Wobble Stick	15 @ 250V AC	5.1″	**7778K67**	68.42
H	Roller Lever	15 @ 250V AC	2.3″	**7778K69**	67.23
Bottom Mount					
D	Pin Plunger	15 @ 250V AC	1″	**7778K24**	52.17
G	Wobble Stick	15 @ 250V AC	5.1″	**7778K27**	82.33
H	Roller Lever	15 @ 250V AC	2.3″	**7778K25**	67.27
J	Rod Lever	15 @ 250V AC	2.1″	**7778K26**	95.08

Limit Switches

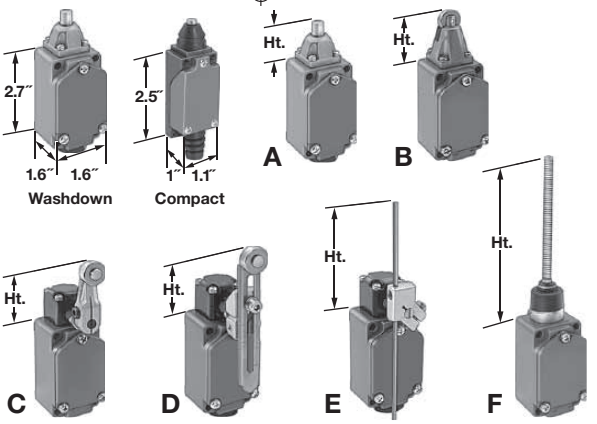

Get the same rapid closing action of a snap-acting switch but with an actuator designed for larger objects. These switch one circuit from off to on or on to off (SPDT) and spring back (momentary). UL and C-UL listed and CE marked.

Washdown switches have a maximum voltage of 300 AC. Housing is rugged die cast aluminum and rated IP67 for temporary water submersion. Switches have four internal screw terminal connections, a ½″ NPT female conduit entry, and four 0.20″ dia. mounting holes (fasteners not included).

Compact switches fit tight spaces. Maximum voltage is 250 AC and 125 DC. Housing is gasketed die cast zinc with a plastic cover and rated IP64 for protection against splashing water. Switches have five internal screw terminal connections and a 0.25″ dia. opening with a cord grip. Mounting hardware included.

		Amp Rating	Ht.		
Washdown					
A	Pin Plunger	10 @ 300V AC	1.1″	7076K27	$44.83
B	Roller Plunger	10 @ 300V AC	1.6″	7076K26	49.30
C	Roller Lever	10 @ 300V AC	2.2″	7076K14	55.37
D	Adjustable Roller Lever	10 @ 300V AC	1.7″-4.2″	7076K18	55.37
E	Adjustable Rod	10 @ 300V AC	1.4″-5.9″	7076K24	55.37
F	Wobble Stick	10 @ 300V AC	5.3″	7076K25	46.19
Compact					
A	Pin Plunger	5 @ 250V AC	0.9″	7988K6	31.23
B	Roller Plunger	5 @ 250V AC	1.3″	7988K5	31.23
C	Roller Lever	5 @ 250V AC	1.9″	7988K1	31.23
D	Adjustable Roller Lever	5 @ 250V AC	1.9″-3.4″	7988K2	30.34
E	Adjustable Rod	5 @ 250V AC	1.5″-5″	7988K3	31.23
F	Wobble Stick	5 @ 250V AC	3.8″	7988K4	31.23

Hazardous Location Limit Switches

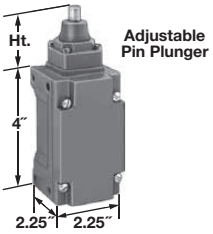

The choice for indoor hazardous environments, these switches meet NEMA 7 (Class I, Div. 1, Groups B, C, D) and NEMA 9 (Class II, Div. 1, Groups E, F, G). They switch one circuit from off to on or on to off (SPDT) and spring back (momentary). Maximum voltage is 600 AC and 250 DC. Housing is die cast aluminum with two 0.26″ dia. mounting holes (fasteners not included). Switches have five internal screw terminal connections and a ½″ NPT female conduit entry. UL and C-UL listed.

	Amp Rating	Ht.		
Adjustable Pin Plunger	10 @ 600V AC	2″-2.3″	7794K12	$591.73
Wobble Stick	10 @ 600V AC	5.6″	7794K13	566.92

Sealed Ball Plunger Limit Switches

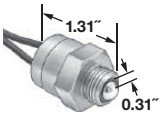

The ball actuator on these switches will not jam, even when exposed to oil, sand, mud, and ice. They switch one circuit (SPST) and spring back (momentary). Ball is Type 440 stainless steel and housing is zinc-plated steel. Switches have two wire leads and 9/16″-18 threads for mounting in a panel.

Before Switching, Circuit is	Amp Rating		
Off (NO)	5 @ 28V DC	7282K11	$74.67
On (NC)	5 @ 28V DC	7282K12	99.88

Wireless Washdown Limit Switches

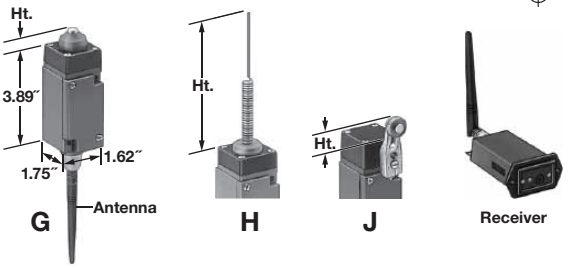

When running wire is impractical or impossible, these allow you to switch or send a signal up to 1,000 ft. away. Transmission frequency is 2.4 GHz. Housing is zinc and meets NEMA 6P and 13 and IP67 for washdowns and protection from oil and coolant. Switches spring back (momentary). Lithium battery included. CE marked.

Receiver (required) operates on 10-30 volts DC. It has one NPN normally open output to switch one circuit from off to on and three 0.25″ quick-disconnect terminals. Rated 200 mA.

		Ht.		
G	Pin Plunger Switch	0.75″	6757T13	$554.12
H	Wobble Stick Switch	12″	6757T14	543.90
J	Roller Lever Switch	1.19″	6757T12	538.06
Receiver			6757T15	369.02

Corrosion-Resistant Washdown Limit Switches

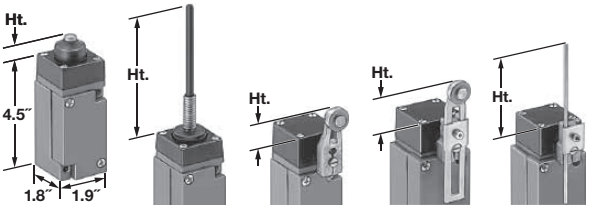

Built to withstand heavy use in wet environments, these switches meet IP67 and NEMA 4X, 6P, and 13 for protection against temporary water submersion, oil, and corrosion. All spring back (momentary). Maximum voltage is 600 AC. Housing is fully gasketed die cast zinc with a ½″ NPT female conduit entry and two 0.20″ dia. mounting holes (fasteners not included). UL listed and CSA certified.

One-circuit switches have four internal screw terminal connections. **Two-circuit** switches have eight internal screw terminal connections.

		Amp Rating	Ht.		
Switch One Circuit from Off to On or On to Off (SPDT)					
K	Pin Plunger	10 @ 240V AC	0.8″	65785K11	$133.98
L	Wobble Stick	10 @ 240V AC	4.5″	65785K12	125.69
M	Roller Lever	10 @ 240V AC	1.2″	65785K13	129.05
N	Adjustable Roller Lever	10 @ 240V AC	1.2″-3.3″	65785K14	137.44
P	Adjustable Rod	10 @ 240V AC	0.5″-4.3″	65785K15	136.07
Switch Two Circuits from Off to On or On to Off (DPDT)					
K	Pin Plunger	5 @ 240V AC	0.8″	65785K72	149.21
L	Wobble Stick	5 @ 240V AC	4.5″	65785K77	171.97
M	Roller Lever	5 @ 240V AC	1.2″	65785K74	192.66
N	Adjustable Roller Lever	5 @ 240V AC	1.2″-3.3″	65785K81	178.56
P	Adjustable Rod	5 @ 240V AC	0.5″-11.8″	65785K76	177.32

Corrosion-Resistant Washdown Limit Switches with Cable

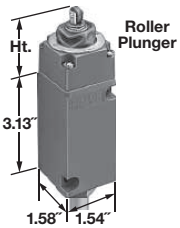

Because they're already wired, they're easy to connect. Switches have an 8-ft., oil- and water-resistant (STOOW) cable with five wire leads and meet NEMA 4X, 6P, 13, and IP67 for protection against temporary water submersion, oil, and corrosion. They switch one circuit from off to on or on to off (SPDT) and spring back (momentary). Maximum voltage is 600 AC and 250 DC. Housing is die cast zinc with two 0.20″ dia. mounting holes (fasteners not included). UL listed, CSA certified, and CE marked.

	Amp Rating	Ht.		
Roller Plunger	10 @ 600V AC	1.9″	7926K11	$241.25
Wobble Stick	10 @ 600V AC	13.6″	7926K32	225.12

Low-Profile Washdown Limit Switches

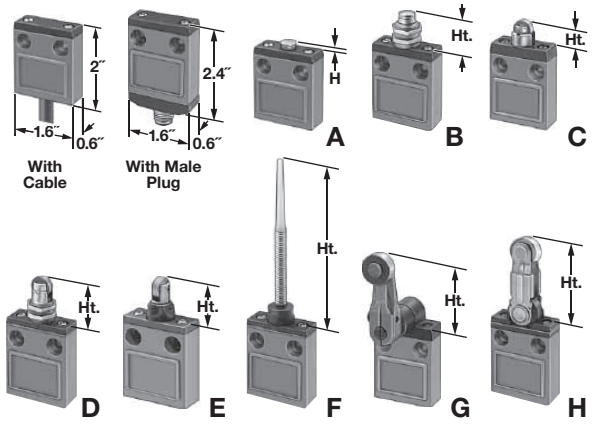

Much slimmer than our other limit switches, you can also stack them together. Switches are IP67 and NEMA 4 and 13 rated for washdowns and oil protection. They switch one circuit from off to on or on to off (SPDT) and spring back (momentary). Housing is die cast aluminum with two counterbore 0.20″ dia. mounting holes (fasteners not included). Switches are UL listed and CSA certified.

Switches with cable have a maximum voltage of 250 AC and DC and a 9½-ft., oil-resistant (SJTO) cable with four wire leads. Switches *with sealed plunger* keep water and dirt out of the plunger.

Switches with male plug have a four-pin 0.3″ face dia. male plug with external threads, also known as a micro connector. They're compatible with the *cable with female plug*, which is 6½ ft. long with a PVC jacket. It has a female plug on one end and four wire leads on the other. Cable is C-UL listed. *Panel-mount* switches have M14 threads for mounting in a 0.57″ dia. panel cutout.

		Amp Rating	Ht.		
Switches with Cable					
Standard					
A	Pin Plunger	5 @ 250V AC	0.2″	**7628K73**	$104.92
C	Roller Plunger	5 @ 250V AC	0.6″	**7628K74**	104.92
E	Cross Roller Plunger	5 @ 250V AC	0.6″	**7628K75**	104.92
F	Wobble Stick	5 @ 250V AC	3.6″	**7628K76**	104.92
G	Roller Lever	5 @ 250V AC	2.0″	**7628K77**	125.19
With Sealed Plunger					
A	Pin Plunger	5 @ 250V AC	0.6″	**7317K11**	109.12
C	Roller Plunger	5 @ 250V AC	1.0″	**7317K12**	109.12
E	Cross Roller Plunger	5 @ 250V AC	1.0″	**7317K13**	109.12
Switches with Male Plug					
Standard					
A	Pin Plunger	1 @ 125V AC	0.2″	**7628K41**	107.88
C	Roller Plunger	1 @ 125V AC	0.6″	**7628K42**	109.12
F	Wobble Stick	1 @ 125V AC	3.6″	**7628K44**	148.80
G	Roller Lever	1 @ 125V AC	2.0″	**7628K45**	130.20
H	Center Roller Lever	1 @ 125V AC	2.0″	**7628K46**	142.60
	Cable with Female Plug			**7628K99**	35.42
Panel Mount					
B	Pin Plunger	1 @ 125V AC	0.8″	**7306K11**	130.20
D	Roller Plunger	1 @ 125V AC	1.0″	**7306K12**	142.60
	Cable with Female Plug			**7628K99**	35.42

Ultra-Precision Pin Plunger Limit Switches

It takes only a 1-micron (0.00004″) push to actuate these sensitive switches. Use in applications requiring a high degree of accuracy, such as determining manufacturing tolerances and detecting minute expansions and contractions. They switch one circuit from on to off (SPST-NC) and spring back (momentary). All have a 2½-ft. cable with two wire leads, a nickel-plated brass housing, and hardware for panel mounting. Maximum voltage is 24 AC and 15 DC. UL and C-UL listed and CE marked.

Standard switches have a zirconium-oxide pin. Switch end is unthreaded and cable end has M8 threads.

Washdown switches meet IP67 for temporary water submersion and have a ruby pin. Both ends have M8 threads.



Standard



Washdown

	Amp Rating		
Standard	50 mA @ 24V AC/2 mA @ 15V DC	**6551K52**	$218.64
Washdown	50 mA @ 24V AC/2 mA @ 15V DC	**6551K53**	363.56

Safety Limit Switches

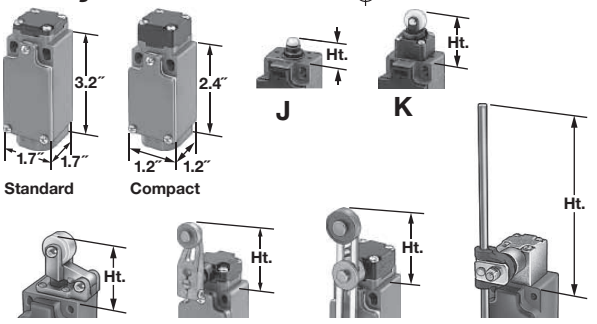

Positive-force contacts open the circuit when triggered, even if a spring fails or the contacts stick. These switch one circuit from off to on or on to off (SPDT) and spring back (momentary). Actuator rotates 360° in 90° increments for additional mounting options. Switches have a ½″ NPT female conduit adapter. CSA certified and CE marked. *Standard* switches have four 0.21″ dia. mounting holes; *compact* switches have two 0.17″ dia. mounting holes. Mounting fasteners not included.

Switches with plastic housing have four internal screw terminal connections. They have a maximum voltage of 240 AC, meet IP65 and NEMA 4 for washdowns, and are CSA-US certified except 65745K18, which has a maximum voltage of 600 AC and 250 DC, meets IP67 and NEMA 13 for resistance to oil and water, and is UL listed.

Switches with die cast zinc housing meet IP67 and NEMA 4 and 13 for washdowns and oil protection. UL listed. *Standard* switches have five internal screw terminal connections. Maximum voltage is 600 AC and 250 DC. *Compact* switches have four internal screw terminal connections. Maximum voltage is 300 AC and 250 DC.

		Amp Rating	Ht.		
Switches with Plastic Housing					
Standard					
J	Pin Plunger	10 @ 240V AC	1.2″	**65745K41**	$76.47
K	Roller Plunger	10 @ 240V AC	1.7″	**65745K42**	94.60
L	Center Roller Lever	10 @ 240V AC	1.5″	**65745K43**	106.42
P	Adjustable Rod	10 @ 240V AC	0.5″-8.0″	**65745K44**	110.60
Compact					
J	Pin Plunger	10 @ 240V AC	0.5″	**65745K51**	64.62
K	Roller Plunger	10 @ 240V AC	1.2″	**65745K52**	76.47
L	Center Roller Lever	10 @ 240V AC	1.1″	**65745K53**	76.47
P	Adjustable Rod	10 @ 600V AC	0.6″-5.8″	**65745K18**	47.20
Switches with Die Cast Zinc Housing					
Standard					
J	Pin Plunger	10 @ 600V AC	1.3″	**6352K54**	84.37
K	Roller Plunger	10 @ 600V AC	1.8″	**6352K55**	90.18
M	Roller Lever	10 @ 600V AC	2.5″	**6352K56**	91.51
N	Adjustable Roller Lever	10 @ 600V AC	0.9″-3.0″	**6352K57**	95.87
Compact					
J	Pin Plunger	10 @ 300V AC	0.7″	**6352K41**	50.85
K	Roller Plunger	10 @ 300V AC	1.1″	**6352K42**	57.85
M	Roller Lever	10 @ 300V AC	2.1″	**6352K43**	47.37
N	Adjustable Roller Lever	10 @ 300V AC	0.9″-3.0″	**6352K44**	53.32

Manual Reset Safety Limit Switches

Prevent equipment from automatically restarting—these limit switches must be manually reset each time they're actuated. Common in conveyors and elevators, they have positive-force contacts that open the circuit when triggered, even if a spring fails or the contacts stick. They switch two circuits: one from off to on and one with positive force from on to off (DPST-NO/NC). Contacts stay switched (maintained) until you pull the reset knob. Maximum voltage is 300 AC. Housing is plastic with two 0.17″ dia. mounting holes (fasteners not included) and meets IP67 for temporary water submersion. Switches have four internal screw terminal connections and a ½″ NPT female conduit entry for wiring. UL and C-UL listed, CSA certified, and CE marked.

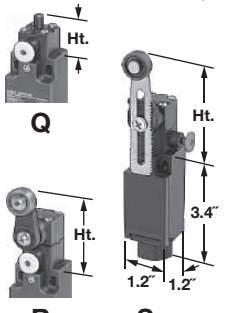

		Amp Rating	Ht.		
Q	Pin Plunger	10 @ 240V AC	1.0″	**7336K51**	$53.90
R	Roller Lever	10 @ 240V AC	2.4″	**7336K53**	59.03
S	Adjustable Roller Lever	10 @ 240V AC	2.1″-3.9″	**7336K54**	61.60

Tilt & Magnetic Switches

For information about electrical switches, see page 909.

Tilt Switches

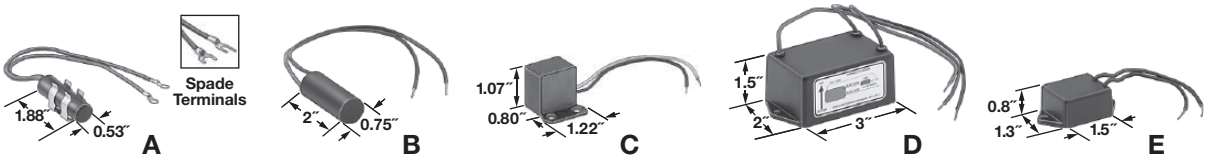

Combining electromechanical and solid state technologies for reliability and long life, these switches actuate when tilted to a certain angle. They're excellent as position indicators, machine limit switches, pump level controls, and manual motor controls. Housing is plastic. Mounting screws not included. Switches mount horizontally and activate when tilted down to the "make angle." They deactivate when tilted up to the "break angle." The differential angle, which is the total angle from make to break, is shown in the table.

Style A have terminals that fit #8 (0.17″ dia.) studs. They include a mounting clip with three 0.19″ dia. holes.

Style C has two 1/4″ dia. mounting holes.

Styles D and **E** have two 3/16″ dia. mounting holes.

	Amp Rating	Max. Voltage	Differential Angle	Wire Leads		
Switch One Circuit from Off to On (SPST-NO)						
A	0.1 @ 120V AC/0.25 @ 24V DC	120 AC/60 DC	15°	Two with Ring Terminals	3108K1	$22.22
A	2.5 @ 120V AC	280 AC	15°	Two with Spade Terminals	3108K2	28.78
B	20 @ 24V DC	40 DC	10°	Two	3108K4	49.74
C	10 @ 12V DC	18 DC	30°	Two	3108K3	25.56
D	15 @ 120V AC	120 AC	15°	Three	3108K5	81.07
D	15 @ 220V AC	220 AC	15°	Three	3108K6	81.07
Switch One Circuit from On to Off (SPST-NC)						
E	2 @ 120V AC	220 AC	25°	Two	3108K8	64.00
E	2 @ 120V AC	220 AC	40°	Two	3108K7	64.00

Magnetically Actuated Switches

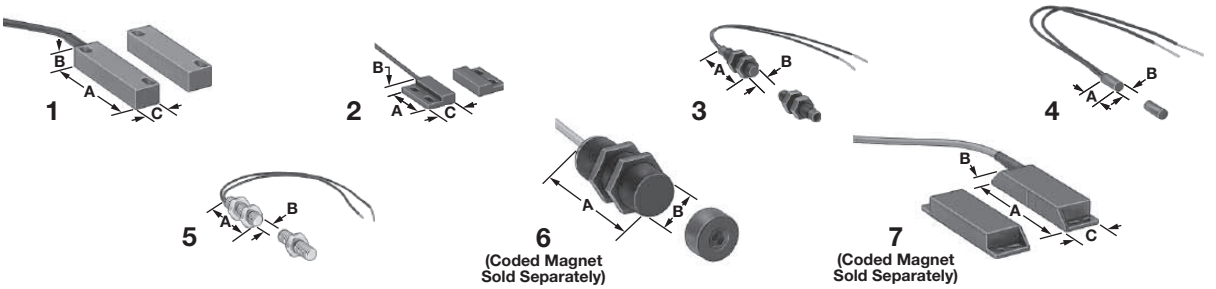

With no moving parts to wear out, these switches provide long-term, trouble-free service. When the magnet comes within the sensing distance of the switch, the switch actuates. When the magnet moves away, the switch resets. The switch is usually mounted in a stationary location such as a door frame while the magnet is mounted on a movable object such as a door. Switches with mounting slots do not include hardware; switches with mounting threads include two hex nuts.

Standard switches are designed for proximity-sensing applications such as detecting when a door or window is open. Magnet included. They are not for use on safety-guard doors found on machinery. *AC-rated* switches have a 3-ft. cable. Rated NEMA 4X for washdowns and corrosion resistance. *DC-rated* switches have two wire leads except SPDT switches have three. UL and C-UL recognized.

Tamper-resistant switches require coded magnets (sold separately) that prevent bypassing with a simple or improperly coded magnet. They have a 3-ft. cable. Meet IP67 for temporary water submersion. UL listed, CSA certified, and CE approved. Note: In safety applications (such as machine guarding) these switches must be used with a safety relay.

Switch *with safety relay* constantly checks for faults in safety circuits, components, and wiring. Relay operates on 24 volts DC.

Safety relay accepts 10-30 volts DC input signals and a control voltage of 24-230 AC and DC. It has three output contacts rated 6 amps @ 250 volts AC, two auxiliary semiconductor outputs that provide 100 mA for signaling purposes, and screw terminal connections. Mount on 35 mm DIN rail.

	Amp Rating	Max. Voltage	Sensing Distance	(A)	(B)	(C)	Housing	Mounting Information		
Standard										
AC Rated—Switch One Circuit from Off to On (SPST-NO)										
1	Rectangular, 830 mA @ 120V AC	250 AC	0.8″	3.16″	0.59″	0.79″	Nylon	0.17″ Dia. Slots	65985K75	$117.13
2	Mini Rectangular, 80 mA @ 120V AC	250 AC	0.4″	1.13″	0.25″	0.71″	Nylon	0.13″ Dia. Slots	65985K72	93.76
3	Cylindrical, 80 mA @ 120V AC	250 AC	0.6″	1.26″	0.31″	____	Stain. Steel	M8×1 Threads	65985K73	86.93
4	Mini Cylindrical, 80 mA @ 120V AC	250 AC	0.1″	1.12″	0.24″	____	Nylon	____	65985K71	82.44
DC Rated—Switch One Circuit from Off to On (SPST-NO)										
2	Mini Rectangular, 2 amps @ 24V DC	400 DC	0.25″	1.13″	0.25″	0.75″	Polyester	0.13″ Dia. Slots	65985K11	16.58
3	Cylindrical, 2 amps @ 24V DC	400 DC	0.2″	1.5″	0.31″	____	Polyester	5/16″-24 Threads	65985K13	17.58
4	Mini Cylindrical, 0.4 amps @ 24V DC	170 DC	0.15″	0.43″	0.18″	____	Polyester	____	65985K15	15.51
5	Mini Cylindrical, 1.7 amps @ 24V DC	400 DC	0.13″	1.25″	0.31″	____	Stain. Steel	5/16″-24 Threads	65985K21	34.96
5	Mini Cylindrical, 2.5 amps @ 24V DC	400 DC	0.19″	1.25″	0.31″	____	Aluminum	5/16″-24 Threads	65985K23	35.44
DC Rated—Switch One Circuit from Off to On or On to Off (SPDT)										
2	Mini Rectangular, 1 amp @ 24V DC	150 DC	0.2″	1.13″	0.25″	0.75″	Polyester	0.13″ Dia. Slots	65985K12	26.46
3	Cylindrical, 1 amp @ 24V DC	150 DC	0.13″	1.5″	0.31″	____	Polyester	5/16″-24 Threads	65985K14	22.98
5	Mini Cylindrical, 0.8 amps @ 24V DC	150 DC	0.2″	1.25″	0.31″	____	Stain. Steel	5/16″-24 Threads	65985K22	47.49
Tamper Resistant										
With Safety Relay—Switch One Circuit from On to Off (SPST-NC)										
6	Cylindrical, 6.3 amps @ 120V AC	250 AC	0.2″	3.1″	1.2″	____	Plastic	M30×1.5 Threads	7225K11	241.38
Coded Magnet for 7225K11									7225K12	21.57
Without Safety Relay—Switches Two Circuits, One from Off to On and One from On to Off (DPST-NO/NC)										
7	Rectangular, 0.5 amps @ 120V AC/DC	120 AC	0.2″	3.5″	0.5″	1″	Plastic	0.2″ Dia. Slots	7202K12	100.45
Coded Magnet for 7202K12									7202K21	26.47
Without Safety Relay—Switches Three Circuits, One from Off to On and Two from On to Off (3PST-1NO/2NC)										
7	Rectangular, 10 mA @ 24V DC	24 DC	0.2″	3.5″	0.5″	1″	Plastic	0.2″ Dia. Slots	7202K11	105.36
Coded Magnet for 7202K11									7202K21	26.47
Safety Relay for 7202K11 and K12									7773K65	405.00

About Choosing a Proximity Switch

When choosing a replacement proximity switch, there are several specifications to consider.

No. of Wires—Most DC switches have three wires; AC have two.

Diameter—Measure the threaded body of your switch to determine this size in mm. This is also the metric thread size.

Mounting Style—*Flush* switches (also known as shielded) can mount in metal that's even with the sensor surface. *Projecting* switches (also known as unshielded) require the area around the sensor to be free of metal but provide a longer sensing distance.

Output—DC switches typically require a choice between *PNP* or *NPN,* which depends on the input required by your programmable logic controller (PLC) or other control device. PNP output is more common. For DC switch tester, see page 950.

Sensing Distance—This is based on the type of metal being sensed. The distance we provide is for mild steel. To find the approximate distance for other materials, multiply the sensing distance by the correction factor: *stainless steel:* 0.7; *brass:* 0.5; *aluminum:* 0.4; *copper:* 0.3.

3-Wire DC Metallic-Object Proximity Switches

Detect metallic objects without coming into contact with them. Also known as inductive proximity switches, these have short-circuit, overload, and reverse-polarity protection. Meet IP67 requirements for washdown. UL and C-UL listed and CE marked.

Switches with cable include a 6½-ft. cable with wire leads. They operate on 15-34 volts DC and have a 150 mA output rating and temperature range of -13° to 185°F, unless noted.

Switches with male plug quickly connect and disconnect for changeout and repair. They operate on 10-30 volts DC and have a 200 mA output rating and temperature range of -13° to 158°F, unless noted.

Cables with female plug mate with male plug switches. Cable is 12 ft. long. For more information about female plugs with cable, see page 804 for 7138K and page 805 for 6897K.

Plated-brass switches resist corrosion. They have a plastic face.

Stainless steel switches are Type 303 for excellent corrosion, impact, and abrasion resistance. They have a stainless steel face except switches with 1.5 and 2.5 mm maximum sensing distance have a plastic face.

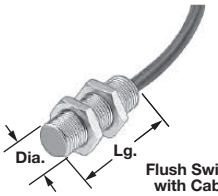

Flush Switch with Cable

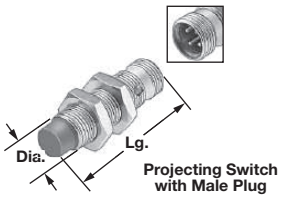

Projecting Switch with Male Plug

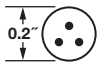

Plug for 8 mm Dia.



Plug for 12-30 mm Dia.

Dia., mm	Mounting Style	Output	Maximum Sensing Distance, mm	Housing Material	Switches with Cable: Lg., mm			Switches with Male Plug: Lg., mm			Cables with Female Plug	
Switch One Circuit from Off to On (Normally Open)												
8	Flush	PNP	1.5	Plated Brass	30	7674K812♣	$103.18	50	73635K71★	$100.50	7138K14	$19.23
8	Flush	PNP	3	Stainless Steel	45	7674K13■	122.11	60	7674K15	120.90	7138K14	19.23
8	Flush	NPN	1.5	Plated Brass	30	7674K811♣	103.18	50	73635K5★	100.50	7138K14	19.23
8	Flush	NPN	3	Stainless Steel	45	7674K12■	122.11	60	7674K14	122.11	7138K14	19.23
8	Projecting	PNP	3	Plated Brass	30	7674K814	103.18	50	73635K97★	103.29	7138K14	19.23
8	Projecting	PNP	6	Stainless Steel	45	7674K17■	123.32	60	7674K19	122.11	7138K14	19.23
8	Projecting	NPN	2.5	Plated Brass	30	7674K813♣	103.18	—	—	—	—	—
8	Projecting	NPN	2.5	Stainless Steel	—	—	—	45	73635K66▲	76.10	7138K14	19.23
8	Projecting	NPN	6	Stainless Steel	45	7674K16■	122.11	60	7674K18	123.32	7138K14	19.23
12	Flush	PNP	2	Plated Brass	30	7674K71■	85.76	—	—	—	—	—
12	Flush	PNP	2	Stainless Steel	50	7674K816■	112.71	60	73635K21	117.49	6897K26	26.65
12	Flush	PNP	4	Plated Brass	—	—	—	45	73635K65	69.75	6897K26	26.65
12	Flush	NPN	2	Plated Brass	35	7674K72	58.74	—	—	—	—	—
12	Flush	NPN	2	Stainless Steel	50	7674K815■	112.71	60	73635K41	117.41	6897K26	26.65
12	Flush	NPN	4	Plated Brass	—	—	—	45	73635K64	70.44	6897K26	26.65
12	Projecting	PNP	4	Plated Brass	40	7674K39♣	85.76	60	73635K69	65.65	6897K26	26.65
12	Projecting	NPN	4	Plated Brass	35	7674K21	58.74	60	73635K68	66.30	6897K26	26.65
18	Flush	PNP	5	Plated Brass	40	7674K79♣	93.80	63.5	7674K86	66.30	6897K26	26.65
18	Flush	PNP	5	Stainless Steel	50	7674K831■	116.69	63.5	73635K22	121.55	6897K26	26.65
18	Flush	NPN	5	Plated Brass	50	7674K74■	93.80	63.5	7674K85	66.30	6897K26	26.65
18	Flush	NPN	5	Stainless Steel	50	7674K819■	116.69	63.5	73635K42	121.71	6897K26	26.65
18	Projecting	PNP	8	Plated Brass	35	7674K25	65.90	63.5	7674K26	66.30	6897K26	26.65
18	Flush	PNP	12	Plated Brass	51	7674K833■	103.43	63.5	73635K775	106.68	6897K26	26.65
18	Projecting	NPN	8	Plated Brass	35	7674K23	65.90	63.5	7674K24	66.30	6897K26	26.65
18	Flush	NPN	12	Plated Brass	51	7674K832■	101.40	63.5	73635K765	107.74	6897K26	26.65
30	Flush	PNP	10	Plated Brass	35	7674K78	71.62	48.5	7674K88	37.51	6897K26	26.65
30	Flush	PNP	10	Stainless Steel	50	7674K835■	141.32	63.5	73635K23	145.22	6897K26	26.65
30	Flush	NPN	10	Plated Brass	35	7674K77	71.62	48.5	7674K87	37.51	6897K26	26.65
30	Flush	NPN	10	Stainless Steel	50	7674K834■	141.32	63.5	73635K43	145.22	6897K26	26.65
30	Projecting	PNP	15	Plated Brass	35	7674K31	71.62	63.5	7674K32	37.51	6897K26	26.65
30	Projecting	NPN	15	Plated Brass	35	7674K27	71.62	63.5	7674K28	37.51	6897K26	26.65
Switch One Circuit from On to Off (Normally Closed)												
8	Flush	PNP	2	Plated Brass	30	7674K837 ♣	114.64	50	73635K74★	107.48	7138K14	19.23
8	Flush	NPN	1.5	Stainless Steel	35	7674K936	81.18	45	73635K78▲	76.10	7138K14	19.23
8	Projecting	PNP	2.5	Stainless Steel	35	7674K393■	67.89	45	73635K83▲	76.10	7138K14	19.23
8	Projecting	NPN	2.5	Stainless Steel	35	7674K938	81.18	45	73635K82▲	76.10	7138K14	19.23
12	Flush	PNP	2	Plated Brass	35	7674K35	65.27	60	73635K81	65.00	6897K36	32.02
12	Projecting	PNP	4	Plated Brass	35	7674K38	65.27	60	73635K85	65.00	6897K36	32.02
12	Projecting	NPN	4	Plated Brass	35	7674K37	65.27	60	73635K84	65.00	6897K36	32.02
18	Flush	PNP	5	Plated Brass	30	7674K49♣	129.53	63.5	7674K44	73.67	6897K36	32.02
18	Flush	NPN	5	Plated Brass	35	7674K41	71.09	63.5	7674K42	72.22	6897K36	32.02

♣Operate on 10-30V DC and have a 100 mA output rating and temperature range of –13° to 158°F.
★ Have a 100 mA output rating. ■ Operate on 10-30V DC and have a 200 mA output rating and temperature range of –13° to 158°F.
▲Operate on 15-34V DC and have a 150 mA output rating and temperature range of –13° to 185°F.

Choose-a-Manufacturer Proximity Switches

If you need a proximity switch made by a specific manufacturer, just tell us what you need and we'll get it for you.

To Order Please ask for 6693T999 and specify the manufacturer and manufacturer part number.

Manufacturer	
Balluff	Pepperl+Fuchs
Baumer	Schneider Electric/Square D
Contrinex	Sick
Eaton	Turck
IFM Efector	Other Manufacturers
Omron	

Long Sensing Distance Metallic-Object Proximity Switches

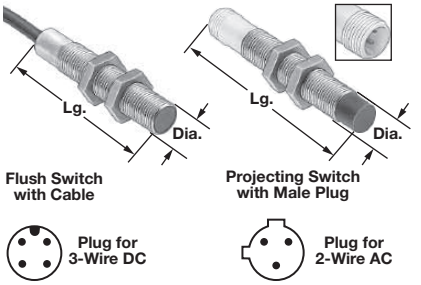

These intelligent proximity switches have longer sensing distances at the same diameter than our other proximity switches. They also have the capability for customized programming when used with a programming kit. All switch one circuit from off to on (normally open). Face is plastic. Temperature range is –40° to 158° F. Meet NEMA 6P and 13 for protection against water submersion and oil/coolant dripping. Rated IP69K for high-pressure and high-temperature washdowns. UL and C-UL listed and CE marked.

3-wire DC switches automatically provide PNP or NPN output based on the control device to which they're connected. Operate on 6-48 volts DC.

2-wire AC switches have a 200 mA output rating and operate on 20-132 volts AC.

Switches with cable have a 6½-ft. cable with wire leads.

Switches with male plug quickly connect and disconnect for changeout and repair.

Switches with male plug and programming kit lets you configure your switch to match other manufacturers' specifications (such as sensing distance) or create your own. Kit includes a computer cable and software compatible with Windows 98/2000/XP operating systems.

Cables with female plug mate with male plug switches. Cable is 12 ft. long. For more information, see 6897K on page 805.

Dia., mm	Mounting Style	Maximum Sensing Distance, mm	Housing Material	Switches with Cable: Lg., mm			Switches with Male Plug: Lg., mm			Switches with Male Plug and Programming Kit: Lg., mm			Cables with Female Plug	
3-Wire DC														
12	Flush	4	Stainless Steel	62	1429T12	$102.85	69	1429T11	$115.56	—	—	—	6897K36	$32.02
12	Projecting	10	Stainless Steel	62	1429T14	102.85	69	1429T13	115.56	69	1429T52	$236.46	6897K36	32.02
18	Flush	8	Stainless Steel	64	1429T16	143.15	69	1429T15	151.63	—	—	—	6897K36	32.02
18	Projecting	16	Stainless Steel	64	1429T18	115.56	69	1429T17	117.69	69	1429T62	236.46	6897K36	32.02
30	Flush	15	Stainless Steel	70	1429T21	127.21	74	1429T19	146.31	—	—	—	6897K36	32.02
30	Projecting	29	Stainless Steel	70	1429T23	121.96	74	1429T22	139.96	74	1429T72	236.46	6897K36	32.02
2-Wire AC														
12	Projecting	10	Stainless Steel	62	1429T84	150.56	69	1429T83	150.56	69	1429T51	236.46	6897K86	25.65
18	Flush	8	Stainless Steel	64	1429T42	132.54	69	1429T41	148.44	—	—	—	6897K86	25.65
18	Projecting	18	Stainless Steel	64	1429T44	126.15	69	1429T43	148.44	69	1429T61	236.46	6897K86	25.65
30	Flush	15	Stainless Steel	70	1429T46	136.79	74	1429T45	153.75	—	—	—	6897K86	25.65
30	Projecting	29	Stainless Steel	70	1429T48	150.58	74	1429T47	153.75	74	1429T71	236.46	6897K86	25.65

Flat-Body 3-Wire DC Metallic-Object Proximity Switches

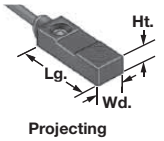

A space-saving flat design mounts to a base or rail. Switches detect metallic objects without coming into contact with them and have reverse-polarity protection and normally open (NO) contacts. They operate on 10-30 volts DC and have a temperature range of –13° to 158° F. Meet IP67 for temporary submersion. Switches have a 6½-ft. cable with wire leads and two mounting holes, unless noted. 27 mm long switches come with a mounting bracket.

Lg., mm	Wd., mm	Ht., mm	Mounting Style	Max. Sensing Distance, mm	Housing Material	Output Rating	Mounting Hole Dia., mm	PNP Output		NPN Output	
27	10	6	Projecting	3	Plastic	100 mA	3	7364K22 ■	$78.91	7364K21 ■	$78.91
30.5	18	10	Projecting	5	Plastic	50 mA	3.5	7364K24	67.64	7364K23	67.64
50	25	10	Flush	5	Aluminum	200 mA	4.5	7364K12	87.93	7364K11	87.93
53	40	23	Projecting	20	Plastic	100 mA	5.5	—	—	7364K25	110.47

■ Has one mounting hole.

2-Wire AC Metallic-Object Proximity Switches

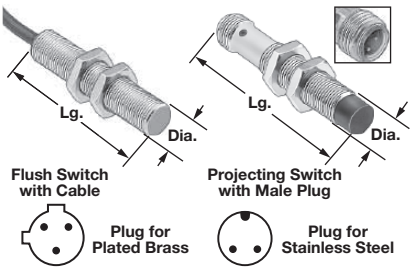

Detect metallic objects without coming into contact with them. These AC switches have an LED power indicator and a plastic face. Meet IP67 for temporary submersion. CE marked.

Switches with cable accept an input of 20-265 volts AC and 20-320 volts DC. They have a 6½-ft. cable with wire leads. Temperature range is –13° to 185° F. UL listed.

Switches with male plug quickly connect and disconnect for changeout and repair. They accept an input of 20-250 volts AC. Switches with stainless steel housing also operate on 20-320 volts DC. Temperature range is –13° to 158° F. *Plated-brass* switches are CSA certified to UL Standard 508. *Stainless steel* switches are UL and C-UL listed and CSA certified.

Cables with female plug mate with male plug switches. Cable is 12 ft. long. For more information, see 6897K on page 805.

Plated-brass switches resist corrosion. *Switches with cable* are nickel plated and *switches with male plug* are chrome plated.

Stainless steel switches are Type 303 for excellent corrosion, impact, and abrasion resistance.

Dia., mm	Mounting Style	Maximum Sensing Distance, mm	Housing Material	Switches with Cable: Output Rating	Lg., mm			Switches with Male Plug: Output Rating	Lg., mm			Cables with Female Plug	
Switch One Circuit from Off to On (Normally Open)													
12	Flush	2	Plated Brass	200 mA	56	7486K85	$86.87	400 mA	68	73635K51	$60.67	6897K86	$25.65
12	Flush	2	Stainless Steel	200 mA	56	7486K31	89.70	200 mA	65	73635K14	91.60	6897K26	26.65
12	Projecting	4	Plated Brass	200 mA	62	7486K95	86.87	400 mA	68	73635K52	72.22	6897K86	25.65
12	Projecting	4	Stainless Steel	200 mA	62	7486K32	99.06	200 mA	71	73635K15	102.38	6897K26	26.65
18	Flush	5	Plated Brass	300 mA	54	7486K86	88.38	400 mA	78	73635K75	82.33	6897K86	25.65
18	Flush	5	Stainless Steel	300 mA	54	7486K33	94.47	300 mA	69	73635K16	100.85	6897K26	26.65
18	Projecting	8	Plated Brass	300 mA	54	7486K96	88.38	400 mA	78	73635K86	60.67	6897K86	25.65
18	Projecting	8	Stainless Steel	300 mA	54	7486K54	112.43	300 mA	69	73635K17	110.08	6897K26	26.65
30	Flush	10	Plated Brass	300 mA	54	7486K15	94.47	400 mA	78	73635K87	109.78	6897K86	25.65
30	Flush	10	Stainless Steel	300 mA	54	7486K35	124.96	300 mA	69	73635K18	125.92	6897K26	26.65
30	Projecting	15	Plated Brass	300 mA	54	7486K16	94.47	400 mA	78	73635K88	73.67	6897K86	25.65
30	Projecting	15	Stainless Steel	300 mA	54	7486K36	115.77	300 mA	69	73635K19	129.33	6897K26	26.65
Switch One Circuit from On to Off (Normally Closed)													
12	Flush	2	Plated Brass	200 mA	56	7486K87	91.43	400 mA	68	73635K55	60.67	6897K86	25.65
12	Projecting	4	Plated Brass	200 mA	62	7486K97	91.43	400 mA	68	73635K56	72.22	6897K86	25.65
18	Flush	5	Plated Brass	300 mA	54	7486K88	88.38	400 mA	78	73635K98	60.67	6897K86	25.65
18	Projecting	8	Plated Brass	300 mA	54	7486K98	88.38	400 mA	78	73635K99	60.67	6897K86	25.65
30	Flush	10	Plated Brass	300 mA	54	7486K47	97.55	400 mA	78	73635K38	109.78	6897K86	25.65
30	Projecting	15	Plated Brass	300 mA	54	7486K48	94.47	400 mA	78	73635K39	109.78	6897K86	25.65

Universal-Object Proximity Switches



Detect both metallic and nonmetallic objects with these projecting switches. Also known as capacitive proximity switches, they have a plastic housing that meets IP66 for washdowns, a 6½-ft. cable with wire leads, and an LED power indicator. Output rating is 200 mA. Temperature range is –13° to 158°F except for 30 mm dia. switches, which have a temperature range of 14° to 131°F. **3-wire DC switches** operate on 10-30 volts DC. **2-wire AC switches** operate on 90-250 volts AC.

Also Available: Proximity switches made by a specific manufacturer. Please ask for 6693T999 and specify manufacturer and manufacturer part number.

Dia., mm	Mounting Style	Maximum Sensing Distance, mm	Housing Material	Lg., mm	3-Wire DC Switches PNP Output		3-Wire DC Switches NPN Output		2-Wire AC Switches	
Switch One Circuit from Off to On (Normally Open)										
12	Projecting	4	Plastic	80	7675K84	$133.62	7675K83	$133.62	7675K81	$181.72
18	Projecting	8	Plastic	80	7675K85	144.31	7675K54	144.31	7675K82	165.69
30	Projecting	15	Plastic	80	7675K86	138.97	7675K52	138.97	7675K51	181.72
Switch One Circuit from On to Off (Normally Closed)										
12	Projecting	4	Plastic	80	7675K94	133.62	7675K93	133.62	7675K91	181.72
18	Projecting	8	Plastic	80	7675K95	144.31	7675K48	144.31	7675K92	165.69
30	Projecting	15	Plastic	80	7675K96	138.97	7675K42	138.97	7675K41	181.72

About Light Beam Sensing Switches

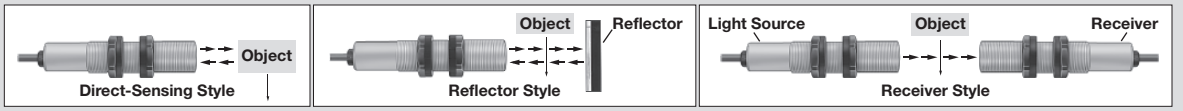

Also known as photoelectric switches, these use a light beam to detect the presence or absence of an object made of any material. They have a longer sensing distance than proximity switches.

Direct-Sensing Style—They have the shortest sensing distance for use in confined spaces and can be adversely affected by the color or surface of the target object. The light source and receiver are in the same housing. Switches detect the target object when the light beam reflects off the object back into the receiver.

Reflector Style—They have a longer sensing distance than direct-sensing switches. The light source and receiver are in the same housing, but switches use a reflector. They detect the target object when it passes between the switch and the reflector, interrupting the beam.

Receiver Style—They have the longest sensing distance. The light source and receiver are in separate housings that must be lined up facing each other. Switch detects the target object as it breaks the light beam between the light source and receiver.

Switch Operation—*On when object present* switch when a target object is present (similar to a normally open switch). *On when object absent* switch when the target object is absent (similar to a normally closed switch).

Light Beam Sensing Switches



Mount these threaded switches in an 18 mm dia. panel cutout. They have a signal strength indicator and watertight plastic housing. Temperature range is –13° to 131°F. Rated IP67 for washdowns. CE marked.

DC Input—Operate on 10-30 volts DC and have a 100 mA output rating. 45 mm long. *Reflector* switches require a reflector (sold separately below). *Switches with cable* have a 4-wire cable.

To Order: Please specify PNP or NPN output.

AC Input—Operate on 24-250 volts AC and have a 300 mA output rating. 85mm long. *Switches with cable* have a 3-wire cable. UL listed and CSA certified. *Reflector* switches include a reflector.

Switch Style	Sensing Distance	Switches with Cable		Switches with Male Plug	
DC Input—On When Object Present or Absent					
Direct Sensing	4″	65845K15	$69.44	65845K17	$69.44
Reflector	13.1 ft.	65845K16	73.16	65845K18	73.16
AC Input—On When Object Present					
Direct Sensing	12″	65845K46	93.00	65845K73	93.00
Reflector	6.5 ft.	65845K66	134.69	65845K77	130.91
Receiver	66 ft.	65845K56	130.50	65845K75	126.00
AC Input—On When Object Absent					
Direct Sensing	12″	65845K47	93.00	65845K74	92.31
Reflector	6.5 ft.	65845K67	134.69	65845K78	130.91
Receiver	66 ft.	65845K57	130.50	65845K76	126.00
Accessories					
Cable with Female Plug for DC Switches				6897K36	32.02
Cable with Female Plug for AC Switches				65845K79	43.75
Optional Mounting Bracket for DC Switches				65845K13	4.28
Optional Mounting Bracket for AC Switches				65845K14	12.00
Reflector for DC Switches				65845K41	22.26
Replacement Reflector for AC Switches				7363K33	12.00

Flat-Body Light Beam Sensing Switches



Fit these small, flat-body switches into tight spaces. They can be set to switch on when an object is present or on when an object is absent. Switches have an 18 mm dia. threaded face and plastic housing with 3 mm dia. mounting holes spaced 24 mm apart. Output rating is 100 mA. Temperature range is –4° to 158°F. They're watertight and oil tight for outdoor use, meeting NEMA 4X and 13. Meet IP67 for washdowns. UL and C-UL recognized, CSA certified, and CE marked.

Switches with male plug quickly connect and disconnect.

DC Input—Operate on 10-30 volts DC and have PNP and NPN outlets. *Switches with cable* are 2⅛″ Lg.×½″ Wd.×1³⁄₁₆″ Ht. and have a 6½-ft. 4-wire cable. *Switches with male plug* are 2⅞″ Lg.×½″ Wd.×1³⁄₁₆″ Ht.

AC Input—Operate on 24-240 volts AC. *Switches with cable* are 2⅝″ Lg.×½″ Wd.×1³⁄₁₆″ Ht. and have a 6½-ft. 2-wire cable. *Switches with male plug* are 3⁵⁄₁₆″ Lg.×½″ Wd.×1³⁄₁₆″ Ht.

Reflector switches include a 3⁵⁄₁₆″ dia. reflector.

Switch Style	Sensing Distance	Switches with Cable		Switches with Male Plug	
DC Input					
Direct Sensing	15″	9539T7	$101.65	9539T11	$101.65
Reflector	10 ft.	9539T8	111.76	9539T12	121.38
Receiver	100 ft.	9539T9	150.87	9539T14	150.87
Cable with Female Plug				6897K36	32.02
Replacement Reflector				9539T15	4.48
AC Input					
Direct Sensing	15″	9539T1	124.08	9539T4	124.08
Reflector	10 ft.	9539T2	132.39	9539T5	131.35
Receiver	100 ft.	9539T3	178.78	9539T6	178.78
Cable with Female Plug				6897K86	25.65
Replacement Reflector				9539T15	4.48

Light Beam Sensing Switches with Relay Output

With a built-in relay output, you can switch loads up to 3 amps at 250 volts AC. Output can be set to switch on when an object is present or on when an object is absent. Operate on 24-240 volts AC and DC. Switches have screw terminal connections, ABS plastic housing, and a mounting bracket with two ³⁄₁₆″ dia. holes (screws not included). Temperature range is –13° to 131°F. Meet IP66 for washdowns. CE marked.

Time delay switches have delay-on, off-delay, and switch-on initiated interval timing functions (see About Timer Relays on page 960). They're adjustable from 0.1 to 5 seconds.

Reflector switches include a 1⅝″ Lg.×2⅜″ Ht. reflector.

Switch Style	Sensing Distance		
Standard			
Direct Sensing	3.3 ft.	9231K11	$103.08
Reflector	23 ft.	9231K12	105.83
Receiver	65.6 ft.	9231K13	140.99
Replacement Reflector		9231K31	13.04
Time Delay			
Direct Sensing	3.3 ft.	9231K21	136.28
Reflector	23 ft.	9231K22	135.52
Receiver	65.6 ft.	9231K23	174.94
Replacement Reflector		9231K31	13.04

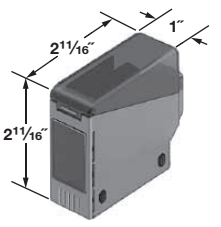

Fiber-Optic Light Beam Sensing Switches



Switch



Direct Sensing



Receiver

Highly flexible fiber-optic cable that can be cut to length and a small sensing end allow precise positioning in tight spaces. Switches can be set to switch on when an object is present or on when an object is absent. They have a red LED that indicates signal strength and alignment accuracy. Fiber-optic cable is 6½ ft. long and made of plastic with an acrylic core. The relay output is SPDT and rated 5 amps @ 250 volts AC and 30 volts DC. Operate on 24-250 volts AC and 12-250 volts DC.

Switches have a 6-ft. 5-wire cable and a 2⅛″ Lg.×1¾″ Wd.×2¾″ Ht. polyester housing with a ½″ NPS female conduit opening and two 3⁄16″ dia. mounting holes (fasteners not included). Temperature range is –13° to 131° F. Rated NEMA 6P for outdoor use and meet IP67 for washdowns. UL listed, CSA certified, and CE marked.

Time delay switches let you delay the on signal (on-delay) or off signal (off-delay) from 0.1 to 0.15 seconds, 0.1 to 1.5 seconds, or 1 to 15 seconds. It can also be set for interval, single-shot, or repeat cycle timing (see About Timer Relays on page 960).

Switch Style	Sensing Distance	Standard Switches		Time Delay Switches		Replacement Cables	
Direct Sensing	1.8″	65935K53	$154.35	65935K83	$196.74	65935K93	$39.13
Receiver	4.9″	65935K54	158.70	65935K84	201.09	65935K94	43.48

Precision Laser Sensing Switches



A smaller beam detects smaller objects than light beam sensing switches for optimal performance in tight spaces. Laser switches operate on 10-30 volts DC and have an SPDT PNP output (see About Proximity Switches on page 947). They have a 6-ft. 4-wire cable and a 1¼″ Lg.×5⁄8″ Wd.×1⅛″ Ht. plastic housing with an 18 mm dia. threaded face for mounting. Temperature range is 14° to 122° F. Rated NEMA 6 for outdoor use. Meet IP67 for washdowns. UL and C-UL recognized and CE marked.

Switch Style	Sensing Distance		
Direct Sensing	12″	5038T12	$135.00
Reflector	3.9″-33 ft.	5038T11	156.25

Proximity and Light Beam Sensing Switch Brackets



Clamp Style



Adjustable Angle



Right Angle

Clamp-style brackets mount any cylindrical switch.

Adjustable-angle bracket swivels and includes adapters to ensure a tight fit.

Right-angle brackets have 0.22″ wide slots (except 55205K23 and K26 have 0.28″ slots) for mounting in almost any position. Fasteners not included.

Fits Switch Dia., mm	Lg., mm	Wd., mm	Ht., mm		
Clamp Style—Plastic					
8	34	30	25	55205K14	$15.27
12	37	30	25	55205K11	13.64
18	42	30	31	55205K12	13.64
30	59	30	40	55205K13	16.36
Adjustable Angle—Nylon and Zinc-Plated Steel					
5-30	54	25	67	55205K61	32.96
Right Angle—Zinc-Plated Steel					
8	32	32	25	55205K27	8.93
12	38	35	38	55205K21	7.14
18	45	35	51	55205K22	5.36
30	57	45	64	55205K23	5.36
Right Angle—Stainless Steel					
8	32	32	25	55205K28	14.29
12	38	35	38	55205K24	12.50
18	45	35	51	55205K25	8.93
30	57	45	64	55205K26	14.29

Proximity and Light Beam Sensing Switch Testers



Verify the output voltage of DC switches. A red LED indicates NPN; green LED indicates PNP. Tester has four spring-loaded terminals for connection and operates on two 9-volt batteries (included). CE marked.

6555K44 ..... $166.25

Ultrasonic Switches



High-frequency sound waves detect objects of all sizes, shapes, colors, and materials, even in dirty environments. These 30 mm Dia.×100 mm Lg. threaded sensors also measure the distance to a target. Set the turn-on and turn-off point to specify a particular range of detection anywhere within the sensing distance. Switches have short-circuit and reverse-polarity protection, an LED alignment accuracy indicator, and plastic housing with rubber face. Operate on 20-30 volts DC. Operating temperature range is 32° to 140° F.

Digital-output switches have two solid state relays, one that switches from off to on (normally open) and one that switches from on to off (normally closed). Rated 50 mA @ 130 volts AC and 100 mA @ 130 volts DC. They have a 6-ft. 5-wire cable.

Analog-output switches have one 0-10 DC voltage output and one 4-20 mA current output. They have a 6-ft. 4-wire cable.

Sensing Distance	Digital Output		Analog Output	
4″-40″	6565K31	$395.56	6565K61	$395.56
8″-80″	6565K42	471.11	6565K62	471.11

Light Beam Safety Barrier Switches



Transmitter and Receiver



Control Box

Breaking the light beam between these barriers immediately cuts power to machinery to protect personnel. Switches detect objects with a height of 0.78″ and greater and have a selectable input voltage (24 DC or 100-240 AC). Maximum distance between transmitter and receiver is 65 ft. When you need material to pass through the sensing field, you can program the system to allow one or more beams to be broken without shutting off your machine. Note: Use only with machinery that can consistently and immediately stop anywhere in its cycle; do not use with a full-revolution clutched press or machine.

Switches include a transmitter, receiver, 33-ft. transmitter cable, 33-ft. receiver cable, and a metal control box that houses the power supply, relay outputs, and screw terminal connections.

Transmitter and receiver have a 2″ Wd.× 1½″ Dp. yellow powder-coated aluminum housing and adjustable brackets with screws for mounting to a wall or structural framing. Control box is 11 3⁄16″ Ht.×7 7⁄16″ Wd.× 2¾″ Dp. and has eight 5⁄16″ dia. mounting holes (screws not included). Switches meet or exceed OSHA and ANSI machine guard requirements. Meet IP65 and NEMA 4 and 12 for washdown and oil protection. UL and C-UL listed, CSA certified, and CE marked.

Light Beam Ht.	O'all Ht.		
11″	16.6″	7774K22	$2,588.57
12.6″	18.1″	7774K23	2,720.00
15.7″	21.3″	7774K24	2,971.43
20.5″	26″	7774K25	3,348.57
23.6″	29.1″	7774K26	3,600.00
28.3″	33.9″	7774K27	3,954.29
33″	38.6″	7774K28	4,331.43
36.2″	41.7″	7774K31	4,523.94

Light Beam Ht.	O'all Ht.		
40.9″	46.4″	7774K32	$4,895.77
44.1″	49.6″	7774K33	5,138.03
48.8″	54.3″	7774K34	5,464.79
52″	57.5″	7774K35	5,712.68
56.7″	62.2″	7774K36	6,078.87
59.8″	65.3″	7774K37	6,326.76
64.6″	70″	7774K38	6,687.32

Long Distance Light Beam Safety Barrier Switches

A single beam of light creates a wide barrier that immediately shuts down machinery when breached. Maximum distance between transmitter and receiver is 225 ft. For a complete system, you'll need the transmitter and receiver set, transmitter cable, and receiver cable. Note: Use only with machinery that can consistently and immediately stop anywhere in its cycle; do not use on a full-revolution clutched press or machine.

Transmitter and receiver have LED indicators that provide status and diagnostic information, a yellow powder-coated aluminum housing, and mounting brackets with three 9⁄32″ dia. holes (fasteners not included). Operate on 24 volts DC. Meet ANSI machine guard requirements and IP67 for temporary water submersion.



Transmitter and Receiver Set

Transmitter and Receiver Set (9 1⁄8″ Ht. x 2 1⁄8″ Wd. x 2 7⁄8″ Dp.)	7231K31	$1,108.57
Transmitter Cable (32 ft. Lg.)	7231K41	97.33
Receiver Cable (32 ft. Lg.)	7231K42	97.33

About Access Safety Switches (Interlock Switches)

Access safety switches (also known as interlock switches) prevent a machine from operating if an access panel or door is open, protecting personnel from injury and the machine from damage. Switches are typically installed on access doors or machine guards and electrically connected to the machine control circuitry.

Contacts that switch from on to off (normally closed) in access safety switches are positive-force contacts. They mechanically disengage when a switch is actuated, even if the contacts become welded shut or a spring breaks. This feature provides additional safety for the equipment operator.

Key-Actuated Access Safety Switches

Ensure that your machine cannot operate when the guard door is open. These tamper-resistant switches come with a key that must be inserted into the switch before the machine can run. Switches are usually mounted to the door frame and the key is mounted to the door (fasteners not included). When the door is opened, the key is removed from the switch and the machine shuts down. Key can actuate from both the top and side of the switch. Contacts that switch from on to off (normally closed) are positive force. Switches have a thermoplastic housing and 1⁄2″ NPT female conduit entry with screw terminals, except 65665K25 has an M16 male conduit entry and a 3-ft. cable.

65665K17 and 7787K12 have a rotating head. 65665K17 has the same mounting style as Allen Bradley's Guardmaster Trojan series. 7787K12 also mounts to 2″ square tubing.

Standard switches are UL listed and CE marked. 65665K25 is also C-UL listed. *Adjustable-mount key* pivots for horizontal or vertical mounting when used with Style D.

Switches with access delay are for machines that take time to stop after they are turned off, delaying access to hazardous areas until conditions are safe. The key is held in place with 225 lbs. of force until the switch receives a signal from your time delay relay, motion sensor, or position sensor (not included) that the machine's motion has stopped. UL and C-UL listed and CE marked.

Emergency override key works with *Style E*, allowing the user to bypass the access delay feature.

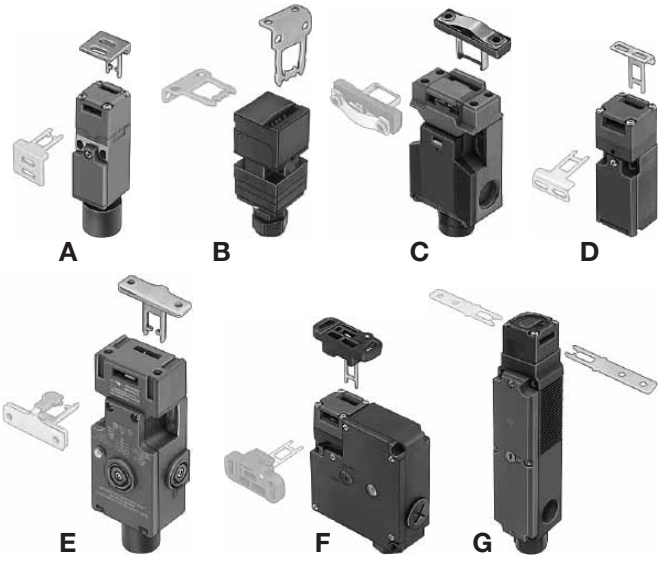

	No. of Circuits	Before Switching, Circuit Is	Industry Designation	Amp Rating @ 120V AC/ 24V DC	Max. Voltage, AC/DC	Input Voltage, AC/DC	Ht.	Wd.	Dp.	Mount. Hole Dia.	Environmental Rating		
Standard Switches													
A	2	1 Off, 1 On	DPST-1NO/1NC	5/2	500/250	_____	3″	1″	1.1″	0.17″	IP67, NEMA 6	65665K32	$97.02
B	2	1 Off, 1 On	DPST-1NO/1NC	8/4	250/24	_____	3.3″	1.2″	1.2″	0.17″	IP67	65665K25	99.74
C	2	1 Off, 1 On	DPST-1NO/1NC	10/2	250/24	_____	3.6″	2.1″	1.3″	0.22″	IP65, NEMA 4	65665K13	92.72
C	3	1 Off, 2 On	3PST-1NO/2NC	6/2.5	500/250	_____	3.9″	2.3″	1.3″	0.2″	IP67, NEMA 6	65665K17	98.56
C	3	1 Off, 2 On	3PST-1NO/2NC	8/4	600/250	_____	3.5″	2.1″	1.2″	0.22″	IP67	65665K15	121.63
D	3	1 Off, 2 On	3PST-1NO/2NC	6/0.27	240/250	_____	3.8″	1.2″	1.2″	0.2″	IP67	65665K16	83.16
Adjustable-Mount Key for Style D												65665K167	32.51
Switches with Access Delay													
E	3	1 Off, 2 On	3PST-1NO/2NC	5/2	500/250	24/24	4.7″	2.3″	1.4″	0.21″	IP67, NEMA 6	7787K61	488.12
E	3	1 Off, 2 On	3PST-1NO/2NC	5/2	500/250	110/__	4.7″	2.3″	1.4″	0.21″	IP67, NEMA 6	7787K62	488.12
F	3	1 Off, 2 On	3PST-1NO/2NC	3/2.5	240/250	__/24	3.7″	3.5″	1.4″	0.17″	IP67	7787K64	301.75
G	4	2 Off, 2 On	4PST-2NO/2NC	4/4	240/24	24/24	7.6″	1.2″	1.6″	0.2″	IP67	7787K12	391.88
Emergency Override Key for Style E												7787K81	19.04

Hinge-Actuated Access Safety Switches

You can install an access safety switch even if the space around your door is tight. Replace one of the hinges with this switch and the other with the included plain hinge. It can also be used on machine guards constructed from aluminum T-slotted framing. It switches three circuits, one from off to on and two from on to off (3PST-1NO/2NC). Rated 2 amps @ 250 volts AC. When the switch rotates at least 4°, the normally closed contacts open and shut off the power. Contacts that switch from on to off (normally closed) are positive force. Switch has a plastic housing, aluminum hinges, an M20 threaded female conduit entry, and six screw terminals. Meets IP65 for washdowns.

7777K48 ..... $174.51

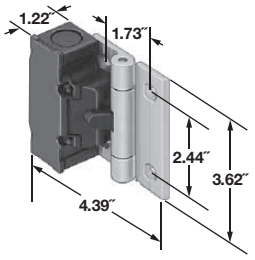

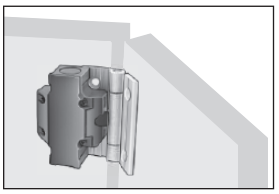

High-Amp Relays

For information about electrical switches, see page 909.

About High-Amp Relays

High-amp relays (also known as contactors) use an electrical signal or control voltage to remotely switch high-amp circuits such as lighting and large motors. They are typically rated for applications up to 50 hp.

Full load amp rating is the maximum amount of current a relay can switch for a motor.

Resistive load amp rating is the maximum amount of current a relay can switch for other electrical loads such as heaters.

High-Amp Relays

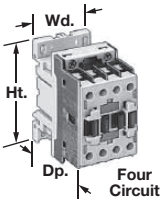

Switch motors and lighting. Also known as IEC contactors, these relays are built to International Electrotechnical Commission dimensional standards. Mechanical life is 20 million cycles, significantly longer than that of Infrequent-Cycle High-Amp Relays. They mount to 35 mm DIN rail and have 0.17″ dia. holes for surface mounting (fasteners not included). All have touchsafe screw terminal connections to prevent contact with live terminals. Connections are accessible from the front for side-by-side mounting. Contacts spring back (momentary) when power is removed. UL and C-UL listed.

Relays with **AC control voltage** have a power draw of 6.5 VA. **To Order:** Please specify control voltage: 24 AC, 120 AC, or 240 AC.

Relays with **24 DC control voltage** have a power draw of 5.4 watts.

Auxiliary contacts allow you to add a signaling device or control another relay. They switch two circuits, one on and one off (DPST-NO/NC). You can add one front-mount contact per relay or two side-mount contacts per relay.

Amp Rating @ 600V AC Full Load	*Amp Rating @ 600V AC* Resistive Load	*AC Motor hp Rating* *Single Phase* 120V	*Single Phase* 240V	*Three Phase* 240V	*Three Phase* 480V	*Three Phase* 600V	Ht.	Wd.	Dp.	AC Control Voltage		24 DC Control Voltage Dp.	
Switch Three Circuits On (3PST-NO)—With One Auxiliary Contact to Switch One Circuit On (1 NO)													
6	20	1/2	1 1/2	3	5	5	2.3″	1.7″	2.2″	70255K61	$40.00	2.2″	70255K17 $60.71
11	28	1	2	5	7 1/2	10	3.2″	1.8″	3.2″	70255K32	50.87	3.9″	70255K42 92.81
17	32	1	3	5	10	15	3.2″	1.8″	3.2″	70255K33	61.90	3.9″	70255K43 110.24
17	32	2	3	7 1/2	15	15	3.2″	1.8″	3.2″	70255K34	89.43	3.9″	70255K44 129.29
Switch Three Circuits On (3PST-NO)—With One Auxiliary Contact to Switch One Circuit Off (1 NC)													
6	20	1/2	1 1/2	3	5	5	2.3″	1.7″	2.2″	70255K62	40.00	2.2″	70255K18 60.71
11	28	1	2	5	7 1/2	10	3.2″	1.8″	3.2″	70255K35	50.87	3.9″	70255K45 92.81
17	32	1	3	5	10	15	3.2″	1.8″	3.2″	70255K36	61.90	3.9″	70255K46 110.24
17	32	2	3	7 1/2	15	15	3.2″	1.8″	3.2″	70255K37	89.43	3.9″	70255K47 129.29
Switch Four Circuits On (4PST-NO)													
9	25	3/4	2	3	5	7 1/2	3.2″	1.8″	3.2″	70255K65	53.94	3.9″	70255K28 95.39
11	28	1	2	5	7 1/2	10	3.2″	1.8″	3.2″	70255K39	67.47	—	— —
17	32	1	3	5	10	15	3.2″	1.8″	3.2″	70255K55	84.21	3.9″	70255K49 129.95
22	45	2	5	7 1/2	15	20	3.5″	2.4″	3.5″	70255K41	97.66	4.2″	70255K66 148.43
32	55	3	7 1/2	15	30	30	3.5″	2.4″	3.5″	70255K27	214.65	4.2″	70255K38 290.35
Auxiliary Contact for Relays Rated 6 Full-Load Amps—Front Mount													70255K13 $12.30
Auxiliary Contact for Relays Rated 9-32 Full-Load Amps—Front Mount													70255K14 11.57
Auxiliary Contact for Relays Rated 9-32 Full-Load Amps—Side Mount													70255K26 11.57

Infrequent-Cycle High-Amp Relays

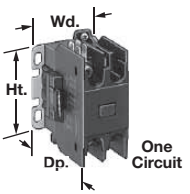



Also called definite-purpose contactors, these relays meet UL 508 standards for air conditioning and heating. Mechanical life is 500,000 cycles. They have at least three holes for surface mounting (fasteners not included). Relays have screw terminal connections and 1/4″ quick-disconnect terminals except 6564K89, which has screw terminals only. Connections are accessible from the front for side-by-side mounting. Contacts spring back (momentary) when power is removed. UL recognized, CSA certified, and CE marked.

Relays with **AC Control Voltage—To Order:** Please specify control voltage: 24 AC, 120 AC, or 208/240 AC.

Also Available: Auxiliary contacts. Please ask for 6564K99 and specify the McMaster-Carr part number of your relay and whether you want to switch one circuit on (1 NO) or off (1 NC).

Amp Rating @ 600V AC Full Load	*Amp Rating @ 600V AC* Resistive Load	*AC Motor hp Rating* *Single Phase* 115V	*Single Phase* 230V	*Three Phase* 230V	*Three Phase* 460V	*Three Phase* 575V	Ht.	Wd.	Dp.	Power Draw	AC Control Voltage		Power Draw, Watts	24 DC Control Voltage	
Switch One Circuit On (SPST-NO)															
25	30	2	3	—	—	—	3.2″	2.0″	2.3″	6 VA	6564K85★	$22.46	—	—	—
30	40	2	5	—	—	—	3.2″	2.0″	2.3″	6 VA	6564K72★	25.02	—	—	—
40	50	3	7 1/2	—	—	—	3.2″	2.0″	2.3″	6 VA	6564K86★	34.92	—	—	—
Switch Two Circuits On (DPST-NO)															
15	20	3/4	2	3	5	5	3.8″	2.4″	3.4″	7 VA	6564K91	36.14	3.1	6564K511	$66.67
20	30	1 1/2	3	—	—	—	3.2″	2.0″	2.3″	6.5 VA	6564K73★	37.02	—	—	—
25	35	2	3	—	—	—	3.2″	2.0″	2.3″	6.5 VA	6564K74★	41.54	3.1	6564K513■	73.26
30	40	2	5	—	—	—	3.2″	2.0″	2.3″	6.5 VA	6564K75★	38.71	3.1	6564K516■	82.98
40	50	3	7 1/2	—	—	—	3.2″	2.0″	2.3″	6.5 VA	6564K76★	60.26	3.1	6564K519■	76.79
50	65	3	10	15	30	30	3.8″	2.4″	3.4″	10 VA	6564K77	106.83	3.1	6564K523	100.36
60	75	5	10	20	40	40	3.8″	2.6″	4.0″	50.4 VA	6564K78	129.97	5.1	6564K525	119.79
75	90	5	15	20	50	50	3.8″	2.6″	4.0″	50.4 VA	6564K87	156.20	5.1	6564K527	148.07
90	120	7 1/2	20	30	50	50	5.1″	3.4″	4.8″	19 VA	6564K79	210.88	—	—	—
Switch Three Circuits On (3PST-NO)															
15	20	3/4	2	3	5	5	3.8″	2.4″	3.4″	7 VA	6564K92	43.75	3.1	6564K512	76.33
25	35	2	3	7 1/2	10	10	3.8″	2.4″	3.4″	7 VA	6564K93	46.69	3.1	6564K514	81.14
30	40	2	5	10	15	15	3.8″	2.4″	3.4″	7 VA	6564K94	56.59	3.1	6564K517	87.17
40	50	3	7 1/2	10	20	20	3.8″	2.4″	3.4″	7 VA	6564K95	68.80	3.1	6564K521	86.40
50	65	3	10	15	30	30	3.8″	2.4″	3.4″	10 VA	6564K96	112.87	3.1	6564K524	108.24
60	75	5	10	20	40	40	3.8″	2.6″	4.0″	50.4 VA	6564K97	134.16	5.1	6564K526	123.71
75	90	5	15	20	50	50	3.8″	2.6″	4.0″	50.4 VA	6564K88	167.27	5.1	6564K528	158.26
90	120	7 1/2	20	30	50	50	5.1″	3.4″	4.8″	19 VA	6564K98	237.48	—	—	—
120	140	—	—	—	—	—	7.2″	4.1″	5.9″	49.8 VA	6564K89	470.22	—	—	—
Switch Four Circuits On (4PST-NO)															
25	35	2	3	7 1/2	10	10	3.8″	2.7″	3.4″	50.4 VA	6564K1	72.24	5.1	6564K515	100.24
30	40	2	5	10	15	15	3.8″	2.7″	3.4″	50.4 VA	6564K2	84.34	5.1	6564K518	109.55
40	50	3	7 1/2	10	20	20	3.8″	2.7″	3.4″	50.4 VA	6564K3	93.23	5.1	6564K522	97.88
Indoor (NEMA 1) Enclosure for Two- and Three-Circuit Relays Rated 15-50 Full-Load Amps														6564K887	$56.74
Indoor (NEMA 1) Enclosure for Three-Circuit Relays Rated 60 Full-Load Amps and Four-Circuit Relays														6564K889	120.86

★ Auxiliary contacts not available. ■ Size is 3.8″ Ht.×2.4″ Wd.×3.4″ Dp.

DIN-Rail Mount Infrequent-Cycle High-Amp Relays

Mount these relays to 35 mm DIN rail. Also known as definite-purpose contactors, they meet UL 508 standards for air conditioning and heating. All have screw terminals and touchsafe protection to prevent contact with live terminals. They can also be surface mounted using the 0.17″ dia. holes (fasteners not included). Contacts spring back (momentary) when power is removed. Mechanical life is 20 million cycles. UL and C-UL listed.

Relays with **AC control voltage** have a power draw of 6.5 VA. **to Order:** Please specify control voltage: 24 AC, 120 AC, or 230 AC.

Relays with **24 DC control voltage** have a power draw of 5.4 watts.

Auxiliary contacts allow you to add a signaling device or control another relay. They switch two circuits, one from off to on and one from on to off (DPST-NO/NC).

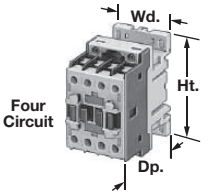

Amp Rating @ 600V AC		AC Motor hp Rating												
		Single Phase		Three Phase					AC Control Voltage			24 DC Control Voltage		
Full Load	Resistive Load	120V	240V	240V	480V	600V	Ht.	Wd.	Dp.			Dp.		
Switch Three Circuits On (3PST-NO)														
40	50	3	7½	10	30	40	3.5″	1.8″	3.5″	9114T35	$80.27	4.2″	9114T45	$142.51
50	55	3	10	15	30	40	3.5″	1.8″	3.5″	9114T36	114.39	4.2″	9114T46	165.51
Switch Three Circuits On (3PST-NO)— With One Auxiliary Contact to Switch One Circuit On (1 NO)														
20	30	1½	3	5	10	15	3.2″	1.8″	3.2″	9114T32	35.54	3.9″	9114T42	74.93
25	30	2	3	5	10	15	3.2″	1.8″	3.2″	9114T33	43.20	3.9″	9114T43	86.15
30	32	2	5	7½	15	20	3.2″	1.8″	3.2″	9114T34	54.27	3.9″	9114T44	102.17
Switch Four Circuits On (4PST-NO)														
20	30	1½	3	5	10	15	3.2″	1.8″	3.2″	9114T37	40.78	3.9″	9114T53	80.48
25	30	2	3	5	10	15	3.2″	1.8″	3.2″	9114T38	52.88	—	—	—
30	32	2	5	7½	15	20	3.2″	1.8″	3.2″	9114T39	63.68	—	—	—
40	50	3	7½	10	30	40	3.5″	2.4″	3.5″	9114T41	90.51	—	—	—
Auxiliary Contact—Front Mount													70255K14	$11.57
Auxiliary Contact—Side Mount													70255K26	11.57

DIN-Rail Mount Long-Life High-Amp Relays

No moving parts means longer, quieter operation than our other high-amp relays. Also known as solid state contactors, these relays mount to a 35 mm DIN rail. All have screw terminal connections, an integrated heatsink, and an LED indicator. They also have 0.17″ dia. holes for surface mounting (fasteners not included). Contacts spring back (momentary) when power is removed. Rated for continuous operating duty. They do not switch DC loads. CE marked. UL and C-UL listed.

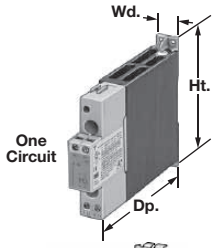



Control Voltage	Full Load Amp Rating @ 600V AC	AC Motor hp Rating				Ht.	Wd.	Dp.	Power Draw		
		Single Phase		Three Phase							
		115V	230V	230V	480V						
Switch One Circuit On (SPST-NO)											
20-275 AC/24-190 DC	20	⅓	1	—	—	4.2″	0.7″	4.1″	13 mA	6323T41	$49.74
20-275 AC/24-190 DC	30	¾	2	—	—	4.2″	0.9″	5.4″	22 mA	6323T32	78.57
20-275 AC/24-190 DC	40	1	3	—	—	4.2″	1.4″	5.4″	22 mA	6323T34	92.32
4-32 DC	20	⅓	1	—	—	4.2″	0.7″	4.1″	10 mA	6323T42	49.11
4-32 DC	30	¾	2	—	—	4.2″	0.9″	5.4″	13 mA	6323T31	77.59
4-32 DC	40	1	3	—	—	4.2″	1.4″	5.4″	13 mA	6323T33	89.38
Switch Three Circuits On (3PST-NO)											
20-275 AC/24-190 DC	20	—	—	3	7½	4.3″	2.1″	4.1″	38 mA	6323T71	213.12
5-32 DC	20	—	—	3	7½	4.3″	2.1″	4.1″	32 mA	6323T72	189.55

DC Voltage High-Amp Relays

Use on DC-powered equipment such as forklifts and floor scrubbers. Also known as solenoids and contactors, these relays accept a DC control voltage and switch a DC load. Rated for continuous operation for cycles that run longer than 30 seconds. All spring back (momentary) when power is removed. Relays have 5⁄16″-24 threaded stud terminals and 0.28″ dia. mounting holes (fasteners not included). They allow different control and load voltages except for 7995K23, which requires the same control and load voltage. Mechanical life is 100,000 cycles except for standard relays, which have a mechanical life of 250,000 cycles.

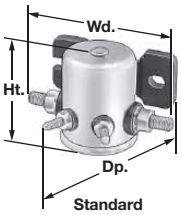

Standard


Water Resistant


Heavy Duty


Heavy Duty Water Resistant

Control Voltage	No. of Circuits	Before Switching, Circuit Is	Industry Designation	Full Load Amp Rating	No. of Terminals	Ht.	Wd.	Dp.	Power Draw		
Standard											
12 DC	1	Off	SPST-NO	80 @ 12V DC	4	2.5″	3.5″	2.4″	9 VA	7995K11	$24.14
24 DC	1	Off	SPST-NO	50 @ 24V DC	4	2.5″	3.5″	2.4″	9 VA	7995K12	24.30
Water Resistant											
12 DC	1	Off	SPST-NO	100 @ 12V DC	4	2.9″	3.3″	2.1″	8.1 VA	7995K41	25.63
24 DC	1	Off	SPST-NO	100 @ 24V DC	4	2.9″	3.3″	2.1″	8.1 VA	7995K42	25.63
36 DC	1	Off	SPST-NO	100 @ 36V DC	4	2.9″	3.3″	2.1″	8.1 VA	7995K43	25.63
Heavy Duty											
12 DC	1	Off	SPST-NO	100 @ 12V DC	3	3.6″	3.1″	2.2″	12 VA	7995K23	41.06
12 DC	1	Off	SPST-NO	100 @ 12V DC	4	3.6″	3.1″	2.2″	12 VA	7995K21	43.32
24 DC	1	Off	SPST-NO	100 @ 24V DC	4	3.6″	3.1″	2.2″	12 VA	7995K25	43.32
36 DC	1	Off	SPST-NO	100 @ 36V DC	4	3.6″	3.1″	2.2″	12 VA	7995K22	43.32
Heavy Duty Water Resistant											
12 DC	1	Off	SPST-NO	200 @ 12V DC	4	3.7″	3.3″	2.9″	8 VA	7995K31	60.27
12 DC	1	Off or On	SPDT	100 @ 12V DC	6	4.6″	3.3″	2.9″	12 VA	7995K32	80.18
24 DC	1	Off or On	SPDT	100 @ 24V DC	6	4.6″	3.3″	2.9″	12 VA	7995K33	84.59

Medium-Amp Relays

For information about electrical switches, see page 909.

About Medium-Amp Relays

Medium-amp relays (also known as power relays) use an electrical signal or control voltage to remotely switch medium-amp circuits such as industrial automation systems, security and emergency lighting, and small motors. They are typically rated for applications up to 3 hp.

Medium-Amp Relays

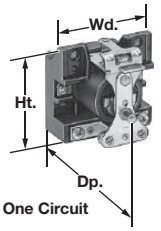

One Circuit


Two Circuit


Four Circuit

Also known as power relays, these are commonly used with lighting and motors. Relays have screw terminal connections and can be surface mounted (fasteners not included). Contacts spring back (momentary) when power is removed. UL and C-UL listed.

One- and **two-circuit** relays are rated 1½ hp @ 120/240 volts AC. Maximum voltage is 600 AC. They have 0.19″ dia. mounting holes. Mechanical life is 1 million cycles. *One-circuit* relays and *two-circuit (DPST-NO)* relays are 2.5″ Ht. × 2.5″ Wd. × 2.2″ Dp. *Two-circuit (DPDT)* relays are 3.3″ Ht. × 2.5″ Wd. × 2.4″ Dp. *Optional dust cover* is aluminum with two 1″ trade size knockouts.

Four-circuit relay is rated 1 hp @ 120 volts AC and 1½ hp @ 240 volts AC. Maximum voltage is 277 AC. Relay has 0.21″ dia. mounting holes. It is 3.4″ Ht. × 2.7″ Wd. × 2.7″ Dp. Mechanical life is 2 million cycles. *Optional dust cover* is steel with four ¾″ trade size knockouts.

Control Voltage	Amp Rating @ 120V AC	Amp Rating @ 28V DC	Power Draw	Switch One Circuit On (SPST-NO)		Switch One Circuit On or Off (SPDT)		Switch Two Circuits On (DPST-NO)		Switch Two Circuits On or Off (DPDT)		Switch Four Circuits On or Off (4PDT)	
24 AC	30	30	396 mA	7384K12	$18.80	7384K58	$23.36	7384K14	$19.86	7384K55	$34.32		
120 AC	30	30	79 mA	7384K11	18.80	7384K21	23.36	7384K31	19.86	7384K41	34.32		
120 AC	35	20	116 mA									2830T13	$29.29
240 AC	30	30	40 mA	7384K15	24.93	7384K56	28.69	7384K51	19.86	7384K42	34.66		
12 DC	30	30	167 mA	7384K13	21.16	7384K52	30.49	7384K32	21.51	7384K43	34.37		
24 DC	30	30	83 mA	7384K16	21.16	7384K53	30.49	7384K34	21.51	7384K44	34.37		
Optional Dust Cover for One- and Two-Circuit Relays (3″ Ht. × 5″ Wd. × 4″ Dp.)												7384K45	$18.96
Optional Dust Cover for Four-Circuit Relay (3.8″ Ht. × 3.8″ Wd. × 5.3″ Dp.)												2830T16	43.71

Enclosed Medium-Amp Relays

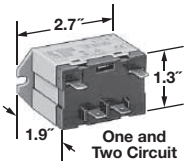

One and Two Circuit

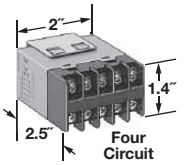

Four Circuit

Contacts are protected from dust and dirt. Also known as power relays, these accept voltage drops up to 50% of the rated voltage without switching. All have a contact test button and 0.18″ dia. holes for surface mounting (fasteners not included). Contacts spring back (momentary) when power is removed. Mechanical life is 1 million cycles. They're rated 1½ hp @ 120 volts AC and 3 hp @ 240/265-277 volts AC, except two-circuit relays are rated 1½ hp @ 120 volts AC and 2 hp @ 240/265-277 volts AC. UL recognized, CSA certified, and CE marked.

One- and **two-circuit** relays have 0.25″ quick-disconnect terminals.

Four-circuit relays have screw terminal connections. They are also rated @ 24 volts DC for the amp ratings given in the table.

Control Voltage	Amp Rating @ 220V AC	Power Draw		
Switch One Circuit On (SPST-NO)				
24 AC	30	71 mA	7678K51	$15.99
120 AC	30	20 mA	7678K52	15.99
240 AC	30	10 mA	7678K53	16.88
Switch Two Circuits On (DPST-NO)				
24 AC	25	71 mA	7678K61	16.57
120 AC	25	20 mA	7678K62	16.57
240 AC	25	10 mA	7678K63	16.97
12 DC	25	158 mA	7678K41	16.24
24 DC	25	79 mA	7678K42	16.24

Control Voltage	Amp Rating @ 220V AC	Power Draw		
Switch Four Circuits On (4PST-NO)				
120 AC	25	22 mA	7105K11	$48.71
240 AC	25	11 mA	7105K12	50.17
24 DC	25	83 mA	7105K17	44.52
Switch Four Circuits, Two On and Two Off (4PST-2NO/2NC)				
120 AC	25 (NO)/8 (NC)	22 mA	7105K15	48.71
24 DC	25 (NO)/8 (NC)	83 mA	7105K19	44.52
Switch Four Circuits, Three On and One Off (4PST-3NO/1NC)				
120 AC	25 (NO)/8 (NC)	22 mA	7105K13	48.71
24 DC	25 (NO)/8 (NC)	83 mA	7105K18	44.52

Long-Life Medium-Amp Relays

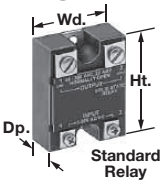

Standard Relay


Touchsafe Relay

With no moving parts, these solid state relays provide silent operation and long service life. They have a built-in safeguard that protects against high starting current, screw terminal connections, and 0.18″ dia. mounting holes (fasteners not included). All are 2.3″ Ht. × 1.8″ Wd. × 1.1″ Dp. Contacts spring back (momentary) when power is removed. UL recognized, CSA certified, and CE marked (unless noted).

Touchsafe relays have a cover to prevent contact with live terminals.

Optional heat sinks disperse heat to increase the amp rating of relays. They mount to 35 mm DIN rail except heat sink for 25- and 45-amp relays has 0.19″ dia. holes for surface mounting. Before mounting, apply silicone compound (included except for heat sink for 75- and 90-amp relays) between the heat sink and the relay.

Control Voltage	Amp Rating with/without Optional Heat Sink		
Standard Relays— Switch One Circuit On (SPST-NO)			
70-140 AC	25/7.5 @ 300V AC	7456K13★	$65.65
85-280 AC	25/7 @ 120V AC	7456K17	40.38
85-280 AC	25/7 @ 240V AC	7456K23	46.15
85-280 AC	45/11 @ 240V AC	7456K24	55.77
3-30 AC/DC	25/7.5 @ 300V AC	7456K14★	62.62
3-32 DC	25/7 @ 120V AC	7456K21	36.54
3-32 DC	25/7 @ 240V AC	7456K25	40.38
3-32 DC	45/11 @ 120V AC	7456K22	46.15
3-32 DC	45/11 @ 240V AC	7456K26	53.57
Standard Relays— Switch One Circuit Off (SPST-NC)			
70-140 AC	25/7.5 @ 300V AC	7456K15★	67.89
3-30 AC/DC	25/7.5 @ 300V AC	7456K16★	68.22
Standard Relays w/Power Indicator— Switch One Circuit On (SPST-NO)			
3-32 DC	25/7 @ 240V AC	7456K27	44.23

★ UL and C-UL recognized.

Control Voltage	Amp Rating with/without Optional Heat Sink		
Touchsafe Relays— Switch One Circuit On (SPST-NO)			
100-240 AC	75/7 @ 240V AC	7456K66	$94.90
100-240 AC	90/7 @ 240V AC	7456K67	100.75
20-280 AC/22-48 DC	25/2.5 @ 230V AC	7456K62	44.81
20-280 AC/22-48 DC	50/2.5 @ 230V AC	7456K64	50.93
3-32 DC	25/2.5 @ 230V AC	7456K61	43.80
3-32 DC	50/2.5 @ 230V AC	7456K63	49.91
Optional Heat Sinks			
For 25 and 45 amp (5.6″ Ht. × 4.8″ Wd. × 2.6″ Dp.)		7456K29	84.25
For 50 amp (3.2″ Ht. × 1.8″ Wd. × 1.9″ Dp.)		7456K33	47.00
For 75 and 90 amp (6.8″ Ht. × 4.3″ Wd. × 5.3″ Dp.)		7456K69	394.55
Silicone Compound (8 oz.)		10405K79	28.79

Long-Life Medium-Amp Relays with Built-In Heat Sink

A heat sink attached to these relays provides optimal convection cooling. Also known as solid state relays, they have no moving parts for silent operation and long service life. Relays have screw terminal connections and a built-in safeguard that protects against high starting current. Mount to 35 mm DIN rail. Contacts spring back (momentary) when power is removed. UL and C-UL listed.

One-circuit relays are 4.2″ Ht.×5.4″ Dp. The *30-amp* relays are 0.9″ wide; *60-amp* relays are 2.7″ wide.

Two-circuit relays are 4.3″ Ht.×2.1″ Wd.×4.0″ Dp.

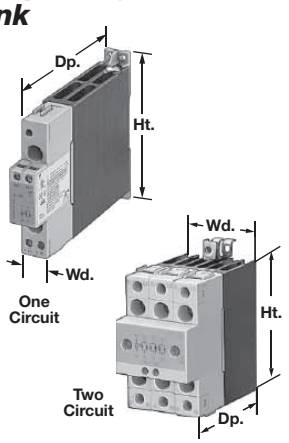

Control Voltage	Amp Rating		
Switch One Circuit On (SPST-NO)			
20-275 AC/24-190 DC	30 @ 230V AC	7456K78	$76.37
20-275 AC/24-190 DC	60 @ 230V AC	7456K79	111.65
3-32 DC	30 @ 230V AC	7456K74	78.66
3-32 DC	60 @ 230V AC	7456K75	109.08
Switch Two Circuits On (DPST-NO)			
20-275 AC/24-190 DC	25 @ 220V AC	7456K81	187.41
20-275 AC/24-190 DC	25 @ 600V AC	7456K82	196.57
5-32 DC	25 @ 220V AC	7456K83	162.96
5-32 DC	25 @ 600V AC	7456K84	172.13

Hybrid Long-Life Medium-Amp Relays

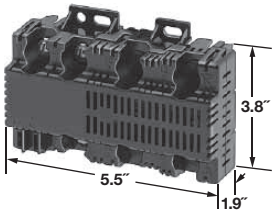

The combination of solid state and electromechanical technologies provides a long life of rapid switching without the need for a heat sink. These relays are an alternative to mercury relays. Use with resistive heating loads; relays cannot be used with motor loads. Control terminals have 0.25″ quick-disconnect connections and the load terminals have screw terminal connections. Contacts spring back (momentary) when power is removed. Relays have ¼″ dia. holes for surface mounting (fasteners not included) and an LED that indicates if the relay is open or closed. UL and C-UL recognized and CE marked.

Note: Relays cannot be used with an RC snubber.

Control Voltage	Amp Rating	Power Draw		
Switch One Circuit On (SPST-NO)				
110-240 AC	35 @ 120V AC	6.5 VA	8670K2	$52.93
110-240 AC	35 @ 240V AC	6.5 VA	8670K4	52.93
24 AC/3-24 DC	35 @ 120V AC	6.5 VA	8670K1	52.93
24 AC/3-24 DC	35 @ 240V AC	6.5 VA	8670K3	52.93
Switch Two Circuits On (DPST-NO)				
110-240 AC	35 @ 240V AC	7.7 VA	8670K6	93.67
24 AC/3-24 DC	35 @ 240V AC	7.7 VA	8670K5	93.67
Switch Three Circuits On (3PST-NO)				
110-240 AC	35 @ 240V AC	8.9 VA	8670K8	134.38
24 AC/3-24 DC	35 @ 240V AC	8.9 VA	8670K7	134.38

Circular-Pin Relays

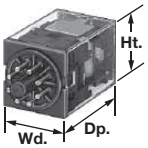

8-Pin Relay



11-Pin Relay



Socket for 8-Pin Relays



Socket for 11-Pin Relays

Plug relays right into a socket for easy installation and replacement. Also known as ice cube relays, they have a clear plastic dust cover. Contacts spring back (momentary) when power is removed.

Standard relays are UL recognized and CSA certified. *One-circuit relays* are 1.4″ Ht.×1.4″ Wd.×2.3″ Dp. Mechanical life is 10 million cycles. *Two-* and *three-circuit relays* have a lockable test button. They are 1.4″ Ht.×1.4″ Wd.×2.1″ Dp. Mechanical life is 5 million cycles.

Premium relays are tough enough for motors and pumps. They are rated ⅓ hp @ 120 volts AC and ½ hp @ 240 volts AC. Relays are also rated 10 amps @ 28 volts DC. All are 1.4″ Ht.×1.4″ Wd.×2″ Dp. Mechanical life is 10 million cycles. UL recognized and CSA certified.

Sockets mount to 35 mm DIN rail or surface mount using the 0.17″ dia. holes (fasteners not included).

Control Voltage	Amp Rating @ 240V AC	Power Indicator	Power Draw		
Standard Relays					
Switch One Circuit On or Off (SPDT)—8 Pins					
12 AC	10	No	235 mA	7170K51	$19.01
24 AC	10	No	135 mA	7170K2	18.92
120 AC	10	No	28 mA	7170K3	19.46
240 AC	10	No	13 mA	7170K4	20.71
12 DC	10	No	115 mA	7170K52	18.04
24 DC	10	No	52 mA	7170K1	18.13
120 DC	10	No	17 mA	7170K53	20.26
Switch Two Circuits On or Off (DPDT)—8 Pins					
12 AC	10	No	193 mA	7170K42	13.80
24 AC	10	No	96 mA	7170K19	13.80
24 AC	10	Yes	96 mA	7170K31	16.58
120 AC	10	No	19 mA	7170K13	14.96
120 AC	10	Yes	19 mA	7170K21	17.78
240 AC	10	No	9 mA	7170K15	16.32
12 DC	10	No	112 mA	7170K41	13.80
24 DC	10	No	55 mA	7170K11	13.80
24 DC	10	Yes	55 mA	7170K43	16.58
Switch Three Circuits On or Off (3PDT)—11 Pins					
24 AC	10	No	96 mA	7170K22	15.72
120 AC	10	No	19 mA	7170K14	17.23
120 AC	10	Yes	19 mA	7170K25	18.26
240 AC	10	No	9 mA	7170K16	17.78
12 DC	10	No	112 mA	7170K44	15.72
24 DC	10	No	55 mA	7170K12	15.72
Premium Relays					
Switch One Circuit On or Off (SPDT)—8 Pins					
24 AC	10	No	84 mA	7580T2	34.16
120 AC	10	No	18 mA	7580T3	37.00
12 DC	10	No	100 mA	7580T52	31.05
24 DC	10	No	52 mA	7580T1	31.05
110 DC	10	No	11 mA	7580T53	38.80
Switch Two Circuits On or Off (DPDT)—8 Pins					
12 AC	10	Yes	168 mA	7580T42	27.59
24 AC	10	Yes	84 mA	7580T31	24.84
120 AC	10	Yes	18 mA	7580T21	26.52
240 AC	10	Yes	9 mA	7580T15	29.41
12 DC	10	Yes	100 mA	7580T41	24.84
24 DC	10	Yes	52 mA	7580T43	24.84
Switch Three Circuits On or Off (3PDT)—11 Pins					
24 AC	10	Yes	84 mA	7580T22	47.68
120 AC	10	Yes	18 mA	7580T25	29.02
240 AC	10	Yes	9 mA	7580T16	27.75
12 DC	10	No	100 mA	7580T44	26.91
24 DC	10	Yes	52 mA	7580T12	27.77
Sockets					
For 8-Pin Relays (2″ Ht.×1.6″ Wd.×1″ Dp.)				7122K19	4.07
For 11-Pin Relays (2″ Ht.×2.3″ Wd.×1″ Dp.)				7122K21	6.89

Long-Life Circular-Pin Relays

Relays plug into a socket and have solid state construction for an extended service life. Use for high-speed switching at low current levels. Relays switch one circuit on (SPST-NO). They have eight pins and a black plastic dust cover. Contacts spring back (momentary) when power is removed. **Socket** mounts to 35 mm DIN rail or surface mounts using the 0.17″ dia. holes (fasteners not included). Size is 2″ Ht.×1.6″ Wd.×1″ Dp.

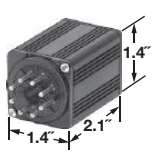

Control Voltage	Amp Rating		
5–24 DC	3 @ 5-110V DC	9250K2	$141.71
5–24 DC	5 @ 100-240V AC	9250K1	141.71
Socket		7122K19	4.07

Spade-Terminal Relays

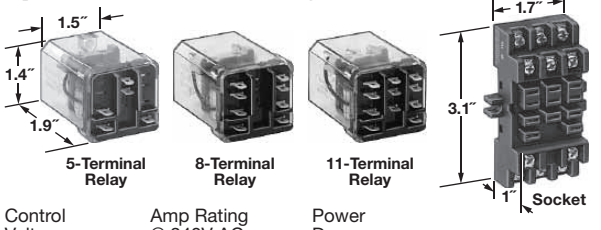

5-Terminal Relay | 8-Terminal Relay | 11-Terminal Relay | Socket

Also known as ice cube relays, these offer three ways to connect. Plug them into a socket, connect with 0.187″ quick-disconnect terminals, or solder wires directly to terminals. Contacts spring back (momentary) when power is removed. Mechanical life is 10 million cycles. UL recognized and CSA certified.

One-circuit and **two-circuit relays** are rated 1/3 hp @ 120 volts AC and 1/2 hp @ 240 volts AC. **Three-circuit relays** are rated 1/2 hp @ 120/240 volts AC.

Socket mounts to 35 mm DIN rail or surface mounts using the 0.16″ dia. holes (fasteners not included).

Control Voltage	Amp Rating @ 240V AC	Power Draw		
Switch One Circuit On or Off (SPDT)—5 Terminals				
24 AC	10	84 mA	7266K34	$27.36
120 AC	10	18 mA	7266K35	28.99
240 AC	10	9 mA	7266K36	24.83
12 DC	10	100 mA	7266K37	24.64
24 DC	10	51 mA	7266K38	22.93
Switch Two Circuits On or Off (DPDT)—8 Terminals				
12 AC	10	168 mA	7266K79	25.68
24 AC	10	84 mA	7266K47	16.70
120 AC	10	18 mA	7266K48	14.54
240 AC	10	9 mA	7266K49	16.92
12 DC	10	100 mA	7266K64	17.36
Switch Two Circuits On or Off (DPDT)—8 Terminals (Cont.)				
24 DC	10	51 mA	7266K65	$17.36
120 DC	10	11 mA	7266K66	21.13
Switch Three Circuits On or Off (3PDT)—11 Terminals				
12 AC	15	230 mA	7266K33	25.04
24 AC	15	115 mA	7266K59	25.62
120 AC	15	24 mA	7266K55	21.32
240 AC	15	12 mA	7266K57	25.72
12 DC	15	100 mA	7266K45	25.37
24 DC	15	51 mA	7266K53	21.97
Socket for All Relays			7266K17	12.67

Slim Spade-Terminal Relays

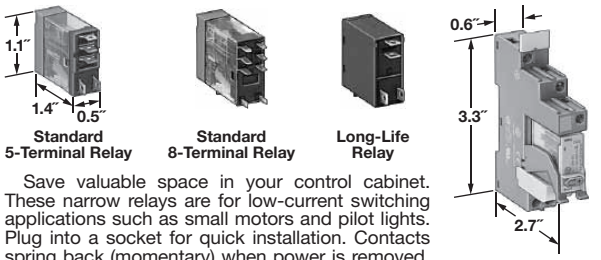

Standard 5-Terminal Relay | Standard 8-Terminal Relay | Long-Life Relay | Relay and Socket with PLC Output Protection

Save valuable space in your control cabinet. These narrow relays are for low-current switching applications such as small motors and pilot lights. Plug into a socket for quick installation. Contacts spring back (momentary) when power is removed. Relays are UL recognized and CSA certified, except relays with PLC output protection are UL and C-UL listed.

Standard relays have a mechanical life of 10 million cycles for AC operation and 20 million for DC. Maximum voltage is 440 AC. *One-circuit relays* are rated 1/3 hp @ 120 volts AC. *Two-circuit relays* are rated 1/6 hp @ 120 volts AC.

Long-life relay has solid state construction with no moving parts for silent operation and longer service life than standard relays.

Relays with PLC output protection prevent coil voltage spikes from damaging your programmable logic controller or other sensitive control device. Mechanical life is 10 million cycles. Maximum voltage is 440 AC. Include a socket. *One-circuit relays* are rated 1/3 hp @ 120 volts AC. *Two-circuit relays* are rated 1/4 hp @ 120 volts AC.

Sockets mount to 35 mm DIN rail.

To Order: For sockets for standard and long-life relays, please specify screw terminal or spring clamp connections. Sockets with screw terminal connections have a 0.14″ dia. hole for surface mounting (fasteners not included). They're 3.6″ Ht.×0.6″ Wd.×2.4″ Dp. Sockets with spring clamps are 3.6″ Ht.×1.1″ Wd.×2.5″ Dp.

Standard Relays

Control Voltage	Amp Rating @ 120V AC/28V DC	Power Draw	Relays		Sockets	
Switch One Circuit On or Off (SPDT)—5 Terminals						
24 AC	10	44 mA	7098K26	$12.11	7098K17	$5.75
120 AC	10	8 mA	7098K12	12.54	7098K17	5.75
240 AC	10	4 mA	7098K13	19.27	7098K17	5.75
12 DC	10	43 mA	7098K25	7.68	7098K17	5.75
24 DC	10	22 mA	7098K11	7.68	7098K17	5.75
Switch Two Circuits On or Off (DPDT)—8 Terminals						
24 AC	5	44 mA	7098K28	13.51	7098K18	9.51
120 AC	5	8 mA	7098K15	12.72	7098K18	9.51
240 AC	5	4 mA	7098K16	20.60	7098K18	9.51
12 DC	5	43 mA	7098K27	9.84	7098K18	9.51
24 DC	5	22 mA	7098K14	9.84	7098K18	9.51

Long-Life Relays

Control Voltage	Amp Rating @ 100-240V AC	Relays		Sockets	
Switch One Circuit On (SPST-NO)—4 Terminals					
5-24 DC	2	9938K53	$30.51	7098K17	$5.75

Relays with PLC Output Protection

Control Voltage	*Amp Rating @* 120V AC	28V DC	Power Draw	Relays with Socket		Replacement Relays	
Switch One Circuit On or Off (SPDT)—5 Terminals							
24 AC	16	10	45 mA	7098K41	$18.41	7098K61	$7.82
120 AC	16	10	8 mA	7098K42	19.86	7098K62	9.05
24 DC	16	10	20 mA	7098K43	16.30	7098K63	6.20
Switch Two Circuits On or Off (DPDT)—8 Terminals							
24 AC	8	6	45 mA	7098K44	20.95	7098K64	8.98
120 AC	8	6	8 mA	7098K45	22.39	7098K65	10.18
24 DC	8	6	20 mA	7098K46	18.73	7098K66	7.32

Flange-Mount Spade-Terminal Relays

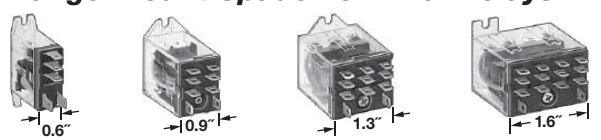

5-Terminal Relay | 8-Terminal Relay | 11-Terminal Relay | 14-Terminal Relay

Mount relays to a flat surface using the 0.14″ wide slots. All of the relays plug into a socket. They are 1.8″ Ht.×1.4″ Dp. Contacts spring back (momentary) when power is removed. Maximum voltage is 250 AC. UL recognized and CSA certified.

5-terminal relays are rated 1/3 hp @ 120 volts AC. Mechanical life is 10 million cycles.

8-, 11-, and **14-terminal relays** have a mechanical life of 50 million cycles. *8-terminal relays* are rated 1/2 hp @ 120 volts AC; *11-* and *14-terminal relays* are rated 1/2 hp @ 240 volts AC.

Sockets have screw terminal connections. Mount to 35 mm DIN rail or surface mount (fasteners not included). For more socket information, see page 959.

Control Voltage	Amp Rating @ 110V AC/24V DC	Power Draw	Relays		Sockets	
Switch One Circuit On or Off (SPDT)—5 Terminals						
24 AC	10	37 mA	7098K51	$10.14	7098K21	$5.75
120 AC	10	7 mA	7098K52	10.10	7098K21	5.75
24 DC	10	21 mA	7098K53	7.78	7098K21	5.75
Switch One Circuit On or Off (SPDT)—8 Terminals						
24 AC	15	46 mA	70315K11	9.58	7122K22	6.68
120 AC	15	9 mA	70315K12	9.58	7122K22	6.68
24 DC	15	37 mA	70315K41	9.48	7122K22	6.68
Switch Two Circuits On or Off (DPDT)—8 Terminals						
24 AC	10	46 mA	70315K81	10.16	7122K22	6.68
120 AC	10	9 mA	70315K82	10.16	7122K22	6.68
24 DC	10	37 mA	70315K42	10.16	7122K22	6.68
Switch Three Circuits On or Off (3PDT)—11 Terminals						
24 AC	10	67 mA	70315K13	15.41	7122K23	9.33
120 AC	10	13 mA	70315K14	15.41	7122K23	9.33
24 DC	10	59 mA	70315K43	15.57	7122K23	9.33
Switch Four Circuits On or Off (4PDT)—14 Terminals						
24 AC	10	80 mA	70315K15	16.90	7122K24	9.94
120 AC	10	21 mA	70315K16	16.90	7122K24	9.94
24 DC	10	69 mA	70315K44	16.90	7122K24	9.94

Compact Spade-Terminal Relays

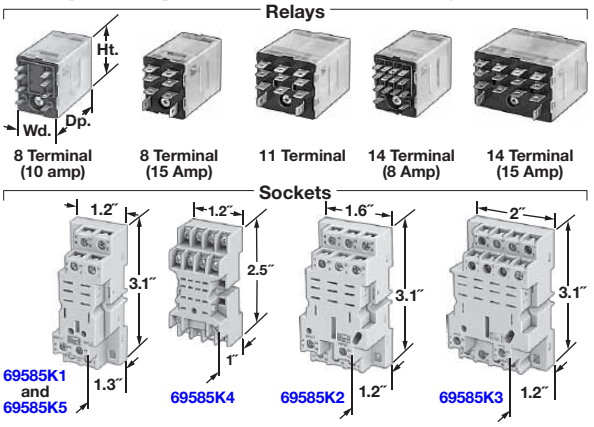

Relays have the same connection options as spade-terminal relays, but are smaller to fit in tight spaces. Plug them into a socket, connect with quick-disconnect terminals (SPDT connect with 0.197″ quick-disconnect terminals; 15-amp DPDT, 3PDT, and 4PDT are 0.187″; and 10-amp DPDT and 8-amp 4PDT are 0.11″), or solder wires directly to terminals. Contacts spring back (momentary) when power is removed. Mechanical life is 10 million cycles. Max. voltage is 300 AC, except SPDT is 250 AC. Relays and sockets are UL and C-UL recognized, CSA certified, and CE marked. Relays are UL listed when used with the suggested sockets, except SPDT relays and sockets are not C-UL recognized or UL listed when used together. **Relays** are 1.1″ Ht. × 0.9″ Wd. × 1.6″ Dp., except 11-terminal relays are 1.2″ wide and 15-amp 14-terminal relays are 1.6″ wide. **Sockets** have screw terminal connections. Mount to 35 mm DIN rail or surface mount using the two 0.16″ dia. holes (fasteners not included).

Control Voltage	Amp Rating @ 120V AC/ 28V DC	Power Draw	Relays		Sockets	
Switch One Circuit On or Off (SPDT)—8 Terminals						
24 AC	15/15	46 mA	69585K11	$13.62	69585K5	$7.83
120 AC	15/15	9 mA	69585K12	13.62	69585K5	7.83
240 AC	15/15	5 mA	69585K13	14.06	69585K5	7.83
24 DC	15/15	37 mA	69585K25	13.62	69585K5	7.83
Switch Two Circuits On or Off (DPDT)—8 Terminals						
24 AC	10/10	50 mA	69585K111	11.11	69585K4	6.91
24 AC	15/12	50 mA	69585K57	11.54	69585K1	7.32
120 AC	10/10	10 mA	69585K112	11.11	69585K4	6.91
120 AC	15/12	10 mA	69585K58	11.54	69585K1	7.32
240 AC	10/10	5 mA	69585K113	11.11	69585K4	6.91
240 AC	15/12	5 mA	69585K59	11.54	69585K1	7.32
12 DC	10/10	92 mA	69585K114	11.11	69585K4	6.91
12 DC	15/12	75 mA	69585K66	11.54	69585K1	7.32
24 DC	10/10	46 mA	69585K115	11.11	69585K4	6.91
24 DC	15/12	38 mA	69585K67	11.54	69585K1	7.32
Switch Three Circuits On or Off (3PDT)—11 Terminals						
24 AC	15/12	63 mA	69585K68	17.96	69585K2	8.34
120 AC	15/12	13 mA	69585K69	17.96	69585K2	8.34
240 AC	15/12	6 mA	69585K71	17.96	69585K2	8.34
12 DC	15/12	117 mA	69585K72	17.96	69585K2	8.34
24 DC	15/12	58 mA	69585K73	17.96	69585K2	8.34
Switch Four Circuits On or Off (4PDT)—14 Terminals						
24 AC	8/8	50 mA	69585K121	13.20	69585K4	6.91
24 AC	15/12	63 mA	69585K74	20.03	69585K3	10.11
120 AC	8/8	10 mA	69585K122	13.20	69585K4	6.91
120 AC	15/12	13 mA	69585K79	20.03	69585K3	10.11
240 AC	8/8	5 mA	69585K123	13.20	69585K4	6.91
240 AC	15/12	6 mA	69585K95	20.03	69585K3	10.11
12 DC	8/8	92 mA	69585K124	13.20	69585K4	6.91
12 DC	15/12	125 mA	69585K55	20.03	69585K3	10.11
24 DC	8/8	46 mA	69585K125	13.20	69585K4	6.91
24 DC	15/12	6 mA	69585K96	20.03	69585K3	10.11

High-Pressure Air-Actuated Relays

Also known as an air-to-electric switch, this relay converts an air signal to an electrical signal. Use for actuating solenoid valves and other electric components from your pneumatic control system. Relay switches one circuit on or off (SPDT) and has three screw terminal connections. Requires 8 to 100 psi of air pressure to actuate. Air connection is ⅛″ NPT female; electrical connection is ½″ NPSM (National Pipe Straight Mechanical) female. Rated 15 amps @ 230 volts AC. Contacts spring back (momentary) when power is removed. UL and C-UL recognized.

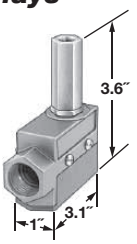

49145K51 ... $144.99

DIN-Rail Mount Screw Terminal Relays



Built to IEC dimensional standards, relays mount to 35 mm DIN rail and have 10 touch-safe screw terminal connections to prevent contact with live terminals. Relays also have four 0.17″ dia. holes for surface mounting (fasteners not included). Contacts spring back (momentary) when power is removed. Mechanical life is 20 million cycles. UL and C-UL listed. 7230K87 and 7230K88 have interlocked opposing contacts that will not simultaneously close, making them ideal for safety applications such as machine guarding.

Relays with **AC control voltage**—To Order: Please specify control voltage (power draw): 24V AC (125 mA), 120V AC (25 mA), or 240V AC (12.5 mA).

Relays with **24 DC control voltage** have a power draw of 13 mA.

Auxiliary contact allows you to add a signaling device or control an-

No. of Circuits	Before Switching, Circuit Is	Industry Designation	Amp Rating @ 600V AC		
AC Control Voltage					
4	2 Off, 2 On	4PST-2NO/2NC	10	7230K87	$43.32
4	3 Off, 1 On	4PST-3NO/1NC	10	7230K88	43.32
4	4 Off	4PST-NO	10	7230K89	43.32
24 DC Control Voltage					
4	2 Off, 2 On	4PST-2NO/2NC	10	7230K93	76.91
4	3 Off, 1 On	4PST-3NO/1NC	10	7230K92	76.91
4	4 Off	4PST-NO	10	7230K91	76.91
Auxiliary Contact (DPST-NO/NC)				70255K13	12.30

Long-Life Relays

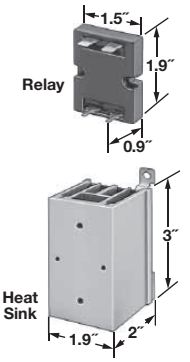

Because they don't have moving parts, these solid state relays have a longer service life than other spade-terminal relays. Use for high-speed switching at low current levels. Relays have two 0.11″ quick-disconnect terminals on the input side and two 0.25″ quick-disconnect terminals on the output side. They switch one circuit on (SPST-NO). All have two 0.14″ dia. holes for surface mounting (fasteners not included). Contacts spring back (momentary) when power is removed. UL and C-UL recognized, CSA certified, and CE marked.

To Order: Please specify control voltage: 5 DC, 12 DC, or 24 DC.

Heat sink increases the relay amp rating. Mount to 35 mm DIN rail or surface mount using the two 0.18″ dia. holes (fasteners not included).

Amp Rating @ 100-240V AC With Heat Sink	Without Heat Sink	Relays		Heat Sinks	
—	5	8192K21	$25.61	—	—
10	5	8192K22	25.61	8192K31	$20.95

Thin Long-Life Relays

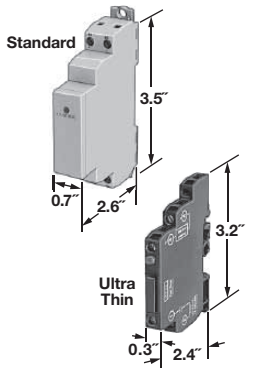

Install solid state relays where space is limited. Relays have a narrow width and no moving parts for a long service life. They switch one circuit on (SPST-NO). All have four screw terminal connections and a power indicator. Mount to 35 mm DIN rail. Contacts spring back (momentary) when power is removed.

Standard relays have two 0.2″ dia. holes for surface mounting (fasteners not included). UL and C-UL listed, CSA certified, and CE marked.

Ultra-thin relays are also called output modules. They have a replaceable 3-amp fuse to protect equipment. UL recognized, CSA certified, and CE marked.

Control Voltage	Amp Rating		
Standard			
90-280 AC	10 @ 24-280V AC	8299K31	$53.52
3-32 DC	10 @ 24-280V AC	8299K32	49.79
3.5-32 DC	15 @ 3-50V DC	8299K33	56.78
Ultra Thin			
4-28 DC	3 @ 12-280V AC	8299K11	30.29
4-28 DC	3 @ 5-60V DC	8299K12	29.23
Replacement 3-Amp Fuse for Ultra-Thin Relays		8299K21	1.15

Ultra-Thin Relays

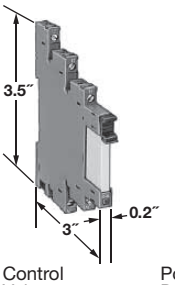

Maximize space in your control cabinet. Relays plug into a socket (included) and have an extra-narrow width. Also known as output modules, they switch one circuit on or off (SPDT) and are rated 6 amps @ 250 volts AC. Maximum voltage is 400 AC. All have five screw terminal connections and a power indicator. Mount to 35 mm DIN rail. Contacts spring back (momentary) when power is removed. Mechanical life is 10 million cycles. UL and C-UL recognized.

Control Voltage	Power Draw	Relays with Socket		Replacement Relays	
24 AC/DC	12 mA	8262T11	$14.93	8262T21	$5.32
125 AC/DC	5 mA	8262T12	18.35	8262T22	8.57
240 AC/DC	4 mA	8262T13	18.35	8262T22	8.57

Ultra-Thin Signal-Conditioning Relays

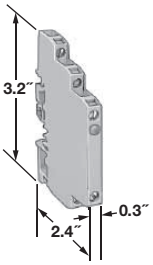

Convert electrical signals into signals for PLCs and microprocessors and prevent power surges from reaching these devices. Relays have a narrow design to save space in your control cabinet. Also known as input modules, relays switch one circuit on. If a control voltage is present, there is no output voltage. An output voltage is generated when the control voltage is removed. Relays have an LED indicator and five screw terminal connections. Mount to 35 mm DIN rail. UL recognized, CSA certified, and CE marked.

Control Voltage	Output Voltage	Amp Rating @ 28V DC		
90-280 AC	4-28 DC	100 mA	7356K21	$27.42
4-28 DC	4-28 DC	100 mA	7356K22	26.54

PC-Board Mount Relays



Solder relays to a printed circuit board to switch small motors and pilot lights. Maximum voltage is 380 AC and 125 DC. All have 0.16″ long pins. Mechanical life is 10 million cycles for AC voltage, 20 million cycles for DC voltage. Contacts spring back (momentary) when power is removed. UL recognized, CSA certified, and CE marked.

Control Voltage	Amp Rating @ 250V AC/30V DC	Power Draw		
Switch One Circuit On or Off (SPDT)—5 Pins				
5 DC	10	106 mA	7098K35	$6.70
12 DC	10	44 mA	7098K31	6.70
24 DC	10	22 mA	7098K32	8.70
Switch Two Circuits On or Off (DPDT)—8 Pins				
5 DC	5	106 mA	7098K36	10.30
12 DC	5	44 mA	7098K33	7.95
24 DC	5	22 mA	7098K34	10.32

Relays That Stay Switched

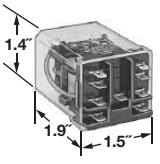

Relay

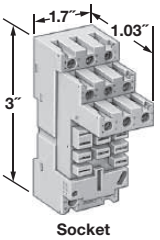

Socket

Save energy if your relay has to stay switched for a long time—these relays, also called latching relays, don't require a constant control voltage to stay switched. A momentary signal to one coil transfers and sets the latch; a momentary signal to the other coil releases it.

Relays switch two circuits on or off (DPDT). They have 0.187″ quick-disconnect terminals and nine spade terminals. All plug into a socket (sold separately). Rated 1/3 hp @ 120 volts AC and 1/2 hp @ 240 volts AC. Mechanical life is 10 million cycles. UL recognized and CSA certified.

Socket mounts to 35 mm DIN rail.

Control Voltage	Amp Rating @ 240V AC/ 28V DC	Power Draw		
24 AC	10	70 mA	1358T11	$57.07
120 AC	10	14 mA	1358T12	62.20
12 DC	10	100 mA	1358T13	34.24
24 DC	10	50 mA	1358T14	32.98
Socket			1358T21	11.56

Sequenced Relays That Stay Switched



Also known as latching or step relays, these switch circuits differently each time they receive a control voltage signal and stay switched after the control voltage is removed. Use to control motors, pumps, and lighting. All have a test button and a mechanical indicator. Touchsafe screw terminals prevent contact with live terminals (one-circuit relays have four terminals; two-circuit relays have six terminals). Mount to 35 mm DIN rail. Rated 16 amps @ 120 volts AC and 24 volts DC and 1/2 hp @ 120 volts AC. Power draw is 6.5 VA for AC voltage and 5 watts for DC voltage. Maximum voltage is 277 AC. Mechanical life is 300,000 cycles. UL and C-UL recognized and CE marked.

To Order: Please specify control voltage: 24V AC, 120V AC, 240V AC, 12V DC, or 24V DC.

1st Signal	*When Relay Receives* 2nd Signal	3rd Signal	*Circuit Is*		
Switch One Circuit					
Off	On	____		6784T11	$21.74
Switch Two Circuits					
1 Off, 1 On	1 On, 1 Off	____		6784T13	26.09
2 Off	2 On	____		6784T12	26.09
2 Off	1 On, 1 Off	2 On		6784T14	26.09

Hazardous Location Relays

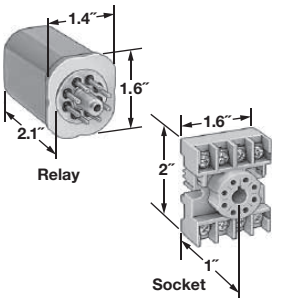

Relays are hermetically sealed to meet UL Class 1, Division 2, Groups A, B, C, and D for use in hazardous locations. They switch two circuits on or off (DPDT) and have a maximum voltage of 300 AC. Relays have eight circular pins and plug into a socket (sold separately). Contacts spring back (momentary) when power is removed. Mechanical life is 10 million cycles. UL and C-UL recognized.

Socket mounts to 35 mm DIN rail or surface mounts using the two 0.16″ dia. holes (fasteners not included).

Control Voltage	Amp Rating @ 120V AC/24V DC	Max. hp @ 120V AC	Power Draw		
120 AC	12	1/3	10 mA	7125T32	$94.51
24 DC	12	1/3	38 mA	7125T34	94.51
Socket				7125T41	4.85

Harsh Environment Relays



A NEMA 4X enclosure protects relay from water washdowns, dirt, and corrosion. Relay has six 16″ long wire leads through a 1/2″ NPT male connection. It switches one circuit on or off (SPDT) and is rated 1/3 hp @ 240 volts AC when wired to switch circuit on. Power draw is 28 mA @ 120 volts AC and 18 mA @ 24 volts DC. Relay has a power indicator and two holes for surface mounting (fasteners included). Contacts spring back (momentary) when power is removed. Mechanical life is 10 million cycles. UL and C-UL listed and CE marked.

Control Voltage	Amp Rating @ 277V AC		
10-30 AC/DC, 120 AC	10	4766T11	$22.20

Shared Run-Time Relays



Give two devices, such as two pumps or heaters, equal running time with a relay that automatically alternates between them. It's also known as an alternating relay. There is a switch to cancel the alternating mode and select one device; this limits downtime during maintenance. The relay can also be wired to run both devices simultaneously when necessary. Relay plugs into a socket and has 8 circular pins. It switches two circuits on or off (DPDT). UL recognized, CSA certified, and CE marked. **Socket** mounts to 35 mm DIN rail or surface mounts using the two 0.17″ dia. holes (fasteners not included).

	Control Voltage	Amp Rating @ 120/240V AC		
Relay	120 AC	10	7136K12	$68.65
Socket (2″ Ht. x 1.6″ Wd. x 1″Dp.)			7122K19	4.07

High DC Inrush Current Relays

Made to handle a high starting (inrush) current, this type of relay is also called an automotive relay. They have 0.25″ wide quick-disconnect terminals, except standard four-terminal relays have two 0.25″ wide and two 0.375″ wide quick-disconnect terminals. Mechanical life is rated at 10 million cycles, unless noted. Relays with mounting tab have a ¼″ dia. hole (fasteners not included). Sockets are sold separately.

Standard relays are for dry environments.

Weatherproof relays are for wet or damp locations.

Long-life relays have solid state construction for an extended service life.

Sockets have terminals to attach wire. 8228K43 is 1.2″ Ht. × 1″ Wd. × 1.3″ Dp. 8228K16, 8228K18, and 8228K42 are 1″ Ht. × 1″ Wd. × 0.9″ Dp. 8228K17 and 8228K19 are 1.4″ Ht. × 1.4″ Wd. × 1.6″ Dp.

Sockets with wire leads have 12″ wire leads. 8228K12 is 1.2″ Ht. × 0.8″ Wd. × 1.3″ Dp. 8228K13 and 8228K15 are 1″ Ht. × 1″ Wd. × 0.9″ Dp. 8228K14 and 8228K44 are 1.6″ Ht. × 1.4″ Wd. × 1.4″ Dp.

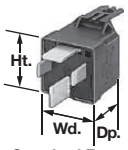

Standard Four-Terminal Relay


Standard Five-Terminal Relay



Weatherproof Relay


Long-Life Relay


Socket


Weatherproof Socket with Wire Leads

Control Voltage	Amp Rating @ Control Voltage	Max. Starting Amps	Mounting Tab	Ht.	Wd.	Dp.	Power Draw	Relays		Sockets		Sockets with Wire Leads	
Standard Relays													
Switch One Circuit On (SPST-NO)—4 Terminals													
12 DC	50	150	Yes	1.2″	1″	1″	138 mA	9672K36	$10.74	8228K43	$6.22	8228K12	$16.76
24 DC	60	200	Yes	1.3″	1.4″	0.9″	77 mA	9672K37	32.22	8228K43	6.22	8228K12	16.76
Switch One Circuit On (SPST-NO)—5 Terminals													
12 DC	40	150	Yes	1″	1″	0.9″	141 mA	9672K29	7.89	8228K42	4.17	8228K14	15.95
24 DC	20	120	No	1″	1″	0.9″	69 mA	9672K33	7.89	8228K42	4.17	8228K13	15.43
Switch One Circuit On or Off (SPDT)—5 Terminals													
12 DC	35 (NO)/20 (NC)	150	No	1.1″	1.1″	1″	158 mA	9672K31★	8.22	8228K16	5.33	8228K13	15.43
12 DC	35 (NO)/20 (NC)	150	Yes	1.1″	1.1″	1″	158 mA	9672K32★	8.88	8228K17	7.40	8228K14	15.95
24 DC	20 (NO)/10 (NC)	120	Yes	1″	1″	0.9″	109 mA	9672K82	5.79	8228K42	4.17	8228K14	15.95
24 DC	20 (NO)/10 (NC)	150	No	1″	1″	1″	99 mA	9672K81	5.66	8228K42	4.17	8228K13	15.43
Weatherproof Relays													
Switch One Circuit On or Off (SPDT)—5 Terminals													
12 DC	30 (NO)/20 (NC)	150	Yes	1.6″	1.4″	1.8″	158 mA	9672K45	9.34	8228K19	9.71	8228K44	18.15
12 DC	35 (NO)/20 (NC)	150	No	1.9″	1.4″	1.8″	158 mA	9672K43★	8.30	8228K18	19.47	8228K15	24.48
12 DC	35 (NO)/20 (NC)	150	Yes	1.9″	1.4″	1.8″	158 mA	9672K44★	9.26	8228K18	19.47	8228K15	24.48
24 DC	20 (NO)/10 (NC)	120	Yes	1.4″	1.4″	1.8″	107 mA	9672K35	8.21	8228K19	9.71	8228K44	18.15
Long-Life Relays													
Switch One Circuit On (SPST-NO)—4 Terminals													
12 DC	20	80	No	1.1″	1.1″	1″	10 mA	9672K21	23.79	8228K42	4.17	8228K12	16.76

★ Mechanical life is rated at 1 million cycles.

Relay Sockets

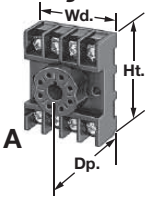

A

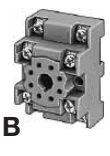
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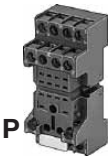
P


Q

Plug relays into sockets for fast installation and replacement. Mount sockets to 35 mm DIN rail or use the two holes for surface mounting (fasteners not included). All have screw terminal connections. UL recognized, CSA certified, and CE marked, except Style B and Style E are not CE marked.

Touchsafe sockets have recessed screw terminal connections to prevent contact with live circuits.

Use **hold-down clips** in applications subject to vibration.

	For No. of Pins	Amp Rating	Touchsafe	Ht.	Wd.	Dp.	Mounting Hole Dia.	Sockets	Each	Hold-Down Clips Pkg. Qty.		Pkg.
For Circular-Pin Relays												
A	8	10 @ 600V AC	No	2″	1.6″	1″	0.17″	7122K19	$4.07	—	—	—
B	8	10 @ 300V AC	No	2″	1.4″	1.1″	0.17″	7122K17	5.25	1	7122K68	$0.38
C	8	10 @ 300V AC	Yes	2.6″	1.5″	1.1″	0.13″	7122K11	4.46	1	7122K62	.55
D	11	10 @ 300V AC	No	2″	2.3″	1″	0.17″	7122K21	6.89	—	—	—
E	11	10 @ 300V AC	No	2.4″	2.3″	0.9″	0.17″	7122K18	7.04	1	7122K65	.71
F	11	10 @ 300V AC	Yes	2.6″	1.5″	1.1″	0.13″	7122K12	7.79	1	7122K62	.55
For Spade-Terminal Relays												
G	8	10 @ 300V AC	No	2.6″	1.2″	1″	0.17″	7122K22	6.68	1	7122K61	.32
H	8	10 @ 300V AC	Yes	2.7″	1.2″	1.2″	0.17″	7122K13	6.06	1	7122K66	.48
J	8	7 @ 250V AC	Yes	3″	0.9″	1.2″	0.17″	7122K32	8.83	2	7122K69	.61
K	11	10 @ 240V AC	No	3.1″	1.5″	1.2″	0.18″	7122K23	9.33	2	7122K69	.61
L	11	10 @ 300V AC	Yes	2.7″	1.6″	1.2″	0.17″	7122K14	9.11	1	7122K67	.67
M	14	10 @ 300V AC	No	2.5″	1.2″	1″	0.17″	7122K25	9.14	1	7122K61	.32
N	14	10 @ 240V AC	Yes	3.1″	1.8″	1.3″	0.18″	7122K24	9.94	2	7122K69	.61
P	14	10 @ 300V AC	Yes	2.6″	1.2″	1.1″	0.13″	7122K16	10.07	1	7122K63	.48
Q	14	10 @ 300V AC	Yes	2.7″	2″	1.2″	0.17″	7122K15	10.46	1	7122K88	.67

About Timer Relays

Timer relays, or time-delay relays, have contacts that open or close based on a time delay once control voltage is applied or removed.

On-Delay (Delay-On-Make)

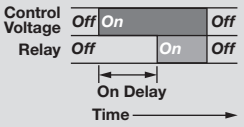

You set how long it takes for the relay to turn on after control voltage is applied.

Example: A drill starts pumping lubricant immediately, but it does not start rotating until the set time has elapsed.

Switch-On Initiated Interval (Single-Shot)

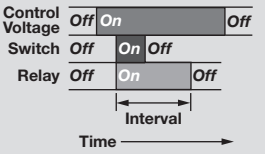

Unlike interval timer relays, these require a switch to activate the timing function instead of control voltage (which is applied the entire time). When you turn on the switch, the relay turns on. It stays on for the interval time and then turns off.

Example: Lights in a storage room are turned on with a switch and stay on for a set time before turning off.

Off-Delay (Power-Off Delay)

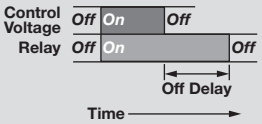

When control voltage is applied, the relay turns on. When the control voltage is removed, the relay stays on for the off-delay time and then turns off.

Example: A motor shuts off and its cooling system continues to run for a set time.

Switch-Off Initiated Interval (Delay-On-Break)

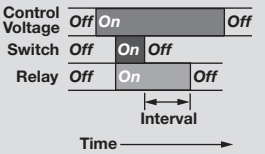

A switch is required to activate the timing function instead of control voltage (which is applied the entire time). When you turn on the switch, the relay turns on. When you turn off the switch, the relay stays on for the interval time and then turns off.

Example: A projector's light is turned off with a switch, but its cooling fan continues to run for a set time.

Interval

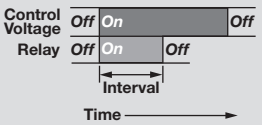

When control voltage is applied, the relay turns on. It stays on for the interval time and then turns off.

Example: When a part moving down a conveyor reaches a certain location, a cleaning spray comes on for a set time.

Repeat Cycle

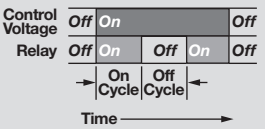

When control voltage is applied, the relay turns on for the on-cycle time. Then the relay turns off for the off-cycle time. This process repeats until the control voltage is removed.

Example: A flashing light.

Plug-In Timer Relays

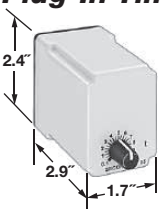

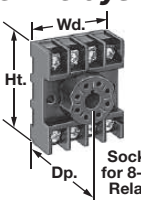

Socket for 8-Pin Relays

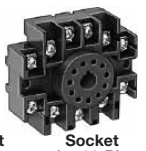

Socket for 11-Pin Relays

Turn knobs to adjust the delay between the time relays receive the control signal and the time relays turn on or off. Use in applications such as paint and conveyor lines where machinery needs to turn on or off after a set period of time. All plug into a socket.

Relays switch two circuits on or off (DPDT), except switch-on initiated interval (single-shot) relays switch one circuit on or off (SPDT). All are rated 10 amps @ 240 volts AC and 8 amps @ 28 volts DC. Mechanical life is 10 million cycles, except off-delay (power-off delay) relays have a life of 2 million cycles. UL recognized, CSA certified, and CE marked, except off-delay (power-off delay) relays are not CSA certified.

Sockets mount to 35 mm DIN rail or surface mount using the two 0.17″ dia. holes (fasteners not included).

Control Voltage	Overall Timing Range	Power Draw		
On-Delay (Delay-On-Make)—8 Pins				
24 AC/DC	0.1-10 sec.	83 mA	**7268K32**	$49.59
24 AC/DC	0.6-60 sec.	83 mA	**7268K34**	49.59
120 AC/DC	0.05-1 sec.	17 mA	**7268K21**	49.59
120 AC/DC	0.1-10 sec.	17 mA	**7268K23**	49.59
120 AC/DC	0.3-30 sec.	17 mA	**7268K24**	49.59
120 AC/DC	0.6-60 sec.	17 mA	**7268K25**	49.59
120 AC/DC	1.8-180 sec.	17 mA	**7268K26**	49.59
120 AC/DC	3-300 sec.	17 mA	**7268K51**	49.59
120 AC/DC	6-600 sec.	17 mA	**7268K52**	49.59
120 AC/DC	36-3,600 sec.	17 mA	**7268K54**	49.59
12 DC	0.1-10 sec.	170 mA	**7268K91**	49.65
12 DC	0.6-60 sec.	170 mA	**7268K92**	49.65
Off-Delay (Power-Off Delay)—8 Pins				
24 AC/DC	0.05-1,800 sec.	100 mA	**7268K48**	89.16
120 AC/DC	0.05-1,800 sec.	20 mA	**7268K47**	89.16
Interval—8 Pins				
120 AC/DC	0.05-5 sec.	17 mA	**7630K31**	55.59
120 AC/DC	0.6-60 sec.	17 mA	**7630K32**	55.59
120 AC/DC	0.1-10 min.	17 mA	**7630K33**	55.59
120 AC/DC	0.6-60 min.	17 mA	**7630K34**	55.59
Switch-On Initiated Interval (Single-Shot)—8 Pins				
120 AC/DC	0.1-10 sec.	17 mA	**7630K41**	53.33
120 AC/DC	0.6-60 sec.	17 mA	**7630K42**	53.33
Switch-Off Initiated Interval (Delay-On-Break)—11 Pins				
24 AC/DC	0.1-10 sec.	83 mA	**7268K72**	54.19
24 AC/DC	0.6-60 sec.	83 mA	**7268K74**	54.19

Control Voltage	Overall Timing Range	Power Draw		
Switch-Off Initiated Interval (Delay-On-Break)—11 Pins (Cont.)				
24 AC/DC	36-3,600 sec.	83 mA	**7268K77**	$54.19
120 AC/DC	0.05-5 sec.	17 mA	**7268K42**	54.19
120 AC/DC	0.1-10 sec.	17 mA	**7268K43**	54.19
120 AC/DC	0.3-30 sec.	17 mA	**7268K44**	54.19
120 AC/DC	0.6-60 sec.	17 mA	**7268K45**	54.19
120 AC/DC	1.2-120 sec.	17 mA	**7268K4**	54.19
120 AC/DC	1.8-180 sec.	17 mA	**7268K46**	54.19
120 AC/DC	3-300 sec.	17 mA	**7268K61**	54.19
120 AC/DC	6-600 sec.	17 mA	**7268K62**	54.19
120 AC/DC	36-3,600 sec.	17 mA	**7268K64**	54.19
Repeat Cycle—8 Pins				
24 AC/DC	0.1-10 sec.	83 mA	**7630K81**	71.59
24 AC/DC	0.6-60 sec.	83 mA	**7630K83**	71.59
24 AC/DC	1.8-180 sec.	83 mA	**7630K85**	71.59
120 AC/DC	0.05-5 sec.	17 mA	**7630K11**	71.59
120 AC/DC	0.1-10 sec.	17 mA	**7630K12**	71.59
120 AC/DC	0.6-60 sec.	17 mA	**7630K14**	71.59
120 AC/DC	1.8-180 sec.	17 mA	**7630K16**	71.59
120 AC/DC	3-300 sec.	17 mA	**7630K17**	71.59
120 AC/DC	0.1-10 min.	17 mA	**7630K18**	71.59
120 AC/DC	0.3-30 min.	17 mA	**7630K23**	71.59
12 DC	1.8-180 sec.	170 mA	**7630K59**	71.59
Sockets				
For 8-Pin Relays (2″ Ht. × 1.6″ Wd. × 1″ Dp.)			**7122K19**	4.07
For 11-Pin Relays (2″ Ht. × 2.3″ Wd. × 1″ Dp.)			**7122K21**	6.89

Surface-Mount Timer Relays

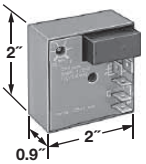

Relays surface mount and have an on-delay (delay-on-make) timing function. Adjust the delay with the built-in variable switch (potentiometer). Relays switch one circuit on or off (SPDT). All have 0.25″ quick-disconnect terminals and a 0.17″ dia. mounting hole (fastener not included). Rated 8 amps @ 250 volts AC. Mechanical life is 10 million cycles. UL and C-UL recognized.

Control Voltage	Overall Timing Range	Power Draw		
120 AC	0.05 sec.-1 sec.	29 mA	**77055K45**	$39.66
120 AC	0.25 sec.-5 sec.	29 mA	**77055K46**	39.66
120 AC	0.5 sec.-10 sec.	29 mA	**77055K47**	39.66
120 AC	3 sec.-60 sec.	29 mA	**77055K48**	39.66

Control Voltage	Overall Timing Range	Power Draw		
120 AC	15 sec.-300 sec.	29 mA	**77055K49**	$39.66
120 AC	30 sec.-10 min.	29 mA	**77055K51**	39.66
12 DC	3 sec.-60 sec.	292 mA	**77055K631**	42.34
12 DC	15 sec.-300 sec.	292 mA	**77055K632**	42.34

For information about electrical switches, see page 909. For information about timing functions, see page 960.

Medium-Amp Timer Relays

With a higher amp rating than other timer relays, these are ready for compressors, blowers, and heaters. Relays are rated 30 amps @ 120 volts AC, 30 amps @ 28 volts DC, and 1 hp @ 120 volts AC. Also known as power relays, they switch one circuit on or off (SPDT). Mechanical life is ten million cycles. All have 0.25″ quick-disconnect terminals, a knob for timer adjustment, and can be surface mounted (fasteners not included). UL recognized and CSA certified. For information about medium-amp relays, see page 954. **To Order:** Please specify overall timing range: 0.1-10 sec., 1-100 sec., 10-1,000 sec., 0.1-10 min., or 1-100 min.

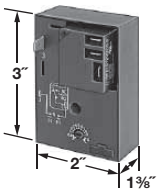

	120 AC Control Voltage			24 DC Control Voltage		
	Power Draw			Power Draw		
On-Delay (Delay-On-Make)	36 mA	2809T15	$64.30	41 mA	2809T16	$64.30
Interval	36 mA	2809T25	64.30	41 mA	2809T26	64.30
Switch-On Initiated Interval (Single-Shot)	36 mA	2809T35	64.30	41 mA	2809T36	64.30
Switch-Off Initiated Interval (Delay-On-Break)	36 mA	2809T45	64.30	41 mA	2809T46	64.30
Repeat Cycle	36 mA	2809T55	64.30	41 mA	2809T56	64.30

Wide-Range Timer Relays

Postpone starts longer and set wider intervals than with most timer relays. All have eight circular pins and plug into a socket. Rated 10 amps @ 240 volts AC. Relays switch two circuits on or off (DPDT), except switch-on and switch-off initiated interval relays switch one circuit on or off (SPDT). Mechanical life is 10 million cycles. UL recognized.

On-delay (delay-on-make) relay has a three-digit push-button switch for timer adjustment.

Interval, switch-on initiated interval (single-shot), switch-off initiated interval (delay-on-break), and **repeat cycle relays** have DIP switches for timer adjustment. Rated 10 amps @ 28 volts DC and ⅓ hp @ 240 volts AC.

Socket mounts to 35 mm DIN rail or surface mounts using the two 0.17″ dia. holes (fasteners not included). See page 959 for more socket information.

To Order: For relays, please specify control voltage (power draw): 24V AC (135 mA), 120V AC (27 mA), 240V AC (14 mA), 12V DC (271 mA), or 24V DC (135 mA).



7096K1



7096K21-K24

	Overall Timing Range		
On-Delay (Delay-On-Make)	0.05 sec.-999 min.	7096K1	$63.25
Interval	1 sec.-1,023 sec.	7096K23	71.52
Switch-On Initiated Interval	1 sec.-1,023 sec.	7096K22	68.92
Switch-Off Initiated Interval	1 sec.-1,023 sec.	7096K21	70.60
Repeat Cycle	1 sec.-1,023 sec.	7096K24	87.60
Socket		7122K19	4.07

Multifunction Timer Relays

Each relay has a variety of timing functions to choose from. All plug into a socket. Mechanical life is 10 million cycles.

Standard relay allows you to switch between on-delay (delay-on-make), interval, switch-on initiated interval (single-shot), switch-off initiated interval (delay-on-break), and repeat cycle functions. It has five timing ranges and a three-digit push-button switch for timer adjustment. Relay switches two circuits on or off (DPDT) and has 11 circular pins. Rated 10 amps @ 240 volts AC. UL and C-UL recognized. **To Order:** Please specify control voltage (power draw): 24V AC (83 mA), 120V AC (17 mA), 240V AC (8 mA), 12V DC (167 mA), or 24V DC (83 mA).



Standard Relay

Miniature relay saves space. Switch between on-delay (delay-on-make), interval, and repeat cycle functions. Relay has four timing ranges and a knob for timer adjustment. It switches four circuits on or off (4PDT). There are 14 spade-terminal connections. Rated 3 amps @ 250 volts AC. UL recognized, CSA certified, and CE marked. **To Order:** Please specify control voltage (power draw): 100-120V AC (15 mA), 200-230V AC (9 mA), or 24V DC (45 mA).

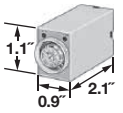

Miniature Relay

Sockets mount to 35 mm DIN rail or surface mount using the two 0.17″ dia. holes (fasteners not included). See page 959 for more socket information.

	Overall Timing Range	Relays		Sockets	
Standard	0.05 sec.-999 min.	6964K2	$86.78	7122K21	$6.89
Miniature	0.1 sec.-10 min.	7339K7	75.53	7122K25	9.14

Panel-Mount/Plug-In Timer Relays

Plug relays into a socket and use the mounting bracket (sold separately) if you need to install them in a panel. Standard relays fit into a 1.78″×1.78″ cutout and compact relays fit into a 1.30″×1.30″ cutout. Relays switch two circuits on or off (DPDT), except relay with eight functions switches one circuit on or off (SPDT). Mechanical life is 10 million cycles.

Standard Relays with 8 Circular Pins and **Compact Relays—**All have a knob for timer adjustment and an indicating light. UL recognized, CSA certified, and CE marked. *Standard relays* have four timing ranges. *Relay with four functions* allows you to switch between on-delay (delay-on-make), interval, switch-on initiated interval (single-shot), and repeat cycle functions. *Compact relays* have a single timing range.

Standard Relays with 11 Circular Pins—*Relay with five functions* allows you to switch between on-delay (delay-on-make), interval, switch-on initiated interval (single-shot), switch-off initiated interval (delay-on-break), and repeat cycle functions. It has six timing ranges and knob adjustment. UL and C-UL recognized. *Relay with eight functions* allows you to switch between on-delay (delay-on-make), interval, switch-on initiated interval (single-shot), two types of switch-off initiated interval (delay-on-break), repeat cycle, and two types of signal on/off delay functions. It has seven timing ranges, push-button adjustment, and an LCD to show the time remaining. UL recognized, CSA certified, and CE marked.

Sockets mount on 35 mm DIN rail or surface mounts using the two 0.17″ dia. holes (fasteners not included). See page 959 for more socket information.

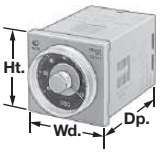

Standard Relay with 8 Circular Pins



Standard Relay with Five Functions



Standard Relay with Eight Functions



Compact Relay

	Control Voltage	Amp Rating	Overall Timing Range	Ht.	Wd.	Dp.	Power Draw		
Standard Relays—8 Circular Pins									
Off-Delay	100-120 AC	5 @ 250V AC	0.05 sec.-12 sec.	1.9″	1.9″	2.7″	2 mA	69695K74	$106.98
Off-Delay	100-120 AC	5 @ 250V AC	3 sec.-12 min.	1.9″	1.9″	2.7″	2 mA	69695K73	106.98
Repeat Cycle	100-240 AC/100-125 DC	5 @ 250V AC	0.05 sec.-300 hr.	1.9″	1.9″	3.3″	100 mA	69695K72	119.62
Four Functions	100-240 AC/100-125 DC	5 @ 250V AC	0.05 sec.-300 hr.	1.9″	1.9″	2.3″	13 mA	69695K51	98.47
Standard Relays—11 Circular Pins									
Five Functions	24-240 AC/24-240 DC	10 @ 240V AC	0.05 sec.-999 hr.	1.9″	1.9″	2.8″	104 mA	6964K3	138.80
Eight Functions	24-240 AC/12-240 DC	3 @ 250V AC	0.1 sec.-999 hr.	1.9″	1.9″	2.7″	17 mA	6963K14	174.73
Compact Relays—8 Circular Pins									
On-Delay	100-120 AC	5 @ 250V AC	0.5 sec.-5 sec.	1.4″	1.4″	2.5″	30 mA	69695K81	79.02
On-Delay	100-120 AC	5 @ 250V AC	1 sec.-10 sec.	1.4″	1.4″	2.5″	30 mA	69695K82	79.02
On-Delay	100-120 AC	5 @ 250V AC	6 sec.-60 sec.	1.4″	1.4″	2.5″	30 mA	69695K83	71.73
On-Delay	100-120 AC	5 @ 250V AC	1 min.-10 min.	1.4″	1.4″	2.5″	30 mA	69695K84	79.02
On-Delay	100-120 AC	5 @ 250V AC	6 min.-60 min.	1.4″	1.4″	2.5″	30 mA	69695K85	79.02
Accessories									
Socket for 8-Pin Relays								7122K19	4.07
Socket for 11-Pin Relays								7122K21	6.89
Panel-Mount Bracket for Standard Relays								6963K22	10.95
Panel-Mount Bracket for Compact Relays								69695K95	7.95

Multifunction DIN-Rail Mount Timer Relays

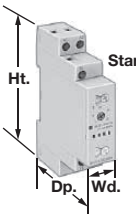





Relays switch between a variety of timing functions. All mount to 35 mm DIN rail.

Standard relay switches between on-delay (delay-on-make), off-delay with switch (power-off delay), interval, switch-on initiated interval (single-shot), switch-off initiated interval (delay-on-break), and repeat cycle functions. It has six timing ranges; total range is 0.1 seconds to 24 hrs. Relay switches one circuit on or off (SPDT). UL and C-UL listed; CE marked.

Long-life relays have solid state construction with no moving parts for extended life. Switch between on-delay (delay-on-make), interval, switch-on initiated interval (single-shot), switch-off initiated interval (delay-on-break), and repeat cycle functions. Relays switch one circuit on (SPST-NO). All have holes for surface mounting (fasteners are included). UL recognized, CSA certified, and CE marked. *DIP switch adjustable* relays have a timing range of 0.1 seconds to 63 minutes. DIP switches are more precise than knobs, making it easier to set multiple relays to the same timing range. *Knob adjustable* relays have a timing range of 0.1 seconds to 100 minutes. **To Order:** Please specify adjustment style: DIP switch or knob.

Ultra-thin relays disconnect from the included socket for easy replacement. Switch between two types of on-delay (delay-on-make), interval, and repeat cycle functions. Relays have four timing ranges; total range is 0.1 seconds to 6 hours. 4799T11 switches one circuit on or off (SPDT). 4799T12 and 4799T13 switch one circuit on (SPST-NO). All are UL and C-UL recognized and CE marked.

Control Voltage	Amp Rating	Connections	Ht.	Wd.	Dp.	Power Draw		
Standard—Six Functions								
12-240 AC/DC	16 @ 250V AC	Screw Terminals	3.5″	0.7″	2.4″	7 mA	**6964K4**	$64.54
Long Life—Five Functions								
24-240 AC	0.7 @ 240V AC	0.25″ Quick-Disc.	3″	0.7″	2.4″	8 mA	**7399K1**	75.57
24-240 AC	0.7 @ 240V AC	Screw Terminals	3″	0.7″	2.4″	8 mA	**7399K2**	97.17
9-110 DC	0.7 @ 240V AC	0.25″ Quick-Disc.	3″	0.7″	2.4″	8 mA	**7399K3**	75.57
9-110 DC	0.7 @ 240V AC	Screw Terminals	3″	0.7″	2.4″	8 mA	**7399K4**	86.32
Ultra Thin—Four Functions								
24 AC/DC	2 @ 240V AC	Screw Terminals	3.5″	0.2″	2.8″	12 mA	**4799T13**	54.46
24 AC/DC	6 @ 250V AC	Screw Terminals	3.5″	0.2″	2.8″	16 mA	**4799T11**	36.02
24 AC/DC	2 @ 24V DC	Screw Terminals	3.5″	0.2″	2.8″	12 mA	**4799T12**	55.62
Replacement Relay for 4799T13							**4799T22**	18.85
Replacement Relay for 4799T11							**8262T21**	5.32
Replacement Relay for 4799T12							**4799T23**	17.75

Long-Life Surface-Mount Timer Relays

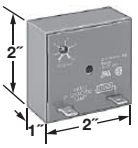

No moving parts means these solid state relays have a longer life and quieter operation than other timer relays. They have a built-in variable switch (potentiometer) to adjust the delay within the timing range, unless noted. Relays surface mount (fastener not included). All switch one circuit on (SPST-NO) and have 0.25″ quick-disconnect terminals.

Relays have a 0.17″ dia. mounting hole. UL and C-UL recognized. 77055K74 has DIP switch adjustment with an overall timing range of 1-1,023 sec. **To Order:** Please specify timing range (except for 77055K74): 0.05-1 sec., 0.25-5 sec., 0.5-10 sec., 3-60 sec., 15-300 sec., or 30 sec.-10 min; for 7457K51 and 7457K52, specify 0.25-5 sec., 0.5-10 sec., or 3-60 sec.

Control Voltage	Amp Rating	Power Draw		
On-Delay (Delay-On-Make)				
12 AC/DC	1 @ 120V AC	21 mA	**77055K73**	$33.14
24 AC/DC	1 @ 120V AC	10 mA	**77055K75**	33.14
24-240 AC/DC	1 @ 120V AC	10 mA	**77055K74**	70.95
120 AC/DC	1 @ 120V AC	4 mA	**77055K61**	28.61
Interval				
120 AC	1 @ 120V AC	25 mA	**7457K65**★	39.33
Switch-On Initiated Interval (Single-Shot)				
120 AC	1 @ 120V AC	36 mA	**7457K64**	37.23
12 DC	1 @ 120V AC	217 mA	**7457K51**★	33.18
Switch-Off Initiated Interval (Delay-On-Break)				
120 AC	1 @ 120V AC	36 mA	**7457K63**	34.69
12 DC	1 @ 120V AC	217 mA	**7457K52**★	34.59
Repeat Cycle				
120 AC	1 @ 120V AC	36 mA	**7457K66**■	47.05
Potentiometer for 7457K65, K51, K52, and K66			**77055K91**	24.31

★ Requires one variable switch (potentiometer), sold separately.
■ Requires two variable switches (potentiometers), sold separately.

Easy-Program Logic Controllers

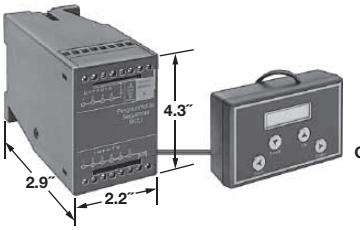

Controller with Hand-Held Programmer

Design and operate up to six simultaneous programs without symbols or technical language—the on-screen instructions use simple English. These PLCs have a 32KB memory capacity and memory backup to retain programming during power outages. Use to program automation jobs and to replace relays, timer relays, and timer switches.

Controllers have six 12-14 volt DC inputs and four relay outputs rated 5 amps @ 115 volts AC. Processing speed is 1,000 lines per second. Use the included 3-ft. power cord and two-prong plug or hardwire directly to a 115 volt AC supply. Mount to 35 mm DIN rail or panel mount using the two 5/16″ dia. holes (fasteners not included). Controllers have screw terminal connections. Operate on 115 volts AC.

Controller with hand-held programmer has a 1-ft. long connection cable. **Controller with PC software** includes a serial interface cable. You'll need a PC running Windows 95 or better with a CD-ROM drive and an RS-232 serial port.

Remote timer panel monitors and adjusts up to eight timers while the controller is operating. It's NEMA 12 rated for oil protection and can machine mount (fasteners are included). Comes with a 30″ long cable.

Expansion module lets you double the PLCs' inputs and outputs.

Controller with Hand-Held Programmer	**6884K2**	$342.73
Controller with PC Software	**6884K4**	319.09
Remote Timer Panel	**6884K7**	159.55
Expansion Module (6 Input/4 Output)	**6884K3**	177.27

DIN-Rail Mount Timer Relays

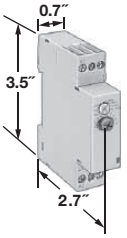

Mount relays to 35 mm DIN rail and turn the screw to select one of seven timing ranges. Overall timing range is 0.1 seconds to 100 hours. Use knob to adjust within the selected timing range. Relays have solid state construction for long life. They switch one circuit on (SPST-NO) and are rated 0.7 amps @ 250 volts AC. Power draw is 7 mA. Relays have screw-clamp connections. UL and C-UL listed and CSA certified.

	Control Voltage		
On-Delay (Delay-On-Make)	24-240 AC/DC	**7801K51**	$64.34
Interval	24-240 AC	**7801K52**	54.70

Surface-Mount GFCIs



Mount and hardwire to your equipment for ground fault protection. These GFCIs have a power-on indicator light, test and reset buttons, and 3/16″ dia. mounting holes (screws not included). They will trip if a ground fault is detected; press the button to reset. In case of a power outage, reset is automatic. Housing is black polycarbonate. UL recognized and CSA certified.

Rating						
VAC	Amps	Ht.	Wd.	Dp.		
120	20	3.3″	2.4″	2.0″	**72155K73**	$61.14
240	20	3.3″	2.4″	2.0″	**72155K74**	62.76

Mini Programmable Logic Controllers

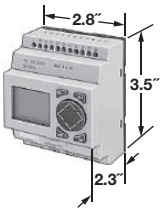

A mix between a PLC and a timer relay, these controllers have built-in logic, timer, and counter functions. They have eight individually programmable timers that each control up to four devices and can be set up to seven days in advance. No additional hardware or programming software is needed. Mount to 35 mm DIN rail.

Set up to 16 timing ranges between 0.01 sec. and 100 hours and six operating modes: two types of on-delay (delay-on-make), switch-on initiated interval (single-shot), two types of switch-off initiated interval (delay-on-break), and repeat cycle. Controllers have an LCD screen, push-buttons, and memory backup.

Both have solid state output rated 10 amps @ 240 volts AC and 8 amps @ 24 volts DC. Mechanical life is 10 million cycles. They have touchsafe screw terminal connections to prevent contact with live terminals. UL listed, CSA certified, and CE marked. **24-volt DC** controller can receive analog signals from temperature and pressure sensors on two of the eight inputs.

Control Voltage	No. of Signal Inputs	No. of Relay Outputs	Power Draw		
100/240 AC	8	4	40/20 mA	7244K8	$251.92
24 DC	8	4	80 mA	7244K9	251.92

High-Amp Time and Day Activated Switches



Position trippers around the clock dial to set on and off times for large loads such as lighting, pumps, and heaters. Enclosures have 0.19″ dia. mounting holes (fasteners not included) and ½″ and ¾″ trade size knockouts, unless noted. All switches have screw terminal connections. CSA certified to UL standard 917, unless noted. Cannot be sold in California.

24-hour switches repeat the same on/off schedule daily.

24-hour switches with day skipper repeat the same on/off schedule daily, plus they can skip operation for 1 to 6 days. Switches come with three skip screws.

7-day switches allow a different program for each day of the week.

Indoor switches have a NEMA 1 steel enclosure. Size is 7¾″ Ht.×5″ Wd.×3″ Dp., except 79915K66 is 12½″ Ht.×8¼″ Wd.×4″ Dp.

Indoor/outdoor switches have a rain-tight NEMA 3R steel enclosure, except 7037K15 and 79915K59 are polycarbonate. Size is 9⅜″ Ht.×5½″ Wd.×3⅝″ Dp., except 7037K78 is 8¼″ Ht.×5¼″ Wd.×4⅝″ Dp., 7037K15 and 79915K59 are 8⅞″ Ht.×6⅝″ Wd.×3″ Dp., and 79915K68 is 12½″ Ht.×8¼″ Wd.×4″ Dp.

No. of Circuits	Input Voltage, AC	Amp Rating @ 240V AC	Maximum On/Off Cycles	Minimum On/Off Time	Tripper Style (No.)	Indoor Switches		Indoor/Outdoor Switches	
24 Hour									
1	120	20	48 per day	15 min.	Captive (96)	7037K18★	$162.60	7037K78★	$251.77
1	125	40	12 per day	1 hr.	Removable (2)	7037K11	61.98	7037K81	96.75
2	120, 208-277	40	48 per day	15 min.	Captive (96)	—	—	7037K15■	66.96
2	125	40	12 per day	1 hr.	Removable (2)	7037K13	68.66	7037K83	107.95
2	208-277	40	12 per day	1 hr.	Removable (2)	7037K14	79.30	7037K84	105.11
Set of 2 Additional Trippers for Switches with Removable Trippers (1 On and 1 Off)								7037K32	$3.00
24 Hour with Day Skipper									
1	125	40	10 per day	1 hr.	Removable (2)	7037K17	88.22	—	—
2	125	40	10 per day	1 hr.	Removable (2)	7037K19	98.02	7037K89	121.87
2	208-277	40	10 per day	1 hr.	Removable (2)	7037K21	98.60	7037K91	135.01
Set of 2 Additional Trippers for Switches with Removable Trippers (1 On and 1 Off)								7037K42	$3.00
Set of 3 Replacement Day-Skip Screws								7037K52	3.00
7 Day									
1	125	20	12 per day	2 hr.	Captive (84)	79915K56	135.88	—	—
2	120, 208-277	40	6 per day	2 hr.	Captive (96)	—	—	79915K59■	100.75
4	125	40	3 per day	3½ hr.	Removable (4)	79915K66	146.71	79915K68▲	197.86
Set of 14 Additional Trippers for Switches with Removable Trippers (7 On and 7 Off)								79915K71	$16.00

★ UL listed; CSA certified. ■ Has ⅜″ dia. mounting holes and ¾″ and 1″ trade size knockouts. UL listed; not CSA certified. ▲ Has 14 trippers.

Set-to-the-Minute High-Amp Time and Day Activated Switches



24 Hour



7 Day



Sunrise/Sunset

Switch large loads on and off with to-the-minute electronic programming. These switches have battery backup to keep time during a power outage. Enclosures are lockable and have ½″ and ¾″ trade size knockouts. Switches have screw terminal connections. UL listed, unless noted.

24-hour indoor/outdoor switches repeat the same on/off schedule daily. Enclosures are 8¼″ Ht.×5″ Wd.×3″ Dp. and have 0.16″ dia. mounting holes (fasteners not included). Cannot be sold in California.

7-day switches with day skipper allow a different program for each day of the week and can skip operation on selected days. 7459K89 can program each circuit independently and be set to activate equipment such as bells and signals for just a few seconds. Enclosures are 8¼″ Ht.×5″ Wd.×3″ Dp., except 7459K89 is 7¾″ Ht.×5″ Wd.×3″ Dp. All have 0.16″ dia. mounting holes (fasteners not included). Cannot be sold in California.

Sunrise/sunset indoor/outdoor switches have built-in programming to automatically turn lights off and on based on sunrise and sunset. They also allow a different program for each day of the year. Switches compensate for leap year and daylight saving time. You can set them to override regular programming for up to 99 holidays. Switches can also be used for 7-day programming and to activate equipment such as bells and signals for just a few seconds. Enclosures are 8⅝″ Ht.×5¾″ Wd.×3⅝″ Dp. and have 0.19″ dia. mounting holes (fasteners not included).

No. of Circuits	Input Voltage, AC	Amp Rating @ 240V AC	Maximum On/Off Cycles	Minimum On/Off Time		
24-Hour Indoor/Outdoor Switches—Polycarbonate Enclosure (NEMA 3R)						
1	120-277	40	20 per day	1 min.	7459K65	$102.85
2	120-277	40	20 per day	1 min.	7459K67	107.45
7-Day Indoor Switches with Day Skipper—Steel Enclosure (NEMA 1)						
1	120-277	30	20 per day	1 min.	7459K92	130.32
1	120-277	40	20 per day	1 min.	7459K84	141.43
2	120, 208-277	30	28 per day	1 min.	7459K89♦	219.82
7-Day Indoor/Outdoor Switches with Day Skipper—Polycarbonate Enclosure (NEMA 3R)						
1	120-277	30	20 per day	1 min.	7459K91	121.62
2	120-277	40	20 per day	1 min.	7459K86	131.33
Sunrise/Sunset Indoor/Outdoor Switches—Steel Enclosure (NEMA 3R)						
1	120-277	30	4,000 per year	1 min.	70915K77	339.66
2	120-277	30	4,000 per year	1 min.	70915K81	410.81

♦ Not UL listed; CSA certified to UL standard 916.

Time & Day Activated Switches

For information about electrical switches, see page 909.

Compact Set-to-the-Minute Time and Day Activated Switches



One Circuit Panel Mount



Two Circuit 24 Hour

A level above compact time and day activated switches, these have electronic programming for to-the-minute on and off times. Switches have manual override and battery backup to keep time during a power outage.

One-circuit switches allow a different program for each day of the week. Rated 16 amps @ 277 volts AC. UL and C-UL recognized. Cannot be sold in California. *Panel-mount* switches have 0.25″ quick-disconnect connections. They are 2.8″ Ht.×2.8″ Wd.×1.5″ Dp. and fit in a 2.63″ square cutout. *Surface/DIN-rail mount* switches have screw terminal connections. Mount to 35 mm DIN rail or surface mount using the three 0.13″ dia. holes (fasteners not included). They are 4.1″ Ht.×2.9″ Wd.×2.2″ Dp.

Two-circuit switches can control two loads with two different programs. They have screw terminal connections. Rated 15 amps @ 250 volts AC. UL recognized and CSA certified. *24-hour* switch can set two 24-hour on/off schedules, each for a different circuit. Program each circuit to apply its schedule to any combination of days during the week. Mount to 35 mm DIN rail, panel mount in a 3.62″ square cutout, or surface mount (fasteners included). Switch is 3.8″ Ht.×3.8″ Wd.×2.2″ Dp. *7-day* switch has more flexibility; each day of the week can have a unique schedule. It is 2.8″ Ht.×2.8″ Wd.×2.2″ Dp. and panel mounts in a 2.68″ square cutout.

Input Voltage, AC	Timing Range	Maximum On/Off Cycles	Minimum On/Off Time	Panel Mount		Surface/DIN-Rail Mount	
Switch One Circuit							
24	7 day	20 per day	1 min.	71075K9	$108.60	71075K16	$108.60
120	7 day	20 per day	1 min.	71075K11	105.27	71075K17	105.27
120	7 day	50 per day	1 min.	71075K14	123.30	71075K21	123.30
240	7 day	20 per day	1 min.	71075K12	108.60	71075K18	108.60
Switch Two Circuits							
100-240	24 hour	12 per day	1 min.	70395K71	289.33	70395K71	289.33
100-240	7 day	20 per day	1 min.	70395K81	279.00	———	———

Compact Time and Day Activated Switches



Surface/DIN-Rail Mount

A dial clock face and captive trippers simplify programming of these small, space-saving switches. They switch one circuit and are rated 21 amps @ 250 volts AC. Input voltage is 120 AC. UL recognized and CSA certified. Cannot be sold in California.

7-day switches allow a different program for each day of the week.

Panel-mount switches have 0.25″ quick-disconnect connections and are 2.8″ Ht.×2.8″ Wd.×1.5″ Dp. Mount in a 2.63″ square cutout.

Surface/DIN-rail mount switches have screw terminal connections and are 4.2″ Ht.×2.8″ Wd.×2.2″ Dp. Mount to 35 mm DIN rail or surface mount using the three 0.13″ dia. holes (fasteners not included).

Timing Range	Maximum On/Off Cycles	Minimum On/Off Time	Panel Mount		Surface/DIN-Rail Mount	
24 hr.	48 per day	15 min.	7797K11	$51.76	7797K13	$51.76
7 day	6 per day	2 hr.	7797K12	76.04	7797K14	76.04

Wall-Mount Time and Day Activated Switches



24 Hour



7 Day

Replace your wall switch and turn lights and other devices on and off at programmed times. Switches can operate fluorescent and incandescent lights. Mount in a single-device (single-gang) wall box. Both switch one circuit and have 6″ wire leads. Color is white.

24-hour switch repeats the same on/off schedule daily. Set with the included captive trippers. There is a slide switch to select on, off, or timer setting. Wall plate is included. Rated 20 amps @ 120 volts AC. UL and C-UL listed. Cannot be sold in California.

7-day switch has to-the-minute programming that can be set for each day of the week. It can also turn lights on and off based on sunset and sunrise; use this feature independently or combine it with timed programming. Switch has an LCD and battery backup. Rated 15 amps @ 120 volts AC. CSA certified. Fits a standard GFCI wall plate (not included, see page 893).

Timing Range	Maximum On/Off Cycles	Minimum On/Off Time		
24 hr.	24	30 min.	7367K4	$43.38
7 day	40	1 min.	7367K61	54.67

Time and Day Activated Switches



A



B



C



D



E

Put your lamp or other small electrical load on an on/off schedule. Plug the switch into an outlet and your device into the switch. All have a manual on/off override. Input voltage is 120 AC.

(A&B) 24-Hour—Switches repeat the same on/off schedule daily. *Style A* is CSA certified. *Style B* has a 5-ft. cord and is UL listed.

(C) 7-Day—Switch can perform a different schedule for each day of the week. It has a random on/off time function and on/off sunset/sunrise setting. CSA certified.

(D) Outdoor 24-Hour—Switch repeats the same on/off schedule daily. Mount at least 3 feet above ground level. Has two pairs of removable trippers, a 1/4″ dia. mounting hole (fasteners not included), and a 2-ft cord. CSA certified. Cannot be sold in California.

(E) Outdoor 7-Day—Switch can perform a different schedule for each day of the week. It has a random on/off time function. Mount at least 4 1/2 feet above ground level. Has two 5/16″ dia. mounting holes (fasteners not included), and a 2-ft cord. UL and C-UL listed.

	No. of Timed Outlets	Maximum On/Off Cycles	Minimum On/Off Time	Amp Rating	Plug and Outlet Style	Ht.	Wd.	Dp.		
A 24 hour	1	3 per day	30 min.	15	Three Prong	3 1/4″	3 1/4″	3 1/4″	7001K15	$14.00
B 24 hour with Cord	1	2 per day	1 min.	10	Two Prong	1 1/2″	2 1/2″	3 1/2″	7001K16	20.28
C 7 day	2	14 per day	1 min.	15	Three Prong	3″	3 1/2″	3 1/2″	7001K58	31.21
D Outdoor 24-hour	1	24 per day	30 min.	15	Three Prong	5″	5 1/2″	3 3/4″	7185K25	43.56
E Outdoor 7-day	2	7 per day	1 min.	15	Three Prong	5 1/8″	5 1/4″	1 7/8″	7001K56	38.94
Additional Trippers for Style D Switch (Pair)									7993K71	.95

Wall-Mount Timer Switches


Rotary with Wall Plate


Rotary without Wall Plate


High-Amp Rotary


Push-Button


Programmable Push-Button

Use in place of wall switches to automatically turn electrical equipment, such as lights, on or off. Switches have screw terminal connections and mount in a single-device (single-gang) wall box, unless otherwise stated. UL listed and CSA certified, except programmable switch is UL and C-UL listed.

Switches **with override** let you bypass the automatic shut-off.

Switches **without wall plate** fit a standard GFCI wall plate (not included, see page 893).

Rotary switches are rated 20 amps @ 125 volts AC and 10 amps @ 250 volts AC. Cannot be sold in California. Switches *with wall plate* have a silver plastic wall plate and ivory knob. Switches *without wall plate*—To Order: Please specify knob color: ivory or white.

High-amp rotary switches can control 240-volt AC air conditioners, heaters, and ventilating equipment. Switches mount in a two-device (two-gang) wall box. Rated 28 amps @ 240 volts AC and 1 hp @ 120/240 volts AC. Each has a steel wall plate with a black knob.

Push-button switch has four set times of 5, 10, 15, and 30 minutes. Rated 20 amps @ 120 volts AC and has wire leads. Includes an off button and switch covers in ivory, light almond, and white.

Programmable push-button switch eliminates the need to reset a dial with every use. You can program lights to turn off automatically after an interval of five minutes to 12 hours. An LCD counts down until shut-off and offers an optional visual and audible shut-off warning. Rated 6.6 amps @ 120 volts AC, 4.3 amps @ 277 volts AC, and 1/6 hp @ 125 volts AC. Switch is white.

Timing Range	Minimum On/Off Time	With Override		Without Override	
Rotary Switches with Wall Plate					
Switch One Circuit On					
0-5 min.	1 min.	7014K1	$24.99	7014K6	$23.67
0-30 min.	4 min.	7014K4	25.45	7014K7	21.41
0-60 min.	10 min.	7014K2	21.41	7014K8	21.41
0-6 hr.	60 min.	7014K5	32.80	7014K9	27.33
0-12 hr.	120 min.	7014K3	27.80	7014K11	26.03
Rotary Switches without Wall Plate					
Switch One Circuit On					
0-5 min.	40 sec.			7014K45	24.10
0-30 min.	4 min.	7014K41	24.10	7014K46	22.74
0-60 min.	10 min.	7014K42	24.10	7014K47	24.10
0-6 hr.	60 min.	7014K43	31.24	7014K48	31.24
0-12 hr.	120 min.	7014K44	31.24	7014K49	31.32
High-Amp Rotary Switches with Wall Plate					
Switch One Circuit On or Off					
0-1 hr.	1 min.	7672K53	177.70	7672K51	159.36
0-12 hr.	15 min.	7672K54	199.80	7672K52	193.36
Switch Two Circuits On					
0-1 hr.	1 min.	7672K57	169.00	7672K55	156.76
0-12 hr.	15 min.	7672K58	191.12	7672K56	184.66
Push-Button Switch without Wall Plate					
Switch One Circuit On					
5, 10, 15, 30 min.				73415K32	40.50
Programmable Push-Button Switch without Wall Plate					
Switch One Circuit On					
0-12 hr.	5 min.	6550T11	60.91		

Power-Saving Timer Switches



Push and release the button to operate—no electricity required. It switches one circuit on or off (SPDT) after an adjustable 2-60 second time delay. Rated 10 amps @ 240 volts AC. Switch has solder-lug connections and is 1 7/16" Ht. x 1" Wd. x 1 1/2" Dp. Panel mount in a 15/32" dia. cutout. Depth behind panel is 1 1/16". Maximum panel thickness is 3/16". UL recognized and CSA certified.

8008K33 ..... $139.00

Timer Switches



Plug your electrical device into the switch's three-prong receptacle and turn the dial to set the run time. Rated 10 amps @ 125 volts AC. Include a 6-ft. cord with three-prong plug. Switches are 3 1/4" Ht. x 2 3/4" Wd. x 2 3/4" Dp. UL listed and CSA certified.

Timing Range	Minimum On Time		
0-30 min.	1 min.	8386T13	$108.20
0-60 min.	1 min.	8386T14	108.20

High-Visibility Timer Switches

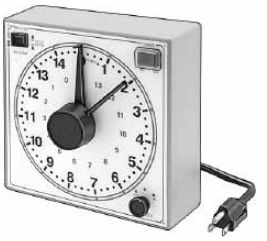

A 6 1/2" dia. clock face makes the run time easy to see from a distance. Switches have two rocker switch-operated three-prong outlets on the side; plug in your devices and set the run time. A buzzer sounds when the timer stops. Each outlet is rated 5 amps, 1/3 hp @ 120 volts AC.

Standard switches have a white face. Set them so both outlets turn off when the timer stops or have the top outlet turn off and the bottom outlet turn on when the timer stops.

Glow-in-the-dark switch has a black face with phosphorescent dial and hands. Set it so both outlets turn on when the timer stops or have the top outlet remain off, the bottom outlet remain on, and the buzzer sound when the timer stops.

All switches sit on a table top and have two 3/8" dia. holes on the back panel for wall mounting (fasteners not included). They have a 6-ft. cord with three-prong plug. Switches are 7 1/2" Ht. x 7 1/2" Wd. x 2 1/2" Dp.

Timing Range	Minimum On/Off Time		
Standard			
0-15 min.	0.25 sec.	1302T12	$204.17
0-60 min.	1 sec.	1302T22	195.83
0-15 hr.	15 sec.	1302T32	208.33
0-60 hr.	1 min.	1302T42	204.17
Glow-in-the-Dark			
0-60 min.	1 sec.	1302T62	209.13

Panel-Mount Timer Switches



Mount switches to your panel to control hard-wired devices. They switch one circuit on or off (SPDT) and require a 3/8" dia. mounting hole. Maximum panel thickness is 1/8". Rated 15 amps @ 125/250 volts AC. All have 0.25" quick-disconnect connections and two 8" wire leads. Input voltage is 120 AC. UL and C-UL recognized and CSA certified.

Rotary reset switches are set for each use by a dial. They are 3 1/16" Dia. x 1 13/16" Dp.

Push-button reset switches are convenient if you often repeat the same interval. They retain the last setting of the dial; a push of the button starts the timer over at the same interval. Switches are 3 1/16" Dia. x 2 1/8" Dp.

Timing Range	Minimum On/Off Time	Rotary Reset		Push-Button Reset	
0-30 min.	1 min.	7366K61	$116.91	7366K71	$151.68
0-60 min.	5 min.	7366K62	116.91	7366K72	151.68
0-12 hr.	1 hr.	7366K63	116.91	7366K73	151.68
0-24 hr.	2 hr.	7366K64	116.91	7366K74	151.68
0-60 hr.	1 hr.	7366K65	116.91	7366K75	151.68

Cycle Timer Switches



Turn equipment on and off at regular intervals and repeat the cycle every hour. Switch one circuit on or off (SPDT). Rated 16 amps @ 250 volts AC. Switch has screw terminal connections. Mount to 35 mm DIN rail or surface mount using the two 0.16" dia. holes (fasteners not included). Switch is 3 5/16" Ht. x 2 1/8" Wd. x 2 3/8" Dp. UL and C-UL recognized and CE marked.

Input Voltage	Timing Range	Maximum On/Off Cycles	Minimum On/Off Time		
120 AC	0-60 min.	24 per day	1.25 min.	2827T3	$90.51

About Fuses

How to Read Your Fuse Label

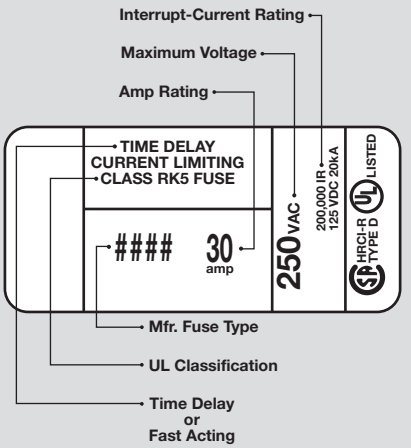

Fuses interrupt overload and short-circuit currents. Overload currents typically are up to 10 times larger than the fuse's available amp rating and occur when your equipment draws more current than it needs. Short circuits are greater than 10 times the fuse's amp rating and occur when the current finds a "shortcut" outside its normal path.

Time-delay fuses delay opening on low-level overloads until the overload has been sustained for a specific amount of time. This prevents the fuse from blowing when exposed to harmless temporary overload currents such as motor start-ups and switching surges. Some time-delay fuses are also known as dual-element fuses.

Fast-acting fuses do not have a time-delay opening. Use them when temporary overload currents are not present. Suitable for resistive loads that don't surge, such as heating and lighting.

Amp rating is the maximum current that a fuse carries under normal conditions.

Interrupt-current rating is the maximum current that a fuse can safely stop in the event of a short circuit.

UL Class	VAC	Fuse Type Cross Reference: Bussmann	Ferraz Shawmut	Littelfuse	MCM Part No.	See Pg.
UL Class Fuses						
RK1	250	LPN-RK	A2D-R	LLN-RK	**74445K**	966
RK1	600	LPS-RK	A6D-R	LLS-RK	**74445K**	966
RK1	600	KTS-R	A6K-R	KLS-R	**6616K**	966
RK5	250	FRN-R	TR-R	FLN-R	**7049K**	967
RK5	250	FRN-R-ID	TR-R-ID	FLN-R-ID	**7487K**	967
RK5	600	FRS-R	TRS-R	FLS-R	**7049K**	967
RK5	600	FRS-R-ID	TRS-R-ID	IDSR	**7487K**	967
J	600	LPJ-SP	AJT	JTD	**70325K**	967
J	600	LPJ-SPI	AJT	JTD-ID	**5054T**	967
J	600	JKS	A4J	JLS	**6985K**	967
L	600	KRP-C	A4BQ	KLPC	**4241K**	967
K5	250/600	NON/NOS	OT/OTS	NLN/NLS	**7072K**	967
T	300/600	JJN/JJS	A3T/A6T	JLLN/JLLS	**70455K**	968
H	250/600	REN/RES	RF/RFS	RLN/RLS	**7073K**	968
Semiconductor Fuses						
—	150/250	FWA/FWX	A15QS/A30QS	L15S/L25S	**74475K**	970
—	500/700	FWH/FWP	A50QS/A70QS	L50S/L70S	**74475K**	970
Midget Fuses						
CC	600	FNQ-R	ATQ-R	KLD-R	**7714K**	970
CC	600	LP-CC	ATD-R	CCMR	**72035K**	970
CC	600	KTK-R	ATM-R	KLK-R	**74495K**	970
G	600/480	SC	AG	SLC	**74485K**	970
—	250	BAF	OTM	BLF	**7059K**	970
—	250	FNM	TRM	FLM	**7706K**	970
—	500	FNQ	ATQ	FLQ	**7713K**	970
—	600	KTK	ATM	KLK	**74505K**	970
—	600	BBS	SBS	BLS	**6036T**	970
—	600	DCM	ATM	KLKD	**4397K**	970
Glass-Tube and Ceramic-Tube Fuses						
—	250/125/32	AGC/AGX	GGC/GGX	312	**7085K**	972
—	250/32	MDL	GDL	313	**7085K**	972
—	250/125	C520/C519	SMG/STG	225/229	**3686T**	972
—	250/125	GBB/ABC	GAB	322/314	**71385K**	972
—	250	MDA	GSA	326	**71385K**	972
—	250/125	GDB/GMA	GSB/GGM	217/235	**6978K**	972
—	250	GDC	GDG	218	**6978K**	972
—	250	GDA/S505	GSD/GSF	216/215	**6986K**	972
—	500	—	—	477	**6986K**	972
—	450/500	—	—	505	**71385K**	972
Low-Voltage Fuses						
—	125	ANN	CNN	CNN	**70635K**	973
—	125 VAC/DC	ACK	ACK	CCK	**4142K**	973
—	125 VAC/DC	AFX	ALS	—	**4142K**	973
—	32 VDC	—	—	MIDI/MEG	**9180K**	974
—	32 VAC/DC	ATM	AF2	MINI/297	**7460K**	974
—	32 VAC/DC	ATC	AF	ATO/257	**7460K**	974
—	32 VAC/DC	MAX	AF3	MAXI/299	**7460K**	974

UL Class Fuses

Don't see the fuse you need? Just tell us what you're looking for and we'll get it for you.

UL Class RK1 Fuses



Time Delay (1/2 to 60 Amp)



Time Delay (100 to 600 Amp)



Fast Acting (1 to 60 Amp)



Fast Acting (80 to 100 Amp)

A rejection-style design safeguards against replacement errors. These fuses can only be replaced with 200,000 amp and higher interrupt-current rated fuses. UL listed and CSA certified. For fuse blocks, see 7688K on page 969.

To Order: Please specify amp rating where necessary.

Available Amps	VAC/VDC	Dia.	O'all Lg.		Each ♦
Time-Delay Fuses					
Fuse Types: LPN-RK, A2D-R, LLN-RK					
1/2, 1, 1 1/4, 2	250/125	9/16"	2"	**74445K1**	$9.84
2 1/2, 3, 5, 6	250/125	9/16"	2"	**74445K2**	9.83
10, 15, 20, 30	250/125	9/16"	2"	**74445K3**	8.39
40, 50, 60	250/125	13/16"	3"	**74445K63**	15.42
100	250/250	1 3/16"	5 7/8"	**74445K64**	34.64
125, 200	250/250	1 11/16"	7 1/8"	**74445K15**	76.17
400	250/250	2 3/8"	8 5/8"	**74445K66**	137.17
600	250/250	2 7/8"	10 3/8"	**74445K67**	217.06
Fuse Types: LPS-RK, A6D-R, LLS-RK					
1/2, 1, 1 1/4, 2, 2 1/2	600/300	13/16"	5"	**74445K4**	20.78
3, 5, 10	600/300	13/16"	5"	**74445K5**	19.29
15, 20, 30	600/300	13/16"	5"	**74445K6**	17.40

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Time-Delay Fuses— Also known as dual-element fuses. AC interrupt-current rating is 300,000 amps; DC interrupt-current rating is 100,000 amps.

Fast-Acting Fuses— AC interrupt-current rating is 200,000 amps; DC interrupt-current rating is 20,000 amps.

Available Amps	VAC/VDC	Dia.	O'all Lg.		Each ♦
Time-Delay Fuses					
Fuse Types: LPS-RK, A6D-R, LLS-RK (Cont.)					
35, 40, 50, 60	600/300	1 1/16"	5 1/2"	**74445K73**	$30.90
100	600/300	1 3/16"	7 7/8"	**74445K74**	65.80
125, 200	600/300	1 11/16"	9 5/8"	**74445K35**	130.58
400	600/300	2 3/8"	11 5/8"	**74445K76**	256.39
600	600/300	2 7/8"	13 3/8"	**74445K77**	344.45
Fast-Acting Fuses					
Fuse Types: KTS-R, A6K-R, KLS-R					
1, 2, 3, 4, 5, 6, 8, 10	600/250	13/16"	5"	**6616K11**	28.55
12, 15, 20, 25, 30	600/250	13/16"	5"	**6616K21**	28.55
40, 50, 60	600/300	1 1/16"	5 1/2"	**6616K33**	57.45
80, 90, 100	600/300	1 5/16"	7 7/8"	**6616K34**	114.95

Don't see the fuse you need? Just tell us what you're looking for and we'll get it for you.

UL Class RK5 Time-Delay Fuses



1/4 to 60 Amp



70 to 600 Amp



8 to 60 Amp with Blown-Fuse Indicator



70 to 400 Amp with Blown-Fuse Indicator

Also known as dual-element fuses, these fuses have a rejection-style design that safeguards against replacement errors. They can only be replaced with 200,000 amp and higher interrupt-current rated fuses. AC interrupt-current rating is 200,000 amps; DC interrupt-current rating is 20,000 amps for DC-rated fuses. UL listed and CSA certified. For fuse blocks, see 7688K on page 969.

To Order: Please specify amp rating where necessary.

Available Amps	VAC/VDC	Dia.	O'all Lg.		Each ♦
Fuses					
Fuse Types: FRN-R, TR-R, FLN-R					
1/2, 6/10, 1, 1 1/4	250/125	9/16"	2"	7049K1	$7.09
1 6/10, 2, 2 1/2	250/125	9/16"	2"	7049K4	6.81
3, 3 2/10, 4, 4 1/2, 5	250/125	9/16"	2"	7049K5	6.32
6, 7, 8, 10, 12	250/125	9/16"	2"	7049K6	6.32
15, 20, 25, 30	250/125	9/16"	2"	7049K193	4.91
35, 40, 45, 50, 60	250/125	13/16"	3"	7049K195	9.95
70, 80, 90, 100	250/____	1 1/16"	5 7/8"	7049K261	22.21
125, 150, 200	250/125	1 9/16"	7 1/8"	7049K461	49.06
300, 400	250/250	2 3/8"	8 5/8"	7049K219	90.19
600	250/250	2 7/8"	10 3/8"	7049K241	145.52
Fuse Types: FRS-R, TRS-R, FLS-R					
1/4, 1/2, 1, 1 1/4, 1 6/10	600/300	13/16"	5"	7049K7	14.22
2, 2 1/2, 3, 3 2/10, 4, 5	600/300	13/16"	5"	7049K8	13.18
6, 6 1/4, 7, 8, 10, 12	600/300	13/16"	5"	7049K9	13.18
15, 17 1/2, 20, 25, 30	600/300	13/16"	5"	7049K281	10.89
35, 40, 45, 50, 60	600/300	1 1/16"	5 1/2"	7049K291	20.18
70, 80, 90, 100	600/300	1 1/8"	7 7/8"	7049K311	41.54
125, 150, 175, 200	600/300	1 5/8"	9 5/8"	7049K471	84.24
300, 400	600/300	2 11/32"	11 5/8"	7049K33	184.29
500, 600	600/300	2 7/8"	13 3/8"	7049K54	253.00
Fuses with Blown-Fuse Indicator					
Fuse Types: FRN-R-ID, TR-R-ID, FLN-R-ID					
8, 10	250/160	9/16"	2"	7487K75	7.00
15, 20, 25, 30	250/160	9/16"	2"	7487K76	5.63
35, 40, 45, 50, 60	250/250	13/16"	3"	7487K77	10.23
70, 80, 90, 100	250/250	1 1/16"	5 7/8"	7487K78	17.27
125, 150, 200	250/250	1 9/16"	7 1/8"	7487K79	37.92
Fuse Types: FRS-R-ID, TRS-R-ID, IDSR					
1, 2, 2 1/2	600/600	13/16"	5"	7487K1	10.65
3, 4, 5, 6, 7, 8, 10, 12	600/600	13/16"	5"	7487K2	13.59
15, 17 1/2, 20, 25, 30	600/600	13/16"	5"	7487K3	8.82
35, 40, 45, 50, 60	600/300	1 1/16"	5 1/2"	7487K4	15.11
70, 80, 90, 100	600/600	1 5/16"	7 7/8"	7487K5	42.50
150, 200	600/600	1 13/16"	9 5/8"	7487K6	82.95
300, 400	600/600	2 9/16"	11 5/8"	7487K7	159.76

♦Prices are 10% lower when you buy in quantities of 10 or more.

UL Class J Fuses



Time Delay (1 to 60 Amp)



Time Delay (70 to 400 Amp)



Time Delay with Blown-Fuse Indicator (8 to 60 Amp)



Time Delay with Blown-Fuse Indicator (70 to 200 Amp)



Fast Acting (1 to 60 Amp)



Fast Acting (80 to 400 Amp)

More compact than UL Class RK1 fuses, these fuses are a good choice for tight spaces. UL listed and CSA certified. For fuse blocks, see 7688K and 7721K on page 969.

To Order: Please specify amp rating where necessary.

Time-Delay Fuses—Also known as dual-element fuses. AC interrupt-current rating is 300,000 amps; DC interrupt-current rating is 100,000 amps.

Time-Delay Fuses with Blown-Fuse Indicator—A dot on the side turns red when the fuse blows. AC interrupt-current rating is 200,000 amps; DC interrupt-current rating is 100,000 amps.

Fast-Acting Fuses—AC interrupt-current rating is 200,000 amps; DC interrupt-current rating is 10,000 amps for 15- to 60-amp fuses.

Available Amps	VAC/VDC	Dia.	O'all Lg.		Each ♦
Time-Delay Fuses					
Fuse Types: LPJ-SP, AJT, JTD					
1, 1 1/4, 2, 2 1/2, 2 8/10	600/300	13/16"	2 1/4"	70325K1	$18.95
3, 4, 5, 6, 7, 8, 10	600/300	13/16"	2 1/4"	70325K2	18.95
12, 15, 20, 25, 30	600/300	13/16"	2 1/4"	70325K3	18.95
35, 40, 45, 50, 60	600/300	1 1/16"	2 3/8"	70325K41	30.13
70, 80, 90, 100	600/300	1 1/8"	4 5/8"	70325K51	66.81
125, 150, 175, 200	600/300	1 5/8"	5 3/4"	70325K81	131.73
250, 400	600/300	2 1/8"	7 1/8"	70325K21	261.92
Time-Delay Fuses with Blown-Fuse Indicator					
Fuse Types: LPJ-SPI, AJT, JTD-ID					
8, 9, 10, 12, 15	600/500	13/16"	2 1/4"	5054T5	17.36
17 1/2, 20, 25, 30	600/500	13/16"	2 1/4"	5054T6	17.36
35, 40, 45, 50, 60	600/500	1 1/16"	2 3/8"	5054T2	29.32
70, 80, 90, 100	600/500	1 1/16"	4 5/8"	5054T3	58.30
125, 150, 175, 200	600/500	1 5/8"	5 3/4"	5054T4	106.50
Fast-Acting Fuses					
Fuse Types: JKS, A4J, JLS					
1, 3, 4, 5	600/____	13/16"	2 1/4"	6985K1	33.35
6, 10	600/____	13/16"	2 1/4"	6985K3	22.87
15, 20, 25, 30	600/200	13/16"	2 1/4"	6985K2	22.86
40, 50, 60	600/175	1 1/16"	2 3/8"	6985K72	39.46
80, 100	600/____	1 1/8"	4 5/8"	6985K73	51.10
200	600/____	1 5/8"	5 3/4"	6985K74	99.74
400	600/____	2 1/8"	7 1/8"	6985K75	222.26

♦Prices are 10% lower when you buy in quantities of 10 or more.

UL Class K5 Fuses

Use these fuses in circuits without temporary surges and where there is little potential for short-circuit currents. AC interrupt-current rating is 50,000 amps; DC interrupt-current rating is 20,000 amps. UL listed and CSA certified. For fuse blocks, see 7688K on page 969.

To Order: Please specify amp rating where necessary.

Available Amps	VAC/VDC	Dia.	O'all Lg.		Each ♦
Fuse Types: NON, OT, NLN					
1, 3, 5, 6, 10	250/250	9/16"	2"	7072K1	$2.30
15, 20, 30	250/250	9/16"	2"	7072K2	2.02
35, 40, 50, 60	250/250	13/16"	3"	7072K92	3.32
70, 80, 100	250/250	1 1/16"	5 7/8"	7072K13	13.99
200	250/250	1 9/16"	7 1/8"	7072K112	34.08

♦Prices are 10% lower when you buy in quantities of 10 or more.



1 to 60 Amp



70 to 200 Amp

Available Amps	VAC/VDC	Dia.	O'all Lg.		Each ♦
Fuse Types: NOS, OTS, NLS					
3, 5, 10, 15, 20, 30	600/300	13/16"	5"	7072K81	$10.03
35, 40, 50, 60	600/300	1 1/16"	5 1/2"	7072K82	16.22
100	600/300	1 5/16"	7 7/8"	7072K124	37.55
200	600/300	1 13/16"	9 5/8"	7072K125	65.81

UL Class L Time-Delay Fuses

The choice for high-amp power applications. AC interrupt-current rating is 300,000 amps; DC interrupt-current rating is 100,000 amps. UL listed, CSA certified, and CE approved.

Amps	VAC/VDC	Dia.	O'all Lg.		
Fuse Types: KRP-C, A4BQ, KLPC					
601	600/300	2 1/2"	8 5/8"	4241K11	$477.19
801	600/300	2 1/2"	10 3/4"	4241K12	460.79
1,000	600/300	2 1/2"	10 3/4"	4241K13	455.05
1,200	600/300	2 1/2"	10 3/4"	4241K14	455.05



Don't see the fuse you need? Just tell us what you're looking for and we'll get it for you.

UL Class CF Touch-Safe Fuses and DIN-Rail Mount Fuse Blocks



Fuse



Fuse Block

An enclosed design with recessed plug-in blades prevents accidental contact with electrical circuits. Meet IEC European standards and UL Class CF (cube fuse) requirements. UL listed and CSA certified.

Fuses— A safer alternative for new installations. These time-delay fuses (also known as dual element) have a blown-fuse indicator except for the 1- and 3-amp fuses. AC interrupt-current rating is 300,000 amps; DC interrupt-current rating is 100,000 amps.

To Order: Please specify amp rating.

Fuse Blocks— Mount directly on 35 mm DIN rail (see 8961K on page 787). You can gang them together to create double- and triple-pole configurations.

Fuses

Available Amps	VAC/VDC	Lg.	Wd.	Ht.		
1, 3, 6, 10, 15	600/300	1.88″	0.75″	1.00″	8078K5	$39.57
17½, 20, 25, 30	600/300	1.88″	0.75″	1.00″	8078K6	39.57
35, 40, 45, 50, 60	600/300	2.13″	1.00″	1.13″	8078K2	62.71
70, 80, 90, 100	600/300	3.01″	1.00″	1.26″	8078K3	122.02

Fuse Blocks

For Amp Range	VAC/VDC	Lg.	Wd.	Ht.		
1 to 30	600/300	2.30″	0.76″	1.36″	8078K31	$15.40
35 to 60	600/300	2.60″	1.03″	1.60″	8078K32	21.78
70 to 100	600/300	2.91″	1.05″	2.01″	8078K41	27.24

UL Class H Replaceable-Element Fuses



5 to 60 Amp



100 to 200 Amp

When these fuses blow, you can replace the element and use them again. Interrupt-current rating is 10,000 amps. UL listed. For fuse blocks, see 7688K on page 969.

			Fuses		Replacement Elements	
Amps	Dia.	O'all Lg.		Each	Pkg. Qty.	Pkg.
250 VAC—Fuse Types: REN, RF, RLN						
5	9/16″	2″	7073K128	$15.22	2	7073K328 $11.60
10	9/16″	2″	7073K117	12.61	2	7073K317 10.51
15	9/16″	2″	7073K118	12.90	4	7073K318 7.54
20	9/16″	2″	7073K119	13.47	4	7073K319 6.74
30	9/16″	2″	7073K122	9.76	4	7073K322 6.17
40	13/16″	3″	7073K124	28.37	2	7073K324 7.26
50	13/16″	3″	7073K126	28.37	2	7073K326 7.26
60	13/16″	3″	7073K127	20.22	2	7073K327 6.63
100	1 1/16″	5 7/8″	7073K132	44.61	2	7073K332 11.60
200	1 9/16″	7 1/8″	7073K137	114.79	2	7073K337 23.20
600 VAC—Fuse Types: RES, RFS, RLS						
10	13/16″	5″	7073K217	36.65	2	7073K417 17.43
15	13/16″	5″	7073K218	29.53	4	7073K418 12.45
20	13/16″	5″	7073K219	29.59	4	7073K419 12.45
30	13/16″	5″	7073K222	24.10	4	7073K422 12.45
50	1 1/16″	5 1/2″	7073K226	54.19	2	7073K426 14.40
60	1 1/16″	5 1/2″	7073K227	37.65	2	7073K427 11.60
100	1 5/16″	7 7/8″	7073K232	91.71	2	7073K432 20.55
200	1 13/16″	9 5/8″	7073K237	173.81	2	7073K437 31.96

UL Class T Fast-Acting Fuses



3 to 60 Amp



70 to 400 Amp

Smaller than UL Class J fuses. AC interrupt-current rating is 200,000 amps; DC interrupt-current rating is 20,000 amps for 300 VAC/160 VDC fuses. UL listed, CSA certified, and CE approved. For fuse blocks, see 7688K on page 969.

To Order: Please specify amp rating where necessary.

Available Amps	VAC/VDC	Dia.	O'all Lg.		Each ♦
Fuse Types: JJN, A3T, JLLN					
3, 10	300/___	7/16″	7/8″	70455K8	$20.74
15, 20, 30	300/160	7/16″	7/8″	70455K1	20.74
35, 40, 50	300/160	9/16″	7/8″	70455K2	17.73
60	300/160	9/16″	7/8″	70455K723	15.38
80, 100	300/160	3/4″	2 3/16″	70455K69	23.33
150, 200	300/160	7/8″	2 7/16″	70455K79	32.22
300	300/160	1″	2 3/4″	70455K78	102.19
400	300/160	1″	2 3/4″	70455K75	59.82
Fuse Types: JJS, A6T, JLLS					
3, 10, 15, 20	600/___	9/16″	1 1/2″	70455K4	15.12
25, 30	600/___	9/16″	1 1/2″	70455K5	12.93
35, 40, 45, 50	600/___	13/16″	1 9/16″	70455K6	26.66
60	600/___	13/16″	1 9/16″	70455K823	18.86
70, 80, 90, 100	600/___	3/4″	2 15/16″	70455K86	40.42
125, 200	600/___	7/8″	3 1/4″	70455K89	58.58
400	600/___	1″	3 5/8″	70455K85	141.93

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Fuse Reducers



Installing one of these reducers allows you to use small, low-amp fuses in blocks designed to hold large, high-amp fuses. All have two components and fit most panels or switches.

Reducers ***for UL Class RK fuses*** are UL listed and CSA certified.

Amp Range Reduction From	To	250 VAC		600 VAC	
For UL Class RK Fuses					
35 to 60	0 to 30	74455K31	$13.47	74455K35	$13.90
65 to 100	35 to 60	74455K33	18.81	74455K37	31.45
65 to 100	0 to 30	74455K32	30.04	74455K33	18.81
110 to 200	35 to 60	74455K34	65.89	74455K38	105.02
For UL Class J Fuses					
35 to 60	0 to 30	_____	____	74455K25	18.12
65 to 100	35 to 60	_____	____	74455K27	24.18

Fuse Pullers



Fuse Puller

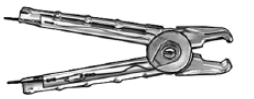

Fuse Puller with Voltage Detector

Fuse pullers have notched handles for a nonslip grip, except 7074K17, which does not have notched handles.

Fuse puller with voltage detector has test probes and a light that indicates 100 to 600 VAC/VDC.

	For Fuse Sizes				
Fuse Dia.	250 VAC	600 VAC	Lg.		
Fuse Pullers					
9/32″-1/2″	Midget	_____	5″	7074K17	$6.63
1/2″-1″	0-100 amps	0-100 amps	7 1/2″	7074K1	12.50
3/4″-2 1/2″	31-600 amps	31-400 amps	11 3/4″	7074K3	25.62
Fuse Puller with Voltage Detector					
9/16″-1″	0-100 amps	0-60 amps	7 3/4″	7290K1	31.45

Fuse Clamps



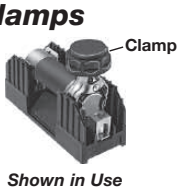

Shown in Use

A turn of the knob clamps a fuse into its clip, eliminating poor connections that can cause excessive heat and blown fuses. All clamps have a phenolic knob and zinc-plated steel jaws.

For Fuse Sizes 250 VAC	600 VAC	Jaw Opening		
For Fuses with Round Ends				
30 amps	_____	3/8″-9/16″	7433K11	$21.27
60 amps	30 amps	1/2″-15/16″	7433K12	23.93
_____	60 amps	1″-1 5/16″	7433K16	19.93
For Fuses with Blade Ends				
100 amps	100 amps	0″-3/4″	7433K13	19.93
200 amps	200 amps	0″-1″	7433K14	21.27
400 amps	400 amps	0″-7/8″	7433K17	37.27
600 amps	600 amps	0″-1 1/8″	7433K15	43.37

Don't see the fuse block you need? Just tell us what you're looking for and we'll get it for you.

UL Class Fuse Blocks

Blocks have box-lug terminals. UL listed, CSA certified, and CE approved.



Single Pole



Double Pole



Triple Pole

For UL Class	VAC	For Amp Range	Single Pole		Double Pole		Triple Pole	
Fuse Types: FRN-R, TR-R, FLN-R, LPN-RK, A2D-R, LLN-RK								
RK1 and RK5	250	1/10 to 30	7688K871	$15.60	7688K872	$25.88	7688K873	$29.94
RK1 and RK5	250	31 to 60	7688K874	18.81	7688K875	35.09	7688K876	46.40
RK1 and RK5	250	61 to 100	7688K47	49.06	7688K48	82.44	7688K49	108.74
RK1 and RK5	250	101 to 200	7688K411	65.68	———	———	7688K412	210.05
Fuse Types: FRS-R, TRS-R, FLS-R, IDSR, LPS-RK, A6D-R, LLS-RK, KTS-R, A6K-R, KLS-R								
RK1 and RK5	600	1/10 to 30	7688K877	17.33	7688K878	29.42	7688K879	49.73
RK1 and RK5	600	31 to 60	7688K881	27.06	7688K882	45.50	7688K883	57.41
RK1 and RK5	600	61 to 100	7688K61	54.87	———	———	7688K63	101.68
RK1 and RK5	600	101 to 200	7688K511	69.68	———	———	7688K512	188.39
Fuse Types: LPJ-SP, AJT, JTD, JKS, A4J, JLS								
J	600	1/2 to 30	7688K884	17.20	7688K885	39.20	7688K886	47.76
J	600	31 to 60	7688K887	19.87	7688K889	39.43	7688K891	52.15
J	600	61 to 100	7688K66	41.33	———	———	7688K76	85.57
J	600	101 to 200	7688K74	104.37	———	———	7688K75	228.85
Fuse Types: JJN, A3T, JLLN								
T	300	1/2 to 30	———	———	7688K941	33.95	7688K942	48.38
T	300	31 to 60	———	———	7688K943	24.91	7688K944	34.15
T	300	61 to 100	7688K945	40.88	7688K946	79.32	7688K947	116.82
Fuse Types: JJS, A6T, JLLS								
T	600	1/2 to 30	7688K81	16.99	7688K82	33.80	7688K83	35.72
T	600	31 to 60	7688K84	18.22	7688K85	36.65	7688K86	37.07
T	600	61 to 100	7688K816	36.59	7688K817	71.85	7688K818	87.98
Fuse Types: NON, OT, NLN, REN, RF, RLN								
H and K5	250	1/10 to 30	7688K892	9.79	7688K893	17.74	7688K894	31.57
H and K5	250	31 to 60	7688K895	16.24	7688K896	24.73	7688K897	35.20
H and K5	250	61 to 100	7688K13	44.90	7688K23	74.91	7688K33	94.88
Fuse Types: NOS, OTS, NLS, RES, RFS, RLS								
H and K5	600	1/10 to 30	7688K911	19.24	7688K912	30.35	7688K913	41.79
H and K5	600	31 to 60	7688K914	21.40	7688K915	32.27	7688K916	40.57
H and K5	600	61 to 100	7688K18	46.00	———	———	7688K38	92.79

UL Class Fuse Block Safety Covers

Prevent accidental shocks with these snap-on safety covers. They fit most popular fuses and fuse blocks and have slotted openings for testing with probes. CSA certified and CE approved. UL listed except the covers for Class CC fuses, which have UL recognized components.

Covers with indicator light illuminate yellow when fuse is blown.



For Amp Range	Lg.	Wd.	Ht.	Covers		Covers with Indicator Light	
For UL Class RK and H 250 VAC Fuses							
0 to 30	3.8″	0.75″	1.7″	6977K11	$6.53	6977K14	$8.98
35 to 60	5″	1″	1.9″	6977K12	6.75	6977K15	8.45
65 to 100	8.2″	1.3″	2.2″	6977K13	8.33	6977K16	9.93
For UL Class RK and H 600 VAC Fuses							
0 to 30	7″	1.3″	2.1″	6977K21	6.75	6977K24	8.58
35 to 60	8.2″	1.3″	2.2″	6977K22	8.00	6977K25	9.93
65 to 100	10.4″	1.5″	2.3″	6977K27★	12.51	6977K28★	15.26

★Not compatible with fuse types KTS-R, A6K-R, KLS-R.

For Amp Range	Lg.	Wd.	Ht.	Covers		Covers with Indicator Light	
For UL Class T 600 VAC Fuses							
0 to 30	3.8″	0.75″	1.7″	6977K11	$6.53	6977K14	$8.98
35 to 60	5″	1″	1.9″	6977K12	6.75	———	———
For UL Class J 600 VAC Fuses							
0 to 30	5″	1″	1.9″	6977K12	6.75	6977K15	8.45
35 to 60	5″	1.2″	2.1″	6977K32	6.50	6977K35	8.45
65 to 100	7″	1.3″	2.3″	6977K33	7.40	6977K36	9.56
For UL Class CC 600 VAC Fuses							
0 to 30	3.8″	0.75″	1.7″	6977K41	6.19	6977K42	8.07

Versa-Mount UL Class Fuse Blocks

Mount directly on 35 mm DIN rail or surface mount using the universal hole pattern, which matches most popular fuse blocks. Blocks have box-lug terminals. UL listed and CSA certified. For DIN rail, see 8961K on page 787.



Double Pole

For UL Class	VAC/VDC	For Amp Range	Single Pole		Double Pole		Triple Pole	
Fuse Types: FRN-R, TR-R, FLN-R, LPN-RK, A2D-R, LLN-RK								
RK1 and RK5	250/250	1 to 30	4294K11	$14.89	4294K12	$24.48	4294K13	$29.64
RK1 and RK5	250/250	31 to 60	4294K14	19.29	4294K15	32.43	4294K16	43.08
Fuse Types: FRS-R, TRS-R, FLS-R, IDSR, LPS-RK, A6D-R, LLS-RK, KTS-R, A6K-R, KLS-R								
RK1 and RK5	600/600	1 to 30	4294K21	16.65	4294K22	29.06	4294K23	45.58
RK1 and RK5	600/600	31 to 60	4294K24	27.11	4294K25	41.77	4294K26	52.59
Fuse Types: LPJ-SP, AJT, JTD, JKS, A4J, JLS								
J	600/600	1 to 30	4294K31	16.86	4294K32	37.35	4294K33	47.38
J	600/600	31 to 60	4294K34	19.47	4294K35	36.97	4294K36	49.97

UL Class J Touch-Safe DIN-Rail Mount Fuse Blocks

Designed for use with UL Class J fuses, these blocks prevent accidental contact with live parts. Mount blocks directly on 35 mm DIN rail (see 8961K on page 787). All blocks are rated for 600 VAC and have screw terminals. UL listed and CSA certified.



1 Pole

No. of Poles	For Amp Range	Lg.	Wd.	Ht.	Fuse Blocks		Fuse Blocks with Blown-Fuse Indicator	
Fuse Types: LPJ, AJT, JTD, JKS, A4J, JLS								
1	1 to 30	3.15″	1.28″	4.49″	7721K15	$15.41	7721K16	$17.75
1	31 to 60	3.50″	1.57″	4.80″	7721K17	17.78	7721K18	24.96
2	1 to 30	3.15″	2.56″	4.49″	7721K23	44.05	7721K24	51.50
2	31 to 60	3.50″	3.14″	4.80″	7721K29	50.57	7721K31	57.38
3	1 to 30	3.15″	3.84″	4.49″	7721K25	66.91	7721K26	77.05
3	31 to 60	3.50″	4.71″	4.80″	7721K32	75.82	7721K33	85.87

Don't see the fuse you need? Just tell us what you're looking for and we'll get it for you.

Semiconductor Very Fast-Acting Fuses

A  **B** 

With a quicker response time than standard fast-acting fuses, these fuses provide superior circuit protection for sensitive solid-state devices. Interrupt-current rating is 200,000 amps except for 150 VAC fuses, which have a 100,000 amp rating. UL recognized and CE approved.

To Order: Please specify amp rating where necessary.

Available Amps	VAC	Dia.	O'all Lg.		
Fuse Types: FWA, A15QS, L15S					
A 10, 15	150	7/16"	1 1/2"	74475K1	$11.02
B 100, 150, 200, 250	150	1 1/8"	2 11/16"	74475K8	46.73
B 300, 400	150	1 1/8"	2 11/16"	74475K9	46.73
Fuse Types: FWX, A30QS, L25S					
A 10, 20, 30	250	9/16"	2"	74475K21	16.90
B 35, 40, 50, 60	250	13/16"	3 3/16"	74475K22	49.64
B 80, 100, 200	250	1 1/4"	3 1/8"	74475K23	66.21
B 300, 400, 600	250	1 1/2"	3 13/16"	74475K24	88.03
Fuse Types: FWH, A50QS, L50S					
A 10, 20, 30	500	9/16"	2"	74475K31	27.31
B 40, 50, 60	500	13/16"	3 3/16"	74475K32	38.49
B 80, 100	500	15/16"	3 5/8"	74475K34	47.95
B 125, 200	500	1 3/16"	3 5/8"	74475K57	71.58
B 300, 400	500	1 1/2"	4 5/16"	74475K35	98.23
B 600	500	2"	4 5/16"	74475K353	141.24
Fuse Types: FWP, A70QS, L70S					
A 20, 25, 30, 32	700	9/16"	2"	74475K4	24.25
A 40, 50	700	9/16"	2"	74475K7	42.92
B 150	700	1 1/2"	5 1/16"	74475K44	102.50
B 400	700	2"	5 1/16"	74475K45	167.63

1,000 VDC Fast-Acting Fuses and Fuse Blocks



Fuse



Fuse Block

Developed for the solar industry, these fuses and fuse blocks handle the requirements of high-voltage DC applications. Meet IEC European standards.

Fuses withstand the cycling conditions and environment associated with outdoor installations. Interrupt current rating is 10,000 amps. UL listed.

To Order: Please specify amp rating.

Fuse blocks are touch-safe style and mount on 35 mm DIN rail (see 8961K on page 787). UL recognized.

Available Amps	Dia.	O'all Lg.		
Fuse Types: PV and DCT				
1, 2, 3, 4, 5, 6, 8, 10, 12, 15	13/32"	1 1/2"	4504K1	$24.88
Fuse Block			4504K7	25.02
Fuse Block with Blown-Fuse Indicator			4504K9	31.91

UL Class G Midget Fuses



Protect your power distribution branch circuits with these fuses. AC interrupt-current rating is 100,000 amps; DC interrupt-current rating is 10,000 amps. UL listed and CSA certified. For fuse blocks, see 7716K on page 971.

To Order: Please specify amp rating where necessary.

Available Amps	VAC/VDC	Dia.	O'all Lg.		Each ♦
Time-Delay Fuses					
Fuse Types: SC, AG, SLC					
10, 15	600/170	13/32"	1 5/16"	74485K2	$4.76
20	600/170	13/32"	1 13/32"	74485K888	4.76
25, 30	480/300	13/32"	1 5/8"	74485K3	8.91
35, 40, 45, 50, 60	480/300	13/32"	2 1/4"	74485K4	10.19
Fast-Acting Fuses					
Fuse Types: SC, AG, SLC					
1, 2, 3, 5, 6	600/170	13/32"	1 5/16"	74485K1	4.76

♦ Prices are 10% lower when you buy in quantities of 10 or more.

UL Class CC Midget Fuses



Replacement errors aren't a concern for these fuses, which are used in power distribution branch circuits. They have a rejection-style design that ensures they can only be replaced with 200,000 amp and higher interrupt-current rated fuses. UL listed. For fuse blocks and fuse holders, see 7716K, 6113T, and 7055K on page 971.

To Order: Please specify amp rating.

Time-Delay Fuses for Motors— AC interrupt-current rating is 200,000 amps; DC interrupt-current rating is 100,000 amps for 1/4- to 10-amp fuses and 20,000 amps for 12- to 60-amp fuses.

Time-Delay Fuses for Transformers— AC interrupt-current rating is 200,000 amps; 12-amp and higher fuses have a DC interrupt-current rating of 20,000 amps.

Fast-Acting Fuses— AC interrupt-current rating is 200,000 amps.

Available Amps	VAC/VDC	Dia.	O'all Lg.		Each ♦
Time-Delay Fuses for Motors					
Fuse Types: LP-CC, ATD-R, CCMR					
1/4, 1/2, 8/10, 1, 1 1/2	600/300	13/32"	1 1/2"	72035K1	$14.03
2, 2 1/2, 3, 4, 5	600/300	13/32"	1 1/2"	72035K2	14.03
6, 7, 8, 9, 10	600/300	13/32"	1 1/2"	72035K3	14.03
12, 15, 20, 25, 30	600/500	13/32"	1 1/2"	72035K4	12.72
35, 40, 45, 50, 60	600/250	27/32"	1 7/8"	72035K7	27.40
Time-Delay Fuses for Transformers					
Fuse Types: FNQ-R, ATQ-R, KLD-R					
1/4, 3/10, 4/10, 1/2, 6/10	600/___	13/32"	1 1/2"	7714K1	9.85
3/4, 8/10, 1, 1 1/4, 1 3/10	600/___	13/32"	1 1/2"	7714K2	9.85
1 1/2, 1 6/10, 1 8/10, 2, 2 1/2	600/___	13/32"	1 1/2"	7714K3	9.85
3, 3 2/10, 3 1/2, 4, 4 1/2, 5, 6	600/___	13/32"	1 1/2"	7714K4	9.85
6 1/4, 7, 7 1/2, 8, 9, 10	600/___	13/32"	1 1/2"	7714K5	9.85
12, 15, 20, 25, 30	600/300	13/32"	1 1/2"	7714K6	9.85
Fast-Acting Fuses					
Fuse Types: KTK-R, ATM-R, KLK-R					
1/4, 1/2, 1, 1 1/2, 2, 2 1/2	600/___	13/32"	1 1/2"	74495K5	12.99
3, 4, 5, 6, 7, 8	600/___	13/32"	1 1/2"	74495K6	12.99
10, 12, 15, 20, 25, 30	600/___	13/32"	1 1/2"	74495K7	12.99

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Midget Fuses



While these fuses provide additional equipment protection, they're not designed for power distribution branch circuits. UL listed and CSA certified. For fuse blocks and fuse holders, see 7722K, 7716K, and 7055K on page 971.

To Order: Please specify amp rating.

Time-Delay Fuses— AC interrupt-current rating is 10,000 amps.

Fast-Acting Fuses— AC interrupt-current rating is 10,000 amps for 250 VAC fuses (except 12 amp is 750 amps) and 100,000 amps for 600 VAC fuses. DC interrupt-current rating is 10,000 amps for DC-rated fuses.

Available Amps	VAC/VDC	Dia.	O'all Lg.		Each ♦
Time-Delay Fuses					
Fuse Types: FNM, TRM, FLM					
1/4, 1/2, 6/10, 8/10, 1	250/___	13/32"	1 1/2"	7706K1	$3.54
1 1/4, 1 6/10, 1 8/10, 2, 2 1/4, 2 1/2	250/___	13/32"	1 1/2"	7706K2	3.54
3, 3 2/10, 4, 4 1/2, 5	250/___	13/32"	1 1/2"	7706K3	3.54
6, 6 1/4, 7, 8, 10	250/___	13/32"	1 1/2"	7706K4	3.54
12, 15, 20, 25, 30	250/___	13/32"	1 1/2"	7706K5	3.54
Fuse Types: FNQ, ATQ, FLQ					
1/4, 1/2, 6/10, 8/10, 1	500/___	13/32"	1 1/2"	7713K1	9.44
1 1/2, 2, 2 1/2, 3, 3 2/10	500/___	13/32"	1 1/2"	7713K2	9.76
4, 5, 6 1/4, 7, 8	500/___	13/32"	1 1/2"	7713K3	9.76
10, 12, 15, 20, 25, 30	500/___	13/32"	1 1/2"	7713K4	9.76
Fast-Acting Fuses					
Fuse Types: BAF, OTM, BLF					
1, 2, 3, 4, 5	250/___	13/32"	1 1/2"	7059K1	2.87
6, 8, 10, 12, 15	250/___	13/32"	1 1/2"	7059K2	2.54
20, 25, 30	250/___	13/32"	1 1/2"	7059K46	2.57
Fuse Types: KTK, ATM, KLK					
1/2, 6/10, 1, 1 1/4, 1 1/2, 2, 3, 4, 5	600/___	13/32"	1 1/2"	74505K1	12.06
6, 7, 8, 10, 12, 15, 20, 25, 30	600/___	13/32"	1 1/2"	74505K2	12.06
Fuse Types: BBS, SBS, BLS					
1, 2, 3, 4, 5	600/___	13/32"	1 3/8"	6036T2	4.52
6, 15	600/___	13/32"	1 3/8"	6036T3	7.07
Fuse Types: DCM, ATM, KLKD					
3/10, 3/4, 1, 2, 3	600/600	13/32"	1 1/2"	4397K1	7.40
5, 6, 8, 9, 10	600/600	13/32"	1 1/2"	4397K2	7.40
12, 15, 20, 25, 30	600/600	13/32"	1 1/2"	4397K3	7.40

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Don't see the fuse or fuse block you need? Just tell us what you're looking for and we'll get it for you.

Midget Fuse Blocks

Blocks ***for 1/10-*** to ***30-amp*** fuses have 0.25″ quick-disconnect terminals (rated to 20 amps); all others have box lugs. Blocks ***for UL Class CC*** and ***35- to 60-amp*** fuses are UL listed; all others are UL recognized. All are CSA certified.


Single Pole


Double Pole

For UL Class	VAC	For Amp Range	Single Pole		Double Pole		Triple Pole	
Fuse Types: FNQ-R, ATQ-R, KLD-R, LP-CC, ATD-R, CCMR, KTK-R, ATM-R, KLK-R								
CC	600	1/10 to 30	7716K82	$9.90	7716K83	$14.94	7716K84	$19.58
Fuse Types: SC, AG, SLC								
G	480	25 to 30	7716K67	23.36	7716K68	47.95	7716K69	64.01
G	480	35 to 60	7716K71	27.95	7716K72	56.51	7716K73	71.02
G	600	1 to 15	7716K61	23.36	7716K62	47.95	7716K63	64.01
G	600	20	7716K64	23.35	7716K65	48.09	7716K66	64.03
Fuse Types: FNM, TRM, FLM, FNQ, ATQ, FLQ, BAF, OTM, BLF, KTK, ATM, KLK, BBS, SBS, BLS, KTQ								
—	600	1/10 to 30	7716K85	5.66	7716K86	9.67	7716K87	12.40

DIN-Rail Mount Midget Fuse Blocks

An enclosed touch-safe design prevents accidental contact with electrical circuits. These fuse blocks mount on 35 mm DIN rail (see 8961K on page 787). Use with switchboard panels, small motors, and transformers. Rated 30 amps and 600 VAC/600 VDC. CSA certified.

Blocks ***for UL Class CC fuses*** are UL listed. Blocks ***for Non-UL Class*** fuses are UL recognized.


1 Pole


3 Pole

For UL Class	No. of Poles	Lg.	Wd.	Ht.	Fuse Blocks		Fuse Blocks w/ Blown-Fuse Indicator	
Fuse Types: FNQ-R, ATQ-R, KLD-R, LP-CC, ATD-R, CCMR, KTK-R, ATM-R, KLK-R								
CC	1	2.3″	0.7″	3.1″	6113T11	$11.39	6113T14	$16.80
CC	2	2.3″	1.4″	3.1″	6113T12	23.35	6113T15	34.82
CC	3	2.3″	2.1″	3.1″	6113T13	31.94	6113T16	57.78
Fuse Types: FNM, TRM, FLM, FNQ, ATQ, FLQ, BAF, OTM, BLF, KTK, ATM, KLK								
—	1	2.3″	0.7″	3.1″	7722K21	9.48	7722K22	15.42
—	2	2.3″	1.4″	3.1″	7722K23	19.30	7722K24	31.58
—	3	2.3″	2.1″	3.1″	7722K25	31.79	7722K26	48.51

Fuses for Multimeters

Fuses are fast acting and UL recognized. Compatible with Fluke multimeters.

44/100-amp fuse has an AC/DC interrupt-current rating of 10,000 amps. ***11-*** and ***15-amp*** fuses have an AC/DC interrupt-current rating of 20,000 amps.



Amps	VAC/VDC	Dia.	O'all Lg.		
Fuse Types: DMM-B, FSM, FLU					
44/100	1,000/1,000	13/32″	1 3/8″	4398K1	$8.11
11	1,000/1,000	13/32″	1 1/2″	4398K2	8.11
15	1,000/1,000	13/32″	1 1/2″	4398K3	10.10

European "Milk Bottle" Fuses

Also known as diazed type, these Type D fuses are rated 500 VAC.

gL-gG Fuses— Meet IEC European standards and have a blown-fuse indicator. Interrupt-current rating is 75,000 amps.

gL Fuses— Comply with DIN standards. Interrupt-current rating is 100,000 amps.

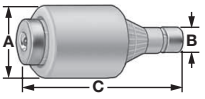

Amps	mm (A)	(B)	(C)	gL-gG Fuses Each ♦		gL Fuses Each ♦	
2	21.5	6	50	6981K81	$4.93	6981K31	$9.02
4	21.5	6	50	6981K82	4.96	6981K32	9.02
6	21.5	6	50	6981K83	4.97	6981K33	7.99
10	21.5	8	50	6981K84	4.93	6981K34	8.23
16	21.5	10	50	6981K85	4.93	6981K35	8.23
20	21.5	12	50	6981K86	4.97	6981K36	8.23
25	21.5	14	50	6981K87	4.97	6981K37	7.99
35	27	16	50	6981K91	8.97	6981K41	13.90
50	27	18	50	6981K92	8.97	6981K42	13.68
63	27	20	50	6981K93	8.99	6981K43	13.90

♦ Prices are 25% lower when you buy in quantities of 5 or more.

Inline Midget Fuse Holders

Crimp on for quick wire connection. Made of plastic. Rated 30 amps and 600 VAC.

Holder ***for UL Class CC*** fuses is UL listed. Holder ***for Non-UL Class*** fuses is UL recognized.

Optional cover provides a waterproof seal. Made of neoprene. Overall size with fuse is 1″ Dia. × 8″ Lg.



For UL Class		
Fuse Types: FNQ-R, ATQ-R, KLD-R, LP-CC, ATD-R, CCMR, KTK-R, ATM-R, KLK-R		
CC	4234K2	$20.00
Fuse Types: FNM, TRM, FLM, FNQ, ATQ, FLQ, BAF, OTM, BLF, KTK, ATM, KLK		
—	4234K1	20.27
Optional Cover	4234K3	2.92

Panel-Mount Midget Fuse Holders



Straight Terminal



Right-Angle Terminal

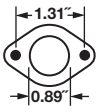

Mounting Dimensions

A 0.25″ quick-disconnect/solder terminal allows easy mounting in panels up to 3/4″ thick. Holders are made of plastic. Rated 30 amps and 600 VAC. UL recognized and CSA certified.

For UL Class	Terminal Style	Standard		Watertight	
Fuse Types: FNQ-R, ATQ-R, KLD-R, LP-CC, ATD-R, CCMR, KTK-R, ATM-R, KLK-R					
CC	Straight	7055K26	$8.43	7055K27	$9.19
CC	Right Angle	7055K29	9.18	7055K28	10.62
Fuse Types: FNM, TRM, FLM, FNQ, ATQ, FLQ, BAF, OTM, BLF, KTK, ATM, KLK					
—	Straight	7055K16	5.00	7055K17	5.54
—	Right Angle	7055K19	5.43	7055K18	6.41

European Fuses

All have a 10 mm × 38 mm ceramic body and meet Type gL-gG, IEC European standards. Interrupt-current rating is 120,000 amps. CE approved. To Order: Please specify amp rating where necessary.



Available Amps	VAC		1-9	10-Up
1, 2, 4, 6, 8, 10, 12, 16, 20, 25	500	5988T1	$9.24	$8.32
32	400	5988T3	9.15	8.23

Glass-Tube and Ceramic-Tube Fuse Kits

Kits come in a plastic case.

140-fuse kit includes 3AB and 3AG fuses (1/4 to 30 amps) in fast-acting and time-delay styles, plus fuse holders and fuse clips.

270-fuse kit includes 3AB, 3AG, and 5 mm × 20 mm fuses (1/8 to 30 amps) in fast-acting and time-delay styles, fuse clips, fuse holders, and a fuse block.

140-Fuse Kit	7719K8	$338.49
270-Fuse Kit	7719K9	592.70


140-Fuse Kit

Glass-Tube & Ceramic-Tube Fuses

For information about fuses, see page 966.

Don't see the fuse you need? Just tell us what you're looking for and we'll get it for you.

0.18" and 1/4" Dia. Glass-Tube Fuses



Fast Acting



Time Delay

The right size for electronic circuits. For fuse blocks and fuse holders, see 7687K, 7087K, and 7696K on page 973.

2AG fuses are 0.18" Dia.×0.57" Lg. *Fast-acting* 1/8- to 3 1/2-amp fuses are UL listed and CSA certified and have an interrupt-current rating of 10,000 amps @ 125 VAC; 4- to 10-amp fuses have an interrupt-current rating of 500 amps @ 125 VAC. *Time-delay* 1/4- to 3 1/2-amp fuses are UL listed and CSA certified and have an interrupt-current rating of 10,000 amps @ 125 VAC; 4- to 7-amp fuses are UL recognized and have an interrupt-current rating of 400 amps @ 125 VAC.

3AG fuses are 1/4" Dia.×1 1/4" Lg. *Fast-acting* fuses are UL listed except for 35-amp fuse. 1/16- to 10-amp fuses have an interrupt-current rating of 10,000 amps @ 125 VAC; 12- to 35-amp fuses have an interrupt-current rating of 300 amps @ 32 VAC. *Time-delay* 1/10- to 8-amp fuses are UL listed and have an interrupt-current rating of 10,000 amps @ 125 VAC; 10- to 30-amp fuses are UL recognized and have an interrupt-current rating of 300 amps @ 32 VAC.

8AG fuses are 1/4" Dia.×1" Lg. UL and C-UL listed. Interrupt-current rating is 10,000 amps @125 VAC.

To Order: Please specify amp rating where necessary.

Fuse	Available Amps	VAC	Pkg. Qty.		Pkg. ♦
Fast-Acting Fuses					
Fuse Types: C520, SMG, 225					
2AG	1/8, 1/4, 3/8	250	5	3686T1	$12.16
2AG	1/2, 3/4, 1, 1 1/2, 2, 2 1/2, 3, 3 1/2	250	5	3686T2	4.73
2AG	4, 5, 6, 7, 8, 10	125	5	3686T3	5.81
Fuse Types: AGC, GGC, 312					
3AG	1/16, 1/10, 1/8	250	5	7085K71	10.69
3AG	1/4, 3/10, 3/8	250	5	7085K73	8.53
3AG	1/2, 3/4	250	5	7085K74	4.10
3AG	1, 1 1/4, 1 1/2, 2, 2 1/2, 3	250	5	7085K75	2.72
3AG	4, 5, 6, 7	250	5	7085K77	3.91
3AG	8, 10	250	5	7085K78	3.91
3AG	12, 15, 20, 25, 30, 35	32	5	7085K79	2.72
Fuse Types: AGX, GGX					
8AG	1, 2, 3	250	5	7085K82	5.05
8AG	4, 5, 6, 8	250	5	7085K83	5.95
Time-Delay Fuses					
Fuse Types: C519, STG, 229					
2AG	1/4, 3/8, 1/2, 6/10, 3/4, 1	250	5	3686T7	6.35
2AG	1 1/4, 1 1/2, 2, 2 1/2, 3, 3 1/2	250	5	3686T8	6.35
2AG	4, 5, 6, 7	125	5	3686T6	6.35
Fuse Types: MDL, GDL, 313					
3AG	1/10, 1/8, 2/10	250	5	7085K91	11.22
3AG	1/4, 1/2, 3/4, 1	250	5	7085K92	8.33
3AG	1 1/2, 2, 2 1/2, 3, 3 2/10	250	5	7085K1	8.33
3AG	4, 5, 6 1/4, 7, 8	250	5	7085K2	8.33
3AG	10	32	5	7085K15	8.33
3AG	15, 20, 25, 30	32	5	7085K4	8.33

♦Prices are 10% lower when you buy 10 or more packages.

5 mm Dia. Ceramic-Tube Fuses



These fuses are 20 mm long. Interrupt-current rating is 1,500 amps except time-delay fuse type 477 has an AC interrupt rating of 100 amps and a DC interrupt rating of 400 amps. UL recognized and meet IEC European standards. For fuse blocks and fuse holders, see 7687K, 7087K, and 7696K on page 973.

To Order: Please specify amp rating where necessary.

Available Amps	VAC/VDC	Pkg. Qty.		Pkg. ♦
Fast-Acting Fuses				
Fuse Types: GDA, GSD, 216				
1/8, 1/4, 1/2, 5/8, 8/10, 1	250/___	5	6986K1	$10.38
1 1/4, 1 6/10, 2, 2 1/2, 3.15	250/___	5	6986K2	9.04
4, 5, 6 3/10, 10, 12 1/2	250/___	5	6986K3	9.04
Time-Delay Fuses				
Fuse Types: S505, GSF, 215				
1/4, 1/2, 8/10, 1, 1 1/4	250/___	5	6986K4	9.81
2, 2 1/2, 4, 5, 8, 10	250/___	5	6986K5	9.81
Fuse Type: 477				
1/2, 8/10, 1, 2, 3.15	500/400	5	6986K7	8.65
4, 5, 6 3/10, 8, 10, 12	500/400	5	6986K8	8.65
16	500/400	5	6986K815	8.65

♦Prices are 10% lower when you buy 10 or more packages.

5 mm Dia. Glass-Tube Fuses



Fast Acting



Time Delay

These fuses are 20 mm long. For fuse blocks and fuse holders, see 7687K, 7087K, and 7696K on page 973.

Fast-Acting Fuses—*250 VAC* fuses are CSA certified except for 16-amp fuse. Interrupt-current rating is 35 amps @ 250 VAC. 1/10- to 10-amp fuses are UL recognized except fuse types GMA, GGM, and 235 are UL listed. *125 VAC* 3.15- to 6-amp fuses are UL listed and CSA certified. Interrupt-current rating is 10,000 amps @ 125 VAC. 7- to 15-amp fuses are UL recognized. Interrupt-current rating is 150 amps @ 125 VAC.

Time-Delay Fuses—UL recognized, CSA certified, and meet IEC European standards. Interrupt-current rating is 35 amps @ 250 VAC.

To Order: Please specify amp rating.

Available Amps	VAC	Pkg. Qty.		Pkg. ♦
Fast-Acting Fuses				
Fuse Types: GDB, GSB, 217				
1/10, 1/8, 2/10, 1/4	250	5	6978K1	$6.16
1/2, 8/10, 1, 1 1/4, 1 6/10, 2, 2 1/2	250	5	6978K2	5.66
3.15, 4, 5, 6 3/10, 8, 10, 16	250	5	6978K3	7.70
Fuse Types: GMA, GGM, 235				
1/2, 1, 1 1/2, 2, 3	250	5	6978K4	5.72
3.15, 4, 5, 6, 7, 8, 10, 15	125	5	6978K5	4.45
Time-Delay Fuses				
Fuse Types: GDC, GDG, 218				
1/10, 1/8, 2/10, 1/4	250	5	6978K6	6.33
1/2, 8/10, 1, 1 1/4, 1 6/10	250	5	6978K7	6.16
2, 2 1/2, 4, 5, 6 3/10, 8	250	5	6978K8	6.16

♦Prices are 10% lower when you buy 10 or more packages.

1/4" Dia. Ceramic-Tube Fuses



Designed for high-current electronic circuits such as microwave ovens. These 3AB fuses are 1 1/4" long. For fuse blocks and fuse holders, see 7687K, 7087K, and 7696K on page 973.

Fast-Acting Fuses—*Fuse types ABC, GAB,* and *314* up to 15 amps are UL listed and have an interrupt-current rating of 10,000 amps @ 125 VAC/VDC; 20- to 30-amp fuses are UL recognized and have an interrupt-current rating of 1,000 amps @ 125 VAC and 400 amps @ 125 VDC.

Fuse type 505 are UL and C-UL recognized and CE approved. 10- and 12-amp fuses have an interrupt-current rating of 20,000 amps. 16- to 30-amp fuses have an AC interrupt-current rating of 30,000 amps and a DC interrupt-current rating of 20,000 amps.

Very Fast-Acting Fuses—UL recognized, CSA certified, and CE approved. Interrupt-current rating is 10,000 amps @ 125 VAC/VDC for 1- to 15-amp fuses and 200 amps @ 125 VAC/VDC for 20- and 25-amp fuses.

Time-Delay Fuses—CSA certified and CE approved. 1/4- to 20-amp fuses are UL listed; 25- and 30-amp fuses are UL recognized. Interrupt-current rating for all is 10,000 amps @ 125 VAC; 20- to 30-amp fuses also have an interrupt-current rating of 10,000 amps @ 125 VDC.

To Order: Please specify amp rating.

Available Amps	VAC/VDC	Pkg. Qty.		Pkg. ♦
Fast-Acting Fuses				
Fuse Types: ABC, GAB, 314				
1/4, 1/2, 3/4, 1, 1 1/2	250/125	5	71385K8	$6.32
2, 2 1/2, 3, 4, 5, 6	250/125	5	71385K9	6.21
7, 8, 10, 12, 15	250/125	5	71385K11	6.21
20	250/125	5	71385K41	8.55
25, 30	250/125	5	71385K4	8.55
Fuse Type: 505				
10, 12	450/___	5	71385K71	13.22
16, 20, 25, 30	500/500	5	71385K81	13.22
				Each♣
Very Fast-Acting Fuses				
Fuse Types: GBB, 322				
1, 2, 3, 4, 5, 6, 8	250/125	___	71385K62	$10.20
10, 12, 15, 20, 25	250/125	___	71385K63	8.75
Time-Delay Fuses				
Fuse Types: MDA, GSA, 326				
1/4, 3/8, 1/2, 3/4	250/___	___	71385K1	2.69
1, 1 1/2, 2, 2 1/2	250/___	___	71385K5	2.69
3, 4, 5, 6, 7, 8, 10	250/___	___	71385K6	2.33
12, 15	250/___	___	71385K7	2.35
20, 25, 30	250/125	___	71385K12	2.55

♦Prices are 10% lower when you buy 10 or more packages.
♣Prices are 10% lower when you buy 10 or more.

Don't see the fuse or fuse block you need? Just tell us what you're looking for and we'll get it for you.

Fuse Blocks for Glass-Tube and Ceramic-Tube Fuses



Spring clips hold your 3AB and 3AG (1/4" Dia. x 1 1/4" Lg.) fuses securely while allowing quick changes. Blocks are rated 300 VAC. UL recognized.

10-fuse blocks easily snap apart into separate units.

For No. of Fuses	Terminal Angle	Amps		
0.187" Quick-Disconnect Terminals				
1	45°	20	7687K11	$1.54
2	45°	20	7687K12	2.81
10	40°	20	7687K2	17.46
10	Straight	20	7687K1	18.00
0.250" Quick-Disconnect Terminals				
1	45°	30	7687K13	3.92
2	45°	30	7687K14	5.46
10	40°	20	7687K4	18.85
10	Straight	20	7687K3	17.46
Screw Connection Terminals				
10	———	30	7687K5	41.80

Inline Fuse Holders for Glass-Tube and Ceramic-Tube Fuses

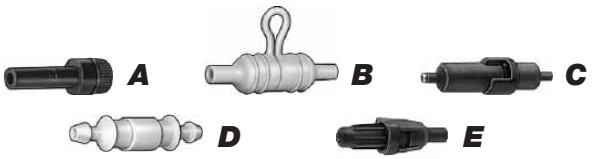

Add fuse protection to a single wire. Made of plastic, except *Style B*, which is made of waterproof rubber and *Style C*, which is made of waterproof phenolic.

Holders for 3AB and 3AG Fuses— Use with 1/4" Dia. x 1 1/4" Lg. fuses. Wire-lead holder has 9" leads for connecting to terminals and includes a 20-amp fuse.

Holders for 3AB, 3AG, and 8AG Fuses— Use with 1/4" Dia. x 1 1/4" Lg. and 1/4" Dia. x 1" Lg. fuses.

Holders for 5 mm Dia. x 20mm Lg. Fuses— Wire-lead holder has 4" leads for connecting to terminals.

	Connection	Amps	VAC/VDC	Lg.	Ht.		
For 3AB and 3AG Fuses							
A	Wire Lead	20	32/—	2.19"	0.69"	7696K33	$5.08
B	Crimp-On	30	32/—	3.00"	0.75"	7696K31	11.76
C	Crimp-On	20	250/250	3.22"	0.8"	7696K41	17.30
For 3AB, 3AG, and 8AG Fuses							
D	Crimp-On	30	32/—	2.42"	0.53"	7696K32	3.42
For 5 mm Dia. x 20 mm Lg. Fuses							
E	Wire Lead	6.3	32/32	1.89"	0.63"	7696K1	2.37
E	Crimp-On	6.3	32/32	1.89"	0.63"	7696K2	2.42

Panel-Mount Fuse Holders for Glass-Tube and Ceramic-Tube Fuses

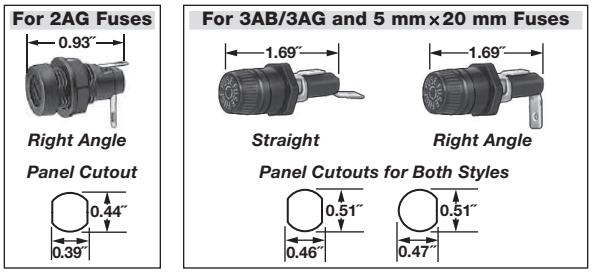

All have quick-disconnect terminals, fit into the panel cutout sizes shown above, and are made of plastic. UL recognized.

Holder for 2AG fuses has a screwdriver slot knob. Rated 10 amps and 300 VAC. Maximum panel thickness is 1/4". Not compatible with 1/8- and 1/4-amp fast-acting fuses.

Holders for 3AB/3AG (1 1/4" Dia. x 1 1/4" Lg.) and ***5 mm Dia. x 20 mm Lg. fuses*** have a knob that unlocks with a twist. Holders for 3AB/3AG fuses are rated 20 amps and 250 VAC; holders for 5 mm x 20 mm fuses are rated 16 amps and 250 VAC. Maximum panel thickness is 1/8".

Terminal Size	***Straight Terminals***		***Right-Angle Terminals***	
For 2AG Fuses				
0.110"	———	———	7087K36	$8.38
For 3AB/3AG Fuses				
0.187"	7087K14	$4.94	7087K12	4.94
0.250"	7087K15	5.56	7087K13	5.56
For 5 mm x 20 mm Fuses				
0.187"	7087K41	4.91	7087K42	4.91
0.250"	7087K43	5.51	7087K44	5.51

Inline Fuses and Fuse Holder

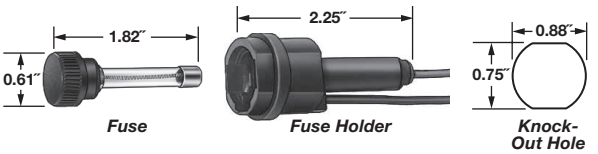

Commonly used for inline protection of fluorescent light fixtures. You'll need both a fuse and fuse holder.

Fuses— Have a built-in cap that securely connects to the fuse holder. Interrupt-current rating is 10,000 amps. UL listed and CSA certified. *LGR fast-acting* fuses protect lighting fixtures. *LMF time-delay* fuses handle high inrush (inducting) loads from ballast transformers in lighting systems.

To Order: Please specify amp rating.

LHR Fuse Holder— For use with LGR and LMF fuses. Rated 10 amps and 300 VAC. It includes two 7" wire leads. UL recognized.

Fuse Type	Available Amps	VAC		
LGR Fast Acting	1, 1 1/2, 2, 3, 4, 5, 10	300	73405K3	$2.88
LMF Time Delay	1/2, 1, 1 6/10, 2, 3 2/10	300	73405K5	7.19
LHR Fuse Holder			73405K11	2.63
Optional Panel-Mount Clip for Fuse Holder			73405K12	2.29

Lift Truck Fuses

You'll find these fuses on battery-operated lift trucks and other low-voltage equipment.

Fast-acting and ***time-delay fuses*** have an AC/DC interrupt-current rating of 10,000 amps. They're 1 1/8" dia. except 60-amp fuse is 7/8" dia. UL recognized.

Very fast-acting fuses have an AC interrupt-current rating of 2,500 amps and a DC interrupt-current rating of 2,700 amps. They're 7/8" wide and have a blown-fuse indicator. UL recognized up to 400 amps.

To Order: Please specify amp rating where necessary.

Fuse block has stud terminal connections.

Available Amps	VAC/VDC	O'all Lg.		
Fast-Acting Fuses				
Fuse Types: AFX, ALS				
200, 400, 500	125/125	4 3/4"	4142K2	$28.20
Very Fast-Acting Fuses				
Fuse Types: ANN, CNN				
35, 40, 50, 60, 80	125/80	3 3/16"	70635K21	37.34
90, 100, 125, 150, 175, 200	125/80	3 3/16"	70635K1	29.80
225, 250, 300	125/80	3 3/16"	70635K3	34.44
325, 350, 400, 500, 600	125/80	3 3/16"	70635K41	53.97
Fuse Block for Very Fast-Acting Fuses			70635K51	23.08
Time-Delay Fuses				
Fuse Types: ACK, CCK				
60	125/125	3 3/4"	4142K35	21.45
80	125/125	4 1/2"	4142K11	28.27
140, 175, 200	125/125	4 3/4"	4142K1	28.28
250	125/125	4 3/4"	4142K48	40.70

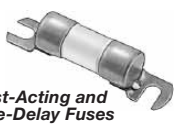
Fast-Acting and Time-Delay Fuses

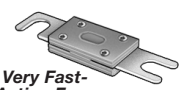
Very Fast-Acting Fuse


Fuse Block

Don't see the fuse you need? Just tell us what you're looking for and we'll get it for you.

Blade-Style Low-Voltage Fuses

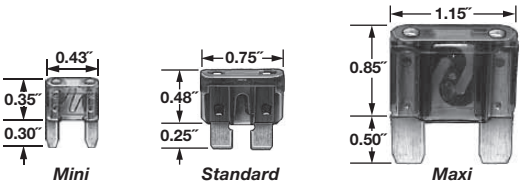

Mini *Standard* *Maxi*

Easy to install, these fuses are the industry standard for low-voltage automotive and other electronic applications. UL listed except for fuses with blown-fuse indicator. For fuse blocks and holders, see 9553T on page 785 and 8110K, 5183T, and 8945T on this page.

To Order: Please specify amp rating.

Fast-acting fuses with blown-fuse indicator illuminate when it's time to replace them.

Size	Available Amps	VAC/VDC	Pkg. Qty.		Pkg.
Fast-Acting Fuses					
Fuse Types: ATM, AF2, 297					
Mini	2, 3, 4, 5, 7½, 10	32/32	5	7460K1	$3.18
Mini	15, 20, 25, 30	32/32	5	7460K2	3.18
Fuse Types: ATC, AF, ATO, 257					
Standard	1, 2, 3, 4, 5, 7½, 10	32/32	5	7460K3	3.28
Standard	15, 20, 25, 30, 40	32/32	5	7460K4	3.28
Fast-Acting Fuses with Blown-Fuse Indicator					
Fuse Types: ATM, AF2, 297					
Mini	3, 5, 7½, 10	—/12	2	8183T5	3.59
Mini	15, 20, 25, 30	—/12	2	8183T6	3.59
Fuse Types: ATC, AF, ATO, 257					
Standard	3, 5, 7½, 10	—/12	2	8183T7	4.45
Standard	15, 20, 25, 30	—/12	2	8183T8	4.45
Time-Delay Fuses					
Fuse Types: MAX, AF3, 299					
Maxi	20, 30, 40, 50, 60, 80	32/32	1	7460K51	3.38

40-fuse kit includes 40 standard fuses and a fuse puller/tester.

180-fuse kit contains an assortment of 135 mini, standard, and maxi blade-style fuses; 45 fast-acting, glass-tube fuses; and three different fuse puller/testers. Furnished in a plastic box.

40-Fuse Kit	7460K89	Each	$26.78
180-Fuse Kit	7460K88	Each	$101.09

Inline Blade-Style Fuse Holders



For Mini and Standard Fuses

Close the cap on these fuse holders for protection in harsh environments. All are made of plastic. Holders for *mini* and *standard* fuses have two 4″ leads. Holder for *maxi* fuse has two 6″ leads.

Holders with blown-fuse indicator have a light that illuminates when it's time to replace. Both include a fuse.

For Size	Amp Range	VDC	Wire Size, AWG		
Holders					
Fuse Types: ATM, AF2, 297					
Mini	2 to 20	32	14	8110K1	$3.16
Mini	25 to 30	32	12	8110K2	3.36
Fuse Types: ATC, AF, ATO, 257					
Standard	1 to 20	32	16	8110K3	3.21
Standard	25 to 30	32	12	8110K4	3.68
Fuse Types: MAX, AF3, 299					
Maxi	20 to 60	32	6	8110K5	15.79
Holders with Blown-Fuse Indicator					
Fuse Types: ATM, AF2, 297					
Mini	2.5 to 30	12	12	8110K6	5.50
Fuse Types: ATC, AF, ATO, 257					
Standard	2.5 to 30	12	12	8110K7	5.79

Blade-Style Low-Voltage DC Circuit Breakers

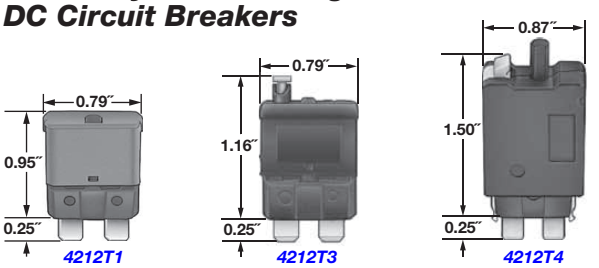

4212T1 *4212T3* *4212T4*

Never worry about blown fuses again—replace your type ATC, AF, ATO, and 257 blade-style fuses with these circuit breakers. They protect against overload and short circuits in low-voltage automotive and other electronic applications. Interrupt-current rating is 2,000 amps. Temperature range is –40° to +185° F. Meet SAE standards.

To Order: Please specify amp rating.

Available Amps	VDC		
With Automatic Reset			
6, 8, 10, 15, 20, 25, 30	12	4212T1	$16.49
With Push-to-Reset Button			
6, 8, 10, 15, 20, 25, 30	32	4212T3	24.58
Vibration-Resistant with Push-to-Reset Button			
3, 4, 5, 6, 7½, 8, 10, 15, 20, 25	28	4212T4	20.49

Blade-Style AC/DC Circuit Breakers and DIN-Rail Mount Holder

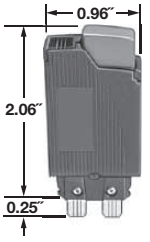

In addition to replacing type ATC, AF, ATO, and 257 blade-style fuses, this circuit breaker can also be used in AC applications. Compact size allows DIN-rail mounting. It protects against overload and short circuits in low-voltage automotive and other electronic applications. Push the button to reset. Max. voltage is 250 VAC/72 VDC. DC and AC interrupt-current rating is 2,000 amps. Temp. range is –4° to +140° F. UL recognized, CSA certified, and IP40 rated. Meet UL 1077 for branch protection. **To Order:** Please specify amp rating.

DIN-rail mount holder has screw clamp connections.

Available Amps		
¼, ½, 1, 1½, 2, 2½, 3, 4, 5, 6, 8, 10	6493T1	$28.50
DIN-Rail Mount Holder	6493T3	24.66

Blade-Style Fuse Blocks



For Standard Fuses



For Maxi Fuse

An insulating cover prevents contact with live circuits. Blocks have screw terminal connections. Rated 32 VDC.

For Standard Fuses— Maximum 30 amps per fuse; maximum 100 amps per block. Mounting holes are 3/32″ dia.

For Maxi Fuse— 30 to 80 amps. Mounting holes are 3/16″ dia.

For Size	For No. of Fuses	Lg.	Wd.	Ht.		
Fuse Types: ATC, AF, ATO, 257						
Standard	6	3.3″	1.5″	4.9″	5183T11	$44.94
Standard	12	3.3″	1.5″	6.5″	5183T12	56.23
Fuse Types: MAX, AF3, 299						
Maxi	1	2.0″	1.4″	2.9″	8945T1	27.38

Time-Delay Low-Voltage Fuses and Fuse Blocks

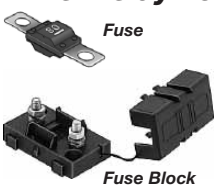

Fuse *Fuse Block*

An alternative to blade-style fuses, these fuses are designed for low-voltage automotive and other electronic applications. Interrupt-current rating is 1,000 amps for 50- and 80-amp fuses and 2,000 amps for 40-amp and 100- to 250-amp fuses.

To Order: Please specify amp rating.

Fuse blocks have stud terminal connections and include a protective cover.

Available Amps	VDC	O'all Lg.	Wd.		Each ♦
Fuse Type: MIDI					
40, 50, 80	32	1.61″	0.47″	9180K8	$5.44
Fuse Type: MEG					
100, 125, 150, 175	32	2.70″	0.75″	9180K1	6.50
200, 225, 250	32	2.70″	0.75″	9180K2	6.50
Fuse Block for 40- to 80-Amp Fuses				9180K6	11.35
Fuse Block for 100- to 250-Amp Fuses				9180K7	6.50

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Load-Center Circuit Breakers


Cutler-Hammer


Siemens


Square D Equivalent

Fit these breakers in Cutler-Hammer, Siemens, and Square D breaker boxes. All have screw clamp connections. Rated 120/240 VAC, 60 Hz. Interrupt-current rating is 10,000 amps. Meet UL 489 requirements for branch circuit protection.

Cutler-Hammer CH Series—Plug into Cutler-Hammer CH series breaker boxes.

Siemens QP Series—Plug into Siemens EQ series breaker boxes.

Square D QO Series Equivalent—Plug into Square D QO series breaker boxes (see 6790K on this page).

To Order: Please specify amp rating where necessary.

No. of Poles	Available Amps	Wd.		
Cutler-Hammer CH Series				
1	15, 20, 30	¾″	5259T7	$9.35
2	15, 20, 30, 40, 50, 60	1½″	5259T8	21.98
2	70	1½″	5259T9	61.57
Siemens QP Series				
1	15, 20, 30	1″	5259T4	7.11
2	15, 20, 30, 40, 50, 60	2″	5259T5	16.40
2	70	2″	5259T6	46.82
Square D QO Series Equivalent				
1	15, 20	¾″	5259T1	10.75
1	30	¾″	5259T2	10.75
2	15, 20, 30, 40, 50, 60	1½″	5259T3	24.78

Plug-Base Fuses and Breakers

Fuses

Rated 125 VAC. UL listed.

Type TL is a time-delay fuse for normal motor applications.

Type T is a time-delay fuse that has more delay than normal. It's commonly used in motor applications when the motor is cycled on/off frequently.

Type S is a time-delay fuse with a non-interchangeable body, which prevents the wrong size fuse from being used.

Type W is a fast-acting fuse for general purpose circuit protection. It quickly opens when short-circuited or when an overload occurs.


Type TL


Type S

Fuse Type	Edison Base	Pkg. Qty.	*15 Amps*	*20 Amps*	*30 Amps*	Pkg.
TL	Yes	4	7070K52	7070K53	7070K54	$6.96
T	Yes	4	7070K58	7070K59	7070K61	14.04
S	No	4	7070K55	7070K56	7070K57	16.67
W	Yes	4	7070K62	7070K63	7070K64	5.43

Breakers

Replace any Edison-base fuse with these resettable circuit breakers. They have a push-to-reset button and are rated 125 VAC. UL listed.



Amps		Each
10	7075K1	$12.52
15	7075K2	12.52
20	7075K3	12.52

Current Limiters

Also known as thermistors, these devices are used to protect power supplies, motor drives, and battery chargers from large inrush currents when the equipment is turned on.



Resistance @ 25° C, ohms	Max. Inrush Amps	Max. Energy, joules	Dia.		
0.5	30	150	1.18″	8000K4	$6.83
1	20	65	0.79″	8000K1	5.03
1	36	160	1.18″	8000K5	6.83
1	40	800	1.38″	8000K9	12.08
2	25	300	1.18″	8000K6	6.83
5	12	100	0.79″	8000K2	5.03
5	20	300	1.18″	8000K7	9.38
5	25	600	1.38″	8000K11	12.08
10	8	90	0.79″	8000K3	5.03
10	15	250	1.22″	8000K8	9.38

Square D Circuit Breakers


QO


QOB


Homeline Tandem

Use these breakers with Square D breaker boxes. All have screw clamp connections. Rated 120/240 VAC except 3-pole breaker is rated 240 VAC. Operate at 60 Hz. Interrupt-current rating is 10,000 amps. Meet UL 489 requirements for branch circuit protection. 15- to 20-amp QO and Homeline series breakers with one pole are UL listed as SWD (switching duty) for 120 VAC fluorescent lighting.

QO and ***QOB Series***—QO series plug into Square D QO series breaker boxes (see 6790K on this page). QOB series bolt onto lighting and appliance panel boards.

Homeline Series—Snap into Square D Homeline series breaker boxes (see 6914K on this page). *1-pole tandem* can only be used with the Homeline series secondary circuit breaker box.

To Order: Please specify amp rating where necessary.

No. of Poles	Available Amps	Wd.		
QO Series				
1	15, 20	¾″	6782K11	$11.87
1	30	¾″	6782K12	11.87
2	15, 20, 30, 40, 50, 60	1½″	6782K21	27.49
2	70	1½″	6782K22	58.34
QOB Series				
1	15, 20, 30	¾″	6782K5	25.85
2	15, 20, 30	1½″	6782K6	57.81
3	15, 20, 30	2¼″	6782K7	190.29
Homeline Series				
1	15, 20, 30	1″	69225K2	8.01
1 Tandem	20	1″	69225K84	15.97
2	20, 30, 40	2″	69225K4	18.46

Square D Circuit Breaker Boxes


QO Series Main Box

Also known as load centers, these boxes are single-phase, 3-wire, and can be mounted for top or bottom feed conduit connections. UL listed.

Main circuit breaker boxes have a main circuit breaker switch and main service knockouts in the corners. Enclosures have a hinged door and can be flush or surface mounted. Rated NEMA 1 for indoor use.

Secondary circuit breaker boxes are used as add-on boxes that connect to a main box. They do not have a main circuit breaker switch. Enclosures can be surface mounted, have a screw-on cover, and are rated NEMA 1 for indoor use except 100-amp QO series has a hinged cover and is rated NEMA 3R for outdoor use.

QO Series—Use with QO series circuit breakers (see 6782K and 5259T on this page). All have a one-piece tin-plated copper bus. Rated 120/240 VAC, 60 Hz. *Main* boxes have an interrupt-current rating of 22,000 amps; *secondary* boxes have an interrupt-current rating of 10,000 amps except 125-amp model is rated 65,000 amps when used with 65,000-amp interrupt-current rated circuit breakers.

Homeline Series—Use with Homeline series circuit breakers (see 69225K on this page). It has a one-piece plated aluminum bus. Interrupt-current rating is 10,000 amps. Rated 120/240 VAC, 50/60 Hz.

Amps	Spaces	Ht.	Wd.	Dp.		
QO Series Main Circuit Breaker Boxes						
100	12	14⅞″	14¼″	3¾″	6790K51	$150.72
100	20	17⅞″	14¼″	3¾″	6790K53	198.52
QO Series Secondary Circuit Breaker Boxes						
70	2	9¼″	4⅞″	3¼″	6790K57	38.92
100	6	12⅝″	8⅞″	4¼″	6790K69	72.28
125	12	17⅞″	14¼″	3¾″	6790K59	74.62
Homeline Series Secondary Circuit Breaker Boxes						
100	6	12⅝″	8⅞″	3⅞″	6914K33	31.88

Space-Saver Branch Circuit Breakers



The smallest UL 489-rated breakers you can get, these provide branch circuit protection when space is at a premium. They have 0.25″ quick-disconnect terminals, push-to-reset button, and a ⅜″-27 bushing with hex nut for mounting in a 0.38″ dia. panel cutout. Depth behind panel is 1.43″. Rated 120 VAC, 50/60 Hz. Interrupt-current rating is 5,000 amps. Temperature range is 32° to 140° F. UL listed and CSA certified.

No. of Poles	Amps		
1	15	3851K11	$14.94
1	20	3851K12	14.94

DIN-Rail Mount Circuit Breakers



1 Pole

Mount directly on 35 mm DIN rail. All are thermal magnetic, which means they use the heat generated in overcurrent situations to trip the breaker and have a time-delay feature to prevent tripping on harmless temporary overload currents. Breakers have screw clamp connections and operate at 50/60 Hz. CSA certified. *1-pole breakers* are rated 277 VAC. *2-* and *3-pole breakers* are rated 480Y/277 VAC.

Branch Circuit Breakers— Meet UL 489 requirements for branch circuit protection. Interrupt-current rating is 10,000 amps.

Equipment Circuit Breakers— Meet UL 1077 requirements for supplemental circuit protection. Use downstream of a branch circuit breaker. Interrupt-current rating is 5,000 amps. CE approved.

Standard inrush current breakers are good for most small transformers and pilot device applications. Temperature range is –40° to +167° F.

High inrush current breakers handle motor and larger transformer applications. Temperature range is 23° to 104° F. Meet IEC standards.

To Order: Please specify amp rating.

No. of Poles	Available Amps	Ht.	Wd.	Dp.		
Branch Circuit Breakers						
Standard Inrush Current						
1	5, 10, 15, 20, 30	4.13″	0.70″	2.36″	5789T7	$24.11
2	5, 10, 15, 20, 30	4.13″	1.39″	2.36″	5789T8	48.22
3	5, 10, 15, 20, 30	4.13″	2.09″	2.36″	5789T9	70.86
High Inrush Current						
1	2, 3, 5, 10, 15, 20	4.13″	0.70″	2.36″	5789T4	24.10
2	2, 3, 5, 10, 15, 20	4.13″	1.39″	2.36″	5789T5	48.22
3	2, 3, 5, 10, 15, 20	4.13″	2.09″	2.36″	5789T6	70.86
Equipment Circuit Breakers						
Standard Inrush Current						
1	1, 2, 3, 4, 5, 10, 15, 20, 30	3.15″	0.70″	2.36″	7026K6	17.55
2	5, 10, 15, 20	3.15″	1.40″	2.36″	7026K7	38.58
3	5, 10, 15, 20, 30, 40, 50	3.15″	2.10″	2.36″	7026K8	60.72
High Inrush Current						
1	2, 3, 5, 10, 15, 20	3.15″	0.70″	2.36″	7026K3	17.55
2	2, 3, 5, 10, 15, 20	3.15″	1.40″	2.36″	7026K4	38.58
3	2, 3, 5, 10, 15, 20	3.15″	2.10″	2.36″	7026K5	60.72

Alarm— Includes two sets of auxiliary contacts, one of which signals an audible alarm when the breaker is tripped. Rated 2 amps @ 250 VAC/0.5 amps @ 110 VDC.

7026K25 ..... $29.23

Low-Voltage DC Circuit Breakers



Push-Pull Style



Lever Style

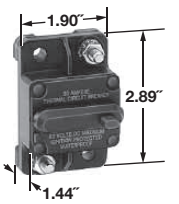

Waterproof Button Style

Designed to withstand the harshest environments, these single-pole circuit breakers have a rugged construction that resists vibration and corrosion. All are thermal, which means they use the heat generated in overcurrent situations to trip the breaker. Use in low-voltage vehicle and electronic applications. All have screw terminal connections.

Push-pull style breakers have a push-and-pull button that can be used as an on/off switch. They have a M12×1 mm bushing with hex nut for mounting in a 0.49″ dia. panel cutout. Depth behind panel is 2.48″. Rated 28 VDC. Interrupt-current rating is 6,000 amps. Temperature range is –67° to +167° F. UL recognized.

Lever style and ***waterproof button style*** breakers are a good choice for marine environments and other areas exposed to moisture. CE approved. *Lever style* can also be used as an on/off switch and have 3/16″ dia. mounting holes (screws not included). IP66 rated for protection from power jets of water. Temp. range is –40° to +185° F. Rated 48 VDC. Interrupt-current rating is 5,000 amps. *Waterproof button style* are IP67 rated for protection against water submersion and have 1/4″ dia. mounting holes (screws not included). Temp. range is –25° to +180° F. Rated 42 VDC. Interrupt-current rating is 3,000 amps.

To Order: Please specify amp rating.

Available Amps		
Push-Pull Style		
30, 35, 40, 45, 50, 55, 60, 70, 80, 90	6608T1	$65.02
Lever Style		
30, 40, 50, 60, 70, 80, 100, 120, 135, 150	4514K2	58.74
Waterproof Button Style		
30, 40, 50, 60, 70, 80, 90, 100, 120, 135, 150	4514K1	58.95

High-Temperature Circuit Breakers



Screw Terminals



Quick-Disconnect Terminals

Unlike thermal magnetic breakers, these magnetic breakers are unaffected by ambient temperature changes. They trip when the magnetic field in the coil increases from current overload. Because heat won't affect operation, they're perfect for protecting equipment in areas where ambient heat is a factor. Temperature range is –40° to +185° F. All have 6-32 threaded holes on the front. Operate at 50/60 Hz. UL recognized.

With Screw Terminals— Rated 250 VAC. Interrupt-current rating is 3,000 amps. 72015K3 is also rated for 80 VDC. *1-pole* breakers mount in a 1.45″ Ht.×0.76″ Wd. panel cutout. *2-pole* breaker mounts in a 1.45″ Ht.×1.53″ Wd. panel cutout.

With Quick-Disconnect Terminals— Great for tight spaces, all have 0.25″ quick-disconnect terminals. Rated 277 VAC/80 VDC. AC interrupt-current rating is 5,000 amps. DC interrupt-current rating is 7,500 amps. Mount in 0.63″ dia. panel cutout, one cutout for each pole.

To Order: Please specify amp rating.

No. of Poles	Available Amps	Ht.	Wd.	Dp.		
Screw Terminals						
1	10, 15, 20, 30, 50	2.50″	0.75″	2.25″	72015K1	$30.36
1	15, 20, 30, 40, 50	2.50″	0.75″	2.25″	72015K3	30.36
2	15, 20	2.50″	1.50″	2.25″	72015K4	77.31
Quick-Disconnect Terminals						
1	5, 10, 15, 20, 30	2.00″	0.75″	1.64″	72015K11	27.50
2	5, 10	2.00″	1.50″	1.64″	72015K5	71.15

Panel-Mount Circuit Breakers



Rocker Style



Push-Button Style



Toggle Style

In addition to providing supplemental protection for your equipment, these circuit breakers can also be used as on/off switches. All are thermal, which means they use the heat generated in overcurrent situations to trip the breaker. Good for applications with high inrush currents such as motor start-ups and switching surges. All have 0.25″ quick-disconnect terminals. Operate at 50/60 Hz.

Rocker and ***Push-Button Style—*** Mount in a 1.77″ Lg.×0.85″ Wd. panel cutout. Rated 240 VAC or 60 VDC. Interrupt-current rating is 1,000 amps. Temperature range is 14° to 131° F. UL recognized and CSA certified. Meet UL 1077.

Rocker style breakers have a black on/off button. Depth behind panel is 1.89″. The optional *clear plastic cover* provides IP54 protection against limited dust and splashed water.

Push-button style breakers have a green "on" button and a red "off" button. Depth behind panel is 2.32″. The optional *clear plastic cover* provides IP65 protection against dust and low-pressure water and requires a 2.07″ Lg.×1.08″ Wd. panel cutout.

Toggle Style— Have a 1/4″-40 bushing with hex nut for mounting in a 1/4″ dia. panel cutout. Depth behind panel is 2.42″. Rated 250 VAC or 75 VDC. AC interrupt-current rating is 200 amps for 1/20-amp breaker; 1,000 amps for 2/10- to 6-amp breakers; and 2,000 amps for 8- and 10-amp breakers. DC interrupt-current rating is 1,000 amps. Temperature range is –22° to +140° F. UL recognized.

To Order: Please specify amp rating.

No. of Poles	Available Amps		
Rocker Style			
1	5, 10, 15, 20	3931T1	$19.64
2	5, 10, 15, 20	3931T2	25.65
	Clear Plastic Cover for Rocker Style Breaker	3931T6	2.53
Push-Button Style			
1	5, 10, 15, 20	3931T4	25.68
2	5, 10, 15, 20	3931T5	34.96
	Clear Plastic Cover for Push-Button Style Breaker	3931T7	1.17
Toggle Style			
1	1/20, 2/10, 4/10, 1/2, 6/10, 8/10, 1, 1 1/2, 2, 2 1/2, 3, 4, 5, 6, 8, 10	7588T1	65.40

Static Control Straps for Personnel

Dissipate static charges from personnel to protect sensitive electronic equipment from damage.

Wrist Straps



With Straight Cord



With Heavy Duty Hand Clamp

Wrist straps have a cord with a snap at one end and a banana plug at the other and include an alligator clip adapter.

Wrist strap with mat includes an easy-to-carry 24″×24″ conductive green and black vinyl work mat. Cord has a 1-megohm resistor in the snap end.

Disposable wrist strap is good for temporary grounding. It adjusts up to 12″ and has an adhesive back.

	Cord Lg.	Wrist Straps		Repl. Straps	
Wrist Straps					
Straight Cord	4 ft.	72555K52	$13.42	72555K68	$6.67
Straight Cord	6 ft.	72555K53	14.70	72555K68	6.67
Straight Cord	10 ft.	72555K54	19.95	72555K68	6.67
Coiled Cord	6 ft.	72555K55	10.53	72555K71	4.79
Coiled Cord	12 ft.	72555K69	13.30	72555K71	4.79
Wrist Strap with Heavy Duty Hand Clamp					
Coiled Cord	12 ft.	72555K62	40.54	72555K71	4.79
Wrist Strap with Mat					
Coiled Cord	6 ft.	72555K61	78.30	72555K68	6.67
Disposable Wrist Strap					
Straight Cord	3 ft.	72555K75	1.43	———	———

Foot Straps

Reusable Shoe Strap



Disposable Heel Strap



Attach to the footwear of personnel walking on a conductive floor.

Reusable shoe strap has an adjustable hook-and-loop strap to fit most shoes.

72555K65 ..... **Each** $10.61

Disposable heel straps have an adhesive back for temporary use in static-control areas. Package quantity is 10.

72555K63 ..... **Pkg.** $10.39

Accessories

Four-Receptacle Ground Station



Wrist Strap Tester



Extra ground cord is straight, 15 ft. long, and has a snap at one end and a ring terminal at the other. Minimum resistance is 1 megohm.

72555K58 ..... $16.85

Four-receptacle ground station has a straight, 10-ft. long cord and four banana receptacles to ground four operators to the same workstation.

72555K66 ..... $19.05

Wrist-strap tester ensures wrist strap is functioning properly before personnel start working. Plug your strap into tester and press the button—one of the three lights will indicate whether the strap is pass, fail low, or fail high. Tester is 3.6″ Ht.×2.6″ Wd.×1″ Dp. and operates on one 9-volt battery (included).

72555K72 ..... $108.77

Static Control Work Surface Mats



Prevent damage to sensitive electronic equipment by controlling static electricity on work surfaces. Mats transfer the static charges from the top of your surface to the ground. They include a grounding snap, grounding cord, and wrist strap (except 40-ft. long mat, which does not include wrist strap). Surface resistivity measures the resistance between two points on the surface of the mat, as well as the resistance to the ground, and should fall between 10^6 and 10^9 ohms/sq. for proper static control.

Vinyl Mats

Mats are single layer and have an easy-to-clean surface.

40-ft. long mat has six heel straps with quick-release buckles and six 15-ft. long grounding cords for use as a floor mat. For wrist straps, see 72555K on this page.

Lg.	Wd.	Thick.	Surface Resistivity		
Blue					
30″	20″	1⁄16″	10^9 ohms/sq.	6980T16	$54.87
36″	24″	1⁄16″	10^9 ohms/sq.	6980T17	64.96
48″	24″	1⁄16″	10^9 ohms/sq.	6980T6	66.16
48″	30″	1⁄16″	10^9 ohms/sq.	6980T18	75.65
60″	30″	1⁄16″	10^9 ohms/sq.	6980T19	93.45
72″	30″	1⁄16″	10^9 ohms/sq.	6980T21	101.33
40 ft.	24″	1⁄16″	10^9 ohms/sq.	6980T8	464.63
Gray					
30″	20″	1⁄16″	10^9 ohms/sq.	6980T31	54.87
36″	24″	1⁄16″	10^9 ohms/sq.	6980T32	64.96
48″	30″	1⁄16″	10^9 ohms/sq.	6980T33	75.65
60″	30″	1⁄16″	10^9 ohms/sq.	6980T34	93.45
72″	30″	1⁄16″	10^9 ohms/sq.	6980T35	101.33

Rubber Mats

These two-layer, reversible mats are highly resistant to abrasion, solder, flux, and heat and won't produce toxic fumes when temporarily exposed to high temperatures. *Grounding cord kit* accepts two wrist straps and includes a 15-ft. long cord with 0.39″ stud.

Lg.	Wd.	Thick.	Surface Resistivity		
Blue					
36″	24″	1⁄16″	10^6 ohms/sq.	4446T72	$89.35
48″	24″	1⁄16″	10^6 ohms/sq.	4446T74	100.78
Gray					
36″	24″	1⁄16″	10^6 ohms/sq.	4446T71	89.35
48″	24″	1⁄16″	10^6 ohms/sq.	4446T73	100.78
Grounding Cord Kit				4446T752	28.89

Grounding and Shielding Foam

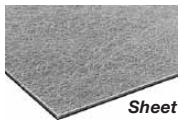

Sheet

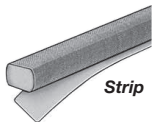

Strip

Flexible and compressible, this foam conducts a current between surfaces to complete a grounding path. It also shields electromagnetic interference (EMI) to protect sensitive electronic equipment. Use to ground printed circuit boards or as an EMI gasket. All have a foam core covered in electrically conductive material. Maximum temperature is 158° F.

Sheets can be used to ground larger electronic components or cut to fit your application. Meet UL 94HF1 for flame resistance.

Strips have an adhesive back. *10″ long* strips meet UL 94V0 for flame resistance.

Lg.	Wd.	Thick.		
Sheets				
12″	6″	0.06″	6021T11	$34.50
12″	6″	0.08″	6021T12	36.22
12″	6″	0.12″	6021T13	39.07
Strips				
10″	1″	0.05″	6180T41	14.79
10″	2″	0.11″	6180T42	42.24
10″	2″	0.26″	6180T43	45.98
12″	0.19″	0.13″	6180T16	21.29
12″	0.25″	0.14″	6180T15	22.39
96″	0.19″	0.13″	6180T19	58.06
96″	0.2″	0.04″	6180T17	56.11
96″	0.25″	0.14″	6180T18	56.07

EMI-Reducing Grounding Ribbons

Low resistance at radio frequencies gives this ribbon better electromagnetic interference (EMI) reduction capability than other types of grounding ribbon and braid. It's made of flexible copper, laminated on both sides with polyester film to avoid shorting problems, and has tinned ends with a 3⁄16″ dia. hole for termination. Good for circuit board applications and tight spaces. Meet UL 94V0 for flame resistance. UL recognized.

Lg.	Wd.	Thick.		
3″	0.50″	0.013″	5841T11	$17.13
6″	0.50″	0.013″	5841T12	18.54
9″	0.50″	0.013″	5841T13	19.06



Grounding Braid and Ribbon

A more flexible alternative to grounding wire, this braid and ribbon provide low electrical resistance equivalent to the wire size listed below.

Grounding Braid and Ribbon

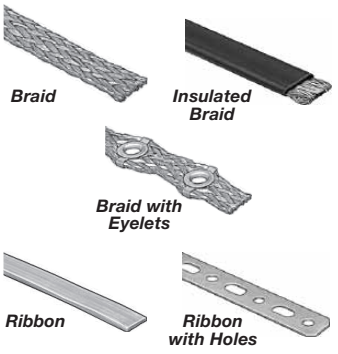

Braid— A flat, tin-plated copper conductor that offers better flexibility than ribbon. *Insulated braid* has green PVC insulation. *Braid with eyelets* have a 1/4″ dia. eyelet every 3″.

Ribbon— Made of tin-plated solid copper with a rolled edge, it's used for bonding cable. *Ribbon with holes* has alternating 3/16″ dia. and 1/4″ dia. holes spaced 1/4″ apart.

	Equivalent Wire Size, AWG	Wd.	Thick.	Available Lengths, ft.		Per Ft.
Braid	14	3/16″	0.04″	5, 10, 25, 50, 100	69925K67	$0.94
Braid	12	1/4″	0.04″	5, 10, 25, 50, 100	69925K66	1.14
Braid	10	7/16″	0.04″	5, 10, 25, 50, 100	69925K65	1.37
Braid	6	1/2″	1/16″	5, 10, 25, 50, 100	6949K62	2.48
Braid	4	7/8″	1/16″	2, 5, 10, 25	69925K41	2.78
Braid	1	1″	1/8″	2, 5, 10, 25	69925K42	5.00
Braid	2/0	1 1/8″	9/32″	2, 5, 10, 25	69925K43	8.28
Insulated Braid	6	3/4″	3/16″	2, 5, 10, 25	69925K46	2.47
Braid with Eyelets	10	1/2″	1/32″	2, 5, 10, 25	69925K22	4.94
Braid with Eyelets	6	1/2″	1/16″	2, 5, 10, 25	6949K63	9.58
Ribbon	—	3/8″	1/16″	2, 5, 10, 25	6949K61	2.33
Ribbon with Holes	—	21/32″	1/16″	2, 5, 10, 25	6949K21	4.06

Grounding Braid with Lugs



Lugs are 3/8″ dia. and made of tin-plated copper. Length is measured center-to-center.

Lg.	Equivalent Wire Size, AWG	Wd.	Thick.		Each
9″	4	7/8″	1/16″	69925K32	$8.02
13″	4	7/8″	1/16″	69925K34	9.54
24″	4	7/8″	1/16″	69925K36	11.90
30″	4	7/8″	1/16″	69925K11	$17.43
36″	4	7/8″	1/16″	69925K12	18.82
48″	4	7/8″	1/16″	69925K13	21.27

High-Flex Grounding Wire

Use this finely stranded, tin-plated copper wire inside control cabinets, tight spaces, and other applications requiring high flexibility.

Grounding Wire



All are UL listed.

Insulated wire has black PVC insulation; ***insulated wire with eyelets*** has translucent green PVC insulation.

Wire with eyelets has 1/4″ eyelets every 4″ and can be cut to length and mounted without terminating. Good for applications that require ground wire to be looped from ground point to ground point with no breaks.

	Wire Size, AWG	OD	Available Lengths, ft.		Per Ft.
Noninsulated					
Wire	10	0.13″	5, 10, 25, 50, 100	2196K57	$0.84
Wire	6	0.22″	5, 10, 25, 50, 100	2196K51	1.68
Wire w/ Eyelets	6	0.30″	5, 10, 25	2196K53	3.11
Insulated					
Wire	10	0.18″	5, 10, 25, 50, 100	2196K56	1.04
Wire	6	0.27″	5, 10, 25, 50, 100	2196K52	2.06
Wire w/ Eyelets	6	0.30″	5, 10, 25	2196K54	3.39

Grounding Wire with Lugs



Lugs are 1/4″ dia. Length is measured center-to-center. #6 AWG wire is UL listed.

Insulated 14 and ***10 AWG wire*** has green PVC insulation; ***6 AWG*** has black PVC insulation.

Wire Size, AWG	OD	Lg.		Each
Noninsulated				
6	0.22″	6″	2196K21	$2.52
6	0.22″	11″	2196K22	2.96
6	0.22″	18″	2196K23	3.70
6	0.22″	24″	2196K24	4.24
6	0.22″	36″	2196K25	5.36
Insulated				
14	0.13″	6″	2196K41	.82
14	0.13″	11″	2196K42	1.00
14	0.13″	18″	2196K43	1.12
14	0.13″	24″	2196K44	1.18
14	0.13″	36″	2196K45	1.22
10	0.16″	6″	2196K31	1.76
10	0.16″	11″	2196K32	1.78
10	0.16″	18″	2196K33	2.20
10	0.16″	24″	2196K34	2.28
10	0.16″	36″	2196K35	2.32
6	0.27″	6″	2196K11	2.68
6	0.27″	11″	2196K12	3.32
6	0.27″	18″	2196K13	4.24
6	0.27″	24″	2196K14	5.00
6	0.27″	36″	2196K15	6.64

Grounding Wire



Ground your electrical system with this noninsulated wire. Conforms to ASTM B3 and B8, and to Federal Standard QQ-W-343 Class B stranding. **To Order:** Please specify length from those listed.

Wire Size, AWG	OD		Lengths 5-ft.	25-ft.	50-ft.	100-ft.
Stranded Wire						
10	0.12″	7512K73	$5.18	$14.54	$27.62	$52.45
8	0.15″	7512K72	6.38	20.48	38.93	81.70
6	0.18″	7512K64	8.48	31.06	59.01	112.06
4	0.23″	7512K75	11.80	47.58	90.40	171.81
2	0.29″	7512K76	17.20	74.68	141.90	269.64
1/0	0.36″	7512K67	25.28	115.00	218.51	413.80
2/0	0.40″	7512K68	31.08	144.08	273.73	526.73
Solid Wire						
10	0.10″	7512K58	5.04	13.88	26.38	49.74
8	0.13″	7512K57	6.24	19.82	37.66	71.35
6	0.16″	7512K54	8.22	29.74	56.52	107.39
4	0.20″	7512K55	11.52	46.26	87.91	167.01
2	0.26″	7512K56	16.54	71.38	135.60	257.63

Grounding Rods

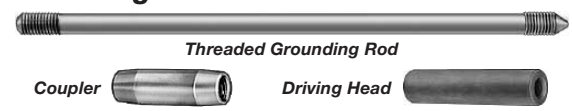

Grounding rods connect an electrical system to a ground. They're made of nickel-plated steel that's heavily plated in copper for high levels of conductivity and good corrosion resistance. *Threaded rods* provide the best connection when joining two rods with a coupler. Rods meet or exceed UL standard 467 and ANSI C33.8.

Couplers are threaded and made of high-strength, corrosion-resistant bronze for permanent, highly conductive connections between two rods. One end is chamfered and the other is tapered for easy driving. ***Driving heads*** are 6″ long and protect rod ends from "mushrooming" when driven into the ground.

Dia.	Lg., ft.	Threaded		Unthreaded	
Grounding Rods					
1/2″	8	7500K13	$19.32	7500K33	$18.52
1/2″	10	7500K14	23.70	7500K34	24.40
5/8″	8	7500K15	20.50	7500K35	18.70
5/8″	10	7500K16	25.34	7500K36	24.14
3/4″	8	7500K17	34.46	7500K37	33.74
3/4″	10	7500K18	37.74	7500K38	36.82
Couplers					
For 1/2″ Rod Dia.				7500K19	11.62
For 5/8″ Rod Dia.				7500K21	7.70
For 3/4″ Rod Dia.				7500K22	15.90
Driving Heads					
For 1/2″ Rod Dia.				7500K43	45.76
For 5/8″ Rod Dia.				7500K44	45.76
For 3/4″ Rod Dia.				7500K45	45.76

Grounding Blocks and Bars

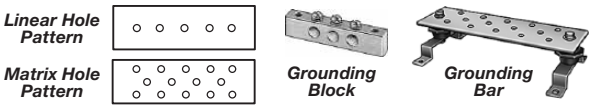

Grounding blocks are commonly used in cabinets and enclosures to connect multiple ground wires. They're made of tin-plated copper alloy and have 1/4″-20 threaded holes with set screws and 8-32 threaded mounting holes (screws not included). UL listed.

Grounding bars let you attach multiple ground wires to one location. They're copper and designed for use as a central ground.

6″ long bar has one 1/4″-20 threaded hole, three 10-32 threaded holes, two 9/32″ dia. unthreaded holes, and plastic mounting brackets.

12″ and ***24″ long bars*** have 7/16″ dia. holes, plastic insulators, and stainless steel mounting brackets. UL listed. *Replacement mounting kit for 12″ and 24″ bars* includes stainless steel mounting brackets, hardware, and insulators.

Electronics rack grounding bar fits 19″ wide electronics racks and includes plastic mounting brackets and hardware.

Lg.	Wd.	Thick.	Hole Pattern	No. of Holes		
Grounding Blocks						
2 1/4″	3/8″	1/2″	Linear	3	2450K1	$6.94
3 5/8″	3/8″	1/2″	Linear	6	2450K2	9.38
5″	3/8″	1/2″	Linear	9	2450K3	11.86
6 3/8″	3/8″	1/2″	Linear	12	2450K4	15.02
Grounding Bars						
6″	1″	1/4″	Linear	6	71375K69	26.03
12″	2″	1/4″	Linear	5	71375K71	61.65
12″	4″	1/4″	Matrix	14	71375K73	104.98
24″	2″	1/4″	Linear	11	71375K72	95.98
24″	4″	1/4″	Matrix	32	71375K74	150.93
Repl. Mounting Kit for 12″ and 24″ Grounding Bars					71375K79	24.43
Electronics Rack Grounding Bar						
19 1/4″	1″	1/4″	Linear	8	8084T2	38.13

Grounding Connectors

All are UL listed and CSA certified.

Connectors— Connect one or two grounding wires to steel structures, fence posts, and transformers. They can also tap one or two cables from a bus bar. Made of copper.

Couplers— Join two grounding wires to extend the length of your grounding connection or connect to an existing ground wire. Made of bronze.


Connector


Coupler

For Wire Size AWG Min.	For Wire Size AWG Max.	Screw Size		
Connectors				
12	8	1/4″	7923K11	$13.81
10	6	1/4″	7923K13	16.87
10	4	5/16″	7923K15	18.33
10	2	3/8″	7923K17	29.13
10	1	3/8″	7923K19	30.67
2	2/0	1/2″	7923K21	43.33
Couplers				
12	6	—	8598T13	3.70
8	6	—	8598T12	3.44
8	1/0	—	8598T14	4.97
4	4	—	8598T11	5.24

Grounding Rod Clamps

Connect bare-copper ground wire to grounding rods. Meet UL 467 for direct burial.

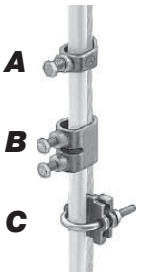

For Rod Dia.	For Wire Size, AWG		
(A) Single-Nut Clamps— *Copper alloy*			
1/2″	10 to 2	7491K73	$2.88
5/8″	8 to 1/0	7491K74	2.95
3/4″	8 to 1/0	7491K77	3.65
1″	8 to 4/0	7491K76	7.38
(B) Dual-Nut Clamp— *Bronze*			
1/2″ to 5/8″	6 to 350 MCM	7491K63♣	14.40
(C) U-Bolt Clamp— *Bronze*			
3/8″ to 1″	6 to 500 MCM	7511K46	16.27

♣ Also for 3/4″ rod diameter for 2 to 250 MCM AWG wire size.

Grounding Straps and Clamps


Strap


Pipe Clamp, One Wire


Pipe Clamp, Two Wire


Plate Clamp

All are UL listed.

Straps ground to virtually any size pipe or grounding rod. They include a nut and bolt that accept 14 to 6 AWG ground wire. For best performance, match strap material to pipe material.

Pipe clamps connect ground wire to pipes. *One-wire* clamp is bronze and accepts ground wire up to 2 AWG. *Two-wire* clamps are tinned bronze and accept 6 AWG to 250 MCM ground wire.

Plate clamp connects grounding wire to an existing flat grounding surface, such as the lid of an electric meter box, eliminating the need to drive a new ground rod. Accepts 14 to 6 AWG ground wire.

Straps

Material	Lg.	Fits Actual Pipe OD		
Copper	6″	1/2″ to 1″	6996K64	$3.57
Copper	12″	1/2″ to 3″	6996K65	4.15
Galvanized Steel	9″	1/2″ to 2 1/4″	6996K66	2.57
Galvanized Steel	12″	1/2″ to 3″	6996K67	3.17

Pipe Clamps

	For Pipe Size	Fits Actual Pipe OD		
One Wire	1/2″ to 1″	3/8″ to 1 1/4″	7599K71	$10.33
Two Wire	1″ to 1 1/4″	3/4″ to 1 11/16″	7599K73	25.93
Two Wire	1 1/2″ to 2″	1″ to 2 3/8″	7599K76	27.13
Two Wire	2 1/2″ to 3″	2 1/4″ to 3 1/2″	7599K77	32.67
Two Wire	3 1/2″ to 4″	3 1/4″ to 4 1/2″	7599K79	40.33

Plate Clamp

Material	Max. Plate Thick.		
Bronze	3/8″	7002K16	$12.62

Lightning Protection Equipment

Components provide lightning protection on structures up to 75 ft. tall. UL 96 listed. Mounting hardware not included. For an existing system, choose components that match existing material. For a new system, choose components in the same material.

(D) Lightning wire is noninsulated. Maximum continuous length is 100 ft. *Copper* wire is 16 AWG and 3/8″ dia. *Aluminum* wire is 14 AWG and 7/16″ dia.

(E) Rods are 12″ long with 1/2″ dia. threads to screw into the base.

(F) Rod bases can be mounted horizontally or vertically.

(G) Loop straps fold around the wire.

(H) Bonding plates electrically bond system to a metallic object.

(K) Parallel connectors accept lightning wire and rods.

Antioxidant joint compounds are recommended to resist corrosion.

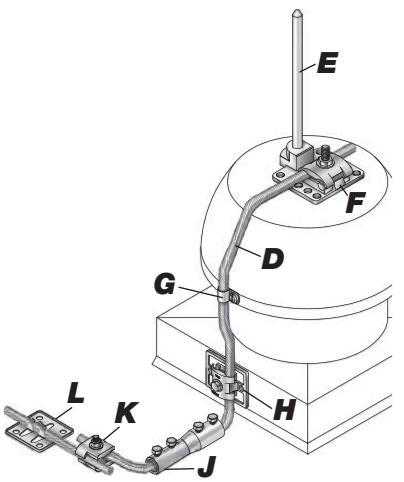

	For Wire Dia.	*Copper* Per Ft.		*Aluminum* Per Ft.	
D Lightning Wire	—	9386T15	$5.22	9386T16	$1.29
			Each		Each
E Rods	—	9386T11	$15.85	9386T12	$4.62
F Rod Bases	—	9386T13	24.88	9386T14	11.80
G Loop Straps	3/8″-7/16″	9386T31	.62	9386T32★	.28
H Bonding Plates	Up to 9/16″	9386T21	19.32	9386T22	8.68
J Copper-to-Aluminum Connector	Up to 1/2″	9386T19	16.14	9386T19	16.14
K Parallel Connectors	Up to 5/8″	9386T17	12.08	9386T18	5.72
L Surface-Mount Wire Holders	Up to 5/8″	9386T41	1.82	9386T42	.72
Antioxidant Joint Compounds (0.5 oz.)		9386T7	1.64	9386T8	1.58

★ Accepts 7/16″ to 1/2″ dia. wire.

About Bonding and Grounding for Static Control

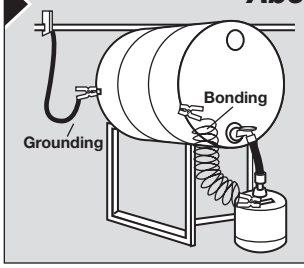

Static electricity can be generated by material processing such as mixing, pouring, pumping, filtering, and agitating. Bonding and grounding equipment and containers can reduce static electricity in your environment and reduce the chance of a static spark igniting flammable vapors. Conductive metal objects such as screens, rims of nonconductive drums, probes, spray nozzles, and high-pressure cleaning equipment can become statically charged.

Bonding systems connect two or more pieces of equipment to keep the same electric potential among them, which prevents static sparking. ***Grounding*** systems electrically connect equipment to ground, which prevents equipment from becoming sufficiently charged to cause a static spark.

When the potential for static electricity problems exists, you should always comply with OSHA requirements as outlined in Section 1910.106 and 1910.107 of the OSHA code. NFPA 77 also provides guidance on static electricity. Flammable liquid dispensing should be performed in accordance with all federal, state, and local laws.

Bonding and Grounding Clamps and Cable


Aluminum Hand Clamp


Hand Clamp with Serrated Jaw


Stainless Steel Hand Clamp


Quick-Release Hand Clamp


C-Clamp

Create a grounding path with these metal clamps and cable to prevent static charge buildup.

Hand Clamps—*Aluminum* clamp has stainless steel points. *Stainless steel* clamp has tungsten carbide points.

Hand Clamp with Serrated Jaw—Has a flat steel-plated jaw to prevent damage to unpainted surfaces, posts, or thin materials.

Quick-Release Hand Clamps—Jaw opens if the cable is pulled. They have stainless steel points and are used to ground vehicles.

C-Clamps—*Bronze* clamp has bronze points. *Galvanized steel* clamps have stainless steel points.

Insulated Coiled Cable—Galvanized steel with an orange vinyl coating.

Material	Jaw Opening	Accepts Cable Dia.		
Hand Clamps				
Aluminum	1 1/8"	Up to 1/8"	70345K73	$14.68
Stainless Steel	1 1/2"	Up to 1/4"	70345K77	171.00
Hand Clamp with Serrated Jaw				
Aluminum	1"	Up to 1/8"	70345K81	20.14
Quick-Release Hand Clamps				
Aluminum	1 1/4"	Up to 1/4"	70345K74	53.80
Bronze	1 1/4"	Up to 3/8"	70345K75	67.32
C-Clamps				
Bronze	1 1/2"	Up to 1/4"	70345K66	53.80
Galvanized Steel	3/4"	Up to 1/4"	70345K65	13.28
Galvanized Steel	2 1/2"	Up to 1/4"	70345K67	14.38
Insulated Coiled Cable				
5-ft. Length; 1/8" Diameter			70345K11	9.07
10-ft. Length; 1/8" Diameter			70345K12	18.09
20-ft. Length; 1/8" Diameter			70345K13	27.28
20-ft. Length; 1/4" Diameter			70345K14	39.00

Bonding and Grounding Cable with Connectors


Cable with Two Connectors


Coiled Cable with Two Connectors



Alligator Clip

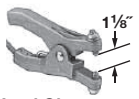

Hand Clamp



Terminal

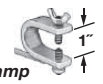

C-Clamp

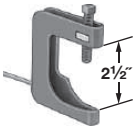

Large Dia. Pipe Clamp

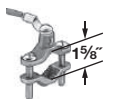

Small Dia. Pipe Clamp



Quick-Release Hand Clamp

Choose the cable and connector configuration to suit your bonding or grounding requirements.

Cable with three connectors consists of a straight line of cable with a clamp at either end and one in the middle.

Cable is galvanized steel. *Bare* and *insulated cable* are 1/8" dia. *Insulated cable* has a clear vinyl coating. *Insulated coiled cable* has an orange vinyl coating. *Heavy duty insulated coiled cable* is 3/16" dia.

Alligator clips are copper. *Hand clamps* are aluminum. *Terminals* are tin-plated copper for cable with a terminal on both ends; galvanized steel for cable with a hand clamp and terminal. *C-clamps* are galvanized steel. *Large diameter pipe clamps* are plated steel. *Small diameter pipe clamps* are bronze. Quick-release hand clamp is aluminum and opens when the cable is pulled.

Also Available: Additional cable lengths for Cable with Two Connectors. For bare and insulated cable, please ask for 6955K888; for insulated coiled cable, ask for 6955K53. Specify connector types and length.

Cable with Two Connectors

Connector Type	Cable Lg.		
Bare Cable			
Alligator Clip on Both Ends	3 ft.	6955K3	$20.63
Hand Clamp on Both Ends	3 ft.	6955K9	42.51
Terminal on Both Ends	3 ft.	6955K4	9.41
C-Clamp and Alligator Clip	3 ft.	6955K2	31.80
Hand Clamp and C-Clamp	3 ft.	6955K8	42.29
Insulated Cable			
Hand Clamp on Both Ends	3 ft.	6955K12	43.76
Terminal on Both Ends	3 ft.	6955K6	12.14
C-Clamp and Alligator Clip	3 ft.	6955K5	33.05
Hand Clamp and C-Clamp	3 ft.	6955K13	43.54
Large Diameter Pipe Clamp and C-Clamp	3 ft.	6955K7	63.95
Insulated Coiled Cable			
Hand Clamp on Both Ends	10 ft. extended	7610K71	44.45
Hand Clamp on Both Ends	20 ft. extended	7610K21	49.74
Hand Clamp on Both Ends	30 ft. extended	7610K22	55.50
Hand Clamp and Terminal	5 ft. extended	7610K66	30.56
Hand Clamp and Terminal	10 ft. extended	7610K67	31.66
Hand Clamp and Terminal	20 ft. extended	7610K68	38.03
Hand Clamp and Terminal	30 ft. extended	7610K65	44.41
Hand Clamp and Small Diameter Pipe Clamp	10 ft. extended	7610K69	41.97
Hand Clamp and Small Diameter Pipe Clamp	20 ft. extended	7610K81	48.22
Hand Clamp and C-Clamp	10 ft. extended	7610K72▲	46.59
Heavy Duty Insulated Coiled Cable			
Quick-Release Hand Clamp and Terminal	20 ft. extended	6997K55	77.80

▲C-clamp jaw opening is 3/4".

(Continued on following page)

Bonding and Grounding Cable with Connectors *(Continued from previous page)*

Cable with Three Connectors







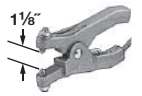

Connector Type	Cable Lg.			
Bare Cable				
C-Clamp, Alligator Clip, and Alligator Clip	3 ft., 3 ft.	6955K24	$43.95
Terminal, Alligator Clip, and Alligator Clip	3 ft., 3 ft.	6955K25	27.93
Insulated Coiled Cable			
C-Clamp, Hand Clamp, and Hand Clamp	10 ft. extended, 10 ft. extended	6955K23	90.15
Terminal, Hand Clamp, and Alligator Clip	5 ft. extended, 10 ft. extended	6955K22	54.29
Terminal, Hand Clamp, and Hand Clamp	10 ft. extended, 10 ft. extended	6955K21	74.12



Coiled Cable with Three Connectors

Bonding and Grounding Reels



Steel Reel with Hand Clamp



Stainless Steel Reel with Hand Clamp



Quick-Release Hand Clamp



Alligator Clip

Conveniently ground equipment with these clamps and cables stored on spring-rewind reels. A locking ratchet holds the cable at any length and releases instantly with a light tug. The spring return automatically retrieves cable and a stop keeps the cable end within reach. Cable is 3⁄32″ dia. except stainless steel reels have 3⁄16″ dia. cable.

Alligator clips are zinc-plated steel and hand clamps are aluminum. *Quick-release hand clamp* opens when the cable is pulled.

Constant-tension steel reels allow you to override the ratchet to keep constant tension on the cable. *Y-style cable* consists of two 20-ft. cables that extend from a single 30-ft. cable connected to the reel.

Cable Lg., ft.	Jaw Opening	O'all Ht.	Reel Base Lg.	Reel Base Wd.		
Steel Reels						
With Hand Clamp and Galvanized Steel Cable						
20	½″	6¼″	5¾″	2″	7223K15	$187.24
50	½″	6¼″	5¾″	2″	7223K12	273.18
With Quick-Release Hand Clamp and Galvanized Steel Cable						
50	1¼″	8¾″	8 11⁄16″	2¼″	7223K13	339.16
With Alligator Clip and Insulated Galvanized Steel Cable						
20	1¼″	6¼″	5¾″	2″	7223K14	147.84
50	1¼″	8¾″	8 11⁄16″	2¼″	7223K11	236.42
With Alligator Clip and Insulated Stainless Steel Cable						
35	1″	12″	6″	2½″	73465K11	241.82
50	1″	12″	6″	2½″	73465K13	269.87
Constant-Tension Steel Reels						
With Alligator Clip and Steel Cable						
25	1¼″	6¼″	5¾″	2″	7346K12	185.76
50	1¼″	8¾″	8 11⁄16″	2¼″	7346K15	242.49
With Two Alligator Clips and Y-Style Steel Cable						
50	1¼″	8¾″	8 11⁄16″	2¼″	7346K18	327.82
Stainless Steel Reels						
With Hand Clamp and Insulated Stainless Steel Cable						
50	½″	17″	11½″	4″	7677T11	584.77
100	½″	17″	11½″	4″	7677T12	675.23

EMI/RFI Insulating Cable Clamps

Snap these ferrite-shielded clamps around routing cable to suppress electromagnetic and radio frequency interference. An economical alternative to shielded cable, they're used with computers and computer equipment or anywhere EMI and RFI are a problem.



Round



Square

Max. Cable Dia.	Impedance @ 100 MHz		
Round Clamp			
0.30″	100 Ohms	70055K71	$7.94
0.52″	62 Ohms	70055K72	8.73
Square Clamp			
0.17″	220 Ohms	70055K77	7.94
0.20″	200 Ohms	70055K75	8.87
0.30″	200 Ohms	70055K76	15.87
0.50″	230 Ohms	70055K78	16.03

Static Control Cord, Tinsel, and Brushes

Remove static from moving materials on conveyors, printing rolls, and chutes. Mount up to ¼″ from surface.

Cord



With Magnets

Stretchable and easy to replace, cord is ⅛″ dia. and made of acrylic fibers bonded with copper sulfide. Cut to length and use magnets (sold separately) to mount. Magnet has a center hole for easy threading.

Lg., ft.		
5	2805K1	$17.50
32½	2805K2	76.38
Magnet	5685K31	1.40

Tinsel

More conductive than cord, tinsel has a core of three solid copper wires twisted together. Overall diameter is 1¼″. *Attachment kit* includes 20 lugs and springs to mount up to 10 pieces of tinsel.



With Attachment Kit

Lg., ft.		
6	63085T46	$5.11
72	63085T47	23.25
Attachment Kit	63085T48	61.73

Tinsel Bars



Choose these bars for more permanent installations. They're made of rigid anodized aluminum with a replaceable copper-tinsel insert that's 3″ shorter than overall length.

O'all Lg., ft.	Bar with Tinsel		Replacement Tinsel Insert	
1	9755T11	$33.08	9755T21	$3.87
1½	9755T12	37.82	9755T22	5.43
2	9755T14	42.54	9755T24	8.74
2½	9755T13	47.28	9755T23	8.55
3	9755T15	51.98	9755T25	12.65
4	9755T16	61.46	9755T26	16.55
5	9755T17	70.90	9755T27	20.45
6	9755T18	80.36	9755T28	23.75
8	9755T19	99.28	9755T29	31.35

Brushes



Made of fiber bonded to an aluminum frame, these brushes won't scratch surfaces so you can mount them close to or even touching moving material.

Carbon fiber is for general static control; ***stainless steel fiber*** is for use near electronic components.

O'all Lg., ft.	Carbon Fiber Bristle Ht.			Stainless Steel Fiber Bristle Ht.		
½	—	—	—	⅜″	98415T61	$8.38
1	¾″	98415T11	$20.50	½″	98415T62	16.12
2	¾″	98415T64	25.63	½″	98415T63	25.63
3	¾″	98415T65	38.12	¾″	98415T21	61.12
4	¾″	98415T66	46.25	¾″	98415T22	68.88
5	¾″	98415T12	86.12	¾″	98415T23	95.62

About AC to AC Voltage Transformers

Transformers— An AC to AC transformer typically converts alternating current (AC) from one voltage to another. It can be designed to "step up" (boost or increase) voltage or "step down" (buck or decrease) voltage. Transformers consist of two or more coils. When voltage is sent to the primary coil, it magnetizes the coil's core, inducing a voltage in the secondary coil.

Sensitive Equipment Transformers— Also known as isolating transformers, their primary and secondary coils are electrically isolated from each other. The transformer protects sensitive equipment from any input voltage spikes. They are typically larger and more expensive than transformers with connected primary and secondary coils.

High-Inrush Transformers— Also known as control transformers, these are designed for applications with high-inrush loads temporarily exceeding the VA (volt-amps) power output, such as starting and stopping motors. They have electrically isolated primary and secondary coils like sensitive equipment transformers.

Selecting the Right Transformer

1. Determine your input (line) and output (load) voltages and choose a transformer with matching input and output voltages.

2. Determine the power required by the equipment you're running. It's usually listed in kVA (kilovolt-amps) or VA (volt-amps) on the equipment's nameplate.

Choose a transformer with a power output that is equal to or greater than your equipment's power requirements.

For single-phase equipment, use this formula to find VA:

VA = Volts × Amps

For three-phase equipment, use this formula to find VA:

VA = Volts × Amps × 1.73

Sensitive Equipment AC to AC Transformers



Single Phase



Three Phase

Protect your sensitive equipment from input voltage spikes. The cores and coils are sealed to eliminate corrosion and insulation damage. Enclosure is rated UL-3R for indoor and outdoor use except single-phase transformers with 750-5,000 VA output are rated NEMA 3R. Also known as isolating transformers, they have copper wire lead connections except three-phase transformers with 30,000 and higher VA output, which have a bus bar. Wall mountable except for three-phase transformers with 15,000 and higher VA output, which are floor mount. Operate on 60 Hz. UL listed and CSA certified except single-phase transformers with 750-5,000 VA output are UL and C-UL listed.

Single-phase constant voltage transformers are used when you need to isolate the input and output voltages without changing their values.

Voltage (VAC) Input	Output	Power Output, VA	Ht.	Wd.	Dp.		
Single Phase							
240/480	120/240	750	11.3″	5.3″	6.5″	7131K19	$127.25
240/480	120/240	1,000	11.3″	5.3″	6.5″	7131K21	154.88
240/480	120/240	1,500	13.3″	6.3″	7.8″	7131K22	202.05
240/480	120/240	3,000	13.3″	6.3″	7.8″	7131K23	323.00
240/480	120/240	5,000	15″	10.2″	10.6″	7131K24	438.45
240/480	120/240	7,500	15.2″	13.5″	10.8″	7131K25	589.47
240/480	120/240	10,000	15.2″	13.5″	10.8″	7131K26	691.58
240/480	120/240	15,000	16.9″	14.1″	11.6″	7131K27	864.22
240/480	120/240	25,000	18.4″	16.1″	13.3″	7131K28	1,140.63
Three Phase							
480	208y/120	3,000	10.4″	12.4″	7.5″	7131K38	680.42
480	208y/120	6,000	11.8″	14.2″	8.8″	7131K39	845.08
480	208y/120	9,000	14″	17.8″	11.5″	7131K41	1,066.67
480	208y/120	15,000	18.9″	20.3″	9″	7131K42	1,368.42
480	208y/120	30,000	25.5″	24.4″	19.4″	7131K43	1,747.65
480	208y/120	45,000	25.5″	24.4″	19.4″	7131K44	2,082.48
480	208y/120	75,000	29.4″	28.2″	22.4″	7131K45	2,953.10
Single Phase Constant Voltage							
120/240	120/240	1,000	10.5″	5.5″	5.1″	6989K21	216.71
120/240	120/240	2,000	13″	5.5″	5.1″	6989K23	363.92
120/240	120/240	3,000	11.5″	10.3″	7.1″	6989K24	451.37
120/240	120/240	5,000	14.4″	10.3″	7.1″	6989K25	646.85

Sensitive Equipment AC to AC Transformers with Plug and Outlet





NEMA 5-15 NEMA 6-15

Easily connect and disconnect devices that need 115 VAC power that's free of voltage spikes. They're also known as isolating transformers. Operate on 50/60 Hz.

With NEMA 5-15 Plug and NEMA 5-15 Outlet— Also known as constant voltage transformers, use when you need to isolate the input and output voltages without changing their values.

Voltage (VAC) Input	Output	Power Output, VA	Ht.	Wd.	Dp.		
With NEMA 5-15 Plug and NEMA 5-15 Outlet							
115	115	150	3.9″	3.1″	4.2″	70245K71	$117.45
115	115	250	4.7″	3.8″	4.4″	70245K72	170.15
115	115	500	4.7″	3.8″	6″	70245K73	197.27
115	115	1,000	5.4″	4.4″	8.1″	70245K74	366.78
With NEMA 6-15 Plug and NEMA 5-15 Outlet							
230	115	100	3.5″	2.8″	3.6″	70245K81	127.78
230	115	250	4.7″	3.8″	4.4″	70245K83	155.87
230	115	500	4.7″	3.8″	6″	70245K84	196.93
230	115	1,000	5.4″	4.4″	8.1″	70245K85	379.48

Power-Conditioning Sensitive Equipment AC to AC Transformers



Get protection against three-millisecond power dips and spikes and electromagnetic interference. These transformers also isolate output and input voltage (output regulation is ±3% with input voltage fluctuations from +10% to –20%). They're also known as isolating transformers. All have screw terminal connections, are wall or floor mountable, and operate on 60 Hz. UL listed and CSA certified.

Voltage (VAC) Input	Output	Power Output, VA	Ht.	Wd.	Dp.		
120/208/240/480	120/208/240	140	4.4″	6″	8.5″	7425K33	$448.08
120/208/240/480	120/208/240	250	4.4″	6″	9.7″	7425K34	586.54
120/208/240/480	120/208/240	500	6.5″	6.3″	12.3″	7425K35	871.15
120/208/240/480	120/208/240	750	6.5″	6.3″	13.3″	7425K36	1,103.85
120/208/240/480	120/208/240	1,000	6.5″	6.3″	14.2″	7425K37	1,321.15
120/208/240/480	120/208/240	1,500	9.9″	9.4″	17.6″	7425K39	1,778.85
120/208/240/480	120/208/240	3,000	9.9″	9.4″	19.9″	7425K42	3,050.94

Step-Down AC to AC Transformers



Even if you only have a 240 VAC connection, these transformers can power 120 VAC or 240 VAC devices. They're also known as auto transformers. The coils and cores are sealed to eliminate corrosion and insulation damage; enclosure is rated UL-3R for indoor and outdoor use. All have copper wire lead connections, are wall mountable, and operate on 60 Hz. UL listed and CSA certified.

Voltage (VAC) Input	Output	Power Output, VA	Ht.	Wd.	Dp.		
240	120/240	1,000	9.1″	4.4″	4.2″	7029K43	$205.88
240	120/240	1,500	9.7″	4.5″	4.5″	7029K44	262.29
240	120/240	2,000	10.5″	5.5″	5.1″	7029K45	295.53
240	120/240	3,000	11.6″	5.5″	5.1″	7029K46	354.66
240	120/240	5,000	13″	5.5″	5.1″	7029K47	595.83

For single-phase equipment, use this formula to find power output: **VA = Volts × Amps**
For three-phase equipment, use this formula to find power output: **VA = Volts × Amps × 1.73**

Step-Down AC to AC Transformers with Outlet

Powering a 115 VAC device on a 240 VAC system is as easy as plugging it in with these step-down transformers. Also known as auto transformers, they have a NEMA 5-15 three-prong outlet to connect appliances such as air conditioners, power tools, portable or machine tool lighting, fans, and grinders. The coils and cores are sealed to eliminate corrosion and insulation damage. They're wall mountable, operate on 50/60 Hz, and come with a 6-ft. cord (plug not included) for input connection.



Voltage (VAC) Input	Output	Power Output, VA	Ht.	Wd.	Dp.		
200/220/240	115	200	9.2″	3.9″	3.7″	6980K3	$236.27
200/220/240	115	500	9.7″	4.8″	4.5″	6980K6	319.73
200/220/240	115	1,000	9.7″	4.8″	4.5″	6980K7	362.33
200/220/240	115	2,000	11.5″	7.8″	7.1″	6980K8	825.95

Step-Up/Step-Down AC to AC Transformers



Improve the efficiency of your equipment and lower operating costs. Wire these step-up/step-down (boost/buck) transformers to step your input voltage up or down by as much as 20% to match the voltage your equipment needs. All have stranded copper lead wires for input/output connections and operate on 60 Hz. Mount them to a wall or floor.

In addition to the VAC input and output, these transformers are labeled with an ***isolation transformer power output***, which is the rating before you wire the transformer to step up or step down power. Transformers become nonisolating transformers (also known as auto transformers) when they are wired to step up or step down the voltage.

To Order: Choose an input/output voltage combination that comes closest to matching your application, then read down that column until you reach the power output (in VA) of the equipment you want to operate. You probably won't find the exact value you need; choose the next highest rating. *Note:* Three-phase applications require two transformers.

Single Phase—Labeled as 120/240 VAC Input and 12/24 VAC Output

	STEP UP (BOOST)					STEP DOWN (BUCK)					Isolation Transformer Power Output		
Input Voltage / Output Voltage	100 / 120	110 / 120	189 / 208	208 / 230	220 / 242	125 / 113	132 / 120	230 / 208	245 / 222	252 / 240			Each
Power Output (in VA) at Output Voltage	250	500	430	480	500	520	540	470	500	1,020	50 VA	70525K71	$69.48
	500	1,010	870	960	1,010	1,040	1,080	950	1,000	2,040	100 VA	70525K72	82.90
	750	1,510	1,300	1,430	1,510	1,560	1,620	1,420	1,500	3,000	150 VA	70525K73	93.87
	1,250	2,500	2,160	2,390	2,520	2,600	2,750	2,370	2,500	5,100	250 VA	70525K74	109.72
	2,500	5,000	4,330	4,790	5,040	5,200	5,400	4,470	5,000	10,200	500 VA	70525K75	136.53
	3,750	7,560	6,500	7,190	7,560	7,800	8,150	7,100	7,500	15,300	750 VA	70525K76	179.20
	5,000	10,000	8,660	9,580	10,000	10,400	10,800	9,500	10,000	20,400	1,000 VA	70525K77	210.90

Three Phase (two required)—Labeled as 120/240 VAC Input and 16/32 VAC Output

	STEP UP (BOOST)			STEP DOWN (BUCK)					Isolation Transformer Power Output		
Input Voltage / Output Voltage	195 / 208	208 / 240	225 / 240	240 / 208	245 / 230	256 / 240	265 / 234	272 / 240			Each
Power Output (in VA) at Output Voltage	5,630	3,170	6,500	2,810	6,630	6,930	3,590	3,680	250 VA	70525K81	$114.60
	11,260	6,330	12,990	5,630	13,260	13,860	7,170	7,360	500 VA	70525K82	142.63
	16,890	9,500	19,490	8,440	19,890	20,780	10,760	11,040	750 VA	70525K83	187.73
	22,520	12,670	25,980	11,260	26,520	27,710	14,340	14,720	1,000 VA	70525K84	221.95

ⓘ For more information about selecting the proper transformer and wiring it for your needs, go to mcmaster.com and search for **70525KAC**.

High-Inrush AC to AC Transformers

Also known as control transformers, these transformers handle momentary high-inrush currents associated with contactors, solenoids, and relays, as well as protect your sensitive equipment. They meet NEMA standards for voltage regulation and have screw terminal input/output connections. Operate on 50/60 Hz. UL listed and CSA certified.

Transformers with top-mounted fuse block have a built-in input and output fuse block to save panel space. They install quickly with little wiring. UL class CC midget (13/32″ dia.) fuses required for fused operation.



Transformer



Transformer with Top-Mounted Fuse Block

Voltage (VAC) Input	Output	Power Output, VA	Ht.	Wd.	Dp.		
Transformers							
120/240	12/24	50	2.7″	3″	3″	6988K61	$45.45
120/240	12/24	75	2.7″	3″	3.9″	6988K62	51.04
120/240	12/24	100	2.7″	3″	3.6″	6988K63	57.58
120/240	12/24	150	3.4″	3.8″	3.6″	6988K64	74.85
120/240	12/24	250	3.8″	4.5″	4.1″	6988K65	99.33
120/240	12/24	350	3.8″	4.5″	5.1″	6988K66	115.29
120/240	12/24	500	4.5″	5.3″	5.6″	6988K67	144.62
120/240	12/24	750	4.5″	5.3″	6.4″	6988K68	196.18
240/480	120	50	2.6″	3″	3.1″	6988K31	58.06
240/480	120	100	2.9″	3.4″	3.3″	6988K32	77.68
240/480	120	150	3.2″	3.8″	3.6″	6988K33	82.96
240/480	120	250	3.2″	3.8″	5.3″	6988K34	115.89
240/480	120	350	3.8″	4.5″	5.1″	6988K35	136.30
240/480	120	500	3.8″	4.5″	5.5″	6988K36	169.84
240/480	120	750	4.5″	5.3″	5.6″	6988K37	234.70
240/480	120	1,000	4.5″	5.3″	6.3″	6988K38	284.27
240/480	120	1,500	6.2″	7.1″	5.9″	6988K39	406.71
Transformers (Cont.)							
240/480	120	2,000	5.7″	6.8″	9.3″	6988K74	$362.67
240/480/600	120/100	50	2.7″	3″	3.1″	6988K11	59.82
240/480/600	120/100	100	2.7″	3″	4.1″	6988K12	74.07
240/480/600	120/100	150	3.4″	3.8″	4″	6988K13	96.20
240/480/600	120/100	250	3.8″	4.5″	4.6″	6988K14	127.62
240/480/600	120/100	350	4.2″	4.7″	5″	6988K15	163.05
240/480/600	120/100	500	4.5″	5.3″	5.6″	6988K16	179.47
Transformers with Top-Mounted Fuse Block							
240/480	120	50	4″	3″	3.1″	6988K51	82.83
240/480	120	100	4.2″	3.4″	3.3″	6988K52	100.92
240/480	120	150	4.5″	3.8″	3.6″	6988K53	106.92
240/480	120	250	4.5″	3.8″	5.3″	6988K54	138.66
240/480	120	350	5.1″	4.5″	5.1″	6988K55	159.75
240/480	120	500	5.1″	4.5″	5.5″	6988K56	205.39
240/480	120	750	5.8″	5.3″	5.6″	6988K57	276.46
240/480	120	1,000	5.8″	5.3″	6.3″	6988K58	332.66

AC to AC Transformers

For information about AC to AC transformers, see page 982.

For single-phase equipment, use this formula to find power output: **VA = Volts × Amps**
For three-phase equipment, use this formula to find power output: **VA = Volts × Amps × 1.73**

Harsh Environment High-Inrush AC to AC Transformers



Single Voltage Output



Multiple Voltage Output



Touch-Safe Multiple Voltage Output

Dust, dirt, oil, and moisture won't damage these high-inrush transformers because they have epoxy-encapsulated coils. Also known as control transformers, all have screw terminal input/output connections and four mounting slots. Operate on 50/60 Hz. UL and C-UL listed.

Single voltage output transformers have an output fuse block. All transformers with ***multiple voltage output*** can simultaneously power multiple devices that require different output voltages.

Multiple voltage output transformers have input and output fuse blocks. UL class CC midget (13/32″ dia.) fuses are required for fused operation.

Touch-safe multiple voltage output transformers have plastic covers over the screw terminals to prevent accidental contact with live electrical connections. CE marked.

Voltage (VAC) Input	Output	Power Output, VA	Ht.	Wd.	Dp.		
Single Voltage Output							
120/240	12	50	3.1″	3″	3.8″	7034K61	$61.36
120/240	12	75	3.1″	3″	4″	7034K62	66.82
120/240	12	100	3.5″	3.4″	4″	7034K63	74.55
120/240	12	150	3.8″	3.8″	4″	7034K64	102.27
120/240	24	50	2.8″	3″	2.7″	7034K71	46.45
120/240	24	75	2.8″	3″	3.2″	7034K72	51.04
120/240	24	100	3.1″	3.4″	3.3″	7034K73	57.58
120/240	24	150	3.4″	3.8″	3.9″	7034K74	74.85
120/240	24	250	3.8″	4.5″	4.1″	7034K75	99.33
120/240	24	500	4.7″	5.3″	5.5″	7034K78	144.62
240/480	12	50	3.1″	3″	3.8″	7034K65	61.36
240/480	12	150	3.8″	3.8″	4″	7034K68	102.27
240/480	120	50	2.8″	3″	2.7″	7034K51	44.24
240/480	120	75	2.8″	3″	3.2″	7034K52	48.55
240/480	120	100	3.1″	3.4″	3.3″	7034K53	54.84
240/480	120	150	3.4″	3.8″	3.9″	7034K54	71.20
240/480	120	250	3.8″	4.5″	4.1″	7034K55	92.35
240/480	120	500	4.7″	5.3″	5.5″	7034K58	137.67
Multiple Voltage Output							
230/460	24/115	50	3.9″	3″	3.5″	6718T71	74.14
230/460	24/115	75	4.2″	3.4″	3.6″	6718T72	81.47
230/460	24/115	100	4.2″	3.8″	3.6″	6718T73	87.07
230/460	24/115	150	4.7″	3.8″	4″	6718T74	106.90
230/460	24/115	200	5.3″	4.5″	4.4″	6718T75	123.28
230/460	24/115	250	4.1″	4.5″	4.4″	6718T76	137.50
230/460	24/115	300	5.9″	5.3″	5.2″	6718T77	155.60
230/460	24/115	350	5.9″	5.3″	5.2″	6718T78	157.33
230/460	24/115	500	6″	5.3″	5.7″	6718T79	184.48
Touch-Safe Multiple Voltage Output							
230/460/575	24/115/230	250	4″	4.5″	4.8″	6718T51	267.24
230/460/575	24/115/230	300	4″	4.5″	5.3″	6718T52	286.21
230/460/575	24/115/230	350	4.5″	5.3″	5.4″	6718T53	308.62
230/460/575	24/115/230	500	4.5″	5.3″	6.6″	6718T54	346.55
230/460/575	24/115/230	750	6″	6.4″	7.4″	6718T55	472.41
230/460/575	24/115/230	1,000	6.3″	6.8″	7.8″	6718T56	531.03

Multimount High-Inrush AC to AC Transformers



Mount these high-inrush transformers using the built-in flanges with mounting holes or the included 4″×4″ plate. Also known as control transformers, they are often used in heating, ventilation, and air conditioning control circuits. Input and output electrical connections are 6″ wire leads. Operate on 60 Hz, except 7708K23, which operates on 50/60 Hz. UL recognized.

Voltage (VAC) Input	Output	Power Output, VA	Ht.	Wd.	Dp.		
120	24	40	2.8″	3.7″	2.5″	7708K21	$13.78
120/208/240	24	40	2.8″	3.7″	2.5″	7708K22	14.67
208/240	24	40	2.8″	3.7″	2.5″	7708K23	15.63

Touch-Safe High-Inrush AC to AC Transformers



Recessed screw terminals prevent accidental contact with live electrical connections and the electrically isolated coils withstand high-inrush currents. Also known as control transformers, they operate on 50/60 Hz and are UL and C-UL listed and CE marked, unless noted.

Voltage (VAC) Input	Output	Power Output, VA	Ht.	Wd.	Dp.		
120/240	24	50	2.8″	3″	2.7″	7038K21	$46.45
120/240	24	75	2.8″	3.4″	3.2″	7038K22	51.04
120/240	24	100	3.1″	3.8″	3.3″	7038K23	57.58
120/240	24	150	3.4″	4.5″	3.9″	7038K24	74.85
120/240	24	250	4″	4.5″	4.1″	7038K25	99.33
120/240	24	500	4.7″	5.3″	5.5″	7038K27	144.62
120/240	24	1,000	6″	6.8″	4.8″	7038K29♣	249.70
240/480	120	50	2.8″	3″	3.4″	7038K31	44.24
240/480	120	75	2.8″	3.3″	3.4″	7038K32	48.55
240/480	120	100	3.1″	3.8″	3.4″	7038K33	54.84
240/480	120	250	4″	4.5″	4.1″	7038K35	94.51
240/480	120	350	4″	5.3″	5″	7038K37	109.80
240/480	120	500	4.7″	5.3″	6″	7038K38	137.67
240/480	120	750	4.7″	5.3″	6.8″	7038K39	186.76
240/480	120	1,000	6″	6.8″	4.8″	7038K41♣	231.07
240/480	120	1,500	6″	6.8″	6″	7038K42♣	303.02
240/480	120	2,000	6″	6.8″	6.5″	7038K43♣	362.67

♣ Not C-UL listed. CSA certified.

DIN-Rail Mount High-Inrush AC to AC Transformers



Get the same performance and protection as our other high-inrush transformers with the convenience of mounting on a 35 mm DIN rail. All have screw terminal input/output connections and operate on 50/60 Hz. UL and C-UL recognized and CE marked.

Voltage (VAC) Input	Output	Power Output, VA	Ht.	Wd.	Dp.		
230	24	63	3.5″	3.4″	3.9″	7962K61	$105.84
230	24	100	4″	3.4″	3.9″	7962K62	122.75
230	24	160	4.1″	3.9″	4.2″	7962K63	154.52
230	24	250	4.7″	3.9″	4.2″	7962K64	222.20
230/460	115	63	3.5″	3.4″	3.9″	7962K71	179.86
230/460	115	100	4″	3.4″	3.9″	7962K72	201.06
230/460	115	160	4.1″	3.9″	4.2″	7962K73	222.25
230/460	115	250	4.7″	3.9″	4.2″	7962K74	243.42
230/460	115	315	4.7″	4.2″	4.4″	7962K75	306.94
230/460	115	400	4.5″	4.8″	4.8″	7962K76	286.43
230/460	115	500	5.3″	4.8″	4.8″	7962K77	306.85

International-Voltage Transformers



Run an American appliance in Europe or a European appliance in the United States by stepping 220 VAC down to 110 VAC or 110 VAC up to 220 VAC. These transformers continuously operate at the rated power output. They have a NEMA 5-15 three-prong plug and outlet and a European two-prong plug adapter and outlet. Operate on 50/60 Hz.

Power Output, VA	Ht.	Wd.	Dp.		
300	3″	4″	6″	70285K71	$81.82
500	3.8″	4″	6.5″	70285K72	106.36
1,000	5″	6″	9″	70285K73	180.00
2,000	6″	7.5″	9.3″	70285K74	310.91

For single-phase equipment, use this formula to find power output: **VA = Volts x Amps**
For three-phase equipment, use this formula to find power output: **VA = Volts x Amps x 1.73**

Intermittent-Use International-Voltage Transformers and Plug Adapters



Transformer Kit

Convert 220/240 VAC electricity to power 110/120 VAC devices or 110/120 VAC electricity to power 220/240 VAC foreign devices such as radios and battery chargers. These transformers do not convert frequency. All transformers have two-prong plugs and outlets.

Transformer kit has a higher power voltage transformer with a 25/1,875 watt selector switch. It's a solid state transformer and not for use with appliances that have electronic circuitry. Kit also includes a five-piece plug adapter assortment and a carrying case.

Plug adapter assortment is for use with devices that already have a transformer that can accept foreign voltages. Includes four adapters that allow you to use NEMA 1-15 two-prong plugs with foreign outlets.

	Watts		
European Plug to NEMA 1-15 Outlet, 50 Hz			
220/240 to 110/120 VAC Transformer	50	6968K33	$18.29
220 to 110 VAC Transformer Kit	25/1,875	6968K35	42.52
NEMA 1-15 Plug to European Outlet, 60 Hz			
110/120 to 220/240 VAC Transformer	50	6968K36	18.29
Plug Adapter Assortment		6968K44	14.67

Plug-In AC to DC and AC to AC Transformers

Power low-voltage devices from an outlet. Also known as AC adapters, these transformers have a NEMA 1-15 two-prong plug, except AC to AC transformer with 40 VA output, which have a NEMA 5-15 three-prong plug. Operate on 60 Hz. UL listed.

120 VAC Input to DC Output



Quickly connect to your device. Transformers have a 6-ft. cord with 2.1 mm ID/5.5 mm OD connector and are a great solution for replacing lost or broken transformers.

Choose a ***center-positive*** or ***center-negative*** output connector. Look for the illustrations below on the transformer you're replacing to determine whether it's center positive or center negative.



Voltage Output	Power Output	Center Positive		Center Negative	
With Cord					
4.5 VDC	1,500 mA	70235K13	$7.52	70235K26	$7.52
5 VDC	1,500 mA	70235K41	7.52	70235K27	7.52
6 VDC	1,250 mA	70235K46	7.52	70235K56	7.52
9 VDC	800 mA	70235K47	7.52	70235K57	7.52
9 VDC	1,300 mA	70235K48	9.18	70235K36	9.18
12 VDC	700 mA	70235K49	7.52	70235K59	7.52
12 VDC	1,000 mA	70235K96	9.18	70235K69	9.18
12 VDC	2,000 mA	70235K23	16.18	70235K19	16.18
15 VDC	1,600 mA	70235K98	16.18	70235K72	16.18
24 VDC	500 mA	70235K77	9.18	70235K78	9.18
24 VDC	1,000 mA	70235K99	16.18	70235K85	16.18

120 VAC Input to AC Output



With Cord

With Cord— Quickly connect to your device. They have a 6-ft. cord with 2.1 mm ID/5.5 mm OD connector and are a great solution for replacing lost or broken transformers.

With Screw Terminals— Hardwire to devices such as alarms and sensors. *40 VA* transformers have an LED status-indicating light and auto reset.



20 VA with Screw Terminals

Voltage Output	Power Output		
With Cord			
12 VAC	1,000 mA	70235K14	$19.47
16 VAC	400 mA	70235K24	16.60
24 VAC	750 mA	70235K25	14.46
With Screw Terminals			
12 VAC	20 VA	5600K31	9.58
16 VAC	20 VA	5600K32	9.58
16 VAC	40 VA	5600K19	12.92
24 VAC	20 VA	5600K33	9.58
24 VAC	40 VA	5600K18	12.92

Variable Voltage Output Transformers



Bench Top



Panel Mount



NEMA 5-15 NEMA 5-20 NEMA 6-15

Turn the dial to adjust the voltage you need within a given range. Also known as variacs, these transformers are often used in laboratories to vary power, heat, speed, or force. Operate on 50/60 Hz and are CSA certified, unless noted.

Bench Top— Have a ventilated steel case, power-on indicator, and 6-ft. power cord. Include a fuse.

Panel Mount— For permanent installation. They have screw terminal input/output connections, unless noted.

Voltage (VAC) Input	Output	Power Output, VA	Max. Amps	Ht.	Wd.	Dp.		
Bench Top with NEMA 5-15 Plug and Outlet								
120	0-120	1,440	12	7″	4.6″	5.5″	6994K24●	$524.93
120	0-132	330	2.5	5.3″	6.1″	4.1″	6994K11●	396.80
120	0-140	700	5	5.3″	6.1″	4.1″	6994K14★	426.77
120	0-140	1,400	10	7″	4.6″	5.5″	6994K17	451.57
120	0-140	2,100	15	9.4″	6.2″	6″	6994K21	827.70
Bench Top with NEMA 5-20 Plug and Outlet								
120	0-140	3,080	22	10.9″	8″	6.3″	6994K23★	1,182.13
Bench Top with NEMA 6-15 Plug and Outlet								
240	0-240	1,200	5	7″	4.6″	5.5″	6994K19●	620.00
240	0-280	980	3.5	7″	4.6″	5.5″	6994K18★	538.37
240	0-280	2,660	9.5	9.4″	6.2″	6″	6994K22★	827.70
Panel Mount								
120	0-120	210	1.75	3.3″	2.9″	1.9″	6994K31■	142.17
120	0-120	300	2.5	3.3″	2.9″	2.1″	6994K32■	147.52
120	0-120	360	3	3.3″	2.9″	2.4″	6994K33■	207.38
120	0-120	600	5	4.4″	3.8″	3″	6994K34■	249.07
120	0-120	1,200	10	5.6″	4.4″	4.2″	6994K35	302.52
120	0-120	1,440	12	5.6″	4.4″	4.2″	6994K39●	329.63
120	0-120	1,800	15	6.8″	6.1″	4.3″	6994K37	552.83
120	0-120	3,000	25	8.3″	7.6″	4.4″	6994K44	782.00
240	0-240	1,200	5	5.6″	4.4″	4.2″	6994K36●	401.97
240	0-240	2,280	9.5	6.8″	6.1″	4.6″	6994K38	552.83
240	0-280	980	3.5	5.6″	4.4″	4.2″	6994K42	394.73

●60 Hz only. ■ Connections are ¼″ quick-disconnect terminals.
★Not CSA certified.

AC to DC Transformers



Single Phase

Convert AC input voltage to a constant DC output voltage. These transformers, also known as DC power supplies, have screw terminal input/output connections. UL listed and CE approved.

Single-phase power input transformers have an input voltage of 100-240 VAC and include a mounting bracket. CSA certified.

Three-phase power input transformers have a three-phase input voltage of 360-550 VAC. C-UL listed. Transformers with 10-amps DC output mount to a 35 mm DIN rail; 20- or 40-amps DC output are screw mount.

	DC Output					
Volts	Amps	Watts	Ht.	Wd.	Dp.	
Single-Phase Power Input						
5	3	15	3.6″	1.6″	3.5″	7010K31 $78
5	7	35	3.6″	1.6″	3.5″	7010K32 82.22
5	10	50	3.6″	1.6″	3.9″	7010K33 94.35
5	20	100	3.6″	2″	5.9″	7010K34 109.17
12	1.3	15	3.6″	1.6″	3.5″	7010K35 72.78
12	3	35	3.6″	1.6″	3.5″	7010K36 82.22
12	4.2	50	3.6″	1.6″	3.9″	7010K37 94.35
12	8.5	100	3.6″	2″	5.9″	7010K38 109.17
15	1	15	3.6″	1.6″	3.5″	7010K41 72.78
24	0.65	15	3.6″	1.6″	3.5″	7010K44 72.78
24	1.5	35	3.6″	1.6″	3.5″	7010K45 82.22
24	2.1	50	3.6″	1.6″	3.9″	7010K46 94.35
24	4.5	100	3.6″	2″	5.9″	7010K47 109.17
24	5	120	4.5″	2.1″	5.9″	7010K71 282.54
24	10	240	5″	2.7″	8″	7010K72 372.85
24	20	480	8.2″	3.3″	9.2″	7010K73 496.98
Three-Phase Power Input						
24	10	240	5″	2.7″	7″	8242K31 368.26
24	20	480	8.2″	3.3″	8.9″	8242K33 434.84
24	40	960	9.5″	4.2″	10.6″	8242K35 699.44

Current-Limiting AC to Adjustable DC Transformers



Single Output Digital Display



Single Output Analog Display

Prevent damage to devices that try to draw too much power. Also known as DC power supplies, these transformers allow you to adjust and limit the DC output current and voltage. All have an on/off switch and 5-ft. cord with NEMA 5-15 three-prong plug. Output connections are binding posts for banana plugs. Operate on 115/230 VAC, 50/60 Hz.

Selectable Single Output— Transformer has a knob that lets you switch between 0 to 36 VDC and 0 to 18 VDC outputs.

Dual Output— Has two 0 to 30 VDC outputs and can be connected in series or parallel.

Wattage varies depending on your DC output voltage and amperage. To determine the power output required, use the following formula: Watts = Volts × Amps.

DC Output					
Volts	Amps	Ht.	Wd.	Dp.	
Single Output— *Digital Display*					
0-18	5	5.5″	6.5″	10.4″	**7686K25** $232.75
0-20	25	5.8″	19″	12.8″	**7686K41** 686.15
0-30	3	5.5″	6.5″	10.4″	**7686K24** 221.67
0-30	6	5.5″	12.1″	10.5″	**7686K27** 310.33
Single Output— *Analog Display*					
0-30	2	4.3″	8″	8.3″	**7686K21** 159.92
0-30	12	5.8″	19″	13.5″	**7686K28** 504.23
Selectable Single Output— *Analog Display*					
0-36/0-18	3.5/7	5.5″	12.1″	10.5″	**7686K26** 298.74
Dual Output— *Analog Display*					
0-30/0-30	3/3	5.5″	12.1″	10.5″	**7686K29** 305.46

DIN-Rail Mount AC to DC and DC to DC Transformers



Also known as DC power supplies, these transformers conveniently install on a 35 mm DIN rail. An overload protection feature decreases output voltage and automatically resets when the output current returns to the rated range. All have a green LED output indicating light and screw terminal input/output connections.

AC Input— Operate on 50/60 Hz. UL and C-UL listed and CE marked except single-phase 20-amp transformer, which is UL listed and CSA certified. *Single phase* have an input voltage of 100 to 240 VAC, unless noted. *Three phase* have an input voltage of 380 to 480 VAC.

DC Input— Input voltage is 12 to 24 VDC. UL recognized and CSA certified.

DC Output						
Volts	Amps	Watts	Ht.	Wd.	Dp.	
AC Input to DC Output— *Single-Phase Power Input*						
5	3	15	3.5″	0.9″	3.5″	**7009K31** $48.10
5	5	25	3″	1.8″	3.6″	**7009K21** 119.79
12	1.2	15	3.5″	0.9″	3.5″	**7009K32** 48.10
12	2.5	30	3.5″	1.3″	3.5″	**7009K33** 69.48
15	3.4	50	3″	1.8″	3.6″	**7009K19** 148.10
24	0.65	15	3.5″	0.9″	3.5″	**7009K34** 48.10
24	1.3	30	3.5″	1.3″	3.5″	**7009K35** 69.48
24	2.1	50	3″	1.8″	3.6″	**7009K16** 121.33
24	2.5	60	3.5″	1.3″	4.3″	**7009K36** 80.17
24	3.8	92	3″	2.9″	3.8″	**7009K17**★ 158.97
24	4.2	100	3″	2.9″	3.8″	**7009K18**★ 158.97
24	5	120	4.9″	1.6″	4.8″	**7009K81** 101.55
24	10	240	4.9″	2.4″	5.9″	**7009K82** 203.10
24	20	480	4.9″	3.4″	5″	**7009K11** 642.42
48	1.05	50	3″	1.8″	3.6″	**7009K22** 135.05
48	5	240	4.9″	3.3″	4.6″	**7009K12**★ 386.12
AC Input to DC Output— *Three-Phase Power Input*						
24	5	120	4.9″	2″	4.4″	**7009K51** 288.83
24	10	240	4.9″	2.4″	4.4″	**7009K52** 422.24
24	20	480	4.9″	2.6″	4.7″	**7009K53** 569.95
24	40	960	4.9″	7.1″	4.9″	**7009K54** 851.42
DC Input to DC Output— *Single-Phase Power Input*						
5	0.6	3	3″	1.5″	2.6″	**8139K21** 95.14
5	1.5	7.5	3″	1.5″	2.6″	**8139K22** 117.59
12	0.25	3	3″	1.5″	2.6″	**8139K23** 95.14
12	0.6	7.5	3″	1.5″	2.6″	**8139K24** 117.59
24	0.3	7.5	3″	1.5″	2.6″	**8139K28** 117.59

★ Input voltage automatically selects from 115/230 VAC.

AC to Adjustable DC Transformers



0-16 VDC



0-160 VDC

Adjust and monitor the power output of these transformers, also known as DC power supplies.

0 to 16-volt transformer has an analog voltmeter and ammeter for continuous monitoring of output voltage and current. Output connections are binding posts for banana plugs. It has an on/off switch and an 8-ft. cord with NEMA 5-15 three-prong plug. Operates on 117 VAC, 60 Hz.

0 to 160-volt transformer has an on/off switch, cooling fan, 10″ input cord with NEMA 5-15 three-prong plug, and 10″ output cord with NEMA 5-15 outlet. Operates on 120 VAC, 60 Hz.

Wattage varies depending on your DC output voltage. To determine the power output required, use the following formula: Watts = Volts × Amps.

DC Output						
Volts	Amps	Ht.	Wd.	Dp.		
0-16	5	10.8″	4.8″	6.5″	**6972K11**	$715.00
0-160	10	13″	13.8″	8″	**6974K11**	1,540.00

DC to AC Voltage Transformers



Compact



General Purpose (with Cigarette Lighter Plug)



For Motor Loads (with Cigarette Lighter Plug)



For Motor Loads (with Screw Terminals)



For Sensitive Electronic Loads

Use a DC battery to power devices that run on AC voltage. Also known as inverters or converters, these transformers provide overload protection and an output frequency of 60 Hz. All have a three-prong AC outlet.

Compact— Has a cigarette lighter plug input, input short circuit protection, low battery shutdown, and a USB charging port.

General Purpose— Good for portable computers and battery chargers. 6987K22 and *K35* have a cigarette lighter plug input. K22 also includes a battery cable with clips. 6987K29, *K42,* and *K23* have screw terminal input connections.

For Motor Loads— Provide AC power to devices that temporarily draw high output, such as motors. Transformers are designed to withstand starting surges up to twice the power output rating and they maintain a 60 Hz frequency, ±1 Hz (except 6987K91 is ±0.3 Hz). 76815K85 has a cigarette lighter plug input; 6987K91 has screw terminal input connections.

For Sensitive Electronic Loads— Produce AC output that most closely resembles clean, stable AC-generated power at 60 Hz. Transformers prevent damage from overloads, short circuits, and overheating. Input connections: 70555K11 has a cigarette lighter plug; *K13-K14* have 5/16″ stud terminals; and *K17* has wire leads.

Voltage		Power Output						
Input VDC	Output VAC	Watts	Amps	No. of Outlets	Ht.	Wd.	Dp.	
Compact								
10-15	110	150	1.4	1	1.8″	2.8″	5″	**4858T11** $32.89
General Purpose								
10-15	110	400	3.6	2	2″	4″	6.5″	**6987K22** 57.02
12	120	150	1.3	1	1.8″	3.8″	5.8″	**6987K35** 41.23
12	120	700	5.8	3	2.8″	5″	8.2″	**6987K29** 121.05
12	120	1,000	8.3	4	4.3″	6″	13″	**6987K42** 289.47
12	120	1,800	15	4	4″	6″	15″	**6987K23** 405.26
For Motor Loads								
11-15	115	320	2.8	2	2″	4.1″	6.1″	**76815K85** 76.15
12	120	1,250	10.4	2	7″	8.8″	9″	**6987K91** 378.95
For Sensitive Electronic Loads								
12	120	125	1.1	1	2.2″	4.9″	7.9″	**70555K11** 260.00
12	120	600	5.1	2	3.6″	7.7″	12.1″	**70555K13** 721.54
12	120	1,100	9.5	2	3.6″	7.7″	15″	**70555K14** 863.08
24	120	125	1.1	1	2.2″	4.9″	7.9″	**70555K17** 284.62

Single-Phase to Three-Phase Voltage Transformers



Also known as phase converters, these transformers generate three-phase 220 VAC output power from a single-phase 220 VAC input. Operate on 50/60 Hz.

(A) Light Load— Also known as static converters, they are often used for drill presses, mills, and grinders. They are designed to allow your motor to run at up to 70% of its normal power. All come with a terminal block for connections and are wall mountable.

Note: Select a transformer so the power output of your largest motor falls within the output range. When using multiple motors, start the largest motor first, then start smaller motors individually.

(B) High-Efficiency Light Load— Also known as rotary converters, these allow motors to run at 100% of their normal power. They include leads for hardwiring and are floor mountable.

Note: Select a transformer with a power output that exceeds but comes closest to the power requirement of your largest motor. When using multiple motors, start the largest motor first. Then start smaller motors individually until their total hp requirement is no more than twice the power output of the transformer.

(C) High-Efficiency Medium-to-Heavy Load— Similar to Style B, but they allow the total hp requirement of your motors to be three times the power output of the transformer. Used in gear head lathes and flywheel and hydraulic applications. All have leads for hardwiring and are floor mountable.

Power Output, hp	Lg.	Wd.	Ht.		
(A) Light Load					
0.25-0.5	6.5″	3″	7″	7331K21	$181.03
0.5-1	6.5″	3″	7″	7331K22	186.21
1-3	6.5″	3″	7″	7331K24	191.38
3-5	6.5″	3″	7″	7331K25	212.07
5-7.5	6.5″	3″	7″	7331K26	243.10
7.5-10	6.5″	3″	7″	7331K27	258.62
(B) High-Efficiency Light Load					
1	12″	10″	13″	7331K11	656.92
3	13″	11″	13″	7331K13	807.69
5	13″	11″	13″	7331K14	915.38
7.5	14″	12″	18″	7331K15	1,150.00
10	14″	12″	18″	7331K16	1,297.74
(C) High-Efficiency Medium-to-Heavy Load					
1	14″	19″	14″	7331K31	1,292.31
3	14″	19″	14″	7331K32	1,350.00
5	14″	19″	14″	7331K33	1,597.74
7.5	14″	19″	14″	7331K34	1,897.74
10	17″	21″	14″	7331K35	2,197.74

Uninterruptible Power Supplies



NEMA 5-15 NEMA 5-20

Protect sensitive and critical electronic equipment with uninterruptible power supplies (UPS). They provide the same protection as Backup Power Supplies but without any power loss when switching to battery power during an outage. These units handle input voltages from 65 to 138 VAC and provide constant output of 120 VAC (±2%). They also protect against frequency variation and waveform distortion.

Power supplies include a DB9 (serial) port and cable to save data and safely shut down an unattended computer during outages. They have six NEMA outlets. (70485K23 also has a L5-20 outlet.) Use on a desktop or mount in a 19″ wide electronics rack. Meet UL 1778. Choose a power output that is equal to or greater than the power your equipment requires.

Power Output, Volt-Amps/ Watts/Amps	*Run Time, minutes* Half Load	Full Load	Ht.	Wd.	Dp.		
With NEMA 5-15 Plug and Outlets							
1,000/ 800/ 8.3	14	4.5	3.5″	17.5″	13.5″	70485K21	$765.13
1,500/1,200/12.5	14	5	3.5″	17.5″	19″	70485K22	948.19
With NEMA 5-20 Plug and Outlets							
2,200/1,600/18.3	14	4.5	3.5″	17.5″	19″	70485K23	1,336.36

Backup Power Supplies



Low Profile



With Power Conditioning

Be ready for brownouts that could damage your equipment and blackouts that shut you down. These products transfer power to a built-in battery with only a momentary power loss during the transfer. They also protect against line noise and power surges. Power supplies include a USB port and cable (except 7530K21) to save data and safely shut down an unattended computer during outage. They have six NEMA 5-15 outlets and a cord with NEMA 5-15 three-prong plug, unless noted. Choose a power output equal to or greater than the power your equipment requires. You can determine your volt-amps requirement by multiplying the amp draw of your equipment by 120 VAC.

Standard— All of the outlets in 7530K36 and K37 have surge suppression; three have battery backup. 7530K36 and K37 also have an RJ-45 phone jack and they cannot be sold in California or Oregon.

Low Profile— All of the outlets in these compact units have surge protection. Three of the outlets in 7530K42 have battery backup as well as four of the outlets in 7530K43 and six of the outlets in K44. All units have an RJ-11 phone jack. 7530K42 cannot be sold in California or Oregon.

With Power Conditioning— During power dips and surges, these units raise or lower power to keep it at a normal level. There is no battery transfer time during a power dip. All of the outlets in 70475K11 and K12 have surge suppression; three have battery backup. 70475K11 has an RJ-11 phone jack. 70475K17 and K12 have an RJ-45 phone jack.

Power Output, Volt-Amps/ Watts/Amps	*Run Time, min.* Half Load	Full Load	Ht.	Wd.	Dp.		
Standard							
300/180/ 2.5	17	5	8.5″	4.2″	5.5″	7530K21♦	$112.70
500/280/ 4.2	15	4	8.5″	5.2″	7″	7530K36	165.93
700/425/ 5.8	11	3	10.8″	5.2″	7.5″	7530K37	170.20
1,400/940/11.7	24	8	12.8″	7.5″	9″	7530K26	555.07
Low Profile							
350/180/ 2.9	11	3	3″	8″	6.4″	7530K42	65.93
550/300/ 4.6	10	3.5	3.1″	10.8″	5.7″	7530K43●	88.93
750/450/ 6.3	11	2.5	3.1″	12.2″	6.9″	7530K44♠	126.50
With Power Conditioning							
300/180/ 2.5	27	10.5	8.5″	5.2″	7″	70475K17♦	191.22
550/300/ 4.6	15	4	8.5″	5″	6.5″	70475K11	129.97
750/450/ 6.3	11	3	10.8″	5.2″	7.5″	70475K12	156.25
1,050/705/ 8.8	23	7	11.5″	6.8″	7.2″	70475K19	429.33
1,400/940/11.7	24	8	12.8″	7.5″	9.2″	70475K14	608.22

♦Has three outlets. ●Has eight outlets. ♠Has 12 outlets.

Power Conditioners



General Purpose



Premium

NEMA 5-15 NEMA 5-20

Regulate power dips and surges to protect sensitive equipment. Power conditioners take AC power input and provide a constant output power level. They have NEMA 5-15 outlets and a cord with NEMA 5-15 three-prong plug. Choose a power output that is equal to or greater than the power your equipment requires. You can determine your volt-amp requirement by multiplying the amp draw of your equipment by 120 VAC.

General purpose and ***rack-mount*** units handle input voltages from 89 to 147 VAC and provide a constant output voltage of 120 VAC (±9%).

General purpose units have a 6-ft. cord. UL and C-UL listed, except 7596K56. ***Rack-mount*** unit fits in 19″ wide electronics racks. Cord is 12 ft. long.

Premium units handle input voltages from 96 to 132 VAC and provide a constant output voltage of 120 VAC (±5%). They also provide greater electromagnetic interference and line noise suppression. Cord is 6 ft. long. UL listed and CSA certified.

Power Output, Volt-Amps/ Watts/Amps	No. of Outlets	Ht.	Wd.	Dp.		
General Purpose						
600/ 600/ 5	6	5.5″	4.8″	4.8″	7596K54	$117.09
1,200/1,200/10	4	7.3″	6″	7″	7596K57	162.25
1,800/1,500/15	6	6.8″	5.8″	6.8″	7596K53	240.87
2,400/2,400/20	6★	6.8″	5.8″	6.8″	7596K56	326.18
Rack Mount						
2,400/2,400/20	14	5.3″	19″	5″	7596K77	404.80
Premium						
210/ 150/ 1.7	4	5.5″	6.8″	9.5″	7596K81	410.00
420/ 300/ 3.5	4	5.5″	6.8″	9.5″	7596K82	513.33
650/ 450/ 5.4	6	6.5″	8.5″	11.3″	7596K83	656.67
850/ 600/ 7	6	6.5″	8.5″	11.3″	7596K84	758.33

★Has four NEMA 5-15 and two NEMA 5-20 outlets.

About Safety Ratings for Electrical Testing

Choosing the right electrical testing equipment depends on where you will be using it and what level of voltage protection you need. Safety rating standards are set by the International Electrotechnical Commission (IEC). The closer you are to the utility power source, the higher the category (CAT) safety rating your testing equipment needs to have. As part of the safety rating, electrical testing equipment is also given a voltage rating.

The safety rating also takes into account the equipment's ability to resist a voltage spike, also known as transient overvoltage protection. These spikes from lightning or a power surge can damage your electrical equipment.

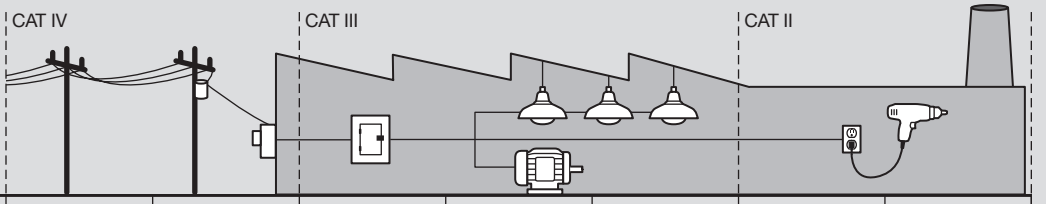

Safety Rating	CAT IV, 1,000V	CAT IV, 600V	CAT III, 1,000V	CAT III, 600V	CAT III, 300V	CAT II, 600V	CAT II, 300V
Transient Overvoltage Protection	12,000V	8,000V	8,000V	6,000V	4,000V	4,000V	2,500V
Applications	Three-phase power at utility connection • Outdoor overhead and underground cable runs • Electricity meters		Three-phase distribution panels and wiring • Commercial lighting systems • Feeder circuits • Permanently installed loads such as switchgears and three-phase motors			Single-phase loads plugged into electrical receptacles • Most 120V or 240V equipment inside a building • Appliances and portable tools	

Fluke Multimeters



Rely on the quality and durability of a Fluke multimeter when taking voltage, resistance, and other electrical measurements.

Multimeters with calibration certificate include a NIST-traceable document stating that they have passed a test for accuracy.

Average sensing multimeters take accurate AC measurements when testing equipment that has a linear load and draws current in a smooth sine wave, such as standard induction motors.

True RMS multimeters take accurate AC measurements regardless of the load type or sine wave shape. This is important for testing electronic devices that draw current in short pulses that can distort the shape of the wave, such as computers and adjustable-speed drives.

Display count is an industry designation and not an actual value. For example, a 1,000-count meter shows numbers up to 999. A higher display count means the meter can give a more precise measurement.

General Purpose Multimeters

Maximum resistance is 40 MΩ, except maximum resistance of Fluke 77IV is 50 MΩ, and Fluke 113 is 60 kΩ. Maximum capacitance is 9,999 µF, except Fluke 114 does not measure capacitance. Batteries are included. These multimeters are CSA certified to U.S. and Canadian standards.

Mfr. Model No.	Safety Rating	Max. AC/DC Voltage	DC Voltage Accuracy	Max. Current AC	Max. Current DC	Max. Frequency	Display Count	Includes	Meters		Meters with Calibration Certificate	
Average Sensing												
77IV	IV, 600V	1,000V	0.3%	10 A	10 A	100 kHz	6,000	Test Leads	7093K82	$319.99	7093K84	$408.72
True RMS												
113	III, 600V	600V	2%	—	—	1 kHz	6,000	Test Leads	7093K141	129.99	7093K142	211.11
114	III, 600V	600V	0.5%	—	—	—	6,000	Test Leads	7093K753	149.99	7093K754	231.11
115	III, 600V	600V	0.5%	10 A	10 A	50 kHz	6,000	Test Leads	7093K755	179.99	7093K756	261.11
116	III, 600V	600V	0.5%	600 µA	600 µA	100 kHz	6,000	Temp. Probe, Test Leads	7093K751	179.96	7093K752	261.11
117	III, 600V	600V	0.5%	10 A	10 A	100 kHz	6,000	Test Leads	7093K761	199.99	7093K762	281.11
117/323	III, 600V	600V	0.5%	400 A	10 A	100 kHz	6,000	Carrying Case, Fluke 323 Clamp Meter, Magnetic Hanger, Test Leads	7093K765	324.99	7093K766	465.69

High-Accuracy Multimeters

These Fluke multimeters provide results at least twice as accurate as general purpose Fluke multimeters. Maximum resistance is 50 MΩ. Maximum capacitance is 9,999 µF. Batteries are included. These multimeters are UL listed and CSA certified, except Fluke 83V, 87V, 87V/E2, and 87V/IMSK are CSA certified to U.S. and Canadian standards.

Mfr. Model No.	Safety Rating	Max. AC/DC Voltage	DC Voltage Accuracy	Max. Current AC	Max. Current DC	Max. Frequency	Display Count	Includes	Meters		Meters with Calibration Certificate	
Average Sensing												
83V	IV, 600V	1,000V	0.1%	10 A	10 A	200 kHz	6,000	Alligator Clips, Test Leads	7093K53	$399.99	7093K531	$529.28
88V	IV, 600V	1,000V	0.1%	10 A	10 A	200 kHz	20,000	High-Impact Holster, Test Leads	7093K143	499.99	7093K144	611.54
True RMS												
175	IV, 600V	1,000V	0.15%	10 A	10 A	100 kHz	6,000	Test Leads	7093K19	299.99	7093K191	388.72
177	IV, 600V	1,000V	0.09%	10 A	10 A	100 kHz	6,000	Test Leads	7093K22	329.99	7093K222	418.72
179	IV, 600V	1,000V	0.09%	10 A	10 A	100 kHz	6,000	Temp. Probe, Test Leads	7093K23	349.99	7093K231	438.72
87V	IV, 600V	1,000V	0.05%	10 A	10 A	200 kHz	20,000	Alligator Clips, Temp. Probe, Test Leads	7093K75	429.99	7093K551	560.55
87V/E2	IV, 600V	1,000V	0.05%	10 A	10 A	200 kHz	20,000	Alligator Clips, Carrying Case, Magnetic Hanger, Temp. Probe, Test Leads	7093K86	579.99	7093K651	685.20

(Continued on following page)

Fluke Multimeters *(Continued from previous page)*

Wireless Remote-Reading Multimeters

A wireless connection transmits electrical measurements from the multimeter to a separate display, so you can take measurements in hard-to-reach or potentially dangerous locations. Batteries are included. These multimeters are CSA certified to U.S. and Canadian standards.

Fluke 233 has a detachable display that communicates with the multimeter using built-in low-power wireless technology. Maximum resistance is 40 MΩ. Maximum capacitance is 9,999 µF.

Fluke 3000 FC uses built-in Bluetooth connectivity to transmit measurements to a computer with a Fluke pc3000 FC connector plugged in (sold separately, please see page 990) or to a mobile device that has the Fluke Connect app. The multimeter also receives measurements from Fluke Wireless Remote-Reading Clamp-On Current Meters and Fluke Wireless Remote-Reading Voltage Meters (see page 990). Maximum resistance is 50 MΩ. Maximum capacitance is 9,999 µF.

Mfr. Model No.	Safety Rating	Max. AC/DC Voltage	DC Voltage Accuracy	Max. AC/DC Current	Max. Frequency	Display Count	Includes	Meters		Meters with Calibration Certificate	
True RMS											
233	IV, 600V	1,000V	0.25%	10 A	50 kHz	6,000	Alligator Clips, Temp. Probe, Test Leads	7093K7	$349.99	7093K711	$409.56
3000 FC	IV, 600V	1,000V	0.09%	400 mA	100 kHz	6,000	Alligator Clips, Test Leads	7093K8	299.99		

Water-Resistant Multimeters

For taking electrical measurements in washdown environments, these multimeters have an IP67-rated housing. Maximum resistance is 50 MΩ. Maximum capacitance is 9,999 µF. Batteries are included. These multimeters are CSA certified to U.S. and Canadian standards.

Mfr. Model No.	Safety Rating	Max. AC/DC Voltage	DC Voltage Accuracy	Max. AC/DC Current	Max. Frequency	Display Count	Includes	Meters		Meters with Calibration Certificate	
Average Sensing											
27 II	IV, 600V	1,000V	0.1%	10 A	200 kHz	6,000	Alligator Clips, Test Leads	7093K1	$499.99	7093K111	$630.55
True RMS											
28 II	IV, 600V	1,000V	0.05%	10 A	200 kHz	6,000	Alligator Clips, Temp. Probe, Test Leads	7093K2	499.99	7093K211	630.55

Data-Logging Multimeters

Record measurements from electrical tests over time to identify intermittent issues such as voltage spikes and temporary power flow problems. Review data in real-time or save it for future analysis. To download and analyze data on a computer, software is required (please see page 990). Maximum resistance is 500 MΩ. Maximum capacitance is 100 mF. Batteries are included. These multimeters are CSA certified to U.S. and Canadian standards.

Mfr. Model No.	Safety Rating	Data Log Cap.	Max. AC/DC Voltage	DC Voltage Accuracy	Max. AC/DC Current	Max. Frequency	Display Count	Includes	Meters		Meters with Calibration Certificate	
True RMS												
287	IV, 600V	10,000	1,000V	0.025%	10 A	1,000 kHz	50,000	Alligator Clips, Test Leads	7093K77	$499.99	7093K78	$630.55
289	IV, 600V	15,000	1,000V	0.025%	10 A	1,000 kHz	50,000	Alligator Clips, Test Leads	7093K79	599.99	7093K83	736.93

Instrumentation Process Control Multimeters

With this combination loop calibrator and multimeter, check for current control loop issues in PLCs, motors, and fans in addition to taking other electrical measurements. When used as a loop calibrator, the current input as well as the percentage of the input scale is shown on the dual display, giving you quick diagnostic information. Maximum resistance is 40 MΩ. Batteries are included. These multimeters are CSA certified to U.S. and Canadian standards.

Mfr. Model No.	Safety Rating	Max. AC/DC Voltage	DC Voltage Accuracy	Max. AC/DC Current	Max. Frequency	Display Count	Includes	Meters		Meters with Calibration Certificate	
True RMS											
787	III, 1,000V	1,000V	0.1%	0.44 A	20 kHz	4,000	Alligator Clips, Test Leads	7093K89	$899.99	7093K61	$1,119.28
789	IV, 600V	1,000V	0.1%	0.44 A	20 kHz	4,000	Alligator Clips, Test Leads	7093K3	999.99	7093K311	1,188.86

Insulation Testing Multimeters

Check insulation quality in electrical equipment such as motors and power tools. Maximum capacitance of Fluke 1587 FC is 9,999 µF. Fluke 1577 does not measure capacitance. Batteries are included. These multimeters are CSA certified to U.S. and Canadian standards.

Mfr. Model No.	Safety Rating	Max. AC/DC Voltage	DC Voltage Accuracy	Max. AC/DC Current	Max. Resistance	Max. Frequency	Display Count	Includes	Meters	
True RMS										
1577	IV, 600V	1,000V	0.2%	400 mA	50 MΩ	—	6,000	Alligator Clips, Hard Case, Remote Probe, Test Leads	7093K69	$699.99
1587 FC	IV, 600V	1,000V	0.09%	400 mA	50 MΩ	100 kHz	6,000	Alligator Clips, Hard Case, Remote Probe, Temp. Probe, Test Leads	7093K68	799.99

Fluke Scopemeters



Perform electrical tests, record data, and see a graph of electrical waveforms with this combination multimeter and oscilloscope. Fluke scopemeters are known for quality and durability. This scopemeter includes alligator clips, a battery, battery charger, BNC adapter, probe tips, and test leads. It is CSA certified.

When used as an oscilloscope, the scopemeter is most accurate when the frequency is at least five times the maximum signal frequency you intend to measure. The multimeter function is true RMS, so it accurately takes AC measurements regardless of the load type or sine wave shape. This is important for testing electronic devices that draw current in short pulses that can distort the shape of the wave, such as computers and adjustable-speed drives.

This scopemeter has a display count of 5,000 and shows numbers up to 4,999. Display count is an industry designation and not an actual value.

To download and analyze data on a computer, software (sold separately) is required.

Mfr. Model No.	Safety Rating	No. of Digital Channels	Frequency	Max. AC/DC Voltage	DC Voltage Accuracy	Max. Resistance	Max. Frequency	Max. Capacitance	Data Log Cap.		
123B	IV, 600V	2	20 MHz	600V	0.5%	30 MΩ	20 MHz	500 µF	512	6587K41	$1,499.99
Software and Case (Includes Screen Protector, Magnet Hanging Kit; Compatible with Windows 10 and earlier)										6587K51	449.99
Replacement Test Leads										6587K52	149.99
Soft Case										71915K72	139.99

Fluke Wireless Remote-Reading Clamp-On Current Meters



Take current measurements from a distance with these high-quality, durable Fluke meters. They wirelessly transmit readings to a separate display. Because the jaws surround a cable, these meters are convenient for taking frequent measurements since you don't have to interrupt the circuit. The meters work with the Fluke 3000 FC multimeter, a computer with a Fluke pc3000 FC connector plugged in (see 7093K321 in Fluke Multimeter Accessories below), or a mobile device that has the Fluke Connect app. Batteries are included. Meters are CSA certified to U.S. and Canadian standards.

These true RMS multimeters take accurate AC measurements regardless of the load type or sine wave shape. This is important for testing electronic devices that draw current in short pulses that can distort the shape of the wave, such as computers and adjustable-speed drives.

Display count is an industry designation and not an actual value. For example, a 1,000-count meter shows numbers up to 999. A higher display count means the meter can give a more precise measurement.

Mfr. Model No.	Test End	Jaw Opening	Safety Rating	Max. AC Current	Data Log Cap.	Display Count	Includes		
a3000 FC	Current Clamp	1.33″	III, 600V	400A	65,000	1,000	_____	**7093K121**	$199.99
a3001 FC	Current Loop	10″	IV, 600V	2,500A	65,000	2,500	Magnetic Hanger	**7093K221**	249.99

Fluke Wireless Remote-Reading Voltage Meters



Measure voltage from a distance with these wireless connection-enabled meters that transmit readings to a separate display. Fluke is known for quality and durability. The meters work with the Fluke 3000 FC multimeter, a computer with a Fluke pc3000 FC connector plugged in (see 7093K321 in Fluke Multimeter Accessories below), or a mobile device that has the Fluke Connect app. Batteries are included. Meters are CSA certified to U.S. and Canadian standards.

These meters have a display count of 1,000 and show numbers up to 999. Display count is an industry designation and not an actual value.

True RMS meter takes accurate AC measurements regardless of the load type or sine wave shape. This is important for testing electronic devices that draw current in short pulses that can distort the shape of the wave, such as computers and adjustable-speed drives.

Mfr. Model No.	AC Calculation	Safety Rating	*Max. Voltage* AC	DC	Data Log Cap.	Includes		
v3000 FC	True RMS	IV, 600V	1,000V	_____	65,000	Alligator Clips, Magnetic Hanger, Test Leads	**7093K421**	$199.99
v3001 FC	_____	IV, 600V	_____	1,000V	65,000	Alligator Clips, Magnetic Hanger, Test Leads	**7093K621**	199.99

Fluke Multimeter Accessories

Computer connector works with the Fluke 3000 FC multimeter, Fluke Wireless Remote-Reading Clamp-On Current Meters, and Fluke Wireless Remote-Reading Voltage Meters.

Test lead kits include a set of red and black Fluke test leads with a variety of interchangeable tips. They're rated 1,000V AC/DC. The connection end is a 4 mm banana plug. *Fluke TLK-225* have a CAT IV, 600V safety rating; *Fluke TLK289* and *Fluke 220* have a CAT II, 1,000V safety rating.

Test lead sets include two leads. Each lead has a notched probe tip test end and a sheathed right-angle banana plug connection end. They're rated 1,000V AC/DC and are CSA certified to U.S. and Canadian standards. They have a CAT IV, 600V safety rating.

	Model No.		
Computer Connector with Windows 7 Software	pc3000 FC	**7093K321**	$99.99
Software for Windows 7 and earlier	FVF-SC2	**7093K14**	249.99
Test Lead Kit for 1A Current	TLK-225	**7093K44**	159.99
Test Lead Kit for 3A Current	TLK289	**7093K49**	159.99
Test Lead Kit for 10A Current	TL220	**7093K27**	79.99
Test Lead Sets for 289	FTPL-1	**7093K125**	109.99
Test Lead Sets for 113-117, 77IV, 175, 177, 179, 233, 287, 289	TL175	**7093K123**	29.99
Test Lead Sets for 27II, 28II, 114-117, 175, 177, 179, 83V, 87V, 88V, 233, 787, 789	TL71	**7093K124**	29.99
Test Lead Sets for 113, 175, 177, 179, 83V, 87V, 287, 289, 787, 789	TL75	**75085K98**	24.99
Temperature Test Sensor	80BK-A	**7093K13**	44.99
Temperature Test Sensor	80TK	**7093K51**	149.99
Pressure and Vacuum Test Sensor	PV350	**7093K67**	474.99
Probe Tip	TP1	**7053K61**	19.98
Fuse—11A, rated 1,000V AC/DC	DMM-B	**4398K2**	8.11
Fuse—15A, rated 1,000V AC/DC	DMM-B	**4398K3**	10.10
Fuse—44A/100A, rated 1,000V AC/DC	DMM-B	**4398K1**	8.11

Temperature test sensors have a temperature range of -40° to 500°F. *Fluke 80BK-A* is a temperature probe and works with Fluke multimeters that have a temperature function. It has 4 mm banana jack connection ends. *Fluke 80TK* is a thermocouple converter that adapts a Fluke multimeter without a temperature function to a thermometer using the included temperature probe. It has 4 mm banana plug connection ends.

Pressure and vacuum test sensor measures pressure from 0 to 500 psig and vacuum from 0 to 29.9″ Hg. It has 4 mm banana plug connection ends.

Probe tip has a needle tip test end and 4 mm banana jack connection end. Safety rating is CAT II, 1,000V.

	Model No.		
Magnetic Hanger for 77IV, 83V, 87V, 88V, 113-117, 175, 177, 179, 233, 287, 289, 789, 1577, 1587	TPAK	**7093K95**	$44.99
Fabric Case for 233, 287, 289	C116	**7093K87**	39.99
Fabric Case for 83, 87, 88V, 175, 177, 179, 787, 789, 1577, 1587	C25	**7093K91**	39.99
Fabric Case for 83V, 87V, 113, 233	C35	**7093K55**	24.99
Hard Case for 27II, 28II, 83V, 87V, 287, 1577, 1587, T5-600, T5-1000	C101	**7093K58**	69.99
Leather Case for 175, 177, 179, 787, 789	C510	**7093K11**	79.99
Leather Case for T5-600, T5-1000	C520A	**7053K15**	59.99
Weatherproof Hard Case for 114-117, 175, 177, 179, 787, 1577, 1587	CXT170	**7093K65**	199.99
Weatherproof Hard Case for 27II, 28II	CXT280	**7093K73**	199.99
Weatherproof Hard Case for 287, 289	CXT80	**7093K74**	199.99
Fabric Holster for T-600, T5-1000	H5	**7053K14**	34.99
Tool Bag for all Fluke Multimeters	C550	**7093K12**	99.99

Fluke Open-Jaw Multimeters



Run a cable through the open jaw to test current without interrupting the circuit. These multimeters are especially useful for high current measurements and include test leads to perform other electrical tests. Fluke multimeters are known for quality and durability. Batteries are included. Multimeters are CSA certified to U.S. and Canadian standards.

All are average sensing, so they take accurate AC measurements when testing equipment that has a linear load and draws current in a smooth sine wave, such as standard induction motors. These multimeters have a display count of 1,000 and show numbers up to 999. Display count is an industry designation and not an actual value.

Multimeters with calibration certificate include a NIST-traceable document stating that they have passed a test for accuracy.

Mfr. Model No.	Jaw Opening	Safety Rating	Max. AC/DC Voltage	DC Voltage Accuracy	Max. AC Current	Max. Resistance	Meters		Meters with Calibration Certificate	
T5-600	0.5″	III, 600V	600V	1%	100A	1,000Ω	**7053K31**	$119.99	**7053K71**	$212.71
T5-1000	0.5″	IV, 600V	1,000V	1%	100A	1,000Ω	**7053K32**	159.99	**7053K81**	252.71

Fluke Clamp-On Multimeters



Jaws surround a cable to test current without interrupting the circuit, making these high-quality, durable Fluke multimeters especially useful for testing high current. They include test leads to perform other electrical tests, a carrying case, and batteries. These multimeters are CSA certified to U.S. and Canadian standards. Maximum capacitance is 1,000 µF unless noted. Fluke 376 FC and 381 have a maximum frequency of 500 Hz; Fluke 355 has a maximum frequency of 1,000 Hz.

These true RMS multimeters take accurate AC measurements regardless of the load type or sine wave shape. This is important for testing electronic devices that draw current in short pulses that can distort the shape of the wave, such as computers and adjustable-speed drives.

Display count is 6,000 and shows numbers up to 5,999, except Fluke 355 has a display count of 10,000 and shows numbers up to 9,999. Display count is an industry designation and not an actual value. A higher display count means the multimeter can give a more precise measurement.

Multimeters with calibration certificate include a NIST-traceable document stating that they have passed a test for accuracy.

Mfr. Model No.	Safety Rating	Max. Voltage AC	Max. Voltage DC	DC Voltage Accuracy	Max. Current AC	Max. Current DC	Max. Resistance	Includes	Meters		Meters with Calibration Certificate	
1.18″ Jaw Opening												
324	IV, 300V	600V	600V	1%	400 A	—	4,000 Ω	Temp. Probe	75085K52	$199.99	75085K62	$370.44
1.3″ Jaw Opening												
373	IV, 300V	600V	600V	1%	600 A	—	6,000 Ω	—	75085K41	249.99	75085K71	369.98
374 FC	IV, 600V	1,000V	1,000V	1%	600 A	600 A	6,000 Ω	—	75085K35	376.50	75085K81	496.50
376 FC	IV, 600V	1,000V	1,000V	1%	2,500 A	999.9 A	60,000 Ω	Flexible Current Loop	75085K36	484.08	75085K44	599.98
1.34″ Jaw Opening												
381	IV, 600V	1,000V	1,000V	1%	2,500 A	999.9 A	60,000 Ω	Alligator Clips, Flexible Current Loop, Removable Wireless Display	75085K13★	549.99	75085K16★	669.98
2.3″ Jaw Opening												
355	IV, 600V	600V	1,000V	1%	2,000 A	2,000 A	400 kΩ	Alligator Clips, Test Probes	75085K11★	849.99	—	—

★ Does not measure capacitance.

Clamp-On Multimeters



Suitable for testing high current, these multimeters have jaws that surround a cable to test without interrupting the circuit. They include test leads to perform other electrical tests, a carrying case, and batteries. Multimeters with a 1.7″ jaw opening have a built-in infrared temperature sensor. Multimeters with 1″ and 1.5″ jaw opening, and the true RMS multimeter with 1.7″ jaw opening have a temperature probe. These multimeters are UL and C-UL listed, unless noted.

Average sensing multimeters take accurate AC measurements when testing equipment that has a linear load and draws current in a smooth sine wave, such as standard induction motors.

True RMS multimeters take accurate AC measurements regardless of the load type or sine wave shape. This is important for testing electronic devices that draw current in short pulses that can distort the shape of the wave, such as computers and adjustable-speed drives.

Display count is an industry designation and not an actual value. For example, a 6,000-count multimeter shows numbers up to 5,999. A higher display count means the multimeter can give a more precise measurement.

Jaw Opening	Safety Rating	Max. Voltage, AC/DC	DC Voltage Accuracy	Max. Current AC	Max. Current DC	Max. Resistance	Max. Frequency	Max. Capacitance	Display Count	Clamp-On Multimeters		Repl. Test Leads	
Average Sensing													
1″	III, 600V	600V	1%	600 A	—	40 MΩ	100 kHz	3,000 µF	4,000	7508K14	$129.95	7508K67	$19.95
1.06″	III, 600V	600V	1%	400 A	—	2,000 Ω	—	—	10,000	7508K61	134.40	7508K69	24.35
1.7″	III, 600V	600V	1.5%	1,000 A	—	40 MΩ	4 kHz	40,000 µF	4,000	7508K11	149.98	7508K66	10.79
True RMS													
1.18″	IV, 300V	600V	1%	600 A	600 A	60 kΩ	1,000 Hz	2,500 µF	6,000	7508K71	244.80	7420K44	31.18
1.5″	III, 600V	600V	1.5%	600 A	600 A	60 MΩ	10 kHz	4,000 µF	6,000	7508K13■	159.98	7508K66	10.79
1.7″	III, 600V	600V	1.5%	1,000 A	1,000 A	40 MΩ	4 kHz	40,000 µF	4,000	7508K12	219.98	7508K66	10.79
2″	IV, 600V	1,000V	0.8%	1,000 A	1,000 A	60 kΩ	1,000 Hz	2,500 µF	6,000	7508K73	326.40	7420K44	31.18

■ ETL and C-ETL listed.

Analog Clamp-On Multimeters



Measure rapidly changing electrical values more easily than with a digital multimeter. Convenient for taking frequent high current measurements, the meter has jaws that surround a cable to test current without interrupting the circuit. Use the included test leads to perform other electrical tests. Meter requires one AA battery (sold separately). It is ETL and C-ETL listed.

This multimeter is average sensing, so it takes accurate AC measurements when testing equipment that has a linear load and draws current in a smooth sine wave, such as standard induction motors.

Jaw Opening	Max. Voltage AC	Max. Voltage DC	DC Voltage Accuracy	Max. AC Current	Max. Resistance		
1.5″	600V	60V	4%	600 A	1,000 Ω	7615K57	$84.97

Line Splitters for Clamp-On Multimeters

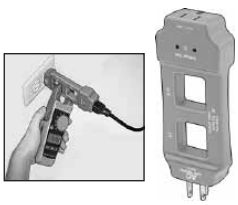

Determine how much current a device with a two- or three-wire power cord uses without pulling apart the wires. The splitter isolates hot and neutral wires so you can measure AC current in either wire with a clamp-on multimeter. It is UL and C-UL listed.

Safety Rating	Max. AC Current		
II, 600V	15 A	7575K83	$15.47

Multimeters



Take current, voltage, resistance, and other electrical measurements.

Average sensing multimeters take accurate AC measurements when testing equipment that has a linear load and draws current in a smooth sine wave, such as standard induction motors. **True RMS** multimeters take accurate AC measurements regardless of the load type or sine wave shape. This is important for testing electronic devices that draw current in short pulses that can distort the shape of the wave, such as computers and adjustable-speed drives.

Display count is an industry designation and not an actual value. For example, a 6,000-count multimeter shows numbers up to 5,999. A higher display count means the multimeter can give a more precise measurement.

General Purpose Multimeters

Batteries are included. These multimeters are UL and C-UL listed, unless noted.

Safety Rating	Max. Voltage AC	Max. Voltage DC	DC Voltage Accuracy	Max. AC/DC Current	Max. Resistance	Max. Frequency	Max. Capacitance	Display Count	Includes	Meters		Repl. Test Leads	
Average Sensing													
III, 300V	600V	600V	1%	200 mA	20 MΩ	—	—	2,000	Magnetic Hanger, Test Leads	7420K51	★ $64.95	7420K57	$19.95
III, 600V	600V	600V	0.5%	10 A	40 MΩ	40 MHz	200 µF	4,000	Temp. Probe, Test Leads	7420K47	56.98	—	—
III, 600V	600V	600V	0.8%	10 A	40 MΩ	10 MHz	100 µF	4,000	Test Leads	7613K11	★ 54.95	7508K67	19.95
III, 600V	600V	600V	0.5%	2 A	2,000 MΩ	—	—	2,000	Magnetic Hanger, Test Leads	7420K52	★ 74.95	7420K57	19.95
True RMS													
III, 600V	750V	1,000V	0.3%	20 A	20 MΩ	—	—	2,000	Temp. Probe, Test Leads, Velcro Hanging Strap	7420K32	72.55	6394K91	16.79
III, 600V	750V	1,000V	0.3%	20 A	40 MΩ	10 MHz	100 µF	4,000	Built-In Infrared Temp. Sensor, Temp. Probe, Test Leads, Velcro Hanging Strap	5189T11	145.15	7420K57	19.95
III, 600V	750V	1,000V	0.3%	20 A	40 MΩ	10 MHz	100 µF	4,000	Temp. Probe, Test Leads	7420K33	83.81	6394K91	16.79
III, 600V	750V	1,000V	0.5%	10 A	40 MΩ	1 MHz	4,000 µF	4,000	Alligator Clips, Magnetic Hanger, Temp. Probe, Test Leads	7420K53	149.95	7420K56	14.95
IV, 600V	750V	1,000V	0.25%	10 A	40 MΩ	10 MHz	400 µF	10,000	Alligator Clips, Magnetic Hanger, Temp. Probe, Test Leads	7420K54	■ 199.95	7420K56	14.95
IV, 600V	1,000V	1,000V	1%	10 A	40 MΩ	500 kHz	4,000 µF	4,000	Alligator Clips, Carrying Case, Temp. Probe, Test Leads	7420K25	▲ 127.42	7420K36	17.86

★ CSA certified to U.S. and Canadian standards. ■ CSA certified. ▲ ETL and C-ETL listed.

High-Accuracy Multimeters

For measurements at least twice as accurate as standard digital multimeters, choose these multimeters. Batteries are included. These multimeters are UL and C-UL listed.

Safety Rating	Max. Voltage AC	Max. Voltage DC	DC Voltage Accuracy	Max. AC/DC Current	Max. Resistance	Max. Frequency	Max. Capacitance	Display Count	Includes	Meters		Repl. Test Leads	
True RMS													
III, 600V	750V	1,000V	0.1%	10 A	40 MΩ	10 MHz	400 µF	10,000	Alligator Clips, Magnetic Hanger, Test Leads	7420K92	$179.95	7420K57	$19.95
IV, 600V	1,000V	1,000V	0.08%	10 A	50 MΩ	125 kHz	9,999 µF	5,000	Temp. Probe, Test Leads	7420K31	193.53	6394K91	16.79

Water-Resistant Multimeters

Perform electrical tests in washdown environments. Batteries are included. These multimeters have an IP67-rated housing. They are UL and C-UL listed, unless noted.

Safety Rating	Max. Voltage AC	Max. Voltage DC	DC Voltage Accuracy	Max. AC/DC Current	Max. Resistance	Max. Frequency	Max. Capacitance	Display Count	Includes	Meters		Repl. Test Leads	
Average Sensing													
IV, 600V	1,000V	1,000V	0.5%	10 A	40 MΩ	10 MHz	100 µF	4,000	Carrying Case, Magnetic Hanger, Test Leads	7420K42	$111.35	6394K91	$16.79
IV, 1,000V	1,000V	1,500V	0.1%	2 A	20 MΩ	—	—	2,000	Alligator Clips, Magnetic Hanger, Test Leads	7574K41	★ 229.95	7574K51	19.95
True RMS													
IV, 600V	1,000V	1,000V	0.06%	20 A	40 MΩ	100 MHz	40,000 µF	40,000	Carrying Case, Magnetic Hanger, Temp. Probe, Test Leads	7420K18	209.24	—	—

★ CSA certified to U.S. and Canadian standards.

Data-Logging Multimeters

Identify intermittent issues such as voltage spikes and temporary power flow problems—this multimeter records measurements from electrical tests over time. Review data in real-time or save it for future analysis. Batteries are included. Multimeter has an IP67-rated housing.

Safety Rating	Data Log Cap.	Max. AC/DC Voltage	DC Voltage Accuracy	Max. AC/DC Current	Max. Resistance	Max. Frequency	Max. Capacitance	Display Count	Includes	Meters		Repl. Test Leads	
True RMS													
IV, 600V	9,999	1,000V	0.06%	20 A	40 MΩ	100 MHz	40,000 µF	40,000	Carrying Case, Magnetic Hanger, Temp. Probe, Test Leads, Wireless PC Receiver	6394K11	$265.71	6394K91	$16.79

Pen-Style Multimeters



The smallest digital multimeter we offer. This meter is a portable and convenient way to perform various electrical tests. It includes alligator clips, carrying case, test leads, and batteries.

It is average sensing, so it takes accurate AC measurements when testing equipment that has a linear load and draws current in a smooth sine wave, such as standard induction motors.

This multimeter has a display count of 2,000 and shows numbers up to 1,999. Display count is an industry designation and not an actual value.

Safety Rating	Max. AC/DC Voltage	DC Voltage Accuracy	Max. Resistance		
III, 600V	600V	0.7%	20 MΩ	7573K1	$44.98

Electronic-Component Testing Meters



These meters manually adjust to the low ranges needed for testing electronic components such as circuit boards and diodes. Meters include alligator clips, test leads, and batteries.

These meters have a display count of 2,000 and show numbers up to 1,999. Display count is an industry designation and not an actual value.

Capacitance Range	Resistance Range	Inductance Range		
200 pF-20 mF	20 Ω-20 MΩ	———	7620K37	$119.95
200 pF-2,000 µF	20 Ω-20 MΩ	200 µH-200 H	7620K38	224.95
Replacement Test Leads			7420K57	19.95

Pocket-Size Multimeters



Perform a variety of electrical tests with a multimeter that fits in your pocket. These multimeters include a carrying case, test leads, and batteries. They are UL and C-UL listed.

These multimeters are average sensing, so they take accurate AC measurements when testing equipment that has a linear load and draws current in a smooth sine wave, such as standard induction motors.

Display count is an industry designation and not an actual value. For example, a 6,000-count multimeter shows numbers up to 5,999. A higher display count means the multimeter can give a more precise measurement.

Safety Rating	Max. AC/DC Voltage	DC Voltage Accuracy	Max. AC/DC Current	Max. Resistance	Max. Frequency	Max. Capacitance	Display Count		
II, 600V	500V	1.3%	400 mA	40 MΩ	10 MHz	200 µF	4,000	7613K81	$39.97
III, 300V	450V	1.2%	———	6 MΩ	0 MHz	100 µF	6,000	7613K1	45.72
III, 300V	600V	1.5%	2 mA	6 MΩ	30 kHz	2,000 µF	6,000	7613K9	68.89

Analog Multimeters



Measure rapidly changing electrical values with an analog display that shows the magnitude and rate of change more easily than a digital multimeter. These multimeters include test leads. **500V multimeter** requires one AA battery (sold separately). It is UL and C-UL listed. **1,000V multimeter** requires two AAA batteries (sold separately). It is ETL and C-ETL listed.

All are average sensing, so they take accurate AC measurements when testing equipment that has a linear load and draws current in a smooth sine wave, such as standard induction motors.

Safety Rating	Max. AC/DC Voltage	DC Voltage Accuracy	Max. DC Current	Max. Resistance	Meters		Repl. Test Leads	
II, 500V	500V	4%	250 mA	1 MΩ	7097K31	$16.99	7508K66	$10.79
II, 1,000V	1,000V	4%	10 A	10 MΩ	7097K33	43.63	———	———

Simpson Analog Multimeters



The analog display shows the magnitude and rate of change more easily than a digital multimeter when measuring rapidly changing electrical values. Simpson multimeters are known for their ruggedness and reliability. All meters include alligator clips, test leads, and batteries. **600V meters** also include a carrying case and are ETL and C-ETL listed.

Yellow meters and **1,000V black meter with overload protection** have an audible signal to indicate continuity.

These multimeters are average sensing, so they take accurate AC measurements when testing equipment that has a linear load and draws current in a smooth sine wave, such as standard induction motors.

Safety Rating	Max. AC/DC Voltage	DC Voltage Accuracy	Max. Current AC	Max. Current DC	Max. Resistance	Color	Meters		Meters with Overload Protection		Repl. Test Leads	
———	1,000V	2%	———	10 A	20 MΩ	Black	7250K11	$272.60	7250K15	$348.46	7250K21	$43.36
———	1,000V	2%	———	10 A	20 MΩ	Yellow	7250K13	310.25	7250K16	380.80	7250K25	47.93
III, 600V	600V	2%	10 A	10 A	200 MΩ	Black	7250K12	460.20	7250K14	528.77	7250K22	34.20
Black Carrying Case for 1000V Black Meter											7250K7	72.26
Yellow Carrying Case for 1000V Yellow Meter											7250K4	68.46

Motor Phase Sequence Testers



40-600V AC



110-600V AC

Incorrect motor rotation can be caused by a miswired connection from your motor to a three-phase electrical system. Use these testers to check the phase rotation (clockwise or counter-clockwise) of the motor and the electrical system to confirm proper wiring.

Testers include a carrying case and test leads. **40-600V tester** also includes alligator clips. Batteries are included. **110-600V tester** does not require batteries.

AC Voltage	Frequency	Safety Rating	Lead Lg.		
40-600V	2-400 Hz	CAT III, 600V	50″	7264K1	$149.97
110-600V	50/60 Hz	———	59″	7264K4	100.43

Receptacle Testers



GFCI Receptacle Tester



Duplex Receptacle and Tool Ground Continuity Tester

Plug these testers into electrical receptacles to confirm proper wiring. Light alerts on the testers indicate continuity or if there is an open circuit in the hot, neutral, or ground wires. Testers work on 120V AC receptacles.

Receptacle tester is ETL and C-ETL listed.

GFCI receptacle tester works on GFCI (ground fault circuit interrupter) receptacles in addition to standard receptacles. It is ETL and C-ETL listed.

Duplex receptacle and tool ground continuity tester checks wiring in duplex receptacles. It also checks a tool's ground continuity to see if it is safe to use—plug the tool and the tester into a duplex receptacle, then touch the insulated probe to the tool to confirm ground continuity.

Receptacle Tester	7018K15	$7.36
GFCI Receptacle Tester	7018K16	9.87
Duplex Receptacle and Tool Ground Continuity Tester	7018K14	79.78

Insulation Testers & Line Break Detectors

For information about electrical testing, see page 988.

Insulation Testers



Megger MIT310—With Digital Display



Megger MIT410—With Digital Display



With Digital Display



With Light Indicator Display



With Analog Display

Measure electrical resistance as an indication of insulation quality in equipment such as motors, generators, and switchgear. All testers come with a carrying case and test leads.

Digital displays show a numeric reading on an LCD. They include alligator clips, probe tips, and batteries. *Display count* is an industry designation and not an actual value. For example, a 1,000-count tester shows numbers up to 999. A higher display count means the tester can give a more precise measurement. **Megger digital** testers are rated IP54. *Megger MIT310* includes eight AA batteries. *Megger MIT410* includes six AA batteries.

Light indicator display has a scale with LEDs that light up to show the resistance as good, caution, or bad. Tester requires two C batteries (sold separately).

Analog display shows the magnitude and rate of change so you can see rapidly changing resistance values more easily than on a digital display. It includes a hanging strap and batteries.

Safety Rating	Max. Resistance	Resistance Accuracy	*Insulation Testing Selections* AC Voltage	DC Voltage	*Voltage* AC	DC	Mfr. Model No.	Display Count		
Megger Digital										
III, 600V	999 MΩ	3%	—	250, 500, 1,000V	0-600V	0-600V	MIT310	1,000	65765K11	$563.84
IV, 600V	200 GΩ	2%	—	50, 100, 250, 500, 1,000V	0-600V	0-600V	MIT410	1,000	65765K13	735.31
Digital										
IV, 600V	4,000 MΩ	4%	—	250, 500, 1,000V	0-600V	0-1,000V	—	4,000	7005K52	342.36
Light Indicator										
—	1,000 MΩ	1%	500V	—	—	—	—	—	7592K23	144.00
Analog										
III, 1,000V	400 MΩ	3%	—	250, 500, 1,000V	0-600V	—	—	—	7443K19	209.99

Hand-Crank Insulation Testers



Megger MJ159—2,000 MΩ



5,000 MΩ

Turn the crank to generate voltage and measure electrical resistance as an indication of insulation quality in equipment such as motors, generators, and switchgear. These testers have an analog display that works well for measuring rapidly changing resistance values because you can see the magnitude and rate of change more easily than on a digital display. Testers include alligator clips, a carrying case, probe tips, and test leads.

Safety Rating	Max. Resistance	Resistance Accuracy	DC Voltage Insulation Testing Selections	AC Voltage	Mfr. Model No.	Specifications Met		
II, 300V	2,000 MΩ	1.25%	100, 250, 500, 1,000V	0-600V	Megger MJ159	—	7229K11	$1,132.53
III, 300V	5,000 MΩ	2.5%	250, 500, 1,000V	0-600V	—	IP54	6576K11	694.17

Hand Tool Insulation Testers



Ensure proper insulation and ground wire continuity in new or repaired drills, circular saws, grinders, and other hand tools. Also known as a hi-pot tester, it checks the quality of a tool's insulation by applying voltage and measuring how much current leaks from the tool. Plug your tool into the tester's three-prong receptacle. The analog display works well for measuring rapidly changing values because you can see the magnitude and rate of change more easily than on a digital display.

The tester includes a calibration certificate with test data that is traceable to NIST and includes the test measurements that confirm the tester's accuracy. It's UL listed, UL 120K rated, and CSA certified.

Current Leak Detection	Accuracy	AC Voltage Insulation Testing Selections	Includes		
1-10 mA	3%	0-2,500V	Ground Clip, High-Voltage Probe	6991K42	$1,206.92

Line Break Detectors



Long-Reach Tip and Sheathed Alligator Clip



Probe Tip and Sheathed Alligator Clips



Test Leads with Replaceable Alligator Clips

Check continuity in circuits. If there are no line breaks, light or sound alerts signal continuity.

	Alert Type	Batteries Included	Batteries Size	Batteries No. Required	Detectors		Repl. Test Leads	
Long-Reach Tip and Sheathed Alligator Clip	Light	No	AAA	1	6984K71	$13.87	—	—
Probe Tip and Sheathed Alligator Clip	Light	Yes	AAA	2	7256K11	12.16	—	—
Test Leads with Replaceable Alligator Clips	Sound	No	9V	1	7411K38	44.93	7411K39	$10.55

Clamp-On Current Meters



Measure current without interrupting the circuit—jaws surround a cable for testing, making these meters convenient for taking frequent measurements. Meters include a carrying case and batteries.

These current meters are average sensing, so they take accurate AC measurements when testing equipment that has a linear load and draws current in a smooth sine wave, such as standard induction motors.

Display count is an industry designation and not an actual value. For example, a 2,000-count meter shows numbers up to 1,999. A higher display count means the meter can give a more precise measurement.

Jaw Opening	Safety Rating	Current Range AC	Current Range DC	Current Accuracy	Display Count		
1.25″	III, 300V	0-20, 0-200 A	—	2-3%	2,000	8264T11	$110.43
1.25″	III, 300V	0-40, 0-300 A	0-40, 0-300 A	1-4%	4,000	8264T12	298.74

Current Detectors



Check for the presence of AC current without making direct contact with a wire. The detector has light and sound alerts that indicate current when it is held near the electrical component. Batteries are included. Detector is UL and C-UL listed.

Safety Rating	AC Current		
CAT III, 600V	200 mA-1,000 A	8338T11	$33.98

Vibrating Voltage Testers



In addition to vibrating to confirm the presence of voltage, these testers have LEDs that light up to show an approximate voltage level. They include 28″ test leads. **5-600V tester** also includes batteries. **100-600V tester** does not require batteries. Testers are UL and C-UL listed.

Safety Rating	AC/DC Voltage	Testers		Repl. Test Leads	
III, 600V	5-600V	7258K24	$62.46	7258K35	$22.17
III, 600V	100-600V	7258K23	41.65	7258K35	22.17
Carrying Case				7258K34	23.54

Fluke Vibrating Voltage Testers



Detect voltage with three types of alerts for extra safety—light, sound, and vibration. There are LEDs that light up to show the approximate voltage level, and a digital LCD shows precise voltage measurements. Fluke testers are known for quality and durability. Tester includes 34″ test leads and batteries. It is UL and C-UL listed.

Safety Rating	Mfr. Model No.	Max. Resistance		
IV, 600V	T+Pro	10 kΩ	7053K16	$99.98
Holster (Mfr. Model No. H3)			7053K17	34.99
Carrying Case (Mfr. Model No. C520A)			7053K15	59.99

High-Voltage Detectors



Safely check for the presence of voltage in high-voltage equipment and lines. This noncontact detector checks for voltage by sensing electrostatic fields when brought near the electrical component. Light and sound alerts indicate voltage. Detectors include a carrying case and batteries.

For testing 1,500-122,000V AC, a hot stick (sold separately) is required. It attaches to the high-voltage detector to extend your reach and detect voltage from a distance.

AC Voltage	Detectors		Hot Sticks	
30-122,000V	7440K29	$241.39	7440K32	$160.32

Voltage Detectors



Long-Reach Tip—12-250V AC



Long-Reach Tip—6-50V DC



Test Leads with Sheathed Alligator Clips



Test Leads with Needle Tips



Noncontact—5-1,000V AC

Confirm that voltage is present in receptacles, cables, and other electrical components. The detectors have light or sound alerts to indicate voltage. Batteries are included, unless noted. **Long-reach tips, tests leads with sheathed alligator clips,** and **test leads with needle tips** must touch the electrical component you're testing to sense voltage. **Noncontact** detectors can sense voltage when brought near the electrical component.

Safety Rating	Voltage AC	Voltage DC	Mfr. Model No.	Alert Type	Specifications Met		
Long-Reach Tip							
III, 250V	12-250V	12-250V	—	Light	ETL Listed, C-ETL Listed	6982K81	$11.98
—	—	6-50V	—	Light, Sound	UL Listed, C-UL Listed	69595K94 ★	19.50
IV, 1,000V	90-1,000V	—	Fluke 1AC-II	Light, Sound	CSA Certified to U.S. and Canadian Standards	7053K51	29.95
IV, 1,000V	20-90V	—	Fluke 1LAC-II	Light, Sound	CSA Certified to U.S. and Canadian Standards	7053K52	29.95
Test Leads with Sheathed Alligator Clips							
I, 50V	5-50V	5-50V	—	Light	ETL Listed, C-ETL Listed	6982K51 ★	5.89
Test Leads with Needle Tips							
III, 600V	120-480V	160-600V	—	Light	CSA Certified	6982K71 ★	10.34
Noncontact							
IV, 1,000V	5-1,000V	—	—	Light, Sound	UL Listed, C-UL Listed	69595K92	23.95
IV, 1,000V	50-1,000V	—	—	Light, Sound	ETL Listed, C-ETL Listed	69595K93	21.75

★ Batteries are not required.

Oscilloscopes



The oscilloscope graphs electrical waveforms over time, allowing you to analyze signal transmission issues, voltage spikes, stray voltage, and other problems with electrical equipment. For the most accurate measurements, the oscilloscope's frequency should be at least five times the maximum signal frequency you intend to measure.

It includes a two-piece 10:1 probe set, Windows compatible PC software, and a USB cable.

No. of Digital Channels	Frequency	Real-Time Sample Rate	Rise Time	Vertical Sensitivity	AC/DC Voltage	DC Voltage Accuracy	Input AC Voltage	Safety Rating		
2	25 MHz	500 MSa/s	0 ns-14 ns	2 mV/div-10 V/div	0V-400V	3%	100V-240V	CAT I, 400V	6584K1	$479.81

Oscilloscopes for iPhone Smartphones and iPad Tablets



Your Apple iPhone smartphone or iPad tablet becomes a portable oscilloscope when you download the app and plug in this probe. The app graphs electrical waveforms over time so you can analyze signal transmission issues, voltage spikes, stray voltage, and other problems with electrical equipment. For the most accurate measurements, the oscilloscope's frequency should be at least five times the maximum signal frequency you intend to measure. Frequency range is 0-5 MHz.

They're compatible with current iPhone smartphones, iPad Air tablets, and iPad mini tablets with an 8-pin connection.

No. of Channels Analog	Digital	Real-Time Sample Rate	Rise Time	Vertical Sensitivity	AC/DC Voltage	DC Voltage Accuracy	Input AC Voltage		
2	4	50 MSa/s	0-20 ns	50 mV/div-2 V/div	-40 to 40V	3%	-40 to 40V	4228T15	$399.97

Circuit Tracers



High-Resolution Circuit Tracer

Locate cables behind walls, find short and open circuits, and identify circuit breakers. Connect the transmitter to an electrical receptacle or cable to send a signal to the receiver, which displays light and sound alerts as it identifies the path of the cable or the correct breaker. Batteries are included.

The receiver in the high-resolution circuit tracer has a thumbwheel for fine adjustments to sensitivity, making it able to detect the transmitter's signals from a greater distance than the receiver in the standard circuit tracer.

	For Max. Dp., ft.	AC/DC Voltage		
Circuit Tracer	3	0-300V	65815K63	$496.64
High-Resolution Circuit Tracer	13	9-300V	65815K67	1,117.96

Circuit Breaker Identifiers



120V AC



100-250V AC

Identify the circuit breaker connected to an electrical receptacle. The transmitter plugs into the receptacle and sends a signal through the cable to the receiver. Move the receiver over the breakers, and light and sound alerts indicate when you find the correct breaker. 120V identifier requires one 9V battery (sold separately); 100-250V identifier includes batteries. Identifiers are UL and C-UL listed.

Adapter kits trace breakers for light bulb sockets and switches.

AC Voltage	Identifiers		Adapter Kits	
120V	70195K41	$48.04	70195K42	$14.95
100-250V	70195K73	100.31	70195K74	17.85

BNC Adapters



Double Banana Plug × Sheathed BNC Jack



Stackable Double Banana Plug × BNC Plug



Stackable Double Binding Post with Banana Jack × BNC Jack

By converting a BNC connector to a double banana connector, you can perform electrical tests with a multimeter or other test equipment that accepts banana connectors. Test ends are nickel-plated brass.

Double banana plug × sheathed BNC jack adapter has a CAT III, 600V safety rating and is UL listed.

Hand-held voltage ratings are the maximum tested voltage for applications where you hold a cord connected to the adapter in your hands while testing. *Hands-free* voltage ratings are the maximum voltage the adapter is rated to withstand.

AC/DC Voltage Rating Hand-Held	Hands-Free	Lg.	Color		
Double Banana Plug × Sheathed BNC Jack					
600V/600V	600V/600V	2½″	Black and Red	6704K15	$32.24
Stackable Double Banana Plug × BNC Plug					
30V/60V	500V/500V	2″	Black	6704K12	16.27
Stackable Double Banana Plug × BNC Jack					
30V/60V	500V/500V	2″	Black	6704K11	10.42
Stackable Double Binding Post with Banana Jack × BNC Plug					
30V/60V	500V/500V	2½″	Black and Red	6704K14	19.76
Stackable Double Binding Post with Banana Jack × BNC Jack					
30V/60V	500V/500V	2½″	Black and Red	6704K13	17.44

Test Lead Adapters

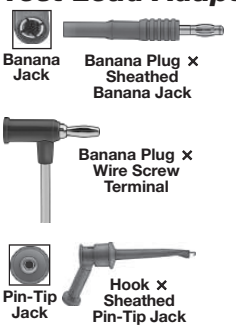

Banana Jack

Banana Plug × Sheathed Banana Jack

Banana Plug × Wire Screw Terminal

Pin-Tip Jack

Hook × Sheathed Pin-Tip Jack

Convert a test lead tip style to take a new electrical measurement without switching test leads. Test ends are nickel-plated brass, except hooks are gold-plated copper.

Banana jacks are 4 mm, the most common size used in electrical testing. The pin-tip jack is 2 mm, and attaches to test leads with 2 mm plugs, a size that is more commonly used for testing in tight spaces and in electronics applications, such as testing circuit boards.

Sheathed banana jack × sheathed banana jack and **banana plug × sheathed banana jack** adapters have a CAT III, 600V safety rating.

To Order: Please specify a color: black or red.

AC/DC Voltage Rating Hand-Held	Hands-Free	Current	Lg.		
Sheathed Banana Jack × Sheathed Banana Jack					
1,000V/1,000V	1,000V/1,000V	15A	2½″	6933K87	$5.58
Banana Plug × Sheathed Banana Jack					
42V/42V	1,000V/1,000V	15A	2½″	6933K86	4.47
Banana Plug × Wire Screw Terminal					
30V/60V	5,000V/5,000V	15A	1½″	6933K53★	2.56
Double Banana Plug × Wire Screw Terminal					
30V/60V	5,000V/5,000V	15A	1½″	6933K82■	4.13
Hook × Sheathed Banana Jack					
30V/60V	300V/300V	5A	2½″	6933K81	7.98
Hook × Sheathed Pin-Tip Jack					
30V/60V	300V/300V	5A	2½″	6933K47	10.08

★ For 0.12″ max. wire diameter. ■ For 0.22″ max. wire diameter.

Test Leads with Reel



Extend the distance between your multimeter and the equipment you're testing. AC/DC voltage is 1,000V. Current is 20A. One end of the test leads is a 4 mm banana plug, which is the standard for connecting to a multimeter. The other end is a 4 mm banana jack that attaches to test leads with 4 mm banana plugs.

Lg., ft.	Safety Rating	Black		Red	
40	CAT IV, 600V	5920T1	$77.94	5920T2	$77.94
164	CAT II, 1,000V	5920T5	222.73	5920T6	222.73

Test Lead Holders

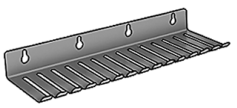

These wall-mount test lead holders are steel with an enamel-coated finish. Mounting hole diameter is 0.19″. Overall size is 11″ Lg. × 3½″ Wd.

No. of Slots	For Max. Cord Dia.	Color		
14	0.21″	Orange	6938K67	$14.98
10	0.32″	Black	6938K68	15.34
9	0.45″	Blue	6938K69	17.93

Test Leads

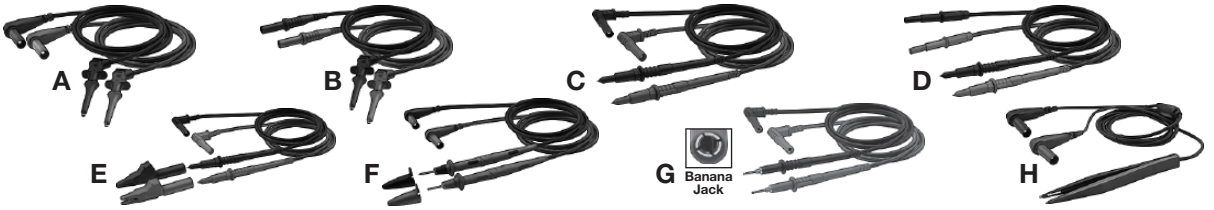

For use with portable electrical testers such as multimeters. All test leads have 4 mm sheathed banana plugs, except Style G has a 4 mm sheathed banana jack. **Banana plugs** attach to a multimeter. **Banana jack** attaches to test leads with 4 mm banana plugs.

Test Lead Sets

Each set is a pair of red and black test leads. **Style E** comes with alligator clips that screw onto the tips for two testing options with one test lead set.

		AC/DC Voltage	Current	Safety Rating	Cord Lg.		Pair
A	Precision Retractable Hook × Right-Angle Banana Plug	300V/300V	5A	II, 300V	48″	6929K11	$19.95
B	Precision Retractable Hook × Straight Banana Plug	300V/300V	5A	II, 300V	48″	6929K12	19.95
C	8-32 Threaded Needle Tip × Right-Angle Banana Plug	1,000V/1,000V	20A	III, 1,000V	49″	6929K82	14.46
D	8-32 Threaded Needle Tip × Straight Banana Plug	1,000V/1,000V	20A	III, 1,000V	49″	6929K93	16.00
D	8-32 Threaded Needle Tip × Straight Stackable Banana Plug	1,000V/1,000V	20A	III, 1,000V	49″	6929K73	13.97
E	8-32 Threaded Needle Tip with Alligator Clip × Right-Angle Banana Plug	1,000V/1,000V	20A	II, 300V	44″	6929K55	42.56
F	Notched Probe Tip × Right-Angle Banana Plug	1,000V/1,000V	10A	II, 1,000V	48″	6929K29	19.19
G	8-32 Notched Threaded Probe Tip × Right-Angle Banana Jack	1,000V/1,000V	20A	II, 1,000V	49″	6929K28	20.82
H	Precision Tweezer × Right-Angle Banana Plug	30V/60V	3A	—	48″	6927K28	37.21

Individual Test Leads

	AC/DC Voltage	Current	Safety Rating	Cord Lg.	Choose a Color		Each
Retractable Hook × Right-Angle Banana Plug	30V/30V	5A	—	49″	Black, Red	6927K37	$10.89
Retractable Hook × Straight Banana Plug	300V/300V	5A	II, 300V	48″	Black, Red	6927K38	12.19

Current-Sensing Test Leads

Measure current without interrupting the circuit by connecting these test leads to a multimeter or current meter. They step down the sensed current to a level that works with a meter—the signal reduction ratio is the factor by which they reduce current. The connection end is a 4 mm banana plug, which is the standard for connecting to a multimeter or current meter. Test leads include one black and one red cord.

Fluke i400 AC current clamp has a signal reduction ratio of 1 mA/A. It has a CAT IV, 600V safety rating and is CSA certified to U.S. and Canadian standards.

AC current clamp has a signal reduction ratio of 1 mA/A.

AC/DC current clamp has a signal reduction ration of 1 mV/A. It has a CAT III, 300V safety rating.

AC current loop has a signal reduction ration of 10 mV/A for the 5-300A range and 1 mV/A for the 50-3,000A range. It has a CAT IV, 600V safety rating.



	For Max. Cord Dia.	Current AC	Current DC	Current Accuracy	AC Voltage	Frequency Range	Jaw/Loop Opening	Cord Lg.		
Fluke i400 AC Current Clamp	1.25″	1-400A	—	2%	1,000V	5 Hz-20 kHz	1.25″	59″	7575K66	$159.99
AC Current Clamp	0.5″	2-150A	—	4.5%	250V	45 Hz-1 kHz	0.78″	60″	7575K67	165.62
AC/DC Current Clamp	1.22″	0-1,000A	0-1,000A	1%	300V	0 Hz-10 kHz	1.25″	59″	65775K79	199.95
AC Current Loop	—	5-3,000A	—	1%	1,000V	40 Hz-5 kHz	7.6″	78″	7575K81	349.03

BNC Test Cords

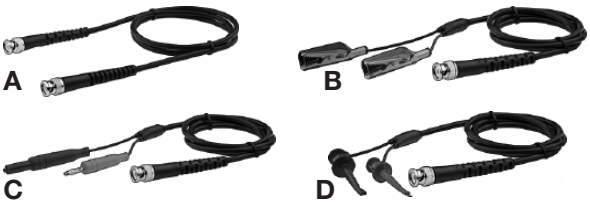

Connect oscilloscopes and other bench-top testers. Color is black.

Banana plug connection ends hook up to multimeters and other equipment with banana jacks.

Hand-held voltage ratings are the maximum tested voltage for applications where you hold the cord in your hands while testing. The *hands-free* voltage ratings are the maximum voltage the cord is rated to withstand.

Voltage Rating Hand-Held	Hands-Free	Choose a Length		
(A) BNC Plug × BNC Plug				
30V AC/60V DC	500V AC/500V DC	36″, 48″, 60″	6936K61	$21.72
(B) BNC Plug × Two Sleeved Alligator Clips				
30V AC/60V DC	150V AC	36″, 60″	6936K62	30.13
(C) BNC Plug × Two Sheathed Retractable Banana Plugs				
30V AC/60V DC	500V AC/500V DC	36″, 60″	6936K63	31.40
(D) BNC Plug × Two Retractable Hooks				
30V AC/60V DC	300V AC	24″, 36″	6934K73	30.37

Test Lead Wire

This stranded test lead wire is tinned copper.

Retracting wire extends from 1-ft. to 5-ft. and has neoprene rubber insulation.

Straight wire is 50-ft. long and has EPDM rubber insulation. It is UL recognized.

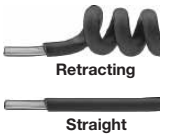

	Wire Ga.	Current	AC/DC Voltage	Black		Red	
Retracting	20	4A	1,000V	7058K24	$16.26	7058K22	$16.20
Straight	18	16A	5,000V	7058K32	26.55	7058K34	26.55

Oscilloscope Test Lead Kits

Connect to an oscilloscope with these test leads and a variety of interchangeable tips.

All kits include a 59″ cable with a max. DC input of 600V, a 6″ ground lead, a BNC adapter, an insulating tip, an integrated circuit (IC) tip, a probe head, a spring hook, and a trimmer tool, unless noted.



Frequency, MHz	Attenuation	Input Resistance, MΩ	Max. Capacitance, pF		
0-25	1:1	1	60	7598K54★	$32.50
0-15/0-60	1:1/1:10	1/10	65/11	7598K57■	36.25
0-10/0-100	1:1/1:10	1/10	75/11	7598K56■	43.75
0-100	1:10	10	10	7598K55	39.38
0-100	1:100	10	5	7598K58▲	51.88

★ Trimmer tool not included. ■ Switch selectable. ▲78″ cable.

Test Leads & Patch Cords

Build-Your-Own Test Leads

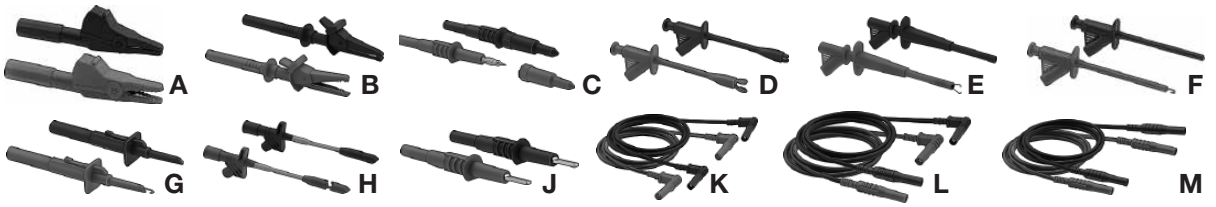

Choose your own combination of test lead cords and tips.

Tip test ends are nickel-plated brass, unless noted. Each pair comes with one black and one red tip. *Styles A, B, C, G*, and *J* are UL listed and CSA certified. *Style B* tip comes with a fuse.

Cords are 47″ long and have 4 mm sheathed banana plugs, which is the standard for connecting to a multimeter. Each pair comes with one black and one red cord. They are UL listed and CSA certified.

Tips

		Current	Safety Rating		Pair
300V AC/DC					
A	Alligator Clip	10A	II, 300V	6571K82	$9.37
1,000V AC/DC					
A	Alligator Clip	30A	III, 1,000V	6571K63	9.58
B	Fused Alligator Clip	500mA	III, 1,000V	6571K72	37.80
C	Pointed Banana Plug	30A	III, 1,000V	6571K61	8.00
D	Retractable Grabber	10A	III, 1,000V	6571K65	31.91
E	Precision Retractable Grabber	10A	III, 1,000V	6571K67★	29.78
F	Retractable Hook	10A	III, 1,000V	6571K66★	23.33
G	Precision Retractable Hook	20A	III, 1,000V	6571K76	8.53
H	Retractable Insulation Piercing Grabber	5A	III, 1,000V	6571K68■	54.98
J	Socket Test Adapter	20A	II, 1,000V	6571K71	12.00

★ Test end is nickel-plated copper. ■ Test end is stainless steel.

Cords

		Current	Safety Rating		Pair
1,000V AC/DC					
K	Right-Angle Banana Plug× Right-Angle Banana Plug	20A	III, 1,000V	6571K53	$13.99
L	Banana Plug× Right-Angle Banana Plug	20A	III, 1,000V	6571K52	13.55
M	Banana Plug× Banana Plug	20A	III, 1,000V	6571K51	15.13

Kits—All come in a storage pouch

Includes Tip Styles A (10 amps), C, E, and Cord Style L	6571K42	$72.41
Includes Tip Styles A (30 amps), C, G, J, and Cord Styles K, M	6571K77	77.04
Includes Tip Styles A (30 amps), C, E, H, and Cord Style L	6571K44	98.00
Includes Tip Styles A (30 amps), C, D, E, G, and Cord Style L	6571K45	120.31

Patch Cords



Hook up electrical testing equipment and create test circuits. **Banana plug** connection ends hook up to multimeters and other equipment with banana jacks. **Style G** has a CAT III, 1,000V safety rating.

Hand-held voltage ratings are the maximum tested voltage for applications where you hold the cord in your hands while testing. *Hands-free* voltage ratings are the maximum voltage the cord is rated to withstand.

		Voltage Rating					
	Connection Ends	Hand-Held	Hands-Free	Current	Choose a Length		
Black Cord							
A	Stackable Double Banana Plug× Stackable Double Banana Plug	30V AC/60V DC	1,400V AC	—	24″, 36″, 48″, 60″	6927K95	$25.61
B	Stackable Double Banana Plug× Two Retractable Hooks	30V AC/60V DC	300V AC/300V DC	5A	24″, 36″, 48″, 60″	6927K96	25.59
C	Tweezer×Two Stackable Banana Plugs	30V AC/60V DC	—	3A	48″	6927K27	37.21
Choose-a-Color Cord—Black or Red							
D	Cross Stackable Banana Plug× Cross Stackable Banana Plug	30V AC/60V DC	5,000V DC	15A	12″, 24″, 36″	6927K98	9.73
D	Stackable Banana Plug×Stackable Banana Plug	30V AC/60V DC	5,000V DC	15A	12″, 24″, 36″, 48″, 60″, 72″	6927K41	6.37
D	Stackable Banana Plug×Stackable Probe Tip	30V AC/60V DC	3,000V DC	5A	12″, 24″, 36″, 48″	6927K46	9.92
E	Sleeved Alligator Clip×Sleeved Alligator Clip	30V AC/60V DC	150V AC/150V DC	5A	12″, 24″, 36″, 48″, 60″	6927K43	7.29
F	Sleeved Alligator Clip×Stackable Banana Plug	30V AC/60V DC	150V AC/150V DC	5A	12″, 24″, 36″, 48″, 60″	6927K42	7.85
G	Sheathed Stackable Banana Plug× Sheathed Stackable Banana Plug	1,000V AC	1,000V AC	10A	48″	6927K51	18.60
H	Retractable Hook×Stackable Banana Plug	30V AC/60V DC	300V AC/300V DC	5A	12″, 24″, 36″, 48″, 60″	6934K72	8.13
J	Retractable Hook×Retractable Hook	30V AC/60V DC	300V AC/300V DC	5A	12″, 24″, 36″, 48″, 60″	6934K71	6.08
K	Sleeved Alligator Clip×Spade Terminal	30V AC/60V DC	150V AC	5A	36″	6927K44	11.44

Electrical Contact Cleaners



Less harsh than general purpose electrical cleaners, these aerosols are suitable for the delicate contacts in electronics and printed circuit boards. They remove oil, grease, dust, and oxides. Color is clear.

NSF K2-rated cleaners can be used in food-processing environments. The 16 oz. nonflammable NSF K2-rated cleaner also lubricates.

	Propellant Type	Dielectric Strength	Solvent Power, Kb	Temp., °F	Net Wt.		1-11	12-Up
Flammable	CO_2	63,000V	27	32° to 120°	13.5 oz.	7437K49	$12.17	$10.35
Flammable	CO_2, HFC-152a	44,000V	50	32° to 120°	10 oz.	7437K48	11.74	9.98
Nonflammable	HFC-134A	17,000V	26	32° to 120°	12 oz.	7437K77	16.18	13.75
Nonflammable	HFC-134A	17,000V	38	32° to 120°	12 oz.	7437K52	39.86	33.88
Nonflammable NSF K2 rated	CO_2	36,700V	129	-40° to 450°	16 oz.	7437K15	14.31	11.88
Nonflammable NSF K2 rated	HFC-134A	19,000V	56	-20° to 400°	12 oz.	7437K81	43.64	37.06

Alligator Clips

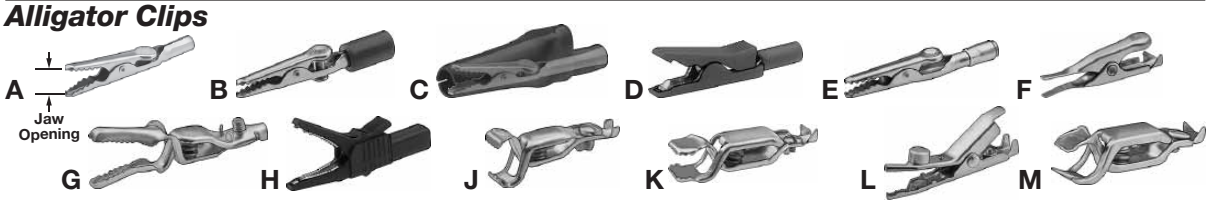

Spring-loaded clips create a secure temporary electrical connection for hands-free testing. Clips are toothed, unless noted. **304 stainless steel** clips are corrosion resistant. **Copper** and **silver** clips conduct electricity better than 304 stainless steel.

Flat alligator clips create a more secure connection than clips with standard alligator jaws. **Pipe clips**, also known as geophone clips, have rounded jaws that clamp onto battery terminal lugs and other curved surfaces.

Clips with banana jack connection ends are compatible with banana plugs, retractable banana plugs, and sheathed banana plugs, except Style B is not compatible with sheathed banana plugs.

	Connection Style	For Wire Ga.	Insulation Style	Jaw Opening	Clip Material	Amps	Lg.	Clips		Optional Insulation Sleeves Black	Optional Insulation Sleeves Red	
Alligator Clips												
A	2 mm Probe Jack	____	Noninsulated	5/16"	Steel	10	1 31/32"	7236K97	$0.64	7236K262	7236K261	$0.26
A	4 mm Banana Jack, Crimp	20-14	Noninsulated	5/16"	304 SS	10	1 31/32"	7236K62★	.98	7236K262	7236K261	.26
A	4 mm Banana Jack, Crimp	20-14	Noninsulated	5/16"	Copper	10	1 31/32"	7236K31■	.98	7236K262	7236K261	.26
A	4 mm Banana Jack, Crimp	20-14	Noninsulated	5/16"	Copper	10	1 31/32"	7236K54★	.88	7236K262	7236K261	.26
A	4 mm Banana Jack, Crimp	20-14	Noninsulated	5/16"	Steel	10	1 31/32"	7236K24■	.50	7236K262	7236K261	.26
A	4 mm Banana Jack, Crimp	20-14	Noninsulated	5/16"	Steel	10	1 31/32"	7236K85★	.36	7236K262	7236K261	.26
A	Crimp, Screw-Down	20-16	Noninsulated	5/16"	Copper	10	1 11/16"	7236K56	.76	7236K552	7236K551	.36
A	Crimp, Screw-Down	20-16	Noninsulated	5/16"	Steel	5	1 11/16"	7236K55	.58	7236K552	7236K551	.36
A	Crimp, Solder	20-14	Noninsulated	5/16"	Copper	10	2"	7236K92	1.36	7236K262	7236K261	.26
B	4 mm Banana Jack, Crimp	20-14	Black Barrel	5/16"	Copper	10	2 11/32"	7236K37■	1.20	____	____	____
B	4 mm Banana Jack, Crimp	20-14	Black Barrel	5/16"	Steel	10	2 11/32"	7236K252■	.92	____	____	____
B	4 mm Banana Jack, Crimp	20-14	Red Barrel	5/16"	Copper	10	2 11/32"	7236K32■	1.20	____	____	____
B	4 mm Banana Jack, Crimp	20-14	Red Barrel	5/16"	Steel	10	2 11/32"	7236K251■	.92	____	____	____
C	4 mm Banana Jack	____	Black Sleeve	1/4"	304 SS	10	2 3/32"	7236K88	1.36	____	____	____
C	4 mm Banana Jack	____	Black Sleeve	5/16"	Copper	10	2 1/4"	7236K98	1.54	____	____	____
C	4 mm Banana Jack	____	Red Sleeve	1/4"	304 SS	10	2 3/32"	7236K89	1.36	____	____	____
C	4 mm Banana Jack	____	Red Sleeve	5/16"	Copper	10	2 1/4"	7236K99	1.54	____	____	____
C	4 mm Banana Jack, Crimp	20-14	Black Sleeve	5/16"	Steel	10	2 1/4"	7236K36■	1.12	____	____	____
C	4 mm Banana Jack, Crimp	20-14	Red Sleeve	5/16"	Steel	10	2 1/4"	7236K33■	1.12	____	____	____
D	2 mm Banana Jack, Probe Jack	____	Black Molded	1/4"	Steel	10	1 5/8"	7236K93	3.44	____	____	____
D	2 mm Banana Jack, Probe Jack	____	Red Molded	1/4"	Steel	10	1 5/8"	7236K94	3.44	____	____	____
D	4 mm Banana Jack	____	Black Molded	7/16"	Steel	10	1 29/32"	7236K95	1.96	____	____	____
D	4 mm Banana Jack	____	Red Molded	7/16"	Steel	10	1 29/32"	7236K96	1.96	____	____	____
E	6-32 Threaded Receptacle	____	Noninsulated	3/16"	Steel	5	1 1/2"	7236K53	.64	7236K522	7236K521	.26
E	8-32 Threaded Receptacle	____	Noninsulated	5/16"	Steel	10	2 1/8"	7236K86	.72	7236K262	7236K261	.26
E	4 mm Banana Jack, Crimp	24-18	Noninsulated	3/16"	Steel	5	1 1/4"	7236K52★	.30	7236K522	7236K521	.26
E	Crimp, Solder	24-22	Noninsulated	3/16"	Copper	5	1 3/32"	7236K29	.44	7236K382	7236K381	.24
E	Crimp, Solder	24-22	Noninsulated	3/16"	Steel	5	1 3/32"	7236K28	.30	7236K382	7236K381	.24
F	Crimp, Solder	24-20	Noninsulated	0.22"	Copper	5	1 3/32"	7236K51▲	.72	7236K412	7236K411	.24
F	Crimp, Solder	24-20	Noninsulated	0.22"	Steel	5	1 3/32"	7236K27▲	.54	7236K412	7236K411	.24
F	Crimp, Solder	24-20	Noninsulated	1/4"	Copper	5	1 3/32"	7236K91▲	.70	7236K412	7236K411	.24
G	Crimp, Screw-Down	20-14	Noninsulated	5/16"	Copper	10	2 1/8"	7236K57	1.32	7236K722	7236K721	.42
G	Crimp, Screw-Down	20-14	Noninsulated	5/16"	Steel	5	2 1/8"	7236K87	.68	7236K722	7236K721	.42
H	4 mm Banana Jack	____	Black Molded	3/4"	Steel	30	3 9/32"	7236K71	5.22	____	____	____
H	4 mm Banana Jack	____	Red Molded	3/4"	Steel	30	3 9/32"	7236K72	5.22	____	____	____
Flat Alligator Clips												
J	Crimp, Screw-Down	22-16	Noninsulated	5/16"	Copper	10	1 17/32"	7236K58	.98	7236K162	7236K161	.28
J	Crimp, Screw-Down	22-16	Noninsulated	5/16"	Steel	5	1 17/32"	7236K41	.72	7236K162	7236K161	.28
J	Crimp, Screw-Down	20-14	Noninsulated	7/16"	Steel	10	2"	7236K991	.72	7236K172	7236K171	.64
J	Crimp, Screw-Down	20-14	Noninsulated	1/2"	Steel	10	2"	7236K12	.90	7236K172	7236K171	.64
K	Crimp, Screw-Down	____	Noninsulated	1/2"	Copper	20	2"	7236K59	1.16	7236K172	7236K171	.64
K	Crimp, Screw-Down	20-16	Noninsulated	5/8"	Copper	40	2 13/32"	7236K75	2.04	7236K182	7236K181	.70
K	Crimp, Screw-Down	16-12	Noninsulated	5/8"	Copper	40	2 7/16"	7236K61	1.64	7236K182	7236K181	.70
K	Crimp, Screw-Down	16-12	Noninsulated	5/8"	Steel	20	2 7/16"	7236K13	.86	7236K182	7236K181	.70
K	Crimp, Screw-Down	14-10	Noninsulated	3/4"	Copper	75	3"	7236K63	2.98	7236K192	7236K191	1.06
K	Crimp, Screw-Down	14-10	Noninsulated	3/4"	Steel	25	2 27/32"	7236K14	1.43	7236K192	7236K191	1.06
K	Crimp, Screw-Down	14-10	Noninsulated	3/4"	Steel	40	3"	7236K84	1.20	7236K192	7236K191	1.06
K	Crimp, Screw-Down	12-8	Noninsulated	1 1/16"	304 SS	50	4 3/32"	7236K73	9.90	7236K212	7236K211	1.44
K	Crimp, Screw-Down	12-8	Noninsulated	1 1/16"	Copper	100	4 1/8"	7236K64▲	7.50	7236K212	7236K211	1.44
K	Crimp, Screw-Down	12-8	Noninsulated	1 1/16"	Steel	50	4 1/8"	7236K15▲	2.50	7236K212	7236K211	1.44
K	Crimp, Solder	1-300 MCM	Noninsulated	1 13/16"	Copper	300	7 3/4"	7236K76	28.28	7236K77	7236K78	8.30
K	Solder	12-8	Noninsulated	1 1/16"	Copper	100	4 5/16"	7236K74	10.34	7236K212	7236K211	1.44
Insulation Piercing Alligator Clips												
L	Crimp, Screw-Down	14-10	Noninsulated	1"	Silver	5	2 5/8"	6133T13	8.04	6133T152	6133T151	1.15
Pipe Clips												
M	Crimp, Screw-Down	____	Noninsulated	1/2"	Copper	40	2 13/32"	1342N41♣	1.70	7236K182	7236K181	.70

★ Also has solder connection. ■ Also has screw-down connections. ▲ Clip is toothless. ♣ For 5/8" pipe OD and 3/8 pipe size; clip is toothless.

Air Dusters

Clean hard-to-reach and tight spaces with a burst of air. Air dusters are nonflammable.

Refillable can comes empty and must be filled from an air supply. It has a Schrader valve. It is a nonaerosol spray. **Replaceable can** comes with a CO_2 cylinder and a reusable nozzle that screws onto the cylinder to adjust air flow from a puff to a high-pressure burst. It is an aerosol spray. **Any-angle** dusters are aerosol and work even when upside down.

	Net Wt.	Air Pressure		1-11	12-Up
Disposable—Any-Angle	8 oz.	80 psi	7437K35	$13.65	$11.60
Disposable—Upright	10 oz.	86 psi	7437K34	13.70	11.63
Refillable Can—Any-Angle	____	200 psi	7437K86	85.82	78.67
Replaceable Can—Upright	2.6 oz.	350 psi	8431K13	69.67	59.71
Replacement Cylinder			8431K22	15.44	13.11

Analog Panel Monitors



Style	Monitor Size Ht.	Wd.	Dp.	For Panel Cutout Dia.	Dp.
Acrylic Window					
1	1.76″	1.75″	1.82″	1.55″	1.41″
2	2.47″	2.47″	2.33″	2.22″	1.85″
3	3.25″	3.25″	2.54″	2.79″	1.92″
Glass Window					
1	1.75″	1.75″	1.81″	1.56″	1.43″
2	2.38″	2.38″	2.68″	2.22″	2.17″
3	3″	3″	2.56″	2.83″	2.05″

Observe rapidly changing electrical values in equipment such as motors and generators with an analog display that shows the magnitude and rate of change more easily than a digital display. Monitors have screw terminal wire connections and four 4-40 threaded mounting studs. Accuracy is ±2%. They are UL recognized.

AC current and **voltage** monitors have a frequency range of 25-125 Hz with a 60 Hz calibration, unless noted.

0-100A AC current monitors include a 100:5 current transformer.

0-100A DC current monitors include a 100A shunt.

Monitors with **electromagnetic interference (EMI) resistance** are shielded to prevent interference and maintain accuracy when mounted on a magnetic panel.

Style	Measuring Range	Ohms	Acrylic Window		Glass Window	
AC Current						
2	0-50A	0.001	7107K123	$98.29	7107K221	$98.43
2	0-100A	0.008	7107K124	154.33	7107K222	155.19
3	0-3A	0.025	7107K511★	100.14	_____	_____
3	0-3A	0.028	_____	_____	7107K962	100.41
3	0-5A	0.008	7107K49★	100.19	7107K972	101.05
3	0-10A	0.004	7107K51★	100.47	7107K612	100.66
3	0-15A	0.0025	7107K52★	100.86	7107K982	100.74
3	0-50A	0.001	7107K53★	103.45	7107K622	103.33
3	0-100A	0.008	7107K7	159.19	7107K119	160.07
DC Current with EMI Resistance						
1	0-25mA	4	7107K514	106.59	7107K83	104.69
1	0-5A	0.01	7107K515	106.45	7107K75	105.41
3	0-25mA	4	7107K516	110.86	7107K84	110.48
3	0-50mA	2	7107K517	110.86	7107K86	110.47
3	0-5A	0.01	7107K318	110.90	7107K76	110.52
3	0-10A	0.005	7107K35	110.88	7107K37	110.52
3	0-30A	0.0017	7107K36	110.88	7107K77	110.52
3	0-50A	0.001	7107K39	110.88	7107K38	110.52
3	0-100A	10	7107K15	177.69	7107K8	177.33
AC Voltage with EMI Resistance						
2	0-150V	25,000	7107K113	102.98	7107K311	104.22
2	0-300V	50,000	7107K512	102.60	7107K312	102.98
3	0-50V	3,333	7107K513	106.45	7107K314	106.74
3	0-150V	25,000	7107K117	110.40	7107K315	109.81
3	0-300V	50,000	7107K118	110.03	7107K316	109.43
DC Voltage with EMI Resistance						
1	0-10V	1,000	7107K319	108.48	7107K71	108.81
1	0-15V	1,000	7107K321	108.41	7107K12	108.76
1	0-30V	1,000	7107K322	108.43	7107K13	108.76
1	0-100V	1,000	7107K323	108.38	7107K73	108.76
3	0-10V	1,000	7107K18	111.67	7107K72	111.57
3	0-15V	1,000	7107K21	111.52	7107K31	111.52
3	0-30V	1,000	7107K23	111.52	7107K32	111.50
3	0-100V	1,000	7107K25	111.88	7107K324	111.50
3	0-150V	1,000	7107K27	111.52	7107K33	111.50

★ Frequency range is 25-40 Hz with a 60 Hz calibration.

Current Indicating Rings



With Red Light



With Wire Leads

Run current-carrying wires through these rings to monitor AC current flow.

Ring with a red light illuminates to indicate power.

Rings with wire leads can monitor current from up to 200 ft. away when you attach a remote light (not included) that illuminates when current is present. They are UL and C-UL recognized.

AC Current	For Max. Wire Dia.	Wire Leads Ga.	Lg.		
With Red Light					
2 to100A	0.31″	—	—	6570K5	$14.48
With Wire Leads					
2 to100A	0.29″	22	12″	6570K6	11.77
2.5 to100A	0.55″	20	24″	6570K9	46.80
Remote Light for Rings with Wire Leads				6570K7	7.50
Mounting Bracket for Rings with Red Light				6570K8	2.64
Mounting Bracket for Rings with Wire Leads				6570K11	4.21

Panel Monitors



See how much electricity motors, generators, and other electrical equipment use. The high-visibility digital screen displays electrical measurements with more accuracy than an analog panel monitor. Monitors have screw terminal connections. Temperature range is 32° to 131° F, unless noted.

Monitors for 1/8 DIN Cutout Size—They fit a 1.77" Ht. x 3.62" Wd. panel cutout. Operate on 120V AC at 50/60 Hz. *0-600V AC* monitor has a 0.1X to 4X scaling range.

Monitors for 3/64 DIN Cutout Size—They fit a 0.88" Ht. x 2.68" Wd. panel cutout. Operate on 85-250V at 40-440 Hz. *Voltage* and *current* monitors have a 0.5X to 2X scaling range, unless noted.

Monitors with a scaling range can be adjusted to compensate for measurements that are outside the monitor's set measuring range.

Measuring Range	Accuracy	For 1/8 DIN Cutout Size		For 3/64 DIN Cutout Size	
AC Current					
0-5A	±0.5% +5 counts	_____	_____	8339T1▲	$176.37
0-5A	±1% ±5 counts	7681K81	$196.55	_____	_____
DC Current					
0-2mA	±0.1% ±1 count	7681K77	149.37	8339T11	127.95
0-20mA	±0.1% ±1 count	7681K78	149.37	8339T12	127.95
0-200mA	±0.1% ±1 count	7681K79	149.37	8339T13	127.98
0-2A	±0.1% ±1 count	_____	_____	8339T3	127.95
0-2A	2A ± 5 counts	7681K82	149.40	_____	_____
AC Voltage					
0-200V	±0.5% +5 counts	_____	_____	8339T8	176.37
0-200V	±1% ±5 counts	7681K51	194.82	_____	_____
0-600V	±0.2% ±1 count	7681K53■	260.48	_____	_____
DC Voltage					
0-2V	±0.1% ±1 count	7681K61	147.82	8339T9	127.95
0-20V	±0.1% ±1 count	7681K62	147.82	8339T5	127.95
0-200V	±0.1% ±1 count	7681K63	147.82	8339T6	127.95
0-200mV	±0.1% ±1 count	7681K59	147.82	8339T4	127.95
Frequency					
20-200 Hz	±0.2% ±0.2 Hz	7681K83	153.22	_____	_____
20-200 Hz	±0.2% ±2 Hz	_____	_____	8339T7	129.67

▲ Scaling range is 0.2X-2X. ■ Temp. range is 32° to 122° F.

Current Relays



Prevent AC current overload in equipment such as motors and heaters. These relays sense current flowing through wires routed through the opening. If the current exceeds a set trip point, the relay trips and starts the adjustable delay timer. After the timer's cycle, the relay cuts power to the equipment to protect against overload. Once current drops below the trip point, the relay allows power to flow again to the equipment. The delay timer can be adjusted from 0.5 to 6 seconds.

Relays are SPDT (single pole, double throw) and have a resistive load of 10A @ 240V AC. They have 1/4" quick-disconnect terminals and operate on 120V AC. Maximum wire diameter is 0.5". Relays have two 0.19" diameter mounting holes. All are UL recognized; relays with a 1-10A trip range and above are also C-UL recognized.

To determine the current trip range for more than one wire, divide the listed trip range by the number of wires passed through the opening.

Current Trip Range		
0.1-1A	65795K69	$141.67
1-10A	65795K71	87.94
3-30A	65795K72	87.94
6-60A	65795K73	87.94
10-100A	65795K74	87.94

Voltage and Current Meters



Estimate energy costs, and monitor and measure energy consumption. This single-phase meter has a one second sampling interval. It operates on 120V AC at 60 Hz. It has a receptacle connection and a 6-ft. power cord with a three-prong plug.

This meter is true RMS for accurate AC measurements. It is UL and C-UL listed.

AC Voltage Range	Accuracy	Current Range	Accuracy		
100-250V	1.5%	0-15A	1.5%	7382K11	$118.18

Voltage and Current Loggers

Record data over time to monitor energy consumption and troubleshoot intermittent problems such as voltage spikes. These loggers connect to a computer with a USB port to download data for later analysis. They are compatible with Windows 8 and earlier. Software and USB cord are included, unless otherwise stated. Loggers are single-phase. Set the sampling interval to determine how often the logger takes measurements.

True RMS loggers take more accurate AC measurements than other loggers.

AC voltage/current logger includes test leads with alligator clips, a clamp-on probe with 1.1″ jaw opening, and a carrying case. Software and a USB cord and a 9V battery are required.

AC voltage/current/wattage loggers have a receptacle connection and include a 6-ft. power cord with a 3-prong plug. 7382K13 includes a switching relay. They are UL and C-UL listed.

AC/DC voltage and **DC voltage** loggers have a CAT IV, 300V safety rating. They include test leads with alligator clips and batteries.


AC Voltage/ Current


AC Voltage/ Current/ Wattage


AC/DC Voltage

Data Log Cap.	Voltage	Voltage Accuracy	Current Range	Current Accuracy	Sampling Interval	Loggers		Software	
AC Voltage/Current									
10,750	0 to 500V	1V	0 to 300A	5%	1 sec. to 18 hrs.	6395K71	$173.13	3440K54	$65.00
AC Voltage/Current/Wattage—True RMS									
32,000	100 to 250V	1.5%	0 to 15A	1.5%	1 sec. to 24 hrs.	7382K12	163.55		
120,000	100 to 250V	1.5%	0 to 15A	1.5%	1 sec. to 24 hrs.	7382K13	275.28		
AC/DC Voltage—True RMS									
240,000	0 to 600V/0 to 600V	0.5%/0.5%			125 ms to 24 hrs.	6395K26	379.00		
DC Voltage									
240,000	-850 to 850V	0.5%			125 ms to 24 hrs.	6395K36	379.00		

Replacement Contacts for High-Current Relays


General Electric Kit

Replace worn contacts instead of replacing the entire relay.

To Order: Please specify NEMA size (00, 0, 1, 1¾, 1-1P, 2, 2½, 3, 3½, 4, or 5) and number of contacts.

Allen Bradley: Series 500	8064K811
Allen Bradley: Series K	8064K812
Cutler Hammer: Series A1	8064K813
Cutler Hammer: Series B1	8064K814
Furnas: 45 Series, Innova Series	8064K815
General Electric: 100 Series, 200 Series, 300 Series	8064K816
Square D: Class 9998	8064K817
Westinghouse: A200 Series, N Series, NF Series	8064K818

DIN-Rail Mount Voltage Conditioners for Electrical Monitors



Step down high AC voltage and create an output signal that can be used by panel monitors and other electrical measuring equipment. Conditioners operate on 24V DC and have screw terminal wire connections. They mount to DIN rail with two 0.14″ dia. mounting holes. Size is 2.2″ Ht.×1.42″ Wd.×3.27″ Dp. Temperature range is 32° to 140° F. They have a CAT II, 600V safety rating and are UL and C-UL recognized.

These conditioners have true RMS sensing capability for accurate readings of the AC input voltage.

Output	Choose an AC Input Voltage		
4-20 mA	0-150V, 0-250V, 0-500V	6853T22	$253.67
0-5V DC	0-150V, 0-250V, 0-500V	6853T21	229.53

Current Conditioners for Electrical Monitors

Reduce high current flows to levels that work with panel monitors and other electrical measuring equipment.

Feed-Through and Hinged Conditioners with Screw Terminals

These conditioners have two 0.19″ diameter mounting holes. Housing is plastic. Temperature range is 0° to 120° F. They are UL and C-UL listed.

Hinged conditioners open so you can run a wire through them without cutting the power.


Feed-Through


Hinged

ID	Input AC Current	24V DC Powered 4-20 mA Output		Self-Powered 0-5V DC Output		Self-Powered 0-10V DC Output	
Feed-Through—2.18″ Ht.×3.5″ Wd.×0.93″ Dp.							
0.74″	0-2A, 0-5A	6583K41	$153.06				
0.74″	0-10A, 0-20A, 0-50A	6583K42	142.86	6583K22	$99.74	6583K32	$99.74
0.74″	0-100A, 0-150A, 0-200A	6583K43	142.86	6583K23	99.74	6583K33	99.74
Hinged—2.25″ Ht.×3.53″ Wd.×1.19″ Dp.							
0.85″	0-2A, 0-5A	6583K44	183.67				
0.85″	0-10A, 0-20A, 0-50A	6583K45	173.47	6583K25	132.65	6583K35	132.65
0.85″	0-100A, 0-150A, 0-200A	6583K46	173.47	6583K26	132.65	6583K36	132.65

Feed-Through Conditioners with Wire Leads

These conditioners work with AC current. Temperature range is 0° to 165° F. They are UL and C-UL recognized.



ID	Current Input:Output	Self-Powered 0-5 A Output		ID	Current Input:Output	Self-Powered 0-5 A Output	
2.46″ Ht.×1.05″ Wd.				**4.7″ Ht.×1.1″ Wd.**			
1.13″	50:5	65795K79	$17.54	2.5″	500:5	65795K91	$69.60
1.13″	80:5	65795K81	17.54	2.5″	750:5	65795K92	88.44
1.13″	100:5	65795K82	17.54	2.5″	1,000:5	65795K93	88.44
1.13″	150:5	65795K84	17.54	2.5″	1,200:5	65795K94	94.76
1.13″	200:5	65795K85	17.54	2.5″	1,500:5	65795K95	94.76
1.13″	300:5	65795K87	17.54				

DIN-Rail Mount Feed-Through Conditioners with Screw Terminals

These conditioners have true RMS sensing capability for accurate readings of the AC input current. Ready to mount on DIN rail, they have two 0.14″ diameter mounting holes. Housing is plastic. Temperature range is 32° to 140° F. They have a CAT II, 600V safety rating and are UL and C-UL recognized.

To Order: Please specify an AC current input range: 0-10A, 0-20A, 0-50A, or 0-100A.



ID	Output	Ht.	Wd.	Dp.	24V DC Powered	
0.79″	4-20 mA	2.99″	1.42″	3.27″	6733T12	$253.92
0.79″	0-5V DC	2.99″	1.42″	3.27″	6733T11	229.53

Electrical Monitor Calibrators



Selectable



Fully Variable

Check the accuracy of digital and analog electrical monitors by providing a known current level. Calibrators include a 9-volt battery, connector cable with spade terminals, and carrying case.

Selectable calibrator has three possible current outputs: 4 mA, 12 mA, and 20 mA. There are LEDs that light up to show which output you've selected. It has a low-battery indicator.

Fully variable calibrator allows you to select any output between 0 and 24 mA. The digital LCD shows the current output level. The calibrator also provides a 24V DC power supply to measure loop currents and check for control loop issues. It includes an AC adapter.

Max. Circuit Resistance	Output Current Accuracy		
Selectable			
240 Ω	0.1 mA	7057K49	$109.99
Fully Variable			
1,000 Ω	0.075%	7057K69	269.99

Remote Displays for Pressure Transmitters



Monitor pressure from a distance. These displays switch between five input current and voltage signals, so you can use them with different pressure transmitters. Input signals are 0-20 mA, 4-20 mA, 1-5V, 0-5V, and 0-10V. The displays save settings even when power is turned off. To prevent tampering, they have a lockout feature that requires a password to modify settings.

Rated NEMA 4X for protection from washdowns, displays have a gasketed front panel. They fit a 1/8 DIN panel cutout (1.77″ Ht.×3.62″ Wd.) and have a 6-digit, dual line red-LED display that shows numbers from -99,999 to 999,999. They have screw terminal electrical connections. Accuracy is 0.03%. Temperature range is -40° to 149° F. They are UL and C-UL listed.

Display with two SPDT (single pole, double throw) relays can be used in process-control systems. Relay current is 3A @120/240V AC. Display includes an alarm LED indicator.

Input AC Voltage	Transmitter Power Supply	Display		Display with Two SPDT Relays	
85-265V	24V DC	38445K21	$467.19	38445K22	$537.50

Handle-Mount Commutator Resurfacers


With Adjustable-Angle Handle


With Fixed-Angle Handle

Without taking a motor out of service, reach motor commutators to remove ridges, surface contaminants, and other imperfections. These resurfacers can also be used to prepare commutators for new carbon brushes. Handles are wood. Stones are nonreplaceable.

Adjustable-angle handles insert into the knob grip at one of two 45° angles or in the vertical position.

Fixed-angle handles have a 45° angle.

To Order: Please specify grit: 46 (coarse), 90 (medium), 120 (fine), 220 (polished).

Stone Size Lg.	Wd.	Thick.	Handle Lg.		
With Adjustable-Angle Handle					
2″	1½″	2″	8¾″	7286K53	$51.26
2″	2″	2″	8¾″	7286K54	68.37
With Fixed-Angle Handle					
2″	1½″	2″	10″	7286K51	51.26
2″	2″	2″	10″	7286K52	68.37
With Fixed-Straight Handle					
2″	1½″	2″	10″	7286K58	51.44
2″	2″	2″	10″	7286K59	68.60

Motor Cleaners

Keep electric motors and generators working efficiently by removing dirt, oil, and grease. These nonflammable aerosol sprays are clear.

NSF K2-rated cleaner can be used in food-processing environments.

Net Wt.	Dielectric Strength	Solvent Power	Specifications Met		1-11	12-Up
19 oz.	39,500V	92 Kb	NSF K2	3422K17	$10.54	$8.74
20 oz.	30,000V	90 Kb	———	3422K15	7.16	6.16

Panel-Mount Connection Posts

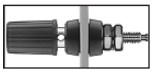
Single Fluted Post (Installed)


Double Hex-Head Post

Before making a permanent connection, use these connection posts to test a circuit. Also known as binding posts, they mount through panels to create a connection point for banana plugs, bare stranded wire, and spade terminals, except the single hex-head nickel-plated brass posts do not work with banana plugs. All posts are insulated to prevent contact with panels.

Gold-plated brass conducts the best. **Tin-plated brass** lasts the longest. **Nickel-plated brass** offers a good compromise between conductivity and longevity.

Single hex-head nickel-plated brass posts include O-rings.

Double posts require two panel cutout holes that are ¾″ center-to-center.

Current	Color	For Panel Thick.	Cutout Dia.		
Single Hex-Head Gold-Plated Brass Posts					
30A	Black	0.06″-0.22″	0.5″	6937K62	$9.03
30A	Red	0.06″-0.22″	0.5″	6937K61	9.03
Single Hex-Head Nickel-Plated Brass Posts					
30A	Black	0.06″-0.13″	0.31″	6937K82	23.80
30A	Red	0.06″-0.13″	0.31″	6937K81	23.80
Single Fluted Gold-Plated Brass Posts					
15A	Black	0.06″-0.21″	0.39″	6937K64	12.49
15A	Red	0.06″-0.21″	0.39″	6937K63	12.49
Single Fluted Nickel-Plated Brass Posts					
60A	Black	0.01″-0.11″	0.43″	6937K92	20.64
60A	Red	0.01″-0.11″	0.43″	6937K91	20.64
Double Hex-Head Tin-Plated Brass Posts					
30A	Black and Red	0.06″-0.28″	0.5″	6937K71	9.52
Double Fluted Tin-Plated Brass Posts					
15A	Black and Red	0.06″-0.28″	0.38″	6937K72	11.41

Panel-Mount Banana Jacks

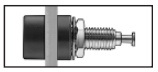
Single Banana Jack (Installed)


Double Banana Jack

Create a connection point through a panel for banana plugs. All jacks are insulated with polycarbonate to prevent contact with panels. They are tin-plated brass. **Double banana jack** requires two panel cutout holes that are ¾″ center-to-center.

Hand-held voltage ratings are the maximum tested voltage for applications where you hold a cord connected to the jack in your hands while testing. *Hands-free* voltage ratings are the maximum voltage the jack is rated to withstand.

To Order: Please specify a color: black or red.

Current	AC/DC Voltage Rating Hand-Held	Hands-Free	For Panel Thick.	Cutout Dia.	Pkg. Qty.		Pkg.
Single Banana Jack							
15A	30/60V	2,500V	0.06″-0.37″	0.35″	10	7124K41	$23.02
Double Banana Jack							
15A	30/60V	2,500V	0.06″-0.37″	0.37″	1	7124K42	5.10

Commutator Resurfacer Kits



With a mix of stone finishes, this kit has everything you need to clean small commutators and contour new carbon brushes to fit a commutator. Kit includes one 9″ plastic handle; two stones of each grit: 46 (coarse), 90 (medium), 120 (fine), 220 (polished); and four 320 grit (extra-polished) stones. Stones are 1″ Lg.×¾″ Wd.×5/16″ Thick.

Kit	5951T11	$61.43
Repl. Handle	5951T27	26.57
Repl. Stones—**To Order:** Please specify grit	5951T31	4.69

Commutator Cleaning Stones



Clean commutators by removing ridges, surface contaminants, and other imperfections. You can also use these stones to prepare new carbon brushes by contouring them to fit a commutator.

Grade	Wd.	Lg.	Thick.		
Medium	½″	4¾″	¼″	7502K11	$3.66
Medium	½″	4¾″	⅜″	7502K12	5.00
Medium	½″	4¾″	½″	7502K13	6.62
Medium	⅝″	4¾″	½″	7502K15	7.44
Medium	¾″	4¾″	½″	7502K14	6.96
Medium	1⅛″	4¾″	⅝″	7502K16	9.86
Soft	1″	4¾″	1″	7502K17	11.80

AC Motor-Start and Motor-Run Capacitors

Store electricity to keep motors starting and running efficiently.

Motor-start capacitors provide a burst of energy to start motor rotation in small, single-phase AC motors such as those used to power fans and pumps. They have two 1/4" male quick-disconnect terminals and four blades. Frequency is 50/60 Hz. Temperature range is -40° to 149° F. Housing is plastic. They are UL recognized.

Motor-run capacitors improve performance by ensuring even rotation in single-phase continuously running AC motors, such as those in air conditioning units. They have two 1/4" male quick-disconnect terminals and eight blades. Frequency is 60 Hz. Temperature range is -40° to 149° F. Housing is metal. They are C-UL and UL recognized.





Motor-Start Capacitors—Round

Capacitance, µF	Ht.	Dia.		
125V AC				
53-63.6	2 3/4"	1 7/16"	7245K105	$4.60
88-227	2 3/4"	1 7/16"	7245K111 ★	4.70
216-389	2 3/4"	1 7/16"	7245K112 ★	5.83
340-552	3 3/8"	1 7/16"	7245K114 ★	7.23
815-978	4 3/8"	2 1/16"	7245K32	15.40
1,000-1,200	4 3/8"	2 1/16"	7245K33	17.33
250V AC				
21-25.2	2 3/4"	1 7/16"	7245K721	5.50
25-30	2 3/4"	1 7/16"	7245K722	5.60
30-36	2 3/4"	1 7/16"	7245K311	$5.70
36-43.2	2 3/4"	1 7/16"	7245K723	5.97
43-51.6	2 3/4"	1 7/16"	7245K724	6.13
53-63.6	2 3/4"	1 7/16"	7245K34	6.23
72-86.4	3 3/8"	1 13/16"	7245K35	8.47
88-105.6	3 3/8"	1 13/16"	7245K725	9.10
108-129.6	3 3/8"	1 13/16"	7245K726	9.87
130-156	3 3/8"	1 13/16"	7245K39	10.37
145-174	3 3/8"	1 13/16"	7245K727	$11.17
189-226.8	3 3/8"	2 1/16"	7245K41	13.60
216-259.2	3 3/8"	2 1/16"	7245K728	15.00
233-279.6	4 3/8"	2 1/16"	7245K729	15.93
270-324	4 3/8"	2 1/16"	7245K45	17.43
324-388.8	4 3/8"	2 1/16"	7245K731	18.50
400-480	4 3/8"	2 9/16"	7245K732	23.17
430-516	4 3/8"	2 9/16"	7245K733	24.07

★ To Order. Please specify exact capacitance required.

Accessories for Motor-Start Capacitors—To Order. Please specify capacitor part number

End Cap	7245K92	$1.89	Mounting Strap	7622K82	$2.10

Motor-Run Capacitors

AC Voltage	Choose a Capacitance, µF	
Oval		
370V	1.9-2.1, 2.9-3.1, 3.8-4.2, 4.7-5.3, 5.7-6.3, 7.1-7.9, 9.4-10.6, 11.8-13.2, 14.1-15.9, 18.8-21.2, 23.5-26.5, 28.2-31.8, 32.9-37.1, 37.6-42.4, 42.3-47.7, 47-53	7602K18
440V	7.1-7.9, 9.4-10.6, 14.1-15.9, 18.8-21.2, 23.5-26.5, 28.2-31.8, 37.6-42.4, 42.3-47.7	7602K19
Round		
370V	4.7-5.3, 7.1-7.9, 9.4-10.6, 11.8-13.2, 14.1-15.9, 18.8-21.2, 23.5-26.5, 28.2-31.8, 32.9-37.1, 37.6-42.4, 42.3-47.7, 47-53	7602K811
440V	4.7-5.3, 7.1-7.9, 9.4-10.6, 14.1-15.9, 18.8-21.2, 23.5-26.5, 28.2-31.8, 32.9-37.1, 37.6-42.4, 42.3-47.7	7602K812

Carbon Brushes

Replace worn carbon brushes on small DC motors.

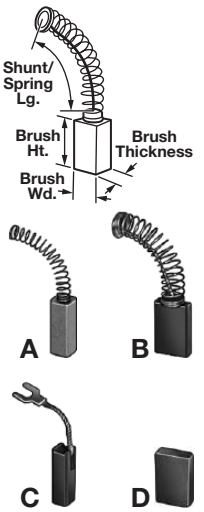

Individual Brushes

Brush Wd.	Brush Ht.	Brush Thick.	Shunt/ Spring Lg.		Pkg. of 2
(A) With Spring					
3/16" Dia.	1/2"	____	13/16"	65705K46	$6.58
7/32" Dia.	3/4"	____	1 3/4"	65705K47	6.46
1/4" Dia.	1"	____	1 3/4"	65705K48	6.46
3/16"	1"	3/16"	1 1/8"	65705K42	7.13
1/4"	1/2"	3/16"	1 3/16"	65705K43	6.46
5/16"	3/4"	1/4"	1 9/16"	65705K45	7.35
9/16"	9/16"	3/16"	1"	65705K41	7.88
3/4"	1/4"	1/4"	1 7/16"	65705K44	7.35
(B) With Spring and Shunt					
0.308" Dia.	13/16"	____	1 1/4"	65705K39	15.75
1/4"	3/4"	1/4"	1 1/4"	65705K28	14.54
0.281"	1 1/16"	0.218"	7/8"	65705K64	14.38
9/32"	3/4"	7/32"	1 1/4"	65705K23	14.65
0.305"	13/16"	3/16"	1 3/8"	65705K21	12.88
0.309"	3/4"	0.246"	1 3/8"	65705K27	14.27
5/16"	3/4"	1/4"	1 3/8"	65705K29	14.27
1 1/32"	1"	15/64"	2 1/8"	65705K25	15.75
3/8"	5/8"	1/4"	1 3/8"	65705K32	15.00
(B) With Spring and Shunt (Cont.)					
3/8"	1 1/16"	1/4"	1 1/4"	65705K31	$14.71
3/8"	13/16"	1/4"	1 7/16"	65705K33	15.52
3/8"	15/16"	0.245"	1 3/8"	65705K26	15.23
3/8"	1 1/8"	1/4"	1 1/4"	65705K34	16.54
7/16"	3/4"	1/4"	1 1/8"	65705K35	14.79
7/16"	1 1/8"	15/64"	2 1/4"	65705K24	18.19
15/32"	7/8"	5/16"	1 3/8"	65705K38	17.52
1/2"	13/16"	1/4"	1 7/16"	65705K37	16.23
1/2"	13/16"	1/4"	1 1/2"	65705K36	15.75
1/2"	7/8"	3/16"	1 1/4"	65705K22	14.71
(C) With Shunt and Terminal					
3/16"	1/2"	3/16"	1"	65705K49	8.12
1/4"	13/16"	1/4"	1"	65705K51	8.29
5/8"	1"	1/4"	2 1/2"	65705K52	12.08
3/4"	1"	1/4"	2"	65705K53	12.88
(D) Without Spring and Shunt					
3/8"	3/4"	1/4"	____	65705K54	5.04
1/2"	3/4"	1/4"	____	65705K55	5.04

Brush Assortments

No. of Brushes	Brush Style		
16	B	65705K61	$95.62
18	A, B	65705K62	83.19
42	A, B, C, D	7299K14	$175.96
160	A, B	7299K13	313.79

Freeze and Antistatic Sprays

Freeze Sprays—Chill individual electronic components on a circuit board to -60° F to troubleshoot one circuit at a time. Spray is clear.

Antistatic Sprays—Reduce static and prevent buildup in sensitive electronic components. All spray on clear and leave a transparent film so components can be inspected.

	Propellant Type	Net Wt.		1-11	12-Up
Freeze Sprays—Aerosol					
Nonflammable	HFC-134A	10 oz.	7437K43	$14.41	$12.35
Nonflammable	HFO-1234ze	10 oz.	7437K87	24.38	21.49
Static-Limiting Freeze Sprays—Aerosol					
Nonflammable	HFC-134A	10 oz.	7437K61	16.91	15.16
Antistatic Sprays—Aerosol					
Flammable	Hydrocarbon Blend	11.5 oz.	6038T11	13.80	11.74
Antistatic Sprays—Nonaerosol					
Nonflammable	____	16 oz.	6038T12	21.52	18.38

Electrical Insulating Varnish

Fix worn and damaged insulation on motor winding wire and electrical equipment. These flammable aerosol varnishes spray on to fill gaps and create an abrasion- and wear-resistant coating. Temperature range is 0° to 310° F. Rated NEMA Class F.

Clear varnish leaves a transparent film so components can be inspected.

Green varnish is designed for harsh environments and is oil resistant.

Red varnish stands out for identification when used as a coating on wires.



Color	Net Wt.	Dielectric Strength		1-11	12-Up
Clear	15.25 oz.	2,300V	7437K21	$6.31	$5.19
Green	15.25 oz.	2,890V	7437K22	8.46	7.01
Red	15.25 oz.	2,600V	7437K19	6.90	5.66

Electrical Cleaning & Spring Test Probes

General Purpose Electrical Cleaners

Eliminate dirt, oil, and grease build up in electrical equipment such as relays, switches, and cables. All spray on clear. Temperature range is 32° to 120°F, unless otherwise stated.

NSF K2-rated cleaners can be used in food-processing environments. Temperature range is –20° to 450°F.

Net Wt.	Dielectric Strength	Solvent Power	NSF K2 Rated		Pkg. Qty.		Each
Nonflammable							
Aerosol—CO_2 Propellant							
17 oz.	37,000V	129 Kb	Yes	7437K823	12	$145.56	$14.25
Aerosol—CO_2, HFC-134A Propellant							
12 oz.	15,000V	120 Kb	—	7437K821	12	381.36	36.97
Aerosol—HFC-134A Propellant							
12 oz.	31,000V	40 Kb	—	7437K822	12	406.56	39.86
Nonaerosol							
14 oz.	37,000V	129 Kb	Yes	4214T711	12	162.36	15.90
1 gal.	37,000V	129 Kb	Yes	4214T712	4	263.40	77.56
Flammable							
Aerosol—CO_2, HFC-152a Propellant							
10 oz.	24,000V	50 Kb	—	7437K824	12	126.72	12.44

Thin-Face Electrical Contact Files



The spatula-like end lets you access contacts in tight spaces. Use on electrical components such as spark plugs, switches, relays, and ignition points. The 200-grit diamond abrasive cleans the contacts with a minimal amount of pressure while removing very little metal. Handle is plastic.

Lg.	Wd.	Thick.	O'all Lg.		
7/8"	1/4"	1/16"	5 5/8"	6304T11	$66.36

Electrical Connection Corrosion Inhibitors



Apply to electrical connections such as switches and lugs to prevent corrosion and enhance conductivity. These inhibitors protect and lubricate the connection while sealing out liquids and gases. This nonflammable copper compound is easy to apply with the included brush. They are UL listed.

Net Wt.	Temperature, °F		
1.5 oz.	–50° to 250°	2953K11	$6.68
8 oz.	–50° to 250°	2953K12	42.61
16 oz.	–50° to 250°	2953K13	61.73

General Purpose Electrical Cleaners and Sealants

Designed to be used together to improve performance of electrical connections. Cleaner removes oxidation and corrosion on connections. Sealant coats connections to prevent oxidation and corrosion. All are clear.

Cleaners provide long-lasting protection for all metal surfaces.

Sealants for metal surfaces protect electrical contacts and connections in high humidity, corrosive, and salty environments.

Sealants for gold surfaces improve conductivity and provide lasting protection.

Cleaner and sealant kit includes 0.5 oz. spray cans and 0.07 oz. squeeze tubes of cleaner, sealant for metal surfaces, and sealant for gold surfaces; wipes; brushes, cloths, and swabs for application; and a case.

	Net Wt.	Temperature, °F		
Cleaner				
Nonflammable Nonaerosol	0.85 oz.	–29° to 392°	8381T13	$31.69
Flammable Aerosol	5 oz.	–29° to 392°	8381T11	16.63
Nonflammable Aerosol	5.75 oz.	–29° to 392°	8381T12	29.43
Sealant for Metal Surfaces				
Nonflammable Nonaerosol	0.85 oz.	–29° to 410°	8381T16	33.62
Flammable Aerosol	5 oz.	–29° to 410°	8381T14	17.21
Sealant for Gold Surfaces				
Nonflammable Nonaerosol	0.85 oz.	–49° to 464°	8381T19	51.69
Flammable Aerosol	5 oz.	–49° to 464°	8381T17	25.92
Nonflammable Aerosol	5.75 oz.	–49° to 464°	8381T18	31.21
Cleaner and Sealant Kit			8381T21	42.47

Spring Test Probes

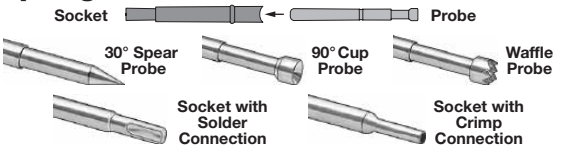

Create an automated system to test continuity in circuit boards and electrical circuits by combining spring-loaded test probes and sockets. When installing test probes and sockets, adhere to the "minimum spacing between probe centers" to maximize testing points while preventing probes from interfering with each other. Spring test probes will produce optimal results when your system is set up to achieve the working stroke length (C). Initial spring force is the force required to start compressing the probe; maximum spring force is the force applied at the working stroke length.

Spring Test Probes

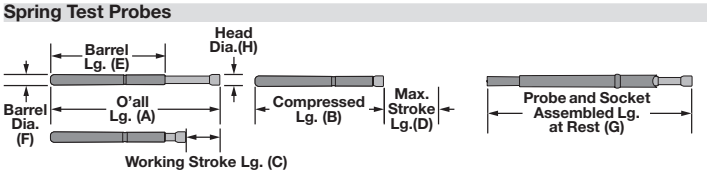

Probes have a life span of approximately 100,000 compressions. **30° spear** probes test flat and female surfaces without marring. **90° cup** probes guide protruding objects, such as terminals and pins. **Waffle** probes have many points of contact to test flat surfaces as well as terminals and pins without marring. All have a gold finish.

Min. Spacing Between Probe Centers	Current	*Spring Force, oz.* Initial	Max.	(A)	(B)	(C)	(D)	(E)	(F)	(G)	30° Spear (H)		90° Cup (H)		Waffle (H)		Pkg. of 5
0.05"	3A	0.6	2.5	0.66"	0.56"	0.07"	0.1"	0.52"	0.03"	0.86"	0.02"	5949T62	0.04"	5949T61	0.04"	5949T63	$10.38
0.075"	3A	1.5	3.8	0.67"	0.55"	0.07"	0.1"	0.49"	0.04"	0.88"	0.03"	5949T66	0.06"	5949T65	0.06"	5949T67	9.62
0.1"	3A	2.9	7	0.97"	0.81"	0.1"	0.16"	0.73"	0.05"	1.17"	0.04"	5949T71	0.08"	5949T69	0.08"	5949T72	10.75
0.156"	5A	2.8	7	1.33"	1.07"	0.17"	0.25"	0.97"	0.09"	1.53"	0.08"	5949T32	—	—	—	—	16.11
0.187"	5A	2.8	7	1.33"	1.07"	0.17"	0.25"	0.97"	0.09"	1.55"	—	—	0.16"	5949T31	0.16"	5949T33	15.82
0.187"	5A	2.8	16.4	1.42"	1.17"	0.17"	0.25"	1.07"	0.13"	1.62"	0.11"	5949T42	0.16"	5949T41	0.16"	5949T43	20.18
0.125"	5A	2.9	7	1.31"	1.05"	0.17"	0.25"	0.97"	0.08"	1.54"	0.07"	5949T22	0.1"	5949T21	0.1"	5949T23	14.17
0.125"	27A	2.9	7	1.31"	1.05"	0.17"	0.25"	0.97"	0.08"	1.54"	—	—	0.1"	5949T24	0.1"	5949T25	22.73
0.187"	32A	4	10	1.33"	1.07"	0.17"	0.25"	0.97"	0.09"	1.54"	—	—	0.16"	5949T34	0.16"	5949T35	26.18
0.187"	39A	7.2	18.7	1.42"	1.17"	0.17"	0.25"	1.07"	0.13"	1.62"	—	—	0.16"	5949T44	0.16"	5949T45	34.00

Spring Test Probe Sockets

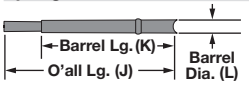

Permanently mount these sockets to fixtures, attach wire from your electrical testing equipment, and add probes. All have a gold finish.

For Min. Spacing Between Probe Centers	For Probe Current	For Mounting Hole Dia.	For Wire Ga.	(J)	(K)	(L)	Solder Connection	Crimp Connection	Pkg. of 5
0.05"	3A	0.036"	30, 29, 28	0.7"	0.5"	0.03"	5949T64	—	$6.42
0.075"	3A	0.056"	28, 27, 26, 25, 24	0.7"	0.49"	0.05"	5949T68	—	5.66
0.1"	3A	0.069"	26, 25, 24, 22, 23	0.93"	0.73"	0.07"	5949T73	—	5.19
0.125"	5A	0.095"	26, 25, 24, 22	1.22"	0.99"	0.09"	5949T262	5949T261	5.46
0.125"	27A	0.095"	20, 19, 18, 17, 16	1.22"	0.97"	0.09"	5949T51	—	14.27
0.156", 0.187"	5A	0.109"	26, 25, 24, 22	1.22"	1"	0.11"	5949T362	5949T361	5.46
0.187"	5A	0.142"	26, 25, 24, 22, 23	1.3"	1.1"	0.14"	5949T462	5949T461	7.09
0.187"	32A	0.109"	20, 19, 18, 17, 16	1.21"	0.97"	0.11"	5949T52	—	15.36
0.187"	39A	0.142"	20, 19, 18, 17, 16	1.3"	1.06"	0.14"	5949T53	—	17.18

Power Transmission

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Air Compressors

About Air Compressors

Air-Flow and Pressure Requirements—It's important to consider your compressor's air flow in cubic feet per minute (cfm). To determine the air-flow requirements, total the cfm requirements of all the air-powered tools your compressor will be operating simultaneously. Your compressor should also exceed the pressure (psi) requirement of the highest-pressure-rated tool to which it will be supplying power. Add 20%-30% to allow for system variables and future expansion.

Stationary Air Compressors

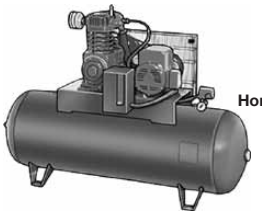

Horizontal



Vertical

These compressors have an ASME-rated tank and are continuous duty. They turn on when the tank falls to the activation pressure and turn off when the tank reaches the maximum pressure. All generate lubricated air and come lubricated with 30W oil. Body and crank case are cast iron. Compressors have a relief valve, pressure gauge, and manual tank drain. Outlet is NPT female. UL listed.

Electric compressors have overload protection and must be hardwired.

Gas-powered compressor has an electric starter.

Airflow, cfm @ Max. Pressure	Max. Pressure, psi	Activation Pressure, psi	hp	Full Load Current, amps	Tank Cap., gal.	Decibel Rating	Outlet Pipe Size	Horizontal — Overall Lg.	Horizontal — Overall Wd.	Horizontal — Overall Ht.	Horizontal		Vertical — Overall Lg.	Vertical — Overall Wd.	Vertical — Overall Ht.	Vertical	
Electric Compressors																	
200V AC @ 60 Hz, Three Phase																	
17.2	175	135	5	17.5	80	74	¾	70″	23″	47″	4364K21	$2,480.00	37″	24″	74″	41905K21	$2,225.64
22.6	175	135	7½	25.3	80	80	¾	70″	23″	47″	4364K411	2,801.60	37″	24″	74″	41905K41	2,535.38
35	175	135	10	32.2	120	86	1	78″	28″	55″	4364K61	4,173.60	—	—	—	—	—
230V AC @ 60 Hz, Single Phase																	
17.2	175	135	5	28	80	74	¾	70″	23″	47″	4364K1	2,679.20	37″	24″	74″	41905K1	2,451.56
22.6	175	135	7½	40	80	80	¾	70″	23″	47″	4364K3	3,083.20	37″	24″	74″	41905K3	2,766.97
230V AC @ 60 Hz, Three Phase																	
17.2	175	135	5	15.2	80	74	¾	70″	23″	47″	4364K22	2,480.00	37″	24″	74″	41905K22	2,225.64
22.6	175	135	7½	22	80	80	¾	70″	23″	47″	4364K42	2,801.60	37″	24″	74″	41905K42	2,535.38
35	175	135	10	28	120	86	1	78″	28″	55″	4364K62	4,173.60	—	—	—	—	—
460V AC @ 60 Hz, Three Phase																	
17.2	175	135	5	7.6	80	74	¾	70″	23″	47″	4364K23	2,480.00	37″	24″	74″	41905K23	2,225.64
22.6	175	135	7½	11	80	80	¾	70″	23″	47″	4364K43	2,801.60	37″	24″	74″	41905K43	2,535.38
35	175	135	10	14	120	86	1	78″	28″	55″	4364K63	4,173.60	—	—	—	—	—
Gas-Powered Compressor																	
With 1.9-Gallon Fuel Tank																	
23.6	175	165	14	—	30	120	½	42″	21″	40″	41865K1	2,854.40	—	—	—	—	—

Replacement Belts, Filter Elements, and Oil

Drive Belt for 5 hp Motor	4364K71	$33.04	Drive Belt for 14 hp Motor	4364K74	$57.60
Drive Belt for 7½ hp Motor	4364K72	41.51	Filter Element	4364K75	24.93
Drive Belt for 10 hp Motor	4364K73	48.31	30W Oil (1 qt.)	4364K76	36.05

Portable Air Compressors



Single Tank



Single Tank with Wheels



Double Tank with Wheel

Compressors turn on when the tank falls to the activation pressure and they turn off when the tank reaches the maximum pressure. They have a single-phase motor with an electric starter and thermal overload protection. Tank has a manual drain.

Single-tank compressor is continuous duty, does not require lubrication, and generates nonlubricated air. It has a relief valve, a tank pressure gauge, and an outlet pressure gauge. Body and crank case are aluminum. It has a 5-ft. cord with plug. Outlet is NPT female.

Single-tank compressor with wheels is intermittent duty, generates lubricated air, and requires 30W oil for lubrication. It has a relief valve, a tank pressure gauge, and an air intake filter. Body is steel and crank case is aluminum. It has an 8-ft. cord with plug. Outlet is NPT male.

Double-tank compressors with wheel are continuous duty, generate lubricated air, and require 10W to 40W oil for lubrication. They have a pressure gauge and two quick-disconnect fittings. Body and crank case are cast iron. They have a 6-ft. cord with plug. Outlet is NPT female. UL listed.

Airflow, cfm @ 90 psi	Max. Pressure, psi	Activation Pressure, psi	hp	AC Voltage @ 60 Hz	Full Load Current, amps	Tank Cap., gal.	Decibel Rating	Outlet Pipe Size	Overall Lg.	Overall Wd.	Overall Ht.	Weight, lbs.		
Compressors														
Single Tank														
3	150	120	4/5	120	10	6	82	¼	16″	16″	18″	34	9965K62	$202.40
Single Tank with Wheels														
6.5	140	110	3	120	13.8	5.2	90	¼	19½″	19″	29″	88	9965K64	443.33
Double Tank with Wheel														
5.7	135	95	2	115	15	8	74	⅜	43″	18″	25″	175	4309K6	983.36
11.3	135	95	3	230	15	8	77	⅜	43″	18″	25″	175	4309K7	1,023.29

Replacement Belts, Filter Elements, and Oil for Double-Tank Compressors with Wheel

Drive Belt for 2 hp Motor	4309K11	$41.60	Filter Element	4309K13	$14.40
Drive Belt for 3 hp Motor	4309K12	22.40	20W40 Oil (0.5 liters)	4309K14	16.00

For information about air compressors, see page 1006.

High-Flow Low-Pressure Compressed Air Blowers

Also known as regenerative blowers, use these to produce high-flow compressed air with low pressure or vacuum to operate pump drives, lift tables, and conveying systems. Compressed air blowers are also used for drying, exhausting, and aeration. Housing is aluminum, except 10- and 18-hp blowers have a cast iron housing. Blowers are continuous duty and must be hardwired. Inlet and outlet are NPT female. Blowers are CE approved and have UL and C-UL recognized components (unless noted). Single-stage blowers are CSA certified.

Air circulates inside the blower housing to compress air, which generates pressure or vacuum. **Single-stage** blowers circulate air once and then exhaust. **Two-stage** blowers circulate air twice and then exhaust, creating higher pressure or vacuum than single-stage blowers with the same horsepower.

Inverter-rated blowers have a motor that can run at slow speeds without overheating, so they can be used with a motor speed control (variable frequency drive).

Add a **relief valve** (sold separately) to protect blowers from overpressurization and excess vacuum.



Single Stage

Airflow, cfm @ 0 psi	Max. Pressure psi	Max. Pressure in. of H_2O	Max. Vacuum Rating in. of Hg	Max. Vacuum Rating in. of H_2O	hp	Full Load Current, amps	Inverter Rated	Decibel Rating	Pipe Size Inlet	Pipe Size Outlet	Overall Lg.	Overall Wd.	Overall Ht.		
Single-Stage Blowers															
115/208-230V AC @ 60 Hz, Single Phase															
27	1	29	1.9	27	1/8	2.3/1.2	No	57	1	1	9″	8″	9″	9960K51	$478.38
42	1	39	2.6	35	1/3	3.8/2-1.9	No	63	1	1	10″	9″	9″	9960K52	608.45
52	2	55	3.7	50	1/2	5.6/3-2.8	No	68	1 1/4	1 1/4	11″	10″	10″	9960K54 ★	668.50
92	2	52	3.5	48	1	9.8/5.2-4.9	No	68	1 1/2	1 1/2	13″	11″	12″	9960K57 ★	785.92
127	2	65	4.4	60	1 1/2	17.5/10-9	No	74	1 1/2	1 1/2	16″	13″	14″	9960K58	1,116.70
115/230V AC @ 60 Hz, Single Phase															
57	2	56	3.8	52	1/2	6/3	Yes	56	1 1/4	1 1/4	10″	10″	10″	1010K21	818.47
102	3	76	5.3	72	1 1/2	14/7	Yes	64	1 1/2	1 1/2	12″	11″	12″	1010K22	942.93
148	3	72	5.3	72	2 1/4	24/12	Yes	70	2	2	14″	13″	13″	1010K23	1,476.67
208-230/460V AC @ 60 Hz, Three Phase															
42	1	39	2.6	35	1/3	1.2/6	No	63	1	1	10″	9″	9″	9960K53 ★	693.62
53	2	43	2.9	40	1/2	2/1	No	68	1 1/4	1 1/4	11″	10″	10″	9960K45 ★	645.77
92	2	52	3.5	48	1	3.4-3.2/1.6	No	68	1 1/2	1 1/2	13″	11″	12″	9960K56 ★	806.12
127	2	65	4.4	60	1 1/2	5.1-4.9/2.5	No	74	1 1/2	1 1/2	14″	13″	14″	9960K59 ★	1,080.40
207	4	105	6.5	88	5	13-12/6	Yes	72	2	2	17″	15″	15″	9960K63 ★	1,671.92
265	4	110	6.6	90	6	19.5-18.2/9.1	Yes	79	2	2	17″	17″	18″	9960K64 ★	2,196.24
420	5	125	8.1	110	10	35-29.5/15	Yes	78	2 1/2	2 1/2	22″	18″	20″	9960K65 ★	2,559.65
220-275/380-480V AC @ 60 Hz, Three Phase															
57	2	64	4.4	60	1/2	2.6/1.5	Yes	56	1 1/4	1 1/4	10″	10″	10″	1010K24	784.53
102	2	64	4.7	64	1 1/4	4/2.3	Yes	64	1 1/2	1 1/2	12″	11″	12″	1010K25	890.13
148	3	84	6.5	88	2 3/4	7.6/4.4	Yes	70	2	2	14″	13″	13″	1010K26	1,269.22
148	4	116	7.6	104	3 1/4	10.3/6	Yes	70	2	2	14″	13″	13″	1010K27	1,589.80
220	3	92	7.1	96	4 1/2	12.6/7.3	Yes	72	2	2	16″	15″	15″	1010K28	1,821.77
230/460V AC @ 60 Hz, Three Phase															
795	4	105	7	95	18	52/26	Yes	79	2 1/2	4	29″	18″	20″	9960K66 ★	4,467.06
Two-Stage Blowers															
208-230/460V AC @ 60 Hz, Three Phase															
65	5	140	11.1	151	2	5.8-5.2/2.8	Yes	72	1 1/4	1 1/4	16″	13″	14″	4393K47	1,334.91
81	5	141	11.1	151	3	8.3-7.4/4	Yes	73	1 1/4	1 1/4	16″	14″	15″	4393K38	1,624.91
Relief Valve for Two-Stage Blowers														4393K41	$184.17

★ Components are not C-UL recognized.

Miniature Low-Flow Air Compressors/Vacuum Generators

These air compressors/vacuum generators are continuous duty and must be hardwired. They do not require lubricant and produce nonlubricated air.



Airflow, cfm @ Max. Pressure	Max. Pressure, psi	Max. Vacuum Rating, in. Hg.	DC Voltage	Full Load Current, milliamps	Decibel Rating	For Tube ID	Overall Lg.	Overall Wd.	Overall Ht.		
0.008	2	12	3.5-7	32-37	45	0.12″	1 5/8"	1 1/16"	1"	4404K12	$329.97
0.019	3	12	12	40	45	0.14″	1 3/4"	1 5/16"	1 5/16"	4404K14	260.45
0.064	10	22	12	442	45	0.16″	3 1/16"	1 3/16"	2 3/16"	4404K25	328.35
0.148	12	25	12	2,300	52	0.13″	4 7/8"	1 7/8"	3 1/16"	4404K29	530.83

Air Pumps

Battery-powered air pumps include 9-ft. cables. **60-psi** pump includes a vehicle plug for connection to a 12-volt vehicle outlet and **120-psi** pump includes spring clamps for connection to a 12-volt vehicle battery.



Manual with Gauge



120 psi Battery Powered



Schrader Valve



Presta Valve

Max. Pressure, psi	For Valve Type	Includes Gauge	Air Hose Length	Material	Overall Lg.	Overall Wd.	Overall Ht.		
Manual									
160	Schrader	No	12″	Steel	7″	3″	20″	6028A17	$19.91
160	Schrader, Presta	Yes	26″	Steel	9″	4″	23″	6028A23	32.40
Battery Powered—12V DC									
60	Schrader	Yes	3 ft.	Aluminum	9 1/4"	3″	5 1/2"	4251K71	56.07
120	Schrader	Yes	12 ft.	Aluminum	10″	3″	5 1/2"	4251K61	78.51

Compressed Air Regulating Manifolds for Air-Powered Tools



Run up to four air-powered tools from a single air supply. Two outlets deliver air at the same pressure as the air supply, and two outlets share a regulator so you can turn the knob to adjust the pressure within the range. The pressure gauge indicates air pressure at the regulated outlets. Ports accept Industrial and ARO quick-disconnect couplings; the inlet is a 3/8 plug and outlets are 1/4 sockets. Manifolds are zinc and plastic.

Airflow, scfm @ 100 psi	Max. Pressure, psi	Pressure Regulating Range, psi	Max. Temperature	Overall Lg.	Overall Wd.	Overall Ht.		
20	200	0-150	120° F	12 1/2"	7"	4"	1527T67	$59.90

Replacement Elements for Air Compressor and Blower Intake Filters



If you don't see the replacement element you need, just tell us what you're looking for and we'll get it for you.

Elements for Ingersoll Rand Air Compressor Intake Filters

Ht.	ID	OD	For Ingersoll Rand Air Compressor Model Number	Paper	
2 5/16"	3"	4 3/8"	2340L5, 2475N7.5	1208T41	$40.00
4 3/4"	3"	4 3/8"	2545E10V, 2545K10V, 7100E15	1208T42	67.20

Elements for Air Compressor and Blower Intake Filters

Ht.	ID	OD	Paper: Filter Rating, microns	Paper		Polyester: Filter Rating, microns	Polyester	
2"	4"	5 13/16"	2	8661T61	$13.96	10	8661T71	$21.97
2 1/2"	4 1/4"	6 1/16"	2	8661T62	14.67	10	8661T72	24.48
4"	7 1/4"	9 3/4"	2	1208T11	25.98	10	1208T21	47.84
6"	7 1/4"	9 3/4"	2	8661T63	34.96	10	8661T73	67.12
7"	9 13/16"	11 9/16"	2	1208T12	37.52	10	1208T22	67.60
8 1/2"	11 5/8"	13 5/8"	2	1208T13	41.94	10	1208T23	82.68
9 1/4"	13"	17"	2	1208T14	144.62	10	1208T24	258.48
13 1/8"	19"	23"	2	1208T15	219.14	10	1208T25	430.06

ASME-Code Vertical Compressed Air Storage Tanks



Without Mounting Plate



With Mounting Plate

Use ports as inlets, outlets, or drains in any configuration. Connections are NPT female and include plugs. Temperature range is –20° to 400° F, except 1- to 20-gallon tanks have a maximum temperature of 650° F. **Tanks with mounting plate** have a platform where you can secure motors, pumps, and other components.

Steel tanks have a powder-coated exterior finish. *Tanks with epoxy lining* resist interior corrosion that can result from moisture in your compressed air.

High-pressure steel tanks have a primed exterior finish.

Capacity, gal.	Number of Ports	Overall Dia.	Overall Ht.	Wall Thick.	Tanks		Tanks with Epoxy Lining	
Without Mounting Plate								
Steel—Maximum pressure is 200 psi								
1	5	6"	14"	1/8"	1584K1	$296.36		
2	5	8"	14"	1/8"	1584K2	318.18		
3	5	8"	19"	1/8"	1584K3	325.45		
5	5	10"	18"	1/8"	1584K4	354.55		
7	5	10"	25"	1/8"	1584K5	363.64		
10	5	10"	32"	1/8"	1584K6	378.18		
15	5	12"	35"	1/8"	1584K7	382.46		
20	5	14"	35"	1/8"	1584K8	463.16		
30	8	16"	39 7/8"	1/8"	4376K15	382.57	9554K65	$533.62
60	8	20"	50 1/2"	1/8"	4376K11	576.40	9554K66	803.42
80	8	24"	49 1/2"	1/8"	4376K12	651.90	9554K67	843.10
120	9	24"	75"	1/8"	4376K18	924.14	9554K68	1,273.58
200	9	30"	80"	1/4"	4376K19	1,334.74	9554K69	1,777.57
240	9	30"	92"	1/4"	4376K31	1,433.98	9554K71	1,872.79
High-Pressure Steel—Maximum pressure is 600 psi								
30	8	16"	39 3/4"	1/4"	9795K1	1,253.37		
60	8	20"	50 1/2"	3/8"	9795K2	1,945.47		
80	8	24"	51 1/4"	1/2"	9795K3	2,548.40		
120	9	24"	77"	1/2"	9795K4	3,535.72		
200	9	30"	80"	1/2"	9795K5	4,386.16		
240	9	30"	92"	1/2"	9795K6	4,959.81		
With Mounting Plate								
Steel—Maximum pressure is 200 psi								
30	8	16"	41 3/8"	1/8"	4376K21	482.16	9554K61	642.00
60	8	20"	52"	1/8"	4376K22	675.80	9554K62	897.74
80	8	24"	51"	1/8"	4376K25	756.37	9554K63	1,026.00
120	8	30"	57 7/8"	1/4"	4376K28	1,091.82	9554K64	1,360.00

ASME-Code Horizontal Compressed Air Storage Tanks

Tank ports can be used as inlets, outlets, or drains in any configuration. All connections are NPT female and include plugs.

Tanks with mounting plate have a platform where you can secure motors, pumps, and other components.

Steel tanks have a corrosion-resistant exterior finish. Temperature range is –20° to 400° F. *Tanks with epoxy lining* resist interior corrosion that can result from moisture in your compressed air.

316 and 304 stainless steel tanks are more corrosion resistant than steel tanks. Temperature range is –20° to 200° F (unless noted). *Tanks with mounting plate* have a primed exterior finish.



Without Mounting Plate



With Mounting Plate

Capacity, gal.	Number of Ports	Tanks: Overall Dia.	Overall Lg.	Overall Ht.	Wall Thick.			Tanks with Epoxy Lining: Overall Dia.	Overall Lg.	Overall Ht.	Wall Thick.		
Without Mounting Plate													
Steel—Maximum pressure is 200 psi													
1	7	6″	11 3/4″	8″	1/8″	9888K9	$202.22	6″	11 3/4″	8″	1/8″	9908K19	$335.12
2	7	—	—	—	—	—	—	8″	11 3/4″	10″	1/8″	9908K11	338.05
3	7	8″	16 3/4″	10″	1/8″	9888K12	223.20	8″	16 3/4″	10″	1/8″	9908K21	354.75
5	7	10″	16 3/4″	12″	1/8″	9888K13	243.48	10″	16 3/4″	12″	1/8″	9908K12	373.52
7	7	12″	17 3/4″	14″	1/8″	9888K15	254.68	12″	17 3/4″	14″	1/8″	9908K13	370.21
10	6	10″	30 5/8″	11″	1/8″	4377K48	267.56	10″	30 1/2″	11″	1/8″	9426K18	446.38
10	7	12″	23 3/4″	14″	1/8″	9888K17	271.86	12″	25 3/4″	14″	1/8″	9908K14	381.70
13	7	14″	23 3/4″	16″	1/8″	9888K19	287.96	14″	23 3/4″	16″	1/8″	9908K15	424.27
15	6	12″	33 5/8″	13″	1/8″	4377K49	284.35	12″	33 3/4″	13″	1/8″	9426K19	482.60
15	7	14″	26 3/4″	16″	1/8″	9888K14	293.31	14″	26 3/4″	16″	1/8″	9908K22	427.82
19	7	16″	25 7/8″	18″	1/8″	9888K21	297.62	16″	25 7/8″	18″	1/8″	9908K16	466.64
20	8	14″	33 5/8″	16″	1/8″	4377K51	301.85	14″	33 3/4″	16″	1/8″	9426K21	514.16
24	7	16″	31 7/8″	18″	1/8″	9888K23	303.23	16″	31 7/8″	18″	1/8″	9908K17	481.09
30	7	18″	31 7/8″	20″	1/8″	9888K25	371.23	18″	31 7/8″	20″	1/8″	9908K18	547.39
30	9	16″	38 5/8″	19″	1/8″	4377K52	316.10	16″	38 3/4″	19″	1/8″	9426K22	554.36
60	9	20″	48 3/4″	23″	1/8″	4377K53	472.02	20″	49″	23″	1/8″	9426K23	770.47
High-Pressure Steel—Maximum pressure is 600 psi													
2	5	8″	12 1/4″	10″	1/8″	1481K12	662.83	—	—	—	—	—	—
5	5	10″	17 1/4″	12″	1/8″	1481K14	748.03	—	—	—	—	—	—
10	5	12″	24 1/4″	14″	1/4″	1481K16	930.14	—	—	—	—	—	—
15	5	14″	27 1/4″	16″	1/4″	1481K18	1,031.60	—	—	—	—	—	—
30	5	16″	39 1/4″	18″	1/4″	1481K22	1,297.74	—	—	—	—	—	—
316 Stainless Steel—Maximum pressure is 200 psi													
1	7	6″	12 1/8″	8″	1/8″	9934K39	1,161.67	—	—	—	—	—	—
2	7	8″	12 1/8″	10″	1/8″	9934K31	1,180.00	—	—	—	—	—	—
3	7	8″	17 1/8″	10″	1/8″	9934K41	1,207.58	—	—	—	—	—	—
5	7	10″	17 1/8″	12″	1/8″	9934K32	1,391.67	—	—	—	—	—	—
7	7	12″	18 1/8″	14″	1/8″	9934K33	1,480.00	—	—	—	—	—	—
10	7	12″	24 1/8″	14″	1/8″	9934K34	1,605.00	—	—	—	—	—	—
13	7	14″	24 1/8″	16″	1/8″	9934K35	1,831.67	—	—	—	—	—	—
15	7	14″	27 1/8″	16″	1/8″	9934K42	2,066.67	—	—	—	—	—	—
19	7	16″	26 3/8″	18″	1/8″	9934K36	2,208.33	—	—	—	—	—	—
24	7	16″	32 3/8″	18″	1/8″	9934K37	2,521.67	—	—	—	—	—	—
30	7	18″	32 5/8″	20″	1/8″	9934K38	2,985.00	—	—	—	—	—	—
With Mounting Plate													
Steel—Maximum pressure is 200 psi													
1	5	6″	11 3/4″	9″	1/8″	9888K41	265.94	6″	11 3/4″	9″	1/8″	9908K31	358.91
2	5	8″	11 3/4″	11″	1/8″	9888K42	272.50	8″	11 3/4″	11″	1/8″	9908K32	374.36
3	5	8″	16 3/4″	11″	1/8″	9888K43	255.66	8″	16 3/4″	11″	1/8″	9908K33	383.61
5	5	10″	16 3/4″	13″	1/8″	9888K44	270.70	10″	16 3/4″	13″	1/8″	9908K34	397.07
7	5	12″	17 3/4″	15″	1/8″	9888K45	293.84	12″	17 3/4″	15″	1/8″	9908K35	417.70
10	5	12″	23 3/4″	15″	1/8″	9888K46	296.00	12″	23 3/4″	15″	1/8″	9908K36	446.32
10	6	10″	30 5/8″	13″	1/8″	4377K18	311.17	10″	30 3/4″	13″	1/8″	9426K8	515.10
13	5	14″	23 3/4″	17″	1/8″	9888K47	323.47	14″	23 3/4″	17″	1/8″	9908K37	502.50
15	5	14″	26 3/4″	17″	1/8″	9888K48	301.60	14″	26 3/4″	17″	1/8″	9908K38	509.29
15	6	12″	33 5/8″	15″	1/8″	4377K19	296.86	12″	33 3/4″	15″	1/8″	9426K9	518.34
19	5	16″	25 7/8″	19″	1/8″	9888K49	344.03	16″	25 7/8″	19″	1/8″	9908K39	550.86
20	9	14″	33 5/8″	18″	1/8″	4377K21	318.68	14″	33 3/4″	18″	1/8″	9426K11	519.52
24	5	16″	31 7/8″	19″	1/8″	9888K51	387.40	16″	31 7/8″	19″	1/8″	9908K41	589.68
30	5	18″	31 7/8″	21″	1/8″	9888K52	479.23	18″	31 7/8″	21″	1/8″	9908K42	747.60
30	9	16″	38 5/8″	20″	1/8″	4377K32	353.43	16″	38 3/4″	20″	1/8″	9426K12	627.02
60	9	20″	48 3/4″	25″	1/8″	4377K33	554.87	20″	49″	25″	1/8″	9426K13	750.15
80	9	20″	63 5/8″	25″	1/8″	4377K34	652.78	20″	64″	25″	1/8″	9426K14	902.76
120	9	24″	68″	30″	1/4″	4377K71	893.07	24″	68″	30″	1/8″	9426K15	1,053.48
200	5	30″	73″	36″	1/4″	4377K41	1,346.30	30″	73″	36″	1/4″	9426K16	1,748.52
240	5	30″	85″	36″	1/4″	4377K61	1,608.45	30″	85″	36″	1/4″	9426K17	1,984.42
304 Stainless Steel—Maximum pressure is 200 psi													
1	5	6″	12 1/4″	9″	1/8″	9934K11	1,350.00	—	—	—	—	—	—
3	5	8″	17 1/4″	11 3/8″	1/8″	9934K13★	1,477.50	—	—	—	—	—	—
5	5	10″	17 1/4″	13 1/2″	1/8″	9934K14■	2,050.73	—	—	—	—	—	—
13	5	14″	24 1/4″	17″	1/8″	9934K17■	2,260.00	—	—	—	—	—	—
24	5	16″	32 1/4″	19 3/4″	1/8″	9934K21	2,742.50	—	—	—	—	—	—
30	5	18″	32 1/4″	22 1/16″	1/4″	9934K22	2,950.00	—	—	—	—	—	—

★ Maximum temperature is 250° F. ■ Maximum temperature is 450° F.

Portable Compressed Air Storage Tanks



Vertical without Mounting Plate



Horizontal with Mounting Plate



Mil. Spec. without Mounting Plate



ASME Rated without Mounting Plate



ASME Rated with Mounting Plate and Wheels

All tanks are steel with 1/8″ thick walls. **Vertical tank without mounting plate** has an NPT female port. This product cannot be sold in New Jersey. **Horizontal tanks without mounting plate** include a pressure gauge, relief valve, and Schrader valve. They have NPT male ports. **Tanks with mounting plate** have a platform for securing compressors, motors, and other components. Ports are NPT female.

Mil. Spec. tank meets MIL-T-45169E and includes a 4-ft. hose with air chuck.

ASME-rated tank without mounting plate also meets OSHA standard 1915 and includes a 6-ft. hose with air chuck.

Capacity, gal.	Max. Pressure, psi	Number of Ports	Overall Dia.	Overall Lg.	Overall Ht.	Temperature Range		
Vertical								
Without Mounting Plate								
2.4	150	1	8 7/8″	8 7/8″	18 1/2″	–20° to 180°F	4167K51	$55.35
Horizontal								
With Mounting Plate								
4	125	3	16″	16″	7 3/4″	Not Rated	1862K92	142.09
Mil. Spec. without Mounting Plate								
9	125	1	10″	25″	12 1/4″	Not Rated	1389K71	177.80
ASME Rated without Mounting Plate								
9.1	150	2	12″	21″	14 1/2″	–20° to 250°F	4319K57	365.73
ASME Rated with Mounting Plate and Wheels								
8	125	3	10″	25″	23″	–20° to 450°F	1814K81	211.79
11	125	3	12″	26″	26″	–20° to 450°F	1814K82	267.60
20	140	3	14″	33″	29″	–20° to 450°F	1814K83	319.14

Lightweight Compressed Air Storage Tanks

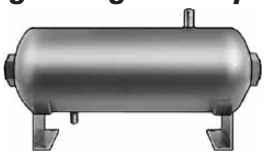

Tanks are made of fiberglass and have 1/8″ thick walls. They have four NPT female ports that can be used as inlets, outlets, or drains in any configuration. Temperature range is –20° to 150° F.

Capacity, gal.	Max. Pressure, psi	Overall Dia.	Overall Lg.	Overall Ht.		
2	150	6 1/4″	18″	9″	9827K5	$605.00
5	150	9 1/4″	21 3/8″	12″	9827K6	720.00
7	150	9 1/4″	29 3/8″	12″	9827K7	750.00
10	150	9 1/4″	40 3/8″	12″	9827K8	788.33

Portable Stainless Steel ASME-Code Pressurized Liquid Dispensing Tanks





Vacuum Closure Cap

Attach a compressed air source to pressurize liquids for dispensing and spraying. Tanks have a 1/4 NPT female dip tube that draws liquid from the bottom of the tank. Use with air, water, adhesives, and ink. Tanks have four NPT female ports. Wall is 1/8″ thick. Temperature range is –20° to 300° F. *1- to 5-gallon* tanks come with a removable EPDM gasket.

304 stainless steel tanks have good corrosion resistance.

316 stainless steel tanks have excellent corrosion resistance.

Vacuum closure caps (sold separately) are required to use tanks in vacuum applications.

Tanks

Capacity, gal.	3 7/8″ Opening Width: Max. Pressure, psi @ 100° F	Overall Dia.	Overall Ht.	Opening Lg.			5 7/8″ Opening Width: Max. Pressure, psi @ 100° F	Overall Dia.	Overall Ht.	Opening Lg.		
304 Stainless Steel												
1	205	9″	8″	3 1/4″	41705K39	$329.09	142	9″	9″	4 7/8″	41665K18	$374.07
2	205	9″	11 1/2″	3 1/4″	41705K41	369.09	142	9″	12″	4 7/8″	41665K19	411.01
3	205	9″	15″	3 1/4″	41705K42	407.27	142	9″	15″	4 7/8″	41665K21	418.97
5	205	9″	22″	3 1/4″	41705K43	405.08	142	9″	23″	4 7/8″	41665K22	441.67
10	165	12″	25″	3 1/4″	41705K45	711.67	129	12″	25″	4 7/8″	41665K24	750.00
16	165	12″	38″	3 1/4″	41705K47	873.33	129	12″	37″	4 7/8″	41665K26	958.33
25	—	—	—	—	—	—	130	18″	28″	4 7/8″	41665K74	1,912.38
316 Stainless Steel												
1	185	9″	8″	3 1/4″	6778K18	360.71	132	9″	8″	4 7/8″	41665K28	391.38
2	185	9″	12″	3 1/4″	6778K19	408.93	132	9″	12″	4 7/8″	41665K29	421.67
3	185	9″	15″	3 1/4″	6778K21	421.05	132	9″	15″	4 7/8″	41665K31	428.33
5	185	9″	22″	3 1/4″	6778K22	456.67	132	9″	22″	4 7/8″	41665K32	511.67
10	190	12″	25″	3 1/4″	6778K34	868.33	115	12″	25″	4 7/8″	41665K44	906.67
16	190	12″	38″	3 1/4″	6778K36	1,041.67	115	12″	37″	4 7/8″	41665K46	1,089.08
25	—	—	—	—	—	—	129	18″	28″	4 7/8″	41665K73	2,364.41

Seals, Covers, and Caps

	For 3 7/8″ Opening Width		For 5 7/8″ Opening Width	
EPDM Pressure Seal	4355T86	$10.00	4355T87	$14.00
Fluoroelastomer Seal	6778K6	18.00	41665K8	34.00
Replacement Cover	4355T31	80.00	4355T32	110.00
Vacuum Closure Cap	6778K7	92.00	41665K9	114.00

Compressed Air Flow Boosters

Create a high-flow air stream from your compressed air supply. Flow boosters draw in ambient air, which amplifies compressed air flow. Use hose clamps (not included) to connect hose or duct to the inlet or outlet. To maximize performance and service life, install a filter inline before the booster to remove particles down to the maximum particle size.

Fixed boosters are anodized aluminum and have an NPT female compressed air inlet. Maximum temperature is 140° F. Maximum particle size is 5 microns.

Fixed boosters with flange mount easily near your equipment. They're zinc, except booster with 17:1 flow output to input ratio is aluminum. Compressed air inlet is NPT female. Maximum temperature is 130° F. Maximum particle size is 20 microns.

Adjustable boosters allow you to fine-tune the flow—rotate the knurled ring to change the amount of ambient air drawn into the booster. They're made of aluminum. Compressed air inlet is NPT male. Maximum temperature is 200° F. Maximum particle size is 20 microns.


Fixed with Flange

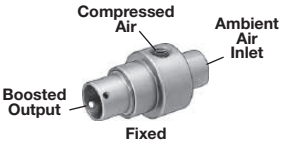


Adjustable

Flow Output to Input Ratio	Input Pressure Range, psi	Flow, cfm @ 90 psi Input Pressure Max. Input	Max. Output	Inlet OD	Outlet OD	Compressed Air Inlet Pipe Size	Overall Lg.	Overall Wd.	Flange Lg.	Flange Ht.	Flange Mtg. Hole Dia.		
Fixed													
4:1	10-200	8	29.2	0.75″	0.75″	1/8	2 1/2″	1 3/8″	—	—	—	5205K28	$64.17
4:1	10-200	8	29.2	1.33″	0.75″	1/8	2 1/8″	1 3/8″	—	—	—	5205K27	60.09
4:1	10-200	17	62	1.33″	0.5″	1/8	2 5/8″	1 3/8″	—	—	—	5205K29	64.17
Fixed with Flange													
10:1	5-150	6.5	42	0.98″	0.73″	1/8	2 3/16″	2 5/16″	2.3″	1.3″	0.2″	5571K9	78.30
15:1	5-150	11	155	1.5″	1.22″	1/4	2 3/4″	3″	3″	1.9″	0.27″	5571K11	124.00
16:1	5-150	21	325	2.95″	2″	3/8	3 3/4″	4 1/8″	4.1″	3.2″	0.27″	5571K12	179.62
17:1	5-150	42	615	4.92″	4″	1/2	7″	8 1/2″	8.5″	5.9″	0.53″	5571K13	343.33
Adjustable													
6:1	5-150	13	35-65	0.75″	0.75″	1/8	2 9/16″	1″	—	—	—	19075K93	64.70
8:1	5-150	13	37-79	0.75″	0.75″	1/8	2 9/16″	1 1/8″	—	—	—	19075K94	75.50
12:1	5-150	25	155-250	1.125″	1.125″	1/8	2 5/8″	1 1/2″	—	—	—	19075K95	95.40
15:1	5-150	28	200-400	1.5″	1.5″	1/4	3 1/4″	2″	—	—	—	19075K86	121.00
20:1	5-150	29	330-520	2″	2″	1/4	3 1/4″	2 1/2″	—	—	—	19075K87	154.00
22:1	5-150	40	380-840	2.5″	2.5″	1/4	4 5/8″	3″	—	—	—	19075K88	209.00
25:1	5-150	51	700-1,200	3.5″	3.5″	3/8	5 1/4″	4″	—	—	—	19075K89	319.58

Compressed Air Control Signal Flow Boosters

Use a low-flow air control signal with an air supply to produce flow up to 50 cfm to actuate valves and other air-powered system components. To maximize performance and service life, install a filter inline before the booster to remove particles down to 40 microns. Maximum temperature is 160° F. Boosters are aluminum. Connections are NPT female.

1:1 pressure output to input ratio boosters maintain pressure between the air supply inlet and the boosted output.

3:1 and 6:1 pressure output to input ratio boosters increase pressure between the air supply inlet and the boosted output.

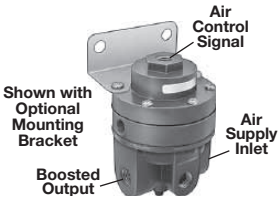

Pressure Output to Input Ratio	Pressure Range, psi Input	Pressure Range, psi Output	Max. Control Signal Pressure, psi	Exhaust Air Flow, scfm	Pipe Size Inlet	Pipe Size Outlet	Pipe Size Control Signal	Pipe Size Gauge Port	Overall Lg.	Overall Wd.	Overall Ht.		
1:1	0-250	0-150	150	15	1/4	1/4	1/4	1/4	3″	3″	4″	4987K41	$158.02
1:1	0-250	0-150	150	15	3/8	3/8	1/4	1/4	3″	3″	4″	4987K42	158.02
3:1	0-250	0-150	50	15	1/4	1/4	1/4	1/4	3″	3″	4″	4987K61	158.02
6:1	0-250	0-150	25	10	1/4	1/4	1/4	1/4	3″	3″	4″	4987K81	158.02
Optional Mounting Bracket												1888K5	10.23

Compressed Air Pressure Boosters

Ensure sufficient pressure to operate air-powered tools and machines. Pressure boosters compress the air supply, which increases air pressure. Do not use boosters for tank sizes larger than specified. To maximize performance and service life, install a filter inline before the booster to remove particles down to the maximum particle size.

Adjustable boosters with 1/4 NPTF female connections have an integral regulator so you can fine-tune the output pressure. They come with pressure gauges on the inlet and outlet. Maximum particle size is 5 microns. Boosters are aluminum, steel, and stainless steel.

Fixed boosters with 1/4 NPT female connections have a maximum continuous operating time of 4 minutes on with at least 4 minutes off. Not rated for maximum particle size. Boosters are aluminum and stainless steel.

Fixed boosters with 3/8 NPT female connections require compressed air to operate—they have a 1/2 NPT female drive inlet and a 1/8 NPT female pilot inlet that control the booster. Maximum continuous operating time is 30 minutes on with at least 30 minutes off. Maximum particle size is 40 microns. Boosters are aluminum (unless noted).


Adjustable with 1/4 NPTF Female Connections


Fixed with 1/4 NPT Female Connections

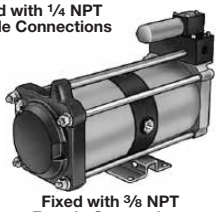
Fixed with 3/8 NPT Female Connections

Output to Input Ratio Pressure	Output to Input Ratio Flow	Pressure Range, psi Input	Pressure Range, psi Output	Number of Supply Inlets	For Tank Size, gal.	Overall Lg.	Overall Wd.	Overall Ht.	Max. Temperature		
Adjustable with 1/4 NPTF Female Connections											
2:1	1:2	14.5-145	29-290	1	5-10	6″	5″	4 1/2″	122° F	6828K75	$348.44
4:1	1:4	14.5-145	29-290	1	5-10	6″	5″	4 1/2″	122° F	6828K76	368.63
Fixed with 1/4 NPT Female Connections											
2:1	1:2	10-150	125-250	1	0-5	7 1/2″	5 1/4″	4 1/2″	Not Rated	3680K41	681.82
4:1	1:4	10-150	125-500	1	0-5	7 1/2″	5 1/4″	4 1/2″	Not Rated	3680K44	681.82
Fixed with 3/8 NPT Female Connections											
2:1	1:2	25-150	30-300	1	4-60	17″	8″	11″	180° F	9887K11	3,205.38
5:1	1:7	30-870	90-870	2	1-15	24″	9″	9″	140° F	9887K14 ★	3,461.54

★ Booster is aluminum and stainless steel.

Expansion Tanks CAD

Use these tanks to accommodate the expansion of heated water and provide a cushion of compressed air in closed water-heating systems. They prevent water loss by eliminating the need to expel hot water from systems during each heating cycle.

All of these tanks can be used vertically as well as horizontally. Openings are NPT female, unless noted.

Miniature Type 304 Stainless Steel Tanks

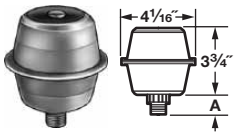

Offering excellent corrosion resistance, these miniature tanks are made of Type 304 stainless steel. A rolling fluoroelastomer rubber diaphragm maintains tank pressure at or near 0 psi, which extends seal life and prevents leakage. Maximum pressure is 15 psi. Maximum operating temperature is 350° F. Opening is NPT male.

Cap., cu. in.	Opening Pipe Size	(A)	Wall Ga.		Each
25	3/8"	7/8"	20	2269K21	$74.34
25	1/2"	1"	20	2269K22	74.34
25	3/4"	1 1/4"	20	2269K23	74.34

Painted-Steel Tanks



8-gal. tank is the only tank with (D) opening.

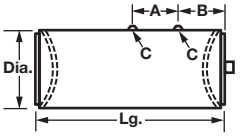



End View

Maximum pressure is 75 psi. Maximum operating temperature is 450° F. Tanks have a matte-gray primer finish.

Cap., gal.	Dia.	Lg.	(A)	(B)	Opening Pipe Size (C)	Opening Pipe Size (D)	Wall Ga.		Each
8	9"	32"	11"	5"	1/2"	3/4"	14	3667K1	$113.57
15	12"	30"	11"	4"	1/2"	—	14	3667K2	114.29
18	12"	36"	14"	4"	1/2"	—	14	3667K3	122.55

Galvanized-Steel Tanks



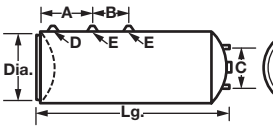

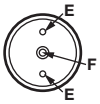

End View

Maximum pressure is 75 psi. Maximum operating temperature is 450° F. Tanks are hot-dipped for maximum corrosion resistance.

Cap., gal.	Dia.	Lg.	(A)	(B)	(C)	Opening Pipe Size (D)	Opening Pipe Size (E)	Opening Pipe Size (F)	Wall Ga.		Each
8	12"	19"	4"	4"	8 13/16"	1 1/4"	1/2"	2"	14	3666K11	$225.00
15	12"	33"	4"	11"	8 13/16"	1 1/4"	1/2"	2"	14	3666K12	274.69
40	14"	63"	4"	26"	8 13/16"	1 1/4"	1/2"	2"	14	3666K16	438.37

ASME Painted-Steel Tanks



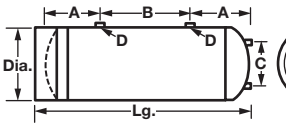



End View

Manufactured in accordance with ASME codes. Maximum pressure is 150 psi. Max. operating temp. is 450° F. Tanks have a gray enamel finish.

Cap., gal.	Dia.	Lg.	(A)	(B)	(C)	Opening Pipe Size (D)	Opening Pipe Size (E)	Wall Ga.		Each
15	12"	34 1/8"	7"	19"	8"	1"	1/2"	13	48075T61	$304.58
30	14"	49 3/8"	8 3/8"	31 1/4"	10"	1"	1/2"	12	48075T63	381.07
40	14"	64 3/8"	8 3/8"	46 1/4"	10"	1"	1/2"	12	48075T64	441.35
80	20"	64 5/16"	10"	42"	16"	1"	1/2"	11	48075T66	560.05

Painted-Steel Tanks for Drinking Water



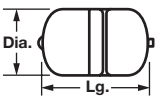

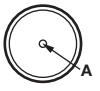

End View

These products meet NSF/ANSI Standard 61 for use with drinking (potable) water in all states as of June 1, 2010. They have a butyl rubber diaphragm, which completely separates air and water. Max. pressure is 150 psi. Max. operating temp. is 200° F. Opening is NPT male. Tanks have an almond enamel finish.

Cap., gal.	Dia.	Lg.	Opening Pipe Size (A)	Wall Ga.		Each
2.1	8"	11"	3/4"	16	4386T3	$49.11
4.5	10 1/2"	13 1/2"	3/4"	16	4386T6	62.04
8.5	12 1/2"	19 3/16"	3/4"	16	4386T8	181.73

Water Storage Tanks CAD

Water Storage Tanks



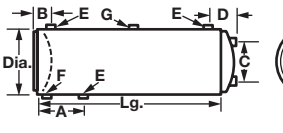

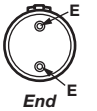

End View

ASME Hydropneumatic Storage Tank



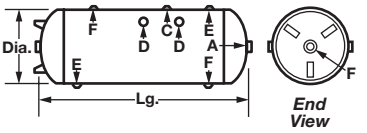

End View

These tanks can be used both vertically and horizontally as hot- and cold-water storage tanks. They are galvanized inside and outside for corrosion resistance. Openings are NPT female.

Water Storage Tanks— These tanks can be used as water heaters when used with a heat source (see our immersion heaters on pages 554-557). All are 14-ga. steel. Max. pressure is 75 psi. Max. operating temp. is 450° F.

ASME Hydropneumatic Storage Tank— You can also use this tank vertically as a hydropneumatic water storage tank. It's 11-ga. steel. Max. pressure is 125 psi. Max. operating temp. is 160° F.

Cap., gal.	Dia.	Lg.	(A)	(B)	(C)	(D)	Opening Pipe Size (E)	Opening Pipe Size (F)	Opening Pipe Size (G)		Each
Water Storage Tanks											
15	12"	30"	18"	6"	8"	6"	1"	1 1/4"	1/2"	3669K27	$248.77
30	12"	60"	18"	6"	8"	6"	1"	1 1/4"	1/2"	3669K28	363.17
40	14"	60"	18"	6"	8"	6"	1"	1 1/4"	1/2"	3669K29	425.96
82	20"	60"	18"	6"	8"	6"	1"	1 1/4"	1/2"	3669K32	660.74
ASME Hydropneumatic Storage Tank											
220	30"	76 3/4"	2"	—	1 1/4"	1/2"	3"	2"	—	45115T38	2,407.90

About Air Preparation

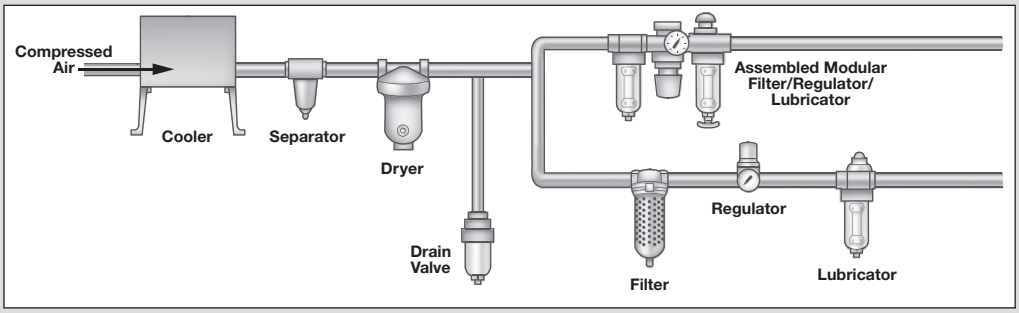

High-pressure air isn't all you get when you use a compressor—you also get water, dirt, oil, and other contaminants. Before using compressed air, it should be filtered, regulated, and in some cases, lubricated. Correctly prepared air ensures the quality and service life of your air-powered tools and equipment, including air cylinders.

Moisture Removal (Pages 1013-1017)—The first step toward dry air starts with air coolers (also known as aftercoolers), moisture separators, air dryers, and moisture drain valves. Place these items after a compressor to remove moisture from the compressed air before it enters your system. *Air coolers* (page 1013) lower the compressed air temperature, while *moisture separators* (pages 1013-1014) dispose of the condensation that occurs during this process. *Air dryers* (pages 1016-1017) remove any remaining moisture, while *moisture drain valves* (pages 1003-1005) allow you to discharge the moisture.

Filters (Pages 1017-1021)—Once you've cooled your air and removed the majority of moisture, it's necessary to filter out the remaining dirt particles, oil, oil vapors, and other damaging elements. Air filters remove solid particles and any remaining water from your system, while oil-removal or coalescing filters remove oil mist. We also offer odor-removal air filters and bacteria-removal air filters. Install filters upstream of regulators and lubricators to protect them from contamination.

Regulators (Pages 1021-1025)—Control air pressure to increase performance, save energy, and ensure the continuous, safe operation of your air-powered equipment. The pressure you need should be in the middle of the given regulating range. Relieving-style regulators exhaust excess downstream pressure; nonrelieving regulators do not.

Lubricators (Page 1025)—Introduce oil droplets into compressed air at a controlled rate. They provide point-of-use lubrication.

Filter/Regulator/Lubricators (Pages 1026-1032)—Also known as FRLs, these products conveniently combine a filter, regulator, and lubricator into a compact unit.

Water-Cooled Air Coolers



Connect these coolers to a cold-water line to cool hot air coming from a compressor—no electricity needed. Also known as after-coolers, all require a flow rate of 3 gpm per 100 scfm and are able to cool air to within 15° F of your inlet water. The cooling action condenses most of the water from your compressed air system. A moisture separator with drain is required to collect the condensed water (sold separately; see 43775K51-43775K55 on page 1014).

Coolers have a brass shell and copper tube assembly. They also have cast iron end caps that can be removed for cleaning. Max. pressure is 250 psi. Max. temperature is 250° F. Inlet and outlet connections are NPT female.

Pipe Size		Max. scfm @100 psi	O'all Size				
Air	Water		Ht.	Wd.	Dp.		
1½	½	40	31⁄2″	25⁄8″	333⁄8″	43865K76	$339.47
1½	½	80	31⁄2″	25⁄8″	423⁄8″	43865K77	388.60
1½	½	150	31⁄2″	25⁄8″	513⁄8″	43865K78	415.79
2½	1	310	61⁄4″	51⁄4″	501⁄2″	43865K79	809.17

Moisture Separators with Oil-Removal Filter



In addition to removing water and solids down to 3 microns, these separators trap oil droplets down to 5 ppm. Place them after your compressor and air cooler, or at the point of use in applications that don't require an air cooler.

All have an automatic drain and a liquid-level indicator. Body and bowl are aluminum. Filter is cotton paper for pipe sizes 1⁄8 and 1⁄4; fiber with a stainless steel core for all others. Max. pressure is 145 psi for pipe sizes 1⁄8 and 1⁄4; 250 psi for all others. Max. temperature is 140° F. Inlet and outlet connections are NPT female.

Pipe Size	Max. scfm @ 100 psi	O'all Size Ht.	Wd.	Dp.	Separators		Repl. Filter Elements	
1⁄8	11	61⁄4″	21⁄2″	23⁄4″	7341K42	$97.41	7341K44	$64.17
1⁄4	26	67⁄8″	3″	31⁄4″	7341K43	123.28	7341K45	64.17
3⁄8	20	81⁄8″	41⁄8″	41⁄8″	7341K31	190.17	7341K1	41.45
1⁄2	20	81⁄8″	41⁄8″	41⁄8″	7341K32	190.17	7341K1	41.45
1⁄2	35	111⁄8″	41⁄8″	41⁄8″	7341K34	210.00	7341K2	51.27
1⁄2	60	133⁄8″	41⁄8″	41⁄8″	7341K36	276.21	7341K3	75.27
3⁄4	100	153⁄8″	51⁄4″	51⁄4″	7341K37	323.79	7341K4	84.00
1	100	153⁄8″	51⁄4″	51⁄4″	7341K38	323.79	7341K4	84.00

Fan-Cooled Air Coolers

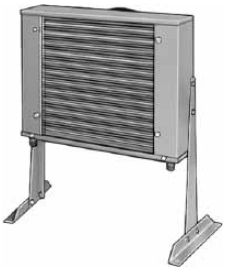

Also known as aftercoolers, these coolers have a fan to chill hot air coming from compressors. The cooling action condenses most of the water from your compressed air system. A moisture separator with drain is required to collect the condensed water (sold separately; see 43775K51-43775K55 on page 1014). All coolers have a steel housing. They also have a heat exchanger with aluminum fins and copper tubing. Mount to the floor, wall, or ceiling (except 150-scfm cooler is for floor mounting only).

Coolers have a 1⁄12 hp, single-phase motor (except 150-scfm cooler has a 1⁄4 hp motor) that operates on 115 volts AC @ 60 Hz. Max. scfm ratings are based on cooling hot compressed air to within 15° F of the ambient air. Max. pressure is 250 psi. Max. temperature is 250° F. Inlet and outlet connections are NPT male. Motor has UL recognized components; CSA certified.

Pipe Size	Max. scfm @ 80-125 psi	O'all Size Ht.	Wd.	Dp.		
1⁄2	20	22″	203⁄8″	95⁄8″	5171K51	$402.75
1⁄2	35	22″	203⁄8″	95⁄8″	5171K52	451.54
1	50	421⁄4″	261⁄8″	151⁄2″	5171K53	546.15
1½	100	421⁄4″	261⁄8″	151⁄2″	5171K54	810.77
1½	150	461⁄2″	431⁄2″	183⁄4″	5171K55	1,127.69

High-Pressure Moisture Drain Valves



Remove condensate in compressed air systems that have as much as 600 psi of pressure. Back pressure from compressed airflow activates a disc in these valves, which allows moisture to escape. The moisture is atomized as it is discharged, eliminating the need for discharge piping. An integral muffler minimizes noise.

Connect these valves to your air compressor, air cooler, moisture separator, dryer, or filter. If used outdoors, mount them vertically to prevent freezing. Body is steel; internal parts are stainless steel. Max. temperature is 220° F. Inlet and outlet connections are NPT female. All meet OSHA noise requirements.

Pipe Size	Discharge Cap. @ 100 psi, gpm	O'all Size Ht.	Wd.	Dp.		
3⁄8	0.4	5″	25⁄8″	25⁄8″	4372K5	$252.45
1⁄2	0.4	51⁄2″	25⁄8″	25⁄8″	4372K8	252.45
Replacement Muffler for 4372K5					4372K3	24.50
Replacement Muffler for 4372K8					4372K4	30.26

Moisture Separators & Drain Valves

For information about air preparation, see page 1013.

Moisture Separators

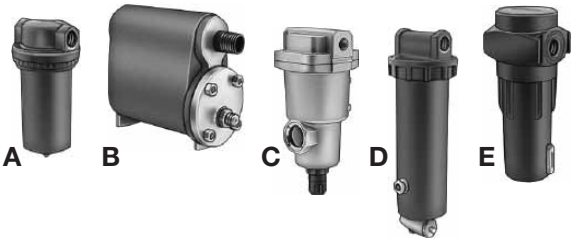

Designed for use in compressed air systems to remove excessive water condensation from your air stream. Use them downstream of your compressor and air cooler. Inlet connections are NPT female. Outlet connections are NPT female for styles A, C, D, and E; NPT male for style B.

(A&B) Separators with Internal Automatic Drain—*Style A* have a max. temperature of 150° F. *Style B* can rest on the floor or be suspended from piping. They have a max. temperature of 100° F.

(C) Separators with Internal Automatic Drain and Sight Glass—A sight glass allows convenient water inspections. Max. temperature of 140° F.

(D) Separators with External Automatic Drain—Provide more clog resistance than models with internal drains. Max. temperature is 120° F.

(E) Separators without Drain—Offer high flow rates and allow you to pipe moisture away for plumbing versatility. Max. temperature is 176° F.

Pipe Size	Max. scfm @ 100 psi	Max. psi	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.		
(A) With Internal Automatic Drain—Cast Zinc Housing							
1/4	25	200	6 1/2"	3"	2 5/8"	43775K51	$129.96
3/8	50	200	7 3/8"	3 3/8"	3"	43775K52	193.79
1/2	50	200	7 3/8"	3 3/8"	3"	43775K53	193.79
3/4	100	200	10"	4 5/8"	4 5/8"	43775K54	243.02
1	120	200	10"	4 5/8"	4 5/8"	43775K55	243.02
(B) With Internal Automatic Drain—Cast Aluminum Housing							
3/4	50	150	9 1/4"	10 1/2"	8 1/2"	4997K11	283.02
3/4	50	300	9 1/4"	10 1/2"	8 1/2"	4997K41	305.66
1	100	150	9 1/4"	10 1/2"	8 1/2"	4997K21	301.13
1	100	300	9 1/4"	10 1/2"	8 1/2"	4997K51	335.09
2	300	150	9 1/4"	10 1/2"	8 1/2"	4997K31	323.77
2	300	300	9 1/4"	10 1/2"	8 1/2"	4997K61	378.11
(C) With Internal Automatic Drain and Sight Glass—Cast Aluminum Housing							
1/8	10	145	6 1/4"	2 1/2"	2 3/4"	4997K12	84.62

Pipe Size	Max. scfm @ 100 psi	Max. psi	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.		
(C) With Internal Automatic Drain and Sight Glass—Cast Aluminum Housing (Cont.)							
1/4	28	145	6 7/8"	3"	3 1/4"	4997K13	$109.15
3/8	53	145	8 1/8"	3 5/8"	4"	4997K14	145.94
1/2	80	145	8 7/8"	4 1/4"	4 3/8"	4997K15	202.36
(D) With External Automatic Drain—Zinc and Aluminum Housing							
3/4	360	250	15 3/8"	5"	5"	2499K11	359.54
1	360	250	15 3/8"	5"	5"	2499K12	367.53
1 1/4	400	250	16 1/4"	5 1/4"	5 1/4"	2499K13	388.18
(E) Without Drain—Cast Aluminum Housing							
1	233	232	10 7/8"	5 1/8"	4 1/2"	43775K16	234.37
1 1/2	742	232	17"	6 3/4"	6 1/8"	43775K17	259.83
2	742	232	17"	6 3/4"	6 1/8"	43775K21	471.36
2 1/2	1,695	232	20"	8 1/8"	6"	43775K63	865.00
3	1,700	232	20"	8 1/8"	7 1/8"	43775K22	842.76

Oil/Water Separators



Oil-contaminated condensate from compressed air lines is no match for these separators. They remove oil from the water using a combination of gravity, an oil-absorbing prefilter, and an activated carbon filter bag. Oil is collected in a separate container, allowing you to dispose of the 99.9% oil-free water, while a large settlement chamber accumulates dirt particles. Separators also have a tap for sampling water without disconnecting the outlet piping.

Multiple inlet connections allow you to connect several compressed air components, such as air coolers, separators, moisture drain valves, air dryers, and filters. Body is polyethylene. Max. temperature is 95° F. Max. pressure is 232 psi. Attach hose to inlets and outlets with a hose clamp.

Replacement filter kit includes an oil-absorbing prefilter and an activated carbon filter bag.

Inlet Hose Barb OD (Qty.)	Outlet Hose Barb OD	Max. scfm @ 100 psi	Water Reservoir Cap., gal.	Oil Reservoir Cap., gal.	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.		
1/4" (1), 1/2" (1)	1"	106	16	1.3	32"	17"	14"	2479K11	$751.92
1/4" (1), 1/2" (1)	3/4"	162	20	1.3	32"	18"	14"	2479K12	967.31
1/4" (3), 1/2" (1)	1"	225	33	6.6	47"	31"	20"	2479K33	1,207.69
1/4" (3), 1/2" (1)	1"	450	49	6.6	47"	31"	26"	2479K34	1,496.15
Replacement Filter Kit								2479K21	198.15

Moisture Drain Valves



Also known as drip legs, these low-maintenance drains consist of a bowl and a float that automatically opens the drain when the bowl begins to fill. Install them at low points in your piping; connect to your compressed air tank, air cooler, moisture separator, dryer, or filter. Drains (except Styles G and M) can be opened manually and serviced without removing them from the air line. Inlet and outlet connections are NPT female, except Style G has a male outlet connection.

(F&G) Clear View—A transparent bowl allows you to view the moisture level. *Style F* has a polycarbonate bowl. *Style G* has a nylon bowl.

(H) With External Drain—This valve has an external drain to handle oil sludge and large particles. The bowl is polycarbonate and the drain is bronze.

(J) With Sight Glass—A sight glass allows convenient inspections. Bowl is zinc.

(K) Compact—Have a compact top-mount design for use in tight spots. Bowl is aluminum.

(L) High Capacity—These high-capacity side-mount valves have a rugged construction for long service life. Bowl is cast aluminum.

(M) High Temperature and Pressure—Offers the highest temperature and pressure of all our drain valves. With a stainless steel bowl, this valve also has excellent corrosion resistance.

	Pipe Size Inlet	Pipe Size Outlet	Discharge Cap., gpm	Max. Temp.	Max. psi	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.		
F	1/2	1/8	Not Rated	125° F	150	4 3/4"	2 3/8"	2 3/8"	5002K2	$140.52
G	1/2	6 mm OD barb	1.2	122° F	145	6 5/8"	2 3/8"	2 3/8"	2493K88	128.22
H	1/2	1/4	Not Rated	120° F	150	7 3/4"	3 3/4"	3 3/4"	2406K11	170.92
J	1/2	1/8	Not Rated	175° F	250	6 1/4"	2 3/8"	2 3/8"	5002K1	128.65
K	1/4	1/8	0.7	175° F	250	3 1/4"	2 1/2"	2 1/2"	41645K48	67.11
K	1/2	1/8	0.7	175° F	250	3 1/4"	2 1/2"	2 1/2"	41645K47	67.11
L	1	1/16	4.2	300° F	300	6 3/4"	5 1/4"	10"	4394K62	246.79
L	1	1/8	4.2	300° F	150	6 3/4"	5 1/4"	10"	4394K61	230.94
M	1/2	1/2	2.2	500° F	400	7 1/2"	2 5/8"	2 5/8"	2490K11	187.27

For information about air preparation, see page 1013.

Compressed-Air-Activated Moisture Drain Valves

Each time your compressor cycles, this piston-powered valve drains moisture. It's activated by compressed air via a 1/8" NPT female port.

Valve has rugged, cast aluminum construction for a long service life. Connect it to an air compressor, air cooler, moisture separator, dryer, or filter. Max. temperature is 150° F. Max. pressure is 200 psi. Inlet and outlet connections are NPT female.



Pipe Size	Discharge Cap., gpm	O'all Size Ht.	Wd.	Dp.		
1/4	0.25	3 7/8"	2 1/8"	2 1/8"	4919K13	$91.59

Timer-Activated Electric Moisture Drain Valves



With a timer, you set how often your drain valve opens and how long it stays open. These valves are excellent for compressed air systems with high oil content because they resist clogging when water, oil, and sediment combine to form sludge. Connect them to your air compressor, air cooler, moisture separator, dryer, or filter. Inlet and outlet connections are NPT female.

(A-D) Solenoid Valves—Allow automation with computers and PLCs to program your drain-opening cycles. *Style A* has a NEMA 1 timer enclosure (for indoor use only), a manual override switch, and a brass Y-strainer to trap large debris and sludge before it reaches the valve. It has a 6-ft. cord with three-prong plug. *Style B* have a NEMA 4 timer enclosure (for indoor and outdoor use; suitable for washdown and splashing water). They have a 6-ft. cord with three-prong plug (except 1.2-gpm and 4.5-gpm valves do not have a cord or plug). *Style C* have a NEMA 4X timer enclosure (for indoor and outdoor use; suitable for washdown and exposure to corrosive agents). They have an 8-ft. cord with three-prong plug (except 9831K22 does not have a plug; see pages 816-822 for plugs). *Style D* have a NEMA 4 timer enclosure (for indoor and outdoor use; suitable for washdown and splashing water). They have a 6-ft. cord with three-prong plug.

(E&F) Ball Valves—Resist clogging even better than solenoid valves. *Style E* have a NEMA 4X timer enclosure (for indoor and outdoor use; suitable for washdown and exposure to corrosive agents). They have an 8-ft. cord with three-prong plug. *Style F* discharge at 15 min. intervals. They're suitable for indoor use; have a 6-ft. cord with three-prong plug.

Optional strainers prevent debris from clogging valves. Manually disconnect flow to the valve for maintenance. Body is brass. Internal filter screen is Type 304 stainless steel. Connections are NPT male. All have a 1/2" inlet. Outlet is 1/4" for 4389K37, 1/2" for 4389K38, and 3/8" for 4389K39. Max. pressure is 600 psi.

	Pipe Size	Discharge Cap., gpm	Cycle Interval	Drain Time	Max. Temp.	Max. psi	Voltage	O'all Size Ht.	Wd.	Dp.	Drain Valves		Optional Strainers	
Solenoid Valves—Brass Body														
A	1/4	1.2	1-60 min.	1-30 sec.	120° F	200	115V AC	3 1/4"	4"	4 1/4"	9831K13	$183.68	4389K37	$12.82
B	1/4	3	1-45 min.	0.5-10 sec.	130° F	1,200	115V AC	4 1/2"	2"	3 7/8"	9831K35	187.50		
B	1/4	4.5	1-45 min.	0.5-10 sec.	130° F	230	24V DC	4 1/2"	1 3/4"	3 1/2"	9831K31	124.88	4389K37	12.82
B	1/4	4.8	1-45 min.	0.5-10 sec.	130° F	300	115V AC	4 1/4"	1 3/4"	3 5/8"	9831K14	107.38	4389K37	12.82
B	1/4	15	1-45 min.	0.5-10 sec.	130° F	300	115V AC	4 5/8"	2 5/8"	3 5/8"	9831K17	142.38	4389K37	12.82
B	3/8	1.2	1-45 min.	0.5-10 sec.	130° F	230	24V DC	4 1/2"	3 1/2"	3 1/2"	9831K27	139.88	4389K39	12.82
B	3/8	4	1-45 min.	0.5-10 sec.	130° F	1,200	115V AC	4 1/2"	3 1/2"	3 1/2"	9831K26	225.00		
B	3/8	7	1-45 min.	0.5-10 sec.	130° F	300	115V AC	4 1/4"	3 5/8"	3 5/8"	9831K23	107.38	4389K39	12.82
B	3/8	19	1-45 min.	0.5-10 sec.	130° F	300	115V AC	4 1/2"	3 1/2"	3 1/2"	9831K25	142.38	4389K39	12.82
B	1/2	3	1-45 min.	0.5-10 sec.	130° F	1,200	115V AC	4 1/2"	2"	3 7/8"	9831K36	225.00		
B	1/2	4.5	1-45 min.	0.5-10 sec.	130° F	230	24V DC	4 1/2"	1 3/4"	3 1/2"	9831K32	124.88	4389K38	12.82
B	1/2	7	1-45 min.	0.5-10 sec.	130° F	300	115V AC	4 1/4"	3 5/8"	3 5/8"	9831K24	107.38	4389K38	12.82
B	1/2	15	1-45 min.	0.5-10 sec.	130° F	300	115V AC	4 5/8"	2 5/8"	3 5/8"	9831K18	142.38	4389K38	12.82
C	1/4	2.9	0-50 min.	1-15 sec.	180° F	200	120V AC	4 1/2"	6"	3"	9831K12	176.00	4389K37	12.82
C	1/4	2.9	0-50 min.	1-15 sec.	180° F	200	240V AC	4 1/2"	6"	3"	9831K22	216.00	4389K37	12.82
D	1/4	7	0-99 hrs.	0-99 hrs.	130° F	300	115V AC	4 1/4"	3 5/8"	3 5/8"	3976T1	142.38	4389K37	12.82
D	3/8	7	0-99 hrs.	0-99 hrs.	130° F	300	115V AC	4 1/4"	3 5/8"	3 5/8"	3976T2	142.38	4389K39	12.82
D	1/2	7	0-99 hrs.	0-99 hrs.	130° F	300	115V AC	4 1/4"	3 5/8"	3 5/8"	3976T3	142.38	4389K38	12.82
Ball Valves—Bronze Body														
E	1/2	1.25	1-50 min.	5 sec.	180° F	600	115V AC	7"	7 5/8"	4"	41545K19	333.33	4389K38	12.82
E	3/4	2.5	1-50 min.	5 sec.	180° F	600	115V AC	7 1/2"	7 5/8"	4"	41545K22	396.30		
E	1	4.3	1-50 min.	5 sec.	180° F	600	115V AC	7 3/4"	7 5/8"	4"	41545K23	414.81		
Ball Valves—Type 316 Stainless Steel Body														
E	1/2	1.25	1-50 min.	5 sec.	180° F	2,000	115V AC	7"	7 5/8"	4"	41545K27	413.11		
E	3/4	2.5	1-50 min.	5 sec.	180° F	600	115V AC	7 1/2"	7 5/8"	4"	41545K25	444.83		
E	1	4.3	1-50 min.	5 sec.	180° F	600	115V AC	7 3/4"	7 5/8"	4"	41545K26	551.72		
Ball Valves—Nickel-Plated Brass Body														
F	1/4	18	1-24 hrs.	1-15 min.	140° F	720	115V AC	6 3/8"	6 1/4"	3"	41545K34	329.27		
F	1/2	18	1-24 hrs.	1-15 min.	140° F	720	115V AC	6 3/8"	6 3/8"	3"	41545K29	341.46		
F	3/4	18	1-24 hrs.	1-15 min.	140° F	720	115V AC	6 3/8"	6 3/8"	3"	41545K32	341.18		
F	1	18	1-24 hrs.	1-15 min.	140° F	720	115V AC	6 3/8"	6 3/8"	3"	41545K33	352.19		
Replacement Filter Screen for Optional Strainers													4389K21	2.94

Sensor-Activated Electric Moisture Drain Valves

When the internal sensor detects condensate, it opens the valve to allow moisture to drain and then closes the valve to prevent air loss and save energy. Connect to your air compressor, air cooler, moisture separator, dryer, or filter. All have a 6-ft. cord with three-prong plug. Inlet connections are NPT female.

(G&H) Clog Resistant—Resist clogging when water, oil, and sediment combine to form sludge. An alarm with a remote contact lets you connect a signaling device. Two inlet connections let you connect two components at the same time. Body is stainless steel and copper. Valves operate on 115V AC, 50/60 Hz.

(J) High Flow—Body is aluminum. Valve operates on 115/230V AC, 50/60 Hz.



	Inlet Pipe Size	Outlet Size	Max. scfm @ 100 psi	Discharge Cap., gpm	Max. Temp.	Max. psi	O'all Size Ht.	Wd.	Dp.		
G	1/8, 1/2	Barbed for 5/16" Hose ID	247	0.02	140° F	232	4 7/8"	2 3/4"	6 1/2"	6773K32	$445.00
H	1/8, 1/2	Barbed for 5/16" Hose ID	1,059	0.07	140° F	232	5 1/2"	2 3/4"	6 1/2"	6773K33	550.00
J	1/2	1/4 NPT Female	3,000	2.5	140° F	230	4 3/8"	3 3/8"	7"	6773K18	419.25

Desiccant Air Dryers



Standard with Polycarbonate Bowl



Standard with Aluminum Bowl



High Pressure with Steel Bowl



High-Pressure Chemical Resistant (Pipe Size 1/4)



High-Pressure Chemical Resistant (Pipe Size 1/2)

Count on these tried and true air dryers to remove moisture from your compressed air system.

Standard—Desiccant is silica gel, which changes from blue to pink when saturated. To reactivate, heat desiccant for three to four hours at 350° F. Body is zinc. Dryers have a steel bowl guard (except the 25-scfm dryer has an aluminum bowl guard). Inlet and outlet connections are NPT female.

Dryers with *polycarbonate bowl* have a transparent bowl so you can see when the desiccant is saturated. Max. pressure is 150 psi. Max. temperature is 125° F.

Dryers with *aluminum bowl* have a moisture indicator to monitor desiccant saturation. Max. pressure is 150 psi. Max. temperature is 150° F.

High Pressure—Have a sight glass to monitor the desiccant, which is silica gel and changes from blue to pink when saturated. To reactivate, heat desiccant at 275° F until it returns to the original blue color. Body is aluminum. Max. pressure is 250 psi. Max. temperature is 120° F. Inlet and outlet connections are NPT female.

High-Pressure Chemical Resistant—Offer excellent resistance to synthetic compressor lubricants, hydrocarbons, solvents, acids, and other chemicals. All have clay desiccant to remove not only moisture, but also oil and oil vapor. They also have a built-in filter to capture particles down to 0.3 microns. Body is polyurethane. Bowl is transparent so you can view the desiccant, which darkens when saturated. Dryers lower inlet air dew point by 20% and can be mounted vertically and horizontally. Max. pressure is 250 psi. Max. temperature is 180° F.

Pipe size 1/4 model is a disposable one-piece unit. Desiccant cannot be reactivated or replaced. Inlet and outlet connections are NPT female. *Pipe size 1/2 model* has a two-piece housing with built-in mounting bracket. Desiccant can be replaced but not reactivated. Inlet and outlet connections are NPT male.

Pipe Size	Max. scfm @ Lowest Dew Point	Lowest Dew Point	Bowl Material	*O'all Size* Ht.	Wd.	Dryers		Replacement Desiccant	
Standard									
1/4	5	–45° F	Polycarbonate	6 1/2"	2 3/4"	5163K17	$103.47	5163K47	$18.14
1/4	10	–45° F	Polycarbonate	13 7/8"	4 7/8"	5163K18	220.53	5163K48	62.72
1/4	10	–45° F	Aluminum	13 7/8"	4 7/8"	5163K22	281.41	5163K48	62.72
1/2	10	–45° F	Polycarbonate	13 7/8"	4 7/8"	5163K21	220.53	5163K48	62.72
1/2	10	–45° F	Aluminum	13 7/8"	4 7/8"	5163K23	281.41	5163K48	62.72
1/2	25	–45° F	Aluminum	21 5/8"	4 5/8"	5163K19	320.91	5163K49	153.28
High Pressure									
3/8	5	–30° F	Zinc	8 1/4"	3 3/4"	4370K11	93.48	4370K3	16.35
1/2	15	–30° F	Steel	8 7/8"	4 7/8"	4370K5	149.76	4370K3	16.35
3/4	50	–30° F	Aluminum	23 1/2"	5"	4370K13	431.04	4370K4	57.28
High-Pressure Chemical Resistant									
1/4	5 @ 100 psi	Not Rated	Polyurethane	4 1/2"	2 7/8"	5164K77	94.37		
1/2	15 @ 100 psi	Not Rated	Polyurethane	9 1/4"	3 1/8"	5164K76	240.49	5164K81	30.48

Heavy Duty Desiccant Air Dryers



Able to handle higher pressures than standard desiccant dryers, these are for use in environments with particularly high moisture. All have a bronze filter element that removes particles down to 90 microns on the 15- and 30-scfm models; 40 microns on the 60-scfm models. A built-in sight glass allows you to monitor the desiccant, which is silica gel and sold separately below. The desiccant changes color from blue to pink when saturated. To reactivate, heat the desiccant at 350° F until it returns to the original blue color.

All dryers have a zinc body. Max. pressure is 300 psi. Max. temperature is 180° F. Inlet and outlet connections are NPT female.

Pipe Size	Max. scfm @ –40° F Dew Point	Bowl Material	*O'all Size* Ht.	Wd.	Dryers		Silica Gel Desiccant No. Required		
1/4	15	Aluminum	13 1/2"	5"	1132K11	$295.05	1	1132K41	$106.26
3/8	15	Aluminum	13 1/2"	5"	1132K12	295.05	1	1132K41	106.26
1/2	15	Aluminum	13 1/2"	5"	1132K13	295.05	1	1132K41	106.26
1/2	30	Aluminum	23 1/4"	5"	1132K15	472.60	1	1132K41	106.26
1/2	60	Steel	30 1/4"	5"	1132K18	705.51	1	1132K52	246.10
3/4	15	Aluminum	13 1/2"	5"	1132K14	295.05	1	1132K41	106.26
3/4	30	Aluminum	23 1/4"	5"	1132K16	472.60	1	1132K41	106.26
3/4	60	Steel	30 1/4"	5"	1132K19	705.51	1	1132K52	246.10
1	30	Aluminum	23 1/4"	5"	1132K17	472.60	1	1132K41	106.26
1	60	Steel	30 1/4"	5"	1132K21	705.51	1	1132K52	246.10

High-Flow Desiccant Air Dryers



Clear Acrylic Cylinder



Aluminum Cylinder w/ Sight Glass

High air flow capacities allow these dryers to be used on main compressed air lines servicing multiple end uses. Max. temperature is 150° F. Inlet and outlet connections are NPT female.

Dryers with Clear Acrylic Cylinder—The cylinder is transparent so you can monitor the desiccant. Max. pressure is 150 psi.

Dryers with Aluminum Cylinder—Stand up to vapors and liquids that can weaken plastic cylinders. Max. pressure is 250 psi. *Aluminum cylinders with sight glass* allow you to monitor the desiccant.

Clay desiccant traps not only water, but also oil, oil vapor, hydrocarbons, and particulates. Desiccant is grayish-brown and darkens when saturated, letting you know it must be replaced (desiccant cannot be regenerated). Dryers that use clay desiccant lower input air dew point by 20%.

Silica-gel desiccant changes color from blue to pink when saturated. To reactivate, heat desiccant at 220° F for two hours. Dryers that use silica-gel desiccant lower input air dew point by 40%.

Pipe Size	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.	*Dryers* Clear Acrylic Cylinder		Aluminum Cylinder		Alum. Cylinder w/Sight Glass		Replacement Desiccant (2 required)	
With Clay Desiccant											
1/2	20	11 7/8"	4 3/8"	4437K12	$589.65	4437K32	$623.34	4437K1	$1,027.75	4437K51	$25.94
1	60	19 3/4"	6 1/2"	4437K13	1,034.03	4437K43	1,101.61	4437K2	1,439.90	4437K52	54.98
1 1/2	100	21 3/4"	8"	4437K15	1,428.57	4437K45	1,465.09	4437K3	1,914.91	4437K55	87.38
2	200	19 1/8"	9 1/2"	4437K16	1,819.81	4437K46	1,887.97	4437K4	2,429.97	4437K56	106.85
With Silica-Gel Desiccant											
1/2	20	11 7/8"	4 3/8"	4437K611	607.19	4437K711	640.61	4437K5	1,043.77	4437K81	33.96
1	60	19 3/4"	6 1/2"	4437K621	1,057.93	4437K721	1,125.87	4437K6	1,463.45	4437K82	61.59
1 1/2	100	21 3/4"	8"	4437K631	1,486.40	4437K731	1,544.47	4437K7	1,971.90	4437K83	100.07
2	200	19 1/8"	9 1/2"	4437K641	1,916.59	4437K741	1,985.01	4437K8	2,529.83	4437K84	129.30

Disposable Desiccant Air Dryers



When the desiccant changes color, it's time to discard and replace this economical dryer. Designed for inline, point-of-use applications, it includes a filter that removes particles down to 40 microns. Dryer can be installed vertically or horizontally. It has a transparent polycarbonate bowl to view the desiccant, which is silica gel and changes from blue to pink when saturated. Max. pressure is 125 psi. Max. temperature is 130°F. Inlet connection is NPT female. Outlet connection is NPT male.

Pipe Size	Max. scfm @ –30°F Dew Point	O'all Size Ht.	O'all Size Wd.		
1/4	15	3 3/4"	1 3/4"	7793T1	$9.88

Desiccant Air Dryers with Oil-Removal Filter



As air enters the dryer, an oil filter traps larger particles and droplets of oil and water to reduce desiccant contamination. The desiccant then absorbs the oil and water and removes solid particles down to 0.3 microns. Dryers lower dew point of inlet air by 20% and should be installed at the point of use.

Dryers have a polyurethane body and manual drain. They also have a transparent polyurethane bowl that lets you monitor the desiccant, which is clay and darkens when saturated, letting you know it must be replaced (desiccant cannot be reactivated). Max. pressure is 250 psi. Max. temperature is 180°F. Inlet and outlet connections are NPT female.

Pipe Size	Max. scfm @ 100 psi	O'all Size Ht.	O'all Size Wd.	Dryers		Replacement Desiccant No. Required		Replacement Filter Elements	
1/2	20	10 5/8"	4 5/8"	4386K6	$610.02	1	4386K41	$36.11	4386K11	$64.29
1	40	9 1/2"	6 1/8"	4386K8	1,056.84	1	4437K52	54.98	4386K12	76.91
1	60	14 3/4"	6 1/8"	4386K9	1,201.97	2	4437K52	54.98	4386K13	118.80

Continuous-Use Desiccant Air Dryers



Each dryer has two internal desiccant towers—one dries your air while the other automatically reactivates the desiccant to provide an uninterrupted compressed air supply, dried to a dew point of –40°F. All dryers have one filter that removes oil particles down to 0.01 microns, two combination desiccant/particle filters that remove particles down to 1 micron, an automatic drain, and an electronic display. An audible alarm lets you know when it's time to change the filters and service the dryer, which you can do without disconnecting the air connections.

Dryers operate on 115V AC, 60 Hz; are single phase; and have a junction box for hardwiring. Housing is aluminum. Max. pressure is 175 psi. Max. temp. is 122°F. Inlet and outlet connections are NPT female.

Maintenance kits include replacement desiccant, an automatic drain, and filter elements.

Pipe Size	Max. scfm@ –40°F Dew Point	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.	Dryers		Maintenance Kits	
3/8	3	16 5/8"	11 1/2"	6"	1156K11	$1,599.04	1156K31	$307.27
3/8	5	19 3/4"	11 1/2"	6"	1156K12	1,759.62	1156K32	321.82
3/8	8	24 1/4"	11 1/2"	6"	1156K13	1,951.89	1156K33	349.09
3/8	20	43 1/4"	11 1/2"	6"	1156K17	2,601.79	1156K37	567.27

Air Dryers/Coolers



Dryers cool air with refrigerant, then expel the moisture through an automatic drain to provide air that's dried to a dew point of 38°F. All operate on 115V AC, 60 Hz and are single phase. They have a power-on light and a dew point indicator. They also have a 6-ft. cord with three-prong plug. Install them after your air cooler or moisture separator. Max. pressure is 232 psi. Max. temperature is 140°F. Inlet and outlet connections are NPT female.

Pipe Size	Max. scfm @ 38°F Dew Point	Motor hp	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.		
1/2	10	1/5	17"	17 3/4"	8 3/8"	4409K82	$842.22
1/2	15	1/4	17"	17 3/4"	8 3/8"	4409K83	1,020.37
1/2	25	3/8	20"	19 3/4"	8 3/8"	4409K84	1,383.09
1/2	35	1/2	20"	19 3/4"	8 3/8"	4409K85	1,599.11
3/4	50	3/4	22 3/8"	20 1/2"	9"	4409K86	2,072.00
3/4	75	1	22 3/8"	20 1/2"	9"	4409K87	2,524.15

Air Cooler, Filter, Dryer, and Drain Combination Unit



Eliminate the need for a separate air cooler, moisture separator, and drain with these dryers, which combine all those functions into a single unit. Dryers cool air with refrigerant, then expel the moisture through an automatic drain to provide air that's dried to a dew point of 50°F. All operate on 115V AC, 60 Hz and are single phase. They have a power-on light and a dew point indicator. They also have a 6-ft. cord with three-prong plug. Max. pressure is 232 psi. Max. temp. is 200°F. Inlet and outlet connections are NPT female.

Pipe Size	Max. scfm @ 50°F Dew Point	Motor hp	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.		
3/8	15	1/4	32"	9 7/8"	17 3/4"	13475K41	$1,734.38
1/2	25	1/3	39"	11 1/8"	23 5/8"	13475K42	1,889.06
1/2	35	1/2	39"	11 1/8"	23 5/8"	13475K43	2,296.88
3/4	50	3/4	47 3/4"	14"	27 5/8"	13475K44	2,807.81
3/4	75	1	47 3/4"	14"	27 5/8"	13475K45	3,473.44
3/4	100	1 1/4	47 3/4"	14"	27 5/8"	13475K46	4,073.44

Disposable Air Filters

Throw these point-of-use compressed air filters away after you're done with them. All have an element to remove vapors, aerosols, and particles. *Style A* and *D filters* have a plastic body. *Style B* and *C filters* have a steel body.









	Inlet/Outlet Connection Size	Max. scfm	Max. psi	Particle Size, microns	Max. Temp.	O'all Size Lg.	O'all Size Wd.		1-2	3-Up
With Pipe Connections										
A	1/4 NPT Male/1/4 NPS Female	30 @ 100 psi	100	0.01	120°F	2 1/2"	2 1/2"	9842K12	$11.00	$8.71
B	1/4 NPT Male	15.5 @ 90 psi	90	0.5	200°F	4 3/4"	3"	9842K9	94.47	74.79
C	1/4 NPT Male	13.5 @ 100 psi	200	0.5	200°F	8 1/8"	3"	9842K11	99.74	79.52
C	1/2 NPT Male	11.5 @ 100 psi	250	0.5	200°F	8 3/8"	3"	9842K31	102.68	81.29
With Barbed Connections										
D	For 6 to 12 mm Tube ID	Not Rated	60	0.2	75°F	2 1/2"	2 1/2"	9842K25	13.27	10.52
D	For 6 to 12 mm Tube ID	Not Rated	60	0.45	75°F	2 1/2"	2 1/2"	9842K26	13.27	10.52

Air Filters



A



B



C



D&E



F



G



H

Remove solid particles and water from your compressed air to extend the life of your air-powered tools and equipment. Inlet and outlet connections are NPT female or BSPP straight (see listing below).

Choose **filters with automatic drain** if you drain large quantities of water.

(A) Standard—All remove particles down to 5 microns.

Filters with NPT threads can be pipe nipple connected or used in Norgren-compatible modular air filter/regulator/lubricators. Body and bowl are aluminum (except filters with a max. scfm of 47 have a zinc body and bowl).

Filters with BSPP threads have an aluminum body and polycarbonate bowl.

(B) With Service Indicator—All remove particles down to 5 microns and have an indicator to signal when the filter element needs to be replaced. Filters have a zinc die cast steel body and polycarbonate bowl.

(C) Clear View—A clear polycarbonate bowl lets you see what's being filtered. All filters remove particles down to 5 microns. Body is zinc and bowl guard is steel (except filters with a max. scfm of 23 and 25 do not have a bowl guard).

(D) Chemical-Resistant Clear View—In addition to seeing what's being filtered, a clear polyurethane bowl offers increased chemical resistance for use in systems with synthetic compressor oils and cleaning liquids. All filters remove particles down to 5 microns. Body is brass.

(E&F) Corrosion-Resistant Clear View—Have an aluminum body for increased corrosion resistance and a clear bowl that lets you see what's being filtered.

Style E remove particles down to 20 microns. They have a polycarbonate bowl.

Style F remove particles down to 5 microns. They have a polycarbonate bowl.

(G) Ultra Corrosion Resistant—Body and bowl are Type 316 stainless steel to handle extremely corrosive environments such as those found in the semiconductor, marine, chemical, and paper industries. Filter with *1/4 pipe size* removes particles down to 20 microns. Filter with *1/2 pipe size* removes particles down to 40 microns.

(H) Fine Clear View—Highly efficient all-plastic filter removes particles down to 1 micron. A clear polyurethane bowl lets you see what's being filtered. An acetal body offers corrosion resistance.

	Pipe Size	Max. scfm @ 100 psi	Max. psi	Max Temp.	*O'all Size* Ht.	*O'all Size* Wd.	Filters with Automatic Drain		Filters with Manual Drain		Replacement Filter Elements	
A	1/4 NPT	45	250	175° F	6 7/8"	2 3/4"	**4958K23**	$85.08	**4958K24** ★	$58.79	**4958K82**	$6.87
A	1/4 NPT	47	150	150° F	5 1/2"	2"	**4958K78**	64.70	**4958K34** ★	38.82	**4958K81**	4.51
A	3/8 NPT	58	250	175° F	6 7/8"	2 3/4"	**4958K25**	85.90	**4958K26** ★	59.39	**4958K82**	6.87
A	3/8 NPT	82	250	175° F	7 3/8"	3 1/4"	**4958K27**	85.90	**4958K28** ★	58.79	**4958K95**	10.04
A	1/2 NPT	62	250	175° F	6 7/8"	2 3/4"	**4958K31**	85.08	**4958K32** ★	58.55	**4958K82**	6.87
A	1/2 NPT	110	250	175° F	7 3/8"	3 1/4"	**4958K41**	106.44	**4958K42** ★	74.51	**4958K95**	10.04
A	3/4 NPT	110	250	175° F	7 3/8"	3 1/4"	**4958K43**	106.98	**4958K44** ★	77.74	**4958K95**	10.04
A	3/4 NPT	298	250	175° F	11 3/8"	4 3/4"	**4958K47**	213.12	**4958K48** ★	176.85	**4958K97**	48.52
A	1 NPT	298	250	175° F	11 3/8"	4 3/4"	**4958K51**	210.19	**4958K52** ★	175.16	**4958K97**	48.52
A	1 1/4 NPT	298	250	175° F	11 3/8"	4 3/4"	**4958K53**	216.45	**4958K54** ★	204.76	**4958K97**	48.52
A	1 1/2 NPT	298	250	175° F	11 3/8"	4 3/4"	**4958K57**	243.51	**4958K58** ★	204.76	**4958K97**	48.52
A	1/8 BSPP	45	203	140° F	177 mm	40 mm			**4120T1**	53.23	**4120T21**	9.77
A	1/4 BSPP	56	203	140° F	177 mm	40 mm			**4120T2**	53.23	**4120T21**	9.77
A	3/8 BSPP	116	290	140° F	218 mm	62 mm			**4120T4**	82.22	**4120T22**	14.49
A	1/2 BSPP	123	290	140° F	218 mm	62 mm			**4120T5**	82.22	**4120T22**	14.49
B	1/4 NPT	130	145	140° F	8 1/4"	2 1/8"	**3248T1**	66.46	**3248T2**	42.54	**8540T1**	4.58
B	3/8 NPT	130	145	140° F	8 1/4"	2 1/8"	**3248T3**	68.66	**3248T4**	43.56	**8540T1**	4.58
B	1/2 NPT	206	145	140° F	9 3/4"	2 3/4"	**3248T5**	80.28	**3248T6**	52.74	**8540T2**	8.64
B	3/4 NPT	427	145	140° F	12 7/8"	3 5/8"	**3248T7**	105.60	**3248T8**	78.06	**8540T3**	12.22
B	1 NPT	427	145	140° F	12 7/8"	3 5/8"	**3248T9**	105.60	**3248T11**	78.10	**8540T3**	12.22
C	1/8 NPT	23	150	125° F	4 3/8"	1 3/4"	**4274K91**	29.89	**4274K93** ■	25.20	**4274K81**	18.36
C	1/4 NPT	25	150	125° F	4 3/8"	1 3/4"	**4274K92**	29.89	**4274K94** ■	25.20	**4274K81**	18.36
C	1/4 NPT	63	150	125° F	6 3/4"	3"	**4274K31**	87.94	**4274K21** ■	61.40	**4274K52**	16.86
C	1/4 NPT	81	150	125° F	7 5/8"	3 3/8"	**4274K15**	109.57	**4274K16** ■	64.16	**4274K53**	16.86
C	3/8 NPT	74	150	125° F	6 3/4"	3"	**4274K32**	87.94	**4274K22** ■	61.40	**4274K52**	16.86
C	3/8 NPT	118	150	125° F	7 5/8"	3 3/8"	**4274K17**	109.57	**4274K18** ■	83.03	**4274K53**	16.86
C	1/2 NPT	150	150	125° F	7 5/8"	3 3/8"	**4274K33**	100.69	**4274K23** ■	76.30	**4274K53**	16.86
C	3/4 NPT	316	150	125° F	10 1/8"	4 5/8"	**4274K34**	154.52	**4274K24** ■	130.21	**4274K54**	34.26
C	1 NPT	323	150	125° F	10 1/8"	4 5/8"	**4274K35**	154.52	**4274K25** ■	130.21	**4274K54**	34.26
D	1/8 NPT	22	150	120° F	4 3/4"	1 5/8"	**8287K17**	42.35	**8287K11**	36.84	**1399K21**	8.83
D	1/4 NPT	22	150	120° F	4 3/4"	1 5/8"	**8287K18**	42.35	**8287K12**	36.84	**1399K21**	8.83
E	1/8 NPT	22	150	120° F	4 1/4"	1 5/8"	**2383T11**	36.45	**2383T46**	33.67	**6760K15**	9.63
E	1/4 NPT	22	150	120° F	4 1/4"	1 5/8"	**2383T12**	36.45	**2383T47**	33.67	**6760K15**	9.63
F	3/8 NPT	206	145	140° F	6 1/2"	2 3/4"			**8287K13**	46.69	**8540T2**	8.64
F	1/2 NPT	206	145	140° F	6 1/2"	2 3/4"			**8287K22**	46.70	**8540T2**	8.64
F	3/4 NPT	212	145	140° F	6 3/4"	3"			**8287K15**	51.95	**8540T2**	8.64
F	1 NPT	427	145	140° F	9 3/4"	3 5/8"			**8287K16**	78.21	**8540T3**	12.22
G	1/4 NPT	23	300	180° F	4"	1 5/8"			**4285K12**	218.33	**6760K15**	9.63
G	1/2 NPT	72	300	180° F	5 5/8"	2 1/2"			**4285K14**	446.59	**4285K24**	8.33
H	1/4 NPT	20	100	125° F	5 1/4"	3"			**2990K11**	107.10	**2990K21**	7.40

★ Overall height is approximately 5/8" higher. ■ Overall height is approximately 1/4" lower.

Miniature Air Filters



Standard Pressure



High Pressure

Use these compact air filters before air tools to remove unwanted moisture and particles from your compressed air and extend tool life.

Standard Pressure—Filter removes particles down to 5 microns. Body is brass. Max. temperature is 180° F. Connections are NPT female.

High Pressure—Filters remove particles down to 40 microns. Body is aluminum. Max. temperature is 200° F. Connections are NPT female (except 4414K32 and 4414K33 have one NPT male connection and one NPT female connection).

Pipe Size	Max. scfm @ 100 psi	*O'all Size* Lg.	*O'all Size* Wd.	Filters		Replacement Filter Elements	
Standard Pressure—Max. pressure is 250 psi.							
1/4	10	4 3/4"	1 1/4"	**4414K71**	$23.82	**4414K72**	$6.99
High Pressure—Max. pressure is 500 psi.							
1/8	21	2 3/8"	3/4"	**4414K32**	6.74	**4414K38**	2.26
1/4	38	2 3/8"	3/4"	**4414K33**	6.74	**4414K38**	2.26
3/8	60	2 3/8"	3/4"	**4414K36**	25.75	**4414K38**	2.26
1/2	142	3 1/4"	1 1/2"	**4414K34**	23.90	**4414K39**	5.93
3/4	160	3 1/4"	1 1/2"	**4414K35**	23.90	**4414K39**	5.93

For information about air preparation, see page 1013.

Fine Air Filters

Not much gets by these filters—they remove moisture, oil mist, smoke contaminants, and particles down to 0.01 microns from compressed air and vacuum lines. Housing is aluminum coated with epoxy for corrosion resistance. Max. pressure is 125 psi. Max. temperature is 175° F. Inlet and outlet connections are NPT female.

9841K91 includes a mounting bracket.



Pipe Size	Max. scfm @ 100 psi	O'all Size Ht.	O'all Size Wd.	Filters		Replacement Filter Elements	
1/4	60	7″	5″	9841K91	$124.95	9841K93	$12.52
3/8	70	7″	5″	9841K94	128.00	9841K93	12.52
1/2	110	7″	5″	9841K92	127.99	9841K93	12.52

Clean Room Air Filters

Cleaned and double-packed for protection from contamination, these filters are for use in clean room environments. All remove particles down to 5 microns. Body is aluminum and bowl is polycarbonate with a steel bowl guard. A mounting bracket is included. Max. pressure is 145 psi. Max. temperature is 140° F. Inlet and outlet connections are NPT female.



Pipe Size	Max. scfm @ 100 psi	O'all Size Ht.	O'all Size Wd.		
1/8	53	3 7/8″	1 5/8″	7279K21	$35.96
1/4	128	5 3/8″	2″	7279K5	40.36
3/8	128	5 3/8″	2″	7279K6	40.36
1/2	205	6 3/4″	2 3/4″	7279K7	51.63
3/4	212	7″	3″	7279K8	54.41
1	427	9 3/4″	3 5/8″	7279K22	82.20

Heavy Duty Air Filters

A specially designed Type 304 stainless steel element handles air lines with large, dirty particles. The element removes moisture and particles down to 1 micron (except for pipe sizes 1 1/4 to 2 remove particles down to 3 microns). Body is zinc. Choose an aluminum bowl or a polycarbonate bowl with a steel bowl guard.

Filters have an automatic drain and a service indicator to signal when the filter element needs to be replaced (except for pipe sizes 1 1/4 to 2 do not have a service indicator). Max. pressure is 150 psi. Max. temperature is 125° F. Inlet and outlet connections are NPT female.



With Aluminum Bowl



With Polycarbonate Bowl

Pipe Size	Max. scfm @ 100 psi	O'all Size Ht.	O'all Size Wd.	Filters With Aluminum Bowl		Filters With Polycarbonate Bowl		Replacement Filter Elements	
1/4	20	7 7/8″	3″	41745K21	$147.02	98875K72	$154.16	98875K82	$26.51
1/4	35	11″	3 3/4″	41745K23	184.29	98875K73	227.02	98875K83	43.73
1/4	60	11″	3 3/4″	41745K31	192.45	98875K91	239.16	98875K84	54.29
3/8	35	11″	3 3/4″	41745K24	184.29	98875K74	227.02	98875K83	43.73
3/8	60	11″	3 3/4″	41745K32	192.45	98875K92	239.16	98875K84	54.29
1/2	35	11″	3 3/4″	41745K25	184.29	98875K75	227.02	98875K83	43.73
1/2	60	11″	3 3/4″	41745K33	192.45	98875K76	239.16	98875K84	54.29
1/2	90	18″	4 1/2″	41745K34	272.14	98875K77▲	308.33	98875K85	121.12
3/4	90	18″	4 1/2″	41745K35	272.14	98875K78▲	308.33	98875K85	121.12
1	150	18″	4 1/2″	41745K26	305.92	98875K79▲	348.41	98875K86	135.39
1 1/4	400	32″	8″	98875K43	1,340.18			98875K61	306.53
1 1/2	400	32″	8″	98875K44	1,340.18			98875K61	306.53
2	700	32″	8″	98875K45	1,461.00			98875K63	391.14

▲ Overall height is 15 1/2″.

Oil-Removal Air Filters

Remove oil and oil mist from your compressed air with these filters, which are also known as coalescing filters. Inlet and outlet connections are NPT female.

(A) Standard—All remove oil and oil mist down to 0.01 ppm, and particles down to 0.01 microns. Body and bowl are aluminum. Filters have an automatic drain. They can be pipe nipple connected or used in Norgren-compatible modular filter/regulator/lubricators. Max. pressure is 250 psi. Max. temperature is 150° F.

(B&C) With Service Indicator—All remove oil and oil mist down to 0.01 ppm, particles down to 0.01 microns, and have an indicator that changes from green to red when the filter element needs to be replaced. The body and bowl are aluminum. Filters have an automatic drain. They can be pipe nipple connected or used in Norgren-compatible modular filter/regulator/lubricators (unless noted). Max. pressure is 250 psi. Max. temperature is 150° F.

(D) Clear View with Service Indicator—A transparent bowl lets you see what's being filtered, while an indicator changes from green to red when the filter element needs to be replaced. All filters remove oil and oil mist down to 0.2 ppm, and particles down to 0.01 microns. They have a zinc body, a polycarbonate bowl with a steel bowl guard, and an automatic drain. Max. pressure is 150 psi. Max. temperature is 125° F.

(E) Chemical Resistant Clear View—In addition to seeing what's being filtered, a clear polyurethane bowl offers increased chemical resistance for use in systems with synthetic compressor oils and aggressive cleaning agents. Filters remove oil and oil mist down to 300 ppm, and particles down to 0.3 microns. They have a brass body and a manual drain. Max. pressure is 150 psi. Max. temperature is 120° F.

(F) Ultra Corrosion Resistant—Body and bowl are Type 316 stainless steel to handle extremely corrosive environments. All meet NACE (National Association of Corrosion Engineers) specifications. Filters remove oil and oil mist down to 300 ppm, and particles down to 0.3 microns. They have a manual drain. Max. pressure is 300 psi. Max. temperature is 180° F.



	Pipe Size	Max. scfm @ 100 psi	O'all Size Ht.	O'all Size Wd.	Filters		Replacement Filter Elements	
A	1/4	36	6 7/8″	2 3/4″	9826K31	$150.15	8282K52	$42.04
A	3/8	75	7 3/8″	3 1/4″	9826K61	192.02	8282K72	35.80
A	1/2	75	7 3/8″	3 1/4″	9826K62	192.02	8282K72	35.80
A	1/2	110	9 1/2″	3 1/4″	9826K63	219.34	8282K73	67.41
A	3/4	110	9 1/2″	3 1/4″	9826K64	219.34	8282K73	67.41
A	3/4	450	11 3/8″	4 3/4″	9826K84	357.72	8282K35	116.52
A	1	450	11 3/8″	4 3/4″	9826K85	357.72	8282K35	116.52
B	1/4	21	8 1/4″	2 3/4″	8282K31	158.90	8282K52	42.04
B	3/8	34	8 3/4″	3 1/4″	8282K61	200.70	8282K72	35.80
B	1/2	34	8 3/4″	3 1/4″	8282K62	200.70	8282K72	35.80
B	1/2	59	10 7/8″	3 1/4″	8282K63	228.87	8282K73	67.41
B	3/4	59	10 7/8″	3 1/4″	8282K64	227.22	8282K73	67.41
B	3/4	90	12 3/4″	4 3/4″	8282K56♣	251.28	8282K35	116.52
B	1	125	12 3/4″	4 3/4″	8282K25♣	251.28	8282K35	116.52
C	1 1/2	250	18 3/8″	8 1/4″	8282K26♣	625.91	8282K36	240.55
C	2	300	18 3/8″	8 1/4″	8282K27♣	625.91	8282K36	240.55
D	1/4	20	6 7/8″	3″	59185K11	128.20	59185K12	37.90
D	3/8	60	11″	3 7/8″	59185K21	155.82	59185K22	46.69
D	1/2	60	11″	3 7/8″	59185K31	155.82	59185K22	46.69
D	1/2	90	14 1/2″	4 5/8″	59185K41	222.07	59185K42	82.16
D	3/4	90	14 1/2″	4 5/8″	59185K51	222.07	59185K42	82.16
D	1	150	14 1/2″	4 5/8″	59185K61	228.11	59185K62	90.09
E	1/8	10	4 3/4″	1 5/8″	8395K11	58.99	8395K13	32.28
E	1/4	10	4 3/4″	1 5/8″	8395K12	58.99	8395K13	32.28
F	1/4	16 @ 90 psi.	4″	1 5/8″	4300K11	224.45	4300K21	28.00
F	1/2	45 @ 90 psi.	5 5/8″	2 1/2″	4300K13	475.34	4300K23	35.77

♣ Pipe nipple connection only.

Air Filters with Automatic Drain



An external automatic drain discharges up to 300 gallons per hour to handle your humid environments. All filters remove particles down to 5 microns. Inlet and outlet connections are NPT female.

Standard—The body is zinc and the bowl is polycarbonate with a steel bowl guard. Max. pressure is 150 psi. Max. temperature is 125°F.

High Flow—The body and bowl are aluminum. Max. pressure is 200 psi. Max. temperature is 150°F.

Pipe Size	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.	Filters		Replacement Filter Elements	
Standard							
1/4	40	14 1/2"	3 1/2"	4267K11	$250.27	4267K16	$10.55
1/2	130	14 1/2"	3 1/2"	4267K13	250.27	4267K16	10.55
3/4	250	16 7/8"	4 1/2"	4267K14	301.65	4267K17	16.45
1	275	16 7/8"	4 1/2"	4267K15	301.65	4267K17	16.45
High Flow							
2	850	22 1/2"	8"	4267K23	790.81	4267K32	150.43

Two-Stage Oil-Removal Air Filters



Get two stages of air filtration—the first stage removes water droplets, oil, and large particles; the second captures the remaining water droplets, oil, and particles down to 5 microns. Filters have manual drains. Max. pressure is 250 psi, unless noted. Max. temperature is 180°F. Inlet and outlet connections are NPT female.

Complete filter units include filters, base core, base gasket, four cap gaskets, and a gauge to indicate when the filter elements need to be replaced, unless noted. **Replacement element kits** include first- and second-stage filter elements, base core, base gasket, and four cap gaskets.

Pipe Size	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.	Complete Filter Units		Replacement Element Kits	
1/4	15	8 1/4"	3"	9994K74★	$74.17	9994K51	$27.50
1/4	50	8 1/4"	4"	9994K75	180.00	9994K57	47.50
3/8	50	8 1/4"	4"	9994K76	180.00	9994K57	47.50
1/2	80	11 3/4"	6"	9994K77	295.83	9994K53	69.17
3/4	80	11 3/4"	6"	9994K78	295.83	9994K53	69.17
1	150	15"	9 1/2"	9994K79	588.33	9994K54	115.00
1 1/2	250	20"	12 1/2"	9994K81	828.49	9994K55	187.50
2	500	27"	18"	9994K82■	1,161.74	9994K56	325.00

★ Does not have a gauge. ■ Max. pressure is 150 psi.

Oil-Removal Miniature Air Filters



You can remove particles down to 0.6 microns and oil droplets down to 0.85 ppm with these tiny, disposable filters. All have a clear nylon housing. Max. pressure is 100 psi. Max. temperature is 125°F. Inlet and outlet connections are not threaded; connect using hose or tube.

Filter with indicator turns red when oil is present to let you know when your main oil-removal filter has failed.

Inlet/Outlet OD	Max. scfm @ 100 psi	*O'all Size* Dia.	Lg.		
Standard					
1/8"	3.5	1"	3 3/8"	41575K61	$13.41
1/4"	3.5	1"	3 3/8"	41575K57	13.22
1/4"	5.3	1"	3 3/8"	41575K58	13.22
With Indicator					
1/4"	3.2	1"	3 3/8"	41575K59	13.22

Two-Stage Fine Particle- and Oil-Removal Air Filters


A


B


C

With two-stage filtration, it's like you're getting two filters in one. The first stage removes large particles, while the second removes fine particles. Inlet and outlet connections are NPT female.

(A) Standard—Stage one removes particles down to 5 microns; stage two removes oil droplets down to 0.5 microns. Filters have an automatic drain (except pipe size 1/4 has a manual drain). They can be pipe nipple connected or used in Wilkerson-compatible modular filter/regulator/lubricators. Body is zinc and bowl is aluminum (except pipe size 1/4 has a polycarbonate bowl).

(B) Clear View—This filter has a nylon body and clear polyamide bowl that lets you see what's being filtered. Stage one removes particles down to 1 micron and oil droplets down to 0.5 ppm; stage two removes particles down to 0.01 microns and oil droplets down to 0.01 ppm. Drain can operate as a constant- or intermittent-bleed drain.

(C) Heavy Duty—The choice for air lines with large, dirty particles. Stage one has a tough, Type 304 stainless steel element to remove bulk water and contaminants down to 3 microns; stage two removes the remaining moisture and oil particles down to 1 micron. All have an automatic drain on the first-stage filter; manual drain on the second-stage filter. Body is zinc and bowl is polycarbonate with a steel guard.

	Pipe Size	Max. scfm @ 100 psi	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.	Filters		Replacement Filter Elements: First Stage		Second Stage	
A	1/4	10	150	125°F	4 5/8"	3 3/8"	8075T1	$46.67	60115K31	$6.20	60115K1	$22.24
A	3/8	34	150	150°F	8"	4 3/4"	8075T2	110.67	60115K32	9.20	60115K2	28.76
A	1/2	36	150	150°F	8"	4 3/4"	8075T3	110.67	60115K32	9.20	60115K2	28.76
A	1/2	65	150	150°F	9"	5 7/8"	8075T4	134.96	60115K33	10.20	60115K3	29.24
A	3/4	90	150	150°F	9"	5 7/8"	8075T5	134.96	60115K33	10.20	60115K3	29.24
B	1/4	6	167	122°F	4 3/4"	4 1/2"	2994K11	141.67	2994K21	49.97	2994K31	49.97
C	1/4	50	150	125°F	10 1/2"	7 3/4"	41715K31	336.56	41715K51	43.96	41715K52	43.96
C	3/8	50	150	125°F	10 1/2"	7 3/4"	41715K32	336.56	41715K51	43.96	41715K52	43.96
C	1/2	90	150	125°F	10 1/2"	7 3/4"	41715K34	383.23	41715K53	54.61	41715K54	54.61
C	3/4	120	150	125°F	14 1/2"	10 1/2"	41715K41	561.74	41715K55	76.58	41715K56	76.58
C	1	175	150	125°F	14 1/2"	10 1/2"	41715K42	631.75	41715K57	91.15	41715K58	91.15

Three-Stage Fine Particle-, Oil-, and Bacteria-Removal Air Filters



In addition to removing particles, moisture, and oil that are often found in compressed air, these three-stage filters can also remove bacteria for extra-clean air. The first stage traps water, oil, and large particles. The second stage traps trace quantities of water, oil, and particles down to 0.01 microns. Finally, the third stage blocks bacteria. The first- and second-stage filters have an automatic drain; no drain is needed at the third stage. There is also a service indicator on the first-stage filter to signal when the filter element needs to be replaced. Body and bowl are aluminum. Max. pressure is 250 psi. Max. temperature is 130°F. Inlet and outlet connections are NPT female. Filters are USDA compliant for use in meat and poultry plants.

Pipe Size	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.	Filters		Replacement Filter Elements: First Stage		Second Stage		Third Stage	
1/4	25	11"	10"	1309K12	$976.05	1309K21	$39.62	1309K22	$39.62	1309K23	$70.84
3/8	25	11"	10"	1309K17	976.05	1309K21	39.62	1309K22	39.62	1309K23	70.84
1/2	63	11"	10"	1309K13	1,071.45	1309K31	82.56	1309K32	82.56	1309K33	150.68
3/4	70	13"	13 1/2"	1309K14	1,974.53	1309K41	82.56	1309K42	82.56	1309K43	150.68
1	94	13"	13 1/2"	1309K18	2,070.65	1309K41	82.56	1309K42	82.56	1309K43	150.68

Oil Vapor- and Odor-Removal Air Filters

To remove small traces of oil vapor down to 0.003 microns as well as its associated odor, use these filters as the last step in your air preparation system; install them after a particle filter and an oil-removing filter. All are good for use in applications where high-quality air is critical. Body and bowl are zinc (except pipe sizes ¾ and 1 have an aluminum bowl). Filters have a manual drain. They can be pipe nipple connected. Max. pressure is 200 psi. Max. temperature is 150° F. Inlet and outlet connections are NPT female.



Pipe Size	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.	Filters		Replacement Filter Elements	
⅛	15	4¼″	1¾″	5757K11	$37.15	5757K81	$21.73
¼	17	4¼″	1¾″	5757K67	37.15	5757K81	21.73
⅜	35	7½″	3″	5757K62	86.63	5757K72	37.55
½	37	7½″	3″	5757K63	88.24	5757K72	37.55
½	60	8¼″	3⅜″	5757K64	106.42	5757K73	49.43
¾	140	10½″	4⅝″	5757K65	267.36	5757K74	97.64
1	160	10½″	4⅝″	5757K66	267.36	5757K74	97.64

Air Regulators

Adjust air pressure to the level you need. Regulators are relieving style, which exhaust excess downstream pressure when your system is blocked (except Style D are nonrelieving style). Inlet and outlet connections are female.

(A) Standard—Accuracy is ±4 psi. Body is zinc (except regulator with 100 max. scfm is aluminum). Regulators have two ¼″ NPT gauge ports, except regulator with 70 max. scfm has two ⅛″ NPT gauge ports (pressure gauges are not included).

(B) With T-Handle and Pressure Gauge—A T-handle adjustment provides leverage even with gloved or greasy hands. Accuracy is ±3 psi. Body is aluminum (except pipe size ¼ NPT is zinc).

(C&D) With Built-In Pressure Gauge—Body is aluminum, except pipe size ⅛ NPT is zinc. *Style C* have a pressure gauge in the body to resist damage in high-traffic areas. Accuracy is ±3%. *Style D* have a pressure gauge in the adjusting knob, which keeps the gauge in view when mounted in a panel or horizontally. Accuracy is ±2.5%.

(E) Metric with Pressure Gauge—Accuracy is ±3.5%. Body is aluminum.


A


B


C

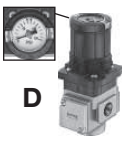
D


E

To Order: Please specify regulating range where applicable.

	Pipe Size	Max. scfm @ 100 psi	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.	Available Regulating Ranges, psi	Regulators		Mounting Brackets	
A	¼ NPT	21	250	125° F	3⅜″	2⅛″	1-30, 1-60, 2-125	41735K11	$31.58	41735K48	$9.91
A	¼ NPT	70 @ 90 psi	300	150° F	4¼″	2″	5-30, 5-60, 5-150	4956K11	24.81	4957K61	9.54
A	⅜ NPT	28	250	125° F	3⅜″	2⅛″	1-30, 1-60, 2-125	41735K12	33.05	41735K48	9.91
A	⅜ NPT	100	300	175° F	5⅜″	2¾″	5-60, 6-150	4956K3	43.04	4957K62	8.94
B	¼ NPT	94	300	150° F	5⅜″	2″	5-30, 5-60, 6-150	4959K51	41.10	4957K61	9.54
B	⅜ NPT	149	300	175° F	5⅝″	2¾″	5-60, 6-150, 10-250	4959K52	49.26	4957K62	8.94
B	½ NPT	225	300	175° F	7¾″	3¼″	5-60, 6-150, 10-250	4959K53	70.68	4910K98	8.50
B	¾ NPT	225	300	175° F	7¾″	3¼″	5-60, 6-150, 10-250	4959K54	74.61	4910K98	8.50
B	1 NPT	360	300	175° F	8⅛″	4¼″	5-50, 5-125, 10-250	4959K55	131.74	4959K97	15.92
B	1¼ NPT	360	300	175° F	8⅛″	4¼″	5-50, 5-125, 10-250	4959K56	158.86	4959K97	15.92
B	1½ NPT	360	300	175° F	8⅛″	4¼″	5-50, 5-125, 10-250	4959K57	158.86	4959K97	15.92
C	⅛ NPT	28	145	140° F	3¾″	1⅝″	7-125	8812K51	23.91	8812K61	4.04
C	¼ NPT	53	145	140° F	4″	2⅛″	7-125	8812K52	30.96	8812K62	4.04
C	⅜ NPT	53	145	140° F	4⅝″	2⅛″	7-125	8812K53	33.30	8812K63	4.04
C	½ NPT	106	145	140° F	5″	2¾″	7-125	8812K54	41.33	8812K64	4.04
C	¾ NPT	106	145	140° F	5⅛″	3″	7-125	8812K55	59.93	8812K64	4.04
C	1 NPT	353	145	140° F	6⅝″	3½″	7-125	8812K56	60.74	8812K65	7.98
D	⅛ NPT	28	145	140° F	4½″	2¼″	7-125	5447T2	34.37	5447T11	5.73
D	¼ NPT	53	145	140° F	5½″	2¼″	7-125	5447T3	41.76	5447T12	7.20
D	⅜ NPT	53	145	140° F	5½″	2⅜″	7-125	5447T4	41.76	5447T12	7.20
D	½ NPT	106	145	140° F	6″	2¾″	7-125	5447T5	52.30	5447T13	10.00
E	⅛ BSPP	40	203	140° F	118 mm	40 mm	4.4-174	3250T1	71.72	3250T11	21.93
E	¼ BSPP	64	203	140° F	118 mm	40 mm	4.4-174	3250T2	71.72	3250T11	21.93
E	⅜ BSPP	205	290	140° F	185 mm	62 mm	4.4-232	3250T4	102.45	3250T12	24.66
E	½ BSPP	230	290	140° F	185 mm	62 mm	4.4-232	3250T5	102.45	3250T12	24.66

Miniature Air Regulators

Control air pressure in tight spaces with these small regulators. All are relieving style, which exhaust excess downstream pressure when your system is blocked. Inlet and outlet connections are NPT female. Regulators with *acetal, aluminum,* and *brass body* have an accuracy of ±1 psi (except model with 24 max. scfm is not rated). Regulators with *brass body* are also compatible with water as well as noncorrosive, nonacidic chemicals. Regulators with *zinc body* have an accuracy of ±3 psi (except model with 13 max. scfm is not rated). **Standard regulators** have a ⅛″ NPT gauge port (pressure gauge is not included).


Standard with Acetal Body


With Pressure Gauge and Zinc Body

To Order: Please specify regulating range.

Pipe Size	Body Material	Max. scfm @ 100 psi	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.	Available Regulating Ranges, psi	Regulators		Mounting Brackets	
Standard											
⅛	Acetal	15	150	125° F	3⅛″	1⅝″	0-25, 0-60, 0-125	6746K31	$30.21	6763K21	$8.32
¼	Zinc	13 @ 90 psi	250	150° F	2⅜″	1¾″	5-50, 5-125, 5-150	41875K31	12.58	———	———
¼	Acetal	18	150	125° F	3⅛″	1⅝″	0-25, 0-60, 0-125	6746K32	30.21	6763K21	8.32
¼	Acetal	24 @ 90 psi	150	125° F	3⅛″	1¾″	5-50, 5-125	41595K21	21.49	9891K66	4.98
With Pressure Gauge											
⅛	Zinc	14 @ 90 psi	300	150° F	3″	1¾″	1-10, 5-50, 5-100	9892K11	29.28	9891K66	4.98
⅛	Aluminum	10	300	125° F	3⅛″	1⅝″	0-25, 0-60, 0-125	6763K81	42.57	6763K21	8.32
⅛	Brass	10	300	125° F	3⅛″	1⅝″	0-25, 0-60, 0-125	6763K11	44.46	6763K21	8.32
¼	Zinc	15 @ 90 psi	300	150° F	3″	1¾″	1-10, 5-50, 5-100	9892K12	29.14	9891K66	4.98
¼	Aluminum	10	300	125° F	3⅛″	1⅝″	0-25, 0-60, 0-125	6763K82	42.57	6763K21	8.32
¼	Brass	10	300	125° F	3⅛″	1⅝″	0-25, 0-60, 0-125	6763K13	44.46	6763K21	8.32

Precision Miniature Air Regulators

Accurately control air pressure in compact spaces to within ±0.3% of the pressure you set. Regulators are relieving style, which exhaust excess downstream pressure when your system is blocked. They have a ⅛ pipe size gauge port (pressure gauge is not included; sold separately below). Body is aluminum. Inlet and outlet connections are female.



To Order: For *regulators* as well as optional *pressure gauges*, please specify regulating range.

Pipe Size	Max. scfm @ 100 psi	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.	Available Regulating Ranges, psi	Regulators		Mounting Brackets		Pressure Gauges	
⅛ NPT	14	150	160° F	3⅞″	1⅜″	1-30, 1-60, 1-120	2227T2	$68.48	2227T41	$12.02	2227T4	$17.38
⅛ BSPP	14	150	160° F	3⅞″	1⅜″	1-30, 1-60, 1-120	2490T1	68.48	2227T41	12.02	2490T2	17.38

Precision Air Regulators

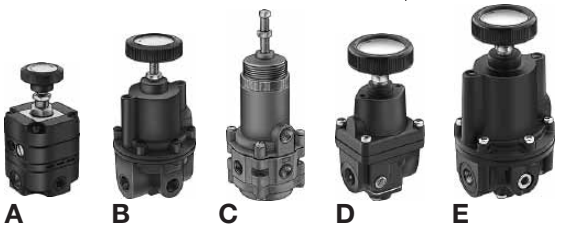

Perfect when you need a higher degree of precision than typical regulators. All are relieving style, which exhaust excess downstream pressure when your system is blocked. Regulators have a 1/4" NPT gauge port (except Style D have a 1/8" NPT gauge port). Use them with a Grade 1A or better pressure gauge (not included; see 4088K on page 604). Inlet and outlet connections are NPT female.

(A) Standard—Accuracy is ±0.1%. Body is zinc. Furnished with a mounting nut.

(B) High Flow—Accuracy is ±0.05%. Body is aluminum.

(C) Corrosion Resistant—Regulators have a Type 316 stainless steel body for superior corrosion resistance and meet NACE (National Association of Corrosion Engineers) material requirement MR-01-75. Accuracy is ±0.1 psi. Furnished with a mounting nut.

(D&E) Versatile Mount—You'll get brackets for standard mounting as well as mounting to a 35 mm DIN rail. Accuracy is ±0.2%. Body is aluminum.

To Order: Please specify regulating range.

	Pipe Size	Max. scfm @ 100 psi	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.	Available Regulating Ranges, psi	Regulators		Mounting Brackets	
A	1/8	14	150	160° F	4 1/4"	2 1/8"	2-25, 2-60, 2-120	**6162K14**	$137.81		
A	1/4	14	150	150° F	4 1/4"	2 1/8"	2-25, 2-60, 2-120	**6162K13**	193.09	**4246K12**	$19.39
A	3/8	14	150	150° F	4 1/4"	2 1/8"	2-25, 2-60, 2-120	**6162K15**	209.69	**4246K12**	19.39
B	1/4	80	250	160° F	6 1/8"	3"	0-15, 0-30, 0-60, 0-150	**1888K1**	85.73	**1888K5**	10.23
B	3/8	80	250	160° F	6 1/8"	3"	0-15, 0-30, 0-60, 0-150	**1888K2**	85.73	**1888K5**	10.23
B	1/2	80	250	160° F	6 1/8"	3"	0-15, 0-30, 0-60, 0-150	**1888K3**	102.66	**1888K5**	10.23
C	1/4	20	250	180° F	7"	2 1/2"	0-30, 0-60, 0-100, 2-150	**1806K1**	553.33		
C	3/8	20	250	180° F	7"	2 1/2"	0-30, 0-60, 0-100, 2-150	**1806K2**	553.33		
D	1/4	40	250	200° F	5 1/2"	2 1/4"	0-10, 0.5-30, 1-60, 2-100, 3-200	**1804T1**	178.17		
D	3/8	40	250	200° F	5 1/2"	2 1/4"	0-10, 0.5-30, 1-60, 2-100, 3-200	**1804T2**	178.17		
E	1/4	60	500	200° F	7"	3"	0-10, 0.5-30, 1-60, 2-150, 5-300, 5-400	**1810T1**	188.74		
E	3/8	60	500	200° F	7"	3"	0-10, 0.5-30, 1-60, 2-150, 5-300, 5-400	**1810T2**	188.74		
E	1/2	60	500	200° F	7"	3"	0-10, 0.5-30, 1-60, 2-150, 5-300, 5-400	**1810T3**	222.63		

Safety-Lock Air Regulators



Prevent unauthorized adjustment with these regulators. All are relieving style, which exhaust excess downstream pressure when your system is blocked. Inlet and outlet connections are NPT female.

(F) Quick Response—A balanced valve diaphragm assures rapid response to inlet pressure changes for good air pressure control. All include a pressure gauge, a knob for pressure adjustment, and a tamper-resistant clip to prevent further adjustment. Accuracy is ±2%. Body is aluminum.

(G&H) Key Lock—A built-in lock provides an extra level of security. Set your pressure, lock it, and remove the key to prevent further adjustment. A universal lock design lets you lock multiple regulators with one key. All regulators include a pressure gauge and a key.

Style G have an accuracy of ±0.85% for 8080T1 and 8080T2; ±1.7% for 8080T3. Body is cast zinc. A mounting bracket is included.

Style H have an accuracy of ±3 psi. Body is zinc.

(J) T-Handle Lock—Set your pressure and then remove the T-handle to prevent further adjustment. Accuracy is ±5%. Regulators have a cast aluminum body and two 1/4" NPT gauge ports (pressure gauges are not included; sold separately below).

To Order: Please specify regulating range where applicable.

	Pipe Size	Max. scfm	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.	Available Regulating Ranges, psi	Regulators		Mounting Brackets	
F	1/4	86 @ 100 psi	250	140° F	4 7/8"	2 1/4"	0-140	**4246K41**	$53.74	**4246K21**	$14.64
F	3/8	179 @ 100 psi	250	140° F	5 1/2"	2 7/8"	0-140	**4246K42**	64.73	**4246K22**	16.28
F	1/2	210 @ 100 psi	250	140° F	5 1/2"	2 7/8"	0-140	**4246K43**	66.61	**4246K22**	16.28
F	3/4	290 @ 100 psi	250	140° F	7 1/4"	3 5/8"	0-140	**4246K44**	117.41	**4246K23**	17.50
F	1	290 @ 100 psi	250	140° F	7 1/4"	3 5/8"	0-140	**4246K45**	119.09	**4246K23**	17.50
G	1/4	52 @ 145 psi	232	140° F	5"	2 5/8"	7-174	**8080T1**	188.49		
G	3/4	123 @ 145 psi	232	140° F	6 5/8"	3 3/8"	7-174	**8080T2**	255.20		
G	1	247 @ 145 psi	232	140° F	6 1/8"	4 5/8"	7-174	**8080T3**	365.93		
H	3/8	60 @ 100 psi	250	175° F	8"	2 7/8"	1-30, 1-60, 2-125, 5-250	**8080T21**	98.14	**41555K41**	8.45
H	1/2	75 @ 100 psi	250	175° F	8"	2 7/8"	1-30, 1-60, 2-125, 5-250	**8080T9**	98.14	**41555K41**	8.45
J	1/4	37 @ 100 psi	250	250° F	5 1/2"	3"	0-50, 0-125, 0-200	**4328K1**	56.53	**4328K32**	9.59
J	3/8	37 @ 100 psi	250	250° F	5 1/2"	3"	0-50, 0-125, 0-200	**4328K2**	56.51	**4328K32**	9.59
J	1/2	60 @ 100 psi	250	250° F	6 3/4"	3 5/8"	0-50, 0-125, 0-200	**4328K3**	70.58	**4328K33**	10.00
J	3/4	120 @ 100 psi	250	250° F	8 3/8"	4 3/4"	0-50, 0-125, 0-200	**4328K4**	130.29	**4328K34**	12.10
J	1	120 @ 100 psi	250	250° F	8 3/8"	4 3/4"	0-50, 0-125, 0-200	**4328K5**	132.80	**4328K34**	12.10
Pressure Gauge for 0-50 psi Style J Regulators										**4328K25**	12.75
Pressure Gauge for 0-125 psi Style J Regulators										**4328K24**	12.12
Pressure Gauge for 0-200 psi Style J Regulators										**4328K27**	13.74

Safety-Lock Miniature Air Regulators



Sized just right to prevent accidental airflow changes in limited spaces. Set your pressure and pull up the locking ring in the adjustment knob to prevent further adjustments. Regulators are relieving style, which exhaust excess downstream pressure when your system is blocked. Accuracy is not rated. Body is aluminum. A pressure gauge and mounting nut are included. Inlet and outlet connections are NPT female.

Pipe Size	Max. scfm @ 100 psi	Regulating Range, psi	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.	Regulators		Mounting Brackets	
1/8	45	0-140	250	140° F	3 5/8"	1 5/8"	**9172K16**	$30.85	**9172K24**	$11.50
1/4	59	0-140	250	140° F	3 5/8"	1 5/8"	**9172K18**	36.73	**9172K24**	11.50

Precision Electronic Air Regulators

Electronic regulators convert electric input signals into proportional air output pressure for reliability and repeatability. As you increase your input signal, output pressure increases within the regulating range listed. Use these regulators with sensors that are capable of producing the required input signal, or a programmable logic controller (PLC) for automatic setting adjustments. All are relieving style, which exhaust excess downstream pressure when your system is blocked. Inlet and outlet connections are NPT female.

(A) Standard—Accuracy is ±0.5%. All have a NEMA 4X enclosure that's suitable for washdown and outdoor applications. They also have a 1/4" NPT gauge port (pressure gauge is not included). Body is aluminum. A mounting bracket is included.

(B) High Flow—Accuracy is ±0.8%. An LCD indicator on top of each unit displays output pressure. Body is aluminum.

(C) Push-Button Control—Accuracy is ±0.3%. Regulators allow push-button control of 12 functions including outlet pressure, input signal (switchable from V DC to mA), pressure scale (psi or bar), minimum pressure, and maximum pressure (within the unit's stated range). All controls are on the same face for convenient access. An IP65 enclosure provides indoor protection against dust and dripping liquids. Body is aluminum.

(D) DIN Rail Mount—You'll get a bracket for mounting to a 35 mm DIN rail. Accuracy is ±0.5%. All have a 1/4" NPT gauge port (pressure gauge is not included). Body is aluminum.


A


B


C


D

	Pipe Size	Max. scfm @ 100 psi	Regulating Range, psi	Input Signal	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.		
A	1/4	12	1-17	4-20 mA	100	140° F	4 1/4"	2 7/8"	**4993K6**	$319.25
A	1/4	12	2-60	4-20 mA	150	140° F	4 1/4"	2 7/8"	**4993K5**	319.25
A	1/4	12	3-15	4-20 mA	100	140° F	4 1/4"	2 7/8"	**4993K1**	319.25
A	1/4	12	3-27	4-20 mA	100	140° F	4 1/4"	2 7/8"	**4993K2**	319.25
A	1/4	12	3-120	4-20 mA	150	140° F	4 1/4"	2 7/8"	**4993K3**	334.57
A	1/4	12	3-120	0-10 V DC	150	140° F	4 1/4"	2 7/8"	**4993K4**	334.57
B	1/4	90	0-125	0-10 V DC	150	125° F	6 3/8"	2 3/8"	**47955K21**	556.91
B	3/8	100	0-125	0-10 V DC	150	125° F	6 3/8"	2 3/8"	**47955K22**	556.91
B	1/2	100	0-125	0-10 V DC	150	125° F	6 3/8"	2 3/8"	**47955K23**	556.91
C	1/4	35	0-29	0-10 V DC/4-20 mA	43	122° F	5 5/8"	2 1/4"	**8083T1**	526.87
C	1/4	35	0-145	0-10 V DC/4-20 mA	152	122° F	5 5/8"	2 1/4"	**8083T2**	526.87
C	1/2	120	0-145	0-10 V DC/4-20 mA	152	122° F	7 1/2"	3"	**8083T5**	493.89
D	1/4	12	1-17	4-20 mA	60	150° F	3 3/4"	2 1/4"	**2859T5**	410.15
D	1/4	12	2-60	4-20 mA	150	150° F	3 3/4"	2 1/4"	**2859T113**	279.00
D	1/4	12	3-15	4-20 mA	100	150° F	3 3/4"	2 1/4"	**2859T111**	279.00
D	1/4	12	3-27	4-20 mA	100	150° F	3 3/4"	2 1/4"	**2859T112**	279.00
D	1/4	12	3-120	4-20 mA	150	150° F	3 3/4"	2 1/4"	**2859T2**	279.00
D	1/4	12	3-120	0-10 V DC	150	150° F	3 3/4"	2 1/4"	**2859T3**	279.00

Corrosion-Resistant Air Regulators



A Type 316 stainless steel body allows these regulators to stand up to corrosive environments such as those found in the semiconductor, marine, chemical, instrumentation, and paper industries. They meet NACE (National Association of Corrosive Engineers) specification MR-01-75. Regulators are relieving style, which exhaust excess downstream pressure when your system is blocked. Accuracy is ±1 psi. All have two 1/4" NPT gauge ports (pressure gauge is not included). Inlet and outlet connections are NPT female.

To Order: Please specify regulating range.

Pipe Size	Max. scfm @ 100 psi	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.	Available Regulating Ranges, psi	Regulators		Optional Mounting Nuts	
1/4	10	300	150° F	3 1/8"	1 5/8"	0-25, 0-60, 0-125	**4289K11**	$157.61	**4331K52**	$15.29
1/2	80	300	150° F	5"	2 3/8"	0-125, 0-250	**4289K13**	537.71	**4331K54**	26.36

Clean Room Air Regulators


E


F

Cleaned and double-packed for protection from contamination, regulators are suitable for use in Class 100 clean rooms. Use them for semiconductor and food-processing applications. Accuracy is ±3%. All regulators include a mounting nut.

(E) Air, Gas, and Water—In addition to air pressure, these regulators can control pressure for nitrogen, carbon dioxide, argon, and water. All are nonrelieving style, which means they do not exhaust excess downstream pressure. Regulators are made of Type 316 stainless steel and have a fluoroelastomer seal. They also have a 1/4" NPT gauge port (pressure gauge is not included; sold separately below). Inlet and outlet connections are NPT female.

(F) Metric—Regulators are relieving style, which exhaust excess downstream pressure when your system is blocked. All have an aluminum body, a brass valve, and NBR rubber seal. Pressure gauge and mounting bracket are included. Inlet and outlet connections are BSPT female (British Standard Pipe Taper).

	Pipe Size	Max. scfm @ 100 psi	Regulating Range, psi	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.	Regulators		Mounting Brackets	
E	1/8 NPT	15	7-102	145	140° F	3 3/8"	1 5/8"	**4238K41**	$199.97	**4238K51**	$9.42
E	1/4 NPT	15	7-102	145	140° F	3 3/8"	1 5/8"	**4238K42**	199.97	**4238K51**	9.42
E	1/4 NPT	53	7-102	145	140° F	4 1/8"	2 3/8"	**4238K43**	311.84	**4238K52**	15.97
E	3/8 NPT	53	7-102	145	140° F	4 1/8"	2 3/8"	**4238K44**	311.84	**4238K52**	15.97
E	1/2 NPT	53	7-102	145	140° F	4 1/8"	2 3/8"	**4238K45**	327.47	**4238K52**	15.97
F	1/4 BSPT	53	7-123	145	140° F	101 mm	55 mm	**6747K11**	65.43		
F	3/8 BSPT	53	7-123	145	140° F	116 mm	59 mm	**6747K12**	67.73		
F	1/2 BSPT	106	7-123	145	140° F	128 mm	68 mm	**6747K13**	75.51		
F	3/4 BSPT	177	7-123	145	140° F	129 mm	68 mm	**6747K14**	93.63		
Pressure Gauge for Style E Regulators										**4238K47**	65.04

Flexible-Range Air Regulators



It's like getting four regulators in one—adjustment springs let you choose from 2-30, 10-50, 30-90, and 100-180 psi regulating pressure ranges, while a slotted-head adjusting screw lets you change your outlet pressure. Regulators are nonrelieving style, which means they do not exhaust excess downstream pressure. Accuracy is ±5%. Body is brass. Inlet and outlet connections are NPT female.

Pipe Size	Max. scfm @ 100 psi	Regulating Range, psi	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.		
1/4	18	2-180	300	180° F	3 1/2"	2 1/4"	**4771K2**	$116.87
3/8	18	2-180	300	180° F	3 1/2"	2 1/4"	**4771K3**	116.87

Dial-Set Air Regulators

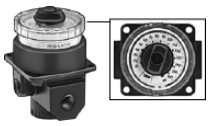

A pressure-calibrated adjustment dial allows you to select your outlet pressure. All of these regulators are relieving style, which exhaust excess downstream pressure when your system is blocked. Accuracy is ±0.5 psi. Body is zinc. Regulators have two 1/4" NPT gauge ports (pressure gauges are not included). Max. pressure is 300 psi. Max. temperature is 150° F. Inlet and outlet connections are NPT female.

To Order: Please specify regulating range.

Pipe Size	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.	Available Regulating Ranges, psi		
1/4	117	4 1/8"	3 1/4"	0-40, 0-160	4963K31	$118.36
3/8	180	4 1/8"	3 1/4"	0-40, 0-160	4963K32	118.36
1/2	195	4 1/8"	3 1/4"	0-40, 0-160	4963K33	118.36
3/4	220	4 1/8"	3 1/4"	0-40, 0-160	4963K34	118.36
Mounting Bracket					4963K41	13.65

Panel-Mount Miniature Air Regulators



With inlet ports on the bottom, these regulators are good for panel-mount applications in small spaces. All are relieving style, which exhaust excess downstream pressure when your system is blocked. A panel mounting nut is included. Max. pressure is 250 psi. Max. temperature is 150° F.

Pipe Size 10-32 and 1/16—Accuracy is ±0.25 psi. Body is aluminum. Regulators have a 10-32 UNF female gauge port (pressure gauge not included). Inlet and outlet connections are female (UNF for pipe size 10-32; NPT for pipe size 1/16).

Pipe Size 1/8—Accuracy is ±10%. Body is brass. Inlet connection is NPT male and outlet connection is 10-32 UNF female.

To Order: Please specify regulating range.

Pipe Size	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.	Available Regulating Ranges, psi		
10-32	5	3 1/2"	1"	0-5, 0-15, 0-30, 0-60, 0-100	41795K2	$51.00
1/16	2.5	3 3/8"	7/8"	0-5, 0-15, 0-30, 0-60, 0-100	41795K3	52.22
1/8	5	2 5/8"	3/4"	0-20, 0-30, 0-40, 0-50, 0-60, 0-70, 0-100	41795K4	28.05

Air Regulators for Double-Acting Cylinders



An internal check valve permits reverse flow, making these regulators the choice for double-acting cylinders. Regulators are relieving style, which exhaust excess downstream pressure when your system is blocked (except pipe size 10-32 is nonrelieving style and does not exhaust excess pressure). Accuracy is ±3%. Body is zinc for pipe sizes 10-32 to 1/4; aluminum for pipe sizes 3/8 to 1. Max. pressure is 145 psi. Max. temp. is 140° F. Pressure gauge, mounting bracket, and mounting nut are included. Inlet and outlet connections are NPT (except pipe size 10-32 are UNF) female.

Pipe Size	Max. scfm @ 100 psi	Regulating Range, psi	*O'all Size* Ht.	Wd.		
10-32	5	7-100	2 3/8"	1"	4964K21	$25.44
1/8	28	7-123	3 3/4"	1 5/8"	4964K22	27.70
1/4	28	7-123	3 3/4"	1 5/8"	4964K23	27.70
3/8	53	7-123	4 5/8"	2 1/8"	4964K24	37.09
1/2	106	7-123	5 1/8"	2 7/8"	4964K25	45.11
3/4	353	7-123	6 3/4"	3 5/8"	4964K26	68.25
1	353	7-125	6 3/4"	3 5/8"	4964K7	73.65

Nonrelieving Miniature Air Regulators



Use these compact regulators anywhere you need to keep your air contained. Both are nonrelieving style, which means they do not exhaust excess downstream pressure. In addition to air pressure, these regulators can control pressure for drinkable water. They are made of corrosion-resistant, FDA-compliant acetal.

Regulators have two 1/8" NPT gauge ports (pressure gauges are not included). Accuracy is ±1 psi. Max. pressure is 150 psi. Max. temperature is 125° F. Inlet and outlet connections are NPT female.

To Order: Please specify regulating range.

Pipe Size	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.	Available Regulating Ranges, psi		
1/8	15	3 1/8"	1 5/8"	0-25, 0-60, 0-125	6746K41	$41.11
1/4	18	3 1/8"	1 5/8"	0-25, 0-60, 0-125	6746K42	41.11

Inline Miniature Air Regulators for Air-Powered Tools



A



B&C

Designed for installation directly to your air-powered tool. Regulators are relieving style, which exhaust excess downstream pressure when your system is blocked (except lever-controlled regulator is nonrelieving style and does not exhaust excess pressure). Connections are NPT female inlet and NPT male outlet.

(A) Lever Controlled—Turn the handle and go from full pressure to almost complete shutoff. A gauge on top indicates air pressure. Accuracy is ±5% for the first third of the range, ±3% for the second third, and ±8% for the last third. Body is brass.

(B) Tamper Resistant—A screw lock prevents unintentional changes or tampering with your pressure setting. To adjust the pressure, turn the collar. Accuracy is ±2.5 psi. Body is aluminum (except pipe size 1/4 regulator is brass).

(C) Nonadjustable—You won't have to worry about changes to the outlet pressure; it comes set so it always remains the same. Accuracy is ±2.5 psi. Body is brass.

To Order: For *Style C*, please specify pressure setting.

	Pipe Size Inlet	Outlet	Max. scfm @ 100 psi	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.	Regulating Range/ Available Pressure Settings, psi		
A	1/4	1/4	5	150	250° F	2"	3 1/4"	0-150	4158K72	$34.83
B	1/4	1/4	18	150	175° F	7/8"	3 1/8"	50-145	41685K11	37.96
B	3/8	1/4	18	150	175° F	1 1/8"	3 7/8"	50-145	41685K17	42.66
B	3/8	3/8	18	150	175° F	1 1/8"	3 7/8"	50-145	41685K18	42.82
C	1/4	1/4	17	150	175° F	7/8"	2 7/8"	70, 80, 90, 100	2905T4	45.22

Nonadjustable Miniature Air Regulators



D



E



F



G

No need to worry about changes to your pressure setting—these inherently tamper-resistant regulators come set at one nonadjustable outlet pressure. Regulators are relieving style, which exhaust excess downstream pressure when your system is blocked. Accuracy is ±3 psi (except low-pressure regulators are not rated for accuracy). All have a gauge port with NPT connections (pressure gauge is not included). Inlet and outlet connections are NPT female.

(D) Standard—Body is aluminum.

(E) Air and Water—For use with both compressed air and water. Body is brass.

(F) Low Pressure—For applications requiring super low pressures. Body is aluminum.

(G) OSHA Compliant—Meet OSHA standard 1-13.1. Body is zinc.

To Order: For *Styles D* and *E*, please specify outlet pressure setting in 5 psi increments from the available settings. For *Style F*, please specify outlet pressure setting in 1 psi increments from the available settings.

	Pipe Size	Gauge Port Size	Max. scfm @ 100 psi	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.	Available Outlet Pressure Settings, psi		
D	1/8	1/8"	12	400	175° F	2 5/8"	1 1/2"	5-100	1777K1	$42.22
D	1/4	1/8"	12	400	175° F	2 5/8"	1 1/2"	5-100	1777K2	42.22
E	1/8	1/8"	12	400	175° F	2 3/8"	1 1/2"	5-100	9386K1	48.12
E	1/4	1/8"	12	400	175° F	2 3/8"	1 1/2"	5-100	9386K2	48.12
F	1/4	1/4"	0.3	250	160° F	3"	2 1/2"	1-5	1777K7	66.51
G	1/8	1/8"	13	300	125° F	2 7/8"	1 3/4"	30	8078T4	31.20
G	1/4	1/8"	15	300	125° F	2 7/8"	1 3/4"	30	8078T1	31.20
G	3/8	1/4"	28	250	125° F	3 1/8"	2 1/8"	30	8078T2	46.66
G	1/2	1/4"	75	250	175° F	5 7/8"	2 7/8"	30	8078T3	68.68

Easy-Connect Miniature Air Regulators

Install these regulators without tools or extra fittings—tube fitting connections make installation easy. All are relieving style, which exhaust excess downstream pressure when your system is blocked. Accuracy is ±3%. Body is acetal. **Regulators with push-to-connect fittings** include a mounting nut.

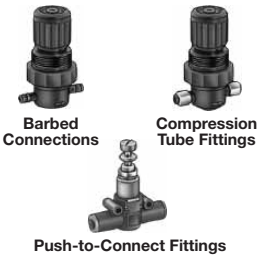

For Tube Size	Max. scfm @ 100 psi	Regulating Range, psi	Max. psi	Max. Temp.	O'all Size Ht.	O'all Size Wd.	Regulators		Mounting Brackets	
Barbed Connections										
1/4" ID	3	5-100	300	150° F	3"	2"	8727K11	$27.66	9891K66	$4.98
Compression Tube Fittings										
1/4" OD	3	5-100	250	150° F	3"	2"	8727K12	74.85	9891K66	4.98
Push-to-Connect Fittings										
1/4" OD	17	15-120	150	140° F	2 1/8"	1 7/8"	8844K11	45.69	8844K21	4.37
5/16" OD	23	15-120	150	140° F	2 3/8"	2 1/4"	8844K12	46.97	8844K21	4.37

Multicontrol Air Regulators

With a single air supply, you can set up multiple output pressure ranges (two to eight depending on the number of stations you choose). Each station includes a pressure gauge. All regulators are relieving style, which exhaust excess downstream pressure when your system is blocked. Inlet and outlet connections are NPT female.

Compact regulators are made of aluminum and are for use in tight spaces. Accuracy is ±3.5%. **Standard regulators** are made of zinc. Accuracy is ±0.85%.

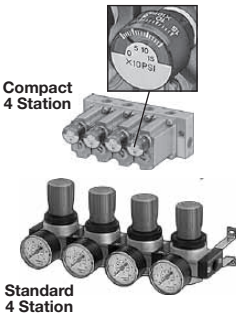

Pipe Size	No. of Stations	Max. scfm @ 100 psi	Regulating Range, psi	Max. psi	Max. Temp.	O'all Size Ht.	O'all Size Wd.		
Compact									
1/8	2	11	7-102	120	140° F	1 3/8"	2 1/4"	1924K11	$94.60
1/8	3	11	7-102	120	140° F	1 3/8"	3"	1924K12	137.22
1/8	4	11	7-102	120	140° F	1 3/8"	3 3/4"	1924K13	179.84
Standard									
1/4	2	56	7-174	232	140° F	3 7/8"	4 3/4"	8087T1	155.67
1/4	4	56	7-174	232	140° F	3 7/8"	9"	8087T2	283.17
1/4	6	56	7-174	232	140° F	3 7/8"	13 3/8"	8087T3	416.41
1/4	8	56	7-174	232	140° F	3 7/8"	17 5/8"	8087T4	568.34

Air Lubricators

Send mists of oil into your airstream to lubricate your air-operated tools and extend their service life. A self-adjusting flow sensor maintains a constant oil-to-air ratio (except 4268K11, 4268K13, and 4268K14 do not have a sensor). Inlet and outlet connections are female. Oil is not included.

With Sight Glass—A sight glass allows you to view the oil level. Body is aluminum (except pipe size 1/4 NPT has a zinc body). Bowl is aluminum (except pipe size 1/4 NPT has a zinc bowl; units with BSPP connections have a gray polycarbonate bowl).

Clear View—A transparent polycarbonate bowl allows convenient oil inspections. Pipe sizes 1/8 and 1/4 NPT have an aluminum body (except 4268K31 has a zinc body). Pipe sizes 3/8 NPT and up have a zinc body and metal bowl guard.





Pipe Size	Max. scfm @ 100 psi	Oil Cap., oz.	Type of Oil Required	Max. psi	Max. Temp.	O'all Size Ht.	O'all Size Wd.		
With Sight Glass									
1/4 NPT	50	2	ISO Grade 10 to 46	250	150° F	7"	2"	4962K43	$54.83
3/8 NPT	60 @ 90 psi	4	ISO Grade 10 to 46	250	175° F	8 1/8"	2 3/4"	4962K42	63.88
1/2 NPT	60 @ 90 psi	4	ISO Grade 10 to 46	250	175° F	8 1/8"	2 3/4"	4962K47	64.20
1/2 NPT	192 @ 90 psi	7	ISO Grade 10 to 46	250	175° F	8 7/8"	3 1/4"	4962K33	78.05
3/4 NPT	186 @ 90 psi	7	ISO Grade 10 to 46	250	175° F	8 7/8"	3 1/4"	4962K34	78.43
1 NPT	275 @ 90 psi	32	ISO Grade 10 to 46	250	175° F	12 1/2"	4 1/2"	4962K25	147.21
1 1/4 NPT	275 @ 90 psi	32	ISO Grade 10 to 46	250	175° F	12 1/2"	4 1/2"	4962K26	173.93
1/8 BSPP	49	1	10W	174	140° F	167 mm	54 mm	3983T1	53.31
1/4 BSPP	88	1	10W	174	140° F	167 mm	54 mm	3983T2	53.31
3/8 BSPP	197	3	10W	232	140° F	216 mm	76 mm	3983T3	78.42
1/2 BSPP	264	3	10W	232	140° F	216 mm	76 mm	3983T4	78.42
Clear View									
1/8 NPT	10	2	5W	150	125° F	4 3/8"	1 5/8"	4268K11	50.74
1/8 NPT	12	1	100-200 SSU	150	125° F	5 1/4"	1 3/4"	4268K48	51.55
1/4 NPT	10	2	5W	150	125° F	4 3/8"	1 5/8"	4268K13	50.74
1/4 NPT	12	1	100-200 SSU	150	125° F	5 1/4"	1 3/4"	4268K49	52.57
1/4 NPT	25	2	5W	150	125° F	4 3/8"	1 5/8"	4268K14	50.74
1/4 NPT	51 @ 90 psi	2	ISO Grade 10 to 46	150	125° F	7"	2"	4268K31	47.64
3/8 NPT	43	5	100-200 SSU	150	125° F	6 3/4"	3"	4268K15	85.81
1/2 NPT	52	5	100-200 SSU	150	125° F	6 3/4"	3"	4268K16	85.81
1/2 NPT	102	10	100-200 SSU	150	125° F	7 1/8"	3 3/8"	4268K17	105.17
3/4 NPT	170	24	100-200 SSU	150	125° F	10 3/8"	4 5/8"	4268K18	124.50
1 NPT	330	24	100-200 SSU	150	125° F	10 3/8"	4 5/8"	4268K19	124.50

Air Lubricators for Air-Powered Tools

Designed for installation close to your air-powered tools, these lubricators send mists of oil to your tools to extend their service life. Body is aluminum (except Style B is aluminum and zinc). Oil is not included. Inlet connection is NPT female. Outlet connection is NPT male for Styles A and D; NPT female for Styles B and C.

(A&B) Clear View—A transparent plastic bowl allows convenient oil inspections. Mount *Style A* directly to the air inlet of your tool; *Style B* 4 to 6 ft. from your tool. **(C) With View Port—**A translucent view port allows you to view the oil level. Mount 6 to 8 ft. from your tool. **(D) Solid Body—**Mount directly to the air inlet of your tool.

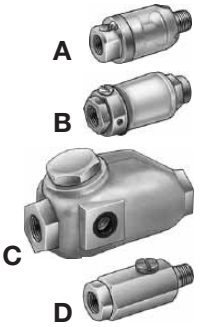

	Pipe Size	Max. scfm @ 100 psi	Oil Cap., oz.	Type of Oil Required	Max. psi	Max. Temp.	O'all Size Ht.	O'all Size Wd.		
A	1/4	16	0.3	Based on Tool	175	Not rated	1 1/8"	2 1/2"	1150K81	$19.24
A	1/4	16	0.7	Based on Tool	175	Not rated	1 1/2"	3 1/8"	1150K83	39.32
B	1/4	20	1	10W	150	180° F	1 1/4"	2 7/8"	9995K76	34.03
C	1/2	30	1.4	10W	500	150° F	3"	5"	6779K11	56.58
C	3/4	70	3.7	10W	260	150° F	3 1/2"	6 1/2"	6779K12	60.53
C	3/4	70	11	10W	300	150° F	3 3/4"	7 1/2"	6779K13	74.34
C	1	150	16	10W	250	150° F	4 1/4"	10"	6779K14	88.82
D	3/8	32	0.3	100-200 SSU	200	150° F	1 3/8"	3 1/4"	9996K23	40.89

Air Filter/Regulators & Air Filter/Regulators/Lubricators (FRLs)

For information about air preparation, see page 1013.

Space-Saver Stacked Air Filter/Regulators



A&B C D E F

A filter and a regulator have been coupled into one unit that takes the space of a filter alone. All regulators are relieving style, which exhaust excess downstream pressure when your system is blocked. Inlet and outlet connections are NPT female.

(A&B) Standard—Have a pressure gauge and an automatic drain. Filter removes particles down to 5 microns. Regulator accuracy is ±3 psi.

Style A have a zinc body and bowl. *Style B* have an aluminum body and bowl.

(C&D) Clear View—A clear polycarbonate bowl allows you to see what's being filtered. All have a pressure gauge and an automatic drain. Filter removes particles down to 5 microns. Regulator accuracy is ±4 psi.

Style C have a zinc body. *Style D* has an aluminum body and steel bowl guard.

(E) Chemical-Resistant Clear View—In addition to seeing what's being filtered, a clear polyurethane bowl offers increased chemical resistance for use in systems with synthetic compressor oils and cleaning liquids. All have a brass body, a pressure gauge and a manual drain. Filter removes particles down to 5 microns. Regulator accuracy is ±1%.

(F) Ultra Corrosion Resistant—Body and bowl are Type 316 stainless steel to handle extremely corrosive environments such as those found in the marine, chemical, and paper industries. They meet NACE (National Association of Corrosion Engineers) specifications. All have a 1/4" NPT gauge port (pressure gauge is not included) and a manual drain. Regulator accuracy is ±1%. Filter/regulator *with 1/4 pipe size* removes particles down to 20 microns. Filter/regulator *with 1/2 pipe size* removes particles down to 40 microns.

	Pipe Size	Max. scfm @ 100 psi	Regulating Range, psi	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.	Filter/Regulators		Replacement Filter Elements		Mounting Brackets	
A	1/8	13	5-100	250	150° F	6 3/8"	1 5/8"	**4910K21**	$59.03	**41615K21**	$3.88	**9891K66**	$4.98
A	1/4	14	5-100	250	150° F	6 3/8"	1 5/8"	**4910K22**	58.18	**41615K21**	3.88	**9891K66**	4.98
A	1/4	60	5-150	150	150° F	8 1/2"	2"	**4910K81**	83.09	**4958K81**	4.51	**4957K63**	9.32
A	3/8	60	5-150	150	150° F	8 1/2"	2"	**4910K82**	84.83	**4958K81**	4.51	**4957K63**	9.32
B	3/8	85	5-150	250	175° F	11 3/8"	3 1/4"	**4910K13**	137.78	**4958K95**	10.04	**4910K98**	8.50
B	1/2	73	5-150	250	175° F	9 5/8"	2 3/4"	**4910K23**	118.49	**4958K82**	6.87	**5001K13**	6.24
B	1/2	140	5-150	250	175° F	11 3/8"	3 1/4"	**4910K14**	135.78	**4958K95**	10.04	**4910K98**	8.50
B	3/4	140	5-150	250	175° F	11 3/8"	3 1/4"	**4910K15**	135.79	**4958K95**	10.04	**4910K98**	8.50
C	1/8	13	5-100	150	125° F	6 3/8"	1 5/8"	**9891K41**	60.49	**4958K92**	5.83	**9891K66**	4.98
C	1/4	14	5-100	150	125° F	6 3/8"	1 5/8"	**9891K43**	59.90	**4958K92**	5.83	**9891K66**	4.98
D	3/4	150	5-150	150	125° F	11 3/8"	3 1/4"	**9891K42**	173.57	**4958K95**	10.04	**5001K12**	11.70
E	1/8	18	0-125	150	120° F	6 3/4"	1 5/8"	**1399K11**	75.89	**1399K21**	8.83	**6763K21**	8.32
E	1/4	18	0-125	150	120° F	6 3/4"	1 5/8"	**1399K12**	75.89	**1399K21**	8.83	**6763K21**	8.32
F	1/4	12	0-125	300	150° F	6 3/8"	1 5/8"	**4331K33**	291.09	**6760K15**	9.63	**4331K52** ★	15.29
F	1/2	72	0-125	300	150° F	8 5/8"	2 3/8"	**4331K27**	743.93	**4331K13**	9.82	**4331K54** ★	26.36

★ Mounting nuts.

Space-Saver Stacked Air Filter/Precision Regulators



Filter as well as precisely control air pressure in variable conditions with these combination air filter/regulators that take the space of a single filter. All filters remove particles down to 5 microns. Regulators are relieving style, which exhaust excess downstream pressure when your system is blocked. Regulator accuracy is ±0.2 psi. Filter/regulators have a cast aluminum body with epoxy coating for added corrosion resistance. They have a 1/4" NPT gauge port (pressure gauge is not included) and a manual drain. Maximum pressure is 250 psi. Maximum temperature is 160° F. Inlet and outlet connections are NPT female.

To Order: Please specify regulating range.

Pipe Size	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.	Available Regulating Ranges, psi	Filter/Precision Regulators		Replacement Filter Elements		Mounting Brackets	
1/4	22	7 3/4"	3 1/8"	0-10, 0-30, 0-60, 0-120	**4967K11**	$53.24	**4967K44**	$13.79	**4967K33**	$9.27
1/4	25	7 1/4"	3 1/8"	0-30, 0-60, 0-120	**4967K12**	61.41	**4967K2**	13.78	**4967K33**	9.27
1/2	80	9 3/4"	3 1/8"	0-30, 0-60, 0-120	**4967K13**	132.30	**4967K2**	13.78	**4967K33**	9.27

Space-Saver Stacked Oil-Removal Air Filter/Regulators



You'll get a combination oil-removal (coalescing) air filter and regulator in one space-saving component. Filters remove 99.9% of oil and particles down to 0.01 micron. Regulators are relieving style, which exhaust excess downstream pressure when your system is blocked. Regulator accuracy is ±2.5%. All filter/regulators have a pressure gauge and an automatic drain. The body is aluminum and the bowl is polycarbonate (except pipe size 1/8 has a zinc body and also includes a steel bowl guard). Maximum pressure is 150 psi. Maximum temperature is 140° F. Inlet and outlet connections are NPT female.

Replacement filter element kits include a filter element and a diaphragm assembly.

Pipe Size	Max. scfm @ 100 psi	Regulating Range, psi	*O'all Size* Ht.	Wd.	Filter/Regulators		Replacement Filter Element Kits		Mounting Brackets	
1/8	3.3	7-120	7 1/2"	1 5/8"	**4989K101**	$87.16	**4989K111**	$46.38	**4989K211**	$5.99
1/4	7.1	7-120	9 5/8"	2 1/8"	**4989K201**	107.03	**4989K121**	47.34	**4989K221**	5.99
3/8	17	7-120	11"	2 7/8"	**4989K301**	123.60	**4989K131**	58.80	**4989K231**	5.99
1/2	17	7-120	11"	2 7/8"	**4989K401**	120.40	**4989K131**	58.80	**4989K231**	5.99

Space-Saver Stacked Air Filter/Regulator/Lubricators (FRLs)



Three components in one—a filter, regulator, and lubricator have been incorporated into one unit that takes the space of a filter alone. Filters remove particles down to 40 microns. Regulators are relieving style, which exhaust excess downstream pressure when your system is blocked. Regulator accuracy is ±2%. Lubricators use nondetergent oil (ISO Grade 32). All filter/regulator/lubricators have a pressure gauge, mounting bracket, and semiautomatic drain (opens manually when pressurized; automatically when not pressurized). Body is cast aluminum and bowl is polycarbonate with steel bowl guard. Maximum pressure is 230 psi. Maximum temperature is 120° F. Inlet and outlet connections are NPT female.

Regulator service kits include diaphragm assembly, O-rings, valve seat, spring, and stem.

Pipe Size	Max. scfm @ 100 psi	Regulating Range, psi	Oil Cap., oz.	*O'all Size* Ht.	Wd.	Filter/Regulator/ Lubricators		Replacement Filter Elements		Regulator Service Kits	
1/4	35	7.3-145	2.5	9 1/2"	2 5/8"	**4908K51**	$149.72	**4908K76**	$33.21	**4908K81**	$58.72
3/8	35	7.3-145	2.5	9 1/2"	2 5/8"	**4908K52**	155.29	**4908K76**	33.21	**4908K81**	58.72
1/2	105	7.3-145	5	12 1/4"	3 3/4"	**4908K53**	233.50	**4908K77**	45.17	**4908K82**	62.33
3/4	105	7.3-145	5	12 1/4"	3 3/4"	**4908K54**	241.14	**4908K77**	45.17	**4908K82**	62.33

Air Filter/Regulator/Lubricators (FRLs)

No need to hunt for matching components—these come as one convenient unit you can connect to your system. All regulators are relieving style, which exhaust excess downstream pressure when your system is blocked. Inlet and outlet connections are NPT female.

Stacked units save space by combining a filter and regulator into one component, with a lubricator at the side.

Standard—Filters remove particles down to 5 microns and have an automatic drain. Accuracy is not rated. Lubricators use ISO Grade 10-46 oil. Body and bowl are aluminum, except where noted. Style A with pipe size 1/8 includes a built-in mounting bracket.

Clear View—A clear bowl lets you see what's being filtered. The bowl is polycarbonate (except Styles D and J have a polyurethane bowl, which offers increased chemical resistance for use in systems with synthetic compressor oils).

Filters remove particles down to 20 microns (except Styles B, F, and H remove particles down to 5 microns, unless noted). They have a manual drain (except Style B with pipe size 3/4, Style F, and Style H have an automatic drain). Accuracy is ±1 psi (except Style B have an accuracy of ±3 psi; Styles F and H are not rated for accuracy). Lubricators use 100-200 SSU oil (except Styles F and H use ISO Grade 10-46 oil). Body is aluminum, except where noted. Style F with max. scfm of 10 and 15 include a built-in mounting bracket.

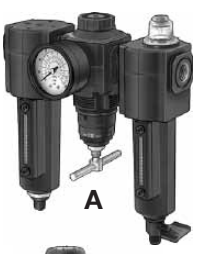
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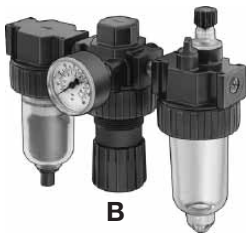
B


C&D


E


F


G, H&J


K


L

	Pipe Size	Max. scfm @ 100 psi	Regulating Range, psi	Oil Cap., oz.	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.	Filter/Regulator/ Lubricators		Replacement Filter Elements		Mounting Brackets	
Filter/Regulator/Lubricators—Standard														
A	1/8	28	7-125	0.84	145	140°F	4 7/8"	5"	**4957K22**★	$92.33	**8540T4**	$3.88	_____	____
A	1/4	49	5-150	2.2	150	140°F	7 1/2"	6 1/2"	**4957K91**★	190.94	**4958K81**	4.51	**4957K428**■	$12.00
A	3/8	49	5-150	2.2	150	140°F	7 1/2"	6 1/2"	**4957K92**★	199.83	**4958K81**	4.51	**4957K428**■	12.00
A	1/2	60	5-150	3.5	250	175°F	8"	9 1/8"	**4957K93**	239.44	**4958K82**	6.87	**4957K882**■	13.74
A	1/2	116	5-150	7	250	175°F	8 7/8"	10 1/2"	**4957K94**	314.81	**4958K95**	10.04	**4957K882**■	13.74
A	3/4	116	5-150	7	250	175°F	8 7/8"	10 1/2"	**4957K95**	319.19	**4958K95**	10.04	**4957K882**■	13.74
A	3/4	168	5-125	32	250	175°F	12 7/8"	14 3/4"	**4957K27**	928.30	**4958K97**	48.52	**4957K77**	58.31
A	1	168	5-125	32	250	175°F	12 7/8"	14 3/4"	**4957K28**	542.22	**4958K97**	48.52	**4957K77**	58.31
A	1 1/4	168	5-125	32	250	175°F	12 7/8"	14 3/4"	**4957K29**	625.67	**4958K97**	48.52	**4957K78**	64.83
Filter/Regulator/Lubricators—Clear View														
B	1/4	40	2-125	2.9	150	120°F	8"	9 1/2"	**41555K51**▲	192.31	**41555K81**	13.77	**41555K41**	8.45
B	3/8	60	2-125	2.9	150	120°F	8"	9 1/2"	**41555K55**▲♣	192.31	**8461T1**	18.56	**41555K41**	8.45
B	1/2	75	2-125	2.9	150	120°F	8"	9 1/2"	**41555K53**▲	192.31	**41555K81**	13.77	**41555K41**	8.45
B	3/4	90	2-125	6	150	120°F	9 3/8"	10 3/4"	**41555K54**▲	220.51	**41555K82**	15.12	**41555K74**	8.45
C	1/8	10	0-125	1	150	120°F	5 1/8"	5 1/8"	**6760K51**	148.00	**6760K15**	9.63	**6763K21**	8.32
C	1/4	10	0-125	1	150	120°F	5 1/8"	5 1/8"	**6760K52**	148.00	**6760K15**	9.63	**6763K21**	8.32
D	1/8	12	0-125	1.5	150	120°F	5 1/8"	5 1/8"	**1426K41**♦	126.19	**6760K15**	9.63	**6763K21**	8.32
D	1/4	12	0-125	1.5	150	120°F	5 1/8"	5 1/8"	**1426K42**♦	126.19	**6760K15**	9.63	**6763K21**	8.32
Stacked Filter/Regulators with Lubricator—Standard														
E	1/4	60	5-150	3.5	250	175°F	10"	6"	**9890K31**	224.98	**4958K82**	6.87	**4957K882**	13.74
E	3/8	60	5-150	3.5	250	175°F	10"	6"	**9890K32**	224.98	**4958K82**	6.87	**4957K882**	13.74
E	1/2	75	5-150	3.5	250	175°F	10"	6"	**9890K33**	227.04	**4958K82**	6.87	**4957K882**	13.74
E	1/2	160	5-150	7	250	175°F	12"	6 7/8"	**9890K34**	262.00	**4958K95**	10.04	**4957K882**	13.74
E	3/4	160	5-150	7	250	175°F	12"	6 7/8"	**9890K35**	264.82	**4958K95**	10.04	**4957K882**	13.74
Stacked Filter/Regulators with Lubricator—Clear View														
F	1/8	10	5-100	1	150	120°F	6 1/2"	3 5/8"	**41615K45**▲	117.22	**41615K21**	3.88	_____	____
F	1/4	15	5-100	1	150	120°F	6 1/2"	3 5/8"	**41615K44**▲	116.16	**41615K21**	3.88	_____	____
F	1/4	54	5-150	2.2	150	120°F	8 3/4"	4 1/4"	**9890K61**▲	141.38	**4958K81**	4.51	**4957K428**	12.00
G	1/8	12	0-125	1	150	120°F	5 7/8"	3 1/2"	**6760K53**	133.13	**6760K15**	9.63	**6763K21**	8.32
G	1/4	12	0-125	1	150	120°F	5 7/8"	3 1/2"	**6760K54**	133.13	**6760K15**	9.63	**6763K21**	8.32
H	1/2	60	5-150	3.5	150	120°F	10"	6"	**41615K46**	157.61	**4958K82**	6.87	**4957K882**	13.74
H	3/4	110	5-150	7	150	120°F	11 7/8"	6 7/8"	**41615K725**	200.31	**4958K95**	10.04	**4957K882**	13.74
J	1/8	12	0-125	1.5	150	120°F	5 7/8"	3 1/2"	**1471K41**♦	119.05	**6760K15**	9.63	**6763K21**	8.32
J	1/4	12	0-125	1.5	150	120°F	5 7/8"	3 1/2"	**1471K42**♦	119.05	**6760K15**	9.63	**6763K21**	8.32
Filter/Regulators—Standard														
K	1/8	28	7-125	___	145	140°F	4 7/8"	5"	**5001K21**★	73.00	**8540T4**	3.88	**8550T4**	6.40
K	1/4	49	5-150	___	150	140°F	6 7/8"	4 1/2"	**5001K23**★	85.99	**4958K81**	4.51	**4957K428**	12.00
K	1/4	61	5-150	___	250	175°F	7 3/8"	6"	**5001K66**	126.00	**4958K82**	6.87	**4957K882**	13.74
K	3/8	49	5-150	___	150	140°F	6 7/8"	4 1/2"	**5001K25**★	89.39	**4958K81**	4.51	**4957K428**	12.00
K	1/2	61	5-150	___	250	175°F	7 3/8"	6"	**5001K24**	122.30	**4958K82**	6.87	**4957K882**	13.74
K	1/2	116	5-150	___	250	175°F	8 1/8"	6 7/8"	**5001K22**	154.18	**4958K95**	10.04	**4957K882**	13.74
K	3/4	116	5-150	___	250	175°F	8 1/8"	6 7/8"	**5001K34**	156.38	**4958K95**	10.04	**4957K882**	13.74
Filter/Lubricators—Standard														
L	1/4	54	_____	2.2	150	140°F	7 1/2"	4 1/4"	**5141K13**★	98.37	**4958K81**	4.51	**4957K428**	12.00
L	3/8	54	_____	2.2	150	140°F	7 1/2"	4 1/4"	**5141K14**★	102.53	**4958K81**	4.51	**4957K428**	12.00
L	1/2	60	_____	3.5	250	175°F	8"	6"	**5141K15**	140.35	**4958K82**	6.87	**4957K882**	13.74
L	1/2	110	_____	7	250	175°F	8 7/8"	6 7/8"	**5141K11**	176.50	**4958K95**	10.04	**4957K882**	13.74
L	3/4	110	_____	7	250	175°F	8 7/8"	6 7/8"	**5141K12**	178.82	**4958K95**	10.04	**4957K882**	13.74

★Body and bowl are zinc. ■Requires two mounting brackets. ▲Body is zinc. ♣Removes particles down to 40 microns. ♦Body is brass.

Wilkerson-Compatible Modular Air Filter/Regulator/Lubricators (FRLs)

These filter/regulator/lubricators use a Wilkerson joiner clamp between each component for fast installation. Body is zinc (except pipe size 1 units and safety lockout valves have an aluminum body). Inlet and outlet connections are NPT female.

Filters remove particles down to 5 microns and have a sight glass. *Miniature filters* have a manual drain and polycarbonate bowl. *Standard filters* have an automatic drain and aluminum bowl.

Regulators are relieving style, which exhaust excess downstream pressure when your system is blocked. Regulating range is 0-125 psi (except pipe size 1 units have a 7-125 psi regulating range). A pressure gauge is included. Accuracy is ±3%.

Lubricators use 10W nondetergent oil and have a sight glass. *Miniature lubricators* have a zinc bowl. *Standard lubricators* have an aluminum bowl.

Filter/Regulator/Lubricators and End Block Kits



Filter/ Regulator/ Lubricator



Stacked Filter/ Regulator/ Lubricator



End Block Kit

Joiner clamps and mounting brackets are included (except pipe size 1 units connect using built-in bolts). Maximum pressure is 150 psi for miniature units; 250 psi for standard units. Maximum temperature is 125°F for miniature units; 150°F for standard units.

Stacked Filter/Regulator/Lubricators—Combine a filter and regulator into one device, with a lubricator at the side.

End Block Kits—Each kit includes one end block for the inlet and one for the outlet. Blocks thread onto your pipe, allowing you to replace components that are between them without having to unthread your system.

		Filter/Regulator/Lubricators					Stacked Filter/Regulator/Lubricators						
Pipe Size	Oil Cap., oz.	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.			Max. scfm@ 100 psi	*O'all Size* Ht.	Wd.			End Block Kits	Replacement Filter Elements
Miniature													
1/8	0.6	29	6"	4 3/4"	60115K36	$108.29	29	6 1/2"	3 1/4"	60115K38	$94.47	60115K24 $16.21	60115K31 $6.20
1/4	0.6	44	6"	4 3/4"	60115K37	108.29	44	6 1/2"	3 1/4"	60115K39	94.47	60115K25 16.21	60115K31 6.20
Standard													
1/4	4	85	8 1/8"	7 7/8"	60115K17	189.04	80	9 7/8"	5 1/8"	60115K18	173.93	60115K7 14.11	60115K32 9.20
3/8	4	100	8 1/8"	7 7/8"	60115K93	189.04	90	9 7/8"	5 1/8"	60115K83	173.93	60115K26 14.11	60115K32 9.20
3/8	6.1	95	11 1/4"	9 3/8"	60115K48	236.18	110	11 1/4"	6 1/8"	60115K49	202.87	60115K26 14.11	60115K33 10.20
1/2	4	100	8 1/8"	7 7/8"	60115K94	189.04	110	9 7/8"	5 1/8"	60115K84	173.93	60115K27 14.11	60115K32 9.20
1/2	6.1	110	11 1/4"	9 3/8"	60115K95	236.18	125	11 1/4"	6 1/8"	60115K85	202.87	60115K27 14.11	60115K33 10.20
3/4	6.1	110	11 1/4"	9 3/8"	60115K96	236.18	140	11 1/4"	6 1/8"	60115K86	202.87	60115K28 14.11	60115K33 10.20
1	18	250	16"	10 7/8"	60115K971	595.12	250	16"	7 1/4"	60115K871	424.44	60115K291 46.61	60115K341 35.93

Individual/Replacement Components



Filter



Regulator



Stacked Filter/ Regulator



Lubricator



Oil-Removal Filter; Oil Vapor- and Odor-Removal Filter



Manifold Regulator



Safety Lockout Valve



Joiner Clamp

Create a unique air-preparation unit using joiner clamps or by piping the components directly into your system. You can also replace a component in a filter/regulator/lubricator or use joiner clamps (sold separately) to add a component onto your filter/regulator/lubricator.

Stacked Filter/Regulators—Combine a filter and regulator into one device.

Oil-Removal Filters—Also known as coalescing filters, these filters remove particles down to 0.5 micron (except pipe size 1 filters remove particles down to 0.01). Maximum pressure is 150 psi. Maximum temperature is 125°F for miniature unit; 150°F for standard units.

Oil Vapor- and Odor-Removal Filters—Remove oil vapor down to 0.003 micron as well as its associated odor, exceeding ISO Class 1 requirements for maximum oil content. Maximum pressure is 150 psi for miniature unit; 250 psi for standard units. Maximum temperature is 125°F for miniature unit; 150°F for standard units.

Manifold Regulators—Connect two or more of these regulators with joiner clamps (sold separately) to independently control multiple outlet pressures from one pressure supply. Each regulator has two regulated ports (one can be used for a pressure gauge; not included) and one unregulated outlet. The ports are 1/8" NPT female for miniature units; 1/4" NPT female for standard units. Maximum pressure is 300 psi. Maximum temperature is 150°F.

Safety Lockout Valves—Prevent accidental start-up when you're servicing equipment. Valves exhaust downstream air pressure when closed and are lockable in the closed position (maximum shackle diameter is 5/16"; padlock not included). All have a bright-orange locking mechanism and help your process comply with OSHA lockout/tagout regulations. Maximum pressure is 246 psi. Maximum temperature is 176°F.

	Filters				Regulators				Stacked Filter/Regulators			
Pipe Size	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.		Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.		Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.	
Miniature												
1/8	21	4 5/8"	1 3/4"	60115K71 $25.64	29	4"	1 5/8"	60115K61 $31.40	28	6 1/2"	1 5/8"	60115K41 $63.53
1/4	40	4 5/8"	1 3/4"	60115K72 25.64	44	4"	1 5/8"	60115K62 31.40	42	6 1/2"	1 5/8"	60115K42 63.53
Standard												
1/4	85	7 1/4"	2 3/8"	60115K19 70.27	82	5 3/8"	2 3/8"	60115K5 43.07	88	9 7/8"	2 3/8"	60115K4 111.34
3/8	95	7 1/4"	2 3/8"	60115K73 70.27	97	5 3/8"	2 3/8"	60115K63 43.07	117	9 7/8"	2 3/8"	60115K43 111.34
3/8	110	8 1/4"	3"	60115K59 86.73	162	5 7/8"	3"	60115K68 61.58	140	11 1/4"	3"	60115K58 128.59
1/2	110	7 1/4"	2 3/8"	60115K74 77.12	97	5 3/8"	2 3/8"	60115K64 43.07	121	9 7/8"	2 3/8"	60115K44 111.34
1/2	126	8 1/4"	3"	60115K75 86.73	170	5 7/8"	3"	60115K65 61.58	165	11 1/4"	3"	60115K45 128.59
3/4	130	8 1/4"	3"	60115K76 86.73	176	5 7/8"	3"	60115K66 61.58	175	11 1/4"	3"	60115K46 128.59
1	280	11"	3 5/8"	60115K771 173.65	300	8 1/2"	3 5/8"	60115K671 125.99	250	16"	3 5/8"	60115K471 286.16

	Lubricators				Oil-Removal Filters				Oil Vapor- and Odor-Removal Filters			
Pipe Size	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.		Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.		Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.	
Miniature												
1/8	18	6"	1 5/8"	60115K51 $35.12								
1/4	58	6"	1 5/8"	60115K52 35.12	9	4 5/8"	1 3/4"	60115K12 $41.36	10	4 5/8"	1 3/4"	7402K11 $42.51

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Wilkerson-Compatible Modular Air Filter/Regulator/Lubricators (FRLs)

(Continued from previous page)

Individual/Replacement Components (Cont.)

Pipe Size	Lubricators: Max. scfm @ 100 psi	Lubricators: O'all Size Ht.	Lubricators: O'all Size Wd.			Oil-Removal Filters: Max. scfm @ 100 psi	Oil-Removal Filters: O'all Size Ht.	Oil-Removal Filters: O'all Size Wd.			Oil Vapor- and Odor-Removal Filters: Max. scfm @ 100 psi	Oil Vapor- and Odor-Removal Filters: O'all Size Ht.	Oil Vapor- and Odor-Removal Filters: O'all Size Wd.		
Standard															
1/4	75	8 3/4"	2 3/8"	60115K6	$54.33	30	8"	2 3/8"	60115K8	$103.44	30	8 1/4"	2 3/8"	7426K11	$80.10
3/8	78	8 3/4"	2 3/8"	60115K53	54.33	33	8"	2 3/8"	60115K13	103.44	34	8 1/4"	2 3/8"	7426K12	80.10
3/8	135	10"	3"	60115K69	66.42	64	9"	3"	60115K78	121.04	—	—	—	—	—
1/2	90	8 3/4"	2 3/8"	60115K54	54.33	35	8"	2 3/8"	60115K14	103.44	35	8 1/4"	2 3/8"	7426K13	80.10
1/2	145	10"	3"	60115K55	66.42	65	9"	3"	60115K15	121.04	—	—	—	—	—
3/4	160	10"	3"	60115K56	66.42	70	9"	3"	60115K16	121.04	65	9 1/4"	3"	7426K14	98.10
1	270	11 7/8"	3 5/8"	60115K571	149.79	120	12"	3 5/8"	60115K162	512.58	—	—	—	—	—

Pipe Size	Manifold Regulators (Available Regulating Ranges: 0-30 psi, 0-60 psi, 0-125 psi): Max. scfm @ 100 psi	Manifold Regulators: O'all Size Ht.	Manifold Regulators: O'all Size Wd.			Safety Lockout Valves: Max. scfm @ 100 psi	Safety Lockout Valves: O'all Size Ht.	Safety Lockout Valves: O'all Size Wd.		
Miniature										
1/8	27	4"	1 5/8"	4927K11	$26.80	—	—	—	—	—
1/4	29	4"	1 5/8"	4927K12	26.80	42	2 7/8"	2"	6148K32	$27.23
Standard										
1/4	62	5 1/2"	2 3/8"	4927K31	40.64	—	—	—	—	—
3/8	62	5 1/2"	2 3/8"	4927K32	40.64	190	3 1/2"	2 7/8"	6148K34	28.79
1/2	62	5 1/2"	2 3/8"	4927K33	40.64	258	3 1/2"	2 7/8"	6148K36	28.79
1/2	—	—	—	—	—	561	3 7/8"	3 1/4"	6148K37	39.52
3/4	—	—	—	—	—	678	3 7/8"	3 1/4"	6148K38	39.52

Joiner Clamps with Mounting Brackets		
For Miniature Units	60115K21	6.54
For Standard Units—Pipe Size 1/4 to 3/4	60115K22	13.05
Replacement Filter Elements		
Oil Vapor- and Odor-Removal Filter Element for Miniature Unit—Pipe Size 1/4	7402K21	20.87
Oil Vapor- and Odor-Removal Filter Element for Standard Unit—Pipe Size 1/4 to 1/2	7426K21	33.62
Oil Vapor- and Odor-Removal Filter Element for Standard Unit—Pipe Size 3/4	7426K22	42.38

Lightweight Corrosion-Resistant Modular Air Filter/Regulator/Lubricators (FRLs)

With an aluminum body, these FRLs are lightweight, corrosion-resistant, and nonmagnetic. Maximum pressure is 150 psi. Maximum temperature is 125° F. Inlet and outlet connections are NPT female.

Filters remove particles down to 5 microns. All have a manual drain and a polycarbonate bowl with a nylon bowl guard.

Regulators are relieving style, which exhaust excess downstream pressure when your system is blocked. A pressure gauge is included. Accuracy is ±2.3%.

Lubricators use 10W nondetergent oil. They have a sight glass and polycarbonate bowl with nylon bowl guard.

Filter/Regulator/Lubricators

Stacked Filter/Regulator/Lubricators—Combine a filter and regulator into one device, with a lubricator at the side.

End Block Kits—Each kit includes one end block for the inlet and one for the outlet. Blocks thread onto your pipe, allowing you to replace components that are between them without having to unthread your system.

Pipe Size	Max. scfm @ 100 psi	Regulating Range, psi	Oil Cap., oz.	O'all Size Ht.	O'all Size Wd.	Complete Units		End Block Kits		Replacement Filter Elements	
Filter/Regulator/Lubricators											
1/8	34	0-140	0.6	5 1/8"	4 3/4"	7465K16	$162.50	7465K21	$43.75	7465K31	$13.93
1/4	46	0-140	0.6	5 1/8"	4 3/4"	7465K17	157.50	7465K22	43.75	7465K31	13.93
Stacked Filter/Regulator/Lubricators											
1/8	36	0-140	0.6	6 1/4"	3 1/4"	7465K18	151.25	7465K21	43.75	7465K31	13.93
1/4	44	0-140	0.6	6 1/4"	3 1/4"	7465K19	153.75	7465K22	43.75	7465K31	13.93



Individual/Replacement Components

Stacked Filter/Regulator—Combines a filter and regulator into one device.

Joiner Clamp—Use to link components together.

	1/8 Pipe Size		1/4 Pipe Size	
Filter	7465K62	$38.62	7465K67	$41.12
Regulator	7465K63	45.00	7465K68	47.75
Stacked Filter/Regulator	7465K61	74.88	7465K66	75.75
Lubricator	7465K64	56.50	7465K69	59.75
Joiner Clamp	7465K65	11.05	7465K65	11.05



Soft-Start Quick-Exhaust Valves

Also known as Monday-morning valves, these solenoid valves increase pressure slowly to reduce surge damage. When the solenoid is shut off, the valves cut air to your equipment by exhausting downstream pressure. All have an aluminum body. Connections are NPT female.

Pipe Size Inlet	Pipe Size Outlet	Max. scfm @ 100 psi	Max. psi	Max. Temp.	O'all Size Ht.	O'all Size Wd.	24V DC Valves		120V AC Valves	
1/4	3/8	80	150	150° F	7 3/8"	2 3/4"	6825K13	$197.68	6825K31	$197.68
3/8	3/8	90	150	150° F	7 3/8"	2 3/4"	6825K14	197.68	6825K32	197.68
1/2	3/8	95	150	150° F	7 3/8"	2 3/4"	6825K11	197.68	6825K21	197.68
3/4	3/4	250	145	140° F	7 3/4"	5 1/8"	6825K23	359.49	6825K24	359.49
1	1	270	145	140° F	7 3/4"	5 1/8"	6825K25	359.49	6825K26	359.49



Modular Air Filter/Regulator/Lubricators (FRLs)

For information about air preparation, see page 1013.

Norgren-Compatible Modular Air Filter/Regulator/Lubricators (FRLs)



Build your own filter/regulator/lubricators by linking components together with joiner clamps. All of these components use Norgren clamps (sold separately), which provide fast installation. They can also be piped directly into your system. Components have an aluminum body, a maximum pressure of 150 psi, and a maximum temperature of 125°F (except manifold regulators and safety lockout valves have a zinc body, a maximum pressure of 250 psi, and a maximum temperature of 150°F). Inlet and outlet connections are NPT female.

Filters—Remove particles down to 5 microns. They have an automatic drain and polycarbonate bowl with an aluminum bowl guard.

Regulators—All are relieving style, which exhaust excess downstream pressure when your system is blocked. Regulating range is 5-150 psi. A pressure gauge is included. Accuracy is ±3%.

Stacked Filter/Regulators—Combine a filter and a regulator into one device. Accuracy is ±3%.

Lubricators—Use 10W nondetergent oil. Bowl is polycarbonate with an aluminum bowl guard.

Oil-Removal Filters—Also known as coalescing filters, these filters remove oil mists down to 0.01 micron. All have an automatic drain. Bowl is polycarbonate with an aluminum bowl guard (except 7390K93 and 7390K94 do not have a bowl guard).

Manifold Regulators—Connect two or more of these regulators with joiner clamps (sold separately) to independently control multiple output pressures from one pressure supply. Each regulator has one 1/4" NPT female regulated port (pressure gauge is included).

Desiccant Air Dryers—Eliminate moisture at the point of use to deliver clean, dry air directly to your power tools and machinery. Dryers have silica gel desiccant that lowers the inlet air dew point by 15°F. To reactivate, remove and heat the desiccant at 275°F until it returns to an orange color. Bowl is polycarbonate with a steel bowl guard.

Safety Lockout Valves—Prevent accidental start-up when you're servicing equipment. Valves exhaust downstream air when closed and are lockable in the closed position (maximum shackle dia. is 5/16"; padlock not included). All have a yellow locking mechanism and help your process comply with OSHA lockout/tagout regulations.

End Block Kits—Include one end block for the inlet and one for the outlet. Blocks thread onto your pipe, allowing you to replace components that are between them without having to unthread your system.

		Filters				Regulators				Stacked Filter/Regulators			
Pipe Size	O'all Wd.	Max. scfm @ 100 psi	O'all Ht.			Max. scfm @ 100 psi	O'all Ht.			Max. scfm @ 100 psi	O'all Ht.		
1/4	2 3/4"	50	6 7/8"	7390K61	$60.26	91	5 3/8"	7390K71	$51.92	60	9 5/8"	9891K21	$110.37
3/8	2 3/4"	63	6 7/8"	7390K63	60.50	144	5 3/8"	7390K73	52.21	42	9 5/8"	9891K22	110.91
3/8	3 1/4"	95	7 3/8"	7390K62	73.55	208	6 3/4"	7390K72	75.70	95	11 3/8"	7390K27	159.48
1/2	2 3/4"	63	6 7/8"	7390K64	61.08	144	5 3/8"	7390K74	52.21	66	9 5/8"	9891K23	110.37
1/2	3 1/4"	120	7 3/8"	7390K65	72.86	220	6 3/4"	7390K75	75.70	120	11 3/8"	7390K57	157.95
3/4	3 1/4"	120	7 3/8"	7390K66	73.55	220	6 3/4"	7390K76	75.70	150	11 3/8"	9891K42	173.57

	Lubricators					Oil-Removal Filters					Manifold Regulators (Available Regulating Ranges: 5-60 psi, 5-150 psi)				
Pipe Size	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.			Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.			Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.		
1/4	63	8"	2 3/4"	7390K81	$59.93	34	8 1/4"	2 3/4"	7390K91	$131.82	83	4 1/4"	2"	4822K1	$46.04
3/8	85	8"	2 3/4"	7390K83	60.53	34	8 1/4"	2 3/4"	7390K93	129.82	83	4 1/4"	2"	4822K2	47.43
3/8	95	8 3/4"	3 1/4"	7390K82	74.19	75	8 3/4"	3 1/4"	7390K92	165.37	—	—	—	—	—
1/2	85	8"	2 3/4"	7390K84	60.53	34	8 1/4"	2 3/4"	7390K94	129.82	—	—	—	—	—
1/2	130	8 3/4"	3 1/4"	7390K85	74.19	75	8 3/4"	3 1/4"	7390K95	165.37	—	—	—	—	—
3/4	130	8 3/4"	3 1/4"	7390K86	74.19	105	10 7/8"	3 1/4"	7390K96	187.36	—	—	—	—	—

	Desiccant Air Dryers					Safety Lockout Valves					Repl. Desiccant for Desiccant Air Dryers		Replacement Filter Elements	
Pipe Size	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.			Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.						
1/4	—	—	—	—	—	57	2 3/4"	2 1/8"	48115K91	$38.63	—	—	4958K82	$6.87
3/8	10	7 1/4"	3 1/4"	4834K31	$109.96	116	2 3/4"	2 1/8"	48115K84	38.63	4834K21	$15.79	4958K82	6.87
3/8	—	—	—	—	—	160	3"	2 3/4"	48115K11	49.88	—	—	4958K95	10.04
1/2	10	7 1/4"	3 1/4"	4834K36	109.96	113	2 3/4"	2 1/8"	48115K93	64.24	4834K21	15.79	4958K82	6.87
1/2	—	—	—	—	—	117	3"	2 3/4"	48115K85	50.42	—	—	4958K95	10.04
3/4	—	—	—	—	—	113	3"	2 3/4"	48115K94	50.42	—	—	4958K95	10.04

To Order: For End Block Kits, please specify pipe size.

End Block Kits for Regulators (except Manifold Regulators)	4822K5	40.13
End Block Kits for Manifold Regulators	4822K4	44.59
Joiner Clamp with Mounting Bracket for Components (except Manifold Regulators)	7390K2	13.84
Joiner Clamp with Mounting Bracket for Manifold Regulators	7390K1	34.27

Compact Integrated Air Filter/Regulators



Talk about convenient—here's a complete air preparation system in one compact component. You'll get a filter with automatic drain, regulator with pressure gauge, soft-start valve, shut-off valve with padlock and key, and three 1/4" air ports (one for filtered, unregulated air; two for filtered, regulated air). The filter removes particles down to 5 microns and has an indicator that lets you know when the filter element needs to be replaced. The regulator is relieving style, which exhausts excess downstream pressure when your system is blocked. Accuracy is ±2 psi. The soft-start valve eases pressure into your system to reduce surge damage.

All controls and replaceable parts are accessible via the component's front panel. Housing is acetal with an aluminum cover and has an IP65 rating for protection against splashing water. Inlet and outlet connections are NPT female.

Electric filter/regulators have an indicator signal switch to let you know whether you're above or below your set pressure (you select which). All operate on 24V DC and have a 15-ft. electrical cable.

Pipe Size	Max. scfm @ 100 psi	Regulating Range, psi	Max. psi	Max. Temp.	*O'all Size* Ht.	Wd.	Standard Filter/ Regulators		Electric Filter/ Regulators		Replacement Filter Elements	
3/8	120	0-120	145	120°F	5 3/4"	7"	8628T1	$311.94	8628T11	$482.00	8628T21	$7.87
1/2	145	0-120	145	120°F	5 3/4"	7"	8628T2	316.38	8628T12	463.33	8628T21	7.87

Parker-Compatible Modular Air Filter/Regulator/Lubricators (FRLs)


Filter


Regulator


Stacked Filter/Regulator


Lubricator


Oil-Removal Filter


Safety Lockout Valves


Joiner Clamp

Link these components together with joiner clamps to create your own custom filter/regulator/lubricators. All of these components use Parker clamps (sold separately for pipe size 1/4-3/4 components; included for pipe size 1 components), which provide fast installation. Components can also be piped directly into your system. Inlet and outlet connections are NPT female.

Pipe size 1/4-3/4 components have a zinc body (except safety lockout valves have an aluminum body). Maximum pressure is 150 psi (except for pipe size 1/4 regulators and safety lockout valves it is 250 psi). Maximum temperature is 125° F (except for pipe size 1/4 regulators it is 175° F).

Pipe size 1 components have an aluminum body. Maximum pressure is 250 psi. Maximum temperature is 175° F.

Filters—Remove particles down to 40 microns and have an automatic drain. Bowl is polycarbonate with a steel bowl guard (except pipe size 1 filters have a metal bowl with sight glass).

Regulators—All are relieving style, which exhaust excess downstream pressure when your system is blocked. Regulating range is 5-125 psi. A pressure gauge is included. Accuracy is ±3 psi.

Stacked Filter/Regulators—Combine a filter and a regulator into one device. Accuracy is ±3%.

Lubricators—Use petroleum-based 100-200 SSU oil. Bowl is polycarbonate with a steel bowl guard.

Oil-Removal Filters—Also known as coalescing filters, these filters remove particles down to 0.3 micron; oil mists down to 0.01 micron (except pipe size 1/4 and 1 filters remove oil mists down to 0.75 micron). All have an automatic drain. Bowl is polycarbonate with a steel bowl guard (except pipe size 1 filter has an aluminum bowl).

Safety Lockout Valves—Prevent accidental start-up when you're servicing equipment. Valves exhaust downstream air when closed and are lockable in the closed position (maximum shackle dia. is 5/16"; padlock not included). All have a red slide-lock mechanism and help your process comply with OSHA lockout/tagout regulations.

		Filters				Regulators				Stacked Filter/Regulators			
Pipe Size	O'all Wd.	Max. scfm @ 100 psi	O'all Ht.			Max. scfm @ 100 psi	O'all Ht.			Max. scfm @ 100 psi	O'all Ht.		
1/4	2 7/8"	53	6 1/4"	8452T18	$82.99	53	6 1/8"	8452T19	$53.03	46	10 1/2"	8452T17	$128.81
3/8	2 7/8"	100	6 1/4"	8452T7	82.99	80	6 1/8"	8452T4	53.03	80	10 1/2"	8452T1	128.81
1/2	3 1/4"	160	7 3/4"	8452T8	103.31	130	6 1/2"	8452T5	77.04	130	11 7/8"	8452T2	150.37
3/4	3 1/4"	180	7 3/4"	8452T9	103.31	170	6 1/2"	8452T6	77.04	170	11 7/8"	8452T3	150.37
1	3 5/8"	300	11"	8452T24	217.06	300	8 1/2"	8452T25	157.48	250	16"	8452T23	357.70

	Lubricators					Oil-Removal Filters					Safety Lockout Valves				
Pipe Size	Max. scfm @ 100 psi	O'all Size Ht.	Wd.			Max. scfm @ 100 psi	O'all Size Ht.	Wd.			Max. scfm @ 100 psi	O'all Size Ht.	Wd.		
1/4	40	7 7/8"	2 7/8"	8452T21	$67.77	48	7 1/4"	2 7/8"	8452T22	$133.14	—	—	—	—	—
3/8	85	7 7/8"	2 7/8"	8452T11	67.77	45	7 1/4"	2 7/8"	8452T14	133.14	90	3 1/8"	2 3/4"	8562T11	$47.69
1/2	140	9 1/8"	3 1/4"	8452T12	81.99	75	8 5/8"	3 1/4"	8452T15	168.30	250	3 1/8"	2 3/4"	8562T12	58.19
3/4	140	9 1/8"	3 1/4"	8452T13	81.99	75	8 5/8"	3 1/4"	8452T16	168.30	—	—	—	—	—
1	250	11 7/8"	3 5/8"	8452T26	187.23	140	12"	3 5/8"	8452T27	378.48	—	—	—	—	—
Joiner Clamp with Mounting Bracket for Pipe Size 1/4 and 3/8 Components														8486T1	16.07
Joiner Clamp with Mounting Bracket for Pipe Size 1/2 and 3/4 Components														8486T2	16.99

Compact Modular Air Filter/Regulator/Lubricators (FRLs)

The smallest filter/regulator/lubricators we sell—good for laboratory use, instrumentation, and micro machining. Body is aluminum. Maximum pressure is 145 psi. Maximum temperature is 140° F.

Filters remove particles down to 5 microns. All have a manual drain and a polycarbonate bowl.

Regulators are nonrelieving style, which means they do not exhaust excess downstream pressure. Regulating range is 7-100 psi. Pressure gauge is included. Accuracy is ±5%.

Lubricators use VG32 oil (see 3499K on page 2204). They have a polycarbonate bowl with a sight glass.

Filter/Regulator/Lubricators

All include joiner clamps and mounting brackets.

Stacked Filter/Regulator/Lubricator—Combines a filter and regulator into one device, with a lubricator at the side.

End Block Kits—Each kit includes one end block for the inlet and one for the outlet. Blocks thread onto your pipe, allowing you to replace components that are between them without having to unthread your system.


Filter/ Regulator/ Lubricator


Stacked Filter/ Regulator/ Lubricator

Thread Size	Max. scfm @ 100 psi	Oil Cap., oz.	O'all Size Ht.	Wd.	Complete Units		End Block Kits		Replacement Filter Elements	
Filter/Regulator/Lubricators										
10-32	5.3	0.25	3 3/8"	3 1/2"	6098K1	$72.11	6098K44	$34.87	6098K6	$3.08
Stacked Filter/Regulator/Lubricators										
10-32	5.3	0.25	3 3/8"	3 1/2"	6098K22	59.33	6098K44	34.87	6098K6	3.08

Individual/Replacement Components and Pipe Adapters

Stacked Filter/Regulator—Combines a filter and regulator into one device.

Joiner Clamp—Use to link components together.

Pipe Adapters—Allow you to adapt from 10-32 threads to 1/8 NPT female pipe size connections.


Filter


Regulator


Stacked Filter/ Regulator


Lubricator


Joiner Clamp

Filter	6098K2	$13.26
Regulator	6098K3	25.44
Stacked Filter/Regulator	6098K5	37.76
Lubricator	6098K4	14.94
Joiner Clamp	6098K7	6.52
Pipe Adapters (Pkg. of 5)	5454K69	12.90

Modular Air Filter/Regulator/Lubricators (FRLs)

For information about air preparation, see page 1013.

SMC-Compatible Modular Air Filter/Regulator/Lubricators (FRLs)


Filter


Regulator


Stacked Filter/Regulator


Lubricator


Oil-Removal Filter


Safety Lockout Valve


Joiner Clamp

To make your own filter/regulator/lubricators, link these components together with joiner clamps. All of these components use SMC clamps (sold separately), which provide fast installation. They can also be piped directly into your system. Maximum pressure is 145 psi. Maximum temperature is 140° F. Inlet and outlet connections are NPT female.

Pipe size 1/8 components have a zinc body (except stacked filter/regulator has an aluminum body). *Pipe size 1/4-1 components* have an aluminum body.

Filters—Remove particles down to 5 microns and have an automatic drain. Bowl is polycarbonate. Pipe size 1/8 filter also includes a steel bowl guard.

Regulators—Are relieving style, which exhaust excess downstream pressure when your system is blocked (except pipe size 1/8 regulator is nonrelieving style, which means it does not exhaust excess downstream pressure). Regulating range is 7-120 psi. A pressure gauge is included. Accuracy is ±2.5%.

Stacked Filter/Regulators—Combine a filter and a regulator into one device. Accuracy is ±2.5%. Pipe size 1/8 filter/regulator also includes a steel bowl guard.

Lubricators—Use ISO VG32 oil. Bowl is polycarbonate.

Oil-Removal Filters—Also known as coalescing filters, these filters remove particles down to 0.01 micron and oil mists down to 0.008 ppm. All have an automatic drain. Bowl is polycarbonate. Pipe size 1/8 filter also includes a steel bowl guard.

Safety Lockout Valves—Prevent accidental start-up when you're servicing equipment. Valves exhaust downstream air when closed and are lockable in the closed position (maximum shackle dia. is 5/16"; padlock not included). All have a red locking handle and help your process comply with OSHA lockout/tagout regulations.

Filters

Pipe Size	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.		
1/8	28	4 1/2"	1 5/8"	8520T34	$51.02
1/4	130	6 3/4"	2 1/8"	8520T9	72.47
3/8	53	6 3/4"	2 1/8"	8520T11	72.47
1/2	206	8 1/8"	2 3/4"	8520T12	89.75
3/4	427	11 1/8"	3 1/2"	8520T13	121.42
1	427	11 1/8"	3 1/2"	8520T14	121.42

Regulators

Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.		
28	3 3/4"	1 5/8"	8520T31	$38.06
53	4 5/8"	2 1/8"	8520T4	49.10
106	5"	2 3/4"	8520T5	58.33
106	5"	2 3/4"	8520T6	58.33
353	6 5/8"	3 1/2"	8520T7	85.40
353	6 5/8"	3 1/2"	8520T8	85.40

Stacked Filter/Regulators

Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.		
28	7"	1 5/8"	8520T24	$73.60
53	9 1/2"	2 1/8"	8520T1	100.67
106	11"	2 3/4"	8520T2	130.10
106	11"	2 3/4"	8520T3	130.10
141	11 1/8"	3"	8520T25	152.78
353	17 3/4"	3 3/4"	8520T26	198.42

Lubricators

Pipe Size	Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.		
1/8	132	4 1/2"	1 5/8"	8520T35	$40.62
1/4	212	5 5/8"	2 1/8"	8520T15	46.02
3/8	283	6 7/8"	2 3/4"	8520T16	54.85
1/2	283	6 7/8"	2 3/4"	8520T17	54.85
3/4	458	9 7/8"	3 1/2"	8520T18	82.58
1	458	9 7/8"	3 1/2"	8520T19	82.58

Oil-Removal Filters

Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.		
4.3	4 1/2"	1 5/8"	8520T32	$82.70
8.5	6 3/4"	2 1/8"	8520T21	100.90
21	8 1/8"	2 3/4"	8520T22	117.07
21	8 1/8"	2 3/4"	8520T23	117.07
21	8 1/4"	3"	8520T33	122.65
___	___	___	___	___

Safety Lockout Valves

Max. scfm @ 100 psi	*O'all Size* Ht.	Wd.		
28	2 5/8"	1 5/8"	8562T6	$34.40
53	3 1/8"	2 1/8"	8562T1	39.36
101	4 1/8"	2 3/4"	8562T2	53.46
180	4 1/8"	2 3/4"	8562T3	53.46
268	5 1/4"	3 1/2"	8562T4 ★	93.62
409	5 1/4"	3 1/2"	8562T5	93.62

Safety Lockout Valve for Pipe Size 3/4 Stacked Filter/Regulator and Oil-Removal Filter	8562T8	53.47
Joiner Clamp with Mounting Bracket for Pipe Size 1/8 Components	8550T4	6.40
Joiner Clamp with Mounting Bracket for Pipe Size 1/4 Components and Pipe Size 3/8 Filter	8550T1	7.95
Joiner Clamp with Mounting Bracket for Pipe Size 3/8 and 1/2 Components (Except Pipe Size 3/8 Filter)	8550T2	8.84
Joiner Clamp with Mounting Bracket for Pipe Size 3/4 and 1 Components (Except Pipe Size 3/4 Stacked Filter/Regulator and Oil-Removal Filter)	8550T3	12.20
Joiner Clamp with Mounting Bracket for Pipe Size 3/4 Stacked Filter/Regulator and Oil-Removal Filter	8550T5	9.74

★ Not for use with pipe size 3/4 stacked filter/regulator and oil-removal filter.

Push-to-Connect Modular Air Filter/Regulator/Lubricators (FRLs)


Filter/ Regulator/ Lubricator


Stacked Filter/ Regulator/ Lubricator

With push-to-connect fittings, connecting and disconnecting plastic and soft metal tubing to these filter/regulator/lubricators is quick and easy. Body is zinc (except 1/2" tube OD sizes have an aluminum body). All include mounting brackets. Maximum pressure is 145 psi. Maximum temperature is 140° F.

Filters remove particles down to 5 microns. All have an automatic drain and a polycarbonate bowl.

Regulators are relieving style, which exhaust excess downstream pressure when your system is blocked (except the stacked filter/regulator/lubricator for 1/8" tube OD is nonrelieving, which means it does not exhaust excess downstream pressure). A pressure gauge is included. Accuracy is ±2.5% (except filter/regulator/lubricator for 1/8" tube OD has an accuracy of ±5%).

Lubricators use ISO VG32 oil. They have a polycarbonate bowl.

Stacked Filter/Regulator/Lubricators—Combine a filter and regulator into one device, with a lubricator at the side.

For Tube OD	Max. scfm @ 100 psi	Regulating Range, psi	Oil Cap., oz.	*O'all Size* Ht.	Wd.	Filter/Regulator/ Lubricators		Replacement Filter Elements	
Filter/Regulator/Lubricators									
1/8"	5	7-101	0.24	4 1/8"	3 1/2"	8419T1	$108.51	6098K6	$3.08
1/4"	28	7-123	0.85	5 1/2"	5"	8419T2	137.18	8540T4	3.88
3/8"	28	7-123	0.85	5 1/2"	5"	8419T3	140.46	8540T4	3.88
1/2"	53	7-123	1.86	7 3/4"	6 5/8"	8419T4	183.23	8540T1	4.58
Stacked Filter/Regulator/Lubricators									
1/8"	28	7-123	0.85	7"	3 1/4"	8419T9	119.72	8540T4	3.88
1/4"	28	7-123	0.85	7"	3 1/4"	8419T6	120.05	8540T4	3.88
3/8"	28	7-123	0.85	7"	3 1/4"	8419T7	123.79	8540T4	3.88
1/2"	53	7-123	1.86	9 1/2"	4 3/8"	8419T8	159.69	8540T1	4.58

About Choosing a Directional Control Valve

Sending air pressure to the right place at the right time and then exhausting that pressure when it's no longer needed is a directional control valve's job. Use the following information to select a valve that fits your application.

Choose a Valve to Control a Single-Acting Air Cylinder with Spring Return or a Double-Acting Air Cylinder

To Control a Single-Acting Cylinder with Spring Return— Choose a *3-way valve*. All 3-way valves have *two positions* (open and closed). A *normally open valve* lets air pass through the valve when it is in its resting position. A *normally closed valve* stays closed until activated.

The most common 3-way valve has three ports: one pressure input port to connect to your compressed air source, one pressure output port to connect to your cylinder, and one exhaust port. The following illustration shows a 3-way, two-position valve controlling a single-acting spring-return cylinder:

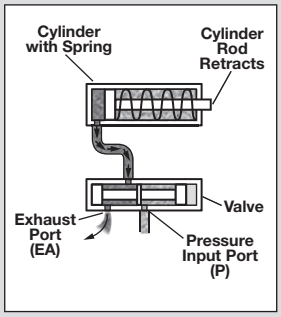

Valve Position 1— Valve is closed and exhausts air as the spring retracts the cylinder rod.

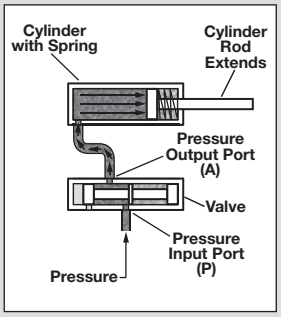

Valve Position 2— Valve is open and sends pressure to extend the cylinder rod.

To Control a Double-Acting Cylinder— Choose a *4-way valve*. They are available with *two positions* (open and closed) or *three positions* (open, center, and closed). For three-position valves, choose the center function: closed (all ports closed), exhaust (both exhaust ports open), or pressure (air flowing to both pressure outputs).

The most common 4-way valve has two positions and five ports: one pressure input port to connect to your compressed air source, two pressure output ports to connect to your cylinder, and two exhaust ports. The following illustration shows a 4-way, two-position valve controlling a double-acting cylinder:

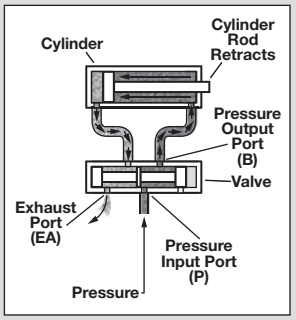

Valve Position 1— Valve sends pressure to output B to retract the cylinder rod while EA exhausts air.

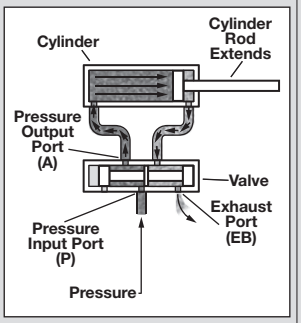

Valve Position 2— Valve sends pressure to output A to extend the cylinder rod while EB exhausts air.

Select Your Valve Configuration

Method of Operation— Valves can be operated manually, automatically, or with a solenoid. Once a *manual-return valve* is moved into a position, the valve stays in that position until you move the operator (lever, knob, or pedal) again. For *automatic-return valves*, a spring returns the valve to its original position once you let go of the operator. *Solenoids* send a signal to activate the valve and allow automation with computers and programmable logic controllers (PLCs).

Number of Ports— *3-way valves* have two or three ports. Two-port styles do not have a separate exhaust port, while three-port styles do. Choose three ports to extend and retract cylinders at the same speed.

4-way valves have four or five ports. Choose four ports (which have one exhaust outlet) to extend and retract cylinders at the same speed. Choose five ports (which have two exhaust outlets) to extend and retract cylinders at different speeds.

Flow Coefficient (Cv)— Flow coefficient is a measurement that indicates how much airflow a control valve can provide to your cylinder. The higher the flow coefficient value, the higher the airflow rate. Looking at valves with the same port size, but different flow coefficient values and not sure which one to choose? Select the one with the higher flow coefficient value because low airflow can slow down your entire system.

Match Your National Fluid Power Association (NFPA) Diagrams

Found on most directional control valves, these diagrams depict airflow and valve action. They're useful for replacing control valves—match the diagram on your valve to the diagrams shown here to determine the number of ways, ports, and positions you need.

P= Pressure input port
A and **B=** Pressure output ports
EA and **EB=** Exhaust ports

Some valves use a numbering system:
1= Pressure input port
2 and **3=** Pressure output ports
4 and **5=** Exhaust ports

3-Way Valves, Two Positions

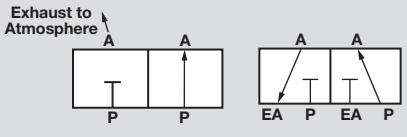

With Two Ports | With Three Ports

4-Way Valves, Two Positions

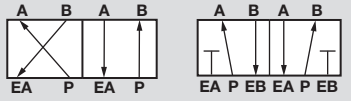

With Four Ports | With Five Ports

4-Way Valves, Three Positions

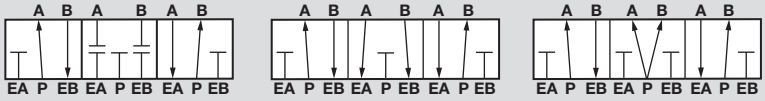

With Five Ports (Closed Center) | With Five Ports (Exhaust Center) | With Five Ports (Pressure Center)

Hand-Operated Air Directional Control Valves

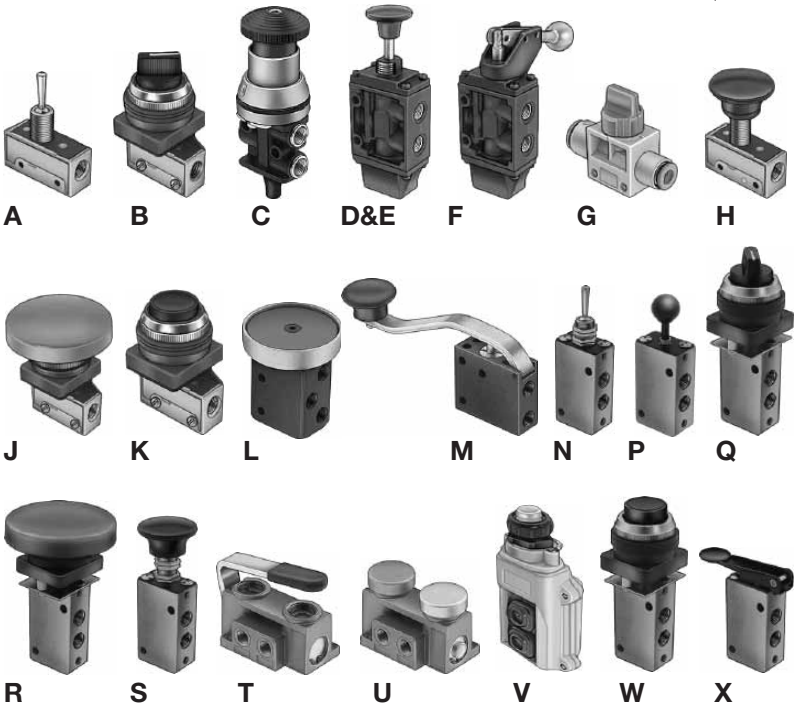

You control these valves by pushing or turning their toggle, knob, button, or lever. Valves can be panel mounted and include panel-mounting hardware (except where a panel mount opening is not listed below). NPT connections are female. *3-way valves for single-acting cylinders with spring return* are normally closed.

Manual-Return Valves—Once moved into a position, the valve stays in that position until you move the toggle, knob, button, or lever again.

Automatic-Return Valves—A spring returns the valve to its original position once you let go of the toggle, knob, button, or lever.

Styles A&B are zinc and are vacuum rated to 23″ Hg.

Styles C&D are aluminum and are vacuum rated to 26.5″ Hg.

Styles E&F are aluminum and are vacuum rated to 29″ Hg.

Style G are made of plastic and have metric push-to-connect tube connections. They are not vacuum rated.

Styles H-K are zinc and are vacuum rated to 23″ Hg.

Styles L-U are aluminum and are not vacuum rated.

Style V can be used as a pendant-style valve. It's polycarbonate, has barbed tube connections, and is not vacuum rated. Valve does not have an exhaust port (exhausts directly to the atmosphere). The center position is closed. CSA certified. Meets IP65 for protection from water projected from a nozzle and NEMA 4X for corrosion resistance.

Styles W&X are aluminum and are not vacuum rated.

To Order: For Style L, please specify color of palm button: black, green, or red.

	No. of Ports	Positions	Port Size	Valve Operator	Max. scfm @ 100 psi	Flow Coefficient	Operating Pressure Range, psi	Lg.	Wd.	Ht.	Panel Mount Opening		
3-Way Valves for Single-Acting Cylinders with Spring Return													
Manual Return													
A	3	2	1/8 NPT	Toggle	6	0.11	0-120	1 3/4″	3/4″	2 1/2″	1/2″	**6464K16**	$33.98
B	3	2	1/8 NPT	Two-Position Knob	6	0.11	0-120	1 3/4″	1 1/2″	3″	1 1/4″	**6464K17**	67.47
C	3	2	1/8 NPT	Palm Button	10.7	0.34	0-145	4 1/2″	7/8″	1 3/8″	1 1/4″	**61345K16**	174.29
D	3	2	1/4 NPT	Palm Button	32.5	0.98	0-145	1 1/8″	1 7/8″	5 1/4″	7/8″	**2700K14**	90.35
E	3	2	1/4 NPT	Palm Button	53	1.6	0-150	2 1/4″	1 3/8″	6 3/8″	7/8″	**6859K32**	88.96
F	3	2	1/4 NPT	Lever	53	1.6	0-150	2 1/4″	1 3/8″	6 1/2″	—	**6859K34**	110.16
G	3	2	For 4 mm Tube OD	Two-Position Knob	5.75	0.18	0-145	1 7/8″	3/4″	1 5/8″	3/4″	**5360T12**	17.30
G	3	2	For 6 mm Tube OD	Two-Position Knob	12.77	0.39	0-145	1 7/8″	3/4″	1 5/8″	3/4″	**5360T14**	18.17
G	3	2	For 8 mm Tube OD	Two-Position Knob	16.92	0.53	0-145	2 1/8″	3/4″	1 5/8″	3/4″	**5360T16**	18.41
G	3	2	For 10 mm Tube OD	Two-Position Knob	28.42	0.89	0-145	2 3/8″	7/8″	1 7/8″	3/4″	**5360T21**	19.04
Automatic Return													
H	3	2	1/8 NPT	Palm Button	6	0.11	0-120	1 3/4″	3/4″	2 3/8″	1/2″	**6464K18**	29.82
J	3	2	1/8 NPT	Palm Button	6	0.11	0-120	2 1/2″	2 1/2″	3″	1 1/4″	**6464K25**	98.86
K	3	2	1/8 NPT	Raised Button	6	0.11	0-120	1 3/4″	1 1/2″	2 1/4″	1 1/4″	**6464K19**	60.35
L	3	2	1/8 NPT	Palm Button	6	0.106	0-100	2 1/4″	2 1/4″	2 1/2″	2 1/4″	**6464K3**	38.71
M	3	2	1/8 NPT	Lever	5	0.15	0-120	6″	3/4″	2 1/4″	—	**61345K11**	88.52
D	3	2	1/4 NPT	Palm Button	32.5	0.98	0-145	1 1/8″	1 7/8″	4 7/8″	7/8″	**2700K13**	79.10
E	3	2	1/4 NPT	Palm Button	53	1.6	0-150	2 1/4″	1 3/8″	5 7/8″	7/8″	**6859K31**	67.73
F	3	2	1/4 NPT	Lever	53	1.6	0-150	2 1/4″	1 3/8″	6 1/8″	—	**6859K33**	90.13
4-Way Valves for Double-Acting Cylinders													
Manual Return													
N	5	2	1/8 NPT	Toggle	14	0.24	25-125	1 1/4″	3/4″	3 3/4″	1/2″	**61345K73**	62.63
P	5	2	1/8 NPT	Ball Knob	14	0.24	25-125	1 1/4″	3/4″	3 1/2″	—	**61345K53**	57.71
Q	5	2	1/8 NPT	Two-Position Knob	14	0.24	25-125	1 5/8″	1 5/8″	4 3/8″	1 1/4″	**61345K75**	106.94
R	5	2	1/8 NPT	Palm Button	14	0.24	25-125	2 1/2″	2 1/2″	4 1/4″	1 1/4″	**61345K55**	141.26
S	5	2	1/8 NPT	Palm Button	25	0.8	0-120	7/8″	1 3/8″	3 7/8″	5/8″	**61345K13**	28.80
D	5	2	1/4 NPT	Palm Button	32.5	0.98	0-145	1 1/8″	1 7/8″	6 1/8″	7/8″	**2700K12**	93.44
E	5	2	1/4 NPT	Palm Button	53	1.6	0-150	2 1/4″	1 3/8″	7 1/4″	7/8″	**6859K52**	91.58
F	5	2	1/4 NPT	Lever	53	1.6	0-150	2 1/4″	1 3/8″	7 5/8″	—	**6859K54**	113.73
U	5	2	1/4 NPT	Push Button	56	1	40-120	3″	1 7/8″	2″	—	**4558K17**	88.38
Automatic Return													
V	3	3	For 3/16″ Tube ID	Push Button	12	1.38	0-125	3 1/8″	2 1/2″	5 1/4″	—	**1191K21**	276.27
M	4	2	1/8 NPT	Lever	5	0.15	0-120	5 7/8″	1 1/2″	2 3/4″	—	**61345K12**	163.32
S	5	2	1/8 NPT	Palm Button	14	0.24	25-125	1 3/8″	1 3/8″	3 5/8″	1/2″	**61345K76**	63.03
T	5	2	1/8 NPT	Lever	35	1	0-120	3 1/2″	1 7/8″	2 7/8″	—	**4558K16**	89.35
W	5	2	1/8 NPT	Raised Button	14	0.24	25-125	1 5/8″	1 5/8″	3 5/8″	1 1/4″	**61345K77**	89.75
X	5	2	1/8 NPT	Lever	14	0.24	25-125	2 5/8″	3/4″	2 5/8″	—	**61345K52**	54.92
D	5	2	1/4 NPT	Palm Button	32.5	0.98	0-145	1 1/8″	1 7/8″	5 3/4″	7/8″	**2700K11**	78.40
E	5	2	1/4 NPT	Palm Button	53	1.6	0-150	2 1/4″	1 3/8″	7″	7/8″	**6859K51**	71.67
F	5	2	1/4 NPT	Lever	53	1.6	0-150	2 1/4″	1 3/8″	7 1/4″	—	**6859K53**	94.20
T	5	2	1/4 NPT	Lever	35	1	0-120	3 1/2″	1 7/8″	2 7/8″	—	**4558K15**	89.35

Compressed Air Directional Control Valves

For information about choosing a directional control valve, see page 1033.

Two-Hand Push-Button Safety Air Directional Control Valves

Since both hands are required to simultaneously press the buttons, these valves protect workers from accidental machinery start-ups. They're especially good for use on air-powered presses and drills. All valves are automatic return, which means a spring returns the valve to its original position once you let go of the buttons. Not vacuum rated. NPT connections are female; all others are push-to-connect tube connections.

3-way valves for single-acting cylinders with spring return are normally closed.

With Push Buttons—Valves are zinc-plated steel and do not have an exhaust port (exhaust directly to the atmosphere).

With Remote Push Buttons—The push buttons (located on the signal valves) are separate, allowing you to position them away from your machinery. Signal valves are zinc. Logic unit is aluminum. Note: A complete unit consists of one logic unit and two signal valves.



With Push Buttons

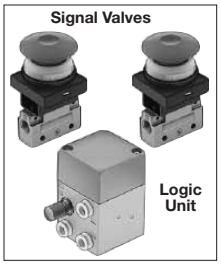

With Remote Push Buttons

No. of Ports	Positions	Port Size	Max. scfm @ 100 psi	Flow Coefficient	Operating Pressure Range, psi	Actuation Force, oz.	Lg.	Wd.	Ht.		
3-Way Valves for Single-Acting Cylinders with Spring Return											
With Push Buttons											
2	2	1/8 NPT	6	0.11	70-100	6	10 1/2"	3 1/2"	3 3/16"	62115K22	$531.79
2	2	1/8 NPT	6	0.11	70-100	18	10 1/2"	3 1/2"	3 3/16"	62115K21	484.52
With Remote Push Buttons											
3	2	For 1/4" Tube OD	3.8	0.11	36-145	—	—	—	—	6282K55★	370.33
Signal Valve Only—1/8 NPT Female Port Size										6282K13	35.67
Logic Unit Only—1/4" Push-to-Connect Port Size										6282K22	293.62
4-Way Valves for Double-Acting Cylinders											
With Push Buttons											
3	2	For 1/4" Tube OD	56	1	70-100	6	10 1/2"	3 1/2"	3 3/16"	62115K24	614.51
3	2	For 1/4" Tube OD	56	1	70-100	18	10 1/2"	3 1/2"	3 3/16"	62115K23	543.60

★ Complete unit, consisting of one logic unit and two signal valves. Signal valve port size is 1/8 NPT female.

Hand-Operated Lever Air Directional Control Valves



A



B



C



D

Move the hand lever to control these valves. They are not vacuum rated. Connections are NPT female.

3-way valves for single-acting cylinders with spring return are normally closed.

Manual-Return Valves—Once moved into a position, the valve stays in that position until you move the lever again.

Automatic-Return Valves—A spring returns the valve to its original position once you let go of the lever.

Styles A-C are aluminum. Style A do not have an exhaust port; air is exhausted directly to the atmosphere.

Style D are plastic with an aluminum base. You can remove these valves from their base for maintenance without unthreading your piping.

	No. of Ports	*Positions* No.	Center	Port Size	Max. scfm @ 100 psi	Flow Coefficient	Operating Pressure Range, psi	Lg.	Wd.	Ht.		
3-Way Valves for Single-Acting Cylinders with Spring Return												
Manual Return												
A	2	2	—	1/8	7.9	0.14	0-150	—	2" Dia.	1 5/8"	6650K7	$55.64
4-Way Valves for Double-Acting Cylinders												
Manual Return												
A	3	2	—	1/8	7.9	0.14	0-150	—	2" Dia.	1 5/8"	6650K8	67.31
B	4	3	Closed	1/4	60	2.5	0-150	6 7/8"	4 3/4"	3 3/4"	62365K61	206.64
B	4	3	Closed	1/4	60	2.5	0-250	6 7/8"	4 3/4"	3 3/4"	62365K112	289.21
B	4	3	Closed	3/8	70	3	0-150	6 7/8"	4 3/4"	3 3/4"	62365K63	198.69
B	4	3	Closed	3/8	70	3	0-250	6 7/8"	4 3/4"	3 3/4"	62365K122	208.71
B	4	3	Closed	1/2	145	6.2	0-150	9"	5 5/8"	4 1/2"	62365K65	255.11
B	4	3	Closed	1/2	145	6.2	0-250	9"	5 5/8"	4 1/2"	62365K132	264.11
B	4	3	Exhaust	1/4	60	2.5	0-150	6 7/8"	4 3/4"	3 3/4"	62365K62	214.81
B	4	3	Exhaust	3/8	70	3	0-150	6 7/8"	4 3/4"	3 3/4"	62365K64	226.24
B	4	3	Exhaust	1/2	145	6.2	0-150	9"	5 5/8"	4 1/2"	62365K66	290.40
C	5	2	—	1/8	17.5	0.5	0-145	3 3/4"	1 5/8"	3 3/4"	3368K13	105.83
D	5	2	—	1/4	45	0.75	0-120	5 3/8"	2"	5 5/8"	4493K34	121.87
C	5	2	—	1/4	45.5	1.3	0-145	4 3/4"	2 1/8"	4 3/4"	3368K24	91.34
C	5	3	Closed	1/8	17.5	0.5	0-145	3 3/4"	1 5/8"	3 3/4"	3368K15	98.03
C	5	3	Closed	1/4	45.5	1.3	0-145	4 3/4"	2 1/8"	4 3/4"	3368K26	94.57
C	5	3	Exhaust	1/8	17.5	0.5	0-145	3 3/4"	1 5/8"	3 3/4"	3368K16	101.72
C	5	3	Exhaust	1/4	45.5	1.3	0-145	4 3/4"	2 1/8"	4 3/4"	3368K27	94.57
C	5	3	Pressure	1/8	17.5	0.5	0-145	3 3/4"	1 5/8"	3 3/4"	3368K17	95.49
C	5	3	Pressure	1/4	45.5	1.3	0-145	4 3/4"	2 1/8"	4 3/4"	3368K28	94.57
Automatic Return												
C	5	2	—	1/8	17.5	0.5	0-145	3 3/4"	1 5/8"	3 3/4"	3368K14	114.72
D	5	2	—	1/4	45	0.75	0-120	5 3/8"	2"	5 5/8"	4493K24	128.00
C	5	2	—	1/4	45.5	1.3	0-145	4 3/4"	2 1/8"	4 3/4"	3368K44	92.93
D	5	3	Closed	1/4	45	0.75	0-120	6 1/4"	2"	5 5/8"	4493K44	211.23
C	5	3	Closed	1/4	45.5	1.3	0-145	4 3/4"	2 1/8"	4 3/4"	3368K29	102.10
C	5	3	Exhaust	1/4	35	1	0-145	4 3/4"	2 1/8"	4 3/4"	3368K31	104.59
C	5	3	Pressure	1/4	45.5	1.3	0-145	4 3/4"	2 1/8"	4 3/4"	3368K32	114.55

Hand-Operated Miniature Air Directional Control Valves

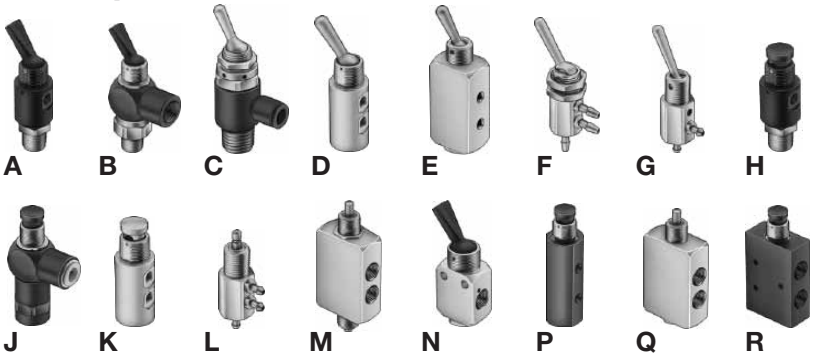

With the touch of a finger, these tiny valves can control air flow to your small air-powered systems. Valves are brass and are not vacuum rated, unless noted. Valves are panel mountable (except Style C is not panel mountable). Panel mount opening is 1/2" dia. (except opening is 1/4" dia. for Styles G and L; 3/8" dia. for Style F; 5/8" dia. for Style N). Mounting hardware is included.

3-way valves for single-acting cylinders with spring return are normally closed (Style L can also be used normally open).

Manual-Return Valves—Once moved into a position, the valve stays in that position until you move the toggle or button again.

Automatic-Return Valves—A spring returns the valve to its original position once you let go of the toggle or button.

	No. of Ports	Positions	Port Size Inlet	Port Size Outlet	Valve Operator	Max. scfm @ 100 psi	Flow Coefficient	Operating Pressure Range, psi	Lg.	Wd.	Ht.		
3-Way Valves for Single-Acting Cylinders with Spring Return													
Manual Return													
A	2	2	10-32 UNF Female	10-32 UNF Female	Toggle	14.4	0.24	0-125	5/8"	5/8"	2 1/4"	62475K16 ★	$15.45
A	2	2	1/8 NPT Male	10-32 UNF Female	Toggle	14.4	0.24	0-125	5/8"	5/8"	2 1/4"	62475K14 ★	14.65
B	2	2	1/8 NPT Male	1/8 NPT Female	Toggle	17.8	0.29	0-125	1 1/4"	5/8"	2 3/8"	62475K24	32.18
B	2	2	1/8 NPT Female	1/8 NPT Female	Toggle	17.8	0.29	0-125	1 1/4"	5/8"	2 1/2"	62475K26	31.40
B	2	2	1/4" Push-to-Connect	1/4" Push-to-Connect	Toggle	17.8	0.29	0-125	1 1/4"	5/8"	2 5/8"	62475K28	31.83
C	2	2	1/8 NPT Male	5/32" Push-to-Connect	Toggle	2.63	0.006	0-145	1 1/8"	5/8"	2 1/8"	62475K31 ■	56.90
C	2	2	1/8 NPT Male	1/4" Push-to-Connect	Toggle	6.72	0.048	0-145	1 1/8"	5/8"	2 1/8"	62475K32 ■	58.54
C	2	2	1/4 NPT Male	1/4" Push-to-Connect	Toggle	9.12	0.115	0-145	1 1/4"	3/4"	2 1/2"	62475K33 ■	59.23
C	2	2	1/4 NPT Male	3/8" Push-to-Connect	Toggle	10.9	0.139	0-145	1 1/2"	3/4"	2 1/2"	62475K34 ■	60.58
D	3	2	10-32 UNF Female	10-32 UNF Female	Toggle	16.2	0.25	0-125	5/8"	5/8"	2 1/8"	8399K13 ▲	47.69
E	3	2	1/8 NPT Female	1/8 NPT Female	Toggle	25	0.442	0-300	7/8"	5/8"	3"	62475K41	25.08
F	3	2	1/16" Barbed	1/16" Barbed	Toggle	2.2	0.04	0-125	5/8"	3/8"	1 5/8"	62475K35 ♣	15.90
G	3	2	1/16" Barbed	1/16" Barbed	Toggle	1.4	0.025	0-100	3/8"	3/8"	1 1/2"	62475K42	18.53
Automatic Return													
A	2	2	1/8 NPT Male	10-32 UNF Female	Toggle	14.4	0.24	0-125	5/8"	5/8"	2 1/4"	62475K15 ★	15.10
B	2	2	1/8 NPT Female	1/8 NPT Female	Toggle	17.8	0.29	0-125	1 1/4"	5/8"	2 1/2"	62475K27	32.26
H	2	2	10-32 UNF Female	10-32 UNF Female	Push Button	14.4	0.24	0-125	5/8"	5/8"	1 7/8"	62475K12 ★	12.89
H	2	2	1/8 NPT Male	10-32 UNF Female	Push Button	14.4	0.24	0-125	5/8"	5/8"	1 7/8"	62475K11 ★	12.08
H	2	2	0.170" Barbed	10-32 UNF Female	Push Button	14.4	0.24	0-125	5/8"	5/8"	2"	62475K13 ★	12.53
J	2	2	1/8 NPT Male	1/8 NPT Female	Push Button	17.8	0.29	0-125	1 1/4"	5/8"	2 1/8"	62475K21	27.46
J	2	2	1/8 NPT Female	1/8 NPT Female	Push Button	17.8	0.29	0-125	1 1/4"	5/8"	2 1/8"	62475K22	26.68
J	2	2	1/4" Push-to-Connect	1/4" Push-to-Connect	Push Button	17.8	0.29	0-125	1 1/4"	5/8"	2 1/4"	62475K23	31.05
J	2	2	1/4" Push-to-Connect	1/4" Push-to-Connect	Toggle	17.8	0.29	0-125	1 1/4"	5/8"	2 5/8"	62475K29	34.02
D	3	2	10-32 UNF Female	10-32 UNF Female	Toggle	16.2	0.25	0-125	5/8"	5/8"	2 1/8"	8399K12 ▲	48.15
K	3	2	10-32 UNF Female	10-32 UNF Female	Push Button	16.2	0.25	0-125	5/8"	5/8"	1 7/8"	8399K11 ▲	48.65
L	3	2	1/16" Barbed	1/16"Barbed	Push Button	1.4	0.025	0-100	3/8"	3/8"	1 1/4"	62475K59	20.16
4-Way Valves for Double-Acting Cylinders													
Manual Return													
E	5	2	10-32 UNF Female	10-32 UNF Female	Toggle	10	0.177	0-150	7/8"	5/8"	2 3/4"	62475K43 ♦	26.36
E	5	2	1/8 NPT Female	1/8 NPT Female	Toggle	10.5	0.186	0-150	1 1/4"	5/8"	2 3/4"	62475K44 ♦	29.61
M	5	2	10-32 UNF Female	10-32 UNF Female	Push Button	10	0.177	0-150	7/8"	5/8"	3 1/4"	62475K56 ♦	33.03
M	5	2	1/8 NPT Female	1/8 NPT Female	Push Button	10.5	0.177	0-150	1 1/4"	5/8"	3"	62475K54 ♦	35.36
M	5	2	1/8 NPT Female	1/8 NPT Female	Push Button	10.5	0.186	0-150	1 1/4"	5/8"	3 1/4"	62475K58 ♦	39.38
P	5	2	10-32 UNF Female	10-32 UNF Female	Toggle	15.3	0.23	0-125	3/4"	11/16"	2 7/8"	62475K53 ★	28.41
R	5	2	1/8 NPT Female	1/8 NPT Female	Toggle	16	0.37	0-125	1 1/4"	5/8"	2 7/8"	62475K39 ★	31.65
N	5	3	10-32 UNF Female	10-32 UNF Female	Toggle	7.5	0.133	0-150	7/8"	5/8"	2 1/2"	62475K45 ♠	40.22
N	5	3	1/8 NPT Female	1/8 NPT Female	Toggle	7.5	0.133	0-150	7/8"	5/8"	2 1/2"	62475K46 ♠	41.40
Automatic Return													
P	5	2	10-32 UNF Female	10-32 UNF Female	Push Button	16	0.23	0-125	3/4"	11/16"	2 5/8"	62475K36 ★	26.68
P	5	2	10-32 UNF Female	10-32 UNF Female	Push Button	15.3	0.23	0-125	3/4"	11/16"	2 5/8"	62475K51 ★	27.98
P	5	2	10-32 UNF Female	10-32 UNF Female	Toggle	15.3	0.23	0-125	3/4"	11/16"	2 7/8"	62475K52 ★	28.86
Q	5	2	10-32 UNF Female	10-32 UNF Female	Push Button	10	0.177	0-150	7/8"	5/8"	2 5/8"	62475K55 ♦	29.27
Q	5	2	1/8 NPT Female	1/8 NPT Female	Push Button	10.5	0.186	0-150	1 1/4"	5/8"	2 5/8"	62475K57 ♦	35.04
R	5	2	1/8 NPT Female	1/8 NPT Female	Push Button	16	0.37	0-125	1 1/4"	5/8"	2 5/8"	62475K38 ★	30.17

★ Made of aluminum. ■ Made of nylon. ▲ Made of Type 303 stainless steel. Vacuum rated to 26" Hg.
♣ Vacuum rated to 20" Hg. ♦ Vacuum rated to 28" Hg. ♠ Center position is exhaust.

Key-Operated Air Directional Control Valves



Requiring a key to operate, you can limit who is able to adjust these valves. Made of aluminum, both are manual-return valves—once moved and locked into a position, the valves stay in that position until you lock them into another position. Two keys are included. Connections are NPT female.

3-way valve for single-acting cylinders with spring return is normally closed. Vacuum rated to 29.52" Hg. *4-way valve for double-acting cylinders* is panel mountable and includes mounting hardware. Vacuum rated to 26.5" Hg.

No. of Ports	Positions	Port Size	Max. scfm @ 100 psi	Flow Coefficient	Operating Pressure Range, psi	Lg.	Wd.	Ht.	Panel Mount Opening		
3-Way Valve for Single-Acting Cylinders with Spring Return											
3	2	1/4	33.53	1.05	0-145	1 5/8"	1 5/8"	4 1/8"	1 1/4"	8444K2	$49.74
4-Way Valve for Double-Acting Cylinders											
5	2	1/8	11.3	0.34	13.5-145	7/8"	1 5/8"	5 5/8"	1 1/4"	8444K34	171.77

Compressed Air Directional Control Valves

For information about choosing a directional control valve, see page 1033.

Safety Air Directional Control Valves

Protect personnel and equipment. Valves are not vacuum rated.

Safety Shut-Off Valves—In the event of an air signal loss, a spring shuts these zinc alloy valves off to maintain your cylinder position. Valves move into position when compressed air is supplied to the control port; a spring returns the valves to their original position once air is removed. Minimum control port pressure is 45 psi at 90 psig.

Safety-Lockout Valves—To prevent accidental startups, these aluminum valves can be locked in their off position with a padlock with a maximum shackle dia. of 25⁄64″ (not included, see pages 2914-2925). They meet OSHA requirement 29 CFR 1910.147 for locking, labeling, and disconnecting air-powered equipment. All are manual return: once moved into a position, the valve stays in that position until you rotate the knob again. They are also normally closed.



Safety Shut-Off



Safety Lockout

No. of Ports	Positions	Port Size: Inlet	Port Size: Outlet	Exhaust Pipe Size	Control Port, For Tube OD	Max. scfm @ 100 psi	Flow Coefficient	Operating Pressure Range, psi	Lg.	Wd.	Ht.		
2-Way Valves for Double-Acting Cylinders—Inlet connections are female; outlet connections are male													
Safety Shut-Off													
3	2	1⁄8 NPT	1⁄8 NPT	____	5⁄32″	24	0.34	0-150	1 3⁄4″	7⁄8″	2 3⁄8″	62395K71	$89.68
3	2	1⁄4 NPT	1⁄4 NPT	____	5⁄32″	28	0.39	0-150	1 3⁄4″	7⁄8″	2 1⁄8″	62395K72	87.13
3	2	3⁄8 NPT	3⁄8 NPT	____	5⁄32″	81	1.26	0-150	2 1⁄4″	1 1⁄8″	2 1⁄8″	62395K73	100.21
3	2	For 1⁄4″ Tube OD	1⁄8 NPT	____	5⁄32″	24	0.34	0-150	1 5⁄8″	7⁄8″	2 3⁄8″	62395K75	89.68
3	2	For 1⁄4″ Tube OD	1⁄4 NPT	____	5⁄32″	24	0.34	0-150	1 5⁄8″	7⁄8″	2 1⁄8″	62395K76	87.13
3	2	For 3⁄8″ Tube OD	3⁄8 NPT	____	5⁄32″	74	1.17	0-150	2″	1 1⁄8″	2 1⁄8″	62395K77	100.21
3-Way Valves for Single-Acting Cylinders with Spring Return—Connections are female													
Safety Lockout													
3	2	1⁄4 NPT	1⁄4 NPT	3⁄8 NPT	___	113	2	15-145	2 3⁄4″	2 3⁄8″	4 1⁄4″	63015K24	64.42
3	2	3⁄8 NPT	3⁄8 NPT	3⁄8 NPT	___	116	3	15-145	2 3⁄4″	2 3⁄8″	4 1⁄4″	63015K25	64.42
3	2	1⁄2 NPT	1⁄2 NPT	3⁄8 NPT	___	215	3.8	15-145	2 3⁄4″	2 3⁄8″	4 1⁄4″	63015K26	64.42
3	2	3⁄4 NPT	3⁄4 NPT	1⁄2 NPT	___	361	6.4	15-145	3 5⁄8″	3″	5 3⁄8″	63015K27	112.82
3	2	1 NPT	1 NPT	1⁄2 NPT	___	481	8.6	15-145	3 5⁄8″	3″	5 3⁄8″	63015K28	112.82

Foot-Pedal-Operated Air Directional Control Valves

Using your foot to operate valves leaves hands free to perform other tasks. Connections are female. *3-way valves for single-acting cylinders with spring return* are normally closed.

Automatic-Return Valves—A spring returns the valve to its original position once you release the foot pedal.

Manual-Return Valves—Once moved into a position, the valve stays in that position until you press the foot pedal again.

Foot Guards—Prevent accidental valve operation.

Styles A&B are aluminum with a nonskid base to prevent sliding. They do not have an exhaust port (exhaust directly to the atmosphere). Not vacuum rated.

Style B consists of two valves (two ports per valve) with a foot pedal for each. A divider between the pedals prevents the two valves from being operated at the same time.

Styles C&E are bronze. Vacuum rated to 29″ Hg.

Styles D&F are zinc alloy. Valves include a foot guard and have a nonskid base to prevent sliding. Not vacuum rated.



A



B



C



D&F



E

	No. of Ports	Positions	Port Size	Max. scfm @ 100 psi	Flow Coefficient	Operating Pressure Range, psi	Lg.	Wd.	Ht.	Valves		Foot Guards	
3-Way Valves for Single-Acting Cylinders with Spring Return													
Automatic Return													
A	2	2	1⁄8 NPT	30	0.53	60-150	2 7⁄8″	2 1⁄2″	1 3⁄8″	9781K12	$64.65	7024K5	$30.88
A	2	2	1⁄8 NPT	30	0.53	60-150	4 1⁄2″	3 1⁄2″	1 3⁄4″	9781K13	82.64	7024K5	30.88
B	4	2	1⁄8 NPT	30	0.53	60-150	2 7⁄8″	5 3⁄4″	1 1⁄2″	9781K22	145.96	7024K17	43.66
B	4	2	1⁄8 NPT	30	0.53	60-150	4 1⁄2″	8 3⁄8″	1 7⁄8″	9781K23	186.53	7024K17	43.66
4-Way Valves for Double-Acting Cylinders													
Manual Return													
C	4	2	1⁄4 NPTF	83	2.4	0-225	9 1⁄2″	3 1⁄4″	4 1⁄2″	6654K21	237.80	____	____
C	4	2	1⁄2 NPTF	185	5.2	0-215	12 1⁄8″	3 1⁄4″	4 7⁄8″	6654K23	360.41	____	____
D	5	2	1⁄4 BSPP	30	0.8	0-145	8 3⁄4″	6 5⁄8″	5 1⁄2″	3088T2	152.41	____	____
Automatic Return													
A	3	2	1⁄8 NPT	30	0.53	60-150	4 1⁄2″	3 1⁄2″	1 3⁄4″	9781K31	181.33	7024K5	30.88
E	4	2	1⁄4 NPTF	83	2.4	0-225	11 1⁄2″	3 1⁄2″	2 3⁄4″	6654K11	264.84	6654K91	201.00
E	4	2	3⁄8 NPTF	118	3.2	0-225	12 1⁄2″	3 1⁄2″	2 3⁄4″	6654K12	300.83	6654K91	201.00
E	4	2	1⁄2 NPTF	185	5.2	0-215	14 1⁄2″	3 1⁄2″	3 3⁄8″	6654K13	411.24	6654K92	201.00
F	5	2	1⁄4 BSPP	30	0.8	0-145	8 3⁄4″	6 5⁄8″	5 1⁄2″	3088T1	133.90	____	____

Air-Operated Air Directional Control Valves



Allowing automation without electricity, these valves are good for environments where electrical use can be dangerous. Valves are aluminum (except valves with UNF ports are zinc). Vacuum rated to 26″ Hg (unless noted). Connections are female. *3-way valves for single-acting cylinders with spring return* are normally closed.

With One Control Port—Valves move into position when compressed air is supplied to the control port and a spring returns them to their original position once the air is removed. Minimum control port pressure is 44 psi.

With Two Control Ports—Valves move into position when compressed air is supplied to the first control port and return to their original position when the air is supplied to the second control port. Minimum control port pressure is 29 psi, unless noted.

No. of Ports	Positions	Port Size: Inlet/Outlet	Port Size: Control	Max. scfm @ 100 psi	Flow Coefficient	Operating Pressure Range, psi	Wd.	Ht.	With One Control Port: Lg.		With Two Control Ports: Lg.		
3-Way Valves for Single-Acting Cylinders with Spring Return													
3	2	1⁄8 NPT	1⁄8 NPT	24.9	0.75	0-145	7⁄8″	1 3⁄8″	3 1⁄2″	6124K403	$55.82	3 1⁄2″	6124K406	$58.13
3	2	1⁄4 NPT	1⁄8 NPT	24.9	0.75	0-145	1″	1 5⁄8″	4 1⁄4″	6124K401	62.11	4 1⁄8″	6124K402	67.42
3	2	3⁄8 NPTF	1⁄8 NPT	53.1	1.6	0-150	1 1⁄4″	2 1⁄4″	5 1⁄8″	6124K32★	69.51	5 1⁄2″	6124K42★	83.09
4-Way Valves for Double-Acting Cylinders													
5	2	10-32 UNF	10-32 UNF	8.6	0.26	0-150	3⁄4″	1″	2 1⁄2″	6124K76	62.98	2 1⁄2″	6124K79	86.40
5	2	1⁄8 NPT	1⁄8 NPT	43.1	1.3	0-145	7⁄8″	1 3⁄8″	4 1⁄8″	6124K404	57.38	4 1⁄8″	6124K407	60.49
5	2	1⁄4 NPT	1⁄8 NPT	43.1	1.3	0-145	1″	1 5⁄8″	5 1⁄8″	6124K405	63.04	5″	6124K408	66.98
5	2	3⁄8 NPTF	1⁄8 NPT	53.1	1.6	0-150	1 1⁄4″	2 1⁄4″	6 1⁄8″	6124K35★	74.18	6 5⁄8″	6124K45★	87.91
5	2	1⁄2 NPTF	1⁄8 NPT	165.9	5	0-150	1 1⁄2″	2 1⁄2″	6 5⁄8″	6124K36	148.31	6 5⁄8″	6124K46	154.84
5	3	1⁄8 NPT	1⁄8 NPT	42	0.5	26-145	7⁄8″	1 3⁄8″	___	____	____	4 3⁄4″	6124K421■	113.98
5	3	1⁄4 NPT	1⁄8 NPT	73	0.95	26-145	1″	1 5⁄8″	___	____	____	5 5⁄8″	6124K422■	115.87

★ Vacuum rated to 10″ Hg. ■ Center position is closed. Minimum control port pressure is 44 psi.

Mechanically Operated Air Directional Control Valves

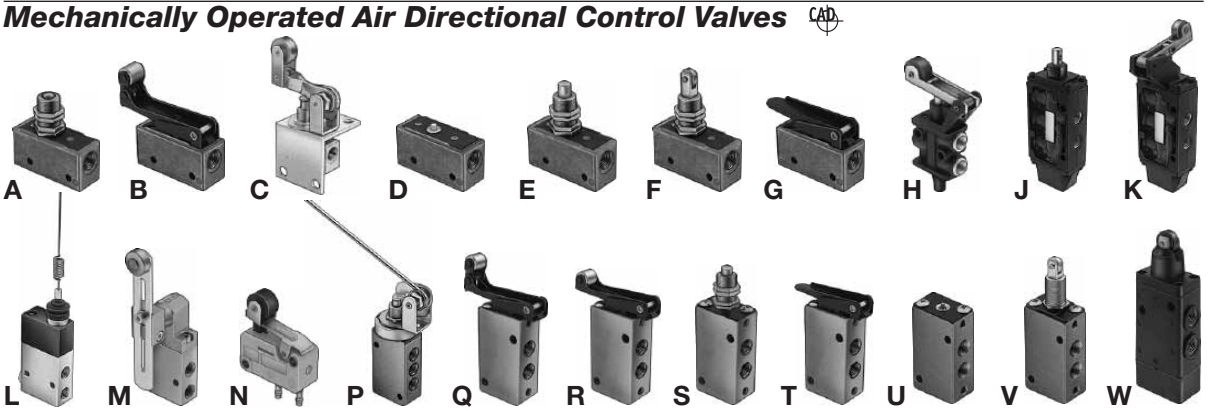

These valves are activated when an object (such as a box rolling on a conveyor) pushes against the valve operator. All valves are automatic return, which means a spring returns the valve to its original position once the force on the operator is released. Connections are female.

3-way valves for single-acting cylinders with spring return are normally closed.

Valves with *one-direction roller lever* are activated by an object in one direction only. All others are activated in both directions.

Styles A-G—Valves are zinc and are vacuum rated to 29.9″ Hg. Styles A, E, and F are panel mountable (hardware included); panel mount size is 15/32″ dia.

Styles H-M—Valves are aluminum and are vacuum rated to 29″ Hg, unless noted.

Style N—Made of plastic and vacuum rated to 29.9″ Hg. They have barbed tube connections.

Styles P-W—Valves are aluminum. Styles P-V are not vacuum rated; Style W is vacuum rated to 26.5″ Hg. Style S is panel mountable (hardware included); panel mount size is 15/32″ dia.

	No. of Ports	Positions	Port Size	Valve Operator	Max. scfm @ 100 psi	Flow Coefficient	Operating Pressure Range, psi	Actuation Force, lbs.	Lg.	Wd.	Ht.		
3-Way Valves for Single-Acting Cylinders with Spring Return													
A	3	2	1/8 NPT	Ball Roller	6	0.11	0-120	2.5	1 3/4″	3/4″	1 3/4″	**6464K23**	$34.14
B	3	2	1/8 NPT	One-Direction Roller Lever	6	0.11	0-120	1	2 1/4″	3/4″	2 1/8″	**6464K21**	32.93
B	3	2	1/8 NPT	Roller Lever	6	0.11	0-120	1	2 1/4″	3/4″	1 5/8″	**6464K13**	26.78
C	3	2	1/8 NPT	One-Direction Roller Lever	6	0.11	0-120	2.8	2 1/8″	1 3/4″	4 1/4″	**6464K24**	124.17
D	3	2	1/8 NPT	Pin Plunger	6	0.11	0-120	2.5	1 3/4″	3/4″	1″	**6464K11**	19.18
E	3	2	1/8 NPT	Plunger	6	0.11	0-120	2.5	1 3/4″	3/4″	2″	**6464K14**	33.72
F	3	2	1/8 NPT	Roller Plunger	6	0.11	0-120	2.8	1 3/4″	3/4″	2 1/4″	**6464K22**	45.61
G	3	2	1/8 NPT	Straight Lever	6	0.11	0-120	1.2	2 1/4″	3/4″	1 1/4″	**6464K12**	23.92
H	3	2	1/8 NPT	Roller Lever	19	0.34	0-150	7	2 3/8″	7/8″	4″	**6464K31**★	93.00
H	3	2	1/4 NPT	Roller Lever	55	0.98	0-150	10.1	3″	1 1/8″	4 7/8″	**6464K32**★	158.36
J	3	2	1/4 NPTF	Plunger	53	1.6	0-150	18	5 1/8″	2 1/4″	1 3/8″	**6859K35**	65.21
K	3	2	1/4 NPTF	Roller Lever	53	1.6	0-150	11	6 1/8″	2 1/4″	1 3/8″	**6859K36**	100.20
L	3	2	1/8 BSPP	Antenna	4.23	0.12	52.5-120	1.57	1 1/2″	3/4″	8 3/4″	**6464K92**■	251.27
M	3	2	1/8 BSPP	Swinging Lever	4.94	0.12	0-120	1.57	1 1/2″	3/4″	6 1/2″	**6464K91**▲	224.27
N	3	2	For 2.5mm Tube ID	One-Direction Roller Lever	1.6	0.05	0-116	1.35	1 1/2″	1/2″	1 5/8″	**1389T14**	23.69
N	3	2	For 2.5mm Tube ID	Roller Lever	1.6	0.05	0-116	1.35	1 1/2″	1/2″	1 1/4″	**1389T13**	22.22
4-Way Valves for Double-Acting Cylinders													
P	5	2	1/8 NPTF	Antenna	14	0.24	25-125	0.3	6 1/4″	3/4″	3 7/8″	**61345K14**	143.88
Q	5	2	1/8 NPTF	One-Direction Roller Lever	14	0.24	25-125	0.34	2 1/8″	3/4″	3 3/8″	**61345K51**	64.58
R	5	2	1/8 NPTF	Roller Lever	14	0.24	25-125	0.34	2 1/4″	3/4″	3″	**61345K72**	60.73
S	5	2	1/8 NPTF	Plunger	14	0.24	25-125	0.81	1 1/4″	3/4″	3 1/8″	**61345K74**	65.09
T	5	2	1/8 NPTF	Straight Lever	14	0.24	25-125	0.34	2 1/4″	3/4″	2 5/8″	**61345K71**	57.71
U	5	2	1/8 NPTF	Pin Plunger	14	0.24	25-125	0.8	1 1/4″	3/4″	2 3/8″	**6464K26**	55.78
V	5	2	1/8 NPTF	Roller Plunger	14	0.24	25-125	0.8	1 1/4″	3/4″	3 1/2″	**6464K27**	80.33
W	5	2	1/4 NPT	Roller	32.5	0.98	0-145	15	1 7/8″	1 1/8″	5 1/4″	**8277K14**	75.04
J	5	2	1/4 NPTF	Plunger	53	1.6	0-150	18	6 1/8″	2 1/4″	1 3/8″	**6859K55**	69.32
K	5	2	1/4 NPTF	Roller Lever	53	1.6	0-150	11	7 1/4″	2 1/4″	1 3/8″	**6859K56**	104.00

★ Vacuum rated to 26.5″ Hg. ■ Not vacuum rated. ▲ Vacuum rated to 28.5″ Hg.

Push-to-Connect Solenoid Air Directional Control Valves with Manifold Mount



4-Station Manifold with 4 Valves

Install these valves and manifolds without tools or extra fittings—push-to-connect tube fitting connections make installation easy. The valves must be mounted to a manifold, which allows a single pressure source to operate multiple valves. Note: 3-way valves and 4-way valves cannot be mounted to the same manifold.

Valves—All are single solenoid; they move into position when electrical current is supplied and a spring returns them to their original position once current is removed. Valves are thermoplastic and have quick-disconnect electrical connections. DC power draw is 1.3 watts; AC power draw is 1.5 watts.

3-way valves for single-acting cylinders with spring return are normally closed and are vacuum rated to 28″ Hg. *4-way valves for double-acting cylinders* are not vacuum rated.

Manifolds—Valves mounted to manifolds share a common input pressure source and exhaust connection. Manifolds are thermoplastic and may be mounted on DIN rail (see 8961K on page 787).

To Order: For *valves*, please specify voltage: 12V DC, 24V DC, 24V AC, or 120V AC. For *manifolds*, please specify number of stations: 2, 3, 4, or 5.

					Valves			**Manifolds**		
No. of Ports	Positions	Max. scfm @ 100 psi	Flow Coefficient	Operating Pressure Range, psi	For Tube OD			For Tube OD	For DIN Rail Size	
3-Way Valves for Single-Acting Cylinders with Spring Return										
3	2	0.6	0.01	0-120	5/32″	**62095K2**	$37.12	1/4″	15 mm	**62095K5** $22.32
3	2	1.1	0.02	0-120	5/32″	**62095K1**	37.12	1/4″	15 mm	**62095K5** 22.32
3	2	1.25♥	0.05	0-30	5/32″	**62095K55**	40.71	1/4″	15 mm	**62095K5** 22.32
4-Way Valves for Double-Acting Cylinders										
4	2	45	0.8	30-120	1/4″	**62095K4**	74.60	3/8″	35 mm	**62095K6** 62.53

♥ Max. scfm @ 30 psi.

Compressed Air Directional Control Valves

For information about choosing a directional control valve, see page 1033.

Solenoid Air Directional Control Valves

Add compressed air to the input and apply voltage to the electrical connection to operate these solenoid valves, which can be operated remotely as well as in automated processes. Connections are female.

Single-solenoid valves move into position when electrical current is supplied; a spring returns the valves to their original position once current is removed. *3-way valves for single-acting cylinders with spring return* are normally closed. Valves with two ports do not have an exhaust port (exhaust directly to the atmosphere).

Double-solenoid valves move into position when electrical current is supplied to the first solenoid; return to their original position when current is supplied to the second solenoid.

Style A—Lugs offer quick electrical connection. They require crimp-on spade lug connectors (sold separately below) for 26- to 22-ga. wire hookup. Valves are nickel-plated brass and zinc-plated steel. Power draw is 0.67 watts. Vacuum rated to 28″ Hg.

Style B—Valves have two lead wires for electrical connection. Made of aluminum. Power draw is 7 watts for DC valves; 8.5 volt-amps for AC valves. Not vacuum rated.

Style C—These respond to electrical signals faster than other solenoid valves. Made of aluminum. Power draw is 4 watts for DC valves; 5 volt-amps for AC valves. All have a 3.5 mm female DIN connector. Vacuum rated to 29.9″ Hg.

Style D—Made of aluminum. Power draw is 2.5 watts. All have a 9.4 mm female DIN connector. Not vacuum rated.

Style E-H—Made of aluminum with an 11 mm female DIN connector, except 10-32 UNF valves are made of zinc with an 8 mm female DIN connector. Not vacuum rated.

10-32 UNF valves have a power draw of 1 watt for DC valves; 1.3 volt-amps for AC valves. They are available with the coil pins facing up to be individually wired or facing down for use with a manifold (except 12V DC and 110/120V AC models of 6124K24 are only available with pins facing up). **To Order:** Please specify pins up or down.

1/8 and *1/4 NPT* valves have a power draw of 2 watts for DC valves; 1.3 volt-amps for AC valves.

3/8 NPTF valves have a power draw of 6 watts for DC valves; 7 watts for AC valves.

1/2 NPTF valves have a power draw of 2 watts for DC valves; 3.5 watts for AC valves.

Style J—Made of aluminum. Power draw is 6.5 watts. All have an 11 mm female DIN connector. Not vacuum rated.

Style K—Made of aluminum. Power draw is 7 watts for DC valves; 8.5 volt-amps for AC valves. All have a 12 mm female DIN connector. Not vacuum rated.

Style L—These valves handle higher flows and larger pipe sizes than the other styles. Made of aluminum. Power draw is 1.8 watts for DC valves; 2.3 volt-amps for AC valves. All have a 1/2″ conduit terminal for electrical connections. Not vacuum rated.

Style M—Made of nylon and have push-to-connect tube fitting connections for easy installation. Power draw is 0.7 watts. All have a M8 3-pin female connector. Not vacuum rated.

Style N&P—Made of aluminum. Power draw is 2 watts for DC valves; 2.4 volt-amps for AC valves. All have an 18.5 mm female DIN connector. Not vacuum rated.

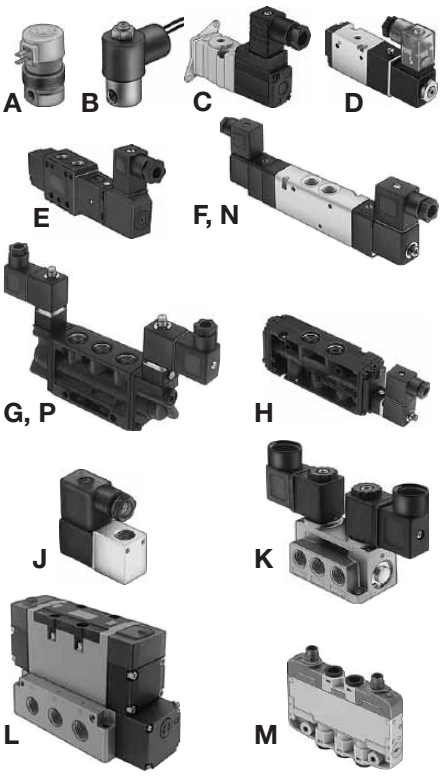

To Order: Please specify voltage from those available below.

No. of Ports	Positions	Port Size	Max. scfm @ 100 psi	Flow Coefficient	Operating Pressure Range, psi	Lg.	Wd.	Ht.	Mount. Hole Dia.	Available Voltages DC	Available Voltages AC		
3-Way Valves for Single-Acting Cylinders with Spring-Return—Single Solenoid													
A 2	2	10-32 UNF	0.6	———	0-105	7/8″	1 1/4″	1 5/8″	6-32	6, 12, 24	———	**4916K2**	$41.62
B 2	2	1/8 NPT	1.97	0.035	0-120	1 7/8″	1 1/4″	2 3/8″	8-32	12, 24	120, 240	**61245K1**	60.57
A 3	2	10-32 UNF	0.6	———	0-105	7/8″	1 1/4″	1 7/8″	6-32	6, 12, 24	———	**4916K7**	42.47
B 3	2	1/8 NPT	1.97	0.035	0-120	1 7/8″	1 1/4″	2 3/4″	8-32	12, 24	120, 240	**61245K2**	63.84
C 3	2	10-32 UNF	6.3	0.2	0-14.5	3 1/4″	3/4″	2 3/8″	0.14″	12, 24	110/120, 220	**61975K24**	58.90
C 3	2	1/8 NPTF ■	6.3	0.2	0-14.5	3 1/4″	3/4″	2 3/8″	0.14″	12, 24	110/120, 220	**61975K26**	58.90
D 3	2	10-32 UNF	27	0.58	20-125	3 3/8″	3/4″	2 1/8″	1/8″	12, 24	24, 110, 220	**6124K536**	39.02
E 3	2	1/8 NPT	24.9	0.75	29-145	4 1/2″	7/8″	1 3/8″	0.18″	12, 24	110/120	**6124K511**	80.31
E 3	2	1/4 NPT	24.9	1.3	29-145	5 1/4″	1″	1 5/8″	0.18″	12, 24	110/120	**6124K517**	89.09
E 3	2	3/8 NPTF	53.1	1.7	35-150	6 1/2″	1 1/4″	4 3/4″	0.26″	12, 24	110/120	**6124K52**	128.78
J 3	2	1/4 NPT	2.3	0.12	0-115	3″	7/8″	2 3/8″	M4×0.7	12, 24	24, 110, 220	**61975K41**	30.29
3-Way Valves for Single-Acting Cylinders with Spring-Return—Double Solenoid													
D 3	2	10-32 UNF	27	0.58	20-125	5″	3/4″	2 1/8″	1/8″	12, 24	24, 110, 220	**6124K541**	59.61
F 3	2	1/8 NPT	24.9	0.75	29-145	6 1/4″	7/8″	1 3/8″	0.18″	12, 24	110/120	**6124K514**	108.00
F 3	2	1/4 NPT	24.9	1.3	29-145	7 1/16″	1″	1 5/8″	0.18″	12, 24	110/120	**6124K518**	150.31
G 3	2	3/8 NPTF	53.1	1.7	35-150	8 1/4″	1 1/4″	4 3/4″	0.26″	12, 24	110/120	**6124K58**	202.69
4-Way Valves for Double-Acting Cylinders—Single Solenoid													
E 5	2	10-32 UNF	8.2	0.26	44-150	4 1/2″	3/4″	2 1/8″	0.1″	12, 24	110/120	**6124K23**	234.73
E 5	2	1/8 NPT	43.1	0.75	29-145	5 1/8″	7/8″	1 3/8″	0.18″	12, 24	110/120	**6124K512**	82.71
E 5	2	1/4 NPT	43.1	1.3	29-145	6″	1″	1 5/8″	0.18″	12, 24	110/120	**6124K513**	91.00
E 5	2	3/8 NPTF	53.1	1.6	35-150	7 5/8″	1 1/4″	4 3/4″	0.26″	12, 24	110/120	**6124K55**	132.73
H 5	2	1/2 NPTF	165.9	5	20-150	9 1/2″	1 1/2″	2 3/4″	0.27″	12, 24	110/120	**6124K56**	213.51
K 5	2	1/4 NPT	56	1	40-120	4 3/8″	1 7/8″	3 3/8″	0.22″	12, 24	120, 240	**6196K23**	89.26
L 5	2	3/4 NPTF	287	9	15-145	10″	4 1/4″	6 1/2″	0.35″	24	110/120	**4701T7**	283.90
L 5	2	1 NPTF	287	9	15-145	10″	4 1/4″	6 1/2″	0.35″	24	110/120	**4701T9**	283.90
M 5	2	For 6 mm Tube OD	11.6	0.33	44-116	3″	1/2″	2 3/8″	0.13″	24	———	**4658A31**	114.31
4-Way Valves for Double-Acting Cylinders—Double Solenoid													
F 5	2	10-32 UNF	8.2	0.26	44-150	6 3/4″	3/4″	2 1/8″	0.1″	12, 24	110/120	**6124K24**	351.84
F 5	2	1/8 NPT	43.1	0.75	29-145	6 7/8″	7/8″	1 3/8″	0.18″	12, 24	110/120	**6124K515**	112.20
F 5	2	1/4 NPT	43.1	1.3	29-145	7 7/8″	1″	1 5/8″	0.18″	12, 24	110/120	**6124K516**	124.49
G 5	2	3/8 NPTF	53.1	1.6	35-150	9 3/8″	1 1/4″	4 3/4″	0.26″	12, 24	110/120	**6124K62**	215.53
H 5	2	1/2 NPTF	165.9	5	20-150	12 3/8″	1 1/2″	2 3/4″	0.27″	12, 24	110/120	**6124K63**	285.20
K 5	2	1/4 NPT	56	1	40-120	5 7/8″	1 7/8″	3 3/8″	0.22″	12, 24	120, 240	**6196K24**	140.60
L 5	2	3/4 NPTF	287	9	15-145	10 1/2″	4 1/4″	6 1/2″	0.35″	24	110/120	**4701T8**	320.58
L 5	2	1 NPTF	287	9	15-145	10 1/2″	4 1/4″	6 1/2″	0.35″	24	110/120	**4701T6**	320.58
M 5	2	For 6 mm Tube OD	11.6	0.33	44-116	3″	1/2″	2 3/8″	0.13″	24	———	**4658A32**	164.89
M 5	3	For 6 mm Tube OD	11.6	0.33	44-116	3″	1/2″	2 3/8″	0.13″	24	———	**4658A33** ★	183.87
N 5	3	1/8 NPT	28	0.5	44-145	7 1/2″	7/8″	1 3/8″	0.18″	12, 24	110/120	**6124K2** ★	178.51
N 5	3	1/4 NPT	53	0.95	44-145	8 1/2″	1″	1 5/8″	0.18″	12, 24	110/120	**6124K3** ★	199.13
P 5	3	3/8 NPT	93	1.67	45-150	9 3/8″	1 1/4″	4 3/4″	0.26″	12, 24	110/120	**6124K4** ★	270.76
Crimp-On Spade Lug Connectors for Style A (Pkg. of 10)												**4916K81**	5.36

■ Outlet is 1/8 NPTF; inlet is 10-32 UNF. ★ Center position is closed.

Solenoid Air Directional Control Valves with Optional Manifolds

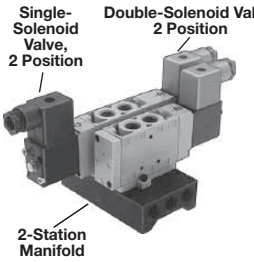

Whether you use these valves alone or mounted to a manifold, they can be operated remotely as well as in automated processes. To operate, add compressed air to the input and apply voltage to the electrical connection. Port connections are female.

Valves are made of aluminum. Power draw is 3.5 watts for DC valves; 4 watts for AC valves. Vacuum rated to 28″ Hg. Note: Same-style valves can be used on the same manifold. For example, you can put a 2-position, single-solenoid standard valve and a 3-position, double-solenoid standard valve on the same manifold.

Single-solenoid valves move into position when electrical current is supplied; a spring returns the valves to their original position once current is removed.

Double-solenoid valves move into position when electrical current is supplied to first solenoid and return to their original position when current is supplied to the second solenoid. The *3-position* valves also have a spring that returns the valves to center position.

4-Way Valves for Double-Acting Cylinders—To Order: Please specify 24V DC or 120V AC.

No. of Ports	Positions: No.	Positions: Center	Port Size, NPTF	Max. scfm @ 100 psi	Flow Coefficient	Operating Pressure Range, psi	Single Solenoid		Double Solenoid	
Standard										
5	2	———	1/8	56	1	15-150	6425K11	$91.37	6425K12	$140.57
5	2	———	1/4	56	1	15-150	6425K13	91.37	6425K14	140.57
5	3	Closed	1/8	56	1	15-150	———	———	6425K17	171.10
5	3	Closed	1/4	56	1	15-150	———	———	6425K18	171.10
5	3	Exhaust	1/8	56	1	15-150	———	———	6425K15	171.10
5	3	Exhaust	1/4	56	1	15-150	———	———	6425K16	171.10
High Flow										
5	2	———	1/4	95.2	1.7	15-150	6425K21	110.23	6425K22	173.25
5	2	———	3/8	95.2	1.7	15-150	6425K23	110.23	6425K24	173.25
5	3	Closed	1/4	95.2	1.7	15-150	———	———	6425K27	208.35
5	3	Closed	3/8	95.2	1.7	15-150	———	———	6425K28	208.35
5	3	Exhaust	1/4	95.2	1.7	15-150	———	———	6425K25	208.35
5	3	Exhaust	3/8	95.2	1.7	15-150	———	———	6425K26	208.35

Manifolds—To Order: Please specify number of stations: 2 to 8.

Valves mounted to these manifolds share a common input pressure source and exhaust connection. Manifolds are aluminum.

For Style	Port Size, NPTF	2, 3, or 4 Stations		5 to 8 Stations	
Standard	1/4	6425K31	$46.76	6425K32	$68.33
High Flow	3/8	6425K41	50.80	6425K42	87.33

Build-Your-Own Solenoid Air Directional Control Valve System

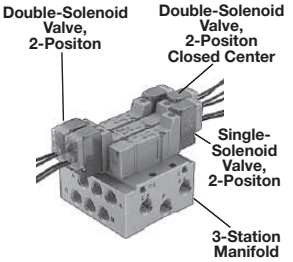

Create a solenoid system with these electrically operated valves that mount to a single-station base, or to a manifold which allows a single pressure source for multiple valves. Same-style valves can be used on the same manifold. For example, you can put a Style B, 2-position, single-solenoid valve and a Style B, 3-position, double-solenoid valve on the same manifold. Connections are female.

Single-solenoid valves move into position when electrical current is supplied; a spring returns the valves to their original position once current is removed.

Double-solenoid valves move into position when electrical current is supplied to first solenoid and return to their original position when current is supplied to second solenoid. The *3-position* valves also have a spring that returns the valves to center position.

Style A—Also known as a direct-acting valve, this valve responds to electrical signals faster than other solenoid valves. It is made of aluminum and has a 3.5 mm female DIN connector. Power draw is 4 watts for DC valves; 5 volt-amps for AC valves. Vacuum rated to 29.9″ Hg.

Styles B-D—Style B are zinc; Styles C and D are aluminum. All have wire leads for electrical connection (connect power to each valve individually). Power draw is 0.4 watts for DC valves; 0.9 volt-amps for AC valves. Not vacuum rated.

Valves—To Order: For *Style A*, please specify 12V DC, 24V DC, 110V AC, or 220V AC. For *Styles B-D*, please specify 24V DC or 110V AC.

Style	No. of Ports	Positions: No.	Positions: Center	Max. scfm @ 100 psi	Flow Coefficient	Operating Pressure Range, psi	Single Solenoid		Double Solenoid	
3-Way Valves for Single-Acting Cylinders with Spring Return										
A	3	2	———	7.9	0.25	0-14.5	61975K55	$55.53	———	———
4-Way Valves for Double-Acting Cylinders										
B	5	2	———	8	0.24	21-101	62165K83	53.10	62165K84	$78.82
C	5	2	———	20	0.64	21-101	62165K88	55.92	62165K89	80.94
D	5	2	———	35	1	21-101	62165K94	64.44	62165K95	88.93
B	5	3	Closed	6	0.18	29-101	———	———	62165K85	90.87
B	5	3	Exhaust	6	0.18	29-101	———	———	62165K86	90.87
B	5	3	Pressure	8	0.24	29-101	———	———	62165K87	90.87
C	5	3	Closed	15	0.47	29-101	———	———	62165K91	94.09
C	5	3	Exhaust	14	0.44	29-101	———	———	62165K92	94.09
C	5	3	Pressure	15	0.48	29-101	———	———	62165K93	92.04
D	5	3	Closed	23	0.72	29-101	———	———	62165K96	102.47
D	5	3	Exhaust	23	0.71	29-101	———	———	62165K97	102.47
D	5	3	Pressure	20	0.63	29-101	———	———	62165K98	102.47

Single Station Bases

Use to mount a single valve. Made of aluminum.

For Style	Port Size		
A	1/8 NPTF	61975K8	$10.08
B	1/8 NPT	62165K71	15.58
C	1/4 NPT	62165K72	14.10
D	1/4 NPT	62165K73	15.74

Manifolds—To Order: Please specify number of stations: 2 to 10.

Valves mounted to a manifold share a common input pressure source and exhaust connection. All are aluminum.

For Style	Port Size	2, 3, or 4 Stations		5 to 10 Stations	
A	1/8 NPTF	61975K4	$29.95	61975K5	$64.62
B	1/8 NPT	62165K4	43.01	62165K5	67.94
C	1/4 NPT	62165K6	50.40	62165K7	80.71
D	1/4 NPT	62165K8	52.61	62165K9	85.94

Solenoid Air Directional Control Valves with Flow Controls



In addition to sending air pressure to the right place at the right time, these valves can control the speed of that air pressure. All of these solenoid-operated valves can be operated remotely as well as in automated processes.

Valves are made of polyacetal and have an 8 mm female DIN connector and two M14 exhaust ports. Power draw is 2.7 watts for DC valves; 3.7 volt-amps for AC valves. Not vacuum rated.

Single-solenoid valves move into position when electrical current is supplied; a spring returns the valves to their original position once current is removed.

Double-solenoid valves move into position when electrical current is supplied to the first solenoid and return to their original position when current is supplied to the second solenoid.

To Order: Please specify 24V DC or 120V AC.

No. of Ports	Positions No.	Positions Center	Port Size, Inlet/Outlet	Max. scfm @ 100 psi	Flow Coefficient	Operating Pressure Range, psi	Wd.	Ht.	Single Solenoid Lg.			Double Solenoid Lg.		
4-Way Valves for Double-Acting Cylinders														
5	2	———	For 1/4" Tube OD	24.7	0.7	20-150	1 3/8"	2 3/4"	4 3/4"	4666A7	$110.24	7 3/8"	4666A5	$156.46
5	2	———	For 3/8" Tube OD	24.7	0.7	20-150	1 3/8"	2 3/4"	4 3/4"	4666A2	110.24	7 3/8"	4666A1	156.46
5	3	Closed	For 1/4" Tube OD	24.7	0.7	20-150	1 3/8"	2 3/4"	———	———	———	7 3/8"	4666A8	269.18
5	3	Pressure	For 1/4" Tube OD	24.7	0.7	20-150	1 3/8"	2 3/4"	———	———	———	7 3/8"	4666A9	334.60
5	3	Closed	For 3/8" Tube OD	24.7	0.7	20-150	1 3/8"	2 3/4"	———	———	———	7 3/8"	4666A3	269.18
5	3	Pressure	For 3/8" Tube OD	24.7	0.7	20-150	1 3/8"	2 3/4"	———	———	———	7 3/8"	4666A4	334.60

About Flow Control Valves

Also known as cylinder speed controls, flow control valves let you control the extension or retraction speed of your air cylinder. They regulate airflow in the flow-control direction (inlet to outlet) and allow air to flow freely in the other direction. Use the dial on the valve to adjust the airflow rate.

Connect flow control valves to the port of your cylinder. Choose a valve to control airflow as it exits the cylinder (meter out) or control airflow as it enters the cylinder (meter in). When in doubt, meter out.

Flow Coefficient (Cv)—Is a measurement that indicates how much airflow a control valve can provide to your cylinder. The higher the flow coefficient value, the higher the airflow rate. Looking at valves with the same port size, but different flow coefficient values and not sure which one to choose? Select the one with the higher flow coefficient value because low airflow can slow down your entire system.

ISO Symbol—Found on most flow control valves, this symbol depicts the direction of airflow through the valve.

Valve Controls Airflow as it Exits Cylinder (Meter Out)

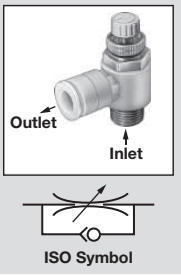

Valve Controls Airflow as it Enters Cylinder (Meter In)

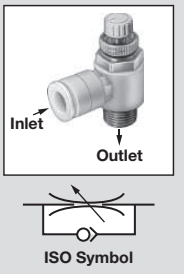

Corrosion-Resistant Air Flow Control Valves

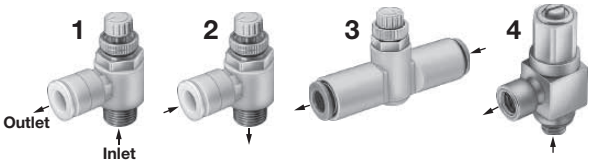

Made with stainless steel parts, these valves can handle corrosive environments. They regulate airflow in the flow-control direction (inlet to outlet) and let air flow freely in the other direction. Maximum pressure is 145 psi.

Plastic Valves—Have Type 303 stainless steel internal parts. Use the dial to adjust the airflow rate.

All-Stainless-Steel Valves—Made entirely of Type 316 stainless steel. Use the adjustment screw to adjust the airflow rate.

Inlet	Outlet	Max. scfm @ 100 psi	Flow Coefficient		
Plastic Valves with Stainless Steel Internal Parts					
(1) Male Thread to Push-to-Connect Tube—Meter Out					
10-32 UNF	For 1/8" OD	4	1.5	9066K34	$21.67
1/8 NPT	For 1/8" OD	4.79	0.15	9066K11	23.27
1/8 NPT	For 1/4" OD	6.07	0.19	9066K12	23.27
1/4 NPT	For 1/4" OD	12.45	0.39	9066K13	28.09
1/4 NPT	For 3/8" OD	12.45	0.39	9066K14	32.89
1/2 NPT	For 3/8" OD	21.39	0.67	9066K16	60.78
1/2 NPT	For 1/2" OD	45.98	1.44	9066K17	60.20
(2) Push-to-Connect Tube to Male Thread—Meter In					
For 1/8" OD	10-32 UNF	4	1.5	9066K35	29.07
For 1/4" OD	1/8 NPT	6.07	0.19	9066K18	25.28
For 1/4" OD	1/4 NPT	12.45	0.39	9066K19	30.10
For 3/8" OD	1/4 NPT	12.45	0.39	9066K21	33.49
(3) Push-to-Connect Tube to Push-to-Connect Tube—Meter In/Out					
For 1/8" OD	For 1/8" OD	4	1.5	9066K36	14.40
For 1/4" OD	For 1/4" OD	6.07	0.19	9066K31	20.60
For 3/8" OD	For 3/8" OD	24.91	0.78	9066K32	48.00
For 1/2" OD	For 1/2" OD	37.36	1.17	9066K33	52.43
All-Stainless-Steel Valves					
(4) Male Thread to Female Thread—Meter Out					
10-32 UNF	10-32 UNF	1.72	0.006	9066K22	94.98
1/8 NPT	1/8 NPT	8.38	0.087	9066K23	90.98
1/4 NPT	1/4 NPT	15.3	0.32	9066K24	103.89
3/8 NPT	3/8 NPT	28.97	0.566	9066K25	139.76

Precision-Adjust Air Flow Control Valves

A fine-adjustment dial allows tighter control of airflow and cylinder speed than other flow control valves. These valves regulate airflow in the flow-control direction (inlet to outlet) and let air flow freely in the other direction. Made of plastic. Maximum pressure is 145 psi.

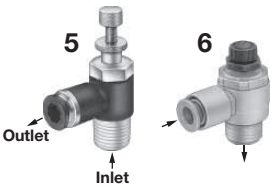

Inlet	Outlet	Max. scfm @ 100 psi	Flow Coefficient		
(5) Male Thread to Push-to-Connect Tube—Meter Out					
10-32 UNF	For 1/8" OD	2.5	0.03	4076K29	$20.81
10-32 UNF	For 5/32" OD	3	0.04	4076K32	20.81
10-32 UNF	For 1/4" OD	3	0.006	4076K21	25.42
1/8 NPT	For 1/8" OD	0.07	0.006	4076K37	16.93
1/8 NPT	For 5/32" OD	7.5	0.11	4076K33	20.81
1/8 NPT	For 5/32" OD	13	0.18	4076K27	26.00
1/8 NPT	For 1/4" OD	13	0.18	4076K22	27.92
1/4 NPT	For 5/32" OD	13	0.18	4076K28	28.58
1/4 NPT	For 1/4" OD	13	0.18	4076K23	29.75
1/4 NPT	For 3/8" OD	18.5	0.27	4076K25	45.78
3/8 NPT	For 3/8" OD	65★	———	4076K26	55.00
1/8 BSPT	For 4 mm OD	4.79	0.15	4057T11	21.12
1/8 BSPT	For 6 mm OD	6.07	0.19	4057T12	21.12
1/8 BSPT	For 8 mm OD	6.07	0.19	4057T13	21.12
1/4 BSPT	For 4 mm OD	7.02	0.22	4057T14	23.46
1/4 BSPT	For 6 mm OD	10.54	0.33	4057T15	23.46
1/4 BSPT	For 8 mm OD	12.45	0.39	4057T16	23.46
1/4 BSPT	For 10 mm OD	12.45	0.39	4057T17	18.00
(6) Push-to-Connect Tube to Male Thread—Meter In					
For 1/8" OD	10-32 UNF	0.07	0.006	4076K39	16.65
For 1/4" OD	1/8 NPT	2.42	0.006	4076K38	20.60
For 1/4" OD	1/4 NPT	1.5	0.6	4076K34	20.25
For 3/8" OD	1/4 NPT	1.5	0.6	4076K35	24.28
For 4 mm OD	1/8 BSPT	4.79	0.15	4057T18	21.12
For 4 mm OD	1/4 BSPT	7.02	0.22	4057T22	23.46
For 6 mm OD	1/8 BSPT	6.07	0.19	4057T19	21.12
For 6 mm OD	1/4 BSPT	10.54	0.33	4057T23	23.46
For 8 mm OD	1/8 BSPT	6.07	0.19	4057T21	21.12
For 8 mm OD	1/4 BSPT	12.45	0.39	4057T24	23.46
For 10 mm OD	1/4 BSPT	12.45	0.39	4057T25	23.46

★ Max. scfm @ 87 psi.

Air Flow Control Valves

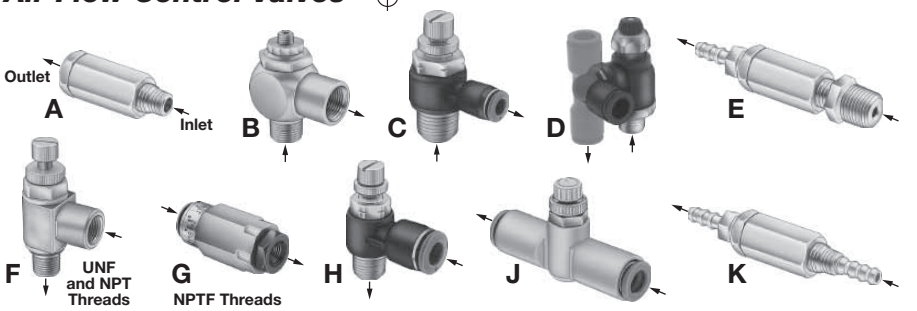

Control the extension or retraction speed of your air cylinder. Valves regulate airflow in the flow-control direction (inlet to outlet) and let air flow freely in the other direction. Use the dial to adjust the airflow rate. Maximum pressure is 145 psi, unless noted.

Styles A, B, E, and **K** are brass. **Styles C, H,** and **J** are plastic, unless noted. **Style D** are nylon and have a swivel tube fitting for mounting flexibility. **Style F** are zinc. **Style G** are nylon (NPT threads) or aluminum (NPTF threads).

Air Flow Control Valves

Inlet	Outlet	Max. scfm @ 100 psi	Flow Coefficient		
(A) Male Thread to Female Thread—Meter In/Out					
1/4 SAE	1/4 SAE	3.5	0.1	6692K17★	$21.41
(B) Male Thread to Female Thread—Meter Out					
1/8 NPT	1/8 NPT	12.34	0.26	45045K41■	25.54
1/4 NPT	1/4 NPT	33.25	0.75	45045K42■	27.90
3/8 NPT	3/8 NPT	57.82	0.84	45045K43■	35.22
1/2 NPT	1/2 NPT	83.55	1.64	45045K44■	50.34
(C) Male Thread to Push-to-Connect Tube—Meter Out					
10-32 UNF	For 1/8″ OD	2.55	0.08	62005K211	9.17
10-32 UNF	For 5/32″ OD	2.55	0.08	62005K212	8.63
1/8 NPT	For 1/8″ OD	6.3	0.12	62005K221	16.20
1/8 NPT	For 5/32″ OD	4.79	0.15	62005K222	11.43
1/8 NPT	For 5/32″ OD	13.05	0.19	45045K45▲	28.02
1/8 NPT	For 1/4″ OD	6.07	0.19	62005K224	12.03
1/8 NPT	For 1/4″ OD	12.56	0.28	45045K46▲	28.02
1/8 NPT	For 5/16″ OD	6.07	0.19	62005K225	13.97
1/4 NPT	For 5/32″ OD	3.67	0.006	62005K246♣	25.27
1/4 NPT	For 5/32″ OD	7.02	0.22	62005K231	15.63
1/4 NPT	For 1/4″ OD	12.45	0.39	62005K233	13.17
1/4 NPT	For 1/4″ OD	25.43	0.51	45045K47▲	29.76
1/4 NPT	For 5/16″ OD	12.45	0.39	62005K234	15.53
1/4 NPT	For 3/8″ OD	12.45	0.39	62005K235	16.07
1/4 NPT	For 3/8″ OD	30.52	0.62	45045K48▲	30.75
3/8 NPT	For 1/4″ OD	17.88	0.56	62005K251	21.80
3/8 NPT	For 5/16″ OD	21.39	0.67	62005K252	21.40
3/8 NPT	For 3/8″ OD	24.91	0.67	62005K253	20.97
3/8 NPT	For 3/8″ OD	53.25	0.78	45045K49▲	38.44
1/2 NPT	For 3/8″ OD	42.47	1.33	62005K261	23.37
1/2 NPT	For 1/2″ OD	70.7	1.44	62005K262	33.00
(D) Male Thread to Swivel Push-to-Connect Tube—Meter Out					
1/8 NPT	For 1/4″ OD	21.67	0.44	2959T11	22.36
1/4 NPT	For 1/4″ OD	25.67	0.86	2959T12	24.26
1/4 NPT	For 3/8″ OD	83.22	3.56	2959T13	35.67
3/8 NPT	For 3/8″ OD	104.93	4.49	2959T14	42.86
(E) Male Thread to Barbed Tube—Meter In/Out					
10-32 UNF	For 1/4″ OD	3.5	0.1	6692K15★	30.07
1/8 NPT	For 1/4″ OD	3.5	0.1	6692K19★	32.91
(F) Female Thread to Male Thread—Meter In					
10-32 UNF	10-32 UNF	1.14	0.02	8346K14	13.81
1/8 NPT	1/8 NPT	16.33	0.39	8346K15	16.74
(G) Female Thread to Female Thread—Meter In/Out					
1/8 NPT	1/8 NPT	9.09	0.118	62005K613	35.03
1/8 NPTF	1/8 NPTF	47	0.8	6692K16★	25.36
(G) Female Thread to Female Thread—Meter In/Out (Cont.)					
1/4 NPT	1/4 NPT	13.48	0.22	62005K623	$38.95
1/4 NPTF	1/4 NPTF	66	1.2	6692K11★	31.26
3/8 NPT	3/8 NPT	19.96	0.352	62005K643	54.43
3/8 NPTF	3/8 NPTF	149	2.6	6692K12★	53.46
1/2 NPT	1/2 NPT	30.22	0.523	62005K653	62.30
1/2 NPTF	1/2 NPTF	173	3.1	6692K13★	74.87
(H) Push-to-Connect Tube to Male Thread—Meter In					
For 1/8″ OD	10-32 UNF	2.55	0.08	62005K111	9.27
For 1/8″ OD	1/8 NPT	6.3	0.12	62005K121	21.60
For 5/32″ OD	10-32 UNF	2.55	0.08	62005K112	8.67
For 5/32″ OD	1/8 NPT	3.82	0.006	62005K126♣	20.28
For 5/32″ OD	1/8 NPT	4.79	0.15	62005K122	11.37
For 5/32″ OD	1/4 NPT	3.88	0.006	62005K136♣	21.54
For 5/32″ OD	1/4 NPT	7.02	0.22	62005K131	16.50
For 3/16″ OD	1/8 NPT	6.07	0.19	62005K123	16.73
For 3/16″ OD	1/4 NPT	10.54	0.33	62005K132	17.10
For 1/4″ OD	1/8 NPT	6.07	0.19	62005K124	12.03
For 1/4″ OD	1/4 NPT	12.45	0.39	62005K133	13.23
For 1/4″ OD	3/8 NPT	17.88	0.56	62005K151	21.80
For 5/16″ OD	1/8 NPT	6.07	0.19	62005K125	13.97
For 5/16″ OD	1/4 NPT	12.45	0.39	62005K134	15.67
For 5/16″ OD	3/8 NPT	35.8	0.73	62005K152	28.80
For 3/8″ OD	1/4 NPT	12.45	0.39	62005K135	16.07
For 3/8″ OD	3/8 NPT	24.91	0.78	62005K153	21.10
For 3/8″ OD	1/2 NPT	42.47	1.33	62005K161	23.57
For 1/2″ OD	1/2 NPT	70.7	1.44	62005K162	33.00
(J) Push-to-Connect Tube to Push-to-Connect Tube—Meter In/Out					
For 1/8″ OD	For 1/8″ OD	4	0.08	62005K35	16.40
For 5/32″ OD	For 5/32″ OD	3.51	0.11	62005K311	21.67
For 3/16″ OD	For 3/16″ OD	6.07	0.19	62005K312	21.67
For 3/16″ OD	For 3/16″ OD	7.98	0.25	62005K321	23.73
For 1/4″ OD	For 1/4″ OD	6.07	0.19	62005K313	21.67
For 1/4″ OD	For 1/4″ OD	11.49	0.36	62005K331	32.73
For 1/4″ OD	For 1/4″ OD	12.45	0.39	62005K322	23.73
For 5/16″ OD	For 5/16″ OD	12.45	0.39	62005K323	23.73
For 5/16″ OD	For 5/16″ OD	17.88	0.56	62005K332	32.73
For 3/8″ OD	For 3/8″ OD	24.91	0.78	62005K333	32.73
For 3/8″ OD	For 3/8″ OD	28.42	0.89	62005K341	36.13
For 1/2″ OD	For 1/2″ OD	37.36	1.17	62005K342	36.13
(K) Barbed Tube to Barbed Tube—Meter In/Out					
For 1/4″ OD	For 1/4″ OD	3.5	0.1	6692K18★	28.98

★ Max. pressure is 250 psi. ■ Max. pressure is 125 psi. ▲ Made of brass. Max. pressure is 125 psi. ♣ Made of nylon.

Metric Air Flow Control Valves

Inlet	Outlet	Max. scfm @ 100 psi	Flow Coefficient		
(C) Male Thread to Push-to-Connect Tube—Meter Out					
M5	For 4 mm OD	2.55	0.08	62005K511	$7.05
M5	For 6 mm OD	2.55	0.08	62005K512	8.45
1/8 BSPT	For 4 mm OD	4.79	0.15	62005K521	9.35
1/8 BSPT	For 6 mm OD	6.07	0.19	62005K522	9.85
1/8 BSPT	For 8 mm OD	6.07	0.19	62005K523	10.62
1/4 BSPT	For 4 mm OD	7.02	0.22	62005K531	10.07
1/4 BSPT	For 6 mm OD	10.54	0.33	62005K532	10.68
1/4 BSPT	For 8 mm OD	12.45	0.39	62005K533	11.32
3/8 BSPT	For 6 mm OD	17.88	0.56	62005K551	16.85
3/8 BSPT	For 8 mm OD	21.39	0.67	62005K552	17.62
1/2 BSPT	For 10 mm OD	42.47	1.33	62005K56	18.43
(F) Male Thread to Female Thread—Meter Out					
M5	M5	3.52	0.1	6857K24	31.32
1/8 BSPP	1/8 BSPP	12.58	0.34	6857K25	33.66
1/4 BSPP	1/4 BSPP	22.57	0.61	6857K26	37.28
(H) Push-to-Connect Tube to Male Thread—Meter In					
For 4 mm OD	M5	2.55	0.08	62005K411	9.27
For 4 mm OD	1/8 BSPT	4.79	0.15	62005K421	12.47
(H) Push-to-Connect Tube to Male Thread—Meter In (Cont.)					
For 4 mm OD	1/4 BSPT	7.02	0.22	62005K431	$13.43
For 6 mm OD	M5	2.55	0.08	62005K412	9.63
For 6 mm OD	1/8 BSPT	6.07	0.19	62005K422	13.13
For 6 mm OD	1/4 BSPT	10.54	0.33	62005K432	12.03
For 6 mm OD	3/8 BSPT	17.88	0.56	62005K451	17.40
For 8 mm OD	1/8 BSPT	6.07	0.19	62005K423	14.17
For 8 mm OD	1/4 BSPT	12.45	0.39	62005K433	15.10
For 8 mm OD	3/8 BSPT	21.39	0.67	62005K452	23.27
For 10 mm OD	1/2 BSPT	42.47	1.33	62005K46	20.57
(J) Push-to-Connect Tube to Push-to-Connect Tube—Meter In/Out					
For 4 mm OD	For 4 mm OD	3.51	0.11	62005K611	21.67
For 6 mm OD	For 6 mm OD	6.07	0.19	62005K612	21.67
For 6 mm OD	For 6 mm OD	7.98	0.25	62005K621	23.73
For 6 mm OD	For 6 mm OD	11.49	0.36	62005K631	32.73
For 8 mm OD	For 8 mm OD	12.45	0.39	62005K622	23.73
For 8 mm OD	For 8 mm OD	17.88	0.56	62005K632	32.73
For 10 mm OD	For 10 mm OD	24.91	0.78	62005K633	32.73
For 12 mm OD	For 12 mm OD	37	0.78	62005K36	32.73

High-Pressure Air Flow Control Valves

In addition to handling up to 265 psi of pressure, these brass valves have a universal thread on the inlet for connection to NPT, NPTF, BSPP, and BSPT threads. They regulate airflow in the flow-control direction (inlet to outlet) and let air flow freely in the other direction.

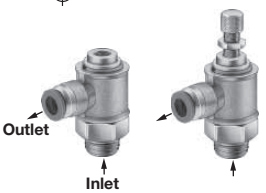

Screw Adjust

Knob Adjust

Inlet	Outlet	Max. scfm @ 100 psi	Flow Coefficient		
Screw Adjust—Male Thread to Push-to-Connect Tube (Meter Out)					
1/8	For 5/32″ OD	7.8	0.14	**1045K12**	$18.24
1/8	For 1/4″ OD	12.3	0.22	**1045K13**	18.24
1/4	For 1/4″ OD	15.1	0.27	**1045K14**	18.78
1/4	For 3/8″ OD	23	0.41	**1045K17**	19.57
3/8	For 3/8″ OD	23.5	0.42	**1045K18**	32.32
Knob Adjust—Male Thread to Push-to-Connect Tube (Meter Out)					
1/8	For 1/8″ OD	5	0.09	**2273K31**	17.70
1/8	For 1/4″ OD	12.3	0.22	**2273K33**	17.88
1/4	For 1/4″ OD	15.1	0.27	**2273K34**	18.90
1/4	For 3/8″ OD	23	0.41	**2273K37**	21.40
3/8	For 3/8″ OD	23.5	0.42	**2273K38**	35.23

Tamper-Resistant Air Flow Control Valves

To prevent accidental airflow changes, an adjustment tool (sold below) is required to alter the airflow rate of these valves. All valves regulate airflow in the flow-control direction (inlet to outlet) and let air flow freely in the other direction. Made of plastic. Maximum pressure is 145 psi.

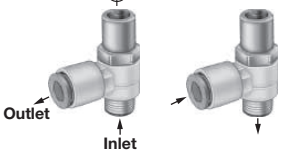

Male Thread to Push-to-Connect Tube

Push-to-Connect Tube to Male Thread

Inlet	Outlet	Max. scfm @ 100 psi	Flow Coefficient		
Male Thread to Push-to-Connect Tube—Meter Out					
1/8 NPT	For 1/8″ OD	4.79	0.15	**8940K11**	$13.50
1/8 NPT	For 1/4″ OD	6.07	0.19	**8940K13**	12.62
1/4 NPT	For 1/4″ OD	12.45	0.39	**8940K15**	13.50
1/4 NPT	For 3/8″ OD	12.45	0.39	**8940K16**	16.19
3/8 NPT	For 1/4″ OD	17.88	0.56	**8940K17**	17.06
3/8 NPT	For 3/8″ OD	24.91	0.78	**8940K18**	18.00
1/2 NPT	For 3/8″ OD	42.47	1.33	**8940K19**	20.19
1/2 NPT	For 1/2″ OD	45.98	1.44	**8940K21**	20.62
Push-to-Connect Tube to Male Thread—Meter In					
For 1/8″ OD	1/8 NPT	4.79	0.15	**8940K22**	13.50
For 1/4″ OD	1/8 NPT	6.07	0.19	**8940K24**	12.62
For 1/4″ OD	1/4 NPT	12.45	0.39	**8940K26**	13.50
For 1/4″ OD	3/8 NPT	17.88	0.56	**8940K28**	17.06
For 3/8″ OD	1/4 NPT	12.45	0.39	**8940K27**	16.19
For 3/8″ OD	3/8 NPT	24.91	0.78	**8940K29**	18.00
For 3/8″ OD	1/2 NPT	42.47	1.33	**8940K31**	20.19
For 1/2″ OD	1/2 NPT	45.98	1.44	**8940K32**	20.62
Adjustment Tool				**8940K33**	2.44

Bidirectional Air Flow Control Valves

Because they regulate airflow in both directions, these valves allow you to control the extension and retraction speed of your air cylinder. Made of aluminum, unless noted. Maximum pressure is 145 psi.

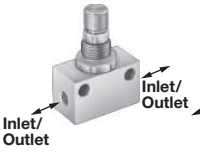

Single Control, Female Thread to Female Thread



Dual Control

Single-control valves have one knob to change the airflow equally in both directions. **Dual-control** valves have two knobs to independently change the airflow in each direction.

Inlet	Outlet	Max. scfm @ 100 psi	Flow Coefficient		
Single Control—Female Thread to Female Thread					
M5	M5	3.33	0.09	**8642K11**	$69.26
1/8 BSPP	1/8 BSPP	7.17	0.19	**8642K12**	69.26
1/4 BSPP	1/4 BSPP	12.95	0.35	**8642K13**★	107.68
Single Control—Push-to-Connect Tube to Push-to-Connect Tube					
For 1/4″ OD	For 1/4″ OD	6.53	0.037	**8642K14**■	40.32
Dual Control—Female Thread to Female Thread					
1/8 BSPP	1/8 BSPP	6.84	0.18	**8897K12**	68.15

★Body has a hexagon shape. ■Made of nylon.

Quick-Exhaust Air Valves

Quickly dump exhaust air to speed up the movement of air cylinders.

Valves without Flow Control



Inline

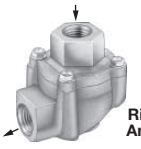

Right Angle



Inline with Muffler

Valves exhaust directly to the atmosphere.

Inline—Made of brass and aluminum. Max. pressure is 125 psi.

Right Angle—Have an exhaust port that also allows you to route exhaust air to another place in your system. Made of aluminum. Maximum pressure is 125 psi.

Inline with Muffler—The muffler reduces exhaust noise. Valves are plastic. Maximum pressure is 145 psi.

Inlet	Outlet	Exhaust	Max. scfm @ 100 psi	Flow Coefficient		
Inline—Female Thread to Male Thread						
1/8 NPTF	1/8 NPTF	———	6	0.1	**6646K31**	$22.80
Right Angle—Female Thread to Female Thread						
1/8 NPT	1/4 NPT	1/4 NPT	61	1	**6646K33**	19.05
1/4 NPT	1/4 NPT	3/8 NPT	141	2.33	**6646K34**	19.49
1/4 NPTF	1/4 NPTF	1/4 NPTF	159	2.71	**6646K32**	26.52
3/8 NPT	3/8 NPT	3/8 NPT	178	2.98	**6646K11**	20.79
1/2 NPT	1/2 NPT	3/4 NPT	336	5.45	**6646K25**	31.17
3/4 NPT	3/4 NPT	3/4 NPT	447	7.84	**6646K23**	32.90
Inline with Muffler—Push-to-Connect Tube to Push-to-Connect Tube						
For 4 mm OD	For 4 mm OD	———	4.47	0.14	**6639T11**	11.43
For 6 mm OD	For 6 mm OD	———	4.79	0.15	**6639T12**	11.43

Valves with Flow Control

Control your exhaust airflow rate. All valves have a muffler to reduce the exhaust noise. Maximum pressure is 145 psi.

Inline—Have one port that connects to the exhaust port of a directional control valve—good when you don't have easy access to your cylinder. Use a screwdriver to control the exhaust airflow to the atmosphere. Made of aluminum and brass.

Right Angle—A tube connection allows air to flow freely through the valve into your cylinder. Use the adjustment dial to control the exhaust airflow to the atmosphere. Valves are plastic.



Inline



Right Angle

Inlet	Tube Connection (For Tube OD)	Max. scfm @ 100 psi	Flow Coefficient		
Inline—Male Thread to Atmosphere					
1/8 NPT	—	19.21	0.52	**9164K11**	$17.27
1/4 NPT	—	37	1	**9164K12**	19.49
3/8 NPT	—	74	2	**9164K13**	23.98
1/2 NPT	—	133.2	3.6	**9164K14**	30.18
Right Angle—Male Thread to Atmosphere					
1/8 NPT	1/4″	14.05	0.44	**62135K11**	22.07
1/8 NPT	5/16″	24.91	0.78	**62135K12**	24.60
1/8 NPT	3/8″	24.91	0.78	**62135K13**	24.60
1/4 NPT	1/4″	14.05	0.44	**62135K14**	22.07
1/4 NPT	5/16″	24.91	0.78	**62135K15**	24.60
1/4 NPT	3/8″	24.91	0.78	**62135K16**	24.60
1/4 NPT	3/8″	47.89	1.5	**62135K17**	26.33
3/8 NPT	5/16″	24.91	0.78	**62135K18**	24.60
3/8 NPT	3/8″	24.91	0.78	**62135K19**	24.60
3/8 NPT	3/8″	51.09	1.6	**62135K21**	26.33
1/2 NPT	3/8″	51.09	1.6	**62135K22**	27.13

Soft-Start Air Flow Control Valves

Protect your equipment from damage by limiting the startup airflow and then gradually raising the airflow rate to operating levels. Valves regulate airflow in the flow-control direction (inlet to outlet) and let air flow freely in the other direction. Use the dial to adjust the airflow rate. Made of aluminum. Maximum pressure is 101 psi.

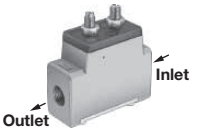

Inlet	Outlet	Max. scfm @ 100 psi	Flow Coefficient		
Female Thread to Female Thread					
1/8 NPT	1/8 NPT	17.24	0.54	**61635K11**	$39.41
1/4 NPT	1/4 NPT	38.95	1.22	**61635K12**	47.91
3/8 NPT	3/8 NPT	38.95	1.22	**61635K13**	47.91
1/2 NPT	1/2 NPT	97.70	3.06	**61635K14**	105.41

About Air Cylinders

Air cylinders operate on compressed air to create linear force. They're used to push, pull, open, close, lift, lower, position, and sort.

Measure the Cylinder OD to Help Determine Bore Size

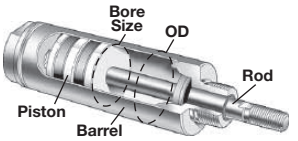

Bore size is the ID of the cylinder barrel. Since you can't measure inside the cylinder, use the OD as a guide—bore size is about .125″-.25″ smaller than the cylinder OD.

Identify Bore Size and Stroke Length by Bimba Part Number

Find the numeric portion of the part number. The first two or three digits correspond to a bore size in the table. The remaining digits indicate stroke length.

Bimba Number	Bore Size	Bimba Number	Bore Size	Bimba Number	Bore Size
007	5/16″	06	7/8″	24	1 3/4″
01	7/16″	09	1 1/16″	31	2″
02	9/16″	12	1 1/4″	50	2 1/2″
04	3/4″	17	1 1/2″	70	3″

Examples:

SR-041-D — Bore Size = 3/4″, Stroke Lg. = 1″

016-D — Bore Size = 7/16″, Stroke Lg. = 6″

170.5 — Bore Size = 1 1/2″, Stroke Lg. = 1/2″

SR-090.75 — Bore Size = 1 1/16″, Stroke Lg. = 3/4″

Double Acting

Most of our cylinders are double acting. They use air to exert force in both directions to push and pull. Cylinders have two ports.

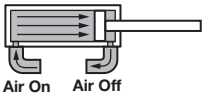

Air extends the rod.

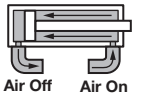

Air retracts the rod.

Single Acting

Single-acting cylinders use air to exert force in one direction and have a spring that returns the rod to its original position. They have one port. Choose from push-style cylinders and pull-style cylinders.

Push-Style Cylinders

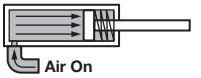

Air extends the rod.

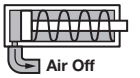

A spring retracts the rod.

Pull-Style Cylinders



Air retracts the rod.

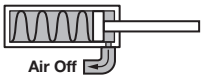

A spring extends the rod.

Double-Acting Round Body Air Cylinders

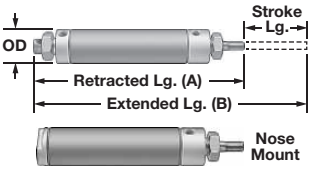

Create linear motion with the most popular of our air cylinders. Barrel and rod are 300 series stainless steel and end caps are aluminum. Force is given at 100 psi; max. pressure is 250 psi. Temperature range is –20° to 200° F. Ports are female. Cylinders are not repairable.

Universal-mount cylinders have threads on both ends to mount in a fixed position or you can use the hole on the back end to pivot mount. They come with two nuts and a pivot pin with retaining rings.

Nose-mount cylinders have threads on the rod end and come with a nut to mount in a fixed position.

Stroke Lg.	Length (A)	Length (B)		
Universal Mount				
5/16″ Bore Size (0.36″ OD)—Force is 7 lbs.; Ports are 10-32 UNF				
1/2″	3.07″	3.57″	6498K945	$26.46
1″	3.57″	4.57″	6498K846	27.32
1 1/2″	4.07″	5.57″	6498K13	28.22
2″	4.57″	6.57″	6498K847	29.11
2 1/2″	5.07″	7.57″	6498K16	30.04
3″	5.57″	8.57″	6498K848	30.89
4″	6.57″	10.57″	6498K849	32.68
7/16″ Bore Size (0.5″ OD)—Force is 15 lbs.; Ports are 10-32 UNF				
1/2″	3.81″	4.31″	6498K601	28.22
1″	4.31″	5.31″	6498K602	29.19
1 1/2″	4.81″	6.31″	6498K603	30.22
2″	5.31″	7.31″	6498K604	31.19
2 1/2″	5.81″	8.31″	6498K32	32.24
3″	6.31″	9.31″	6498K605	33.20
4″	7.31″	11.31″	6498K606	35.19
5″	8.31″	13.31″	6498K607	37.20
6″	9.31″	15.31″	6498K608	39.20
8″	11.31″	19.31″	6498K5	43.21
10″	13.31″	23.31″	6498K321	47.27
12″	15.31″	27.31″	6498K644	51.20
9/16″ Bore Size (0.62″ OD)—Force is 25 lbs.; Ports are 10-32 UNF				
1/2″	3.75″	4.25″	6498K854	28.25
1″	4.25″	5.25″	6498K855	29.22
1 1/2″	4.75″	6.25″	6498K364	30.26
2″	5.25″	7.25″	6498K856	31.22
2 1/2″	5.75″	8.25″	6498K365	32.24
3″	6.25″	9.25″	6498K857	33.22
4″	7.25″	11.25″	6498K858	35.22
5″	8.25″	13.25″	6498K859	37.23
6″	9.25″	15.25″	6498K864	39.26
8″	11.25″	19.25″	6498K865	43.26
10″	13.25″	23.25″	6498K866	49.40
12″	15.25″	27.25″	6498K867	53.40
5/8″ Bore Size (0.69″ OD)—Force is 31 lbs.; Ports are 10-32 UNF				
1/2″	3.94″	4.44″	6498K428	42.33

Stroke Lg.	Length (A)	Length (B)		
Universal Mount (Cont.)				
5/8″ Bore Size (0.69″ OD)—Force is 31 lbs.; Ports are 10-32 UNF (Cont.)				
1″	4.44″	5.44″	6498K429	$43.58
1 1/2″	4.94″	6.44″	6498K792	44.77
2″	5.44″	7.44″	6498K432	45.97
2 1/2″	5.94″	8.44″	6498K793	47.16
3″	6.44″	9.44″	6498K433	48.36
4″	7.44″	11.44″	6498K434	50.75
5″	8.44″	13.44″	6498K435	52.63
6″	9.44″	15.44″	6498K436	55.11
8″	11.44″	19.44″	6498K438	60.32
10″	13.44″	23.44″	6498K441	65.10
12″	15.44″	27.44″	6498K442	69.89
3/4″ Bore Size (0.86″ OD)—Force is 40 lbs.; Ports are 1/8 NPT				
1/2″	5.03″	5.53″	6498K631	29.20
1″	5.53″	6.53″	6498K632	29.97
1 1/2″	6.03″	7.53″	6498K633	31.05
2″	6.53″	8.53″	6498K634	32.00
2 1/2″	7.03″	9.53″	6498K443	33.04
3″	7.53″	10.53″	6498K635	33.98
6″	10.53″	16.53″	6498K638	40.01
8″	12.53″	20.53″	6498K639	44.35
12″	16.53″	28.53″	6498K642	52.02
Other Stroke Lengths: 4″, 5″, 7″, 9″, 10″, 14″, 16″, 18″, 24″			6498K922	
1 1/16″ Bore Size (1.12″ OD)—Force is 90 lbs.; Ports are 1/8 NPT				
1/2″	5.12″	5.62″	6498K651	32.78
1″	5.62″	6.62″	6498K652	33.77
1 1/2″	6.12″	7.62″	6498K653	34.48
2″	6.62″	8.62″	6498K654	35.80
2 1/2″	7.12″	9.62″	6498K407	36.84
3″	7.62″	10.62″	6498K655	37.77
6″	10.62″	16.62″	6498K658	43.75
8″	12.62″	20.62″	6498K659	47.76
12″	16.62″	28.62″	6498K662	55.76
Other Stroke Lengths: 4″, 5″, 7″, 9″, 10″, 14″, 16″, 18″, 22″, 24″, 28″, 30″, 36″			6498K924	

(Continued on following page)

Stroke Lg.	Length (A)	Length (B)		
Universal Mount (Cont.)				
1 1/4″ Bore Size (1.34″ OD)—Force is 120 lbs.; Ports are 1/8 NPT				
1/2″	6.38″	6.88″	6498K437	$46.59
1″	6.88″	7.88″	6498K972	47.89
1 1/2″	7.38″	8.88″	6498K973	49.19
2″	7.88″	9.88″	6498K974	50.44
2 1/2″	8.38″	10.88″	6498K451	51.74
3″	8.88″	11.88″	6498K975	52.99
6″	11.88″	17.88″	6498K978	60.58
8″	13.88″	21.88″	6498K979	65.68
12″	17.88″	29.88″	6498K982	75.87
Other Stroke Lengths: 4″, 5″, 7″, 9″, 10″, 14″, 16″, 18″, 22″, 24″, 28″, 30″, 36″			6498K926	
1 1/2″ Bore Size (1.56″ OD)—Force is 170 lbs.; Ports are 1/8 NPT				
1/2″	6.01″	6.51″	6498K671	49.71
1″	6.51″	7.51″	6498K983	51.22
1 1/2″	7.01″	8.51″	6498K984	53.07
2″	7.51″	9.51″	6498K985	54.34
2 1/2″	8.01″	10.51″	6498K504	55.90
3″	8.51″	11.51″	6498K986	57.41
6″	11.51″	17.51″	6498K989	66.66
8″	13.51″	21.51″	6498K995	72.80
12″	17.51″	29.51″	6498K997	85.12
Other Stroke Lengths: 4″, 5″, 7″, 9″, 10″, 14″, 16″, 18″, 22″, 24″, 28″, 30″, 36″			6498K928	
2″ Bore Size (2.08″ OD)—Force is 310 lbs.; Ports are 1/4 NPT				
1/2″	7.44″	7.94″	6498K557	77.62
1″	7.94″	8.94″	6498K474	79.37
1 1/2″	8.44″	9.94″	6498K558	81.15
2″	8.94″	10.94″	6498K476	82.84
2 1/2″	9.44″	11.94″	6498K559	84.64
3″	9.94″	12.94″	6498K477	86.30
6″	12.94″	18.94″	6498K481	96.68
8″	14.94″	22.94″	6498K482	103.60
12″	18.94″	30.94″	6498K568	117.55
Other Stroke Lengths: 4″, 5″, 7″, 9″, 10″, 14″, 16″, 18″, 22″, 24″, 28″, 30″, 36″			6498K931	

Double-Acting Round Body Air Cylinders *(Continued from previous page)*

Stroke Lg.	Length (A)	Length (B)		
Universal Mount (Cont.)				
2½" Bore Size (2.62" OD)—Force is 500 lbs.; Ports are ¼ NPT				
½"	7.44"	7.94"	6498K614	$106.58
1"	7.94"	8.94"	6498K486	108.22
1½"	8.44"	9.94"	6498K615	110.32
2"	8.94"	10.94"	6498K488	112.10
2½"	9.44"	11.94"	6498K616	114.02
3"	9.94"	12.94"	6498K489	115.77
6"	12.94"	18.94"	6498K493	126.81
8"	14.94"	22.94"	6498K618	134.19
12"	18.94"	30.94"	6498K622	148.96
Other Stroke Lengths: 4", 5", 7", 9", 10", 14", 16", 18", 22", 24", 28", 30", 36"			6498K933	
3" Bore Size (3.12" OD)—Force is 700 lbs.; Ports are ⅜ NPT				
½"	8.87"	9.37"	6498K688	164.21
1"	9.37"	10.37"	6498K689	166.44
1½"	9.87"	11.37"	6498K691	168.68
2"	10.37"	12.37"	6498K692	170.91
2½"	10.87"	13.37"	6498K693	173.15
3"	11.37"	14.37"	6498K694	175.39
6"	14.37"	20.37"	6498K697	188.80
8"	16.37"	24.37"	6498K699	197.75
12"	20.37"	32.37"	6498K703	215.63
Other Stroke Lengths: 4", 5", 7", 9", 10", 14", 16", 18", 22", 24", 28", 30", 36"			6498K935	
Nose Mount				
5/16" Bore Size (0.36" OD)—Force is 7 lbs.; Ports are 10-32 UNF				
½"	2.52"	3.02"	6498K322	18.98
1"	3.02"	4.02"	6498K323	19.84
1½"	3.52"	5.02"	6498K19	20.75
2"	4.02"	6.02"	6498K325	21.64
2½"	4.52"	7.02"	6498K23	22.57
3"	5.02"	8.02"	6498K326	23.53
4"	6.02"	10.02"	6498K327	25.20
7/16" Bore Size (0.49" OD)—Force is 15 lbs.; Ports are 10-32 UNF				
½"	3.12"	3.62"	6498K125	19.96
1"	3.62"	4.62"	6498K121	20.92
1½"	4.12"	5.62"	6498K133	21.96
2"	4.62"	6.62"	6498K122	22.92
2½"	5.12"	7.62"	6498K324	23.97
3"	5.62"	8.62"	6498K123	24.94
4"	6.62"	10.62"	6498K124	26.94
5"	7.62"	12.62"	6498K134	28.94
6"	8.62"	14.62"	6498K126	30.94
8"	10.62"	18.62"	6498K131	34.94
10"	12.62"	22.62"	6498K362	38.94
12"	14.62"	26.62"	6498K129	42.76
9/16" Bore Size (0.62" OD)—Force is 25 lbs.; Ports are 10-32 UNF				
½"	3.28"	3.78"	6498K366	20.20
1"	3.78"	4.78"	6498K367	21.01
1½"	4.28"	5.78"	6498K369	21.86
2"	4.78"	6.78"	6498K376	22.64
2½"	5.28"	7.78"	6498K383	23.48
3"	5.78"	8.78"	6498K385	24.28
Nose Mount (Cont.)				
9/16" Bore Size (0.62" OD)—Force is 25 lbs.; Ports are 10-32 UNF (Cont.)				
4"	6.78"	10.78"	6498K388	$25.93
5"	7.78"	12.78"	6498K389	27.58
6"	8.78"	14.78"	6498K393	29.24
8"	10.78"	18.78"	6498K394	32.53
10"	12.78"	22.78"	6498K401	37.56
12"	14.78"	26.78"	6498K402	40.85
5/8" Bore Size (0.69" OD)—Force is 31 lbs.; Ports are 10-32 UNF				
½"	3.25"	3.75"	6498K328	44.41
1"	3.75"	4.75"	6498K329	45.55
1½"	4.25"	5.75"	6498K778	46.75
2"	4.75"	6.75"	6498K358	47.94
2½"	5.25"	7.75"	6498K779	49.14
3"	5.75"	8.75"	6498K359	50.34
4"	6.75"	10.75"	6498K361	52.73
5"	7.75"	12.75"	6498K787	55.12
6"	8.75"	14.75"	6498K363	57.51
8"	10.75"	18.75"	6498K788	62.30
10"	12.75"	22.75"	6498K789	67.08
12"	14.75"	26.75"	6498K791	71.86
3/4" Bore Size (0.86" OD)—Force is 40 lbs.; Ports are ⅛ NPT				
½"	3.97"	4.47"	6498K164	20.81
1"	4.47"	5.47"	6498K151	21.48
1½"	4.97"	6.47"	6498K163	22.71
2"	5.47"	7.47"	6498K152	23.50
2½"	5.97"	8.47"	6498K368	24.63
3"	6.47"	9.47"	6498K153	25.48
6"	9.47"	15.47"	6498K156	31.51
8"	11.47"	19.47"	6498K162	35.52
12"	15.47"	27.47"	6498K161	43.52
Other Stroke Lengths: 4", 5", 7", 9", 10"			6498K921	
1 1/16" Bore Size (1.12" OD)—Force is 90 lbs.; Ports are ⅛ NPT				
½"	4.24"	4.74"	6498K194	23.76
1"	4.74"	5.74"	6498K181	24.76
1½"	5.24"	6.74"	6498K193	25.87
2"	5.74"	7.74"	6498K182	26.72
3"	6.74"	9.74"	6498K183	28.76
6"	9.74"	15.74"	6498K186	34.74
8"	11.74"	19.74"	6498K187	38.74
12"	15.74"	27.74"	6498K192	46.74
Other Stroke Lengths: 4", 5", 7", 9", 10", 14", 16", 18", 22", 24"			6498K923	
1 1/4" Bore Size (1.34" OD)—Force is 120 lbs.; Ports are ⅛ NPT				
½"	5.25"	5.75"	6498K487	36.14
1"	5.75"	6.75"	6498K955	37.44
1½"	6.25"	7.75"	6498K494	38.74
2"	6.75"	8.75"	6498K956	39.98
2½"	7.25"	9.75"	6498K495	41.29
3"	7.75"	10.75"	6498K957	42.54
6"	10.75"	16.75"	6498K961	50.18
8"	12.75"	20.75"	6498K962	55.22
12"	16.75"	28.75"	6498K964	65.42
Nose Mount (Cont.)				
1 1/4" Bore Size (1.34" OD)—Force is 120 lbs.; Ports are ⅛ NPT (Cont.)				
Other Stroke Lengths: 4", 5", 7", 9", 10", 14", 16", 18", 22", 24"			6498K925	
1 1/2" Bore Size (1.56" OD)—Force is 170 lbs.; Ports are ⅛ NPT				
½"	4.94"	5.44"	6498K235	$38.84
1"	5.44"	6.44"	6498K221	40.36
1½"	5.94"	7.44"	6498K234	41.92
2"	6.44"	8.44"	6498K222	43.48
2½"	6.94"	9.44"	6498K391	45.04
3"	7.44"	10.44"	6498K223	46.54
6"	10.44"	16.44"	6498K226	55.80
8"	12.44"	20.44"	6498K227	61.94
12"	16.44"	28.44"	6498K232	74.26
Other Stroke Lengths: 4", 5", 7", 9", 10", 14", 16", 18", 22", 24"			6498K927	
2" Bore Size (2.08" OD)—Force is 310 lbs.; Ports are ¼ NPT				
½"	6.07"	6.57"	6498K587	61.57
1"	6.57"	7.57"	6498K395	63.28
1½"	7.07"	8.57"	6498K588	65.00
2"	7.57"	9.57"	6498K397	66.67
2½"	8.07"	10.57"	6498K589	68.38
3"	8.57"	11.57"	6498K398	70.00
6"	11.57"	17.57"	6498K412	80.08
8"	13.57"	21.57"	6498K413	86.78
12"	17.57"	29.57"	6498K597	100.31
Other Stroke Lengths: 4", 5", 7", 9", 10", 14", 16", 18", 22", 24"			6498K929	
2½" Bore Size (2.62" OD)—Force is 500 lbs.; Ports are ¼ NPT				
½"	6.07"	6.57"	6498K649	87.78
1"	6.57"	7.57"	6498K417	89.54
1½"	7.07"	8.57"	6498K663	91.31
2"	7.57"	9.57"	6498K419	93.08
2½"	8.07"	10.57"	6498K664	94.85
3"	8.57"	11.57"	6498K421	96.66
6"	11.57"	17.57"	6498K424	107.38
8"	13.57"	21.57"	6498K666	114.45
12"	17.57"	29.57"	6498K669	128.60
Other Stroke Lengths: 4", 7", 9", 10", 14", 16", 18", 22", 24"			6498K932	
3" Bore Size (3.12" OD)—Force is 700 lbs.; Ports are ⅜ NPT				
½"	7"	7.5"	6498K719	138.79
1"	7.5"	8.5"	6498K725	140.92
1½"	8"	9.5"	6498K726	143.05
2"	8.5"	10.5"	6498K727	145.18
2½"	9"	11.5"	6498K728	147.32
3"	9.5"	12.5"	6498K729	149.45
6"	12.5"	18.5"	6498K739	162.24
8"	14.5"	22.5"	6498K748	170.77
12"	18.5"	30.5"	6498K758	187.82
Other Stroke Lengths: 4", 5", 7", 9", 10", 14", 16", 18", 22", 24"			6498K934	

Attachments

Mount air cylinders to 1" T-slotted framing extrusions using the T-slotted framing brackets and foot brackets (not included).











For Bore Size	Foot Brackets		T-Slotted Framing Brackets		Pivot Brackets with Pin for Universal Mount		Rod Clevis with Pin		Rod Ends	
5/16"	6498K581	$2.86	6498K992	$37.72	4952K117	$3.96	6498K551	$3.96	_____	____
7/16"	4952K126	3.64	6498K991	37.72	6498K71★	3.74	4952K101	4.06	60645K311	$3.32
9/16"	4952K126	3.64	6498K991	37.72	4952K114	4.48	4952K101	4.06	60645K311	3.32
5/8"	4952K126	3.64	6498K991	37.72	4952K114	4.48	4952K101	4.06	60645K311	3.32
3/4"	6498K33	4.00	6498K992	37.72	6498K72	4.42	6498K42	4.42	60645K321	3.11
1 1/16"	6498K33	4.00	6498K992	37.72	6498K72	4.42	6498K43	4.42	60645K331	3.67
1 1/4"	6498K34	6.18	6498K991	37.72	6498K563	8.00	6498K44	7.02	60645K351	5.80
1 1/2"	6498K34	6.18	6498K991	37.72	6498K73★	7.90	6498K44	7.02	60645K351	5.80
2"	6498K575	13.52	6498K992	37.72	6498K564	15.34	6498K554	7.02	60645K361	6.58
2 1/2"	6498K576	14.36	_____	____	6498K564	15.34	6498K554	7.02	60645K361	6.58
3"	4952K136	13.32	_____	____	4952K124	14.88	4952K112	14.62	60645K371	9.64

★Pin not included.

Metric Double-Acting Round Body Air Cylinders

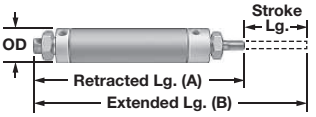

Find the best fit for equipment with metric threads. Cylinders have a 300 series stainless steel barrel and rod and aluminum end caps. Force is given at 100 psi; max. pressure is 145 psi. Temperature range is 14° to 176°F. Cylinders are universal mount, so they have threads on both ends to mount in a fixed position or you can use the hole on the back end to pivot mount. They come with two nuts and a pivot pin with retaining rings. Ports are female. Cylinders are not repairable.

Stroke Lg., mm	*Length, mm* (A)	(B)		
16 mm Bore Size (18 mm OD)—Force is 31 lbs.; Ports are M5 x 0.8 metric threads				
10	118	128	6498K794	$60.29
25	133	158	6498K795	62.20
50	158	208	6498K796	65.39
80	188	268	6498K797	69.22
100	208	308	6498K798	75.34
20 mm Bore Size (24 mm OD)—Force is 48 lbs.; Ports are 1/8 BSPP				
10	136	146	6498K799	$72.42
25	151	176	6498K801	74.33
50	176	226	6498K802	77.52
80	206	286	6498K803	81.35
100	226	326	6498K804	83.90
25 mm Bore Size (27 mm OD)—Force is 76 lbs.; Ports are 1/8 BSPP				
10	147	157	6498K805	$74.74
25	162	187	6498K806	76.65
50	187	237	6498K807	79.84
80	217	297	6498K808	83.67
100	237	337	6498K809	86.22

Attachments






For Bore Size	Foot Brackets		Pivot Brackets with Pin		Rod Clevis with Pin		Rod Ends	
16 mm	6498K904	$7.37	6498K907	$13.40	6498K901	$6.90	6498K908	$19.78
20 mm	6498K905	9.86	6498K906	10.96	6498K902	8.47	6498K909	20.42
25 mm	6498K905	9.86	6498K906	10.96	6498K903	10.15	6498K911	33.29

High-Torque Rotary Air Actuators

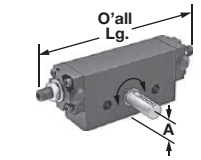

1/2″ and 3/4″ Bore Sizes



1 1/8″, 1 1/2″, and 2″ Bore Sizes

Designed to turn heavy loads, these rotary air actuators have rack-and-pinion gears that provide high torque output. Actuators are double acting, so they use air to exert force in both clockwise and counterclockwise directions. You can reduce the shaft rotation by as much as 30° to meet the requirements of your application—turn the screw on the end cap to adjust. Actuators have an aluminum body and a keyed shaft. Max. pressure is 150 psi. Temperature range is –20° to 200°F. Ports are 1/4 NPT female, unless noted.

Bore Size	Torque, in.-lbs. @ 100 psi	*Overall Lg.* For 90° Rotation	For 180° Rotation	For 270° Rotation	For 360° Rotation	*Overall* Wd.	Ht.	*Shaft* Dia.	Lg.	Center to Base (A)		
Choose a Shaft Rotation: 90°, 180°												
1/2″	4.9	4.63″	4.63″	—	—	1″	1.5″	3/8″	1.06″	0.6″	60165K26★	$331.30
3/4″	16.5	6.51″	6.51″	—	—	1.3″	2″	1/2″	1.25″	0.7″	60165K21■	366.55
Choose a Shaft Rotation: 90°, 180°, 270°, 360°												
1 1/8″	62	7.95″	9.91″	11.87″	13.83″	2.3″	3.3″	1/2″	0.88″	1.7″	60165K22■	463.67
1 1/2″	155	11.27″	14.02″	16.76″	19.51″	2.7″	4.4″	7/8″	1.75″	2.2″	60165K23	634.29
2″	440	14.77″	19.17″	23.57″	27.97″	3.7″	6.6″	1 1/8″	2.03″	3.3″	60165K24	845.23

Replacement Seal Kits—Choose a Bore Size: 1/2″, 3/4″, 1 1/8″, 1 1/2″, 2″ — 60165K1

★ Ports are 10-32 UNF female. ■ Ports are 1/8 NPT female.

Compact Rotary Air Actuators

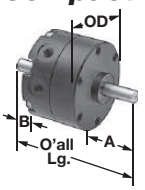

Use rotary motion to drive devices in tight spaces. These small actuators are double acting, so they use air to exert force in both clockwise and counterclockwise directions. They have an aluminum body and D-profile shafts. Max. pressure is 100 psi. Temperature range is 40° to 140°F. Ports are 10-32 UNF female, unless noted. Attach a sensor (sold separately) to activate relays and controllers.

To Order: Choose a shaft rotation: 90°, 180°, or 270°.

Torque, in.-lbs. @ 70 psi	OD	O'all Lg.	*Shaft* Dia.	(A)	(B)		
1	1.14″	1.45″	5/32″	0.43″	0.27″	6508K11▲	$106.38
2.7	1.34″	1.85″	3/16″	0.55″	0.29″	6508K12▲	109.45
5.9	1.65″	2.32″	15/64″	0.61″	0.33″	6508K13	112.65
20	1.97″	2.95″	5/16″	0.67″	0.43″	6508K14	139.18

Replacement Seal Kits—
Choose an OD: 1.14″, 1.34″, 1.65″, 1.97″ — 6508K1

100V AC/24V DC Reed Sensor with LED—
Choose an OD: 1.14″, 1.34″, 1.65″, 1.97″ — 6508K3

Flange-Style Bracket with Mounting Screws—
Choose an OD: 1.14″, 1.34″, 1.65″, 1.97″ — 6508K2

▲ 270° shaft rotation actuators have M3 female ports.

Adjustable-Angle Rotary Air Actuators

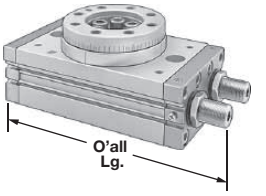

Turn the adjustment bolt on these actuators to set the rotation between 0° and 190° to meet your application requirements. They're double acting, so they use air to exert force in both clockwise and counterclockwise directions. Body is aluminum. Max. pressure is 145 psi. Temperature range is 32° to 140°F. Ports are 1/8 NPT female, unless noted. Attach a sensor (sold separately) to activate relays and controllers.

Torque, in.-lbs. @ 70 psi	*Overall* Lg.	Wd.	Ht.	Actuators		Replacement Seal Kits	
11.5	4.32″	1.97″	1.85″	1299K31♣	$347.30	1299K101	$34.16
16.3	5.59″	2.56″	2.13″	1299K32♣	393.31	1299K102	35.28
23.9	5.98″	2.76″	2.24″	1299K33	430.21	1299K103	36.12
40.7	7.22″	3.15″	2.6″	1299K34	489.47	1299K104	34.16
24, 48, 100V AC/DC Reed Sensor						1299K21	17.56
100V AC/24V DC Reed Sensor with LED						1299K22	21.88

♣ Ports are 10-32 UNF female.

Subminiature Round Body Air Cylinders

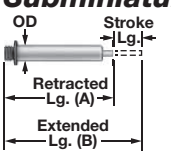

At less than two inches in length, these cylinders actuate small devices in spots where other cylinders don't fit. They're single acting, push style—air extends the rod and a spring returns the rod to its original position. Barrel, end caps, and rod are 300 series stainless steel. Force is given at 100 psi; max. pressure is 150 psi. Temperature range is 30° to 230°F. Mount horizontally or vertically. Port is 3-56 UNF male; cylinders come with a barbed adapter for 1/16″ ID tubing. Cylinders are not repairable.

Stroke Lg.	*Length* (A)	(B)		
5/32″ Bore Size (0.19″ OD)—Force is 2 lbs.				
1/4″	1.06″	1.31″	7725K1	$21.27
1/2″	1.48″	1.98″	7725K2	24.10

Single-Acting Round Body Air Cylinders

More basic and cost effective than double-acting cylinders, these single-acting cylinders exert force in one direction and have a spring to return the rod to its original position. Barrel and rod are 300 series stainless steel and end caps are aluminum. Force is given at 100 psi; max. pressure is 250 psi. Temperature range is –20° to 200°F. Port is female. Cylinders are not repairable.

Push-style cylinders use air to extend the rod. *Pull-style* cylinders use air to retract the rod.

Universal-mount cylinders have threads on both ends to mount in a fixed position or you can use the hole on the back end to pivot mount. They come with two nuts and a pivot pin with retaining rings.

Nose-mount cylinders have threads on the rod end and come with a nut to mount in a fixed position.

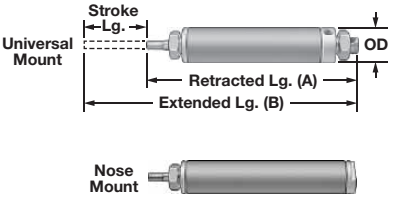

Stroke Lg.	Universal Mount — Push Style — Length (A)	(B)			Universal Mount — Pull Style — Length (A)	(B)			Nose Mount — Push Style — Length (A)	(B)			Nose Mount — Pull Style — Length (A)	(B)		
7/16″ Bore Size (0.5″ OD)—Force is 15 lbs.; Port is 10-32 UNF																
1/2″	3.44″	3.94″	6498K511	$23.57	4.51″	5.01″	6498K005	$31.65	2.75″	3.25″	6498K115	$14.98	3.82″	4.32″	6498K022	$22.46
1″	4.38″	5.38″	6498K512	24.87	5.01″	6.01″	6498K007	33.50	3.69″	4.69″	6498K111	16.28	4.32″	5.32″	6498K024	24.42
1 1/2″	5.32″	6.82″	6498K002	26.17	6.39″	7.89″	6498K008	35.34	4.63″	6.13″	6498K116	17.64	5.7″	7.2″	6498K025	26.45
2″	6.26″	8.26″	6498K514	27.52	6.89″	8.89″	6498K009	37.26	5.57″	7.57″	6498K112	18.92	6.2″	8.2″	6498K026	28.39
3″	8.14″	11.14″	6498K515	30.17	8.77″	11.77″	6498K012	41.03	7.45″	10.45″	6498K113	21.58	8.08″	11.08″	6498K028	32.38
Other Stroke Lengths: 3/4″, 2 1/2″, 4″, 5″, 6″, 8″, 12″. Please specify stroke length, universal or nose mount, and push or pull style															1206N1	
5/8″ Bore Size (0.69″ OD)—Force is 31 lbs.; Port is 10-32 UNF																
1/2″	3.51″	4.01″	6498K266	48.16	4.13″	4.63″	6498K845	65.46	2.82″	3.32″	6498K132	36.71	3.45″	3.95″	6498K823	51.40
1″	4.51″	5.51″	6498K267	50.29	5.13″	6.13″	6498K874	68.52	3.82″	4.82″	6498K135	38.79	4.45″	5.45″	6498K824	54.31
1 1/2″	5.39″	6.89″	6498K837	52.62	6.01″	7.51″	6498K875	72.16	4.7″	6.2″	6498K814	41.39	5.33″	6.83″	6498K825	57.95
2″	6.39″	8.39″	6498K269	55.46	7.01″	9.01″	6498K876	75.80	5.7″	7.7″	6498K137	43.99	6.33″	8.33″	6498K826	61.59
3″	8.27″	11.27″	6498K271	60.53	8.89″	11.89″	6498K878	83.08	7.58″	10.58″	6498K138	49.30	8.21″	11.21″	6498K828	69.01
Other Stroke Lengths: 2 1/2″, 4″, 5″, 6″, 8″, 12″. Please specify stroke length, universal or nose mount, and push or pull style															1206N2	
3/4″ Bore Size (0.86″ OD)—Force is 40 lbs.; Port is 1/8 NPT																
1/2″	4.25″	4.75″	6498K521	25.29	4.41″	4.91″	6498K036	33.18	3.19″	3.69″	6498K195	16.58	4″	4.5″	6498K049	24.39
1″	4.75″	5.75″	6498K522	26.59	4.91″	5.91″	6498K037	34.98	3.69″	4.69″	6498K141	17.78	4.5″	5.5″	6498K051	26.15
1 1/2″	5.94″	7.44″	6498K523	27.94	6.1″	7.6″	6498K038	36.84	4.88″	6.38″	6498K1	19.14	5.69″	7.19″	6498K052	28.13
2″	6.44″	8.44″	6498K524	29.24	6.6″	8.6″	6498K039	38.64	5.38″	7.38″	6498K142	20.44	6.19″	8.19″	6498K053	30.05
3″	8.13″	11.13″	6498K525	31.90	8.29″	11.29″	6498K042	42.29	7.07″	10.07″	6498K143	23.08	7.88″	10.88″	6498K055	33.94
Other Stroke Lengths: 2 1/2″, 4″, 5″, 6″, 8″, 12″. Please specify stroke length, universal or nose mount, and push or pull style															1206N3	
1 1/16″ Bore Size (1.12″ OD)—Force is 90 lbs.; Port is 1/8 NPT																
1/2″	4.5″	5″	6498K062	27.37	4.85″	5.35″	6498K064	36.28	3.62″	4.12″	6498K176	18.66	4.43″	4.93″	6498K077	27.07
1″	5″	6″	6498K532	29.04	5.35″	6.35″	6498K065	38.58	4.12″	5.12″	6498K171	20.38	4.93″	5.93″	6498K078	29.56
1 1/2″	6.06″	7.56″	6498K533	30.48	6.66″	8.16″	6498K066	40.90	5.18″	6.68″	6498K177	22.09	6.24″	7.74″	6498K079	31.97
2″	6.56″	8.56″	6498K534	32.36	7.16″	9.16″	6498K067	43.21	5.68″	7.68″	6498K172	23.72	6.74″	8.74″	6498K081	34.38
3″	8.12″	11.12″	6498K535	35.74	8.97″	11.97″	6498K069	47.91	7.24″	10.24″	6498K173	27.04	8.55″	11.55″	6498K083	39.21
Other Stroke Lengths: 2 1/2″, 4″, 5″, 6″, 8″, 12″. Please specify stroke length, universal or nose mount, and push or pull style															1206N4	
1 1/4″ Bore Size (1.34″ OD)—Force is 120 lbs.; Port is 1/8 NPT																
1/2″	5.85″	6.35″	6498K089	39.70	6.22″	6.72″	6498K095	44.72	4.72″	5.22″	6498K107	29.50	5.53″	6.03″	6498K168	38.36
1″	6.35″	7.35″	6498K965	41.81	6.72″	7.72″	6498K096	47.13	5.22″	6.22″	6498K951	31.61	6.03″	7.03″	6498K197	41.10
1 1/2″	7.66″	9.16″	6498K091	43.92	8.03″	9.53″	6498K097	49.54	6.53″	8.03″	6498K108	33.75	7.34″	8.84″	6498K198	43.88
2″	8.16″	10.16″	6498K966	46.02	8.53″	10.53″	6498K098	51.93	7.03″	9.03″	6498K952	35.82	7.84″	9.84″	6498K199	46.58
3″	9.97″	12.97″	6498K967	50.23	10.34″	13.34″	6498K101	56.73	8.84″	11.84″	6498K953	40.04	9.65″	12.65″	6498K202	52.05
Other Stroke Lengths: 2 1/2″, 4″, 5″, 6″, 8″, 12″. Please specify stroke length, universal or nose mount, and push or pull style															1206N5	
1 1/2″ Bore Size (1.56″ OD)—Force is 170 lbs.; Port is 1/8 NPT																
1/2″	5.44″	5.94″	6498K255	43.47	7.01″	7.51″	6498K258	51.18	4.38″	4.88″	6498K217	33.08	5.94″	6.72″	6498K209	43.94
1″	5.94″	6.94″	6498K542	45.92	7.51″	8.51″	6498K259	54.11	4.88″	5.88″	6498K211	35.52	6.44″	7.44″	6498K237	46.38
1 1/2″	7.13″	8.63″	6498K256	48.36	9.01″	10.51″	6498K261	57.04	6.07″	7.57″	6498K219	38.02	7.94″	9.44″	6498K242	48.88
2″	7.63″	9.63″	6498K544	50.80	9.51″	11.51″	6498K262	59.98	6.57″	8.57″	6498K212	40.40	8.44″	10.44″	6498K243	51.32
3″	9.32″	12.32″	6498K545	55.74	11.51″	14.51″	6498K264	65.90	8.26″	11.26″	6498K213	45.01	10.44″	13.44″	6498K245	56.26
Other Stroke Lengths: 2 1/2″, 4″, 5″, 6″, 8″, 12″. Please specify stroke length, universal or nose mount, and push or pull style															1206N6	
2″ Bore Size (2.08″ OD)—Force is 310 lbs.; Port is 1/4 NPT																
1/2″	7.16″	7.66″	6498K307	83.23	7.87″	8.37″	6498K313	91.17	5.79″	6.29″	6498K291	76.96	6.49″	6.99″	6498K299	86.79
1″	7.66″	8.66″	6498K289	86.73	8.37″	9.37″	6498K314	95.01	6.29″	7.29″	6498K249	68.96	6.99″	7.99″	6498K301	90.12
1 1/2″	9.16″	10.66″	6498K308	90.25	9.87″	11.37″	6498K315	98.89	7.79″	9.29″	6498K296	83.67	8.49″	9.99″	6498K302	93.50
2″	9.66″	11.66″	6498K293	93.70	10.37″	12.37″	6498K316	102.69	8.29″	10.29″	6498K252	75.66	8.99″	10.99″	6498K303	96.82
3″	10.91″	13.91″	6498K294	101.11	11.6″	14.6″	6498K318	110.36	9.54″	12.54″	6498K253	82.36	10.22″	13.22″	6498K305	103.53
Other Stroke Lengths: 2 1/2″, 4″. Please specify stroke length, universal or nose mount, and push or pull style															1206N7	

Attachments

Mount air cylinders to 1″ T-slotted framing extrusions using the T-slotted framing brackets and foot brackets (not included).







For Bore Size	Foot Brackets		T-Slotted Framing Brackets		Pivot Brackets with Pin for Universal Mount		Rod Clevis with Pin		Rod Ends	
7/16″	4952K126	$3.64	6498K991	$37.72	6498K71★	$3.74	4952K101	$4.06	60645K311	$3.32
5/8″	4952K126	3.64	6498K991	37.72	4952K114	4.48	4952K101	4.06	60645K311	3.32
3/4″	6498K33	4.00	6498K992	37.72	6498K72	4.42	6498K42	4.42	60645K321	3.11
1 1/16″	6498K33	4.00	6498K992	37.72	6498K72	4.42	6498K43	4.42	60645K331	3.67
1 1/4″	6498K34	6.18	6498K991	37.72	6498K563	8.00	6498K44	7.02	60645K351	5.80
1 1/2″	6498K34	6.18	6498K991	37.72	6498K73★	7.90	6498K44	7.02	60645K351	5.80
2″	6498K575	13.52	6498K992	37.72	6498K564	15.34	6498K554	7.02	60645K361	6.58

★ Pin not included.

Sensor-Ready Round Body Air Cylinders

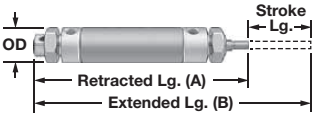

The magnetic piston inside these cylinders can activate relays and controllers when used with a sensor (sold separately). When the piston moves past the sensor, the sensor activates. You can use multiple sensors—attach one for each action to trigger.

Cylinders are double acting. Barrel and rod are 300 series stainless steel and end caps are aluminum. Force is given at 100 psi. Cylinders are universal mount, so they have threads on both ends to mount in a fixed position or you can use the hole on the back end to pivot mount. They come with two nuts and a pivot pin with retaining rings. Ports are female. Cylinders are not repairable.

Inch Sizes—Max. pressure is 250 psi. Temperature range is –20° to 200° F.

Stroke Lg.	Length (A)	Length (B)		
9/16″ Bore Size (0.62″ OD)—Force is 25 lbs.; Ports are 10-32 UNF				
1″	4.5″	5.5″	4952K181	$43.71
2″	5.5″	7.5″	4952K183	43.71
3″	6.5″	9.5″	4952K185	43.71
6″	9.5″	15.5″	4952K193	49.74
12″	15.5″	27.5″	4952K208	62.51
Other Stroke Lengths: 1/2″, 1 1/2″, 2 1/2″, 4″, 5″, 8″, 10″			4952K828	
5/8″ Bore Size (0.69″ OD)—Force is 31 lbs.; Ports are 10-32 UNF				
1″	4.44″	5.44″	4952K831	57.51
2″	5.44″	7.44″	4952K833	59.90
3″	6.44″	9.44″	4952K835	62.30
6″	9.44″	15.44″	4952K838	69.47
12″	15.44″	27.44″	4952K842	83.82
Other Stroke Lengths: 1 1/2″, 2 1/2″, 4″, 5″, 8″, 10″			4952K829	
3/4″ Bore Size (1.12″ OD)—Force is 40 lbs.; Ports are 1/8 NPT				
1″	6.18″	7.18″	4952K212	44.85
2″	7.18″	9.18″	4952K214	44.85
3″	8.18″	11.18″	4952K216	44.85
6″	11.18″	17.18″	4952K224	51.08
12″	17.18″	29.18″	4952K238	63.59
Other Stroke Lengths: 1/2″, 1 1/2″, 2 1/2″, 4″, 5″, 7″, 8″, 9″, 10″, 14″, 16″, 18″, 24″			4952K821	

Stroke Lg.	Length (A)	Length (B)		
1 1/16″ Bore Size (1.12″ OD)—Force is 90 lbs.; Ports are 1/8 NPT				
1″	6.4″	7.4″	4952K258	$53.08
2″	7.4″	9.4″	4952K262	53.08
3″	8.4″	11.4″	4952K263	53.08
6″	11.4″	17.4″	4952K271	59.31
Other Stroke Lengths: 1/2″, 1 1/2″, 2 1/2″, 4″, 5″, 7″, 8″, 9″, 10″, 12″, 14″, 16″, 18″, 22″, 24″, 28″, 30″, 36″			4952K822	
1 1/4″ Bore Size (1.34″ OD)—Force is 120 lbs.; Ports are 1/8 NPT				
1″	6.75″	7.75″	4952K305	67.82
2″	7.75″	9.75″	4952K307	67.82
3″	8.75″	11.75″	4952K309	67.82
6″	11.75″	17.75″	4952K317	75.78
Other Stroke Lengths: 1/2″, 1 1/2″, 2 1/2″, 4″, 5″, 7″, 8″, 9″, 10″, 12″, 14″, 16″, 18″, 22″, 24″, 28″, 30″, 36″			4952K823	
1 1/2″ Bore Size (1.56″ OD)—Force is 170 lbs.; Ports are 1/4 NPT				
1″	7.41″	8.41″	4952K352	82.84
2″	8.41″	10.41″	4952K354	82.84
3″	9.41″	12.41″	4952K356	82.84
6″	12.41″	18.41″	4952K364	92.48
Other Stroke Lengths: 1/2″, 1 1/2″, 2 1/2″, 4″, 5″, 7″, 8″, 9″, 10″, 12″, 14″, 16″, 18″, 22″, 24″, 28″, 30″, 36″			4952K824	

Stroke Lg.	Length (A)	Length (B)		
2″ Bore Size (2.08″ OD)—Force is 310 lbs.; Ports are 1/4 NPT				
1″	8.62″	9.62″	4952K445	$99.44
2″	9.62″	11.62″	4952K447	99.44
3″	10.62″	13.62″	4952K449	99.44
6″	13.62″	19.62″	4952K457	110.27
Other Stroke Lengths: 1/2″, 1 1/2″, 2 1/2″, 4″, 5″, 7″, 8″, 9″, 10″, 12″, 14″, 16″, 18″, 22″, 24″, 28″, 30″, 36″			4952K825	
2 1/2″ Bore Size (2.62″ OD)—Force is 500 lbs.; Ports are 3/8 NPT				
1″	9.66″	10.66″	4952K492	133.49
2″	10.66″	12.66″	4952K494	133.49
3″	11.66″	14.66″	4952K496	133.49
6″	14.66″	20.66″	4952K504	144.97
Other Stroke Lengths: 1/2″, 1 1/2″, 2 1/2″, 4″, 5″, 7″, 8″, 9″, 10″, 12″, 14″, 16″, 18″, 22″, 24″, 28″, 30″, 36″			4952K826	
3″ Bore Size (3.12″ OD)—Force is 700 lbs.; Ports are 3/8 NPT				
1″	9.37″	10.37″	4952K754	212.77
2″	10.37″	12.37″	4952K756	217.25
3″	11.37″	14.37″	4952K758	221.72
6″	14.37″	20.37″	4952K762	235.13
Other Stroke Lengths: 1/2″, 1 1/2″, 2 1/2″, 4″, 5″, 7″, 8″, 9″, 10″, 12″, 14″, 16″, 18″, 22″, 24″, 28″, 30″, 36″			4952K827	

Metric Sizes—Max. pressure is 145 psi. Temperature range is –14° to 176° F.

Stroke Lg., mm	Length, mm (A)	Length, mm (B)		
16 mm Bore Size (18 mm OD)—Force is 31 lbs.; Ports are M5 × 0.8 metric threads				
10	118	128	4952K781	$75.83
25	133	158	4952K782	77.74
50	158	208	4952K783	80.93
80	188	268	4952K784	84.76
100	208	308	4952K785	87.31

Stroke Lg., mm	Length, mm (A)	Length, mm (B)		
20 mm Bore Size (24 mm OD)—Force is 48 lbs.; Ports are 1/8 BSPP				
10	136	146	4952K786	$87.96
25	151	176	4952K787	89.88
50	176	226	4952K788	93.07
80	206	286	4952K791	96.89
100	226	326	4952K792	99.45

Stroke Lg., mm	Length, mm (A)	Length, mm (B)		
25 mm Bore Size (27 mm OD)—Force is 76 lbs.; Ports are 1/8 BSPP				
10	147	157	4952K793	$90.28
25	162	187	4952K794	92.20
50	187	237	4952K795	95.39
80	217	297	4952K796	99.21
100	237	337	4952K797	101.77

Attachments and Sensors







For Bore Size	Foot Brackets		Pivot Brackets with Pin		Rod Clevis with Pin		24V AC/DC Reed Sensors		30V DC NPN Sensors		30V DC PNP Sensors	
9/16″	4952K126	$3.64	4952K114	$4.48	4952K101	$4.06	4952K655	$95.48	4952K646	$108.58	4952K637	$108.58
5/8″	4952K126	3.64	4952K114	4.48	4952K101	4.06	—	—	—	—	—	—
3/4″	4952K127	4.00	4952K675	4.48	4952K684	7.74	4952K656	95.48	4952K647	108.58	4952K638	108.58
1 1/16″	4952K667	3.96	4952K676	5.92	4952K685	7.86	4952K657	95.48	4952K648	108.58	4952K639	108.58
1 1/4″	4952K668	5.30	4952K677	8.32	4952K686	7.80	4952K658	95.48	4952K649	108.58	4952K641	108.58
1 1/2″	4952K669	6.86	4952K678	8.48	4952K687	9.16	4952K659	95.48	4952K651	108.58	4952K642	108.58
2″	4952K672	8.94	4952K681	14.62	4952K689	13.00	4952K662	95.48	4952K653	108.58	4952K644	108.58
2 1/2″	4952K673	9.36	4952K682	13.32	4952K112	14.62	4952K663	95.48	4952K654	108.58	4952K645	108.58
3″	4952K136	13.32	4952K124	14.88	4952K112	14.62	—	—	—	—	—	—
16 mm	6498K904	7.37	6498K907	13.40	6498K901	6.90	4952K817	95.48	4952K814	108.58	4952K811	108.58
20 mm	6498K905	9.86	6498K906	10.96	6498K902	8.47	4952K818	95.48	4952K815	108.58	4952K812	108.58
25 mm	6498K905	9.86	6498K906	10.96	6498K903	10.15	4952K819	95.48	4952K816	108.58	4952K813	108.58

Miniature Threaded-Body Air Cylinders

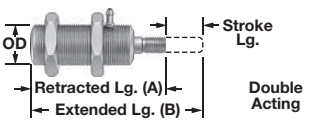

These cylinders thread directly into your equipment, taking minimal space. They have a brass body, 316 stainless steel rod, and include two nuts for mounting, unless noted. Force is given at 100 psi; max. pressure is 125 psi. Temperature range is 0° to 220° F. Cylinders are not repairable.

Single-acting cylinders are push style—air extends the rod and cylinders have a spring that returns the rod to its original position. Port is 10-32 UNF female.

Double-acting cylinders exert force in both directions. One port is 10-32 UNF female and the second is barbed for 1/16″ ID tubing, unless noted.

Stroke Lg.	Length (A)	Length (B)	Single Acting		Double Acting	
1/4″ Bore Size (3/8″ OD, 3/8″-32 Threads)—Force is 5 lbs.						
1/4″	1.55″	1.8″	6604K11	$20.36	6604K21	$31.87
3/8″ Bore Size (1/2″ OD, 1/2″-32 Threads)—Force is 11 lbs.						
1/2″	1.99″	2.49″	6604K13	29.59	6604K23	43.39

Stroke Lg.	Length (A)	Length (B)	Single Acting		Double Acting	
1/2″ Bore Size (5/8″ OD, 5/8″-32 Threads)—Force is 20 lbs.						
1/2″	2.05″	2.55″	6604K15	$35.43	6604K24	$52.23
1″	2.55″	3.55″	—	—	6604K25★	56.74

★ Includes one mounting nut. Both ports are 10-32 UNF female.

Cushioned Round Body Air Cylinders

Designed to keep the piston from slamming against the cylinder body, these cylinders have adjustable air cushions at each end to minimize wear and noise. Turn the screws to adjust the amount of cushion.

Cylinders are double acting. Barrel and rod are 300 series stainless steel and end caps are aluminum. Force is given at 100 psi. All are universal mount, so they have threads on both ends to mount in a fixed position or you can use the hole on the back end to pivot mount. They come with two nuts and a pivot pin with retaining rings. Ports are female. Cylinders are not repairable.

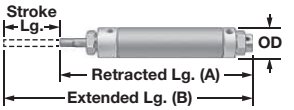

Inch Sizes—Max. pressure is 250 psi. Temperature range is –20° to 200°F. (For mounting attachments, see page 1045.)

Stroke Lg.	Length (A)	Length (B)		
¾" Bore Size (0.86" OD)—Force is 40 lbs.; Ports are ⅛ NPT				
1"	5.53"	6.53"	6475K102	$49.11
2"	6.53"	8.53"	6475K103	49.11
3"	7.53"	10.53"	6475K104	49.11
6"	10.53"	16.53"	6475K108	54.88
12"	16.53"	28.53"	6475K116	66.42
Other Stroke Lengths: ½", 1½", 2½", 4", 5", 7", 8", 9", 10", 14", 16", 18", 24"			6475K291	
1 1/16" Bore Size (1.12" OD)—Force is 90 lbs.; Ports are ⅛ NPT				
1"	5.62"	6.62"	6475K118	54.57
2"	6.62"	8.62"	6475K119	54.57
3"	7.62"	10.62"	6475K12	54.57
6"	10.62"	16.62"	6475K124	60.34
12"	16.62"	28.62"	6475K132	71.88
Other Stroke Lengths: ½", 1½", 2½", 4", 5", 7", 8", 9", 10", 14", 16", 18", 22", 24", 28", 30", 36"			6475K292	

Stroke Lg.	Length (A)	Length (B)		
1½" Bore Size (1.56" OD)—Force is 170 lbs.; Ports are ⅛ NPT				
1"	6.25"	7.25"	6475K134	$77.90
2"	7.25"	9.25"	6475K135	77.90
3"	8.25"	11.25"	6475K136	77.90
6"	11.25"	17.25"	6475K14	86.79
12"	17.25"	29.25"	6475K148	104.57
Other Stroke Lengths: ½", 1½", 2½", 4", 5", 7", 8", 9", 10", 14", 16", 18", 22", 24", 28", 30", 36"			6475K293	
2" Bore Size (2.08" OD)—Force is 310 lbs.; Ports are ¼ NPT				
1"	7.94"	8.94"	6475K15	149.79
2"	8.94"	10.94"	6475K151	149.79
3"	9.94"	12.94"	6475K152	149.79
6"	12.94"	18.94"	6475K156	159.78
12"	18.94"	30.94"	6475K164	179.74
Other Stroke Lengths: ½", 1½", 2½", 4", 5", 7", 8", 9", 10", 14", 16", 18", 22", 24", 28", 30", 36"			6475K294	

Stroke Lg.	Length (A)	Length (B)		
2½" Bore Size (2.58" OD)—Force is 500 lbs.; Ports are ¼ NPT				
1"	7.94"	8.94"	6475K166	$168.15
2"	8.94"	10.94"	6475K167	168.15
3"	9.94"	12.94"	6475K168	168.15
6"	12.94"	18.94"	6475K172	178.76
12"	18.94"	30.94"	6475K18	199.97
Other Stroke Lengths: ½", 1½", 2½", 4", 5", 7", 8", 9", 10", 14", 16", 18", 22", 24", 28", 30", 36"			6475K295	
3" Bore Size (3.12" OD)—Force is 700 lbs.; Ports are ⅜ NPT				
1"	9.37"	10.37"	6475K182	201.85
2"	10.37"	12.37"	6475K183	201.85
3"	11.37"	14.37"	6475K184	201.85
6"	14.37"	20.37"	6475K188	214.96
12"	20.37"	32.37"	6475K196	241.17
Other Stroke Lengths: ½", 1½", 2½", 4", 5", 7", 8", 9", 10", 14", 16", 18", 22", 24", 28", 30", 36"			6475K296	

Metric Sizes—Max. pressure is 145 psi. Temperature range is 14° to 176°F. (For mounting attachments, see 6498K on page 1046.)

Stroke Lg., mm	Length, mm (A)	Length, mm (B)		
16 mm Bore Size (18 mm OD)—Force is 31 lbs.; Ports are M5×0.8 metric threads				
10	118	128	6475K271	$85.34
25	133	158	6475K272	87.26
50	158	208	6475K273	90.45
80	188	268	6475K274	94.27
100	208	308	6475K275	96.83

Stroke Lg., mm	Length, mm (A)	Length, mm (B)		
20 mm Bore Size (24 mm OD)—Force is 49 lbs.; Ports are ⅛ BSPP				
10	136	146	6475K276	$97.47
25	151	176	6475K277	99.39
50	176	226	6475K278	102.58
80	206	286	6475K279	106.41
100	226	326	6475K281	108.96

Stroke Lg., mm	Length, mm (A)	Length, mm (B)		
25 mm Bore Size (27 mm OD)—Force is 76 lbs.; Ports are ⅛ BSPP				
10	147	157	6475K282	$99.79
25	162	187	6475K283	101.71
50	187	237	6475K284	104.90
80	217	297	6475K285	108.73
100	237	337	6475K286	111.28

Impact-Resistant Aluminum Round Body Air Cylinders

Built to withstand hard knocks, these cylinders have a thick barrel wall and are repairable. They have a magnetic piston so you can use them with sensors (sold separately) to activate relays and controllers. Cylinders are double acting. Barrel and end caps are aluminum, and rod is steel. Force is given at 100 psi; max. pressure is 145 psi. Temperature range is 40° to 140°F. Cylinders have mounting holes on both ends. Ports are female.

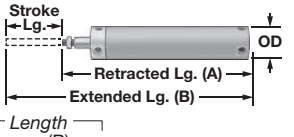

Stroke Lg.	Length (A)	Length (B)		
¾" Bore Size (1.02" OD)—Force is 42 lbs.; Ports are ⅛ NPT				
1"	4.8"	5.8"	6471K101	$37.54
2"	5.8"	7.8"	6471K102	37.54
3"	6.8"	9.8"	6471K103	37.54
6"	9.8"	15.8"	6471K202	44.70
12"	15.8"	27.8"	6471K304	48.69
Other stroke lengths from ½" to 13" in ½" increments and 14" to 18" in 1" increments			6471K901	
1" Bore Size (1.22" OD)—Force is 66 lbs.; Ports are ⅛ NPT				
1"	4.92"	5.92"	6471K121	42.94
2"	5.92"	7.92"	6471K122	42.94
3"	6.92"	9.92"	6471K123	42.94
6"	9.92"	15.92"	6471K222	49.74
12"	15.92"	27.92"	6471K324	53.76
Other stroke lengths from ½" to 13" in ½" increments and 14" to 24" in 1" increments			6471K902	

Stroke Lg.	Length (A)	Length (B)		
1¼" Bore Size (1.5" OD)—Force is 102 lbs.; Ports are ⅛ NPT				
1"	5.51"	6.51"	6471K131	$49.59
2"	6.51"	8.51"	6471K132	49.59
3"	7.51"	10.51"	6471K133	49.59
6"	10.51"	16.51"	6471K232	56.78
12"	16.51"	28.51"	6471K334	60.04
Other stroke lengths from ½" to 13" in ½" increments and 14" to 24" in 1" increments			6471K903	
1½" Bore Size (1.85" OD)—Force is 170 lbs.; Ports are ⅛ NPT				
1"	5.78"	6.78"	6471K141	62.99
2"	6.78"	8.78"	6471K142	62.99
3"	7.78"	10.78"	6471K143	62.99
6"	10.78"	16.78"	6471K242	70.31
12"	16.78"	28.78"	6471K344	77.27
Other stroke lengths from ½" to 13" in ½" increments and 14" to 24" in 1" increments			6471K904	

Stroke Lg.	Length (A)	Length (B)		
2" Bore Size (2.28" OD)—Force is 264 lbs.; Ports are ¼ NPT				
1"	6.69"	7.69"	6471K151	$82.39
2"	7.69"	9.69"	6471K152	82.39
3"	8.69"	11.69"	6471K153	82.39
6"	11.69"	17.69"	6471K252	94.80
12"	17.69"	29.69"	6471K354	99.74
Other stroke lengths from ½" to 13" in ½" increments and 14" to 24" in 1" increments			6471K905	
2½" Bore Size (2.83" OD)—Force is 411 lbs.; Ports are ¼ NPT				
1"	6.69"	7.69"	6471K161	105.58
2"	7.69"	9.69"	6471K162	105.58
3"	8.69"	11.69"	6471K163	105.58
6"	11.69"	17.69"	6471K262	119.47
12"	17.69"	29.69"	6471K364	125.14
Other stroke lengths from ½" to 13" in ½" increments and 14" to 24" in 1" increments			6471K906	

Attachments, Replacement Seal Kits, and Sensors









For Bore Size	Foot Bracket Sets		Front or Rear Flanges		Pivot Brackets with Pin		Trunnion Brackets with Pin		Rod Clevis with Pin		Replacement Seal Kits		24V DC Reed Sensors	
¾"	6471K41	$3.78	6471K51	$4.29	6471K65	$9.16	6471K91	$11.55	6471K61	$4.96	6471K87	$7.18	6471K501	$21.02
1"	6471K42	3.90	6471K52	4.83	6471K66	12.47	6471K92	13.20	6471K62	5.28	6471K88	8.05	6471K502	21.27
1¼"	6471K43	4.24	6471K53	5.47	6471K67	13.06	6471K93	15.09	6471K63	5.92	6471K89	9.14	6471K503	21.45
1½"	6471K44	4.72	6471K54	7.44	6471K68	16.67	6471K94	18.19	6471K63	5.92	6471K57	9.88	6471K504	21.70
2"	6471K45	5.12	6471K55	8.78	6471K69	19.46	6471K95	20.75	6471K64	7.10	6471K58	10.90	6471K505	21.89
2½"	6471K46	9.60	6471K56	13.44	6471K77	32.13	6471K96	28.89	6471K64	7.10	6471K59	12.66	6471K506	22.32

Round Body Air Cylinders for Washdown

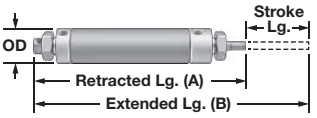

Able to resist corrosive solutions and chemical environments, these cylinders withstand washdown conditions. Cylinders are double acting. Force is given at 100 psi. All are universal mount, so they have threads on both ends to mount in a fixed position or you can use the hole on the back end to pivot mount. They come with two nuts and a pivot pin with retaining rings. Ports are female. Cylinders are not repairable.

Stainless steel cylinders have excellent corrosion resistance and have a rod wiper to keep contaminants out. Barrel, rod, and end caps are 300 series stainless steel. Max. pressure is 250 psi. Temperature range is –20° to 200° F.

Sensor-ready acetal and stainless steel cylinders have excellent corrosion resistance at a lower cost than all-stainless cylinders. They have a magnetic piston so you can use them with sensors (sold separately) to activate relays and controllers. Cylinders have acetal end caps and a 300 series stainless steel barrel and rod. Max. pressure is 100 psi. Temperature range is 32° to 160° F.

Stroke Lg.	Length (A)	Length (B)		
Stainless Steel				
3/4" Bore Size (0.86" OD)—Force is 40 lbs.; Ports are 1/8 NPT				
1"	5.53"	6.53"	6239K103	$145.57
2"	6.53"	8.53"	6239K105	145.57
3"	7.53"	10.53"	6239K107	145.57
6"	10.53"	16.53"	6239K115	153.06
12"	16.53"	28.53"	6239K131	165.93
Other Stroke Lengths: 1/2", 1 1/2", 2 1/2", 3 1/2", 4", 4 1/2", 5", 7", 8", 9", 10", 11"			6239K311	
1 1/16" Bore Size (1.11" OD)—Force is 90 lbs.; Ports are 1/8 NPT				
1"	5.62"	6.62"	6239K149	153.52
2"	6.62"	8.62"	6239K152	153.52
3"	7.62"	10.62"	6239K154	153.52
6"	10.62"	16.62"	6239K162	161.00
12"	16.62"	28.62"	6239K177	173.88
Other Stroke Lengths: 1/2", 1 1/2", 2 1/2", 3 1/2", 4", 4 1/2", 5", 7", 8", 9", 10", 11"			6239K312	
1 1/2" Bore Size (1.56" OD)—Force is 170 lbs.; Ports are 1/8 NPT				
1"	6.51"	7.51"	6239K196	172.13
2"	7.51"	9.51"	6239K198	172.13

Stroke Lg.	Length (A)	Length (B)		
Stainless Steel (Cont.)				
1 1/2" Bore Size (1.56" OD)—Force is 170 lbs.; Ports are 1/8 NPT (Cont.)				
3"	8.51"	11.51"	6239K201	$172.13
6"	11.51"	17.51"	6239K208	183.68
12"	17.51"	29.51"	6239K224	176.08
Other Stroke Lengths: 1/2", 1 1/2", 2 1/2", 3 1/2", 4", 4 1/2", 5", 7", 8", 9", 10", 11"			6239K313	
2" Bore Size (2.09" OD)—Force is 310 lbs.; Ports are 1/4 NPT				
1"	7.95"	8.95"	6239K243	211.61
2"	8.95"	10.95"	6239K245	211.61
3"	9.95"	12.95"	6239K247	211.61
6"	12.95"	18.95"	6239K255	224.78
12"	18.95"	30.95"	6239K271	191.00
Other Stroke Lengths: 1/2", 1 1/2", 2 1/2", 3 1/2", 4", 4 1/2", 5", 7", 8", 9", 10", 11"			6239K314	
Sensor Ready Acetal/Stainless Steel				
3/4" Bore Size (0.86" OD)—Force is 44 lbs.; Ports are 1/8 NPT				
1"	5.53"	6.53"	6239K331	62.39
2"	6.53"	8.53"	6239K332	64.12
3"	7.53"	10.53"	6239K333	65.83

Stroke Lg.	Length (A)	Length (B)		
Sensor Ready Acetal/Stainless Steel (Cont.)				
3/4" Bore Size (0.86" OD)—Force is 44 lbs.; Ports are 1/8 NPT (Cont.)				
4"	8.53"	12.53"	6239K334	$67.55
6"	10.53"	16.53"	6239K335	70.99
8"	12.53"	20.53"	6239K336	74.43
12"	16.53"	28.53"	6239K337	81.32
1 1/16" Bore Size (1.12" OD)—Force is 90 lbs.; Ports are 1/8 NPT				
1"	5.78"	6.78"	6239K338	65.09
2"	6.78"	8.78"	6239K339	66.80
3"	7.78"	10.78"	6239K341	68.53
4"	8.78"	12.78"	6239K342	70.24
6"	10.78"	16.78"	6239K343	73.69
8"	12.78"	20.78"	6239K344	77.13
12"	16.78"	28.78"	6239K345	84.00
1 1/2" Bore Size (1.56" OD)—Force is 170 lbs.; Ports are 1/8 NPT				
1"	6.75"	7.75"	6239K346	85.92
2"	7.75"	9.75"	6239K347	88.58
3"	8.75"	11.75"	6239K348	91.23
4"	9.75"	13.75"	6239K349	93.89
6"	11.75"	17.75"	6239K351	99.21
8"	13.75"	21.75"	6239K352	104.52
12"	17.75"	29.75"	6239K353	115.14

Attachments and Sensors






For Bore Size	Foot Brackets		Pivot Brackets with Pin		Rod Clevis with Pin		10-30V AC/ 10-30V DC Reed Sensors		10-30V DC NPN Sensors		10-30V DC PNP Sensors	
3/4"	6239K295	$9.52	6239K298	$23.44	6239K291	$30.10	6239K375	$34.98	6239K373	$61.10	6239K371	$61.42
1 1/16"	6239K295	9.52	6239K298	23.44	6239K292	34.10	6239K376	35.35	6239K374	61.61	6239K372	61.61
1 1/2"	6239K296	26.92	6239K299	29.06	6239K293	41.94	6239K376	35.35	6239K374	61.61	6239K372	61.61
2"	6239K297	37.36	6239K301	36.14	6239K294	49.60						

Round Body Air Cylinders for Narrow Spaces

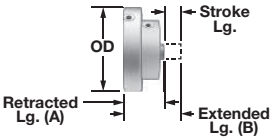

Also known as pancake cylinders, these deliver as much force as other cylinders, but with a shorter stroke to function in small spaces. All are double acting. They have an aluminum body and a steel rod. Force is given at 100 psi; max. pressure is 150 psi. Temperature range is –40° to 250° F. Ports are female. Cylinders have holes for mounting.

Stroke Lg.	Length (A)	Length (B)		
3/4" Bore Size (1 3/4" OD)—Force is 44 lbs.; Ports are 10-32				
1/2"	1.27"	1.77"	6212K313	$61.59
1"	1.77"	2.77"	6212K315	61.59
1 1/2"	2.27"	3.77"	6212K316	77.60
2"	2.77"	4.77"	6212K317	77.60
Other Stroke Lengths: 1/8", 1/4", 3/8", 5/8", 3/4", 7/8", 1 1/8", 1 1/4", 1 3/8"			6212K89	61.59

Stroke Lg.	Length (A)	Length (B)		
1 1/8" Bore Size (2 1/8" OD)—Force is 100 lbs.; Ports are 10-32				
1"	1.78"	2.78"	6212K325	$72.93
1 1/2"	2.28"	3.78"	6212K326	76.21
2"	2.78"	4.78"	6212K327	76.21
2 1/2"	3.28"	5.78"	6212K328	76.21
3"	3.78"	6.78"	6212K329	76.21
Other Stroke Lengths: 1/8", 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1 1/8", 1 1/4", 1 3/8"			6212K91	72.93

Stroke Lg.	Length (A)	Length (B)		
1 1/2" Bore Size (2 1/2" OD)—Force is 177 lbs.; Ports are 10-32				
1"	1.92"	2.92"	6212K335	$86.67
1 1/2"	2.42"	3.92"	6212K336	91.19
2"	2.92"	4.92"	6212K337	91.19
2 1/2"	3.42"	5.92"	6212K338	91.19
3"	3.92"	6.92"	6212K339	91.19
Other Stroke Lengths: 1/8", 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1 1/8", 1 1/4", 1 3/8"			6212K92	86.67

Other Bore Sizes

Bore Size	Force, lbs.	Port Size	Choose a Stroke Length	
2" (3 1/8" OD)	314	1/8 NPT	1/8", 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4", 1 3/8", 1 1/2", 2", 2 1/2", 3"	6212K885
2 1/2" (3 3/4" OD)	491	1/8 NPT	1/8", 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4", 1 3/8", 1 1/2", 2", 2 1/2", 3"	6212K886
3" (4 1/4" OD)	707	1/8 NPT	1/8", 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4", 1 3/8", 1 1/2", 2", 2 1/2", 3"	6212K97
4" (5 1/4" OD)	1,257	1/8 NPT	1/8", 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4", 1 3/8", 1 1/2", 2", 2 1/2", 3"	6212K98

Replacement Seal Kits—Choose a Bore Size: 3/4", 1 1/8", 1 1/2", 2", 2 1/2", 3", 4" 6212K882

Impact-Resistant Brass Round Body Air Cylinders

Not only are these cylinders repairable, thick walls make them impact resistant. All are double acting. Rod is 300 series stainless steel. Force is given at 100 psi. Ports are female.

Universal-mount cylinders have threads on both ends to mount in a fixed position or you can use the hole on the back end to pivot mount. They come with two nuts and a pivot pin with retaining rings. Max. pressure is 250 psi. Temperature range is 30° to 180° F.

Sensor-ready nose-mount cylinders have a magnetic piston so you can use them with a sensor (sold separately) to activate relays and controllers. They have threads and a nut on the rod end to mount in a fixed position horizontally or vertically. Max. pressure is 100 psi. Temperature range is 40° to 140° F.

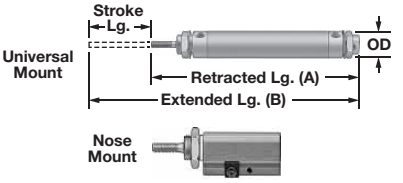

Universal Mount

Stroke Lg.	Length (A)	Length (B)		
9/16" Bore Size (0.69" OD)—Force is 20 lbs.; Ports are 1/16 NPT				
1"	5.97"	6.97"	7391K1	$42.29
2"	6.97"	8.97"	7391K2	42.29
3"	7.97"	10.97"	7391K3	42.29
4"	8.97"	12.97"	7391K4	42.29
5"	9.97"	14.97"	7391K5	42.29
6"	10.97"	16.97"	7391K6	42.29
7/8" Bore Size (1" OD)—Force is 60 lbs.; Ports are 1/8 NPT				
1"	5.91"	6.91"	7391K7	52.29
2"	6.91"	8.91"	7391K8	52.29
3"	7.91"	10.91"	7391K9	52.29
4"	8.91"	12.91"	7391K67	52.29
5"	9.91"	14.91"	7391K11	52.29

Universal Mount (Cont.)

Stroke Lg.	Length (A)	Length (B)		
7/8" Bore Size (1" OD)—Force is 60 lbs.; Ports are 1/8 NPT (Cont.)				
6"	10.91"	16.91"	7391K68	$52.29

Sensor Ready Nose Mount

Stroke Lg.	Length (A)	Length (B)		
1/4" Bore Size (0.65" OD)—Force is 4 lbs.; Ports are 10-32 UNF				
1/4"	2.07"	2.32"	59155K111	34.61
3/8"	2.2"	2.57"	59155K116	34.61
1/2"	2.31"	2.81"	59155K112	34.61
3/4"	2.57"	3.32"	59155K113	34.61
3/8" Bore Size (0.79" OD)—Force is 12 lbs.; Ports are 10-32 UNF				
1/4"	2.26"	2.51"	59155K121	38.99
3/8"	2.39"	2.76"	59155K126	38.99

Sensor Ready Nose Mount (Cont.)

Stroke Lg.	Length (A)	Length (B)		
3/8" Bore Size (0.79" OD)—Force is 12 lbs.; Ports are 10-32 UNF (Cont.)				
1/2"	2.5"	3"	59155K122	$38.99
3/4"	2.76"	3.52"	59155K123	38.99
1"	3.01"	4.01"	59155K124	38.99
1 1/4"	3.26"	4.51"	59155K125	38.99
5/8" Bore Size (0.97" OD)—Force is 32 lbs.; Ports are 10-32 UNF				
1/4"	2.32"	2.57"	59155K131	46.62
3/8"	2.45"	2.82"	59155K136	46.62
1/2"	2.56"	3.06"	59155K132	46.62
3/4"	2.82"	3.57"	59155K133	46.62
1"	3.07"	4.07"	59155K134	46.62
1 1/4"	3.32"	4.57"	59155K135	46.62

Attachments, Replacement Seal Kits, and Sensors

For Bore Size	Foot Brackets		Front Flanges		Rod Clevis with Pin		Replacement Seal Kits		5, 24, 100V AC/ 5, 12, 24, 100V DC Reed Sensor		100V AC/24V DC Reed Sensor with LED	
1/4"	59155K22	$1.81	59155K21	$1.81			59155K14	$6.71	59155K31	$11.48	59155K32	$16.54
3/8"	59155K24	1.81	59155K23	1.81			59155K15	4.36	59155K31	11.48	59155K32	16.54
9/16"	7391K13	2.70			7391K12	$5.86	7391K66	9.94				
5/8"	59155K26	1.81	59155K25	1.81			59155K16	8.26	59155K31	11.48	59155K32	16.54
7/8"	7391K14	3.01			7391K12	5.86	7391K65	10.96				

Compact Nonrotating Tie Rod Air Cylinders

These cylinders have two parallel piston rods that prevent the head from twisting as they extend and retract. They pack force into a smaller footprint than our other tie rod cylinders. Cylinders are double acting. Barrel and rod are 300 series stainless steel. Tie rods and end caps are aluminum. Force is given at 100 psi; max. pressure is 200 psi. Temperature range is 0° to 150° F. Ports are female. Cylinders have holes for mounting.

Sensor-ready cylinders have a magnetic piston that can activate relays and controllers when used with one or more sensors (sold separately).

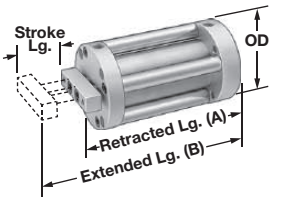

Sensor Ready

Stroke Lg.	Length (A)	Length (B)		
3/4" Bore Size (1.5" OD)—Force is 40 lbs.; Ports are 10-32 UNF				
1/4"	2.27"	2.52"	5036K101	$70.44
1/2"	2.52"	3.02"	5036K102	70.44
3/4"	2.77"	3.52"	5036K103	70.44
1"	3.02"	4.02"	5036K104	70.44
1 1/2"	3.52"	5.02"	5036K107	74.22
Other Stroke Lengths: 1 1/4", 1 3/4", 2", 2 1/4", 2 1/2", 2 3/4", 3", 3 1/4", 3 1/2", 3 3/4", 4"			5036K41	
1 1/16" Bore Size (2" OD)—Force is 90 lbs.; Ports are 1/8 NPT				
1/4"	2.64"	2.89"	5036K123	90.29
1/2"	2.89"	3.39"	5036K124	90.29
3/4"	3.14"	3.89"	5036K125	90.29

Stroke Lg.	Length (A)	Length (B)		
1 1/16" Bore Size (2" OD)—Force is 90 lbs.; Ports are 1/8 NPT (Cont.)				
1"	3.39"	4.39"	5036K126	$90.29
1 1/2"	3.89"	5.39"	5036K129	94.84
Other Stroke Lengths: 1 1/4", 1 3/4", 2", 2 1/4", 2 1/2", 2 3/4", 3", 3 1/4", 3 1/2", 3 3/4", 4"			5036K42	
1 1/2" Bore Size (2.63" OD)—Force is 170 lbs.; Ports are 1/8 NPT				
1/4"	2.76"	3.01"	5036K145	109.11
1/2"	3.01"	3.51"	5036K146	109.11
3/4"	3.26"	4.01"	5036K147	109.11
1"	3.51"	4.51"	5036K148	109.11
1 1/2"	4.01"	5.51"	5036K152	115.91

Stroke Lg.	Length (A)	Length (B)		
1 1/2" Bore Size (2.63" OD)—Force is 170 lbs.; Ports are 1/8 NPT (Cont.)				
Other Stroke Lengths: 1 1/4", 1 3/4", 2", 2 1/4", 2 1/2", 2 3/4", 3", 3 1/4", 3 1/2", 3 3/4", 4"			5036K43	
2" Bore Size (3.13" OD)—Force is 310 lbs.; Ports are 1/8 NPT				
1/4"	2.96"	3.21"	5036K167	$130.95
1/2"	3.21"	3.71"	5036K168	130.95
3/4"	3.46"	4.21"	5036K169	130.95
1"	3.71"	4.71"	5036K171	130.95
1 1/2"	4.21"	5.71"	5036K174	139.64
Other Stroke Lengths: 1 1/4", 1 3/4", 2", 2 1/4", 2 1/2", 2 3/4", 3", 3 1/4", 3 1/2", 3 3/4", 4"			5036K44	

Standard

These cylinders meet the same specifications as the cylinders above, except lengths (A) and (B) are 0.63" shorter. Prices are approximately 5-10% lower for the standard cylinders.

Choose a Bore Size	Choose a Stroke Length	
3/4", 1 1/16", 1 1/2", 2"	1/4", 1/2", 3/4", 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/4", 2 1/2", 2 3/4", 3", 3 1/4", 3 1/2", 3 3/4", 4"	5144K41

Sensors and Replacement Seal Kits

30V DC Sensors—Choose NPN or PNP Output — 4211K3 — $56.73

Replacement Seal Kits—Choose a Bore Size: 3/4", 1 1/16", 1 1/2", 2" — 5144K3

Compact Tie Rod Air Cylinders

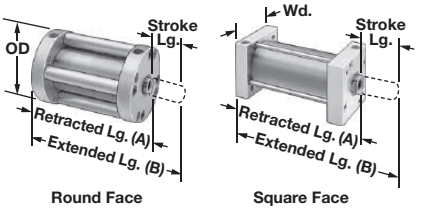

Get the power and stroke of other tie rod cylinders in less than half the space. Cylinders are double acting; they use air to exert force in both directions. Force is given at 100 psi. Max. pressure is 200 psi, except the 2½" to 4" bore size square-face cylinders have a max. pressure of 150 psi. Ports are female. The back end must be mounted against a solid surface.

Round and Square Face—Cylinders have a 300 series stainless steel barrel and rod, and aluminum end caps. Temperature range is 0° to 150° F. *Round-face* cylinders have aluminum tie rods. *Square-face* cylinders have 300 series stainless steel tie rods.

Sensor-ready cylinders have a magnetic piston that can trigger one or more sensors (sold separately) to activate relays and controllers.

Impact-Resistant Round Face—Cylinders have a high-strength plastic composite barrel that doesn't dent. They have a 300 series stainless steel rod, and aluminum tie rods and end caps. Temperature range is –25° to 221° F.

Round Face

Stroke Lg.	Sensor Ready Length (A)	Sensor Ready Length (B)			Standard Length (A)	Standard Length (B)		
9/16" Bore Size (1.12" OD)—Force is 25 lbs.; Ports are 10-32 UNF								
1/4"	1.82"	2.07"	4211K101	$46.89	0.94"	1.19"	4208K101	$40.60
1/2"	2.07"	2.57"	4211K102	46.89	1.19"	1.69"	4208K102	40.60
3/4"	2.32"	3.07"	4211K103	46.89	1.44"	2.19"	4208K103	40.60
1"	2.57"	3.57"	4211K104	46.89	1.69"	2.69"	4208K104	40.60
1 1/4"	2.82"	4.07"	4211K106	49.93	1.94"	3.19"	4208K106	43.64
Other stroke lengths from 1 1/2" to 4" in 1/4" increments. Please specify sensor ready or standard cylinders							4208K1	
3/4" Bore Size (1 1/2" OD)—Force is 40 lbs.; Ports are 10-32 UNF								
1/4"	1.82"	2.07"	4211K123	48.22	0.94"	1.19"	4208K123	41.93
1/2"	2.07"	2.57"	4211K124	48.22	1.19"	1.69"	4208K124	41.93
3/4"	2.32"	3.07"	4211K125	48.22	1.44"	2.19"	4208K125	41.93
1"	2.57"	3.57"	4211K126	48.22	1.69"	2.69"	4208K126	41.93
1 1/4"	2.82"	4.07"	4211K128	51.24	1.94"	3.19"	4208K128	44.96
Other stroke lengths from 1 1/2" to 4" in 1/4" increments. Please specify sensor ready or standard cylinders							4208K2	
1 1/16" Bore Size (2" OD)—Force is 90 lbs.; Ports are 1/8 NPT								
1/4"	2.14"	2.39"	4211K145	60.60	1.26"	1.51"	4208K145	54.31
1/2"	2.39"	2.89"	4211K146	60.60	1.51"	2.01"	4208K146	54.31
3/4"	2.64"	3.39"	4211K147	60.60	1.76"	2.51"	4208K147	54.31
1"	2.89"	3.89"	4211K148	60.60	2.01"	3.01"	4208K148	54.31
1 1/4"	3.14"	4.39"	4211K151	64.38	2.26"	3.51"	4208K151	58.09
Other stroke lengths from 1 1/2" to 4" in 1/4" increments. Please specify sensor ready or standard cylinders							4208K4	
1 1/2" Bore Size (2.62" OD)—Force is 170 lbs.; Ports are 1/8 NPT								
1/4"	2.14"	2.39"	4211K167	73.98	1.26"	1.51"	4208K167	64.71
1/2"	2.39"	2.89"	4211K168	73.98	1.51"	2.01"	4208K168	64.71
3/4"	2.64"	3.39"	4211K169	73.98	1.76"	2.51"	4208K169	64.71
1"	2.89"	3.89"	4211K171	73.98	2.01"	3.01"	4208K171	64.71
1 1/4"	3.14"	4.39"	4211K173	78.89	2.26"	3.51"	4208K173	69.64
Other stroke lengths from 1 1/2" to 4" in 1/4" increments. Please specify sensor ready or standard cylinders							4208K5	
2" Bore Size (3.12" OD)—Force is 310 lbs.; Ports are 1/8 NPT								
1/4"	2.2"	2.45"	4211K189	90.00	1.32"	1.57"	4208K189	74.64
1/2"	2.45"	2.95"	4211K191	90.00	1.57"	2.07"	4208K191	74.64
3/4"	2.7"	3.45"	4211K192	90.00	1.82"	2.57"	4208K192	74.64
1"	2.95"	3.95"	4211K193	90.00	2.07"	3.07"	4208K193	74.64
1 1/4"	3.2"	4.45"	4211K195	96.44	2.32"	3.57"	4208K195	81.07
Other stroke lengths from 1 1/2" to 4" in 1/4" increments. Please specify sensor ready or standard cylinders							4208K6	
2 1/2" Bore Size (3 3/4" OD)—Force is 500 lbs.; Ports are 1/4 NPT								
1/4"	2.45"	2.7"	4211K212	117.65	1.57"	1.82"	4208K212	94.73
1/2"	2.7"	3.2"	4211K213	117.65	1.82"	2.32"	4208K213	94.73
3/4"	2.95"	3.7"	4211K214	117.65	2.07"	2.82"	4208K214	94.73
1"	3.2"	4.2"	4211K215	117.65	2.32"	3.32"	4208K215	94.73
1 1/4"	3.45"	4.7"	4211K217	125.60	2.57"	3.82"	4208K217	102.67
Other stroke lengths from 1 1/2" to 4" in 1/4" increments. Please specify sensor ready or standard cylinders							4208K7	
3" Bore Size (4 1/4" OD)—Force is 700 lbs.; Ports are 1/4 NPT								
1/4"	2.51"	2.76"	4211K234	143.89	1.63"	1.88"	4208K234	116.29
1/2"	2.76"	3.26"	4211K235	143.89	1.88"	2.38"	4208K235	116.29
3/4"	3.01"	3.76"	4211K236	143.89	2.13"	2.88"	4208K236	116.29
1"	3.26"	4.26"	4211K237	143.89	2.38"	3.38"	4208K237	116.29
1 1/4"	3.51"	4.76"	4211K239	151.84	2.63"	3.88"	4208K239	124.24
Other stroke lengths from 1 1/2" to 4" in 1/4" increments. Please specify sensor ready or standard cylinders							4208K8	
30V DC Sensor—Choose NPN or PNP Output							4211K3	56.73
Replacement Seal Kits for Round-Face Cylinders— Choose a Bore Size: 9/16", 3/4", 1 1/16", 1 1/2", 2", 2 1/2", 3"							4208K3	

Square Face

Stroke Lg.	Sensor Ready Length (A)	Sensor Ready Length (B)			Standard Length (A)	Standard Length (B)		
3/4" Bore Size (1 1/4" Wd.)—Force is 40 lbs.; Ports are 10-32 UNF								
1/4"	1.88"	2.13"	6122K101	$60.78	1.13"	1.38"	6113K101	$53.88
1/2"	2.13"	2.63"	6122K102	60.78	1.38"	1.88"	6113K102	53.88
3/4"	2.38"	3.13"	6122K103	60.78	1.63"	2.38"	6113K103	53.88
1"	2.63"	3.63"	6122K104	60.78	1.88"	2.88"	6113K104	53.88
1 1/4"	2.88"	4.13"	6122K106	64.12	2.13"	3.38"	6113K106	57.20
Other stroke lengths from 1 1/2" to 4" in 1/4" increments. Please specify sensor ready or standard cylinders							6113K2	
1 1/16" Bore Size (1 1/2" Wd.)—Force is 90 lbs.; Ports are 1/8 NPT								
1/4"	2.13"	2.38"	6122K123	71.18	1.63"	1.88"	6113K123	64.28
1/2"	2.38"	2.88"	6122K124	71.18	1.88"	2.38"	6113K124	64.28
3/4"	2.63"	3.38"	6122K125	71.18	2.13"	2.88"	6113K125	64.28
1"	2.88"	3.88"	6122K126	71.18	2.38"	3.38"	6113K126	64.28
1 1/4"	3.13"	4.38"	6122K128	75.34	2.63"	3.88"	6113K128	68.44
Other stroke lengths from 1 1/2" to 4" in 1/4" increments. Please specify sensor ready or standard cylinders							6113K4	
1 1/2" Bore Size (2" Wd.)—Force is 170 lbs.; Ports are 1/8 NPT								
1/4"	2.26"	2.51"	6122K145	90.22	1.63"	1.88"	6113K145	80.14
1/2"	2.51"	3.01"	6122K146	90.22	1.88"	2.38"	6113K146	80.14
3/4"	2.76"	3.51"	6122K147	90.22	2.13"	2.88"	6113K147	80.14
1"	3.01"	4.01"	6122K148	90.22	2.38"	3.38"	6113K148	80.14
1 1/4"	3.26"	4.51"	6122K151	95.62	2.63"	3.88"	6113K151	85.54
Other stroke lengths from 1 1/2" to 4" in 1/4" increments. Please specify sensor ready or standard cylinders							6113K5	
2" Bore Size (2 1/2" Wd.)—Force is 310 lbs.; Ports are 1/8 NPT								
1/4"	2.32"	2.57"	6122K167	109.40	1.69"	1.94"	6113K167	92.50
1/2"	2.57"	3.07"	6122K168	109.40	1.94"	2.44"	6113K168	92.50
3/4"	2.82"	3.57"	6122K169	109.40	2.19"	2.94"	6113K169	92.50
1"	3.07"	4.07"	6122K171	109.40	2.44"	3.44"	6113K171	92.50
1 1/4"	3.32"	4.57"	6122K173	116.48	2.69"	3.94"	6113K173	99.58
Other stroke lengths from 1 1/2" to 4" in 1/4" increments. Please specify sensor ready or standard cylinders							6113K6	
2 1/2" Bore Size (3 1/4" Wd.)—Force is 500 lbs.; Ports are 1/4 NPT								
1/4"	2.92"	3.17"	6122K189	151.78	2.04"	2.29"	6113K189	128.02
1/2"	3.17"	3.67"	6122K191	151.78	2.29"	2.79"	6113K191	128.02
3/4"	3.42"	4.17"	6122K192	151.78	2.54"	3.29"	6113K192	128.02
1"	3.67"	4.67"	6122K193	151.78	2.79"	3.79"	6113K193	128.02
1 1/4"	3.92"	5.17"	6122K195	159.70	3.04"	4.29"	6113K195	135.92
Other stroke lengths from 1 1/2" to 4" in 1/4" increments. Please specify sensor ready or standard cylinders							6113K7	
3" Bore Size (3 3/4" Wd.)—Force is 700 lbs.; Ports are 1/4 NPT								
1/4"	2.97"	3.22"	6122K212	177.52	2.09"	2.34"	6113K212	148.82
1/2"	3.22"	3.72"	6122K213	177.52	2.34"	2.84"	6113K213	148.82
3/4"	3.47"	4.22"	6122K214	177.52	2.59"	3.34"	6113K214	148.82
1"	3.72"	4.72"	6122K215	177.52	2.84"	3.84"	6113K215	148.82
1 1/4"	3.97"	5.22"	6122K217	188.44	3.09"	4.34"	6113K217	157.56
Other stroke lengths from 1 1/2" to 4" in 1/4" increments. Please specify sensor ready or standard cylinders							6113K8	
4" Bore Size (5" Wd.)—Force is 1,250 lbs.; Ports are 3/8 NPT								
1/4"	3.26"	3.51"	6122K234	273.38	2.38"	2.63"	6113K234	244.58
1/2"	3.51"	4.01"	6122K235	273.38	2.63"	3.13"	6113K235	244.58
3/4"	3.76"	4.51"	6122K236	273.38	2.88"	3.63"	6113K236	244.58
1"	4.01"	5.01"	6122K237	273.38	3.13"	4.13"	6113K237	244.58
1 1/4"	4.26"	5.51"	6122K239	282.84	3.38"	4.63"	6113K239	254.04
Other stroke lengths from 1 1/2" to 4" in 1/4" increments. Please specify sensor ready or standard cylinders							6113K1	
30V DC Sensor—Choose NPN or PNP Output							4211K3	56.73
Replacement Seal Kits for Square-Face Cylinders— Choose a Bore Size: 3/4", 1 1/16", 1 1/2", 2", 2 1/2", 3", 4"							6113K3	

Impact-Resistant Round Face

These cylinders have the same dimensions as the round-face standard cylinders above, except the 1/2" bore size cylinders have the same dimensions as the 9/16" bore size round-face standard cylinders. Prices are approximately 5-10% higher for the impact-resistant round-face cylinders.

Choose a Bore Size	Choose a Stroke Length	
1/2", 3/4", 1 1/16", 1 1/2", 2", 2 1/2", 3"	1/8" to 4" in 1/8" increments	1691T4
Replacement Seal Kits—Choose a Bore Size: 1/2", 3/4", 1 1/16", 1 1/2", 2", 2 1/2", 3"		1691T6

Tie Rod Air Cylinders

Rods along the barrel of these cylinders secure the end caps and shield the barrel from impact. All are double acting; they use air to exert force in both directions. Force is given at 100 psi. Ports are female. Cylinders are repairable.

Standard cylinders with *3/4" and 1 1/8" bore sizes* have an aluminum body and steel end caps. Rod is 300 series stainless steel and tie rods are steel. Max. pressure is 150 psi and temperature range is 0° to 180° F. Cylinders with *1 1/4" to 4 1/2" bore sizes* have an aluminum body and end caps. Rod and tie rods are steel. Max. pressure is 250 psi and temperature range is 10° to 200° F.

Cushioned cylinders have adjustable air cushions that absorb piston impact to minimize wear and noise. Turn the screws to adjust the amount of cushion.

Sensor-ready cylinders have a magnetic piston so you can use them with sensors (sold separately) to activate relays and controllers.

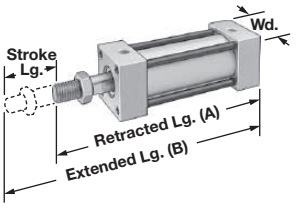

Standard

Stroke Lg.	Length (A)	Length (B)		
3/4" Bore Size (1" Wd.)—Force is 44 lbs.; Ports are 1/8 NPT				
1"	4.25"	5.25"	6453K112	$93.70
2"	5.25"	7.25"	6453K114	93.70
3"	6.25"	9.25"	6453K116	93.70
4"	7.25"	11.25"	6453K118	93.70
5"	8.25"	13.25"	6453K119	93.70
6"	9.25"	15.25"	6453K144	93.70
8"	11.25"	19.25"	6453K105	109.15
12"	15.25"	27.25"	6453K134	109.15
Other Stroke Lengths: 1/2", 3/4", 1" to 12" in 1/2" increments, 16", 18", 20"			6453K13	
1 1/8" Bore Size (1 1/2" Wd.)—Force is 99 lbs.; Ports are 1/8 NPT				
1"	4.25"	5.25"	6453K122	101.42
2"	5.25"	7.25"	6453K124	101.42
3"	6.25"	9.25"	6453K126	101.42
4"	7.25"	11.25"	6453K128	101.42
5"	8.25"	13.25"	6453K129	101.42
6"	9.25"	15.25"	6453K154	101.42
8"	11.25"	19.25"	6453K171	121.58
12"	15.25"	27.25"	6453K179	121.58
Other Stroke Lengths: 1/2", 3/4", 1" to 12" in 1/2" increments, 16", 18", 20", 24", 26", 28", 30", 32", 34", 36"			6453K15	
1 1/4" Bore Size (1 13/16" Wd.)—Force is 123 lbs.; Ports are 1/8 NPT				
1"	5.53"	6.53"	6491K121	91.20
2"	6.53"	8.53"	6491K122	91.20
3"	7.53"	10.53"	6491K123	91.20
4"	8.53"	12.53"	6491K124	91.20
5"	9.53"	14.53"	6491K125	91.20
6"	10.53"	16.53"	6491K126	91.20
8"	12.53"	20.53"	6491K421	112.40
12"	16.53"	28.53"	6491K128	112.40
Other Stroke Lengths: 1" to 16" in 1/2" increments and 16" to 36" in 1" increments			6491K921	
1 3/4" Bore Size (2 3/8" Wd.)—Force is 240 lbs.; Ports are 1/4 NPT				
1"	7.05"	8.05"	6491K141	$112.00
2"	8.05"	10.05"	6491K142	112.00
3"	9.05"	12.05"	6491K143	112.00
4"	10.05"	14.05"	6491K144	112.00
5"	11.05"	16.05"	6491K146	112.00
6"	12.05"	18.05"	6491K147	112.00
8"	14.05"	22.05"	6491K145	139.20
12"	18.05"	30.05"	6491K443	139.20
Other Stroke Lengths: 1" to 16" in 1/2" increments and 16" to 36" in 1" increments			6491K922	
2" Bore Size (2 3/8" Wd.)—Force is 314 lbs.; Ports are 1/4 NPT				
1"	7.05"	8.05"	6491K111	119.80
2"	8.05"	10.05"	6491K25	119.80
3"	9.05"	12.05"	6491K251	119.80
4"	10.05"	14.05"	6491K252	119.80
5"	11.05"	16.05"	6491K253	119.80
6"	12.05"	18.05"	6491K254	119.80
8"	14.05"	22.05"	6491K256	148.80
12"	18.05"	30.05"	6491K27	148.80
Other Stroke Lengths: 1" to 16" in 1/2" increments and 16" to 36" in 1" increments			6491K923	
2 1/2" Bore Size (2 7/8" Wd.)—Force is 491 lbs.; Ports are 3/8 NPT				
1"	7.05"	8.05"	6491K161	132.60
2"	8.05"	10.05"	6491K162	132.60
3"	9.05"	12.05"	6491K168	132.60
4"	10.05"	14.05"	6491K163	132.60
5"	11.05"	16.05"	6491K169	132.60
6"	12.05"	18.05"	6491K164	132.60
8"	14.05"	22.05"	6491K166	167.80
12"	18.05"	30.05"	6491K463	167.80
Other Stroke Lengths: 1" to 16" in 1/2" increments and 16" to 36" in 1" increments			6491K924	
3" Bore Size (3 3/8" Wd.)—Force is 707 lbs.; Ports are 3/8 NPT				
1"	7.05"	8.05"	6491K181	$174.20
2"	8.05"	10.05"	6491K182	174.20
3"	9.05"	12.05"	6491K183	174.20
4"	10.05"	14.05"	6491K184	174.20
5"	11.05"	16.05"	6491K187	174.20
6"	12.05"	18.05"	6491K185	174.20
8"	14.05"	22.05"	6491K186	215.40
12"	18.05"	30.05"	6491K483	215.40
Other Stroke Lengths: 1" to 16" in 1/2" increments and 16" to 36" in 1" increments			6491K925	
3 1/2" Bore Size (4 1/8" Wd.)—Force is 962 lbs.; Ports are 1/2 NPT				
1"	8.17"	9.17"	6491K216	196.40
2"	9.17"	11.17"	6491K217	196.40
3"	10.17"	13.17"	6491K218	196.40
4"	11.17"	15.17"	6491K219	196.40
5"	12.17"	17.17"	6491K211	196.40
6"	13.17"	19.17"	6491K212	196.40
8"	15.17"	23.17"	6491K214	223.27
12"	19.17"	31.17"	6491K215	223.27
Other Stroke Lengths: 1" to 16" in 1/2" increments and 16" to 36" in 1" increments			6491K926	
4 1/2" Bore Size (5 1/8" Wd.)—Force is 1,590 lbs.; Ports are 1/2 NPT				
1"	8.17"	9.17"	6491K234	241.27
2"	9.17"	11.17"	6491K235	241.27
3"	10.17"	13.17"	6491K236	241.27
4"	11.17"	15.17"	6491K231	241.27
5"	12.17"	17.17"	6491K237	241.27
6"	13.17"	19.17"	6491K232	241.27
8"	15.17"	23.17"	6491K238	295.64
12"	19.17"	31.17"	6491K433	295.64
Other Stroke Lengths: 1" to 16" in 1/2" increments and 16" to 36" in 1" increments			6491K927	

Cushioned

These cylinders have the same specifications as the standard cylinders above, except lengths (A) and (B) are 1" longer. Prices are approximately 10% higher for the cushioned cylinders.

Choose a Bore Size	Choose a Stroke Length	
1 1/4", 1 3/4", 2", 2 1/2", 3", 3 1/2", 4 1/2"	1" to 16" in 1/2" increments and 16" to 36" in 1" increments	6491K881

Sensor Ready

These cylinders have the same specifications as the standard cylinders above. Prices are approximately 5% higher for the sensor-ready cylinders.

Choose a Bore Size	Choose a Stroke Length	
3/4", 1 1/8", 1 1/4", 1 3/4", 2", 2 1/2", 3", 3 1/2", 4 1/2"	1" to 12" in 1/2" increments, 16", 18", 20", 24", 26", 28", 30", 32", 34", 36"	4917K695★

★ 3/4" and 1 1/8" bore sizes also have 1/2" and 3/4" stroke lengths. 3/4" bore size is not available in 24", 26", 28", 30", 32", 34", and 36" stroke lengths.

Attachments, Replacement Seal Kits, and Sensors

For Bore Size	Flange Bar Sets		Front Flanges		Rear Flanges		Pivot Brackets		Clevis Brackets with Pin		Rod Clevis with Pin	
3/4"			6453K31	$22.31	6453K41	$31.45	6453K51	$54.76	6453K61	$44.40	6453K63	$14.69
1 1/8"			6453K32	22.94	6453K42	45.70	6453K52	58.35	6453K62	47.84	6453K64	14.69
1 1/4"	6491K17	$24.96					6491K81	18.84	6491K71	20.99	6491K61	18.84
1 3/4"	6491K171	31.92					6491K82	21.60	6491K72	24.96	6491K801	22.40
2"	6491K172	35.04					6491K179	22.07	6491K177	25.80	6491K63	23.52
2 1/2"	6491K173	36.72					6491K83	24.00	6491K73	27.49	6491K63	23.52
3"	6491K174	38.76							6491K74	36.54	6491K63	23.52
3 1/2"	6491K175	40.68					6491K85	35.28	6491K75	44.06	6491K64	33.32
4 1/2"	6491K176	61.80					6491K86	44.16	6491K76	48.75	6491K64	33.32

Replacement Seal Kits for Standard and Sensor-Ready Cylinders—Choose a Bore Size: 1 1/4", 1 3/4", 2", 2 1/2", 3", 3 1/2", 4 1/2" — 6491K941

Replacement Seal Kits for Cushioned Cylinders—Choose a Bore Size: 1 1/4", 1 3/4", 2", 2 1/2", 3", 3 1/2", 4 1/2" — 6491K951

10-30V DC Reed Sensors—Choose a Bore Size: 3/4", 1 1/8" — 6453K881 $63.76

5-240V AC/DC Reed Sensor for 1 1/4", 1 3/4", 2", 2 1/2", 3", 3 1/2", 4 1/2" bore sizes — 4917K692 68.80

NFPA Tie Rod Air Cylinders

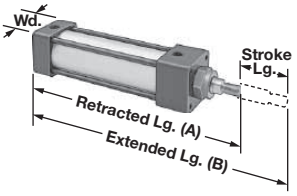

Made to fit the most common mounting footprint, these cylinders have an NFPA (National Fluid Power Association) industry-standard footprint, ensuring easy interchangeability. They have a magnetic piston so you can use sensors (sold separately) to activate relays and controllers. All are double acting; they use air to exert force in both directions. Force is given at 100 psi; max. pressure is 250 psi. Temp. range is –20° to 200° F. Ports are female. Cylinders are repairable.

Standard cylinders have an aluminum body and end caps. Rod and tie rods are steel.

Cushioned cylinders have adjustable air cushions that absorb piston impact to minimize wear and noise. Turn the screws to adjust the amount of cushion. *Standard cushioned* cylinders have an aluminum body and end caps. Rod and tie rods are steel. *Washdown cushioned* cylinders have an all-stainless steel exterior to withstand wet and corrosive environments. Body, end caps, rod, and tie rods are 300 series stainless steel.

Standard

1½″ Bore Size (2″ Wd.)—Force is 177 lbs.; Ports are ¼ NPT

Stroke Lg.	Length (A)	Length (B)		
1″	6.38″	7.38″	6211K751	$138.96
2″	7.38″	9.38″	6211K752	138.96
3″	8.38″	11.38″	6211K753	138.96
4″	9.38″	13.38″	6211K754	138.96
5″	10.38″	15.38″	6211K755	150.64
6″	11.38″	17.38″	6211K756	150.64
8″	13.38″	21.38″	6211K758	150.64
12″	17.38″	29.38″	6211K475	170.20
Other stroke lengths from 1″ to 15″ in ½″ increments and 16″ to 30″ in 1″ increments			6211K911	

2″ Bore Size (2½″ Wd.)—Force is 314 lbs.; Ports are ¼ NPT

Stroke Lg.	Length (A)	Length (B)		
1″	6.38″	7.38″	6211K761	156.50
2″	7.38″	9.38″	6211K762	156.50
3″	8.38″	11.38″	6211K763	156.50
4″	9.38″	13.38″	6211K764	156.50
5″	10.38″	15.38″	6211K765	169.66
6″	11.38″	17.38″	6211K766	169.66
8″	13.38″	21.38″	6211K768	169.66
12″	17.38″	29.38″	6211K476	191.62
Other stroke lengths from 1″ to 15″ in ½″ increments and 16″ to 30″ in 1″ increments			6211K912	

2½″ Bore Size (3″ Wd.)—Force is 491 lbs.; Ports are ¼ NPT

Stroke Lg.	Length (A)	Length (B)		
1″	6.5″	7.5″	6211K771	$167.67
2″	7.5″	9.5″	6211K772	167.67
3″	8.5″	11.5″	6211K773	167.67
4″	9.5″	13.5″	6211K774	167.67
5″	10.5″	15.5″	6211K775	182.12
6″	11.5″	17.5″	6211K776	182.12
8″	13.5″	21.5″	6211K778	182.12
12″	17.5″	29.5″	6211K477	206.31
Other stroke lengths from 1″ to 15″ in ½″ increments and 16″ to 30″ in 1″ increments			6211K913	

3¼″ Bore Size (3¾″ Wd.)—Force is 830 lbs.; Ports are ½ NPT

Stroke Lg.	Length (A)	Length (B)		
1″	8″	9″	6211K781	204.17
2″	9″	11″	6211K782	204.17
3″	10″	13″	6211K783	204.17
4″	11″	15″	6211K784	204.17
5″	12″	17″	6211K785	226.23
6″	13″	19″	6211K786	226.23
8″	15″	23″	6211K788	226.23
12″	19″	31″	6211K478	229.35
Other stroke lengths from 1″ to 15″ in ½″ increments and 16″ to 30″ in 1″ increments			6211K914	

4″ Bore Size (4½″ Wd.)—Force is 1,257 lbs.; Ports are ½ NPT

Stroke Lg.	Length (A)	Length (B)		
1″	8″	9″	6211K791	$210.43
2″	9″	11″	6211K792	210.43
3″	10″	13″	6211K793	210.43
4″	11″	15″	6211K794	210.43
5″	12″	17″	6211K795	228.25
6″	13″	19″	6211K796	228.25
8″	15″	23″	6211K798	228.25
12″	19″	31″	6211K479	252.06
Other stroke lengths from 1″ to 15″ in ½″ increments and 16″ to 30″ in 1″ increments			6211K915	

6″ Bore Size (6½″ Wd.)—Force is 2,827 lbs.; Ports are ¾ NPT

Stroke Lg.	Length (A)	Length (B)		
1″	9.25″	10.25″	6211K362	547.38
2″	10.25″	12.25″	6211K364	547.38
3″	11.25″	14.25″	6211K366	547.38
4″	12.25″	16.25″	6211K368	547.38
5″	13.25″	18.25″	6211K371	602.71
6″	14.25″	20.25″	6211K373	602.71
8″	16.25″	24.25″	6211K383	602.71
12″	20.25″	32.25″	6211K392	657.95
Other stroke lengths from 1″ to 15″ in ½″ increments and 16″ to 30″ in 1″ increments			6211K916	

Cushioned

Standard cushioned cylinders have the same dimensions as the cylinders above. *Washdown cushioned* cylinders have the same dimensions as the cylinders above, except lengths (A) and (B) are up to ¾″ longer. Prices are approximately three times higher.

	Choose a Bore Size	Choose a Stroke Length	
Standard Cushioned	1½″, 2″, 2½″, 3¼″, 4″, 6″	2″ to 15″ in ½″ increments, 16″, 18″, 20″, 22″, 24″, 26″, 28″, 30″, 32″, 34″, 36″	6258K881
Washdown Cushioned	1½″, 2″, 2½″, 3¼″, 4″, 6″	2″ to 12″ in 2″ increments, 16″, 18″, 20″, 24″, 28″	6751K881

Attachments, Replacement Seal Kits, and Sensors






For Bore Size	For Standard and Standard Cushioned Cylinders: Front or Rear Flanges		Pivot Brackets		Clevis Brackets with Pin		Rod Clevis with Pin		Replacement Seal Kits: Standard		Standard Cushioned		Washdown Cushioned	
1½″	6211K1	$19.91	6211K6	$20.26	6211K55	$20.69	6211K65	$23.57	6211K15	$16.87	6258K711	$39.96	6751K811	$89.76
2″	6211K2	19.91	6211K7	22.47	6211K56	24.48	6211K65	23.57	6211K16	17.59	6258K712	43.14	6751K812	93.18
2½″	6211K3	26.95	6211K8	27.40	6211K57	29.04	6211K65	23.57	6211K17	19.30	6258K713	45.42	6751K813	94.86
3¼″	6211K4	40.00	6211K9	41.20	6211K58	40.82	6211K66	38.53	6211K18	20.56	6258K714	57.48	6751K814	102.78
4″	6211K5	43.81	6211K11	44.97	6211K59	46.63	6211K66	38.53	6211K19	23.04	6258K715	63.06	6751K815	105.48
6″	6211K441	61.28	6211K444	169.60	6211K442	108.54	6211K443	103.40	6211K901	88.60	6258K716	89.64	6751K817	125.46

5-240V AC/DC Reed Sensors for Standard Cylinders—Choose a Bore Size: 1½″, 2″, 2½″, 3¼″, 4″, 6″ 6211K97

120V AC/DC Reed Sensors for Cushioned Cylinders—Choose a Bore Size: 1½″, 2″, 2½″, 3¼″, 4″, 6″ 6258K78 $45.67

Nonrotating NFPA Tie Rod Air Cylinders

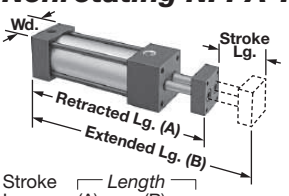

Cylinders have two parallel piston rods that prevent twisting as they extend and retract. Made to fit the most common mounting footprint, these cylinders have an NFPA (National Fluid Power Association) industry-standard footprint, ensuring easy interchangeability. They have a magnetic piston so you can use them with sensors (sold separately) to activate relays and controllers.

Cylinders are double acting; they use air to exert force in both directions. Barrel and end caps are aluminum and rods and tie rods are steel. Force is given at 100 psi. Max. pressure is 250 psi, except cylinders with a 1⅛″ bore size have a max. pressure of 150 psi. Temperature range is –20° to 200° F. Ports are female. Cylinders are repairable.

1⅛″ Bore Size (1½″ Wd.)—Force is 99 lbs.; Ports are ⅛ NPT

Stroke Lg.	Length (A)	Length (B)		
1″	4.75″	5.75″	6648K911	$238.28
2″	5.75″	7.75″	6648K912	238.28
3″	6.75″	9.75″	6648K913	238.28
6″	9.75″	15.75″	6648K915	287.34
Other Stroke Lengths: 4″, 5″, 7″, 8″, 9″, 10″, 11″, 12″			6648K91	

1½″ Bore Size (2″ Wd.)—Force is 177 lbs.; Ports are ¼ NPT

Stroke Lg.	Length (A)	Length (B)		
1″	6.5″	7.5″	6648K125	$307.48
2″	7.5″	9.5″	6648K121	307.48
3″	8.5″	11.5″	6648K122	307.48
6″	11.5″	17.5″	6648K124	370.07
Other Stroke Lengths: 4″, 5″, 7″, 8″, 9″, 10″, 11″, 12″			6648K92	

2″ Bore Size (2½″ Wd.)—Force is 314 lbs.; Ports are ¼ NPT

Stroke Lg.	Length (A)	Length (B)		
1″	6.5″	7.5″	6648K135	$337.09
2″	7.5″	9.5″	6648K131	337.09
3″	8.5″	11.5″	6648K132	337.09
6″	11.5″	17.5″	6648K134	415.65
Other Stroke Lengths: 4″, 5″, 7″, 8″, 9″, 10″, 11″, 12″			6648K93	

(Continued on following page)

Nonrotating NFPA Tie Rod Air Cylinders *(Continued from previous page)*

Stroke Lg.	Length (A)	Length (B)		
2½" Bore Size (3" Wd.)—Force is 491 lbs.; Ports are ¼ NPT				
1"	6.88"	7.88"	6648K145	$391.28
2"	7.88"	9.88"	6648K141	391.28
2½" Bore Size (3" Wd.)—Force is 491 lbs.; Ports are ¼ NPT (Cont.)				
3"	8.88"	11.88"	6648K142	$391.28
6"	11.88"	17.88"	6648K144	468.91
2½" Bore Size (3" Wd.)—Force is 491 lbs.; Ports are ¼ NPT (Cont.)				
Other Stroke Lengths:				
4", 5", 7", 8", 9", 10", 11", 12"			6648K94	

Attachments, Replacement Seal Kits, and Sensor








For Bore Size	Foot Bracket Sets		Front Flanges		Rear Flanges		Pivot Brackets with Pin		Clevis Brackets with Pin		Replacement Seal Kits		5-120V AC/DC Reed Sensor	
1⅛"	6648K31	$13.41	6648K41	$19.98	6648K21	$21.06	6648K61	$27.29	6648K51	$30.39	6648K25	$60.21	6648K78	$41.13
1½"	6648K32	15.18	6648K42	25.86	6648K22	30.40	6648K62	35.65	6648K52	36.55	6648K26	45.92	6648K78	41.13
2"	6648K33	17.40	6648K43	28.92	6648K23	33.66	6648K63	42.40	6648K53	40.21	6648K27	54.96	6648K78	41.13
2½"	6648K34	18.59	6648K44	30.29	6648K24	32.46	6648K64	43.35	6648K54	40.84	6648K28	67.35	6648K78	41.13

Enclosed-Body Tie Rod Air Cylinders

An extruded-aluminum body means these cylinders have no open spaces for debris to collect. They're cushioned to absorb piston impact to minimize wear and noise, and have a magnetic piston so you can use them with sensors (sold separately) to activate relays and controllers. All are double acting; they use air to exert force in both directions. Body and end caps are aluminum. Force is given at 100 psi. Ports are female.

Standard cushioned cylinders have a screw at each port so you can adjust the amount of cushion. They have an NFPA (National Fluid Power Association) industry-standard footprint for easy interchangeability. Cylinders are repairable. *Inch sizes* have a steel rod. Max. pressure is 200 psi. Temperature range is 0° to 160° F. *Metric sizes* have a 431 stainless steel rod. Max. pressure is 145 psi. Temp. range is –4° to 175° F.

Self-adjusting cushioned cylinders have dynamic cushions that automatically adjust the amount of cushion based on changes in load and speed. Rod is steel. Max pressure is 174 psi. Temp. range is –4° to 176° F.

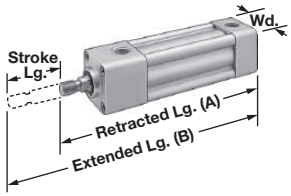

Standard Cushioned—Inch Sizes

Stroke Lg.	Length (A)	Length (B)		
1½" Bore Size (2" Wd.)—Force is 176 lbs.; Ports are ⅜ NPT				
1"	6.41"	7.41"	6402T111	$172.83
2"	7.41"	9.41"	6402T112	172.83
3"	8.41"	11.41"	6402T113	172.83
6"	11.41"	17.41"	6402T122	191.09
12"	17.41"	29.41"	6402T134	213.72
Other Stroke Lengths:				
4", 5", 7", 8", 9", 10", 11"			6402T75	
2" Bore Size (2½" Wd.)—Force is 314 lbs.; Ports are ⅜ NPT				
1"	6.41"	7.41"	6402T141	193.35
2"	7.41"	9.41"	6402T142	193.35
3"	8.41"	11.41"	6402T143	193.35
2" Bore Size (2½" Wd.)—Force is 314 lbs.; Ports are ⅜ NPT (Cont.)				
6"	11.41"	17.41"	6402T152	$212.94
12"	17.41"	29.41"	6402T164	241.32
Other Stroke Lengths:				
4", 5", 7", 8", 9", 10", 11"			6402T76	
2½" Bore Size (3" Wd.)—Force is 490 lbs.; Ports are ⅜ NPT				
1"	6.53"	7.53"	6402T171	207.51
2"	7.53"	9.53"	6402T172	207.51
3"	8.53"	11.53"	6402T173	207.51
6"	11.53"	17.53"	6402T182	229.44
12"	17.53"	29.53"	6402T194	241.46
2½" Bore Size (3" Wd.)—Force is 490 lbs.; Ports are ⅜ NPT (Cont.)				
Other Stroke Lengths:				
4", 5", 7", 8", 9", 10", 11"			6402T77	
3¼" Bore Size (3¾" Wd.)—Force is 829 lbs.; Ports are ½ NPT				
1"	7.75"	8.75"	6402T211	$243.90
2"	8.75"	10.75"	6402T212	243.90
3"	9.75"	12.75"	6402T213	243.90
6"	12.75"	18.75"	6402T222	256.64
12"	18.75"	30.75"	6402T234	292.02
Other Stroke Lengths:				
4", 5", 7", 8", 9", 10", 11"			6402T78	

Standard Cushioned—Metric Sizes

Stroke Lg., mm	Length, mm (A)	Length, mm (B)		
32 mm Bore Size (46.5 mm Wd.)—Force is 125 lbs.; Ports are ⅛ BSPP				
25	171	196	60405K111	$147.45
50	196	246	60405K112	147.45
100	246	346	60405K114	147.45
150	296	446	60405K124	147.45
Other stroke lengths from 75 mm to 300 mm in 25 mm increments			60405K51	
40 mm Bore Size (53 mm Wd.)—Force is 195 lbs.; Ports are ¼ BSPP				
25	188	213	60405K211	$159.96
50	213	263	60405K212	159.96
100	263	363	60405K214	159.96
150	313	463	60405K133	159.96
Other stroke lengths from 75 mm to 300 mm in 25 mm increments			60405K52	
63 mm Bore Size (75 mm Wd.)—Force is 483 lbs.; Ports are ⅜ BSPP				
25	219	244	60405K411	$216.93
50	244	294	60405K412	216.93
100	294	394	60405K414	216.93
150	344	494	60405K139	216.93
Other stroke lengths from 75 mm to 300 mm in 25 mm increments			60405K53	

Self-Adjusting Cushioned—Metric Sizes

These cylinders have the same dimensions as the metric cylinders above, except lengths (A) and (B) are 5 mm shorter.

Choose a Bore Size	Choose a Stroke Length	
32 mm, 40 mm, 63 mm	25 mm to 500 mm in 25 mm increments	1000N881

Attachments, Replacement Seal Kits, and Sensors






For Bore Size	Pivot Brackets		Clevis Brackets with Pin		Rod Clevis with Pin		Replacement Seal Kits		6-24V DC Solid State NPN Sensors		12-60V DC Reed Sensor	
For Standard Cushioned												
1½"	6402T31	$16.12	6402T41	$18.96	6402T51	$25.07	6402T71	$76.60	6402T61	$95.67		
2"	6402T32	16.58	6402T42	20.02	6402T51	25.07	6402T72	70.82	6402T61	95.67		
2½"	6402T33	18.96	6402T43	21.78	6402T51	25.07	6402T73	71.69	6402T61	95.67		
3¼"	6402T34	43.67	6402T44	49.20	6402T52	47.92	6402T74	99.14	6402T62	95.69		
32 mm	60405K91	24.16	60405K71	28.30	60405K81	8.11	60405K19	38.86			60405K31	$66.70
40 mm	60405K92	24.60	60405K72	32.04	60405K82	10.77	60405K21	57.90			60405K31	66.70
63 mm	60405K94	35.62	60405K74	48.86	60405K84	22.36	60405K22	52.95			60405K31	66.70
For Self-Adjusting Cushioned												
32 mm	1000N313	64.51	1000N312	27.62	1000N311	8.95						
40 mm	1000N323	71.98	1000N322	29.00	1000N321	12.62						
63 mm	1000N333	95.98	1000N332	45.29	1000N331	21.83						

Rod Alignment Couplers



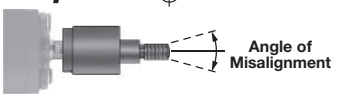

Increase cylinder life by fixing alignment problems between air or hydraulic cylinders and driven components. Couplers have a threaded end that moves to compensate for the angle of misalignment, reducing wear on cylinder bearings and seals. Couplers have a male and female end.

Inch Sizes

Thread Size	Overall Dia.	Overall Lg.	Max. Pull Force, lbs.		
1° of Misalignment—Steel					
1/4"-28	7/8"	1 7/8"	4,000	6460T1	$44.34
3/8"-16	7/8"	1 7/8"	5,000	6460T2	44.34
1/2"-13	1 1/4"	2 3/4"	14,000	6460T3	52.94
1"-8	2 1/2"	4 9/16"	64,000	6460T4	159.03
1 3/8"-12	2 1/2"	4 9/16"	64,000	6460T5	185.71
1° of Misalignment—316 Stainless Steel					
1/4"-28	1 1/8"	2 1/4"	1,000	1101K1	68.89
5/16"-24	1 1/8"	2 1/4"	1,800	1101K2	82.20
3/8"-24	1 1/8"	2 1/4"	2,900	1101K3	88.20
7/16"-20	1 1/4"	2 3/4"	4,000	1101K4	107.56
1/2"-20	1 1/4"	2 3/4"	5,500	1101K5	107.56
5/8"-18	1 1/4"	2 3/4"	7,000	1101K6	114.60
3/4"-16	1 3/4"	3 7/16"	10,300	1101K7	141.65
1"-14	2 1/2"	4 9/16"	15,000	1101K8	222.16
2° of Misalignment—Steel					
5/16"-24	7/8"	2"	8,300	6184K41	29.83
3/8"-24	7/8"	2"	8,300	6184K42	29.83
7/16"-20	1 1/4"	2 3/4"	10,000	6184K43	35.69
1/2"-20	1 1/4"	2 3/4"	14,000	6184K44	35.69
5/8"-18	1 1/4"	2 3/4"	19,000	6184K45	35.69
3/4"-10	1 3/4"	3 1/2"	34,000	6184K51	57.66
3/4"-16	1 3/4"	3 1/2"	34,000	6184K46	57.66
7/8"-14	1 3/4"	3 1/2"	39,000	6184K47	57.66
1"-14	2 1/2"	4 7/16"	64,000	6184K48	105.30
1 1/4"-12	2 1/2"	4 7/16"	78,000	6184K49	110.12
2° of Misalignment—303 Stainless Steel					
10-32	7/8"	2"	500	6732K11	52.34
1/4"-28	7/8"	2"	1,100	6732K12	52.34
5/16"-24	7/8"	2"	2,800	6732K13	52.34
3/8"-24	7/8"	2"	2,800	6732K17	52.34
7/16"-20	1 1/4"	2 3/4"	3,400	6732K14	56.53
1/2"-20	1 1/4"	2 3/4"	4,700	6732K15	56.53
5/8"-18	1 1/4"	2 3/4"	5,200	6732K18	56.53
3/4"-10	1 3/4"	3 1/2"	11,500	6732K19	95.37
3/4"-16	1 3/4"	3 1/2"	11,500	6732K16	95.37
7/8"-14	1 3/4"	3 1/2"	11,700	6732K21	95.37
1"-14	2 1/2"	4 7/16"	17,600	6732K22	161.33
1 1/4"-12	2 1/2"	4 7/16"	19,500	6732K23	163.72
5° of Misalignment—Nickel-Plated Brass					
5-40	0.47"	1.2"	110	7334K1	13.16
6-40	0.47"	1.2"	140	7334K2	16.45
10-32	0.63"	1.79"	250	7334K3	19.60
5° of Misalignment—Steel					
1/4"-28	0.94"	1.88"	760	7334K4	27.72
5/16"-24	0.94"	1.88"	1,200	7334K5	40.60
3/8"-24	1.56"	2 1/4"	9,700	6418T1	43.59
7/16"-20	1.22"	2.58"	2,600	7334K6	48.79
1/2"-20	1.61"	2.86"	3,500	7334K7	48.79
5/8"-18	2 1/8"	3.44"	28,600	6418T2	74.07
3/4"-16	1.97"	4.04"	8,500	7334K8	65.03
7/8"-14	2 1/8"	3.44"	57,800	6418T3	74.07
1"-14	2 3/4"	4.69"	77,700	6418T4	101.41
1 1/4"-12	3 1/2"	6"	123,300	6418T5	157.12
1 1/2"-12	4"	6 5/8"	183,000	6418T6	218.26
1 3/4"-12	4"	6 5/8"	233,400	6418T7	218.26
1 7/8"-12	5"	8 5/8"	270,200	6418T8	330.53
2"-12	5"	8 5/8"	309,800	6418T9	330.53
2 1/4"-12	6 3/4"	9 7/8"	397,000	6418T11	676.10

Metric Sizes

Thread Size	Overall Dia., mm	Overall Lg., mm	Max. Pull Force, lbs.		
2° of Misalignment—Steel					
M10 x 1.25	22.2	50.8	5,300	6740K1	$48.76
M12 x 1.25	31.8	69.9	12,000	6740K2	48.76
M16 x 1.5	31.8	69.9	14,000	6740K3	73.06
M20 x 1.5	44.5	88.9	29,000	6740K4	73.06
5° of Misalignment—304 Stainless Steel					
M4 x 0.7	14.4	26	17	1101K21	65.00
M5 x 0.8	19	34.5	47	1101K22	77.47
M8 x 1.25	24.8	43.9	247	1101K23	97.38
M10 x 1.25	29	49.5	562	1101K24	104.00
M14 x 1.5	38.4	60	1,348	1101K25	120.60
M18 x 1.5	49.2	74.5	2,472	1101K26	148.26

Thin-Profile Flexible-Mount Nonrotating Air Cylinders

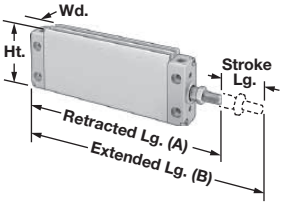

Mount these cylinders wherever you need them—cylinders have holes on each side and the front, and attachments (sold separately) to provide many mounting options. Also nonrotating, these cylinders have a round piston rod that prevents twisting as it extends and retracts. Piston is magnetic, so you can use these cylinders with sensors (sold separately) to activate relays and controllers.

Cylinders are double acting; they use air to exert force in both directions. Body and end caps are aluminum, and rod is 300 series stainless steel. Force is given at 100 psi; max. pressure is 145 psi. Temperature range is 0° to 176°F. Ports are female. Cylinders are not repairable.

Stroke Lg.	Length (A)	Length (B)	Wd.	Ht.		
1/2" Bore Size—Force is 20 lbs.; Ports are 10-32 UNF						
1"	4.3"	5.3"	0.6"	1 1/2"	6861K111	$167.13
1 1/2"	4.8"	6.3"	0.6"	1 1/2"	6861K701	167.13
2"	5.3"	7.3"	0.6"	1 1/2"	6861K112	167.13
3"	6.3"	9.3"	0.6"	1 1/2"	6861K113	167.13
6"	9.3"	15.3"	0.6"	1 1/2"	6861K212	176.04
Other stroke lengths from 2 1/2" to 8 1/2" in 1/2" increments					6861K81	
11/16" Bore Size—Force is 37 lbs.; Ports are 10-32 UNF						
1"	4.5"	5.5"	0.6"	1.9"	6861K115	173.76
1 1/2"	5"	6.5"	0.6"	1.9"	6861K119	173.76
2"	5.5"	7.5"	0.6"	1.9"	6861K116	173.76
3"	6.5"	9.5"	0.6"	1.9"	6861K117	173.76
6"	9.5"	15.5"	0.6"	1.9"	6861K124	183.10
Other stroke lengths from 2 1/2" to 8 1/2" in 1/2" increments					6861K82	
1" Bore Size—Force is 79 lbs.; Ports are 10-32 UNF						
1"	4.7"	5.7"	0.8"	2.2"	6861K131	187.30
1 1/2"	5.2"	6.7"	0.8"	2.2"	6861K705	187.30
2"	5.7"	7.7"	0.8"	2.2"	6861K132	187.30
3"	6.7"	9.7"	0.8"	2.2"	6861K133	187.30
6"	9.7"	15.7"	0.8"	2.2"	6861K232	197.60
12"	15.7"	27.7"	0.8"	2.2"	6861K159	208.26
Other stroke lengths from 2 1/2" to 12 1/2" in 1/2" increments					6861K83	
1 1/4" Bore Size—Force is 123 lbs.; Ports are 1/8 NPT						
1"	5"	6"	0.9"	2.6"	6861K141	200.88
1 1/2"	5.5"	7"	0.9"	2.6"	6861K709	200.88
2"	6"	8"	0.9"	2.6"	6861K142	200.88
3"	7"	10"	0.9"	2.6"	6861K143	200.88
6"	10"	16"	0.9"	2.6"	6861K242	212.96
12"	16"	28"	0.9"	2.6"	6861K146	225.50
Other stroke lengths from 2 1/2" to 12 1/2" in 1/2" increments					6861K84	
1 5/8" Bore Size—Force is 207 lbs.; Ports are 1/8 NPT						
1"	5.2"	6.2"	1.2"	3.2"	6861K151	216.54
1 1/2"	5.7"	7.2"	1.2"	3.2"	6861K713	216.54
2"	6.2"	8.2"	1.2"	3.2"	6861K152	216.54
3"	7.2"	10.2"	1.2"	3.2"	6861K153	216.54
6"	10.2"	16.2"	1.2"	3.2"	6861K252	230.83
12"	16.2"	28.2"	1.2"	3.2"	6861K354	249.55
Other stroke lengths from 2 1/2" to 12 1/2" in 1/2" increments					6861K85	
2" Bore Size—Force is 314 lbs.; Ports are 1/4 NPT						
1"	5.9"	6.9"	1 1/2"	4"	6861K161	240.17
1 1/2"	6.4"	7.9"	1 1/2"	4"	6861K717	240.17
2"	6.9"	8.9"	1 1/2"	4"	6861K162	240.17
3"	7.9"	10.9"	1 1/2"	4"	6861K163	240.17
6"	10.9"	16.9"	1 1/2"	4"	6861K262	256.31
12"	16.9"	28.9"	1 1/2"	4"	6861K364	279.72
Other stroke lengths from 2 1/2" to 12 1/2" in 1/2" increments					6861K86	
2 1/2" Bore Size—Force is 491 lbs.; Ports are 1/4 NPT						
1"	5.9"	6.9"	2"	5"	6861K171	281.73
1 1/2"	6.4"	7.9"	2"	5"	6861K721	281.73
2"	6.9"	8.9"	2"	5"	6861K172	281.73
3"	7.9"	10.9"	2"	5"	6861K173	281.73
6"	10.9"	16.9"	2"	5"	6861K272	301.31
12"	16.9"	28.9"	2"	5"	6861K374	331.22
Other stroke lengths from 2 1/2" to 12 1/2" in 1/2" increments					6861K87	

Attachments and Sensor


Front or Rear Flange


Pivot Bracket

For Bore Size	Front or Rear Flanges		Pivot Brackets	
1/2"	6861K41	$28.76	6861K51	$20.28
11/16"	6861K42	29.98	6861K52	24.40
1"	6861K43	31.34	6861K53	25.00
1 1/4"	6861K44	33.36	6861K54	26.38
1 5/8"	6861K45	39.88	6861K55	30.56
2"	6861K46	46.24	6861K56	35.32
2 1/2"	6861K47	73.42	6861K57	41.26
12-30V DC Reed Sensor			6861K64	32.72

Short-Stroke Clamping Air Cylinders

Also known as air clamps, these cylinders are used to apply force in holding applications. All are single acting, push style—air extends the rod and a spring returns the rod to its original position. Body is aluminum and rod is steel. Max. pressure is 150 psi. Temperature range is –40° to 250°F. Port is 1/8 NPT female. Cylinders are not repairable.

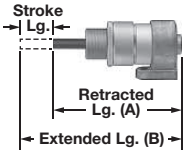

Bore Size	Stroke Lg.	Force, lbs. @ 100 psi	Vertical Mount: Length (A)	Vertical Mount: Length (B)	Vertical Mount: O'all Wd.			Horizontal Mount: Length (A)	Horizontal Mount: Length (B)	Horizontal Mount: O'all Wd.		
1"	1 1/16"	68	2.63"	3.31"	2 1/8"	62185K65	$30.93	2.78"	3.47"	2"	62185K64	$30.93
1"	0"-1" (Adjustable)	62	3.81"	4.81"	2"	62185K21	68.34	4"	5"	2 1/8"	62185K11	68.34
1"	1"-2" (Adjustable)	62	4.81"	6.81"	2"	62185K22	78.84	5"	7"	2 1/8"	62185K12	78.81

Flexible-Mount Air Cylinders

Threaded through-holes in each corner allow you to mount these cylinders directly to equipment or mount with attachments (sold separately). All have a magnetic piston so you can use them with sensors (sold separately) to activate relays and controllers. Cylinders are double acting; they use air to exert force in both directions. Body is aluminum and rod is 300 series stainless steel. Force is given at 100 psi. Ports are female. Cylinders are repairable.

Standard cylinders have a max. pressure of 145 psi. Temperature range is 14° to 140°F.

Nonrotating cylinders have two parallel piston rods that prevent twisting as they extend and retract. Max. pressure is 150 psi. Temperature range is –25° to 250°F.

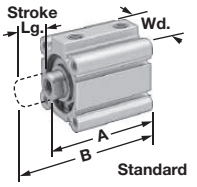



Standard

Stroke Lg.	Retracted Length (A)	Extended Length (B)		
1/2" Bore Size (0.98" Wd.)—Force is 17 lbs.; Ports are M5 threads				
1/4"	1.62"	1.87"	62245K111	$38.62
1/2"	1.8"	2.3"	62245K114	38.62
3/4"	1.98"	2.73"	62245K15	38.62
1"	2.23"	3.23"	62245K16	38.62
Other Stroke Lengths: 3/16" to 1 3/16" in 1/16" increments			62245K921	
3/4" Bore Size (1.42" Wd.)—Force is 49 lbs.; Ports are M5 threads				
1/4"	1.79"	2.04"	62245K126	43.35
1/2"	1.98"	2.48"	62245K129	43.35
3/4"	2.15"	2.9"	62245K25	43.35
1"	2.4"	3.4"	62245K26	43.35
Other Stroke Lengths: 3/16" to 1 3/16" in 1/16" increments, 1 1/4", 1 1/2", 1 3/4", 2"			62245K922	
1" Bore Size (1.57" Wd.)—Force is 76 lbs.; Ports are M5 threads				
1/4"	1.85"	2.1"	62245K148	47.58
1/2"	2.04"	2.54"	62245K153	47.58
3/4"	2.21"	2.96"	62245K35	47.58
1"	2.46"	3.46"	62245K36	47.58
Other Stroke Lengths: 3/16" to 1 3/16" in 1/16" increments, 1 1/4", 1 1/2", 1 3/4", 2"			62245K923	
1 1/4" Bore Size (1.77" Wd.)—Force is 125 lbs.; Ports are 1/8 NPT				
1/4"	1.95"	2.2"	62245K173	61.66
1/2"	2.14"	2.64"	62245K177	61.66
3/4"	2.32"	3.07"	62245K182	61.66
1"	2.57"	3.57"	62245K186	61.66
Other Stroke Lengths: 3/16" to 1 3/16" in 1/16" increments, and 1 1/4" to 3" in 1/4" increments			62245K924	
2" Bore Size (2.52" Wd.)—Force is 304 lbs.; Ports are 1/4 NPT				
1/4"	2.28"	2.53"	62245K229	96.67
1/2"	2.47"	2.97"	62245K234	96.67
3/4"	2.66"	3.41"	62245K44	96.67
1"	2.91"	3.91"	62245K45	96.67
Other Stroke Lengths: 3/16" to 1 3/16" in 1/16" increments, and 1 1/4" to 3" in 1/4" increments			62245K925	
3 1/4" Bore Size (3.86" Wd.)—Force is 779 lbs.; Ports are 3/8 NPT				
1/4"	2.88"	3.13"	62245K305	131.40
1/2"	3.06"	3.56"	62245K308	131.40
3/4"	3.25"	4"	62245K54	131.40
1"	3.5"	4.5"	62245K55	131.40
Other Stroke Lengths: 3/16" to 1 3/16" in 1/16" increments, and 1 1/4" to 3" in 1/4" increments			62245K926	

Nonrotating

Stroke Lg.	Retracted Length (A)	Extended Length (B)		
1/2" Bore Size (0.98" Wd.)—Force is 17 lbs.; Ports are 10-32 UNF				
1/4"	1.73"	1.98"	6277T82	$90.02
1/2"	1.98"	2.48"	6277T86	90.02
3/4"	2.23"	2.98"	6277T91	90.02
1"	2.48"	3.48"	6277T95	90.02
Other Stroke Lengths: 3/16" to 1 1/16" in 1/16" increments			6277T31	
3/4" Bore Size (1.42" Wd.)—Force is 49 lbs.; Ports are 10-32 UNF				
1/4"	1.94"	2.19"	6277T151	109.86
1/2"	2.19"	2.69"	6277T155	109.86
3/4"	2.44"	3.19"	6277T159	109.86
1"	2.69"	3.69"	6277T164	109.86
Other Stroke Lengths: 3/16" to 1 1/16" in 1/16" increments, 1 1/4", 1 1/2", 1 3/4"			6277T32	
1" Bore Size (1.57" Wd.)—Force is 76 lbs.; Ports are 10-32 UNF				
1/4"	2.06"	2.31"	6277T219	119.22
1/2"	2.31"	2.81"	6277T224	119.22
3/4"	2.56"	3.31"	6277T228	119.22
1"	2.81"	3.81"	6277T233	119.22
Other Stroke Lengths: 3/16" to 1 1/16" in 1/16" increments, 1 1/4", 1 1/2", 1 3/4", 2"			6277T33	
1 1/4" Bore Size (1.75" Wd.)—Force is 125 lbs.; Ports are 1/8 NPT				
1/4"	2.15"	2.4"	6277T288	140.34
1/2"	2.4"	2.9"	6277T293	140.34
3/4"	2.65"	3.4"	6277T297	140.34
1"	2.9"	3.9"	6277T302	140.34
Other Stroke Lengths: 3/16" to 1 1/16" in 1/16" increments, 1 1/4", 1 1/2", 1 3/4", 2"			6277T34	
2" Bore Size (2.51" Wd.)—Force is 304 lbs.; Ports are 1/4 NPT				
1/4"	2.64"	2.89"	6277T357	176.28
1/2"	2.89"	3.39"	6277T362	176.28
3/4"	3.14"	3.89"	6277T366	176.28
1"	3.39"	4.39"	6277T371	176.28
Other Stroke Lengths: 3/16" to 1 1/16" in 1/16" increments, 1 1/4", 1 1/2", 1 3/4", 2"			6277T35	
3 1/4" Bore Size (3.85" Wd.)—Force is 779 lbs.; Ports are 3/8 NPT				
1/4"	3.3"	3.55"	6277T495	260.04
1/2"	3.55"	4.05"	6277T499	260.04
3/4"	3.8"	4.55"	6277T504	260.04
1"	4.05"	5.05"	6277T508	260.04
Other Stroke Lengths: 3/16" to 1 1/16" in 1/16" increments, 1 1/4", 1 1/2", 1 3/4", 2"			6277T36	

Attachments, Replacement Seal Kits, and Sensors







For Bore Size	Foot Brackets		Front or Rear Flanges		Clevis Brackets with Pin		*Replacement Seal Kits* Standard		*Replacement Seal Kits* Nonrotating	
1/2"	62245K71	$5.86	62245K77	$5.19	62245K83	$5.19	62245K911	$6.13	6277T51	$5.67
3/4"	62245K72	7.19	62245K78	6.37	62245K84	6.37	62245K912	7.01	6277T52	5.93
1"	62245K73	8.47	62245K79	7.50	62245K85	7.50	62245K913	7.42	6277T53	6.13
1 1/4"	62245K98★■	8.08	62245K18	8.08	62245K96	8.08	62245K914	7.97	6277T54	6.80
2"	62245K74★■	9.13	62245K8	9.13	62245K86	9.13	62245K915	10.55	6277T55	9.93
3 1/4"	62245K75★■	20.97	62245K81	20.97	62245K87	20.97	62245K917	15.87	6277T57	14.20

Sensors for Standard—Choose a reed sensor or 24V DC solid state sensor.
For reed, please specify 24/48/100V AC/DC or 24/100V DC with LED. For solid state, please specify NPN or PNP output 62245K9

Sensors for Nonrotating—Choose a 5-120V AC/DC reed sensor or 5-28V DC solid state sensor.
For solid state, please specify NPN or PNP output 6277T7

★ Sold individually; two are required. ■ For standard cylinders only.

Rodless Air Slides

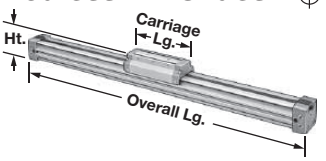

With no external moving parts, these air slides provide a long stroke, but have a static footprint—only the carriage on top moves. They have a magnetic piston so you can use them with sensors (sold separately) to activate relays and controllers. Slides are double acting; they use air to exert force in both directions. Force is given at 100 psi; max. pressure is 115 psi. Ports are female. Slides are repairable.

Standard slides have adjustable air cushions that absorb piston impact to minimize wear and noise. Turn the screws to adjust the amount of cushion. Barrel, end caps, and slide are aluminum.

Low-profile slides have a shorter height than standard slides to fit in tight locations. Barrel is aluminum and end caps and carriage are plastic.

Standard—Temperature range is –22° to 176° F

1″ Bore Size (2.66″ Ht.)—Force is 76 lbs.; Max. load is 133 lbs.; Ports are 1/8 NPT

Stroke Lg.	O'all Lg.	Carriage Lg.		
2″	9.88″	5.12″	59675K732	$375.50
4″	11.88″	5.12″	59675K734	375.50
6″	13.88″	5.12″	59675K736	375.50
12″	19.88″	5.12″	59675K133	375.50
24″	31.88″	5.12″	59675K236	441.57
36″	43.88″	5.12″	59675K213	533.67
60″	67.88″	5.12″	59675K563	646.70

Other stroke lengths from 1″ to 48″ in 1″ increments, and 72″ ... 59675K71

1¼″ Bore Size (3.23″ Ht.)—Force is 124 lbs.; Max. load is 176 lbs.; Ports are 1/4 NPT

Stroke Lg.	O'all Lg.	Carriage Lg.		
2″	11.44″	6.3″	59675K742	529.15
4″	13.44″	6.3″	59675K744	529.15
6″	15.44″	6.3″	59675K746	529.15
12″	21.44″	6.3″	59675K143	529.15
24″	33.44″	6.3″	59675K246	663.55
36″	45.44″	6.3″	59675K223	806.76

1¼″ Bore Size (3.23″ Ht.)—Force is 124 lbs.; Max. load is 176 lbs.; Ports are 1/4 NPT (Cont.)

Stroke Lg.	O'all Lg.	Carriage Lg.		
60″	69.44″	6.3″	59675K573	$997.78

Other stroke lengths from 1″ to 48″ in 1″ increments, and 72″ ... 59675K72

1½″ Bore Size (3.84″ Ht.)—Force is 195 lbs.; Max. load is 360 lbs.; Ports are 1/4 NPT

Stroke Lg.	O'all Lg.	Carriage Lg.		
2″	13.82″	8.46″	59675K752	641.15
4″	15.82″	8.46″	59675K754	641.15
6″	17.82″	8.46″	59675K756	641.15
12″	23.82″	8.46″	59675K153	641.15
24″	35.82″	8.46″	59675K256	786.15
36″	47.82″	8.46″	59675K323	953.36

Other stroke lengths from 1″ to 48″ in 1″ increments, 60″, and 72″ ... 59675K81

2″ Bore Size (4.59″ Ht.)—Force is 305 lbs.; Max. load is 450 lbs.; Ports are 3/8 NPT

Stroke Lg.	O'all Lg.	Carriage Lg.		
2″	16.18″	9.84″	59675K762	880.95
4″	18.18″	9.84″	59675K764	$880.95
6″	20.18″	9.84″	59675K766	880.95
12″	26.18″	9.84″	59675K163	880.95
24″	38.18″	9.84″	59675K266	997.15
36″	50.18″	9.84″	59675K343	1,227.56

Other stroke lengths from 1″ to 48″ in 1″ increments, 60″, and 72″ ... 59675K82

2½″ Bore Size (5.39″ Ht.)—Force is 483 lbs.; Max. load is 721 lbs.; Ports are 1/2 NPT

Stroke Lg.	O'all Lg.	Carriage Lg.		
2″	18.92″	12.6″	59675K772	1,060.12
4″	20.92″	12.6″	59675K774	1,060.12
6″	22.92″	12.6″	59675K776	1,060.12
12″	28.92″	12.6″	59675K173	1,060.12
24″	40.92″	12.6″	59675K276	1,221.73
36″	52.92″	12.6″	59675K363	1,504.42

Other stroke lengths from 1″ to 48″ in 1″ increments, 60″, and 72″ ... 59675K91

Low Profile—Temperature range is 32° to 140° F

5/8″ Bore Size (1.02″ Ht.)—Force is 31 lbs.; Max. load is 9 lbs.; Ports are 10-32 UNF

Stroke Lg.	O'all Lg.	Carriage Lg.		
2″	6.41″	2.64″	2738T12	$258.12
4″	8.41″	2.64″	2738T14	258.12
6″	10.41″	2.64″	2738T16	258.12
12″	16.41″	2.64″	2738T113	258.12
24″	28.41″	2.64″	2738T213	310.83
36″	40.41″	2.64″	2738T313	363.54

5/8″ Bore Size (1.02″ Ht.)—Force is 31 lbs.; Max. load is 9 lbs.; Ports are 10-32 UNF (Cont.)

Other stroke lengths from 1″ to 36″ in 1″ increments ... 2738T71

1″ Bore Size (1.38″ Ht.)—Force is 76 lbs.; Max. load is 27 lbs.; Ports are 1/8 NPT

Stroke Lg.	O'all Lg.	Carriage Lg.		
2″	7.98″	3.74″	2738T42	$349.93
4″	9.98″	3.74″	2738T44	349.93
6″	11.98″	3.74″	2738T46	$349.93
12″	17.98″	3.74″	2738T413	349.93
24″	29.98″	3.74″	2738T513	420.91
36″	41.98″	3.74″	2738T613	491.93

Other stroke lengths from 1″ to 36″ in 1″ increments ... 2738T72

Attachments, Replacement Seal Kits, and Sensors


End Brackets


Center Brackets

For Bore Size	End Brackets Standard		Center Brackets Standard		Center Brackets Low Profile		Replacement Seal Kits Standard		Replacement Seal Kits Low Profile	
5/8″					2738T314	$25.52			2738T123	$50.14
1″	59675K83	$29.59	59675K93	$34.87	2738T614	28.80	59675K324	$67.80	2738T456	66.63
1¼″	59675K84	29.76	59675K94	41.49			59675K325	72.34		
1½″	59675K85	32.98	59675K95	50.36			59675K326	74.49		
2″	59675K86	39.02	59675K96	60.71			59675K327	82.11		
2½″	59675K87	45.41	59675K97	74.45			59675K328	95.70		

10-240V AC/10-170V DC Reed Sensor with LED for Standard Air Slides ... 59675K329 ... 27.42

85-115V AC/5-28V DC Reed Sensor for Low-Profile Air Slides ... 2738T114 ... 12.92

Air Slides

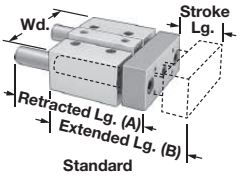

Standard


Adjustable Stroke Length

Convenient for use with devices such as grippers and printing heads, these air slides have a nonrotating head that provides steady motion and a large mounting area. Air slides have two guide rods parallel to the piston that keep the head from twisting as it extends and retracts. They have a magnetic piston so you can use them with sensors (sold separately) to activate relays and controllers. All are double acting; they use air to exert force in both directions. Body is aluminum and rods are 300 series stainless steel. Force is given at 100 psi. Ports are female.

Standard air slides have a max. pressure of 150 psi. Temperature range is –20° to 180° F. Air slides are repairable.

Adjustable stroke length air slides have adjustable shaft collars on the guide rods so you can fine-tune the stroke length based on changes in your application. Max. pressure is 250 psi. Temperature range is –10° to 165° F. Air slides are not repairable.

Standard

3/8″ Bore Size (1.61″ Wd.)—Force is 12 lbs.; Max. load is 1 lb.; Ports are 10-32 UNF

Stroke Lg.	Length (A)	Length (B)		
1/2″	3.07″	3.07″	6311K12	$300.23
1″	4.07″	4.07″	6311K15	300.23
1½″	5.22″	5.22″	6311K21	300.23

1/2″ Bore Size (2.24″ Wd.)—Force is 24 lbs.; Max. load is 2 lbs.; Ports are 10-32 UNF

Stroke Lg.	Length (A)	Length (B)		
1/2″	3.5″	3.5″	6311K13	298.12
1″	4.5″	4.5″	6311K16	298.12
1½″	5.65″	5.65″	6311K22	298.12

Standard (Cont.)

3/4″ Bore Size (3″ Wd.)—Force is 49 lbs.; Max. load is 6 lbs.; Ports are 1/8 NPT

Stroke Lg.	Length (A)	Length (B)		
1″	5.37″	5.37″	6311K17	$327.75
2″	7.37″	7.37″	6311K23	327.75
3″	9.37″	9.37″	6311K25	327.75

1¼″ Bore Size (3.94″ Wd.)—Force is 125 lbs.; Max. load is 12 lbs.; Ports are 1/8 NPT

Stroke Lg.	Length (A)	Length (B)		
1″	6.15″	6.15″	6311K18	406.36
2″	8.15″	8.15″	6311K24	406.36
3″	10.15″	10.15″	6311K26	406.36

Adjustable Stroke Length

3/4″ Bore Size (4.06″ Wd.)—Force is 44 lbs.; Max. load is 14 lbs.; Ports are 1/8 NPT

Stroke Lg.	Length (A)	Length (B)		
1″	6.68″	6.78″	6350T211	$526.62
2″	7.68″	8.78″	6350T212	526.62
3″	8.68″	10.78″	6350T213	526.62
6″	11.68″	16.78″	6350T222	556.32
8″	13.68″	20.78″	6350T224	556.32
12″	17.68″	28.78″	6350T234	585.87

Other Stroke Lengths: 4″, 5″, 7″, 9″, 10″, 11″ ... 6350T81

Replacement Seal Kits and Sensors

Replacement Seal Kits for Standard Air Slides—Choose a Bore Size: 3/8″, 1/2″, 3/4″, 1¼″ ... 6311K881

4.5-30V DC Reed Sensor with LED for Standard Air Slides ... 6311K33 ... $95.14

5-120V AC/DC Reed Sensor with LED for Adjustable Stroke Length Air Slides ... 6350T25 ... 76.08

Hydraulic Pressure Regulators

Control pressure in a hydraulic line by redirecting excess pressure back into your hydraulic reservoir. These regulators have a cast iron body and 1/4 NPT pressure gauge port. Maximum temperature is 158° F. Ports are female.



Port Size, NPT	Max. Flow, gpm	Max. Pressure, psi	Regulating Range, psi	Lg.	Wd.	Ht.		
3/8	13.2	3,000	100-1,000	5 7/8"	3 1/4"	6 1/8"	9474T11	$220.93
3/8	13.2	3,000	500-2,000	5 7/8"	3 1/4"	6 1/8"	9474T12	220.93
3/8	13.2	3,000	1,000-3,000	5 7/8"	3 1/4"	6 1/8"	9474T13	220.93
3/4	33	3,000	100-1,000	5 7/8"	3 3/4"	7 1/8"	9474T21	298.74
3/4	33	3,000	500-2,000	5 7/8"	3 3/4"	7 1/8"	9474T22	298.74
3/4	33	3,000	1,000-3,000	5 7/8"	3 3/4"	7 1/8"	9474T23	298.74

Color-Set Adjustable Flow Control Valves

Five colored rings on the valve stem represent different flow rates. Adjust the knob until you see the color of the flow rate you need. Ports are female. Note: NPTF threads (Dryseal) are compatible with NPT threads.

Valves **for air and hydraulic systems** are brass. Valves **for hydraulic systems** are steel.

Flow control valves regulate flow rate in both directions. **Flow control valves with check valve** regulate flow rate in the flow-control direction (inlet to outlet) and let air or fluid flow freely in the other direction. Note: Flow control valves do not regulate pressure.



Flow Control Valve



Flow Control Valve with Check Valve

Inlet/Outlet Port Size	Max. Flow, gpm	Lg.	Wd.	Ht.	For Air and Hydraulic Systems (Lower Pressures) Max. Pressure, psi			For Hydraulic Systems (Higher Pressures) Max. Pressure, psi		
Flow Control Valves										
1/8 NPTF	3	1 1/2"	1 3/4"	3"	2,000	1042K24	$198.41	5,000	1042K25	$121.25
1/4 NPTF	5	2"	2"	3 7/8"	2,000	1042K26	188.96	5,000	1042K27	92.91
3/8 NPTF	8	2 1/2"	2 1/2"	4 3/8"	2,000	1042K29	214.16	5,000	1042K31	135.42
1/2 NPTF	15	2 5/8"	3 1/4"	5 3/4"	2,000	1042K33	308.64	5,000	1042K34	165.34
3/4 NPTF	25	3 1/4"	3 7/8"	6 3/8"	—	—	—	5,000	1042K36	272.42
7/16"-20 UN/UNF	3	2"	1 3/4"	3 1/4"	—	—	—	5,000	1042K28	162.19
9/16"-18 UN/UNF	5	2 3/8"	2"	4"	—	—	—	5,000	1042K32	135.42
3/4"-16 UN/UNF	8	3"	2 1/2"	4 7/8"	—	—	—	5,000	1042K35	291.32
1 1/16"-12 UN/UNF	25	4"	3 7/8"	6 3/8"	—	—	—	5,000	1042K37	360.08
Flow Control Valves with Check Valve										
1/8 NPTF	3	2"	3/4"	1 3/4"	2,000	1042K11	56.09	5,000	1042K12	54.48
1/4 NPTF	5	2 5/8"	7/8"	2"	2,000	1042K13	56.09	5,000	1042K14	50.61
3/8 NPTF	8	2 3/4"	1"	2 1/2"	2,000	1042K15	72.12	5,000	1042K16	58.39
1/2 NPTF	15	3 1/2"	1 1/4"	3"	2,000	1042K17	104.15	5,000	1042K18	81.76
3/4 NPTF	25	3 7/8"	1 1/2"	3 5/8"	2,000	1042K19	164.24	3,000	1042K21	120.68
1 NPTF	40	5"	1 7/8"	5 1/8"	500	1042K22	623.13	3,000	1042K23	311.41
7/16"-20 UN/UNF	3	2 3/4"	7/8"	1 7/8"	—	—	—	5,000	1042K38	141.72
9/16"-18 UN/UNF	5	3 1/8"	1"	2 1/4"	—	—	—	5,000	1042K39	116.53
3/4"-16 UN/UNF	8	3 1/2"	1 1/8"	2 5/8"	2,000	1042K42	264.55	5,000	1042K41	155.89
7/8"-14 UN/UNF	15	4"	1 1/4"	3"	—	—	—	5,000	1042K43	214.16
1 1/16"-12 UN/UNF	25	4 5/8"	1 1/2"	3 5/8"	—	—	—	3,000	1042K44	226.75
1 5/16"-12 UN/UNF	40	5 5/8"	2 1/4"	5 5/8"	—	—	—	3,000	1042K45	673.61

Hand-Operated Hydraulic Directional Control Valves

Control hydraulic flow with a pull on the hand lever. A spring returns the valve to its original position once you let go of the lever. They're 4-way valves for use with double-acting cylinders. Body is cast iron and ports are female.



No. of Ports	Positions No.	Positions Center	Port Size, NPT	Max. Flow, gpm	Max. Pressure, psi	Lg.	Wd.	Ht.		
4	2	—	3/8	25	3,000	6 7/8"	2 7/8"	10"	4393T1	$148.98
4	3	Closed	3/8	25	3,000	6 7/8"	2 7/8"	10"	4393T2	148.98

Build-Your-Own Solenoid Hydraulic Directional Control Valves

Valves require a base or manifold (sold separately). Control these electrically operated valves remotely or use them in an automated system. They're 4-way valves for use with double-acting cylinders. All have a cast iron body and IP65-rated conduit terminal. They operate on 120 volts AC.

Valves conform to NFPA D03 or D05 mounting patterns (also known as ISO sizes 3 and 5). D03 trade-size valves draw 33.5 watts of power and D05 trade-size valves draw 38 watts of power.

Single-solenoid valves move into position when electrical current is supplied; a spring returns the valves to their original position once current is removed.

Double-solenoid valves move into position when electrical current is supplied to the first solenoid and to another position when current is supplied to the second solenoid. A spring returns the valves to their original position once current is removed.

For information about directional control valves, see page 1033.

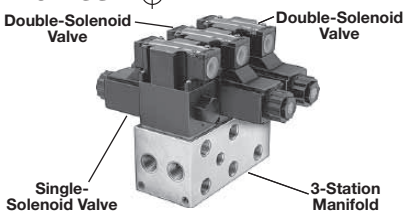

Valves—To Order: For double-solenoid valves, please specify center position: closed or exhaust.

Trade Size	No. of Ports	No. of Positions	Max. Flow, gpm	Max. Pressure, psi		
Single Solenoid						
D03	4	2	16.8	4,500	49995K123	$146.34
D05	4	2	23.8	4,500	49995K113	207.32
Double Solenoid						
D03	4	3	16.8	4,500	49995K37	$182.93
D05	4	3	26.4	4,500	49995K57	241.46

Single Station Bases and Manifolds—To Order: For manifolds, please specify number of stations: 2 or 3.

Ports are female. Use **single station bases** to mount a single valve. Bases are cast iron. **Manifolds** allow you to have a single hydraulic source and tank connection for multiple valves. Manifolds are aluminum.

For Trade Size	Single Station Bases Port Size			Manifolds Port Size		
D03	3/8 NPT	49995K751	$48.78	1/4, 3/8, 1/2 NPTF	49995K28	$110.60
D05	1/2 NPT	49995K851	85.37	1/4, 1/2, 3/4 NPTF	49995K99	181.65

Hydraulic Cylinders

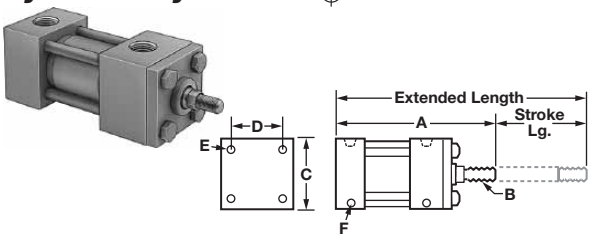

For easy interchangeability, these cylinders comply with NFPA (National Fluid Power Association) footprints. They're double acting—they have two hydraulic pressure ports: one to extend in the "push" direction and another to retract in the "pull" direction. Ports are female. Cylinders have steel end caps and a chrome-plated steel piston rod.

Large-Footprint Cylinders—Also meet JIC (Joint Industrial Congress) industry standard mounting footprints. They have a heavy-wall steel body. Maximum pressure is 2,500 psi. Temperature range is –10° to 165°F.

Medium-Footprint Cylinders—Have NFPA MS4-type tapped mounting holes and a brass body. Maximum pressure is 1,500 psi for the cylinder with a 1½" bore size and 1,200 psi for the cylinder with a 2" bore size. Temperature range is 0° to 165°F.

Large-Footprint Cylinders

Bore Size	Max. Push Force, lbs.	Max. Pull Force, lbs.	Port Size, NPT	Retracted Lg. (A)	Thread (B) Size	Lg.	(C)	(D)	(E)		Choose a Stroke Length 1", 2", 3", 4"	5", 6", 7", 8"	9", 10", 11", 12"
1½"	4,425	3,650	½	6⅜"+Stroke Lg.	7/16"-20	¾"	2½"	1⅝"	⅜"-24	62205K72	$341.17	$365.10	$401.02
2"	7,850	5,900	½	7⅛"+Stroke Lg.	¾"-16	1⅛"	3"	2 3/64"	½"-20	62205K82	402.91	435.14	483.50
2½"	12,275	10,325	½	7¼"+Stroke Lg.	¾"-16	1⅛"	3½"	2 35/64"	½"-20	62205K69	454.52	491.83	547.83
3¼"	20,750	17,050	¾	8¾"+Stroke Lg.	1"-14	1⅝"	4½"	3¼"	⅝"-18	62205K43	630.59	683.07	761.79
4"	31,425	25,400	¾	9⅝"+Stroke Lg.	1¼"-12	2"	5"	3 53/64"	⅝"-18	62205K59	789.69	857.07	958.05

Medium-Footprint Cylinders

Bore Size	Max. Push Force, lbs.	Max. Pull Force, lbs.	Port Size, NPT	Retracted Lg. (A)	Thread (B) Size	Lg.	(C)	(D)	(F)		Choose a Stroke Length 1", 2", 3", 4"	5", 6", 7", 8"	12"
1½"	2,655	2,196	⅜	5⅝"+Stroke Lg.	7/16"-20	¾"	2"	1 7/16"	¼"-20	1351T31	$371.23	$415.48	$463.87
2"	3,768	3,396	⅜	5 1/16"+Stroke Lg.	7/16"-20	¾"	2½"	1 27/32"	5/16"-18	1351T51	441.77	480.75	535.42

Attachments—Made of steel, except all clevis brackets and pivot brackets for 3¼" dia. and larger shafts are cast iron.








Fits Bore Size	Front/Rear Flanges		Side Lug Sets		Clevis Brackets with Pivot Pin		Rod Clevises ★		Pivot Brackets ★ ■		Pivot Pins	
For Large-Footprint Cylinders												
1½"	62205K16	$36.96	62205K17	$151.13	62205K18	$65.26	62205K19	$12.53	62205K14	$20.88	62205K12	$13.06
2"	62205K26	40.92	62205K27	184.71	62205K28	91.70	62205K29	20.07	62205K24	41.58	62205K22	16.26
2½"	62205K36	57.24	62205K37	201.53	62205K38	91.70	62205K29	20.07	62205K24	41.58	62205K22	16.26
3¼"	62205K46	101.64	62205K47	251.89	62205K48	132.96	62205K39	35.07	62205K34	67.17	62205K32	23.90
4"	62205K56	235.13	62205K57	277.07	62205K58	181.09	62205K49	61.38	62205K44	83.76	62205K42	33.94
For Medium-Footprint Cylinders												
1½", 2"							6742K92	38.52	1351T21	44.96	6742K94	8.76

★ Pivot pin is not included; order separately. ■ Designed for use with rod clevis; does not mount to cylinder back.

Compact Hydraulic Cylinders


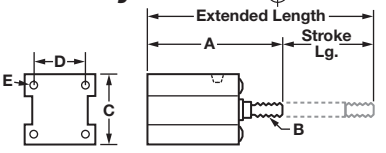

When space is limited, choose these small-footprint cylinders. They're double acting—they have two hydraulic pressure ports: one to extend in the "push" direction and another to retract in the "pull" direction. Ports are female. Cylinders have an aluminum body and chrome-plated steel piston rod. Maximum pressure is 2,320 psi. Temperature range is 14° to 140°F.

Bore Size	Max. Push Force, lbs.	Max. Pull Force, lbs.	Port Size, NPT	Retracted Lg. (A)	Thread (B) Size	Lg.	(C)	(D)	(E)		Choose a Stroke Length 1"	2"	3"
1"	1,762	1,209	⅛	2⅞"+ Stroke Lg.	⅜"-24	⅝"	2"	1 27/64"	7/32"	1304K5	$154.84	$165.41	$155.51
1½"	4,517	3,101	¼	4⅛"+ Stroke Lg.	7/16"-20	⅞"	2¾"	2 3/64"	11/32"	1304K6	223.28	239.27	255.26
2"	7,060	4,845	¼	4½"+ Stroke Lg.	¾"-16	1⅛"	3¼"	2 9/32"	7/16"	1304K7	274.69	296.11	317.53

Miniature Hydraulic Cylinders


Cylinder

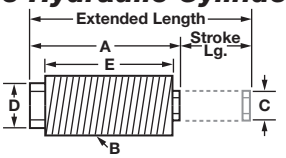


Mounting Block


Jam Nut

Produce high force in tight spaces from a small, easy-to-mount threaded-body cylinder. They're single acting—they have one hydraulic pressure port to extend in the "push" direction; an internal spring retracts in the "pull" direction. Ports are female. The cylinder body and piston rod are steel. Maximum pressure is 5,000 psi. Temperature range is –40° to 160°F.

When using a **mounting block**, a **jam nut** is required. Mounting blocks and jam nuts are steel. Mounting blocks have two unthreaded ⅜" diameter mounting holes, except 6297K35 has four holes.

Bore Size	Stroke Length	Max. Push Force, lbs.	Port Size, UN/UNF	Retracted Lg. (A)	Body Thread Size (B)	Rod Dia. (C)	Hex Wd. (D)	(E)	Cylinders		Mounting Blocks Lg.	Wd.	Ht.		Jam Nuts	
1"	½"	3,927	7/16"-20	2¾"	1 5/16"-16	⅝"	1"	2¼"	6297K14	$173.03	2¾"	1"	1½"	6297K34	$45.68	6297K45	$15.23
1"	1"	3,927	7/16"-20	3¾"	1 5/16"-16	⅝"	1"	3¼"	6297K15	200.15	2¾"	1"	1½"	6297K34	45.68	6297K45	15.23
1½"	½"	8,836	7/16"-20	3⅛"	1⅞"-16	1"	1½"	2⅝"	6297K16	227.52	3¼"	1½"	2½"	6297K35	67.75	6297K46	32.44
1½"	1"	8,836	7/16"-20	4¾"	1⅞"-16	1"	1½"	4¼"	6297K17	312.32	3¼"	1½"	2½"	6297K35	67.75	6297K46	32.44

Hydraulic Reservoirs and Accessories

Reservoirs

Use to store hydraulic fluid. Choose a reservoir with a capacity about three times your requirement to allow for heat dissipation. All have an oil level gauge, breather vent, female drain port with male plug, and a temperature gauge with 0° to 250° F readout. They're made of steel. Connect pipes with the required suction flanges (sold separately).

Reservoirs have a removable top with a gasket. The 8- and 10-gallon reservoirs have a 6″ dia. cleanout cover.

On **reservoirs with divider**, the return side is separated from the inlet side to allow particles to settle before return fluid mixes with inlet fluid. It also prolongs pump life. The 20- and 30-gallon reservoirs have a removable top. The 40-gallon reservoir has two 6″ dia. cleanout covers, and the 60- and 100-gallon reservoirs have two 12″ dia. cleanout covers.



Reservoir



Reservoir with Divider

Cap., gal.	Lg.	Wd.	Ht.		
Reservoirs					
2	10 1/8″	10 1/8″	8″	62945K11	$209.68
3	10 1/8″	10 1/8″	12″	62945K12	223.12
5	10 1/8″	10 1/8″	16″	62945K13	224.69
8	14 1/4″	12″	18 1/8″	62945K14	317.49
10	19″	14 7/8″	14 1/8″	62945K15	323.35
Reservoirs with Divider					
20	26″	16″	15 1/2″	62945K42	318.51
30	26″	16″	21 1/2″	62945K43	383.95
40	38 1/4″	24″	14″	62945K34	435.17
60	42 3/8″	30″	16 5/8″	62945K35	598.75
100	50 3/8″	30″	19″	62945K37	759.87

Breather Vents

Breather vents provide a filler port for reservoirs while allowing a free flow of fresh air. All have a 40-micron filter.

Vents with *NPT threads* are plastic. *Flange-mount* vent has a chrome-plated steel cap, nylon strainer basket, and rubber gasket. A 2 1/8″ dia. mounting hole is required. Mounting screws included.



Breather Vent with NPT Threads

1/2 NPT Male Threads	62875K11	$5.83
3/4 NPT Male Threads	62875K12	5.83
Flange Mount	62875K13	12.54

Pipe Suction Flanges

Seal pipes that pass through the top plate of your reservoir. Each flange has a steel top and bottom plate, internal washer, and gasket. A 4 5/16″ dia. mounting hole is required. Mounting screws included.



For Pipe Size		
1/2	62875K21	$9.43
3/4	62875K22	9.43
1 1/4	62875K23	9.37
1 1/2	62875K24	11.80
2	62875K25	11.80

All-in-One Hydraulic Power Units

You'll get a fixed-displacement hydraulic gear pump, AC motor, reservoir, breather vent, and connections—all in one unit. Pump housing is aluminum. Motor is totally enclosed fan cooled and has a steel housing. Choose a unit with a reservoir capacity that's about three times your requirement to allow for heat dissipation. Ports are female. All units must be hardwired.

Compact power units have a 3/8 NPT outlet port and a 1/4 NPT return port in the base. They're wired for 115 volts AC.

Power units include a suction strainer and return filter to protect the pump from contamination, a pressure gauge, and an oil gauge with thermometer. Reservoirs have 1 1/16″-12 UN/UNF outlet and return ports and a 3/4 NPTF (Dryseal) spare return port, except the 0.9- and 1.3-gallon units have 7/8″-14 UN/UNF outlet and return ports and a 1/2 NPTF (Dryseal) spare return port.



Compact Power Unit



Power Unit

Max. Flow, gpm	Max. Pressure, psi	Max. rpm	Reservoir Cap., gal.	Motor hp	Motor Voltage (Phase)	Motor Full Load Amps ■	Lg.	Wd.	Ht.		
Compact Power Units											
1	2,500	1,725	2.3	2	115/230 (1)	10	36 1/8″	8 1/8″	8 5/8″	3973K41	$715.26
1.5	2,500	1,725	2.3	2	115/230 (1)	10	34 7/8″	8 1/8″	8 5/8″	3973K42	715.26
Power Units											
0.9	1,620	1,725	5	1	208-230/460 (3)	1.5	13″	15″	20 1/2″	62915K31	3,286.67
1.3	2,310	1,725	5	2	208-230/460 (3)	2.8	13″	15″	24 1/2″	62915K32	3,218.03
2.7	1,750	1,725	10	3	208-230/460 (3)	4.4	17 3/8″	19″	32 1/2″	62915K33	4,079.93
3.2	2,330	1,725	10	5	208-230/460 (3)	6.8	17 3/4″	19″	29 3/4″	62915K34	3,956.30
6.3	1,800	1,725	20	7 1/2	208-230/460 (3)	9.5	21 3/8″	22 1/2″	37 3/8″	62915K36	3,958.36
8.1	1,820	1,725	30	10	208-230/460 (3)	12	21 3/8″	22 1/2″	42 1/4″	62915K37	4,435.43
9.4	2,350	1,725	30	15	208-230/460 (3)	18.1	23 3/8″	22 1/2″	44 1/8″	62915K38	4,984.70

■ Amps listed are at 230 volts AC for single-phase units; 460 volts AC for three-phase units.

Hydraulic Motors

When air motors are not powerful enough and electric motors can't be used for safety reasons, choose these hydraulic motors. They produce rotary power at about the same rpm, but with much greater torque than similar-sized air-powered motors. All have a roller-vane design, which delivers high torque and efficiency. They operate in both clockwise and counterclockwise rotation. Shaft diameter is 1″, shaft length is 1.52″, and body diameter is 3.76″. Motors have a flange with two 17/32″ mounting holes. Ports are 7/8″-14 UN/UNF female. Minimum oil viscosity is 50 SSU (Saybolt Seconds Universal). Housing is cast iron.



hp	Torque, in.-lbs.	Max. rpm	Max. Flow, gpm	Fixed Displacement, cu. in./rev.	Max. Pressure, psi	O'all Lg.		
6.2	3,541	111	12	24	1,200	9 7/8″	6299K56	$592.27
6.7	675	623	9	3	1,800	7 1/4″	6299K51	389.99
7.3	3,141	147	12	17.9	1,400	9″	6299K55	521.41
9.2	1,347	430	12	6	1,800	7 1/2″	6299K52	403.27
9.4	2,317	257	12	10	1,800	8″	6299K54	427.63
9.6	1,842	327	12	8	1,800	7 7/8″	6299K53	413.27

Hydraulic Pumps



SAE-AA



SAE-A



SAE-B



4F17

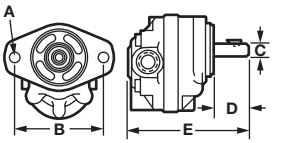

Generate pressure and flow in a hydraulic system with these pumps. All have female ports and shafts with keyways.

Pumps must be combined with a motor (not included). Pump-to-motor mounting adapters are sold below. All have an aluminum housing and two bolt holes. *SAE-B* pumps have cast iron end covers.

Pump/motors operate as a pump when connected to a motor with a non-hydraulic power source, or as a hydraulic motor when connected to another pump in a hydraulic system. They rotate clockwise and counterclockwise. All have a cast iron housing and four bolt holes.

Hydraulic Pumps

Trade Size	Max. Flow, gpm	Fixed Displacement, cu. in./rev.	Max. Pressure, psi	Max. rpm	(A)	(B)	(C)	(D)	(E)	Port Size, UN/UNF Inlet	Port Size, UN/UNF Outlet		
Pumps—To Order Please specify rotation: clockwise or counterclockwise.													
SAE-AA	1.72	0.114	2,500	4,000	0.39″	3 1/4″	1/2″	1 1/4″	4″	7/8″-14	3/4″-16	6296K44	$234.68
SAE-AA	3.3	0.21	2,500	4,000	0.39″	3 1/4″	1/2″	1 1/4″	4 1/4″	7/8″-14	3/4″-16	6296K45	234.34
SAE-AA	5.27	0.329	2,500	4,000	0.39″	3 1/4″	1/2″	1 1/4″	4 3/8″	7/8″-14	3/4″-16	6296K47	236.83
SAE-AA	7.8	0.641	2,000	3,000	0.39″	3 1/4″	1/2″	1 1/4″	4 7/8″	7/8″-14	3/4″-16	6296K55	250.71
SAE-AA	8.47	0.522	2,500	4,000	0.39″	3 1/4″	1/2″	1 1/4″	4 3/4″	7/8″-14	3/4″-16	6296K53	244.34
SAE-A	5.9	0.366	4,000	4,000	0.45″	4 3/16″	3/4″	1″	4 7/8″	7/8″-14	3/4″-16	6296K25	194.58
SAE-A	7.9	0.488	4,000	4,000	0.45″	4 3/16″	3/4″	1″	5″	1 1/16″-12	7/8″-14	6296K26	195.48
SAE-A	9.9	0.61	4,000	4,000	0.45″	4 3/16″	3/4″	1″	5 1/8″	1 1/16″-12	7/8″-14	6296K27	196.65
SAE-A	11.9	0.976	4,000	3,000	0.45″	4 3/16″	3/4″	1″	5 1/2″	1 1/16″-12	7/8″-14	6296K28	217.39
SAE-A	14.1	1.159	4,000	3,000	0.45″	4 3/16″	3/4″	1″	5 5/8″	1 5/16″-12	1 1/16″-12	6296K29	218.37
SAE-A	15.9	1.403	3,200	2,800	0.45″	4 3/16″	3/4″	1″	5 7/8″	1 5/16″-12	1 1/16″-12	6296K37	219.37
SAE-A	16.1	1.647	2,700	2,400	0.45″	4 3/16″	3/4″	1″	6 1/8″	1 5/16″-12	1 1/16″-12	6296K38	220.37
SAE-B	24.5	2.01	4,000	3,000	0.57″	5 3/4″	7/8″	1 1/4″	7 1/8″	1 5/8″-12	1 5/16″-12	6296K39	346.72
SAE-B	28.3	2.32	4,000	3,000	0.57″	5 3/4″	7/8″	1 1/4″	7 3/8″	1 5/8″-12	1 5/16″-12	6296K57	355.63
SAE-B	33.5	3.05	2,900	2,700	0.57″	5 3/4″	7/8″	1 1/4″	7 3/4″	1 5/8″-12	1 5/16″-12	6296K59	384.30
Pump/Motors													
4F17	0.84	0.065	3,000	4,000	0.34″	2″	1/2″	1 3/8″	4 5/8″	9/16″-18	9/16″-18	6296K51	161.63
4F17	1.7	0.129	3,000	4,000	0.34″	2″	1/2″	1 3/8″	4 5/8″	3/4″-16	3/4″-16	6296K71	165.94
4F17	5	0.388	3,000	4,000	0.34″	2″	1/2″	1 3/8″	5 1/8″	7/8″-14	7/8″-14	6296K54	194.50
4F17	5.4	0.711	1,800	2,400	0.34″	2″	1/2″	1 3/8″	5 5/8″	7/8″-14	7/8″-14	6296K56	207.92

Pump-to-NEMA-C-Face Motor Adapters

Mate a NEMA C-face motor to the mounting flange of a hydraulic pump. Adapters have an aluminum housing that reduces noise and protects the shaft and coupling connection between the motor and the pump.

For Pump Trade Size	Dp.		
For NEMA 56C, 143TC, and 145TC Motors			
SAE-AA	4.25″	62905K42	$33.42
SAE-A	4.25″	62905K43	36.45
4F17	4.25″	62905K41	33.42

For Pump Trade Size	Dp.		
For NEMA 182TC, 184TC, 213TC, 215TC, 254TC, and 256TC Motors			
SAE-A	5.00″	62905K44	$59.76
SAE-A	5.81″	62905K45	66.13
SAE-A	6.81″	62905K47	66.16
SAE-B	5.81″	62905K51	66.80
SAE-B	6.81″	62905K48	66.16

Hydraulic Accumulators



Bladder Style



Diaphragm Style



Piston Style

Increase the efficiency of your hydraulic system by supplementing pump flow and pressure, absorbing shock, and compensating for leakage. Accumulators also provide auxiliary hydraulic pressure during pump failure. Housing is steel and ports are female. For safety, accumulators can't be disassembled under pressure.

Charged accumulators include a 1,000-psi charge of nitrogen, except 1- to 5-gallon models include a 2,100-psi charge.

Bladder-style accumulators have a replaceable Buna-N bladder bag and Buna-N seals. They must be mounted within 25° of vertical. Accumulators and replacement bladder bags are interchangeable with Accumulators Inc., Bosch, Greer, Hydac, Oil Air, Parker, and Vickers models that have the same capacity, body diameter, and stem size.

Diaphragm-style accumulators have a Buna-N diaphragm bag, are completely sealed, and can be mounted in any orientation.

Piston-style accumulators provide high flow rates and can be mounted in any orientation. They have a 2″ bore and Buna-N seals.

Use the **charging and gauging kit** to increase or decrease the charge of accumulators. It includes a 10-ft. hose with fittings, adapter with gas valve, bleeder valve, gas chuck, and pressure gauge.

Capacity	Max. Flow, gpm	Max. Pressure, psi	Port Size, UN/UNF	O'all Ht.	Body Dia.	Stem Size	Uncharged Accumulators		Charged Accumulators		Replacement Bladder Bags	
Bladder Style												
1 pt.	40	3,000	1 1/16″-12	10 3/4″	3 3/8″	5/8″	59595K19	$667.00	59595K41	$738.73	59595K39	$304.27
1 qt.	40	3,000	1 5/16″-12	11 1/8″	4 1/2″	5/8″	59595K18	676.96	59595K42	730.73	59595K31	331.08
1 gal.	150	3,000	1 5/8″-12	17″	6 3/4″	7/8″	59595K12	873.89	59595K43	935.23	59595K32	419.17
2.5 gal.	220	3,000	1 7/8″-12	21 3/8″	9″	7/8″	59595K13	1,414.02	59595K45	1,496.13	59595K33	476.71
5 gal.	220	3,000	1 7/8″-12	33 3/8″	9″	7/8″	59595K14	1,795.87	59595K46	1,892.67	59595K34	702.86
Diaphragm Style												
0.52 qt.	25	3,000	3/4″-16	6 7/8″	4 1/8″	—	9461K21	202.40				
1.05 qt.	25	3,000	3/4″-16	7 7/8″	5 3/8″	—	9461K23	322.30				
0.52 gal.	40	3,000	1 1/16″-12	9 1/4″	6 5/8″	—	9461K25	482.90				
Piston Style												
1 pt.	100	4,000	3/4″-16	13 3/8″	2 3/8″	—	6716K41	307.18	6716K51	309.33		
1 qt.	100	4,000	3/4″-16	21 7/8″	2 3/8″	—	6716K42	314.48	6716K52	320.90		
Charging and Gauging Kit											59595K54	432.54

Electric Actuators

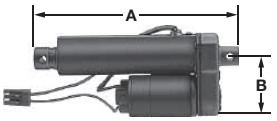

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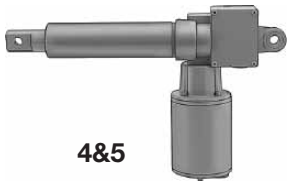

4&5

Actuators provide consistent, repeatable push/pull motion. These are Acme-screw driven and include an enclosed electric motor with thermal overload protection, except 12 volt DC high-force actuators with limit switches have fuse overload protection. Components are in a corrosion-resistant aluminum housing that protects from dust and dirt. Use clevis pins to connect actuators (see page 3388-3391 for clevis pins). They must be hardwired.

On **standard actuators with limit switches** you can stop the actuator at either end of the stroke.

High-force actuators hold their load, even when the power is off. On actuators *with limit switches* you can stop the actuator in any position. Actuators *with mechanical overload protection* have a slip clutch that prevents the motor from overheating. Set it to slip at any capacity down to 50 lbs.

Input Voltage	Max. Stroke	Max. Speed, in./min.	Max. Push/Pull Force, lbs.	Retracted Lg. (A)	(B)		
(1) Standard with Limit Switches—Duty cycle: 10 sec. on/30 sec. off							
12 DC	2″	126	25	7″	2″	6509K81	$307.87
12 DC	4″	126	25	9″	2″	6509K82	307.87
12 DC	6″	126	25	11″	2″	6509K83	307.87
24 DC	2″	126	25	7″	2″	6509K84	307.87
24 DC	4″	126	25	9″	2″	6509K85	307.87
24 DC	6″	126	25	11″	2″	6509K86	307.87
(2) High Force with Limit Switches—Duty cycle: 1 min. on/3 min. off							
12 DC	4″	42	100	9¼″	2½″	6530K111	341.67
12 DC	4″	24	250	9⅝″	2⅞″	6530K116	438.33
12 DC	8″	42	100	13¼″	2½″	6530K112	350.00
12 DC	8″	24	250	13⅝″	2⅞″	6530K117	446.67
12 DC	12″	42	100	17¼″	2½″	6530K113	361.67
12 DC	12″	24	250	17⅝″	2⅞″	6530K118	453.33

Input Voltage	Max. Stroke	Max. Speed, in./min.	Max. Push/Pull Force, lbs.	Retracted Lg. (A)	(B)		
(3) High Force with Limit Switches—Duty cycle: 1 min. on/5 min. off							
120 AC	6″	50	1,500	21⅞″	5¾″	6530K42	$1,436.67
120 AC	12″	50	1,500	27⅞″	5¾″	6530K43	1,461.67
120 AC	18″	50	1,500	33⅞″	5¾″	6530K44	1,498.96
(4) High Force with Limit Switches—Duty cycle: 1 min. on/5 min. off							
120 AC	6″	36	500	15½″	8″	6530K52	843.28
120 AC	12″	36	500	21½″	8″	6530K53	867.54
120 AC	18″	36	500	27½″	8″	6530K54	899.25
(5) High Force with Mechanical Overload Protection—Duty cycle: 1 min. on/5 min. off							
12 DC	6″	45	500	15½″	7¾″	6530K14	666.11
12 DC	12″	45	500	21½″	7¾″	6530K16	694.42
12 DC	18″	45	500	27½″	7¾″	6530K18	727.50
120 AC	6″	35	500	14¼″	8″	6530K24	714.55
120 AC	12″	35	500	20¼″	8″	6530K26	729.48
120 AC	18″	35	500	26¼″	8″	6530K28	783.58

Plug-and-Go Electric Actuators and Controls

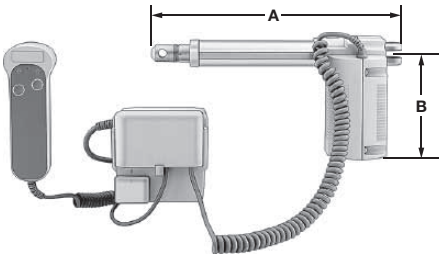

High Force



High Force for Washdown Environments



Hand Switch for High Force Actuator for Washdown Environments

No programming or hardwiring is required for reliable push/pull motion. These actuators have an electric motor in a plastic housing. Use clevis pins to connect actuators (see pages 3388-3391 for clevis pins). Note: A complete unit consists of an actuator, a control box, and a hand switch (each sold separately below).

High Force—Acme-screw driven.

High Force for Washdown Environments—Have a housing that protects against dust and power jets of water. All are lead-screw driven.

Control boxes provide 24 volts DC output and control up to four actuators individually. They operate on 120 volts AC. The control box for *high-force actuators for washdown environments* has integrated overload protection.

Switches have extend and retract buttons.

Input Voltage	Max. Stroke	Max. Speed, in./min.	Max. Push/Pull Force, lbs.	Retracted Lg. (A)	(B)		
High Force Actuators—Duty cycle: 1 min. on/9 min. off							
24 DC	2″	21	449/449	9½″	5½″	2236K1	$249.62
24 DC	2″	9	1,349/899	9½″	5½″	2236K7	261.24
24 DC	4″	21	449/449	11⅜″	5½″	2236K2	249.62
24 DC	4″	9	1,349/899	11⅜″	5½″	2236K8	261.24
24 DC	5⅞″	21	449/449	13⅜″	5½″	2236K3	255.28
24 DC	5⅞″	9	1,349/899	13⅜″	5½″	2236K9	267.17
24 DC	7⅞″	21	449/449	15⅜″	5½″	2236K4	255.28
24 DC	7⅞″	9	1,349/899	15⅜″	5½″	2236K11	267.17
24 DC	9⅞″	21	449/449	17⅜″	5½″	2236K5	280.43
24 DC	9⅞″	9	1,349/899	17⅜″	5½″	2236K12	306.27
24 DC	11¾″	21	449/449	19¼″	5½″	2236K6	260.93
24 DC	11¾″	9	1,349/899	19¼″	5½″	2236K13	293.49
Control Box						2236K14	243.73
Hand Switch for One Actuator						2236K15	86.32
Hand Switch for Two Actuators						2236K16	86.32
Hand Switch for Three Actuators						2236K17	143.87
Hand Switch for Four Actuators						2236K18	143.87

Input Voltage	Max. Stroke	Max. Speed, in./min.	Max. Push/Pull Force, lbs.	Retracted Lg. (A)	(B)		
High Force Actuators for Washdown Environments—Duty cycle: 1 min. on/9 min. off							
24 DC	3″	30	337/337	12″	5⅛″	9005K28	$450.73
24 DC	3″	30	674/674	12¾″	6″	9005K11	402.75
24 DC	3″	11.8	1,798/1,348	12¾″	6″	9005K19	450.73
24 DC	6″	30	337/337	14¾″	5⅛″	9005K29	450.73
24 DC	6″	30	674/674	15½″	6″	9005K12	389.11
24 DC	6″	11.8	1,798/1,348	15½″	6″	9005K21	519.93
24 DC	12″	30	337/337	20⅝″	5⅛″	9005K31	476.44
24 DC	12″	30	674/674	21½″	6″	9005K13	445.27
24 DC	12″	11.8	1,798/1,348	21½″	6″	9005K22	543.95
24 DC	18″	30	337/337	29½″	5⅛″	9005K32	462.45
24 DC	18″	30	674/674	30⅜″	6″	9005K14	519.91
24 DC	18″	11.8	1,798/1,348	30⅜″	6″	9005K23	629.87
Control Box						9005K351	261.76
Hand Switch for One Actuator						9005K44	69.48
Hand Switch for Two Actuators						9005K41	69.48
Hand Switch for Three Actuators						9005K42	79.14
Hand Switch for Four Actuators						9005K43	82.78
Foot Switch for One Actuator						9005K422	127.90

Miniature Mechanical Overload Protection Couplings



Standard



Remotely Adjustable

In the event of excess torque, these couplings slip to protect motors and drivetrains and ensure safe operation. They resume driving once the load has been reduced. You can adjust the torque level at which the clutches slip without removing them from your shaft. They drive and slip in both clockwise and counterclockwise directions.

Maximum torque for **standard** couplings is at the maximum continuous rpm of 50.

Remotely adjustable couplings are air actuated so you can adjust the torque—even during operation. They're often used in automated systems. The air inlet connections are 10-32 UN/UNF female. Maximum torque is at the maximum psi of 100.

Fits Shaft Dia.	Max. Torque, in.-lbs.	O'all Dia.	O'all Lg.	Shaft to Shaft		Shaft to Gear: Mounting Holes	
Standard							
For Plain Shaft							
1/4"	16	1"	1 1/2"	9132K11	$101.57	4-40	9132K31 $105.46
3/8"	16	1"	1 1/2"	9132K13	101.57	4-40	9132K32 105.46
3/8"	25	1 3/8"	2 1/2"	9132K15	172.63	6-32	9132K33 176.35
1/2"	25	1 3/8"	2 1/2"	9132K17	172.63	6-32	9132K34 176.35
1/2"	50	1 5/8"	2 1/2"	9132K19	242.77	6-32	9132K35 246.50
1/2"	75	2 1/4"	2 1/2"	9132K23	344.99	8-32	9132K37 348.67
5/8"	50	1 5/8"	2 1/2"	9132K21	242.77	6-32	9132K36 246.50
5/8"	75	2 1/4"	2 1/2"	9132K25	344.99	8-32	9132K38 348.67
For Keyed Shaft							
1/4"	16	1"	1 1/2"	9132K51	103.52	4-40	9132K41 107.40
3/8"	25	1 3/8"	2 1/2"	9132K52	174.49	6-32	9132K42 178.20
1/2"	50	1 5/8"	2 1/2"	9132K54	244.64	6-32	9132K44 248.37
1/2"	75	2 1/4"	2 1/2"	9132K56	346.83	8-32	9132K46 350.51
Remotely Adjustable							
For Plain Shaft							
1/4"	20	1 1/4"	2 1/2"	9133K11	187.60	4-40	9133K31 191.34
3/8"	50	1 1/2"	3 3/8"	9133K12	319.25	6-32	9133K32 322.79
1/2"	100	2"	3 5/8"	9133K15	334.80	6-32	9133K33 338.34
5/8"	300	2 3/4"	3 5/8"	9133K19	425.56	8-32	9133K34 429.20
For Keyed Shaft							
1/4"	20	1 1/4"	2 1/2"	9133K51	189.46	4-40	9133K41 193.16
3/8"	50	1 1/2"	3 3/8"	9133K52	321.02	6-32	9133K42 324.56
1/2"	100	2"	3 5/8"	9133K53	336.57	6-32	9133K43 340.11
5/8"	300	2 3/4"	3 5/8"	9133K54	427.38	8-32	9133K44 431.02

Miniature Electromagnetic Overload Protection Couplings



Use with an overload sensor in an automated system to instantly disconnect the power to prevent damage. These couplings also accelerate loads from zero to full speed in less than three milliseconds when the power is turned on. These shaft-to-gear couplings drive in one direction only. They operate on 24 volts DC.

Fits Shaft Dia.	Max. Torque, in.-lbs.	Max. rpm	O'all Dia.	O'all Lg.	Wire Lead Lg.	Clockwise Rotation		Counterclockwise Rotation	
1/4"	30	1,400	1 1/4"	1 1/8"	15"	5156T1	$71.45	5156T11	$71.45
5/16"	30	1,400	1 1/4"	1 1/8"	15"	5156T2	71.45	5156T12	71.45
3/8"	75	1,400	1 3/4"	1 1/2"	18"	5156T3	195.04	5156T13	195.04
1/2"	75	1,400	1 3/4"	1 1/2"	18"	5156T4	195.04	5156T14	195.04

Long Lasting Magnetic Overload Protection Couplings



Standard



With Shaft

Also known as hysteresis clutches, these couplings use magnetic force to brake, control tension, and prevent torque overload. They have few moving parts, so they last longer than mechanical couplings. Twist the adjustment ring to set the torque within the range listed, then lock the ring in place with the included set screw. These shaft-to-gear couplings work in both clockwise and counterclockwise directions.

Torque Adjustment Range, in.-lbs.	Max. rpm	O'all Dia.	O'all Lg.	Mounting Holes	Choose a Shaft Dia.		
Standard							
0.06 to 1.25	886	1 15/16"	1 5/8"	M4×8 mm	1/4"	7220K3	$204.17
0.18 to 5	307	2 3/4"	2 7/16"	M4×10 mm	3/8"	7220K4	320.83
0.5 to 10.6	222	3 5/16"	2 1/2"	M5×10 mm	3/8", 1/2", 5/8"	7220K5	367.50
1 to 25	253	4 11/16"	3 1/8"	M5×12 mm	3/8", 1/2", 5/8", 3/4", 7/8", 1"	7220K6	577.50
2 to 50	202	5 1/4"	3 1/8"	M5×12 mm	3/8", 1/2", 5/8", 3/4", 7/8", 1"	7220K7	630.00
3 to 70	200	6 5/16"	4 1/8"	1/4"-20×0.31"	5/8", 3/4", 7/8"	7220K8	793.33
With Shaft							
0.01 to 0.06	2,000	1"	1 3/8"	M3×5 mm	3/16"	7220K21	175.00
0.01 to 0.13	1,500	1"	1 3/8"	M3×5 mm	3/16"	7220K22	175.00
0.03 to 0.44	1,050	1 7/16"	1 3/4"	M3×6 mm	5/16"	7220K23	192.50

Electromagnetic Tensioning, Holding, and Stopping Devices



When the power is turned on, magnetic force creates drag to slow or stop the motion of your drive system. These devices are also known as electric hysteresis brakes. Use them with a current-limiting transformer (see page 986) to adjust the electrical current, which controls the amount of torque applied. These shaft-to-gear devices work in both clockwise and counterclockwise directions. They operate on 24 volts DC.

Shaft Dia.	Max. Torque, in.-lbs.	Max. rpm	O'all Dia.	O'all Lg.	Wire Lead Lg.	Mounting Holes		
0.118"	0.2	1,990	1 1/4"	1 5/8"	18"	M2.5×4 mm	7758T11	$320.83
0.197"	0.8	1,206	1 13/16"	2"	18"	M2.5×5 mm	7758T12	330.17
0.197"	1.3	764	2"	2 1/8"	18"	M3×6 mm	7758T13	350.00
0.276"	3.5	578	2 3/8"	3"	18"	M4×8 mm	7758T14	379.17
0.394"	11	597	3 5/8"	4"	18"	M4×9 mm	7758T15	476.00
0.472"	19	500	4 7/16"	4 7/8"	18"	M5×10 mm	7758T16	603.75
0.591"	32	424	5 7/16"	5 1/8"	18"	M5×10 mm	7758T17	865.67

Linear Solenoids

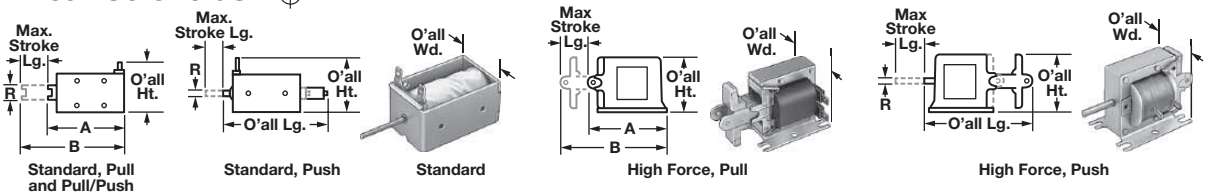

Create linear motion economically with one of these open-frame solenoids. They have a steel body and lug terminals, unless noted. Mount at any angle. Components are UL recognized, unless noted.

Pull solenoids exert force when the rod retracts.

Push solenoids exert force when the rod extends.

Pull/push solenoids exert force when the rod retracts and extends.

Standard solenoids include a spring and retaining ring that you can use to return the rod to its original position, except the pull/push solenoid, which doesn't require a spring. Max. temp is 266° F, unless noted.

High-force solenoids draw more power than standard solenoids so they can deliver higher force. They also have a laminated rod that minimizes friction during operation. Solenoids require a spring (not included) to return the rod to its original position. Max. temperature is 221° F.

Max. Stroke Lg.	Length: Retracted (A)	Length: Extended (B)	Length: O'all	Overall: Wd.	Overall: Ht.	Rod Size (R)	Intermittent Use: Force, oz. @ 50% Stroke Lg.	Intermittent Use: Power Draw, watts	Intermittent Use: Minutes On/Off			Continuous Use: Force, oz. @ 50% Stroke Lg.	Continuous Use: Power Draw, watts		
Standard Solenoids for 120 Volts AC, 60 Hz															
Pull															
0.5″	1.7″	2.2″	2.2″	1¼″	1¼″	0.31″	13	18	1/3	70155K721	$42.52	10	7.2	70155K551	$42.52
0.5″	2.5″	3″	3″	1¼″	1¼″	0.31″	22	40.9	1/3	70155K471	30.02	10	11.5	70155K481	29.75
1″	3.2″	4.2″	4.2″	1¾″	1¾″	0.44″	34	57.6	1/3	70155K412	47.16	9	9	70155K421	45.36
Push															
0.5″	1.9″	1.9″	1.9″	1¼″	1¼″	0.09″	13	23	1/3	70155K651	44.77	8	7.8	70155K661	44.77
0.5″	3.1″	3.1″	3.1″	1¼″	1¼″	0.09″	21	52.4	1/3	70155K612	39.64	8	12.5	70155K621	39.64
Standard Solenoids for DC Voltage—Choose 12 or 24 volts DC.															
Pull															
0.5″	1.7″	2.2″	2.2″	1¼″	1¼″	0.31″	9	11.5	1/3	70155K111	30.70	4	5	70155K211	43.57
0.5″	2.5″	3″	3″	1¼″	1¼″	0.31″	26	19	1/3	70155K311	27.89	15	8	70155K411	27.89
1″	3.2″	4.2″	4.2″	1¾″	1¾″	0.44″	52	38	1/3	70155K511	35.30	18	11	70155K611	35.30
Push															
0.5″	3.1″	3.1″	3.1″	1¼″	1¼″	0.09″	26	19	1/3	70155K112	40.07	15	8	70155K121	40.07
1″	3.2″	3.2″	3.2″	1″	1¼″	0.13″	13	30	0.8/2.5	70155K13	31.34	3	7.5	70155K14	31.34
Pull/Push															
0.2″	2″	2.2″	2.2″	1″	1″	0.13″	8	7.2	0.2/1.5	70155K81★	96.50	—	—	—	—
High-Force Solenoids for 120 Volts AC, 60 Hz															
Pull															
1″	2.3″	3″	3″	1½″	1½″	0.36″	60	70	2.5/22.5	7723K1	78.70	30	20	7723K2	78.70
1″	2.7″	3.4″	3.4″	1⅞″	2⅛″	0.49″	195	228	3/27	7723K5	61.98	105	49	7723K6	61.98
Push															
1″	3″	3″	3″	1½″	1½″	0.13″	60	70	2.5/22.5	7723K9	102.62	30	20	7723K11	102.62
1″	3.5″	3.5″	3.5″	1⅞″	2⅛″	0.19″	195	228	3/27	7723K12	81.52	105	49	7723K13	81.52
High-Force Solenoids for 240 Volts AC, 60 Hz															
Pull															
1″	2.7″	3.4″	3.4″	1⅞″	2⅛″	0.49″	195	228	3/27	7723K7	61.98	105	49	7723K8	61.98

★ Has wire leads. Not UL recognized. Max. temperature is 221° F.

Sealed Linear Solenoids

Spend less time on solenoid maintenance in dirty environments—these have a closed steel housing that keeps dust out. Mount at any angle.

Standard solenoids include a spring with a retaining ring to return the rod to its original position. They have wire leads and are UL recognized. Max. temperature is 266° F. *Pull* solenoids exert force when the rod retracts. *Push* solenoids exert force when the rod extends.

Water-resistant solenoids are rated IP65 for protection from dust and spraying water. They can be used to pull or push. To pull, install them with the connector pins facing your device; to push, install them facing away. Solenoids have a built-in spring that returns the rod to its original position. The rod has M5 threads. They have two-pin Deutsch-style plugs (for connectors, see 6084T on page 811). Max. temperature is 356° F.

Extended-life solenoids have a PTFE-coated rod to minimize friction and an internal cushion to reduce shock. They all pull, exerting force when the rod retracts. Each requires a spring (not included) to return the rod to its original position. All have wire leads. Components are UL recognized. Max. temperature is 221° F.

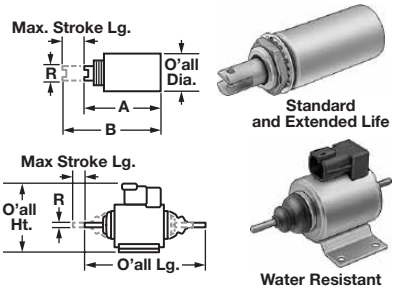

Max. Stroke Lg.	Length: Retracted (A)	Length: Extended (B)	Length: O'all	Overall: Dia.	Overall: Ht.	Rod Dia. (R)	Intermittent Use: Force, oz. @ 50% Stroke Lg.	Intermittent Use: Power Draw, watts	Intermittent Use: Minutes On/Off			Continuous Use: Force, oz. @ 50% Stroke Lg.	Continuous Use: Power Draw, watts		
Standard, Pull—Choose 12 or 24 volts DC															
0.25″	1.6″	1.9″	1.9″	½″	½″	0.2″	5	7.5	1/9	69905K111	$36.44	2	2.5	69905K112	$36.44
0.5″	2.4″	2.9″	2.9″	¾″	¾″	¼″	15	24	1/9	69905K113	30.13	4	3.5	69905K114	30.13
1″	2.9″	3.9″	3.9″	1″	1″	0.44″	29	38	1/9	69905K115	36.87	5	5.5	69905K116	36.87
1″	3.3″	4.3″	4.3″	1½″	1½″	½″	106	59	1/9	69905K117	46.96	17	10	69905K185	46.96
Standard, Push—Choose 12 or 24 volts DC															
0.25″	1.5″	1.7″	1.7″	½″	½″	0.06″	3	7.5	1/9	69905K173	36.07	1	2.5	69905K172	35.04
0.5″	2.8″	3.3″	3.3″	1″	1″	0.11″	25	38	1/9	69905K145	41.11	7	5.5	69905K174	41.11
0.5″	2.6″	3.1″	3.1″	1½″	1½″	0.19″	78	41	1/9	69905K177	55.09	14	7	69905K146	53.80
1″	3.4″	4.4″	4.4″	1½″	1½″	0.19″	68	59	1/9	69905K179	47.42	11	10	69905K148	47.42
Water Resistant, Pull or Push—Choose 12 or 24 volts DC															
0.39″	4.6″	4.6″	4.6″	2¼″ Wd.	2¼″	0.2″	115	50	1/3	69905K82	188.80	58	17	69905K81	188.80
0.51″	4.7″	4.7″	4.7″	2⅞″ Wd.	2¾″	0.2″	177	60	1/3	69905K84	194.67	87	20	69905K83	194.67
Extended Life, Pull—Choose 12 or 24 volts DC Choose a Stroke Length: 0.25″, 0.5″, 0.75″, 1″							—	—	—	9719K881		—	—	9719K882	

About Electric Motors

When replacing a motor, use the information on your motor's nameplate to guide your selection. Although each manufacturer displays information differently on the motor nameplate, the specifications below are the most important to consider.

Specification	Example
Voltage—Match the voltage.	VOLTS 208-230/460
Phase—Match the phase.	PH 3
Frame Size—Match the NEMA frame number.	FRAME 56
Horsepower—Select the same hp or higher.	H.P. 3/4
Max. rpm—Select the same rpm ±5%.	R.P.M. 1725
Enclosure Type—Match the enclosure type.	ENCL TEFC

Understanding Enclosure Types

ODP (open drip proof) enclosures are for relatively clean, dry, well-ventilated indoor locations.

TEFC (totally enclosed fan cooled) enclosures offer more protection than ODP enclosures. They are not airtight, but can be used in dirty, dusty, and damp environments. They have an external fan that blows air over the outside of the motor for cooling.

TENV (totally enclosed non-ventilated) enclosures are similar to TEFC enclosures, except they do not have a fan. They rely on air circulation from the motion of the motor for cooling.

TEAO (totally enclosed air over) enclosures are dust-tight. Designed for use with blowers and fans, mount motors in the airflow of the blower or fan they're driving.

AC Motors

For technical drawings and 3-D models, go to mcmaster.com.

Base-Mount AC Motors



ODP Enclosure



TEFC Enclosure



TEAO Enclosure



TENV Enclosure

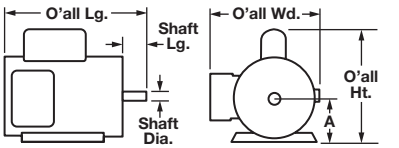

Replace old base-mount motors to keep your equipment moving. Motors are rated for continuous duty and mount at any angle. They have wire leads, unless noted. Shaft is keyed and comes with key stock, except NEMA 48 and 48Z motors have a D-profile shaft. You can wire for clockwise or counterclockwise rotation; instructions are included.

Enclosure is steel and has a welded base, unless noted. Motors with a max. temperature of 266°F meet insulation Class B; those with a max. temperature of 311°F meet insulation Class F. They're UL recognized and CSA certified.

To use a motor with a variable frequency drive (AC motor speed control), choose a three-phase motor that's inverter rated. For Programmable Three-Phase AC Motor Speed Controls, see page 938.

Motors with overload protection turn off in overload conditions to prevent motor damage. **Manual** overload protection must be reset manually to start the motor after it cools. **Automatic** overload protection starts the motor automatically after it cools.

Motors with a **vibration-damping base** have rubber rings between the base and enclosure to minimize vibration.

				Overall			Shaft					
hp	Max. rpm	Amps @ Full Load	Enclosure Type	Lg.	Wd.	Ht.	Dia.	Lg.	Center to Base (A)	Overload Protection	Max. Temp., °F	
115/208-230 Volts AC, Single Phase												
NEMA 48												
1/4	1,725	5/3-2.5	ODP	9 1/4"	9"	7 1/2"	1/2"	1 1/2"	3"	Manual	266°	5990K118 $265.31
1/4	1,725	5/3-2.5	ODP	10 1/2"	6 3/4"	7 1/2"	1/2"	1 1/2"	3"	Automatic	266°	5990K121★ 220.97
1/3	1,725	6/3.6-3	ODP	9 1/4"	9"	7 1/2"	1/2"	1 1/2"	3"	Manual	266°	5990K119 298.68
1/3	1,725	6/3.6-3	TEFC	10 3/4"	8 1/2"	7 1/2"	1/2"	1 1/2"	3"		266°	5990K123 297.05
1/2	1,725	7.4/4.3-3.7	TEFC	11 1/2"	8 1/2"	7 1/2"	1/2"	1 1/2"	3"		266°	5990K124 329.61
NEMA 56												
1/3	1,725	6/3.6-3	ODP	9 3/4"	9"	8"	5/8"	1 7/8"	3 1/2"	Manual	266°	5990K12 313.85
1/3	1,725	6/3.6-3	ODP	11"	6 3/4"	8"	5/8"	1 7/8"	3 1/2"	Automatic	266°	5990K122★ 238.09
1/2	1,725	7.4/4.3-3.7	TEFC	12"	9"	8"	5/8"	1 7/8"	3 1/2"	Automatic	266°	5990K35 402.46
1/2	1,725	8.4/4.8-4.2	ODP	10"	9"	8"	5/8"	1 7/8"	3 1/2"	Automatic	266°	5990K15 352.62
1/2	1,725	8.4/4.8-4.2	ODP	11 3/4"	7"	8"	5/8"	1 7/8"	3 1/2"	Automatic	266°	5990K17★■ 352.62
1/2	3,450	7/4.1-3.5	TEFC	11 1/2"	8 1/2"	8 3/4"	5/8"	1 7/8"	3 1/2"		266°	5990K71 288.00
3/4	1,725	8.2/5.4-4.1	TEFC	12 1/2"	9"	8 3/4"	5/8"	1 7/8"	3 1/2"	Automatic	266°	5990K36 486.46
3/4	1,725	8.4/5.4-4.2	TEFC	12 1/2"	8 1/2"	8 3/4"	5/8"	1 7/8"	3 1/2"		311°	5990K73 387.69
3/4	1,725	10.2/6-5.1	ODP	11 3/4"	9"	8 3/4"	5/8"	1 7/8"	3 1/2"	Automatic	266°	5990K19 429.23
3/4	3,450	9.6/6.1-4.8	TEFC	12"	8 1/2"	8 3/4"	5/8"	1 7/8"	3 1/2"		266°	5990K72 324.00
NEMA 56/56H												
1	1,725	13.4/7.4-6.7	ODP	11 1/2"	6 3/4"	9 1/4"	5/8"	1 7/8"	3 1/2"	Automatic	266°	5990K31★■ 469.85
1	3,450	11.8/6.1-5.9	TEFC	13"	9 1/2"	9 1/4"	5/8"	1 7/8"	3 1/2"		266°	5990K75 375.69
1	3,450	14.6/7.8-7.3	ODP	11 1/2"	7 1/2"	9"	5/8"	1 7/8"	3 1/2"	Automatic	266°	5990K94★■ 372.92
1 1/2	3,450	16/8.4-8	TEFC	13"	9 1/2"	9 1/4"	5/8"	1 7/8"	3 1/2"		266°	5990K79 503.08
NEMA 56H												
3/4	1,140	7.8/8-3.9	TEFC	13"	9 1/2"	9 1/4"	5/8"	1 7/8"	3 1/2"		266°	5990K74 684.86
1	1,725	11.8/6.3-5.9	TEFC	13"	9 1/2"	9 1/4"	5/8"	1 7/8"	3 1/2"		311°	5990K76 440.31
1	1,725	11.8/6.3-5.9	TEFC	13"	10"	9 1/4"	5/8"	1 7/8"	3 1/2"	Automatic	311°	5990K99 507.43
1 1/2	1,725	12.4/6.8-6.2	TEFC	14"	9 1/2"	9 1/4"	5/8"	1 7/8"	3 1/2"		266°	5990K81 508.62
NEMA 56YZ												
1/2	1,700	5.2/2.8-2.6	TEAO	12 3/4"	7"	8 3/4"	5/8"	3"	3 1/2"	Automatic	266°	5990K215★ 356.48
NEMA 143T												
1	1,725	12.8/7-6.4	TEFC	13 1/2"	9 1/2"	9 1/4"	7/8"	2 1/4"	3 1/2"		311°	5990K112 449.24
NEMA 145T												
1 1/2	1,725	21/9.6-10.5	ODP	13"	10 1/4"	9"	7/8"	2 1/4"	3 1/2"	Manual	266°	5990K109 589.46
1 1/2	1,755	14/7.3-7	TEFC	13 1/2"	9 1/2"	9 1/4"	7/8"	2 1/4"	3 1/2"		311°	5990K125 515.98
NEMA 184T												
1 1/2	1,140	16.4/8.6-8.2	TEFC	16 3/4"	11 1/4"	11 1/4"	1 1/8"	2 3/4"	4 1/2"		311°	5990K111 1,097.76
115/230 Volts AC, Single Phase												
NEMA 48												
1/4	1,725	2.6/1.3	ODP	10"	8"	8 1/4"	1/2"	1 1/2"	3"		311°	5990K131 311.72
1/2	1,725	4.7/3.2-2.4	ODP	10 3/4"	8"	8 1/4"	1/2"	1 1/2"	3"		266°	5990K132 376.01
1/2	3,450	4.9/2.5	ODP	10"	8"	8 1/4"	1/2"	1 1/2"	3"		311°	5990K133 349.97

★ Enclosure has a vibration-damping base. ■ Motor has screw terminals.

(Continued on following page)

Base-Mount AC Motors *(Continued from previous page)*

hp	Max. rpm	Amps @ Full Load	Enclosure Type	Overall Lg.	Overall Wd.	Overall Ht.	Shaft Dia.	Shaft Lg.	Center to Base (A)	Overload Protection	Max. Temp., °F		
115/230 Volts AC, Single Phase (Cont.)													
NEMA 48Z													
1/4	1,700	4.8/2.4	TEAO	11 1/2"	6 3/4"	8 1/4"	1/2"	2 1/2"	3"	Automatic	266°	5990K202★	$324.72
1/3	1,700	5.6/2.8	TEAO	12"	6 3/4"	8 1/4"	1/2"	2 1/2"	3"	Automatic	266°	5990K203★	353.21
NEMA 56													
1/2	1,725	4.7/2.4	ODP	11"	8 1/2"	8 3/4"	5/8"	1 7/8"	3 1/2"		311°	5990K134	376.71
1/2	3,450	4.9/2.5	ODP	10 1/4"	8 1/2"	8 3/4"	5/8"	1 7/8"	3 1/2"		311°	5990K135	350.62
3/4	1,725	10/5	ODP	12 1/2"	7"	8"	5/8"	1 7/8"	3 1/2"	Automatic	266°	5990K21★■	348.00
3/4	1,750	6.5/3.3	ODP	12 1/4"	9"	9 1/4"	5/8"	1 7/8"	3 1/2"		311°	5990K136	448.46
3/4	3,450	6.3/3.3	ODP	11"	8 1/2"	8 3/4"	5/8"	1 7/8"	3 1/2"		311°	5990K137	366.92
1	1,750	8.4/4.2	ODP	12 1/4"	9"	9 1/4"	5/8"	1 7/8"	3 1/2"		311°	5990K138	516.95
1	3,480	7.8/3.9	ODP	12 1/4"	9"	9 1/4"	5/8"	1 7/8"	3 1/2"		311°	5990K139	430.52
NEMA 56/56H													
1	3,450	12/6	TEFC	13"	10"	9 1/4"	5/8"	1 7/8"	3 1/2"	Manual	266°	5990K101	424.62
1 1/2	1,725	18/9	ODP	11 3/4"	9 3/4"	9"	5/8"	1 7/8"	3 1/2"	Manual	266°	5990K54	534.00
2	3,450	23/11.5	TEFC	14"	10"	9 1/4"	5/8"	1 7/8"	3 1/2"	Manual	266°	5990K102	624.86
2	3,470	15.6/7.8	ODP	14"	9"	9"	5/8"	1 7/8"	3 1/2"		311°	5990K141	501.99
NEMA 56H													
1	1,755	9/4.5	ODP	11 3/4"	9 3/4"	9"	5/8"	1 7/8"	3 1/2"	Manual	311°	5990K144	536.52
1 1/2	3,480	11.8/5.9	ODP	12 3/4"	9"	9"	5/8"	1 7/8"	3 1/2"		311°	5990K142	535.38
NEMA 56Z													
1/2	1,100	5.2/2.6	TEAO	13 3/4"	7 1/2"	9"	5/8"	3"	3 1/2"	Automatic	266°	5990K204★	507.03
NEMA 143T													
1	1,725	12.4/6.2	ODP	12 1/4"	10 1/4"	9"	7/8"	2 1/4"	3 1/2"	Manual	266°	5990K108	476.91
208-230 Volts AC, Single Phase													
NEMA 184T													
3	1,750	12.5-11.2	ODP	16 1/2"	11 1/4"	11 1/4"	1 1/8"	2 3/4"	4 1/2"		311°	5990K143	802.60
5	1,725	22.7-20.6	ODP	16 3/4"	11 1/4"	11 1/4"	1 1/8"	2 3/4"	4 1/2"		311°	5990K114	667.30
208-230/460 Volts AC, Three Phase													
NEMA 48													
1/3	1,725	1.9-1.6/0.8	TEFC	10 3/4"	8 1/2"	6 1/4"	1/2"	1 1/2"	3"		266°	5990K315	308.45
NEMA 56													
1/4	1,750	0.8-0.8/0.4	TENV	11 1/4"	9 1/4"	7"	5/8"	1 7/8"	3 1/2"		311°	6136K671	426.46
1/3	1,725	1.6-1.4/0.7	TENV	10 1/4"	8 1/2"	6 1/2"	5/8"	1 7/8"	3 1/2"		311°	6136K691	296.31
1/2	1,140	2.7-2.4/1.2	TEFC	11 1/2"	8 1/2"	6 3/4"	5/8"	1 7/8"	3 1/2"		266°	6136K73	476.31
1/2	1,725	2.1-1.6/0.8	ODP	11 3/4"	8 1/2"	6 1/2"	5/8"	1 7/8"	3 1/2"		311°	6136K111	351.72
1/2	1,725	2.1-1.8/0.9	TENV	11"	8 1/4"	6 1/2"	5/8"	1 7/8"	3 1/2"		311°	6136K72	344.31
3/4	1,725	3.2-3/1.5	TEFC	11 1/2"	8 1/2"	6 3/4"	5/8"	1 7/8"	3 1/2"		266°	6136K75	294.72
3/4	1,730	2.1-2/1	ODP	11 1/4"	9"	7"	5/8"	1 7/8"	3 1/2"		311°	6136K112	387.11
1	1,750	3-2.9/1.5	ODP	11 1/4"	9"	7"	5/8"	1 7/8"	3 1/2"		311°	6136K113	407.63
1	1,760	3.1-3/1.5	TEFC	12 1/4"	9 1/4"	7 1/4"	5/8"	1 7/8"	3 1/2"		311°	6136K93	523.60
1	3,450	3-2.8/1.4	TEFC	12 1/4"	9 1/4"	7 1/4"	5/8"	1 7/8"	3 1/2"		311°	6136K98	521.54
1	3,450	4.2-3.2/1.6	ODP	11"	8 1/2"	6 1/2"	5/8"	1 7/8"	3 1/2"		311°	6136K114	401.17
1 1/2	1,760	4.5-4.4/2.2	TEFC	13 1/4"	9 1/2"	7 1/4"	5/8"	1 7/8"	3 1/2"		311°	6136K99	581.43
NEMA 56H													
3/4	1,140	3.3-3/1.5	TEFC	13"	8 1/2"	6 3/4"	5/8"	1 7/8"	3 1/2"		266°	6136K76	486.46
NEMA 143T													
1	1,760	3.1-3/1.5	ODP	11 1/4"	9"	7"	7/8"	2 1/4"	3 1/2"		311°	5990K302	537.31
NEMA 145T													
1 1/2	1,755	4.5-4.4/2.2	ODP	11 3/4"	9"	7"	7/8"	2 1/4"	3 1/2"		311°	5990K303	561.50
2	1,750	5.8-5.8/2.9	ODP	12 1/4"	9"	7"	7/8"	2 1/4"	3 1/2"		311°	5990K304	601.55
NEMA 182T													
3	1,760	8.9-8.8/4.4	ODP	15"	11 1/4"	8 1/2"	1 1/8"	2 3/4"	4 1/2"	Automatic	311°	5990K311	710.20
NEMA 184T													
5	1,750	14-13.2/6.6	ODP	16 1/2"	11 1/4"	9"	1 1/8"	2 3/4"	4 1/2"	Automatic	311°	5990K312	773.10
NEMA 213T													
7 1/2	1,770	19.8-19/9.5	TEFC	18 1/2"	15"	13"	1 3/8"	3 3/8"	5 1/4"		311°	6136K511▲	1,136.57
NEMA 215T													
10	1,760	26.5-24.4/12.2	TEFC	18 1/2"	15"	13"	1 3/8"	3 3/8"	5 1/4"		311°	6136K512▲	1,274.57
208-230/460 Volts AC, Three Phase—Inverter Rated													
NEMA 143T													
1	1,760	3.1-3/1.5	TEFC	12 1/2"	9 1/2"	7 1/4"	7/8"	2 1/4"	3 1/2"		311°	5990K306	533.53
NEMA 145T													
1 1/2	1,760	4.5-4.4/2.2	TEFC	13 1/2"	9 1/2"	7 1/4"	7/8"	2 1/4"	3 1/2"		311°	5990K307	554.69
2	1,755	5.8-5.8/2.9	TEFC	14 1/4"	9 1/2"	7 1/4"	7/8"	2 1/4"	3 1/2"		311°	5990K308	575.10
2	3,490	5.3-5/2.5	TEFC	13 1/2"	9 1/2"	7 1/4"	7/8"	2 1/4"	3 1/2"		311°	5990K309	600.79
NEMA 182T													
3	1,760	9-8.4/4.2	TEFC	16 3/4"	11 1/4"	11"	1 1/8"	2 3/4"	4 1/2"		311°	5990K313	634.80
NEMA 184T													
5	1,750	13.9-13.4/6.7	TEFC	18 1/4"	11 1/4"	11"	1 1/8"	2 3/4"	4 1/2"		311°	5990K314	694.50
230/460 Volts AC, Three Phase													
NEMA 145T													
3	3,450	7.6/3.8	ODP	13"	9"	7"	7/8"	2 1/4"	3 1/2"		311°	5990K305	549.40

★ Enclosure has a vibration-damping base. ■ Motor has screw terminals. ▲ Enclosure is cast iron.

Base/Face-Mount AC Motors



TEFC Enclosure



TENV Enclosure

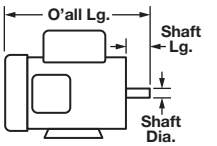

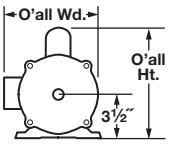

Select a motor that fits many applications—these mount from the base or face and at any angle. They're rated for continuous duty and have wire leads. Enclosure is steel and has a welded base. Shaft is keyed and includes key stock. You can wire for clockwise or counterclockwise rotation; instructions are included. All are UL recognized and CSA certified.

Choose a three-phase motor, which is inverter rated, if you want to use a variable frequency drive (AC motor speed control). For Programmable Three-Phase AC Motor Speed Controls, see page 938.

Washdown motors have an epoxy-coated enclosure, neoprene rubber gaskets, and removable drain plugs. They meet IP55 for protection from water projected from a nozzle.

hp	Max. rpm	Amps @ Full Load	Enclosure Type	Overall Lg.	Overall Wd.	Overall Ht.	Shaft Dia.	Shaft Lg.	Shaft Center to Base	Insulation Class	Insulation Max. Temp., °F		
115/208-230 Volts AC, Single Phase													
General Purpose NEMA 56C													
1/3	1,725	6/3.6-3	TEFC	11½"	8½"	8"	5/8"	1 7/8"	3½"	B	266°	59845K11	$308.45
½	1,725	7.4/4.3-3.7	TEFC	12"	8½"	8"	5/8"	1 7/8"	3½"	B	266°	59845K12	360.53
½	3,450	7/4.1-3.5	TEFC	11½"	8½"	8¾"	5/8"	1 7/8"	3½"	B	266°	59845K13	309.26
¾	1,725	8.4/5.4-4.2	TEFC	12½"	8½"	8¾"	5/8"	1 7/8"	3½"	F	311°	59845K14	430.52
1	1,725	12.8/7-6.4	TEFC	13¼"	9½"	9¼"	5/8"	1 7/8"	3½"	F	311°	59845K15	485.87
1	3,450	11.8/6.1-5.9	TEFC	12¼"	9½"	9¼"	5/8"	1 7/8"	3½"	B	266°	59845K16	397.97
1½	3,450	15/7.9-7.5	TEFC	13¼"	9½"	9¼"	5/8"	1 7/8"	3½"	B	266°	59845K17	478.37
Washdown NEMA 56C													
½	1,725	7.4/4.1-3.7	TEFC	12¼"	9½"	9¼"	5/8"	1 7/8"	3½"	F	311°	59845K41	504.58
¾	1,725	11/7-5.5	TEFC	12¼"	9½"	9¼"	5/8"	1 7/8"	3½"	F	311°	59845K42	544.87
1	1,725	12.8/7-6.4	TEFC	13¼"	9½"	9¼"	5/8"	1 7/8"	3½"	F	311°	59845K44	626.49
1½	1,725	12.4/6.8-6.2	TEFC	14¼"	9½"	9¼"	5/8"	1 7/8"	3½"	F	311°	59845K45	750.42
208-230/460 Volts AC, Three Phase													
General Purpose NEMA 56C													
1/3	1,725	1.9-1.6/0.8	TEFC	11½"	8½"	6¾"	5/8"	1 7/8"	3½"	B	266°	59845K23	306.82
¾	1,725	3.2-3/1.5	TEFC	11½"	8½"	6¾"	5/8"	1 7/8"	3½"	B	266°	59845K21	360.53
1	1,760	3.1-3/1.5	TEFC	12¼"	9¼"	7¼"	5/8"	1 7/8"	3½"	F	311°	59845K24	547.94
General Purpose NEMA 145TC													
2	1,755	6-5.8/2.9	TEFC	14¼"	9½"	7¼"	7/8"	2¼"	3½"	F	311°	59845K72	601.55
Washdown NEMA 56C													
½	1,740	1.8-1.6/0.8	TENV	11¼"	9¼"	7¼"	5/8"	1 7/8"	3½"	F	311°	59845K51	494.24
¾	1,750	3-2.8/1.4	TENV	11¼"	9¼"	7¼"	5/8"	1 7/8"	3½"	F	311°	59845K56	535.80
1	1,745	3-2.9/1.5	TENV	12¼"	9¼"	7¼"	5/8"	1 7/8"	3½"	F	311°	59845K73	788.97
2	1,755	6-5.8/2.9	TEFC	14¼"	9½"	7¼"	5/8"	1 7/8"	3½"	F	311°	59845K74	897.74
230/460 Volts AC, Three Phase													
General Purpose NEMA 56C													
½	1,740	1.6/0.8	TENV	11¼"	9¼"	7¼"	5/8"	1 7/8"	3½"	F	311°	59845K31	436.22

Adjustable Motor-Mounting Bases



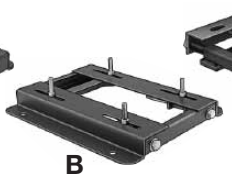



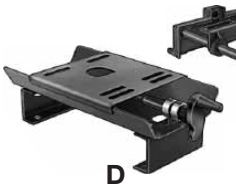





Increase energy efficiency in belt-driven systems while reducing wear on components—use one of these steel bases to adjust your motor position to get the proper belt tension.

Bases for constant-speed applications keep your motor in a fixed position while operating. Mount horizontally.

Bases for variable-speed applications allow movement while operating to compensate for vibration and varying loads. They're often used for automatic belt tensioning with spring-loaded pulleys in variable-speed drive applications. *Styles C, D, and F* mount at any angle. *Style E* mounts horizontally and vertically.

	Fits NEMA Frame	For Max. Motor hp	Max. Adjustment	Adjustment Style	Lg.	Wd.	Ht.		
For Linear Adjustment in Constant-Speed Applications									
A	56	3	3"	Cap Screw	10 5/8"	6½"	1⅛"	62035K21	$21.62
A	143, 143T	1½	3"	Cap Screw	10½"	7½"	1⅛"	62035K22	27.15
A	145, 145T	3	3"	Cap Screw	10½"	8½"	1⅛"	62035K23	27.15
A	182, 182T	5	3"	Cap Screw	12¾"	9½"	1½"	62035K24	32.10
A	184, 184T	7½	3"	Cap Screw	12¾"	10½"	1½"	62035K25	32.10
A	213, 213T	10	3½"	Cap Screw	15"	11"	1¾"	62035K26	43.54
A	215, 215T	15	3½"	Cap Screw	15"	12½"	1¾"	62035K27	43.54
B	254, 254T	20	4"	Cap Screw	17¾"	15⅛"	2"	62035K28	81.25
B	256, 256T	25	4"	Cap Screw	17¾"	16⅞"	2"	62035K29	81.25
B	284, 284T	30	4½"	Cap Screw	19¾"	16⅞"	2"	62035K31	88.75
B	286, 286T	40	4½"	Cap Screw	19¾"	18⅜"	2"	62035K32	88.75
For Linear Adjustment in Variable-Speed Applications									
C	48, 56	3	2⅛"	Hex Nuts	9½"	5⅞"	1⅜"	61945K11	117.74
D	48, 56	3	5⅞"	Hand Crank	13⅛"	6¼"	3"	6104K12	147.40
E	48, 56, 56H, 66, 143T, 145T, 182, 184, 203	2	8"	Hand Crank	18⅛"	8"	3¼"	6531K12	160.52
For Angular Adjustment in Variable-Speed Applications									
F	48, 56	3	30°	Hand Crank	13"	6⅞"	3 9/16"	6104K11	166.58

Face-Mount AC Motors

Also known as C-face motors, these bolt directly to your equipment at any angle. They're rated for continuous duty and have a steel enclosure and wire leads. Shaft is keyed and comes with key stock. You can wire for clockwise or counterclockwise rotation; instructions are included. Motors with a max. temperature of 266° F meet insulation Class B; those with a max. temperature of 311° F meet insulation Class F. They're UL recognized and CSA certified.

For use with a variable frequency drive (AC motor speed control), choose a three-phase motor that's inverter rated.



ODP Enclosure



TEFC Enclosure



TENV Enclosure

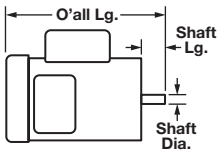

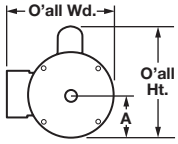

hp	Max. rpm	Amps @ Full Load	Enclosure Type	Overall Lg.	Overall Wd.	Overall Ht.	Shaft Dia.	Shaft Lg.	Center to Base (A)	Max. Temp., °F		
115/208-230 Volts AC, Single Phase												
NEMA 56C												
1/4	1,725	2.6/1.9-1.3	ODP	12″	8 1/4″	8 1/4″	5/8″	1 7/8″	3″	266°	6135K111	$334.51
1/4	1,725	5/3-2.5	TEFC	11 1/2″	8 1/2″	7 1/2″	5/8″	1 7/8″	3″	266°	6135K211	295.43
1/3	1,725	6/3.6-3	TEFC	11 1/2″	8 1/2″	7 1/2″	5/8″	1 7/8″	3″	266°	6135K212	302.75
1/3	1,740	3.4/2.5-1.7	ODP	12″	8 1/4″	8 1/4″	5/8″	1 7/8″	3″	266°	6135K112	358.11
1/3	3,450	6/3.2-3	TEFC	11 1/2″	8 1/2″	7 1/2″	5/8″	1 7/8″	3″	266°	6135K213	272.64
1/2	1,725	4.7/3.2-2.4	ODP	12 3/4″	8 1/4″	8 1/4″	5/8″	1 7/8″	3″	266°	6135K113	398.80
1/2	1,725	7.4/4.3-3.7	TEFC	12″	8 1/2″	7 1/2″	5/8″	1 7/8″	3″	266°	6135K201	354.02
1/2	3,450	7/4.1-3.5	TEFC	11 1/2″	8 1/2″	8 1/4″	5/8″	1 7/8″	3″	266°	6135K202	306.01
3/4	1,725	8.4/5.4-4.2	TEFC	12 1/2″	8 1/2″	8 1/4″	5/8″	1 7/8″	3″	311°	6135K203	405.30
3/4	3,450	9.6/6.1-4.8	TEFC	12″	8 1/2″	8 1/4″	5/8″	1 7/8″	3″	266°	6135K204	340.19
1	1,725	12.8/7-6.4	TEFC	13 1/4″	9 1/2″	9 1/4″	5/8″	1 7/8″	3 5/8″	311°	6135K205	464.71
1	3,450	11.8/6.1-5.9	TEFC	12 1/4″	9 1/2″	9 1/4″	5/8″	1 7/8″	3 5/8″	266°	6135K206	391.46
1 1/2	1,725	12.4/6.8-6.2	TEFC	14 1/4″	9 1/2″	9″	5/8″	1 7/8″	3 3/8″	266°	6135K207	488.95
1 1/2	3,450	16/8.4-8	TEFC	13 1/4″	9 1/2″	9 1/4″	5/8″	1 7/8″	3 5/8″	266°	6135K208	473.08
2	3,450	23/12-11.5	TEFC	14 1/4″	9 1/2″	9 1/4″	5/8″	1 7/8″	3 5/8″	311°	6135K209	605.33
115-230 Volts AC, Single Phase												
NEMA 56C												
1/2	3,450	4.9/2.5	ODP	12″	8 1/4″	8 1/4″	5/8″	1 7/8″	3″	266°	6135K114	372.76
3/4	1,755	6.5/3.3	ODP	13 1/4″	9″	9″	5/8″	1 7/8″	3 3/8″	266°	6135K115	470.42
1	1,750	8.4/4.2	ODP	13 1/4″	9 1/4″	9″	5/8″	1 7/8″	3 3/8″	266°	6135K116	538.79
1 1/2	1,725	12.4/6.2	ODP	15 1/2″	9 1/4″	9″	5/8″	1 7/8″	3 3/8″	266°	6135K117	637.27
208-230/460 Volts AC, Three Phase												
NEMA 56C												
1/4	1,725	1.7-1.3/0.7	TEFC	11 1/2″	8 1/2″	6″	5/8″	1 7/8″	3″	266°	6135K501	267.76
1/3	1,725	1.5-1.4/0.7	TENV	10 1/4″	8 1/4″	6″	5/8″	1 7/8″	3″	266°	6135K603	313.33
1/3	1,725	1.7-1.4/0.7	ODP	11 1/4″	8 1/4″	6 1/4″	5/8″	1 7/8″	3″	266°	6135K118	338.36
1/3	3,450	1.5-1.2/0.6	ODP	11 1/4″	8 1/4″	6 1/4″	5/8″	1 7/8″	3″	266°	6135K119	387.41
1/2	1,725	2.1-1.6/0.8	ODP	12 3/4″	8 1/4″	6 1/4″	5/8″	1 7/8″	3″	266°	6135K121	370.85
1/2	1,725	2.1-2/1	TENV	10 1/4″	8 1/4″	6″	5/8″	1 7/8″	3″	311°	6135K604	361.35
1/2	3,450	1.9-1.6/0.8	ODP	11 1/4″	8 1/4″	6 1/4″	5/8″	1 7/8″	3″	266°	6135K122	360.26
3/4	1,725	3.2-3/1.5	TEFC	11 1/2″	8 1/2″	6″	5/8″	1 7/8″	3″	266°	6135K512	360.54
3/4	1,730	2.1-2/1	ODP	12 1/4″	9 1/4″	7″	5/8″	1 7/8″	3 3/8″	266°	6135K123	406.17
3/4	3,450	3.1-2.6/1.3	TEFC	11 1/2″	8 1/2″	6″	5/8″	1 7/8″	3″	266°	6135K513	343.44
1	1,750	3-2.9/1.5	ODP	12 1/4″	9 1/4″	7″	5/8″	1 7/8″	3 3/8″	311°	6135K124	426.66
1	1,760	3.1-3/1.5	TEFC	12 1/4″	8 7/8″	6 7/8″	5/8″	1 7/8″	3 1/4″	311°	6135K522	539.02
1	3,450	3-2.8/1.4	TEFC	12 1/4″	8 7/8″	6 7/8″	5/8″	1 7/8″	3 1/4″	311°	6135K525	539.58
1 1/2	3,480	4-3.8/1.9	TEFC	12 1/4″	8 7/8″	6 7/8″	5/8″	1 7/8″	3 1/4″	311°	6135K527	568.88
2	3,490	5.3-5/2.5	TEFC	12 1/4″	8 7/8″	6 7/8″	5/8″	1 7/8″	3 1/4″	311°	6135K529	624.22
208-230/460 Volts AC, Three Phase—Inverter Rated												
NEMA 56C												
1 1/2	1,760	4.5-4.4/2.2	TEFC	13 1/4″	8 7/8″	7 1/4″	5/8″	1 7/8″	3 5/8″	311°	6135K606	599.31
2	1,755	6.6-5.8/2.9	TEFC	13 1/4″	8 7/8″	7 1/4″	5/8″	1 7/8″	3 5/8″	311°	6135K608	631.92
NEMA 145TC												
1 1/2	1,725	4.5-4.4/2.2	TEFC	13 1/2″	9 1/2″	7 1/4″	7/8″	2 1/4″	3 5/8″	311°	6135K701	611.37
2	1,725	5.8-5.8/2.9	TEFC	14 1/4″	9 1/2″	7 1/4″	7/8″	2 1/4″	3 5/8″	311°	6135K702	628.75

Base/Face-Mount DC Motors

With two location options for any-angle mounting, you can put these motors to work in a variety of equipment configurations. They're rated for continuous duty and have wire leads. The enclosure is steel and aluminum and has a removable base. Shaft is keyed and comes with key stock. Wire for clockwise or counterclockwise rotation; instructions are included. Motors meet insulation Class F for a max. temperature of 311° F. They're UL recognized and CSA certified.

To convert AC power to DC power, see AC to DC transformers on pages 985 and 986.



TENV Enclosure



TEFC Enclosure

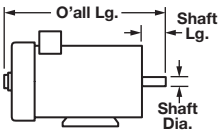

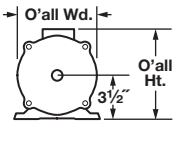

hp	rpm @ Continuous Operating Torque	Amps @ Full Load	Enclosure Type	Overall Lg.	Overall Wd.	Overall Ht.	Shaft Dia.	Shaft Lg.	Center to Base		
90 Volts DC											
NEMA 56C											
1/4	1,750 rpm @ 11.3 in.-lbs.	2.5	TENV	12 1/4″	6 1/2″	8 3/4″	5/8″	1 7/8″	3 1/2″	6215K71	$525.22
1/3	1,750 rpm @ 9 in.-lbs.	3.2	TENV	13 1/4″	6 1/2″	8 3/4″	5/8″	1 7/8″	3 1/2″	6215K72	553.94
1/2	1,750 rpm @ 96 in.-lbs.	4.8	TENV	15″	6 1/2″	8 3/4″	5/8″	1 7/8″	3 1/2″	6215K73	619.69
1/2	2,500 rpm @ 15 in.-lbs.	5	TENV	13 1/4″	6 1/2″	8 1/4″	5/8″	1 7/8″	3 1/2″	6215K74	553.94
3/4	1,750 rpm @ 27 in.-lbs.	7.6	TEFC	14 3/4″	6 3/4″	7 1/2″	5/8″	1 7/8″	3 1/2″	6215K75	752.69
1	1,750 rpm @ 45 in.-lbs.	10	TEFC	15 1/2″	6 3/4″	7 1/2″	5/8″	1 7/8″	3 1/2″	6215K76	915.17
1	2,500 rpm @ 52.5 in.-lbs.	9.7	TEFC	14 3/4″	6 3/4″	7 1/2″	5/8″	1 7/8″	3 1/2″	6215K77	752.69
180 Volts DC											
NEMA 56C											
1/4	1,750 rpm @ 9 in.-lbs.	1.3	TENV	12 1/4″	6 1/2″	8 3/4″	5/8″	1 7/8″	3 1/2″	6215K78	525.22
1/3	1,750 rpm @ 15.2 in.-lbs.	1.6	TENV	13 1/4″	6 1/2″	8 3/4″	5/8″	1 7/8″	3 1/2″	6215K79	553.94
1/2	1,750 rpm @ 18 in.-lbs.	2.5	TENV	15″	6 1/2″	8 3/4″	5/8″	1 7/8″	3 1/2″	6215K81	619.69
3/4	1,750 rpm @ 41.3 in.-lbs.	3.7	TEFC	14 3/4″	6 3/4″	7 1/2″	5/8″	1 7/8″	3 1/2″	6215K82	752.69
1	1,750 rpm @ 36.6 in.-lbs.	5	TEFC	15 1/2″	6 3/4″	7 1/2″	5/8″	1 7/8″	3 1/2″	6215K83	915.17
NEMA 145TC											
1 1/2	1,750 rpm @ 67.5 in.-lbs.	7.7	TEFC	16 1/2″	7 1/4″	8″	7/8″	2 1/4″	3 1/2″	6215K84	1,686.00
2	2,500 rpm @ 66 in.-lbs.	10	TEFC	16 1/2″	7 1/4″	8″	7/8″	2 1/4″	3 1/2″	6215K85	1,686.00

Compact DC Motors

Round Face





With Mounting Threads

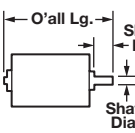

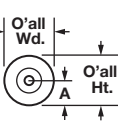

Square Face



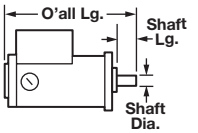

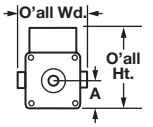

Power small machinery in spaces where other motors won't fit. Motors are rated for continuous duty and have a steel enclosure and wire leads, unless noted. You can wire for clockwise or counterclockwise shaft rotation; instructions are included. Mount motors at any angle, except high-performance motors mount horizontally.

To control motor speed, see AC to DC Motor Speed Controls on page 938. To convert AC power to DC power, see AC to DC transformers on pages 985 and 986.

Round-face motors have a solid shaft (no keyway). **High-performance round-face** motors have less torque loss at high speeds than other compact motors.

Square-face motors have a D-profile shaft. They're UL recognized, CSA certified, and CE marked.

rpm @ Continuous Operating Torque	Amps @ Full Load	Enclosure Type	Overall Lg.	Overall Wd.	Overall Ht.	Shaft Dia.	Shaft Lg.	Center to Base (A)	Insulation Class	Insulation Max. Temp., °F		
Round-Face Motors												
12 Volts DC												
3,000 rpm @ 21 in.-oz.	4.9	TENV	4¾″	2¼″	2¾″	0.25″	1″	1.06″	F	311°	6331K13★	$99.53
5,102 rpm @ 4.7 in.-oz.	2	TENV	2¾″	1½″	1½″	0.16″	0.56″	0.79″	F	311°	6331K12	82.74
5,243 rpm @ 6.1 in.-oz.	2.6	TENV	3″	1½″	1½″	0.16″	0.56″	0.79″	F	311°	6331K62	99.41
5,782 rpm @ 0.81 in.-oz.	0.5	TENV	1¾″	¾″	¾″	0.1″	0.59″	0.43″	B	266°	6331K21★	94.84
5,933 rpm @ 1.32 in.-oz.	0.7	TENV	2¼″	¾″	¾″	0.1″	0.59″	0.43″	B	266°	6331K23★	97.61
6,172 rpm @ 1.58 in.-oz.	1	TENV	2½″	1¼″	1¼″	0.16″	0.56″	0.59″	F	311°	6331K11	86.57
8,574 rpm @ 2.62 in.-oz.	1.9	TENV	3″	1¼″	1¼″	0.16″	0.56″	0.59″	F	311°	6331K59	99.41
24 Volts DC												
3,000 rpm @ 21 in.-oz.	2.4	TENV	4¾″	2¼″	2¾″	0.25″	1″	1.06″	F	311°	6331K16★	148.35
3,230 rpm @ 26 in.-oz.	3.2	TENV	5″	2¼″	2¾″	0.25″	1″	1.06″	F	311°	6331K67★	168.45
4,535 rpm @ 11.5 in.-oz.	2	TENV	4″	1½″	1½″	0.2″	0.56″	0.79″	F	311°	6331K65	126.14
5,102 rpm @ 4.7 in.-oz.	1	TENV	2¾″	1½″	1½″	0.16″	0.56″	0.79″	F	311°	6331K15	93.38
5,243 rpm @ 6.1 in.-oz.	1.3	TENV	3″	1½″	1½″	0.16″	0.56″	0.79″	F	311°	6331K63	100.76
5,782 rpm @ 0.81 in.-oz.	0.3	TENV	1¾″	¾″	¾″	0.1″	0.59″	0.43″	B	266°	6331K22★	96.16
5,933 rpm @ 1.32 in.-oz.	0.4	TENV	2¼″	¾″	¾″	0.1″	0.59″	0.43″	B	266°	6331K24★	98.94
6,172 rpm @ 1.58 in.-oz.	0.5	TENV	2½″	1¼″	1¼″	0.16″	0.56″	0.59″	F	311°	6331K14	88.67
8,574 rpm @ 2.62 in.-oz.	1	TENV	3″	1¼″	1¼″	0.16″	0.56″	0.59″	F	311°	6331K61	100.76
High-Performance Round-Face Motors												
12 Volts DC												
7,060 rpm @ 0.99 in.-oz.	0.7	TENV	1½″	⅞″	1½″	0.08″	0.26″	0.43″	B	266°	6331K85★	112.08
12,000 rpm @ 0.6 in.-oz.	0.6	TENV	2″	⅝″	1″	0.06″	0.24″	0.32″	A	221°	6331K84★	279.38
High-Performance Round-Face Motors with Mounting Threads												
6 Volts DC												
5,650 rpm @ 0.18 in.-oz.	0.3	TENV	1″	½″	1″	0.06″	0.14″	0.26″	A	221°	6331K86★	140.46
12 Volts DC												
5,410 rpm @ 0.08 in.-oz.	0.1	TENV	1″	5/16″	5/16″	0.03″	0.22″	0.16″	A	221°	6331K81★	142.38
6,510 rpm @ 0.22 in.-oz.	0.2	TENV	1⅜″	⅜″	⅜″	0.04″	0.22″	0.2″	A	221°	6331K82★	126.46
Square-Face Motors												
24 Volts DC												
3,500 rpm @ 82 in.-oz.	13	TENV	9″	4¼″	5″	0.5″	1.44″	1.57″	F	311°	59835K63	252.93
3,900 rpm @ 94 in.-oz.	14	TENV	9½″	4¼″	5″	0.5″	1.44″	1.57″	F	311°	59835K64	266.55
4,200 rpm @ 28.8 in.-oz.	4.4	TENV	6½″	3″	2¾″	0.31″	1.47″	1.28″	F	311°	59835K61	163.38
4,200 rpm @ 40 in.-oz.	7.7	TENV	6½″	3½″	5″	0.5″	1.43″	1.57″	F	311°	59835K62	188.84

★ Motor has lug terminals.

Speed-Control Motors





Control Face

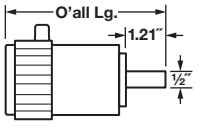

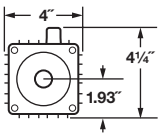

Maintain speed automatically. These motors come with a speed control with a feedback sensor that adjusts power to maintain your set speed. They combine the speed control characteristics of permanent magnet brushless DC motors with the convenience of AC power—an integrated inverter means they operate on 120 volts AC.

Motors are rated for continuous duty. They mount at any angle and have a 9-ft. cord with plug. Shaft is keyed and comes with key stock. Use the switch on the speed control to set clockwise or counterclockwise rotation. Enclosure is steel and aluminum and meets IP50 for dust protection.

All have manual overload protection—an LED on the speed control indicates when the overload protection is triggered; use the switch to reset. Control also has an on/off switch and a speed adjustment knob. Panel mount the control up to 10 feet from the motor—it comes with a 10-ft. cable for connection. Control fits in a 4″ Wd. × 2⅞″ Ht. panel opening.

hp	Max. rpm	Torque @ Max. rpm, in.-lbs.	Amps @ Full Load	Enclosure Type	Overall Lg.	Overall Wd.	Overall Ht.	Shaft Dia.	Shaft Lg.	Center to Base	Insulation Class	Insulation Max. Temp., °F		
NEMA 34														
1/5	1,750	8.1	2	TENV	7½″	4″	4¼″	½″	1.21″	1.93″	B	113°	7200K1	$820.35
1/3	1,750	13.4	8	TENV	8½″	4″	4¼″	½″	1.21″	1.93″	B	113°	7200K2	890.08
1/3	3,450	6.5	4	TENV	7½″	4″	4¼″	½″	1.21″	1.93″	B	113°	7200K3	843.18

Position-Control DC Motors

Also known as stepper motors, these motors turn their shaft in discrete increments for precise position control. Each has a solid shaft (not keyed) that can turn clockwise or counterclockwise. Motors have an aluminum and steel enclosure, ball bearings, and wire leads. They're rated for continuous duty and mount at any angle.

Motors, Drivers, and Controllers

Motors have a 1.8° full step. They require drivers and/or controllers (sold separately) to operate. All meet insulation Class B with a max. temperature of 266° F.

Drivers convert voltage into pulses that rotate the motor shaft. All drivers require a controller, PLC, or computer to function. They come with instructions and a data cable, unless noted. *Drivers for NEMA 8, 11, 14, and 17 motors* step down to 0.23°, unless noted. *Drivers for NEMA 23 and 34 motors* step down to 0.007°.

Controllers store programs to run the drivers. They have three input ports and two output ports, unless noted. They come with instructions and a data cable. *Controllers for NEMA 8, 11, 14, and 17 motors* store up to 16 programs. They have a built-in driver and step down to 0.007°. *Controller for NEMA 23 and 34 motors* stores 2 programs that it can run simultaneously. It requires a driver to operate (sold separately).

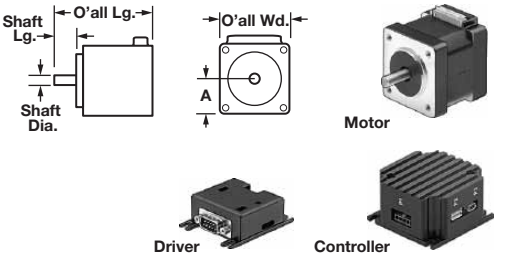

Max. rpm	Cont. Operating Torque, in.-oz.	Full Steps per Second	Amps @ Full Load	Overall Lg.	Overall Wd.	Shaft Dia.	Shaft Lg.	Shaft Ctr. to Base (A)	Motors		Drivers		Controllers	
											DC Voltage		DC Voltage	
NEMA 8														
3,000	1.6	10,000	0.6	2″	¾″	0.16″	0.59″	0.4″	**6627T33**	$79.50	12-24	**6627T41** $99.43	12-40	**6627T51** $368.57
3,750	1.6	10,000	0.8	2¼″	¾″	0.16″	0.59″	0.4″	**6627T34**	91.50	12-24	**6627T41** 99.43	12-40	**6627T51** 368.57
NEMA 11														
2,250	1.8	10,000	0.7	2¾″	1″	0.2″	0.79″	0.56″	**6627T35**	85.50	12-24	**6627T41** 99.43	12-40	**6627T51** 368.57
2,250	2	10,000	0.7	2½″	1″	0.2″	0.79″	0.56″	**6627T36**	79.50	12-24	**6627T41** 99.43	12-40	**6627T51** 368.57
3,000	2	10,000	0.7	2″	1″	0.2″	0.79″	0.56″	**6627T37**	73.50	12-24	**6627T41** 99.43	12-40	**6627T51** 368.57
NEMA 14														
750	10.2	5,000	0.8	2″	1½″	0.2″	0.6″	0.7″	**6627T38**	66.16	12-24	**6627T41** 99.43	12-40	**6627T51** 368.57
3,000	2.8	10,000	0.5	1½″	1½″	0.2″	0.6″	0.7″	**6627T39**	61.43	12-24	**6627T41** 99.43	12-40	**6627T51** 368.57
NEMA 17														
750	7.5	1,600	0.7	2¼″	1¾″	0.2″	0.94″	0.84″	**6627T66**	56.10	12-24	**6627T41** 99.43	12-40	**6627T51** 368.57
900	8.8	4,100	0.6	2″	1¾″	0.2″	0.94″	0.84″	**6627T65**	57.09	12-24	**6627T41** 99.43	12-40	**6627T51** 368.57
1,230	7	4,100	0.7	2″	1¾″	0.2″	0.94″	0.84″	**6627T64**	57.60	12-24	**6627T41** 99.43	12-40	**6627T51** 368.57
2,250	8	2,500	2	2½″	1¾″	0.2″	0.94″	0.84″	**6627T67**	61.39	12-48	**6627T59** ★376.61	12-40	**6627T63** ■ 471.57
NEMA 23														
600	17	2,000	2.5	3″	2¼″	¼″	0.81″	1⅛″	**6627T53**	73.71	12-48	**6627T81** 473.33	12-48	**6627T68** 364.29
900	35	3,000	6	5″	2¼″	¼″	0.81″	1⅛″	**6627T55**	146.47	12-80	**6627T62** ▲487.70	12-48	**6627T68** 364.29
2,250	23	7,000	4	4″	2¼″	¼″	0.81″	1⅛″	**6627T54**	102.06	12-80	**6627T62** ▲487.70	12-48	**6627T68** 364.29
NEMA 34														
600	22	1,800	4.2	4″	3½″	½″	1.46″	1.7″	**6627T56**	143.33	12-80	**6627T62** ▲487.70	12-48	**6627T68** 364.29
600	50	1,000	4.8	6½″	3½″	½″	1.46″	1.7″	**6627T58**	307.13	12-80	**6627T62** ▲487.70	12-48	**6627T68** 364.29
720	70	360	4.2	5¼″	3½″	½″	1.46″	1.7″	**6627T57**	214.99	12-80	**6627T62** ▲487.70	12-48	**6627T68** 364.29

★ Driver steps down to 0.007°. ■ Controller has two input ports and four output ports. ▲ Data cable not included.

Motors with Integrated Driver and Controller

A convenient all-in-one solution, these motors store up to 16 programs and come with instructions and a cable for connection to your computer. They have a NEMA 17 frame and meet insulation Class B with a max. temperature of 266° F.

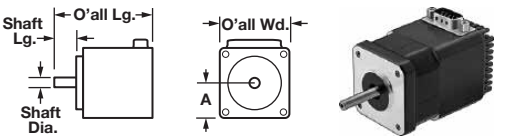

Max. rpm	Continuous Operating Torque, in.-oz.	Full Step Increment	Full Step Steps per Second	Smallest Step Increment	DC Voltage	Amps @ Full Load	Overall Lg.	Overall Wd.	Shaft Dia.	Shaft Lg.	Shaft Ctr. to Base (A)	
750	9.5	1.8°	2,500	0.007°	12-40	1.1	4¼″	1¾″	0.2″	0.94″	0.84″	**6627T24** $448.57
1,200	6.2	1.8°	5,000	0.007°	12-40	0.9	3¾″	1¾″	0.2″	0.94″	0.84″	**6627T25** 391.43
1,500	6.3	1.8°	5,000	0.007°	12-40	1.4	3¾″	1¾″	0.2″	0.94″	0.84″	**6627T26** 427.14

Compact Square-Face DC Gearmotors

Drive low-speed, high-torque applications in small spaces. Gearmotors combine a motor and speed reducer to lower speed and increase torque. They're rated for continuous duty and mount at any angle. Shaft has a D-profile and can be wired for clockwise or counterclockwise rotation. Gearmotors have a die-cast zinc enclosure and lug terminals. They meet insulation Class B for a max. temperature of 266° F.

To control motor speed, see AC to DC Motor Speed Controls on page 938. To convert AC power to DC power, see AC to DC transformers on pages 985 and 986.

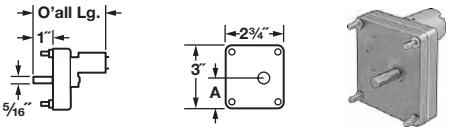

rpm @ Continuous Operating Torque	Amps @ Full Load	O'all Lg.	Shaft Ctr. to Base (A)	
12 Volts DC				
0.6 rpm @ 50 in.-lbs.	0.1	3¼″	1.43″	**6409K11** $53.16
1.3 rpm @ 50 in.-lbs.	0.5	3½″	1.43″	**6409K12** 53.16
4 rpm @ 40 in.-lbs.	0.7	3¼″	1.43″	**6409K13** 53.16
8 rpm @ 40 in.-lbs.	0.7	4″	1.43″	**6409K14** 53.16
12 rpm @ 40 in.-lbs.	1.3	3½″	1.43″	**6409K15** 53.16
16 rpm @ 25 in.-lbs.	1.4	3½″	1.43″	**6409K16** 53.16
25 rpm @ 20 in.-lbs.	1.3	3½″	1.43″	**6409K17** 53.16
50 rpm @ 10 in.-lbs.	1.2	3½″	2.08″	**6409K18** 53.16

rpm @ Continuous Operating Torque	Amps @ Full Load	O'all Lg.	Shaft Ctr. to Base (A)	
24 Volts DC				
1.2 rpm @ 50 in.-lbs.	0.1	3¼″	1.43″	**6409K21** $53.16
4 rpm @ 50 in.-lbs.	0.4	3¼″	1.43″	**6409K22** 53.16
8 rpm @ 34 in.-lbs.	0.5	3½″	1.43″	**6409K23** 53.16
12 rpm @ 24 in.-lbs.	0.4	3½″	1.43″	**6409K24** 53.16
17 rpm @ 17 in.-lbs.	0.5	3½″	1.43″	**6409K25** 53.16
25 rpm @ 50 in.-lbs.	1.1	4″	1.43″	**6409K26** 53.16
47 rpm @ 28 in.-lbs.	1.1	4″	2.08″	**6409K27** 53.16

Compact Linear Solenoids



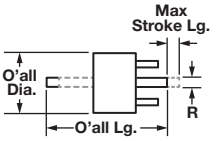

A thin profile allows these solenoids to fit well in narrow spaces. You can use them to push or pull—use the side with the unthreaded rod (R) and two mounting studs to push or use the opposite side with the threaded rod to pull. Solenoids have a steel body and wire leads. They require a spring (not included) to return the rod to its original position. Max. temperature is 221° F. Mount at any angle. Solenoids are rated IP51 for protection from dust and dripping water. Components are UL recognized.

To Order: Please specify 12 or 24 volts DC.

Max. Stroke Lg.	Overall Dia.	Overall Lg.	Rod Dia. (R)	Rod Thread Size	Mounting Thread Size	Intermittent Use: Force, oz. @ 100% Stroke Lg.	Intermittent Use: Power Draw, watts	Intermittent Use: Seconds On/Off			Continuous Use: Force, oz. @ 100% Stroke Lg.	Continuous Use: Power Draw, watts		
0.2"	1"	1 3/4"	0.13"	6-32	4-40	—	—	—	—	—	2	4	6873K2	$47.72
0.2"	1 1/4"	1 1/2"	0.16"	8-32	4-40	7	18	30/90	6873K3	$67.54	2	4.5	6873K4	67.54
0.3"	1"	1 3/4"	0.13"	6-32	4-40	1	16	20/60	6873K1	47.72	—	—	—	—
0.5"	2 3/4"	4 3/4"	0.38"	3/8"-24	1/4"-20	—	—	—	—	—	45	20	6873K6	133.40
0.7"	2 3/4"	4 3/4"	0.38"	3/8"-24	1/4"-20	50	80	90/270	6873K5	133.40	—	—	—	—

Rotary Solenoids



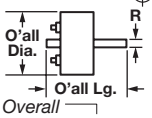

If your application requires rotary motion, take one of these solenoids for a spin. They're rated IP51 for protection from dust and dripping water. Solenoids have a steel body and wire leads. They have a built-in spring that returns the rod to its original position. Max. temperature is 221° F. Mount at any angle.

Max. Rotation	Overall Dia.	Overall Lg.	Rod Dia. (R)	Intermittent Use: Torque, in.-oz. @ 50% Rotation	Intermittent Use: Power Draw, watts	Intermittent Use: Minutes On/Off			Continuous Use: Torque, in.-oz. @ 50% Rotation	Continuous Use: Power Draw, watts		
12 Volts DC—Please specify clockwise or counterclockwise rotation												
40°	1 1/2"	1 3/4"	0.19"	11.2	36	1/3	1098N12	$149.52	2.8	9	1098N11	$149.52
40°	2"	2 1/4"	0.24"	17	40	1.5/4.5	1098N16	164.48	6.8	10	1098N15	164.48
40°	2"	2 1/4"	0.24"	24	44	1.5/4.5	1098N21	172.69	9.5	11	1098N19	172.69
40°	2 3/4"	2 1/4"	0.24"	41	48	3.5/10.5	1098N25	221.58	16	12	1098N24	221.58
24 Volts DC—Please specify clockwise or counterclockwise rotation												
40°	1 1/2"	1 3/4"	0.19"	11.2	36	1/3	1098N13	149.52	2.8	9	1098N14	149.52
40°	2"	2 1/4"	0.24"	17	40	1.5/4.5	1098N17	164.48	6.8	10	1098N18	164.48
40°	2"	2 1/4"	0.24"	24	44	1.5/4.5	1098N22	172.69	9.5	11	1098N23	172.69
40°	2 3/4"	2 1/4"	0.24"	41	48	3.5/10.5	1098N26	221.58	16	12	1098N27	221.58

AC Gearmotors

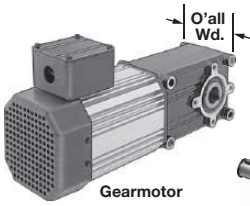

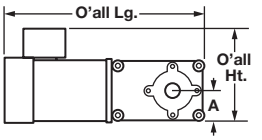


Optional Shaft

A motor and speed reducer in one, these gearmotors have hypoid gears for energy-efficient operation. You can use them to turn a shaft on your equipment or add a keyed shaft (sold separately). Wire for clockwise or counterclockwise rotation; instructions are included. Gearmotors are rated for continuous duty and mount at any angle.

Enclosure is anodized aluminum and rated IP54 for protection from dust and splashed water. It meets insulation Class F with a max. temperature of 311° F. Gearmotors have wire leads and are inverter rated so you can use them with a variable frequency drive (AC motor speed control). Components are UL recognized.

hp	rpm @ Continuous Operating Torque	Overall Wd.	Overall Ht.	Shaft Center to Base (A)	230 Volts AC, Three Phase: Amps @ Full Load	230 Volts AC, Three Phase: O'all Lg.			230/400-460 Volts AC, Three Phase: Amps @ Full Load	230/400-460 Volts AC, Three Phase: O'all Lg.		
Fits 3/4" Dia. Shaft												
1/15	7 rpm @ 470 in.-lbs.	4"	6"	1.91"	0.39	13"	6660N48	$564.80	—	—	—	—
1/8	14 rpm @ 440 in.-lbs.	4"	6"	1.91"	0.63	13"	6660N47	610.92	—	—	—	—
1/8	28 rpm @ 220 in.-lbs.	4"	6"	1.91"	0.63	13"	6660N46	610.92	—	—	—	—
1/8	42 rpm @ 145 in.-lbs.	4"	6"	1.91"	0.63	13"	6660N45	610.92	—	—	—	—
1/8	56 rpm @ 105 in.-lbs.	4"	6"	1.91"	0.63	13"	6660N44	610.92	—	—	—	—
1/8	84 rpm @ 73 in.-lbs.	4"	6"	1.91"	0.63	13"	6660N43	610.92	—	—	—	—
1/8	168 rpm @ 35 in.-lbs.	4"	6"	1.91"	0.63	13"	6660N42	610.92	—	—	—	—
Optional 3/4" Dia. × 5 1/4" Lg. Keyed Shaft with Key Stock											6660N51	$43.45
Fits 1" Dia. Shaft												
1/8	7 rpm @ 900 in.-lbs.	4 3/4"	6 3/4"	2.11"	0.85	13 1/2"	6660N17	619.78	0.9/0.7-0.6	15 1/4"	6660N25	635.73
1/8	14 rpm @ 450 in.-lbs.	4 3/4"	6 3/4"	2.11"	0.85	13 1/2"	6660N16	619.78	0.9/0.7-0.6	15 1/4"	6660N24	635.73
1/5	28 rpm @ 360 in.-lbs.	4 3/4"	6 3/4"	2.11"	1.1	13 1/2"	6660N15	673.87	1.2/0.9-0.8	15 1/4"	6660N23	690.72
1/5	42 rpm @ 240 in.-lbs.	4 3/4"	6 3/4"	2.11"	1.1	13 1/2"	6660N14	673.87	1.2/0.9-0.8	15 1/4"	6660N22	690.72
1/5	56 rpm @ 180 in.-lbs.	4 3/4"	6 3/4"	2.11"	1.1	13 1/2"	6660N13	673.87	1.2/0.9-0.8	15 1/4"	6660N21	690.72
1/5	84 rpm @ 120 in.-lbs.	4 3/4"	6 3/4"	2.11"	1.1	13 1/2"	6660N12	673.87	1.2/0.9-0.8	15 1/4"	6660N19	690.72
1/5	168 rpm @ 60 in.-lbs.	4 3/4"	6 3/4"	2.11"	1.1	13 1/2"	6660N11	673.87	1.2/0.9-0.8	15 1/4"	6660N18	690.72
Optional 1" Dia. × 6 1/2" Lg. Keyed Shaft with Key Stock											6660N52	44.33
Fits 1 1/4" Dia. Shaft												
1/4	7 rpm @ 1,730 in.-lbs.	5 1/2"	7 3/4"	2.28"	1.55	14 1/4"	6660N33	788.25	1.25/1-0.9	16"	6660N41	807.75
1/4	14 rpm @ 871 in.-lbs.	5 1/2"	7 3/4"	2.28"	1.55	14 1/4"	6660N32	788.25	1.25/1-0.9	16"	6660N39	807.75
1/2	27 rpm @ 982 in.-lbs.	6"	7 3/4"	2.28"	1.9	13 3/4"	6660N61	821.05	1.94/1-0.9	13 3/4"	6660N68	842.33
1/2	40 rpm @ 655 in.-lbs.	6"	7 3/4"	2.28"	1.9	13 3/4"	6660N59	821.05	1.94/1-0.9	13 3/4"	6660N67	842.33
1/2	53 rpm @ 487 in.-lbs.	6"	7 3/4"	2.28"	1.9	13 3/4"	6660N58	821.05	1.94/1-0.9	13 3/4"	6660N66	842.33
1/2	80 rpm @ 327 in.-lbs.	6"	7 3/4"	2.28"	1.9	13 3/4"	6660N57	821.05	1.94/1-0.9	13 3/4"	6660N65	842.33
1/2	160 rpm @ 168 in.-lbs.	6"	7 3/4"	2.28"	1.9	13 3/4"	6660N56	821.05	1.94/1-0.9	13 3/4"	6660N64	842.33
Optional 1 1/4" Dia. × 7 1/4" Lg. Keyed Shaft with Key Stock											6660N53	47.00

DC Gearmotors

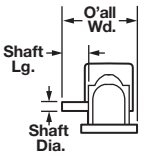

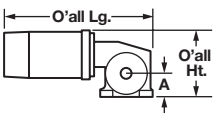


Right-Angle Shaft

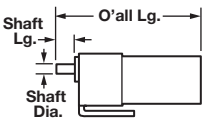

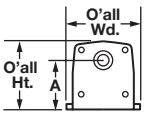


Parallel Shaft

Convert speed to torque to get the power you need—gearmotors are a motor and speed reducer in one. They operate on 90 volts DC, are rated for continuous duty, and have wire leads. Enclosure is steel and aluminum. Shaft is keyed and comes with key stock. You can wire for clockwise or counterclockwise rotation; instructions are included. Mount at any angle with the motor at the same level or above the speed reducer. Components are UL recognized.

To control motor speed, see 7793K on page 938. To convert AC power to DC power, see AC to DC transformers on pages 985 and 986.

Right-angle shaft gearmotors transmit motion at a 90° angle from the motor.

Parallel-shaft gearmotors transmit motion inline with the motor.

hp	rpm @ Continuous Operating Torque	Amps @ Full Load	Enclosure Type	Overall Lg.	Overall Wd.	Overall Ht.	Shaft Dia.	Shaft Lg.	Center to Base (A)	Insulation Class	Insulation Max. Temp., °F		
Right-Angle Shaft													
1/17	42 rpm @ 22 in.-lbs.	0.9	TENV	8¾"	4"	3¾"	½"	1.3"	1.3"	H	356°	59825K31	$388.98
1/17	62 rpm @ 19 in.-lbs.	0.9	TENV	8¾"	4"	3¾"	½"	1.3"	1.3"	H	356°	59825K32	388.98
1/17	116 rpm @ 16 in.-lbs.	0.9	TENV	8¾"	4"	3¾"	½"	1.3"	1.3"	H	356°	59825K33	388.98
1/17	222 rpm @ 10 in.-lbs.	1	TENV	8¾"	4"	3¾"	½"	1.3"	1.3"	H	356°	59825K34	388.98
1/17	445 rpm @ 5 in.-lbs.	1	TENV	8¾"	4"	3¾"	½"	1.3"	1.3"	H	356°	59825K35	402.40
1/8	42 rpm @ 80 in.-lbs.	1.4	TENV	10¾"	5¼"	4¾"	⅝"	1.8"	1.67"	H	356°	59825K36	537.88
1/8	62 rpm @ 70 in.-lbs.	1.4	TENV	10¾"	5¼"	4¾"	⅝"	1.8"	1.67"	H	356°	59825K37	517.19
1/8	122 rpm @ 45 in.-lbs.	1.4	TENV	10¾"	5¼"	4¾"	⅝"	1.8"	1.67"	H	356°	59825K38	517.19
1/8	237 rpm @ 25 in.-lbs.	1.4	TENV	10¾"	5¼"	4¾"	⅝"	1.8"	1.67"	H	356°	59825K39	517.19
1/8	475 rpm @ 13 in.-lbs.	1.4	TENV	10¾"	5¼"	4¾"	⅝"	1.8"	1.67"	H	356°	59825K49	517.19
1/4	60 rpm @ 135 in.-lbs.	2.3	TENV	12¾"	5¼"	4¾"	⅝"	1.8"	1.67"	H	356°	59825K51	536.22
1/4	79 rpm @ 125 in.-lbs.	2.3	TENV	12¾"	5¼"	4¾"	⅝"	1.8"	1.67"	H	356°	59825K52	536.22
1/4	120 rpm @ 90 in.-lbs.	2.3	TENV	12¾"	5¼"	4¾"	⅝"	1.8"	1.67"	H	356°	59825K53	536.22
1/4	233 rpm @ 50 in.-lbs.	2.3	TENV	12¾"	5¼"	4¾"	⅝"	1.8"	1.67"	H	356°	59825K54	536.22
1/4	465 rpm @ 30 in.-lbs.	2.3	TENV	12¾"	5¼"	4¾"	⅝"	1.8"	1.67"	H	356°	59825K55	536.22
Optional Conduit Box for 1/17 hp Right-Angle Shaft Gearmotors												59825K11	21.30
Optional Conduit Box for 1/8 and 1/4 hp Right-Angle Shaft Gearmotors												59825K12	21.30
Parallel Shaft													
1/17	30 rpm @ 100 in.-lbs.	0.8	TENV	8¾"	4½"	5½"	½"	1"	3"	F	311°	6470K71	454.19
1/17	60 rpm @ 56 in.-lbs.	0.8	TENV	8¾"	4½"	5½"	½"	1"	3"	F	311°	6470K72	454.19
1/17	100 rpm @ 36 in.-lbs.	0.8	TENV	8¾"	4½"	5½"	½"	1"	3"	F	311°	6470K73	454.19
1/17	150 rpm @ 24 in.-lbs.	0.8	TENV	8½"	4½"	5½"	½"	1"	3"	F	311°	6470K74	434.44
1/17	300 rpm @ 10 in.-lbs.	0.8	TENV	8½"	4½"	5½"	½"	1"	3"	F	311°	6470K75	434.44
1/8	31 rpm @ 220 in.-lbs.	1.3	TENV	11½"	5"	5¼"	⅝"	1½"	3½"	F	311°	6470K84	478.61
1/8	51 rpm @ 130 in.-lbs.	1.3	TENV	11½"	5"	6¼"	⅝"	1½"	3½"	F	311°	6470K88	492.10
1/8	61 rpm @ 113 in.-lbs.	1.3	TENV	11½"	5"	5¼"	⅝"	1½"	3½"	F	311°	6470K85	466.13
1/8	94 rpm @ 77 in.-lbs.	1.3	TENV	11½"	5"	5¼"	⅝"	1½"	3½"	F	311°	6470K86	466.13
1/8	167 rpm @ 43 in.-lbs.	1.3	TENV	11½"	5"	5¼"	⅝"	1½"	3½"	F	311°	6470K87	466.13
1/4	42 rpm @ 280 in.-lbs.	2.3	TENV	13¼"	6"	5½"	¾"	1⅝"	4"	F	311°	6470K61	541.41
1/4	62 rpm @ 220 in.-lbs.	2.3	TENV	13¼"	6"	5½"	¾"	1⅝"	4"	F	311°	6470K62	541.41
1/4	83 rpm @ 155 in.-lbs.	2.3	TENV	13¼"	6"	5½"	¾"	1⅝"	4"	F	311°	6470K63	520.71
1/4	110 rpm @ 100 in.-lbs.	2	TENV	13¼"	6"	5½"	¾"	1⅝"	4"	F	311°	6470K64	520.71
1/4	165 rpm @ 70 in.-lbs.	2	TENV	13¼"	6"	5½"	¾"	1⅝"	4"	F	311°	6470K65	493.35
1/2	17 rpm @ 1,112 in.-lbs.	5	TEFC	16½"	8¼"	6½"	¾"	1½"	3"	F	311°	6470K51	917.26
1/2	30 rpm @ 822 in.-lbs.	5	TEFC	16½"	8¼"	6½"	¾"	1½"	3"	F	311°	6470K52	917.26
1/2	39 rpm @ 705 in.-lbs.	5	TEFC	16½"	8¼"	6½"	¾"	1½"	3"	F	311°	6470K53	917.25
1/2	57 rpm @ 476 in.-lbs.	5	TEFC	16½"	8¼"	6½"	¾"	1½"	3"	F	311°	6470K54	917.25
1/2	84 rpm @ 320 in.-lbs.	5	TEFC	16½"	8¼"	6½"	¾"	1½"	3"	F	311°	6470K55	887.34

Compact AC Gearmotors

Sized for small spaces, use these gearmotors to power equipment in tight quarters. Each has a 115 volt AC, single-phase motor matched with a speed reducer to lower speed while increasing torque. They have a D-profile shaft that rotates clockwise (when facing the shaft end).

Gearmotors are rated for continuous duty, have automatic overload protection, and mount at any angle. They have a die-cast zinc housing, an integral fan, and wire leads. All meet insulation Class B with a max. temperature of 266°F. Gearmotors are CSA certified and have UL recognized components.

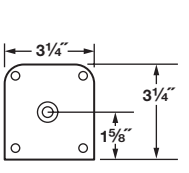

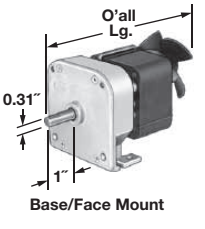

Base/Face Mount

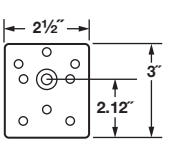

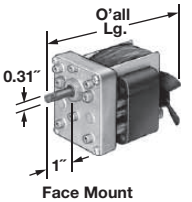

Face Mount

Max. rpm	Amps @ Full Load	Base/Face Mount: Torque @ Max. rpm, in.-lbs.	Base/Face Mount: O'all Lg.			Face Mount: Torque @ Max. rpm, in.-lbs.	Face Mount: O'all Lg.		
1	0.4	50	4½"	6142K51	$56.71	—	—	—	—
3	0.4	50	4½"	6142K52	58.10	50	4"	6142K42	$50.68
5	0.4	40	4½"	6142K53	56.15	50	4"	6142K43	50.68
10	1	40	4¾"	6142K54	58.24	40	4½"	6142K44	55.32
20	1	20	4¾"	6142K55	58.24	25	4½"	6142K45	53.71
35	1.2	15	5"	6142K56	57.32	20	4¾"	6142K46	56.79
50	1.6	15	5¼"	6142K57	59.83	15	5"	6142K47	61.00
75	1.6	10	5¼"	6142K58	59.83	15	5"	6142K48	59.27
100	1.6	7	5¼"	6142K59	58.54	7	5"	6142K49	59.27
125	1.6	6	5¼"	6142K71	58.54	6	5"	6142K61	59.27
150	1.6	5	5¼"	6142K72	58.54	5	5"	6142K62	59.27
200	1.6	4	5¼"	6142K73	58.54	4	5"	6142K63	59.27

Constant-Speed AC Gearmotors



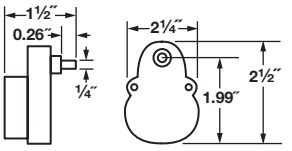

Achieve precise, constant speed for timing and positioning applications. Also known as synchronous gearmotors, these gearmotors use a frequency of 50/60 Hz to maintain speed and torque. They have a 110 volt AC, single-phase motor that's rated for continuous duty. Shaft has a D-profile and rotates clockwise (when facing the shaft end).

Gearmotors have a zinc-plated steel housing with two 0.14″ mounting holes. They have wire leads and mount at any angle. All meet insulation Class A with a max. temperature of 221°F. Components are UL recognized.

rpm @ 60 Hz	Torque @ Max. rpm, in.-lbs.	Amps @ Full Load		
1	6.9	0.2	3867K1	$23.57
1.5	6.9	0.2	3867K3	23.57
2.5	6.9	0.2	3867K5	23.57
3	6.9	0.2	3867K7	23.57
4.8	6.9	0.2	3867K9	23.57
6	6.1	0.2	3867K12	$23.57
7.2	5.2	0.2	3867K14	23.57
9	3.5	0.2	3867K16	23.57
12	2.6	0.2	3867K18	23.57
20	1.8	0.2	3867K23	23.57

Compact Round-Face DC Gearmotors



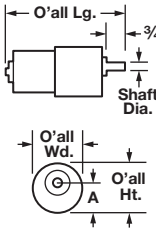

Power small machinery in spaces where other gearmotors won't fit. Gearmotors pair a motor with a speed reducer to lower speed while increasing torque. They're rated for continuous duty and have wire leads, unless noted. Gearmotors have a yellow chromate steel enclosure. Shaft has a D-profile and can be wired for clockwise or counterclockwise rotation. Mount at any angle.

Extended-life gearmotors have ball bearings that withstand heavier loads than sleeve bearings for a longer service life.

To control motor speed, see 7729K on page 937. To convert AC power to DC power, see AC to DC transformers on pages 985 and 986.

rpm @ Continuous Operating Torque	Amps @ Full Load	Overall Lg.	Overall Wd.	Overall Ht.	Shaft Dia.	Shaft Center to Base (A)	Insulation Class	Insulation Max. Temp., °F		
Standard Gearmotors										
12 Volts DC										
1 rpm @ 175 in.-oz.	0.2	4¼″	2″	2″	¼″	1.33″	F	311°	6331K35	$112.45
2 rpm @ 175 in.-oz.	0.4	4¼″	2″	2″	¼″	1.33″	F	311°	6331K34	112.42
7 rpm @ 140 in.-oz.	0.7	4¼″	2″	2″	¼″	1.33″	F	311°	6331K33	111.38
25 rpm @ 47 in.-oz.	0.7	4¼″	2″	2″	¼″	1.33″	F	311°	6331K32	109.50
83 rpm @ 16 in.-oz.	0.7	4¼″	2″	2″	¼″	1.33″	F	311°	6331K31	108.43
19.1 Volts DC										
21 rpm @ 100 in.-oz.	0.5	3¾"	1¼"	1¼"	0.19"	0.95″	F	311°	2709K14	108.84
65 rpm @ 46 in.-oz.	0.6	3¾"	1¼"	1¼"	0.19"	0.95″	F	311°	2709K13	107.89
202 rpm @ 16 in.-oz.	0.6	3¾"	1¼"	1¼"	0.19"	0.95″	F	311°	2709K12	106.92
625 rpm @ 6 in.-oz.	0.6	3¾"	1¼"	1¼"	0.19"	0.95″	F	311°	2709K11	105.94
Extended-Life Gearmotors										
12 Volts DC										
161 rpm @ 374 in.-oz.	6.4	6¼″	2¼″	2¾″	¼″	1″	F	311°	2709K17■	262.58
536 rpm @ 124 in.-oz.	6.4	6¼″	2¼″	2¾″	¼″	1″	F	311°	2709K15■	256.92
24 Volts DC										
161 rpm @ 374 in.-oz.	3.2	6¼″	2¼″	2¾″	¼″	1″	F	311°	2709K18■	230.31
536 rpm @ 124 in.-oz.	3.2	6¼″	2¼″	2¾″	¼″	1″	F	311°	2709K16■	258.17

■ Has lug terminals.

Air-Powered Gearmotors



Parallel Shaft, Face Mount

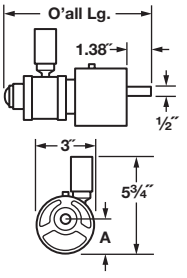



Parallel Shaft, Face/Base Mount

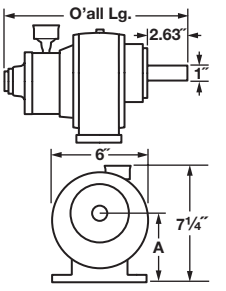

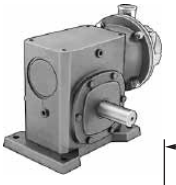

Right-Angle Shaft, Base Mount

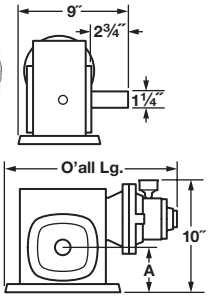

With a motor and speed reducer in one, you can use these gearmotors in air-powered applications to slow speed and increase torque. They require lubricated, filtered air and come with a muffler to reduce noise and filter exhaust air. Set for clockwise or counterclockwise rotation. Enclosure is iron.

Parallel-shaft gearmotors transmit motion inline with the motor. Mount with the shaft parallel to the ground or facing down. *Face mount* have a D-profile shaft. *Face/base mount* have a keyed shaft and come with key stock.

Right-angle shaft gearmotors transmit motion at a 90° angle from the motor. Shaft is keyed and comes with key stock. Mount with the shaft parallel to the ground.

hp	@ Max. rpm Torque, in.-lbs.	Max. rpm @ Max. psi	Max. psi	Max. Air Consumption, cfm	Noise Level, dB	O'all Lg.	Shaft Center to Base (A)	Air Inlet, NPT Female	Gearmotors		Optional Foot-Mount Bracket	
Parallel Shaft—Face Mount												
0.31	49	400	60	21	78	7¼″	1¾″	⅛	59795K84	$562.20	59795K88	$39.22
0.34	62	350	100	21	78	6¾″	1¾″	⅛	59795K79	535.49	59795K88	39.22
Parallel Shaft—Face/Base Mount												
1.7	274	300	80	57.5	87	11½″	3.56″	¼	59795K82	975.67		
1.7	400	200	80	60	87	11½″	4.09″	¼	59795K83	1,097.58		
Right-Angle Shaft—Base Mount												
0.85	1,040	50	100	71	87	15¼″	3.67″	¼	4574K13	1,133.13		
1.2	487	150	100	71	113	15¼″	3.69″	¼	4574K11	1,133.13		

Compact Air-Powered Gearmotors

Small, but mighty, these gearmotors pair an air-powered motor with a speed reducer to lower speed while increasing torque. They require lubricated, filtered air. They can be set for clockwise or counterclockwise shaft rotation; instructions are included. Mount at any angle.

Gearmotors with **push-to-connect tube inlet** have a stainless steel and aluminum enclosure and a D-profile shaft.

Gearmotors with **threaded inlet** have a steel enclosure and a keyed shaft that comes with key stock.

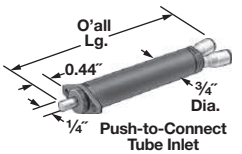

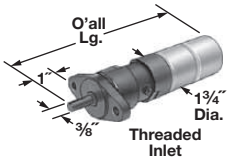

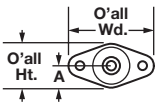

@ 90 psi hp	Max. rpm	Starting Torque, in.-lbs.	Max. psi	Air Consumption, cfm @ 90 psi	Noise Level, dB	Overall Lg.	Overall Wd.	Overall Ht.	Shaft Ctr. to Base (A)		
Push-to-Connect Tube Inlet for ¼″ OD Tubing											
0.027	25	67.5	150	6	Not rated	6¾″	1½″	¾″	0.38″	59815K882	$1,060.00
0.099	100	62.5	150	6	Not rated	6¼″	1½″	¾″	0.38″	59815K872	1,060.00
0.107	200	33.8	150	6	Not rated	5½″	1½″	¾″	0.38″	59815K862	921.67
0.127	400	20	150	6	Not rated	5½″	1½″	¾″	0.38″	59815K852	836.67
0.137	6,300	1.4	150	6	Not rated	4¼″	1½″	¾″	0.38″	59815K832	608.33
0.156	1,575	6.3	150	6	Not rated	5″	1½″	¾″	0.38″	59815K842	696.67
Threaded Inlet with ¼ NPT Female Connection											
0.31	42	495.6	90	17.5	85	8¾″	3¼″	1¾″	0.88″	4185K15	1,658.88
0.31	84	247.2	90	17.5	85	8¾″	3¼″	1¾″	0.88″	4185K13	1,630.46
0.31	140	147.6	90	17.5	85	8¾″	3¼″	1¾″	0.88″	4185K12	1,618.27
0.34	225	106.2	90	18	85	8″	3¼″	1¾″	0.88″	4185K11	1,269.04

Air-Powered Motors

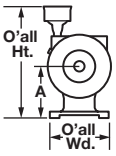

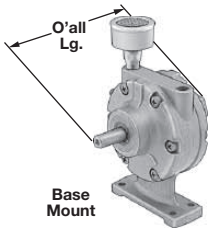

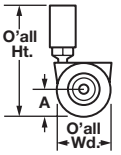



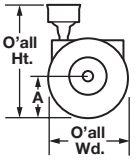





A safe alternative to electric motors for use in harsh environments, air-powered motors are spark-free and remain cool, even under continuous load. Motors require filtered, water-free, lubricated air, unless noted. All have an iron and aluminum enclosure and include a muffler to reduce noise and filter exhaust air. Mount at any angle. Motors with a keyed shaft come with key stock. Motors with reversible shaft rotation can be set to turn clockwise or counterclockwise; instructions are included.

Base-mount motors have an integral base for mounting.

Hub-mount motors have a raised hub around the bottom of the shaft. Use a clamp-on shaft collar (not included, see 9684T on page 1228) or a mounting bracket (sold separately) to mount around the hub.

Face-mount motors bolt directly to your equipment. Motors with a NEMA frame size meet NEMA specifications.

@ Max. rpm hp	Torque, in.-lbs.	Max. rpm @ Max. psi	Max. psi	Max. Air Consumption, cfm	Noise Level, dB	Overall Lg.	Overall Wd.	Overall Ht.	Shaft Dia.	Shaft Lg.	Shaft Center to Base (A)	Shaft Type	Inlet, NPT Female		
Base Mount															
Clockwise/Counterclockwise—Choose clockwise or counterclockwise shaft rotation															
0.95	20	3,000	100	30	76	5″	4″	7½″	½″	1.13″	3½″	D-Profile	¼	59785K882	$213.96
Reversible Shaft Rotation															
1.7	36	3,000	100	78	87	5¾″	3¾″	7″	½″	1.12″	3½″	Keyed	¼	59785K77	246.05
4	84	3,000	100	128	90	7½″	5″	7¾″	⅝″	1.36″	3½″	Keyed	½	59785K81	382.49
5	132	2,500	100	175	105	8½″	5¼″	8″	¾″	1.53″	3½″	Keyed	½	59785K83	463.29
Hub Mount															
1¼″ Dia. Hub—Choose clockwise or counterclockwise shaft rotation															
0.18	3	4,000	80	18.5	84	4¾″	2½″	4½″	⅜″	1.14″	1.14″	D-Profile	⅛	62995K51★	249.86
1¼″ Dia. Hub—Reversible Shaft Rotation															
0.42	3	10,000	100	20.5	78	4¼″	2½″	5″	⅜″	1.14″	1.2″	D-Profile	⅛	59785K91	185.91
0.42	5	6,000	80	27	78	4¾″	2½″	5″	⅜″	1.14″	1.05″	D-Profile	⅛	59785K92	192.95
Optional Foot-Mount Bracket for 62995K51, 59785K91, and 59785K92														59785K99	42.04
1¾″ Dia. Hub—Choose clockwise or counterclockwise shaft rotation															
0.95	20	3,000	100	30	76	5″	4¼″	6″	½″	1.13″	2.19″	D-Profile	¼	59785K881	199.97
2¼″ Dia. Hub—Choose clockwise or counterclockwise shaft rotation															
0.42	14	2,000	80	30	84	5¾″	4″	6″	½″	1.12″	2.22″	D-Profile	¼	62995K52★	463.35
0.82	26	2,000	80	41	84	7″	4″	6″	½″	1.12″	2.22″	D-Profile	¼	62995K54★	535.06
Optional Foot-Mount Bracket for 62995K54														62995K84	139.76
Face Mount															
Reversible Shaft Rotation															
1.7	36	3,000	100	78	87	5¾″	4″	5¾″	½″	1.12″	2.13″	Keyed	¼	59785K78	264.76
Face Mount with NEMA 56C Frame															
Clockwise/Counterclockwise—Choose clockwise or counterclockwise shaft rotation															
0.42	14	2,000	80	30	84	6¾″	6½″	7″	⅝″	2.06″	3¼″	Keyed	¼	62995K53★	529.29
Counterclockwise Shaft Rotation															
0.95	20	3,000	100	30	76	5¾″	6½″	7″	⅝″	2.06″	3¼″	Keyed	¼	59785K76	305.56
Reversible Shaft Rotation															
1.7	36	3,000	100	78	87	6¾″	6½″	7″	⅝″	2.06″	3¼″	Keyed	¼	59785K79	310.31
4	84	3,000	100	128	90	8¼″	6½″	8″	⅝″	2.06″	3¼″	Keyed	½	59785K82	416.87
Face Mount with NEMA 145TC Frame															
Reversible Shaft Rotation															
5	132	2,500	100	175	105	9½″	6½″	8¼″	⅞″	2⅛″	3¼″	Keyed	½	59785K84	520.73

★Requires nonlubricated air.

Replacement Muffler with ⅛ NPT Male Threads	59785K11	31.37
Replacement Muffler with ¼ NPT Male Threads	59785K12	29.22
Replacement Muffler with ½ NPT Male Threads	59785K13	46.53

Right-Angle Speed Reducers

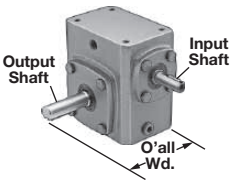

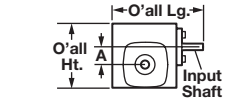

Shaft Input, Left-Hand Output Shown

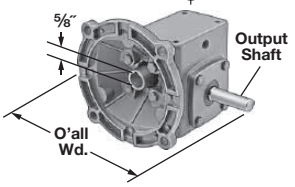

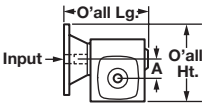

NEMA 56C Motor Frame Input, Right-Hand Output Shown

Transmit motion from your motor at a 90° angle while reducing speed and increasing torque. Speed reducers accept clockwise or counterclockwise input rotation. Shafts are keyed and come with key stock. Enclosure is iron. Mount with the shaft parallel to the ground. All speed reducers require lubrication (sold separately).

Speed reducers with **shaft input** require a coupling (not included) to connect to your motor.

Speed reducers with **NEMA 56C motor frame input** have a flange that fits a NEMA 56C motor frame.

Optional mounting bases allow you to mount speed reducers to machinery. They come with four bolts.

To Order: Please specify right-hand or left-hand output shaft location. (The output shaft location is the relative position when you're facing the input shaft.)

Worm Center Dist. (A)	Max. Input rpm	Overall Lg.	Overall Wd.	Overall Ht.	Output Shaft Dia.	Output Shaft Lg.	Speed Reducers with Shaft Input: Max. Input hp	Output Torque, in.-lbs.	Input Shaft Dia.	Input Shaft Lg.			Speed Reducers with NEMA 56C Motor Frame Input: Max. Input hp	Output Torque, in.-lbs.			Optional Mounting Bases	
5:1 Ratio—350 Output rpm @ 1,750 Input rpm																		
1"	4,500	5¾"	4½"	3¾"	½"	1.19"	0.69	113	⅜"	0.81"	**5887K11**	$343.26	0.5	82	**5887K51**	$342.89	**5887K91**	$10.81
1.33"	4,500	6"	6"	4¾"	⅝"	2"	1.39	235	½"	1.31"	**5887K12**	391.81	1	169	**5887K52**	408.63	**5887K92**	13.45
1.75"	3,600	7¾"	6¾"	5¾"	⅞"	1.78"	2.55	432	⅝"	1.56"	**5887K13**	486.54	2	338	**5887K53**	505.76	**5887K93**	18.27
10:1 Ratio—175 Output rpm @ 1,750 Input rpm																		
1"	4,500	5¾"	4½"	3¾"	½"	1.19"	0.44	138	⅜"	0.81"	**5887K17**	343.26	0.33	104	**5887K57**	349.24	**5887K91**	10.81
1.33"	4,500	6"	6"	4¾"	⅝"	2"	0.86	281	½"	1.31"	**5887K18**	391.81	0.75	245	**5887K58**	408.63	**5887K92**	13.45
1.75"	3,600	7¾"	6¾"	5¾"	⅞"	1.78"	1.61	536	⅝"	1.56"	**5887K19**	486.54	1.5	499	**5887K59**	505.76	**5887K93**	18.27
20:1 Ratio—88 Output rpm @ 1,750 Input rpm																		
1"	4,500	5¾"	4½"	3¾"	½"	1.19"	0.27	149	⅜"	0.81"	**5887K24**	343.26	0.25	138	**5887K64**	349.24	**5887K91**	10.81
1.33"	4,500	6"	6"	4¾"	⅝"	2"	0.52	308	½"	1.31"	**5887K25**	391.81	0.5	296	**5887K65**	408.63	**5887K92**	13.45
1.75"	3,600	7¾"	6¾"	5¾"	⅞"	1.78"	0.97	590	⅝"	1.56"	**5887K26**	486.54	1	590	**5887K66**	505.76	**5887K93**	18.27
2.06"	3,600	8¼"	7¼"	6½"	1"	2.09"	1.4	892	⅝"	1.56"	**5887K27**	588.04	1	637	**5887K67**	600.76	**5887K94**	20.50
30:1 Ratio—58 Output rpm @ 1,750 Input rpm																		
1.33"	4,500	6"	6"	4¾"	⅝"	2"	0.39	311	½"	1.31"	**5887K32**	391.81	0.33	265	**5887K72**	408.63	**5887K92**	13.45
1.75"	3,600	7¾"	6¾"	5¾"	⅞"	1.78"	0.65	573	⅝"	1.56"	**5887K33**	486.54	0.5	441	**5887K73**	505.76	**5887K93**	18.27
2.06"	3,600	8¼"	7¼"	6½"	1"	2.09"	0.99	871	⅝"	1.56"	**5887K34**	588.04	1	871	**5887K74**	600.76	**5887K94**	20.50
40:1 Ratio—44 Output rpm @ 1,750 Input rpm																		
1.33"	4,500	6"	6"	4¾"	⅝"	2"	0.31	307	½"	1.31"	**5887K38**	391.81	0.25	248	**5887K78**	408.63	**5887K92**	13.45
1.75"	3,600	7¾"	6¾"	5¾"	⅞"	1.78"	0.57	609	⅝"	1.56"	**5887K39**	486.54	0.5	534	**5887K79**	505.76	**5887K93**	18.27
2.06"	3,600	8¼"	7¼"	6½"	1"	2.09"	0.81	876	⅝"	1.56"	**5887K41**	648.04	0.75	811	**5887K81**	600.76	**5887K94**	20.50
2.38"	3,600	9"	7¾"	7"	1⅛"	2.38"	1.08	1,206	¾"	2"	**5887K42**	599.72	1	1,116	**5887K82**	670.24	**5887K95**	22.16
60:1 Ratio—29 Output rpm @ 1,750 Input rpm																		
1.33"	4,500	6"	6"	4¾"	⅝"	2"	0.22	271	½"	1.31"	**5887K45**	391.81	0.17	201	**5887K85**	408.63	**5887K92**	13.45
1.75"	3,600	7¾"	6¾"	5¾"	⅞"	1.78"	0.35	527	⅝"	1.56"	**5887K46**	486.54	0.33	502	**5887K86**	505.76	**5887K93**	18.27
2.06"	3,600	8¼"	7¼"	6½"	1"	2.09"	0.55	826	⅝"	1.56"	**5887K47**	588.04	0.5	751	**5887K87**	600.76	**5887K94**	20.50
2.38"	3,600	9"	7¾"	7"	1⅛"	2.38"	0.73	1,128	¾"	2"	**5887K48**	599.72	0.75	1,128	**5887K88**	670.24	**5887K95**	22.16
2.62"	3,600	10"	8½"	8"	1⅛"	2.63"	0.89	1,385	¾"	2"	**5887K49**	751.61	0.75	1,166	**5887K89**	876.00	**5887K96**	48.45
80:1 Ratio—22 Output rpm @ 1,750 Input rpm																		
1.33"	4,500	6"	6"	4¾"	⅝"	2"	0.15	222	½"	1.31"	**5887K14**	391.81	0.16	222	**5887K15**	408.63	**5887K92**	13.45
1.75"	3,600	7¾"	6¾"	5¾"	⅞"	1.78"	0.23	375	⅝"	1.56"	**5887K16**	495.72	0.25	375	**5887K22**	515.30	**5887K93**	18.27
2.06"	3,600	8¼"	7¼"	6½"	1"	2.09"	0.38	634	⅝"	1.56"	**5887K23**	588.04	0.33	557	**5887K62**	612.09	**5887K94**	20.50
2.62"	3,600	10"	8½"	8"	1⅛"	2.63"	0.76	1,094	¾"	2"	**5887K63**	751.61	0.75	1,080	**5887K97**	892.53	**5887K96**	48.45
1 qt. Lubricant																	**5887K1**	46.14

Flexible-Mount Right-Angle Speed Reducers

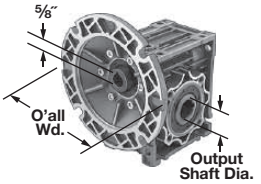

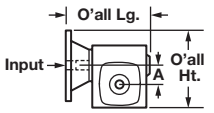



Optional Output Shaft

No need to choose sides—these speed reducers have both a right-hand and left-hand output so you can switch the configuration to meet your changing needs. They transmit motion at a 90° angle while reducing speed and increasing torque. Use them to turn a shaft on your equipment or add an output shaft (sold separately).

Speed reducers accept clockwise or counterclockwise input rotation and mount to a NEMA 56C motor. The left-hand output turns in the same direction as the input. The right-hand output turns in the opposite direction as the input. Enclosure is aluminum. They mount at any angle and come lubricated.

Optional output shafts are keyed and come with key stock.

Speed Ratio	Output rpm @ 1,750 Input rpm	Output Torque, in.-lbs.	Worm Center Dist. (A)	*Max. Input* hp	*Max. Input* rpm	Overall Lg.	Wd.	Ht.	Speed Reducers		Optional Output Shafts	
Fits ¾" Dia. Output Shaft												
10:1	175	370	1.57"	1.21	3,500	5"	6½"	6¾"	**6771K11**	$295.44	**6771K51**	$39.87
20:1	88	361	1.57"	0.64	3,500	5"	6½"	6¾"	**6771K13**	295.44	**6771K51**	39.87
30:1	58	403	1.57"	0.53	3,500	5"	6½"	6¾"	**6771K16**	293.98	**6771K51**	39.87
60:1	29	328	1.57"	0.26	3,500	5"	6½"	6¾"	**6771K23**	295.44	**6771K51**	39.87
Fits 1" Dia. Output Shaft												
10:1	175	664	1.97"	2.12	3,500	6"	6½"	7½"	**6771K12**	384.96	**6771K52**	47.30
20:1	88	656	1.97"	1.14	3,500	6"	6½"	7½"	**6771K14**	384.96	**6771K52**	47.30
30:1	58	740	1.97"	0.94	3,500	6"	6½"	7½"	**6771K17**	363.24	**6771K52**	47.30
40:1	44	689	1.97"	0.7	3,500	6"	6½"	7½"	**6771K21**	384.96	**6771K52**	47.30
60:1	29	605	1.97"	0.47	3,500	6"	6½"	7½"	**6771K24**	363.24	**6771K52**	47.30
Fits 1⅛" Dia. Output Shaft												
20:1	88	1,224	2.48"	2.06	3,500	7¾"	6½"	8½"	**6771K15**	608.09	**6771K53**	52.23
Fits 1¼" Dia. Output Shaft												
60:1	29	1,778	2.95"	1.22	3,500	9"	6½"	9½"	**6771K26**	729.45	**6771K54**	65.12

Extended-Life Right-Angle Gear Boxes and Speed Reducers

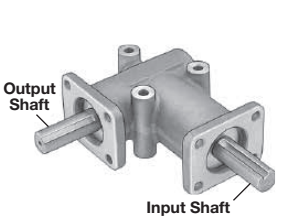

With Two Flanges and One Output Shaft

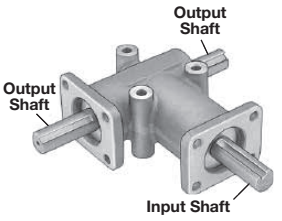

With Two Flanges and Two Output Shafts

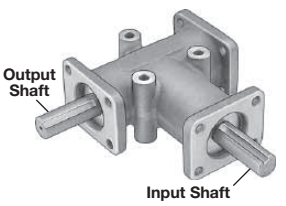

With Three Flanges and One Output Shaft

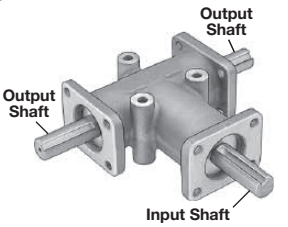

With Three Flanges and Two Output Shafts

Spend less time on maintenance—these gear boxes and speed reducers have sealed ball bearings that don't require lubrication for a long service life. They accept clockwise or counterclockwise input rotation and transmit motion from your motor at a 90° angle. All have an aluminum enclosure. Keyed shafts do not include key stock. Use a coupling (not included) to connect to your motor. Mount at any angle.

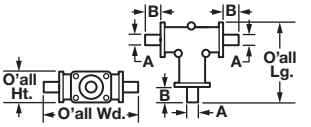

Speed Ratio	Output rpm @ 1,750 Input rpm	Output Torque, in.-lbs.	Max. Input hp	Max. Input rpm	Overall Lg.	Overall Ht.	Input and Output Shafts Dia. (A)	Input and Output Shafts Lg. (B)	Input and Output Shafts Type	With One Output Shaft O'all Wd.	With One Output Shaft		With Two Output Shafts O'all Wd.	With Two Output Shafts	
Gear Boxes with Two Flanges															
1:1	1,750	12	0.34	3,000	3½″	1¼″	0.38″	0.59″	Solid	3″	6456K11	$178.76	—	—	—
Gear Boxes with Three Flanges															
1:1	1,750	12	0.34	3,000	3½″	1¼″	0.38″	0.59″	Solid	—	—	—	4″	6456K23	$212.62
1:1	1,750	43	1.21	3,000	6¼″	2″	0.63″	1.5″	Keyed	5¾″	6456K15	249.82	7¼″	6456K17	269.04
1:1	1,750	185	5.14	3,000	9″	3″	0.75″	2″	Keyed	8″	6456K19	448.56	10″	6456K22	453.20
Speed Reducers with Two Flanges															
2:1	875	8	0.11	3,000	3½″	1¼″	0.38″	0.59″	Solid	3″	6456K12	206.87	—	—	—
2:1	875	24	0.33	3,000	6¼″	2″	0.63″	1.5″	Keyed	5″	6456K16	261.05	6½″	6456K18	264.44

High-Efficiency Speed Reducers

Designed to minimize torque loss between your motor and drive shaft, these speed reducers have spur gears that make them more efficient than our other speed reducers. Use these with a NEMA 56C motor to transmit motion parallel to the motor shaft while reducing speed and increasing torque. Speed reducers accept clockwise or counterclockwise input rotation. The output shaft rotates in the same direction as the input. The output shaft is solid (not keyed) with a through-hole. Enclosure is aluminum. Mount at any angle with the vent plug positioned above the shaft. Speed reducers require lubrication (sold separately).

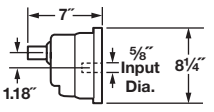

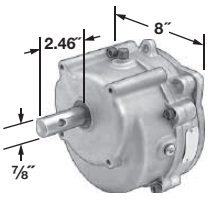

Speed Ratio	Output rpm @ 1,750 Input rpm	Output Torque, in.-lbs.	Max. Input hp	Max. Input rpm		
3.2:1	547	167	1.48	1,750	6481K73	$272.66
3.9:1	448	204	1.48	1,750	6481K74	272.66
4.8:1	364	255	1.48	1,750	6481K72	272.66

Speed Ratio	Output rpm @ 1,750 Input rpm	Output Torque, in.-lbs.	Max. Input hp	Max. Input rpm		
5.6:1	315	290	1.48	1,750	6481K75	$272.66
7.6:1	229	285	1.07	1,750	6481K76	272.66
11.1:1	158	290	0.75	1,750	6481K77	272.66
1 qt. Lubricant					5887K1	46.14

Precision Speed Reducers for Position- and Speed-Control Motors

Pair these speed reducers with stepper and servo motors to reduce speed and increase torque in motion-control applications. They have helical planetary gears that provide exact positioning without additional motion (backlash) and smoother travel than our other speed reducers. They transmit motion parallel to the motor shaft. All accept clockwise or counterclockwise input rotation. The output shaft rotates in the same direction as the input. Enclosure is 416 stainless steel and aluminum and meets IP65 for protection from dust and spraying water. Mount at any angle. Speed reducers do not require lubrication.

NEMA 23 speed reducers have a D-profile output shaft.

NEMA 34 speed reducers have a keyed output shaft and come with key stock.

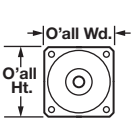

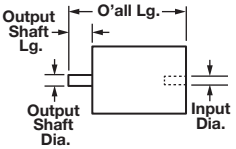



Speed Ratio	Output rpm @ 1,750 Input rpm	Output Torque, in.-lbs.	Max. Input rpm	Overall Lg.	Overall Wd.	Overall Ht.	Fits Input Shaft Dia.	Output Shaft Dia.	Output Shaft Lg.		
NEMA 23											
3:1	583	177	6,000	4½″	2½″	2½″	¼″	0.38″	1″	64815K41	$705.21
5:1	350	283	6,000	4½″	2½″	2½″	¼″	0.38″	1″	64815K42	705.21
10:1	175	221	6,000	4½″	2½″	2½″	¼″	0.38″	1″	64815K43	705.21
20:1	88	283	6,000	5¾″	2½″	2½″	¼″	0.38″	1″	64815K44	1,045.77
50:1	35	283	6,000	5¾″	2½″	2½″	¼″	0.38″	1″	64815K45	1,045.77
NEMA 34											
3:1	583	496	5,500	5¼″	3½″	3½″	½″	0.5″	1¼″	64815K51	962.70
5:1	350	584	5,500	5¼″	3½″	3½″	½″	0.5″	1¼″	64815K52	962.70
10:1	175	531	5,500	5¼″	3½″	3½″	½″	0.5″	1¼″	64815K53	962.70
20:1	88	584	5,500	7″	3½″	3½″	½″	0.5″	1¼″	64815K54	1,263.31
50:1	35	584	5,500	7″	3½″	3½″	½″	0.5″	1¼″	64815K55	1,263.31

About Roller Chain and Sprockets

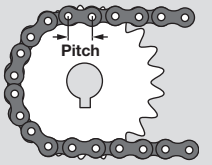

Roller chain links engage with matched sprocket teeth to transmit power between rotating shafts. Since there's no slippage and little stretch, chain drives can handle heavy loads and high torque.

Sizing Roller Chain and Sprockets—ANSI roller chain and sprockets have a standard ANSI number. Metric roller chain and sprockets have a standard ISO number. Only use chain and sprockets with the same number together.

If you don't know the ANSI or ISO number of your chain or sprocket, determine size by measuring pitch. Pitch is the distance between the pin centers of a chain link.

Modifying Roller Chain Length—Reduce chain length with a chain breaker (see page 1083). Join and extend chain with individual links.



Connecting links are also known as master links. They're used to join the ends of a chain length. The side plate is easy to remove for attaching to chain.



Adding links are also known as roller links. They require two connecting links to join chain.



Add-and-connect links are also known as half links and offset links. A combination of connecting and adding links, they join chain that requires an odd number of links. The side plate is easy to remove for attaching to chain.

Choosing a Sprocket Bore Style—Drive sprockets attach to rotating shafts and transmit power to your roller chain. They connect to the shaft with a bore; the bore style determines how they will attach.

- **Machinable-bore sprockets** have an unfinished bore that can be machined for a custom fit.
- **Finished-bore sprockets** fit directly on a shaft and attach with set screws and/or keyways that reduce slippage.
- **Bushing-bore sprockets** mate with a compatible bushing that attaches to the shaft. The same sprocket can be used with multiple shaft diameters.

ANSI Roller Chain and Links CAD

Run conveyors and power machinery with this general purpose steel roller chain. It comes with connecting links; one for 1- to 20-ft. lengths, five for 50-ft. lengths, and ten for 100-ft. lengths.

Heavy Duty—The links have thick side plates to handle double the working loads of standard chain.

Single Strand

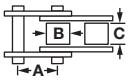









ANSI No.	Pitch (A)	Roller Dia. (B)	Roller Wd. (C)	Working Load, lbs.	Lengths, ft.	Roller Chain	Per Ft.	Connecting Links	Each	Adding Links	Each	Add-and-Connect Links	Each
Standard													
25	1/4"	0.130"	1/8"	88	1-20, 50, 100	6261K171	$5.14	6261K108	$1.00	6261K106	$0.62	6261K105	$2.00
35	3/8"	0.200"	3/16"	199	1-20, 50, 100	6261K172	3.90	6261K191	.82	6261K241	.70	6261K261	1.78
40	1/2"	0.312"	5/16"	356	1-20, 50, 100	6261K173	4.54	6261K193	.87	6261K243	.73	6261K263	2.01
41	1/2"	0.306"	1/4"	168	1-20, 50, 100	6261K174	4.40	6261K192	.87	6261K242	.64	6261K262	1.97
50	5/8"	0.400"	3/8"	561	1-20, 50, 100	6261K175	5.98	6261K194	1.09	6261K244	1.03	6261K264	2.38
60	3/4"	0.469"	1/2"	803	1-20, 50, 100	6261K176	7.78	6261K195	1.40	6261K245	1.46	6261K265	3.28
80	1"	0.625"	5/8"	1,432	1-20, 50, 100	6261K177	13.70	6261K196	2.60	6261K246	2.64	6261K266	5.25
100	1 1/4"	0.750"	3/4"	2,235	1-20, 50, 100	6261K178	22.20	6261K181	3.86	6261K211	4.22	6261K271	8.88
120	1 1/2"	0.875"	1"	3,207	1-20, 50	6261K179	32.46	6261K182	6.05	6261K212	7.14	6261K272	13.62
140	1 3/4"	1.000"	1"	4,354	1-20, 50	6261K185	39.98	6261K183	8.34	6261K213	10.88	6261K273	18.69
160	2"	1.125"	1 1/4"	5,727	1-20, 50	6261K186	50.06	6261K184	11.67	6261K214	15.97	6261K274	25.92
Heavy Duty													
35H	3/8"	0.200"	3/16"	670	1-20, 50	7265K2	10.49	7265K224	2.10	7265K226	.64	_____	___
40H	1/2"	0.312"	5/16"	1,030	1-20, 50	7265K3	12.43	7265K324	2.24	7265K326	.89	_____	___
50H	5/8"	0.400"	3/8"	1,620	1-20, 50	7265K4	12.62	7265K424	2.20	7265K426	1.96	7265K425	4.76
60H	3/4"	0.469"	1/2"	2,000	1-20, 50	7265K5	10.55	7265K524	2.06	7265K526	1.81	7265K525	4.40
80H	1"	0.625"	5/8"	3,400	1-20, 50	7265K6	17.64	7265K624	3.06	7265K626	3.06	7265K625	6.85
100H	1 1/4"	0.750"	3/4"	5,200	1-20, 50	7265K7	29.62	7265K724	5.66	7265K726	6.38	7265K725	11.76
120H	1 1/2"	0.875"	1"	7,000	1-20, 50	7265K8	42.74	7265K824	8.73	7265K826	9.54	7265K825	18.13
140H	1 3/4"	1.000"	1"	9,200	1-20, 50	7265K9	52.60	7265K924	13.86	7265K926	14.58	7265K925	29.02
160H	2"	1.125"	1 1/4"	12,300	1-20	7265K11	67.49	7265K927	17.78	_____	___	7265K928	36.69

Double Strand

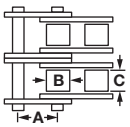









ANSI No.	Pitch (A)	Roller Dia. (B)	Roller Wd. (C)	Working Load, lbs.	Lengths, ft.	Roller Chain	Per Ft.	Connecting Links	Each	Adding Links	Each	Add-and-Connect Links	Each
Standard													
35-2	3/8"	0.200"	3/16"	810	1-20, 50, 100	6261K711	$9.71	6261K221	$2.08	6261K103	$1.51	6261K841	$4.52
40-2	1/2"	0.312"	5/16"	1,370	1-20, 50, 100	6261K712	10.39	6261K223	2.17	6261K104	1.71	6261K842	4.73
50-2	5/8"	0.400"	3/8"	2,380	1-20, 50, 100	6261K713	13.57	6261K224	2.33	6261K109	2.44	6261K843	5.67
60-2	3/4"	0.469"	1/2"	3,315	1-20, 50, 100	6261K714	18.30	6261K225	3.24	6261K116	3.38	6261K844	7.99
80-2	1"	0.625"	5/8"	5,610	1-20, 50	6261K715	29.44	6261K226	4.88	6261K117	6.05	6261K845	12.48
100-2	1 1/4"	0.750"	3/4"	8,600	1-20, 50	6261K91	48.18	6261K922	9.31	6261K118	8.90	6261K923	21.75
120-2	1 1/2"	0.875"	1"	11,560	1-20, 50	6261K81	66.80	6261K706	13.13	_____	___	6261K92	28.71
140-2	1 3/4"	1.000"	1"	15,300	1-20	6261K82	83.69	6261K707	17.85	_____	___	6261K709	38.41
160-2	2"	1.125"	1 1/4"	20,230	1-20	6261K83	106.92	6261K708	24.51	_____	___	6261K94	53.16
Heavy Duty													
50H-2	5/8"	0.400"	3/8"	2,400	1-20, 50, 100	5871K3	30.74	5871K13	4.19	_____	___	5871K33	15.24
60H-2	3/4"	0.469"	1/2"	3,400	1-20, 50, 100	5871K4	28.34	5871K14	4.93	_____	___	5871K34	10.48
80H-2	1"	0.625"	5/8"	5,800	1-20, 50	5871K5	45.91	5871K15	8.17	_____	___	5871K35	27.57

Corrosion-Resistant ANSI Roller Chain and Links

Choose this chain for a long service life in wet and corrosive conditions. It comes with connecting links; one for 1- to 19-ft. lengths, two for 20-ft. lengths, five for 50-ft. lengths, and ten for 100-ft. lengths.

Single Strand

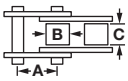









ANSI No.	Pitch (A)	Roller Dia. (B)	Roller Wd. (C)	Working Load, lbs.	Roller Chain Lengths, ft.		Roller Chain Per Ft.	Connecting Links	Connecting Links Each	Adding Links	Adding Links Each	Add-and-Connect Links	Add-and-Connect Links Each
Corrosion Resistant—Treated Steel													
35	3/8"	0.200"	3/16"	560	1-20, 50, 100	7210K1	$6.67	7210K125	$1.89	7210K727	$1.49	7210K126	$3.34
40	1/2"	0.312"	5/16"	940	1-20, 50, 100	7210K2	8.40	7210K225	2.17	7210K728	1.74	7210K226	3.89
50	5/8"	0.400"	3/8"	1,620	1-20, 50, 100	7210K3	11.80	7210K325	2.54	7210K729	2.06	7210K326	4.57
60	3/4"	0.469"	1/2"	2,470	1-20, 50, 100	7210K4	16.81	7210K425	3.49	7210K731	2.80	7210K426	6.97
80	1"	0.625"	5/8"	4,140	1-20, 50, 100	7210K5	29.57	7210K525	5.57	7210K732	4.46	7210K526	11.49
100	1 1/4"	0.750"	3/4"	6,360	1-20, 50, 100	7210K6	46.77	7210K625	10.17	7210K733	8.11	7210K626	21.40
120	1 1/2"	0.875"	1"	8,540	1-20, 50	7210K8	52.91	7210K725	14.77	7210K734	11.83	7210K726	30.63
Highly Corrosion Resistant—304 Stainless Steel													
25-SS	1/4"	0.130"	1/8"	22	1-20, 50, 100	6264K1	25.61	6264K2	4.29			6264K3	7.89
35-SS	3/8"	0.200"	3/16"	60	1-20, 50, 100	6264K84	15.48	6264K51	3.23	6264K61	2.54	6264K71	6.86
40-SS	1/2"	0.312"	5/16"	99	1-20, 50, 100	6264K85	18.73	6264K52	3.46	6264K62	2.91	6264K72	7.80
41-SS	1/2"	0.306"	1/4"	76	1-20, 50, 100	6264K11	27.96	6264K122	6.86			6264K123	12.20
50-SS	5/8"	0.400"	3/8"	154	1-20, 50, 100	6264K86	24.39	6264K53	4.40	6264K63	4.37	6264K73	8.91
60-SS	3/4"	0.469"	1/2"	231	1-20, 50	6264K87	33.48	6264K54	5.37	6264K64	6.29	6264K74	12.26
80-SS	1"	0.625"	5/8"	396	1-20	6264K88	56.50	6264K55	8.46	6264K65	9.46	6264K75	23.43
100-SS	1 1/4"	0.750"	3/4"	583	1-20, 50	6264K92	134.05	6264K56	21.94			6264K76	38.69
120-SS	1 1/2"	0.875"	1"	869	1-20, 50	6264K93	320.71	6264K57	28.43			6264K77	46.22
Ultra Corrosion Resistant—316 Stainless Steel													
40-SS	1/2"	0.312"	5/16"	99	1-20, 50, 100	5960K1	65.11	5960K11	8.92			5960K21	15.67
50-SS	5/8"	0.400"	3/8"	154	1-20, 50, 100	5960K2	73.55	5960K12	9.25			5960K22	21.80

Double Strand

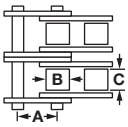







ANSI No.	Pitch (A)	Roller Dia. (B)	Roller Wd. (C)	Working Load, lbs.	Roller Chain Lengths, ft.		Roller Chain Per Ft.	Connecting Links	Connecting Links Each	Add-and-Connect Links	Add-and-Connect Links Each
Corrosion Resistant—Treated Steel											
40-2	1/2"	0.312"	5/16"	1,370	1-20, 50, 100	2331K1	$19.81	2331K11	$4.97	2331K12	$10.06
50-2	5/8"	0.400"	3/8"	2,380	1-20, 50, 100	2331K2	28.60	2331K13	5.86	2331K14	11.23
60-2	3/4"	0.469"	1/2"	3,315	1-20, 50, 100	2331K3	38.93	2331K15	7.86	2331K16	16.20
80-2	1"	0.625"	5/8"	5,610	1-20, 50, 100	2331K4	69.66	2331K17	12.69	2331K18	27.71
Highly Corrosion Resistant—304 Stainless Steel											
40-2SS	1/2"	0.312"	5/16"	198	1-20	2327K1	49.55	2327K11	7.67	2327K12	16.19
50-2SS	5/8"	0.400"	3/8"	300	1-20	2327K2	63.45	2327K21	9.64	2327K22	19.75
60-2SS	3/4"	0.469"	1/2"	460	1-20	2327K3	89.32	2327K31	12.92	2327K32	27.44

Maintenance-Free ANSI Roller Chain and Links

Reduce downtime with this self-lubricating chain that doesn't need regular maintenance. It comes with connecting links; one for 1- to 19-ft. lengths, two for 20-ft. lengths, five for 50-ft. lengths, and ten for 100-ft. lengths.

Standard and **corrosion-resistant chain** has oil-impregnated bushings and oil-coated pins.

Extended-life chain has a rubber ring that seals grease between the bushings and pins and keeps dirt out.

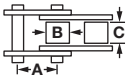







ANSI No.	Pitch (A)	Roller Dia. (B)	Roller Wd. (C)	Working Load, lbs.	Roller Chain Lengths, ft.		Roller Chain Per Ft.	Connecting Links	Connecting Links Each	Add-and-Connect Links	Add-and-Connect Links Each
Standard—Steel											
40	1/2"	5/16"	0.297"	816	1-20, 50, 100	7311K2	$23.91	7311K225	$2.90	7311K226	$6.24
50	5/8"	13/32"	0.365"	1,430	1-20, 50, 100	7311K3	25.73	7311K325	3.49	7311K326	8.29
60	3/4"	15/32"	0.483"	1,980	1-20, 50, 100	7311K4	30.90	7311K425	4.88	7311K426	11.25
80	1"	5/8"	0.609"	3,310	1-20, 50	7311K5	47.98	7311K525	7.52	7311K526	17.22
Corrosion Resistant—Nickel-Plated Steel											
40	1/2"	5/16"	0.297"	683	1-20, 50, 100	2336K1	30.54	2336K11	4.69	2336K12	10.05
50	5/8"	13/32"	0.365"	1,210	1-20, 50, 100	2336K2	30.84	2336K13	5.61	2336K14	13.32
60	3/4"	15/32"	0.483"	1,630	1-20, 50, 100	2336K3	48.04	2336K15	7.86	2336K16	18.11
80	1"	5/8"	0.609"	2,870	1-20, 50	2336K4	74.64	2336K17	12.08	2336K18	27.68
Extended Life—Steel											
40	1/2"	0.312"	0.313"	836	1-20, 50, 100	60125K11	31.15	60125K612	5.04	60125K914	15.64
50	5/8"	0.400"	0.375"	1,540	1-20, 50, 100	60125K21	32.21	60125K622	6.64	60125K915	17.93
60	3/4"	0.469"	0.500"	2,090	1-20, 50	60125K31	47.93	60125K911	7.84	60125K633	23.53
80	1"	5/8"	0.625"	3,300	1-20, 50	60125K41	81.98	60125K912	12.02	60125K916	35.16
100	1 1/4"	3/4"	0.750"	5,060	1-20, 50	60125K71	148.47	60125K913	30.11	60125K917	59.80

Metric Roller Chain and Links

This chain conforms to ISO 606B and is compatible with BS 228 (British standard) and DIN 8187 (German standard). It comes with connecting links; one for 1- to 20-ft. lengths, five for 50-ft. lengths, and ten for 100-ft. lengths.

Single Strand

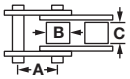







ISO No.	Pitch, mm (A)	Roller Dia., mm (B)	Roller Wd., mm (C)	Working Load, lbs.	Roller Chain Lengths, ft.		Roller Chain Per Ft.	Connecting Links Each		Add-and-Connect Links Each
Standard—Steel										
04B	6.00 (0.236″)	4.00	2.80	130	1-20, 50, 100	6027K71	$7.45	6027K33	$1.40	6027K42	$3.60
05B	8.00 (0.315″)	5.00	3.00	275	1-20, 50, 100	6027K91	7.85	6027K34	1.64	6027K43	3.03
06B	9.53 (0.375″)	6.35	5.72	380	1-20, 50, 100	6027K73	6.19	6027K63	1.12	6027K65	2.40
081	12.70 (0.500″)	7.77	3.10	300	1-20, 50, 100	6027K74	3.11	6027K36	1.28	6027K45	2.61
08B	12.70 (0.500″)	8.51	7.75	700	1-20, 50, 100	6027K75	5.89	6027K64	1.29	6027K66	2.67
10B	15.88 (0.625″)	10.16	9.65	1,100	1-20, 50, 100	6027K76	7.57	6027K37	1.35	6027K46	2.98
12B	19.05 (0.750″)	12.07	11.68	1,585	1-20, 50, 100	6027K77	10.30	6027K38	2.09	6027K47	4.38
16B	25.40 (1.000″)	15.88	17.02	3,680	1-20, 50, 100	6027K78	17.53	6027K39	3.58	6027K48	7.48
Corrosion Resistant—Treated Steel										
08B	12.70 (0.500″)	8.51	7.75	700	1-20, 50, 100	1222N1	11.51	1222N911	2.09	1222N913	5.28
10B	15.88 (0.625″)	10.16	9.65	1,100	1-20, 50, 100	1222N2	14.81	1222N921	2.36	1222N923	5.89
12B	19.05 (0.750″)	12.07	11.68	1,585	1-20, 50, 100	1222N3	20.13	1222N931	3.96	1222N933	8.70
16B	25.40 (1.000″)	15.88	17.02	3,680	1-20, 50, 100	1222N4	34.64	1222N941	7.09	1222N943	14.87
Highly Corrosion Resistant—18-8 Stainless Steel										
05B-SS	8.00 (0.315″)	5.00	3.00	26	1-20, 50, 100	60295K81	56.90	60295K62	4.06	60295K72	8.13
06B-SS	9.53 (0.375″)	6.35	5.72	60	1-20, 50, 100	60295K82	24.23	60295K63	2.91	60295K73	6.38
08B-SS	12.70 (0.500″)	8.51	7.75	110	1-20, 50, 100	60295K83	25.51	60295K64	3.45	60295K74	6.09
10B-SS	15.88 (0.625″)	10.16	9.65	150	1-20, 50, 100	60295K84	34.04	60295K65	3.91	60295K75	8.19
12B-SS	19.05 (0.750″)	12.07	11.68	200	1-20, 50, 100	60295K85	46.00	60295K66	5.85	60295K76	12.23
16B-SS	25.40 (1.000″)	15.88	17.02	460	1-20, 50, 100	60295K86	76.51	60295K67	10.91	60295K77	22.94

Double Strand

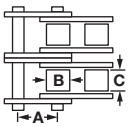







ISO No.	Pitch, mm (A)	Roller Dia., mm (B)	Roller Wd., mm (C)	Working Load, lbs.	Roller Chain Lengths, ft.		Roller Chain Per Ft.	Connecting Links Each		Add-and-Connect Links Each
Standard—Steel										
06B-2	9.53 (0.375″)	6.35	5.72	650	1-20, 50, 100	6027K11	$14.83	6027K1	$2.30	6027K5	$6.00
08B-2	12.70 (0.500″)	8.51	7.75	1,200	1-20, 50, 100	6027K12	14.72	6027K2	2.77	6027K6	6.69
10B-2	15.88 (0.625″)	10.16	9.65	1,870	1-20, 50, 100	6027K13	18.94	6027K3	3.56	6027K7	7.38
12B-2	19.05 (0.750″)	12.07	11.68	2,690	1-20, 50, 100	6027K31	25.55	6027K4	5.19	6027K8	11.10
Corrosion Resistant—Treated Steel										
08B-2	12.70 (0.500″)	8.51	7.75	1,200	1-20, 50, 100	1222N5	27.89	1222N951	4.74	1222N953	9.91
10B-2	15.88 (0.625″)	10.16	9.65	1,870	1-20, 50, 100	1222N6	34.47	1222N961	5.21	1222N963	10.85
12B-2	19.05 (0.750″)	12.07	11.68	2,690	1-20, 50, 100	1222N7	46.02	1222N971	7.68	1222N973	16.17
16B-2	25.40 (1.000″)	15.88	17.02	4,800	1-20, 50, 100	1222N8	75.81	1222N981	13.11	1222N983	27.49

Plastic ANSI Roller Chain and Links



Standard



Extended Life



Extended-Life Connecting Link

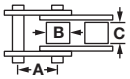

Light, quiet, and corrosion resistant, this plastic chain is suitable for sound-sensitive and sanitary applications as well as wet conditions.

Standard—Links snap together, so you don't need connecting links.

Extended Life—Links have plastic bushings and inner side plates that are reinforced with 304 stainless steel pins and outer side plates for a longer service life than standard chain. Extended-life chain comes with connecting links; one for 1- to 20-ft. lengths, five for 50-ft. lengths, and ten for 100-ft. lengths.

Chain for food and beverage is USDA compliant and made from FDA-listed materials.

Chain for chemicals is made of PVDF for resistance to many harsh caustics and is commonly used in chemical manufacturing, paper pulping, and waste processing.

ANSI No.	Pitch (A)	Roller Dia. (B)	Roller Wd. (C)	Working Load, lbs.	Roller Chain Lengths, ft.		Roller Chain Per Ft.	Connecting Links Each	
Standard									
For Food and Beverage—Acetal									
25	1/4″	0.130″	0.125″	21	1-20, 50	6846K2	$12.75	_____	____
35	3/8″	0.200″	0.188″	45	1-20, 50	6846K4	11.50	_____	____
40	1/2″	0.312″	0.313″	58	1-20, 50	6846K6	12.00	_____	____
For Chemicals—PVDF									
25	1/4″	0.130″	0.125″	23	1-20, 50	1058N1	28.70	_____	____
35	3/8″	0.200″	0.188″	54	1-20, 50	1058N2	31.52	_____	____
40	1/2″	0.312″	0.313″	70	1-20, 50	1058N3	35.86	_____	____
Extended Life									
For Food and Beverage—Acetal and 304 Stainless Steel									
25	1/4″	0.130″	0.125″	18	1-20	6228K11	21.71	6228K21	$2.83
35	3/8″	0.200″	0.188″	40	1-20	6228K12	22.14	6228K22	4.56
40	1/2″	0.312″	0.313″	99	1-20	6228K13	25.17	6228K23	5.03
50	5/8″	0.400″	0.375″	154	1-20	6228K14	31.46	6228K24	5.86
60	3/4″	0.469″	0.500″	198	1-20	6228K15	43.02	6228K25	7.46

Double-Pitch ANSI Roller Chain and Links

With half as many rollers and links that are twice as long as other roller chain, this lightweight chain is designed for long drives and low- to moderate-speed applications. It can be used with standard sprockets with at least 24 teeth. Chain comes with connecting links; one for 1- to 20-ft. lengths, five for 50-ft. lengths, and ten for 100-ft. lengths.

Heavy Duty—The links have thick side plates to handle double the working loads of standard chain.

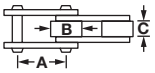









ANSI No.	Pitch (A)	Roller Dia. (B)	Roller Wd. (C)	Working Load, lbs.	Roller Chain Lengths, ft.	Roller Chain Per Ft.	Connecting Links Each	Adding Links Each	Add-and-Connect Links Each
Standard									
General Purpose—Steel									
C2040	1″	0.312″	5/16″	600	1-20, 50, 100	60815K21 $3.71	60815K212 $1.31	60815K214 $1.17	60815K213 $2.83
C2050	1 1/4″	0.400″	3/8″	1,000	1-20, 50, 100	60815K22 4.67	60815K222 1.56	60815K224 1.61	60815K223 3.31
Corrosion Resistant—Treated Steel									
C2040	1″	0.312″	5/16″	600	1-20, 50, 100	1060N1 7.66	1060N511 1.76	1060N513 1.65	1060N512 3.43
C2050	1 1/4″	0.400″	3/8″	1,000	1-20, 50, 100	1060N2 10.12	1060N521 2.27	1060N523 2.67	1060N522 4.12
Highly Corrosion Resistant—304 Stainless Steel									
C2040-SS	1″	0.312″	5/16″	99	1-20, 50, 100	2335K1 16.61	2335K11 4.78	2335K12 3.89	2335K13 10.28
C2050-SS	1 1/4″	0.400″	3/8″	154	1-20, 50, 100	2335K2 21.85	2335K21 5.97	2335K22 5.69	2335K23 12.78
Heavy Duty									
General Purpose—Steel									
C2060H	1 1/2″	0.469″	1/2″	1,400	1-20, 50, 100	60815K23 6.94	60815K232 2.17	60815K234 2.61	60815K233 4.83
C2080H	2″	0.625″	5/8″	2,400	1-20, 50, 100	60815K24 12.37	60815K242 4.56	60815K244 4.89	60815K243 9.25
Corrosion Resistant—Treated Steel									
C2060H	1 1/2″	0.469″	1/2″	1,400	1-20, 50, 100	1060N3 17.38	1060N531 3.55	1060N533 4.22	1060N532 6.94
C2080H	2″	0.625″	5/8″	2,400	1-20, 50, 100	1060N4 26.61	1060N541 5.92	1060N543 9.78	1060N542 11.06
Highly Corrosion Resistant—304 Stainless Steel									
C2060H-SS	1 1/2″	0.469″	1/2″	231	1-20, 50, 100	2335K3 32.90	2335K31 8.89	2335K32 8.14	2335K33 19.22
C2080H-SS	2″	0.625″	5/8″	396	1-20, 50, 100	2335K4 66.95	2335K41 15.89	2335K42 21.22	2335K43 34.22

Hollow-Pin ANSI Roller Chain and Links

The hollow-pin-style bushings let you add attachments without disassembling this chain. It comes with connecting links; one for 1- to 19-ft. lengths, two for 20-ft. lengths, five for 50-ft. lengths, and ten for 100-ft. lengths.

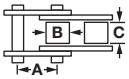







ANSI No.	Pitch (A)	Bushing Dia. (B)	Bushing Wd. (C)	Pin Hole Dia.	Working Load, lbs.	Roller Chain Lengths, ft.	Roller Chain Per Ft.	Connecting Links Each	Add-and-Connect Links Each
Standard—Steel									
40	1/2″	0.312″	0.312″	0.157″	397	1-20, 50, 100	7272K3 $14.44	7272K325 $2.96	7272K326 $5.92
50	5/8″	0.400″	0.375″	0.202″	705	1-20, 50, 100	7272K4 17.02	7272K425 4.00	7272K426 7.52
60	3/4″	0.469″	0.500″	0.236″	948	1-20, 50, 100	7272K5 19.89	7272K525 6.27	7272K526 10.27
80	1″	0.625″	0.625″	0.316″	1,720	1-20, 50, 100	7272K6 43.27	7272K625 12.13	7272K626 16.25
Highly Corrosion Resistant—304 Stainless Steel									
40-SS	1/2″	0.312″	0.312″	0.157″	99	1-20, 50, 100	2326K1 54.72	2326K11 6.93	2326K12 14.06
50-SS	5/8″	0.400″	0.375″	0.202″	154	1-20, 50, 100	2326K2 61.44	2326K13 8.97	2326K14 20.27
60-SS	3/4″	0.469″	0.500″	0.236″	231	1-20, 50, 100	2326K3 67.09	2326K15 11.75	2326K16 26.40

Ultra-Flexible ANSI Roller Chain and Links

Also known as side bow chain, this chain has extra clearance between components for flexing from side to side on systems with curved tracks and sprockets that aren't exactly aligned. It comes with connecting links; one for 1- to 20-ft. lengths and five for 50-ft. lengths.





Connecting Link

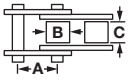

ANSI No.	Min. Curve Radius	Pitch (A)	Roller Dia. (B)	Roller Wd. (C)	Working Load, lbs.	Roller Chain Lengths, ft.	Roller Chain Per Ft.	Connecting Links Each
35	10″	3/8″	0.200″	0.188″	210	1-20, 50	7274K1 $19.92	7274K125 $1.92
40	13.78″	1/2″	0.312″	0.312″	400	1-20, 50	7274K2 14.40	7274K225 1.56
50	15.748″	5/8″	0.400″	0.375″	700	1-20, 50	7274K3 16.96	7274K325 1.84
60	19.685″	3/4″	0.469″	0.500″	950	1-20, 50	7274K4 19.87	7274K425 2.69
80	23.622″	1″	0.625″	0.625″	1,700	1-20, 50	7274K5 29.20	7274K525 4.11

High-Strength Steel Leaf Chain

Also known as counterbalance chain, this chain is commonly used for low-speed pulling and as counterweight chain for machine tools, elevator and oven doors, and forklift masts. Made of interlaced steel plates held together by rivet pins, it has a higher tensile strength than roller chain and is used with flat pulleys instead of sprockets. Chain meets ASME B29.8M. When servicing worn leaf chain, replace the entire chain—do not splice chains together or mix old and new chain.

Clevis connectors attach your chain to a clevis.

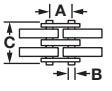





ANSI No.	Pitch (A)	Pin Dia. (B)	O'all Wd. (C)	Lacing	Breaking Point, lbs.	Leaf Chain Lengths, ft.	Leaf Chain Per Ft.	Clevis Connectors Each
BL434	1/2″	0.200″	0.677″	3×4	7,500	3-20	2333K1 $14.70	2333K11 $1.24
BL534	5/8″	0.234″	0.791″	3×4	11,000	3-20	2333K2 16.32	2333K12 1.86
BL634	3/4″	0.312″	1.041″	3×4	17,000	3-20	2333K3 19.97	2333K13 3.29
BL646	3/4″	0.312″	1.437″	4×6	22,000	3-20	2333K4 25.25	2333K14 5.03

Miniature Roller Chain and Links



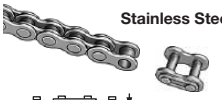

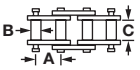

Half the size of our smallest ANSI chain, this chain fits on electronic equipment, instrumentation devices, printers, and other compact machinery. It's for use with our miniature sprockets (see page 1088).

Acetal chain is quiet, lightweight, and nonconductive. Links snap together, so you don't need connecting links.

300 series stainless steel chain stands up to highly corrosive conditions and can handle heavier working loads than acetal chain. It comes with connecting links; one for 1- to 20-ft. lengths, twenty for 50-ft. lengths, and forty for 100-ft. lengths.

Pitch (A)	Bushing Dia. (B)	Bushing Wd. (C)	Working Load, lbs.	Roller Chain Lengths, ft.		Roller Chain Per Ft.	Connecting Links Each	
Acetal								
0.1227″	0.06″	0.062″	2	1-10, 20, 50, 100	64225K72	$20.43	—	—
300 Series Stainless Steel								
0.1475″	0.09″	0.072″	20	1-10, 20, 50, 100	7142K1	44.72	7142K2	$4.02

ANSI Roller Chain Attachment Links

Add these links to your roller chain for conveying, timing, and aligning. Mount brackets and guides on the attachment links or use them to move materials directly. Do not use with Maintenance-Free ANSI Roller Chain.

Tab-style links—Mount parts and hang hooks through the holes on the tabs.

Pin-style links—Trip switches with the extended pins.

Tab-Style Connecting Links





For ANSI Chain No.	Tab Lg.	Hole Dia.	A-1		K-1	
Standard Single Pitch—Steel						
35	0.362″	0.134″	7321K1	$2.00	7321K3	$2.66
40	0.394″	0.142″	7321K5	2.09	7321K7	2.94
50	0.563″	0.205″	7321K11	2.77	7321K13	3.60
60	0.657″	0.205″	7321K15	3.54	7321K17	4.66
80	0.827″	0.268″	7321K21	5.17	7321K23	6.80
Corrosion-Resistant Single Pitch—Treated Steel						
35	0.362″	0.134″	2452K19	3.20	2452K39	4.26
40	0.394″	0.142″	2452K11	2.83	2452K31	3.20
50	0.563″	0.205″	2452K12	3.46	2452K32	3.91
60	0.657″	0.205″	2452K13	4.71	2452K33	5.60
80	0.827″	0.268″	2452K14	7.60	2452K34	9.40
Standard Double Pitch—Steel						
C2040	0.465″	0.141″	2453K11	3.20	2453K31	3.77
C2050	0.594″	0.203″	2453K12	4.00	2453K32	5.03
C2060H	0.713″	0.203″	2453K13	4.77	2453K33	6.20
C2080H	0.957″	0.266″	2453K14	8.74	2453K34	11.69





For ANSI Chain No.	Tab Ht.	Hole Dia.	SA-1		SK-1	
Standard Single Pitch—Steel						
35	0.398″	0.134″	7321K31	$2.00	7321K33	$2.66
40	0.500″	0.142″	7321K35	2.09	7321K37	2.94
50	0.622″	0.205″	7321K39	2.77	7321K42	3.60
60	0.709″	0.205″	7321K44	3.54	7321K46	4.66
80	0.965″	0.268″	7321K48	5.17	7321K51	6.80
Corrosion-Resistant Single Pitch—Treated Steel						
35	0.398″	0.134″	2452K29	3.20	2452K49	4.26
40	0.500″	0.142″	2452K21	2.83	2452K41	3.20
50	0.622″	0.205″	2452K22	3.46	2452K42	3.91
60	0.709″	0.205″	2452K23	4.71	2452K43	5.60
80	0.965″	0.268″	2452K24	7.60	2452K44	9.40
Standard Double Pitch—Steel						
C2040	0.555″	0.203″	2453K15	3.20	2453K35	3.77
C2050	0.673″	0.266″	2453K16	4.00	2453K36	5.03
C2060H	0.87″	0.344″	2453K17	4.77	2453K37	6.20
C2080H	1.138″	0.406″	2453K18	8.74	2453K38	11.69

Tab-Style Adding Links





For ANSI Chain No.	Tab Lg.	Hole Dia.	A-1		K-1	
Standard Single Pitch—Steel						
35	0.358″	0.134″	7321K2	$1.49	7321K4	$2.09
40	0.457″	0.142″	7321K6	1.37	7321K8	1.86
50	0.642″	0.205″	7321K12	2.46	7321K14	3.11
60	0.756″	0.205″	7321K16	2.69	7321K18	4.43
80	0.969″	0.268″	7321K22	5.69	7321K24	7.80





For ANSI Chain No.	Tab Ht.	Hole Dia.	SA-1		SK-1	
Standard Single Pitch—Steel						
35	0.398″	0.134″	7321K32	$1.49	7321K34	$2.09
40	0.500″	0.142″	7321K36	1.37	7321K38	1.86
50	0.622″	0.205″	7321K41	2.46	7321K43	3.11
60	0.709″	0.205″	7321K45	2.69	7321K47	4.43
80	0.902″	0.268″	7321K49	5.69	7321K52	7.80

Pin-Style Connecting Links





For ANSI Chain No.	Pin Proj.	Pin Dia.	D-1		D-3	
Standard Single Pitch—Steel						
40	0.375″	0.156″	7321K63	$3.37	7321K64	$3.66
50	0.468″	0.200″	7321K65	3.66	7321K66	4.09
60	0.562″	0.234″	7321K67	5.60	7321K68	6.20
80	0.750″	0.312″	7321K69	6.83	7321K71	7.54
Corrosion-Resistant Single Pitch—Treated Steel						
40	0.375″	0.156″	2452K91	3.54	2452K95	4.89
50	0.468″	0.200″	2452K92	4.20	2452K96	5.91
60	0.562″	0.234″	2452K93	5.49	2452K97	7.43

Single-Strand ANSI Roller Chain Link Assortments



Keep an assortment of extra steel links on hand for maintenance and repairs. Links come in a plastic case with reference guide.

83-Piece ANSI Assortment					
Link Style	#35	#40	#41	#50	#60
Connecting	7	7	7	5	6
Adding	5	5	5	4	6
Add-and-Connect	5	5	5	5	6

6171K54 $197.96

160-Piece ANSI Assortment						
Link Style	#35	#40	#41	#50	#60	#80
Connecting	20	20	20	10	10	5
Adding	5	5	5	5	5	–
Add-and-Connect	10	10	10	10	5	5

6171K53 $402.75

Roller Chain Breakers



T-Handle



Wrench Drive



Breaker/Riveter

Customize chain lengths for a perfect fit on your drive. All chain breakers are steel.

T-handle breakers drive out chain pins with a twist of the handle.

Wrench-drive breakers remove chain pins without damaging side plates. Turn the clamping knob and tighten the hex-head screw with a wrench (not included) to push out the pin. A clamping sleeve helps to align the breaker to the pin.

Breaker/riveter can break ANSI numbers 50 and 60 roller chain. It also rivets ANSI number 50 chain to increase the strength of the side plates and pins for better performance on high-speed drives. Attach the removable handle and clamp the breaker/riveter in a vise or bolt it to a workbench with two 3/8"-24 bolts (not included). It comes with a steel rivet set, a rivet anvil, and a press plate.

For ANSI Chain Nos.	Pitch	Chain Breakers		Replacement Points	
For Single- and Double-Strand Roller Chain					
T-Handle					
25-60	1/4"-3/4"	6051K15	$30.48	6051K22	$2.67
60-100	3/4"-1 1/4"	6051K16	50.88	6051K23	3.12
120-160	1 1/2"-2"	6051K17	220.00	6051K24	6.82
For Single-Strand Roller Chain					
Wrench Drive					
35-50	3/8"-5/8"	6669K11	38.52	6669K21	4.93
50-80	5/8"-1"	6669K12	51.59	6669K22	6.02
Breaker/Riveter					
50-60	5/8"-3/4"	8186K11	153.98	8186K21	10.42

ANSI Roller Chain Wear-Indicating Gauges



Ruler



Insert

Quickly and accurately determine how much your ANSI roller chain has stretched.

Ruler—Place this plastic ruler on links to measure chain wear.

Inserts—Place these steel inserts between two roller links. If they can be inserted past your ANSI number, the chain is worn out.

For ANSI Chain Nos.	Lg.	Wd.		
Ruler				
40-240	15"	2 5/8"	2370K4	$5.22
Inserts				
35-100	8 3/4"	5/8"	2370K2	223.56
80-240	18"	1 1/2"	2370K3	279.47

Roller Chain Spring-Clip Removers



Quick-Twist Tool



Pliers

Give your hands a break with these tools that easily remove spring clips from links.

Quick-Twist Tool—Twist this steel tool on the clip to remove it.

Pliers—The notched jaws push the clip off the link.

Quick-Twist Tool	2372K1	$3.40
Pliers	1064N11	32.98

Roller Chain Holders







Jaw Style



Cable Style

Keep roller chain in place while you add or remove links. These roller chain holders are steel.

Jaw-style holders hook into your roller chain and have a handle that tightens the jaws until the chain ends are close enough to add or remove a link.

Cable-style holder has hooks at each end of the cable that insert onto the rollers beyond the links you want to change. Tighten the hooks with the included box wrench to add or remove a link, and pull the lever handle to release the cable. Minimum roller width is 5/8".

For ANSI Chain Nos.	Handle	Pitch	Max. Spread	Lg.	Wd.		
Jaw Style							
35-60	Thumb Screw	3/8"-3/4"	1 3/4"	2 3/4"	2 1/2"	7320K5	$12.73
35-60	Knob	3/8"-3/4"	2"	4 1/4"	2 3/4"	6052K14	32.06
40-80	T-Handle	1/2"-1"	3 1/2"	6 5/8"	4"	6052K18	57.38
80-240	T-Handle	1"-3"	5"	8 1/2"	5 3/4"	6052K16	66.65
Cable Style							
80-240	Lever	1"-3"	42"	6 1/2"	4"	7323K4	95.00

Roller Chain Alignment Tools

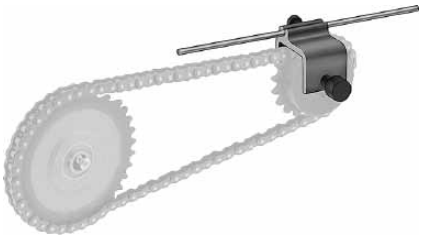

Align sprockets and roller chain during installation and adjustment. Clamp this aluminum tool to your sprocket, and the alignment rod indicates when the sprocket lines up with the chain.

Max. Sprocket Wd.		
1"	1065N11	$24.73

Extended-Life Adjustable Roller Chain Tensioners

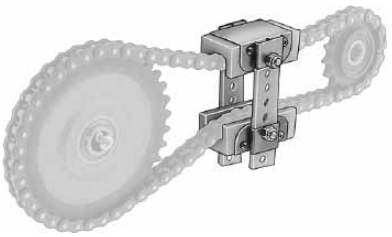

Increase the life of your roller chain with these tensioners that engage with the side plates instead of the rollers. Riding on your chain drive, they have adjustable straps that take up slack and apply constant tension. These tensioners are polyethylene with a stainless steel housing, and materials are USDA compliant and FDA listed. Maximum temperature is 200° F. Tension force is not rated.

For ANSI Chain Nos.	Lg.	Wd.		
25	2 1/2"	1 3/32"	5973K1	$40.43
35	2 1/2"	1 3/32"	5973K2	42.55
40, 41, 52, 25-2	3"	2 11/16"	5973K3	55.32
50, 35-2	3 1/2"	2 7/8"	5973K4	65.96
60, 40-2, 35-3	4"	3 1/8"	5973K5	60.61
80, 50-2, 35-4	4 1/2"	3 3/4"	5973K6	102.13
100, 60-2, 40-3, 76	5"	4 1/16"	5973K7	134.00
120, 80-2, 50-3, 40-4	5 1/2"	4 13/16"	5973K8	151.92

Maintenance-Free Self-Adjusting Roller Chain Tensioners

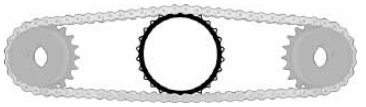

Reduce chain wear and noise without worrying about adjustment—these plastic rings install between strands of roller chain and absorb slack in your system without needing alignment, lubrication, or tools. They're often used on chain drives in confined spaces where maintenance is difficult. Maximum temperature is 158° F.

For ANSI Chain No.	Max. Speed, ft./min.	No. of Teeth on Drive Sprocket	OD	Tension Force, lbs.		
35	1,020	15-25	3.539″	1	5896K1	$70.64
40	1,476	15-19	4.154″	3	5896K2	68.62
50	1,501	15-19	5.055″	6	5896K4	83.69

Adjustable Roller Chain and Belt Tensioners


1


2


3


4

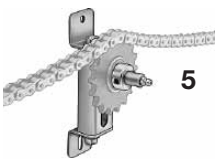
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Take up slack and adjust the tension on your roller chain or belt. These tensioners are for use with idler sprockets (see 6663K on page 1086) or pulleys (see 59475K, 6234K, and 6235K on page 1102).

Tensioners with Adjustment Arm—Position the adjustment arm to control tension at any point in a 360° arc. These tensioners are cast iron. Tension force is 45 lbs.

Tensioners with Spring-Loaded Adjustment Arm—A built-in spring allows the adjustment arm to apply continuous tension and automatically take up slack. The arm moves in a 180° arc. These tensioners are cast iron. Tension force is 45 lbs.

Tensioners with Adjustment Screw—Precisely apply tension in a straight line by moving the adjustment screw. These tensioners are steel. Tension force is not rated.

For Idler Bore	Base Ht.	Base Wd.	Arm Lg.	O'all Dp.		
With Adjustment Arm						
(1) Vertical Mount						
3/8″	3 1/4″	2″	2 1/2″	1 3/8″	60225K11	$102.95
1/2″	5″	3 1/2″	3 13/16″	2″	60225K12	104.74
5/8″	5″	3 1/2″	3 13/16″	2″	60225K13	105.16
3/4″	5″	3 1/2″	3 13/16″	2″	60225K25	113.51
(2) Horizontal Mount						
3/8″	2 5/16″	2 1/4″	2 1/2″	2″	60225K14	97.16
1/2″	3 1/4″	4″	3 13/16″	3 3/8″	60225K15	102.11
5/8″	3 1/4″	4″	3 13/16″	3 3/8″	60225K16	102.42
3/4″	3 1/8″	4″	4″	3 3/8″	60225K26	110.74
With Spring-Loaded Adjustment Arm						
(3) Vertical Mount						
1/2″	5″	3 1/2″	5″	2 7/8″	60225K21	145.79
5/8″	5″	3 1/2″	5″	2 7/8″	60225K22	146.21
3/4″	5″	3 1/2″	5″	2 7/8″	60225K27	155.00
(4) Horizontal Mount						
1/2″	3 1/8″	4″	5″	2 1/2″	60225K23	143.16
5/8″	3 1/8″	4″	5″	2 1/2″	60225K24	143.47
3/4″	3 1/8″	4″	5″	2 1/2″	60225K28	152.23
With Adjustment Screw						
(5) Versa Mount						
1/2″	1 1/2″	5 7/8″	—	3 1/8″	6265K5	97.20
7/8″	2″	9″	—	4 5/16″	6265K1	116.49
1 1/8″	3″	13″	—	6″	6265K2	176.13

Self-Adjusting Spring-Loaded Roller Chain Tensioners


Standard

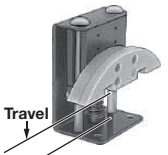

Low Profile


Ultra Low Profile

Built-in springs put constant tension on roller chain to absorb and buffer shock, reduce vibration, and improve drive performance. All tensioners can be mounted horizontally or vertically. They have a polyethylene arc.

Standard tensioners have an aluminum housing and mount with one bolt (not included); use a 3/8″ bolt on tensioners for ANSI numbers 35 and 40 chain, a 7/16″ bolt on tensioners for ANSI numbers 50 and 60 chain, and a 1/2″ bolt on tensioners for ANSI numbers 80 and 100 chain. Maximum temperature is 180° F.

Low-profile tensioners are nearly half the height of standard tensioners for use on low-clearance drives. They have a steel housing and mount with two M6 screws (not included). Maximum temperature is 140° F.

Ultra low-profile tensioners are less than 3″ tall, so they fit in extremely tight spots. They have a stainless steel housing and mount with two M5 screws (not included). Maximum temperature is 140° F.

Standard

For ANSI Chain No.	Tension Force, lbs.	Travel	Ht.	Wd.	Dp.		
35	15-40	1.05″	5.60″	2.31″	0.98″	6233K33	$90.26
40	15-40	1.05″	5.60″	2.31″	0.98″	6233K34	90.26
50	20-60	1.2″	6.40″	2.95″	1.18″	6233K35	120.56
60	20-60	1.2″	6.40″	2.95″	1.18″	6233K36	120.56
80	45-100	1.5″	7.50″	3.54″	1.38″	6233K37	166.93
100	45-100	1.5″	7.50″	3.54″	1.38″	6233K38	166.93

Low Profile

For ANSI Chain No.	Travel	Ht.	Wd.	Dp.	7-13 lbs. Tension Force		13-29 lbs. Tension Force	
25-35	1.6″	3.78″	2.76″	1.22″	7332K1	$109.23	7332K5	$109.23
40	1.6″	3.78″	2.76″	1.22″	7332K2	109.23	7332K6	109.23
50	1.6″	3.78″	2.76″	1.22″	7332K3	109.23	7332K7	109.23
60	1.6″	3.78″	2.76″	1.22″	7332K4	109.23	7332K8	109.23

Ultra Low Profile

For ANSI Chain No.	Travel	Ht.	Wd.	Dp.	2-4 lbs. Tension Force		13-19 lbs. Tension Force	
35	0.6″	2.56″	1.97″	0.59″	7332K9	$55.33	7332K11	$55.33

Roller Chain Guides



Open Channel



Center Channel



Deep Channel

Minimize friction, reduce noise, and prolong the life of your roller chain with these polyethylene guides. They can be cut to the exact length you need. Maximum temperature is 176° F.

To Order: Please specify 1-ft. to 8-ft. lengths.

Center-channel guides align chain more precisely than open-channel guides.

Deep-channel guides prevent chain from slipping off track. Also known as captured guides, they have a metal frame that can be welded or bolted into position.

Style 6 have a flanged frame for easy mounting. Holes are every 12″ and fit 5/16″ bolts; fasteners are not included. Choose a 304 stainless steel frame for better corrosion resistance than steel.

(1) Open Channel



1

	For ANSI Chain No.	O'all Ht.	O'all Wd.		Per Ft.
1	40/2040	5/16″	1 1/4″	93095K1	$7.54
1	50/2050	3/8″	1 1/4″	93095K2	7.94
1	60/2060	3/8″	1 1/2″	93095K3	8.98
1	80/2080	1/2″	2″	93095K4	13.34

(2-4) Center Channel



2



3



4

	For ANSI Chain No.	O'all Ht.	O'all Wd.	Ctr. Channel Wd.		Per Ft.
2	40/2040	5/16″	1″	1/4″	93095K5	$7.74
2	50/2050	3/8″	1 1/4″	5/16″	93095K6	8.04
2	60/2060	1/2″	1 1/2″	7/16″	93095K7	10.40
2	80/2080	1/2″	2″	9/16″	93095K8	13.32
3	40/2040	5/16″	1″	1/4″	93095K9	8.10
3	50/2050	5/16″	1 1/4″	5/16″	93095K46	8.52
3	60/2060	5/16″	1 1/4″	7/16″	93095K16	8.92
3	80/2080	3/8″	1 1/2″	9/16″	93095K17	12.22
4	40/2040	0.59″	0.79″	0.29″	93095K18	15.72
4	50/2050	0.59″	0.79″	0.35″	93095K19	17.30
4	60/2060	0.59″	1.10″	0.46″	93095K21	18.60
4	80/2080	0.71″	1.34″	0.6″	93095K22	19.90

(5-6) Deep Channel



5

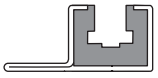

6

	For ANSI Chain No.	O'all Ht.	O'all Wd.	Channel Dp.		Per Ft.
304 Stainless Steel Frame						
5	40/2040	0.94″	1.18″	0.55″	93095K45	$44.98
5	50/2050	0.94″	1.18″	0.65″	93095K24	46.33
5	60/2060	1.13″	1.18″	0.82″	93095K25	56.36
5	80/2080	1.58″	1.77″	1.19″	93095K26	69.46
Steel Flanged Frame						
6	35	0.98″	1.22″	0.37″	93095K27	51.10
6	40/2040	0.98″	1.22″	0.53″	93095K28	51.10
6	50/2050	0.98″	1.22″	0.64″	93095K29	51.10
6	60/2060	0.98″	1.22″	0.81″	93095K35	51.10
304 Stainless Steel Flanged Frame						
6	35	0.98″	1.22″	0.37″	93095K36	88.38
6	40/2040	0.98″	1.22″	0.53″	93095K37	88.38
6	50/2050	0.98″	1.22″	0.64″	93095K38	88.38
6	60/2060	0.98″	1.22″	0.81″	93095K39	88.38

Guards for Chain and Belt Drives

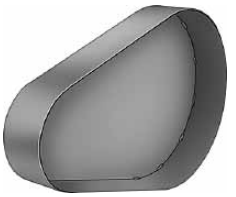

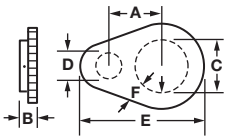

Standard Guards

Prevent chain and belt slippage and protect your drive mechanism from interference. These guards are 14-ga. steel. To mount, punch screw holes or weld. Use your sprocket dimensions to determine the guard size you need.

Max. Sprocket Ctr.-to-Ctr. (A)	Max. Sprocket Wd. (B)	Large Sprocket Max. OD (C)	Small Sprocket Max. OD (D)	Guard Lg. (E)		
10 1/2″	1 3/4″	7″	3″	19 1/2″	6248K34	$156.00
14 1/2″	2 7/8″	13″	4 5/8″	27 5/16″	6248K35	198.00
15″	3 1/4″	14 3/4″	7″	29 7/8″	6248K36	204.00
20 1/2″	3 1/4″	14 3/4″	5 1/2″	34 5/8″	6248K37	222.00
23 1/2″	4″	19″	6″	40″	6248K38	274.00
27 1/2″	4″	19″	8″	45″	6248K39	284.00
31 1/2″	4 3/4″	23 1/2″	11 1/4″	52 7/8″	6248K41	348.00

Made-to-Order Guards

To Order: Please specify the following dimensions:

Actual sprocket center-to-center distance (A); guard depth, which is the max. sprocket width (B) plus 1″; large sprocket OD (C); small sprocket OD (D); and clearance between sprocket and side of guard (F). Recommended clearance is 2″.

Sprocket Center-to-Center Distance		
0″ to 12″	6248K61	$230.00
12.1″ to 22″	6248K62	280.00
22.1″ to 32″	6248K63	350.00
32.1″ to 48″	6248K64	418.18

Corrosion-Resistant Guards for Chain and Belt Drives



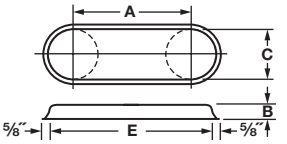

These plastic guards won't rust, and they absorb impact from chain and belt drives. Drill holes for mounting and venting. All guards have a backplate and a flange to accommodate mounting holes up to 1/4″ dia. Maximum temperature is 200° F. Use your sprocket dimensions to determine the guard size you need.

Max. Sprocket Ctr.-to-Ctr. (A)	Guard Dp. (B)	Max. Sprocket OD (C)	Guard Lg. (E)		
6″	2 1/2″	5 5/8″	11 5/8″	7352K13	$64.52
8 1/8″	3 1/2″	6 3/4″	14 7/8″	7352K15	129.06
9″	2 1/2″	5 3/4″	14 3/4″	7352K24	96.78
11 1/4″	3 1/2″	6 3/4″	18″	7352K16	129.06
12″	2″	5 5/8″	17 1/2″	7352K22	96.78
14″	2 1/2″	5 3/4″	19 3/4″	7352K14	129.06
17 3/8″	3 1/2″	6 3/4″	24 1/8″	7352K17	172.06
20″	2″	5 5/8″	25 1/2″	7352K11	129.06
20 3/8″	3 1/2″	6 3/4″	27 1/8″	7352K18	172.06
23 1/8″	2″	5 3/4″	28 3/4″	7352K12	145.18
25 1/2″	3 1/2″	6 3/4″	32 1/8″	7352K19	193.58
27 1/2″	2″	5 7/8″	33 1/4″	7352K23	193.58
29 1/2″	3 1/2″	6 3/4″	36 1/8″	7352K21	258.10
33″	3 1/2″	7″	40 1/8″	7352K25	258.10

Idler Sprockets for ANSI Roller Chain

Low-Profile Hub



With Ball Bearings



With Bronze Sleeve Bearings

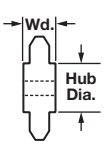

Wide Hub



With Bronze Sleeve Bearings



With Needle Bearings

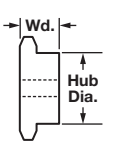

Hubless



With Ball Bearings

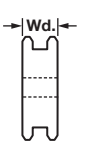

Maintain constant tension on your drive with these sprockets that press against your chain to take up slack and reduce wear and vibration. They rotate freely on built-in bearings and are for use with roller chain tensioners (sold separately on page 1084). *Ball bearings* are double sealed to keep dirt out. *Bronze sleeve bearings* are self-lubricating. *Needle bearings* minimize internal friction.

Low-Profile Hub—Use these sprockets in narrow spaces.

Wide Hub—These sprockets offer the stability needed to handle heavy loads.

Hubless—With no hub, these sprockets fit double-strand roller chain drives with little clearance.

Nylon sprockets are lightweight, quiet, and corrosion resistant.

Steel sprockets are more durable than nylon sprockets. *Sprockets with hardened teeth* have increased wear resistance for a long service life.

For ANSI Chain No.	Pitch	No. of Teeth	Bore Dia.	OD	Wd.	Hub Dia.		
Low-Profile Hub								
Nylon Sprockets—Ball Bearings								
40	1/2″	17	5/8″	3″	0.67″	1 9/16″	8255K11	$17.46
40	1/2″	17	3/4″	3″	0.67″	1 9/16″	8255K31	17.46
50	5/8″	15	5/8″	3.34″	0.67″	1 9/16″	8255K12	18.20
50	5/8″	15	3/4″	3.34″	0.67″	1 9/16″	8255K32	18.20
60	3/4″	13	5/8″	3.5″	0.67″	1 9/16″	8255K13	19.69
60	3/4″	13	3/4″	3.5″	0.67″	1 9/16″	8255K33	19.69
80	1″	12	5/8″	4.4″	0.67″	1 9/16″	8255K14	22.80
80	1″	12	3/4″	4.4″	0.67″	1 9/16″	8255K34	22.80
Steel Sprockets—Ball Bearings								
25	1/4″	20	3/8″	1.73″	0.313″	29/32″	6663K11	24.73
35	3/8″	19	3/8″	2.47″	0.375″	1 3/8″	6663K21	25.56
35	3/8″	19	1/2″	2.47″	0.375″	1 3/8″	6663K22	25.56
40	1/2″	18	1/2″	3.14″	0.438″	1 3/8″	6663K41	28.78
40	1/2″	18	5/8″	3.14″	0.438″	1 3/8″	6663K42	28.78
41	1/2″	18	1/2″	3.14″	0.438″	1 3/8″	6663K31	28.78
41	1/2″	18	5/8″	3.14″	0.438″	1 3/8″	6663K32	28.78
50	5/8″	17	1/2″	3.72″	0.438″	1 3/8″	6663K51	29.58
50	5/8″	17	5/8″	3.72″	0.438″	1 3/8″	6663K52	29.58
60	3/4″	15	1/2″	3.98″	0.438″	1 3/8″	6663K61	28.65
60	3/4″	15	5/8″	3.98″	0.438″	1 3/8″	6663K62	28.65
80	1″	12	3/4″	4.33″	0.609″	1 25/32″	6663K63	47.33
Steel Sprockets with Hardened Teeth—Bronze Sleeve Bearings								
35	3/8″	20	0.506″	2.59″	0.98″	1 1/2″	6663K12	23.10
40/41	1/2″	15	0.506″	2.65″	0.98″	1 1/2″	6663K13	24.17
50	5/8″	15	0.506″	3.32″	0.98″	1 1/2″	6663K14	31.11
60	3/4″	14	0.506″	3.74″	0.98″	1 1/2″	6663K15	31.88
Steel Sprockets with Hardened Teeth—Ball Bearings								
35	3/8″	19	1/2″	2.47″	0.72″	1 9/16″	6663K1	23.29
35	3/8″	20	0.640″	2.59″	0.72″	1 9/16″	6663K23	23.05
40	1/2″	17	0.640″	2.98″	0.72″	1 9/16″	6663K43	24.12
40	1/2″	25	0.638″	4.26″	0.72″	1 9/16″	6663K201	28.05
40	1/2″	35	0.638″	5.86″	0.72″	1 9/16″	6663K202	32.36
40	1/2″	48	0.638″	7.93″	0.72″	1 9/16″	6663K203	37.54
41	1/2″	18	1/2″	3.14″	0.72″	1 9/16″	6663K2	24.51
41	1/2″	18	0.638″	3.14″	0.72″	1 9/16″	6663K3	24.51
50	5/8″	15	0.640″	3.32″	0.72″	1 9/16″	6663K44	27.05
50	5/8″	25	3/4″	5.32″	0.61″	1 3/4″	6663K204	29.38
50	5/8″	39	3/4″	8.12″	0.61″	1 3/4″	6663K205	74.31

For ANSI Chain No.	Pitch	No. of Teeth	Bore Dia.	OD	Wd.	Hub Dia.		
Low-Profile Hub (Cont.)								
Steel Sprockets with Hardened Teeth—Ball Bearings (Cont.)								
60	3/4″	12	0.638″	3.25″	0.72″	1 9/16″	6663K206	$27.97
60	3/4″	13	0.640″	3.49″	0.72″	1 9/16″	6663K53	29.18
80	1″	12	3/4″	4.33″	0.61″	1 3/4″	6663K4	41.85
Wide Hub								
Steel Sprockets—Bronze Sleeve Bearings								
35	3/8″	15	1/2″	1.99″	0.938″	1 23/64″	6663K81	17.77
35	3/8″	21	7/8″	2.71″	1.063″	2″	6663K82	23.72
40	1/2″	13	1/2″	2.33″	0.938″	1 9/16″	6663K85	25.59
40	1/2″	19	7/8″	3.29″	1.063″	2 1/2″	6663K86	33.35
50	5/8″	13	1/2″	2.91″	0.938″	1 7/8″	6663K87	25.05
50	5/8″	17	7/8″	3.72″	1.063″	2 5/8″	6663K88	37.50
60	3/4″	15	7/8″	3.98″	1.063″	2 5/8″	6663K89	47.31
60	3/4″	17	1 1/8″	4.46″	1.563″	3 1/4″	6663K91	63.56
80	1″	15	1 1/8″	5.3″	1.563″	3 1/2″	6663K92	78.21
Steel Sprockets with Hardened Teeth—Needle Bearings								
25	1/4″	19	1/2″	1.65″	0.75″	1 7/32″	6663K71	44.67
35	3/8″	13	1/2″	1.75″	0.75″	1 3/16″	6663K72	50.42
35	3/8″	19	1″	2.47″	1″	1 27/32″	6663K73	50.42
40	1/2″	19	1″	3.29″	1″	2 1/2″	6663K75	58.84
41	1/2″	19	1″	3.29″	1″	2 1/2″	6663K74	58.84
50	5/8″	17	1″	3.72″	1″	2 1/4″	6663K76	66.29
60	3/4″	17	1″	4.46″	1″	3″	6663K77	77.08
80	1″	13	1″	4.66″	1.25″	2 5/8″	6663K78	92.45
100	1 1/4″	11	1 1/2″	5.01″	1.88″	3 9/16″	6663K207	127.19
120	1 1/2″	11	1 1/2″	6.01″	2.13″	3 9/16″	6663K208	188.23
140	1 3/4″	11	1 1/2″	7.01″	2.25″	4 1/4″	6663K209	261.35
160	2″	9	1 1/2″	6.7″	2.25″	3 5/8″	6663K211	270.88
Hubless								
Double-Strand Steel Sprockets—Ball Bearings								
35-2	3/8″	19	1/2″	2.47″	0.561″	____	6260K1	69.16
35-2	3/8″	19	5/8″	2.47″	0.561″	____	6260K2	69.16
40-2	1/2″	18	1/2″	3.14″	0.841″	____	6260K3	90.88
40-2	1/2″	18	5/8″	3.14″	0.841″	____	6260K4	90.88
50-2	5/8″	17	1/2″	3.72″	1.045″	____	6260K5	118.53
50-2	5/8″	17	5/8″	3.72″	1.045″	____	6260K6	118.53
60-2	3/4″	15	1/2″	3.98″	1.345″	____	6260K7	138.26
60-2	3/4″	15	5/8″	3.98″	1.345″	____	6260K8	138.07
80-2	1″	12	3/4″	4.33″	1.71″	____	6260K9	167.92

Machinable-Bore Double-Strand Sprockets for ANSI Roller Chain



Use these steel sprockets with ANSI double-strand chain. They are furnished with the minimum bore size listed and can be machined to the maximum bore size listed. These sprockets have hardened teeth for increased wear resistance and a long service life.

No. of Teeth	For ANSI No. 35-2 Chain (3/8″ Pitch) Bore Size Min.	Max.			For ANSI No. 40-2 Chain (1/2″ Pitch) Bore Size Min.	Max.			For ANSI No. 50-2 Chain (5/8″ Pitch) Bore Size Min.	Max.			For ANSI No. 60-2 Chain (3/4″ Pitch) Bore Size Min.	Max.		
11	____	____	____	____	1/2″	3/4″	2784K16	$47.70	5/8″	15/16″	2784K33	$68.20	1″	1 1/4″	2784K49	$63.71
12	1/2″	9/16″	2784K1	$30.86	1/2″	15/16″	2784K17	47.97	5/8″	1 1/8″	2784K34	68.47	1″	1 7/16″	2784K51	66.24
13	1/2″	11/16″	2784K2	30.86	1/2″	1″	2784K18	48.55	5/8″	1 5/16″	2784K35	70.27	1″	1 1/2″	2784K52	71.77
14	1/2″	7/8″	2784K3	31.32	1/2″	1 1/8″	2784K19	49.54	5/8″	1 3/8″	2784K36	71.77	1″	1 3/4″	2784K53	75.53
15	1/2″	15/16″	2784K4	31.85	1/2″	1 1/4″	2784K21	49.54	3/4″	1 1/2″	2784K37	71.77	1″	1 7/8″	2784K54	78.63
16	1/2″	15/16″	2784K5	32.12	5/8″	1 3/8″	2784K22	49.81	3/4″	1 3/4″	2784K38	73.61	1″	2″	2784K55	84.20
17	1/2″	1 1/16″	2784K6	34.62	5/8″	1 7/16″	2784K23	51.35	3/4″	1 7/8″	2784K39	75.53	1″	2 1/4″	2784K56	88.77
18	1/2″	1 3/16″	2784K7	36.46	5/8″	1 1/2″	2784K24	54.27	3/4″	1 15/16″	2784K41	77.37	1″	2 3/8″	2784K57	92.53
19	1/2″	1 5/16″	2784K8	38.42	5/8″	1 3/4″	2784K25	56.91	1″	2 1/8″	2784K42	78.63	1″	2 1/2″	2784K58	97.82
20	3/4″	1 5/16″	2784K9	40.91	5/8″	1 7/8″	2784K26	60.67	1″	2 1/4″	2784K43	81.67	1″	2 1/2″	2784K59	104.62

Machinable-Bore Sprockets for ANSI Roller Chain



For a custom fit on your shaft, these sprockets can be machined to your exact specifications. They are furnished with the minimum bore size listed and can be machined to the maximum bore size listed.

Nylon sprockets are lightweight, quiet, corrosion resistant, and easier to machine than metal sprockets.

Steel and **18-8 stainless steel sprockets** are more durable than nylon sprockets. *18-8 stainless steel sprockets* are corrosion resistant for use in harsh environments.

No. of Teeth	For ANSI No. 25 Chain (1/4" Pitch) Bore Size Min.	Max.			For ANSI No. 35 Chain (3/8" Pitch) Bore Size Min.	Max.			For ANSI No. 40 Chain (1/2" Pitch) Bore Size Min.	Max.			For ANSI No. 50 Chain (5/8" Pitch) Bore Size Min.	Max.		
Nylon																
9	—	—	—	—	1/4"	3/8"	60425K173	$11.75	1/2"	1/2"	60425K164	$13.75	1/2"	5/8"	60425K82	$16.57
10	1/4"	1/4"	60425K13	12.88	3/8"	7/16"	60425K172	12.00	1/2"	1/2"	60425K163	14.25	1/2"	3/4"	60425K83	21.25
11	1/4"	5/16"	60425K14	13.50	3/8"	1/2"	60425K171	12.50	1/2"	1/2"	60425K61	15.25	1/2"	7/8"	60425K84	23.25
12	1/4"	3/8"	60425K187	13.75	1/2"	9/16"	60425K169	12.75	1/2"	5/8"	60425K62	16.88	1/2"	1"	60425K85	23.50
13	1/4"	7/16"	60425K186	13.87	1/4"	1/2"	60425K39	13.25	1/2"	5/8"	60425K63	18.12	1/2"	7/8"	60425K86	23.75
14	3/8"	1/2"	60425K185	14.00	1/2"	3/4"	60425K168	13.50	1/2"	5/8"	60425K64	18.50	1/2"	1"	60425K87	24.00
15	3/8"	1/2"	60425K184	14.25	1/2"	13/16"	60425K167	14.75	1/2"	3/4"	60425K65	18.88	1/2"	1 1/4"	60425K88	24.87
16	3/8"	1/2"	60425K183	14.50	1/2"	15/16"	60425K43	15.25	1/2"	7/8"	60425K162	19.00	1/2"	1 1/4"	60425K89	26.50
17	3/8"	1/2"	60425K182	14.75	1/2"	7/8"	60425K44	15.50	1/2"	15/16"	60425K67	19.25	1/2"	1 3/8"	60425K91	28.50
18	3/8"	1/2"	60425K181	14.88	1/2"	1 1/16"	60425K45	16.25	1/2"	1"	60425K68	22.25	1/2"	1 1/2"	60425K92	30.62
24	1/2"	13/16"	60425K175	19.00	1/2"	13/16"	60425K52	24.75	1/2"	1 3/8"	60425K161	39.00	1/2"	1 5/8"	60425K98	49.38
25	1/2"	1"	60425K29	19.25	1/2"	1"	60425K53	25.50	1/2"	1 1/2"	60425K76	40.00	1/2"	1 5/8"	60425K99	49.87
30	1/2"	7/8"	60425K174	21.25	1/2"	17/16"	60425K54	26.50	1/2"	1 1/2"	60425K77	46.88	1/2"	1 3/4"	60425K105	62.25
35	1/2"	1"	60425K32	27.50	1/2"	17/16"	60425K55	32.50	1/2"	1 1/2"	60425K78	48.88	1/2"	1 3/4"	60425K106	69.12
40	1/2"	7/8"	60425K33	35.00	1/2"	1 3/4"	60425K166	37.25	1"	1 3/4"	60425K79	60.25	—	—	—	—
45	1/2"	1"	60425K34	37.50	1/2"	1 3/4"	60425K165	39.75	1"	1 3/4"	60425K81	66.62	—	—	—	—
Steel																
9	1/4"	1/4"	6793K1	10.27	3/8"	3/8"	6793K116	8.63	1/2"	9/16"	6793K208	10.76	5/8"	3/4"	6793K209	14.65
10	1/4"	1/4"	6793K2	10.53	3/8"	9/16"	6793K117	9.22	1/2"	3/4"	6793K141	10.99	5/8"	7/8"	6793K164	16.08
11	1/4"	5/16"	6793K3	10.78	3/8"	9/16"	6793K118	9.46	1/2"	7/8"	6793K142	12.06	5/8"	1"	6793K165	17.14
12	1/4"	3/8"	6793K4	11.18	1/2"	9/16"	6793K119	9.93	1/2"	1"	6793K143	12.88	5/8"	1 1/4"	6793K166	17.85
13	1/4"	7/16"	6793K5	11.68	1/2"	11/16"	6793K121	10.28	1/2"	1 1/16"	6793K144	13.12	5/8"	1 5/16"	6793K167	18.68
14	1/4"	9/16"	6793K6	11.94	1/2"	7/8"	6793K122	10.76	1/2"	1 1/8"	6793K145	13.12	5/8"	1 7/16"	6793K168	19.50
15	1/4"	9/16"	6793K7	11.94	1/2"	7/8"	6793K123	10.99	1/2"	1 1/4"	6793K146	13.12	5/8"	1 1/2"	6793K169	20.21
16	1/4"	9/16"	6793K8	12.33	1/2"	15/16"	6793K124	11.59	5/8"	1 3/8"	6793K147	13.71	5/8"	1 3/4"	6793K171	21.75
17	1/4"	5/8"	6793K9	12.58	1/2"	1 1/16"	6793K125	11.59	5/8"	1 7/16"	6793K148	16.08	5/8"	1 7/8"	6793K172	23.41
18	1/4"	3/4"	6793K11	13.09	1/2"	13/16"	6793K126	12.06	5/8"	1 1/2"	6793K149	17.14	5/8"	1 7/8"	6793K173	25.53
19	1/4"	13/16"	6793K12	13.09	1/2"	1 1/4"	6793K127	12.41	5/8"	1 3/4"	6793K151	19.50	5/8"	2"	6793K174	27.07
20	1/4"	7/8"	6793K13	13.48	1/2"	15/16"	6793K128	13.71	5/8"	1 7/8"	6793K152	22.34	3/4"	2"	6793K175	30.26
21	1/4"	7/8"	6793K14	13.99	1/2"	1 3/8"	6793K129	14.65	5/8"	1 7/8"	6793K153	24.70	3/4"	2"	6793K176	32.86
22	1/4"	15/16"	6793K15	14.25	1/2"	1 3/8"	6793K131	16.31	5/8"	1 7/8"	6793K154	27.07	3/4"	2"	6793K177	35.23
23	1/4"	1"	6793K16	14.89	1/2"	1 3/8"	6793K132	17.61	5/8"	2"	6793K155	29.79	3/4"	2"	6793K178	37.59
24	3/8"	1"	6793K17	15.65	1/2"	1 3/8"	6793K133	18.68	5/8"	2 1/4"	6793K156	31.32	3/4"	2"	6793K179	39.72
25	3/8"	1"	6793K18	15.91	1/2"	1 3/8"	6793K134	19.97	5/8"	2 1/4"	6793K157	32.86	3/4"	2"	6793K181	42.91
30	3/8"	1"	6793K19	19.12	1/2"	1 3/8"	6793K135	22.58	5/8"	2 1/4"	6793K158	38.89	3/4"	2 1/4"	6793K182	47.64
35	—	—	—	—	5/8"	1 1/2"	6793K136	25.77	5/8"	2 1/4"	6793K159	41.61	3/4"	2 1/4"	6793K183	52.36
40	1/2"	1 3/8"	6793K21	26.83	5/8"	1 1/2"	6793K137	28.13	3/4"	2 3/8"	6793K161	46.10	3/4"	2 1/4"	6793K184	57.33
45	1/2"	1 3/8"	6793K22	29.39	5/8"	1 1/2"	6793K138	30.97	3/4"	2 3/8"	6793K162	47.64	3/4"	2 1/2"	6793K185	61.23
60	1/2"	1 3/8"	6793K23	38.90	3/4"	1 1/2"	6793K139	44.45	3/4"	2 3/8"	6793K163	57.09	1"	2 1/2"	6793K186	79.91
18-8 Stainless Steel																
10	1/4"	1/4"	6799K2	38.23	3/8"	9/16"	6799K112	44.94	1/2"	3/4"	6799K135	54.66	5/8"	7/8"	6799K158	78.13
12	1/4"	3/8"	6799K4	40.49	1/2"	5/8"	6799K114	48.97	1/2"	15/16"	6799K137	62.45	5/8"	1 1/4"	6799K161	87.95
13	1/4"	7/16"	6799K5	42.10	1/2"	3/4"	6799K115	50.80	1/2"	1 1/16"	6799K138	64.47	5/8"	1 5/16"	6799K162	91.98
14	1/4"	9/16"	6799K6	42.90	1/2"	7/8"	6799K116	52.83	1/2"	1 1/8"	6799K139	66.95	5/8"	1 7/16"	6799K163	95.65
15	1/4"	9/16"	6799K7	43.57	1/2"	7/8"	6799K117	54.66	1/2"	1 1/4"	6799K141	69.79	5/8"	1 1/2"	6799K164	99.60
16	1/4"	9/16"	6799K8	44.59	1/2"	15/16"	6799K118	56.77	5/8"	1 3/8"	6799K142	72.63	5/8"	1 3/4"	6799K165	107.30
18	1/4"	3/4"	6799K11	46.63	1/2"	13/16"	6799K121	58.51	5/8"	1 1/2"	6799K144	83.64	5/8"	1 7/8"	6799K167	125.46
20	1/4"	7/8"	6799K13	48.31	1/2"	15/16"	6799K123	66.95	5/8"	1 7/8"	6799K146	109.41	3/4"	1 3/4"	6799K169	153.34
24	3/8"	1"	6799K14	56.05	1/2"	1 3/8"	6799K127	94.82	5/8"	2 1/4"	6799K151	151.96	3/4"	2"	6799K174	266.86

No. of Teeth	For ANSI No. 60 Chain (3/4" Pitch) Bore Size Min.	Max.			For ANSI No. 80 Chain (1" Pitch) Bore Size Min.	Max.			For ANSI No. 100 Chain (1 1/4" Pitch) Bore Size Min.	Max.			For ANSI No. 120 Chain (1 1/2" Pitch) Bore Size Min.	Max.		
Steel																
9	3/4"	7/8"	6793K211	$16.31	1"	15/16"	6793K31	$28.64	1"	1 5/8"	6793K44	$51.99	1 3/8"	1 13/16"	6793K57	$95.74
10	3/4"	1 1/8"	6793K212	17.61	1"	1 1/2"	6793K32	31.25	1"	1 7/8"	6793K45	57.05	1 3/8"	2 1/4"	6793K58	104.93
11	3/4"	1 5/16"	6793K213	18.68	1"	1 5/8"	6793K33	34.41	1"	2 1/4"	6793K46	66.27	1 3/8"	2 3/8"	6793K59	104.42
12	3/4"	1 3/8"	6793K187	19.97	1"	1 7/8"	6793K34	37.03	1"	2 1/4"	6793K47	71.55	1 3/8"	2 3/4"	6793K61	118.20
13	3/4"	1 1/2"	6793K188	21.75	1"	2"	6793K35	33.95	1"	2 3/8"	6793K48	76.98	1 3/8"	3"	6793K62	132.31
14	3/4"	1 3/4"	6793K189	23.41	1"	2 1/4"	6793K36	42.31	1 1/4"	2 3/4"	6793K49	82.99	1 3/8"	3 1/4"	6793K63	145.78
15	3/4"	1 7/8"	6793K191	27.07	1"	2 1/2"	6793K37	44.93	1 1/4"	3"	6793K51	93.24	1 1/4"	3 1/4"	6793K64	169.44
16	3/4"	2"	6793K192	30.50	1"	2 3/4"	6793K38	50.58	1 5/16"	3"	6793K52	103.52	1 1/4"	3 1/2"	6793K65	174.92
17	3/4"	2 1/4"	6793K193	32.03	1"	2 3/4"	6793K39	57.42	1 5/16"	3"	6793K53	102.61	1 1/4"	3 1/2"	6793K66	187.11
18	3/4"	2 3/8"	6793K194	34.16	1"	2 3/4"	6793K41	64.26	1 5/16"	3"	6793K54	106.64	1 1/4"	3 1/2"	6793K67	197.77
19	3/4"	2 3/8"	6793K195	38.89	1"	2 3/4"	6793K42	73.91	1 5/16"	3"	6793K55	111.29	1 1/4"	3 1/2"	6793K68	207.91
20	3/4"	2 5/8"	6793K196	41.61	1"	2 3/4"	6793K43	78.99	1 5/16"	3"	6793K56	117.89	1 1/4"	3 1/2"	6793K69	216.24
18-8 Stainless Steel																
12	3/4"	1 3/8"	6799K182	97.76	1"	1 7/8"	6799K21	199.74	1"	2 1/4"	6799K31	331.16	—	—	—	—
13	3/4"	1 1/2"	6799K183	107.30	1"	2"	6799K22	220.14	1"	2 3/8"	6799K32	377.69	—	—	—	—
14	3/4"	1 3/4"	6799K184	117.11	1"	2 1/4"	6799K23	260.15	1 1/4"	2 3/4"	6799K33	428.75	—	—	—	—
15	3/4"	1 7/8"	6799K185	142.24	1"	2 1/2"	6799K24	304.14	1 1/4"	3"	6799K34	488.06	—	—	—	—
16	3/4"	2"	6799K186	154.07	1"	2 3/4"	6799K25	325.15	1 5/16"	3"	6799K35	547.34	—	—	—	—
17	3/4"	2 1/4"	6799K187	170.40	1"	2 3/4"	6799K26	366.20	1 5/16"	3"	6799K36	602.09	—	—	—	—
18	3/4"	2 3/8"	6799K188	185.62	1"	2 3/4"	6799K27	414.20	1 5/16"	3"	6799K37	656.82	—	—	—	—
20	3/4"	2 5/8"	6799K191	203.50	1"	2 3/4"	6799K29	485.25	1 5/16"	3"	6799K39	717.51	—	—	—	—

Machinable-Bore Flat Sprockets for ANSI Roller Chain



Also known as A-plate sprockets, these steel sprockets have a slim profile that fits in narrow spaces. They are furnished with the minimum bore size listed and can be machined to the maximum bore size listed.

No. of Teeth	For ANSI No. 35 Chain (3/8" Pitch) Bore Size Min.	Max.			For ANSI No. 40 Chain (1/2" Pitch) Bore Size Min.	Max.			For ANSI No. 50 Chain (5/8" Pitch) Bore Size Min.	Max.			For ANSI No. 60 Chain (3/4" Pitch) Bore Size Min.	Max.		
12	—	—	—	—	1/2"	1 21/64"	2299K18	$18.78	5/8"	1 43/64"	2299K39	$22.32	3/4"	2 1/64"	2299K63	$25.39
13	—	—	—	—	1/2"	1 1/2"	2299K19	19.11	5/8"	1 7/8"	2299K41	22.32	3/4"	2 1/4"	2299K64	26.01
14	—	—	—	—	1/2"	1 21/32"	2299K21	19.83	5/8"	2 5/64"	2299K42	22.32	3/4"	2 1/2"	2299K65	27.07
15	1/2"	1 23/64"	2299K304	$16.03	5/8"	1 13/16"	2299K22	20.17	5/8"	2 9/32"	2299K43	22.95	3/4"	2 3/4"	2299K66	28.17
16	1/2"	1 15/32"	2299K305	16.03	5/8"	1 63/64"	2299K23	20.17	5/8"	2 31/64"	2299K44	23.23	3/4"	2 63/64"	2299K67	29.13
17	1/2"	1 19/32"	2299K306	16.75	5/8"	2 9/64"	2299K24	20.93	5/8"	2 11/16"	2299K45	24.05	3/4"	3 7/32"	2299K68	30.18
18	1/2"	1 23/32"	2299K307	16.75	5/8"	2 19/64"	2299K25	20.93	5/8"	2 57/64"	2299K46	24.34	3/4"	3 15/32"	2299K69	31.09
19	1/2"	1 27/32"	2299K308	17.04	5/8"	2 29/64"	2299K26	21.27	5/8"	3 5/64"	2299K47	24.91	3/4"	3 45/64"	2299K71	32.19
20	1/2"	1 61/64"	2299K309	17.61	5/8"	2 5/8"	2299K27	21.84	3/4"	3 9/32"	2299K48	25.39	3/4"	3 61/64"	2299K72	33.25
21	1/2"	2 5/64"	2299K311	17.90	5/8"	2 25/32"	2299K28	22.32	3/4"	3 31/64"	2299K49	26.01	3/4"	4 3/16"	2299K73	34.20
22	1/2"	2 13/64"	2299K312	17.90	5/8"	2 15/16"	2299K29	22.95	3/4"	3 11/16"	2299K51	27.07	3/4"	4 7/16"	2299K74	35.21
23	1/2"	2 5/16"	2299K313	17.90	5/8"	3 3/32"	2299K31	23.23	3/4"	3 57/64"	2299K52	28.17	3/4"	4 43/64"	2299K75	36.31
24	1/2"	2 7/16"	2299K314	18.62	5/8"	3 17/64"	2299K32	25.51	23/32"	4 5/64"	2299K53	28.31	23/32"	4 29/32"	2299K76	37.41
25	1/2"	2 9/16"	2299K315	18.62	5/8"	3 27/64"	2299K33	24.34	23/32"	4 9/32"	2299K54	29.13	23/32"	5 5/32"	2299K77	38.32
30	1/2"	3 5/32"	2299K316	19.92	19/32"	4 7/32"	2299K34	27.07	23/32"	5 9/32"	2299K55	33.53	23/32"	6 11/32"	2299K78	44.50
35	5/8"	3 3/4"	2299K317	20.94	19/32"	5 1/64"	2299K35	29.41	23/32"	6 9/32"	2299K56	38.80	15/16"	7 35/64"	2299K79	52.07
40	19/32"	4 23/64"	2299K318	22.52	23/32"	5 13/16"	2299K36	33.25	23/32"	7 9/32"	2299K57	42.78	15/16"	8 3/4"	2299K81	58.97
45	19/32"	4 61/64"	2299K319	24.42	23/32"	6 39/64"	2299K37	36.65	23/32"	8 9/32"	2299K58	48.00	15/16"	9 15/16"	2299K82	67.11
60	23/32"	6 3/4"	2299K321	33.54	23/32"	9"	2299K38	48.96	15/16"	11 17/64"	2299K59	67.11	1 1/4"	13 33/64"	2299K83	108.22

Machinable-Bore Sprockets for Metric Roller Chain



Compatible with ISO roller chain, these steel sprockets are furnished with the minimum bore size listed and can be machined to the maximum bore size listed.

No. of Teeth	For ISO No. 04B Chain (6 mm Pitch) Bore Size, mm Min.	Max.			For ISO No. 05B Chain (8 mm Pitch) Bore Size, mm Min.	Max.			For ISO No. 06B Chain (9.53 mm Pitch) Bore Size, mm Min.	Max.			For ISO No. 08B Chain (12.7 mm Pitch) Bore Size, mm Min.	Max.		
8	5	7	2302K67	$8.21	6	8	2302K79	$8.84	8	9	2302K92	$13.37	—	—	—	—
9	5	7	2302K68	9.24	6	8	2302K81	11.03	8	11	2302K93	13.84	10	15	2302K104	$17.26
10	6	8	2302K69	10.26	8	11	2302K82	11.53	8	12	2302K94	14.74	10	20	2302K105	17.61
11	6	8	2302K71	11.29	8	11	2302K83	12.61	8	14	2302K95	15.11	10	22	2302K106	19.32
12	6	11	2302K41	11.97	8	12	2302K54	12.37	8	16	2302K1	14.19	10	22	2302K17	18.45
13	8	11	2302K72	12.45	8	20	2302K84	13.47	10	18	2302K96	16.42	10	25	2302K107	21.00
14	6	12	2302K42	13.00	8	15	2302K55	13.37	10	16	2302K3	15.38	10	28	2302K19	18.75
15	6	12	2302K43	13.23	8	18	2302K56	13.65	10	20	2302K4	15.69	10	30	2302K21	18.75
16	8	12	2302K44	13.92	8	19	2302K57	14.45	10	22	2302K5	16.54	12	32	2302K22	19.56
17	8	12	2302K45	14.18	8	20	2302K58	14.71	10	25	2302K6	16.54	12	35	2302K23	22.95
18	8	12	2302K46	14.55	8	22	2302K59	14.95	10	25	2302K7	17.24	12	38	2302K24	24.44
19	8	12	2302K47	14.95	8	24	2302K61	15.38	10	28	2302K8	17.74	12	40	2302K25	27.84
20	8	12	2302K48	16.47	8	25	2302K62	16.97	10	30	2302K9	19.56	12	42	2302K26	31.90
21	8	15	2302K49	17.63	8	25	2302K63	18.16	12	30	2302K11	20.90	12	45	2302K27	35.30
22	8	15	2302K51	19.69	8	25	2302K64	20.25	12	32	2302K12	23.35	12	48	2302K28	38.67
23	8	12	2302K73	21.13	8	17	2302K117	21.71	12	32	2302K97	28.18	12	51	2302K108	47.68
24	8	12	2302K74	22.58	8	17	2302K118	23.26	12	32	2302K98	29.92	14	53	2302K109	50.11
25	8	15	2302K52	24.07	8	25	2302K65	24.76	12	35	2302K15	28.54	14	53	2302K32	46.96
26	8	15	2302K75	24.68	10	22	2302K85	25.45	12	38	2302K99	33.32	16	53	2302K112	55.05
27	8	15	2302K76	25.29	10	22	2302K86	26.29	12	38	2302K101	34.76	16	53	2302K113	58.03
28	8	15	2302K77	25.92	10	22	2302K87	27.24	12	38	2302K102	35.74	16	53	2302K114	60.08
29	8	15	2302K78	26.53	10	22	2302K91	27.61	12	38	2302K103	35.92	16	53	2302K115	61.24
30	8	19	2302K53	27.15	10	30	2302K66	27.98	12	38	2302K16	32.22	16	53	2302K33	55.56

Finished-Bore Sprockets for Miniature Roller Chain

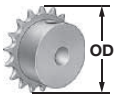

303 Stainless Steel

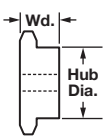

Often used in electronic equipment and instrumentation devices, these sprockets fit chain drives too small for ANSI sprockets. They are for use with our miniature roller chain and links (see page 1082).

Acetal sprockets are lightweight, quiet, and nonconductive. They press onto your shaft.

303 stainless steel sprockets are corrosion resistant for use in harsh environments. They have one set screw.

No. of Teeth	Bore Size	OD	Wd.	Hub Dia.		
Acetal—For 0.1227" pitch miniature chain						
8	1/8"	0.371"	5/16"	0.236"	64205K71	$3.35
9	1/8"	0.409"	5/16"	1/4"	64205K11	3.87
10	1/8"	0.456"	5/16"	1/4"	64205K731	3.43
12	1/4"	0.535"	5/16"	3/8"	64205K743	3.76
15	1/4"	0.65"	5/16"	3/8"	64205K12	4.48
16	1/4"	0.69"	5/16"	3/8"	64205K13	4.54
18	1/4"	0.769"	5/16"	3/8"	64205K14	4.81
20	3/8"	0.848"	3/8"	1/2"	64205K784	4.22
24	1/4"	1.005"	5/16"	3/8"	64205K792	4.71
30	1/4"	1.239"	5/16"	3/8"	64205K15	5.75
32	3/8"	1.318"	3/8"	1/2"	64205K16	5.87
36	1/4"	1.47"	5/16"	3/8"	64205K831	5.49
40	1/4"	1.628"	5/16"	3/8"	64205K841	5.72
48	1/4"	1.939"	5/16"	3/8"	64205K851	6.17

No. of Teeth	Bore Size	OD	Wd.	Hub Dia.		
303 Stainless Steel—For 0.1475" pitch miniature chain						
7	3/32"	0.392"	11/32"	15/64"	6789K51	$31.32
8	1/8"	0.437"	11/32"	9/32"	6789K52	31.92
9	1/8"	0.483"	11/32"	21/64"	6789K53	33.27
10	1/8"	0.529"	11/32"	3/8"	6789K41	33.50
12	1/8"	0.622"	11/32"	25/64"	6789K42	33.82
15	3/16"	0.761"	11/32"	17/32"	6789K43	35.55
16	3/16"	0.808"	11/32"	9/16"	6789K44	36.42
18	3/16"	0.901"	11/32"	21/32"	6789K45	37.77
20	3/16"	0.995"	13/32"	3/4"	6789K46	39.67
24	1/4"	1.182"	13/32"	3/4"	6789K47	43.00
30	1/4"	1.463"	13/32"	3/4"	6789K48	49.85
36	1/4"	1.744"	13/32"	3/4"	6789K56	63.75
40	1/4"	1.932"	13/32"	3/4"	6789K49	70.45
48	1/4"	2.307"	13/32"	3/4"	6789K57	81.72

Finished-Bore Sprockets for ANSI Roller Chain

No machining necessary—these steel sprockets are ready for mounting on your shaft. They have two set screws and a standard ANSI keyway, except 1/4", 3/8", and 1/2" bore sizes do not have a keyway.

Sprockets with hardened teeth have increased wear resistance for a long service life.

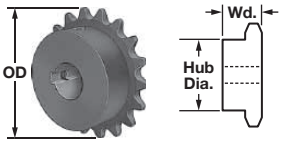

To Order: Please specify standard or hardened teeth and bore size: 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 3/16", 1 1/4", 1 3/8", 1 7/16", 1 1/2", or 1 5/8".

No. of Teeth	Choose a Bore Size	OD	Wd.	Hub Dia.		Standard Teeth	Hardened Teeth
For ANSI No. 25 Chain (1/4" Pitch)							
9	1/4"	0.84"	1/2"	7/16"	2737T1	$8.68	____
10	1/4"	0.92"	1/2"	1/2"	2737T2	8.87	____
11	1/4"	1"	1/2"	9/16"	2737T3	9.09	____
12	1/4"-3/8"	1.08"	1/2"	5/8"	2737T4	9.44	____
13	1/4"-3/8"	1.17"	1/2"	23/32"	2737T5	9.85	____
14	1/4"-1/2"	1.25"	1/2"	13/16"	2737T6	10.07	____
15	1/4"-1/2"	1.33"	1/2"	57/64"	2737T7	10.07	____
16	1/4"-1/2"	1.41"	1/2"	31/32"	2737T8	10.41	____
17	1/4"-5/8"	1.49"	1/2"	1 1/32"	2737T9	10.63	____
18	1/4"-3/4"	1.57"	1/2"	1 1/8"	2737T11	11.04	____
19	1/4"-3/4"	1.65"	1/2"	1 7/32"	2737T12	11.04	____
20	1/4"-7/8"	1.73"	5/8"	1 9/32"	2737T13	11.39	____
21	1/4"-7/8"	1.81"	5/8"	1 3/8"	2737T14	11.80	____
22	1/4"-7/8"	1.89"	5/8"	1 7/16"	2737T15	12.01	____
23	1/4"-1"	1.97"	5/8"	1 1/2"	2737T16	12.58	____
24	3/8"-1"	2.05"	5/8"	1 1/2"	2737T17	13.20	____
25	3/8"-1"	2.13"	5/8"	1 1/2"	2737T18	13.42	____
26	3/8"-1"	2.21"	5/8"	1 1/2"	2737T19	13.96	____
28	3/8"-1"	2.37"	5/8"	1 1/2"	2737T21	15.15	____
30	3/8"-1"	2.53"	5/8"	1 1/2"	2737T22	16.13	____
32	3/8"-1"	2.69"	5/8"	1 1/2"	2737T23	17.55	____
36	3/8"-1"	3.01"	3/4"	1 1/2"	2737T26	19.81	____
40	1/2"-1 3/8"	3.33"	3/4"	2"	2737T28	22.64	____
45	1/2"-1 3/8"	3.73"	3/4"	2"	2737T31	24.81	____
48	1/2"-1 3/8"	3.96"	3/4"	2"	2737T32	26.75	____
54	1/2"-1 3/8"	4.44"	3/4"	2"	2737T33	29.68	____
60	1/2"-1 3/8"	4.92"	3/4"	2"	2737T34	32.84	____
70	1/2"-1 3/8"	5.72"	3/4"	2"	2737T35	38.12	____
72	1/2"-1 3/8"	5.88"	3/4"	2"	2737T36	39.31	____
For ANSI No. 35 Chain (3/8" Pitch)							
9	3/8"	1.26"	3/4"	27/32"	6236K902	10.66	$12.37
10	3/8"-5/8"	1.38"	3/4"	31/32"	6236K903	10.86	13.11
11	3/8"-3/4"	1.5"	3/4"	1 1/16"	6236K904	11.28	13.83
12	1/2"-3/4"	1.63"	3/4"	1 7/32"	6236K905	11.63	14.36
13	1/2"-3/4"	1.75"	3/4"	1 1/4"	6236K906	12.09	15.09
14	1/2"-3/4"	1.87"	3/4"	1 1/4"	6236K907	12.09	15.47
15	1/2"-1"	1.99"	3/4"	1 11/32"	6236K908	12.30	16.03
16	1/2"-1"	2.11"	3/4"	1 15/32"	6236K909	13.06	17.02
17	1/2"-1"	2.23"	3/4"	1 19/32"	6236K911	13.52	17.76
18	1/2"-1"	2.35"	3/4"	1 23/32"	6236K912	14.29	18.66
19	1/2"-1"	2.47"	3/4"	1 27/32"	6236K913	16.07	20.51
20	1/2"-1"	2.59"	3/4"	1 15/16"	6236K914	17.95	22.53
21	1/2"-1"	2.71"	7/8"	2"	6236K915	19.95	24.46
22	1/2"-1"	2.83"	7/8"	2"	6236K916	21.73	26.28
23	1/2"-1"	2.95"	7/8"	2"	6236K917	23.16	27.74
24	1/2"-1"	3.07"	7/8"	2"	6236K918	24.63	29.66
25	1/2"-1"	3.19"	7/8"	2"	6236K919	26.37	31.49
26	1/2"-1 1/4"	3.31"	7/8"	2"	6236K921	27.91	33.86
28	1/2"-1 1/4"	3.55"	7/8"	2"	6236K922	31.82	36.62
30	1/2"-1 1/4"	3.79"	7/8"	2"	6236K923	32.80	38.55
32	5/8"-1 1/4"	4.03"	7/8"	2"	6236K3	35.59	____
35	5/8"-1 1/4"	4.39"	7/8"	2 1/4"	6236K69	39.44	____
36	5/8"-1 1/4"	4.51"	7/8"	2 1/4"	6236K4	40.35	____
40	5/8"-1 1/4"	4.99"	1"	2 1/4"	6236K25	41.22	____
45	3/4"-1 1/4"	5.59"	1"	2 1/4"	6236K26	43.91	____
48	5/8"-1 1/4"	5.95"	1"	2 1/4"	6236K6	45.86	____
54	5/8"-1 1/2"	6.66"	1"	2 1/4"	2737T52	50.48	____
60	5/8"-1 1/4"	7.38"	1"	2 1/4"	6236K27	58.40	____
72	3/4"-1 1/2"	8.81"	1"	2 1/4"	2737T54	59.57	____
For ANSI No. 40 Chain (1/2" Pitch)							
9	1/2"-5/8"	1.67"	7/8"	1 1/16"	6236K924	11.88	14.46
10	1/2"-3/4"	1.84"	7/8"	1 1/4"	6236K925	12.40	15.31
11	1/2"-7/8"	2"	7/8"	1 3/8"	6236K926	12.85	16.12
12	1/2"-1"	2.17"	7/8"	1 9/16"	6236K927	14.08	17.86
13	1/2"-1"	2.33"	7/8"	1 9/16"	6236K928	14.74	18.59
14	1/2"-1 1/8"	2.49"	7/8"	1 11/16"	6236K929	15.51	19.67
15	1/2"-1 1/4"	2.65"	7/8"	1 13/16"	6236K931	16.73	21.14
16	5/8"-1 1/4"	2.81"	7/8"	2"	6236K932	17.74	22.34
17	5/8"-1 1/4"	2.97"	1"	2 1/8"	6236K933	18.76	23.63
18	5/8"-1 1/2"	3.14"	1"	2 5/16"	6236K934	19.70	24.82
19	5/8"-1 1/2"	3.3"	1"	2 1/2"	6236K935	21.94	27.11
20	5/8"-1 1/2"	3.46"	1"	2 5/8"	6236K936	25.15	30.22
21	5/8"-1 1/2"	3.62"	1"	2 3/4"	6236K937	27.39	33.05
22	5/8"-1 1/2"	3.78"	1"	2 7/8"	6236K938	30.04	35.61
23	5/8"-1 1/2"	3.94"	1"	3"	6236K939	$33.25	$38.72
24	5/8"-1 1/2"	4.1"	1"	3"	6236K941	35.70	41.21
25	5/8"-1 1/2"	4.26"	1"	3 1/4"	6236K942	38.77	44.59
26	5/8"-1 1/2"	4.42"	1"	3 1/4"	6236K943	41.22	46.98
28	5/8"-1 1/2"	4.74"	1"	3 1/4"	6236K944	47.09	52.66
30	5/8"-1 1/2"	5.06"	1"	3 1/4"	6236K945	51.52	57.24
32	5/8"-1 1/2"	5.38"	1"	3 1/4"	6236K9	52.33	____
34	5/8"-1 1/2"	5.7"	1"	3 1/4"	6236K11	54.28	____
35	5/8"-1 1/2"	5.86"	1"	3 1/4"	6236K34	54.98	____
36	5/8"-1 1/2"	6.02"	1"	3 1/4"	6236K12	55.71	____
38	5/8"-1 1/2"	6.33"	1"	3 1/4"	6236K13	57.64	____
40	5/8"-1 1/2"	6.65"	1 1/8"	3 1/2"	6236K35	59.42	____
42	3/4"-1 1/2"	6.97"	1 1/8"	3 1/2"	6236K14	60.50	____
44	3/4"-1 1/2"	7.29"	1 1/8"	3 1/2"	2737T81	59.79	____
45	5/8"-1 1/2"	7.45"	1 1/8"	3 1/2"	6236K36	61.58	____
46	3/4"-1 1/2"	7.61"	1 1/8"	3 1/2"	2737T82	60.89	____
48	3/4"-1 1/2"	7.93"	1 1/8"	3 1/2"	6236K15	63.61	____
50	3/4"-1 1/2"	8.25"	1 1/8"	3 1/2"	2737T83	63.47	____
52	3/4"-1 1/2"	8.57"	1 1/8"	3 1/2"	2737T84	64.79	____
54	3/4"-1 1/2"	8.88"	1 1/8"	3 1/2"	2737T55	66.08	____
60	5/8"-1 1/2"	9.84"	1 1/8"	3 1/2"	6236K37	71.50	____
70	3/4"-1 1/2"	11.43"	1 1/4"	4"	2737T56	81.02	____
72	3/4"-1 1/2"	11.75"	1 1/4"	4"	2737T57	83.94	____
80	3/4"-1 1/2"	13.03"	1 1/4"	4"	2737T58	96.39	____
96	1"-1 1/2"	15.57"	1 1/4"	4"	2737T85	134.31	____
For ANSI No. 41 Chain (1/2" Pitch)							
6	3/8"	1.17"	7/8"	21/32"	2737T91	8.46	____
7	3/8"	1.34"	7/8"	3/4"	2737T92	8.68	____
8	1/2"	1.51"	7/8"	63/64"	2737T93	9.09	____
9	1/2"-5/8"	1.67"	7/8"	1 1/8"	6280K142	11.28	____
10	1/2"-3/4"	1.84"	7/8"	1 1/4"	6280K143	11.88	____
11	1/2"-7/8"	2"	7/8"	1 7/16"	6280K144	12.30	____
12	1/2"-7/8"	2.17"	7/8"	1 9/16"	6280K145	13.06	____
13	1/2"-1"	2.33"	7/8"	1 9/16"	6280K146	13.52	____
14	1/2"-1 1/8"	2.49"	7/8"	1 3/4"	6280K147	14.29	____
15	1/2"-1 3/16"	2.65"	7/8"	1 29/32"	6280K148	15.51	____
16	5/8"-1 1/4"	2.81"	7/8"	2 1/16"	6280K149	16.52	____
17	5/8"-1 1/4"	2.97"	1"	2 15/64"	6280K151	17.74	____
18	5/8"-1 1/2"	3.14"	1"	2 3/8"	6280K152	18.97	____
19	5/8"-1 1/2"	3.3"	1"	2 15/32"	6280K153	20.71	____
20	5/8"-1 1/2"	3.46"	1"	2 3/4"	6280K154	23.16	____
21	5/8"-1 1/2"	3.62"	1"	2 7/8"	6280K155	25.57	____
22	5/8"-1 1/2"	3.78"	1"	3"	6280K156	28.01	____
23	5/8"-1 1/2"	3.94"	1"	3"	6280K157	30.81	____
24	5/8"-1 1/2"	4.1"	1"	3 1/4"	6280K158	33.78	____
25	5/8"-1 1/2"	4.26"	1"	3 1/4"	6236K28	36.54	____
26	5/8"-1"	4.42"	1"	3 1/4"	2737T61	38.03	____
27	5/8"-1"	4.58"	1"	3 1/4"	2737T94	40.93	____
28	5/8"-1"	4.74"	1"	3 1/4"	2737T62	43.34	____
30	5/8"-1 1/2"	5.06"	1"	3 1/4"	6236K29	48.52	____
32	5/8"-1"	5.38"	1"	3 1/4"	2737T63	48.75	____
35	5/8"-1 1/2"	5.86"	1"	3 1/4"	6236K31	52.54	____
36	5/8"-1"	6.02"	1"	3 1/4"	2737T64	52.86	____
40	3/4"-1 1/2"	6.65"	1 1/16"	3 1/4"	2737T65	55.24	____
42	3/4"-1 1/2"	6.97"	1 1/16"	3 1/2"	2737T66	57.40	____
45	3/4"-1 1/2"	7.45"	1 1/16"	3 1/2"	2737T67	58.81	____
48	3/4"-1 1/2"	7.93"	1 1/16"	3 1/2"	2737T68	61.08	____
54	3/4"-1 1/2"	8.89"	1 1/16"	3 1/2"	2737T69	63.90	____
60	3/4"-1 1/2"	9.84"	1 1/16"	3 1/2"	2737T71	66.93	____
70	3/4"-1 1/2"	11.43"	1 3/16"	4"	2737T72	78.42	____
72	3/4"-1 1/2"	11.75"	1 3/16"	4"	2737T73	80.80	____
80	3/4"-1 1/2"	13.03"	1 3/16"	4"	2737T74	88.94	____
84	3/4"-1 1/2"	13.66"	1 3/16"	4"	2737T95	92.41	____
96	1"-1 1/2"	15.57"	1 3/16"	4"	2737T96	123.71	____
112	1"-1 1/2"	18.12"	1 3/16"	4"	2737T97	161.82	____
For ANSI No. 50 Chain (5/8" Pitch)							
9	5/8"-3/4"	2.09"	1"	1 3/8"	6236K946	16.31	21.63
10	5/8"-1"	2.3"	1"	1 9/16"	6236K947	17.54	23.37
11	5/8"-1"	2.5"	1"	1 3/4"	6236K948	18.27	24.48
12	5/8"-1 1/4"	2.71"	1"	1 63/64"	6236K949	18.97	26.23
13	5/8"-1 1/4"	2.91"	1"	1 7/8"	6236K951	19.70	26.95
14	5/8"-1 1/4"	3.11"	1"	2 1/8"	6236K952	20.92	28.57
15	5/8"-1 1/2"	3.32"	1"	2 3/8"	6236K953	21.94	30.00
16	5/8"-1 5/8"	3.52"	1"	2 1/2"	6236K954	23.16	31.72

(Continued on following page)

Finished-Bore Sprockets for ANSI Roller Chain *(Continued from previous page)*

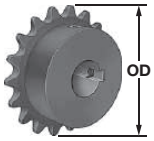

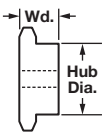

No machining necessary—these steel sprockets are ready for mounting on your shaft. They have two set screws and a standard ANSI keyway, except 1/4", 3/8", and 1/2" bore sizes do not have a keyway.
Sprockets with hardened teeth have increased wear resistance for a long service life.

To Order: Please specify standard or hardened teeth and bore size: 5/8", 3/4", 7/8", 1", 1 1/8", 1 3/16", 1 1/4", 1 3/8", 1 7/16", 1 1/2", 1 5/8", 1 3/4", 1 15/16", 2", 2 3/16", 2 7/16", or 2 15/16".

No. of Teeth	Choose a Bore Size	OD	Wd.	Hub Dia.		Standard Teeth	Hardened Teeth
For ANSI No. 50 Chain (5/8" Pitch) (Cont.)							
17	5/8"-1 5/8"	3.72"	1"	2 11/16"	6236K955	$25.95	$34.68
18	5/8"-1 5/8"	3.92"	1"	2 7/8"	6236K956	28.82	37.97
19	5/8"-1 5/8"	4.12"	1"	3"	6236K957	32.03	41.84
20	5/8"-1 5/8"	4.32"	1"	3"	6236K958	34.79	44.89
21	3/4"-1 1/2"	4.52"	1"	3"	6236K959	41.88	51.93
22	3/4"-1 1/2"	4.72"	1"	3"	6236K961	45.34	51.93
23	3/4"-1 1/2"	4.92"	1"	3"	6236K962	48.87	62.02
24	3/4"-1 1/2"	5.12"	1 1/4"	3"	6236K963	53.27	64.48
25	3/4"-1 1/2"	5.32"	1 1/4"	3"	6236K42	56.20	____
26	3/4"-1 1/2"	5.52"	1 1/4"	3"	6236K16	54.60	____
28	3/4"-1 1/2"	5.92"	1 1/4"	3"	6236K17	60.15	____
30	3/4"-1 1/2"	6.32"	1 1/4"	3 1/4"	6236K43	61.58	____
32	3/4"-1 15/16"	6.72"	1 1/4"	3 1/4"	6236K18	63.50	____
34	3/4"-1 15/16"	7.12"	1 1/4"	3 1/4"	6236K19	65.60	____
35	3/4"-1 15/16"	7.32"	1 1/4"	3 1/4"	6236K44	66.61	____
36	3/4"-1 15/16"	7.52"	1 1/4"	3 1/4"	6236K21	68.36	____
38	3/4"-1 15/16"	7.92"	1 1/4"	3 1/4"	2741T1	56.97	____
40	3/4"-1 15/16"	8.32"	1 1/4"	3 1/4"	6236K45	72.03	____
42	3/4"-1 15/16"	8.72"	1 1/4"	3 1/4"	6236K24	73.81	____
45	3/4"-1 15/16"	9.31"	1 1/4"	3 3/4"	6236K46	76.25	____
48	1"-1 15/16"	9.91"	1 1/4"	3 3/4"	6236K38	79.12	____
54	1"-1 15/16"	11.11"	1 1/4"	3 3/4"	2741T2	70.76	____
60	3/4"-1 15/16"	12.3"	1 1/4"	3 3/4"	6236K47	76.25	____
70	1"-1 15/16"	14.29"	1 3/4"	3 3/4"	2741T3	103.19	____
72	1"-1 15/16"	14.69"	1 3/4"	3 3/4"	2741T4	107.59	____
For ANSI No. 60 Chain (3/4" Pitch)							
9	5/8"-1"	2.51"	1 1/4"	1 9/16"	6236K964	17.54	25.21
10	5/8"-1 1/4"	2.76"	1 1/4"	1 15/16"	6236K965	18.27	26.72
11	3/4"-1 1/4"	3"	1 1/4"	2 1/16"	6236K966	19.70	28.87
12	3/4"-1 7/16"	3.25"	1 1/4"	2 3/8"	6236K967	21.94	31.72
13	3/4"-1 1/2"	3.49"	1 1/4"	2 11/32"	6236K968	24.63	34.79
14	3/4"-1 5/8"	3.74"	1 1/4"	2 9/16"	6236K969	28.82	39.70
15	3/4"-1 3/4"	3.98"	1 1/4"	2 7/8"	6236K971	33.25	44.59
16	3/4"-1 15/16"	4.22"	1 1/4"	3 1/16"	6236K972	37.03	48.96
17	3/4"-1 15/16"	4.46"	1 1/4"	3 1/4"	6236K973	40.90	54.16
18	3/4"-1 15/16"	4.7"	1 1/4"	3 1/2"	6236K974	45.13	58.86
19	1"-1 15/16"	4.95"	1 1/4"	3 1/2"	6236K975	47.09	60.40
20	1"-1 15/16"	5.19"	1 1/4"	3 7/8"	6236K976	49.32	64.28
21	1"-1 15/16"	5.43"	1 1/4"	4"	6280K204	56.20	____
22	1"-1 15/16"	5.67"	1 1/4"	4"	6280K205	60.15	____
23	1"-1 15/16"	5.91"	1 1/4"	4"	6280K206	61.58	____
24	1"-1 15/16"	6.15"	1 1/4"	4"	6280K207	65.84	____
25	1"-1 15/16"	6.39"	1 1/4"	4"	6236K52	70.04	____

No. of Teeth	Choose a Bore Size	OD	Wd.	Hub Dia.		Standard Teeth	Hardened Teeth
For ANSI No. 60 Chain (3/4" Pitch) (Cont.)							
26	1"-1 15/16"	6.63"	1 1/4"	4"	6236K39	$71.22	____
28	1"-1 15/16"	7.11"	1 1/4"	4"	6236K41	79.24	____
30	1"-1 15/16"	7.59"	1 1/4"	4"	6236K53	78.70	____
32	1"-1 15/16"	8.07"	1 1/4"	4"	6236K48	80.13	____
34	1"-1 15/16"	8.54"	1 1/4"	4"	6236K49	81.98	____
35	1"-1 15/16"	8.78"	1 1/4"	4"	6236K54	82.89	____
36	1"-2 7/16"	9.02"	1 1/4"	4"	6236K51	84.99	____
38	1"-2 7/16"	9.5"	1 1/4"	4 1/4"	6236K57	89.18	____
40	1"-2 7/16"	9.98"	1 1/4"	4 1/4"	6236K55	93.40	____
42	1"-2 7/16"	10.46"	1 1/4"	4 1/4"	6236K61	98.30	____
45	1"-2 7/16"	11.18"	1 1/4"	4 1/4"	6236K56	105.49	____
48	1"-2 7/16"	11.89"	1 1/4"	4 1/4"	6236K62	113.70	____
54	1"-2 7/16"	13.33"	1 3/4"	4 1/4"	2741T11	97.05	____
60	1 1/4"-2 7/16"	14.76"	1 3/4"	4 1/4"	6236K58	125.19	____
70	1 3/8"-2 7/16"	17.15"	1 3/4"	4 1/4"	2741T12	151.44	____
72	1 3/8"-2 7/16"	17.63"	2"	4 1/4"	2741T13	158.82	____
For ANSI No. 80 Chain (1" Pitch)							
9	1"-1 1/4"	3.35"	1 5/8"	2 1/4"	6236K977	29.59	$39.18
10	1"-1 1/4"	3.68"	1 5/8"	2 9/16"	6236K978	32.59	42.85
11	1"-1 5/8"	4.01"	1 5/8"	2 13/16"	6236K979	36.33	47.43
12	1"-1 3/4"	4.33"	1 5/8"	3 1/8"	6236K981	40.90	52.55
13	1"-2 3/16"	4.66"	1 1/2"	3"	6236K982	45.12	57.45
14	1"-2 3/16"	4.98"	1 1/2"	3 1/4"	6236K983	49.64	63.36
15	1"-2 3/16"	5.3"	1 1/2"	3 13/16"	6236K984	52.95	67.34
16	1"-2 3/16"	5.63"	1 1/2"	4"	6236K985	57.74	72.44
17	1"-2 7/16"	5.95"	1 1/2"	4"	6236K986	69.16	80.09
18	1"-2 7/16"	6.27"	1 1/2"	4 1/4"	6236K987	73.81	91.00
19	1"-2 7/16"	6.59"	1 1/2"	4 1/4"	6236K988	78.59	94.88
20	1"-2 7/16"	6.91"	1 1/2"	4 1/4"	6236K989	83.31	104.28
For ANSI No. 100 Chain (1 1/4" Pitch)							
9	1"-1 7/16"	4.18"	1 7/8"	2 13/16"	2741T21	73.89	____
10	1"-1 7/16"	4.6"	1 7/8"	3 1/4"	2741T22	80.33	____
11	1"-2 3/16"	5.01"	1 7/8"	3 9/16"	2741T23	90.38	____
12	1"-2 3/16"	5.42"	1 7/8"	4"	2741T24	97.05	____
13	1"-2 3/16"	5.82"	1 5/8"	3 7/8"	2741T25	103.81	____
14	1 1/4"-2 3/16"	6.23"	1 5/8"	4 3/16"	2741T26	109.03	____
15	1 1/4"-2 3/16"	6.63"	1 3/4"	4 1/2"	2741T27	117.94	____
16	1 7/16"-2 15/16"	7.03"	1 3/4"	4 1/2"	2741T28	126.87	____
17	1 7/16"-2 15/16"	7.44"	1 3/4"	4 1/2"	2741T29	135.97	____
18	1 7/16"-2 15/16"	7.84"	1 3/4"	4 1/2"	2741T31	139.87	____
19	1 7/16"-2 15/16"	8.24"	2"	4 1/2"	2741T32	144.37	____
20	1 7/16"-2 15/16"	8.64"	2"	4 1/2"	2741T33	150.74	____

Corrosion-Resistant Finished-Bore Sprockets for ANSI Roller Chain

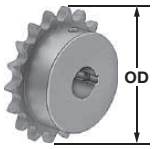

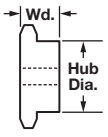

These 18-8 stainless steel sprockets withstand washdown conditions and harsh environments. They have two set screws and a standard ANSI keyway.

To Order: Please specify bore size: 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 3/16", 1 1/4", or 1 1/2".

No. of Teeth	Choose a Bore Size	OD	Wd.	Hub Dia.		
For ANSI No. 35 Chain (3/8" Pitch)						
9	3/8"	1.26"	3/4"	27/32"	2345K111	$55.83
10	3/8"-1/2"	1.38"	3/4"	31/32"	2345K12	58.59
11	3/8"-5/8"	1.5"	3/4"	1 1/16"	2345K13	62.59
12	3/8"-3/4"	1.63"	3/4"	1 7/32"	2345K14	63.36
13	3/8"-3/4"	1.75"	3/4"	1 1/4"	2345K15	67.59
14	1/2"-3/4"	1.87"	3/4"	1 1/4"	2345K16	68.36
15	1/2"-7/8"	1.99"	3/4"	1 11/32"	2345K17	74.10
16	1/2"-7/8"	2.11"	3/4"	1 15/32"	2345K18	87.87
17	1/2"-7/8"	2.23"	3/4"	1 19/32"	2345K19	91.38
18	1/2"-7/8"	2.35"	3/4"	1 23/32"	2345K21	92.89
19	1/2"-7/8"	2.47"	3/4"	1 27/32"	2345K22	93.91
20	1/2"-7/8"	2.59"	3/4"	1 15/16"	2345K23	102.66
21	1/2"-1"	2.71"	7/8"	2"	2345K76	108.85
22	1/2"-1"	2.83"	7/8"	2"	2345K77	117.33
23	1/2"-1"	2.95"	7/8"	2"	2345K78	129.50
24	1/2"-1"	3.07"	7/8"	2"	2345K79	141.56
25	1/2"-1"	3.19"	7/8"	2"	2345K81	154.13
26	1/2"-1 1/4"	3.31"	7/8"	2"	2345K82	166.73

No. of Teeth	Choose a Bore Size	OD	Wd.	Hub Dia.		
For ANSI No. 40 Chain (1/2" Pitch)						
9	1/2"-5/8"	1.84"	7/8"	1 1/16"	2345K33	$69.23
10	1/2"-3/4"	1.84"	7/8"	1 1/4"	2345K34	73.73
11	1/2"-7/8"	2"	7/8"	1 3/8"	2345K35	81.26
12	1/2"-1"	2.17"	7/8"	1 9/16"	2345K36	82.25
13	1/2"-1"	2.33"	7/8"	1 9/16"	2345K37	89.26
14	5/8"-1"	2.49"	7/8"	1 11/16"	2345K38	103.81
15	5/8"-1 1/4"	2.65"	7/8"	1 13/16"	2345K39	108.16
16	5/8"-1 1/4"	2.81"	7/8"	2"	2345K41	113.80
17	5/8"-1 1/4"	2.98"	1"	2 1/8"	2345K42	117.18
18	3/4"-1 1/4"	3.14"	1"	2 5/16"	2345K43	125.18
19	3/4"-1 1/4"	3.3"	1"	2 1/2"	2345K44	137.71
20	3/4"-1 1/4"	3.46"	1"	2 5/8"	2345K45	152.73
21	5/8"-1 1/2"	3.62"	1"	2 3/4"	2345K83	178.23
22	5/8"-1 1/2"	3.78"	1"	2 7/8"	2345K84	194.94
23	5/8"-1 1/2"	3.94"	1"	3"	2345K85	208.63
24	5/8"-1 1/2"	4.1"	1"	3 1/4"	2345K86	226.85
25	5/8"-1 1/2"	4.26"	1"	3 1/4"	2345K87	241.48
26	5/8"-1 1/2"	4.42"	1"	3 1/4"	2345K88	258.88

Quick-Disconnect (QD) Bushing-Bore Sprockets for ANSI Roller Chain



Change bore size without replacing your sprocket. Convenient for use with multiple shaft diameters, these steel sprockets mate with compatible QD bushings (sold separately on page 1092) that can be swapped out for a different bore size.

No. of Teeth	For ANSI No. 35 Chain (3/8" Pitch) Bushing Style			For ANSI No. 40 Chain (1/2" Pitch) Bushing Style			For ANSI No. 50 Chain (5/8" Pitch) Bushing Style			For ANSI No. 60 Chain (3/4" Pitch) Bushing Style		
12	—	—	—	—	—	—	JA	62375K127	$25.15	—	—	—
14	—	—	—	—	—	—	JA	62375K128	29.46	SH	62375K141	$36.33
15	—	—	—	JA	62375K51	$20.80	JA	62375K71	29.37	SH	62375K91	36.42
16	—	—	—	JA	62375K52	21.77	JA	62375K72	30.15	SH	62375K92	42.57
17	—	—	—	JA	62375K53	23.75	SH	62375K73	31.80	SDS	62375K93	44.00
18	—	—	—	JA	62375K54	25.43	SH	62375K74	34.32	SDS	62375K94	48.75
19	JA	62375K11	$20.55	JA	62375K55	27.20	SH	62375K75	36.20	SDS	62375K95	51.17
20	JA	62375K12	21.55	SH	62375K56	29.37	SDS	62375K76	36.98	SDS	62375K96	52.57
21	JA	62375K13	22.54	SH	62375K57	31.80	SDS	62375K77	44.34	SDS	62375K97	54.12
22	JA	62375K14	24.00	SH	62375K58	35.77	SDS	62375K78	45.77	SDS	62375K98	57.97
23	JA	62375K15	28.81	SH	62375K59	38.19	SDS	62375K79	48.19	SDS	62375K99	60.17
24	JA	62375K16	29.37	SH	62375K61	40.18	SDS	62375K81	50.39	SDS	62375K101	64.33
25	JA	62375K17	30.80	SH	62375K62	42.57	SDS	62375K82	52.57	SDS	62375K102	67.53
26	—	—	—	SH	62375K4	47.18	SDS	62375K129	60.10	SK	62375K142	73.28
28	JA	62375K1	36.22	SH	62375K5	49.74	SDS	62375K131	66.87	SK	62375K143	74.56
30	JA	62375K18	34.00	SH	62375K63	48.53	SDS	62375K83	66.32	SK	62375K103	70.98
32	—	—	—	SH	62375K6	56.71	SDS	62375K132	72.33	SK	62375K144	83.41
36	SH	62375K2	39.55	SDS	62375K7	58.82	SDS	62375K134	76.44	SK	62375K145	86.30
40	SH	62375K19	37.41	SDS	62375K64	61.17	SDS	62375K84	77.34	SK	62375K104	83.49
45	SH	62375K21	39.40	SDS	62375K65	63.59	SDS	62375K85	81.75	SF	62375K105	88.12
48	SH	62375K3	44.65	SDS	62375K8	70.22	SDS	62375K135	90.74	SF	62375K146	111.81
60	SH	62375K22	61.94	SDS	62375K66	72.94	SK	62375K86	93.74	SF	62375K106	141.28

Taper-Lock Bushing-Bore Sprockets for ANSI Roller Chain



Get the same sizing versatility as quick-disconnect (QD) sprockets while using less space. The bushings for these sprockets mount flush inside the sprocket hub for a slim profile. The same sprocket can be used with different shaft diameters; choose a compatible taper-lock bushing (sold separately on page 1092) with the bore size you need.

No. of Teeth	For ANSI No. 35 Chain (3/8" Pitch) Bushing Style			For ANSI No. 40 Chain (1/2" Pitch) Bushing Style			For ANSI No. 50 Chain (5/8" Pitch) Bushing Style			For ANSI No. 60 Chain (3/4" Pitch) Bushing Style		
14	—	—	—	—	—	—	1008	2590K53	$39.77	1210	2590K78	$49.40
15	—	—	—	1008	2590K29	$32.29	1210	2590K54	41.02	1610	2590K79	52.52
16	—	—	—	1008	2590K31	32.87	1610	2590K55	43.28	1610	2590K81	54.00
17	—	—	—	1210	2590K32	35.99	1610	2590K56	46.44	1610	2590K82	56.58
18	—	—	—	1210	2590K33	37.47	1610	2590K57	48.70	1610	2590K83	63.95
19	1008	2590K11	$35.41	1210	2590K34	39.77	1610	2590K58	50.26	1610	2590K84	66.79
20	1008	2590K12	36.93	1610	2590K35	43.28	1610	2590K59	54.00	2012	2590K85	70.03
21	1008	2590K13	37.86	1610	2590K36	46.44	1610	2590K61	61.49	2012	2590K86	70.85
22	1210	2590K14	39.03	1610	2590K37	50.26	1610	2590K62	63.95	2012	2590K87	75.22
23	1210	2590K15	40.05	1610	2590K38	52.52	2012	2590K63	67.57	2012	2590K88	77.79
24	1210	2590K16	40.86	1610	2590K39	54.75	2012	2590K64	70.03	2012	2590K89	82.12
25	1210	2590K17	41.68	1610	2590K41	56.58	2012	2590K65	73.19	2012	2590K91	85.94
30	1610	2590K21	44.53	1610	2590K44	63.95	2012	2590K68	76.93	2012	2590K95	95.84
32	1610	2590K22	47.38	1610	2590K45	65.70	2012	2590K69	79.00	2012	2590K96	98.96
36	1610	2590K24	52.13	1610	2590K47	68.55	2012	2590K72	83.60	2012	2590K98	104.77
40	1610	2590K25	54.32	1610	2590K48	73.70	2012	2590K73	89.21	2012	2590K101	109.30
45	1610	2590K26	57.55	1610	2590K49	75.88	2012	2590K74	93.54	2012	2590K102	126.37
48	1610	2590K27	58.92	1610	2590K51	79.00	2012	2590K75	97.60	2012	2590K103	133.59
60	1610	2590K28	74.55	1610	2590K52	86.87	2012	2590K76	117.02	2517	2590K104	165.87

Split-Tapered Bushing-Bore Sprockets for ANSI Roller Chain



Since these steel sprockets grip bushings more tightly than taper-lock sprockets, they're often used in high-torque applications. The same sprocket can be used with different shaft diameters; choose a compatible split-tapered bushing (sold separately on page 1092) with the bore size you need. P1- and Q1-compatible sprockets have a keyway that fits a matching key on the bushing.

No. of Teeth	For ANSI No. 35 Chain (3/8" Pitch) Bushing Style			For ANSI No. 40 Chain (1/2" Pitch) Bushing Style			For ANSI No. 50 Chain (5/8" Pitch) Bushing Style			For ANSI No. 60 Chain (3/4" Pitch) Bushing Style		
15	—	—	—	H	1068N28	$41.40	P1	1068N53	$55.84	P1	1068N81	$75.72
16	—	—	—	H	1068N29	43.56	P1	1068N54	57.12	P1	1068N82	87.14
17	—	—	—	H	1068N3	46.42	P1	1068N55	67.95	P1	1068N83	94.30
18	—	—	—	P1	1068N31	49.19	P1	1068N56	72.28	P1	1068N84	102.26
20	H	1068N12	$42.70	P1	1068N32	63.88	P1	1068N58	81.53	Q1	1068N86	108.74
21	H	1068N13	44.35	P1	1068N33	67.95	P1	1068N59	94.91	Q1	1068N87	110.72
22	H	1068N14	46.74	P1	1068N34	74.58	P1	1068N61	97.26	Q1	1068N88	117.81
23	H	1068N15	54.88	P1	1068N35	78.65	Q1	1068N62	101.28	Q1	1068N89	119.09
24	H	1068N16	55.84	P1	1068N36	82.02	Q1	1068N63	101.56	Q1	1068N91	128.53
25	H	1068N17	58.16	P1	1068N37	86.09	Q1	1068N64	108.74	Q1	1068N92	128.53
26	H	1068N18	60.26	P1	1068N38	89.44	Q1	1068N65	115.74	Q1	1068N93	131.47
28	H	1068N19	62.84	P1	1068N39	90.74	Q1	1068N66	126.30	Q1	1068N94	144.26
30	H	1068N21	63.53	P1	1068N41	92.77	Q1	1068N67	128.19	Q1	1068N96	146.77
32	H	1068N22	66.91	P1	1068N42	93.88	Q1	1068N68	134.67	Q1	1068N97	148.84
36	H	1068N23	77.19	P1	1068N43	102.09	Q1	1068N69	136.67	Q1	1068N98	155.26
40	H	1068N24	77.44	P1	1068N46	111.51	Q1	1068N74	138.21	Q1	1068N5	158.63
45	H	1068N25	80.72	P1	1068N47	115.58	Q1	1068N75	142.88	Q1	1068N6	163.19
48	H	1068N26	85.42	P1	1068N49	120.23	Q1	1068N77	144.86	Q1	1068N8	192.58
60	H	1068N27	118.70	P1	1068N51	131.30	Q1	1068N78	160.07	Q1	1068N9	252.49

Quick-Disconnect (QD) Bushings



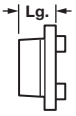

Use these bushings to make the same sprocket or pulley compatible with multiple shaft diameters. They fit quick-disconnect (QD) sprockets (sold separately on page 1091) and pulleys (see page 1105) of the same bushing style. As you tighten the included cap screws, the bushing grips the shaft and pulls it into the sprocket or pulley. Bushings are steel or cast iron.

To Order: Please specify bore size. Depending on the bore size you choose, the bushing will have the corresponding keyway listed below. Bushings with a standard ANSI or ISO keyway do not come with a key. Bushings with a shallow keyway come with a key.

Inch

Bushing Style	Lg.	Cap Screw Torque, in.-lbs.	Choose a Bore Size: Standard ANSI Keyway	Shallow Keyway	No Keyway		
JA	1 1/16"	60	1/2"-1"	1 1/16"-1 3/16"	1 1/4"	6086K11	$12.24
SH	1 5/16"	108	1/2"-1 3/8"	1 7/16"-1 5/8"	1 11/16"	6086K12	16.73
SDS	1 3/8"	108	1/2"-1 11/16"	1 3/4"-1 15/16"	2"	6086K13	19.46
SD	1 13/16"	108	1/2"-1 11/16"	1 3/4"-1 15/16"	2"	6086K14	23.38
SK	1 15/16"	180	1/2"-2 1/8"	2 3/16"-2 1/2"	2 5/8"	6086K15	30.09
SF	2 1/16"	360	1/2"-2 1/4"	2 3/8"-2 15/16"	—	6086K16	37.06

Metric

Bushing Style	Lg.	Cap Screw Torque, in.-lbs.	Choose a Bore Size: Standard ISO Keyway, mm		
SH	15/16"	108	24, 25, 28, 30, 32, 35	2344K1	$19.43
SDS	1 3/8"	108	24, 25, 28, 30, 32, 35, 38, 40, 42	2344K2	22.59
SD	1 13/16"	108	24, 25, 28, 30, 32, 35, 38, 40, 42	2344K3	27.17
SK	1 15/16"	180	24, 25, 28, 30, 32, 35, 38, 40	2344K4	35.00
SF	2 1/16"	360	32, 35, 38, 40, 42, 48, 50, 55, 60	2344K6	47.31

Taper-Lock Bushings

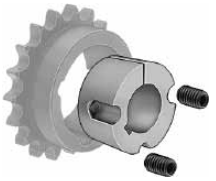

Mount these hubless bushings flush into your sprocket or pulley for a slim profile with no protruding screws. These steel bushings are for use with taper-lock sprockets (sold separately on page 1091) of the same bushing style. As you tighten the included set screws, the bushing grips the shaft and pulls it into your sprocket or pulley. Bushings have an 8° taper.

To Order: Please specify bore size; bushings have either a standard ANSI keyway or a shallow keyway. Bushings with a standard ANSI keyway do not come with a key. Bushings with a shallow keyway come with a key.

Bushing Style	Choose a Bore Size: Standard ANSI Keyway	Shallow Keyway	Lg.	Set Screw Torque, in.-lbs.		
1008	1/2"-7/8"	1"	7/8"	55	57095K11	$14.43
1108	1/2"-1"	1 1/8"	7/8"	55	57095K12	14.95
1210	1/2"-1 1/4"	—	1"	175	57095K13	15.96
1215	1/2"-1 1/4"	—	1 1/2"	175	57095K14	17.47
1310	1/2"-1 3/8"	17/16"	1"	175	57095K15	18.89
1610	1/2"-1 1/2"	1 5/8"-1 11/16"	1"	175	57095K16	19.37
1615	1/2"-1 1/2"	1 5/8"-1 11/16"	1 1/2"	175	57095K17	20.18
2012	1/2"-1 7/8"	1 15/16"-2 1/8"	1 1/4"	280	57095K18	26.19
2517	1/2"-2 1/4"	2 3/8"-2 11/16"	1 3/4"	430	57095K21	32.20

Split-Tapered Bushings



The tapered barrel on these steel bushings is split on both sides, allowing them to contract more tightly around the shaft than quick-disconnect (QD) and taper-lock bushings. They're for use with split-tapered sprockets (sold separately on page 1091) and pulleys (see page 1103) of the same bushing style. As you tighten the included cap screws, the bushing grips the shaft and pulls it into the sprocket or pulley. Bushings have a 3° taper. All bushings have a standard ANSI keyway. P1, P2, and Q1 bushing styles also come with a key that fits a matching keyway on the sprocket or pulley for high-torque applications.

To Order: Please specify bore size: 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 3/16", 1 1/4", 1 3/8", 1 7/16", 1 1/2", 1 5/8", 1 3/4", 1 7/8", or 2".

Bushing Style	Choose a Bore Size	Lg.	Cap Screw Torque, in.-lbs.		
G	3/8"-1"	1"	95	9859T1	$9.50
H	3/8"-1 1/2"	1 1/4"	95	6086K19	14.70
P1	5/8"-1 5/8"	1 15/16"	192	9859T3	18.87
P2	3/4"-1 5/8"	2 15/16"	192	9859T4	21.45
Q1	3/4"-2"	2 1/2"	348	9859T5	62.47

Heavy Duty Screw-Clamp Bushings



Self Centering



Flush Mount

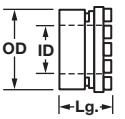

Handle shock loads and high torque with these high-capacity keyless bushings. When you tighten the included cap screws, the bushing's inner sleeve contracts onto the shaft and the outer sleeve expands to hold your sprocket, pulley, or gear. These steel bushings can be mounted on shafts with or without keyways. Match the bushing ID to your shaft diameter and the bushing OD to the bore size of your sprocket, pulley, or gear.

Self-centering bushings have a mounting flange that prevents movement during tightening, so it's easy to center the bushing in the bore.

Flush-mount bushings have no flange, so they can be inserted into the bore for flush or recessed mounting. They have higher torque ratings than self-centering bushings.

ID	OD	Lg.	Max. Torque, in.-lbs.		
Self Centering					
Inch					
3/8"	0.938"	0.807"	264	1058K11	$51.05
1/2"	1.063"	0.807"	468	1058K12	51.05
5/8"	1.188"	0.965"	888	1058K13	51.05
3/4"	1.313"	0.965"	1,068	1058K14	56.15
1"	1.688"	1.181"	3,084	1058K15	56.15
1 1/4"	2.000"	1.299"	4,824	1058K16	58.14
1 3/8"	2.125"	1.299"	5,316	1058K17	58.14
1 7/16"	2.313"	1.496"	6,264	1058K18	60.78
1 1/2"	2.375"	1.496"	8,172	1058K19	60.78
Flush Mount					
Inch					
3/4"	1.85"	1.024"	2,256	2328K11	53.65
1"	1.969"	1.024"	3,816	2328K12	53.65
1 3/16"	2.159"	1.055"	4,512	2328K13	53.65
1 1/4"	2.362"	1.024"	5,988	2328K14	55.38
1 3/8"	2.365"	1.009"	6,600	2328K15	55.38
1 7/16"	2.559"	1.024"	7,644	2328K16	57.88
1 1/2"	2.559"	1.024"	7,896	2328K17	57.88
1 3/4"	2.953"	1.26"	13,968	2328K18	68.38
1 15/16"	3.15"	1.26"	15,444	2328K19	70.19
Metric					
24 mm	55 mm	40 mm	6,682	1070N11	104.00
25 mm	55 mm	40 mm	6,965	1070N12	104.00
30 mm	55 mm	40 mm	8,355	1070N13	104.00
35 mm	60 mm	54 mm	11,373	1070N14	111.76
40 mm	75 mm	54 mm	25,543	1070N15	169.06
45 mm	75 mm	54 mm	28,738	1070N16	175.42
50 mm	80 mm	66 mm	36,491	1070N17	211.52
55 mm	85 mm	66 mm	45,156	1070N18	222.84
60 mm	90 mm	66 mm	54,733	1070N19	231.32

Quick-Grip Screw-Clamp Bushings



Tighten these bushings with a twist of the collar nut—no keys or cap screws needed. They're also known as Trantorque bushings. As you tighten the collar nut, the inner sleeve contracts onto the shaft and the outer sleeve expands to hold your sprocket, pulley, or gear. Match the bushing ID to your shaft diameter; match the bushing OD to the bore of your sprocket, pulley, or gear.

304 stainless steel bushings are corrosion resistant for use in harsh environments.

ID	OD	Lg.	Max. Torque, in.-lbs.		
Steel					
Inch					
1/4"	5/8"	3/4"	182	5926K12	$49.76
5/16"	3/4"	7/8"	366	5926K13	52.56
3/8"	3/4"	7/8"	440	5926K14	52.56
1/2"	7/8"	1"	764	5926K16	57.31
5/8"	1"	1 1/8"	1,234	5926K18	59.18
5/8"	1 1/2"	1 1/2"	1,836	5926K42	83.74
3/4"	1 1/4"	1 3/8"	1,500	5926K41	60.64
3/4"	1 1/2"	1 1/2"	2,196	5926K2	87.47
7/8"	1 3/4"	1 7/8"	2,676	5926K22	94.32
1"	1 3/4"	1 7/8"	3,060	5926K24	94.32
1 1/4"	2"	2 1/4"	4,380	5926K26	121.80
1 1/2"	2 3/8"	2 3/4"	5,268	5926K28	150.20
2"	2 7/8"	3 9/16"	12,084	5926K32	229.23
Metric					
5 mm	16 mm	19 mm	142	2298K1	48.68
8 mm	20 mm	22 mm	363	2298K41	50.99
10 mm	23 mm	26 mm	602	2298K42	56.07
12 mm	23 mm	26 mm	717	2298K44	56.07
14 mm	26 mm	29 mm	1,089	2298K45	57.88
15 mm	26 mm	29 mm	1,168	2298K46	57.88
16 mm	26 mm	29 mm	1,239	2298K47	57.88
304 Stainless Steel					
Inch					
1/2"	7/8"	1"	267	2308K16	74.56
5/8"	1"	1 1/8"	432	2308K18	77.04
3/4"	1 1/2"	1 1/2"	659	2308K23	114.02
1"	1 3/4"	1 7/8"	918	2308K27	136.50

Self-Adjusting Spring Bushings



A toothed slot lets these bushings contract for insertion into the bore of your sprocket or pulley and then expand for a snug fit. Made of spring steel, they flex under stress and shock and can handle oscillating or slow rotational motion.

ID	OD	Lg.		
3/4"	1"	3/4"	58365K11	$6.31
3/4"	1"	1"	58365K12	6.68
3/4"	1"	1 1/2"	58365K13	8.73
1"	1 1/4"	1"	58365K14	7.46
1"	1 1/4"	1 1/2"	58365K15	9.80
1"	1 1/4"	2"	58365K16	12.48

ID	OD	Lg.		
1 1/4"	1 1/2"	1"	58365K17	$9.40
1 1/4"	1 1/2"	1 1/2"	58365K18	12.94
1 1/4"	1 1/2"	2"	58365K19	14.34
1 1/2"	1 3/4"	1 1/2"	58365K21	14.19
2"	2 1/4"	2 1/2"	58365K28	23.68

Weld-On Bushing-Bore Hubs



For Quick-Disconnect (QD) Bushings



For Taper-Lock Bushings

These weld-on hubs make any sprocket, pulley, or gear compatible with bushings. They are drilled, tapped, and taper bored for quick-disconnect (QD) or taper-lock bushings (both sold separately on page 1092).

For Quick-Disconnect (QD) Bushings

Bushing Style	OD	ID	Wd.	Bolt Circle Dia.		
JA	2 1/4"	1.37"	9/16"	1 21/32"	5961K1	$34.82
SH	3"	1.87"	13/16"	2 1/4"	5961K2	60.65
SDS	3 1/2"	2.18"	3/4"	2 11/16"	5961K3	80.87
SK	4 3/8"	2.81"	1 1/4"	3 5/16"	5961K4	107.83
SF	5"	3.12"	1 1/4"	3 7/8"	5961K5	168.50

For Taper-Lock Bushings

Bushing Style	OD	ID	Wd.	Max. Bushing Bore Size		
1215	2 7/8"	1.88"	1 1/2"	1 1/4"	5961K11	$78.93
1610	3"	2.25"	1"	1 5/8"	5961K12	65.77
1615	3 1/4"	2.25"	1 1/2"	1 5/8"	5961K13	85.08
2012	3 9/16"	2.75"	1 1/4"	2"	5961K14	71.92
2517	4 1/4"	3.38"	1 3/4"	2 1/2"	5961K15	133.29

Light Duty Reducer Bushings



Reduce the bore size of sprockets, pulleys, and gears in low-torque applications. These steel bushings have a hole for a set screw.

ID	OD	Lg.	Hole Dia.		
1/4"	1/2"	1 1/8"	3/8"	6420K12	$5.90
5/16"	1/2"	1 1/8"	3/8"	6420K13	5.90
3/8"	1/2"	1 1/8"	3/8"	6420K14	5.90
7/16"	1/2"	1 1/8"	3/8"	6420K15	8.86
1/2"	5/8"	1 1/8"	3/8"	6420K17	5.90
1/2"	3/4"	1 1/4"	7/16"	6420K18	5.90
5/8"	3/4"	1 1/4"	3/8"	6420K19	5.90
5/8"	1"	1 1/4"	7/16"	6420K23	7.38
3/4"	1"	1 1/4"	7/16"	6420K24	7.38
7/8"	1"	1 1/4"	7/16"	6420K25	7.38

Friction Torque Limiters and Sprockets

Prevent overload from damaging your equipment with these torque limiters installed on your sprocket or pulley. When overloaded, the limiters cause your sprocket or pulley to slip. Once the overload is eliminated, the limiters automatically reset. They have a steel hub and pressure plate, 1/8" thick friction discs between the hub and pressure plate, and a set screw. Torque limiters with a 2 1/4" OD and a 3/4" bore size have a 3/64" (shallow) keyway; all other limiters have a standard ANSI keyway.

Double-Spring Torque Limiters—These have a second spring for handling nearly twice the torque of single-spring limiters.

Optional Roller Chain Sprockets—Designed specifically to fit the corresponding limiters in the table, these hubless sprockets are not interchangeable.

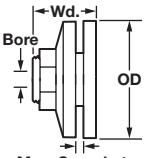

Max. Sprocket or Pulley Thickness (A)



Torque Limiter Shown with Optional Sprocket

To Order: For limiters, please specify bore size: 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 3/16", 1 1/4", 1 3/8", 1 7/16", 1 1/2", or 1 5/8".
For sprockets, please specify ANSI chain number: 25, 35, 40, 41, 50, 60, 80, or 100.

Limiter OD	Limiter Wd.	Choose a Bore Size	Single-Spring Torque Limiters: Max. Torque, ft.-lbs.	(A)			Double-Spring Torque Limiters: Max. Torque, ft.-lbs.	(A)			Optional Roller Chain Sprockets: For ANSI Chain Nos.			Replacement Friction Discs	
1 5/16"	1 3/8"	1/4"-3/8"	6	11/32"	6524K17	$54.56	12	5/16"	6524K33	$66.07	25-50	6525K27	$28.63	6525K68	$7.50
2 1/4"	2"	3/8"-3/4"	35	1/2"	6524K11	81.60	50	15/32"	6524K41	97.13	35-50	6525K11	28.11	6525K62	8.11
2 1/2"	1 3/4"	1/2"-7/8"	60	11/32"	6524K12	67.16	95	11/32"	6524K42	80.38	35-50	6525K12	28.42	6525K64	6.98
3 3/8"	2 1/8"	1/2"-1"	100	1/2"	6524K13	124.34	175	7/16"	6524K43	143.78	35-50	6525K13	42.43	6525K63	13.19
3 1/2"	2 3/16"	3/4"-1"	120	1/2"	6524K14	96.51	190	1/2"	6524K44	117.87	35-60	6525K14	31.85	6525K65	10.37
4 1/2"	2 7/8"	3/4"-1 3/8"	190	7/8"	6524K32★	163.19	285	13/16"	6524K38★	190.38	35-100	6525K32	56.32	6525K72	17.67
5"	2 7/8"	1"-1 5/8"	250	5/8"	6524K15	115.78	400	5/8"	6524K45	133.97	40-80	6525K15	49.41	6525K66	13.46
6"	3"	1"-1 5/8"	320	13/16"	6524K47■	254.00	440	3/4"	6524K48■	285.75	40-100	6525K33	69.53	6525K73	25.40

★ 7/8" and 1 3/16" bore sizes not available. ■ 1 1/8" and 1 3/16" bore sizes not available.

About Sizing Belts

Replacing a Belt—V-belts and timing belts are marked with a trade size for easy reordering. If your belt does not have a trade size, use the belt's measurements to find a replacement.

1. Measure the dimensions of your existing belt.

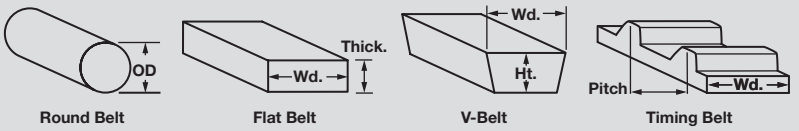

Round Belt | Flat Belt | V-Belt | Timing Belt

2. Wrap a string around the existing belt to measure the outer circle.
3. Round the outer circle down to nearest whole number to account for belt stretch.

Sizing a New Belt—Follow these steps to estimate belt outer circle for a new system.

1. Add the diameters of your pulleys.
2. Multiply the sum of Step 1 by 1.6.
3. Multiply the Ctr.-to-Ctr. by 2.
4. Add Steps 2 and 3.

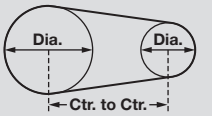

Round Belting



Quick-Connect Hollow-Core Belting



Solid-Core Belting with Textured Surface



Heavy Duty Solid-Core Belting

Run this chemical- and abrasion-resistant urethane belting in light duty conveying and power-transmission applications. Inch sizes are made from FDA-listed material for use with food and beverage.

Belting with a smooth surface is easy to clean. *Belting with a textured surface* grips material better than belting with a smooth surface.

Quick-Connect Hollow-Core Belting—Join the ends with the hollow-core round belting connectors sold separately on this page.

Solid-Core Belting—Choose this belting for stronger connections than quick-connect hollow-core belting. Join the ends of this belting with the solid-core round belting connectors sold separately on this page or use a welding kit (see 62065K41 on page 1113). **Heavy duty solid-core belting** is reinforced with a polyester cord for increased strength.

Quick-Connect Hollow-Core Belting

	Clear			Yellow		
OD	Min. Pulley Dia.		Per Ft.	Min. Pulley Dia.		Per Ft.
Inch—Smooth Surface						
3/16"	2"	6567K1	$0.81	1 1/2"	6567K56	$0.81
1/4"	2 1/2"	6567K2	1.53	2"	6567K57	1.53
5/16"	3"	6567K3	1.97	2 1/2"	6567K58	1.97
3/8"	3 1/2"	6567K4	2.82	3"	6567K59	2.82
7/16"	____	____	____	3 1/2"	6567K61	4.05
1/2"	4 1/2"	6567K5	5.36	4"	6567K62	5.36
9/16"	____	____	____	4 1/2"	6567K63	5.95
5/8"	5 1/2"	6567K6	7.35	5"	6567K64	7.35
Metric—Smooth Surface						
6 mm	____	____	____	50 mm	1114N1	1.14
8 mm	____	____	____	63 mm	1114N3	1.73
10 mm	____	____	____	76 mm	1114N5	2.90

Solid-Core Belting

OD	Min. Pulley Dia.	Choose a Color		Per Ft.
Inch—Smooth Surface				
3/32"	3/4"	Clear, Orange	59725K728	$0.54
1/8"	1"	Clear, Orange	59725K729	.65
3/16"	1 1/2"	Clear, Orange	59725K731	.91
1/4"	2"	Clear, Orange	59725K732	1.17
5/16"	2 1/2"	Clear, Orange	59725K733	1.91
3/8"	3"	Clear, Orange	59725K734	2.57
1/2"	4"	Clear, Orange	59725K735	4.41
Metric—Textured Surface				
2 mm	19 mm	Green	8112K31	.96
4 mm	36 mm	Green	8112K32	1.42
6 mm	53 mm	Green	8112K33	2.50
8 mm	71 mm	Green	8112K34	3.66
Metric—Smooth Surface				
2 mm	19 mm	Green	8112K41	.81
4 mm	36 mm	Green	8112K42	.92
6 mm	53 mm	Green	8112K43	1.70
8 mm	71 mm	Green	8112K44	2.90

Heavy Duty Solid-Core Belting

OD	Min. Pulley Dia.	Green	Per Ft.
Inch—Smooth Surface			
1/8"	1 3/4"	2126T1	$5.72
3/16"	2"	2126T2	6.34
1/4"	2 3/4"	2126T3	6.40
5/16"	3 7/16"	2126T4	7.12

Hollow-Core Round Belting Connectors



Press these connectors into quick-connect hollow-core round belting to join the ends.

Plastic connectors are corrosion resistant in harsh environments.

For Belt OD		Pkg.	Aluminum		Plastic	
Inch	Metric	Qty.		Pkg.		Pkg.
3/16"	____	25	6567K26	$9.34	____	____
1/4"	6 mm	25	6567K22	10.54	6567K65	$11.99
5/16"	8 mm	25	6567K23	14.00	6567K69	11.71
3/8", 7/16"	10 mm	20	6567K24	10.23	6567K66	12.86
1/2"	____	10	6567K25	8.55	6567K67	9.90
9/16"	____	10	6567K27	12.39	____	____
5/8"	____	10	6567K28	14.16	____	____

Solid-Core Round Belting Connectors



Join solid-core round belting by trimming belting ends to a point and twisting them into the threaded ends of these steel connectors. They have a joint to accommodate turns. These connectors are for use with urethane, rubber, and leather round belting.

For Belt OD		
3/16"	6180K12	$20.78
1/4"	6180K14	20.76
5/16"	6180K15	21.34
3/8"	6180K16	22.08
7/16"	6180K17	24.78

Adjustable-Length Round Belting



Lengthen or shorten this belting without tools or connectors—the interlocking links attach and detach with a twist. Belting is polyester-reinforced urethane. Color is red.

OD		Per Ft.
5/16"	2243K11	$13.18
3/8"	2243K12	13.18
1/2"	2243K13	13.67
9/16"	2243K14	16.88
3/4"	2243K15	19.06

Extended-Life Leather Round Belting



Belting



Connector

More elastic than urethane, this leather belting resists permanent stretch for a long service life. Color is tan. Join belting ends with steel connectors (sold separately).

Joining tool cuts belting, punches holes for connectors, and secures connectors to belting ends.

OD	Belting	Per Ft.	Connectors	Each
1/8"	6170K11	$0.95	1848K31	$1.00
3/16"	6170K12	1.16	1848K32	.52
1/4"	6170K13	1.53	1848K32	.52
9/32"	6170K14	1.83	1848K33	.54
5/16"	6170K15	2.09	1848K33	.54
3/8"	6170K16	2.81	1848K34	.54
Joining Tool			1848K1	79.41

Ultra-Flexible Round Belting

Coiled-spring construction provides the flexibility to bend around small-diameter pulleys and accommodate curved belt drives and misaligned pulleys. Cut belting to the length you need, thread connectors (sold separately) onto each end, and hook them together. Belting comes in 10-ft. lengths.

Standard belting is steel.

Corrosion-resistant belting is 302 stainless steel for use in harsh environments.


Belting


Connector

Belting OD		Each	Connectors Pkg. Qty.		Per Pkg.
Standard					
3/16"	6178K21	$10.93	5	6178K31	$10.66
1/4"	6178K22	15.59	5	6178K32	10.66
5/16"	6178K23	18.24	5	6178K33	10.66
3/8"	6178K24	19.74	5	6178K34	10.66
1/2"	6178K26	22.57	5	6178K36	10.66
Corrosion Resistant					
3/16"	6178K41	46.71	1	6178K51	3.54
1/4"	6178K42	52.21	1	6178K52	3.54
5/16"	6178K43	58.21	1	6178K53	3.54
3/8"	6178K44	65.12	1	6178K54	3.54
1/2"	6178K46	108.74	1	6178K56	3.54

Quick-Hook Twisted Round Belts



Install these urethane belts without dismantling your drive shafts—hook the ends together with the attached stainless steel connector. *Optional plastic C-hook* can be used instead of the stainless steel connector.

Installer kit includes a stainless steel holding tool to keep one end of the belt in place, a gripping retriever to loop the belt around your pulley, and a hooked tool for pulling the belt loop over the connector.

To Order: Please specify outer circle (OC) in 1/4" increments.

Dia.	Color	5 1/4"-13 1/4" Outer Circle		13 1/2"-22 1/4" Outer Circle	
Belts					
3/16"	Clear	9285K63	$4.31	9285K64	$5.64
3/16"	Black	9285K65	4.60	9285K66	6.12
Accessories					
Replacement Stainless Steel Connector				9285K61	2.64
Optional Plastic C-Hook				9285K62	1.13
Installer Kit				1966K1	57.61

Round Belts

Also known as O-ring and endless belts, these come ready to use.

Urethane—All urethane belts are chemical and abrasion resistant. **Standard urethane belts** are made from FDA-listed material for use with food and beverage. **High-performance urethane belts** are more chemical and abrasion resistant than other urethane belts. *Inch sizes* are made from FDA-listed material for use with food and beverage. *Metric sizes* have a textured surface for a strong grip on material. **Heavy duty urethane belts** are reinforced with a polyester cord for strength.

Neoprene Rubber—These belts are more flexible than urethane belts.

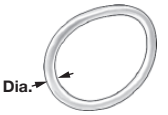

To Order: For all belts, please specify outer circle (OC) in 1/4" increments.

Standard Urethane Belts—Clear

Dia.	4"-12" Outer Circle	Each	12 1/4"-24" Outer Circle	Each	24 1/4"-36" Outer Circle	Each	36 1/4"-48" Outer Circle	Each	48 1/4"-60" Outer Circle	Each
1/16"	3044K501	$3.72	3044K601	$3.36	3044K701	$5.30	3044K801	$6.42	3044K901	$7.44
3/32"	3044K502	4.25	3044K602	3.68	3044K702	4.37	3044K802	5.26	3044K902	6.26
1/8"	3044K503	4.18	3044K603	3.79	3044K703	4.69	3044K803	5.78	3044K903	6.91
5/32"	3044K504■	5.10	3044K604	4.20	3044K704	5.30	3044K804	6.69	3044K904	8.07
3/16"	3044K505■	5.68	3044K605	5.18	3044K705	6.48	3044K805	8.31	3044K905	10.26
1/4"	3044K506■	10.21	3044K606	6.91	3044K706	9.26	3044K806	12.01	3044K906	14.75
5/16"	3044K507▲	20.00	3044K607	12.08	3044K707	13.98	3044K807	18.32	3044K907	22.55
3/8"	3044K508♣	33.18	3044K608	18.33	3044K708	20.27	3044K808	26.59	3044K908	32.78
1/2"	3044K509♠	72.00	3044K609	60.34	3044K709	37.50	3044K809	49.13	3044K909	60.26

■ 5 3/4"-12" outer circle. ▲ 7"-12" outer circle. ♣ 8 1/2"-12" outer circle. ♠ 11"-12" outer circle.

High-Performance Urethane Belts

Dia.	Min. Pulley Dia.	Choose a Color	12"-1,200" Outer Circle	Per Inch
Inch				
3/32"	3/4"	Clear, Orange	9462T54	$0.31
1/8"	1"	Clear, Orange	9462T55	.36
3/16"	1 1/2"	Clear, Orange	9462T56	.44
1/4"	2"	Clear, Orange	9462T57	.51
5/16"	2 1/2"	Clear, Orange	9462T58	.67
3/8"	3"	Clear, Orange	9462T59	1.44
1/2"	4"	Clear, Orange	9462T61	2.09

Dia.	Min. Pulley Dia.	Color	8"-1,200" Outer Circle	Per Inch
Metric				
2 mm	18 mm	Green	9462T41	$0.40
4 mm	36 mm	Green	9462T42	.57
6 mm	54 mm	Green	9462T43	.98
8 mm	71 mm	Green	9462T44	1.62
10 mm	89 mm	Green	9462T45	2.49

Heavy Duty Urethane Belts—Green

Dia.	Min. Pulley Dia.	13"-1,200" Outer Circle	Per Inch
1/8"	2 1/16"	1103N1	$3.67
3/16"	2 1/16"	1103N3	4.04

Dia.	Min. Pulley Dia.	13"-1,200" Outer Circle	Per Inch
1/4"	2 3/4"	1103N5	$4.49
5/16"	3 7/16"	1103N7	5.02

Neoprene Rubber Belts—Black

Dia.	Outer Circle		Each	Dia.	Outer Circle		Each	Dia.	Outer Circle		Each	Dia.	Outer Circle		Each
1/16"	5"	8060K1	$1.49	1/8"	12 3/4"	8060K116	$2.32	1/8"	23"	8060K25	$9.05	1/4"	20"	8060K204	$4.29
1/16"	7 1/2"	8060K4	2.06	1/8"	14 1/2"	8060K15	3.53	1/8"	24 1/2"	8060K26	9.31	1/4"	20 1/2"	8060K205	4.32
1/16"	9 1/4"	8060K6	1.90	1/8"	15"	8060K16	4.90	1/8"	26"	8060K27	10.34	1/4"	21 1/2"	8060K206	4.35
1/16"	10 3/4"	8060K8	2.32	1/8"	16"	8060K17	5.33	1/8"	28 1/2"	8060K124	9.95	1/4"	23"	8060K38	9.57
1/16"	13"	8060K12	2.90	1/8"	16 1/2"	8060K18	5.73	1/8"	30"	8060K125	9.81	1/4"	24 1/2"	8060K209	5.23
1/16"	14 1/2"	8060K13	4.17	1/8"	17 1/2"	8060K19	4.92	1/8"	31 1/2"	8060K126	9.78	1/4"	26"	8060K39	10.92
1/16"	16 1/2"	8060K14	4.70	1/8"	18 1/2"	8060K21	5.32	1/4"	16"	8060K199	3.98	1/4"	28 1/2"	8060K41	11.34
1/8"	5 1/2"	8060K106	1.76	1/8"	19"	8060K22	6.07	1/4"	16 1/2"	8060K35	6.21	1/4"	30"	8060K42	11.67
1/8"	7 3/4"	8060K108	1.65	1/8"	20"	8060K23	6.16	1/4"	17 1/2"	8060K201	4.05	1/4"	31 1/2"	8060K43	17.73
1/8"	9 1/2"	8060K112	1.83	1/8"	20 1/2"	8060K118	5.30	1/4"	18 1/2"	8060K202	4.20	1/4"	33"	8060K213	6.23
1/8"	11"	8060K114	1.97	1/8"	21 1/2"	8060K24	6.72	1/4"	19"	8060K203	4.31	1/4"	35"	8060K44	17.14

Flat Belting



Resistant to chemicals and abrasion, this urethane flat belting is often used for light to medium duty power transmission. It is made from FDA-listed material for use with food and beverage. Color is orange. To join ends, use a welding kit (see 62065K41 on page 1113).

Wd.	Thick.	Min. Pulley Dia.		Per Ft.
3/8"	0.055"	3/8"	6075K11	$1.58
1/2"	0.062"	1/2"	6075K12	1.95
5/8"	0.125"	1"	6075K13	3.26
3/4"	0.078"	5/8"	6075K14	2.53
1"	0.090"	3/4"	6075K15	3.42
1 1/4"	0.090"	3/4"	6075K16	4.18
1 1/2"	0.090"	3/4"	6075K17	5.32
1 3/4"	0.062"	1/2"	6075K18	4.76
2"	0.062"	1/2"	6075K19	5.16

Super-Grip Rubber Flat Belting



3 Ply

Commonly used for material handling and light to medium duty power transmission, this belting has a textured rubber cover on both sides for a better grip on material than urethane. Inner layers are cotton. Width tolerance is ±1/8". Color is tan. To join ends, use alligator belt lacing (see page 1113).

Three-ply min. pulley dia. is 2 1/2". **Four-ply** min. pulley dia. is 3". **Five-ply** min. pulley dia. is 3 1/2".

Wd.	3 Ply—0.141" Thick.	Per Ft.	4 Ply—0.187" Thick.	Per Ft.	5 Ply—0.213" Thick.	Per Ft.
1 1/4"	5753K425	$1.53	5753K446	$1.89	5753K465	$2.53
1 1/2"	5753K424	1.53	5753K445	1.89	5753K464	2.53
2"	5753K411	2.00	5753K431	2.53	5753K451	3.42
2 1/2"	5753K426	2.53	5753K447	3.16	5753K466	4.26
3"	5753K412	3.00	5753K432	3.79	5753K452	5.13
4"	5753K413	4.00	5753K433	5.08	5753K453	6.82
6"	5753K414	6.08	5753K434	7.55	5753K454	10.24

Flat Belts



Urethane

These belts are chemical and abrasion resistant. They are made from FDA-listed material for use with food and beverage. Color is orange.

To Order: Please specify outer circle (OC) in 1/4" increments.

Wd.	Thick.	Min. Pulley Dia.	12"-1,200" Outer Circle	Per Inch
3/8"	0.055"	3/8"	9485T11	$0.60
1/2"	0.062"	1/2"	9485T12	0.69
5/8"	0.125"	1"	9485T13	0.98
3/4"	0.078"	5/8"	9485T14	1.16
1"	0.090"	3/4"	9485T15	1.24
1 1/4"	0.090"	3/4"	9485T16	1.36
1 1/2"	0.090"	3/4"	9485T17	1.44
1 3/4"	0.062"	1/2"	9485T18	1.73
2"	0.062"	1/2"	9485T19	1.87
3"	0.062"	7/8"	9485T51	4.58

Static-Control Nitrile-Coated Nylon

The nitrile coating on these belts protects from static electricity discharge. They are coated on both sides. Color is green and black.

To Order: 7" to 60" Outer Circle—Please specify outer circle (OC) in 1" increments. **61" to 4,140" Outer Circle—**Please specify outer circle (OC) in 1/4" increments.

Wd.	Thick.	Min. Pulley Dia.	7"-60" Outer Circle	Per Inch	61"-4,140" Outer Circle	Per Inch
3/16"	0.03"	19/32"	6082K52	$0.66	6082K61	$0.66
1/4"	0.03"	19/32"	6082K51	.66	6082K62	.66
1/2"	0.03"	19/32"	6082K33	.66	6082K64	.66
3/4"	0.03"	19/32"	6082K35	.66	6082K65	.66
1"	0.03"	19/32"	6082K12	.82	6082K66	.82
2 1/2"	0.03"	19/32"	6082K18	1.61	6082K71	1.61

Extended-Life Leather Flat Belting



1 Ply



2 Ply



High Speed

Since this leather belting resists permanent stretch and has excellent resistance to oil, it lasts longer than urethane and rubber belting. To join ends, use alligator belt lacing (see page 1113).

Light duty belting is also known as side-stock belting. Color is tan. Choose two-ply belting for additional strength.

Heavy duty belting is also known as center-stock belting. It's stronger than light duty belting. Color is tan. Choose two-ply belting for additional strength.

High-speed belting is three-ply with a nylon core for handling higher speeds than other leather flat belting. Color is gray.

Wd.	Thick.	Min. Pulley Dia.		Per Ft.
Light Duty				
1 Ply				
1"	0.156"	3"	6078K11	$8.18
1 1/4"	0.156"	3"	6078K12	9.25
1 1/2"	0.156"	3"	6078K13	10.35
2"	0.156"	3"	6078K14	12.60
2 1/4"	0.156"	3"	6078K15	13.62
2 1/2"	0.156"	3"	6078K16	14.70
2 3/4"	0.156"	3"	6078K17	15.85
3"	0.156"	3"	6078K18	16.88
4"	0.156"	3"	6078K19	21.25
6"	0.156"	3"	6078K22	29.92
2 Ply				
1"	0.297"	8"	6078K23	16.48
1 1/4"	0.297"	8"	6078K24	18.62
1 1/2"	0.297"	8"	6078K25	20.80
2"	0.297"	8"	6078K26	25.20
2 1/4"	0.297"	8"	6078K27	27.25
2 1/2"	0.297"	8"	6078K28	29.57
2 3/4"	0.297"	8"	6078K29	31.80
3"	0.297"	8"	6078K31	33.83
4"	0.297"	8"	6078K32	42.60
6"	0.297"	8"	6078K34	67.65
Heavy Duty				
1 Ply				
1/2"	0.156"	3"	6076K51	4.95
1/2"	0.188"	5"	6076K11	5.45
3/4"	0.156"	3"	6076K52	7.47
3/4"	0.188"	5"	6076K12	7.87
1"	0.156"	3"	6076K41	8.61
1"	0.188"	5"	6076K13	9.53

Wd.	Thick.	Min. Pulley Dia.		Per Ft.
Heavy Duty (Cont.)				
1 Ply (Cont.)				
1 1/4"	0.156"	3"	6076K42	$9.74
1 1/4"	0.188"	5"	6076K14	10.89
1 1/2"	0.156"	3"	6076K43	10.89
1 1/2"	0.188"	5"	6076K15	12.24
2"	0.156"	3"	6076K56	13.26
2"	0.188"	5"	6076K16	14.97
2 1/2"	0.156"	3"	6076K57	15.47
2 1/2"	0.188"	5"	6076K17	17.68
3"	0.156"	3"	6076K58	19.05
3"	0.188"	5"	6076K18	20.34
4"	0.156"	3"	6076K59	22.37
4"	0.188"	5"	6076K19	27.24
6"	0.156"	3"	6076K62	31.50
6"	0.188"	5"	6076K22	36.76
2 Ply				
1/2"	0.219"	5"	6081K38	12.10
1/2"	0.266"	6"	6080K37	12.60
1/2"	0.344"	12"	6081K47	12.93
3/4"	0.219"	5"	6081K39	14.28
3/4"	0.266"	6"	6080K38	14.28
3/4"	0.344"	12"	6081K48	15.52
1"	0.219"	5"	6081K11	16.45
1"	0.266"	6"	6080K11	16.45
1"	0.344"	12"	6081K26	19.60
1 1/4"	0.219"	5"	6081K12	18.62
1 1/4"	0.266"	6"	6080K12	18.62
1 1/4"	0.344"	12"	6081K27	20.77
1 1/2"	0.219"	5"	6081K13	20.80
1 1/2"	0.266"	6"	6080K13	20.80

Wd.	Thick.	Min. Pulley Dia.		Per Ft.
Heavy Duty (Cont.)				
2 Ply (Cont.)				
1 1/2"	0.344"	12"	6081K28	$23.27
2"	0.219"	5"	6081K14	24.45
2"	0.266"	6"	6080K14	24.45
2"	0.344"	12"	6081K29	30.25
2 1/2"	0.219"	5"	6081K15	29.57
2 1/2"	0.266"	6"	6080K16	29.57
2 1/2"	0.344"	12"	6081K31	33.67
3"	0.219"	5"	6081K16	33.83
3"	0.266"	6"	6080K17	33.83
3"	0.344"	12"	6081K32	38.80
4"	0.219"	5"	6081K17	42.60
4"	0.266"	6"	6080K19	42.60
4"	0.344"	12"	6081K33	49.22
6"	0.219"	5"	6081K19	59.90
6"	0.266"	6"	6080K22	59.90
6"	0.344"	12"	6081K35	69.90
High Speed				
3 Ply				
1/2"	0.17"	3.3"	6355K31	3.78
3/4"	0.17"	3.3"	6355K32	5.63
1"	0.17"	3.3"	6355K33	7.47
1 1/4"	0.17"	3.3"	6355K34	9.33
1 1/2"	0.17"	3.3"	6355K35	11.23
2"	0.17"	3.3"	6355K36	14.95
2 1/2"	0.17"	3.3"	6355K37	18.80
3"	0.17"	3.3"	6355K38	22.47
3 1/2"	0.17"	3.3"	6355K39	26.12
4"	0.17"	3.3"	6355K41	29.95

V-Belting

Create custom V-belt sizes with this urethane V-belting. It's made from FDA-listed material for use with food and beverage and is chemical and abrasion resistant. This belting is commonly used for light to medium duty power transmission and conveying. To join ends, use a welding kit (see 62065K41 on page 1113).

Profile-Top V-Belting—Specially shaped tops carry materials in conveying applications.

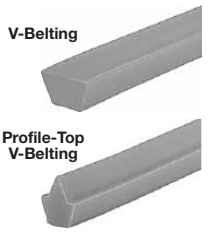

V-Belting

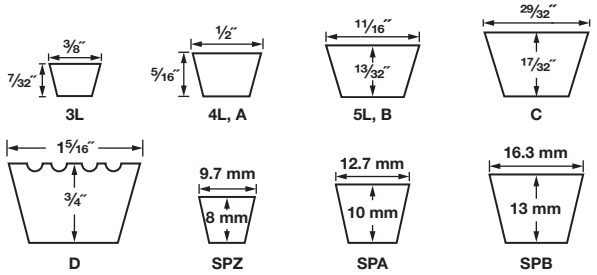

Belt Type	Orange Min. Pulley Dia.	Orange	Orange Per Ft.	Clear Min. Pulley Dia.	Clear	Clear Per Ft.
Inch						
3L	1 3/4″	59735K11	$1.85	2 3/16″	59735K21	$1.85
4L, A	2 1/2″	59735K12	2.75	3 1/8″	59735K22	2.75
5L, B	3 1/4″	59735K13	4.83	4 1/8″	59735K23	4.83
C	4 1/4″	59735K14	7.45	5 5/16″	59735K24	7.45
D	6″	59735K15	20.05			
Twin 3L	2 1/8″	59735K16	4.35			
Twin A	2 1/2″	59735K17	6.34			
Metric						
SPZ	47 mm	1094N41	3.20			
SPA	63 mm	1094N42	4.65			
SPB	82 mm	1094N43	7.51			

Profile-Top V-Belting

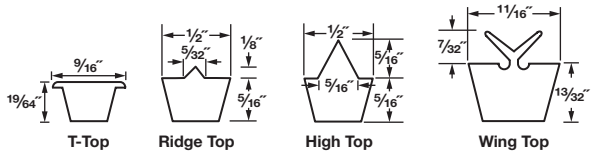

Belt Type	Profile	Min. Pulley Dia.	Orange	Orange Per Ft.
Inch				
3L	T-Top	2 3/8″	7886K21	$2.91
4L, A	Ridge Top	3 1/2″	7886K22	4.39
4L, A	High Top	5″	7886K23	4.40
5L, B	Wing Top	3 1/4″	1371K11	5.96

V-Belts for Variable-Speed Pulleys

A wide profile allows these belts to ride up and down the groove in variable-speed pulleys to handle a wide range of speed ratios. Notches increase flexibility for bending around small-diameter pulleys. Belts are neoprene with polyester reinforcing cords. Color is black.

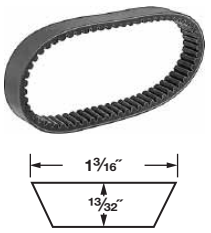

Trade Size	Outer Circle		
1922V256	26.2″	7885K11	$55.62
1922V277	28.4″	7885K12	56.23
1922V298	30.4″	7885K13	57.68
1922V302	30.8″	7885K14	58.40
1922V321	32.7″	7885K15	60.27
1922V338	34.4″	7885K17	61.82
1922V363	36.9″	7885K18	63.29
1922V386	39.2″	7885K19	66.05
1922V403	40.9″	7885K22	67.30
1922V417	42.3″	7885K23	67.54
1922V426	43.2″	7885K24	68.02
1922V443	44.9″	7885K25	68.94
1922V454	46″	7885K26	69.79
1922V484	49″	7885K28	71.79
1922V544	55″	7885K31	74.59
1922V604	61″	7885K32	77.56

Adjustable-Length V-Belting

Quickly increase or reduce belt length. This belting is often used to make replacement V-belts.

Screw Connect—Cut this perforated belting to length and screw the steel connectors (sold separately below) into the holes. Color is green.

Link Connect—Add or remove links to change belt length without dismantling your drive.

Twist-lock belting has tabbed links that twist together to form a belt. Color is red.

Static-control twist-lock belting limits static electricity discharge for hazardous applications such as fuel transfer and solar-cell manufacturing. Color is blue.

Grip-top twist-lock belting has a textured PVC top layer for conveying material in slippery environments or up steep inclines. Belt type A is purple and green. Belt types B and C are red and green.

Press-lock belting has links with steel rivets that press together; use the installation tool (sold separately below) to easily add and remove links. Color is orange.

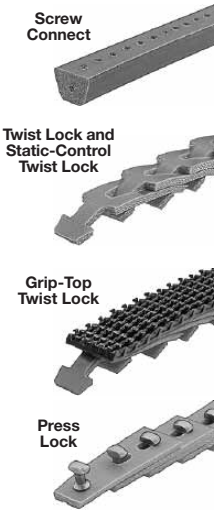

Screw Connect—Neoprene

Wd.	Thick.	Belting Per Ft.	Connectors Pkg. of 10	
1/2″	11/32″	6176K71	$5.26	6176K16 $18.70
21/32″	7/16″	6176K81	7.05	6176K17 25.17
7/8″	9/16″	6176K91	10.71	6176K29 27.74

Link Connect—Polyurethane and Polyester

Belt Type	Top Wd.	Thick.	Approx. links/ft.		Per Ft.
Twist Lock					
3L	3/8″	13/32″	19	6173K36	$10.75
4L, A	1/2″	7/16″	16	6173K37	10.90
5L, B	5/8″	19/32″	13	6173K38	12.69
AA	1/2″	7/16″	17	6173K51	11.99
BB	5/8″	19/32″	13	6173K52	13.92
C	7/8″	7/8″	10	6173K39	19.96
CC	7/8″	3/4″	10	6173K53	21.08
D	1 1/4″	1 1/4″	8	6173K41	33.38
Static-Control Twist Lock					
A	1/2″	1/2″	17	1097N11	12.54
B	5/8″	17/32″	13	1097N12	15.19
Grip-Top Twist Lock					
A	1/2″	9/16″	13	6173K11	28.25
B	5/8″	23/32″	13	6173K12	31.63
C	7/8″	7/8″	9	6173K13	49.56
Press Lock					
3L, O	3/8″	1/2″	14	6198K63	17.68
4L, A	1/2″	19/32″	14	6198K65	18.00
5L, B	21/32″	21/32″	12	6198K66	20.92
C	7/8″	3/4″	9	6198K67	31.68
SPZ	10 mm	15 mm	13	6198K41	20.97
SPA	13 mm	15 mm	13	6198K42	20.97
SPB	17 mm	15 mm	13	6198K43	23.23
Installation Tool for Press-Lock Belting				6198K85	18.54

V-Belts

These chemical- and abrasion-resistant urethane V-belts are often used in light to medium duty power-transmission and conveying applications. They are made from FDA-listed material for use with food and beverage. Color is orange.



To Order: Please specify outer circle (OC) in 1/4″ increments.

Belt Type	Min. Pulley Dia.		Per Inch
Inch			
3L	1 3/4″	59735K31	$0.71
4L, A	2 1/2″	59735K32	1.06
5L, B	3 1/4″	59735K33	1.61
C	4 1/2″	59735K34	2.92
Metric			
SPZ	47 mm	59735K41	1.98
SPA	63 mm	59735K42	2.88
SPB	82 mm	59735K43	4.61

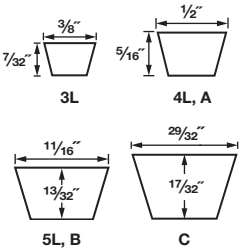

2L-, 3L-, 4L-, and 5L-Section V-Belts



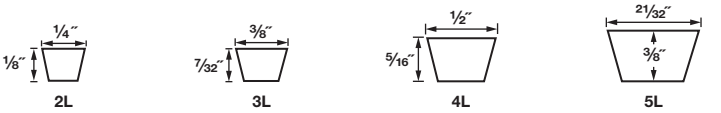

Commonly used on light duty drives with fractional-horsepower motors, these belts are rubber with polyester reinforcing cords. Color is black.

Trade Size	Outer Circle		
2L-Section V-Belts			
2L100	10″	7881K11	$5.92
2L110	11″	7881K12	5.92
2L120	12″	7881K13	5.92
2L130	13″	7881K14	5.92
2L140	14″	7881K15	5.92
2L150	15″	7881K16	5.92
2L160	16″	7881K17	5.92
2L170	17″	7881K18	5.92
2L180	18″	7881K19	5.92
2L190	19″	7881K21	5.92
2L200	20″	7881K22	5.92
2L210	21″	7881K23	5.92
2L230	23″	7881K24	5.92
2L240	24″	7881K25	5.92
2L250	25″	7881K26	5.92
2L260	26″	7881K27	6.05
2L270	27″	7881K28	6.17
2L280	28″	7881K29	6.22
2L290	29″	7881K31	6.31
2L310	31″	7881K32	6.50
2L340	34″	7881K33	6.75
2L350	35″	7881K34	6.99
2L360	36″	7881K35	7.07
2L380	38″	7881K36	7.37
3L-Section V-Belts			
3L110	11″	6190K11	6.09
3L120	12″	6190K12	6.09
3L130	13″	6190K13	6.09
3L140	14″	6190K14	6.09
3L150	15″	6190K15	6.09
3L160	16″	6190K16	6.09
3L170	17″	6190K17	6.09
3L180	18″	6190K18	6.09
3L190	19″	6190K19	6.09
3L200	20″	6190K21	6.09
3L210	21″	6190K22	6.09
3L220	22″	6190K23	6.09
3L230	23″	6190K24	6.09
3L240	24″	6190K25	6.09
3L245	24 1/2″	6190K26	6.71
3L250	25″	6190K27	6.09
3L255	25 1/2″	6190K28	6.19
3L260	26″	6190K29	6.21
3L265	26 1/2″	6190K33	6.23
3L270	27″	6190K31	6.23
3L275	27 1/2″	6190K39	6.19
3L280	28″	6190K32	6.19
3L285	28 1/2″	6190K42	6.17
3L290	29″	6190K34	6.17
3L293	29 3/16″	6190K49	6.19
3L300	30″	6190K36	6.26
3L310	31″	6190K37	6.64
3L320	32″	6190K38	6.79
3L330	33″	6190K41	6.92
3L340	34″	6190K43	6.96
3L345	34 3/16″	6190K44	7.09
3L350	35″	6190K45	7.15
3L360	36″	6190K47	7.24
3L370	37″	6190K48	7.36
3L380	38″	6190K51	7.55
3L390	39″	6190K52	7.73
3L400	40″	6190K53	7.82
3L410	41″	6190K54	8.00
3L415	41 1/2″	6190K55	8.12
3L420	42″	6190K56	8.15
3L430	43″	6190K57	8.22
3L440	44″	6190K58	8.32
3L450	45″	6190K59	8.48
3L460	46″	6190K61	8.56
3L470	47″	6190K62	8.74

Trade Size	Outer Circle		
3L-Section V-Belts (Cont.)			
3L480	48″	6190K63	$8.81
3L490	49″	6190K64	8.91
3L500	50″	6190K66	9.06
3L510	51″	6190K67	9.11
3L520	52″	6190K68	9.22
3L530	53″	6190K69	9.45
3L540	54″	6190K71	9.57
3L550	55″	6190K89	9.10
3L560	56″	6190K73	9.65
3L570	57″	6190K74	9.91
3L580	58″	6190K75	9.98
3L590	59″	6190K77	9.99
3L600	60″	6190K78	10.08
3L610	61″	6190K79	10.19
3L620	62″	6190K81	10.32
3L630	63″	6190K82	10.45
3L640	64″	6190K91	10.03
3L650	65″	6190K83	10.74
3L660	66″	6190K84	10.80
3L670	67″	6190K85	10.90
3L675	67 1/2″	6190K86	11.07
3L680	68″	6190K87	11.11
3L690	69″	6190K88	11.16
3L700	70″	6190K92	10.80
3L710	71″	6190K93	16.16
3L730	73″	6190K94	16.77
3L740	74″	6190K95	17.13
4L-Section V-Belts			
4L150	15″	6191K41	6.15
4L160	16″	6191K52	6.15
4L170	17″	6191K59	6.15
4L180	18″	6191K12	6.15
4L188	18 11/16″	6191K65	6.15
4L190	19″	6191K96	6.15
4L200	20″	6191K13	6.15
4L210	21″	6191K97	6.15
4L215	21 1/2″	6191K68	6.15
4L220	22″	6191K14	6.15
4L230	23″	6191K15	6.15
4L235	23 1/2″	6191K73	6.15
4L240	24″	6191K16	6.15
4L250	25″	6191K17	6.15
4L255	25 1/2″	6191K72	6.25
4L260	26″	6191K18	6.25
4L270	27″	6191K19	6.35
4L275	27 1/2″	6191K75	6.45
4L280	28″	6191K21	6.45
4L285	28 1/2″	6191K22	6.55
4L290	29″	6191K23	6.55
4L295	29 1/2″	6191K78	6.62
4L300	30″	6191K24	6.62
4L310	31″	6191K25	6.75
4L318	31 11/16″	6191K79	6.85
4L320	32″	6191K98	6.85
4L328	32 11/16″	6191K81	6.92
4L330	33″	6191K26	6.92
4L333	33 3/16″	6191K82	7.08
4L338	33 11/16″	6191K83	7.08
4L340	34″	6191K27	7.08
4L346	34 1/2″	6191K85	7.20
4L350	35″	6191K28	7.20
4L360	36″	6191K29	7.35
4L370	37″	6191K31	7.42
4L380	38″	6191K32	7.57
4L390	39″	6191K33	7.80
4L400	40″	6191K34	7.90
4L405	40 1/2″	6191K86	8.07
4L410	41″	6191K99	8.07
4L420	42″	6191K35	8.18
4L430	43″	6191K36	8.32

Trade Size	Outer Circle		
4L-Section V-Belts (Cont.)			
4L440	44″	6191K37	$8.53
4L450	45″	6191K38	8.68
4L460	46″	6191K39	8.78
4L470	47″	6191K101	8.85
4L475	47 1/2″	6191K87	8.93
4L480	48″	6191K42	8.93
4L490	49″	6191K43	9.03
4L500	50″	6191K44	9.10
4L510	51″	6191K102	9.25
4L520	52″	6191K45	9.32
4L530	53″	6191K46	9.43
4L540	54″	6191K47	9.50
4L550	55″	6191K103	9.62
4L560	56″	6191K48	9.75
4L570	57″	6191K49	9.88
4L580	58″	6191K51	9.95
4L590	59″	6191K92	10.05
4L600	60″	6191K53	10.20
4L610	61″	6191K88	10.28
4L620	62″	6191K54	10.40
4L630	63″	6191K89	10.55
4L640	64″	6191K55	10.68
4L650	65″	6191K56	10.82
4L660	66″	6191K91	10.90
4L670	67″	6191K58	11.00
4L680	68″	6191K104	11.15
4L690	69″	6191K93	11.32
4L700	70″	6191K61	11.40
4L710	71″	6191K94	11.65
4L720	72″	6191K62	11.90
4L730	73″	6191K1	11.97
4L740	74″	6191K2	12.05
4L750	75″	6191K64	12.12
4L760	76″	6191K3	12.25
4L770	77″	6191K4	12.38
4L780	78″	6191K66	12.57
4L790	79″	6191K67	12.78
4L800	80″	6191K5	13.00
4L810	81″	6191K6	13.18
4L820	82″	6191K69	13.37
4L830	83″	6191K7	13.57
4L840	84″	6191K71	13.78
4L850	85″	6191K8	13.95
4L860	86″	6191K9	14.18
4L870	87″	6191K105	14.35
4L880	88″	6191K74	14.57
4L890	89″	6191K106	14.75
4L900	90″	6191K107	14.97
4L910	91″	6191K95	15.15
4L920	92″	6191K76	15.38
4L930	93″	6191K108	15.55
4L940	94″	6191K77	15.70
4L950	95″	6191K111	15.88
4L960	96″	6191K112	16.05
4L970	97″	6191K113	16.20
4L980	98″	6191K114	16.35
4L990	99″	6191K115	16.55
4L1000	100″	6191K84	16.68
5L-Section V-Belts			
5L230	23″	6192K15	8.14
5L240	24″	6192K19	8.25
5L250	25″	6192K32	8.36
5L260	26″	6192K48	8.70
5L265	26 1/2″	6192K51	8.96
5L270	27″	6192K52	9.03
5L280	28″	6192K13	8.73
5L290	29″	6192K41	8.28
5L300	30″	6192K14	9.11
5L310	31″	6192K42	9.32
5L320	32″	6192K16	8.82

Trade Size	Outer Circle		
5L-Section V-Belts (Cont.)			
5L330	33″	6192K43	$9.03
5L340	34″	6192K17	9.25
5L350	35″	6192K18	9.35
5L355	35 1/2″	6192K53	9.57
5L360	36″	6192K44	9.82
5L370	37″	6192K45	9.95
5L380	38″	6192K21	10.15
5L390	39″	6192K54	10.74
5L400	40″	6192K22	10.87
5L410	41″	6192K55	11.18
5L420	42″	6192K23	11.44
5L430	43″	6192K46	11.69
5L440	44″	6192K24	11.95
5L450	45″	6192K47	12.21
5L460	46″	6192K25	12.44
5L470	47″	6192K56	12.69
5L480	48″	6192K26	12.97
5L490	49″	6192K57	13.92
5L500	50″	6192K27	14.14
5L510	51″	6192K58	14.35
5L520	52″	6192K28	14.57
5L530	53″	6192K59	14.78
5L540	54″	6192K29	15.00
5L550	55″	6192K61	15.16
5L560	56″	6192K31	15.24
5L570	57″	6192K62	15.43
5L580	58″	6192K49	15.51
5L590	59″	6192K63	15.65
5L600	60″	6192K33	15.76
5L610	61″	6192K64	15.84
5L620	62″	6192K34	15.95
5L630	63″	6192K65	16.05
5L640	64″	6192K35	16.30
5L650	65″	6192K66	16.49
5L660	66″	6192K36	16.70
5L670	67″	6192K67	16.92
5L680	68″	6192K37	17.16
5L690	69″	6192K68	17.35
5L700	70″	6192K38	17.51
5L710	71″	6192K69	17.68
5L720	72″	6192K39	17.89
5L730	73″	6192K71	18.16
5L740	74″	6192K72	18.35
5L750	75″	6192K73	18.59
5L760	76″	6192K74	18.81
5L770	77″	6192K75	19.05
5L780	78″	6192K76	19.30
5L790	79″	6192K77	19.54
5L800	80″	6192K78	19.81
5L810	81″	6192K79	20.08
5L820	82″	6192K81	20.35
5L830	83″	6192K82	20.62
5L840	84″	6192K83	20.86
5L850	85″	6192K84	21.43
5L860	86″	6192K85	21.59
5L870	87″	6192K86	21.81
5L880	88″	6192K87	21.95
5L890	89″	6192K88	22.19
5L900	90″	6192K89	22.41
5L910	91″	6192K91	22.59
5L920	92″	6192K92	22.84
5L930	93″	6192K93	23.03
5L940	94″	6192K94	23.35
5L950	95″	6192K95	23.73
5L960	96″	6192K96	24.11
5L970	97″	6192K97	24.38
5L980	98″	6192K98	24.65
5L990	99″	6192K99	24.92
5L1000	100″	6192K7	25.16

A-, B-, and C-Section V-Belts

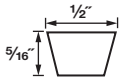

A

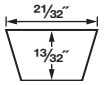

B

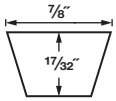

C



For medium and heavy duty drives, these V-belts are rubber with polyester reinforcing cords. Color is black.

Trade Size	Outer Circle		
A-Section V-Belts			
A18	20″	6186K224	$6.33
A19	21″	6186K225	7.20
A20	22″	6186K226	7.20
A21	23″	6186K118	7.20
A22	24″	6186K119	7.20
A23	25″	6186K121	7.20
A24	26″	6186K122	7.68
A25	27″	6186K123	7.81
A26	28″	6186K124	7.95
A27	29″	6186K125	8.05
A28	30″	6186K126	8.16
A29	31″	6186K127	8.27
A30	32″	6186K128	8.41
A31	33″	6186K129	8.54
A32	34″	6186K131	8.73
A33	35″	6186K232	8.84
A34	36″	6186K133	9.03
A35	37″	6186K134	9.14
A36	38″	6186K135	9.32
A37	39″	6186K136	9.57
A38	40″	6186K137	9.76
A39	41″	6186K138	9.95
A40	42″	6186K139	10.05
A41	43″	6186K141	10.27
A42	44″	6186K142	10.49
A43	45″	6186K143	10.68
A44	46″	6186K144	10.78
A45	47″	6186K145	10.92
A46	48″	6186K146	10.97
A47	49″	6186K147	11.11
A48	50″	6186K148	11.22
A49	51″	6186K149	11.35
A50	52″	6186K151	11.43
A51	53″	6186K152	11.59
A52	54″	6186K153	11.70
A53	55″	6186K227	11.84
A54	56″	6186K155	12.03
A55	57″	6186K156	12.14
A56	58″	6186K157	12.24
A57	59″	6186K158	12.35
A58	60″	6186K228	12.57
A59	61″	6186K161	12.68
A60	62″	6186K162	12.81
A61	63″	6186K163	13.00
A62	64″	6186K164	13.11
A63	65″	6186K165	13.30
A64	66″	6186K166	13.41
A65	67″	6186K167	13.54
A66	68″	6186K168	13.73
A67	69″	6186K169	13.89
A68	70″	6186K171	14.03
A69	71″	6186K172	14.32
A70	72″	6186K173	14.65
A71	73″	6186K174	14.76
A72	74″	6186K175	14.84
A73	75″	6186K176	14.95
A74	76″	6186K177	15.05
A75	77″	6186K178	15.24
A76	78″	6186K179	15.49
A77	79″	6186K181	15.73
A78	80″	6186K182	15.97
A79	81″	6186K183	16.22
A80	82″	6186K184	14.16
A81	83″	6186K185	16.70
A82	84″	6186K186	16.95
A83	85″	6186K187	17.16
A84	86″	6186K188	17.43
A85	87″	6186K189	17.68
A86	88″	6186K191	17.92
A87	89″	6186K192	18.16
A88	90″	6186K193	18.41
A89	91″	6186K194	18.65

Trade Size	Outer Circle		
A-Section V-Belts (Cont.)			
A90	92″	6186K195	$18.89
A91	93″	6186K196	19.11
A92	94″	6186K197	19.32
A93	95″	6186K198	19.51
A94	96″	6186K199	19.73
A95	97″	6186K201	19.92
A96	98″	6186K202	20.14
A97	99″	6186K203	20.27
A98	100″	6186K204	20.54
A100	102″	6186K212	20.97
A103	105″	6186K222	21.59
A105	107″	6186K205	21.95
A110	112″	6186K213	23.65
A112	114″	6186K206	24.38
A115	117″	6186K214	21.56
A120	122″	6186K207	22.56
A124	126″	6186K215	27.14
A128	130″	6186K208	28.05
A133	135″	6186K216	29.22
A136	138″	6186K209	25.72
A144	146″	6186K211	27.25
A158	160″	6186K217	34.76
A173	175″	6186K218	38.14
A180	182″	6186K219	39.70
B-Section V-Belts			
B24	27″	6187K255	6.71
B25	28″	6187K256	9.03
B26	29″	6187K257	8.68
B27	30″	6187K258	9.80
B28	31″	6187K117	9.41
B29	32″	6187K118	9.88
B30	33″	6187K119	10.04
B31	34″	6187K121	10.16
B32	35″	6187K122	10.22
B33	36″	6187K123	10.33
B34	37″	6187K124	10.60
B35	38″	6187K125	10.85
B36	39″	6187K126	11.15
B37	40″	6187K127	11.31
B38	41″	6187K128	11.90
B39	42″	6187K129	12.26
B40	43″	6187K131	12.44
B41	44″	6187K132	12.73
B42	45″	6187K133	12.98
B43	46″	6187K134	13.28
B44	47″	6187K135	13.54
B45	48″	6187K136	13.81
B46	49″	6187K137	14.03
B47	50″	6187K138	14.28
B48	51″	6187K139	14.53
B49	52″	6187K141	14.71
B50	53″	6187K142	14.97
B51	54″	6187K143	15.19
B52	55″	6187K144	15.32
B53	56″	6187K145	15.44
B54	57″	6187K146	15.61
B55	58″	6187K147	15.68
B56	59″	6187K148	15.84
B57	60″	6187K149	15.92
B58	61″	6187K151	16.00
B59	62″	6187K152	16.12
B60	63″	6187K153	16.26
B61	64″	6187K154	16.47
B62	65″	6187K155	16.68
B63	66″	6187K156	16.89
B64	67″	6187K157	17.09
B65	68″	6187K158	17.32
B66	69″	6187K159	17.53
B67	70″	6187K161	17.71
B68	71″	6187K162	17.87
B69	72″	6187K163	18.12
B70	73″	6187K164	18.35

Trade Size	Outer Circle		
B-Section V-Belts (Cont.)			
B71	74″	6187K165	$18.58
B72	75″	6187K166	18.80
B73	76″	6187K167	18.98
B74	77″	6187K168	19.28
B75	78″	6187K169	19.50
B76	79″	6187K171	19.75
B77	80″	6187K172	20.03
B78	81″	6187K173	20.28
B79	82″	6187K174	20.58
B80	83″	6187K175	20.86
B81	84″	6187K176	21.14
B82	85″	6187K177	21.64
B83	86″	6187K178	21.81
B84	87″	6187K179	22.02
B85	88″	6187K181	22.19
B86	89″	6187K182	22.44
B87	90″	6187K183	22.65
B88	91″	6187K184	22.82
B89	92″	6187K185	23.07
B90	93″	6187K186	23.28
B91	94″	6187K187	23.63
B92	95″	6187K188	23.98
B93	96″	6187K189	24.31
B94	97″	6187K191	24.62
B95	98″	6187K192	24.99
B96	99″	6187K193	25.17
B97	100″	6187K194	25.46
B98	101″	6187K195	25.83
B99	102″	6187K201	26.02
B100	103″	6187K202	26.14
B101	104″	6187K203	26.31
B102	105″	6187K204	26.43
B103	106″	6187K196	26.55
B104	107″	6187K205	26.88
B105	108″	6187K197	27.05
B106	109″	6187K206	27.71
B108	111″	6187K198	28.03
B110	113″	6187K207	28.57
B112	115″	6187K211	29.26
B114	117″	6187K208	29.51
B115	118″	6187K254	29.68
B116	119″	6187K209	29.86
B118	121″	6187K231	30.28
B120	123″	6187K212	30.85
B122	125″	6187K232	31.50
B124	127″	6187K213	31.93
B126	129″	6187K233	32.86
B128	131″	6187K214	33.00
B130	133″	6187K234	34.45
B131	134″	6187K259	36.13
B133	136″	6187K215	34.68
B136	139″	6187K216	35.29
B138	141″	6187K235	37.11
B140	143″	6187K236	37.23
B142	145″	6187K237	37.29
B144	147″	6187K217	37.37
B146	149″	6187K238	39.66
B148	151″	6187K239	39.88
B150	153″	6187K241	40.08
B152	155″	6187K261	39.90
B154	157″	6187K242	40.37
B158	161″	6187K218	40.61
B162	165″	6187K219	42.24
B166	169″	6187K243	43.98
B173	176″	6187K221	44.39
B180	183″	6187K222	46.57
B188	191″	6187K244	49.69
B190	193″	6187K245	49.99
B195	198″	6187K223	50.34
B205	208″	6187K246	53.17
B210	213″	6187K224	54.14
B225	226″	6187K247	59.70

Trade Size	Outer Circle		
B-Section V-Belts (Cont.)			
B240	241″	6187K226	$61.20
B255	256″	6187K248	71.55
B270	271″	6187K249	76.00
B285	286″	6187K251	80.16
B300	301″	6187K252	84.32
C-Section V-Belts			
C48	52″	65275K71	22.22
C50	54″	65275K72	22.29
C51	55″	65275K11	22.73
C53	57″	65275K73	23.96
C54	58″	65275K74	24.20
C55	59″	65275K12	24.47
C60	64″	65275K13	26.68
C62	66″	65275K14	27.53
C63	67″	65275K76	28.45
C64	68″	65275K15	29.04
C65	69″	65275K77	28.86
C67	71″	65275K78	29.91
C68	72″	65275K16	30.07
C70	74″	65275K79	31.07
C71	75″	65275K17	31.31
C72	76″	65275K18	31.72
C75	79″	65275K19	33.03
C78	82″	65275K21	34.48
C79	83″	65275K22	35.27
C80	84″	65275K81	35.75
C81	85″	65275K23	35.98
C83	87″	65275K82	36.79
C85	89″	65275K24	36.99
C87	91″	65275K83	39.23
C90	94″	65275K25	39.94
C95	99″	65275K86	41.98
C96	100″	65275K26	42.40
C97	101″	65275K27	42.84
C98	102″	65275K28	43.65
C100	104″	65275K29	44.17
C101	105″	65275K31	44.58
C105	109″	65275K32	46.33
C109	113″	65275K33	47.89
C111	115″	65275K34	48.92
C112	116″	65275K35	49.28
C115	119″	65275K36	50.60
C118	122″	65275K37	52.11
C120	124″	65275K38	52.74
C124	128″	65275K39	54.41
C128	132″	65275K41	56.19
C136	140″	65275K42	59.38
C140	144″	65275K43	60.97
C144	148″	65275K44	63.14
C150	154″	65275K45	65.42
C158	162″	65275K46	69.02
C162	166″	65275K47	70.53
C173	177″	65275K48	75.49
C177	181″	65275K49	78.81
C180	186″	65275K51	78.93
C190	194″	65275K52	83.11
C195	199″	65275K53	85.33
C210	214″	65275K54	92.22
C225	227″	65275K55	97.79
C240	242″	65275K56	103.58
C255	257″	65275K57	110.85
C270	272″	65275K58	116.90
C285	287″	65275K59	123.32
C300	302″	65275K61	129.70
C315	317″	65275K62	136.53
C330	332″	65275K63	142.57
C345	347″	65275K64	150.22
C360	362″	65275K65	155.33
C390	392″	65275K66	168.60
C420	422″	65275K67	181.97

AX-, BX-, and CX-Section Cogged V-Belts



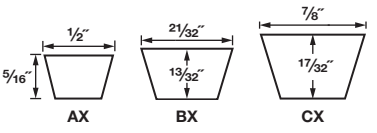

More flexible than smooth V-belts, these have notches that allow them to bend around small-diameter pulleys and accommodate twists and turns on curved drives. They dissipate more heat than A-, B-, and C-section belts for a long service life. These belts are rubber with polyester reinforcing cords. Color is black.

Trade Size	Outer Circle		
AX-Section V-Belts			
AX21	23″	6054K152	$8.25
AX22	24″	6054K101	8.65
AX23	25″	6054K102	9.05
AX24	26″	6054K103	9.18
AX25	27″	6054K153	9.30
AX26	28″	6054K118	9.68
AX27	29″	6054K104	9.82
AX28	30″	6054K105	10.05
AX29	31″	6054K106	10.18
AX30	32″	6054K154	10.07
AX31	33″	6054K119	10.40
AX32	34″	6054K107	10.60
AX33	35″	6054K121	10.80
AX34	36″	6054K122	11.00
AX35	37″	6054K123	11.15
AX36	38″	6054K124	11.35
AX37	39″	6054K125	11.90
AX38	40″	6054K126	12.03
AX39	41″	6054K108	12.20
AX40	42″	6054K109	12.40
AX41	43″	6054K111	12.65
AX42	44″	6054K127	12.78
AX43	45″	6054K128	13.03
AX44	46″	6054K112	13.15
AX45	47″	6054K113	13.28
AX46	48″	6054K129	13.38
AX47	49″	6054K114	13.55
AX48	50″	6054K131	13.70
AX49	51″	6054K115	13.85
AX50	52″	6054K116	13.90
AX51	53″	6054K132	14.12
AX52	54″	6054K161	14.28
AX53	55″	6054K133	14.40
AX54	56″	6054K134	14.65
AX55	57″	6054K135	14.77
AX56	58″	6054K136	14.92
AX57	59″	6054K162	15.10
AX58	60″	6054K163	15.27
AX59	61″	6054K164	15.53
AX60	62″	6054K137	15.60
AX61	63″	6054K165	15.88
AX62	64″	6054K138	15.97
AX63	65″	6054K166	16.25
AX64	66″	6054K139	16.35
AX65	67″	6054K167	16.60
AX66	68″	6054K141	16.73

Trade Size	Outer Circle		
AX-Section V-Belts (Cont.)			
AX67	69″	6054K168	$16.98
AX68	70″	6054K142	17.10
AX69	71″	6054K169	17.48
AX70	72″	6054K143	17.82
AX71	73″	6054K144	18.00
AX72	74″	6054K171	18.25
AX73	75″	6054K172	18.35
AX74	76″	6054K173	18.45
AX75	77″	6054K145	18.57
AX76	78″	6054K174	19.07
AX77	79″	6054K175	19.32
AX78	80″	6054K146	19.48
AX79	81″	6054K176	19.73
AX80	82″	6054K147	20.07
AX81	83″	6054K177	20.30
AX82	84″	6054K178	20.55
AX83	85″	6054K155	21.02
AX85	87″	6054K148	21.55
AX87	89″	6054K181	22.05
AX88	90″	6054K182	22.30
AX90	92″	6054K183	23.05
AX91	93″	6054K184	23.40
AX92	94″	6054K185	23.55
AX93	95″	6054K186	23.80
AX94	96″	6054K158	24.05
AX96	98″	6054K151	24.55
AX98	100″	6054K188	25.02
AX103	105″	6054K189	26.30
AX105	107″	6054K191	26.75
AX110	112″	6054K192	28.85
AX112	114″	6054K193	29.73
AX120	122″	6054K194	31.95
BX-Section V-Belts			
BX24	27″	6057K119	11.38
BX25	28″	6057K177	11.59
BX26	29″	6057K178	11.83
BX27	30″	6057K179	12.01
BX28	31″	6057K111	12.47
BX29	32″	6057K199	13.60
BX30	33″	6057K208	13.78
BX31	34″	6057K112	13.89
BX32	35″	6057K113	14.01
BX33	36″	6057K224	14.16
BX34	37″	6057K114	14.35
BX35	38″	6057K121	14.79
BX36	39″	6057K115	15.24

Trade Size	Outer Circle		
BX-Section V-Belts (Cont.)			
BX37	40″	6057K116	$15.90
BX38	41″	6057K122	16.27
BX39	42″	6057K225	16.60
BX40	43″	6057K117	17.01
BX41	44″	6057K118	17.40
BX42	45″	6057K123	17.72
BX43	46″	6057K181	18.18
BX44	47″	6057K182	18.65
BX45	48″	6057K183	19.02
BX46	49″	6057K124	19.24
BX47	50″	6057K184	19.37
BX48	51″	6057K125	19.85
BX49	52″	6057K185	20.22
BX50	53″	6057K126	20.40
BX51	54″	6057K127	20.73
BX52	55″	6057K128	20.89
BX53	56″	6057K129	21.06
BX54	57″	6057K131	21.31
BX55	58″	6057K132	21.43
BX56	59″	6057K133	21.59
BX57	60″	6057K186	21.70
BX58	61″	6057K187	21.89
BX59	62″	6057K134	22.05
BX60	63″	6057K135	22.22
BX61	64″	6057K136	22.51
BX62	65″	6057K137	22.76
BX63	66″	6057K138	23.05
BX64	67″	6057K139	23.37
BX65	68″	6057K141	23.67
BX66	69″	6057K142	23.94
BX67	70″	6057K143	24.17
BX68	71″	6057K144	24.43
BX69	72″	6057K188	24.76
BX70	73″	6057K145	25.06
BX71	74″	6057K146	25.39
BX72	75″	6057K189	25.72
BX73	76″	6057K191	26.16
BX74	77″	6057K192	26.44
BX75	78″	6057K147	26.61
BX76	79″	6057K193	26.99
BX77	80″	6057K148	27.37
BX78	81″	6057K149	27.73
BX79	82″	6057K151	28.11
BX80	83″	6057K152	28.49
BX81	84″	6057K153	28.89
BX82	85″	6057K154	29.55

Trade Size	Outer Circle		
BX-Section V-Belts (Cont.)			
BX83	86″	6057K155	$29.80
BX84	87″	6057K194	30.17
BX85	88″	6057K156	30.31
BX86	89″	6057K195	30.82
BX87	90″	6057K196	31.03
BX88	91″	6057K197	31.39
BX89	92″	6057K198	31.64
BX90	93″	6057K157	31.78
BX91	94″	6057K201	32.16
BX92	95″	6057K202	32.49
BX93	96″	6057K158	33.30
BX94	97″	6057K203	33.67
BX95	98″	6057K159	34.01
BX96	99″	6057K161	34.39
BX97	100″	6057K162	34.75
BX99	102″	6057K163	35.26
BX100	103″	6057K164	35.52
BX103	106″	6057K165	36.22
BX105	108″	6057K166	36.96
BX106	109″	6057K227	37.75
BX108	111″	6057K204	38.37
BX110	113″	6057K228	38.78
BX112	115″	6057K167	39.94
BX116	119″	6057K169	40.74
BX120	123″	6057K171	42.13
BX124	127″	6057K172	43.64
BX128	131″	6057K207	45.12
BX133	136″	6057K174	47.27
BX136	139″	6057K175	48.21
BX140	143″	6057K209	49.63
BX144	147″	6057K176	51.06
BX150	153″	6057K211	53.77
BX173	176″	6057K214	60.63
CX-Section V-Belts			
CX51	55″	65415K61	31.26
CX68	72″	65415K63	41.43
CX75	79″	65415K64	45.55
CX85	89″	65415K66	49.74
CX90	94″	65415K67	53.68
CX96	100″	65415K68	57.02
CX105	109″	65415K69	60.88
CX112	116″	65415K72	64.71
CX120	124″	65415K74	67.65
CX144	148″	65415K77	80.91

A- and B-Section Precision-Matched V-Belts



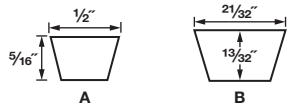

Ensure even load distribution on drives with multiple belts. These are matched to the trade size within a tight tolerance for better performance and reduced wear compared to standard A- and B-section V-belts. They are rubber with polyester reinforcing cords. Color is black.

Trade Size	Outer Circle		
A-Section V-Belts			
A24	26″	7821T11	$8.45
A25	27″	7821T12	8.60
A26	28″	7821T13	8.76
A27	29″	7821T14	8.88
A28	30″	7821T15	9.00
A30	32″	7821T16	9.26
A31	33″	7821T17	9.40
A32	34″	7821T18	9.62
A33	35″	7821T19	9.74
A34	36″	7821T21	9.95
A35	37″	7821T22	10.07
A36	38″	7821T23	10.26
A39	41″	7821T24	10.95
A40	42″	7821T25	11.07
A41	43″	7821T26	11.30
A42	44″	7821T27	11.54

Trade Size	Outer Circle		
A-Section V-Belts (Cont.)			
A43	45″	7821T28	$11.76
A44	46″	7821T29	11.88
A45	47″	7821T31	12.02
A46	48″	7821T32	12.10
A47	49″	7821T33	12.24
A48	50″	7821T34	12.36
A49	51″	7821T35	12.50
A50	52″	7821T36	12.60
A51	53″	7821T41	12.76
A52	54″	7821T42	12.88
A53	55″	7821T43	13.05
A54	56″	7821T44	13.24
A55	57″	7821T45	13.36
A56	58″	7821T46	13.48
A58	60″	7821T47	13.84
A60	62″	7821T48	14.12

Trade Size	Outer Circle		
B-Section V-Belts			
B50	53″	7899K51	$18.55
B52	55″	7899K52	19.02
B55	58″	7899K53	19.47
B60	63″	7899K54	20.15
B63	66″	7899K11	20.96
B64	67″	7899K12	21.22
B65	68″	7899K13	21.50
B66	69″	7899K14	21.76
B67	70″	7899K15	21.98
B68	71″	7899K16	22.17
B69	72″	7899K17	22.46
B70	73″	7899K18	22.76
B71	74″	7899K19	23.05
B72	75″	7899K21	23.31
B73	76″	7899K22	23.57
B74	77″	7899K23	23.90

Trade Size	Outer Circle		
B-Section V-Belts (Cont.)			
B75	78″	7899K24	$24.16
B76	79″	7899K25	24.53
B77	80″	7899K26	24.86
B78	81″	7899K27	25.21
B79	82″	7899K28	25.50
B80	83″	7899K29	25.86
B81	84″	7899K31	26.21
B82	85″	7899K32	26.86
B83	86″	7899K33	27.05
B84	87″	7899K34	27.33
B85	88″	7899K35	27.53
B86	89″	7899K36	27.83
B87	90″	7899K37	28.09
B88	91″	7899K38	28.34
B89	92″	7899K39	28.60
B90	93″	7899K41	28.88

Banded A- and B-Section V-Belts

Also known as serpentine belts, these have multiple bands that function as a single unit for consistent drive performance and even load distribution. They handle shock loads better than individual belts. These belts are rubber with polyester reinforcing cords. Color is black.

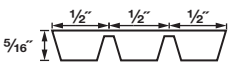

3-Band A

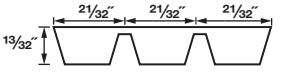

3-Band B


3-Band Belt

To Order: Please specify number of bands: 2, 3, 4, or 5.

Trade Size	Outer Circle		Per Band
A-Section V-Belts			
A42	44″	1093N11	$12.03
A43	45″	1093N12	12.26
A44	46″	1093N13	12.42
A46	48″	1093N14	12.59
A47	49″	1093N15	12.11
A48	50″	1093N16	12.86
A49	51″	1093N17	13.00
A51	53″	1093N18	13.29
A53	55″	1093N19	13.56
A54	56″	1093N21	13.78
A55	57″	1093N22	13.92
A56	58″	1093N23	14.04
A57	59″	1093N24	14.19
A58	60″	1093N25	14.41
A60	62″	1093N26	14.68
A62	64″	1093N27	15.04
A64	66″	1093N28	15.37
A65	67″	1093N29	15.52
A-Section V-Belts (Cont.)			
A68	70″	1093N32	$16.06
A70	72″	1093N33	16.79
A71	73″	1093N34	16.92
A74	76″	1093N35	17.27
A75	77″	1093N36	17.48
A77	79″	1093N37	17.94
A78	80″	1093N38	18.25
A80	82″	1093N39	18.88
B-Section V-Belts			
B42	45″	7888K13	16.79
B46	49″	7888K15	18.23
B48	51″	7888K16	18.79
B50	53″	7888K17	19.33
B51	54″	7888K18	19.59
B55	58″	7888K22	20.31
B58	61″	7888K25	21.76
B60	63″	7888K27	22.10
B62	65″	7888K29	22.61
B-Section V-Belts (Cont.)			
B64	67″	7888K31	$22.13
B67	70″	7888K34	23.09
B70	73″	7888K36	23.81
B71	74″	7888K37	24.26
B72	75″	7888K38	24.29
B73	76″	7888K39	24.58
B74	77″	7888K4	25.20
B75	78″	7888K41	25.45
B78	81″	7888K43	26.52
B79	82″	7888K44	26.60
B80	83″	7888K45	26.97
B81	84″	7888K46	27.30
B82	85″	7888K47	28.41
B83	86″	7888K48	28.21
B85	88″	7888K49	28.99
B87	90″	7888K5	29.28
B90	93″	7888K52	30.40
B93	96″	7888K53	31.81
B-Section V-Belts (Cont.)			
B95	98″	7888K54	$32.55
B96	99″	7888K55	32.54
B97	100″	7888K56	32.91
B99	102″	7888K57	33.74
B100	103″	7888K58	33.62
B103	106″	7888K59	34.30
B105	108″	7888K6	35.37
B108	111″	7888K61	36.27
B112	115″	7888K62	37.82
B120	123″	7888K63	39.94
B124	127″	7888K64	41.30
B128	131″	7888K65	42.72
B133	136″	7888K66	44.80
B136	139″	7888K67	45.63
B144	147″	7888K68	48.31
B148	151″	7888K69	51.97
B150	153″	7888K7	49.86
B158	161″	7888K71	53.06

High-Capacity Narrow-Wedge 3V-, 3VX-, 5V-, and 5VX-Section V-Belts

A narrow belt profile transmits up to three times the horsepower of A-, B-, and C-section V-belts for use on heavy duty drives with shock loads. These belts are rubber with polyester reinforcing cords. Color is black.

Cogged 3VX and **5VX belts** have notches that increase flexibility for bending around small-diameter pulleys and dissipate heat for a long service life.


3V and 5V


Cogged 3VX and 5VX

Trade Size	Outer Circle		
3V-Section Belts			
3V250	25″	6230K11	$11.60
3V265	26.5″	6230K12	11.90
3V280	28″	6230K13	12.20
3V300	30″	6230K14	12.50
3V315	31.5″	6230K15	13.10
3V335	33.5″	6230K16	13.38
3V355	35.5″	6230K17	13.97
3V375	37.5″	6230K18	14.28
3V400	40″	6230K19	15.17
3V425	42.5″	6230K21	15.78
3V450	45″	6230K22	16.38
3V475	47.5″	6230K23	16.95
3V500	50″	6230K24	17.27
3V530	53″	6230K25	17.88
3V560	56″	6230K26	18.43
3V600	60″	6230K27	19.32
3V630	63″	6230K28	19.95
3V670	67″	6230K29	20.82
3V710	71″	6230K31	22.02
3V750	75″	6230K32	23.23
3V800	80″	6230K33	24.70
3V850	85″	6230K34	26.48
3V900	90″	6230K35	28.55
3V950	95″	6230K36	30.05
3V1000	100″	6230K37	31.85
3V1060	106″	6230K38	33.62
3V1120	112″	6230K39	36.60
Cogged 3VX-Section Belts			
3VX250	25″	65355K11	11.57
3VX265	26.5″	65355K12	11.90
3VX280	28″	65355K13	12.15
3VX300	30″	65355K14	12.40
3VX315	31.5″	65355K15	13.07
3VX335	33.5″	65355K16	13.35
3VX355	35.5″	65355K17	13.95
3VX375	37.5″	65355K18	14.25
3VX400	40″	65355K19	15.12
3VX425	42.5″	65355K21	15.72
3VX450	45″	65355K22	16.32
3VX475	47.5″	65355K23	16.93
3VX500	50″	65355K24	17.23
3VX530	53″	65355K25	17.80
3VX560	56″	65355K26	18.38
3VX600	60″	65355K27	19.27
3VX630	63″	65355K28	19.90
Cogged 3VX-Section Belts (Cont.)			
3VX670	67″	65355K29	$20.77
3VX710	71″	65355K31	21.98
3VX750	75″	65355K32	23.15
3VX800	80″	65355K33	24.65
3VX850	85″	65355K34	26.40
3VX900	90″	65355K35	28.47
3VX950	95″	65355K36	29.95
3VX1000	100″	65355K37	31.75
3VX1060	106″	65355K38	33.52
3VX1120	112″	65355K39	36.50
3VX1180	118″	65355K41	38.88
3VX1250	125.4″	65355K42	45.45
3VX1320	132.4″	65355K43	48.07
3VX1400	140.4″	65355K44	50.98
3VX1500	150.4″	65355K45	54.55
5V-Section Belts			
5V500	50″	65285K21	37.47
5V560	56″	65285K22	40.81
5V600	60″	65285K68	45.63
5V630	63″	65285K23	46.29
5V670	67″	65285K24	49.36
5V710	71″	65285K25	52.39
5V750	75″	65285K26	55.42
5V800	80″	65285K27	59.05
5V850	85″	65285K28	63.63
5V900	90″	65285K29	66.04
5V950	95″	65285K31	70.96
5V1000	100″	65285K32	71.36
5V1060	106″	65285K33	79.50
5V1120	112″	65285K34	83.99
5V1180	118″	65285K35	88.59
5V1250	125″	65285K36	94.09
5V1320	132″	65285K37	99.28
5V1400	140″	65285K38	104.73
5V2120	212″	65285K46	161.09
5V2240	224″	65285K47	170.51
Cogged 5VX-Section Belts			
5VX450	45″	65355K511	32.95
5VX470	47″	65355K512	34.30
5VX490	49″	65355K513	35.77
5VX500	50″	65355K514	36.50
5VX510	51″	65355K515	37.23
5VX530	53″	65355K516	38.00
5VX540	54″	65355K517	38.70
5VX550	55″	65355K518	39.42
Cogged 5VX-Section Belts (Cont.)			
5VX560	56″	65355K519	$39.77
5VX570	57″	65355K521	40.50
5VX580	58″	65355K522	41.60
5VX590	59″	65355K523	42.33
5VX600	60″	65355K524	43.02
5VX610	61″	65355K525	43.73
5VX630	63″	65355K526	45.08
5VX650	65″	65355K527	46.65
5VX660	66″	65355K528	47.37
5VX670	67″	65355K529	48.08
5VX680	68″	65355K531	48.77
5VX690	69″	65355K532	49.50
5VX710	71″	65355K533	51.02
5VX730	73″	65355K534	52.48
5VX740	74″	65355K535	53.20
5VX750	75″	65355K536	54.02
5VX780	78″	65355K537	56.75
5VX800	80″	65355K538	57.57
5VX810	81″	65355K539	58.30
5VX830	83″	65355K541	59.75
5VX840	84″	65355K542	61.30
5VX850	85″	65355K543	62.02
5VX860	86″	65355K544	62.75
5VX880	88″	65355K545	63.58
5VX900	90″	65355K546	64.40
5VX930	93″	65355K547	67.67
5VX950	95″	65355K548	69.15
5VX960	96″	65355K549	71.08
5VX1000	100″	65355K551	73.00
5VX1030	103″	65355K552	75.17
5VX1060	106″	65355K553	77.45
5VX1080	108″	65355K554	78.90
5VX1120	112″	65355K555	81.90
5VX1150	115″	65355K556	84.10
5VX1180	118″	65355K557	86.35
5VX1230	123″	65355K558	90.17
5VX1250	125″	65355K559	91.70
5VX1320	132″	65355K561	96.75
5VX1400	140″	65355K562	102.08
5VX1500	150″	65355K563	109.77
5VX1600	160″	65355K564	117.22
5VX1700	170″	65355K565	124.65
5VX1800	180″	65355K566	132.35
5VX1900	190″	65355K567	140.07
5VX2000	200″	65355K568	147.75

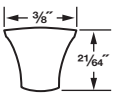

3V

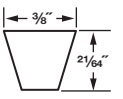

Cogged 3VX

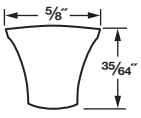

5V

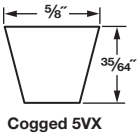

Cogged 5VX

Ultra-Flexible J-Section V-Belts



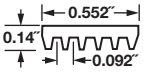

6-Band Belt

An extremely thin profile gives these belts the flexibility to bend around small-diameter pulleys. They are banded to provide extra surface contact for handling high speed ratios. Belts are rubber with polyester reinforcing cords. Color is black.

Outer Circle	4 Bands—0.368″ Wd. Trade Size			6 Bands—0.552″ Wd. Trade Size			8 Bands—0.736″ Wd. Trade Size			10 Bands—0.920″ Wd. Trade Size		
18.3″	180J4	9003K41	$9.59	180J6	9003K72	$14.43	180J8	9003K85	$19.22	180J10	9003K101	$23.99
20.3″	200J4	9003K43	9.59	200J6	9003K11	14.42	200J8	9003K87	19.22	200J10	9003K103	23.99
22.3″	220J4	9003K44	9.59	220J6	9003K12	14.42	220J8	9003K28	19.21	220J10	9003K104	23.99
24.3″	240J4	9003K45	9.59	240J6	9003K13	14.42	240J8	9003K88	19.22	240J10	9003K105	23.99
26.3″	260J4	9003K46	9.76	260J6	9003K14	14.98	260J8	9003K89	19.98	260J10	9003K106	24.36
28.3″	280J4	9003K47	10.00	280J6	9003K15	14.98	280J8	9003K91	19.98	280J10	9003K107	24.98
30.3″	300J4	9003K48	10.10	300J6	9003K16	15.12	300J8	9003K29	20.17	300J10	9003K108	25.21
32.3″	320J4	9003K49	10.44	320J6	9003K17	15.64	320J8	9003K92	20.88	320J10	9003K109	26.07
36.3″	360J4	9003K52	10.57	360J6	9003K19	15.90	360J8	9003K94	21.16	360J10	9003K33	26.48
38.3″	380J4	9003K53	10.66	380J6	9003K21	16.05	380J8	9003K95	21.38	380J10	9003K112	26.36
39.3″	390J4	9003K54	10.55	390J6	9003K74	15.53	390J8	9003K96	20.70	390J10	9003K113	27.01
40.3″	400J4	9003K55	10.65	400J6	9003K75	16.38	400J8	9003K97	21.83	400J10	9003K114	27.30
46.3″	460J4	9003K61	11.43	460J6	9003K24	17.11	460J8	9003K32	22.86	460J10	9003K35	28.53
48.3″	480J4	9003K62	11.53	480J6	9003K25	17.28	480J8	9003K1	23.00	480J10	9003K118	28.84
49.3″	490J4	9003K63	11.52	490J6	9003K26	17.29	490J8	9003K2	23.03	490J10	9003K119	28.83
55.3″	550J4	9003K65	12.65	550J6	9003K78	18.93	550J8	9003K4	25.21	550J10	9003K122	31.56

SPZ-, XPZ-, and XPA-Section Metric V-Belts



SPZ



Use these V-belts with metric pulleys. They are rubber with polyester reinforcing cords. Color is black.
Cogged XPZ- and **XPA-section belts** have notches that increase flexibility for bending around small-diameter pulleys and dissipate heat for a long service life.

Trade Size	Outer Circle, mm			Trade Size	Outer Circle, mm			Trade Size	Outer Circle, mm		
SPZ-Section V-Belts				**Cogged XPZ-Section V-Belts**				**Cogged XPA-Section V-Belts**			
SPZ612	625	61875K12	$7.31	XPZ787	787	1088N11	$6.68	XPA1000	1,000	1112N31	$11.61
SPZ762	775	61875K13	7.78	XPZ887	887	1088N12	7.42	XPA1060	1,060	1112N32	12.46
SPZ850	863	61875K14	8.52	XPZ987	987	1088N13	8.45	XPA1150	1,150	1112N33	14.36
SPZ900	913	61875K15	9.24	XPZ1037	1,037	1088N14	8.89	XPA1400	1,400	1112N34	17.60
SPZ1000	1,013	61875K19	9.98	XPZ1237	1,237	1088N17	10.60	XPA1582	1,582	1112N37	21.54
SPZ1060	1,073	61875K21	9.98	XPZ1262	1,262	1088N18	10.94	XPA1600	1,600	1112N38	21.54
SPZ1120	1,133	61875K22	10.34	XPZ1400	1,400	1088N19	12.06	XPA1632	1,632	1112N39	22.89
SPZ1250	1,263	61875K25	10.72	XPZ1700	1,700	1088N22	16.26	XPA1700	1,700	1112N42	22.89

Idler Pulleys

Round-Belt Idler Pulleys



Nylon



Miniature Brass

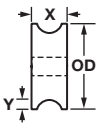

Flat-Belt Idler Pulleys



Nylon



Steel and Cast Iron

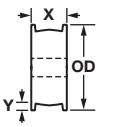

V-Belt Idler Pulleys



Nylon

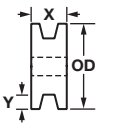

Take up slack and reduce wear and vibration on your drive with these pulleys that maintain constant tension on your belt. Often used with belt tensioners (sold separately on page 1084), they rotate freely on built-in bearings. *Ball bearings* are double sealed to keep dirt out. *Needle bearings* minimize internal friction.

Nylon pulleys are lightweight and corrosion and abrasion resistant.
Miniature brass pulleys are less than a ½″ wide, so they fit in extremely small spaces. They are nonsparking.
Steel and **cast iron pulleys** are more durable than nylon pulleys.

Round-Belt Idler Pulleys

For Belt Wd.	OD	Wd. (X)	Groove Dp. (Y)	Choose a Bore Size		
Nylon—Ball Bearings						
¼″	4.5″	0.86″	0.36″	⅜″, ½″	59475K11	$13.14
¼″	6″	0.8″	0.4″	⅜″, ½″	59475K22	16.59
⅜″	3.1″	0.61″	0.3″	⅜″, ½″	59475K12	11.71
⅜″	3.5″	0.76″	0.375″	⅜″, ½″	59475K13	12.42
⅜″	5.5″	0.56″	0.44″	⅜″, ½″	59475K14	16.59
11⁄16″	4.8″	1.06″	0.41″	⅜″, ½″	59475K15	13.78
Miniature Brass—Ball Bearings						
3⁄32″	0.8″	0.141″	0.048″	⅛″	6447K1	25.10
3⁄32″	1″	0.157″	0.048″	⅛″	6447K3	25.61
3⁄32″	1.5″	0.157″	0.048″	⅛″	6447K4	26.15
⅛″	1″	0.188″	0.064″	¼″	6447K5	25.77
⅛″	1.5″	0.188″	0.064″	¼″	6447K6	26.16
⅛″	1.5″	0.196″	0.064″	¼″	6447K7	26.16
⅛″	2″	0.196″	0.064″	¼″	6447K8	30.31
3⁄16″	2″	0.281″	0.095″	⅜″	6447K9	30.65
3⁄16″	2.5″	0.281″	0.095″	⅜″	6447K11	31.62

Flat-Belt Idler Pulleys

For Belt Wd.	OD	Wd. (X)	Groove Dp. (Y)	Choose a Bore Size		
Nylon—Ball Bearings						
5⁄8″	3.5″	1.09″	0.25″	⅜″, ½″	6235K11	$14.23
13⁄16″	2.8″	1.22″	0.11″	⅜″, ½″	6235K12	13.53
13⁄16″	3.5″	1.22″	0.25″	⅜″, ½″	6235K13	14.23
7⁄8″	2.4″	1.15″	0.18″	⅜″, ½″	6235K14	12.76
7⁄8″	3″	1.31″	0.25″	⅜″, ½″	6235K15	13.81
7⁄8″	5.6″	1.29″	0.26″	⅜″, ½″	6235K16	16.53
29⁄32″	4.5″	1.39″	0.25″	⅜″, ½″	6235K17	15.77
1 1⁄8″	2.1″	1.54″	0.09″	⅜″, ½″	6235K18	12.46
1 1⁄8″	3.4″	1.67″	0.20″	⅜″, ½″	6235K19	13.53
Steel—Needle Bearings						
7⁄16″	1.4″	0.625″	0.125″	½″	1355K1	27.60
9⁄16″	1.8″	0.813″	0.187″	½″	1355K2	33.85
11⁄16″	2.5″	0.875″	0.125″	1″	1355K3	44.08
Cast Iron—Needle Bearings						
1 1⁄16″	4.5″	1.438″	0.25″	1″	1355K4	69.65
2 1⁄16″	4.5″	2.438″	0.25″	1″	1355K5	79.67
3 1⁄16″	4.5″	3.438″	0.25″	1″	1355K6	90.20

V-Belt Idler Pulleys

For V-Belt	OD	Wd. (X)	Groove Dp. (Y)	Choose a Bore Size		
Nylon—Ball Bearings						
4L, A, AX	3″	0.7″	0.5″	⅜″, ½″	6234K1	$11.25
4L, A, AX	4″	0.7″	0.5″	⅜″, ½″	6234K3	11.95

For V-Belt	OD	Wd. (X)	Groove Dp. (Y)	Choose a Bore Size		
Nylon—Ball Bearings (Cont.)						
5L, B, BX	3.1″	0.78″	0.63″	⅜″, ½″	6234K2	$11.27
5L, B, BX	4″	0.86″	0.58″	⅜″, ½″	6234K4	11.96
5L, B, BX	5″	0.8″	0.6″	⅜″, ½″	6234K5	13.23

Round-Belt Pulleys

Commonly used in harsh environments and wet conditions, these corrosion- and abrasion-resistant pulleys are polyethylene. They are made from FDA-listed material for use with food and beverage. The bore can be machined to your exact specifications.

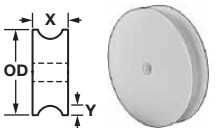

For Belt Dia.	OD	Pitch Dia.	Wd. (X)	Groove Dp. (Y)	Bore Size		
1/8″	1 1/2″	1.375″	3/8″	0.062″	1/4″	6284K11	$15.35
1/4″	1 1/2″	1.22″	1/2″	0.14″	1/4″	6284K51	9.83
1/4″	2″	1.72″	1/2″	0.14″	1/4″	6284K52	11.81
1/4″	2 1/2″	2.22″	1/2″	0.14″	1/4″	6284K53	14.19
1/4″	3″	2.72″	1/2″	0.14″	1/2″	6284K54	17.06
1/4″	4″	3.72″	1/2″	0.14″	1/2″	6284K56	24.10
3/8″	2″	1.59″	5/8″	0.205″	1/4″	6284K61	10.98
3/8″	3″	2.59″	5/8″	0.205″	1/4″	6284K63	15.59
3/8″	6″	5.59″	5/8″	0.205″	1/2″	6284K69	38.53
1/2″	3″	2.47″	3/4″	0.265″	1/4″	6284K81	13.31
1/2″	4″	3.47″	3/4″	0.265″	1/2″	6284K83	23.02
1/2″	5″	4.47″	3/4″	0.265″	1/2″	6284K85	31.11
1/2″	6″	5.47″	3/4″	0.265″	1/2″	6284K87	41.43
1/2″	10″	9.47″	3/4″	0.265″	1/2″	6284K94	86.59
3/4″	5″	4.19″	1 1/4″	0.405″	1/2″	6284K21	40.26

Split-Tapered Bushing-Bore V-Belt Pulleys

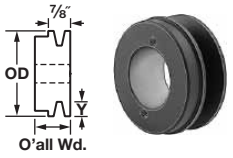

3.15″ to 6.25″ OD

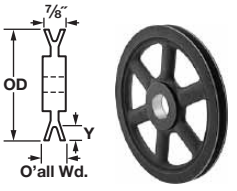

6.75″ to 18.75″ OD

These cast iron pulleys have the same sizing versatility as quick-disconnect (QD) pulleys, but they get a tighter grip on bushings for use in high-torque applications. The same pulley can be used with different shaft diameters; choose a Style H split-tapered bushing (see 6086K19 on page 1092) with the bore size you need. They are for use with A-section (4L and A) and B-section (5L and B) V-belts. *3.15″ to 6.25″ OD pulleys* have a solid body. *6.75″ to 18.75″ OD pulleys* have a spoked body.

OD	Pitch Dia. for A-Section V-Belts	Pitch Dia. for B-Section V-Belts	O'all Wd.	Groove Dp. (Y)		
3.15″	2.4″	2.8″	1.32″	0.625″	6407A11	$34.13
3.55″	2.8″	3.2″	1.325″	0.625″	6407A13	36.33
3.75″	3″	3.4″	0.875″	0.625″	6407A14	36.58
3.95″	3.2″	3.6″	0.875″	0.625″	6407A15	36.66
4.25″	3.5″	3.9″	0.875″	0.625″	6407A16	37.44
4.75″	4″	4.4″	0.875″	0.625″	6407A18	39.19
4.95″	4.2″	4.6″	0.875″	0.625″	6407A19	39.99
5.75″	5″	5.4″	0.875″	0.625″	6407A23	42.07
5.95″	5.2″	5.6″	0.875″	0.625″	6407A24	44.36
6.25″	5.5″	5.9″	0.875″	0.625″	6407A25	47.31
6.75″	6″	6.4″	0.875″	0.625″	6407A27	50.34
7.75″	7″	7.4″	0.875″	0.625″	6407A31	56.54
8.25″	7.5″	7.9″	0.875″	0.625″	6407A32	62.73
12.75″	12″	12.4″	0.875″	0.625″	6407A41	99.31
15.75″	15″	15.4″	0.875″	0.625″	6407A44	131.58
18.75″	18″	18.4″	0.875″	0.625″	6407A45	180.01

Flat-Belt Pulleys

Also known as paper-plant pulleys, these are made of a paper-fiber composite that minimizes slippage and wear. They have two set screws and a standard ANSI keyway, except pulleys for 1" and 1 1/2″ belts have one set screw.

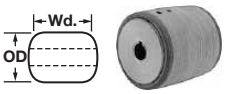

For Belt Wd.	OD	Wd.	Choose a Bore Size		
1″	2″	1 1/2″	1/2″, 5/8″, 3/4″	6231K11	$78.77
1 1/2″	2″	2″	1/2″, 5/8″, 3/4″	6231K12	78.77
2 1/2″	2″	3″	1/2″, 5/8″, 3/4″	6231K13	88.81
3″	2 1/2″	3 1/2″	3/4″, 7/8″, 1″	6231K15	97.68
3″	3″	3 1/2″	3/4″, 7/8″, 1″	6231K2	114.36
3″	3 1/2″	3 1/2″	3/4″, 7/8″, 1″, 1 1/4″, 1 1/2″	6231K22	132.49
4″	4″	4 1/2″	3/4″, 7/8″, 1″, 1 1/4″, 1 1/2″	6231K28	160.65

Constant-Tension V-Belt Pulleys

A built-in spring on these cast iron pulleys maintains tension on your belt. They are for use with A-section (4L, A, and AX) and B-section (5L, B, and BX) V-belts. They have one set screw and a standard ANSI keyway, except 1/2″ bore size does not have a keyway.

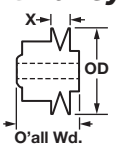



To Order: Please specify bore size: 1/2″, 5/8″, 3/4″, 7/8″, or 1″.

OD	Pitch Dia. Min.	Pitch Dia. Max.	O'all Wd.	Wd. (X)	Choose a Bore Size		
3 1/4″	1.91″	3.15″	2.438″	0.688″	1/2″-3/4″	6568K1	$73.12
4″	1.95″	3.9″	2.438″	0.688″	1/2″-3/4″	6568K2	100.61
5″	2.37″	4.84″	3.625″	0.938″	5/8″-1″	6568K3	144.99

V-Belt Pulleys for 2L- and 3L-Section V-Belts

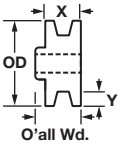



For 2L-Section V-Belts



For 3L-Section V-Belts

Choose these pulleys for fractional-horsepower V-belt drives. They have one set screw.

To Order: Please specify bore size: 1/4″, 5/16″, 3/8″, 1/2″, or 5/8″.

OD	Pitch Dia.	O'all Wd.	Wd. (X)	Groove Dp. (Y)	Choose a Bore Size		
For 2L-Section V-Belts—Nylon							
1″	0.9″	0.69″	0.33″	1/4″	5/16″	3060K11	$10.47
1 1/2″	1.4″	0.875″	0.42″	1/4″	5/16″	3060K12	10.88
2″	1.9″	0.875″	0.42″	1/4″	1/4″	3060K14	11.26
3″	2.9″	0.875″	0.42″	1/4″	5/16″	3060K17	18.27
5″	4.9″	0.875″	0.42″	1/4″	1/2″	3060K19	20.50
6″	5.9″	0.875″	0.42″	1/4″	1/4″	3060K21	21.72
For 3L-Section V-Belts—Zinc							
1″	0.9″	0.875″	0.5″	1/4″	5/16″-3/8″	6245K112	5.84
2″	1.9″	1″	0.5″	3/8″	1/4″-5/8″	6245K114	7.52
2 1/2″	2.4″	1″	0.5″	3/8″	3/8″-5/8″	6245K115	8.41
3″	2.9″	1″	0.5″	3/8″	3/8″-5/8″	6245K116	9.57
3 1/2″	3.4″	1″	0.5″	3/8″	3/8″-5/8″	6245K117	12.02
4″	3.9″	1″	0.5″	3/8″	3/8″-5/8″	6245K118	13.52

Adjustable-Pitch V-Belt Pulleys

Increase efficiency, vary speed, and extend the life of your drive by changing the pitch on these cast iron pulleys. Turn the sides of the pulley on the threaded hub to increase or decrease the pitch. These pulleys are for use with 3L-section, A-section (4L, A, and AX), and B-section (5L, B, and BX) V-belts, unless otherwise stated. They have one set screw, except 3.75″ OD pulley with 1″ bore size has two set screws. Pulleys have a standard ANSI keyway, except 1/2″ bore size does not have a keyway.



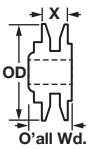

OD	Pitch Dia. for 3L-Section V-Belts Min.	Pitch Dia. for 3L-Section V-Belts Max.	Pitch Dia. for A-Section V-Belts Min.	Pitch Dia. for A-Section V-Belts Max.	Pitch Dia. for B-Section V-Belts Min.	Pitch Dia. for B-Section V-Belts Max.	O'all Wd.	Wd. (X) Min.	Wd. (X) Max.	Choose a Bore Size		
3.15″	1.7″	2.5″	1.9″	2.9″	2.4″	3.2″	1.875″	0.656″	0.969″	1/2″, 5/8″, 3/4″, 7/8″	6205K51	$33.96
3.75″	2.3″	3.1″	2.4″	3.4″	2.7″	3.7″	1.875″	0.656″	1.031″	1/2″, 5/8″, 3/4″, 7/8″	6205K52	33.00
3.75″	2.7″	3.5″	2.9″	3.9″	3″	4″	1.75″	0.563″	1″	1″	6205K125	32.03
4.15″	2.7″	3.5″	2.8″	3.8″	3.1″	4.1″	1.875″	0.656″	1.031″	1/2″, 5/8″, 3/4″	6205K53	37.10
4.15″	2.7″	3.5″	2.8″	3.8″	3.1″	4.1″	2.156″	0.75″	1.125″	7/8″, 1″, 1 1/8″	6205K54	54.19
4.75″	3.3″	4.1″	3.4″	4.4″	3.7″	4.7″	1.938″	0.688″	1.063″	1/2″, 5/8″, 3/4″	6205K55	43.75
4.75″	3.3″	4.1″	3.4″	4.4″	3.7″	4.7″	2.156″	0.75″	1.125″	7/8″, 1″, 1 1/8″	6205K56	70.31
5.35″	3.9″	4.7″	4″	5″	4.3″	5.3″	2.156″	0.75″	1.125″	7/8″, 1″, 1 1/8″	6205K57	94.65
6.5″	—	—	4.7″	5.7″	4.8″	6″	2.219″	0.875″	1.25″	3/4″, 7/8″, 1 1/8″	6205K58	112.45

V-Belt Pulleys for A- and B-Section V-Belts

Standard



Zinc
1.5″ to 5″ OD



Zinc
5.5″ to 10″ OD

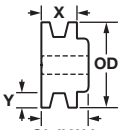

O'all Wd.



Plastic

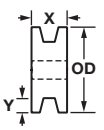

Heavy Duty



Cast Iron
2″ to 4.45″ OD



Cast Iron
4.75″ to 13.75″ OD

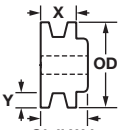

O'all Wd.

Standard—Zinc pulleys have one set screw and a standard ANSI keyway, except ⅜″ and ½″ bore sizes do not have a keyway. *1.5″ to 5″ OD pulleys* have a solid body, unless noted. *5.5″ to 10″ OD pulleys* have a spoked body. **Plastic** pulleys are made from FDA-listed material for use with food and beverage. Body is solid.

Heavy Duty—These pulleys have one set screw and a standard ANSI keyway, except ½″ bore size does not have a keyway. *2″ to 4.45″ OD pulleys* have a solid body. *4.75″ to 13.75″ OD pulleys* have a spoked body.

Standard

To Order: Please specify bore size: ¼″, ⅜″, ½″, ⅝″, ¾″, or 1″.

OD	Pitch Dia.	O'all Wd.	Wd. (X)	Groove Dp. (Y)	Choose a Bore Size		
For A-Section (4L and A) V-Belts—Zinc							
1.5″	1.25″	1.156″	0.656″	0.5″	⅜″-½″	6245K6	$4.84
1.75″	1.5″	1.203″	0.656″	0.5″	⅜″-¾″	6245K61	5.09
2″	1.75″	1.063″	0.641″	0.5″	⅜″-¾″	6245K62	5.11
2.25″	2″	1.188″	0.641″	0.5″	⅜″-¾″	6245K63	6.50
2.5″	2.25″	1.188″	0.641″	0.5″	⅜″-¾″	6245K64	7.93
2.75″	2.5″	1.188″	0.641″	0.5″	⅜″-¾″	6245K65	7.89
3″	2.75″	1.188″	0.641″	0.5″	½″-¾″	6245K66	8.64
3.25″	3″	1.188″	0.641″	0.5″	½″-¾″	6245K67	9.91
3.5″	3.25″	1.188″	0.641″	0.5″	½″-¾″	6245K68	10.70
4″	3.75″	1.188″	0.641″	0.5″	½″-¾″	6245K69	11.93
4.5″	4.25″	1.188″	0.641″	0.5″	½″-¾″	6245K71	14.11
5″	4.75″	1.188″	0.641″	0.5″	½″-1″	6245K72★	15.50
5.5″	5.25″	1.344″	0.703″	0.5″	½″-1″	6245K93	15.86
6″	5.75″	1.344″	0.703″	0.5″	½″-1″	6245K73	16.75
7″	6.75″	1.344″	0.703″	0.5″	½″-1″	6245K74	20.48
8″	7.75″	1.344″	0.703″	0.5″	½″-1″	6245K75	21.98
9″	8.75″	1.344″	0.703″	0.5″	½″-1″	6245K94	28.23
10″	9.75″	1.344″	0.703″	0.5″	½″-1″	6245K95	33.05
For A-Section (4L, A, and AX) V-Belts—Plastic							
1.75″	1.5″	0.75″	0.75″	0.49″	¼″	6274K11	4.42
2.05″	1.8″	0.75″	0.75″	0.49″	¼″	6274K12	5.62
2.25″	2″	0.75″	0.75″	0.49″	¼″	6274K14	6.27
2.55″	2.3″	0.75″	0.75″	0.49″	¼″	6274K16	7.11
3.05″	2.8″	0.75″	0.75″	0.49″	¼″	6274K21	8.96
4.05″	3.8″	0.75″	0.75″	0.49″	½″	6274K26	15.64
4.45″	4.2″	0.75″	0.75″	0.49″	½″	6274K28	21.02
5.05″	4.8″	0.75″	0.75″	0.49″	½″	6274K32	23.20
5.45″	5.2″	0.75″	0.75″	0.49″	½″	6274K34	24.13
6.05″	5.8″	0.75″	0.75″	0.49″	½″	6274K37	30.51
7.25″	7″	0.75″	0.75″	0.49″	½″	6274K42	37.24
8.45″	8.2″	0.75″	0.75″	0.49″	½″	6274K43	45.62
For B-Section (5L and B) V-Belts—Zinc							
2″	1.5″	1.281″	0.813″	0.563″	½″-⅝″	6245K81	8.91
2.5″	2″	1.281″	0.813″	0.563″	½″-¾″	6245K83	10.55
For B-Section (5L, B, and BX) V-Belts—Plastic							
3.75″	3.4″	1″	1″	0.58″	½″	6274K51	19.80
4.15″	3.8″	1″	1″	0.58″	½″	6274K53	21.16
4.75″	4.4″	1″	1″	0.58″	½″	6274K55	23.64
5.15″	4.8″	1″	1″	0.58″	½″	6274K57	28.22
5.75″	5.4″	1″	1″	0.58″	½″	6274K59	32.29
6.15″	5.8″	1″	1″	0.58″	½″	6274K61	43.00

★ 1″ bore size has a spoked body.

Heavy Duty

OD	*Pitch Dia. for* A-Section V-Belts	*Pitch Dia. for* B-Section V-Belts	O'all Wd.	Wd. (X)	Groove Dp. (Y)	Choose a Bore Size		
For A-Section (4L, A, and AX) and B-Section (5L, B, and BX) V-Belts—Cast Iron								
2.5″	1.7″	2.1″	1.5″	0.875″	0.625″	½″, ⅝″, ¾″, ⅞″, 1″	6204K13	$11.51
2.55″	1.8″	2.2″	1.25″	0.813″	0.625″	½″, ⅝″, ¾″	6204K14	13.66
2.85″	2.1″	2.5″	1.25″	0.813″	0.625″	½″, ⅝″, ¾″, ⅞″, 1⅛″	6204K51	16.15
2.95″	2.2″	2.6″	1.25″	0.813″	0.625″	½″, ⅝″, ¾″, ⅞″	6204K15	16.24
3.15″	2.4″	2.8″	1.25″	0.813″	0.625″	½″, ⅝″, ¾″, ⅞″	6204K16	16.18
3.35″	2.6″	3″	1.25″	0.813″	0.625″	½″, ⅝″, ¾″, ⅞″	6204K17	16.38
3.55″	2.8″	3.2″	1.313″	0.875″	0.625″	½″, ⅝″, ¾″, ⅞″, 1″, 1⅛″	6204K18	22.23
3.75″	3″	3.4″	1.313″	0.875″	0.625″	½″, ⅝″, ¾″, ⅞″, 1″, 1⅛″	6204K19	21.95
3.95″	3.2″	3.6″	1.313″	0.875″	0.625″	½″, ⅝″, ¾″, ⅞″, 1″, 1⅛″	6204K21	25.30
4.15″	3.4″	3.8″	1.5″	0.875″	0.625″	½″, ⅝″, ¾″, ⅞″, 1″, 1⅛″	6204K22	20.07
4.25″	3.5″	3.9″	1.313″	0.875″	0.625″	½″, ⅝″, ¾″, ⅞″, 1″, 1⅛″	6204K23	25.88
4.45″	3.7″	4.1″	1.313″	0.875″	0.625″	½″, ⅝″, ¾″, ⅞″, 1″, 1⅛″	6204K24	27.60
4.75″	4″	4.4″	1.313″	0.875″	0.625″	½″, ⅝″, ¾″, ⅞″, 15⁄16″, 1″, 1⅛″	6204K25	28.38
4.95″	4.2″	4.6″	1.313″	0.875″	0.625″	½″, ⅝″, ¾″, ⅞″, 1″, 1⅛″	6204K26	28.45
5.15″	4.4″	4.8″	1.625″	0.875″	0.625″	½″, ⅝″, ¾″, ⅞″, 1″, 1⅛″	6204K27	23.47
5.25″	4.5″	4.9″	1.313″	0.875″	0.625″	½″, ⅝″, ¾″, ⅞″, 1″, 1⅛″, 1 3⁄16″	6204K28	30.12
5.45″	4.7″	5.1″	1.313″	0.875″	0.625″	⅝″, ¾″, ⅞″, 15⁄16″, 1″, 1⅛″	6204K29	31.43
5.75″	5″	5.4″	1.313″	0.875″	0.625″	½″, ⅝″, ¾″, ⅞″, 1″, 1⅛″, 1 3⁄16″	6204K31	32.25
5.95″	5.2″	5.6″	1.313″	0.875″	0.625″	½″, ⅝″, ¾″, ⅞″, 15⁄16″, 1″, 1⅛″, 1 3⁄16″	6204K32	32.52
6.25″	5.5″	5.9″	1.281″	0.875″	0.625″	⅝″, ¾″, ⅞″, 1″, 1⅛″	6204K33	28.34
6.45″	5.7″	6.1″	1.313″	0.875″	0.625″	⅝″, ¾″, 1″, 1⅛″	6204K35	36.06
6.75″	6″	6.4″	1.531″	0.875″	0.625″	⅝″, ¾″, 15⁄16″, 1″, 1⅛″, 1 3⁄16″, 1 7⁄16″	6204K36	47.24
6.95″	6.2″	6.6″	1.531″	0.875″	0.625″	¾″, 1″, 1⅛″, 1 3⁄8″	6204K37	48.67
7.45″	6.7″	7.1″	1.531″	0.875″	0.625″	¾″, 1″, 1⅛″, 1 3⁄8″, 1 7⁄16″	6204K52	41.44
7.75″	7″	7.4″	1.531″	0.875″	0.625″	⅝″, ¾″, ⅞″, 1″, 1⅛″, 1 3⁄16″, 1 1⁄4″, 1 3⁄8″, 1 7⁄16″	6204K39	51.72
8.75″	8″	8.4″	1.531″	0.875″	0.625″	¾″, ⅞″, 15⁄16″, 1″, 1⅛″, 1 3⁄16″, 1 3⁄8″, 1 7⁄16″	6204K41	60.75
9.25″	8.5″	8.9″	1.531″	0.875″	0.625″	¾″, 1″, 1⅛″, 1 3⁄8″, 1 7⁄16″	6204K53	56.53
9.75″	9″	9.4″	1.531″	0.875″	0.625″	¾″, ⅞″, 1″, 1⅛″, 1 3⁄16″, 1 1⁄4″, 1 3⁄8″, 1 7⁄16″	6204K42	67.08
10.25″	9.5″	9.9″	1.531″	0.875″	0.625″	1″, 1 3⁄8″, 1 7⁄16″	6204K54	62.86
10.75″	10″	10.4″	1.531″	0.875″	0.625″	¾″, 1″, 1⅛″, 1 3⁄16″, 1 3⁄8″, 1 7⁄16″	6204K55	67.92
11.75″	11″	11.4″	1.531″	0.875″	0.625″	¾″, 1″, 1 3⁄16″, 1 3⁄8″, 1 7⁄16″	6204K56	70.48
12.75″	12″	12.4″	1.531″	0.875″	0.625″	¾″, 1″, 1⅛″, 1 3⁄16″, 1 7⁄16″	6204K44	91.40
13.75″	13″	13.4″	1.531″	0.875″	0.625″	¾″, 1″, 1 3⁄16″, 1 7⁄16″	6204K57	72.75
For B-Section (5L, B, and BX) V-Belts—Cast Iron								
2″	—	1.7″	1.375″	0.875″	0.625″	½″, ⅝″, ¾″	6204K11	10.04
2.35″	—	2″	1.25″	0.813″	0.625″	½″, ⅝″, ¾″, ⅞″, 1″	6204K12	14.26

Quick-Disconnect (QD) Bushing-Bore V-Belt Pulleys

Use the same pulley on multiple shaft diameters. These pulleys mate with compatible quick-disconnect (QD) bushings (sold separately on page 1092) that can be swapped out for a different bore size. They have a solid body, unless noted. Pulleys are cast iron, except 3.75″ to 6.95″ OD pulleys for A-section and B-section V-belts are steel.



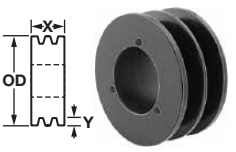

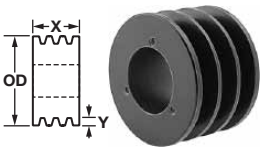

OD	Pitch Dia. for A-Section V-Belts	Pitch Dia. for B-Section V-Belts	Groove Dp. (Y)	One-Groove Pulleys Wd. (X)	Bushing Style		Two-Groove Pulleys Wd. (X)	Bushing Style		Three-Groove Pulleys Wd. (X)	Bushing Style	
For A-Section (4L, A, and AX) and B-Section (5L, B, and BX) V-Belts												
3.75″	3″	3.4″	0.58″	0.875″	SH	6209K201 $18.56	1.75″	SH	6209K111 $27.13	2.5″	SH	6209K137 $31.42
3.95″	3.2″	3.6″	0.58″	0.875″	SH	6209K202 19.27	1.75″	SH	6209K112 28.57	2.5″	SH	6209K138 32.85
4.15″	3.4″	3.8″	0.58″	0.875″	SH	6209K203 19.99	1.75″	SH	6209K113 29.99	2.5″	SH	6209K139 33.06
4.35″	3.6″	4″	0.58″	0.875″	SH	6209K231 27.30	1.75″	SH	6209K188 41.15	2.5″	SH	6209K191 46.08
4.55″	3.8″	4.2″	0.58″	0.875″	SH	6209K205 21.42	1.75″	SH	6209K115 31.69	2.5″	SH	6209K142 35.82
4.75″	4″	4.4″	0.58″	0.875″	SH	6209K206 22.12	1.75″	SH	6209K116 33.06	2.5″	SH	6209K143 37.20
4.95″	4.2″	4.6″	0.58″	0.875″	SDS	6209K207 22.84	1.75″	SDS	6209K117 34.44	2.5″	SD	6209K144 38.57
5.15″	4.4″	4.8″	0.58″	0.875″	SDS	6209K208 23.56	1.75″	SDS	6209K118 29.81	2.5″	SD	6209K145 39.96
5.35″	4.6″	5″	0.58″	0.875″	SDS	6209K209 24.28	1.75″	SDS	6209K119 40.44	2.5″	SD	6209K146 41.33
5.55″	4.8″	5.2″	0.58″	0.875″	SDS	6209K232 32.74	1.75″	SDS	6209K174 52.38	2.5″	SD	6209K192 56.96
5.75″	5″	5.4″	0.58″	0.875″	SDS	6209K212 25.69	1.75″	SDS	6209K122 39.96	2.5″	SD	6209K148 44.09
5.95″	5.2″	5.6″	0.58″	0.875″	SDS	6209K233 34.98	1.75″	SDS	6209K176 56.11	2.5″	SD	6209K193 61.79
6.15″	5.4″	5.8″	0.58″	0.875″	SDS	6209K214 27.13	1.75″	SDS	6209K124 42.71	2.5″	SD	6209K151 46.85
6.35″	5.6″	6″	0.58″	0.875″	SDS	6209K215 28.57	1.75″	SDS	6209K125 44.09	2.5″	SD	6209K152 48.23
6.55″	5.8″	6.2″	0.58″	0.875″	SDS	6209K216 29.99	1.75″	SDS	6209K126 45.47	2.5″	SD	6209K153 49.59
6.75″	6″	6.4″	0.58″	0.875″	SDS	6209K217 31.42	1.75″	SDS	6209K127 46.85	2.5″	SD	6209K154 52.36
6.95″	6.2″	6.6″	0.58″	1″	SDS	6209K234 44.89	1.75″	SDS	6209K187 62.89	2.5″	SD	6209K194 71.08
7.15″	6.4″	6.8″	0.58″	1″	SDS	6209K219 35.70	1.75″	SDS	6209K129 48.23	2.5″	SD	6209K156 55.11
7.35″	6.6″	7″	0.58″	1″	SDS	6209K235 49.19	1.75″	SK	6209K182 65.62	2.5″	SK	6209K195 73.21
7.75″	7″	7.4″	0.58″	1″	SDS	6209K222 39.98	1.75″	SK	6209K131 50.29	2.5″	SK	6209K157 57.87
8.35″	7.6″	8″	0.58″	1″	SDS	6209K223★ 41.42	1.75″	SK	6209K134 50.96	2.5″	SK	6209K161 60.61
8.95″	8.2″	8.6″	0.58″	1″	SDS	6209K224★ 44.26	1.75″	SK	6209K132 52.36	2.5″	SK	6209K158★ 66.14
9.75″	9″	9.4″	0.58″	1″	SDS	6209K225★ 45.70	1.75″	SK	6209K133★ 53.74	2.5″	SK	6209K159★ 71.65
11.35″	10.6″	11″	0.58″	1″	SDS	6209K226★ 54.25	1.75″	SK	6209K135★ 63.37	2.5″	SK	6209K162★ 85.41
12.75″	12″	12.4″	0.58″	1″	SDS	6209K236★ 86.77	1.75″	SK	6209K198★ 95.38	2.5″	SK	6209K196★ 135.96

For 3V-Section (3V and Cogged 3VX) V-Belts—Please specify 1 or 2 grooves; OD from 3.35″ to 5″; and JA or SH bushing style **9615K85**

For 5V-Section (5V and Cogged 5VX) V-Belts—Pulleys have two grooves and are SK bushing style. Please specify OD from 7.10″ to 9″ **9615K86**

For J Section V-Belts—Please specify 6, 10, or 16 grooves; OD from 2.5″ to 8″; and JA, SH, or SK bushing style **1405K56**

★ Body is spooled.

Adjustable-Speed V-Belt Pulleys

Also known as step-cone pulleys, these have multiple groove sizes so you can quickly change rotation speed by moving your belt to a different groove. They are commonly used on drives with frequent speed changes. Use these zinc pulleys with A-section (4L and A) V-belts with fractional-horsepower motors. They have one set screw and a standard ANSI keyway, except ½″ bore size does not have a keyway.

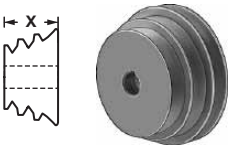

Three-Groove Pulley

OD Groove One	OD Groove Two	OD Groove Three	OD Groove Four	Pitch Dia. Groove One	Pitch Dia. Groove Two	Pitch Dia. Groove Three	Pitch Dia. Groove Four	Wd. (X)	Choose a Bore Size		
Three-Groove Pulleys											
1¾″	2¼″	2¾″	___	1½″	2″	2½″	_	1¾″	½″, 5⁄8″, ¾″	6213K71	$13.35
2″	3″	4″	___	1¾″	2¾″	3¾″	_	1⅞″	½″, 5⁄8″, ¾″	6213K73	18.96
3″	3½″	4″	___	2¾″	3¼″	3¾″	_	1¾″	½″, 5⁄8″, ¾″	6213K74	26.27
Four-Groove Pulleys											
1¾″	2¼″	2¾″	3¼″	1½″	2″	2½″	3″	2 5⁄16″	½″, 5⁄8″, ¾″	6213K75	18.67
2″	2½″	3″	4″	1¾″	2¼″	3¼″	3¾″	2½″	½″, 5⁄8″, ¾″	6213K76	19.39
3″	3½″	4″	4½″	2¾″	3¼″	3¾″	4¼″	2 5⁄16″	½″, 5⁄8″, ¾″	6213K78	28.78

Cut-to-Length Timing Belts and End Plates

Use these belts in your linear motion drive system. Belts have trapezoidal teeth.

Multipurpose belts combine quiet-running neoprene with high-strength fiberglass reinforcement. The teeth are nylon coated to protect the wear surface and minimize friction. Temperature range is –30° to 180° F. Color is black.

Dust-free belts are abrasion-resistant urethane, so they won't create dust while they run. They have Kevlar reinforcement and a temperature range of –22° to 230° F, except AT10 series belts have steel reinforcement and a temperature range of 32° to 176° F. Color is white.

End plates (sold separately) allow you to secure belt ends to a flat surface. They are aluminum and have eight 6.5 mm mounting holes, except plates for XL series belts have 5.5 mm holes.

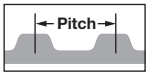



Multipurpose Belt



End Plate

Wd.	Multipurpose Belts Per Ft.	Dust-Free Belts Per Ft.	End Plates Lg.	Wd.	Each
MXL Series—0.080″ Pitch					
¼″	7959K21 $2.16	____ ___	___	___	____
3⁄8″	7959K22 2.97	____ ___	___	___	____
½″	7959K23 4.34	____ ___	___	___	____
XL Series—0.200″ Pitch					
¼″	7959K24 2.17	____ ___	4.72″	1.97″	2553K95 $61.42
3⁄8″	7959K25 2.97	1840K1 $2.43	4.72″	1.97″	2553K95 61.42
½″	____ ___	1840K2 2.98	4.72″	1.97″	2553K95 61.42
L Series—0.375″ Pitch					
½″	7959K26 4.68	1840K3 3.51	6.3″	1.97″	2553K91 68.87

Wd.	Multipurpose Belts Per Ft.	Dust-Free Belts Per Ft.	End Plates Lg.	Wd.	Each
L Series—0.375″ Pitch (Cont.)					
¾″	7959K27 $6.29	1840K4 $5.34	6.3″	1.97″	2553K91 $68.87
1″	7959K28 9.45	____ ___	6.3″	1.97″	2553K91 68.87
H Series—0.500″ Pitch					
¾″	7959K29 7.38	1840K5 5.60	6.3″	1.97″	2553K92 68.87
1″	7959K3 9.73	1840K6 7.00	6.3″	1.97″	2553K92 68.87
1½″	7959K31 14.44	____ ___	6.3″	2.36″	2553K93 71.83
2″	7959K32 19.27	____ ___	6.3″	2.95″	2553K94 76.33
AT10 Series—10 mm Pitch					
25 mm	____ ___	2553K4 19.43	6.3″	1.97″	2553K82 68.87

MXL Series Timing Belts and Pulleys



Belt

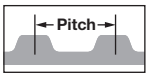



Aluminum Pulley with One Flange



Aluminum Pulley with Two Flanges

These MXL series (miniature extra light) timing belts and pulleys have trapezoidal teeth with a 0.080″ pitch.

Belts are black and have a temperature range of –30° to 180° F. *Multipurpose* belts are quiet-running neoprene reinforced with high-strength fiberglass. Belt teeth are nylon coated to protect the wear surface and minimize friction. *Dust-free* belts are abrasion-resistant urethane, so belts don't create dust while they run. They have Kevlar reinforcement, which has very high strength, low stretch, and excellent shock resistance.

Pulleys have a finished bore. *Aluminum* pulleys have good corrosion resistance. They include a set screw to grip the shaft. *Polycarbonate* pulleys are lightweight.

Belts

Trade No.	Outer Circle	No. of Teeth		1/8″ Wd.	1/4″ Wd.
Multipurpose					
32MXL	3.2″	40	**7887K201**	$1.67	$2.71
36MXL	3.6″	45	**7887K111**	2.29	3.71
40MXL	4″	50	**7887K121**	2.39	3.77
44MXL	4.4″	55	**7887K131**	2.39	3.78
48MXL	4.8″	60	**7887K141**	2.39	3.77
56MXL	5.6″	70	**7887K151**	2.50	4.00
64MXL	6.4″	80	**7887K161**	2.51	4.08
68MXL	6.8″	85	**7887K171**	2.51	4.08
72MXL	7.2″	90	**7887K181**	2.51	4.17
76MXL	7.6″	95	**7887K191**	2.51	4.17
80MXL	8″	100	**7887K202**	2.66	4.29
84MXL	8.4″	105	**7887K232**	1.92	3.13
88MXL	8.8″	110	**7887K242**	2.66	4.29
91MXL	9.1″	114	**7887K233**	1.94	3.19
96MXL	9.6″	120	**7887K252**	2.65	4.37
104MXL	10.4″	130	**7887K231**	2.71	4.60
112MXL	11.2″	140	**7887K241**	2.71	4.73
115MXL	11.5″	144	**7887K244**	1.98	3.40
120MXL	12″	150	**7887K251**	2.83	4.78
122MXL	12.2″	153	**7887K255**	2.06	3.48
124MXL	12.4″	155	**7887K266**	2.06	3.48
132MXL	13.2″	165	**7887K261**	2.91	4.91
140MXL	14″	175	**7887K271**	2.94	5.11
147MXL	14.7″	184	**7887K277**	2.15	3.67
152MXL	15.2″	190	**7887K281**	3.09	5.20
160MXL	16″	200	**7887K291**	3.12	5.29
168MXL	16.8″	210	**7887K301**	3.37	5.29
170MXL	17″	212	**7887K288**	2.27	3.92
180MXL	18″	225	**7887K311**	3.22	5.48
200MXL	20″	250	**7887K321**	3.31	5.77
208MXL	20.8″	260	**7887K331**	3.31	5.77
236MXL	23.6″	295	**7887K341**	3.56	6.29
240MXL	24″	300	**7887K351**	3.60	6.35
320MXL	32″	400	**7887K361**	3.98	7.26
398MXL	39.8″	498	**7887K299**	3.23	5.94
Dust Free					
35MXL	2.8″	35	**1679K151**	1.63	3.25
40MXL	3.2″	40	**1679K184**	1.65	3.27
45MXL	3.6″	45	**1679K157**	1.67	3.29

Trade No.	Outer Circle	No. of Teeth		1/8″ Wd.	1/4″ Wd.
Dust Free (Cont.)					
50MXL	4″	50	**1679K711**	$1.25	$2.53
60MXL	4.8″	60	**1679K841**	1.27	2.55
65MXL	5.2″	65	**1679K771**	1.27	2.55
70MXL	5.6″	70	**1679K712**	1.27	2.55
75MXL	6″	75	**1679K741**	1.29	2.57
80MXL	6.4″	80	**1679K772**	1.29	—
85MXL	6.8″	85	**1679K811**	1.31	2.61
90MXL	7.2″	90	**1679K842**	1.31	2.61
95MXL	7.6″	95	**1679K181**	1.33	2.69
100MXL	8″	100	**1679K871**	1.33	2.69
103MXL	8.2″	103	**1679K911**	1.33	2.69
110MXL	8.8″	110	**1679K941**	1.33	2.69
112MXL	9″	112	**1679K971**	1.35	2.71
114MXL	9.1″	114	**1679K691**	1.35	2.69
120MXL	9.6″	120	**1679K694**	1.35	2.71
125MXL	10″	125	**1679K687**	1.35	2.71
130MXL	10.4″	130	**1679K601**	1.37	2.73
135MXL	10.8″	135	**1679K604**	1.39	2.75
140MXL	11.2″	140	**1679K697**	1.39	2.75
144MXL	11.5″	144	**1679K602**	1.39	2.75
150MXL	12″	150	**1679K692**	1.39	2.75
155MXL	12.4″	155	**1679K607**	1.39	2.75
160MXL	12.8″	160	**1679K603**	1.41	2.86
165MXL	13.2″	165	**1679K693**	1.41	2.86
170MXL	13.6″	170	**1679K605**	1.45	2.92
180MXL	14.4″	180	**1679K695**	1.45	2.92
190MXL	15.2″	190	**1679K606**	1.53	3.02
215MXL	17.2″	215	**1679K696**	1.53	3.02
220MXL	17.6″	220	**1679K608**	2.35	4.71
225MXL	18″	225	**1679K688**	2.35	4.71
235MXL	18.8″	235	**1679K154**	2.71	5.47
240MXL	19.2″	240	**1679K698**	2.75	5.51
265MXL	21.2″	265	**1679K187**	2.82	5.69
280MXL	22.4″	280	**1679K609**	2.86	5.73
320MXL	25.6″	320	**1679K689**	2.92	5.84
380MXL	30.4″	380	**1679K699**	3.12	6.14
482MXL	38.5″	482	**1679K782**	3.12	6.14
962MXL	77″	962	**1679K985**	5.10	10.10

Pulleys

		Aluminum							*Polycarbonate*				
				For 1/8″ Max. Belt Wd.			For 1/4″ Max. Belt Wd.				For 1/4″ Max. Belt Wd.		
No. of Teeth	Pitch Dia.	For Shaft Dia.	OD	O'all Wd.			O'all Wd.		For Shaft Dia.	OD	O'all Wd.		
With One Flange													
10	0.255″	1/8″	0.425″	0.438″	**1375K11**	$9.09	0.563″	**1375K29** $9.35	3/32″	0.42″	0.688″	**1254N11**	$6.18
11	0.28″	1/8″	0.45″	0.438″	**1375K12**	9.20	0.563″	**1375K31** 9.50	3/32″	0.45″	0.688″	**1254N12**	6.18
12	0.306″	1/8″	0.48″	0.438″	**1375K13**	9.40	0.563″	**1375K32** 9.68	3/32″	0.47″	0.688″	**1254N13**	6.20
14	0.357″	1/8″	0.53″	0.438″	**1375K14**	9.70	0.563″	**1375K33** 9.95	1/8″	0.53″	0.688″	**1254N14**	6.20
15	0.382″	3/16″	0.555″	0.438″	**1375K15**	9.81	0.563″	**1375K34** 10.04	1/8″	0.55″	0.688″	**1254N15**	6.25
16	0.407″	3/16″	0.58″	0.438″	**1375K16**	9.93	0.563″	**1375K35** 10.21	1/8″	0.58″	0.688″	**1254N16**	6.30
20	0.509″	1/4″	0.685″	0.438″	**1375K21**	10.48	0.563″	**1375K39** 10.79	—	—	—	—	—
21	0.535″	1/4″	0.71″	0.438″	**1375K23**	10.68	0.563″	**1375K42** 11.02	—	—	—	—	—
22	0.56″	1/4″	0.74″	0.438″	**1375K25**	11.13	0.688″	**1375K44** 11.11	—	—	—	—	—
With Two Flanges													
18	0.458″	3/16″	0.635″	0.484″	**1375K17**	9.64	0.625″	**1375K36** 9.42	3/16″	0.63″	0.688″	**1254N17**	6.30
20	0.509″	—	—	—	—	—	—	—	3/16″	0.68″	0.688″	**1254N18**	6.33
21	0.535″	—	—	—	—	—	—	—	3/16″	0.7″	0.688″	**1254N19**	6.33
22	0.56″	—	—	—	—	—	—	—	3/16″	0.73″	0.688″	**1254N2**	6.33
24	0.611″	1/4″	0.79″	0.516″	**1375K26**	9.98	0.688″	**1375K45** 10.56	3/16″	0.78″	0.688″	**1254N21**	6.43
28	0.713″	1/4″	0.895″	0.484″	**1375K27**	10.76	0.688″	**1375K47** 11.13	1/4″	0.88″	0.688″	**1254N22**	6.50
30	0.764″	1/4″	0.945″	0.516″	**1375K28**	11.04	0.688″	**1375K48** 11.41	1/4″	0.93″	0.688″	**1254N23**	6.55
36	0.917″	1/4″	1.105″	0.516″	**1375K49**	12.23	0.688″	**1375K54** 12.53	1/4″	1.09″	0.688″	**1254N24**	6.80
40	1.019″	1/4″	1.21″	0.531″	**1375K51**	13.02	0.719″	**1375K55** 14.24	1/4″	1.19″	0.688″	**1254N25**	6.83
42	1.07″	1/4″	1.26″	0.531″	**1375K52**	13.73	0.719″	**1375K56** 14.00	1/4″	1.24″	0.688″	**1254N26**	6.88
60	1.53″	1/4″	1.73″	0.531″	**1375K53**	16.86	0.719″	**1375K57** 17.35	1/4″	1.7″	0.688″	**1254N27**	7.08

For information about sizing belts, see page 1094.

T5 Series Dust-Free Timing Belts and Pulleys

These timing belts and pulleys have trapezoidal teeth with a 5 mm pitch.

Belts are abrasion-resistant urethane, so they don't create dust while they run. They have steel reinforcement for very high strength, low stretch, and excellent shock resistance. Temperature range is –13° to 176° F. Color is gray.

Pulleys are aluminum for good corrosion resistance. They have a plain bore that press-fits to a shaft.

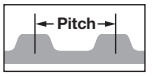


Pulley with Two Flanges


Belt

Belts

Trade No.	Outer Circle, mm	No. of Teeth		10 mm Wd.	16 mm Wd.	25 mm Wd.
T5-185	185	37	1679K431	$3.64	$5.82	$8.98
T5-200	200	40	1679K434	3.64	5.82	8.98
T5-225	225	45	1679K437	3.74	5.98	9.30
T5-245	245	49	1679K402	3.86	6.18	9.62
T5-270	270	54	1679K424	3.96	6.40	9.96
T5-280	280	56	1679K412	4.12	6.62	10.28
T5-295	295	59	1679K414	4.12	6.62	10.28
T5-340	340	68	1679K422	4.34	6.98	10.94
T5-355	355	71	1679K404	4.34	6.98	10.94
T5-365	365	73	1679K427	4.44	7.20	11.26
T5-400	400	80	1679K405	4.54	7.38	11.58
T5-410	410	82	1679K417	4.70	7.60	11.92
T5-420	420	84	1679K432	4.70	7.60	11.92
T5-480	480	96	1679K415	$4.90	$7.96	$12.54
T5-510	510	102	1679K407	5.14	8.40	13.18
T5-525	525	105	1679K551	5.14	8.40	13.18
T5-545	545	109	1679K554	5.24	8.62	13.52
T5-575	575	115	1679K587	5.38	8.80	13.84
T5-610	610	122	1679K549	5.60	9.20	14.50
T5-630	630	126	1679K561	5.60	9.20	14.50
T5-700	700	140	1679K564	6.04	9.90	15.64
T5-750	750	150	1679K597	6.18	10.18	16.12
T5-815	815	163	1679K581	6.50	10.78	17.10
T5-940	940	188	1679K574	7.02	11.70	17.80
T5-1100	1,100	220	1679K577	7.78	13.00	20.66
T5-1380	1,380	276	1679K548	9.44	15.74	25.24

Pulleys

No. of Teeth	OD, mm	For 10 mm Max. Belt Wd. For Shaft Dia., mm	Pitch Dia., mm	O'all Wd., mm			For 16 mm Max. Belt Wd. For Shaft Dia., mm	Pitch Dia., mm	O'all Wd., mm			For 25 mm Max. Belt Wd. For Shaft Dia., mm	Pitch Dia., mm	O'all Wd., mm		
With Two Flanges																
10	20	4	16.05	21	1428N2	$7.88	4	16.05	27	1428N4	$11.28	6	16.05	36	1428N6	$12.12
12	22.2	4	19.25	21	1428N21	8.92	4	19.25	27	1428N41	11.68	6	19.25	36	1428N61	12.76
14	25.4	4	22.45	21	1428N22	9.04	4	22.45	27	1428N42	12.12	6	22.45	36	1428N62	13.08
15	28	6	24.05	21	1428N23	9.14	6	24.05	27	1428N43	12.34	6	24.05	36	1428N63	13.52
16	32	6	25.6	21	1428N24	9.46	6	25.6	27	1428N44	13.52	6	25.6	36	1428N64	14.36
18	32	6	28.8	21	1428N25	9.76	6	28.8	27	1428N45	13.82	6	28.8	36	1428N65	14.80
19	36	6	30.4	21	1428N26	10.50	6	30.4	27	1428N46	14.16	6	30.4	36	1428N66	15.24
20	36	6	32	21	1428N27	10.60	6	32	27	1428N47	14.60	6	32	36	1428N67	15.98
22	38	6	35.25	21	1428N28	11.02	6	35.25	27	1428N48	15.98	6	35.25	36	1428N68	17.48
24	41.3	6	38.4	21	1428N29	11.24	6	38.4	27	1428N49	16.84	6	38.4	36	1428N69	18.36
25	44	6	40	21	1428N3	11.34	6	40	27	1428N5	17.04	6	40	36	1428N7	19.34
26	44.5	6	41.6	21	1428N31	11.56	6	41.6	27	1428N51	17.72	6	41.6	36	1428N71	19.44
27	48	8	43.2	21	1428N32	11.98	8	43.2	27	1428N52	18.12	8	43.2	36	1428N72	19.54
30	51	8	47.76	21	1428N33	12.08	8	47.95	27	1428N53	18.36	8	47.95	36	1428N73	19.86
32	54	8	50.94	21	1428N34	13.66	8	51.1	27	1428N54	18.68	8	51.1	36	1428N74	20.40
36	63	8	57.31	21	1428N35	14.50	8	57.45	27	1428N55	19.54	8	57.45	36	1428N75	22.64
40	66.7	8	63.66	21	1428N36	18.90	8	63.85	27	1428N56	22.20	8	63.85	36	1428N76	25.24
Without Flanges																
48	75.55	8	76.42	21	1428N37	22.06	8	76.55	27	1428N57	25.24	8	76.55	36	1428N77	31.24
60	94.65	8	95.52	21	1428N38	27.30	8	95.65	27	1428N58	34.38	8	95.65	36	1428N78	40.20

Timing Belts with Teeth on Both Sides

Often used in reversing and serpentine drive systems, teeth on both sides allow you to rotate pulleys in opposite directions. Belts combine quiet-running neoprene with high-strength fiberglass reinforcement. The teeth are nylon coated to protect the wear surface and minimize friction. Temperature range is –30° to 180° F. Color is black.

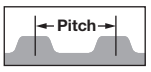



XL Series—0.200″ Pitch

Trade No.	Outer Circle	No. of Teeth		1/4″ Wd.	3/8″ Wd.
TP140XL	14″	70	7891K31	____	$16.40
TP150XL	15″	75	7891K32	____	16.88
TP160XL	16″	80	7891K881	$12.82	17.40
TP170XL	17″	85	7891K882	13.08	17.68
TP180XL	18″	90	7891K35	____	18.22
TP190XL	19″	95	7891K36	____	18.62
TP200XL	20″	100	7891K883	14.03	19.02
TP220XL	22″	110	7891K39	____	19.97
TP230XL	23″	115	7891K4	____	20.25
TP240XL	24″	120	7891K41		$20.80
TP250XL	25″	125	7891K42		21.20
TP260XL	26″	130	7891K43		21.60
TP270XL	27″	135	7891K44		31.12
TP280XL	28″	140	7891K45		22.55
TP290XL	29″	145	7891K46		22.92
TP300XL	30″	150	7891K47		23.35
TP330XL	33″	165	7891K49		24.70
TP340XL	34″	170	7891K5		24.95

L Series—0.375″ Pitch

Trade No.	Outer Circle	No. of Teeth		1/2″ Wd.	3/4″ Wd.	1″ Wd.
TP150L	15″	40	7891K51	$28.60	____	____
TP187L	18.75″	50	7891K531	31.18	$44.92	____
TP210L	21″	56	7891K55	33.88	____	____
TP225L	22.5″	60	7891K561	34.82	50.35	____
TP240L	24″	64	7891K571	36.58	53.05	____
TP255L	25.5″	68	7891K581	37.37	54.40	____
TP270L	27″	72	7891K59	39.12	____	____
TP285L	28.5″	76	7891K601	40.08	58.57	____
TP300L	30″	80	7891K611	41.82	61.15	____
TP322L	32.25″	86	7891K621	43.60	63.97	____
TP345L	34.5″	92	7891K631	45.35	66.67	$87.27
TP367L	36.75″	98	7891K64	$46.97	____	____
TP390L	39″	104	7891K651	49.65	$73.40	$96.30
TP420L	42″	112	7891K661	52.23	77.47	101.82
TP450L	45″	120	7891K671	54.92	____	107.22
TP480L	48″	128	7891K681	57.65	85.70	112.77
TP510L	51″	136	7891K691	59.38	88.40	116.45
TP540L	54″	144	7891K701	62.07	93.77	123.70
TP600L	60″	160	7891K711	68.15	102.03	____
TP660L	66″	176	7891K721	73.40	110.12	145.55
TP817L	81.75″	218	7891K731	86.27	____	171.92

L Series Timing Belts and Pulleys



Belt

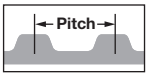



Press-Fit Pulley



Quick-Disconnect Pulley

L series (light) timing belts and pulleys have trapezoidal teeth with a 0.375″ pitch.

Multipurpose belts combine quiet-running neoprene with high-strength fiberglass reinforcement. Teeth are nylon coated to protect the wear surface and minimize friction. Color is black.

Dust-free belts are abrasion-resistant urethane, so they don't create dust while they run. Choose from steel and Kevlar reinforcement. Both provide very high strength, low stretch, and excellent shock resistance. Kevlar is more shock resistant than steel. Belts with steel reinforcement are gray; belts with Kevlar are black.

Heat-resistant belts are silicone, which withstands temperatures up to 400° F. They have Kevlar reinforcement for high strength, low stretch, and excellent shock resistance. Color is white.

Press-fit steel pulleys have two flanges. Pulleys with 10 to 16 teeth have a finished bore that includes set screws to grip the shaft, and pulleys with 18 to 24 teeth have a plain bore.

Press-fit aluminum pulleys are more corrosion resistant than steel pulleys. They have two flanges and a finished bore with set screws to grip the shaft.

Quick-disconnect pulleys mount with a quick-disconnect (QD) bushing (sold separately, see page 1092) for a more secure grip on the shaft than set screws. Pulleys are steel and have two flanges, unless noted.

Belts

Trade No.	Outer Circle	No. of Teeth		½″ Wd.	¾″ Wd.	1″ Wd.	1½″ Wd.
Multipurpose—Fiberglass reinforcement; Temp. range is -30° to 180° F							
124L	12.4″	33	6484K107	$8.38	$11.92	$15.34	____
135L	13.5″	36	6484K108	8.97	12.69	16.33	____
150L	15″	40	6484K168	9.30	13.23	17.03	____
158L	15.8″	42	6484K791	8.56	____	15.75	$22.56
165L	16.5″	44	6484K109	9.98	14.08	18.17	____
176L	17.6″	47	6484K792	9.13	____	16.94	26.90
187L	18.7″	50	6484K169	10.09	14.60	18.90	____
195L	19.5″	52	6484K814	10.70	15.43	20.02	____
203L	20.3″	54	6484K783	9.90	____	18.52	26.67
210L	21″	56	6484K948	10.96	15.93	20.60	____
225L	22.5″	60	6484K849	11.33	16.28	21.23	____
240L	24″	64	6484K949	11.87	17.21	22.14	____
248L	24.8″	66	6484K784	10.96	____	20.69	29.90
255L	25.5″	68	6484K851	12.16	17.62	23.03	30.73
263L	26.3″	70	6484K786	11.46	____	21.77	31.56
270L	27″	72	6484K952	12.68	18.45	24.13	____
285L	28.5″	76	6484K853	12.98	19.04	24.75	____
300L	30″	80	6484K954	13.54	20.02	25.94	____
315L	31.5″	84	6484K815	14.21	20.87	27.29	____
322L	32.2″	86	6484K955	14.17	21.48	27.14	____
345L	34.5″	92	6484K856	14.71	21.59	28.28	____
367L	36.7″	98	6484K957	15.21	22.09	29.54	____
375L	37.5″	100	6484K787	14.33	____	27.77	40.54
390L	39″	104	6484K858	16.05	22.04	31.22	____
420L	42″	112	6484K959	16.90	25.10	33.04	____
450L	45″	120	6484K859	17.80	26.45	34.73	____
480L	48″	128	6484K961	18.65	27.79	36.18	____
510L	51″	136	6484K862	19.26	28.66	37.80	____
540L	54″	144	6484K963	20.42	30.39	40.10	____
600L	60″	160	6484K864	22.12	33.07	43.65	____
660L	66″	176	6484K788	22.15	____	43.92	64.17
817L	81.7″	218	6484K967	28.62	43.05	54.54	____
900L	90″	240	6484K868	31.48	45.55	60.34	____

★ Minimum temperature is –65° F.

Trade No.	Outer Circle	No. of Teeth		½″ Wd.	¾″ Wd.	1″ Wd.
Dust Free—Steel reinforcement; Temp. range is –13° to 176° F						
86L	8.6″	23	1679K732	$9.08	$14.44	$18.16
124L	12.4″	33	1679K835	9.40	14.08	18.80
173L	17.2″	46	1679K738	9.72	14.16	19.44
210L	21″	56	1679K742	10.90	16.34	21.80
240L	24″	64	1679K945	11.62	17.44	23.24
255L	25.5″	68	1679K748	11.72	17.62	22.88
270L	27″	72	1679K852	11.82	17.80	23.60
285L	28.5″	76	1679K955	12.08	18.16	24.14
300L	30″	80	1679K858	12.36	18.44	24.42
322L	32.2″	86	1679K982	13.16	19.70	26.52
345L	34.5″	92	1679K785	15.18	22.78	30.32
367L	36.7″	98	1679K889	16.90	24.88	33.19
390L	39″	104	1679K992	18.06	27.00	36.04
450L	45″	120	1679K895	18.80	27.78	37.02
480L	48″	128	1679K998	19.06	28.14	37.59
510L	51″	136	1679K381	19.34	28.60	38.04
540L	54″	144	1679K384	20.96	33.94	41.66
570L	57″	152	1679K387	22.60	33.94	45.22
600L	60″	160	1679K391	23.78	35.76	47.56
Dust Free—Kevlar reinforcement; Temp. range is –30° to 180° F						
150L	15″	40	1679K962	11.90	17.96	23.82
187L	18.8″	50	1679K865	12.02	18.18	24.04
202L	20.2″	54	1679K968	14.78	22.18	29.54
217L	21.8″	58	1679K872	15.08	22.58	30.12
300L	30″	80	1679K775	15.22	22.82	30.42
420L	42″	112	1679K778	21.74	32.60	43.44
Heat Resistant—Kevlar reinforcement; Temp. range is –40° to 400° F						
165L	16.5″	44	51514T417	____	47.27	63.02
187L	18.7″	50	51514T418	____	48.33	64.43
345L	34.5″	92	51514T419	____	76.08	109.17
390L	39″	104	51514T444	____	90.33	120.45
405L	40.5″	108	51514T455★	____	88.46	119.00
420L	42″	112	51514T466	____	95.07	126.75

Press-Fit Steel Pulleys

No. of Teeth	For Shaft Dia.	OD	Pitch Dia.	O'all Wd.	For ½″ Max. Belt Wd.	
10	⅜″	1.438″	1.194″	1.125″	6495K23	$17.99
12	⅜″	1.672″	1.432″	1.25″	6495K24	19.81
14	⅜″	1.922″	1.671″	1.25″	6495K14	22.85
16	½″	2.156″	1.91″	1.375″	6495K15	25.29
18	½″	2.391″	2.149″	1.375″	6495K16	$26.66
20	½″	2.625″	2.387″	1.375″	6495K17	32.62
22	½″	2.875″	2.626″	1.5″	6495K18	34.60
24	½″	3.109″	2.865″	1.5″	6495K19	35.82

Press-Fit Aluminum Pulleys

For Shaft Dia.	Choose For Max. Belt Wd.	Choose No. of Teeth (OD)	
½″	½″, ¾″, 1″	18 (2.375″), 20 (2.625″), 22 (2.875″), 24 (3.094″), 26 (3.330″), 28 (3.566″), 30 (3.800″), 32 (4.044″), 36 (4.520″), 40 (5.000″)	1304N1

Quick-Disconnect Steel Pulleys

No. of Teeth	For QD Bushing	OD	Pitch Dia.	For ½″ Max. Belt Wd. O'all Wd.			For ¾″ Max. Belt Wd. O'all Wd.			For 1″ Max. Belt Wd. O'all Wd.		
18	JA	2.39″	2.149″	0.75″	6495K211	$34.42	1″	6495K311	$36.25	1.25″	6495K411	$39.44
20	JA	2.63″	2.387″	0.75″	6495K212	35.34	1″	6495K312	37.65	1.25″	6495K412	41.25
22	JA	2.88″	2.626″	0.75″	6495K213	37.13	1″	6495K313	40.79	1.25″	6495K413	43.98
24	SH	3.11″	2.865″	0.75″	6495K214	34.93	1″	6495K314	38.55	1.25″	6495K414	41.68
26	SH	3.34″	3.104″	0.75″	6495K215	36.25	1″	6495K315	41.25	1.25″	6495K415	44.84
28	SH	3.58″	3.342″	0.75″	6495K216	39.44	1″	6495K316	44.77	1.25″	6495K416	47.13
30	SDS	3.83″	3.581″	0.75″	6495K217	39.86	1″	6495K317	47.13	1.25″	6495K417	51.18
32	SDS	4.06″	3.82″	0.75″	6495K218	43.47	1″	6495K318	50.30	1.25″	6495K418	55.27
36	SDS	4.53″	4.297″	0.75″	6495K219	75.59	1″	6495K319	80.90	1.25″	6495K419	80.82
40	SDS	5.02″	4.775″	0.75″	6495K22	79.74	1″	6495K32	81.12	1.25″	6495K42	81.53
48	SDS	6.02″	5.73″	0.75″	6495K221	96.02	1″	6495K321	98.31	1.25″	6495K421	102.37
60	SD	7.13″	7.162″	0.75″	6495K222■	96.48	1″	6495K322■	101.50	1.25″	6495K422■	103.04

■ Made of iron; not flanged.

H Series Timing Belts and Pulleys

H series (heavy) timing belts and pulleys have trapezoidal teeth with a 0.500″ pitch.

Multipurpose belts are quiet-running neoprene with high-strength fiberglass reinforcement. The teeth are nylon coated to protect the wear surface and minimize friction. Color is black.

Dust-free belts are abrasion-resistant urethane, so belts don't create dust while they run. Belts have steel reinforcement for high strength, low stretch, and excellent shock resistance. Color is gray.

Heat-resistant belts endure temperatures up to 400° F. They are silicone and have Kevlar reinforcement, which has very high strength, low stretch, and excellent shock resistance. Color is white.

Press-fit pulleys are steel with two flanges. All have a plain bore.

Quick-disconnect pulleys mount with a quick-disconnect (QD) bushing (sold separately, see page 1092) for a more secure grip on the shaft than set screws. They are steel and have two flanges, unless noted. Pulleys for 1″ max. belt width are 1.313″ wide. Pulleys for 1½″ max. belt width are 1.813″ wide. Pulleys for 2″ max. belt width are 2.344″ wide.

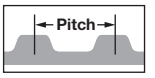


Belt


Press-Fit Pulley


Quick-Disconnect Pulley

Belts

Trade No.	Outer Circle	No. of Teeth		¾″ Wd.	1″ Wd.	1½″ Wd.	2″ Wd.
Multipurpose—Temp. range is -30° to 180° F							
210H	21″	42	6484K911	$16.92	$21.56	$31.13	$36.81
220H	22″	44	6484K802	17.38	22.18	32.06	37.94
230H	23″	46	6484K903	17.88	22.81	33.00	39.02
240H	24″	48	6484K841	18.15	23.01	33.21	40.15
270H	27″	54	6484K904	19.56	24.74	35.99	43.48
300H	30″	60	6484K805	20.95	26.60	38.66	46.81
320H	32″	64	6484K971	22.03	28.37	41.32	49.04
330H	33″	66	6484K806	22.35	28.36	41.44	50.17
340H	34″	68	6484K991	23.00	29.58	43.16	51.27
360H	36″	72	6484K206	23.75	30.26	44.10	53.52
370H	37″	74	6484K207	24.39	31.48	43.94	54.63
390H	39″	78	6484K291	25.12	32.03	44.81	56.83
400H	40″	80	6484K208	25.85	33.30	46.58	57.98
420H	42″	84	6484K292	26.53	33.89	47.40	60.19
450H	45″	90	6484K209	27.95	35.63	49.97	63.54
480H	48″	96	6484K293	29.33	37.49	53.49	66.85
510H	51″	102	6484K321	30.27	38.73	54.34	69.13
540H	54″	108	6484K331	31.07	41.15	57.80	73.56
560H	56″	112	6484K341	33.04	43.22	60.71	75.79
570H	57″	114	6484K307	33.04	42.37	59.51	75.79
600H	60″	120	6484K375	34.91	44.71	63.00	80.23
630H	63″	126	6484K381	35.84	43.99	64.69	82.46
660H	66″	132	6484K419	37.66	46.31	68.18	86.94
700H	70″	140	6484K422	39.55	48.58	71.66	91.38
750H	75″	150	6484K431	41.45	51.97	76.66	95.81
800H	80″	160	6484K461	44.17	55.50	82.30	102.52
850H	85″	170	6484K795	$41.71	$54.75	$80.88	$106.98
900H	90″	180	6484K796	44.19	58.10	85.88	113.65
960H	96″	192	6484K797	46.75	61.46	90.90	120.35
1000H	100″	200	6484K798	48.44	63.67	94.25	124.79
1100H	110″	220	6484K799	52.65	69.25	102.63	135.94
1250H	125″	250	6484K793	58.98	77.65	115.19	152.63
1400H	140″	280	6484K794	65.29	86.00	127.71	169.35
1700H	170″	340	6484K785	77.92	102.77	152.79	202.75
Multipurpose—Temp. range is -30° to 180° F (Cont.)							
Dust Free—Temp. range is -13° to 176° F							
230H	23″	46	1679K394	18.08	24.10	36.16	—
240H	24″	48	1679K397	18.08	24.10	33.74	—
270H	27″	54	1679K302	18.87	25.14	35.20	—
300H	30″	60	1679K324	19.70	26.28	36.78	—
330H	33″	66	1679K327	21.96	29.26	40.98	—
360H	36″	72	1679K312	25.46	33.94	47.52	—
390H	39″	78	1679K314	29.10	38.80	54.32	—
420H	42″	84	1679K317	29.36	39.16	54.82	—
450H	45″	90	1679K322	30.24	40.34	56.48	—
480H	48″	96	1679K304	32.70	43.60	61.04	—
510H	51″	102	1679K307	35.46	47.28	66.18	—
Heat Resistant—Temp. range is -40° to 400° F							
165H	16.5″	33	51514T817	—	63.02	94.53	—
175H	17.5″	35	51514T818	—	68.22	102.32	—
210H	21″	42	51514T819	—	68.33	102.53	—
225H	22.5″	45	51514T844	—	70.00	105.03	—
390H	39″	78	51514T855	—	102.23	153.35	—
420H	42″	84	51514T866	—	113.17	165.00	—

Press-Fit Pulleys

No. of Teeth	For Shaft Dia.	OD	Pitch Dia.	O'all Wd.	For 1″ Max. Belt Wd.	
14	⅝″	2.484″	2.228″	1.938″	6495K43	$42.22
16	⅝″	2.797″	2.546″	2″	6495K44	47.69
18	⅝″	3.109″	2.865″	2″	6495K45	50.13
20	⅝″	3.438″	3.183″	2.188″	6495K46	$59.41
24	¾″	4.016″	3.82″	2.313″	6495K47	69.49
28	¾″	4.703″	4.456″	2.438″	6495K48	95.00

Quick-Disconnect Pulleys

No. of Teeth	Pitch Dia.	For 1″ Max. Belt Wd. For QD Bushing	OD			For 1½″ Max. Belt Wd. For QD Bushing	OD			For 2″ Max. Belt Wd. For QD Bushing	OD		
14	2.228″	JA	2.48″	6495K511	$36.20	JA	2.48″	6495K611	$47.89	JA	2.5″	6495K811	$61.18
16	2.546″	JA	2.8″	6495K512	41.52	JA	2.8″	6495K612	52.43	JA	2.78″	6495K812	68.16
18	2.865″	SH	3.11″	6495K513	39.47	SH	3.11″	6495K613	54.22	SH	3.1″	6495K813	71.38
20	3.183″	SH	3.44″	6495K514	48.91	SH	3.44″	6495K614	60.86	SH	3.42″	6495K814★	78.80
22	3.501″	SDS	3.75″	6495K515	54.22	SD	3.75″	6495K615	67.83	SD	3.735″	6495K815★	81.58
24	3.82″	SDS	4.02″	6495K516	60.15	SD	4.06″	6495K616	73.27	SD	4.05″	6495K816★	87.14
26	4.138″	SDS	4.39″	6495K517	68.72	SD	4.78″	6495K617	81.40	SD	4.369″	6495K817★	94.56
28	4.456″	SDS	4.7″	6495K518	73.27	SD	4.7″	6495K618	85.85	SD	4.687″	6495K818★	101.04
30	4.775″	SD	5.02″	6495K519★	79.22	SD	5.02″	6495K619★	92.19	SD	5″	6495K819★	108.46
32	5.093″	SK	5.33″	6495K52★	84.98	SK	5.33″	6495K62★	99.45	SK	5.32″	6495K82★	114.02
36	5.73″	SK	5.95″	6495K521★	99.29	SK	5.95″	6495K621★	114.24	SK	5.959″	6495K821★	147.68
40	6.366″	SK	6.58″	6495K522★	111.26	SK	6.58″	6495K622★	123.97	SK	6.6″	6495K822★	164.56
48	7.639″	SK	8.02″	6495K523★	130.76	SK	8.02″	6495K623★	145.96	SF	8.016″	6495K823★	181.38
60	9.549″	SF	9.5″	6495K524■	135.62	SF	9.5″	6495K624■	146.96	SF	9.495″	6495K824■	191.88
120	19.099″	SF	19.05″	6495K525■	279.87	SF	19.05″	6495K625■	314.20	E	19.045″	6495K825■	411.58

★ Made of iron. ■ Made of iron; not flanged.

AT10 Series Timing Belt Pulleys

Made of aluminum, these pulleys have good corrosion resistance. They have trapezoidal teeth with a 10 mm pitch. All have a plain bore for press-fitting to a shaft and are 42 mm wide. For belts, see page 1105.



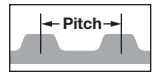

No. of Teeth	For Shaft Dia., mm	OD, mm	Pitch Dia., mm	For 25 mm Max. Belt Wd.	
18	10	60.3	57.29	1326N51	$43.62
20	12	66.7	63.65	1326N52	48.80
22	12	75	70.03	1326N53	51.30
24	12	83	76.39	1326N54	55.52
25	12	83	79.58	1326N55	58.42
27	12	90.6	85.95	1326N56	64.50
30	12	97	95.49	1326N57	73.02
32	12	106	101.86	1326N58	$84.26
36	16	118.26	114.59	1326N59	98.68
40	16	131	127.32	1326N61	123.58
44	16	144	140.05	1326N62	132.38
48	16	150.95	152.78	1326N63	148.30
60	16	189.1	190.98	1326N64	193.22

XL Series Timing Belts and Pulleys



Belt

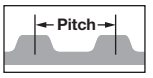



Pulley with Two Flanges

XL series (extra light) timing belts and pulleys have trapezoidal teeth with a 0.200″ pitch.

Multipurpose belts combine quiet-running neoprene with high-strength fiberglass reinforcement. Teeth are nylon coated to protect the wear surface and minimize friction. Color is black.

Dust-free belts are abrasion-resistant urethane. Choose from steel and Kevlar reinforcement, which both provide very high strength, low stretch, and excellent shock resistance. Kevlar is more shock resistant than steel. *Belts with steel reinforcement* are gray. *Belts with Kevlar reinforcement* are black.

Heat-resistant belts are silicone, which resists temperatures up to 400° F. They have Kevlar reinforcement for high strength, low stretch, and excellent shock resistance. Color is white.

Pulleys have a finished bore with set screws to grip the shaft. *Acetal* pulleys are a lightweight alternative to steel. They have an aluminum hub. *Aluminum* pulleys are more corrosion resistant than steel pulleys.

Belts

Trade No.	Outer Circle	No. of Teeth		1/4″ Wd.	5/16″ Wd.	3/8″ Wd.
Multipurpose—Fiberglass reinforcement; Temp. range is –30° to 180° F						
50XL	5″	25	6484K561	$3.17	—	$4.18
60XL	6″	30	6484K192	3.22	—	4.04
70XL	7″	35	6484K197	3.28	—	4.35
80XL	8″	40	6484K198	3.39	—	4.47
90XL	9″	45	6484K189	3.46	—	4.66
100XL	10″	50	6484K141	3.59	—	4.81
110XL	11″	55	6484K191	3.67	—	4.96
120XL	12″	60	6484K142	3.77	—	5.01
130XL	13″	65	6484K143	3.85	—	5.19
140XL	14″	70	6484K164	3.97	—	5.37
150XL	15″	75	6484K195	4.07	—	5.50
160XL	16″	80	6484K196	4.15	—	5.66
170XL	17″	85	6484K187	4.22	—	5.80
180XL	18″	90	6484K188	4.32	—	6.00
190XL	19″	95	6484K199	4.50	—	6.06
200XL	20″	100	6484K137	4.58	—	6.17
210XL	21″	105	6484K138	4.66	—	6.34
220XL	22″	110	6484K139	4.73	—	6.46
230XL	23″	115	6484K193	4.86	—	6.56
240XL	24″	120	6484K194	4.96	—	6.73
250XL	25″	125	6484K115	5.01	—	6.88
260XL	26″	130	6484K106	5.11	—	7.00
280XL	28″	140	6484K552	5.47	—	7.52
290XL	29″	145	6484K553	5.55	—	7.63
300XL	30″	150	6484K554	5.66	—	7.82
310XL	31″	155	6484K555	5.76	—	7.94
330XL	33″	165	6484K566	5.95	—	7.90
340XL	34″	170	6484K577	6.07	—	7.94
350XL	35″	175	6484K588	6.15	—	8.50
370XL	37″	185	6484K599	6.38	—	8.79
380XL	38″	190	6484K551	6.43	—	8.97
390XL	39″	195	6484K562	6.53	—	9.10
400XL	40″	200	6484K563	6.65	—	9.23
420XL	42″	210	6484K564	6.85	—	9.50
450XL	45″	225	6484K565	7.14	—	9.91
480XL	48″	240	6484K587	7.50	—	10.33
500XL	50″	250	6484K598	7.63	—	10.67
570XL	57″	285	6484K589	8.73	—	12.15
630XL	63″	315	6484K523	9.61	—	13.43
770XL	77″	385	6484K524	11.78	—	16.39
Dust Free—Steel reinforcement; Temp. range is –13° to 176° F						
76XL	7.6″	38	1679K156	3.32	$4.12	4.92
110XL	11″	55	1679K104	3.60	4.50	5.42
134XL	13.4″	67	1679K108	3.86	4.78	5.70
170XL	17″	85	1679K204	4.14	5.18	6.22
194XL	19.4″	97	1679K205	4.36	5.47	6.78
260XL	26″	130	1679K207	5.96	—	8.96
288XL	28.8″	144	1679K209	6.14	—	9.08
290XL	29″	145	1679K206	6.10	—	9.18

★ 1/4″ wide belt has a minimum temperature of –65° F.

Trade No.	Outer Circle	No. of Teeth		1/4″ Wd.	5/16″ Wd.	3/8″ Wd.
Dust Free—Steel reinforcement; Temp. range is –13° to 176° F (Cont.)						
414XL	41.4″	207	1679K208	$7.70	—	$11.68
450XL	45″	225	1679K827	8.74	—	13.12
566XL	56.6″	283	1679K929	10.86	—	16.34
Dust Free—Kevlar reinforcement; Temp. range is –30° to 180° F						
60XL	6″	30	1679K185	2.90	$3.62	4.34
70XL	7″	35	1679K106	2.94	3.66	4.38
80XL	8″	40	1679K186	2.94	3.66	4.42
90XL	9″	45	1679K158	2.92	3.70	4.48
96XL	9.6″	48	1679K188	3.00	3.76	4.50
100XL	10″	50	1679K107	3.04	3.78	4.54
110XL	11″	55	1679K201	3.02	3.76	4.52
120XL	12″	60	1679K202	3.06	3.84	4.58
130XL	13″	65	1679K101	3.12	3.90	4.72
140XL	14″	70	1679K152	3.18	3.96	4.76
150XL	15″	75	1679K103	3.22	4.04	4.86
160XL	16″	80	1679K203	3.24	4.04	4.86
176XL	17.6″	88	1679K102	5.60	7.00	8.40
180XL	18″	90	1679K311	5.62	7.02	8.42
190XL	19″	95	1679K301	5.84	7.30	8.76
200XL	20″	100	1679K321	5.96	7.42	8.86
210XL	21″	105	1679K182	6.02	7.52	9.06
220XL	22″	110	1679K411	6.06	7.56	9.10
240XL	24″	120	1679K183	6.14	7.66	9.22
250XL	25″	125	1679K401	6.18	7.72	9.26
270XL	27″	135	1679K153	7.06	8.94	10.80
300XL	30″	150	1679K421	7.50	9.36	11.26
330XL	33″	165	1679K105	7.40	9.38	11.32
360XL	36″	180	1679K501	7.66	9.54	11.44
400XL	40″	200	1679K155	9.08	11.36	13.60
460XL	46″	230	1679K547	7.84	9.66	11.58
480XL	48″	240	1679K571	7.94	9.88	11.84

Trade No.	Outer Circle	No. of Teeth		1/4″ Wd.	3/8″ Wd.	1/2″ Wd.
Heat Resistant—Kevlar reinforcement; Temp. range is –40° to 400° F						
90XL	9″	45	51514T131	$10.48	$15.72	$20.95
100XL	10″	50	51514T132	10.52	16.20	21.58
110XL	11″	55	51514T133	10.57	16.27	21.68
120XL	12″	60	51514T144 ★	9.92	16.43	21.92
130XL	13″	65	51514T155	10.72	16.47	21.97
140XL	14″	70	51514T166	15.28	23.62	31.47
150XL	15″	75	51514T177	15.40	23.68	31.60
160XL	16″	80	51514T188	15.72	24.17	32.22
168XL	16.8″	84	51514T199	15.90	24.48	32.63
180XL	18″	90	51514T126	16.03	24.67	32.87
190XL	19″	95	51514T127	16.12	24.78	33.03
210XL	21″	105	51514T128	16.80	25.85	34.48
240XL	24″	120	51514T129	17.50	26.90	35.87
280XL	28″	140	51514T165	18.13	28.28	37.72

Steel Pulleys

No. of Teeth	For Shaft Dia.	OD	Pitch Dia.	O'all Wd.	For 3/8″ Max. Belt Wd.	
With Two Flanges						
10	3/16″	0.929″	0.637″	0.781″	6495K711	$10.95
11	3/16″	0.929″	0.7″	0.781″	6495K712	12.03
12	3/16″	0.993″	0.764″	0.781″	6495K713	12.47
14	1/4″	1.12″	0.891″	0.781″	6495K714	14.68
15	1/4″	1.184″	0.955″	0.781″	6495K715	15.21
16	1/4″	1.248″	1.019″	0.781″	6495K716	16.11
18	1/4″	1.375″	1.146″	0.781″	6495K717	17.98
20	1/4″	1.502″	1.273″	0.875″	6495K718	19.15
21	1/4″	1.566″	1.337″	0.875″	6495K719	20.17
22	1/4″	1.63″	1.401″	0.875″	6495K721	20.98
24	1/4″	1.756″	1.528″	0.875″	6495K722	23.19

No. of Teeth	For Shaft Dia.	OD	Pitch Dia.	O'all Wd.	For 3/8″ Max. Belt Wd.	
With Two Flanges (Cont.)						
28	1/4″	2.011″	1.783″	0.875″	6495K723	$26.63
30	5/16″	2.138″	1.91″	0.875″	6495K724	28.36
Without Flanges						
32	5/16″	2.017″	2.037″	1″	6495K725	28.77
36	5/16″	2.272″	2.292″	1″	6495K726	29.26
40	5/16″	2.526″	2.546″	1″	6495K727	31.87
42	5/16″	2.654″	2.674″	1″	6495K728	32.69
44	5/16″	2.781″	2.801″	1″	6495K729	30.79
48	5/16″	3.036″	3.056″	1″	6495K731	33.39
60	3/8″	3.8″	3.82″	1″	6495K732	40.36
72	3/8″	4.564″	4.584″	1″	6495K733	49.87

(Continued on following page)

For information about sizing belts, see page 1094.

XL Series Timing Belts and Pulleys *(Continued from previous page)*

Acetal Pulleys

No. of Teeth	For Shaft Dia.	OD	Pitch Dia.	O'all Wd.	For 3/8" Max. Belt Wd.	
With Two Flanges						
10	3/16"	0.88"	0.637"	0.875"	57105K11	$7.40
11	3/16"	0.94"	0.7"	0.875"	57105K12	7.43
12	3/16"	1"	0.764"	0.875"	57105K13	7.48
14	1/4"	1.13"	0.891"	0.875"	57105K14	7.51
15	1/4"	1.19"	0.955"	0.875"	57105K15	7.56
16	1/4"	1.25"	1.019"	0.875"	57105K16	7.61
18	1/4"	1.38"	1.146"	0.875"	57105K17	7.93
20	1/4"	1.5"	1.273"	0.875"	57105K18	7.99
21	1/4"	1.56"	1.337"	0.875"	57105K19	7.99
22	1/4"	1.63"	1.401"	0.875"	57105K21	8.07
24	5/16"	1.75"	1.528"	0.875"	57105K22	8.20
With Two Flanges (Cont.)						
26	5/16"	1.88"	1.655"	0.875"	57105K23	$8.64
28	5/16"	2"	1.783"	0.875"	57105K24	8.75
30	5/16"	2.13"	1.91"	0.875"	57105K25	8.88
32	5/16"	2.25"	2.037"	0.875"	57105K26	8.91
36	5/16"	2.53"	2.292"	0.875"	57105K27	9.12
40	5/16"	2.75"	2.546"	0.875"	57105K28	10.40
42	5/16"	2.91"	2.674"	0.875"	57105K29	10.50
44	5/16"	3.03"	2.801"	0.875"	57105K31	10.61
48	5/16"	3.28"	3.056"	0.875"	57105K32	10.88
Without Flanges						
60	5/16"	3.8"	3.82"	0.875"	57105K33	17.15

Aluminum Pulleys

For Shaft Dia.	No. of Flanges	Choose No. of Teeth (OD)	For 3/8" Max. Belt Wd.
3/16"	2	10 (0.875"), 11 (0.938"), 12 (1")	1277N1
1/4"	2	14 (1.094"), 15 (1.188"), 16 (1.25"), 18 (1.375"), 20 (1.5"), 21 (1.563"), 22 (1.625"), 24 (1.75"), 26 (1.875"), 28 (2"), 30 (2.125")	1277N2
5/16"	–	32 (2.017"), 36 (2.272"), 40 (2.526"), 42 (2.654"), 44 (2.781"), 48 (3.036")	1277N3
3/8"	–	60 (3.8")	1277N61

High-Strength HTD Timing Belts and Pulleys

These HTD (high torque drive) timing belts and pulleys have a curved tooth shape that provides higher strength than trapezoidal teeth.

Belts are neoprene with fiberglass reinforcement for quiet operation. The teeth are nylon coated to protect the wear surface and minimize friction. Color is black. *5 mm pitch* belts are interchangeable with Gates PowerGrip GT and Carlisle RPP belts. Temperature range is -40° to 180° F. *8 mm pitch* belts are interchangeable with Gates PowerGrip GT3 belts. Temperature range is -30° to 180° F.

Stainless steel pulleys are more corrosion resistant than zinc-plated steel pulleys.

Press-fit pulleys come machined to the for shaft dia. size. *Zinc-plated steel* pulleys are machinable up to the for max. shaft dia. size.

Quick-disconnect pulleys mount with a quick-disconnect (QD) bushing (sold separately, see page 1092) for a more secure grip on the shaft than set screws.

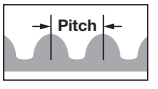


Belt


Press-Fit Pulley

Belts

Pitch, mm	Trade No.	Outer Circle, mm	No. of Teeth		15 mm Wd.	20 mm Wd.	30 mm Wd.	50 mm Wd.
5	350-5M	350	70	7939K11	$18.12	—	—	—
5	375-5M	375	75	7939K12	18.73	—	—	—
5	400-5M	400	80	7939K13	19.38	—	—	—
5	425-5M	425	85	7939K14	19.97	—	—	—
5	450-5M	450	90	7939K15	20.57	—	—	—
5	475-5M	475	95	7939K16	21.22	—	—	—
5	500-5M	500	100	7939K17	21.87	—	—	—
5	535-5M	535	107	7939K18	23.15	—	—	—
5	565-5M	565	113	7939K19	23.58	—	—	—
5	600-5M	600	120	7939K21	24.36	—	—	—
5	670-5M	670	134	7939K23	26.27	—	—	—
5	740-5M	740	148	7939K25	28.12	—	—	—
5	800-5M	800	160	7939K26	29.32	—	—	—
5	890-5M	890	178	7939K28	31.82	—	—	—
5	1000-5M	1,000	200	7939K31	34.39	—	—	—
8	480-8M	480	60	6486K11	—	$20.66	$29.05	—
8	560-8M	560	70	6486K13	—	22.23	31.77	—
8	600-8M	600	75	6486K21	—	23.38	33.56	—
8	640-8M	640	80	6486K23	—	24.04	34.37	—
8	720-8M	720	90	6486K31	—	25.79	36.92	$59.68
8	800-8M	800	100	6486K33	—	28.20	40.64	65.61
8	840-8M	840	105	6486K41	—	30.38	42.90	69.63
8	880-8M	880	110	6486K431	—	30.01	43.24	70.10

Pitch, mm	Trade No.	Outer Circle, mm	No. of Teeth		20 mm Wd.	30 mm Wd.	50 mm Wd.
8	920-8M	920	115	6486K51	$31.73	$45.58	$74.13
8	960-8M	960	120	6486K527	31.77	45.81	74.63
8	1040-8M	1,040	130	6486K63	33.52	48.55	78.99
8	1064-8M	1,064	133	6486K627	35.06	50.75	82.65
8	1120-8M	1,120	140	6486K628	35.30	51.13	83.49
8	1160-8M	1,160	145	6486K629	37.40	53.75	88.17
8	1200-8M	1,200	150	6486K681	37.22	53.86	88.00
8	1224-8M	1,224	153	6486K136	39.65	56.60	92.67
8	1280-8M	1,280	160	6486K137	39.03	56.46	92.52
8	1440-8M	1,440	180	6486K138	44.10	61.77	105.04
8	1512-8M	1,512	189	6486K139	45.42	65.77	108.21
8	1584-8M	1,584	198	6486K236	47.94	69.48	114.40
8	1600-8M	1,600	200	6486K237	47.94	67.10	110.42
8	1760-8M	1,760	220	6486K238	49.87	72.41	119.28
8	1800-8M	1,800	225	6486K239	50.93	76.65	122.39
8	2000-8M	2,000	250	6486K336	55.77	81.13	134.31
8	2200-8M	2,200	275	6486K337	62.79	91.33	151.44
8	2400-8M	2,400	300	6486K338	67.65	98.71	163.83
8	2600-8M	2,600	325	6486K339	73.17	106.23	178.19
8	2800-8M	2,800	350	6486K43	77.67	113.21	188.52
8	3280-8M	3,280	410	6486K432	89.52	127.10	215.77
8	3600-8M	3,600	450	6486K134	95.73	—	—
8	4400-8M	4,400	550	6486K135	114.19	—	—

Press-Fit Pulleys

Pitch, mm	For Max. Belt Wd., mm	No. of Teeth	For Shaft Dia.	Zinc-Plated Steel: For Max. Shaft Dia.	OD, mm	Pitch Dia., mm	O'all Wd., mm			Stainless Steel: OD, mm	Pitch Dia., mm	O'all Wd., mm		
5	15	32	1/2"	0.875"	54.11	50.927	34.04	6497K81	$48.08	53.98	49.784	34.04	1230N11	$94.10
5	15	34	1/2"	1"	60.46	54.102	34.04	6497K82	48.80	58.17	52.959	34.04	1230N12	97.28
5	15	36	1/2"	1.125"	60.46	57.302	34.04	6497K83	49.97	61.22	56.159	34.04	1230N13	99.32
8	20	22	1/2"	1.188"	65.03	56.032	28.58	6497K111	44.76	65.08	54.660	44.45	1230N15	112.02
8	30	22	1/2"	1.188"	65.03	56.032	38.1	6497K211	45.57	65.08	54.660	53.98	1230N24	116.56
8	30	24	1/2"	1.25"	70.11	61.112	38.1	6497K212	46.39	69.85	59.740	53.98	1230N25	121.76
8	30	26	1/2"	1.25"	74.93	66.217	38.1	6497K213	48.05	74.6	64.846	57.15	1230N26	126.68

Quick-Disconnect Pulleys

Pitch, mm	For Max. Belt Wd., mm	Choose No. of Teeth (For QD Bushing)	Zinc-Plated Steel	Stainless Steel
5	15	40 (JA)	—	1230N14
5	15	40 (JA), 56 (SH)	6497K1	—
8	20	26 (JA), 28 (H), 30 (H), 34 (SH), 40 (SH), 44 (SDS), 48 (SDS), 56 (SDS)	6497K2	1230N4
8	30	28 (H), 30 (H), 32 (H), 34 (SH), 40 (SH), 44 (SDS), 48 (SDS), 56 (SDS)	6497K3	1230N5
8	50	34 (SH), 36 (SH), 40 (SH)	6497K4	1230N6

High-Strength Ultra-Quiet Timing Belts and Pulleys

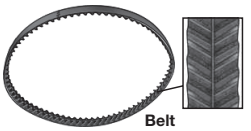

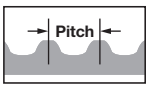



Press-Fit Pulley



Quick-Disconnect Pulley

The teeth of these timing belts and pulleys are curved and set in an offset pattern for high strength and 25% less operating noise than belts with trapezoidal teeth. Pitch is 8 mm.

Belts are Buna-N with Kevlar reinforcement, which has very high strength, low stretch, and excellent shock resistance. Temperature range is –60° to 200° F. Color is black.

Pulleys are iron with a manganese phosphate finish. *Press-fit* pulleys come machined to the smallest for shaft dia. size and are machinable up to the largest size listed. *Quick-disconnect* pulleys mount with a quick-disconnect (QD) bushing (not included, see page 1092) to grip the shaft more securely than pulleys that press fit.

Belts

Outer Circle, mm	No. of Teeth	16 mm Wd. Trade No.			32 mm Wd. Trade No.		
640	80	Y-640	7947K11	$38.94	W-640	7947K25	$77.23
720	90	Y-720	7947K12	42.28	W-720	7947K26	82.96
800	100	Y-800	7947K13	48.10	W-800	7947K27	88.65
896	112	Y-896	7947K14	51.48	W-896	7947K28	97.26
1,000	125	Y-1000	7947K15	56.11	W-1000	7947K29	108.67
1,280	160	Y-1280	7947K18	67.46	W-1280	7947K32	125.88

Press-Fit Pulleys

For Max. Belt Wd., mm	No. of Teeth	For Shaft Dia.	OD, mm	Pitch Dia., mm	O'all Wd., mm		
16	18	1/2"-7/8"	44.45	46	29	7955K11	$123.13
32	25	1/2"-1 3/8"	62.23	64	49	7955K16	152.04

Quick-Disconnect Pulleys

For Max. Belt Wd., mm	No. of Teeth	For QD Bushing	OD, mm	Pitch Dia., mm	O'all Wd., mm		
16	28	H	69.85	71	17	7955K12	$117.51
16	36	SH	90.43	92	17	7955K13	123.13
32	40	SH	100.59	102	33	7955K17	186.22
32	48	SDS	120.91	122	33	7955K19	213.33

Belt Tension Gauges



A



B



C

Keep an eye on belt tension to minimize vibration, noise, and slippage.

Styles A and **B** are pocket-sized for measurements on the go.

	For Belt Type	For Max. Belt Wd.	Tension Rating, lbs.	Distance Between Arms		
A	V	1 1/4"	0-35	—	6160K12	$34.27
B	V, Flat, Round	7/8"	30-150	—	5913T1	20.00
B	V, Flat, Round	2"	100-300	—	5913T2	20.00
C	A-Section V	1/2"	30-180	3 1/4"	6018K12	198.29
C	B-Section V	21/32"	60-200	4 1/2"	6018K16	243.27
C	Timing	1"	40-180	3 1/2"	60275K21	385.70

Ultra-High-Strength Poly Chain Timing Belts and Pulleys

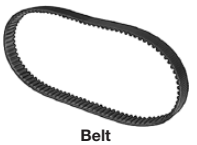

Belt

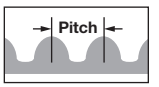



Taper-Lock Pulley

Strong enough to replace roller chain, these belts and pulleys have curved teeth with an 8 mm pitch for superior load distribution and reduced wear.

Belts are abrasion-resistant urethane. They have carbon fiber reinforcement, which has ultra-high strength, low stretch, and excellent shock resistance. The teeth are nylon coated to protect the wear surface and minimize friction. Belts are interchangeable with Gates PolyChain GT belts. Temperature range is -65° to 185° F. Color is black.

Taper-lock pulleys mount with a taper-lock bushing (not included, see page 1092) for a more secure grip on the shaft than set screws. They are steel with a black-oxide finish.

Belts

Trade No.	Outer Circle, mm	No. of Teeth		12 mm Wd.	21 mm Wd.	36 mm Wd.
416-8M	416	52	7904K185	$22.45	$39.90	$67.35
640-8M	640	80	7904K186	33.27	61.52	—
720-8M	720	90	7904K187	36.97	65.37	—
800-8M	800	100	7904K188	40.67	76.90	—
896-8M	896	112	7904K189	44.38	80.75	—
1000-8M	1,000	125	7904K213	48.07	88.47	—
1040-8M	1,040	130	7904K214	50.17	90.42	149.05
1120-8M	1,120	140	7904K215	51.80	92.30	—
1200-8M	1,200	150	7904K216	53.05	95.65	154.50
1280-8M	1,280	160	7904K217	56.60	99.32	—
1440-8M	1,440	180	7904K218	59.75	105.67	—
1600-8M	1,600	200	7904K219	63.05	112.95	—
1760-8M	1,760	220	7904K221	68.60	122.10	209.88
1792-8M	1,792	224	7904K222	70.07	123.87	211.30
2000-8M	2,000	250	7904K223	77.10	138.45	233.20
2240-8M	2,240	280	7904K224	91.10	163.97	269.62

Taper-Lock Pulleys

No. of Teeth	For Taper-Lock Bushing	OD, mm	Pitch Dia., mm	O'all Wd., mm		
For 12 mm Max. Belt Wd.						
22	1008	66.04	56	22.35	7970K11	$82.47
36	1610	101.6	92	25.4	7970K12	82.47
45	2012	124.46	115	31.75	7970K13	106.50
For 21 mm Max. Belt Wd.						
22	1008	66.04	56	30.48	7970K15	103.09
36	1610	101.6	92	30.48	7970K16	103.09
45	2012	124.46	115	31.75	7970K17	130.56

Wide-Range Belt Tension Gauges



Measure belt tension up to 2,200 lbs. Position the sensor above your belt and pluck the belt like a guitar string to create vibration. Then, read the tension measurement on the display.

Gauge is for use with flat, round, and V-belts. It comes with a tuning fork for calibration, four AA batteries, and a plastic case.

Tension Rating lbs.	Hz	Newtons		
1-2,200	10-400	1-9,990	1455T1	$1,350.74

For information about sizing belts, see page 1094.

Alligator Lacing Sets for Flat Belts

Often used to join conveyor belt seams, use this lacing for a tight hold with uniform tension across the width of your belt. Once installed, joints are flush with the belt surface on both sides, so teeth run smoothly over idlers and don't catch on conveyed materials. Use the included removable hinge pins to connect the lacing between two belt ends. For use with belts up to 12″ wide.

Stainless steel lacing has better corrosion resistance than steel and is nonmagnetic.

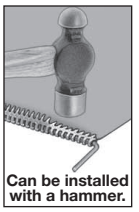

For Belt Thickness	Lg.	Lace No.★	No. of Belt Joints Per Set	Steel	Set	Stainless Steel	Set
1/64″-1/16″	6″	00	6	6118K11	$25.20	6118K31	$51.66
1/16″-3/32″	6″	1A	6	6118K12	22.32	6118K32	47.54
3/32″-9/64″	6″	7	6	6118K13	21.38	6118K33	53.91
1/8″-5/32″	12″	15	4	6118K14	28.94	6118K34	80.68
5/32″-3/16″	12″	20	4	6118K15	33.88	6118K35	106.46
3/16″-7/32″	12″	25D	4	6118K16	33.88	6118K36	113.64
7/32″-9/32″	12″	27K	4	6118K19	32.63	6118K58	127.79
9/32″-5/16″	12″	35N	4	6118K23	41.86	6118K41	199.70
5/16″-3/8″	12″	45U	4	6118K24	40.61	6118K42	229.25
3/8″-7/16″	12″	55W	4	6118K25	54.17	6118K43	297.14

★Lace numbers for stainless steel have an "S" added to the end.

V-Belt Sizer

Quickly determine the size of any belt. This tool measures belt top widths up to 1″ and outer circles up to 100″.



60375K2 ..... $74.16

V-Belt and Pulley Groove Gauges

Measure V-belt cross sections and pulley groove depths to select the correct size belt. You'll get three gauges for belts (covering sizes A-E, 3V, 5V, and 8V belts) and eight gauges for grooves (covering A/B combination grooves). All of the gauges are made of blue plastic and are connected with a ball chain.



1937K33 ..... $9.50

Pocket Parallel-Edge Alignment Laser

Slip this 2 1/2″ Lg. × 9/16″ Wd. × 1 1/4″ Ht. tool into your pocket so it's always on hand to align belts, pulleys, chain, and sprockets. Economical and simple to use, this laser has a machined aluminum surface that is adjusted parallel to the contact surface for precise alignment. Just press the tool against the side of your pulley or sprocket and project the laser along your belt or chain to the cardboard target (included) to see any misalignment. Laser is integrated Class II and has a 630-680 nm wavelength. Tolerance is 0.5 mm per 1 meter. Operates on two 1.5-volt batteries (included). Packed in a nylon pouch.



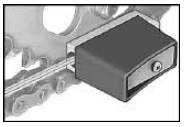

3273A1 ..... $91.75

Magnetic Laser Alignment Tool

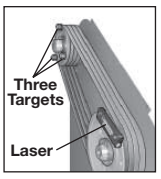



Align pulleys, gears, sprockets, and just about anything ferrous with this aluminum magnetic laser alignment tool. It works with pulleys that have 3″ to 6 ft. diameters and 3″ to 20 ft. spacings. Place the adjustable magnetic targets onto the edge of one pulley and attach the laser line emitter on the edge of the other pulley. The laser light intersects the three targets to visually show any misalignment. Laser is Class II, 635 nm wavelength, accurate to ±0.07°, and 1/16″ wide at 30″ with a 70° spread. Tool includes two belt-tension testers for capacities of 30 to 300 lbs., three adjustable targets, a laser line emitter, and a plastic carrying case with foam inserts. Operates on two AAA batteries (included).

Alignment Tool 2309A46 $924.07

Urethane Belt Joining Kits

Everything you need to join flat, round, and V-belts made of urethane. Not for use with E-section V-belts. Use the clamp to secure the belt ends together, soften belt ends with the heating tool, and press the soft belt ends together to join. Kit also includes a belt cutter, pliers, and plastic case.

Heating tool operates on 120 volts AC and reaches a maximum temperature of 475° F. It has a 2″ wide blade and a 6-ft. cord with plug.



For Max. Belt Wd.	For Max. Belt Ht.		
2″	3/4″	62065K41	$748.86
Replacement Heating Tool		62065K11	124.50
Replacement Heating Tool Tip		62065K16	33.02
Replacement Pliers		62065K12	35.52
Replacement Clamp		62065K13	445.60

Coupling and Bearing Guards

Shield couplings and bearings from dirt and debris while protecting fingers and tools from moving parts. Guards are electrically nonconductive and resist chemicals, corrosion, and impact. They help meet OSHA standard 29 CFR 1910.219 for rotating machinery.

Guards come unassembled. They are orange polyethylene and include 304 stainless steel mounting hardware.

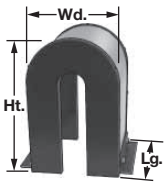

Shown Assembled

Lg.	Wd.	Ht.		
4″	4″	6″	6593K31	$50.69
6″	6″	8″	6593K22	78.73
8″	8″	10″	6593K24	103.53
12″	12″	16″	6593K26	194.12
16″	16″	20″	6593K28	251.43
20″	20″	24″	6593K29	335.89

Nonslip Belt Coatings

Prevent slippage on flat, round, and V-belts and eliminate squeaking. These coatings also extend belt and pulley life by reducing tension and vibration.

4-oz. Squeeze Bottle—Use on rubber, urethane, canvas, and leather belts. Dries in 10 minutes.

10-oz. Aerosol Can—Use on rubber belts. Dries in 90 seconds.



Squeeze Bottle

4-oz. Squeeze Bottle	6155K29	$13.30
10-oz. Aerosol Can	6155K27	13.00

Heavy Duty Belt and Roller Chain Tensioners

Maintain correct drive tension to ensure smooth operation for maximum power and a long service life. For use with idler sprockets and pulleys. Idler shaft (sold separately below) is required.

Tensioners are designed for use on large belt and chain drives. They're steel and are spring loaded to provide constant tension and automatic adjustments for pulsating loads.

Idler shafts are made of hardened and ground steel. Thread size is 3/14″-16 and thread length is 7/8″.

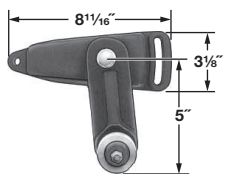

Tensioners

Tension Force, lbs.	For Idler Bore Size		
22	1″	1816K1	$105.50
44	1″	1816K2	107.38

Idler Shafts

Dia.	(A)	(B)		
1″	1 1/2″	2 1/8″	1816K3	$14.88
1″	2 1/2″	3 1/8″	1816K4	16.24
1″	3 1/2″	4 1/8″	1816K5	18.76

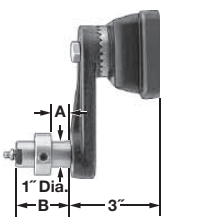

Front and Side View of Tensioner Shown with Idler Shaft

External Grip Pullers

About External and Internal Grip Pullers

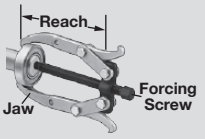

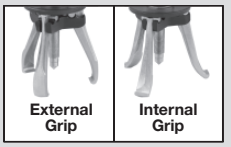

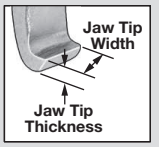

Use jaw-style pullers to grip bearings, gears, wheels, bushings, and pulleys. When space allows, select a three-jaw puller for better stability and more evenly distributed pulling force.

Capacities listed should be used as a guide. If you can grip and reach an object, your puller will normally have enough power to pull it. When in doubt, choose the next larger puller size.

External Grip Pullers


Two Jaws with T-Handle Forcing Screw


Two Jaws with Tips at Both Ends


Three Jaws


Combination Two/Three Jaws with Tips at Both Ends

Grip bearings, gears, and wheels from the outside edge to pull them off a shaft. Pullers are steel with a steel forcing screw. Pullers with a 2 1/8″ reach have a T-handle forcing screw.

Pullers with combination two/three jaws have mounting holes in both a two-jaw and three-jaw configuration, so you can attach the jaws either way to suit your application.

Pullers with jaw tips on both ends have a different jaw tip size on each end for versatility in fitting bearings, gears, and wheels.

Replacement jaws are sold individually. For replacement forcing screws, see page 1115.

For OD	Reach	Cap., tons	Forcing Screw Thread Size	Forcing Screw Lg.	Jaw Tip Location	Jaw Tip Wd. x Thick.	Pullers		Replacement Jaws	
Two Jaws										
1/2″-3 1/4″	2 1/8″	1	5/16″-24	3 7/8″	One End	1/4″ x 3/16″	6340K71	$43.71		
1/2″-4″	3 1/4″	2	3/8″-24	4 7/8″	Both Ends	1/4″ x 3/16″; 1/2″ x 1/8″	6340K21	37.94	6340K2	$19.93
1/2″-6″	3 1/4″	5	9/16″-20	7″	Both Ends	3/8″ x 5/16″; 3/4″ x 1/4″	6340K31	46.43	6340K3	19.90
1/2″-6″	5 1/2″	5	9/16″-20	7″	Both Ends	3/8″ x 5/16″; 3/4″ x 1/4″	6340K22	54.83	6340K4	19.94
1/2″-9″	5″	7	11/16″-18	9″	Both Ends	1″ x 5/16″; 1″ x 3/8″	6340K32	86.55	6340K5	39.94
1/2″-9 1/2″	8 3/4″	7	11/16″-18	9″	One End	1″ x 3/8″	6340K23	89.22	6340K6	31.59
1/2″-12″	11″	13	13/16″-16	12 1/2″	One End	1″ x 9/16″	6340K24	151.52		
1/2″-15 1/2″	15 1/4″	13	13/16″-16	12 1/2″	One End	1″ x 9/16″	6340K25	160.78		
1/2″-16″	18 3/4″	17 1/2	1″-14	13 3/4″	One End	1 5/16″ x 13/16″	6340K27	295.04		
1/2″-20″	22 1/4″	25	1 1/4″-12	16″	One End	1 1/2″ x 1 1/16″	6340K79	530.60		
Three Jaws										
1/2″-3 1/4″	2 1/8″	1	5/16″-24	3 7/8″	One End	1/4″ x 3/16″	6340K72	55.75		
1/2″-14″	14 1/2″	17 1/2	1″-14	13 3/4″	One End	1 5/16″ x 13/16″	6340K42	422.44		
1/2″-16″	18 3/4″	17 1/2	1″-14	13 3/4″	One End	1 5/16″ x 13/16″	6340K43	458.64		
1/2″-20″	22 1/4″	25	1 1/4″-12	16″	One End	1 1/2″ x 1 1/16″	6340K84	723.04		
Combination Two/Three Jaws										
1/2″-4 3/4″	3 1/4″	2	3/8″-24	4 7/8″	Both Ends	1/4″ x 3/16″; 1/2″ x 1/8″	6340K41	54.83	6340K2	19.93
1/2″-7″	3 1/4″	5	9/16″-20	7″	Both Ends	3/8″ x 5/16″; 3/4″ x 1/4″	6340K51	62.44	6340K3	19.90
1/2″-7″	5 1/2″	5	9/16″-20	7″	Both Ends	3/8″ x 5/16″; 3/4″ x 1/4″	6340K53	71.37	6340K4	19.94
1/2″-10 1/2″	5″	7	11/16″-18	9″	Both Ends	1″ x 5/16″; 1″ x 3/8″	6340K52	106.06	6340K5	39.94
1/2″-11″	8 3/4″	7	11/16″-18	9″	One End	1″ x 3/8″	6340K54	106.17	6340K6	31.59
1/2″-12″	11″	13	13/16″-16	12 1/2″	One End	1″ x 9/16″	6340K55	252.56		
1/2″-17″	15 1/4″	13	13/16″-16	12 1/2″	One End	1″ x 9/16″	6340K56	260.28		

Quick-Hold External Grip Pullers


Two Jaws

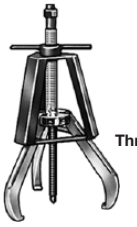
Three Jaws

These pullers have a cage around the jaws that keeps them aligned so you can secure bearings and pulleys quickly. Use them to grip bearings, gears, and wheels from the outside edge to pull them off a shaft. Pullers are steel with an iron T-handle on the forcing screw. The cage has a black powder-coated finish.

Replacement jaws are sold individually.

Also Available: Replacement parts. Please ask for 6169K9 and specify forcing screw, pin, or jaw head, puller capacity, and puller style (two or three jaws).

For OD	Reach	Cap., tons	Forcing Screw Thread Size	Forcing Screw Lg.	Jaw Tip, Wd. x Thick.	Pullers		Replacement Jaws	
Two Jaws									
1/4″-3 1/4″	2 1/4″	1	5/16″-24	5 1/2″	11/32″ x 1/8″	6169K2	$70.00	6169K137	$14.01
1/2″-5″	4″	2	9/16″-16	9 5/8″	5/8″ x 3/16″	6169K31	130.91	6169K324	24.27
1/2″-7″	6″	6	5/8″-14	12 3/4″	3/4″ x 1/4″	6169K13	179.09	6169K144	30.44
3/4″-12″	8″	12	3/4″-14	16 1/4″	7/8″ x 9/32″	6169K17	201.64	6169K174	39.38
1″-14″	9 5/8″	14	3/4″-14	19 1/4″	1″ x 11/32″	6169K15	217.21	6169K164	42.36
2 1/2″-18″	12″	25	1 1/8″-14	26″	1 1/4″ x 1/2″	6169K23	506.56	6169K244	103.03
3″-25″	14″	35	1 1/4″-14	31 1/2″	1 7/16″ x 1 1/16″	6169K25	627.05	6169K264	153.50
Three Jaws									
1/4″-4 1/2″	3″	2	3/8″-24	7″	7/16″ x 3/16″	6169K1	99.09	6169K114	16.00
1/2″-5″	4″	5	9/16″-16	9 5/8″	5/8″ x 3/16″	6169K32	153.64	6169K324	24.27
1/2″-7″	6″	10	5/8″-14	12 3/4″	3/4″ x 1/4″	6169K14	181.97	6169K144	30.44
3/4″-12″	8″	17	3/4″-14	16 1/4″	7/8″ x 9/32″	6169K18	231.15	6169K174	39.38
1″-14″	9 5/8″	20	3/4″-14	19 1/4″	1″ x 11/32″	6169K16	255.74	6169K164	42.36
2 1/2″-18″	12″	30	1 1/8″-14	26″	1 1/4″ x 1/2″	6169K24	636.07	6169K244	103.03
3″-25″	14″	40	1 1/4″-14	31 1/2″	1 7/16″ x 1 1/16″	6169K26	768.03	6169K264	153.50

Set—Contains two-jaw puller with a 6-ton capacity and three-jaw pullers with 5-, 10-, and 20-ton capacities. 6169K63 $696.64

Quick-Hold Reversible Jaw External/Internal Grip Pullers

Self-locking jaws hold these pullers in place for quick one-hand operation. Spring tension holds the jaws against the object being pulled, so you can tighten the locking nut.

To grip objects on the outside, attach the jaws with tips facing in. To grip objects from inside, attach the jaws with tips facing out. Pullers and forcing screws are steel.

Also Available: Replacement forcing screws and forcing screw tips. For forcing screws, please ask for 3765A62 and specify thread size and length. For forcing screw tips, please ask for 3765A1 and specify screw thread size.

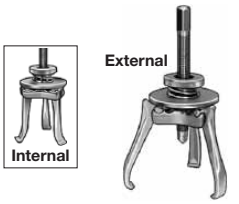

For OD	For ID	Reach	Cap., tons	Forcing Screw Thread Size	Forcing Screw Lg.	Jaw Tip, Wd.×Thick.		
Two Jaws								
1½″-4″	1½″-3¾″	3½″	2	⅜″-16	6⅛″	⅜″×3/16″	3765A52	$87.20
2″-4½″	1½″-3½″	3″	6	⅝″-18	6⅞″	¾″×¼″	3765A3	122.08
3″-13¾″	4¾″-11½″	15″	10	¾″-16	19″	1″×⅜″	3765A56	293.65
3½″-16″	5″-13″	14⅜″	20	1″-14	19″	1¼″×9/16″	3765A7	367.64
Three Jaws								
★	¾″-8″	6″	6	⅝″-18	6⅞″	5/16″×¼″	3765A4★	160.14
1½″-4½″	1½″-3½″	3″	7½	⅝″-18	6⅞″	¾″×¼″	3765A5	150.58
2″-4″	1½″-3¾″	3½″	2½	⅜″-16	6⅛″	⅜″×3/16″	3765A2	112.06
2″-8½″	2½″-7½″	5½″	12½	¾″-16	9⅞″	15/16″×¼″	3765A54	234.73
3″-13¾″	4¾″-11½″	15″	12½	¾″-16	19″	1″×⅜″	3765A6	350.65

★Not recommended for external pulling.

Accessories

Pulling Plate—Allows you to remove objects with no gripping surface. Attach the plate to your object, then grip the edge of the plate with your puller. Includes four ¼″-20×¾″ long and four ¼″-28×1″ long screws. Made of steel.

Slide Hammers—Provide additional force for hard-to-remove objects. Attach the slide hammer in place of the forcing screw. Hammers are steel.


Pulling Plate


Slide Hammer

	For Cap., tons	O'all Lg.	Thread Size		
Pulling Plate	2½-12½	—	—	3765A35	$13.56
1 1/16-lb. Slide Hammer	2-2½	13″	⅜″-16	3765A33	29.58
2⅛-lb. Hammer	6-7½	18½″	⅝″-18	3765A34	77.46

Internal Grip Pullers

Also known as a pilot bearing puller, use this two-jaw puller to grip the interior edge of press-fit bearings, oil seals, and bushings. It has a 1¾-lb. slide hammer with a ½″-20 threaded end that provides force to extract hard-to-remove objects. All components are steel. Not rated for capacity.



For ID	Reach	Jaw Tip, Wd.×Thick.		
½″-1½″	¾″	7/16″×⅛″	6354K2	$104.09

Accessories

Jaws are sold individually.

For ID	Reach	Jaw Tip, Wd.×Thick.		
Jaw ½″-2″	1¾″	7/16″×⅛″	6354K7	$24.93
Jaw 1″-2¼″	1″	⅝″×⅛″	6354K6	23.27
Narrow Head (For ½″-1⅜″ ID)			6354K3	87.47
Replacement Slide Hammer			6354K4	46.17

Hub and Fan Blade External Grip Pullers

A must-have for HVAC jobs, this puller makes quick work of removing press-fit hubs and fan blades from motor shafts. For hub-mounted components such as blower wheels, secure the puller with the included set screws. Fits motor shafts up to 0.625″ dia. and hubs up to 1¾″ dia. For fan blades, attach the removable jaws, hooking a jaw around each fan blade to secure. Jaws have ¼″ wide tips, a reach of 1½″, and are for 6″ max. OD. Puller body is aluminum; jaws and forcing screw are steel. Forcing screw is ½″-20×9″ long. Not rated for capacity.



59765K81 ..... $62.00

Set—Includes the puller and all of the accessories listed below. Comes in a plastic case.

59765K89 ..... $83.65

Accessories

Hub adapter is for use on hubs up to 2¾″ OD.

Long jaws are for 8½″ max. OD. They have a reach of 2⅝″.

Hub Adapter	59765K85	$18.50
Long Jaws (Set of 4)	59765K87	6.50

Forcing Screws and Accessories for Pullers



Make your old puller work like new by replacing worn forcing screws. Screws are steel.

Also Available: Shaft protectors, threaded adapters, and step-plate adapters. For shaft protectors, please ask for 6268K1 and specify OD. For threaded adapters, please ask for 3762A11 and specify male thread size. For step-plate adapters, please ask for 59875K1 and specify diameter.

Thread Size	Lg.		
Hex-Head Forcing Screws			
5/16″-24	4⅛″	6340K8	$19.92
⅜″-24	4⅞″	6340K9	8.24
½″-20	9″	59765K91	6.00
9/16″-16	10⅛″	6169K321	45.00
9/16″-20	6⅞″	6340K11	19.88
⅝″-14	12¾″	6169K141	47.00
⅝″-18	5½″	6317K31	18.69
⅝″-18	13¾″	6358K18	39.93
11/16″-18	9″	6340K12	31.60
¾″-14	16¼″	6169K171	64.00
¾″-14	19¼″	6169K161	73.00
⅞″-9	8″	6337K12	94.37
1″-14	13¾″	6340K16	124.44
1⅛″-14	26″	6169K241	130.00
1¼″-12	16″	6340K17	141.60
1¼″-14	31½″	6169K261	175.00
1½″-6	14″	6337K22	269.63
T-Handle Forcing Screws			
5/16″-24	5½″	6169K135	19.00
⅜″-24	7″	6169K111	25.00

Adjustable Face-Grip Puller Sets



Also known as steering wheel and flywheel pullers, you can change the bolt configuration on these pullers to fit a variety of tapered hole patterns. Pullers are steel. Not rated for capacity.

Set includes a small-hole puller (for up to 3¼″ OD; 4⅜″ reach; 4¾″ forcing screw), a large-hole puller (for up to 4⅝″ OD; 4¾″ reach; 5⅝″ forcing screw), and 12 cap screws (three of each: ⅜″-16×3½″ long, ⅜″-24×3″ long; 5/16″-18×3½″ long; 5/16″-24×3½″ long).

69805A25 ..... $85.64

Pullers & Puller Sets

For information about pullers, see page 1114.

Face-Grip Pullers



Compact



Standard (Shown with Bearing Separator)

Install and remove bearings, pulleys, and other press-fit parts with tapered holes. All pullers are steel.

Compact pullers are often used to remove timing gears, fan pulleys, and harmonic balancers. *Puller for 1½"-4¼" OD* includes two ⅜"-16, 3" long cap screws. *Puller for 2"-7¾" OD* accepts cap screws up to ½" dia. (not included, see pages 3128-3153). Reach depends on the length of your cap screws.

Standard pullers have two legs with end caps to protect the threads.

Optional legs for standard pullers allow you to change the reach of your puller or replace worn legs. Legs come in pairs.

Pullers

For OD	Reach	Cap., tons	Leg Thread Size	Forcing Screw Lg.	Forcing Screw Thread Size		
Compact							
1½"-4¼"	2"	Not Rated	—	13"	⅝"-18	5926A3	$59.45
2"-7¾"	—	Not Rated	—	11⅝"	¾"-16	5926A4	83.64
Standard							
2¼"-7¼"	6¾"	10	⅝"-18	12"	¾"-16	6347K11	151.60
3¼"-11¾"	9½"	17½	⅝"-18	13¼"	1"-14	6347K48	262.82
7"-16¼"	8½"	30	1"-14	17¼"	1½"-12	6347K26	498.76

Optional Legs for Standard Pullers

For 10-ton Cap. Puller Reach		Pair	For 17½-ton Cap. Puller Reach		Pair	For 30-ton Cap. Puller Reach		Pair
4¾"	6347K141	$53.52	4½"	6347K151	$64.97	8"	6347K261	$152.02
6¾"	6347K111	60.21	9½"	6347K481	86.30	18"	6347K271	202.89
11¾"	6347K121	61.07	16½"	6347K491	108.64	28"	6347K281	237.42
15¾"	6347K131	60.66	22½"	6347K511	123.54	—	—	—
—	—	—	30"	6347K161	176.47	—	—	—

Shaft Component Separators



V-Belt Pulley Separator

Separate bearings, collars, hubs, and other shaft-mounted items so you can remove them. After separating, use a puller (not included) to remove them from the shaft. Select a puller with a leg thread size that matches the thread size of your separator. All separators are steel.

Bearing separators can also be used with the two-jaw external grip pullers listed below and sold on page 1114.

V-belt pulley separators clamp into the V-groove of a pulley for a secure grip.

For OD	For Puller Part No. Face Grip	External Grip	Thread Size	Lg.	Wd.		
Bearing Separators							
¼"-13⁄16"	—	6340K71; K21	5⁄16"-18	2¼"	2¾"	6342K12	$40.96
⅛"-17⁄8"	5926A3	6340K31; K22	⅜"-16	2¾"	3½"	6342K1	51.28
½"-4¼"	6347K11	6340K32; K23	⅝"-18	5"	6¼"	6342K2	89.20
½"-5⅝"	6347K48	6340K32; K25	⅝"-18	6¾"	8¼"	6342K3	190.31
½"-57⁄8"	6347K48	6340K32; K25	⅝"-18	6¾"	8¼"	6342K4	195.62
¾"-101⁄8"	6347K26	—	1"-14	10¾"	13½"	6342K6	804.49
V-Belt Pulley Separators							
13⁄4"-53⁄4"	6347K11	—	⅝"-18	7"	7¼"	6342K7	113.31
15⁄8"-97⁄8"	6347K48	—	⅝"-18	9¼"	12¾"	6342K8	196.32

Set—Includes one each of 6342K12, K1, K2, K4, and K7. Comes in a plastic case.

6342K22 ..... $394.17

Reversible Jaw External/Internal Grip Puller Sets for Tight Spaces



A flat profile and straight jaws fit in spots where other pullers do not—choose the set or use the individual components to create your own tool for use in external and internal pulling jobs.

A complete puller consists of a crossbar with forcing screw and a pair of jaws. To grip objects on the outside, attach jaws with tips facing in. To grip objects from inside, attach jaws with tips facing out. All components are steel.

5-Ton Capacity Set

Includes one crossbar with forcing screw, two jaw-mounting screws, and four pairs of different-sized jaws (one of each pair of jaws listed below for 5-ton capacity pullers).

6337K1 ..... $692.98

Crossbars and Forcing Screws

Cap., tons	Forcing Screw Thread Size	Forcing Screw Lg.	Crossbars with Forcing Screw		Replacement Forcing Screw	
5	⅞"-9	8"	6337K11	$191.15	6337K12	$94.37
25	1½"-6	14"	6337K21	670.59	6337K22	269.63

Jaws

For OD/ID	Reach	For Cap., tons	Jaw Tip, Wd. × Thick.		
3"-12"	5"	5	1½" × ½"	6337K13	$204.92
3"-12"	6"	5	1" × ½"	6337K16★	259.04
3"-12"	6"	5	1½" × ½"	6337K14	206.91
3"-12"	8"	5	1½" × ½"	6337K15	213.12
5"-18"	6"	25	2" × 1"	6337K23	491.13
5"-18"	10"	25	2" × 1"	6337K24	500.76

★Jaws have tapered tips for access to tight spots.

High-Force External Grip Puller Sets



Move the immovable—this puller set includes a hand pump and hydraulic cylinder so you can create up to 17½ tons of pulling force. Set includes a wood case, three threaded adapters, two pushing adapters, adjusting screw, crank handle, and the following:

Hydraulic Cylinder and Hand Pump
- Cylinder with 2" stroke
- Single-stage hand pump

Pump Accessory Set
- Pressure gauge
- Tee adapter and 45° elbow (for installing gauge)
- 6-ft. hydraulic hose
- Hose coupler (for connecting pump to cylinder)

External-Grip Hydraulic Puller
- 3-jaw: for up to 20" OD; 11½" reach
- Internal-grip attachment: for 1½"-9" OD; 4" reach
- 3-to-2 jaw head converter

Face-Grip Hydraulic Puller
- With end caps: for 5¾"-11¾" OD; 18½" reach
- Pair of extra legs: 22½" reach

Bearing Separator
- For ½"-9" OD

Puller Set	6315K73	$2,580.32
Repl. Pump Accessory Set	6315K79	263.23

Expanding-Collar Internal Grip Pullers



Set

Get a grip on objects with blind holes—these pullers have an expanding collet that secures bearings and bushings from inside.

Pin and **pin adapter** are required to expand the collet inside the object you're pulling. Pullers, pins, and pin adapter are steel.

When the collet is secure, use the **bridge** with the **forcing screw** and **forcing screw nut** (all sold separately) to apply force to the object you're removing. When you need additional force, use the bridge with the **slide hammer** (sold separately).

Pullers

For Shaft Dia.	For Pin Dia.		
5⁄16"-11⁄32"	5⁄32"	5991K71	$63.69
11⁄32"-7⁄16"	3⁄16"	5991K72	63.69
7⁄16"-9⁄16"	9⁄32"	5991K73	63.69
9⁄16"-7⁄8"	13⁄32"	5991K74	63.71
7⁄8"-11⁄4"	½"	5991K75	63.71

Pins and Pin Adapter

Choose a Pin Dia.		
5⁄32", 3⁄16", 9⁄32", 13⁄32", ½"	5991K81	$27.83
Pin Adapter	5991K39	$35.66

Accessories

2½-lb. Slide Hammer (⅝"-18 threaded end)	6317K1	$44.57
Bridge (6¾" reach, 6" wide)	5991K17	157.02
Forcing Screw (⅝"-18 and ¾"-16 threads, 12 11⁄32" long)	5991K18	43.81
Forcing Screw Nut (¾"-16)	5991K19	15.51

Set

You'll get one of each puller, pin, pin adapter and accessory listed above. Comes in a plastic case.

5991K22 ..... $558.61

Reversible Jaw External/Internal Grip Puller Sets



Grip objects on the outside or inside to tackle both types of pulling jobs. All components are steel. Set includes the following:

External Grip Pullers
- 2-jaw: for up to 6″ OD; 5½″ reach; 5-ton capacity
- 2-jaw: for up to 9″ OD; 5″ reach; 7-ton capacity
- 2/3-jaw: for up to 11″ OD; 8¾″ reach; 7-ton capacity

Reversible Jaw External/Internal Grip Puller with 5-lb. Slide Hammer
- 2/3-jaw: for 1½″-4¼″ ID and for 1½″-4½″ OD; 3½″ reach
- Jaw bar (converts 3-jaw puller to 2-jaw puller)

Internal Grip Puller with 1¾-lb. Slide Hammer
- 2-jaw: for ⅞″-2⅛″ ID; 1″ reach

Bridge-Style Internal Grip Puller
- 2-jaw: for ⅞″-2″ ID; 1″ reach

Adjustable Face-Grip Puller
- Puller with 5⅝″ forcing screw: for up to 4⅝″ OD; 4¾″ reach
- Six cap screws (three each: ⅜″-24 × 3″ long; ⅜″-16 × 3″ long)

Face-Grip Pullers
- Puller with 5½″ forcing screw: for 1½″-4¼″ OD
- Puller with 11⅝″ forcing screw: for 2″-7¾″ OD

Bearing Separators
- For ⅛″-1⅞″ OD
- For ½″-4¼″ OD

6349K42 ..... $714.79

Reversible Jaw External/Internal Grip Puller Sets with Locking Storage Box



Complete with a locking storage box, use the pullers in this set to tackle a wide variety of pulling jobs—use pullers to grip objects from the outside or the inside. To grip objects on the outside, attach puller jaws with tips facing in. To grip objects from inside, attach the puller jaws with tips facing out. Storage box is steel and measures 25¾″ Ht. × 29½″ Wd. × 10″ Dp. All pullers and components are steel. Set includes the following:

External Grip Pullers
- 2/3-jaw: for up to 7″ OD; 3¼″ reach; 5-ton capacity
- 2/3-jaw: for up to 10½″ OD; 5″ reach; 7-ton capacity
- Two sets of long-reach jaws (three for 5-ton capacity puller and three for 7-ton capacity puller)

Reversible Jaw External/Internal Grip Puller with 5-lb. Slide Hammer
- 2/3-jaw: for 1½″-4¼″ ID and for 1½″-4½″ OD; 3½″ reach
- Jaw bar (converts 3-jaw puller to 2-jaw puller)

Internal Grip Puller with 1¾-lb. Slide Hammer
- 2-jaw: for ½″-1½″ ID; ¾″ reach

Adjustable Face-Grip Puller
- Puller with 5⅝″ forcing screw: for up to 4⅝″ OD; 4¾″ reach
- Six cap screws (three each: ⅜″-24 × 3″ long; ⅜″-16 × 3″ long)

Face-Grip Puller
- Puller with 13″ forcing screw: for 1½″-4½″ OD

Bearing Separators
- For ⅛″-1⅞″ OD
- For ½″-4¼″ OD

69715A44 ..... $1,133.25

Ratcheting Gears and Pawls

CAD

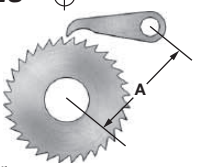

Keep moving forward—these ratcheting gears allow motion in one direction and prevent backward motion. They have a plain bore for press-fitting to a shaft.

Pawl (sold separately) is required to prevent backward motion. Gears and pawls are ⅜″ thick stainless steel.

No. of Teeth	Pitch	OD	For Shaft Dia.	Ctr.-to-Ctr. Lg. (A)		
24	16	1.5″	11/16″	1.60″	6283K24	$37.11
32	16	2″	11/16″	1.75″	6283K23	40.56
48	16	3″	11/16″	2.10″	6283K22	55.88
Pawl					6283K32	45.22

Reversible Jaw External/Internal Grip Pullers



Grip objects on the outside or inside to tackle both types of pulling jobs. To grip objects on the outside, attach puller jaws with tips facing in. To grip objects from inside, attach the puller jaws with tips facing out. All components below are steel. Not rated for capacity.

Puller

Puller has combination 2/3 jaws—it comes with a jaw bar so you can change between 2-jaw and 3-jaw configurations to suit your application. Use the included 2½-lb. slide hammer to extract hard-to-remove objects. Jaw bar and slide hammer have ⅝″-18 threads.

For OD	For ID	Reach		
1″-4½″	1¼″-4¼″	1¼″, 3″	6317K8	$107.07
Replacement Jaw Bar			6317K5	23.70
Replacement 2½-lb. Slide Hammer			6317K1	44.57

Accessories

Crossbar allows you to pull objects that have tapped holes. Thread the center hole onto the slide hammer; requires two ⅜″ dia. cap screws (not included). For 1⅞″-5⅝″ IDs and ODs.

5-lb. Slide Hammer (⅝″-18 thread size)	6317K2	$52.05
Puller Hook (for ⅝″ minimum ID)	6317K7	17.45
Crossbar	6317K6	38.69

Jaws

For external/internal pulling, except jaw with 2⅜″ reach is for internal jobs only.

For OD	For ID	Reach		
____	¾″-2½″	2⅜″	6317K14	$17.45
1″-4½″	1¼″-3½″	3¾″	6317K11	14.95
¾″-5″	1½″-4½″	4⅛″	6317K12	17.45
¾″-7½″	2¾″-5½″	6½″	6317K13	23.70

Set

Includes the reversible-jaw puller with slide hammer and jaw bar as well as the crossbar, oil-seal puller hook, and three sets of jaws (2⅜″, 4⅛″, and 6½″ reaches).



6317K34 ..... $262.52

Bearing Ring and Seal Driver Sets

Make sure you have the proper size driver for bearing, seal, and bushing installation jobs.

Aluminum set includes an aluminum handle and six discs in 1.565″ OD, 1.75″ OD, 1.965″ OD, 2.325″ OD, 2.47″ OD, and 2.555″ OD sizes. Discs are flat on one side and tapered on the other.

Steel set includes two steel handles and 41 discs from ½″ to 3″ OD in 1/16″ increments. Discs are flat on both sides. Comes in a plastic case.



Aluminum Set

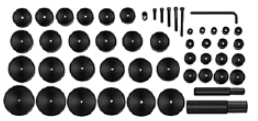

Steel Set

Aluminum Set	57195K81	$40.98
Steel Set	6053K11	486.79

Gear Tooth Pitch Identifiers

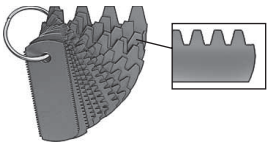

Ensure components are compatible by measuring the pitch of gears and racks.

Use identifiers for 14½° pressure angle on spur gears. Use identifiers for 14½° and 20° pressure angle on spur, bevel, helical, and miter gears.

	No. of Identifiers	For Pitch		
For 14½° Pressure Angle—Steel				
Inch	22	6, 7, 8, 9, 10, 11, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 36, 40, 48, 64, 80	2069A67	$59.82
Metric	16	0.5, 0.75, 1, 1.25, 1.5, 1.75, 2, 2.5, 2.75, 3, 3.25, 3.5, 3.75, 4, 4.5, 5	2069A68	61.16
For 14½° and 20° Pressure Angle—Stainless Steel				
Inch	22	3, 4, 5, 6, 8, 10, 12, 16, 20, 24, 32	2069A12	181.22
Metric	26	1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 7, 8	2069A13	203.68

About Gears



For gears and racks to mesh correctly, they must have the same pressure angle and pitch. Gears with a 20° pressure angle have teeth with a wider profile than gears with a 14½° pressure angle, so they have greater strength to handle high loads.

To determine the pitch of a gear, divide the number of teeth by the pitch diameter. For example, a gear with 16 teeth and a ½″ pitch diameter has a pitch of 32. You can also use a gear tooth pitch identifier (see page 1117).

Metal Gears and Gear Racks—14½° Pressure Angle



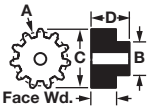

Also known as spur gears, these gears have a 14½° pressure angle that maximizes contact between mating teeth for smooth operation. For gears and racks to mesh correctly, they must have the same pressure angle and pitch. Use these gears and racks with other components that have a 14½° pressure angle. All are steel.

Gears have a plain bore that comes machined for the shaft diameter listed; gears with a range are machinable up to the maximum size listed.

Gears

No. of Teeth	Pitch Dia. (A)	Hub Dia. (B)	OD (C)	O'all Wd. (D)	For Shaft Dia.		
32 Pitch—3/16″ Face Wd.							
16	0.5″	0.406″	0.56″	0.5″	3/16″	6325K89	$15.30
18	0.563″	0.406″	0.63″	0.5″	3/16″	6325K94	15.30
20	0.625″	0.531″	0.69″	0.5″	1/4″	6325K95	16.74
24	0.75″	0.656″	0.81″	0.5″	5/16″	6325K96	20.85
40	1.25″	0.875″	1.31″	0.563″	3/8″	6325K97	31.40
24 Pitch—1/4″ Face Wd.							
12	0.5″	0.375″	0.58″	0.563″	1/4″	6325K31	16.16
15	0.625″	0.5″	0.71″	0.563″	1/4″	6325K63	16.82
16	0.666″	0.547″	0.75″	0.563″	5/16″	6325K75	17.21
20	0.833″	0.719″	0.92″	0.563″	5/16″	6325K87	21.09
21	0.875″	0.75″	0.96″	0.563″	3/8″	6325K64	21.57
24	1″	0.875″	1.08″	0.625″	3/8″	6325K88	24.39
36	1.5″	1.125″	1.58″	0.625″	3/8″-5/8″	6325K65	32.68
48	2″	1.25″	2.08″	0.625″	3/8″-11/16″	6325K66	38.11
72	3″	1.375″	3.08″	0.75″	1/2″-13/16″	6325K67	57.07
20 Pitch—3/8″ Face Wd.							
12	0.6″	0.469″	0.7″	0.75″	5/16″	6325K81	12.91
15	0.75″	0.609″	0.85″	0.75″	3/8″	6325K68	17.21
16	0.8″	0.656″	0.9″	0.75″	3/8″	6325K82	17.26
20	1″	0.859″	1.1″	0.75″	3/8″	6325K83	20.66
23	1.15″	0.969″	1.25″	0.75″	3/8″	6325K69	22.61
24	1.2″	1.063″	1.3″	0.75″	3/8″-9/16″	6325K84	21.57
25	1.25″	1.109″	1.35″	0.75″	3/8″-5/8″	6325K71	21.97
32	1.6″	1.438″	1.7″	0.875″	3/8″-7/8″	6325K85	29.05
36	1.8″	1.625″	1.9″	0.875″	3/8″-15/16″	6325K72	33.08
48	2.4″	2″	2.5″	0.875″	3/8″-1 1/4″	6325K86	41.37
60	3″	2″	3.1″	0.875″	3/8″-1 1/4″	6325K73	48.19
16 Pitch—1/2″ Face Wd.							
12	0.75″	0.563″	0.88″	0.938″	3/8″	6325K11	16.82
14	0.875″	0.688″	1″	0.938″	3/8″	6325K12	18.74
16	1″	0.812″	1.13″	0.938″	1/2″	6325K13	21.09
18	1.125″	0.938″	1.25″	0.938″	1/2″	6325K14	22.61
20	1.25″	1.063″	1.38″	0.938″	1/2″-9/16″	6325K15	22.93
22	1.375″	1.188″	1.5″	0.938″	1/2″-5/8″	6325K74	23.00
24	1.5″	1.313″	1.63″	0.938″	1/2″-3/4″	6325K16	24.39
28	1.75″	1.5″	1.88″	1″	1/2″-7/8″	6325K76	32.28
30	1.875″	1.625″	2″	1″	1/2″-15/16″	6325K17	34.07
32	2″	1.75″	2.13″	1″	1/2″-1″	6325K18	38.11
36	2.25″	2″	2.38″	1″	1/2″-1 1/4″	6325K77	39.13
40	2.5″	2″	2.63″	1″	1/2″-1 1/4″	6325K19	43.79
48	3″	2″	3.13″	1″	1/2″-1 1/4″	6325K21	50.61
60	3.75″	2″	3.88″	1″	1/2″-1 1/4″	6325K78	64.33
12 Pitch—3/4″ Face Wd.							
12	1″	0.75″	1.17″	1.25″	1/2″	6325K22	21.57
14	1.167″	0.906″	1.33″	1.25″	1/2″	6325K23	24.39
15	1.25″	1″	1.42″	1.25″	5/8″	6325K79	27.03
16	1.333″	1.063″	1.5″	1.25″	5/8″	6325K24	28.02
18	1.5″	1.25″	1.67″	1.25″	5/8″-11/16″	6325K25	29.45
20	1.667″	1.406″	1.83″	1.25″	5/8″-13/16″	6325K26	32.28
12 Pitch—3/4″ Face Wd. (Cont.)							
24	2″	1.75″	2.17″	1.25″	5/8″-1″	6325K27	$40.97
30	2.5″	2.25″	2.67″	1.375″	5/8″-15/16″	6325K28	44.16
32	2.667″	2.25″	2.83″	1.375″	5/8″-15/16″	6325K29	48.19
36	3″	2.5″	3.17″	1.375″	5/8″-1 1/2″	6325K1	50.61
40	3.333″	2.5″	3.5″	1.375″	5/8″-1 1/2″	6325K2	53.26
42	3.5″	2.5″	3.67″	1.375″	5/8″-1 1/2″	6325K3	55.09
48	4″	2.5″	4.17″	1.5″	5/8″-1 1/2″	6325K32	71.23
60	5″	2.75″	5.17″	1.5″	3/4″-1 3/4″	6325K4	85.13
10 Pitch—1″ Face Wd.							
12	1.2″	0.938″	1.4″	1.625″	5/8″	6325K33	27.65
14	1.4″	1.125″	1.6″	1.625″	5/8″	6325K34	32.28
15	1.5″	1.219″	1.7″	1.625″	3/4″	6325K5	34.07
16	1.6″	1.313″	1.8″	1.625″	3/4″	6325K35	38.11
18	1.8″	1.531″	2″	1.625″	3/4″-7/8″	6325K36	40.97
20	2″	1.719″	2.2″	1.625″	3/4″-1″	6325K37	44.16
24	2.4″	2.125″	2.6″	1.625″	3/4″-1 1/4″	6325K38	49.62
25	2.5″	2.219″	2.7″	1.625″	3/4″-1 1/2″	6325K6	49.62
28	2.8″	2.125″	3″	1.875″	3/4″-1 1/4″	6325K7	54.65
30	3″	2.125″	3.2″	1.875″	3/4″-1 1/4″	6325K39	73.61
35	3.5″	2.25″	3.7″	1.875″	3/4″-15/16″	6325K8	64.33
40	4″	2.25″	4.2″	1.875″	7/8″-15/16″	6325K42	91.99
48	4.8″	2.5″	5″	1.875″	7/8″-1 1/2″	6325K43	105.70
60	6″	2.5″	6.2″	1.875″	7/8″-1 1/2″	6325K9	82.71
8 Pitch—1 1/4″ Face Wd.							
12	1.5″	1.125″	1.75″	2″	3/4″	6325K44	42.77
14	1.75″	1.375″	2″	2″	3/4″-13/16″	6325K45	49.62
16	2″	1.625″	2.25″	2″	7/8″-15/16″	6325K46	55.68
17	2.125″	1.75″	2.38″	2″	7/8″-1″	6325K41	56.48
18	2.25″	1.875″	2.5″	2″	7/8″-1 1/8″	6325K47	59.71
20	2.5″	2.125″	2.75″	2″	7/8″-15/16″	6325K48	66.57
22	2.75″	2.375″	3″	2″	7/8″-15/8″	6325K51	56.48
24	3″	2.625″	3.25″	2.25″	7/8″-15/8″	6325K49	101.05
28	3.5″	2.625″	3.75″	2.25″	7/8″-15/8″	6325K53	74.42
32	4″	2.875″	4.25″	2.25″	1″-1 13/16″	6325K52	119.05
36	4.5″	3″	4.75″	2.25″	1″-1 7/8″	6325K54	105.70
40	5″	3″	5.25″	2.25″	1″-1 7/8″	6325K59	128.70
6 Pitch—1 1/2″ Face Wd.							
12	2″	1.5″	2.33″	2.375″	1″	6325K55	57.62
14	2.333″	1.812″	2.67″	2.375″	1″-1 1/16″	6325K56	65.58
15	2.5″	2″	2.83″	2.375″	1″-1 1/4″	6325K92	73.61
16	2.666″	2.156″	3″	2.375″	1″-1 5/16″	6325K57	81.90
18	3″	2.5″	3.33″	2.375″	1″-1 1/2″	6325K58	89.86
20	3.333″	2.844″	3.67″	2.375″	1″-1 3/4″	6325K93	96.20
22	3.666″	3″	4″	2.375″	1″-1 7/8″	6325K98	110.36
24	4″	3″	4.33″	2.5″	1 1/8″-1 7/8″	6325K61	129.14
30	5″	3.125″	5.33″	2.5″	1 1/8″-2″	6325K62	167.25
36	6″	3.25″	6.33″	2.5″	1 1/8″-2 1/8″	6325K122	193.03
48	8″	4.125″	8.33″	2.5″	1 1/8″-2 1/2″	6325K123	299.82

Gear Racks without Mounting Holes

—Come longer than the length listed so you have room to finish the ends.

Face Wd.	Ht.	2-ft. Length		4-ft. Length		6-ft. Length	
32 Pitch							
3/16″	3/16″	6295K11	$15.58	6295K242	$27.84	6295K243	$38.95
24 Pitch							
1/4″	1/4″	6295K12	16.16	6295K232	29.42	6295K233	41.24
20 Pitch							
3/8″	3/8″	6295K13	19.32	6295K112	35.47	6295K113	50.50
16 Pitch							
1/2″	1/2″	6295K14	25.39	6295K123	45.23	6295K124	68.24
12 Pitch							
3/4″	1/2″	6295K15	22.26	6295K132	45.48	6295K133	69.60
3/4″	3/4″	6295K16	25.50	6295K142	51.88	6295K143	74.95
10 Pitch							
1″	5/8″	6295K17	$30.74	6295K152	$57.20	6295K153	$83.41
1″	1″	6295K18	37.52	6295K163	64.43	6295K164	94.16
8 Pitch							
1 1/4″	3/4″	6295K19	42.07	6295K172	76.74	6295K173	111.51
1 1/4″	1 1/4″	6295K21	55.81	6295K182	92.84	6295K183	135.90
6 Pitch							
1 1/2″	1″	6295K22	59.83	6295K192	107.37	6295K193	154.65
1 1/2″	1 1/2″	6295K23	72.91	6295K212	140.61	6295K213	197.77

Gear Racks with Mounting Holes

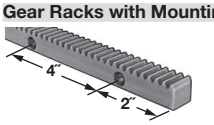

These racks come with counterbored holes and finished ends, so no machining is required. They have 12 mounting holes spaced 4″ apart, starting 2″ from each end. Fasteners not included.

Pitch	Face Wd.	Ht.	For Screw Size	4-ft. Length	
24	1/4″	1/4″	No. 0	5170T1	$55.52
20	3/8″	3/8″	No. 3	5170T2	61.46
16	1/2″	1/2″	No. 8	5170T3	69.58
12	3/4″	3/4″	1/4″	5170T4	86.15

Finished-Bore Metal Gears—14½° Pressure Angle

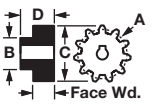



Furnished ready to use, these gears have a finished bore with a set screw and keyway, unless noted. All have a 14½° pressure angle that maximizes contact between mating teeth for smooth operation. Gears are steel.

For gears and racks to mesh correctly, they must have the same pressure angle and pitch. Use these gears with other components that have a 14½° pressure angle.

No. of Teeth	Pitch Dia. (A)	Hub Dia. (B)	OD (C)	O'all Wd. (D)	For Shaft Dia.		
32 Pitch—3/16" Face Wd.							
16	0.5"	0.406"	0.56"	0.5"	3/16"	6867K551★	$21.41
18	0.562"	0.469"	0.62"	0.5"	3/16"	6867K552★	21.41
20	0.625"	0.531"	0.68"	0.5"	1/4"	6867K553★	23.54
24	0.75"	0.656"	0.81"	0.5"	5/16"	6867K554★	29.23
40	1.25"	0.875"	1.31"	0.563"	3/8"	6867K555★	47.06
24 Pitch—1/4" Face Wd.							
15	0.625"	0.5"	0.7"	0.563"	1/4"	6867K557★	31.37
16	0.667"	0.547"	0.75"	0.563"	5/16"	6867K558★	31.37
20	0.833"	0.719"	0.92"	0.563"	5/16"	6867K19★	46.09
21	0.875"	0.75"	0.96"	0.563"	3/8"	6867K21★	47.85
24	1"	0.875"	1.08"	0.625"	3/8"	6867K22	50.56
36	1.5"	1.125"	1.58"	0.625"	3/8"	6867K23	58.48
48	2"	1.25"	2.08"	0.625"	3/8"	6867K24	63.73
72	3"	1.375"	3.08"	0.75"	1/2"	6867K25	81.93
20 Pitch—3/8" Face Wd.							
15	0.75"	0.609"	0.85"	0.75"	3/8"	6867K27★	23.41
16	0.8"	0.656"	0.9"	0.75"	3/8"	6867K28★	24.01
20	1"	0.859"	1.1"	0.75"	3/8"	6867K29	45.74
23	1.15"	0.969"	1.25"	0.75"	3/8"	6867K31	47.46
24	1.2"	1.063"	1.3"	0.75"	3/8"	6867K32	47.64
25	1.25"	1.109"	1.35"	0.75"	3/8"	6867K33	48.24
32	1.6"	1.439"	1.7"	0.875"	3/8"	6867K34	55.03
36	1.8"	1.625"	1.9"	0.875"	3/8"	6867K35	58.91
48	2.4"	2"	2.5"	0.875"	3/8"	6867K36	66.83
60	3"	2"	3.1"	0.875"	3/8"	6867K37	73.41
16 Pitch—1/2" Face Wd.							
12	0.752"	0.563"	0.88"	0.938"	3/8"	6867K38★	22.82
14	0.875"	0.688"	1"	0.938"	3/8"	6867K39★	25.46
16	1"	0.812"	1.13"	0.938"	1/2"	6867K41	46.05
18	1.125"	0.938"	1.25"	0.938"	1/2"	6867K42	47.46
20	1.25"	1.063"	1.38"	0.938"	1/2"	6867K43	48.24
22	1.375"	1.188"	1.5"	0.938"	1/2"	6867K44	49.22
24	1.5"	1.313"	1.63"	0.938"	1/2"	6867K45	50.56
28	1.75"	1.5"	1.88"	1"	1/2"	6867K46	58.10
30	1.875"	1.625"	2"	1"	1/2"	6867K47	59.86
32	2"	1.75"	2.13"	1"	1/2"	6867K48	63.73
36	2.25"	2"	2.38"	1"	1/2"	6867K49	64.33
40	2.5"	2"	2.63"	1"	1/2"	6867K51	69.15
16 Pitch—1/2" Face Wd. (Cont.)							
48	3"	2"	3.13"	1"	1/2"	6867K52	$75.74
60	3.75"	2"	3.88"	1"	1/2"	6867K53	88.91
12 Pitch—3/4" Face Wd.							
12	1"	0.75"	1.17"	1.25"	1/2"	6867K54★	31.34
14	1.167"	0.906"	1.33"	1.25"	1/2"	6867K55	50.56
15	1.25"	1"	1.42"	1.25"	5/8"	6867K56	39.19
16	1.333"	1.063"	1.5"	1.25"	5/8"	6867K57	40.70
18	1.5"	1.25"	1.67"	1.25"	5/8"	6867K58	42.71
20	1.667"	1.406"	1.83"	1.25"	5/8"	6867K59	46.83
24	2"	1.75"	2.17"	1.25"	5/8"	6867K61	59.40
30	2.5"	2.25"	2.67"	1.375"	5/8"	6867K62	69.54
32	2.667"	2.25"	2.83"	1.375"	5/8"	6867K63	73.41
36	3"	2.5"	3.17"	1.375"	5/8"	6867K64	75.74
40	3.333"	2.5"	3.5"	1.375"	5/8"	6867K65	78.27
42	3.5"	2.5"	3.67"	1.375"	5/8"	6867K66	80.00
48	4"	2.5"	4.17"	1.5"	5/8"	6867K67	95.49
60	5"	2.75"	5.17"	1.5"	3/4"	6867K68	108.83
10 Pitch—1" Face Wd.							
12	1.2"	0.938"	1.4"	1.625"	5/8"	6867K69	40.10
14	1.4"	1.125"	1.6"	1.625"	5/8"	6867K71	46.83
15	1.5"	1.219"	1.7"	1.625"	3/4"	6867K72	49.47
16	1.6"	1.313"	1.8"	1.625"	3/4"	6867K73	55.77
18	1.8"	1.531"	2"	1.625"	3/4"	6867K74	59.40
20	2"	1.719"	2.2"	1.625"	3/4"	6867K75	64.08
24	2.4"	2.125"	2.6"	1.625"	3/4"	6867K76	72.00
25	2.5"	2.219"	2.7"	1.625"	3/4"	6867K77	79.61
28	2.8"	2.125"	3"	1.875"	3/4"	6867K78	88.91
30	3"	2.125"	3.2"	1.875"	3/4"	6867K79	97.81
35	3.5"	2.25"	3.7"	1.875"	3/4"	6867K81	106.51
60	6"	2.5"	6.2"	1.875"	7/8"	6867K84	141.76
8 Pitch—1 1/4" Face Wd.							
12	1.5"	1.125"	1.75"	2"	3/4"	6867K85	62.04
16	2"	1.625"	2.25"	2"	7/8"	6867K87	80.77
32	4"	2.875"	4.25"	2.25"	1"	6867K95	141.40
6 Pitch—1 1/2" Face Wd.							
12	2"	1.5"	2.33"	2.375"	1"	6867K98	82.43
14	2.333"	1.812"	2.67"	2.375"	1"	6867K1	90.10
15	2.5"	2"	2.83"	2.375"	1"	6867K2	97.81
18	3"	2.5"	3.33"	2.375"	1"	6867K4	113.41

★Does not have a keyway.

Plastic Gears and Gear Racks—14½° Pressure Angle

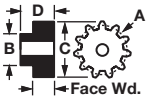



A light duty alternative to metal, these gears and racks have a 14½° pressure angle that maximizes contact between mating teeth for smooth operation. Gears and racks are molded nylon. Color is white.

For gears and racks to mesh correctly, they must have the same pressure angle and pitch. Use them with other components that have a 14½° pressure angle.

Gears are also known as spur gears. They have a plain bore for press-fitting to a shaft, unless noted.

Gear racks are cut to ensure end-to-end butting without interruption of tooth spacing.

Gears

No. of Teeth	Pitch Dia. (A)	Hub Dia. (B)	OD (C)	O'all Wd. (D)	Face Wd.	For Shaft Dia.		
48 Pitch								
12	0.25"	0.188"	0.29"	0.313"	1/8"	3/32"	57655K11	$7.06
14	0.292"	0.25"	0.33"	0.313"	1/8"	3/32"	57655K12	7.15
16	0.333"	0.25"	0.37"	0.313"	1/8"	1/8"	57655K13	7.51
18	0.375"	0.313"	0.41"	0.313"	1/8"	1/8"	57655K14	7.38
20	0.417"	0.375"	0.45"	0.375"	1/8"	1/8"	57655K15	7.60
24	0.5"	0.375"	0.54"	0.375"	1/8"	1/8"	57655K16	7.71
28	0.583"	0.5"	0.62"	0.375"	1/8"	1/8"	57655K17	7.77
32	0.667"	0.5"	0.7"	0.375"	1/8"	1/8"	57655K18	7.06
36	0.75"	0.625"	0.79"	0.375"	1/8"	3/16"	57655K19	7.93
40	0.833"	0.625"	0.87"	0.375"	1/8"	3/16"	57655K21	8.90
42	0.875"	0.438"	0.91"	0.375"	1/8"	1/4"	57655K22	6.87
48	1"	0.625"	1.04"	0.375"	1/8"	3/16"	57655K24	8.57
56	1.167"	0.625"	1.2"	0.375"	1/8"	3/16"	57655K25	9.96
60	1.25"	0.625"	1.29"	0.375"	1/8"	1/4"	57655K26	10.27
64	1.333"	0.625"	1.37"	0.375"	1/8"	1/4"	57655K27	10.44
72	1.5"	0.625"	1.54"	0.375"	1/8"	1/4"	57655K28	10.55
80	1.667"	0.625"	1.7"	0.375"	1/8"	1/4"	57655K29	10.83
96	2"	1"	2.04"	0.375"	1/8"	1/4"	57655K31	9.68
32 Pitch								
12	0.375"	0.25"	0.44"	0.375"	3/16"	1/8"	57655K32	6.39
14	0.438"	0.313"	0.5"	0.438"	3/16"	1/8"	57655K33	7.03
16	0.5"	0.375"	0.56"	0.438"	3/16"	3/16"	57655K34	6.95
32 Pitch (Cont.)								
18	0.563"	0.375"	0.63"	0.438"	3/16"	3/16"	57655K35	$7.41
20	0.625"	0.5"	0.69"	0.438"	3/16"	3/16"	57655K36	6.75
22	0.688"	0.563"	0.75"	0.438"	3/16"	1/4"	57655K37	7.65
24	0.75"	0.625"	0.81"	0.438"	3/16"	3/16"	57655K38	6.59
28	0.875"	0.625"	0.94"	0.438"	3/16"	3/16"	57655K41	7.25
32	1"	0.625"	1.06"	0.313"	3/16"	1/4"	57655K42	8.01
36	1.125"	0.625"	1.19"	0.438"	3/16"	1/4"	57655K43	7.45
40	1.25"	0.625"	1.31"	0.438"	3/16"	1/4"	57655K45	8.93
44	1.375"	0.625"	1.44"	0.438"	3/16"	1/4"	57655K46	9.32
48	1.5"	0.625"	1.56"	0.438"	3/16"	1/4"	57655K47	9.83
52	1.625"	0.625"	1.69"	0.438"	3/16"	1/4"	57655K48	10.43
62	1.938"	0.625"	2"	0.625"	1/4"	3/8"	57655K49	15.16
24 Pitch								
12	0.5"	0.375"	0.58"	0.563"	5/16"	1/4"	57655K51	6.37
18	0.75"	0.5"	0.83"	0.438"	1/4"	1/4"	57655K52	6.18
24	1"	0.625"	1.08"	0.625"	1/4"	1/4"	57655K53	6.65
84	3.5"	0.844"	3.58"	0.563"	5/16"	3/8"	57655K54	18.27
16 Pitch								
12	0.75"	0.438"	0.88"	0.25"	7/32"	1/4"	57655K55	10.36
20	1.25"	0.875"	1.38"	0.797"	19/64"	1/2"	57655K56	11.84
30	1.875"	1.625"	2"	1.375"	7/8"	63/64"	57655K57	22.97
36	2.25"	0.75"	2.38"	0.774"	5/16"	3/8"	57655K58	15.83
42	2.625"	1.375"	2.75"	0.875"	5/8"	13/32"	57655K59■	23.46

■ Has a 0.125" wide keyway.

Gear Racks

Pitch	Face Wd.	Ht.	Lg.		
48	1/8"	1/8"	1 ft.	57655K61	$5.82
32	3/16"	3/16"	1 ft.	57655K62	6.46
24	1/4"	1/4"	1 ft.	57655K63	$7.64
16	5/16"	5/16"	1 ft.	57655K64	8.88

High-Precision Plastic Gears and Gear Racks—14½° Pressure Angle



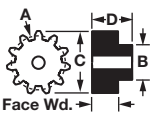

These gears and racks are machined to produce closer dimensional tolerances than molded plastic. They have a 14½° pressure angle that maximizes contact between mating teeth for smooth operation. All are made of nylon.

For gears and racks to mesh correctly, they must have the same pressure angle and pitch. Use them with other components that have a 14½° pressure angle.

Gears, also known as spur gears, have a plain bore furnished in the minimum shaft dia. listed and are machinable up to the maximum shaft dia. listed.

Gear racks come longer than the length listed to allow room for finishing the ends.

Gears—Color is white.

No. of Teeth	Pitch Dia. (A)	Hub Dia. (B)	OD (C)	O'all Wd. (D)	For Shaft Dia. Min.	For Shaft Dia. Max.		
20 Pitch—3/8″ Face Wd.								
11	0.55″	0.406″	0.65″	0.75″	1/4″	5/16″	60455K12	$15.22
60	3″	2″	3.1″	0.875″	3/8″	1 1/8″	60455K14	22.90
16 Pitch—1/2″ Face Wd.								
16	1″	0.812″	1.13″	0.938″	1/4″	1/2″	60455K33	22.90
24	1.5″	1.313″	1.63″	0.938″	1/2″	5/8″	60455K36	28.34
32	2″	1.75″	2.13″	1″	1/2″	1″	60455K38	44.43
48	3″	2″	3.13″	1″	1/2″	1 1/8″	60455K41	62.15
12 Pitch—3/4″ Face Wd.								
14	1.167″	0.906″	1.33″	1.25″	1/2″	1/2″	60455K43	$28.33
48	4″	2.5″	4.17″	1.5″	1/2″	1 3/8″	60455K51	82.53
10 Pitch—1″ Face Wd.								
12	1.2″	0.938″	1.4″	1.625″	1/2″	1/2″	60455K52	32.31
20	2″	1.719″	2.2″	1.625″	3/4″	7/8″	60455K56	51.24

Gear Racks—Color is green.

Pitch	Face Wd.	Ht.	Lg.		
20	3/8″	3/8″	4 ft.	60435K88	$125.70
16	1/2″	1/2″	4 ft.	60435K89	104.32
12	3/4″	3/4″	4 ft.	60435K82	$121.92
10	1″	1″	4 ft.	60435K84	153.72

High-Load Metal Gears and Gear Racks—20° Pressure Angle



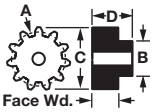

Also known as spur gears, these gears have teeth with a 20° pressure angle, which have a wider profile than 14½° teeth, so they have greater strength to handle high loads. For gears and racks to mesh correctly, they must have the same pressure angle and pitch. Use them with other components that have a 20° pressure angle.

Steel and **brass gears** have a plain bore for press-fitting to a shaft. **Stainless steel gears** are more corrosion resistant than steel and brass for use in damp environments. They have a finished bore and a set screw, so they are ready to mount.

Steel gear racks come longer than the length listed so you have room to finish the ends. **Stainless steel gear racks** are more corrosion resistant than steel and brass.

Steel Gears

No. of Teeth	Pitch Dia. (A)	Hub Dia. (B)	OD (C)	O'all Wd. (D)	For Shaft Dia.		
20 Pitch—1/2″ Face Wd.							
15	0.75″	0.6″	0.85″	0.94″	3/8″	5172T11	$19.63
20	1″	0.84″	1.1″	0.94″	1/2″	5172T12	21.45
25	1.25″	0.97″	1.35″	0.94″	1/2″	5172T13	22.33
30	1.5″	1.22″	1.6″	0.94″	1/2″	5172T14	24.49
35	1.75″	1.47″	1.85″	1″	1/2″	5172T15	32.51
40	2″	1.72″	2.1″	1″	1/2″	5172T16	34.33
16 Pitch—3/4″ Face Wd.							
16	1″	0.81″	1.13″	1.25″	1/2″	5172T21	22.00
24	1.5″	1.2″	1.63″	1.25″	5/8″	5172T22	24.49
32	2″	1.7″	2.13″	1.25″	3/4″	5172T23	38.57
48	3″	2″	3.13″	1.37″	5/8″	5172T24	54.04
80	5″	3.88″	5.13″	1.5″	3/4″	5172T25	88.94
12 Pitch—1″ Face Wd.							
12	1″	0.75″	1.17″	1.62″	1/2″	5172T31	22.00
15	1.25″	0.99″	1.42″	1.62″	5/8″	5172T32	27.51
21	1.75″	1.4″	1.92″	1.62″	3/4″	5172T33	34.33
24	2″	1.65″	2.17″	1.62″	7/8″	5172T34	40.98
36	3″	1.94″	3.17″	1.88″	3/4″	5172T35	57.86
48	4″	2.88″	4.17″	1.88″	7/8″	5172T36	77.45
8 Pitch—1 1/2″ Face Wd.							
12	1.5″	1.12″	1.75″	2.25″	3/4″	5172T41	42.86
16	2″	1.56″	2.25″	2.38″	7/8″	5172T42	56.06
20	2.5″	2.06″	2.75″	2.38″	1″	5172T43	67.08
24	3″	2.56″	3.25″	2.38″	1″	5172T44	87.47
28	3.5″	3.06″	3.75″	2.38″	7/8″	5172T45	102.49

Stainless Steel Gears

No. of Teeth	Pitch Dia. (A)	Hub Dia. (B)	OD (C)	O'all Wd. (D)	For Shaft Dia.		
64 Pitch—3/16″ Face Wd.							
36	0.563″	0.5″	0.59″	0.437″	1/4″	6832K36	$19.88
48	0.75″	0.5″	0.78″	0.437″	1/4″	6832K37	20.62
48 Pitch—3/16″ Face Wd.							
30	0.625″	0.5″	0.67″	0.437″	1/4″	6832K43	18.25
36	0.75″	0.5″	0.79″	0.437″	1/4″	6832K44	20.25
48	1″	0.5″	1.04″	0.437″	1/4″	6832K45	21.88
32 Pitch—3/16″ Face Wd.							
20	0.625″	0.5″	0.69″	0.437″	1/4″	6832K52	18.25
24	0.75″	0.5″	0.81″	0.437″	1/4″	6832K53	19.43
32	1″	0.5″	1.06″	0.437″	1/4″	6832K54	20.65
36	1.125″	0.5″	1.19″	0.437″	1/4″	6832K55	20.75
48	1.5″	0.5″	1.56″	0.437″	1/4″	6832K56	23.25
64	2″	0.5″	2.06″	0.437″	1/4″	6832K57	32.12
72	2.25″	0.5″	2.31″	0.437″	1/4″	6832K58	35.12
24 Pitch—3/16″ Face Wd.							
15	0.625″	0.5″	0.71″	0.437″	1/4″	6832K59	14.90
18	0.75″	0.5″	0.83″	0.437″	1/4″	6832K61	19.43
24	1″	0.5″	1.08″	0.437″	1/4″	6832K62	17.25
36	1.5″	0.5″	1.58″	0.437″	1/4″	6832K64	23.25
48	2″	0.5″	2.08″	0.437″	1/4″	6832K65	30.57
60	2.5″	0.5″	2.58″	0.437″	1/4″	6832K66	33.65

Brass Gears

No. of Teeth	Pitch Dia. (A)	Hub Dia. (B)	OD (C)	O'all Wd. (D)	For Shaft Dia.		
64 Pitch—1/8″ Face Wd.							
16	0.25″	0.19″	0.28″	0.315″	1/8″	7880K11	$11.04
24	0.375″	0.28″	0.41″	0.315″	1/8″	7880K13	13.06
28	0.438″	0.34″	0.47″	0.315″	1/8″	7880K14	14.22
48 Pitch—1/8″ Face Wd.							
12	0.25″	0.18″	0.29″	0.315″	1/8″	7880K17	11.04
15	0.312″	0.22″	0.35″	0.315″	1/8″	7880K18	11.96
18	0.375″	0.28″	0.42″	0.315″	1/8″	7880K19	13.06
24	0.5″	0.38″	0.54″	0.375″	3/16″	7880K21	15.31
36	0.75″	0.5″	0.79″	0.375″	3/16″	7880K23	18.16
48	1″	0.63″	1.04″	0.375″	1/4″	7880K24	28.57
32 Pitch—3/16″ Face Wd.							
12	0.375″	0.28″	0.44″	0.438″	1/8″	7880K25	13.06
14	0.438″	0.34″	0.5″	0.438″	1/8″	7880K26	13.82
16	0.5″	0.4″	0.56″	0.438″	3/16″	7880K27	14.63
20	0.625″	0.47″	0.69″	0.438″	3/16″	7880K29	16.47
24	0.75″	0.53″	0.81″	0.438″	3/16″	7880K31	19.15
28	0.875″	0.59″	0.94″	0.438″	3/16″	7880K32	20.61
36	1.125″	0.72″	1.19″	0.438″	1/4″	7880K34	26.33
40	1.25″	0.72″	1.31″	0.438″	1/4″	7880K35	28.65
48	1.5″	0.78″	1.56″	0.438″	1/4″	7880K36	33.71
24 Pitch—1/4″ Face Wd.							
12	0.5″	0.38″	0.58″	0.5″	3/16″	7880K37	21.80
15	0.625″	0.5″	0.71″	0.5″	3/16″	7880K38	21.80
18	0.75″	0.54″	0.83″	0.5″	3/16″	7880K39	24.35
21	0.875″	0.6″	0.96″	0.5″	3/16″	7880K41	23.18
36	1.5″	0.79″	1.58″	0.5″	1/4″	7880K44	36.86
48	2″	0.92″	2.08″	0.56″	5/16″	7880K45	51.59

Steel Gear Racks

Pitch	Face Wd.	Ht.	2-ft. Length		4-ft. Length		6-ft. Length	
20	1/2″	1/2″	5174T1	$19.30	5174T11	$36.18	5174T21	$51.86
16	3/4″	3/4″	5174T2	23.46	5174T12	44.62	5174T22	64.46
12	1″	1″	5174T3	34.52	5174T13	63.14	5174T23	92.28
8	1 1/2″	1 1/2″	5174T4	67.08	5174T14	129.36	5174T24	189.86

Brass Gear Racks

Pitch	Face Wd.	Ht.	Lg.		
64	1/8″	1/8″	2 ft.	7854K11	$31.98
48	1/8″	1/8″	2 ft.	7854K12	31.98
32	3/16″	3/16″	2 ft.	7854K13	33.73
24	1/4″	1/4″	2 ft.	7854K15	39.67

Stainless Steel Gear Racks

Pitch	Face Wd.	Ht.	Lg.		
64	1/4″	1/2″	11″	6832K73	$91.88
48	1/4″	1/2″	18″	6832K74	112.55
32	1/4″	1/2″	18″	6832K75	113.22
24	1/4″	1/2″	18″	6832K76	126.28

High-Load Metal Gear Rod Stock—20° Pressure Angle



Machine your own gears to fit the exact face widths and shaft diameters required. Rod stock has teeth with a 20° pressure angle, which have a wider profile than 14½° teeth, so they have greater strength to handle high loads. Rod stock is steel and comes in 1-ft. lengths.

For gears and racks to mesh correctly, they must have the same pressure angle and pitch; use gears made from this rod stock with other components that have a 20° pressure angle.

Pitch	No. of Teeth	Pitch Dia.	OD		
32	12	0.375"	0.44"	6847K11	$23.83
32	20	0.625"	0.69"	6847K12	30.01
32	32	1"	1.06"	6847K13	44.91
32	40	1.25"	1.31"	6847K14	57.06
24	12	0.5"	0.58"	6847K15	25.85
24	16	0.667"	0.75"	6847K16	30.38
24	20	0.833"	0.92"	6847K17	36.31
24	24	1"	1.08"	6847K18	43.16
20	12	0.6"	0.7"	6847K19	27.02
20	16	0.8"	0.9"	6847K21	$33.66
20	20	1"	1.1"	6847K22	41.67
16	12	0.75"	0.88"	6847K24	30.17
16	16	1"	1.13"	6847K25	38.14
16	20	1.25"	1.38"	6847K26	47.18
16	24	1.5"	1.63"	6847K27	59.20
12	12	1"	1.17"	6847K28	40.75
12	16	1.333"	1.5"	6847K31	53.25
12	24	2"	2.17"	6847K32	92.77

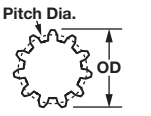

Speed-Reducing Worm Gears and Worms for 90° Angle Motion Transfer—14½° Pressure Angle

Use these gears to transmit motion at a 90° angle while reducing speed and increasing torque. The speed ratio is determined by the number of teeth on the gear. For example, a 20-tooth gear and its mating worm have a 20:1 ratio and reduce 200 rpm to 10 rpm. For gears and worms to mesh correctly, they must have the same pressure angle and pitch. Use these gears with worms that have a 14½° pressure angle. Worm is required to transmit motion.

Worm gears have a plain bore. *Bronze* worm gears have low friction and disseminate heat better than iron gears to provide a long service life for both the gear and the associated worm.

Worms are steel; they have right-hand threads and a finished bore with a keyway.

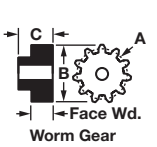

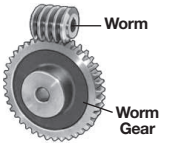

No. of Teeth	Pitch Dia. (A)	OD (B)	O'all Wd. (C)	For Shaft Dia.	Worm Gears		Worms	
12 Pitch (½" Face Wd.)—Iron								
18	1.5"	1.69"	1.125"	½"	57545K511	$62.66	57545K527	$30.36
20	1.67"	1.85"	1.125"	½"	57545K513	64.26	57545K527	30.36
30	2.5"	2.69"	1.125"	½"	57545K515	74.70	57545K527	30.36
40	3.33"	3.52"	1.25"	⅝"	57545K517	81.62	57545K527	30.36
60	5"	5.19"	1.25"	⅝"	57545K522	109.39	57545K527	30.36
12 Pitch (½" Face Wd.)—Bronze								
20	1.67"	1.87"	1"	½"	57545K231	116.54	57545K527	30.36
30	2.5"	2.7"	1.12"	½"	57545K232	139.73	57545K527	30.36
40	3.33"	3.54"	1.12"	⅝"	57545K233	163.44	57545K527	30.36
10 Pitch (⅝" Face Wd.)—Iron								
20	2"	2.22"	1.375"	½"	57545K411	67.78	57545K427	43.13
30	3"	3.22"	1.375"	⅝"	57545K413	85.18	57545K427	43.13
40	4"	4.22"	1.375"	⅝"	57545K415	102.68	57545K427	43.13
50	5"	5.22"	1.375"	¾"	57545K417	118.39	57545K427	43.13
100	10"	10.22"	1.375"	¾"	57545K424	196.10	57545K427	43.13

No. of Teeth	Pitch Dia. (A)	OD (B)	O'all Wd. (C)	For Shaft Dia.	Worm Gears		Worms	
10 Pitch (⅝" Face Wd.)—Bronze								
20	2"	2.24"	1.245"	½"	57545K234	$140.27	57545K427	$43.13
30	3"	3.24"	1.245"	⅝"	57545K235	199.62	57545K427	43.13
40	4"	4.24"	1.245"	⅝"	57545K236	259.23	57545K427	43.13
50	5"	5.24"	1.375"	¾"	57545K237	317.52	57545K427	43.13
8 Pitch (¾" Face Wd.)—Iron								
20	2.5"	2.78"	1.5"	¾"	57545K311	79.22	57545K327	61.79
30	3.75"	4.03"	1.5"	¾"	57545K313	109.39	57545K327	61.79
40	5"	5.28"	1.625"	1"	57545K315	135.36	57545K327	61.79
6 Pitch (1" Face Wd.)—Iron								
20	3.33"	3.71"	1.875"	¾"	57545K211	118.39	57545K227	84.01
24	4"	4.37"	1.875"	¾"	57545K213	136.00	57545K227	84.01
30	5"	5.37"	1.875"	⅞"	57545K215	165.05	57545K227	84.01
40	6.67"	7.04"	1.875"	1"	57545K217	214.14	57545K227	84.01
72	12"	12.37"	2.25"	1¼"	57545K244	307.22	57545K227	84.01

Gears for 90° Angle Motion Transfer—20° Pressure Angle



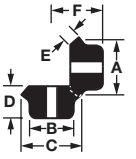

Transmit motion at a 90° angle while maintaining speed and torque. These gears are also known as miter gears. For two gears to mesh correctly, they must have the same pressure angle, pitch, and number of teeth. Use these gears with other gears that have a 20° pressure angle. Gears with a finished bore have a keyway and set screw.

Nylon and **steel gears** require two gears to make a set. They're not compatible with the high-load steel gears.

High-load steel gears have a spiral tooth design that allows them to withstand heavy loads at higher speeds than our other gears for 90° angle motion transfer.

No. of Teeth	Pitch Dia. (A)	Hub Dia. (B)	OD (C)	O'all Wd. (D)	Face Wd. (E)	Mount Lg. (F)	For Shaft Dia.		Each
Nylon—Plain Bore									
48 Pitch									
18	0.375"	0.328"	0.4"	0.281"	0.08"	0.406"	⅛"	7297K11	$5.19
24	0.5"	0.375"	0.53"	0.375"	0.13"	0.531"	3/16"	7297K12	5.22
32 Pitch									
16	0.5"	0.406"	0.55"	0.344"	0.11"	0.5"	3/16"	7297K13	5.19
24	0.75"	0.5"	0.8"	0.406"	0.11"	0.688"	3/16"	7297K14	5.30
24 Pitch									
24	1"	0.625"	1.05"	0.563"	0.19"	0.875"	¼"	7297K15	5.39
30	1.25"	0.625"	1.31"	0.578"	0.22"	1.031"	¼"	7297K16	5.40
36	1.5"	0.688"	1.56"	0.609"	0.2"	1.188"	5/16"	7297K17	5.44
16 Pitch									
16	1"	0.75"	1.09"	0.75"	0.22"	1.063"	⅜"	7297K18	6.70
Steel—Plain Bore									
16 Pitch									
16	1"	0.75"	1.09"	0.75"	0.22"	1.063"	⅜"	6529K11	22.08
20	1.25"	1"	1.34"	0.844"	0.27"	1.25"	7/16"	6529K13	25.18
24	1.5"	1"	1.59"	0.875"	0.31"	1.375"	½"	6529K16	28.66
12 Pitch									
15	1.25"	1"	1.37"	0.859"	0.27"	1.25"	⅜"	6529K14	25.95
15	1.25"	1"	1.37"	0.859"	0.27"	1.25"	½"	6529K15	25.95
18	1.5"	1.25"	1.62"	1.016"	0.32"	1.5"	½"	6529K17	30.39
18	1.5"	1.25"	1.62"	1.016"	0.32"	1.5"	⅝"	6529K18	30.39
21	1.75"	1.375"	1.87"	1.188"	0.39"	1.75"	½"	6529K19	31.76
21	1.75"	1.375"	1.87"	1.188"	0.39"	1.75"	⅝"	6529K21	31.76
24	2"	1.5"	2.12"	1.219"	0.43"	1.875"	½"	6529K22	37.01
30	2.5"	1.75"	2.62"	1.484"	0.54"	2.313"	⅝"	6529K26	54.22
10 Pitch									
20	2"	1.625"	2.14"	1.359"	0.44"	2"	½"	6529K23	42.78
20	2"	1.625"	2.14"	1.359"	0.44"	2"	⅝"	6529K24	42.78

No. of Teeth	Pitch Dia. (A)	Hub Dia. (B)	OD (C)	O'all Wd. (D)	Face Wd. (E)	Mount Lg. (F)	For Shaft Dia.		Each
Steel—Plain Bore									
10 Pitch (Cont.)									
20	2"	1.625"	2.14"	1.359"	0.44"	2"	¾"	6529K25	$42.78
25	2.5"	2"	2.64"	1.625"	0.55"	2.438"	¾"	6529K27	60.42
25	2.5"	2"	2.64"	1.625"	0.55"	2.438"	1"	6529K29	60.42
Steel—Finished Bore									
16 Pitch									
16	1"	0.75"	1.09"	0.75"	0.22"	1.063"	⅜"	6843K11	44.19
24	1.5"	1"	1.59"	0.875"	0.31"	1.375"	½"	6843K12	52.08
12 Pitch									
15	1.25"	1"	1.37"	0.859"	0.27"	1.25"	½"	6843K13	41.05
18	1.5"	1.25"	1.62"	1.016"	0.32"	1.5"	⅝"	6843K14	48.03
21	1.75"	1.375"	1.87"	1.188"	0.39"	1.75"	⅝"	6843K15	49.40
30	2.5"	1.75"	2.62"	1.484"	0.54"	2.313"	⅝"	6843K16	77.64
10 Pitch									
20	2"	1.625"	2.14"	1.359"	0.44"	2"	½"	6843K17	62.15
20	2"	1.625"	2.14"	1.359"	0.44"	2"	⅝"	6843K18	62.15
20	2"	1.625"	2.14"	1.359"	0.44"	2"	¾"	6843K19	62.15
25	2.5"	2"	2.64"	1.625"	0.55"	2.438"	¾"	6843K21	80.35
25	2.5"	2"	2.64"	1.625"	0.55"	2.438"	1"	6843K22	80.35

Pkg. of 2

High-Load Steel—Finished Bore									
18 Pitch									
18	1"	0.75"	1.07"	0.74"	0.22"	1.062"	⅜"	7655K1	$144.02
12 Pitch									
15	1.25"	1"	1.36"	0.86"	0.3"	1.25"	½"	7655K2	178.61
18	1.5"	1.25"	1.61"	1.02"	0.34"	1.5"	⅝"	7655K3	209.02
10 Pitch									
20	2"	1.625"	2.13"	1.36"	0.47"	2"	¾"	7655K4	254.39

About Shafts

When selecting a shaft, diameter and straightness tolerances are characteristics to consider. Tighter tolerances ensure uniform distribution of loads and improve accuracy and repeatability. The straighter your shafts are, the smoother your system will operate.

Hardened Shafts

The choice for linear motion applications, hardened shafts are used with linear ball bearings and linear sleeve bearings. All of our hardened shafts have micron finishes that are ideal for linear bearings, slides, and other precision applications. A shaft's finish affects frictional resistance and smoothness of travel as well as the efficiency and life of linear bearings. The lower the micron value, the smoother the finish.

Case hardness is a heat-treating process to harden the outside surface (the case) of shafts. Since bearings travel directly on shafts, they cause shafts to wear. Harder shafts provide more wear resistance. The higher the case value, the harder the shaft.

Drive Shafts

Designed for rotary motion applications, drive shafts are often used with gears, sprockets, and other power transmission components. They can also be used with rotary bearings. Many of these shafts have ANSI keyways for a secure hold in higher-torque applications. Most often, these shafts are not hardened, so they're easier to machine than hardened shafts.

Hardened Shafts

For technical drawings and 3-D models, go to mcmaster.com.

Don't see the shafts you need? Just tell us what you're looking for and we'll get it for you.

Hardened Shafts



Shafts are case hardened and precision ground for exacting diameter and straightness tolerances. They have a 9 rms micron finish (unless noted) for inch sizes; 12 rms micron finish (unless noted) for metric sizes. Straightness tolerance is 0.002″ per foot for inch sizes; 0.03 mm per 300 mm (unless noted) for metric sizes. Ends are beveled.

For shaft supports, see page 1134.

Shaft Dia.	Dia. Tolerance
1/8″-3/16″	–0.0005″ to –0.0002″
1/4″-1 1/4″, 1 3/4″	–0.001″ to –0.0005″
1 1/2″	–0.0011″ to –0.0006″
2″	–0.0013″ to –0.0006″

Shaft Dia.	Dia. Tolerance
3 mm	–0.008 to –0.002 mm
4-6 mm	–0.008 to 0 mm
8-10 mm	–0.009 to 0 mm
12, 15, 16 mm	–0.011 to 0 mm
13 mm	–0.017 to –0.006 mm
20-30 mm	–0.013 to 0 mm
35-50 mm	–0.016 to 0 mm

Inch Sizes—Steel

Shafts are 1566 steel; they're stronger than stainless steel shafts but are less corrosion resistant. Case hardness is Rockwell C60.

Lg.	1/4″ Dia.		3/8″ Dia.		1/2″ Dia.		5/8″ Dia.		3/4″ Dia.		7/8″ Dia.	
3″	6061K411	$4.20	6061K418	$4.29	6061K426	$4.29	6061K434	$4.36	6061K442	$4.43	6061K449	$4.72
4″	6061K412	4.57	6061K419	4.47	6061K427	4.53	6061K435	4.54	6061K443	4.71	6061K451	4.85
5″	6061K413	4.67	6061K421	4.57	6061K428	4.57	6061K436	4.94	6061K444	5.13	6061K452	6.09
6″	6061K11	4.67	6061K12	4.67	6061K13	4.75	6061K111	5.20	6061K14	5.73	6061K331	7.31
7″	6061K414	4.78	6061K422	4.67	6061K429	4.78	6061K437	5.53	6061K445	7.16	6061K453	8.52
8″	6061K101	4.78	6061K102	4.83	6061K103	4.80	6061K104	5.85	6061K105	7.61	6061K106	9.00
9″	6061K21	4.78	6061K22	4.84	6061K23	5.10	6061K121	6.58	6061K24	8.49	6061K332	10.94
10″	6061K107	4.84	6061K108	5.55	6061K109	5.85	6061K112	7.26	6061K113	10.30	6061K114	12.17
12″	6061K31	5.46	6061K32	6.48	6061K33	7.62	6061K131	8.77	6061K34	11.38	6061K333	14.62
14″	6061K415	6.47	6061K423	8.42	6061K431	8.25	6061K438	10.19	6061K446	14.40	6061K454	17.09
15″	6061K315	6.81	6061K325	8.12	6061K335	8.82	6061K122	11.01	6061K345	14.59	6061K334	18.30
16″	6061K416	8.07	6061K424	9.61	6061K432	9.41	6061K439	11.65	6061K447	16.50	6061K455	19.50
18″	6061K41	8.17	6061K42	9.73	6061K43	10.39	6061K141	13.10	6061K44	17.03	6061K336	20.28
20″	6061K417	10.13	6061K425	12.02	6061K433	12.64	6061K441	14.57	6061K448	20.59	6061K456	23.87
24″	6061K51	11.10	6061K52	13.00	6061K53	14.14	6061K151	17.46	6061K54	22.74	6061K337	27.07
30″	6061K81	13.68	6061K82	16.21	6061K79	16.98	6061K123	20.91	6061K545	26.73	6061K338	32.20
36″	6061K61	16.38	6061K62	19.52	6061K63	20.73	6061K161	25.10	6061K64	32.66	6061K339	38.65
42″	6061K91	19.13	6061K92	22.76	6061K636	24.07	6061K124	29.30	6061K646	38.10	6061K341	45.13
48″	6061K71	21.69	6061K72	26.40	6061K73	26.19	6061K171	33.48	6061K74	43.55	6061K342	51.53
60″	6061K324	26.71	6061K326	33.67	6061K83	32.72	6061K181	41.87	6061K84	51.96	6061K343	61.53
72″	6061K327	33.33	6061K328	40.39	6061K93	41.59	6061K191	50.24	6061K94	62.33	6061K344	73.80
84″	6061K211	43.20	6061K212	44.54	6061K213	46.87	6061K214	58.62	6061K215	76.19	6061K346	92.42
96″	6061K312	45.36	6061K313	53.86	6061K314	56.56	6061K316	67.34	6061K317	86.39	6061K347	107.75

Lg.	1″ Dia.		1 1/8″ Dia.		1 1/4″ Dia.		1 1/2″ Dia.		1 3/4″ Dia.		2″ Dia.	
3″	6061K601	$4.52	6061K609	$6.01	6061K618	$5.94	6061K627	$7.46	6061K654	$13.51	6061K657	$16.53
4″	6061K602	6.01	6061K611	7.99	6061K619	7.92	6061K628	9.95	6061K637	18.02	6061K658	22.04
5″	6061K603	7.54	6061K612	9.99	6061K621	9.90	6061K629	12.46	6061K638	22.54	6061K647	27.55
6″	6061K604	9.04	6061K613	12.00	6061K622	11.87	6061K631	14.92	6061K639	27.03	6061K648	33.05
7″	6061K605	10.56	6061K614	14.03	6061K623	13.86	6061K632	17.41	6061K641	31.55	6061K649	38.59
8″	6061K606	12.06	6061K615	15.99	6061K624	15.84	6061K633	19.92	6061K642	36.04	6061K651	44.09
9″	6061K607	13.56	6061K616	18.02	6061K625	17.82	6061K634	22.42	6061K643	40.56	6061K652	49.61
10″	6061K608	15.05	6061K617	20.00	6061K626	19.82	6061K635	24.90	6061K644	45.08	6061K653	55.11
12″	6061K35	16.62	6061K351	20.07	6061K36	19.78	6061K37	25.24	6061K221	45.69	6061K38	58.41
18″	6061K45	22.66	6061K353	26.63	6061K46	28.10	6061K47	35.41	6061K222	64.04	6061K48	79.59
24″	6061K55	32.58	6061K354	33.83	6061K56	37.50	6061K57	47.21	6061K223	85.38	6061K58	106.14
30″	6061K25	35.58	6061K355	42.26	6061K16	46.86	6061K17	59.02	6061K224	106.75	6061K18	138.97
36″	6061K65	44.05	6061K356	50.75	6061K66	53.70	6061K67	67.61	6061K225	128.11	6061K68	152.30
42″	6061K656	57.01	6061K357	56.50	6061K26	62.66	6061K27	78.89	6061K226	136.47	6061K28	177.67
48″	6061K75	58.76	6061K358	64.55	6061K76	71.61	6061K77	90.17	6061K227	155.98	6061K78	203.06
60″	6061K85	72.02	6061K359	80.71	6061K86	89.51	6061K87	112.72	6061K228	194.96	6061K88	253.85
72″	6061K95	88.15	6061K361	96.87	6061K96	107.40	6061K97	129.34	6061K229	233.95	6061K98	304.61
84″	6061K216	104.89	6061K362	108.11	6061K217	125.34	6061K218	157.83	6061K219	272.95	6061K311	355.36
96″	6061K318	110.98	6061K363	133.41	6061K319	148.67	6061K321	172.47	6061K322	311.99	6061K323	440.95

(Continued on following page)

Hardened Shafts *(Continued from previous page)*

Inch Sizes—Chrome-Plated Steel

Shafts are 1566 steel with a 0.00005″ thick chrome plating that adds some corrosion resistance. Case hardness is Rockwell C60.

Lg.	1/2″ Dia.		5/8″ Dia.		3/4″ Dia.		1″ Dia.		1 1/4″ Dia.		1 1/2″ Dia.	
6″	60345K21	$10.00	60345K11	$12.43	60345K31	$15.14	60345K41	$18.93	60345K61	$25.95	60345K51	$31.62
12″	60345K22	19.96	60345K12	24.84	60345K32	30.20	60345K42	37.87	60345K62	51.96	60345K52	63.25
18″	60345K23	29.95	60345K13	37.26	60345K33	45.33	60345K43	56.81	60345K63	77.94	60345K53	94.87
24″	60345K24	39.97	60345K14	49.67	60345K34	60.50	60345K44	75.77	60345K64	103.88	60345K54	126.50
36″	60345K25	59.92	60345K15	74.50	60345K35	90.66	60345K45	113.62	60345K65	155.83	60345K55	189.73
48″	60345K26	79.94	60345K16	99.36	60345K36	120.90	60345K46	151.48	60345K66	207.78	60345K56	252.96
60″	60345K27	97.26	60345K17	122.37	60345K37	147.47	60345K47	184.77	60345K67	254.47	60345K57	309.55
72″	60345K28	106.38	60345K18	137.02	60345K38	177.00	60345K48	221.72	60345K68	305.36	60345K58	371.48

Inch Sizes—Stainless Steel

These Type 440C stainless steel shafts have good corrosion resistance but are not as strong as steel shafts. Case hardness is Rockwell C50-C55 (unless noted).

Lg.	1/8″ Dia.		3/16″ Dia.		1/4″ Dia.		3/8″ Dia.		1/2″ Dia.	
6″	6253K49■	$52.90	6253K81■	$51.68	6253K11	$9.99	6253K31	$10.06	6253K51	$10.24
12″	6253K59■	119.95	6253K82■	118.37	6253K12	19.96	6253K32	20.10	6253K52	20.45
18″	_____	_____	_____	_____	6253K13	29.94	6253K33	30.19	6253K53	30.69
24″	_____	_____	_____	_____	6253K14	39.93	6253K34	40.26	6253K21	40.93
36″	_____	_____	_____	_____	6253K15	59.89	6253K35	60.39	6253K54	61.40
48″	_____	_____	_____	_____	6253K16	79.87	6253K36	80.54	6253K41	81.88
60″	_____	_____	_____	_____	6253K17	99.82	6253K18	100.67	6253K19	102.38

Lg.	5/8″ Dia.		3/4″ Dia.		1″ Dia.		1 1/4″ Dia.		1 1/2″ Dia.		2″ Dia.	
6″	6253K55	$13.27	6253K61	$14.64	6253K91▲	$36.89	6253K92▲	$56.80	6253K93▲	$66.46	6253K94▲	$146.26
12″	6253K56	26.57	6253K62	29.27	6253K65	41.27	6253K71	63.96	6253K74	75.15	6253K77	165.15
18″	6253K57	39.83	6253K63	43.91	6253K66	61.95	6253K72	95.95	6253K75	112.69	6253K78	247.73
24″	6253K22	53.10	6253K23	58.55	6253K24	82.58	6253K25	127.93	6253K26	150.27	6253K27	330.30
36″	6253K58	79.69	6253K64	87.82	6253K67	123.85	6253K73	191.87	6253K76	225.41	6253K79	495.50
48″	6253K42	106.26	6253K43	117.12	6253K44	165.15	6253K45	255.85	6253K46	300.53	6253K47	660.65
60″	6253K28	132.82	6253K29	146.39	6253K37	206.45	6253K38	319.84	6253K39	375.70	6253K48	807.58

■ Shaft has a 10-16 rms micron finish; Rockwell hardness is C56-C58. ▲ Shaft has a 10-16 rms micron finish; Rockwell hardness is C52-C56.

Metric Sizes—Steel

Shafts are 1055 steel (except 3 mm and 13 mm Dia. shafts are 52100 steel and have a straightness tolerance of 0.025 to 0.050 mm per 300 mm). They're stronger than stainless steel shafts but are less corrosion resistant. Case hardness is Rockwell C59-C65.

Lg., mm	3 mm Dia.		4 mm Dia.		5 mm Dia.		6 mm Dia.		8 mm Dia.	
200	6112K31◆	$20.15	6112K34	$6.86	6112K37	$9.02	6112K41	$5.23	6112K44	$5.93
400	6112K11◆	40.29	6112K12	13.21	6112K38	17.06	6112K42	10.67	6112K45	12.12
600	_____	_____	_____	_____	6112K13	28.32	6112K14	15.33	6112K46	18.21
800	_____	_____	_____	_____	6112K39	35.48	_____	_____	6112K15	24.23
1,200	_____	_____	_____	_____	6112K132	61.93	6112K134	32.07	6112K136	36.47

	10 mm Dia.		12 mm Dia.		13 mm Dia.		15 mm Dia.		16 mm Dia.		20 mm Dia.	
200	6112K101	$6.16	6112K103	$6.28	6112K105◆	$14.89	6112K2	$7.91	6112K107	$8.19	6112K109	$10.07
400	6112K102	12.60	6112K104	12.88	6112K106◆	29.75	6112K4	15.75	6112K108	16.67	6112K111	20.09
500	6112K47	15.07	6112K52	16.07	6112K56◆	35.06	6112K6	20.14	6112K61	21.88	6112K65	26.39
1,000	6112K16	30.16	6112K53	32.16	6112K57◆	82.10	6112K94	40.23	6112K62	43.12	6112K66	52.68
1,200	_____	_____	6112K17	38.63	6112K18◆	92.73	6112K95	48.33	6112K63	50.12	6112K67	63.20
1,500	_____	_____	6112K54	48.23	_____	_____	6112K96	60.37	6112K64	62.63	6112K68	79.02
2,000	_____	_____	6112K55	64.40	_____	_____	6112K97	76.98	6112K19	83.56	6112K21	100.47

	24 mm Dia.		25 mm Dia.		30 mm Dia.		35 mm Dia.		40 mm Dia.		50 mm Dia.	
200	6112K51	$32.47	6112K112	$14.51	6112K114	$18.26	6112K116	$24.65	6112K118	$28.42	6112K121	$49.74
500	6112K58	76.67	6112K69	36.44	6112K74	43.56	6112K78	64.68	6112K83	74.49	6112K87	106.98
1,000	6112K59	153.35	6112K71	72.72	6112K75	87.13	6112K79	129.39	6112K84	149.07	6112K88	213.96
1,200	6112K92	184.04	6112K72	87.30	6112K76	104.53	6112K81	155.24	6112K85	178.88	6112K89	256.76
1,500	6112K93	230.02	6112K73	109.21	6112K77	130.71	6112K82	194.29	6112K86	213.14	6112K91	321.68
2,000	6112K98	301.13	6112K22	142.18	6112K23	160.04	6112K24	258.76	6112K25	284.26	6112K26	396.20
2,500	6112K99	390.64	6112K32	190.83	6112K33	239.15	_____	_____	6112K36	372.71	6112K5	652.29

◆ Shaft has a 10-16 rms micron finish.

Metric Sizes—Stainless Steel

These 400 series stainless steel shafts have good corrosion resistance but are not as strong as steel shafts. Case hardness is Rockwell C52-C56.

Lg., mm	6 mm Dia.		8 mm Dia.		10 mm Dia.		12 mm Dia.		15 mm Dia.		16 mm Dia.	
200	6459K1	$13.10	6459K111	$12.60	6459K12	$14.13	6459K23	$11.60	6459K34	$13.72	6459K45	$16.90
400	6459K2	26.30	6459K112	25.25	6459K13	28.32	6459K24	23.10	6459K35	27.45	6459K46	33.85
600	6459K4	39.40	6459K113	37.88	6459K15	42.52	6459K26	34.65	6459K37	41.15	6459K48	50.80
800	6459K5	52.52	6459K114	50.52	6459K16	56.67	6459K27	46.20	6459K38	54.90	6459K49	67.80
1,000	6459K6	65.72	6459K115	63.17	6459K17	70.78	6459K28	57.77	6459K39	68.62	6459K51	84.72
1,200	6459K7	79.12	6459K116	75.80	6459K18	84.95	6459K29	69.30	6459K41	82.30	6459K52	101.60

	20 mm Dia.		25 mm Dia.		30 mm Dia.		40 mm Dia.		50 mm Dia.			
500	6459K58	$47.95	6459K69	$67.83	6459K81	$87.83	6459K92	$134.57	6459K103	$223.83	_____	_____
600	6459K59	57.48	6459K71	81.33	6459K82	100.36	6459K93	156.76	6459K104	245.00	_____	_____
800	6459K61	76.65	6459K72	103.29	6459K83	133.83	6459K94	215.26	6459K105	334.27	_____	_____
1,000	6459K62	95.82	6459K73	129.10	6459K84	167.29	6459K95	251.20	6459K106	417.87	_____	_____
1,200	6459K63	114.92	6459K74	154.95	6459K85	200.74	6459K96	301.33	6459K107	501.40	_____	_____
1,500	6459K64	136.90	6459K75	193.64	6459K86	250.95	6459K97	376.78	6459K108	626.73	_____	_____

Don't see the shafts you need? Just tell us what you're looking for and we'll get it for you.

Miniature Hardened Shafts



With their small diameters, miniature shafts are suited for miniature linear motion applications. Shafts are made of through-hardened 17-4 PH stainless steel for excellent corrosion resistance and good strength. All have a 10 rms microinch finish. Rockwell hardness is C40. Ends are beveled on 1/8" and larger diameters and on 2.5 mm and larger diameters.

Shaft Dia.	Dia. Tolerance	Straightness Tolerance
1/32"-1/4"	–0.0002" to 0"	0.0048" per foot
5/16", 3/8"	–0.0002" to 0"	0.0072" per foot
1-4 mm	–0.005 to 0 mm	0.01 mm per mm

Lg.	1/32" Dia.		3/64" Dia.		1/16" Dia.		5/64" Dia.		3/32" Dia.		1/8" Dia.	
Inch Sizes												
2"	1162K85	$21.89	1162K89	$17.36	1162K94	$14.14	1162K98	$12.51	1162K103	$12.09	1162K107	$14.42
3"	1162K86	22.15	1162K91	18.62	1162K95	15.40	1162K99	13.54	1162K104	12.93	1162K108	15.40
4"	1162K87	23.34	1162K92	19.84	1162K96	16.43	1162K101	14.84	1162K105	14.10	1162K109	16.43
5"	1162K88	24.55	1162K93	20.91	1162K97	17.69	1162K102	16.01	1162K106	15.40	1162K111	16.90
6"	1162K11	24.95	1162K14	21.56	1162K18	18.07	1162K25	16.53	1162K32	15.63	1162K38	17.17
12"	1162K12	31.18	1162K15	27.74	1162K19	24.32	1162K26	22.78	1162K33	20.91	1162K39	22.46
18"	1162K13	36.51	1162K16	33.04	1162K21	29.60	1162K27	27.75	1162K34	24.95	1162K41	28.06
24"			1162K17	37.67	1162K22	34.31	1162K28	32.70	1162K35	29.60	1162K42	32.70
36"					1162K24	49.85	1162K31	48.30	1162K37	42.08	1162K44	45.20

Lg.	5/32" Dia.		3/16" Dia.		7/32" Dia.		1/4" Dia.		5/16" Dia.		3/8" Dia.	
2"	1162K112	$15.82	1162K116	$14.42	1162K121	$15.59	1162K125	$14.70	1162K129	$15.68	1162K134	$15.50
3"	1162K113	17.32	1162K117	18.25	1162K122	16.52	1162K126	15.64	1162K131	16.90	1162K135	17.04
4"	1162K114	19.23	1162K118	19.14	1162K123	17.46	1162K127	16.34	1162K132	18.02	1162K136	18.39
5"	1162K115	21.19	1162K119	20.02	1162K124	18.48	1162K128	17.08	1162K133	18.95	1162K137	19.74
6"	1162K45	21.81	1162K52	20.27	1162K58	18.71	1162K65	17.17	1162K72	18.97	1162K78	20.27
12"	1162K46	31.18	1162K53	28.06	1162K59	24.95	1162K66	21.81	1162K73	26.78	1162K79	28.06
18"	1162K47	38.96	1162K54	34.30	1162K61	32.70	1162K67	28.06	1162K74	40.53	1162K81	45.20
24"	1162K48	54.56	1162K55	46.77	1162K62	42.08	1162K68	35.89	1162K75	49.85	1162K82	54.56
36"	1162K51	73.27	1162K57	63.91	1162K64	56.13	1162K71	46.77	1162K77	67.02	1162K84	76.37

	1 mm Dia.		1.5 mm Dia.		2 mm Dia.		2.5 mm Dia.		3 mm Dia.		4 mm Dia.	
Metric Sizes												
300 mm	1174K12	$29.60	1174K15	$24.95	1174K19	$21.56	1174K26	$19.61	1174K33	$23.67	1174K39	$31.19
600 mm			1174K17	34.88	1174K22	31.81	1174K28	28.06	1174K35	35.25	1174K42	54.56
900 mm					1174K24	46.77	1174K31	40.53	1174K37	48.95	1174K44	73.27

Aluminum Shafts



Move loads in corrosive environments. These Alloy 6061 aluminum shafts are strong, lightweight, and nonmagnetic. Surface hardness is Rockwell C70. Ends are beveled.

Anodized Aluminum Shafts— A 0.002" thick anodized layer resists chipping. All have a 10-16 rms micron finish. Straightness tolerance is 0.004" per foot.

Ceramic-Coated Aluminum Shafts— A 0.002" thick ceramic coating keeps weld splatter, molten glass, and paint from sticking to these shafts. All meet MIL-A-8625 and have a maximum 20 rms micron finish. Straightness tolerance is 0.001" per foot. *Note:* Ceramic-coated aluminum shafts are not intended for use with linear ball bearings.

Shaft Dia.	Dia. Tolerance
Anodized	
1/4"-1 1/4"	–0.001" to –0.0005"
Ceramic Coated	
1/4"-1"	–0.0012" to –0.0004"
1 1/2"	–0.0013" to –0.0005"
2"	–0.0015" to –0.0005"

Lg.	1/4" Dia.		3/8" Dia.		1/2" Dia.		3/4" Dia.		7/8" Dia.		1" Dia.		1 1/4" Dia.	
Anodized Aluminum Shafts														
6"	5911K11	$11.83	5911K12	$12.50	5911K13	$13.10	5911K14	$13.93	5911K15	$15.43	5911K16	$16.12	5911K17	$19.43
12"	5911K21	14.55	5911K22	15.67	5911K23	17.19	5911K24	20.50	5911K25	23.88	5911K26	36.76	5911K27	35.69
18"	5911K31	23.69	5911K32	25.00	5911K33	25.74	5911K34	32.17	5911K35	35.81	5911K36	45.69	5911K37	53.76
24"	5911K41	29.05	5911K42	31.40	5911K43	34.31	5911K44	40.86	5911K45	47.69	5911K46	60.83	5911K47	67.07
36"	5911K51	47.38	5911K52	50.12	5911K53	59.54	5911K54	61.55	5911K55	66.80	5911K56	84.71	5911K57	100.44
48"	5911K61	57.02	5911K62	62.50	5911K63	64.11	5911K64	76.49	5911K65	89.04	5911K66	113.58	5911K67	133.87

	1/4" Dia.		3/8" Dia.		1/2" Dia.		3/4" Dia.		1" Dia.		1 1/2" Dia.		2" Dia.	
Ceramic-Coated Aluminum Shafts														
6"	1031K61	$3.06	1031K71	$4.28	1031K11	$5.02	1031K21	$6.63	1031K31	$10.18	1031K41	$16.82	1031K51	$28.59
9"	1031K62	4.59	1031K72	6.42	1031K12	7.52	1031K22	9.96	1031K32	15.27	1031K42	25.23	1031K52	42.89
12"	1031K63	6.12	1031K73	8.56	1031K13	10.03	1031K23	13.28	1031K33	20.36	1031K43	33.64	1031K53	57.19
15"	1031K64	7.65	1031K74	10.70	1031K14	12.54	1031K24	16.59	1031K34	25.45	1031K44	42.05	1031K54	71.48
18"	1031K65	9.18	1031K75	12.84	1031K15	15.05	1031K25	19.92	1031K35	30.54	1031K45	50.46	1031K55	85.78
24"	1031K66	12.24	1031K76	17.12	1031K16	20.06	1031K26	26.55	1031K36	40.73	1031K46	67.28	1031K56	114.37
36"	1031K67	18.36	1031K77	25.68	1031K17	30.10	1031K27	39.83	1031K37	61.09				
48"	1031K68	24.48	1031K78	34.23	1031K18	40.13	1031K28	53.11	1031K38	81.45				

Hardened Shafts with Machinable Ends



Machining a custom end for mounting is easier because 2" of each end has been annealed (softened). Shafts are case hardened and precision ground with exacting diameter and straightness tolerances. The nonannealed portion has a 9 rms micron finish. Shafts are 1566 steel for high strength. Case hardness is Rockwell C60. Straightness tolerance is 0.001" per foot. Ends are beveled.

Note: The annealed (softened) ends are not intended for linear travel.

Shaft Dia.	Dia. Tolerance
1/4"-1"	–0.001" to –0.0005"
1 1/2"	–0.0011" to –0.0006"

Lg.	1/4" Dia.		3/8" Dia.		1/2" Dia.		3/4" Dia.		1" Dia.		1 1/2" Dia.	
10"	1144K11	$24.15	1144K19	$25.07	1144K28	$25.53	1144K37	$30.96	1144K46	$36.82	1144K55	$53.15
12"	1144K12	26.06	1144K21	27.16	1144K29	27.91	1144K38	34.14	1144K47	40.84	1144K56	60.16
16"	1144K13	29.89	1144K22	31.39	1144K31	33.51	1144K39	40.50	1144K48	48.83	1144K57	74.15
18"	1144K14	31.80	1144K23	33.52	1144K32	35.58	1144K41	44.85	1144K49	52.78	1144K58	81.09
22"	1144K15	35.98	1144K24	38.72	1144K33	39.74	1144K42	51.04	1144K51	60.75	1144K59	89.93
24"	1144K16	37.72	1144K25	40.70	1144K34	41.81	1144K43	54.13	1144K52	64.77	1144K61	95.99
28"	1144K17	41.13	1144K26	44.62	1144K35	46.92	1144K44	60.36	1144K53	72.76	1144K62	108.12
36"	1144K18	49.02	1144K27	52.48	1144K36	56.43	1144K45	72.77	1144K54	88.66	1144K63	132.47

Don't see the shafts you need? Just tell us what you're looking for and we'll get it for you.

Hardened Shafts with Tapped Ends

To save time and avoid the hassle of machining, the shaft ends come internally tapped. Shafts are case hardened and precision ground with exacting diameter and straightness tolerances. All have a 10-16 rms micron finish. Straightness tolerance is 0.002" to 0.001" per foot. Ends are beveled.

Steel Shafts— Made of 52100 steel, these shafts are stronger than stainless steel shafts but are less corrosion resistant. Case hardness is Rockwell C60-C64.

Stainless Steel Shafts— These Type 440C stainless steel shafts have good corrosion resistance but are not as strong as steel shafts. Case hardness is Rockwell C56-C58.

Shaft Dia.	Dia. Tolerance
3/8"	–0.0006" to –0.0002"
1/2", 5/8"	–0.0007" to –0.0002"
3/4", 1"	–0.0008" to –0.0003"
1 1/4"	–0.0010" to –0.0004"



Lg.	3/8" Dia. Tapped End Size: 8-32 x 21/64" Dp.		1/2" Dia. Tapped End Size: 1/4"-20 x 1/2" Dp.		5/8" Dia. Tapped End Size: 1/4"-20 x 1/2" Dp.		3/4" Dia. Tapped End Size: 5/16"-18 x 5/8" Dp.		1" Dia. Tapped End Size: 3/8"-16 x 3/4" Dp.		1 1/4" Dia. Tapped End Size: 1/2"-13 x 1" Dp.	
Steel Shafts												
With One Tapped End												
6"	6649K123	$27.07	6649K41	$29.43	6649K51	$30.68	6649K61	$35.75	6649K71	$38.62	6649K81	$48.11
8"	6649K124	28.78	6649K42	31.32	6649K52	32.97	6649K62	38.78	6649K72	42.62	6649K82	53.27
9"	6649K125	29.63	6649K43	32.28	6649K53	34.16	6649K63	40.30	6649K73	44.57	6649K83	55.86
10"	6649K126	30.48	6649K44	33.24	6649K54	35.30	6649K64	41.81	6649K74	46.57	6649K84	58.43
12"	6649K127	32.18	6649K45	35.14	6649K55	37.59	6649K65	44.84	6649K75	50.54	6649K85	63.57
18"	6649K128	37.26	6649K46	40.81	6649K56	44.54	6649K66	53.92	6649K76	62.49	6649K86	79.05
24"	6649K129	42.38	6649K47	46.49	6649K57	51.49	6649K67	63.00	6649K77	74.35	6649K87	94.54
36"	6649K131	52.58	6649K48	57.86	6649K58	65.35	6649K68	81.14	6649K78	98.22	6649K88	125.49
With Two Tapped Ends												
6"	6649K132	40.79	6649K1	44.24	6649K6	45.49	6649K12	55.51	6649K17	58.18	6649K23	70.02
8"	6649K133	42.48	6649K101	46.16	6649K104	47.78	6649K107	56.57	6649K111	60.38	6649K114	74.03
9"	6649K134	43.33	6649K102	47.11	6649K105	48.95	6649K108	58.11	6649K112	62.35	6649K115	76.57
10"	6649K135	44.17	6649K103	48.05	6649K106	49.74	6649K109	59.59	6649K113	64.35	6649K116	79.16
12"	6649K136	45.88	6649K2	52.35	6649K7	54.65	6649K13	64.40	6649K18	69.68	6649K24	85.16
18"	6649K137	50.98	6649K3	57.92	6649K8	61.40	6649K14	73.29	6649K19	81.19	6649K25	99.74
24"	6649K138	56.08	6649K4	63.52	6649K9	68.12	6649K15	82.18	6649K21	92.71	6649K26	115.42
36"	6649K139	66.28	6649K5	74.73	6649K11	81.65	6649K16	99.95	6649K22	115.75	6649K27	145.69
Stainless Steel Shafts												
With One Tapped End												
6"	_____	_____	1240K51	51.12	1240K57	55.75	1240K64	68.70	1240K71	77.75	1240K77	93.30
9"	_____	_____	1240K52	58.85	1240K58	65.78	1240K65	79.70	1240K72	93.27	1240K78	115.30
12"	_____	_____	1240K53	66.58	1240K59	75.83	1240K66	90.72	1240K73	108.83	1240K79	137.25
18"	_____	_____	1240K54	82.08	1240K61	95.85	1240K67	112.78	1240K74	139.93	1240K81	181.18
24"	_____	_____	1240K55	97.53	1240K62	115.97	1240K68	134.85	1240K75	173.78	1240K82	225.10
36"	_____	_____	1240K56	128.47	1240K63	156.12	1240K69	178.93	1240K76	233.25	1240K83	312.98
With Two Tapped Ends												
6"	_____	_____	1240K11	66.51	1240K16	71.23	1240K22	84.51	1240K27	93.79	1240K33	109.77
9"	_____	_____	1240K1	72.58	1240K2	79.50	1240K3	93.42	1240K4	107.00	1240K5	128.97
12"	_____	_____	1240K12	82.38	1240K17	91.82	1240K23	107.10	1240K28	125.69	1240K34	154.82
18"	_____	_____	1240K13	98.23	1240K18	112.41	1240K24	129.72	1240K29	157.59	1240K35	199.87
24"	_____	_____	1240K14	114.10	1240K19	133.00	1240K25	152.33	1240K31	189.46	1240K36	244.92
36"	_____	_____	1240K15	145.85	1240K21	174.18	1240K26	197.59	1240K32	253.26	1240K37	335.05

Hardened Shafts with Threaded Ends

Externally threaded ends have been machined for you—just mount these ready-to-use shafts through a through-hole and secure with a nut. Made of 52100 steel, all are case hardened and precision ground with exacting diameter and straightness tolerances. Shafts have a 10-16 rms micron finish. Case hardness is Rockwell C60-C64. Straightness tolerance is 0.002" to 0.001" per foot. Ends are beveled.

Shaft Dia.	Dia. Tolerance
3/8"	–0.0006" to –0.0002"
1/2", 5/8"	–0.0007" to –0.0002"
3/4", 1"	–0.0008" to –0.0003"

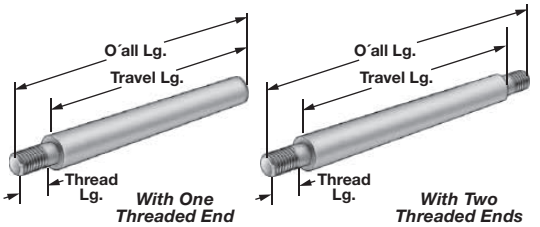

Shaft Dia.	Thread Size	Thread Lg.	6" Travel Lg. O'all Lg.		8" Travel Lg. O'all Lg.		12" Travel Lg. O'all Lg.		24" Travel Lg. O'all Lg.	
With One Threaded End										
3/8"	1/4"-20	0.31"	6 1/2"	8350T65 $32.72	8 1/2"	8350T72 $34.19	12 1/2"	8350T81 $37.09	24 1/2"	8350T89 $45.77
1/2"	5/16"-18	0.39"	6 5/8"	8350T66 32.96	8 5/8"	8350T73 34.45	12 5/8"	8350T82 42.11	24 5/8"	8350T91 55.74
5/8"	3/8"-16	0.47"	6 3/4"	8350T67 32.89	8 3/4"	8350T74 39.00	12 3/4"	8350T83 46.57	24 3/4"	8350T92 60.72
3/4"	1/2"-13	0.63"	7"	8350T68 36.36	9"	8350T75 43.40	13"	8350T84 52.83	25"	8350T93 71.86
1"	5/8"-11	0.78"	7 1/4"	8350T69 46.36	9 1/4"	8350T76 49.49	13 1/4"	8350T85 55.74	25 1/4"	8350T94 81.02
With Two Threaded Ends										
3/8"	1/4"-20	0.31"	7"	8350T5 49.89	9"	8350T21 51.34	13"	8350T29 54.23	25"	8350T38 59.14
1/2"	5/16"-18	0.39"	7 1/4"	8350T6 50.26	9 1/4"	8350T22 51.72	13 1/4"	8350T31 58.46	25 1/4"	8350T39 73.92
5/8"	3/8"-16	0.47"	7 1/2"	8350T7 50.28	9 1/2"	8350T23 55.62	13 1/2"	8350T32 65.36	25 1/2"	8350T41 87.56
3/4"	1/2"-13	0.63"	8"	8350T8 51.08	10"	8350T24 60.34	14"	8350T33 71.84	26"	8350T42 99.32
1"	5/8"-11	0.78"	8 1/2"	8350T9 65.18	10 1/2"	8350T25 68.10	14 1/2"	8350T34 73.98	26 1/2"	8350T43 109.18

Don't see the shafts you need? Just tell us what you're looking for and we'll get it for you.

Tubular Shafts

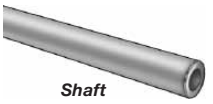

Shaft

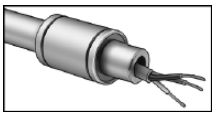

Shaft Shown with Bearing and Wiring (Not Included)

Lighter than solid shafts, tubular shafts reduce your total system weight and allow you to run various media such as electrical wiring, compressed air tubing, coolants, or lubricants through the center. Shafts are precision ground for tight diameter and straightness tolerances. Ends are beveled.

Inch Sizes—*Hardened shafts* are made of 52100 steel with an unfinished interior. All have a 9 rms micron finished OD. Case hardness is Rockwell C58. ID tolerance is ±5%. Straightness tolerance is 0.001″ per foot.

Unhardened shafts are made of 1026 steel with a finished interior. They come with material certification that includes a traceable lot number and physical test report. Shaft OD has a 32 rms micron finish; ID has a 20 rms micron finish. Hardness is Brinell 225. ID tolerance is 0.003″. Straightness tolerance is 0.003″ per foot.

Metric Sizes—Made of 1055 steel, these shafts are hardened with an unfinished interior. All have a 12 rms micron finished OD. Case hardness is Rockwell C59-C65. ID tolerance is ±5%. Straightness tolerance is 0.1 mm per 1,000 mm, unless noted.

Shaft OD	OD Tolerance
Hardened Shafts	
¾″, 1″	–0.001″ to –0.0005″
1½″	–0.0011″ to –0.0006″
2″	–0.0013″ to –0.0006″
12-16 mm	–0.018 to 0 mm
20-30 mm	–0.021 to 0 mm
40 mm	–0.025 to 0 mm
Unhardened Shafts	
1¼″, 1½″	–0.0010″ to 0″
2″	–0.0020″ to 0″

Inch Sizes

	Hardened Shafts				*Unhardened Shafts*		
Lg.	***¾″ OD (0.44″ ID)***	***1″ OD (0.6″ ID)***	***1½″ OD (0.89″ ID)***	***2″ OD (1¼″ ID)***	***1¼″ OD (¾″ ID)***	***1½″ OD (1″ ID)***	***2″ OD (1½″ ID)***
12″	6007K35 $40.58	6007K36 $43.22	6007K37 $46.22	6007K38 $106.22	8929T11 $67.09	8929T21 $70.13	8929T31 $99.98
18″	6007K45 60.89	6007K46 64.82	6007K47 69.29	6007K48 159.34	——— ———	——— ———	——— ———
24″	6007K55 81.19	6007K56 86.42	6007K57 92.41	6007K58 212.44	8929T12 117.41	8929T22 120.68	8929T32 195.70
36″	6007K65 116.62	6007K66 124.10	6007K67 132.73	6007K68 299.51	8929T13 167.74	8929T23 171.23	8929T33 271.80
48″	6007K75 155.47	6007K76 165.49	6007K77 176.96	6007K78 384.02	8929T14 218.06	8929T24 221.80	8929T34 271.60
60″	6007K85 194.31	6007K86 206.87	6007K87 221.23	6007K88 480.02	——— ———	——— ———	——— ———

Metric Sizes

	Hardened Shafts					
Lg., mm	***12 mm OD (4 mm ID)***	***16 mm OD (7 mm ID)***	***20 mm OD (14 mm ID)***	***25 mm OD (15.5 mm ID)***	***30 mm OD (18.2 mm ID)***	***40 mm OD (27 mm ID)***
300	5964K11 $36.06	5964K31 $36.06	5964K21 $51.78	5964K22 $61.34	5964K23 $74.18	5964K24 $95.82
500	5964K12 60.10	5964K32 60.10	5964K41 86.36	5964K42 102.26	5964K43 123.66	5964K44 159.70
1,000	5964K13■ 120.12	5964K33■ 120.12	5964K51▲ 172.68	5964K52▲ 204.56	5964K53▲ 247.31	5964K54 319.32
1,500	——— ———	——— ———	5964K71▲ 258.72	5964K72▲ 307.06	5964K73▲ 370.95	5964K74 479.10

■ Straightness tolerance is 0.3 mm per 1,000 mm. ▲ Straightness tolerance is 0.2 mm per 1,000 mm.

Hardened Shafts with Support Rail

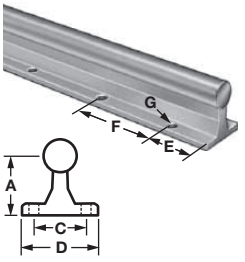

Get shafts and support rails in one easy-to-install unit. Each consists of a Hardened Shaft with Tapped Mounting Holes (6499K or 6526K on page 1127) mounted on an aluminum alloy support rail.

Shafts are case hardened and precision ground for exacting diameter and straightness tolerances. Ends are beveled. *Inch sizes* have a 9 rms micron finish. Straightness tolerance is 0.001″ per foot. *Metric sizes* have a 12 rms micron finish. Straightness tolerance is 0.025 mm per 300 mm.

Use with open-style linear bearings (see pages 1135-1143).

Steel Shafts—Made of steel, these shafts are stronger than stainless steel shafts but are less corrosion resistant. Case hardness is Rockwell C60.

Stainless Steel Shafts—These Type 440C stainless steel shafts have good corrosion resistance but are not as strong as steel shafts. Case hardness is Rockwell C50-C55.

Shaft Dia.	Dia. Tolerance
½″-1¼″	–0.001″ to –0.0005″
1½″	–0.0011″ to –0.0006″
12, 16 mm	–0.011 to 0 mm
20, 25, 30 mm	–0.013 to 0 mm

Inch Sizes

Shaft Dia.	(A)	(C)	(D)	(E)	(F)	Dia. (G)	*Steel* 24″ Length	*Steel* 48″ Length	*Stainless Steel* 24″ Length	*Stainless Steel* 48″ Length
½″	1⅛″	1″	1½″	2″	4″	0.17″	59585K83 $146.19	59585K53 $286.08	6557K21 $252.93	6557K31 $478.75
⅝″	1⅛″	1⅛″	1⅝″	2″	4″	0.19″	59585K89 176.14	59585K59 352.28	6557K22 254.87	6557K32 500.33
¾″	1½″	1¼″	1¾″	3″	6″	0.22″	59585K84 182.22	59585K54 364.43	6557K23 300.80	6557K33 590.41
1″	1¾″	1½″	2⅛″	3″	6″	0.28″	59585K85 237.36	59585K55 474.74	6557K24 356.42	6557K34 674.71
1¼″	2⅛″	1⅞″	2½″	3″	6″	0.34″	59585K86 286.77	59585K56 564.61	6557K25 455.26	6557K35 833.39
1½″	2½″	2¼″	3″	4″	8″	0.34″	59585K87 322.96	59585K57 594.49	6557K26 514.71	6557K36 942.16

Metric Sizes

Shaft Dia., mm	(A), mm	(C), mm	(D), mm	(E), mm	(F), mm	Dia. (G), mm	*Steel* 600 mm Length	*Steel* 1,200 mm Length
12	28	29	43	37.5	75	4.5	59585K71 $206.44	59585K91 $361.16
16	30	33	48	50	100	5.5	59585K11 206.84	59585K12 365.65
20	38	37	56	50	100	6.6	59585K13 207.09	59585K14 376.56
25	42	42	60	60	120	6.6	59585K74 227.28	59585K94 469.31
30	53	51	74	75	150	9	59585K15 232.86	59585K16 481.00

Don't see the shafts you need? Just tell us what you're looking for and we'll get it for you.

Ceramic-Coated Aluminum Shafts with Support Rail

A minimum 0.002″ thick ceramic coating keeps weld splatter, paint, and other contaminants from sticking to the shafts. Made of Alloy 6063-T6 aluminum, these shafts and integral support rail are lightweight, nonmagnetic, and have excellent corrosion resistance. Their one-piece design reduces vibration and assembly time. Ends are beveled.

All of these shafts meet MIL-A-8625 and have a maximum 20 rms micron finish. Rockwell hardness is C70. Straightness tolerance is 0.001″ per foot.

Use with open-style linear sleeve bearings (see pages 1141-1143).
Note: Shafts are not intended for use with linear ball bearings.

Shaft Dia.	Dia. Tolerance
1/2″-1″	–0.0012″ to –0.0004″

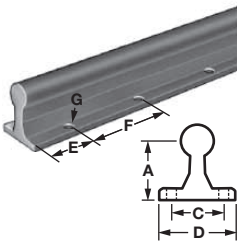

Shaft Dia.	(A)	(C)	(D)	(F)	Dia. (G)	6″ Length (E)			9″ Length (E)			12″ Length (E)		
1/2″	1 1/8″	1″	1 1/2″	4″	0.169″	1″	1049K11	$32.24	2 1/2″	1049K12	$48.36	2″	1049K13	$64.48
3/4″	1 1/2″	1 1/4″	1 3/4″	6″	0.221″	3″	1049K21★	39.65	1 1/2″	1049K22	59.47	3″	1049K23	79.30
1″	1 3/4″	1 1/2″	2 1/8″	6″	0.281″	3″	1049K31★	47.23	1 1/2″	1049K32	70.85	3″	1049K33	90.69
										18″ Length (E)			24″ Length (E)	
1/2″	1 1/8″	1″	1 1/2″	4″	0.169″				1″	1049K14	$96.72	2″	1049K15	$123.81
3/4″	1 1/2″	1 1/4″	1 3/4″	6″	0.221″				3″	1049K24	118.94	3″	1049K25	158.59
1″	1 3/4″	1 1/2″	2 1/8″	6″	0.281″				3″	1049K34	141.70	3″	1049K35	188.94

★ With only one mounting hole on each side, (F) dimension does not apply.

Hardened Shafts with Tapped Mounting Holes

The tapped holes on these shafts match the Support Rails for Hardened Shafts with Tapped Mounting Holes. Shafts are case hardened and precision ground for exacting diameter and straightness tolerances. All have a 9 rms micron finish. Ends are beveled. Straightness tolerance is 0.001″ per foot.

Steel Shafts— Shafts are 1566 steel; they're stronger than stainless steel shafts but are less corrosion resistant. Case hardness is Rockwell C60. Attach shaft to rail from beneath using socket-head cap screws on pages 3101-3103.

Stainless Steel Shafts— These Type 440C stainless steel shafts have good corrosion resistance, but are not as strong as steel shafts. Case hardness is Rockwell C50-C55. Attach shaft to rail from beneath using socket-head cap screws on pages 3115-3116.

Shaft Dia.	Dia. Tolerance
1/2″-1 1/4″	–0.0010″ to –0.0005″
1 1/2″	–0.0011″ to –0.0006″

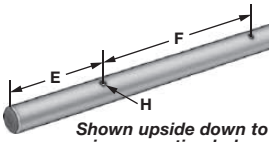

Shown upside down to view mounting holes.



Shaft Dia.	(E)	(F)	Tapped Hole (H) Size	Tapped Hole (H) Dp.	24″ Length		48″ Length		72″ Length		96″ Length	
Steel Shafts												
1/2″	2″	4″	6-32	1/4″	6499K53	$70.55	6499K73	$141.16	6499K33	$211.71	6499K43	$282.27
5/8″	2″	4″	8-32	5/16″	6499K59	73.44	6499K79	146.87	6499K39	220.29	6499K49	293.74
3/4″	3″	6″	10-32	3/8″	6499K54	75.58	6499K74	151.15	6499K34	226.75	6499K44	302.37
1″	3″	6″	1/4″-20	1/2″	6499K55	84.16	6499K75	169.76	6499K35	252.53	6499K45	336.73
1 1/4″	3″	6″	5/16″-18	5/8″	6499K56	99.20	6499K76	198.46	6499K36	297.68	6499K46	396.90
1 1/2″	4″	8″	3/8″-16	3/4″	6499K57	111.76	6499K77	223.52	6499K37	335.33	6499K47	447.08
Stainless Steel Shafts												
1/2″	2″	4″	6-32	1/4″	6526K53	95.77	6526K73	183.88	6526K33	275.82	6526K43	353.61
5/8″	2″	4″	8-32	5/16″	6526K59	101.73	6526K79	195.33	6526K39	292.99	6526K49	375.67
3/4″	3″	6″	10-32	3/8″	6526K54	102.41	6526K74	196.61	6526K34	294.93	6526K44	378.12
1″	3″	6″	1/4″-20	1/2″	6526K55	124.92	6526K75	239.87	6526K35	359.82	6526K45	461.31
1 1/4″	3″	6″	5/16″-18	5/8″	6526K56	164.49	6526K76	328.94	6526K36	493.45	6526K46	632.64
1 1/2″	4″	8″	3/8″-16	3/4″	6526K57	186.43	6526K77	372.85	6526K37	537.81	6526K47	701.22

Support Rails for Hardened Shafts with Tapped Mounting Holes

Support rails provide stability over an entire length of shaft, allow unlimited travel lengths, and eliminate bending under moderate to heavy loads. All of these rails are made of lightweight aluminum and are designed for use with open-style linear bearings (see pages 1135-1143). Cut to size or mount end-to-end to make longer lengths. Mounting holes (screws not included) match the Hardened Shafts with Tapped Mounting Holes.

Standard Support Rails— Made of Alloy 6061-T6 aluminum.

Low-Profile Support Rails— Made of Alloy 6063-T6 aluminum.

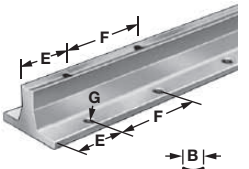

Standard

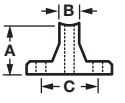

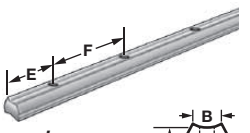

Low Profile

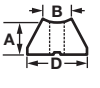

For Shaft Dia.	(A)	(B)	(C)	(D)	(E)	(F)	Dia. (G)	Socket Head Cap Screw Size	Socket Head Cap Screw Lg.	24″ Length		48″ Length	
Standard Support Rails													
1/2″	7/8″	1/4″	1″	1 1/2″	2″	4″	0.17″	6-32	1″	6039K13	$80.56	6039K33	$161.12
5/8″	13/16″	5/16″	1 1/8″	1 5/8″	2″	4″	0.19″	8-32	7/8″	6039K19	94.04	6039K39	188.18
3/4″	1 1/8″	3/8″	1 1/4″	1 3/4″	3″	6″	0.22″	10-32	1 1/4″	6039K14	106.93	6039K34	213.98
1″	1 1/4″	1/2″	1 1/2″	2 1/8″	3″	6″	0.28″	1/4″-20	1 1/2″	6039K15	123.62	6039K35	247.18
1 1/4″	1 1/2″	9/16″	1 7/8″	2 1/2″	3″	6″	0.34″	5/16″-18	1 3/4″	6039K16	150.65	6039K36	301.32
1 1/2″	1 3/4″	11/16″	2 1/4″	3″	4″	8″	0.34″	3/8″-16	2″	6039K17	170.26	6039K37	340.63
Low-Profile Support Rails													
1/2″	0.29″	0.216″	—	0.37″	2″	4″	—	6-32	—	8154T1	57.91	8154T11	102.96
5/8″	0.35″	0.269″	—	0.45″	2″	4″	—	8-32	—	8154T2	69.09	8154T12	123.55
3/4″	0.35″	0.317″	—	0.51″	3″	6″	—	10-32	—	8154T3	77.88	8154T13	104.25
1″	0.45″	0.422″	—	0.69″	3″	6″	—	1/4″-20	—	8154T4	90.75	8154T14	129.99
1 1/4″	0.51″	0.523″	—	0.78″	3″	6″	—	5/16″-18	—	8154T5	109.39	8154T15	167.31
1 1/2″	0.57″	0.623″	—	0.93″	4″	8″	—	3/8″-16	—	8154T6	114.54	8154T16	177.60
2″	0.69″	0.824″	—	1.18″	4″	8″	—	1/2″-13	—	8154T7	142.86	8154T17	234.23

Don't see the shafts you need? Just tell us what you're looking for and we'll get it for you.

Drive Shafts



Steel Shafts— Made of 1566 steel, these shafts are stronger than stainless steel shafts but are less corrosion resistant. They are unhardened for easier machining. Rockwell hardness is C25. Ends are beveled.

Coated Steel Shafts— Made of 1045 steel, these coated shafts are stronger than stainless steel shafts but are less corrosion resistant.

Black-oxide coated shafts have a black-oxide coating for more corrosion resistance than uncoated steel shafts. Rockwell hardness is C20-C30.

Chrome-plated shafts have a 0.0001″-0.0005″ thick chrome plating for more corrosion resistance than black-oxide coated shafts. The *1/4″ and 3/8″ dia. shafts* have a surface hardness that is Rockwell C60-C65. The *1/2″ to 2″ dia. shafts* have a surface hardness that is Rockwell C68-C72.

Nitride-coated shafts have a 0.001″ thick nitride coating for more corrosion resistance than black-oxide coated shafts and chrome-plated shafts. Surface hardness is Rockwell C60-C65.

Type 303 Stainless Steel Shafts— Have good corrosion resistance but are not as strong as steel shafts. Rockwell hardness is B83. Ends are beveled.

Type 316 Stainless Steel Shafts— Have excellent corrosion resistance but are not as strong as steel shafts. Rockwell hardness is C20. Ends are beveled.
Note: Not for use with ball bearings.

Shaft Dia.	Dia. Tolerance	Straightness Tolerance
Steel		
3/8″-1″	–0.003″ to 0″	0.012″ per ft.
1 1/4″	–0.004″ to 0″	0.012″ per ft.
10-25 mm	–0.0760 to 0 mm	0.3048 mm per 305 mm
30 mm	–0.1020 to 0 mm	0.3048 mm per 305 mm
Coated Steel		
1/4″, 3/8″	–0.001″ to 0″	0.003″ per ft.
1/2″	–0.001″ to 0″	3/16″ per 10 ft.
5/8″-1 1/2″	–0.001″ to 0″	1/8″ per 10 ft.
1 3/4″, 2″	–0.0015″ to 0″	1/8″ per 10 ft.
Type 303 Stainless Steel		
1/4″	–0.0002″ to 0″	0.0036″ per ft.
3/8″, 1/2″	–0.0002″ to 0″	0.0048″ per ft.
5/8″-1 1/4″	–0.0004″ to 0″	0.0096″ per ft.
Type 316 Stainless Steel		
1/4″-1 1/4″	–0.001″ to 0″	0.003″ per ft.

Steel Shafts

Lg.	3/8″ Dia.		1/2″ Dia.		5/8″ Dia.		3/4″ Dia.		1″ Dia.		1 1/4″ Dia.	
12″	1346K11	$7.09	1346K17	$7.88	1346K24	$9.24	1346K31	$11.67	1346K37	$23.76	1346K44	$39.83
24″	1346K12	14.43	1346K18	16.09	1346K25	19.26	1346K32	24.51	1346K38	43.68	1346K45	56.52
36″	1346K13	21.70	1346K19	24.69	1346K26	30.29	1346K33	38.71	1346K39	57.04	1346K46	73.13
48″	1346K14	24.41	1346K21	27.88	1346K27	36.18	1346K34	47.80	1346K41	69.80	1346K47	94.90
60″	1346K15	28.19	1346K22	32.96	1346K28	42.99	1346K35	53.41	1346K42	83.41	1346K48	115.83
72″	1346K16	31.93	1346K23	39.18	1346K29	49.58	1346K36	60.85	1346K43	94.90	1346K49	133.96
	10 mm Dia.		**12 mm Dia.**		**16 mm Dia.**		**20 mm Dia.**		**25 mm Dia.**		**30 mm Dia.**	
200 mm	1482K11	$7.18	1482K18	$7.54	1482K26	$8.95	1482K34	$10.59	1482K42	$13.20	1482K49	$16.40
400 mm	1482K12	8.02	1482K19	8.71	1482K27	11.12	1482K35	14.05	1482K43	19.71	1482K51	26.14
500 mm	1482K13	14.82	1482K21	16.02	1482K28	19.01	1482K36	23.55	1482K44	30.14	1482K52	39.39
1,000 mm	1482K14	24.96	1482K22	26.76	1482K29	32.82	1482K37	33.65	1482K45	53.84	1482K53	73.00
1,200 mm	1482K15	27.16	1482K23	29.42	1482K31	35.93	1482K38	44.39	1482K46	62.32	1482K54	85.21
1,500 mm	1482K16	29.28	1482K24	33.89	1482K32	40.47	1482K39	51.21	1482K47	76.20	1482K55	100.41
2,000 mm	1482K17	33.40	1482K25	37.49	1482K33	47.63	1482K41	60.54	1482K48	93.39		

Black-Oxide Coated Steel Shafts

Lg.	1/4″ Dia.		3/8″ Dia.		1/2″ Dia.		5/8″ Dia.		3/4″ Dia.		7/8″ Dia.		1″ Dia.	
12″	1886K1	$4.88	1886K11	$7.60	1886K21	$7.52	1886K31	$9.00	1886K41	$11.26	1886K51	$11.82	1886K61	$14.58
18″	1886K2	7.33	1886K12	11.40	1886K22	11.29	1886K32	13.50	1886K42	16.90	1886K52	17.72	1886K62	21.84
24″	1886K3	9.76	1886K13	15.21	1886K23	15.05	1886K33	17.18	1886K43	21.50	1886K53	23.62	1886K63	27.89
36″	1886K4	13.98	1886K14	21.29	1886K24	21.09	1886K34	25.80	1886K44	32.25	1886K54	35.44	1886K64	39.34
48″	1886K5	18.22	1886K15	30.40	1886K25	26.91	1886K35	34.39	1886K45	42.04	1886K55	47.24	1886K65	52.44
60″	1886K6	24.43	1886K16	38.00	1886K26	35.13	1886K36	42.98	1886K46	52.56	1886K56	59.06	1886K66	65.56

Chrome-Plated Steel Shafts

Lg.	1/4″ Dia.		3/8″ Dia.		1/2″ Dia.		5/8″ Dia.		3/4″ Dia.		7/8″ Dia.	
12″	5947K11	$6.64	5947K12	$10.58	5947K13	$9.94	5947K14	$12.13	5947K15	$15.36	5947K16	$16.00
18″	5947K23	9.19	5947K24	13.80	5947K25	14.76	5947K26	18.02	5947K27	22.80	5947K28	23.76
24″	5947K35	11.43	5947K36	20.96	5947K37	19.56	5947K38	23.89	5947K39	30.24	5947K41	31.51
36″	5947K47	15.50	5947K48	26.34	5947K49	27.21	5947K51	32.53	5947K52	40.66	5947K53	40.91
48″	5947K59	19.95	5947K61	37.79	5947K62	36.19	5947K63	43.27	5947K64	54.09	5947K65	54.40
	1″ Dia.		**1 1/8″ Dia.**		**1 1/4″ Dia.**		**1 1/2″ Dia.**		**1 3/4″ Dia.**		**2″ Dia.**	
12″	5947K17	$19.46	5947K72	$22.98	5947K18	$25.94	5947K19	$34.88	5947K21	$46.20	5947K22	$60.18
18″	5947K29	28.92	5947K73	34.11	5947K31	38.62	5947K32	51.80	5947K33	68.35	5947K34	89.53
24″	5947K42	38.36	5947K74	45.27	5947K43	51.26	5947K44	68.71	5947K45	91.02	5947K46	118.53
36″	5947K54	49.24	5947K75	57.44	5947K55	64.00	5947K56	84.58	5947K57	110.74	5947K58	145.99
48″	5947K66	65.49	5947K76	76.40	5947K67	85.09	5947K68	112.49	5947K69	148.11	5947K71	192.80

Nitride-Coated Steel Shafts

Lg.	3/8″ Dia.		1/2″ Dia.		5/8″ Dia.		3/4″ Dia.		1″ Dia.		1 1/4″ Dia.		1 1/2″ Dia.	
12″	5936K61	$7.36	5936K71	$7.54	5936K81	$9.10	5936K11	$13.88	5936K13	$19.23	5936K14	$30.07	5936K15	$38.24
18″	5936K62	11.04	5936K72	11.30	5936K82	13.64	5936K18	20.35	5936K21	28.07	5936K22	42.78	5936K23	55.71
24″	5936K63	14.70	5936K73	15.08	5936K83	16.14	5936K26	26.62	5936K28	35.66	5936K29	55.73	5936K31	72.39
36″	5936K64	22.06	5936K74	22.62	5936K84	24.20	5936K34	37.59	5936K36	51.17	5936K37	79.98	5936K38	103.39
48″	5936K65	29.42	5936K75	30.16	5936K85	32.26	5936K42	49.24	5936K44	66.71	5936K45	104.22	5936K46	134.46
60″	5936K66	36.78	5936K76	37.70	5936K86	45.48	5936K91	55.84	5936K93	75.64	5936K94	116.36	5936K95	180.00

Type 303 Stainless Steel Shafts

Lg.	1/4″ Dia.		3/8″ Dia.		1/2″ Dia.		5/8″ Dia.		3/4″ Dia.		1″ Dia.		1 1/4″ Dia.	
12″	1257K66	$8.65	8364T1	$21.13	8364T5	$25.92	8364T9	$42.91	8364T14	$46.65	8364T18	$78.42	8364T23	$101.02
18″	1257K67	12.64	8364T2	27.93	8364T6	35.32	8364T11	62.12	8364T15	69.99	8364T19	117.64	8364T24	144.67
24″	1257K68	16.22	8364T3	34.30	8364T7	44.10	8364T12	81.39	8364T16	93.32	8364T21	156.81	8364T25	200.11
36″	1257K71	26.44	8364T4	48.08	8364T8	59.35	8364T13	118.01	8364T17	139.96	8364T22	235.23	8364T26	273.49
48″	1257K131	34.19	8364T32	74.93	8364T33	101.09	8364T34	161.96	8364T35	192.28	8364T36	323.99	8364T37	529.97
60″	1257K132	47.11	8364T42	102.98	8364T43	140.47	8364T44	222.67	8364T45	263.79	8364T46	506.60	8364T47	736.88

Type 316 Stainless Steel Shafts

Lg.	1/4″ Dia.		3/8″ Dia.		1/2″ Dia.		5/8″ Dia.		3/4″ Dia.		1″ Dia.		1 1/4″ Dia.	
18″	6493K17	$21.75	6493K1	$44.02	6493K4	$34.78	6493K7	$51.15	6493K11	$62.78	6493K14	$111.73	6493K21	$203.83
36″	6493K18	38.53	6493K2	76.29	6493K5	78.02	6493K8	115.10	6493K12	133.98	6493K15	238.30	6493K22	379.86
60″	6493K19	65.00	6493K3	85.19	6493K6	106.22	6493K9	172.38	6493K13	195.17	6493K16	362.28	6493K23	551.79

Don't see the shafts you need? Just tell us what you're looking for and we'll get it for you.

Miniature Drive Shafts

Diameters are sized for miniature rotary applications. These shafts also work well with miniature sprockets, pulleys, and gears. Ends are beveled on 1/8" and larger diameters and on 2.5 mm and larger diameters.

Steel Shafts— Made of 12L14 steel, these shafts are stronger than stainless steel shafts but are less corrosion resistant. Hardness is Brinell 167.

Type 303 Stainless Steel Shafts— Have good corrosion resistance but are not as strong as steel shafts. Rockwell hardness is B83.

Type 316 Stainless Steel Shafts— Have excellent corrosion resistance but are not as strong as steel shafts. Rockwell hardness is B83.

Shaft Dia.	Dia. Tolerance	Straightness Tolerance
1/32"-3/32"	–0.0002" to 0"	Not Rated
1/8"-1/4"	–0.0002" to 0"	0.0036" per ft.
5/16", 3/8"	–0.0002" to 0"	0.0048" per ft.
1-2.5 mm	–0.005 to 0 mm	Not Rated
3-6 mm	–0.005 to 0 mm	0.10 mm per 300 mm
7-10 mm	–0.005 to 0 mm	0.13 mm per 300 mm



Steel Shafts

Lg.	1/32" Dia.		1/16" Dia.		1/8" Dia.		3/16" Dia.		1/4" Dia.		5/16" Dia.	
3"	1327K3	$4.28	1327K83	$2.70	1327K93	$2.93	1327K103	$3.13	1327K113	$3.44	1327K123	$4.19
4"	1327K4	5.02	1327K84	3.33	1327K94	3.33	1327K104	3.70	1327K114	3.93	1327K124	5.08
5"	1327K5	5.71	1327K85	4.13	1327K95	4.13	1327K105	4.33	1327K115	4.33	1327K125	6.14
6"	1327K11	6.20	1327K18	4.94	1327K38	4.82	1327K52	4.94	1327K65	4.76	1327K72	7.23
7"	1327K6	7.40	1327K86	5.34	1327K96	5.19	1327K106	5.14	1327K116	5.19	1327K126	7.72
8"	1327K7	8.61	1327K87	5.77	1327K97	5.65	1327K107	5.60	1327K117	5.34	1327K127	8.04
9"	1327K8	9.84	1327K88	6.20	1327K98	6.14	1327K108	5.83	1327K118	5.97	1327K128	9.04
10"	1327K9	10.56	1327K89	6.72	1327K99	6.57	1327K109	6.08	1327K119	6.57	1327K129	10.19
12"	1327K12	12.31	1327K19	7.40	1327K39	7.23	1327K53	6.83	1327K66	7.72	1327K73	12.17
18"	1327K13	18.48	1327K21	11.11	1327K41	10.30	1327K54	9.87	1327K67	10.79	1327K74	16.65
24"	_____	____	1327K22	14.78	1327K42	13.43	1327K55	12.94	1327K68	13.83	1327K75	21.35
36"	_____	____	1327K24	22.19	1327K44	19.54	1327K57	18.08	1327K71	20.03	1327K77	32.89

Type 303 Stainless Steel Shafts

Lg.	1/16" Dia.		1/8" Dia.		5/32" Dia.		3/16" Dia.		1/4" Dia.		5/16" Dia.	
3"	1257K3	$2.43	1257K83	$3.26	1257K93	$3.48	1257K103	$3.54	1257K113	$4.12	1257K123	$5.52
4"	1257K4	2.71	1257K84	3.54	1257K94	3.83	1257K104	4.18	1257K114	4.76	1257K124	6.90
5"	1257K5	3.26	1257K85	4.05	1257K95	4.41	1257K105	4.95	1257K115	5.01	1257K125	7.89
6"	1257K18	3.42	1257K38	4.76	1257K45	5.14	1257K52	5.71	1257K65	5.87	1257K72	10.18
7"	1257K6	3.67	1257K86	5.01	1257K96	5.36	1257K106	6.00	1257K116	6.07	1257K126	11.11
8"	1257K7	4.18	1257K87	5.87	1257K97	6.35	1257K107	6.58	1257K117	6.83	1257K127	11.72
9"	1257K8	4.66	1257K88	6.00	1257K98	6.58	1257K108	6.64	1257K118	7.66	1257K128	12.77
10"	1257K9	5.01	1257K89	6.13	1257K99	6.83	1257K109	6.90	1257K119	7.89	1257K129	14.46
12"	1257K19	6.00	1257K39	6.58	1257K46	7.18	1257K53	7.89	1257K66	8.65	1257K73	16.86
18"	1257K21	10.28	1257K41	9.58	1257K47	10.18	1257K54	10.82	1257K67	12.64	1257K74	23.15
24"	1257K22	13.70	1257K42	11.65	1257K48	12.77	1257K55	13.92	1257K68	16.22	1257K75	29.66
30"	1257K23	17.18	1257K43	13.76	1257K49	14.75	1257K56	15.74	1257K69	20.69	1257K76	37.07
36"	1257K24	20.56	1257K44	16.00	1257K51	16.83	1257K57	17.53	1257K71	26.44	1257K77	45.75

Type 316 Stainless Steel Shafts

Lg.	1/32" Dia.		3/64" Dia.		1/16" Dia.		5/64" Dia.		3/32" Dia.		1/8" Dia.	
3"	1263K3	$4.06	1263K93	$5.12	1263K103	$3.32	1263K113	$5.57	1263K123	$6.08	1263K133	$4.57
4"	1263K4	4.38	1263K94	5.57	1263K104	3.60	1263K114	6.06	1263K124	6.60	1263K134	4.96
5"	1263K5	5.05	1263K95	6.40	1263K105	4.18	1263K115	6.98	1263K125	7.59	1263K135	5.74
6"	1263K11	5.91	1263K14	7.57	1263K18	4.88	1263K25	8.26	1263K32	9.05	1263K38	6.69
7"	1263K6	6.24	1263K96	7.86	1263K106	5.12	1263K116	8.60	1263K126	9.35	1263K136	7.05
8"	1263K7	7.30	1263K97	9.27	1263K107	6.00	1263K117	10.11	1263K127	9.74	1263K137	8.25
9"	1263K8	7.93	1263K98	9.87	1263K108	6.67	1263K118	10.60	1263K128	10.14	1263K138	8.44
10"	1263K9	8.72	1263K99	10.60	1263K109	7.18	1263K119	12.07	1263K129	10.92	1263K139	8.55
12"	1263K12	10.17	1263K15	12.52	1263K19	8.49	1263K26	12.92	1263K33	10.83	1263K39	9.29
18"	1263K13	18.11	1263K16	19.76	1263K21	14.71	1263K27	19.76	1263K34	15.97	1263K41	13.49
24"	_____	____	1263K17	28.06	1263K22	19.67	1263K28	28.06	1263K35	17.83	1263K42	16.28
30"	_____	____	_____	____	1263K23	24.52	1263K29	34.58	1263K36	21.43	1263K43	19.31
36"	_____	____	_____	____	1263K24	29.50	1263K31	41.09	1263K37	24.78	1263K44	22.36

	5/32" Dia.		3/16" Dia.		7/32" Dia.		1/4" Dia.		5/16" Dia.		3/8" Dia.	
3"	1263K143	$5.30	1263K153	$4.96	1263K163	$5.57	1263K173	$5.80	1263K183	$7.78	1263K193	$10.74
4"	1263K144	5.89	1263K154	5.89	1263K164	6.55	1263K174	6.72	1263K184	9.68	1263K194	11.07
5"	1263K145	6.55	1263K155	6.93	1263K165	7.00	1263K175	7.05	1263K185	11.07	1263K195	14.31
6"	1263K45	7.30	1263K52	8.10	1263K58	8.29	1263K65	8.31	1263K72	14.54	1263K78	14.52
7"	1263K146	8.64	1263K156	8.44	1263K166	8.37	1263K176	8.55	1263K186	15.64	1263K196	18.14
8"	1263K147	9.87	1263K157	9.24	1263K167	9.35	1263K177	9.60	1263K187	16.44	1263K197	20.57
9"	1263K148	13.21	1263K158	9.35	1263K168	10.40	1263K178	10.74	1263K188	17.94	1263K198	23.72
10"	1263K149	14.74	1263K159	9.68	1263K169	10.73	1263K179	11.07	1263K189	20.31	1263K199	26.40
12"	1263K46	16.91	1263K53	11.20	1263K59	11.82	1263K66	12.21	1263K73	24.10	1263K79	32.73
18"	1263K47	17.54	1263K54	15.18	1263K61	16.44	1263K67	17.83	1263K74	33.03	1263K81	45.13
24"	1263K48	17.91	1263K55	19.58	1263K62	21.24	1263K68	22.99	1263K75	42.31	1263K82	57.79
30"	1263K49	20.70	1263K56	22.17	1263K63	25.66	1263K69	29.21	1263K76	52.79	1263K83	71.46
36"	1263K51	23.55	1263K57	24.60	1263K64	31.08	1263K71	37.39	1263K77	65.23	1263K84	84.44

	1 mm Dia.		1.5 mm Dia.		2 mm Dia.		2.5 mm Dia.		3 mm Dia.		4 mm Dia.	
200 mm	1265K11	$5.02	1265K14	$7.57	1265K17	$10.84	1265K24	$11.89	1265K31	$13.55	1265K37	$13.55
400 mm	1265K13	15.09	1265K16	17.68	1265K19	19.56	1265K26	20.18	1265K33	24.48	1265K39	24.48
600 mm	_____	____	_____	____	1265K21	29.95	1265K27	30.84	1265K34	35.55	1265K41	35.55
800 mm	_____	____	_____	____	1265K22	38.93	1265K28	39.87	1265K35	58.57	1265K42	58.59

	5 mm Dia.		6 mm Dia.		7 mm Dia.		8 mm Dia.		9 mm Dia.		10 mm Dia.	
200 mm	1265K44	$16.96	1265K51	$19.38	1265K57	$21.53	1265K64	$19.38	1265K71	$31.01	1265K77	$37.29
400 mm	1265K46	29.83	1265K53	30.83	1265K59	33.99	1265K66	32.77	1265K73	58.21	1265K79	64.50
600 mm	1265K47	40.58	1265K54	41.58	1265K61	45.00	1265K67	44.21	1265K74	72.27	1265K81	84.79
800 mm	1265K48	63.60	1265K55	65.11	1265K62	67.67	1265K68	65.11	1265K75	97.45	1265K82	112.39

Don't see the shafts you need? Just tell us what you're looking for and we'll get it for you.

Fully Keyed Drive Shafts



For a secure hold in higher-torque applications, an ANSI keyway runs the entire length of the shaft (keys not included; see pages 3400-3403). Straightness tolerance is 0.012″ per foot for inch sizes and 0.305 mm per 300 mm for metric sizes. Ends are beveled.

Steel Shafts—Made of 1045 steel, these shafts are stronger than stainless steel and aluminum shafts but are less corrosion resistant. Rockwell hardness is B95.

Type 304 Stainless Steel Shafts—Have good corrosion resistance but are not as strong as steel shafts. Rockwell hardness is B85.

Type 316 Stainless Steel Shafts—Have excellent corrosion resistance but are not as strong as steel shafts. Rockwell hardness is B85.

Aluminum Shafts—Made of Alloy 2024-T4 aluminum, these shafts are lightweight and have more corrosion resistance than steel shafts. Hardness is Brinell 120.

Shaft Dia.	Dia. Tolerance
Steel	
5/16″-2 1/2″	–0.0025″ to –0.001″
8-50 mm	–0.254 to –0.0635 mm
Types 304 and 316 Stainless Steel	
3/8″-2 7/16″	–0.0025″ to –0.001″
Aluminum	
5/16″-1″	–0.0025″ to –0.0005″

Steel Shafts—Inch Sizes

Lg.	5/16″ Dia. Keyway: 3/32″ Wd. x 3/64″ Dp.		3/8″ Dia. Keyway: 3/32″ Wd. x 3/64″ Dp.		1/2″ Dia. Keyway: 1/8″ Wd. x 1/16″ Dp.		5/8″ Dia. Keyway: 3/16″ Wd. x 3/32″ Dp.		11/16″ Dia. Keyway: 3/16″ Wd. x 3/32″ Dp.	
3″	1497K1	$7.36	1497K4	$6.25	1497K7	$7.97	1497K106	$8.24	1497K109	$8.52
6″	1497K2	11.52	1497K5	9.82	1497K8	12.73	1497K107	13.27	1497K112	13.82
9″	1497K3	15.67	1497K6	13.37	1497K9	17.42	1497K108	18.27	1497K113	19.15
12″	1497K111	16.33	1497K121	15.14	1497K131	18.60	1497K141	19.67	1497K151	20.61
18″	1497K951	18.79	1497K952	20.45	1497K953	21.70	1497K954	23.87	1497K955	25.65
24″	1497K11	24.50	1497K21	27.33	1497K31	29.37	1497K41	31.50	1497K51	31.94
36″	1497K12	33.00	1497K22	34.52	1497K32	37.19	1497K42	41.45	1497K52	40.91
48″	1497K13	38.59	1497K23	44.35	1497K33	46.72	1497K43	50.62	1497K53	51.82
60″	1497K14	46.56	1497K24	51.72	1497K34	53.09	1497K44	57.79	1497K54	61.03
72″	1497K15	51.03	1497K25	56.76	1497K35	62.06	1497K45	69.70	1497K55	71.47

Lg.	3/4″ Dia. Keyway: 3/16″ Wd. x 3/32″ Dp.		13/16″ Dia. Keyway: 3/16″ Wd. x 3/32″ Dp.		7/8″ Dia. Keyway: 3/16″ Wd. x 3/32″ Dp.		15/16″ Dia. Keyway: 1/4″ Wd. x 1/8″ Dp.		1″ Dia. Keyway: 1/4″ Wd. x 1/8″ Dp.	
3″	1497K114	$8.76	1497K132	$9.06	1497K135	$9.32	1497K138	$9.58	1497K143	$10.18
6″	1497K115	14.24	1497K133	14.85	1497K136	15.45	1497K139	15.97	1497K144	17.12
9″	1497K116	19.70	1497K134	20.61	1497K137	21.52	1497K142	22.42	1497K145	24.09
12″	1497K161	21.20	1497K171	23.17	1497K181	25.17	1497K191	26.33	1497K281	27.60
18″	1497K956	26.77	1497K957	29.68	1497K958	32.45	1497K959	34.03	1497K961	35.48
24″	1497K61	33.23	1497K71	35.94	1497K81	39.69	1497K91	41.56	1497K101	41.82
36″	1497K62	42.88	1497K72	48.33	1497K82	53.64	1497K92	56.52	1497K102	58.73
48″	1497K63	54.55	1497K73	59.85	1497K83	68.79	1497K93	72.73	1497K103	75.70
60″	1497K64	64.26	1497K74	70.86	1497K84	79.29	1497K94	83.71	1497K104	87.31
72″	1497K65	71.25	1497K75	83.43	1497K85	93.57	1497K95	98.86	1497K105	99.74

Lg.	1 1/8″ Dia. Keyway: 1/4″ Wd. x 1/8″ Dp.		1 3/16″ Dia. Keyway: 1/4″ Wd. x 1/8″ Dp.		1 1/4″ Dia. Keyway: 1/4″ Wd. x 1/8″ Dp.		1 5/16″ Dia. Keyway: 5/16″ Wd. x 5/32″ Dp.		1 3/8″ Dia. Keyway: 5/16″ Wd. x 5/32″ Dp.	
3″	1497K146	$10.76	1497K149	$11.67	1497K154	$12.03	1497K157	$12.73	1497K162	$14.09
6″	1497K147	18.33	1497K152	20.00	1497K155	20.79	1497K158	22.12	1497K163	24.85
9″	1497K148	25.76	1497K153	28.48	1497K156	29.58	1497K159	31.67	1497K164	35.76
12″	1497K291	32.73	1497K311	33.68	1497K411	35.17	1497K511	39.40	1497K611	39.39
18″	1497K962	40.30	1497K963	41.36	1497K966	44.24	1497K967	48.79	1497K968	51.14
24″	1497K201	48.43	1497K301	51.32	1497K401	52.43	1497K501	57.64	1497K601	64.31
36″	1497K202	57.69	1497K302	63.72	1497K402	68.82	1497K502	76.28	1497K602	85.51
48″	1497K203	80.00	1497K303	82.69	1497K403	85.00	1497K503	99.49	1497K603	106.59
60″	1497K204	98.46	1497K304	101.67	1497K404	104.75	1497K504	122.69	1497K604	125.35
72″	1497K205	116.67	1497K305	120.51	1497K405	115.47	1497K505	132.33	1497K605	148.95

Lg.	1 7/16″ Dia. Keyway: 3/8″ Wd. x 3/16″ Dp.		1 1/2″ Dia. Keyway: 3/8″ Wd. x 3/16″ Dp.		1 5/8″ Dia. Keyway: 3/8″ Wd. x 3/16″ Dp.		1 3/4″ Dia. Keyway: 3/8″ Wd. x 3/16″ Dp.		1 15/16″ Dia. Keyway: 1/2″ Wd. x 1/4″ Dp.	
3″	1497K165	$14.39	1497K168	$14.70	1497K182	$18.18	1497K185	$18.79	1497K188	$20.15
6″	1497K166	25.45	1497K169	26.21	1497K183	31.52	1497K186	32.73	1497K189	35.61
9″	1497K167	36.52	1497K172	37.73	1497K184	44.85	1497K187	46.52	1497K206	45.41
12″	1497K711	39.40	1497K811	42.81	1497K911	45.71	1497K421	47.78	1497K321	46.00
18″	1497K969	52.43	1497K971	54.00	1497K972	60.14	1497K973	60.00	1497K974	60.64
24″	1497K701	64.19	1497K801	66.08	1497K901	74.36	1497K211	72.79	1497K221	77.91
36″	1497K702	85.75	1497K802	88.12	1497K902	102.50	1497K212	106.05	1497K222	113.49
48″	1497K703	109.27	1497K803	115.75	1497K903	134.88	1497K213	139.42	1497K223	149.65
60″	1497K704	128.84	1497K804	133.02	1497K904	159.30	1497K214	172.79	1497K224	185.58
72″	1497K705	153.26	1497K805	158.37	1497K905	189.77	1497K215	206.05	1497K225	221.28

Lg.	2″ Dia. Keyway: 1/2″ Wd. x 1/4″ Dp.		2 3/16″ Dia. Keyway: 1/2″ Wd. x 1/4″ Dp.		2 1/4″ Dia. Keyway: 1/2″ Wd. x 1/4″ Dp.		2 7/16″ Dia. Keyway: 5/8″ Wd. x 5/16″ Dp.		2 1/2″ Dia. Keyway: 5/8″ Wd. x 5/16″ Dp.	
3″	1497K207	$20.76	1497K216	$22.88	1497K219	$23.33	1497K228	$25.45	1497K237	$26.36
6″	1497K208	36.52	1497K217	40.91	1497K226	41.67	1497K229	46.21	1497K238	47.73
9″	1497K209	46.76	1497K218	56.71	1497K227	56.71	1497K236	61.25	1497K239	65.14
12″	1497K331	47.50	1497K341	58.75	1497K351	61.46	1497K361	65.49	1497K371	68.90
18″	1497K975	65.00	1497K976	69.00	1497K977	76.00	1497K978	84.78	1497K979	86.00
24″	1497K231	79.53	1497K241	99.74	1497K251	102.67	1497K261	114.88	1497K271	121.40
36″	1497K232	116.05	1497K242	147.33	1497K252	150.93	1497K262	169.30	1497K272	178.95
48″	1497K233	152.67	1497K243	194.42	1497K253	199.19	1497K263	223.60	1497K273	231.14
60″	1497K234	189.53	1497K244	246.28	1497K254	247.67	1497K264	278.26	1497K274	294.19
72″	1497K235	232.21	1497K245	294.07	1497K255	295.70	1497K265	332.33	1497K275	351.63

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Don't see the shafts you need? Just tell us what you're looking for and we'll get it for you.

Fully Keyed Drive Shafts *(Continued from previous page)*

Steel Shafts—Metric Sizes

Lg., mm	8 mm Dia. Keyway: 2 mm Wd. x 1.2 mm Dp.		10 mm Dia. Keyway: 3 mm Wd. x 1.8 mm Dp.		12 mm Dia. Keyway: 4 mm Wd. x 2.5 mm Dp.		15 mm Dia. Keyway: 5 mm Wd. x 3 mm Dp.	
300	1439K211	$20.27	1439K311	$22.37	1439K411	$24.34	1439K511	$26.05
500	1439K221	28.68	1439K321	32.11	1439K421	33.50	1439K521	34.88
1,000	1439K231	49.74	1439K331	51.07	1439K431	57.02	1439K531	59.55
1,200	1439K241	52.62	1439K341	59.76	1439K441	63.98	1439K541	68.44
1,500	1439K251	61.02	1439K351	69.66	1439K451	78.30	1439K551	82.17
1,800	1439K11	72.17	1439K12	82.39	1439K13	92.61	1439K14	101.52

Lg., mm	20 mm Dia. Keyway: 6 mm Wd. x 3.5 mm Dp.		24 mm Dia. Keyway: 8 mm Wd. x 4 mm Dp.		25 mm Dia. Keyway: 8 mm Wd. x 4 mm Dp.		40 mm Dia. Keyway: 12 mm Wd. x 5 mm Dp.		50 mm Dia. Keyway: 14 mm Wd. x 5.5 mm Dp.	
300	1439K611	$33.16	1439K711	$36.58	1439K811	$36.26	1439K911	$51.02	1439K131	$52.70
500	1439K621	48.00	1439K721	53.50	1439K821	52.98	1439K921	77.72	1439K132	84.50
1,000	1439K631	83.81	1439K731	94.29	1439K831	93.64	1439K931	136.20	1439K133	161.90
1,200	1439K641	94.55	1439K741	104.22	1439K841	105.98	1439K941	162.10	1439K134	193.00
1,500	1439K651	109.04	1439K751	120.62	1439K851	122.86	1439K951	201.75	1439K135	240.00
1,800	1439K15	129.39	1439K16	140.29	1439K17	143.08	1439K18	239.23	1439K19	280.00

Type 304 Stainless Steel Shafts—Inch Sizes

Lg.	3/8" Dia. Keyway: 3/32" Wd. x 3/64" Dp.		1/2" Dia. Keyway: 1/8" Wd. x 1/16" Dp.		5/8" Dia. Keyway: 3/16" Wd. x 3/32" Dp.		3/4" Dia. Keyway: 3/16" Wd. x 3/32" Dp.		1" Dia. Keyway: 1/4" Wd. x 1/8" Dp.		1 3/16" Dia. Keyway: 1/4" Wd. x 1/8" Dp.	
3"	7398K1	$6.74	7398K4	$8.30	7398K7	$10.00	7398K42	$12.72	7398K45	$13.34	_____	_____
6"	7398K2	10.71	7398K5	13.81	7398K8	17.18	7398K43	22.68	7398K46	23.93	_____	_____
9"	7398K3	14.68	7398K6	19.40	7398K9	24.41	7398K44	32.53	7398K47	34.53	_____	_____
12"	7398K48	16.50	7398K22	23.28	7398K23	30.00	7398K24	39.38	7398K25	44.32	7398K102	$40.32
24"	7398K11	30.13	7398K12	42.09	7398K13	56.17	7398K14	76.05	7398K15	86.31	7398K103	78.99
36"	7398K31	42.55	7398K32	62.76	7398K33	83.80	7398K34	114.98	7398K35	127.88	7398K104	111.76
48"	7398K51	56.69	7398K52	83.93	7398K53	112.21	7398K54	152.10	7398K55	171.03	7398K105	149.30
60"	7398K71	73.03	7398K72	102.71	7398K73	134.37	7398K74	180.09	7398K75	199.74	7398K106	193.10
72"	7398K91	85.86	7398K92	124.36	7398K93	159.72	7398K94	214.24	7398K95	239.46	7398K107	241.62

Lg.	1 1/4" Dia. Keyway: 1/4" Wd. x 1/8" Dp.		1 7/16" Dia. Keyway: 3/8" Wd. x 3/16" Dp.		1 1/2" Dia. Keyway: 3/8" Wd. x 3/16" Dp.		2" Dia. Keyway: 1/2" Wd. x 1/4" Dp.		2 3/16" Dia. Keyway: 1/2" Wd. x 1/4" Dp.		2 7/16" Dia. Keyway: 5/8" Wd. x 5/16" Dp.	
3"	7398K62	$14.54	_____	_____	7398K65	$19.10	7398K68	$27.89	7398K83	$30.02	7398K86	$39.15
6"	7398K63	26.31	_____	_____	7398K66	35.43	7398K69	51.52	7398K84	56.02	7398K87	74.14
9"	7398K64	38.02	_____	_____	7398K67	51.65	7398K82	75.16	7398K85	81.78	7398K88	109.14
12"	7398K26	49.74	7398K111	$57.88	7398K27	67.87	7398K28	98.56	7398K29	118.68	7398K49	146.80
24"	7398K16	98.42	7398K112	105.87	7398K17	136.96	7398K18	198.80	7398K19	196.79	7398K21	294.43
36"	7398K36	146.29	7398K113	158.31	7398K37	205.13	7398K38	297.68	7398K39	345.74	7398K41	419.67
48"	7398K56	195.48	7398K114	221.67	7398K57	273.39	7398K58	386.65	7398K59	451.17	7398K61	559.60
60"	7398K76	228.67	7398K115	282.95	7398K77	331.41	7398K78	446.22	7398K79	476.96	7398K81	587.96
72"	7398K96	272.62	7398K116	354.61	7398K97	386.49	7398K98	477.92	7398K99	570.25	7398K101	718.51

Type 316 Stainless Steel Shafts—Inch Sizes

Lg.	3/8" Dia. Keyway: 3/32" Wd. x 3/64" Dp.		1/2" Dia. Keyway: 1/8" Wd. x 1/16" Dp.		5/8" Dia. Keyway: 3/16" Wd. x 3/32" Dp.		3/4" Dia. Keyway: 3/16" Wd. x 3/32" Dp.		1" Dia. Keyway: 1/4" Wd. x 1/8" Dp.		1 3/16" Dia. Keyway: 1/4" Wd. x 1/8" Dp.	
3"	7405K1	$8.92	7405K4	$11.43	7405K7	$13.93	7405K42	$17.54	7405K45	$19.37	_____	_____
6"	7405K2	14.27	7405K5	19.43	7405K8	24.27	7405K43	31.53	7405K46	35.24	_____	_____
9"	7405K3	19.55	7405K6	27.30	7405K9	34.71	7405K44	45.51	7405K47	51.00	_____	_____
12"	7405K48	22.28	7405K22	32.09	7405K23	41.44	7405K24	55.80	7405K25	62.90	7405K121	$73.23
24"	7405K11	34.19	7405K12	56.76	7405K13	75.62	7405K14	104.51	7405K15	125.00	7405K122	143.06
36"	7405K31	52.88	7405K32	84.67	7405K33	113.36	7405K34	160.32	7405K35	172.23	7405K123	202.90
48"	7405K51	70.46	7405K52	113.04	7405K53	146.89	7405K54	208.70	7405K55	234.81	7405K124	270.96
60"	7405K71	101.74	7405K72	156.40	7405K73	204.27	7405K74	273.20	7405K75	305.48	7405K125	350.45
72"	7405K91	119.65	7405K92	181.28	7405K93	237.99	7405K94	325.49	7405K95	326.57	7405K126	438.58

Lg.	1 1/4" Dia. Keyway: 1/4" Wd. x 1/8" Dp.		1 7/16" Dia. Keyway: 3/8" Wd. x 3/16" Dp.		1 1/2" Dia. Keyway: 3/8" Wd. x 3/16" Dp.		2" Dia. Keyway: 1/2" Wd. x 1/4" Dp.		2 3/16" Dia. Keyway: 1/2" Wd. x 1/4" Dp.		2 7/16" Dia. Keyway: 5/8" Wd. x 5/16" Dp.	
3"	7405K62	$21.09	_____	_____	7405K65	$27.70	7405K68	$37.28	7405K83	$40.99	7405K86	$60.98
6"	7405K63	38.62	_____	_____	7405K66	51.70	7405K69	69.24	7405K84	76.64	7405K87	116.50
9"	7405K64	56.16	_____	_____	7405K67	75.68	7405K82	101.18	7405K85	112.32	7405K88	172.18
12"	7405K26	69.83	7405K131	$104.99	7405K27	95.97	7405K28	139.91	7405K29	168.48	7405K49	211.03
24"	7405K16	132.73	7405K132	192.10	7405K17	184.68	7405K18	260.31	7405K19	284.78	7405K21	404.30
36"	7405K36	199.74	7405K133	287.43	7405K37	281.58	7405K38	402.75	7405K39	466.30	7405K41	578.21
48"	7405K56	268.32	7405K134	402.75	7405K57	377.70	7405K58	519.65	7405K59	621.96	7405K61	770.99
60"	7405K76	347.10	7405K135	513.44	7405K77	449.00	7405K78	620.14	7405K79	684.58	7405K81	883.19
72"	7405K96	370.71	7405K136	643.25	7405K97	511.43	7405K98	720.00	7405K99	784.17	7405K101	1,038.33

Aluminum Shafts—Inch Sizes

Lg.	5/16" Dia. Keyway: 3/32" Wd. x 3/64" Dp.		3/8" Dia. Keyway: 3/32" Wd. x 3/64" Dp.		1/2" Dia. Keyway: 1/8" Wd. x 1/16" Dp.		5/8" Dia. Keyway: 3/16" Wd. x 3/32" Dp.		3/4" Dia. Keyway: 3/16" Wd. x 3/32" Dp.		1" Dia. Keyway: 1/4" Wd. x 1/8" Dp.	
6"	1570K21	$10.57	1570K31	$11.94	1570K41	$12.69	1570K51	$14.20	1570K61	$15.44	1570K71	$19.97
12"	1570K22	14.03	1570K32	18.38	1570K42	20.85	1570K52	22.28	1570K62	25.38	1570K72	36.03
24"	1570K23	24.18	1570K33	32.87	1570K43	35.85	1570K53	38.51	1570K63	47.40	1570K73	69.52

Don't see the shafts you need? Just tell us what you're looking for and we'll get it for you.

Fully Keyed Precision Drive Shafts with Certification



In addition to diameter tolerances that are twice as tight as the Fully Keyed Drive Shafts, these ultra-straight shafts include a traceable lot number and physical test report. An ANSI keyway runs the entire length of the shaft for a secure hold in higher-torque applications (keys not included; see pages 3403-3403).

Shafts are 1045 steel. Hardness is Rockwell C14-C28. Straightness tolerance is 0.003″ per foot. Ends are beveled.

Shaft Dia.	Dia. Tolerance
1/4″-1 1/2″	–0.001″ to 0″
2″	–0.0015″ to 0″

Lg.	1/4″ Dia. Keyway: 3/32″ Wd. x 3/64″ Dp.		1/2″ Dia. Keyway: 1/8″ Wd. x 1/16″ Dp.		5/8″ Dia. Keyway: 3/16″ Wd. x 3/32″ Dp.		3/4″ Dia. Keyway: 3/16″ Wd. x 3/32″ Dp.		7/8″ Dia. Keyway: 3/16″ Wd. x 3/32″ Dp.		1″ Dia. Keyway: 1/4″ Wd. x 1/8″ Dp.	
3″	8488T1	$15.00	8488T31	$15.38	8488T51	$16.00	8488T61	$16.00	8488T71	$16.48	8488T81	$17.26
6″	8488T2	18.68	8488T32	19.50	8488T52	20.24	8488T62	20.82	8488T72	21.50	8488T82	22.16
9″	8488T3	22.32	8488T33	23.64	8488T53	24.46	8488T63	25.40	8488T73	26.50	8488T83	27.10
12″	8488T4	26.66	8488T34	27.84	8488T54	29.04	8488T64	30.20	8488T74	31.88	8488T84	32.86
24″	8488T5	47.74	8488T35	50.25	8488T55	52.48	8488T65	55.01	8488T75	57.98	8488T85	59.98
36″	8488T6	68.86	8488T36	72.44	8488T56	75.96	8488T66	79.46	8488T76	84.10	8488T86	87.08
48″	8488T7	89.94	8488T37	94.74	8488T57	99.40	8488T67	106.08	8488T77	112.22	8488T87	116.18

Lg.	1 3/16″ Dia. Keyway: 1/4″ Wd. x 1/8″ Dp.		1 1/4″ Dia. Keyway: 1/4″ Wd. x 1/8″ Dp.		1 3/8″ Dia. Keyway: 5/16″ Wd. x 5/32″ Dp.		1 7/16″ Dia. Keyway: 3/8″ Wd. x 3/16″ Dp.		1 1/2″ Dia. Keyway: 3/8″ Wd. x 3/16″ Dp.		2″ Dia. Keyway: 1/2″ Wd. x 1/4″ Dp.	
12″	8488T104	$42.55	8488T114	$45.25	8488T124	$51.65	8488T134	$52.82	8488T144	$55.79	8488T194	$62.09
24″	8488T105	71.39	8488T115	75.68	8488T125	92.89	8488T135	95.00	8488T145	99.78	8488T195	125.63
36″	8488T106	95.66	8488T116	101.08	8488T126	128.10	8488T136	128.91	8488T146	136.30	8488T196	189.25
48″	8488T107	125.60	8488T117	129.46	8488T127	166.05	8488T137	164.44	8488T147	177.47	8488T197	249.72

Partially Keyed Drive Shafts



Shown with Included Key

With a 4″ long ANSI keyway on one end and a 14″ long ANSI keyway on the other, keys won't slide out of position during assembly and operation. All include one 2″ long key and one 4″ long key. Ends are beveled.

Steel Shafts—Made of 1117 steel, these shafts are stronger than stainless steel shafts but are less corrosion resistant. Hardness is Brinell 156. Straightness tolerance is 0.01″ per foot.

Stainless Steel Shafts—These Type 303 stainless steel shafts have good corrosion resistance but are not as strong as steel shafts. Hardness is Rockwell B80. Straightness tolerance is 0.003″ per foot.

Shaft Dia.	Dia. Tolerance
Steel	
3/8″-2″	–0.003″ to 0″
Stainless Steel	
1/2″-1 7/16″	–0.001″ to 0″

Steel Shafts

Lg.	3/8″ Dia. Keyway: 3/32″ Wd. x 3/64″ Dp.		1/2″ Dia. Keyway: 1/8″ Wd. x 1/16″ Dp.		5/8″ Dia. Keyway: 3/16″ Wd. x 3/32″ Dp.		3/4″ Dia. Keyway: 1/8″ Wd. x 3/32″ Dp.		3/4″ Dia. Keyway: 3/16″ Wd. x 3/32″ Dp.		7/8″ Dia. Keyway: 3/16″ Wd. x 3/32″ Dp.	
24″	6117K11	$33.00	6117K31	$36.00	6117K33	$39.00	6117K55	$39.62	6117K12	$39.62	6117K22	$42.90
36″	6117K13	36.00	6117K32	39.14	6117K34	42.14	6117K56	44.90	6117K14	44.90	6117K24	49.57
48″	6117K15	40.81	6117K42	42.31	6117K43	45.31	6117K57	49.74	6117K44	49.74	6117K45	52.50
60″	6117K16	45.76	6117K17	45.76	6117K18	49.19	6117K21	52.98	6117K19	55.50	6117K23	54.11
72″	6117K101	49.50	6117K102	49.50	6117K103	49.74	6117K105	58.14	6117K104	58.14	6117K106	59.00

Lg.	1″ Dia. Keyway: 1/4″ Wd. x 1/8″ Dp.		1 1/8″ Dia. Keyway: 1/4″ Wd. x 1/8″ Dp.		1 3/16″ Dia. Keyway: 1/4″ Wd. x 1/8″ Dp.		1 1/4″ Dia. Keyway: 1/4″ Wd. x 1/8″ Dp.		1 1/4″ Dia. Keyway: 5/16″ Wd. x 1/8″ Dp.		1 3/8″ Dia. Keyway: 5/16″ Wd. x 5/32″ Dp.	
24″	6117K26	$48.19	6117K58	$55.84	6117K27	$62.50	6117K52	$62.76	6117K35	$62.76	6117K62	$67.30
36″	6117K28	55.69	6117K59	57.27	6117K29	63.00	6117K53	66.00	6117K36	66.00	6117K63	71.59
48″	6117K46	61.64	6117K61	65.86	6117K47	72.86	6117K54	77.90	6117K48	77.90	6117K64	84.70
60″	6117K25	62.23	6117K88	74.98	6117K89	80.70	6117K91	86.68	6117K92	86.68	6117K93	99.66
72″	6117K107	70.11	6117K108	84.98	6117K109	91.82	6117K118	99.02	6117K111	99.02	6117K112	109.61

Lg.	1 7/16″ Dia. Keyway: 3/8″ Wd. x 3/16″ Dp.		1 1/2″ Dia. Keyway: 3/8″ Wd. x 3/16″ Dp.		1 5/8″ Dia. Keyway: 3/8″ Wd. x 3/16″ Dp.		1 3/4″ Dia. Keyway: 3/8″ Wd. x 3/16″ Dp.		1 15/16″ Dia. Keyway: 1/2″ Wd. x 1/4″ Dp.		2″ Dia. Keyway: 1/2″ Wd. x 1/4″ Dp.	
24″	6117K37	$73.57	6117K39	$75.48	6117K65	$78.05	6117K68	$84.48	6117K72	$88.77	6117K75	$91.64
36″	6117K38	78.00	6117K41	82.02	6117K66	89.82	6117K69	99.84	6117K73	111.13	6117K76	116.72
48″	6117K49	94.57	6117K51	99.74	6117K67	105.87	6117K71	118.61	6117K74	139.48	6117K77	146.93
60″	6117K94	101.98	6117K95	108.89	6117K96	125.83	6117K97	141.76	6117K98	167.83	6117K99	177.15
72″	6117K113	117.57	6117K114	125.89	6117K115	145.78	6117K116	164.91	6117K117	187.98	6117K119	198.71

Stainless Steel Shafts

Lg.	1/2″ Dia. Keyway: 1/8″ Wd. x 1/16″ Dp.		5/8″ Dia. Keyway: 3/16″ Wd. x 3/32″ Dp.		3/4″ Dia. Keyway: 3/16″ Wd. x 3/32″ Dp.		1″ Dia. Keyway: 1/4″ Wd. x 1/8″ Dp.		1 1/4″ Dia. Keyway: 1/4″ Wd. x 1/8″ Dp.		1 7/16″ Dia. Keyway: 3/8″ Wd. x 3/16″ Dp.	
24″	8377T6	$83.02	8377T71	$88.33	8377T17	$96.21	8377T28	$116.64	8377T34	$148.97	8377T41	$197.40
36″	8377T7	91.57	8377T72	99.09	8377T18	107.45	8377T29	145.71	8377T35	189.48	8377T42	241.17
48″	8377T8	100.97	8377T73	109.62	8377T19	125.57	8377T31	169.60	8377T36	229.12	8377T43	320.05

Shafts with Retaining Ring Grooves



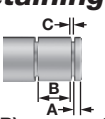

Multiple grooves (four or five on one end; two on the other) allow mounting flexibility, positioning bearings in a fixed spot, and using these shafts as an axle. All are Type 303 stainless steel and have good corrosion resistance. Hardness is Rockwell B83. Straightness tolerance is 0.0008″ per inch. Ends are beveled. For retaining rings (not included), see page 3406.

Shaft Dia.	Dia. Tolerance
1/4″-1″	–0.0002″ to 0″

Dia.	(A)	(B)	Groove Wd. (C)	3″ O'all Lg.		6″ O'all Lg.		10″ O'all Lg.		12″ O'all Lg.	
1/4″	1/16″	1/4″	0.029″	2025K1	$4.52	2025K2	$6.52	2025K3	$8.84	2025K4	$9.22
3/8″	1/16″	3/8″	0.039″	2025K5	8.46	2025K6	12.44	2025K7	20.21	2025K8	26.41
1/2″	3/32″	7/16″	0.046″	2025K9	11.95	2025K11	22.07	2025K12	27.04	2025K13	31.99
5/8″	1/8″	1/2″	0.046″	2025K14	14.47	2025K15	29.20	2025K16	49.16	2025K17	58.81
3/4″	1/8″	9/16″	0.056″	2025K18	17.13	2025K19	23.32	2025K21	58.01	2025K22	69.76
1″	1/8″	9/16″	0.056″	2025K23	29.03	2025K24	58.57	2025K25	80.46	2025K26	107.58

Don't see the shafts you need? Just tell us what you're looking for and we'll get it for you.

Dual-Diameter Shafts

For mounting and connecting flexibility, each shaft has two different diameters. Choose from shafts that step down on one or both ends. Straightness tolerance is 0.003″ per foot. Ends are beveled.

Steel Shafts— Made of 1045 steel, these shafts are stronger than stainless steel shafts but are less corrosion resistant. Hardness is Brinell 150.

Stainless Steel Shafts— These Type 303 stainless steel shafts have good corrosion resistance but are not as strong as steel shafts. Hardness is Brinell 160.

Shaft Dia. (A)	Dia. Tolerance
1/2″-3/4″	–0.001″ to 0″
Shaft Dia. (B)	**Dia. Tolerance**
3/4″-1″	–0.001″ to 0″

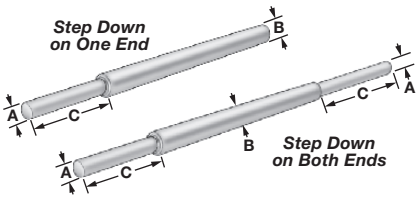

Step Down on One End

Shaft Dia. (A)	Shaft Dia. (B)	Lg. (C)	6″ Length		9″ Length		12″ Length	
Steel Shafts								
1/2″	3/4″	3″	8641T1	$19.84	8641T2	$21.16	8641T3	$22.77
3/4″	1″	3″	8641T4	21.47	8641T5	23.45	8641T6	25.40
Stainless Steel Shafts								
1/2″	3/4″	3″	8641T21	31.36	8641T22	36.24	8641T23	40.46
3/4″	1″	3″	8641T24	38.76	8641T25	46.18	8641T26	55.19

Step Down on Both Ends

Shaft Dia. (A)	Shaft Dia. (B)	Lg. (C)	12″ Length		18″ Length		24″ Length	
Steel Shafts								
1/2″	3/4″	3″	8641T51	$73.29	8641T52	$75.49	8641T53	$79.64
1/2″	1″	3″	8641T57	76.18	8641T58	79.33	8641T59	85.40
3/4″	1″	3″	8641T54	69.13	8641T55	72.29	8641T56	78.36

Idler Shafts

Count on our specially designed shafts to hold your bearings in idler applications. All shafts are made of steel. For idler rollers, see pages 1169-1170.

Thread-Mount Shafts— Mount in a tapped hole. A retaining-ring groove with included retaining ring and spacers position your bearing.

Flange-Mount Shafts— For a more secure hold, these shafts include washers and a nut to position your bearing.

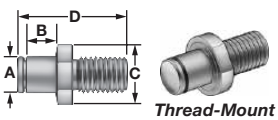

Thread-Mount Shafts

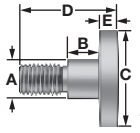



Flange-Mount Shafts

Thread-Mount Shafts

Shaft Dia. (A)	Shaft Lg. (B)	O'all Dia. (C)	O'all Lg. (D)	Thread Size		
1/4″	3/8″	1/2″	1 1/16″	1/4″-20	2435K1	$7.53
3/8″	7/16″	3/4″	1 7/32″	1/4″-20	2435K2	8.58
1/2″	5/8″	1″	1 9/16″	5/16″-18	2435K3	9.74
5/8″	5/8″	1 1/8″	1 19/32″	5/16″-18	2435K4	10.99
3/4″	5/8″	1 1/4″	1 25/32″	3/8″-16	2435K5	13.02
1″	5/8″	1 1/2″	2″	1/2″-13	2435K6	18.92

Flange-Mount Shafts

Shaft Dia. (A)	Shaft Lg. (B)	O'all Dia. (C)	O'all Lg. (D)	Thread Size	Flange Thick. (E)	Bolt Circle Dia.		
1/4″	3/8″	1 1/16″	1″	10-24	9/32″	23/32″	2435K11	$9.87
3/8″	7/16″	1 1/4″	1 3/16″	5/16″-18	9/32″	29/32″	2435K12	12.18
1/2″	5/8″	1 7/16″	1 1/2″	7/16″-14	9/32″	1 3/32″	2435K13	14.41
5/8″	5/8″	1 5/8″	1 21/32″	1/2″-13	5/16″	1 1/4″	2435K14	16.82
3/4″	5/8″	1 7/8″	1 27/32″	5/8″-11	11/32″	1 7/16″	2435K15	23.14
1″	5/8″	2 1/4″	2 1/8″	7/8″-9	13/32″	1 3/4″	2435K16	33.64

D-Profile Shafts

Looking for a secure connection when working with set screws? A D-shaped profile provides a flat surface area, which allows set screws to dig into the shaft. The flat surface width is equal to 50% of the diameter size. Diameter tolerance is –0.003″ to 0″. Straightness tolerance is 0.012″ per foot. Ends are beveled.

Steel Shafts with Solid Ends— Made of 1045 steel, these shafts are stronger than stainless steel shafts but are less corrosion resistant. Rockwell hardness is B90.

Stainless Steel Shafts with Solid Ends— These Type 303 stainless steel shafts have good corrosion resistance but are not as strong as steel shafts. Rockwell hardness is B83.

Steel Shafts with One Tapped End— Just like the steel shafts with solid ends but with an internally tapped end.

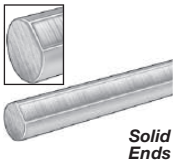

Solid Ends



One Tapped End

Steel Shafts with Solid Ends

Lg.	1/4″ Dia.		3/8″ Dia.		1/2″ Dia.		5/8″ Dia.		3/4″ Dia.		1″ Dia.	
6″	8632T132	$6.64	8632T133	$7.00	8632T134	$7.14	8632T135	$7.31	8632T136	$7.50	8632T138	$9.07
12″	8632T139	9.10	8632T1	9.67	8632T7	9.93	8632T14	10.19	8632T21	10.50	8632T34	13.14
24″	8632T141	15.19	8632T2	16.36	8632T8	16.88	8632T15	17.43	8632T22	18.05	8632T35	23.33
36″	8632T142	21.31	8632T3	23.05	8632T9	23.86	8632T16	24.64	8632T23	25.57	8632T36	33.50
48″	8632T143	24.45	8632T4	26.76	8632T11	27.83	8632T17	28.90	8632T24	30.14	8632T37	40.71
	1 1/4″ Dia.		1 3/8″ Dia.		1 1/2″ Dia.		1 3/4″ Dia.		1 15/16″ Dia.		2″ Dia.	
12″	8632T41	$16.10	8632T47	$26.12	8632T54	$22.76	8632T61	$38.52	8632T67	$44.71	8632T74	$33.33
24″	8632T42	29.24	8632T48	48.07	8632T55	41.36	8632T62	72.29	8632T68	84.67	8632T75	61.90
36″	8632T43	42.36	8632T49	70.02	8632T56	59.98	8632T63	106.05	8632T69	124.62	8632T76	90.48
48″	8632T44	52.52	8632T51	87.81	8632T57	74.40	8632T64	135.05	8632T71	159.81	8632T77	114.29

Stainless Steel Shafts with Solid Ends

Lg.	1/4″ Dia.		3/8″ Dia.		1/2″ Dia.		5/8″ Dia.		3/4″ Dia.		1″ Dia.	
6″	8632T144	$9.02	8632T145	$9.53	8632T146	$10.49	8632T147	$10.96	8632T148	$12.45	8632T149	$17.02
12″	8632T151	13.28	8632T152	14.13	8632T87	17.57	8632T153	16.49	8632T101	21.24	8632T107	29.76
24″	8632T154	23.89	8632T155	25.60	8632T88	32.17	8632T156	30.32	8632T102	39.52	8632T108	56.57
36″	8632T157	34.51	8632T158	37.06	8632T89	46.76	8632T159	44.15	8632T103	57.79	8632T109	83.36
48″	8632T161	42.47	8632T162	45.87	8632T91	58.38	8632T163	55.32	8632T104	73.07	8632T111	107.17

Steel Shafts with One Tapped End

Lg.	1/4″ Dia. Tapped End Size: 5-40 x 3/8″ Dp.		3/8″ Dia. Tapped End Size: 10-32 x 3/8″ Dp.		1/2″ Dia. Tapped End Size: 1/4″-20 x 1/2″ Dp.		5/8″ Dia. Tapped End Size: 1/4″-20 x 1/2″ Dp.		3/4″ Dia. Tapped End Size: 5/16″-18 x 5/8″ Dp.		1″ Dia. Tapped End Size: 3/8″-16 x 3/4″ Dp.	
6″	8017T1	$23.98	8017T2	$17.64	8017T3	$17.78	8017T4	$17.93	8017T5	$18.11	8017T6	$19.58
12″	8017T7	26.27	8017T8	20.13	8017T9	20.38	8017T11	20.62	8017T12	20.91	8017T13	23.38
24″	8017T14	31.96	8017T15	26.38	8017T16	26.87	8017T17	27.38	8017T18	27.96	8017T19	32.89
36″	8017T21	37.67	8017T22	32.62	8017T23	33.38	8017T24	34.11	8017T25	34.98	8017T26	42.38
48″	8017T27	40.60	8017T28	36.09	8017T29	37.09	8017T31	38.09	8017T32	39.24	8017T33	49.11

Shaft Supports

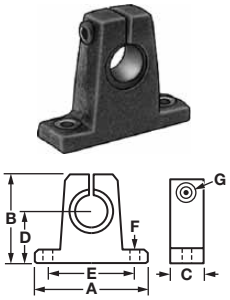

Base Mount, Inch and Metric Sizes

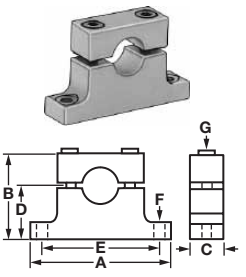

Quick-Access Base Mount

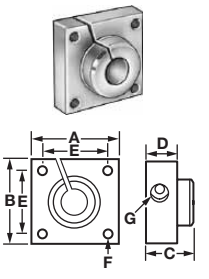

Flange Mount, Inch Sizes

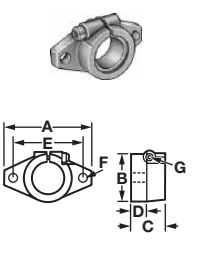

Flange Mount, Metric Sizes

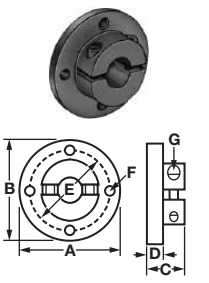

Quick-Access Flange Mount

Brace the ends of your linear shafts when working with light to medium loads where shaft alignment is not critical. For use with closed linear bearings.

Base Mount—Tolerance for (D) dimension is ±0.002″ for inch sizes and ±0.02 mm for metric sizes.

Quick-Access Base Mount—Innovative two-piece design lets you quickly remove the top of the support for access to your shaft. Tolerance for (D) dimension is ±0.003″.

Flange Mount—*Inch sizes* have a four-bolt design. *Metric sizes* have a two-bolt design.

Quick-Access Flange Mount—Innovative two-piece design lets you quickly remove the top of the support for access to your shaft. All have a four-bolt design.

For Shaft Dia.	Overall Lg. (A)	Overall Ht. (B)	Overall Thick. (C)	(D)	(E)	Mount. Hole Dia. (F)	Bolt Size (G)		
Base Mount—*Aluminum*									
1/4″	1 1/2″	1 1/8″	1/2″	1 1/16″	1 1/8″	3/16″	#6	6068K21	$24.42
3/8″	1 5/8″	1 1/4″	5/8″	3/4″	1 1/4″	3/16″	#6	6068K22	25.31
Base Mount—*Iron*									
1/2″	2″	1 5/8″	5/8″	1″	1 1/2″	3/16″	#8	6068K23	27.26
5/8″	2 1/2″	1 3/4″	1 1/16″	1″	1 7/8″	1/4″	#10	6068K24	28.64
3/4″	2 3/4″	2 1/8″	3/4″	1 1/4″	2″	1/4″	#10	6068K25	30.04
1″	3 1/4″	2 5/8″	1″	1 1/2″	2 1/2″	5/16″	1/4″	6068K26	33.21
1 1/4″	4″	3″	1 1/8″	1 3/4″	3″	3/8″	5/16″	6068K27	39.27
1 1/2″	4 3/4″	3 1/2″	1 1/4″	2″	3 1/2″	3/8″	5/16″	6068K28	45.17
2″	6″	4 1/2″	1 1/2″	2 1/2″	4 1/2″	7/16″	3/8″	6068K29	60.94
Metric Base Mount—*Aluminum (Dimensions in mm)*									
8	42	33	14	20	32	6	M4	61815K33	21.21
10	42	33	14	20	32	6	M4	61815K32	21.21
12	42	38	14	23	32	6	M4	61815K34	22.36
16	48	44	16	27	38	6	M4	61815K35	23.13
20	60	51	20	31	45	7	M5	61815K36	25.19
25	70	60	24	35	56	7	M6	61815K37	28.00
30	84	70	28	42	64	9	M6	61815K38	30.98
35	98	82	32	50	74	11	M8	61815K39	35.26
40	114	96	36	60	90	11	M8	61815K41	42.96
Quick-Access Base Mount—*Aluminum*									
1/4″	1 5/8″	7/8″	3/8″	9/16″	1 1/4″	1/8″	#6	1865K1	11.81
3/8″	1 3/4″	1″	3/8″	5/8″	1 3/8″	1/8″	#6	1865K2	12.62
1/2″	2″	1 3/16″	1/2″	3/4″	1 5/8″	3/16″	#8	1865K3	17.40
5/8″	2 5/8″	1 7/16″	1/2″	15/16″	2 1/8″	3/16″	#10	1865K4	18.77
3/4″	2 3/4″	1 9/16″	1/2″	1″	2 1/4″	3/16″	#10	1865K5	20.27
1″	3 3/16″	1 15/16″	3/4″	1 1/4″	2 5/8″	1/4″	1/4″	1865K6	25.31

For Shaft Dia.	Overall Lg. (A)	Overall Ht. (B)	Overall Thick. (C)	(D)	(E)	Mount. Hole Dia. (F)	Bolt Size (G)		
Quick-Access Base Mount—*Aluminum (Cont.)*									
1 1/4″	3 3/4″	2 5/16″	3/4″	1 1/2″	3 1/8″	5/16″	5/16″	1865K7	$31.60
1 1/2″	4″	2 11/16″	3/4″	1 3/4″	3 3/8″	5/16″	5/16″	1865K8	35.84
2″	5″	3 5/16″	1 1/4″	2 1/8″	4 1/4″	3/8″	3/8″	1865K9	47.25
Flange Mount—*Aluminum*									
1/2″	1 5/8″	1 5/8″	7/8″	1/2″	1 1/4″	1/8″	#8	57745K21	35.26
3/4″	2 3/8″	2 3/8″	1″	5/8″	1 3/4″	3/16″	#10	57745K22	39.32
1″	2 3/4″	2 3/4″	1 1/4″	5/8″	2 1/8″	1/4″	1/4″	57745K23	51.24
1 1/4″	3 1/8″	3 1/8″	1 3/8″	3/4″	2 3/8″	1/4″	1/4″	57745K24	63.52
Metric Flange Mount—*Aluminum (Dimensions in mm)*									
10	43	24	10	5	32	5	M4	62645K41	19.45
12	47	28	13	7	36	5	M4	62645K38	19.45
16	50	31	16	8	40	5	M4	62645K39	20.26
20	60	37	20	8	48	7	M5	62645K42	21.93
25	70	42	25	10	56	7	M5	62645K43	25.21
30	80	50	30	12	64	9	M6	62645K44	27.03
35	92	58	35	14	72	12	M8	62645K45	30.83
40	102	67	40	16	80	12	M10	62645K46	37.50
Quick-Access Flange Mount—*Steel*									
1/4″	1 5/8″	1 5/8″	3/4″	1/4″	1 3/8″	1/8″	6-32	1870K1	38.57
3/8″	1 5/8″	1 5/8″	3/4″	1/4″	1 3/8″	1/8″	6-32	1870K2	38.57
1/2″	2 1/4″	2 1/4″	1″	3/8″	1 3/4″	1/8″	8-32	1870K3	41.95
5/8″	2 5/8″	2 5/8″	1″	3/8″	2 1/8″	3/16″	10-32	1870K4	44.10
3/4″	3″	3″	1″	3/8″	2 3/8″	1/4″	1/4″-28	1870K5	46.55
1″	3 1/4″	3 1/4″	1 5/8″	3/8″	2 3/4″	1/4″	1/4″-28	1870K6	50.74
1 1/4″	3 1/2″	3 1/2″	1 5/8″	3/8″	3″	1/4″	1/4″-28	1870K7	51.38
1 1/2″	3 3/4″	3 3/4″	2″	7/16″	3 1/4″	1/4″	1/4″-28	1870K8	62.61
2″	4 1/2″	4 1/2″	2 5/16″	1/2″	3 7/8″	5/16″	5/16″-24	1870K9	97.86

Combination Linear/Drive Ball Bearings and Spline Shafts



Standard Bearing

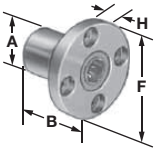

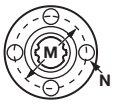

Flanged Bearing





Spline Shaft

Pair a ball bearing with an end-supported spline shaft to transmit rotary torque while allowing the bearing to move linearly along the shaft. Also called ball splines, these ball bearings and spline shafts offer low friction and low backlash. Torque capacity is the maximum rotational load a bearing can withstand without deforming.

All bearings are closed style and can be mounted in any position without affecting load capacity. They also have a fixed-alignment design and are for use where shaft misalignment is unlikely. Shell and balls are steel. Maximum temperature is 176° F. *Note:* Bearings will only fit the spline shaft listed on the same line in the table.

For Shaft Dia., mm	OD (A), mm	O'all Lg. (B), mm	Torque Cap., in.-lbs.	Standard Bearings		Flanged Bearings: Flange Dia. (F), mm	Flange Thick. (H), mm	Bolt Circle Dia. (M), mm	Bolt Size (N)			Spline Shafts: Diameter (A1), mm	Diameter (A2), mm	(P), mm	(Q), mm		
6	14	25	13	61145K31	$67.75	30	5	22	M3	61145K41	$87.99	6	—	—	150	61145K61	$104.03
8	16	25	18	61145K32	71.36	32	5	24	M3	61145K42	89.50	8	—	—	150	61145K62	97.95
10	21	33	38	61145K33	74.61	42	6	32	M4	61145K43	91.78	10	—	—	200	61145K63	97.99
18.2	32	60	734	61145K36	135.14	51	7	40	M4	61145K46	150.14	18.2	15	150	200	61145K86	211.26
23	37	70	1,433	61145K37	158.72	60	9	47	M5	61145K47	184.30	23	20	150	200	61145K87	219.66
28	45	80	2,557	61145K38	189.61	70	10	54	M6	61145K48	208.12	28	25	150	300	61145K88	357.55
37.4	60	100	5,637	61145K39	252.97	90	14	72	M8	61145K49	278.89	37.4	30	150	400	61145K89	469.88

About Linear Bearings

Linear Ball Bearings (pages 1135-1140)— The choice for smooth linear motion in debris-free environments. Compared to linear sleeve bearings, they operate with less friction, so you can run them at higher speeds. Linear ball bearings are for use on hardened shafts. They usually require lubrication.

Linear Sleeve Bearings (pages 1140-1143)— Because they do not require lubrication, linear sleeve bearings outperform linear ball bearings in dirty environments. They also take on higher loads. Use with hardened or unhardened shafts.

Parallel-Shaft Applications for Linear Sleeve Bearings— For best results in this common setup, use a *fixed-alignment bearing* on one shaft and a *self-aligning bearing*, which accommodates minor shaft misalignment, on the other.

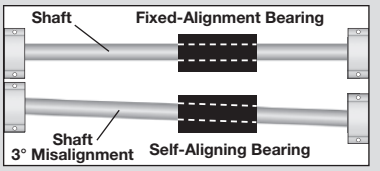

Mounted Linear Ball Bearings

A complete mounted linear bearing comes ready to use with the bearing installed inside a 6061 aluminum housing. They have end seals to keep lubricants in and dirt out. Temperature range is -4° to 176° F, unless noted. For use with hardened shafts made of steel, chrome-plated steel, or stainless steel with a hardness of at least Rockwell C50. Bearings are replaceable.

Bearings for Support Rail Shafts— Designed for applications requiring maximum rigidity.

Inch bearings are self aligning and handle up to 1° of shaft misalignment in any direction, unless noted. Bearing shell is acetal; balls are steel. Center height tolerance (G) is ±0.001″, unless noted.

Metric bearings are fixed-alignment style and are for use where shaft alignment is unlikely. Bearing shell and balls are steel. Center height tolerance is ±0.020 mm.

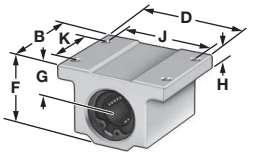

For Round Shafts | For Support Rail Shafts

For Shaft Dia.	Dynamic Load Cap., lbs.	O'all Lg. (B)	O'all Wd. (D)	Wd. (E)	O'all Ht. (F)	Ctr. Ht. (G)	Base Thick. (H)	Mounting Holes Center-to-Center (J)	Mounting Holes Center-to-Center (K)	Mounting Holes Dia. (L)		
For Round Shafts												
1/4″	60	1 3/16″	1 5/8″		13/16″	7/16″	3/16″	1.313″	3/4″	5/32″	6255K31	$40.20
1/4″	95	2 1/2″	1 5/8″		13/16″	7/16″	3/16″	1.313″	2″	5/32″	9338T42	95.00
1/4″	120	2 1/2″	1 5/8″		13/16″	7/16″	3/16″	1.313″	2″	5/32″	6255K61★	109.06
3/8″	95	1 5/16″	1 3/4″		15/16″	1/2″	3/16″	1.438″	7/8″	5/32″	6255K32	42.02
3/8″	150	2 3/4″	1 3/4″		15/16″	1/2″	3/16″	1.438″	2 1/4″	5/32″	9338T43	99.00
3/8″	200	2 3/4″	1 3/4″		15/16″	1/2″	3/16″	1.438″	2 1/4″	5/32″	6255K62★	113.98
1/2″	230	1 11/16″	2″		1 1/4″	11/16″	1/4″	1.688″	1″	5/32″	9338T1	53.76
1/2″	370	3 1/2″	2″		1 1/4″	11/16″	1/4″	1.688″	2 1/2″	5/32″	9338T7	106.45
5/8″	400	1 15/16″	2 1/2″		1 5/8″	7/8″	9/32″	2 1/8″	1 1/8″	3/16″	9338T2	59.33
5/8″	640	4″	2 1/2″		1 5/8″	7/8″	9/32″	2 1/8″	3″	3/16″	9338T8	117.38
3/4″	470	2 1/16″	2 3/4″		1 3/4″	15/16″	5/16″	2 3/8″	1 1/4″	3/16″	9338T3	66.60
3/4″	750	4 1/2″	2 3/4″		1 3/4″	15/16″	5/16″	2 3/8″	3 1/2″	3/16″	9338T9	131.81
1″	850	2 13/16″	3 1/4″		2 3/16″	1 3/16″	3/8″	2 7/8″	1 3/4″	7/32″	9338T4	92.88
1″	1,300	6″	3 1/4″		2 3/16″	1 3/16″	3/8″	2 7/8″	4 1/2″	7/32″	9338T11	183.90
1 1/4″	1,200	3 5/8″	4″		2 13/16″	1 1/2″	7/16″	3 1/2″	2″	7/32″	9338T5	136.60
1 1/4″	1,900	7 1/2″	4″		2 13/16″	1 1/2″	7/16″	3 1/2″	5 1/2″	7/32″	9338T12	270.40
1 1/2″	1,400	4″	4 3/4″		3 1/4″	1 3/4″	1/2″	4 1/8″	2 1/2″	9/32″	9338T6	178.45
1 1/2″	2,300	9″	4 3/4″		3 1/4″	1 3/4″	1/2″	4 1/8″	6 1/2″	9/32″	9338T13	353.29
2″	2,400	5″	6″		4 1/16″	2 1/8″	5/8″	5 1/4″	3 1/4″	13/32″	9338T41	266.69
2″	3,000	5″	6″		4 1/16″	2 1/8″	5/8″	5 1/4″	3 1/4″	13/32″	6255K39★	296.37
For Support Rail Shafts												
1/2″	230	1 1/2″	2″	1/4″	1 3/32″	11/16″	1/4″	1.688″	1″	5/32″	9338T14	64.60
1/2″	370	3 1/2″	2″	1/4″	1 3/32″	11/16″	1/4″	1.688″	2 1/2″	5/32″	9338T21	127.83
5/8″	400	1 3/4″	2 1/2″	5/16″	1 13/32″	7/8″	9/32″	2 1/8″	1 1/8″	3/16″	9338T15	74.98
5/8″	640	4″	2 1/2″	5/16″	1 13/32″	7/8″	9/32″	2 1/8″	3″	3/16″	9338T22	148.43
3/4″	470	1 7/8″	2 3/4″	3/8″	1 17/32″	15/16″	5/16″	2 3/8″	1 1/4″	3/16″	9338T16	82.36
3/4″	750	4 1/2″	2 3/4″	3/8″	1 17/32″	15/16″	5/16″	2 3/8″	3 1/2″	3/16″	9338T23	163.00
1″	850	2 5/8″	3 1/4″	1/2″	1 31/32″	1 3/16″	3/8″	2 7/8″	1 3/4″	7/32″	9338T17	115.21
1″	1,300	6″	3 1/4″	1/2″	1 31/32″	1 3/16″	3/8″	2 7/8″	4 1/2″	7/32″	9338T24	228.10
1 1/4″	1,200	3 3/8″	4″	9/16″	2 31/64″	1 1/2″	7/16″	3 1/2″	2″	7/32″	9338T18	170.76
1 1/4″	1,900	7 1/2″	4″	9/16″	2 15/32″	1 1/2″	7/16″	3 1/2″	5 1/2″	7/32″	9338T25	338.12
1 1/2″	1,400	3 3/4″	4 3/4″	11/16″	2 29/32″	1 3/4″	1/2″	4 1/8″	2 1/2″	9/32″	9338T19	213.50
1 1/2″	2,300	9″	4 3/4″	11/16″	2 29/32″	1 3/4″	1/2″	4 1/8″	6 1/2″	9/32″	9338T26	422.69
2″	2,400	4 3/4″	6″	15/16″	3 21/32″	2 1/8″	5/8″	5 1/4″	3 1/4″	13/32″	6255K59	270.38
For Metric Round Shafts (Dimensions in mm)												
8	60	30	34		22	11	6	24	18	M4	9338T51	45.90
8	95	58	34		22	11	6	24	42	M4	9338T31	91.36
10	80	35	40		26	13	8	28	21	M5	9338T52	45.54
10	130	68	40		26	13	8	28	46	M5	9338T32	91.24
12	110	36	42		28	15	8	30.5	26	M5	9338T53	45.26
12	180	70	42		28	15	8	30.5	50	M5	9338T33	92.58
20	195	50	54		41	21	11	40	40	M6	9338T54	68.20
20	310	96	54		41	21	11	40	70	M6	9338T34	135.00
25	220	67	76		51.5	26	12	54	50	M8	9338T55	88.56
30	350	72	78		59.5	30	15	58	58	M8	9338T56	114.30

★Max. temperature is 185° F; handles up to 1/2° of shaft misalignment; height tolerance (G) is ±0.003″.

High-Load Mounted Linear Ball Bearings

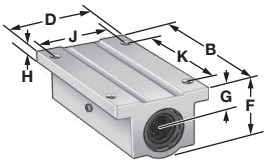

For Round Shafts

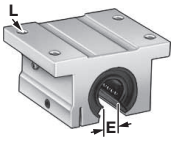

For Support Rail Shafts

Designed to handle heavy loads, these bearings have the highest load capacities of any mounted linear ball bearings we offer. The bearings are self aligning and handle up to ½° of shaft misalignment in any direction. They have end seals to keep lubricants in and dirt out. Housing is 6061 aluminum, bearing shell is acetal, and balls are steel. Center height tolerance is ±0.003″. Maximum temperature is 185° F. Bearings are replaceable.

For use with hardened shafts made of steel, chrome-plated steel, or stainless steel with a hardness of at least Rockwell C50.

Bearings for Support Rail Shafts—Designed for applications requiring maximum rigidity.

For Shaft Dia.	Dynamic Load Cap., lbs.	O'all Lg. (B)	O'all Wd. (D)	Wd. (E)	O'all Ht. (F)	Ctr. Ht. (G)	Base Thick. (H)	Mounting Holes Center-to-Center (J)	(K)	Dia. (L)		
For Round Shafts												
1/2″	265	1 11/16″	2″	—	1 1/4″	11/16″	1/4″	1.688″	1″	5/32″	**6255K11**	$87.19
1/2″	530	3 1/2″	2″	—	1 1/4″	11/16″	1/4″	1.688″	2 1/2″	5/32″	**6255K17**	166.95
5/8″	620	1 15/16″	2 1/2″	—	1 5/8″	7/8″	9/32″	2 1/8″	1 1/8″	3/16″	**6255K12**	94.53
5/8″	1,200	4″	2 1/2″	—	1 5/8″	7/8″	9/32″	2 1/8″	3″	3/16″	**6255K18**	180.96
3/4″	1,100	2 1/16″	2 3/4″	—	1 3/4″	15/16″	5/16″	2 3/8″	1 1/4″	3/16″	**6255K13**	99.47
3/4″	2,200	4 1/2″	2 3/4″	—	1 3/4″	15/16″	5/16″	2 3/8″	3 1/2″	3/16″	**6255K19**	190.61
1″	1,900	2 13/16″	3 1/4″	—	2 3/16″	1 3/16″	3/8″	2 7/8″	1 3/4″	7/32″	**6255K14**	139.67
1″	3,800	6″	3 1/4″	—	2 3/16″	1 3/16″	3/8″	2 7/8″	4 1/2″	7/32″	**6255K21**	255.04
1 1/4″	2,300	3 5/8″	4″	—	2 13/16″	1 1/2″	7/16″	3 1/2″	2″	7/32″	**6255K15**	204.13
1 1/4″	4,700	7 1/2″	4″	—	2 13/16″	1 1/2″	7/16″	3 1/2″	5 1/2″	7/32″	**6255K22**	369.93
1 1/2″	3,800	4″	4 3/4″	—	3 1/4″	1 3/4″	1/2″	4 1/8″	2 1/2″	9/32″	**6255K16**	239.83
1 1/2″	7,700	9″	4 3/4″	—	3 1/4″	1 3/4″	1/2″	4 1/8″	6 1/2″	9/32″	**6255K23**	466.54
For Support Rail Shafts												
1/2″	360	1 1/2″	2″	5/16″	1 1/8″	11/16″	1/4″	1.688″	1″	5/32″	**6255K24**	101.46
1/2″	720	3 1/2″	2″	5/16″	1 1/8″	11/16″	1/4″	1.688″	2 1/2″	5/32″	**6255K41**	190.61
5/8″	620	1 3/4″	2 1/2″	11/32″	1 7/16″	7/8″	9/32″	2 1/8″	1 1/8″	3/16″	**6255K25**	114.70
5/8″	1,200	4″	2 1/2″	11/32″	1 7/16″	7/8″	9/32″	2 1/8″	3″	3/16″	**6255K42**	210.86
3/4″	1,100	1 7/8″	2 3/4″	13/32″	1 9/16″	15/16″	5/16″	2 3/8″	1 1/4″	3/16″	**6255K26**	120.12
3/4″	2,200	4 1/2″	2 3/4″	13/32″	1 9/16″	15/16″	5/16″	2 3/8″	3 1/2″	3/16″	**6255K43**	221.06
1″	1,900	2 5/8″	3 1/4″	17/32″	2″	1 3/16″	3/8″	2 7/8″	1 3/4″	7/32″	**6255K27**	162.44
1″	3,800	6″	3 1/4″	17/32″	2″	1 3/16″	3/8″	2 7/8″	4 1/2″	7/32″	**6255K44**	302.68
1 1/4″	2,300	3 3/8″	4″	5/8″	2 9/16″	1 1/2″	7/16″	3 1/2″	2″	7/32″	**6255K28**	233.11
1 1/4″	4,700	7 1/2″	4″	5/8″	2 9/16″	1 1/2″	7/16″	3 1/2″	5 1/2″	7/32″	**6255K45**	444.54
1 1/2″	3,800	3 3/4″	4 3/4″	3/4″	2 15/16″	1 3/4″	1/2″	4 1/8″	2 1/2″	9/32″	**6255K29**	281.94
1 1/2″	7,700	9″	4 3/4″	3/4″	2 15/16″	1 3/4″	1/2″	4 1/8″	6 1/2″	9/32″	**6255K46**	548.51

Corrosion-Resistant Mounted Linear Ball Bearings

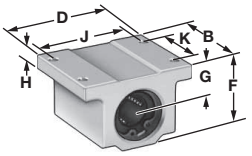

Aluminum Housing for Round Shafts



Acetal Housing for Round Shafts

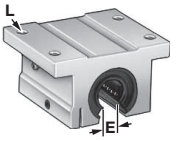

Aluminum Housing for Support Rail Shafts

Outdoor as well as mild chemical environments are no problem for these bearings. All have stainless steel balls for corrosion resistance. End seals keep lubricants in and dirt out. Temperature range is -4° to 176° F.

Bearings for Support Rail Shafts—Designed for applications requiring maximum rigidity. Bearings are replaceable.

Bearings with 6061 aluminum housing take on heavier loads than bearings with an acetal housing. They have smooth-running, self-aligning bearings that handle up to 1° of shaft misalignment in any direction. The bearing shell is acetal. Center height tolerance (G) is ±0.001″. For use with hardened shafts made of steel, chrome-plated steel, or stainless steel with a hardness of at least Rockwell C60. Bearings are replaceable.

Bearings with acetal housing are lighter in weight and more corrosion resistant than bearings with an aluminum housing. They have fixed-alignment bearings and are for applications where shaft misalignment is unlikely. The bearing shell is nickel-plated steel. Center height tolerance is ±0.004″. For use on hardened shafts made of steel with a hardness of at least Rockwell C60 or made of stainless steel with a hardness of at least Rockwell C56. Bearings are not replaceable.

For Shaft Dia.	Dynamic Load Cap., lbs.	O'all Lg. (B)	O'all Wd. (D)	Wd. (E)	O'all Ht. (F)	Ctr. Ht. (G)	Base Thick. (H)	Mounting Holes Center-to-Center (J)	(K)	Dia. (L)		
For Round Shafts—6061 Aluminum Housing												
1/2″	230	1 11/16″	2″	—	1″	11/16″	1/4″	1.688″	1″	5/32″	**9104T1**	$82.10
5/8″	400	1 15/16″	2 1/2″	—	1 5/8″	7/8″	9/32″	2 1/8″	1 1/8″	3/16″	**9104T2**	90.56
3/4″	470	2 1/16″	2 3/4″	—	1 3/4″	15/16″	5/16″	2 3/8″	1 1/4″	3/16″	**9104T3**	101.66
1″	850	2 13/16″	3 1/4″	—	2 3/16″	1 3/16″	3/8″	2 7/8″	1 3/4″	7/32″	**9104T4**	141.84
For Round Shafts—Acetal Housing												
1/2″	110	1 19/32″	2″	—	1 1/4″	11/16″	11/32″	1.688″	1″	5/32″	**1052K11**	46.20
5/8″	170	1 27/32″	2 1/2″	—	1 5/8″	7/8″	3/8″	2 1/8″	1 1/8″	3/16″	**1052K12**	50.94
3/4″	190	1 31/32″	2 3/4″	—	1 3/4″	15/16″	13/32″	2 3/8″	1 1/4″	3/16″	**1052K13**	57.23
1″	220	2 19/32″	3 1/4″	—	2 3/16″	1 3/16″	15/32″	2 7/8″	1 3/4″	7/32″	**1052K14**	79.80
For Support Rail Shafts—6061 Aluminum Housing												
1/2″	230	1 1/2″	2″	1/4″	1 13/32″	11/16″	1/4″	1.688″	1″	5/32″	**9104T8**	98.60
5/8″	400	1 3/4″	2 1/2″	5/16″	1 13/32″	7/8″	9/32″	2 1/8″	1 1/8″	3/16″	**9104T9**	114.48
3/4″	470	1 7/8″	2 3/4″	3/8″	1 17/32″	15/16″	5/16″	2 3/8″	1 1/4″	3/16″	**9104T11**	125.74
1″	850	2 5/8″	3 1/4″	1/2″	1 31/32″	1 3/16″	3/8″	2 7/8″	1 3/4″	7/32″	**9104T12**	175.94

Adjustable Mounted Linear Ball Bearings

Use the adjustment screw in the housing to tighten or loosen the snugness (also known as preload) of the bearing to your shaft. They are for use with round, end-supported shafts. They are self aligning to compensate for 3° of shaft misalignment. End seals keep lubricants in and dirt out. Housing is cast iron. Bearing shell and balls are steel. Center height tolerance (G) is ±0.005″. Maximum temperature is 180° F.

For use with end-supported, hardened shafts made of steel with a hardness of at least Rockwell C60 or made of stainless steel with a hardness of at least Rockwell C53.

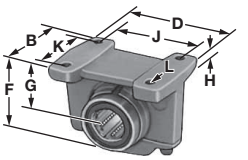

For Shaft Dia.	Dynamic Load Cap., lbs.	O'all Lg. (B)	O'all Wd. (D)	O'all Ht. (F)	Ctr. Ht. (G)	Base Thick. (H)	Mounting Holes Center-to-Center (J)	(K)	Dia. (L)		
1/2″	115	1 1/2″	2″	1 5/8″	7/8″	1/4″	1 1/2″	1″	3/16″	6635K31	$140.31
3/4″	190	2″	2 3/4″	2 1/8″	1 1/8″	5/16″	2″	1 3/8″	7/32″	6635K32	153.90
1″	220	2 1/4″	3 1/4″	2 9/16″	1 3/8″	3/8″	2 1/2″	1 1/2″	9/32″	6635K33	213.58
1 1/4″	350	2 3/4″	4″	3 1/4″	1 3/4″	7/16″	3″	1 7/8″	11/32″	6635K34	252.08
1 1/2″	490	3″	4 3/4″	3 3/4″	2″	1/2″	3 1/2″	2″	11/32″	6635K35	293.92
2″	860	3 1/2″	6″	4 3/4″	2 1/2″	5/8″	4 1/2″	2 1/2″	13/32″	6635K36	396.22

Flange-Mounted Linear Ball Bearings

The flanged housing makes these bearings a good solution for vertical linear motion applications. All are for use with round, end-supported shafts and have a fixed alignment design for use where shaft misalignment is unlikely. End seals keep lubricants in and dirt out. Use with hardened steel or stainless steel shafts with a hardness of at least Rockwell C56.

Steel Bearings—Housing, bearing shell, and balls are steel. Temperature range is -4° to 176° F.

Stainless Steel Bearings—Housing, shell, and balls are stainless steel for corrosion resistance. Temperature range is -4° to 248° F.

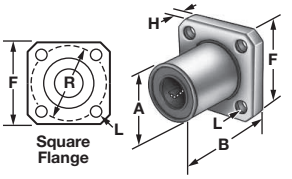

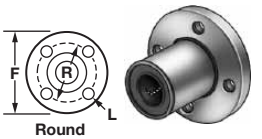

For Shaft Dia.	Dynamic Load Cap., lbs.	OD (A)	O'all Lg. (B)	Flange Thick. (H)	Hole Dia. (L)	Bolt Circle Dia. (R)	Square Flange O'all Ht. (F)			Round Flange Flange Dia. (F)		
Steel												
1/4″	45	1/2″	3/4″	1/4″	5/32″	7/8″	1″	6483K61	$29.11	1 1/4″	6483K51	$26.87
1/4″	70	1/2″	1 3/8″	1/4″	5/32″	7/8″	1″	6483K81	62.72	1 1/4″	6483K71	57.33
3/8″	50	5/8″	7/8″	1/4″	3/16″	1 1/16″	1 1/4″	6483K62	30.09	1 1/2″	6483K52	27.78
3/8″	75	5/8″	1 5/8″	1/4″	3/16″	1 1/16″	1 1/4″	6483K82	64.82	1 1/2″	6483K72	59.26
1/2″	110	7/8″	1 1/4″	1/4″	3/16″	1 5/16″	1 3/8″	6483K63	32.67	1 3/4″	6483K53	30.80
1/2″	180	7/8″	2 3/8″	1/4″	3/16″	1 5/16″	1 3/8″	6483K83	72.18	1 3/4″	6483K73	65.96
5/8″	170	1 1/8″	1 1/2″	1/4″	3/16″	1 9/16″	1 1/2″	6483K64	38.15	2″	6483K54	35.15
5/8″	275	1 1/8″	2 13/16″	1/4″	3/16″	1 9/16″	1 1/2″	6483K84	84.54	2″	6483K74	77.20
3/4″	190	1 1/4″	1 5/8″	5/16″	7/32″	1 23/32″	1 11/16″	6483K65	47.54	2 3/16″	6483K55	43.78
3/4″	305	1 1/4″	3 1/8″	5/16″	7/32″	1 23/32″	1 11/16″	6483K85	105.98	2 3/16″	6483K75	96.70
1″	220	1 9/16″	2 1/4″	5/16″	7/32″	2 1/32″	2″	6483K66	69.33	2 1/2″	6483K56	63.91
1″	350	1 9/16″	4 5/16″	5/16″	7/32″	2 1/32″	2″	6483K86	153.56	2 1/2″	6483K76	140.24
1 1/4″	350	2″	2 5/8″	3/8″	9/32″	2 9/16″	2 1/2″	6483K67	95.93	3 1/8″	6483K57	88.26
1 1/4″	560	2″	5″	3/8″	9/32″	2 9/16″	2 1/2″	6483K87	215.02	3 1/8″	6483K77	196.04
1 1/2″	490	2 3/8″	3″	1/2″	11/32″	3 1/16″	3″	6483K68	150.87	3 3/4″	6483K58	138.50
1 1/2″	770	2 3/8″	5 11/16″	1/2″	11/32″	3 1/16″	3″	6483K88	343.38	3 3/4″	6483K78	312.46
2″	855	3″	4″	1/2″	11/32″	3 11/16″	3 1/2″	6483K69	202.11	4 3/8″	6483K59	185.63
2″	1,300	3″	7 3/4″	1/2″	11/32″	3 11/16″	3 1/2″	6483K89	459.16	4 3/8″	6483K79	409.02
Stainless Steel												
3/8″	50	5/8″	7/8″	1/4″	3/16″	1 1/16″	1 1/4″	5931K75	73.84	1 1/2″	5931K65	63.29
3/8″	75	5/8″	1 5/8″	1/4″	3/16″	1 1/16″	____	____	____	1 1/2″	5931K85	115.98
1/2″	110	7/8″	1 1/4″	1/4″	3/16″	1 5/16″	1 3/8″	5931K76	81.89	1 3/4″	5931K66	70.15
1/2″	180	7/8″	2 3/8″	1/4″	3/16″	1 5/16″	____	____	____	1 3/4″	5931K86	128.89
3/4″	190	1 1/4″	1 5/8″	5/16″	7/32″	1 23/32″	1 11/16″	5931K77	118.49	2 3/16″	5931K67	101.13
3/4″	305	1 1/4″	3 1/8″	5/16″	7/32″	1 23/32″	____	____	____	2 3/16″	5931K87	187.96
1″	220	1 9/16″	2 1/4″	5/16″	7/32″	2 1/32″	2″	5931K78	168.24	2 1/2″	5931K68	143.18
1″	350	1 9/16″	4 5/16″	5/16″	7/32″	2 1/32″	____	____	____	2 1/2″	5931K88	268.45

Linear Bearing Housings

Slide your linear ball or sleeve bearing into one of these 6061 aluminum housings and secure it with the included internal retaining rings.

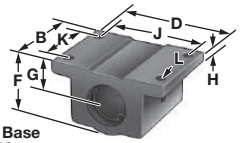

Base Mount

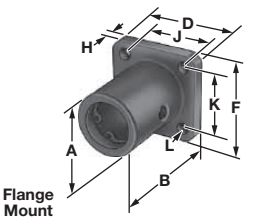

Flange Mount

For Bearing OD	OD (A)	O'all Lg. (B)	O'all Wd. (D)	O'all Ht. (F)	Ctr. Ht. (G)	Thick. (H)	Mounting Holes Center-to-Center (J)	(K)	Dia. (L)		
Base Mount											
1/2″	____	1 3/16″	1 5/8″	13/16″	7/16″	3/16″	1 5/16″	3/4″	5/32″	9804K1	$28.92
5/8″	____	1 5/16″	1 3/4″	1 5/16″	1/2″	3/16″	1 7/16″	7/8″	5/32″	9804K2	31.33
7/8″	____	1 11/16″	2″	1 1/4″	11/16″	1/4″	1 11/16″	1″	5/32″	9804K3	33.74
1 1/8″	____	1 15/16″	2 1/2″	1 5/8″	7/8″	9/32″	2 1/8″	1 1/8″	3/16″	9804K4	36.15
1 1/4″	____	2 1/16″	2 3/4″	1 3/4″	15/16″	5/16″	2 3/8″	1 1/4″	3/16″	9804K5	38.56
Flange Mount											
5/8″	7/8″	1 5/16″	1 1/4″	1 1/4″	____	3/16″	7/8″	7/8″	5/32″	9734K11	22.56
7/8″	1 1/4″	1 11/16″	1 5/8″	1 5/8″	____	1/4″	1 1/4″	1 1/4″	3/16″	9734K12	25.95
1 1/8″	1 1/2″	1 15/16″	2″	2″	____	1/4″	1 1/2″	1 1/2″	3/16″	9734K13	31.28
1 1/4″	1 3/4″	2 1/16″	2 3/8″	2 3/8″	____	3/8″	1 3/4″	1 3/4″	7/32″	9734K14	33.85

Self-Aligning Linear Ball Bearings

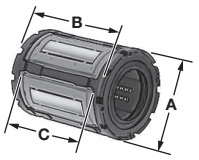

For Round Shafts

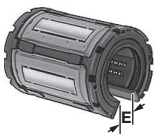

For Support Rail Shafts

Our basic self-aligning bearings are smooth running and handle up to ½° of shaft misalignment in any direction. Bearings have end seals (unless noted) to keep lubricants in and dirt out. Maximum temperature is 176° F. To install, slide bearings into a housing (not included) and secure with two external retaining rings (sold individually). For use with hardened shafts made of steel, chrome-plated steel, or stainless steel with a hardness of at least Rockwell C60, unless noted.

Bearings for Support Rail Shafts—Designed for applications requiring maximum rigidity.

Standard bearings have an acetal shell and steel balls.

Corrosion-resistant bearings have an acetal shell and stainless steel balls.

For Shaft Dia.	Dynamic Load Cap., lbs.	OD (A)	*For Housing ID* Min.	Max.	O'all Lg. (B)	(C)	For Round Shafts		For Support Rail Shafts Wd. (E)			External Retaining Ring	
Standard Bearings													
1/4″	35	1/2″	0.5000″	0.5007″	3/4″	0.515″	8974T14	$27.98	—	—	—	9968K22	$0.33
3/8″	55	5/8″	0.6250″	0.6257″	7/8″	0.703″	8974T15	31.40	—	—	—	9968K23	.38
1/2″	260	7/8″	0.8750″	0.8758″	1 1/4″	1.032″	8974T1	26.05	5/16″	8974T7	$34.97	9968K24	.52
5/8″	290	1 1/8″	1.1250″	1.1258″	1 1/2″	1.112″	8974T2	27.20	3/8″	8974T8	36.02	9968K25	.79
3/4″	430	1 1/4″	1.2500″	1.2510″	1 5/8″	1.272″	8974T3	28.40	7/16″	8974T9	37.43	9968K26	.79
1″	810	1 9/16″	1.5625″	1.5635″	2 1/4″	1.886″	8974T4	47.32	9/16″	8974T11	56.47	9968K27	1.13
1 1/4″	1,400	2″	2.0000″	2.0012″	2 5/8″	2.011″	8974T5	69.55	5/8″	8974T12	83.72	9968K28	1.63
1 1/2″	2,000	2 3/8″	2.3750″	2.3762″	3″	2.422″	8974T6	80.00	3/4″	8974T13	97.33	9968K29	2.73
2″	3,500	3″	3.0000″	3.0012″	4″	3.206″	—	—	1″	6489K88	201.20	9968K31	14.16
Corrosion-Resistant Bearings													
1/4″	35	1/2″	0.5000″	0.5007″	3/4″	0.515″	6630K11	63.22	—	—	—	9968K22	.33
3/8″	55	5/8″	0.6250″	0.6257″	7/8″	0.703″	9069T15	53.90	—	—	—	9968K23	.38
3/8″	70	5/8″	0.6250″	0.6255″	7/8″	0.699″	6630K12■▲	50.80	—	—	—	9968K23	.38
1/2″	185	7/8″	0.8750″	0.8755″	1 1/4″	1.032″	6630K13■	66.76	5/16″	6630K49■	68.27	9968K24	.52
5/8″	290	1 1/8″	1.1250″	1.1258″	1 1/2″	1.112″	9069T2	43.54	3/8″	9069T8	59.42	9968K25	.79
5/8″	430	1 1/8″	1.1250″	1.1255″	1 1/2″	1″	6630K21■	80.35	—	—	—	9968K25	.79
3/4″	430	1 1/4″	1.2500″	1.2510″	1 5/8″	1.272″	9069T3	45.40	7/16″	9069T9	61.80	9968K26	.79
3/4″	790	1 1/4″	1.2500″	1.2505″	1 5/8″	1.285″	6630K22■	91.59	—	—	—	9968K26	.79
1″	810	1 9/16″	1.5625″	1.5635″	2 1/4″	1.886″	9069T4	75.70	9/16″	9069T11	93.14	9968K27	1.13
1″	1,300	1 9/16″	1.5625″	1.5630″	2 1/4″	1.901″	6630K23■	116.14	—	—	—	9968K27	1.13
1 1/4″	1,400	2″	2.0000″	2.0012″	2 5/8″	2.011″	9069T5	111.34	—	—	—	9968K28	1.63
1 1/4″	1,600	2″	2.0000″	2.0008″	2 5/8″	2.031″	6630K24■	214.53	—	—	—	9968K28	1.63
1 1/2″	2,000	2 3/8″	2.3750″	2.3762″	3″	2.422″	9069T6	128.46	3/4″	9069T13	160.60	9968K29	2.73
1 1/2″	2,700	2 3/8″	2.3750″	2.3760″	3″	2.442″	6630K25■	229.02	—	—	—	9968K29	2.73
2″	3,500	3″	3.0000″	3.0012″	4″	3.206″	6630K19	225.82	1″	9069T14	281.90	9968K31	14.16

■Hardness must be at least Rockwell C50. ▲No end seals.

High-Load Self-Aligning Linear Ball Bearings

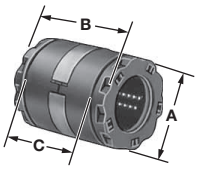

For Round Shafts

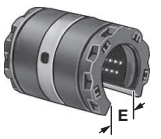

For Support Rail Shafts

Designed to handle heavy loads, these bearings have higher load capacities than comparable linear ball bearings. They are for use with round, end-supported shafts and handle up to ½° of shaft misalignment in any direction. Bearings have end seals (unless noted) to keep lubricants in and dirt out. Maximum temperature is 176° F.

To install, slide bearings into a housing (not included) and secure with two external retaining rings (sold individually), except bearing for 3/16″ shaft dia. does not accept retaining rings. For use with hardened shafts made of steel, chrome-plated steel, or stainless steel with a hardness of at least Rockwell C50, unless noted.

Bearings for Support Rail Shafts—Designed for applications requiring maximum rigidity.

Standard bearings have an acetal shell and steel balls.

Corrosion-resistant bearings have an acetal shell and stainless steel balls.

For Shaft Dia.	Dynamic Load Cap., lbs.	OD (A)	*For Housing ID* Min.	Max.	O'all Lg. (B)	(C)	For Round Shafts		For Support Rail Shafts Wd. (E)			External Retaining Ring	
Standard Bearings													
3/16″	35	3/8″	0.3750″	0.3755″	9/16″	—	6489K71▲	$24.29	—	—	—	—	—
1/4″	60	1/2″	0.5000″	0.5005″	3/4″	0.511″	6489K61▲	16.99	—	—	—	9968K22	$0.33
3/8″	100	5/8″	0.6250″	0.6255″	7/8″	0.699″	6489K62▲	19.34	—	—	—	9968K23	.38
1/2″	265	7/8″	0.8750″	0.8755″	1 1/4″	1.032″	6489K5	29.06	5/16″	6489K7	$38.98	9968K24	.52
5/8″	620	1 1/8″	1.1250″	1.1255″	1 1/2″	1 1/8″	6489K51	31.14	11/32″	6489K56	41.28	9968K25	.79
3/4″	1,100	1 1/4″	1.2500″	1.2505″	1 5/8″	1.285″	6489K52	31.69	13/32″	6489K57	43.14	9968K26	.79
1″	1,900	1 9/16″	1.5625″	1.5630″	2 1/4″	1.901″	6489K53	57.34	17/32″	6489K58	70.21	9968K27	1.13
1 1/4″	2,300	2″	2.0000″	2.0008″	2 5/8″	2.031″	6489K54	93.01	5/8″	6489K59	119.63	9968K28	1.63
1 1/2″	3,800	2 3/8″	2.3750″	2.3760″	3″	2.442″	6489K55	105.55	3/4″	6489K6	130.71	9968K29	2.73
2″	3,500	3″	3.0000″	3.0012″	4″	3.206″	6489K68★	161.24	—	—	—	9968K31	14.16
Corrosion-Resistant Bearings													
1/2″	260	7/8″	0.8750″	0.8758″	1 1/4″	1.032″	9069T1	41.74	5/16″	9069T7	57.68	9968K24	.52
5/8″	430	1 1/8″	1.1250″	1.1255″	1 1/2″	1″	—	—	11/32″	6630K51	79.70	9968K25	.79
3/4″	790	1 1/4″	1.2500″	1.2505″	1 5/8″	1.285″	—	—	13/32″	6630K52	88.19	9968K26	.79
1″	1,300	1 9/16″	1.5625″	1.5630″	2 1/4″	1.901″	—	—	17/32″	6630K53	117.49	9968K27	1.13
1 1/4″	1,600	2″	2.0000″	2.0008″	2 5/8″	2.031″	—	—	5/8″	6630K54	237.10	9968K28	1.63
1 1/2″	2,700	2 3/8″	2.3750″	2.3760″	3″	2.442″	—	—	3/4″	6630K55	257.71	9968K29	2.73
Metric Standard Bearings (Dimensions in mm)													
8	70	16	16.000	16.015	25	16.2	6232K31▲	21.63	—	—	—	9968K32	.61
12	200	22	22.000	22.018	32	22.6	6232K32▲	23.84	—	—	—	9968K33	.97
12	235	22	22.000	22.018	32	22.3	—	—	7	6232K37▲	31.95	9968K33	.97
16	495	26	26.000	26.018	36	24.6	6232K33	31.77	9	6232K38	41.30	9968K34	1.32
25	1,500	40	40.000	40.021	58	43.7	6232K34	57.37	12.5	6232K39	71.61	9968K35	2.21
30	1,800	47	47.000	47.021	68	51.7	6232K35	94.91	13.7	6232K4	114.98	9968K36	2.93
40	3,000	62	62.000	62.025	80	60.3	6232K36	107.71	19	6232K41	130.71	9968K37	3.36

▲No end seals. ★Hardness must be at least Rockwell C60.

Fixed-Alignment Linear Ball Bearings

The popular choice for applications where shaft misalignment is unlikely.

To install, slide bearings into a housing (not included) and secure with two external retaining rings (sold individually). For use with hardened shafts made of steel, chrome-plated steel, or stainless steel with a hardness of at least Rockwell C56, unless otherwise indicated.

Bearings for Support Rail Shafts—Designed for applications requiring maximum rigidity.

Steel bearings have a steel shell and balls. End seals keep lubricants in and dirt out. Maximum temperature is 176° F.

High-temperature steel bearings have a steel shell and balls. They do not have end seals. Maximum temperature is 500° F.

Stainless steel bearings have a 440C stainless steel shell and stainless steel balls for corrosion resistance. End seals keep lubricants in and dirt out. Temperature range is -4° to 248° F.

High-temperature stainless steel bearings have a 440C stainless steel shell and stainless steel balls for corrosion resistance. They do not have end seals. Maximum temperature is 600° F (load capacity is 60% at maximum temperature). For use with hardened shafts made of stainless steel with a hardness of at least Rockwell C56.

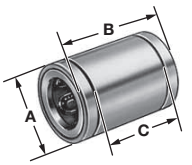

For Round Shafts

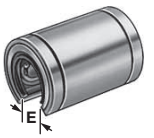

For Support Rail Shafts

For Shaft Dia.	OD (A)	For Housing ID Min.	For Housing ID Max.	O'all Lg. (B)	(C)	For Round Shafts: Dynamic Load Cap., lbs.			For Support Rail Shafts: Dynamic Load Cap., lbs.	Wd. (E)			External Retaining Ring	
Steel														
1/4"	1/2"	0.5000"	0.5007"	3/4"	0.51"	45	60595K11	$17.57	—	—	—	—	9968K22	$0.33
1/4"	1/2"	0.5000"	0.5007"	1 3/8"	1.02"	70	60595K41	30.28	—	—	—	—	9968K22	.33
3/8"	5/8"	0.6250"	0.6257"	7/8"	0.64"	50	60595K12	22.14	—	—	—	—	9968K23	.38
3/8"	5/8"	0.6250"	0.6257"	1 19/32"	1.27"	75	60595K42	31.02	—	—	—	—	9968K23	.38
1/2"	7/8"	0.8750"	0.8758"	1 1/4"	0.96"	115	60595K73	23.80	115	5/16"	60595K81	$29.03	9968K24	.52
1/2"	7/8"	0.8750"	0.8758"	2 3/8"	1.93"	180	60595K43	33.30	—	—	—	—	9968K24	.52
5/8"	1 1/8"	1.1250"	1.1258"	1 1/2"	1.1"	170	60595K74	26.03	170	3/8"	60595K82	31.84	9968K25	.79
5/8"	1 1/8"	1.1250"	1.1258"	2 13/16"	2.21"	275	60595K44	36.60	—	—	—	—	9968K25	.79
3/4"	1 1/4"	1.1250"	1.1251"	1 5/8"	1.17"	190	60595K75	29.80	190	7/16"	60595K83	36.34	9968K26	.79
3/4"	1 1/4"	1.1250"	1.1251"	3 3/32"	2.33"	305	60595K45	41.76	—	—	—	—	9968K26	.79
1"	1 9/16"	1.5625"	1.5635"	2 1/4"	1.76"	220	60595K76	48.45	220	9/16"	60595K84	57.71	9968K27	1.13
1"	1 9/16"	1.5625"	1.5635"	4 9/32"	3.51"	350	60595K46	67.96	—	—	—	—	9968K27	1.13
1 1/4"	2"	2.0000"	2.0010"	2 5/8"	2.01"	350	60595K77	67.24	350	5/8"	60595K85	82.26	9968K28	1.63
1 1/4"	2"	2.0000"	2.0012"	5"	4.01"	560	60595K47	98.78	—	—	—	—	9968K28	1.63
1 1/2"	2 3/8"	2.3750"	2.3762"	3"	2.41"	490	60595K78	90.89	490	3/4"	60595K86	110.88	9968K29	2.73
1 1/2"	2 3/8"	2.3750"	2.3762"	5 11/16"	4.82"	770	60595K48	134.56	—	—	—	—	9968K29	2.73
2"	3"	3.0000"	3.0012"	4"	3.19"	855	60595K79	147.16	855	1"	60595K87	180.54	9968K31	14.16
High-Temperature Steel														
1/4"	1/2"	0.5000"	0.5005"	3/4"	0.52"	15	6064K51	23.88	—	—	—	—	9968K22	.33
3/8"	5/8"	0.6250"	0.6255"	7/8"	0.64"	35	6064K52	26.92	—	—	—	—	9968K23	.38
1/2"	7/8"	0.8750"	0.8755"	1 1/4"	0.97"	85	6064K53	28.69	60	5/16"	6064K73▲	38.82	9968K24	.52
5/8"	1 1/8"	1.1250"	1.1255"	1 1/2"	1.11"	150	6064K59	30.65	105	3/8"	6064K79▲	41.28	9968K25	.79
3/4"	1 1/4"	1.2500"	1.2505"	1 5/8"	1.17"	200	6064K54	31.23	140	7/16"	6064K74▲	43.74	9968K26	.79
1"	1 9/16"	1.5625"	1.5630"	2 1/4"	1.76"	350	6064K55	57.07	240	9/16"	6064K75▲	70.92	9968K27	1.13
1 1/4"	2"	2.0000"	2.0010"	2 5/8"	2.01"	520	6064K56	96.17	400	5/8"	6064K76▲	121.69	9968K28	1.63
1 1/2"	2 3/8"	2.3750"	2.3760"	3"	2.42"	770	6064K57	109.05	600	3/4"	6064K77▲	138.43	9968K29	2.73
Stainless Steel														
1/4"	1/2"	0.5000"	0.5005"	3/4"	0.51"	45	6262K81	48.02	—	—	—	—	9968K22	.33
3/8"	5/8"	0.6250"	0.6255"	7/8"	0.64"	50	6262K82	49.26	—	—	—	—	9968K23	.38
1/2"	7/8"	0.8750"	0.8755"	1 1/4"	0.96"	110	6262K83	52.87	110	11/32"	6262K93	60.81	9968K24	.52
5/8"	1 1/8"	1.1250"	1.1255"	1 1/2"	1.1"	170	6262K84	58.13	170	3/8"	6262K94	66.83	9968K25	.79
3/4"	1 1/4"	1.2500"	1.2505"	1 5/8"	1.17"	190	6262K85	66.30	190	7/16"	6262K95	76.23	9968K26	.79
1"	1 9/16"	1.5625"	1.5630"	2 1/4"	1 3/4"	220	6262K86	101.43	220	9/16"	6262K96	116.66	9968K27	1.13
1 1/4"	2"	2.0000"	2.0010"	2 5/8"	2"	350	6262K87	148.66	350	5/8"	6262K97	170.94	9968K28	1.63
1 1/2"	2 3/8"	2.3750"	2.3760"	3"	2.41"	490	6262K88	197.17	490	3/4"	6262K98	226.77	9968K29	2.73
High-Temperature Stainless Steel														
1/8"	5/16"	0.3124"	0.3130"	1/2"	0.354"	5	61495K21	123.74	—	—	—	—	9968K72	5.55
3/16"	3/8"	0.3749"	0.3755"	9/16"	0.417"	5	61495K22	123.74	—	—	—	—	9968K73	2.19
1/4"	1/2"	0.4999"	0.5005"	3/4"	0.499"	15	61495K23	123.74	—	—	—	—	9968K74	2.23

▲Housing ID is 0.001" less than min. shown and 0.003" more than max. shown.

Linear and Rotary Ball Bearings

Engineered for simultaneous linear and rotary motion, these bearings allow rotary speeds up to 3,600 rpm. They are for use with round, end-supported shafts. The fixed-alignment design is for use where shaft misalignment is unlikely. End seals keep lubricants in and dirt out. Shell and balls are steel. Maximum temperature is 200° F.

To install, slide bearings into a housing (not included) and secure with two retaining rings (sold individually). For use with hardened shafts made of steel or chrome-plated steel with a hardness of at least Rockwell C58; stainless steel with a hardness of at least Rockwell C50.

Note: When used for combination linear/rotary motion, the load capacity must not exceed the dynamic load capacity for rotary motion listed.

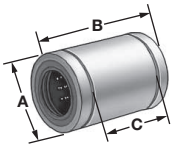

For Shaft Dia.	Dynamic Load Cap., lbs.: Linear Motion, lbs.	Dynamic Load Cap., lbs.: Rotary Motion @ 500 rpm	OD (A)	For Housing ID Min.	For Housing ID Max.	O'all Lg. (B)	(C)	Bearings		External Retaining Ring	
3/8"	70	29	5/8"	0.625"	0.626"	7/8"	9/16"	6485K11	$75.00	9968K23	$0.38
1/2"	185	76	7/8"	0.875"	0.876"	1 1/4"	7/8"	6485K12	78.57	9968K24	.52
3/4"	325	133	1 1/4"	1.250"	1.251"	1 5/8"	1 1/16"	6485K14	85.71	9968K26	.79
1"	450	185	1 9/16"	1.563"	1.563"	2 1/4"	1 5/8"	6485K15	151.79	9968K27	1.13
1 1/2"	935	383	2 3/8"	2.375"	2.376"	3"	2 1/4"	6485K17	266.07	9968K29	2.73

Metric Fixed-Alignment Linear Ball Bearings

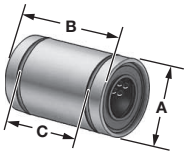

For Round Shafts

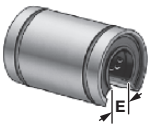

For Support Rail Shafts

The metric option for applications where shaft misalignment is unlikely.

To install, slide bearings into a housing (not included) and secure with two external retaining rings (sold individually) except bearings for 3 and 4 mm shaft diameters, which do not have ring grooves. For use with hardened shafts made of steel with a hardness of at least Rockwell C60, or stainless steel with a hardness of at least Rockwell C56.

Bearings for Support Rail Shafts—Designed for applications requiring maximum rigidity.

Steel bearings have a steel shell and balls. End seals keep lubricant in and dirt out (except bearings for 3 and 4 mm shaft diameters, which do not have end seals). Maximum temperature is 176° F.

High-temperature steel bearings have a steel shell and balls. They do not have end seals. Maximum temperature is 230° F.

High-temperature stainless steel bearings have a 440C stainless steel shell and stainless steel balls for corrosion resistance. End seals keep lubricants in and dirt out. Temperature range is -4° to 248° F.

For Shaft Dia., mm	Dynamic Load Cap., lbs.	OD, mm (A)	*For Housing ID* Min., mm	Max., mm	O'all Lg., mm (B)	Lg., mm (C)	For Round Shafts		For Support Rail Shafts Wd., mm (E)			External Retaining Ring	
Steel													
3	15	7	7.000	7.015	10	—	61205K71	$19.20	—	—	—	—	—
4	15	8	8.000	8.015	12	—	61205K72	17.02	—	—	—	—	—
5	35	10	10.000	10.018	15	10.2	61205K73	18.76	—	—	—	9968K51	$0.29
6	45	12	12.000	12.018	19	13.5	61205K74	18.87	—	—	—	9968K52	.29
8	55	16	16.000	16.018	25	16.5	61205K75	19.71	—	—	—	9968K34	1.32
10	80	19	19.000	19.021	29	22	61205K76	19.33	6.8	61205K91	$23.58	9968K54	.58
13	110	23	23.000	23.021	32	23	61205K78	21.38	—	—	—	9968K55	.75
16	130	26	26.000	26.021	36	24.9	61205K79	26.29	10	61205K92	32.07	9968K34	1.32
20	190	32	32.000	32.025	45	31.5	61205K81	31.44	10	61205K93	38.36	9968K57	1.11
25	220	40	40.000	40.025	58	44.1	61205K82	43.53	12.5	61205K94	53.11	9968K35	2.21
30	350	47	47.000	47.025	68	52.1	61205K83	56.84	12.5	61205K95	69.36	9968K36	2.93
35	375	52	52.000	52.030	70	49.5	61205K84	70.78	—	—	—	9968K59	2.47
40	485	62	62.000	62.030	80	60.6	61205K85	89.98	16.8	61205K96	109.76	9968K37	3.36
High-Temperature Steel													
3	15	7	7.000	7.015	10	—	63255K41	26.26	—	—	—	—	—
4	15	8	8.000	8.015	12	—	63255K42	22.49	—	—	—	—	—
5	35	10	10.000	10.018	15	10.2	63255K43	19.96	—	—	—	9968K51	.29
6	45	12	12.000	12.018	19	13.5	63255K44	17.70	—	—	—	9968K52	.29
8	60	15	15.000	15.018	24	17.5	63255K45	17.74	—	—	—	9968K53	.29
10	80	19	19.000	19.021	29	22	63255K46	18.17	—	—	—	9968K54	.58
13	110	23	23.000	23.021	32	23	63255K47	20.06	—	—	—	9968K55	.75
16	170	28	28.000	28.021	37	26.5	63255K48	22.98	11	63255K72	28.06	9968K56	.90
20	195	32	32.000	32.025	42	30.5	63255K49	28.09	11	63255K73	34.28	9968K57	1.11
25	220	40	40.000	40.025	59	41	63255K51	39.60	12	63255K74	48.30	9968K35	2.21
30	350	45	45.000	45.025	64	44.5	63255K52	53.64	15	63255K75	65.43	9968K58	1.70
35	375	52	52.000	52.030	70	49.5	63255K53	69.21	—	—	—	9968K59	2.47
40	485	60	60.000	60.030	80	60.5	63255K54	85.57	20	63255K77	104.38	9968K61	1.96
High-Temperature Stainless Steel													
8	55	16	16.000	16.018	25	16.5	6368K81	51.94	—	—	—	9968K32	.61
12	110	22	22.000	22.021	32	22.9	6368K82	58.70	—	—	—	9968K33	.97
16	130	26	26.000	26.021	36	24.9	6368K83	67.28	—	—	—	9968K34	1.32
20	190	32	32.000	32.025	45	31.5	6368K84	80.36	—	—	—	9968K57	1.11
25	220	40	40.000	40.025	58	44.1	6368K85	108.98	—	—	—	9968K35	2.21

Sleeve Bearing Blocks for Washdown Environments

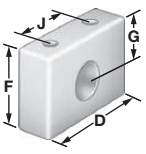

With Two Mounting Holes



With Four Mounting Holes

Made from a single piece of slippery UHMW plastic, these bearings have no cracks or crevices, so they're easy to clean. All are for use with round, end-supported shafts and have a fixed-alignment design for applications where shaft misalignment is unlikely. Temperature range is -200° to 180° F.

For Shaft Dia.	Static Load Cap., lbs.	O'all Wd. (D)	O'all Ht. (F)	Ctr. Ht. (G)	*Mounting Holes* *Center-to-Center* (J)	(K)	Thread Size (L)		
With Two Mounting Holes—1″ Overall Length									
3/8″	80	3 1/4″	1 1/4″	9/16″	1 5/8″	—	5/16″-18	4178K11	$30.00
1/2″	80	3 1/4″	1 1/4″	11/16″	1 5/8″	—	5/16″-18	4178K12	30.00
5/8″	80	3 1/4″	1 5/8″	7/8″	1 5/8″	—	5/16″-18	4178K13	36.00
3/4″	80	3 1/4″	1 3/4″	15/16″	1 5/8″	—	5/16″-18	4178K14	38.00
1″	80	3 1/4″	2 3/16″	1 3/16″	1 5/8″	—	5/16″-18	4178K15	40.00
With Four Mounting Holes—2″ Overall Length									
3/8″	160	3 1/4″	1 1/4″	9/16″	1 5/8″	1″	5/16″-18	4178K1	35.09
1/2″	160	3 1/4″	1 1/4″	11/16″	1 5/8″	1″	5/16″-18	4178K2	36.36
5/8″	160	3 1/4″	1 5/8″	7/8″	1 5/8″	1″	5/16″-18	4178K3	41.82
3/4″	160	3 1/4″	1 3/4″	15/16″	1 5/8″	1″	5/16″-18	4178K4	43.64
1″	160	3 1/4″	2 3/16″	1 3/16″	1 5/8″	1″	5/16″-18	4178K5	49.74

Mounted Linear Sleeve Bearings

Virtually maintenance free, these bearings have slippery, chemical-resistant liners that don't require added lubrication. They are designed to be dimensionally compatible drop-in replacements for mounted linear ball bearings.

Bearings for support rail shafts are designed for applications requiring maximum rigidity.

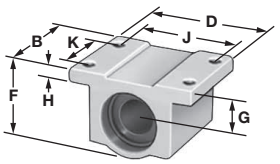

For Round Shafts

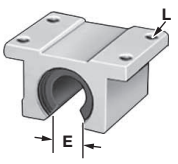

For Support Rail Shafts

Fixed Alignment

For use where shaft misalignment is unlikely. Liner is chemical-resistant PTFE. Shell and housing are 6061 aluminum. Shaft clearance is 0.001″. Temperature range is -400° to 375° F. For use with shafts that have a hardness of at least Rockwell B25 and 8-16 rms micron finish.

For Shaft Dia.	Static Load Cap., lbs.	O'all Lg. (B)	O'all Wd. (D)	Wd. (E)	O'all Ht. (F)	Ctr. Ht. (G)	Base Thick. (H)	Mounting Holes Center-to-Center (J)	(K)	Dia. (L)		
For Round Shafts												
1/4″	935	1 3/16″	1 5/8″	____	13/16″	7/16″	3/16″	1.313″	3/4″	1/8″	8649T1	$45.65
3/8″	1,600	1 5/16″	1 3/4″	____	15/16″	1/2″	3/16″	1.438″	7/8″	1/8″	8649T2	47.20
1/2″	3,100	1 11/16″	2″	____	1 1/4″	11/16″	1/4″	1.688″	1″	1/8″	8649T3	48.90
5/8″	4,600	1 15/16″	2 1/2″	____	1 5/8″	7/8″	1/4″	2 1/8″	1″	3/16″	8649T4	53.79
3/4″	6,100	2 1/16″	2 3/4″	____	1 3/4″	15/16″	5/16″	2 3/8″	1″	3/16″	8649T5	56.70
1″	11,000	2 13/16″	3 1/4″	____	2 3/16″	1 3/16″	3/8″	2 7/8″	1″	3/16″	8649T6	80.24
1 1/4″	16,000	3 5/8″	4″	____	2 13/16″	1 1/2″	7/16″	3 1/2″	2″	3/16″	8649T7	111.65
1 1/2″	22,000	4″	4 3/4″	____	3 1/4″	1 3/4″	1/2″	4 1/8″	2″	1/4″	8649T8	141.17
2″	40,000	5″	6″	____	4 1/16″	2 1/8″	5/8″	5 1/4″	3″	3/8″	8649T9	222.56
For Support Rail Shafts												
1/4″	935	1 3/16″	1 5/8″	1/16″	3/4″	7/16″	3/16″	1.313″	3/4″	1/8″	8649T11	46.93
3/8″	1,600	1 5/16″	1 3/4″	1/8″	7/8″	1/2″	3/16″	1.438″	7/8″	1/8″	8649T12	56.75
1/2″	3,100	1 11/16″	2″	5/16″	1 1/8″	11/16″	1/4″	1.688″	1″	1/8″	8649T13	61.16
5/8″	4,600	1 15/16″	2 1/2″	3/8″	1 7/16″	7/8″	1/4″	2 1/8″	1 1/8″	3/16″	8649T14	66.38
3/4″	6,100	2 1/16″	2 3/4″	7/16″	1 9/16″	15/16″	5/16″	2 3/8″	1 1/4″	3/16″	8649T15	72.63
1″	11,000	2 13/16″	3 1/4″	9/16″	2″	1 3/16″	3/8″	2 7/8″	1 3/4″	3/16″	8649T16	99.73
1 1/4″	16,000	3 5/8″	4″	5/8″	2 1/2″	1 1/2″	7/16″	3 1/2″	2″	3/16″	8649T17	140.05
1 1/2″	22,000	4″	4 3/4″	3/4″	2 7/8″	1 3/4″	1/2″	4 1/8″	2 1/2″	1/4″	8649T18	168.78
2″	40,000	5″	6″	1″	3 5/8″	2 1/8″	5/8″	5 1/4″	3 1/4″	3/8″	8649T19	257.23

Self Aligning

Allow up to 1/2° of shaft misalignment in any direction. Liner is chemical-resistant, anodized Frelon (a PTFE-filled composite) for wear resistance and strength. Shell and housing are aluminum. Temperature range is -400° to 400° F.

For use with steel shafts that have a hardness of at least Rockwell C60 and an 8-16 rms micron finish. Note: Not for use with bare aluminum, chrome-plated steel, or 300 series stainless steel shafts.

To Order: Please specify tight shaft clearance (0.0005″) or extra shaft clearance (0.0015″). Bearings with 0.0005″ shaft clearance are best for precision applications. Bearings with 0.0015″ shaft clearance are less likely to bind on your shaft than bearings with 0.0005″ shaft clearance.

For Shaft Dia.	Static Load Cap., lbs.	O'all Lg. (B)	O'all Wd. (D)	Wd. (E)	O'all Ht. (F)	Ctr. Ht. (G)	Base Thick. (H)	Mounting Holes Center-to-Center (J)	(K)	Dia. (L)		
For Round Shafts												
1/4″	600	1 3/16″	1 5/8″	____	13/16″	7/16″	3/16″	1.313″	3/4″	1/8″	6374K114	$47.90
1/4″	1,200	2 1/2″	1 5/8″	____	13/16″	7/16″	3/16″	1.313″	3/4″	1/8″	6374K211	93.18
3/8″	1,000	1 5/16″	1 3/4″	____	15/16″	1/2″	3/16″	1.438″	7/8″	1/8″	6374K117	50.02
3/8″	2,000	2 3/4″	1 3/4″	____	15/16″	1/2″	3/16″	1.438″	7/8″	1/8″	6374K214	100.06
1/2″	1,900	1 11/16″	2″	____	1 1/4″	11/16″	1/4″	1.688″	1″	1/8″	6374K124	55.33
1/2″	3,900	3 1/2″	2″	____	1 1/4″	11/16″	1/4″	1.688″	1″	1/8″	6374K217	110.80
5/8″	2,900	1 15/16″	2 1/2″	____	1 5/8″	7/8″	5/16″	2 1/8″	1 1/8″	3/16″	6374K127	62.00
5/8″	5,800	4″	2 1/2″	____	1 5/8″	7/8″	5/16″	2 1/8″	1 1/8″	3/16″	6374K221	123.94
3/4″	3,800	2 1/16″	2 3/4″	____	1 3/4″	15/16″	5/16″	2 3/8″	1 1/4″	3/16″	6374K131	65.18
3/4″	7,600	4 1/2″	2 3/4″	____	1 3/4″	15/16″	5/16″	2 3/8″	1 1/4″	3/16″	6374K224	130.57
1″	7,000	2 13/16″	3 1/4″	____	2 3/16″	1 3/16″	3/8″	2 7/8″	1 3/4″	3/16″	6374K134	93.67
1″	14,000	6″	3 1/4″	____	2 3/16″	1 3/16″	3/8″	2 7/8″	1 3/4″	3/16″	6374K227	180.53
1 1/4″	10,000	3 5/8″	4″	____	2 13/16″	1 1/2″	7/16″	3 1/2″	2″	3/16″	6374K137	135.32
1 1/4″	20,000	7 1/2″	4″	____	2 13/16″	1 1/2″	7/16″	3 1/2″	2″	3/16″	6374K231	270.94
1 1/2″	14,000	4″	4 3/4″	____	3 1/4″	1 3/4″	1/2″	4 1/8″	2 1/2″	1/4″	6374K141	170.83
1 1/2″	28,000	9″	4 3/4″	____	3 1/4″	1 3/4″	1/2″	4 1/8″	2 1/2″	1/4″	6374K234	329.56
2″	25,000	5″	6″	____	4 1/16″	2 1/8″	5/8″	5 1/4″	3 1/4″	3/8″	6374K144	259.43
2″	50,000	10″	6″	____	4 1/16″	2 1/8″	5/8″	5 1/4″	3 1/4″	3/8″	6374K237	466.91
For Support Rail Shafts												
1/2″	1,900	1 1/2″	2″	5/16″	1 1/8″	11/16″	1/4″	1.688″	1″	1/8″	6374K311	64.75
1/2″	3,900	3 1/2″	2″	5/16″	1 1/8″	11/16″	1/4″	1.688″	1″	1/8″	6374K341	125.94
5/8″	2,900	1 3/4″	2 1/2″	3/8″	1 7/16″	7/8″	5/16″	2 1/8″	1 1/8″	3/16″	6374K314	74.90
5/8″	5,800	4″	2 1/2″	3/8″	1 7/16″	7/8″	5/16″	2 1/8″	1 1/8″	3/16″	6374K344	139.66
3/4″	3,800	1 7/8″	2 3/4″	7/16″	1 9/16″	15/16″	5/16″	2 3/8″	1 1/4″	3/16″	6374K317	80.35
3/4″	7,600	4 1/2″	2 3/4″	7/16″	1 9/16″	15/16″	5/16″	2 3/8″	1 1/4″	3/16″	6374K347	150.40
1″	7,000	2 5/8″	3 1/4″	9/16″	1 15/16″	1 3/16″	3/8″	2 7/8″	1 3/4″	3/16″	6374K321	113.47
1″	14,000	6″	3 1/4″	9/16″	1 15/16″	1 3/16″	3/8″	2 7/8″	1 3/4″	3/16″	6374K351	212.43
1 1/4″	10,000	3 3/8″	4″	5/8″	2 1/2″	1 1/2″	7/16″	3 1/2″	2″	3/16″	6374K324	170.08
1 1/4″	20,000	7 1/2″	4″	5/8″	2 1/2″	1 1/2″	7/16″	3 1/2″	2″	3/16″	6374K354	306.80
1 1/2″	14,000	3 3/4″	4 3/4″	3/4″	2 7/8″	1 3/4″	1/2″	4 1/8″	2 1/2″	1/4″	6374K327	200.81
1 1/2″	28,000	9″	4 3/4″	3/4″	2 7/8″	1 3/4″	1/2″	4 1/8″	2 1/2″	1/4″	6374K357	376.45
2″	25,000	4 3/4″	6″	1″	3 5/8″	2 1/8″	5/8″	5 1/4″	3 1/4″	3/8″	6374K331	359.64
2″	50,000	10″	6″	1″	3 5/8″	2 1/8″	5/8″	5 1/4″	3 1/4″	3/8″	6374K361	535.35

High-Speed Mounted Linear Sleeve Bearings

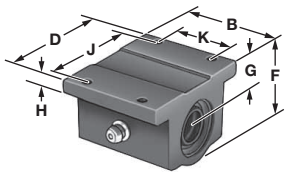

For Round Shafts

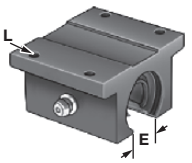

For Support Rail Shafts

A 0.002″ thick ceramic liner makes high speeds as well as rapid acceleration and deceleration possible. Bearings are self aligning and handle up to 2° of shaft misalignment in any direction. All require lubrication and are designed to be dimensionally compatible drop-in replacements for linear ball bearings. A grease fitting allows easy lubrication. Seals keep lubricants in and dirt out. Bearing shell and housing are 6061 aluminum. Shaft clearance is 0.0005″ to 0.0006″. Center height tolerance (G) is ±0.003″. Temperature range is -200° to 400°F.

For use with steel and aluminum shafts that have a hardness of at least Rockwell C60 and an 8-16 rms micron finish. Note: Not for use with ceramic-coated aluminum or 300 series stainless steel shafts.

Bearings for support rail shafts are designed for applications requiring maximum rigidity.

For Shaft Dia.	Static Load Cap., lbs.	O'all Lg. (B)	O'all Wd. (D)	O'all Ht. (F)	Ctr. Ht. (G)	Base Thick. (H)	*Mounting Holes* Center-to-Center (J)	(K)	Dia. (L)	For Round Shafts		For Support Rail Shafts Wd. (E)		
1/4″	935	1 3/16″	1 5/8″	13/16″	7/16″	3/16″	1.313″	3/4″	1/8″	6674K11	$43.97	1/8″	6674K27	$59.74
3/8″	1,600	1 5/16″	1 3/4″	15/16″	1/2″	3/16″	1.438″	7/8″	1/8″	6674K12	52.47	1/8″	6674K28	60.98
1/2″	3,100	1 11/16″	2″	1 1/4″	11/16″	1/4″	1.688″	1″	1/8″	6674K13	56.14	5/16″	6674K21	62.04
5/8″	4,600	1 15/16″	2 1/2″	1 5/8″	7/8″	5/16″	2 1/8″	1 1/8″	3/16″	6674K14	58.46	3/8″	6674K22	67.72
3/4″	6,100	2 1/16″	2 3/4″	1 3/4″	15/16″	5/16″	2 3/8″	1 1/4″	3/16″	6674K15	65.18	7/16″	6674K23	75.69
1″	11,000	2 13/16″	3 1/4″	2 3/16″	13/16″	3/8″	2 7/8″	1 3/4″	3/16″	6674K16	93.37	9/16″	6674K24	107.22
1 1/4″	16,000	3 5/8″	4″	2 13/16″	1 1/2″	7/16″	3 1/2″	2″	3/16″	6674K17	133.75	5/8″	6674K25	154.43
1 1/2″	22,000	4″	4 3/4″	3 1/4″	1 3/4″	1/2″	4 1/8″	2 1/2″	1/4″	6674K18	166.54	3/4″	6674K26	181.66
2″	40,000	5″	6″	4 1/16″	2 1/8″	5/8″	5 1/4″	3 1/4″	3/8″	6674K19	231.23	1″	6674K29	267.27

Flange-Mounted Linear Sleeve Bearings

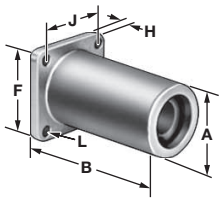

Chemical Resistant



High Speed

The flange-mount design is good for vertical linear motion applications. Shell and housing are 6061 aluminum. Bearings are for use on shafts with a hardness of at least Rockwell C35 and an 8-12 rms micron finish.

Chemical-Resistant Bearings—The Frelon liner on these bearings allows them to stand up to a wider range of chemicals than other flange-mounted linear sleeve bearings. They are for use with steel, stainless steel, or ceramic-coated aluminum shafts. Note: Do not uses with bare aluminum or chrome-plated steel shafts. All are self aligning to compensate for up to 1/2° of shaft misalignment. Temperature range is -400° to 400°F. **To Order:** Please specify tight shaft clearance (0.0005″) or extra shaft clearance (0.0015″). Bearings with 0.0005″ shaft clearance are best for precision applications. Bearings with 0.0015″ shaft clearance are less likely to bind on your shaft than bearings with 0.0005″ shaft clearance.

High-Speed Bearings—A 0.002″ thick ceramic liner makes high speeds as well as rapid acceleration and deceleration possible. Handle up to 2° of shaft misalignment. A grease fitting allows easy lubrication. Seals keep contaminants out. Bearings are for use with steel, stainless steel, or aluminum shafts. For optimum performance, these bearings require lubrication. Shaft clearance is 0.0005″. Temperature range is -200° to 400°F.

				Chemical Resistant					High Speed				
For Shaft Dia.	OD (A)	O'all Ht. (F)	Flange Thick. (H)	Static Load Cap., lbs.	O'all Lg. (B)	*Mounting Holes* Ctr.-to-Ctr. (J)	Dia. (L)			Static Load Cap., lbs.	O'all Lg. (B)	*Mounting Holes* Ctr.-to-Ctr. (J)	Dia. (L)		
3/8″	7/8″	1 1/4″	3/16″	1,000	1.31″	1″	1/8″	64825K14	$100.42	1,600	1 5/16″	7/8″	1/8″	6675K14	$38.18
1/2″	1 1/4″	1 5/8″	1/4″	1,900	1 11/16″	1 1/4″	3/16″	64825K11	81.64	3,100	1 11/16″	1 1/4″	3/16″	6675K11	48.68
1/2″	1 1/4″	1 5/8″	1/4″	3,900	3 3/8″	1 1/4″	3/16″	64825K21	144.63						
3/4″	1 3/4″	2 3/8″	3/8″	2,900	2 1/16″	1 3/4″	3/16″	64825K12	94.09	6,100	2 1/16″	1 3/4″	3/16″	6675K12	58.88
3/4″	1 3/4″	2 3/8″	3/8″	5,800	4 3/16″	1 3/4″	3/16″	64825K22	184.46						
1″	2 1/4″	2 3/4″	1/2″	3,800	2 13/16″	2 1/8″	1/4″	64825K13	128.40	11,000	2 13/16″	2 1/8″	1/4″	6675K13	73.90
1″	2 1/4″	2 3/4″	1/2″	7,600	5 5/8″	2 1/8″	1/4″	64825K23	233.24						
1 1/4″	2 1/2″	3″	1/2″							16,000	3 5/8″	2 1/4″	1/4″	6675K16	116.66
1 1/4″	2 5/8″	3 7/8″	5/8″	10,000	3 5/8″	3″	3/8″	64825K15	183.91						

Self-Aligning Linear Sleeve Bearings

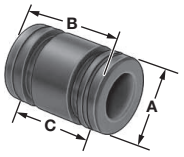

For Round Shafts

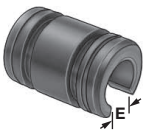

For Support Rail Shafts

Our basic self-aligning bearings allow up to 2° of shaft misalignment in any direction. Virtually maintenance free, they have a nonabrasive, chemical-resistant PTFE liner that doesn't require lubrication. All are designed to be dimensionally compatible drop-in replacements for linear ball bearings. Shell is aluminum with a 0.002″ thick ceramic coating for added corrosion resistance. Shaft clearance is 0.001″ for 1/4″ to 1 1/4″ shaft dia.; 0.0015″ for 1 1/2″ and 2″ shaft dia. Temperature range is -400° to 375°F.

To install, slide bearings into a housing (not included) and secure with two external retaining rings (sold individually). For use with stainless steel or aluminum shafts that have a hardness of at least Rockwell B25 and an 8-16 rms micron finish.

Bearings for support rail shafts are designed for applications requiring maximum rigidity.

For Shaft Dia.	Static Load Cap., lbs.	OD (A)	*For Housing ID* Min.	Max.	O'all Lg. (B)	(C)	For Round Shafts		For Support Rail Shafts Wd. (E)		External Retaining Ring	
1/4″	935	1/2″	0.5000″	0.5005″	3/4″	0.517″	9533T1	$13.26	1/8″	9533T11	$19.91	9968K22	$0.33
3/8″	1,600	5/8″	0.6250″	0.6255″	7/8″	0.642″	9533T2	14.58	3/16″	9533T12	20.97	9968K23	.38
1/2″	3,100	7/8″	0.8750″	0.8755″	1 1/4″	0.969″	9533T3	15.24	5/16″	9533T13	24.16	9968K24	.52
5/8″	4,600	1 1/8″	1.1250″	1.1255″	1 1/2″	1.116″	9533T4	16.57	3/8″	9533T14	24.51	9968K25	.79
3/4″	6,100	1 1/4″	1.2500″	1.2505″	1 5/8″	1.178″	9533T5	17.23	7/16″	9533T15	26.75	9968K26	.79
1″	11,000	1 9/16″	1.5625″	1.5630″	2 1/4″	1.765″	9533T6	31.82	9/16″	9533T16	45.01	9968K27	1.13
1 1/4″	16,000	2″	2.0000″	2.0010″	2 5/8″	2.055″	9533T7	64.96	5/8″	9533T17	75.18	9968K28	1.63
1 1/2″	22,000	2 3/8″	2.3750″	2.3760″	3″	2.43″	9533T8	78.87	3/4″	9533T18	85.90	9968K29	2.73
2″	40,000	3″	3.0000″	3.0010″	4″	3.21″	9533T9	111.35	1″	9533T19	129.62	9968K31	14.16

Fixed-Alignment Linear Sleeve Bearings

Select these bearings for applications where shaft misalignment is unlikely. All are designed to be dimensionally compatible drop-in replacements for linear ball bearings. To install, slide bearings into a housing (not included) and secure with two external retaining rings (sold individually).

Bearings for support rail shafts are for applications requiring maximum rigidity.

Chemical-Resistant Bearings—Have a chemical-resistant Frelon liner (a PTFE-filled composite) for wear resistance and strength. Temperature range is -400° to 400°F. For use with steel shafts that have a hardness of at least Rockwell C35.

Bearings with an aluminum shell have good corrosion resistance and are for use on shafts that have an 8-12 Ra micron finish. Metric sizes have a shaft clearance of 0.0005″. Note: Not for use with bare aluminum, chrome-plated steel, or 300 series stainless steel shafts. To Order: For inch sizes, please specify tight shaft clearance (0.0005″) or extra shaft clearance (0.0015″). Bearings with 0.0005″ shaft clearance are best for precision applications. Bearings with 0.0015″ shaft clearance are less likely to bind on your shaft than bearings with 0.0005″ shaft clearance.

Bearings with a 316 stainless steel shell have excellent corrosion resistance and are for use on shafts that have an 8-16 rms micron finish. Shaft clearance is 0.0005″. Note: Not for use with chrome-plated steel.

Electrical-Insulating Bearings—These fiberglass bearings are lightweight, nonmagnetic, and won't conduct electricity. They have a chemical-resistant PTFE liner with no abrasive fillers. Shaft clearance is 0.001″. Temperature range is -400° to 375°F. For use with steel or stainless steel shafts that have a hardness of at least Rockwell B25 and an 8-16 rms micron finish.

Food-Grade Bearings—Made of FDA-listed materials for use in food applications, these bearings also have excellent chemical and corrosion resistance. All bearings have a 304 stainless steel shell and Rulon 641 liner. Shaft clearance is 0.001″. Temperature range is -400° to 375°F. For use with steel or stainless steel shafts that have a hardness of at least Rockwell B25 and an 8-16 rms micron finish.

Dust-Resistant Bearings—Ridges on the inside of these bearings wipe away dust and debris. Bearings are made entirely of lightweight, corrosion- and chemical-resistant PTFE. Shaft clearance is 0.0013″ to 0.0036″. Temperature range is -40° to 194°F. For use with steel and stainless steel shafts that have a hardness of at least Rockwell C50 and a 4-16 rms micron finish.

High-Speed Bearings—A ceramic liner makes high speeds as well as rapid acceleration and deceleration possible. They require a thin film of lubrication. Shell is 6061 aluminum for good corrosion resistance. Shaft clearance is 0.0005″ for 1/4″ to 5/8″ shaft dia.; 0.0008″ for 3/4″ and 1″ shaft dia. Temperature range is -200° to 400°F. For use with steel and stainless steel shafts with a hardness of at least Rockwell C60 and an 8-16 rms micron finish.

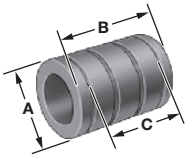

Chemical-Resistant Bearing for Round Shafts

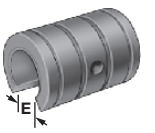

Chemical-Resistant Bearing for Support Rail Shafts


Electrical-Insulating and Food-Grade Bearing for Round Shafts


Dust-Resistant Bearing


High-Speed Bearing

For Shaft Dia.	Static Load Cap., lbs.	OD (A)	For Housing ID Min.	For Housing ID Max.	O'all Lg. (B)	(C)	For Round Shafts		For Support Rail Shafts Wd. (E)			External Retaining Ring	
Chemical Resistant—With 6061 Aluminum Shell													
3/16″	220	3/8″	0.3755″	0.3764″	9/16″	0.435″	5986K65	$16.68	—	—	—	9968K42	$0.29
1/4″	600	1/2″	0.5006″	0.5017″	3/4″	0.519″	5986K66	16.68	3/16″	5986K761	$24.18	9968K22	.33
3/8″	1,000	5/8″	0.6256″	0.6267″	7/8″	0.644″	5986K67	18.52	1/4″	5986K764	26.38	9968K23	.38
1/2″	1,900	7/8″	0.8758″	0.8771″	1 1/4″	0.971″	5986K68	19.28	5/16″	5986K767	26.76	9968K24	.52
5/8″	2,900	1 1/8″	1.1258″	1.1271″	1 1/2″	1.116″	5986K69	21.48	3/8″	5986K771	28.16	9968K25	.79
3/4″	3,800	1 1/4″	1.2510″	1.2525″	1 5/8″	1.178″	5986K71	21.94	7/16″	5986K774	30.04	9968K26	.79
1″	7,000	1 9/16″	1.5635″	1.5650″	2 1/4″	1.765″	5986K72	40.54	9/16″	5986K781	51.22	9968K27	1.13
1 1/4″	10,000	2″	2.0012″	2.0030″	2 5/8″	2.015″	5986K73	68.12	5/8″	5986K784	85.20	9968K28	1.63
1 1/2″	14,000	2 3/8″	2.3762″	2.3780″	3″	2.428″	5986K74	78.12	3/4″	5986K787	97.20	9968K29	2.73
2″	25,000	3″	3.0012″	3.0030″	4″	3.210″	5986K75	136.54	1″	5986K791	170.12	9968K31	14.16
Chemical Resistant—With 316 Stainless Steel Shell													
1/4″	300	1/2″	0.5006″	0.5017″	3/4″	0.519″	6396K31	39.40	—	—	—	9968K22	.33
3/8″	510	5/8″	0.6256″	0.6267″	7/8″	0.644″	6396K32	41.71	—	—	—	9968K23	.38
1/2″	975	7/8″	0.8758″	0.8771″	1 1/4″	0.971″	6396K33	45.64	—	—	—	9968K24	.52
5/8″	1,400	1 1/8″	1.1258″	1.1271″	1 1/2″	1.116″	6396K34	48.46	—	—	—	9968K25	.79
3/4″	1,900	1 1/4″	1.2510″	1.2525″	1 5/8″	1.178″	6396K35	49.44	—	—	—	9968K26	.79
1″	3,500	1 9/16″	1.5635″	1.5650″	2 1/4″	1.765″	6396K36	91.53	—	—	—	9968K27	1.13
1 1/4″	5,100	2″	2.0012″	2.0030″	2 5/8″	2.015″	6396K37	190.33	—	—	—	9968K28	1.63
1 1/2″	7,000	2 3/8″	2.3762″	2.3780″	3″	2.428″	6396K38	176.31	—	—	—	9968K29	2.73
Metric Chemical Resistant—With 6061 Aluminum Shell (Dimensions in mm)													
5	510	12	12.016	12.043	22	14.280	60605K91	18.95	—	—	—	9968K52	.29
8	925	16	16.016	16.043	25	16.280	60605K92	18.95	—	—	—	9968K32	.61
12	1,700	22	22.020	22.053	32	22.640	60605K93	22.96	—	—	—	9968K33	.97
16	2,600	26	26.020	26.053	36	24.640	60605K94	25.57	—	—	—	9968K34	1.32
20	4,100	32	32.025	32.064	45	31.260	60605K95	26.11	—	—	—	9968K57	1.11
25	6,700	40	40.025	40.064	58	43.800	60605K96	48.26	—	—	—	9968K35	2.21
30	9,400	47	47.025	47.064	68	51.800	60605K97	81.10	—	—	—	9968K36	2.93
Electrical Insulating—With Fiberglass Shell													
1/2″	3,100	7/8″	0.8750″	0.8755″	1 1/4″	0.975″	8356K12	21.01	—	—	—	9968K24	.52
5/8″	4,600	1 1/8″	1.1250″	1.1255″	1 1/2″	1.116″	8356K13	27.32	—	—	—	9968K25	.79
3/4″	6,100	1 1/4″	1.2500″	1.2505″	1 5/8″	1.178″	8356K14	31.52	—	—	—	9968K26	.79
1″	11,000	1 9/16″	1.5625″	1.5630″	2 1/4″	1.765″	8356K15	42.02	—	—	—	9968K27	1.13
Food Grade—With 304 Stainless Steel Shell													
3/8″	325	5/8″	0.6250″	0.6255″	7/8″	0.642″	6676K61	23.18	3/16″	6676K71	30.12	9968K23	.38
1/2″	625	7/8″	0.8750″	0.8755″	1 1/4″	0.969″	6676K62	24.64	5/16″	6676K72	32.02	9968K24	.52
5/8″	935	1 1/8″	1.1250″	1.1255″	1 1/2″	1.116″	6676K63	26.32	3/8″	6676K73	34.22	9968K25	.79
3/4″	1,200	1 1/4″	1.2500″	1.2505″	1 5/8″	1.178″	6676K64	32.84	7/16″	6676K74	42.69	9968K26	.79
1″	2,200	1 9/16″	1.5625″	1.5630″	2 1/4″	1.765″	6676K65	43.23	9/16″	6676K75	56.19	9968K27	1.13
Dust Resistant													
1/2″	555	7/8″	0.8750″	0.8758″	1 1/4″	1.012″	2570K11	6.49	—	—	—	9968K24	.52
5/8″	990	1 1/8″	1.1250″	1.1258″	1 1/2″	1.095″	2570K12	6.71	—	—	—	9968K25	.79
3/4″	1,400	1 1/4″	1.2500″	1.2510″	1 5/8″	1.000″	2570K13	7.31	—	—	—	9968K26	.79
1″	2,000	1 9/16″	1.5625″	1.5630″	2 1/4″	1.864″	2570K4	13.31	—	—	—	9968K27	1.13
High Speed—With 6061 Aluminum Shell													
1/4″	935	1/2″	0.5000″	0.5005″	3/4″	0.517″	6673K11	8.82	—	—	—	9968K22	.33
3/8″	1,600	5/8″	0.6250″	0.6255″	7/8″	0.642″	6673K12	9.50	—	—	—	9968K23	.38
1/2″	3,100	7/8″	0.8750″	0.8755″	1 1/4″	0.969″	6673K13	10.98	—	—	—	9968K24	.52
5/8″	4,600	1 1/8″	1.1250″	1.1255″	1 1/2″	1.116″	6673K14	11.27	—	—	—	9968K25	.79
3/4″	6,100	1 1/4″	1.2500″	1.2505″	1 5/8″	1.178″	6673K15	12.75	—	—	—	9968K26	.79
1″	8,100	1 1/4″	1.2500″	1.2505″	1 5/8″	1.178″	6673K35	15.86	—	—	—	9968K26	.79

About Linear-Motion Carriages and Guide Rails

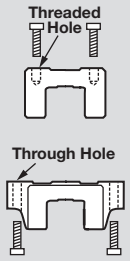

Carriage Mounting Options

We offer a variety of carriages and guide rails to meet your precision automation needs.

Ball-Bearing Carriages (pages 1144-1148)— Our most common carriages have ball bearings to smoothly move your loads at high speeds with low friction. Ball-bearing carriages are some of the highest capacity linear motion products we offer. They're often used in parallel rail configurations.

Sleeve-Bearing Carriages (pages 1148-1149)— An economical alternative to ball-bearing carriages, these products are great for harsh environments because they are less likely to be hindered by dirt and debris. They do, however, require greater force to move because they create more friction than ball-bearing carriages.

Carriage Mounting Options

Threaded-hole carriages allow mounting from the top of your load into the carriage. They generally have a smaller footprint than through-hole carriages. All mounting holes are threaded.

Through-hole carriages have a flanged design with unthreaded or threaded mounting holes through the flange. This design generally allows mounting from the top of your load into the carriage as well as from the bottom of the carriage into your load.

Carriages and guide rails generally provide greater precision and rigidity in a smaller footprint than shafts and pillow-block linear ball bearings starting on page 1135. For lighter loads or less-precise applications, you may wish to consider low-friction slides or track rollers starting on page 1150.

Ball-Bearing Carriages and Guide Rails


Threaded-Hole Carriage and Guide Rail (Sold Separately)


Through-Hole Carriage and Guide Rail (Sold Separately)

Profile of Guide Rails with Carriage

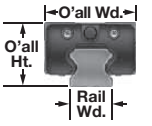

Standard Guide Rail


High-Load Guide Rail

Our most popular carriages and guide rails provide precise, rigid linear motion. Install them in any position without affecting load capacity. Maximum temperature is 176° F.

Threaded-hole carriages allow mounting from the top of your load into the carriage. ***Through-hole carriages*** allow mounting from the top of your load into the carriage as well as from the bottom of the carriage into your load (unless noted).

Standard Carriages— Made of steel with rubber end seals to keep lubricants in and dirt out. All have steel ball bearings and four mounting holes.

High-Load Carriages— Steel cylindrical roller bearings allow high load capacities. An internal retainer separates the roller bearings and keeps them moving uniformly, providing smoother, quieter operation. Carriages are made of steel with an internal tube that delivers oil to the roller bearings. All have six mounting holes.

Guide Rails— Made of hardened and ground steel. High-load guide rails include mounting screws. ***To Order:*** For all rails, please specify length from the choices listed below, or go to www.mcmaster.com and specify the part number listed to see other available lengths. ***Also Available:*** Mounting hole plugs for standard guide rails. Please ask for 6709K9 and specify your rail's socket head cap screw size.

Also Available: Replacement carriages and guide rails. Please ask for 6709K999 and specify the manufacturer and manufacturer's model number for the carriage or guide rail. If you are ordering a guide rail, specify the length of the rail you need.

Note: Carriages can only be used with guide rails listed on the same line in the table.

Carriages									Guide Rails			
Rail Wd., mm	Dynamic Load Cap., lbs.	O'all Ht., mm	O'all Size Wd., mm	O'all Size Lg., mm	Mount. Holes Screw Size/ Dia., mm	Mount. Holes Dp., mm		Each	Available Lengths, mm	Socket Head Cap Screw Size		Per mm
Standard Carriages and Guide Rails												
Threaded-Hole Carriages												
15	1,872	28	34	57	M4	5	6709K12	$125.45	220; 460; 820; 1,600	M4	6709K33	$0.32
20	3,102	30	44	74	M5	6	6709K14	134.55	280; 460; 820; 1,240	M5	6709K43	0.39
23	4,473	40	48	83	M6	8	6709K16	161.82	280; 460; 820; 1,240	M6	6709K53	0.40
28	6,294	45	60	98	M8	10	6709K18	178.18	280; 440; 1,000; 1,240	M8	6709K63	0.42
34	8,385	55	70	109	M8	12	6709K21	194.55	280; 440; 1,000; 1,240	M8	6709K73	0.44
45	13,488	70	86	139	M10	17	6709K23	272.73	570; 885; 1,200; 1,620	M12	6709K83	0.50
53	19,894	80	100	163	M12	18	6709K25	403.64	780; 1,020; 1,260; 1,500	M14	6709K93	0.69
Unthreaded Through-Hole Carriages												
15	1,872	24	47	57	4.5	7	6709K11	125.45	220; 460; 820; 1,600	M4	6709K33	0.32
20	3,102	30	63	74	6	10	6709K13	134.55	280; 460; 820; 1,240	M5	6709K43	0.39
23	4,473	36	70	83	7	10	6709K15	161.82	280; 460; 820; 1,240	M6	6709K53	0.40
28	6,294	42	90	98	9	10	6709K17	178.18	280; 440; 1,000; 1,240	M8	6709K63	0.42
34	8,385	48	100	109	9	13	6709K19	194.55	280; 440; 1,000; 1,240	M8	6709K73	0.44
45	13,488	60	120	139	11	15	6709K22	272.73	570; 885; 1,200; 1,620	M12	6709K83	0.50
53	19,894	70	140	163	14	17	6709K24	403.64	780; 1,020; 1,260; 1,500	M14	6709K93	0.69
High-Load Carriages and Guide Rails												
Threaded-Hole Carriages												
15	2,585	24	34	68	M4	5	9215T1	180.27	180; 360; 480; 660	M4	9215T41	0.27
20	5,260	30	44	86	M5	6	9215T2	192.15	240; 480; 840; 1,200	M5	9215T42	0.33
23	7,216	36	48	98	M6	9	9215T3	213.85	240; 480; 840; 1,200	M6	9215T43	0.34
Threaded Through-Hole Carriages												
15	2,585	24	47	68	M5	7	9215T21	189.36	180; 360; 480; 660	M4	9215T41	0.27
20	5,260	30	63	86	M6	10	9215T22★	201.78	240; 480; 840; 1,200	M5	9215T42	0.33
23	7,216	36	70	98	M8	10	9215T23	214.58	240; 480; 840; 1,200	M6	9215T43	0.34

★ Mount from top of load into carriage only.

Extended-Life Ball-Bearing Carriages and Guide Rails

Compared to conventional carriages, these will last longer. Carriages are made of steel with rubber end seals to keep lubricants in and dirt out. All have steel ball bearings and four mounting holes. Maximum temperature is 176° F.

Threaded-hole carriages allow mounting from the top of your load into the carriage. ***Through-hole carriages*** allow mounting from the top of your load into the carriage as well as from the bottom of the carriage into your load.

Versa-Mount Carriages— An internal resin cage separates the ball bearings to minimize noise, reduce heat buildup, and eliminate ball collisions to extend the life of the bearings. Versa mount means you can install these carriages in any position without affecting load capacity.

Horizontal-Mount Carriages— A compact design gives these carriages high rigidity and stability, which makes them the choice for horizontal mounting. The orientation of the ball bearings on the guide rails extends the life of the bearings. In addition to rubber end seals, these carriages also have rubber side seals for added protection from contaminants.

Quiet-Ride Horizontal-Mount Carriages— Just like the *Horizontal-Mount Carriages*, but with an internal plastic cage that separates the ball bearings to minimize noise, reduce heat buildup, and eliminate ball collisions to extend the life of the bearings.

Guide Rails— Made of hardened and ground steel. **To Order:** For rails, please specify length from the choices listed below. **Also Available:** Mounting hole plugs. Please ask for 6709K9 and specify your rail's socket head cap screw size.

Note: Carriages can only be used with guide rails listed on the same line in the table.



Threaded-Hole Carriage and Guide Rail (Sold Separately)



Through-Hole Carriage and Guide Rail (Sold Separately)

Profile of Guide Rails with Carriage

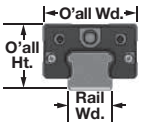

Versa-Mount Guide Rail



Horizontal-Mount Guide Rail

Rail Wd., mm	Dynamic Load Cap., lbs.	O'all Ht., mm	Carriages: O'all Size Wd., mm	Lg., mm	Mount. Holes Screw Size/ Dia., mm	Dp., mm		Each	Guide Rails: Available Lengths, mm	Socket Head Cap Screw Size		Per mm
Versa-Mount Carriages and Guide Rails												
Threaded-Hole Carriages												
15	3,192	28	34	64	M4	5	6688K11	$125.45	220; 460; 640; 820	M4	6688K33	$0.35
20	5,013	30	44	79	M5	5	6688K12	140.00	280; 460; 820; 1,000	M5	6688K43	0.40
23	7,126	40	48	92	M6	8	6688K13	165.45	280; 460; 820; 1,240	M6	6688K53	0.41
28	10,071	45	60	106	M8	10	6688K14	185.45	440; 760; 1,000; 1,640	M8	6688K63	0.42
34	14,005	55	70	122	M8	12	6688K15	198.18	440; 760; 1,000; 1,640	M8	6688K73	0.44
45	18,614	70	86	140	M10	17	6688K16	280.00	570; 885; 1,200; 1,620	M12	6688K83	0.53
53	28,775	80	100	171	M12	18	6688K17	398.18	780; 1,020; 1,260; 1,500	M14	6688K93	0.73
Threaded Through-Hole Carriages												
15	3,192	24	47	64	M5	8	6688K21	125.45	220; 460; 640; 820	M4	6688K33	0.35
20	5,013	30	63	79	M6	10	6688K22	140.00	280; 460; 820; 1,000	M5	6688K43	0.40
23	7,126	36	70	92	M8	12	6688K23	165.45	280; 460; 820; 1,240	M6	6688K53	0.41
28	10,071	42	90	106	M10	15	6688K24	185.45	440; 760; 1,000; 1,640	M8	6688K63	0.42
34	14,005	48	100	122	M10	15	6688K25	198.18	440; 760; 1,000; 1,640	M8	6688K73	0.44
45	18,614	60	120	140	M12	18	6688K26	280.00	570; 885; 1,200; 1,620	M12	6688K83	0.53
53	28,775	70	140	171	M14	21	6688K27	398.18	780; 1,020; 1,260; 1,500	M14	6688K93	0.73
Horizontal-Mount Carriages and Guide Rails												
Threaded-Hole Carriages												
15	2,138	24	34	57	M4	7	6250K18	134.00	220; 460; 820; 1,600	M3	6250K1	0.29
20	2,810	28	42	66	M5	8	6250K32	134.00	280; 460; 820; 1,240	M5	6250K2	0.31
23	4,564	33	48	83	M6	9	6250K42	134.00	280; 460; 820; 1,600	M6	6250K3	0.35
28	6,744	42	60	97	M8	12	6250K52	168.00	440; 600; 1,000; 1,640	M6	6250K4	0.36
34	9,375	48	70	111	M8	12	6250K62	170.00	440; 760; 1,000; 1,640	M8	6250K7	0.42
45	12,432	60	86	126	M10	15	6250K72	262.00	570; 885; 1,200; 1,620	M10	6250K6	0.58
48	20,030	68	100	156	M12	20	6250K82	352.00	780; 1,020; 1,500; 1,980	M12	6250K9	0.61
Unthreaded Through-Hole Carriages												
15	2,138	24	52	57	4.5	7	6250K19	146.00	220; 460; 820; 1,600	M3	6250K1	0.29
20	2,810	28	59	66	5.5	9	6250K37	150.00	280; 460; 820; 1,240	M5	6250K2	0.31
23	4,564	33	73	83	7	10	6250K47	156.00	280; 460; 820; 1,600	M6	6250K3	0.35
28	6,744	42	90	97	9	10	6250K57	198.00	440; 600; 1,000; 1,640	M6	6250K4	0.36
34	9,375	48	100	111	9	13	6250K67	199.74	440; 760; 1,000; 1,640	M8	6250K7	0.42
45	12,432	60	120	126	11	15	6250K77	310.00	570; 885; 1,200; 1,620	M10	6250K6	0.58
48	20,030	68	140	156	14	17	6250K87	412.00	780; 1,020; 1,500; 1,980	M12	6250K9	0.61
Quiet-Ride Horizontal-Mount Carriages and Guide Rails												
Threaded-Hole Carriages												
15	3,305	24	34	57	M4	7	6713K11	129.09	220; 460; 820; 1,600	M3	6250K1	0.29
20	4,406	28	42	67	M5	8	6713K12	129.09	280; 460; 820; 1,240	M5	6250K2	0.31
23	7,081	33	48	83	M6	9	6713K13	129.09	280; 460; 820; 1,600	M6	6250K3	0.35
28	10,454	42	60	97	M8	12	6713K14	161.82	440; 600; 1,000; 1,640	M6	6250K4	0.36
34	14,522	48	70	111	M8	12	6713K15	169.09	440; 760; 1,000; 1,640	M8	6250K7	0.42

Guide Rail Covers

Also known as linear way covers, these easy-to-install covers protect your carriages and guide rails from dirt, dust, chips, and other contaminants. Highly resistant to coolants and oils, they're made of 0.01" thick PVC-coated seamless polyester fabric, bonded to PVC stiffeners. Maximum temperature is 170° F.

To Order: Please specify expanded length in feet (compressed length is 1/13 the expanded length).

Mounting kits include everything you need to mount the cover on both ends of your guide rail via clip-on, compression, hook-and-loop, flange mounting, or double-sided tape.

For Rail Wd., mm	O'all Wd., mm	O'all Ht., mm	Covers	Per Ft.	Mounting Kits	Each
15	56	30	94365K91	$31.67	94365K11	$33.57
20	61	36	94365K92	34.29	94365K12	33.57
23	67	36	94365K93	38.81	94365K13	33.57
28	72	43	94365K94	43.10	94365K14	34.29
33	73	27	94365K81	45.95	94365K21	34.29
34	76	42	94365K95	43.81	94365K15	33.57
37	80	32	94365K82	52.38	94365K22	37.38
42	84	34	94365K83	61.43	94365K23	35.00
45	88	50	94365K99	54.05	94365K16	37.38
53	108	58	94365K87	66.19	94365K17	40.24
69	108	34	94365K84	63.57	94365K24	37.38
90	132	40	94365K86	98.33	94365K25	39.76



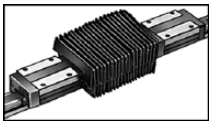

Maintenance-Free Ball Bearing Carriages and Guide Rails

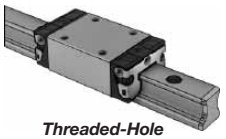

Threaded-Hole Carriage and Guide Rail (Sold Separately)



Through-Hole Carriage and Guide Rail (Sold Separately)

Profile of Guide Rail with Carriage

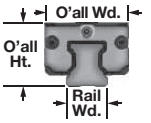

An internal reservoir continuously supplies built-in oil for maintenance-free operation, making these carriages and guide rails great for hard-to-reach places where maintenance would be difficult to perform. They can be mounted in any position.

Threaded-hole carriages allow mounting from the top of your load into the carriage. ***Through-hole carriages*** allow mounting from the top of your load into the carriage as well as from the bottom of the carriage into your load.

Maintenance-Free Carriages and Guide Rails— The carriages and ball bearings are steel; guide rails are hardened and ground steel.

Corrosion-Resistant Maintenance-Free Carriages and Guide Rails— The carriages, ball bearings, and guide rails are 400 series stainless steel.

To Order: For all guide rails, please specify length from the choices listed below.

Note: Carriages can only be used with guide rails listed on the same line in the table.

Rail Wd., mm	Dynamic Load Cap., lbs.	O'all Ht., mm	Carriages: O'all Size Wd., mm	O'all Size Lg., mm	Mount. Holes Screw Size	Mount. Holes Dp., mm		Each	Guide Rails: Available Lengths, mm	Socket Head Cap Screw Size		Per mm
Maintenance-Free Carriages and Guide Rails												
Threaded-Hole Carriages												
15	1,753	24	34	58	M4	6	9184T31	$107.54	160; 280; 460; 820	M4	9184T41	$0.37
20	4,226	30	44	75	M5	7.5	9184T32	111.29	280; 460; 820; 1,000	M5	9184T42	0.32
23	5,125	36	48	86	M6	9	9184T33	121.32	280; 460; 820; 1,000	M6	9184T43	0.29
28	7,126	42	60	98	M8	12	9184T34	145.08	440; 760; 1,240; 2,040	M8	9184T44	0.34
34	9,419	48	70	111	M8	13	9184T35	156.33	440; 760; 1,240; 2,040	M8	9184T45	0.35
Threaded Through-Hole Carriages												
15	1,753	24	47	58	M5	5	9184T51	113.80	160; 280; 460; 820	M4	9184T41	0.37
20	4,226	30	63	75	M6	8	9184T52	125.05	280; 460; 820; 1,000	M5	9184T42	0.32
23	5,125	36	70	86	M8	9	9184T53	130.05	280; 460; 820; 1,000	M6	9184T43	0.29
28	7,126	42	90	98	M10	11	9184T54	152.56	440; 760; 1,240; 2,040	M8	9184T44	0.34
34	9,419	48	100	111	M10	12	9184T55	165.09	440; 760; 1,240; 2,040	M8	9184T45	0.35
Corrosion-Resistant Maintenance-Free Carriages and Guide Rails												
Threaded-Hole Carriages												
15	1,753	24	34	58	M4	6	9184T71	139.30	160; 280; 460; 820	M4	9184T61	0.57
20	4,226	30	44	75	M5	7.5	9184T72	163.47	280; 500; 1,000; 1,480	M5	9184T62	0.45
23	5,125	36	48	86	M6	9	9184T73	186.78	280; 500; 1,000; 1,480	M6	9184T63	0.48
28	7,126	42	60	98	M8	12	9184T74	207.48	500; 760; 1,000; 2,000	M8	9184T64	0.44
34	9,419	48	70	111	M8	13	9184T75	223.61	500; 760; 1,000; 2,000	M8	9184T65	0.49

Corrosion-Resistant Ball Bearing Carriages and Guide Rails



Threaded-Hole Carriage and Guide Rail (Sold Separately)



Through-Hole Carriage and Guide Rail (Sold Separately)

Profile of Guide Rails with Carriage

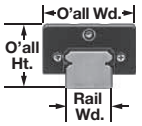

Corrosion-Resistant Guide Rail, 5708K



Corrosion-Resistant Guide Rail, 9070T



Clean-Room Corrosion-Resistant Guide Rail

The stainless steel used to make these carriages and guide rails gives you excellent corrosion resistance. All carriages and guide rails can be mounted in any position. When wall mounted, however, corrosion-resistant threaded-hole carriages provide 84% of the dynamic load capacity listed below. All carriages have four mounting holes.

Threaded-hole carriages allow mounting from the top of your load into the carriage. ***Through-hole carriages*** allow mounting from the top of your load into the carriage as well as from the bottom of the carriage into your load.

Corrosion-Resistant Threaded-Hole Carriages— Made of Type 440C stainless steel and acetal, these carriages have lubricating end seals that are made of oil-impregnated polyolefin. All have Type 440C stainless steel ball bearings. Maximum temperature is 122° F.

Corrosion-Resistant Unthreaded Through-Hole Carriages— Made of 400 series stainless steel and resin with rubber end seals to keep lubricants in and dirt out. Ball bearings are 400 series stainless steel. Maximum temperature is 176° F.

Clean-Room Corrosion-Resistant Carriages— Suitable for clean room use, these carriages are made entirely of Type 440C and Type 304 stainless steel. End seals and end plates keep lubricants in and dirt out. Maximum temperature is 266° F.

Guide Rails— Made of hardened and ground 400 series stainless steel. *Clean-room corrosion-resistant guide rails* include mounting screws. **To Order:** For all rails, please specify length from the choices listed below. **Also Available:** Mounting hole plugs. For 5708K rails, please ask for 5708K1 and specify your rail's socket head cap screw size. For 9070T rails, please ask for 6709K9 and specify your rail's socket head cap screw size.

Note: Carriages can only be used with guide rails listed on the same line in the table.

Rail Wd., mm	Dynamic Load Cap., lbs.	O'all Ht., mm	Carriages: O'all Size Wd., mm	O'all Size Lg., mm	Mount. Holes Screw Size/ Dia., mm	Mount. Holes Dp., mm		Each	Guide Rails: Available Lengths, mm	Socket Head Cap Screw Size		Per mm
Corrosion-Resistant Carriages and Guide Rails												
Threaded-Hole Carriages												
15	1,877	24	34	66	M4	6	5708K25	$189.20	100; 220; 340; 400	M4	5708K99	$0.51
20	2,630	28	42	76	M5	7	5708K21	208.12	280; 500; 1,000; 1,480	M5	5708K86	0.57
23	4,226	33	48	92	M6	9	5708K22	222.64	280; 500; 1,000; 1,480	M6	5708K87	0.58
28	6,474	42	60	108	M8	12	5708K23	261.36	500; 760; 1,000; 2,000	M6	5708K88	0.65
34	8,992	48	70	121	M8	12	5708K24	319.44	500; 760; 1,000; 2,000	M8	5708K89	0.73
Unthreaded Through-Hole Carriages												
15	1,872	24	47	57	4.5	7	9070T21	289.66	160; 280; 460; 640	M4	9070T31	0.92
20	3,102	30	63	74	6	10	9070T22	353.45	280; 460; 640; 820	M5	9070T32	0.87
23	4,473	36	70	83	7	10	9070T23	396.55	280; 460; 640; 1,000	M6	9070T33	1.01
28	6,294	42	90	98	9	10	9070T24	553.45	280; 440; 760; 1,240	M8	9070T34	1.18
34	8,385	48	100	109	9	13	9070T25	696.55	280; 440; 760; 1,240	M8	9070T35	1.35
Clean-Room Corrosion-Resistant Carriages and Guide Rails												
Threaded-Hole Carriages												
15	1,119	16	32	42	M3	4	6725K5	136.25	160; 240; 560; 680	M3	6725K63	0.49
20	1,494	20	40	50	M4	6	6725K6	183.75	240; 480; 660; 840	M5	6725K73	0.55

Extra-Wide Ball Bearing Carriages and Guide Rails

With their added width and low-profile design, these carriages and guide rails have more stability to handle your off-center loads. Install them in any position without affecting load capacity. All of the carriages are made of steel with rubber end seals to keep lubricants in and dirt out. The ball bearings are steel. Maximum temperature is 176° F.

Threaded-hole carriages allow mounting from the top of your load into the carriage. ***Through-hole carriages*** allow mounting from the top of your load into the carriage as well as from the bottom of the carriage into your load.

Standard Carriages— Have six mounting holes, except 51 and 59 mm long threaded-hole carriages have four.

Extended-Life Carriages— Able to last twice as long as conventional carriages, these have an internal resin cage that separates the ball bearings to minimize noise, reduce heat buildup, and eliminate ball collisions to extend the life of the bearings. They have six mounting holes, except 59 mm long carriage has four.

Guide Rails— Made of hardened and ground steel. **To Order:** For all rails, please specify length from the choices listed below. For *standard rails*, you can also go to www.mcmaster.com and specify the part number listed below to see other available lengths. **Also Available:** Mounting hole plugs for all rails. Please ask for 6709K9 and specify your rail's socket head cap screw size.

Note: Carriages can only be used with guide rails listed on the same line in the table.



Standard Threaded-Hole Carriage and Guide Rail (Sold Separately)



Extended-Life Threaded-Hole Carriage and Guide Rail (Sold Separately)



Standard Through-Hole Carriage and Guide Rail (Sold Separately)

Profile of Guide Rails with Carriage

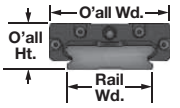

Standard Guide Rail



Extended-Life Guide Rail

Rail Wd., mm	Dynamic Load Cap., lbs.	O'all Ht., mm	Carriages: O'all Size Wd., mm	O'all Size Lg., mm	Mount. Holes Screw Size	Mount. Holes Dp., mm		Each	Guide Rails: Available Lengths, mm	Socket Head Cap Screw Size		Per mm
Standard Carriages and Guide Rails												
Threaded-Hole Carriages												
33	969	17	50	51	M4	5	6382K21	$212.00	110; 190; 310; 550	M4	6382K11	$0.73
37	1,389	21	54	59	M5	6	6382K31	220.00	130; 380; 580; 780	M4	6382K12	0.50
42	2,585	27	62	73	M6	6	6382K41	298.00	160; 280; 460; 820	M4	6382K13	0.60
69	6,115	35	100	107	M8	8	6382K51	360.00	280; 440; 760; 1,240	M6	6382K14	0.64
Threaded Through-Hole Carriages												
33	969	17	60	51	M4	6	6382K25	212.00	110; 190; 310; 550	M4	6382K11	0.73
37	1,389	21	68	59	M5	8	6382K35	220.00	130; 380; 580; 780	M4	6382K12	0.50
42	2,585	27	80	73	M6	10	6382K45	298.00	160; 280; 460; 820	M4	6382K13	0.60
69	6,115	35	120	107	M8	14	6382K55	360.00	280; 440; 760; 1,240	M6	6382K14	0.64
Extended-Life Carriages and Guide Rails												
Threaded-Hole Carriages												
37	1,852	21	54	59	M5	6	8375K11	241.18	130; 230; 480; 780	M4	8375K21	0.52
42	3,597	27	62	73	M6	6	8375K12	315.69	160; 280; 460; 820	M4	8375K31	0.59
69	7,980	35	100	107	M8	8	8375K13	382.35	280; 440; 760; 1,000	M6	8375K41	0.64

Miniature Ball Bearing Carriages and Guide Rails

When space is at a premium, these are the carriages and guide rails to choose. Install them in any position without affecting load capacity. All are made of corrosion-resistant stainless steel.

The carriages are threaded-hole carriages, which allow mounting from the top of your load into the carriage.

Standard Carriages— Made of Type 440C stainless steel. Rubber end seals and resin plates keep lubricants in and dirt out. All have stainless steel ball bearings. They also have four mounting holes, except 19 and 24.5 mm long carriages have two. Maximum temperature is 212° F, unless noted.

Clean Room Carriages— Suitable for clean room use, these carriages are made entirely of Types 440C and 304 stainless steel. End seals and plates keep lubricants in and dirt out. Carriages have four mounting holes, except 19 mm long carriage has two. Maximum temperature is 266° F.

Guide Rails— Made of hardened and ground Type 440C stainless steel. All include mounting screws. **To Order:** For rails, please specify length from the choices listed below.

Note: Carriages can only be used with guide rails listed on the same line in the table.



Standard Threaded-Hole Carriage and Guide Rail (Sold Separately)

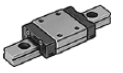

Clean Room Threaded-Hole Carriage and Guide Rail (Sold Separately)

Profile of Guide Rails with Carriage

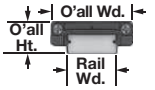

Standard Guide Rail



Clean Room Guide Rail

Rail Wd., mm	Dynamic Load Cap., lbs.	O'all Ht., mm	Carriages: O'all Size Wd., mm	O'all Size Lg., mm	Mount. Holes Screw Size	Mount. Holes Dp., mm		Each	Guide Rails: Available Lengths, mm	Socket Head Cap Screw Size		Per mm
Standard Threaded-Hole Carriages and Guide Rails												
5	151	6	12	19	M2	1.5	8438K1■	$72.16	60, 90, 120, 150	M2★	6725K23	$0.35
7	298	8	17	23.5	M2	2.5	8438K2	65.47	60, 90, 120, 180	M2	6725K33	0.38
9	406	10	20	30	M3	3	8438K3	75.53	80, 160, 220, 280	M3	6725K43	0.52
10	190	6.5	17	24.5	M2.5	1.5	9706K1	85.85	60, 120, 160, 280	M2.5★	9706K51	0.52
12	748	13	27	34	M3	3.5	8438K4	80.55	150, 200, 350, 475	M3	6725K53	0.40
14	397	9	25	31.5	M3	3	9706K2	87.07	90, 150, 240, 300	M3	9706K52	0.55
18	512	12	30	39	M3	3	9706K3	97.02	120, 180, 240, 300	M3	9706K53	0.77
24	968	14	40	44	M3	3.5	9706K4	111.53	120, 160, 320, 400	M4	9706K54	0.79
Clean Room Threaded-Hole Carriages and Guide Rails												
5	151	6	12	19	M2	1.5	6725K1	113.67	60, 90, 120, 150	M2★	6725K23	0.35
7	298	8	17	23.5	M2	2.5	6725K2	102.30	60, 90, 120, 180	M2	6725K33	0.38
9	406	10	20	30	M3	3	6725K3	118.91	80, 160, 220, 280	M3	6725K43	0.52
12	748	13	27	34	M3	3.5	6725K4	116.98	150, 200, 350, 475	M3	6725K53	0.40

■ Maximum temperature is 176° F. ★ Cap screw is low-profile.

Ultra-Miniature Ball Bearing Carriages with Guide Rails



Small enough to fit on the tip of your finger, these tiny carriages and guide rails are sized for electronic and other precision applications. They come furnished as a complete unit (a carriage on a guide rail) and can be installed in any position without affecting load capacity. Maximum temperature is 212° F.

All carriages and guide rails are made of Type 440C stainless steel. The ball bearings are Type 440C stainless steel and are not retained, so they will fall out if the carriage is removed from the guide rail. The carriages and guide rails have two threaded through-holes for mounting, except 1 mm wide rails which do not have mounting holes on their guide rails.

Mounting Bracket— For use with 1 mm wide rails. Order a mounting bracket for each end of the rail.

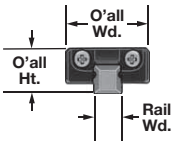

Profile of Guide Rail with Carriage

Rail Wd., mm	Dynamic Load Cap., lbs.	O'all Ht., mm	Carriage O'all Size Wd., mm	Carriage O'all Size Lg., mm	Carriage Mount. Holes Screw Size	Carriage Mount. Holes Dp., mm	Guide Rail Lg., mm	Guide Rail Mounting Screw Size		Each
1	15	2.5	4	6.5	M1	0.9	42	—	8381K27	$98.14
1	15	2.5	4	6.5	M1	0.9	84	—	8381K28	124.32
2	47	3.2	6	12.4	M1.4	1.1	32	M1	8381K29	95.92
2	47	3.2	6	12.4	M1.4	1.1	40	M1	8381K1	96.28
2	47	3.2	6	12.4	M1.4	1.1	56	M1	8381K31	100.75
2	47	3.2	6	12.4	M1.4	1.1	80	M1	8381K2	113.92
3	79	4	8	15.5	M2	1.3	40	M1.6	8381K39	89.16
3	79	4	8	15.5	M2	1.3	60	M1.6	8381K3	102.32
3	79	4	8	15.5	M2	1.3	80	M1.6	8381K41	108.22
3	79	4	8	15.5	M2	1.3	100	M1.6	8381K4	117.60
Mounting Bracket for 1 mm wide rails (order one for each end of the guide rail)									8381K9 **Each**	$11.71

Sleeve-Bearing Carriages and Guide Rails



Polyethylene Carriage and Guide Rail (Sold Separately)



Nylon-Lined Carriage and Guide Rail (Sold Separately)



Frelon-Lined Carriage and Guide Rail (Sold Separately)



PTFE-Lined Carriage and Guide Rail (Sold Separately)

Profile of Guide Rails with Carriage



Polyethylene Guide Rail | *Nylon-Lined Guide Rail* | *Frelon-Lined Guide Rail* | *PTFE-Lined Guide Rail*

The sleeve bearings in these carriages handle harsh conditions that ball bearings can't, such as dirt, water, impact, and vibration. All of the carriages and guide rails are made of corrosion-resistant materials. They do not require lubrication. Load capacity is diminished when blocks are mounted upside down, vertically, or on their side.

Threaded-hole carriages allow mounting from the top of your load into the carriage. ***Through-hole carriages*** allow mounting from the top of your load into the carriage as well as from the bottom of the carriage into your load.

Polyethylene Carriages and Guide Rails— Carriages are made of FDA- and USDA-compliant polyethylene for excellent chemical resistance. They have four threaded through-holes for mounting. Guide rails are ceramic-coated aluminum. Maximum temperature is 180° F.

Nylon-Lined Carriages and Guide Rails— Carriages are anodized aluminum and lined with bronze- and PTFE-impregnated nylon. They have four threaded holes for mounting. Guide rails are anodized aluminum. Maximum temperature is 175° F.

Frelon-Lined Carriages and Guide Rails— Carriages are anodized aluminum with a chemical-resistant Frelon liner (a PTFE-filled composite) for wear resistance and strength. They have four threaded through-holes for mounting. Guide rails are ceramic-coated anodized aluminum. Load capacity is for horizontal mounting only. Maximum temperature is 300° F.

PTFE-Lined Carriages and Guide Rails— Carriages are PTFE-lined anodized aluminum (except 15 mm wide rail with 315-lb. capacity is die cast zinc) for good abrasion resistance. All have four threaded through-holes for mounting. *Lockable carriages* also have a plastic knob on the side to lock them in place along the rail. Guide rails are anodized aluminum. Maximum temperature is 194° F.

To Order: For all rails, please specify length from the choices listed below.

Note: Carriages can only be used with guide rails listed on the same line in the table.

Rail Wd.	Static Load Cap., lbs.	Carriages O'all Ht.	Carriages O'all Size Wd.	Carriages O'all Size Lg.	Carriages Mount. Holes Screw Size	Carriages Mount. Holes Dp., mm		Each	Guide Rails Available Lengths	Guide Rails Socket Head Cap Screw Size		Per Inch
Inch Sizes												
Polyethylene Carriages and Guide Rails												
1/2"	100	9/16"	1"	1 1/4"	M3	8	9728K31	$29.94	7"; 13"; 19"; 25"; 31"	#5	9728K6	$2.61
3/4"	200	3/4"	1 1/4"	1 3/4"	M3	8	9728K41	36.25	7"; 13"; 19"; 25"; 31"	#8	9728K7	2.97
1"	300	7/8"	1 3/4"	2"	M4	10	9728K51	47.28	7"; 13"; 19"; 25"; 31"	#10	9728K8	3.33
Metric Sizes— *Dimensions in mm*												
Nylon-Lined Carriages and Guide Rails												**Per mm**
7	47	8	17	23.5	M2	3	9829K1	$19.66	110; 260; 515; 815	M2	9829K11	$0.23
9	89	10	20	30	M2	4	9829K2	21.15	120; 260; 520; 820	M2	9829K12	0.22
12	108	13	27	34	M3	6	9829K3	24.06	120; 270; 520; 820	M3	9829K13	0.19
Frelon-Lined Carriages and Guide Rails												
7	165	8	17	24	M2	6.2	9880K5	36.74	40; 70; 100; 130	M2	9880K15	0.13
9	350	10	20	30	M3	8	9880K1	38.68	55; 95; 155; 275	M2.5	9880K11	0.14
12	440	13	27	34	M3	10.7	9880K2	39.48	120; 220; 320; 470	M3	9880K12	0.14
15	700	16	32	42	M3	14.1	9880K3	41.44	150; 310; 470; 670	M3	9880K13	0.14
20	1,350	25	46	62	M4	12.5	9880K4	51.82	220; 340; 460; 880	M5	9880K14	0.16
PTFE-Lined Carriages and Guide Rails												
15	315	16	32	42	M3	11	9867K1	31.13	500; 1,000	M3	9867K11	0.07
15	900	24	47	74	M5	16	9867K2	51.11	500; 1,000	M4	9867K12	0.07
20	1,665	30	63	87	M6	19.8	9867K3	56.62	500; 1,000	M5	9867K13	0.11
23	2,250	36	70	96	M8	24.8	9867K4	66.40	500; 1,000	M6	9867K14	0.13
Lockable PTFE-Lined Carriages and Guide Rails												
15	900	24	47	74	M5	16	3249K2	56.25	500; 1,000	M4	9867K12	0.07
20	1,665	30	63	87	M6	19.8	3249K3	61.42	500; 1,000	M5	9867K13	0.11
23	2,225	36	70	96	M8	24.8	3249K4	70.58	500; 1,000	M6	9867K14	0.13

Low-Profile Sleeve-Bearing Carriages and Guide Rails

Snug mounting heights are no problem for these low-profile, low-maintenance carriages and guide rails. Use them for light to moderate loads, and frequent starting and stopping applications where tight tolerances are not required. Maximum temperature is 194° F.

Carriages— Made of chromated zinc (unless noted) with a PTFE liner for smooth, quiet operation. Their sleeve bearings handle harsh conditions that ball bearings can't, such as dirt, water, impact, and vibration. All are self-lubricating. 6723K9 and 6723K12 have two threaded holes, 6723K11 has two unthreaded through-holes, and 6723K13 has four threaded holes for mounting.

Guide Rails— Made of anodized aluminum. **To Order:** For rails, please specify length from the choices listed below.

Note: Carriages can only be used with guide rails listed on the same line in the table.

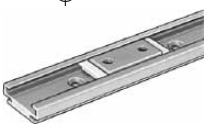

17, 27, and 40 mm Rail Wd. Carriage and Guide Rail (Sold Separately)



80 mm Rail Wd. Carriage and Guide Rail (Sold Separately)

Rail Wd., mm	Static Load Cap., lbs.	O'all Ht., mm	Carriages: O'all Size Wd., mm	O'all Size Lg., mm	Mount. Holes Screw Size/ Dia., mm	Mount. Holes Dp., mm		Each	Guide Rails: Available Lengths, mm	Mounting Screw Size		Per mm
17	11	6	10	20	M3	5	6723K9■	$5.36	250; 500; 1,000; 1,500; 2,000	M3	6723K5	$0.05
27	112	10	14	40	4	5	6723K11	6.26	250; 500; 1,000; 1,500; 2,000	M4	6723K2	0.06
40	157	10	23	50	M4	8	6723K12	14.17	250; 500; 1,000; 1,500; 2,000	M4	6723K3	0.09
80	225	12	57	80	M4	7	6723K13	22.23	250; 500; 1,000; 1,500; 2,000	M4	6723K4	0.10

■ Guide block is plastic with brass mounting plate.

Extra-Wide Sleeve-Bearing Carriages and Guide Rails

With their added width and low-profile design, these carriages and guide rails have more stability to handle off-center loads. All are anodized aluminum and can be installed in any position without affecting load capacity. Maximum temperature is 194° F.

Carriages— These self-lubricating carriages have polymer sleeve bearings to handle harsh conditions that ball bearings can't, such as dirt, water, impact, and vibration. All have four threaded holes for mounting.

Guide Rails— **To Order:** For rails, please specify length from the choices listed below.

Note: Carriages can only be used with guide rails listed on the same line in the table.

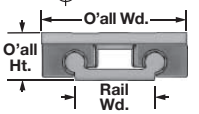

Profile of Guide Rail with Carriage



Carriage and Guide Rail (Sold Separately)

Rail Wd., mm	Static Load Cap., lbs.	O'all Ht., mm	Carriages: O'all Size Wd., mm	O'all Size Lg., mm	Mount. Holes Screw Size	Mount. Holes Dp., mm		Each	Guide Rails: Available Lengths, mm	Socket Head Cap Screw Size		Per mm
40	1,079	24	73	100	M6	19	6109K41	$64.56	500; 1,000; 1,500; 2,000	M6	6109K42	$0.08
74	1,079	24	107	100	M6	19	6109K51	68.80	500; 1,000; 1,500; 2,000	M6	6109K52	0.16
74	2,878	44	134	150	M8	38	6109K61	113.08	500; 1,000; 1,500; 2,000	M8	6109K62	0.22

Square Sleeve-Bearing Carriages and Guide Rails

No need for parallel shafts—the square design of these carriages and guide rails prevents unwanted rotation of loads. Install them in any position, but keep in mind the capacity listed is for loads directly centered on a carriage on any one of its sides. Maximum temperature is 400° F.

Carriages— Made of anodized aluminum alloy with self-lubricating Frelon-lined bearing plugs on all four sides, which you can adjust to maintain precise alignment. Frelon (a PTFE-filled composite) is chemical resistant and provides wear resistance and strength. The sleeve bearings in these carriages handle harsh conditions that ball bearings can't, such as dirt, water, impact, and vibration. All have threaded through-holes for mounting.

Guide Rails— Made of hollow Type 304 stainless steel with a 0.12″ wall thickness. **To Order:** For rails, please specify length: 2, 3, 4, or 6 ft.

Rail Supports— Made of cast aluminum. *End rail supports* have four 0.25″ dia. through-holes for mounting. *Mid rail supports* also have four through-holes for mounting (0.20″ dia. for 60255K34; 0.25″ dia. for 60255K35).

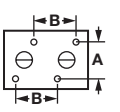



Carriage and Guide Rail (Sold Separately)

End Rail Support



Mid Rail Support



Rail Size, Sq.	Static Load Cap., lbs.	Carriages: Lg.	Mounting Holes: Screw Size	No. per Side	Ctr.-to-Ctr. (A)	Ctr.-to-Ctr. (B)		Each	Guide Rails: Per Ft.	End Rail Supports: Each	Mid Rail Supports: Each
1″	920	2¼″	8-32	4	1⅛″	1⅜″	60255K51	$109.12	60255K41	$32.70	60255K32 $57.74	60255K34 $32.08
1″	920	4″	8-32	8	1⅛″	1⅜″	60255K52	120.04	60255K41	32.70	60255K32 57.74	60255K34 32.08
1½″	1,840	3⅛″	¼″-20	4	1⅝″	1 7⁄16″	60255K53	206.04	60255K42	61.10	60255K33 80.22	60255K35 38.48
1½″	1,840	6″	¼″-20	8	1⅝″	1 7⁄16″	60255K54	226.62	60255K42	61.10	60255K33 80.22	60255K35 38.48

Replacement Frelon-Lined Screw-In Bearing Plug ..... 60255K15 Each $20.81

NEMA Motor-Mount Slides

Add your NEMA 17 or 23 motor and you're ready for precise linear motion. These highly rigid slides have a precision lead screw, ball bearing carriage, and shaft coupling already installed. Mount them horizontally and vertically.

Frame and carriage are aluminum. Lead screw is Type 303 stainless steel. Guide rails are hardened steel. Base has M5 Dia. through-holes with a 9 mm Dia. × 5.5 mm Dp. counterbore for mounting. Straightness accuracy is 0.0002″ per inch of travel. Maximum motor input is 2,000 rpm. Maximum temperature is 180° F. **To Order:** Please specify screw lead (the distance a load moves with one revolution of the lead screw): 0.125″, 0.25″, 0.5″, or 1″.



Top View

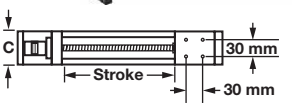

Side View

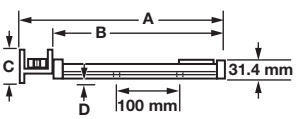

Dynamic Horiz./Vert. Load Cap., lbs.	Stroke, mm	(A) mm	(B) mm	(C) mm	(D) mm		
With Adapter for NEMA 17 Motor Frame							
33/18	100	250	200	40	1	6734K1	$933.25
33/18	200	350	300	40	1	6734K2	1,014.09
33/18	300	450	400	40	1	6734K3	1,094.91
With Adapter for NEMA 23 Motor Frame							
33/18	100	256	200	57	8	6734K4	940.31
33/18	200	356	300	57	8	6734K5	1,023.12
33/18	300	456	400	57	8	6734K6	1,103.80

Low-Friction Slides



Low Profile

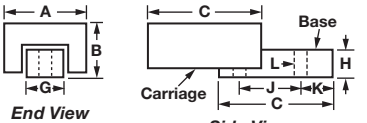



Standard Height

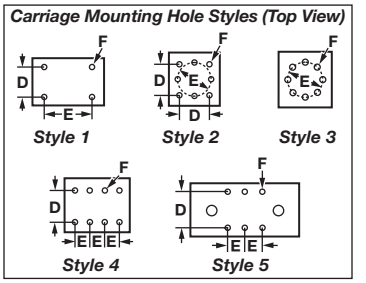

Excellent for short-travel, high-speed applications where low-friction performance is a must. Slides have a lightweight, corrosion-resistant aluminum carriage with threaded holes and a base with counterbored holes for socket head cap screws (unless noted). Carriage and base are the same length; to achieve travel, carriage must move beyond the base. Capacities listed are for horizontal mounting. If side mounted, load capacity is cut in half.

Ball Bearing Style Slides— A row of ball bearings on each side of the base provides high-precision linear motion. Bearings are caged in a retainer, which eliminates ball collisions to extend service life.

Choose *low-profile slides* for limited-space applications. Raceway rods and balls are steel. Straightness accuracy is 0.0005″ per inch of travel. Maximum temperature is 180° F.

Standard-height slides have raceway rods and balls that are made of Type 440C stainless steel. Straightness accuracy is 0.00008″ per inch of travel. Maximum temperature is 150° F.

High-Load Cylindrical-Roller Bearing Style Slides— Compared with similar-sized ball bearing slides, these offer higher load capacities. The cylindrical roller design lets the slides handle forces in any direction, so they're good for sudden loads and overhanging loads. Rollers ride on a pair of rails on each side of the base. Rollers and rails are hardened steel with stainless steel end caps. Straightness accuracy is 0.0001″ per inch of travel. Maximum temperature is 220° F.

Stroke Lg.	Dyn. Load Cap., lbs.	O'all Wd. (A)	O'all Ht. (B)	O'all Lg. (C)	Carriage Mounting Holes Style	Ctr.-to-Ctr. (D)	(E)	Screw Size (F)	Dp.	Base Wd. (G)	Base Ht. (H)	Base Mounting Holes Ctr.-to-Ctr. (J)	End-to-Ctr. (K)	Socket Head Cap Screw Size (L)		
Ball Bearing Style Slides																
Low Profile																
0.5″	1.5	0.38″	0.23″	0.75″	1	0.16″	0.38″	2-56	0.088″	0.16″	0.14″	0.38″	0.19″	2-56★	6203K92	$91.00
0.5″	4	0.56″	0.32″	1.06″	1	0.22″	0.63″	2-56	0.107″	0.25″	0.19″	0.75″	0.16″	2-56	6203K87	81.67
0.5″	8	0.75″	0.41″	1.06″	1	0.38″	0.63″	4-40	0.125″	0.38″	0.25″	0.75″	0.16″	4-40	6203K68	88.67
0.75″	15	1.06″	0.53″	1.56″	1	0.44″	1.25″	6-32	0.188″	0.5″	0.31″	1.13″	0.22″	6-32	6203K75	102.67
1″	1.5	0.38″	0.23″	1.25″	1	0.16″	0.88″	2-56	0.088″	0.16″	0.14″	0.88″	0.19″	2-56★	6203K93	94.50
1″	8	0.56″	0.32″	2.06″	1	0.22″	1.63″	2-56	0.107″	0.25″	0.19″	1.38″	0.34″	2-56	6203K88	89.83
1″	10	0.75″	0.41″	2.06″	1	0.38″	1.63″	4-40	0.125″	0.38″	0.25″	1.38″	0.34″	4-40	6203K65	102.67
1.5″	18	1.06″	0.53″	2.56″	1	0.44″	2.25″	6-32	0.188″	0.5″	0.31″	2.13″	0.22″	6-32	6203K76	110.83
2″	12	0.56″	0.32″	3.06″	1	0.22″	2.63″	2-56	0.107″	0.25″	0.19″	2.38″	0.34″	2-56	6203K89	102.67
2″	12	0.75″	0.41″	3.06″	1	0.38″	2.63″	4-40	0.125″	0.38″	0.25″	2.38″	0.34″	4-40	6203K66	109.67
2″	20	1.06″	0.53″	3.56″	1	0.44″	3.25″	6-32	0.188″	0.5″	0.31″	3.13″	0.22″	6-32	6203K77	128.33
3″	14	0.75″	0.41″	4.06″	1	0.38″	3.63″	4-40	0.125″	0.38″	0.25″	3.38″	0.34″	4-40	6203K67	120.17
3″	25	1.06″	0.53″	4.56″	1	0.44″	4″	6-32	0.188″	0.5″	0.31″	3.25″	0.66″	6-32	6203K78	144.67
Standard Height																
1″	25	1.75″	0.75″	1.75″	2	1″	1.12″	6-32	0.250″	0.88″	0.40″	1.12″	0.31″	6-32	6203K41	159.38
1″	62	2.62″	1″	2.62″	3	—	2″	10-32	0.560″	1.48″	0.61″	2″	0.31″	¼″-20	6203K44	211.61
2″	40	1.75″	0.75″	3″	4	1″	0.5″	6-32	0.440″	0.88″	0.40″	2.38″	0.31″	6-32	6203K42	174.11
2″	88	2.62″	1″	4″	5	2″	0.5″	10-32	0.310″	1.48″	0.61″	0.69″	0.31″	¼″-20	6203K45	227.68
3″	55	1.75″	0.75″	4″	4	1″	0.5″	6-32	0.440″	0.88″	0.40″	3.38″	0.31″	6-32	6203K43	194.20
3″	100	2.62″	1″	5″	5	2″	1″	10-32	0.310″	1.48″	0.61″	1.19″	0.31″	¼″-20	6203K46	247.77
4″	123	2.62″	1″	6″	5	2″	0.5″	10-32	0.310″	1.48″	0.61″	1.69″	0.31″	¼″-20	6203K56◆	279.91
6″	154	2.62″	1″	9″	4	2″	2″	10-32	0.380″	0.94″	0.69″	3.5″	1″	¼″-20	6203K57	423.49
High-Load Cylindrical-Roller Bearing Style Slides																
Low Profile																
0.5″	30	0.56″	0.32″	1.06″	1	0.22″	0.63″	2-56	0.107″	0.25″	0.19″	0.75″	0.16″	2-56	6257K21	147.00
0.5″	48	0.75″	0.41″	1.06″	1	0.38″	0.63″	4-40	0.125″	0.38″	0.25″	0.75″	0.16″	4-40	6257K22	165.67
0.75″	110	1.06″	0.53″	1.56″	1	0.44″	1.25″	6-32	0.188″	0.5″	0.31″	1.13″	0.22″	6-32	6257K16	198.74
1″	78	0.75″	0.41″	2.06″	1	0.38″	1.63″	4-40	0.125″	0.38″	0.25″	1.38″	0.34″	4-40	6257K24	198.74
1.5″	132	1.06″	0.53″	2.56″	1	0.44″	2.25″	6-32	0.188″	0.5″	0.31″	2.13″	0.22″	6-32	6257K25	215.83
2″	94	0.75″	0.41″	3.06″	1	0.38″	2.63″	4-40	0.125″	0.38″	0.25″	2.38″	0.34″	4-40	6257K17	215.83
2″	220	1.06″	0.53″	3.56″	1	0.44″	3.25″	6-32	0.188″	0.5″	0.31″	3.13″	0.22″	6-32	6257K28	249.67
3″	264	1.06″	0.53″	4.56″	1	0.44″	4″	6-32	0.188″	0.5″	0.31″	3.25″	0.66″	6-32	6257K29	282.33

★ Threaded through holes. ◆ Has 10 mounting holes.

High-Capacity Manual-Position Slides

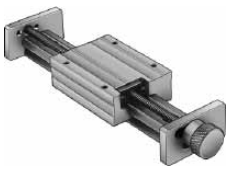

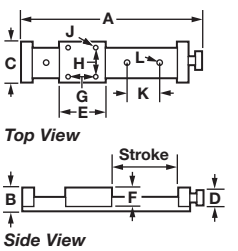

To handle high loads, these slides have an aluminum carriage lined with Frelon (a PTFE-filled composite). They also have a Type 303 stainless steel precision lead screw, which makes them good for manual-positioning applications. Lead screws are accurate to 0.0006″ per inch of travel. Screw lead (the distance a load moves with one revolution of the screw) is 0.05″. Maximum temperature is 300° F.

All of these slides have self-lubricated sleeve bearings to move smoothly, even in dirty environments. End blocks are aluminum. Carriages have four threaded holes. Depending on length, rails for 499-lb. capacity slides have 4, 8, or 12 counterbored unthreaded holes centered on the rail with an M3 cap screw size. Rails for 800-lb. capacity slides have 3, 5, or 8 counterbored unthreaded holes centered on the rail with an M5 cap screw size. For horizontal mounting.

X-Y plates let you mount a second slide for motion in two directions. They have four counterbored through holes (cap screw size is M3 for 9222T41; M4 for 9222T42).

Static Load Cap., lbs.	Stroke Lg.	O'all Lg. (A)	Ht. (B)	O'all Wd. (C)	Dia. (D)	Carriage Wd. (E)	Ht. (F)	Ctr.-to-Ctr. (G)	(H)	Screw Size (J)	Base Mount. Holes Ctr.-to-Ctr. (K)	Dia. (L)	Slides		X-Y Plate	
499	4.35″	7.42″	0.63″	1.81″	0.40″	1.65″	0.55″	0.79″	0.98″	M3	1.58″	0.14″	9222T11	$589.45	9222T41	$59.13
499	10.35″	13.25″	0.63″	1.81″	0.40″	1.65″	0.56″	0.79″	0.98″	M3	1.58″	0.14″	9222T12	542.80	9222T41	59.13
499	16.35″	19.25″	0.63″	1.81″	0.40″	1.65″	0.55″	0.79″	0.98″	M3	1.58″	0.14″	9222T13	712.43	9222T41	59.13
800	3.56″	7.4″	0.98″	1.80″	0.72″	2.44″	0.84″	1.50″	1.50″	M4	2.36″	0.24″	9222T21	498.73	9222T42	52.70
800	9.56″	13.4″	0.98″	1.80″	0.72″	2.44″	0.84″	1.50″	1.50″	M4	2.36″	0.24″	9222T22	538.03	9222T42	52.70
800	15.56″	19.4″	0.98″	1.80″	0.72″	2.44″	0.84″	1.50″	1.50″	M4	2.36″	0.24″	9222T23	562.37	9222T42	52.70

Manual-Position Slides

A precision lead screw allows you to use these slides in a variety of manual-positioning applications for laboratory and production equipment as well as for positioning parts in drilling, fastening, assembly, and gauging jobs. The lead screw is Type 303 stainless steel for 15- and 30-lb. capacity models; nickel-plated steel for 100-lb. capacity models. Screw lead (the distance a load moves with one revolution of the screw) is listed in the table.

All of these slides have Rulon-lined sleeve bearings to move smoothly, even in dirty environments. The carriages and bases are made of aluminum. Carriages have four threaded mounting holes. Bases have two or more countersunk mounting holes for flat head screws. Capacities listed are for horizontal mounting. When mounted vertically, the load capacity is cut in half. Maximum temperature is 180° F.

Precision Slides— Lead screws are accurate to 0.007″ per 10 inches of travel.

Ultra-Precision Slides— Have a micrometer-like position readout (to 0.001″) for measuring travel distance. They also have linear scales with 0.025″ divisions and index pointers. Lead screws are accurate to 0.0015″ per 10 inches of travel.

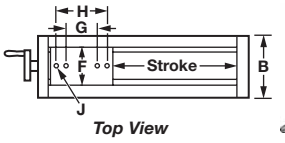

Top View


Ultra-Precision Slide

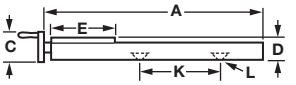

Side View

Horiz. Load Cap., lbs.	Stroke Lg.	Screw Lead	Lg. (A)	O'all Size Wd. (B)	O'all Size Ht. (C)	O'all Size Ht. (D)	Carriage Lg. (E)	Carriage Wd. (F)	Carriage Ctr.-to-Ctr. (G)	Carriage (H)	Screw Size (J)	Base Ctr.-to-Ctr. (K)	Base Screw Size (L)	Precision Slides		Ultra-Precision Slides	
15	1.5″	0.05″	4″	1.5″	0.61″	0.56″	1.5″	0.62″	0.688″	1.188″	6-32	2″	8-32	5236A15	$253.57	5242A14▲	$396.67
15	4.5″	0.05″	7″	1.5″	0.61″	0.56″	1.5″	0.62″	0.688″	1.188″	6-32	3″	8-32	5236A16	283.93	5242A11▲	421.67
15	7.5″	0.05″	10″	1.5″	0.61″	0.56″	1.5″	0.62″	0.688″	1.188″	6-32	3″	8-32	5236A17	314.29	5242A12▲	456.67
15	10.5″	0.05″	13″	1.5″	0.61″	0.56″	1.5″	0.62″	0.688″	1.188″	6-32	3″	8-32	5236A18	344.64	5242A13▲	483.33
30	1.5″	0.05″	5.12″	2.5″	1.75″	0.81″	2.5″	1.25″	1.188″	2.062″	8-32	3″	10-32	5236A22	353.57	5242A19	586.67
30	3.5″	0.05″	7.12″	2.5″	1.75″	0.81″	2.5″	1.25″	1.188″	2.062″	8-32	3″	10-32	5236A23	387.50	5242A21	613.33
30	6.5″	0.05″	10.12″	2.5″	1.75″	0.81″	2.5″	1.25″	1.188″	2.062″	8-32	3″	10-32	5236A24	421.43	5242A22	643.33
100	2″	0.1″	7.13″	4″	1.75″	1.06″	4″	2.35″	2″	3.25″	10-32	3″	¼″-20	5236A27	492.86	5242A31	720.00
100	5″	0.1″	10.13″	4″	1.75″	1.06″	4″	2.35″	2″	3.25″	10-32	3″	¼″-20	5236A29	524.14	5242A32	775.00
100	8″	0.1″	13.13″	4″	1.75″	1.06″	4″	2.35″	2″	3.25″	10-32	3″	¼″-20	5236A31	558.33	5242A33	831.67
100	11″	0.1″	16.13″	4″	1.75″	1.06″	4″	2.35″	2″	3.25″	10-32	3″	¼″-20	5236A32	613.33	5242A34	895.00
100	14″	0.1″	19.13″	4″	1.75″	1.06″	4″	2.35″	2″	3.25″	10-32	3″	¼″-20	5236A33	673.33	5242A35	960.00

▲(C) dimension is 1.75″.

High-Speed Needle-Roller Bearing Carriages and Guide Rails

The needle-roller bearings inside these carriages give you smooth operation at faster speeds than ball bearing and track roller carriages. Rollers are made of steel and are permanently lubricated, saving maintenance time and effort. Install these carriages and guide rails in any position without affecting load capacity. Maximum temperature is 176° F.

Carriages— Made of aluminum with nylon end caps. All have four threaded through-holes for mounting.

Lockable carriages also have a side handle to lock them in place along the rail. Clamping force is 44 lbs. for 9881K22, 56 lbs. for 9881K33, and 78 lbs. for 9881K44.

Guide Rails— Made of anodized aluminum with hardened and ground steel inserts. The rollers ride on the inserts. **To Order:** For rails, please specify length from the choices listed below.

Note: Carriages can only be used with guide rails listed on the same line in the table.

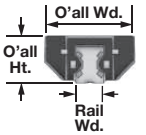

Nonlocking Carriage and Guide Rail (Sold Separately)



Lockable Carriage and Guide Rail (Sold Separately)



Rail Wd., mm	Dyn. Load Cap., lbs.	O'all Ht., mm	Carriages: O'all Size Wd., mm	O'all Size Lg., mm	Mount. Holes Screw Size	Mount. Holes Dp., mm	Carriages: Nonlocking	Each	Lockable	Each	Guide Rails: Available Lengths, mm	Socket Head Cap Screw Size		Per mm
12	629	19	37	74	M4	12	9870K11	$154.70	—	—	220; 340; 640; 1,240	M3	9870K11	$0.26
15.5	944	24	47	88	M5	15	9870K2	154.70	9881K22	$242.51	220; 340; 640; 1,240	M4	9870K12	0.26
23	2,023	36	70	108	M8	24.5	9870K3	183.36	9881K33	288.36	220; 340; 640; 1,240	M6	9870K13	0.28
32	2,810	48	100	145	M10	30.5	9870K4	244.68	9881K44	383.81	220; 340; 640; 1,240	M8	9870K14	0.32

Track Roller Carriages and Guide Rails

Suitable for dirty environments, these lightweight, easy-to-install carriages have four external V-groove track rollers that are lubricated and sealed for life. They are also extra wide for greater rigidity and load capacity. Install these carriages and guide rails in any position without affecting load capacity. Maximum temperature is 158° F.

Carriages— Made of aluminum with steel rollers. All have six threaded through-holes for mounting.

Guide Rails— Made of hardened steel. **To Order:** For rails, please specify length from the choices listed below.

Note: Carriages can only be used with guide rails listed on the same line in the table.

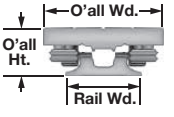



Carriage and Guide Rail (Sold Separately)

Rail Wd., mm	Dynamic Load Cap., lbs.	O'all Ht., mm	Carriages: O'all Size Wd., mm	O'all Size Lg., mm	Mount. Holes Screw Size	Mount. Holes Dp., mm	Carriages:	Each	Guide Rails: Available Lengths, mm	Socket Head Cap Screw Size		Each
50	222	32	80	90	M4	11.3	9685K1	$350.02	200; 400; 700; 1,000	M3	9685K11	$0.57
72	551	43	116	127	M6	14.4	9685K2	398.74	400; 800; 1,150; 1,800	M5	9685K12	0.49
102	1,499	57	165	172	M8	18.4	9685K3	501.79	500; 800; 1,100; 2,200	M6	9685K13	0.49
140	3,526	69	222	242	M10	21.6	9685K4	644.16	750; 1,100; 1,500; 2,000	M8	9685K14	0.62

Miniature Track Roller Carriages and Guide Rails



Steel-Wheel Carriage and Guide Rail (Sold Separately)

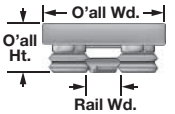

Sized just right for electronic and packaging applications, these compact carriages and guide rails have V-groove wheels and a double-edged track for smooth, precise movement. Install these carriages and guide rails in any position without affecting load capacity. Maximum temperature is 248° F.

Carriages— Made of anodized aluminum, these carriages come lubricated and have two adjustment screws that allow you to tighten or loosen snugness on the rail. All have four threaded mounting holes. *Steel wheels* allow for a higher load capacity. *Polymer wheels* are lightweight and suitable for corrosive environments.

Guide Rails— Made of carbon steel. ***Support rails*** (sold separately) are required for carriage clearance. Order one per guide rail.

To Order: For guide rails and support rails, please specify length: 6.5″ (has 4 mounting holes), 12.5″ (has 7 mounting holes), 18.5″ (has 10 mounting holes), 24.5″ (has 13 mounting holes), 30.5″ (has 16 mounting holes), or 36.5″ (has 19 mounting holes).

			Carriages						Guide Rails			
Rail Wd.	Dynamic Load Cap., lbs.	O'all Ht.	O'all Size Wd.	O'all Size Lg.	Mount. Holes Screw Size	Mount. Holes Dp.		Each	Low-Profile Socket Head Cap Screw Size		Per Inch	Support Rails Per Inch
Carriage with Steel Wheels												
0.516″	110	0.788″	1.75″	2″	M4	0.31″	9374T1	$127.79	6-32	9374T4	$2.47	9374T5 $2.85
Carriage with Polymer Wheels												
0.516″	14	0.788″	1.75″	2″	M4	0.31″	9374T2	99.86	6-32	9374T4	2.47	9374T5 2.85

Side-Mount Track Roller Carriages and Guide Rails



Carriage and Guide Rail (Sold Separately)

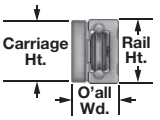

Lightweight and easy-to-install for applications that require side mounting. These carriages and guide rails have three internal track rollers for fast speeds and quiet operation. Their enclosed track design keeps out large debris, plus they can generally sustain greater loads than standard track-roller systems. Maximum temperature is 180° F.

All of the carriages are aluminum and have two threaded through-holes for mounting. The rails are aluminum with hardened and ground steel raceways. *Metric carriages* also have end caps with oil-impregnated plastic wipes that slide along the rail to sweep away contaminants. Carriages allow you to adjust how snug the roller fits to the rail.

To Order: For all rails, please specify length from the choices listed below.

Note: Carriages can only be used with guide rails listed on the same line in the table.

			Carriages						Guide Rails		
Rail Ht.	Dynamic Load Cap., lbs.	O'all Wd.	Lg.	Ht.	Mount. Holes Screw Size	Mount. Holes Dp.		Each	Available Lengths	Socket Head Cap Screw Size	Per Inch
Inch Carriages with Steel Track Rollers											
1 21/64″	336	6 1/64″	3 1/4″	1 1/4″	1/4″-28	0.31″	6738K41	$82.78	12″; 24″; 36″; 72″	10-32	6738K73 $3.41
1 29/32″	847	1 9/64″	4 1/2″	1 1/2″	5/16″-24	0.31″	6738K42	113.08	12″; 24″; 36″; 72″	1/4″-20	6738K72 2.79
Metric Carriages with Steel Track Rollers— *Dimensions in mm*											Per mm
30	225	28	87	25	M5	11	6738K221	111.78	480; 720; 960; 1,440	M5	6738K74 $0.12
45	598	33	117	38	M8	11	6738K222	124.38	480; 720; 960; 1,440	M6	6738K75 0.13
65	1,338	42	162	51	M8	12	6738K223	192.90	480; 720; 960; 1,440	M6	6738K76 0.19

Light Duty Side-Mount Carriages and Guide Rails

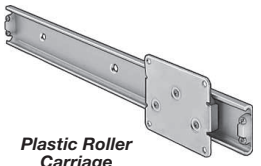

Plastic Roller Carriage and Guide Rail (Sold Separately)



Stainless Steel Ball Bearing Carriage and Guide Rail (Sold Separately)

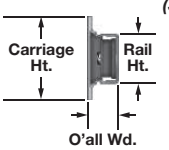

Use these carriages and guide rails for light-load linear motion where tight tolerances aren't required. All are designed for side mounting. Maximum temperature is 176° F.

Carriage with Plastic Rollers— Made of steel with plastic rollers, this carriage offers a low-cost alternative to ball bearing carriages for light duty applications. It has four unthreaded through-holes for mounting. Rails are aluminum.

Carriages with Stainless Steel Ball Bearings— Carriages have two rows of recirculating, Type 440C stainless steel ball bearings. Steel retainers keep balls in when carriages are removed from the rails. Synthetic rubber end seals keep lubricants in and dirt out. All carriages have four threaded through-holes for mounting. Rails are Type 304 stainless steel. Use the optional *connector plates* to mount rails end to end for greater travel.

To Order: For all rails, please specify length from the choices listed below.

Note: Carriages can only be used with guide rails listed on the same line in the table.

			Carriages						Guide Rails				
Rail Ht., mm	Static Load Cap., lbs.	O'all Wd., mm	Lg., mm	Ht., mm	Mount. Holes Screw Size	Mount. Holes Dp., mm		Each	Available Lengths, mm	Screw Size/ Slot Size (Lg. × Wd.)		Per mm	Connector Plates Each
Carriages with Plastic Rollers													
36	18	12	70	60	4.5	1.6	9725K2	$55.32	150; 350; 550; 650	M4	9725K3	$0.38	——— ———
Carriages with Stainless Steel Ball Bearings													
24.8	132	12	66	42	M4	2.3	6004K13	36.67	320; 640; 880; 1,200	5.3 × 4.6	6004K84	0.12	6004K93 $9.26
37.4	197	16.2	100	60	M5	3	6004K14	43.33	300; 500; 1,000; 1,800	5.3 × 4.6	6004K85	0.12	6004K94 9.26
50.4	440	17	126	85	M5	3	6004K15	60.00	500; 700; 1,000; 1,500	7 × 6	6004K86	0.14	6004K95 9.26

Side-Mount Track Rollers and Guide Rails

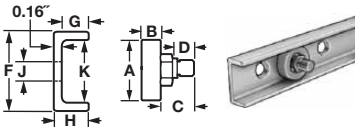

Polymer Roller and Aluminum Rail (Sold Separately)

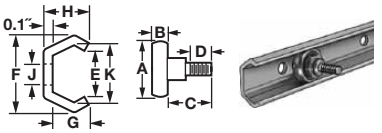

Stainless Steel Roller and Rail (Sold Separately)

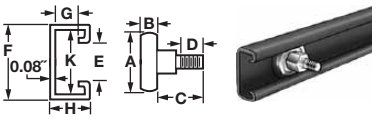

Steel Roller and Rail (Sold Separately)

Just like on your garage door, these stud-mount rollers ride on a rail. They can be loaded for a snug or loose fit in the rail.

Polymer Rollers and Aluminum Rail— These economical rollers are polymer with Type 440C stainless steel shielded ball bearings. Rails are anodized aluminum. Maximum temperature is 158° F. The *6-lb. capacity rollers* have an M6 threaded stud; *12-lb. capacity rollers* have an M8 threaded stud.

Stainless Steel Roller and Rail— Offering excellent corrosion resistance, the roller is Type 440 stainless steel with double-sealed Type 440 stainless steel ball bearings. Roller has an M5 threaded stud. The rail is Type 316 stainless steel and can be cut to size. Maximum temperature is 212° F.

Steel Roller and Rail— This high-capacity roller is steel with double-sealed steel ball bearings. It has a 5/16"-18 threaded stud. The rail is powder-coated steel and can be cut to size. Maximum temperature is 176° F. Mount rail by drilling holes or use the *optional L-angle mounting bracket*, which is 1 9/32" Lg. × 1 1/2" Wd. × 0.120" Thick. To install, weld bracket to back of rail. *Optional end stop* prevents overtravel of rollers but is not designed to support loads.

To Order: For all rails, please specify length from 1 to 8 ft. in 1-ft. increments.

Note: Track rollers can only be used with guide rails listed on the same line in the table.

Dyn. Load Cap., lbs.	Track Rollers (A)	(B)	(C)	(D)	Each	Guide Rails (E)	(F)	(G)	(H)	Mount. Holes Dia. (J)	(K)		Per Ft.	End Stop	Each
Polymer Rollers— *Rail is aluminum*															
6	0.58"	0.25"	0.42"	0.3"	60135K91	$15.24	—	0.79"	0.28"	0.43"	0.326"	0.61"	60135K92	$20.42	—	—
12	0.77"	0.31"	0.46"	0.32"	60135K94	15.96	—	1.02"	0.43"	0.59"	0.385"	0.8"	60135K95	22.25	—	—
Stainless Steel Roller— *Rail is stainless steel*															
89	0.9"	0.28"	0.77"	0.5"	60135K51	36.65	0.82"	1.16"	0.49"	0.59"	0.25"	0.97"	60135K52	34.16	—	—
Steel Roller— *Rail is steel*															
300	1.36"	0.38"	1.06"	0.5"	60135K71	20.04	0.88"	1.63"	0.49"	0.81"	—	1.48"	60135K13	12.57	60135K12	3.99
L-Angle Mounting Bracket for Steel Rail													60135K31	Each		$17.21

Telescopic Slides

Allowing motion beyond your mounting surface, these slides are great for pick-and-place automated applications, machine tool doors, and telescopic industrial press arms. They function similarly to drawer slides, but they're more rugged and support heavier loads. Use them where tight tolerances are not required.

Slides are hardened zinc-plated steel with threaded through-holes. Ball bearings and rails are hardened steel. The rails accept flat head screws. Load capacities listed are for side mounting. If mounted horizontally or upside down, load capacity is 70% of the capacity listed. Not recommended for vertical mounting. Maximum temperature is 338° F.

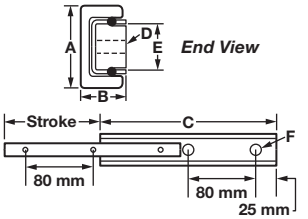

End View

Side View



Stroke Length, mm	Dynamic Load Cap., lbs.	O'all Ht. (A), mm	O'all Wd. (B), mm	Lg. (C), mm	Mounting Holes (D) Screw Size	Dp., mm	No. of Holes	Ht. (E), mm	Mounting Holes (F) Screw Size	No. of Holes		
76	70	22	11	130	M4	6.5	2	11	M4	2	8379K1	$89.19
111	160	22	11	210	M4	6.5	3	11	M4	3	8379K2	99.72
148	434	28	13	290	M5	7.5	4	15	M5	4	8379K5	124.56
196	287	22	11	370	M4	6.5	5	11	M4	5	8379K3	141.75
232	664	28	13	450	M5	7.5	6	15	M5	6	8379K6	156.46
274	444	22	11	530	M4	6.5	7	11	M4	7	8379K4	165.89
313	1,666	43	22	610	M8	13.5	8	23	M8	8	8379K12	266.58
315	896	28	13	610	M5	7.5	8	15	M5	8	8379K7	188.36
398	2,075	43	22	770	M8	13.5	10	23	M8	10	8379K13	326.93
399	1,125	28	13	770	M5	7.5	10	15	M5	10	8379K8	231.36
475	1,424	28	13	930	M5	7.5	12	15	M5	12	8379K9	252.39
483	2,485	43	22	930	M8	13.5	12	23	M8	12	8379K14	357.86
517	1,539	28	13	1,010	M5	7.5	13	15	M5	13	8379K11	273.95
518	2,795	43	22	1,010	M8	13.5	13	23	M8	13	8379K15	388.23
688	3,613	43	22	1,330	M8	13.5	17	23	M8	17	8379K16	510.99
758	4,236	43	22	1,490	M8	13.5	19	23	M8	19	8379K17	541.64

Roller Bearing Slide Sets

Get low-profile, space-saving linear motion with these slide sets. A set includes four rails, two roller bearing cage slides, and eight end stops. Maximum temperature is 176° F.

Rollers are made of steel and are retained in a plastic cage. Rails are made of precision ground and hardened steel and have threaded and counterbored holes for easy mounting with socket head cap screws. Mount in any position without affecting load capacity.

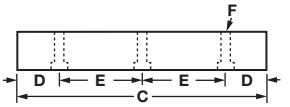

Side View



End View



Stroke Length, mm	Dynamic Load Cap., lbs. (Per Set)	O'all Ht. (A), mm	O'all Wd. (B), mm	Lg. (C), mm	End-to-Ctr. (D), mm	Ctr.-to-Ctr. (E), mm	Mounting Holes (F) Screw Size	No. of Holes		
50	292	8	18	75	12.5	25	M4	3	6500K16	$303.64
70	380	8	18	100	12.5	25	M4	4	6500K17	352.73
100	585	8	18	150	12.5	25	M4	6	6500K18	453.33

Linear Bearings for T-Slotted Framing

Here's a versatile solution to guided linear motion applications that don't require high precision. *Note:* For structural hardware and accessories, see pages 1942-1949.

***Sleeve-Bearing Carriages*—** Suitable for washdown applications, these carriages have an anodized aluminum shell that's lined with an extra-tough UHMW (ultra-high molecular weight) polyethylene bearing pad for inch sizes; acetal bearing pad for metric sizes. The pads are self-lubricating and USDA approved. All of these carriages are designed for horizontal mounting. Maximum temperature is 180° F.

High-strength sleeve-bearing carriages have threaded inserts that secure the bearing pad lining to the outer shell. They're the choice for jobs with frequent starting and stopping. They're also good for pick and place, parts transfer, and other high-speed applications.

***Track Roller Carriages*—** Made of aluminum with nylon rollers and permanently lubricated plain bronze bearings. You can use several of these carriages on a rail at once. Mount so wheels are positioned vertically. Two T-nut fasteners and two socket head cap screws are included. Maximum temperature is 150° F.

***T-Slotted Guide Rails*—** Made of anodized aluminum, rails can be easily cut to length and drilled for mounting.

Optional hand brakes mount on the carriages to hold them in place on the rail. Standard sleeve-bearing carriages have a mounting hole for the brakes. High-strength sleeve-bearing carriages require you to drill a mounting hole for the brake.

Optional end caps mount on the rails to prevent overtravel.

T-slot fasteners (sold separately) let you mount components to the carriages.

Sleeve-Bearing Carriages and Hand Brakes

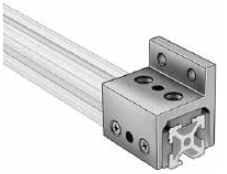

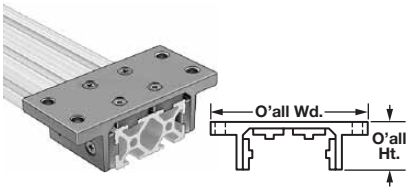



For Guide Rail Wd.	Dynamic Load Cap., lbs.	Side-Mount Carriages O'all Lg.	O'all Wd.	O'all Ht.	Ht.		Each	Base-Mount Carriages O'all Lg.	O'all Wd.	O'all Ht.		Each	Hand Brakes	Each
Standard*—*Inch														
1″	75	1 7/8″	1 5/8″	2″	1 5/16″	60585K18	$43.51	1 7/8″	2 15/16″	1 1/4″	60585K35	$46.16	60585K31	$10.77
1″	150	4″	1 5/8″	2″	1 5/16″	60585K19	55.86	4″	2 15/16″	1 1/4″	60585K36	59.41	60585K31	10.77
1 1/2″	75	2 13/16″	2 1/2″	2 3/4″	2″	60585K33	55.35	2 13/16″	4″	1 7/8″	60585K39	58.00	60585K32	15.50
1 1/2″	150	6″	2 1/2″	2 3/4″	2″	60585K34	71.47	6″	4″	1 7/8″	60585K75	75.02	60585K32	15.50
2″	100	—	—	—	—	—	—	1 7/8″	3 15/16″	1 1/4″	60585K37	63.07	60585K31	10.77
2″	200	—	—	—	—	—	—	4″	3 15/16″	1 1/4″	60585K38	82.57	60585K31	10.77
3″	100	—	—	—	—	—	—	2 13/16″	5 1/2″	1 7/8″	60585K76	65.44	60585K32	15.50
3″	200	—	—	—	—	—	—	6″	5 1/2″	1 7/8″	60585K77	84.94	60585K32	15.50
Standard*—*Metric														
45 mm	270	—	—	—	—	—	—	80 mm	109 mm	54 mm	60585K71	130.09	60585K59	62.00
45 mm	540	—	—	—	—	—	—	160 mm	109 mm	54 mm	60585K72	168.18	60585K59	62.00
High Strength*—*Inch														
1 1/2″	75	2 13/16″	2 1/2″	2 3/4″	2″	60585K78	68.09	2 13/16″	4″	1 7/8″	60585K91	70.74	60585K32	15.50
1 1/2″	150	6″	2 1/2″	2 3/4″	2″	60585K79	84.21	6″	4″	1 7/8″	60585K92	87.76	60585K32	15.50
3″	100	—	—	—	—	—	—	2 13/16″	5 1/2″	1 7/8″	60585K93	78.12	60585K32	15.50
3″	200	—	—	—	—	—	—	6″	5 1/2″	1 7/8″	60585K94	97.68	60585K32	15.50

Track Roller Carriages



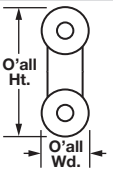

Side View

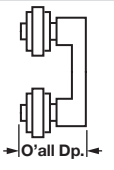

Front View

For Guide Rail Size Wd.	Ht.	Dynamic Load Cap., lbs.	O'all Ht.	O'all Wd.	O'all Dp.		Each
1″	1″	25	3 5/8″	1 1/2″	1 5/16″	9904K1	$56.67
1 1/2″	1 1/2″	25	5 1/8″	2″	1 7/8″	9904K3	64.17
2″	1″	25	4 5/8″	1 1/2″	1 5/16″	9904K2	57.29
3″	1 1/2″	25	6 5/8″	2″	1 7/8″	9904K4	64.79

T-Slotted Guide Rails



1″ Wd.



2″ Wd.

To Order: Please specify 2-, 4-, 6-, 8-, or 10-ft. length.

Guide Rail Size Wd.	Ht.		Each 2 ft.	4 ft.	6 ft.	8 ft.	10 ft.
Inch							
1″	1″	47065T101	$8.35	$14.20	$19.79	$26.38	$31.59
1 1/2″	1 1/2″	47065T102	15.04	26.90	39.31	51.36	61.94
2″	1″	47065T107	12.85	22.98	33.95	44.64	52.11
3″	1 1/2″	47065T108	26.10	48.12	67.30	92.08	110.45
Metric							
45mm	45mm	5537T103	14.03	25.80	35.96	48.22	59.02

End Caps



1″ Wd.



2″ Wd.

For Guide Rail Size Wd.	Ht.		Each
Inch			
1″	1″	47065T91	$1.20
1 1/2″	1 1/2″	47065T87	1.50
2″	1″	47065T92	1.50
3″	1 1/2″	47065T16	1.80
Metric			
45 mm	45 mm	5537T302	1.86

T-Slot Fasteners



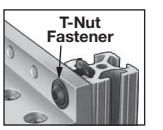

For Guide Rail Wd.	Pkg. of 4
Inch	
1″, 2″	47065T139 $1.85
1 1/2″, 3″	47065T97 2.71
Metric	
45 mm	5537T456 3.33

About Precision Acme Threaded Rods

Count on precision Acme threaded rods to simply and effectively convert rotary motion into smooth, precise linear motion. Although not as efficient as ball screws, they're more economical and are great for handling jobs with lower speeds and fewer cycles.

Precision Acme threads are broader, stronger, and more square than standard V-shaped threads, which means they're better suited for carrying loads. They have a 2C (self-centering; tight and precise) thread fit and a smooth finish that increases rod life by reducing friction. Lower-precision general purpose Acme threaded rods have a 2G (general) thread fit. The 2C and 2G thread fits are compatible, but when used together you will lose the precision of the 2C thread fit.

Acme Size— Indicates the diameter of the rod and the number of threads per inch. For example, a rod with an Acme size of ½″-8 has a diameter of ½″ with 8 threads per inch.

Travel Distance per Turn— The distance a nut will travel with one revolution of the threaded rod. Accuracy for travel distance per turn is 0.009″ or better per foot.

Standard- and ***Fast-Travel Rods—*** The number of individual threads on a rod determines how fast a nut will travel on the rod. Our ***standard-travel rods*** (also known as single-start rods) are the most common rods and have a single thread that runs the length of the rod. Our ***fast-travel rods*** (also known as multiple-start rods) have multiple threads that run the length of the rod. Standard-travel rods must be used with standard-travel nuts and fast-travel rods must be used with fast-travel nuts.

Speed Ratio— Indicates how fast a nut will travel on the threaded rod. The first number in the speed ratio corresponds to the number of starts for that rod or nut. Compared to standard-travel rods, fast-travel rods provide more travel (speed) for each turn of the rod. For example:

Acme Size and Style of Rod	Speed Ratio	Travel Distance per Turn	Travel Distance per 100 Turns
¾″-8 Standard Travel	1:1	⅛″	12½″
¾″-8 Fast Travel	2:1	¼″	25″
¾″-8 Fast Travel	4:1	½″	50″

Right-Hand and Left-Hand Threads

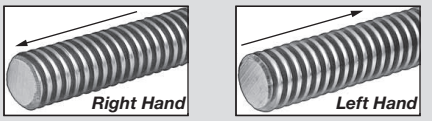

Turn the threaded rods clockwise and your nuts will travel in the direction shown. *Note:* Right-hand threads are the most common threads.

Standard-Travel Precision Acme Threaded Rods

The workhorse of precision Acme threaded rod, these standard-travel (single-start) rods have a 1:1 speed ratio. Accuracy for travel distance per turn is 0.009″ or better per foot. Use with standard-travel nuts that have the same Acme size. For nuts, see the following page.



1018 Carbon Steel— Minimum tensile strength is 64,000 psi. Hardness is 126-180 Brinell. ***Heat-Treated 4140 Alloy Steel—*** Harder than 1018 carbon steel, these rods ensure greater strength and durability. Minimum tensile strength is 125,000 psi. Hardness is 271 Brinell. All have a black-oxide finish. ***Type 304 Stainless Steel—*** The choice for corrosion resistance. Minimum tensile strength is 72,000 psi. Hardness is 150-220 Brinell.

Precision Acme Threaded Rods

To Order: Please specify 3-ft. or 6-ft. lengths (except for Acme size ¼″-16 and ¼″-20 Type 304 Stainless Steel rods, which are only available in 6-ft. lengths).

Acme Size	Travel Dist. per Turn	Right-Hand Threads	Per Ft.	Left-Hand Threads	Per Ft.
1018 Carbon Steel					
¼″-16	1/16″	99030A632	$3.21	99030A832	$3.21
⅜″-8	⅛″	99030A126	4.40	———	———
⅜″-10	1/10″	99030A127	4.40	99030A827	3.95
⅜″-16	1/16″	99030A134	4.39	99030A934	4.34
½″-10	1/10″	99030A805	4.69	99030A905	4.69
⅝″-8	⅛″	99030A809	7.17	99030A909	7.17
⅝″-10	1/10″	99030A428	4.38	99030A928	6.49
¾″-5	⅕″	99030A813	9.26	99030A913	9.26
¾″-6	⅙″	99030A817	9.51	99030A917	9.51
¾″-8	⅛″	99030A275	13.07	99030A875	16.33
¾″-10	1/10″	99030A852	10.99	99030A552	10.13
¾″-16	1/16″	99030A277	21.27	99030A977	22.70
1″-4	¼″	99030A218	14.38	99030A918	14.38
1″-5	⅕″	99030A225	10.04	99030A925	10.04
1″-6	⅙″	99030A829	10.75	99030A929	10.75
1″-8	⅛″	99030A276	21.43	99030A976	23.15
1″-10	1/10″	99030A833	11.15	99030A933	11.15
1¼″-4	¼″	99030A841	11.48	99030A941	11.48
1¼″-5	⅕″	99030A845	11.78	99030A945	11.78
1½″-4	¼″	99030A853	13.89	99030A953	13.89
1½″-10	1/10″	99030A631	26.26	99030A931	26.26
2″-2	½″	99030A608	65.05	99030A908	65.05
2″-4	¼″	99030A857	29.47	99030A657	29.47
2″-5	⅕″	99030A623	77.46	99030A923	77.46
2½″-2	½″	99030A810	91.49	99030A910	91.49
2½″-3	⅓″	99030A614	68.37	99030A914	68.37
2½″-4	¼″	99030A865	62.48	99030A965	62.48
Heat-Treated 4140 Alloy Steel					
⅜″-8	⅛″	98940A261	9.43	98940A263	9.43
⅜″-10	1/10″	98940A271	10.51	98940A273	10.51
⅜″-12	1/12″	98940A281	14.12	98940A283	14.12
⅜″-16	1/16″	98940A291	12.73	98940A293	12.73
½″-10	1/10″	98940A321	11.76	98940A323	11.76
⅝″-5	⅕″	98940A331	13.83	98940A333	13.83

Acme Size	Travel Dist. per Turn	Right-Hand Threads	Per Ft.	Left-Hand Threads	Per Ft.
Heat-Treated 4140 Alloy Steel (Cont.)					
⅝″-8	⅛″	98940A341	$20.54	98940A343	$20.54
⅝″-10	1/10″	98940A351	22.15	98940A353	22.15
¾″-5	⅕″	98940A361	27.31	98940A363	27.31
¾″-6	⅙″	98940A371	18.19	98940A373	18.19
¾″-10	1/10″	98940A381	29.89	98940A383	29.89
1″-4	¼″	98940A391	24.81	98940A393	24.81
1″-5	⅕″	98940A441	33.24	98940A443	33.24
1″-6	⅙″	98940A451	36.12	98940A453	36.12
1″-10	1/10″	98940A461	37.29	98940A463	37.29
1¼″-4	¼″	98940A481	31.49	98940A483	31.49
1¼″-5	⅕″	98940A491	30.66	98940A493	30.66
1½″-4	¼″	98940A541	35.46	98940A553	35.46
1½″-5	⅕″	98940A551	46.07	98940A563	46.07
2″-4	¼″	98940A561	73.12	98940A573	73.12
Type 304 Stainless Steel					
¼″-16	1/16″	98980A962	18.80	———	———
¼″-20	1/20″	98980A830	20.55	———	———
⅜″-8	⅛″	98980A520	15.54	98980A220	20.62
⅜″-10	1/10″	98980A535	14.73	98980A831	20.62
⅜″-12	1/12″	98980A545	14.93	98980A247	11.67
⅜″-16	1/16″	98980A526	14.15	98980A326	18.59
½″-10	1/10″	98980A570	12.20	98980A332	24.32
⅝″-8	⅛″	98980A585	16.00	98980A285	21.86
⅝″-10	1/10″	98980A587	20.26	98980A287	23.29
¾″-5	⅕″	98980A590	21.21	98980A290	25.08
¾″-6	⅙″	98980A593	21.49	98980A293	26.26
¾″-10	1/10″	98980A595	23.45	98980A295	27.75
1″-4	¼″	98980A605	34.43	98980A305	41.12
1″-5	⅕″	98980A610	34.40	98980A210	37.50
1″-6	⅙″	98980A309	42.40	98980A815	44.83
1″-10	1/10″	98980A311	47.29	98980A230	47.29
1¼″-5	⅕″	98980A135	64.47	98980A145	64.47
1½″-4	¼″	98980A401	93.69	98980A404	101.44
2″-4	¼″	98980A845	137.83	98980A835	183.31

18″ Long Precision Acme Threaded Rods

All of these rods are made of heat-treated 4140 alloy steel and have right-hand threads.

Acme Size	Travel Distance per Turn		Each
⅜″-12	1/12″	98940A303	$18.55
½″-10	1/10″	98940A305	23.06
⅝″-8	⅛″	98940A306	28.44
¾″-6	⅙″	98940A307	35.17
1″-5	⅕″	98940A308	$39.70
1¼″-5	⅕″	98940A309	44.19
1½″-4	¼″	98940A401	68.54
2″-4	¼″	98940A405	118.29

Standard-Travel Precision Acme Round Nuts and Mounting Flanges

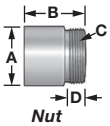

Nut



Mounting Flange




Assembled Nut and Mounting Flange

Use these standard-travel (single-start) nuts and mounting flanges with the Standard-Travel Precision Acme Threaded Rods on the previous page. Use rods that have the same Acme size. Speed ratio is 1:1.

Bronze nuts and ***steel mounting flanges*** are good for most applications. ***Plastic nuts*** and ***Type 303 stainless steel mounting flanges*** offer corrosion resistance.

Bronze Nuts—Hardness is 70-126 Brinell. ***Plastic Nuts—***Made of FDA-compliant polyethylene terephthalate (PET).

Nuts

Acme Size	Travel Distance per Turn	OD (A)	Lg. (B)	External Thread Size (C)	Lg. (D)	BRONZE NUTS Load Cap., lbs.	Right-Hand Threads	Each	Left-Hand Threads	Each	PLASTIC NUTS Load Cap., lbs.	Right-Hand Threads	Each
1/4"-16	1/16"	0.69"	0.63"	0.563"-18	0.38"	300	95072A881	$29.93	95072A882	$29.93	162	95075A210	$23.20
1/4"-20	1/20"	0.69"	0.63"	0.563"-18	0.38"	300	95072A450	23.66	—	—	162	95075A340	21.58
3/8"-8	1/8"	0.69"	0.63"	0.563"-18	0.38"	700	95072A124	24.96	—	—	350	95075A224	26.70
3/8"-10	1/10"	0.69"	0.63"	0.563"-18	0.38"	700	95072A127	24.95	—	—	350	95075A227	26.97
3/8"-12	1/12"	0.69"	0.63"	0.563"-18	0.38"	700	95072A108	27.83	95072A208	27.83	350	95075A104	21.06
3/8"-16	1/16"	0.69"	0.63"	0.563"-18	0.38"	700	95072A129	24.94	—	—	350	95075A229	26.70
1/2"-10	1/10"	1.12"	0.75"	0.937"-16	0.5"	1,250	95072A109	32.92	95072A209	32.92	650	95075A106	22.55
5/8"-5	1/5"	1.12"	1"	0.937"-16	0.5"	1,900	95072A110	41.48	95072A210	41.48	—	—	—
5/8"-8	1/8"	1.12"	1"	0.937"-16	0.5"	1,900	95072A111	35.34	95072A211	35.34	1,000	95075A109	24.40
5/8"-10	1/10"	1.12"	1"	0.937"-16	0.5"	1,900	95072A149	43.44	95072A249	43.44	1,000	95075A249	26.79
3/4"-5	1/5"	1.12"	1.25"	1"-18	0.5"	2,800	95072A112	40.27	95072A212	40.27	1,450	95075A112	27.32
3/4"-6	1/6"	1.12"	1.25"	1"-18	0.5"	2,800	95072A113	37.88	95072A213	37.88	1,450	95075A113	27.61
3/4"-8	1/8"	1.13"	1.25"	1"-18	0.5"	2,800	95072A351	38.01	95072A352	38.01	—	—	—
3/4"-10	1/10"	1.12"	1.25"	1"-18	0.5"	2,800	95072A131	39.13	95072A231	39.13	1,450	95075A114	27.32
3/4"-16	1/16"	1.13"	1.25"	1"-18	0.5"	2,800	95072A371	61.99	95072A372	61.99	—	—	—
1"-4	1/4"	1.5"	1.5"	1.375"-16	0.5"	5,000	95072A132	56.56	95072A232	56.56	2,500	95075A118	33.98
1"-5	1/5"	1.5"	1.5"	1.375"-16	0.5"	5,000	95072A114	60.02	95072A214	60.02	2,500	95075A119	33.98
1"-6	1/6"	1.5"	1.5"	1.375"-16	0.5"	5,000	95072A115	60.02	95072A224	60.02	2,500	95075A120	33.98
1"-8	1/8"	1.5"	1.5"	1.375"-16	0.5"	5,000	95072A361	72.83	95072A362	72.83	—	—	—
1"-10	1/10"	1.5"	1.5"	1.375"-16	0.5"	5,000	95072A116	68.42	95072A216	68.42	2,500	95075A121	43.75
1 1/4"-4	1/4"	2.12"	1.75"	1.967"-18	0.81"	7,800	95072A117	93.32	95072A217	93.32	—	—	—
1 1/4"-5	1/5"	2.12"	1.75"	1.967"-18	0.81"	7,800	95072A118	93.32	95072A218	93.32	3,925	95075A218	66.31
1 1/2"-4	1/4"	2.12"	2.3"	1.967"-18	0.81"	11,250	95072A119	119.76	95072A219	119.76	6,000	95075A219	80.42
1 1/2"-5	1/5"	2.12"	2.3"	1.967"-18	0.81"	11,250	95072A121	119.76	95072A225	119.76	—	—	—
1 1/2"-10	1/10"	2.13"	2.3"	1.967"-18	0.81"	11,250	95072A441	147.21	95072A442	147.21	—	—	—
2"-4	1/4"	2.75"	2.75"	2.548"-18	0.88"	20,000	95072A122	219.28	95072A226	219.28	10,000	95075A222 ♦	94.82
2"-5	1/5"	2.75"	2.75"	2.548"-18	0.88"	20,000	95072A761	241.55	95072A762	241.55	—	—	—
2 1/2"-4	1/4"	3.38"	3.38"	3.137"-12	1.56"	31,250	95072A123	310.54	95072A227	310.54	—	—	—

♦ Lg. (B) is 3.47".

Mounting Flanges

For Nut External Thread Size (C)	Internal Thread Size	OD (E)	Thick. (F)	Bolt Circle (G)	Mounting Hole Dia.	Steel	Each	Type 303 Stainless Steel	Each
0.563"-18	0.563"-18	1.6"	0.41"	1.13"	0.26"	95082A641	$32.72	1329K11	$40.32
0.937"-16	0.937"-16	2.62"	0.53"	2.09"	0.26"	95082A642	44.78	1329K12	67.48
1"-18	1"-18	2.62"	0.53"	2.09"	0.26"	95082A643	32.58	1329K13	67.48
1.375"-16	1.375"-16	2.76"	0.52"	2.26"	0.26"	95082A644	44.26	1329K14	61.50
1.967"-18	1.967"-18	4.2"	0.83"	3.44"	0.39"	95082A645	54.88	1329K15	87.94
2.548"-18	2.548"-18	4.94"	0.9"	4.06"	0.53"	95082A646	76.80	1329K16	96.11
3.137"-12	3.137"-12	5.38"	1.58"	4.38"	0.65"	95082A647	94.84	—	—

Standard-Travel Machinable Precision Acme Nuts

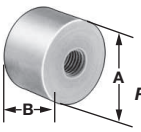

Round Nut

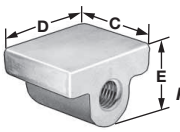

Platform Nut

Use these standard-travel (single-start) machinable nuts with the Standard-Travel Precision Acme Threaded Rods on the previous page. Use rods that have the same Acme size. Speed ratio is 1:1. **To Order:** Please specify right- or left-hand threads (except for 1343K39, 1343K23, 1349K39, and 1349K23 which are right-hand thread only).

Round nuts have a large OD so you can machine them to your own specifications. ***Platform nuts*** have a platform that allows you to drill your own mounting holes for mounting flexibility.

Cast Iron—Hardness is 217-269 Brinell. ***660 and 932 Bronze—***Hardness is 65 Brinell. ***Plastic—***Corrosion resistant. Made of FDA-compliant polyethylene terephthalate (PET).

Acme Size	Travel Distance per Turn	OD (A)	Lg. (B)	ROUND NUTS Cast Iron Load Cap., lbs.		Each	660 Bronze Load Cap., lbs.		Each	Plastic Load Cap., lbs.		Each	PLATFORM NUTS 932 Bronze Lg. (C)	Wd. (D)	Ht. (E)	Load Cap., lbs.		Each
3/8"-8	1/8"	1.35"	3/4"	512	95365A421	$19.49	700	1343K31	$32.41	350	1349K31	$29.38	—	—	—	—	—	—
3/8"-10	1/10"	1.35"	3/4"	530	95365A423	19.49	700	1343K33	32.41	350	1349K33	29.38	—	—	—	—	—	—
3/8"-12	1/12"	1.35"	3/4"	495	95365A428	19.84	700	1343K38	32.41	350	1349K38	29.38	—	—	—	—	—	—
3/8"-16	1/16"	1.35"	3/4"	512	95365A429	20.12	700	1343K39	32.41	350	1349K39	30.06	—	—	—	—	—	—
1/2"-10	1/10"	1.47"	1"	942	95365A424	20.67	1,300	1343K34	36.81	650	1349K34	31.28	1 3/4"	2"	1 1/8"	1,200	1710K29	$118.43
5/8"-5	1/5"	1.86"	1 1/4"	1,350	95365A413	28.92	2,000	1343K23	47.55	1,000	1349K23	40.31	—	—	—	—	—	—
5/8"-8	1/8"	1.86"	1 1/4"	1,424	95365A422	29.29	2,000	1343K32	56.19	1,000	1349K32	40.31	—	—	—	—	—	—
5/8"-10	1/10"	1.86"	1 1/4"	1,473	95365A425	28.92	2,000	1343K35	56.19	1,000	1349K35	40.31	—	—	—	—	—	—
3/4"-5	1/5"	2.24"	1 1/2"	1,944	95365A414	40.42	2,900	1343K24	83.85	1,450	1349K24	67.62	2 1/4"	2 5/8"	1 5/8"	2,800	1710K24	163.93
3/4"-6	1/6"	2.24"	1 1/2"	1,978	95365A418	40.42	2,900	1343K28	83.85	1,450	1349K28	67.62	2 1/4"	2 5/8"	1 5/8"	2,800	1710K27	163.93
3/4"-10	1/10"	2.24"	1 1/2"	2,121	95365A426	40.50	2,900	1343K36	83.85	1,450	1349K36	67.62	2 1/4"	2 5/8"	1 5/8"	2,800	1710K31	163.93
1"-4	1/4"	2.99"	2"	3,393	95365A406	45.80	5,000	1343K16	127.00	2,500	1349K16	104.09	3"	3"	1 15/16"	5,000	1710K21	224.80
1"-5	1/5"	2.99"	2"	3,456	95365A415	39.77	5,000	1343K25	127.00	2,500	1349K25	104.09	3"	3"	1 15/16"	5,000	1710K25	224.80
1"-6	1/6"	2.99"	2"	3,517	95365A419	39.77	5,000	1343K29	127.00	2,500	1349K29	104.09	3"	3"	1 15/16"	5,000	1710K28	224.80
1"-10	1/10"	2.99"	2"	3,770	95365A427	39.77	5,000	1343K37	127.00	2,500	1349K37	104.09	3"	3"	1 15/16"	5,000	1710K32	224.80
1 1/4"-4	1/4"	3.73"	2 1/2"	5,301	95365A407	89.67	7,850	1343K17	194.39	3,925	1349K17	181.16	—	—	—	—	—	—
1 1/4"-5	1/5"	3.73"	2 1/2"	5,400	95365A416	86.18	7,850	1343K26	194.39	3,925	1349K26	181.16	—	—	—	—	—	—
1 1/2"-4	1/4"	4.47"	3"	7,634	95365A408	141.77	12,000	1343K18	281.72	6,000	1349K18	307.62	4 1/2"	3 5/8"	2 9/16"	11,000	1710K23	342.00

For information about precision Acme threaded rods, see page 1155.

Fast-Travel Precision Acme Threaded Rods



Multiple threads run the length of these fast-travel (multiple-start) rods, which means your nut will travel faster with each turn than on standard-travel (single-start) rods. Accuracy for travel distance per turn is 0.009″ or better per foot. Use with fast-travel nuts that have the same Acme size and speed ratio. **To Order:** Please specify 3-ft. or 6-ft. lengths (except for Type 304 stainless steel, which are only available in 6-ft. lengths).

***1018 Carbon Steel*—**Minimum tensile strength is 64,000 psi. Hardness is 126-150 Brinell. ***Heat-Treated 4140 Alloy Steel*—**Harder than 1018 carbon steel, these rods ensure greater strength and durability. Minimum tensile strength is 125,000 psi. Hardness is 271 Brinell. All have a black-oxide finish. ***Type 304 Stainless Steel*—**The choice for corrosion resistance. Minimum tensile strength is 72,000 psi. Hardness is 150-220 Brinell.

Acme Size	Speed Ratio (Starts)	Travel Distance per Turn	Right-Hand Threads	Per Ft.	Left-Hand Threads	Per Ft.
1018 Carbon Steel						
3/8″-5	5:1	1″	99030A103	$13.09		
3/8″-8	2:1	1/4″	99030A104	3.98		
3/8″-8	4:1	1/2″	99030A111	3.98		
3/8″-12	2:1	1/6″	99030A115	3.05	99030A603	$3.05
1/2″-8	2:1	1/4″	99030A116	4.36		
1/2″-8	8:1	1″	99030A119	6.70		
1/2″-10	2:1	1/5″	99030A201	5.02		
1/2″-10	5:1	1/2″	99030A202	6.75		
5/8″-8	2:1	1/4″	99030A203	13.02	99030A604	13.02
3/4″-6	2:1	1/3″	99030A204	9.20	99030A606	9.20
3/4″-8	2:1	1/4″	99030A273	17.14	99030A607	18.82
3/4″-8	4:1	1/2″	99030A206	10.93		
1″-4	2:1	1/2″	99030A207	26.00	99030A801	29.79
1″-6	2:1	1/3″	99030A670	22.64	99030A802	22.64
1″-10	10:1	1″	99030A601	20.28	99030A803	20.28
1 1/2″-4	2:1	1/2″	99030A602	25.96	99030A804	41.59
Heat-Treated 4140 Alloy Steel						
1/4″-12	4:1	1/3″	98940A001	18.35		
3/8″-8	2:1	1/4″	98940A011	11.64		

Acme Size	Speed Ratio (Starts)	Travel Distance per Turn	Right-Hand Threads	Per Ft.	Left-Hand Threads	Per Ft.
Heat-Treated 4140 Alloy Steel (Cont.)						
3/8″-8	4:1	1/2″	98940A003	$11.38		
3/8″-10	2:1	1/5″	98940A005	11.11		
3/8″-12	2:1	1/6″	98940A007	11.00	98940A209	$18.33
1/2″-8	2:1	1/4″	98940A009	16.75		
1/2″-10	2:1	1/5″	98940A201	16.00		
1/2″-10	5:1	1/2″	98940A204	14.48		
3/4″-6	2:1	1/3″	98940A206	20.57	98940A301	20.57
1″-10	10:1	1″	98940A208	47.62	98940A302	47.62
Type 304 Stainless Steel						
1/4″-12	4:1	1/3″	98980A951	16.39		
3/8″-8	2:1	1/4″	98980A952	19.67		
3/8″-8	4:1	1/2″	98980A953	18.61		
3/8″-10	2:1	1/5″	98980A954	20.32		
1/2″-8	2:1	1/4″	98980A955	29.89		
1/2″-8	8:1	1″	98980A956	24.49		
1/2″-10	2:1	1/5″	98980A957	24.59		
1/2″-10	5:1	1/2″	98980A958	25.14		
3/4″-8	4:1	1/2″	98980A959	35.79		

Fast-Travel Precision Acme Round Nuts

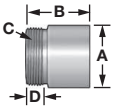

Use these fast-travel (multiple-start) nuts with the Fast-Travel Precision Acme Threaded Rods on this page and the mounting flanges (see 95082A and 1329K) on the previous page. Use rods that have the same Acme size and speed ratio.

***Bronze Nuts*—**Good for most applications. Hardness is 70 to 126 Brinell. ***Plastic Nuts*—**Made of FDA-compliant polyethylene terephthalate (PET).

Acme Size	Speed Ratio (Starts)	Travel Dist. per Turn	OD (A)	Lg. (B)	External Thread Size (C)	Lg. (D)	BRONZE NUTS Load Cap., lbs.	Right-Hand Threads	Each	Left-Hand Threads	Each	PLASTIC NUTS Load Cap., lbs.	Right-Hand Threads	Each
1/4″-12	4:1	1/3″	0.69″	0.63″	0.563″-18	0.38″	300	95072A107	$67.79			162	95075A207	$23.20
1/4″-16	4:1	1/4″	0.69″	0.63″	0.563″-18	0.38″	300	95072A430	40.75					
3/8″-5	5:1	1″	0.68″	0.63″	0.563″-18	0.38″						250	95075A101	35.43
3/8″-8	2:1	1/4″	0.69″	0.63″	0.563″-18	0.38″	700	95072A126	24.62			350	95075A226	26.70
3/8″-8	4:1	1/2″	0.69″	0.63″	0.563″-18	0.38″	700	95072A125	24.73			350	95075A225	26.70
3/8″-10	2:1	1/5″	0.69″	0.63″	0.563″-18	0.38″	700	95072A128	24.62			350	95075A228	26.97
3/8″-12	2:1	1/6″	0.69″	0.63″	0.563″-18	0.38″	700	95072A771	32.20	95072A772	$32.20			
1/2″-8	2:1	1/4″	1.12″	0.75″	0.937″-16	0.5″	1,250	95072A130	24.63			650	95075A105	26.70
1/2″-8	8:1	1″	1.12″	0.75″	0.937″-16	0.5″	1,250	95072A420	32.98					
1/2″-10	2:1	1/5″	1.12″	0.75″	0.937″-16	0.5″	1,250	95072A147	32.92			650	95075A247	22.55
1/2″-10	5:1	1/2″	1.12″	0.75″	0.937″-16	0.5″	1,250	95072A145	32.92			650	95075A245	22.55
5/8″-8	2:1	1/4″	1.13″	1″	0.937″-16	0.5″	1,900	95072A321	36.50	95072A322	36.50			
3/4″-6	2:1	1/3″	1.12″	1.25″	1″-18	0.5″	2,800	95072A601	40.31	95072A602	40.31			
3/4″-8	2:1	1/4″	1.13″	1.25″	1″-18	0.5″	2,800	95072A331	61.99	95072A332	61.99			
3/4″-8	4:1	1/2″	1.12″	1.25″	1″-18	0.5″	2,800	95072A540	54.63			1,450	95075A230	46.63
1″-4	2:1	1/2″	1.5″	1.5″	1.375″-16	0.5″	5,000	95072A551	58.34	95072A552	58.34	2,500	95075A260	47.52
1″-6	2:1	1/3″	1.5″	1.5″	1.375″-16	0.5″	5,000	95072A301	61.90	95072A302	61.90			
1″-10	10:1	1″	1.5″	1.5″	1.375″-16	0.5″	5,000	95072A511	83.64	95072A512	83.64			
1 1/2″-4	2:1	1/2″	2.12″	2.3″	1.976″-18	0.81″	11,250	95072A561	126.04	95072A562	126.04			

Fast-Travel Machinable Precision Acme Round Nuts

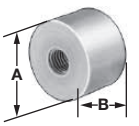

Use these fast-travel (multiple-start) machinable nuts with the Fast-Travel Precision Acme Threaded Rods on this page. All have a large OD so you can machine them to your own specifications. Use rods that have the same Acme size and speed ratio. **To Order:** Please specify right- or left-hand threads, unless noted.

***Cast Iron*—**Hardness is 217 to 269 Brinell. ***660 Bronze*—**Hardness is 65 Brinell. ***Plastic*—**Corrosion resistant. Made of FDA-compliant polyethylene terephthalate (PET).

Acme Size	Speed Ratio (Starts)	Travel Distance per Turn	OD (A)	Lg. (B)	Cast Iron Load Cap., lbs.		Each	660 Bronze Load Cap., lbs.		Each	Plastic Load Cap., lbs.		Each
1/4″-12	4:1	1/3″	1.35″	0.75″	330	95365A403	$59.28	325	1343K13	$32.41	162	1349K13	$29.38
3/8″-8	2:1	1/4″	1.35″	0.75″	512	95365A404	24.25	700	1343K14	32.41	350	1349K14	29.38
3/8″-8	4:1	1/2″	1.35″	0.75″	512	95365A401	28.20	700	1343K11	32.41	350	1349K11	29.38
3/8″-10	2:1	1/5″	1.35″	0.75″	530	95365A411	24.25	700	1343K21	32.41	350	1349K21	29.38
1/2″-8	2:1	1/4″	1.465″	1.00″		95365A405	28.83	1,300	1343K15★	35.61	650	1349K15★	31.28
1/2″-10	2:1	1/5″	1.465″	1.00″	942	95365A412	28.83	1,300	1343K22★	36.81	650	1349K22★	31.28
1/2″-10	5:1	1/2″	1.465″	1.00″	942	95365A402	35.86	1,300	1343K12	36.81	650	1349K12	31.28

★Available with right-hand threads only.

Acme Threaded Rod Lubricant

Maximize the life of your threaded rods with this synthetic, corrosion-resistant lubricant. Operating temperature range is –10° to +400° F.

14.1-oz. Can ..... 1378K34 **Each** $11.55

Miniature Corrosion-Resistant Precision Threaded Rods and Nuts

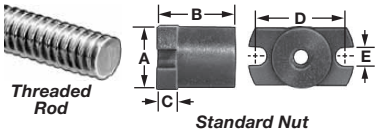

Perfect for moving small loads in confined spaces, these rods and nuts are corrosion resistant and have right-hand threads. They're similar to, but not compatible with, precision Acme threaded rods and nuts. ***Fast-travel (multiple-start) rods*** have multiple threads that run the length of the rods, which means your nut will travel faster with each turn than on standard-travel (single-start) rods.

Threaded Rods— Made of Type 303 stainless steel, all are 18″ long. Accuracy for travel distance per turn is 0.0006″ per inch. Minimum tensile strength is 90,000 psi. Hardness is 160 Brinell.

Nuts— All are made of polyacetal and are self-lubricating. *Wear-compensating nuts* have an internal O-ring that maintains a tight thread fit even when threads begin to wear.

			THREADED RODS		NUTS									
									Standard			Wear Compensating		
Thread Size	Speed Ratio (Starts)	Travel Distance per Turn		Each	(A)	Lg. (B)	Thick. (C)	Ctr.-to-Ctr. (D)	(E)	Load Cap., lbs.	Each	Load Cap., lbs.		Each
Standard Travel (Single Start)														
0.14″-20	1:1	1/20.8″	6642K12	$49.58	0.4″	0.5″	0.13″	0.6″	0.12″	25	6642K22	$17.23	5	6642K32 $23.85
0.14″-41.7	1:1	1/41.7″	6642K11	49.58	0.4″	0.5″	0.13″	0.6″	0.12″	25	6642K21	17.23	5	6642K31 23.85
0.216″-20.8	1:1	1/20.8″	6642K14	49.58	0.4″	0.5″	0.13″	0.6″	0.12″	25	6642K24	17.23	5	6642K34 23.85
Fast Travel (Multiple Start)														
0.14″-20	2:1	1/10.4″	6642K13	49.58	0.4″	0.5″	0.13″	0.6″	0.12″	25	6642K23	17.23	5	6642K33 23.85
0.164″-21.3	2:1	1/10.7″	6642K15	49.58	0.4″	0.5″	0.13″	0.6″	0.12″	25	6642K25	17.23	5	6642K35 23.85
0.188″-42.7	16:1	1/2.7″	6642K47	49.58	0.4″	0.5″	0.13″	0.6″	0.12″	25	6642K57	17.23	5	6642K67 23.85
0.216″-20.8	4:1	1/5.2″	6642K16	49.58	0.4″	0.5″	0.13″	0.6″	0.12″	25	6642K26	17.23	5	6642K36 23.85

Metric Standard-Travel Precision Threaded Rods and Nuts

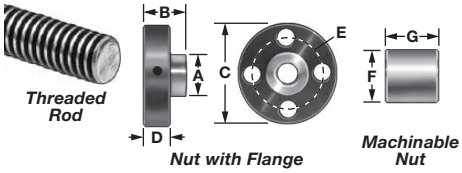

Made to DIN 103 standards, these rods and nuts (also known as trapezoidal thread form) offer the advantages of precision Acme threaded rods and nuts but in metric sizes. All are standard travel (single start) and have right-hand threads. Speed ratio is 1:1.

Threaded Rods— Made of 1018 carbon steel, these rods are 1,750 mm long. Accuracy for travel distance per turn is ±0.15 mm per 300 mm. Minimum tensile strength is 70,000 psi. Hardness is 150-180 Brinell.

Nuts with Flange— Nuts are bronze; flanges are steel. Nut hardness is 126 Brinell; flange hardness is 150-180 Brinell. Flange mounting holes are 0.266″ dia., unless noted.

Machinable Nuts— Bronze with oversized OD for machining. Hardness is 70 Brinell.

			THREADED RODS		NUTS										
						Nuts with Flange						Machinable Nuts			
Dia., mm	Threads per cm	Travel Distance per Turn		Each	Load Cap., lbs.	OD (A)	Lg. (B)	Dia. (C)	Thick. (D)	Bolt Circle (E)	Each	OD (F)	Lg. (G)		Each
10	5	2 mm	7549K1	$66.81	670	0.68″	0.625″	1.6″	0.41″	1.125″	7549K16 $73.36	0.75″	0.75″	7549K32	$29.63
12	3.3	3 mm	7549K2	78.24	1,100	1.125″	0.75″	2.6″	0.53″	2.09″	7549K17 86.76	0.875″	1″	7549K33	32.90
16	3.3	3 mm	7549K4	82.33	2,000	1.125″	1″	2.6″	0.53″	2.09″	7549K19 77.40	1.125″	1.125″	7549K35	35.65
20	2.5	4 mm	7549K6	103.61	3,100	1.125″	1.25″	2.6″	0.53″	2.09″	7549K22 82.27	1.25″	1.5″	7549K37	39.42
24	2	5 mm	7549K7	129.06	4,500	1.5″	1.5″	2.75″	0.52″	2.26″	7549K23 99.21	1.75″	2″	7549K38	53.04
40	1.4	7 mm	7549K12	256.90	12,300	2.125″	2.3″	4.2″	0.832″	3.44″	7549K27♦ 270.10	2.5″	3″	7549K43	99.35

♦ Flange mount hole diameter is 0.397″.

Ultra-Smooth Corrosion-Resistant Threaded Rods and Nuts

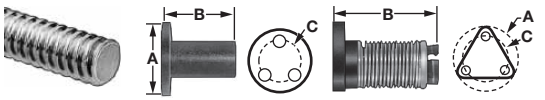

Similar to, but not compatible with, precision Acme threaded rods and nuts, these rods and nuts have smoother and rounder thread edges for increased nut life and ultra-smooth travel. All are corrosion resistant and have right-hand threads. ***Fast-travel (multiple-start) rods*** have multiple threads that run the length of the rods, which means your nut will travel faster with each turn than on standard-travel (single-start) rods.

Threaded Rods— Made of Type 303 stainless steel, these rods are 6 feet long. Accuracy for travel distance per turn is ±0.0006″ per inch. Minimum tensile strength is 90,000 psi. Hardness is 160 Brinell. ***Nuts—*** All are polyacetal and self-lubricating. They have a flange with 0.2″ dia. mounting holes, unless noted. Minimum tensile strength is 9,700 psi. *Wear-compensating nuts* have a spring that maintains a tight fit even when threads begin to wear.

					Standard Nuts					Wear-Compensating Nuts				
Thread Size	Speed Ratio (Starts)	Travel Distance per Turn	Threaded Rods	Each	Dia. (A)	Lg. (B)	Bolt Circle (C)	Load Cap., lbs.	Each	Dia. (A)	Lg. (B)	Bolt Circle (C)	Load Cap., lbs.	Each
Standard Travel (Single Start)														
1/4″-20	1:1	1/20″	6350K133	$148.45	1″	1″	0.75″	50	6350K171■ $17.10	1″	1″	0.75″	5	6350K208■ $29.33
3/8″-10	1:1	1/10″	—	—	1.1″	1″	0.875″	75	6350K33■ 25.94	1.5″	1.9″	1.125″	10	6350K53 38.72
3/8″-20	1:1	1/20″	6350K134	157.36	1.1″	1″	0.875″	75	6350K172■ 23.47	1.5″	1.9″	1.125″	10	6350K209 35.03
3/8″-40	1:1	1/40″	6350K137	157.36	1.1″	1″	0.875″	75	6350K175■ 23.47	1.5″	1.9″	1.125″	10	6350K213 35.03
1/2″-8	1:1	1/8″	6350K125	208.82	1.5″	1.5″	1.125″	150	6350K163 25.49	1.6″	2″	1.25″	25	6350K201 45.75
1/2″-10	1:1	1/10″	6350K21	208.82	1.5″	1.5″	1.125″	150	6350K41 28.17	1.6″	2″	1.25″	25	6350K61 45.75
1/2″-20	1:1	1/20″	6350K135	208.82	1.5″	1.5″	1.125″	150	6350K173 25.49	1.6″	2″	1.25″	25	6350K211 45.75
5/8″-10	1:1	1/10″	6350K129	297.37	1.5″	1.5″	1.188″	225	6350K167 27.83	1.8″	2″	1.375″	35	6350K205 56.50
3/4″-10	1:1	1/10″	6350K131	382.80	1.8″	2″	1.438″	350	6350K168 37.54	2.4″	2.7″	2″	150	6350K206● 135.10
Fast Travel (Multiple Start)														
1/4″-8	8:1	1″	6350K12	148.45	1″	1″	0.75″	50	6350K32■ 20.18	1″	1″	0.75″	5	6350K52■ 32.42
1/4″-16	4:1	1/4″	6350K11	148.45	1″	1″	0.75″	50	6350K31■ 20.18	1″	1″	0.75″	5	6350K51■ 29.33
1/4″-20	2:1	1/10″	6350K128	148.45	1″	1″	0.75″	50	6350K166■ 17.10	1″	1″	0.75″	5	6350K204■ 29.33
3/8″-5	5:1	1″	6350K16	157.36	1.1″	1″	0.875″	75	6350K36■ 23.47	1.5″	1.9″	1.125″	10	6350K56 35.03
3/8″-8	4:1	1/2″	6350K15	157.36	1.1″	1″	0.875″	75	6350K35■ 25.94	1.5″	1.9″	1.125″	10	6350K55 38.72
3/8″-10	2:1	1/5″	6350K14	157.36	1.1″	1″	0.875″	75	6350K34■ 23.47	1.5″	1.9″	1.125″	10	6350K54 35.03
3/8″-12	3:1	1/4″	6350K113	157.36	1.1″	1″	0.875″	75	6350K151■ 23.47	1.5″	1.9″	1.125″	10	6350K188 35.03
1/2″-8	2:1	1/4″	6350K115	208.82	1.5″	1.5″	1.125″	150	6350K153 25.49	1.6″	2″	1.25″	25	6350K191 45.75
1/2″-8	4:1	1/2″	6350K23	208.82	1.5″	1.5″	1.125″	150	6350K43 25.36	1.6″	2″	1.25″	25	6350K63 45.75
1/2″-8	8:1	1″	6350K24	208.82	1.5″	1.5″	1.125″	150	6350K44 28.17	1.6″	2″	1.25″	25	6350K64 45.75
1/2″-10	2:1	1/5″	6350K22	208.82	1.5″	1.5″	1.125″	150	6350K42 28.17	1.6″	2″	1.25″	25	6350K62 45.75
5/8″-6	12:1	2″	6350K102	251.38	1.5″	1.5″	1.188″	225	6350K139 27.83	1.8″	2″	1.375″	35	6350K177 56.50
5/8″-8	4:1	1/2″	6350K107	251.38	1.5″	1.5″	1.188″	225	6350K145 27.83	1.8″	2″	1.375″	35	6350K183 56.50
3/4″-8	2:1	1/4″	6350K25	303.21	1.8″	2″	1.438″	350	6350K45 39.03	2.4″	2.7″	2″	150	6350K65● 140.46

■ 0.14″ dia. mounting holes. ● 0.22″ dia. mounting holes.

About Ball Screws and Ball Nuts

A ball nut contains ball bearings that circulate in the groove of a ball screw to reduce friction between the nut and the screw. Together they provide smooth, precise positioning control over the full length of the ball screw. They also convert rotary motion to linear motion more efficiently than precision Acme threaded rods. *Note:* Ball nuts are furnished with a cardboard tube to keep ball bearings in place. Do not remove the tube until you are ready to install the nuts onto the screws.

Travel Distance per Turn—Also known as screw lead, travel distance per turn is the distance a ball nut moves with one revolution of the ball screw. For proper fit, choose ball nuts with the same diameter and travel distance per turn as the ball screw.



Interior View of a Ball Nut on a Ball Screw

Ball Screws, Ball Nuts, and End Mounting Blocks

Ball Screws and End Mounting Blocks

Ball Screws—All are made of hardened alloy steel. They have right-hand rolled threads. Accuracy for travel distance per turn is ±0.004″ per foot. Rockwell hardness is C56. Temperature range is –65° to +300°F with a high-temperature lubricant. For use with ball nuts that have the same screw diameter and travel distance per turn. **To Order:** Please specify screw length in whole feet up to the maximum length listed.

End Mounting Blocks—Support ball screws (sold separately) to help eliminate wobble. Made of steel, each includes bearings, replaceable seals, a locknut, and a washer. Use one end mounting block for a floating setup or two end mounting blocks for a rigid setup. *Note:* The end of your ball screw must be machined before installing it into an end mounting block.



Ball Screw

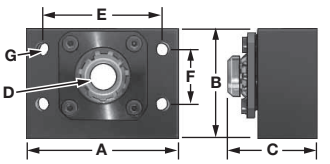

End Mounting Block

Ball Screws					End Mounting Blocks							
Screw Dia.	Travel Distance per Turn	Max. Screw Lg., ft.		Per Ft.	(A)	(B)	(C)	Dia. (D)	Ctr.-to-Ctr. (E)	Ctr.-to-Ctr. (F)	Dia. (G)		Each
3/8″	1/8″	2	5966K24	$32.68									
1/2″	1/2″	2	5966K25	43.45	2 3/4″	2″	1 51/64″	23/64″	2″	1 3/8″	0.281″	60755K12	$299.14
5/8″	13/64″	6	5966K26	19.87	3″	1 7/8″	1 11/16″	15/32″	2 1/4″	1 1/8″	0.281″	60755K13	415.12
3/4″	13/64″	6	5966K13	28.65	3 1/2″	2 1/8″	1 27/32″	19/32″	2 1/2″	1 3/8″	0.281″	60755K14	400.08
3/4″	1/2″	6	5966K22	33.95	3 1/2″	2 1/8″	1 27/32″	19/32″	2 1/2″	1 3/8″	0.281″	60755K14	400.08
1″	1/4″	8	5966K27	42.96	4 1/2″	2 3/4″	2 21/64″	25/32″	3 1/4″	1 3/4″	0.469″	60755K15	480.52
1″	1/2″	8	5966K23	41.88	4 1/2″	2 3/4″	2 21/64″	25/32″	3 1/4″	1 3/4″	0.469″	60755K15	480.52
1″	1″	8	5966K31	43.52	4 1/2″	2 3/4″	2 21/64″	25/32″	3 1/4″	1 3/4″	0.469″	60755K15	480.52
1 1/2″	1/4″	8	5966K28	63.70	6 1/2″	3 5/8″	3″	1 3/16″	4 3/4″	2″	0.656″	60755K16	642.39
1 1/2″	1/2″	8	5966K76	53.64	6 1/2″	3 5/8″	3″	1 3/16″	4 3/4″	2″	0.656″	60755K16	642.39
1 1/2″	1″	8	5966K39	69.19	6″	3 3/8″	2 29/32″	63/64″	4 1/4″	2″	0.656″	60755K17	575.50
2 1/4″	1/2″	8	5966K29	84.48	8 1/2″	5 5/8″	4 5/32″	1 25/32″	6 5/8″	3 5/8″	0.812″	60755K18	1,216.53
2 1/4″	1″	8	5966K33	106.70	8 1/2″	5 5/8″	4 5/32″	1 25/32″	6 5/8″	3 5/8″	0.812″	60755K18	1,216.53

Ball Screws with One Machined End and End Mounting Blocks

Ball Screws with One Machined End—Identical to the ball screws above, except these have one end that has already been machined for you. The machined end fits perfectly into an end mounting block (sold separately) and is ready to connect to your motor. It has a standard Type III journal with drive extension. To adjust the length, the non-machined end can be cut to size.

End Mounting Blocks—For information and illustration, see above.

Ball Screw with One Machined End

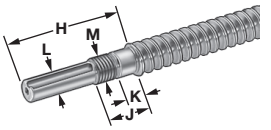

Ball Screws with One Machined End													End Mounting Blocks (Dimensions Above)	
Screw Dia.	Travel Distance per Turn	Overall Machined Lg. (H)	Lg. (J)	Lg. (K)	Dia. (L)	Dia. (M)	Keyway, Wd. × Lg.	2-ft. Lengths	Each	4-ft. Lengths	Each	6-ft. Lengths	Each	Each
5/8″	13/64″	3.292″	1.99″	1.56″	0.406″	0.47″	1/8″ × 1 1/4″	5966K2	$171.86	5966K6	$202.73	5966K21	$233.61	60755K13	$415.12
3/4″	13/64″	3.180″	2.18″	1.71″	0.500″	0.59″	1/8″ × 7/8″	5966K4	208.97	5966K7	276.95	5966K32	344.97	60755K14	424.38
1″	1/4″	4.028″	2.71″	2.18″	0.625″	0.78″	3/16″ × 1 1/4″	5966K5	194.20	5966K8	247.41	5966K41	300.62	60755K15	480.52

Ball Nuts and Ball Nuts with Flange

All of these ball nuts are made of heat-treated alloy steel with a black-oxide finish. The maximum play between the screw and the nut is 0.015″. Rockwell hardness is C56. Temperature range is –65° to +300°F.

For use with ball screws that have the same screw diameter and travel distance per turn. Load capacities are based on using a ball screw and a ball nut together.

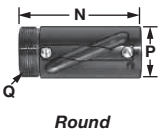

Round Ball Nut

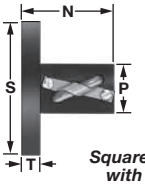

Square Ball Nut with Flange

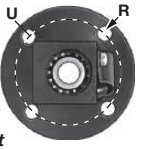

					Ball Nuts			Ball Nuts with Flange					
Screw Dia.	Travel Distance per Turn	Load Cap., lbs.	Lg. (N)	(P)	Thread (Q)		Each	Dia. (R)	Dia. (S)	(T)	Bolt Circle (U)		Each
Round Ball Nuts													
3/8″	1/8″	136	1″	3/4″ Dia.	0.664″-32	5966K14	$99.74	0.177″	1 39/64″	0.270″	1.240″	5966K44	$148.92
3/4″	13/64″	1,900	2 57/64″	1 5/16″ Dia.	1.173″-18	5966K1	68.68	0.281″	2 39/64″	0.530″	2.090″	5966K3	117.33
3/4″	1/2″	3,263	3″	1 5/16″ Dia.	1 1/4″-18	5966K42	230.40	0.281″	2 5/8″	0.530″	2.090″	5966K79	270.88
1″	1/2″	3,890	3 1/8″	1 5/8″ Dia.	1 9/16″-18	5966K43	261.11	0.266″	3 1/4″	0.630″	2.750″	5966K81	294.19
1 1/2″	1/4″	4,198	2 7/8″	2 3/32″ Dia.	1 31/32″-18	5966K18	314.07	0.397″	4 13/64″	0.520″	3.440″	5966K48	396.29
1 1/2″	1/2″	14,513	5 19/32″	2 5/8″ Dia.	2.36″-18	5966K34	427.88	0.531″	4 21/32″	0.780″	3.875″	5966K35	486.11
2 1/4″	1/2″	21,306	6 11/16″	3 3/8″ Dia.	3.137″-12	5966K19	703.84	0.656″	5 3/8″	1.582″	4.375″	5966K49	821.27
2 1/4″	1″	26,538	6 23/32″	3 3/8″ Dia.	3.137″-12	5966K77	1,055.85	0.656″	5 3/8″	1.582″	4.375″	5966K85	1,119.70
Square Ball Nuts													
1/2″	1/2″	786	1 7/8″	3/4″ × 1″	15/16″-16	5966K15	207.93	0.266″	2 39/64″	0.530″	2.090″	5966K45	270.68
5/8″	13/64″	778	1 23/32″	1″ × 1″	15/16″-16	5966K16	31.85	0.266″	2 39/64″	0.530″	2.090″	5966K46	78.61
1″	1/4″	1,612	2 11/32″	1 1/2″ × 1 1/2″	1 9/16″-18	5966K17	51.63	0.266″	3 1/4″	0.630″	2.750″	5966K47	107.80
1″	1″	2,142	3″	1 1/2″ × 1 1/2″	1 9/16″-18	5966K74	133.10	0.266″	3 1/4″	0.630″	2.750″	5966K82	176.11
1 1/2″	1″	7,560	3 5/8″	2 1/4″ × 2 1/4″	2 1/4″-20	5966K167	343.86	0.531″	4 15/16″	1.020″	4.125″	5966K84	423.38

Corrosion-Resistant Ball Screws and Ball Nuts



Ball Screw

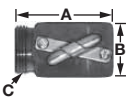

Round Ball Nut

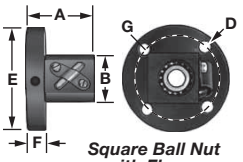

Square Ball Nut with Flange

Suitable for use in harsh environments, all of these ball screws and ball nuts are Type 17-4 PH stainless steel. Rockwell hardness is C38. Temperature range is –30° to +180° F. Use ball screws and ball nuts with the same screw diameter and travel distance per turn. Flange (where applicable) is 300 series stainless steel.

Ball Screws—Have right-hand rolled threads. Accuracy for travel distance per turn is ±0.004″ per foot. They can be used with the steel end mounting blocks, which are sold on page 1159. *Note:* The end of your ball screw must be machined before installing it into an end mounting block.

Ball Nuts—The maximum play between the screw and the nut is 0.007″.

			BALL SCREWS			BALL NUTS											
								Round Ball Nuts			Round Ball Nuts with Flange						
Screw Dia.	Travel Distance per Turn	Load Cap., lbs.	Screw Lg.		Each	Lg. (A)	(B)	Thread (C)		Each	Dia. (D)	Dia. (E)	(F)	Bolt Circle (G)		Each
3/8″	1/8″	25	24″	6641K1	$105.70	1.000″	3/4″	0.664″-32	6641K9	$201.75	0.177″	1 19/32″	0.270″	1.240″	6641K21	$247.62
3/8″	1/8″	25	48″	6641K2	164.88	1.000″	3/4″	0.664″-32	6641K9	201.75	0.177″	1 19/32″	0.270″	1.240″	6641K21	247.62
1/2″	1/2″	140	24″	6641K3	122.19	1.750″	1 1/16″	15/16″-16	6641K32	322.20	0.266″	2 19/32″	0.530″	2.090″	6641K42●	352.67
1/2″	1/2″	140	48″	6641K4	179.22	1.750″	1 1/16″	15/16″-16	6641K32	322.20	0.266″	2 19/32″	0.530″	2.090″	6641K42●	352.67
1/2″	1/2″	140	72″	6641K5	324.47	1.750″	1 1/16″	15/16″-16	6641K32	322.20	0.266″	2 19/32″	0.530″	2.090″	6641K42●	352.67
								Square Ball Nuts			Square Ball Nuts with Flange						
5/8″	13/64″	170	24″	6641K6	146.38	1.710″	1″	15/16″-16	6641K12	172.62	0.266″	2 19/32″	0.530″	2.090″	6641K23★	227.02
5/8″	13/64″	170	48″	6641K7	276.88	1.710″	1″	15/16″-16	6641K12	172.62	0.266″	2 19/32″	0.530″	2.090″	6641K23★	227.02
5/8″	13/64″	170	72″	6641K8	305.08	1.710″	1″	15/16″-16	6641K12	172.62	0.266″	2 19/32″	0.530″	2.090″	6641K23★	227.02

● Lg. (A) is 1.905″. ★ Lg. (A) is 1.740″.

Metric Ball Screws, Ball Nuts, and End Mounting Blocks



Ball Screw

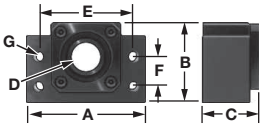

End Mounting Block

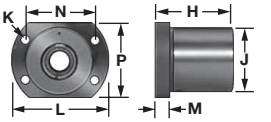

Ball Nut with Flange

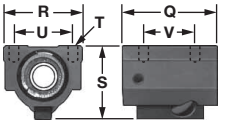

Platform Ball Nut

Ball Screws—All are AISI 1055 alloy steel and have right-hand rolled threads. Accuracy for travel distance per turn is 0.210 mm per 300 mm. Rockwell hardness is C58-C64. Temp. range is 5° to 176° F. For use with ball nuts that have the same screw diameter and travel distance per turn.

End Mounting Blocks—Support ball screws (sold separately) to help eliminate wobble. Made of steel, each includes bearings, seals, and a locknut. Use one end mounting block for a floating setup or two end mounting blocks for a rigid setup. *Note:* The end of your ball screw must be machined before installing it into an end mounting block.

Ball Nuts—All are steel. Maximum play between screw and nut is 0.1 mm. Rockwell hardness is C58-C64. Temp. range is 5° to 176° F. For use with ball screws that have the same screw diameter and travel distance per turn.

Ball Screws						End Mounting Blocks							
Screw Dia., mm	Travel Distance per Turn, mm	Load Cap., lbs.	Screw Lg., mm		Each	(A), mm	(B), mm	(C), mm	Dia. (D), mm	Ctr.-to-Ctr. (E), mm	Ctr.-to-Ctr. (F), mm	Dia. (G), mm		Each
16	5	1,214	1,000	6624K2	$180.39	60	43	34	12	46	18	5.5	6624K56	$454.55
20	5	1,349	1,000	6624K4	196.08	70	48	38	15	54	18	5.5	6624K57	518.18
20	10	2,383	1,500	6624K8	303.92	70	48	38	15	54	18	5.5	6624K57	518.18
25	5	1,506	1,000	6624K11	261.14	86	64	51	17	68	28	6.6	6624K58	707.27
25	10	7,013	1,500	6624K16	347.06	86	64	51	17	68	28	6.6	6624K58	707.27

Screw Dia., mm	Travel Distance per Turn, mm	(H), mm	Dia. (J), mm	Dia. (K), mm	(L), mm	(M), mm	Ctr.-to-Ctr. (N), mm	(P), mm	Ball Nuts with Flange	Each
16	5	40	34	4.5	54	10	38.1	40	6624K41	$248.00
20	5	40	40	4.5	60	10	43.3	46	6624K43	256.00
20	10	64	52	6.6	82	12	58	64	6624K44	308.00
25	5	40	43	5.5	67	10	47.6	50	6624K46	278.00
25	10	98	60	9.0	96	15	67.5	72	6624K48	368.63

Screw Dia., mm	Travel Distance per Turn, mm	(Q), mm	(R), mm	(S), mm	(T), mm	Ctr.-to-Ctr. (U), mm	Ctr.-to-Ctr. (V), mm	Platform Ball Nuts	Each
16	5	36	42	32.5	M5 × 8	32	22	6624K27	$286.27
20	5	35	48	39.0	M6 × 10	35	22	6624K29	298.04
20	10	58	48	46.0	M6 × 10	35	35	6624K31	307.84
25	5	35	60	45.0	M8 × 12	40	22	6624K33	319.61
25	10	94	60	55.0	M8 × 12	40	60	6624K35	445.10

Miniature Metric Ball Screws with Ball Nut



Ball Screw w/Included Ball Nut

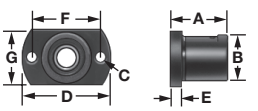

Ball Nut

We've paired a ball screw and a ball nut, which have a small overall size and tiny travel distance per turn to tackle your miniature applications. Accuracy for travel distance per turn is 0.210 mm per 300 mm. Rockwell hardness is C58-C64. Temperature range is 5° to 176° F.

The ball screw is AISI 1055 alloy steel and has right-hand rolled threads. The ball nut is JIS G 4052 steel and has a flange. The maximum play between the screw and the nut is 0.05 mm.

Screw Dia., mm	Travel Distance per Turn, mm	Load Cap., lbs.	Screw Lg., mm	(A), mm	Dia. (B), mm	Dia. (C), mm	(D), mm	(E), mm	Ctr.-to-Ctr. (F), mm	(G), mm		Each
6	1	157	250	21	13	3.4	30	5	21.5	17	6638K1	$246.37
8	2	472	250	28	20	4.5	40	6	30	24	6638K3	248.79
10	2	517	300	28	23	4.5	43	6	33	27	6638K7	301.75
12	2	562	200	30	25	5.5	47	8	36	29	6638K9	302.91
12	2	562	300	30	25	5.5	47	8	36	29	6638K11	318.75

Screw Jacks

Designed to convert rotary motion into linear motion, screw jacks are excellent for lifting, holding, positioning, and leveling loads. They have a worm gear for precise movement. Furnished assembled and threaded, they are ready for installation and motor hookup. Simply attach your motor shaft to the screw jack shaft. The screw jack shaft has a keyway at both ends (for shaft diameter and keyway dimensions, see below).

Mount these jacks vertically or horizontally. ***Upright style*** and ***inverted style*** refer to the mounting flange location in relation to the lift screw.

Travel Distance per Turn— Also known as screw lead, travel distance per turn is the distance a load is moved with one revolution of the lift screw.

Optional Mounting Attachments— Thread directly onto the jacks.

Acme Screw Jacks

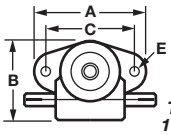

Top View, 1-Ton Jack

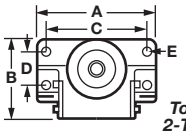

Top View, 2-Ton Jack

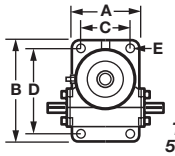

Top View, 5-Ton Jack

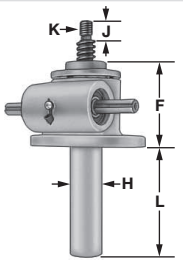

Upright Style

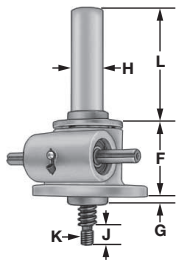

Inverted Style

All jacks have a cold-rolled alloy steel lift screw. Accuracy for travel distance per turn is 0.010″ per foot. Maximum temperature is 250° F.

The ***1-ton jacks*** have sealed ball bearings and an aluminum alloy housing. Gear ratio is 5:1. The ***2-*** and ***5-ton jacks*** have tapered roller bearings and a ductile iron housing. Gear ratio is 6:1.

To Order: Please specify travel length in whole inches up to the maximum length listed. To determine your price, multiply the travel length per inch price by the number of inches you need, then add that to the base price of the jack.

Load Cap., tons	Max. Travel Lg.	Screw Jack Shaft Dia.	Screw Jack Shaft Keyway, Wd.×Dp.×Lg.	(A)	(B)	MOUNT. HOLES Ctr.-to-Ctr. (C)	MOUNT. HOLES Ctr.-to-Ctr. (D)	MOUNT. HOLES Dia. (E)	Upright-Style Flange (F)	Inverted-Style Flange (F)	Bearing Thick. (G)♦	Tube Dia. (H)	Attachment Thread Lg. (J)	Attachment Thread (K)	(L)
1	36″	1/2″	1/8″×1/16″×1″	5″	3 31/32″	4″	—	13/32″	3 5/16″	3 5/16″	1/4″	1 5/16″	3/4″	1/2″-13	Travel Lg. – 1/8″
2	36″	1/2″	1/8″×1/16″×1 3/16″	7″	5″	6″	2″	13/32″	4 1/8″	3 3/4″	5/16″	1 21/32″	1 1/16″	5/8″-18	Travel Lg. – 1/4″
5	72″	3/4″	3/16″×3/32″×1 7/16″	6″	8″	4 1/2″	6 1/2″	1 1/16″	5 1/2″	5″	1/2″	2 3/8″	1 1/2″	1″-14	Travel Lg. – 1/4″

♦ Only for inverted-style jacks.

Load Cap., tons	Lift Screw Dia.	Travel Distance per Turn	Input Torque, in.-lbs. @ Max. rpm	Upright-Style Jack Base Price Each		Inverted-Style Jack Base Price Each		Max. Travel Lg.	Travel Length Per Inch
1	3/4″	1/25″	25.2 @ 500	62255K15	$408.83	62255K16	$408.83	36″	$3.89
2	1″	1/24″	112.0 @ 500	62255K25	518.52	62255K26	518.52	36″	4.64
5	1 1/2″	1/16″	440.0 @ 300	62255K45	676.48	62255K46	676.48	72″	4.98

Compact Screw Jacks

The choice for tight spots. **To Order:** Please specify travel length from those available below.

Compact Acme Screw Jacks— Housing is aluminum. Lift screw is 11L17 steel for 250-lb. jacks; Type 304 stainless steel for 500- and 1,000-lb. jacks. Accuracy for travel distance per turn is 0.010″ per foot. Gear ratio is 5:1. Max. temp. is 250° F.

Jacks with mounting plate have a 2 1/4″ Dia.×5/16″ Thick. plate with four 9/32″ dia. mounting holes (1 1/2″ center-to-center).

Compact Ball Screw Jacks— You'll get higher efficiency, longer duty cycles, and faster lifting speeds with half the power needed for Acme screw jacks. Housing is ductile iron. Lift screw is heat-treated steel. Accuracy for travel distance per turn is 0.044″ per foot. Gear ratio is 6:1. Max. temp. is 120° F.

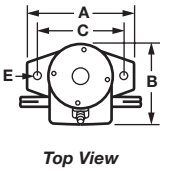

Top View

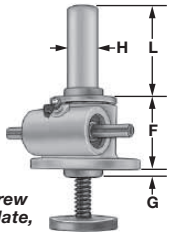

Compact Acme Screw Jack with Mount. Plate, Inverted Style

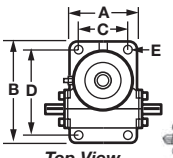

Top View

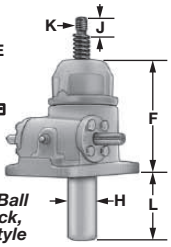

Compact Ball Screw Jack, Upright Style

Load Cap.	Screw Jack Shaft Dia.	Screw Jack Shaft Keyway, Wd.×Dp.×Lg.	(A)	(B)	MOUNT. HOLES Ctr.-to-Ctr. (C)	MOUNT. HOLES Ctr.-to-Ctr. (D)	MOUNT. HOLES Dia. (E)	Upright-Style Flange (F)	Inverted-Style Flange (F)	Bearing Thick. (G)♦	Tube Dia. (H)	Attachment Thread Lg. (J)	Attachment Thread (K)	(L)
Compact Acme Screw Jacks														
250 lbs.	3/8″	1/8″×1/16″×3/4″	4″	2 27/32″	3 1/4″	—	9/32″	2 3/8″	2 5/16″	1/4″	2 7/32″	1 5/8″	1/2″-20	Travel Lg. + 7/16″
500 lbs.	3/8″	1/8″×1/16″×3/4″	4″	2 27/32″	3 1/4″	—	9/32″	2 3/8″	2 5/16″	1/4″	2 7/32″	1 1/2″	1/2″-20	Travel Lg. + 7/16″
1,000 lbs.	3/8″	1/8″×1/16″×3/4″	4″	2 27/32″	3 1/4″	—	9/32″	2 3/8″	2 5/16″	1/4″	2 7/32″	1″	3/8″-24	Travel Lg. + 3/8″
Compact Ball Screw Jacks														
2 tons	1/2″	1/8″×1/16″×1″	4 1/8″	6 1/4″	3 1/8″	5 1/4″	13/32″	5 5/8″	5 5/8″	—	1 21/32″	1 1/8″	3/4″-16	Travel Lg. + 3/4″

♦ Only for inverted-style jacks.

Load Cap.	Available Travel Lengths	Lift Screw Dia.	Travel Distance per Turn	Input Torque, in.-lbs. @ Max. rpm	WITHOUT MOUNTING PLATE Upright Style	Each	WITHOUT MOUNTING PLATE Inverted Style	Each	WITH MOUNTING PLATE Upright Style	Each	WITH MOUNTING PLATE Inverted Style	Each
Compact Acme Screw Jacks												
250 lbs.	3″, 6″, 9″, 12″	1/2″	1/40″	7 @ 500	5945K71	$244.35	5945K74	$239.76	5945K77	$242.70	5945K81	$241.93
500 lbs.	3″, 6″, 9″, 12″	5/8″	1/20″	17 @ 500	5945K72	293.09	5945K75	285.44	5945K78	298.43	5945K82	285.44
1,000 lbs.	3″, 6″, 9″, 12″	5/8″	1/40″	30 @ 500	5945K73	370.39	5945K76	373.59	5945K79	373.66	5945K83	380.31
Compact Ball Screw Jacks												
2 tons	3″, 6″, 9″, 12″, 18″, 24″	1″	1/24″	50 @ 1,750	1410T42	1,194.52	1410T52	1,324.18				

Optional Mounting Plate Attachments

For Load Cap.	Dia. (M)	Ctr.-to-Ctr. (N)	Dia. (P)	Plate Thick.		Each
For Acme Screw Jacks						
1 ton	7/16″	2 1/2″	3 1/2″	3/8″	62255K91	$53.29
2 tons	13/32″	3″	4 1/4″	7/16″	62255K92	53.37
5 tons	1 1/16″	3″	4 1/2″	5/8″	62255K93	72.19
For Compact Ball Screw Jacks						
2 tons	13/32″	3″	4 1/4″	7/16″	1410T73	129.35

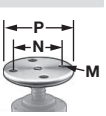

Optional Clevis-End Mounting Attachments

For Load Cap.	Dia. (Q)	Dia. (R)	(S)		Each
For Acme Screw Jacks					
1 ton	1/2″	5/16″	1 13/16″	62255K71	$47.11
2 tons	1″	5/8″	2 1/2″	62255K72	48.20
5 tons	1 1/4″	1″	4 1/2″	62255K73	65.89
For Compact Ball Screw Jacks					
2 tons	1″	1/2″	3″	1410T74	137.05

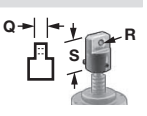

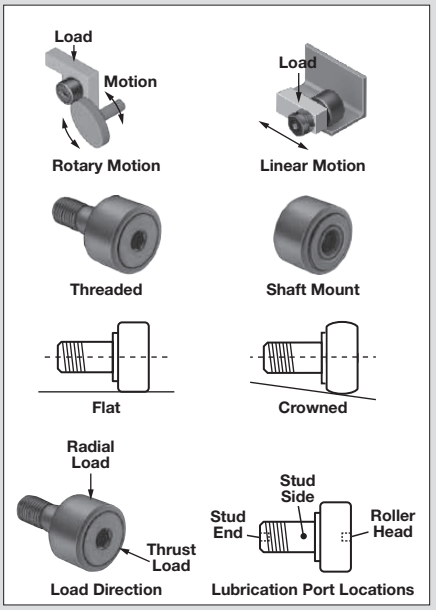

About Track Rollers

Also known as cam followers, track rollers have a thick outer roller that runs directly on a flat surface.

Roller Style

Threaded—Thread the stud directly into a component or secure with a nut for through-hole mounting.

Shaft Mount—Also known as yoke-style cam followers, these rollers have more mounting flexibility than threaded track rollers. They're typically mounted onto a shaft or clevis rod end.

Roller Profile

Flat—The choice for perfectly flat surfaces, these rollers offer the best surface-to-surface contact.

Crowned—Have a slight curve, which is invisible to the naked eye, to stay centered on surfaces that are not perfectly aligned and/or not perfectly flat.

Load Direction and Load Capacity

Radial load refers to the force that is applied perpendicular to the roller's outer surface.

Thrust load, also known as axial load, refers to the force that is applied parallel to the end of the roller.

Static load capacity is the weight a roller can support while stationary.

Dynamic load capacity is the weight a roller can support while in motion.

Lubrication Port Locations

Most threaded track rollers have a lubrication hole in the side of the stud (access can be difficult once rollers are installed). Others allow lubrication through the end of the stud and head of the roller. Lubrication holes in all three points allow maximum access.

Shaft-mount track rollers usually have a lubrication hole or groove in the roller's inner ring.

Threaded Track Rollers



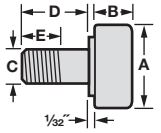

Also known as cam followers, track rollers support loads while guiding and positioning work. Lubrication holes are in the end and the side of the stud, unless noted. All are steel with a black-oxide finish. They have needle roller bearings and a hex socket head. Mounting nut not included. Maximum temperature is 250° F.

Crowned rollers have a slight curve, which is invisible to the naked eye, to stay centered on surfaces that are not perfectly aligned and/or not perfectly flat.

Sealed rollers have end seals to protect rolling elements from dirt and contamination.

Roller Dia. (A)	Roller Wd. (B)	Stud Dia. (C)	Stud Lg. (D)	Thread Size	Thread Lg. (E)	Max. rpm	Radial Load Cap., lbs. Static	Radial Load Cap., lbs. Dynamic	Unsealed		Sealed	
Flat												
1/2"	3/8"	3/16"	5/8"	10-32	1/4"	11,000	790	650	1460T11★	$20.23	1460T41★	$20.50
9/16"	3/8"	3/16"	5/8"	10-32	1/4"	10,000	790	650	1460T12★	22.31	1460T42★	25.31
5/8"	7/16"	1/4"	3/4"	1/4"-28	5/16"	9,000	1,200	950	1460T13★	21.37	1460T43★	20.40
11/16"	7/16"	1/4"	3/4"	1/4"-28	5/16"	8,000	1,200	950	1460T14★	23.87	1460T44★	25.90
3/4"	1/2"	3/8"	7/8"	3/8"-24	3/8"	6,000	2,000	1,600	1460T15	20.33	1460T45	22.25
7/8"	1/2"	3/8"	7/8"	3/8"-24	3/8"	5,000	2,000	1,600	1460T16	21.25	1460T46	21.67
1"	5/8"	7/16"	1"	7/16"-20	1/2"	4,800	3,000	2,200	1460T17	24.56	1460T47	27.17
1 1/8"	5/8"	7/16"	1"	7/16"-20	1/2"	3,400	3,000	2,200	1460T18	25.50	1460T48	27.75
1 1/4"	3/4"	1/2"	1 1/4"	1/2"-20	5/8"	3,100	4,200	3,900	1460T19	30.19	1460T49	32.56
1 3/8"	3/4"	1/2"	1 1/4"	1/2"-20	5/8"	2,800	4,200	3,900	1460T21	31.75	1460T51	34.00
1 1/2"	7/8"	5/8"	1 1/2"	5/8"-18	3/4"	2,500	5,600	4,800	1460T22	37.15	1460T52	39.81
1 5/8"	7/8"	5/8"	1 1/2"	5/8"-18	3/4"	2,300	5,600	4,800	1460T23	38.31	1460T53	41.19
1 3/4"	1"	3/4"	1 3/4"	3/4"-16	7/8"	2,200	7,900	6,300	1460T24	47.88	1460T54	49.48
1 7/8"	1"	3/4"	1 3/4"	3/4"-16	7/8"	2,000	7,900	6,300	1460T25	48.38	1460T55	50.08
2"	1 1/4"	7/8"	2"	7/8"-14	1"	1,400	10,000	8,000	1460T26	62.04	1460T56	68.67
2 1/4"	1 1/4"	7/8"	2"	7/8"-14	1"	1,300	10,000	8,000	1460T27	66.21	1460T57	72.25
2 1/2"	1 1/2"	1"	2 1/4"	1"-14	1 1/8"	1,100	16,000	11,000	1460T28	84.62	1460T58	85.76
2 3/4"	1 1/2"	1"	2 1/4"	1"-14	1 1/8"	1,000	16,000	11,000	1460T29	99.48	1460T59	120.60
3"	1 3/4"	1 1/4"	2 1/2"	1 1/4"-12	1 1/4"	950	24,000	15,000	1460T31	143.94	1460T61	168.72
3 1/4"	1 3/4"	1 1/4"	2 1/2"	1 1/4"-12	1 1/4"	850	24,000	15,000	1460T32	156.02	1460T62	185.32
Crowned												
1/2"	3/8"	3/16"	5/8"	10-32	1/4"	11,000	790	650			3659K11★	28.33
9/16"	3/8"	3/16"	5/8"	10-32	1/4"	10,000	790	650			3659K45★	27.56
5/8"	7/16"	1/4"	3/4"	1/4"-28	5/16"	9,000	1,200	950			3659K12★	27.34
11/16"	7/16"	1/4"	3/4"	1/4"-28	5/16"	8,000	1,200	950			3659K46★	31.29
3/4"	1/2"	3/8"	7/8"	3/8"-24	3/8"	6,000	2,000	1,600			3659K13	24.80
7/8"	1/2"	3/8"	7/8"	3/8"-24	3/8"	5,000	2,000	1,600			3659K14	25.00
1"	5/8"	7/16"	1"	7/16"-20	1/2"	4,800	3,000	2,200			3659K15	28.94
1 1/8"	5/8"	7/16"	1"	7/16"-20	1/2"	3,400	3,000	2,200			3659K16	29.92
1 1/4"	3/4"	1/2"	1 1/4"	1/2"-20	5/8"	3,100	4,200	3,900			3659K17	33.72
1 3/8"	3/4"	1/2"	1 1/4"	1/2"-20	5/8"	2,800	4,200	3,900			3659K18	35.02
1 1/2"	7/8"	5/8"	1 1/2"	5/8"-18	3/4"	2,500	5,600	4,800			3659K19	40.84
1 5/8"	7/8"	5/8"	1 1/2"	5/8"-18	3/4"	2,300	5,600	4,800			3659K21	42.06
1 3/4"	1"	3/4"	1 3/4"	3/4"-16	7/8"	2,200	7,900	6,300			3659K22	50.16
1 7/8"	1"	3/4"	1 3/4"	3/4"-16	7/8"	2,000	7,900	6,300			3659K23	50.66
2"	1 1/4"	7/8"	2"	7/8"-14	1"	1,400	10,000	8,000			3659K24	68.23
2 1/4"	1 1/4"	7/8"	2"	7/8"-14	1"	1,300	10,000	8,000			3659K25	72.08
2 1/2"	1 1/2"	1"	2 1/4"	1"-14	1 1/8"	1,100	16,000	11,000			3659K26	91.50
2 3/4"	1 1/2"	1"	2 1/4"	1"-14	1 1/8"	1,000	16,000	11,000			3659K27	126.42
3"	1 3/4"	1 1/4"	2 1/2"	1 1/4"-12	1 1/4"	950	24,000	15,000			3659K28	185.92
3 1/4"	1 3/4"	1 1/4"	2 1/2"	1 1/4"-12	1 1/4"	850	24,000	15,000			3659K29	211.20

★No lubrication holes.

Shaft-Mount Track Rollers



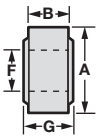

Also known as yoke-style cam followers, these rollers have more mounting flexibility than threaded track rollers. Lubricate rollers through a hole and groove in the inner ring. All are steel with a black-oxide finish and have needle roller bearings. Maximum temperature is 250° F.

Crowned rollers have a slight curve, which is invisible to the naked eye, to stay centered on surfaces that are not perfectly aligned and/or not perfectly flat.

Sealed rollers have end seals to protect rolling elements from dirt and contamination.

Roller Dia. (A)	Roller Wd. (B)	Bore ID (F)	O'all Wd. (G)	Max. rpm	Radial Load Cap., lbs. Static	Radial Load Cap., lbs. Dynamic	Flat Unsealed		Flat Sealed		Crowned Sealed	
3/4"	1/2"	1/4"	9/16"	6,000	4,100	1,600	6831K11	$18.33	6831K41	$20.50	3689K11	$21.70
7/8"	1/2"	1/4"	9/16"	5,000	4,100	1,600	6831K12	19.46	6831K42	21.00	3689K12	20.52
1"	5/8"	5/16"	11/16"	4,800	6,200	2,200	6831K13	21.74	6831K43	24.98	3689K13	23.39
1 1/8"	5/8"	5/16"	11/16"	3,400	6,200	2,200	6831K61	21.91	6831K62	25.04	3689K14	23.66
1 1/4"	3/4"	3/8"	13/16"	3,100	8,500	3,900	6831K14	23.74	6831K44	27.59	3689K15	25.07
1 3/8"	3/4"	3/8"	13/16"	2,800	8,500	3,900	6831K15	25.04	6831K45	28.89	3689K16	25.68
1 1/2"	7/8"	7/16"	15/16"	2,500	11,000	4,800	6831K16	28.89	6831K46	33.41	3689K17	29.50
1 5/8"	7/8"	7/16"	15/16"	2,300	11,000	4,800	6831K63	31.33	6831K64	35.67	3689K18	31.39
1 3/4"	1"	1/2"	1 1/16"	2,200	15,000	6,300	6831K17	38.85	6831K47	42.26	3689K19	37.07
1 7/8"	1"	1/2"	1 1/16"	2,000	15,000	6,300	6831K18	39.50	6831K48	42.80	3689K21	37.27
2"	1 1/4"	5/8"	1 5/16"	1,400	21,000	8,000	6831K19	46.78	6831K49	56.54	3689K22	49.34
2 1/4"	1 1/4"	5/8"	1 5/16"	1,300	21,000	8,000	6831K21	51.35	6831K51	60.67	3689K23	52.83
2 1/2"	1 1/2"	3/4"	1 9/16"	1,100	30,000	11,000	6831K22	75.72	6831K52	79.61	3689K24	78.96
2 3/4"	1 1/2"	3/4"	1 9/16"	1,000	30,000	11,000	6831K23	83.26	6831K53	110.35	3689K25	107.72
3"	1 3/4"	1"	1 13/16"	950	45,000	15,000	6831K24	103.18	6831K54	133.44	3689K26	151.10
3 1/4"	1 3/4"	1"	1 13/16"	850	45,000	15,000	6831K25	126.26	6831K55	151.70	3689K27	169.66

Threaded Track Rollers with Oversized Stud

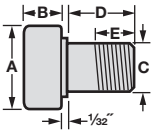



An oversized stud roughly doubles the static load capacity of these rollers. Also known as cam followers, track rollers support loads while guiding and positioning work. Lubrication holes are in the side of the stud, unless noted. All are steel with a black-oxide finish. They have needle roller bearings and a hex socket head. Mounting nut not included. Maximum temperature is 250° F.

Crowned rollers have a slight curve, which is invisible to the naked eye, to stay centered on surfaces that are not perfectly aligned and/or not perfectly flat.

Sealed rollers have end seals to protect rolling elements from dirt and contamination.

Roller Dia. (A)	Roller Wd. (B)	Stud Dia. (C)	Stud Lg. (D)	Thread Size	Thread Lg. (E)	Max. rpm	Radial Load Cap., lbs. Static	Radial Load Cap., lbs. Dynamic	Flat Unsealed		Flat Sealed		Crowned Sealed	
1/2"	3/8"	1/4"	5/8"	1/4"-28	1/4"	11,000	1,500	650	1470T11★	$24.32	1470T41★	$25.64	1480T11★	$32.12
5/8"	7/16"	5/16"	3/4"	5/16"-24	5/16"	9,000	2,400	950	1470T13★	24.32	1470T43★	25.93	1480T13★	32.20
3/4"	1/2"	7/16"	7/8"	7/16"-20	3/8"	6,000	4,100	1,600	1470T15	23.00	1470T45	25.58	1480T15	28.47
7/8"	1/2"	7/16"	7/8"	7/16"-20	3/8"	5,000	4,100	1,600	1470T16	23.99	1470T46	25.38	1480T16	29.03
1"	5/8"	5/8"	1"	5/8"-18	1/2"	4,800	6,000	2,200	1470T17	28.12	1470T47	29.61	1480T17	33.53
1 1/4"	3/4"	3/4"	1 1/4"	3/4"-16	5/8"	3,100	8,000	3,900	1470T19	33.89	1470T49	36.28	1480T19	39.05
1 3/8"	3/4"	3/4"	1 1/4"	3/4"-16	5/8"	2,800	8,000	3,900	1470T21	35.66	1470T51	37.44	1480T21	40.65
1 1/2"	7/8"	7/8"	1 1/2"	7/8"-14	3/4"	2,500	11,000	4,800	1470T22	36.19	1470T52	41.83	1480T22	47.34
1 5/8"	7/8"	7/8"	1 1/2"	7/8"-14	3/4"	2,300	11,000	4,800	1470T23	42.83	1470T53	44.43	1480T23	48.36
1 3/4"	1"	1"	1 3/4"	1"-14	7/8"	2,200	15,000	6,300	1470T24	54.33	1470T54	56.70	1480T24	58.14
1 7/8"	1"	1"	1 3/4"	1"-14	7/8"	2,000	15,000	6,300	1470T25	55.26	1470T55	57.81	1480T25	59.44
2"	1 1/4"	1 1/8"	2"	1 1/8"-12	1"	1,400	21,000	8,000	1470T26	70.07	1470T56	73.94	1480T26	82.44
2 1/2"	1 1/2"	1 1/4"	2 1/4"	1 1/4"-12	1 1/8"	1,100	30,000	11,000	1470T28	95.06	1470T58	97.23	1480T28	106.11

★No lubrication holes.

Ultra Corrosion-Resistant Track Rollers

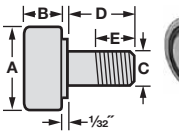



Threaded

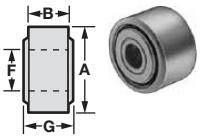

Shaft Mount

Made of 440C stainless steel, these track rollers offer excellent corrosion resistance. Also known as cam followers, track rollers support loads while guiding and positioning work. All rollers have end seals to protect rolling elements from dirt and contamination. They have needle roller bearings. Maximum temperature is 250° F.

Threaded—Lubrication holes are in the end and the side of the stud, unless noted. All have a hex socket head. Mounting nut not included.

Shaft Mount—Lubricate rollers through a hole and groove in the inner ring.

Roller Dia. (A)	Roller Wd. (B)	Max. rpm	Threaded Radial Load Cap., lbs. (Dynamic)	Threaded Radial Load Cap., lbs. (Static)	Threaded Stud Dia. (C)	Threaded Stud Lg. (D)	Threaded Thread Size	Threaded Thread Lg. (E)			Shaft Mount Radial Load Cap., lbs. (Static)	Shaft Mount Bore ID (F)	Shaft Mount O'all Wd. (G)		
1/2"	3/8"	11,000	600	300	3/16"	5/8"	10-32	1/4"	8043K72★	$85.64					
5/8"	7/16"	9,000	850	600	1/4"	3/4"	1/4"-28	5/16"	8043K74★	85.14					
3/4"	1/2"	6,000	1,400	1,500	3/8"	7/8"	3/8"-24	3/8"	8043K75	86.18	2,100	1/4"	9/16"	7796K81	$74.44
7/8"	1/2"	5,000	1,400	1,500	3/8"	7/8"	3/8"-24	3/8"	8043K76	88.92	2,100	1/4"	9/16"	7796K86	76.22
1"	5/8"	4,800	1,800	2,000	7/16"	1"	7/16"-20	1/2"	8043K77	104.60	5,400	5/16"	11/16"	7796K82	89.66
1 1/8"	5/8"	3,400	1,800	2,000	7/16"	1"	7/16"-20	1/2"	8043K78	107.22	5,400	5/16"	11/16"	7796K87	90.08
1 1/4"	3/4"	3,100	2,300	3,600	1/2"	1 1/4"	1/2"-20	5/8"	8043K49	125.40	7,700	3/8"	13/16"	7796K83	100.06
1 3/8"	3/4"	2,800	2,300	3,600	1/2"	1 1/4"	1/2"-20	5/8"	8043K52	131.02	7,700	3/8"	13/16"	7796K88	104.60
1 1/2"	7/8"	2,500	4,000	4,400	5/8"	1 1/2"	5/8"-18	3/4"	8043K51	153.62	11,000	7/16"	15/16"	7796K84	115.40
1 5/8"	7/8"	2,300	4,000	4,400	5/8"	1 1/2"	5/8"-18	3/4"	8043K56	152.38					
1 3/4"	1"	2,200	5,500	5,500	3/4"	1 3/4"	3/4"-16	7/8"	8043K53	183.73	14,000	1/2"	1 1/16"	7796K85	145.92
1 7/8"	1"	2,000	6,000	5,500	3/4"	1 3/4"	3/4"-16	7/8"	8043K57	186.08					
2"	1 1/4"	1,400	7,200	6,700	7/8"	2"	7/8"-14	1"	8043K55	240.71	17,000	5/8"	15/16"	7796K89	197.56

★No lubrication holes.

Threaded Track Rollers with Three Lubrication Ports



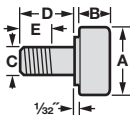

Lubricate these track rollers through their hex socket head when access to the stud is limited. They also have lubrication holes in the side and end of the stud for maximum access. Also known as cam followers, track rollers support loads while guiding and positioning work. All are steel and have end seals to protect rolling elements from dirt and contamination. They have needle roller bearings and a hex socket head. Mounting nut is included. Maximum temperature is 250° F.

Crowned rollers have a slight curve, which is invisible to the naked eye, to stay centered on surfaces that are not perfectly aligned and/or not perfectly flat.

Roller Dia. (A)	Roller Wd. (B)	Stud Dia. (C)	Stud Lg. (D)	Thread Size	Thread Lg. (E)	Max. rpm	Radial Load Cap., lbs. Static	Dynamic	Flat		Crowned	
3/4"	1/2"	3/8"	7/8"	3/8"-24	3/8"	5,000	3,100	1,800	3652K11	$21.52	3652K52	$24.86
7/8"	1/2"	3/8"	7/8"	3/8"-24	3/8"	5,000	3,100	1,800	3652K12	20.84	3652K51	25.12
1"	5/8"	7/16"	1"	7/16"-20	1/2"	4,500	4,800	2,300	3652K21	20.12	3652K49	29.05
1"	5/8"	5/8"	1"	5/8"-18	1/2"	4,500	6,000	2,300	3307K2	29.45	3307K26	32.95
1 1/4"	3/4"	1/2"	1 1/4"	1/2"-20	5/8"	3,900	6,600	4,200	3652K22	25.12	3652K48	33.91
1 1/4"	3/4"	3/4"	1 1/4"	3/4"-16	5/8"	3,900	8,000	4,000	3307K4	35.44	3307K24	38.29
1 1/2"	7/8"	5/8"	1 1/2"	5/8"-18	3/4"	3,100	8,800	5,000	3652K23	30.70	3652K47	41.01
1 1/2"	7/8"	7/8"	1 1/2"	7/8"-14	3/4"	3,100	11,000	4,900	3307K5	43.68	3307K23	46.16
1 3/4"	1"	3/4"	1 3/4"	3/4"-16	7/8"	2,600	12,000	6,400	3652K13	47.78	3652K46	50.35
1 3/4"	1"	1"	1 3/4"	1"-14	7/8"	2,600	15,000	6,400	3307K6	54.33	3307K22	56.85
1 7/8"	1"	3/4"	1 3/4"	3/4"-16	7/8"	2,600	12,000	6,400	3652K14	48.22	3652K45	50.86
2"	1 1/4"	7/8"	2"	7/8"-14	1"	2,200	16,000	9,600	3652K24	52.90	3652K44	71.40
2"	1 1/4"	1 1/8"	2"	1 1/8"-12	1"	2,200	21,000	9,600	3307K7	75.17	3307K21	80.87
2 1/2"	1 1/2"	1"	2 1/4"	1"-14	1 1/8"	2,000	25,000	12,000	3652K25	69.32	3652K43	91.84
3"	1 3/4"	1 1/4"	2 1/2"	1 1/4"-12	1 1/4"	1,600	40,000	17,000	3652K26	169.36	3652K42	186.64
4"	2 1/4"	1 1/2"	3 1/2"	1 1/2"-12	1 1/2"	1,300	70,000	30,000	3652K27	293.38	3652K41	311.92

Threaded Track Rollers with Adjustable Shoulder



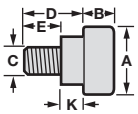

Also known as eccentric track rollers, the shoulder adjusts up or down up to 0.03" (0.015" on 3/4" and 7/8" dia. rollers) to align to your track, enabling uniform alignment among rollers in a system. Lubricate these rollers through the roller head. All are steel and have end seals to protect rolling elements from dirt and contamination. They have needle roller bearings and a hex socket head. Mounting nut is included. Maximum temperature is 250° F.

Crowned rollers have a slight curve, which is invisible to the naked eye, to stay centered on surfaces that are not perfectly aligned and/or not perfectly flat.

Roller Dia. (A)	Roller Wd. (B)	Stud Dia. (C)	Stud Lg. (D)	Thread Size	Thread Lg. (E)	(K)	Max. rpm	Radial Load Cap., lbs. Static	Dynamic	Flat		Crowned	
3/4"	1/2"	3/8"	3/8"	3/8"-24	3/8"	1/2"	5,000	3,100	1,800	3647K11	$24.07	3647K31	$30.05
7/8"	1/2"	3/8"	3/8"	3/8"-24	3/8"	1/2"	5,000	3,100	1,800	3647K12	27.37	3647K32	30.64
1"	5/8"	7/16"	1/2"	7/16"-20	1/2"	1/2"	4,500	4,800	2,300	3647K13	27.77	3647K33	34.32
1 1/8"	5/8"	7/16"	1/2"	7/16"-20	1/2"	1/2"	4,500	4,800	2,300	3647K14	28.18	3647K34	34.79
1 1/4"	3/4"	1/2"	5/8"	1/2"-20	5/8"	5/8"	3,900	6,600	4,200	3647K15	32.05	3647K35	38.55
1 3/8"	3/4"	1/2"	5/8"	1/2"-20	5/8"	5/8"	3,900	6,600	4,200	3647K16	33.18	3647K36	39.55
1 1/2"	7/8"	5/8"	3/4"	5/8"-18	3/4"	3/4"	3,100	8,800	5,000	3647K17	37.69	3647K37	44.67
1 5/8"	7/8"	5/8"	3/4"	5/8"-18	3/4"	3/4"	3,100	8,800	5,000	3647K18	38.56	3647K38	45.95
1 3/4"	1"	3/4"	7/8"	3/4"-16	7/8"	7/8"	2,600	12,000	6,400	3647K19	45.18	3647K39	53.42
1 7/8"	1"	3/4"	7/8"	3/4"-16	7/8"	7/8"	2,600	12,000	6,400	3647K21	51.23	3647K41	53.71
2"	1 1/4"	7/8"	1"	7/8"-14	1"	1"	2,200	16,000	9,600	3647K22	60.34	3647K42	72.60
2 1/4"	1 1/4"	7/8"	1"	7/8"-14	1"	1"	2,200	16,000	9,600	3647K23	62.80	3647K43	76.36

Metric Threaded Track Rollers



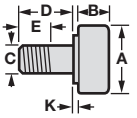

Also known as cam followers, track rollers support loads while guiding and positioning work. They have one lubrication hole in the head, unless noted. All are steel. They have needle roller bearings and a hex socket head. Mounting nut is included.

Sealed rollers have end seals to protect rolling elements from dirt and contamination.

Roller Dia. (A), mm	Roller Wd. (B), mm	Stud Dia. (C), mm	Stud Lg. (D), mm	Thread Size	Thread Lg. (E), mm	(K), mm	Max. Temp., °F	Max. rpm	Radial Load Cap., lbs. Static	Dynamic	Unsealed		Sealed	
10	7	3	9	M3×0.5	5	0.5	175°	14,000	500	550			6314K14★	$28.44
12	8	4	11	M4×0.7	6	0.5	210°	10,000	860	850	6314K12★	$22.08	6314K15■★	22.92
13	9	5	13	M5×0.8	7.5	0.5	210°	8,000	1,200	1,000	6314K13★	17.96	6314K16■★	22.62
16	11	6	16	M6×1	8	0.6	245°	7,000	1,900	1,500	6314K21	21.54	6314K41	30.50
19	11	8	20	M8×1.25	10	0.6	245°	5,000	2,500	1,800	6314K22	23.42	6314K42	28.73
22	12	10	23	M10×1.25	12	0.6	245°	8,000	1,500	1,200	6314K31	25.73	6314K51	30.73
26	12	10	23	M10×1.25	12	0.6	245°	8,000	1,500	1,200	6314K32	26.31	6314K52	32.52
30	14	12	25	M12×1.5	13	0.6	245°	3,400	4,400	3,000	6314K25♣	31.10	6314K45♣	37.97

★No lubrication holes. ■ Max. temp. is 175° F. ♣ Lubrication holes in head as well as the end and side of the stud.

High-Speed Shaft-Mount Track Rollers



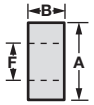

The outer ring is built to handle higher speeds than standard shaft-mount track rollers. Lubrication is required. All are steel and have needle roller bearings. Maximum temperature is 250° F.

Sealed rollers have end seals to protect rolling elements from dirt and contamination.

Unsealed

Roller Dia. (A)	Roller Wd. (B)	Bore ID (F)	Max. rpm	Radial Load Cap., lbs. Static	Dynamic		
1"	1/2"	1/2"	10,000	2,200	1,700	3402K11	$24.61
1 1/2"	3/4"	3/4"	7,000	5,000	4,000	3402K12	29.93
1 3/4"	3/4"	7/8"	6,000	6,000	4,200	3402K13	36.00
2"	1"	1"	5,000	11,000	6,200	3402K14	43.41
2 1/4"	1"	1 1/4"	4,300	13,000	7,100	3402K15	55.62

Sealed

Roller Dia. (A)	Roller Wd. (B)	Bore ID (F)	Max. rpm	Radial Load Cap., lbs. Static	Dynamic		
1"	5/8"	1/2"	7,500	1,300	1,000	3402K21	$34.38
1 1/2"	3/4"	3/4"	5,000	2,700	2,100	3402K22	41.31
1 3/4"	3/4"	7/8"	4,400	3,000	2,200	3402K23	49.69
2"	1"	1"	3,800	7,000	4,600	3402K24	60.61
2 1/4"	1"	1 1/4"	3,100	8,000	4,500	3402K25	77.00

High-Load Track Rollers



With a double row of cylindrical roller bearings, these rollers provide the highest combination of speed and dynamic radial load ratings of any track roller we offer. Also known as cam followers, track rollers support loads while guiding and positioning work. All rollers are permanently lubricated and have end seals to retain lubricant and protect rolling elements from dirt and contamination. All are steel. Maximum temperature is 250° F.

Threaded rollers have a hex socket head. Mounting nut is included.

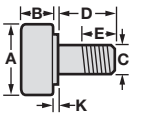

Threaded

Threaded

Roller Dia. (A)	Roller Wd. (B)	Stud Dia. (C)	Stud Lg. (D)	Thread Size	Thread Lg. (E)	(K)	Max. rpm	Radial Load Cap., lbs. Static	Radial Load Cap., lbs. Dynamic		
1″	5/8″	7/16″	1″	7/16″-20	1/2″	1/32″	9,000	3,200	3,000	3643K8	$39.33
1 1/8″	5/8″	7/16″	1″	7/16″-20	1/2″	1/32″	9,000	3,200	3,000	3643K9	40.32
1 1/4″	3/4″	1/2″	1 1/4″	1/2″-20	5/8″	1/32″	7,500	4,300	4,100	3643K11	49.03
1 3/8″	3/4″	1/2″	1 1/4″	1/2″-20	5/8″	1/32″	7,500	4,300	4,100	3643K12	51.75
1 1/2″	7/8″	5/8″	1 1/2″	5/8″-18	3/4″	1/32″	6,000	7,000	6,200	3643K13	50.17
1 3/4″	1″	3/4″	1 3/4″	3/4″-16	7/8″	1/32″	4,700	10,000	8,200	3643K15	59.28
1 7/8″	1″	3/4″	1 3/4″	3/4″-16	7/8″	1/32″	4,700	10,000	8,200	3643K16	61.97
2″	1 1/4″	7/8″	2″	7/8″-14	1″	1/32″	4,100	17,000	12,000	3643K17	79.92
2 1/2″	1 1/2″	1″	2 1/4″	1″-14	1 1/8″	1/32″	3,700	22,000	16,000	3643K19	98.02



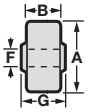

Shaft Mount

Shaft Mount

Roller Dia. (A)	Roller Wd. (B)	Bore ID (F)	O'all Wd. (G)	Max. rpm	Radial Load Cap., lbs. Static	Radial Load Cap., lbs. Dynamic		
1 1/8″	5/8″	5/16″	45/64″	9,000	3,200	3,000	3670K1	$31.88
1 1/4″	3/4″	3/8″	13/16″	7,500	4,300	4,100	3670K2	39.82
1 3/8″	3/4″	3/8″	13/16″	7,500	4,300	4,100	3670K3	41.31
1 1/2″	7/8″	7/16″	15/16″	6,000	7,000	6,200	3670K4	41.52
1 3/4″	1″	1/2″	1 1/16″	4,700	10,000	8,200	3670K5	49.17
1 7/8″	1″	1/2″	1 1/16″	4,700	10,000	8,200	3670K6	50.17
2″	1 1/4″	5/8″	1 5/16″	4,100	17,000	12,000	3670K7	63.75
2 1/2″	1 1/2″	3/4″	1 9/16″	3,700	22,000	16,000	3670K8	84.86

Metric Maintenance-Free Threaded Track Rollers



Because they never need to be relubricated, these rollers are a good choice for hard-to-reach places. Also known as cam followers, track rollers support loads while guiding and positioning work. These crowned rollers have a slight curve, which is invisible to the naked eye, to stay centered on surfaces that are not perfectly aligned and/or not perfectly flat. They have end seals to block dirt and contamination. All are steel and have needle roller bearings and a hex socket head. Mounting nut is included. Maximum temperature is 175° F.

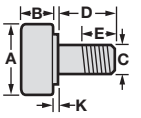

Roller Dia. (A), mm	Roller Wd. (B), mm	Stud Dia. (C), mm	Stud Lg. (D), mm	Thread Size	Thread Lg. (E), mm	(K), mm	Max. rpm	Radial Load Cap., lbs. Static	Radial Load Cap., lbs. Dynamic		
16	11	6	16	M6×1	8	0.6	1,600	820	800	1592T1	$28.78
19	11	8	20	M8×1.25	10	0.6	1,200	1,000	950	1592T2	33.63
22	12	10	23	M10×1.25	12	0.6	1,000	1,500	1,200	1592T3	36.47
26	12	10	23	M10×1.25	12	0.6	1,000	1,500	1,200	1592T4	38.70
30	14	12	25	M12×1.5	13	0.6	800	2,200	1,700	1592T5	39.52
32	14	12	25	M12×1.5	13	0.6	800	2,200	1,700	1592T6	43.02

Thrust-Load-Rated Threaded Track Rollers



These rollers are rated to handle radial and thrust (top and side) loads simultaneously. Also known as cam followers, track rollers support loads while guiding and positioning work. All are permanently lubricated and have end seals to retain lubricant and protect rolling elements from dirt and contamination. Maximum temperature is 225° F, unless noted.

Threaded rollers have a hex socket in the stud end. They have ball bearings, unless noted. Mounting nut is included.

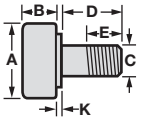

Threaded

Threaded

Roller Dia. (A)	Roller Wd. (B)	Stud Dia. (C)	Stud Lg. (D)	Thread Size	Thread Lg. (E)	(K)	Max. rpm	Radial Load Cap., lbs. Static	Radial Load Cap., lbs. Dynamic	Thrust Load Cap., lbs. Static	Thrust Load Cap., lbs. Dynamic		
Steel													
1″	3/4″	7/16″	1″	7/16″-20	1/2″	1/32″	8,000	230	230	140	—	6318K65	$41.50
1″	3/4″	7/16″	1″	7/16″-20	1/2″	1/32″	6,000	380	350	240	—	2086K21★	82.45
1 1/8″	3/4″	7/16″	1″	7/16″-20	1/2″	1/32″	8,000	230	230	140	—	6318K66	43.13
1 1/4″	13/16″	1/2″	1 1/4″	1/2″-20	5/8″	1/32″	8,000	600	500	370	—	6318K67	46.02
1 3/8″	13/16″	1/2″	1 1/4″	1/2″-20	5/8″	1/32″	8,000	600	500	370	—	6318K68	47.56
1 1/2″	1 1/8″	5/8″	1 1/2″	5/8″-18	3/4″	1/16″	6,000	1,100	900	470	—	2086K23★	102.24
1 1/2″	1 1/8″	5/8″	1 1/2″	5/8″-18	3/4″	1/16″	6,000	1,100	1,000	470	—	6318K69	50.50
1 3/4″	1 1/8″	3/4″	1 3/4″	3/4″-16	7/8″	1/16″	6,000	1,100	1,000	470	—	6318K71	53.38
2″	1 5/8″	7/8″	2″	7/8″-14	1 1/8″	1/16″	6,000	1,700	1,300	910	—	2086K24★	111.55
2″	1 5/8″	7/8″	2″	7/8″-14	1 1/8″	1/16″	6,000	1,600	1,400	910	—	6318K72	57.63
2 1/4″	1 5/8″	7/8″	2″	7/8″-14	1 1/8″	1/16″	6,000	1,600	1,400	910	—	6318K73	64.98
2 1/2″	1 5/8″	1″	2 1/4″	1″-14	1 1/2″	1/16″	6,000	1,700	1,300	910	—	2086K25★	130.65
2 1/2″	1 5/8″	1″	2 1/4″	1″-14	1 1/2″	1/16″	4,000	2,200	1,900	1,300	—	6318K74	65.25
3″	1 15/16″	1 1/4″	2 1/2″	1 1/4″-12	1 3/4″	1/16″	1,100	12,000	6,000	12,000	—	6318K75■	85.08
3 1/2″	1 15/16″	1 1/4″	2 3/4″	1 1/4″-12	1 3/4″	1/16″	1,100	12,000	6,000	12,000	—	6318K76■	111.37
4″	1 15/16″	1 1/4″	2 3/4″	1 1/4″-12	1 3/4″	1/16″	1,100	12,000	6,000	12,000	—	6318K77■	129.35
Corrosion-Resistant 303 and 440C Stainless Steel													
1″	3/4″	7/16″	1″	7/16″-20	1/2″	1/32″	6,000	190	190	240	150	4725K31	122.83
1 1/4″	13/16″	1/2″	1 1/4″	1/2″-20	5/8″	1/32″	6,000	350	350	320	230	4725K32	127.58
1 1/2″	1 1/8″	5/8″	1 1/2″	5/8″-18	3/4″	1/16″	6,000	550	550	690	350	4725K33	140.11
2″	1 5/8″	7/8″	2″	7/8″-14	1 1/8″	1/16″	6,000	1,500	1,300	1,000	700	4725K34	156.53

★Maximum temperature is 325° F. ■ Tapered roller bearings.



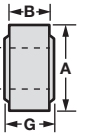

Shaft Mount

Shaft Mount—Steel with tapered roller bearings.

Roller Dia. (A)	Roller Wd. (B)	Bore ID (F)	O'all Wd. (G)	Max. rpm	Radial Load Cap., lbs. Static	Radial Load Cap., lbs. Dynamic	Thrust Load Cap., lbs. Static	Thrust Load Cap., lbs. Dynamic		
2 1/2″	1 1/2″	3/4″	1 9/16″	1,100	7,600	4,500	4,500	4,500	6321K22	$116.19
3″	1 3/4″	1″	1 13/16″	1,100	20,000	6,000	12,000	12,000	6321K31	110.77

Corrosion-Resistant Threaded Track Rollers



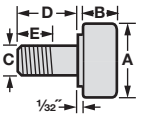

These chrome-plated steel rollers offer good corrosion resistance without the expense of stainless steel. Also known as cam followers, track rollers support loads while guiding and positioning work. All rollers have end seals to protect rolling elements from dirt and contamination. Lubrication holes are in the side and end of the stud, unless noted. They have needle roller bearings and a hex socket head. Mounting nut not included. Maximum temperature is 250° F.

Roller		Stud		Thread		Max.	Radial Load Cap., lbs.			
Dia. (A)	Wd. (B)	Dia. (C)	Lg. (D)	Size	Lg. (E)	rpm	Static	Dynamic		
1/2"	3/8"	3/16"	5/8"	10-32	1/4"	5,000	1,000	900	3376K1★	$27.42
5/8"	7/16"	1/4"	3/4"	1/4"-28	5/16"	4,000	1,200	950	3376K2★	29.08
3/4"	1/2"	3/8"	7/8"	3/8"-24	3/8"	3,300	2,000	1,600	3376K3	31.26
1"	5/8"	7/16"	1"	7/16"-20	1/2"	2,500	3,000	2,200	3376K4	38.74
1 1/4"	3/4"	1/2"	1 1/4"	1/2"-20	5/8"	2,000	4,200	3,900	3376K5	44.60
1 1/2"	7/8"	5/8"	1 1/2"	5/8"-18	3/4"	1,600	5,000	4,800	3376K6	54.10
1 3/4"	1"	3/4"	1 3/4"	3/4"-16	7/8"	1,400	7,000	6,300	3376K7	65.02
2"	1 1/4"	7/8"	2"	7/8"-14	1"	1,200	10,000	8,000	3376K8	85.96

★No lubrication holes.

Miniature Thrust-Load-Rated Corrosion-Resistant Threaded Track Rollers



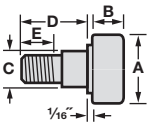

Made of 303 stainless steel, these tiny rollers offer excellent corrosion resistance. They are rated to handle radial and thrust (top and side) loads simultaneously. Also known as cam followers, track rollers support loads while guiding and positioning work. All rollers are permanently lubricated and have end seals to retain lubricant and protect rolling elements from dirt and contamination. They have ball bearings and a slotted head. Mounting nut is included. Max. temperature is 245° F.

Roller		Stud		Thread		Max.	Radial Load Cap., lbs.		Static Thrust		
Dia. (A)	Wd. (B)	Dia. (C)	Lg. (D)	Size	Lg. (E)	rpm	Static	Dynamic	Load Cap., lbs.		
3/16"	13/64"	3/32"	1/4"	2-56	1/8"	96,000	15	50	5	3668K2	$41.71
1/4"	7/64"	1/8"	1/2"	4-40	1/4"	64,000	20	60	20	3668K22	16.91
1/4"	13/64"	3/32"	1/4"	2-56	1/8"	76,000	15	50	10	3668K3	39.02
3/8"	1/8"	3/16"	1/2"	8-32	1/4"	48,000	50	160	50	3668K23	16.06
3/8"	1/4"	1/8"	7/16"	4-40	1/4"	64,000	30	100	20	3668K11	30.84
1/2"	3/16"	1/4"	5/8"	10-32	3/8"	40,000	90	240	80	3668K24	16.97
1/2"	5/16"	3/16"	1/2"	8-32	1/4"	48,000	90	250	50	3668K12	31.07
5/8"	13/64"	1/4"	5/8"	10-32	3/8"	36,000	120	330	120	3668K25	14.36
5/8"	7/16"	1/4"	5/8"	10-32	3/8"	40,000	170	450	80	3668K13	31.33
3/4"	9/32"	1/4"	5/8"	10-32	3/8"	34,000	190	500	150	3668K26	19.44
3/4"	1/2"	1/4"	5/8"	10-32	3/8"	36,000	200	500	120	3668K14	30.89
7/8"	5/8"	1/4"	5/8"	10-32	3/8"	35,000	300	800	150	3668K15	37.42

Ultra-Quiet Threaded Track Rollers



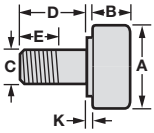

Nylon-Coated Steel



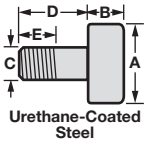

Urethane-Coated Steel

The soft rubber or plastic surface on these rollers creates less noise than the metal surfaces found on other track rollers. Also known as cam followers, track rollers support loads while guiding and positioning work. All rollers have end seals to protect rolling elements from dirt and contamination. Mounting nut not included. Maximum temperature is 200° F.

Nylon-coated steel rollers have a nonconductive roller surface and are more chemical resistant than urethane-coated rollers. They are permanently lubricated. All have ball bearings, which create less friction than needle roller bearings, so you can run them at higher speeds. They have a hex socket in the stud end. They are not rated for speed. Hardness is Rockwell C85.

Urethane-coated steel rollers provide better traction and abrasion resistance than nylon-coated rollers. Lubrication holes are in the side and the end of the stud, unless noted. All have needle roller bearings and a hex socket head. They are not rated for speed or load. Hardness is Shore 80A.

Nylon-Coated Steel

Roller		Stud		Thread				Static Radial		
Dia. (A)	Wd. (B)	Dia. (C)	(D)	Size	Lg. (E)	(K)	Load Cap., lbs.		
1"	3/4"	7/16"	1"	7/16"-20	1/2"	1/32"	30	2320K61	$58.17
1 1/4"	13/16"	1/2"	1 1/4"	1/2"-20	5/8"	1/32"	40	2320K62	59.43
1 1/2"	1 1/8"	5/8"	1 1/2"	5/8"-18	3/4"	1/16"	60	2320K63	61.09
2"	1 5/8"	7/8"	2"	7/8"-14	1 1/8"	1/16"	120	2320K64	62.87
2 1/2"	1 5/8"	1"	2 1/4"	1"-14	1 1/2"	1/16"	130	2320K65	76.38

Urethane-Coated Steel

Roller		Stud		Thread				Roller		Stud		Thread			
Dia. (A)	Wd. (B)	Dia. (C)	(D)	Size	Lg. (E)			Dia. (A)	Wd. (B)	Dia. (C)	(D)	Size	Lg. (E)		
3/4"	3/8"	3/16"	5/8"	10-32	1/4"	3649K11★	$32.81	1 1/2"	3/4"	1/2"	1 1/4"	1/2"-20	5/8"	3649K14	$38.45
1"	1/2"	3/8"	7/8"	3/8"-24	3/8"	3649K12	34.70	1 3/4"	7/8"	5/8"	1 1/2"	5/8"-18	3/4"	3649K21	42.73
1 1/4"	5/8"	7/16"	1"	7/16"-20	1/2"	3649K13	38.04	2"	1"	3/4"	1 3/4"	3/4"-16	7/8"	3649K22	48.39
★No lubrication holes.								2 1/4"	1 1/4"	7/8"	2"	7/8"-14	1"	3649K23	65.54

Extreme-Temperature Threaded Track Rollers



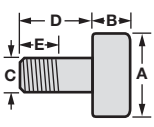

Lubricated with graphite, these rollers can handle temperatures from -425° to 750° F—the widest temperature range of any track roller in our offering. Also known as cam followers, track rollers support loads while guiding and positioning work. Mounting nut not included. All rollers have plain bearings embedded with lubrication and end seals to protect rolling elements from dirt and contamination. They are steel and have a slotted head.

Roller		Stud		Thread		Max.	Dynamic Load		
Dia. (A)	Wd. (B)	Dia. (C)	Lg. (D)	Size	Lg. (E)	rpm	Cap., lbs.		
3/4"	1/2"	3/8"	7/8"	3/8"-24	3/8"	100	60	6717K21	$119.44
1"	5/8"	7/16"	1"	7/16"-20	1/2"	100	70	6717K22	133.08
1 1/4"	3/4"	1/2"	1 1/4"	1/2"-20	5/8"	100	90	6717K23	163.48
1 1/2"	7/8"	5/8"	1 1/2"	5/8"-18	3/4"	100	100	6717K24	193.00
1 3/4"	1"	3/4"	1 3/4"	3/4"-16	7/8"	100	110	6717K25	228.34
2"	1 1/4"	7/8"	2"	7/8"-14	1"	100	140	6717K26	289.42
2 1/2"	1 1/2"	1"	2 1/4"	1"-14	1 1/8"	100	170	6717K27	379.70
3"	1 3/4"	1 1/4"	2 1/2"	1 1/4"-12	1 1/4"	100	200	6717K28	599.92

Maintenance-Free Threaded Track Rollers

Because you'll never need to add lubrication to these rollers, you can install them in hard-to-reach places. Also known as cam followers, track rollers support loads while guiding and positioning work. All rollers have end seals to protect rolling elements from dirt and contamination. Mounting nut is included.

Steel rollers have sleeve bearings and a hex socket head. Maximum rpm is 1,200. Maximum temperature is 150° F.

Ultra-corrosion-resistant fiberglass-reinforced nylon rollers are fully submersible, nonsparking, and lightweight. All have dry-running PTFE sleeve bearings and a hex socket in the stud end. The stud is 303 stainless steel. They are not rated for speed. Maximum temperature is 250° F.

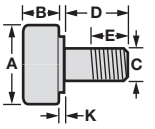



Steel

Roller Dia. (A)	Roller Wd. (B)	Stud Dia. (C)	Stud Lg. (D)	Thread Size	Thread Lg. (E)	(K)	Dynamic Load Cap., lbs.		
1/2"	3/8"	3/16"	5/8"	10-32	1/4"	1/32"	20	6721K1	$13.16
5/8"	7/16"	1/4"	3/4"	1/4"-28	5/16"	1/32"	25	6721K2	13.16
3/4"	1/2"	3/8"	7/8"	3/8"-24	3/8"	1/32"	45	6721K3	11.12
7/8"	1/2"	3/8"	7/8"	3/8"-24	3/8"	1/32"	45	6721K4	11.33
1"	5/8"	7/16"	1"	7/16"-20	1/2"	1/32"	75	6721K5	14.18
1 1/8"	5/8"	7/16"	1"	7/16"-20	1/2"	1/32"	75	6721K6	14.99
1 1/4"	3/4"	1/2"	1 1/4"	1/2"-20	5/8"	1/32"	110	6721K7	17.84
1 3/8"	3/4"	1/2"	1 1/4"	1/2"-20	5/8"	1/32"	110	6721K8	$18.83
1 1/2"	7/8"	5/8"	1 1/2"	5/8"-18	3/4"	1/32"	160	6721K9	21.40
1 5/8"	7/8"	5/8"	1 1/2"	5/8"-18	3/4"	1/32"	160	6721K15	21.90
1 3/4"	1"	3/4"	1 3/4"	3/4"-16	7/8"	1/32"	210	6721K11	28.79
2"	1 1/8"	7/8"	2"	7/8"-14	1"	1/32"	290	6721K12	36.32
2 1/4"	1 1/8"	7/8"	2"	7/8"-14	1"	1/32"	290	6721K13	39.03
2 1/2"	1 1/2"	1"	2 1/4"	1"-14	1 1/8"	1/32"	460	6721K14	53.86

Ultra-Corrosion-Resistant Fiberglass-Reinforced Nylon

Roller Dia. (A)	Roller Wd. (B)	Stud Dia. (C)	Stud Lg. (D)	Thread Size	Thread Lg. (E)	(K)	Static Load Cap., lbs.		
1/2"	3/8"	3/16"	5/8"	10-32	1/4"	1/32"	110	7803K11	$50.25
9/16"	3/8"	3/16"	5/8"	10-32	1/4"	1/32"	110	7803K12	50.48
5/8"	7/16"	1/4"	3/4"	1/4"-28	5/16"	1/32"	230	7803K13	53.48
11/16"	7/16"	1/4"	3/4"	1/4"-28	5/16"	1/32"	230	7803K14	54.21
3/4"	1/2"	3/8"	7/8"	3/8"-24	3/8"	1/16"	700	7803K15	48.83
7/8"	1/2"	3/8"	7/8"	3/8"-24	3/8"	1/16"	700	7803K16	50.19
1"	5/8"	7/16"	1"	7/16"-20	1/2"	1/16"	870	7803K17	$54.40
1 1/8"	5/8"	7/16"	1"	7/16"-20	1/2"	1/16"	870	7803K18	54.96
1 1/4"	3/4"	1/2"	1 1/4"	1/2"-20	5/8"	1/16"	1,100	7803K19	61.48
1 3/8"	3/4"	1/2"	1 1/4"	1/2"-20	5/8"	1/16"	1,100	7803K21	62.83
1 1/2"	7/8"	5/8"	1 1/2"	5/8"-18	3/4"	1/16"	1,800	7803K22	70.69
1 5/8"	7/8"	5/8"	1 1/2"	5/8"-18	3/4"	1/16"	1,800	7803K23	71.33

Flanged Track Rollers

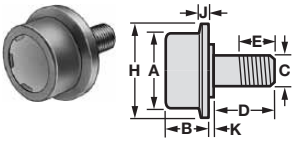

Threaded with Single Flange

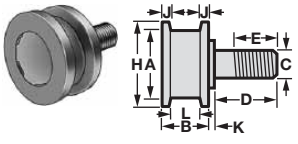

Threaded with Double Flange

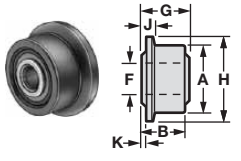

Shaft Mount

The flange provides guidance and helps the roller stay on track. They handle both radial and thrust (top and side) loads. All rollers are permanently lubricated and have end seals to retain lubricant and protect rolling elements from dirt and contamination. Maximum temperature is 225° F.

Threaded rollers have ball bearings, unless noted. All have a hex socket in the stud end. Mounting nut is included.

Shaft-mount rollers are steel with tapered roller bearings.

Threaded

Roller Dia. (A)	Roller Wd. (B)	Stud Dia. (C)	Stud Lg. (D)	Thread Size	Thread Lg. (E)	Flange Dia. (H)	Flange Thick. (J)	(K)	Groove Wd. (L)	Max. rpm	Static Load Cap., lbs. Radial	Thrust		
Steel with Single Flange														
1"	3/4"	7/16"	1"	7/16"-20	1/2"	1 3/8"	7/32"	1/32"	—	8,000	230	140	6318K42	$44.37
1 1/8"	3/4"	7/16"	1"	7/16"-20	1/2"	1 1/2"	7/32"	1/32"	—	8,000	230	140	6318K43	45.88
1 1/4"	13/16"	1/2"	1 1/4"	1/2"-20	5/8"	1 9/16"	7/32"	1/32"	—	8,000	600	370	6318K44	48.98
1 3/8"	13/16"	1/2"	1 1/4"	1/2"-20	5/8"	1 11/16"	7/32"	1/32"	—	8,000	600	370	6318K45	53.26
1 1/2"	1 1/8"	5/8"	1 1/2"	5/8"-18	3/4"	2 3/16"	11/32"	1/16"	—	6,000	1,100	470	6318K46	53.48
1 3/4"	1 1/8"	3/4"	1 3/4"	3/4"-16	7/8"	2 7/16"	11/32"	1/16"	—	6,000	1,100	470	6318K47	60.19
2"	1 5/8"	7/8"	2"	7/8"-14	1 1/8"	2 11/16"	19/32"	1/16"	—	6,000	1,600	910	6318K48	60.75
2 1/4"	1 5/8"	7/8"	2"	7/8"-14	1 1/8"	2 15/16"	19/32"	1/16"	—	6,000	1,600	910	6318K49	67.52
2 1/2"	1 5/8"	1"	2 1/4"	1"-14	1 1/2"	3 3/16"	19/32"	1/16"	—	4,000	2,200	1,300	6318K55	71.31
3"	1 15/16"	1 1/4"	2 1/2"	1 1/4"-12	1 3/4"	3 15/16"	19/32"	1/16"	—	1,100	9,800	12,000	6318K56★	117.08
3 1/2"	1 15/16"	1 1/4"	2 3/4"	1 1/4"-12	1 3/4"	4 7/16"	19/32"	1/16"	—	1,100	9,800	12,000	6318K57★	171.33
Corrosion-Resistant 303 and 440C Stainless Steel with Single Flange														
1"	3/4"	7/16"	1"	7/16"-20	1/2"	1 3/8"	7/32"	1/32"	—	6,000	150	150	2091K41	164.46
1 1/4"	13/16"	1/2"	1 1/4"	1/2"-20	5/8"	1 9/16"	7/32"	1/32"	—	6,000	280	230	2091K42	174.61
1 1/2"	1 1/8"	5/8"	1 1/2"	5/8"-18	3/4"	2 3/16"	11/32"	1/16"	—	6,000	440	350	2091K43	178.41
2"	1 5/8"	7/8"	2"	7/8"-14	1 1/8"	2 11/16"	19/32"	1/16"	—	6,000	1,000	740	2091K44	199.74
2 1/2"	1 5/8"	1"	2 1/4"	1"-14	1 1/2"	3 3/16"	19/32"	1/16"	—	6,000	1,000	740	2091K45	242.24
Steel with Double Flange														
1 1/2"	1 1/8"	5/8"	1 1/2"	5/8"-18	3/4"	2 3/16"	9/32"	1/16"	9/16"	6,000	1,100	470	6318K1	83.80
2"	1 5/8"	7/8"	2"	7/8"-14	1 1/8"	2 11/16"	17/32"	1/16"	9/16"	6,000	1,600	910	6318K2	98.91
2 1/2"	1 5/8"	1"	2 1/4"	1"-14	1 1/2"	3 3/16"	17/32"	1/16"	9/16"	4,000	2,200	1,300	6318K3	125.45
3"	1 15/16"	1 1/4"	2 1/2"	1 1/4"-12	1 3/4"	3 15/16"	17/32"	1/16"	7/8"	1,100	12,200	12,000	6318K4★	168.71

★Tapered roller bearings.

Shaft Mount

Roller Dia. (A)	Roller Wd. (B)	Bore ID (F)	O'all Wd. (G)	Flange Dia. (H)	Flange Thick. (J)	(K)	Max. rpm	Static Load Cap., lbs. Radial	Thrust		
2 1/2"	1 1/2"	3/4"	1 9/16"	3 3/16"	1/2"	1/32"	1,100	7,600	4,500	6321K26	$139.56
3"	1 3/4"	1"	1 13/16"	3 15/16"	19/32"	1/32"	1,100	20,000	12,000	6321K41	141.67

V-Groove Track Rollers

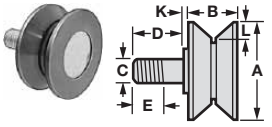

Threaded

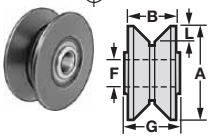

Shaft Mount

Rollers handle radial and thrust (top and side) loads and work well in dirty environments because debris falls off the angled rail (rails sold separately on this page). Also known as cam followers, track rollers support loads while guiding and positioning work. All rollers are permanently lubricated and have end seals to retain lubricant and protect rolling elements from dirt and contamination. All are steel. Maximum temperature is 225° F.

Threaded rollers have ball bearings and a hex socket in the stud end. Mounting nut is included.

Shaft-mount rollers have tapered roller bearings.

Threaded

Roller Dia. (A)	Roller Wd. (B)	Stud Dia. (C)	Stud Lg. (D)	Thread Size	Thread Lg. (E)	(K)	V-Groove Dp. (L)	Max. rpm	Radial Load Cap., lbs. Static	Radial Load Cap., lbs. Dynamic	Static Thrust Load Cap., lbs.		
1 1/2"	3/4"	7/16"	1"	7/16"-20	1/2"	1/32"	3/16"	8,000	230	230	140	6318K61	$75.52
2"	13/16"	1/2"	1 1/4"	1/2"-20	5/8"	1/32"	5/16"	6,000	600	500	370	6318K62	94.48
2 1/2"	1 1/4"	3/4"	1 3/4"	3/4"-16	7/8"	1/16"	1/2"	6,000	1,100	1,000	680	6318K63	97.79
3 1/2"	1 5/8"	7/8"	2"	7/8"-14	1 1/8"	1/16"	5/8"	4,000	2,200	1,900	1,400	6318K64	104.69

Shaft Mount

Roller Dia. (A)	Roller Wd. (B)	Bore ID (F)	O'all Wd. (G)	V-Groove Dp. (L)	Max. rpm	Radial Load Cap., lbs. Static	Radial Load Cap., lbs. Dynamic	Static Thrust Load Cap., lbs.		
3 3/4"	1 1/2"	3/4"	1 9/16"	5/8"	1,100	7,600	4,500	4,500	6321K38	$200.29
4 1/2"	1 3/4"	1"	1 13/16"	3/4"	1,100	20,000	6,000	12,000	6321K39	234.36

Threaded V-Groove Track Rollers with Adjustable Shoulder

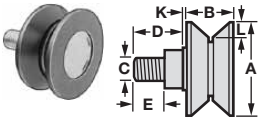

Also known as eccentric track rollers, the shoulder adjusts up or down (up to 0.03") to align to your track, enabling uniform alignment among rollers in a system. They handle radial and thrust (top and side) loads and work well in dirty environments because debris falls off the angled rail (rails sold separately on this page). All rollers are permanently lubricated and have end seals to retain lubricant and protect rolling elements from dirt and contamination. They are steel and have ball bearings and a hex socket in the stud end. Mounting nut is included. Maximum temperature is 225° F.

Roller Dia. (A)	Roller Wd. (B)	Stud Dia. (C)	Stud Lg. (D)	Thread Size	Thread Lg. (E)	(K)	V-Groove Dp. (L)	Max. rpm	Radial Load Cap., lbs. Static	Radial Load Cap., lbs. Dynamic	Static Thrust Load Cap., lbs.		
1 1/2"	45/64"	7/16"	1"	7/16"-20	1/2"	1/32"	3/16"	8,000	230	230	140	2282K51	$83.21
2"	13/16"	1/2"	1 1/4"	1/2"-20	5/8"	1/32"	5/16"	6,000	600	500	370	2282K52	113.76
2 1/2"	1 1/4"	3/4"	1 3/4"	3/4"-16	57/64"	1/16"	1/2"	6,000	1,100	1,000	470	2282K53	116.61
3 1/2"	1 5/8"	7/8"	2"	7/8"-14	1 1/64"	1/16"	5/8"	4,000	2,200	1,900	1,300	2282K54	144.92

Metric V-Groove Threaded Track Rollers

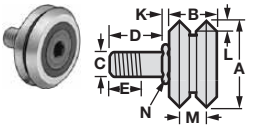

Rollers are for use with angle rails (sold separately on this page). They handle radial and thrust (top and side) loads and work well in dirty environments because debris falls off the angled rail. Also known as cam followers, track rollers support loads while guiding and positioning work. All rollers are permanently lubricated and have end seals to retain lubricant and protect rolling elements from dirt and contamination. They have ball bearings and an external hex drive on the shoulder. Mounting nut is included.

Adjustable-shoulder rollers are also known as eccentric track rollers. The shoulder adjusts up or down to align to your track, enabling uniform alignment among rollers in a system.

Roller Dia. (A), mm	Roller Wd. (B), mm	Stud Dia. (C), mm	Stud Lg. (D), mm	Thread Size, mm	Thread Lg. (E), mm	(K), mm	V-Groove Dp. (L), mm	V-Groove Wd. (M), mm	Hex Nut Size (N), mm	Stud Offset, mm	Max. rpm	Radial Load Cap., lbs. Static	Radial Load Cap., lbs. Dynamic	Thrust Load Cap., lbs. Static	Thrust Load Cap., lbs. Dynamic		
Steel—Maximum temperature is 245° F																	
Standard																	
20	8	8	8	M8×1.25	8	3.4	2	4	12	—	5,000	270	270	50	50	3672K17	$29.74
31	11	10	11	M10×1.5	11	4.1	3	6	14	—	3,400	590	590	140	140	3672K18	34.54
46	16	12	15	M12×1.75	15	5.7	4	8	19	—	2,200	1,300	1,300	380	380	3672K19	38.88
Adjustable Shoulder																	
20	8	6	8	M6×1	6	3.4	2	4	12	0.6	5,000	270	270	50	50	3672K21	29.74
31	11	10	11	M8×1.25	9	4.1	3	6	14	1	3,400	590	590	140	140	3672K22	34.54
46	16	11	15	M10×1.5	11	5.7	4	8	19	1.5	2,200	1,300	1,300	380	380	3672K23	38.88
Corrosion-Resistant Stainless Steel—Maximum temperature is 500° F																	
Standard																	
20	8	6	15	M6×1	9	2.1	2	4	12	—	5,000	220	220	45	45	3681K22	85.91
31	11	10	25	M10×1.5	15	2.6	3	6	14	—	3,400	490	450	110	100	3681K23	100.55

Angle Rails for V-Groove Track Rollers

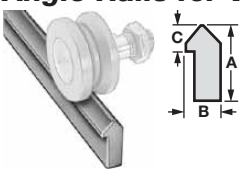

Use these rails with any track rollers that have a 90° V-groove. All are steel. **To Order:** Please specify length: 1, 2, 3, 4, 5, or 6 feet.

Hardened Steel—The contact surface has a Rockwell hardness of C53 for improved wear resistance over unhardened steel rails. The bottom can be drilled for mounting.

O'all Ht. (A)	O'all Wd. (B)	Angle Ht. (C)	Hardened Steel	Hardened Steel Per Ft.	Unhardened Steel	Unhardened Steel Per Ft.
5/8"	1/4"	3/16"	1582T3	$13.29	1582T4	$8.56
7/8"	11/32"	1/4"	1582T5	23.14	1582T6	17.31
1 1/16"	7/16"	5/16"	1582T7	35.42	1582T8	27.67

Oil-Resistant Idler and Drive Rollers

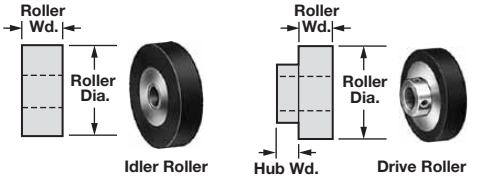

Made of neoprene rubber, these rollers resist oil, flames, gasoline, and weather. Durometer is 55A (medium hardness). Temperature range is -40° to 170° F. Color is black.

Idler Rollers—Commonly found in conveyor systems and printing equipment, these rollers spin freely on a shaft or stud to position and guide work. Their roller surface is bonded to an SAE 841 bronze sleeve bearing.

Drive Rollers—These rollers have tapped hubs that allow you to mount them onto a shaft or stud with set screws (not included) to transmit power. Their roller surface is bonded to an aluminum hub.

Idler Rollers

Roller Dia.	Roller Wd.	For Shaft Dia.		
1/2"	1/4"	1/4"	60885K71	$16.02
1/2"	3/8"	1/4"	60885K72	18.14
1/2"	1/2"	1/4"	60885K73	19.24
1/2"	5/8"	1/4"	60885K74	21.36
5/8"	1/4"	1/4"	60885K75	16.02
5/8"	3/8"	1/4"	60885K76	18.14
5/8"	1/2"	1/4"	60885K77	19.24
5/8"	5/8"	1/4"	60885K78	21.36
3/4"	1/4"	1/4"	60885K79	16.02
3/4"	1/2"	1/4"	60885K81	19.24
3/4"	3/4"	1/4"	60885K82	21.36
7/8"	1/4"	7/32"	60885K12	16.02
7/8"	1/4"	1/4"	60885K83	$16.02
7/8"	5/8"	7/32"	60885K14	21.36
7/8"	5/8"	1/4"	60885K84	21.36
7/8"	3/4"	1/4"	60885K85	21.36
1"	1/4"	1/4"	60885K86	16.30
1"	1/2"	1/4"	60885K87	18.46
1"	3/4"	1/4"	60885K88	21.72
1"	1"	1/2"	60885K89	22.18
1 1/4"	1/4"	1/4"	60885K91	16.30
1 1/4"	1/4"	9/32"	60885K16	16.30
1 1/4"	3/4"	1/4"	60885K92	21.72
1 1/4"	3/4"	9/32"	60885K18	21.36
1 1/4"	1"	3/8"	60885K93	$22.18
1 1/4"	1"	1/2"	60885K94	22.18
1 1/2"	1/4"	3/8"	60885K2	16.64
1 1/2"	1/4"	1/2"	60885K95	16.64
1 1/2"	3/4"	3/8"	60885K22	21.08
1 1/2"	3/4"	1/2"	60885K96	21.08
1 1/2"	1"	1/2"	60885K97	22.18
2"	1/4"	1/2"	60885K24	17.08
2"	3/4"	1/2"	60885K26	21.60
2"	1"	1/2"	60885K98	22.74
2"	1"	5/8"	60885K99	22.74

Drive Rollers

Roller Dia.	Roller Wd.	For Shaft Dia.	Hub Wd.	Set Screw Size (No. Required)		
5/8"	3/16"	1/4"	0.25"	8-32 (1)	60885K31	$16.70
5/8"	1/4"	1/4"	0.25"	8-32 (1)	60885K32	17.80
5/8"	3/8"	1/4"	0.25"	8-32 (1)	60885K33	20.04
5/8"	1/2"	1/4"	0.25"	8-32 (1)	60885K34	22.26
3/4"	3/16"	1/4"	0.25"	8-32 (1)	60885K35	16.70
3/4"	1/4"	1/4"	0.25"	8-32 (1)	60885K36	17.80
3/4"	3/8"	1/4"	0.25"	8-32 (1)	60885K37	20.04
3/4"	1/2"	1/4"	0.25"	8-32 (1)	60885K38	22.26
7/8"	3/16"	1/4"	0.25"	8-32 (1)	60885K39	16.70
7/8"	1/4"	1/4"	0.25"	8-32 (1)	60885K41	17.80
7/8"	3/8"	1/4"	0.25"	8-32 (1)	60885K42	20.04
7/8"	1/2"	1/4"	0.25"	8-32 (1)	60885K43	22.26
1"	3/16"	1/4"	0.25"	8-32 (1)	60885K11	16.70
1"	1/4"	1/4"	0.25"	8-32 (1)	60885K44	17.80
1"	3/8"	1/4"	0.25"	8-32 (1)	60885K45	20.04
1"	1/2"	1/4"	0.25"	8-32 (1)	60885K13	22.26
1 1/4"	1/4"	5/16"	0.313"	8-32 (2)	60885K15	16.86
1 1/4"	1/2"	1/4"	0.313"	8-32 (2)	60885K46	19.12
1 1/4"	3/4"	5/16"	0.313"	8-32 (2)	60885K17	22.48
1 1/2"	1/2"	3/8"	0.375"	10-32 (2)	60885K47	19.28
1 1/2"	5/8"	3/8"	0.375"	10-32 (2)	60885K48	20.42
1 1/2"	3/4"	1/2"	0.375"	10-32 (2)	60885K49	$21.54
1 1/2"	1"	1/2"	0.375"	10-32 (2)	60885K51	22.68
1 5/8"	1/4"	3/8"	0.375"	10-32 (2)	60885K19	17.02
1 5/8"	3/4"	3/8"	0.375"	10-32 (2)	60885K21	21.54
1 5/8"	1"	1/2"	0.375"	10-32 (2)	60885K52	22.68
1 3/4"	3/4"	1/2"	0.375"	10-32 (2)	60885K53	21.94
1 3/4"	1"	5/8"	0.375"	10-32 (2)	60885K54	23.10
2"	5/8"	1/2"	0.375"	10-32 (2)	60885K55	20.80
2"	3/4"	1/2"	0.375"	10-32 (2)	60885K56	21.94
2"	1"	5/8"	0.375"	10-32 (2)	60885K57	23.10
2 1/8"	1/4"	1/2"	0.375"	10-32 (2)	60885K23	17.32
2 1/8"	3/4"	1/2"	0.375"	10-32 (2)	60885K25	21.94
2 1/2"	3/4"	5/8"	0.5"	1/4"-28 (2)	60885K58	29.86
2 1/2"	1"	3/4"	0.5"	1/4"-28 (2)	60885K59	31.52
2 1/2"	1 1/2"	3/4"	0.5"	1/4"-28 (2)	60885K61	33.18
2 5/8"	3/8"	5/8"	0.5"	1/4"-28 (2)	60885K27	24.88
2 5/8"	1"	5/8"	0.5"	1/4"-28 (2)	60885K29	31.52
2 3/4"	1"	3/4"	0.5"	1/4"-28 (2)	60885K62	43.16
2 3/4"	1 1/2"	3/4"	0.5"	1/4"-28 (2)	60885K63	44.90
3"	1 1/2"	3/4"	0.5"	1/4"-28 (2)	60885K64	44.90
3"	2"	3/4"	0.5"	1/4"-28 (2)	60885K65	46.52

Abrasion-Resistant Idler and Drive Rollers

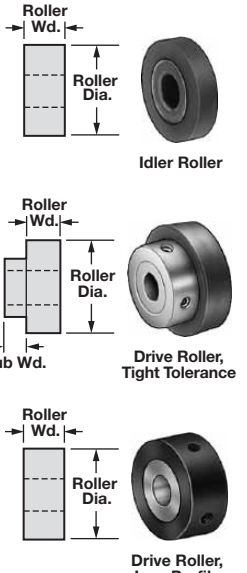

These urethane rollers are nonmarring and wear resistant. Temperature range is -40° to 180° F. Rollers are color coded by durometer: 55A is blue and 70A is orange. **To Order:** Please specify durometer: 55A (medium) or 70A (hard).

Idler Rollers—Commonly found in conveyor systems and printing equipment, they spin freely on a shaft or stud to position and guide work. Their roller surface is bonded to an SAE 841 oil-embedded sleeve bearing.

Drive Rollers—These rollers have tapped aluminum hubs that allow you to mount them onto a shaft or stud with two set screws (included) to transmit power. *Tight-tolerance* roller diameters are molded to a tolerance of ±0.003". Tolerance for ID is 0.000" to +0.001". *Low-profile* rollers have their mounting holes tapped directly through the roller's surface so you can install them with set screws and still fit them into tight spots.

Idler Rollers

Roller Dia.	Roller Wd.	For Shaft Dia.		
3/8"	1/4"	1/8"	2483K61	$16.44
3/8"	3/8"	1/8"	2483K62	23.73
1/2"	1/4"	1/8"	2483K63	13.78
1/2"	1/4"	3/16"	2483K64	14.89
1/2"	1/2"	1/8"	2483K65	27.12
1/2"	1/2"	3/16"	2483K66	22.54
5/8"	1/4"	1/4"	2483K72	16.00
5/8"	5/8"	1/4"	2483K74	26.02
3/4"	3/8"	3/16"	2483K81	17.56
3/4"	3/8"	1/4"	2483K82	19.56
3/4"	1/2"	3/16"	2483K83	26.24
3/4"	1/2"	1/4"	2483K84	26.75
3/4"	3/4"	3/16"	2483K85	24.44
3/4"	3/4"	1/4"	2483K86	20.22
1"	1/2"	1/4"	2483K91	21.33
1"	1/2"	5/16"	2483K92	21.11
1"	3/4"	1/4"	2483K93	35.48
1"	3/4"	5/16"	2483K94	34.42
1"	1"	1/4"	2483K95	39.56
1"	1"	5/16"	2483K96	38.96

Drive Rollers

Roller Dia.	Roller Wd.	For Shaft Dia.	Tight Tolerance Hub Wd.		Low Profile	
3/8"	1/4"	1/8"	0.25"	2481K33 $20.47	2488K33	$24.04
1/2"	1/4"	3/16"	0.25"	2481K34 20.00	2488K34	22.17
1/2"	1/4"	1/4"	0.25"	2481K35 20.00	2488K35	22.17
1/2"	1/2"	3/16"	0.25"	2481K37 21.26	2488K37	22.40
1/2"	1/2"	1/4"	0.25"	2481K38 21.26	2488K38	22.40
5/8"	1/2"	1/4"	0.25"	2481K39 23.37	2488K39	23.97
3/4"	3/8"	1/4"	0.25"	2481K41 23.12	2488K41	24.30
3/4"	1/2"	1/4"	0.25"	2481K42 23.80	2488K42	24.55
3/4"	3/4"	1/4"	0.25"	2481K43 26.80	2488K43	26.08
1"	3/16"	1/4"	0.25"	2481K44 22.34	2488K44★	25.46
1"	1/2"	1/4"	0.25"	2481K45 24.80	2488K45	27.48
1 1/4"	1/4"	5/16"	0.313"	2481K46 24.54	2488K46	26.30
1 1/4"	3/4"	5/16"	0.25"	2481K47 28.26	2488K47	30.02
1 5/8"	1/4"	3/8"	0.375"	2481K48 33.84	2488K48	34.01
1 5/8"	3/4"	3/8"	0.375"	2481K49 38.51	2488K49	38.26
2"	1/4"	3/8"	0.375"	2481K83 42.45	2488K83	38.87
2"	3/4"	3/8"	0.375"	2481K84 48.06	2488K84	43.11
2 1/2"	3/8"	1/2"	0.5"	2481K85 45.92	2488K85	40.99
2 1/2"	1"	1/2"	0.5"	2481K86 57.16	2488K86	47.73

★Roller width is 1/4".

Extra-Wide Vibration-Damping Idler and Drive Rollers

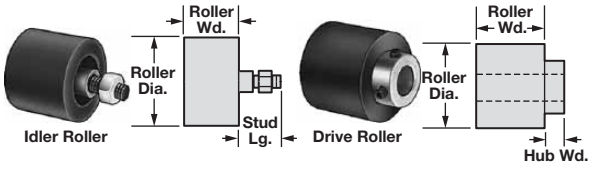

With their large footprint, these rollers minimize vibration. **Idler rollers** are commonly found in conveyor systems and printing equipment. They spin freely on an included stud to position and guide work. The stud is steel. **Drive rollers** mount to a shaft to transmit power. All have a steel hub (unless noted) that is tapped for mounting with the included set screws.

Oil Resistant—Made of neoprene rubber, these rollers resist oil, flames, gasoline, and weather. Temperature range is -40° to 200° F. Color is black.

Abrasion Resistant—These urethane rollers are nonmarring and wear resistant. Temperature range is -65° to 200° F. Color coded by durometer: 35A is yellow, 60A is blue-green, and 80A is red.

To Order: Please specify durometer: 35A (soft), 60A (medium) or 80A (hard), unless noted.

Idler Rollers

Roller Dia.	Roller Wd.	Stud Thread	Stud Lg.	Oil Resistant		Abrasion Resistant	
1½"	1¼"	5/16"-18	5/8"	22875T4	$15.68	2372T4	$15.65
2"	29/32"	1/2"-13	1⅛"	22875T5	24.34	2372T5	20.91
2"	1 15/16"	1/2"-13	1⅜"	22875T6	21.03	2372T6	21.41
2½"	29/32"	1/2"-13	1⅛"	22875T7	19.99	2372T7	25.18
2½"	1 15/16"	1/2"-13	1⅜"	22875T8	24.18	2372T8	25.75
4"	29/32"	1/2"-13	1⅛"	22875T9	27.72	2372T9	36.90
4"	1 15/16"	1/2"-13	1⅜"	22875T41	23.87	2372T21	39.27
6"	2"	1/2"-13	1⅛"	22875T15■	91.37	———	———

Drive Rollers

Roller Dia.	Roller Wd.	For Shaft Dia.	Hub Wd.	Oil Resistant		Abrasion Resistant	
1½"	1¼"	3/8"	0.375"	2474K61★	$27.16	2475K61★	$29.32
1½"	1¼"	1/2"	0.375"	2474K62★▲	27.16	2475K62★	29.32
2"	29/32"	5/8"	0.5"	2474K63	32.21	2475K63	31.59
2"	29/32"	3/4"	0.5"	2474K64▲	32.21	2475K64	31.59
2"	29/32"	1"	0.5"	2474K66▲	23.11	2475K66	24.98
2"	1 15/16"	3/4"	0.5"	2474K65	32.07	2475K65	33.12
2"	1 15/16"	1"	0.5"	2474K67	26.21	2475K67	25.38
2½"	29/32"	3/4"	0.5"	2474K68▲	31.56	2475K68	35.68
2½"	29/32"	1"	0.5"	2474K71▲	23.72	2475K71	27.35
2½"	1 15/16"	3/4"	0.5"	2474K69▲	31.60	2475K69	37.57
2½"	1 15/16"	1"	0.5"	2474K72▲	24.82	2475K72	28.74
4"	29/32"	3/4"	0.5"	2474K73▲	38.74	2475K73	46.72
4"	29/32"	1"	0.5"	2474K75▲	42.06	2475K75	35.92
4"	1 15/16"	3/4"	0.5"	2474K74▲	37.84	2475K74	49.42
4"	1 15/16"	1"	0.5"	2474K76▲	25.72	2475K76	38.60
4"	1 15/16"	1¼"	0.5"	———	———	2372T51■	38.60

★Aluminum hub. ▲Available in 35A and 80A durometer only.
■Available in 60A durometer only.

No-Stick Idler Rollers



A slippery UHMW polyethylene surface means these rollers won't stick to adjacent parts. Rollers are also highly corrosion resistant. Commonly found in conveyor systems and printing equipment, idler rollers spin freely on a shaft or stud to position and guide work. Durometer is 68D (hard). Temperature range is -22° to 180° F. Color is white.

Rollers with MDS-filled nylon bearing have a rigid, wear- and abrasion-resistant bearing for increased life over all-UHMW rollers.

Roller Dia.	Roller Wd.	For Shaft Dia.	All UHMW		UHMW with MDS-Filled Nylon Bearing	
3/8"	1/4"	1/8"	1568T1	$22.20	———	———
3/8"	3/8"	1/8"	1568T2	22.20	———	———
1/2"	1/4"	1/8"	1568T3	19.09	———	———
1/2"	1/2"	3/16"	1568T6	21.50	1568T56	$20.00
5/8"	1/4"	1/4"	1568T7	21.50	1568T57	40.00
5/8"	5/8"	1/4"	1568T8	12.37	1568T58	20.00
3/4"	3/8"	1/4"	1568T11	12.37	1568T61	25.00
3/4"	1/2"	1/4"	1568T12	12.37	1568T62	25.00
3/4"	3/4"	1/4"	1568T13	12.37	1568T63	25.00
1"	1/2"	1/4"	1568T14	13.93	1568T64	25.00
1"	1/2"	5/16"	1568T15	13.93	1568T65	25.00
1"	3/4"	1/4"	1568T16	14.38	1568T66	25.00
1"	3/4"	5/16"	1568T17	14.38	1568T67	25.00
1"	1"	1/4"	1568T18	14.38	1568T68	25.00
1"	1"	5/16"	1568T19	14.38	1568T69	25.00

Slim-Tread Drive Rollers

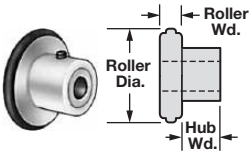

A narrow O-ring tread provides both a sure grip and a delicate touch, making these rollers good for light duty tasks such as those involving paper and tape. The rollers have tapped hubs that allow you to mount them onto a shaft or stud with a set screw (included) to transmit power. O-ring is Buna-N, which is nonmarring and resistant to oil and abrasion. Hub is made of lightweight acetal. Durometer is 70A (hard). Temperature range is -30° to 250° F.

Roller Dia.	Roller Wd.	For Shaft Dia.	Hub Wd.		
5/8"	3/16"	1/8"	1/2"	2471K11	$16.76
5/8"	3/16"	3/16"	1/2"	2471K12	16.59
7/8"	3/16"	1/4"	1/2"	2471K15	16.84
1 1/8"	3/16"	1/8"	1/2"	2471K16	16.84
1 1/8"	3/16"	1/4"	1/2"	2471K18	16.94
1 5/8"	3/16"	1/4"	1/2"	2471K22	18.31
2 1/8"	3/16"	1/4"	1/2"	2471K25	20.60
2 5/8"	3/16"	1/4"	1/2"	2471K26	20.71

Self-Cleaning Idler Rollers

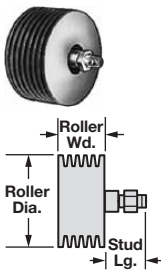

Ridges on the surface push dirt and debris out of the way and protect delicate surfaces. Commonly found in conveyor systems and printing equipment, idler rollers spin freely on an included stud to position and guide work. The stud is steel. **To Order:** Where applicable, please specify durometer: 35A (soft) or 60A (medium).

Oil Resistant—Made of neoprene rubber, these rollers resist oil, flames, gasoline, and weather. Temperature range is -40° to 200° F. Color is black.

Abrasion Resistant—These urethane rollers are nonmarring and wear resistant. Temperature range is -65° to 200° F. Color coded by durometer: 35A is yellow and 60A is blue-green.

Roller Dia.	Roller Wd.	Stud Thread	Stud Lg.	Oil Resistant Choose a Durometer			Abrasion Resistant Choose a Durometer		
2"	29/32"	1/2"-13	1 1/8"	35A, 60A	22875T1	$21.14	35A, 60A	2372T1	$32.48
2"	1 15/16"	1/2"-13	1 3/8"	35A, 60A	22875T2	25.61	35A	2372T45	33.44
2½"	1 15/16"	1/2"-13	1 3/8"	35A	22875T24	22.68	35A, 60A	2372T2	34.12
4"	1 15/16"	1/2"-13	1 3/8"	35A, 60A	22875T3	35.45	35A, 60A	2372T3	50.48

One-Way-Locking Threaded Idler/Drive Rollers

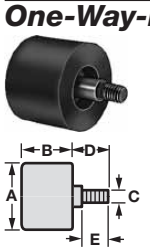

Needle-roller clutch bearings allow these rollers to spin freely in one direction and lock to transmit power in the other. Idler direction is clockwise when facing the roller end. Stud is steel. Durometer is 60A (medium).

Oil Resistant—Made of neoprene rubber, rollers are oil, flame, gasoline, and weather resistant. Temperature range is -40° to 200° F. Color is black.

Abrasion Resistant—These urethane rollers are nonmarring and wear resistant. Temperature range is -65° to 200° F. Color is blue-green.

Roller Dia. (A)	Roller Wd. (B)	Stud Dia. (C)	Stud Lg. (D)	Thread Size	Thread Lg. (E)	Oil Resistant		Abrasion Resistant	
1 1/2"	1 1/4"	5/16"	11/16"	5/16"-18	1/2"	3655K11	$49.49	3655K21	$50.85
2"	1 15/16"	1/2"	1 1/4"	1/2"-13	3/4"	3655K12	58.57	3655K22	56.79
4"	1 15/16"	1/2"	1 1/4"	1/2"-13	3/4"	3655K14	65.02	3655K24	78.47

Self-Cleaning Drive Rollers

Ridges on the surface push dirt and debris out of the way. These rollers have tapped hubs that allow you to mount them onto a shaft or stud with two set screws (included) to transmit power. The hub is steel. Durometer is 35A (soft).

Oil Resistant—Made of neoprene rubber, these rollers resist oil, flames, gasoline, and weather. Temperature range is -40° to 200° F. Color is black.

Abrasion Resistant—These urethane rollers are nonmarring and wear resistant. Temperature range is -65° to 200° F. Color is yellow.

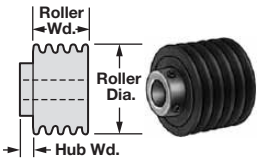

Roller Dia.	Roller Wd.	For Shaft Dia.	Hub Wd.	Oil Resistant		Abrasion Resistant	
4"	1 15/16"	3/4"	1/2"	2494K18	$41.60	2496K18	$61.02

Press-Fit Low-Profile Drive Rollers

The simple plain-bore design lets you install these rollers onto a shaft without the need for set screws or keyways. With a non-protruding hub, they fit where standard drive rollers can't. Drive rollers spin in unison with a shaft or stud to transmit power. The neoprene surface resists oil, flames, gasoline, and weather. Hub is aluminum. Durometer is 55A (medium). Temperature range is -40° to 170° F. Color is black.

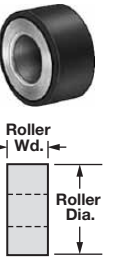

Roller Dia.	Roller Wd.	For Shaft Dia.		
1/2"	1/4"	1/4"	2473K11	$17.80
1/2"	3/8"	1/4"	2473K12	20.16
1/2"	1/2"	1/4"	2473K13	21.38
5/8"	1/4"	1/4"	2473K15	17.80
5/8"	3/8"	1/4"	2473K16	20.16
3/4"	1/4"	1/4"	2473K19	17.80
3/4"	1/2"	1/4"	2473K21	21.38
3/4"	3/4"	1/4"	2473K22	$23.73
1"	1/4"	1/4"	2473K26	18.11
1"	1/2"	1/4"	2473K27	20.51
1"	3/4"	1/4"	2473K28	23.73
1"	1"	1/2"	2473K29	24.64
1 1/4"	1/4"	1/4"	2473K31	18.11
1 1/4"	3/4"	1/4"	2473K32	24.13
1 1/4"	1"	1/2"	2473K34	$24.64
1 1/2"	1/4"	1/2"	2473K35	18.49
1 1/2"	3/4"	1/2"	2473K36	23.42
1 1/2"	1"	1/2"	2473K37	24.64
2"	1/4"	1/2"	2473K38	18.98
2"	1/2"	1/2"	2473K39	21.49
2"	1"	1/2"	2473K41	25.27

Rollers

Mount rollers directly onto your shaft or build a custom roller by adding your own bushing (for bushings, see 5926K Quick-Grip Screw-Clamp Bushings on page 1093). All consist of a roller surface bonded to a steel hub. **To Order:** Please specify durometer: 35A (soft) or 60A (medium).

Oil Resistant—Made of neoprene rubber, these rollers resist oil, flames, gasoline, and weather. Temperature range is -40° to 200° F. Color is black.

Abrasion Resistant—These urethane rollers are nonmarring and wear resistant. Temperature range is -65° to 200° F. Color coded by durometer: 35A is yellow, 60A is blue-green.



Roller Dia.	Roller Wd.	For Shaft Dia.	Oil Resistant		Abrasion Resistant	
1 1/2"	1 1/4"	7/8"	2476K31	$9.74	2477K31	$12.66
2"	29/32"	1 1/4"	2476K32	15.90	2477K32	16.10
2"	1 15/16"	1 1/4"	2476K33	14.82	2477K33	16.50
2 1/2"	29/32"	1 1/4"	2476K34	16.37	2477K34	21.02
2 1/2"	1 15/16"	1 1/4"	2476K35	$15.50	2477K35	$21.45
4"	29/32"	1 1/4"	2476K36	22.25	2477K36	29.74
4"	1 15/16"	1 1/4"	2476K37	20.84	2477K37	32.63

Flex-Grip Drive Rollers

The teardrop-shaped sidewall holes and soft surface allow the roller to gently grab and maintain contact as it is compressed. Perfect for bottling and sheet metal applications. These rollers have tapped hubs that allow you to mount them onto a shaft or stud with two set screws (included) to transmit power. Hub is made of steel.

Oil-Resistant Neoprene—These rollers resist oil, flames, gasoline, and weather. Temperature range is -40° to 200° F. Color is black.

Oil-Resistant Buna-N—These rollers are also abrasion resistant and nonmarring. Temperature range is -60° to 175° F. Color is white.

Abrasion Resistant—These urethane rollers are wear and chemical resistant. They're also nonmarring. Temperature range is -65° to 200° F. Color is yellow.



Roller Dia.	Roller Wd.	For Shaft Dia.	Oil-Resistant Neoprene 20A (Soft) Durometer		Oil-Resistant Neoprene 35A (Soft) Durometer		Oil-Resistant Buna-N 20A (Soft) Durometer		Oil-Resistant Buna-N 35A (Soft) Durometer		Abrasion-Resistant Urethane 35A (Soft) Durometer	
4"	29/32"	3/4"	2497K2	$37.62	2497K12	$37.62	2498K2	$43.66	2498K12	$43.00	1536T21	$59.92
4"	29/32"	1"	2497K3	29.45	2497K13	29.45	2498K3	35.06	2498K13	34.40	1536T22	50.38
4"	1 15/16"	3/4"	2497K5	39.12	2497K15	39.12	2498K5	45.24	2498K15	44.58	1536T23	60.72
4"	1 15/16"	1"	2497K6	30.61	2497K16	30.61	2498K6	36.22	2498K16	35.54	1536T24	51.96

Keyed Drive Rollers

Use rollers with a keyed shaft to prevent slippage in high-torque applications. Drive rollers spin in unison with a shaft or stud to transmit power. They mount to the shaft with two set screws (included). See page 3588 for durometer information.

Oil Resistant—A good choice for oily environments, these Buna-N rollers are also abrasion resistant and nonmarring. Durometer is 70A (hard). Temperature range is -20° to 180° F. Color is black.

Abrasion Resistant—These urethane rollers are wear and chemical resistant. They're also nonmarring. Durometer is 85A (hard). Temperature range is -20° to 120° F. Color is red.

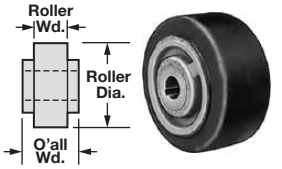

Roller Dia.	Roller Wd.	For Shaft Dia.	Keyway Wd. x Dp.	O'all Wd.	Oil Resistant Dynamic Load Cap., lbs.			Abrasion Resistant Dynamic Load Cap., lbs.		
3"	2"	1/2"	1/8" x 1/16"	3 1/4"	300	61065K51♦	$49.97	—	—	—
3"	2"	3/4"	3/16" x 3/32"	3 1/4"	300	61065K52♦	52.90	300	2478K42♦	$55.50
4"	2"	3/4"	3/16" x 3/32"	3 1/4"	350	61065K54♦	55.60	350	2478K41♦	66.40
5"	2"	3/4"	3/16" x 3/32"	2 3/16"	400	61065K56	82.00	400	2478K46	88.40
6"	2"	3/4"	3/16" x 3/32"	2 3/16"	425	61065K58	86.00	425	2478K47	86.00
6"	3"	3/4"	3/16" x 3/32"	3 1/4"	500	61065K46	105.48	—	—	—
6"	3"	1"	1/4" x 1/8"	3 1/4"	500	61065K47	105.48	1,600	2478K32	138.00
6"	3"	1 1/4"	1/4" x 1/8"	3 1/4"	500	61065K48	105.48	—	—	—
8"	2"	3/4"	3/16" x 3/32"	2 3/16"	500	61065K59	90.72	500	2478K44	95.84
8"	3"	1"	1/4" x 1/8"	3 1/4"	850	61065K17	123.16	1,600	2478K45	162.54
8"	3"	1 1/4"	1/4" x 1/8"	3 1/4"	850	61065K18	123.16	—	—	—
10"	3"	1"	1/4" x 1/8"	3 1/4"	1,000	61065K23	131.80	1,600	2478K43	196.00
10"	3"	1 1/4"	1/4" x 1/8"	3 1/4"	1,000	61065K24	129.08	—	—	—

♦Hub protrudes 1 1/4" on one side only.

Corrosion-Resistant Turntables



Square

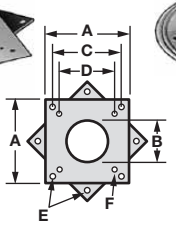



Round

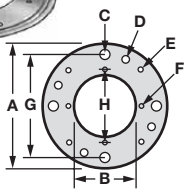

Put a spin on your displays, industrial assemblies, and many other "lazy Susan" applications. All of these corrosion-resistant turntables have stamped plates and contain ball bearings that are housed in a large circular race. They also have a space-saving design that's only 5/16" high. Mounting fasteners not included. ***Lubricated turntables*** provide smoother, quieter motion.

Aluminum—Lightweight aluminum plates with stainless steel ball bearings.

Galvanized Steel—Galvanized steel plates with steel ball bearings.

Black Finish—Smooth steel plates with a black finish and steel ball bearings.

Yellow Chromate—Zinc-plated steel plates with a yellow-chromate finish and stainless steel ball bearings.

Square Turntables

Load Cap., lbs.	O'all Size (A)	Center Dia. (B)	Top Ctr.-to-Ctr. (C)	Top Ctr.-to-Ctr. (D)	Bottom Ctr.-to-Ctr. (C)	Bottom Ctr.-to-Ctr. (D)	Hole Dia. (E)	Hole Dia. (F)	No. of Holes	Aluminum	Each	Galvanized Steel	Each	Black Finish	Each	Yellow Chromate	Each
Unlubricated																	
200	3"	1.31"	2.56"	2.13"	2.56"	—	0.16"	0.094"	12	—	—	6031K16	$2.18	6031K31	$8.44	6031K41	$10.71
300	4"	2.16"	3.19"	2.75"	3.53"	2.93"	0.16"	0.094"	16	6031K2	$17.91	6031K17	3.11	6031K32	9.43	6031K42	16.44
500	6.06"	4.68"	4.77"	—	5.56"	—	0.19"	0.094"	12	6031K3★	29.49	6031K18★	4.13	6031K33★	10.81	6031K43★	19.95
Lubricated																	
500	6.06"	4.68"	4.77"	—	5.56"	—	0.19"	0.094"	12	—	—	1544T1★	5.99	1544T11★	9.58	1544T21★	20.55

★ (E) dimension for bottom plate is 0.27". Top plate does not have (F) holes.

Round Turntables

Load Cap., lbs.	O'all Dia. (A)	Center Dia. (B)	Top Dia. (C)	Top Dia. (D)	Top Dia. (E)	Top Ctr.-to-Ctr. (G)	Bottom Dia. (F)	Bottom Ctr.-to-Ctr. (H)	No. of Holes	Galvanized Steel	Each	Black Finish	Each	Yellow Chromate	Each
Unlubricated															
750	9.12"	4.5"	0.28"	—	0.13"	6.18"	0.2"	5.18"	16	6031K21	$7.22	6031K34	$15.31	6031K44	$35.81
1,000	12.06"	6.33"	0.28"	0.2"	0.13"	9.47"	0.2"	8.5"	22	6031K19	12.58	6031K35	29.04	6031K45	48.82
Lubricated															
750	9.12"	4.5"	0.28"	—	0.13"	6.18"	0.2"	5.18"	16	1544T2	11.11	1544T12	14.28	1544T22	33.50
1,000	12.06"	6.33"	0.28"	0.2"	0.13"	9.47"	0.2"	8.5"	22	1544T3	14.95	1544T13	28.46	1544T23	46.19

Easy-Position Turntables



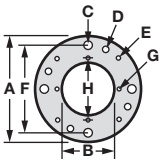

For repeatable positioning capability, turn to these turntables. All are made of galvanized steel and have steel ball bearings that are housed in a large circular race. They also have a space-saving design that's only 5/16" high. Mounting fasteners not included.

One-Stop Turntables—Have one dead stop, which prevents rotation past the stop.

One-, ***Four-***, and ***Eight-Position Turntables—***These turntables have detents, which stop or slow the rotation of the turntable at specified intervals. ***One-position turntables*** have one detent at 180°. ***Four-position turntables*** have four detents spaced at 90° intervals. ***Eight-position turntables*** have eight detents spaced at 45° intervals.

Load Cap., lbs.	O'all Dia. (A)	Ctr. Dia. (B)	Top Dia. (C)	Top Dia. (D)	Top Dia. (E)	Ctr.-to-Ctr. (F)	Bottom Dia. (G)	Bottom Ctr.-to-Ctr. (H)	No. of Holes		Each
One-Stop											
750	9"	4.5"	0.28"	—	0.13"	6.18"	0.2"	5.18"	16	1797K3	$9.90
1,000	12"	6.33"	0.28"	0.2"	0.13"	9.47"	0.2"	8.5"	22	1797K4	14.16
One-Position											
750	9"	4.5"	0.28"	—	0.13"	6.18"	0.2"	5.18"	16	1797K1	8.44
1,000	12"	6.33"	0.28"	0.2"	0.13"	9.47"	0.2"	8.5"	22	1797K2	11.25
Four-Position											
750	9"	4.5"	0.28"	—	0.13"	6.18"	0.2"	5.18"	16	1797K21	9.73
1,000	12"	6.33"	0.28"	0.2"	0.13"	9.47"	0.2"	8.5"	22	1797K11	13.63
Eight-Position											
750	9"	4.5"	0.28"	—	0.13"	6.18"	0.2"	5.18"	16	1797K22	9.66
1,000	12"	6.33"	0.28"	0.2"	0.13"	9.47"	0.2"	8.5"	22	1797K12	14.24

Large-Diameter Ring-Style Turntables



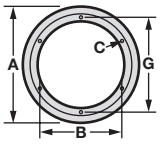

Perfect for adding a revolving feature to bulky equipment. All of these turntables are corrosion resistant and have ball bearings. Weight rests on pads along the outer ring. Mounting fasteners not included.

The 18635A52 *turntable* also has six 5/16"-18 holes (spaced 12.38" center to center) for fastening to the load surface.

Load Cap., lbs.	Ht.	O'all Dia. (A)	Ctr. Dia. (B)	Inner Ring Mtg. Holes Dia. (C)	Inner Ring Mtg. Holes No. of Holes	Ctr.-to-Ctr. (G)		Each
ABS Plastic								
110	0.51"	11.18"	9.49"	—	♣	—	18635A21	$9.78
220	0.71"	17.4"	14.88"	0.157"	4	15.37"	18635A22	55.22
Aluminum								
175	0.48"	12.8"	10.43"	1/4"-20	6	10.83"	18635A52	37.03
275	0.79"	17.4"	15"	0.18"	6	15.43"	18635A54	71.27
660	0.63"	23.62"	20.5"	0.19"	4	21.18"	8233K14	254.58
990	0.63"	29.5"	26.5"	0.19"	5	27.01"	8233K15	416.47

♣ Five equally spaced spokes with five spacers and one 0.17" mounting hole at the center of the spokes.

Large-Diameter Solid-Surface Turntables



Able to handle up to 220-lb. loads, these turntables have a textured, solid plastic surface to keep whatever you're rotating in place. They also have fully enclosed ball bearings to keep out debris. Made of high-impact plastic. Color is black.

Load Cap., lbs.	Ht.	O'all Dia.		Each
220	1 1/16"	10"	1443T1	$9.20
220	1 1/16"	12"	1443T2	15.80
220	3/4"	14"	1443T3	27.60
220	1 1/16"	16"	1443T4	33.00

Light Duty Plastic Turntables

Nothing fancy, just economical, lightweight plastic turntables with ball bearings. Use glue to keep them in place.

Solid-Surface Turntables— **To Order:** Please specify color: black, clear, or white.

Sloped Solid-Surface Turntable— Has a 9″ diameter top that slopes to a 12″ diameter base. A great choice if the base will be visible. **To Order:** Please specify color: black, clear, or white.

Offset Solid-Surface Turntable— Has a 14″ diameter top and a 9″ diameter base. Color is clear.

Ring-Style Turntables— Color is clear.



Solid Surface



Ring Style

Style	Load Cap., lbs.	Ht.	Top Dia.	Base Dia.	Ring ID		Each
Solid Surface	50	9/16″	3″	3″	—	1413T11	$6.04
Solid Surface	50	9/16″	4.25″	4.25″	—	1413T12	7.16
Solid Surface	50	9/16″	5.5″	5.5″	—	1413T13	13.36
Solid Surface	50	9/16″	9″	9″	—	1413T14	21.68
Sloped Solid Surface	200	9/16″	9″	12″	—	1413T18	28.82
Offset Solid Surface	200	9/16″	14″	9″	—	1413T19	30.44
Ring	50	9/16″	4.25″	—	1.63″	1413T15	6.84
Ring	50	9/16″	5.5″	—	2.75″	1413T16	10.51
Ring	100	9/16″	8.5″	—	5.75″	1413T17	19.95

Heavy Duty Turntables

Use these rugged turntables on welding tables, industrial workstations, material container stands, and as fifth wheels on carts. All have ball bearings that ride in a precision-hardened raceway for smooth rotary motion. To mount turntable plates, weld or bolt them with standard Grade 5 or better hex-head bolts, unless noted. Mounting fasteners not included.

Lockable turntables have slotted grooves that let you lock the turntable into any of four evenly spaced positions using the included spring-loaded pull ring. ***Nonlockable turntables*** have grease fittings, unless noted.



Lockable



Nonlockable

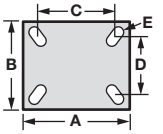

Load Cap., lbs.	Ht.	Lg. (A)	Wd. (B)	Mounting Holes Ctr.-to-Ctr. (C)	Mounting Holes Ctr.-to-Ctr. (D)	Mounting Holes Dia. (E)	Lockable	Each	Nonlockable	Each
With Steel Plates and Steel Ball Bearings										
900	1.19″	6.5″	4.5″	5.1″	2.91″	0.56″	—	—	22345T3■	$84.87
1,500	1.56″	6.5″	4.5″	5.1″	2.91″	0.56″	6640K1	$84.57	22345T2	61.43
5,200	1.81″	7.25″	5.25″	5.69″	3.75″	0.56″	6640K2▲	145.01	22345T5	113.78
7,500	2.38″	7″	6″	5.56″	4.5″	0.56″	6640K3●	235.00	22345T7	191.17
10,000	2.5″	7.5″	6.25″	6.13″	4.13″	0.56″	6640K4●	305.91	22345T6	240.98
30,000	2.88″	8.5″	8.5″	7″	7″	0.69″	6640K5	399.96	22345T8	366.78
With Stainless Steel Plates and Stainless Steel Ball Bearings										
840	1.56″	6.5″	4.5″	5.1″	2.91″	0.56″	—	—	22345T21	287.59
1,700	1.56″	6.5″	4.5″	5.1″	2.91″	0.56″	—	—	22345T22	498.67

■ No grease fittings. ▲ Use flat head screws for mounting due to limited clearance between plates.
● Has grease fittings.

Permanently Lubricated Industrial Turntables

No additional lubrication is ever needed because these turntables have fully sealed ball bearings. The top plate has a milled-flat level surface—great for welding tables and industrial assemblies. All turntables have a steel top plate and bearings. The base is cast iron. To mount turntable plates, weld or bolt them with standard hex-head bolts. Mounting fasteners not included.

Lockable turntables have slotted grooves that let you position the turntable into any of four evenly spaced points using the included spring-loaded pull ring. If you want the turntable to spin freely, just pull out the ring and turn the ring 90°.



Lockable

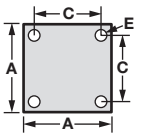

Load Cap., lbs.	Ht.	Lg. (A)	Mounting Holes Ctr.-to-Ctr. (C)	Mounting Holes Size (E)	Lockable	Each	Nonlockable	Each
1,000	1.77″	3.25″	2.5″	1/4″-20	9443T1	$263.82	9443T2	$210.98
2,500	1.92″	3.5″	2.75″	1/4″-20	9443T11	305.76	9443T21	248.11
5,000	2.43″	5″	4″	3/8″-16	9443T12	382.96	9443T22	332.42
10,000	2.72″	6.5″	5.5″	3/8″-16	9443T13	561.47	9443T23	504.29

Plain-Bearing and Extreme-Capacity Turntables

Plain-Bearing Turntables— Also known as slewing ring bearings, these self-lubricating bearings are maintenance free. Each has polymer plain bearings housed in aluminum rings to provide excellent vibration damping. Mounting fasteners not included.

Extreme-Capacity Turntables— By far, these have the largest load capacities of any turntables we offer. Each has steel ball bearings housed in hardened steel rings. Mount with SAE Grade 8 hex-head bolts with coarse threads (not included).



Plain Bearing



Extreme Capacity

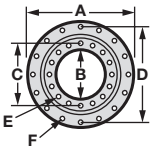

Load Cap., lbs.	Ht.	O'all Dia. (A)	Ctr. Dia. (B)	Bolt Circle, Ctr.-to-Ctr. Inner Ring (C)	Bolt Circle, Ctr.-to-Ctr. Outer Ring (D)	Mounting Holes Inner Ring (E)	Mounting Holes Outer Ring (F)	No. of Holes Inner Ring	No. of Holes Outer Ring		Each
Plain-Bearing Turntables— *Dimensions given in mm.*											
337	29	100	30	42.5	91	M4	4.5	8	8	8700K1	$350.40
674	33	160	60	74	145	M5	5.5	10	20	8700K2	379.56
1,124	34	185	100	112	170	M5	5.5	12	16	8700K3	516.18
2,248	38	300	200	215	285	M6	7	12	16	8700K4	871.89
Extreme-Capacity Turntables											
14,000	0.79″	4.33″	1.97″	2.48″	3.82″	6.6 mm	6.6 mm	8	8	6651K11	982.58
17,000	0.87″	5.32″	2.56″	3.15″	4.72″	9 mm	9 mm	8	8	6651K12	1,038.57
37,000	1.34″	8.9″	4.8″	5.51″	8.19″	9 mm	9 mm	12	12	6651K13	1,250.03
60,000	1.34″	9.8″	5.63″	6.5″	8.94″	11 mm	11 mm	12	12	6651K14	1,326.51
150,000	1.97″	11.8″	5.7″	6.89″	10.63″	0.56″	0.56″	16	16	6651K1	2,023.50
200,000	1.58″	14.4″	8.3″	9.45″	13.19″	0.56″	0.56″	20	16	6651K3	2,614.77
240,000	1.97″	16.5″	10.4″	11.61″	15.35″	0.56″	0.56″	24	18	6651K4	2,798.40

About Sleeve, Flanged Sleeve, and Thrust Bearings

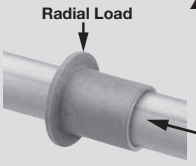

Also known as plain or plane bearings, these bearings allow smooth, low-friction motion between two surfaces. The load is supported through the motion of one solid surface against another.

All bearings are designed to handle either radial loads, thrust loads, or both. Radial load is the load that is perpendicular to the shaft. Thrust load is the load that is parallel to the shaft. **Sleeve bearings** handle radial loads. **Flanged sleeve bearings** handle both radial and thrust loads. **Thrust bearings** handle thrust loads.

Oil-Embedded Sleeve Bearings



Startup friction causes these porous bronze bearings to release a thin layer of oil on the bearing's surface.

Standard—Bearings are SAE 841 bronze embedded with SAE 30 oil. They are also known as Oilite® bearings. Temperature range is -35° to 300°F.

High Load—Bearings have increased iron content, making them stronger and more resistant to shock loads than standard bearings. Color is silver because of the iron. *Iron-copper bronze* bearings have a temperature range of 10° to 220°F and are lubricated with SAE 90 oil. *SAE 863 iron-copper bronze* bearings have a temperature range is -15° to 300°F and are lubricated with ISO 460 oil.

Food Grade—Embedded with oil that meets USDA H1, these bearings are suitable for incidental contact with food. *SAE 841 bronze* bearings run at higher speeds than SAE 863 iron-copper bronze bearings. *SAE 863 iron-copper bronze* bearings have increased iron content, making them stronger and more resistant to shock loads than SAE 841 bronze bearings. Color is silver because of the iron. Temperature range is -75° to 300°F.

Ultra-Low Friction with PTFE—For applications with frequent starts and stops, these SAE 841 bronze bearings are embedded with SAE 80 oil that contains particles of slippery PTFE. The PTFE reduces wear during startup, before the oil is warm enough to lubricate the bearing. Temperature range is 10° to 220°F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's surface speed and load are below the values listed, the bearing should work for your application.

Standard—SAE 841 Bronze

OD	Lg.	Load Cap. @ Speed		
For 3/64" Shaft Dia.—Load @ 2,000 rpm				
5/32"	3/16"	15 lbs.	6391K481	$13.15
For 1/16" Shaft Dia.—Load @ 1,500 rpm				
1/4"	1/4"	30 lbs.	6391K482	13.15
For 5/64" Shaft Dia.—Load @ 1,000 rpm				
1/4"	1/4"	35 lbs.	6391K483	13.15
For 3/32" Shaft Dia.—Load @ 1,000 rpm				
1/4"	1/4"	45 lbs.	6391K484	13.15
For 1/8" Shaft Dia.—Load @ 700 rpm				
1/4"	1/8"	30 lbs.	6391K113	.68
1/4"	1/4"	60 lbs.	6391K111	.78
1/4"	3/8"	90 lbs.	6391K112	.68
For 5/32" Shaft Dia.—Load @ 600 rpm				
1/4"	3/8"	100 lbs.	6391K485	13.15
For 3/16" Shaft Dia.—Load @ 500 rpm				
1/4"	1/4"	90 lbs.	6391K122	.53
1/4"	3/8"	100 lbs.	6391K125	.86
1/4"	1/2"	150 lbs.	6391K124	.96
1/4"	5/8"	200 lbs.	6391K123	.98
5/16"	1/4"	90 lbs.	6391K114	.77
5/16"	3/8"	100 lbs.	6391K115	.58
5/16"	1/2"	150 lbs.	6391K116	.58
For 7/32" Shaft Dia.—Load @ 400 rpm				
5/16"	3/8"	150 lbs.	6391K486	15.31
For 1/4" Shaft Dia.—Load @ 350 rpm				
5/16"	1/4"	100 lbs.	6391K126	.43
5/16"	1/2"	250 lbs.	6391K127	.80
5/16"	3/4"	350 lbs.	6391K401	.93
3/8"	1/4"	100 lbs.	6391K131	.78
3/8"	3/8"	150 lbs.	6391K136	.86
3/8"	1/2"	250 lbs.	6391K132	1.15
3/8"	5/8"	300 lbs.	6391K133	.97
3/8"	7/8"	400 lbs.	6391K134	1.20
3/8"	1"	500 lbs.	6391K135	.82
1/2"	1/2"	250 lbs.	6391K141	1.24
1/2"	5/8"	300 lbs.	6391K402	2.29
1/2"	3/4"	350 lbs.	6391K142	1.72
1/2"	1"	500 lbs.	6391K143	2.67
For 5/16" Shaft Dia.—Load @ 300 rpm				
3/8"	1/4"	150 lbs.	6391K403	.97
3/8"	3/8"	200 lbs.	6391K152	.81
3/8"	1/2"	300 lbs.	6391K153	.86
3/8"	5/8"	350 lbs.	6391K154	.83
3/8"	3/4"	450 lbs.	6391K155	.83
3/8"	1"	600 lbs.	6391K156	1.71
7/16"	1/4"	150 lbs.	6391K161	.58
7/16"	3/8"	200 lbs.	6391K162	.58
7/16"	1/2"	300 lbs.	6391K163	.70
7/16"	5/8"	350 lbs.	6391K164	1.01
7/16"	3/4"	450 lbs.	6391K165	1.10
7/16"	1"	600 lbs.	6391K166	1.23
1/2"	3/8"	200 lbs.	6391K404	1.25
1/2"	1/2"	300 lbs.	6391K405	1.33

Standard—SAE 841 Bronze (Cont.)

OD	Lg.	Load Cap. @ Speed		
For 5/16" Shaft Dia.—Load @ 300 rpm (Cont.)				
1/2"	3/4"	450 lbs.	6391K406	$2.51
1/2"	1"	600 lbs.	6391K443	2.19
1/2"	1 1/4"	700 lbs.	6391K444	2.39
For 3/8" Shaft Dia.—Load @ 250 rpm				
1/2"	1/4"	150 lbs.	6391K171	.58
1/2"	3/8"	250 lbs.	6391K172	.83
1/2"	1/2"	350 lbs.	6391K173	.76
1/2"	5/8"	450 lbs.	6391K174	1.10
1/2"	3/4"	500 lbs.	6391K176	2.11
1/2"	7/8"	600 lbs.	6391K175	1.38
1/2"	1"	700 lbs.	6391K178	1.38
1/2"	1 1/4"	900 lbs.	6391K179	1.40
9/16"	3/8"	250 lbs.	6391K181	1.10
9/16"	1/2"	350 lbs.	6391K182	1.13
9/16"	3/4"	500 lbs.	6391K183	1.57
9/16"	1"	700 lbs.	6391K184	1.85
9/16"	1 1/4"	900 lbs.	6391K185	2.62
5/8"	1/2"	350 lbs.	6391K186	1.67
5/8"	5/8"	450 lbs.	6391K187	1.88
5/8"	3/4"	500 lbs.	6391K188	1.62
5/8"	1"	700 lbs.	6391K189	2.28
3/4"	1"	700 lbs.	6391K511	2.72
For 7/16" Shaft Dia.—Load @ 200 rpm				
9/16"	1/2"	400 lbs.	6391K117	1.08
9/16"	5/8"	500 lbs.	6391K118	.93
9/16"	1"	800 lbs.	6391K119	1.41
9/16"	1 1/4"	1,000 lbs.	6391K407	2.49
5/8"	1/2"	400 lbs.	6391K192	1.33
5/8"	3/4"	600 lbs.	6391K194	1.86
5/8"	1"	800 lbs.	6391K195	1.57
For 1/2" Shaft Dia.—Load @ 150 rpm				
5/8"	3/8"	350 lbs.	6391K211	.93
5/8"	1/2"	500 lbs.	6391K212	.84
5/8"	9/16"	500 lbs.	6391K213	1.78
5/8"	5/8"	600 lbs.	6391K216	1.30
5/8"	3/4"	700 lbs.	6391K214	1.18
5/8"	7/8"	800 lbs.	6391K408	2.81
5/8"	1"	1,000 lbs.	6391K215	1.63
5/8"	1 1/8"	1,000 lbs.	6391K409	1.61
5/8"	1 1/4"	1,000 lbs.	6391K217	1.82
5/8"	1 1/2"	1,500 lbs.	6391K411	1.53
5/8"	3"	3,000 lbs.	6391K1	36.07
11/16"	1/2"	500 lbs.	6391K196	1.37
11/16"	5/8"	600 lbs.	6391K197	1.38
11/16"	3/4"	700 lbs.	6391K198	1.57
11/16"	1"	1,000 lbs.	6391K199	1.75
11/16"	1 1/8"	1,000 lbs.	6391K201	2.31
3/4"	3/8"	350 lbs.	6391K521	1.50
3/4"	1/2"	500 lbs.	6391K221	2.20
3/4"	5/8"	600 lbs.	6391K222	2.44
3/4"	3/4"	700 lbs.	6391K223	2.78
3/4"	1"	1,000 lbs.	6391K225	4.09

Standard—SAE 841 Bronze (Cont.)

OD	Lg.	Load Cap. @ Speed		
For 1/2" Shaft Dia.—Load @ 150 rpm (Cont.)				
3/4"	1 1/8"	1,000 lbs.	6391K412	$3.12
3/4"	1 1/4"	1,000 lbs.	6391K226	5.75
3/4"	1 1/2"	1,500 lbs.	6391K413	4.71
3/4"	3"	3,000 lbs.	6391K3	36.34
1"	1"	1,000 lbs.	6391K414	4.82
1"	3"	3,000 lbs.	6391K4	30.30
For 9/16" Shaft Dia.—Load @ 150 rpm				
3/4"	1/2"	500 lbs.	6391K231	1.55
3/4"	3/4"	800 lbs.	6391K232	1.90
3/4"	1"	1,000 lbs.	6391K233	2.02
3/4"	1 1/4"	1,000 lbs.	6391K234	2.85
3/4"	1 3/8"	1,500 lbs.	6391K235	3.38
For 5/8" Shaft Dia.—Load @ 150 rpm				
3/4"	1/2"	600 lbs.	6391K241	1.24
3/4"	5/8"	700 lbs.	6391K246	1.25
3/4"	3/4"	900 lbs.	6391K247	1.26
3/4"	7/8"	1,000 lbs.	6391K242	1.55
3/4"	1"	1,000 lbs.	6391K243	2.19
3/4"	1 1/8"	1,000 lbs.	6391K244	1.85
3/4"	1 1/4"	1,500 lbs.	6391K245	1.97
3/4"	1 1/2"	1,500 lbs.	6391K415	2.25
3/4"	3"	3,500 lbs.	6391K6	34.67
13/16"	1/2"	600 lbs.	6391K251	1.71
13/16"	3/4"	900 lbs.	6391K253	1.94
13/16"	1"	1,000 lbs.	6391K255	2.97
13/16"	3"	3,500 lbs.	6391K7	34.74
7/8"	5/8"	700 lbs.	6391K202	1.94
7/8"	3/4"	900 lbs.	6391K203	2.29
7/8"	1"	1,000 lbs.	6391K204	5.40
7/8"	1 1/2"	1,500 lbs.	6391K205	6.14
7/8"	1 3/4"	2,000 lbs.	6391K416	5.52
7/8"	3"	3,500 lbs.	6391K8	34.67
1"	1/2"	600 lbs.	6391K529	2.84
1"	3/4"	900 lbs.	6391K417	3.44
1"	2"	2,500 lbs.	6391K445	8.20
1"	3"	3,500 lbs.	6391K9	34.74
For 3/4" Shaft Dia.—Load @ 100 rpm				
7/8"	1/2"	700 lbs.	6391K256	1.47
7/8"	5/8"	900 lbs.	6391K257	1.30
7/8"	3/4"	1,000 lbs.	6391K258	1.68
7/8"	1"	1,500 lbs.	6391K259	1.94
7/8"	1 1/4"	1,500 lbs.	6391K208	3.02
7/8"	1 1/2"	2,000 lbs.	6391K207	2.11
7/8"	3"	4,500 lbs.	6391K11	34.67
15/16"	1 1/2"	2,000 lbs.	6391K446	4.81
15/16"	2"	3,000 lbs.	6391K447	6.11
15/16"	3"	4,500 lbs.	6391K12	31.61
1"	3/8"	500 lbs.	6391K261	1.93
1"	1/2"	700 lbs.	6391K262	1.64
1"	5/8"	900 lbs.	6391K266	2.30
1"	3/4"	1,000 lbs.	6391K263	2.37

(Continued on following page)

Oil-Embedded Sleeve Bearings *(Continued from previous page)*

OD	Lg.	Load Cap. @ Speed		
Standard—SAE 841 Bronze (Cont.)				
For ¾″ Shaft Dia.—Load @ 100 rpm (Cont.)				
1″	⅞″	1,000 lbs.	6391K264	$2.85
1″	1″	1,500 lbs.	6391K265	2.71
1″	1¼″	1,500 lbs.	6391K267	3.86
1″	1½″	2,000 lbs.	6391K268	4.90
1″	1¾″	2,500 lbs.	6391K448	5.93
1″	2″	3,000 lbs.	6391K269	5.64
1″	3″	4,500 lbs.	6391K13	29.54
1⅛″	1½″	2,000 lbs.	6391K449	7.45
1⅛″	3″	4,500 lbs.	6391K14	34.89
1¼″	1″	1,500 lbs.	6391K418	6.82
1¼″	3″	4,500 lbs.	6391K15	33.32
For 13⁄16″ Shaft Dia.—Load @ 100 rpm				
1″	1¼″	2,000 lbs.	6391K487	5.73
For ⅞″ Shaft Dia.—Load @ 100 rpm				
1″	1½″	2,500 lbs.	6391K419	3.11
1″	3″	5,000 lbs.	6391K16	35.24
1⅛″	¾″	1,000 lbs.	6391K271	3.08
1⅛″	1″	1,500 lbs.	6391K273	4.32
1⅛″	1¼″	2,000 lbs.	6391K275	3.92
1⅛″	2″	3,500 lbs.	6391K421	8.67
1⅛″	3″	5,000 lbs.	6391K17	34.91
For 1″ Shaft Dia.—Load @ 90 rpm				
1⅛″	½″	1,000 lbs.	6391K422	1.74
1⅛″	1″	2,000 lbs.	6391K423	2.32
1⅛″	4″	8,000 lbs.	6391K18	56.89
1¼″	½″	1,000 lbs.	6391K281	2.29
1¼″	¾″	1,500 lbs.	6391K282	5.38
1¼″	1″	2,000 lbs.	6391K283	6.26
1¼″	1¼″	2,500 lbs.	6391K284	4.76
1¼″	1½″	3,000 lbs.	6391K285	5.11
1¼″	2″	4,000 lbs.	6391K286	10.50
1¼″	2¼″	4,500 lbs.	6391K424	11.68
1¼″	2½″	5,000 lbs.	6391K45	13.12
1¼″	27⁄8″	5,000 lbs.	6391K287	13.13
1¼″	3″	6,000 lbs.	6391K288	14.76
1¼″	4″	8,000 lbs.	6391K19	56.88
1⅜″	1″	2,000 lbs.	6391K451	5.72
1⅜″	1½″	3,000 lbs.	6391K452	9.69
1⅜″	4″	8,000 lbs.	6391K21	55.55
1½″	2″	4,000 lbs.	6391K453	15.41
1½″	3″	6,000 lbs.	6391K454	20.66
1½″	4″	8,000 lbs.	6391K501	52.33
For 1 1⁄16″ Shaft Dia.—Load @ 80 rpm				
1¼″	1¼″	2,500 lbs.	6391K488	8.42
For 1⅛″ Shaft Dia.—Load @ 80 rpm				
1⅜″	1″	2,000 lbs.	6391K425	3.14
1⅜″	1½″	3,000 lbs.	6391K426	4.66
1⅜″	4″	9,000 lbs.	6391K502	61.15
For 1 3⁄16″ Shaft Dia.—Load @ 80 rpm				
1½″	1″	2,000 lbs.	6391K432	4.97
1½″	1½″	3,500 lbs.	6391K433	6.40
1½″	2″	4,500 lbs.	6391K434	7.98
1½″	2½″	5,000 lbs.	6391K435	16.67
1½″	4″	9,000 lbs.	6391K22	61.49
For 1¼″ Shaft Dia.—Load @ 70 rpm				
1½″	¾″	1,500 lbs.	6391K293	2.41
1½″	1″	2,500 lbs.	6391K295	3.16
1½″	1¼″	3,000 lbs.	6391K291	4.39
1½″	1½″	3,500 lbs.	6391K292	4.61
1½″	2″	5,000 lbs.	6391K294	6.24
1½″	2½″	6,000 lbs.	6391K296	8.39
1½″	3″	7,000 lbs.	6391K455	17.23
1½″	4″	10,000 lbs.	6391K503	52.33
For 1 5⁄16″ Shaft Dia.—Load @ 70 rpm				
1⅝″	2½″	6,000 lbs.	6391K456	16.09
1⅝″	4″	10,000 lbs.	6391K23	60.09
For 1⅜″ Shaft Dia.—Load @ 60 rpm				
1⅝″	1″	2,500 lbs.	6391K436	3.25
1⅝″	1½″	4,000 lbs.	6391K437	4.97
1⅝″	2″	5,000 lbs.	6391K438	10.05
1⅝″	3″	8,000 lbs.	6391K534	17.11
1⅝″	4″	10,000 lbs.	6391K24	82.51
For 1½″ Shaft Dia.—Load @ 60 rpm				
1¾″	½″	1,500 lbs.	6391K311	3.94
Standard—SAE 841 Bronze (Cont.)				
For 1½″ Shaft Dia.—Load @ 60 rpm (Cont.)				
1¾″	1″	3,000 lbs.	6391K315	$4.66
1¾″	1¼″	3,500 lbs.	6391K532	4.71
1¾″	1½″	4,500 lbs.	6391K533	5.83
1¾″	1¾″	5,000 lbs.	6391K316	8.47
1¾″	2″	6,000 lbs.	6391K317	9.98
1¾″	2½″	7,000 lbs.	6391K458	12.36
1¾″	3″	9,000 lbs.	6391K459	16.97
1¾″	4″	10,000 lbs.	6391K25	74.30
17⁄8″	2″	6,000 lbs.	6391K46	11.93
17⁄8″	4″	10,000 lbs.	6391K26	84.06
2″	2″	6,000 lbs.	6391K461	16.39
2″	2½″	7,000 lbs.	6391K462	21.59
2″	4″	10,000 lbs.	6391K504	86.95
For 1⅝″ Shaft Dia.—Load @ 50 rpm				
2″	2″	6,000 lbs.	6391K489	26.46
For 1¾″ Shaft Dia.—Load @ 50 rpm				
2″	1″	3,500 lbs.	6391K439	5.07
2″	1½″	5,000 lbs.	6391K441	7.06
2″	2″	7,000 lbs.	6391K442	8.19
2″	3″	10,000 lbs.	6391K464	17.31
2″	4″	10,000 lbs.	6391K27	90.41
For 1 7⁄8″ Shaft Dia.—Load @ 50 rpm				
2¼″	2½″	9,000 lbs.	6391K491	28.92
For 1 15⁄16″ Shaft Dia.—Load @ 45 rpm				
2¼″	2″	7,000 lbs.	6391K492	44.81
For 2″ Shaft Dia.—Load @ 40 rpm				
2¼″	2″	8,000 lbs.	6391K465	9.41
2¼″	2½″	10,000 lbs.	6391K466	14.11
2¼″	4″	15,000 lbs.	6391K28	111.79
2⅜″	1⅛″	4,500 lbs.	6391K321	9.88
2⅜″	1½″	6,000 lbs.	6391K322	12.67
2⅜″	2″	8,000 lbs.	6391K324	19.39
2⅜″	3″	10,000 lbs.	6391K467	26.98
2⅜″	4″	15,000 lbs.	6391K325	50.17
2½″	2″	8,000 lbs.	6391K468	20.43
2½″	2½″	10,000 lbs.	6391K469	23.69
2½″	3″	10,000 lbs.	6391K47	54.55
For 2 3⁄16″ Shaft Dia.—Load @ 40 rpm				
2½″	2″	8,000 lbs.	6391K493	47.12
For 2 1⁄4″ Shaft Dia.—Load @ 40 rpm				
2¾″	2″	9,000 lbs.	6391K431	28.04
2¾″	3″	10,000 lbs.	6391K427	36.80
2¾″	4″	15,000 lbs.	6391K29	149.06
For 2½″ Shaft Dia.—Load @ 35 rpm				
3″	4″	20,000 lbs.	6391K428	57.00
For 3″ Shaft Dia.—Load @ 30 rpm				
3½″	4″	20,000 lbs.	6391K471	77.14
4″	6½″	35,000 lbs.	6391K429	262.83
High Load—Iron-Copper Bronze				
For ¾″ Shaft Dia.—Load @ 40 rpm				
⅞″	½″	3,000 lbs.	3741K1	11.46
⅞″	⅝″	3,500 lbs.	3741K2	12.19
⅞″	¾″	4,500 lbs.	3741K3	11.74
⅞″	1″	6,000 lbs.	3741K4	12.02
15⁄16″	½″	3,000 lbs.	3741K5	11.94
1″	½″	3,000 lbs.	3741K6	12.22
1″	¾″	4,500 lbs.	3741K7	12.64
1″	1″	6,000 lbs.	3741K8	13.08
1″	1¼″	7,000 lbs.	3741K9	13.52
1″	1½″	9,000 lbs.	3741K11	13.88
1″	2″	10,000 lbs.	3741K12	14.46
1⅛″	¾″	4,500 lbs.	3741K13	13.56
For ⅞″ Shaft Dia.—Load @ 40 rpm				
1″	⅝″	4,000 lbs.	3741K14	11.94
1″	1″	7,000 lbs.	3741K15	12.40
1⅛″	1½″	10,000 lbs.	3741K16	13.70
1¼″	1″	7,000 lbs.	3741K17	14.00
For 1″ Shaft Dia.—Load @ 35 rpm				
1⅛″	¾″	6,000 lbs.	3741K18	12.28
1⅛″	1½″	10,000 lbs.	3741K19	13.10
1¼″	¾″	6,000 lbs.	3741K21	13.04
1¼″	1″	8,000 lbs.	3741K22	13.50
1¼″	1¼″	10,000 lbs.	3741K23	13.92
High Load—Iron-Copper Bronze (Cont.)				
For 1″ Shaft Dia.—Load @ 35 rpm (Cont.)				
1¼″	1½″	10,000 lbs.	3741K24	$14.34
1¼″	2½″	20,000 lbs.	3741K26	16.06
1¼″	3″	20,000 lbs.	3741K27	17.10
For 1⅛″ Shaft Dia.—Load @ 30 rpm				
1¼″	1″	9,000 lbs.	3741K29	13.44
1⅜″	1″	9,000 lbs.	3741K31	13.80
For 1¼″ Shaft Dia.—Load @ 25 rpm				
1½″	½″	5,000 lbs.	3741K33	12.92
1½″	1″	10,000 lbs.	3741K34	13.84
1½″	2″	20,000 lbs.	3741K35	14.76
1½″	2½″	25,000 lbs.	3741K36	15.56
For 1⅜″ Shaft Dia.—Load @ 25 rpm				
1⅝″	1″	10,000 lbs.	3741K37	14.14
1⅝″	1½″	15,000 lbs.	3741K38	14.96
For 1½″ Shaft Dia.—Load @ 25 rpm				
1¾″	⅝″	7,000 lbs.	3741K39	13.58
1¾″	1″	10,000 lbs.	3741K41	15.24
1¾″	1½″	15,000 lbs.	3741K42	16.02
1¾″	2″	20,000 lbs.	3741K43	16.92
2″	1½″	15,000 lbs.	3741K44	19.74
For 1¾″ Shaft Dia.—Load @ 25 rpm				
2″	1″	10,000 lbs.	3741K46	14.54
2″	2″	20,000 lbs.	3741K47	16.48
For 2″ Shaft Dia.—Load @ 25 rpm				
2¼″	1″	10,000 lbs.	3741K48	16.52
2¼″	2″	20,000 lbs.	3741K49	21.08
Food Grade—SAE 841 Bronze				
For ¼″ Shaft Dia.—Load @ 350 rpm				
⅜″	¼″	100 lbs.	7095K41	.53
⅜″	⅜″	150 lbs.	7095K42	.61
For ⅜″ Shaft Dia.—Load @ 250 rpm				
½″	⅜″	250 lbs.	7095K43	.62
½″	½″	350 lbs.	7095K44	.62
For ½″ Shaft Dia.—Load @ 150 rpm				
⅝″	½″	500 lbs.	7095K45	.67
⅝″	¾″	700 lbs.	7095K46	.85
For ¾″ Shaft Dia.—Load @ 100 rpm				
1″	1″	1,500 lbs.	7095K47	1.79
For 1″ Shaft Dia.—Load @ 90 rpm				
1¼″	1¼″	2,500 lbs.	7095K48	2.87
Ultra-Low Friction with PTFE—SAE 841 Bronze				
For 3⁄16″ Shaft Dia.—Load @ 500 rpm				
¼″	¼″	90 lbs.	1688K1	.50
For ¼″ Shaft Dia.—Load @ 350 rpm				
5⁄16″	¼″	100 lbs.	1688K2	.53
5⁄16″	½″	250 lbs.	1688K3	.63
⅜″	¼″	100 lbs.	1688K4	.67
⅜″	⅜″	150 lbs.	1688K5	.74
⅜″	½″	250 lbs.	1688K6	.83
⅜″	1″	500 lbs.	1688K7	1.23
For ⅜″ Shaft Dia.—Load @ 250 rpm				
½″	¼″	150 lbs.	1688K8	.70
½″	⅜″	250 lbs.	1688K9	.86
½″	½″	350 lbs.	1688K11	1.11
½″	¾″	500 lbs.	1688K12	1.17
½″	1″	700 lbs.	1688K13	1.39
For ½″ Shaft Dia.—Load @ 150 rpm				
⅝″	⅜″	350 lbs.	1688K14	1.07
⅝″	½″	500 lbs.	1688K15	1.06
⅝″	¾″	700 lbs.	1688K16	1.53
⅝″	1″	1,000 lbs.	1688K17	1.57
¾″	½″	500 lbs.	1688K19	1.94
¾″	¾″	700 lbs.	1688K21	2.06
¾″	1″	1,000 lbs.	1688K22	2.90
For ⅝″ Shaft Dia.—Load @ 150 rpm				
¾″	¾″	900 lbs.	1688K23	1.69
¾″	1″	1,000 lbs.	1688K24	2.13
For ¾″ Shaft Dia.—Load @ 100 rpm				
⅞″	1″	1,500 lbs.	1688K25	2.03
1″	¾″	1,000 lbs.	1688K26	3.07
For 1″ Shaft Dia.—Load @ 90 rpm				
1¼″	1½″	3,000 lbs.	1688K27	6.16

SAE 863 Iron-Copper Bronze

Choose a Size

High Load SAE 863 — Choose a shaft dia., OD, and length. Dimensions are the same as Standard SAE 841 bronze bearings on pg. 1164, except not available in shaft diameters of 3⁄64″, 1⁄16″, 5⁄64″, 3⁄32″, 5⁄32″, 7⁄32″, 13⁄16″, 1 1⁄16″, 1⅝″, 1⅞″, 1 15⁄16″, 2 3⁄16″, and 3″ with a 4″ OD. **2868T312**

Food Grade SAE 863 — Choose a shaft dia., OD, and length. Dimensions are the same as the Food-Grade SAE 841 bronze bearings above. **6952K6**

Metric Oil-Embedded Sleeve Bearings



Startup friction causes these porous bronze bearings to release a thin layer of oil on the bearing's surface. They are also known as Oilite® bearings. They are SAE 841 bronze lubricated with SAE 30 oil. Temperature range is -35° to 300° F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's surface speed and load are below the values listed, the bearing should work for your application.

OD, mm	Lg., mm	Load Cap. @ Speed		
For 1.5 mm Shaft Dia.—Load @ 1,500 rpm				
5	3	10 lbs.	6658K61	$13.15
For 2 mm Shaft Dia.—Load @ 1,000 rpm				
5	3	15 lbs.	6658K62	13.15
For 2.5 mm Shaft Dia.—Load @ 900 rpm				
6.5	4	30 lbs.	6658K63	13.15
For 3 mm Shaft Dia.—Load @ 800 rpm				
6	4	35 lbs.	6658K64	1.23
For 4 mm Shaft Dia.—Load @ 600 rpm				
7	6	70 lbs.	6658K65	1.27
For 5 mm Shaft Dia.—Load @ 450 rpm				
8	5	70 lbs.	6658K66	1.31
For 7 mm Shaft Dia.—Load @ 300 rpm				
11	8	150 lbs.	6658K67	4.42
For 8 mm Shaft Dia.—Load @ 300 rpm				
12	8	150 lbs.	6658K68	1.50
For 12 mm Shaft Dia.—Load @ 200 rpm				
15	12	400 lbs.	6658K11	1.11
15	16	500 lbs.	6658K12	1.20
15	20	700 lbs.	6658K13	1.27
16	12	400 lbs.	6658K14	1.28
16	16	500 lbs.	6658K15	1.29
16	20	700 lbs.	6658K16	1.32
18	12	400 lbs.	6658K17	1.42
18	16	500 lbs.	6658K18	1.50
For 12 mm Shaft Dia. (Cont.)				
18	20	700 lbs.	6658K19	$1.60
For 13 mm Shaft Dia.—Load @ 150 rpm				
16	16	600 lbs.	6658K71	6.08
For 14 mm Shaft Dia.—Load @ 150 rpm				
18	14	600 lbs.	6658K21	1.62
18	18	700 lbs.	6658K22	1.63
18	22	900 lbs.	6658K23	1.75
20	14	600 lbs.	6658K24	1.75
20	18	700 lbs.	6658K25	1.89
20	22	900 lbs.	6658K26	1.94
For 15 mm Shaft Dia.—Load @ 150 rpm				
19	16	700 lbs.	6658K27	1.97
19	20	900 lbs.	6658K28	2.03
21	16	700 lbs.	6658K29	2.07
21	20	900 lbs.	6658K31	2.16
For 16 mm Shaft Dia.—Load @ 150 rpm				
20	16	700 lbs.	6658K32	2.18
20	20	900 lbs.	6658K33	2.20
22	16	700 lbs.	6658K34	2.25
22	20	900 lbs.	6658K35	2.27
For 18 mm Shaft Dia.—Load @ 100 rpm				
22	18	1,000 lbs.	6658K36	2.31
22	22	1,000 lbs.	6658K37	2.36
For 18 mm Shaft Dia. (Cont.)				
24	18	1,000 lbs.	6658K38	$2.36
24	22	1,000 lbs.	6658K39	2.72
25	18	1,000 lbs.	6658K41	2.98
25	22	1,000 lbs.	6658K42	2.79
For 20 mm Shaft Dia.—Load @ 100 rpm				
24	16	900 lbs.	6658K43	2.81
24	20	1,000 lbs.	6658K44	2.82
26	16	900 lbs.	6658K45	2.86
26	20	1,000 lbs.	6658K46	2.90
28	16	900 lbs.	6658K47	2.99
28	20	1,000 lbs.	6658K48	3.03
For 22 mm Shaft Dia.—Load @ 100 rpm				
27	18	1,000 lbs.	6658K49	3.08
27	22	1,500 lbs.	6658K51	4.38
28	18	1,000 lbs.	6658K52	3.27
28	22	1,500 lbs.	6658K53	3.34
29	18	1,000 lbs.	6658K54	3.46
29	22	1,500 lbs.	6658K55	3.52
For 25 mm Shaft Dia.—Load @ 90 rpm				
30	20	1,500 lbs.	6658K56	3.59
32	20	1,500 lbs.	6658K57	3.67
For 35 mm Shaft Dia.—Load @ 60 rpm				
45	35	3,500 lbs.	6658K72	12.19

Vibration-Damping Oil-Embedded Sleeve Bearings



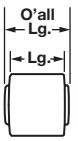

With a flexible layer of neoprene sandwiched between an SAE 841 bronze bearing and rigid steel shell, these bearings reduce wear and machinery noise. Startup friction causes the bronze to sweat, producing a thin layer of oil on the bearing's surface. Embedded with SAE 30 oil. Temperature range is 0° to 220° F.

For Shaft Dia.	OD	Lg.	O'all Lg.	Load Cap. @ Speed		
3/8"	1"	7/8"	1"	600 lbs. @ 250 rpm	6364K31	$10.22
1/2"	1"	7/8"	1"	800 lbs. @ 150 rpm	6364K32	8.93
5/8"	1 1/4"	1 1/8"	1 1/4"	1,000 lbs. @ 150 rpm	6364K33	12.60
3/4"	1 1/4"	1 1/8"	1 1/4"	1,500 lbs. @ 100 rpm	6364K34	11.40
1"	1 5/8"	1 3/8"	1 1/2"	2,500 lbs. @ 90 rpm	6364K36	17.53

Dry-Running Sleeve Bearings



Made of slippery plastics, these bearings reduce friction without the need for lubrication.

Light Duty—*Nylon* bearings are for light loads. Color is white. Temp. range is -20° to 250° F. *MDS-filled nylon* bearings create less friction than standard nylon bearings, making them more wear resistant. Color is black. Temp. range is -40° to 170° F, unless noted. *Acetal* bearings are more chemical resistant than nylon and MDS-filled nylon bearings. Color is white. Temp. range is -20° to 180° F.

Ultra-Low Friction—Use these bearings in applications with frequent starts and stops because they operate with very little friction. They also can withstand a wide range of temperatures. *PTFE* bearings are slippery and chemical resistant. Color is white. Temp. range is -350° to 500° F. *Rulon J* bearings create the least amount of friction of any bearing in our offering. They handle higher loads and speeds than PTFE bearings. Color is gold. Temp. range is -400° to 550° F.

Water Resistant—A good choice for underwater applications, these Rulon LR bearings won't warp when exposed to moisture. Color is maroon. Temp. range is -400° to 550° F.

Chemical Resistant—*Glass-filled PTFE* bearings offer the same low-friction and chemical resistance properties as ultra-low friction PTFE bearings, along with increased load and speed capacity. Color is white. Temp. range is -350° to 500° F. *PEEK* bearings are lightweight, strong, and able to withstand a wide range of chemicals. Color is black. Temp. range is -40° to 500° F. *PTFE-lined fiberglass* bearings resist vibration while handling high loads in wet, corrosive environments. Color is brown. Temp. range is -140° to 350° F.

Extreme Load—These Vespel® polyimide bearings are our highest performing sleeve bearings. They handle high loads at high speeds and withstand heat and chemicals in harsh environments. Color is black. Temp. range is -400° to 550° F.

Food Grade—Made of FDA-listed materials for use in food applications, these bearings also withstand caustic and washdown environments. *UHMW* bearings perform well in wet, corrosive environments. Color is white. Temp. range is -200° to 180° F. *Rulon 641* bearings are stronger than UHMW bearings and can withstand a wider range of temperatures. Temp. range is -400° to 550° F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's surface speed and load are below the values listed, the bearing should work for your application.

OD	Lg.	Load Cap. @ Speed		
Light Duty—Nylon				
For 1/8" Shaft Dia.—Load @ 200 rpm				
1/4"	1/4"	10 lbs.	6389K1	$3.94
1/4"	3/8"	15 lbs.	6389K2	4.68
For 3/16" Shaft Dia.—Load @ 150 rpm				
5/16"	1/4"	15 lbs.	6389K3	4.46
5/16"	1/2"	35 lbs.	6389K353	.65
For 1/4" Shaft Dia.—Load @ 100 rpm				
3/8"	1/4"	25 lbs.	6389K352	.57
3/8"	3/8"	35 lbs.	6389K351	.54
3/8"	1/2"	50 lbs.	6389K113	.64
For 5/16" Shaft Dia.—Load @ 90 rpm				
7/16"	1/2"	60 lbs.	6389K4	4.39
7/16"	5/8"	70 lbs.	6389K114	.73
1/2"	1/4"	30 lbs.	6389K111	.98
Light Duty—Nylon (Cont.)				
For 5/16" Shaft Dia.—Load @ 90 rpm (Cont.)				
1/2"	3/8"	45 lbs.	6389K5	$4.29
For 3/8" Shaft Dia.—Load @ 70 rpm				
1/2"	3/8"	50 lbs.	6389K349	.60
1/2"	1/2"	70 lbs.	6389K115	.51
1/2"	3/4"	100 lbs.	6389K354	.79
1/2"	7/8"	100 lbs.	6389K112	1.03
5/8"	3/4"	100 lbs.	6389K348	1.09
For 7/16" Shaft Dia.—Load @ 60 rpm				
9/16"	1/2"	80 lbs.	6389K6	4.32
For 1/2" Shaft Dia.—Load @ 50 rpm				
5/8"	3/8"	70 lbs.	6389K355	.81
5/8"	1/2"	100 lbs.	6389K347	.81
Light Duty—Nylon (Cont.)				
For 1/2" Shaft Dia.—Load @ 50 rpm (Cont.)				
5/8"	5/8"	100 lbs.	6389K116	$0.68
5/8"	3/4"	150 lbs.	6389K346	.98
5/8"	1"	200 lbs.	6389K117	1.11
3/4"	1/2"	100 lbs.	6389K345	.94
3/4"	3/4"	150 lbs.	6389K118	.87
3/4"	1"	200 lbs.	6389K119	1.26
For 5/8" Shaft Dia.—Load @ 45 rpm				
3/4"	3/4"	150 lbs.	6389K222	.88
13/16"	5/8"	150 lbs.	6389K7	4.57
7/8"	5/8"	150 lbs.	6389K8	5.70
7/8"	3/4"	150 lbs.	6389K344	1.08
7/8"	1"	250 lbs.	6389K9	6.23

(Continued on following page)

Dry-Running Sleeve Bearings *(Continued from previous page)*

OD	Lg.	Load Cap. @ Speed		
Light Duty—Nylon (Cont.)				
For 3/4" Shaft Dia.—Load @ 35 rpm				
7/8"	1 1/4"	350 lbs.	6389K225	$1.23
1"	1/2"	150 lbs.	6389K343	1.23
1"	3/4"	200 lbs.	6389K342	1.23
1"	1"	300 lbs.	6389K226	1.09
1"	1 1/2"	450 lbs.	6389K341	1.40
For 7/8" Shaft Dia.—Load @ 30 rpm				
1 1/8"	1 1/8"	350 lbs.	6389K227	2.48
For 1" Shaft Dia.—Load @ 25 rpm				
1 1/8"	1"	400 lbs.	6389K228	2.82
1 1/4"	3/4"	300 lbs.	6389K11	9.28
1 1/4"	1"	400 lbs.	6389K229	3.05
1 1/4"	1 1/2"	600 lbs.	6389K331	3.25
For 1 1/4" Shaft Dia.—Load @ 25 rpm				
1 1/2"	1"	450 lbs.	6389K12	10.21
1 1/2"	1 1/2"	500 lbs.	6389K13	12.56
1 1/2"	2"	900 lbs.	6389K14	14.89
For 1 1/2" Shaft Dia.—Load @ 25 rpm				
1 3/4"	2"	900 lbs.	6389K15	22.97
Light Duty—MDS-Filled Nylon				
For 1/8" Shaft Dia.—Load @ 35 rpm				
1/4"	1/4"	90 lbs.	6294K401	.87
1/4"	3/8"	100 lbs.	6294K402	1.06
For 3/16" Shaft Dia.—Load @ 25 rpm				
5/16"	1/4"	100 lbs.	6294K403	1.41
5/16"	1/2"	250 lbs.	6294K404	1.24
For 1/4" Shaft Dia.—Load @ 25 rpm				
3/8"	1/4"	100 lbs.	6294K405	1.34
3/8"	3/8"	150 lbs.	6294K406	1.06
3/8"	1/2"	250 lbs.	6294K407	1.29
For 5/16" Shaft Dia.—Load @ 25 rpm				
7/16"	1/2"	250 lbs.	6294K408	1.38
7/16"	5/8"	300 lbs.	6294K409	1.84
1/2"	1/4"	25 lbs.	6294K2 ★	3.71
1/2"	3/8"	40 lbs.	6294K1 ★	4.02
For 3/8" Shaft Dia.—Load @ 25 rpm				
1/2"	3/8"	150 lbs.	6294K411	1.27
1/2"	1/2"	250 lbs.	6294K412	1.35
1/2"	3/4"	350 lbs.	6294K413	1.31
1/2"	7/8"	100 lbs.	6294K3 ★	4.76
5/8"	3/4"	90 lbs.	6294K4 ★	4.76
For 7/16" Shaft Dia.—Load @ 25 rpm				
9/16"	1/2"	250 lbs.	6294K414	1.34
For 1/2" Shaft Dia.—Load @ 25 rpm				
5/8"	3/8"	150 lbs.	6294K415	1.49
5/8"	1/2"	250 lbs.	6294K416	1.32
5/8"	5/8"	300 lbs.	6294K417	1.47
5/8"	3/4"	350 lbs.	6294K418	1.32
5/8"	1"	500 lbs.	6294K419	1.58
For 1/2" Shaft Dia.—Load @ 60 rpm				
3/4"	1/2"	80 lbs.	6294K5 ★	4.62
3/4"	3/4"	100 lbs.	6294K6 ★	5.60
3/4"	1"	150 lbs.	6294K7 ★	6.09
For 5/8" Shaft Dia.—Load @ 25 rpm				
13/16"	5/8"	300 lbs.	6294K421	1.63
For 5/8" Shaft Dia.—Load @ 50 rpm				
3/4"	3/4"	150 lbs.	6294K8 ★	5.47
7/8"	5/8"	100 lbs.	6294K9 ★	5.33
7/8"	3/4"	150 lbs.	6294K101 ★	5.75
7/8"	1"	200 lbs.	6294K102 ★	6.27
For 3/4" Shaft Dia.—Load @ 25 rpm				
7/8"	1 1/4"	300 lbs.	6294K103 ★	6.64
1"	1/2"	250 lbs.	6294K422	2.11
1"	3/4"	350 lbs.	6294K423	2.46
1"	1"	500 lbs.	6294K424	2.84
1"	1 1/2"	700 lbs.	6294K425	5.64
For 7/8" Shaft Dia.—Load @ 35 rpm				
1 1/8"	1 1/8"	300 lbs.	6294K104 ★	7.82
For 1" Shaft Dia.—Load @ 25 rpm				
1 1/4"	3/4"	350 lbs.	6294K426	2.86
1 1/4"	1"	500 lbs.	6294K427	3.92
1 1/4"	1 1/2"	700 lbs.	6294K428	5.74
For 1" Shaft Dia.—Load @ 30 rpm				
1 1/8"	1"	350 lbs.	6294K105 ★	7.40
For 1 1/4" Shaft Dia.—Load @ 25 rpm				
1 1/2"	1"	500 lbs.	6294K429	4.20
1 1/2"	1 1/2"	700 lbs.	6294K431	5.25
1 1/2"	2"	800 lbs.	6294K106 ★	15.09
For 1 1/2" Shaft Dia.—Load @ 25 rpm				
1 3/4"	2"	900 lbs.	6294K107 ★	18.95

★ Max. temperature is 220° F.

OD	Lg.	Load Cap. @ Speed		
Light Duty—Acetal				
For 1/8" Shaft Dia.—Load @ 80 rpm				
1/4"	1/4"	30 lbs.	2610T1	$3.60
1/4"	3/8"	45 lbs.	2610T2	3.63
For 3/16" Shaft Dia.—Load @ 50 rpm				
5/16"	1/4"	45 lbs.	2610T3	3.60
5/16"	1/2"	90 lbs.	2610T4	3.65
For 1/4" Shaft Dia.—Load @ 40 rpm				
3/8"	1/4"	60 lbs.	2610T5	3.63
3/8"	3/8"	90 lbs.	2610T6	3.63
3/8"	1/2"	100 lbs.	2610T7	3.72
For 5/16" Shaft Dia.—Load @ 30 rpm				
7/16"	1/2"	150 lbs.	2610T8	3.48
7/16"	5/8"	150 lbs.	2610T9	3.53
1/2"	3/8"	100 lbs.	2610T11	3.45
For 3/8" Shaft Dia.—Load @ 25 rpm				
1/2"	3/8"	100 lbs.	2610T12	3.45
1/2"	1/2"	150 lbs.	2610T13	3.55
1/2"	3/4"	250 lbs.	2610T14	3.55
5/8"	3/4"	250 lbs.	2610T15	3.94
For 7/16" Shaft Dia.—Load @ 25 rpm				
9/16"	1/2"	200 lbs.	2610T16	3.82
For 1/2" Shaft Dia.—Load @ 25 rpm				
5/8"	3/8"	150 lbs.	2610T17	3.72
5/8"	1/2"	200 lbs.	2610T18	3.87
5/8"	5/8"	250 lbs.	2610T19	3.87
5/8"	3/4"	300 lbs.	2610T21	3.87
5/8"	1"	400 lbs.	2610T22	4.02
3/4"	1/2"	200 lbs.	2610T23	3.87
3/4"	3/4"	300 lbs.	2610T24	3.99
3/4"	1"	400 lbs.	2610T25	4.12
For 5/8" Shaft Dia.—Load @ 25 rpm				
3/4"	3/4"	300 lbs.	2610T26	4.02
13/16"	5/8"	250 lbs.	2610T27	4.04
7/8"	5/8"	250 lbs.	2610T28	4.09
7/8"	3/4"	300 lbs.	2610T29	4.07
7/8"	1"	400 lbs.	2610T31	4.34
For 3/4" Shaft Dia.—Load @ 25 rpm				
7/8"	1 1/4"	500 lbs.	2610T32	4.70
1"	1/2"	200 lbs.	2610T33	4.04
1"	3/4"	300 lbs.	2610T34	4.21
1"	1"	400 lbs.	2610T35	4.83
1"	1 1/2"	600 lbs.	2610T36	4.83
For 7/8" Shaft Dia.—Load @ 25 rpm				
1 1/8"	1 1/8"	450 lbs.	2610T37	7.84
For 1" Shaft Dia.—Load @ 25 rpm				
1 1/8"	1"	400 lbs.	2610T38	7.28
1 1/4"	3/4"	300 lbs.	2610T39	7.08
1 1/4"	1"	400 lbs.	2610T41	7.06
1 1/4"	1 1/2"	600 lbs.	2610T42	8.35
For 1 1/4" Shaft Dia.—Load @ 25 rpm				
1 1/2"	1"	400 lbs.	2610T43	8.35
1 1/2"	1 1/2"	600 lbs.	2610T44	9.53
1 1/2"	2"	800 lbs.	2610T45	10.78
For 1 1/2" Shaft Dia.—Load @ 25 rpm				
1 3/4"	2"	800 lbs.	2610T46	16.02
Ultra-Low Friction—PTFE				
For 1/8" Shaft Dia.—Load @ 60 rpm				
1/4"	1/4"	15 lbs.	2639T1	3.41
1/4"	3/8"	20 lbs.	2639T2	3.37
For 3/16" Shaft Dia.—Load @ 40 rpm				
5/16"	1/4"	20 lbs.	2639T3	3.41
5/16"	1/2"	45 lbs.	2639T4	3.39
For 1/4" Shaft Dia.—Load @ 30 rpm				
3/8"	1/4"	30 lbs.	2639T5	3.39
3/8"	3/8"	45 lbs.	2639T6	3.46
3/8"	1/2"	60 lbs.	2639T7	3.57
For 5/16" Shaft Dia.—Load @ 25 rpm				
7/16"	1/2"	70 lbs.	2639T8	3.71
7/16"	5/8"	90 lbs.	2639T9	3.84
1/2"	3/8"	50 lbs.	2639T11	3.68
For 3/8" Shaft Dia.—Load @ 25 rpm				
1/2"	3/8"	50 lbs.	2639T12	3.62
1/2"	1/2"	70 lbs.	2639T13	3.77
1/2"	3/4"	100 lbs.	2639T14	3.95
5/8"	3/4"	100 lbs.	2639T15	4.27
For 7/16" Shaft Dia.—Load @ 25 rpm				
9/16"	1/2"	70 lbs.	2639T16	3.93
For 1/2" Shaft Dia.—Load @ 25 rpm				
5/8"	3/8"	50 lbs.	2639T17	3.77
5/8"	1/2"	70 lbs.	2639T18	3.93
5/8"	5/8"	90 lbs.	2639T19	4.11
5/8"	3/4"	100 lbs.	2639T21	4.20

OD	Lg.	Load Cap. @ Speed		
Ultra-Low Friction—PTFE (Cont.)				
For 1/2" Shaft Dia.—Load @ 25 rpm (Cont.)				
5/8"	1"	150 lbs.	2639T22	$4.52
3/4"	1/2"	70 lbs.	2639T23	3.93
3/4"	3/4"	100 lbs.	2639T24	4.11
3/4"	1"	150 lbs.	2639T25	4.38
For 5/8" Shaft Dia.—Load @ 25 rpm				
3/4"	3/4"	100 lbs.	2639T26	4.18
13/16"	5/8"	90 lbs.	2639T27	4.86
7/8"	5/8"	90 lbs.	2639T28	5.38
7/8"	3/4"	100 lbs.	2639T29	5.08
7/8"	1"	150 lbs.	2639T31	5.63
For 3/4" Shaft Dia.—Load @ 25 rpm				
7/8"	1 1/4"	150 lbs.	2639T32	7.34
1"	1/2"	70 lbs.	2639T33	4.79
1"	3/4"	100 lbs.	2639T34	5.47
1"	1"	150 lbs.	2639T35	6.44
1"	1 1/2"	200 lbs.	2639T36	7.57
For 7/8" Shaft Dia.—Load @ 25 rpm				
1 1/8"	1 1/8"	150 lbs.	2639T37	11.12
For 1" Shaft Dia.—Load @ 25 rpm				
1 1/8"	1"	150 lbs.	2639T38	10.21
1 1/4"	3/4"	100 lbs.	2639T39	9.81
1 1/4"	1"	150 lbs.	2639T41	10.89
1 1/4"	1 1/2"	200 lbs.	2639T42	14.06
For 1 1/4" Shaft Dia.—Load @ 25 rpm				
1 1/2"	1"	150 lbs.	2639T43	13.97
1 1/2"	1 1/2"	200 lbs.	2639T44	18.60
1 1/2"	2"	300 lbs.	2639T45	22.82
For 1 1/2" Shaft Dia.—Load @ 25 rpm				
1 3/4"	2"	300 lbs.	2639T46	32.16
Ultra-Low Friction—Rulon J				
For 1/8" Shaft Dia.—Load @ 250 rpm				
1/4"	1/4"	20 lbs.	6377K49	2.33
1/4"	3/8"	35 lbs.	6377K48	2.77
For 3/16" Shaft Dia.—Load @ 150 rpm				
1/4"	1/4"	35 lbs.	6377K1	8.95
1/4"	1/2"	70 lbs.	6377K2	12.47
5/16"	1/4"	35 lbs.	6377K47	2.77
5/16"	3/8"	50 lbs.	6377K46	2.94
5/16"	1/2"	70 lbs.	6377K45	3.76
For 1/4" Shaft Dia.—Load @ 150 rpm				
5/16"	1/4"	45 lbs.	6377K3	9.13
5/16"	1/2"	90 lbs.	6377K4	12.82
3/8"	1/4"	45 lbs.	6377K31	3.60
3/8"	3/8"	70 lbs.	6377K32	4.20
3/8"	1/2"	90 lbs.	6377K33	5.00
For 5/16" Shaft Dia.—Load @ 100 rpm				
3/8"	1/4"	50 lbs.	6377K5	9.30
3/8"	1/2"	100 lbs.	6377K6	13.05
1/2"	3/8"	80 lbs.	6377K44	5.14
1/2"	1/2"	100 lbs.	6377K27	5.97
For 3/8" Shaft Dia.—Load @ 100 rpm				
15/32"	1/2"	100 lbs.	6377K9	13.52
15/32"	3/4"	200 lbs.	6377K71	15.03
1/2"	3/4"	200 lbs.	6377K72	16.28
9/16"	3/8"	100 lbs.	6377K34	6.67
9/16"	1/2"	100 lbs.	6377K35	7.50
9/16"	3/4"	200 lbs.	6377K36	8.47
For 1/2" Shaft Dia.—Load @ 70 rpm				
19/32"	1/2"	150 lbs.	6377K73	15.67
19/32"	1"	350 lbs.	6377K75	20.45
5/8"	3/8"	100 lbs.	6377K76	13.37
3/4"	1/2"	150 lbs.	6377K37	8.69
3/4"	3/4"	250 lbs.	6377K38	7.69
3/4"	1"	350 lbs.	6377K39	12.97
For 5/8" Shaft Dia.—Load @ 60 rpm				
7/8"	5/8"	250 lbs.	6377K41	11.34
7/8"	3/4"	350 lbs.	6377K59	12.69
7/8"	1"	450 lbs.	6377K61	15.49
For 3/4" Shaft Dia.—Load @ 50 rpm				
7/8"	1"	500 lbs.	6377K79	27.79
1"	1/2"	250 lbs.	6377K62	11.89
1"	3/4"	400 lbs.	6377K63	14.76
1"	1"	500 lbs.	6377K64	18.51
1"	1 1/2"	800 lbs.	6377K65	28.16
For 7/8" Shaft Dia.—Load @ 40 rpm				
1 1/8"	3/4"	450 lbs.	6377K43	12.87
1 1/8"	1"	600 lbs.	6377K42	16.58
For 1" Shaft Dia.—Load @ 35 rpm				
1 1/8"	3/4"	500 lbs.	6377K82	29.93
1 1/8"	1"	700 lbs.	6377K83	35.70
1 1/4"	3/4"	500 lbs.	6377K66	28.49

(Continued on following page)

Dry-Running Sleeve Bearings *(Continued from previous page)*



Made of slippery plastics, these bearings reduce friction without the need for lubrication.

Light Duty—*Nylon* bearings are for light loads. Color is white. Temp. range is -20° to 250° F. *MDS-filled nylon* bearings create less friction than standard nylon bearings, making them more wear resistant. Color is black. Temp. range is -40° to 170° F, unless noted. *Acetal* bearings are more chemical resistant than nylon and MDS-filled nylon bearings. Color is white. Temp. range is -20° to 180° F.

Ultra-Low Friction—Use these bearings in applications with frequent starts and stops because they operate with very little friction. They also can withstand a wide range of temperatures. *PTFE* bearings are slippery and chemical resistant. Color is white. Temp. range is -350° to 500° F. *Rulon J* bearings create the least amount of friction of any bearing in our offering. They handle higher loads and speeds than PTFE bearings. Color is gold. Temp. range is -400° to 550° F.

Water Resistant—A good choice for underwater applications, these Rulon LR bearings won't warp when exposed to moisture. Color is maroon. Temp. range is -400° to 550° F.

Chemical Resistant—*Glass-filled PTFE* bearings offer the same low-friction and chemical resistance properties as ultra-low friction PTFE bearings, along with increased load and speed capacity. Color is white. Temp. range is -350° to 500° F. *PEEK* bearings are lightweight, strong, and withstand a wide range of chemicals. Color is black. Temp. range is -40° to 500° F. *PTFE-lined fiberglass* bearings resist vibration while handling high loads in wet, corrosive environments. Color is black. Temp. range is -58° to 280° F.

Extreme Load—These Vespel® polyimide bearings are our highest performing sleeve bearings. They handle high loads at high speeds and withstand heat and chemicals in harsh environments. Color is black. Temp. range is -400° to 550° F.

Food Grade—Made of FDA-listed materials for use in food applications, these bearings also withstand caustic and washdown environments. Color is white. *UHMW* bearings perform well in wet, corrosive environments. Temp. range is -200° to 180° F. *Rulon 641* bearings are stronger than UHMW bearings and can withstand a wider range of temperatures. Temp. range is -400° to 550° F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's surface speed and load are below the values listed, the bearing should work for your application.

OD	Lg.	Load Cap. @ Speed		
Ultra-Low Friction—Rulon J (Cont.)				
For 1″ Shaft Dia.—Load @ 35 rpm (Cont.)				
1¼″	1″	700 lbs.	6377K67	$26.18
1¼″	1½″	1,000 lbs.	6377K51	49.33
For 1¼″ Shaft Dia.—Load @ 30 rpm				
1½″	¾″	700 lbs.	6377K52	31.86
1½″	1″	900 lbs.	6377K53	32.49
1½″	1½″	1,000 lbs.	6377K54	57.30
1½″	2″	1,500 lbs.	6377K55	77.43
For 1½″ Shaft Dia.—Load @ 25 rpm				
1¾″	2″	2,000 lbs.	6377K58	96.95
Water Resistant—Rulon LR				
For ⅛″ Shaft Dia.—Load @ 250 rpm				
¼″	¼″	30 lbs.	6362K101	1.81
¼″	⅜″	45 lbs.	6362K102	2.06
For 3⁄16″ Shaft Dia.—Load @ 150 rpm				
¼″	¼″	45 lbs.	6362K1	8.77
¼″	½″	90 lbs.	6362K2	12.18
5⁄16″	¼″	45 lbs.	6362K111	2.06
5⁄16″	⅜″	70 lbs.	6362K112	2.39
5⁄16″	½″	90 lbs.	6362K113	2.81
For ¼″ Shaft Dia.—Load @ 150 rpm				
5⁄16″	¼″	60 lbs.	6362K3	8.84
5⁄16″	½″	100 lbs.	6362K4	12.37
⅜″	¼″	60 lbs.	6362K121	2.22
⅜″	⅜″	90 lbs.	6362K122	2.73
⅜″	½″	100 lbs.	6362K123	3.12
For 5⁄16″ Shaft Dia.—Load @ 100 rpm				
⅜″	¼″	70 lbs.	6362K5	8.97
⅜″	½″	150 lbs.	6362K6	12.56
½″	⅜″	100 lbs.	6362K232	4.61
½″	½″	150 lbs.	6362K233	4.70
For ⅜″ Shaft Dia.—Load @ 100 rpm				
15⁄32″	½″	150 lbs.	6362K9	12.82
15⁄32″	¾″	250 lbs.	6362K11	14.02
½″	¾″	250 lbs.	6362K12	14.38
9⁄16″	⅜″	100 lbs.	6362K132	4.71
9⁄16″	½″	150 lbs.	6362K133	4.71
9⁄16″	¾″	250 lbs.	6362K135	5.87
For ½″ Shaft Dia.—Load @ 70 rpm				
19⁄32″	½″	250 lbs.	6362K13	13.80
19⁄32″	1″	500 lbs.	6362K15	17.16
⅝″	⅜″	150 lbs.	6362K16	11.87
¾″	½″	250 lbs.	6362K143	5.07
¾″	¾″	350 lbs.	6362K145	6.48
¾″	1″	500 lbs.	6362K146	6.53
For ⅝″ Shaft Dia.—Load @ 60 rpm				
⅞″	⅝″	350 lbs.	6362K154	5.62
⅞″	¾″	450 lbs.	6362K155	6.37
⅞″	1″	600 lbs.	6362K156	7.84
For ¾″ Shaft Dia.—Load @ 50 rpm				
⅞″	1″	700 lbs.	6362K19	21.84
1″	½″	350 lbs.	6362K163	6.03
1″	¾″	500 lbs.	6362K165	7.36
1″	1″	700 lbs.	6362K166	9.08
1″	1½″	1,000 lbs.	6362K167	13.77
For ⅞″ Shaft Dia.—Load @ 40 rpm				
1⅛″	¾″	600 lbs.	6362K175	7.85
1⅛″	1″	800 lbs.	6362K176	9.88
For 1″ Shaft Dia.—Load @ 35 rpm				
1⅛″	¾″	700 lbs.	6362K22	22.79
1⅛″	1″	1,000 lbs.	6362K23	26.48
1¼″	¾″	700 lbs.	6362K185	13.93

OD	Lg.	Load Cap. @ Speed		
Water Resistant—Rulon LR (Cont.)				
For 1″ Shaft Dia.—Load @ 35 rpm (Cont.)				
1¼″	1″	1,000 lbs.	6362K186	$16.98
1¼″	1½″	1,500 lbs.	6362K187	23.48
For 1¼″ Shaft Dia.—Load @ 30 rpm				
1½″	¾″	900 lbs.	6362K195	15.28
1½″	1″	1,000 lbs.	6362K196	18.90
1½″	1½″	1,500 lbs.	6362K197	28.27
1½″	2″	2,500 lbs.	6362K198	37.82
For 1½″ Shaft Dia.—Load @ 25 rpm				
1¾″	2″	3,000 lbs.	6362K231	47.57
Chemical Resistant—Glass-Filled PTFE				
For ⅛″ Shaft Dia.—Load @ 300 rpm				
¼″	¼″	30 lbs.	2803T1	3.69
¼″	⅜″	45 lbs.	2803T2	3.73
For 3⁄16″ Shaft Dia.—Load @ 200 rpm				
5⁄16″	¼″	45 lbs.	2803T3	3.69
5⁄16″	⅜″	70 lbs.	2803T4	4.09
5⁄16″	½″	90 lbs.	2803T5	3.76
For ¼″ Shaft Dia.—Load @ 150 rpm				
⅜″	¼″	60 lbs.	2803T6	3.62
⅜″	⅜″	90 lbs.	2803T7	3.73
⅜″	½″	100 lbs.	2803T8	3.76
For 5⁄16″ Shaft Dia.—Load @ 100 rpm				
½″	⅜″	100 lbs.	2803T11	3.97
For ⅜″ Shaft Dia.—Load @ 100 rpm				
½″	¾″	250 lbs.	2803T12	4.42
9⁄16″	⅜″	100 lbs.	2803T13	4.16
9⁄16″	½″	150 lbs.	2803T14	4.34
9⁄16″	¾″	250 lbs.	2803T15	5.07
For ½″ Shaft Dia.—Load @ 80 rpm				
⅝″	⅜″	150 lbs.	2803T16	4.16
¾″	½″	250 lbs.	2803T18	4.63
¾″	¾″	350 lbs.	2803T19	5.12
¾″	1″	500 lbs.	2803T21	5.68
For ⅝″ Shaft Dia.—Load @ 60 rpm				
⅞″	¾″	450 lbs.	2803T22	6.29
⅞″	1″	600 lbs.	2803T23	6.72
For ¾″ Shaft Dia.—Load @ 50 rpm				
1″	½″	350 lbs.	2803T24	5.57
1″	¾″	500 lbs.	2803T25	6.53
1″	1″	700 lbs.	2803T26	7.73
1″	1½″	1,000 lbs.	2803T27	9.46
For ⅞″ Shaft Dia.—Load @ 40 rpm				
1⅛″	¾″	600 lbs.	2803T28	15.55
1⅛″	1″	800 lbs.	2803T29	12.40
For 1″ Shaft Dia.—Load @ 40 rpm				
1⅛″	1″	1,000 lbs.	2803T31	12.75
1¼″	¾″	700 lbs.	2803T32	12.17
1¼″	1″	1,000 lbs.	2803T33	13.46
1¼″	1½″	1,500 lbs.	2803T34	17.73
For 1¼″ Shaft Dia.—Load @ 30 rpm				
1½″	¾″	900 lbs.	2803T35	15.19
1½″	1″	1,000 lbs.	2803T36	18.11
1½″	1½″	1,500 lbs.	2803T37	24.05
1½″	2″	2,500 lbs.	2803T38	29.54
For 1½″ Shaft Dia.—Load @ 25 rpm				
1¾″	2″	3,000 lbs.	2803T39	44.88
Chemical Resistant—PEEK				
For ⅛″ Shaft Dia.—Load @ 150 rpm				
¼″	¼″	100 lbs.	6621K111	3.96
¼″	⅜″	200 lbs.	6621K112	4.98

OD	Lg.	Load Cap. @ Speed		
Chemical Resistant—PEEK (Cont.)				
For 3⁄16″ Shaft Dia.—Load @ 100 rpm				
¼″	¼″	200 lbs.	6621K113	$3.86
¼″	½″	400 lbs.	6621K114	4.60
5⁄16″	¼″	200 lbs.	6621K115	5.70
5⁄16″	⅜″	300 lbs.	6621K116	5.98
5⁄16″	½″	400 lbs.	6621K117	6.42
For ¼″ Shaft Dia.—Load @ 80 rpm				
5⁄16″	¼″	250 lbs.	6621K118	5.70
5⁄16″	½″	500 lbs.	6621K119	6.42
⅜″	¼″	250 lbs.	6621K121	5.64
⅜″	⅜″	400 lbs.	6621K122	7.44
⅜″	½″	500 lbs.	6621K123	6.68
For 5⁄16″ Shaft Dia.—Load @ 60 rpm				
⅜″	¼″	350 lbs.	6621K124	5.64
⅜″	½″	700 lbs.	6621K125	6.68
½″	⅜″	500 lbs.	6621K126	9.36
½″	½″	700 lbs.	6621K127	9.60
For ⅜″ Shaft Dia.—Load @ 50 rpm				
15⁄32″	½″	800 lbs.	6621K128	7.38
15⁄32″	¾″	1,000 lbs.	6621K129	8.82
½″	¾″	1,000 lbs.	6621K131	11.56
9⁄16″	⅜″	600 lbs.	6621K132	8.78
9⁄16″	½″	800 lbs.	6621K133	10.52
9⁄16″	¾″	1,000 lbs.	6621K134	12.62
For ½″ Shaft Dia.—Load @ 40 rpm				
19⁄32″	½″	1,000 lbs.	6621K135	8.34
19⁄32″	1″	2,000 lbs.	6621K136	15.50
⅝″	⅜″	800 lbs.	6621K137	9.76
¾″	½″	1,000 lbs.	6621K138	16.40
¾″	¾″	1,500 lbs.	6621K139	23.76
¾″	1″	2,000 lbs.	6621K141	26.96
For ⅝″ Shaft Dia.—Load @ 30 rpm				
⅞″	⅝″	1,500 lbs.	6621K142	24.88
⅞″	¾″	2,000 lbs.	6621K143	26.39
⅞″	1″	2,500 lbs.	6621K144	30.59
For ¾″ Shaft Dia.—Load @ 25 rpm				
⅞″	1″	3,000 lbs.	6621K145	30.59
1″	½″	1,500 lbs.	6621K146	27.59
1″	¾″	2,500 lbs.	6621K147	33.74
1″	1″	3,000 lbs.	6621K148	42.66
1″	1½″	5,000 lbs.	6621K149	65.80
For ⅞″ Shaft Dia.—Load @ 25 rpm				
1⅛″	¾″	2,500 lbs.	6621K151	50.88
1⅛″	1″	3,500 lbs.	6621K152	64.82
For 1″ Shaft Dia.—Load @ 25 rpm				
1⅛″	¾″	2,500 lbs.	6621K153	50.88
1⅛″	1″	3,500 lbs.	6621K154	64.82
1¼″	¾″	2,500 lbs.	6621K155	53.30
1¼″	1″	3,500 lbs.	6621K156	63.48
1¼″	1½″	5,000 lbs.	6621K157	92.26
For 1¼″ Shaft Dia.—Load @ 25 rpm				
1½″	¾″	2,500 lbs.	6621K158	74.36
1½″	1″	3,500 lbs.	6621K159	91.24
1½″	2″	7,000 lbs.	6621K161	165.70
For 1½″ Shaft Dia.—Load @ 25 rpm				
1¾″	2″	7,000 lbs.	6621K162	212.20
Extreme Load—Vespel® Polyimide				
Choose a shaft dia., OD, and length. Dimensions are the same as the PEEK bearings above and available in ⅛″-1½″ shaft dia. and 5⁄8″ shaft dia. with 5⁄8″ length.			58315K28	

(Continued on following page)

Dry-Running Sleeve Bearings *(Continued from previous page)*

OD	Lg.	Load Cap. @ Speed		
Chemical Resistant—PTFE-Lined Fiberglass				
For ½" Shaft Dia.—Load @ 25 rpm				
5/8"	½"	6,000 lbs.	6365K401	$4.94
5/8"	1"	12,000 lbs.	6365K402	8.15
¾"	¾"	9,000 lbs.	6365K403	5.83
¾"	1"	12,000 lbs.	6365K404	7.98
For 5/8" Shaft Dia.—Load @ 25 rpm				
7/8"	¾"	9,000 lbs.	6365K405	6.45
7/8"	1"	12,000 lbs.	6365K406	7.83
For ¾" Shaft Dia.—Load @ 25 rpm				
7/8"	¾"	9,000 lbs.	6365K407	6.92
7/8"	1¼"	15,000 lbs.	6365K408	10.97
1"	1"	12,000 lbs.	6365K409	8.34
For 1" Shaft Dia.—Load @ 25 rpm				
1¼"	1"	12,000 lbs.	6365K41	10.25
1¼"	1½"	18,000 lbs.	6365K411	12.46
1¼"	2"	24,000 lbs.	6365K412★	16.92
For 1¼" Shaft Dia.—Load @ 25 rpm				
1½"	2"	24,000 lbs.	6365K413★	18.00
1½"	3"	35,000 lbs.	6365K414	21.03
For 1½" Shaft Dia.—Load @ 25 rpm				
1¾"	2"	24,000 lbs.	6365K415★	18.68
For 2" Shaft Dia.—Load @ 25 rpm				
2¼"	1½"	18,000 lbs.	6365K416	23.04
2¼"	3"	35,000 lbs.	6365K417	37.44
★Load @ 24 rpm.				
Food Grade—UHMW				
For 1/8" Shaft Dia.—Load @ 60 rpm				
¼"	¼"	30 lbs.	57785K86	7.03
¼"	3/8"	45 lbs.	57785K85	7.06
For 3/16" Shaft Dia.—Load @ 40 rpm				
5/16"	¼"	45 lbs.	57785K84	7.09
5/16"	½"	90 lbs.	57785K41	7.12
For ¼" Shaft Dia.—Load @ 30 rpm				
3/8"	¼"	60 lbs.	57785K82	7.16
3/8"	3/8"	90 lbs.	57785K81	7.19
3/8"	½"	100 lbs.	57785K11	5.30
For 5/16" Shaft Dia.—Load @ 25 rpm				
7/16"	½"	150 lbs.	57785K42	7.22
7/16"	5/8"	150 lbs.	57785K78	7.25
½"	¼"	70 lbs.	57785K1	7.31
½"	3/8"	100 lbs.	57785K77	7.28
For 3/8" Shaft Dia.—Load @ 25 rpm				
½"	3/8"	100 lbs.	57785K76	7.35
½"	½"	150 lbs.	57785K12	6.15
½"	¾"	200 lbs.	57785K88	7.38
½"	7/8"	250 lbs.	57785K2	7.41
5/8"	¾"	200 lbs.	57785K43	7.44
For 7/16" Shaft Dia.—Load @ 25 rpm				
9/16"	½"	150 lbs.	57785K71	7.48
For ½" Shaft Dia.—Load @ 25 rpm				
5/8"	3/8"	100 lbs.	57785K89	7.51
5/8"	½"	150 lbs.	57785K69	7.55
5/8"	5/8"	150 lbs.	57785K13	7.15
5/8"	¾"	200 lbs.	57785K67	7.58
5/8"	1"	300 lbs.	57785K14	7.61
¾"	½"	150 lbs.	57785K66	7.65
¾"	¾"	200 lbs.	57785K87	7.69
¾"	1"	300 lbs.	57785K15	7.96
For 5/8" Shaft Dia.—Load @ 25 rpm				
¾"	¾"	200 lbs.	57785K16	7.96
13/16"	5/8"	150 lbs.	57785K44	7.69
7/8"	5/8"	150 lbs.	57785K3	7.72
7/8"	¾"	200 lbs.	57785K63	7.76
7/8"	1"	300 lbs.	57785K64	7.79
For ¾" Shaft Dia.—Load @ 25 rpm				
7/8"	1¼"	350 lbs.	57785K65	7.83
1"	½"	150 lbs.	57785K61	8.34
1"	¾"	200 lbs.	57785K59	8.38
1"	1"	300 lbs.	57785K17	9.81
1"	1½"	450 lbs.	57785K58	8.67
For 7/8" Shaft Dia.—Load @ 25 rpm				
1⅛"	1⅛"	300 lbs.	57785K55	8.71
For 1" Shaft Dia.—Load @ 25 rpm				
1⅛"	1"	300 lbs.	57785K54	8.75
1¼"	¾"	200 lbs.	57785K53	9.61
1¼"	1"	300 lbs.	57785K18	8.80
1¼"	1½"	450 lbs.	57785K45	8.84
For 1¼" Shaft Dia.—Load @ 25 rpm				
1½"	1"	300 lbs.	57785K52	8.88
1½"	1½"	450 lbs.	57785K46	10.10

OD	Lg.	Load Cap. @ Speed		
Food Grade—UHMW (Cont.)				
For 1¼" Shaft Dia.—Load @ 25 rpm (Cont.)				
1½"	2"	600 lbs.	57785K51	$12.00
For 1½" Shaft Dia.—Load @ 25 rpm				
1¾"	2"	600 lbs.	57785K47	12.06
Food Grade—Rulon 641				
For 1/8" Shaft Dia.—Load @ 250 rpm				
¼"	¼"	30 lbs.	6371K1	9.64
¼"	3/8"	45 lbs.	6371K2	11.71
For 3/16" Shaft Dia.—Load @ 150 rpm				
¼"	¼"	45 lbs.	6371K3	9.64
¼"	½"	90 lbs.	6371K4	13.42
5/16"	¼"	45 lbs.	6371K5	9.85
5/16"	3/8"	70 lbs.	6371K6	11.91
5/16"	½"	90 lbs.	6371K7	13.73
For ¼" Shaft Dia.—Load @ 150 rpm				
5/16"	¼"	60 lbs.	6371K9	9.85
5/16"	½"	100 lbs.	6371K11	13.73
3/8"	¼"	60 lbs.	6371K301	2.77
3/8"	3/8"	90 lbs.	6371K302	3.11
3/8"	½"	100 lbs.	6371K8	13.95
For 5/16" Shaft Dia.—Load @ 100 rpm				
3/8"	¼"	70 lbs.	6371K12	9.95
3/8"	½"	150 lbs.	6371K13	13.98
½"	3/8"	100 lbs.	6371K15	13.75
½"	½"	150 lbs.	6371K16	14.53
For 3/8" Shaft Dia.—Load @ 100 rpm				
15/32"	½"	150 lbs.	6371K18	14.25
15/32"	¾"	250 lbs.	6371K19	15.76
½"	¾"	250 lbs.	6371K21	16.15
9/16"	3/8"	100 lbs.	6371K312	5.37
9/16"	½"	150 lbs.	6371K22	15.05
9/16"	¾"	250 lbs.	6371K23	16.89
For ½" Shaft Dia.—Load @ 70 rpm				
19/32"	½"	250 lbs.	6371K24	15.60
19/32"	1"	500 lbs.	6371K26	19.64
5/8"	3/8"	150 lbs.	6371K27	13.40
¾"	½"	250 lbs.	6371K323	5.67
¾"	¾"	350 lbs.	6371K29	20.89
¾"	1"	500 lbs.	6371K31	23.84
For 5/8" Shaft Dia.—Load @ 60 rpm				
7/8"	5/8"	350 lbs.	6371K334	6.14
7/8"	¾"	450 lbs.	6371K32	22.44
7/8"	1"	600 lbs.	6371K336	8.98
For ¾" Shaft Dia.—Load @ 50 rpm				
7/8"	1"	700 lbs.	6371K34	25.82
1"	½"	350 lbs.	6371K35	20.89
1"	¾"	500 lbs.	6371K345	8.43
1"	1"	700 lbs.	6371K36	29.15
1"	1½"	1,000 lbs.	6371K347	15.87
For 7/8" Shaft Dia.—Load @ 40 rpm				
1⅛"	¾"	600 lbs.	6371K37	27.33
1⅛"	1"	800 lbs.	6371K38	32.09
For 1" Shaft Dia.—Load @ 35 rpm				
1⅛"	¾"	700 lbs.	6371K41	27.33
1⅛"	1"	1,000 lbs.	6371K42	32.09
1¼"	¾"	700 lbs.	6371K43	31.76
1¼"	1"	1,000 lbs.	6371K356	18.06
1¼"	1½"	1,500 lbs.	6371K357	26.81
For 1¼" Shaft Dia.—Load @ 30 rpm				
1½"	¾"	900 lbs.	6371K44	41.62
1½"	1"	1,000 lbs.	6371K45	43.49
1½"	1½"	1,500 lbs.	6371K46	58.09
1½"	2"	2,500 lbs.	6371K368	46.31
For 1½" Shaft Dia.—Load @ 25 rpm				
1¾"	2"	3,000 lbs.	6371K378	59.49

OD, mm	Lg., mm	Load Cap. @ Speed		
Metric Light Duty—Acetal				
For 6 mm Shaft Dia.—Load @ 40 rpm				
12	10	90 lbs.	2640T11	$3.32
For 9 mm Shaft Dia.—Load @ 25 rpm				
12	14	150 lbs.	2640T12	3.41
For 10 mm Shaft Dia.—Load @ 25 rpm				
16	16	200 lbs.	2640T13	3.60
For 12 mm Shaft Dia.—Load @ 25 rpm				
16	15	200 lbs.	2640T14	3.65
16	20	300 lbs.	2640T15	4.09
18	10	150 lbs.	2640T16	3.48
18	20	300 lbs.	2640T18	4.09
18	25	400 lbs.	2640T19	3.83

OD, mm	Lg., mm	Load Cap. @ Speed		
Metric Light Duty—Acetal (Cont.)				
For 14 mm Shaft Dia.—Load @ 25 rpm				
20	15	200 lbs.	2640T21	$3.93
For 16 mm Shaft Dia.—Load @ 25 rpm				
22	20	300 lbs.	2640T22	4.07
For 18 mm Shaft Dia.—Load @ 25 rpm				
24	30	450 lbs.	2640T23	4.80
For 20 mm Shaft Dia.—Load @ 25 rpm				
26	20	300 lbs.	2640T24	7.53
26	30	450 lbs.	2640T25	8.54
For 30 mm Shaft Dia.—Load @ 25 rpm				
40	40	600 lbs.	2640T31	13.69
Metric Water Resistant—Rulon LR				
For 6 mm Shaft Dia.—Load @ 150 rpm				
12	10	90 lbs.	7763K1	13.96
For 9 mm Shaft Dia.—Load @ 100 rpm				
12	14	200 lbs.	7763K2	16.80
For 10 mm Shaft Dia.—Load @ 90 rpm				
16	16	250 lbs.	7763K3	19.26
For 12 mm Shaft Dia.—Load @ 70 rpm				
15	12	200 lbs.	7763K11	6.76
16	15	250 lbs.	7763K4	19.50
16	20	350 lbs.	7763K16	12.80
18	10	150 lbs.	7763K5	16.30
18	20	350 lbs.	7763K19	11.57
18	25	450 lbs.	7763K7	23.82
For 14 mm Shaft Dia.—Load @ 60 rpm				
20	15	300 lbs.	7763K8	20.84
For 16 mm Shaft Dia.—Load @ 50 rpm				
22	20	500 lbs.	7763K35	12.80
For 18 mm Shaft Dia.—Load @ 50 rpm				
24	30	800 lbs.	7763K9	28.85
For 20 mm Shaft Dia.—Load @ 40 rpm				
26	20	600 lbs.	7763K46	16.82
26	30	900 lbs.	7763K61	34.58
For 22 mm Shaft Dia.—Load @ 40 rpm				
27	22	700 lbs.	7763K51	18.22
For 25 mm Shaft Dia.—Load @ 35 rpm				
30	20	700 lbs.	7763K56	20.73
32	20	700 lbs.	7763K57	22.45
For 30 mm Shaft Dia.—Load @ 30 rpm				
40	40	1,500 lbs.	7763K62	91.36
Metric Food Grade—UHMW				
For 6 mm Shaft Dia.—Load @ 30 rpm				
12	10	90 lbs.	6657K11	7.28
For 9 mm Shaft Dia.—Load @ 25 rpm				
12	14	150 lbs.	6657K12	7.35
For 10 mm Shaft Dia.—Load @ 25 rpm				
16	16	150 lbs.	6657K13	7.41
For 12 mm Shaft Dia.—Load @ 25 rpm				
15	12	100 lbs.	6657K1	7.48
16	15	150 lbs.	6657K14	7.55
16	20	200 lbs.	6657K15	7.55
18	10	100 lbs.	6657K16	7.61
18	20	200 lbs.	6657K18	7.69
18	25	300 lbs.	6657K19	7.76
For 14 mm Shaft Dia.—Load @ 25 rpm				
20	15	150 lbs.	6657K21	7.76
For 16 mm Shaft Dia.—Load @ 25 rpm				
22	20	200 lbs.	6657K22	7.76
For 18 mm Shaft Dia.—Load @ 25 rpm				
24	30	350 lbs.	6657K23	7.83
For 20 mm Shaft Dia.—Load @ 25 rpm				
26	20	200 lbs.	6657K24	7.83
26	30	350 lbs.	6657K25	7.87
For 22 mm Shaft Dia.—Load @ 25 rpm				
27	22	250 lbs.	6657K3	8.55
For 25 mm Shaft Dia.—Load @ 25 rpm				
30	20	200 lbs.	6657K4	8.62
32	20	200 lbs.	6657K5	8.62
For 30 mm Shaft Dia.—Load @ 25 rpm				
40	40	450 lbs.	6657K31	8.93

Metric Ultra-Low Friction—PTFE

Choose a shaft diameter, OD, and length. Dimensions are the same as the Metric Light Duty Acetal bearings above. 2685T1

Dry-Running Sleeve Bearings with Metal Shell


Frelon with Aluminum Shell


PTFE with 17-4 PH Stainless Steel Shell

A metal shell adds strength to these bearings.

PTFE-lined tin bronze bearings with steel shell have a slit running along the length of the bearing that allows you to slip fit them onto a shaft. Temperature range is -320° to 530° F, unless noted.

Frelon bearings with aluminum shell are both slippery and chemically inert. The aluminum shell provides corrosion resistance. Temperature range is -400° to 400° F.

PTFE bearings with 17-4 PH stainless steel shell are chemical resistant. The PTFE is woven for increased strength and resistance to shock loads. Meet MIL-B-81820, MIL-B-81934, SAE AS81820, and SAE AS81934 specifications. Temperature range is -60° to 320° F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's surface speed and load are below the values listed, the bearing should work for your application.

OD	Lg.	Load Cap. @ Speed		
PTFE-Lined Tin Bronze with Steel Shell				
For 1/4" Shaft Dia.—Load @ 35 rpm				
5/16"	1/4"	1,000 lbs.	60695K1	$3.05
For 5/16" Shaft Dia.—Load @ 30 rpm				
3/8"	3/8"	3,500 lbs.	60695K21★	4.27
For 3/8" Shaft Dia.—Load @ 25 rpm				
15/32"	1/2"	3,500 lbs.	60695K2	3.39
For 1/2" Shaft Dia.—Load @ 25 rpm				
19/32"	1/2"	3,500 lbs.	60695K22★	4.63
19/32"	5/8"	4,500 lbs.	60695K3	4.06
19/32"	3/4"	5,000 lbs.	60695K23★	5.30
For 5/8" Shaft Dia.—Load @ 25 rpm				
23/32"	1/2"	3,500 lbs.	60695K24★	5.30
23/32"	5/8"	4,500 lbs.	60695K4	4.47
For 3/4" Shaft Dia.—Load @ 25 rpm				
7/8"	1/2"	3,500 lbs.	60695K25★	5.43
7/8"	1"	7,000 lbs.	60695K5	5.66
For 7/8" Shaft Dia.—Load @ 25 rpm				
1"	1"	7,000 lbs.	60695K6	6.78
For 1" Shaft Dia.—Load @ 25 rpm				
1 1/8"	1"	7,000 lbs.	60695K7	7.00
For 1 1/8" Shaft Dia.—Load @ 25 rpm				
19/32"	1"	7,000 lbs.	60695K26★	9.77
For 1 1/4" Shaft Dia.—Load @ 25 rpm				
1 13/32"	3/4"	5,000 lbs.	60695K27★	10.20
1 13/32"	1 1/4"	9,000 lbs.	60695K8	8.85
For 1 1/2" Shaft Dia.—Load @ 25 rpm				
1 21/32"	1 1/4"	9,000 lbs.	60695K9	10.40
For 1 3/4" Shaft Dia.—Load @ 25 rpm				
1 15/16"	1 1/2"	10,000 lbs.	60695K11	16.67
For 2" Shaft Dia.—Load @ 25 rpm				
2 3/16"	2"	15,000 lbs.	60695K12	23.00
Frelon with Aluminum Shell				
For 1/4" Shaft Dia.—Load @ 100 rpm				
3/8"	1/2"	350 lbs.	59575K51	15.38
For 3/8" Shaft Dia.—Load @ 60 rpm				
5/8"	1/2"	500 lbs.	59575K52	15.38
For 1/2" Shaft Dia.—Load @ 50 rpm				
3/4"	3/4"	1,000 lbs.	59575K53	17.50
For 5/8" Shaft Dia.—Load @ 40 rpm				
7/8"	3/4"	1,000 lbs.	59575K54	18.98
For 3/4" Shaft Dia.—Load @ 30 rpm				
1"	1"	2,000 lbs.	59575K55	19.92
For 1" Shaft Dia.—Load @ 25 rpm				
1 1/4"	1 1/2"	4,500 lbs.	59575K56	31.58
For 1 1/4" Shaft Dia.—Load @ 25 rpm				
1 1/2"	2"	6,000 lbs.	59575K57	45.20
For 1 1/2" Shaft Dia.—Load @ 25 rpm				
1 3/4"	2"	6,000 lbs.	59575K58	52.45
For 1 3/4" Shaft Dia.—Load @ 25 rpm				
2"	3"	9,000 lbs.	59575K59	82.16
For 2" Shaft Dia.—Load @ 25 rpm				
2 1/4"	3"	9,000 lbs.	59575K61	96.76
PTFE with 17-4 PH Stainless Steel Shell				
For 3/8" Shaft Dia.—Load @ 25 rpm				
1/2"	1/4"	3,000 lbs.	5445K1	38.84
1/2"	3/8"	4,500 lbs.	5445K2	43.12
1/2"	1/2"	6,000 lbs.	5445K3	47.08
1/2"	9/16"	6,000 lbs.	5445K4	48.84
For 1/2" Shaft Dia.—Load @ 25 rpm				
5/8"	3/16"	2,000 lbs.	5445K5	37.72
5/8"	11/32"	4,000 lbs.	5445K6	43.00
5/8"	3/8"	4,500 lbs.	5445K7	44.05
5/8"	7/16"	5,000 lbs.	5445K8	46.11
5/8"	7/8"	10,000 lbs.	5445K9	58.55
For 5/8" Shaft Dia.—Load @ 25 rpm				
13/16"	5/8"	7,000 lbs.	5445K11	58.71
13/16"	1 1/4"	15,000 lbs.	5445K12	80.70
For 11/16" Shaft Dia.—Load @ 25 rpm				
7/8"	1"	10,000 lbs.	5445K13	72.51

★ Max. temperature is 210° F.

OD	Lg.	Load Cap. @ Speed		
PTFE with 17-4 PH Stainless Steel Shell (Cont.)				
For 3/4" Shaft Dia.—Load @ 25 rpm				
15/16"	3/4"	9,000 lbs.	5445K14	$67.86
For 7/8" Shaft Dia.—Load @ 25 rpm				
1 1/16"	11/16"	8,000 lbs.	5445K15	70.15
1 1/16"	1"	10,000 lbs.	5445K16	82.92
1 1/16"	1 5/8"	15,000 lbs.	5445K17	108.06
For 1" Shaft Dia.—Load @ 25 rpm				
1 3/16"	5/8"	7,000 lbs.	5445K18	91.87
1 3/16"	3/4"	9,000 lbs.	5445K19	100.22
1 3/16"	1 1/8"	10,000 lbs.	5445K21	124.00
For 1 1/8" Shaft Dia.—Load @ 25 rpm				
1 5/16"	11/16"	8,000 lbs.	5445K22	87.01
For 1 1/4" Shaft Dia.—Load @ 25 rpm				
1 7/16"	3/4"	9,000 lbs.	5445K23	96.84
1 7/16"	1"	10,000 lbs.	5445K24	110.45
1 7/16"	1 1/4"	15,000 lbs.	5445K25	124.26
1 7/16"	1 1/2"	15,000 lbs.	5445K26	138.06

OD, mm	Lg., mm	Load Cap. @ Speed		
Metric PTFE-Lined Tin Bronze with Steel Shell				
For 4 mm Shaft Dia.—Load @ 30 rpm				
5.5	6	1,000 lbs.	6679K31	$1.82
For 5 mm Shaft Dia.—Load @ 25 rpm				
7	5	1,000 lbs.	6679K32	2.18
7	8	2,000 lbs.	6679K33	2.26
For 6 mm Shaft Dia.—Load @ 25 rpm				
8	10	3,000 lbs.	6679K11	2.00
For 7 mm Shaft Dia.—Load @ 25 rpm				
9	10	3,000 lbs.	6679K34	2.64
For 8 mm Shaft Dia.—Load @ 25 rpm				
10	10	3,000 lbs.	6679K12	2.42
10	12	3,500 lbs.	6679K13	2.58
For 10 mm Shaft Dia.—Load @ 25 rpm				
12	8	2,000 lbs.	6679K35	3.31
12	12	3,500 lbs.	6679K14	3.20
12	15	4,500 lbs.	6679K15	2.90
For 12 mm Shaft Dia.—Load @ 25 rpm				
14	8	2,000 lbs.	6679K36	3.41
14	15	4,500 lbs.	6679K16	3.38
14	20	6,000 lbs.	6679K17	3.60
14	25	7,000 lbs.	6679K39	5.72
For 14 mm Shaft Dia.—Load @ 25 rpm				
16	10	3,000 lbs.	6679K37	3.95
16	12	3,500 lbs.	6679K18	3.58
16	15	4,500 lbs.	6679K38	4.23
For 16 mm Shaft Dia.—Load @ 25 rpm				
18	20	6,000 lbs.	6679K19	3.58
For 20 mm Shaft Dia.—Load @ 25 rpm				
23	20	6,000 lbs.	6679K21	4.38
For 24 mm Shaft Dia.—Load @ 25 rpm				
27	15	4,500 lbs.	6679K22	3.98
27	25	7,000 lbs.	6679K23	7.00
Metric Frelon with Aluminum Shell				
For 6 mm Shaft Dia.—Load @ 100 rpm				
10	10	250 lbs.	7751K51	12.04
For 8 mm Shaft Dia.—Load @ 80 rpm				
12	8	250 lbs.	7751K52	12.64
12	12	400 lbs.	7751K53	13.13
For 10 mm Shaft Dia.—Load @ 60 rpm				
14	16	700 lbs.	7751K54	15.77
For 12 mm Shaft Dia.—Load @ 50 rpm				
16	16	800 lbs.	7751K55	17.36
For 16 mm Shaft Dia.—Load @ 40 rpm				
20	12	800 lbs.	7751K56	20.35
20	16	1,000 lbs.	7751K57	18.77
For 20 mm Shaft Dia.—Load @ 30 rpm				
25	20	1,500 lbs.	7751K58	23.53
For 25 mm Shaft Dia.—Load @ 25 rpm				
30	25	2,500 lbs.	7751K59	27.36
For 30 mm Shaft Dia.—Load @ 25 rpm				
35	30	3,500 lbs.	7751K61	60.50

High-Temperature Dry-Running Sleeve Bearings

Graphite provides a layer of dry lubrication that can operate in high-temperature environments.

Embedded—*SAE 841 bronze* bearings are porous and embedded with graphite for continuous lubrication. Temperature range is -50° to 700° F. *Graphalloy* bearings perform at extreme temperatures and under water. They are electrically conductive and wear resistant. Temperature range is -450° to 750° F.

Filled Groove—A filled groove on the inside of the bearing distributes the graphite evenly along the bearing's surface. *SAE 660 leaded tin bronze* bearings are cast, making them strong, wear resistant, and excellent at handling shock loads. Temperature range is -350° to 450° F. *954 aluminum bronze* bearings offer high strength and excellent corrosion resistance, making them suitable for use in marine and mining applications. Temperature range is -350° to 500° F.

Note: The load capacity at rated speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's surface speed and load are below the values listed, the bearing should work for your application.



Embedded



Filled Groove

OD	Lg.	Load Cap. @ Speed		
Embedded—SAE 841 Bronze				
For 1/8" Shaft Dia.—Load @ 700 rpm				
1/4"	1/8"	25 lbs.	9368T95	$0.57
1/4"	1/4"	50 lbs.	9368T96	.64
1/4"	3/8"	70 lbs.	9368T97	.73
For 3/16" Shaft Dia.—Load @ 500 rpm				
1/4"	1/4"	70 lbs.	9368T98	.57
1/4"	3/8"	100 lbs.	9368T99	.60
1/4"	1/2"	150 lbs.	9368T101	.67
1/4"	5/8"	150 lbs.	9368T102	1.01
5/16"	1/4"	70 lbs.	9368T41	.67
5/16"	3/8"	100 lbs.	9368T42	.79
5/16"	1/2"	150 lbs.	9368T43	.87
For 1/4" Shaft Dia.—Load @ 350 rpm				
5/16"	1/4"	100 lbs.	9368T11	.93
5/16"	1/2"	200 lbs.	9368T12	1.29
5/16"	3/4"	300 lbs.	9368T105	.84
3/8"	1/4"	100 lbs.	9368T13	.73
3/8"	3/8"	150 lbs.	9368T14	.87
3/8"	1/2"	200 lbs.	9368T15	1.03
3/8"	5/8"	250 lbs.	9368T44	1.24
3/8"	7/8"	350 lbs.	9368T109	1.54
3/8"	1"	400 lbs.	9368T16	1.25
1/2"	1/2"	200 lbs.	9368T112	1.40
1/2"	3/4"	300 lbs.	9368T113	1.63
1/2"	1"	400 lbs.	9368T114	2.04
For 5/16" Shaft Dia.—Load @ 300 rpm				
3/8"	1/4"	100 lbs.	9368T45	.59
3/8"	3/8"	150 lbs.	9368T46	.67
3/8"	1/2"	250 lbs.	9368T115	.77
3/8"	5/8"	300 lbs.	9368T116	.83
3/8"	3/4"	350 lbs.	9368T117	.91
3/8"	1"	500 lbs.	9368T118	1.03
7/16"	1/4"	100 lbs.	9368T119	.83
7/16"	3/8"	150 lbs.	9368T47	1.01
7/16"	1/2"	250 lbs.	9368T48	1.14
7/16"	5/8"	300 lbs.	9368T49	1.10
7/16"	3/4"	350 lbs.	9368T121	1.16
7/16"	1"	500 lbs.	9368T122	1.83
1/2"	3/8"	150 lbs.	9368T123	1.07
1/2"	1/2"	250 lbs.	9368T124	1.26
1/2"	3/4"	350 lbs.	9368T125	1.57
1/2"	1"	500 lbs.	9368T126	1.86
1/2"	1 1/4"	600 lbs.	9368T127	2.13
For 3/8" Shaft Dia.—Load @ 250 rpm				
1/2"	1/4"	150 lbs.	9368T17	.87
1/2"	3/8"	200 lbs.	9368T18	1.41
1/2"	1/2"	300 lbs.	9368T19	1.35
1/2"	5/8"	350 lbs.	9368T51	1.16
1/2"	3/4"	450 lbs.	9368T21	2.21
1/2"	7/8"	500 lbs.	9368T133	1.43
1/2"	1"	600 lbs.	9368T22	2.20
1/2"	1 1/4"	700 lbs.	9368T135	1.73
9/16"	3/8"	200 lbs.	9368T136	1.70
9/16"	1/2"	300 lbs.	9368T137	1.97
9/16"	3/4"	450 lbs.	9368T138	2.21
9/16"	1"	600 lbs.	9368T139	2.59
9/16"	1 1/4"	700 lbs.	9368T141	2.99
5/8"	1/2"	300 lbs.	9368T52	1.57
5/8"	5/8"	350 lbs.	9368T142	1.80
5/8"	3/4"	450 lbs.	9368T53	2.03
5/8"	1"	600 lbs.	9368T54	2.77
3/4"	1"	600 lbs.	9368T55	4.54
For 7/16" Shaft Dia.—Load @ 200 rpm				
9/16"	1/2"	350 lbs.	9368T143	1.14
9/16"	5/8"	400 lbs.	9368T144	1.24
9/16"	1"	700 lbs.	9368T145	2.07
9/16"	1 1/4"	800 lbs.	9368T146	1.93
5/8"	1/2"	350 lbs.	9368T147	1.43

OD	Lg.	Load Cap. @ Speed		
Embedded—SAE 841 Bronze (Cont.)				
For 7/16" Shaft Dia.—Load @ 200 rpm (Cont.)				
5/8"	3/4"	500 lbs.	9368T148	$1.77
5/8"	1"	700 lbs.	9368T149	2.74
For 1/2" Shaft Dia.—Load @ 150 rpm				
5/8"	3/8"	300 lbs.	9368T23	1.40
5/8"	1/2"	400 lbs.	9368T24	1.47
5/8"	9/16"	450 lbs.	9368T153	1.26
5/8"	5/8"	500 lbs.	9368T56	1.33
5/8"	3/4"	600 lbs.	9368T25	1.60
5/8"	7/8"	700 lbs.	9368T57	1.60
5/8"	1"	800 lbs.	9368T26	2.43
5/8"	1 1/8"	900 lbs.	9368T156	2.43
5/8"	1 1/4"	1,000 lbs.	9368T58	1.97
5/8"	1 1/2"	1,000 lbs.	9368T157	2.34
11/16"	1/2"	400 lbs.	9368T158	1.53
11/16"	5/8"	500 lbs.	9368T159	1.66
11/16"	3/4"	600 lbs.	9368T59	1.94
11/16"	1"	800 lbs.	9368T161	2.36
11/16"	1 1/8"	900 lbs.	9368T162	2.77
3/4"	3/8"	300 lbs.	9368T61	1.54
3/4"	1/2"	400 lbs.	9368T27	2.14
3/4"	5/8"	500 lbs.	9368T62	2.14
3/4"	3/4"	600 lbs.	9368T28	2.91
3/4"	1"	800 lbs.	9368T29	3.00
3/4"	1 1/8"	900 lbs.	9368T166	4.20
3/4"	1 1/4"	1,000 lbs.	9368T63	4.43
3/4"	1 1/2"	1,000 lbs.	9368T167	4.73
1"	1"	800 lbs.	9368T168	7.10
For 9/16" Shaft Dia.—Load @ 150 rpm				
3/4"	1/2"	450 lbs.	9368T169	1.57
3/4"	3/4"	600 lbs.	9368T171	2.00
3/4"	1"	900 lbs.	9368T172	2.63
3/4"	1 1/4"	1,000 lbs.	9368T173	3.57
For 5/8" Shaft Dia.—Load @ 150 rpm				
3/4"	1/2"	500 lbs.	9368T64	1.30
3/4"	5/8"	600 lbs.	9368T174	1.50
3/4"	3/4"	700 lbs.	9368T65	1.63
3/4"	7/8"	800 lbs.	9368T175	1.80
3/4"	1"	1,000 lbs.	9368T31	1.52
3/4"	1 1/8"	1,000 lbs.	9368T177	2.71
3/4"	1 1/4"	1,000 lbs.	9368T66	2.29
3/4"	1 1/2"	1,500 lbs.	9368T67	2.83
13/16"	1/2"	500 lbs.	9368T178	2.27
13/16"	3/4"	700 lbs.	9368T179	2.73
13/16"	1"	1,000 lbs.	9368T181	3.47
7/8"	5/8"	600 lbs.	9368T182	2.50
7/8"	3/4"	700 lbs.	9368T68	3.17
7/8"	1"	1,000 lbs.	9368T69	4.40
7/8"	1 1/2"	1,500 lbs.	9368T183	5.34
7/8"	1 3/4"	1,500 lbs.	9368T184	5.97
1"	1/2"	500 lbs.	9368T257	2.65
1"	3/4"	700 lbs.	9368T185	4.67
1"	2"	2,000 lbs.	9368T186	11.03
For 3/4" Shaft Dia.—Load @ 100 rpm				
7/8"	1/2"	600 lbs.	9368T71	1.47
7/8"	5/8"	700 lbs.	9368T187	2.07
7/8"	3/4"	900 lbs.	9368T72	2.30
7/8"	1"	1,000 lbs.	9368T73	2.79
7/8"	1 1/4"	1,500 lbs.	9368T188	3.24
7/8"	1 1/2"	1,500 lbs.	9368T189	3.53
15/16"	1 1/2"	1,500 lbs.	9368T191	4.74
15/16"	2"	2,000 lbs.	9368T192	5.76
1"	1/2"	600 lbs.	9368T74	2.43
1"	5/8"	700 lbs.	9368T75	3.04
1"	3/4"	900 lbs.	9368T76	3.84
1"	7/8"	1,000 lbs.	9368T193	4.44
1"	1"	1,000 lbs.	9368T32	5.04
1"	1 1/4"	1,500 lbs.	9368T77	5.27

OD	Lg.	Load Cap. @ Speed		
Embedded—SAE 841 Bronze (Cont.)				
For 3/4" Shaft Dia.—Load @ 100 rpm (Cont.)				
1"	1 1/2"	1,500 lbs.	9368T78	$6.04
1"	1 3/4"	2,000 lbs.	9368T195	6.87
1"	2"	2,000 lbs.	9368T33	7.16
1 1/8"	1 1/2"	1,500 lbs.	9368T197	9.74
1 1/4"	1"	1,000 lbs.	9368T198	8.93
For 7/8" Shaft Dia.—Load @ 100 rpm				
1"	1 1/2"	2,000 lbs.	9368T79	4.19
1 1/8"	3/4"	1,000 lbs.	9368T199	4.40
1 1/8"	1"	1,000 lbs.	9368T201	4.90
1 1/8"	1 1/4"	1,500 lbs.	9368T202	5.70
1 1/8"	2"	2,500 lbs.	9368T203	8.19
For 1" Shaft Dia.—Load @ 90 rpm				
1 1/8"	1"	1,500 lbs.	9368T81	2.93
1 1/4"	1/2"	800 lbs.	9368T82	3.20
1 1/4"	3/4"	1,000 lbs.	9368T83	4.54
1 1/4"	1"	1,500 lbs.	9368T34	5.33
1 1/4"	1 1/4"	2,000 lbs.	9368T84	6.23
1 1/4"	1 1/2"	2,000 lbs.	9368T85	7.40
1 1/4"	2"	3,000 lbs.	9368T86	9.57
1 1/4"	2 1/4"	3,500 lbs.	9368T205	10.57
1 1/4"	2 1/2"	4,000 lbs.	9368T206	11.37
1 1/4"	3"	4,500 lbs.	9368T207	13.97
1 3/8"	1"	1,500 lbs.	9368T208	7.83
1 3/8"	1 1/2"	2,000 lbs.	9368T209	12.10
1 1/2"	2"	3,000 lbs.	9368T211	20.43
1 1/2"	3"	4,500 lbs.	9368T212	29.90
For 1 1/8" Shaft Dia.—Load @ 80 rpm				
1 3/8"	1"	1,500 lbs.	9368T213	5.70
1 3/8"	1 1/2"	2,500 lbs.	9368T214	8.09
For 1 3/16" Shaft Dia.—Load @ 80 rpm				
1 1/2"	1"	1,500 lbs.	9368T215	7.60
1 1/2"	1 1/2"	2,500 lbs.	9368T216	9.96
1 1/2"	2"	3,500 lbs.	9368T217	14.83
1 1/2"	2 1/2"	4,500 lbs.	9368T218	18.06
For 1 1/4" Shaft Dia.—Load @ 70 rpm				
1 1/2"	3/4"	1,500 lbs.	9368T219	5.00
1 1/2"	1"	2,000 lbs.	9368T87	6.14
1 1/2"	1 1/4"	2,500 lbs.	9368T88	7.40
1 1/2"	1 1/2"	3,000 lbs.	9368T89	8.73
1 1/2"	2"	4,000 lbs.	9368T91	11.37
1 1/2"	2 1/2"	5,000 lbs.	9368T221	14.03
1 1/2"	3"	6,000 lbs.	9368T222	16.73
For 1 5/16" Shaft Dia.—Load @ 70 rpm				
1 5/8"	2 1/2"	5,000 lbs.	9368T223	18.21
For 1 3/8" Shaft Dia.—Load @ 60 rpm				
1 5/8"	1"	2,000 lbs.	9368T224	7.06
1 5/8"	1 1/2"	3,000 lbs.	9368T225	9.63
1 5/8"	2"	4,000 lbs.	9368T226	12.40
1 5/8"	3"	6,000 lbs.	9368T227	19.37
For 1 1/2" Shaft Dia.—Load @ 60 rpm				
1 3/4"	1/2"	1,000 lbs.	9368T228	4.50
1 3/4"	1"	2,000 lbs.	9368T92	7.17
1 3/4"	1 1/4"	3,000 lbs.	9368T258	6.26
1 3/4"	1 1/2"	3,500 lbs.	9368T93	10.27
1 3/4"	1 3/4"	4,000 lbs.	9368T94	11.50
1 3/4"	2"	4,500 lbs.	9368T229	13.60
1 3/4"	2 1/2"	6,000 lbs.	9368T231	16.24
1 3/4"	3"	7,000 lbs.	9368T232	19.70
1 7/8"	2"	4,500 lbs.	9368T233	21.13
2"	2"	4,500 lbs.	9368T234	28.06
2"	2 1/2"	6,000 lbs.	9368T235	33.47
2"	3"	7,000 lbs.	9368T236	41.13
For 1 3/4" Shaft Dia.—Load @ 50 rpm				
2"	1"	2,500 lbs.	9368T237	7.69
2"	1 1/2"	4,000 lbs.	9368T238	11.57
2"	2"	5,000 lbs.	9368T239	16.43
2"	3"	8,000 lbs.	9368T241	23.64

(Continued on following page)

High-Temperature Dry-Running Sleeve Bearings *(Continued from previous page)*



Embedded



Filled Groove

Graphite provides a layer of dry lubrication that can operate in high-temperature environments.

Embedded—*SAE 841 bronze* bearings are porous and embedded with graphite for continuous lubrication. Temperature range is -50° to 700°F. *Graphalloy* bearings perform at extreme temperatures and under water. They are electrically conductive and wear resistant. Temperature range is -450° to 750°F.

Filled Groove—A filled groove on the inside of the bearing distributes the graphite evenly along the bearing's surface. *SAE 660 leaded tin bronze* bearings are cast, making them strong, wear resistant, and excellent at handling shock loads. Temperature range is -350° to 450°F. *954 aluminum bronze* bearings offer high strength and excellent corrosion resistance, making them suitable for use in marine and mining applications. Temperature range is -350° to 500°F.

Note: The load capacity at rated speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's surface speed and load are below the values listed, the bearing should work for your application.

OD	Lg.	Load Cap. @ Speed		
Embedded—SAE 841 Bronze (Cont.)				
For 2″ Shaft Dia.—Load @ 45 rpm				
2¼″	2″	6,000 lbs.	9368T242	$18.27
2¼″	2½″	8,000 lbs.	9368T243	20.64
2⅜″	1⅛″	3,500 lbs.	9368T244	14.54
2⅜″	1½″	4,500 lbs.	9368T245	20.60
2⅜″	2″	6,000 lbs.	9368T246	26.72
2⅜″	3″	9,000 lbs.	9368T247	37.50
2⅜″	4″	10,000 lbs.	9368T248	50.53
2½″	2″	6,000 lbs.	9368T249	35.40
2½″	2½″	8,000 lbs.	9368T251	43.80
2½″	3″	9,000 lbs.	9368T252	52.13
For 2¼″ Shaft Dia.—Load @ 40 rpm				
2¾″	2″	7,000 lbs.	9368T253	39.10
2¾″	3″	10,000 lbs.	9368T254	57.73
For 2½″ Shaft Dia.—Load @ 35 rpm				
3″	4″	15,000 lbs.	9368T255	81.20
For 3″ Shaft Dia.—Load @ 30 rpm				
3½″	4″	15,000 lbs.	9368T256	95.23
Embedded—Graphalloy				
For ¼″ Shaft Dia.—Load @ 200 rpm				
½″	¼″	45 lbs.	7943K22	21.82
For 5/16″ Shaft Dia.—Load @ 150 rpm				
9/16″	⅜″	80 lbs.	7943K24	23.34
For ⅜″ Shaft Dia.—Load @ 150 rpm				
⅝″	⅜″	100 lbs.	7943K26	24.77
For 7/16″ Shaft Dia.—Load @ 100 rpm				
11/16″	½″	150 lbs.	7943K28	26.64
For ½″ Shaft Dia.—Load @ 100 rpm				
⅞″	⅝″	200 lbs.	7943K32	31.65
For ⅝″ Shaft Dia.—Load @ 90 rpm				
1″	⅞″	400 lbs.	7943K34	38.40
For 11/16″ Shaft Dia.—Load @ 80 rpm				
1 1/16″	1″	500 lbs.	7943K36	41.64
For ¾″ Shaft Dia.—Load @ 80 rpm				
1⅛″	1¼″	700 lbs.	7943K38	45.57
For ⅞″ Shaft Dia.—Load @ 60 rpm				
1¼″	1⅜″	900 lbs.	7943K52	53.25
For 15/16″ Shaft Dia.—Load @ 60 rpm				
1 5/16″	1⅜″	900 lbs.	7943K54	57.49
For 1″ Shaft Dia.—Load @ 60 rpm				
1⅜″	1½″	1,000 lbs.	7943K56	62.61
For 1⅛″ Shaft Dia.—Load @ 50 rpm				
1⅝″	1¾″	1,000 lbs.	7943K58	80.21
For 1¼″ Shaft Dia.—Load @ 40 rpm				
1¾″	1⅞″	1,500 lbs.	7943K62	92.44

OD	Lg.	Load Cap. @ Speed		
Embedded—Graphalloy (Cont.)				
For 1⅜″ Shaft Dia.—Load @ 40 rpm				
1 7/8″	2″	2,000 lbs.	7943K64	$102.33
For 1 7/16″ Shaft Dia.—Load @ 40 rpm				
1 15/16″	2¼″	2,000 lbs.	7943K66	113.32
For 1½″ Shaft Dia.—Load @ 40 rpm				
2″	2¼″	2,500 lbs.	7943K68	119.77
Filled Groove—SAE 660 Leaded Tin Bronze				
For ¼″ Shaft Dia.—Load @ 200 rpm				
⅜″	½″	400 lbs.	6405K311	8.93
⅜″	¾″	600 lbs.	6405K312	9.03
For ⅜″ Shaft Dia.—Load @ 150 rpm				
⅝″	¾″	900 lbs.	6405K313	9.42
⅝″	1″	1,000 lbs.	6405K314	9.69
For ½″ Shaft Dia.—Load @ 100 rpm				
⅝″	1″	1,500 lbs.	6405K401	9.70
¾″	½″	800 lbs.	6405K315	9.74
¾″	¾″	1,000 lbs.	6405K316	9.78
¾″	1″	1,500 lbs.	6405K317	9.90
¾″	1½″	2,500 lbs.	6405K402	12.05
For ⅝″ Shaft Dia.—Load @ 90 rpm				
¾″	1″	2,000 lbs.	6405K403	12.42
⅞″	½″	1,000 lbs.	6405K318	12.59
⅞″	¾″	1,500 lbs.	6405K319	12.80
⅞″	1″	2,000 lbs.	6405K321	12.84
⅞″	1¼″	2,500 lbs.	6405K404	12.93
For ¾″ Shaft Dia.—Load @ 80 rpm				
15/16″	1½″	3,500 lbs.	6405K405	15.50
1″	½″	1,000 lbs.	6405K322	8.93
1″	¾″	1,500 lbs.	6405K323	9.64
1″	1″	2,500 lbs.	6405K324	10.52
1″	1¼″	3,000 lbs.	6405K325	11.39
For ⅞″ Shaft Dia.—Load @ 60 rpm				
1⅛″	1½″	4,500 lbs.	6405K406	13.61
For 1″ Shaft Dia.—Load @ 60 rpm				
1¼″	¾″	2,500 lbs.	6405K326	13.62
1¼″	1″	3,500 lbs.	6405K327	13.65
1¼″	1¼″	4,000 lbs.	6405K328	13.76
1¼″	1½″	5,000 lbs.	6405K329	14.17
1¼″	2″	7,000 lbs.	6405K331	14.72
1⅜″	2″	7,000 lbs.	6405K407	14.92
For 1¼″ Shaft Dia.—Load @ 40 rpm				
1½″	1″	4,000 lbs.	6405K332	15.02
1½″	1½″	6,000 lbs.	6405K333	15.20
1½″	2″	8,000 lbs.	6405K334	16.24
1½″	2¼″	9,000 lbs.	6405K408	21.25

OD	Lg.	Load Cap. @ Speed		
Filled Groove (Cont.)				
For 1½″ Shaft Dia.—Load @ 40 rpm				
1¾″	1″	5,000 lbs.	6405K335	$13.98
1¾″	1¾″	9,000 lbs.	6405K336	17.67
1¾″	2″	10,000 lbs.	6405K337	19.04
1¾″	3″	15,000 lbs.	6405K338	26.25
For 2″ Shaft Dia.—Load @ 30 rpm				
2½″	2″	10,000 lbs.	6405K339	28.56
2½″	2½″	15,000 lbs.	6405K341	28.90
2½″	3″	20,000 lbs.	6405K342	32.10
2½″	4″	25,000 lbs.	6405K343	45.95
Filled Groove—954 Aluminum Bronze				
For ½″ Shaft Dia.—Load @ 150 rpm				
⅝″	⅜″	700 lbs.	2927T41	29.78
⅝″	½″	900 lbs.	2927T42	29.95
⅝″	¾″	1,000 lbs.	2927T43	30.37
⅝″	1″	1,500 lbs.	2927T44	30.75
⅝″	1½″	2,500 lbs.	2927T45	23.85
¾″	½″	900 lbs.	2927T46	23.97
¾″	¾″	1,000 lbs.	2927T47	24.25
¾″	1″	1,500 lbs.	2927T48	25.92
For ¾″ Shaft Dia.—Load @ 100 rpm				
1″	¾″	2,000 lbs.	2927T51	26.10
1″	1″	2,500 lbs.	2927T52	26.20
1″	1½″	4,000 lbs.	2927T53	27.32
1″	2″	5,000 lbs.	2927T54	27.89
For 1″ Shaft Dia.—Load @ 90 rpm				
1¼″	¾″	2,500 lbs.	2927T55	27.92
1¼″	1″	3,500 lbs.	2927T56	28.08
1¼″	1½″	5,000 lbs.	2927T58	28.32
1¼″	2″	7,000 lbs.	2927T59	28.89
For 1¼″ Shaft Dia.—Load @ 70 rpm				
1½″	1½″	7,000 lbs.	2927T61	29.02
1½″	2″	9,000 lbs.	2927T62	31.03
For 1½″ Shaft Dia.—Load @ 60 rpm				
1¾″	1½″	8,000 lbs.	2927T63	31.14
1¾″	1¾″	10,000 lbs.	2927T64	31.47
1¾″	2″	10,000 lbs.	2927T65	31.71
For 1¾″ Shaft Dia.—Load @ 50 rpm				
2″	1½″	10,000 lbs.	2927T66	31.75
2″	2″	10,000 lbs.	2927T67	33.17
For 2″ Shaft Dia.—Load @ 40 rpm				
2¼″	2″	15,000 lbs.	2927T68	33.73
2¼″	2½″	15,000 lbs.	2927T69	35.80

Multipurpose and Corrosion-Resistant Sleeve Bearings



Multipurpose



Grooved Multipurpose

These cast metal bearings handle higher loads than oil-embedded and dry-running sleeve bearings, and they perform well in dusty environments. All require lubricant.

Multipurpose SAE 660 Leaded Tin Bronze—Bearings are strong, wear resistant, and excellent at handling shock loads. Temperature range is -350° to 450°F.

Corrosion-Resistant 954 Aluminum Bronze—Bearings are made with aluminum and iron for high strength and excellent corrosion resistance. They are often used in marine and mining applications. Temperature range is -350° to 500°F.

Grooved bearings have a figure-8-shaped groove that provides a flow path for lubricant, distributing it evenly along the bearing's surface.

Note: The load capacity at rated speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's surface speed and load are below the values listed, the bearing should work for your application.

OD	Lg.	Load Cap. @ Speed		
Multipurpose—SAE 660 Leaded Tin Bronze				
For ⅛″ Shaft Dia.—Load @ 500 rpm				
¼″	⅛″	60 lbs.	6381K405	$4.19
¼″	¼″	100 lbs.	6381K406	4.17
¼″	⅜″	150 lbs.	6381K407	4.21
For 3/16″ Shaft Dia.—Load @ 350 rpm				
¼″	¼″	150 lbs.	6381K501	4.25
¼″	⅜″	250 lbs.	6381K502	4.90

OD	Lg.	Load Cap. @ Speed		
Multipurpose (Cont.)				
For 3/16″ Shaft Dia.—Load @ 350 rpm (Cont.)				
¼″	½″	350 lbs.	6381K503	$5.06
¼″	⅝″	450 lbs.	6381K601	4.75
5/16″	¼″	150 lbs.	6381K602	4.47
5/16″	⅜″	250 lbs.	6381K603	4.47
5/16″	½″	350 lbs.	6381K408	1.48

OD	Lg.	Load Cap. @ Speed		
Multipurpose (Cont.)				
For ¼″ Shaft Dia.—Load @ 250 rpm				
5/16″	¼″	250 lbs.	6381K409	$4.33
5/16″	½″	500 lbs.	6381K41	4.36
5/16″	¾″	700 lbs.	6381K411	4.58
⅜″	¼″	250 lbs.	6381K412	1.12
⅜″	⅜″	350 lbs.	6381K413	1.28

(Continued on following page)

Multipurpose and Corrosion-Resistant Sleeve Bearings *(Continued from previous page)*

OD	Lg.	Load Cap. @ Speed		
Multipurpose (Cont.)				
For 1/4" Shaft Dia.—Load @ 250 rpm (Cont.)				
3/8"	1/2"	500 lbs.	6381K415	$1.48
3/8"	5/8"	600 lbs.	6381K416	4.81
3/8"	7/8"	800 lbs.	6381K417	4.56
3/8"	1"	1,000 lbs.	6381K42	2.03
1/2"	1/2"	500 lbs.	6381K421	5.26
1/2"	3/4"	700 lbs.	6381K423	5.49
1/2"	1"	1,000 lbs.	6381K424	5.82
For 5/16" Shaft Dia.—Load @ 200 rpm				
3/8"	1/4"	300 lbs.	6381K425	4.65
3/8"	3/8"	450 lbs.	6381K426	4.60
3/8"	1/2"	600 lbs.	6381K427	4.78
3/8"	5/8"	700 lbs.	6381K428	5.22
3/8"	3/4"	900 lbs.	6381K429	5.05
3/8"	1"	1,000 lbs.	6381K43	5.15
7/16"	1/4"	300 lbs.	6381K431	4.81
7/16"	3/8"	450 lbs.	6381K442	1.27
7/16"	1/2"	600 lbs.	6381K443	1.56
7/16"	3/4"	900 lbs.	6381K445	1.79
7/16"	1"	1,000 lbs.	6381K446	2.03
1/2"	3/8"	450 lbs.	6381K447	4.96
1/2"	1/2"	600 lbs.	6381K448	5.12
1/2"	3/4"	900 lbs.	6381K101	1.96
1/2"	1"	1,000 lbs.	6381K102	2.26
1/2"	1 1/4"	1,500 lbs.	6381K103	2.62
For 3/8" Shaft Dia.—Load @ 150 rpm				
1/2"	1/4"	350 lbs.	6381K449	4.65
1/2"	3/8"	500 lbs.	6381K45	1.27
1/2"	1/2"	700 lbs.	6381K451	1.58
1/2"	5/8"	900 lbs.	6381K452	5.24
1/2"	3/4"	1,000 lbs.	6381K453	1.88
1/2"	7/8"	1,000 lbs.	6381K454	5.52
1/2"	1"	1,500 lbs.	6381K455	2.06
1/2"	1 1/4"	1,500 lbs.	6381K456	2.21
9/16"	3/8"	500 lbs.	6381K457	4.93
9/16"	1/2"	700 lbs.	6381K458	5.48
9/16"	3/4"	1,000 lbs.	6381K459	2.05
9/16"	1"	1,500 lbs.	6381K46	2.29
9/16"	1 1/4"	1,500 lbs.	6381K461	2.68
5/8"	1/2"	700 lbs.	6381K462	5.59
5/8"	5/8"	900 lbs.	6381K463	5.67
5/8"	3/4"	1,000 lbs.	6381K464	2.19
5/8"	1"	1,500 lbs.	6381K606	2.52
For 7/16" Shaft Dia.—Load @ 150 rpm				
9/16"	1/2"	800 lbs.	6381K607	5.42
9/16"	5/8"	1,000 lbs.	6381K608	5.59
9/16"	1"	1,500 lbs.	6381K609	2.29
9/16"	1 1/4"	2,000 lbs.	6381K61	2.64
5/8"	1/2"	800 lbs.	6381K611	5.33
5/8"	3/4"	1,000 lbs.	6381K612	5.80
5/8"	1"	1,500 lbs.	6381K465	2.24
For 1/2" Shaft Dia.—Load @ 100 rpm				
5/8"	3/8"	700 lbs.	6381K466	5.07
5/8"	1/2"	1,000 lbs.	6381K467	1.49
5/8"	9/16"	1,000 lbs.	6381K469	5.53
5/8"	5/8"	1,000 lbs.	6381K468	1.66
5/8"	3/4"	1,500 lbs.	6381K47	1.72
5/8"	7/8"	1,500 lbs.	6381K471	1.85
5/8"	1"	2,000 lbs.	6381K111	2.15
5/8"	1 1/8"	2,000 lbs.	6381K472	6.31
5/8"	1 1/4"	2,500 lbs.	6381K112	2.52
5/8"	1 1/2"	3,000 lbs.	6381K473	2.67
5/8"	3"	6,000 lbs.	6381K1	10.49
11/16"	1/2"	1,000 lbs.	6381K474	5.53
11/16"	5/8"	1,000 lbs.	6381K475	5.42
11/16"	3/4"	1,500 lbs.	6381K476	2.20
11/16"	1"	2,000 lbs.	6381K477	2.60
11/16"	1 1/8"	2,000 lbs.	6381K478	6.84
3/4"	1/2"	1,000 lbs.	6381K479	2.02
3/4"	5/8"	1,000 lbs.	6381K48	6.07
3/4"	3/4"	1,500 lbs.	6381K121	2.44
3/4"	1"	2,000 lbs.	6381K52	2.99
3/4"	1 1/8"	2,000 lbs.	6381K521	7.21
3/4"	1 1/4"	2,500 lbs.	6381K523	3.45
3/4"	1 1/2"	3,000 lbs.	6381K524	3.97
3/4"	3"	6,000 lbs.	6381K3	11.17
1"	1"	2,000 lbs.	6381K525	4.07
1"	3"	6,000 lbs.	6381K4	12.94
Multipurpose (Cont.)				
For 9/16" Shaft Dia.—Load @ 100 rpm				
3/4"	1/2"	1,000 lbs.	6381K526	$5.59
3/4"	3/4"	1,500 lbs.	6381K527	6.08
3/4"	1"	2,000 lbs.	6381K528	2.76
3/4"	1 1/4"	2,500 lbs.	6381K131	3.49
3/4"	3"	6,000 lbs.	6381K5	16.70
For 5/8" Shaft Dia.—Load @ 100 rpm				
3/4"	1/2"	1,000 lbs.	6381K141	1.97
3/4"	5/8"	1,500 lbs.	6381K53	5.54
3/4"	3/4"	1,500 lbs.	6381K531	2.20
3/4"	7/8"	2,000 lbs.	6381K532	6.32
3/4"	1"	2,500 lbs.	6381K533	2.66
3/4"	1 1/8"	2,500 lbs.	6381K534	2.62
3/4"	1 1/4"	3,000 lbs.	6381K535	3.08
3/4"	1 1/2"	3,500 lbs.	6381K536	3.35
3/4"	3"	7,000 lbs.	6381K6	10.82
13/16"	1/2"	1,000 lbs.	6381K537	5.94
13/16"	3/4"	1,500 lbs.	6381K538	6.49
13/16"	1"	2,500 lbs.	6381K539	3.59
13/16"	3"	7,000 lbs.	6381K7	11.34
7/8"	5/8"	1,500 lbs.	6381K54	6.42
7/8"	3/4"	1,500 lbs.	6381K541	3.22
7/8"	1"	2,500 lbs.	6381K542	3.79
7/8"	1 1/2"	3,500 lbs.	6381K543	6.52
7/8"	1 3/4"	4,000 lbs.	6381K544	6.20
7/8"	3"	7,000 lbs.	6381K8	11.82
1"	3/4"	1,500 lbs.	6381K545	7.53
1"	2"	5,000 lbs.	6381K151	6.70
1"	3"	7,000 lbs.	6381K9	12.86
1 1/8"	1 1/2"	3,500 lbs.	6381K161	7.27
For 3/4" Shaft Dia.—Load @ 90 rpm				
7/8"	1/2"	1,500 lbs.	6381K546	5.39
7/8"	5/8"	1,500 lbs.	6381K547	5.66
7/8"	3/4"	2,000 lbs.	6381K548	2.19
7/8"	1"	3,000 lbs.	6381K171	2.68
7/8"	1 1/4"	3,500 lbs.	6381K55	2.89
7/8"	1 1/2"	4,500 lbs.	6381K549	3.32
7/8"	3"	9,000 lbs.	6381K11	14.84
15/16"	1 1/2"	4,500 lbs.	6381K181	3.79
15/16"	2"	6,000 lbs.	6381K182	5.01
1"	3/8"	1,000 lbs.	6381K551	5.72
1"	1/2"	1,500 lbs.	6381K552	1.74
1"	5/8"	1,500 lbs.	6381K553	6.19
1"	3/4"	2,000 lbs.	6381K191	2.45
1"	7/8"	2,500 lbs.	6381K554	2.63
1"	1"	3,000 lbs.	6381K192	3.13
1"	1 1/4"	3,500 lbs.	6381K193	3.68
1"	1 1/2"	4,500 lbs.	6381K555	3.96
1"	1 3/4"	5,000 lbs.	6381K194	4.55
1"	2"	6,000 lbs.	6381K195	5.59
1"	3"	9,000 lbs.	6381K13	15.88
1 1/8"	1 1/2"	4,500 lbs.	6381K201	6.33
1 1/8"	3"	9,000 lbs.	6381K14	13.77
1 1/4"	1"	3,000 lbs.	6381K556	10.72
1 1/4"	3"	9,000 lbs.	6381K15	32.03
For 7/8" Shaft Dia.—Load @ 80 rpm				
1"	1 1/2"	5,000 lbs.	6381K557	3.28
1"	3"	10,000 lbs.	6381K16	10.24
1 1/8"	3/4"	2,500 lbs.	6381K558	2.78
1 1/8"	1"	3,500 lbs.	6381K559	3.25
1 1/8"	1 1/4"	4,000 lbs.	6381K56	3.93
1 1/8"	2"	7,000 lbs.	6381K561	6.44
1 1/8"	3"	10,000 lbs.	6381K17	11.89
For 1" Shaft Dia.—Load @ 70 rpm				
1 1/8"	1/2"	2,000 lbs.	6381K562	5.53
1 1/8"	1"	4,000 lbs.	6381K563	2.96
1 1/8"	4"	15,000 lbs.	6381K18	16.42
1 1/4"	1/2"	2,000 lbs.	6381K564	6.28
1 1/4"	3/4"	3,000 lbs.	6381K211	3.05
1 1/4"	1"	4,000 lbs.	6381K212	3.80
1 1/4"	1 1/4"	5,000 lbs.	6381K213	4.59
1 1/4"	1 1/2"	6,000 lbs.	6381K214	5.07
1 1/4"	2"	8,000 lbs.	6381K215	6.38
1 1/4"	2 1/4"	9,000 lbs.	6381K565	6.71
1 1/4"	2 1/2"	10,000 lbs.	6381K216	7.60
1 1/4"	3"	10,000 lbs.	6381K217	9.22
1 1/4"	4"	15,000 lbs.	6381K19	18.80
1 3/8"	1"	4,000 lbs.	6381K221	3.94
Multipurpose (Cont.)				
For 1" Shaft Dia.—Load @ 70 rpm (Cont.)				
1 3/8"	1 1/2"	6,000 lbs.	6381K222	$5.45
1 3/8"	4"	15,000 lbs.	6381K21	18.54
1 1/2"	2"	8,000 lbs.	6381K231	13.34
1 1/2"	3"	10,000 lbs.	6381K232	17.97
1 1/2"	4"	15,000 lbs.	6381K233	24.57
1 5/8"	2"	8,000 lbs.	6381K241	16.12
For 1 1/8" Shaft Dia.—Load @ 60 rpm				
1 3/8"	1"	4,500 lbs.	6381K567	2.99
1 3/8"	1 1/2"	6,000 lbs.	6381K568	4.53
1 3/8"	4"	15,000 lbs.	6381K251	10.34
For 1 3/16" Shaft Dia.—Load @ 60 rpm				
1 1/2"	1"	4,500 lbs.	6381K581	5.73
1 1/2"	1 1/2"	7,000 lbs.	6381K582	6.46
1 1/2"	2"	9,000 lbs.	6381K583	7.21
1 1/2"	2 1/2"	10,000 lbs.	6381K584	8.78
1 1/2"	4"	15,000 lbs.	6381K22	15.32
For 1 1/4" Shaft Dia.—Load @ 50 rpm				
1 1/2"	3/4"	3,500 lbs.	6381K569	3.58
1 1/2"	1"	5,000 lbs.	6381K261	3.13
1 1/2"	1 1/4"	6,000 lbs.	6381K57	3.83
1 1/2"	1 1/2"	7,000 lbs.	6381K262	4.33
1 1/2"	2"	10,000 lbs.	6381K263	5.76
1 1/2"	2 1/2"	10,000 lbs.	6381K571	7.44
1 1/2"	3"	15,000 lbs.	6381K264	8.67
1 1/2"	4"	20,000 lbs.	6381K265	11.69
For 1 5/16" Shaft Dia.—Load @ 50 rpm				
1 5/8"	2 1/2"	10,000 lbs.	6381K271	9.56
For 1 3/8" Shaft Dia.—Load @ 50 rpm				
1 5/8"	1 1/2"	8,000 lbs.	6381K585	5.20
1 5/8"	2"	10,000 lbs.	6381K586	7.21
1 5/8"	3"	15,000 lbs.	6381K281	9.59
1 5/8"	4"	20,000 lbs.	6381K24	14.20
For 1 1/2" Shaft Dia.—Load @ 40 rpm				
1 3/4"	1/2"	3,000 lbs.	6381K572	3.16
1 3/4"	1"	6,000 lbs.	6381K291	3.52
1 3/4"	1 3/4"	10,000 lbs.	6381K292	5.93
1 3/4"	2"	10,000 lbs.	6381K573	6.43
1 3/4"	2 1/2"	15,000 lbs.	6381K293	8.30
1 3/4"	3"	15,000 lbs.	6381K294	8.78
1 3/4"	4"	20,000 lbs.	6381K25	14.34
1 7/8"	4"	20,000 lbs.	6381K26	21.16
2"	2"	10,000 lbs.	6381K311	12.08
2"	2 1/2"	15,000 lbs.	6381K312	15.52
2"	3"	15,000 lbs.	6381K313	18.29
2"	4"	20,000 lbs.	6381K314	25.02
2 1/4"	3"	15,000 lbs.	6381K321	29.02
For 1 3/4" Shaft Dia.—Load @ 40 rpm				
2"	1"	7,000 lbs.	6381K587	5.14
2"	1 1/2"	10,000 lbs.	6381K604	5.98
2"	2"	10,000 lbs.	6381K605	6.96
2"	3"	20,000 lbs.	6381K331	11.13
2"	4"	25,000 lbs.	6381K27	17.08
2 1/4"	1 3/4"	10,000 lbs.	6381K341	12.86
For 2" Shaft Dia.—Load @ 35 rpm				
2 1/4"	2"	15,000 lbs.	6381K351	8.14
2 1/4"	2 1/2"	20,000 lbs.	6381K352	10.74
2 1/4"	4"	30,000 lbs.	6381K28	21.53
2 3/8"	1 1/8"	9,000 lbs.	6381K574	8.25
2 3/8"	1 1/2"	10,000 lbs.	6381K575	10.99
2 3/8"	2"	15,000 lbs.	6381K576	12.33
2 3/8"	3"	20,000 lbs.	6381K361	17.64
2 3/8"	4"	30,000 lbs.	6381K577	23.71
2 1/2"	2"	15,000 lbs.	6381K371	15.68
2 1/2"	2 1/2"	20,000 lbs.	6381K372	19.68
2 1/2"	3"	20,000 lbs.	6381K373	23.01
2 1/2"	5"	40,000 lbs.	6381K374	39.78
For 2 1/4" Shaft Dia.—Load @ 30 rpm				
2 3/4"	2"	15,000 lbs.	6381K58	18.17
2 3/4"	3"	25,000 lbs.	6381K381	26.67
2 3/4"	4"	35,000 lbs.	6381K29	40.55
For 2 1/2" Shaft Dia.—Load @ 25 rpm				
3"	4"	40,000 lbs.	6381K578	40.04
3"	5"	50,000 lbs.	6381K391	49.88
For 3" Shaft Dia.—Load @ 25 rpm				
3 1/2"	4"	45,000 lbs.	6381K401	50.58
4"	6 1/2"	70,000 lbs.	6381K579	149.38

(Continued on following page)

Multipurpose and Corrosion-Resistant Sleeve Bearings *(Continued from previous page)*



Multipurpose



Grooved Multipurpose

These cast metal bearings handle higher loads than oil-embedded and dry-running sleeve bearings, and they perform well in dusty environments. All require lubricant.

Multipurpose SAE 660 Leaded Tin Bronze—Bearings are strong, wear resistant, and excellent at handling shock loads. Temperature range is -350° to 450°F.

Corrosion-Resistant 954 Aluminum Bronze—Bearings are made with aluminum and iron for high strength and excellent corrosion resistance. They are often used in marine and mining applications. Temperature range is -350° to 500°F.

Grooved bearings have a figure-8-shaped groove that provides a flow path for lubricant, distributing it evenly along the bearing's surface.

Note: The load capacity at rated speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's surface speed and load are below the values listed, the bearing should work for your application.

Grooved Multipurpose— SAE 660 Leaded Tin Bronze

OD	Lg.	Load Cap. @ Speed		
For 5/16" Shaft Dia.—Load @ 150 rpm				
1/2"	3/4"	800 lbs.	7965K12	$11.82
1/2"	1"	1,000 lbs.	7965K13	12.20
1/2"	1 1/4"	1,000 lbs.	7965K11	12.24
For 1/2" Shaft Dia.—Load @ 100 rpm				
5/8"	1"	1,500 lbs.	7965K14	9.90
5/8"	1 1/4"	2,000 lbs.	7965K15	9.91
3/4"	3/4"	1,000 lbs.	7965K16	10.04
For 5/8" Shaft Dia.—Load @ 90 rpm				
3/4"	1/2"	1,000 lbs.	7965K18	8.28
1"	2"	4,000 lbs.	7965K17	11.08
1 1/8"	1 1/2"	3,000 lbs.	7965K19	14.33
For 3/4" Shaft Dia.—Load @ 80 rpm				
7/8"	1"	2,500 lbs.	7965K24	9.45
15/16"	1 1/2"	3,500 lbs.	7965K23	10.98
15/16"	2"	5,000 lbs.	7965K22	12.32
1"	3/4"	1,500 lbs.	7965K21	9.08
1"	1"	2,500 lbs.	7965K29	9.53
1"	1 1/4"	3,000 lbs.	7965K28	10.89
1"	1 3/4"	4,500 lbs.	7965K27	11.88
1"	2"	5,000 lbs.	7965K26	12.42
1 1/8"	1 1/2"	3,500 lbs.	7965K25	12.58
For 1" Shaft Dia.—Load @ 60 rpm				
1 1/4"	3/4"	2,500 lbs.	7965K35	9.06
1 1/4"	1"	3,500 lbs.	7965K34	10.93
1 1/4"	1 1/4"	4,000 lbs.	7965K33	11.34
1 1/4"	1 1/2"	5,000 lbs.	7965K32	12.44
1 1/4"	2"	7,000 lbs.	7965K31	13.92
1 1/4"	2 1/2"	8,000 lbs.	7965K41	15.52
1 1/4"	3"	10,000 lbs.	7965K39	17.82
1 3/8"	1"	3,500 lbs.	7965K38	12.49
1 3/8"	1 1/2"	5,000 lbs.	7965K37	14.56
1 1/2"	2"	7,000 lbs.	7965K36	19.74
1 1/2"	3"	10,000 lbs.	7965K44	26.32
1 1/2"	4"	10,000 lbs.	7965K43	26.55
1 5/8"	2"	7,000 lbs.	7965K42	26.63
For 1 1/4" Shaft Dia.—Load @ 40 rpm				
1 1/2"	1"	4,000 lbs.	7965K45	11.88
1 1/2"	1 1/2"	6,000 lbs.	7965K49	12.24
1 1/2"	2"	8,000 lbs.	7965K48	14.83
1 1/2"	3"	10,000 lbs.	7965K47	19.12
1 1/2"	4"	15,000 lbs.	7965K46	23.36
For 1 1/2" Shaft Dia.—Load @ 40 rpm				
1 3/4"	1"	5,000 lbs.	7965K54	10.45
1 3/4"	1 3/4"	9,000 lbs.	7965K53	12.88
1 3/4"	2 1/2"	10,000 lbs.	7965K52	17.16
1 3/4"	3"	15,000 lbs.	7965K51	20.05
1 7/8"	2"	10,000 lbs.	7965K59	16.02
2"	2"	10,000 lbs.	7965K58	18.76
2"	2 1/2"	10,000 lbs.	7965K57	21.69
2"	3"	15,000 lbs.	7965K56	23.89
2"	4"	20,000 lbs.	7965K55	29.25
2 1/4"	3"	15,000 lbs.	7965K61	31.03
For 1 3/4" Shaft Dia.—Load @ 30 rpm				
2"	3"	15,000 lbs.	7965K63	17.80
2 1/4"	1 3/4"	10,000 lbs.	7965K62	18.56
For 2" Shaft Dia.—Load @ 30 rpm				
2 1/4"	2"	10,000 lbs.	7965K65	15.08
2 1/4"	2 1/2"	15,000 lbs.	7965K64	17.35
2 3/8"	3"	20,000 lbs.	7965K71	23.54
2 1/2"	2"	10,000 lbs.	7965K69	26.72
2 1/2"	2 1/2"	15,000 lbs.	7965K68	26.94
2 1/2"	3"	20,000 lbs.	7965K67	27.44
2 1/2"	5"	35,000 lbs.	7965K66	39.76

Corrosion Resistant— 954 Aluminum Bronze

OD	Lg.	Load Cap. @ Speed		
For 1/4" Shaft Dia.—Load @ 400 rpm				
5/16"	1/4"	250 lbs.	2867T41	$4.15
5/16"	1/2"	500 lbs.	2867T42	4.84
3/8"	1/4"	250 lbs.	2867T43	4.87
3/8"	3/8"	400 lbs.	2867T44	4.95
3/8"	1/2"	500 lbs.	2867T45	5.05
3/8"	1"	1,000 lbs.	2867T46	6.64
For 3/8" Shaft Dia.—Load @ 250 rpm				
1/2"	1/4"	400 lbs.	2867T47	4.27
1/2"	3/8"	600 lbs.	2867T48	4.49
1/2"	1/2"	800 lbs.	2867T49	4.46
1/2"	3/4"	1,000 lbs.	2867T51	5.34
1/2"	1"	1,500 lbs.	2867T52	6.42
For 1/2" Shaft Dia.—Load @ 200 rpm				
5/8"	3/8"	800 lbs.	2867T53	6.43
5/8"	1/2"	1,000 lbs.	2867T54	6.50
5/8"	3/4"	1,500 lbs.	2867T55	3.41
5/8"	1"	2,000 lbs.	2867T56	3.78
5/8"	1 1/2"	3,000 lbs.	2867T57	4.84
3/4"	1/2"	1,000 lbs.	2867T58	2.22
3/4"	3/4"	1,500 lbs.	2867T59	3.51
3/4"	1"	2,000 lbs.	2867T61	3.73
For 5/8" Shaft Dia.—Load @ 150 rpm				
3/4"	1"	2,500 lbs.	2867T62	3.75
For 3/4" Shaft Dia.—Load @ 100 rpm				
1"	3/4"	2,500 lbs.	2867T63	3.76
1"	1"	3,000 lbs.	2867T64	3.80
1"	2"	6,000 lbs.	2867T65	5.01
For 7/8" Shaft Dia.—Load @ 100 rpm				
1"	1 1/2"	5,000 lbs.	2867T66	5.04
For 1" Shaft Dia.—Load @ 100 rpm				
1 1/8"	1"	4,500 lbs.	2867T67	3.63
1 1/4"	3/4"	3,000 lbs.	2867T68	4.04
1 1/4"	2"	9,000 lbs.	2867T69	7.04
1 1/4"	3"	10,000 lbs.	2867T71	11.45
For 1 1/8" Shaft Dia.—Load @ 90 rpm				
1 3/8"	4"	20,000 lbs.	2867T72	15.94

Grooved Corrosion Resistant— 954 Aluminum Bronze

OD	Lg.	Load Cap. @ Speed		
For 1/2" Shaft Dia.—Load @ 150 rpm				
5/8"	3/8"	700 lbs.	2924T41	16.82
5/8"	1/2"	900 lbs.	2924T42	17.04
5/8"	3/4"	1,000 lbs.	2924T43	19.88
5/8"	1"	1,500 lbs.	2924T44	20.86
5/8"	1 1/2"	2,500 lbs.	2924T45	23.14
3/4"	1/2"	900 lbs.	2924T46	17.57
3/4"	3/4"	1,000 lbs.	2924T47	20.75
3/4"	1"	1,500 lbs.	2924T48	22.07
For 5/8" Shaft Dia.—Load @ 100 rpm				
3/4"	1"	2,000 lbs.	2924T49	22.61
For 3/4" Shaft Dia.—Load @ 100 rpm				
1"	3/4"	2,000 lbs.	2924T51	24.61
1"	1"	2,500 lbs.	2924T52	28.32
1"	1 1/2"	4,000 lbs.	2924T53	33.34
1"	2"	5,000 lbs.	2924T54	40.08
For 7/8" Shaft Dia.—Load @ 100 rpm				
1"	1 1/2"	5,000 lbs.	2924T55	28.20
For 1" Shaft Dia.—Load @ 90 rpm				
1 1/8"	1"	3,500 lbs.	2924T56	23.90
1 1/4"	3/4"	2,500 lbs.	2924T57	22.90
1 1/4"	1"	3,500 lbs.	2924T58	24.59
1 1/4"	1 1/2"	5,000 lbs.	2924T59	27.92
1 1/4"	2"	7,000 lbs.	2924T61	32.67
For 1 1/4" Shaft Dia.—Load @ 70 rpm				
1 1/2"	1 1/2"	7,000 lbs.	2924T62	30.42

Grooved Corrosion Resistant— 954 Aluminum Bronze (Cont.)

OD	Lg.	Load Cap. @ Speed		
For 1 1/4" Shaft Dia.—Load @ 70 rpm (Cont.)				
1 1/2"	2"	9,000 lbs.	2924T63	$36.70
For 1 1/2" Shaft Dia.—Load @ 60 rpm				
1 3/4"	1 1/2"	8,000 lbs.	2924T64	32.42
1 3/4"	2"	10,000 lbs.	2924T65	38.80
For 1 3/4" Shaft Dia.—Load @ 50 rpm				
1 7/8"	1 1/2"	10,000 lbs.	2924T66	32.04
1 7/8"	2"	10,000 lbs.	2924T67	38.55
For 2" Shaft Dia.—Load @ 40 rpm				
2 1/4"	2"	15,000 lbs.	2924T68	25.98
2 1/4"	2 1/2"	15,000 lbs.	2924T69	37.36

Metric Multipurpose— SAE 660 Leaded Tin Bronze

OD, mm	Lg., mm	Load Cap. @ Speed		
For 12 mm Shaft Dia.—Load @ 150 rpm				
15	12	800 lbs.	7811K11	$2.99
15	16	1,000 lbs.	7811K12	3.07
15	20	1,000 lbs.	7811K13	3.55
16	12	800 lbs.	7811K14	4.22
16	16	1,000 lbs.	7811K15	5.94
16	20	1,000 lbs.	7811K16	6.12
18	12	800 lbs.	7811K17	6.24
18	16	1,000 lbs.	7811K18	6.28
18	20	1,000 lbs.	7811K19	7.08
For 14 mm Shaft Dia.—Load @ 100 rpm				
18	14	1,000 lbs.	7811K21	3.41
18	18	1,500 lbs.	7811K22	3.89
18	22	1,500 lbs.	7811K23	3.92
20	14	1,000 lbs.	7811K24	3.98
20	18	1,500 lbs.	7811K25	4.00
20	22	1,500 lbs.	7811K26	4.02
For 15 mm Shaft Dia.—Load @ 100 rpm				
19	16	1,000 lbs.	7811K27	4.05
19	20	1,500 lbs.	7811K28	4.05
21	16	1,000 lbs.	7811K29	4.06
21	20	1,500 lbs.	7811K31	4.07
For 16 mm Shaft Dia.—Load @ 100 rpm				
20	16	1,500 lbs.	7811K32	4.10
20	20	1,500 lbs.	7811K33	4.25
22	16	1,500 lbs.	7811K34	4.28
22	20	1,500 lbs.	7811K35	4.29
For 18 mm Shaft Dia.—Load @ 100 rpm				
22	18	2,000 lbs.	7811K36	4.34
22	22	2,000 lbs.	7811K37	4.35
24	18	2,000 lbs.	7811K38	4.37
24	22	2,000 lbs.	7811K39	4.43
25	18	2,000 lbs.	7811K41	4.45
25	22	2,000 lbs.	7811K42	4.45
For 20 mm Shaft Dia.—Load @ 90 rpm				
24	16	1,500 lbs.	7811K43	4.47
24	20	2,000 lbs.	7811K44	4.53
26	16	1,500 lbs.	7811K45	4.57
26	20	2,000 lbs.	7811K46	4.62
28	16	1,500 lbs.	7811K47	4.67
28	20	2,000 lbs.	7811K48	4.74
For 22 mm Shaft Dia.—Load @ 80 rpm				
27	18	2,000 lbs.	7811K49	4.93
27	22	3,000 lbs.	7811K51	4.94
28	18	2,000 lbs.	7811K52	5.01
28	22	3,000 lbs.	7811K53	5.07
29	18	2,000 lbs.	7811K54	5.12
29	22	3,000 lbs.	7811K55	5.16
For 25 mm Shaft Dia.—Load @ 70 rpm				
30	20	3,000 lbs.	7811K56	5.18
32	20	3,000 lbs.	7811K57	5.33

Oil-Embedded Flanged Sleeve Bearings



Startup friction causes these porous bronze bearings to release a thin layer of oil on the bearing's surface.

Standard—Bearings are SAE 841 bronze embedded with SAE 30 oil. They are also known as Oilite® bearings. Temperature range is -35° to 300°F. *Bearings with certification* come with a material test report and a traceable lot number.

High Load—Bearings have increased iron content, making them stronger and more resistant to shock loads than standard oil-embedded bearings. Color is silver because of the iron. Temperature range is 10° to 220°F. *Iron-copper bronze* bearings are lubricated with SAE 90 oil. *SAE 863 iron-copper bronze* bearings are lubricated with ISO 460 oil.

Food Grade—Embedded with oil that meets USDA H1, these bearings are suitable for incidental contact with food. *SAE 841 bronze* bearings run at higher speeds than SAE 863 iron-copper bronze bearings. Temperature range is 10° to 220°F. *SAE 863 iron-copper bronze* bearings have increased iron content, making them stronger and more resistant to shock loads than SAE 841 bronze bearings. Color is silver because of the iron. Temperature range is -30° to 420°F.

Ultra-Low Friction—For applications with frequent starts and stops, these SAE 841 bronze bearings are embedded with SAE 80 oil that contains particles of slippery PTFE. The PTFE reduces wear during startup, before the oil is warm enough to lubricate the bearing. Temperature range is 10° to 220°F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
Standard—SAE 841 Bronze						
For 3/64" Shaft Dia.—Load @ 2,000 rpm						
5/32"	3/16"	1/4"	1/16"	15 lbs.	6338K321	$12.21
For 1/16" Shaft Dia.—Load @ 1,500 rpm						
1/4"	1/4"	5/16"	1/16"	30 lbs.	6338K322	12.21
For 5/64" Shaft Dia.—Load @ 1,000 rpm						
1/4"	1/4"	3/8"	1/16"	35 lbs.	6338K323	12.21
For 3/32" Shaft Dia.—Load @ 1,000 rpm						
1/4"	1/4"	3/8"	1/16"	45 lbs.	6338K324	12.21
For 5/32" Shaft Dia.—Load @ 600 rpm						
1/4"	3/8"	3/8"	1/16"	100 lbs.	6338K325	12.21
For 3/16" Shaft Dia.—Load @ 500 rpm						
5/16"	1/2"	7/16"	1/16"	150 lbs.	6338K311	.87
For 7/32" Shaft Dia.—Load @ 400 rpm						
5/16"	3/8"	7/16"	1/16"	150 lbs.	6338K326	14.21
For 1/4" Shaft Dia.—Load @ 350 rpm						
3/8"	1/4"	1/2"	1/16"	100 lbs.	6338K411	.77
3/8"	3/8"	1/2"	1/16"	150 lbs.	6338K412	.79
3/8"	1/2"	1/2"	1/16"	250 lbs.	6338K413	1.09
3/8"	3/4"	1/2"	1/16"	350 lbs.	6338K451	1.95
For 5/16" Shaft Dia.—Load @ 300 rpm						
7/16"	3/8"	9/16"	1/16"	200 lbs.	6338K453	1.01
7/16"	1/2"	9/16"	1/16"	300 lbs.	6338K452	1.13
7/16"	3/4"	9/16"	1/16"	450 lbs.	6338K454	1.23
9/16"	1/2"	11/16"	1/16"	300 lbs.	6338K455	5.91
9/16"	3/4"	11/16"	1/16"	450 lbs.	6338K456	6.14
5/8"	3/4"	7/8"	1/8"	450 lbs.	6338K457	5.24
For 3/8" Shaft Dia.—Load @ 250 rpm						
1/2"	1/4"	11/16"	1/16"	150 lbs.	6338K414	.74
1/2"	1/2"	5/8"	1/16"	350 lbs.	6338K312	.93
1/2"	1/2"	11/16"	1/16"	350 lbs.	6338K415	.85
1/2"	3/4"	11/16"	1/16"	500 lbs.	6338K416	1.13
5/8"	1/2"	7/8"	1/16"	350 lbs.	6338K461	1.18
5/8"	3/4"	7/8"	1/16"	500 lbs.	6338K463	1.60
5/8"	1"	7/8"	1/16"	700 lbs.	6338K465	2.03
For 7/16" Shaft Dia.—Load @ 200 rpm						
9/16"	1/2"	11/16"	1/16"	400 lbs.	6338K462	1.30
9/16"	3/4"	11/16"	1/16"	600 lbs.	6338K464	1.63
5/8"	3/4"	7/8"	1/8"	600 lbs.	6338K466	1.82
For 1/2" Shaft Dia.—Load @ 150 rpm						
5/8"	3/8"	7/8"	1/8"	350 lbs.	6338K417	1.12
5/8"	1/2"	7/8"	1/8"	500 lbs.	6338K418	1.15
5/8"	3/4"	7/8"	1/8"	700 lbs.	6338K419	1.08
5/8"	1"	7/8"	1/8"	1,000 lbs.	6338K421	1.44
3/4"	1/2"	1"	1/8"	500 lbs.	6338K422	1.60
3/4"	3/4"	1"	1/8"	700 lbs.	6338K423	1.22
3/4"	1"	1"	1/8"	1,000 lbs.	6338K424	2.28
For 5/8" Shaft Dia.—Load @ 150 rpm						
3/4"	5/8"	1"	1/8"	700 lbs.	6338K425	1.28
3/4"	3/4"	1"	1/8"	900 lbs.	6338K426	1.42
3/4"	1"	1"	1/8"	1,000 lbs.	6338K471	1.82
7/8"	1/2"	1 1/8"	1/8"	600 lbs.	6338K427	1.77
7/8"	5/8"	1 1/8"	1/8"	700 lbs.	6338K473	1.94
7/8"	3/4"	1 1/8"	1/8"	900 lbs.	6338K428	2.10
7/8"	1"	1 1/8"	1/8"	1,000 lbs.	6338K475	2.73
7/8"	1 1/4"	1 1/8"	1/8"	1,500 lbs.	6338K477	3.25
7/8"	1 1/4"	1 1/4"	1/8"	1,500 lbs.	6338K478	5.46
For 3/4" Shaft Dia.—Load @ 100 rpm						
7/8"	1/2"	1 1/8"	1/8"	700 lbs.	6338K429	2.06
7/8"	1/2"	1 1/4"	1/8"	700 lbs.	6338K467	4.46
7/8"	3/4"	1 1/8"	1/8"	1,000 lbs.	6338K472	1.90
7/8"	3/4"	1 1/4"	1/8"	1,000 lbs.	6338K474	4.95
1"	5/8"	1 1/4"	3/16"	900 lbs.	6338K431	2.53
1"	3/4"	1 1/4"	3/16"	1,000 lbs.	6338K432	2.52
1"	1"	1 1/4"	3/16"	1,500 lbs.	6338K433	3.19
1"	1 1/4"	1 1/4"	3/16"	1,500 lbs.	6338K434	3.87

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
Standard—SAE 841 Bronze (Cont.)						
For 7/8" Shaft Dia.—Load @ 100 rpm						
1 1/8"	3/4"	1 1/2"	1/8"	1,000 lbs.	6338K479	$3.62
1 1/8"	1"	1 1/2"	1/8"	1,500 lbs.	6338K435	3.88
1 1/8"	1 1/4"	1 1/2"	1/8"	2,000 lbs.	6338K481	5.43
For 1" Shaft Dia.—Load @ 90 rpm						
1 1/4"	3/4"	1 1/2"	1/8"	1,500 lbs.	6338K436	2.90
1 1/4"	1"	1 1/2"	1/8"	2,000 lbs.	6338K437	4.19
1 1/4"	1 1/4"	1 1/2"	1/8"	2,500 lbs.	6338K438	5.08
1 1/4"	1 1/2"	1 1/2"	1/8"	3,000 lbs.	6338K439	5.34
For 1 1/4" Shaft Dia.—Load @ 70 rpm						
1 1/2"	1"	1 3/4"	3/16"	2,500 lbs.	6338K441	5.58
1 1/2"	1 1/4"	1 3/4"	3/16"	3,000 lbs.	6338K482	7.12
1 1/2"	1 1/2"	1 3/4"	3/16"	3,500 lbs.	6338K483	8.35
For 1 3/8" Shaft Dia.—Load @ 60 rpm						
1 5/8"	1"	2"	1/8"	2,500 lbs.	6338K314	7.12
For 1 1/2" Shaft Dia.—Load @ 60 rpm						
1 3/4"	1 1/2"	2"	3/16"	4,500 lbs.	6338K442	8.24
For 1 3/4" Shaft Dia.—Load @ 50 rpm						
2 1/4"	2 1/2"	3"	1/4"	8,000 lbs.	6338K443	40.80
Standard with Certification—SAE 841 Bronze						
For 1/4" Shaft Dia.—Load @ 350 rpm						
3/8"	1/4"	1/2"	1/16"	100 lbs.	3113K51	4.09
3/8"	3/8"	1/2"	1/16"	150 lbs.	3113K52	4.11
3/8"	1/2"	1/2"	1/16"	250 lbs.	3113K53	4.70
For 5/16" Shaft Dia.—Load @ 300 rpm						
7/16"	3/8"	9/16"	1/16"	200 lbs.	3113K54	4.40
For 3/8" Shaft Dia.—Load @ 250 rpm						
1/2"	1/2"	5/8"	1/16"	350 lbs.	3113K55	3.90
1/2"	1/4"	11/16"	1/16"	150 lbs.	3113K56	4.17
1/2"	3/4"	11/16"	1/16"	500 lbs.	3113K57	4.40
5/8"	1/2"	7/8"	1/16"	350 lbs.	3113K58	4.60
For 1/2" Shaft Dia.—Load @ 150 rpm						
5/8"	3/8"	7/8"	1/8"	350 lbs.	3113K59	4.47
5/8"	1/2"	7/8"	1/8"	500 lbs.	3113K61	4.60
5/8"	3/4"	7/8"	1/8"	700 lbs.	3113K62	4.21
3/4"	1/2"	1"	1/8"	500 lbs.	3113K63	5.76
For 5/8" Shaft Dia.—Load @ 150 rpm						
3/4"	5/8"	1"	1/8"	700 lbs.	3113K64	5.07
For 3/4" Shaft Dia.—Load @ 100 rpm						
7/8"	1/2"	1 1/8"	1/8"	700 lbs.	3113K65	5.08
1"	1"	1 1/4"	3/16"	1,500 lbs.	3113K66	7.17
1"	1 1/4"	1 1/4"	3/16"	1,500 lbs.	3113K67	7.33
For 1" Shaft Dia.—Load @ 90 rpm						
1 1/4"	3/4"	1 1/2"	1/8"	1,500 lbs.	3113K68	7.60
1 1/4"	1"	1 1/2"	1/8"	2,000 lbs.	3113K69	8.30
For 1 1/4" Shaft Dia.—Load @ 70 rpm						
1 1/2"	1"	1 3/4"	3/16"	2,500 lbs.	3113K71	10.55
For 1 1/2" Shaft Dia.—Load @ 60 rpm						
1 3/4"	1 1/2"	2"	3/16"	4,500 lbs.	3113K72	14.14
High Load—Iron-Copper Bronze						
For 3/4" Shaft Dia.—Load @ 40 rpm						
7/8"	1/2"	1 1/8"	1/8"	3,000 lbs.	3731K1	13.66
1"	3/4"	1 1/4"	3/16"	4,500 lbs.	3731K6	13.94
1"	1"	1 1/4"	3/16"	6,000 lbs.	3731K7	14.32
1"	1 1/4"	1 1/4"	3/16"	7,000 lbs.	3731K9	14.70
1"	1 1/2"	1 1/4"	3/16"	9,000 lbs.	3731K11	14.90
For 1" Shaft Dia.—Load @ 35 rpm						
1 1/4"	3/4"	1 1/2"	1/8"	6,000 lbs.	3731K15	14.28
1 1/4"	1"	1 1/2"	1/8"	8,000 lbs.	3731K16	14.62
1 1/4"	1 1/2"	1 1/2"	1/8"	10,000 lbs.	3731K18	15.22
1 3/8"	1"	1 5/8"	3/16"	8,000 lbs.	3731K21	19.16

(Continued on following page)

Oil-Embedded Flanged Sleeve Bearings *(Continued from previous page)*



Startup friction causes these porous bronze bearings to release a thin layer of oil on the bearing's surface.

Standard—Bearings are SAE 841 bronze embedded with SAE 30 oil. They are also known as Oilite® bearings. Temperature range is -35° to 300° F. *Bearings with certification* confirm material and dimensional conformity.

High Load—Bearings have increased iron content, making them stronger and more resistant to shock loads than standard oil-embedded bearings. Color is silver because of the iron. *Iron-copper bronze* bearings have a temperature range of 10° to 220° F and are lubricated with SAE 90 oil. *SAE 863 iron-copper bronze* bearings have a temperature range of -15° to 300° F. are lubricated with ISO 460 oil.

Food Grade—Embedded with oil that meets USDA H1, these bearings are suitable for incidental contact with food. Temperature range is -75° to 300° F. *SAE 841 bronze* bearings run at higher speeds than SAE 863 iron-copper bronze bearings. *SAE 863 iron-copper bronze* bearings have increased iron content, making them stronger and more resistant to shock loads than SAE 841 bronze bearings. Color is silver because of the iron.

Ultra-Low Friction—For applications with frequent starts and stops, these SAE 841 bronze bearings are embedded with SAE 80 oil that contains particles of slippery PTFE. The PTFE reduces wear during startup, before the oil is warm enough to lubricate the bearing. Temperature range is 10° to 220° F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
High Load—Iron-Copper Bronze (Cont.)						
For 1¼" Shaft Dia.—Load @ 25 rpm (Cont.)						
1½"	1"	1¾"	3/16"	10,000 lbs.	3731K23	$18.52
1½"	1½"	1¾"	3/16"	15,000 lbs.	3731K25	19.08
1½"	1¾"	1¾"	3/16"	15,000 lbs.	3731K26	19.36
For 1½" Shaft Dia.—Load @ 25 rpm						
1¾"	1½"	2"	3/16"	15,000 lbs.	3731K27	19.60
For 1⅝" Shaft Dia.—Load @ 25 rpm						
2"	2"	2¼"	3/16"	20,000 lbs.	3731K28	33.60
For 1¾" Shaft Dia.—Load @ 25 rpm						
2¼"	2½"	3"	¼"	25,000 lbs.	3731K29	37.22
For 2" Shaft Dia.—Load @ 25 rpm						
2¼"	2"	2½"	⅛"	20,000 lbs.	3731K31	22.02
High Load—SAE 863 Iron-Copper Bronze						
Choose a shaft diameter, OD, and length. Dimensions are the same as Standard SAE 841 bronze bearings on the previous page, except not available in shaft diameters 3/64", 1/16", 5/64", 3/32", 5/32", and 7/32".					2938T8	
Food Grade—SAE 841 Bronze						
For ¼" Shaft Dia.—Load @ 350 rpm						
⅜"	¼"	½"	1/16"	100 lbs.	3746K2	.84
⅜"	⅜"	½"	1/16"	150 lbs.	3746K3	1.00
⅜"	½"	½"	1/16"	250 lbs.	3746K4	1.12
⅜"	¾"	½"	1/16"	350 lbs.	3746K5	1.40
For 5/16" Shaft Dia.—Load @ 300 rpm						
7/16"	⅜"	9/16"	1/16"	200 lbs.	3746K6	1.04
For ⅜" Shaft Dia.—Load @ 250 rpm						
½"	¼"	11/16"	1/16"	150 lbs.	3746K8	1.04
½"	¾"	11/16"	1/16"	500 lbs.	3746K11	1.52
⅝"	½"	⅞"	1/16"	350 lbs.	3746K12	1.84
For ½" Shaft Dia.—Load @ 150 rpm						
⅝"	⅜"	⅞"	⅛"	350 lbs.	3746K13	1.48
⅝"	½"	⅞"	⅛"	500 lbs.	3746K14	1.68
⅝"	1"	⅞"	⅛"	1,000 lbs.	3746K16	2.24
¾"	½"	1"	⅛"	500 lbs.	3746K17	2.20
¾"	1"	1"	⅛"	1,000 lbs.	3746K19	4.16
For ⅝" Shaft Dia.—Load @ 150 rpm						
¾"	⅝"	1"	⅛"	700 lbs.	3746K21	1.96
¾"	¾"	1"	⅛"	900 lbs.	3746K22	2.16
For ¾" Shaft Dia.—Load @ 100 rpm						
⅞"	½"	1⅛"	⅛"	700 lbs.	3746K24	1.96
1"	⅝"	1¼"	3/16"	900 lbs.	3746K26	4.32
1"	¾"	1¼"	3/16"	1,000 lbs.	3746K27	4.44
1"	1"	1¼"	3/16"	1,500 lbs.	3746K28	5.08
1"	1¼"	1¼"	3/16"	1,500 lbs.	3746K29	5.84
For 1" Shaft Dia.—Load @ 90 rpm						
1¼"	¾"	1½"	⅛"	1,500 lbs.	3746K31	4.84
1¼"	1"	1½"	⅛"	2,000 lbs.	3746K32	5.72
For 1¼" Shaft Dia.—Load @ 70 rpm						
1½"	1"	1¾"	3/16"	2,500 lbs.	3746K34	7.28
For 1½" Shaft Dia.—Load @ 60 rpm						
1¾"	1½"	2"	3/16"	4,500 lbs.	3746K35	13.88
Food Grade—SAE 863 Iron-Copper Bronze						
Choose a shaft diameter, OD, and length. Dimensions are the same as the Food Grade SAE 841 bearings above.					3083K41	
Ultra-Low Friction with PTFE—SAE 841 Bronze						
For ¼" Shaft Dia.—Load @ 350 rpm						
⅜"	¼"	½"	1/16"	100 lbs.	1677K1	$0.85
⅜"	⅜"	½"	1/16"	150 lbs.	1677K2	1.00
⅜"	½"	½"	1/16"	250 lbs.	1677K3	1.11
Ultra-Low Friction with PTFE—SAE 841 Bronze (Cont.)						
For ⅜" Shaft Dia.—Load @ 250 rpm						
½"	¼"	11/16"	1/16"	150 lbs.	1677K4	$1.05
½"	½"	11/16"	1/16"	350 lbs.	1677K5	1.43
½"	¾"	11/16"	1/16"	500 lbs.	1677K6	1.48
For ½" Shaft Dia.—Load @ 150 rpm						
⅝"	⅜"	⅞"	⅛"	350 lbs.	1677K7	1.48
⅝"	½"	⅞"	⅛"	500 lbs.	1677K8	1.64
⅝"	¾"	⅞"	⅛"	700 lbs.	1677K9	1.84
¾"	½"	1"	⅛"	500 lbs.	1677K11	2.21
¾"	¾"	1"	⅛"	700 lbs.	1677K12	3.35
For ⅝" Shaft Dia.—Load @ 150 rpm						
¾"	⅝"	1"	⅛"	700 lbs.	1677K14	1.92
For ¾" Shaft Dia.—Load @ 100 rpm						
⅞"	½"	1⅛"	⅛"	700 lbs.	1677K15	1.95
1"	1"	1¼"	3/16"	1,500 lbs.	1677K17	5.08
For 1" Shaft Dia.—Load @ 90 rpm						
1¼"	¾"	1½"	⅛"	1,500 lbs.	1677K19	4.84
1¼"	1"	1½"	⅛"	2,000 lbs.	1677K21	5.73
For 1¼" Shaft Dia.—Load @ 70 rpm						
1½"	1"	1¾"	3/16"	2,500 lbs.	1677K22	7.28
For 1½" Shaft Dia.—Load @ 60 rpm						
1¾"	1½"	2"	3/16"	4,500 lbs.	1677K23	13.83

OD, mm	Lg., mm	Flange OD, mm	Flange Thick., mm	Load Cap. @ Speed		
Metric Standard—SAE 841 Bronze						
For 1.5 mm Shaft Dia.—Load @ 1,500 rpm						
5	3	6.5	1.8	10 lbs.	6659K61	$12.21
For 2 mm Shaft Dia.—Load @ 1,000 rpm						
5	3	6.5	1.8	15 lbs.	6659K62	12.21
For 2.5 mm Shaft Dia.—Load @ 900 rpm						
6.5	4	8.5	2	30 lbs.	6659K63	12.21
For 3 mm Shaft Dia.—Load @ 800 rpm						
6	4	9	1.5	35 lbs.	6659K64	1.71
For 4 mm Shaft Dia.—Load @ 600 rpm						
7	6	10	1.5	70 lbs.	6659K65	1.75
For 5 mm Shaft Dia.—Load @ 450 rpm						
8	5	11	1.5	70 lbs.	6659K66	1.82
For 7 mm Shaft Dia.—Load @ 300 rpm						
11	8	15	2	150 lbs.	6659K67	5.43
For 12 mm Shaft Dia.—Load @ 200 rpm						
15	12	18	1.5	400 lbs.	6659K11	.82
15	16	18	1.5	500 lbs.	6659K12	.87
15	20	18	1.5	700 lbs.	6659K13	1.05
17	12	22	2.5	400 lbs.	6659K14	3.57
17	16	22	2.5	500 lbs.	6659K15	3.94
17	20	22	2.5	700 lbs.	6659K16	4.61
18	8	24	3	250 lbs.	6659K17	1.26
18	12	24	3	400 lbs.	6659K18	1.27
18	20	24	3	700 lbs.	6659K19	1.98
For 14 mm Shaft Dia.—Load @ 150 rpm						
18	14	22	2	600 lbs.	6659K21	2.26
18	18	22	2	700 lbs.	6659K22	2.75
18	22	22	2	900 lbs.	6659K23	2.71
20	14	26	3	600 lbs.	6659K24	2.11
20	18	26	3	700 lbs.	6659K25	2.10
20	22	26	3	900 lbs.	6659K26	2.08
For 15 mm Shaft Dia.—Load @ 150 rpm						
19	16	23	2	700 lbs.	6659K27	1.92
19	20	23	2	900 lbs.	6659K28	1.94
21	16	27	3	700 lbs.	6659K29	2.46
21	20	27	3	900 lbs.	6659K31	2.41
For 16 mm Shaft Dia.—Load @ 150 rpm						
20	16	24	2	700 lbs.	6659K32	1.96
20	20	24	2	900 lbs.	6659K33	1.98

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Oil-Embedded Flanged Sleeve Bearings *(Continued from previous page)*

OD, mm	Lg., mm	Flange OD, mm	Flange Thick., mm	Load Cap. @ Rated Speed		
Metric Standard—SAE 841 Bronze (Cont.)						
For 16 mm Shaft Dia.—Load @ 150 rpm (Cont.)						
22	16	28	3	700 lbs.	6659K34	$2.01
22	20	28	3	900 lbs.	6659K35	2.02
For 18 mm Shaft Dia.—Load @ 100 rpm						
22	18	26	2	1,000 lbs.	6659K36	2.02
22	22	26	2	1,000 lbs.	6659K37	2.06
24	18	30	3	1,000 lbs.	6659K38	3.39
24	22	30	3	1,000 lbs.	6659K39	3.96
For 20 mm Shaft Dia.—Load @ 100 rpm						
24	16	28	2	900 lbs.	6659K41	2.11
24	20	28	2	1,000 lbs.	6659K42	2.12
26	16	32	3	900 lbs.	6659K43	2.13
For 20 mm Shaft Dia.—Load @ 100 rpm (Cont.)						
26	20	32	3	1,000 lbs.	6659K44	$2.16
For 22 mm Shaft Dia.—Load @ 100 rpm						
27	18	32	2.5	1,000 lbs.	6659K45	4.31
27	22	32	2.5	1,500 lbs.	6659K46	4.31
28	15	34	3	1,000 lbs.	6659K47	4.37
28	20	34	3	1,000 lbs.	6659K48	4.47
29	22	36	3.5	1,500 lbs.	6659K52	6.71
For 25 mm Shaft Dia.—Load @ 90 rpm						
30	20	35	2.5	1,500 lbs.	6659K53	5.91
32	20	39	3.5	1,500 lbs.	6659K54	5.94

Dry-Running Flanged Sleeve Bearings



Made of slippery plastics, these bearings reduce friction without the need for lubrication.

Light Duty—*Nylon* bearings are for light loads. Color is white. Temp. range is -20° to 250°F. *MDS-filled nylon* bearings create less friction than standard nylon bearings, making them more wear resistant. Color is black. Temp. range is -40° to 220°F, unless noted. *Acetal* bearings are more chemical resistant than nylon bearings. Color is white. Temp. range is -20° to 180°F.

Ultra-Low Friction—Use these bearings in applications with frequent starts and stops because they operate with very little friction. They also can withstand a wide range of temperatures. *PTFE* bearings are slippery and chemical resistant. Color is white. Temp. range is -350° to 500°F. *Rulon J* bearings create the least amount of friction of any bearing in our offering. They handle higher loads and speeds than PTFE bearings. Color is gold. Temp. range is -400° to 550°F.

Water Resistant—A good choice for underwater applications, these Rulon LR bearings won't warp when exposed to moisture. Color is maroon. Temp. range is -400° to 550°F.

Chemical Resistant—These PEEK bearings are lightweight, strong, and able to withstand a wide range of chemicals. Color is black. Temp. range is -40° to 500°F.

Food Grade—Made of FDA-listed materials for use in food applications, these bearings also withstand caustic and washdown environments. Color is white. *UHMW* bearings perform well in wet, corrosive environments. Temp. range is -200° to 180°F. *Rulon 641* bearings are stronger than UHMW bearings and can withstand a wider range of temperatures. Temp. range is -400° to 550°F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's surface speed and load are below the values listed, the bearing should work for your application.

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
Light Duty—Nylon						
For 3/16" Shaft Dia.—Load @ 150 rpm						
5/16"	1/4"	3/8"	3/64"	15 lbs.	6389K401	$4.52
5/16"	1/4"	7/16"	1/16"	15 lbs.	6389K402	3.82
5/16"	1/2"	3/8"	3/64"	35 lbs.	6389K403	4.45
5/16"	1/2"	7/16"	1/16"	35 lbs.	6389K404	4.38
For 1/4" Shaft Dia.—Load @ 100 rpm						
3/8"	5/16"	1/2"	1/16"	30 lbs.	6389K231	.53
3/8"	3/8"	1/2"	1/16"	35 lbs.	6389K627	.54
3/8"	3/8"	9/16"	1/16"	35 lbs.	6389K405	4.46
3/8"	1/2"	1/2"	1/16"	50 lbs.	6389K443	1.12
3/8"	1/2"	1/2"	3/32"	50 lbs.	6389K407	4.41
3/8"	1/2"	9/16"	1/16"	50 lbs.	6389K406	4.44
For 5/16" Shaft Dia.—Load @ 90 rpm						
7/16"	3/8"	9/16"	3/64"	45 lbs.	6389K408	4.42
7/16"	7/16"	9/16"	1/16"	50 lbs.	6389K232	.90
7/16"	1/2"	9/16"	1/16"	60 lbs.	6389K626	.75
1/2"	3/8"	11/16"	1/16"	45 lbs.	6389K409	4.47
For 3/8" Shaft Dia.—Load @ 70 rpm						
1/2"	3/8"	5/8"	1/16"	50 lbs.	6389K625	.59
1/2"	3/8"	5/8"	1/8"	50 lbs.	6389K411	4.42
1/2"	1/2"	5/8"	1/16"	70 lbs.	6389K445	.94
1/2"	1/2"	5/8"	3/32"	70 lbs.	6389K412	4.50
1/2"	3/4"	5/8"	1/16"	100 lbs.	6389K624	.79
1/2"	3/4"	5/8"	1/8"	100 lbs.	6389K413	4.71
5/8"	1/2"	7/8"	1/8"	70 lbs.	6389K414	5.86
5/8"	3/4"	7/8"	1/8"	100 lbs.	6389K415	6.41
For 7/16" Shaft Dia.—Load @ 60 rpm						
9/16"	1/2"	11/16"	1/16"	80 lbs.	6389K416	4.50
For 1/2" Shaft Dia.—Load @ 50 rpm						
5/8"	1/4"	7/8"	1/16"	50 lbs.	6389K418	4.59
5/8"	3/8"	7/8"	1/16"	70 lbs.	6389K419	5.54
5/8"	1/2"	3/4"	1/16"	100 lbs.	6389K623	.79
5/8"	1/2"	7/8"	1/16"	100 lbs.	6389K417	5.65
5/8"	5/8"	3/4"	1/16"	100 lbs.	6389K446	1.33
5/8"	5/8"	3/4"	3/32"	100 lbs.	6389K422	6.19
5/8"	5/8"	7/8"	1/16"	100 lbs.	6389K421	6.01
5/8"	3/4"	3/4"	1/16"	150 lbs.	6389K622	.98
5/8"	3/4"	7/8"	1/16"	150 lbs.	6389K423	6.11
5/8"	1"	3/4"	1/16"	200 lbs.	6389K447	1.48
5/8"	1"	3/4"	3/32"	200 lbs.	6389K424	6.61
5/8"	1"	7/8"	1/16"	200 lbs.	6389K425	6.76
3/4"	7/16"	7/8"	1/16"	80 lbs.	6389K233	1.56
3/4"	1/2"	1"	1/8"	100 lbs.	6389K426	6.31
3/4"	3/4"	7/8"	1/16"	150 lbs.	6389K448	1.61
3/4"	1"	7/8"	1/16"	200 lbs.	6389K449	1.90
3/4"	1"	7/8"	1/8"	200 lbs.	6389K427	7.03
Light Duty—Nylon (Cont.)						
For 5/8" Shaft Dia.—Load @ 40 rpm						
3/4"	3/8"	15/16"	1/16"	90 lbs.	6389K234	$1.26
3/4"	3/4"	15/16"	1/16"	150 lbs.	6389K552	1.29
3/4"	3/4"	15/16"	1/8"	150 lbs.	6389K428	6.70
13/16"	5/8"	11/16"	5/32"	150 lbs.	6389K429	7.22
7/8"	3/4"	11/16"	1/16"	150 lbs.	6389K621	1.07
7/8"	3/4"	11/8"	1/8"	150 lbs.	6389K431	8.03
7/8"	1"	1"	1/8"	250 lbs.	6389K432	8.32
For 3/4" Shaft Dia.—Load @ 35 rpm						
7/8"	11/4"	11/16"	1/16"	350 lbs.	6389K555	2.06
7/8"	11/4"	11/4"	3/16"	350 lbs.	6389K433	11.18
1"	3/4"	11/4"	5/32"	200 lbs.	6389K434	8.69
1"	3/4"	11/4"	3/16"	200 lbs.	6389K435	9.11
1"	1"	13/16"	1/16"	300 lbs.	6389K556	2.03
1"	1"	13/16"	1/8"	300 lbs.	6389K436	9.59
1"	1"	11/4"	5/32"	300 lbs.	6389K437	11.19
For 7/8" Shaft Dia.—Load @ 30 rpm						
11/8"	11/8"	15/16"	1/16"	350 lbs.	6389K557	2.62
For 1" Shaft Dia.—Load @ 25 rpm						
11/4"	1"	17/16"	1/16"	400 lbs.	6389K559	3.46
11/4"	1"	17/16"	1/8"	400 lbs.	6389K438	11.62
11/4"	1"	11/2"	3/16"	400 lbs.	6389K439	12.27
11/4"	11/2"	11/2"	1/8"	600 lbs.	6389K441	13.82
11/4"	11/2"	11/2"	3/16"	600 lbs.	6389K442	13.06
For 1 1/4" Shaft Dia.—Load @ 25 rpm						
11/2"	11/2"	13/4"	1/8"	600 lbs.	6389K451	16.77
For 1 1/2" Shaft Dia.—Load @ 25 rpm						
13/4"	2"	2"	1/8"	900 lbs.	6389K452	22.45
Light Duty—MDS-Filled Nylon						
For 3/16" Shaft Dia.—Load @ 25 rpm						
5/16"	1/4"	3/8"	3/64"	100 lbs.	6294K432★	1.07
5/16"	1/4"	7/16"	1/16"	15 lbs.	6294K201	3.95
5/16"	1/2"	3/8"	3/64"	250 lbs.	6294K433★	1.15
5/16"	1/2"	7/16"	1/16"	30 lbs.	6294K202	4.24
For 1/4" Shaft Dia.—Load @ 100 rpm						
3/8"	5/16"	1/2"	1/16"	25 lbs.	6294K203	4.40
3/8"	3/8"	1/2"	1/16"	30 lbs.	6294K204	4.20
3/8"	3/8"	9/16"	3/64"	45 lbs.	6294K434	1.10
3/8"	1/2"	1/2"	1/16"	40 lbs.	6294K205	5.65
3/8"	1/2"	1/2"	3/32"	40 lbs.	6294K206	4.69
3/8"	1/2"	9/16"	3/64"	60 lbs.	6294K435★	1.48
For 5/16" Shaft Dia.—Load @ 25 rpm						
7/16"	3/8"	9/16"	1/16"	150 lbs.	6294K436★	1.14
7/16"	7/16"	9/16"	1/16"	40 lbs.	6294K207	5.05
7/16"	1/2"	9/16"	1/16"	250 lbs.	6294K437★	1.34

★Max. temperature is 170°F.

(Continued on following page)

Dry-Running Flanged Sleeve Bearings *(Continued from previous page)*



Made of slippery plastics, these bearings reduce friction without the need for lubrication.

Light Duty—*Nylon* bearings are for light loads. Color is white. Temp. range is -20° to 250° F. *MDS-filled nylon* bearings create less friction than standard nylon bearings, making them more wear resistant. Color is black. Temp. range is -40° to 220° F, unless noted. *Acetal* bearings are more chemical resistant than nylon bearings. Color is white. Temp. range is -20° to 180° F.

Ultra-Low Friction—Use these bearings in applications with frequent starts and stops because they operate with very little friction. They also can withstand a wide range of temperatures. *PTFE* bearings are slippery and chemical resistant. Color is white. Temp. range is -350° to 500° F. *Rulon J* bearings create the least amount of friction of any bearing in our offering. They handle higher loads and speeds than PTFE bearings. Color is gold. Temp. range is -400° to 550° F.

Water Resistant—A good choice for underwater applications, these Rulon LR bearings won't warp when exposed to moisture. Color is maroon. Temp. range is -400° to 550° F.

Chemical Resistant—These PEEK bearings are lightweight, strong, and able to withstand a wide range of chemicals. Color is black. Temp. range is -40° to 500° F.

Food Grade—Made of FDA-listed materials for use in food applications, these bearings also withstand caustic and washdown environments. Color is white. *UHMW* bearings perform well in wet, corrosive environments. Temp. range is -200° to 180° F. *Rulon 641* bearings are stronger than UHMW bearings and can withstand a wider range of temperatures. Temp. range is -400° to 550° F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's surface speed and load are below the values listed, the bearing should work for your application.

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
Light Duty—MDS-Filled Nylon (Cont.)						
For 5/16" Shaft Dia.—Load @ 25 rpm (Cont.)						
1/2"	3/8"	11/16"	1/16"	35 lbs.	6294K208	$4.96
For 3/8" Shaft Dia.—Load @ 80 rpm						
1/2"	3/8"	5/8"	1/16"	60 lbs.	6294K438★	1.33
1/2"	3/8"	5/8"	1/8"	45 lbs.	6294K209	4.22
1/2"	1/2"	5/8"	1/16"	80 lbs.	6294K439★	1.40
1/2"	1/2"	5/8"	3/32"	60 lbs.	6294K211	4.84
1/2"	3/4"	5/8"	1/16"	100 lbs.	6294K441★	1.64
1/2"	3/4"	5/8"	1/8"	90 lbs.	6294K212	4.82
5/8"	1/2"	7/8"	1/8"	60 lbs.	6294K213	5.62
5/8"	3/4"	7/8"	1/8"	90 lbs.	6294K214	5.62
For 7/16" Shaft Dia.—Load @ 25 rpm						
9/16"	1/2"	11/16"	1/16"	250 lbs.	6294K442★	1.34
For 1/2" Shaft Dia.—Load @ 60 rpm						
5/8"	1/4"	7/8"	1/16"	50 lbs.	6294K444★	1.36
5/8"	3/8"	7/8"	1/16"	80 lbs.	6294K445★	1.34
5/8"	1/2"	3/4"	1/16"	80 lbs.	6294K215	4.76
5/8"	1/2"	7/8"	1/16"	100 lbs.	6294K443★	1.12
5/8"	5/8"	3/4"	1/16"	100 lbs.	6294K216	4.75
5/8"	5/8"	3/4"	3/32"	100 lbs.	6294K217	4.75
5/8"	5/8"	7/8"	1/16"	100 lbs.	6294K446★	1.24
5/8"	3/4"	3/4"	1/16"	100 lbs.	6294K218	5.47
5/8"	3/4"	7/8"	1/16"	150 lbs.	6294K447★	1.43
5/8"	1"	3/4"	1/16"	150 lbs.	6294K219	5.36
5/8"	1"	3/4"	3/32"	150 lbs.	6294K221	5.73
5/8"	1"	7/8"	1/16"	200 lbs.	6294K448★	2.05
3/4"	7/16"	7/8"	1/16"	70 lbs.	6294K222	5.58
3/4"	1/2"	1"	1/8"	80 lbs.	6294K223	5.18
3/4"	3/4"	7/8"	1/16"	100 lbs.	6294K224	5.47
3/4"	1"	7/8"	1/16"	150 lbs.	6294K225	5.89
3/4"	1"	7/8"	1/8"	150 lbs.	6294K226	5.84
For 5/8" Shaft Dia.—Load @ 50 rpm						
3/4"	3/8"	15/16"	1/16"	80 lbs.	6294K227	4.96
3/4"	3/4"	15/16"	1/16"	150 lbs.	6294K228	5.47
3/4"	3/4"	15/16"	1/8"	150 lbs.	6294K229	5.40
13/16"	5/8"	11/16"	5/32"	150 lbs.	6294K449★	1.86
7/8"	3/4"	11/16"	1/16"	150 lbs.	6294K231	6.89
7/8"	3/4"	11/8"	1/8"	150 lbs.	6294K232	7.00
7/8"	1"	1"	1/8"	200 lbs.	6294K233	7.25
For 3/4" Shaft Dia.—Load @ 40 rpm						
7/8"	11/4"	11/16"	1/16"	300 lbs.	6294K234	7.91
7/8"	11/4"	11/4"	3/16"	300 lbs.	6294K235	9.45
1"	3/4"	11/4"	5/32"	200 lbs.	6294K451★	2.66
1"	3/4"	11/4"	3/16"	150 lbs.	6294K236	7.65
1"	1"	13/16"	1/16"	250 lbs.	6294K237	7.04
1"	1"	13/16"	1/8"	250 lbs.	6294K238	7.16
1"	1"	11/4"	5/32"	300 lbs.	6294K452★	3.06
For 7/8" Shaft Dia.—Load @ 35 rpm						
11/8"	11/8"	15/16"	1/16"	300 lbs.	6294K239	8.33
For 1" Shaft Dia.—Load @ 30 rpm						
11/4"	1"	17/16"	1/16"	350 lbs.	6294K241	9.73
11/4"	1"	17/16"	1/8"	350 lbs.	6294K242	9.16
11/4"	1"	11/2"	3/16"	400 lbs.	6294K453★	5.08
11/4"	11/2"	11/2"	1/8"	500 lbs.	6294K243	11.24
11/4"	11/2"	11/2"	3/16"	600 lbs.	6294K454★	6.43
For 1 1/4" Shaft Dia.—Load @ 25 rpm						
11/2"	11/2"	13/4"	1/8"	600 lbs.	6294K244	14.75
For 1 1/2" Shaft Dia.—Load @ 25 rpm						
13/4"	2"	2"	1/8"	900 lbs.	6294K245	20.75
Light Duty—Acetal						
For 3/16" Shaft Dia.—Load @ 50 rpm						
5/16"	1/4"	7/16"	1/16"	45 lbs.	2705T11	3.89
5/16"	1/2"	7/16"	1/16"	90 lbs.	2705T12	3.97

★Max. temperature is 170° F.

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
Light Duty—Acetal (Cont.)						
For 1/4" Shaft Dia.—Load @ 40 rpm						
3/8"	3/8"	1/2"	1/16"	90 lbs.	2705T13	$3.92
3/8"	1/2"	1/2"	3/32"	100 lbs.	2705T14	3.97
For 5/16" Shaft Dia.—Load @ 30 rpm						
7/16"	1/2"	9/16"	1/16"	150 lbs.	2705T15	4.02
1/2"	3/8"	11/16"	1/16"	100 lbs.	2705T16	4.05
For 3/8" Shaft Dia.—Load @ 25 rpm						
1/2"	3/8"	5/8"	1/8"	100 lbs.	2705T17	4.05
1/2"	1/2"	5/8"	3/32"	150 lbs.	2705T18	4.08
1/2"	3/4"	5/8"	1/8"	250 lbs.	2705T19	4.21
5/8"	1/2"	7/8"	1/8"	150 lbs.	2705T21	4.21
5/8"	3/4"	7/8"	1/8"	250 lbs.	2705T22	4.36
For 1/2" Shaft Dia.—Load @ 25 rpm						
5/8"	1/4"	7/8"	1/16"	100 lbs.	2705T24	4.05
5/8"	3/8"	7/8"	1/16"	150 lbs.	2705T25	4.13
5/8"	1/2"	7/8"	1/16"	200 lbs.	2705T26	4.21
5/8"	5/8"	3/4"	3/32"	250 lbs.	2705T27	4.47
5/8"	3/4"	7/8"	1/16"	300 lbs.	2705T28	4.36
5/8"	1"	3/4"	3/32"	400 lbs.	2705T29	4.65
3/4"	1/2"	1"	1/8"	200 lbs.	2705T31	4.63
3/4"	3/4"	7/8"	1/16"	300 lbs.	2705T32	4.52
3/4"	1"	7/8"	1/8"	400 lbs.	2705T33	4.86
For 5/8" Shaft Dia.—Load @ 25 rpm						
3/4"	3/4"	15/16"	1/8"	300 lbs.	2705T34	4.83
13/16"	5/8"	11/16"	5/32"	250 lbs.	2705T35	6.72
7/8"	3/4"	11/8"	1/8"	300 lbs.	2705T36	7.53
7/8"	1"	1"	1/8"	400 lbs.	2705T37	5.41
For 3/4" Shaft Dia.—Load @ 25 rpm						
7/8"	11/4"	11/4"	3/16"	500 lbs.	2705T38	8.02
1"	3/4"	11/4"	3/16"	300 lbs.	2705T39	7.08
1"	1"	13/16"	1/8"	400 lbs.	2705T41	7.66
For 7/8" Shaft Dia.—Load @ 25 rpm						
11/8"	11/8"	15/16"	1/16"	450 lbs.	2705T42	8.70
For 1" Shaft Dia.—Load @ 25 rpm						
11/4"	1"	17/16"	1/8"	400 lbs.	2705T43	8.49
11/4"	11/2"	11/2"	1/8"	600 lbs.	2705T44	9.90
For 1 1/4" Shaft Dia.—Load @ 25 rpm						
11/2"	11/2"	13/4"	1/8"	600 lbs.	2705T45	11.52
For 1 1/2" Shaft Dia.—Load @ 25 rpm						
13/4"	2"	2"	1/8"	800 lbs.	2705T46	16.36
Ultra-Low Friction—PTFE						
For 3/16" Shaft Dia.—Load @ 40 rpm						
5/16"	1/4"	7/16"	1/16"	20 lbs.	2706T11	4.04
5/16"	1/2"	7/16"	1/16"	45 lbs.	2706T12	4.27
For 1/4" Shaft Dia.—Load @ 30 rpm						
3/8"	3/8"	1/2"	1/16"	45 lbs.	2706T13	4.17
3/8"	1/2"	1/2"	3/32"	60 lbs.	2706T14	4.27
For 5/16" Shaft Dia.—Load @ 25 rpm						
7/16"	1/2"	9/16"	1/16"	70 lbs.	2706T15	4.53
1/2"	3/8"	11/16"	1/16"	50 lbs.	2706T16	4.58
For 3/8" Shaft Dia.—Load @ 25 rpm						
1/2"	3/8"	5/8"	1/8"	50 lbs.	2706T17	4.58
1/2"	1/2"	5/8"	3/32"	70 lbs.	2706T18	4.79
1/2"	3/4"	5/8"	1/8"	100 lbs.	2706T19	5.26
5/8"	1/2"	7/8"	1/8"	70 lbs.	2706T21	5.26
5/8"	3/4"	7/8"	1/8"	100 lbs.	2706T22	5.91
For 1/2" Shaft Dia.—Load @ 25 rpm						
5/8"	1/4"	7/8"	1/16"	35 lbs.	2706T24	4.66
5/8"	3/8"	7/8"	1/16"	50 lbs.	2706T25	4.92
5/8"	1/2"	7/8"	1/16"	70 lbs.	2706T26	5.31
5/8"	5/8"	3/4"	3/32"	90 lbs.	2706T27	5.39
5/8"	3/4"	7/8"	1/16"	100 lbs.	2706T28	5.91
5/8"	1"	3/4"	3/32"	150 lbs.	2706T29	6.04

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Dry-Running Flanged Sleeve Bearings *(Continued from previous page)*

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
Ultra-Low Friction—PTFE (Cont.)						
For 1/2" Shaft Dia.—Load @ 25 rpm (Cont.)						
3/4"	1/2"	1"	1/8"	70 lbs.	2706T31	$5.83
3/4"	3/4"	7/8"	1/16"	100 lbs.	2706T32	5.57
3/4"	1"	7/8"	1/8"	150 lbs.	2706T33	6.67
For 5/8" Shaft Dia.—Load @ 25 rpm						
3/4"	3/4"	15/16"	1/8"	100 lbs.	2706T34	6.64
13/16"	5/8"	1 1/16"	5/32"	90 lbs.	2706T35	9.24
7/8"	3/4"	1 1/8"	1/8"	100 lbs.	2706T36	11.40
7/8"	1"	1"	1/8"	150 lbs.	2706T37	8.28
For 3/4" Shaft Dia.—Load @ 25 rpm						
7/8"	1 1/4"	1 1/4"	3/16"	150 lbs.	2706T38	14.22
1"	3/4"	1 1/4"	3/16"	100 lbs.	2706T39	10.86
1"	1"	1 3/16"	1/8"	150 lbs.	2706T41	12.76
For 7/8" Shaft Dia.—Load @ 25 rpm						
1 1/8"	1 1/8"	1 5/16"	1/16"	150 lbs.	2706T42	17.58
For 1" Shaft Dia.—Load @ 25 rpm						
1 1/4"	1"	1 7/16"	1/8"	150 lbs.	2706T43	17.13
1 1/4"	1 1/2"	1 1/2"	1/8"	200 lbs.	2706T44	21.85
For 1 1/4" Shaft Dia.—Load @ 25 rpm						
1 1/2"	1 1/2"	1 3/4"	1/8"	200 lbs.	2706T45	25.86
For 1 1/2" Shaft Dia.—Load @ 25 rpm						
1 3/4"	2"	2"	1/8"	300 lbs.	2706T46	42.49
Ultra-Low Friction—Rulon J						
For 3/16" Shaft Dia.—Load @ 150 rpm						
1/4"	1/4"	3/8"	1/32"	35 lbs.	6377K101	14.30
1/4"	1/2"	3/8"	1/32"	70 lbs.	6377K102	21.71
5/16"	1/4"	7/16"	1/16"	35 lbs.	6377K26	2.33
5/16"	1/2"	7/16"	1/16"	70 lbs.	6377K25	3.69
For 1/4" Shaft Dia.—Load @ 150 rpm						
5/16"	1/4"	1/2"	1/32"	45 lbs.	6377K103	15.14
5/16"	1/2"	1/2"	1/32"	90 lbs.	6377K104	23.06
3/8"	3/8"	1/2"	1/16"	70 lbs.	6377K11	5.14
3/8"	1/2"	1/2"	1/16"	90 lbs.	6377K12	6.18
For 5/16" Shaft Dia.—Load @ 100 rpm						
3/8"	1/4"	9/16"	1/32"	50 lbs.	6377K105	15.87
3/8"	1/2"	9/16"	1/32"	100 lbs.	6377K106	23.90
For 3/8" Shaft Dia.—Load @ 100 rpm						
15/32"	1/4"	11/16"	3/64"	70 lbs.	6377K111	16.56
15/32"	1/2"	11/16"	3/64"	100 lbs.	6377K112	25.48
15/32"	3/4"	11/16"	3/64"	200 lbs.	6377K113	34.38
1/2"	3/8"	5/8"	1/16"	100 lbs.	6377K107	20.11
1/2"	1/2"	5/8"	1/16"	100 lbs.	6377K108	24.30
1/2"	3/4"	5/8"	1/16"	200 lbs.	6377K109	32.76
5/8"	1/2"	7/8"	1/8"	100 lbs.	6377K13	10.92
5/8"	3/4"	7/8"	1/8"	200 lbs.	6377K14	14.61
For 1/2" Shaft Dia.—Load @ 70 rpm						
19/32"	1/2"	7/8"	3/64"	150 lbs.	6377K114	28.40
19/32"	3/4"	7/8"	3/64"	250 lbs.	6377K115	38.49
19/32"	1"	7/8"	3/64"	350 lbs.	6377K116	44.15
3/4"	1/2"	1"	1/8"	150 lbs.	6377K15	11.64
3/4"	3/4"	1"	1/8"	250 lbs.	6377K16	14.89
3/4"	1"	1"	1/8"	350 lbs.	6377K17	19.89
For 5/8" Shaft Dia.—Load @ 60 rpm						
23/32"	1/2"	15/16"	3/64"	200 lbs.	6377K117	26.75
23/32"	3/4"	15/16"	3/64"	350 lbs.	6377K118	36.19
7/8"	3/4"	1"	1/8"	350 lbs.	6377K18	16.25
7/8"	1"	1"	1/8"	450 lbs.	6377K19	19.84
For 3/4" Shaft Dia.—Load @ 50 rpm						
7/8"	1/2"	1 1/8"	1/16"	250 lbs.	6377K119	32.80
7/8"	1"	1 1/8"	1/16"	500 lbs.	6377K121	52.11
1"	3/4"	1 1/4"	1/16"	400 lbs.	6377K122	44.65
1"	1"	1 1/4"	1/8"	500 lbs.	6377K21	32.65
For 1" Shaft Dia.—Load @ 35 rpm						
1 1/8"	1/2"	1 3/8"	1/16"	350 lbs.	6377K123	37.30
1 1/8"	3/4"	1 3/8"	1/16"	500 lbs.	6377K124	50.85
1 1/8"	1"	1 3/8"	1/16"	700 lbs.	6377K125	60.05
1 1/4"	1 1/2"	1 1/2"	1/8"	1,000 lbs.	6377K22	64.73
For 1 1/4" Shaft Dia.—Load @ 30 rpm						
1 1/2"	2"	1 3/4"	1/8"	1,500 lbs.	6377K23	118.78
For 1 1/2" Shaft Dia.—Load @ 25 rpm						
1 3/4"	2"	2"	1/8"	2,000 lbs.	6377K24	129.81
Water Resistant—Rulon LR						
For 3/16" Shaft Dia.—Load @ 150 rpm						
1/4"	1/4"	3/8"	1/32"	45 lbs.	6362K201	14.00
1/4"	1/2"	3/8"	1/32"	90 lbs.	6362K202	21.19
5/16"	1/4"	7/16"	1/16"	45 lbs.	6362K211	1.72
5/16"	1/2"	7/16"	1/16"	90 lbs.	6362K212	2.53
For 1/4" Shaft Dia.—Load @ 150 rpm						
5/16"	1/4"	1/2"	1/32"	60 lbs.	6362K203	14.27
5/16"	1/2"	1/2"	1/32"	100 lbs.	6362K204	21.68
3/8"	3/8"	1/2"	1/16"	90 lbs.	6362K213	2.53
3/8"	1/2"	1/2"	1/16"	100 lbs.	6362K214	3.09
Water Resistant—Rulon LR (Cont.)						
For 5/16" Shaft Dia.—Load @ 100 rpm						
3/8"	1/4"	9/16"	1/32"	70 lbs.	6362K205	$14.55
3/8"	1/2"	9/16"	1/32"	150 lbs.	6362K206	22.11
For 3/8" Shaft Dia.—Load @ 100 rpm						
15/32"	1/4"	11/16"	3/64"	90 lbs.	6362K301	15.39
15/32"	1/2"	11/16"	3/64"	150 lbs.	6362K302	23.55
15/32"	3/4"	11/16"	3/64"	250 lbs.	6362K303	31.70
1/2"	3/8"	5/8"	1/16"	100 lbs.	6362K207	18.62
1/2"	1/2"	5/8"	1/16"	150 lbs.	6362K208	19.98
1/2"	3/4"	5/8"	1/16"	250 lbs.	6362K209	30.16
5/8"	1/2"	7/8"	1/8"	150 lbs.	6362K215	6.14
5/8"	3/4"	7/8"	1/8"	250 lbs.	6362K216	8.22
For 1/2" Shaft Dia.—Load @ 70 rpm						
19/32"	1/2"	7/8"	3/64"	250 lbs.	6362K304	25.12
19/32"	3/4"	7/8"	3/64"	350 lbs.	6362K305	33.86
19/32"	1"	7/8"	3/64"	500 lbs.	6362K306	38.17
3/4"	1/2"	1"	1/8"	250 lbs.	6362K217	6.42
3/4"	3/4"	1"	1/8"	350 lbs.	6362K218	8.69
3/4"	1"	1"	1/8"	500 lbs.	6362K219	10.98
For 5/8" Shaft Dia.—Load @ 60 rpm						
23/32"	1/2"	15/16"	3/64"	300 lbs.	6362K307	25.93
23/32"	3/4"	15/16"	3/64"	450 lbs.	6362K308	35.02
7/8"	3/4"	1"	1/8"	450 lbs.	6362K221	8.98
7/8"	1"	1"	1/8"	600 lbs.	6362K222	11.25
For 3/4" Shaft Dia.—Load @ 50 rpm						
7/8"	1/2"	1 1/8"	1/16"	350 lbs.	6362K309	27.73
7/8"	1"	1 1/8"	1/16"	700 lbs.	6362K311	42.95
1"	3/4"	1 1/4"	3/16"	500 lbs.	6362K312	39.06
1"	1"	1 1/4"	1/8"	700 lbs	6362K223	17.45
For 1" Shaft Dia.—Load @ 35 rpm						
1 1/8"	1/2"	1 3/8"	1/16"	500 lbs.	6362K313	31.37
1 1/8"	3/4"	1 3/8"	1/16"	700 lbs.	6362K314	42.58
1 1/8"	1"	1 3/8"	1/16"	1,000 lbs.	6362K315	49.46
1 1/4"	1 1/2"	1 1/2"	1/8"	1,500 lbs.	6362K224	34.60
For 1 1/4" Shaft Dia.—Load @ 30 rpm						
1 1/2"	2"	1 3/4"	1/8"	2,500 lbs.	6362K225	64.23
For 1 1/2" Shaft Dia.—Load @ 25 rpm						
1 3/4"	2"	2"	1/8"	3,000 lbs.	6362K226	72.02
Chemical Resistant—PEEK						
For 3/16" Shaft Dia.—Load @ 100 rpm						
1/4"	1/4"	3/8"	1/32"	200 lbs.	6627K401	3.94
1/4"	1/2"	3/8"	1/32"	400 lbs.	6627K402	4.84
5/16"	1/4"	7/16"	1/16"	200 lbs.	6627K403	5.84
5/16"	1/2"	7/16"	1/16"	400 lbs.	6627K404	8.02
For 1/4" Shaft Dia.—Load @ 80 rpm						
5/16"	1/4"	1/2"	1/32"	250 lbs.	6627K405	4.28
5/16"	1/2"	1/2"	1/32"	500 lbs.	6627K406	7.34
3/8"	3/8"	1/2"	1/16"	400 lbs.	6627K407	5.78
3/8"	1/2"	1/2"	1/16"	500 lbs.	6627K408	6.68
For 5/16" Shaft Dia.—Load @ 60 rpm						
3/8"	1/4"	9/16"	1/32"	350 lbs.	6627K409	4.56
3/8"	1/2"	9/16"	1/32"	700 lbs.	6627K411	7.94
For 3/8" Shaft Dia.—Load @ 50 rpm						
15/32"	1/4"	11/16"	3/64"	400 lbs.	6627K412	4.58
15/32"	1/2"	11/16"	3/64"	800 lbs.	6627K413	4.76
15/32"	3/4"	11/16"	3/64"	1,000 lbs.	6627K414	4.94
1/2"	3/8"	5/8"	1/16"	600 lbs.	6627K415	9.46
1/2"	1/2"	5/8"	1/16"	800 lbs.	6627K416	10.74
1/2"	3/4"	5/8"	1/16"	1,000 lbs.	6627K417	15.58
5/8"	1/2"	7/8"	1/8"	800 lbs.	6627K418	27.39
5/8"	3/4"	7/8"	1/8"	1,000 lbs.	6627K419	32.68
For 1/2" Shaft Dia.—Load @ 40 rpm						
19/32"	1/2"	7/8"	3/64"	1,000 lbs.	6627K421	27.38
19/32"	3/4"	7/8"	3/64"	1,500 lbs.	6627K422	32.68
19/32"	1"	7/8"	3/64"	2,000 lbs.	6627K423	36.64
3/4"	1/2"	1"	1/8"	1,000 lbs.	6627K424	27.33
3/4"	3/4"	1"	1/8"	1,500 lbs.	6627K425	36.22
3/4"	1"	1"	1/8"	2,000 lbs.	6627K426	44.20
For 5/8" Shaft Dia.—Load @ 30 rpm						
23/32"	1/2"	15/16"	3/64"	1,000 lbs.	6627K427	16.78
23/32"	3/4"	15/16"	3/64"	2,000 lbs.	6627K428	22.56
7/8"	3/4"	1"	1/8"	2,000 lbs.	6627K429	35.76
7/8"	1"	1"	1/8"	2,500 lbs.	6627K431	44.20
For 3/4" Shaft Dia. —Load @ 25 rpm						
7/8"	1/2"	1 1/8"	1/16"	1,500 lbs.	6627K432	24.08
7/8"	1"	1 1/8"	1/16"	3,000 lbs.	6627K433	39.96
1"	1"	1 1/4"	1/8"	3,000 lbs.	6627K435	46.44
1"	3/4"	1 1/4"	3/16"	2,500 lbs.	6627K434	57.10
For 1" Shaft Dia.—Load @ 25 rpm						
1 1/8"	1/2"	1 3/8"	1/16"	1,500 lbs	6627K436	29.76
1 1/8"	3/4"	1 3/8"	1/16"	2,500 lbs	6627K437	41.36
1 1/8"	1"	1 3/8"	1/16"	3,500 lbs	6627K438	50.90

(Continued on following page)

Dry-Running Flanged Sleeve Bearings *(Continued from previous page)*



Made of slippery plastics, these bearings reduce friction without the need for lubrication.

Light Duty—*Nylon* bearings are for light loads. Color is white. Temperature range is -20° to 250°F. *MDS-filled nylon* bearings create less friction than standard nylon bearings, making them more wear resistant. Color is black. Temperature range is -40° to 220°F, unless noted. *Acetal* bearings are more chemical resistant than nylon bearings. Color is white. Temperature range is -20° to 180°F.

Ultra-Low Friction—Use these bearings in applications with frequent starts and stops because they operate with very little friction. They also can withstand a wide range of temperatures. *PTFE* bearings are slippery and chemical resistant. Color is white. Temperature range is -350° to 500°F. *Rulon J* bearings create the least amount of friction of any bearing in our offering. They handle higher loads and speeds than PTFE bearings. Color is gold. Temperature range is -400° to 550°F.

Water Resistant—A good choice for underwater applications, these Rulon LR bearings won't warp when exposed to moisture. Color is maroon. Temperature range is -400° to 550°F.

Chemical Resistant—These PEEK bearings are lightweight, strong, and able to withstand a wide range of chemicals. Color is black. Temperature range is -40° to 500°F.

Food Grade—Made of FDA-listed materials for use in food applications, these bearings also withstand caustic and washdown environments. Color is white. *UHMW* bearings perform well in wet, corrosive environments. Temperature range is -200° to 180°F. *Rulon 641* bearings are stronger than UHMW bearings and can withstand a wider range of temperatures. Temperature range is -400° to 550°F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's surface speed and load are below the values listed, the bearing should work for your application.

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
Food Grade—UHMW						
For 3/16" Shaft Dia.—Load @ 40 rpm						
5/16"	1/4"	3/8"	3/64"	45 lbs.	57785K201	$7.16
5/16"	1/4"	7/16"	1/16"	45 lbs.	57785K108	7.19
5/16"	1/2"	3/8"	3/64"	90 lbs.	57785K202	7.22
5/16"	1/2"	7/16"	1/16"	90 lbs.	57785K31	7.25
For 1/4" Shaft Dia.—Load @ 30 rpm						
3/8"	5/16"	1/2"	1/16"	70 lbs.	57785K203	7.28
3/8"	3/8"	1/2"	1/16"	90 lbs.	57785K107	7.31
3/8"	3/8"	9/16"	1/16"	90 lbs.	57785K204	7.35
3/8"	1/2"	1/2"	1/16"	100 lbs.	57785K205	7.38
3/8"	1/2"	1/2"	3/32"	100 lbs.	57785K21	7.44
3/8"	1/2"	9/16"	1/16"	100 lbs.	57785K206	7.41
For 5/16" Shaft Dia.—Load @ 25 rpm						
7/16"	3/8"	9/16"	3/64"	100 lbs.	57785K208	7.51
7/16"	7/16"	9/16"	1/16"	100 lbs.	57785K207	7.48
7/16"	1/2"	9/16"	1/16"	150 lbs.	57785K106	7.55
1/2"	3/8"	11/16"	1/16"	100 lbs.	57785K105	7.58
For 3/8" Shaft Dia.—Load @ 25 rpm						
1/2"	3/8"	5/8"	1/16"	100 lbs.	57785K209	7.61
1/2"	3/8"	5/8"	1/8"	100 lbs.	57785K104	7.65
1/2"	1/2"	5/8"	1/16"	150 lbs.	57785K211	7.69
1/2"	1/2"	5/8"	3/32"	150 lbs.	57785K22	7.72
1/2"	3/4"	5/8"	1/16"	200 lbs.	57785K212	7.76
1/2"	3/4"	5/8"	1/8"	200 lbs.	57785K103	7.79
5/8"	1/2"	7/8"	1/8"	150 lbs.	57785K102	7.83
5/8"	3/4"	7/8"	1/8"	200 lbs.	57785K33	7.87
For 7/16" Shaft Dia.—Load @ 25 rpm						
9/16"	1/2"	11/16"	1/16"	150 lbs.	57785K213	7.90
For 1/2" Shaft Dia.—Load @ 25 rpm						
5/8"	1/4"	7/8"	1/16"	70 lbs.	57785K109	8.02
5/8"	3/8"	7/8"	1/16"	100 lbs.	57785K112	8.06
5/8"	1/2"	3/4"	1/16"	150 lbs.	57785K214	7.98
5/8"	1/2"	7/8"	1/16"	150 lbs.	57785K99	7.98
5/8"	5/8"	3/4"	1/16"	150 lbs.	57785K215	8.10
5/8"	5/8"	3/4"	3/32"	150 lbs.	57785K23	8.18
5/8"	5/8"	7/8"	1/16"	150 lbs.	57785K216	8.14
5/8"	3/4"	3/4"	1/16"	200 lbs.	57785K217	8.22
5/8"	3/4"	7/8"	1/16"	200 lbs.	57785K97	8.26
5/8"	1"	3/4"	1/16"	300 lbs.	57785K218	8.30
5/8"	1"	3/4"	3/32"	300 lbs.	57785K24	8.34
5/8"	1"	7/8"	1/16"	300 lbs.	57785K219	8.38
3/4"	7/16"	7/8"	1/16"	100 lbs.	57785K221	8.43
3/4"	1/2"	1"	1/8"	150 lbs.	57785K96	8.47
3/4"	3/4"	7/8"	1/16"	200 lbs.	57785K95	8.51
3/4"	1"	7/8"	1/16"	300 lbs.	57785K222	8.56
3/4"	1"	7/8"	1/8"	300 lbs.	57785K25	8.60
For 5/8" Shaft Dia.—Load @ 25 rpm						
3/4"	3/8"	15/16"	1/16"	100 lbs.	57785K223	8.65
3/4"	3/4"	15/16"	1/16"	200 lbs.	57785K224	8.69
3/4"	3/4"	15/16"	1/8"	200 lbs.	57785K26	8.74
13/16"	5/8"	11/16"	5/32"	150 lbs.	57785K35	8.78
7/8"	3/4"	11/16"	1/16"	200 lbs.	57785K225	9.02
7/8"	3/4"	1 1/8"	1/8"	200 lbs.	57785K94	9.07
7/8"	1"	1"	1/8"	300 lbs.	57785K36	9.11
For 3/4" Shaft Dia.—Load @ 25 rpm						
7/8"	1 1/4"	1 1/16"	1/16"	350 lbs.	57785K226	9.16
7/8"	1 1/4"	1 1/4"	3/16"	350 lbs.	57785K93	9.21
1"	3/4"	1 1/4"	5/32"	200 lbs.	57785K227	9.26
1"	3/4"	1 1/4"	3/16"	200 lbs.	57785K92	9.31
1"	1"	1 3/16"	1/16"	300 lbs.	57785K228	9.35
1"	1"	1 3/16"	1/8"	300 lbs.	57785K27	9.40
1"	1"	1 1/4"	5/32"	300 lbs.	57785K229	9.45

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
Food Grade—UHMW (Cont.)						
For 7/8" Shaft Dia.—Load @ 25 rpm						
1 1/8"	1 1/8"	1 5/16"	1/16"	300 lbs.	57785K91	$9.51
For 1" Shaft Dia.—Load @ 25 rpm						
1 1/4"	1"	1 7/16"	1/16"	300 lbs.	57785K231	9.56
1 1/4"	1"	1 7/16"	1/8"	300 lbs.	57785K28	9.61
1 1/4"	1"	1 1/2"	3/16"	300 lbs.	57785K232	9.66
1 1/4"	1 1/2"	1 1/2"	1/8"	450 lbs.	57785K37	10.99
1 1/4"	1 1/2"	1 1/2"	3/16"	450 lbs.	57785K233	11.05
For 1 1/4" Shaft Dia.—Load @ 25 rpm						
1 1/2"	1 1/2"	1 3/4"	1/8"	450 lbs.	57785K38	12.50
For 1 1/2" Shaft Dia.—Load @ 25 rpm						
1 3/4"	2"	2"	1/8"	600 lbs.	57785K39	12.57
Food Grade—Rulon 641						
For 3/16" Shaft Dia.—Load @ 150 rpm						
1/4"	1/4"	3/8"	1/32"	45 lbs.	6371K103	15.44
1/4"	1/2"	3/8"	1/32"	90 lbs.	6371K104	23.36
5/16"	1/4"	7/16"	1/16"	45 lbs.	6371K101	15.55
5/16"	1/2"	7/16"	1/16"	90 lbs.	6371K102	23.51
For 1/4" Shaft Dia.—Load @ 150 rpm						
5/16"	1/4"	1/2"	1/32"	60 lbs.	6371K106	15.80
5/16"	1/2"	1/2"	1/32"	100 lbs.	6371K107	23.98
3/8"	3/8"	1/2"	1/16"	90 lbs.	6371K105	19.87
3/8"	1/2"	1/2"	1/16"	100 lbs.	6371K403	4.55
For 5/16" Shaft Dia.—Load @ 100 rpm						
3/8"	1/4"	9/16"	1/32"	70 lbs.	6371K108	16.11
3/8"	1/2"	9/16"	1/32"	150 lbs.	6371K109	24.98
For 3/8" Shaft Dia.—Load @ 100 rpm						
15/32"	1/4"	11/16"	3/64"	90 lbs.	6371K114	17.31
15/32"	1/2"	11/16"	3/64"	150 lbs.	6371K115	26.47
15/32"	3/4"	11/16"	3/64"	250 lbs.	6371K116	35.65
1/2"	3/8"	5/8"	1/16"	100 lbs.	6371K111	23.40
1/2"	1/2"	5/8"	1/16"	150 lbs.	6371K112	25.04
1/2"	3/4"	5/8"	1/16"	250 lbs.	6371K113	33.69
5/8"	1/2"	7/8"	1/8"	150 lbs.	6371K413	6.65
5/8"	3/4"	7/8"	1/8"	250 lbs.	6371K117	38.44
For 1/2" Shaft Dia.—Load @ 70 rpm						
19/32"	1/2"	7/8"	3/64"	250 lbs.	6371K118	28.47
19/32"	3/4"	7/8"	3/64"	350 lbs.	6371K119	38.44
19/32"	1"	7/8"	3/64"	500 lbs.	6371K121	43.64
3/4"	1/2"	1"	1/8"	250 lbs.	6371K122	30.36
3/4"	3/4"	1"	1/8"	350 lbs.	6371K123	41.05
3/4"	1"	1"	1/8"	500 lbs.	6371K426	11.55
For 5/8" Shaft Dia.—Load @ 60 rpm						
23/32"	1/2"	15/16"	3/64"	300 lbs.	6371K125	29.60
23/32"	3/4"	15/16"	3/64"	450 lbs.	6371K126	40.04
7/8"	3/4"	1"	1/8"	450 lbs.	6371K124	41.05
7/8"	1"	1"	1/8"	600 lbs.	6371K436	9.58
For 3/4" Shaft Dia.—Load @ 50 rpm						
7/8"	1/2"	1 1/8"	1/16"	350 lbs.	6371K127	31.95
7/8"	1"	1 1/8"	1/16"	700 lbs.	6371K128	49.87
1"	3/4"	1 1/4"	3/16"	500 lbs.	6371K129	45.31
1"	1"	1 1/4"	1/8"	700 lbs.	6371K446	17.35
For 1" Shaft Dia.—Load @ 35 rpm						
1 1/8"	1/2"	1 3/8"	1/16"	500 lbs.	6371K131	36.67
1 1/8"	3/4"	1 3/8"	1/16"	700 lbs.	6371K132	49.98
1 1/8"	1"	1 3/8"	1/16"	1,000 lbs.	6371K133	58.42
1 1/4"	1 1/2"	1 1/2"	1/8"	1,500 lbs.	6371K457	31.31
For 1 1/4" Shaft Dia.—Load @ 30 rpm						
1 1/2"	2"	1 3/4"	1/8"	2,500 lbs.	6371K468	63.76
For 1 1/2" Shaft Dia.—Load @ 25 rpm						
1 3/4"	2"	2"	1/8"	3,000 lbs.	6371K478	74.94

Dry-Running Flanged Sleeve Bearings with Metal Shell



An aluminum shell adds strength and corrosion resistance to these bearings. Made of Frelon, a PTFE composite, they are both slippery and chemically inert. Temperature range is -400° to 400° F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
Inch						
For 1/4" Shaft Dia.—Load @ 100 rpm						
3/8"	1/2"	1/2"	1/16"	350 lbs.	59575K71	$20.46
For 3/8" Shaft Dia.—Load @ 60 rpm						
5/8"	1/2"	7/8"	1/8"	500 lbs.	59575K72	20.92
For 1/2" Shaft Dia.—Load @ 50 rpm						
3/4"	3/4"	1"	1/8"	1,000 lbs.	59575K73	23.10
For 5/8" Shaft Dia.—Load @ 40 rpm						
7/8"	3/4"	1"	1/8"	1,000 lbs.	59575K74	22.79
For 3/4" Shaft Dia.—Load @ 30 rpm						
1"	1"	1 1/4"	1/8"	2,000 lbs.	59575K75	26.56
For 1" Shaft Dia.—Load @ 25 rpm						
1 1/4"	1 1/2"	1 1/2"	1/8"	4,500 lbs.	59575K76	42.12
For 1 1/4" Shaft Dia.—Load @ 25 rpm						
1 1/2"	2"	1 3/4"	1/8"	6,000 lbs.	59575K77	60.29
For 2" Shaft Dia.—Load @ 25 rpm						
2 1/4"	3"	2 1/2"	1/8"	9,000 lbs.	59575K81	106.24
Metric—Dimensions in millimeters						
For 6 mm Shaft Dia.—Load @ 100 rpm						
10	10	14	2	250 lbs.	7751K71	16.00
For 8 mm Shaft Dia.—Load @ 80 rpm						
12	8	16	2	250 lbs.	7751K72	37.23
12	12	16	2	400 lbs.	7751K73	17.49
For 30 mm Shaft Dia.—Load @ 25 rpm						
38	30	46	4	3,500 lbs.	7751K81	68.13

Dry-Running Split Flanged Sleeve Bearings



A slit running along the length of these nylon bearings allows you to quickly slip them onto a shaft. Temperature range is -40° to 400° F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
For 3/16" Shaft Dia.—Load @ 200 rpm						
15/64"	7/32"	5/16"	0.03"	10 lbs.	1281N11	$4.02
For 1/4" Shaft Dia.—Load @ 150 rpm						
19/64"	9/32"	13/32"	0.03"	20 lbs.	1281N12	4.06
For 5/16" Shaft Dia.—Load @ 100 rpm						
3/8"	11/32"	1/2"	0.03"	30 lbs.	1281N13	4.10
3/8"	15/32"	1/2"	0.03"	40 lbs.	1281N14	4.14
3/8"	21/32"	1/2"	0.03"	60 lbs.	1281N15	4.18
For 3/8" Shaft Dia.—Load @ 100 rpm						
7/16"	13/32"	19/32"	0.03"	45 lbs.	1281N16	4.23
For 7/16" Shaft Dia.—Load @ 80 rpm						
1/2"	15/32"	21/32"	0.03"	90 lbs.	1281N17	4.27
For 1/2" Shaft Dia.—Load @ 70 rpm						
9/16"	17/32"	3/4"	0.03"	80 lbs.	1281N18	4.28
9/16"	3/4"	3/4"	0.03"	100 lbs.	1281N19	4.37
For 5/8" Shaft Dia.—Load @ 60 rpm						
11/16"	15/32"	15/16"	0.03"	80 lbs.	1281N21	4.41
11/16"	21/32"	15/16"	0.03"	100 lbs.	1281N22	4.46
11/16"	29/32"	15/16"	0.03"	150 lbs.	1281N23	7.81
For 3/4" Shaft Dia.—Load @ 50 rpm						
13/16"	25/32"	1 1/8"	0.03"	150 lbs.	1281N24	4.77
13/16"	1 5/32"	1 1/8"	0.03"	250 lbs.	1281N25	4.78
For 7/8" Shaft Dia.—Load @ 40 rpm						
15/16"	1/2"	15/16"	0.03"	100 lbs.	1281N26	5.42
15/16"	29/32"	15/16"	0.03"	200 lbs.	1281N27	5.44
For 1" Shaft Dia.—Load @ 35 rpm						
1 3/32"	1 3/64"	1 1/2"	0.05"	300 lbs.	1281N28	5.46
For 1 1/8" Shaft Dia.—Load @ 30 rpm						
1 7/32"	1 11/64"	1 11/16"	0.05"	350 lbs.	1281N29	5.48
For 1 1/4" Shaft Dia.—Load @ 30 rpm						
1 11/32"	1 19/64"	1 7/8"	0.05"	450 lbs.	1281N31	5.51
For 1 1/2" Shaft Dia.—Load @ 25 rpm						
1 5/8"	1 9/16"	2 1/4"	0.06"	700 lbs.	1281N32	6.53

Extreme-Load Dry-Running Flanged Sleeve Bearings



These Vespel® polyimide bearings are our highest performing flanged sleeve bearings. They handle high loads at high speeds and withstand heat and chemicals in harsh environments. Color is black. Temperature range is -400° to 550° F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
For 3/16" Shaft Dia.—Load @ 1,000 rpm						
1/4"	1/4"	3/8"	1/32"	200 lbs.	58315K102	$40.89
5/16"	1/4"	7/16"	1/16"	200 lbs.	58315K51	36.67
5/16"	1/2"	7/16"	1/16"	450 lbs.	58315K101	52.71
For 1/4" Shaft Dia.—Load @ 900 rpm						
5/16"	1/4"	1/2"	1/32"	300 lbs.	58315K104	39.60
5/16"	1/2"	1/2"	1/32"	600 lbs.	58315K105	62.40
3/8"	3/8"	1/2"	1/16"	450 lbs.	58315K52	50.47
3/8"	1/2"	1/2"	1/16"	600 lbs.	58315K71	60.15
For 5/16" Shaft Dia.—Load @ 700 rpm						
3/8"	1/4"	9/16"	1/32"	350 lbs.	58315K106	45.09
3/8"	1/2"	9/16"	1/32"	700 lbs.	58315K107	67.11
For 3/8" Shaft Dia.—Load @ 600 rpm						
15/32"	1/4"	11/16"	3/64"	450 lbs.	58315K108	52.95
15/32"	1/2"	11/16"	3/64"	900 lbs.	58315K109	72.11
15/32"	3/4"	11/16"	3/64"	1,000 lbs.	58315K111	93.51
1/2"	3/8"	5/8"	1/16"	600 lbs.	58315K54	53.80
1/2"	1/2"	5/8"	1/16"	900 lbs.	58315K55	63.60
1/2"	3/4"	5/8"	1/16"	1,000 lbs.	58315K56	82.64
5/8"	1/2"	7/8"	1/8"	900 lbs.	58315K112	84.53
For 1/2" Shaft Dia.—Load @ 450 rpm						
19/32"	1/2"	7/8"	3/64"	1,000 lbs.	58315K114	77.24
3/4"	1/2"	1"	1/8"	1,000 lbs.	58315K117	87.93
For 5/8" Shaft Dia.—Load @ 350 rpm						
23/32"	1/2"	15/16"	3/64"	1,500 lbs.	58315K123	83.91
For 3/4" Shaft Dia.—Load @ 300 rpm						
7/8"	1/2"	1 1/8"	1/16"	1,500 lbs.	58315K125	99.49

Precision Shim Bushing Stock



The tight tolerances on these smooth, low-friction materials allow you to increase or decrease a shaft or rod diameter by slipping the bushing over the shaft or rod. They also fit inside each other to increase more than one wall thickness. Use carbide blades to cut to a specific length for a bushing, spacer, shim, or sleeve bearing. Length is 6".

Delrin® acetal resin combines strength and wear resistance with good chemical resistance. Hardness is Rockwell M94. Condition is extruded. Meets ASTM D4181 and is FDA listed. Temp. range is -4° to 180° F. OD and ID tolerances are ±0.005". Length tolerance is +0.05".

UHMW polyethylene does not absorb moisture and has good wear and corrosion resistance. Hardness is Rockwell D66. Condition is extruded. Meets ASTM D4020 and is FDA listed. Temp. range is -22° to 180° F. OD tolerance is -0.02". ID tolerance is +0.02". Length tolerance is +1/2".

4130 alloy steel offers good weldability. Hardness is Rockwell C30-C45. Temper is annealed with a hardened surface. Condition is cold finished. Meets ASTM A513, except 1 1/2" OD meets ASTM A519. OD tolerance is ±0.035". ID tolerance is ±0.038". Length tolerance is +1/8".

440C stainless steel is harder than steel, with good wear and corrosion resistance. Hardness is Rockwell C55-C60. Temper is full hard. Condition is cold drawn. Meets ASTM A276. OD tolerance is -0.0002". ID tolerance is +0.0002". Length tolerance is ±0.01".

OD	ID		
Delrin® Acetal Resin			
1/8" Wall Thickness			
1/2"	1/4"	1989T11	$31.80
3/4"	1/2"	1989T12	32.49
1"	3/4"	1989T13	32.94
1 1/4"	1"	1989T14	33.32
1 1/2"	1 1/4"	1989T15	34.69
1 3/4"	1 1/2"	1989T16	35.82
2"	1 3/4"	1989T17	36.52
2 1/4"	2"	1989T18	37.21
2 1/2"	2 1/4"	1989T19	37.57
UHMW Polyethylene			
1/4" Wall Thickness			
3/4"	1/4"	1988T11	10.31
1 1/4"	3/4"	1988T12	12.50
1 3/4"	1 1/4"	1988T13	16.41
2 1/4"	1 3/4"	1988T14	20.44
2 3/4"	2 1/4"	1988T15	24.86
3 1/4"	2 3/4"	1988T16	28.95
3 3/4"	3 1/4"	1988T17	36.25

OD	ID		
4130 Alloy Steel			
1/4" Wall Thickness			
1"	1/2"	8305T11	$45.71
1 1/2"	1"	8305T12	50.09
2"	1 1/2"	8305T13	56.29
440C Stainless Steel			
1/32" Wall Thickness			
3/8"	5/16"	1991T11	204.52
7/16"	3/8"	1991T12	222.25
1/2"	7/16"	1991T13	229.62
11/16"	5/8"	1991T15	239.68
3/4"	11/16"	1991T16	254.49
13/16"	3/4"	1991T17	286.05
1"	15/16"	1991T21	308.43
1/16" Wall Thickness			
5/8"	1/2"	1991T14	237.08
1 1/8"	1"	1991T22	309.94
1 3/8"	1 1/4"	1991T24	339.58

High-Temperature Dry-Running Flanged Sleeve Bearings



SAE 841 Bronze



SAE 660 Leaded Tin Bronze

Graphite provides a layer of dry lubrication that can operate in high-temperature environments.

SAE 841 bronze bearings are porous and embedded with graphite for continuous lubrication. They handle higher temperatures than SAE 660 leaded tin bronze bearings. Temperature range is -50° to 700° F.

SAE 660 leaded tin bronze bearings are cast, making them strong, wear resistant, and excellent at handling shock loads. A filled groove on the inside of the bearing distributes the graphite evenly along the bearing's surface. Temperature range is -70° to 450° F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
SAE 841 Bronze						
For 3/16" Shaft Dia.—Load @ 500 rpm						
5/16"	1/2"	7/16"	1/16"	150 lbs.	9440T63	$1.16
For 1/4" Shaft Dia.—Load @ 350 rpm						
3/8"	1/4"	1/2"	1/16"	100 lbs.	9440T11	1.00
3/8"	3/8"	1/2"	1/16"	150 lbs.	9440T12	1.20
3/8"	1/2"	1/2"	1/16"	200 lbs.	9440T13	1.24
3/8"	3/4"	1/2"	1/16"	300 lbs.	9440T14	2.20
For 5/16" Shaft Dia.—Load @ 300 rpm						
7/16"	3/8"	9/16"	1/16"	150 lbs.	9440T15	1.16
7/16"	1/2"	9/16"	1/16"	250 lbs.	9440T36	1.28
7/16"	3/4"	9/16"	1/16"	350 lbs.	9440T53	1.52
For 3/8" Shaft Dia.—Load @ 250 rpm						
1/2"	1/4"	11/16"	1/16"	150 lbs.	9440T16	1.12
1/2"	1/2"	11/16"	1/16"	300 lbs.	9440T17	1.40
1/2"	3/4"	11/16"	1/16"	450 lbs.	9440T18	1.92
5/8"	1/2"	7/8"	1/16"	300 lbs.	9440T19	2.40
5/8"	3/4"	7/8"	1/16"	450 lbs.	9440T54	2.56
5/8"	1"	7/8"	1/16"	600 lbs.	9440T55	3.64
For 7/16" Shaft Dia.—Load @ 200 rpm						
9/16"	1/2"	11/16"	1/16"	350 lbs.	9440T56	2.20
9/16"	3/4"	11/16"	1/16"	500 lbs.	9440T57	2.44
5/8"	3/4"	7/8"	1/8"	500 lbs.	9440T58	2.53
For 1/2" Shaft Dia.—Load @ 150 rpm						
5/8"	3/8"	7/8"	1/8"	300 lbs.	9440T21	1.56
5/8"	1/2"	7/8"	1/8"	400 lbs.	9440T22	1.72
5/8"	3/4"	7/8"	1/8"	600 lbs.	9440T37	2.72
5/8"	1"	7/8"	1/8"	800 lbs.	9440T38	3.20
3/4"	1/2"	1"	1/8"	400 lbs.	9440T23	2.28
3/4"	3/4"	1"	1/8"	600 lbs.	9440T24	2.68
3/4"	1"	1"	1/8"	800 lbs.	9440T25	3.68
For 5/8" Shaft Dia.—Load @ 150 rpm						
3/4"	5/8"	1"	1/8"	600 lbs.	9440T26	2.12
3/4"	3/4"	1"	1/8"	700 lbs.	9440T39	2.43
3/4"	1"	1"	1/8"	1,000 lbs.	9440T41	2.92
7/8"	1/2"	11/8"	1/8"	500 lbs.	9440T42	3.20
7/8"	5/8"	11/8"	1/8"	600 lbs.	9440T59	4.12
7/8"	3/4"	11/8"	1/8"	700 lbs.	9440T43	4.89
7/8"	1"	11/8"	1/8"	1,000 lbs.	9440T44	5.51
7/8"	11/4"	11/8"	1/8"	1,000 lbs.	9440T64	6.16
For 3/4" Shaft Dia.—Load @ 100 rpm						
7/8"	1/2"	11/8"	1/8"	600 lbs.	9440T27	2.28
7/8"	3/4"	11/8"	1/8"	900 lbs.	9440T28	3.48
1"	5/8"	11/4"	3/16"	700 lbs.	9440T29	4.20

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
SAE 841 Bronze (Cont.)						
For 3/4" Shaft Dia.—Load @ 100 rpm (Cont.)						
1"	3/4"	11/4"	3/16"	900 lbs.	9440T31	$4.76
1"	1"	11/4"	3/16"	1,000 lbs.	9440T32	5.68
1"	11/4"	11/4"	3/16"	1,500 lbs.	9440T33	7.32
For 7/8" Shaft Dia.—Load @ 100 rpm						
11/8"	3/4"	11/2"	1/8"	1,000 lbs.	9440T45	5.88
11/8"	1"	11/2"	1/8"	1,000 lbs.	9440T46	6.84
11/8"	11/4"	11/2"	1/8"	1,500 lbs.	9440T61	7.80
For 1" Shaft Dia.—Load @ 90 rpm						
11/4"	3/4"	11/2"	1/8"	1,000 lbs.	9440T34	5.96
11/4"	1"	11/2"	1/8"	1,500 lbs.	9440T35	6.52
11/4"	11/4"	11/2"	1/8"	2,000 lbs.	9440T47	7.76
11/4"	11/2"	11/2"	1/8"	2,000 lbs.	9440T48	9.21
For 1 1/4" Shaft Dia.—Load @ 70 rpm						
11/2"	1"	13/4"	3/16"	2,000 lbs.	9440T49	8.72
11/2"	11/4"	13/4"	3/16"	2,500 lbs.	9440T51	10.23
11/2"	11/2"	13/4"	3/16"	3,000 lbs.	9440T62	11.80
For 1 1/2" Shaft Dia.—Load @ 60 rpm						
13/4"	11/2"	2"	3/16"	3,500 lbs.	9440T52	13.93
For 1 3/4" Shaft Dia.—Load @ 50 rpm						
21/4"	21/2"	3"	1/4"	7,000 lbs.	9440T65	56.08
SAE 660 Leaded Tin Bronze						
For 1/2" Shaft Dia.—Load @ 100 rpm						
5/8"	1/2"	7/8"	1/8"	1,000 lbs.	2962T1	20.20
5/8"	3/4"	7/8"	1/8"	1,500 lbs.	2962T2	21.06
5/8"	1"	7/8"	1/8"	2,000 lbs.	2962T3	21.84
3/4"	1/2"	1"	1/8"	1,000 lbs.	2962T4	21.86
3/4"	3/4"	1"	1/8"	1,500 lbs.	2962T5	22.19
3/4"	1"	1"	1/8"	2,000 lbs.	2962T6	22.56
For 5/8" Shaft Dia.—Load @ 100 rpm						
3/4"	5/8"	1"	1/8"	1,500 lbs.	2962T7	22.84
For 3/4" Shaft Dia.—Load @ 90 rpm						
7/8"	1/2"	11/4"	1/8"	1,500 lbs.	2962T8	22.96
7/8"	3/4"	11/4"	1/8"	2,000 lbs.	2962T9	23.00
1"	5/8"	11/4"	3/16"	1,500 lbs.	2962T11	23.32
1"	3/4"	11/4"	3/16"	2,000 lbs.	2962T12	23.41
1"	1"	11/4"	3/16"	3,000 lbs.	2962T13	23.68
1"	11/4"	11/4"	3/16"	3,500 lbs.	2962T14	23.86
For 1" Shaft Dia.—Load @ 70 rpm						
11/4"	3/4"	11/2"	1/8"	3,000 lbs.	2962T15	24.08
11/4"	1"	11/2"	1/8"	4,000 lbs.	2962T16	24.50
11/4"	11/2"	11/2"	1/8"	6,000 lbs.	2962T17	27.64

Multipurpose and Corrosion-Resistant Flanged Sleeve Bearings



These cast metal bearings handle higher loads than oil-embedded and dry-running bearings and perform well in dusty environments.

Multipurpose—Made of SAE 660 leaded tin bronze, these bearings are strong, wear resistant, and excellent at handling shock loads. Temperature range is -350° to 450° F, except metric bearings have a temperature range of -40° to 450° F. *Bearings with certification* come with a material test report and a traceable lot number. Temperature range is -70° to 450° F.

Startup friction causes these porous bronze bearings to release a thin layer of oil on the bearing's surface.

Corrosion Resistant—The aluminum and iron content in these 954 aluminum bronze bearings provides high strength and excellent corrosion resistance, making them suitable for use in marine and mining applications. Temperature range is -350° to 500° F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.

Multipurpose—SAE 660 Leaded Tin Bronze

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
For 3/16" Shaft Dia.—Load @ 350 rpm						
5/16"	1/2"	7/16"	1/16"	350 lbs.	7815K59	$3.43
For 1/4" Shaft Dia.—Load @ 250 rpm						
3/8"	1/4"	1/2"	1/16"	250 lbs.	7815K11	2.88
3/8"	3/8"	1/2"	1/16"	350 lbs.	7815K12	3.14
3/8"	1/2"	1/2"	1/16"	500 lbs.	7815K13	3.44
3/8"	3/4"	1/2"	1/16"	700 lbs.	7815K14	4.20
For 5/16" Shaft Dia.—Load @ 200 rpm						
7/16"	3/8"	9/16"	1/16"	450 lbs.	7815K15	3.15
7/16"	1/2"	9/16"	1/16"	600 lbs.	7815K16	3.51
7/16"	3/4"	9/16"	1/16"	900 lbs.	7815K17	4.40
9/16"	1/2"	11/16"	1/16"	600 lbs.	7815K25	3.95

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
For 5/16" Shaft Dia.—Load @ 200 rpm (Cont.)						
9/16"	3/4"	11/16"	1/16"	900 lbs.	7815K26	$4.82
5/8"	3/4"	7/8"	1/8"	900 lbs.	7815K27	5.03
For 3/8" Shaft Dia.—Load @ 150 rpm						
1/2"	1/4"	11/16"	1/16"	350 lbs.	7815K18	2.97
1/2"	1/2"	5/8"	1/16"	700 lbs.	7815K61	3.60
1/2"	1/2"	11/16"	1/16"	700 lbs.	7815K19	3.57
1/2"	3/4"	11/16"	1/16"	1,000 lbs.	7815K21	4.38
5/8"	1/2"	7/8"	1/16"	700 lbs.	7815K22	4.17
5/8"	3/4"	7/8"	1/16"	1,000 lbs.	7815K23	5.18
5/8"	1"	7/8"	1/16"	1,500 lbs.	7815K24	6.06

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Multipurpose and Corrosion-Resistant Flanged Sleeve Bearings

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Multipurpose—SAE 660 Leaded Tin Bronze (Cont.)

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
For 7/16" Shaft Dia.—Load @ 150 rpm (Cont.)						
9/16"	1/2"	11/16"	1/16"	800 lbs.	7815K62	$3.64
9/16"	3/4"	11/16"	1/16"	1,000 lbs.	7815K63	6.46
5/8"	3/4"	7/8"	1/8"	1,000 lbs.	7815K64	4.21
For 1/2" Shaft Dia.—Load @ 100 rpm						
5/8"	3/8"	7/8"	1/8"	700 lbs.	7815K28	3.23
5/8"	1/2"	7/8"	1/8"	1,000 lbs.	7815K29	3.47
5/8"	3/4"	7/8"	1/8"	1,500 lbs.	7815K31	4.00
5/8"	1"	7/8"	1/8"	2,000 lbs.	7815K32	4.74
3/4"	1/2"	1"	1/8"	1,000 lbs.	7815K33	3.71
3/4"	3/4"	1"	1/8"	1,500 lbs.	7815K34	4.39
3/4"	1"	1"	1/8"	2,000 lbs.	7815K35	5.12
For 5/8" Shaft Dia.—Load @ 100 rpm						
3/4"	5/8"	1"	1/8"	1,500 lbs.	7815K36	3.52
3/4"	3/4"	1"	1/8"	1,500 lbs.	7815K37	3.79
3/4"	1"	1"	1/8"	2,500 lbs.	7815K38	4.32
7/8"	1/2"	1 1/8"	1/8"	1,000 lbs.	7815K39	3.93
7/8"	5/8"	1 1/8"	1/8"	1,500 lbs.	7815K41	4.28
7/8"	3/4"	1 1/8"	1/8"	1,500 lbs.	7815K42	4.54
7/8"	1"	1 1/8"	1/8"	2,500 lbs.	7815K43	5.26
7/8"	1 1/4"	1 1/8"	1/8"	3,000 lbs.	7815K65	5.48
7/8"	1 1/4"	1 1/4"	1/8"	3,000 lbs.	7815K44	6.36
For 3/4" Shaft Dia.—Load @ 90 rpm						
7/8"	1/2"	1 1/8"	1/8"	1,500 lbs.	7815K45	3.60
7/8"	1/2"	1 1/4"	1/8"	1,500 lbs.	7815K66	4.98
7/8"	3/4"	1 1/8"	1/8"	2,000 lbs.	7815K67	4.49

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
For 3/4" Shaft Dia.—Load @ 90 rpm (Cont.)						
7/8"	3/4"	1 1/4"	1/8"	2,000 lbs.	7815K46	$4.15
1"	5/8"	1 1/4"	3/16"	1,500 lbs.	7815K47	4.69
1"	3/4"	1 1/4"	3/16"	2,000 lbs.	7815K48	5.19
1"	1"	1 1/4"	3/16"	3,000 lbs.	7815K49	5.93
1"	1 1/4"	1 1/4"	3/16"	3,500 lbs.	7815K51	6.87
For 7/8" Shaft Dia.—Load @ 80 rpm						
1 1/8"	3/4"	1 1/2"	1/8"	2,500 lbs.	7815K52	6.06
1 1/8"	1"	1 1/2"	1/8"	3,500 lbs.	7815K53	6.94
1 1/8"	1 1/4"	1 1/2"	1/8"	4,000 lbs.	7815K54	7.94
For 1" Shaft Dia.—Load @ 70 rpm						
1 1/4"	3/4"	1 1/2"	1/8"	3,000 lbs.	7815K55	5.88
1 1/4"	1"	1 1/2"	1/8"	4,000 lbs.	7815K56	6.74
1 1/4"	1 1/4"	1 1/2"	1/8"	5,000 lbs.	7815K57	7.47
1 1/4"	1 1/2"	1 1/2"	1/8"	6,000 lbs.	7815K58	8.79
For 1 1/4" Shaft Dia.—Load @ 50 rpm						
1 1/2"	1"	1 3/4"	3/16"	5,000 lbs.	7815K68	6.18
1 1/2"	1 1/4"	1 3/4"	3/16"	6,000 lbs.	7815K69	6.78
1 1/2"	1 1/2"	1 3/4"	3/16"	7,000 lbs.	7815K71	7.31
For 1 3/8" Shaft Dia.—Load @ 50 rpm						
1 5/8"	1"	2"	1/8"	5,000 lbs.	7815K72	6.80
For 1 1/2" Shaft Dia.—Load @ 45 rpm						
1 3/4"	1 1/2"	2"	3/16"	9,000 lbs.	7815K73	8.20
For 1 3/4" Shaft Dia.—Load @ 40 rpm						
2 1/4"	2 1/2"	3"	1/4"	15,000 lbs.	7815K74	23.19

Corrosion Resistant—954 Aluminum Bronze

Choose a shaft diameter, OD, and length. Dimensions are the same as Multipurpose SAE 660 leaded tin bronze bearings above. 2934T811

Multipurpose with Certification—SAE 660 Leaded Tin Bronze

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
For 1/4" Shaft Dia.—Load @ 250 rpm						
3/8"	1/4"	1/2"	1/16"	250 lbs.	91786A607	$8.36
3/8"	3/8"	1/2"	1/16"	350 lbs.	91786A612	8.45
3/8"	1/2"	1/2"	1/16"	500 lbs.	91786A617	8.56
For 5/16" Shaft Dia.—Load @ 200 rpm						
7/16"	3/8"	9/16"	1/16"	450 lbs.	91786A618	8.77
For 3/8" Shaft Dia.—Load @ 150 rpm						
1/2"	1/4"	11/16"	1/16"	350 lbs.	91786A619	8.84
1/2"	1/2"	5/8"	1/16"	700 lbs.	91786A620	9.37
1/2"	3/4"	11/16"	1/16"	1,000 lbs.	91786A601	9.54
5/8"	1/2"	7/8"	1/16"	700 lbs.	91786A602	9.59
For 1/2" Shaft Dia.—Load @ 100 rpm						
5/8"	3/8"	7/8"	1/8"	700 lbs.	91786A603	9.79
5/8"	1/2"	7/8"	1/8"	1,000 lbs.	91786A604	9.97
5/8"	3/4"	7/8"	1/8"	1,500 lbs.	91786A605	10.00
3/4"	1/2"	1"	1/8"	1,000 lbs.	91786A606	10.80

OD	Lg.	Flange OD	Flange Thick.	Load Cap. @ Speed		
For 5/8" Shaft Dia.—Load @ 100 rpm						
3/4"	5/8"	1"	1/8"	1,500 lbs.	91786A608	$10.84
For 3/4" Shaft Dia.—Load @ 90 rpm						
7/8"	1/2"	1 1/8"	1/8"	1,500 lbs.	91786A609	10.91
1"	1"	1 1/4"	3/16"	3,000 lbs.	91786A610	12.35
1"	1 1/4"	1 1/4"	3/16"	3,500 lbs.	91786A611	13.38
For 1" Shaft Dia.—Load @ 70 rpm						
1 1/4"	3/4"	1 1/2"	1/8"	3,000 lbs.	91786A613	13.44
1 1/4"	1"	1 1/2"	1/8"	4,000 lbs.	91786A614	13.82
For 1 1/4" Shaft Dia.—Load @ 50 rpm						
1 1/2"	1"	1 3/4"	3/16"	5,000 lbs.	91786A615	21.79
For 1 1/2" Shaft Dia.—Load @ 45 rpm						
1 3/4"	1 1/2"	2"	3/16"	9,000 lbs.	91786A616	26.73

Metric Multipurpose—SAE 660 Leaded Tin Bronze

OD, mm	Lg., mm	Flange OD, mm	Flange Thick., mm	Load Cap. @ Speed		
For 6 mm Shaft Dia.—Load @ 300 rpm						
10	10	14	2	350 lbs.	5448T1	$3.38
For 8 mm Shaft Dia.—Load @ 200 rpm						
11	10	14	1.5	450 lbs.	5448T2	3.32
12	10	16	2	450 lbs.	5448T3	3.78
For 9 mm Shaft Dia.—Load @ 200 rpm						
14	10	19	2.5	500 lbs.	5448T4	4.46
For 10 mm Shaft Dia.—Load @ 150 rpm						
13	10	16	1.5	600 lbs.	5448T5	3.72
15	10	21	3	600 lbs.	5448T6	4.57
15	20	21	3	1,000 lbs.	5448T7	5.51
For 12 mm Shaft Dia.—Load @ 150 rpm						
15	8	18	1.5	500 lbs.	5448T8	4.19
15	12	18	1.5	800 lbs.	5448T9	4.46
15	20	18	1.5	1,000 lbs.	5448T11	4.85
16	12	23	3	800 lbs.	5448T12	4.94
16	20	23	3	1,000 lbs.	5448T13	6.59
18	8	24	3	500 lbs.	5448T14	4.78
18	12	24	3	800 lbs.	5448T15	5.22
18	20	24	3	1,000 lbs.	5448T16	7.72
For 14 mm Shaft Dia.—Load @ 100 rpm						
18	14	22	2	1,000 lbs.	5448T17	5.03
For 15 mm Shaft Dia.—Load @ 100 rpm						
19	16	23	2	1,000 lbs.	5448T18	5.28

OD, mm	Lg., mm	Flange OD, mm	Flange Thick., mm	Load Cap. @ Speed		
For 16 mm Shaft Dia.—Load @ 100 rpm						
20	16	24	2	1,500 lbs.	5448T19	$5.85
22	16	28	3	1,500 lbs.	5448T21	8.00
For 20 mm Shaft Dia.—Load @ 90 rpm						
24	16	28	2	1,500 lbs.	5448T22	6.69
24	20	28	2	2,000 lbs.	5448T23	7.91
26	16	32	3	1,500 lbs.	5448T24	8.78
26	20	32	3	2,000 lbs.	5448T25	9.69
For 25 mm Shaft Dia.—Load @ 70 rpm						
30	20	39	3.5	3,000 lbs.	5448T26	10.76
32	20	39	3.5	3,000 lbs.	5448T27	12.94
For 30 mm Shaft Dia.—Load @ 60 rpm						
38	20	46	4	3,500 lbs.	5448T28	15.19
For 40 mm Shaft Dia.—Load @ 45 rpm						
46	20	56	5	4,500 lbs.	5448T29	15.72
50	30	60	5	7,000 lbs.	5448T31	21.85
For 45 mm Shaft Dia.—Load @ 40 rpm						
51	32	57	3	8,000 lbs.	5448T32	18.53
For 50 mm Shaft Dia.—Load @ 35 rpm						
56	30	62	3	9,000 lbs.	5448T33	18.66
60	40	70	5	10,000 lbs.	5448T34	25.56
For 60 mm Shaft Dia.—Load @ 30 rpm						
70	50	80	5	15,000 lbs.	5448T35	31.53

Nylon Snap-In Thrust Bearings

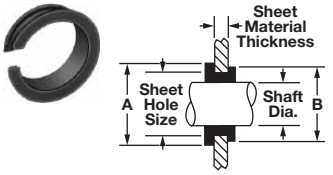

Easily snap these thrust bearings into a variety of thin sheet materials. A gap in the side makes it simple to press them into place and also allows them to expand if they heat up or absorb moisture. The smaller of the two flanges fits into the mounting hole and holds the bearing in place; the larger flange is big enough to handle thrust loads. Made of nylon, all of these bearings require no lubrication and are resistant to many chemicals. **Nylon 642** has a temperature range of –40° to 280°F. **MDS-filled nylon** contains wear-resistant molybdenum disulfide (MDS). Temperature range is –40° to 176°F.

Nylon 642—Inch Sizes

For Shaft Dia.	Fits Sheet Hole Dia.	(A)	(B)	Flange Thick.	Sheet Material Thickness 0.072″ to 0.135″	
1/8″	11/64″	1/4″	3/16″	1/32″	6126K41	$2.00
3/16″	15/64″	5/16″	1/4″	1/32″	6126K42	2.03
1/4″	5/16″	7/16″	11/32″	1/32″	6126K43	2.45
5/16″	3/8″	1/2″	13/32″	1/32″	6126K44	2.45
3/8″	7/16″	9/16″	15/32″	1/32″	6126K45	2.63
7/16″	1/2″	5/8″	17/32″	1/32″	6126K46	2.63
1/2″	9/16″	11/16″	19/32″	1/32″	6126K47	2.75
5/8″	11/16″	7/8″	23/32″	1/32″	6126K48	3.69
3/4″	13/16″	1″	27/32″	1/32″	6126K49	4.07

MDS-Filled Nylon—Metric Sizes

For Shaft Dia., mm	Fits Sheet Hole Dia., mm	(A), mm	(B), mm	Flange Thick., mm	Sheet Material Thickness 1.45 to 2.34 mm		Sheet Material Thickness 2.87 to 3.13 mm	
3	4.2	6	4.8	0.6	7817K51	$1.32	7817K52	$1.32
4	5.2	7	5.9	0.6	7817K53	1.40	7817K54	1.40
5	6.2	8	6.8	0.6	7817K55	1.81	7817K56	1.48
6	7.2	11	7.8	0.6	7817K57	1.58	7817K58	1.58
8	9.6	13	10.4	0.8	7817K59	1.66	7817K61	1.66
9	10.6	14	11.4	0.8	7817K62	1.66		
10	11.6	15	12.4	0.8	7817K63	1.66	7817K64	1.83
12	13.6	17	14.4	0.8	7817K65	1.91	7817K66	1.91

Oil-Embedded Thrust Bearings



Startup friction causes these porous bronze bearings to release a thin layer of oil on the bearing's surface.

Standard—Bearings are SAE 841 bronze embedded with SAE 30 oil. They are also known as Oilite® bearings. Temperature range is -35° to 300°F.

Ultra-Low Friction with PTFE—For applications with frequent starts and stops, these SAE 841 bronze bearings are embedded with SAE 80 oil that contains particles of slippery PTFE. The PTFE reduces wear during startup, before the oil is warm enough to lubricate the bearing. Temperature range is 10° to 220°F.

High Load—Bearings have increased iron content, making them stronger and more resistant to shock loads than standard oil-embedded bearings. Color is silver because of the iron. Temperature range is -15° to 300°F. *Iron-copper bronze* bearings are lubricated with SAE 90 oil. *SAE 863 iron-copper bronze* bearings are lubricated with ISO 460 oil.

Food Grade—Embedded with oil that meets USDA H1, these bearings are suitable for incidental contact with food. Temperature range is -75° to 300°F. *SAE 841 bronze* bearings run at higher speeds than SAE 863 iron-copper bronze bearings. *SAE 863 iron-copper bronze* bearings have increased iron content, making them stronger and more resistant to shock loads than SAE 841 bronze bearings. Color is silver because of the iron.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.

OD	Thick.	Load Cap. @ Speed		
Standard—SAE 841 Bronze				
For 1/4″ Shaft Dia.—Load @ 350 rpm				
5/8″	1/16″	30 lbs.	5906K531	$0.96
For 3/8″ Shaft Dia.—Load @ 200 rpm				
3/4″	1/16″	45 lbs.	5906K511	.90
3/4″	1/8″	90 lbs.	5906K533	1.06
For 1/2″ Shaft Dia.—Load @ 150 rpm				
3/4″	1/16″	60 lbs.	5906K512	.93
7/8″	3/16″	150 lbs.	5906K411	1.04
1″	1/16″	60 lbs.	5906K513	1.24
1″	3/32″	90 lbs.	5906K535	1.24
1″	1/8″	100 lbs.	5906K514	1.26
For 9/16″ Shaft Dia.—Load @ 150 rpm				
1 1/4″	1/16″	70 lbs.	5906K537	1.32
1 1/4″	1/8″	100 lbs.	5906K539	1.73
For 5/8″ Shaft Dia.—Load @ 150 rpm				
1″	1/16″	70 lbs.	5906K515	1.01
1″	1/8″	150 lbs.	5906K516	1.07
1 3/16″	1/16″	70 lbs.	5906K541	1.23
1 3/16″	3/32″	100 lbs.	5906K543	1.59
1 3/16″	1/8″	150 lbs.	5906K545	1.97
1 1/4″	1/16″	70 lbs.	5906K547	1.22
For 3/4″ Shaft Dia.—Load @ 100 rpm				
1 1/4″	1/16″	90 lbs.	5906K517	1.25
1 1/4″	1/8″	150 lbs.	5906K518	1.48
1 3/8″	1/8″	150 lbs.	5906K519	1.66
1 9/16″	3/32″	100 lbs.	5906K549	1.82
1 3/4″	1/8″	150 lbs.	5906K521	1.97
For 7/8″ Shaft Dia.—Load @ 100 rpm				
1 1/2″	1/16″	100 lbs.	5906K551	1.28
1 1/2″	1/8″	200 lbs.	5906K522	1.97
For 1″ Shaft Dia.—Load @ 90 rpm				
1 1/2″	1/16″	100 lbs.	5906K412	1.63
1 1/2″	1/8″	250 lbs.	5906K523	.92
2″	1/8″	250 lbs.	5906K524	2.73
2″	3/16″	350 lbs.	5906K555	4.00
2 7/8″	1/8″	250 lbs.	5906K415	4.84
For 1 1/4″ Shaft Dia.—Load @ 70 rpm				
2″	1/16″	150 lbs.	5906K553	1.25

OD	Thick.	Load Cap. @ Speed		
Standard—SAE 841 Bronze (Cont.)				
For 1 1/4″ Shaft Dia.—Load @ 70 rpm (Cont.)				
2″	1/8″	300 lbs.	5906K525	$2.09
For 1 1/2″ Shaft Dia.—Load @ 60 rpm				
2 1/2″	1/8″	350 lbs.	5906K526	3.68
3 1/2″	3/16″	500 lbs.	5906K527	10.54
For 1 3/4″ Shaft Dia.—Load @ 50 rpm				
2 7/16″	1/8″	400 lbs.	5906K414	2.40
2 5/8″	1/8″	400 lbs.	5906K413	2.49
For 2″ Shaft Dia.—Load @ 45 rpm				
3″	1/8″	500 lbs.	5906K528	3.53
Ultra-Low Friction with PTFE—SAE 841 Bronze				
For 1/4″ Shaft Dia.—Load @ 350 rpm				
5/8″	1/16″	30 lbs.	7421K1	.91
For 3/8″ Shaft Dia.—Load @ 250 rpm				
3/4″	1/16″	45 lbs.	7421K2	1.03
3/4″	1/8″	90 lbs.	7421K3	1.26
For 1/2″ Shaft Dia.—Load @ 150 rpm				
3/4″	1/16″	60 lbs.	7421K4	.98
1″	1/16″	60 lbs.	7421K5	1.33
1″	3/32″	90 lbs.	7421K6	1.47
1″	1/8″	100 lbs.	7421K7	1.67
For 9/16″ Shaft Dia.—Load @ 150 rpm				
1 1/4″	1/16″	70 lbs.	7421K8	1.53
1 1/4″	1/8″	100 lbs.	7421K9	2.21
For 5/8″ Shaft Dia.—Load @ 150 rpm				
1″	1/16″	70 lbs.	7421K11	1.27
1″	1/8″	150 lbs.	7421K12	1.56
1 3/16″	1/16″	70 lbs.	7421K13	1.47
1 3/16″	3/32″	100 lbs.	7421K14	1.67
1 3/16″	1/8″	150 lbs.	7421K15	2.19
1 1/4″	1/16″	70 lbs.	7421K16	1.50
For 3/4″ Shaft Dia.—Load @ 100 rpm				
1 1/4″	1/16″	90 lbs.	7421K17	1.47
1 1/4″	1/8″	150 lbs.	7421K18	1.96
1 3/8″	1/8″	150 lbs.	7421K19	2.21

(Continued on following page)

OD	Thick.	Load Cap. @ Speed		
Ultra-Low Friction with PTFE (Cont.)				
For 3/4″ Shaft Dia.—Load @ 100 rpm (Cont.)				
1 9/16″	3/32″	100 lbs.	7421K21	$2.37
1 3/4″	1/8″	150 lbs.	7421K22	3.71
For 7/8″ Shaft Dia.—Load @ 100 rpm				
1 1/2″	1/16″	100 lbs.	7421K23	1.61
1 1/2″	1/8″	200 lbs.	7421K24	2.41
For 1″ Shaft Dia.—Load @ 90 rpm				
1 1/2″	1/16″	100 lbs.	7421K25	1.60
1 1/2″	1/8″	250 lbs.	7421K26	2.21
2″	1/8″	250 lbs.	7421K27	4.23
For 1 1/4″ Shaft Dia.—Load @ 70 rpm				
2″	1/16″	150 lbs.	7421K28	2.33
2″	1/8″	300 lbs.	7421K29	3.63
For 1 1/2″ Shaft Dia.—Load @ 60 rpm				
2 1/2″	1/8″	350 lbs.	7421K31	5.16
3 1/2″	3/16″	500 lbs.	7421K32	16.00
For 1 3/4″ Shaft Dia.—Load @ 50 rpm				
2 5/8″	1/8″	400 lbs.	7421K33	5.31
For 2″ Shaft Dia.—Load @ 45 rpm				
3″	1/8″	500 lbs.	7421K34	6.27

High Load—Iron-Copper Bronze

Choose a shaft diameter, OD, and length. Dimensions are the same as the Ultra-Low Friction with PTFE SAE 841 thrust bearings above. 3750K41

High Load—SAE 863 Iron-Copper Bronze

Choose a shaft diameter, OD, and length. Dimensions are the same as the Standard SAE 841 thrust bearings above. 2879T41

Oil-Embedded Thrust Bearings *(Continued from previous page)*

OD	Thick.	Load Cap. @ Speed		
Food Grade—SAE 841 Bronze				
For 1/4" Shaft Dia.—Load @ 350 rpm				
5/8"	1/16"	30 lbs.	5429T7	$1.19
For 3/8" Shaft Dia.—Load @ 250 rpm				
3/4"	1/16"	45 lbs.	5429T13	1.25
For 1/2" Shaft Dia.—Load @ 150 rpm				
3/4"	1/16"	60 lbs.	5429T6	1.38
1"	1/16"	60 lbs.	5429T4	1.40
For 5/8" Shaft Dia.—Load @ 150 rpm				
1"	1/16"	70 lbs.	5429T15	1.56
1"	1/8"	150 lbs.	5429T16	1.65
For 3/4" Shaft Dia.—Load @ 100 rpm				
1 1/4"	1/16"	90 lbs.	5429T9	1.55

OD	Thick.	Load Cap. @ Speed		
Food Grade—SAE 841 Bronze (Cont.)				
For 3/4" Shaft Dia.—Load @ 100 rpm (Cont.)				
1 3/4"	1/8"	150 lbs.	5429T12	$4.07
For 1" Shaft Dia.—Load @ 90 rpm				
1 1/2"	1/8"	250 lbs.	5429T2	2.24
2"	1/8"	250 lbs.	5429T3	3.97
Food Grade—SAE 863 Iron-Copper Bronze				
For 1/4" Shaft Dia.—Load @ 100 rpm				
5/8"	1/16"	60 lbs.	5435T7	1.15
For 3/8" Shaft Dia.—Load @ 80 rpm				
3/4"	1/16"	90 lbs.	5435T13	1.21
For 1/2" Shaft Dia.—Load @ 60 rpm				
3/4"	1/16"	100 lbs.	5435T6	1.21

OD	Thick.	Load Cap. @ Speed		
Food Grade (Cont.)				
For 1/2" Shaft Dia.—Load @ 60 rpm (Cont.)				
1"	1/16"	100 lbs.	5435T4	$1.44
For 5/8" Shaft Dia.—Load @ 50 rpm				
1"	1/16"	150 lbs.	5435T15	1.50
1"	1/8"	300 lbs.	5435T16	2.00
For 3/4" Shaft Dia.—Load @ 40 rpm				
1 1/4"	1/16"	150 lbs.	5435T9	1.81
1 3/4"	1/8"	350 lbs.	5435T12	3.70
For 1" Shaft Dia.—Load @ 30 rpm				
1 1/2"	1/8"	450 lbs.	5435T2	1.89
2"	1/8"	500 lbs.	5435T3	3.48

Dry-Running Thrust Bearings

Made of slippery plastics, these bearings reduce friction without the need for lubrication.

Light Duty—*Nylon* bearings are for light loads. Temperature range is -20° to 210° F. *Acetal* bearings are more chemical resistant than nylon bearings. Color is white. Temperature range is -20° to 180° F.

Water Resistant—A good choice for underwater applications, these Rulon LR bearings won't warp when exposed to moisture. Color is maroon. Temperature range is -400° to 550° F.

Chemical Resistant—These PEEK bearings are lightweight, strong, and able to withstand a wide range of chemicals. Color is black. Temperature range is -40° to 500° F.

Ultra-Low Friction—Use these bearings in applications with frequent starts and stops because they operate with very little friction. They also can withstand a wide range of temperatures. *PTFE* bearings are slippery and chemical resistant. Color is white. Temperature range is -350° to 500° F. *Rulon J* bearings create the least amount of friction of any bearing in our offering. They handle higher loads and speeds than PTFE bearings. Color is gold. Temperature range is -400° to 550° F.

Food Grade—Made of FDA-listed materials for use in food applications, these bearings also withstand caustic and washdown environments. Color is white. *UHMW* bearings perform well in wet, corrosive environments. Temperature range is -100° to 180° F. *Rulon 641* bearings are stronger than UHMW bearings and can withstand a wider range of temperatures. Temperature range is -400° to 550° F.

High Load—Not only are these steel bearings strong, they have a PTFE liner on one face that makes them slippery. Temperature range is -320° to 530° F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's surface speed and load are below the values listed, the bearing should work for your application.



Light Duty



High Load

OD	Thick.	Load Cap. @ Speed		
Light Duty—Nylon				
For 1/4" Shaft Dia.—Load @ 100 rpm				
5/8"	1/16"	5 lbs.	2797T1	$1.31
For 3/8" Shaft Dia.—Load @ 70 rpm				
3/4"	1/16"	5 lbs.	2797T2	1.33
For 1/2" Shaft Dia.—Load @ 50 rpm				
1"	1/16"	10 lbs.	2797T3	1.56
For 3/4" Shaft Dia.—Load @ 35 rpm				
1 3/8"	1/8"	35 lbs.	2797T4	5.48
For 1" Shaft Dia.—Load @ 25 rpm				
2"	1/8"	50 lbs.	2797T5	7.17
For 1 1/2" Shaft Dia.—Load @ 25 rpm				
3"	1/8"	50 lbs.	2797T6	12.60
Light Duty—Acetal				
For 1/4" Shaft Dia.—Load @ 40 rpm				
5/8"	1/16"	15 lbs.	2795T11	1.17
For 3/8" Shaft Dia.—Load @ 25 rpm				
3/4"	1/16"	20 lbs.	2795T12	1.19
For 1/2" Shaft Dia.—Load @ 25 rpm				
1"	1/16"	25 lbs.	2795T13	1.43
For 3/4" Shaft Dia.—Load @ 25 rpm				
1 3/8"	1/8"	50 lbs.	2795T14	4.96
For 1" Shaft Dia.—Load @ 25 rpm				
2"	1/8"	50 lbs.	2795T15	6.03
For 1 1/2" Shaft Dia.—Load @ 25 rpm				
3"	1/8"	50 lbs.	2795T16	11.42
Water Resistant—Rulon LR				
For 1/4" Shaft Dia.— Load @ 150rpm				
5/8"	1/16"	15 lbs.	7532K11	2.33
For 3/8" Shaft Dia.— Load @ 100rpm				
3/4"	1/16"	20 lbs.	7532K12	2.94
For 1/2" Shaft Dia.— Load @ 70rpm				
1"	1/16"	30 lbs.	7532K13	3.96
For 3/4" Shaft Dia.— Load @ 50rpm				
1 3/8"	1/8"	90 lbs.	7532K14	8.79
For 1" Shaft Dia.— Load @ 35rpm				
2"	1/8"	100 lbs.	7532K15	11.55
For 1 1/2" Shaft Dia.— Load @ 25rpm				
3"	1/8"	150 lbs.	7532K16	24.30
Chemical Resistant—PEEK				
For 1/4" Shaft Dia.—80 rpm				
5/8"	1/16"	70 lbs.	1252N1	6.40
For 3/8" Shaft Dia.—50 rpm				
3/4"	1/16"	100 lbs.	1252N2	7.09

OD	Thick.	Load Cap. @ Speed		
Chemical Resistant—PEEK (Cont.)				
For 1/2" Shaft Dia.—40 rpm				
1"	1/16"	100 lbs.	1252N3	$9.11
For 3/4" Shaft Dia.—25 rpm				
1 3/8"	1/8"	400 lbs.	1252N4	25.49
For 1 1/2" Shaft Dia.—25 rpm				
3"	1/8"	450 lbs.	1252N6	91.40
Ultra-Low Friction—PTFE				
For 1/4" Shaft Dia.—Load @ 30 rpm				
5/8"	1/16"	5 lbs.	2796T11	1.58
For 3/8" Shaft Dia.—Load @ 25 rpm				
3/4"	1/16"	10 lbs.	2796T12	1.77
For 1/2" Shaft Dia.—Load @ 25 rpm				
1"	1/16"	10 lbs.	2796T13	2.41
For 3/4" Shaft Dia.—Load @ 25 rpm				
1 3/8"	1/8"	15 lbs.	2796T14	7.83
For 1" Shaft Dia.—Load @ 25 rpm				
2"	1/8"	15 lbs.	2796T15	10.29
For 1 1/2" Shaft Dia.—Load @ 25 rpm				
3"	1/8"	15 lbs.	2796T16	19.48
Ultra-Low Friction—Rulon J				
For 1/4" Shaft Dia.—Load @ 150 rpm				
5/8"	1/16"	10 lbs.	7488K11	3.23
For 3/8" Shaft Dia.—Load @ 100 rpm				
3/4"	1/16"	15 lbs.	7488K12	3.97
For 1/2" Shaft Dia.—Load @ 70 rpm				
1"	1/16"	20 lbs.	7488K13	5.43
For 3/4" Shaft Dia.—Load @ 50 rpm				
1 3/8"	1/8"	70 lbs.	7488K14	12.00
For 1" Shaft Dia.—Load @ 35 rpm				
2"	1/8"	90 lbs.	7488K15	15.83
For 1 1/2" Shaft Dia.—Load @ 25 rpm				
3"	1/8"	100 lbs.	7488K16	33.41
Food Grade—UHMW				
For 1/4" Shaft Dia.—Load @ 30 rpm				
5/8"	1/16"	15 lbs.	2866T11	1.54
For 3/8" Shaft Dia.—Load @ 25 rpm				
3/4"	1/16"	15 lbs.	2866T12	1.49
For 1/2" Shaft Dia.—Load @ 25 rpm				
1"	1/16"	15 lbs.	2866T13	1.93
For 3/4" Shaft Dia.—Load @ 25 rpm				
1 3/8"	1/8"	35 lbs.	2866T14	6.11

OD	Thick.	Load Cap. @ Speed		
Food Grade—UHMW (Cont.)				
For 1" Shaft Dia.—Load @ 25 rpm				
2"	1/8"	35 lbs.	2866T15	$7.75
For 1 1/2" Shaft Dia.—Load @ 25 rpm				
3"	1/8"	35 lbs.	2866T16	13.78
Food Grade—Rulon 641				
For 1/4" Shaft Dia.—Load @ 150 rpm				
5/8"	1/16"	15 lbs.	7493K11	3.18
For 3/8" Shaft Dia.—Load @ 100 rpm				
3/4"	1/16"	20 lbs.	7493K12	3.99
For 1/2" Shaft Dia.—Load @ 70 rpm				
1"	1/16"	30 lbs.	7493K13	5.51
For 3/4" Shaft Dia.—Load @ 50 rpm				
1 3/8"	1/8"	90 lbs.	7493K14	12.03
For 1" Shaft Dia.—Load @ 35 rpm				
2"	1/8"	100 lbs.	7493K15	15.90
For 1 1/2" Shaft Dia.—Load @ 25 rpm				
3"	1/8"	150 lbs.	7493K16	31.64

High Load—Steel with PTFE Liner

OD, mm	Thick., mm	Load Cap. @ Speed		
For 10 mm Shaft Dia.—Load @ 25 rpm				
20	1.5	450 lbs.	1262N11	$4.77
For 12 mm Shaft Dia.—Load @ 25 rpm				
24	1.5	450 lbs.	1262N12	6.67
For 18 mm Shaft Dia.—Load @ 25 rpm				
32	1.5	450 lbs.	1262N13	6.41
For 20 mm Shaft Dia.—Load @ 25 rpm				
36	1.5	450 lbs.	1262N14	7.72
For 26 mm Shaft Dia.—Load @ 25 rpm				
44	1.5	450 lbs.	1262N15	9.69
For 28 mm Shaft Dia.—Load @ 25 rpm				
48	1.5	450 lbs.	1262N16	10.74
For 32 mm Shaft Dia.—Load @ 25 rpm				
54	1.5	450 lbs.	1262N17	13.00
For 38 mm Shaft Dia.—Load @ 25 rpm				
62	1.5	450 lbs.	1262N18	15.72
For 42 mm Shaft Dia.—Load @ 25 rpm				
66	1.5	450 lbs.	1262N19	16.92

High-Temperature Dry-Running Thrust Bearings



SAE 660 Leaded Tin Bronze



SAE 841 Bronze

Graphite provides a layer of dry lubrication that can operate in high temperature environments.

SAE 660 leaded tin bronze bearings are cast, making them strong, wear resistant, and excellent at handling shock loads. Graphite plugs distribute lubricant evenly along the bearing's surface. Temperature range is -350° to 450° F.

SAE 841 bronze bearings are porous and embedded with graphite for continuous lubrication. They handle higher temperatures than SAE 660 leaded tin bronze bearings. Temperature range is -50° to 700° F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.

OD	Thick.	Load Cap. @ Speed		
SAE 660 Leaded Tin Bronze				
For 1/2" Shaft Dia.—Load @ 100 rpm				
1"	1/16"	100 lbs.	2855T1	$11.15
1"	1/8"	200 lbs.	2855T2	11.47
For 5/8" Shaft Dia.—Load @ 90 rpm				
1"	1/8"	250 lbs.	2855T3	19.32
For 3/4" Shaft Dia.—Load @ 80 rpm				
1 1/4"	1/16"	150 lbs.	2855T4	14.92
1 1/4"	1/8"	300 lbs.	2855T5	13.41
1 3/4"	1/8"	300 lbs.	2855T6	14.30
For 1" Shaft Dia.—Load @ 60 rpm				
1 1/2"	1/8"	400 lbs.	2855T7	11.06
2"	1/8"	400 lbs.	2855T8	14.10
For 1 1/4" Shaft Dia.—Load @ 45 rpm				
2"	1/8"	500 lbs.	2855T9	17.87
For 1 1/2" Shaft Dia.—Load @ 40 rpm				
2 1/2"	1/8"	600 lbs.	2855T11	15.36
SAE 841 Bronze				
For 1/4" Shaft Dia.—Load @ 350 rpm				
5/8"	1/16"	25 lbs.	7447K1	1.07
For 3/8" Shaft Dia.—Load @ 250 rpm				
3/4"	1/16"	35 lbs.	7447K2	1.14

OD	Thick.	Load Cap. @ Speed		
SAE 841 Bronze (Cont.)				
For 3/8" Shaft Dia.—Load @ 250 rpm (Cont.)				
3/4"	1/8"	70 lbs.	7447K3	$1.33
For 1/2" Shaft Dia.—Load @ 150 rpm				
3/4"	1/16"	50 lbs.	7447K4	1.13
1"	1/16"	50 lbs.	7447K5	1.36
1"	3/32"	70 lbs.	7447K6	1.46
1"	1/8"	100 lbs.	7447K7	1.84
For 9/16" Shaft Dia.—Load @ 150 rpm				
1 1/4"	1/16"	50 lbs.	7447K8	1.63
1 1/4"	1/8"	100 lbs.	7447K9	2.30
For 5/8" Shaft Dia.—Load @ 150 rpm				
1"	1/16"	60 lbs.	7447K11	1.34
1"	1/8"	100 lbs.	7447K12	1.53
1 3/16"	1/16"	60 lbs.	7447K13	1.53
1 3/16"	3/32"	90 lbs.	7447K14	1.84
1 3/16"	1/8"	100 lbs.	7447K15	2.07
1 1/4"	1/16"	60 lbs.	7447K16	1.57
For 3/4" Shaft Dia.—Load @ 100 rpm				
1 1/4"	1/16"	70 lbs.	7447K17	1.56
1 1/4"	1/8"	150 lbs.	7447K18	2.07
1 3/8"	1/8"	150 lbs.	7447K19	2.37

OD	Thick.	Load Cap. @ Speed		
SAE 841 Bronze (Cont.)				
For 3/4" Shaft Dia.—Load @ 100 rpm (Cont.)				
1 9/16"	3/32"	100 lbs.	7447K21	$2.51
1 3/4"	1/8"	150 lbs.	7447K22	3.57
For 7/8" Shaft Dia.—Load @ 100 rpm				
1 1/2"	1/16"	80 lbs.	7447K23	1.67
1 1/2"	1/8"	150 lbs.	7447K24	2.53
For 1" Shaft Dia.—Load @ 90 rpm				
1 1/2"	1/16"	100 lbs.	7447K25	1.63
1 1/2"	1/8"	200 lbs.	7447K26	2.30
2"	1/8"	200 lbs.	7447K27	4.37
For 1 1/4" Shaft Dia.—Load @ 70 rpm				
2"	1/16"	100 lbs.	7447K28	2.50
2"	1/8"	250 lbs.	7447K29	3.57
For 1 1/2" Shaft Dia.—Load @ 60 rpm				
2 1/2"	1/8"	300 lbs.	7447K31	5.00
3 1/2"	3/16"	450 lbs.	7447K32	15.43
For 1 3/4" Shaft Dia.—Load @ 50 rpm				
2 5/8"	1/8"	350 lbs.	7447K33	5.33
For 2" Shaft Dia.—Load @ 45 rpm				
3"	1/8"	400 lbs.	7447K34	6.27

Multipurpose and Corrosion-Resistant Thrust Bearings



These cast metal bearings handle higher loads than oil-embedded and dry-running bearings and perform well in dusty environments.

Multipurpose—Made of SAE 660 leaded tin bronze, these bearings are strong, wear resistant, and excellent at handling shock loads. Temperature range is -350° to 450° F.

Corrosion Resistant—The aluminum and iron content in these 954 aluminum bronze bearings provides high strength and excellent corrosion resistance, making them suitable for use in marine and mining applications. Temperature range is -350° to 500° F.

Note: The load capacity at speed is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.

OD	Thick.	Load Cap. @ Speed		
Multipurpose—SAE 660 Leaded Tin Bronze				
For 1/4" Shaft Dia.—Load @ 250 rpm				
5/8"	1/16"	60 lbs.	7814K11	$2.72
For 3/8" Shaft Dia.—Load @ 150 rpm				
3/4"	1/16"	90 lbs.	7814K12	2.83
3/4"	1/8"	150 lbs.	7814K13	2.97
For 1/2" Shaft Dia.—Load @ 100 rpm				
3/4"	1/16"	100 lbs.	7814K14	2.66
7/8"	3/16"	350 lbs.	7814K1	6.05
1"	1/16"	100 lbs.	7814K15	2.73
1"	3/32"	150 lbs.	7814K16	2.82
1"	1/8"	250 lbs.	7814K17	2.98
For 9/16" Shaft Dia.—Load @ 100 rpm				
1 1/4"	1/16"	100 lbs.	7814K2	6.03
1 1/4"	1/8"	250 lbs.	7814K3	6.11
For 5/8" Shaft Dia.—Load @ 100 rpm				
1"	1/16"	150 lbs.	7814K21	3.00
1"	1/8"	300 lbs.	7814K22	3.10
1 3/16"	1/16"	150 lbs.	7814K23	3.19
1 3/16"	3/32"	200 lbs.	7814K24	3.24
1 3/16"	1/8"	300 lbs.	7814K25	3.28
1 1/4"	1/16"	150 lbs.	7814K26	3.34
For 3/4" Shaft Dia.—Load @ 90 rpm				
1 1/4"	1/16"	150 lbs.	7814K27	3.39
1 1/4"	1/8"	350 lbs.	7814K28	3.52
1 3/8"	1/8"	350 lbs.	7814K29	3.45
1 9/16"	3/32"	250 lbs.	7814K31	3.98
1 3/4"	1/8"	350 lbs.	7814K32	4.51
For 7/8" Shaft Dia.—Load @ 80 rpm				
1 1/2"	1/16"	200 lbs.	7814K33	3.84
1 1/2"	1/8"	400 lbs.	7814K34	4.24
For 1" Shaft Dia.—Load @ 70 rpm				
1 1/2"	1/16"	250 lbs.	7814K4	6.03

OD	Thick.	Load Cap. @ Speed		
Multipurpose (Cont.)				
For 1" Shaft Dia.—Load @ 70 rpm (Cont.)				
1 1/2"	1/8"	500 lbs.	7814K35	$4.32
2"	1/8"	500 lbs.	7814K36	4.37
2 7/8"	1/8"	500 lbs.	7814K5	8.47
For 1 1/4" Shaft Dia.—Load @ 50 rpm				
2"	1/16"	300 lbs.	7814K37	4.54
2"	1/8"	600 lbs.	7814K38	4.65
For 1 1/2" Shaft Dia.—Load @ 45 rpm				
2 1/2"	1/8"	700 lbs.	7814K39	4.71
3 1/2"	3/16"	1,000 lbs.	7814K6	11.19
For 1 3/4" Shaft Dia.—Load @ 40 rpm				
2 7/16"	1/8"	800 lbs.	7814K7	6.89
2 5/8"	1/8"	800 lbs.	7814K8	7.15
For 2" Shaft Dia.—Load @ 35 rpm				
3"	1/8"	1,000 lbs.	7814K42	5.08
Corrosion Resistant—954 Aluminum Bronze				
For 1/4" Shaft Dia.—Load @ 400 rpm				
5/8"	1/16"	70 lbs.	2872T1	7.42
For 3/8" Shaft Dia.—Load @ 250 rpm				
3/4"	1/16"	100 lbs.	2872T2	5.07
3/4"	1/8"	200 lbs.	2872T3	7.56
For 1/2" Shaft Dia.—Load @ 200 rpm				
3/4"	1/16"	100 lbs.	2872T15	6.11
7/8"	3/16"	400 lbs.	2872T16	6.35
1"	1/16"	100 lbs.	2872T4	4.32
1"	3/32"	200 lbs.	2872T17	6.31
1"	1/8"	250 lbs.	2872T5	4.48
For 9/16" Shaft Dia.—Load @ 150 rpm				
1 1/4"	1/16"	150 lbs.	2872T18	6.42
1 1/4"	1/8"	300 lbs.	2872T19	6.61

OD	Thick.	Load Cap. @ Speed		
Corrosion Resistant (Cont.)				
For 5/8" Shaft Dia.—Load @ 150 rpm				
1"	1/16"	150 lbs.	2872T21	$6.24
1"	1/8"	350 lbs.	2872T6	10.47
1 3/16"	1/16"	150 lbs.	2872T22	6.42
1 3/16"	3/32"	250 lbs.	2872T23	6.50
1 3/16"	1/8"	350 lbs.	2872T24	6.59
1 1/4"	1/16"	150 lbs.	2872T25	6.42
For 3/4" Shaft Dia.—Load @ 100 rpm				
1 1/4"	1/16"	200 lbs.	2872T7	6.10
1 1/4"	1/8"	400 lbs.	2872T8	5.43
1 3/8"	1/8"	400 lbs.	2872T26	6.70
1 9/16"	3/32"	300 lbs.	2872T27	6.89
1 3/4"	1/8"	400 lbs.	2872T9	7.16
For 7/8" Shaft Dia.—Load @ 100 rpm				
1 1/2"	1/16"	200 lbs.	2872T28	6.48
1 1/2"	1/8"	450 lbs.	2872T29	6.72
For 1" Shaft Dia.—Load @ 100 rpm				
1 1/2"	1/16"	250 lbs.	2872T31	6.39
1 1/2"	1/8"	500 lbs.	2872T11	4.72
2"	1/8"	500 lbs.	2872T12	6.70
2 7/8"	1/8"	500 lbs.	2872T32	9.89
For 1 1/4" Shaft Dia.—Load @ 80 rpm				
2"	1/8"	700 lbs.	2872T13	8.71
For 1 1/2" Shaft Dia.—Load @ 70 rpm				
2 1/2"	1/8"	800 lbs.	2872T14	5.86
3 1/2"	3/16"	1,000 lbs.	2872T33	12.81
For 1 3/4" Shaft Dia.—Load @ 60 rpm				
2 7/16"	1/8"	900 lbs.	2872T34	7.50
2 5/8"	1/8"	900 lbs.	2872T35	8.08
For 2" Shaft Dia.—Load @ 50 rpm				
3"	1/8"	1,000 lbs.	2872T36	8.40

About Ball and Roller Bearings

Ball and roller bearings operate with less friction than plain bearings, so they're often called antifriction bearings.

Ball bearings are primarily for high speeds and moderate radial loads, but they can also handle light thrust loads.

Roller bearings support higher loads than ball bearings but run at lower speeds. There are three types of roller bearings. *Needle-roller* bearings have a thin profile for use in tight spaces. They handle radial loads. *Spherical-roller* bearings generally have higher load capacities than needle and tapered roller bearings. They handle a combination of radial and thrust loads. *Tapered-roller* bearings handle shock loads as well as combination of radial and thrust loads.

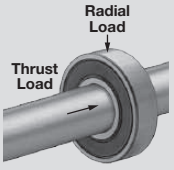

Open bearings dissipate heat more efficiently than double-shielded and double-sealed bearings. **Double-shielded** bearings resist dust and contaminants, but do not dissipate heat as efficiently as open bearings. **Double-sealed** bearings offer the best dust resistance, but retain the most heat.

Replacing Ball Bearings

When replacing a ball bearing, locate the trade number on the side and match the bearing number and seal type. Although some trade numbers include additional numbers and letters, size and seal type are commonly printed first. If your bearing does not have a trade number, measure its ID and OD to find a match.

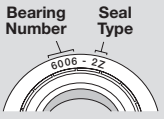

Bearing Number—Bearings with matching bearing numbers will have the same ID and OD.

Seal Type—*Double-shielded* bearings are coded ZZ or 2Z. *Double-sealed* bearings are coded RS or 2RS. *Open* bearings will not show a code for seal type.

Ball Bearings


Open


Double Shielded


Double Sealed


Double Shielded with Retaining Ring


Double Sealed with Retaining Ring

Ball bearings primarily handle radial loads (perpendicular to the shaft) but can also withstand light thrust loads (parallel to the shaft). Made of 52100 steel. *Open* bearings come lubricated with oil, unless noted. *Double-shielded* bearings come greased. *Double-sealed* bearings have Buna-N rubber seals and come greased.

Standard—Bearings meet ABEC-1 dimensional tolerance standards. Temperature range is -20° to 240° F for inch sizes; -20° to 230° F (unless noted) for metric sizes. ***Bearings with retaining ring*** have a removable retaining ring that holds the bearing inside a housing. Temperature range is -40° to 250° F for double-shielded bearings; -40° to 210° F for double-sealed bearings.

Premium—For greater accuracy and higher speeds, these bearings are made to tighter ABEC-3 dimensional tolerances than standard ball bearings. Temperature range is -30° to 240° F.

Standard (ABEC-1)—Inch

Bearing No.	For Shaft Dia.	OD	Dynamic Load Cap., lbs.	Open Wd.	Open Max. rpm			Double Shielded Wd.	Double Shielded Max. rpm			Double Sealed Wd.	Double Sealed Max. rpm		
R2	1/8"	3/8"	140	5/32"	60,100	60355K501	$5.94	5/32"	54,600	60355K41	$6.33	5/32"	56,000	60355K851	$3.12
R3	3/16"	1/2"	290	5/32"	50,600	60355K502	6.65	0.196"	41,500	60355K42	6.56	0.196"	43,000	60355K861	3.12
R4	1/4"	5/8"	325	3/16"	43,400	60355K503	5.77	0.196"	31,100	60355K43	6.25	0.196"	31,100	60355K701	6.56
R4A	1/4"	3/4"	625	—	—	—	—	9/32"	39,900	60355K44	6.90	9/32"	30,200	60355K702	8.16
R6	3/8"	7/8"	750	7/32"	33,300	60355K504	5.59	9/32"	22,000	60355K45	6.25	9/32"	22,000	60355K703	6.62
R8	1/2"	1 1/8"	1,145	1/4"	25,900	60355K505	6.04	5/16"	16,700	60355K601	6.82	5/16"	16,700	60355K704	8.74
R10	5/8"	1 3/8"	1,345	9/32"	20,000	60355K506	6.43	11/32"	12,300	60355K602	8.33	11/32"	12,300	60355K705	9.06
R12	3/4"	1 5/8"	1,785	5/16"	17,200	60355K507	7.64	7/16"	10,700	60355K603	10.41	7/16"	10,700	60355K706	10.71
R14	7/8"	1 7/8"	2,270	3/8"	14,800	60355K508	10.00	1/2"	9,000	60355K604	12.03	1/2"	9,000	60355K707	13.33
R16	1"	2"	2,405	3/8"	14,800	60355K509	10.79	1/2"	9,000	60355K605	11.89	1/2"	9,000	60355K708	13.42
R18	1 1/8"	2 1/8"	2,150	3/8"	15,000	60355K211★	10.80	1/2"	15,000	60355K812	12.50	—	—	—	—
R20	1 1/4"	2 1/4"	2,420	3/8"	15,000	60355K22★	11.89	1/2"	15,000	60355K821	12.38	—	—	—	—
R20	1 1/4"	2 1/4"	2,420	—	—	—	—	—	—	—	—	1/2"	7,500	3760T254	59.71
R22	1 3/8"	2 1/2"	3,595	7/16"	10,800	60355K511	30.89	9/16"	6,300	60355K606	42.06	—	—	—	—
R24	1 1/2"	2 5/8"	3,775	7/16"	10,100	60355K512	43.09	9/16"	5,900	60355K607	48.15	—	—	—	—

★ Lubricated with grease.

Standard (ABEC-1)—Metric

Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Open Dynamic Load Cap., lbs.	Open Max. rpm			Double Shielded Dynamic Load Cap., lbs.	Double Shielded Max. rpm			Double Sealed Dynamic Load Cap., lbs.	Double Sealed Max. rpm		
607	7	19	6	—	—	—	—	580	45,000	5972K261■	$12.21	580	22,000	5972K225	$20.26
608	8	22	7	730	36,000	5972K91	$4.32	730	30,000	5972K501	4.68	730	20,000	5972K222	4.94
627	7	22	7	—	—	—	—	—	—	—	—	730	20,000	5972K502	6.59
629	9	26	8	1,020	34,000	5972K93	7.52	1,020	28,000	5972K321	5.10	1,020	19,000	5972K231	9.48
634	4	16	5	—	—	—	—	445	53,000	5972K634■	25.38	—	—	—	—
635	5	19	6	580	53,000	5972K197■	15.62	580	45,000	5972K263■	17.47	—	—	—	—
6000	10	26	8	1,020	34,000	5972K94	6.44	1,020	28,000	5972K322	6.89	1,020	19,000	5972K81	7.54
6001	12	28	8	1,145	32,000	5972K95	7.22	1,145	26,000	5972K323	7.54	1,145	18,000	5972K82	7.82
6002	15	32	9	1,255	30,000	5972K358	7.34	1,255	24,000	5972K324	7.60	1,255	16,000	5972K83	8.24
6003	17	35	10	1,345	28,000	5972K311	8.36	1,345	22,000	5972K325	8.72	1,345	14,000	5972K84	9.62
6007	35	62	14	3,595	28,000	5972K312	12.88	3,045	11,000	5972K365	12.52	3,595	7,500	5972K85	15.03
6008	40	68	15	—	—	—	—	4,000	12,400	5972K269■	52.29	—	—	—	—
6009	45	75	16	—	—	—	—	4,765	11,200	5972K271■	74.68	—	—	—	—
6010	50	80	16	—	—	—	—	4,945	10,400	5972K272■	88.38	4,945	5,600	5972K234	104.44
6011	55	90	18	—	—	—	—	6,740	9,100	5972K273■	158.32	6,740	5,000	5972K235	118.74
6012	60	95	18	—	—	—	—	7,080	8,500	5972K274■	147.65	7,080	4,500	5972K236	125.00
6013	65	100	18	—	—	—	—	7,305	8,100	5972K301■	121.97	7,305	4,300	5972K237	139.32
6014	70	110	20	—	—	—	—	9,100	7,300	5972K302■	163.06	9,100	4,000	5972K238	176.74
6015	75	115	20	—	—	—	—	9,440	6,900	5972K303■	238.09	9,440	3,800	5972K239	271.38
6016	80	125	22	—	—	—	—	11,465	6,300	5972K304■	237.41	11,465	6,300	5972K251	279.85
6017	85	130	22	—	—	—	—	11,910	6,100	5972K305■	240.82	11,910	6,100	5972K252	286.76
6200	10	30	9	1,145	40,500	5972K101	4.57	1,345	26,000	5972K326	4.80	1,345	17,000	5972K41	5.22

■ Max. temperature is 240° F.

(Continued on following page)

Ball Bearings *(Continued from previous page)*











Ball bearings primarily handle radial loads (perpendicular to the shaft) but can also withstand light thrust loads (parallel to the shaft). Made of 52100 steel. *Open* bearings come lubricated with oil, unless noted. *Double-shielded* bearings come greased. *Double-sealed* bearings have Buna-N rubber seals and come greased.

Standard—Bearings meet ABEC-1 dimensional tolerance standards. Temperature range is -20° to 240°F for inch sizes; -20° to 230°F (unless noted) for metric sizes. ***Bearings with retaining ring*** have a removable retaining ring that holds the bearing inside a housing. Temperature range is -40° to 250°F for double-shielded bearings; -40° to 210°F for double-sealed bearings.

Premium—For greater accuracy and higher speeds, these bearings are made to tighter ABEC-3 dimensional tolerances than standard ball bearings. Temperature range is -30° to 240°F.

Standard (ABEC-1)—Metric (Cont.)

				Open				Double Shielded				Double Sealed			
Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Dynamic Load Cap., lbs.	Max. rpm			Dynamic Load Cap., lbs.	Max. rpm			Dynamic Load Cap., lbs.	Max. rpm		
6201	12	32	10	1,560	30,000	5972K313	$5.47	1,560	24,000	5972K327	$5.11	1,560	16,000	5972K42	$5.60
6202	15	35	11	1,750	26,000	5972K314	5.20	1,750	20,000	5972K328	5.44	1,750	14,000	5972K357	5.67
6203	17	40	12	2,270	26,500	5972K104	5.49	2,135	18,000	5972K2	5.05	2,135	12,000	5972K44	6.18
6204	20	47	14	3,055	22,100	5972K105	6.87	2,855	15,000	5972K329	8.03	2,855	10,000	5972K45	9.35
6205	25	52	15	3,145	17,000	5972K315	8.79	3,145	14,000	5972K341	9.70	3,145	9,000	5972K46	10.09
6206	30	62	16	4,335	14,000	5972K316	9.82	4,335	11,000	5972K342	12.36	4,335	7,500	5972K47	12.68
6207	35	72	17	5,730	24,000	5972K317	13.16	5,730	9,500	5972K343	13.97	5,730	6,300	5972K48	16.48
6208	40	80	18	5,560	8,300	5972K114★	16.08	6,515	8,500	5972K344	18.49	6,515	5,600	5972K49	22.90
6209	45	85	19	6,245	7,700	5972K115★	19.46	6,965	8,000	5972K345	22.90	6,965	5,300	5972K51	27.53
6210	50	90	20	6,695	7,100	5972K129★	23.82	6,695	7,100	5972K366	25.63	8,205	4,800	5972K52	37.20
6211	55	100	21	10,340	9,500	5972K113	24.44	9,775	6,300	5972K367	31.17	9,665	4,300	5972K53	40.85
6212	60	110	22	11,690	14,000	5972K3	35.99	11,690	6,000	5972K346	43.06	11,690	4,000	5972K54	54.31
6301	12	37	12	2,165	53,000	5972K318	8.41	2,165	20,000	5972K347	8.57	2,165	13,000	5972K86	9.49
6302	15	42	13	2,695	25,000	5972K117	7.94	2,560	18,000	5972K348	8.83	2,560	12,000	5972K87	9.53
6303	17	47	14	3,010	30,000	5972K118	8.06	3,010	16,000	5972K349	9.41	3,010	11,000	5972K55	12.12
6304	20	52	15	3,595	34,000	5972K119	9.81	3,595	14,000	5972K351	11.92	3,595	9,500	5972K56	14.67
6305	25	62	17	5,035	28,000	5972K121	11.99	5,035	11,000	5972K352	14.23	5,035	7,500	5972K57	15.65
6306	30	72	19	6,515	24,000	5972K319	15.62	6,515	9,500	5972K353	23.65	6,515	6,300	5972K58	24.71
6307	35	80	21	7,530	20,000	5972K503	18.13	7,980	8,500	5972K354	25.44	7,530	5,600	5972K59	27.05
6308	40	90	23	9,550	18,000	5972K124	23.66	9,550	7,500	5972K355	29.79	9,550	5,000	5972K61	35.87
6309	45	100	25	11,910	16,000	5972K125	30.19	11,910	6,700	5972K356	39.63	11,910	6,700	5972K363	43.44
6310	50	110	27	13,935	14,000	5972K126	35.49	13,935	6,000	5972K332	39.01	13,935	6,000	5972K364	50.73
6311	55	120	29	17,195	13,000	5972K127	46.48	16,000	5,600	5972K361	51.04	17,195	3,600	5972K64	53.16
6312	60	130	31	18,320	12,000	5972K128	59.20	18,430	5,300	5972K362	66.02	18,320	3,400	5972K65	66.81
6403	17	62	17	5,350	16,200	5972K198■	100.62	—	—	—	—	5,350	16,200	5972K226	105.65
6800	10	19	5	385	37,000	5972K211★	8.04	385	37,000	5972K153	8.03	385	37,000	5972K275	7.93
6801	12	21	5	430	33,000	5972K212★	9.59	430	33,000	5972K154	9.52	430	33,000	5972K276	9.07
6802	15	24	5	465	28,000	5972K213★	9.83	465	28,000	5972K155	9.80	465	28,000	5972K277	9.53
6803	17	26	5	500	26,000	5972K214★	11.40	500	26,000	5972K156	12.09	500	26,000	5972K278	11.60
6804	20	32	7	900	21,000	5972K215★	14.08	900	21,000	5972K157	13.68	900	21,000	5972K279	13.25
6805	25	37	7	965	18,000	5972K216★	15.71	965	18,000	5972K158	14.90	965	18,000	5972K281	14.98
6806	30	42	7	1,020	15,000	5972K217★	18.72	1,020	15,000	5972K159	19.13	1,020	15,000	5972K282	18.00
6900	10	22	6	605	34,000	5972K241★	6.60	605	34,000	5972K164	6.59	605	34,000	5972K286	7.35
6901	12	24	6	645	31,000	5972K242★	7.61	645	31,000	5972K165	7.62	645	31,000	5972K287	8.21
6902	15	28	7	970	26,000	5972K243★	9.16	970	26,000	5972K166	9.13	970	26,000	5972K288	9.67
6903	17	30	7	1,030	23,000	5972K244★	9.27	1,030	23,000	5972K167	9.34	1,030	23,000	5972K289	9.65
6904	20	37	9	1,430	19,000	5972K245★	12.53	1,430	19,000	5972K168	12.53	1,430	19,000	5972K291	13.20
6905	25	42	9	1,570	16,000	5972K246★	13.42	1,570	16,000	5972K169	13.31	1,570	16,000	5972K292	13.86
6906	30	47	9	1,625	14,000	5972K247★	14.56	1,625	14,000	5972K171	14.56	1,625	14,000	5972K293	22.58
6907	35	55	10	2,450	12,000	5972K248★	19.47	2,450	12,000	5972K172	19.43	2,450	12,000	5972K294	21.29
6908	40	62	12	3,070	11,000	5972K249★	25.57	3,070	11,000	5972K173	25.69	3,070	11,000	5972K295	26.37
16002	15	32	8	1,325	33,500	5972K199■	28.26	1,325	33,500	5972K264■	28.26	—	—	—	—
16003	17	35	8	—	—	—	—	1,435	31,000	5972K265■	29.76	—	—	—	—
16004	20	42	8	1,660	26,000	5972K218■	33.88	1,560	14,300	5972K266■	39.97	—	—	—	—
16005	25	47	8	1,730	22,900	5972K219■	34.53	1,730	22,900	5972K267■	40.44	—	—	—	—
16100	10	28	8	1,110	34,000	5972K223■	33.50	1,660	26,000	5972K268■	38.06	—	—	—	—
16101	12	30	8	1,145	32,000	5972K224■	36.56	—	—	—	—	—	—	—	—
62200	10	30	14	—	—	—	—	—	—	—	—	1,415	17,000	5972K228	51.74
62201	12	32	14	—	—	—	—	—	—	—	—	1,640	16,000	5972K229	52.29
62202	15	35	14	—	—	—	—	—	—	—	—	1,840	14,000	5972K232	58.21
62302	15	42	17	—	—	—	—	—	—	—	—	2,695	12,000	5972K233	69.09

★ Lubricated with grease. ■ Max. temperature is 240°F.

Standard (ABEC-1) with Retaining Ring

					Double Shielded			Double Sealed		
Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Dynamic Load Cap., lbs.	Max. rpm			Max. rpm		
6002	15	32	9	1,250	26,000	6661K33	$18.55	14,000	6661K23	$29.11
6003	17	35	10	1,430	—	—	—	13,000	6661K54	26.87
6006	30	55	13	3,100	—	—	—	8,000	6661K56	53.06
6200	10	30	9	1,210	28,000	6661K31	14.79	17,000	6661K21	16.28
6201	12	32	10	1,635	26,000	6661K32	18.49	26,000	6661K22	11.72

(Continued on following page)

Ball Bearings *(Continued from previous page)*

Standard (ABEC-1) with Retaining Ring (Cont.)

Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Dynamic Load Cap., lbs.	Double Shielded Max. rpm			Double Sealed Max. rpm		
6202	15	35	11	1,810	22,000	6661K34	$17.36	13,000	6661K24	$13.34
6203	17	40	12	2,235	19,000	6661K35	15.49	12,000	6661K25	15.49
6204	20	47	14	3,030	17,000	6661K36	20.34	10,000	6661K26	20.34
6205	25	52	15	3,325	14,000	6661K38	26.74	8,500	6661K28	22.87
6206	30	62	16	4,560	12,000	6661K77	26.74	7,500	6661K57	30.17
6303	17	47	14	3,210	—	—	—	11,000	6661K55	21.40
6304	20	52	15	3,775	15,000	6661K37	23.43	9,500	6661K27	26.89
6305	25	62	17	5,260	13,000	6661K39	32.19	7,500	6661K29	32.19
6306	30	72	19	6,650	11,000	6661K78	58.32	6,300	6661K58	58.32

Premium (ABEC-3)

Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Dynamic Load Cap., lbs.	Double Shielded Max. rpm			Double Sealed Max. rpm		
608	8	22	7	775	38,000	6661K12	$7.66	22,000	6661K82	$10.91
626	6	19	6	525	40,000	6661K11	12.56	24,000	6661K81	17.94
6000	10	26	8	1,065	34,000	6661K13	15.41	19,000	6661K83	20.29
6001	12	28	8	1,210	30,000	6661K14	15.06	17,000	6661K84	19.91
6002	15	32	9	1,315	26,000	6661K15	14.18	14,000	6661K85	21.40
6003	17	35	10	1,430	22,000	6661K16	16.41	13,000	6661K86	24.07
6004	20	42	12	2,235	19,000	6661K17	25.52	11,000	6661K87	27.81
6005	25	47	12	2,675	16,000	6661K18	21.15	9,500	6661K88	31.48
6006	30	55	13	3,100	14,000	6661K19	26.61	8,000	6661K89	35.85
6200	10	30	9	1,210	28,000	6661K41	9.78	17,000	6661K101	10.64
6201	12	32	10	1,635	26,000	6661K42	9.84	15,000	6661K102	11.88
6202	15	35	11	1,810	22,000	6661K43	11.66	13,000	6661K103	9.98
6203	17	40	12	2,235	19,000	6661K44	9.43	12,000	6661K104	10.79
6204	20	47	14	3,035	17,000	6661K45	13.03	10,000	6661K105	13.33
6205	25	52	15	3,325	14,000	6661K46	16.90	8,500	6661K106	20.33
6206	30	62	16	4,560	12,000	6661K47	18.64	7,500	6661K107	21.18
6207	35	72	17	6,070	10,000	6661K48	25.98	6,300	6661K108	35.09
6208	40	80	18	7,305	9,000	6661K49	39.47	5,600	6661K109	45.80
6209	45	85	19	7,890	8,500	6661K51	51.11	5,000	6661K111	53.02
6210	50	90	20	8,340	8,000	6661K52	56.90	4,800	6661K112	63.43
6300	10	35	11	1,915	26,000	6661K61	15.69	15,000	6661K121	19.31
6301	12	37	12	2,270	22,000	6661K62	12.99	14,000	6661K122	19.42
6302	15	42	13	2,675	19,000	6661K63	13.46	12,000	6661K123	17.29
6303	17	47	14	3,215	17,000	6661K64	17.81	11,000	6661K124	22.40
6304	20	52	15	3,775	15,000	6661K65	20.03	9,500	6661K125	22.95
6305	25	62	17	5,260	13,000	6661K66	23.45	7,500	6661K126	25.91
6306	30	72	19	6,650	11,000	6661K67	38.24	6,300	6661K127	49.61
6307	35	80	21	7,890	9,500	6661K68	44.99	6,000	6661K128	43.44
6308	40	90	23	9,505	8,500	6661K69	58.66	5,000	6661K129	61.95
6309	45	100	25	12,430	7,500	6661K71	84.88	4,500	6661K131	82.51

Permanently Lubricated Ball Bearings

A solid polymer grease fills the space between the balls and the race, virtually eliminating the need for additional lubrication. Because it's solid, the lubricant also blocks out water and dust, extending the life of the bearing. Bearings are 52100 steel and meet ABEC-1 dimensional tolerance standards. Temperature range is 10° to 200°F. *Double-sealed* bearings have Buna-N rubber seals.


Open


Double Sealed

Inch

Bearing No.	For Shaft Dia.	OD	Dynamic Load Cap., lbs.	Max. rpm	Open Wd.			Double Sealed Wd.		
R2	1/8"	3/8"	140	50,000	5/32"	2342K61	$16.31	5/32"	2342K81	$16.58
R3	3/16"	1/2"	290	37,500	5/32"	2342K62	14.36	0.196"	2342K82	15.60
R4	1/4"	5/8"	330	28,500	0.196"	2342K163	15.37	0.196"	2342K183	17.66
R4A	1/4"	3/4"	525	24,000	7/32"	2342K164	11.04	9/32"	2342K184	12.27
R6	3/8"	7/8"	745	19,300	7/32"	2342K165	12.64	9/32"	2342K185	13.03
R8	1/2"	1 1/8"	1,145	15,000	1/4"	2342K166	13.25	5/16"	2342K186	13.49
R10	5/8"	1 3/8"	1,345	12,200	9/32"	2342K167	15.10	11/32"	2342K187	20.66
R12	3/4"	1 5/8"	2,105	10,000	5/16"	2342K168	19.53	7/16"	2342K188	24.60
R14	7/8"	1 7/8"	1,735	8,600	3/8"	2342K169	27.18	1/2"	2342K189	30.87
R16	1"	2"	1,845	8,000	3/8"	2342K171	23.29	1/2"	2342K191	23.40

Metric

Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Dynamic Load Cap., lbs.	Max. rpm	Open		Double Sealed	
6000	10	26	8	865	16,600	2349K212	$14.64	2349K412	$14.64
6001	12	28	8	975	15,000	2349K213	16.92	2349K413	17.95
6002	15	32	9	1,065	12,700	2349K214	18.96	2349K414	20.59
6003	17	35	10	1,140	11,500	2349K215	19.49	2349K415	23.29
6004	20	42	12	1,785	9,600	2349K216	18.32	2349K416	21.64
6005	25	47	12	1,920	8,300	2349K217	21.27	2349K417	27.89
6200	10	30	9	975	15,000	2349K218	14.67	2349K418	16.00
6201	12	32	10	1,295	13,600	2349K219	16.05	2349K419	17.64
6202	15	35	11	1,455	12,000	2349K221	14.25	2349K421	14.87
6203	17	40	12	1,825	10,500	2349K222	14.07	2349K422	14.07
6204	20	47	14	2,450	8,900	2349K223	16.93	2349K423	18.47
6205	25	52	15	2,675	7,700	2349K224	18.95	2349K424	23.87
6206	30	62	16	3,715	6,500	2349K225	31.84	2349K425	32.36

High-Load Ball Bearings


Open


Double Shielded


Double Sealed with Extended Inner Ring and Retaining Ring

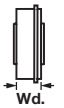

Bearings are 52100 steel and come greased. Temperature range is -20° to 250° F. *Double-sealed* bearings have Buna-N rubber seals, unless noted. *Bearings with an extended inner ring* provide additional shaft support. *Bearings with retaining ring* have a removable retaining ring that holds the bearing inside the housing.

Open, Double Shielded, and Double Sealed

Bearing No.	For Shaft Dia.	OD	Dynamic Load Cap., lbs.	Max. rpm	Open Wd.			Double Shielded Wd.			Double Sealed Wd.		
1602	1/4"	11/16"	510	5,000	1/4"	2780T11	$13.21	1/4"	2780T31	$14.86	5/16"	2780T51★	$15.80
1603	5/16"	7/8"	640	5,000	9/32"	2780T12	11.13	9/32"	2780T32	11.71	11/32"	2780T52	13.90
1604	3/8"	7/8"	640	5,000	9/32"	2780T13	11.13	9/32"	2780T33	11.94	11/32"	2780T53	13.90
1605	5/16"	29/32"	695	5,000	5/16"	2780T14	11.15	5/16"	2780T34	11.75	5/16"	2780T54	13.74
1606	3/8"	29/32"	695	5,000	5/16"	2780T15	11.13	5/16"	2780T35	11.71	5/16"	2780T55	13.90
1607	7/16"	29/32"	695	5,000	5/16"	2780T16	11.13	5/16"	2780T36	11.71	5/16"	2780T56	13.90
1614	3/8"	1 1/8"	1,200	5,000	3/8"	2780T17	11.88	3/8"	2780T37	12.50	3/8"	2780T57	13.83
1616	1/2"	1 1/8"	1,200	5,000	3/8"	2780T18	11.88	3/8"	2780T38	12.50	3/8"	2780T58	13.83
1621	1/2"	1 3/8"	1,875	5,000	7/16"	2780T19	13.14	7/16"	2780T39	13.83	7/16"	2780T59	16.32
1623	5/8"	1 3/8"	1,875	5,000	7/16"	2780T21	13.14	7/16"	2780T41	13.83	7/16"	2780T61	16.32
1628	5/8"	1 5/8"	2,595	5,000	1/2"	2780T22	17.52	1/2"	2780T42	18.41	1/2"	2780T62	20.05
1630	3/4"	1 5/8"	2,595	5,000	1/2"	2780T23	16.47	1/2"	2780T43	18.41	1/2"	2780T63	20.05
1633	5/8"	1 3/4"	2,590	5,000	1/2"	2780T24	16.47	1/2"	2780T44	18.41	1/2"	2780T64	20.05
1635	3/4"	1 3/4"	2,590	5,000	1/2"	2780T1	16.47	1/2"	2780T2	18.41	1/2"	2780T3	20.05
1638	3/4"	2"	2,965	5,000	9/16"	2780T25	19.85	9/16"	2780T45	22.08	9/16"	2780T65	24.78
1641	1"	2"	2,965	5,000	9/16"	2780T26	19.57	9/16"	2780T46	21.25	9/16"	2780T66	23.89
1652	1 1/8"	2 1/2"	3,860	5,000	5/8"	2780T27	25.92	5/8"	2780T47	28.99	5/8"	2780T67★	33.63
1654	1 1/4"	2 1/2"	3,860	5,000	5/8"	2780T28	25.92	5/8"	2780T48	28.99	5/8"	2780T68★	33.63
1657	1 1/4"	2 9/16"	5,360	5,000	11/16"	2780T29	34.84	11/16"	2780T49	39.06	11/16"	2780T69★	43.36

★ Seal is plastic.

Double Sealed with Extended Inner Ring

Bearing No.	For Shaft Dia.	OD	Wd.	O'all Wd.	Dynamic Load Cap., lbs.	Max. rpm	Double Sealed: With Extended Inner Ring		Double Sealed: With Extended Inner Ring and Retaining Ring	
7508	1/2"	1 3/4"	5/8"	3/4"	2,595	5,000	2782T71	$28.85	2782T81	$29.88
7510	5/8"	1 3/4"	5/8"	3/4"	2,595	5,000	2782T73	28.85	2782T83	29.88
7512	3/4"	1 3/4"	5/8"	3/4"	2,595	5,000	2782T75	28.89	2782T85	29.86
7516	1"	2"	5/8"	3/4"	2,970	5,000	2782T77	29.32	2782T87	30.56
7520	1 1/4"	2 9/16"	3/4"	7/8"	5,360	5,000	2782T79	45.79	2782T89	46.19

Light Duty Ball Bearings


Open


Double Shielded


Flanged Double Sealed

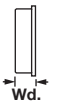

Flanged

Use these light duty bearings for material handling or where precision is not a concern. They come in nonstandard sizes to fit a variety of applications. They are made of 52100 steel. Temperature range is -20° to 250° F, unless noted.

Open bearings come lubricated with oil, unless noted. *Double-shielded* bearings come greased. *Double-sealed* bearings come greased and have Buna-N rubber seals, unless noted. Maximum speed is 1,200 rpm for open bearings; 2,500 rpm for standard double-shielded and double-sealed bearings; and 3,000 rpm for flanged double-sealed bearings, unless noted.

Open

For Shaft Dia.	OD	Wd.	Dynamic Load Cap., lbs.		
3/16"	11/16"	1/4"	330	6383K11	$3.46
1/4"	11/16"	1/4"	255	6383K12♦	5.74
1/4"	7/8"	1/4"	400	6383K14	5.05
1/4"	1"	5/16"	530	6383K22	5.05
1/4"	1 1/16"	1/4"	565	6383K25	6.10
5/16"	7/8"	1/4"	425	6383K15	5.05
5/16"	1 1/16"	3/8"	600	6383K26	6.35
5/16"	19/32"	5/16"	785	6383K38	7.15
3/8"	7/8"	1/4"	445	6383K16	4.96
3/8"	15/16"	5/16"	445	6383K19	6.05
3/8"	1"	5/16"	550	6383K23	4.94
3/8"	1 1/16"	3/8"	635	6383K27	6.09
3/8"	1 1/8"	3/8"	600	6383K32♦	8.10
7/16"	7/8"	1/4"	445	6383K17	5.48
7/16"	1 1/16"	3/8"	505	6383K24■	4.76
7/16"	1 1/8"	3/8"	600	6383K33♦	8.42
1/2"	1 1/8"	3/8"	600	6383K34♦	7.96
1/2"	19/32"	5/16"	880	6383K39	7.16
1/2"	1 3/8"	7/16"	940	6383K41♦	9.20
1/2"	1 1/2"	7/16"	1,325	6383K45	6.61
1/2"	1 3/4"	9/16"	1,400	6383K53	11.47
5/8"	1 3/8"	7/16"	940	6383K44♦	9.20
5/8"	1 1/2"	7/16"	1,325	6383K47	7.01
3/4"	1 5/8"	3/8"	1,475	6383K49	7.79
3/4"	1 5/8"	1/2"	1,300	6383K52♦	13.70
3/4"	1 3/4"	9/16"	1,550	6383K51	11.48
1"	2"	1/2"	1,735	6383K57	12.52

♦ Max. speed is 2,500 rpm.

■ Requires lubrication; max. speed is 1,500 rpm; max. temp. is 300° F.

Double Shielded and Double Sealed

For Shaft Dia.	OD	Dynamic Load Cap., lbs.	Double Shielded Wd.			Double Sealed Wd.		
3/16"	11/16"	255	1/4"	6384K91	$7.55	5/16"	6384K88▲	$8.23
1/4"	11/16"	255	1/4"	6384K52	8.23	5/16"	6384K39▲	9.40
5/16"	7/8"	325	9/32"	6384K53	8.54	11/32"	6384K41	9.40
5/16"	29/32"	350	5/16"	6384K55	9.20	5/16"	6384K22	12.21
3/8"	7/8"	325	9/32"	6384K54	8.23	11/32"	6384K23	9.40
3/8"	29/32"	350	5/16"	6384K56	9.20	5/16"	6384K44	11.46
3/8"	1 1/8"	600	3/8"	6384K58	9.59	3/8"	6384K45	10.60
7/16"	29/32"	350	5/16"	6384K57	9.20	5/16"	6384K46	11.46
7/16"	1 1/8"	600	3/8"	6384K59	9.96	3/8"	6384K47	11.27
7/16"	1 3/8"	940	7/16"	6384K62	10.81	7/16"	6384K48	12.99
1/2"	1 1/8"	600	3/8"	6384K61	9.40	3/8"	6384K49	10.66
1/2"	1 3/8"	940	7/16"	6384K63	10.39	7/16"	6384K74	12.30
9/16"	1 3/8"	940	7/16"	6384K64	10.59	7/16"	6384K75	14.20
5/8"	1 3/8"	940	7/16"	6384K65	10.39	7/16"	6384K76	12.30
5/8"	1 5/8"	1,300	1/2"	6384K66	14.28	1/2"	6384K77	16.29
5/8"	1 3/4"	1,300	1/2"	6384K68	14.33	—	—	—
3/4"	1 5/8"	1,300	1/2"	6384K67	14.01	1/2"	6384K79	15.98
3/4"	1 3/4"	1,300	1/2"	6384K69	14.33	1/2"	6384K81	16.21
3/4"	2"	1,480	9/16"	6384K71	16.48	9/16"	6384K82	19.37
7/8"	2"	1,480	9/16"	6384K72	16.48	9/16"	6384K83	19.37
1"	2"	1,480	9/16"	6384K73	16.48	9/16"	6384K84	19.37

▲ Seal is plastic.

(Continued on following page)

Light Duty Ball Bearings *(Continued from previous page)*

Flanged Open with Extended Inner Ring

For Shaft Dia.	OD	Wd.	Flange OD	Flange Thick.	Dynamic Load Cap., lbs.		
1/4"	11/16"	5/16"	0.807"	3/64"	330	6383K213	$3.55
1/4"	7/8"	5/16"	1"	3/64"	400	6383K214	4.98
5/16"	7/8"	5/16"	1"	3/64"	425	6383K215	4.98
3/8"	1 1/16"	7/16"	1.182"	1/16"	635	6383K227	5.98
3/8"	1 1/8"	1/2"	1 1/4"	1/16"	635	6383K232	6.12
7/16"	1 1/16"	7/16"	1.182"	1/16"	635	6383K224	6.02
1/2"	1 1/8"	7/16"	1 1/4"	1/16"	310	6383K234♣	8.72
1/2"	1 3/8"	1/2"	1 1/2"	1/16"	450	6383K241♣	11.57
1/2"	1 1/2"	11/16"	1 5/8"	1/16"	1,325	6383K245	9.21
1/2"	1 3/4"	5/8"	1 7/8"	1/16"	1,400	6383K253	11.88
5/8"	1 3/8"	1/2"	1 1/2"	1/16"	450	6383K244♣	11.57
5/8"	1 1/2"	31/64"	1 5/8"	1/16"	1,325	6383K247	9.23
3/4"	1 3/4"	5/8"	1 7/8"	1/16"	1,550	6383K251	11.14
1"	2"	9/16"	2 1/8"	1/16"	820	6383K257♣	17.25

♣ Max. speed is 1,000 rpm; lubricated with grease.

Flanged Double Sealed with Extended Inner Ring

For Shaft Dia.	OD	Wd.	Flange OD	Flange Thick.	Dynamic Load Cap., lbs.		
1/4"	11/16"	3/8"	13/16"	1/16"	255	6384K342♠	$7.21
5/16"	7/8"	13/32"	1"	1/16"	325	6384K343	8.43
3/8"	7/8"	13/32"	1"	1/16"	325	6384K344	7.96
3/8"	29/32"	13/32"	1"	1/16"	350	6384K346	9.44
3/8"	1 1/8"	7/16"	1 1/4"	1/16"	600	6384K348	9.33
1/2"	1 1/8"	7/16"	1 1/4"	1/16"	310	6384K361♦	11.27
1/2"	1 3/8"	1/2"	1 1/2"	1/16"	450	6384K363♦	12.77
5/8"	1 3/8"	1/2"	1 1/2"	1/16"	450	6384K365♦	12.77
3/4"	1 5/8"	9/16"	1 3/4"	1/16"	1,300	6384K367	12.10
3/4"	1 3/4"	9/16"	1 7/8"	1/16"	1,300	6384K369	12.32
3/4"	2"	5/8"	2 1/8"	1/16"	1,480	6384K374	17.00
1"	2"	9/16"	2 1/8"	1/16"	820	6384K373♦	21.94

♠ Seal is plastic.
♦ Max. speed is 1,000 rpm; seal is plastic.

Stainless Steel Ball Bearings


Open


Flanged Double Shielded


Double Sealed


Flanged with Extended Inner Ring

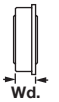

Flanged with Extended Inner Ring

Good for washdown applications, these 440C stainless steel bearings provide increased corrosion resistance over steel ball bearings.

Standard and Premium—Temperature range is -20° to 240° F. *Open* bearings are lubricated with oil, unless noted. *Double-shielded* and *double-sealed* bearings come greased. *Double-sealed* bearings have Buna-N rubber seals, unless noted. *Standard* bearings are made to ABEC-1 dimensional tolerance standards. *Premium* bearings are made to ABEC-3 dimensional tolerance standards.

Precision—Made to ABEC-5 dimensional tolerance standards. They come oiled. Temperature range is -60° to 250° F. *Bearings with extended inner ring* provide additional shaft support.

Ultra Precision—Made to ABEC-7 dimensional tolerance standards. *Open* bearings come oiled and withstand temperatures from -10° to 240° F. *Double shielded* bearings come greased and withstand temperatures from -20° to 250° F, except the flanged bearings withstand temperatures from -60° to 250° F.

Standard (ABEC-1)—Inch

Bearing No.	For Shaft Dia.	OD	Dynamic Load Cap., lbs.	Open Wd.	Open Max. rpm			Double Shielded Wd.	Double Shielded Max. rpm			Double Sealed Wd.	Double Sealed Max. rpm		
R2	1/8"	3/8"	110	5/32"	67,000	6138K11	$6.60	5/32"	56,000	6138K52	$5.26	5/32"	56,000	6138K63	$6.61
R3	3/16"	1/2"	230	5/32"	53,000	6138K42	5.59	0.196"	43,000	6138K53	5.59	0.196"	43,000	6138K64	6.92
R4	1/4"	5/8"	265	0.196"	45,000	6138K13	7.34	0.196"	38,000	6138K54	5.76	0.196"	38,000	6138K65	7.05
R6	3/8"	7/8"	595	7/32"	38,000	6138K14	10.99	9/32"	32,000	6138K24	11.05	9/32"	32,000	6138K66	13.27
R8	1/2"	1 1/8"	915	1/4"	32,000	6138K15	18.37	5/16"	27,000	6138K25	18.29	5/16"	27,000	6138K67	21.87
R10	5/8"	1 3/8"	1,075	9/32"	21,000	6138K16	27.20	11/32"	21,000	6138K26	27.18	11/32"	21,000	6138K68	28.66
R12	3/4"	1 5/8"	1,685	5/16"	21,000	6138K69	25.57	7/16"	17,000	6138K71	30.97	7/16"	17,000	6138K72	31.53

Standard (ABEC-1)—Metric

Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Max. rpm	Open Dynamic Load Cap., lbs.			Double Shielded Dynamic Load Cap., lbs.			Double Sealed Dynamic Load Cap., lbs.		
6200	10	30	9	24,000	780	6153K117▲	$24.74	780	6153K54	$24.73	975	6153K74	$26.22
6201	12	32	10	22,000	1,037	6153K118▲	31.47	1,037	6153K55	31.50	1,295	6153K75	32.82
6202	15	35	11	20,000	1,167	6153K119▲	32.95	1,167	6153K56	33.09	1,455	6153K76	33.75
6203	17	40	12	17,000	1,461	6153K121▲	38.21	1,461	6153K57	38.17	1,825	6153K77	39.29
6204	20	47	14	15,000	1,962	6153K122▲	39.89	1,962	6153K58	41.85	2,450	6153K78	42.89
6205	25	52	15	13,000	2,140	6153K123▲	44.69	2,140	6153K59	44.63	2,675	6153K79	45.40
6206	30	62	16	11,000	2,972	6153K124▲	57.05	2,972	6153K61	59.78	3,715	6153K81	61.34

▲ Lubricated with grease.

Premium (ABEC-3)—Metric

Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Dynamic Load Cap., lbs.	Open Max. rpm			Double Shielded Max. rpm			Double Sealed Max. rpm		
608	8	22	7	590	40,000	6153K111	$11.85	34,000	6153K51	$12.33	34,000	6153K71	$13.54
609	9	24	7	600	32,000	6153K112▲	12.01	32,000	6153K12	12.52	32,000	6153K68	13.03
625	5	16	5	310	43,000	6153K113	11.85	36,000	6153K15	12.60	36,000	6153K69★	12.71
627	7	22	7	590	36,000	6153K114	12.73	30,000	6153K27	12.72	30,000	6153K72	13.64
629	9	26	8	820	34,000	6153K115	14.63	28,000	6153K53	14.65	28,000	6153K73	17.18
698	8	19	6	400	43,000	6153K116	11.08	36,000	6153K22	21.15	36,000	6153K88	22.27

▲ Lubricated with grease. ★ Seal is PTFE.

Precision (ABEC-5)—Inch

Bearing No.	For Shaft Dia.	OD	Dynamic Load Cap., lbs.	Max. rpm	Open Wd.			Double Shielded Wd.			Double Shielded with Extended Inner Ring O'all Wd.	Double Shielded with Extended Inner Ring Wd.		
R0	0.047"	5/32"	30	120,000	1/16"	57155K341	$7.50	3/32"	57155K359	$7.72	1/8"	3/32"	57155K11	$8.97
R09	0.04"	1/8"	20	140,000	3/64"	57155K339	10.97							
R1	0.055"	3/16"	50	110,000	5/64"	57155K342	6.23	7/64"	57155K361	7.87	9/64"	7/64"	57155K12	10.70
R1	5/64"	1/4"	70	80,000	3/32"	57155K343	5.69	9/64"	57155K362	6.71	11/64"	9/64"	57155K379	7.97
R1	3/32"	5/16"	120	71,000	7/64"	57155K345	7.42	9/64"	57155K364	8.28	11/64"	9/64"	57155K381	7.45

(Continued on following page)

Stainless Steel Ball Bearings *(Continued from previous page)*


Open


Flanged Double Shielded


Double Sealed


Flanged with Extended Inner Ring


Wd.

Flanged with Extended Inner Ring

Good for washdown applications, these 440C stainless steel bearings provide increased corrosion resistance over steel ball bearings.

Standard and Premium—Temperature range is -20° to 240° F. *Open* bearings are lubricated with oil, unless noted. *Double-shielded* and *double-sealed* bearings come greased. *Double-sealed* bearings have Buna-N rubber seals, unless noted. *Standard* bearings are made to ABEC-1 dimensional tolerance standards. *Premium* bearings are made to ABEC-3 dimensional tolerance standards.

Precision—Made to ABEC-5 dimensional tolerance standards. They come oiled. Temperature range is -60° to 250° F. *Bearings with extended inner ring* provide additional shaft support.

Ultra Precision—Made to ABEC-7 dimensional tolerance standards. *Open* bearings come oiled and withstand temperatures from -10° to 240° F. *Double shielded* bearings come greased and withstand temperatures from -20° to 250° F, except the flanged bearings withstand temperatures from -60° to 250° F.

Precision (ABEC-5)—Inch (Cont.)

Bearing No.	For Shaft Dia.	OD	Dynamic Load Cap., lbs.	Max. rpm	Open			Double Shielded			Double Shielded with Extended Inner Ring			
					Wd.			Wd.			O'all Wd.	Wd.		
R2	1/8"	5/16"	120	71,000	7/64"	57155K347	$4.37	9/64"	57155K366	$4.85	11/64"	9/64"	57155K383	$6.42
R2	1/8"	3/8"	140	63,000	7/64"	57155K348	5.87	9/64"	57155K367	4.75	11/64"	9/64"	57155K14	7.65
R2	1/8"	3/8"	140	67,000	5/32"	57155K349	5.19	5/32"	57155K368	5.22	—	—	—	—
R2A	1/8"	1/2"	140	63,000	—	—	—	11/64"	57155K369	7.88	—	—	—	—
R3	3/16"	1/2"	290	50,000	5/32"	57155K354	4.92	0.196"	57155K374	5.38	0.227"	0.196"	57155K385	5.90
R4	1/4"	5/8"	335	45,000	0.196"	57155K357	5.03	0.196"	57155K377	4.63	0.227"	0.196"	57155K388	4.78
R133	3/32"	3/16"	30	95,000	—	—	—	3/32"	57155K363	7.25	1/8"	3/32"	57155K13	10.30
R133	3/32"	3/16"	40	95,000	1/16"	57155K344	6.72	—	—	—	—	—	—	—
R144	1/8"	1/4"	60	80,000	3/32"	57155K346	5.05	7/64"	57155K365	5.12	9/64"	7/64"	57155K382	5.54
R155	5/32"	5/16"	80	63,000	7/64"	57155K351	4.98	1/8"	57155K371	6.97	5/32"	1/8"	57155K15	7.28
R156	3/16"	5/16"	80	63,000	7/64"	57155K352	6.10	1/8"	57155K372	5.23	5/32"	1/8"	57155K16	7.35
R166	3/16"	3/8"	160	60,000	1/8"	57155K353	4.06	1/8"	57155K373	5.10	5/32"	1/8"	57155K384	6.33
R168	1/4"	3/8"	80	56,000	1/8"	57155K355	6.00	1/8"	57155K375	5.28	5/32"	1/8"	57155K386	9.25
R188	1/4"	1/2"	240	50,000	1/8"	57155K356	4.98	3/16"	57155K376	5.10	7/32"	3/16"	57155K387	5.21
R1810	5/16"	1/2"	120	48,000	5/32"	57155K358	6.20	5/32"	57155K378	6.43	3/16"	5/32"	57155K389	6.38

Precision (ABEC-5)—Metric

Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Dynamic Load Cap., lbs.	Max. rpm	Double Shielded	
—	0.6	2	0.8	10	Not Rated	2396K1★	$60.00
—	4	9	0.79	20	Not Rated	2396K2★	21.60
52	2	5	2.5	35	100,000	7804K119	5.79
63	3	6	2.5	45	80,000	7804K124	6.79
85	5	8	2.5	65	63,000	7804K104	6.08
95	5	9	3	95	60,000	7804K105	7.23
104	4	10	4	130	56,000	7804K1	6.18
105	5	10	4	95	60,000	7804K106	6.51
106	6	10	3	110	53,000	7804K111	6.64
115	5	11	4	160	53,000	7804K107	6.34
126	6	12	4	160	50,000	7804K112	7.67
128	8	12	3.5	120	48,000	7804K115	7.21
148	8	14	4	180	45,000	7804K116	6.57
604	4	12	4	215	53,000	7804K102	$6.28
605	5	14	5	295	48,000	7804K109	7.23
623	3	10	4	140	56,000	7804K128	7.18
624	4	13	5	290	48,000	7804K103	6.34
683	3	7	3	70	75,000	7804K125	7.41
686	6	13	5	240	48,000	7804K113	5.54
687	7	14	5	260	45,000	7804K114	7.23
688	8	16	5	280	43,000	7804K117	6.13
689	9	17	5	295	43,000	7804K118	7.41
692	2	6	3	70	90,000	7804K121	6.05
693	3	8	4	125	67,000	7804K126	7.72
694	4	11	4	215	53,000	7804K101	6.38
695	5	13	4	240	50,000	7804K108	5.77

★ Bearings are open.

Ultra Precision (ABEC-7)—Inch

Bearing No.	For Shaft Dia.	OD	Open					Double Shielded				
			Wd.	Dynamic Load Cap., lbs.	Max. rpm			Wd.	Dynamic Load Cap., lbs.	Max. rpm		
R0	0.047"	5/32"	1/16"	15	100,000	3826T2	$19.73	3/32"	15	80,000	3759T41	$20.82
R09	0.04"	1/8"	3/64"	5	100,000	3826T1	22.07	—	—	—	—	—
R1	0.055"	3/16"	5/64"	30	100,000	3826T3	15.22	7/64"	25	68,000	3759T42	16.83
R1	5/64"	1/4"	3/32"	35	100,000	3826T4	13.82	9/64"	35	48,000	3759T43	16.67
R1	3/32"	5/16"	7/64"	75	74,000	3826T6	13.95	9/64"	60	34,000	3759T45	17.10
R2	1/8"	5/16"	7/64"	75	74,000	3826T8	13.03	9/64"	60	25,000	3759T47	13.35
R2	1/8"	3/8"	5/32"	90	61,000	3826T9	12.73	9/64"	60	25,000	3759T48	17.83
R2	1/8"	3/8"	—	—	—	—	—	5/32"	65	25,000	3759T49	10.79
R2A	1/8"	1/2"	—	—	—	—	—	11/64"	65	25,000	3759T51	18.78
R3	3/16"	1/2"	5/32"	230	45,000	3826T14	15.92	0.196"	140	17,000	3759T55	9.05
R4	1/4"	5/8"	0.196"	255	36,000	3826T17	19.32	0.196"	155	13,000	3759T58	8.60
R133	3/32"	3/16"	1/16"	20	100,000	3826T5	13.82	3/32"	15	34,000	3759T44	18.77
R144	1/8"	1/4"	3/32"	40	84,000	3826T7	13.82	7/64"	30	25,000	3759T46	8.27
R155	5/32"	5/16"	7/64"	55	68,000	3826T11	15.35	1/8"	40	20,000	3759T52	18.55
R156	3/16"	5/16"	7/64"	40	63,000	3826T12	17.93	1/8"	40	17,000	3759T53	13.79
R166	3/16"	3/8"	1/8"	100	56,000	3826T13	16.15	1/8"	75	17,000	3759T54	10.55
R168	1/4"	3/8"	1/8"	45	50,000	3826T15	19.20	1/8"	40	15,000	3759T56	8.89
R188	1/4"	1/2"	1/8"	160	42,000	3826T16	17.05	3/16"	85	13,000	3759T57	9.64
R1810	5/16"	1/2"	5/32"	120	39,000	3826T18	21.22	5/32"	90	10,000	3759T59	11.02

(Continued on following page)

Stainless Steel Ball Bearings *(Continued from previous page)*

Flanged Precision (ABEC-5) Open—Inch

Bearing No.	For Shaft Dia.	OD	Wd.	Flange OD	Flange Thick.	Dynamic Load Cap., lbs.	Max. rpm		
R0	0.047″	5/32″	1/16″	0.203″	0.01″	30	120,000	57155K201	$9.97
R1	5/64″	1/4″	3/32″	0.296″	0.02″	70	80,000	57155K202	7.87
R1	3/32″	5/16″	7/64″	0.359″	0.02″	120	71,000	57155K204	7.31
R2	1/8″	5/16″	7/64″	0.359″	0.02″	120	71,000	57155K206	5.27
R2	1/8″	3/8″	5/32″	0.44″	0.03″	140	67,000	57155K207	6.33
R3	3/16″	1/2″	5/32″	0.565″	0.04″	290	50,000	57155K302	5.00
R4	1/4″	5/8″	0.196″	0.69″	0.04″	335	45,000	57155K305	4.96
R133	3/32″	3/16″	1/16″	0.234″	0.02″	40	95,000	57155K203	7.58
R144	1/8″	1/4″	3/32″	0.296″	0.02″	60	80,000	57155K205	5.71
R155	5/32″	5/16″	7/64″	0.359″	0.02″	80	63,000	57155K208	7.41
R156	3/16″	5/16″	7/64″	0.359″	0.02″	80	63,000	57155K209	5.98
R166	3/16″	3/8″	1/8″	0.422″	0.02″	160	60,000	57155K301	6.97
R168	1/4″	3/8″	1/8″	0.422″	0.02″	80	56,000	57155K303	6.38
R188	1/4″	1/2″	1/8″	0.547″	0.02″	240	50,000	57155K304	5.62
R1810	5/16″	1/2″	5/32″	0.547″	0.03″	120	48,000	57155K306	6.88

Flanged Precision (ABEC-5) Double Shielded—Inch

Bearing No.	For Shaft Dia.	OD	Wd.	Flange OD	Flange Thick.	Dynamic Load Cap., lbs.	Max. rpm	Double Shielded		Double Shielded with Extended Inner Ring O'all Wd.		
R0	0.047″	5/32″	3/32″	0.203″	0.03″	30	120,000	57155K307	$8.44	1/8″	57155K18	$10.82
R1	5/64″	1/4″	9/64″	0.296″	0.03″	70	80,000	57155K309	8.42	11/64″	57155K326	9.45
R1	3/32″	5/16″	9/64″	0.359″	0.03″	120	71,000	57155K312	8.32	11/64″	57155K328	9.48
R2	1/8″	5/16″	9/64″	0.359″	0.03″	120	71,000	57155K314	6.28	11/64″	57155K331	7.45
R2	1/8″	3/8″	9/64″	0.422″	0.03″	140	63,000	57155K315	7.08	11/64″	57155K332	7.80
R2	1/8″	3/8″	5/32″	0.44″	0.03″	140	67,000	57155K316	5.21	—	—	—
R3	3/16″	1/2″	0.196″	0.565″	0.04″	290	50,000	57155K321	6.38	—	—	—
R4	1/4″	5/8″	0.196″	0.69″	0.04″	335	45,000	57155K324	5.85	—	—	—
R133	3/32″	3/16″	3/32″	0.234″	0.03″	30	95,000	57155K311	7.03	1/8″	57155K327	8.13
R144	1/8″	1/4″	7/64″	0.296″	0.03″	60	80,000	57155K313	5.67	9/64″	57155K329	7.80
R155	5/32″	5/16″	1/8″	0.359″	0.04″	80	63,000	57155K317	7.65	5/32″	57155K2	10.03
R156	3/16″	5/16″	1/8″	0.359″	0.04″	80	63,000	57155K318	6.35	5/32″	57155K334	6.93
R166	3/16″	3/8″	1/8″	0.422″	0.03″	160	60,000	57155K319	4.78	5/32″	57155K335	7.50
R168	1/4″	3/8″	1/8″	0.422″	0.04″	80	56,000	57155K322	7.60	5/32″	57155K336	7.00
R188	1/4″	1/2″	3/16″	0.547″	0.05″	240	50,000	57155K323	5.70	7/32″	57155K337	7.00
R1010	5/16″	1/2″	5/32″	0.547″	0.03″	120	48,000	—	—	3/16″	57155K338	8.72
R1810	5/16″	1/2″	5/32″	0.547″	0.03″	120	48,000	57155K325	6.88	—	—	—

Flanged Precision (ABEC-5)—Metric

Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Flange OD	Flange Thick.	Dynamic Load Cap., lbs.	Max. rpm	Double Shielded	
95	5	9	3	10.2	0.6	95	60,000	7804K135	$7.66
104	4	10	4	11.6	0.8	130	56,000	7804K129	7.46
105	5	10	4	11.6	0.8	95	60,000	7804K136	7.38
106	6	10	3	11.2	0.6	110	53,000	7804K141	10.82
126	6	12	4	13.6	0.8	160	50,000	7804K142	7.49
128	8	12	3.5	13.6	0.8	120	48,000	7804K145	7.77
148	8	14	4	15.6	0.8	180	45,000	7804K146	7.64
686	6	13	5	15	1.1	240	48,000	7804K143	7.49
688	8	16	5	18	1.1	280	43,000	7804K147	7.15
689	9	17	5	19	1.1	295	43,000	7804K148	9.46
695	5	13	4	15	1	240	50,000	7804K138	8.26

Flanged Ultra Precision (ABEC-7)—Inch

Bearing No.	For Shaft Dia.	OD	Flange OD	Open: Flange Thick.	Open: Wd.	Open: Dynamic Load Cap., lbs.	Open: Max. rpm			Double Shielded: Flange Thick.	Double Shielded: Wd.	Double Shielded: Dynamic Load Cap., lbs.	Double Shielded: Max. rpm		
FR0	0.047″	5/32″	0.203″	0.01″	1/16″	15	100,000	4259T1	$20.28	0.03″	3/32″	15	80,000	4262T21	$21.73
FR1	0.055″	3/16″	0.234″	0.02″	5/64″	30	100,000	4259T2	18.30	0.03″	7/64″	25	68,000	4262T22	18.83
FR1	5/64″	1/4″	0.296″	0.02″	3/32″	35	100,000	4259T3	18.37	—	—	—	—	—	—
FR1	3/32″	5/16″	0.359″	0.02″	7/64″	75	74,000	4259T5	18.37	0.03″	9/64″	60	34,000	4262T25	17.93
FR2	1/8″	5/16″	0.359″	0.02″	7/64″	75	74,000	4259T7	15.53	0.03″	9/64″	60	25,000	4262T27	17.45
FR2	1/8″	3/8″	0.44″	0.03″	5/32″	90	61,000	4259T8	15.22	0.03″	5/32″	65	25,000	4262T28	19.13
FR3	3/16″	1/2″	0.565″	0.04″	0.196″	230	45,000	4259T13	21.15	0.04″	0.196″	140	17,000	4262T34	9.89
FR4	1/4″	5/8″	0.69″	0.04″	0.196″	255	36,000	4259T16	23.48	0.04″	0.196″	155	13,000	4262T37	10.70
FR133	3/32″	3/16″	0.234″	0.02″	1/16″	20	100,000	4259T4	15.62	0.03″	3/32″	15	34,000	4262T24	21.42
FR144	1/8″	1/4″	0.296″	0.02″	3/32″	40	84,000	4259T6	15.62	0.03″	7/64″	30	25,000	4262T26	10.64
FR155	5/64″	1/4″	0.296″	—	—	—	—	—	—	0.03″	9/64″	35	48,000	4262T23	17.33
FR155	5/32″	5/16″	0.359″	0.02″	7/64″	55	68,000	4259T9	17.05	0.04″	1/8″	40	20,000	4262T31	21.83
FR156	3/16″	5/16″	0.359″	0.02″	7/64″	40	63,000	4259T11	18.40	0.04″	1/8″	40	17,000	4262T32	20.42
FR166	3/16″	3/8″	0.422″	0.02″	1/8″	100	56,000	4259T12	17.02	0.03″	1/8″	75	17,000	4262T33	11.39
FR168	1/4″	3/8″	0.422″	0.02″	1/8″	45	50,000	4259T14	20.15	0.04″	1/8″	40	15,000	4262T35	11.39
FR188	1/4″	1/2″	0.547″	0.02″	1/8″	160	42,000	4259T15	18.65	0.05″	3/16″	85	13,000	4262T36	10.47
FR1810	5/16″	1/2″	0.547″	0.03″	5/32″	120	39,000	4259T17	24.05	0.03″	5/32″	90	10,000	4262T38	10.40

Ultra Corrosion-Resistant Stainless Steel Ball Bearings



These 316 stainless steel bearings are even more corrosion resistant than our 440C stainless steel bearings, but they're not as strong. They are open and require lubrication. Temperature range is -40° to 140° F.

Bearing No.	For Shaft Dia.	OD	Wd.	Dynamic Load Cap., lbs.	Max. rpm		
Inch							
R4	1/4"	5/8"	0.196"	75	2,300	5908K11	$26.72
R4A	1/4"	3/4"	7/32"	75	2,300	5908K12	27.87
R6	3/8"	7/8"	7/32"	125	1,600	5908K13	29.26
R6	3/8"	7/8"	9/32"	125	1,600	5908K14	27.87
R8	1/2"	1 1/8"	1/4"	165	1,100	5908K15	34.49
R12	3/4"	1 5/8"	5/16"	230	800	5908K19	43.47
R16	1"	2"	1/2"	275	700	5908K21	62.39
1614	3/8"	1 1/8"	3/8"	165	1,100	5908K16	34.54
1621	1/2"	1 3/8"	7/16"	205	1,000	5908K17	34.43
1623	5/8"	1 3/8"	7/16"	205	1,000	5908K18	34.43

Bearing No.	For Shaft Dia.	OD	Wd.	Dynamic Load Cap., lbs.	Max. rpm		
Metric—Dimensions in mm							
608	8	22	7	125	1,600	5908K31	$27.82
625	5	16	5	75	2,300	5908K51	27.82
6000	10	26	8	125	1,600	5908K52	32.19
6001	12	28	8	165	1,100	5908K34	32.65
6002	15	32	9	165	1,100	5908K35	31.67
6004	20	42	12	230	800	5908K56	43.28
6005	25	47	12	275	700	5908K58	57.75
6200	10	30	9	165	1,100	5908K39	29.65
6201	12	32	10	165	1,100	5908K41	31.67
6202	15	35	11	205	1,000	5908K53	34.32

Permanently Lubricated Stainless Steel Ball Bearings



Open



Double Sealed

Because these 440C stainless steel bearings have a solid polymer grease filling between the balls and race, they require little to no maintenance, so you can install them in hard-to-reach places. The solid lubricant also blocks out water and dust, extending the life of the bearing. All bearings are made to ABEC-1 dimensional tolerance standards. Double-sealed bearings have Buna-N rubber seals. Temperature range is 10° to 200° F for bearings lubricated with solid lubricant; -20° to 210° F for bearings lubricated with food-grade solid lubricant.

Bearing No.	For Shaft Dia.	OD	Dynamic Load Cap., lbs.	Max. rpm	Open Wd.			Double Sealed Wd.		
With Solid Lubricant										
R2	1/8"	3/8"	55	50,000	5/32"	4668K1	$19.56	5/32"	4668K9	$19.98
R3	3/16"	1/2"	115	37,500	5/32"	4668K2	12.86	0.196"	4668K11	17.48
R4	1/4"	5/8"	130	28,500	0.196"	4668K3	10.20	0.196"	4668K12	15.66
R6	3/8"	7/8"	460	19,300	7/32"	4668K5	13.98	9/32"	4668K14	15.40
R8	1/2"	1 1/8"	705	15,000	1/4"	4668K6	21.78	5/16"	4668K15	22.12
R10	5/8"	1 3/8"	830	12,200	9/32"	4668K7	24.64	11/32"	4668K16	25.10
With Food-Grade Solid Lubricant										
R2	1/8"	3/8"	110	50,000	5/32"	4648K1	21.60	5/32"	4648K9	21.98
R3	3/16"	1/2"	230	37,500	5/32"	4648K2	14.12	0.196"	4648K11	19.24
R4	1/4"	5/8"	265	28,500	0.196"	4648K3	11.26	0.196"	4648K12	17.24
R6	3/8"	7/8"	595	19,300	7/32"	4648K5	15.40	9/32"	4648K14	16.90
R8	1/2"	1 1/8"	915	15,000	1/4"	4648K6	23.98	5/16"	4648K15	24.28
R10	5/8"	1 3/8"	1,075	12,200	9/32"	4648K7	27.10	11/32"	4648K16	27.62

Self-Aligning Flanged Ball Bearings



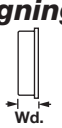

No need to worry about precisely aligning these bearings—they swivel inside their flanged housing to compensate for up to 5° of shaft misalignment. Bearings are shielded on both sides to block out dust and contaminants. These bearings are 52100 steel and meet ABEC-3 dimensional tolerance standards. Maximum speed is 40,000 rpm, unless noted. Temperature range is -30° to 250° F.

For Shaft Dia.	OD	Wd.	Flange OD	Flange Thick.			
Inch							
3/16"	0.645"	9/32"	0.69"	0.03"	1293N1	$16.57	
1/4"	0.645"	9/32"	0.69"	0.03"	1293N2	16.57	
5/16"	0.645"	9/32"	0.69"	0.03"	1293N3	16.57	
3/8"	0.947"	3/8"	1"	0.03"	1293N7 ★	19.70	

For Shaft Dia.	OD	Wd.	Flange OD	Flange Thick.			
Metric—Dimensions in mm							
5	16.4	7.2	17.5	0.75	1293N4	$16.57	
6	16.4	7.2	17.5	0.75	1293N5	16.57	
8	16.4	7.2	17.5	0.75	1293N6	16.57	
10	24	10	25.4	0.75	1293N8 ★	19.70	

★ Maximum speed is 36,000 rpm.

Plastic Ball Bearings



General Purpose



Flanged

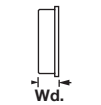

Flanged

Plastic ball bearings have excellent corrosion and chemical resistance. All are open bearings and do not require lubrication.

General Purpose Acetal—Choose these bearings for their all-around corrosion and chemical resistance. Temperature range is -40° to 180° F. **Stainless steel** balls offer excellent corrosion resistance. **Glass** balls offer even more corrosion resistance than stainless steel balls. **Flanged** bearings are only available with stainless steel balls.

High-Temperature PEEK—These bearings operate in temperatures up to 480° F, nearly 200° higher than any other ball bearing we offer. They also are strong, resist a wide range of chemicals, and run at higher speeds than other plastic ball bearings. Balls are stainless steel. Minimum temperature is -20° F.

Water Resistant PVDF—Bearings resist moisture absorption, so they won't warp in underwater applications. Balls are stainless steel. Temperature range is -20° to 250° F.

General Purpose Acetal—Inch

Bearing No.	For Shaft Dia.	OD	Wd.	Dynamic Load Cap., lbs.	Max. rpm	With Stainless Steel Balls		With Glass Balls	
R3	3/16"	1/2"	5/32"	15	3,100	6455K1	$6.03	6455K7	$7.80
R4	1/4"	5/8"	0.196"	25	2,300	6455K2	6.03	6455K8	8.15
R4A	1/4"	3/4"	9/32"	25	2,300	6455K13	6.00	6455K52	7.74
R6	3/8"	7/8"	7/32"	40	1,600	6455K15	7.01	6455K54	8.91
R6	3/8"	7/8"	9/32"	40	1,600	6455K3	6.69	6455K9	8.58
R8	1/2"	1 1/8"	1/4"	55	1,100	6455K23	6.25	6455K64	9.29
R8	1/2"	1 1/8"	3/8"	55	1,100	6455K4	6.88	6455K11	8.84

(Continued on following page)

Plastic Ball Bearings *(Continued from previous page)*

General Purpose Acetal—Inch (Cont.)

Bearing No.	For Shaft Dia.	OD	Wd.	Dynamic Load Cap., lbs.	Max. rpm	With Stainless Steel Balls		With Glass Balls	
R8A	3/8"	1 1/8"	3/8"	55	1,100	6455K19	$6.25	6455K58	$9.29
____	3/8"	1 3/8"	7/16"	65	1,000	6455K29	6.89	6455K72	8.95
____	5/8"	1 1/8"	5/16"	55	1,100	6455K35	6.25	6455K78	9.29
R10	5/8"	1 3/8"	3/8"	65	1,000	6455K37	6.17	6455K82	9.39
R10	5/8"	1 3/8"	7/16"	65	1,000	6455K39	6.89	6455K84	9.39
R12	3/4"	1 5/8"	5/16"	75	800	6455K5	14.24	6455K12	15.82
____	1"	1 5/8"	1/2"	75	800	6455K43	6.20	6455K88	6.68
R16	1"	2"	1/2"	90	700	6455K6	16.13	6455K14	17.93
1164	3/4"	1 3/4"	15/32"	75	800	6455K41	12.35	6455K86	16.04
1621	1/2"	1 3/8"	3/8"	65	1,000	6455K27	6.43	6455K68	8.95
1621	1/2"	1 3/8"	7/16"	65	1,000	6455K31	6.89	6455K74	9.39

General Purpose Acetal—Metric

Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Dynamic Load Cap., lbs.	Max. rpm			Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Dynamic Load Cap., lbs.	Max. rpm		
608	8	22	7	40	1,600	6455K44	$6.88	6200	10	30	9	55	1,100	6455K45	$7.98
624	4	13	5	15	3,100	6455K91	6.63	6201	12	32	10	55	1,100	6455K46	8.18
625	5	16	5	25	2,300	6455K92	6.63	6202	15	35	11	65	1,000	6455K47	9.00
626	6	19	6	25	2,300	6455K93	6.88	6203	17	40	12	65	1,000	6455K48	9.40
627	7	22	7	40	1,600	6455K94	6.88	6204	20	47	14	75	800	6455K49	16.53
629	9	26	7	40	1,600	6455K95	7.60								

Flanged General Purpose Acetal—Inch

Bearing No.	For Shaft Dia.	OD	Wd.	Flange OD	Flange Thick.	Dynamic Load Cap., lbs.	Max. rpm		
FR4	1/4"	5/8"	0.196"	0.69"	0.04"	25	2,300	1301N1	$9.73
FR6	3/8"	7/8"	7/32"	0.965"	0.06"	40	1,600	1301N2	10.48
FR6A	3/8"	7/8"	9/32"	0.965"	0.06"	40	1,600	1301N3	10.48
FR8	1/2"	1 1/8"	3/8"	1 1/4"	0.06"	55	1,100	1301N4	10.68
FR10	1/2"	1 3/8"	7/16"	1 1/2"	0.06"	65	1,000	1301N5	10.93
FR10	5/8"	1 3/8"	7/16"	1 1/2"	0.06"	65	1,000	1301N6	10.93
FR12	3/4"	1 5/8"	7/16"	1 3/4"	0.06"	75	800	1301N7	20.03
FR16	1"	2"	1/2"	2 1/8"	0.06"	90	700	1301N8	22.33

High-Temperature PEEK—Inch

Bearing No.	For Shaft Dia.	OD	Wd.	Dynamic Load Cap., lbs.	Max. rpm			Bearing No.	For Shaft Dia.	OD	Wd.	Dynamic Load Cap., lbs.	Max. rpm		
R3	3/16"	1/2"	5/32"	20	3,800	1258N11	$45.63	R8	1/2"	1 1/8"	3/8"	65	1,300	1258N19	$51.93
R4	1/4"	5/8"	0.196"	30	2,800	1258N12	45.63	R8A	3/8"	1 1/8"	3/8"	65	1,300	1258N18	51.93
R4A	1/4"	3/4"	7/32"	30	2,800	1258N13	49.85	R10	5/8"	1 3/8"	7/16"	80	1,200	1258N22	53.55
R4A	1/4"	3/4"	9/32"	30	2,800	1258N14	49.85	R12	3/4"	1 5/8"	7/16"	90	1,000	1258N23	86.05
R6	3/8"	7/8"	7/32"	50	1,900	1258N15	50.58	R16	1"	2"	1/2"	110	800	1258N24	127.68
R6	3/8"	7/8"	9/32"	50	1,900	1258N16	50.58	1621	1/2"	1 3/8"	7/16"	80	1,200	1258N21	53.55
R8	1/2"	1 1/8"	1/4"	65	1,300	1258N17	51.93								

Water-Resistant PVDF—Inch

Bearing No.	For Shaft Dia.	OD	Wd.	Dynamic Load Cap., lbs.	Max. rpm			Bearing No.	For Shaft Dia.	OD	Wd.	Dynamic Load Cap., lbs.	Max. rpm		
R3	3/16"	1/2"	5/32"	15	3,100	7003K91	$32.35	R8A	3/8"	1 1/8"	3/8"	55	1,100	7003K96	$43.30
R4	1/4"	5/8"	0.196"	25	2,300	7003K92	33.05	R10	5/8"	1 3/8"	7/16"	65	1,000	7003K99	49.83
R4A	1/4"	3/4"	9/32"	25	2,300	7003K93	33.05	R12	3/4"	1 5/8"	5/16"	75	800	7003K83	60.08
R6	3/8"	7/8"	7/32"	40	1,600	7003K94	33.78	R16	1"	2"	1/2"	90	700	7003K84	82.63
R6	3/8"	7/8"	9/32"	40	1,600	7003K95	35.43	1621	1/2"	1 3/8"	7/16"	65	1,000	7003K98	49.83
R8	1/2"	1 1/8"	3/8"	55	1,100	7003K97	43.30								

One-Way Locking Ball Bearing Clutches

These bearings have internal locking elements (sprags) that lock to transmit torque in one direction while they turn freely in the other direction. They're often used in pick-and-place and automated indexing conveyor systems, where precision movement is required. Bearings have plastic shields on both sides to block out dust and contaminants. Made of 52100 steel, they meet ABEC-1 dimensional tolerance standards and come greased. Temperature range is -40° to 170° F.



Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Dynamic Load Cap., lbs.	Max. rpm	Max. Torque, ft.-lbs.		
608	8	22	9	720	15,000	1.9	4752N11	$107.81
6201	12	32	10	1,370	10,000	6.9	4752N21	122.99
6202	15	35	11	1,350	9,400	19.3	4752N31	113.15
6203	17	40	12	1,650	8,200	25.2	4752N41	120.03
6204	20	47	14	2,250	6,800	48.1	4752N51	120.47
6205	25	52	15	2,475	5,600	59.3	4752N61	137.32
6206	30	62	16	3,375	4,000	125.9	4752N71	149.11
6207	35	72	17	2,810	3,600	129.6	4752N81	158.81
40	40	80	22	3,485	3,000	240.7	4752N91	195.38

Hex-Bore Ball Bearings

Slip these bearings onto a hex shaft. The hex profile allows you to transmit rotary motion without a precise fit. Made of 52100 steel, these double-sealed bearings meet ABEC-1 dimensional tolerance standards. They come greased and have an extended inner ring that provides additional shaft support. Temperature range is -40° to 220° F.

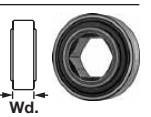

Bearing No.	For Hex Shaft Size	OD	Wd.	Inner Ring OD	O'all Wd.	Dynamic Load Cap., lbs.	Max. rpm		
204	11/16"	1.85"	0.551"	1.121"	0.825"	2,210	9,000	1291N1	$31.07
205	7/8"	2.047"	0.591"	1.313"	1"	2,430	6,800	1291N2	40.71
206	1"	2.441"	0.63"	1.587"	0.945"	3,380	5,600	1291N3	41.60
207	1 1/8"	2.835"	0.67"	1.847"	1.484"	4,470	4,800	1291N4	61.96
209	1 1/2"	3.347"	0.748"	2.281"	1.181"	5,670	4,000	1291N5	105.47

Set Screw Collar Ball Bearings





Slip these bearings onto a shaft and secure with the included set screw, no special tools required. Bearings have an extended inner ring for additional shaft support and a retaining ring that allows for quick positioning. They are made of 52100 steel and come greased. *Double-shielded* bearings have a steel shield and meet ABEC-1 dimensional tolerance standards. Temperature range is -60° to 250° F. *Double-sealed* bearings have a Buna-N rubber seal. Temperature range is -20° to 250° F.

Corrosion-resistant bearings have a black-oxide finish, unless noted.

Bearing No.	For Shaft Dia.	OD	Wd.	O'all Wd.	Retaining Ring OD	Retaining Ring Thick.	Dynamic Load Cap., lbs.	Max. rpm		
Standard Double Sealed										
7608	1/2"	1 3/4"	5/8"	1.092"	1.922"	0.042"	2,595	5,000	**4768K11**	$32.40
7609	9/16"	1 3/4"	5/8"	1.092"	1.922"	0.042"	2,595	5,000	**4768K12**	32.44
7610	5/8"	1 3/4"	5/8"	1.092"	1.922"	0.042"	2,595	5,000	**4768K5**	38.06
7611	11/16"	1 3/4"	5/8"	1.092"	1.922"	0.042"	2,595	5,000	**4768K13**	32.66
7612	3/4"	1 3/4"	5/8"	1.092"	1.922"	0.042"	2,595	5,000	**4768K6**	36.19
7613	13/16"	2"	5/8"	1.179"	2.156"	0.042"	2,970	5,000	**4768K14**	32.84
7614	7/8"	2"	5/8"	1.179"	2.156"	0.042"	2,970	5,000	**4768K15**	33.02
7615	15/16"	2"	5/8"	1.179"	2.156"	0.042"	2,970	5,000	**4768K16**	33.38
7616	1"	2"	5/8"	1.179"	2.156"	0.042"	2,970	5,000	**4768K7**	39.56
7617	1 1/16"	2 9/16"	3/4"	1.417"	2.766"	0.065"	5,360	5,000	**4768K17**	39.80
7618	1 1/8"	2 9/16"	3/4"	1.417"	2.766"	0.065"	5,360	5,000	**4768K18**	47.14
7620	1 1/4"	2 9/16"	3/4"	1.417"	2.766"	0.065"	5,360	5,000	**4768K8**	61.21
Corrosion-Resistant Double Shielded										
ER2	1 3/8"	2.83"	15/16"	1 11/16"	3.059"	0.042"	6,400	5,000	**8090T23**	81.82
ER3	2"	3.93"	1 3/16"	2 3/16"	4.161"	0.042"	10,800	3,400	**8090T25**	146.11
ER8	1/2"	1.85"	5/8"	1 7/32"	2.052"	0.042"	3,200	9,200	**8090T21**	56.71
ER14	7/8"	2.04"	3/4"	1 11/32"	2.254"	0.042"	3,490	7,800	**8090T22** ★	66.73
ER28	1 3/4"	3.34"	1 3/32"	1 15/16"	3.571"	0.042"	8,160	3,900	**8090T24**	123.64
Corrosion-Resistant Double Sealed										
ER10	5/8"	1.85"	5/8"	1 7/32"	2.062"	0.042"	2,860	5,000	**8090T11**	35.66
ER12	3/4"	1.85"	5/8"	1 7/32"	2.062"	0.042"	2,860	5,000	**8090T12**	38.44
ER16	1"	2.05"	3/4"	1 3/8"	2.266"	0.042"	3,145	5,000	**8090T13**	39.84
ER19	1 3/16"	2.44"	7/8"	1 1/2"	2.656"	0.062"	4,360	5,000	**8090T14**	48.78
ER20	1 1/4"	2.83"	15/16"	1 11/16"	3.078"	0.062"	5,755	5,000	**8090T15**	58.84
ER23	1 7/16"	2.83"	15/16"	1 11/16"	3.078"	0.062"	5,755	5,000	**8090T16**	59.10
ER24	1 1/2"	3.15"	1 3/32"	1 15/16"	3.406"	0.062"	6,535	5,000	**8090T17**	70.04
ER31	1 15/16"	3.54"	1 1/8"	2 1/32"	3.781"	0.093"	7,900	5,000	**8090T18**	89.80

★ Powder-coated finish.

Angular-Contact Ball Bearings



Open



Double Sealed



Double Shielded

The balls in these bearings are set at an angle to better handle loads from multiple directions. Bearings are 52100 steel. Double-sealed bearings have Buna-N rubber seals.

Single Row—Bearings handle thrust loads in one direction. For applications with thrust loads from both directions, mount them in pairs. They have a 40° contact angle. They come greased. *Open* bearings meet ABEC-3 dimensional tolerance standards, unless noted. Temperature range is -40° to 240° F. *Double-sealed* bearings meet ABEC-1 dimensional tolerance standards. Temperature range is -20° to 230° F.

Double Row—Bearings handle thrust loads in both directions. They have a 30° contact angle. Temperature range is -30° to 240° F. *Open* bearings require lubrication; *double-shielded* and *double-sealed* come greased. *Standard* bearings meet ABEC-1 dimensional tolerance standards. *Premium* bearings meet ABEC-3 dimensional tolerance standards.

Ultra Precision—Commonly found in machine tool spindles, these bearings are made to tight tolerances to perform in high-speed, precision applications. Mount them in pairs to handle thrust loads from both directions. Bearings have a 15° contact angle and meet ABEC-7 dimensional tolerance standards. All bearings are open and have a single-row construction. Lubrication is required. Temperature range is -30° to 140° F.

Single Row

Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Open: Dynamic Load Cap., lbs.	Open: Max. rpm			Double Sealed: Dynamic Load Cap., lbs.	Double Sealed: Max. rpm		
7200	10	30	9	1,575	30,000	**6680K11**▲	$30.09	1,190	15,000	**6680K34**	$135.08
7201	12	32	10	1,710	26,000	**6680K12**▲	30.63	1,660	14,000	**6680K35**	107.78
7202	15	35	11	1,870	24,000	**6680K13**	26.10	1,885	24,000	**6680K36**	110.80
7203	17	40	12	2,335	20,000	**6680K14**	27.34	2,360	11,000	**6680K37**	139.62
7204	20	47	14	2,990	18,000	**6680K15**	39.57	3,145	9,000	**6680K38**	122.84
7205	25	52	15	3,325	15,000	**6680K16**	60.87	3,435	8,000	**6680K39**	180.26
7206	30	62	16	5,055	13,000	**6680K17**	70.80	4,875	6,300	**6680K41**	182.24
7207	35	72	17	6,540	11,000	**6680K18**	73.04	6,290	5,600	**6680K42**	202.58
7208	40	80	18	8,475	11,000	**6680K19**	89.99	7,640	5,000	**6680K43**	230.84
7209	45	85	19	8,045	9,000	**6680K21**	88.33	____	____	____	____
7210	50	90	20	8,475	8,500	**6680K22**	109.41	____	____	____	____
7301	12	37	12	2,380	24,000	**6680K23**▲	43.06	____	____	____	____
7302	15	42	13	2,920	20,000	**6680K24**▲	43.87	3,190	11,000	**6680K44**	144.78
7303	17	47	14	3,570	19,000	**6680K25**▲	44.89	3,955	13,000	**6680K45**	162.64
7304	20	52	15	3,910	16,000	**6680K26**	74.95	4,585	8,500	**6680K46**	163.62
7305	25	62	17	5,440	14,000	**6680K27**	79.49	6,290	7,000	**6680K47**	179.08
7306	30	72	19	7,305	12,000	**6680K28**	99.94	7,980	6,000	**6680K48**	255.60
7307	35	80	21	8,765	10,000	**6680K29**	112.24	____	____	____	____
7308	40	90	23	10,385	9,000	**6680K31**	128.33	11,910	4,500	**6680K49**	357.90
7309	45	100	25	12,565	8,000	**6680K32**	158.66	____	____	____	____
7310	50	110	27	15,485	7,500	**6680K33**	164.35	____	____	____	____

▲ Meets ABEC-1 dimensional tolerance standards.

(Continued on following page)

Angular-Contact Ball Bearings *(Continued from previous page)*

Double Row

Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Dynamic Load Cap., lbs.	Open Max. rpm			Double Shielded Max. rpm			Double Sealed Max. rpm		
Standard													
3200	10	30	14	1,710	22,000	8828T111	$29.94	___	___	___	___	___	___
3200	10	30	14.3	1,710	___	___	___	24,000	8828T211	$45.60	17,000	8828T311	$50.25
3201	12	32	15.9	2,270	20,000	8828T112	33.01	22,000	8828T212	47.29	15,000	8828T312	56.46
3202	15	35	15.9	2,515	17,000	8828T113	33.01	18,000	8828T213	51.65	14,000	8828T313	47.00
3203	17	40	17.5	3,215	15,000	8828T114	32.04	16,000	8828T214	37.61	12,000	8828T314	38.07
3303	17	47	22.2	4,855	14,000	8828T122	56.76	14,000	8828T222	53.28	11,000	8828T322	57.49
Premium													
3204	20	47	20.6	4,495	14,000	8828T115	35.46	14,000	8828T215	42.74	10,000	8828T315	45.98
3205	25	52	20.6	4,855	12,000	8828T116	42.55	12,000	8828T216	48.90	8,500	8828T316	52.39
3206	30	62	23.8	6,430	___	___	___	10,000	8828T217	58.68	7,500	8828T317	62.96
3206	30	62	23.8	6,740	10,000	8828T117	51.11	___	___	___	___	___	___
3207	35	72	27	8,990	9,000	8828T118	62.96	9,000	8828T218	71.78	6,300	8828T318	77.52
3208	40	80	30.2	10,675	8,000	8828T119	65.67	8,000	8828T219	87.19	5,600	8828T319	71.85
3210	50	90	30.2	11,465	7,000	8828T121	79.81	7,000	8828T221	113.27	4,800	8828T321	84.27
3304	20	52	22.2	5,305	13,000	8828T123	61.00	13,000	8828T223	56.48	9,000	8828T323	66.08
3305	25	62	25.4	7,190	11,000	8828T124	54.96	11,000	8828T224	63.09	7,500	8828T324	72.84

Ultra Precision

Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Dynamic Load Cap., lbs.	Max. rpm	Open		Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Dynamic Load Cap., lbs.	Max. rpm	Open	
7001	12	28	8	1,010	67,000	2385K41	$190.98	7006	30	55	13	3,220	32,000	2385K46	$272.75
7002	15	32	9	1,170	56,000	2385K42	202.23	7007	35	62	14	3,510	24,000	2385K47	322.32
7003	17	35	10	1,520	50,000	2385K43	209.70	7008	40	68	15	3,780	20,000	2385K48	334.38
7004	20	42	12	1,960	43,000	2385K44	224.16	7009	45	75	16	6,430	19,000	2385K49	389.32
7005	25	47	12	2,150	36,000	2385K45	264.48	7010	50	80	16	6,650	17,000	2385K51	399.48

Double-Row Ball Bearings for Misalignment

A sphere-shaped raceway and two rows of balls allow these bearings to compensate for shaft misalignment. Made of 52100 steel, bearings meet ABEC-1 dimensional tolerance standards. They come greased. Temperature range is -30° to 210°F. *Double-sealed* bearings have Buna-N rubber seals.


Open


Double Sealed

Bearing No.	For Shaft Dia., mm	OD, mm	Wd., mm	Open Max. Shaft Misalignment	Open Dynamic Load Cap., lbs.	Open Max. rpm			Double Sealed Max. Shaft Misalignment	Double Sealed Dynamic Load Cap., lbs.	Double Sealed Max. rpm		
108	8	22	7	3°	595	40,000	6660K11	$35.54	___	___	___	___	___
1204	20	47	14	2.5°	2,855	20,000	6660K22	41.20	___	___	___	___	___
1205	25	52	15	2.5°	3,215	18,000	6660K23	47.91	___	___	___	___	___
2200	10	30	14	2.5°	1,810	34,000	6660K12	60.58	1.5°	1,240	17,000	6660K61	$124.63
2201	12	32	14	2.5°	1,915	30,000	6660K13	61.18	1.5°	1,400	16,000	6660K62	127.84
2202	15	35	14	2.5°	1,960	26,000	6660K14	60.09	1.5°	1,665	14,000	6660K63	130.87
2203	17	40	16	2.5°	2,380	24,000	6660K15	64.78	1.5°	1,985	12,000	6660K64	134.24
2204	20	47	18	2.5°	3,775	20,000	6660K16	65.73	1.5°	2,855	10,000	6660K65	139.31
2205	25	52	18	2.5°	3,775	18,000	6660K17	81.03	1.5°	3,215	9,000	6660K66	155.87
2206	30	62	20	2.5°	5,350	15,000	6660K18	91.85	1.5°	3,505	7,500	6660K67	153.39
2207	35	72	23	2.5°	6,785	12,000	6660K19	102.79	1.5°	4,270	6,300	6660K68	183.42
2208	40	80	23	2.5°	7,170	11,000	6660K21	104.16	1.5°	4,470	5,600	6660K69	215.92
2303	17	47	19	___	___	___	___	___	1.5°	2,855	11,000	6660K72	149.51
2304	20	52	21	3°	4,090	19,000	6660K53	91.32	1.5°	3,215	9,000	6660K73	158.52
2305	25	62	24	3°	6,070	16,000	6660K54	102.50	1.5°	4,270	7,500	6660K74	166.52
2306	30	72	27	3°	7,010	13,000	6660K55	116.42	1.5°	5,055	6,700	6660K75	205.15
2307	35	80	31	3°	8,925	12,000	6660K56	163.60	1.5°	5,955	5,600	6660K76	226.54

Ultra-Thin Ball Bearings

Fit these bearings onto large-diameter hollow shafts to run air and hydraulic lines, electrical wiring, and other components through moving parts. A unique internal construction contacts the balls at four points, enabling the bearings to resist any combination of radial, thrust, and moment (torque-type forces off the radial and thrust planes) loads. Common applications include robotics, index and rotary tables, and packaging equipment. Bearings are 52100 steel and come oiled. They have a 30° contact angle and meet ABEC-1F dimensional tolerance standards. Temperature range is -60° to 250°F.



For Shaft Dia.	OD	Wd.	Dynamic Load Capacity Radial, lbs.	Dynamic Load Capacity Thrust, lbs.	Dynamic Load Capacity Moment, in.-lbs.	Max. rpm		
2″	2½″	¼″	510	790	430	1,500	6656K11	$226.58
2″	2⅝″	5/16″	755	1,130	655	1,500	6656K19	263.82
2½″	3″	¼″	580	910	600	1,200	6656K12	237.11
2½″	3⅛″	5/16″	845	1,290	895	1,200	6656K21	270.29
3″	3½″	¼″	640	1,010	785	800	6656K13	256.53
3″	3⅝″	5/16″	930	1,440	1,155	1,000	6656K22	297.26
3½″	4″	¼″	700	1,110	985	700	6656K14	279.18
3½″	4⅛″	5/16″	1,010	1,590	1,450	700	6656K23	311.00
4″	4½″	¼″	755	1,210	1,205	600	6656K15	307.76
4″	4⅝″	5/16″	1,090	1,720	1,760	600	6656K24	330.16
5″	5½″	¼″	855	1,400	1,690	500	6656K16	517.51
5″	5⅝″	5/16″	1,235	1,980	2,460	500	6656K25	574.76
6″	6½″	¼″	955	1,570	2,240	300	6656K17	558.51
6″	6⅝″	5/16″	1,370	2,220	3,245	400	6656K26	596.00
7″	7½″	¼″	1,045	1,730	2,840	200	6656K18	619.24
8″	8⅝″	5/16″	1,615	2,670	5,045	200	6656K27	740.00

Tapered-Roller Bearings



Tapered-roller bearings handle both radial (perpendicular to the shaft) and thrust (parallel to the shaft) loads, so you can use them virtually anywhere wheels and shafts turn. They have a two-piece design, which offers easy assembly and more accurate adjustments. Temperature range is -60° to 200° F. *Metric* bearings are designed to meet ISO 355 International Metric Standards.

Corrosion-Resistant Zinc Alloy Steel—These bearings are more corrosion resistant than uncoated steel bearings. They have a zinc-alloy coating that guards against corrosion caused by moisture.

Steel—Inch

For Shaft Dia.	Trade No.	OD	Wd.	*Dynamic Load Cap., lbs.* Radial	Thrust		
1/2"	A4050	1 3/8"	7/16"	710	550	23915T74	$55.82
5/8"	11590	1 11/16"	9/16"	1,010	1,220	5709K75	47.11
11/16"	LM11749	1 37/64"	35/64"	1,340	655	5709K76	21.93
3/4"	LM11949	1 25/32"	39/64"	1,780	917	5709K77	18.47
3/4"	09067	1 15/16"	45/64"	2,310	1,050	5709K78	49.91
55/64"	LM12749	1 25/32"	39/64"	1,760	921	5709K79	20.53
63/64"	07097	1 31/32"	17/32"	1,570	1,080	5709K38	41.42
1"	07100	1 31/32"	17/32"	1,570	1,080	5709K81	33.69
1"	L44643	1 63/64"	9/16"	1,620	1,040	5709K82	22.46
1"	15100	2 7/16"	3/4"	2,730	1,640	5709K98	40.80
1 1/16"	L44649	1 63/64"	9/16"	1,620	1,040	5709K83	23.33
1 1/8"	15113	2 7/16"	3/4"	2,730	1,640	5709K84	38.16
1 3/16"	15118	2 7/16"	13/16"	2,730	1,640	5709K99	63.60
1 1/4"	LM67048	2 21/64"	5/8"	2,130	1,500	5709K85	21.93
1 1/4"	14125A	2 23/32"	25/32"	2,950	1,930	5709K86	38.96
1 5/16"	M88048	2 11/16"	7/8"	3,470	3,250	5709K87	32.98
1 1/2"	2788	3"	15/16"	4,690	2,430	5709K88	48.02
1 3/4"	25580	3 17/64"	15/16"	4,880	2,800	5709K89	46.53
2"	LM104949	3 1/4"	27/32"	4,390	2,290	5709K91	39.51
2"	368A	3 1/2"	13/16"	4,640	2,540	5709K92	59.96
2"	45284	4 1/8"	1 3/16"	8,270	4,710	5709K93	82.00
2 1/4"	387A	3 13/16"	53/64"	4,910	2,980	5709K94	53.09
2 3/4"	29675	4 7/16"	1"	5,960	4,980	5709K95	101.62
3"	42687	5"	1 3/16"	8,690	6,230	5709K96	148.84
3 1/4"	47686	5 1/4"	1 5/16"	9,750	6,750	5709K97	131.78

Corrosion-Resistant Zinc Alloy Steel—Inch

For Shaft Dia.	Trade No.	OD	Wd.	*Dynamic Load Cap., lbs.* Radial	Thrust		
3/4"	LM11949	1.781"	0.61"	1,780	917	6678K11	$51.04
1"	L44643	1.98"	0.56"	1,620	1,040	6678K12	53.06
1 1/16"	L44649	1.98"	0.56"	1,620	1,040	6678K13	54.68
1 1/4"	LM67048	2.328"	5/8"	2,130	1,500	6678K14	49.00

Steel—Metric

For Shaft Dia., mm	Trade No.	OD, mm	Wd., mm	*Dynamic Load Cap., lbs.* Radial	Thrust		
15	30302	42	14.25	1,400	685	6677K51	$37.67
17	30203	40	13.25	1,150	680	6677K52	32.13
20	30204M	47	15.25	1,790	1,060	6677K54	31.91
20	30304	52	16.25	2,080	1,070	6677K55	35.46
25	30205M	52	16.25	1,840	1,180	6677K57	32.12
30	32006X	55	17	2,120	1,560	6677K58	39.69
30	30206M	62	17.25	2,360	1,520	6677K59	37.30
35	32007X	62	18	2,570	2,000	6677K61	67.79
35	30207M	72	18.25	3,270	2,100	6677K62	44.81
40	32008XM	68	19	3,000	1,940	6677K63	39.62

High-Load Steel Spherical-Roller Bearings



Two rows of spherically shaped rollers give these bearings dynamic load carrying capacities up to four times that of comparably sized ball bearings. Also known as rock crusher bearings, they handle heavy shock loads and are commonly used for metal milling machinery, mining and oil field equipment, and in paper mills. All bearings are open, which means they dissipate heat more efficiently than shielded bearings. They have a hole in the outer ring for easy lubrication. Maximum temperature is 390° F.

Trade No.	For Shaft Dia., mm	OD, mm	Wd., mm	Dynamic Load Cap., lbs.	Max. rpm		
22205	25	52	18	8,430	7,100	2721T1	$90.67
22206	30	62	20	11,240	6,000	2721T2	101.02
22207	35	72	23	15,511	5,300	2721T3	104.05
22208	40	80	23	25,403	6,700	2721T4	131.44
22209	45	85	23	26,527	6,000	2721T5	140.33
22211	55	100	25	33,497	5,300	2721T7	166.12
22212	60	110	28	40,016	4,800	2721T8	184.46
22213	65	120	31	49,683	4,300	2721T9	197.62
22214	70	125	31	50,582	4,000	2721T11	216.69
22215	75	130	31	53,505	4,000	2721T12	234.57
22216	80	140	33	59,350	3,600	2721T13	275.08
22217	85	150	36	69,691	3,400	2721T14	321.31
22218	90	160	40	80,931	3,200	2721T15	367.79
22219	95	170	43	93,296	3,000	2721T16	408.00
22220	100	180	46	102,288	2,800	2721T17	481.26
22222	110	200	53	136,009	2,600	2721T18	612.51

Needle-Roller Bearings

Needle rollers provide increased load capacity over ball bearings and without an inner race, they're extremely thin and economical. Also known as drawn-cup bearings, the shell is drawn out to form a lip that holds the bearing together. A large grease reservoir means they'll need lubrication less often. Use these steel bearings on hardened and ground shafts. Press fit to install. Temperature range is -10° to 250°F for open bearings; 0° to 210°F for sealed and double-sealed bearings.

Open bearings dissipate heat more efficiently than sealed and double-sealed bearings. **Single-sealed** bearings have a rubber seal on one end that blocks out dirt and preserves lubricants. **Double-sealed** bearings come greased and have rubber seals on both sides. They have better dust resistance than open bearings, but retain the most heat.



Single Sealed

For Shaft Dia.	OD	Dynamic Load Cap., lbs.	Open			Single Sealed				Double Sealed			
			Max. rpm	Wd.		Max. rpm	Wd.			Max. rpm	Wd.		
Inch													
1/4"	7/16"	570	44,000	5/16"	5905K21	$5.14				27,000	7/16"	5905K131	$11.92
3/8"	9/16"	1,300	29,500	1/2"	5905K22	5.14	20,000	9/16"	5905K122	$8.15	20,000	5/8"	5905K132	10.51
1/2"	11/16"	1,550	22,000	1/2"	5905K23	5.34	15,000	9/16"	5905K123	8.47	15,000	5/8"	5905K133	10.88
5/8"	13/16"	2,330	17,600	5/8"	5905K25	6.70	13,000	11/16"	5905K124	8.93	13,000	3/4"	5905K134	11.54
3/4"	1"	2,210	14,700	1/2"	5905K26	5.95	10,000	9/16"	5905K125	9.02	10,000	5/8"	5905K135	11.54
3/4"	1"	2,850	14,700	5/8"	5905K27	5.87	10,000	11/16"	5905K126	9.26	10,000	3/4"	5905K136	11.62
1"	1 1/4"	4,050	11,000	3/4"	5905K28	7.68	8,000	7/8"	5905K127	11.69	8,000	1"	5905K137	14.98
1 1/4"	1 1/2"	4,750	8,800	3/4"	5905K29	8.34								
Metric													
8 mm	12 mm	620	28,000	8 mm	5905K73	4.36	20,000	10 mm	5905K84	10.28	20,000	12 mm	5905K95	15.47
12 mm	18 mm	1,460	19,000	12 mm	5905K74	4.88	14,000	14 mm	5905K85	8.33	14,000	16 mm	5905K96	13.41
14 mm	20 mm	1,600	16,000	12 mm	5905K75	5.64	12,000	14 mm	5905K86	10.72	12,000	16 mm	5905K97	13.71
16 mm	22 mm	1,710	15,000	12 mm	5905K76	9.83	11,000	14 mm	5905K87	10.26	11,000	16 mm	5905K98	15.05
20 mm	26 mm	2,850	12,000	16 mm	5905K77	6.86	8,500	18 mm	5905K88	10.31	8,500	20 mm	5905K99	15.47

High-Precision Needle-Roller Bearings

These precision-ground steel bearings give you higher load capacity, speed, and accuracy than standard needle-roller bearings. They're for use on hardened and ground shafts. If your shaft is not hardened and ground, use these bearings with liners (sold separately). Insert the liner into the bearing and press fit onto a shaft. Bearings have a lubrication groove and hole, unless noted.

Open bearings dissipate heat more efficiently than double-sealed bearings. Temperature range is 0° to 250°F. **Double-sealed bearings** offer better dust resistance than open bearings, but retain the most heat. Temperature range is -30° to 250°F. **Optional liners** are made of hardened and ground steel. *Inch* sizes have a lubrication hole; *metric* sizes do not, unless noted.



Open



Double Sealed



Optional Liner

For Shaft Dia.	OD	Wd.	Dynamic Load Cap., lbs.	Max. rpm	Bearings		Optional Liners For Shaft Dia.		
Open—Inch									
5/8"	1 1/8"	3/4"	3,900	21,000	7929K21	$18.43	3/8"	7929K1	$19.12
3/4"	1 1/4"	3/4"	4,500	17,000	7929K41	17.35	1/2"	7929K2	19.78
7/8"	1 3/8"	3/4"	4,700	15,000	7929K42	17.93	5/8"	7929K3	14.41
1"	1 1/2"	3/4"	5,200	13,000	7929K43	18.10	3/4"	7929K4	16.85
1 1/8"	1 5/8"	1"	7,600	12,000	7929K44	19.67	7/8"	7929K5	15.23
1 1/4"	1 3/4"	1"	7,900	11,000	7929K45	24.10	1"	7929K6	14.91
1 3/8"	1 7/8"	1"	8,400	10,000	7929K46	25.85	1 1/8"	7929K7	20.03
1 1/2"	2 1/16"	1"	8,100	9,000	7929K47	24.02	1 1/4"	7929K8	17.12
1 3/4"	2 5/16"	1"	9,900	7,600	7929K48	29.27	1 1/2"	7929K9	20.01
Open—Metric									
8 mm	15 mm	12 mm	890	29,000	2423K21★	15.15	5 mm	2423K41	5.85
10 mm	17 mm	12 mm	1,070	27,000	2423K22★	16.65	7 mm	2423K42	7.33
12 mm	19 mm	16 mm	2,020	25,000	2423K23	18.64	9 mm	2423K43	8.57
14 mm	22 mm	16 mm	2,270	24,000	2423K24	19.11	10 mm	2423K44	8.69
18 mm	26 mm	16 mm	2,800	21,000	2423K26	21.09	15 mm	2423K46	9.08
25 mm	33 mm	16 mm	3,350	17,000	2423K28	27.13	20 mm	2423K48■	10.09
30 mm	40 mm	20 mm	5,100	14,000	2423K29	33.17	25 mm	2423K49	15.07
Double Sealed—Inch									
5/8"	1 1/8"	1"	4,320	6,100	8258K21	25.72	3/8"	8258K31	11.80
3/4"	1 1/4"	1"	4,990	5,100	8258K22	25.88	1/2"	8258K32	11.22
7/8"	1 3/8"	1"	5,280	4,400	8258K23	27.06	5/8"	8258K33	11.22
1"	1 1/2"	1"	5,840	3,800	8258K24	27.36	3/4"	8258K34	13.23
1 1/8"	1 5/8"	1 1/4"	8,720	3,400	8258K25	29.60	7/8"	8258K35	13.67
1 1/4"	1 3/4"	1 1/4"	9,020	3,050	8258K26	32.12	1"	8258K36	15.92
1 1/2"	2 1/16"	1 1/4"	10,300	2,550	8258K28	34.98	1 1/4"	8258K38	16.98

★Does not have a lubrication groove or hole. ■ Includes lubrication hole.

One-Way Locking Needle-Roller Bearing Clutches

Also known as drawn-cup roller clutches, these bearings roll freely in one direction, but they lock to transmit torque when the rotation of the shaft is reversed. An arrow on the lip indicates the rotational direction that locks the bearings. These steel bearings do not support loads. To support radial (perpendicular to the shaft) loads, use these bearings with our Needle-Roller Bearings. All are for use on hardened and ground shafts.

Inch—*Standard* bearings have a maximum temperature of 200°F. *High-temperature* bearings have a maximum temperature of 250°F.
Metric—Bearings have a maximum temperature of 150° F.



Inch

For Shaft Dia.	OD	Wd.	Torque, ft.-lbs.	Max. rpm	Standard		High Temperature	
1/8"	9/32"	1/4"	0.2	34,000	2489K21	$14.62		
1/4"	7/16"	1/2"	1.5	20,000	2489K22	11.16	2489K28	$14.24
3/8"	5/8"	1/2"	4	18,000	2489K23	11.48	2489K29	23.86
1/2"	3/4"	1/2"	6.5	17,000	2489K24	11.64	2489K31	27.84
5/8"	7/8"	5/8"	12.4	14,000	2489K5	12.46	2489K12	31.22
3/4"	1"	5/8"	17.2	12,000	2489K6	14.32	2489K13	34.88
1"	1 5/16"	5/8"	36.6	8,700	2489K7	18.74	2489K14	43.02

Metric

For Shaft Dia., mm	OD, mm	Wd., mm	Torque, ft.-lbs.	Max. rpm		
6	10	12	1.3	23,000	6392K41	$18.36
8	12	12	2.3	17,000	6392K42	18.16
10	14	12	3.9	14,000	6392K43	19.24
12	18	16	9	11,000	6392K44	21.40
14	20	16	12.8	9,500	6392K45	20.61
16	22	16	15.1	8,500	6392K46	21.05
18	24	16	17.8	7,500	6392K47	22.97
20	26	16	21	7,000	6392K48	25.01
25	32	20	48.7	5,500	6392K49	29.33
30	37	20	66.4	4,500	6392K51	35.74
35	42	20	89.2	3,900	6392K52	40.93

One-Piece Steel Thrust Ball Bearings



Shaft Mount



For Shaft Ends

No need to mate cage assemblies and washers—these bearings are fastened together, so they're easy to handle and install. Great for heavy duty thrust (parallel to the shaft) loads on pump valves, machine spindles, drilling heads, and rotary and index tables. All bearings are made of hardened steel. Temperature range is -40° to 250° F. Note: Dynamic load capacities listed are for thrust loads.

Shaft Mount—Bearings have an outer band that holds the bearing together and acts as a shield, blocking out dirt and contaminants. The band has an oil hole to facilitate lubrication. Without a ball cage, these bearings hold more balls than standard three-piece thrust bearings.

For Shaft Ends—Use these bearings as miniature high-precision turntables that handle both heavy loads and speeds up to 1,500 rpm. They have a unique design, which allows your shaft to sit on top of the bearing rather than being inserted through it. Bearings can be bonded to a mounting plate or press-fit into a hole.

Shaft Mount

For Shaft Dia.	OD	Thick.	Dynamic Load Cap., lbs.	Max. rpm		
1/2"	1 7/32"	9/16"	3,850	7,000	60715K11	$17.34
5/8"	1 11/32"	9/16"	4,100	6,000	60715K12	18.37
3/4"	1 15/32"	9/16"	4,250	5,500	60715K13	18.38
7/8"	1 27/32"	5/8"	6,600	4,100	60715K14	21.29
1"	1 31/32"	5/8"	6,700	3,800	60715K15	21.70
1 1/8"	2 3/32"	5/8"	6,900	3,600	60715K16	24.19
1 1/4"	2 11/32"	5/8"	7,200	3,200	60715K27	25.13
1 3/8"	2 15/32"	5/8"	7,300	3,000	60715K28	30.28
1 1/2"	2 19/32"	5/8"	7,700	2,800	60715K29	30.36
1 5/8"	2 31/32"	13/16"	10,300	2,400	60715K31	40.90
1 3/4"	3 3/32"	13/16"	10,600	2,300	60715K32	40.69
1 7/8"	3 7/32"	13/16"	10,800	2,200	60715K33	47.88
2"	3 11/32"	13/16"	10,800	2,100	60715K34	49.98

For Shaft Ends

OD	Thick.	Dynamic Load Cap., lbs.	Max. rpm		
3/8"	1/4"	405	1,500	7809K311	$64.50
1/2"	5/16"	700	1,500	7809K32	64.74
5/8"	7/16"	1,185	1,500	7809K33	42.12
11/16"	1/2"	1,345	1,500	7809K341	42.14
3/4"	9/16"	1,735	1,500	7809K351	42.80
13/16"	5/8"	2,155	1,500	7809K411	43.26
7/8"	11/16"	2,155	1,500	7809K421	46.78
15/16"	3/4"	2,625	1,500	7809K43	47.14
1"	3/4"	3,080	1,500	7809K44	48.72
1 1/8"	7/8"	3,670	1,500	7809K45	58.60
1 3/16"	15/16"	4,310	1,500	7809K51	59.28
1 7/16"	1 3/16"	5,715	1,500	7809K52	60.52
1 11/16"	1 1/4"	7,590	1,500	7809K53	71.32

Steel Thrust Ball Bearings

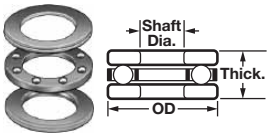

Mount these bearings on a vertical shaft to reduce friction between components. When you don't need high-precision machined bearings, these three-piece bearings are an economical option. Their compact, low-profile design works well in narrow spaces. Bearings include two washers and a plastic cage. The open design allows them to dissipate heat more efficiently than one-piece bearings. Maximum speed is 2,500 rpm. Temperature range is -40° to 220° F. Note: Dynamic load capacities listed are for thrust (parallel to the shaft) loads.

Bearings with steel washers have steel balls and are stronger than bearings with stainless steel washers. *Bearings with stainless steel washers* have stainless steel balls and are more corrosion resistant than bearings with steel washers, but they're not as strong.

Inch

For Shaft Dia.	OD	Thick.	With Steel Washers: Dyn. Load Cap., lbs.			With Stainless Steel Washers: Dyn. Load Cap., lbs.		
1/8"	7/16"	0.193"	20	6655K11	$2.01	10	6655K31	$2.57
3/16"	1/2"	0.193"	20	6655K12	2.09	15	6655K32	2.78
1/4"	9/16"	0.193"	20	6655K13	2.21	15	6655K33	2.85
5/16"	5/8"	0.193"	20	6655K14	2.34	15	6655K34	2.94
3/8"	13/16"	0.249"	30	6655K15	2.54	20	6655K35	3.43
7/16"	7/8"	0.249"	30	6655K16	2.69	20	6655K36	3.65
1/2"	15/16"	0.249"	35	6655K17	2.80	20	6655K37	3.90
5/8"	1 1/8"	0.342"	40	6655K18	4.09	30	6655K38	5.28
3/4"	1 1/4"	0.342"	50	6655K19	5.11	35	6655K39	6.20
7/8"	1 3/8"	0.342"	55	6655K21	6.04	40	6655K41	7.30
1"	1 5/8"	0.437"	80	6655K22	7.54	55	6655K42	10.76
1 1/8"	1 3/4"	0.437"	90	6655K23	8.66	60	6655K43	12.39
1 1/4"	1 7/8"	0.437"	95	6655K24	9.72	65	6655K44	14.02
1 1/2"	2 1/8"	0.437"	90	6655K25	11.56	65	6655K45	15.80

Metric

For Shaft Dia., mm	OD, mm	Thick., mm	With Steel Washers: Dyn. Load Cap., lbs.			With Stainless Steel Washers: Dyn. Load Cap., lbs.		
5	12	4.92	20	6655K51	$2.78	15	6655K71	$3.39
6	14	4.92	20	6655K52	2.83	15	6655K72	3.60
7	17	4.92	20	6655K53	2.90	15	6655K73	3.80
8	16	4.92	20	6655K54	2.99	15	6655K74	3.87
10	21	6.35	30	6655K55	3.30	20	6655K75	3.87
12	24	6.35	35	6655K56	3.39	20	6655K76	4.09
16	28	8.74	40	6655K57	4.15	30	6655K77	5.39
19	32	8.74	50	6655K58	5.17	35	6655K78	6.89
25	41	11.11	80	6655K59	7.33	55	6655K79	11.41
28	44	11.11	90	6655K61	8.37	60	6655K81	13.14

High-Performance Steel Thrust Ball Bearings

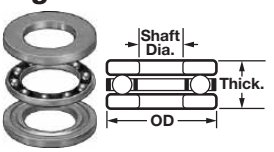

These bearings handle higher speeds and loads than standard steel thrust ball bearings. Each three-piece bearing includes two steel washers. Note: Dynamic load capacities listed are for thrust (parallel to the shaft) loads.

High Speed— Bearings are bronze with steel balls. Temperature range is -60° to 250° F.

High Load—Bearings are steel with steel balls, except bearing for 10 mm shaft is plastic. Temperature range is -40° to 240° F.

High Speed

For Shaft Dia., mm	OD, mm	Thick., mm	Dynamic Load Cap., lbs.	Max. rpm		
3	8	3.5	130	12,000	7806K53	$9.86
4	9	4	160	12,000	7806K54	8.66
4	10	4	125	12,000	7806K55	8.66
5	12	4	140	12,000	7806K57	8.66
6	12	4.5	270	11,500	7806K58	8.66
6	14	5	280	11,500	7806K59	8.66
7	17	6	410	11,000	7806K62	9.48
8	16	5	600	10,000	7806K63	8.48
9	17	5	570	9,000	7806K64	8.48
9	20	7	520	8,000	7806K65	8.48

High Load

For Shaft Dia., mm	OD, mm	Thick., mm	Dynamic Load Cap., lbs.	Max. rpm		
10	26	12	2,630	11,000	6681K11	$20.17
12	28	12	2,110	9,500	6681K12	21.53
15	31	12	2,320	8,500	6681K13	28.19
18	35	12	3,350	7,500	6681K14	29.19
20	37	12	3,350	7,500	6681K15	29.36
25	45	14	5,010	5,500	6681K16	31.72
35	55	16	6,200	4,400	6681K17	31.74
40	60	16	5,690	4,000	6681K18	33.58
45	68	16	6,500	3,600	6681K19	46.38
50	74	18	8,300	3,200	6681K21	54.38
55	78	18	8,400	3,000	6681K22	60.74

Steel Thrust Needle-Roller Bearings

Because of the large contact area between the rollers and washers, these bearings are great for medium to heavy duty, low-friction jobs. They are often used with vertical shafts, and their compact, low-profile design works well in narrow spaces. A complete bearing consists of one roller bearing and two washers (sold separately). For an even lower profile, you can use the roller bearings without washers on material that is hardened to Rockwell C58-C64 with a surface finish of 16 microns.

All components are made of steel. Temperature range is -40° to 240°F for inch sizes; 0° to 240°F for metric sizes. Note: Dynamic load capacities listed are for thrust (parallel to the shaft) loads.

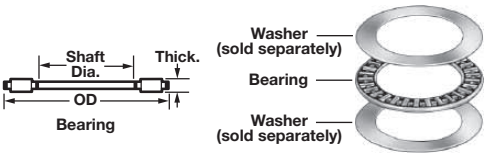

Inch

For Shaft Dia.	OD	Bearings: Thick.	Dynamic Load Cap., lbs.	Max. rpm			Washers: 0.032" Thick		0.126" Thick	
1/2"	15/16"	5/64"	1,920	13,000	5909K31	$3.11	5909K44	$1.02		
5/8"	1 1/8"	5/64"	2,170	11,000	5909K32	3.11	5909K45	1.10		
3/4"	1 1/4"	5/64"	2,410	9,500	5909K33	3.17	5909K46	1.15	5909K59	$2.70
7/8"	1 7/16"	5/64"	2,900	8,000	5909K34	3.17	5909K47	1.15	5909K61	3.36
7/8"	1 11/16"	5/64"	4,400	7,500	5909K35	4.33	5909K48	2.30	5909K62	4.71
1"	1 9/16"	5/64"	3,150	7,500	5909K36	3.17	5909K49	1.15	5909K63	5.00
1 1/8"	1 3/4"	5/64"	3,850	6,500	5909K37	3.17	5909K51	1.57	5909K64	5.78
1 1/4"	1 15/16"	5/64"	4,500	6,000	5909K38	3.23	5909K52	1.57	5909K65	4.08
1 3/8"	2 1/16"	5/64"	4,600	5,500	5909K39	4.08	5909K53	1.57	5909K66	9.58
1 1/2"	2 3/16"	5/64"	4,850	5,000	5909K41	4.31	5909K54	1.91	5909K67	5.96
1 3/4"	2 1/2"	5/64"	5,600	4,400	5909K42	4.55	5909K55	2.11		
2"	2 3/4"	5/64"	5,800	4,000	5909K43	4.88	5909K56	2.46	5909K69	12.97

Metric

For Shaft Dia., mm	OD, mm	Bearings: Thick., mm	Dynamic Load Cap., lbs.	Max. rpm			Washers: Thick., mm			Thick., mm		
10	24	2	2,070	17,000	5909K11	$3.70	1	5909K71	$1.23	2.75	5909K83	$8.70
12	26	2	2,230	15,000	5909K12	4.22	1	5909K72	1.31	2.75	5909K84	8.90
15	28	2	2,550	13,000	5909K13	4.10	1	5909K73	1.31	2.75	5909K85	8.90
17	30	2	2,700	12,000	5909K14	4.10	1	5909K74	1.31	2.75	5909K86	9.62
20	35	2	2,950	10,000	5909K15	4.71	1	5909K75	1.31	2.75	5909K87	10.47
25	42	2	3,300	8,500	5909K16	4.71	1	5909K76	1.48	3	5909K88	12.78
30	47	2	3,650	7,500	5909K17	5.41	1	5909K77	1.70	3	5909K89	14.38
35	52	2	4,000	6,500	5909K18	5.92	1	5909K78	2.06	3.5	5909K91	16.10
45	65	3	6,700	5,000	5909K19	10.08	1	5909K79	3.21	4	5909K92	18.60
50	70	3	7,200	4,800	5909K21	10.88	1	5909K81	3.61	4	5909K93	21.28
55	78	3	8,500	4,300	5909K22	13.15	1	5909K82	4.05	5	5909K94	23.78

Food-Grade Stainless Steel Mounted Ball Bearings

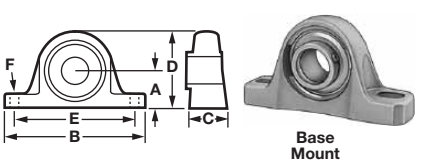

Base Mount

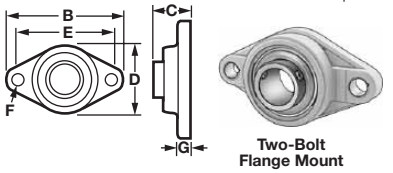

Two-Bolt Flange Mount

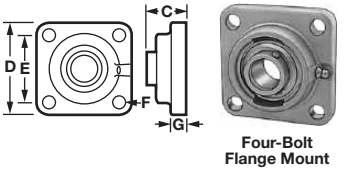

Four-Bolt Flange Mount

The lubricant in these mounted ball bearings meets USDA H1 for incidental contact with food. Bases are solid cast 300 series stainless steel. Ball bearings are made of 420 stainless steel. They're permanently lubricated and double shielded—so they're virtually maintenance free. Shields block out dirt.

All bearings are made to ABEC-1 dimensional tolerance standards. Temperature range is -30° to 160°F. Furnished with two stainless steel set screws to secure the bearing to the shaft.

Base Mount

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E) Min.	Ctr.-to-Ctr. (E) Max.	Mounting Hole Size (F), Lg. x Wd.		
3/4"	1 5/16"	2,430	1,120	5"	1.22"	2 1/2"	3 7/16"	4 3/16"	13/16" x 29/64"	3749T1	$201.78
1"	1 7/16"	2,670	935	5 1/8"	1.343"	2 3/4"	3 11/16"	4 5/16"	3/4" x 29/64"	3749T2	229.20
1 1/4"	1 11/16"	3,660	795	6"	1 1/2"	3 15/64"	4 1/4"	5"	15/16" x 9/16"	3749T4	279.87
1 1/2"	1 15/16"	5,550	610	6 7/8"	1.938"	3 29/32"	4 15/16"	5 3/4"	31/32" x 9/16"	3749T7	371.95

Two-Bolt Flange Mount

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
3/4"	2,430	1,120	4 13/32"	1 9/32"	2 3/8"	3 17/32"	7/16"	7/16"	3756T1	$201.78
1"	2,670	935	4 7/8"	1 7/16"	2 3/4"	3 57/64"	1/2"	17/32"	3756T2	229.20
1 1/4"	3,660	795	5 9/16"	1 21/32"	3 1/8"	4 19/32"	1/2"	17/32"	3756T4	279.87
1 1/2"	5,550	610	6 3/4"	2 3/32"	4"	5 21/32"	9/16"	9/16"	3756T7	371.95

Four-Bolt Flange Mount

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
3/4"	2,430	1,120	1 15/32"	3 3/8"	2 1/2"	7/16"	7/16"	3756T11	$201.78
1"	2,670	935	1 17/32"	3 3/4"	2 3/4"	29/64"	17/32"	3756T12	229.20
1 1/4"	3,660	795	1 21/32"	4 1/4"	3 1/4"	1/2"	17/32"	3756T14	279.87
1 1/2"	5,550	610	2 3/32"	5 1/8"	4"	9/16"	9/16"	3756T17	371.95

Cast Iron Mounted Steel Ball Bearings

These rugged cast iron bearings are made to ABEC-1 dimensional tolerance standards. All have a ball bearing insert and are double sealed. Bearings also have a grease fitting for easy lubrication. Bearings are 52100 steel with a cast iron housing. They can accommodate 2° of shaft misalignment.

Bearings with set-screw lock include two set screws to secure the bearing to the shaft. Temperature range is 0° to 220°F for *base-mount* bearings; 0° to 250°F for *two-* and *four-bolt flange-mount* bearings, unless noted.

Bearings with eccentric lock have an off-center shaft opening and collar that wedge against the shaft as it turns—gripping in one direction and releasing in the other. They are easier to install than bearings with a set screw grip and require less adjustment over time. A set screw is included for gripping back-up. Use with shafts that spin in one direction only. Temperature range is 0° to 240°F, unless noted.

Also Available: Replacement ball bearing inserts. Please ask for 6361K888 and specify the part number of the bearing for which you need an insert.

Base Mount



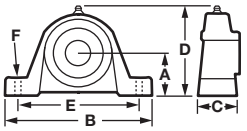

Base Mount



With Set-Screw Lock



With Eccentric Lock and Collar

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)		
With Set-Screw Lock—Inch										
1/2"	1 3/16"	2,611	7,300	5"	1 7/32"	2 13/16"	3 3/4"	3/8"	**7728T51**	$66.98
5/8"	1 3/16"	2,611	7,300	5"	1 7/32"	2 13/16"	3 3/4"	3/8"	**7728T52**	66.98
3/4"	1 5/16"	2,611	7,300	5"	1 7/32"	2 15/16"	3 3/4"	3/8"	**7728T53**	73.40
7/8"	1 7/16"	2,801	6,350	5 1/2"	1 3/8"	3 3/16"	4 1/8"	3/8"	**7728T54**	79.17
15/16"	1 7/16"	2,801	6,350	5 1/2"	1 3/8"	3 3/16"	4 1/8"	3/8"	**7728T55**	79.17
1"	1 7/16"	2,801	6,350	5 1/2"	1 3/8"	3 3/16"	4 1/8"	3/8"	**7728T56**	79.47
1 1/8"	1 11/16"	4,381	5,450	6 1/2"	1 1/2"	3 3/4"	4 3/4"	1/2"	**7728T57**	93.78
1 3/16"	1 11/16"	4,381	5,450	6 1/2"	1 1/2"	3 3/4"	4 3/4"	1/2"	**7728T58**	94.15
1 1/4"	1 11/16"	4,381	5,450	6 1/2"	1 1/2"	3 3/4"	4 3/4"	1/2"	**7728T73**	95.08
1 1/4"	1 7/8"	5,782	5,450	6 9/16"	1 11/16"	4 1/8"	5"	1/2"	**7728T71**	111.92
1 3/8"	1 7/8"	5,782	4,650	6 9/16"	1 11/16"	4 1/8"	5"	1/2"	**7728T72**	111.50
1 7/16"	1 7/8"	5,782	4,650	6 9/16"	1 11/16"	4 1/8"	5"	1/2"	**7728T61**	111.92
1 1/2"	1 15/16"	7,340	4,150	7 1/4"	1 15/16"	4 5/16"	5 3/8"	1/2"	**7728T62**	120.45
1 11/16"	2 1/8"	7,901	3,800	7 1/2"	1 15/16"	4 5/8"	5 3/4"	1/2"	**7728T63**	139.92
1 15/16"	2 1/4"	7,889	3,550	8 1/8"	2 1/32"	5"	6 1/4"	5/8"	**7728T64**	160.30
2"	2 1/2"	9,752	3,250	8 5/8"	2 3/16"	5 7/16"	6 3/4"	5/8"	**7728T65**	188.10
2 3/16"	2 1/2"	9,752	3,250	8 5/8"	2 3/16"	5 7/16"	6 3/4"	5/8"	**7728T66**	188.83
2 7/16"	2 3/4"	11,789	3,000	9 1/2"	2 9/16"	6"	7 1/4"	5/8"	**7728T67**	229.42
With Set-Screw Lock—Metric										
20 mm	33.3 mm	2,611	7,300	127 mm	31 mm	75 mm	95 mm	9.5 mm	**7835T51**	118.02
25 mm	36.5 mm	2,801	6,350	140 mm	35 mm	81 mm	105 mm	9.5 mm	**7835T52**	127.77
30 mm	42.9 mm	4,381	5,450	165 mm	38 mm	95 mm	121 mm	12.7 mm	**7835T53**	151.37
35 mm	47.6 mm	5,782	4,650	167 mm	43 mm	105 mm	127 mm	12.7 mm	**7835T54**	179.95
40 mm	49.2 mm	7,340	4,150	184 mm	49 mm	110 mm	137 mm	12.7 mm	**7835T55**	193.65
45 mm	54 mm	7,901	3,800	191 mm	49 mm	118 mm	146 mm	12.7 mm	**7835T56**	224.93
50 mm	57.2 mm	7,889	3,550	206 mm	52 mm	126 mm	159 mm	15.9 mm	**7835T57**	257.72
With Eccentric Lock—Inch										
5/8"	1 1/16"	2,150	9,500	5"	1 1/2"	2 3/32"	3 13/16"	29/64"	**6361K33**	43.12
3/4"	1 1/4"	2,860	8,500	5"	1 1/4"	2 1/2"	3 13/16"	29/64"	**6361K34**	43.16
7/8"	1 5/16"	3,150	7,000	5 1/8"	1 13/32"	2 5/8"	4 1/64"	29/64"	**6361K35**	48.82
1"	1 5/16"	3,150	7,000	5 1/8"	1 13/32"	2 5/8"	4 1/64"	29/64"	**6361K37**	39.68
1 1/8"	1 9/16"	4,384	6,300	5 63/64"	1 63/64"	3 13/64"	4 5/8"	35/64"	**6361K38** ★	70.25
1 3/16"	1 9/16"	4,384	6,300	5 63/64"	1 63/64"	3 13/64"	4 5/8"	35/64"	**6361K39** ★	70.25
1 1/4"	1 13/16"	5,740	5,300	6 5/16"	1 13/16"	3 5/8"	4 31/32"	9/16"	**6361K41**	70.70
1 3/8"	1 13/16"	5,740	5,300	6 5/16"	2 1/16"	3 5/8"	4 31/32"	9/16"	**6361K42**	70.66
1 7/16"	1 13/16"	5,740	5,300	6 5/16"	2 1/16"	3 5/8"	4 31/32"	9/16"	**6361K43**	70.58
1 1/2"	1 15/16"	6,910	4,800	6 57/64"	2 41/64"	3 29/32"	5 21/64"	9/16"	**6361K44** ★	89.25
1 3/4"	2 1/16"	7,470	4,300	7 3/8"	2 1/4"	4 3/16"	5 21/32"	9/16"	**6361K46**	93.44
1 15/16"	2 3/16"	7,891	4,000	8"	2 13/16"	4 17/32"	6 3/16"	45/64"	**6361K47** ★	119.06

★ Temperature range is -22° to 212°F.

Flange Mount—With Set-Screw Lock



Two-Bolt Flange Mount

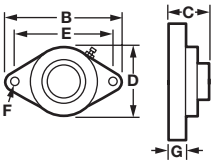



Four-Bolt Flange Mount

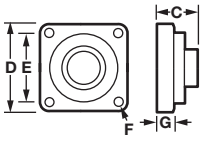

For Shaft Dia.	Dyn. Load Cap., lbs.	Max. rpm	Mounting Hole Size (F)	Two-Bolt Flange Mount O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Flange Thick. (G)			Four-Bolt Flange Mount O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Flange Thick. (G)		
1/2"	2,150	9,500	7/16"	3 7/8"	1 7/32"	2 1/8"	3"	15/32"	**5968K71**	$36.09	1 1/4"	3"	2 1/8"	25/64"	**5967K31** ★ ■	$50.50
5/8"	2,150	9,500	7/16"	3 7/8"	1 7/32"	2 1/8"	3"	15/32"	**5968K72**	36.09	1 13/64"	3"	2 1/8"	25/64"	**5967K81**	38.32
3/4"	2,860	8,500	7/16"	4 13/32"	1 9/32"	2 3/8"	3 17/32"	7/16"	**5968K73**	40.57	1 15/32"	3 3/8"	2 1/2"	7/16"	**5967K82**	42.63
7/8"	3,150	7,000	1/2"	4 7/8"	1 17/32"	2 3/4"	3 29/32"	15/32"	**5968K74**	39.33	—	—	—	—	—	—
1"	3,150	7,000	1/2"	4 7/8"	1 17/32"	2 3/4"	3 29/32"	15/32"	**5968K75**	39.33	1 33/64"	3 3/4"	2 3/4"	15/32"	**5967K84**	44.91
1 3/16"	4,390	6,300	1/2"	5 9/16"	1 21/32"	3 1/4"	4 19/32"	1/2"	**5968K76**	51.72	1 21/32"	4 1/4"	3 1/4"	33/64"	**5967K85**	54.30
1 1/4"	4,390	6,300	1/2"	5 9/16"	1 21/32"	3 1/4"	4 19/32"	1/2"	**5968K91**	51.72	1 21/32"	4 1/4"	3 1/4"	33/64"	**5967K41**	54.30
1 1/4"	5,740	5,300	9/16"	6 5/32"	1 53/64"	3 25/32"	5 1/8"	1/2"	**5968K77**	50.53	1 53/64"	4 41/64"	3 5/8"	33/64"	**5967K86**	49.79
1 7/16"	5,740	5,300	9/16"	6 5/32"	1 53/64"	3 25/32"	5 1/8"	1/2"	**5968K78**	55.34	1 53/64"	4 41/64"	3 5/8"	33/64"	**5967K87**	53.84
1 1/2"	6,902	4,800	9/16"	6 3/4"	2 1/8"	4 1/64"	5 21/32"	35/64"	**5968K79** ★	87.28	2 9/64"	5 1/8"	4"	35/64"	**5967K88** ★ ▲	88.94
1 3/4"	7,470	4,300	5/8"	7 1/32"	2 9/64"	4 3/8"	5 27/32"	9/16"	**5968K81**	84.39	2 9/64"	5 25/64"	4 1/8"	35/64"	**5967K89**	88.60
1 15/16"	7,891	4,000	5/8"	7 7/16"	2 25/64"	4 9/16"	6 3/16"	19/32"	**5968K84** ★	116.24	2 25/64"	5 5/8"	4 3/8"	19/32"	**5967K92** ★	116.24
2"	9,810	3,600	3/4"	8 1/2"	2 7/16"	5"	7 1/4"	13/16"	**5968K83**	96.23	2 1/2"	6 3/8"	5 1/8"	5/8"	**5967K93**	107.00

★ Temperature range is -22° to 212°F. ■ Dynamic load capacity is 2,149 lbs. ▲Mounting hole is 35/64".

Nickel-Plated Cast Iron Mounted Steel Ball Bearings

A nickel-plated cast iron housing makes these mounted ball bearings corrosion resistant and extremely durable. The housing also has a grease fitting to simplify lubrication. Great for washdown applications.

All of these bearings are made to ABEC-1 dimensional tolerance standards and accommodate 1.5° of shaft misalignment. Bearing inserts are double sealed to block out dirt and preserve lubricants. Components are 52100 steel. Temperature range is 0° to 210°F, except three-bolt flange-mount bearings have a temperature range of -40° to 220°F. Furnished with two set screws to secure the bearing to the shaft.

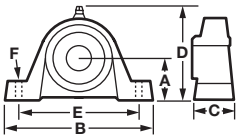



Base Mount



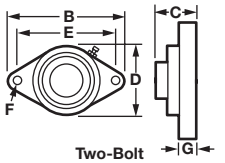

Two-Bolt Flange Mount

Base Mount

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)		
5/8"	1 3/16"	2,877	5,800	5"	1 1/2"	2 49/64"	3 3/4"	23/32" x 1/2"	6494K11	$36.49
3/4"	1 5/16"	2,877	5,800	5"	1 1/2"	2 61/64"	3 3/4"	23/32" x 1/2"	6494K13	34.74
1"	1 7/16"	3,147	5,100	5 1/2"	1 1/2"	3 9/64"	4 1/8"	23/32" x 1/2"	6494K14	39.74
1 1/4"	1 7/8"	5,777	3,700	6 9/16"	1 7/8"	4 9/64"	5"	13/16" x 21/32"	6494K16	61.83
1 1/2"	1 15/16"	6,541	3,300	7 1/4"	2 1/8"	4 15/64"	5 13/32"	13/16" x 21/32"	6494K19	71.49

Two-Bolt Flange Mount

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
5/8"	2,877	5,800	3 55/64"	1 5/16"	2 3/8"	3"	25/64"	7/16"	6494K38	$36.49
3/4"	2,877	5,800	4 7/16"	1 5/16"	2 3/8"	3 17/32"	25/64"	7/16"	6494K42	34.74
1"	3,147	5,100	5 1/8"	1 13/32"	2 11/16"	3 57/64"	15/32"	1/2"	6494K43	39.74
1 1/4"	4,383	4,300	5 13/16"	1 19/32"	3 5/32"	4 19/32"	15/32"	1/2"	6494K45	49.20

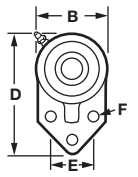



Three-Bolt Flange Mount

Three-Bolt Flange Mount

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
3/4"	2,210	7,500	2 1/2"	1 11/32"	4 1/4"	1 1/2"	13/32"	5/16"	8260K11	$59.71
7/8"	2,430	6,800	2 3/4"	1 29/64"	4 3/4"	1 5/8"	13/32"	3/8"	8260K12	80.82
15/16"	2,430	6,800	2 3/4"	1 29/64"	4 3/4"	1 5/8"	13/32"	3/8"	8260K13	80.82
1"	2,430	6,800	2 3/4"	1 29/64"	4 3/4"	1 5/8"	13/32"	3/8"	8260K14	80.82
1 1/8"	3,380	5,600	3 1/4"	1 5/8"	5 3/8"	1 7/8"	13/32"	3/8"	8260K15	92.78
1 3/16"	3,380	5,600	3 1/4"	1 5/8"	5 3/8"	1 7/8"	13/32"	3/8"	8260K16	91.62
1 1/4"	3,380	5,600	3 1/4"	1 5/8"	5 3/8"	1 7/8"	13/32"	3/8"	8260K17	91.62
1 1/4"	4,470	4,800	3 3/4"	1 59/64"	6 1/8"	2"	17/32"	1/2"	8260K18	96.49
1 3/8"	4,470	4,800	3 3/4"	1 59/64"	6 1/8"	2"	17/32"	1/2"	8260K19	96.49
1 7/16"	4,470	4,800	3 3/4"	1 59/64"	6 1/8"	2"	17/32"	1/2"	8260K21	96.49



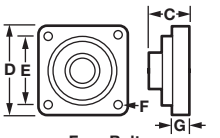

Four-Bolt Flange Mount

Four-Bolt Flange Mount

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
3/4"	2,877	5,800	1 5/16"	3 3/8"	2 33/64"	7/16"	7/16"	6494K32	$34.74
1"	3,147	5,100	1 13/32"	3 3/4"	2 3/4"	29/64"	1/2"	6494K33	39.74
1 1/4"	5,777	3,700	1 3/4"	4 19/32"	3 5/8"	33/64"	19/32"	6494K35	61.83

Permanently Lubricated Mounted Ball Bearings

With permanent lubrication, these bearings save maintenance time and are perfect for use in hard-to-reach areas. They are made to ABEC-3 dimensional tolerance standards with double-sealed bearings to block out dirt. Bearings come lubricated with USDA H1 grease for incidental contact with food. Furnished with two set screws to secure the bearing to the shaft.

Black oxide 52100 steel bearings with cast iron housing have a temperature range of 10° to 175°F.

440C stainless steel bearings with polyester housing are more corrosion resistant than black oxide 52100 steel bearings. Temperature range is 0° to 200°F.



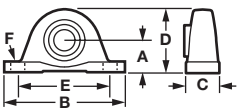

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)		
Black Oxide 52100 Steel Bearings with Cast Iron Housing										
3/4"	1 5/16"	2,890	6,450	5"	1 1/2"	2 9/16"	3 25/32"	7/16" x 25/32"	5057N11	$67.40
1"	1 7/16"	3,150	5,600	5 1/2"	1 1/2"	2 25/32"	4 1/8"	7/16" x 13/16"	5057N1	82.14
1 3/16"	1 11/16"	4,400	4,650	6 1/2"	1 7/8"	3 9/32"	4 5/8"	9/16" x 15/16"	5057N5	99.46
1 1/4"	1 7/8"	5,750	4,000	6 9/16"	1 7/8"	3 21/32"	5 1/8"	9/16" x 15/16"	5057N3	113.68
1 7/16"	1 7/8"	5,750	4,000	6 9/16"	1 7/8"	3 21/32"	5 1/8"	9/16" x 31/32"	5057N7	113.68
1 1/2"	1 15/16"	6,550	3,550	7 1/4"	2 1/8"	3 27/32"	5 3/8"	9/16" x 1 1/32"	5057N2	129.00
1 3/4"	2 1/8"	7,350	3,300	7 15/32"	2 1/8"	4 3/16"	5 7/8"	9/16" x 1 1/8"	5057N6	149.92
1 15/16"	2 1/4"	7,900	3,050	8 1/8"	2 3/8"	4 1/2"	6 7/32"	11/16" x 15/16"	5057N4	173.32
2"	2 1/2"	9,750	2,750	8 5/8"	2 3/8"	4 31/32"	6 15/16"	11/16" x 15/16"	5057N8	226.12
2 7/16"	2 3/4"	11,800	2,450	9 1/2"	2 3/4"	5 7/16"	7 13/32"	23/32" x 15/32"	5057N9	270.70
440C Stainless Steel Bearings with Polyester Housing										
3/4"	1 5/16"	2,270	6,000	5"	1 1/2"	2 9/16"	3 3/4"	9/16" x 1/2"	3730T33	130.71
1"	1 7/16"	2,475	5,600	5 1/2"	1 1/2"	2 25/32"	4 1/8"	9/16" x 1/2"	3730T34	157.62
1 3/16"	1 11/16"	3,440	4,500	6 1/2"	1 13/16"	3 9/32"	4 3/4"	23/32" x 9/16"	3730T36	193.98
1 1/4"	1 7/8"	4,520	4,000	6 9/16"	1 7/8"	3 21/32"	5"	23/32" x 9/16"	3730T38	233.42
1 7/16"	1 7/8"	4,520	4,000	6 9/16"	1 7/8"	3 21/32"	5"	23/32" x 9/16"	3730T39	233.42
1 1/2"	1 15/16"	5,125	3,600	7 1/4"	2 1/8"	3 27/32"	5 13/32"	23/32" x 9/16"	3730T43	276.35

High-Speed Cast Iron Mounted Steel Ball Bearings

Lubricated with air-handling-quality grease, these bearings stand up to the ultra-high-speed demands of high-speed blowers and fans. A ring-style collar makes a nearly perfect 360° grip around your shaft for a strong, mar-free hold. The collar centers the shaft, decreasing vibration and providing smooth rotation. Bearings include a Torx-head cap screw to secure the bearing to the shaft. All are made to ABEC-1 dimensional tolerance standards. They're double sealed for good resistance to dust and contaminants. Housing is cast iron; bearing is 52100 steel. Temperature range is -40° to 200° F.

Base Mount

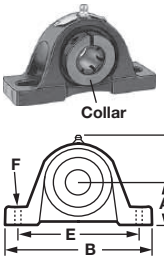

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E) Min.	Ctr.-to-Ctr. (E) Max.	Mounting Hole Size (F), Lg. x Wd.		
3/4"	15/16"	2,611	10,200	5"	1 1/2"	2 9/16"	3 3/8"	4 1/8"	0.75" x 0.44"	2773T21	$93.22
1"	1 7/16"	2,801	9,000	5 1/2"	1 1/2"	2 13/16"	3 7/8"	4 3/8"	0.63" x 0.44"	2773T22	100.84
1 3/16"	1 11/16"	4,381	7,600	6 1/2"	1 7/8"	3 3/8"	4 7/16"	5 1/16"	0.81" x 0.56"	2773T23	119.62
1 1/4"	1 7/8"	5,782	6,500	6 9/16"	1 7/8"	3 3/4"	4 11/16"	5 5/16"	0.81" x 0.56"	2773T24	142.14
1 3/8"	1 7/8"	5,782	6,500	6 9/16"	1 7/8"	3 3/4"	4 11/16"	5 5/16"	0.81" x 0.56"	2773T25	149.86
1 7/16"	1 7/8"	5,782	6,500	6 9/16"	1 7/8"	3 3/4"	4 11/16"	5 5/16"	0.81" x 0.56"	2773T26	142.14
1 1/2"	1 15/16"	7,340	5,850	7 1/4"	2 1/8"	3 15/16"	4 7/8"	5 7/8"	1.00" x 0.56"	2773T27	152.97
2"	2 1/2"	9,752	4,500	8 5/8"	2 3/8"	5"	6 1/2"	7"	0.88" x 0.69"	2773T28	253.14

Two-Bolt Flange Mount

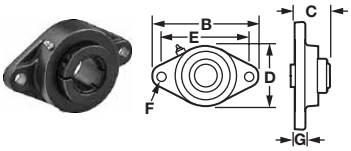

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
1"	2,801	9,000	4 7/8"	1 1/2"	2 3/4"	3 57/64"	0.469"	17/32"	3710T41	$100.84
1 3/16"	4,381	7,600	5 9/16"	1 5/8"	3 1/4"	4 19/32"	0.469"	17/32"	3710T42	119.62
1 1/4"	5,782	6,500	6 1/8"	1 13/16"	3 3/4"	5 1/8"	0.531"	9/16"	3710T43	144.86
1 3/8"	5,782	6,500	6 1/8"	1 13/16"	3 3/4"	5 1/8"	0.531"	9/16"	3710T44	149.86
1 7/16"	5,782	6,500	6 1/8"	1 13/16"	3 3/4"	5 1/8"	0.531"	9/16"	3710T45	144.86
1 1/2"	7,340	5,850	6 3/4"	2 5/64"	4 1/8"	5 21/32"	0.531"	9/16"	3710T46	155.90
1 15/16"	7,889	5,000	7 7/16"	2 7/32"	4 9/16"	6 3/16"	0.594"	9/16"	3710T47	207.74

Four-Bolt Flange Mount

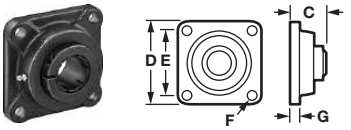

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
1"	2,801	9,000	1 1/2"	3 3/4"	2 3/4"	0.469"	17/32"	3710T51	$100.84
1 3/16"	4,381	7,600	1 5/8"	4 1/4"	3 1/4"	0.469"	17/32"	3710T52	119.62
1 1/4"	5,782	6,500	1 13/16"	4 5/8"	3 5/8"	0.531"	9/16"	3710T53	144.86
1 3/8"	5,782	6,500	1 13/16"	4 5/8"	3 5/8"	0.531"	9/16"	3710T54	149.86
1 7/16"	5,782	6,500	1 13/16"	4 5/8"	3 5/8"	0.531"	9/16"	3710T55	142.14
1 1/2"	7,340	5,850	2 5/64"	5 1/8"	4"	0.531"	9/16"	3710T56	155.90
1 15/16"	7,889	5,000	2 7/32"	5 5/8"	4 3/8"	0.594"	9/16"	3710T57	203.83

High-Temperature Cast Iron Mounted Steel Ball Bearings

High-temperature grease enables these bearings to operate in temperatures up to 400° F, nearly double the temperature of standard mounted ball bearings. They are self-aligning to compensate for 4° of shaft misalignment and are double sealed for excellent resistance to dust and contaminants. A grease fitting in the housing makes adding lubrication easy. Made to ABEC-1 dimensional tolerance standards. Housing is cast iron; bearing components are 52100 steel. Furnished with two set screws to secure the bearing to the shaft.

Also Available: Replacement ball bearing inserts. Please ask for 6667K3 and specify bearing part number.

Base Mount

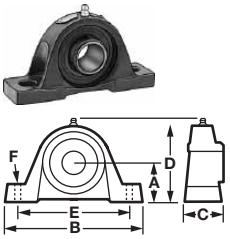

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)		
1/2"	13/16"	2,611	3,200	5"	1 1/2"	2 5/8"	3 3/4"	3/4" x 7/16"	6667K21	$95.29
5/8"	13/16"	2,611	3,200	5"	1 1/2"	2 5/8"	3 3/4"	3/4" x 7/16"	6667K22	89.95
3/4"	15/16"	2,611	3,200	5"	1 1/2"	2 3/4"	3 3/4"	3/4" x 7/16"	6667K23	128.90
1"	1 7/16"	2,801	2,750	5 1/2"	1 1/2"	3"	4 1/8"	5/8" x 7/16"	6667K24	140.47
1 1/4"	1 7/8"	5,782	2,200	6 9/16"	1 7/8"	3 15/16"	5"	13/16" x 9/16"	6667K25	204.76
1 1/2"	1 15/16"	7,340	1,800	7 1/4"	2 1/8"	4 1/8"	5 3/8"	1" x 9/16"	6667K26	218.76
2"	2 1/2"	9,752	1,400	8 5/8"	2 3/8"	5 3/16"	6 3/4"	7/8" x 11/16"	6667K27	330.57

Two-Bolt Flange Mount

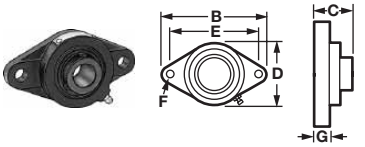

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
1/2"	2,611	3,200	3 7/8"	1 9/32"	2 5/16"	3"	3/8"	7/16"	6665K31	$119.22
5/8"	2,611	3,200	3 7/8"	1 9/32"	2 5/16"	3"	3/8"	7/16"	6665K32	122.97
3/4"	2,611	3,200	4 13/32"	1 9/32"	2 3/8"	3 17/32"	3/8"	7/16"	6665K33	125.16
1"	2,801	2,750	4 7/8"	1 7/16"	2 3/4"	3 57/64"	7/16"	17/32"	6665K34	142.17
1 1/4"	5,782	2,200	6 1/8"	1 3/4"	3 3/4"	5 1/8"	7/16"	9/16"	6665K35	200.43
1 1/2"	7,340	1,800	6 3/4"	2 1/64"	4 1/8"	5 21/32"	1/2"	9/16"	6665K36	218.24
2"	9,752	1,400	8 1/2"	2 5/16"	5 1/4"	7 1/4"	5/8"	13/16"	6665K37	330.57

Four-Bolt Flange Mount

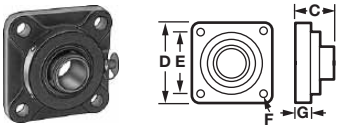

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
5/8"	2,611	3,200	1 9/32"	3"	2 1/8"	3/8"	7/16"	6664K32	$118.29
3/4"	2,611	3,200	1 9/32"	3 3/8"	2 1/2"	3/8"	7/16"	6664K33	126.67
1"	2,801	2,750	1 7/16"	3 3/4"	2 3/4"	7/16"	17/32"	6664K34	140.47
1 1/4"	5,782	2,200	1 3/4"	4 5/8"	3 5/8"	7/16"	9/16"	6664K35	199.47
1 1/2"	7,340	1,800	2 1/64"	5 1/8"	4"	1/2"	9/16"	6664K36	219.28
2"	9,752	1,400	2 5/16"	6 3/8"	5 1/8"	9/16"	13/16"	6664K37	330.57

Vibration-Damping Cast Iron Mounted Steel Ball Bearings

The ring-style collar makes a nearly perfect 360° grip around your shaft for a strong, mar-free hold. The collar centers the shaft, decreasing vibration and providing smooth rotation. All bearings are made to ABEC-1 dimensional tolerance standards. Housing is cast iron and has a grease fitting for easy lubrication. Bearing insert is 52100 steel.

Bearings without Torque Indicator—These bearings are double shielded to block out dirt and accommodate 4° of static shaft misalignment. Temperature range is -20° to 220° F. Furnished with a set screw to secure the bearing to the shaft.

Bearings with Torque Indicator—All are double shielded to block out dirt and accommodate 2° of shaft misalignment. Temperature range is 0° to 230° F. Furnished with three set screws to secure the bearing to the shaft. Simply tighten the set screws and a built-in torque indicator tells you when the bearing is centered.

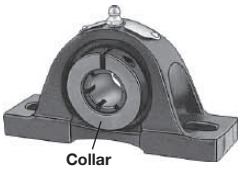

Without Torque Indicator

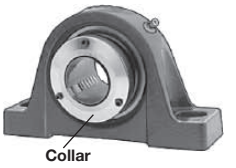

With Torque Indicator

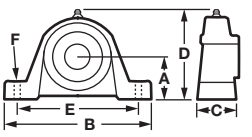

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)		
Without Torque Indicator										
3/4"	1 5/16"	2,611	10,000	5"	1 1/2"	2 9/16"	3 3/8"-4 1/8"	3/4" x 7/16"	**2722T31**	$100.71
7/8"	1 7/16"	2,801	8,000	5 1/2"	1 1/2"	2 13/16"	3 7/8"-4 3/8"	5/8" x 7/16"	**2722T32**	111.71
15/16"	1 7/16"	2,801	8,000	5 1/2"	1 1/2"	2 13/16"	3 7/8"-4 3/8"	5/8" x 7/16"	**2722T33**	113.36
1"	1 7/16"	2,801	9,000	5 1/2"	1 1/2"	2 13/16"	3 7/8"-4 3/8"	5/8" x 7/16"	**2722T34**	114.17
1 1/8"	1 11/16"	4,381	8,000	6 1/2"	1 7/8"	3 3/8"	4 7/16"-5 1/16"	13/16" x 9/16"	**2722T35**	135.22
1 1/4"	1 11/16"	4,381	8,000	6 1/2"	1 7/8"	3 3/8"	4 7/16"-5 1/16"	13/16" x 9/16"	**2722T36**	168.22
1 3/8"	1 7/8"	5,782	6,500	6 9/16"	1 7/8"	3 3/4"	4 11/16"-5 5/16"	13/16" x 9/16"	**2722T37**	158.98
1 7/16"	1 7/8"	5,782	6,500	6 9/16"	1 7/8"	3 3/4"	4 11/16"-5 5/16"	13/16" x 9/16"	**2722T38**	158.91
1 1/2"	1 15/16"	7,340	5,850	7 1/4"	2 1/8"	3 15/16"	4 7/8"-5 7/8"	1" x 9/16"	**2722T39**	171.05
1 3/4"	2 1/8"	7,901	5,500	7 1/2"	2 1/8"	4 1/4"	5 7/16"-6 1/16"	13/16" x 9/16"	**2722T41**	193.95
2"	2 1/2"	9,752	4,500	8 5/8"	2 3/8"	5"	6 1/2"-7"	7/8" x 11/16"	**2722T42**	268.57
2 7/16"	2 3/4"	11,789	7,500	9 1/2"	2 3/4"	5 9/16"	6 7/8"-7 5/8"	1" x 11/16"	**2722T43**	318.29
With Torque Indicator										
1 7/16"	1 7/8"	5,700	5,300	6 5/16"	1 3/4"	3 21/32"	4 31/32"	53/64" x 35/64"	**2722T24**	103.71
1 15/16"	2 1/4"	7,900	4,000	8"	2 1/8"	4 1/2"	6 3/16"	1 1/32" x 45/64"	**2722T27**	141.64

Self-Aligning Low-Profile Mounted Ball Bearings

Designed with a thin, compact housing, these bearings are good for space constrained, light duty applications. All are made to ABEC-1 dimensional tolerance standards and accommodate 3° of shaft misalignment. Bearing inserts are double sealed to block out dirt and preserve lubricants. Temperature range is 0° to 210° F. Furnished with two set screws to secure the bearing to the shaft.

Steel—Housing is steel. Bearing components are 52100 steel.

Stainless Steel—The choice for corrosion resistance. Housing is stainless steel. Bearing components are 440C stainless steel.

Base Mount



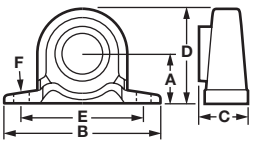

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)		
Steel										
1/2"	7/8"	716	5,800	3 3/8"	31/32"	1 23/32"	2 43/64"	1/2" x 11/32"	**5913K61**	$10.95
5/8"	7/8"	716	5,800	3 3/8"	31/32"	1 23/32"	2 43/64"	1/2" x 11/32"	**5913K62**	10.95
3/4"	1"	962	5,800	4 1/8"	1"	2"	3"	1/2" x 13/32"	**5913K63**	11.78
1"	1 1/8"	1,050	5,100	4 35/64"	1 1/4"	2 7/32"	3 3/8"	9/16" x 13/32"	**5913K64**	12.69
1 3/16"	1 5/16"	1,461	4,300	4 29/32"	1 1/4"	2 5/8"	3 3/4"	9/16" x 13/32"	**5913K65**	15.73
Stainless Steel										
5/8"	7/8"	572	5,800	3 5/8"	1"	1 3/4"	2 11/16"	1/2" x 11/32"	**2353K31**	56.60
3/4"	1"	816	5,800	4 1/8"	1"	2 1/16"	3"	1/2" x 13/32"	**2353K32**	57.49
1"	1 1/8"	891	5,100	4 1/2"	1 1/8"	2 7/32"	3 3/8"	9/16" x 13/32"	**2353K33**	84.07
1 3/16"	1 5/16"	1,236	4,300	4 7/8"	1 1/4"	2 5/8"	3 3/4"	9/16" x 13/32"	**2353K34**	84.04

Two-Bolt Flange Mount

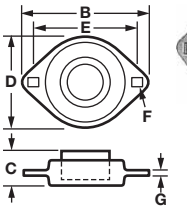



For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
Steel										
1/2"	716	5,800	3 3/16"	0.866"	2 5/16"	2 1/2"	0.28"	0.16"	**5913K71**	$11.33
5/8"	716	5,800	3 3/16"	0.866"	2 5/16"	2 1/2"	0.28"	0.16"	**5913K72**	11.33
3/4"	962	5,800	3 17/32"	0.984"	2 5/8"	2 13/16"	0.36"	0.16"	**5913K73**	11.90
1"	1,050	5,100	3 3/4"	1.063"	2 25/32"	3"	0.36"	0.16"	**5913K74**	12.77
1 3/16"	1,461	4,300	4 7/16"	1.181"	3 5/16"	3 9/16"	0.44"	0.2"	**5913K75**	16.13
Stainless Steel										
5/8"	572	5,800	3 3/16"	1.22"	2 5/16"	2 1/2"	0.28"	0.15"	**2431K71**	56.60
3/4"	816	5,800	3 9/16"	1.22"	2 5/8"	2 13/16"	0.34"	0.16"	**2431K72**	57.48
1"	891	5,100	3 3/4"	1.343"	2 51/64"	3"	0.34"	0.16"	**2431K73**	63.63

Light Duty Two-Bolt Flange-Mounted Ball Bearings

The closed backing on these bearings makes them good for light duty shaft-end support. Housing is PEEK and bearing components are 440C stainless steel. Temperature range is -140° to 480° F.

Open bearings dissipate heat more efficiently than shielded bearings. **Double-shielded** bearings resist dust and other contaminants, but do not dissipate heat as efficiently as open bearings.



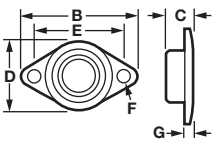

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Mounting Hole Size (F)	Ctr.-to-Ctr. (E)	Flange Thick. (G)	Open		Double Shielded	
1/8"	125	53,000	1.16"	0.312"	5/8"	0.17"	3/4"	0.09"	**4575N21**	$9.16	**4575N31**	$9.46
3/16"	292	38,000	1 3/8"	0.368"	0.844"	0.17"	0.968"	0.09"	**4575N22**	9.26	**4575N32**	9.56
1/4"	84	36,000	1.343"	0.297"	0.843"	0.17"	0.937"	0.13"	**4575N23**	9.70	**4575N33**	10.00
5/16"	122	40,000	1 1/2"	0.344"	0.953"	0.17"	1.093"	0.15"	**4575N24**	11.44	**4575N34**	12.20
3/8"	749	32,000	2 1/8"	0.484"	1.54"	0.196"	1.602"	0.16"	**4575N25**	14.90	**4575N35**	15.20

Low-Profile Two-Bolt Flange-Mounted Ball Bearings



Designed with a thin, compact housing, these bearings are good for space constrained applications. They are double sealed for excellent resistance to dust and contaminants. Housing is steel and bearing components are 52100 steel. Maximum temperature is 250° F. Furnished with two set screws to secure the bearing to the shaft.

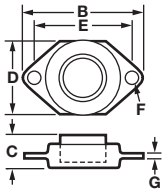

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
3/8"	580	3,000	2 1/2"	11/16"	1 1/8"	1 7/8"	5/16"	1/32"	**7208K51**	$26.20
1/2"	1,610	3,000	3 3/4"	1"	1 7/8"	2 7/8"	7/16"	1/16"	**7208K52**	28.49
5/8"	1,610	3,000	3 3/4"	1"	1 7/8"	2 7/8"	7/16"	1/16"	**7208K53**	27.71
3/4"	1,870	3,000	4 1/8"	1 1/8"	2 1/4"	3 1/4"	7/16"	1/16"	**7208K54**	36.93
1"	1,870	3,000	4 1/8"	1 1/8"	2 1/4"	3 1/4"	7/16"	1/16"	**7208K55**	39.13

Food-Grade Plastic Mounted Ball Bearings

An excellent choice for food-processing applications, the lubricant in these mounted ball bearings meets USDA H1 for incidental contact with food. A grease fitting in the housing makes lubrication easy. All of these bearings have a smooth, corrosion-resistant plastic housing with double-sealed bearing inserts to block out dirt. Furnished with two set screws to secure the bearing to the shaft.

Zinc-Plated 52100 Steel—These bearings have higher load and speed ratings than stainless steel inserts and accommodate shaft misalignment up to 2°. They're made of coated steel for corrosion resistance and are precision-machined to meet ABEC-1 dimensional tolerance standards. Temperature range is -20° to 160° F for base-mount bearings; -22 to 160° F for flange-mount bearings. **Also Available:** Protective end covers. Please ask for 6736K888 and specify shaft diameter.

303 Stainless Steel—These stainless steel bearings are more corrosion resistant than steel bearings and will accommodate shaft misalignment up to 3°. Temperature range is -25° to 250° F for base-mount bearings; -20° to 250° F for flange-mount bearings. Furnished with protective end covers.

Base Mount



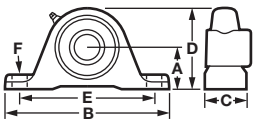

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)		
Zinc-Plated 52100 Steel Bearings										
3/4"	1 5/16"	2,860	1,120	4 31/32"	1 1/4"	2 1/2"	4"	21/32" x 29/64"	**6668K41**	$40.40
1"	1 7/16"	3,150	935	5 9/32"	1 1/4"	2 25/32"	4 11/32"	21/32" x 29/64"	**6668K42**	75.64
1 3/16"	1 11/16"	4,380	795	6 1/4"	1 37/64"	3 15/64"	5 3/64"	53/64" x 35/64"	**6668K43**	87.62
1 1/4"	1 7/8"	5,730	685	6 15/32"	1 49/64"	3 21/32"	5 1/4"	53/64" x 35/64"	**6668K44**	98.92
1 7/16"	1 7/8"	5,730	685	6 15/32"	1 49/64"	3 21/32"	5 1/4"	53/64" x 35/64"	**6668K45**	101.90
1 1/2"	1 15/16"	6,900	610	6 57/64"	1 57/64"	3 29/32"	5 5/8"	53/64" x 35/64"	**6668K46**	112.52
303 Stainless Steel Bearings										
3/4"	1 5/16"	200★	500	5"	1 1/2"	2 9/16"	3 3/4"	9/16" x 7/16"	**6668K31**	74.60
1"	1 7/16"	240★	425	5 1/2"	1 1/2"	2 13/16"	4 1/8"	9/16" x 7/16"	**6668K32**	80.61
1 3/16"	1 11/16"	350★	375	6 7/16"	1 13/16"	3 5/16"	4 11/16"	11/16" x 9/16"	**6668K33**	95.64
1 1/4"	1 7/8"	475★	300	6 5/8"	1 7/8"	3 3/4"	5"	11/16" x 9/16"	**6668K34**	112.55
1 7/16"	1 7/8"	475★	300	6 5/8"	1 7/8"	3 3/4"	5"	11/16" x 9/16"	**6668K35**	112.55

★Static load capacity, lbs.

Two-Bolt Flange Mount



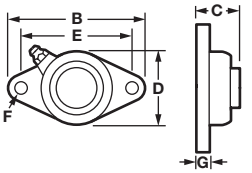

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
Zinc-Plated 52100 Steel Bearings										
3/4"	2,860	1,120	4 13/32"	1 15/32"	2 3/8"	3 17/32"	29/64"	19/32"	**6670K41**	$40.40
1"	3,150	935	4 7/8"	1 17/32"	2 3/4"	3 29/32"	29/64"	19/32"	**6670K42**	75.64
1 3/16"	4,380	795	5 39/64"	1 21/32"	3 17/64"	4 19/32"	29/64"	19/32"	**6670K43**	87.62
1 1/4"	5,730	685	6 1/8"	1 53/64"	3 25/32"	5 1/8"	35/64"	21/32"	**6670K44**	101.90
1 7/16"	5,730	685	6 1/8"	1 53/64"	3 25/32"	5 1/8"	35/64"	21/32"	**6670K45**	101.90
1 1/2"	6,900	610	6 25/32"	2 1/32"	4 9/16"	5 21/32"	17/32"	9/16"	**6670K46**	198.70
303 Stainless Steel Bearings										
3/4"	200★	500	4 7/16"	1 5/16"	2 9/16"	3 9/16"	3/8"	9/16"	**6670K21**	74.60
1"	240★	425	5 3/16"	1 1/2"	2 3/4"	3 15/16"	3/8"	9/16"	**6670K22**	80.61
1 3/16"	350★	375	5 13/16"	1 9/16"	3 1/8"	4 5/8"	3/8"	9/16"	**6670K23**	95.64
1 1/4"	475★	300	6 1/2"	1 13/16"	3 9/16"	5 1/8"	1/2"	5/8"	**6670K24**	112.55
1 7/16"	475★	300	6 1/2"	1 13/16"	3 9/16"	5 1/8"	1/2"	5/8"	**6670K25**	112.55

★Static load capacity, lbs.

Four-Bolt Flange Mount



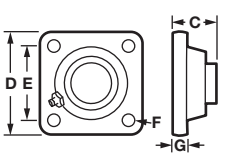

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
Zinc-Plated 52100 Steel Bearings									
3/4"	2,860	1,120	1 15/32"	3 3/8"	2 1/2"	29/64"	19/32"	**6671K41**	$40.40
1"	3,150	935	1 17/32"	3 3/4"	2 3/4"	29/64"	19/32"	**6671K42**	75.64
1 3/16"	4,380	795	1 21/32"	4 1/4"	3 1/4"	29/64"	19/32"	**6671K43**	87.62
1 1/4"	5,730	685	1 53/64"	4 5/8"	3 5/8"	35/64"	21/32"	**6671K44**	101.90
1 7/16"	5,730	685	1 53/64"	4 5/8"	3 5/8"	35/64"	21/32"	**6671K45**	101.90
1 1/2"	6,900	610	2 9/64"	5 1/8"	4"	35/64"	21/32"	**6671K46**	112.52
303 Stainless Steel Bearings									
3/4"	200★	500	1 3/8"	3 3/8"	2 1/2"	3/8"	9/16"	**6671K21**	74.60
1"	240★	425	1 1/2"	3 3/4"	2 3/4"	3/8"	9/16"	**6671K22**	80.61
1 3/16"	350★	375	1 5/8"	4 1/4"	3 1/4"	3/8"	9/16"	**6671K23**	95.64
1 1/4"	475★	300	1 7/8"	4 5/8"	3 5/8"	1/2"	5/8"	**6671K24**	112.55
1 7/16"	475★	300	1 15/16"	4 5/8"	3 5/8"	1/2"	5/8"	**6671K25**	112.55

★Static load capacity, lbs.

Ultra-Corrosion-Resistant Mounted Ball Bearings

Use these lightweight bearings in corrosive environments and under water. Unlike other mounted ball bearings, they do not require lubrication. Great for use in food and hygienic applications, they have a polyester housing. All are self-aligning, which means they'll compensate for minor shaft misalignment. They are open bearings, which means they run cool. Temperature range is -40° to 180°F in air. In liquid, the maximum temperature is 120°F (not rated for minimum temperature in liquid). Furnished with a set screw to secure the bearing to the shaft.

These bearings are available in acetal or 316 stainless steel. **Acetal** bearings are more economical than 316 stainless steel bearings. **316 stainless steel** bearings handle heavier loads than acetal bearings.

Base Mount



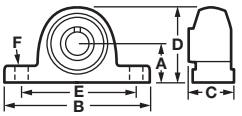

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)		
Acetal Bearings										
1/2"	1 21/64"	78	840	5"	1.35"	2 9/16"	3 3/4"	7/16"	**6357K41**	$46.27
5/8"	1 21/64"	78	840	5"	1.35"	2 9/16"	3 3/4"	7/16"	**6357K42**	46.27
3/4"	1 21/64"	78	840	5"	1.35"	2 9/16"	3 3/4"	7/16"	**6357K43**	46.27
1"	1 13/32"	92	729	5 17/32"	1.46"	2 51/64"	4 1/8"	7/16"	**6357K44**	50.80
316 Stainless Steel Bearings										
1/2"	1 21/64"	234	840	5"	1 1/2"	2 9/16"	3 3/4"	7/16"	**7192K51**	113.18
5/8"	1 21/64"	234	840	5"	1 1/2"	2 9/16"	3 3/4"	7/16"	**7192K52**	114.22
3/4"	1 21/64"	234	840	5"	1 1/2"	2 9/16"	3 3/4"	7/16"	**7192K53**	115.28
1"	1 13/32"	276	729	5 17/32"	1 1/2"	2 51/64"	4 1/8"	7/16"	**7192K54**	133.88

Two-Bolt Flange Mount



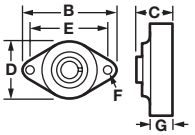

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
Acetal Bearings										
5/8"	78	840	4 1/2"	1.04"	2 33/64"	3 35/64"	7/16"	7/16"	**6357K45**	$46.27
3/4"	92	729	5 5/32"	1.15"	2 3/4"	3 57/64"	7/16"	17/32"	**6357K46**	50.80
1"	92	729	5 5/32"	1.15"	2 3/4"	3 57/64"	7/16"	17/32"	**6357K47**	50.80
316 Stainless Steel Bearings										
3/4"	278	729	5 5/32"	1 9/64"	2 3/4"	3 57/64"	7/16"	17/32"	**7192K55**	132.69
1"	278	729	5 5/32"	1 9/64"	2 3/4"	3 57/64"	7/16"	17/32"	**7192K56**	133.88

Four-Bolt Flange Mount



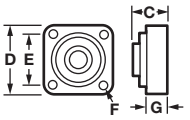

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
Acetal Bearings									
3/4"	92	729	1.35"	3 3/4"	2 3/4"	7/16"	35/64"	**6357K48**	$50.80
1"	92	729	1.35"	3 3/4"	2 3/4"	7/16"	35/64"	**6357K49**	50.80
316 Stainless Steel Bearings									
3/4"	278	729	1 7/64"	3 3/4"	2 3/4"	7/16"	35/64"	**7192K57**	133.88
1"	278	729	1 7/64"	3 3/4"	2 3/4"	7/16"	35/64"	**7192K58**	136.31

Low-Profile Mounted Ball Bearings

Designed with a thin, compact housing, these bearings are good for space constrained applications. These high-precision bearings have an aluminum housing and 52100 steel ball bearings for excellent corrosion resistance. All are made to tight ABEC-3 dimensional tolerance standards. They come greased and are double shielded to block out dirt. Temperature range is -20° to 240°F.

Bearings with extended inner ring provide additional shaft support.



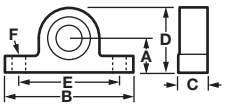

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)		
Inch										
1/8"	3/8"	150	56,000	17/16"	0.2"	3/4"	1 1/8"	1/8"	**8600N1**	$16.28
3/16"	3/8"	310	43,000	17/16"	0.2"	3/4"	1 1/8"	1/8"	**8600N2**	15.14
1/4"	3/8"	256	40,000	17/16"	0.2"	3/4"	1 1/8"	1/8"	**8600N3**	15.14
5/16"	3/8"	128	40,000	17/16"	0.2"	3/4"	1 1/8"	1/8"	**8600N4**	15.14
3/8"	9/16"	450	32,000	2 1/4"	0.4"	1 1/8"	1 3/4"	13/64"	**8600N5**	23.50
Inch with Extended Inner Ring										
3/16"	3/8"	310	43,000	17/16"	0.2"	3/4"	1 1/8"	1/8"	**8600N6**	17.44
1/4"	3/8"	256	40,000	17/16"	0.2"	3/4"	1 1/8"	1/8"	**8600N7**	17.02
5/16"	3/8"	128	40,000	17/16"	0.2"	3/4"	1 1/8"	1/8"	**8600N8**	17.56
Metric										
4 mm	3/8"	225	48,000	17/16"	0.2"	3/4"	1 1/8"	1/8"	**8600N9**	15.54
5 mm	3/8"	255	43,000	17/16"	0.2"	3/4"	1 1/8"	1/8"	**8600N11**	15.34
6 mm	3/8"	170	43,000	17/16"	0.2"	3/4"	1 1/8"	1/8"	**8600N12**	15.34
8 mm	3/8"	128	40,000	17/16"	0.2"	3/4"	1 1/8"	1/8"	**8600N13**	18.62
10 mm	9/16"	400	37,000	2 1/4"	0.4"	1 1/8"	1 3/4"	3/16"	**8600N14**	24.88

Light Duty Two-Bolt Flange-Mounted Roller Bearings



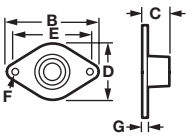

These bearings handle extremely high speeds for their small size. The self-aligning design compensates for 5° of shaft misalignment.

All bearings are 52100 steel with a black-oxide finish for added corrosion resistance. Bearings are open, which means they run cool and are easy to lubricate. Temperature range is -20° to 210°F.

For Shaft Dia.	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
Inch										
1/4"	360	44,000	2.1"	0.46"	1.19"	1.53"	7/32"	0.06"	**1434K43**	$10.23
5/16"	650	35,500	1.78"	0.64"	1 1/4"	1.22"	7/32"	0.09"	**1434K24**	9.21
3/8"	650	29,500	1.78"	0.64"	1 1/4"	1.22"	7/32"	0.09"	**1434K25**	8.83
1/2"	1,040	22,000	2.34"	0.77"	1.56"	1.78"	7/32"	0.09"	**1434K6**	10.32
Metric										
8 mm	620	23,800	45 mm	16.3 mm	31.8 mm	30.9 mm	5.5 mm	2.3 mm	**1434K33**	11.14
10 mm	990	24,300	45 mm	16.3 mm	31.8 mm	30.9 mm	5.5 mm	2.3 mm	**1434K34**	9.60
12 mm	1,110	20,700	60 mm	19.5 mm	39.6 mm	45.2 mm	5.5 mm	2.3 mm	**1434K15**	10.72

Mounted Roller Bearings



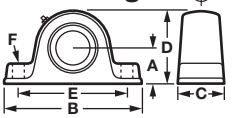

Mounted roller bearings make more contact with the raceway to support at least twice the load of comparable mounted ball and sleeve bearings. A clamp-on collar creates a 360° grip around the shaft for a strong, mar-free hold. The collar centers the shaft, decreasing vibration and providing smooth rotation. All bearings are self-aligning to compensate for up to 1.5° of shaft misalignment and double sealed for excellent resistance to dust and contaminants.

You can mount these bearings in minutes and remove them (even if they're dirty and rusted) with the included hex key. To unmount, loosen two mounting set screws and tighten two dismounting set screws until you hear and feel a pop.

They handle both radial (perpendicular to the shaft) and minimal thrust (parallel to the shaft) loads. Housing is cast iron; bearing insert is 52100 steel and comes lubricated. A grease fitting in the housing makes adding lubrication easy. Temperature range is 0° to 200°F.

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap., lbs.	Max. rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F), Lg. x Wd.		
17/16"	17/8"	21,700	4,000	67/8"	21/16"	37/8"	55/16"	15/16" x 5/8"	**2433K31**	$210.46
17/16"	17/8"	21,700	4,000	73/8"	21/8"	37/8"	53/4"	3/4" x 5/8"	**2433K11**	196.73
1 1/2"	17/8"	21,700	4,000	67/8"	21/16"	37/8"	55/16"	15/16" x 5/8"	**2433K32**	246.13
1 1/2"	21/8"	21,700	4,000	77/8"	23/8"	41/4"	61/4"	3/4" x 5/8"	**2433K12**	238.88
1 11/16"	21/8"	23,000	3,700	73/8"	21/8"	41/4"	6"	1" x 5/8"	**2433K33**	251.65
1 11/16"	21/8"	23,000	3,700	77/8"	23/8"	41/4"	61/4"	3/4" x 5/8"	**2433K13**	238.88
1 3/4"	21/8"	23,000	3,700	73/8"	21/8"	41/4"	6"	1" x 5/8"	**2433K34**	255.50
1 3/4"	21/4"	23,000	3,700	87/8"	21/2"	41/2"	7"	7/8" x 3/4"	**2433K14**	267.00
1 15/16"	21/4"	23,400	3,500	83/8"	25/16"	49/16"	67/8"	1 1/16" x 3/4"	**2433K35**	286.92
1 15/16"	21/4"	23,400	3,500	87/8"	21/2"	41/2"	7"	7/8" x 3/4"	**2433K15**	267.00
2"	21/4"	23,400	3,500	83/8"	25/16"	49/16"	67/8"	1 1/16" x 3/4"	**2433K36**	286.92
2"	21/4"	23,400	3,500	87/8"	21/2"	41/2"	7"	7/8" x 3/4"	**2433K16**	267.00

High-Speed Oil-Embedded Mounted Sleeve Bearings



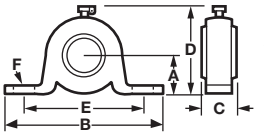

A strong steel housing allows these bearings to run at higher speeds than standard oil-embedded mounted sleeve bearings. Startup friction causes the bearing to release a thin layer of oil on the bearing's surface. Unless noted, these bearings include an oil cup with a reservoir that gradually distributes oil onto the bearing; a self-closing hinged cover keeps out contaminants. Housing is steel; bearing insert is SAE 841 bronze. Temperature range is -40° to 240°F.

Note: Dynamic load capacity is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap. @ Speed	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F), Lg. x Wd.		
3/8"	9/16"	90 lbs. @ 1,000 rpm	25/16"	1/2"	1 1/8"	1 3/4"	17/64" x 5/16"	**3813T1**★	$6.02
1/2"	9/16"	90 lbs. @ 1,000 rpm	25/16"	1/2"	1 1/8"	1 3/4"	17/64" x 5/16"	**3813T2**★	3.70
1/2"	15/16"	200 lbs. @ 1,000 rpm	4 1/32"	1 1/4"	2 1/16"	2 31/32"	21/64" x 21/32"	**3813T11**	6.80
5/8"	9/16"	90 lbs. @ 1,000 rpm	25/16"	1/2"	1 1/8"	1 3/4"	17/64" x 5/16"	**3813T3**★	4.20
5/8"	15/16"	200 lbs. @ 1,000 rpm	4 1/32"	1 1/4"	2 1/16"	2 31/32"	21/64" x 21/32"	**3813T12**	6.08
3/4"	15/16"	200 lbs. @ 1,000 rpm	4 1/32"	1 1/4"	2 1/16"	2 31/32"	21/64" x 21/32"	**3813T13**	6.02
7/8"	15/16"	200 lbs. @ 1,000 rpm	4 1/32"	1 1/4"	2 1/16"	2 31/32"	21/64" x 21/32"	**3813T14**	7.03
1"	15/16"	200 lbs. @ 1,000 rpm	4 1/32"	1.19"	2 1/16"	2 31/32"	21/64" x 21/32"	**3813T15**	6.25
1 1/8"	1 3/32"	250 lbs. @ 1,000 rpm	4 5/8"	1 1/2"	2 3/8"	3 21/64"	25/64" x 19/32"	**3813T16**	13.37
1 3/16"	1 3/32"	250 lbs. @ 1,000 rpm	4 5/8"	1 1/2"	2 3/8"	3 21/64"	25/64" x 19/32"	**3813T17**	11.52
1 1/4"	1 3/32"	250 lbs. @ 1,000 rpm	4 5/8"	1.44"	2 3/8"	3 21/64"	25/64" x 19/32"	**3813T18**	10.83
1 3/8"	1 11/32"	300 lbs. @ 1,000 rpm	5 7/16"	1 3/4"	2 5/8"	3 7/8"	25/64" x 25/32"	**3813T19**	31.98
1 1/2"	1 11/32"	300 lbs. @ 1,000 rpm	5 7/16"	1 3/4"	2 5/8"	3 7/8"	25/64" x 25/32"	**3813T21**	26.68

★Does not include oil cup.

Aluminum-Mounted Bronze Sleeve Bearings

You get to choose which self-lubricating bearing you want mounted in a lightweight, corrosion-resistant, aluminum housing. All bearings are self-aligning to compensate for up to 5° of shaft misalignment.

Oil Embedded—Startup friction causes these porous bearings to release a thin layer of oil on the bearing's surface. Temperature range is -20° to 200°F.

High-Load Dry Running—The addition of PTFE particles to these bronze bearings increases their load capacity while also making them slippery. Temperature range is -40° to 380°F.

Note: Dynamic load capacity is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.



Base Mount

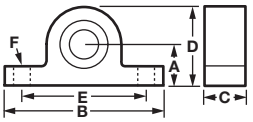



Two-Bolt Flange Mount

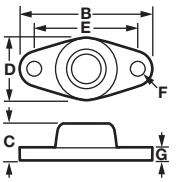

Base Mount

For Shaft Dia.	Center Ht. (A)	O'all Lg. (B)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Oil Embedded: Dynamic Load Cap. @ Speed	Oil Embedded: O'all Wd. (C)			High-Load Dry Running: Dynamic Load Cap. @ Speed	High-Load Dry Running: O'all Wd. (C)		
1/4"	9/16"	2 1/4"	1 1/8"	1 3/4"	9/32"	150 lbs. @ 150 rpm	3/8"	5912K1	$9.83	800 lbs. @ 90 rpm	7/16"	2820T3	$11.77
5/16"	9/16"	2 1/4"	1 1/8"	1 3/4"	9/32"	250 lbs. @ 150 rpm	7/16"	5912K2	10.33	1,000 lbs. @ 70 rpm	7/16"	2820T4	12.00
3/8"	9/16"	2 1/4"	1 1/8"	1 3/4"	9/32"	300 lbs. @ 100 rpm	7/16"	5912K3	10.38	1,500 lbs. @ 60 rpm	5/8"	2820T5	12.47
1/2"	9/16"	2 1/4"	1 1/8"	1 3/4"	9/32"	600 lbs. @ 90 rpm	5/8"	5912K4	11.11				
1/2"	3/4"	3 1/4"	1 9/16"	2 1/2"	11/32"	600 lbs. @ 90 rpm	5/8"	5912K5	12.28	3,000 lbs. @ 45 rpm	25/32"	2820T6	17.66
5/8"	3/4"	3 1/4"	1 9/16"	2 1/2"	11/32"	900 lbs. @ 70 rpm	25/32"	5912K6	15.98	4,000 lbs. @ 35 rpm	7/8"	2820T7	20.59
3/4"	3/4"	3 1/4"	1 9/16"	2 1/2"	11/32"	1,000 lbs. @ 60 rpm	7/8"	5912K7	18.00	5,000 lbs. @ 30 rpm	7/8"	2820T8	21.09
7/8"	1"	4"	1 15/16"	3 1/8"	11/32"	1,500 lbs. @ 50 rpm	29/32"	5912K8	31.86				
1"	1 1/4"	5"	2 9/16"	4"	9/16"	1,500 lbs. @ 45 rpm	29/32"	5912K9	45.29	6,000 lbs. @ 25 rpm	29/32"	2820T9	48.94
1 1/4"	1 1/4"	5"	2 9/16"	4"	9/16"	2,000 lbs. @ 35 rpm	15/16"	5912K11	41.49				

Two-Bolt Flange Mount

For Shaft Dia.	O'all Lg. (B)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)	Oil Embedded: Dynamic Load Cap. @ Speed	Oil Embedded: O'all Wd. (C)			High-Load Dry Running: Dynamic Load Cap. @ Speed	High-Load Dry Running: O'all Wd. (C)		
1/4"	1 5/8"	3/4"	1 1/4"	11/64"	3/16"	150 lbs. @ 150 rpm	3/8"	5912K12	$7.97				
1/4"	2 1/4"	1 1/8"	1 3/4"	9/32"	3/16"					800 lbs. @ 90 rpm	7/16"	2820T33	$11.07
5/16"	2 1/4"	1 1/8"	1 3/4"	9/32"	3/16"	250 lbs. @ 150 rpm	7/16"	5912K13	9.46	1,000 lbs. @ 70 rpm	7/16"	2820T34	13.66
3/8"	2 1/4"	1 1/8"	1 3/4"	9/32"	3/16"	300 lbs. @ 100 rpm	7/16"	5912K14	9.71	1,500 lbs. @ 60 rpm	5/8"	2820T35	11.89
1/2"	2 1/4"	1 1/8"	1 3/4"	9/32"	3/16"	600 lbs. @ 90 rpm	5/8"	5912K15	10.52				
1/2"	3 1/4"	1 5/8"	2 1/2"	13/32"	1/4"	700 lbs. @ 90 rpm	25/32"	5912K16	10.75	3,000 lbs. @ 45 rpm	25/32"	2820T36	17.21
5/8"	3 1/4"	1 5/8"	2 1/2"	13/32"	1/4"	900 lbs. @ 70 rpm	25/32"	5912K17	13.64	4,000 lbs. @ 35 rpm	7/8"	2820T37	19.09
3/4"	3 1/4"	1 5/8"	2 1/2"	13/32"	1/4"	1,000 lbs. @ 60 rpm	7/8"	5912K18	15.51	5,000 lbs. @ 30 rpm	7/8"	2820T38	19.89
7/8"	4"	1 7/8"	3 1/8"	13/32"	5/16"	1,500 lbs. @ 50 rpm	29/32"	5912K19	23.48				
1"	5"	2 5/8"	4"	9/16"	3/8"	1,500 lbs. @ 45 rpm	29/32"	5912K32	37.39	6,000 lbs. @ 25 rpm	29/32"	2820T39	41.79
1 1/4"	5"	2 5/8"	4"	9/16"	3/8"	2,000 lbs. @ 35 rpm	15/16"	5912K33	37.89				

Vibration-Damping Oil-Embedded Mounted Sleeve Bearings

With a flexible layer of neoprene sandwiched between an SAE 841 bronze bearing and rigid steel shell, these bearings absorb vibration to reduce wear and noise. At startup, friction causes the bearing to release a thin layer of oil on the bearing's surface. All bearings are self-aligning to compensate for up to 3° of shaft misalignment. Housing is steel. Temperature range is 0° to 225°F.

Note: Dynamic load capacity is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.



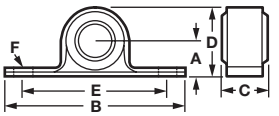

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap. @ Speed	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)		
1/4"	0.56"	500 lbs. @ 350 rpm	2 3/4"	1"	1 1/8"	2"	5/16"	7930K11	$17.32
3/8"	0.56"	700 lbs. @ 250 rpm	2 3/4"	1"	1 1/8"	2"	5/16"	7930K12	14.29
1/2"	0.56"	1,000 lbs. @ 150 rpm	2 3/4"	1"	1 1/8"	2"	5/16"	7930K13	13.00
5/8"	0.7"	1,500 lbs. @ 150 rpm	3 3/4"	1 1/4"	1 13/32"	3"	3/8"	7930K14	17.04
3/4"	0.7"	1,500 lbs. @ 100 rpm	3 3/4"	1 1/4"	1 13/32"	3"	3/8"	7930K15	16.62
7/8"	15/16"	2,500 lbs. @ 100 rpm	5"	1 1/2"	1 27/32"	4"	1/2"	7930K16	25.92
1"	15/16"	3,000 lbs. @ 90 rpm	5"	1 1/2"	1 27/32"	4"	1/2"	7930K17	23.18
1 1/8"	1 1/16"	3,500 lbs. @ 80 rpm	6"	1 3/4"	2 1/8"	4 9/16"	1/2"	7930K27	31.98
1 1/4"	1 1/16"	4,000 lbs. @ 70 rpm	6"	1 3/4"	2 1/8"	4 9/16"	1/2"	7930K18	32.81

Light Duty Dry-Running Two-Bolt Flange-Mounted Sleeve Bearings

Use these nylon bearings in lightweight applications. They have a fairly slippery bearing surface, which does not require lubrication when used for light duty applications. The closed backing provides shaft-end support. Temperature range is -20° to 250°F.

Note: Dynamic load capacity is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.



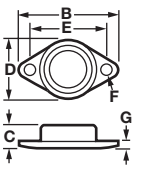

For Shaft Dia.	Dynamic Load Cap. @ Speed	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
1/8"	10 lbs. @ 200 rpm	0.825"	0.335"	0.52"	0.475"	0.14"	0.14"	2827N1	$3.08
3/16"	20 lbs. @ 150 rpm	0.985"	0.445"	0.56"	0.585"	0.14"	0.16"	2827N2	3.20
1/4"	30 lbs. @ 100 rpm	1.075"	0.465"	0.59"	0.7"	0.14"	0.16"	2827N3	3.32
5/16"	40 lbs. @ 90 rpm	1.32"	0.51"	0.71"	0.83"	0.168"	0.16"	2827N4	3.42
3/8"	60 lbs. @ 70 rpm	1 1/2"	0.58"	0.8"	1"	0.168"	0.17"	2827N5	3.74

Extreme-Temperature Dry-Running Mounted Sleeve Bearings

Capable of handling temperatures from -400° to 750°F, these bearings have the widest temperature range of any of our mounted bearings. Use them in corrosive environments and under water. They are self-aligning to compensate for 3° of shaft misalignment. Bearing inserts consist of solid graphalloy bushings that have been pressed into cast iron housings—so they stay slick their entire service life.

Note: Dynamic load capacity is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.

Base Mount



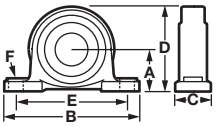

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap. (lbs.) @ Speed (rpm)	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F), Lg.×Wd.		
1/2"	1 5/16"	350 @ 100	5"	1 1/2"	2 17/32"	3 3/4"	3/4" × 1/2"	7928K51	$161.21
5/8"	1 5/16"	450 @ 90	5"	1 1/2"	2 17/32"	3 3/4"	3/4" × 1/2"	7928K52	161.21
3/4"	1 5/16"	500 @ 80	5"	1 1/2"	2 17/32"	3 3/4"	3/4" × 1/2"	7928K53	161.21
1"	1 7/16"	700 @ 60	5 1/2"	1 1/2"	2 25/32"	4 1/8"	3/4" × 1/2"	7928K63	224.60
1 1/4"	1 11/16"	1,000 @ 45	6 1/2"	1 7/8"	3 5/16"	4 3/4"	13/16" × 2 1/32"	7928K43	254.05
1 1/2"	1 7/8"	1,500 @ 40	6 9/16"	1 7/8"	3 21/32"	5"	13/16" × 2 1/32"	7928K34	356.30
2"	2 1/4"	2,000 @ 30	8 1/8"	2 3/8"	4 7/16"	6 1/4"	7/8" × 2 5/32"	7928K82	428.05

Flange Mount



Two Bolt

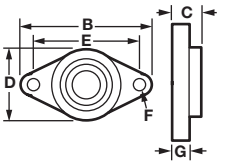



Four Bolt

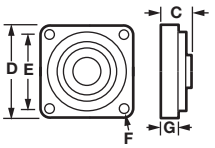

For Shaft Dia.	Dynamic Load Cap. (lbs.) @ Speed (rpm)	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
Two Bolt									
5/8"	500 @ 90	4 7/16"	1 3/32"	2 3/8"	3 35/64"	15/32"	7/16"	7928K55	$161.21
3/4"	600 @ 80	4 7/16"	1 3/32"	2 3/8"	3 35/64"	15/32"	7/16"	7928K56	161.21
1"	900 @ 60	5 1/8"	1 7/32"	2 11/16"	3 57/64"	15/32"	1/2"	7928K65	224.60
1 1/4"	1,000 @ 45	5 13/16"	1 1/2"	3 5/32"	4 39/64"	5/8"	1/2"	7928K45	254.05
1 1/4"	1,000 @ 45	6 11/16"	1 29/64"	3 17/32"	5 1/8"	5/8"	9/16"	7928K35	343.57
1 1/2"	1,500 @ 40	6 7/8"	1 37/64"	3 15/32"	5 43/64"	5/8"	9/16"	7928K73	353.09
2"	2,500 @ 30	7 3/4"	1 11/16"	4 17/32"	6 3/16"	3/4"	19/32"	7928K84	428.05
Four Bolt									
1/2"	400 @ 100	3 3/8"	1 3/32"	3 3/8"	2 33/64"	15/32"	15/32"	7928K57	161.21
5/8"	500 @ 90	3 3/8"	1 3/32"	3 3/8"	2 33/64"	15/32"	15/32"	7928K58	161.21
3/4"	600 @ 80	3 3/8"	1 3/32"	3 3/8"	2 33/64"	15/32"	15/32"	7928K59	161.21
1"	800 @ 60	3 3/4"	1 5/32"	3 3/4"	2 3/4"	15/32"	9/16"	7928K67	224.60
1 3/16"	1,000 @ 50	4 1/4"	1 29/64"	4 1/4"	3 17/64"	15/32"	9/16"	7928K46	254.05
1 1/4"	1,000 @ 45	4 1/4"	1 29/64"	4 1/4"	3 17/64"	15/32"	9/16"	7928K47	254.05
2"	2,500 @ 30	5 5/8"	1 43/64"	5 5/8"	4 3/8"	5/8"	23/32"	7928K86	428.05

Cast Iron Babbitt-Lined Mounted Sleeve Bearings



Solid



Split

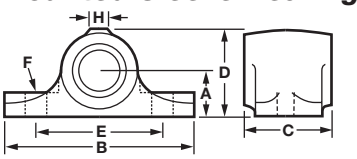

A reliable classic—these babbitt-lined bearings are strong and corrosion resistant. The housing is cast iron and has a hole with NPT female threads for lubrication. Temperature range is 0° to 130°F. **Split** bearings have a removable section for easy maintenance.

Note: Dynamic load capacity is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.

For Shaft Dia.	Dyn. Load Cap. (lbs.) @ Speed (rpm)	O'all Wd. (C)	Mounting Hole Size (F), Lg.×Wd.	Pipe Size (H)	**Solid** Ctr. Ht. (A)	O'all Lg. (B)	O'all Ht. (D)	Ctr.-to-Ctr. (E)			**Split** Ctr. Ht. (A)	O'all Lg. (B)	O'all Ht. (D)	Ctr.-to-Ctr. (E)		
1/2"	800 @ 200	1 3/8"	1/2" × 5/16"	1/8	3/4"	3"	1 3/8"	2 1/8"	6359K12	$46.57	3/4"	3 3/4"	1 1/2"	2 7/8"	6359K32	$56.31
5/8"	1,000 @ 150	1 5/8"	1/2" × 5/16"	1/8	13/16"	3 3/4"	1 19/32"	2 5/8"	6359K13	46.57	7/8"	4 1/4"	1 3/4"	3 1/4"	6359K33	56.31
3/4"	1,000 @ 100	1 5/8"	1/2" × 5/16"	1/8	13/16"	3 3/4"	1 19/32"	2 5/8"	6359K14	46.57	7/8"	4 1/4"	1 3/4"	3 1/4"	6359K34	56.31
1"	2,000 @ 100	2"	9/16" × 3/8"	1/8	1 1/8"	4 5/8"	2 1/32"	3 3/8"	6359K17	46.57	1"	4 3/4"	2 1/16"	3 5/8"	6359K37	62.56
1 3/16"	3,500 @ 90	2 1/2"	5/8" × 3/8"	1/8	1 3/8"	5"	2 15/32"	3 5/8"	6359K18	51.74	1 1/4"	5 1/4"	2 7/16"	4 1/8"	6359K38	70.56
1 1/4"	3,500 @ 80	2 1/2"	5/8" × 3/8"	1/8	1 3/8"	5"	2 15/32"	3 5/8"	6359K19	51.74	1 1/4"	5 1/4"	2 7/16"	4 1/8"	6359K39	70.56
1 7/16"	5,000 @ 70	3"	1 1/16" × 1/2"	1/8	1 1/2"	5 3/4"	2 13/16"	4"	6359K21	64.44	1 3/8"	6 1/4"	2 11/16"	4 7/8"	6359K41	80.90
1 1/2"	5,000 @ 70	3"	1 1/16" × 1/2"	1/8	1 1/2"	5 3/4"	2 13/16"	4"	6359K22	64.44	1 3/8"	6 1/4"	2 11/16"	4 7/8"	6359K42	80.90
1 3/4"	7,000 @ 60	3 1/2"	3/4" × 1/2"	1/4							1 1/2"	6 3/4"	3"	5 1/4"	6359K44	101.13
1 3/4"	7,000 @ 60	3 1/2"	3/4" × 5/8"	1/4	1 13/16"	6 1/2"	3 1/4"	4 3/8"	6359K24	84.67						
2"	9,000 @ 50	4"	13/16" × 5/8"	1/4							1 3/4"	7 1/2"	3 7/16"	6"	6359K46	123.24
2"	9,000 @ 50	4"	3/4" × 5/8"	1/4	1 11/16"	7"	3 1/4"	4 3/4"	6359K26	99.72						
2 1/2"	15,000 @ 40	5"	1" × 5/8"	1/4							2 1/8"	8 7/8"	4 3/16"	7"	6359K49	189.56

Dry-Running Mounted Sleeve Bearings for Extreme Misalignment



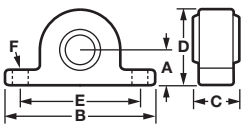

To accommodate extreme cases of shaft misalignment, these bearings have a nylon bearing insert that swivels. Bearings are 80% lighter than steel and resistant to corrosion, wear, shock, and vibration. Temperature range is -40° to 170°F.

Note: Dynamic load capacity is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.

For Shaft Dia., mm	Center Ht. (A), mm	O'all Lg. (B), mm	O'all Wd. (C), mm	O'all Ht. (D), mm	Ctr.-to-Ctr. (E), mm	Mounting Hole Size (F), Lg.×Wd., mm	Dynamic Load Cap. @ Speed	Max. Misalign-ment		
5	7	34	8	14	27	5×3.3	15 lbs. @ 250 rpm	30°	6687K31	$3.00
6	10	43	9	18	33	6×4.5	25 lbs. @ 200 rpm	29°	6687K32	3.67
8	10	47	12	20	35	7×4.5	45 lbs. @ 150 rpm	25°	6687K33	4.42
10	14	62	14	26	49	8×5.5	60 lbs. @ 100 rpm	25°	6687K34	5.26
12	14	65	16	28	50	9×5.5	80 lbs. @ 100 rpm	25°	6687K35	6.44
14	18	82	19	34	64	11×6.6	100 lbs. @ 100 rpm	23°	6687K36	8.00
16	18	86	21	36	66	12×6.6	100 lbs. @ 90 rpm	23°	6687K17	9.56
18	22	93	23	42	72	13×9	150 lbs. @ 80 rpm	23°	6687K38	10.95
20	22	98	25	44	73	14×9	200 lbs. @ 70 rpm	23°	6687K39	12.33
22	24	108	28	48	81	16×9	250 lbs. @ 60 rpm	22°	6687K41	13.84
25	27	124	31	54	94	17×9	300 lbs. @ 50 rpm	22°	6687K22	16.95
30	32	139	37	64	105	20×11	450 lbs. @ 45 rpm	22°	6687K23	21.23

Mounted Plastic Sleeve Bearings

Use these bearings in wet, corrosive environments.

Corrosion Resistant—Temperature range is -200° to 180° F. *UHMW bearings* are made of a single UHMW polyethylene block. They have good vibration-damping qualities. *UHMW bearings with stainless steel housing* can compensate for up to 3° of shaft misalignment.

Food Grade—Made of FDA-listed PEEK, these bearings are suitable for contact with food. They also have good chemical compatibility. Bearings have a closed back for use with shaft ends. Temperature range is -140° to 480° F.

Note: Dynamic load capacity is the maximum load a bearing can withstand at a given shaft speed. If the bearing's load and speed are below the values listed, the bearing should work for your application.

Corrosion-Resistant UHMW Bearings

For Shaft Dia.	Center Ht. (A)	Dynamic Load Cap. @ Speed, lbs. @ rpm	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F), Lg. × Wd.		
UHMW Bearings									
1/2"	1 3/16"	450 @ 25	4 3/4"	1 1/2"	2 3/16"	3 3/8"	7/16" × 7/8"	6254K21	$29.90
5/8"	1 3/16"	450 @ 25	4 3/4"	1 1/2"	2 3/16"	3 3/8"	7/16" × 7/8"	6254K22	29.90
3/4"	1 5/16"	450 @ 25	5 1/4"	1 1/2"	2 1/2"	3 3/4"	7/16" × 15/16"	6254K23	30.38
1"	1 7/16"	450 @ 25	5 1/2"	1 1/2"	2 3/4"	4"	7/16" × 15/16"	6254K24	32.02
1 1/4"	1 7/8"	500 @ 25	6 1/2"	1 3/4"	3 5/8"	5"	9/16" × 1 1/16"	6254K25	35.77
1 1/2"	2"	500 @ 25	7"	1 3/4"	4"	5 3/8"	9/16" × 1 1/16"	6254K26	40.87
1 15/16"	2 1/4"	600 @ 25	8"	2"	4 1/2"	6 1/4"	11/16" × 1 3/16"	6254K27	54.04
UHMW Bearings with Stainless Steel Housing									
1/2"	29/32"	350 @ 25	3 15/16"	1 1/4"	1 3/4"	2 7/8"	21/64" × 21/32"	6252K41	21.88
5/8"	29/32"	350 @ 25	3 15/16"	1 1/4"	1 3/4"	2 7/8"	21/64" × 21/32"	6252K42	21.88
3/4"	29/32"	350 @ 25	3 15/16"	1 1/4"	1 3/4"	2 7/8"	21/64" × 21/32"	6252K43	21.88
7/8"	29/32"	350 @ 25	3 15/16"	1 1/4"	1 3/4"	2 7/8"	21/64" × 21/32"	6252K44	21.88
1"	29/32"	350 @ 25	3 15/16"	1 1/4"	1 3/4"	2 7/8"	21/64" × 21/32"	6252K45	21.88
1 1/8"	1 1/16"	450 @ 25	4 9/16"	1 1/2"	2 1/16"	3 1/4"	25/64" × 5/8"	6252K46	25.22
1 3/16"	1 1/16"	400 @ 25	4 9/16"	1 3/8"	2 1/16"	3 1/4"	25/64" × 5/8"	6252K47	25.22
1 1/4"	1 1/16"	400 @ 25	4 9/16"	1 3/8"	2 1/16"	3 1/4"	25/64" × 5/8"	6252K48	25.22
1 1/2"	1 11/32"	500 @ 25	5 3/8"	1 3/4"	2 11/16"	3 7/8"	25/64" × 25/32"	6252K49	68.84



UHMW Bearing

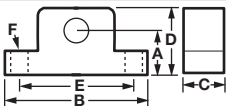



UHMW Bearing with Stainless Steel Housing

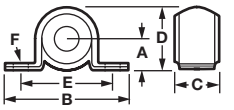

Food-Grade PEEK Bearings

For Shaft Dia.	Dynamic Load Cap. @ Speed	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
1/8"	250 lbs. @ 50 rpm	0.922"	0.265"	0.562"	0.532"	0.14"	0.16"	2943N1	$4.16
3/16"	1,000 lbs. @ 30 rpm	0.984"	0.437"	0.562"	0.593"	0.14"	0.16"	2943N2	4.46
1/4"	1,500 lbs. @ 25 rpm	1.078"	0.472"	0.594"	0.686"	0.14"	0.16"	2943N3	4.78
5/16"	1,500 lbs. @ 25 rpm	1.318"	0.505"	0.718"	0.828"	0.168"	0.16"	2943N4	5.08
3/8"	2,000 lbs. @ 25 rpm	1 1/2"	0.577"	0.812"	1"	0.168"	0.17"	2943N5	5.32



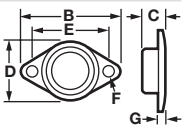

Aluminum Base- and Flange-Mount Bearing Housings

Mate one of these housings with your own bearing to create a custom mounted bearing. If you don't see an exact match, you can machine the housing to fit. *Base-mount* bearing housings are for horizontal shafts. *Flange-mount* bearing housings are for vertical or horizontal shafts.



Base Mount

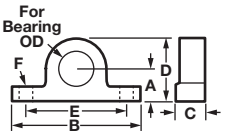



Flange Mount

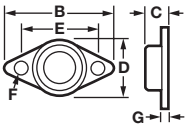

Base Mount

For Bearing OD	Ctr. Ht. (A)	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)		
3/8"	3/8"	17/16"	3/8"	3/4"	1 1/8"	13/64"	2829N1	$6.26
1/2"	9/16"	2 1/4"	3/8"	1 1/8"	1 3/4"	9/32"	2829N2	5.64
0.812"	3/4"	3 1/4"	5/8"	1 9/16"	2 1/2"	11/32"	2829N3	12.00
1 1/4"	1"	4"	27/32"	1 15/16"	3 1/8"	11/32"	2829N4	14.22
1.58"	1 1/4"	5"	7/8"	2 9/16"	4"	9/16"	2829N5	26.00

Flange Mount

For Bearing OD	O'all Lg. (B)	O'all Wd. (C)	O'all Ht. (D)	Ctr.-to-Ctr. (E)	Mounting Hole Size (F)	Flange Thick. (G)		
1/2"	1 5/8"	3/8"	3/4"	1 1/4"	11/64"	3/16"	2848N1	$3.34
5/8"	2 1/4"	7/16"	1 1/8"	1 3/4"	9/32"	3/16"	2848N2	4.94
0.812"	3 1/4"	5/8"	1 5/8"	2 1/2"	13/32"	1/4"	2848N3	7.94
1 1/4"	4"	27/32"	1 7/8"	3 1/8"	13/32"	5/16"	2848N4	13.20
1.58"	5"	29/32"	2 5/8"	4"	9/16"	3/8"	2848N5	20.14

Ball Bearing Shim Rings

Also called tolerance rings, these Type 301 stainless steel rings are for use in your stamped, molded, or worn housings to form a tight hold on your bearings. They operate like a spring, compressing and expanding, creating tension between the bearing and the housing to hold your bearing in place. Rings reduce vibration and compensate for some thermal expansion between the housing and the bearing. They eliminate the need for keys, pins, and adhesives. Rings are 0.008" to 0.020" (0.2032 to 0.508 mm) thick with corrugations from 0.0295" to 0.0492" (0.7493 to 1.2497 mm) high and allow for 0.5° of misalignment.



For Bearing Number	OD	Wd.	Radial Load Cap., lbs.	Bearing Mount Bore Dia.		Each
Inch						
R2	3/8"	0.156"	140	0.43"-0.433"	3547K11	$4.76
R3	1/2"	0.196"	180	0.555"-0.558"	3547K12	4.76
R4	5/8"	0.196"	250	0.68"-0.683"	3547K13	4.76
R6	7/8"	0.25"	580	0.95"-0.953"	3547K14	4.76
R8	1 1/8"	0.25"	720	1.199"-1.203"	3547K15	4.76
Metric—*Dimensions in millimeters.*						
38; 608	21.99	7	550	23.9-23.97	2896K11	4.76
6000	25.99	8	770	27.88-27.96	2896K12	4.76
6200	29.99	8.99	980	31.9-31.97	2896K13	4.76
6201	31.99	9.99	670	33.88-33.98	2896K14	4.76
6202; 6300	35	11	820	36.88-36.98	2896K15	4.76
6203	39.99	11.99	1,000	41.88-41.98	2896K16	3.91
6204; 6303	47	14	1,400	48.86-48.97	2896K17	5.44
6205; 6304	51.99	15	1,600	54.35-54.48	2896K18	5.44
6206; 6305	61.99	15.99	2,000	64.33-64.46	2896K19	7.92
6207	71.99	17	2,900	73.91-73.99	2896K21	10.88
6208	79.99	18	3,250	81.88-81.96	2896K22	11.59
6209	85	18.99	4,300	86.91-86.99	2896K23	16.21

For Bearing Number	OD	Wd.	Radial Load Cap., lbs.	Bearing Mount Bore Dia.		Each
Metric—*Dimensions in millimeters. (Cont.)*						
6210	89.99	19.99	4,550	91.89-91.97	2896K24	$17.47
6211	99.99	21	5,100	102.89-102.97	2896K25	19.88
6212	109.99	21.99	6,525	111.91-111.98	2896K26	22.09
6301	37	11.99	900	38.88-38.98	2896K34	5.12
6302	41.99	12.99	1,200	43.86-43.96	2896K35	4.76
6305W	61.99	22.99	3,600	64.33-64.46	2896K36	11.44
6306	71.99	18.99	3,600	73.91-73.99	2896K37	11.59
6307	79.99	21	4,000	81.88-81.96	2896K38	12.92
6308	89.99	22.99	5,350	91.89-91.97	2896K39	18.42
6309	99.99	25	6,550	101.9-101.98	2896K41	20.26
6310	109.99	27	7,190	111.91-111.98	2896K42	22.09
6311	119.99	28.99	7,950	121.89-121.97	2896K43	22.44
6312	129.99	31	10,500	131.9-131.97	2896K44	24.12
6313	139.99	32.99	12,200	141.9-141.98	2896K45	25.41
6314	149.99	35	13,000	151.89-151.96	2896K46	26.13
6315	159.99	37	13,950	161.89-161.97	2896K47	27.38
6316	169.99	38.99	17,250	171.88-171.95	2896K48	28.39

Bearing Heaters

About Bearing Heaters

Heating your bearings makes them easier to install and reduces damage to your shafts during installation. The heaters work by expanding your bearing's inner race, so you get a snug fit without forcing a tight-fitting bearing onto a shaft. Heaters can also be used on gears, sprockets, pulleys, and bushings. ***Induction bearing heaters*** will not magnetize heated items.

Cone-Mount Bearing Heaters



Automatic (Shown w/Bearing)

For fast, even heat transfer, these heaters boast a cone-shape design. The cone is aluminum and the base is chrome-plated steel, unless noted. Heaters operate on 120 VAC, 60 Hz and have a heating time of 2 to 30 minutes. Furnished with an on/off switch and an 8-ft. power cord with three-prong plug. All are UL Listed, unless noted.

Manual heaters include a temperature-indicating crayon. The crayon mark melts when bearing reaches 250° F with ±25° F accuracy.

Automatic heaters include a thermostat that automatically brings the temperature up to 250° F with ±25° F accuracy.

Bearing ID Range	Watts	Ht. × Wd.		Each
Manual Heaters				
3/8″- 5 3/4″	725	10″ × 10″	6519K11	$496.92
3/4″- 5 3/4″	725	10″ × 10″	6519K17	550.62
Automatic Heaters				
3/4″- 8″	725	10″ × 10″	6519K19	780.43
5 1/2″-18″	1450	14″ × 21″	6519K21●	1,322.19

● Base is aluminum. Not UL Listed.

Ultra-Portable Miniature Induction Bearing Heater



Shaped like a large flashlight, this 2 1/2″ OD × 15″ Lg. induction-style heater easily fits in your hand to go where you go. It's perfect for use on bearings that are up to 2″ ID and 3″ OD. The heater housing is made of plastic.

Heater operates on 120 VAC, 50/60 Hz and includes three heating coils to handle a variety of heating jobs. It also has a thermal switch for thermal overload protection. Furnished with a 6-ft. power cord with three-prong plug and a plastic carrying case.

This heater can also be used on stubborn and rusted nuts. It is not rated for temperature. Demagnetization is not necessary after heating.

6083K11 ..... **Each** $517.48

Portable Digital Induction Bearing Heater



Take this completely portable heater anywhere it's needed. It has a heat clamp with a 2″ × 2″ opening to hold bearings that are 2″ wide and smaller with a 0.8″ to 4″ ID. The clamp is iron encased in phenolic plastic.

Heater operates on 110 or 240 VAC, 50/60 Hz and has a temperature range of 32° to 392° F with ±6° F accuracy. It has a time control that lets you vary the heating time from 0 to 60 minutes to prevent overheating. Furnished with a 6.6-ft. power cord (plug not included, see pages 816-822), temperature probe, heat-resistant gloves, and a padded carrying case with shoulder strap. Demagnetization is not necessary after heating.

5208A6 ..... **Each** $2,343.73

Hot-Plate Bearing Heater



An aluminum heating plate uniformly heats the top and bottom of your bearings. It adjusts to fit bearings up to 2″ thick and can heat more than one bearing at a time. The plate is housed in a 5″ Ht. × 16″ Wd. × 10″ Dp. metal case that minimizes heat loss and prevents dirt from entering your bearings.

Heater includes a thermostat that adjusts from 120° to 390° F with ±18° F accuracy. The thermostat has an automatic shut-off in case of thermostat failure. Heater operates on 115 VAC, 50/60 Hz and is rated to 1000 watts. Furnished with a 6.6-ft. power cord (plug not included, see pages 816-822). Demagnetization is not necessary after heating.

6503K45 ..... **Each** $1,199.49

Fast-Heating Digital Induction Bearing Heater



Heat a 60-lb. bearing in just 20 minutes. This fast-heating induction style heater comes with three sizes of steel crossbars (0.5″, 1.1″, and 1.7″ sq.) that hold bearings with a 0.8″ to 11.8″ ID. Maximum bearing weight is 88 lbs.

Heater operates on 110 VAC, 50/60 Hz and has a temperature range of 32° to 482° F with ±3.6° F accuracy. It automatically demagnetizes bearings after heating and includes a temperature probe, 0- to 60-minute time control, circuit breaker with over-current protection, and automatic over-heating protection.

Heater housing is steel and glass-filled polyamide. It measures 8.2″ Ht. × 17.7″ Wd. × 7.6″ Dp. Furnished with a 4.6-ft. power cord with a NEMA 5-20 plug.

7167K11 ..... **Each** $2,787.92

Crossbar Induction Bearing Heaters



These induction-style heaters have laminated steel crossbars to handle a wide range of bearing ODs and widths. They heat most bearings in 2 to 20 minutes.

The heaters include two sizes of crossbars. The crossbar size determines the bearing ID that can be accommodated (see listing for sizes). For the fastest heating, use the largest crossbar that fits through your bearing. The maximum heating temperature is 250° F. Temperature-indicating crayons are recommended (not included; see 3261K on page 619).

Heaters have an on/off switch, a grounded outer case, and 6-ft. long three-wire power cord. Model 6174K63 has a NEMA 5-20 plug (see page 820 for plug configurations); models 6174K64 and K66 do not have a plug and must be hardwired. Heaters can be used for demagnetizing.

Max. Bearing OD	Wd.	Crossbar Sizes (sq.)	Voltage @ 60 Hz	O'all Size, Ht. × Wd.		Each
11″	4″	3/4″, 2″	110 VAC	9 3/4″ × 11 1/4″	6174K63	$1,453.60
22″	8″	1 1/4″, 3″	220 VAC	17 1/4″ × 17 1/4″	6174K64	2,909.52
22″	12 1/4″	1 1/4″, 3″	440 VAC	17 1/4″ × 21 3/4″	6174K66	3,213.69

Accessories



Riser Blocks — Use these blocks to lift bearing heater crossbars to accommodate larger diameter bearings for heaters listed above.

For Heater	Maximum Bearing OD	Block Size, Lg. × Wd. × Ht.		Per Pair
6174K63	14″	2 5/8″ × 2 5/8″ × 2 3/8″	6174K71	$281.76
6174K64 and 6174K66	32″	3 5/8″ × 3 5/8″ × 5″	6174K72	363.19

About Shaft Collars


Set Screw


One-Piece Clamp-On


Two-Piece Clamp-On


Hinged One-Piece Clamp-On

Shaft collars are useful for holding and positioning components on a shaft. They can also serve as mechanical stops and stroke limiters. When choosing a shaft collar, make sure the collar material is the same as your shaft material. There are four main styles of shaft collars:

Set Screw—Slide collar onto an unhardened shaft and tighten the included set screw, which bites into the shaft for a tight hold.

One-Piece Clamp-On—Slide collar onto a shaft and secure it in place with one screw (included). Collars clamp evenly around the shaft to provide more holding power than set screw shaft collars, plus they won't mar the shaft.

Two-Piece Clamp-On—These come apart so you can install and remove them from a shaft without having to remove other components. They're also good for applications where you don't have access to the end of a shaft. Position collar on a shaft and secure it in place with two screws (included). Collars clamp evenly around the shaft to provide superior holding power, plus they won't mar the shaft.

Hinged One-Piece Clamp-On—You'll get the benefits of a two-piece collar in a one-piece design. Swing collar open, position and close it on a shaft, and then secure it in place with one screw. The screw is captive so it won't fall out, making these collars good for use in tight areas where you can't hold the screw in place. These collars clamp evenly around the shaft to provide superior holding power, plus they won't mar the shaft.

Set Screw Shaft Collars

Slide a collar onto your shaft and tighten the hex-socket set screw, which bites into the shaft for a tight hold.

Black-oxide steel offers some corrosion resistance. **Zinc-plated steel** offers better corrosion resistance than black-oxide steel. **Aluminum** is lightweight with good corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance. **Type 316 stainless steel** offers superior corrosion and chemical resistance. **Brass** is spark resistant. **Nylon** is excellent for food-processing applications. Color is white. Collars are USDA compliant, made from FDA-compliant resins, and meet 3-A sanitary standard requirements. **Sintered steel** is made from powdered metal and is much lighter than other steel collars.



Steel, Aluminum, and Stainless Steel

For Shaft Dia.	OD	Wd.	Black-Oxide Steel		Zinc-Plated Steel		Aluminum		Type 303 Stainless Steel		Type 316 Stainless Steel	
1/16"	1/4"	3/16"	9414T1	$1.35	6432K71	$1.08	9946K1	$3.86	6462K71	$4.43	9943K11	$12.08
3/32"	3/8"	3/16"	9414T2	1.35	6432K72	1.08	9946K2	3.48	6462K72	4.43	9943K12	12.08
1/8"	3/8"	1/4"	9414T3	.98	6432K17	.90	9946K41	1.34	6462K17	3.31	9943K13	10.35
5/32"	7/16"	1/4"	9414T4	1.35	6432K73	1.08	9946K3	3.52	6462K73	4.43	9943K14	12.08
3/16"	7/16"	1/4"	9414T5	.98	6432K19	.90	9946K42	1.34	6462K19	3.49	9943K15	8.62
1/4"	1/2"	5/16"	9414T6★	1.00	6432K12★	.92	9946K11	2.14	6462K12	2.74	9943K16	8.54
5/16"	5/8"	5/16"	9414T7	1.05	6432K13	.97	9946K12	2.59	6462K13	3.14	9943K17	9.27
3/8"	3/4"	3/8"	9414T8	1.12	6432K14	1.05	9946K13	2.31	6462K14	3.34	9943K18	10.49
7/16"	7/8"	7/16"	9414T9	1.32	6432K15	1.13	9946K14	2.31	6462K15	3.89	9943K19	12.08
1/2"	1"	7/16"	9414T11	1.37	6432K16	1.20	9946K15	2.57	6462K16	4.11	9943K21	12.22
9/16"	1"	7/16"	9414T12	1.52	6432K22	1.39	9946K16	2.70	6462K22	4.83	9943K22	15.08
5/8"	1 1/8"	1/2"	9414T13	1.65	6432K18	1.51	9946K17	2.87	6462K18	5.03	9943K23	15.27
11/16"	1 1/4"	9/16"	9414T14	2.05	6432K24	1.87	9946K18	3.43	6462K24	7.03	9943K24	21.16
3/4"	1 1/4"	9/16"	9414T15	2.02	6432K21	1.82	9946K19	3.41	6462K21	6.20	9943K25	18.54
13/16"	1 1/4"	9/16"	9414T76	2.24	6432K26	2.22	9946K4	4.43	6462K26	8.60	9943K26	26.03
7/8"	1 1/2"	9/16"	9414T17	2.42	6432K23	2.22	9946K22	3.94	6462K23	8.94	9943K27	26.30
15/16"	1 1/2"	9/16"	9414T18	2.62	6432K35	2.47	9946K23	4.32	6462K35	11.74	9943K28	35.46
1"	1 1/2"	5/8"	9414T19	2.48	6432K25	2.32	9946K24	4.32	6462K25	11.06	9943K29	32.73
1 1/16"	1 3/4"	5/8"	9414T21	4.90	6432K37	3.74	9946K25	5.38	6462K37	15.49	9943K31	45.73
1 1/8"	1 3/4"	5/8"	9414T22	4.67	6432K27	3.45	9946K26	5.39	6462K27	13.63	9943K32	39.92
1 3/16"	2"	11/16"	9414T23	5.05	6432K28	4.08	9946K27	7.16	6462K28	17.00	9943K33	49.62
1 1/4"	2"	11/16"	9414T24	5.42	6432K29	4.31	9946K28	7.16	6462K29	17.00	9943K34	53.05
1 5/16"	2 1/8"	11/16"	9414T25	5.92	6432K31	4.54	9946K29	7.76	6462K31	20.14	9943K35	56.38
1 3/8"	2 1/8"	3/4"	9414T26	6.42	6432K32	4.59	9946K31	7.74	6462K32	19.86	9943K36	56.38
1 7/16"	2 1/4"	3/4"	9414T27	6.60	6432K33	4.81	9946K32	8.08	6462K33	21.31	9943K37	61.00
1 1/2"	2 1/4"	3/4"	9414T28	6.78	6432K34	4.97	9946K33	8.08	6462K34	21.60	9943K38	61.00
1 9/16"	2 1/2"	13/16"	9414T29	7.40	6432K39	7.89	9946K5	13.76	6462K39	33.66	9943K39	82.73
1 5/8"	2 1/2"	13/16"	9414T31	7.88	6432K36	6.48	9946K6	13.76	6462K36	30.60	9943K41	75.00
1 11/16"	2 1/2"	13/16"	9414T32	8.25	6432K41	7.63	9946K7	14.76	6462K41	33.66	9943K42	82.73
1 3/4"	2 5/8"	7/8"	9414T33	8.70	6432K38	8.54	9946K43	8.89	6462K38	39.60	9943K43	95.68
1 13/16"	2 3/4"	7/8"	9414T34	9.45	6432K44	11.85	9946K8	14.80	6462K44	44.00	9943K44	107.00
1 7/8"	2 3/4"	7/8"	9414T35	10.25	6432K51	10.10	9946K9	15.40	6462K51	44.00	9943K45	107.00
1 15/16"	3"	7/8"	9414T36	10.80	6432K42	9.07	9946K44	11.53	6462K42	44.89	9943K46	106.11
2"	3"	7/8"	9414T37	11.32	6432K43	9.30	9946K45	11.89	6462K43	44.89	9943K47	101.89
2 1/8"	3"	7/8"	9414T38	12.77	6432K52	12.01	9946K51	17.40	6462K52	56.60	9943K48	131.16
2 3/16"	3 1/4"	15/16"	9414T39	13.65	6432K53	13.56	9946K52	21.48	6462K53	71.34	9943K49	165.41
2 1/4"	3 1/4"	15/16"	9414T41	14.20	6432K45	10.57	9946K53	21.35	6462K45	56.20	9943K51	129.27
2 5/16"	3 1/4"	15/16"	9414T42	14.45	6432K54	14.47	9946K54	21.48	6462K54	75.69	9943K52	176.95
2 3/8"	3 1/4"	15/16"	9414T43	14.65	6432K55	14.86	9946K55	21.48	6462K55	75.69	9943K53	169.57
2 7/16"	3 1/2"	1"	9414T44	15.22	6432K46	12.49	9946K56	24.68	6462K46	67.89	9943K54	151.05
2 1/2"	3 1/2"	1"	9414T45	15.78	6432K47	12.97	9946K46	15.51	6462K47	71.74	9943K55	154.86
2 5/8"	4"	1 1/8"	9414T46	19.20	6432K56	26.24	9946K57	33.89	6462K56	87.97	9943K56	219.68
2 11/16"	4"	1 1/8"	9414T47	21.30	6432K57	27.06	9946K58	33.89	6462K57	112.09	9943K57	240.54
2 3/4"	4"	1 1/8"	9414T48	23.45	6432K58	27.06	9946K59	32.40	6462K58	112.09	9943K58	240.54
2 7/8"	4"	1 1/8"	9414T49■	30.95	6432K59	25.90	9946K61	32.40	6462K59	137.37	9943K59	292.89
2 15/16"	4"	1 1/8"	9414T51■	31.25	6432K48	27.39	9946K62	34.11	6462K48	138.23	9943K61	281.59
3"	4"	1 1/8"	9414T52■	27.62	6432K49	27.39	9946K47	32.38	6462K49	137.37	9943K62	281.59
3 1/2"	4 3/4"	1 1/8"	9414T53▲	35.70	6432K61	43.34	9946K63	35.81	6462K61	197.04	9943K63	396.06
4"	5"	1 1/8"	9414T54	44.98	6432K62	69.30	9946K64	38.20	6462K62	315.00	9943K64	633.12
4 1/2"	5 1/2"	1 1/4"	9414T55	56.17	6432K63	69.30	9946K65	41.47	6462K63	315.00	9943K65	633.12
5"	6"	1 1/4"	9414T56	67.47	6432K64	100.98	9946K66	44.09	6462K64	459.32	9943K66	923.20
6"	7"	1 1/4"	9414T57	78.42	6432K66	114.38	9946K67	47.60	6462K66	525.04	9943K68	1,055.34

★ 9/32" Wd. ■ 4 1/4" OD. ▲ 4 1/2" OD.

(Continued on following page)

Set Screw Shaft Collars *(Continued from previous page)*



Slide a collar onto your shaft and tighten the hex-socket set screw, which bites into the shaft for a tight hold.
Black-oxide steel offers some corrosion resistance. **Zinc-plated steel** offers better corrosion resistance than black-oxide steel. **Aluminum** is lightweight with good corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance. **Type 316 stainless steel** offers superior corrosion and chemical resistance. **Brass** is spark resistant. **Nylon** is excellent for food-processing applications. Color is white. Collars are USDA compliant, made from FDA-compliant resins, and meet 3-A sanitary standard requirements. **Sintered steel** is made from powdered metal and is much lighter than other steel collars.

Brass

For Shaft Dia.	OD	Wd.		
1/8"	3/8"	1/4"	6240K11	$6.86
3/16"	7/16"	1/4"	6240K12	5.55
1/4"	1/2"	5/16"	6240K13	5.55
5/16"	5/8"	5/16"	6240K14	5.62
3/8"	3/4"	3/8"	6240K15	$5.62
7/16"	7/8"	7/16"	6240K16	6.86
1/2"	1"	7/16"	6240K17	7.05
5/8"	1 1/8"	1/2"	6240K19	8.24
3/4"	1 1/4"	9/16"	6240K22	$10.71
1"	1 1/2"	5/8"	6240K26	15.02
1 1/4"	2"	1 1/16"	6240K31	35.02
2"	3"	7/8"	6240K44	74.67

Nylon

For Shaft Dia.	OD	Wd.		
1/4"	3/4"	7/16"	60475K66	$3.68
5/16"	7/8"	7/16"	60475K67	3.71
3/8"	7/8"	7/16"	60475K68	3.74
7/16"	7/8"	7/16"	60475K71	3.79
1/2"	1"	7/16"	60475K72	4.49
9/16"	1 1/8"	1/2"	60475K69	3.99
5/8"	1 1/8"	1/2"	60475K73	$4.77
3/4"	1 1/4"	9/16"	60475K74	4.92
7/8"	1 1/2"	9/16"	60475K75	6.59
1"	1 5/8"	5/8"	60475K76	6.71
1 1/4"	2"	1 1/16"	60475K78	16.25
1 3/8"	2 1/8"	3/4"	60475K79	19.64
1 1/2"	2 1/4"	3/4"	60475K82	$19.64
1 3/4"	2 3/4"	7/8"	60475K84	30.97
1 7/8"	2 3/4"	7/8"	60475K85	32.41
2"	3"	7/8"	60475K87	33.19
2 3/4"	3 3/4"	1"	60475K91	82.35
3"	4 1/4"	1 1/8"	60475K92	87.32

Sintered Steel

For Shaft Dia.	OD	Wd.		
1/8"	3/8"	1/4"	6166K17	$1.88
3/16"	7/16"	1/4"	6166K18	1.90
3/8"	3/4"	3/8"	6166K23	2.21
7/16"	7/8"	7/16"	6166K24	$2.36
1/2"	1"	7/16"	6166K25	2.52
5/8"	1 1/8"	1/2"	6166K26	2.57
3/4"	1 1/4"	9/16"	6166K27	$2.57
7/8"	1 1/2"	9/16"	6166K28	2.64
1 1/2"	2 1/4"	3/4"	6166K37	4.57

Metric Set Screw Shaft Collars



Slide a collar onto your metric shaft and tighten the hex-socket set screw, which bites into the shaft for a tight hold.
Black-oxide steel offers some corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

For Shaft Dia., mm	OD, mm	Wd., mm	Black-Oxide Steel		Type 303 Stainless Steel	
2	6	4	57485K61	$1.50	57485K11	$7.00
3	10	5	57485K63	1.74	57485K12	7.05
4	10	5	57485K64	1.74	57485K21	5.11
5	13	6	57485K65	1.74	57485K22	5.11
6	13	8	57485K66	1.74	57485K23	5.11
8	16	8	57485K67	2.00	57485K24	5.11
9	16	8	57485K15	2.73	57485K16	7.03
10	22	10	57485K68	2.11	57485K31	7.26
11	22	12	57485K17	14.10	57485K18	14.76
12	22	12	57485K69	2.50	57485K32	7.26
14	25	12	57485K71	2.63	57485K33	7.66
15	25	12	57485K72	2.63	57485K34	7.66
16	29	12	57485K73	2.66	57485K35	9.24
18	32	14	57485K74	$2.97	57485K36	$14.34
20	32	14	57485K75	3.24	57485K37	13.95
22	38	14	57485K76	3.24	57485K38	15.71
24	41	14	57485K77	3.50	57485K39	18.34
25	41	16	57485K78	3.66	57485K41	18.74
28	48	16	57485K79	3.66	57485K42	28.68
30	48	16	57485K81	4.18	57485K43	28.68
34	51	16	57485K83	4.66	57485K13	35.50
35	57	16	57485K84	5.37	57485K26	32.03
36	57	16	57485K85	5.37	57485K14	35.50
40	60	18	57485K87	7.74	57485K28	37.05
45	73	18	57485K88	10.61	57485K29	64.76
50	79	18	57485K89	12.16	57485K52	96.26

Metric One-Piece Clamp-On Shaft Collars



Gripping evenly around metric shafts, these clamp-on collars provide more holding power than set screw shaft collars without marring the shaft. Slide a collar onto your shaft and tighten the socket-head cap screw to secure.
Black-oxide steel offers some corrosion resistance. **Aluminum** is lightweight with good corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

For Shaft Dia., mm	Wd., mm	Black-Oxide Steel			Aluminum			Type 303 Stainless Steel		
		OD, mm			OD, mm			OD, mm		
2	9	18	57445K27	$24.10	18	9506T17	$24.18	18	9616T11	$28.56
3	9	18	57445K28	5.37	18	9506T18	5.00	18	9616T12	8.24
4	9	18	57445K21	4.58	16	9506T1	4.14	18	9616T13	8.90
5	9	18	57445K22	4.24	16	9506T2	4.00	18	9616T14	7.79
6	9	19	57445K23	4.42	16	9506T3	3.93	19	9616T15	7.73
8	9	25	57445K24	4.36	18	9506T4	4.14	25	9616T16	8.69
9	9	25	57445K29	5.88	25	9506T19	6.26	25	9616T17	10.45
10	9	25	57445K25	5.64	24	9506T5	4.76	25	9616T18	10.29
12	11	29	57445K26	5.58	28	9506T6	5.21	29	9616T21	10.71
16	13	35	57445K71	6.88	34	9506T7	6.07	35	9616T22	14.29
18	13	38	57445K72	7.82	36	9506T8	6.98	38	9616T23	15.64
20	15	41	57445K73	8.36	40	9506T9	7.74	41	9616T24	17.55
25	15	48	57445K74	8.73	45	9506T11	8.33	48	9616T25	19.02
30	15	54	57445K75	11.76	54	9506T12	12.98	54	9616T26	24.50
35	15	57	57445K76	13.70	57	9506T13	14.60	57	9616T27	19.81
40	15	60	57445K77	14.73	60	9506T14	15.64	60	9616T28	41.90
45	19	73	57445K78	26.00	73	9506T15	28.50	73	9616T29	82.26
50	19	79	57445K79	30.55	78	9506T16	31.93	79	9616T31	102.24
60	19	89	57445K32	36.70	89	9506T22	34.60	89	9616T32	110.50
70	19	102	57445K33	53.85	102	9506T23	50.76	102	9616T33	168.33
80	19	108	57445K35	80.79	108	9506T25	76.19	108	9616T35	186.88

One-Piece Clamp-On Shaft Collars



Designed to grip evenly around shafts, clamp-on collars provide more holding power than set screw shaft collars without marring the shaft. Slide a collar onto your shaft and tighten the socket-head cap screw to secure.

Black-oxide steel offers some corrosion resistance. **Zinc-plated steel** offers better corrosion resistance than black-oxide steel. **Aluminum** is lightweight with good corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance. **Type 316 stainless steel** offers superior corrosion and chemical resistance. **Chrome-plated steel** has the strength and corrosion resistance of zinc-plated steel with a bright finish. **Nylon** and **Delrin® acetal resin** offer good chemical resistance and are suitable for washdown applications. Color is white. *Delrin® acetal resin* also has a slippery, wear-resistant surface.

Steel, Aluminum, and Stainless Steel

For Shaft Dia.	OD	Wd.	Black-Oxide Steel		Zinc-Plated Steel		Aluminum		Type 303 Stainless Steel		Type 316 Stainless Steel	
1/64"	3/8"	7/32"	6435K231	$52.94	9961K63	$52.94	6157K63	$46.74	6435K232	$58.01	9421T57	$76.84
1/32"	3/8"	7/32"	6435K233	52.94	9961K64	52.94	6157K64	46.74	6435K234	58.01	9421T58	76.84
1/16"	11/16"	5/16"	6435K235	31.61	9961K65	31.61	6157K65	24.99	6435K236	38.67	9421T59	86.39
3/32"	11/16"	5/16"	6435K237	31.61	9961K66	31.61	6157K66	24.99	6435K238	38.67	9421T61	86.39
1/8"	1/2"	1/4"	6435K11	2.29	9961K11★	3.92	6157K11	3.18	6435K31	3.80	9421T1	11.89
5/32"	11/16"	5/16"	6435K239	31.61	9961K67	31.61	6157K67	24.99	6435K241	38.67	9421T62	86.39
3/16"	5/8"	5/16"	6435K51	2.31	9961K12▲	3.32	6157K31	2.42	6435K61	3.80	9421T2	12.03
1/4"	11/16"	5/16"	6435K12	1.91	9961K13	2.90	6157K12	2.20	6435K32	3.80	9421T3	12.03
5/16"	11/16"	5/16"	6435K52	1.91	9961K14	3.02	6157K32	2.21	6435K62	3.89	9421T4	12.11
3/8"	7/8"	3/8"	6435K13	1.91	9961K15	3.25	6157K13	2.37	6435K33	4.89	9421T5	12.91
7/16"	15/16"	3/8"	6435K53	2.54	9961K16	3.61	6157K33	2.81	6435K63	5.37	9421T6	13.51
1/2"	1 1/8"	13/32"	6435K14	2.17	9961K17	3.53	6157K14	2.72	6435K34	6.17	9421T7	13.34
9/16"	1 5/16"	7/16"	6435K54	2.20	9961K18	4.58	6157K34	3.34	6435K64	7.06	9421T8	15.00
5/8"	1 5/16"	7/16"	6435K15	2.11	9961K19	4.56	6157K15	2.80	6435K35	6.94	9421T9	14.91
11/16"	1 1/2"	1/2"	6435K71	2.40	9961K21	5.28	6157K68	4.13	6435K28	9.37	9421T11	18.91
3/4"	1 1/2"	1/2"	6435K16	2.51	9961K22	4.94	6157K16	3.49	6435K36	8.26	9421T12	18.94
13/16"	1 5/8"	1/2"	6435K29	4.94	9961K23	6.95	6157K19	6.44	6435K42	11.31	9421T13	20.74
7/8"	1 5/8"	1/2"	6435K17	2.63	9961K24	6.06	6157K17	4.57	6435K37	9.29	9421T14	20.34
15/16"	1 3/4"	1/2"	6435K72	2.69	9961K25	6.55	6157K36	4.19	6435K44	12.69	9421T15	22.11
1"	1 3/4"	1/2"	6435K18	2.83	9961K26	6.20	6157K18	4.02	6435K38	10.11	9421T16	21.94
1 1/16"	1 7/8"	1/2"	6435K46	5.29	9961K27	8.35	6157K22	8.06	6435K48	15.09	9421T17	23.77
1 1/8"	1 7/8"	1/2"	6435K19	3.11	9961K28	7.08	6157K26	7.65	6435K39	12.43	9421T18	23.77
1 3/16"	2 1/16"	1/2"	6435K49	5.31	9961K29	9.04	6157K27	9.80	6435K55	15.40	9421T19	25.57
1 1/4"	2 1/16"	1/2"	6435K21	3.40	9961K31	7.21	6157K21	7.55	6435K41	13.80	9421T21	25.17
1 5/16"	2 1/4"	9/16"	6435K56	6.09	9961K32	10.25	6157K28♣	9.74	6435K57	19.77	9421T22♣	26.49
1 3/8"	2 1/4"	9/16"	6435K22	4.17	9961K33	9.35	6157K29	9.79	6435K58	18.23	9421T23	27.86
1 7/16"	2 1/4"	9/16"	6435K66	6.09	9961K34	10.35	6157K38	9.74	6435K67	18.23	9421T24	27.86
1 1/2"	2 3/8"	9/16"	6435K23	4.63	9961K35	9.20	6157K23	7.67	6435K43	18.51	9421T25	28.11
1 9/16"	2 3/8"	9/16"	6435K59	9.26	9961K36	14.15	6157K37	12.19	6435K65	22.03	9421T26	30.40
1 5/8"	2 5/8"	11/16"	6435K24	7.97	9961K37	15.04	6157K39♦	18.58	6435K68	34.63	9421T27♦	45.11
1 11/16"	2 3/4"	11/16"	6435K69	11.71	9961K38	16.34	6157K41	18.59	6435K78	35.37	9421T28	45.11
1 3/4"	2 3/4"	11/16"	6435K25	7.97	9961K39	14.89	6157K24	14.26	6435K45	35.86	9421T29	45.11
1 13/16"	2 7/8"	11/16"	6435K79	14.17	9961K41	21.86	6157K42	23.03	6435K81	44.51	9421T31	47.89
1 7/8"	2 7/8"	11/16"	6435K26	9.06	9961K42	19.48	6157K43♠	20.95	6435K82	43.43	9421T32♠	47.89
1 15/16"	3"	11/16"	6435K83	12.71	9961K43	20.94	6157K44	20.95	6435K84	41.80	9421T33	47.89
2"	3"	11/16"	6435K27	8.80	9961K44	16.87	6157K25	15.01	6435K47	40.89	9421T34	47.89
2 1/16"	3 1/4"	3/4"	6435K85	16.49	9961K45	22.57	6157K45♥	28.51	6435K86	53.74	9421T35♥	52.40
2 1/8"	3 1/4"	3/4"	6435K87	14.40	9961K46	20.25	6157K46	28.07	6435K88	54.77	9421T36	58.34
2 3/16"	3 1/4"	3/4"	6435K89	15.26	9961K47	21.31	6157K47	28.67	6435K91	54.77	9421T37	58.34
2 1/4"	3 1/4"	3/4"	6435K73	10.09	9961K48	21.33	6157K48	26.52	6435K92	58.11	9421T38	58.34
2 5/16"	3 1/2"	3/4"	6435K94	18.43	9961K49	25.14	6157K49◩	32.50	6435K93	65.46	9421T39◩	66.11
2 3/8"	3 1/2"	3/4"	6435K95	17.11	9961K51	23.55	6157K51	31.17	6435K96	64.77	9421T41	66.11
2 7/16"	3 1/2"	3/4"	6435K74	10.83	9961K52	24.06	6157K52	31.07	6435K97	66.26	9421T42	66.11
2 1/2"	3 3/4"	7/8"	6435K75	19.03	9961K53	34.78	6157K53	40.26	6435K98	77.06	9421T43	83.20
2 9/16"	3 7/8"	7/8"	6435K212	30.29	9961K54	44.66	6157K54	44.77	6435K213	75.97	9421T44	85.23
2 5/8"	3 7/8"	7/8"	6435K214	27.69	9961K55	39.41	6157K55	44.77	6435K215	82.54	9421T45	88.77
2 11/16"	4"	7/8"	6435K216	29.17	9961K56	43.14	6157K56	44.77	6435K217	75.97	9421T46	88.77
2 3/4"	4"	7/8"	6435K218	29.23	9961K57	41.69	6157K57	44.77	6435K219	82.54	9421T47	88.77
2 7/8"	4 1/4"	7/8"	6435K225	33.77	9961K59	48.27	6157K59	52.51	6435K226	88.09	9421T49	95.46
2 15/16"	4 1/4"	7/8"	6435K76	24.46	9961K61	44.73	6157K61	52.51	6435K227	88.09	9421T51	95.46
3"	4 1/4"	7/8"	6435K77	19.69	9961K62	44.04	6157K62	49.90	6435K228	88.63	9421T52	90.26
3 1/4"	4 1/2"	7/8"	6435K242	64.43	9961K68	101.54	6157K69	73.55	6435K248	112.74	9421T63	175.00
3 1/2"	4 3/4"	7/8"	2362K11	73.75	9961K69	88.08	2362K17	77.50	2362K14	90.00	9421T53	185.16
3 3/4"	5"	7/8"	6435K249	80.06	9961K71	88.31	6157K71	87.35	6435K243	200.16	9421T64	204.77
4"	5 1/4"	7/8"	2362K12	73.75	9961K72	88.08	2362K18	80.00	2362K15	125.00	9421T54	217.93
4 1/2"	5 3/4"	7/8"	6435K244	80.78	9961K73	95.55	6157K72	94.48	6435K245	165.70	9421T65	239.29
5"	6 1/4"	7/8"	2362K13	77.50	9961K74	104.11	2362K19	85.00	2362K16	130.00	9421T55	251.64
5 1/2"	6 3/4"	7/8"	6435K246	132.03	9961K75	157.27	6157K73	116.89	6435K247	193.34	9421T66	268.82
6"	7 1/4"	7/8"	2362K21	109.15	9961K76	171.65	2362K23	82.50	2362K22	199.50	9421T56	319.04

★ 11/16" OD; 5/16" Wd. ▲ 11/16" OD. ♣ 2 1/8" OD. ♦ 2 3/4" OD. ♠ 3" OD. ♥ 3 1/8" OD. ◩ 3 3/8" OD.

Chrome-Plated Steel

For Shaft Dia.	OD	Wd.	Chrome-Plated Steel	
1/4"	11/16"	5/16"	9959K13	$4.35
5/16"	11/16"	5/16"	9959K14	4.40
3/8"	7/8"	3/8"	9959K15	4.52
1/2"	1 1/8"	13/32"	9959K17	4.75
5/8"	1 5/16"	7/16"	9959K19	5.53
3/4"	1 1/2"	1/2"	9959K22	5.28
1"	1 3/4"	1/2"	9959K26	5.78
1 1/4"	2 1/16"	1/2"	9959K31	7.00
1 1/2"	2 3/8"	9/16"	9959K35	8.03
2"	3"	11/16"	9959K44	15.60
3"	4 1/4"	7/8"	9959K62	31.17

Nylon and Delrin® Acetal Resin

For Shaft Dia.	OD	Wd.	Nylon		Delrin® Acetal Resin	
1/4"	13/16"	3/8"	9410T1	$8.69	9410T31	$8.62
3/8"	1 1/16"	1/2"	9410T3	8.93	9410T33	8.87
1/2"	1 1/4"	9/16"	9410T4	9.33	9410T34	9.27
5/8"	1 1/2"	5/8"	9410T5	9.71	9410T35	9.64
3/4"	1 3/4"	5/8"	9410T6	10.11	9410T36	10.02
7/8"	1 7/8"	3/4"	9410T7	10.42	9410T37	10.36
1"	2"	3/4"	9410T8	10.91	9410T38	10.82
1 1/4"	2 1/4"	3/4"	9410T11	17.04	9410T41	16.91
1 1/2"	2 1/2"	3/4"	9410T13	18.13	9410T43	17.98
2"	3 1/4"	15/16"	9410T15	23.73	9410T45	23.56
3"	4 1/2"	1 1/8"	9410T18	43.56	9410T48	43.13

Two-Piece Clamp-On Shaft Collars



Able to come apart, you can install these collars anywhere on a shaft without removing components. They clamp evenly around your shaft for superior holding power without marring the shaft. Tighten the two socket-head cap screws to secure.

Black-oxide steel offers some corrosion resistance. **Zinc-plated steel** offers better corrosion resistance than black-oxide steel. **Aluminum** is lightweight with good corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance. **Type 316 stainless steel** offers superior corrosion and chemical resistance. **Chrome-plated steel** has the strength and corrosion resistance of zinc-plated steel with a bright finish. **Nylon** is a lower cost alternative to stainless steel. Color is white. **Delrin® acetal resin** offers good chemical resistance and is suitable for washdown applications. Color is white.

Steel, Aluminum, and Stainless Steel

For Shaft Dia.	OD	Wd.	Black-Oxide Steel		Zinc-Plated Steel		Aluminum		Type 303 Stainless Steel		Type 316 Stainless Steel	
1/64"	3/8"	7/32"	6436K231	$58.07	2380K63	$58.07	6436K232	$50.90	6436K233	$65.41	9633T61	$89.16
1/32"	3/8"	7/32"	6436K234	58.07	2380K64	58.07	6436K235	50.90	6436K236	65.41	9633T62	89.16
1/16"	11/16"	5/16"	6436K311	8.67	—	—	6436K511★	4.78	6436K411	10.15	—	—
3/32"	11/16"	5/16"	6436K312	8.67	—	—	6436K512★	4.74	6436K412	10.15	—	—
1/8"	1/2"	1/4"	6436K5	4.59	2380K11■	7.43	6436K7	4.74	6436K8	9.63	9633T3	17.29
5/32"	11/16"	5/16"	6436K313	8.67	—	—	6436K513▲	4.74	6436K413	10.15	—	—
3/16"	5/8"	5/16"	6436K6	4.74	2380K12■	6.45	6436K11	3.89	6436K9	8.63	9633T5	17.43
1/4"	11/16"	5/16"	6436K12	3.81	2380K13	5.61	6436K131	3.89	6436K32	5.67	9633T6	17.36
5/16"	11/16"	5/16"	6436K51	3.89	2380K14	5.98	6436K132	5.37	6436K61	6.04	9633T7	17.43
3/8"	7/8"	3/8"	6436K13	3.56	2380K15	5.94	6436K133	5.22	6436K33	7.59	9633T8	18.32
7/16"	15/16"	3/8"	6436K52	3.74	2380K16	6.51	6436K134	5.48	6436K62	7.85	9633T9	18.96
1/2"	1 1/8"	13/32"	6436K14	3.67	2380K17	6.34	6436K71	5.15	6436K34	8.89	9633T11	18.89
9/16"	1 5/16"	7/16"	6436K53	5.93	2380K18	7.77	6436K135	7.15	6436K63	13.78	9633T12	21.00
5/8"	1 5/16"	7/16"	6436K15	5.37	2380K19	7.46	6436K136	5.78	6436K35	13.81	9633T13	20.89
11/16"	1 1/2"	1/2"	6436K28	6.74	2380K21	9.07	6436K137	7.11	6436K89	15.15	9633T14	29.57
3/4"	1 1/2"	1/2"	6436K16	5.67	2380K22	8.61	6436K72	6.96	6436K36	15.04	9633T15	29.61
13/16"	1 5/8"	1/2"	6436K29	7.41	2380K23	10.50	6436K138	10.11	6436K91	17.67	9633T16	32.14
7/8"	1 5/8"	1/2"	6436K17	6.44	2380K24	9.38	6436K139	8.04	6436K37	17.22	9633T17	31.07
15/16"	1 3/4"	1/2"	6436K31	7.89	2380K25	11.58	6436K141	8.89	6436K92	18.26	9633T18	33.93
1"	1 3/4"	1/2"	6436K18	5.63	2380K26	9.34	6436K73	7.81	6436K38	18.11	9633T19	33.68
1 1/16"	1 7/8"	1/2"	6436K44	9.48	2380K27	12.84	6436K142	11.67	6436K93	18.85	9633T21	35.54
1 1/8"	1 7/8"	1/2"	6436K19	7.22	2380K28	11.46	6436K143	10.93	6436K39	18.67	9633T22	35.89
1 3/16"	2 1/16"	1/2"	6436K48	9.52	2380K29	13.23	6436K144	12.15	6436K94	19.85	9633T23	38.00
1 1/4"	2 1/16"	1/2"	6436K21	7.89	2380K31	11.23	6436K74	10.59	6436K41	19.67	9633T24	37.14
1 5/16"	2 1/8"	9/16"	6436K49	9.89	2380K32♣	15.10	6436K145	14.22	6436K95	20.44	9633T25	38.93
1 3/8"	2 1/4"	9/16"	6436K22	8.41	2380K33	13.90	6436K146	13.81	6436K42	20.56	9633T26	40.64
1 7/16"	2 1/4"	9/16"	6436K58	10.19	2380K34	14.86	6436K147	14.30	6436K96	21.15	9633T27	40.64
1 1/2"	2 3/8"	9/16"	6436K23	8.63	2380K35	12.98	6436K75	12.63	6436K43	21.30	9633T28	40.54
1 9/16"	2 3/8"	9/16"	6436K59	15.59	2380K36	20.97	6436K148	15.07	6436K97	21.48	9633T29	42.07
1 5/8"	2 3/4"	11/16"	6436K24	13.33	2380K37♦	21.68	6436K149	20.52	6436K98	36.00	9633T31	65.96
1 11/16"	2 3/4"	11/16"	6436K64	17.19	2380K38	23.88	6436K151	20.89	6436K99	36.00	9633T32	65.96
1 3/4"	2 3/4"	11/16"	6436K25	14.11	2380K39	20.87	6436K152	20.11	6436K45	35.41	9633T33	65.96
1 13/16"	2 7/8"	11/16"	6436K65	17.44	2380K41	30.12	6436K153	22.67	6436K101	39.59	9633T34	72.93
1 7/8"	3"	11/16"	6436K26	14.89	2380K42♠	26.74	6436K154	21.81	6436K102	39.07	9633T35	72.93
1 15/16"	3"	11/16"	6436K66	18.52	2380K43	28.70	6436K155	23.19	6436K103	41.89	9633T36	72.93
2"	3"	11/16"	6436K27	15.26	2380K44	23.15	6436K76	19.37	6436K47	41.59	9633T37	72.93
2 1/16"	3 1/8"	3/4"	6436K67	24.56	2380K45♥	30.92	6436K156	27.81	6436K104	45.07	9633T38	77.93
2 1/8"	3 1/4"	3/4"	6436K68	24.85	2380K46	28.58	6436K157	27.93	6436K105	53.15	9633T39	87.18
2 3/16"	3 1/4"	3/4"	6436K69	24.93	2380K47	29.61	6436K158	27.93	6436K106	53.15	9633T41	87.18
2 1/4"	3 1/4"	3/4"	6436K54	18.63	2380K48	29.16	6436K159	27.93	6436K107	53.15	9633T42	87.18
2 5/16"	3 3/8"	3/4"	6436K78	25.85	2380K49◤	34.99	6436K174	29.30	6436K108	53.74	9633T43	96.57
2 3/8"	3 1/2"	3/4"	6436K79	25.70	2380K51	33.18	6436K162	30.15	6436K109	53.78	9633T44	96.57
2 7/16"	3 1/2"	3/4"	6436K81	24.74	2380K52	33.02	6436K163	30.67	6436K111	53.78	9633T45	96.57
2 1/2"	3 3/4"	7/8"	6436K55	36.63	2380K53	47.96	6436K164	45.04	6436K112	99.44	9633T46	131.14
2 9/16"	3 7/8"	7/8"	6436K237	45.02	2380K65	50.14	6436K238	62.85	6436K239	104.29	9633T63	156.41
2 5/8"	3 7/8"	7/8"	6436K83	46.22	2380K55	56.33	6436K166	51.30	6436K114	99.59	9633T48	133.64
2 11/16"	4"	7/8"	6436K84	46.96	2380K56	60.94	6436K167	51.30	6436K115	99.59	9633T49	133.64
2 3/4"	4"	7/8"	6436K85	46.96	2380K57	60.13	6436K168	51.30	6436K116	99.59	9633T51	133.64
2 13/16"	4 1/4"	7/8"	6436K241	49.50	2380K66	71.86	6436K242	94.11	6436K243	108.87	9633T64	326.63
2 7/8"	4 1/4"	7/8"	6436K87	47.78	2380K59	67.42	6436K171	54.41	6436K118	102.07	9633T53	141.21
2 15/16"	4 1/4"	7/8"	6436K56	52.56	2380K61	59.16	6436K172	54.41	6436K119	102.07	9633T54	141.21
3"	4 1/4"	7/8"	6436K57	42.26	2380K62	58.73	6436K173	53.37	6436K121	102.07	9633T55	141.21
3"	4 1/2"	3/4"	60665K58	36.27	2380K67	39.66	60665K21	35.75	60665K11	67.39	9633T65	183.22
3 1/4"	4 1/2"	7/8"	60665K59	44.36	2380K68	53.91	60665K22	46.64	60665K12	86.20	9633T66	185.88
3 3/8"	4 3/4"	7/8"	6436K244	50.48	2380K69	54.76	—	—	6436K245	109.01	9633T67	213.50
3 1/2"	4 3/4"	7/8"	60665K61	44.79	2380K71	54.43	60665K23	48.74	60665K13	89.87	9633T68	243.17
3 3/4"	5"	7/8"	6436K246	63.56	2380K72	105.91	—	—	6436K247	220.16	9633T69	271.50
4"	5 1/4"	7/8"	60665K62	70.65	2380K73	85.89	60665K24	68.64	60665K14	135.23	9633T71	271.54
4 1/4"	5 1/2"	7/8"	6436K248	110.03	2380K74	133.32	—	—	6436K249	187.63	9633T72	287.86
4 1/2"	5 3/4"	7/8"	60665K63	112.49	2380K75	136.73	60665K25	78.52	60665K15	206.20	9633T73	334.86
5"	6 1/4"	7/8"	60665K64	128.59	2380K76	156.25	60665K26	93.92	60665K16	250.11	9633T74	389.43
5 1/4"	6 3/4"	7/8"	6436K251	132.07	2380K77	172.94	—	—	6436K252	359.56	9633T75	419.91
5 1/2"	6 3/4"	7/8"	60665K65	140.72	2380K78	171.02	60665K27	106.36	60665K17	287.29	9633T76	420.54
6"	7 1/4"	7/8"	60665K66	156.79	2380K79	190.55	60665K28	119.28	60665K18	347.74	9633T77	471.63

★ 1/2" OD; 1/4" Wd. ■ 11/16" OD; 5/16" Wd. ▲ 5/8" OD. ♣ 2 1/4" OD. ♦ 2 5/8" OD. ♠ 2 7/8" OD. ♥ 3 1/4" OD. ◤ 3 1/2" OD.

Chrome-Plated Steel

For Shaft Dia.	OD	Wd.		
3/8"	7/8"	3/8"	3370K15	$7.10
1/2"	1 1/8"	13/32"	3370K17	7.79
5/8"	1 5/16"	7/16"	3370K19	8.29
3/4"	1 1/2"	1/2"	3370K22	8.12
1"	1 3/4"	1/2"	3370K26	$8.64
1 1/8"	1 7/8"	1/2"	3370K28	9.79
1 1/4"	2 1/16"	1/2"	3370K31	9.88
1 3/8"	2 1/4"	9/16"	3370K33	10.33
1 1/2"	2 3/8"	9/16"	3370K35	$10.83
1 3/4"	2 3/4"	11/16"	3370K39	16.52
2"	3"	11/16"	3370K44	17.76

(Continued on following page)

Two-Piece Clamp-On Shaft Collars *(Continued from previous page)*

Nylon and Delrin® Acetal Resin

For Shaft Dia.	OD	Wd.	Nylon		Delrin® Acetal Resin	
1/4"	13/16"	3/8"	60485K61	$10.78	9708T11	$10.58
5/16"	13/16"	3/8"	60485K62	10.95	9708T12	10.75
3/8"	1 1/16"	1/2"	60485K63	11.05	9708T13	10.85
1/2"	1 1/4"	9/16"	60485K65	11.55	9708T14	11.35
5/8"	1 1/2"	5/8"	60485K67	12.03	9708T15	11.82
3/4"	1 3/4"	5/8"	60485K68	12.53	9708T16	12.30
7/8"	1 7/8"	3/4"	60485K52	12.90	9708T17	12.65
1"	2"	3/4"	60485K69	13.50	9708T18	13.28
1 3/16"	2 1/8"	3/4"	60485K71	20.45	9708T19	20.10
1 1/4"	2 1/4"	3/4"	60485K72	21.07	9708T21	20.70
1 3/8"	2 3/8"	3/4"	60485K73	21.75	9708T22	21.32
1 7/16"	2 1/2"	3/4"	60485K74	21.75	9708T23	21.32
1 1/2"	2 1/2"	3/4"	60485K75	22.43	9708T24	22.02
1 5/8"	3"	15/16"	60485K76	24.23	9708T25	23.77
1 3/4"	3 1/8"	15/16"	60485K77	29.46	9708T26	25.27
1 7/8"	3 1/4"	15/16"	60485K78	31.46	9708T27	27.02
1 15/16"	3 1/4"	15/16"	60485K79	33.60	9708T28	28.86
2"	3 1/4"	15/16"	60485K81	35.69	9708T29	30.61
2 1/4"	3 5/8"	15/16"	60485K82	35.69	9708T31	30.60
2 1/2"	4"	1 1/8"	60485K83	52.74	9708T32	45.27
2 3/4"	4 1/4"	1 1/8"	60485K84	57.51	9708T33	49.38
3"	4 1/2"	1 1/8"	60485K85	61.54	9708T34	52.85

Metric Two-Piece Clamp-On Shaft Collars



The two-piece design means you can install these collars anywhere on a shaft without removing components. They clamp evenly around your metric shaft for superior holding power without marring the shaft. Tighten the two socket-head cap screws to secure.

Black-oxide steel offers some corrosion resistance. **Aluminum** is lightweight with good corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance. **Type 316 stainless steel** offers superior corrosion and chemical resistance.

For Shaft Dia., mm	OD, mm	Wd., mm	Black-Oxide Steel		Aluminum		Type 303 Stainless Steel		Type 316 Stainless Steel	
2	18	9	6063K46	$30.17	9520T29	$31.45	3369K43	$38.36	9652T32	$42.11
3	16	9	6063K44	7.47	9520T27	7.71	3369K41	16.89	9652T11	25.62
4	16	9	6063K11	6.80	9520T1	7.37	3369K11	15.26	9652T12	23.87
5	16	9	6063K12	6.55	9520T2	7.37	3369K12	14.45	9652T13	23.87
6	16	9	6063K13	6.55	9520T3	7.37	3369K13	14.45	9652T14	24.10
8	18	9	6063K14	6.88	9520T4	7.73	3369K14	12.47	9652T15	28.98
9	24	9	6063K45	7.97	9520T28	9.37	3369K42	15.98	———	———
10	24	9	6063K15	7.60	9520T5	8.90	3369K15	15.18	9652T16	31.35
11	28	11	6063K31	8.07	9520T6	9.07	3369K16	17.71	———	———
12	28	11	6063K16	7.72	9520T7	9.07	3369K17	16.97	9652T17	35.00
14	30	11	6063K32	8.57	9520T8	9.98	3369K18	19.68	9652T18	39.05
15	34	13	6063K33	8.82	9520T9	10.34	3369K19	22.42	9652T19	39.70
16	34	13	6063K17	8.82	9520T11	10.34	3369K21	22.42	9652T21	39.70
17	36	13	6063K38	10.35	9520T22	11.71	3369K35	26.32	9652T22	42.02
18	36	13	6063K18	9.70	9520T12	11.39	3369K22	24.71	———	———
20	40	15	6063K19	10.15	9520T13	11.83	3369K23	24.39	9652T23	48.25
24	45	15	6063K34	12.35	9520T14	14.51	3369K24	31.34	———	———
25	45	15	6063K21	11.32	9520T15	13.24	3369K25	26.76	9652T24	57.90
28	48	15	6063K39	14.70	9520T23	18.39	3369K36	38.89	———	———
30	54	15	6063K22	12.90	9520T16	17.73	3369K26	35.29	9652T25	79.60
35	57	15	6063K23	15.25	9520T17	20.59	3369K27	45.45	———	———
40	60	15	6063K24	16.18	9520T18	21.76	3369K28	54.29	9652T26	98.90
45	73	19	6063K25	26.95	9520T19	36.34	3369K29	91.82	———	———
50	78	19	6063K26	29.25	9520T21	37.20	3369K31	121.00	9652T27	167.25
60	88	19	6063K35	37.77	———	———	3369K32	135.58	———	———
65	93	19	6063K36	59.90	9520T24	71.44	3369K33	162.68	9652T28	232.55
70	98	19	6063K42	62.52	9520T25	73.44	3369K38	199.79	9652T29	281.52
80	108	19	6063K43	87.05	9520T26	94.95	3369K39	221.97	9652T31	304.70

Two-Piece Clamp-On Shaft Collars with Keyway



With an ANSI keyway and their two-piece design, you can install these collars anywhere on a keyed shaft without removing components. They clamp evenly around your shaft for superior holding power without marring the shaft. Tighten the two socket-head cap screws to secure. For keyed shafts, see pages 1130-1132. For keys and key stock, see pages 3400-3403.

Black-oxide steel offers some corrosion resistance. **Aluminum** is lightweight with good corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

For Shaft Dia.	OD	Wd.	Keyway Wd.	Keyway Dp.	Black-Oxide Steel		Aluminum		Type 303 Stainless Steel	
3/8"	7/8"	11/32"	3/32"	3/64"	3357K11	$13.16	9740T1	$16.35	3329K11	$21.42
1/2"	1 1/8"	13/32"	1/8"	1/16"	3357K12	14.09	9740T2	16.14	3329K12	23.95
5/8"	1 5/16"	7/16"	3/16"	3/32"	3357K13	16.12	9740T3	17.44	3329K13	27.58
3/4"	1 1/2"	1/2"	3/16"	3/32"	3357K14	17.21	9740T4	18.14	3329K14	29.02
1"	1 3/4"	1/2"	1/4"	1/8"	3357K15	18.72	9740T5	19.79	3329K15	33.86
1 1/4"	2 1/16"	1/2"	1/4"	1/8"	3357K16	20.60	9740T6	23.98	3329K16	39.21
1 1/2"	2 3/8"	9/16"	3/8"	3/16"	3357K17	23.19	9740T7	30.95	3329K17	47.56
2"	3"	11/16"	1/2"	1/4"	3357K18	35.63	9740T8	35.56	3329K18	88.70
2 3/16"	3 1/4"	3/4"	1/2"	1/4"	3357K19	40.67	9740T9	56.51	3329K19	120.65
2 7/16"	3 1/2"	3/4"	5/8"	9/32"	3357K21	41.49	9740T11	58.14	3329K21	130.09

Clamp-On Shaft Collars with Mounting Holes



Face-Mount One-Piece Collars



Flanged One-Piece Collars



Adapter Ring for Black-Oxide Steel Flanged Collars



Top- and Bottom-Mount Two-Piece Collars

Mounting holes allow you to fasten gears, pulleys, and sprockets to the collar without welding. All collars clamp on.

Black-oxide steel offers some corrosion resistance. **Aluminum** is lightweight with good corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

Face-Mount One-Piece Collars—Have two tapped holes in the collar face. Slide the collar onto your shaft and tighten the socket-head cap screw to secure.

Flanged One-Piece Collars—Have three tapped counterbored holes and three through holes for mounting flexibility. They also have a standard ANSI keyway, unless noted (for keyed shafts, see pages 1130-1132; for keys and key stock, see pages 3400-3403). Slide the collar onto your shaft and tighten the two socket-head cap screws to secure.

Adapter rings extend the flange OD of the collars to handle larger components. All are machinable, weldable grade 1018 steel with three through holes that mate to the flanged mounting holes of the black-oxide steel flanged one-piece collars.

Top- and Bottom-Mount Two-Piece Collars—Have one tapped hole on each flat side of the collar and include screws to fasten items. You can install these collars anywhere on a shaft without removing components. Tighten the two socket-head cap screws to secure.

Face-Mount One-Piece Collars

For Shaft Dia.	OD	Wd.	Tapped Hole Thread Size	Black-Oxide Steel		Type 303 SS	
Inch							
1/2"	1 1/8"	13/32"	8-32	9677T21	$11.83	5631T11	$15.98
9/16"	1 5/16"	7/16"	10-24	9677T22	12.83	5631T12	17.20
5/8"	1 5/16"	7/16"	10-24	9677T23	12.00	5631T13	16.67
11/16"	1 1/2"	1/2"	1/4"-20	9677T24	13.64	5631T14	23.00
3/4"	1 1/2"	1/2"	1/4"-20	9677T1	12.58	5631T15	22.16
1"	1 3/4"	1/2"	1/4"-20	9677T2	13.42	5631T16	25.48
1 1/8"	1 7/8"	1/2"	1/4"-20	9677T3	14.03	5631T17	28.58
1 1/4"	2 1/16"	1/2"	1/4"-20	9677T4	15.03	5631T18	32.47
1 3/8"	2 1/4"	9/16"	1/4"-20	9677T5	16.28	5631T19	34.44
1 1/2"	2 3/8"	9/16"	1/4"-20	9677T6	16.58	5631T21	35.83
1 3/4"	2 3/4"	11/16"	5/16"-18	9677T7	19.86	5631T22	46.81
2"	3"	11/16"	5/16"-18	9677T8	20.92	5631T23	52.86
2 1/2"	3 3/4"	7/8"	5/16"-18	9677T9	27.06	5631T24	86.61
3"	4 1/4"	7/8"	5/16"-18	9677T11	30.58	5631T25	111.22
Metric—Dimensions in mm							
12	28	11	M4 x 0.7	5633T11	18.08	5705T11	20.14
16	34	13	M5 x 0.8	5633T12	18.50	5705T12	21.95
18	36	13	M5 x 0.8	5633T13	18.78	5705T13	22.86
20	40	15	M5 x 0.8	5633T14	19.06	5705T14	23.59
25	45	15	M5 x 0.8	5633T15	21.14	5705T15	25.36
30	54	15	M6 x 1.0	5633T16	21.47	5705T16	27.21
35	57	15	M6 x 1.0	5633T17	21.78	5705T17	29.11
40	60	15	M6 x 1.0	5633T18	22.06	5705T18	31.00
45	73	19	M8 x 1.25	5633T19	30.92	5705T19	41.31
50	78	19	M8 x 1.25	5633T21	36.17	5705T21	48.33

Flanged One-Piece Collars

For Shaft Dia.	Collar OD	Flange OD	O'all Wd.	Flange Thick.	Tapped Hole Thread Size	Black-Oxide Steel		Aluminum		Type 303 SS	
Inch											
1/4"	13/16"	1.5"	5/8"	1/4"	4-40	9684T27★	$41.69	9793T11★	$43.83	9692T28★	$62.58
3/8"	1 1/16"	1.7"	11/16"	1/4"	6-32	9684T28	44.39	9793T12	50.53	9692T31	72.19
1/2"	1 1/4"	2.2"	3/4"	9/32"	8-32	9684T1	47.39	9793T13	57.39	9692T32	81.97
5/8"	1 1/2"	2.6"	13/16"	5/16"	10-24	9684T2	50.31	9793T14	60.89	9692T33	87.03
3/4"	1 3/4"	3.0"	1"	13/32"	1/4"-20	9684T3	58.67	9793T15	71.06	9692T34	101.50
1"	2"	3.2"	1"	13/32"	1/4"-20	9684T4	62.03	9793T16	75.11	9692T35	107.28
1 1/8"	2 1/8"	3.2"	1"	13/32"	1/4"-20	9684T29	66.67	9793T17	81.75	9692T36	116.75
1 1/4"	2 1/4"	3.5"	1"	13/32"	1/4"-20	9684T5	72.94	9793T18	88.31	9692T37	126.19
1 3/8"	2 3/8"	3.6"	1"	13/32"	1/4"-20	9684T31	73.61	9793T19	90.72	9692T38	129.61
1 1/2"	2 1/2"	3.7"	1"	13/32"	1/4"-20	9684T6	76.69	9793T21	92.86	9692T39	132.67
1 3/4"	3"	4.5"	1 1/4"	1/2"	5/16"-18	9684T32	83.47	9793T22	101.47	9692T41	144.97
1 15/16"	3 1/4"	4.7"	1 1/4"	1/2"	5/16"-18	9684T33	117.94	9793T23	139.53	9692T42	199.31
2"	3 1/4"	4.7"	1 1/4"	1/2"	5/16"-18	9684T34	111.03	9793T24	131.97	9692T43	188.53
2 3/16"	3 1/2"	5.0"	1 1/4"	1/2"	5/16"-18	9684T35	122.69	9793T25	148.78	9692T44	212.53
2 1/4"	3 1/2"	5.0"	1 1/4"	1/2"	5/16"-18	9684T36	134.33	9793T26	171.83	9692T45	245.50
2 7/16"	4"	5.7"	1 3/8"	1/2"	3/8"-16	9684T37	144.69	9793T27	195.83	9692T46	279.78
2 1/2"	4"	5.7"	1 3/8"	1/2"	3/8"-16	9684T38	157.75	9793T28	215.64	9692T47	308.08
3"	4 1/2"	6.4"	1 3/8"	1/2"	3/8"-16	9684T39	185.22	9793T29	244.44	9692T48	349.19
Metric—Dimensions in mm											
6	16	38	19	7	M3	9604T11★	52.42	9723T11★	57.67	9624T15★	70.78
8	18	41	19	7	M3	9604T12	52.42	9723T12	57.67	9624T16	70.78
10	24	45	19	7	M3	9604T13	52.67	9723T13	59.00	9624T17	73.17
12	28	55	19	7	M4	9604T14	52.28	9723T14	60.42	9624T18	75.56
16	34	63	21	7	M5	9604T15	55.86	9723T15	66.58	9624T19	81.56
18	36	63	21	7	M5	9604T16	58.92	9723T16	69.53	9624T22	86.19
20	40	69	25	8	M6	9604T17	63.58	9723T17	75.00	9624T23	92.06
25	45	75	25	8	M6	9604T18	67.11	9723T18	78.42	9624T24	114.58
30	54	82	25	8	M6	9604T19	75.42	9723T19	89.00	9624T25	128.78
35	57	88	25	8	M6	9604T21	81.75	9723T21	95.53	9624T26	122.83
40	60	92	25	8	M6	9604T22	88.92	9723T22	105.97	9624T27	136.28
45	73	101	25	8	M6	9604T23	112.28	9723T23	133.81	9624T28	170.36
50	78	114	32	13	M8	9604T24	125.94	9723T24	147.14	9624T29	192.25

★ Does not have a keyway.

Adapter Rings for Black-Oxide Steel Flanged Collars

For Shaft Dia.	OD	Wd.		
1/2"	3 1/4"	3/8"	9684T21	$37.83
5/8"	3 5/8"	3/8"	9684T22	39.69
3/4"	4"	3/8"	9684T23	41.72

Adapter Rings for Black-Oxide Steel Flanged Collars (Cont.)

For Shaft Dia.	OD	Wd.		
1"	4 1/4"	3/8"	9684T24	$53.50
1 1/4"	4 1/2"	3/8"	9684T25	55.11
1 1/2"	4 3/4"	3/8"	9684T26	56.69

(Continued on following page)

Clamp-On Shaft Collars with Mounting Holes *(Continued from previous page)*

Top- and Bottom-Mount Two-Piece Collars

For Shaft Dia.	OD	Wd.	Distance Across Flats	Black-Oxide Steel		Aluminum		Type 303 SS	
1/4"	11/16"	5/16"	9/16"	5878T11	$33.61	5878T12	$26.83	5878T14	$39.44
3/8"	7/8"	3/8"	3/4"	5878T16	34.92	5878T17	27.94	5878T18	41.67
1/2"	1 1/8"	13/32"	1"	5878T19	36.61	5878T22	29.31	5878T23	44.31
5/8"	1 5/16"	7/16"	1 3/16"	5878T24	42.25	5878T25	33.81	5878T26	52.28
3/4"	1 1/2"	1/2"	1 5/16"	5878T27	44.00	5878T28	35.25	5878T29	54.75
7/8"	1 5/8"	1/2"	1 7/16"	5878T31	45.36	5878T32	36.25	5878T33	57.25
1"	1 3/4"	1/2"	1 9/16"	5878T34	45.72	5878T35	36.50	5878T36	57.67
1 1/8"	1 7/8"	1/2"	1 11/16"	5878T37	50.72	5878T38	40.56	5878T39	65.22
1 1/4"	2 1/16"	1/2"	1 7/8"	5878T41	56.92	5878T42	45.44	5878T43	74.25
1 3/8"	2 1/4"	9/16"	2 1/16"	5878T44	72.89	5878T45	58.25	5878T46	95.50
1 1/2"	2 3/8"	9/16"	2 3/16"	5878T47	75.08	5878T48	60.08	5878T49	99.58
1 5/8"	2 5/8"	11/16"	2 7/16"	5878T51	84.67	5878T52	67.56	5878T53	114.58
1 3/4"	2 3/4"	11/16"	2 9/16"	5878T54	86.89	5878T55	69.33	5878T56	117.47
2"	3"	11/16"	2 13/16"	5878T57	91.11	5878T58	73.06	5878T59	124.89

Hinged One-Piece Clamp-On Shaft Collars



You'll get the benefits of a two-piece collar in a one-piece design. Swing collar open, position and close it anywhere on your shaft, and tighten the socket-head cap screw to secure. The screw is captive so it won't fall out, making these collars good for use in tight areas where you can't hold the screw in place. Collars clamp evenly around your shaft for superior holding power without marring the shaft.

Black-oxide steel offers some corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

For Shaft Dia.	OD	Wd.	Black-Oxide Steel		Type 303 Stainless Steel	
Inch						
3/8"	1 1/16"	5/16"	57145K71	$15.41	57145K51	$45.09
1/2"	1 1/4"	3/8"	57145K72	16.35	57145K52	46.97
5/8"	1 1/2"	13/32"	57145K73	16.88	57145K53	54.15
3/4"	1 3/4"	1/2"	57145K74	18.79	57145K54	56.62
7/8"	1 7/8"	1/2"	57145K75	19.74	57145K55	72.15
1"	2"	1/2"	57145K76	18.18	57145K56	59.79
1 1/8"	2 1/8"	1/2"	57145K77	19.94	57145K57	66.59
1 1/4"	2 1/4"	1/2"	57145K79	20.41	57145K58	69.12
1 3/8"	2 3/8"	1/2"	57145K81	22.85	57145K59	85.09
1 1/2"	2 1/2"	1/2"	57145K83	22.62	57145K61	73.21
1 5/8"	3"	5/8"	57145K84	28.94		
1 3/4"	3"	5/8"	57145K85	26.47	57145K62	95.95
1 15/16"	3 1/4"	5/8"	57145K86	27.91		
2"	3 1/4"	5/8"	57145K87	27.71	57145K63	87.80
2 1/4"	3 1/2"	5/8"	57145K88	32.35		
3"	4 1/2"	3/4"	57145K91	69.53	57145K64	155.53
Metric—Dimensions in mm						
12	28	11	5706T19	29.12	5719T11	60.18
16	34	13	5706T21	30.59	5719T12	66.35
18	36	13	5706T22	31.32	5719T13	69.74
20	40	15	5706T23	32.15	5719T14	72.56
25	45	15	5706T24	34.38	5719T15	74.47
30	54	15	5706T25	35.68	5719T16	76.41
35	57	15	5706T26	36.91	5719T17	78.41
40	60	15	5706T27	37.91	5719T18	80.09
45	73	19	5706T28	50.71	5719T19	98.47
50	78	19	5706T29	57.47	5719T21	111.56

Weldable Clamp-On Shaft Collars



One-Piece Two-Piece

Because these collars are grade 1018 steel, you can easily weld them to other components. All are clamp-on style for excellent holding power without marring your shaft.

One-piece collars slide onto your shaft and secure with one socket-head cap screw. **Two-piece** collars can be installed anywhere on a shaft without removing components. Tighten the two socket-head cap screws to secure.

For Shaft Dia.	OD	Wd.	One-Piece		Two-Piece	
1/4"	11/16"	5/16"	9739T1	$9.61	9739T31	$11.27
3/8"	7/8"	3/8"	9739T2	9.83	9739T32	11.44
1/2"	1 1/8"	13/32"	9739T3	9.95	9739T33	11.56
5/8"	1 5/16"	7/16"	9739T4	10.37	9739T34	11.98
3/4"	1 1/2"	1/2"	9739T5	10.76	9739T35	12.39
1"	1 3/4"	1/2"	9739T7	11.56	9739T37	13.20
1 1/4"	2 1/16"	1/2"	9739T9	17.41	9739T39	19.10
1 1/2"	2 3/8"	9/16"	9739T11	19.00	9739T41	20.63
1 3/4"	2 3/4"	11/16"	9739T12	20.61	9739T42	22.32
2"	3"	11/16"	9739T13	22.29	9739T43	23.98

Machinable-Face One-Piece Clamp-On Shaft Collars



These collars have two different sides—one locks down like a standard one-piece shaft collar; the other has a flush face that you can machine to add slots, holes, and grooves to match your special setups. Collars are black-oxide steel and offer some corrosion resistance. All are clamp-on style for excellent holding power without marring your shaft. Slide collar onto your shaft and secure with the two socket-head cap screws.

For Shaft Dia.	OD	Wd.		
1/2"	1 1/4"	3/4"	9966K11	$26.12
5/8"	1 1/2"	13/16"	9966K12	27.43
3/4"	1 3/4"	1"	9966K13	28.62
7/8"	1 7/8"	1"	9966K14	30.12
1"	2"	1"	9966K15	31.68
1 1/8"	2 1/8"	1"	9966K16	34.58
1 1/4"	2 1/4"	1"	9966K17	34.95
1 3/8"	2 3/8"	1"	9966K18	36.05
1 1/2"	2 1/2"	1"	9966K19	37.60
1 3/4"	3"	1 1/4"	9966K21	39.73
2"	3 1/4"	1 1/4"	9966K22	42.02

One-Piece Clamp-On Shaft Collars with Precision-Ground Face



One side of these collars locks down like a standard one-piece shaft collar; the other has a flush face that's flat to 0.0005", which lets you mount the collars on a shaft next to precision bearings, sprockets, and gears. Collars are black-oxide steel and offer some corrosion resistance. All are clamp-on style for excellent holding power without marring your shaft. Slide collar onto your shaft and secure with the two socket-head cap screws.

For Shaft Dia.	OD	Wd.		
1/2"	1 1/4"	3/4"	9981K11	$32.60
5/8"	1 1/2"	13/16"	9981K12	34.62
3/4"	1 3/4"	1"	9981K13	37.08
7/8"	1 7/8"	1"	9981K14	38.60
1"	2"	1"	9981K15	40.38
1 1/8"	2 1/8"	1"	9981K16	44.42
1 1/4"	2 1/4"	1"	9981K17	44.75
1 3/8"	2 3/8"	1"	9981K18	46.10
1 1/2"	2 1/2"	1"	9981K19	47.95
1 3/4"	3"	1 1/4"	9981K21	55.02
2"	3 1/4"	1 1/4"	9981K22	57.87

Machinable-Bore Clamp-On Shaft Collars



One-Piece



Two-Piece

You can machine the bore of these collars to precisely fit your odd-sized shaft. Collars are black-oxide steel and offer some corrosion resistance. All are clamp-on style for excellent holding power without marring your shaft.

One-piece collars slide onto your shaft and secure with one hex socket cap screw. **Two-piece** collars can be installed anywhere on a shaft without removing components. Tighten the two hex socket cap screws to secure.

For Shaft Dia.						
Min.	Max.	OD	Wd.	One-Piece		Two-Piece	
1/8"	3/4"	1 3/4"	1/2"	9964K11	$8.53	3374K11	$13.21
1/2"	1"	2 1/4"	1/2"	9964K12	9.87	3374K12	14.32
5/8"	1 9/16"	2 1/2"	1/2"	9964K13	21.50	3374K13	23.34
3/4"	2"	3 1/4"	5/8"	9964K14	27.82	3374K14	30.37
1"	2 5/8"	4 1/4"	3/4"	9964K15	69.74	3374K15	78.61
1 1/4"	3"	4 1/2"	3/4"	9964K16	78.92	3374K16	89.87

Square-Bore Two-Piece Clamp-On Shaft Collars



Position these collars anywhere on a square shaft or rail without removing components. They clamp evenly around your shaft for superior holding power without marring the shaft. Tighten the two socket-head cap screws to secure.

Black-oxide steel offers some corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

For Shaft Wd.	OD	Wd.	Black-Oxide Steel		Type 303 Stainless Steel	
1/4"	11/16"	5/16"	3325K11	$17.94	3257K11	$23.42
5/16"	11/16"	5/16"	3325K12	17.94	3257K12	23.44
3/8"	1 1/2"	13/32"	3325K13	16.42	3257K13	25.33
7/16"	1 1/2"	13/32"	3325K14	16.42	3257K14	25.33
1/2"	1 3/4"	1/2"	3325K15	17.31	3257K15	26.17
9/16"	1 3/4"	1/2"	3325K16	17.31	3257K16	26.17
5/8"	2"	1/2"	3325K17	17.69	3257K17	27.64
3/4"	2 1/8"	1/2"	3325K18	18.06	3257K18	28.47
7/8"	2 1/4"	1/2"	3325K19	18.31	3257K19	29.36
1"	2 1/2"	1/2"	3325K21	$18.58	3257K21	$31.31
1 1/8"	3"	5/8"	3325K22	28.53	3257K22	51.86
1 1/4"	3"	5/8"	3325K23	28.53	3257K23	52.89
1 3/8"	3 1/4"	5/8"	3325K24	34.19	3257K24	56.92
1 1/2"	3 1/2"	5/8"	3325K25	35.67	3257K25	62.19
1 3/4"	4"	3/4"	3325K26	58.89	3257K26	94.64
2"	4 1/4"	3/4"	3325K27	60.53	3257K27	101.33
2 1/2"	5"	3/4"	3325K28	65.42	3257K28	112.83

Hexagonal-Bore Clamp-On Shaft Collars



The perfect fit for hexagon-shaped shafts. All collars are clamp-on style for excellent holding power without marring your shaft.

Black-oxide steel offers some corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

One-Piece—Slide onto your shaft and secure with one socket-head cap screw.

Two-Piece—Come apart in two and can be installed anywhere on a shaft without removing components. Tighten the two socket-head cap screws to secure.

For Shaft Wd.	OD	Wd.	Black-Oxide Steel One-Piece		Black-Oxide Steel Two-Piece		Type 303 Stainless Steel One-Piece		Type 303 Stainless Steel Two-Piece	
1/4"	13/16"	1/4"			7552K11	$22.19			7547K21	$22.92
3/8"	1 1/16"	5/16"	7552K3	$19.94	7552K13	21.92	7547K13	$23.56	7547K23	26.06
7/16"	1 1/4"	3/8"	7552K4	20.22	7552K14	21.92	7547K14	24.11	7547K24	26.86
1/2"	1 1/4"	3/8"	7552K5	20.22	7552K15	22.22	7547K15	24.11	7547K25	26.86
5/8"	1 1/2"	13/32"	7552K6	21.17			7547K16	30.19		
3/4"	1 7/8"	1/2"	7552K7	32.86	7552K17	34.56	7547K17	38.44	7547K27	41.25
7/8"	2"	1/2"	7552K8	24.83	7552K18	26.44	7547K18	35.86	7547K28	38.25
1"	2 1/8"	1/2"	7552K9	26.14	7552K19	27.56	7547K19	37.58	7547K29	40.39

D-Profile Clamp-On Shaft Collars



Place these collars anywhere on a D-profile shaft without removing components. All are clamp-on style for excellent holding power without marring your shaft.

Black-oxide steel offers some corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

One-Piece—Slide onto your shaft and secure with one socket-head cap screw.

Two-Piece—Come apart in two and can be installed anywhere on a shaft without removing components. Tighten the two socket-head cap screws to secure.

For Shaft Dia.	OD	Wd.	Black-Oxide Steel One-Piece		Black-Oxide Steel Two-Piece		Type 303 Stainless Steel One-Piece		Type 303 Stainless Steel Two-Piece	
1/4"	5/8"	9/32"	9687T31	$17.80	9687T11	$20.05	9687T41	$22.70	9687T21	$25.77
1/2"	1 1/8"	13/32"	9687T32	18.68	9687T12	20.93	9687T42	27.70	9687T22	31.55
3/4"	1 1/2"	1/2"	9687T33	22.93	9687T13	25.70	9687T43	33.73	9687T23	38.42
1"	1 3/4"	1/2"	9687T34	25.27	9687T14	28.27	9687T44	39.11	9687T24	44.55

Threaded-Bore Clamp-On Shaft Collars



The threaded bore provides snug contact with threaded shafts. All collars have right-hand threads and are clamp-on style for excellent holding power without marring your shaft.

Black-oxide steel offers some corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

One-Piece—Thread onto your shaft and secure with one socket-head cap screw.

Two-Piece—Come apart in two and can be installed anywhere on a shaft without removing components. Tighten the two socket-head cap screws to secure.

Bore Thread Size	OD	Wd.	Black-Oxide Steel		Type 303 Stainless Steel	
One-Piece Threaded Collars—Inch						
10-32	5/8"	5/16"	6438K13	$4.00	6438K43	$10.20
1/4"-20	11/16"	5/16"	6438K14	4.32	6438K44	7.04
1/4"-28	11/16"	5/16"	6438K15	4.16	6438K87■	9.34
5/16"-18	11/16"	5/16"	6438K16	4.16	6438K46	8.04
5/16"-24	11/16"	5/16"	6438K17	4.16	6438K96▲	10.23
3/8"-16	7/8"	3/8"	6438K18	4.40	6438K48	8.56
3/8"-24	7/8"	3/8"	6438K19	4.92	6438K49	8.56
1/2"-13	1 1/8"	13/32"	6438K21	5.44	6438K51	10.36
1/2"-20	1 1/8"	13/32"	6438K22	5.44	6438K52	10.36
5/8"-11	1 5/16"	7/16"	6438K23	5.56	6438K53	12.28
5/8"-18	1 5/16"	7/16"	6438K24	5.56	6438K54	12.28
3/4"-10	1 1/2"	1/2"	6438K25	6.08	6438K55	14.60
3/4"-16	1 1/2"	1/2"	6438K26	6.08	6438K56	14.60
7/8"-14	1 5/8"	1/2"	6438K28	8.04	6438K89	26.77
1"-8	1 3/4"	1/2"	6438K29	8.96	6438K59	19.32
1"-14	1 3/4"	1/2"	6438K31	8.96	6438K61	19.32
1 1/8"-12	1 7/8"	1/2"	6438K32	11.56	6438K91	35.66
1 1/4"-7	2 1/16"	1/2"	6438K33	11.12	6438K92	36.74
1 1/4"-12	2 1/16"	1/2"	6438K34	11.12	6438K62	25.84
1 1/2"-12	2 3/8"	9/16"	6438K36	17.72	6438K94	50.71
2"-12	3"	11/16"	6438K37	30.04	6438K95	104.40
One-Piece Threaded Collars—Metric						
M6×1	16 mm	9 mm	2305K13	$7.72	3014K13	$14.62
M8×1.25	18 mm	9 mm	2305K14	8.05	3014K14	15.80
M10×1.5	24 mm	9 mm	2305K15	8.57	3014K15	18.52
M12×1.75	28 mm	11 mm	2305K16	9.05	3014K16	18.88
M16×2	34 mm	13 mm	2305K17	9.95	3014K17	23.75
Two-Piece Threaded Collars—Inch						
1/4"-20	5/8"	9/32"	60705K24	8.50	60705K44	15.47
3/8"-16	7/8"	11/32"	60705K28	9.13	60705K48	17.18
3/8"-24	7/8"	11/32"	60705K29	9.13	60705K49	17.18
7/16"-20	15/16"	11/32"	60705K32	9.87	60705K52	19.03
1/2"-13	1 1/8"	13/32"	60705K33	11.34	60705K53	21.37
1/2"-20	1 1/8"	13/32"	60705K34	11.34	60705K54	21.37
5/8"-11	1 5/16"	7/16"	60705K35	12.66	60705K55	23.16
3/4"-10	1 1/2"	1/2"	60705K37	13.63	60705K57	26.24
3/4"-16	1 1/2"	1/2"	60705K38	13.63	60705K58	27.24
7/8"-14	1 5/8"	1/2"	60705K61	14.74	60705K71	29.87
1"-8	1 3/4"	1/2"	60705K62	16.08	60705K72	33.63
1"-12	1 3/4"	1/2"	60705K63	16.08	60705K73	33.63

■ 5/8" OD; 9/32" Wd. ▲9/32" Wd.

Acme Threaded-Bore Clamp-On Collars



Specially designed to fit Standard-Travel Precision Acme Threaded Rods (page 1155) and General Purpose Acme Rods (pages 3202-3204), all collars are standard travel (single start) with a speed ratio of 1:1. They have right-hand threads and are made of black-oxide steel for some corrosion resistance. Thread collar onto your shaft and tighten the clamp screw to secure.

Acme Size	OD	Wd.			Acme Size	OD	Wd.		
3/8"-12	1 1/8"	1/2"	6698K11	$16.15	1"-5	2 1/4"	5/8"	6698K17	$15.32
7/16"-12	1 1/8"	1/2"	6698K12	22.59	1 1/8"-5	2 3/8"	3/4"	6698K18	25.44
1/2"-10	1 5/16"	1/2"	6698K13	18.35	1 1/4"-5	2 1/2"	3/4"	6698K19	25.47
5/8"-8	1 5/8"	1/2"	6698K14	18.62	1 1/2"-4	2 3/4"	3/4"	6698K22	34.62
3/4"-6	2"	5/8"	6698K15	21.06	2"-4	3 1/2"	1"	6698K24	54.24
7/8"-6	2 1/8"	5/8"	6698K16	34.06	2 1/2"-3	4"	1"	6698K26	77.35

Easy-Shaft-Adjust Two-Piece Clamp-On Shaft Collars



Wrench flats allow you to rotate your drive shaft without marring or gouging the shaft. Fasten one of these collars onto your shaft, position a wrench on the collar's wrench flats, and then rotate the entire shaft/collar assembly to adjust the shaft. You can install these collars anywhere on a shaft without removing components. Tighten the two socket-head cap screws to secure.

Black-oxide steel offers some corrosion resistance. **Aluminum** is lightweight with good corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

For Shaft Dia.	OD	Wd.	Distance Across Flats	Black-Oxide Steel		Aluminum		Type 303 SS	
1/4"	11/16"	5/16"	9/16"	9746T11	$14.24	6100T13	$16.15	5876T11	$18.66
3/8"	7/8"	3/8"	3/4"	9746T12	16.00	6100T14	17.34	5876T12	20.12
1/2"	1 1/8"	13/32"	15/16"	9746T1	10.68	6100T15	13.66	5876T13	16.22
5/8"	1 5/16"	7/16"	1 1/8"	9746T2	11.52	6100T16	14.71	5876T14	18.43
3/4"	1 1/2"	1/2"	1 5/16"	9746T3	12.80	6100T17	15.74	5876T15	20.86
1"	1 3/4"	1/2"	1 9/16"	9746T4	13.84	6100T18	16.77	5876T16	22.63
1 1/8"	1 7/8"	1/2"	1 11/16"	9746T5	14.80	6100T19	18.09	5876T17	24.43
1 1/4"	2 1/16"	1/2"	1 7/8"	9746T6	16.24	6100T21	19.71	5876T18	26.37
1 3/8"	2 1/4"	9/16"	2 1/16"	9746T7	18.04	6100T22	21.15	5876T19	28.29
1 1/2"	2 3/8"	9/16"	2 3/16"	9746T8	18.52	6100T23	22.58	5876T21	29.86
1 3/4"	2 3/4"	11/16"	2 9/16"	9746T13	27.20	6100T24	29.09	5876T27	45.40
2"	3"	11/16"	2 13/16"	9746T14	28.76	6100T25	30.89	5876T28	51.17
2 1/4"	3 1/4"	3/4"	3 1/16"	9746T15	42.92	6100T26	51.80	5876T29	71.83
2 1/2"	3 3/4"	7/8"	3 9/16"	9746T16	55.52	6100T27	72.63	5876T25	92.57
3"	4 1/4"	7/8"	4 1/16"	9746T17	60.72	6100T28	86.37	5876T26	107.74

Adjustable-Width Clamp-On Shaft Collars



Adjustable Width



Ultra-Precision Adjustable Width

Precisely adjust the width of these collars to set the stroke length of a linear sliding guide rod or shaft. To use, slide a collar onto your shaft and tighten the socket-head cap screws on one side to secure. Then rotate the knurled sides to make width adjustments and tighten the socket-head cap screws on the other side to lock the collar in place.

Black-oxide steel offers some corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

Adjustable-Width Collars—Have one knurled side that provides width adjustments of 13/64" to 7/16". There are two cap screws on the smooth side and one on the knurled side.

Ultra-Precision Adjustable-Width Collars—Have two knurled sides that provide micrometer-like movement for even more precise width adjustments of 3/8" to 3/4". They also have 40-pitch threads that provide 0.025" of travel per turn. There are two cap screws on each knurled side.

		Adjustable-Width Collars						*Ultra-Precision Adjustable-Width Collars*			
For Shaft Dia.	OD	Min. Wd.	Max. Wd.	Black-Oxide Steel		Type 303 SS		Min. Wd.	Max. Wd.	Black-Oxide Steel	
1/4"	5/8"	15/32"	11/16"	7883K11	$26.67	8103K11	$39.53				
3/8"	7/8"	15/32"	11/16"	7883K12	28.56	8103K12	45.90	1 1/8"	1 1/2"	9666T1	$34.94
1/2"	1 1/8"	3/4"	1 1/16"	7883K13	31.94	8103K13	54.40	1 3/16"	1 9/16"	9666T2	37.50
5/8"	1 5/16"	3/4"	1 1/16"	7883K14	35.48	8103K14	56.70	1 3/8"	1 7/8"	9666T3	40.16
3/4"	1 1/2"	7/8"	1 1/4"	7883K15	37.27	8103K15	63.45	1 1/2"	2"	9666T4	42.82
1"	1 3/4"	7/8"	1 1/4"	7883K16	41.15	8103K16	66.83	1 1/2"	2"	9666T5	48.36
1 1/4"	2 1/16"	1"	1 7/16"	7883K17	51.65	8103K17	75.34	1 5/8"	2 1/4"	9666T6	53.40
1 3/8"	2 1/4"	1"	1 7/16"	7883K18	49.52	8103K18	78.96	1 5/8"	2 1/4"	9666T7	58.28
1 1/2"	2 3/8"	1"	1 7/16"	7883K19	51.83	8103K19	83.63	1 3/4"	2 1/2"	9666T8	63.16

Extra-Wide Clamp-On Shaft Collars



One-Piece



Two-Piece

Wider than standard shaft collars with twice the number of socket-head cap screws, these ensure a better grip for greater holding power.

Black-oxide steel offers some corrosion resistance. **Aluminum** is lightweight with good corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

One-Piece—Slide onto your shaft and secure with two cap screws.

Two-Piece—Can be installed anywhere on a shaft without removing components. Tighten the four cap screws to secure.

			Black-Oxide Steel				*Aluminum*		*Type 303 Stainless Steel*			
For Shaft Dia.	OD	Wd.	One-Piece		Two-Piece		One-Piece		One-Piece		Two-Piece	
1/8"	5/8"	5/8"	9947K11	$18.54	8389K11	$38.57	9658T1	$17.60	9660T1	$28.90	9660T21	$41.48
3/16"	5/8"	5/8"	9947K12	17.69	8389K12	32.57	9658T2	15.50	9660T2	26.71	9660T22	39.40
1/4"	5/8"	5/8"	9947K13	15.34	8389K13	29.89	9658T3	13.40	9660T3	25.64	9660T23	37.88
5/16"	11/16"	5/8"	9947K14	16.11	8389K14	29.89	9658T4	15.67	9660T4	27.79	9660T24	40.48
3/8"	7/8"	3/4"	9947K15	16.63	8389K15	29.03	9658T5	14.93	9660T5	33.00	9660T25	49.55
1/2"	1 1/8"	7/8"	9947K16	18.69	8389K16	29.89	9658T6	18.17	9660T6	41.74	9660T26	57.83
5/8"	1 5/16"	15/16"	9947K17	24.06	8389K17	35.71			9660T7	47.14	9660T27	71.00
3/4"	1 1/2"	1 1/16"	9947K18	26.46	8389K18	41.49			9660T8	57.57	9660T28	77.76
7/8"	1 5/8"	1 1/16"	9947K19	32.74	8389K19	45.71			9660T9	63.21	9660T29	86.02
1"	1 3/4"	1 1/16"	9947K21	33.20	8389K21	44.83			9660T11	70.93	9660T31	94.31
1 1/8"	1 7/8"	1 1/16"	9947K22	46.54	8389K22	76.74			9660T12	97.52	9660T32	139.52
1 1/4"	2 1/16"	1 1/16"	9947K23	52.00	8389K23	83.26			9660T13	114.02	9660T33	153.62
1 1/2"	2 3/8"	1 3/16"	9947K24	71.37	8389K24	95.17			9660T14	160.62	9660T34	248.21
1 3/4"	2 3/4"	1 15/32"	9947K25	122.97	8389K25	149.74			9660T15	254.10	9660T35	341.69
2"	3"	1 15/32"	9947K26	146.49	8389K26	173.23			9660T16	297.88	9660T36	414.74

Extra-Grip Clamp-On Shaft Collars


One-Piece


Two-Piece

The socket-head cap screws are larger than those found on standard clamp-on collars to provide a stronger grip on your shaft. All collars are black-oxide steel, which offers some corrosion resistance.

One-Piece—Slide onto your shaft and secure with one socket-head cap screw.

Two-Piece—Can be installed anywhere on a shaft without removing components. Tighten the two socket-head cap screws to secure.

For Shaft Dia.	OD	Wd.	One-Piece		Two-Piece	
Inch						
1/8"	1"	3/8"	9951K44	$8.69	8386K44	$12.90
3/16"	1"	3/8"	9951K45	8.69	8386K45	12.90
1/4"	1"	3/8"	9951K31	7.97	8386K31	11.74
5/16"	1"	3/8"	9951K32	8.38	8386K32	12.38
3/8"	1 1/4"	7/16"	9951K33	8.16	8386K33	12.00
7/16"	1 1/4"	7/16"	9951K34	8.76	8386K34	12.82
1/2"	1 5/16"	7/16"	9951K35	8.51	8386K35	12.54
9/16"	1 1/2"	1/2"	9951K36	8.93	8386K36	13.15
5/8"	1 3/4"	1/2"	9951K37	9.35	8386K37	13.59
11/16"	1 3/4"	5/8"	9951K38	9.74	8386K38	14.08
3/4"	2"	5/8"	9951K39	10.20	8386K39	14.56
13/16"	2"	5/8"	9951K41	10.31	8386K41	14.74
7/8"	2 1/8"	5/8"	9951K42	10.02	8386K42	14.36
15/16"	2 1/8"	5/8"	9951K43	10.47	8386K43	14.92
1"	2 1/4"	5/8"	9951K11	9.89	8386K11	13.97
1 1/16"	2 1/4"	5/8"	9951K46	11.71	8386K46	17.00
1 1/8"	2 3/8"	5/8"	9951K12	9.98	8386K12	14.51
1 3/16"	2 3/8"	5/8"	9951K47	11.96	8386K47	18.62
1 1/4"	2 1/2"	5/8"	9951K13	10.22	8386K13	14.82
1 5/16"	2 1/2"	5/8"	9951K48	12.20	8386K48	17.54
1 3/8"	2 3/4"	5/8"	9951K14	10.62	8386K14	15.23
1 7/16"	2 3/4"	5/8"	9951K15	11.13	8386K15	15.90
1 1/2"	2 3/4"	5/8"	9951K16	11.13	8386K16	15.90
1 5/8"	3 1/4"	3/4"	9951K49	18.80	8386K49	27.46
1 3/4"	3 1/4"	3/4"	9951K18	19.71	8386K18	26.64
1 7/8"	3 1/2"	3/4"	9951K51	23.11	8386K51	31.15
1 15/16"	3 1/2"	3/4"	9951K19	20.40	8386K19	27.49
2"	3 1/2"	3/4"	9951K21	20.40	8386K21	27.49
2 3/16"	3 3/4"	3/4"	9951K22	28.40	8386K22	35.08
2 1/4"	3 3/4"	3/4"	9951K23	28.40	8386K23	35.08
2 7/16"	4 1/4"	1"	9951K24	50.58	8386K24	63.87
2 1/2"	4 1/4"	1"	9951K25	50.58	8386K25	63.87
2 3/4"	4 1/2"	1"	9951K52	60.53	8386K52	81.54
2 15/16"	4 3/4"	1"	9951K53	65.07	8386K53	90.10
3"	4 3/4"	1"	9951K26	54.31	8386K26	68.54
3 1/4"	5"	1"	9951K27	59.04	8386K27	74.18
3 1/2"	5 1/4"	1"	9951K28	62.87	8386K28	79.13
4"	6"	1 1/4"	9951K54	95.44	8386K54	122.90

Ultra-Grip Shaft Collars



An embedded sleeve squeezes your shaft as you tighten the multiple socket-head cap screws to ensure a superior grip on your shaft. These collars handle up to three times the thrust loads of standard collars. All are black-oxide steel, which offers some corrosion resistance.

For Shaft Dia.	OD	Wd.		
3/4"	2 1/4"	1 1/2"	9665T1	$85.44
1"	2 3/8"	1 1/2"	9665T2	90.62
1 1/4"	3"	1 1/2"	9665T3	94.86
1 1/2"	3 5/16"	1 1/2"	9665T4	99.88
1 3/4"	4"	1 3/4"	9665T5	108.52
2"	4 1/2"	1 3/4"	9665T6	114.50
2 1/2"	5"	1 3/4"	9665T8	151.20

Easy-Install Set Screw Shaft Collars



A two-piece design lets you install these collars anywhere on an unhardened shaft without removing components. Tighten the two socket-head cap screws to secure, then tighten the set screw to bite into your shaft for a secure hold. Collars are black-oxide steel.

For Shaft Dia.	OD	Wd.		
13/16"	2 1/16"	1/2"	1069N11	$18.52
1 1/2"	2 3/8"	9/16"	1069N12	18.04
1 15/16"	3"	11/16"	1069N13	26.12
2"	3"	11/16"	1069N14	24.16
2 3/16"	3 1/4"	3/4"	1069N15	29.48
2 7/16"	3 1/2"	3/4"	1069N16	29.38
2 1/2"	3 3/4"	7/8"	1069N17	35.60
2 15/16"	4 1/4"	7/8"	1069N18	43.96
3"	4 1/4"	7/8"	1069N19	38.18
3 3/16"	4 1/2"	7/8"	1069N21	70.62
3 7/16"	4 3/4"	7/8"	1069N22	74.24
3 1/2"	4 3/4"	7/8"	1069N23	74.24
3 15/16"	5 1/4"	7/8"	1069N24	102.20
4"	5 1/4"	7/8"	1069N25	102.20
4 7/16"	5 3/4"	7/8"	1069N26	110.80
4 1/2"	5 3/4"	7/8"	1069N27	110.80
4 15/16"	6 1/4"	7/8"	1069N28	128.26
5"	6 1/4"	7/8"	1069N29	128.26

Quick-Release One-Piece Clamp-On Shaft Collars



Installing and removing a collar is as easy as pushing down and lifting up a clamp lever. All are one-piece clamp-on style and have a socket-head cap screw to adjust lever tension. Collars and lever are anodized aluminum, which means they are lightweight with good corrosion resistance.

To Order: Please specify shaft diameter.

Available Sizes For Shaft Dia.	OD	Wd.		
3/8", 1/2", 5/8"	1.5"	0.4"	1511K1	$22.17
3/4", 1", 1 1/8"	2"	0.5"	1511K2	29.60
1 1/4", 1 3/8", 1 1/2"	3"	0.6"	1511K3	44.31

Balanced One-Piece Clamp-On Shaft Collars



Formed to offset the weight of the socket-head cap screw, collars won't wobble or vibrate when shafts are spinning—even at high speeds. Slide a collar onto your shaft and tighten the socket-head cap screw to secure.

Black-oxide steel offers some corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

For Shaft Dia.	O'all Lg.	Wd.	Black-Oxide Steel		Type 303 Stainless Steel	
3/16"	11/16"	5/32"	5890T11	$32.26	5890T22	$36.72
1/4"	13/16"	5/32"	5890T12	24.09	5890T23	28.10
5/16"	13/16"	5/32"	5890T13	28.71	5890T24	33.72
7/16"	1"	5/32"	5890T14	30.29	5890T25	35.14
1/2"	1"	5/32"	5890T15	92.61	5890T26	57.16

Quick-Release Handles for Shaft Collars



If you frequently move collars along shafts, you'll no longer have to search for a wrench to adjust them. Use one of these knurled handles to replace your collar's socket-head cap screw. The handle keeps your collar secure on the shaft, then lets you loosen and tighten the collar for quick adjustments.

Black-oxide steel offers some corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

Screw Size	Screw Lg.	O'all Lg.	Handle Dia.	Black-Oxide Steel		Type 303 Stainless Steel	
4-40	3/8"	3 3/8"	1/2"	9976K11	$7.96	9979K11	$12.96
6-32	3/8"	3 3/8"	1/2"	9976K12	8.02	9979K12	13.02
8-32	1/2"	5 1/8"	1"	9976K13	13.29	9979K13	25.60
10-32	1/2"	5 1/8"	1"	9976K14	13.31	9979K14	25.67
1/4"-28	1/2"	5 1/8"	1"	9976K15	13.37	9979K15	25.60
5/16"-24	1"	5 5/8"	1"	9976K16	13.43	9979K16	26.02

Quick-Connect One-Piece Shaft Collars



Internal ball bearings allow you to slide a collar onto your shaft in one direction and then automatically lock the collar in place in the opposite direction. To adjust or remove, squeeze the end ring in to release the hold.

Zinc-plated steel offers some corrosion resistance. Ball bearings are Type 440C stainless steel. **Type 303 stainless steel** offers excellent corrosion resistance. Ball bearings are Type 440C stainless steel. **ABS plastic** is durable, lightweight, and corrosion resistant. Ball bearings are tungsten carbide.

	Steel and Stainless Steel						*ABS Plastic*			
For Shaft Dia.	OD	Wd.	Zinc-Plated Steel		Type 303 SS		OD	Wd.		
1/4"	0.7"	1"	7747K11	$32.20	6172K11	$42.14	0.7"	1"	6168K11	$32.56
5/16"	0.7"	1"	7747K13	32.20	6172K13	42.14	0.7"	1"	6168K13	32.56
3/8"	0.9"	1.8"	7747K15	37.80	6172K15	44.80	1.1"	1"	6168K15	28.96
7/16"	0.9"	1.8"	7747K17	37.80	6172K17	44.80	1.1"	1"	6168K17	28.96
1/2"	1.1"	1.8"	7747K19	42.00	6172K19	53.20	1.1"	1"	6168K19	31.64
5/8"	1.1"	1.8"	7747K23	42.00	6172K23	53.20	1.4"	1.4"	6168K23	35.24
3/4"	1.2"	1.8"	7747K25	43.40	6172K27	63.00	1.4"	1.4"	6168K27	37.02
7/8"	1.5"	1.8"	7747K27	47.60	6172K29	75.60	1.9"	2"	6168K29	43.08
1"	1.5"	1.8"	7747K29	47.60	6172K31	75.60	1.9"	2"	6168K31	43.08
1 1/4"	2.2"	1.9"	7747K31	53.20	6172K35	84.00	2.2"	1.8"	6168K35	45.67
1 1/2"	2.2"	1.9"	7747K35	53.20	6172K41	84.00	2.2"	1.8"	6168K41	51.19
2"	3"	1.9"	7747K43	63.00	6172K51	126.00	2.7"	2.1"	6168K51	67.03
3"	3.5"	1.9"	7747K47	168.00	6172K59	335.00	3.8"	2"	6168K59	203.54

End-Stop Clamp-On Shaft Collars

The clamp design creates a secure, even grip on the end of precision shafts and rail assemblies with support rails. All collars have one socket-head cap screw; tighten to secure.

Black-oxide steel offers some corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

One-Piece—Slide onto the end of your shaft.

Two-Piece—Can be installed anywhere on a shaft without removing components.

One-Piece



Two-Piece



One-Piece

For Shaft Dia.	OD	Wd.	Black-Oxide Steel		Type 303 Stainless Steel	
1/2"	1 3/8"	3/4"	5700K11	$12.20	5375K11	$21.68
5/8"	1 1/2"	3/4"	5700K12	15.20	5375K12	29.82
3/4"	1 3/4"	7/8"	5700K13	18.57	5375K13	40.80
1"	2"	7/8"	5700K14	19.05	5375K14	42.62
1 1/4"	2 1/2"	1"	5700K15	22.88	5375K15	45.23
1 1/2"	2 3/4"	1"	5700K16	34.58	5375K16	51.23

Two-Piece

For Shaft Dia.	Lg.	Wd.	Ht.	Black-Oxide Steel	
1/2"	1 1/4"	5/8"	2"	9765T1	$31.02
5/8"	1 3/8"	5/8"	2 1/8"	9765T2	31.23
3/4"	1 1/2"	5/8"	2 1/4"	9765T3	31.45
1"	1 3/4"	5/8"	2 1/2"	9765T4	37.02
1 1/4"	2"	5/8"	2 3/4"	9765T5	37.51
1 1/2"	2 1/4"	5/8"	3"	9765T6	37.81

Bearing Locknut Shaft Collars



In addition to fine threads, which provide close engagement on your shaft, collars have a flexible lining that hugs your shaft to lock your bearing in place. They help eliminate the looseness commonly associated with locknuts that use keyways and lock washers, which are not required with these collars. They also allow precise positioning and better squareness of the retaining ring to the bearing face to hold bearings in place. All collars work with SAE, ABEC, and ANSI/ABMA standard products.

Type 303 stainless steel offers excellent corrosion resistance.

Thread Size	OD	Wd.	Steel		Type 303 Stainless Steel	
Inch						
0.391"-32	3/4"	9/32"	6343K11	$5.87	6343K71	$17.91
0.469"-32	7/8"	3/8"	6343K12	6.00	6343K72	16.61
0.586"-32	1"	3/8"	6343K13	6.28	6343K73	17.13
0.664"-32	1 1/8"	13/32"	6343K14	6.55	6343K74	17.61
0.781"-32	1 3/8"	13/32"	6343K15	7.00	6343K75	18.49
0.969"-32	1 9/16"	15/32"	6343K16	7.22	6343K76	21.70
1.173"-18	1 3/4"	15/32"	6343K17	7.52	6343K77	22.49
1.312"-18	2 1/16"	1/2"	6343K18	13.94	6343K78	47.55
1.376"-18	2 1/16"	1/2"	6343K19	10.43	6343K79	26.62
1.563"-18	2 1/4"	1/2"	6343K21	10.88	6343K81	28.77
1.767"-18	2 17/32"	1/2"	6343K22	11.24	6343K82	31.94
1.967"-18	2 11/16"	9/16"	6343K23	11.75	6343K83	36.98
2.157"-18	2 31/32"	9/16"	6343K24	12.33	6343K84	43.67
2.360"-18	3 5/32"	19/32"	6343K25	15.67	6343K85	50.48
2.548"-18	3 3/8"	5/8"	6343K26	18.22	6343K86	56.69

Thread Size	OD	Wd.	Steel		Type 303 Stainless Steel	
Inch (Cont.)						
2.751"-18	3 5/8"	5/8"	6343K27	$21.92	6343K87	$62.40
2.933"-12	3 7/8"	21/32"	6343K28	27.40	6343K88	101.93
3.137"-12	4 1/8"	5/8"	6343K29	33.27	6343K89	141.67
3.918"-12	5 3/16"	13/16"	6343K31	66.55	6343K91	286.77
4.716"-12	6 1/8"	15/16"	6343K32	113.62	6343K92	451.45
Metric—Dimensions in mm						
M10 x 0.75	18	7	6343K42	6.27	6343K94	17.12
M12 x 1.0	22	8	6343K33	6.60	6343K95	18.08
M15 x 1.0	25	8.5	6343K34	7.10	6343K96	19.35
M20 x 1.0	32	10	6343K35	8.12	6343K97	22.25
M22 x 1.0	34	10.5	6343K36	8.62	6343K98	23.53
M25 x 1.5	38	11	6343K37	8.62	6343K69	23.37
M30 x 1.5	45	11.5	6343K38	9.13	6343K68	24.97
M35 x 1.5	52	12	6343K39	9.65	6343K67	26.23
M50 x 1.5	70	13	6343K41	12.68	6343K66	34.72

Inch-to-Metric Two-Piece Clamp-On Shaft Collars



An inch bore with a metric OD, width, and screw size solves the problem of inch-sized shafts used with metric equipment. Collars can be installed anywhere on a shaft without removing components. Tighten the two socket-head cap screws to secure.

Black-oxide steel offers some corrosion resistance. **Black anodized aluminum** is lightweight with good corrosion resistance. **Type 303 stainless steel** offers excellent corrosion resistance.

For Shaft Dia.	OD, mm	Wd., mm	Black-Oxide Steel		Black Anodized Aluminum		Type 303 Stainless Steel	
3/8"	24	9	9644T3	$7.58	9638T3	$12.72	9648T3	$14.30
1/2"	30	11	9644T5	8.57	9638T5	13.28	9648T5	19.15
5/8"	34	13	9644T6	8.82	9638T6	14.27	9648T6	21.10
3/4"	40	15	9644T7	10.72	9638T7	16.32	9648T7	26.77
7/8"	42	15	9644T8	13.05	9638T8	18.52	9648T8	29.40
1"	45	15	9644T11	13.05	9638T11	18.52	9648T11	29.40
1 1/4"	54	15	9644T13	13.32	9638T13	23.45	9648T13	35.90
1 1/2"	60	15	9644T16	16.35	9638T16	27.35	9648T16	56.40

About Shaft Couplings

Couplings connect two shafts and transfer motion from one to the other. There are two types of couplings: rigid and flexible.

Rigid couplings connect two shafts that are aligned. They are also good for handling high-torque applications.

Flexible couplings connect two shafts that are misaligned. Use the chart below as a guide to select the right coupling for your application. For actual performance ratings, please see the individual products. For applications that need to handle higher misalignment than what is listed below, see U-joints (pages 1243-1245).

Type of Shaft Misalignment	Amount of Misalignment	Couplings Best Suited for Starting and Stopping or Forward and Reverse Motion	Couplings Best Suited for Continuous Motion
Rigid Couplings			
 None	None	Set Screw ... pg. 1234 One-Piece ... pgs. 1235-1236 Two-Piece ... pgs. 1235-1236	Set Screw ... pg. 1234 One-Piece ... pgs. 1235-1236 Two-Piece ... pgs. 1235-1236
Flexible Couplings			
 Parallel	Less than 0.02″	Standard Replaceable-Center ... pg. 1237 Zero-Backlash Replaceable-Center ... pg. 1238 Replaceable-Center Slotted-Disc ... pg. 1239 Servomotor ... pg. 1239 Helical ... pg. 1240 High-Speed Bellows ... pg. 1241	Heavy Duty Replaceable-Center ... pg. 1242 Heavy Duty High-Torque ... pg. 1242 Heavy Duty High-Torque Replaceable-Center ... pg. 1242 Over-Torque-Prevention ... pg. 1243
	0.02″ to 0.125″	Quick-Install Replaceable-Center ... pg. 1237 High-Misalignment Replaceable-Center ... pg. 1239 High-Precision Bellows ... pg. 1240 Ultra-Flexible High-Misalignment ... pg. 1241	Over-Torque-Prevention Vibration-Damping ... pg. 1241 Replaceable-Center Vibration-Damping ... pg. 1241
 Angular	Less than 1.5°	Standard Replaceable-Center ... pg. 1237 Replaceable-Center Slotted-Disc ... pg. 1239 Servomotor ... pg. 1239	Heavy Duty Replaceable-Center ... pg. 1242 Heavy Duty High-Torque Replaceable-Center ... pg. 1242
	1.5° to 15°	Quick-Install Replaceable-Center ... pg. 1237 High-Misalignment Replaceable-Center ... pg. 1239 Helical ... pg. 1240 High-Precision Bellows ... pg. 1240 High-Speed Bellows ... pg. 1241 Ultra-Flexible High-Misalignment ... pg. 1241	Over-Torque-Prevention Vibration-Damping ... pg. 1241 Replaceable-Center Vibration-Damping ... pg. 1241 Over-Torque-Prevention ... pg. 1243
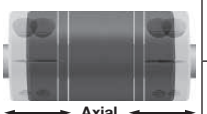 Axial	Less than 0.1″	Servomotor ... pg. 1239 Helical; High-Precision Bellows ... pg. 1240 High-Speed Bellows ... pg. 1241	Heavy Duty High-Torque Replaceable-Center ... pg. 1242
	0.1″ to 0.32″	Heavy Duty Replaceable-Center ... pg. 1242	Replaceable-Center Vibration-Damping ... pg. 1241 Heavy Duty Replaceable-Center ... pg. 1242

Make Sure the Couplings You Have Selected Can Handle Your Torque and RPM Requirements

Couplings are rated by maximum torque and maximum rpm. Use this formula to determine the maximum torque you need:

$$\text{Max. Torque (in.-lbs.)} = \frac{\text{hp} \times 63{,}000}{\text{rpm}}$$

Set Screw Rigid Shaft Couplings CAD


Without Keyway

Slide a coupling onto your shafts and tighten the two set screws, which bite into the shafts for a tight hold. When used with a key on a keyed shaft, couplings *with keyway* provide a more secure hold. They have standard ANSI keyway dimensions.

Black-oxide steel offers some corrosion resistance. Max. rpm is 3,450 for shaft dia. up to 3/4″; 1,740 for all others. **Aluminum** is lightweight with good corrosion resistance. Max. rpm is 2,025 for shaft dia. up to 3/4″; 1,020 for all others. **Type 303 stainless steel** offers excellent corrosion resistance. Max. rpm is 3,450 for shaft dia. up to 3/4″; 1,740 for all others.

Also Available: Metric sizes of black-oxide steel and Type 303 stainless steel couplings. Please ask for 5395T888 and specify black-oxide steel or Type 303 stainless steel, for shaft diameter, and with or without ISO-DIN keyway.

For Shaft Dia.	Lg.	OD	*Black-Oxide Steel* — With Keyway: Max. Torque, in.-lbs.			*Black-Oxide Steel* — Without Keyway: Max. Torque, in.-lbs.			*Aluminum* — Without Keyway: Max. Torque, in.-lbs.			*Type 303 Stainless Steel* — With Keyway: Max. Torque, in.-lbs.			*Type 303 Stainless Steel* — Without Keyway: Max. Torque, in.-lbs.		
3/16″	3/4″	1/2″				52	6412K9	$5.88	30	2424K9	$8.59				52	6099K11	$20.03
1/4″	3/4″	1/2″				69	6412K11	7.10	40	2424K11	7.90				43	6099K21	14.39
5/16″	1″	5/8″				86	6412K12	8.00	50	2424K12	8.90				54	6099K22	16.61
3/8″	1″	3/4″	175	6412K8	$13.25	175	6412K13	8.80	105	2424K13	9.85	175	6099K29	$23.17	110	6099K23	17.02
1/2″	1 1/2″	1″	470	6412K41	13.62	235	6412K14	10.05	140	2424K14	10.95	470	6099K41	31.07	145	6099K24	21.78
5/8″	2″	1 1/4″	1,185	6412K42	16.75	465	6412K15	12.57	275	2424K15	14.34	1,185	6099K42	44.98	290	6099K25	31.22
3/4″	2″	1 1/2″	1,420	6412K43	18.93	560	6412K16	14.20	330	2424K16	16.37	1,420	6099K43	55.63	350	6099K26	38.41
7/8″	2″	1 3/4″	1,660	6412K44	23.43	655	6412K17	18.32	385	2424K17	21.02	1,660	6099K44	66.73	410	6099K27	45.98
1″	3″	2″	3,785	6412K45	27.25	750	6412K18	20.35	440	2424K18	24.27	3,785	6099K45	102.73	465	6099K28	72.07
1 1/8″	3″	2 1/8″				1,180	6412K31	30.50	695	2424K19	35.15				735	6099K46	71.10
1 1/4″	4″	2 1/4″	6,310	6412K47	37.75	1,310	6412K32	37.60	770	2424K21	43.20	6,310	6099K47	167.68	815	6099K48	87.63
1 3/8″	4 1/2″	2 1/2″				1,440	6412K33	52.98	845	2424K22	59.98				900	6099K49	120.85
1 1/2″	4 1/2″	2 1/2″				1,575	6412K34	77.30	925	2424K23	91.20				980	6099K51	184.00

One-Piece Clamp-On Rigid Shaft Couplings

Designed to grip evenly around shafts, clamp-on couplings provide more holding power than set screw shaft couplings without marring the shafts. Slide a coupling onto your shafts and tighten the four socket-head cap screws to secure. When used with a key on a keyed shaft, couplings *with keyway* provide a more secure hold. They have standard ANSI inch or ISO-DIN metric keyway dimensions.

Type 303 stainless steel offers excellent corrosion resistance.



With Keyway

For Shaft Dia. (A)	For Shaft Dia. (B)	Lg.	OD	Max. rpm	Steel: Max. Torque, in.-lbs.	Steel: With Keyway		Steel: Without Keyway		Type 303 Stainless Steel: Max. Torque, in.-lbs.	Type 303 Stainless Steel: With Keyway		Type 303 Stainless Steel: Without Keyway	
Inch														
1/8"	1/8"	1 11/16"	1 11/16"	3,000	25			61005K191	$20.84	19			61005K192	$35.51
3/16"	3/16"	7/8"	9/16"	4,000	200			61005K1	25.95	105			61005K4	44.19
1/4"	3/16"	1"	5/8"	4,000	200			61005K2	27.49	105			61005K5	46.78
1/4"	1/4"	1"	5/8"	4,000	200			61005K311	25.76	105			61005K411	44.16
5/16"	5/16"	1 3/8"	7/8"	4,000	450			61005K3	30.51	240			61005K6	46.81
3/8"	1/4"	1 3/8"	7/8"	4,000	450			61005K511	38.22	240			61005K633	57.43
3/8"	3/8"	1 3/8"	7/8"	4,000	450	61005K111	$37.92	61005K322	31.24	240	61005K211	$59.76	61005K422	48.41
1/2"	3/8"	1 3/4"	1 1/8"	4,000	950			61005K522	40.54	540			61005K644	69.49
1/2"	1/2"	1 3/4"	1 1/8"	4,000	950	61005K122	41.73	61005K331	33.41	540	61005K221	75.35	61005K433	59.30
5/8"	1/2"	2"	1 5/16"	4,000	1,600			61005K533	48.78	950			61005K655	94.95
5/8"	5/8"	2"	1 5/16"	4,000	1,600	61005K133	50.73	61005K344	40.81	950	61005K233	103.95	61005K441	82.24
3/4"	5/8"	2 1/4"	1 1/2"	4,000	3,200			61005K544	55.97	2,000			61005K661	111.16
3/4"	3/4"	2 1/4"	1 1/2"	4,000	3,200	61005K144	58.76	61005K355	47.30	2,000	61005K244	122.32	61005K451	96.86
7/8"	7/8"	2 1/2"	1 5/8"	4,000	3,600	61005K155	67.49	61005K366	55.62	2,300	61005K255	146.35	61005K466	115.35
1"	1/2"	3"	1 3/4"	4,000	4,000			61005K551	63.68	2,500			61005K677	143.97
1"	3/4"	3"	1 3/4"	4,000	4,000			61005K561	63.68	2,500			61005K688	143.97
1"	1"	3"	1 3/4"	4,000	4,000	61005K166	66.08	61005K377	54.32	2,500	61005K266	160.62	61005K477	126.32
1 1/8"	1 1/8"	3 1/8"	1 7/8"	4,000	4,400	61005K177	77.51	61005K388	62.59	2,800	61005K277	203.62	61005K488	158.84
1 3/16"	1"	3 1/4"	2 1/16"	4,000	5,000			61005K85	102.46	3,200			61005K91	209.60
1 3/16"	1 3/16"	3 1/4"	2 1/16"	4,000	5,000	61005K95	99.73	61005K84	81.73	3,200	61005K7	228.55	61005K89	196.95
1 1/4"	1"	3 1/4"	2 1/16"	4,000	5,000			61005K577	81.03	3,200			61005K699	210.08
1 1/4"	1 1/4"	3 1/4"	2 1/16"	4,000	5,000	61005K188	86.54	61005K399	69.89	3,200	61005K288	219.32	61005K499	185.70
1 3/8"	1 3/8"	3 5/8"	2 1/2"	4,000	9,600	61005K755	110.51	61005K766	92.22	8,100	61005K771	257.18	61005K788	237.47
1 7/16"	1"	3 7/8"	2 5/8"	4,000	6,800			61005K87	134.81	4,000			61005K93	273.00
1 7/16"	1 7/16"	3 7/8"	2 5/8"	4,000	6,800	61005K96	136.46	61005K86	114.70	4,000	61005K8	272.69	61005K92	252.97
1 1/2"	1 1/2"	3 7/8"	2 5/8"	4,000	6,800	61005K611	115.97	61005K588	95.89	4,000	61005K733	262.04	61005K711	242.00
1 3/4"	1 3/4"	4 1/2"	3 1/8"	4,000	18,000	61005K799	199.16	61005K811	166.86	15,000	61005K822	355.50	61005K833	340.24
1 15/16"	1 15/16"	4 7/8"	3 3/8"	4,000	13,600	61005K97	252.88	61005K88	211.22	8,200	61005K9	463.18	61005K94	427.96
2"	2"	4 7/8"	3 3/8"	4,000	13,600	61005K622	219.07	61005K599	198.78	8,200	61005K744	422.36	61005K722	359.00
Metric—Dimensions in mm														
6	6	30	18	4,000	300			2469K1	29.11	89			2469K12	49.50
8	6	35	24	4,000	440			2469K21	44.34	140			2469K13	69.82
8	8	35	24	4,000	440	2469K71	46.05	2469K2	35.42	140	2469K61	71.97	2469K14	54.18
10	6	45	29	4,000	925			2469K22	52.89	280			2469K15	88.26
10	10	45	29	4,000	925	2469K72	50.71	2469K3	37.74	280	2469K62	90.74	2469K16	66.42
12	10	45	29	4,000	925			2469K23	52.89	280			2469K17	88.26
12	12	45	29	4,000	925	2469K73	50.71	2469K4	37.74	280	2469K63	90.74	2469K18	66.42
14	14	50	34	4,000	1,770	2469K74	61.68	2469K5	46.16	530	2469K64	125.16	2469K19	92.11
15	15	50	34	4,000	1,770	2469K75	61.68	2469K6	46.16	530	2469K65	125.16	2469K27	92.11
16	16	50	34	4,000	1,770	2469K76	61.68	2469K7	46.16	530	2469K66	125.16	2469K28	92.11
20	12	65	42	4,000	3,095			2469K52	66.89	970			2469K29	138.82
20	20	65	42	4,000	3,095	2469K77	73.76	2469K8	56.58	970	2469K67	166.55	2469K31	118.61
25	20	75	45	4,000	3,540			2469K53	70.63	1,060			2469K32	153.26
25	25	75	45	4,000	3,540	2469K78	78.37	2469K9	58.79	1,060	2469K68	180.87	2469K33	130.68
30	20	83	53	4,000	4,200			2469K54	93.16					
30	25	83	53	4,000	4,200			2469K55	93.16	1,325			2469K34	219.39
30	30	83	53	4,000	4,200	2469K79	105.21	2469K11	78.95	1,325	2469K69	268.32	2469K35	198.39

Machinable-Bore One-Piece Clamp-On Rigid Shaft Couplings

One end (A) has a finished shaft diameter size; the other (B) can be machined to any size up to the size of (A). Couplings are steel and are not rated for maximum rpm. All are clamp-on style for excellent holding power without marring your shafts. Slide a coupling onto your shafts and tighten the four socket-head cap screws to secure.



For Shaft Dia. (A)	For Shaft Dia. (B)	Lg.	OD	Max. Torque, in.-lbs.		
1/2"	0.235"-0.500"	1 7/8"	1 1/4"	285	3084K31	$30.51
5/8"	0.235"-0.625"	2 1/4"	1 1/2"	490	3084K32	31.54
3/4"	0.235"-0.750"	2 5/8"	1 3/4"	1,130	3084K33	40.54
7/8"	0.235"-0.875"	2 7/8"	1 7/8"	1,320	3084K47	42.00
1"	0.360"-1.000"	3"	2"	1,510	3084K34	43.00
1 1/8"	0.360"-1.125"	3 1/4"	2 1/8"	1,695	3084K48	47.05
1 1/4"	0.360"-1.250"	3 3/8"	2 1/4"	1,885	3084K35	48.28
1 3/8"	0.360"-1.375"	3 5/8"	2 3/8"	2,080	3084K49	50.64
1 1/2"	0.485"-1.500"	3 3/4"	2 1/2"	2,265	3084K36	51.95
1 3/4"	0.485"-1.750"	4 1/2"	3"	4,220	3084K51	63.36
2"	0.485"-2.000"	4 7/8"	3 1/4"	4,825	3084K52	74.26

Extra-Long Two-Piece Clamp-On Rigid Shaft Couplings

When your shafts are not close enough to use standard couplings, these have the length to bridge the gap. Couplings are cast iron and have a keyway with standard ANSI keyway dimensions (unless noted) to provide a more secure hold on keyed shafts. Couplings have a two-piece design, which offers superior holding power without marring your shaft. Tighten the six bolts (unless noted) to secure.



Available Sizes For Shaft Dia. (A)	Lg.	OD	Max. rpm	Max. Torque, in.-lbs.		
1 3/16", 1 1/4"	6 1/4"	4 1/4"	5,360	2,000	6417K1■	$221.89
1 3/8", 1 7/16", 1 1/2"	7 1/8"	4 1/2"	4,130	3,500	6417K2▲	242.33
1 11/16", 1 3/4"	8 1/4"	5 1/8"	3,965	5,500	6417K3	286.12
1 15/16", 2"	8 5/8"	5 1/2"	3,635	8,500	6417K4	338.68
2 3/16", 2 1/4"	9 5/16"	5 3/4"	3,180	12,000	6417K5	397.07
2 7/16"	9 7/8"	6 1/4"	2,965	17,000	6417K16	470.06
2 1/2"	9 7/8"	6 1/4"	2,965	17,000	6417K19	540.13
2 11/16", 2 3/4"	10 7/8"	7 1/4"	2,830	21,000	6417K6	557.65
2 15/16", 3"	12"	7 1/4"	2,545	29,000	6417K7	659.84

■ Has four bolts. ▲Keyway for 1 3/8" shaft dia. is 3/8" Wd. x 3/16" Dp.

Two-Piece Clamp-On Rigid Shaft Couplings



With Keyway

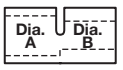

The two-piece design offers superior holding power without marring your shafts. Tighten the eight socket-head cap screws to secure. When used with a key on a keyed shaft, couplings *with keyway* provide a more secure hold. They have standard ANSI inch or ISO-DIN metric keyway dimensions.

Type 303 stainless steel offers excellent corrosion resistance.

For Shaft Dia. (A)	For Shaft Dia. (B)	Lg.	OD	Max. rpm	Steel: Max. Torque, in.-lbs.	Steel: With Keyway		Steel: Without Keyway		Type 303 Stainless Steel: Max. Torque, in.-lbs.	Type 303 Stainless Steel: With Keyway		Type 303 Stainless Steel: Without Keyway	
Inch														
1/4"	1/4"	1"	5/8"	4,000	200	_____	____	60845K31	$37.17	60	_____	____	60845K41	$59.63
3/8"	1/4"	1 3/8"	7/8"	4,000	475	60845K52★	$96.44	60845K51	51.27	145	60845K71★	$135.20	60845K81	73.71
3/8"	3/8"	1 3/8"	7/8"	4,000	475	60845K11	53.29	60845K32	43.29	145	60845K21	75.98	60845K42	63.39
1/2"	3/8"	1 3/4"	1 1/8"	4,000	950	60845K53	81.41	60845K54	56.98	275	60845K72	115.71	60845K82	88.49
1/2"	1/2"	1 3/4"	1 1/8"	4,000	950	60845K12	60.54	60845K33	48.46	275	60845K22	90.32	60845K43	76.73
5/8"	1/2"	2"	1 5/16"	4,000	1,600	60845K55	105.24	60845K56	65.07	475	60845K73	155.76	60845K83	116.17
5/8"	5/8"	2"	1 5/16"	4,000	1,600	60845K13	68.22	60845K34	55.76	475	60845K23	121.54	60845K44	101.71
3/4"	5/8"	2 1/4"	1 1/2"	4,000	3,200	60845K57	110.46	60845K58	67.71	950	60845K74	182.61	60845K84	137.07
3/4"	3/4"	2 1/4"	1 1/2"	4,000	3,200	60845K14	71.44	60845K35	58.22	950	60845K24	143.39	60845K45	120.56
7/8"	7/8"	2 1/2"	1 5/8"	4,000	3,600	60845K15	90.51	60845K36	71.44	1,100	60845K25	172.34	60845K46	144.80
1"	1/2"	3"	1 3/4"	4,000	4,000	60845K59	120.59	60845K61	78.51	1,200	60845K75	232.83	60845K85	174.17
1"	3/4"	3"	1 3/4"	4,000	4,000	60845K62	120.59	60845K63	78.51	1,200	60845K76	232.83	60845K86	174.17
1"	1"	3"	1 3/4"	4,000	4,000	60845K16	88.85	60845K37	67.88	1,200	60845K26	183.20	60845K47	153.93
1 1/8"	1 1/8"	3 1/8"	1 7/8"	4,000	4,400	60845K17	113.93	60845K38	93.07	1,325	60845K27	237.56	60845K48	205.05
1 1/4"	1"	3 1/4"	2 1/16"	4,000	5,000	60845K64	158.88	60845K65	115.24	1,500	60845K77	338.54	60845K87	253.80
1 1/4"	1 1/4"	3 1/4"	2 1/16"	4,000	5,000	60845K18	122.83	60845K39	101.02	1,500	60845K28	267.95	60845K49	225.78
1 3/8"	1 3/8"	3 5/8"	2 1/2"	4,000	6,400	60845K911	136.17	60845K921	111.54	2,900	60845K931	408.61	60845K941	358.07
1 1/2"	1 1/2"	3 7/8"	2 5/8"	4,000	6,800	60845K66	140.66	60845K67	115.46	3,100	60845K78	416.37	60845K88	364.80
1 3/4"	1 3/4"	4 1/2"	3 1/8"	4,000	12,300	60845K951	212.68	60845K961	183.41	5,500	60845K971	461.08	60845K981	411.80
2"	2"	4 7/8"	3 3/8"	4,000	13,600	60845K68	248.20	60845K69	212.17	6,100	60845K79	511.98	60845K89	499.80
Metric—Dimensions in mm														
6	6	30	18	4,000	300	_____	____	6508T51	48.20	89	_____	____	6508T31	69.93
8	8	35	24	4,000	440	6508T21	69.12	6508T52	56.15	140	6508T71	92.85	6508T32	77.20
10	10	45	29	4,000	925	6508T22	78.54	6508T53	62.85	280	6508T72	110.95	6508T33	94.07
12	12	45	29	4,000	925	6508T23	78.54	6508T54	62.85	280	6508T73	110.95	6508T34	94.07
15	15	50	34	4,000	1,770	6508T25	88.37	6508T56	72.27	530	6508T75	148.29	6508T36	123.02
16	16	50	34	4,000	1,770	6508T26	88.37	6508T57	72.27	530	6508T76	148.29	6508T37	123.02
20	20	65	42	4,000	3,095	6508T27	105.51	6508T58	83.29	970	6508T77	202.63	6508T38	166.44
25	25	75	45	4,000	3,540	6508T28	115.22	6508T59	87.95	1,060	6508T78	223.12	6508T39	182.05
30	30	83	53	4,000	4,200	6508T29	159.17	6508T61	130.93	1,325	6508T79	335.51	6508T41	280.66

★ Diameter (B) does not have a keyway.

Light Duty Two-Piece Clamp-On Rigid Shaft Couplings



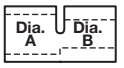

Light in weight with good corrosion resistance, couplings are made of aluminum. All have a two-piece design, which offers superior holding power without marring your shafts. Tighten the four socket-head cap screws to secure.

Available Size Combinations For Shaft Dia. (A) × For Shaft Dia. (B)	Lg.	OD	Max. rpm	Max. Torque, in.-lbs.		
1/4"×1/4", 1/4"×3/8", 3/8"×3/8"	2 1/2"	1 7/8"	3,450	100	6115K2	$20.11
1/2"×1/2", 1/2"×5/8", 1/2"×3/4", 5/8"×5/8", 5/8"×3/4"	2 1/2"	1 7/8"	3,450	150	6115K3	20.11
3/4"×3/4", 3/4"×7/8", 3/4"×1", 7/8"×7/8", 7/8"×1"	2 1/2"	1 7/8"	3,450	250	6115K4	20.11
1"×1", 1 1/8"×1 1/8"	2 1/2"	1 7/8"	3,450	500	6115K5	20.11

High-Grip Clamp-On Rigid Shaft Couplings



One-Piece With Keyway



Two-Piece Without Keyway

With the gripping strength to handle higher torque than most other rigid couplings, these are great for maintaining shaft alignment. All are made of steel.

When used with a key on a keyed shaft, couplings **with keyway** provide a more secure hold. They have standard ANSI keyway dimensions. Couplings **without keyway** have more screws for a secure hold.

One-Piece—Slide onto your shafts and secure with socket-head cap screws (four on couplings with keyway; six on couplings without keyway).

Two-Piece—Offer superior holding power without marring your shafts. Tighten the socket-head cap screws to secure (six on couplings with keyway; 12 on couplings without keyway).

For Shaft Dia.	Lg.	OD	Max. rpm	One-Piece: Max. Torque, in.-lbs.			Two-Piece: Max. Torque, in.-lbs.		
With Keyway									
1/2"	1 7/8"	1 1/4"	8,000	465	9800T1	$42.39	465	9800T11	$68.20
5/8"	2 1/4"	1 1/2"	7,500	1,040	9800T2	47.56	1,040	9800T12	75.59
3/4"	2 5/8"	1 3/4"	7,000	1,475	9800T3	54.46	1,475	9800T13	77.68
1"	3"	2"	5,000	3,000	9800T4	59.85	3,000	9800T14	90.73
1 1/2"	3 3/4"	2 1/2"	5,000	8,445	9800T6	96.41	8,445	9800T16	141.68
Without Keyway									
3/4"	3 1/2"	2"	7,000	2,710	9799T1	76.17	3,250	9799T11	110.86
7/8"	3 3/4"	2 1/8"	6,000	3,165	9799T2	79.48	3,790	9799T12	113.21
1"	4"	2 1/4"	5,000	3,610	9799T3	81.90	4,330	9799T13	115.67
1 1/4"	4 1/2"	2 1/2"	5,000	4,510	9799T4	118.29	5,420	9799T14	158.60
1 1/2"	5"	2 3/4"	5,000	5,420	9799T5	132.29	6,500	9799T15	172.60
2"	6"	3 1/2"	3,500	10,955	9799T6	176.21	13,150	9799T16	233.07
2 1/4"	6 1/2"	3 3/4"	3,500	12,320	9799T7	187.07	14,795	9799T17	244.19
2 1/2"	8"	4 1/4"	3,500	13,690	9799T8	240.83	16,440	9799T18	323.29

Replaceable-Center Flexible Shaft Couplings

Also known as Lovejoy couplings, these have a spider-shaped cushion between two hubs to reduce shock and handle minor shaft misalignment.

Standard

To create a complete coupling, order two coupling hubs and one spider from the same line in the listing below.

Iron and **Type 303 stainless steel coupling hubs** fasten to your shafts with an included set screw, which bites into your shafts for a tight hold. Hubs with a shaft dia. size of 1/2" and above as well as all metric sizes have a keyway (unless noted) that, when used with a key on a keyed shaft, provides a more secure hold. They have standard ANSI or ISO-DIN keyway dimensions. *Type 303 stainless steel hubs* offer excellent corrosion resistance.

Aluminum coupling hubs are lightweight with good corrosion resistance. They fasten onto your shafts for superior holding power without damaging them. Tighten the socket-head cap screws to secure.

Buna-N spiders provide good vibration damping and chemical resistance. They handle parallel misalignment up to 0.015"; angular misalignment up to 1°. Temp. range is –40° to 212° F.

Hytrel spiders provide fair vibration damping and excellent chemical resistance. They handle parallel misalignment up to 0.015" (unless noted); angular misalignment up to 1/2° (unless noted). Temp. range is –55° to 245° F.

Urethane spiders provide fair vibration damping and good chemical resistance. They handle parallel misalignment up to 0.015" (unless noted); angular misalignment up to 1°. Temp. range is –30° to 160° F.

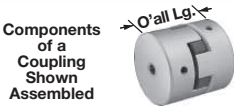

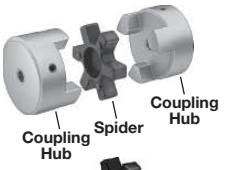









O'all Lg.	OD	Available Sizes For Shaft Dia.	Coupling Hubs (2 Required for Complete Coupling)		Buna-N Spiders Max. rpm	Buna-N Spiders Max. Torque, in.-lbs.	Buna-N Spiders		Hytrel and Urethane Spiders Max. rpm	Hytrel Max. Torque, in.-lbs.	Hytrel		Urethane Max. Torque, in.-lbs.	Urethane	
Iron Coupling Hubs—Inch sizes available in 1/16" increments															
13/16"	5/8"	1/8" to 3/8"	6408K9	$4.14	31,000	3	6408K61	$1.89	—	—	—	—	—	—	—
1 23/32"	1 5/64"	1/4" to 5/8"; 9, 10, 11, 12, 14, 15, 16 mm	6408K11★	3.78	18,000	26	6408K84	2.47	18,000	50	6408K91■	$8.25	—	—	—
1 63/64"	1 23/64"	1/4" to 3/4"; 10, 11, 12, 14, 16, 19 mm	6408K12	5.89	14,000	43	6408K73	3.50	3,600	110	6408K93	11.64	—	—	—
2 1/8"	1 3/4"	1/4" to 7/8"; 12, 14, 15, 16, 19, 20, 22 mm	6408K13	6.75	11,000	90	6408K74	5.94	3,600	225	6408K94	17.50	135	2410K11	$9.22
2 5/32"	2 7/64"	1/4" to 1"; 12, 14, 15, 16, 18, 19, 20, 22, 24 mm	6408K14	10.37	9,000	140	6408K75	7.72	3,600	400	6408K95	23.31	290	2410K13	13.28
2 1/2"	2 7/64"	7/16" to 1 1/8"; 19, 20, 24, 25, 28 mm	6408K15	15.97	9,000	140	6408K75	7.72	3,600	400	6408K95	23.31	290	2410K13	13.28
2 27/32"	2 35/64"	7/16" to 1 3/16"; 22, 24, 28 mm	6408K16	20.17	7,000	315	6408K77	16.19	3,600	790	6408K96	55.53	625	2410K15	34.92
3 31/64"	2 35/64"	7/16" to 1 3/8"; 24, 25, 28, 30 mm	6408K17	29.86	7,000	315	6408K77	16.19	3,600	790	6408K96	55.53	625	2410K15	34.92
4 7/32"	3 21/64"	5/8" to 1 5/8"; 19, 20, 24, 25, 28, 30, 32, 38 mm	6408K18	40.83	5,000	790	6408K79	18.67	3,600	2,265	6408K97■	67.17	1,185	2410K17	66.28
4 1/2"	3 3/4"	5/8" to 1 7/8"; 24, 38, 42 mm	6408K19	52.22	5,000	1,240	6408K81	32.42	3,600	3,705	6408K98■	80.72	1,860	2410K19	80.19
4 7/8"	4 1/2"	3/4" to 2 1/8"	6408K21	96.31	5,000	1,725	6408K82	39.83	5,000	4,680	6408K99■	95.14	—	—	—
5 11/32"	5"	3/4" to 2 5/8"	6408K22	107.53	4,200	2,340	6408K62	42.36	4,200	6,225	6408K64■	121.19	—	—	—
Aluminum Coupling Hubs															
0.87"	0.55"	1/8", 3/16", 1/4"	2401K12	35.70	—	—	—	—	27,000	42	2401K82▲	9.65	21	2401K81♣	4.23
1.18"	0.79"	3/16", 1/4", 5/16", 3/8"	2401K13	29.70	—	—	—	—	19,000	105	2401K84▲	12.40	53	2401K83♣	5.07
1.34"	0.98"	3/16", 1/4", 5/16", 3/8", 7/16"	2401K14	46.33	—	—	—	—	15,200	210	2401K86▲	21.72	89	2401K85♣	22.14
1.38"	1.18"	3/16", 1/4", 3/8", 1/2", 5/8"	2401K15	32.40	—	—	—	—	12,700	280	2401K88▲	13.19	130	2401K87♣	8.26
Type 303 Stainless Steel Coupling Hubs															
2 1/8"	1 3/4"	1/4", 1/2", 5/8", 3/4", 7/8"	2306K13	60.24	11,000	90	6408K74	5.94	3,600	225	6408K94	17.50	135	2410K11	9.22
2 1/2"	2 7/64"	1/2", 5/8", 3/4", 1", 1 1/8"	2306K14	74.69	9,000	140	6408K75	7.72	3,600	400	6408K95	23.31	290	2410K13	13.28
3 31/64"	2 35/64"	3/4", 7/8", 1", 1 1/8", 1 3/8"	2306K16	87.93	7,000	315	6408K77	16.19	3,600	790	6408K96	55.53	625	2410K15	34.92
4 7/32"	3 21/64"	1", 1 1/8", 1 3/8", 1 1/2", 1 5/8"	2306K18	165.02	5,000	790	6408K79	18.67	3,600	2,265	6408K97	67.17	1,185	2410K17	66.28

★ Coupling hub for 5/8" shaft dia. does not have a keyway. ■ Spider has a solid center.
▲ Handles parallel misalignment up to 0.002"; angular misalignment up to 0.8°. ♣ Handles parallel misalignment up to 0.004".

Quick Install

Installing and replacing split spiders is quicker and easier than standard spiders—there's no need for tools or removing your hubs. To create a complete coupling, order two standard coupling hubs (shown above) and then add one split spider and one retaining ring that will fit the OD of the hubs you have selected.

Split spiders are urethane and provide fair vibration damping and good chemical resistance. They handle parallel misalignment up to 0.03"; angular misalignment up to 2°. Temp. range is –30° to 200° F.

Retaining rings twist-lock the split spider in place. They are Type 347 stainless steel for excellent corrosion resistance.

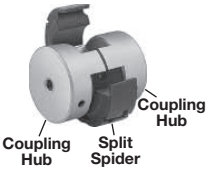

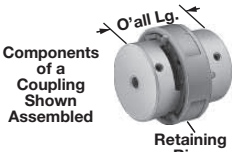

For Coupling OD	Split Spiders Max. rpm	Split Spiders Max. Torque, in.-lbs.			Retaining Rings OD	Retaining Rings Wd.		
2 7/64"	9,200	670	2393K33	$44.61	2 3/4"	0.83"	2393K23	$37.25
2 35/64"	7,700	1,110	2393K34	55.83	3 3/16"	1.21"	2393K24	46.42
3 21/64"	5,900	2,180	2393K35	71.69	4"	1.45"	2393K25	63.25

Replaceable-Center Splined-Hub Flexible Shaft Couplings



Components of a Coupling Shown Assembled





Splined-Hub Dimensions

SAE Size	Dia. (X)	Dia. (Y)	SAE Size	Dia. (X)	Dia. (Y)
A	5/8"	0.509"	C	1 1/4"	1.087"
B	7/8"	0.754"	D	1 3/4"	1.506"
B-B	1"	0.877"	E	1 3/4"	1.506"

Splined coupling hubs fit snugly onto splined shafts that are often found in hydraulic motor and pump applications, while a spider-shaped cushion reduces shock and compensates for minor shaft misalignment. To create a complete coupling, order two coupling hubs and one spider from the same line in the listing below.

Coupling hubs have splines with a 1/2" pitch and 30° pressure angle. Hubs are cast iron and fasten onto your shafts for superior holding power without damaging them. Tighten the socket-head cap screws to secure.

Buna-N spiders provide good vibration damping and chemical resistance. They handle parallel misalignment up to 0.015"; angular misalignment up to 1°. Temperature range is –40° to 212° F.

Hytrel spiders provide fair vibration damping and excellent chemical resistance. They handle parallel misalignment up to 0.015"; angular misalignment up to 1/2°. Temperature range is –55° to 245° F.

Urethane spiders provide fair vibration damping and good chemical resistance. They handle parallel misalignment up to 0.015"; angular misalignment up to 1°. Temperature range is –30° to 160° F.

		Coupling Hubs (2 Required for Complete Coupling)			*Buna-N Spiders*			*Hytrel and Urethane Spiders*					
									Hytrel			Urethane	
O'all Lg.	OD	Available SAE Spline Sizes			Max. rpm	Max. Torque, in.-lbs.		Max. rpm	Max. Torque, in.-lbs.			Max. Torque, in.-lbs.	
2 3/16"	2 7/64"	A, B	9843T1	$22.80	9,000	140	6408K75	$7.72	3,600	400	6408K95	$23.31	290	2410K13	$13.28
2 9/16"	2 7/64"	A, B	9843T2	27.92	9,000	140	6408K75	7.72	3,600	400	6408K95	23.31	290	2410K13	13.28
2 7/8"	2 17/32"	A, B, B-B	9843T3	30.30	7,000	315	6408K77	16.19	3,600	790	6408K96	55.53	625	2410K15	34.92
3 1/2"	2 17/32"	A, B, B-B	9843T4	36.45	7,000	315	6408K77	16.19	3,600	790	6408K96	55.53	625	2410K15	34.92
4 1/4"	3 21/64"	A, B, B-B, C	9843T5	48.67	5,000	790	6408K79	18.67	3,600	2,265	6408K97	67.17	1,185	2410K17	66.28
4 1/2"	3 3/4"	A, B, B-B, C, D, E	9843T6	57.30	5,000	1,240	6408K81	32.42	3,600	3,705	6408K98	80.72	1,860	2410K19	80.19

Zero-Backlash Replaceable-Center Flexible Shaft Couplings



Components of a Coupling Shown Assembled

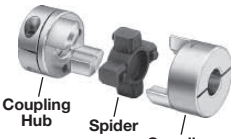

Good for positioning applications, including NC-axes systems and actuators, these couplings allow zero backlash (no play). They consist of a spider-shaped cushion that fits between two coupling hubs to reduce shock and compensate for minor shaft misalignment. To create a complete coupling, order two coupling hubs and one spider from the same line in the listing below.

Coupling hubs are lightweight and corrosion resistant. Metric sizes 10 mm and above have a keyway that, when used with a key on a keyed shaft, provides a more secure hold. They have standard ISO-DIN keyway dimensions.

Aluminum hubs fasten onto your shafts for superior holding power without damaging them. Tighten the socket-head cap screws to secure. *Thermoplastic hubs* are glass fiber reinforced and slide onto your shafts. Tighten the set screws, which bite into the shafts for a tight hold.

Spiders are urethane for fair vibration damping and good chemical resistance. They handle 0.003"-0.011" of parallel misalignment and 0.8° of angular misalignment (except Shore 98A spiders for thermoplastic hubs can handle 1° of angular misalignment and Shore 80A spiders can handle 1.2° of angular misalignment). Temperature range is –4° to 180° F.

		Coupling Hubs (2 Required for Complete Coupling)			*Spiders*								
					Shore 98A			Shore 92A			Shore 85A		
O'all Lg.	OD	Available Sizes For Shaft Dia.			Max. rpm	Max. Torque, in.-lbs.		Max. Torque, in.-lbs.			Max. Torque, in.-lbs.		
Aluminum Coupling Hubs													
1.1"	3/4"	3/16", 1/4", 5/16"; 4, 5, 6, 7, 8 mm	9845T1	$17.54	8,000	30	9845T11	$8.89	18	9845T12	$8.89	10	9845T13	$12.78
1.4"	1"	1/4", 5/16", 3/8", 1/2"; 6, 7, 8, 9, 10, 11, 12 mm	9845T2	22.68	8,000	150	9845T14	9.54	58	9845T15	9.54	30	9845T16	13.59
1.8"	1 5/16"	5/16", 3/8", 1/2", 5/8"; 8, 9, 10, 11, 12, 14, 15, 16 mm	9845T3	32.89	8,000	170	9845T17	10.95	70	9845T18	10.95	36	9845T19	16.11
2.1"	1 5/8"	3/8", 1/2", 5/8", 3/4"; 10, 11, 12, 14, 15, 16, 20 mm	9845T4	41.32	8,000	330	9845T21	15.00	190	9845T22	15.00	—	—	—
2.4"	2"	1/2", 5/8", 3/4", 1"; 12, 14, 15, 16, 20, 25 mm	9845T5	67.35	8,000	550	9845T24	24.19	440	9845T25	25.49	—	—	—
3.2"	2 1/4"	1/2", 5/8", 3/4", 1"; 14, 15, 16, 20, 25, 30 mm	9845T6	90.38	8,000	820	9845T26	29.73	570	9845T27	33.32	—	—	—
					Shore 98A			Shore 64D			Shore 80A		
Thermoplastic Coupling Hubs													
1.4"	1.3"	1/4", 3/8", 1/2", 5/8"	9939T1	13.22	10,000	220	9939T11	6.46	280	9939T12	6.46	50	9939T13	6.46
2.6"	1.7"	3/8", 1/2", 5/8", 3/4"	9939T2	15.51	9,000	300	9939T14	7.19	370	9939T15	7.19	105	9939T16	7.19
3.1"	2.2"	5/8", 3/4", 1"	9939T3	22.76	8,000	1,060	9939T17	10.51	1,320	9939T18	10.51	305	9939T19	10.51
3.5"	2.6"	3/4", 1", 1 1/4", 1 1/2"	9939T4	35.38	7,000	2,830	9939T21	14.03	3,540	9939T22	14.03	750	9939T23	14.03

Shaft Adapters



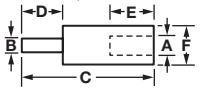

Convert your shaft from one size to another while also extending it. One side of the adapter has a two-piece coupling connection that clamps onto the end of your shaft; the other provides the converted shaft size. All adapters are black-oxide steel, which offers some corrosion resistance. They are not rated for maximum rpm or torque. Tighten the four cap screws to secure.

Step-up adapters make your shaft larger. **Step-down adapters** make your shaft smaller.

For Shaft Dia. (A)	Shaft OD (B)	O'all Lg. (C)	Shaft Lg. (D)	Bore Dp. (E)	O'all OD (F)		
Step-Up Adapters							
1/2"	3/4"	2 3/4"	1 1/4"	1 1/4"	1 1/4"	3256K11	$55.93
5/8"	7/8"	3 1/4"	1 1/2"	1 3/8"	1 1/2"	3256K12	57.96
3/4"	1"	4 1/4"	2"	1 5/8"	1 3/4"	3256K13	60.47
7/8"	1 1/8"	4 3/8"	2"	1 7/8"	1 7/8"	3256K14	64.04
1"	1 1/4"	4 3/4"	2 3/8"	2"	2"	3256K15	69.33
1 1/8"	1 3/8"	4 3/4"	2 3/8"	2"	2 1/8"	3256K16	74.56
1 1/4"	1 1/2"	5"	2 1/2"	2"	2 1/4"	3256K17	75.96

For Shaft Dia. (A)	Shaft OD (B)	O'all Lg. (C)	Shaft Lg. (D)	Bore Dp. (E)	O'all OD (F)		
Step-Down Adapters							
3/4"	1/2"	3 1/2"	1 1/4"	1 5/8"	1 3/4"	9783T1	$59.27
7/8"	5/8"	3 5/8"	1 1/4"	1 7/8"	1 7/8"	9783T2	61.22
1"	3/4"	3 5/8"	1 1/4"	2"	2"	9783T3	63.53
1 1/8"	7/8"	3 7/8"	1 1/2"	2"	2 1/8"	9783T4	67.16
1 1/4"	1"	4 1/2"	2"	2"	2 1/4"	9783T5	72.53
1 3/8"	1 1/8"	5"	2"	2 1/4"	2 3/8"	9783T6	77.89
1 1/2"	1 1/4"	5 3/8"	2 3/8"	2 1/4"	2 1/2"	9783T7	79.40

Replaceable-Center Slotted-Disc Flexible Shaft Couplings

Also known as Oldham couplings, these couplings have a slotted disc that allows hubs to slide independently, which is especially good for applications with parallel shaft misalignment. They also allow zero backlash (no play) and never need lubrication. Maximum rpm is 4,500. To create a complete coupling, order two coupling hubs and one disc from the same line in the listing below.

Set Screw Couplings—Fasten to your shafts with one or two set screws, which bite into the shafts for a tight hold.

Clamp-On Couplings—Fasten onto your shafts for superior holding power without damaging them. Tighten the two socket-head cap screws to secure.

Coupling hubs are made of lightweight, corrosion-resistant aluminum.

Acetal discs stand up to high twisting forces. Temperature range is –10° to 150° F.

Nylon discs have excellent vibration and shock absorption. Temperature range is –10° to 130° F.

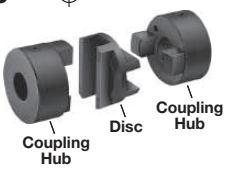



Components of a Set Screw Coupling Shown Assembled

O'all Lg.	OD	Coupling Hubs (2 Required for Complete Coupling) Available Sizes For Shaft Dia.			Acetal and Nylon Discs: Maximum Misalignment Parallel	Angular	Axial	Acetal: Max. Torque, in.-lbs.			Nylon: Max. Torque, in.-lbs.		
Set Screw Couplings													
5/8"	1/2"	1/8", 3/16", 1/4"; 3, 4, 5, 6 mm	59985K1	$10.54	0.004"	0.5°	0.002"	34	59985K61	$2.32	25	59985K91	$3.14
7/8"	3/4"	3/16", 1/4", 5/16", 3/8"; 4, 5, 6, 7, 8 mm	59985K2	13.08	0.008"	0.5°	0.004"	93	59985K62	2.81	85	59985K92	4.41
1 1/8"	1"	1/4", 5/16", 3/8", 1/2"; 6, 7, 8, 9, 10, 11, 12 mm	59985K3	15.27	0.008"	0.5°	0.004"	165	59985K63	5.24	140	59985K93	6.38
1 7/8"	1 5/16"	5/16", 3/8", 1/2", 5/8"; 8, 9, 10, 11, 12, 14, 15, 16 mm	59985K4	22.97	0.008"	0.5°	0.006"	350	59985K64	7.57	300	59985K94	9.30
2"	1 5/8"	3/8", 1/2", 5/8", 3/4"; 10, 11, 12, 14, 15, 16, 20 mm	59985K5	27.30	0.01"	0.5°	0.006"	480	59985K65	9.62	400	59985K95	12.89
Clamp-On Couplings													
1"	3/4"	3/16", 1/4", 5/16", 3/8"; 4, 5, 6, 7, 8 mm	9889T1	14.46	0.008"	0.5°	0.004"	93	59985K62	2.81	85	59985K92	4.41
1 1/4"	1"	1/4", 5/16", 3/8", 1/2"; 6, 7, 8, 9, 10, 11, 12 mm	9889T2	19.86	0.008"	0.5°	0.004"	165	59985K63	5.24	140	59985K93	6.38
1 7/8"	1 5/16"	5/16", 3/8", 1/2", 5/8"; 8, 9, 10, 11, 12, 14, 15, 16 mm	9889T3	29.32	0.008"	0.5°	0.006"	350	59985K64	7.57	300	59985K94	9.30
2"	1 5/8"	3/8", 1/2", 5/8", 3/4"; 10, 11, 12, 14, 15, 16, 20 mm	9889T4	32.00	0.01"	0.5°	0.006"	480	59985K65	9.62	400	59985K95	12.89

High-Misalignment Replaceable-Center Flexible Shaft Couplings

Also known as Schmidt couplings, these handle higher angular misalignment than other replaceable-center couplings. They allow zero backlash (no play) and never need lubrication. To create a complete coupling, order two hubs and one disc from the same line in the listing below.

Coupling hubs are made of lightweight, corrosion-resistant aluminum. They fasten onto your shafts for superior holding power without damaging them. Tighten the two socket-head cap screws to secure. Inch-size hubs with a shaft diameter of 1/2" and above have a keyway, which provides a more secure hold on keyed shafts. They have standard ANSI keyway dimensions.

Discs are made of acetal. Temperature range is –40° to 170° F.

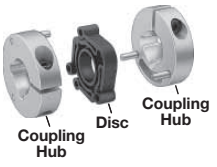



Components of a Coupling Shown Assembled

O'all Lg.	OD	Coupling Hubs (2 Required for Complete Coupling) Available Sizes For Shaft Dia.			Discs: Max. rpm	Max. Torque, in.-lbs.	Maximum Misalignment Parallel	Angular	Axial		
5/8"	47/64"	1/8", 1/4", 3/8"; 6, 8, 10 mm	60635K1	$16.36	12,000	6	0.013"	1.5°	0.010"	60635K86	$13.08
1"	63/64"	1/8", 1/4", 3/8", 1/2"; 6, 8, 10, 12 mm	60635K2	16.36	11,000	13	0.019"	1.5°	0.014"	60635K87	13.08
1 1/8"	1 15/32"	1/8", 3/16", 1/4", 3/8", 1/2", 5/8"; 6, 10, 15 mm	60635K3	30.53	8,000	45	0.028"	1.5°	0.021"	60635K88	16.36
1 3/4"	2 3/16"	3/8", 1/2", 5/8", 3/4", 7/8"	60635K9	40.34	6,000	150	0.041"	1.5°	0.031"	60635K99	30.53
2 3/16"	2 15/16"	3/8", 1/2", 5/8", 3/4", 7/8", 1"	60635K5	46.88	5,000	360	0.055"	1.5°	0.042"	60635K75	45.79

Servomotor Flexible Shaft Couplings

Able to handle high twisting forces as well as misalignment with zero backlash (no play), these are the choice for high-performance servomotor applications. Couplings are aluminum and Type 304 stainless steel for corrosion resistance. They fasten onto your shafts for superior holding power without damaging them. Tighten the two socket-head cap screws to secure.





Available Sizes For Shaft Dia. (A) × For Shaft Dia. (B): For Shaft Dia. (A)	For Shaft Dia. (B)	Lg.	OD	Max. rpm	Max. Torque, in.-lbs.	Maximum Misalignment Parallel	Angular	Axial		
3/16", 1/4", 5/16"; 4, 5, 6, 8 mm	3/16", 1/4", 5/16"; 4, 5, 6, 8 mm	1.02"	0.75"	10,000	7	0.004"	1°	0.008"	2764K9	$60.54
3/16", 1/4", 5/16", 3/8"; 5, 6, 8, 9 mm	3/16", 1/4", 5/16", 3/8"; 5, 6, 8, 9 mm	1.272"	1.02"	10,000	13	0.006"	1°	0.013"	2764K2	71.14
1/4", 3/8", 1/2"; 6, 8, 10, 12, 14 mm	1/4", 3/8", 1/2"; 6, 8, 10, 12, 14 mm	1.488"	1.34"	10,000	35	0.007"	1°	0.016"	2764K3	78.69
3/8", 1/2", 5/8"; 9, 10, 14, 15, 16 mm	3/8", 1/2", 5/8"; 9, 10, 14, 15, 16 mm	1.89"	1.54"	10,000	53	0.009"	1°	0.020"	2764K4	92.52
5/16", 3/8", 1/2", 5/8", 3/4"; 8, 10, 15, 19, 20 mm	5/16", 3/8", 1/2", 5/8", 3/4"; 8, 10, 15, 19, 20 mm	1.89"	1.73"	10,000	89	0.009"	1°	0.024"	2764K5	106.49
3/8", 1/2", 5/8", 3/4", 1"; 16, 17, 18, 19, 20, 22, 24, 25 mm	3/8", 1/2", 5/8", 3/4", 1"; 16, 17, 18, 19, 20, 22, 24, 25 mm	2.354"	2.21"	10,000	220	0.011"	1°	0.031"	2764K6	156.98
3/4", 7/8", 1"; 20, 24, 28, 32, 35 mm	3/4", 7/8", 1"; 20, 24, 28, 32, 35 mm	2.886"	2.68"	10,000	530	0.013"	1°	0.035"	2764K8	223.34

Noncontact Magnetic Set-Screw Shaft Couplings

Magnetic force transfers torque from one half of these couplings to the other; there's no contact between the parts so the parts won't wear. Each half (sold separately) contains strong, opposing rare-earth magnets. Couplings are made of 400 series stainless steel; magnets are nickel plated.

To form a complete coupling, order two halves from the same line in the listing below.



Shown with Two Halves



Available Sizes For Shaft Dia.	O'all Lg.	OD	Max. rpm	Max. Torque, in.-lbs.	Maximum Misalignment Parallel	Angular		
3/16", 1/4", 5/16"	1 3/8"	1 23/32"	26,000	4	0.25"	3°	9199T1	$48.30
1/4", 5/16", 3/8", 1/2"	1 3/8"	1 31/32"	23,000	6	0.25"	3°	9199T2	57.40
3/8", 1/2", 5/8", 3/4"	1 11/16"	2 23/64"	19,000	9	0.25"	3°	9199T3	66.50
1/2", 5/8", 3/4", 7/8"	2 3/16"	2 7/8"	15,500	15	0.25"	3°	9199T4	102.20

Helical Flexible Shaft Couplings



Clamp On

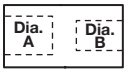

Cuts in the coupling body allow flexibility to handle shaft misalignment. Good for applications with frequent starts and stops, these couplings allow zero backlash (no play) and never need lubrication.

Aluminum couplings are lightweight with good corrosion resistance. *Inch-to-inch sizes* have a maximum rpm of 10,000. *Metric-to-metric* and *metric-to-inch sizes* have a maximum rpm of 6,000. **Type 303 stainless steel couplings** offer excellent corrosion resistance. Maximum rpm is 6,000. **Acetal couplings** are lightweight and corrosion resistant. Maximum rpm is 5,000. Color is off-white. Temperature range is –4° to 140°F.

Set Screw Couplings— Fasten to your shafts with four set screws, which bite into the shafts for a tight hold.

Clamp-On Couplings— Fasten onto your shafts for superior holding power without damaging them. Tighten the two socket-head cap screws to secure.

Available Sizes For Shaft Dia. (A) × For Shaft Dia. (B)				Max. Torque,	*Maximum Misalignment*				
For Shaft Dia. (A)	For Shaft Dia. (B)	Lg.	OD	in.-lbs.	Parallel	Angular	Axial		
Inch-to-Inch Sizes									
Aluminum Set Screw Couplings									
1/8″, 5/32″	1/32″, 1/16″, 3/32″, 1/8″, 5/32″	1/2″	3/8″	3	0.005″	2°	0.005″	9861T11	$40.53
1/8″, 5/32″, 3/16″	3/32″, 1/8″, 3/16″	3/4″	1/2″	5	0.005″	2°	0.005″	9861T21	35.94
3/16″, 1/4″, 5/16″	1/16″, 3/32″, 1/8″, 5/32″, 3/16″, 1/4″	3/4″	3/4″	20	0.006″	3°	0.006″	9861T41	37.91
5/32″, 3/16″, 1/4″	1/8″, 5/32″, 3/16″, 1/4″	7/8″	5/8″	12	0.01″	3°	0.008″	9861T31	38.19
3/16″, 1/4″, 5/16″	1/8″, 5/32″, 3/16″, 1/4″, 5/16″	1″	3/4″	25	0.01″	3°	0.008″	9861T51	37.53
1/4″, 3/8″	1/8″, 5/32″, 3/16″, 1/4″, 3/8″	1″	1″	42	0.006″	3°	0.006″	9861T61	39.06
1/4″, 3/8″, 7/16″, 1/2″	3/16″, 1/4″, 5/16″, 3/8″, 7/16″, 1/2″	1 1/4″	1 1/4″	84	0.006″	3°	0.006″	9861T81	49.62
1/4″, 5/16″, 3/8″	5/32″, 3/16″, 1/4″, 5/16″, 3/8″	1 1/2″	1″	63	0.01″	3°	0.008″	9861T71	41.41
Aluminum Clamp-On Couplings									
1/8″, 5/32″	3/32″, 1/8″, 5/32″	1/2″	3/8″	3	0.005″	2°	0.005″	6208K311	39.50
1/8″, 5/32″, 3/16″	3/32″, 1/8″, 5/32″, 3/16″	3/4″	1/2″	5	0.005″	2°	0.005″	6208K351	40.34
3/16″, 1/4″, 5/16″	1/16″, 3/32″, 1/8″, 5/32″, 3/16″, 1/4″	3/4″	3/4″	20	0.006″	3°	0.006″	6208K411	41.50
5/32″, 3/16″, 1/4″	1/8″, 5/32″, 3/16″, 1/4″	7/8″	5/8″	12	0.01″	3°	0.008″	6208K371	41.06
3/16″, 1/4″, 5/16″	1/8″, 5/32″, 3/16″, 1/4″, 5/16″	1″	3/4″	25	0.01″	3°	0.008″	6208K441	39.47
1/4″, 5/16″, 3/8″	1/8″, 5/32″, 3/16″, 1/4″, 5/16″, 3/8″	1″	1″	42	0.006″	3°	0.006″	6208K471	42.28
1/4″, 3/8″, 7/16″, 1/2″	3/16″, 1/4″, 5/16″, 3/8″, 7/16″, 1/2″	1 1/4″	1 1/4″	84	0.006″	3°	0.006″	6208K541	56.31
1/4″, 5/16″, 3/8″	1/8″, 5/32″, 3/16″, 1/4″, 5/16″, 3/8″	1 1/2″	1″	63	0.015″	5°	0.01″	6208K511	44.28
5/16″, 3/8″, 7/16″, 1/2″	3/16″, 1/4″, 5/16″, 3/8″, 7/16″, 1/2″	2″	1 1/4″	115	0.015″	5°	0.01″	6208K571	58.25
3/8″, 7/16″, 1/2″, 5/8″	1/4″, 5/16″, 3/8″, 7/16″, 1/2″, 5/8″	2 3/8″	1 1/2″	155	0.015″	5°	0.01″	6208K611	72.19
7/16″, 1/2″, 5/8″, 11/16″	5/16″, 3/8″, 7/16″, 1/2″, 5/8″, 11/16″	2 1/2″	1 5/8″	215	0.015″	5°	0.01″	6208K641	91.81
1/2″, 5/8″, 11/16″, 3/4″	3/8″, 7/16″, 1/2″, 5/8″, 11/16″, 3/4″	2 3/4″	1 3/4″	250	0.015″	5°	0.01″	6208K671	90.91
Type 303 Stainless Steel Clamp-On Couplings									
3/16″, 1/4″	3/16″, 1/4″	1″	5/8″	18	0.008″	3°	0.005″	6259K1	94.54
3/16″, 1/4″, 5/16″	3/16″, 1/4″, 5/16″	1 1/4″	3/4″	31	0.008″	3°	0.005″	6259K6	85.67
1/4″, 5/16″, 3/8″	1/4″, 5/16″, 3/8″	1 1/2″	1″	50	0.015″	3°	0.01″	6259K3	110.31
5/16″, 3/8″, 1/2″	5/16″, 3/8″, 1/2″	1 3/4″	1 1/4″	105	0.015″	3°	0.01″	6259K4	175.36
3/8″, 1/2″, 5/8″, 3/4″	3/8″, 1/2″, 5/8″, 3/4″	2 1/4″	1 1/2″	145	0.03″	3°	0.015″	6259K5	234.18
Acetal Clamp-On Couplings									
1/8″, 3/16″	1/8″, 3/16″	3/4″	1/2″	2.1	0.005″	5°	____	2505K11	61.22
3/16″, 1/4″	1/4″	29/32″	3/4″	5.6	0.005″	5°	____	2505K12	63.98
1/4″, 3/8″	1/4″, 3/8″	1 1/4″	1″	12.3	0.005″	5°	____	2505K13	76.51
1/4″, 3/8″, 1/2″	1/2″	1 3/4″	1 1/4″	22	0.005″	5°	____	2505K14	138.76
Metric-to-Metric Sizes									
Aluminum Clamp-On Couplings									
3, 4, 5 mm	3, 4, 5 mm	22 mm	15 mm	7	0.2 mm	3°	0.12 mm	2463K87	36.82
4, 5, 6 mm	4, 5, 6 mm	28 mm	20 mm	10	0.2 mm	3°	0.12 mm	2463K88	41.44
6, 7, 8, 9, 10 mm	6, 7, 8, 9, 10 mm	30 mm	25 mm	27	0.038 mm	3°	0.25 mm	2463K89	43.90
8, 9, 10, 11, 12 mm	8, 9, 10, 11, 12 mm	38 mm	30 mm	58	0.381 mm	3°	0.25 mm	2463K91	68.64
10, 11, 12, 14 mm	10, 11, 12, 14 mm	57 mm	38 mm	110	0.762 mm	3°	0.38 mm	2463K92	91.41
15, 16 mm	10, 11, 12, 14, 15, 16 mm	57 mm	38 mm	95	0.762 mm	3°	0.38 mm	2463K93	91.41
20 mm	10, 11, 12, 14, 15, 16, 20 mm	57 mm	38 mm	80	0.762 mm	3°	0.38 mm	2463K94	91.41
Type 303 Stainless Steel Clamp-On Couplings									
3, 4, 5 mm	3, 4, 5 mm	22 mm	15 mm	10	0.2 mm	3°	0.12 mm	2463K11	84.03
4, 5, 6 mm	4, 5, 6 mm	28 mm	20 mm	15	0.2 mm	3°	0.12 mm	2463K12	90.69
6, 7, 8, 9, 10 mm	6, 7, 8, 9, 10 mm	30 mm	25 mm	40	0.38 mm	3°	0.25 mm	2463K13	97.11
9, 10, 11, 12 mm	9, 10, 11, 12 mm	38 mm	30 mm	88	0.38 mm	3°	0.25 mm	2463K14	127.33
12, 13, 14, 15, 16 mm	12, 13, 14, 15, 16 mm	57 mm	38 mm	175	0.76 mm	3°	0.38 mm	2463K15	209.62
Metric-to-Inch Sizes									
Aluminum Clamp-On Couplings									
3, 4, 5 mm	3/16″	22 mm	15 mm	7	0.2 mm	3°	0.12 mm	2464K65	39.79
4, 5, 6 mm	3/16″, 1/4″	28 mm	20 mm	10	0.2 mm	3°	0.12 mm	2464K66	43.51
6, 7, 8, 9, 10 mm	1/4″, 3/8″	30 mm	25 mm	27	0.38 mm	3°	0.25 mm	2464K67	47.28
8, 9, 10, 11, 12 mm	3/8″, 1/2″, 5/8″	38 mm	30 mm	58	0.38 mm	3°	0.25 mm	2464K68	68.64
10, 11, 12, 14, 15, 16, 20 mm	1/2″, 5/8″, 3/4″	57 mm	38 mm	80	0.762 mm	3°	0.38 mm	2464K69	91.41

High-Precision Bellows Flexible Shaft Couplings



Bellows couplings have specially designed ridges to compensate for shaft misalignment in low-torque, high-precision applications such as instrumentation and motion control. They also allow zero backlash (no play) and never need lubrication. Couplings are nickel and Type 303 stainless steel so they can be used in mildly corrosive environments. They fasten to your shafts with four set screws, which bite into the shafts for a secure hold. Not rated for maximum rpm.

For Shaft Dia.	Lg.	OD	Max. Torque, in.-lbs.	*Maximum Misalignment* Parallel	Angular	Axial		
0.12″	0.54″	1/4″	0.7	0.007″	7°	0.023″	59925K83	$102.08
3/16″	1.04″	3/8″	0.7	0.066″	17°	0.09″	59925K85	98.24
3/16″	0.57″	3/8″	1.6	0.009″	6°	0.03″	59925K88	86.66
1/4″	1.09″	1/2″	3.1	0.044″	12°	0.082″	59925K89	112.78
1/4″	0.84″	1/2″	4.7	0.018″	9°	0.059″	59925K91	102.70
1/4″	0.72″	1/2″	6.1	0.01″	5°	0.038″	59925K92	95.12
1/4″	1.33″	3/4″	9.9	0.046″	9°	0.096″	59925K93	154.48
1/4″	1.08″	3/4″	13.1	0.026″	7°	0.067″	59925K94	133.40
5/16″	1.63″	1″	14.2	0.068″	11°	0.149″	59925K96	202.52
5/16″	1.13″	1″	26.3	0.020″	5°	0.067″	59925K97	172.92

High-Speed Bellows Flexible Shaft Couplings

With a bellows between two hubs, you'll get flexibility to handle all three types of shaft misalignment with low vibration at high speeds. Couplings allow zero backlash (no play) and are good for precision stepper and encoder motion-control applications. All have lightweight aluminum hubs and a Type 321 stainless steel bellows for corrosion resistance. They fasten onto your shafts for superior holding power without damaging them. Tighten the two socket-head cap screws to secure.





Available Sizes For Shaft Dia. (A) × For Shaft Dia. (B)	Lg.	OD	Max. rpm	Max. Torque, in.-lbs.	Maximum Misalignment Parallel	Angular	Axial		
1/8″×1/8″, 1/4″×1/8″, 1/4″×1/4″	1 1/16″	19/32″	10,000	22	0.004″	1.5°	0.008″	6446K27	$90.68
1/4″×1/4″, 5/16″×3/16″, 5/16″×1/4″, 5/16″×5/16″	1 3/16″	3/4″	10,000	40	0.004″	1.5°	0.01″	6446K31	94.22
1/4″×1/4″, 3/8″×1/4″, 3/8″×3/8″, 1/2″×1/4″, 1/2″×3/8″, 1/2″×1/2″	1 5/16″	1″	10,000	60	0.004″	1.5°	0.012″	6446K56	96.05
1/4″×3/8″, 3/8″×3/8″, 1/2″×3/8″, 1/2″×1/2″, 5/8″×3/8″, 5/8″×1/2″, 5/8″×5/8″	1 9/16″	1 5/16″	10,000	120	0.006″	1.5°	0.016″	6446K61	112.78
3/8″×3/8″, 1/2″×1/4″, 1/2″×3/8″, 1/2″×1/2″, 5/8″×3/8″, 5/8″×1/2″, 5/8″×5/8″, 3/4″×3/8″, 3/4″×1/2″, 3/4″×5/8″, 3/4″×3/4″	2″	1 5/8″	10,000	250	0.01″	2°	0.02″	6446K91	125.26
1/2″×1/2″, 5/8″×1/2″, 5/8″×5/8″, 3/4″×1/2″, 3/4″×5/8″, 3/4″×3/4″, 7/8″×1/2″, 7/8″×5/8″, 7/8″×3/4″, 7/8″×7/8″, 1″×1/2″, 1″×5/8″, 1″×3/4″, 1″×7/8″, 1″×1″	2 5/16″	2″	10,000	400	0.01″	2°	0.02″	6446K86	146.41

Ultra-Flexible High-Misalignment Shaft Couplings

Specially designed couplings have a flexible, double-loop polyurethane center that's assembled to the hubs to take on high parallel and angular shaft misalignment. They allow zero backlash (no play) and will run smoothly and quietly. Couplings fasten to your shafts with two set screws, which bite into the shafts for a tight hold. Temperature range is 0° to 180° F.

Type 316L stainless steel offers excellent corrosion resistance.





Available Sizes For Shaft Dia. (A) × For Shaft Dia. (B)	Lg.	OD	Max. rpm	Max. Torque, in.-lbs.	Maximum Misalignment Parallel	Angular	Zinc-Plated Steel Coupling Hubs		Type 316L Stainless Steel Coupling Hubs	
Inch										
3/16″×3/16″, 3/16″×1/4″, 1/4″×1/4″, 1/4″×3/8″, 5/16″×5/16″, 5/16″×3/8″, 3/8″×3/8″	1 1/8″	7/8″	3,600	3	0.0938″	10°	6183K1	$20.21	6183K5	$27.77
1/4″×1/4″, 1/4″×3/8″, 1/4″×1/2″, 5/16″×5/16″, 3/8″×3/8″, 3/8″×1/2″, 1/2″×1/2″	2″	1 11/16″	3,600	12	0.125″	15°	6183K2	23.15	6183K6	32.12
3/8″×3/8″, 3/8″×1/2″, 3/8″×5/8″, 1/2″×1/2″, 1/2″×5/8″, 5/8″×5/8″	2 1/4″	1 13/16″	3,600	28	0.1875″	15°	6183K3	26.36	6183K7	36.72
1/2″×1/2″, 1/2″×5/8″, 5/8″×5/8″	2 7/16″	2″	3,600	40	0.125″	15°	6183K4	29.44	6183K8	41.20
Metric—Size dimensions in mm										
3×3, 4×4, 4×5, 4×6, 5×5, 6×6, 6×8, 8×8	29	22	3,600	3	0.0938″	10°	5384T5	20.30	5384T1	26.19
4×4, 6×6, 6×8, 8×8, 8×10, 10×10, 10×12, 11×11, 12×12	51	43	3,600	12	0.125″	15°	5384T6	23.10	5384T2	30.06
6×6, 6×8, 8×8, 8×10, 10×10, 10×12, 12×12, 14×14, 14×15, 15×15, 16×16	57	46	3,600	28	0.1875″	15°	5384T7	25.57	5384T3	33.60
6×6, 8×8, 8×10, 10×10, 12×12, 14×14, 15×15, 16×16	62	51	3,600	40	0.125″	15°	5384T8	28.95	5384T4	38.05

Over-Torque-Prevention Vibration-Damping Flexible Shaft Couplings

To protect power-transmission components from damage, these couplings will shear or tear in over-torque conditions (such as when a machine jams) to sever connections between shafts. All have steel hubs and a flexible neoprene center that not only compensates for misalignment, but also dampens vibration and shock loads. Couplings have no metal-on-metal contact, reducing noise and eliminating the need for lubrication. They fasten to your shafts with two set screws, which bite into the shafts for a tight hold. Temperature range is –30° to 212° F.





Available Sizes For Shaft Dia. (A) × For Shaft Dia. (B)	Lg.	OD	Max. rpm	Max. Torque, in.-lbs.	Maximum Misalignment Parallel	Angular		
1/8″×1/8″, 3/16″×3/16″, 1/4″×1/4″	13/16″	9/16″	10,000	0.8	0.0312″	2°	6410K21	$21.27
1/4″×1/4″	1 3/8″	1 3/16″	10,000	2.5	0.0312″	2°	6410K1	25.20
1/4″×1/4″, 1/4″×5/16″, 1/4″×3/8″, 5/16″×5/16″, 5/16″×3/8″, 3/8″×3/8″	1 3/4″	1″	10,000	5	0.0312″	2°	6410K23	24.57
5/16″×5/16″, 3/8″×3/8″, 3/8″×1/2″, 1/2″×1/2″	2 1/8″	1 1/4″	10,000	10	0.0312″	2°	6410K24	32.98
3/8″×3/8″, 3/8″×1/2″, 3/8″×5/8″, 1/2″×1/2″, 1/2″×5/8″, 5/8″×5/8″	2 1/4″	1 3/8″	10,000	13	0.0312″	2°	6410K25	36.73
1/2″×1/2″, 1/2″×3/4″, 5/8″×5/8″	2 1/2″	1 5/8″	10,000	20	0.0312″	2°	6410K26	44.38
5/8″×5/8″	2 11/16″	1 13/16″	10,000	30	0.0312″	2°	6410K46	62.62
1/2″×3/4″, 1″×1″	2 7/8″	2″	10,000	40	0.0312″	2°	6410K28	88.34

Replaceable-Center Vibration-Damping Flexible Shaft Couplings

A flexible tire on these couplings safeguards components on your shafts by damping vibration and shock. Couplings also handle moderate parallel, angular, and axial shaft misalignment as well as fair amounts of torque. To create a complete coupling, order two coupling hubs, one tire, and two quick-disconnect (QD) bushings from the same line in the listing below.

Coupling hubs are steel and high-strength ductile iron.

Tires are Buna-N rubber. Temperature range is –65° to 180° F.

QD bushings are easy to install and remove. They are made of steel or high-strength ductile iron. Tighten their cap screws to secure them to your shafts. For information on QD bushing styles, see page 1092.

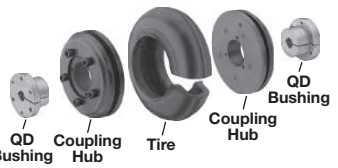



Components of a Coupling Shown Assembled

O'all Lg.	OD	Max. rpm	Max. Torque, in.-lbs.	Maximum Misalignment Parallel	Angular	Axial	Coupling Hubs (2 Required for Complete Coupling)		Tires		QD Bushings (2 Required for Complete Coupling) Style	Available Sizes For Shaft Dia.	
3 1/4″	5 1/4″	4,500	900	0.125″	4°	0.3125″	6241K11	$50.42	6241K21	$55.35	JA	1/2″ to 1 1/4″	6086K11 $12.24
3 15/16″	6 1/2″	4,000	1,800	0.125″	4°	0.3125″	6241K12	71.58	6241K22	64.62	SH	1/2″ to 1 11/16″	6086K12 16.73
4 3/16″	7 3/8″	3,600	2,200	0.125″	4°	0.3125″	6241K13	91.57	6241K23	89.18	SH	1/2″ to 1 11/16″	6086K12 16.73
4 5/8″	8 5/16″	3,100	3,600	0.125″	4°	0.3125″	6241K14	125.91	6241K24	119.97	SDS	1/2″ to 2″	6086K13 19.46
5 11/16″	9 1/4″	2,800	4,350	0.125″	4°	0.3125″	6241K15	163.29	6241K25	127.65	SK	1/2″ to 2 5/8″	6086K15 30.09

Heavy Duty Replaceable-Center Flexible Shaft Couplings



Components of a Coupling Shown Assembled

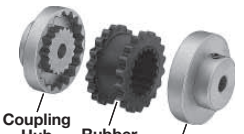

A rubber center allows four-way flexing so couplings can take on parallel, angular, axial, and torsional misalignment plus dampen vibration and shock. With no metal-to-metal contact, there's no need for lubrication. Couplings have a keyway with ANSI or ISO-DIN keyway dimensions (except 1/4" and 3/8" shaft dia. sizes do not have a keyway) to provide a more secure hold on keyed shafts. They fasten to your shafts with four set screws, which bite into the shafts for a tight hold. To create a complete coupling, order two hubs and one rubber center from the same line in the listing below.

Coupling hubs are made of cast iron (except hubs with 2 1/16" and 2 15/32" ODs as well as inch-size hubs with 3 1/4" and 4" ODs are made of sintered steel).

Rubber centers have a temperature range of –30° to 275° F.

To Order: For inch-size coupling hubs, please specify shaft dia. size in 1/8" increments from those available below.

O'all Lg.	OD	Max. rpm	Max. Torque, in.-lbs.	Maximum Misalignment Parallel	Angular	Axial	Coupling Hubs (2 Required for Complete Coupling) Available Sizes For Shaft Dia.			Rubber Centers	
2"	2 1/16"	9,200	60	0.010"	1°	0.125"	1/4" to 7/8"	6507K1	$9.01	6507K69	$5.03
2 3/8"	2 15/32"	7,600	120	0.010"	1°	0.125"	1/2" to 1"; 15, 20, 25 mm	6507K2	11.38	6507K71	7.17
2 7/8"	3 1/4"	7,600	240	0.015"	1°	0.125"	1/2" to 1 1/8"; 15, 20 mm	6507K3★	17.98	6507K72	14.40
3 5/16"	4"	6,000	450	0.015"	1°	0.125"	5/8" to 1 3/8"; 20, 25, 28, 30, 35 mm	6507K4■	25.15	6507K73	23.97
3 15/16"	4 5/8"	5,250	725	0.020"	1°	0.125"	3/4" to 1 7/8"; 25, 28, 30, 38, 42 mm	6507K5	35.97	6507K74	31.13
4 7/16"	5 29/64"	4,500	1,135	0.020"	1°	0.125"	7/8" to 2 3/8"; 28, 30, 32, 38, 42, 45, 48 mm	6507K12	54.54	6507K75	40.77
5 1/16"	6 23/64"	3,750	1,800	0.025"	1°	0.125"	1" to 2 7/8"; 30, 32, 38, 42, 48 mm	6507K7	74.64	6507K76	47.93
5 11/16"	7 1/2"	3,600	2,875	0.025"	1°	0.125"	1 1/8" to 3 3/8"	6507K8	95.87	6507K77	67.13
7 1/8"	8 5/8"	3,600	4,530	0.032"	1°	0.125"	1 1/4" to 3 3/8"	6507K9	153.37	6507K78	196.53

★ Overall length for metric-size hubs is 2 13/16". ■ Overall length for metric-size hubs is 3 1/2".

Heavy Duty High-Torque Flexible Shaft Couplings

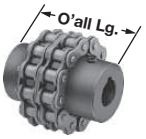

Components of a Coupling Shown Assembled

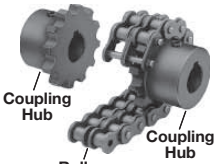



Rugged, roller-chain design allows excellent torque and angular misalignment capacities. All couplings have a keyway with standard ANSI keyway dimensions for a more secure hold on keyed shafts. Lubrication is required. To create a complete coupling, order two hubs and one roller chain from the same line in the listing below. Complete couplings meet ANSI B29.23M-1995.

Coupling hubs are machined steel with hardened teeth (6407K41 has 12 teeth; 6407K42 and 6407K43 have 16 teeth; 6407K44 has 18 teeth). They fasten to your shafts with one set screw, which bites into the shafts for a tight hold.

Roller chains are steel and are double stranded. 6407K51 and 6407K52 are ANSI No. 40-2; 6407K53 is ANSI No. 50-2; 6407K54 is ANSI No. 60-2.

Optional covers retain grease lubrication and provide protection from abrasion and corrosion. They're made of nylon. Color is orange.

To Order: For coupling hubs, please specify shaft dia. size in 1/8" increments from those available below.

O'all Lg.	OD With Cover	OD Without Cover	Max. rpm	Max. Torque, in.-lbs.	Maximum Misalignment Parallel	Angular	Coupling Hubs (2 Required for Complete Coupling) Available Sizes For Shaft Dia.			Roller Chains		Optional Covers	
2.55"	4"	2.4"	5,000	1,355	0.012"	2°	1/2" to 3/4"	6407K41	$16.68	6407K51	$16.24	6407K71	$74.72
2.55"	4"	3.04"	5,000	2,410	0.012"	2°	5/8" to 1 1/4"	6407K42	19.71	6407K52	18.03	6407K72	74.72
2.9"	5 1/8"	3.78"	4,000	4,610	0.012"	2°	3/4" to 1 5/8"	6407K43	26.74	6407K53	18.80	6407K73	92.63
3.45"	6 3/8"	5"	3,000	10,900	0.012"	1.5°	1" to 2 7/16"	6407K44	41.79	6407K54	37.08	6407K74	127.60

Heavy Duty High-Torque Replaceable-Center Flexible Shaft Couplings



Components of a Coupling Shown Assembled

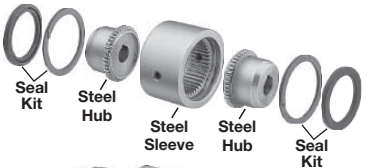

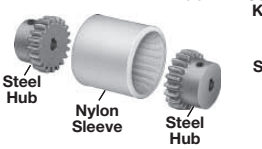

Compensate for parallel, angular, and axial misalignment in high-torque applications. Couplings have a keyway with standard ANSI keyway dimensions for a more secure hold on keyed shafts.

Steel hub and steel sleeve couplings have a rigid gear design, which transmits more torque than other couplings of the same size. Lubrication is required. To install, heat the hubs to expand them slightly and fit them onto the shaft. When they cool, hubs shrink to fit the shaft tightly. To create a complete coupling, order two hubs, one sleeve, and one seal kit from the same line in the listing below. Each *seal kit* includes two Buna-N lubrication seals and two steel snap rings.

Steel hub and nylon sleeve couplings are compact and lightweight. Lubrication is not required. Maximum temperature is 180° F. Hubs fasten to your shafts with two set screws, which bite into the shafts for a tight hold. To create a complete coupling, order two hubs and one sleeve from the same line in the listing below.

To Order: For coupling hubs, please specify shaft dia. size in 1/8" increments from those available below.

O'all Lg.	OD	Max. rpm	Max. Torque, in.-lbs.	Maximum Misalignment Parallel	Angular	Axial	Coupling Hubs (2 Required for Complete Coupling) Available Sizes For Shaft Dia.			Sleeves		Seal Kits (1 Required for Complete Coupling)	
Steel Hub and Steel Sleeve													
3 1/8"	3 5/16"	6,000	2,500	0.005"	1°	0.03"	3/4" to 1 1/4"	6454K11	$93.12	6454K21	$89.75	6454K31	$25.43
3 3/4"	3 3/4"	5,000	7,600	0.007"	1°	0.03"	1 1/4" to 1 5/8"	6454K13	96.53	6454K23	105.38	6454K33	25.43
4 1/4"	4 3/4"	4,200	20,200	0.007"	1°	0.03"	1 1/4" to 2 1/8"	6454K15	105.38	6454K25	135.49	6454K35	32.17
4 3/4"	5 1/2"	3,750	30,200	0.007"	1°	0.05"	1 7/8" to 2 3/8"	6454K17	145.93	6454K27	171.62	6454K37	50.80
Steel Hub and Nylon Sleeve													
1.77"	1.57"	14,000	255	0.016"	1°	0.04"	1/4" to 5/8"	6247K21	17.29	6247K31	10.42		
1.96"	1.9"	11,800	425	0.016"	1°	0.04"	7/16" to 3/4"	6247K22	18.74	6247K32	11.39		
2.07"	2.05"	10,600	530	0.016"	1°	0.04"	1/2" to 7/8"	6247K23	20.16	6247K33	13.10		
3.15"	3"	7,500	1,590	0.016"	1°	0.04"	1/2" to 1 1/4"	6247K25	42.13	6247K35	25.77		
3.15"	3.25"	6,700	2,120	0.016"	1°	0.04"	1/2" to 1 1/2"	6247K26	56.32	6247K36	32.94		
3.17"	2.58"	8,500	1,195	0.016"	1°	0.04"	1/2" to 1 1/8"	6247K24	31.97	6247K34	20.29		
3.36"	3.63"	6,000	2,655	0.016"	1°	0.04"	5/8" to 1 5/8"	6247K27	68.87	6247K37	40.23		
3.91"	3.88"	5,600	3,715	0.016"	1°	0.04"	5/8" to 1 7/8"	6247K28	81.68	6247K38	47.84		

Over-Torque-Prevention Flexible Shaft Couplings



If they exceed maximum torque, these couplings disengage, sound an alarm, and then automatically re-engage once the over-torque condition is eliminated. Torque can be adjusted ±10% of the factory setting. Maximum rpm is 1,800. No lubrication is required.

Couplings have a steel body and aluminum hubs. They also have a keyway with standard ANSI keyway dimensions (except 6609K11 does not have a keyway) that, when used with a key on a keyed shaft, provides a more secure hold. All fasten to your shafts with two set screws, which bite into the shafts for a tight hold.

To Order: Please specify maximum torque: 25, 50, 75, 100, or 125 in.-lbs.

For Shaft Dia.	Lg.	OD	Max. Misalignment Parallel	Angular		
1/2"	3"	3 1/2"	0.031"	6°	6609K11	$80.00
5/8"	3"	3 1/2"	0.031"	6°	6609K12	83.33
3/4"	3"	3 1/2"	0.031"	6°	6609K13	86.96
7/8"	3"	3 1/2"	0.031"	6°	6609K14	$88.89
1"	3"	3 1/2"	0.031"	6°	6609K15	90.91

About U-Joints (Universal Joints)

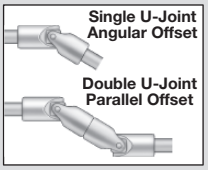

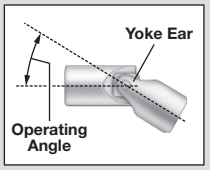

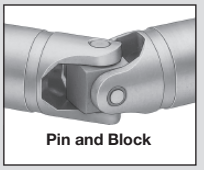

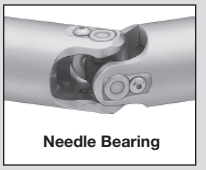

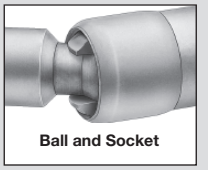

U-joints are used to connect two shafts that have a high amount of misalignment. When choosing a U-joint, consider the amount of misalignment as well as the speed (rpm) and torque the joint will need to transmit. The more the shafts are misaligned, the less speed and torque the U-joint will be able to transmit.

Single U-joints compensate for angular offset, while **double U-joints** compensate for parallel offset. When using two single U-joints or one double U-joint, the U-joints must be installed at the same operating angle and the yoke ears must be aligned. As the operating angle increases, the working torque decreases.

Optional protective boots, also known as bellows, keep lubricant in and contaminants out. They are sold separately on page 3872.

Pin-and-Block U-Joints—Have the simplest design: a block and two pins. They work at slower speeds but transmit greater torque than needle-bearing U-joints of similar size.

Needle-Bearing U-Joints—Needle bearings reduce side-to-side play (backlash), increasing rpm capability. They can operate at much higher speeds than pin-and-block and ball-and-socket U-joints.

Ball-and-Socket U-Joints—Operate smoothly, with no side-to-side play (backlash) so they are good for applications requiring consistent motion and precise control. They generally transmit lower torque than pin-and-block U-joints and work at slower speeds than needle-bearing U-joints.

Pin-and-Block U-Joints



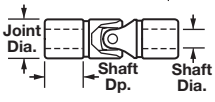



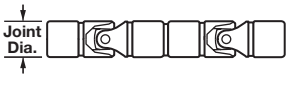

Simple yet strong, these U-joints connect shafts at angles up to 25°. Maximum rpm is 1,750. All have grooves for holding protective boots (not included; please see page 3872). U-joints *with keyway and set screw* connect to shafts with an included set screw and a keyway with standard ANSI keyway dimensions. To connect all others, drill a hole through the joint and shaft and insert a spring pin (not included; please see pages 3359-3365).

Type 303 stainless steel offers excellent corrosion resistance.

Unbored Ends—Have a small centered starter hole for boring.

For Shaft★ Dia.	Dp.	Joint Dia.	O'all Lg.	Max. Torque, in.-lbs.	Working Torque (in.-lbs. @ 300 rpm) 3° Angle	10° Angle		
Bored Ends								
Steel Single U-Joints with Keyway and Set Screw								
1/2"	1"	1"	3 3/8"	1,560	595	200	8285K33	$68.85
9/16"	1"	1"	3 3/8"	1,560	595	200	8285K11	68.85
5/8"	1"	1 1/8"	3 1/2"	2,880	785	260	8285K13	84.42
3/4"	1 1/16"	1 1/4"	3 3/4"	5,220	980	330	8285K15	90.70
7/8"	1 3/8"	1 3/4"	5"	10,680	2,005	675	8285K25	160.45
1"	1 3/8"	1 3/4"	5"	10,680	2,005	675	8285K18	160.45
1 3/16"	1 1/2"	2"	5 7/16"	15,600	2,635	885	8285K31	189.00
1 1/2"	2"	2 1/2"	7"	33,120	3,950	1,330	8285K22	271.06
1 13/16"	2 3/4"	3"	9 1/16"	65,400	5,750	1,940	8285K24	416.38
Steel Single U-Joints								
1/4"	5/8"	1/2"	2"	375	150	51	6443K24	50.37
5/16"	1 1/16"	5/8"	2 1/4"	540	245	83	6443K46	51.56
3/8"	7/8"	3/4"	2 11/16"	765	330	110	6443K27	51.56
7/16"	7/8"	7/8"	3"	1,175	445	150	6443K28	65.00
1/2"	1"	1"	3 3/8"	1,560	595	200	6443K49	71.00
9/16"	1"	1 1/8"	3 1/2"	2,880	785	260	6443K39	87.06
5/8"	1 1/16"	1 1/4"	3 3/4"	5,220	980	330	6443K62	93.53
3/4"	1 3/16"	1 1/2"	4 1/4"	7,920	1,425	480	6443K65	112.47
7/8"	1 3/8"	1 3/4"	5"	10,680	2,005	675	6443K74	165.47
1"	1 1/2"	2"	5 7/16"	15,600	2,635	885	6443K75	194.28
1 1/4"	2"	2 1/2"	7"	33,120	3,950	1,330	6443K76	318.50
1 1/2"	2 3/4"	3"	9 1/16"	65,400	5,750	1,940	6443K77	489.25
Type 303 Stainless Steel Single U-Joints								
3/8"	7/8"	3/4"	2 11/16"	510	330	110	6443K51	131.88
1/2"	1"	1"	3 3/8"	1,040	595	200	6443K53	177.50
Type 303 Stainless Steel Single U-Joints (Cont.)								
5/8"	1 1/16"	1 1/4"	3 3/4"	3,480	980	330	6443K78	$216.00
3/4"	1 3/16"	1 1/2"	4 1/4"	5,280	1,425	480	6443K79	256.57
1"	1 1/2"	2"	5 7/16"	10,400	2,635	885	6443K82	402.93
Steel Double U-Joints								
1/4"	5/8"	1/2"	4"	375	150	51	6443K26	127.09
5/16"	1 1/16"	5/8"	4 1/2"	540	245	83	6443K56	133.09
3/8"	7/8"	3/4"	5 3/8"	765	330	110	6443K83	133.09
1/2"	1"	1"	6 3/4"	1,560	595	200	6443K57	178.69
5/8"	1 1/16"	1 1/4"	7 1/2"	5,220	980	330	6443K85	218.17
3/4"	1 3/16"	1 1/2"	8 1/2"	7,920	1,425	480	6443K94	258.77
Unbored Ends								
Steel Single U-Joints								
3/8"	5/8"	1/2"	2"	375	150	51	6443K12	45.31
1/2"	1 1/16"	5/8"	2 1/4"	540	245	83	6443K42	46.31
5/8"	7/8"	3/4"	2 11/16"	765	330	110	6443K13	46.31
Steel Double U-Joints								
3/8"	5/8"	1/2"	4"	375	150	51	6443K15	114.88
1/2"	1 1/16"	5/8"	4 1/2"	540	245	83	6443K52	116.53
5/8"	7/8"	3/4"	5 3/8"	765	330	110	6443K63	119.94
1 1/16"	7/8"	7/8"	6"	1,175	445	150	6443K64	148.69
3/4"	1"	1"	6 3/4"	1,560	595	200	6443K55	160.69
1"	1 1/16"	1 1/4"	7 1/2"	5,220	980	330	6443K29	196.29
1 1/8"	1 3/16"	1 1/2"	8 1/2"	7,920	1,425	480	6443K38	234.63

★ For U-Joints with unbored ends, dimensions shown are the maximum shaft diameter and depth.

Low-Speed Pin-and-Block U-Joints



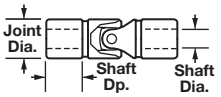

Choose these die cast zinc U-joints for hand-powered, low-speed applications. All connect shafts at angles up to 15°. To connect U-joints to a shaft, drill a hole through the joint and shaft and insert a spring pin (not included; please see pages 3359-3365). Not rated for maximum rpm.

For Shaft Dia.	Dp.	Joint Dia.	O'all Lg.	Max. Torque, in.-lbs.		
1/4"	9/16"	9/16"	2"	150	6445K1	$15.80
5/16"	9/16"	9/16"	2"	125	6445K2	16.27
3/8"	7/8"	13/16"	2 7/8"	75	6445K3	17.18
1/2"	7/8"	13/16"	2 7/8"	75	6445K4	17.71
5/8"	15/16"	1 1/8"	3 1/4"	500	6445K5	20.16
3/4"	15/16"	1 1/8"	3 1/4"	500	6445K6	20.16

Easy-to-Machine Mil. Spec. Pin-and-Block U-Joints



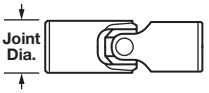

U-joints come apart and ends have a centered starter hole to make drilling easy. Use them to connect shafts at angles up to 35°. Joints have a ball-spring oil fitting for lubrication (except joint for 1/2" maximum shaft diameter). Max. rpm is 1,500.

Alloy steel joints have hardened yoke ears for added strength and durability. Meet MIL-U-20625A, Class A.

Type 303 stainless steel joints offer excellent corrosion resistance. Meet MIL-U-20625A, Class C.

For Maximum Shaft Dia.	Dp.	Joint Dia.	O'all Lg.	Max. Torque, in.-lbs.	Work. Torque (in.-lbs. @ 300 rpm) 3° Angle	10° Angle		
Alloy Steel								
1/2"	1"	7/8"	3"	1,800	345	225	2456K15	$62.38
9/16"	13/16"	1"	3 3/8"	3,050	585	380	2456K16	60.45
3/4"	1 1/4"	1 1/4"	3 3/4"	5,500	1,055	685	2456K17	75.89
7/8"	1 5/16"	1 1/2"	4 1/4"	9,000	1,730	1,125	2456K18	92.68
1"	1 9/16"	1 3/4"	5"	14,000	2,690	1,750	2456K19	124.23
1 3/16"	1 5/8"	2"	5 7/16"	22,000	4,230	2,750	2456K21	173.94
1 1/2"	2 1/16"	2 1/2"	7"	32,000	6,150	4,000	2456K22	359.04
Type 303 Stainless Steel								
9/16"	13/16"	1"	3 3/8"	1,900	365	235	2457K16	114.34
3/4"	1 1/4"	1 1/4"	3 3/4"	3,600	690	450	2457K17	134.85
7/8"	1 5/16"	1 1/2"	4 1/4"	7,200	1,385	900	2457K18	159.45
1 3/16"	1 5/8"	2"	5 7/16"	15,500	2,980	1,935	2457K21	286.60

High-Torque Needle-Bearing U-Joints



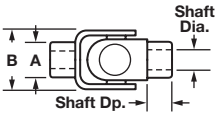

Oversized U-joints handle more torque than any other needle-bearing U-joint we offer. They connect shafts at angles up to 45° and their lube fittings make lubrication easy. U-joints connect to shafts with included set screws and a keyway with standard ANSI keyway dimensions (except heavy duty U-joint with 7/8" shaft dia., which has a 1/4" x 1/8" keyway). Maximum rpm is 1,000.

Standard joints are cast ductile iron. Overall length is 5".

Heavy duty joints are forged steel. Overall length is 5 1/2".

For Shaft Dia.	Dp.	Joint Dia. (A)	O'all Dia. (B)	Working Torque (in.-lbs. @ 1,000 rpm) 3° Angle	10° Angle		
Standard—Maximum torque is 11,600 in.-lbs.							
3/4"	1 13/64"	1 5/8"	2 1/2"	1,260	720	6452K1	$77.85
7/8"	1 13/64"	1 5/8"	2 1/2"	1,260	720	6452K3	107.97
1"	1 13/64"	1 5/8"	2 1/2"	1,260	720	6452K5	77.85
1 1/8"	1 5/32"	2 1/4"	2 1/2"	1,260	720	6452K6	103.86
1 1/4"	1 5/32"	2 1/4"	2 1/2"	1,260	720	6452K7	105.06
Heavy Duty—Maximum torque is 22,700 in.-lbs.							
3/4"	1 29/64"	2"	2 9/16"	2,220	1,260	6472K31	165.43
7/8"	1 29/64"	2"	2 9/16"	2,220	1,260	6472K16	117.02
1"	1 29/64"	2"	2 9/16"	2,220	1,260	6472K21	105.25
1 1/8"	1 29/64"	2"	2 9/16"	2,220	1,260	6472K23	109.35
1 1/4"	1 3/16"	2 1/4"	2 9/16"	2,220	1,260	6472K25	110.67
1 1/2"	1 3/16"	2 1/4"	2 9/16"	2,220	1,260	6472K33	114.35

High-Speed Compact Needle-Bearing U-Joints



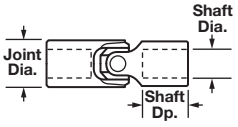



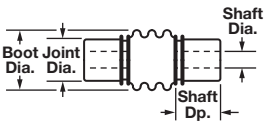

Compact, yet capable of transmitting extremely high speeds. All U-joints connect shafts at angles up to 35°. Maximum rpm is 6,000.

Standard—To connect these U-joints to a shaft, drill a hole through the joint and shaft and insert a spring pin (not included; please see pages 3359-3365).

Booted with Keyway—U-joints have a protective boot (nitrile for alloy steel U-joints; silicone for stainless steel U-joints) to keep lubricant in and contaminants out. All U-joints connect to shafts with an included set screw and a keyway with standard ANSI keyway dimensions.

Type 303 stainless steel offers excellent corrosion resistance. All have Type 303 stainless steel hubs and steel needle bearings.

For Shaft Dia.	Dp.	Joint Dia.	O'all Lg.	Max. Torque, in.-lbs.	Working Torque (in.-lbs. @ 1,000 rpm) 3° Angle	10° Angle	Standard Alloy Steel		Standard Type 303 SS		Booted with Keyway Boot Dia.	Booted with Keyway Alloy Steel		Booted with Keyway Type 303 SS	
3/8"	15/16"	3/4"	2 11/16"	95	28	19	8284K72	$139.79	2455K72	$170.38	1 3/8"	8284K22	$190.79	2455K22	$206.44
1/2"	1 3/16"	1"	3 3/8"	215	110	77	8284K73	177.56	2455K73	213.08	1 1/2"	8284K23	241.46	2455K23	260.04
5/8"	1 1/4"	1 1/4"	3 3/4"	700	275	185	8284K74	180.17	2455K74	219.62	1 7/8"	8284K24	245.29	2455K24	268.12
3/4"	1 3/8"	1 1/2"	4 1/4"	1,780	545	370	8284K75	201.50	2455K75	245.63	2 1/4"	8284K25	251.73	2455K25	289.84
1"	1 11/16"	2"	5 1/2"	4,300	1,050	705	8284K76	244.27	2455K76	297.78	2 11/16"	8284K26	278.31	2455K26	368.25

Extreme-Angle Geared U-Joints



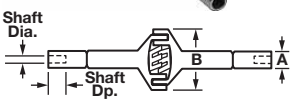

A set of gears transmit rotary motion at angles up to 136°—the widest angle of all our U-joints. All have a gear ratio of 1:1 and are good for hand-powered, low-speed applications. U-joints and gears are steel. To connect to a shaft, drill a hole through the joint and shaft and insert a spring pin (not included; please see pages 3359-3365). Not rated for torque.

For Shaft Dia.	Dp.	Joint Dia. (A)	O'all Dia. (B)	O'all Lg.		
7/16"	1 1/8"	3/4"	2 3/4"	10 1/4"	6450K1	$145.42
1/2"	1 1/8"	3/4"	2 3/4"	10 1/4"	6450K2	148.39
9/16"	1 1/8"	3/4"	2 3/4"	10 1/4"	6450K3	148.39

Ball-and-Socket U-Joints

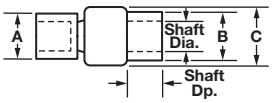



Steel



Plastic

Select ball-and-socket U-joints for smooth, consistent motion with zero backlash (no play).

Steel joints connect shafts at angles up to 30°. Use the included spring pins to connect. Maximum rpm is 1,800.

Plastic joints connect shafts at angles up to 45°. To connect, drill a hole through the joint and shaft and insert a spring pin (not included; please see pages 3359-3365). Maximum temperature is 410° F. Not rated for rpm.

For Shaft Dia.	Dp.	Joint Dia. (A)	(B)	O'all Dia. (C)	O'all Lg.	Max. Torque, in.-lbs.		
Steel								
3/8"	9/16"	9/16"	11/16"	3/4"	2"	635	**6441K2**	$282.60
5/8"	15/16"	15/16"	1 5/32"	1 1/4"	3 13/32"	2,930	**6441K4**	199.80
Plastic								
3/16"	0.3"	0.41"	0.41"	0.43"	1.10"	13	**60625K92**	17.05
7/16"	0.6"	0.75"	0.75"	0.79"	1.97"	43	**60625K95**	31.06

Corrosion-Resistant Miniature Ball-and-Socket U-Joints

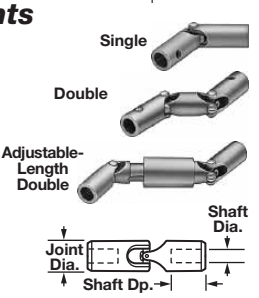

Able to stand up to corrosion, these tiny joints are Type 303 and Type 440 stainless steel with sealed-in lubrication. They connect small shafts at angles up to 30°. Not rated for rpm.

To connect 60075K77 and 60075K87 joints to a shaft, use a 6-32 set screw (not included) at each end. To connect all others, drill a hole through the joint and shaft and insert a spring pin (not included; please see pages 3359-3365).

Adjustable-length double joint adjusts from 2 3/4" to 3" long. The center section is 9/16" diameter.

For Shaft Dia.	Dp.	Joint Dia.	O'all Lg.	Max. Torque, in.-lbs.	*Working Torque (in.-lbs. @ 1,500 rpm)* 5° Angle	10° Angle		
Single U-Joints								
3/32"	11/32"	3/16"	1"	1	0.9	0.8	**60075K74**	$49.79
1/8"	3/16"	3/16"	1"	1	0.9	0.8	**60075K75**	49.79
3/16"	7/16"	9/32"	1 3/8"	4	3.6	3.2	**60075K76**	49.79
1/4"	1/2"	3/8"	1 3/4"	16	14.4	12.8	**60075K77**	49.79
Double U-Joint								
1/4"	1/2"	3/8"	2 1/2"	16	14.4	12.8	**60075K87**	104.90
Adjustable-Length Double U-Joint								
1/4"	3/8"	3/8"	2 3/4"	16	14.4	12.8	**60075K97**	193.75

Flexible Drive Shafts



Standard Steel Shaft with Female Fittings on Both Ends

Fittings for Standard Drive Shafts

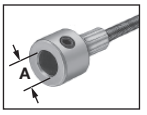

Female

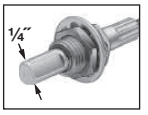

Panel Mount

Fittings for Heavy Duty Drive Shafts

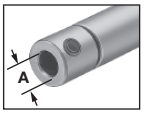

Female

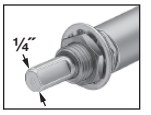

Panel Mount

Snake these flexible drive shafts around curves and obstructions to transmit rotary motion along any path. Shafts operate in clockwise and counterclockwise directions (except standard Type 316 stainless steel shafts operate in clockwise direction only). Maximum torque is reduced by approximately 30% when operating counterclockwise. Rotate drive shafts manually with a knob (not included) or mechanically.

Female fittings include set screws for securing.

Panel-mount fittings attach to a panel by pushing the drive end of the shaft through a 3/8" hole in the panel and securing with the included locknuts. The drive end measures 1/4" in diameter and has a flat side for fastening to a manual control knob.

Standard Drive Shafts—*Steel shafts* have zinc-plated steel fittings. *Type 316 stainless steel shafts* have Type 316 stainless steel fittings and offer superior corrosion resistance.

Heavy Duty Drive Shafts—With a strong carbon steel core, a protective plastic case, and bearings, these rugged shafts handle the demands of high-torque applications. Fittings are carbon steel (except shafts with panel-mount fitting and female fitting, which are zinc-plated carbon steel). Maximum temperature is 190° F.

Shafts with steel ball bearings allow higher speeds than shafts with bronze bearings.

Standard

O'all Lg., ft.	For Shaft Dia. (A)	Shaft OD (B)	Max. rpm	Max. Torque, in.-lbs.	Bend Radius		
Steel Shafts with Female Fittings on Both Ends							
0.5	1/4"	5/32"	20,000	30	4"	**3787K11**	$75.60
0.5	1/4"	3/16"	15,000	65	5"	**3787K12**	76.40
0.5	1/4"	1/4"	10,000	110	5"	**3787K13**	79.26
1	1/4"	5/32"	20,000	30	4"	**3787K14**	76.06
1	1/4"	1/4"	10,000	110	5"	**3787K16**	79.89
1.5	1/4"	3/16"	15,000	65	5"	**3787K18**	76.40
1.5	1/4"	1/4"	10,000	110	5"	**3787K19**	80.69
2	1/4"	5/32"	20,000	30	4"	**3787K21**	76.97
2	1/4"	1/4"	10,000	110	5"	**3787K23**	84.94
3	1/4"	5/32"	20,000	30	4"	**3787K24**	77.49
3	1/4"	3/16"	15,000	65	5"	**3787K25**	85.37
3	1/4"	1/4"	10,000	110	5"	**3787K26**	89.57
Steel Shafts with Panel-Mount Fitting and Female Fitting							
0.5	1/4"	1/8"	200	20	3"	**3127K19**	81.74
1	1/4"	1/8"	200	20	3"	**3127K21**	82.14
1	1/4"	3/16"	200	65	5"	**5910K76**	104.95
1.5	1/4"	1/8"	200	20	3"	**3127K22**	82.57
1.5	1/4"	3/16"	200	65	5"	**5910K78**	105.26
2	1/4"	1/8"	200	20	3"	**3127K23**	82.94
2	1/4"	3/16"	200	65	5"	**5910K92**	105.57
3	1/4"	1/8"	200	20	3"	**3127K24**	83.83
3	1/4"	3/16"	200	65	5"	**5910K93**	111.60
Type 316 Stainless Steel Shafts with Female Fittings on Both Ends							
0.5	1/4"	0.130"	200	25	2"	**3135K15**	87.88
0.5	1/4"	0.150"	200	25	2 1/2"	**3135K16**	87.85
1	1/4"	0.130"	200	25	2"	**3135K22**	88.71
1.5	1/4"	0.130"	200	25	2"	**3135K28**	93.88

Heavy Duty

O'all Lg., ft.	For Shaft Dia. (A)	Shaft OD (B)	Max. rpm	Max. Torque, in.-lbs.	Bend Radius		
Steel Shafts with Bronze Sleeve Bearings and Female Fittings on Both Ends							
1	1/4"	1/2"	6,000	50	4"	**6426K101**	$167.55
2	1/4"	1/2"	6,000	50	4"	**6426K102**	184.15
2	1/4"	19/32"	5,000	80	5"	**6426K112**	209.37
2	1/2"	27/32"	3,600	390	7"	**6426K122**	241.42
3	1/4"	1/2"	6,000	50	4"	**6426K62**	195.17
3	1/4"	19/32"	5,000	80	5"	**6426K63**	225.97
3	1/2"	27/32"	3,600	390	7"	**6426K66**	266.84
4	1/4"	1/2"	6,000	50	4"	**6426K104**	217.30
4	1/4"	19/32"	5,000	80	5"	**6426K64**	242.53
4	1/2"	27/32"	3,600	390	7"	**6426K67**	292.31
Steel Shafts with Steel Ball Bearings and Female Fittings on Both Ends							
1	1/4"	1/2"	25,000	50	4"	**6426K201**	158.92
2	1/4"	1/2"	25,000	50	4"	**6426K202**	174.40
2	1/2"	27/32"	15,000	390	7"	**6426K222**	388.60
2	1/2"	1"	10,000	620	10"	**6426K232**	445.12
3	1/4"	1/2"	25,000	50	4"	**6426K203**	189.90
3	1/4"	19/32"	20,000	80	5"	**6426K83**	277.48
3	1/2"	27/32"	15,000	390	7"	**6426K86**	412.66
3	1/2"	1"	10,000	620	10"	**6426K233**	468.92
4	1/4"	19/32"	20,000	80	5"	**6426K84**	292.94
4	1/2"	27/32"	15,000	390	7"	**6426K87**	436.45
4	1/2"	1 3/16"	8,000	950	12"	**6426K94**	516.22
Steel Shafts with Bronze Sleeve Bearings, Panel-Mount Fitting, and Female Fitting							
3	1/4"	25/64"	200	65	5"	**5910K62**	272.67
4	1/4"	25/64"	200	65	5"	**5910K63**	310.36
6	1/4"	25/64"	200	65	5"	**5910K82**	385.88

Push/Pull Control Cables

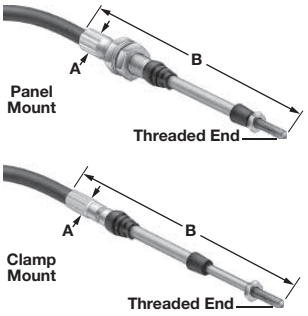

Weave these flexible cables around obstructions to initiate push/pull motion to operate valves, throttle controls, and HVAC damper controls from a remote location. Operate with a lever or knob (not included).

Standard cables have a plastic conduit cover, stainless steel core, and zinc-plated steel fittings. Temperature range is –40° to 210° F.

Corrosion-resistant cables have a plastic conduit cover, steel core, and 300 series stainless steel fittings. Temperature range is –65° to 230° F.

Low-friction cables have a splined steel core that limits the number of contact points against the liner to provide extra-smooth movement. It also prevents the cable from twisting during operation. Cables have a plastic conduit cover with a lubricant-impregnated lining. Fittings are zinc-plated steel. Temperature range is –40° to 210° F.

Panel-Mount Cables— Also known as bulkhead mount cables, these have threaded fittings with hex nuts and washers at each end for mounting through a panel.

Clamp-Mount Cables— Have threaded fittings on both ends and a grooved body for mounting with U-bolts or strap clamps (sold separately below).

Threaded Ends	O'all Lg., ft.	Max. Stroke	Dynamic Push/Pull Load, lbs.	Bend Radius	Panel Mount Dia. (A)	Panel Mount Fitting Lg. (B)			Clamp Mount Dia. (A)	Clamp Mount Fitting Lg. (B)		
Standard												
10-32 × 7/8"	3	2"	50/50	8"	7/16"	7 5/16"	3125K44	$41.38	7/16"	6 1/2"	3125K22	$34.15
10-32 × 7/8"	6	2"	50/50	8"	7/16"	7 5/16"	3125K48	47.09	7/16"	6 1/2"	3125K26	36.79
Corrosion Resistant												
10-32 × 7/8"	5	3"	70/120	2"	29/64"	10 1/8"	1407K57	48.96	29/64"	9 5/8"	2695K11	46.39
1/4"-28 × 1"	5	3"	125/230	3"	21/32"	11 3/16"	1407K73	78.26	21/32"	10 1/4"	2695K26	79.34
Low Friction												
10-32 × 7/8"	4	3"	40/50	8"	7/16"	8 53/64"	1338K11	49.57	7/16"	8"	2691K11	49.96
1/4"-28 × 1"	3	3"	130/170	8"	5/8"	9 25/64"	3125K89	62.98	9/16"	8 3/8"	3125K67	58.30
1/4"-28 × 1"	4	3"	130/170	8"	5/8"	9 25/64"	1338K21	65.70	9/16"	8 3/8"	2691K21	61.02
1/4"-28 × 1"	6	2"	150/170	8"	5/8"	7 57/64"	3125K93	71.15	9/16"	6 7/8"	3125K71	66.47
1/4"-28 × 1"	6	3"	130/170	8"	5/8"	9 25/64"	1338K22	71.15	9/16"	8 3/8"	2691K22	66.47
1/4"-28 × 1"	6	4"	110/170	8"	5/8"	10 57/64"	3125K95	71.15	9/16"	9 7/8"	3125K73	66.47
1/4"-28 × 1"	15	4"	110/170	8"	5/8"	10 57/64"	3125K104	95.72	9/16"	9 7/8"	3125K82	91.04

Accessories

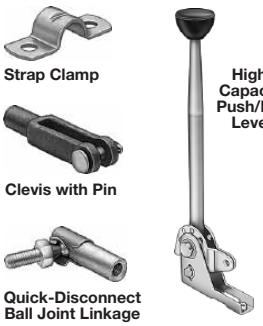

Clevis with pin makes durable pivot-point linkages for shafts.

Quick-disconnect ball joint linkage allows an excellent pivoting connection between a shaft and a control.

High-capacity push/pull lever handles up to 200 lbs. of dynamic push/pull loads and is for use with cables that have a 3" maximum stroke (load rating with cable and hardware will be limited to the lowest rated component in your system). Lever is zinc-plated steel with a plastic knob and is 5 3/8" Lg. × 15 1/2" Ht.

	For Cables with 10-32 × 7/8" Threaded Ends		For Cables with 1/4"-28 × 1" Threaded Ends	
Strap Clamp for Standard and Low-Friction Clamp-Mount Cables	3125K11	$1.21	3125K12	$1.93
Strap Clamp for Corrosion-Resistant Clamp-Mount Cables	2695K84	2.39	2695K85	2.61
Clevis with Pin	6071K11	6.60	6071K12	4.98
Quick-Disconnect Ball Joint Linkage	2695K88	2.36	6058K32	5.10
High-Capacity Push/Pull Lever	—	—	1373K21	38.45

Lever and Knob Push/Pull Control Cables

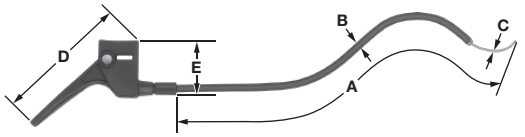

Trigger Lever Controlled Cable



Knob Controlled—Nonlocking



Knob Controlled—Turn to Lock



Precision Knob Controlled

Conveniently supplied with a lever or knob, these cable assemblies are ready to initiate push/pull motion from a remote location. The cables are flexible and can be angled around obstructions.

Trigger lever controlled cable assembly has a nylon spring-return trigger attached to a control cable. The cable has a galvanized steel core with a vinyl conduit cover and can be cut to length. Mount to a 3/4" to 1" dia. tube or handlebar with a screw (not included; 0.2" hole dia.). Maximum temperature is 120° F.

Knob controlled cable assemblies have a plastic knob attached to a control cable. The cable has a Type 302 stainless steel core with a polyethylene conduit cover and can be cut to length. All can be panel mounted. Temperature range is –40° to 225° F.

Turn to lock can be locked in position, which is good for applications where severe vibration is a concern. Pull and turn the handle to its locking position.

Precision is for fine-tuning throttle positions.

Cable Lg. (A)	Cable OD (B)	Cable Core Dia. (C)	Max. Stroke	Dynamic Push/Pull Load, lbs.	Bend Radius	Lever Lg. (D)	Lever Ht. (E)	Knob Dia. (F)	Knob Mounting Thread Size		
Trigger Lever Controlled											
10 ft.	0.22"	0.06"	0.69"	20	3 1/2"	3.79"	1.57"	—	—	3790K11	$24.44
Knob Controlled— Nonlocking											
10' 8"	0.31"	0.085"	5"	50	6"	—	—	2"	1/2"-20	6059K1	27.67
15' 8"	0.31"	0.085"	5"	50	6"	—	—	2"	1/2"-20	6059K7	29.78
Knob Controlled— Turn to Lock											
9 ft.	0.31"	0.085"	3"	25	6"	—	—	2 1/2"	5/8"-18	6161K11	47.27
15 ft.	0.31"	0.085"	3"	25	6"	—	—	2 1/2"	5/8"-18	6161K12	50.98
25 ft.	0.31"	0.085"	3"	25	6"	—	—	2 1/2"	5/8"-18	6161K13	67.04
Precision Knob Controlled— Turn to Lock											
5 ft.	0.31"	0.085"	3"	25	6"	—	—	1.62"	3/4"-16	6059K4	38.04

About Rod Ends

Rod ends are connectors that support loads and allow motion control. You'll find them in a multitude of applications: steering, tensioning, and controlling movement at pivot points.

Ball Joint Rod Ends (pages 1247-1255)— Have a housing and a ball that swivels to handle angular misalignment. They're also known as rod-end bearings. *Ball-joint linkages* are ball-joint rod ends with studs attached to simplify mounting.

Solid Rod Ends (pages 1256-1258)— Have no moving parts and are designed to handle heavier static loads. Also known as swing bolts and eyebolts, their one-piece body doesn't allow angular misalignment.



Left- and right-hand rod ends (ball joint or solid style) create connections that adjust for tension.



Ball-joint linkages handle misalignment as well as changes in direction.

CAD For technical drawings and 3-D models, go to mcmaster.com.

Ball Joint Rod Ends

Dimensions

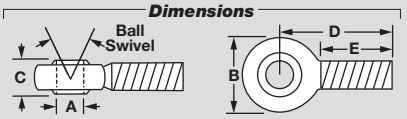

Thread Direction

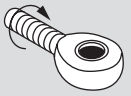

Right-hand threaded shank tightens when turned clockwise. This is the most common thread.

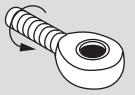

Left-hand threaded shank tightens when turned counter-clockwise.

Steel Ball Joint Rod Ends CAD

Our general purpose rod ends will meet your basic connection needs.

Inch sizes have a zinc-plated steel housing and chrome-plated steel ball (unless noted).

Inch sizes with grease fitting are easy to lubricate. Housing is steel. Ball is chrome-plated steel.

Inch sizes with oversized shank have a shank that is one size larger than the ball ID to handle greater stress. Housing is zinc-plated steel. Ball is chrome-plated steel.

Inch sizes with self-lubricating insert have a zinc-plated steel ball that glides on a PTFE-lubricated, carbon-fiber-reinforced plastic insert, which provides wear resistance and doesn't require lubrication. Housing is zinc-plated steel.

Metric sizes have an alloy steel ball. Housing is zinc-plated steel (unless noted).

To Order: Please specify right- or left-hand shank threads.



Male Threaded



Female Threaded with Grease Fitting

Shank Thread Size	Ball ID (A)	Max. Ball Swivel	O'all Wd. (B)	O'all Thick. (C)	Male-Threaded Shank (D)	Male-Threaded Shank Thread Lg. (E)	Male-Threaded Shank Static Radial Load Cap., lbs.			Female-Threaded Shank (D)	Female-Threaded Shank Thread Lg.	Female-Threaded Shank Static Radial Load Cap., lbs.		
Inch Sizes														
6-32	1/8"	22°	1/2"	1/4"	15/16"	9/16"	700	60645K61	$5.95	13/16"	7/16"	1,510	60645K78	$5.81
8-32	5/32"	30°	7/16"	5/16"	1"	9/16"	Not Rated	60645K98◆▲	7.50	7/8"	3/8"	Not Rated	60645K97◆▲	7.50
10-32	3/16"	20°	5/8"	5/16"	1 1/4"	3/4"	1,558	60645K11	3.53	1 1/16"	1/2"	2,079	60645K31	3.32
1/4"-28	1/4"	27°	3/4"	3/8"	1 9/16"	1"	2,835	60645K12	3.26	1 5/16"	11/16"	3,820	60645K32	3.11
5/16"-24	5/16"	22°	7/8"	7/16"	1 7/8"	1 1/4"	4,517	60645K13	3.37	1 3/8"	11/16"	5,110	60645K33	3.67
3/8"-24	3/8"	22°	1"	1/2"	1 15/16"	1 1/4"	6,323	60645K14	3.78	1 5/8"	13/16"	6,323	60645K34	3.78
7/16"-20	7/16"	21°	1 1/8"	9/16"	2 1/8"	1 3/8"	7,897	60645K15	5.31	1 13/16"	15/16"	7,897	60645K35	5.80
1/2"-20	1/2"	20°	1 5/16"	5/8"	2 7/16"	1 1/2"	10,046	60645K16	6.58	2 1/8"	1 1/16"	10,046	60645K36	6.58
5/8"-18	5/8"	26°	1 1/2"	3/4"	2 5/8"	1 5/8"	11,385	60645K17	9.94	2 1/2"	1 3/8"	11,385	60645K37	9.64
3/4"-16	3/4"	24°	1 3/4"	7/8"	2 7/8"	1 3/4"	15,894	60645K18	12.34	2 7/8"	1 9/16"	15,894	60645K38	12.74
1"-12	1"	17°	2 3/4"	1 3/8"	4 1/8"	2 1/8"	43,541	60645K62	49.79	4 1/8"	2 1/8"	43,541	60645K72	49.79
1"-14	1"	17°	2 3/4"	1 3/8"	4 1/8"	2 1/8"	43,541	60645K63	49.79	4 1/8"	2 1/8"	43,541	60645K73	49.79
1 1/4"-12	1 1/4"	7°	2 3/4"	1 1/16"	4 1/8"	2 1/8"	44,500	60645K65★	101.22	4 1/8"	2 1/8"	44,500	60645K75★	102.74
1 1/2"-12	1 1/2"	6.5°	3 1/2"	1 5/16"	5 3/8"	3"	64,770	60645K66★	160.48	5 3/8"	2 5/8"	64,770	60645K76★	163.03
2"-12	2"	6°	5"	1 3/4"	8"	4 1/2"	153,528	60645K67★	288.55	8"	4"	153,528	60645K77★	302.88
Inch Sizes with Grease Fitting														
3/8"-24	3/8"	22°	1"	1/2"	1 15/16"	1 1/4"	3,507	4444T1	4.93	1 5/8"	13/16"	5,100	4444T21	4.93
7/16"-20	7/16"	21°	1 1/8"	9/16"	2 1/8"	1 3/8"	4,481	4444T2	6.98	1 13/16"	15/16"	6,420	4444T22	6.98
1/2"-20	1/2"	20°	1 5/16"	5/8"	2 7/16"	1 1/2"	5,870	4444T3	7.05	2 1/8"	1 1/16"	9,100	4444T23	6.98
5/8"-18	5/8"	26°	1 1/2"	3/4"	2 5/8"	1 5/8"	6,869	4444T4	8.30	2 1/2"	1 3/8"	9,800	4444T24	8.30
3/4"-16	3/4"	24°	1 3/4"	7/8"	2 7/8"	1 3/4"	9,436	4444T5	10.05	2 7/8"	1 9/16"	14,250	4444T25	10.05
1"-12	1"	17°	2 3/4"	1 3/8"	4 1/8"	2 1/8"	37,010	4444T6	54.25	4 1/8"	2 1/8"	43,541	4444T26	54.25
1"-14	1"	17°	2 3/4"	1 3/8"	4 1/8"	2 1/8"	37,010	4444T7	54.25	4 1/8"	2 1/8"	43,541	4444T27	54.25
Inch Sizes with Oversized Shank														
1/4"-28	3/16"	20°	3/4"	5/16"	1 9/16"	1"	3,435	60645K81	3.78	1 5/16"	11/16"	4,197	60645K91◆	3.78
5/16"-24	1/4"	27°	7/8"	3/8"	1 7/8"	1 1/4"	5,534	60645K82	4.46	—	—	—	—	—
3/8"-24	5/16"	22°	1"	7/16"	1 15/16"	1 1/4"	6,853	60645K83	4.59	1 5/8"	13/16"	6,323	60645K92◆	4.86
1/2"-20	3/8"	22°	1 1/8"	1/2"	2 1/8"	1 3/8"	8,278	60645K85	7.28	—	—	—	—	—
3/4"-16	5/8"	26°	1 3/4"	3/4"	2 7/8"	1 3/4"	16,922	60645K89	10.68	—	—	—	—	—
1 1/4"-12	1"	17°	2 3/4"	1 3/8"	4 1/8"	2 1/8"	43,541	60645K64	49.79	4 1/8"	2 1/8"	40,889	60645K74	49.79
Inch Sizes with Self-Lubricating Insert														
10-32	3/16"	13°	5/8"	5/16"	1 1/4"	3/4"	1,174	2458K11	5.23	1 1/16"	1/2"	1,220	2458K31	5.23
1/4"-28	1/4"	16°	3/4"	3/8"	1 9/16"	1"	2,168	2458K12	5.38	1 5/16"	11/16"	2,500	2458K32	5.38
5/16"-24	5/16"	14°	7/8"	7/16"	1 7/8"	1 1/4"	2,796	2458K13	5.44	1 3/8"	11/16"	2,753	2458K33	5.44
3/8"-24	3/8"	12°	1"	1/2"	1 15/16"	1 1/4"	4,012	2458K14	5.67	1 5/8"	13/16"	3,950	2458K34	5.67
7/16"-20	7/16"	14°	1 1/8"	9/16"	2 1/8"	1 3/8"	4,244	2458K15	6.76	1 13/16"	15/16"	4,300	2458K35	6.76
1/2"-20	1/2"	12°	1 5/16"	5/8"	2 7/16"	1 1/2"	6,453	2458K16	9.82	2 1/8"	1 1/16"	6,453	2458K36	9.82
5/8"-18	5/8"	16°	1 1/2"	3/4"	2 5/8"	1 5/8"	7,400	2458K17	14.44	2 1/2"	1 3/8"	7,400	2458K37	14.44
3/4"-16	3/4"	14°	1 3/4"	7/8"	2 7/8"	1 3/4"	10,937	2458K18	18.27	2 7/8"	1 9/16"	10,937	2458K38	18.27
Metric Sizes—Dimensions in mm														
M3×0.5	3	30°	9.8	6.3	25	14	Not Rated	59935K11◆▲	7.50	22	10	Not Rated	59935K13◆▲	7.50
M4×0.7	4	30°	11	6.9	25	14	Not Rated	59935K12◆▲	7.50	22	10	Not Rated	59935K14◆▲	7.50
M5×0.8	5	14°	16	8	33	20	1,161	59935K41	9.69	27	14	1,593	59935K51	9.45
M6×1	6	23°	19	9	36	22	1,640	59935K42	6.02	30	14	2,674	59935K52	6.12
M8×1.25	8	28°	22	12	42	25	3,055	59935K43	6.84	36	17	3,414	59935K53	6.41
M10×1.5	10	26°	27	14	48	29	4,726	59935K44	8.98	43	21	5,114	59935K54	8.94
M12×1.75	12	27°	30	16	54	33	5,804	59935K45	12.00	50	24	5,804	59935K55	12.02
M16×2	16	33°	38	21	66	40	8,405	59935K47	21.18	64	33	8,405	59935K57	21.18
M20×1.5	20	29°	46	25	78	47	12,836	59935K48	34.16	77	40	12,836	59935K58	35.59

◆Right-hand shank threads only. ▲Machined steel housing and ball. ★Phosphate-plated bearing steel ball.

Ball Joint Rod Ends

For technical drawings and 3-D models, go to mcmaster.com.

For information about rod ends, see page 1247.

Dimensions

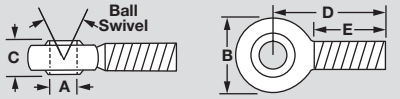

Thread Direction

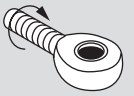

Right-hand threaded shank tightens when turned clockwise. This is the most common thread.

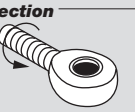

Left-hand threaded shank tightens when turned counter-clockwise.

High-Strength Steel Ball Joint Rod Ends



Male Threaded



Female Threaded

Choose these rod ends for connections that need to handle heavy loads. ***Rod ends with an oversized shank*** have a shank that is one size larger than the ball ID to handle greater stress.

With PTFE-Lined Steel Insert— A PTFE-lined steel insert allows smooth ball rotation and reduces the need for lubrication. Ball is chrome-plated bearing steel and housing is zinc-plated, chromate-treated alloy steel (except rod ends with a 1″-12 thread size have a plain steel housing).

With PTFE/Kevlar Insert— A heat-treated, chrome-plated bearing steel ball glides on a durable, self-lubricating, self-sealing PTFE/Kevlar insert. Housing is heat-treated chrome molybdenum steel.

To Order: Please specify right- or left-hand shank threads.

Shank Thread Size	Ball ID (A)	Max. Ball Swivel	O'all Wd. (B)	O'all Thick. (C)	Male-Threaded Shank (D)	Male-Threaded Shank Thread Lg. (E)	Male-Threaded Shank Static Radial Load Cap., lbs.			Female-Threaded Shank (D)	Female-Threaded Shank Thread Lg. (E)	Female-Threaded Shank Static Radial Load Cap., lbs.		
Inch Sizes with PTFE-Lined Steel Insert														
10-32	3/16″	13°	5/8″	5/16″	1 1/4″	3/4″	2,855	60745K21	$18.14	1 1/16″	1/2″	3,736	60745K41	$18.14
1/4″-28	1/4″	16°	3/4″	3/8″	1 9/16″	1″	5,262	60745K22	18.24	1 5/16″	1 1/16″	6,195	60745K42	18.24
5/16″-24	5/16″	14°	7/8″	7/16″	1 7/8″	1 1/4″	7,640	60745K23	18.51	1 3/8″	1 1/16″	7,640	60745K43	18.51
3/8″-24	3/8″	12°	1″	1/2″	1 15/16″	1 1/4″	9,550	60745K24	20.24	1 5/8″	1 3/16″	9,550	60745K44	20.24
7/16″-20	7/16″	14°	1 1/8″	9/16″	2 1/8″	1 3/8″	10,290	60745K25	24.24	1 13/16″	1 5/16″	10,290	60745K45	24.24
1/2″-20	1/2″	12°	1 5/16″	5/8″	2 7/16″	1 1/2″	16,242	60745K26	28.84	2 1/8″	1 1/16″	15,340	60745K46	28.84
5/8″-18	5/8″	16°	1 1/2″	3/4″	2 5/8″	1 5/8″	17,959	60745K27	39.44	2 1/2″	1 3/8″	17,959	60745K47	39.44
3/4″-16	3/4″	14°	1 3/4″	7/8″	2 7/8″	1 3/4″	28,090	60745K28	52.56	2 7/8″	1 9/16″	28,090	60745K48	52.56
7/8″-14	7/8″	12°	2″	7/8″	3 3/8″	1 7/8″	55,690	60745K71	73.68	3 3/8″	1 7/8″	45,051	60745K49	76.75
1″-12	1″	17°	2 15/16″	1 3/8″	4 1/2″	2 1/8″	43,555	60745K74	74.46	4 1/8″	2 1/8″	43,555	60745K75▲	73.47
1″-14	1″	17°	2 15/16″	1 3/8″	4 1/2″	2 1/2″	107,182	60745K72	113.05	4 1/8″	2 1/8″	76,205	60745K73▲	113.05
1 1/4″-12	1″	17°	2 15/16″	1 3/8″	4 1/2″	2 1/2″	107,182	60745K31	110.86	4 1/8″	2 1/8″	76,205	60745K51▲	110.86
Inch Sizes with PTFE/Kevlar Insert														
10-32	3/16″	13°	5/8″	5/16″	1 1/4″	3/4″	2,851	4483T1	10.53	1 1/16″	9/16″	3,733	4483T21	10.53
1/4″-28	1/4″	16°	3/4″	3/8″	1 9/16″	1″	5,260	4483T2	10.62	1 5/16″	3/4″	6,190	4483T22	10.62
5/16″-24	5/16″	14°	7/8″	7/16″	1 7/8″	1 1/4″	7,639	4483T3	10.81	1 3/8″	3/4″	7,639	4483T23	10.81
3/8″-24	3/8″	12°	1″	1/2″	1 15/16″	1 1/4″	9,544	4483T4	12.23	1 5/8″	15/16″	9,544	4483T24	12.23
7/16″-20	7/16″	14°	1 1/8″	9/16″	2 1/8″	1 3/8″	10,285	4483T5	15.06	1 13/16″	1 1/16″	10,285	4483T25	15.06
1/2″-20	1/2″	12°	1 5/16″	5/8″	2 7/16″	1 1/2″	16,238	4483T6	18.34	2 1/8″	1 3/16″	15,336	4483T26	18.34
5/8″-18	5/8″	16°	1 1/2″	3/4″	2 5/8″	1 5/8″	17,955	4483T7	23.98	2 1/2″	1 1/2″	17,955	4483T27	23.98
3/4″-16	3/4″	14°	1 3/4″	7/8″	2 7/8″	1 3/4″	28,081	4483T8	34.81	2 7/8″	1 3/4″	28,081	4483T28	34.81
7/8″-14	7/8″	7°	2″	7/8″	3 3/8″	2″	45,051	4483T9	41.32	—	—	—	—	—
1 1/4″-12	1″	17°	2 3/4″	1 3/8″	4 1/8″	2 1/8″	76,200	4483T11	77.00	4 1/8″	2 1/8″	76,200	4483T29	77.00
Inch Sizes with PTFE/Kevlar Insert and Oversized Shank														
5/16″-24	1/4″	13°	7/8″	3/8″	1 7/8″	1 1/4″	8,452	4475T1	13.37	—	—	—	—	—
3/8″-24	5/16″	12°	1″	7/16″	1 15/16″	1 1/4″	10,382	4475T12	15.13	—	—	—	—	—
7/16″-20	3/8″	10°	1 1/8″	1/2″	2 1/8″	1 3/8″	14,006	4475T13	18.63	—	—	—	—	—
1/2″-20	7/16″	12°	1 5/16″	9/16″	2 7/16″	1 1/2″	18,761	4475T14	22.68	—	—	—	—	—
5/8″-18	1/2″	10°	1 1/2″	5/8″	2 5/8″	1 5/8″	23,542	4475T15	29.66	—	—	—	—	—
3/4″-16	5/8″	13°	1 3/4″	3/4″	2 7/8″	1 3/4″	31,680	4475T16	38.02	—	—	—	—	—
7/8″-14	3/4″	12°	2″	7/8″	3 3/8″	1 7/8″	43,486	4475T17	51.11	—	—	—	—	—
Metric Sizes with PTFE/Kevlar Insert— *Dimensions in mm*														
M8×1.25	8	18°	22	12	42	25	7,444	4483T32	11.34	36	17	9,376	4483T42	11.34
M10×1.5	10	17°	27	14	48	29	11,797	4483T33	12.81	43	21	14,262	4483T43	12.81
M12×1.75	12	17°	30	16	54	33	15,320	4483T34	18.66	50	24	15,320	4483T44	18.66
M16×2.0	16	23°	38	21	66	40	21,966	4483T36	25.60	64	33	21,966	4483T46	25.60

▲O'all Wd. (B) is 2 3/4″.

Stainless Steel Ball Joint Rod Ends



Male Threaded



Female Threaded

A Type 303 stainless steel housing and Type 440C stainless steel ball provide excellent corrosion resistance while a PTFE liner allows smooth ball rotation and reduces the need for lubrication.

To Order: Please specify right- or left-hand shank threads.

Shank Thread Size	Ball ID (A)	Max. Ball Swivel	O'all Wd. (B)	O'all Thick. (C)	Male-Threaded Shank (D)	Male-Threaded Shank Thread Lg. (E)	Male-Threaded Shank Static Radial Load Cap., lbs.			Female-Threaded Shank (D)	Female-Threaded Shank Thread Lg. (E)	Female-Threaded Shank Static Radial Load Cap., lbs.		
10-32	3/16″	20°	5/8″	5/16″	1 1/4″	3/4″	912	59915K21	$10.95	1 1/16″	1/2″	930	59915K41	$10.95
1/4″-28	1/4″	27°	3/4″	3/8″	1 9/16″	1″	1,370	59915K22	11.33	1 5/16″	1 1/16″	1,380	59915K42	11.33
5/16″-24	5/16″	22°	7/8″	7/16″	1 7/8″	1 1/4″	2,050	59915K23	13.49	1 3/8″	1 1/16″	2,100	59915K43	13.49
3/8″-24	3/8″	22°	1″	1/2″	1 15/16″	1 1/4″	3,040	59915K24	19.05	1 5/8″	1 3/16″	3,080	59915K44	19.05
7/16″-20	7/16″	21°	1 1/8″	9/16″	2 1/8″	1 3/8″	3,780	59915K25	25.40	1 13/16″	1 5/16″	3,790	59915K45	25.40
1/2″-20	1/2″	20°	1 5/16″	5/8″	2 7/16″	1 1/2″	4,700	59915K26	33.40	2 1/8″	1 1/16″	4,720	59915K46	33.40
5/8″-18	5/8″	26°	1 1/2″	3/4″	2 5/8″	1 5/8″	5,860	59915K27	44.23	2 1/2″	1 3/8″	5,870	59915K47	44.23
3/4″-16	3/4″	24°	1 3/4″	7/8″	2 7/8″	1 3/4″	7,512	59915K28	57.42	2 7/8″	1 9/16″	7,520	59915K48	57.42

Dimensions

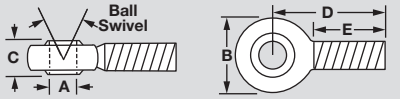

Thread Direction

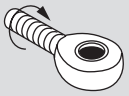

Right-hand threaded shank tightens when turned clockwise. This is the most common thread.

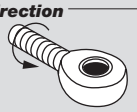

Left-hand threaded shank tightens when turned counter-clockwise.

Metric Stainless Steel Ball Joint Rod Ends

Need excellent corrosion resistance while working with metric components? These rod ends have a Type 303 stainless steel housing and Type 440C stainless steel ball. They also have a PTFE liner that allows smooth ball rotation and reduces the need for lubrication.

To Order: Please specify right- or left-hand shank threads.



Shank Thread Size, mm	Ball ID (A), mm	Max. Ball Swivel	O'all Wd. (B), mm	O'all Thick. (C), mm	Male-Threaded Shank (D), mm	Male-Threaded Shank Thread Lg. (E), mm	Male-Threaded Shank Static Radial Load Cap., lbs.			Female-Threaded Shank (D), mm	Female-Threaded Shank Thread Lg. (E), mm	Female-Threaded Shank Static Radial Load Cap., lbs.		
M5×0.8	5	22°	16	8	33	20	911	2988K11	$19.93	27	14	929	2988K31	$19.93
M6×1	6	23°	19	9	36	22	1,369	2988K12	21.42	30	14	1,379	2988K32	21.42
M8×1.25	8	28°	22	12	42	25	2,049	2988K13	24.87	36	17	2,099	2988K33	24.87
M10×1.5	10	26°	27	14	48	29	3,179	2988K14	42.42	43	21	3,441	2988K34	42.42
M12×1.75	12	27°	30	16	54	33	3,905	2988K15	53.01	50	24	3,905	2988K35	53.01
M14×2	14	30°	35	19	60	36	5,327	2988K16	53.01	57	27	5,327	2988K36	53.01
M16×2	16	33°	38	21	66	40	5,656	2988K17	73.59	64	33	5,656	2988K37	73.59

Bronze Insert Ball Joint Rod Ends

An oil-impregnated bronze insert reduces the need for lubrication and provides corrosion resistance. All rod ends have a zinc-plated steel housing and a chrome-plated steel ball.

Metric sizes include a grease fitting.

To Order: Please specify right- or left-hand shank threads.



Shank Thread Size	Ball ID (A)	Max. Ball Swivel	O'all Wd. (B)	O'all Thick. (C)	Male-Threaded Shank (D)	Male-Threaded Shank Thread Lg. (E)	Male-Threaded Shank Static Radial Load Cap., lbs.			Female-Threaded Shank (D)	Female-Threaded Shank Thread Lg. (E)	Female-Threaded Shank Static Radial Load Cap., lbs.		
Inch Sizes														
10-32	3/16"	13°	5/8"	5/16"	1 1/4"	3/4"	1,174	6072K61	$5.70	1 1/16"	1/2"	1,624	6072K144	$5.70
1/4"-28	1/4"	16°	3/4"	3/8"	1 9/16"	1"	2,168	6072K62	5.76	1 5/16"	1 1/16"	2,545	6072K154	5.70
5/16"-24	5/16"	14°	7/8"	7/16"	1 7/8"	1 1/4"	2,796	6072K63	5.82	1 3/8"	1 1/16"	3,200	6072K164	5.76
3/8"-24	3/8"	12°	1"	1/2"	1 15/16"	1 1/4"	4,012	6072K64	6.23	1 5/8"	1 3/16"	3,950	6072K174	5.76
7/16"-20	7/16"	14°	1 1/8"	9/16"	2 1/8"	1 3/8"	4,244	6072K114	7.37	1 13/16"	1 5/16"	4,300	6072K184	7.37
1/2"-20	1/2"	12°	1 5/16"	5/8"	2 7/16"	1 1/2"	6,700	6072K124	10.22	2 1/8"	1 1/16"	6,700	6072K212	9.51
5/8"-18	5/8"	16°	1 1/2"	3/4"	2 5/8"	1 5/8"	7,400	6072K134	13.80	2 1/2"	1 3/8"	7,400	6072K222	13.46
3/4"-16	3/4"	14°	1 3/4"	7/8"	2 7/8"	1 3/4"	11,550	6072K68	17.81	2 7/8"	1 9/16"	11,550	6072K58	17.45
***Metric Sizes**—Dimensions in mm*														
M8×1.25	8	18°	22	12	42	25	3,007	6072K42	13.55	36	17	4,010	6072K52	13.55
M10×1.5	10	17°	27	14	48	29	20,991	6072K43	15.47	43	21	6,292	6072K53	15.47
M12×1.75	12	17°	30	16	54	33	5,848	6072K44	22.18	50	24	7,798	6072K54	22.18

Ultra-Precision Ball Joint Rod Ends

Made to extremely tight tolerances, these rod ends are for applications that require positioning accuracy, such as accelerator and other types of control linkages. They have a chrome-plated bearing steel ball, which is heat treated for added strength, that glides on a brass insert for smooth operation. Housing is steel for thread size 6-32; cadmium-plated steel for thread size 8-32; zinc-plated steel for all others. All have right-hand shank threads.



Shank Thread Size	Ball ID (A)	Max. Ball Swivel	O'all Wd. (B)	O'all Thick. (C)	Male-Threaded Shank (D)	Male-Threaded Shank Thread Lg. (E)	Male-Threaded Shank Static Radial Load Cap., lbs.			Female-Threaded Shank (D)	Female-Threaded Shank Thread Lg. (E)	Female-Threaded Shank Static Radial Load Cap., lbs.		
6-32	1/8"	16°	15/32"	1/4"	15/16"	1/2"	450	8286K111	$54.25	13/16"	3/8"	1,200	8286K311	$53.73
8-32	5/32"	12°	9/16"	9/32"	1 1/8"	5/8"	650	6130K11	55.56	7/8"	3/8"	1,700	6130K31	53.52
10-32	3/16"	10°	5/8"	5/16"	1 1/4"	3/4"	900	6130K12	16.57	1 1/16"	9/16"	1,850	6130K32	15.99
1/4"-28	1/4"	13°	3/4"	3/8"	1 9/16"	1"	1,700	6130K13	16.57	1 5/16"	3/4"	2,700	6130K33	15.99
5/16"-24	5/16"	11°	7/8"	7/16"	1 7/8"	1 1/4"	2,500	6130K14	18.97	1 3/8"	3/4"	3,350	6130K34	16.55
7/16"-20	7/16"	11°	1 1/8"	9/16"	2 1/8"	1 3/8"	5,000	6130K15	25.63	1 13/16"	1 1/16"	5,350	6130K35	22.42

Aluminum Ball Joint Rod Ends

Lightweight and corrosion resistant, rod ends have an anodized aluminum housing and chrome-plated bearing steel ball. A PTFE-lined steel insert allows smooth ball rotation and reduces the need for lubrication.

To Order: Please specify right- or left-hand shank threads.



Shank Thread Size	Ball ID (A)	Max. Ball Swivel	O'all Wd. (B)	O'all Thick. (C)	Male-Threaded Shank (D)	Male-Threaded Shank Thread Lg. (E)	Male-Threaded Shank Static Radial Load Cap., lbs.			Female-Threaded Shank (D)	Female-Threaded Shank Thread Lg. (E)	Female-Threaded Shank Static Radial Load Cap., lbs.		
10-32	3/16"	13°	5/8"	5/16"	1 1/4"	3/4"	1,360	60685K71	$16.52	1 1/16"	1/2"	1,360	60685K31	$16.52
1/4"-28	1/4"	16°	3/4"	3/8"	1 9/16"	1"	2,465	60685K72	16.67	1 5/16"	1 1/16"	2,592	60685K32	16.67
5/16"-24	5/16"	14°	7/8"	7/16"	1 7/8"	1 1/4"	2,850	60685K73	16.82	1 3/8"	1 1/16"	2,890	60685K33	16.82
3/8"-24	3/8"	12°	1"	1/2"	1 15/16"	1 1/4"	4,208	60685K11	15.97	1 5/8"	1 3/16"	3,952	60685K34	17.27
7/16"-20	7/16"	14°	1 1/8"	9/16"	2 1/8"	1 3/8"	4,534	60685K12	18.06	1 13/16"	1 5/16"	4,534	60685K35	14.44
1/2"-20	1/2"	12°	1 5/16"	5/8"	2 7/16"	1 1/2"	7,698	60685K13	21.25	2 1/8"	1 1/16"	7,006	60685K36	17.00
5/8"-18	5/8"	16°	1 1/2"	3/4"	2 5/8"	1 5/8"	8,516	60685K14	25.69	2 1/2"	1 3/8"	8,516	60685K37	20.56
3/4"-16	3/4"	14°	1 3/4"	7/8"	2 7/8"	1 3/4"	13,319	60685K15	29.17	2 7/8"	1 9/16"	13,319	60685K38	25.56

Ball Joint Rod Ends

For technical drawings and 3-D models, go to mcmaster.com.

For information about rod ends, see page 1247.

Dimensions

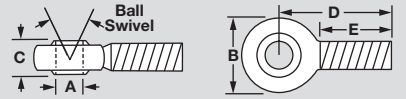

Thread Direction

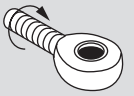

Right-hand threaded shank tightens when turned clockwise. This is the most common thread.

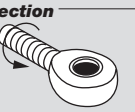

Left-hand threaded shank tightens when turned counter-clockwise.

Corrosion-Resistant Nylon Ball Joint Rod Ends





Made of an impact-resistant nylon composite, these rod ends withstand corrosion as well as fuels, lyes, and weak acids. They are also 80% lighter than steel. A self-lubricating nylon ball ensures low friction and maximum abrasion resistance. Temperature range is –22° to +176° F.

To Order: Please specify right- or left-hand shank threads.

Shank Thread Size	Ball ID (A)	Max. Ball Swivel	O'all Wd. (B)	O'all Thick. (C)	Male-Threaded Shank (D)	Male-Threaded Shank Thread Lg. (E)	Male-Threaded Shank Static Radial Load Cap., lbs.			Female-Threaded Shank (D)	Female-Threaded Shank Thread Lg. (E)	Female-Threaded Shank Static Radial Load Cap., lbs.		
10-32	3/16"	25°	5/8"	5/16"	1 1/4"	3/4"	15	1064K51	$4.40	1 1/16"	1/2"	67	1064K71	$4.91
1/4"-28	1/4"	25°	3/4"	3/8"	1 9/16"	1"	22	1064K52	4.72	1 5/16"	1 1/16"	90	1064K72	5.14
5/16"-24	5/16"	25°	7/8"	7/16"	1 7/8"	1 1/4"	33	1064K53	5.65	1 3/8"	1 1/16"	112	1064K73	5.23
3/8"-24	3/8"	22°	1"	1/2"	1 15/16"	1 1/4"	78	1064K54	6.12	1 5/8"	1 3/16"	225	1064K74	6.07
7/16"-20	7/16"	22°	1 1/8"	9/16"	2 1/8"	1 3/8"	89	1064K55	7.40	1 13/16"	1 5/16"	270	1064K75	7.40
1/2"-20	1/2"	22°	1 5/16"	5/8"	2 7/16"	1 1/2"	101	1064K56	8.93	2 1/8"	1 1/16"	337	1064K76	8.93
5/8"-18	5/8"	22°	1 1/2"	3/4"	2 5/8"	1 5/8"	134	1064K57	12.25	2 1/2"	1 3/8"	382	1064K77	12.25
3/4"-16	3/4"	22°	1 3/4"	7/8"	2 7/8"	1 3/4"	224	1064K58	15.60	2 7/8"	1 9/16"	517	1064K78	16.20

Super-Swivel Ball Joint Rod Ends





With at least 55° of ball swivel, these rod ends accommodate greater misalignment than any other rod end we offer. All have a black-oxide coated, alloy steel housing and a chrome-plated bearing steel ball that are heat treated for added strength. A PTFE liner allows smooth ball rotation and reduces the need for lubrication.

To Order: Please specify right- or left-hand shank threads.

Shank Thread Size	Ball ID (A)	Max. Ball Swivel	O'all Wd. (B)	O'all Thick. (C)	(D)	Static Radial Load Cap., lbs.	Male-Threaded Shank Thread Lg. (E)			Female-Threaded Shank Thread Lg. (E)		
3/8"-24	3/8"	55°	1 1/8"	7/8"	2 1/8"	10,171	1 3/8"	6960T6	$9.92	1 1/16"	6960T7	$9.92
1/2"-20	1/2"	65°	1 1/2"	1 1/4"	2 5/8"	15,038	1 5/8"	6960T1	20.36	1 3/8"	6960T8	20.36
5/8"-18	1/2"	65°	1 3/4"	1 1/4"	2 7/8"	22,898	1 3/4"	6960T2	26.18			
5/8"-18	5/8"	64°	1 3/4"	1 3/8"	2 7/8"	19,394	1 3/4"	6960T3	27.84	1 9/16"	6960T9	27.84
3/4"-16	5/8"	64°	2"	1 3/8"	3 3/8"	27,862	2"	6960T4	29.38			
3/4"-16	3/4"	61°	2"	1 1/2"	3 3/8"	27,010	2"	6960T5	30.36	1 3/4"	6960T13	30.36

Rod-End Inserts







Attach these adapters to your rod end to move your fastener away from the rod-end body to increase misalignment capabilities.

High-Misalignment Step-Down Inserts— The ID of your rod end is decreased to allow approximately 60° of misalignment. Made of 17-4 PH stainless steel.

Washer Inserts— Also known as retaining safety washers, these inserts protect your rod end and handle some additional misalignment without changing your ball ID. Made of zinc-plated steel.

High-Misalignment Step-Down Inserts

For Rod End Ball ID	Insert ID	Insert OD	Insert O'all Lg.		Pair
1/2"	3/8"	5/8"	5/8"	4723T1	$10.34
5/8"	1/2"	13/16"	7/8"	4723T2	14.52
3/4"	1/2"	1"	7/8"	4723T3	16.58
3/4"	5/8"	1"	7/8"	4723T4	16.58
7/8"	3/4"	1 1/16"	1 1/4"	4723T5	17.52
1"	3/4"	1 1/8"	1 3/8"	4723T6	23.38

Washer Inserts

For Rod End Shank Size	Insert ID	Insert OD	Insert O'all Ht.		Each
1/4"	0.25"	0.7"	0.15"	95034A100	$3.33
5/16"	0.31"	0.83"	0.18"	95034A200	3.42
3/8"	0.37"	0.93"	0.19"	95034A300	3.31
1/2"	0.5"	1.24"	0.24"	95034A500	4.08
5/8"	0.62"	1.42"	0.28"	95034A600	3.71
3/4"	0.75"	1.63"	0.31"	95034A700	5.08

Mil. Spec. Ball Joint Rod Ends





Made to stringent military specifications, these rod ends meet SAE-AS81935 (formerly MIL-B-81935). All have a heat- and chromate-treated, cadmium-plated, alloy steel housing; a heat-treated, Type 440C stainless steel ball; and a self-lubricating, PTFE-lined, heat-treated, Type 17-4 PH stainless steel insert (PTFE lining meets SAE-AS81820).

To Order: Please specify right- or left-hand shank threads (unless noted).

Shank Thread Size	Ball ID (A)	Max. Ball Swivel	O'all Wd. (B)	O'all Thick. (C)	Static Radial Load Cap., lbs.	Male-Threaded Shank (D)	Male-Threaded Shank Thread Lg. (E)			Female-Threaded Shank (D)	Female-Threaded Shank Thread Lg. (E)		
5/16"-24	3/16"	15°	13/16"	7/16"	2,360	1 9/16"	15/16"	2998K11	$127.96	1 3/8"	3/4"	2998K31	$134.31
5/16"-24	1/4"	15°	13/16"	7/16"	4,860	1 9/16"	15/16"	2998K12	142.67	1 7/16"	3/4"	2998K32	138.26
5/16"-24	5/16"	14°	7/8"	7/16"	7,180	1 7/8"	1 3/16"	2998K13	166.46				
3/8"-24	3/8"	8°	1"	1/2"	8,550	1 15/16"	1 3/16"	2998K14	190.22	1 13/16"	1"	2998K34	185.49
7/16"-20	7/16"	10°	1 1/8"	9/16"	12,000	2 1/8"	1 1/4"	2998K15	213.99	2"	1 1/8"	2998K351 ♣	200.41
1/2"-20	1/2"	9°	1 5/16"	5/8"	19,500	2 7/16"	1 7/16"	2998K16	245.71	2 1/4"	1 1/4"	2998K36	228.03
5/8"-18	5/8"	12°	1 1/2"	3/4"	21,900	2 5/8"	1 9/16"	2998K17	277.33	2 1/2"	1 3/8"	2998K37	245.80
3/4"-16	3/4"	13°	1 3/4"	7/8"	29,300	2 7/8"	1 11/16"	2998K18	336.83	2 7/8"	1 5/8"	2998K38	358.04
7/8"-14	7/8"	6°	2"	7/8"	34,500	3 3/8"	2"	2998K19	366.34	3 3/8"	1 7/8"	2998K39	287.12
1 1/4"-12	1"	12°	2 3/4"	1 3/8"	80,300	4 1/8"	2 5/16"	2998K21	488.82	4 1/8"	2 1/8"	2998K41	486.19

♣ Available with right-hand thread only.

Dimensions

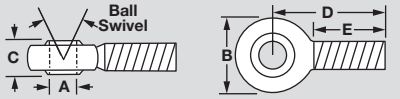

Thread Direction

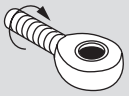

Right-hand threaded shank tightens when turned clockwise. This is the most common thread.

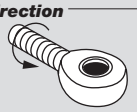

Left-hand threaded shank tightens when turned counter-clockwise.

High-Speed Mil. Spec. Ball Bearing Rod Ends

A double row of precision ball bearings allows high speeds and smooth operation. All rod ends have a heat-treated, cadmium-plated steel housing; heat-treated bearing steel balls that are packed with grease that meets MIL-PRF-81322G; and a heat-treated, cadmium-plated bearing steel insert. They also have PTFE seals to block contaminants.

Male-threaded rod ends meet MS-21151. ***Female-threaded rod ends*** meet MS-21153. All have right-hand shank threads.



Shank Thread Size	Ball ID (A)	Max. Ball Swivel	O'all Wd. (B)	Static Radial Load Cap., lbs.	Male-Threaded Shank O'all Thick. (C)	(D)	Thread Lg. (E)			Female-Threaded Shank O'all Thick. (C)	(D)	Thread Lg. (E)		
10-32	3/16"	20°	25/32"	1,000	7/16"	13/8"	3/4"	2986K11	$156.51					
1/4"-28	3/16"	20°	3/4"	1,000	7/16"	19/16"	1"	2986K12	156.51	1/2"	13/8"	3/4"	2986K32	$173.19
5/16"-24	3/16"	20°	3/4"	1,000						7/16"	13/8"	3/4"	2986K34	183.79
5/16"-24	1/4"	20°	15/16"	1,720						9/16"	17/16"	3/4"	2986K35	174.08
3/8"-24	1/4"	20°	15/16"	1,720	9/16"	17/8"	11/8"	2986K17	169.34					
3/8"-24	5/16"	20°	11/4"	2,920	7/8"	27/16"	19/16"	2986K18	246.88					
7/16"-20	5/16"	20°	11/4"	2,920	7/8"	27/16"	19/16"	2986K19	237.10					

Thrust-Rated Ball Joint Rod Ends

Thanks to an innovative body design that keeps the ball from being pushed out, these rod ends are able to take on thrust (side) loads. All have a zinc-plated steel housing; a steel ball; and an injection-molded, self-lubricating polyurethane insert. Temperature range is –40° to +176°F.

To Order: Please specify right- or left-hand shank threads (unless noted).

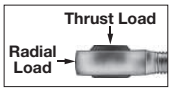



Shank Thread Size	Ball ID (A)	Max. Ball Swivel	O'all Wd. (B)	O'all Thick. (C)	Static Radial Load Cap., lbs.	Thrust Load Cap., lbs.	Male-Threaded Shank (D)	Thread Lg. (E)			Female-Threaded Shank (D)	Thread Lg. (E)		
Inch Sizes														
10-32	3/16"	36°	11/16"	5/16"	1,910	540			8405K291 ♣	$6.84	11/8"	9/16"	8405K291 ♣	$6.84
1/4"-28	1/4"	36°	13/16"	3/8"	2,206	662	17/16"	13/16"	8405K111 ♣	11.78	13/16"	9/16"	8405K311 ♣	22.45
5/16"-24	5/16"	36°	15/16"	1/2"	3,972	1,545	111/16"	1"	8405K12	21.18	17/16"	11/16"	8405K321 ♣	23.36
3/8"-24	3/8"	28°	11/8"	9/16"	4,854	1,765	17/8"	11/8"	8405K131 ♣	24.00	111/16"	13/16"	8405K331 ♣	24.00
1/2"-20	1/2"	30°	11/4"	5/8"	5,934	2,158	27/16"	17/16"	8405K35	24.50	2"	1"	8405K34	27.00
5/8"-18	5/8"	30°	11/2"	3/4"	7,913	2,877	25/8"	17/16"	8405K37	45.70	21/2"	15/16"	8405K36	51.42
3/4"-16	3/4"	30°	113/16"	7/8"	9,891	3,596	3"	13/4"	8405K39	67.50	27/8"	111/16"	8405K38	70.90
Metric Sizes (DIN 648)—*Dimensions in mm*														
M6×1	6	36°	20	9	2,206	662	36	21	8411K11	12.30	30	14	8411K311 ♣	12.10
M8×1.25	8	36°	24	12	3,972	1,545	42	25	8411K12	15.98	36	17	8411K32	14.00
M10×1.5	10	28°	28	14	4,854	1,765	48	28	8411K131 ♣	21.00	43	21	8411K331 ♣	18.94

♣ Available with right-hand threads.

Tube-End Weld Nuts

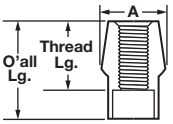





Connect threaded parts and add threads to the ends of uncoated steel tubes. Also known as tube adapters and weldable threaded tube ends, they can be welded on uncoated metal surfaces. Nuts are 4130 alloy steel. They have a Class 2B thread fit.

To Order: Please specify right- or left-hand threads.

For Tube OD (A)	Wall Thick.	Thread Size	Thread Lg.	O'all Lg.		
3/8"	0.058"	10-32	1"	1"	94640A870	$5.82
1/2"	0.058"	1/4"-28	1"	1"	94640A880	5.82
3/4"	0.065"	5/16"-24	7/8"	13/8"	94640A510	5.30
3/4"	0.065"	3/8"-24	15/16"	13/8"	94640A515	5.30
7/8"	0.058"	7/16"-20	11/8"	13/8"	94640A555	5.42
7/8"	0.058"	1/2"-20	11/4"	13/8"	94640A560	5.42
1"	0.058"	1/2"-20	11/4"	11/2"	94640A620	5.68
1"	0.065"	1/2"-20	11/4"	11/2"	94640A640	5.68
1"	0.083"	1/2"-20	11/4"	11/2"	94640A665	5.68
1"	0.095"	1/2"-20	11/4"	11/2"	94640A685	5.68
11/4"	0.095"	5/8"-18	11/2"	11/2"	94640A750	6.44
11/4"	0.095"	3/4"-16	11/2"	11/2"	94640A755	6.44
11/4"	0.12"	5/8"-18	19/16"	17/8"	94640A760	6.44
11/4"	0.12"	3/4"-16	17/8"	17/8"	94640A765	6.44
11/2"	0.12"	3/4"-16	17/8"	2"	94640A810	6.44

Seals for Ball Joint Rod Ends

Keep dirt out and lubrication in to extend the life of your rod ends. Seals are nitrile with a stainless steel washer for corrosion resistance. Use them between the head of your rod end and your fastener.



For Rod End Ball ID	OD	O'all Ht.		
Inch Sizes				
3/16"	7/16"	1/16"	4737T1	$6.95
1/4"	1/2"	1/8"	4737T2	5.62
5/16"	11/16"	3/16"	4737T3	5.62
3/8"	13/16"	3/16"	4737T4	5.62
1/2"	11/8"	1/4"	4737T6	5.62
5/8"	11/4"	1/4"	4737T7	6.38
3/4"	13/8"	3/8"	4737T8	7.00
1"	21/8"	1/2"	4737T9	7.84
Metric Sizes—*Dimensions in mm*				
5	11	2	4737T11	6.95
6	13	3	4737T12	5.62
8	18	5	4737T13	5.62
10	20	6	4737T14	5.62
12	29	6	4737T15	5.62
14	29	6	4737T16	6.22
16	32	7	4737T17	6.41
18	33	8	4737T18	7.00
20	38	10	4737T19	7.00

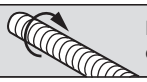

Right-hand threaded shank tightens when turned clockwise. This is the most common thread.

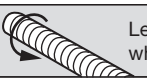

Left-hand threaded shank tightens when turned counterclockwise.

Ball Joint Linkages

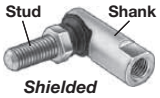

Shielded



Bent Swivel



Quick Disconnect

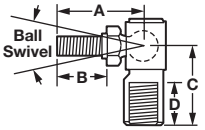

These linkages permit movement and misalignment while allowing adjustment for excess play. Inside each linkage housing you'll find a free-moving ball stud that provides an excellent pivoting connection between light mechanical components and controls. Linkages have a female-threaded shank with right-hand threads (unless noted). They are not load rated.

Steel Linkages— Housing and ball stud are zinc-plated steel.

Stainless Steel Linkages— Housing and ball stud are 300 Series stainless steel for corrosion resistance.

Shielded linkages have a rubber shield that keeps dirt and other contaminants out. ***Bent-swivel linkage*** is lightweight and good for light duty applications. ***Quick-disconnect linkages*** have a retaining sleeve that's easy to disconnect from the ball stud for quick installation.

Stud and Shank Thread Size	Max. Ball Swivel	Lg. (A)	Stud Lg. (B)	Lg. (C)	Thread Dp. (D)		
Inch Sizes							
Steel Shielded Linkages							
10-32	35°	7/8"	7/16"	7/8"	7/16"	6058K21■	$3.52
1/4"-28	35°	1"	9/16"	1"	1/2"	6058K22■	3.03
5/16"-24	35°	1 3/16"	11/16"	1 1/8"	9/16"	6058K23■	4.34
3/8"-24	35°	1 9/16"	7/8"	1 3/8"	3/4"	6058K24■	4.96
7/16"-20	35°	2"	1 1/8"	1 15/16"	1"	6058K26■	5.36
1/2"-20	35°	2"	1 1/8"	1 15/16"	1"	6058K27■	5.53
Stainless Steel Shielded Linkages							
10-32	35°	7/8"	7/16"	7/8"	7/16"	6058K35	5.52
1/4"-28	35°	1"	9/16"	1"	1/2"	6058K36	6.02
5/16"-24	35°	1 3/16"	11/16"	1 1/8"	9/16"	6058K37	6.32
3/8"-24	35°	1 9/16"	7/8"	1 3/8"	3/4"	6058K38	7.36
1/2"-20	35°	2"	1 1/8"	1 15/16"	1"	6058K39	12.86
Steel Bent-Swivel Linkages							
1/4"-20	30°	1 3/16"	9/16"	1 1/16"	11/16"	6058K43	3.50
Steel Quick-Disconnect Linkages							
10-32	30°	7/8"	7/16"	7/8"	7/16"	6058K31	4.38
1/4"-28	30°	1"	9/16"	1"	9/16"	6058K32	5.10
5/16"-24	30°	1 3/16"	11/16"	1 1/8"	5/8"	6058K44	5.79
3/8"-24	30°	1 9/16"	7/8"	1 3/8"	13/16"	6058K34	7.38
1/2"-20	30°	2"	1 1/8"	2"	1"	6058K33	5.94
Stainless Steel Quick-Disconnect Linkages							
10-32	30°	7/8"	7/16"	7/8"	7/16"	6058K71	9.12
1/4"-28	30°	1"	9/16"	15/16"	9/16"	6058K72	7.36
5/16"-24	30°	1 3/16"	11/16"	1 1/8"	5/8"	6058K73	8.52
3/8"-24	30°	1 9/16"	7/8"	1 3/8"	13/16"	6058K74	13.98
Metric Sizes— *Dimensions in mm*							
Steel Shielded Linkages							
M6×1.0	35°	26	14	25	13	6058K81■	4.81
M8×1.25	35°	31	17.5	28.5	14	6058K82■	4.79
M10×1.5	35°	40	22	35	19	6058K83■	5.48
M12×1.75	35°	51	28.5	49	25	6058K84	7.86
Stainless Steel Shielded Linkages							
M6×1.0	35°	26	14	25	13	6058K85■	7.62
M8×1.25	35°	31	17.5	28.5	14	6058K861	7.86
M10×1.5	35°	40	22	35	19	6058K87■	13.17
M12×1.75	35°	51	28.5	49	25	6058K88■	17.60
Steel Quick-Disconnect Linkages							
M5×0.8	30°	22	11	23	11	6058K61	5.71
M6×1.0	30°	26	14	25	13.5	6058K62	6.07
M8×1.25	30°	31	17.5	28.5	15	6058K63	6.10
M10×1.5	30°	40	22	35	21	6058K64	7.17
M12×1.75	30°	51	28.5	51.5	25	6058K65	9.76
Stainless Steel Quick-Disconnect Linkages							
M5×0.8	30°	22	11	23	11	6058K66	8.55
M6×1.0	30°	26	14	24.5	13.5	6058K67	10.00
M8×1.25	30°	31	17.5	28.5	15	6058K68	10.60

■ **To Order:** Please specify right- or left-hand shank threads.

Inline Ball Joint Linkages



Without Set Screw

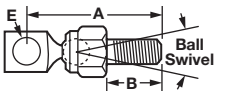



With Set Screw and Nut

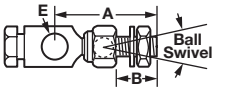

Also known as control swivels, these linkages have a "captured" ball with a free-moving ball stud, which provides an excellent pivoting connection between light mechanical components and controls while constraining excess play. Their inline design makes them the choice for linear push applications along the length of a connecting rod.

In addition to a zinc-plated steel housing and ball stud, these linkages have a vibration-damping rubber disc. Maximum ball swivel is 30°. Temperature range is –60° to +250° F. All have right-hand threads. They are not load rated.

Linkages with set screw and nut have a self-locking set screw and integral nut with lock washer for added holding strength.

Stud and Shank Thread Size	Lg. (A)	Stud Lg. (B)	Dia. (E)		
Linkages without Set Screw					
1/4"-28	1 5/16"	9/16"	0.257"	6058K13	$4.15
Linkages with Set Screw and Nut					
10-32	1 1/16"	5/16"	0.328"	6154K11	3.89
1/4"-28	1 3/16"	7/16"	0.328"	6154K12	4.03
1/4"-28	1 5/16"	9/16"	0.328"	6154K15	4.29
1/4"-20	1 3/16"	7/16"	0.328"	6154K13	4.29
5/16"-24	1 3/8"	5/8"	0.328"	6154K14	5.56

Heavy Duty Inline Ball Joint Linkages



Male-Threaded Shank

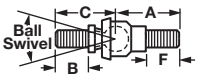



Female-Threaded Shank

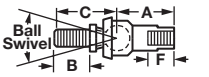

Made to withstand wear, our heavy duty linkages have a polyurethane liner (also known as a boot) that not only keeps out contaminants, but also acts as a cushion to reduce vibration. Use these linkages to compensate for misalignment and to make pivoting connections. The housing and ball stud are made of zinc-plated steel. Maximum ball swivel is 35°. Temperature range is –40° to +176° F. All have right-hand threads. They are not load rated.

Male-Threaded Shank

Stud and Shank Thread Size	Lg. (A)	Stud Lg. (B)	Lg. (C)	Thread Lg. (F)		
Inch						
1/4"-28	1"	1/2"	15/16"	1/2"	8412K41	$6.48
5/16"-24	1 1/4"	11/16"	1 3/16"	11/16"	8412K42	11.08
3/8"-24	1 9/16"	13/16"	1 7/16"	13/16"	8412K43	13.79
Metric— *Dimensions in mm*						
M6×1.0	26.5	12.5	23.5	12.5	8412K11	6.48
M8×1.25	32.5	16.5	29.5	16.5	8412K12	11.08
M10×1.5	39	20	36	20	8412K13	12.98

Female-Threaded Shank

Stud and Shank Thread Size	Lg. (A)	Stud Lg. (B)	Lg. (C)	Thread Dp. (F)		
Inch						
1/4"-28	1"	1/2"	15/16"	7/16"	8412K44	$6.48
5/16"-24	1 3/16"	5/8"	1 3/16"	9/16"	8412K45	11.08
3/8"-24	1 3/8"	13/16"	1 7/16"	5/8"	8412K46	13.79
Metric— *Dimensions in mm*						
M6×1.0	25	12.5	23.5	11.5	8412K14	6.48
M8×1.25	30	16.5	29.5	14	8412K15	13.58
M10×1.5	35	20	36	15.5	8412K16	13.79

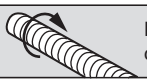

Right-hand threaded shank tightens when turned clockwise. This is the most common thread.

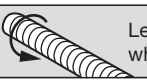

Left-hand threaded shank tightens when turned counterclockwise.

Heavy Duty Ball Joint Linkages

Able to stand up to frequent use, these linkages offer superior wear resistance. All are ball joint rod ends with the studs attached to simplify mounting. They have a chrome-plated, bearing-steel ball stud that's machined to fit perfectly inside its housing, which is zinc-plated steel. Linkages are great for clutches, throttles, and shift control rods. Periodic lubrication may be required to keep them operating smoothly. Maximum ball swivel is approximately 50°. They are not load rated.

Linkages with grease fitting are easy to lubricate.

To Order: Please specify right- or left-hand shank threads as well as right- or left-hand stud threads.

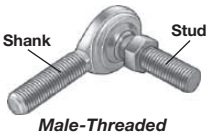

Male-Threaded Shank

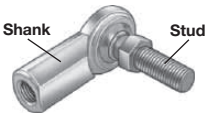

Female-Threaded Shank

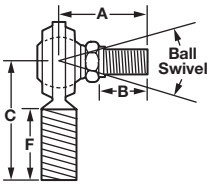

Stud and Shank Thread Size	Lg. (A)	Stud Lg. (B)	Male-Threaded Shank Lg. (C)	Male-Threaded Shank Thread Lg. (F)		Female-Threaded Shank Lg. (C)	Female-Threaded Shank Thread Dp. (F)		
Without Grease Fitting									
10-32	1 1/64"	1/2"	1 1/4"	3/4"	60645K21	$5.07	1 1/16"	1/2"	60645K41	$4.85
1/4"-28	1 13/32"	9/16"	1 9/16"	1"	60645K22	4.91	1 5/16"	11/16"	60645K42	4.70
5/16"-24	1 7/32"	11/16"	1 7/8"	1 1/4"	60645K23	5.02	1 3/8"	11/16"	60645K43	4.81
3/8"-24	1 9/16"	29/32"	1 15/16"	1 1/4"	60645K24	5.91	1 5/8"	13/16"	60645K44	5.66
7/16"-20	1 3/4"	1 1/16"	2 1/8"	1 3/8"	60645K25	7.31	1 13/16"	15/16"	60645K45	7.00
1/2"-20	2"	1 1/8"	2 7/16"	1 1/2"	60645K26	9.33	2 1/8"	1 1/16"	60645K46	8.94
5/8"-18	2 1/2"	1 1/2"	2 5/8"	1 5/8"	60645K27	14.84	2 1/2"	1 3/8"	60645K47	14.21
3/4"-16	3"	1 13/16"	2 7/8"	1 3/4"	60645K28	21.67	2 7/8"	1 9/16"	60645K48	20.74
With Grease Fitting									
1/4"-28	1 1/32"	9/16"	—	—	—	—	1 5/16"	11/16"	4444T91	5.25
5/16"-24	1 7/32"	11/16"	—	—	—	—	1 3/8"	11/16"	4444T92	5.48
3/8"-24	1 9/16"	29/32"	1 15/16"	1 1/4"	4444T81	6.39	1 5/8"	13/16"	4444T93	6.39
7/16"-20	1 3/4"	1 1/16"	2 1/8"	1 3/8"	4444T82	7.82	1 13/16"	15/16"	4444T94	7.82
1/2"-20	2"	1 1/8"	2 7/16"	1 1/2"	4444T83	9.89	2 1/8"	1 1/16"	4444T95	9.91
5/8"-18	2 1/2"	1 1/2"	2 5/8"	1 5/8"	4444T84	15.55	2 1/2"	1 3/8"	4444T96	15.55
3/4"-16	3"	1 13/16"	2 7/8"	1 3/4"	4444T85	22.52	2 7/8"	1 9/16"	4444T97	22.52

Lubrication-Free Heavy Duty Ball Joint Linkages

In addition to superior wear resistance, these linkages have an insert that's designed to eliminate the need for lubrication. All are ball joint rod ends with the studs attached to simplify mounting. They have a ball stud that's machined to fit perfectly inside its housing. Linkages are great for clutches, throttles, and shift control rods. Maximum ball swivel is approximately 50°. They are not load rated.

Lubrication-free linkages have an oil-impregnated bronze insert. Housing is zinc-plated steel. Ball stud is chrome-plated steel.

High-performance lubrication-free linkages have a PTFE-lined, heat-treated steel insert; a zinc-plated alloy steel housing; and a chrome-plated, bearing-steel ball stud. Temperature range is –65° to +325° F.

To Order: Please specify right- or left-hand shank threads as well as right- or left-hand stud threads.



Male-Threaded Shank

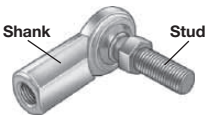

Female-Threaded Shank

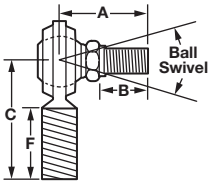

Stud and Shank Thread Size	Lg. (A)	Stud Lg. (B)	Male-Threaded Shank Lg. (C)	Male-Threaded Shank Thread Lg. (F)		Female-Threaded Shank Lg. (C)	Female-Threaded Shank Thread Dp. (F)		
Lubrication Free									
10-32	1 1/64"	1/2"	1 1/4"	3/4"	6072K81	$7.10	1 1/16"	1/2"	6072K71	$7.10
1/4"-28	1 13/32"	9/16"	1 9/16"	1"	6072K82	7.25	1 5/16"	11/16"	6072K72	7.23
5/16"-24	1 7/32"	11/16"	1 7/8"	1 1/4"	6072K83	7.40	1 3/8"	11/16"	6072K73	7.28
3/8"-24	1 9/16"	29/32"	1 15/16"	1 1/4"	6072K84	7.86	1 5/8"	13/16"	6072K74	7.40
7/16"-20	1 3/4"	1 1/16"	2 1/8"	1 3/8"	6072K85	9.30	1 13/16"	15/16"	6072K75	9.28
1/2"-20	2"	1 1/8"	2 7/16"	1 1/2"	6072K86	12.46	2 1/8"	1 1/16"	6072K76	11.75
5/8"-18	2 1/2"	1 1/2"	2 5/8"	1 5/8"	6072K87	17.86	2 1/2"	1 3/8"	6072K77	17.56
3/4"-16	3"	1 13/16"	2 7/8"	1 3/4"	6072K88	25.54	2 7/8"	1 9/16"	6072K78	25.23
High-Performance Lubrication Free									
10-32	1 1/64"	1/2"	1 1/4"	3/4"	60745K61	19.56	1 1/16"	9/16"	60745K81	19.56
1/4"-28	1 13/32"	9/16"	1 9/16"	1"	60745K62	19.71	1 5/16"	3/4"	60745K82	19.71
5/16"-24	1 7/32"	11/16"	1 7/8"	1 1/4"	60745K63	20.10	1 3/8"	3/4"	60745K83	20.10
3/8"-24	1 9/16"	29/32"	1 15/16"	1 1/4"	60745K64	21.91	1 5/8"	15/16"	60745K84	21.91
7/16"-20	1 3/4"	1 1/16"	2 1/8"	1 3/8"	60745K65	26.22	1 13/16"	1 1/16"	60745K85	26.22
1/2"-20	2"	1 1/8"	2 7/16"	1 1/2"	60745K66	31.14	2 1/8"	1 3/16"	60745K86	31.14
5/8"-18	2 1/2"	1 1/2"	2 5/8"	1 5/8"	60745K67	41.71	2 1/2"	1 1/2"	60745K87	41.71
3/4"-16	3"	1 13/16"	2 7/8"	1 3/4"	60745K68	59.17	2 7/8"	1 3/4"	60745K88	59.17

Metric Heavy Duty Ball Joint Linkages

Offering strength and durability, these linkages are ball joint rod ends with studs attached to simplify mounting on your metric components. All have a die cast zinc housing and a right-hand threaded steel ball stud. A synthetic rubber dust cover seals the ball joint (which comes packed with lubricant) to keep dirt out. Maximum ball swivel is 34°. Maximum temperature is 176° F. All linkages have a female-threaded shank.

To Order: Please specify right- or left-hand shank threads.

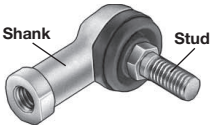

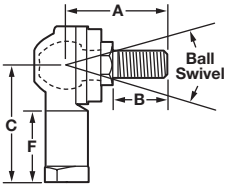

Stud and Shank Thread Size	Lg. (A), mm	Stud Lg. (B), mm	Lg. (C), mm	Thread Dp. (F), mm	Static Radial Load Cap., lbs.		
M5×0.8	25	10	30	16	265	6275K22	$10.32
M6×1	25	10	30	16	375	6275K23	10.79
M8×1.25	31.5	12.5	36	19	985	6275K24	12.09
M10×1.25	37	17	43	23	1,664	6275K25	13.93
M10×1.5	37	21	43	23	1,663	6275K87	14.76
M12×1.75	50	20	50	27	2,226	6275K26	22.30

Right-Hand Threaded Connecting Rods

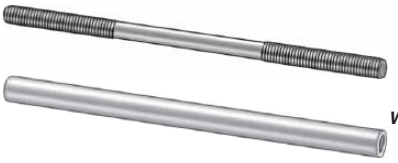

Add rod ends to one of these connecting rods to build a linkage. All have right-hand threads on both ends and are designed to work with right-hand threaded rod ends. Use them for remote valve operators, throttle controllers, shifting mechanisms, and virtually any push/pull assembly. Thread sizes through 5/16" are zinc-plated steel; 3/8" and larger are high-strength aluminum.

Thread Size	Thread Lg.	Rod OD	3" O'all Lg.		6" O'all Lg.		9" O'all Lg.		12" O'all Lg.		18" O'all Lg.		24" O'all Lg.	
Male-Threaded Ends														
10-32	1 3/16"	3/16"	6516K111★	$6.22	6516K11..	$8.23	6516K117..	$7.56	6516K12...	$14.14				
1/4"-28	1 1/2"	1/4"	6516K112★	6.52	6516K13..	8.60	6516K118..	7.86	6516K14...	14.22	6516K15..	$15.11		
5/16"-24	1 5/8"	5/16"	6516K113★	6.79	6516K16..	8.92	6516K119..	8.16	6516K17...	14.98	6516K18..	16.17	6516K19..	$18.16
3/8"-24	2"	3/8"	6516K114★	6.09	6516K21..	8.06	6516K121..	7.37	6516K22...	10.71	6516K23..	11.93	6516K24..	11.30
7/16"-20	2"	7/16"	6516K115★	6.53	6516K26..	8.36	6516K122..	7.64	6516K27...	9.60	6516K28..	10.96	6516K29..	12.20
1/2"-13	2"	1/2"			6516K89..	13.90			6516K91...	15.95	6516K93..	17.79	6516K96..	24.53
1/2"-20	2"	1/2"	6516K116★	6.97	6516K33..	8.87	6516K123..	8.07	6516K34...	10.79	6516K35..	14.51	6516K36..	16.57
5/8"-11	3 5/8"	5/8"							6516K92...	18.38	6516K94..	21.67	6516K97..	25.04
5/8"-18	3 5/8"	5/8"							6516K41...	14.92	6516K42..	17.41	6516K43..	21.05
3/4"-10	3 5/8"	3/4"									6516K95..	25.93	6516K98..	30.71
3/4"-16	3 5/8"	3/4"									6516K46..	22.51	6516K47..	26.89
Female-Threaded Ends														
10-32	3/4"	1/4"	6516K1..	8.05	6516K51..	12.89	6516K6..	10.19	6516K52...	20.88				
1/4"-28	1"	3/8"	6516K2..	8.65	6516K53..	13.40	6516K7..	10.75	6516K54...	23.24	6516K55..	22.25		
5/16"-24	1 1/4"	7/16"	6516K3..	9.12	6516K56..	13.80	6516K8..	11.03	6516K57...	21.72	6516K58..	29.09	6516K59..	25.55
3/8"-24	1 1/4"	7/16"	6516K4..	8.42	6516K61..	12.14	6516K9..	10.20	6516K62...	13.75	6516K63..	15.30	6516K64..	16.91
7/16"-20	1 3/8"	9/16"			6516K66..	12.60			6516K67...	14.40	6516K68..	16.36	6516K69..	17.87
1/2"-20	1 1/4"	5/8"	6516K5..	8.89			6516K99..	11.37						
1/2"-20	1 1/2"	5/8"			6516K73..	13.35			6516K74...	16.11	6516K75..	18.21	6516K76..	21.03
5/8"-18	1 5/8"	3/4"							6516K79...	18.92	6516K81..	22.73	6516K82..	26.54
3/4"-16	1 3/4"	7/8"									6516K85..	27.65	6516K86..	33.02

★ Thread length is 1".

Easy-Adjust Turnbuckle-Style Threaded Connecting Rods

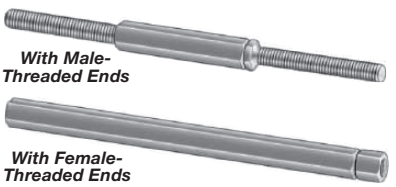

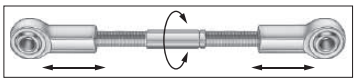

Similar to turnbuckles, these rods have right-hand threads on one end and left-hand threads on the other so you can make a linkage that adjusts for tension. Add right- and left-handed rod ends to build your linkage. All rods are made of high-strength aluminum. They have a hex-shaped body so you can adjust them with a wrench.

Note: The end with the left-handed threads is marked with a groove.

Male-Threaded Ends

Thread Size	Hex Body Wd.	Thread Lg.	4" O'all Lg.		Thread Lg.	6" O'all Lg.		12" O'all Lg.		18" O'all Lg.		24" O'all Lg.	
10-32	1/4"	1"	8420K11..	$26.02	1 3/16"	8420K61...	$23.62	8420K23...	$25.26	8420K81..	$27.61	8420K41..	$33.55
1/4"-28	1/4"	1"	8420K13..	26.02	1 1/2"	8420K63...	23.82	8420K25■	25.48	8420K83..	27.94	8420K43..	33.79
5/16"-24	5/16"	1 1/4"	8420K15..	28.14	1 5/8"	8420K65...	25.64	8420K27...	25.97	8420K85..	28.67	8420K45..	35.30
3/8"-24	3/8"	1 1/4"	8420K17..	30.33	2"	8420K67...	25.84	8420K29...	28.65	8420K87..	32.97	8420K47..	41.98
1/2"-20	1/2"	1 1/2"	8420K19..	28.81	2"	8420K69...	26.26	8420K32...	29.14	8420K89..	33.95	8420K49..	44.73
3/4"-16	3/4"	1 3/4"	8420K22..	34.86	2"	8420K72...	31.60	8420K34...	41.48	8420K92..	52.51	8420K52..	74.73

■ 1 3/16" thread length.

Female-Threaded Ends

Thread Size	Thread Lg.	Hex Body Wd.	2" O'all Lg.		3" O'all Lg.		4" O'all Lg.		6" O'all Lg.		12" O'all Lg.	
1/4"-28	3/4"	3/8"	8419K11..	$17.77	8419K22...	$18.31	8419K33...	$18.68	8419K61..	$19.78	8419K71..	$26.84
5/16"-24	3/4"	1/2"	8419K12..	17.89	8419K23...	18.31	8419K34...	18.68	8419K62..	19.78	8419K72..	28.81
3/8"-24	1"	1/2"	8419K13▲	17.89	8419K24...	18.31	8419K35...	18.68	8419K63..	19.78	8419K73..	28.81
1/2"-20	1"	5/8"	8419K14▲	17.97	8419K25...	18.56	8419K36...	19.20	8419K64..	20.44	8419K74..	29.94
3/4"-16	1"	1"	8419K15▲	22.97	8419K26...	24.53	8419K37...	26.20	8419K65..	29.77		

▲ 3/4" thread length.

Thrust-Rated Ball Joint Bearings



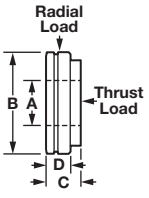

With a unique housing (outer ring) and ball (inner ring) design, these bearings are able to support heavy one-direction thrust loads and combination radial/thrust loads. Use them in tight spots where a rod end shank won't fit, or mount them in a drilled hole or a rod end blank (see page 1258). Also known as spherical bearings, each has a bearing steel housing and ball. They require lubrication and are not rated for maximum ball swivel.

ID (A)	OD (B)	Ball Thick. (C)	Housing Thick. (D)	Static Radial Load Cap., lbs.	Static Thrust Load Cap., lbs.		
1/2"	7/8"	5/16"	3/16"	4,000	5,200	2459K11..	$59.68
5/8"	1 1/16"	3/8"	1/4"	6,900	8,700	2459K12..	65.52
3/4"	1 1/4"	7/16"	5/16"	10,500	12,600	2459K13..	81.81
7/8"	1 7/16"	1/2"	3/8"	14,900	17,600	2459K14..	80.16
1"	1 5/8"	5/8"	7/16"	19,600	22,200	2459K15..	77.54
1 1/4"	2"	3/4"	9/16"	32,000	35,400	2459K16..	63.92
1 3/8"	2 3/16"	7/8"	5/8"	35,900	42,900	2459K17..	74.78
1 1/2"	2 7/16"	15/16"	5/8"	44,500	51,900	2459K18..	76.71
1 3/4"	2 13/16"	1 1/16"	13/16"	61,600	69,300	2459K19..	122.24
2"	3 3/16"	1 1/4"	15/16"	82,500	91,700	2459K21..	138.03

Ball Joint Swivel Bearings



Fiber-Reinforced Plastic



Standard Steel and Stainless Steel



Lubrication-Free Steel and Stainless Steel

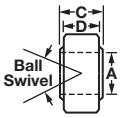

Also known as spherical bearings, all of these bearings contain a ball that pivots to accommodate misalignment. Use them in tight spots where a rod end shank won't fit. ***Standard bearings*** require lubrication. ***Lubrication-free bearings*** have a PTFE-lined insert (except bearings with fiber-reinforced plastic housing) and do not require lubrication.

Fiber-Reinforced Plastic Housing— The housing and ball are fiber-reinforced plastic, which is 80% lighter than steel and offers superior corrosion resistance. Temperature range is –22° to +176° F.

Steel Housing with Steel Insert— Have a steel housing and insert with a chrome-plated, bearing steel ball that is heat treated for strength. Temperature range is –65° to +425° F for standard bearings; –65° to +275° F for lubrication-free bearings.

Stainless Steel Housing with Stainless Steel Insert— Offering excellent corrosion resistance, these bearings have a Type 303 stainless steel housing and insert with a Type 440C stainless steel ball that is heat treated for strength. Temperature range is –65° to +425° F for standard bearings; –65° to +275° F for lubrication-free bearings.

Metric Steel Housing with Steel Insert— Have a steel housing and insert with a chrome-plated steel ball. Temperature range is –30° to +300° F.

ID (A)	OD (B)	Ball Thick. (C)	Housing Thick. (D)	Standard Bearings: Max. Ball Swivel	Standard Bearings: Static Radial Load Cap., lbs.			Lubrication-Free Bearings: Max. Ball Swivel	Lubrication-Free Bearings: Static Radial Load Cap., lbs.		
Fiber-Reinforced Plastic Housing											
3/16"	9/16"	5/16"	7/32"	—	—	—	—	34°	225	1071K11	$3.87
1/4"	21/32"	3/8"	1/4"	—	—	—	—	30°	337	1071K12	4.13
5/16"	3/4"	7/16"	9/32"	—	—	—	—	29°	450	1071K13	4.36
3/8"	13/16"	1/2"	5/16"	—	—	—	—	25°	629	1071K14	4.71
1/2"	1 1/16"	5/8"	25/64"	—	—	—	—	25°	955	1071K16	6.42
3/4"	1 7/16"	7/8"	19/32"	—	—	—	—	23°	1,911	1071K18	9.91
Steel Housing with Steel Insert											
3/16"	9/16"	9/32"	7/32"	22°	4,875	63195K61	$7.19	22°	4,875	63195K11	10.58
1/4"	21/32"	11/32"	1/4"	27°	7,425	63195K63	7.06	27°	7,425	63195K12	9.86
5/16"	3/4"	3/8"	9/32"	24°	9,713	63195K65	7.50	24°	9,713	63195K13	10.31
3/8"	13/16"	13/32"	5/16"	20°	12,600	63195K67	7.56	20°	12,600	63195K14	10.36
7/16"	29/32"	7/16"	11/32"	16°	14,180	63195K69	10.11	16°	14,180	63195K15	12.89
1/2"	1"	1/2"	25/64"	19°	19,875	63195K71	7.78	19°	19,875	63195K16	10.58
9/16"	1 3/32"	9/16"	7/16"	19°	24,945	63195K73	8.25	19°	24,945	63195K17	12.28
5/8"	1 3/16"	5/8"	1/2"	17°	31,920	63195K75	8.22	17°	31,920	63195K18	11.06
3/4"	1 7/16"	3/4"	19/32"	18°	47,880	63195K77	12.11	18°	47,880	63195K19	14.83
7/8"	1 9/16"	7/8"	45/64"	19°	62,940	63195K79	16.31	19°	62,940	63195K21	18.92
1"	1 3/4"	1"	51/64"	20°	82,800	63195K81	20.50	20°	82,800	63195K22	23.08
1"	2"	1"	25/32"	18°	106,230	63195K41	61.74	18°	106,230	63195K51	70.90
1 1/4"	2 3/8"	1 3/16"	15/16"	17°	151,095	63195K42	77.90	17°	151,095	63195K52	87.06
1 1/2"	2 3/4"	1 3/8"	1 3/32"	17°	203,925	63195K43	92.84	17°	203,925	63195K53	102.00
2"	3 1/2"	1 3/4"	1 3/8"	17°	325,590	63195K45	139.68	17°	325,590	63195K55	148.84
Stainless Steel Housing with Stainless Steel Insert											
5/32"	15/32"	1/4"	3/16"	18°	3,200	63215K22	12.45	—	—	—	—
3/16"	9/16"	9/32"	7/32"	22°	4,400	63215K63	12.52	20°	3,975	63215K31	15.92
1/4"	21/32"	11/32"	1/4"	27°	6,700	63215K64	12.65	20°	6,040	63215K52	15.62
5/16"	3/4"	3/8"	9/32"	24°	9,200	63215K65	13.08	20°	8,750	63215K53	16.32
3/8"	13/16"	13/32"	5/16"	20°	12,400	63215K66	13.62	18°	10,540	63215K34	17.24
7/16"	29/32"	7/16"	11/32"	16°	14,900	63215K67	14.75	16°	13,200	63215K55	19.03
1/2"	1"	1/2"	25/64"	19°	17,900	63215K68	15.77	16°	17,900	63215K56	21.09
5/8"	1 3/16"	5/8"	1/2"	17°	32,000	63215K69	17.50	16°	30,500	63215K38	22.24
3/4"	1 7/16"	3/4"	19/32"	18°	48,000	63215K71	20.75	16°	46,400	63215K39	28.85
7/8"	1 9/16"	7/8"	45/64"	19°	69,000	63215K72	26.67	16°	62,200	63215K61	38.00
1"	1 3/4"	1"	51/64"	20°	83,000	63215K73	32.37	18°	82,200	63215K42	48.61
Metric Steel Housing with Steel Insert *—Dimensions in mm*											
6	18	9	7	25°	7,971	2995K11	9.50	25°	7,971	2995K31	10.80
8	22	12	9	28°	13,290	2995K12	9.68	28°	13,290	2995K32	12.22
10	26	14	11	27°	18,601	2995K13	9.90	27°	18,601	2995K33	12.40
12	30	16	12	26°	25,364	2995K14	10.84	26°	25,364	2995K34	12.66
14	34	19	14	32°	31,888	2995K15	13.18	32°	31,888	2995K35	16.94
16	38	21	15	30°	39,868	2995K16	22.80	30°	39,868	2995K36	26.90

Extended-Life Ball Joint Swivel Bearings

Specially designed lubrication channels and integral polyester seals allow these bearings to last up to three times longer than other ball joint swivel bearings. Also known as spherical bearings, each has a bearing steel housing, insert, and ball that pivots to accommodate misalignment. Seals keep grease in and contaminants out. Bearings come greased, and can be lubricated through a hole in the housing without removing the load. Maximum temperature is 250° F.



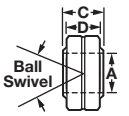

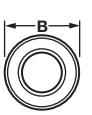

ID (A)	OD (B)	Ball Thick. (C)	Housing Thick. (D)	Max. Ball Swivel	Static Radial Load Cap., lbs.		
3/4"	1 1/4"	21/32"	9/16"	14°	21,200	2699K11	$64.25
7/8"	1 7/16"	49/64"	21/32"	14°	28,800	2699K12	49.16
1"	1 5/8"	7/8"	3/4"	14°	37,700	2699K13	45.88
1 1/4"	2"	1 3/32"	15/16"	14°	58,800	2699K14	52.83
1 3/8"	2 3/16"	1 3/16"	1 1/32"	14°	69,800	2699K15	70.88
1 1/2"	2 7/16"	1 5/16"	1 1/8"	14°	84,800	2699K16	72.18
1 3/4"	2 13/16"	1 17/32"	1 5/16"	14°	115,400	2699K17	86.07
2"	3 3/16"	1 3/4"	1 1/2"	14°	150,900	2699K18	137.32
2 1/2"	3 15/16"	2 3/16"	1 7/8"	14°	235,500	2699K19	168.20
3"	4 3/4"	2 5/8"	2 1/4"	14°	339,500	2699K21	288.08

Dimensions

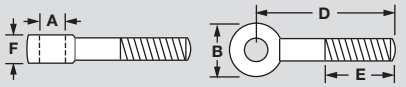

Thread Direction

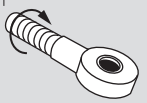

Right-hand threaded shank tightens when turned clockwise. This is the most common thread.

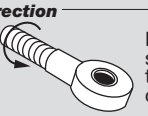

Left-hand threaded shank tightens when turned counter-clockwise.

Partially Threaded Solid Rod Ends

Also known as swing bolts and eyebolts, solid rod ends make connections in applications that don't need to compensate for misalignment.

Male Right-Hand Threaded Shank



Steel—Have a black-oxide finish (except 10-32 shank thread size is plain steel). Tensile strength is 75,000 psi. *Metric sizes* meet DIN 444.

Types 303 and 304 Stainless Steel—Offer good corrosion resistance. Tensile strength is 85,000 psi. *Metric sizes* meet DIN 444.

Type 316 Stainless Steel—Offer excellent corrosion resistance. Tensile strength is 80,000 psi.

Shank Thread Size	ID (A)	OD (B)	Lg. (D)	Thread Lg. (E)	Thick. (F)	Steel		Type 303/304 Stainless Steel		Type 316 Stainless Steel	
Inch Sizes											
10-32	3/16"	1/2"	2"	3/4"	3/16"	6066K74	$18.92	6251K28	$20.06	6097K51	$24.47
10-32	3/16"	1/2"	3"	3/4"	3/16"	6066K75	20.55	6251K29	20.87	6097K52	26.00
1/4"-20	3/16"	1/2"	2"	3/4"	5/16"	6066K31	6.36	6251K3	11.47	6097K12	15.05
1/4"-20	3/16"	1/2"	3"	3/4"	5/16"	6066K12	8.42	6251K31	13.83	6097K13	19.88
1/4"-20	3/16"	1/2"	4"	3/4"	5/16"	6066K13	10.57	—	—	6097K14	20.98
1/4"-20	1/4"	1/2"	2"	3/4"	5/16"	6066K67	5.88	6251K32	14.60	6097K34	16.05
1/4"-20	1/4"	1/2"	3"	3/4"	5/16"	6066K68	6.93	6251K33	13.83	6097K35	19.28
1/4"-20	1/4"	1/2"	4"	3/4"	5/16"	6066K69	8.69	6251K34	14.60	6097K36	20.36
5/16"-18	1/4"	5/8"	3"	1 1/2"	3/8"	6066K33	6.31	6251K35	12.15	6097K15	14.96
5/16"-18	1/4"	5/8"	4"	2"	3/8"	6066K34	7.94	—	—	6097K16	20.32
5/16"-18	5/16"	5/8"	3"	1 1/2"	3/8"	6066K35	6.05	6251K36	11.47	6097K17	14.11
5/16"-18	5/16"	5/8"	4"	2"	3/8"	6066K36	9.32	—	—	6097K18	21.84
3/8"-16	5/16"	3/4"	3"	1 1/2"	7/16"	6066K37	7.83	6251K37	11.71	6097K39	16.52
3/8"-16	3/8"	3/4"	3"	1 1/2"	7/16"	6066K14	6.00	6251K14	12.30	6097K24	16.66
3/8"-16	3/8"	3/4"	3 3/4"	2"	7/16"	6066K41	6.93	6251K38	12.77	6097K41	17.87
3/8"-16	3/8"	3/4"	4"	1 1/2"	7/16"	6066K15	7.79	6251K15	12.80	6097K25	18.02
3/8"-16	3/8"	3/4"	5"	2 1/2"	7/16"	6066K42	7.10	6251K39	13.12	6097K42	17.87
3/8"-16	3/8"	1"	3 3/4"	1 1/2"	9/16"	6066K43	14.01	—	—	—	—
3/8"-16	3/8"	1"	5"	2 1/2"	9/16"	6066K44	14.01	—	—	—	—
1/2"-13	3/8"	1"	3 3/4"	1 1/2"	9/16"	6066K45	9.06	6251K4	18.46	6097K43	27.09
1/2"-13	3/8"	1"	4"	1 1/2"	9/16"	6066K16	9.46	6251K16	19.45	6097K26	28.55
1/2"-13	3/8"	1"	5"	1 1/2"	9/16"	6066K17	9.54	6251K17	19.58	6097K27	28.55
1/2"-13	3/8"	1"	5"	2"	9/16"	6066K46	9.30	6251K41	18.76	6097K44	27.09
1/2"-13	3/8"	1"	6"	1 1/2"	9/16"	6066K18	10.85	6251K18	20.78	6097K28	28.21
1/2"-13	1/2"	1"	4"	1 1/2"	9/16"	6066K71	8.75	—	—	6097K37	27.09
5/8"-11	5/8"	1 1/4"	4 1/2"	2"	11/16"	6066K47	11.83	6251K42	25.05	6097K45	32.04
5/8"-11	5/8"	1 1/4"	5"	1 3/4"	11/16"	6066K19	12.16	6251K19	26.99	6097K29	36.70
5/8"-11	5/8"	1 1/4"	6"	1 3/4"	11/16"	6066K21	11.60	6251K21	28.53	6097K31	36.35
5/8"-11	5/8"	1 1/4"	6"	2 1/2"	11/16"	6066K48	10.83	6251K43	26.74	6097K46	34.51
5/8"-11	5/8"	1 1/4"	7"	1 3/4"	11/16"	6066K22	21.34	6251K22	30.87	—	—
5/8"-11	5/8"	1 1/4"	8"	1 3/4"	11/16"	6066K23	20.74	6251K23	32.48	—	—
3/4"-10	5/8"	1 1/2"	5"	1 3/4"	13/16"	6066K24	16.93	6251K24	32.88	6097K32	55.20
3/4"-10	5/8"	1 1/2"	6"	1 3/4"	13/16"	6066K25	16.53	6251K25	36.49	6097K33	54.70
3/4"-10	5/8"	1 1/2"	7"	1 3/4"	13/16"	6066K26	25.75	6251K26	39.64	—	—
3/4"-10	5/8"	1 1/2"	8"	1 3/4"	13/16"	6066K27	28.73	6251K27	42.21	—	—
3/4"-10	3/4"	1 1/2"	4 1/2"	2"	13/16"	6066K49	16.49	6251K44	31.32	6097K47	48.21
3/4"-10	3/4"	1 1/2"	6"	2 1/2"	13/16"	6066K51	14.34	6251K45	33.57	6097K48	47.77
7/8"-9	3/4"	1 3/4"	6"	2"	15/16"	6066K61	23.66	—	—	6097K49	73.83
7/8"-9	3/4"	1 3/4"	12"	4"	15/16"	6066K62	33.90	—	—	—	—
7/8"-9	7/8"	1 3/4"	6"	2"	15/16"	6066K72	23.66	—	—	6097K38	73.83
1"-8	7/8"	2"	6"	2"	1 1/16"	6066K63	29.97	—	—	—	—
1"-8	7/8"	2"	12"	4"	1 1/16"	6066K64	46.15	—	—	—	—
1"-8	1"	2"	6"	2"	1 1/16"	6066K73	29.97	—	—	—	—
1 1/4"-7	1 1/8"	2 1/2"	6"	2 1/2"	1 5/16"	6066K65	76.25	—	—	—	—
1 1/4"-7	1 1/8"	2 1/2"	12"	4 1/2"	1 5/16"	6066K66	77.19	—	—	—	—
Metric Sizes—*Dimensions in mm*											
M6×1.0	6	14	50	32	7	3799K11	8.44	3799K41	15.30	—	—
M8×1.25	8	18	50	32	9	3799K13	9.37	3799K43	17.10	—	—
M8×1.25	8	18	75	32	9	3799K14	10.62	3799K44	20.70	—	—
M10×1.5	10	20	75	40	12	3799K15	11.46	3799K45	22.90	—	—
M10×1.5	10	20	100	40	12	3799K16	13.33	3799K46	25.50	—	—
M12×1.75	12	25	100	40	14	3799K17	15.42	3799K47	33.56	—	—
M12×1.75	12	25	130	40	14	3799K18	17.40	3799K48	38.27	—	—
M16×2.0	16	32	100	50	17	3799K19	22.40	3799K49	47.50	—	—
M16×2.0	16	32	130	50	17	3799K21	25.52	3799K51	56.44	—	—

Female Right-Hand Threaded Shank



All are steel with a black-oxide finish. Tensile strength is 75,000 psi.

Shank Thread Size	ID (A)	OD (B)	Lg. (D)	Thread Lg. (E)	Thick. (F)		
1/4"-20	3/16"	1/2"	2"	3/4"	9/32"	1581K11	$17.97
1/4"-20	1/4"	1/2"	2"	3/4"	9/32"	1581K21	21.54
3/8"-16	3/8"	3/4"	3"	1"	7/16"	1581K12	23.97
1/2"-13	3/8"	1"	3 3/4"	1"	9/16"	1581K13	28.46
1/2"-13	3/8"	1"	4"	1"	9/16"	1581K14	26.96

Shank Thread Size	ID (A)	OD (B)	Lg. (D)	Thread Lg. (E)	Thick. (F)		
1/2"-13	1/2"	1"	3 3/4"	1"	9/16"	1581K22	$28.65
5/8"-11	5/8"	1 1/4"	4 1/2"	1"	11/16"	1581K15	44.93
5/8"-11	5/8"	1 1/4"	5"	1"	11/16"	1581K16	47.93
5/8"-11	5/8"	1 1/4"	6"	1 1/2"	11/16"	1581K17	53.92
3/4"-10	3/4"	1 1/2"	4 1/2"	1"	13/16"	1581K18	59.91

Dimensions

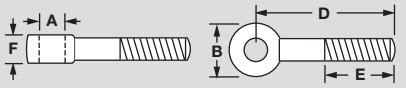

Thread Direction

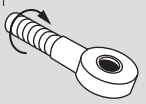

Right-hand threaded shank tightens when turned clockwise. This is the most common thread.

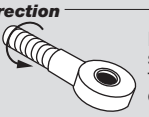

Left-hand threaded shank tightens when turned counter-clockwise.

Fully Threaded Solid Rod Ends



For maximum mounting flexibility, cut the fully threaded shaft to whatever length you need. Also called eyebolts, all of these rod ends have right-hand shank threads.

Steel— Have a black-oxide finish and meet ASTM A521, Class CA (except 10-32 shank thread size). Minimum tensile strength is 60,000 psi.

Alloy Steel— Have a black-oxide finish and meet ASTM A193-B7 (except 10-32 shank thread size). Minimum tensile strength is 125,000 psi.

Stainless Steel— Made of Type 304 stainless steel, these rod ends offer excellent corrosion resistance and meet ASTM A193-B8 (except 10-32 shank thread size). Minimum tensile strength is 75,000 psi.

Shank Thread Size	ID (A)	OD (B)	Lg. (D)	Thread Lg. (E)	Thick. (F)	Steel		Alloy Steel		Stainless Steel	
10-32	3/16"	1/2"	1 1/2"	1"	5/16"	3798K55	$10.20	2440K55	$12.75	2434K54★	$6.98
1/4"-20	1/4"	5/8"	1 1/2"	1 1/8"	1/4"	3798K35	6.24	2440K35	7.38	2434K31	9.17
1/4"-20	1/4"	5/8"	3 1/2"	3 1/8"	1/4"	3798K36	6.41	2440K36	7.57	2434K35■	9.25
1/4"-20	1/4"	5/8"	6"	5 5/8"	1/4"	3798K37	6.71	2440K37	7.85	2434K36	9.47
1/4"-28	1/4"	5/8"	3 1/2"	3 1/8"	1/4"	3798K51	8.34	2440K51	9.83	2434K49	12.03
5/16"-18	5/16"	5/8"	1 1/2"	1 1/16"	5/16"	3798K22	6.46	2440K22	7.59	2434K22	9.30
5/16"-18	5/16"	1 1/16"	3 1/2"	3 1/16"	5/16"	3798K38	6.64	2440K38	7.75	2434K37	9.76
5/16"-18	5/16"	1 1/16"	6"	5 9/16"	5/16"	3798K39	6.88	2440K39	8.06	2434K38	10.04
3/8"-16	3/8"	13/16"	1 15/16"	1 7/16"	3/8"	3798K48	6.78	2440K48	8.19	2434K47	10.12
3/8"-16	3/8"	13/16"	3 1/2"	3"	3/8"	3798K23	6.96	2440K23	8.40	2434K23	13.74
3/8"-16	3/8"	13/16"	5"	4 1/2"	3/8"	3798K41	7.13	2440K41	8.66	2434K39	13.88
3/8"-16	3/8"	13/16"	6"	5 1/2"	3/8"	3798K24	7.21	2440K24	8.76	2434K24	15.39
3/8"-24	3/8"	13/16"	3 1/2"	3"	3/8"	3798K52	9.04	2440K52	10.92	2434K51	13.50
1/2"-13	1/2"	1 1/32"	2 7/16"	1 13/16"	1/2"	3798K49	7.63	2440K49	9.31	2434K48	19.76
1/2"-13	1/2"	1 1/32"	3 1/2"	2 7/8"	1/2"	3798K25	7.80	2440K25	9.57	2434K25	20.29
1/2"-13	1/2"	1 1/32"	5"	4 3/16"	1/2"	3798K42	8.15	2440K42	10.01	2434K41	21.03
1/2"-13	1/2"	1 1/32"	6"	5 3/8"	1/2"	3798K26	8.30	2440K26	10.22	2434K26	21.35
1/2"-20	1/2"	1 1/32"	3 1/2"	2 7/8"	1/2"	3798K53	10.15	2440K53	12.43	2434K52	26.36
5/8"-11	5/8"	1 5/16"	3 1/2"	2 3/4"	5/8"	3798K27	9.01	2440K27	11.21	2434K27	23.37
5/8"-11	5/8"	1 5/16"	5"	4 1/4"	5/8"	3798K43	9.51	2440K43	11.80	2434K42	24.22
5/8"-11	5/8"	1 5/16"	6"	5 1/4"	5/8"	3798K28	9.73	2440K28	12.06	2434K28	24.60
3/4"-10	3/4"	1 9/16"	3 1/2"	2 5/8"	3/4"	3798K29	10.82	2440K29	13.60	2434K29	26.36
3/4"-10	3/4"	1 9/16"	5"	4 1/8"	3/4"	3798K44	11.37	2440K44	14.22	2434K43	27.32
3/4"-10	3/4"	1 9/16"	6"	5 1/8"	3/4"	3798K32	11.59	2440K32	14.51	2434K32	27.74
3/4"-16	3/4"	1 9/16"	6"	5 1/8"	3/4"	3798K54	16.22	2440K54	20.28	2434K53	38.84
7/8"-9	7/8"	1 7/8"	5"	3 13/16"	7/8"	3798K45	14.26	2440K45	18.10	2434K44	42.94
7/8"-9	7/8"	1 7/8"	6"	4 13/16"	7/8"	3798K33	14.49	2440K33	18.38	2434K33	43.60
1"-8	1"	2 3/32"	6"	4 3/4"	1"	3798K34	19.41	2440K34	24.99	2434K34	59.45
1 1/4"-7	1 1/4"	2 21/32"	6"	4 1/4"	1 1/4"	3798K46	41.72	2440K46	46.36	2434K45	102.49
1 1/2"-6	1 1/2"	3 3/32"	6"	4"	1 1/2"	3798K47	81.02	2440K47	90.09	2434K46	183.61

★ Type 303 stainless steel. ■ Thread length is 3".

Square-Shoulder Solid Rod Ends



Also known as jig latch bolts, these rod ends mount flush to any flat surface. They're commonly used to mount a workpiece flush to a machining table. All have right-hand shank threads.

Steel— These steel rod ends are heat treated for added strength and have a black-oxide finish. Tensile strength is 78,000 psi.

Stainless Steel— Made of Type 303 stainless steel, these rod ends offer excellent corrosion resistance. Tensile strength is 100,000 psi.

Shank Thread Size	ID (A)	OD (B)	Lg. (D)	Thread Lg. (E)	Thick. (F)	Steel		Stainless Steel	
Inch Sizes									
10-32	3/16"	3/8"	1"	9/16"	3/16"	59895K35	$6.18	3796K28	$9.66
10-32	3/16"	3/8"	2"	1"	3/16"	59895K36	7.54	3796K29	12.40
1/4"-20	1/4"	1/2"	1 1/2"	3/4"	5/16"	59895K11	5.18	3796K11	9.91
1/4"-20	1/4"	1/2"	2 1/2"	1 1/4"	5/16"	59895K16	6.23	3796K12	11.71
1/4"-20	1/4"	1/2"	2 5/8"	2 5/16"	1/4"	59895K31	5.91	3796K13	10.69
5/16"-18	5/16"	5/8"	2"	1"	3/8"	59895K15	7.16	3796K14	15.14
5/16"-18	5/16"	5/8"	3"	1 3/8"	3/8"	59895K17	7.43	3796K15	17.77
5/16"-18	5/16"	5/8"	3 3/16"	2 13/16"	5/16"	59895K32	8.39	3796K16	17.29
3/8"-16	3/8"	3/4"	2 1/2"	1 3/8"	1/2"	59895K12	8.18	3796K17	20.89
3/8"-16	3/8"	3/4"	3 1/2"	2"	1/2"	59895K18	9.05	3796K18	23.77
3/8"-16	3/8"	3/4"	3 3/4"	3 5/16"	3/8"	59895K33	10.20	3796K19	21.88
1/2"-13	1/2"	1"	3 1/8"	1 3/4"	5/8"	59895K13	10.57	3796K21	29.00
1/2"-13	1/2"	1"	4 1/8"	2 1/4"	5/8"	59895K19	12.18	3796K22	34.98
1/2"-13	1/2"	1"	4 7/8"	4 5/16"	1/2"	59895K34	10.86	3796K23	36.52
5/8"-11	5/8"	1 1/4"	3 1/2"	1 5/8"	3/4"	59895K14	13.80	3796K24	41.67
5/8"-11	5/8"	1 1/4"	4 3/4"	2 1/2"	3/4"	59895K21	15.93	3796K25	46.57
3/4"-10	3/4"	1 1/2"	4 1/2"	2"	7/8"	59895K22	19.57	3796K26	65.05
3/4"-10	3/4"	1 1/2"	6"	3"	7/8"	59895K23	23.77	3796K27	73.71
Metric Sizes— *Dimensions in mm*									
M6×1.0	6	13	50	37	6	3800K17	7.26	3800K18	9.90
M8×1.25	8	16	50	35	8	3800K19	8.38	3800K21	15.22
M10×1.5	10	19	125	108	10	3800K22	11.66	3800K23	20.76
M12×1.75	12	25	150	131	12	3800K24	11.98	3800K25	26.08
M16×2.0	16	32	150	127	16	3800K26	20.48	3800K27	42.28
M20×2.5	20	38	175	148	20	3800K28	33.08	3800K29	47.78

Dimensions

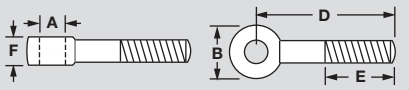

Thread Direction

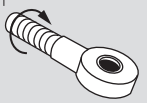

Right-hand threaded shank tightens when turned clockwise. This is the most common thread.

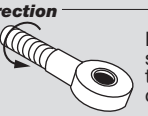

Left-hand threaded shank tightens when turned counter-clockwise.

Left-Hand Threaded Solid Rod Ends



Create linkages and shaft connections in applications that require left-hand threads. Also called swing bolts and eyebolts, these rod ends are made of steel with a black-oxide finish. Tensile strength is 75,000 psi.

Shank Thread Size	ID (A)	OD (B)	Lg. (D)	Thread Lg. (E)	Thick. (F)		
1/4"-20	3/16"	1/2"	2"	3/4"	9/32"	4543T11	$6.93
1/4"-20	3/16"	1/2"	3"	3/4"	9/32"	4543T12	9.06
1/4"-20	1/4"	1/2"	2"	3/4"	9/32"	4543T31	6.65
5/16"-18	1/4"	5/8"	3"	1 1/2"	11/32"	4543T13	6.97
5/16"-18	5/16"	5/8"	3"	1 1/2"	11/32"	4543T14	7.23
3/8"-16	5/16"	3/4"	3"	1 1/2"	7/16"	4543T15	8.42
3/8"-16	3/8"	3/4"	3"	1 1/2"	7/16"	4543T16	8.59
3/8"-16	3/8"	3/4"	3 3/4"	2"	7/16"	4543T17	9.28
3/8"-16	3/8"	3/4"	5"	2 1/2"	7/16"	4543T18	9.42
1/2"-13	3/8"	1"	3 3/4"	1 1/2"	9/16"	4543T19	10.97

Shank Thread Size	ID (A)	OD (B)	Lg. (D)	Thread Lg. (E)	Thick. (F)		
1/2"-13	3/8"	1"	4"	1 1/2"	9/16"	4543T21	$11.07
1/2"-13	3/8"	1"	6"	1 1/2"	9/16"	4543T22	10.66
1/2"-13	1/2"	1"	6"	1 1/2"	9/16"	4543T32	10.23
5/8"-11	5/8"	1 1/4"	4 1/2"	2"	11/16"	4543T23	12.94
5/8"-11	5/8"	1 1/4"	5"	1 3/4"	11/16"	4543T24	13.25
5/8"-11	5/8"	1 1/4"	6"	2 1/2"	11/16"	4543T25	12.93
3/4"-10	3/4"	1 1/2"	4 1/2"	2"	13/16"	4543T26	19.35
3/4"-10	5/8"	1 1/2"	5"	1 3/4"	13/16"	4543T27	19.99
3/4"-10	5/8"	1 1/2"	8"	1 3/4"	13/16"	4543T28	31.12
3/4"-10	3/4"	1 1/2"	6"	2 1/2"	13/16"	4543T29	18.52

Solid Rod End Blanks



Cut, tap, bore, or weld these rod ends to your exact requirements. They have an unfinished shank and come with a large, centered starter dimple for drilling, unless noted.

Steel— Made of C1035 steel. Tensile strength is 75,000 psi.

Alloy Steel— Made of 4140 alloy steel. Tensile strength is 125,000 psi.

Type 304 Stainless Steel— Offer good corrosion resistance. Tensile strength is 85,000 psi.

Type 316 Stainless Steel— Offer excellent corrosion resistance. Tensile strength is 75,000 psi.

Shank Dia.	OD (B)	Lg. (D)	Thick. (F)		
Steel					
1/4"	1/2"	3"	9/32"	6065K131	$3.30
1/4"	1/2"	5 1/4"	9/32"	6065K121	5.60
5/16"	5/8"	1 9/16"	11/32"	6065K171	3.51
5/16"	5/8"	3"	11/32"	6065K151	3.51
5/16"	5/8"	4 1/16"	11/32"	6065K141	5.96
5/16"	5/8"	6"	11/32"	6065K161	5.96
3/8"	11/16"	2 1/8"	3/8"	6065K241	3.06
3/8"	3/4"	1 1/2"	3/8"	6065K221	3.18
3/8"	3/4"	2 1/2"	3/8"	6065K181	3.18
3/8"	3/4"	3"	7/16"	6065K251	3.87
3/8"	3/4"	3 1/2"	7/16"	6065K212	4.83
3/8"	3/4"	3 7/8"	7/16"	6065K191	4.83
3/8"	3/4"	6"	7/16"	6065K511	4.55
7/16"	7/8"	4 15/16"	1/2"	6065K261	5.84
1/2"	31/32"	12"	9/16"	6065K512	9.52
1/2"	1"	2 9/16"	9/16"	6065K321	5.09
1/2"	1"	2 5/8"	9/16"	6065K311	5.09
1/2"	1"	3 1/2"	9/16"	6065K281	5.09
1/2"	1"	6"	9/16"	6065K271	6.54
5/8"	1 1/4"	3"	11/16"	6065K331	5.83
5/8"	1 1/4"	5 1/8"	11/16"	6065K371	8.30

Shank Dia.	OD (B)	Lg. (D)	Thick. (F)		
Steel (Cont.)					
5/8"	1 1/4"	5 1/2"	11/16"	6065K341	$8.30
5/8"	1 1/4"	6 1/2"	11/16"	6065K361	11.54
5/8"	1 1/4"	8"	11/16"	6065K351	11.54
5/8"	1 1/4"	12"	11/16"	6065K513	12.17
3/4"	1 1/2"	3 1/2"	11/16"	6065K514	6.85
3/4"	1 1/2"	4 5/8"	13/16"	6065K391	10.49
3/4"	1 1/2"	4 3/4"	13/16"	6065K411	10.49
3/4"	1 1/2"	5 1/8"	13/16"	6065K421	10.49
3/4"	1 1/2"	12"	13/16"	6065K515	14.59
7/8"	1 13/16"	6"	15/16"	6065K516	12.03
7/8"	1 13/16"	12"	15/16"	6065K517	20.69
1"	2"	4 1/2"	1 1/16"	6065K451	20.07
1"	2 1/32"	6"	1 1/16"	6065K518	17.19
1"	2 1/32"	12"	1 1/16"	6065K519	27.59
1 1/2"	3 3/32"	12"	1 1/2"	6065K522	67.54
Alloy Steel					
3/8"	3/4"	3 1/2"	7/16"	57635K69	3.93
3/8"	3/4"	6"	7/16"	57635K71	4.71
1/2"	31/32"	3 1/2"	9/16"	57635K51	4.71
1/2"	31/32"	6"	9/16"	57635K72	5.85
5/8"	1 1/4"	3 1/2"	11/16"	57635K53	5.94

Shank Dia.	OD (B)	Lg. (D)	Thick. (F)		
Alloy Steel (Cont.)					
5/8"	1 1/4"	6"	11/16"	57635K73	$7.33
5/8"	1 1/4"	12"	11/16"	57635K54	14.42
3/4"	1 1/2"	3 1/2"	13/16"	57635K55	7.75
3/4"	1 1/2"	6"	13/16"	57635K74	9.15
3/4"	1 1/2"	12"	13/16"	57635K56	16.55
7/8"	1 13/16"	6"	15/16"	57635K75	12.35
1"	2 1/32"	6"	1 1/16"	57635K76	17.91
1"	2 1/32"	12"	1 1/16"	57635K58	30.33
1 1/4"	2 5/8"	12"	1 5/16"	57635K49	53.76
Type 304 Stainless Steel					
3/8"	3/4"	3"	3/8"	6147K82■	7.48
1/2"	1"	6"	1/2"	6147K83■	16.85
5/8"	1 1/4"	6"	5/8"	6147K84■	19.46
Type 316 Stainless Steel					
3/8"	11/16"	6"	7/16"	6147K92■	31.25
3/8"	3/4"	3"	7/16"	6147K12	11.78
1/2"	1"	6"	9/16"	6147K14	27.40
5/8"	1 1/4"	6"	11/16"	6147K16	31.28
3/4"	1 1/2"	6"	13/16"	6147K22	39.02
3/4"	1 1/2"	12"	13/16"	6147K95	57.96

■ Does not have a starter dimple.

Forged Clevis Rod Ends



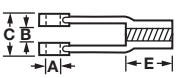

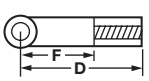

Make durable pivot-point linkages for shafts, rods, and other assemblies. Also called yoke end linkages, these rod ends are forged for added strength and have female right-hand shank threads. Each comes with a clevis pin and a cotter pin.

Steel— Machined to Society of Automotive Engineers (SAE) standards.

Zinc-Plated Steel— Have a corrosion-resistant finish.

Type 316 Stainless Steel— Offer excellent corrosion resistance.

Shank Thread Size	ID (A)	Jaw Wd. (B)	O'all Wd. (C)	Lg. (D)	Thread Lg. (E)	Lg. (F)	Steel		Zinc-Plated Steel		Type 316 Stainless Steel	
10-32	3/16"	3/16"	7/16"	19/16"	9/16"	1"	6071K11	$6.60	1583K11	$8.99	____	____
1/4"-20	1/4"	1/4"	5/8"	2"	3/4"	1 1/4"	6071K41	5.17	1583K22	6.89	____	____
1/4"-28	1/4"	1/4"	5/8"	2"	3/4"	1 1/4"	6071K12	4.98	1583K12	6.77	6071K47	$8.14
5/16"-18	5/16"	5/16"	3/4"	2 1/4"	13/16"	1 7/16"	6071K42	5.17	1583K23	6.89	____	____
5/16"-24	5/16"	5/16"	3/4"	2 1/4"	13/16"	1 7/16"	6071K13	4.98	1583K13	6.77	6071K48	8.92
3/8"-16	3/8"	7/16"	7/8"	2 1/2"	7/8"	1 5/8"	6071K43	7.53	1583K24	10.03	____	____
3/8"-24	3/8"	7/16"	7/8"	2 1/2"	7/8"	1 5/8"	6071K14	7.26	1583K14	9.89	6071K49	12.07
3/8"-24	1/2"	9/16"	1 1/8"	3"	1 1/8"	1 7/8"	6071K16	10.77	1583K15	14.69	____	____
7/16"-20	7/16"	1/2"	1"	2 7/8"	1"	1 7/8"	6071K31	9.55	1583K51	10.55	____	____
1/2"-13	1/2"	9/16"	1 1/8"	3"	1 1/8"	1 7/8"	6071K32	10.85	1583K61	11.76	____	____
1/2"-20	1/2"	9/16"	1 1/8"	3"	1 1/8"	1 7/8"	6071K26	10.77	1583K16	14.69	6071K51	24.99
1/2"-20	1/2"	9/16"	1 1/8"	4 3/16"	1 1/16"	3 1/8"	6071K17	11.67	1583K18	16.62	____	____
1/2"-20	1/2"	1 1/8"	1 7/8"	3"	1 3/8"	1 5/8"	6071K19	16.08	1583K17	22.91	____	____
5/8"-11	5/8"	11/16"	1 3/8"	4 15/16"	1 1/4"	3 11/16"	6071K33	18.23	1583K71	23.74	____	____
5/8"-18	5/8"	11/16"	1 3/8"	4 15/16"	1 1/4"	3 11/16"	6071K21	16.77	1583K19	23.92	____	____
3/4"-10	5/8"	11/16"	1 1/2"	4"	1 1/4"	2 3/4"	6071K34	24.15	1583K81	26.18	____	____
3/4"-10	3/4"	13/16"	1 5/8"	6 1/16"	1 1/2"	4 9/16"	6071K35	24.48	1583K91	27.00	____	____
3/4"-16	3/4"	13/16"	1 5/8"	6 1/16"	1 1/2"	4 9/16"	6071K22	29.76	1583K21	42.41	____	____

Forged Steel Clevis Rod End Blanks

Thread or weld the unfinished shank of these rod ends to meet your specific linkage needs. Sometimes called yoke end linkages, they're good for making pivot-point linkages for shafts, rods, and other assemblies. All are made of C1018 steel and are forged for added strength. Each comes with a clevis pin and a cotter pin.

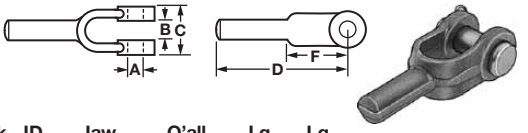

Shank Dia.	ID (A)	Jaw Wd. (B)	O'all Wd. (C)	Lg. (D)	Lg. (F)		
1/4"	1/4"	1/4"	5/8"	1 3/4"	5/8"	6414K27	$22.90
5/16"	5/16"	5/16"	3/4"	2"	3/4"	6414K12	11.16
3/8"	3/8"	7/16"	7/8"	2 1/8"	13/16"	6414K13	6.38
3/8"	3/8"	7/16"	7/8"	7"	13/16"	6414K21	9.40
7/16"	7/16"	1/2"	1"	2 1/4"	1"	6414K15	9.64
1/2"	1/2"	9/16"	1 1/8"	2 1/2"	1 1/8"	6414K14	10.75

Shank Dia.	ID (A)	Jaw Wd. (B)	O'all Wd. (C)	Lg. (D)	Lg. (F)		
1/2"	1/2"	9/16"	1 1/8"	6 1/2"	1 1/8"	6414K23	$12.87
5/8"	5/8"	11/16"	1 3/8"	2 7/8"	1 7/16"	6414K17	19.80
5/8"	5/8"	11/16"	1 3/8"	4 3/4"	1 7/16"	6414K24	20.02
3/4"	3/4"	13/16"	1 5/8"	3 5/8"	1 11/16"	6414K18	29.68
3/4"	3/4"	13/16"	1 5/8"	8 1/4"	1 11/16"	6414K25	23.07
1"	1"	1 1/16"	2 1/8"	6"	2 1/2"	6414K26	32.71

Corrosion-Resistant Plastic Clevis Rod Ends

In addition to offering superior corrosion resistance, these lightweight, fiber-reinforced plastic rod ends also reduce noise and vibration. Often called yoke end linkages, they're good for making pivot points for shafts, rods, and other assemblies. All have female right-hand threads. Each comes with a clevis pin and a retaining clip.

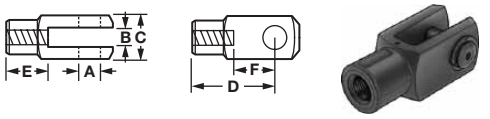

Inch Sizes

Shank Thread Size	ID (A)	Jaw Wd. (B)	O'all Wd. (C)	Lg. (D)	Thread Lg. (E)	Lg. (F)		
10-32	3/16"	3/16"	13/32"	25/32"	5/16"	13/32"	2449K11	$3.25
1/4"-28	1/4"	1/4"	15/32"	15/16"	11/32"	15/32"	2449K12	3.32
5/16"-24	5/16"	5/16"	5/8"	1 1/4"	15/32"	5/8"	2449K13	3.92
3/8"-24	3/8"	13/32"	25/32"	1 9/16"	19/32"	25/32"	2449K14	5.11
7/16"-20	7/16"	15/32"	15/16"	1 29/32"	23/32"	15/16"	2449K15	7.61
1/2"-20	1/2"	9/16"	1 1/16"	2 7/32"	7/8"	1 1/8"	2449K16	8.17

Metric Sizes—Dimensions in mm

Shank Thread Size	ID (A)	Jaw Wd. (B)	O'all Wd. (C)	Lg. (D)	Thread Lg. (E)	Lg. (F)		
M5×0.8	5	6	12	24	9	12	2449K71	$3.20
M6×1.0	6	6	12	24	9	12	2449K72	3.32
M8×1.25	8	8	16	32	12	16	2449K73	3.92
M10×1.5	10	10	20	40	15	20	2449K74	5.11
M12×1.75	12	12	24	48	18	24	2449K75	7.61
M16×2.0	16	16	32	64	24	32	2449K76	10.38
M20×1.5	20	20	40	80	30	40	2449K77	27.77

Easy-Adapt Clevis Rod Ends

Each rod end has a convenient snap-on spring clevis pin that you can insert and remove by hand. Also known as yoke end linkages, they're good for use as pivot points for shafts, rods, and other assemblies. All are zinc-plated steel and have female right-hand threads.

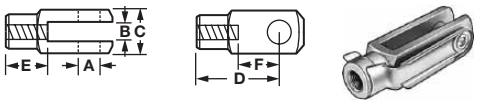

Inch Sizes

Shank Thread Size	ID (A)	Jaw Wd. (B)	O'all Wd. (C)	Lg. (D)	Thread Lg. (E)	Lg. (F)		
10-32	3/16"	3/16"	3/8"	13/16"	13/32"	13/32"	2447K11	$6.72
10-32	3/16"	3/16"	3/8"	13/16"	13/32"	25/32"	2447K12	7.07
1/4"-28	1/4"	1/4"	1/2"	15/16"	15/32"	15/32"	2447K13	7.21
1/4"-28	1/4"	1/4"	1/2"	1 13/32"	15/32"	15/16"	2447K14	7.54
5/16"-24	5/16"	5/16"	5/8"	1 1/4"	5/8"	5/8"	2447K15	7.60
5/16"-24	5/16"	5/16"	5/8"	1 7/8"	5/8"	1 1/4"	2447K16	10.90
3/8"-24	3/8"	3/8"	3/4"	1 9/16"	25/32"	25/32"	2447K17	9.68
3/8"-24	3/8"	3/8"	3/4"	2 11/32"	25/32"	1 9/16"	2447K18	11.40
1/2"-20	1/2"	1/2"	1"	2 1/4"	1 1/8"	1 1/8"	2447K19	16.56
1/2"-20	1/2"	1/2"	1"	3 11/32"	1 1/8"	2 7/32"	2447K21	23.66
5/8"-18	5/8"	5/8"	1 1/4"	2 1/2"	1 1/4"	1 1/4"	2447K22	21.86
5/8"-18	5/8"	5/8"	1 1/4"	3 25/32"	1 1/4"	2 17/32"	2447K23	29.06
3/4"-16	3/4"	3/4"	1 9/16"	3 1/8"	1 9/16"	1 9/16"	2447K24★	44.64
1"-12	1"	1"	1 15/16"	3 15/16"	1 31/32"	1 31/32"	2447K25★	53.14

★ Supplied with clevis pin and two safety clips instead of a spring pin.

Metric Sizes—Dimensions in mm

Shank Thread Size	ID (A)	Jaw Wd. (B)	O'all Wd. (C)	Lg. (D)	Thread Lg. (E)	Lg. (F)		
M4×0.7	4	4	8	16	8	8	2448K41	$4.80
M5×0.8	5	5	10	20	10	10	2448K43	6.36
M5×0.8	5	5	10	30	10	20	2448K44	4.39
M6×1.0	6	6	12	24	12	12	2448K45	4.79
M6×1.0	6	6	12	36	12	24	2448K46	4.54
M8×1.25	8	8	16	32	16	16	2448K47	5.36
M8×1.25	8	8	16	48	16	32	2448K48	8.76
M10×1.5	10	10	20	40	20	20	2448K49	6.25
M10×1.5	10	10	20	60	20	40	2448K51	8.59
M12×1.75	12	12	24	48	24	24	2448K52	12.45
M12×1.75	12	12	24	72	24	48	2448K53	13.88
M14×2.0	14	14	27	56	28	28	2448K54	23.05
M16×2.0	16	16	32	64	32	32	2448K56	28.60
M20×2.5	20	20	40	80	40	40	2448K61	39.58

Male Shank Clevis Rod Ends

A male-threaded shank lets you build a linkage with a tapped tube or other female-threaded connection. Great for a wide variety of pivot-point applications, all are made of zinc-plated steel. Clevis pins are not included, see pages 3388-3393.

To Order: Please specify right- or left-hand shank threads.

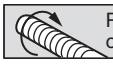
Right-hand threaded shank tightens when turned clockwise. This is the most common thread.


Left-hand threaded shank tightens when turned counterclockwise.



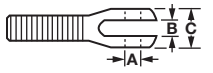

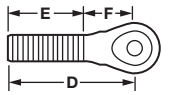

Shank Thread Size	ID (A)	Jaw Wd. (B)	O'all Wd. (C)	Lg. (D)	Thread Lg. (E)	Lg. (F)		
5/16"-24	1/4"	3/16"	5/8"	2 1/4"	1 1/4"	1"	4749T11	$6.05
5/16"-24	5/16"	3/16"	5/8"	2 1/4"	1 1/4"	1"	4749T12	6.19
3/8"-24	5/16"	3/16"	5/8"	2 1/4"	1 1/4"	1"	4749T13	6.50
1/2"-20	5/16"	1/4"	3/4"	2 1/2"	1 1/2"	1"	4749T14	7.15
1/2"-20	3/8"	1/4"	3/4"	2 1/2"	1 1/2"	1"	4749T15	7.94
1/2"-20	7/16"	3/8"	13/16"	3 3/8"	2"	1 3/8"	4749T16	10.14
5/8"-18	3/8"	3/8"	13/16"	3 3/8"	2"	1 3/8"	4749T17	10.14
5/8"-18	7/16"	3/8"	13/16"	3 3/8"	2"	1 3/8"	4749T18	10.14
5/8"-18	1/2"	3/8"	13/16"	3 3/8"	2"	1 3/8"	4749T19	10.14
3/4"-16	3/8"	3/8"	13/16"	3 3/8"	2"	1 3/8"	4749T21	10.14
3/4"-16	1/2"	3/8"	13/16"	3 3/8"	2"	1 3/8"	4749T22	10.14

Washdown Rotary Motion Position-Measuring Transmitters

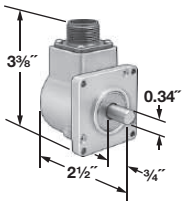

Count on these transmitters to withstand tough environments—they are IP66 rated and meet NEMA 4 and 13 for protection from dust, dirt, washdowns, and oil/coolant spraying. Also known as incremental optical encoders, transmitters convert rotary motion to an electrical signal so you can control system automation. Connect them to motor shafts, conveyors, and wheels to measure distance, direction, and speed of travel. They can be used for shaft speeds up to 8,000 rpm. Use a flexible shaft coupling (not included) to connect the transmitter shaft to a drive shaft.

Transmitters have two quadrature output channels (A and B) as well as an index channel (Z). They can provide a 2X or 4X resolution increase; transmitters must be used with a controller that has quadrature detection to get a 4X increase. Frequency response is 100 kHz. They have an M14 6-pin connector and a line driver output. Input voltage is 5-28 volts DC. All have an aluminum body with a stainless steel shaft. Temperature range is 32° to 158° F.

Current, mA		*Mounting Plate*			*Mounting Hole*				
Max. Input	Output	Lg.	Wd.	Thick.	Dia.	Ctr.-to-Ctr.	Choose a Resolution		
250	100	2.06″	2.06″	0.3″	0.156″	1¾″	10, 200, 360, 500, 600	**59515K51**	$507.58

Miniature Rotary Motion Position-Measuring Transmitters

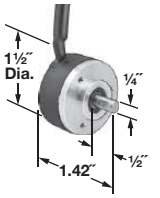

With Shaft

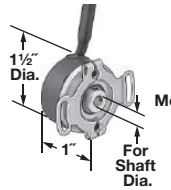

With Mounting Plate

Also known as incremental optical encoders, these miniature transmitters convert rotary motion to an electrical signal that indicates distance, direction, and speed of travel. They're often used to automate servomotors, robotics, and assembly machines. Transmitters meet IP64 for protection from dust and water spray.

All have two quadrature output channels (A and B) and an index channel (Z). They can provide a 2X or 4X resolution increase; you must use transmitters with a controller that has quadrature detection to get a 4X increase. Frequency response is 200 kHz. Transmitters have wire leads for electrical connection and NPN open collector output that requires a pull-up resistor (not included) for operation. Input voltage is 5-28 volts DC. For 8,000 rpm max. shaft speed. Transmitters have an aluminum body and plastic housing. Temperature range is -4° to 185° F.

Transmitters with ¼″ Shaft—Often used with servomotors, these transmitters have a mounting hole pattern that fits a three-hole 28 mm BC servomotor face. Use a flexible shaft coupling (not included) to connect the transmitter shaft to a drive shaft. Mounting hole size is M3 × 4.57 mm (fasteners not included). Transmitters include sealed ball bearings. Shaft is stainless steel.

Transmitters with Mounting Plate—These transmitters have a flexible mounting plate that compensates for shaft misalignment and vibration. Slide them onto a motor shaft and secure with the two included set screws. Mounting plate has two holes for 6-32 screws (not included).

	For Shaft Dia.	*Current, mA* Max. Input	Output	Mounting Hole Ctr.-to-Ctr.	Choose a Resolution		
With ¼″ Shaft	—	65	20	—	500, 1,000, 2,000, 2,500	**9749T3**	$221.23
With Mounting Plate	¼″	65	20	1.81″	500, 1,000, 2,000, 2,500	**9749T1**	221.23
With Mounting Plate	⅜″	65	20	1.81″	500, 1,000, 2,000, 2,500	**9749T2**	221.23

Linear Motion Position-Measuring Transmitters

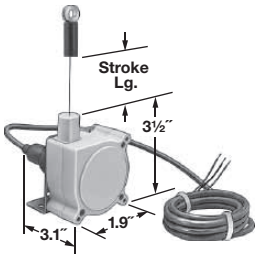

Measure the position of an object moving in a straight line. Also known as potentiometers and string pots, these transmitters have an extendable nylon-coated stainless steel wire cable that measures the relative distance between two points. They convert measurements to an electrical signal for use in controlling system automation. Transmitters meet IP50 for protection from dust.

Transmitters have 40″ wire leads for electrical connection. Input resistance is 10 kOhms. Resolution is 0.0001 mV. All have three ⅛″ dia. mounting holes. Housing is plastic. Temperature range is 0° to 160° F.

Stroke Lg.	*AC/DC Voltage* Max. Input	Output	Accuracy Range	Repeatability Range		
4¾″	30	28.2	±1%	±0.05%	**6863K1**	$213.38
12½″	30	28.2	±0.25%	±0.05%	**6863K2**	213.38
25″	30	28.2	±0.25%	±0.05%	**6863K3**	213.38
50″	30	28.2	±0.25%	±0.05%	**6863K4**	213.38

Rotary Speed Limiters



With Double-Flat Shaft



With D-Profile Shaft



With Geared Shaft



With Opening for Square Shaft

Install these rotary speed limiters at the hinges of small lids, doors, and access panels for smooth, quiet motion. They're often used in electronics applications. Maximum speed is 50 rpm. They have two mounting holes (fasteners not included). Temperature range is 32° to 122° F, unless otherwise stated.

Speed limiters with double-flat shaft and **speed limiters with D-profile shaft** are polycarbonate with an acetal shaft. Maximum cycles per minute is 10.

Speed limiters with geared shaft must be used with gears that have the same 20° pressure angle and 7 pitch. The geared shaft has 14 teeth with a 0.276″ pitch diameter. Speed limiters are polycarbonate; gear is acetal. Maximum cycles per minute is 10.

Speed limiters with opening for square shaft press-fit onto your shaft. They are steel with a nylon insert and have a minimum temperature of 14° F. Maximum cycles per minute is 12.

Torque, in.-oz		*Overall*			*Mounting Hole*		*Shaft*			For Square Shaft Size		
Min.	Max.	Lg.	Wd.	Ht.	Dia.	Ctr.-to-Ctr.	Dia.	Lg.	Wd.			
With Double-Flat Shaft												
0.13	0.8	0.95″	0.59″	0.26″	0.08″	0.75″	0.14″	0.15″	0.1″		**6597K44**	$4.07
0.3	1.28	0.95″	0.59″	0.26″	0.08″	0.75″	0.14″	0.15″	0.1″		**6597K45**	4.07
0.75	2.5	0.95″	0.59″	0.26″	0.08″	0.75″	0.14″	0.15″	0.1″		**6597K14**	4.06
6.9	31	1.97″	0.98″	0.75″	0.17″	1.57″	0.2″	0.2″	0.16″		**6597K19**	27.35
With D-Profile Shaft												
2.2	7	1.08″	0.59″	0.55″	0.13″	0.83″	0.16″	0.18″	0.14″		**6597K8**	12.15
With Geared Shaft												
0.13	0.8	0.95″	0.59″	0.26″	0.08″	0.75″	0.31″	0.15″	—		**6597K34**	4.80
0.3	1.28	0.95″	0.59″	0.26″	0.08″	0.75″	0.31″	0.15″	—		**6597K35**	4.80
0.75	2.5	0.95″	0.59″	0.26″	0.08″	0.75″	0.31″	0.15″	—		**6597K36**	4.80
With Opening for Square Shaft												
94.4	312	2.56″	1.85″	0.39″	0.18″	2.2″	—	—	—	0.31″×0.31″	**6597K21**	22.42
248	878	3.11″	2.24″	0.44″	0.22″	2.68″	—	—	—	0.39″×0.39″	**6597K22**	23.69
269	1,154	3.5″	2.48″	0.44″	0.26″	2.99″	—	—	—	0.49″×0.49″	**6597K23**	24.59
354	1,437	3.74″	2.76″	0.44″	0.26″	3.23″	—	—	—	0.49″×0.49″	**6597K24**	25.94

Linear Speed Limiters

Put an end to lids and doors that slam shut or fly open—install these speed limiters for smooth, controlled motion.

Compression speed limiters prevent closing doors from slamming; **extension** speed limiters prevent doors from flying open; **compression and extension** speed limiters prevent doors from slamming and flying open.

Nonadjustable speed limiters have an electrocoated steel body with chrome-plated steel rod. Temperature range is -22° to 176° F.

Adjustable speed limiters have an anodized aluminum body with chrome-plated steel rod. Temperature range is -4° to 175° F. To adjust, pull the rod until it's fully extended, then twist it to change the resistance.

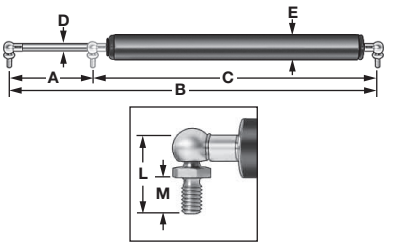

Max. Force, lbs.	Stroke Lg. (A)	Extend. Lg. (B)	Comp. Lg. (C)	Rod Dia. (D)	Body Dia. (E)	Ball Stud Dia., mm	Ball Stud Lg. (L)	Ball Stud Thread Lg. (M)	Ball Stud Thread Size	Rod and End Thread Size	Compression		Extension		Compression and Extension	
Nonadjustable																
50	2″	7.9″	5.9″	0.25″	0.59″	10	1.26″	0.56″	5/16″-18	M6	6521K61	$41.29	6521K51	$40.73		
50	3″	10″	7″	0.25″	0.59″	10	1.26″	0.56″	5/16″-18	M6	6521K62	40.84	6521K52	42.11		
50	4″	12.5″	8.5″	0.25″	0.59″	10	1.26″	0.56″	5/16″-18	M6	6521K81	44.25	6521K71	43.80		
50	5″	15″	10″	0.25″	0.59″	10	1.26″	0.56″	5/16″-18	M6	6521K82	46.02	6521K72	45.24		
100	4″	12.2″	8.2″	0.32″	0.87″	10	1.26″	0.56″	5/16″-18	M6	6521K63	56.09	6521K53	55.29		
100	5″	14.5″	9.5″	0.32″	0.87″	10	1.26″	0.56″	5/16″-18	M6	6521K64	59.56	6521K54	58.18		
100	6″	17″	11″	0.32″	0.87″	10	1.26″	0.56″	5/16″-18	M6	6521K65	63.04	6521K55	62.02		
100	7″	19.7″	12.7″	0.32″	0.87″	10	1.26″	0.56″	5/16″-18	M6	6521K83	66.67	6521K73	65.33		
Adjustable																
112	1″	5.3″	4.3″	0.24″	0.59″	13	0.97″	0.35″	M5	M5	9954K81	110.39	9898K81	110.39	9899K81	$110.39
112	2″	7.3″	5.3″	0.24″	0.59″	13	0.97″	0.35″	M5	M5	9954K82	111.80	9898K82	111.80	9899K82	111.80
112	3″	9.2″	6.3″	0.24″	0.59″	13	0.97″	0.35″	M5	M5	9954K83	112.48	9898K83	111.84	9899K83	111.86
270	2″	8.3″	6.3″	0.31″	0.87″	20	1.52″	0.65″	M8	M8	9954K84	127.06	9898K84	127.06	9899K84	127.06
270	3.9″	12.2″	8.3″	0.31″	0.87″	20	1.52″	0.65″	M8	M8	9954K85	128.61	9898K85	128.61	9899K85	128.61
270	3.9″	12.6″	8.7″	0.39″	1.1″	20	1.52″	0.65″	M8	M8	9954K87	139.86	9898K87	139.86	9899K87	139.86
270	5.9″	16.1″	10.2″	0.31″	0.87″	20	1.52″	0.65″	M8	M8	9954K86	130.25	9898K86	130.25	9899K86	130.25
270	5.9″	16.5″	10.6″	0.39″	1.1″	20	1.52″	0.65″	M8	M8	9954K88	142.68	9898K88	142.68	9899K88	142.68
270	7.9″	20.5″	12.6″	0.39″	1.1″	20	1.52″	0.65″	M8	M8	9954K89	145.94	9898K89	145.94	9899K89	145.94
270	9.8″	24.4″	14.6″	0.39″	1.1″	20	1.52″	0.65″	M8	M8	9954K91	149.00	9898K91	149.00	9899K91	149.00
270	11.8″	28.3″	16.5″	0.39″	1.1″	20	1.52″	0.65″	M8	M8	9954K92	152.73	9898K92	152.73	9899K92	152.73
720	7.9″	22.2″	14.4″	0.55″	1.57″	30	2.48″	1.1″	M14	M14	9954K93	217.35	9898K93	217.35	9899K93	217.35
720	11.8″	30.1″	18.3″	0.55″	1.57″	30	2.48″	1.1″	M14	M14	9954K94	229.94	9898K94	229.94	9899K94	229.94

Precise-Control Linear Speed Limiters

Regulate the speed or feed rate of drill presses, milling machines, lathes, and similar devices. These speed limiters have a knob with numbered scale so you can make precise adjustments to the resistance. Insert a rod in the mounting hole in the knob to rotate for adjustments; hole diameter is 0.31″. Free travel of stroke is 0%, so the entire stroke is speed controlled. Limiters have a zinc-plated steel body with a stainless steel rod. Temperature range is 40° to 135° F.

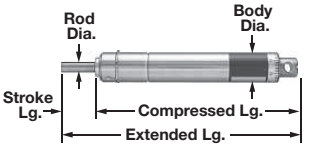

Stroke Lg.	Extended Lg.	Compressed Lg.	Max. Force, lbs.	Max. Return Time @ Force 100 lbs.	500 lbs.	1,000 lbs.	Rod Dia.	Body Dia.		
0.5″	6.02″	5.52″	1,200	150 sec.	18 sec.	8 sec.	0.31″	0.94″	1267N1	$231.92
1″	7.52″	6.52″	1,200	5 min.	35 sec.	15 sec.	0.31″	0.94″	1267N2	243.82
2″	10.56″	8.56″	1,200	10 min.	70 sec.	30 sec.	0.31″	0.94″	1267N3	279.82
3″	13.56″	10.56″	1,200	15 min.	105 sec.	45 sec.	0.31″	0.94″	1267N4	337.82

Long-Life Gas Spring Style Mechanical Springs

Mechanical operation means these springs have no seals to fail or gas to leak. The ball stud diameter is 16 mm. The body, rod, ball socket, and ball stud are all steel. Temperature range is -50° to 400° F.

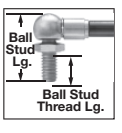

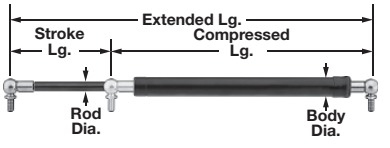

Extended Lg.	Compressed Lg.	Stroke Lg.	Extension Force, lbs.	Compression Force, lbs.	Rod Dia.	Body Dia.	Ball Stud Thread Size	Ball Stud Thread Lg.		
9.58″	7.58″	2″	10	30	0.55″	1.1″	M10	0.78″	1268N11	$77.29
15.58″	11.58″	4″	25	75	0.55″	1.1″	M10	0.78″	1268N12	77.95
15.58″	11.58″	4″	30	90	0.55″	1.1″	M10	0.78″	1268N13	77.95
21.58″	15.58″	6″	30	90	0.55″	1.1″	M10	0.78″	1268N14	79.27
21.58″	15.58″	6″	40	119	0.55″	1.1″	M10	0.78″	1268N15	79.27
21.58″	15.58″	6″	60	182	0.55″	1.1″	M10	0.78″	1268N16	89.18
27.58″	19.58″	8″	32	96	0.55″	1.1″	M10	0.78″	1268N18	83.76
27.58″	21.58″	6″	75	338	0.55″	1.1″	M10	0.78″	1268N17	93.69
33.58″	23.58″	10″	5	278	0.55″	1.1″	M10	0.78″	1268N21	92.49
33.58″	23.58″	10″	35	105	0.55″	1.1″	M10	0.78″	1268N19	82.58
39.58″	27.58″	12″	35	105	0.55″	1.1″	M10	0.78″	1268N22	100.29

About Gas Springs

Gas springs are typically used to assist in opening lids, covers, windows, conveyors, and seats—similar to a hatchback opening on a car. If you want to close an object, you will need a pulling gas spring (see page 1267).

Note: All gas springs contain nitrogen gas and a seal lubricant that also provides slam-resistant damping at the end of the stroke. To avoid loss of force, you should store and install gas springs rod-end down.

Choosing the Right Force

Your gas spring must have enough force to lift your object and hold it open, yet not too much force that you can't push it back to its original position. To determine the right amount of force, you'll need to know the weight of the object you're moving. One way to do this is to use a force gauge (see page 2333).

If you can't weigh your object, use the following chart to help determine its weight so you can estimate the force you'll need:

Material Weight per Square Foot (12″×12″)

Thickness	Steel	Aluminum	Plastic
1/16″	2.5 lbs.	0.83 lbs.	0.17 lbs.
1/8″	5.0 lbs.	1.71 lbs.	0.58 lbs.
1/4″	10.0 lbs.	3.61 lbs.	1.10 lbs.

Choosing the Right Extended and Compressed Length

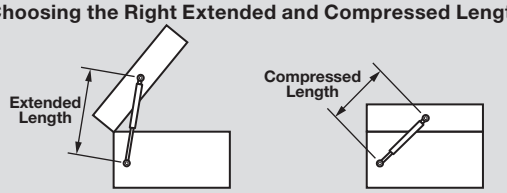

To determine the extended length that's right for your application, open your lid as wide as you need and measure the distance between the two mounting points. For compressed length, close your lid (or lower it to where you need it) and measure the distance between the two mounting points.

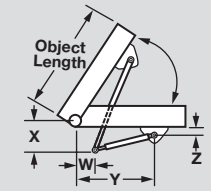

Horizontal-to-Vertical Lift

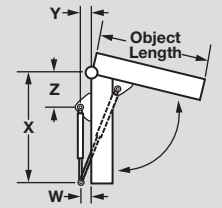

Vertical-to-Horizontal Lift

A Guide to Choosing the Correct Gas Springs

The examples illustrate how the length, weight, and opening direction of your object as well as the mounting position of the springs can affect which gas springs are right for your application. Find an example that is similar to your application and use it as a guide to select your springs. The values are based on using two gas springs (one on each side of the object), a 90° opening, and the center of gravity at the middle of the object.

Note: The recommended force rating is per spring.

For Object Length	For Object Weight	Recommended Gas Spring: Force Rating	Recommended Gas Spring: Extended Length	Recommended Gas Spring: Compressed Length	Recommended Mounting Position: (W)	(X)	(Y)	(Z)
Horizontal-to-Vertical Lift								
12″	20 lbs.	40 lbs.	10.71″	6.77″	1″	1″	11.19″	0.89″
12″	40 lbs.	40 lbs.	10.71″	6.77″	1″	1.5″	10.69″	0.89″
18″	60 lbs.	70 lbs.	13.74″	8.27″	1″	2.5″	12.72″	0.89″
18″	100 lbs.	100 lbs.	13.74″	8.27″	1.25″	3″	12.22″	0.89″
30″	40 lbs.	50 lbs.	18.22″	10.35″	2″	3.5″	16.18″	0.89″
Vertical-to-Horizontal Lift								
12″	20 lbs.	40 lbs.	10.71″	6.77″	2.5″	12.22″	0.89″	2″
12″	40 lbs.	50 lbs.	10.71″	6.77″	2.5″	11.77″	0.89″	3″
18″	60 lbs.	100 lbs.	13.74″	8.27″	2.5″	15.09″	0.89″	3″
18″	100 lbs.	130 lbs.	13.74″	8.27″	2.5″	14.66″	0.89″	4″
30″	40 lbs.	70 lbs.	18.22″	10.35″	1.5″	19.32″	0.89″	5.5″

Add-a-Fitting Gas Springs

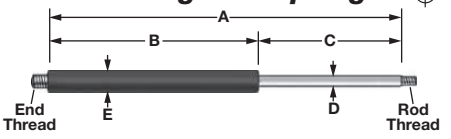

These gas springs have threaded ends so you can use them with any combination of end fittings, studs, and mounting brackets (sold separately on pages 1263 and 1264). Select end fittings with a thread size that matches the rod and end thread sizes of your gas spring. Temperature range is -22° to 176°F, unless noted.

Steel gas springs have a steel body and rod and a rubber seal.

316 stainless steel gas springs have excellent corrosion resistance in damp environments. The body and rod are 316 stainless steel. The seal is rubber.

Extend. Lg. (A)	Comp. Lg. (B)	Stroke Lg. (C)	Choose an Extension Force, lbs.	Rod Dia. (D)	Body Dia. (E)	Steel		316 Stainless Steel	
M6 Rod and End Thread Size									
5.51″	3.54″	1.97″	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130	0.31″	0.71″	9416K14★	$13.50	4175T1■	$47.20
5.9″	3.54″	2.36″	15, 20, 30, 40, 50, 60, 70, 80	0.23″	0.59″	9416K11	11.04	4175T2▲	41.40
8.15″	4.61″	3.54″	15, 20, 30, 40, 50, 60, 70, 80	0.23″	0.59″	9416K12	13.17	4175T4▲	44.30
8.35″	5.2″	3.15″	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130	0.31″	0.71″	9416K24★	13.80	4175T3■	49.40
10.71″	6.77″	3.94″	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130	0.31″	0.75″	9416K15★	14.52	4175T5	57.57
13.74″	8.23″	5.51″	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130	0.31″	0.75″			4175T6	61.76
13.74″	8.27″	5.47″	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130	0.31″	0.73″	9416K16	14.50		
15.63″	9.33″	6.3″	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130	0.31″	0.75″	9416K17★	15.17	4175T7	64.58
18.19″	10.32″	7.87″	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130	0.31″	0.75″			4175T8	65.79
18.22″	10.35″	7.87″	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130	0.31″	0.73″	9416K18	16.60		
18.62″	10.35″	8.27″	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130	0.31″	0.75″	9416K19★	17.07	4175T9	67.71
22.36″	12.52″	9.84″	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130	0.31″	0.75″	9416K2★	19.93	4175T15	70.65
M8 Rod and End Thread Size									
18.18″	10.31″	7.87″	25, 50, 75, 100, 125, 150, 175, 200, 225, 250	0.39″	0.85″	9416K28	19.26		
18.22″	10.35″	7.87″	25, 50, 75, 100, 125, 150, 175, 200, 225, 250	0.39″	0.87″			4175T21	75.28
26.38″	16.14″	10.24″	25, 50, 75, 100, 125, 150, 175, 200, 225, 250	0.39″	0.85″	9416K21	21.62	4175T23♣	87.21
28″	15.2″	12.8″	25, 50, 75, 100, 125, 150, 175, 200, 225, 250	0.39″	0.85″	9416K22	22.15	4175T25♣	91.75
30.02″	16.25″	13.77″	25, 50, 75, 100, 125, 150, 175, 200, 225, 250	0.39″	0.87″	9416K54■	16.97		
33.94″	17.8″	16.14″	25, 50, 75, 100, 125, 150, 175, 200, 225, 250	0.39″	0.85″	9416K23	24.80	4175T27♣	104.89
M10 Rod and End Thread Size									
18.9″	10.9″	8″	200, 250, 300, 350, 400, 500, 550	0.55″	1.1″	9416K51■	72.18	4175T35	120.50
26.77″	14.77″	12″	200, 250, 300, 350, 400, 500, 550	0.55″	1.1″	9416K52■	86.18	4175T36	137.98
34.84″	18.84″	16″	200, 250, 300, 350, 400, 500, 550	0.55″	1.1″	9416K53■	114.46	4175T37	167.20

★Body dia. is 0.73″. ■ Temp. range is -13° to 158° F. ▲Rod dia. is 0.24″. Temp. range is -13° to 158° F. ♣ Body dia. is 0.87″.

End Fittings and Brackets for Gas Springs

Select end fittings with a thread size that matches the rod and end thread sizes of your gas spring. The fittings will increase your gas spring's extended and compressed lengths, so add the (A) value for each fitting you attach.

Ball Socket End Fittings

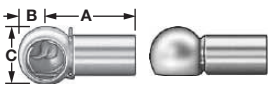

With Safety Clip



Snap-On



Quick-Release Press-On

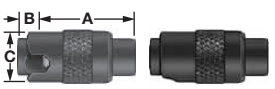

Quick-Release Locking



Safety Clip

Thread these ball socket end fittings onto gas springs. They rotate in any direction on a ball stud to compensate for misalignment. Ball socket end fittings require a ball stud or ball stud mounting bracket (sold separately) to mount gas springs. **Stainless steel** fittings have excellent corrosion resistance in damp environments.

End Fittings with Safety Clip—The safety clip provides a secure attachment.

Snap-On—An integral retaining clip grips the ball stud for secure attachment until you apply enough force to pop it off.

Quick-Release—*Press-on* fitting has a button that you can press to secure and release attachment to your ball stud. *Locking* fitting has a spring-loaded socket that locks your gas spring to the ball stud; squeeze the ends together to attach and to release.

Thread Size	(A)	(B)	(C)	Material		Each
End Fittings with Safety Clip for 10 mm Ball Dia.						
M6	0.75″	0.32″	0.49″	Black Zinc Steel	9416K74	$2.30
M6	1″	0.25″	0.63″	18-8 Stainless Steel	9424K23	8.30
M8	0.75″	0.29″	0.58″	Zinc-Plated Steel	9416K79	3.44
M8	0.98″	0.29″	0.59″	304 Stainless Steel	9424K12	18.18
End Fittings with Safety Clip for 13 mm Ball Dia.						
M8	1.18″	0.38″	0.76″	Zinc-Plated Steel	9416K75	4.80
M8	1.2″	0.33″	0.75″	18-8 Stainless Steel	9424K24	13.77
M10	1.18″	0.39″	0.79″	303 Stainless Steel	9424K17★	40.34
End Fitting with Safety Clip for 16 mm Ball Dia.						
M10	1.38″	0.45″	0.83″	Zinc-Plated Steel	9416K45	9.44

★ For 270 lbs. max. gas spring extension force.

Thread Size	(A)	(B)	(C)	Material		Each
Snap-On End Fittings for 10 mm Ball Dia.						
M6	0.75″	0.37″	0.69″	Glass-Filled Nylon	9416K86	$1.48
M8	0.75″	0.37″	0.69″	Glass-Filled Nylon	9416K76	1.64
Quick-Release Press-On End Fitting for 10 mm Ball Dia.						
M6	0.71″	0.41″	0.83″	Glass-Filled Nylon	9416K78	1.24
Quick-Release Locking End Fitting for 10 mm Ball Dia.						
M6	1.14″	0.31″	0.69″	Electrocoated Steel	9416K47	4.44

Pkg. of 10

Replacement Safety Clips		
For 10 mm Ball Dia.	9416K77	$3.44
For 13 mm Ball Dia.	9416K82	4.10

Mounting Ball Studs and Brackets

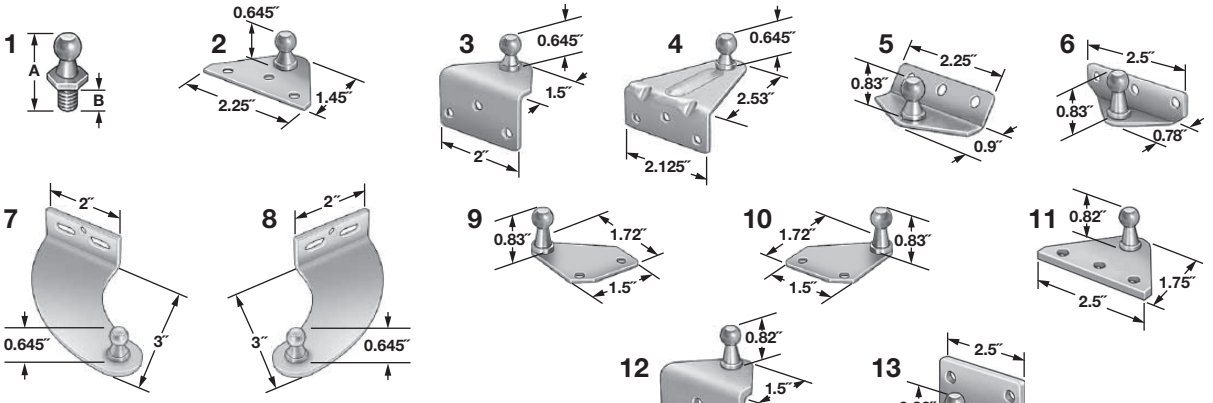

Mount your gas spring in almost any position—attach a ball socket end fitting (sold separately) onto the ball of these studs and brackets. **Stainless steel** studs and brackets have excellent corrosion resistance in damp environments.

Ball Studs—Mount directly into any panel, lid, or door.

Ball Brackets—Mounting fasteners are not included.

Zinc-plated steel and **stainless steel brackets** with a 10 mm ball have 0.2″ dia. mounting holes, except 0.14″ thick brackets have 0.22″ dia. holes. Brackets with 13 mm and 16 mm balls have 0.26″ dia. mounting holes.

Aluminum brackets are nonmagnetic and suitable for use near sensitive electronic applications. They do not have mounting holes and can be drilled to your customized hole pattern. Ball is zinc-plated steel.

Ball Studs

	O'all Lg. (A)	Thread Lg. (B)	Thread Size	Material		
With 10 mm Ball						
1	1.19″	0.55″	5/16″-18	Zinc-Plated Steel	9512K73	$1.20
1	1.63″	3/4″	5/16″-18	Zinc-Plated Steel	9512K63	1.79
1	1.41″	3/4″	5/16″-18	303 Stainless Steel	9512K98	3.34
With 13 mm Ball						
1	1.38″	0.59″	5/16″-18	Zinc-Plated Steel	9512K18	1.38
1	1.79″	1″	5/16″-18	Zinc-Plated Steel	9512K19	1.79
1	1.54″	3/4″	5/16″-18	303 Stainless Steel	9512K21	4.78
With 16 mm Ball						
1	1.85″	3/4″	3/8″-16	Zinc-Plated Steel	9512K47	10.23
1	1.68″	0.63″	M12	18-8 Stainless Steel	9512K49	15.57

Ball Brackets

Thick.	Zinc-Plated Steel		300 Series Stainless Steel		Aluminum Thick.		
With 10 mm Ball							
2	0.08″	9512K91 $1.00	9512K11	$4.75	0.12″	4536T1	$8.20
3	0.11″	9512K92 1.17	9512K12	5.00	0.12″	4536T2	7.44
4	0.11″	9512K93 1.89	9512K13	7.12	0.12″	4536T3■	10.57
5	0.08″	9512K94 2.00	9512K14	27.26	0.07″	4536T4	24.97
6	0.08″	9512K95 2.00	9512K15	6.25	0.06″	4536T5▲	10.57
7	0.14″	9512K61 4.07					
8	0.14″	9512K62 4.07					
9	0.08″	9512K96 2.27	9512K16	7.14			
10	0.08″	9512K97 2.27	9512K17	7.14			
With 13 mm Ball							
11	0.25″	5992K31 34.00	5992K14	62.15			
12	0.25″	5992K32 43.72	5992K15	76.25			
13	0.25″	5992K33 46.14	5992K16	80.60			
With 16 mm Ball							
11	0.25″	5992K11♣ 48.30	5992K21♣	67.87			
12	0.25″	5992K12♣ 62.18	5992K22♣	85.38			
13	0.25″	5992K13♣ 68.00	5992K23♣	90.15			

■ Overall width is 2.13″.

▲ Overall length is 0.75″.

♣ Ball height is 0.87″.

(Continued on following page)

End Fittings and Brackets for Gas Springs *(Continued from previous page)*

Select end fittings with a thread size that matches the rod and end thread sizes of your gas spring. The fittings will increase your gas spring's extended and compressed lengths, so add the (A) value for each fitting you attach.

Eyelet End Fittings and Mounting Brackets

Attach an eyelet end fitting to one of these brackets (each sold separately) to mount your gas spring.

Eyelet end fittings require an eyelet mounting bracket or a pin to mount the gas spring. *316 stainless steel* fittings have excellent corrosion resistance in damp environments. *Nylon* fittings are good for use around flammable materials; they do not generate sparks. *Aluminum* fittings are nonmagnetic so they are suitable for use near sensitive electronic applications.

Eyelet mounting brackets have 0.24″ dia. mounting holes to mount on any panel, lid, or door. Fasteners are not included.

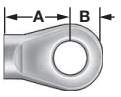

ID	(A)	(B)	Thick.	Material	Eyelet End Fittings	
For M6 Threaded Gas Springs						
0.24″	0.7″	0.2″	0.24″	316 Stainless Steel	9424K14	$9.09
0.32″	0.83″	0.43″	0.39″	Nylon	6465K26	1.63
0.32″	1.1″	0.31″	0.2″	Zinc	9416K84	1.64
0.41″	0.83″	0.42″	0.39″	Zinc	6465K61	2.75
For M8 Threaded Gas Springs						
0.31″	0.84″	0.27″	0.35″	316 Stainless Steel	9424K15	15.00
0.32″	0.79″	0.31″	0.39″	Aluminum	9428K3	6.61
0.32″	1.1″	0.31″	0.2″	Zinc	9416K88	1.80
0.33″	0.83″	0.42″	0.39″	Zinc	6465K63	2.61
0.41″	0.83″	0.42″	0.39″	Zinc	6465K27	2.12
For M10 Threaded Gas Springs						
0.31″	1.18″	0.31″	0.39″	316 Stainless Steel	9424K16	18.18
0.31″	1.38″	0.39″	0.39″	Aluminum	9416K666	9.20

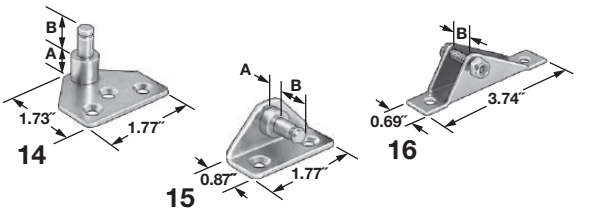

For Eyelet ID	Thick.	Shoulder Lg. (A)	Stud Lg. (B)	Eyelet Mounting Brackets	
Zinc-Plated Steel					
14 0.31″, 0.32″, 0.33″	0.12″	0.5″	0.51″	9416K25♦	$6.32
15 0.31″, 0.32″, 0.33″	0.12″	0.24″	0.51″	9416K26♦	6.32
16 0.24″	0.08″	—	0.51″	9416K27	6.51
16 0.32″	0.08″	—	0.51″	9416K29♠	7.14
Stainless Steel					
14 0.32″	0.12″	0.51″	0.59″	4167T11✓	23.90
15 0.32″	0.12″	0.24″	0.59″	4167T12✓	23.90
16 0.24″	0.08″	—	0.53″	4167T13	21.08

♦ Includes end caps. ♠ Includes a bushing. ✓ Includes retaining clips.

Clevis Fittings

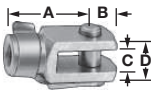

A heavy duty alternative to eyelet fittings, these clevis fittings offer a bidirectional pivot point at the end of your gas spring. Clevis is zinc-plated steel and includes a zinc-plated steel spring pin.

For Gas Spring Thread Size	(A)	(B)	(C)	Pin Dia.	(D)		
M6	0.94″	0.27″	0.23″	0.23″	0.47″	2448K45	$4.79
M8	1.25″	0.39″	0.31″	0.31″	0.62″	2448K47	5.36
M10	1.57″	0.47″	0.39″	0.39″	0.78″	2448K49	6.25

Fitting Assortments for Gas Springs



M6 Threaded Assortment

Keep a convenient selection of gas spring fittings on hand—assortments include ball socket end fittings, eyelet end fittings, and ball studs.

M6 threaded assortment includes two steel ball socket end fittings with safety clips, two nylon snap-on ball socket end fittings with safety clips, two zinc eyelet fittings, and two steel ball studs.

9416K95 ..... $12.84

M8 threaded assortment includes two steel ball socket end fittings with safety clips, two nylon snap-on ball socket end fittings with safety clips, two zinc eyelet fittings, and four steel ball studs.

9416K96 ..... $17.12

M10 threaded assortment includes two steel ball socket end fittings with safety clips, two aluminum eyelet fittings, and two steel ball studs.

9416K98 ..... $44.00

Seal Protectors and Rod Bellows



Seal Protector



Rod Bellows

Guard the most vulnerable parts of your gas spring. All are made of rubber.

Seal Protectors—Prevent seal damage in dirty and dusty environments.

Rod Bellows—Avoid damage caused by impact and spills. Use the included clips to secure the bellows to your gas spring.

For Body Dia.	For Max. Stroke Lg.		
Seal Protectors			
0.75″	—	4185T11	$1.91
0.87″	—	4185T12	2.88
Rod Bellows			
0.59″	3.54″	4159T11	33.53
0.75″	8.5″	4159T12	40.82
0.87″	9.84″	4159T13	45.72
0.87″	16.14″	4159T14	55.70

Locking Gas Springs

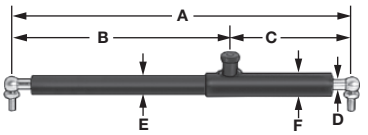

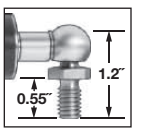

Protect material and equipment underneath heavy loads—these gas springs lock automatically when fully extended, ensuring they can't be closed until it's safe to do so. They're often used in critical lift-assist applications such as opening machine guards, access hatches, and storage compartments. Pull on the knob to unlock, allowing the gas spring to compress. Gas springs have a ball socket end fitting and ball stud on each end for mounting. Ball socket end fittings rotate in any direction on the ball stud to compensate for misalignment. The ball socket end fitting cannot be removed. The ball stud dia. is 10 mm.

The body, rod, ball socket, and ball stud are steel. Seal is rubber. Temperature range is -22° to 176° F.

Note: When using two gas springs together in a locking application, use one locking spring and one nonlocking spring.

Extend. Lg. (A)	Comp. Lg. (B)	Stroke Lg. (C)	Choose an Extension Force, lbs.	Rod Dia. (D)	Body Dia. (E)	Body Sleeve Dia. (F)	Ball Stud Thread Size		
12.2″	8.42″	3.78″	15, 20, 30, 40, 50, 60, 90, 120	0.31″	0.73″	0.87″	5/16″-18	9425K11	$58.88
15.24″	9.93″	5.31″	15, 20, 30, 40, 50, 60, 90, 120	0.31″	0.73″	0.87″	5/16″-18	9425K12	61.44
17.13″	10.99″	6.14″	15, 20, 30, 40, 50, 60, 90, 120	0.31″	0.73″	0.87″	5/16″-18	9425K13	64.23
19.72″	12″	7.72″	15, 20, 30, 40, 50, 60, 90, 120	0.31″	0.73″	0.87″	5/16″-18	9425K14	67.29

Gas Springs

These general purpose gas springs assist in opening lids, covers, windows, conveyors, and seats—similar to a hatchback opening on a car. They have a ball socket end fitting and ball stud on each end for mounting. Ball socket end fittings rotate in any direction on the ball stud to compensate for misalignment.

Steel—The body, rod, ball socket, and ball stud are steel. Ball socket end fittings cannot be easily removed. The ball stud dia. is 10 mm. Temperature range is -22° to 176° F.

316 Stainless Steel—These gas springs are corrosion resistant for use in damp environments. All have a 316 stainless steel body and rod with a rubber seal. The ball socket is plastic and the ball stud is 300 series stainless steel, unless noted. The ball socket end fittings can be easily removed. Temperature range is -40° to 300° F, unless noted.

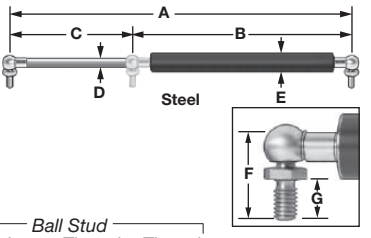

Extend. Lg. (A)	Comp. Lg. (B)	Stroke Lg. (C)	Choose an Extension Force, lbs.	Rod Dia. (D)	Body Dia. (E)	Rod and End Thread Size	Ball Stud Dia.	Ball Stud Lg. (F)	Ball Stud Thread Size	Ball Stud Thread Lg. (G)		
Steel												
7.01″	5.04″	1.97″	15, 20, 40, 60, 90	0.31″	0.73″	—	10 mm	1.2″	5/16″-18	0.55″	**4138T51**	$16.83
7.4″	5.04″	2.36″	15, 20, 30, 40, 50, 60, 80	0.23″	0.59″	—	10 mm	1.2″	5/16″-18	0.55″	**4138T52**	16.83
9.65″	6.11″	3.54″	15, 20, 30, 40, 50, 60, 80	0.23″	0.59″	—	10 mm	1.2″	5/16″-18	0.55″	**4138T53**	16.83
12.2″	8.26″	3.94″	15, 20, 30, 40, 50, 60, 90, 120	0.31″	0.73″	—	10 mm	1.2″	5/16″-18	0.55″	**4138T54**	16.83
15.24″	9.77″	5.47″	15, 20, 30, 40, 50, 60, 90, 120	0.31″	0.73″	—	10 mm	1.2″	5/16″-18	0.55″	**4138T55**	16.83
17.13″	10.83″	6.3″	15, 20, 30, 40, 50, 60, 90, 120	0.31″	0.73″	—	10 mm	1.2″	5/16″-18	0.55″	**4138T56**	16.83
19.72″	11.85″	7.87″	15, 20, 30, 40, 50, 60, 90, 120	0.31″	0.73″	—	10 mm	1.2″	5/16″-18	0.55″	**4138T57**	16.83
20.12″	11.85″	8.27″	15, 20, 30, 40, 50, 60, 90, 120	0.31″	0.73″	—	10 mm	1.2″	5/16″-18	0.55″	**4138T58**	16.83
27.87″	17.63″	10.24″	50, 100, 150, 200, 250	0.39″	0.85″	—	10 mm	1.2″	5/16″-18	0.55″	**4138T61**	24.09
29.49″	16.69″	12.8″	50, 100, 150, 200, 250	0.39″	0.85″	—	10 mm	1.2″	5/16″-18	0.55″	**4138T62**	24.09
35.43″	19.29″	16.14″	50, 100, 150, 200, 250	0.39″	0.85″	—	10 mm	1.2″	5/16″-18	0.55″	**4138T63**	24.09
316 Stainless Steel												
7.5″	5.25″	2.25″	10, 20, 30, 45, 55, 70, 80, 90	0.25″	0.63″	M6	10 mm	1.3″	5/16″-18	0.32″	**4155T101**	60.28
10″	7″	3″	10, 20, 30, 45, 55, 70, 80, 90	0.25″	0.63″	M6	10 mm	1.3″	5/16″-18	0.32″	**4155T201**	63.42
12″	8″	4″	10, 20, 30, 45, 55, 70, 80, 90	0.25″	0.63″	M6	10 mm	1.3″	5/16″-18	0.32″	**4155T301**	66.58
12.13″	8.13″	4″	10, 20, 30, 40, 50, 60, 70, 80, 90	0.24″	0.59″	M6	8 mm	0.91″	M5	0.39″	**9517T2** ★	122.92
15″	9″	6″	10, 20, 30, 40, 50, 60, 70, 80, 90	0.25″	0.63″	M6	10 mm	1.3″	5/16″-18	0.32″	**4155T501**	73.88
16.07″	10.07″	6″	10, 20, 30, 40, 50, 60, 70, 80, 90	0.24″	0.59″	M6	8 mm	0.91″	M5	0.39″	**9517T3** ★	129.44
17″	10″	7″	10, 20, 30, 40, 50, 60, 70, 80, 90	0.25″	0.63″	M6	10 mm	1.3″	5/16″-18	0.32″	**4155T601**	75.64
20″	12″	8″	10, 20, 30, 40, 50, 60, 70, 80, 90	0.25″	0.63″	M6	10 mm	1.3″	5/16″-18	0.32″	**4155T701**	76.13
20.9″	12.9″	8″	25, 30, 40, 50, 60, 70, 80, 100, 120, 135	0.31″	0.71″	M8	13 mm	1.4″	M8	0.63″	**9517T4** ★	139.44
23.1″	13.4″	9.7″	20, 40, 60, 80, 100, 120, 140	0.31″	0.75″	M6	10 mm	1.3″	5/16″-18	0.32″	**4155T801**	82.34
24.92″	14.92″	10″	25, 30, 40, 50, 60, 70, 80, 100, 120, 135	0.31″	0.71″	M8	13 mm	1.4″	M8	0.63″	**9517T5** ★	148.95
26.2″	15″	11.2″	20, 40, 60, 80, 100, 120, 140	0.31″	0.75″	M6	10 mm	1.3″	5/16″-18	0.32″	**4155T901**	84.17
29.09″	17.09″	12″	35, 50, 75, 100, 125, 150, 175, 200, 250	0.39″	0.91″	M10	13 mm	1.4″	M8	0.63″	**9517T6** ★	209.25
37.08″	21.08″	16″	35, 50, 75, 100, 125, 150, 175, 200, 250	0.39″	0.91″	M10	13 mm	1.4″	M8	0.63″	**9517T7** ★	232.65

★ Ball socket and ball stud are 304 stainless steel. Temperature range is -13° to 158° F.

High-Temperature Gas Springs

A high-temperature seal allows these gas springs to withstand heat up to 392° F. They have a ball socket end fitting and ball stud on each end for mounting. Ball socket end fittings rotate in any direction on the ball stud to compensate for misalignment. The ball socket end fittings can be easily removed. Ball stud dia. is 10 mm.

The body, rod, ball stud, and ball socket are all steel. Temperature range is 4° to 392° F.

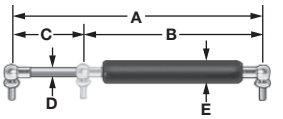

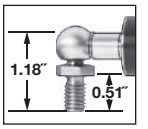

Extend. Lg. (A)	Comp. Lg. (B)	Stroke Lg. (C)	Choose an Extension Force, lbs.	Rod Dia. (D)	Body Dia (E)	Rod and End Thread Size	Ball Stud and Socket Thread Size		
11.61″	7.67″	3.94″	15, 20, 30, 40, 60, 70, 80, 90, 120	0.31″	0.75″	M8	M8	**9646T61**	$65.80
14.76″	9.25″	5.51″	15, 20, 30, 40, 60, 70, 80, 90, 120	0.31″	0.75″	M8	M8	**9646T62**	69.20
16.34″	10.04″	6.3″	15, 20, 30, 40, 60, 70, 80, 90, 120	0.31″	0.75″	M8	M8	**9646T63**	69.64
19.49″	11.62″	7.87″	15, 20, 30, 40, 60, 70, 80, 90, 120	0.31″	0.75″	M8	M8	**9646T64**	71.96
19.88″	11.61″	8.27″	15, 20, 30, 40, 60, 70, 80, 90, 120	0.31″	0.75″	M8	M8	**9646T65**	72.10

High-Force Miniature Gas Springs

Small in size, but not in strength, these gas springs are often used to replace coil springs in metal stamping and die-spring applications. They match the diameter and stroke length of coil die springs, but offer much more force. Mount with the threaded hole on the end; fasteners are not included. All have a steel body and rod. Seal is urethane rubber. Temperature range is 32° to 180° F.

Mounting flanges (sold separately) are for mounting gas springs through a panel or between two surfaces. Use included hardware to secure the gas spring to the flange at one of the two grooves on the gas spring body.

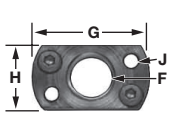

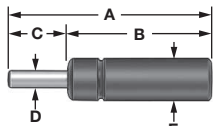

To Order: Please specify extension force from those available below. These gas springs are color-coded by force to help you choose the correct replacement gas spring.

Gas Springs

Extend. Lg. (A)	Comp. Lg. (B)	Stroke Lg. (C)	Rod Dia. (D)	Body Dia. (E)		
Choose a Force, lbs.: 40 (Green), 81 (Blue), 121 (Red), 164 (Yellow)						
2.83″	2.24″	0.59″	0.24″	0.47″	**6643K72**	$61.05
3.62″	2.64″	0.98″	0.24″	0.47″	**6643K73**	63.96
4.65″	3.15″	1.5″	0.24″	0.47″	**6643K74**	65.41
5.59″	3.62″	1.97″	0.24″	0.47″	**6643K45**	66.87
7.95″	4.8″	3.15″	0.24″	0.47″	**6643K46**	69.77
Choose a Force, lbs.: 92 (Green), 152 (Blue), 214 (Red), 270 (Yellow)						
2.83″	2.24″	0.59″	0.32″	0.75″	**6643K52**	63.96
3.62″	2.64″	0.98″	0.32″	0.75″	**6643K53**	66.87
4.65″	3.15″	1.5″	0.32″	0.75″	**6643K54**	69.77
7.95″	4.8″	3.15″	0.32″	0.75″	**6643K56**	81.40

Gas Springs (Cont.)

Extend. Lg. (A)	Comp. Lg. (B)	Stroke Lg. (C)	Rod Dia. (D)	Body Dia. (E)		
Choose a Force, lbs.: 171 (Green), 342 (Blue), 513 (Red), 683 (Yellow)						
2.83″	2.24″	0.59″	0.47″	1″	**6643K62**	$69.77
3.62″	2.64″	0.98″	0.47″	1″	**6643K63**	72.68
4.65″	3.15″	1.5″	0.47″	1″	**6643K64**	75.59
8.07″	4.92″	3.15″	0.47″	1″	**6643K66**	81.40

Mounting Flanges

For Body Dia. (F)	Lg. (G)	Wd. (H)	Mount. Hole Dia. (J)	Thick.		
0.47″	1.34″	0.83″	0.26″	0.35″	**6643K81**	$24.61
0.75″	1.77″	0.98″	0.28″	0.28″	**6643K82**	27.06
1″	1.97″	1.18″	0.28″	0.35″	**6643K83**	29.52

Reducible-Force Gas Springs

Ensure you have the correct force for your application. These gas springs have a bleed valve so you can release gas to permanently reduce the force to meet your requirements. They come charged to their maximum force. Use the included tool to open the valve and bleed off the gas—there's no disassembly required. Release gas in very small increments and then test your application. Once gas is released, the force is permanently reduced.

Steel Gas Springs

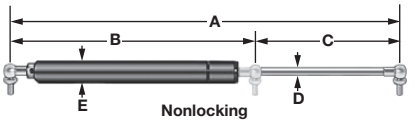

Nonlocking

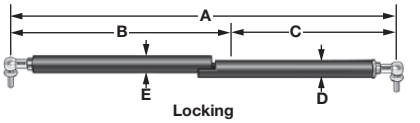

Locking

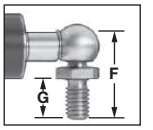

Gas springs have a ball socket end fitting and ball stud on each end for mounting. Ball socket end fittings rotate in any direction on the ball stud to compensate for misalignment. The body, rod, ball stud, and ball socket are all steel. Seal is rubber. Temperature range is -40° to 212° F.

Locking gas springs are used to protect material and equipment underneath heavy loads. They lock automatically when fully extended, ensuring they can't be closed until it's safe to do so. Press on the overlapping sleeve to unlock, allowing the gas spring to compress in a controlled manner.

Note: When using two gas springs together in a locking application, use one locking spring and one nonlocking spring.

Extend. Lg. (A)	Comp. Lg. (B)	Stroke Lg. (C)	Body Dia. (E)	Rod and End Thread Size	Ball Stud Dia.	Ball Stud Lg. (F)	Ball Stud Thread Size	Ball Stud Thread Lg. (G)	Nonlocking Rod Dia. (D)			Locking Sleeve Dia. (D)		
Extension Force: 90 lbs.														
7.72″	5.36″	2.36″	0.59″	M6	10 mm	1.16″	5/16″-18	0.49″	0.24″	**6465K1**	$49.15	—	—	—
10.87″	6.93″	3.94″	0.59″	M6	10 mm	1.16″	5/16″-18	0.49″	0.24″	**6465K2**	49.80	—	—	—
14.8″	8.9″	5.9″	0.59″	M6	10 mm	1.16″	5/16″-18	0.49″	0.24″	**6465K91**	50.52	—	—	—
18.74″	10.87″	7.87″	0.59″	M6	10 mm	1.16″	5/16″-18	0.49″	0.24″	**6465K92**	50.99	—	—	—
Extension Force: 146 lbs.														
11.81″	7.87″	3.94″	0.71″	M6	10 mm	1.16″	5/16″-18	0.49″	0.31″	**6465K3**	53.35	0.87″	**65145K63**	$82.13
15.75″	9.84″	5.91″	0.71″	M6	10 mm	1.16″	5/16″-18	0.49″	0.31″	**6465K4**	54.31	0.87″	**65145K64**	83.62
19.68″	11.81″	7.87″	0.71″	M6	10 mm	1.16″	5/16″-18	0.49″	0.31″	**6465K5**	55.15	0.87″	**65145K65**	85.16
23.62″	13.78″	9.84″	0.71″	M6	10 mm	1.16″	5/16″-18	0.49″	0.31″	**6465K21**	57.37	0.87″	**65145K91**	87.20
27.56″	15.75″	11.81″	0.71″	M6	10 mm	1.16″	5/16″-18	0.49″	0.31″	**6465K22**	60.09	0.87″	**65145K92**	91.11
Extension Force: 269 lbs.														
12.8″	8.86″	3.94″	0.91″	M8	13 mm	1.42″	5/16″-18	0.65″	0.39″	**6465K93**	59.75	1.13″	**65145K83**	83.49
16.73″	10.83″	5.9″	0.91″	M8	13 mm	1.42″	5/16″-18	0.65″	0.39″	**6465K94**	64.51	1.13″	**65145K84**	83.49
19.88″	12.01″	7.87″	0.91″	M8	13 mm	1.42″	5/16″-18	0.65″	0.39″	**6465K23**	60.25	1.13″	**65145K93**	87.91
23.82″	13.98″	9.84″	0.91″	M8	13 mm	1.42″	5/16″-18	0.65″	0.39″	**6465K6**	60.69	—	—	—
24.6″	14.76″	9.84″	0.91″	M8	13 mm	1.42″	5/16″-18	0.65″	0.39″	—	—	1.13″	**65145K66**	88.64
27.76″	15.94″	11.82″	0.91″	M8	13 mm	1.42″	5/16″-18	0.65″	0.39″	**6465K7**	61.65	—	—	—
28.54″	16.73″	11.81″	0.91″	M8	13 mm	1.42″	5/16″-18	0.65″	0.39″	—	—	1.13″	**65145K67**	99.51
36.42″	20.67″	15.75″	0.91″	M8	13 mm	1.42″	5/16″-18	0.65″	0.39″	**6465K95**	64.18	1.13″	**65145K85**	103.38
Extension Force: 561 lbs. for Locking; 562 lbs. for Nonlocking														
13.78″	9.84″	3.94″	1.1″	M10	16 mm	1.74″	M10	0.79″	0.55″	**6465K96**	147.82	—	—	—
21.65″	13.78″	7.87″	1.1″	M8	16 mm	1.74″	M10	0.79″	0.55″	—	—	1.37″	**65145K87**	226.44
21.65″	13.78″	7.87″	1.1″	M10	16 mm	1.74″	M10	0.79″	0.55″	**6465K97**	152.05	—	—	—
29.53″	17.72″	11.81″	1.1″	M10	16 mm	1.74″	M10	0.79″	0.55″	**6465K24**	155.95	1.37″	**65145K94**	208.19
37.4″	21.65″	15.75″	1.1″	M10	16 mm	1.74″	M10	0.79″	0.55″	**6465K8**	144.15	1.37″	**65145K68**	234.69
45.28″	25.59″	19.69″	1.1″	M10	16 mm	1.74″	M10	0.79″	0.55″	**6465K98**	162.87	—	—	—
45.39″	25.7″	19.69″	1.1″	M10	16 mm	1.74″	M10	0.79″	0.55″	—	—	1.38″	**65145K88**	250.22

Stainless Steel Gas Springs with Eyelet Fittings

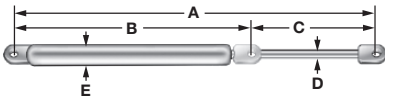


Gas Spring (Shown with Rod Protector)

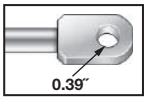

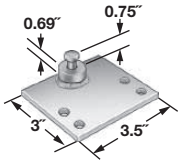

Style 1 Mounting Bracket

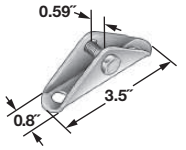

Style 2 Mounting Bracket

Made from 316 stainless steel for excellent corrosion resistance in damp environments. These gas springs have an 18-8 stainless steel eyelet end fitting on each end; require an eyelet mounting bracket (sold separately below) for mounting. The eyelet end fittings can be easily removed. Seal is rubber. Temperature range is -40° to 300° F.

Rod protectors (sold separately) prevent impact damage. All are 316 stainless steel.

Regulator kits (sold separately) indicate how much gas you're releasing. Kits contain fittings to connect to your gas spring, a pressure gauge, a manifold, and instructions.

Mounting brackets do not include fasteners. *Style 1* is 18-8 stainless steel. *Style 2* is 304 stainless steel.

Extend. Lg. (A)	Comp. Lg. (B)	Stroke Lg. (C)	Rod Dia. (D)	Body Dia. (E)	Extension Force, lbs.	Rod and End Thread Size	Gas Springs		Rod Protectors	
8.25″	6.25″	2″	0.38″	0.88″	249	M8	**6626K54**	$92.68	**9419K71**	$30.70
10.5″	8.5″	2″	0.56″	1.17″	517	M10	**6626K71**	124.96	**9419K81**	39.98
12.25″	8.25″	4″	0.38″	0.88″	248	M8	**6626K55**	98.57	**9419K72**	30.70
14.5″	10.5″	4″	0.56″	1.17″	517	M10	**6626K72**	132.86	**9419K82**	39.98
16.25″	10.25″	6″	0.38″	0.88″	249	M8	**6626K56**	107.07	**9419K73**	30.70
18.5″	12.5″	6″	0.56″	1.17″	522	M10	**6626K73**	147.45	**9419K83**	39.98
20.25″	12.25″	8″	0.38″	0.88″	249	M8	**6626K57**	113.07	**9419K74**	30.70
22.5″	14.5″	8″	0.56″	1.17″	518	M10	**6626K74**	171.96	**9419K84**	39.98
24.25″	14.25″	10″	0.38″	0.88″	245	M8	**6626K58**	121.59	**9419K75**	30.70
26.5″	16.5″	10″	0.56″	1.17″	520	M10	**6626K75**	199.74	**9419K85**	39.98
28.25″	16.25″	12″	0.38″	0.88″	247	M8	**6626K59**	130.09	**9419K76**	30.70
30.5″	18.5″	12″	0.56″	1.17″	520	M10	**6626K76**	204.18	**9419K86**	39.98
32.25″	18.25″	14″	0.38″	0.88″	248	M8	**6626K61**	131.80	**9419K77**	30.70
36.25″	20.25″	16″	0.38″	0.88″	245	M8	**6626K62**	146.18	**9419K78**	30.70
38.5″	22.5″	16″	0.56″	1.17″	514	M10	**6626K77**	212.85	**9419K88**	39.98
46.5″	26.5″	20″	0.56″	1.17″	516	M10	**6626K78**	229.37	**9419K89**	39.98
54.5″	30.5″	24″	0.56″	1.17″	516	M10	**6626K79**	241.06	**9419K91**	39.98

Regulator Kit for 0.88″ Body Dia.	**6626K92**	415.91
Regulator Kit for 1.17″ Body Dia.	**6626K93**	415.91
Style 1 Mounting Bracket	**6626K96**	28.86
Style 2 Mounting Bracket	**6626K95**	12.84

Remote-Release Gas Springs

Pair one of these gas springs with a release control to stop and release the gas spring anywhere along the stroke with the push of a button or lever.

Gas springs have a valve on the rod end that controls extension and compression and is operated with a release control (sold separately). They have a ball socket end fitting and ball stud on one end for mounting. The ball socket end fitting rotates in any direction on the ball stud to compensate for misalignment. The ball socket end fitting can be easily removed. Ball stud dia. is 13 mm. The body, rod, ball socket, and ball stud are steel. Seal is rubber. Temperature range is -22° to 176°F.

Release controls (sold separately) thread onto the rod end of the gas spring. They have an integral eyelet fitting for mounting the gas spring. The eyelet hole diameter is 0.32″. *Push-button release control* requires an eyelet mounting bracket (not included; see page 1264) to mount the gas spring. It has a 2″ body. *Lever release control* requires a bolt or pin (not included) to mount the gas spring. It is 5¼″ long.

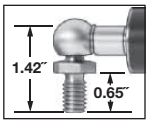

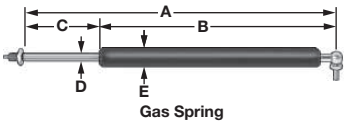

Gas Spring

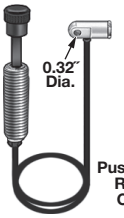

Push-Button Release Control



Lever Release Control

Gas Springs—M8 Ball Stud and End Thread Size; M10 Rod Thread Size

Extend. Lg. (A)	Comp. Lg. (B)	Stroke Lg. (C)	Choose an Extension Force, lbs.	Rod Dia. (D)	Body Dia. (E)		
12.2″	8.26″	3.94″	20, 40, 60, 100	0.39″	0.87″	9833T8	$95.90
15.94″	10.03″	5.91″	20, 40, 60, 100	0.39″	0.87″	9833T1	103.58
19.88″	12.01″	7.87″	20, 40, 60, 100	0.39″	0.87″	9833T2	108.50
23.82″	13.82″	10″	20, 40, 60, 100	0.39″	0.87″	9833T3	123.92
28.15″	16.15″	12″	20, 40, 60, 100	0.39″	0.87″	9833T4	132.60
44.29″	24.29″	20″	20, 40, 60, 100	0.39″	0.87″	9833T6	170.84

Release Controls

Push-Button with 19¾″ Lg. Cable	9684K11	$49.78
Push-Button with 29½″ Lg. Cable	9684K12	50.47
Push-Button with 39⅜″ Lg. Cable	9684K13	51.16
Push-Button with 49¼″ Lg. Cable	9684K14	52.41
Push-Button with 59″ Lg. Cable	9684K15	53.41
Lever	3739K1	32.22

Miniature Gas Springs with Eyelet Fittings

Sized with short stroke lengths and miniature dimensions, these gas springs are for opening small lids and doors, like those on toolboxes and access panels. They have an eyelet end fitting on each end; require an eyelet mounting bracket (sold separately) for mounting. The rod-end eyelet fitting is removable and the rod thread size is M4. Temperature range is -13° to 158°F.

Steel—The body and rod are steel with a rubber seal. Eyelet fittings are aluminum.

316 Stainless Steel—These gas springs have excellent corrosion resistance for use in damp environments. The body, rod, and eyelet fittings are 316 stainless steel. The seal is rubber.

Mounting Brackets—Mount on any panel, lid, or door. Fasteners are not included. *Style 1* includes a retaining ring.

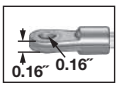

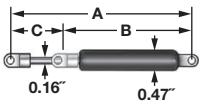

Gas Springs

Extend. Lg. (A)	Comp. Lg. (B)	Stroke Lg. (C)	Choose an Extension Force, lbs.		
Steel					
4.33″	3.15″	1.18″	5, 10, 15, 20, 25, 30	9417K1	$41.55
5.11″	3.54″	1.57″	5, 10, 15, 20, 25, 30	9417K2	41.79
6.29″	4.12″	2.17″	5, 10, 15, 20, 25, 30	9417K3	42.28
7.08″	4.52″	2.56″	5, 10, 15, 20, 25, 30	9417K4	42.65
8.26″	5.11″	3.15″	5, 10, 15, 20, 25, 30	9417K5	43.15
9.05″	5.51″	3.54″	5, 10, 15, 20, 25, 30	9417K6	43.52

Extend. Lg. (A)	Comp. Lg. (B)	Stroke Lg. (C)	Choose an Extension Force, lbs.		
316 Stainless Steel					
4.33″	3.33″	1″	5, 10, 15, 20, 25, 30	4170T1	$68.10
5.11″	3.61″	1.5″	5, 10, 15, 20, 25, 30	4170T2	69.00
6.29″	4.29″	2″	5, 10, 15, 20, 25, 30	4170T3	70.00
7.08″	4.58″	2.5″	5, 10, 15, 20, 25, 30	4170T4	71.00
8.26″	5.26″	3″	5, 10, 15, 20, 25, 30	4170T5	72.20
9.05″	5.55″	3.5″	5, 10, 15, 20, 25, 30	4170T6	73.30

Mounting Brackets

	For Eyelet ID	Thick.	Material		
1	0.16″	0.12″	Zinc-Plated Steel	9417K91	$16.75
1	0.16″	0.12″	304 Stainless Steel	4170T91	28.36
2	0.16″	0.08″	Zinc-Plated Steel	9417K92	14.03
2	0.16″	0.08″	304 Stainless Steel	4170T92	23.26

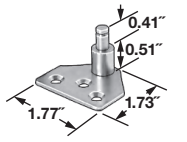

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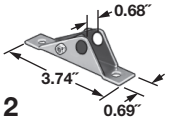

2

Pulling Gas Springs

Also known as tension and traction gas springs, these work in the opposite direction of other gas springs. Similar to a screen door closing, they're used to assist in closing covers, hoods, and doors. These gas springs have a ball socket end fitting and ball stud on each end for mounting. Ball socket end fittings rotate in any direction on the ball stud to compensate for misalignment. The ball socket end fittings can be easily removed. Ball stud dia. is 13 mm. The body, rod, ball socket, and ball stud are steel. Seal is rubber. Temperature range is -22° to 176°F.

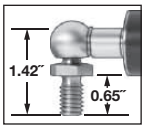

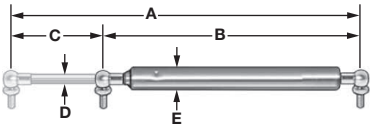

Extend. Lg. (A)	Comp. Lg. (B)	Stroke Lg. (C)	Choose a Compression Force, lbs.	Rod Dia. (D)	Body Dia. (E)	Rod and End Thread Size	Ball Stud Thread Size	Ball Socket Thread Size		
10.04″	8.07″	1.97″	20, 30, 40, 60, 80, 100, 150, 200, 250	0.39″	1.1″	M10	M8	M10	9502T1	$100.50
12.01″	9.06″	2.95″	20, 30, 40, 60, 80, 100, 150, 200, 250	0.39″	1.1″	M10	M8	M10	9502T2	108.90
13.98″	10.04″	3.94″	20, 30, 40, 60, 80, 100, 150, 200, 250	0.39″	1.1″	M10	M8	M10	9502T3	115.94
15.94″	11.02″	4.92″	20, 30, 40, 60, 80, 100, 150, 200, 250	0.39″	1.1″	M10	M8	M10	9502T4	124.32
16.91″	12.91″	4″	20, 30, 45, 56, 80, 101	0.31″	0.87″	M8	M8	M8	9499T1	86.82
17.91″	12.01″	5.9″	20, 30, 40, 60, 80, 100, 150, 200, 250	0.39″	1.1″	M10	M8	M10	9502T5	128.42
21.85″	13.98″	7.87″	20, 30, 40, 60, 80, 100, 150, 200, 250	0.39″	1.1″	M10	M8	M10	9502T6	132.20
26.18″	16.14″	10.04″	20, 30, 40, 60, 80, 100, 150, 200, 250	0.39″	1.1″	M10	M8	M10	9502T7	155.20
28.5″	20.63″	7.87″	20, 30, 45, 56, 80, 101	0.31″	0.87″	M8	M8	M8	9499T2	110.96
30.11″	18.11″	12″	20, 30, 40, 60, 80, 100, 150, 200, 250	0.39″	1.1″	M10	M8	M10	9502T8	167.12

Threaded-Body Shock Absorbers

About Selecting Shock Absorbers

$$\text{Energy Cap. (in.-lbs.)} = \frac{\text{Weight (lbs.)}}{772} \times \text{Velocity}^2\ \text{(in. per second)}$$

To select the best shock absorber for your application, you need to find the energy capacity your application requires. Use this formula to calculate the energy capacity required to stop a horizontal-moving load. For example, if you have a 250-lb. load moving at 25 inches per second, your calculation is (250 lbs. ÷ 772) × 25^2 = 202.4 in.-lbs. energy capacity.

Note: Choose a shock absorber with a higher energy capacity than you calculated. Factors such as driving force or an inclined surface will increase the energy capacity required.

Threaded-Body Shock Absorbers

Install shock absorbers in gantry systems, presses, and at stops along conveyors—they counteract the energy of moving objects to prevent damage to equipment and material. All are filled with hydraulic fluid and come with a hex mounting nut. Use Threaded Mounting Blocks and Nuts for Shock Absorbers (not included, see page 1269) for mounting.

Nylon and **urethane rubber bumpers** are nonmarring. **Aluminum bumpers** are nonmagnetic.

Self-Adjusting Shock Absorbers

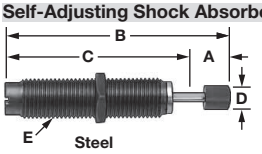

Accommodate changing loads and energy without manual adjustment. Shock absorbers have a stainless steel rod, unless noted.

Steel shock absorbers have a black-oxide finish, unless noted. Temperature range is 32° to 150° F, except shock absorbers with an aluminum bumper have a temperature range of -22° to 140° F and shock absorbers with a urethane rubber bumper have a temperature range of 14° to 176° F.

Corrosion-resistant stainless steel shock absorbers are excellent for use in damp environments. Temperature range is -20° to 140° F.

Energy Capacity, in.-lbs.	Max. Cycles per Min.	Stroke Lg. (A)	Extended Lg. (B)	Compressed Lg. (C)	Bumper Dia. (D)	Bumper Material	Inch: Thread Size (E)			Metric: Thread Size (E)		
Steel												
9	33	0.2″	1.22″	1.02″	___	___	___	___	___	M6×0.5	3692K24★	$37.57
11	53	0.2″	1.52″	1.32″	0.19″	Acetal	___	___	___	M8×0.75	3692K11	38.40
11	53	0.2″	1.52″	1.32″	0.19″	Acetal	___	___	___	M8×1	3692K13	38.40
20	167	0.26″	2.27″	2.01″	0.3″	Steel	3⁄8″-32	3740K11■	$38.59	M10×1	3692K15■	38.59
75	56	0.4″	2.76″	2.36″	0.3″	Acetal	1⁄2″-20	3740K12■	50.48	___	___	___
75	56	0.4″	2.76″	2.36″	0.3″	Steel	___	___	___	M12×1	3692K16■	50.48
100	10	0.25″	2.75″	2.5″	0.25″	Aluminum	9⁄16″-18	9530K46	74.04	M14×1.5	9530K66	74.04
123	41	0.5″	3.66″	3.16″	0.47″	Nylon	9⁄16″-18	3740K19■	86.33	M14×1	3692K27■	87.35
200	10	0.5″	3.75″	3.25″	0.25″	Aluminum	3⁄4″-16	9530K47	78.27	M20×1.5	9530K67	78.27
225	22	0.63″	4.5″	3.87″	0.47″	Steel	9⁄16″-18	3740K15■	76.74	M14×1.5	3692K19■	73.61
250	26	1″	4.75″	3.75″	0.38″	Aluminum	1″-12	9530K48	125.20	M25×1.5	9530K68	125.20
288	23	0.5″	4.07″	3.57″	0.66″	Nylon	3⁄4″-16	3740K21■	91.76	M20×1.5	3692K28■	89.89
300	22	0.75″	4.62″	3.87″	0.66″	Steel	3⁄4″-16	3740K16■	78.53	M20×1.5	3692K21■	76.93
600	17	1″	5.76″	4.76″	0.9″	Nylon	1″-12	3740K22■	122.81	M25×1.5	3692K29■	122.81
620	11	0.59″	4.15″	3.56″	0.66″	Steel	3⁄4″-16	3740K1■	173.04	___	___	___
650	10	1″	4.75″	3.75″	0.38″	Aluminum	1″-12	9530K51	127.65	M25×1.5	9530K71	127.65
650	15	1″	5.62″	4.62″	0.9″	Steel	1″-12	3740K18■	114.44	M25×1.5	3692K23■	114.44
975	14	1.58″	7.44″	5.86″	0.9″	Steel	1″-12	3740K3■	198.85	___	___	___
1,042	12	1.6″	8.31″	6.71″	0.87″	Urethane Rubber	1″-12	6528K11▲	166.56	___	___	___
1,860	5	0.91″	5.51″	4.6″	0.9″	Steel	1″-12	3740K2■	209.56	___	___	___
2,000	10	1″	5.25″	4.25″	0.5″	Aluminum	1¼″-12	9530K52	165.59	M33×1.5	9530K72	165.59
3,472	8	2″	9.57″	7.57″	1.18″	Urethane Rubber	___	___	___	M36×1.5	6528K12▲	207.90
5,000	10	2″	8.25″	6.25″	0.63″	Aluminum	1⅜″-12	9530K54	187.80	M36×1.5	9530K74	187.80
Corrosion-Resistant Stainless Steel												
100	10	0.25″	2.75″	2.5″	0.25″	Stainless Steel	9⁄16″-18	9553K1	133.27	___	___	___
200	10	0.5″	3.75″	3.25″	0.25″	Stainless Steel	3⁄4″-16	9553K2	139.33	___	___	___
250	27	1″	4.75″	3.75″	0.38″	Stainless Steel	1″-12	9553K3	218.08	___	___	___
650	10	1″	4.75″	3.75″	0.38″	Stainless Steel	1″-12	9553K4	218.08	___	___	___
2,000	10	1″	5.25″	4.25″	0.5″	Stainless Steel	1¼″-12	9553K5	290.77	___	___	___
5,000	10	2″	8.25″	6.25″	0.63″	Stainless Steel	1⅜″-12	9553K7	327.12	___	___	___

★ Does not have a bumper. ■ Has a black ultra-corrosion resistant coating. ▲ Rod is chrome-plated steel. Includes two hex mounting nuts.

Adjustable Shock Absorbers

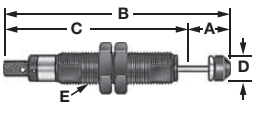

Four-Position Adjustment

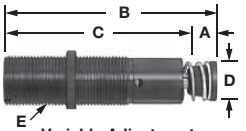

Variable Adjustment

Change deceleration to suit varying loads and speeds—turn the knob on these shock absorbers to adjust return speed. They have a chrome-plated steel rod, unless noted.

Four-position adjustment shock absorbers are steel with a black oxide finish. They come with two hex mounting nuts. Temperature range is 14° to 176° F.

Variable adjustment shock absorbers have a temperature range of 32° to 150° F. *Aluminum* shock absorbers have a black anodized finish; *steel* shock absorbers have a black ultra-corrosion resistant coating.

Energy Capacity, in.-lbs.	Max. Cycles per Min.	Stroke Lg. (A)	Extended Lg. (B)	Compressed Lg. (C)	Bumper Dia. (D)	Bumper Material	Inch: Thread Size (E)			Metric: Thread Size (E)		
Four-Position Adjustment—Steel												
87	60	0.6″	4.33″	3.73″	0.47″	Urethane Rubber	5⁄8″-18	6528K21	$207.90	___	___	___
260	30	0.8″	5.08″	4.28″	0.71″	Urethane Rubber	7⁄8″-14	6528K22	200.86	___	___	___
712	15	1″	6.02″	5.02″	0.87″	Urethane Rubber	1″-12	6528K23	233.51	___	___	___
Variable Adjustment—Aluminum												
275	18	0.5″	4.35″	3.85″	0.5″	Urethane Rubber	3⁄4″-16	3742K27♣	88.02	___	___	___
715	15	1″	5.62″	4.62″	0.62″	Urethane Rubber	1″-12	3742K28	132.64	___	___	___
Variable Adjustment—Steel												
35	25	0.4″	3.31″	2.91″	0.3″	Steel	1⁄2″-20	3742K11♦	72.72	M12×1	3691K11♦	$74.27
200	25	0.5″	3.67″	3.17″	0.47″	Nylon	9⁄16″-18	3742K12♦	88.47	M14×1.5	3691K12♦	88.47
300	22	0.75″	4.67″	3.92″	0.66″	Steel	3⁄4″-16	3742K19♦	82.96	___	___	___
600	17	1″	5.6″	4.6″	0.9″	Steel	1″-12	3742K21♦	131.78	___	___	___
1,500	7	0.91″	5.44″	4.53″	1″	Steel	1¼″-12	3742K15	189.39	M33×1.5	3691K15	185.52
3,450	5	0.91″	5.69″	4.78″	1.38″	Steel	1¾″-12	3742K16	264.27	M45×1.5	3691K16	258.87
6,900	2	1.91″	7.69″	5.78″	1.38″	Steel	1¾″-12	3742K17	276.89	M45×1.5	3691K17	271.24
10,350	2	2.91″	9.69″	6.78″	1.38″	Steel	1¾″-12	3742K18	289.60	___	___	___

♣ Rod is nickel-plated steel. ♦ Rod is stainless steel.

For information about selecting shock absorbers, see page 1268.

Threaded Mounting Blocks and Nuts for Shock Absorbers

Mount threaded-body shock absorbers with these mounting blocks. Use the mounting nuts (sold separately) to secure.

Mounting blocks are steel.

Mounting nuts are hex style, unless noted.

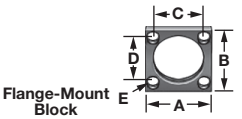

Flange-Mount Block

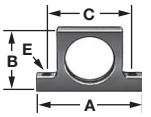

Lug-Mount Block



Mounting Nut

Mounting Blocks

(A)	(B)	(C)	(D)	Dia. (E)	Thick.	Inch Thread Size			Metric Thread Size		
Flange Mount											
1.5″	1″	1″	—	0.18″	0.56″	3/8″-32	6600K56★	$23.20	M10×1	6600K61★	$24.94
1.5″	1″	1″	—	0.18″	0.56″	1/2″-20	6600K62★	24.94	M12×1	6600K63★	24.94
1.77″	1.1″	1.38″	—	0.18″	0.63″	—	—	—	M14×1.5	6600K11★	28.54
1.81″	1.37″	1.38″	1″	0.22″	0.62″	9/16″-18	6600K1	26.34	—	—	—
1.85″	1.38″	1.38″	1″	0.22″	0.63″	—	—	—	M20×1.5	6600K12	27.54
1.85″	1.38″	1.38″	1″	0.22″	0.63″	—	—	—	M25×1.5	6600K13	28.76
2″	1.5″	1.5″	1.12″	0.22″	0.62″	3/4″-16	6600K3	27.54	—	—	—
2″	1.5″	1.5″	1.12″	0.22″	0.62″	1″-12	6600K5	26.71	—	—	—
3″	2.25″	2.36″	1.57″	0.39″	0.5″	—	—	—	M45×1.5	6600K65	27.14
3″	2.25″	2.38″	1.57″	0.34″	0.5″	1 3/4″-12	6600K64	27.14	—	—	—
Lug Mount											
3″	2″	2.5″	—	0.22″	0.38″	9/16″-18	6600K26	26.93	M14×1.5	6600K41	30.92
3″	2″	2.5″	—	0.22″	0.38″	3/4″-16	6600K32	26.93	M20×1.5	6600K42	30.92
3″	2″	2.5″	—	0.22″	0.38″	7/8″-14	6600K33	26.93	M25×1.5	6600K43	30.92
3″	2″	2.5″	—	0.22″	0.38″	1″-12	6600K34	26.93	M33×1.5	6600K44	30.92
3″	2″	2.5″	—	0.22″	0.38″	1 1/4″-12	6600K35	28.62	M36×1.5	6600K45	30.92
3″	2″	2.5″	—	0.22″	0.38″	1 3/8″-12	6600K36	28.62	—	—	—

★ Has two mounting holes.

Mounting Nuts

Inch Thread Size			Metric Thread Size		
Steel					
3/8″-32	6600K73	$2.96	M8×0.75	6600K71	$3.00
1/2″-20	6600K75	3.00	M8×1	6600K72	3.00
9/16″-18	9530K16	4.45	M10×1	6600K74	3.00
3/4″-16	9530K17	4.77	M12×1	6600K76	3.00
1″-12	9530K18	5.64	M14×1	6600K77	4.97
1 1/4″-12	9530K19	9.42	M14×1.5	9530K81	4.45
1 3/8″-12	9530K21	9.42	M20×1.5	9530K82	4.80
1 3/4″-12	6600K78■	14.86	M25×1.5	9530K83	5.64

■ Nut is round.

Inch Thread Size			Metric Thread Size		
Steel (Cont.)					
—	—	—	M33×1.5	9530K84	$9.42
—	—	—	M36×1.5	9530K85	9.42
—	—	—	M45×1.5	6600K79■	14.86
Stainless Steel					
9/16″-18	6600K86	$8.30	—	—	—
3/4″-16	6600K87	9.48	—	—	—
1″-12	6600K88	11.87	—	—	—
1 1/4″-12	6600K89	13.21	—	—	—
1 3/8″-12	6600K91	14.36	—	—	—

Flange-Mount Adjustable Shock Absorbers

Change deceleration to suit varying loads and speeds—turn the knob on these shock absorbers to adjust return speed. They counteract the energy of moving objects to prevent damage to equipment and material. They're commonly used in gantry systems, presses, and conveyor stops. Both of these hydraulic shock absorbers have an enameled steel body with a chrome-plated steel rod. Bumper is urethane rubber, which is nonmarring. Temperature range is 14° to 176° F.

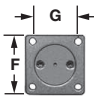

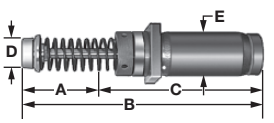

Front Flange

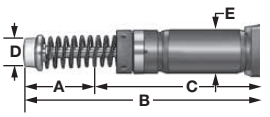

Rear Flange

Energy Cap., in.-lbs.	Max. Cycles per Min.	Stroke Lg. (A)	Extended Lg. (B)	Compressed Lg. (C)	Bumper Dia. (D)	Body Dia. (E)	Flange (F)	Flange (G)	Flange Thick.	Front Flange		Rear Flange	
3,472	8	2″	9.06″	7.06″	1.1″	1.65″	1.97″	1 1/2″	0.39″	6518K81	$419.39	6518K82	$338.42

Light Duty Adjustable Shock Absorbers

Also known as snubbers, use these shock absorbers in low-load, high-cycle applications. They use a cushion of air to counteract the energy of moving objects to prevent damage to equipment and material. Turn the knob to adjust the return speed for changing loads and speeds. Body is rubber-coated borosilicate glass. Temperature range is -67° to 158° F.

Stud-mount shock absorbers have a stud and nut under the removable knob for mounting through a panel or bracket. The stud is 1/8″ long with a 3/8″-32 thread size. Rod is urethane.

Flange-mount shock absorbers have an acetal rod.

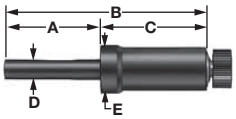

Stud Mount

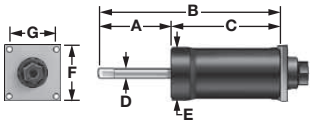

Flange Mount

Energy Cap., in.-lbs.	Max. Cycles per Min.	Stroke Lg. (A)	Extended Lg. (B)	Compressed Lg. (C)	Rod Dia. (D)	Body Dia. (E)	Flange (F)	Flange (G)	Flange Thick.		
Stud Mount											
4	600	1.1″	4.32″	2.99″	0.375″	1.01″	—	—	—	6430K31	$70.70
9	330	1.3″	4.15″	2.62″	0.375″	1.35″	—	—	—	6430K32	71.68
Flange Mount											
36	200	2.3″	6.7″	3.9″	0.312″	1.74″	1 3/4″	1.38″	1/8″	6430K33	88.14
84	70	2.3″	6.7″	3.9″	0.312″	2.21″	2 1/8″	1 3/4″	1/8″	6430K34	104.93

Shock Absorbers & Adjustable Air Springs

For information about selecting shock absorbers, see page 1268.

Leak-Resistant Adjustable Shock Absorbers

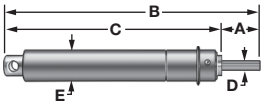

An airtight seal prevents leaks and protects moving parts from dust to minimize wear for a long service life. These shock absorbers decelerate fast-moving equipment without bang or bounce to prevent damage to equipment and material. You can change the deceleration to suit varying loads and speeds—turn the knob to adjust return speed. Shock absorbers have a steel body filled with silicone fluid. Rod is stainless steel. Temperature range is 40° to 130°F.

Mounting block is aluminum. Mounting hole diameter is 0.39″.

Energy Cap., in.-lbs.	Max. Cycles per Min.	Stroke Lg. (A)	Extended Lg. (B)	Compressed Lg. (C)	Rod Dia. (D)	Body Dia. (E)	Shock Absorbers		Mounting Block	
400	23	0.5″	6.33″	5.83″	0.312″	0.94″	4246T11	$237.51	4246T51	$20.93
800	12	1″	7.83″	6.83″	0.312″	0.94″	4246T12	246.57	4246T51	20.93
1,600	7	2″	10.87″	8.87″	0.312″	0.94″	4246T13	283.19	4246T51	20.93

Long-Length Shock Absorbers

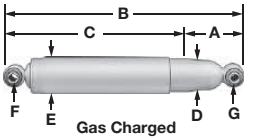


Hydraulic with External Spring

Like the shocks in a car, these mount between two surfaces to minimize vibration and motion transfer caused by sudden impact. The body is steel with a painted finish. Rod is chrome-plated steel. Temperature range is -22° to 212°F.

Force, lbs. Compression	Force, lbs. Extension	Stroke Lg. (A)	Extended Lg. (B)	Compressed Lg. (C)	Rod Dia. (D)	Body Dia. (E)	Eyelet Dia. (F)	Eyelet Dia. (G)		
Gas Charged										
80	429	5.13″	14.76″	9.63″	1.63″	2″	0.63″	0.5″	60025K32	$27.70
117	537	9.03″	23.26″	14.23″	2.19″	2.5″	0.57″	0.57″	60025K16	47.13
Hydraulic with External Spring										
575	555	8.37″	22.48″	14.11″	2″	3.04″	0.76″	0.76″	4432T11	77.14

Adjustable Air Springs

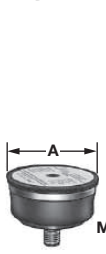

Miniature Sleeve



Sleeve

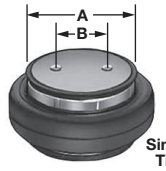

Single Tire

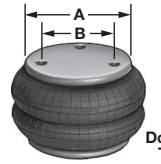

Double Tire

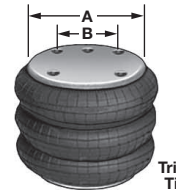

Triple Tire


Inflation Valve (Sold Separately)

Isolate vibration and absorb shock from moving equipment, even with changing loads. Also for leveling and lifting, use compressed air to adjust air springs to the height and force required for your application. They're often used with vibratory screen and conveyors; loading and transfer stations; and sensitive testing and measuring equipment. Install them in any mounting orientation. Maximum pressure is 100 psi. Air springs are made of neoprene rubber and have a temperature range of -20° to 135°F, unless noted.

Miniature sleeve air springs have a 1/8 NPTF male air inlet. Not rated for minimum pressure.

Sleeve air springs have a 1/8 NPTF male air inlet. They require 10 psi minimum pressure.

Single-tire, double-tire, and **triple-tire** air springs have a 1/4 NPTF female air inlet. Not rated for minimum pressure.

ⓘ For additional information about these air springs, including mounting dimensions and performance data, go to mcmaster.com and search for a part number.

Stroke Lg.	Lifting Force, lbs. @ 100 psi: Full Stroke	Lifting Force, lbs. @ 100 psi: Beginning Stroke	Extended Ht.	Compressed Ht.	OD @ Full Stroke	Dia. (A)	Mounting Hole: Ctr.-to-Ctr. (B)	Mounting Hole: Thread Size	Mounting Hole: Dp.	Air Springs		Inflation Valves	
Miniature Sleeve													
2.1″	120	600	3.6″	1.5″	3.6″	3.4″	—	5/16″-18	7/16″	9538K21	$47.26	9538K41	$11.40
Sleeve													
4″	560	1,250	6.25″	2.2″	5.6″	5.1″	—	3/8″-16	1/2″	9538K22	116.06	9538K41	11.40
4.4″	110	360	8″	3.6″	3.25″	2.75″	—	3/4″-16	5/8″	9538K23	106.02	9538K41	11.40
4.9″	310	1,100	7.1″	2.2″	4.6″	4.1″	—	3/8″-16	1/2″	9538K24	109.08	9538K41	11.40
5.5″	800	950	9.5″	4″	5.7″	4.1″	—	3/4″-16	5/8″	9538K28	111.45	9538K41	11.40
6.5″	540	850	10.5″	4″	4.6″	4.1″	—	1/2″-13	5/8″	9538K25	114.74	9538K41	11.40
6.5″	750	1,100	10.5″	4″	5.6″	5.1″	—	1/2″-13	5/8″	9538K26	117.42	9538K41	11.40
6.8″	1,200	2,000	10.9″	4.1″	7″	6.3″	—	M20×2.5	15 mm	9538K27	179.22	9538K41	11.40
Single Tire													
2″	560	1,500	3.8″	1.8″	5.7″	3.4″	1 3/4″	3/8″-16	5/8″	9539K41	94.50	9538K42	12.31
2″	1,500	4,900	5.9″	3.2″	11″	6.4″	3 1/2″	3/8″-16	5/8″	9539K42★	323.58	9538K42	12.31
2.8″	850	2,000	4.8″	2″	6.5″	4.15″	1 3/4″	3/8″-16	5/8″	9539K44	101.24	9538K42	12.31
3″	520	1,600	4.8″	1.8″	6″	3.4″	1 3/4″	3/8″-16	5/8″	9539K43	123.10	9538K42	12.31
3″	1,500	5,600	5.9″	2.3″	11″	6.4″	3 1/2″	3/8″-16	5/8″	9539K55★	151.41	9538K42	12.31
3″	3,600	8,800	7.2″	2.6″	13.2″	9″	6.2″	3/8″-16	5/8″	9539K48★	203.25	9538K42	12.31
3.2″	850	2,600	5.2″	2″	7.7″	4.15″	1 3/4″	3/8″-16	5/8″	9539K46	123.10	9538K42	12.31
3.3″	1,100	3,600	5.3″	2″	8.7″	5″	2 3/4″	3/8″-16	5/8″	9539K47	105.30	9538K42	12.31
3.4″	750	3,000	7.1″	2″	7″	4.15″	1 3/4″	3/8″-16	5/8″	9539K49	157.76	9538K42	12.31
Double Tire													
4.3″	580	2,800	7.7″	2.8″	6.5″	4.15″	1 3/4″	3/8″-16	5/8″	9551K51	124.98	9538K42	12.31
6.1″	2,700	9,400	11.1″	3.4″	13″	9″	6.2″	3/8″-16	5/8″	9551K53★	339.83	9538K42	12.31
6.3″	1,100	5,700	10.8″	3.2″	10.3″	6.4″	3 1/2″	3/8″-16	5/8″	9551K52★	168.72	9538K42	12.31
6.6″	1,000	5,000	10.1″	2.9″	8.8″	5″	2 3/4″	3/8″-16	5/8″	9551K54	165.24	9538K42	12.31
7.2″	1,500	6,000	12.2″	3.5″	10.3″	6.4″	3 1/2″	3/8″-16	5/8″	9551K55★■	189.96	9538K42	12.31
8.4″	2,600	10,000	14.4″	4.3″	13.7″	9″	6.2″	3/8″-16	5/8″	9551K56★	205.56	9538K42	12.31
Triple Tire													
10.2″	4,700	15,000	18″	5″	15.5″	11.3″	6 1/4″	3/8″-16	5/8″	9551K57★	433.41	9538K42	12.31

★ Material is natural rubber. Minimum temperature is -56°F. ■ Spring has threaded mounting studs rather than holes on top mounting plate.

About Extension Springs

Holding a hatch door closed, tensioning a cable, and returning an air cylinder to its starting point are a few uses for extension springs. The more you stretch (or extend) the springs, the greater the force the springs will exert to pull the two points back together.

Extension springs are made of steel music wire (for high strength), spring-tempered steel (for heat resistance), or stainless steel (for corrosion resistance). They are available with loop and hook ends.

Minimum Load—The pounds of force it takes to start to extend the spring.

Maximum Load—The pounds of force it takes to fully extend the spring.

Rate—As you stretch an extension spring, it gets harder to pull. The higher the rate, the harder it is to stretch the spring.

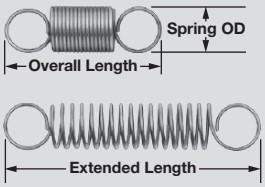

Steel Music Wire Extension Springs

Spring OD	Wire Dia.	Extended Lg.	Load, lbs. Min.	Load, lbs. Max.	Rate, lbs./inch	Pkg. Qty.		Pkg.
Unplated with Loop Ends								
0.5″ Overall Length								
0.125″	0.014″	0.754″	0.15	0.76	2.40	12	9654K941	$7.62
0.125″	0.018″	0.616″	0.41	1.52	9.56	12	9654K942	7.62
0.188″	0.016″	0.731″	0.11	0.75	2.77	12	9654K943	7.62
0.188″	0.020″	0.62″	0.28	1.41	9.41	12	9654K944	7.62
0.625″ Overall Length								
0.125″	0.014″	1.014″	0.15	0.76	1.57	12	9654K945	7.62
0.125″	0.018″	0.804″	0.41	1.52	6.21	12	9654K946	7.62
0.188″	0.016″	1.121″	0.11	0.75	1.29	12	9654K947	7.62
0.188″	0.020″	0.888″	0.28	1.41	4.29	12	9654K948	7.62
0.75″ Overall Length								
0.125″	0.014″	1.276″	0.15	0.76	1.16	12	9654K949	7.62
0.125″	0.016″	1.1″	0.26	1.10	2.40	12	9654K951	7.62
0.125″	0.018″	0.991″	0.41	1.52	4.60	12	9654K952	7.62
0.125″	0.020″	0.926″	0.58	2.04	8.28	12	9654K953	7.62
0.125″	0.023″	0.859″	0.98	2.98	18.28	12	9654K954	7.62
0.188″	0.016″	1.512″	0.11	0.75	0.84	12	9654K955	7.62
0.188″	0.018″	1.301″	0.18	1.05	1.58	12	9654K956	7.62
0.188″	0.020″	1.156″	0.28	1.41	2.78	12	9654K957	7.62
0.188″	0.023″	1.017″	0.49	2.08	5.96	12	9654K958	7.62
0.188″	0.025″	0.956″	0.68	2.62	9.43	12	9654K959	7.62
0.875″ Overall Length								
0.125″	0.014″	1.531″	0.15	0.76	0.93	12	9654K961	7.62
0.125″	0.018″	1.179″	0.41	1.52	3.65	12	9654K962	7.62
0.188″	0.016″	1.907″	0.11	0.75	0.62	12	9654K963	7.62
0.188″	0.020″	1.424″	0.28	1.41	2.06	12	9654K964	7.62
1″ Overall Length								
0.125″	0.014″	1.792″	0.15	0.76	0.77	12	9654K965	7.62
0.125″	0.016″	1.528″	0.26	1.10	1.59	12	9654K966	7.62
0.125″	0.018″	1.366″	0.41	1.52	3.03	12	9654K967	7.62
0.125″	0.020″	1.268″	0.58	2.04	5.44	12	9654K968	7.62
0.188″	0.016″	2.28″	0.11	0.75	0.50	12	9654K969	7.62
0.188″	0.020″	1.693″	0.28	1.41	1.63	12	9654K971	7.62
0.188″	0.025″	1.353″	0.68	2.62	5.50	12	9654K972	7.62
0.25″	0.023″	1.789″	0.27	1.58	1.66	12	9654K973	7.62
0.25″	0.028″	1.445″	0.61	2.74	4.79	12	9654K974	7.62
0.25″	0.031″	1.327″	0.91	3.64	8.35	12	9654K975	7.62
1.187″ Overall Length								
0.234″	0.020″	1.695″	0.16	0.53	0.69	12	9654K311	7.75
1.5″ Overall Length								
0.141″	0.016″	2.68″	0.21	0.99	0.66	12	9654K11	8.48
0.156″	0.020″	2.31″	0.40	1.67	1.57	12	9654K14	8.48
0.188″	0.015″	4.39″	0.08	0.63	0.19	12	9654K17	8.48
0.188″	0.016″	3.87″	0.11	0.75	0.27	12	9654K815	8.73
0.188″	0.025″	2.15″	0.68	2.62	3.00	12	9654K818	8.73
0.219″	0.016″	4.85″	0.08	0.65	0.17	12	9654K412	8.47
0.219″	0.020″	3.29″	0.20	1.22	0.57	12	9654K31	8.48
0.219″	0.023″	2.7″	0.36	1.80	1.20	12	9654K416	8.73
0.25″	0.015″	6.28″	0.04	0.47	0.09	12	9654K511	8.73
0.25″	0.020″	3.86″	0.15	1.07	0.39	12	9654K514	8.73
0.25″	0.023″	3.12″	0.27	1.58	0.81	12	9654K517	8.74
0.281″	0.016″	6.72″	0.04	0.51	0.09	12	9654K47	8.73
0.281″	0.025″	3.12″	0.30	1.79	0.92	12	9654K51	8.73
0.313″	0.020″	5.05″	0.08	0.86	0.22	12	9654K614	8.73
0.313″	0.023″	3.99″	0.16	1.28	0.45	12	9654K617	8.73
0.313″	0.025″	3.49″	0.23	1.62	0.70	12	9654K711	8.73
0.344″	0.025″	3.86″	0.18	1.48	0.55	12	9654K716	8.73
0.344″	0.028″	3.2″	0.31	2.03	1.01	12	9654K912	8.73
1.875″ Overall Length								
0.156″	0.020″	2.945″	0.40	1.67	1.19	12	9654K811	8.97
0.188″	0.016″	5.075″	0.11	0.75	0.20	12	9654K816	8.73
0.188″	0.025″	2.745″	0.68	2.62	2.24	12	9654K819	8.73
0.219″	0.020″	4.305″	0.20	1.22	0.42	12	9654K32	8.74
0.219″	0.023″	3.515″	0.36	1.80	0.88	12	9654K417	8.73
0.25″	0.015″	9.045″	0.04	0.47	0.06	12	9654K512	8.73
0.25″	0.020″	3.025″	0.15	1.07	0.80	12	9654K515	8.73
0.25″	0.023″	4.095″	0.27	1.58	0.59	12	9654K518	8.73

Spring OD	Wire Dia.	Extended Lg.	Load, lbs. Min.	Load, lbs. Max.	Rate, lbs./inch	Pkg. Qty.		Pkg.
Unplated with Loop Ends								
1.875″ Overall Length (Cont.)								
0.281″	0.016″	9.705″	0.04	0.51	0.06	12	9654K48	$8.73
0.281″	0.025″	4.165″	0.30	1.79	0.65	12	9654K52	8.73
0.313″	0.020″	7.075″	0.08	0.86	0.15	12	9654K615	8.73
0.313″	0.023″	5.485″	0.16	1.28	0.31	12	9654K618	8.73
0.313″	0.025″	4.775″	0.23	1.62	0.48	12	9654K712	8.73
0.344″	0.025″	5.295″	0.18	1.48	0.38	12	9654K717	8.73
0.344″	0.028″	4.405″	0.31	2.03	0.68	12	9654K913	8.73
2.5″ Overall Length								
0.141″	0.016″	4.67″	0.21	0.99	0.36	12	9654K13	8.48
0.156″	0.020″	4.01″	0.40	1.67	0.84	12	9654K812	8.73
0.188″	0.015″	8″	0.08	0.63	0.10	12	9654K814	8.73
0.188″	0.025″	3.74″	0.68	2.62	1.57	12	9654K411	8.74
0.219″	0.023″	4.86″	0.36	1.80	0.61	12	9654K418	8.74
0.25″	0.015″	13.25″	0.04	0.47	0.04	12	9654K513	8.73
0.25″	0.020″	7.34″	0.15	1.07	0.19	12	9654K516	8.73
0.25″	0.023″	5.78″	0.27	1.58	0.40	12	9654K519	8.73
0.281″	0.016″	14.25″	0.04	0.51	0.04	12	9654K49	8.73
0.281″	0.025″	5.89″	0.30	1.79	0.44	12	9654K53	8.73
0.313″	0.020″	10.3″	0.08	0.86	0.10	12	9654K616	8.73
0.313″	0.023″	7.83″	0.16	1.28	0.21	12	9654K619	8.73
0.313″	0.025″	6.84″	0.23	1.62	0.32	12	9654K713	8.73
0.344″	0.025″	7.92″	0.18	1.48	0.24	12	9654K718	8.73
0.344″	0.028″	6.41″	0.31	2.00	0.44	12	9654K69	8.73
3.312″ Overall Length								
0.375″	0.041″	4.332″	1.49	3.25	1.76	6	9654K296	13.50
4″ Overall Length								
0.625″	0.113″	4.996″	24.02	92.42	68.40	1	9654K274	6.54
4.062″ Overall Length								
0.25″	0.028″	5.056″	0.50	1.15	0.65	6	1330K22	13.59
4.187″ Overall Length								
0.734″	0.063″	4.908″	1.55	2.75	1.66	3	9654K304	7.05
5.062″ Overall Length								
0.313″	0.041″	6.662″	1.05	3.91	1.81	3	9654K271	7.13
5.375″ Overall Length								
0.438″	0.063″	6.376″	4.59	10.30	5.71	3	9654K381	6.91
5.5″ Overall Length								
0.375″	0.054″	6.498″	3.65	7.71	4.06	3	9654K383	8.04
5.812″ Overall Length								
0.547″	0.080″	7.785″	4.00	24.00	10.00	3	9654K305	7.50
6.562″ Overall Length								
0.328″	0.035″	7.57″	0.80	1.31	0.51	6	1330K26	8.79
6.625″ Overall Length								
0.438″	0.048″	8.527″	2.11	4.20	1.10	6	1330K31	13.45
6.937″ Overall Length								
0.906″	0.092″	7.934″	5.00	8.14	3.14	1	9654K385	8.75
10″ Overall Length								
0.5″	0.062″	11″	4.79	6.50	1.71	3	9640K221	10.52
0.625″	0.072″	13″	3.40	8.80	1.80	3	9640K351	14.31
11″ Overall Length								
0.125″	0.025″	12.8″	1.38	3.72	1.30	5	9640K89	14.10
0.156″	0.016″	25.4″	0.17	0.89	0.05	1	9640K114	3.39
0.156″	0.020″	18.47″	0.40	1.67	0.17	1	9640K116	3.05
0.25″	0.013″	86″	0.02	0.32	0.00	1	9640K123	3.81
0.25″	0.018″	46″	0.09	0.79	0.02	1	9640K124	3.50
0.375″	0.025″	51.67″	0.14	1.36	0.03	1	9640K139	3.58
0.375″	0.031″	31.9″	0.39	2.48	0.10	1	9640K32	3.36
0.375″	0.037″	24″	0.82	4.07	0.25	1	9640K151	3.08
0.5″	0.031″	53.5″	0.18	1.88	0.04	1	9640K161	3.75
0.5″	0.037″	37.7″	0.42	3.09	0.10	1	9640K172	3.39
0.625″	0.037″	56.2″	0.23	2.49	0.05	1	9640K182	3.69
Unplated with Hook Ends								
1.5″ Overall Length								
0.344″	0.048″	1.914″	2.42	8.54	16.10	12	9654K286	7.55
1.812″ Overall Length								
0.5″	0.080″	2.035″	8.04	26.10	72.25	6	9654K394	12.02
2.812″ Overall Length								
0.75″	0.080″	3.816″	4.00	14.30	10.30	6	9654K303	7.72

(Continued on following page)

Steel Music Wire Extension Springs *(Continued from previous page)*

Spring OD	Wire Dia.	Extended Lg.	Load, lbs. Min.	Load, lbs. Max.	Rate, lbs./inch	Pkg. Qty.		Pkg.
Unplated with Hook Ends								
4.062″ Overall Length								
0.688″	0.105″	4.585″	15.00	31.00	32.00	3	9654K323	$9.02
4.25″ Overall Length								
0.719″	0.105″	5.42″	10.31	44.30	28.09	3	9654K302	9.17
4.625″ Overall Length								
0.484″	0.063″	6.626″	4.28	14.00	4.86	6	9654K298	13.53
5.687″ Overall Length								
0.563″	0.080″	6.66″	7.82	16.82	9.00	3	9654K278	10.86
6″ Overall Length								
0.734″	0.062″	8.004″	1.50	3.32	0.91	1	9654K276	6.93
6.25″ Overall Length								
0.875″	0.120″	7.24″	17.24	35.00	17.76	3	9654K334	12.54
8″ Overall Length								
1.25″	0.207″	9.039″	75.04	162.70	87.66	1	9654K391	9.18
8.25″ Overall Length								
1.063″	0.135″	9.27″	17.80	30.00	12.20	1	9654K338	7.09
8.75″ Overall Length								
1″	0.105″	10.71″	8.95	16.75	3.90	1	9654K293	5.14
10″ Overall Length								
0.813″	0.072″	11.98″	4.11	5.60	0.75	1	9640K341	5.09
0.875″	0.092″	13″	5.01	11.46	2.15	1	9640K281	6.93
Unplated with Hook Ends (Cont.)								
14″ Overall Length								
1.375″	0.177″	15″	12.00	27.00	15.00	1	9640K421	$19.86
16″ Overall Length								
1.563″	0.207″	18.1″	44.99	78.72	16.06	1	9640K55	26.20
Zinc Plated with Loop Ends								
3″ Overall Length								
0.25″	0.028″	5.34″	0.61	2.74	0.91	6	9654K261	10.28
0.313″	0.028″	7″	0.38	2.22	0.46	6	9654K714	9.47
3.25″ Overall Length								
0.25″	0.025″	6.83″	0.39	2.00	0.45	6	9654K611	10.50
4.5″ Overall Length								
0.344″	0.025″	15.33″	0.18	1.48	0.12	6	9654K719	10.17
0.375″	0.028″	14.56″	0.25	1.86	0.16	6	9654K915	10.29
0.375″	0.031″	12.24″	0.39	2.48	0.27	6	9654K257	10.80
0.438″	0.028″	19″	0.16	1.61	0.10	6	9654K918	10.66
5″ Overall Length								
0.219″	0.023″	10.33″	0.36	1.80	0.27	6	9654K419	11.12
0.25″	0.031″	8.1″	0.91	3.64	0.88	6	9654K264	11.14
0.313″	0.031″	10.51″	0.58	2.95	0.43	6	9654K715	11.81
6″ Overall Length								
0.25″	0.028″	11.2″	0.61	2.74	0.41	6	9654K234	11.97

Spring-Tempered Steel Wire Extension Springs



With Loop Ends



With Hook Ends

Spring OD	Wire Dia.	Extended Lg.	Load, lbs. Min.	Load, lbs. Max.	Rate, lbs./inch	Pkg. Qty.		Pkg.
Unplated with Loop Ends								
3.125″ Overall Length								
0.313″	0.047″	4.825″	2.84	14.94	7.11	6	9654K321	$10.47
3.75″ Overall Length								
0.375″	0.041″	8.8″	1.15	8.68	1.49	6	9654K322	10.47
4.125″ Overall Length								
0.563″	0.080″	6.255″	7.41	37.61	14.21	6	9654K324	12.14
5″ Overall Length								
0.5″	0.054″	11.13″	1.95	14.21	2.00	6	9654K325	10.47
0.5″	0.072″	7.82″	6.15	31.37	8.95	6	9654K326	11.30
5.25″ Overall Length								
0.625″	0.080″	9.12″	6.04	34.17	7.27	6	9654K327	12.70
5.375″ Overall Length								
0.688″	0.091″	8.705″	8.35	44.60	10.88	6	9654K331	12.70
5.625″ Overall Length								
0.563″	0.063″	12.125″	2.86	19.50	2.56	6	9654K332	12.14
6.5″ Overall Length								
0.75″	0.091″	11.86″	7.03	41.17	6.37	3	9654K335	6.84
0.75″	0.120″	8.8″	20.80	87.75	29.07	3	9654K336	6.84
7.75″ Overall Length								
0.875″	0.105″	14.27″	9.16	52.94	6.71	3	9654K337	7.33
10″ Overall Length								
1.125″	0.148″	12.28″	23.24	53.78	13.41	1	9640K53	7.45
11″ Overall Length								
0.313″	0.041″	15.2″	1.78	5.18	0.81	1	9640K72	2.91
0.375″	0.047″	15.61″	2.14	6.38	0.92	1	9640K213	3.12
0.438″	0.047″	18.18″	1.58	5.53	0.55	1	9640K62	3.25
0.5″	0.047″	21.22″	1.19	4.87	0.36	1	9640K232	3.25
0.5″	0.054″	17.92″	2.11	7.16	0.73	1	9640K58	3.69
0.5″	0.062″	15.44″	3.65	10.48	1.54	1	9640K242	3.70
0.625″	0.047″	28.94″	0.70	3.93	0.18	1	9640K233	3.72
0.625″	0.072″	16.21″	4.26	12.86	1.65	1	9640K56	4.44
0.75″	0.047″	39.7″	0.43	3.30	0.10	1	9640K22	4.46
0.75″	0.062″	24.68″	1.54	7.15	0.41	1	9640K18	4.75
0.75″	0.080″	17.24″	4.51	14.50	1.60	1	9640K15	5.11
0.75″	0.091″	15.11″	7.54	20.68	3.20	1	9640K13	5.22
1″	0.062″	38.59″	0.73	5.42	0.17	1	9640K243	5.28
1″	0.080″	24.52″	2.38	11.03	0.64	1	9640K14	5.61
1″	0.091″	20.16″	4.15	15.78	1.27	1	9640K12	5.91
1″	0.105″	16.85″	7.52	23.43	2.72	1	9640K11	6.22
12″ Overall Length								
1.25″	0.162″	14.83″	27.07	62.45	12.50	1	9640K52	9.67
1.5″	0.135″	20.71″	8.92	31.92	2.64	1	9640K244	10.17
Zinc Plated with Loop Ends								
1″ Overall Length								
0.188″	0.023″	1.55″	0.51	2.30	3.25	12	9654K101	6.83
0.25″	0.029″	1.5″	0.67	3.28	5.21	12	9654K108	9.00
0.313″	0.029″	1.73″	0.42	2.62	3.02	12	9654K116	9.16
0.313″	0.035″	1.43″	0.96	4.65	8.61	12	9654K346	9.16
1.25″ Overall Length								
0.188″	0.023″	1.99″	0.51	2.33	2.47	12	9654K102	7.19
0.25″	0.029″	2.06″	0.67	3.31	3.27	12	9654K109	9.26
Zinc Plated with Loop Ends (Cont.)								
1.25″ Overall Length (Cont.)								
0.313″	0.029″	2.4″	0.42	2.62	1.92	12	9654K117	$9.58
0.313″	0.035″	1.94″	0.96	4.61	5.29	12	9654K125	9.58
0.375″	0.035″	2.07″	0.64	3.79	3.83	12	9654K188	11.60
1.5″ Overall Length								
0.188″	0.023″	2.51″	0.51	2.43	1.90	12	9654K103	7.72
0.25″	0.029″	2.54″	0.67	3.37	2.60	12	9654K111	9.26
0.313″	0.029″	3.12″	0.42	2.62	1.36	12	9654K118	10.00
0.313″	0.035″	2.45″	0.96	4.67	3.91	12	9654K126	10.00
0.375″	0.035″	2.85″	0.64	3.76	2.33	12	9654K355	10.00
0.375″	0.048″	2.07″	2.38	9.59	12.62	3	9654K197	2.97
1.75″ Overall Length								
0.188″	0.023″	2.91″	0.51	2.33	1.57	12	9654K104	8.25
0.25″	0.029″	3.08″	0.67	3.35	2.01	12	9654K318	9.16
0.313″	0.029″	3.69″	0.42	2.61	1.13	12	9654K119	10.44
0.313″	0.035″	2.98″	0.96	4.64	3.00	12	9654K127	10.44
0.375″	0.035″	3.44″	0.64	3.80	1.87	12	9654K191	10.44
0.375″	0.048″	2.49″	2.38	9.54	9.69	3	9654K198	3.08
2″ Overall Length								
0.188″	0.023″	3.35″	0.51	2.34	1.36	12	9654K105	8.64
0.25″	0.029″	3.64″	0.67	3.35	1.64	12	9654K113	9.16
0.313″	0.029″	4.49″	0.42	2.61	0.88	12	9654K343	10.92
0.313″	0.035″	3.49″	0.96	4.65	2.47	6	9654K185	5.81
0.375″	0.035″	4.2″	0.64	3.81	1.45	12	9654K357	10.92
0.375″	0.048″	2.89″	2.38	9.53	8.01	3	9654K365	3.25
2.25″ Overall Length								
0.188″	0.023″	3.96″	0.51	2.41	1.11	12	9654K106	9.00
0.25″	0.029″	4.1″	0.67	3.37	1.45	12	9654K114	9.16
0.313″	0.029″	5.16″	0.42	2.62	0.75	12	9654K122	11.44
0.313″	0.035″	3.97″	0.96	4.57	2.15	12	9654K186	10.85
0.375″	0.035″	4.79″	0.64	3.80	1.25	3	9654K193	3.36
0.375″	0.048″	3.4″	2.38	9.53	6.22	3	9654K211	3.36
2.313″ Overall Length								
0.25″	0.035″	5.413″	1.46	4.11	4.28	6	9654K612	8.97
2.5″ Overall Length								
0.188″	0.023″	4.43″	0.51	2.39	0.97	12	9654K107	9.21
0.25″	0.029″	4.63″	0.67	3.36	1.27	12	9654K115	10.28
0.313″	0.029″	5.92″	0.42	2.61	0.64	12	9654K123	11.78
0.313″	0.035″	4.53″	0.96	4.67	1.83	12	9654K187	11.15
0.375″	0.035″	5.52″	0.64	3.81	1.05	3	9654K194	3.28
0.375″	0.048″	3.78″	2.38	9.53	5.58	6	9654K212	6.28
0.438″	0.048″	4.2″	1.62	8.00	3.75	6	9654K215	6.94
2.75″ Overall Length								
0.344″	0.035″	4.54″	0.79	3.06	1.27	6	9654K914	8.42
0.375″	0.035″	6.06″	0.64	3.81	0.96	3	9654K195	3.67
0.375″	0.048″	4.19″	2.38	9.53	4.96	6	9654K213	6.58
0.438″	0.035″	5.88″	0.46	2.43	0.63	6	9654K919	10.53
0.438″	0.048″	4.82″	1.62	8.03	3.10	6	9654K372	7.22
3″ Overall Length								
0.375″	0.035″	6.84″	0.64	3.80	0.82	3	9654K196	3.86
0.375″	0.048″	4.65″	2.38	9.53	4.34	6	9654K369	6.75

(Continued on following page)

Spring-Tempered Steel Wire Extension Springs *(Continued from previous page)*

Spring OD	Wire Dia.	Extended Lg.	Load, lbs. Min.	Load, lbs. Max.	Rate, lbs./inch	Pkg. Qty.		Pkg.
Zinc Plated with Loop Ends (Cont.)								
3″ Overall Length (Cont.)								
0.438″	0.048″	5.27″	1.62	8.01	2.81	6	9654K373	$7.56
3.25″ Overall Length								
0.438″	0.048″	5.88″	1.62	8.02	2.43	6	9654K374	8.19
0.563″	0.091″	3.63″	12.73	26.81	36.86	6	9628K8	14.28
3.5″ Overall Length								
0.438″	0.048″	6.39″	1.62	8.02	2.21	6	9654K375	8.28
0.531″	0.091″	3.85″	14.08	28.21	40.31	6	9628K39	15.00
0.75″	0.062″	6.71″	1.54	7.15	1.75	6	9654K227	10.98
0.875″	0.091″	4.89″	5.54	17.90	8.88	6	9654K226	13.97
3.75″ Overall Length								
0.375″	0.041″	5.81″	1.26	4.37	1.51	6	9654K236	9.91
0.438″	0.048″	6.85″	1.62	8.02	2.06	6	9654K376	8.64
4″ Overall Length								
0.125″	0.016″	7.61″	0.26	1.28	0.28	6	9654K423	6.92
0.156″	0.020″	7.21″	0.44	2.03	0.49	6	9654K172	7.32
0.188″	0.023″	7.07″	0.57	2.53	0.64	6	9654K171	7.43
0.25″	0.032″	6.73″	1.06	4.56	1.28	6	9654K207	4.33
0.281″	0.035″	6.9″	1.18	5.29	1.42	6	9654K395	8.25
0.313″	0.041″	5.35″	1.78	5.18	2.51	6	9654K254	10.22
0.328″	0.041″	6.66″	1.64	7.16	2.08	6	9654K165	8.94
0.375″	0.035″	7.62″	0.65	2.82	0.60	6	9654K916	10.28
0.375″	0.048″	8.1″	2.22	12.55	2.93	6	9654K164	9.67
0.438″	0.048″	7.41″	1.62	8.01	1.87	6	9654K94	9.69
0.438″	0.054″	6.34″	3.04	12.00	3.83	6	9654K163	10.33
0.5″	0.063″	6.15″	3.84	15.58	5.46	3	9654K162	5.74
0.563″	0.047″	8.05″	0.91	4.35	0.85	6	9654K239	10.95
0.578″	0.072″	5.99″	5.05	20.10	7.56	3	9654K161	6.29
0.813″	0.120″	4.54″	18.89	40.90	40.55	1	9628K59	3.05
4.5″ Overall Length								
0.375″	0.047″	6.18″	2.14	6.38	2.52	6	9654K917	10.00
0.406″	0.035″	9.68″	0.54	2.61	0.40	6	9654K76	9.62
0.438″	0.041″	8.34″	0.90	3.78	0.75	6	9654K256	10.97
0.469″	0.041″	9.04″	0.77	3.54	0.61	6	9654K921	11.08
0.5″	0.062″	6.11″	3.65	10.48	4.25	6	9654K241	12.13
0.75″	0.062″	9.1″	1.54	7.15	1.22	6	9654K923	13.53
4.75″ Overall Length								
0.688″	0.091″	5.91″	8.87	22.39	11.62	6	9654K242	13.62
5″ Overall Length								
0.313″	0.035″	7.91″	0.96	3.35	0.82	6	9654K84	11.31
0.5″	0.072″	6.1″	6.49	15.79	8.49	6	9654K243	9.52
0.563″	0.072″	6.56″	5.22	14.17	5.75	6	9654K244	12.38
0.688″	0.072″	7.7″	3.51	11.76	3.05	6	9654K245	13.43
5.5″ Overall Length								
0.25″	0.041″	7.5″	2.12	8.32	3.10	3	9654K471	5.89
0.344″	0.048″	8.5″	2.79	11.00	2.73	3	9654K533	7.27
0.438″	0.063″	8″	4.70	18.00	5.29	3	9654K535	8.22
0.688″	0.080″	7.67″	5.36	15.72	4.78	6	9654K922	14.61
6″ Overall Length								
0.125″	0.016″	11.46″	0.26	1.28	0.19	6	9654K442	10.61
0.156″	0.020″	11.13″	0.44	2.03	0.31	6	9654K5	10.61
0.188″	0.023″	10.75″	0.57	2.54	0.42	6	9654K6	10.61
0.25″	0.032″	10.39″	1.06	4.54	0.79	3	9654K9	5.47
0.281″	0.035″	10.65″	1.18	5.29	0.88	6	9654K93	10.28
0.328″	0.041″	10.37″	1.64	7.16	1.26	6	9654K184	10.39
0.375″	0.041″	9.62″	1.26	4.37	0.86	6	9654K232	11.81
0.375″	0.048″	10.05″	2.22	9.42	1.78	6	9654K183	10.65
0.438″	0.054″	9.12″	3.04	11.99	2.50	6	9654K182	11.87
0.438″	0.062″	7.52″	4.69	11.86	4.73	6	9654K231	12.68
0.5″	0.063″	9.59″	3.84	15.58	3.27	3	9654K181	6.82
0.578″	0.072″	9.42″	5.05	20.08	4.40	3	9654K179	7.96
0.875″	0.091″	9.05″	5.54	17.90	4.05	1	9654K247	3.28
6.5″ Overall Length								
0.313″	0.035″	12.5″	0.79	4.60	0.62	3	9654K563	6.08
0.625″	0.080″	8.52″	6.45	17.18	5.31	1	9654K248	2.64
0.75″	0.091″	8.72″	7.54	20.68	5.93	1	9654K249	3.06
7″ Overall Length								
1.063″	0.105″	12.08″	6.63	22.13	3.05	1	9654K925	4.61
7.5″ Overall Length								
1″	0.105″	11.17″	7.52	23.43	4.34	1	9654K252	4.39
1.125″	0.091″	15.2″	3.16	14.10	1.42	1	9654K253	4.89
8″ Overall Length								
0.125″	0.016″	15.39″	0.26	1.28	0.14	3	9654K461	8.17
0.188″	0.023″	14.44″	0.57	2.54	0.31	3	9654K457	8.17
0.203″	0.026″	14.62″	0.65	2.91	0.34	3	9654K456	8.17
0.25″	0.032″	13.92″	1.06	4.56	0.59	3	9654K455	7.39
0.281″	0.035″	14.16″	1.18	5.28	0.67	3	9654K454	7.39
0.328″	0.041″	14.04″	1.64	7.16	0.91	3	9654K453	7.39
0.375″	0.048″	13.68″	2.22	9.38	1.26	3	9654K145	8.29
0.438″	0.054″	13.21″	3.04	11.99	1.72	3	9654K144	8.44
0.5″	0.063″	12.95″	3.84	15.52	2.36	3	9654K449	9.67
0.578″	0.072″	12.9″	5.05	20.08	3.07	3	9654K448	10.81
Zinc Plated with Loop Ends (Cont.)								
8.5″ Overall Length								
0.344″	0.048″	13.375″	2.64	10.88	1.69	3	9654K567	$8.22
0.438″	0.054″	12.06″	2.75	8.12	1.51	3	9654K262	9.50
0.813″	0.062″	22.92″	0.43	6.63	0.43	3	9654K924	10.97
9″ Overall Length								
0.172″	0.029″	12.5″	1.39	5.20	1.10	3	9654K569	5.89
10.5″ Overall Length								
0.359″	0.054″	17.5″	3.75	19.10	2.20	1	9640K145	4.20
Unplated with Hook Ends								
1.75″ Overall Length								
0.75″	0.105″	2.09″	12.80	50.00	108.52	6	1832K21	7.17
2″ Overall Length								
0.75″	0.105″	2.457″	12.80	50.00	81.39	6	1832K23	7.79
2.125″ Overall Length								
0.75″	0.105″	2.639″	12.80	50.00	72.35	6	1832K25	7.92
2.375″ Overall Length								
0.75″	0.105″	3.004″	12.80	50.00	59.19	6	1832K27	8.12
2.625″ Overall Length								
0.75″	0.105″	3.368″	12.80	50.00	50.08	6	1832K29	8.54
2.875″ Overall Length								
0.75″	0.105″	3.79″	12.80	50.00	40.69	6	1832K31	8.96
3″ Overall Length								
0.75″	0.105″	3.972″	12.80	50.00	38.30	6	1832K33	9.79
3.25″ Overall Length								
0.75″	0.105″	4.451″	12.80	50.00	31.00	6	1832K35	10.83
Zinc Plated with Hook Ends								
1.625″ Overall Length								
0.719″	0.106″	1.755″	11.49	31.02	125.69	6	9628K13	7.41
1.719″ Overall Length								
0.5″	0.080″	1.999″	12.84	21.38	72.25	6	9628K11	7.59
1.75″ Overall Length								
0.75″	0.105″	2.04″	12.80	44.30	108.52	6	9628K7★	7.00
1.875″ Overall Length								
0.531″	0.080″	2.085″	8.69	19.92	53.49	6	9628K31	10.73
2″ Overall Length								
0.75″	0.106″	2.18″	6.73	30.39	95.29	6	9628K54	5.73
2.25″ Overall Length								
0.75″	0.106″	2.52″	13.20	18.11	67.09	6	9628K52	6.04
2.438″ Overall Length								
0.75″	0.106″	3.03″	12.62	45.61	55.46	6	9628K56	6.64
2.5″ Overall Length								
0.688″	0.092″	3.32″	8.53	33.18	30.11	6	9628K14	9.97
2.625″ Overall Length								
0.75″	0.106″	3.255″	12.89	29.97	49.20	6	9628K58	6.90
2.75″ Overall Length								
0.688″	0.106″	3.32″	15.46	38.10	53.91	6	9628K12	9.62
2.875″ Overall Length								
0.75″	0.105″	3.305″	13.12	30.58	40.70	6	9628K33	11.96
3″ Overall Length								
0.75″	0.105″	3.822″	12.80	44.30	38.30	6	9628K29★	7.40
3.125″ Overall Length								
0.75″	0.105″	3.605″	13.12	30.58	36.18	6	9628K35	14.90
3.375″ Overall Length								
0.719″	0.121″	3.715″	25.00	49.02	75.91	6	9628K5	10.25
3.438″ Overall Length								
0.75″	0.105″	4.454″	12.80	44.30	31.00	6	9628K41★	8.75
3.75″ Overall Length								
0.75″	0.105″	4.39″	13.12	30.58	27.13	1	9628K42	2.92
3.813″ Overall Length								
0.75″	0.105″	4.975″	12.80	44.30	27.13	6	9628K45★	8.20
4″ Overall Length								
0.641″	0.080″	5.87″	6.29	24.46	9.72	3	9654K159	6.82
0.734″	0.092″	5.74″	8.72	31.18	12.90	3	9654K384	6.82
0.844″	0.106″	5.59″	11.62	40.77	18.34	3	9654K157	7.33
0.969″	0.121″	5.47″	15.14	51.86	25.00	3	9654K156	10.40
6″ Overall Length								
0.641″	0.080″	9.28″	6.29	24.45	5.54	3	9654K427	9.39
0.734″	0.092″	8.98″	8.72	31.09	7.52	3	9654K426	10.81
0.844″	0.106″	8.75″	11.62	40.69	10.57	3	9654K176	11.42
0.969″	0.121″	8.53″	15.14	51.57	14.43	1	9654K424	4.75
7″ Overall Length								
1.375″	0.207″	8.61″	60.00	178.44	73.56	1	9654K476	15.04
8″ Overall Length								
0.641″	0.080″	12.5″	6.29	24.45	4.04	3	9654K447	11.29
0.734″	0.092″	12.39″	8.72	31.38	5.16	3	9654K446	12.91
0.844″	0.106″	11.98″	11.62	40.68	7.31	1	9654K138	5.08
0.969″	0.121″	11.74″	15.14	51.56	9.76	1	9654K443	6.29
8.5″ Overall Length								
1″	0.106″	15.64″	7.73	33.42	3.60	1	9654K723	8.59
8.75″ Overall Length								
1.875″	0.243″	11.54″	64.46	204.00	50.01	1	9654K825	21.87
12″ Overall Length								
1″	0.106″	17″	7.73	20.23	2.50	1	9640K144	11.86

★ Springs are galvanized and meet ASTM A764.

Type 302 Stainless Steel Extension Springs


With Loop Ends


With Hook Ends

Spring OD	Wire Dia.	Extended Lg.	Load, lbs. Min.	Load, lbs. Max.	Rate, lbs./inch	Pkg. Qty.		Pkg.
With Loop Ends								
1″ Overall Length								
0.187″	0.023″	1.73″	0.51	2.57	2.82	6	94135K1	$6.76
0.25″	0.029″	1.63″	0.67	3.53	4.53	6	94135K2	6.57
0.312″	0.035″	1.53″	0.96	4.91	7.48	6	94135K51	11.97
1.125″ Overall Length								
0.234″	0.020″	1.587″	0.19	0.49	0.65	6	94135K72	10.57
1.25″ Overall Length								
0.187″	0.023″	1.99″	0.51	2.57	2.15	6	94135K54	9.49
0.25″	0.029″	2.26″	0.67	3.53	2.84	6	94135K3	6.92
0.312″	0.029″	2.66″	0.42	2.77	1.67	6	94135K4	6.92
0.312″	0.035″	2.08″	0.96	4.91	4.6	6	94135K5	6.92
0.375″	0.035″	2.26″	0.64	3.99	3.33	1	94135K53	2.69
1.5″ Overall Length								
0.25″	0.029″	2.77″	0.67	3.53	2.26	6	94135K6	6.92
0.312″	0.035″	2.68″	0.96	4.91	3.4	6	94135K55	12.41
0.375″	0.048″	2.2″	2.38	10.07	10.97	3	94135K7	4.59
1.75″ Overall Length								
0.25″	0.029″	3.39″	0.67	3.53	1.75	6	94135K8	7.14
0.312″	0.029″	4.14″	0.42	2.77	0.98	6	94135K9	6.92
0.312″	0.035″	3.27″	0.96	4.91	2.61	6	94135K11	7.30
0.375″	0.035″	3.81″	0.64	3.99	1.63	6	94135K12	8.97
0.375″	0.048″	2.68″	2.38	10.03	8.42	3	94135K13	4.65
2″ Overall Length								
0.375″	0.048″	3.1″	2.38	10.03	6.96	3	94135K14	4.84
2.25″ Overall Length								
0.375″	0.048″	3.69″	2.38	10.03	5.4	3	94135K15	5.03
2.5″ Overall Length								
0.187″	0.023″	4.94″	0.51	2.57	0.84	6	94135K16	7.14
0.312″	0.035″	4.98″	0.96	4.91	1.59	6	94135K17	9.75
0.375″	0.048″	4.09″	2.38	10.03	4.85	3	94135K18	5.25
0.437″	0.048″	4.61″	1.62	8.5	3.26	3	94135K19	5.81
2.75″ Overall Length								
0.375″	0.048″	4.54″	2.38	10.03	4.31	3	94135K21	5.32
0.437″	0.048″	5.3″	1.62	8.5	2.69	6	94135K22	11.68
3″ Overall Length								
0.375″	0.048″	5.05″	2.38	10.03	3.77	3	94135K23	5.97
0.437″	0.048″	5.81″	1.62	8.5	2.44	6	94135K24	12.50
3.25″ Overall Length								
0.437″	0.048″	6.5″	1.62	8.5	2.11	6	94135K25	12.41
3.5″ Overall Length								
0.437″	0.048″	7.07″	1.62	8.5	1.92	6	94135K26	12.94
0.75″	0.062″	6.506″	1.54	6.26	1.57	3	94135K57	13.41
4″ Overall Length								
0.437″	0.048″	8.22″	1.62	8.5	1.63	6	94135K28	13.49
0.5″	0.063″	6.71″	3.84	16.71	4.74	3	94135K29	12.13
0.58″	0.072″	6.52″	5.05	21.62	6.73	3	94135K31	11.79
6″ Overall Length								
0.38″	0.048″	10.05″	2.22	8.19	1.55	1	94135K59	4.95
0.43″	0.054″	9.12″	3.04	10.43	2.14	1	94135K61	5.24
0.5″	0.063″	10.52″	3.84	16.7	2.84	1	94135K36	6.35
0.58″	0.072″	10.34″	5.05	21.64	3.87	1	94135K37	6.76
8″ Overall Length								
0.5″	0.063″	15.23″	3.83	18.67	2.05	1	94135K43	7.84
With Loop Ends (Cont.)								
8″ Overall Length (Cont.)								
0.58″	0.072″	14.22″	5.05	21.64	2.73	1	94135K44	$8.43
11″ Overall Length								
0.125″	0.014″	20.6″	0.15	0.63	0.05	3	3932K42	13.14
0.187″	0.025″	16.81″	0.68	2.25	0.27	1	3932K41	5.29
0.25″	0.031″	17.76″	0.91	3.14	0.33	1	3932K15	5.54
0.375″	0.031″	30.56″	0.39	2.15	0.09	1	3932K16	5.93
0.375″	0.047″	16.9″	2.14	6.86	0.8	1	3932K47	5.05
0.5″	0.047″	26.9″	0.31	5.24	0.31	1	3932K52	5.88
0.5″	0.054″	22.22″	0.63	7.7	0.63	1	3932K53	6.13
0.5″	0.062″	18.4″	1.34	11.26	1.34	1	3932K54	5.91
0.625″	0.062″	21.64″	2.33	9.14	0.64	1	3932K59	10.29
0.625″	0.080″	15.69″	6.45	18.32	2.53	1	3932K31	10.16
0.75″	0.047″	50″	0.43	3.55	0.08	1	3932K55	7.68
0.75″	0.062″	28.06″	1.54	7.68	0.36	1	3932K26	9.00
0.75″	0.080″	18.88″	4.51	15.46	1.39	1	3932K27	8.84
0.75″	0.091″	16.17″	7.54	21.92	2.78	1	3932K28	10.01
1″	0.062″	44.93″	0.73	5.82	0.15	1	3932K62	11.36
1″	0.080″	27.75″	2.38	11.76	0.56	1	3932K33	11.63
1″	0.091″	22.44″	4.15	16.73	1.1	1	3932K34	13.00
1″	0.105″	18.22″	7.52	24.64	2.37	1	3932K35	15.40
With Hook Ends								
3.5″ Overall Length								
0.875″	0.091″	4.742″	5.52	15.57	8.09	1	94135K56	5.53
4″ Overall Length								
0.64″	0.080″	6.38″	6.29	26.4	8.45	3	94135K32	12.76
0.73″	0.092″	6.25″	8.72	33.97	10.99	1	94135K33	5.66
0.84″	0.106″	6.01″	11.62	43.65	15.69	1	94135K34	5.84
0.96″	0.121″	5.85″	15.14	55.32	21.41	1	94135K84	6.57
6″ Overall Length								
0.64″	0.080″	10.17″	6.29	26.38	4.81	1	94135K38	7.14
0.73″	0.092″	9.44″	8.72	33.97	6.47	1	94135K39	8.24
0.84″	0.106″	9.49″	11.62	43.69	9.05	1	94135K87	9.00
0.875″	0.120″	6.935″	8	23.04	16.09	1	94135K78	7.97
0.96″	0.121″	9.19″	15.14	55.23	12.37	1	94135K42	9.51
6.5″ Overall Length								
0.75″	0.091″	11.69″	7.03	35.8	5.54	1	94135K63	11.19
0.75″	0.120″	8.695″	20.8	76.3	25.28	1	94135K62	12.14
7″ Overall Length								
1.063″	0.105″	10.697″	6.65	19.22	3.4	1	94135K64	7.70
8″ Overall Length								
0.641″	0.080″	13.72″	6.29	26.38	3.51	1	94135K45	8.92
0.73″	0.092″	13.62″	8.72	33.94	4.44	1	94135K46	9.89
0.84″	0.106″	13.05″	11.62	43.71	6.25	1	94135K92	10.92
0.96″	0.121″	12.73″	15.14	55.24	8.36	1	94135K93	12.30
1.063″	0.135″	9.877″	11.04	33.04	11.72	1	94135K85	20.16
8.5″ Overall Length								
1″	0.105″	10.166″	8.88	14.61	3.44	1	94135K86	17.24
10″ Overall Length								
1.875″	0.148″	12.047″	23.28	46.78	11.48	1	94135K69	22.19
12″ Overall Length								
1.5″	0.135″	19.724″	8.97	27.74	2.43	1	94135K68	19.38

Extension Spring Anchor Studs


Standard


Swiveling



Attach an extension spring to a stud, and then thread the stud into your part for a secure connection. **Steel studs** have a black-oxide finish for mild rust resistance. **18-8 stainless steel studs** offer excellent corrosion resistance.

Swiveling Studs—Have a head that swivels 360° so the spring stays straight and properly coiled.

Thread Size	Lg.	O'all Lg.	Standard Studs: Hole Dia.	Steel		18-8 Stainless Steel		Swiveling Studs: Hole Dia.	Steel		18-8 Stainless Steel	
6-32	3/8″	5/8″	0.05″	9634K21	$2.93	95907A440	$5.80	0.08″	97745A550	$9.75	96376A110	$13.46
8-32	5/8″	7/8″	0.07″	9634K22	3.04	95907A460	6.04	0.1″	97745A660	11.51	96376A220	16.00
1/4″-20	7/8″	1 1/4″	0.1″	9634K23	3.22	95907A480	6.42	0.15″	97745A770	13.06	96376A330	18.23
1/4″-28	1″	1 1/4″	0.1″	9634K24	3.46	95907A490	6.76	—	—	—	—	—
3/8″-16	1 1/8″	1 5/8″	0.17″	9634K25	3.60	95907A510	8.26	0.22″	97745A880	13.65	96376A440	19.88
3/8″-24	1 1/4″	1 5/8″	0.17″	9634K26	3.78	95907A520	8.78	—	—	—	—	—

Custom Extension Springs

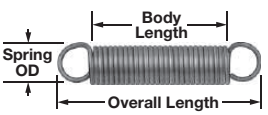


9533K21 Hook


9533K81 Loop


9533K41 Double Loop


9533K71 Side Loop

Whatever the size, we'll get the spring you need. Send us a description, drawing, or sample of the extension spring you require.

To Order: Please specify the following: 1) Part number for the spring end style; if you don't see your end style, use 9533K999. 2) Material: music wire, spring-tempered steel, stainless steel, or other material. 3) Finish: plain, zinc plated, or passivated (for stainless steel only). 4) Dimensions: overall length, body length, spring OD, and wire diameter.

Precision Extension Springs with Hook Ends

Springs are manufactured to specific OD, extended length, minimum load, and rate tolerances.

Zinc-Plated Steel Music Wire Springs—Meet ASTM B633 and offer some corrosion resistance.

Black-Oxide Steel Music Wire Springs—Are treated for durability and rust resistance.

Type 302 Stainless Steel Springs—Meet ASTM A313 and offer excellent corrosion resistance.

Also Available: Springs with a certificate of compliance. Please ask for 9432K999 for steel music wire springs or 9433K999 for Type 302 stainless steel springs and specify the spring part number.

Specification	Tolerance
OD: 0.094″ to 0.188″	+0.003″/–0.005″
OD: 0.25″ to 0.5″	±0.008″
OD: 0.625″ to 0.75″	±0.015″
Minimum Load	±15%
Rate, lbs./inch	±10%



Spring OD	Wire Dia.	Extended Lg.	Load, lbs. Min.	Load, lbs. Max.	Rate, lbs./inch	Pkg. Qty.		Pkg.
Zinc-Plated Steel Music Wire								
0.625″ Length Inside Ends								
0.094″	0.012″	1.335″	0.10	1.16	1.50	6	9432K21	$10.85
1″ Length Inside Ends								
0.125″	0.016″	2.18″	0.20	1.96	1.50	6	9432K23	11.08
0.188″	0.022″	2.2″	0.30	3.29	2.50	6	9432K26	6.56
0.25″	0.026″	2.27″	0.40	3.99	2.80	6	9432K28	10.00
0.25″	0.037″	1.55″	1.00	10.68	17.70	6	9432K35	10.00
0.375″	0.041″	1.69″	0.90	9.71	12.70	6	9432K44	10.55
0.375″	0.045″	1.56″	1.20	12.53	20.20	6	9432K54	10.00
1.25″ Length Inside Ends								
0.375″	0.055″	1.82″	2.00	21.82	34.80	6	9432K62	10.00
1.375″ Length Inside Ends								
0.25″	0.026″	3.475″	0.40	3.99	1.70	6	9432K29	11.08
0.5″	0.063″	2.095″	2.00	24.42	31.40	6	9432K75	7.58
1.5″ Length Inside Ends								
0.25″	0.031″	3.04″	0.70	6.54	3.80	6	9432K32	10.00
0.375″	0.031″	4.69″	0.30	4.47	1.30	6	9432K42	11.08
0.375″	0.037″	3.58″	0.70	7.32	3.20	6	9432K43	10.00
1.75″ Length Inside Ends								
0.25″	0.037″	2.95″	1.00	10.66	8.00	6	9432K36	11.08
0.375″	0.041″	3.85″	0.90	9.73	4.20	6	9432K48	11.08
0.5″	0.041″	5.05″	0.50	7.41	2.10	6	9432K65	10.00
2″ Length Inside Ends								
0.125″	0.020″	3.42″	0.40	3.66	2.30	6	9432K24	11.08
0.188″	0.022″	4.97″	0.30	3.28	1.00	6	9432K27	11.08
0.25″	0.026″	5.5″	0.40	3.99	1.00	6	9432K31	10.55
0.625″	0.069″	3.68″	2.00	25.71	14.10	3	9432K118	4.00
0.75″	0.075″	3.56″	2.00	27.26	16.20	3	9432K123	7.34
2.25″ Length Inside Ends								
0.375″	0.055″	3.68″	2.00	21.92	13.90	6	9432K63	10.00
0.5″	0.055″	4.79″	1.30	16.80	6.10	6	9432K71	9.08
2.5″ Length Inside Ends								
0.25″	0.031″	5.47″	0.70	6.54	2.00	6	9432K51	11.08
0.375″	0.041″	6.04″	0.90	9.73	2.50	6	9432K49	10.55
0.5″	0.045″	7.44″	0.70	9.59	1.80	6	9432K69	10.00
0.5″	0.063″	4.6″	2.00	24.45	10.70	6	9432K91	7.58
3″ Length Inside Ends								
0.25″	0.037″	5.37″	1.00	10.70	4.10	6	9432K37	11.08
0.375″	0.045″	6.55″	1.20	12.57	3.20	6	9432K55	10.00
0.625″	0.063″	7.27″	1.50	19.86	4.30	3	9432K119	6.03
0.625″	0.069″	6.32″	2.00	25.64	7.10	3	9432K121	6.03
0.75″	0.075″	6.78″	2.00	27.33	6.70	3	9432K124	7.18
4.5″ Length Inside Ends								
0.375″	0.055″	8.13″	2.00	21.90	5.90	6	9432K64	11.08
0.5″	0.055″	11.23″	1.30	16.80	2.30	6	9432K73	14.36
0.625″	0.069″	10.41″	2.00	25.66	4.00	3	9432K122	9.00
5″ Length Inside Ends								
0.5″	0.063″	10.23″	2.00	24.47	4.30	6	9432K76	14.36
0.75″	0.075″	13.18″	2.00	27.31	3.10	3	9432K125	10.00
Black-Oxide Steel Music Wire								
0.625″ Length Inside Ends								
0.094″	0.012″	1.255″	0.13	1.02	1.44	6	3114T25	10.85
1″ Length Inside Ends								
0.125″	0.016″	2″	0.22	1.74	1.47	6	3114T3	11.89
0.188″	0.022″	2″	0.50	2.88	2.38	6	3114T39	6.56
0.25″	0.026″	2″	0.40	3.41	2.66	6	3114T45	10.00
0.25″	0.037″	1.5″	1.06	9.41	16.89	6	3114T57	10.00
0.375″	0.041″	1.5″	1.00	8.35	12.11	6	3114T66	10.55
0.375″	0.045″	1.5″	0.92	10.99	19.30	6	3114T72	10.00
1.25″ Length Inside Ends								
0.375″	0.055″	1.75″	3.20	19.29	33.45	6	3114T78	10.00
1.375″ Length Inside Ends								
0.25″	0.026″	3.005″	0.40	3.41	1.65	6	3114T46	11.08
0.5″	0.060″	2.005″	3.00	18.63	24.30	6	3114T9	7.58
1.5″ Length Inside Ends								
0.25″	0.031″	3.5″	0.77	5.72	3.61	6	3114T52	10.00
0.375″	0.031″	4″	0.42	3.68	1.21	6	3114T56	11.89
0.375″	0.037″	3.5″	0.59	6.17	3.03	6	3114T61	10.00
1.75″ Length Inside Ends								
0.25″	0.037″	3″	1.36	9.41	7.60	6	3114T58	11.89
0.375″	0.041″	3.5″	0.80	8.35	4.04	6	3114T67	11.89
0.5″	0.041″	4.75″	0.40	6.08	2.10	6	3114T7	10.00

Spring OD	Wire Dia.	Extended Lg.	Load, lbs. Min.	Load, lbs. Max.	Rate, lbs./inch	Pkg. Qty.		Pkg.
Black-Oxide Steel Music Wire (Cont.)								
2″ Length Inside Ends								
0.25″	0.026″	5″	0.46	3.41	0.97	6	3114T47	$10.55
0.625″	0.069″	3.5″	2.80	21.90	13.79	3	3114T99	4.00
0.75″	0.075″	3.5″	2.50	22.87	15.41	3	3114T113	7.50
2.25″ Length Inside Ends								
0.375″	0.055″	3.5″	3.92	19.31	13.38	6	3114T79	10.00
0.5″	0.055″	4.5″	1.27	14.41	5.85	6	3114T82	9.08
2.5″ Length Inside Ends								
0.375″	0.041″	6″	1.19	8.35	2.40	6	3114T68	10.55
0.5″	0.045″	5.5″	0.73	7.99	1.74	6	3114T77	10.00
0.5″	0.063″	4.5″	2.70	21.38	10.24	6	3114T91	7.58
3″ Length Inside Ends								
0.25″	0.037″	5″	1.16	9.41	3.95	6	3114T59	11.89
0.375″	0.045″	6″	1.10	11.00	3.10	6	3114T74	10.00
0.625″	0.063″	6.5″	2.00	16.74	4.18	3	3114T94	6.03
0.625″	0.069″	6″	3.70	21.93	6.77	3	3114T111	6.27
0.75″	0.075″	6″	2.50	22.87	6.16	3	3114T114	8.73
4.5″ Length Inside Ends								
0.625″	0.069″	9″	2.80	21.91	3.79	3	3114T112	9.23
5″ Length Inside Ends								
0.5″	0.063″	9″	3.00	21.36	4.08	6	3114T92	14.36
0.75″	0.075″	11″	2.60	22.85	2.98	3	3114T115	10.64
Type 302 Stainless Steel								
0.625″ Length Inside Ends								
0.094″	0.012″	1.135″	0.09	0.76	1.30	3	9433K24	7.16
1″ Length Inside Ends								
0.125″	0.016″	1.87″	0.17	1.31	1.30	3	9433K29	4.29
0.188″	0.022″	1.89″	0.26	2.19	2.17	3	9433K38	4.77
0.25″	0.026″	1.94″	0.35	2.66	2.43	3	9433K44	4.29
0.25″	0.037″	1.4″	0.87	7.02	15.39	3	9433K56	4.29
0.375″	0.041″	1.51″	0.78	6.47	11.04	3	9433K68	4.29
0.375″	0.045″	1.42″	1.04	8.34	17.57	3	9433K74	4.77
1.25″ Length Inside Ends								
0.375″	0.055″	1.68″	1.74	14.74	30.26	3	9433K36	7.26
1.375″ Length Inside Ends								
0.25″	0.026″	2.925″	0.35	2.66	1.48	3	9433K45	4.77
0.5″	0.063″	1.905″	1.74	16.44	27.30	3	9433K43	5.87
1.5″ Length Inside Ends								
0.25″	0.031″	2.6″	0.61	4.31	3.30	3	9433K28	4.29
0.375″	0.031″	3.88″	0.26	2.95	1.13	3	9433K64	4.77
0.375″	0.037″	3.03″	0.61	4.83	2.78	3	9433K6	4.77
1.75″ Length Inside Ends								
0.25″	0.037″	2.64″	0.87	7.03	6.96	3	9433K57	4.29
0.375″	0.041″	3.3″	0.78	6.46	3.65	3	9433K66	4.29
0.5″	0.041″	4.22″	0.43	4.92	1.83	3	9433K751	7.00
2″ Length Inside Ends								
0.125″	0.020″	3.04″	0.35	2.43	2.00	3	9433K37	4.77
0.188″	0.022″	4.21″	0.26	2.19	0.87	3	9433K4	4.29
0.25″	0.026″	4.66″	0.35	2.67	0.87	3	9433K46	4.77
0.625″	0.069″	3.26″	1.74	17.16	12.26	3	9433K49	9.29
0.75″	0.075″	3.19″	1.74	18.48	14.09	3	9433K54	9.69
2.25″ Length Inside Ends								
0.375″	0.055″	3.3″	1.74	14.79	12.09	3	9433K39	7.26
0.5″	0.055″	4.17″	1.13	11.31	5.30	3	9433K81	6.48
2.5″ Length Inside Ends								
0.25″	0.031″	4.64″	0.61	4.32	1.74	3	9433K31	4.77
0.375″	0.041″	5.11″	0.78	6.46	2.17	3	9433K72	4.29
0.5″	0.045″	6.17″	0.61	6.36	1.57	3	9433K76	6.29
0.5″	0.063″	4.08″	1.74	16.44	9.30	3	9433K47	6.87
3″ Length Inside Ends								
0.25″	0.037″	4.73″	0.87	7.03	3.57	3	9433K33	4.29
0.375″	0.045″	5.62″	1.04	8.33	2.78	3	9433K73	4.29
0.625″	0.063″	6.36″	1.30	13.87	3.74	3	9433K93	9.29
0.625″	0.069″	5.49″	1.74	17.16	6.17	3	9433K99	9.29
0.75″	0.075″	5.87″	1.74	18.48	5.83	3	9433K113	9.90
4.5″ Length Inside Ends								
0.375″	0.055″	7.03″	1.74	14.73	5.13	3	9433K79	7.95
0.5″	0.055″	9.58″	1.13	11.31	2.00	3	9433K82	8.76
0.625″	0.069″	8.94″	1.74	17.17	3.48	3	9433K111	12.39
5″ Length Inside Ends								
0.5″	0.063″	8.94″	1.74	16.44	3.74	3	9433K91	11.50
0.75″	0.075″	11.22″	1.74	18.48	2.70	3	9433K114	9.99

Ultra-Precision Extension Springs with Loop Ends



When extremely tight OD and rate tolerances are critical, these are the springs to choose. All offer outstanding wear resistance, which makes them perfect for applications in motion.

Type 302 Stainless Steel Springs—Offer excellent corrosion resistance.

Also Available: Springs with a certificate of compliance. Please ask for 9044K999 for steel music wire springs or 9065K999 for Type 302 stainless steel springs and specify the spring part number.

Specification	Tolerance
OD: 0.180″	±0.002″
OD: 0.181″ to 0.240″	±0.003″
OD: 0.241″ to 0.500″	±0.004″
Rate, lbs./inch	±5%

			Steel Music Wire					Type 302 Stainless Steel				
Spring OD	Wire Dia.	Extended Lg.	Load, lbs. Min.	Load, lbs. Max.	Rate, lbs./inch		Pkg. of 3	Load, lbs. Min.	Load, lbs. Max.	Rate, lbs./inch		Pkg. of 3
0.5″ Length Inside Ends												
0.180″	0.022″	0.73″	0.20	2.60	10.50	9044K31	$8.18	0.17	2.26	9.12	9065K413	$10.12
0.62″ Length Inside Ends												
0.180″	0.018″	1.255″	0.14	1.55	2.20	9044K11	8.18	0.12	1.35	1.91	9065K11	10.12
0.180″	0.022″	1.015″	0.20	2.60	6.30	9044K33	8.18	0.17	2.26	5.47	9065K33	10.12
0.180″	0.029″	0.825″	0.52	5.82	26.50	9044K53	8.18	0.45	5.06	23.03	9065K53	10.12
0.240″	0.018″	1.285″	0.11	1.18	1.60	9044K176	8.18	0.10	1.03	1.39	9065K176	10.12
0.240″	0.029″	0.875″	0.40	4.50	16.50	9044K111	8.18	0.35	3.91	14.34	9065K111	10.12
0.240″	0.037″	0.775″	0.80	8.70	54.70	9044K139	8.18	0.70	7.56	47.53	9065K415	10.12
0.75″ Length Inside Ends												
0.180″	0.018″	1.66″	0.14	1.55	1.50	9044K104	8.18	0.12	1.35	1.30	9065K13	10.12
0.180″	0.022″	1.31″	0.20	2.60	4.40	9044K128	8.18	0.17	2.26	3.82	9065K35	10.12
0.180″	0.029″	1.03″	0.52	5.82	18.90	9044K55	8.18	0.45	5.06	16.42	9065K55	10.12
0.240″	0.018″	1.96″	0.11	1.18	0.90	9044K178	8.18	0.10	1.03	0.78	9065K178	10.12
0.240″	0.022″	1.53″	0.19	2.07	2.40	9044K194	8.18	0.17	1.80	2.09	9065K194	10.12
0.240″	0.029″	1.17″	0.40	4.50	9.80	9044K113	8.18	0.35	3.91	8.52	9065K113	10.12
0.300″	0.037″	1.01″	0.65	7.20	25.40	9044K171	8.18	0.56	6.26	22.07	9065K171	10.12
0.360″	0.045″	0.87″	0.90	10.20	76.50	9044K243	8.18	0.78	8.86	66.48	9065K243	10.12
0.88″ Length Inside Ends												
0.180″	0.018″	2.075″	0.14	1.55	1.20	9044K15	8.18	0.12	1.35	1.04	9065K15	10.12
0.180″	0.029″	1.235″	0.52	5.82	14.70	9044K57	8.18	0.45	5.06	12.77	9065K57	10.12
0.240″	0.018″	2.675″	0.11	1.18	0.60	9044K81	8.18	0.10	1.03	0.52	9065K81	10.12
0.240″	0.029″	1.465″	0.40	4.50	7.00	9044K115	8.18	0.35	3.91	6.08	9065K115	10.12
1″ Length Inside Ends												
0.180″	0.018″	2.46″	0.14	1.55	1.00	9044K17	8.18	0.12	1.35	0.87	9065K17	10.12
0.180″	0.022″	1.86″	0.20	2.60	2.80	9044K42	8.18	0.17	2.26	2.43	9065K39	10.12
0.180″	0.029″	1.43″	0.52	5.82	12.20	9044K59	8.18	0.45	5.06	10.60	9065K59	10.12
0.240″	0.029″	1.74″	0.40	4.50	5.50	9044K117	8.18	0.35	3.91	4.78	9065K117	10.12
0.360″	0.045″	1.43″	0.90	10.20	21.80	9044K245	8.18	0.78	8.86	18.94	9065K245	10.12
1.12″ Length Inside Ends												
0.180″	0.018″	2.855″	0.14	1.55	0.80	9044K19	8.18	0.12	1.35	0.70	9065K19	10.12
0.240″	0.037″	1.615″	0.80	8.70	16.40	9044K145	8.18	0.70	7.56	14.25	9065K145	10.12
0.300″	0.037″	1.825″	0.65	7.20	9.40	9044K102	10.17	0.56	6.26	8.17	9065K102	12.70
1.25″ Length Inside Ends												
0.240″	0.018″	4.65″	0.11	1.18	0.30	9044K85	8.18	0.10	1.03	0.26	9065K184	10.12
0.300″	0.037″	2.1″	0.65	7.20	7.70	9044K112	10.17	0.56	6.26	6.69	9065K104	12.70
0.360″	0.037″	2.39″	0.50	5.90	4.70	9044K223	8.18	0.43	5.13	4.08	9065K223	10.12
0.360″	0.045″	1.93″	0.90	10.20	13.60	9044K249	8.18	0.78	8.86	11.82	9065K249	10.12
0.360″	0.055″	1.66″	1.60	17.60	38.60	9044K114	10.17	1.39	15.29	33.54	9065K112	12.70
1.37″ Length Inside Ends												
0.300″	0.037″	2.375″	0.65	7.20	6.60	9044K106	10.17	0.56	6.26	5.74	9065K106★	6.33
0.360″	0.055″	1.875″	1.60	17.60	32.10	9044K116	10.17	1.39	15.29	27.89	9065K114★	6.33
1.5″ Length Inside Ends												
0.180″	0.018″	4.06″	0.14	1.55	0.50	9044K25	8.18	0.12	1.35	0.43	9065K25	10.12
0.240″	0.029″	2.89″	0.40	4.50	2.90	9044K125	8.18	0.35	3.91	2.52	9065K125	10.12
0.300″	0.055″	1.9″	1.92	21.31	47.90	9044K203	8.18	1.67	18.52	41.63	9065K203	10.12
0.360″	0.037″	3.06″	0.50	5.90	3.40	9044K227	8.18	0.43	5.13	2.95	9065K227	10.12
0.360″	0.045″	2.47″	0.90	10.20	9.60	9044K253	8.18	0.78	8.86	8.34	9065K253	10.12
0.500″	0.063″	2.17″	1.70	18.80	25.50	9044K365	8.12	1.48	16.34	22.16	9065K365	10.16
1.75″ Length Inside Ends												
0.240″	0.029″	3.47″	0.40	4.50	2.40	9044K127	8.18	0.35	3.91	2.09	9065K127	10.12
0.240″	0.037″	2.63″	0.80	8.70	8.90	9044K153	8.18	0.70	7.56	7.73	9065K256	10.12
0.500″	0.045″	3.79″	0.70	7.50	3.30	9044K319	8.12	0.61	6.52	2.87	9065K319	10.16
0.500″	0.063″	2.66″	1.70	18.80	18.70	9044K367	8.12	1.48	16.34	16.25	9065K367	10.16
2″ Length Inside Ends												
0.300″	0.055″	2.6″	1.92	21.31	32.20	9044K207	8.18	1.67	18.52	27.98	9065K207	10.12
0.360″	0.045″	3.49″	0.90	10.20	6.20	9044K257	8.18	0.78	8.86	5.39	9065K257	10.12
0.500″	0.045″	4.61″	0.70	7.50	2.60	9044K321	8.12	0.61	6.52	2.26	9065K321	10.16
0.500″	0.055″	3.6″	1.20	13.10	7.40	9044K343	8.18	1.04	11.38	6.43	9065K343	10.14
0.500″	0.063″	3.16″	1.70	18.80	14.80	9044K369	8.12	1.48	16.34	12.86	9065K369	10.16
2.25″ Length Inside Ends												
0.300″	0.055″	2.95″	1.92	21.31	27.70	9044K209	8.18	1.67	18.52	24.07	9065K209	10.12
0.360″	0.045″	4″	0.90	10.20	5.30	9044K259	8.18	0.78	8.86	4.61	9065K259	10.12
0.500″	0.063″	3.65″	1.70	18.80	12.20	9044K371	8.14	1.48	16.34	10.60	9065K371	10.12
2.5″ Length Inside Ends												
0.300″	0.055″	3.3″	1.92	21.31	24.30	9044K211	8.18	1.67	18.52	21.12	9065K211	10.12
0.500″	0.055″	4.82″	1.20	13.10	5.10	9044K347	8.18	1.04	11.38	4.43	9065K347	10.14
0.500″	0.063″	4.12″	1.70	18.80	10.40	9044K373	8.14	1.48	16.34	9.04	9065K373	10.12
2.75″ Length Inside Ends												
0.360″	0.045″	5.02″	0.90	10.20	4.10	9044K263	8.18	0.78	8.86	3.56	9065K263	10.12
0.500″	0.063″	4.6″	1.70	18.80	9.20	9044K375	8.14	1.48	16.34	7.99	9065K375	10.12

★ Package quantity is 1.

(Continued on following page)

Ultra-Precision Extension Springs with Loop Ends *(Continued from previous page)*

Spring OD	Wire Dia.	Extended Lg.	Steel Music Wire: Load, lbs. Min.	Steel Music Wire: Load, lbs. Max.	Steel Music Wire: Rate, lbs./inch		Steel Music Wire: Pkg. of 3	Type 302 Stainless Steel: Load, lbs. Min.	Type 302 Stainless Steel: Load, lbs. Max.	Type 302 Stainless Steel: Rate, lbs./inch		Type 302 Stainless Steel: Pkg. of 3
3″ Length Inside Ends												
0.300″	0.037″	5.94″	0.65	7.20	2.20	9044K193	$8.18	0.56	6.26	1.91	9065K193	$10.12
0.360″	0.045″	5.53″	0.90	10.20	3.60	9044K265	8.18	0.78	8.86	3.13	9065K265	10.12
0.360″	0.055″	4.47″	1.60	17.60	10.80	9044K289	8.14	1.39	15.29	9.39	9065K289	10.11
0.500″	0.063″	5.1″	1.70	18.80	8.10	9044K377	8.14	1.48	16.34	7.04	9065K377	10.12
3.25″ Length Inside Ends												
0.240″	0.037″	5.16″	0.80	8.70	4.20	9044K168	8.18	0.70	7.56	3.65	9065K168	10.12
3.5″ Length Inside Ends												
0.360″	0.037″	8.67″	0.50	5.90	1.00	9044K108	12.83	0.43	5.13	0.87	9065K108	12.70
0.360″	0.055″	5.27″	1.60	17.60	9.00	9044K118	12.83	1.39	15.29	7.82	9065K116★	6.33
0.500″	0.045″	9.64″	0.70	7.50	1.10	9044K136	12.83	0.61	6.52	0.96	9065K12★	6.33
0.500″	0.055″	7.19″	1.20	13.10	3.20	9044K126	12.83	1.04	11.38	2.78	9065K124★	6.33
4″ Length Inside Ends												
0.360″	0.055″	6.1″	1.60	17.60	7.70	9044K12	12.83	1.39	15.29	6.69	9065K118★	6.33
0.500″	0.045″	11.39″	0.70	7.50	0.90	9044K124	12.83	0.61	6.52	0.78	9065K122★	6.33
0.500″	0.055″	8.38″	1.20	13.10	2.70	9044K132	12.83	1.04	11.38	2.35	9065K126★	6.33
0.500″	0.063″	7.07″	1.70	18.80	5.50	9044K381	8.18	1.48	16.34	4.78	9065K381	10.12
4.5″ Length Inside Ends												
0.500″	0.055″	9.56″	1.20	13.10	2.30	9044K134	12.83	1.04	11.38	2.00	9065K128★	6.33
0.500″	0.063″	8.06″	1.70	18.80	4.80	9044K383	8.18	1.48	16.34	4.17	9065K383	10.12
5″ Length Inside Ends												
0.500″	0.055″	11.1″	1.20	13.10	2.00	9044K359	8.16	1.04	11.38	1.74	9065K435	10.14

★ Package quantity is 1.

Cut-to-Length Extension Springs

Keep these long springs on hand so you can cut the right length whenever you need it. All of these springs have straight-cut ends, which allow you to bend the end coils into hook or loop ends. To determine the spring rate, take the rate constant and divide it by the length (in inches) you cut.

Type 302 Stainless Steel Springs—Offer excellent corrosion resistance.



Wire Dia.	Min. Load, lbs.	Rate Constant		
Spring-Tempered Steel—36″ o'all lg.				
0.125″ OD				
0.012″	0.08	0.25	9664K41	$3.64
0.014″	0.15	0.57	9664K42	3.57
0.016″	0.26	1.2	9664K11	4.36
0.018″	0.41	2.2	9664K43	4.36
0.023″	0.98	8.7	9664K12	4.40
0.188″ OD				
0.016″	0.11	0.32	9664K74	3.45
0.018″	0.18	0.58	9664K45	3.44
0.023″	0.49	2.1	9664K13	3.87
0.028″	1.01	6.2	9664K14	3.90
0.25″ OD				
0.018″	0.09	0.22	9664K46	3.24
0.023″	0.27	0.8	9664K47	3.36
0.028″	0.61	2.3	9664K15	3.66
0.035″	1.46	7.6	9664K16	4.52
0.313″ OD				
0.023″	0.16	0.38	9664K48	3.23
0.028″	0.38	1.1	9664K49	3.62
0.035″	0.96	3.6	9664K17	3.73
0.047″	2.88	18	9664K18	3.91
0.375″ OD				
0.028″	0.25	0.59	9664K51	3.72
0.035″	0.65	1.9	9664K19	3.83
0.047″	2.14	9.3	9664K21	3.87
0.063″	5.90	47.01	9664K52	4.17
0.438″ OD				
0.035″	0.46	1.1	9664K22	3.91
0.047″	1.58	5.9	9664K23	4.02
0.5″ OD				
0.047″	1.19	3.5	9664K44	3.69
0.054″	2.11	7.5	9664K54	3.78
0.063″	3.65	17	9664K55	4.25
0.072″	6.49	35	9664K25	4.24
0.080″	9.28	64	9664K56	4.24
0.563″ OD				
0.063″	2.90	11	9664K26	4.25
0.625″ OD				
0.047″	0.70	1.7	9664K59	4.83
0.063″	2.32	8	9664K27	4.82
0.080″	6.45	29	9664K28	4.80
0.092″	10.58	62	9664K61	6.24
0.75″ OD				
0.047″	0.43	0.94	9664K62	4.44
0.105″	13.12	68.03	9664K29	5.48
0.120″	20.88	144.06	9664K66	7.42

Wire Dia.	Min. Load, lbs.	Rate Constant		
Spring-Tempered Steel—36″ o'all lg. (Cont.)				
0.875″ OD				
0.105″	9.82	14	9664K31	$6.86
0.135″	24.79	158.95	9664K68	11.96
1″ OD				
0.092″	4.15	13	9664K32	9.70
0.120″	12.83	53.03	9664K33	13.95
1.125″ OD				
0.105″	5.85	17.01	9664K69	9.86
0.135″	15.59	65.98	9664K34	14.26
1.25″ OD				
0.120″	7.81	25.01	9664K71	14.56
0.148″	18.26	76.97	9664K35	17.78
1.5″ OD				
0.162″	18.22	67.03	9664K36	22.10
Type 302 Stainless Steel—20″ o'all lg.				
0.125″ OD				
0.013″	0.11	0.4	9665K51	7.10
0.015″	0.20	0.8	9665K81	6.69
0.017″	0.33	1.4	9665K12	6.51
0.020″	0.60	3.4	9665K42	6.14
0.023″	0.98	7.6	9665K37	6.27
0.187″ OD				
0.015″	0.08	0.2	9665K53	8.44
0.017″	0.14	0.4	9665K83	8.04
0.020″	0.28	0.8	9665K54	7.68
0.026″	0.79	3.6	9665K15	7.04
0.028″	1.01	5.4	9665K38	7.27
0.25″ OD				
0.015″	0.04	0.08	9665K84	8.73
0.017″	0.07	0.14	9665K16	9.22
0.020″	0.15	0.4	9665K57	9.32
0.023″	0.27	0.6	9665K86	8.18
0.026″	0.45	1.4	9665K85	8.12
0.028″	0.61	2	9665K39	8.32
0.032″	1.03	4	9665K18	8.07
0.035″	1.46	6.59	9665K47	8.18
0.312″ OD				
0.020″	0.08	0.16	9665K19	9.63
0.023″	0.16	0.34	9665K87	9.23
0.026″	0.28	0.6	9665K21	8.87
0.028″	0.38	1	9665K48	9.28
0.032″	0.67	2	9665K22	8.60
0.035″	0.96	3	9665K88	9.28
0.041″	1.78	7.2	9665K23	8.02
0.047″	2.88	15.38	9665K49	9.50

Wire Dia.	Min. Load, lbs.	Rate Constant		
Type 302 Stainless Steel—20″ o'all lg. (Cont.)				
0.375″ OD				
0.032″	0.44	1	9665K24	$9.32
0.035″	0.65	1.6	9665K58	10.23
0.041″	1.25	3.8	9665K25	9.36
0.047″	2.14	8.19	9665K59	10.59
0.054″	3.65	17.42	9665K26	9.53
0.062″	5.90	37.47	9665K61	11.51
0.406″ OD				
0.035″	0.52	1.19	9665K62	11.22
0.437″ OD				
0.035″	0.46	1	9665K89	11.22
0.041″	0.90	2.4	9665K27	10.75
0.047″	1.58	4.79	9665K91	11.73
0.054″	2.75	10.21	9665K28	11.40
0.5″ OD				
0.047″	1.19	3	9665K63	12.91
0.054″	2.11	6.01	9665K69	11.74
0.062″	3.65	13.63	9665K64	14.13
0.072″	6.49	30.98	9665K31	12.64
0.562″ OD				
0.054″	1.65	4.41	9665K46	13.24
0.062″	2.90	9.22	9665K92	15.55
0.072″	5.23	20.58	9665K32	14.18
0.091″	12.76	74.93	9665K33	16.00
0.625″ OD				
0.062″	2.32	6.41	9665K65	16.82
0.072″	4.26	14.39	9665K34	13.72
0.091″	10.58	51.35	9665K35	17.71
0.75″ OD				
0.047″	0.43	0.8	9665K66	17.45
0.072″	2.93	7.79	9665K93	26.27
0.091″	7.54	27.37	9665K36	21.38
0.105″	13.12	59.95	9665K67	32.59
0.120″	20.88	125.7	9665K68	34.91
1″ OD				
0.080″	2.38	5.2	9665K71	35.27
0.091″	4.15	10.39	9665K72	37.82
0.105″	7.52	22.45	9665K73	40.95
0.120″	12.83	46.18	9665K74	44.50
1.125″ OD				
0.105″	5.85	15.24	9665K75	61.27
0.135″	15.59	58.26	9665K76	70.59
1.5″ OD				
0.135″	8.92	22.22	9665K77	89.32
0.162″	18.22	58.55	9665K78	100.64

Extension Springs with Special Ends

A



B



C



D



E



F



G



H



O'all Lg.	Body Lg.	Spring OD	Wire Dia.	Extended Lg.	Load, lbs. Min.	Load, lbs. Max.	Rate, lbs./inch	Pkg. Qty.		Pkg.
Unplated Steel Music Wire										
(A) Straight-Cut Ends										
1″	1″	0.188″	0.014″	1.46″	0.07	0.14	0.15	12	1330K57	$6.52
(B) Double Loop Ends										
6.437″	4.938″	0.75″	0.080″	8.41″	4.50	11.10	3.30	1	1330K33	7.63
(C) Swivel Hook Ends										
5.375″	3.125″	0.531″	0.062″	6.374″	3.50	8.50	5.00	1	1330K45	8.50
(D) Elongated Hook Ends										
1.75″	0.705″	0.25″	0.047″	1.99″	4.10	18.30	59.90	6	1330K29	9.63
Galvanized Spring-Tempered Steel										
(D) Elongated Hook Ends										
3.5″	1.75″	0.25″	0.041″	4.04″	2.61	8.35	10.67	6	96605K21	13.20
4″	1″	0.25″	0.035″	4.49″	1.42	5.26	7.87	6	96605K22	13.44
10.25″	3.5″	0.75″	0.091″	12.24″	7.31	25.64	9.19	3	96605K1	8.99
(E) Hook Ends										
2.375″	1.25″	0.281″	0.047″	2.765″	3.44	11.75	21.32	6	96605K23	10.70
2.5″	1.125″	0.313″	0.023″	5.52″	0.15	1.20	0.34	6	96605K44	10.68
3.75″	0.875″	0.563″	0.072″	4.21″	4.13	17.60	29.44	3	96605K26	7.37
5.25″	2.5″	0.5″	0.080″	5.94″	9.51	27.74	26.27	3	96605K27	7.97
5.625″	2.359″	0.719″	0.047″	14.625″	0.48	4.59	0.46	10	9290K45	15.96
8.25″	2″	0.438″	0.063″	10.25″	2.57	12.08	6.04	10	9290K21	15.89
(F) Hook End and Loop End										
1.625″	0.75″	0.25″	0.039″	1.895″	1.95	7.29	19.42	6	96605K31	10.47
2″	1″	0.313″	0.041″	2.54″	1.73	6.43	8.70	6	96605K32	10.61
5″	2.5″	0.563″	0.072″	6.29″	5.08	17.60	9.73	3	96605K34	8.34
5.5″	3″	0.375″	0.062″	6.31″	6.06	17.94	14.62	3	96605K35	7.97
(G) Hook End and Straight End										
8.5″	1.875″	0.75″	0.094″	13.5″	4.50	20.05	17.10	10	9290K22	17.85
17.5″	3.5″	0.75″	0.063″	23″	2.69	14.35	2.61	5	9290K47	12.89
18.5″	2″	0.813″	0.094″	20″	10.62	40.09	26.73	5	9290K24	12.83
Zinc-Plated Spring-Tempered Steel										
(H) Double Loop End and Straight End										
11.5″	1.875″	0.406″	0.031″	15.5″	0.80	7.00	1.60	10	9290K23	9.55

Safety Extension Springs

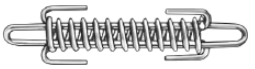

While ordinary extension springs can be overloaded to failure, these springs have drawbars to safeguard against overextending.

Zinc-Plated Spring-Tempered Steel Springs—Offer some corrosion resistance.

Type 302 Stainless Steel Springs—Offer excellent corrosion resistance.

			Zinc-Plated Spring-Tempered Steel					Type 302 Stainless Steel				
O'all Lg.	Spring OD	Wire Dia.	Extended Lg.	Load, lbs.	Rate, lbs./inch			Extended Lg.	Load, lbs.	Rate, lbs./inch		
4″	0.675″	0.048″	6.2″	5.01	2.28	9630K6	$7.50	6.3″	5.24	2.28	9630K52	$13.06
6″	1.100″	0.125″	7.9″	55.10	29.00	9630K4	13.59	8.35″	68.15	29.00	9630K64	17.17
6″	1.162″	0.072″	10″	11.10	2.77	9630K8	11.31	10.1″	11.38	2.77	9630K56	20.19
6″	1.192″	0.092″	9″	12.62	4.21	9630K5	13.62	9.25″	13.67	4.21	9630K58	23.61
7.5″	0.875″	0.105″	9.85″	42.30	18.00	9630K1	10.70	10.25″	49.50	18.00	9630K61	23.02
7.875″	2.100″	0.250″	10.625″	180.65	65.69	9630K7	22.58	11.125″	213.30	65.69	9630K79	38.46
8″	2.100″	0.312″	9.85″	332.72	179.85	9630K9	27.42	10.19″	365.97	167.11	9630K77	46.89
8.5″	1.746″	0.148″	12.5″	54.08	13.52	9630K14	19.07	12.9″	59.60	13.52	9630K65	29.33
8.5″	1.875″	0.250″	10.35″	222.00	109.60	9630K3	23.48	10.5″	240.00	118.68	9630K63	37.56
8.75″	1.375″	0.207″	9.95″	174.00	145.00	9630K2	18.63	10.1″	195.75	145.00	9630K62	37.56
13.75″	1.625″	0.250″	15.4″	247.50	150.00	9630K31	20.17	15.5″	262.50	150.00	9630K71	46.22
13.75″	2.462″	0.312″	17.15″	313.81	92.30	9630K33	34.65	17.45″	316.11	85.44	9630K73	58.14
16″	1.870″	0.135″	21″	38.09	7.62	9630K35	13.35	21″	38.09	7.62	9630K75	25.66

Extra-Stretch Extension Springs



Designed to go the distance, these springs stretch up to three times their original length—much further than traditional extension springs, tie downs, and shock cords. The springs are made of rubber tubing that's encapsulated in a polypropylene fabric sleeve. All have 2″ long, zinc-plated steel hooks with a 5/16″ spring-loaded latch opening at each end. Do not use them to hold overhead loads. Operating temperature range is 30° to 130° F.

Spring Band Lg. (A)	O'all Lg.	Extended Lg.	Rate, lbs./inch		
Low Resistance—26-lb. load with 1″ OD fabric sleeve.					
16″	22″	48″	0.93	8433K21	$21.81
24″	30″	76″	0.54	8433K41	31.02
36″	42″	112″	0.36	8433K2	31.81
48″	54″	148″	0.27	8433K42	36.33
72″	78″	220″	0.18	8433K3	37.35
Medium Resistance—33-lb. load with 1¾″ OD fabric sleeve.					
12″	18″	40″	1.38	8433K25	22.46
24″	30″	76″	0.69	8433K43	32.17
36″	42″	112″	0.46	8433K26	33.73
48″	54″	148″	0.34	8433K44	38.48
72″	78″	220″	0.23	8433K27	40.32

Spring Band Lg. (A)	O'all Lg.	Extended Lg.	Rate, lbs./inch		
High Resistance—47-lb. load with 1¾″ OD fabric sleeve.					
12″	18″	40″	1.96	8433K29	$22.90
24″	30″	76″	0.98	8433K45	32.00
36″	42″	112″	0.65	8433K31	33.09
48″	54″	148″	0.49	8433K46	41.52
72″	78″	220″	0.33	8433K32	42.85
Ultra-High Resistance—77-lb. load with 1¾″ OD fabric sleeve.					
12″	18″	40″	3.21	8433K14	23.50
24″	30″	76″	1.60	8433K47	34.75
36″	42″	112″	1.07	8433K15	35.65
48″	54″	148″	0.80	8433K48	45.55
72″	78″	220″	0.53	8433K16	46.76

Spring Assortments



Keep a variety of springs on hand. Extension springs have hook or loop ends; compression springs have open, closed, or closed and ground flat ends.

Assortments in plastic boxes, **steel cabinets**, and **plastic cabinets** are divided into compartments and most have a chart on the lid that identifies the spring for each compartment.

To Order: For refill springs, please ask for the refill spring part number listed below, and specify the spring number (if provided on the chart located on the inside lid of your container) or the spring length, OD, and wire diameter desired.

No. of Springs	No. of Sizes	Spring Material	*Spring Size Range* Length	OD	Wire Dia.	Container	Assortments	Refill Springs
Extension and Compression Spring Assortments								
92 Springs: 64 Extension 28 Compression	29	Zinc-Plated Spring-Tempered Steel	1.75″ to 12″	0.187″ to 0.625″	0.020″ to 0.080″	Plastic Box	9645K2 $117.96	
124 Springs: 112 Extension 12 Compression	40	Zinc-Plated Spring-Tempered Steel	1″ to 12″	0.188″ to 0.732″	0.023″ to 0.092″	Steel Cabinet	9648K1 $186.64	9648K25
200 Springs: 120 Extension 80 Compression	20	Zinc-Plated Music Wire	0.406″ to 3.125″	0.156″ to 0.375″	0.018″ to 0.031″	Plastic Box	9370K11 $45.86	
216 Springs: 72 Extension 108 Compression 36 Torsion	108	Plated Music Wire	0.125″ to 1.25″	0.057″ to 0.360″	0.006″ to 0.026″	Plastic Box	9436K31 $130.67	
218 Springs: 164 Extension 54 Compression	79	Zinc-Plated Spring-Tempered Steel	1.25″ to 12″	0.188″ to 0.732″	0.023″ to 0.092″	Steel Cabinet	9648K2 $354.20	9648K25
401 Springs: 172 Extension 229 Compression	50	Zinc-Plated Music Wire and Spring-Tempered Steel	1″ to 6.5″	0.218″ to 0.75″	0.023″ to 0.105″	Plastic Cabinet	9649K46 $439.31	9649K38
840 Springs: 383 Extension 457 Compression	216	Zinc-Plated Music Wire and Spring-Tempered Steel	1″ to 7.5″	0.141″ to 1.25″	0.012″ to 0.162″	Plastic Cabinet	9649K1 $959.29	9649K38
Extension Spring Assortments								
28	28	Music Wire and Spring-Tempered Steel	11″	0.25″ to 1″	0.013″ to 0.105″	Cardboard Box	9640K42 $88.55	9640K68
150	18	Music Wire and Spring-Tempered Steel	1″ to 4″	0.141″ to 0.5″	0.016″ to 0.062″	Plastic Box	9523K14 $95.53	
120	60	Type 302 Stainless Steel	0.375″ to 5″	0.094″ to 0.75″	0.014″ to 0.069″	Plastic Box	27845K32 $146.24	
Special-End Extension Springs with Elongated Hooks Assortment (Style E on page 1278)								
72	12	Galvanized Spring-Tempered Steel	1.625″ to 10.25″	0.25″ to 0.75″	0.023″ to 0.091″	Plastic Box	96605K72 $86.53	96605K25
Compression Spring Assortments								
12	6	Music Wire	12″	0.097″ to 0.312″	0.016″ to 0.058″	Plastic Tube	9406K13 $26.52	
47	47	Music Wire and Spring-Tempered Steel	11″	0.125″ to 1.468″	0.025″ to 0.115″	Cardboard Box	9637K67 $66.57	9637K53
126	42	Plain and Zinc-Plated Music Wire and Spring-Tempered Steel	1″ to 1.75″	0.156″ to 0.375″	0.012″ to 0.041″	Plastic Box	9618K14 $66.26	
250	125	Type 302 Stainless Steel	0.25″ to 3.5″	0.120″ to 0.720″	0.014″ to 0.096″	Plastic Box	27845K31 $144.78	

Constant-Force Springs



Typically used as retractors in tape measures and cable reels, these springs are wound into a tight coil to provide uniform force throughout extension and retraction. They can be wrapped around a shaft, spool, or rod; allow for 1½ extra coils on the shaft at full extension to hold the spring in place. All of these springs are made of Type 301 stainless steel. The free end has one hole for attaching a load to the spring. Wound ID, wound OD, and load tolerances are ±10%.

Thickness	Extended Lg.	Wd.	*Wound* ID	OD	End Hole Dia.	Load, lbs.		
4,000-Cycle Life								
0.004″	15″	0.250″	0.28″	0.40″	0.130″	0.66	9293K42	$6.35
0.005″	17″	0.312″	0.37″	0.50″	0.130″	1.03	9293K44	7.41
0.006″	22″	0.370″	0.51″	0.62″	0.131″	1.12	9293K46	9.97
0.007″	26″	0.500″	0.59″	0.75″	0.131″	1.62	9293K48	10.24
0.008″	30″	0.500″	0.59″	0.82″	0.196″	2.63	9293K52	7.56
0.010″	33″	0.625″	0.73″	0.99″	0.196″	4.12	9293K54	7.56
0.012″	39″	0.750″	0.88″	1.19″	0.196″	5.94	9293K56	7.85
0.014″	43″	1.000″	1.19″	1.50″	0.187″	7.00	9293K58	17.06
0.016″	40″	1.000″	1.20″	1.52″	0.196″	10.60	9293K12	10.83
0.025″	52″	1.500″	1.77″	2.23″	0.265″■	24.80	9293K13	18.58
0.031″	60″	2.000″	2.50″	3.03″	0.265″■	40.90	9293K14	29.81
25,000-Cycle Life								
0.006″	25″	0.500″	0.80″	0.92″	0.196″	0.70	9293K17	5.74
0.008″	33″	0.500″	1.07″	1.23″	0.196″	0.93	9293K18	6.73
0.010″	35″	0.625″	1.36″	1.53″	0.196″	1.46	9293K19	7.48

■ Free end has two side-by-side holes at the tip of the spring.

Thickness	Extended Lg.	Wd.	*Wound* ID	OD	End Hole Dia.	Load, lbs.		
25,000-Cycle Life (Cont.)								
0.012″	45″	0.750″	1.60″	1.82″	0.196″	2.09	9293K21	$8.35
0.016″	46″	1.000″	1.96″	2.21″	0.196″	4.10	9293K22	11.76
0.020″	55″	1.250″	2.53″	2.82″	0.196″	5.83	9293K23	18.86
0.025″	60″	1.500″	3.35″	3.70″	0.265″■	8.74	9293K24	20.94
0.031″	70″	2.000″	4.35″	4.74″	0.265″■	14.40	9293K25	33.16
50,000-Cycle Life								
0.006″	30″	0.500″	1.12″	1.22″	0.196″	0.44	9293K28	6.16
0.008″	36″	0.500″	1.49″	1.61″	0.196″	0.58	9293K29	6.41
0.010″	40″	0.625″	1.86″	2.00″	0.196″	0.91	9293K31	7.88
0.012″	50″	0.750″	2.24″	2.40″	0.196″	1.31	9293K32	8.85
0.016″	52″	1.000″	2.98″	3.15″	0.196″	2.32	9293K33	10.90
0.020″	62″	1.250″	3.73″	3.94″	0.196″	3.63	9293K34	18.34
0.025″	66″	1.500″	4.66″	4.88″	0.265″■	5.44	9293K35	19.57
0.031″	78″	2.000″	5.77″	6.04″	0.265″■	8.99	9293K36	30.60

About Compression Springs

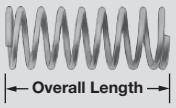


Closed Ends

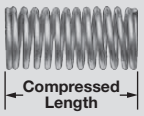


Closed and Ground Flat Ends

When a compression spring is pushed together (compressed), it pushes back to return the spring to its original length. They're commonly used in shock absorbers and to secure batteries.

Compression springs are made of steel music wire (for high strength), spring-tempered steel (for heat resistance), or stainless steel (for corrosion resistance). They are available with closed ends as well as with closed and ground flat ends. On springs with closed ends, the last two coils are close together. On springs with closed and ground flat ends, the last coil is flush so the springs stand straighter and are easier to stack.

Rate—As you push a compression spring, it gets harder to push. The higher the rate, the harder it is to compress the spring.

Note: Spring ID = Spring OD − (Wire Dia. × 2).

Compression Springs

Spring OD	Wire Dia.	Compressed Lg.	Max. Load, lbs.	Rate, lbs./inch	Pkg. Qty.		Pkg.
Steel Music Wire—Closed Ends							
0.937″ Overall Length							
0.187″	0.012″	0.25″	0.20	0.29	12	9657K81	$5.43
1″ Overall Length							
0.156″	0.016″	0.43″	1.40	2.45	12	9657K59	7.26
0.156″	0.028″	0.78″	6.70	30.09	12	9657K63	7.26
0.187″	0.012″	0.30″	0.32	0.46	12	9657K43	7.26
0.187″	0.014″	0.36″	0.49	0.76	12	9657K46	7.26
0.187″	0.020″	0.44″	1.97	3.53	12	9657K49	7.26
0.187″	0.023″	0.60″	3.33	8.29	12	9657K53	7.26
0.187″	0.028″	0.66″	5.72	16.91	12	9657K56	7.26
0.218″	0.016″	0.34″	0.69	1.04	12	9657K66	7.26
0.218″	0.018″	0.36″	1.09	1.71	12	9657K69	7.26
0.218″	0.023″	0.42″	2.84	4.93	12	9657K73	7.26
0.218″	0.028″	0.54″	4.98	10.73	12	9657K76	7.26
0.25″	0.020″	0.39″	1.05	1.72	12	9657K39	7.26
1.03″ Overall Length							
0.531″	0.105″	0.80″	93.29	491.00	6	9657K91	10.88
1.25″ Overall Length							
0.281″	0.039″	0.60″	11.36	17.50	12	9657K83	6.10
1.312″	0.125″	0.59″	63.60	120.00	3	9657K103	8.30
1.375″ Overall Length							
0.156″	0.016″	0.57″	1.40	1.72	12	9657K61	7.26
0.156″	0.028″	1.06″	6.70	21.07	12	9657K64	7.26
0.187″	0.012″	0.44″	0.31	0.33	12	9657K44	7.26
0.187″	0.014″	0.50″	0.49	0.56	12	9657K47	7.26
0.187″	0.020″	0.60″	1.92	2.47	12	9657K51	7.26
0.187″	0.023″	0.75″	3.33	5.36	12	9657K54	7.26
0.187″	0.028″	0.80″	5.72	9.99	12	9657K57	7.26
0.218″	0.016″	0.47″	0.69	0.76	12	9657K67	7.26
0.218″	0.018″	0.49″	1.04	1.18	12	9657K71	7.26
0.218″	0.023″	0.58″	2.88	3.62	12	9657K74	7.26
0.218″	0.028″	0.72″	4.98	7.58	12	9657K77	7.26
0.25″	0.020″	0.51″	1.09	1.26	12	9657K41	7.26
1.75″ Overall Length							
0.156″	0.016″	0.77″	1.40	1.43	12	9657K62	7.26
0.156″	0.028″	1.34″	6.70	16.20	12	9657K65	7.26
0.187″	0.012″	0.51″	0.36	0.29	12	9657K45	7.26
0.187″	0.014″	0.61″	0.49	0.43	12	9657K48	7.26
0.187″	0.020″	0.71″	2.24	2.15	12	9657K52	7.26
0.187″	0.023″	0.84″	3.33	3.65	12	9657K55	7.26
0.187″	0.028″	1.10″	5.72	8.79	12	9657K58	7.26
0.218″	0.016″	0.60″	0.69	0.60	12	9657K68	7.26
0.218″	0.018″	0.69″	0.84	0.79	12	9657K72	7.26
0.218″	0.023″	0.74″	2.88	2.86	12	9657K75	7.26
0.218″	0.028″	0.94″	4.98	6.13	12	9657K78	7.26
0.25″	0.020″	0.67″	0.97	0.90	12	9657K42	7.26
1.97″ Overall Length							
0.312″	0.022″	0.53″	0.95	0.66	12	9657K84	8.76
2.188″ Overall Length							
0.59″	0.040″	0.38″	6.80	3.80	12	9657K92	7.56
Steel Music Wire—Closed and Ground Flat Ends							
1.063″ Overall Length							
0.688″	0.148″	0.81″	213.35	1,255.00	1	9657K251	10.05
1.75″ Overall Length							
0.75″	0.125″	1.06″	117.13	221.00	3	9657K96	11.56
2″ Overall Length							
0.875″	0.120″	1.01″	106.92	108.00	6	9657K252	13.35
2.03″ Overall Length							
0.938″	0.080″	0.64″	21.82	15.70	6	9657K101	7.18
2.56″ Overall Length							
1.015″	0.120″	1.15″	75.40	55.44	6	9657K253	12.50
2.63″ Overall Length							
0.438″	0.048″	0.95″	10.96	6.60	12	9657K88	12.47
2.84″ Overall Length							
0.625″	0.080″	1.08″	39.06	31.00	6	9657K94	7.18
3.06″ Overall Length							
0.875″	0.091″	1.09″	39.36	20.50	6	9657K254	10.60
Steel Music Wire—Closed and Ground Flat Ends (Cont.)							
4.06″ Overall Length							
0.687″	0.105″	1.95″	76.25	53.70	3	9657K95	$8.33
Zinc-Plated Steel Music Wire—Closed Ends							
0.25″ Overall Length							
0.12″	0.020″	0.16″	4.14	46.00	12	9657K256	6.52
0.125″	0.016″	0.11″	2.65	18.90	12	9657K257	6.52
0.18″	0.018″	0.10″	2.01	13.50	12	9657K258	6.52
0.24″	0.020″	0.09″	1.94	12.50	12	9657K259	6.52
0.25″	0.020″	0.09″	2.13	13.20	12	9657K261	6.52
0.375″ Overall Length							
0.12″	0.016″	0.17″	2.32	11.20	12	9657K262	6.52
0.125″	0.016″	0.15″	2.43	11.00	12	9657K263	6.52
0.18″	0.018″	0.12″	2.30	9.15	12	9657K264	6.52
0.5″ Overall Length							
0.125″	0.016″	0.19″	2.50	8.10	12	9657K266	6.52
0.75″ Overall Length							
0.125″	0.016″	0.24″	3.12	6.10	12	9657K281	6.52
1″ Overall Length							
0.12″	0.022″	0.60″	6.00	14.85	12	9657K294	6.52
0.125″	0.022″	0.50″	7.98	15.80	12	9657K295	6.52
0.18″	0.018″	0.26″	2.34	3.15	12	9657K296	6.52
0.24″	0.020″	0.22″	2.11	2.70	12	9657K298	6.52
1.25″ Overall Length							
0.25″	0.023″	0.47″	2.24	2.87	12	9657K112	6.80
1.375″ Overall Length							
0.281″	0.028″	0.58″	3.49	4.36	12	9657K108	6.35
0.312″	0.031″	0.58″	4.73	5.98	12	9657K35	7.77
1.5″ Overall Length							
0.312″	0.023″	0.57″	1.03	1.11	12	9657K107	6.52
0.375″	0.025″	0.55″	1.04	1.09	12	9657K33	7.74
0.375″	0.028″	0.54″	1.92	2.01	12	9657K135	7.21
2.5″ Overall Length							
0.25″	0.028″	1.11″	4.00	2.88	12	9657K171	7.70
Zinc-Plated Steel Music Wire—Closed and Ground Flat Ends							
0.375″ Overall Length							
0.3″	0.022″	0.09″	2.11	7.30	12	9657K265	10.35
0.5″ Overall Length							
0.18″	0.024″	0.21″	5.55	18.95	12	9657K267	10.35
0.187″	0.029″	0.23″	11.89	43.50	12	9657K268	10.35
0.24″	0.022″	0.13″	3.27	8.75	12	9657K269	10.35
0.24″	0.029″	0.19″	7.25	23.50	12	9657K271	10.35
0.25″	0.026″	0.15″	5.78	16.30	12	9657K272	10.35
0.3″	0.026″	0.13″	4.23	11.30	12	9657K273	10.35
0.3″	0.035″	0.19″	10.05	32.80	12	9657K274	10.35
0.36″	0.041″	0.21″	11.05	38.70	12	9657K275	10.35
0.375″	0.035″	0.19″	5.00	16.10	12	9657K276	10.35
0.48″	0.055″	0.24″	18.66	72.00	12	9657K277	10.35
0.5″	0.062″	0.27″	23.73	104.80	6	9657K278	8.84
0.6″	0.045″	0.16″	7.96	23.20	12	9657K279	10.35
0.75″ Overall Length							
0.18″	0.024″	0.30″	5.48	12.10	12	9657K282	10.35
0.187″	0.029″	0.32″	12.11	28.10	12	9657K283	10.35
0.24″	0.022″	0.17″	3.24	5.60	12	9657K284	10.35
0.25″	0.026″	0.18″	6.51	11.50	12	9657K285	10.35
0.3″	0.022″	0.13″	2.51	4.05	12	9657K286	10.35
0.3″	0.041″	0.36″	13.39	34.40	12	9657K287	10.35
0.36″	0.041″	0.29″	11.10	24.30	12	9657K288	10.35
0.375″	0.035″	0.29″	4.13	8.90	12	9657K289	10.35
0.48″	0.045″	0.24″	11.30	22.00	12	9657K291	10.35
0.5″	0.062″	0.38″	23.39	62.40	6	9657K292	8.84
0.6″	0.045″	0.20″	8.02	14.50	12	9657K293	10.35
1″ Overall Length							
0.18″	0.024″	0.38″	5.55	9.00	12	9657K297	10.35
0.24″	0.026″	0.29″	5.27	7.40	12	9657K299	10.35
0.3″	0.022″	0.16″	2.52	3.00	12	9657K301	10.35
0.3″	0.041″	0.46″	13.64	25.30	12	9657K302	10.35
0.312″	0.026″	0.23″	3.07	4.00	12	9657K303	10.35

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Compression Springs *(Continued from previous page)*

Spring OD	Wire Dia.	Compressed Lg.	Max. Load, lbs.	Rate, lbs./inch	Pkg. Qty.		Pkg.
Zinc-Plated Steel Music Wire—Closed and Ground Flat Ends (Cont.)							
1″ Overall Length (Cont.)							
0.36″	0.032″	0.22″	6.59	8.50	12	9657K304	$10.35
0.36″	0.051″	0.45″	26.07	47.75	12	9657K305	10.35
0.375″	0.035″	0.30″	5.71	8.20	12	9657K306	10.35
0.42″	0.039″	0.29″	7.80	11.00	12	9657K307	10.35
0.42″	0.047″	0.34″	17.20	26.00	12	9657K308	10.35
0.48″	0.045″	0.28″	12.25	17.00	12	9657K309	10.35
0.48″	0.055″	0.38″	21.73	35.00	12	9657K311	10.35
0.5″	0.041″	0.26″	7.37	9.90	12	9657K312	10.35
0.5″	0.062″	0.48″	23.40	44.60	6	9657K313	8.84
0.6″	0.055″	0.30″	16.89	24.00	12	9657K314	10.35
0.6″	0.072″	0.49″	28.18	55.00	6	9657K315	9.65
0.625″	0.120″	0.78″	114.95	516.70	3	9657K316	8.84
0.66″	0.062″	0.32″	21.52	31.60	6	9657K317	8.84
0.75″	0.135″	0.76″	135.05	564.60	3	9657K318	10.35
0.845″	0.080″	0.38″	29.13	47.20	6	9657K319	9.65
0.875″	0.091″	0.44″	39.95	71.60	6	9657K322	9.65
0.97″	0.080″	0.32″	29.27	42.80	6	9657K323	9.65
0.97″	0.105″	0.46″	61.56	113.80	3	9657K324	8.84
0.97″	0.125″	0.60″	84.79	210.00	3	9657K325	10.35
1.25″ Overall Length							
0.18″	0.024″	0.48″	5.46	7.05	12	9657K326	10.35
0.24″	0.022″	0.26″	3.26	3.30	12	9657K327	10.35
0.25″	0.026″	0.32″	5.31	5.70	12	9657K328	10.35
0.3″	0.022″	0.19″	2.55	2.40	12	9657K329	10.35
0.3″	0.032″	0.36″	7.69	8.60	12	9657K331	10.35
0.36″	0.032″	0.27″	6.70	6.80	12	9657K332	10.35
0.36″	0.041″	0.45″	11.16	13.95	12	9657K333	10.35
0.36″	0.051″	0.55″	26.07	37.35	12	9657K334	10.35
0.455″	0.039″	0.30″	7.81	8.20	12	9657K335	10.35
0.48″	0.045″	0.34″	11.86	13.00	12	9657K336	10.35
0.5″	0.062″	0.58″	23.40	34.70	6	9657K337	8.84
0.6″	0.045″	0.28″	7.73	8.00	12	9657K338	10.35
0.625″	0.120″	0.95″	114.95	388.80	3	9657K339	8.84
0.72″	0.085″	0.50″	55.60	74.55	6	9657K341	9.65
0.75″	0.135″	0.93″	134.98	420.50	3	9657K342	10.35
1.375″ Overall Length							
0.36″	0.032″	0.28″	6.89	6.30	12	9657K343	10.35
1.5″ Overall Length							
0.18″	0.024″	0.56″	5.48	5.85	12	9657K344	10.35
0.24″	0.029″	0.49″	7.39	7.30	12	9657K345	10.35
0.25″	0.026″	0.37″	5.43	4.80	12	9657K346	10.35
0.3″	0.022″	0.21″	2.64	2.05	12	9657K347	10.35
0.3″	0.030″	0.38″	6.15	5.50	12	9657K348	10.35
0.36″	0.051″	0.65″	26.11	30.70	12	9657K349	10.35
0.455″	0.039″	0.34″	7.87	6.80	12	9657K351	10.35
0.5″	0.062″	0.68″	23.41	28.40	6	9657K352	8.84
0.563″	0.091″	0.96″	59.80	110.10	6	9657K353	9.65
0.625″	0.120″	1.13″	115.00	311.70	3	9657K354	8.84
0.66″	0.062″	0.43″	21.36	20.00	6	9657K355	8.84
0.72″	0.062″	0.43″	16.02	15.00	6	9657K356	8.84
0.72″	0.072″	0.54″	25.03	26.00	6	9657K357	9.65
0.75″	0.135″	1.10″	135.06	335.10	3	9657K358	11.10
0.845″	0.080″	0.49″	32.22	31.90	6	9657K359	9.65
0.875″	0.091″	0.60″	40.04	44.50	6	9657K361	10.35
0.97″	0.080″	0.41″	28.56	26.30	6	9657K362	9.65
0.97″	0.105″	0.64″	56.79	66.00	3	9657K363	8.84
1.75″ Overall Length							
0.24″	0.029″	0.61″	7.00	6.30	6	9657K364	5.71
0.36″	0.032″	0.38″	6.30	4.60	6	9657K365	5.80
0.36″	0.042″	0.61″	13.50	12.00	6	9657K366	5.85
0.36″	0.051″	0.80″	25.50	26.00	6	9657K367	6.07
0.375″	0.035″	0.60″	4.48	3.92	6	9657K368	5.88
0.455″	0.039″	0.45″	7.00	5.00	6	9657K369	6.04
0.48″	0.045″	0.48″	11.50	9.00	6	9657K371	5.90
0.48″	0.055″	0.66″	20.00	18.00	6	9657K372	6.28
0.5″	0.063″	0.93″	17.58	21.87	6	9657K373	6.68
0.625″	0.120″	1.29″	124.18	274.80	6	9657K374	9.34
0.72″	0.063″	0.54″	15.50	13.00	6	9657K375	6.58
0.72″	0.072″	0.63″	25.00	22.00	6	9657K376	6.55
0.72″	0.085″	0.70″	54.50	51.00	6	9657K377	7.88
0.97″	0.080″	0.47″	30.00	23.20	6	9657K378	7.28
0.97″	0.105″	0.75″	58.00	57.00	6	9657K379	8.44
2″ Overall Length							
0.18″	0.024″	0.77″	5.40	4.30	6	9657K381	5.73
0.24″	0.029″	0.69″	7.00	5.50	6	9657K382	5.73
0.25″	0.035″	0.94″	9.92	9.45	6	9657K383	5.88
0.3″	0.022″	0.31″	2.50	1.40	6	9657K384	5.70
0.3″	0.032″	0.57″	7.50	5.30	6	9657K385	5.84
0.36″	0.042″	0.68″	13.50	10.50	6	9657K386	5.99

Spring OD	Wire Dia.	Compressed Lg.	Max. Load, lbs.	Rate, lbs./inch	Pkg. Qty.		Pkg.
Zinc-Plated Steel Music Wire—Closed and Ground Flat Ends (Cont.)							
2″ Overall Length (Cont.)							
0.36″	0.051″	0.90″	25.50	22.60	6	9657K387	$6.29
0.375″	0.035″	0.68″	4.48	3.41	6	9657K388	5.91
0.42″	0.047″	0.68″	15.50	11.50	6	9657K389	6.07
0.48″	0.045″	0.54″	11.50	7.70	6	9657K391	6.07
0.48″	0.055″	0.72″	20.00	16.00	6	9657K392	6.47
0.5″	0.063″	1.06″	17.58	18.95	6	9657K393	6.81
0.5″	0.072″	1.14″	32.33	38.43	6	9657K394	6.89
0.563″	0.091″	1.13″	82.27	96.88	6	9657K395	7.74
0.6″	0.045″	0.44″	7.30	4.80	6	9657K396	6.14
0.625″	0.120″	1.46″	124.18	235.77	6	9657K397	9.59
0.66″	0.063″	0.61″	20.00	14.80	6	9657K398	6.60
0.75″	0.135″	1.25″	217.77	294.81	6	9657K399	9.99
0.845″	0.080″	0.67″	30.00	22.00	6	9657K401	7.56
0.845″	0.100″	0.87″	60.00	55.40	6	9657K402	8.61
0.875″	0.120″	1.04″	103.09	107.83	6	9657K403	9.71
0.97″	0.080″	0.52″	30.00	20.10	6	9657K404	7.44
0.97″	0.105″	0.82″	58.00	49.00	6	9657K405	8.60
0.97″	0.125″	0.99″	100.00	98.70	6	9657K406	10.61
1.218″	0.095″	0.57″	32.00	22.50	6	9657K407	8.62
1.218″	0.125″	0.83″	72.00	60.34	6	9657K408	10.78
1.46″	0.135″	0.78″	71.00	57.10	6	9657K409	10.81
2.5″ Overall Length							
0.24″	0.038″	1.24″	16.00	12.60	6	9657K411	6.04
0.3″	0.022″	0.39″	2.50	1.10	6	9657K412	5.88
0.36″	0.042″	0.85″	13.50	8.30	6	9657K413	6.08
0.375″	0.035″	0.83″	4.48	2.71	6	9657K414	5.99
0.42″	0.059″	1.16″	29.50	21.90	6	9657K415	6.78
0.48″	0.045″	0.67″	11.50	6.20	6	9657K416	6.16
0.48″	0.055″	0.93″	20.00	12.50	6	9657K417	6.65
0.5″	0.072″	1.41″	32.33	30.27	6	9657K418	7.16
0.6″	0.045″	0.53″	7.30	3.80	6	9657K419	6.24
0.6″	0.072″	1.09″	30.00	21.00	6	9657K421	7.08
0.72″	0.072″	0.87″	25.00	15.00	6	9657K422	7.07
0.72″	0.085″	0.95″	54.50	34.60	6	9657K423	8.23
0.845″	0.080″	0.79″	30.00	17.50	6	9657K424	7.81
0.97″	0.105″	1.00″	58.00	38.00	6	9657K425	8.97
0.97″	0.125″	1.20″	100.00	76.80	6	9657K426	11.27
3″ Overall Length							
0.36″	0.051″	1.32″	25.50	14.80	6	9657K427	6.74
0.48″	0.045″	0.74″	11.50	5.10	6	9657K428	6.39
0.48″	0.055″	1.11″	20.00	10.00	6	9657K429	7.04
0.5″	0.063″	1.55″	17.58	12.36	6	9657K431	7.61
0.6″	0.045″	0.62″	7.30	3.10	6	9657K432	6.51
0.6″	0.072″	1.28″	30.00	17.00	6	9657K433	7.56
0.66″	0.063″	0.86″	20.00	9.70	6	9657K434	7.22
0.66″	0.072″	1.06″	30.00	15.90	6	9657K435	7.33
0.72″	0.072″	1.02″	25.00	12.50	6	9657K436	7.50
0.72″	0.085″	1.12″	54.50	28.40	6	9657K437	8.22
0.75″	0.135″	1.81″	217.77	186.82	6	9657K438	11.10
0.845″	0.080″	0.93″	30.00	14.50	6	9657K439	8.12
0.845″	0.100″	1.23″	60.00	35.60	6	9657K441	9.33
0.97″	0.105″	1.17″	58.00	31.00	6	9657K442	9.33
0.97″	0.125″	1.41″	100.00	62.80	6	9657K443	11.92
1.218″	0.095″	0.78″	32.00	14.50	6	9657K444	8.58
1.218″	0.125″	1.16″	72.00	38.40	6	9657K445	12.05
1.46″	0.135″	1.07″	71.00	36.20	6	9657K446	12.05
3.25″ Overall Length							
0.5″	0.072″	1.81″	32.33	22.96	6	9657K447	7.91
3.5″ Overall Length							
0.48″	0.072″	1.81″	46.30	26.50	6	9657K448	7.83
0.6″	0.045″	0.71″	7.30	2.70	6	9657K449	6.60
0.625″	0.120″	2.49″	124.18	127.29	6	9657K451	11.09
0.72″	0.072″	1.15″	25.00	10.50	6	9657K452	8.02
0.72″	0.085″	1.28″	54.50	24.20	6	9657K453	8.80
0.845″	0.080″	1.08″	30.00	12.00	6	9657K454	8.54
0.97″	0.105″	1.33″	58.00	27.00	6	9657K455	9.64
0.97″	0.125″	1.62″	100.00	53.20	6	9657K456	12.59
1.218″	0.095″	0.88″	32.00	12.30	6	9657K458	8.91
1.218″	0.125″	1.32″	72.00	32.49	6	9657K457	12.72
4″ Overall Length							
0.563″	0.091″	2.18″	82.27	46.13	6	9657K459	8.67
0.72″	0.072″	1.32″	25.00	9.10	6	9657K461	8.19
0.72″	0.085″	1.45″	54.50	21.00	6	9657K462	9.06
0.75″	0.135″	2.37″	217.77	136.73	6	9657K463	12.22
0.875″	0.120″	1.94″	103.09	50.47	6	9657K464	11.64
0.97″	0.125″	1.83″	100.00	46.10	6	9657K465	13.26
1.218″	0.095″	0.98″	32.00	10.70	6	9657K466	9.23
1.218″	0.125″	1.49″	72.00	28.16	6	9657K467	13.33

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Compression Springs *(Continued from previous page)*

Spring OD	Wire Dia.	Compressed Lg.	Max. Load, lbs.	Rate, lbs./inch	Pkg. Qty.		Pkg.
Zinc-Plated Steel Music Wire—Closed and Ground Flat Ends (Cont.)							
5″ Overall Length							
0.875″	0.120″	2.39″	103.09	39.87	6	9657K468	$12.62
1.218″	0.125″	1.81″	72.00	22.25	6	9657K469	14.61
5.5″ Overall Length							
0.875″	0.120″	2.62″	103.09	36.08	6	9657K471	13.10
Spring-Tempered Steel—Closed and Ground Flat Ends							
2″ Overall Length							
1.937″	0.148″	0.72″	67.00	51.60	1	96485K121	7.49
3″ Overall Length							
1.937″	0.192″	1.34″	137.00	82.00	1	96485K131	9.09
1.937″	0.250″	1.75″	304.00	234.00	1	96485K138	14.34
4″ Overall Length							
1.937″	0.148″	1.12″	67.00	23.70	1	96485K125	9.09
1.937″	0.312″	2.73″	597.00	470.00	1	96485K384	13.56
1.937″	0.375″	3.05″	1,162.00	1,217.00	1	96485K147	13.38
2.187″	0.207″	1.45″	176.00	68.00	1	96485K154	14.89
2.187″	0.250″	1.94″	274.00	134.40	1	96485K161	11.62
2.187″	0.375″	2.91″	907.00	831.00	1	96485K171	14.87
2.437″	0.312″	2.26″	470.00	270.00	1	96485K178	16.84
2.437″	0.375″	2.72″	786.00	617.00	1	96485K187	18.47
2.437″	0.437″	3.06″	1,232.00	1,310.00	1	96485K194	17.73
5″ Overall Length							
2.687″	0.312″	2.43″	445.00	175.30	1	96485K429	19.82
2.687″	0.375″	2.95″	804.00	391.50	1	96485K211	19.76
2.906″	0.281″	2.11″	260.00	90.00	1	96485K225	13.20
2.906″	0.375″	2.86″	675.00	312.00	1	96485K233	20.03
2.906″	0.500″	3.63″	1,671.00	1,228.00	1	96485K239	21.28
3.156″	0.375″	2.63″	626.00	264.30	1	96485K247	20.03
3.156″	0.500″	3.50″	1,438.00	959.00	1	96485K262	27.36
6″ Overall Length							
1.937″	0.192″	2.33″	137.00	38.20	1	96485K135	9.57
1.937″	0.250″	3.00″	304.00	116.90	1	96485K141	11.45
3.406″	0.375″	2.91″	540.00	177.00	1	96485K269	19.43
3.406″	0.437″	3.44″	865.00	341.00	1	96485K276	22.75
3.656″	0.375″	2.63″	550.00	161.00	1	96485K291	19.43
3.906″	0.393″	2.60″	567.00	171.00	1	96485K312	22.13
3.906″	0.500″	3.50″	1,137.00	455.00	1	96485K318	27.74
3.906″	0.625″	4.22″	2,328.00	1,307.00	1	96485K331	37.56
4.156″	0.406″	2.64″	553.00	164.50	1	96485K339	23.40
4.406″	0.625″	3.91″	2,000.00	955.00	1	96485K481	37.90
4.906″	0.500″	2.88″	875.00	280.00	1	96485K432	28.26
8″ Overall Length							
1.937″	0.312″	5.23″	597.00	215.00	1	96485K386	15.07
1.937″	0.375″	5.86″	1,162.00	547.00	1	96485K152	19.40
2.187″	0.207″	2.59″	176.00	32.30	1	96485K156	11.62
2.187″	0.250″	3.63″	274.00	61.80	1	96485K164	12.84
2.187″	0.375″	5.57″	907.00	371.80	1	96485K174	20.03
2.437″	0.312″	4.21″	470.00	123.00	1	96485K182	18.47
2.437″	0.375″	5.16″	786.00	276.00	1	96485K191	19.43
2.437″	0.437″	5.86″	1,232.00	575.00	1	96485K197	20.30
2.687″	0.312″	3.67″	445.00	104.30	1	96485K205	19.76
2.687″	0.375″	4.50″	804.00	230.00	1	96485K214	20.00
2.687″	0.468″	5.57″	1,548.00	637.50	1	96485K222	23.40
2.906″	0.281″	3.16″	260.00	53.00	1	96485K397	15.07
2.906″	0.375″	4.31″	675.00	185.00	1	96485K236	20.44
2.906″	0.500″	5.63″	1,671.00	697.00	1	96485K242	24.73
3.156″	0.375″	3.94″	626.00	155.50	1	96485K249	20.44
10″ Overall Length							
2.906″	0.281″	3.86″	260.00	42.00	1	96485K229	19.09
3.156″	0.437″	5.68″	1,019.00	237.10	1	96485K259	27.36
3.156″	0.500″	6.63″	1,438.00	426.20	1	96485K265	28.28
12″ Overall Length							
3.406″	0.375″	5.44″	540.00	82.00	1	96485K272	29.52
3.406″	0.531″	7.70″	1,661.00	385.00	1	96485K284	36.42
3.656″	0.375″	4.73″	550.00	75.70	1	96485K293	24.60
3.906″	0.393″	4.72″	567.00	79.00	1	96485K315	26.13
3.906″	0.500″	6.50″	1,137.00	207.00	1	96485K322	32.77
4.156″	0.406″	4.77″	553.00	76.00	1	96485K342	25.49
4.906″	0.500″	5.13″	875.00	127.00	1	96485K436	33.11
4.906″	0.625″	6.56″	1,764.00	329.00	1	96485K455	43.70
Square-Wire Spring-Tempered Steel—Closed and Ground Flat Ends							
2.5″ Overall Length							
0.406″	0.062″	1.41″	19.95	38.00	1	9620K11	3.19
0.468″	0.093″	1.89″	52.75	176.00	1	9620K17	6.42
0.531″	0.062″	1.21″	15.46	17.00	1	9620K14	3.66
0.781″	0.093″	1.10″	32.60	50.00	1	9620K21	5.42
0.781″	0.125″	1.47″	73.26	195.00	1	9620K24	7.37
0.906″	0.125″	1.36″	63.69	125.00	1	9620K27	7.95
1.031″	0.125″	1.17″	56.34	95.00	1	9620K31	8.34
1.031″	0.156″	1.68″	103.50	220.00	1	9620K41	13.89
3″ Overall Length							
0.406″	0.062″	1.82″	19.95	29.00	1	9620K12	3.35
0.656″	0.062″	1.44″	9.38	7.00	1	9620K57	$5.63
0.656″	0.093″	1.59″	38.49	60.00	1	9620K18	6.57
0.656″	0.125″	1.93″	86.16	275.00	1	9620K22	7.37
0.781″	0.125″	1.73″	73.26	160.00	1	9620K25	7.93
0.906″	0.125″	1.50″	63.69	110.00	1	9620K28	7.98
1.031″	0.125″	1.37″	56.34	78.00	1	9620K32	8.40
1.281″	0.187″	1.62″	138.83	306.00	1	9620K44	15.96
1.375″	0.250″	2.13″	289.45	952.00	1	9620K53	22.26
3.5″ Overall Length							
0.406″	0.062″	1.95″	19.95	27.00	1	9620K13	3.50
0.906″	0.125″	1.63″	63.69	100.00	1	9620K29	8.03
1.031″	0.125″	1.60″	56.34	65.00	1	9620K33	8.50
4″ Overall Length							
1.281″	0.187″	2.14″	138.83	215.00	1	9620K46	17.18
Zinc-Plated Spring-Tempered Steel—Closed Ends							
0.875″ Overall Length							
0.875″	0.091″	0.59″	25.07	88.94	12	9657K132	6.00
1″ Overall Length							
0.25″	0.029″	0.62″	3.64	9.58	12	9657K149	5.43
0.313″	0.029″	0.50″	2.90	5.80	12	9657K152	6.08
0.313″	0.035″	0.63″	5.03	13.60	12	9657K154	6.69
0.343″	0.041″	0.64″	6.65	18.43	12	9657K105	5.83
1.25″ Overall Length							
0.188″	0.023″	0.75″	2.55	5.10	12	9657K147	4.93
0.312″	0.041″	0.88″	7.26	19.44	12	9657K106	5.89
0.375″	0.035″	0.44″	4.23	5.22	12	9657K155	6.86
0.688″	0.091″	0.95″	31.34	102.95	12	9657K133	7.50
1.375″ Overall Length							
0.563″	0.072″	1.01″	19.84	54.39	12	9657K134	7.10
1.5″ Overall Length							
0.312″	0.035″	0.90″	4.69	7.81	12	9657K111	5.99
0.343″	0.047″	1.07″	9.69	22.54	12	9657K109	6.33
0.375″	0.048″	1.01″	9.96	20.33	12	9657K156	8.01
1.625″ Overall Length							
0.312″	0.041″	1.16″	7.26	15.70	12	9657K38	8.39
1.75″ Overall Length							
0.375″	0.041″	1.08″	6.12	9.08	12	9657K36	6.25
0.406″	0.062″	1.38″	17.73	47.44	12	9657K113	7.10
1.875″ Overall Length							
0.437″	0.035″	0.75″	3.41	3.02	12	9657K34	8.18
2″ Overall Length							
0.188″	0.023″	1.20″	2.56	3.20	12	9657K148	6.83
0.188″	0.035″	1.50″	8.22	16.44	6	9657K233	9.21
0.25″	0.041″	1.12″	17.80	20.22	6	9657K231	9.21
0.312″	0.029″	0.94″	2.93	2.76	12	9657K153	7.92
0.312″	0.047″	1.52″	10.55	22.17	12	9657K114	7.01
0.375″	0.047″	1.28″	8.93	12.42	12	9657K123	7.05
0.406″	0.047″	1.18″	8.29	10.11	12	9657K37	7.27
0.437″	0.054″	1.27″	11.36	15.54	12	9657K122	7.39
0.5″	0.047″	0.92″	6.82	6.29	12	9657K121	7.35
0.75″	0.080″	1.18″	15.97	19.58	6	9657K26	5.86
0.938″	0.080″	0.94″	16.42	15.54	6	9657K27	5.87
2.25″ Overall Length							
0.375″	0.062″	1.78″	19.02	40.75	12	9657K119	7.10
0.437″	0.041″	1.09″	4.11	3.54	12	9657K118	7.10
2.5″ Overall Length							
0.25″	0.029″	1.54″	3.58	3.73	12	9657K151	8.33
0.25″	0.035″	1.65″	5.75	6.78	12	9657K172	5.92
0.313″	0.048″	1.42″	16.99	15.73	6	9657K227	9.21
0.438″	0.048″	1.50″	8.66	8.66	12	9657K158	9.98
0.468″	0.054″	1.42″	10.66	9.84	12	9657K117	7.07
0.5″	0.062″	1.69″	14.68	18.06	12	9657K129	7.05
0.625″	0.080″	1.64″	24.06	27.98	12	9657K128	8.00
2.75″ Overall Length							
0.406″	0.047″	1.66″	8.29	7.58	12	9657K146	6.90
0.5″	0.072″	1.99″	22.10	28.98	12	9657K116	7.57
0.625″	0.054″	1.14″	8.11	5.05	12	9657K127	7.53
3″ Overall Length							
0.313″	0.035″	1.26″	5.67	3.26	6	9657K232	9.21
0.313″	0.041″	1.11″	15.98	8.46	6	9657K229	9.21
0.375″	0.048″	2.08″	9.95	10.82	12	9657K157	7.86
0.375″	0.054″	1.62″	20.40	14.78	6	9657K225	9.21
0.438″	0.048″	1.72″	8.65	6.76	12	9657K159	8.20
0.5″	0.047″	1.37″	6.15	3.77	12	9657K115	5.71
0.5″	0.080″	2.37″	29.42	46.75	6	9657K173	5.92
0.563″	0.080″	2.24″	26.46	34.84	6	9657K174	6.05
0.563″	0.080″	1.68″	40.70	30.83	6	9657K217	10.56
0.593″	0.054″	1.37″	7.49	4.59	12	9657K126	6.27
0.625″	0.080″	2.07″	24.06	25.98	12	9657K125	6.79
0.688″	0.047″	1.13″	3.56	1.90	12	9657K124	6.80

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Compression Springs *(Continued from previous page)*

Spring OD	Wire Dia.	Compressed Lg.	Max. Load, lbs.	Rate, lbs./ inch	Pkg. Qty.		Pkg.
Zinc-Plated Spring-Tempered Steel—Closed Ends (Cont.)							
3.5″ Overall Length							
0.375″	0.041″	2.50″	2.87	2.87	6	9657K228	$9.77
0.438″	0.048″	2.03″	4.77	3.25	6	9657K226	9.77
0.438″	0.054″	1.73″	14.21	8.03	6	9657K224	9.77
0.438″	0.072″	1.94″	56.10	35.96	6	9657K219	9.77
4″ Overall Length							
0.5″	0.054″	1.96″	11.71	5.74	6	9657K223	9.77
0.5″	0.063″	2.21″	15.63	8.73	6	9657K222	9.77
0.625″	0.080″	2.24″	27.83	15.81	6	9657K216	11.88
0.625″	0.106″	2.42″	111.49	70.56	6	9657K214	11.88
4.5″ Overall Length							
0.5″	0.072″	2.34″	36.70	16.99	6	9657K218	10.56
0.563″	0.063″	2.34″	11.15	5.16	6	9657K221	10.56
5″ Overall Length							
0.75″	0.092″	2.36″	44.36	16.80	6	9657K215	11.88
0.75″	0.106″	2.73″	66.23	29.18	6	9657K213	12.56
6″ Overall Length							
0.875″	0.106″	3.50″	34.90	13.96	6	9657K212	12.56
0.875″	0.120″	3.76″	59.00	26.64	6	9657K321	12.99
Zinc-Plated Spring-Tempered Steel—Closed and Ground Flat Ends							
1.375″ Overall Length							
0.812″	0.162″	1.23″	127.60	901.30	6	9657K23	15.30
1.625″ Overall Length							
0.781″	0.120″	1.28″	59.29	172.02	6	9657K24	12.86
1.875″ Overall Length							
0.812″	0.120″	1.46″	57.26	138.39	6	9657K25	12.94
2″ Overall Length							
0.875″	0.120″	1.52″	53.51	110.82	6	9657K28	13.20
2.25″ Overall Length							
0.812″	0.105″	1.58″	39.81	59.57	1	9657K29	2.71
0.812″	0.120″	1.74″	57.26	112.44	1	9657K31	2.35
2.375″ Overall Length							
0.625″	0.105″	1.99″	50.35	130.81	6	9657K11	12.27
2.5″ Overall Length							
0.75″	0.105″	1.82″	42.81	63.22	6	9657K12	12.64

Spring OD	Wire Dia.	Compressed Lg.	Max. Load, lbs.	Rate, lbs./ inch	Pkg. Qty.		Pkg.
Zinc-Plated Spring-Tempered Steel—Closed and Ground Flat Ends (Cont.)							
2.5″ Overall Length (Cont.)							
0.75″	0.135″	2.09″	84.24	205.27	1	9657K14	$2.77
0.875″	0.135″	1.91″	73.64	124.03	1	9657K13	2.44
1″	0.120″	1.63″	47.34	54.68	1	9657K32	2.55
2.75″ Overall Length							
0.625″	0.120″	2.32″	71.87	165.32	6	9657K15	13.27
0.875″	0.148″	2.28″	94.28	199.44	1	9657K16	3.16
0.906″	0.105″	1.80″	35.98	37.78	6	9657K17	14.22
3″ Overall Length							
0.563″	0.091″	2.40″	37.53	62.50	6	9657K175	11.40
0.875″	0.091″	1.65″	25.07	18.60	6	9657K18	12.54
0.875″	0.105″	2.03″	37.16	38.27	6	9657K19	12.86
1″	0.120″	1.97″	47.34	46.04	6	9657K21	13.41
1.25″	0.148″	2.07″	68.32	73.62	1	9657K22	3.00
3.125″ Overall Length							
0.75″	0.091″	2.16″	28.95	29.95	6	9657K145	10.00
3.5″ Overall Length							
0.75″	0.091″	2.32″	28.95	24.60	6	9657K143	8.95
0.75″	0.135″	2.97″	84.24	157.90	6	9657K144	12.97
1″	0.120″	2.31″	47.34	39.76	6	9657K142	10.05
1″	0.162″	2.80″	106.88	152.95	6	9657K141	14.80
3.75″ Overall Length							
0.812″	0.135″	3.09″	78.66	118.37	6	9657K139	13.32
4″ Overall Length							
0.688″	0.105″	3.06″	46.26	48.99	6	9657K137	9.80
0.938″	0.148″	3.18″	88.70	107.60	6	9657K138	14.40
1.25″	0.148″	2.81″	68.32	57.26	1	9657K136	2.74
Brass—Closed and Ground Flat Ends							
0.78″ Overall Length							
0.375″	0.042″	0.38″	2.92	7.30	12	9657K86	8.37
Phosphor Bronze—Closed and Ground Flat Ends							
0.97″ Overall Length							
0.5″	0.072″	0.54″	21.40	59.50	6	9657K255	9.77

Stainless Steel Compression Springs

Spring OD	Wire Dia.	Compressed Lg.	Max. Load, lbs.	Rate, lbs./ inch	Pkg. Qty.		Pkg.
Type 302 Stainless Steel—Closed Ends							
0.25″ Overall Length							
0.12″	0.020″	0.16″	3.60	40.00	6	1986K42	$5.01
0.125″	0.016″	0.11″	2.26	16.22	6	1986K43	5.01
0.25″	0.020″	0.09″	1.75	10.96	6	1986K65	5.01
0.375″ Overall Length							
0.12″	0.016″	0.17″	2.01	9.71	6	1986K41	5.01
0.125″	0.016″	0.11″	4.29	16.22	6	1986K44	5.01
0.3″	0.022″	0.11″	2.04	7.57	6	1986K77	5.01
0.5″ Overall Length							
0.125″	0.016″	0.18″	2.56	7.91	6	1986K45	5.01
0.24″	0.022″	0.15″	2.69	7.64	6	1986K63	5.01
0.25″	0.026″	0.17″	4.99	14.95	6	1986K71	5.01
0.3″	0.026″	0.15″	3.46	9.92	6	1986K79	5.01
0.36″	0.041″	0.25″	8.36	34.00	6	1986K91	5.01
0.375″	0.035″	0.23″	3.72	13.64	6	1986K93	5.01
0.5″	0.062″	0.33″	16.38	95.57	6	1986K117	5.01
0.75″ Overall Length							
0.125″	0.016″	0.24″	2.69	5.27	6	1986K46	5.01
0.24″	0.022″	0.19″	2.71	4.87	6	1986K64	5.01
0.25″	0.026″	0.25″	3.93	7.82	6	1986K72	5.01
0.3″	0.022″	0.15″	2.09	3.50	6	1986K78	5.01
0.36″	0.041″	0.32″	9.75	22.67	6	1986K92	5.01
0.375″	0.035″	0.35″	2.79	6.92	6	1986K94	5.01
0.48″	0.045″	0.28″	8.80	18.87	6	1986K115	5.01
0.5″	0.062″	0.45″	15.89	52.34	6	1986K118	5.01
0.875″ Overall Length							
0.875″	0.091″	0.48″	30.37	77.34	6	1986K143	8.56
0.938″ Overall Length							
0.188″	0.012″	0.28″	0.16	0.24	6	1986K52	5.01
1″ Overall Length							
0.156″	0.016″	0.41″	1.30	2.20	6	1986K1	5.03
0.156″	0.028″	0.48″	13.63	26.02	6	1986K49	5.01
0.188″	0.020″	0.34″	2.01	3.04	6	1986K53	5.01
0.219″	0.016″	0.22″	0.69	0.89	6	1986K58	5.01
0.219″	0.028″	0.42″	5.35	9.23	6	1986K59	5.01
0.25″	0.020″	0.64″	0.57	1.58	6	1986K2	5.12
0.25″	0.029″	0.49″	4.25	8.33	6	1986K3	5.00
0.313″	0.029″	0.32″	3.43	5.04	6	1986K4	5.12
0.313″	0.035″	0.38″	7.06	11.33	6	1986K84	5.01
0.344″	0.041″	0.48″	8.48	16.31	6	1986K5	5.92

Spring OD	Wire Dia.	Compressed Lg.	Max. Load, lbs.	Rate, lbs./ inch	Pkg. Qty.		Pkg.
Type 302 Stainless Steel—Closed Ends (Cont.)							
1.25″ Overall Length							
0.188″	0.023″	0.50″	3.21	4.25	6	1986K55	$5.01
0.25″	0.023″	0.35″	2.26	2.49	6	1986K69	5.01
0.281″	0.041″	0.84″	5.96	14.56	6	1986K76	5.01
0.313″	0.041″	0.55″	11.71	16.81	6	1986K87	5.01
0.375″	0.035″	0.86″	1.77	4.54	6	1986K6	6.12
0.688″	0.091″	0.80″	38.07	84.60	6	1986K7	9.60
1.313″	0.125″	0.60″	65.81	101.25	6	1986K156	11.13
1.375″ Overall Length							
0.156″	0.016″	0.37″	1.50	1.49	6	1986K47	5.01
0.188″	0.028″	0.70″	5.81	8.61	6	1986K56	5.01
0.219″	0.028″	0.56″	5.31	6.51	6	1986K61	5.01
0.25″	0.020″	0.36″	1.11	1.10	6	1986K66	5.01
0.281″	0.028″	0.43″	3.56	3.78	6	1986K75	5.01
0.313″	0.031″	0.40″	5.03	5.18	6	1986K83	5.01
0.563″	0.072″	0.65″	34.49	47.44	6	1986K124	5.75
1.5″ Overall Length							
0.313″	0.023″	0.95″	0.55	1.00	6	1986K8	7.33
0.313″	0.035″	0.56″	6.35	6.75	6	1986K85	5.01
0.344″	0.047″	0.71″	15.46	19.45	6	1986K89	5.01
0.375″	0.025″	0.93″	0.58	1.02	6	1986K9	6.52
0.375″	0.028″	0.81″	1.26	1.83	6	1986K11	5.64
0.375″	0.048″	0.83″	11.85	17.69	6	1986K12	7.02
1.625″ Overall Length							
0.781″	0.120″	1.08″	81.43	149.41	6	1986K139	11.13
1.75″ Overall Length							
0.156″	0.016″	0.43″	1.63	1.24	6	1986K48	5.01
0.188″	0.020″	0.46″	2.75	2.13	6	1986K54	5.01
0.219″	0.028″	0.67″	5.68	5.27	6	1986K62	5.01
0.25″	0.020″	0.48″	0.99	0.78	6	1986K67	5.01
0.375″	0.041″	0.77″	8.14	8.31	6	1986K13	7.45
0.406″	0.062″	0.87″	36.30	41.16	6	1986K27	5.75
0.75″	0.125″	1.23″	96.51	183.82	6	1986K138	11.84
1.875″ Overall Length							
0.438″	0.035″	1.19″	1.90	2.75	6	1986K14	7.83
0.813″	0.120″	1.14″	88.26	120.08	6	1986K142	11.84
1.969″ Overall Length							
0.313″	0.022″	0.55″	0.78	0.55	6	1986K81	5.01
2″ Overall Length							
0.188″	0.035″	1.54″	5.93	12.90	6	1986K57	5.01

(Continued on following page)

Stainless Steel Compression Springs *(Continued from previous page)*

Spring OD	Wire Dia.	Compressed Lg.	Max. Load, lbs.	Rate, lbs./ inch	Pkg. Qty.		Pkg.
Type 302 Stainless Steel—Closed Ends (Cont.)							
2″ Overall Length (Cont.)							
0.25″	0.041″	0.91″	21.77	20.05	6	1986K74	$5.01
0.313″	0.029″	0.58″	3.27	2.30	6	1986K82	5.01
0.375″	0.047″	0.97″	12.05	11.70	6	1986K15	7.94
0.406″	0.047″	0.85″	10.12	8.77	6	1986K99	5.01
0.438″	0.054″	0.92″	14.56	13.46	6	1986K112	5.01
0.5″	0.047″	1.35″	3.80	5.85	6	1986K16	6.64
0.75″	0.080″	1.44″	12.32	22.00	6	1986K17	11.02
0.938″	0.080″	1.36″	8.51	13.30	6	1986K18	11.54
1.937″	0.148″	0.66″	59.00	43.90	1	1986K31	15.94
2.031″ Overall Length							
0.938″	0.080″	0.74″	16.96	13.10	6	1986K149	9.84
2.188″ Overall Length							
0.594″	0.041″	0.39″	5.68	3.17	6	1986K125	5.01
2.25″ Overall Length							
0.375″	0.062″	1.24″	35.79	35.43	6	1986K97	7.88
0.438″	0.041″	0.88″	4.19	3.06	6	1986K28	5.75
0.813″	0.105″	1.19″	54.97	51.69	6	1986K141	11.84
2.375″ Overall Length							
0.625″	0.105″	1.31″	120.85	113.75	6	1986K133	10.91
2.5″ Overall Length							
0.25″	0.028″	0.87″	4.09	2.51	6	1986K73	5.01
0.313″	0.047″	1.37″	14.14	12.49	6	1986K88	5.75
0.438″	0.047″	0.81″	12.20	7.21	6	1986K29	5.75
0.469″	0.054″	1.11″	11.86	8.51	6	1986K114	7.88
0.5″	0.062″	1.33″	19.77	16.90	6	1986K19	8.81
0.625″	0.080″	1.28″	29.68	24.33	6	1986K128	10.22
0.75″	0.105″	1.40″	60.66	54.97	6	1986K137	12.16
0.875″	0.135″	1.69″	87.63	107.85	6	1986K147	15.75
1″	0.120″	1.91″	28.67	48.59	6	1986K21	14.95
2.563″ Overall Length							
1.016″	0.120″	1.30″	58.58	46.26	6	1986K154	14.15
2.656″ Overall Length							
0.625″	0.054″	1.77″	4.19	4.73	6	1986K22	8.97
2.75″ Overall Length							
0.406″	0.047″	1.08″	10.98	6.58	6	1986K98	5.75
0.5″	0.072″	1.44″	33.02	25.20	6	1986K119	8.97
0.625″	0.054″	0.86″	8.28	4.39	6	1986K127	8.06
0.906″	0.105″	1.26″	48.90	32.82	6	1986K148	12.59
3″ Overall Length							
0.313″	0.035″	1.34″	4.15	2.49	6	1986K86	5.75
0.375″	0.054″	1.46″	20.49	13.33	6	1986K96	7.88
Type 302 Stainless Steel—Closed Ends (Cont.)							
3″ Overall Length (Cont.)							
0.438″	0.047″	1.00″	11.28	5.63	6	1986K111	$5.75
0.5″	0.047″	2.03″	3.49	3.60	6	1986K23	10.22
0.5″	0.080″	1.60″	56.91	40.65	6	1986K122	10.77
0.594″	0.054″	1.12″	7.19	3.82	6	1986K126	8.56
0.625″	0.080″	1.36″	37.05	22.59	6	1986K131	10.37
0.688″	0.047″	1.90″	1.95	1.77	6	1986K24	10.93
0.875″	0.091″	1.27″	27.91	16.17	6	1986K144	11.44
1″	0.120″	1.50″	60.06	40.04	6	1986K152	15.22
1.25″	0.148″	1.75″	80.00	64.00	6	1986K25	15.45
3.125″ Overall Length							
0.75″	0.091″	1.69″	39.33	27.41	6	1986K26	12.47
3.5″ Overall Length							
0.375″	0.041″	1.68″	4.56	2.50	6	1986K95	8.06
0.438″	0.072″	2.07″	38.04	26.67	6	1986K113	9.50
0.75″	0.091″	1.60″	38.95	20.52	6	1986K135	12.38
1″	0.120″	1.68″	62.93	34.58	3	1986K153	8.81
4″ Overall Length							
0.5″	0.054″	1.46″	12.69	4.99	6	1986K116	8.56
0.625″	0.080″	2.26″	21.70	12.50	6	1986K132	12.68
0.688″	0.105″	2.29″	69.96	40.89	6	1986K134	14.71
0.938″	0.148″	2.37″	153.00	93.75	3	1986K151	11.34
1.25″	0.148″	1.78″	110.74	49.79	3	1986K155	11.41
Type 302 Stainless Steel—Closed and Ground Flat Ends							
3″ Overall Length							
1.937″	0.192″	1.74″	121.00	69.70	1	1986K33	19.69
Type 316 Stainless Steel—Closed Ends							
1″ Overall Length							
0.156″	0.016″	0.41″	1.30	2.20	6	8969T1	7.68
0.25″	0.020″	0.64″	0.57	1.58	6	8969T2	7.72
0.25″	0.029″	0.49″	4.25	8.33	6	8969T3	7.96
0.313″	0.029″	0.32″	3.43	5.04	6	8969T4	7.84
0.344″	0.041″	0.48″	8.48	16.31	6	8969T5	7.86
1.25″ Overall Length							
0.375″	0.035″	0.86″	1.77	4.54	6	8969T6	8.60
2″ Overall Length							
0.5″	0.047″	1.35″	3.80	5.85	6	8969T16	8.12
0.75″	0.080″	1.44″	12.32	22.00	6	8969T17	11.94
0.938″	0.080″	1.36″	8.51	13.30	6	8969T18	13.20
2.656″ Overall Length							
0.625″	0.054″	1.77″	4.19	4.73	6	8969T22	11.34

Confined-Space Conical Compression Springs

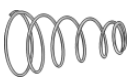

When pushed together, the coils of these cone-shaped springs nest within each other to provide a near constant spring rate and a shorter compressed length than a normal compression spring. All springs are made of Type 302 stainless steel and have closed ends.

Large End OD	Small End OD	Wire Dia.	Compressed Lg.	Load, lbs.	Rate, lbs./ inch	Pkg. Qty.		Pkg.
0.25″ Overall Length								
0.36″	0.125″	0.029″	0.06″	3.45	27.58	1	1692K11	$2.59
0.42″	0.187″	0.032″	0.06″	3.19	25.49	1	1692K14	2.93
0.42″	0.187″	0.035″	0.07″	5.09	40.80	1	1692K15	3.00
0.42″	0.218″	0.029″	0.06″	2.04	16.38	1	1692K13	2.74
0.48″	0.218″	0.038″	0.08″	4.75	38.02	1	1692K16	3.11
0.312″ Overall Length								
0.48″	0.281″	0.029″	0.06″	1.53	9.79	3	1692K53	7.77
0.375″ Overall Length								
0.42″	0.156″	0.029″	0.06″	2.50	13.35	1	1692K12	2.71
0.48″	0.187″	0.035″	0.07″	3.92	20.91	1	1692K17	3.03
0.48″	0.25″	0.029″	0.06″	1.59	8.50	3	1692K51	7.77
0.60″	0.312″	0.038″	0.08″	2.62	13.99	1	1692K52	3.08
0.72″	0.375″	0.049″	0.10″	4.84	25.82	1	1692K18	4.23
0.5″ Overall Length								
0.48″	0.187″	0.032″	0.06″	2.88	11.51	3	1692K6	7.77
0.48″	0.218″	0.029″	0.06″	1.93	7.70	3	1692K49	7.77
0.60″	0.375″	0.032″	0.06″	1.53	6.13	1	1692K19	3.08
0.72″	0.281″	0.055″	0.11″	10.12	40.50	1	1692K21	3.21
0.85″	0.375″	0.067″	0.13″	14.85	59.45	1	1692K61	3.25
0.625″ Overall Length								
0.48″	0.156″	0.032″	0.06″	3.42	10.93	3	1692K48	7.77
0.48″	0.187″	0.029″	0.06″	2.15	6.88	1	1692K22	2.95
0.60″	0.281″	0.035″	0.07″	2.41	7.70	1	1692K25	3.35
0.60″	0.343″	0.032″	0.06″	1.64	5.25	1	1692K24	3.06
0.60″	0.375″	0.029″	0.06″	1.12	3.57	1	1692K23	2.76
0.72″	0.375″	0.040″	0.08″	2.45	7.84	1	1692K58	3.16
0.72″	0.438″	0.038″	0.08″	2.10	6.72	1	1692K59	3.16
0.98″	0.438″	0.072″	0.14″	14.85	47.49	1	1692K5	2.94
0.75″ Overall Length								
0.60″	0.375″	0.026″	0.05″	0.73	1.94	1	1692K26	2.90
0.72″	0.281″	0.045″	0.09″	4.83	12.87	1	1692K27	3.21
0.85″	0.438″	0.049″	0.10″	4.26	11.35	1	1692K57	3.26
0.75″ Overall Length (Cont.)								
0.85″	0.5″	0.045″	0.09″	3.00	7.99	1	1692K65	$3.26
0.98″	0.375″	0.072″	0.14″	16.11	42.98	1	1692K29	5.21
0.98″	0.625″	0.049″	0.10″	2.93	7.81	1	1692K28	4.87
1″ Overall Length								
0.60″	0.281″	0.029″	0.06″	1.39	2.77	1	1692K32	2.90
0.60″	0.343″	0.026″	0.05″	0.84	1.67	1	1692K31	2.82
0.72″	0.281″	0.042″	0.08″	4.19	8.37	1	1692K55	3.16
0.72″	0.375″	0.035″	0.07″	1.80	3.59	1	1692K33	3.08
0.85″	0.281″	0.055″	0.11″	8.50	17.01	1	1692K35	3.20
0.85″	0.438″	0.042″	0.08″	2.35	4.71	1	1692K34	2.91
0.98″	0.5″	0.055″	0.11″	5.40	10.79	1	1692K64	2.94
0.98″	0.56″	0.049″	0.10″	3.29	6.58	1	1692K56	2.94
1.25″ Overall Length								
0.60″	0.312″	0.026″	0.05″	1.00	1.61	1	1692K36	2.98
0.72″	0.281″	0.038″	0.08″	2.99	4.78	1	1692K63	3.16
0.85″	0.375″	0.045″	0.09″	3.75	6.00	1	1692K37	3.79
0.98″	0.5″	0.049″	0.10″	3.56	5.69	1	1692K54	2.94
1.5″ Overall Length								
0.85″	0.343″	0.045″	0.09″	4.19	5.59	1	1692K38	3.09
0.85″	0.343″	0.042″	0.08″	3.08	4.11	1	1692K39	6.19
0.98″	0.375″	0.055″	0.10″	6.88	9.18	1	1692K41	6.19
0.98″	0.375″	0.055″	0.11″	6.88	9.18	1	1692K62	2.94
0.98″	0.438″	0.049″	0.10″	3.88	5.18	1	1692K4	6.19
2″ Overall Length								
1.50″	0.75″	0.068″	0.14″	6.52	6.52	1	1692K42	6.97
1.50″	0.75″	0.080″	0.16″	10.36	10.36	1	1692K43	6.97
2.5″ Overall Length								
1.88″	0.938″	0.085″	0.17″	9.72	7.77	1	1692K44	7.76
1.88″	0.938″	0.100″	0.20″	15.38	12.30	1	1692K45	7.76
3″ Overall Length								
2.25″	1.125″	0.100″	0.20″	12.68	8.46	1	1692K46	8.51
2.25″	1.125″	0.120″	0.24″	20.66	13.78	1	1692K47	8.51

Precision Compression Springs

Use these springs in applications where tight OD and rate tolerances are required. All springs have closed and ground flat ends.

Type 302 Stainless Steel Springs—Offer excellent corrosion resistance.

Also Available: Springs with a certificate of compliance. Please ask for 9434K999 and specify the spring part number.

Specification	Tolerance
OD: 0.120″ to 0.250″	+0.003″/–0.005″
OD: 0.251″ to 0.599″	±0.008″
OD: 0.600″ to 0.720″	±0.015″
Rate, lbs./inch	±8%

Zinc-Plated Music Wire—Meet ASTM A228.

Lg.	Spring OD	Wire Dia.	Compressed Lg.	Load, lbs.	Rate, lbs./inch		Pkg. of 5
0.250″	0.12″	0.016″	0.114″	1.93	17.50	9434K12	$4.85
0.375″	0.24″	0.022″	0.111″	2.40	12.00	9434K36	4.85
0.500″	0.12″	0.016″	0.205″	1.87	8.50	9434K13	4.85
0.500″	0.12″	0.022″	0.309″	4.34	31.00	9434K19	4.85
0.500″	0.18″	0.018″	0.132″	1.75	7.00	9434K25	4.85
0.500″	0.30″	0.022″	0.106″	1.89	6.50	9434K51	4.85
0.500″	0.36″	0.032″	0.145″	4.50	18.00	9434K72	4.98
0.500″	0.48″	0.045″	0.192″	9.10	35.00	9434K113	5.11
0.563″	0.18″	0.026″	0.274″	4.83	23.00	9434K31	4.85
0.563″	0.24″	0.022″	0.144″	2.32	8.00	9434K37	4.85
0.625″	0.24″	0.026″	0.203″	3.75	12.50	9434K4	4.85
0.625″	0.24″	0.032″	0.273″	6.72	28.00	9434K43	4.85
0.688″	0.30″	0.022″	0.128″	1.89	4.50	9434K52	4.85
0.688″	0.30″	0.032″	0.241″	5.92	16.00	9434K58	4.98
0.750″	0.12″	0.016″	0.318″	2.30	5.00	9434K163	4.85
0.750″	0.12″	0.018″	0.351″	2.55	8.50	9434K17	4.85
0.750″	0.18″	0.016″	0.177″	1.28	2.50	9434K23	4.85
0.750″	0.24″	0.038″	0.39″	10.58	46.00	9434K164	4.85
0.750″	0.36″	0.026″	0.138″	2.52	6.00	9434K7	4.98
0.750″	0.60″	0.072″	0.397″	26.52	78.00	9434K134	7.34
0.750″	0.72″	0.055″	0.221″	10.58	23.00	9434K137	7.34
0.750″	0.72″	0.063″	0.284″	15.51	33.00	9434K154	7.34
0.813″	0.12″	0.022″	0.51″	4.50	18.00	9434K2	4.85
0.813″	0.24″	0.022″	0.199″	2.35	5.00	9434K38	4.85
0.813″	0.24″	0.042″	0.505″	13.80	60.00	9434K49	4.85
0.813″	0.30″	0.045″	0.417″	14.28	51.00	9434K67	4.98
0.813″	0.36″	0.038″	0.267″	7.41	19.00	9434K76	4.98
0.813″	0.36″	0.042″	0.306″	9.80	28.00	9434K79	4.98
0.813″	0.36″	0.045″	0.339″	11.84	37.00	9434K82	5.11
0.875″	0.18″	0.026″	0.391″	4.95	15.00	9434K32	6.26
0.875″	0.24″	0.026″	0.287″	3.76	8.00	9434K41	6.26
0.875″	0.30″	0.022″	0.166″	1.89	3.00	9434K53	4.98
0.875″	0.36″	0.032″	0.209″	4.60	10.00	9434K73	4.98
0.875″	0.42″	0.047″	0.33″	11.48	28.00	9434K91	5.11
0.875″	0.48″	0.038″	0.21″	5.57	10.50	9434K97	5.11
0.875″	0.48″	0.045″	0.271″	8.93	19.00	9434K165	5.11
0.875″	0.48″	0.055″	0.373″	15.58	38.00	9434K117	6.82
0.875″	0.48″	0.063″	0.457″	22.75	65.00	9434K152	5.11
0.875″	0.60″	0.045″	0.266″	7.20	12.00	9434K123	4.98
0.875″	0.72″	0.072″	0.361″	22.56	48.00	9434K146	5.71
1.000″	0.18″	0.032″	0.601″	12.18	29.00	9434K166	4.85
1.000″	0.24″	0.032″	0.425″	6.72	16.00	9434K44	4.34
1.000″	0.30″	0.026″	0.229″	3.05	5.00	9434K56	6.82
1.000″	0.30″	0.032″	0.337″	5.40	10.00	9434K59	6.82
1.125″	0.36″	0.026″	0.19″	2.56	3.50	9434K71	4.98
1.250″	0.60″	0.072″	0.596″	30.60	45.00	9434K135	5.71
1.250″	0.72″	0.055″	0.304″	10.08	14.00	9434K138	5.71
1.250″	0.72″	0.063″	0.441″	15.58	19.00	9434K141	5.71
1.250″	0.72″	0.072″	0.47″	22.77	33.00	9434K147	5.71
1.500″	0.24″	0.038″	0.772″	10.71	21.00	9434K47	4.85
1.500″	0.24″	0.042″	0.905″	13.95	31.00	9434K161	4.85
1.500″	0.30″	0.038″	0.571″	8.78	13.50	9434K62	6.82
1.500″	0.30″	0.042″	0.673″	11.40	20.00	9434K65	6.82
1.500″	0.30″	0.045″	0.743″	14.04	26.00	9434K162	4.98
1.500″	0.36″	0.032″	0.338″	4.57	5.50	9434K74	4.98
1.500″	0.36″	0.038″	0.477″	7.38	9.00	9434K77	4.98
1.500″	0.36″	0.042″	0.527″	9.72	14.50	9434K8	5.11
1.500″	0.36″	0.045″	0.586″	11.70	18.00	9434K83	5.11
1.500″	0.42″	0.038″	0.381″	6.37	7.00	9434K86	5.11
1.500″	0.42″	0.042″	0.442″	8.40	10.50	9434K89	5.11
1.500″	0.42″	0.055″	0.661″	17.92	28.00	9434K95	5.11
1.500″	0.48″	0.038″	0.315″	5.58	6.00	9434K98	5.11
1.500″	0.48″	0.042″	0.379″	7.40	8.50	9434K112	5.11
1.500″	0.48″	0.045″	0.404″	8.91	11.00	9434K115	5.11
1.500″	0.48″	0.055″	0.565″	15.84	22.00	9434K118	5.11
1.500″	0.48″	0.063″	0.694″	22.94	37.00	9434K121	5.11
1.500″	0.60″	0.045″	0.35″	7.22	6.50	9434K124	5.11
1.500″	0.60″	0.055″	0.427″	12.75	15.00	9434K127	5.71
1.500″	0.60″	0.063″	0.552″	18.48	24.00	9434K153	5.71
1.750″	0.60″	0.067″	0.705″	21.84	24.00	9434K133	5.71
2.000″	0.60″	0.072″	0.939″	26.78	26.00	9434K167	5.71
2.000″	0.72″	0.055″	0.421″	10.71	8.50	9434K139	5.71
2.000″	0.72″	0.063″	0.616″	15.62	11.00	9434K142	5.71
2.000″	0.72″	0.067″	0.606″	21.70	15.50	9434K168	5.71
2.000″	0.72″	0.072″	0.686″	22.60	20.00	9434K148	5.71
3.500″	0.36″	0.042″	1.22″	8.60	5.15	9434K116	5.84

Type 302 Stainless Steel—Meet ASTM A313.

Lg.	Spring OD	Wire Dia.	Compressed Lg.	Load, lbs.	Rate, lbs./inch		Pkg. of 5
0.250″	0.12″	0.016″	0.114″	1.67	15.21	9435K11	$5.02
0.375″	0.24″	0.022″	0.111″	2.09	10.43	9435K35	5.29
0.500″	0.12″	0.016″	0.205″	1.63	7.39	9435K12	7.58
0.500″	0.12″	0.022″	0.309″	3.77	26.94	9435K18	6.65
0.500″	0.18″	0.018″	0.132″	1.52	6.08	9435K24	5.29
0.500″	0.30″	0.022″	0.106″	1.64	5.65	9435K5	6.65
0.500″	0.36″	0.032″	0.145″	3.91	15.64	9435K74	8.68
0.500″	0.48″	0.045″	0.192″	7.91	30.42	9435K115	8.14
0.563″	0.18″	0.026″	0.274″	4.20	19.99	9435K3	5.56
0.563″	0.24″	0.022″	0.144″	2.02	6.95	9435K36	5.56
0.625″	0.24″	0.026″	0.203″	3.26	10.86	9435K39	5.56
0.625″	0.24″	0.032″	0.273″	5.84	24.33	9435K42	7.58
0.688″	0.30″	0.022″	0.128″	1.64	3.91	9435K51	5.56
0.688″	0.30″	0.032″	0.241″	5.14	13.90	9435K6	6.11
0.750″	0.12″	0.016″	0.318″	2.00	4.35	9435K13	6.65
0.750″	0.12″	0.018″	0.351″	2.22	7.39	9435K16	6.47
0.750″	0.18″	0.016″	0.177″	1.11	2.17	9435K22	5.56
0.750″	0.24″	0.038″	0.39″	9.19	39.97	9435K45	7.58
0.750″	0.36″	0.026″	0.138″	2.19	5.21	9435K72	7.36
0.750″	0.60″	0.072″	0.397″	23.05	67.78	9435K136	8.07
0.750″	0.72″	0.055″	0.221″	9.19	19.99	9435K139	9.16
0.750″	0.72″	0.063″	0.284″	13.48	28.68	9435K142	8.61
0.813″	0.12″	0.022″	0.51″	3.91	15.64	9435K19	7.34
0.813″	0.24″	0.022″	0.199″	2.04	4.35	9435K37	6.65
0.813″	0.24″	0.042″	0.505″	11.99	52.14	9435K48	7.34
0.813″	0.30″	0.045″	0.417″	12.41	44.32	9435K69	8.14
0.813″	0.36″	0.038″	0.267″	6.44	16.51	9435K78	6.29
0.813″	0.36″	0.042″	0.306″	8.52	24.33	9435K81	7.36
0.813″	0.36″	0.045″	0.339″	10.29	32.15	9435K84	7.90
0.875″	0.18″	0.026″	0.391″	4.30	13.04	9435K31	5.56
0.875″	0.24″	0.026″	0.287″	3.27	6.95	9435K4	7.58
0.875″	0.30″	0.022″	0.166″	1.64	2.61	9435K52	7.36
0.875″	0.36″	0.032″	0.209″	4.00	8.69	9435K75	8.14
0.875″	0.42″	0.047″	0.33″	9.98	24.33	9435K93	6.50
0.875″	0.48″	0.038″	0.21″	4.84	9.12	9435K99	5.98
0.875″	0.48″	0.045″	0.271″	7.76	16.51	9435K116	7.36
0.875″	0.48″	0.055″	0.373″	13.54	33.02	9435K119	8.68
0.875″	0.48″	0.063″	0.457″	19.77	56.49	9435K122	6.31
0.875″	0.60″	0.045″	0.266″	6.26	10.43	9435K125	6.50
0.875″	0.72″	0.072″	0.361″	19.60	41.71	9435K148	8.61
1.000″	0.18″	0.032″	0.601″	10.58	25.20	9435K34	6.47
1.000″	0.24″	0.032″	0.425″	5.84	13.90	9435K43	5.02
1.000″	0.30″	0.026″	0.229″	2.65	4.35	9435K58	6.11
1.000″	0.30″	0.032″	0.337″	4.69	8.69	9435K61	6.84
1.125″	0.36″	0.026″	0.19″	2.22	3.04	9435K73	5.07
1.250″	0.60″	0.072″	0.596″	26.59	39.11	9435K137	8.61
1.250″	0.72″	0.055″	0.304″	8.76	12.17	9435K154	8.29
1.250″	0.72″	0.063″	0.441″	13.54	16.51	9435K143	8.61
1.250″	0.72″	0.072″	0.47″	19.79	26.68	9435K149	8.84
1.500″	0.24″	0.038″	0.772″	9.31	18.25	9435K46	5.43
1.500″	0.24″	0.042″	0.905″	12.12	26.94	9435K163	5.43
1.500″	0.30″	0.038″	0.571″	7.63	11.73	9435K64	8.14
1.500″	0.30″	0.042″	0.673″	9.91	17.38	9435K67	8.42
1.500″	0.30″	0.045″	0.743″	12.20	22.59	9435K164	7.18
1.500″	0.36″	0.032″	0.338″	3.97	4.78	9435K76	6.29
1.500″	0.36″	0.038″	0.477″	6.41	7.82	9435K79	6.11
1.500″	0.36″	0.042″	0.527″	8.44	12.60	9435K82	7.36
1.500″	0.36″	0.045″	0.586″	10.17	15.64	9435K85	7.36
1.500″	0.42″	0.038″	0.381″	5.54	6.08	9435K88	7.90
1.500″	0.42″	0.042″	0.442″	7.30	9.12	9435K91	7.90
1.500″	0.42″	0.055″	0.661″	15.57	24.33	9435K97	7.18
1.500″	0.48″	0.038″	0.315″	4.85	5.21	9435K111	6.50
1.500″	0.48″	0.042″	0.379″	6.43	7.39	9435K114	7.18
1.500″	0.48″	0.045″	0.404″	7.74	9.56	9435K117	6.29
1.500″	0.48″	0.055″	0.565″	13.76	19.12	9435K152	6.50
1.500″	0.48″	0.063″	0.694″	19.93	32.15	9435K123	6.31
1.500″	0.60″	0.045″	0.35″	6.27	5.65	9435K126	7.36
1.500″	0.60″	0.055″	0.427″	11.08	13.04	9435K129	6.67
1.500″	0.60″	0.063″	0.552″	16.06	20.86	9435K132	6.67
1.750″	0.60″	0.067″	0.705″	18.98	20.86	9435K135	8.29
2.000″	0.60″	0.072″	0.939″	23.27	22.59	9435K138	8.84
2.000″	0.72″	0.055″	0.421″	9.31	7.39	9435K141	8.84
2.000″	0.72″	0.063″	0.616″	13.57	9.56	9435K144	8.61
2.000″	0.72″	0.067″	0.606″	18.86	13.47	9435K147	8.61
2.000″	0.72″	0.072″	0.686″	19.64	17.38	9435K151	7.92
3.500″	0.36″	0.042″	1.22″	7.48	4.48	9435K118	8.73

Ultra-Precision Compression Springs

The choice for extremely tight OD and rate tolerances. All springs have closed and ground flat ends.

Type 302 Stainless Steel Springs—Offer excellent corrosion resistance.

Also Available: Springs with a certificate of compliance. Please ask for 9001T999 for steel music wire springs or 9002T999 for Type 302 stainless steel springs and specify the spring part number.

Specification	Tolerance
OD: 0.12″ to 0.18″	±0.002″
OD: 0.181″ to 0.24″	±0.003″
OD: 0.241″ to 0.50″	±0.004″
OD: 0.501″ to 0.72″	±0.005″
Rate, lbs./inch	±5%

Steel Music Wire

Lg.	Spring OD	Wire Dia.	Compressed Lg.	Load, lbs.	Rate, lbs./inch		Pkg. of 3
0.25″	0.12″	0.016″	0.109″	1.93	17.50	9001T11	$5.03
0.375″	0.24″	0.022″	0.104″	2.40	12.00	9001T12	5.03
0.5″	0.12″	0.016″	0.190″	1.87	8.50	9001T13	5.03
0.5″	0.12″	0.022″	0.298″	4.34	31.00	9001T14	5.03
0.5″	0.18″	0.018″	0.127″	1.75	7.00	9001T15	5.03
0.5″	0.30″	0.022″	0.097″	1.89	6.50	9001T16	5.03
0.5″	0.36″	0.032″	0.140″	4.50	18.00	9001T17	5.03
0.5″	0.48″	0.045″	0.182″	9.10	35.00	9001T18	5.03
0.563″	0.24″	0.022″	0.133″	2.32	8.00	9001T19	5.03
0.625″	0.24″	0.026″	0.191″	3.75	12.50	9001T21	5.03
0.625″	0.24″	0.032″	0.255″	6.72	28.00	9001T22	5.03
0.688″	0.30″	0.022″	0.121″	1.89	4.50	9001T23	5.03
0.75″	0.18″	0.016″	0.169″	1.28	2.50	9001T24	5.03
0.75″	0.36″	0.026″	0.128″	2.52	6.00	9001T25	5.03
0.875″	0.48″	0.038″	0.202″	5.57	10.50	9001T26	5.03
0.875″	0.48″	0.063″	0.429″	22.75	65.00	9001T27	5.03
1″	0.24″	0.032″	0.399″	6.72	16.00	9001T28	5.03
1.5″	0.60″	0.045″	0.329″	7.22	6.50	9001T29	5.23
2″	0.72″	0.055″	0.399″	10.71	8.50	9001T31	5.35

Type 302 Stainless Steel

Lg.	Spring OD	Wire Dia.	Compressed Lg.	Load, lbs.	Rate, lbs./inch		Pkg. of 3
0.25″	0.12″	0.016″	0.109″	1.68	15.21	9002T11	$6.62
0.375″	0.24″	0.022″	0.106″	2.09	10.43	9002T12	6.62
0.5″	0.12″	0.016″	0.190″	1.63	7.39	9002T13	6.62
0.5″	0.12″	0.022″	0.309″	3.77	26.94	9002T14	6.62
0.5″	0.18″	0.018″	0.131″	1.52	6.08	9002T15	6.62
0.5″	0.30″	0.022″	0.099″	1.64	5.65	9002T16	6.62
0.5″	0.36″	0.032″	0.143″	3.91	15.64	9002T17	6.81
0.5″	0.48″	0.045″	0.186″	7.91	30.42	9002T18	6.81
0.563″	0.24″	0.022″	0.137″	2.02	6.95	9002T19	6.62
0.625″	0.24″	0.026″	0.198″	3.26	10.86	9002T21	6.62
0.625″	0.24″	0.032″	0.264″	5.84	24.33	9002T22	6.62
0.688″	0.30″	0.022″	0.124″	1.64	3.91	9002T23	6.62
0.75″	0.18″	0.016″	0.175″	1.11	2.17	9002T24	6.62
0.75″	0.36″	0.026″	0.132″	2.19	5.21	9002T25	6.81
0.875″	0.48″	0.038″	0.207″	4.84	9.12	9002T26	6.81
0.875″	0.48″	0.063″	0.442″	19.77	56.49	9002T27	6.81
1″	0.24″	0.032″	0.414″	5.84	13.90	9002T28	6.62
1.5″	0.60″	0.045″	0.339″	6.27	5.65	9002T29	7.04
2″	0.72″	0.055″	0.412″	9.31	7.39	9002T31	7.46

Cut-to-Length Compression Springs

Keep these long springs on hand so you can cut the right length whenever you need it. All have open ends. To determine the spring rate, divide the rate constant by the length you cut.

Spring OD	Wire Dia.	Rate Constant	Pkg. Qty.		Pkg.
Music Wire—11″ Overall Length					
0.120″	0.025″	30.59	5	9637K44	$12.86
0.176″	0.014″	11.2	6	9657K79★	7.18
0.180″	0.025″	9.35	5	9637K43	12.86
0.210″	0.031″	14.41	5	9637K42	12.86
0.240″	0.025″	4.73	5	9637K64	12.86
0.240″	0.028″	8.47	5	9637K65	12.86
0.240″	0.031″	13.52	5	9637K41	12.86
0.250″	0.022″	35.2	12	9657K82★	11.55
0.300″	0.028″	3.63	5	9637K68	12.86
0.300″	0.031″	8.58	5	9637K39	12.86
0.360″	0.031″	4.63	5	9637K38	12.86
Spring-Tempered Steel—11″ Overall Length					
0.240″	0.035″	25.08	5	9637K66	12.86
0.300″	0.035″	11.55	5	9637K69	12.86
0.360″	0.035″	6.27	5	9637K72	12.86
0.360″	0.041″	13.86	5	9637K73	12.86
0.360″	0.047″	28.6	5	9637K74	12.86
0.420″	0.035″	5.39	5	9637K75	12.86
0.420″	0.047″	19.36	5	9637K76	12.86
0.420″	0.054″	41.58	5	9637K77	12.86
0.420″	0.062″	57.86	5	9637K37	12.32
0.480″	0.041″	6.05	5	9637K81	12.86
0.480″	0.047″	11.55	5	9637K82	12.86
0.480″	0.054″	22.56	5	9637K83	12.86
0.480″	0.062″	47.09	5	9637K36	12.35
0.480″	0.080″	148.87	5	9637K29	12.12
0.540″	0.062″	36.32	5	9637K35	12.35
0.600″	0.054″	15.08	5	9637K84	12.86
0.600″	0.062″	25.43	5	9637K34	12.32
0.600″	0.072″	43.78	5	9637K85	12.86
0.600″	0.080″	78.15	5	9637K28	11.98
0.600″	0.091″	139.46	5	9637K45	12.49
0.656″	0.062″	18.94	5	9637K33	12.25
0.720″	0.062″	18.6	5	9637K32	12.35
0.720″	0.080″	63.27	5	9637K27	12.15
0.720″	0.091″	99	5	9637K22	11.98
0.720″	0.105″	150.26	5	9637K16	14.48
0.781″	0.062″	14.3	5	9637K31	12.32
0.844″	0.080″	42.69	5	9637K26	12.15
0.968″	0.080″	38.53	5	9637K25	12.25
0.968″	0.091″	41.21	5	9637K21	13.20
0.968″	0.105″	67.98	5	9637K15	15.00
Spring-Tempered Steel—11″ Overall Length (Cont.)					
1.093″	0.091″	27.58	5	9637K19	$14.22
1.093″	0.105″	73.96	5	9637K14	12.96
1.093″	0.115″	75.69	5	9637K13	14.97
1.218″	0.080″	18.26	5	9637K24	12.12
1.218″	0.091″	32.92	5	9637K18	11.91
1.218″	0.115″	89.71	5	9637K12	13.50
1.343″	0.091″	26.28	5	9637K17	11.88
1.468″	0.115″	69.93	5	9637K11	12.99
Spring-Tempered Steel—36″ Overall Length					
0.094″	0.013″	2.2	5	9662K11	13.51
0.125″	0.014″	1.6	5	9662K12	13.51
0.125″	0.018″	4.6	5	9662K13	13.51
0.125″	0.023″	13.7	5	9662K14	13.51
0.187″	0.018″	2	5	9662K15	13.51
0.187″	0.028″	13.8	5	9662K41	14.31
0.250″	0.023″	2.9	5	9662K16	14.31
0.250″	0.035″	15.6	5	9662K17	14.65
0.312″	0.041″	18.6	5	9662K18	14.65
0.312″	0.048″	35.8	5	9662K42	14.65
0.375″	0.035″	7.1	5	9662K19	14.65
0.438″	0.048″	16.7	5	9662K21	14.65
0.500″	0.048″	13.8	1	9662K22	4.18
0.500″	0.054″	20.89	1	9662K23	4.30
0.500″	0.063″	38	1	9662K24	4.30
0.562″	0.048″	7.39	1	9662K76	4.45
0.562″	0.063″	32	1	9662K43	4.45
0.562″	0.080″	83	1	9662K25	4.45
0.625″	0.062″	24.49	1	9662K26	4.45
0.625″	0.072″	41.49	1	9662K27	4.45
0.625″	0.092″	120	1	9662K28	4.21
0.750″	0.080″	46	1	9662K44	4.45
0.750″	0.105″	137	1	9662K29	4.44
0.875″	0.080″	35.21	1	9662K31	4.73
1.000″	0.092″	43.9	1	9662K45	4.85
1.000″	0.121″	131	1	9662K32	4.96
1.000″	0.135″	201.58	1	9662K33	5.19
1.125″	0.106″	58.72	1	9662K34	4.40
1.188″	0.225″	1,404	1	9662K78	5.30
1.250″	0.121″	75.62	1	9662K46	5.16
1.250″	0.148″	180	1	9662K35	6.00
1.375″	0.148″	127	1	9662K47	7.44
1.500″	0.162″	175	1	9662K36	7.31
1.750″	0.187″	216	1	9662K48	9.63

★Overall length is 10″.

(Continued on following page)

Cut-to-Length Compression Springs *(Continued from previous page)*

Spring OD	Wire Dia.	Rate Constant	Pkg. Qty.		Pkg.
Galvanized Spring-Tempered Steel—12″ Overall Length					
0.184″	0.023″	8.03	3	96565K38	$9.00
0.206″	0.026″	9.89	3	96565K37	9.00
0.229″	0.029″	10.86	3	96565K36	9.00
0.254″	0.032″	14.28	3	96565K35	9.00
0.278″	0.035″	15.42	3	96565K34	9.00
0.328″	0.041″	21.46	3	96565K33	9.00
0.375″	0.041″	18.17	3	96565K39	6.82
0.380″	0.048″	28.43	3	96565K32	9.00
0.432″	0.054″	34.82	3	96565K31	8.64
0.500″	0.063″	52.38	3	96565K29	8.64
0.576″	0.072″	67.07	3	96565K28	8.64
0.640″	0.080″	83.13	3	96565K27	8.31
0.732″	0.092″	102.24	3	96565K26	9.33
0.844″	0.106″	136.03	3	96565K25	10.08
0.964″	0.121″	168.33	3	96565K24	11.72
Type 302 Stainless Steel—20″ Overall Length					
0.094″	0.013″	1.81	1	9663K64	4.51
0.120″	0.025″	18.85	1	9663K65	4.71
0.125″	0.013″	1	1	9663K11	4.38
0.125″	0.015″	2	1	9663K12	4.45
0.125″	0.017″	2.8	1	9663K51	4.70
0.125″	0.020″	5.8	1	9663K52	4.80
0.125″	0.023″	11.14	1	9663K66	4.76
0.187″	0.015″	0.8	1	9663K53	4.81
0.187″	0.017″	1.4	1	9663K13	4.89
0.187″	0.020″	2.8	1	9663K14	4.91
0.187″	0.023″	4.31	1	9663K67	4.50
0.187″	0.026″	7.2	1	9663K54	5.00
0.240″	0.025″	3.72	1	9663K68	4.50
0.240″	0.035″	14.05	1	9663K69	4.92
0.250″	0.015″	0.6	1	9663K55	5.00
0.250″	0.017″	1	1	9663K15	5.02
0.250″	0.020″	1.6	1	9663K16	5.12
0.250″	0.023″	2.58	1	9663K71	4.40
0.250″	0.026″	4	1	9663K17	5.14
0.250″	0.032″	8.8	1	9663K18	5.18
0.312″	0.020″	1.19	1	9663K19	5.19
0.312″	0.026″	2.8	1	9663K63	5.19
0.312″	0.032″	5.6	1	9663K21	5.21
0.312″	0.035″	8.1	1	9663K72	4.95
0.312″	0.041″	14.2	1	9663K22	5.27
0.360″	0.031″	4.1	1	9663K73	4.62
Type 302 Stainless Steel—20″ Overall Length (Cont.)					
0.360″	0.047″	19.31	1	9663K74	$5.40
0.375″	0.032″	4.19	1	9663K56	5.34
0.375″	0.035″	5.89	1	9663K75	4.78
0.375″	0.041″	10.6	1	9663K23	5.42
0.375″	0.054″	30.6	1	9663K24	5.54
0.420″	0.035″	4.98	1	9663K76	4.67
0.438″	0.041″	7.4	1	9663K25	5.60
0.438″	0.054″	22	1	9663K26	5.62
0.480″	0.041″	6.95	1	9663K77	4.88
0.500″	0.035″	3.9	1	9663K78	4.25
0.500″	0.041″	6.52	1	9663K79	4.45
0.500″	0.047″	10.41	1	9663K81	4.90
0.500″	0.054″	17.2	1	9663K27	5.66
0.500″	0.062″	29.17	1	9663K82	5.80
0.500″	0.072″	57.2	1	9663K28	6.17
0.562″	0.041″	3.6	1	9663K57	6.21
0.562″	0.054″	13.6	1	9663K58	6.33
0.562″	0.072″	40.8	1	9663K29	7.82
0.562″	0.091″	117.2	1	9663K31	9.17
0.625″	0.072″	33.2	1	9663K32	9.37
0.625″	0.091″	89.4	1	9663K33	10.68
0.656″	0.062″	17.62	1	9663K83	5.62
0.720″	0.062″	15.07	1	9663K84	5.50
0.750″	0.062″	14.18	1	9663K85	5.42
0.750″	0.072″	23.96	1	9663K86	6.20
0.750″	0.080″	35.46	1	9663K87	7.08
0.750″	0.091″	60	1	9663K34	11.43
0.750″	0.105″	104.85	1	9663K88	9.72
0.781″	0.062″	12.7	1	9663K89	7.67
0.844″	0.080″	28.7	1	9663K91	9.50
0.875″	0.080″	26.82	1	9663K92	9.60
0.968″	0.080″	22.84	1	9663K93	9.22
1.000″	0.080″	21.93	1	9663K94	9.12
1.000″	0.091″	33.56	1	9663K95	10.45
1.000″	0.105″	57.27	1	9663K96	12.12
1.000″	0.120″	95.1	1	9663K97	14.38
1.125″	0.105″	46.19	1	9663K98	11.88
1.218″	0.080″	16.52	1	9663K99	8.70
1.250″	0.120″	61.93	1	9663K41	12.86
1.375″	0.148″	111.97	1	9663K42	17.33
1.500″	0.162″	133.11	1	9663K43	19.79
1.750″	0.187″	166.79	1	9663K44	26.30

Shock-Absorbing Plastic Compression Springs

Don't let their small size fool you—these springs absorb the maximum amount of impact in the minimum amount of space. All are polyester-based elastomer, which is 10 times more durable than most rubber and 20 times more durable than polyurethane. They also resist gasoline, oil, and diesel fuel. Mount them with a screw (not included) in indoor and outdoor applications. Temperature range is –40° to 120° F. Color is black.

Energy is calculated in one of two ways. For an object that is dropped, energy equals the weight of the item multiplied by distance dropped. For an object moving in a horizontal direction, energy equals half of the mass of the item multiplied by velocity squared (½ mv^2).

Peak dynamic force is the load on the spring when it is fully compressed at its rated energy.

Energy Cap., in.-lbs.	Peak Dynamic Force, lbs.	*Overall Size* Dia. (A)	Ht. (B)	Lg.	*Compressed Size* Dia.	Ht.	Base Dia. (C)	*Hole Dia.* (D)	(E)		
High Load—Durometer is 55D											
100	650	0.84″	0.76″	____	1.07″	0.42″	0.74″	0.42″	0.31″	9677K11	$7.40
250	1,100	1.11″	1.01″	____	1.43″	0.54″	0.98″	0.56″	0.31″	9677K12	8.14
400	1,600	1.31″	1.18″	____	1.7″	0.67″	1.16″	0.66″	0.31″	9677K13	15.58
700	2,000	1.55″	1.37″	____	1.97″	0.73″	1.35″	0.8″	0.42″	9677K15	18.83
1,100	3,000	1.8″	1.62″	____	2.33″	0.88″	1.58″	0.93″	0.54″	9677K18	22.71
1,400	3,200	1.96″	1.77″	____	2.51″	0.97″	1.71″	1.02″	0.54″	9677K22	26.22
2,000	4,000	2.25″	2.02″	____	2.86″	1.1″	1.97″	1.16″	0.54″	9677K24	30.65
2,500	5,000	2.38″	2.14″	____	3.05″	1.19″	2.1″	1.23″	0.54″	9677K25	32.49
3,000	6,000	2.54″	2.26″	____	3.22″	1.25″	2.23″	1.28″	0.54″	9677K26	35.32
4,000	6,700	2.81″	2.54″	____	3.58″	1.4″	2.44″	1.41″	0.8″	9677K28	44.56
Medium Load—Durometer is 40D											
50	180	0.79″	0.82″	____	1.08″	0.42″	0.73″	0.48″	0.31″	9732K11	8.74
100	300	1.02″	1.09″	____	1.45″	0.57″	0.97″	0.63″	0.31″	9732K12	9.35
200	400	1.24″	1.27″	____	1.72″	0.65″	1.16″	0.77″	0.31″	9732K13	16.47
300	700	1.44″	1.48″	____	1.99″	0.76″	1.35″	0.82″	0.31″	9732K15	20.49
550	900	1.66″	1.75″	____	2.35″	0.88″	1.58″	0.98″	0.54″	9732K18	24.66
700	1,100	1.85″	1.91″	____	2.53″	0.97″	1.73″	1.08″	0.54″	9732K22	28.65
800	1,400	1.9″	2.03″	____	2.71″	1″	1.83″	1.12″	0.54″	9732K23	31.02
1,200	1,700	2.2″	2.33″	____	3.07″	1.19″	2.09″	1.3″	0.54″	9732K25	33.87
Low Load—Durometer is 40D											
10	50	1.12″	0.97″	0.52″	1.51″	0.32″	____	0.38″	0.22″	9724K11	6.09
20	75	1.44″	1.25″	0.76″	1.96″	0.41″	____	0.38″	0.22″	9724K13	6.69
30	100	1.68″	1.47″	0.78″	2.27″	0.48″	____	0.37″	0.22″	9724K15	10.35
50	150	1.95″	1.72″	1.36″	2.68″	0.37″	____	0.38″	0.22″	9724K17	10.73
100	200	2.48″	2.17″	1.7″	3.43″	0.47″	____	0.38″	0.22″	9724K19	12.85
200	375	2.61″	2.31″	1.82″	3.47″	0.74″	____	0.38″	0.22″	9724K23	15.12



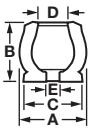

High and Medium Load



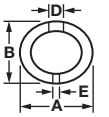

Low Load

High-Load Compression Springs



With their unique wave design, these springs handle heavy loads in less space than conventional compression springs. Use them in valves, quick-disconnect couplings, or anywhere space is at a premium. All are made of carbon steel and have shim ends, which provide a flat mounting surface. Note: Overall length is approximate.

Spring OD	For Shaft Dia.	Wire Thick.	Compressed Lg.	Max. Load, lbs.	Rate, lbs./inch	Pkg. Qty.		Pkg.
0.15″ Overall Length								
0.36″	0.25″	0.008″	0.062″	4	45	3	1561T1	$5.21
0.36″	0.25″	0.011″	0.081″	7	101	3	1561T13	5.76
0.18″ Overall Length								
0.48″	0.312″	0.008″	0.062″	5	42	3	1561T16	6.45
0.48″	0.312″	0.01″	0.065″	10	87	3	1561T19	7.13
0.48″	0.312″	0.012″	0.075″	15	143	3	1561T22	7.82
0.6″	0.45″	0.009″	0.055″	6	48	3	1561T25	11.07
0.6″	0.45″	0.01″	0.104″	12	158	3	1561T28	12.24
0.6″	0.45″	0.012″	0.102″	20	256	3	1561T31	13.41
0.2″ Overall Length								
0.36″	0.25″	0.008″	0.098″	4	39	3	1561T11	6.17
0.36″	0.25″	0.011″	0.119″	7	86	3	1561T14	6.72
0.24″ Overall Length								
0.48″	0.312″	0.008″	0.09″	5	33	3	1561T17	7.41
0.48″	0.312″	0.01″	0.092″	10	68	3	1561T2	8.23
0.48″	0.312″	0.012″	0.11″	15	115	3	1561T23	9.05
0.6″	0.45″	0.009″	0.068″	6	35	3	1561T26	12.82
0.6″	0.45″	0.01″	0.13″	12	109	1	1561T29	4.60
0.6″	0.45″	0.012″	0.135″	20	190	1	1561T32	5.09
0.25″ Overall Length								
0.36″	0.25″	0.008″	0.108″	4	28	3	1561T12	7.13
0.36″	0.25″	0.011″	0.145″	7	67	3	1561T15	7.68
0.72″	0.55″	0.008″	0.142″	7	65	3	1561T34	11.07
0.72″	0.55″	0.01″	0.159″	13	143	3	1561T37	12.24
0.72″	0.55″	0.013″	0.169″	22	272	3	1561T4	13.41

Spring OD	For Shaft Dia.	Wire Thick.	Compressed Lg.	Max. Load, lbs.	Rate, lbs./inch	Pkg. Qty.		Pkg.
0.25″ Overall Length (Cont.)								
0.96″	0.73″	0.01″	0.084″	12	72	3	1561T43	$11.07
0.96″	0.73″	0.012″	0.087″	18	110	3	1561T46	12.24
0.96″	0.73″	0.015″	0.131″	25	210	3	1561T49	13.41
0.3″ Overall Length								
0.48″	0.312″	0.008″	0.107″	5	26	3	1561T18	8.78
0.48″	0.312″	0.01″	0.114″	10	54	3	1561T21	9.60
0.48″	0.312″	0.012″	0.136″	15	91	3	1561T24	10.56
0.6″	0.45″	0.009″	0.085″	6	28	1	1561T27	4.84
0.6″	0.45″	0.01″	0.175″	12	96	1	1561T3	5.28
0.6″	0.45″	0.012″	0.175″	20	160	1	1561T33	5.91
0.333″ Overall Length								
0.72″	0.55″	0.008″	0.187″	7	48	3	1561T35	12.82
0.72″	0.55″	0.01″	0.203″	13	100	1	1561T38	4.60
0.72″	0.55″	0.013″	0.215″	22	186	1	1561T41	5.09
0.96″	0.73″	0.01″	0.108″	12	53	3	1561T44	12.82
0.96″	0.73″	0.012″	0.113″	18	82	1	1561T47	4.60
0.96″	0.73″	0.015″	0.174″	25	157	1	1561T5	5.09
0.417″ Overall Length								
0.72″	0.55″	0.008″	0.246″	7	41	1	1561T36	4.84
0.72″	0.55″	0.01″	0.27″	13	88	1	1561T39	5.28
0.72″	0.55″	0.013″	0.291″	22	175	1	1561T42	5.91
0.96″	0.73″	0.01″	0.145″	12	44	1	1561T45	4.84
0.96″	0.73″	0.012″	0.148″	18	67	1	1561T48	5.28
0.96″	0.73″	0.015″	0.227″	25	132	1	1561T51	5.91

Metric Compression Springs

In addition to meeting rigorous DIN 2095 specifications, these springs are made to precise OD and rate tolerances. All have closed ends; springs with a wire diameter of 1.00 mm and larger also have ground flat ends.

Steel Music Wire Springs—Meet DIN 17223.

Type 302 Stainless Steel Springs—Meet DIN 17224 and offer excellent corrosion resistance.

Also Available: Springs with a certificate of compliance. Please ask for 94125K999 and specify the spring part number.

Specification	Tolerance
OD: 4.1 mm to 6.3 mm	±0.3 mm
OD: 6.4 mm to 10.0 mm	±0.35 mm
OD: 10.1 mm to 16.0 mm	±0.4 mm
Rate, lbs./mm	±5%

O'all Lg., mm	Spring OD, mm	Wire Dia., mm	Compressed Lg., mm	Load, lbs.	Rate, lbs./mm	Pkg. Qty.		Pkg.
Steel Music Wire								
9.4	5.50	0.50	3.25	1.8	0.33	5	94125K422	$10.36
10.5	5.40	0.40	2.6	1	0.13	5	94125K414	10.36
11.5	6.93	0.63	4.1	2.8	0.41	5	94125K521	10.36
13.0	9.00	1.00	5.5	7.5	1.28	5	94125K631	10.36
14.0	5.50	0.50	4.25	1.8	0.21	5	94125K424	10.36
15.0	9.25	1.25	6.88	23.6	3.22	5	94125K612	10.36
15.5	7.10	0.80	6.8	5.4	0.68	5	94125K537	10.36
17.0	6.93	0.63	5.36	2.8	0.26	5	94125K523	10.36
18.0	12.00	2.00	11	71.4	10.47	5	94125K711	10.36
18.5	5.63	0.63	7.25	3.5	0.35	5	94125K379	10.36
19.0	9.00	1.00	7.5	7.5	0.81	5	94125K633	10.36
20.0	11.25	1.25	6.88	19.2	1.59	5	94125K811	12.33
20.0	15.00	2.20	12.1	57.8	7.30	5	94125K136	13.28
20.5	5.50	0.50	5.75	1.8	0.14	5	94125K426	10.36
22.0	9.25	1.25	9.38	23.6	2.01	5	94125K614	10.36
23.0	11.00	2.20	16.5	75.8	14.29	5	94125K624	10.36
24.0	5.40	0.40	4.6	1	0.06	5	94125K412	10.36
24.0	14.10	1.60	8.8	30.4	2.19	5	94125K112	13.28
25.5	6.93	0.63	7.25	2.8	0.17	5	94125K525	10.36
28.5	9.00	1.00	10.5	7.5	0.52	5	94125K635	10.36
30.0	5.50	0.50	7.75	1.8	0.09	5	94125K428	10.36

O'all Lg., mm	Spring OD, mm	Wire Dia., mm	Compressed Lg., mm	Load, lbs.	Rate, lbs./mm	Pkg. Qty.		Pkg.
Steel Music Wire (Cont.)								
30.2	15.00	2.20	16.5	57.8	4.65	5	94125K138	$13.28
33.0	7.10	0.80	12.4	5.4	0.30	5	94125K542	10.36
33.0	9.25	1.25	13.13	23.6	1.31	5	94125K616	10.36
36.0	14.10	1.60	12	30.4	1.40	5	94125K114	13.28
36.5	6.93	0.63	9.77	2.8	0.11	5	94125K529	10.36
39.0	11.00	1.00	10.5	6.2	0.27	5	94125K839	13.28
40.5	9.00	1.00	14.5	7.5	0.36	5	94125K636	10.36
41.5	13.75	1.25	9.38	15.5	0.52	5	94125K123	13.28
44.5	11.25	1.25	13.13	19.2	0.66	5	94125K815	12.33
47.5	9.25	1.25	18.13	23.6	0.89	5	94125K618	10.36
48.9	15.00	2.20	25.3	57.8	2.69	5	94125K141	13.28
62.5	13.75	1.25	13.13	15.5	0.33	5	94125K125	13.28
Type 302 Stainless Steel								
9.4	5.50	0.50	3.25	1.6	0.29	3	94125K472	8.59
13.0	9.00	1.00	5.5	6.3	1.11	3	94125K671	8.58
14.0	5.50	0.50	4.25	1.6	0.18	3	94125K474	8.58
19.0	9.00	1.00	7.5	6.3	0.71	3	94125K673	8.58
25.5	6.93	0.63	7.25	2.5	0.15	3	94125K565	8.58
28.5	9.00	1.00	10.5	6.5	0.45	3	94125K675	8.58
47.5	9.25	1.25	18.13	20.5	0.77	3	94125K658	8.58
59.0	9.00	1.00	20.5	6.5	0.21	3	94125K679	8.58
90.5	13.75	1.25	18.13	13.4	0.20	3	94125K177	11.14

Custom Compression Springs

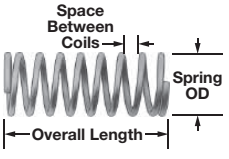



9534K21 Open Ends



9534K41 Closed Ends



9534K31 Open and Ground Ends



9534K51 Closed and Ground Flat Ends

Whatever the size, we'll get the spring you need. Send us a description, drawing, or sample of the compression spring you require.

To Order: Please specify the following:

1. Part number for the spring end style shown at left.
2. Material: steel music wire, spring-tempered steel, stainless steel, or other material.
3. Finish: plain, zinc plated, or passivated (for stainless steel only).
4. Dimensions: overall length, spring OD, wire diameter, and space between coils.

About Die Springs

Die springs are a special type of compression spring that are made from rectangular wire to withstand heavy loads with minimum deflection (the distance the spring compresses). Use them to make and maintain dies, die sets, punching tools, stamping tools, and jigs. A general rule for die springs is to use several short springs rather than one long spring for the least amount of spring compression.

Deflection—The distance a spring compresses when a given load is applied. It is commonly expressed as a percentage of the overall length.

Rate—As you push a die spring, it gets harder to push. The higher the rate, the harder it is to compress the spring.

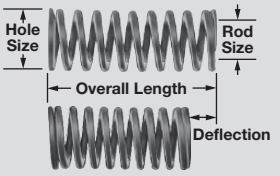

High-Performance Chrome-Silicon Steel Die Springs

Manufactured to handle repetitive punching and stamping jobs, these springs have high tensile strength for reliable, consistent operation over a long lifetime. Ends are closed and ground flat so springs stand straight and are easy to stack. They follow the Raymond die springs color code.

Fits Hole Size	Fits Rod Size	O'all Lg.	Wire Ht.	Wire Wd.	Load, lbs.	Rate, lbs./ inch		
Blue, Medium Load—Load at 25% deflection. Max. deflection is 50%.								
0.375″	0.188″	1″	0.039″	0.070″	15	60	9573K11	$1.53
0.375″	0.188″	1.25″	0.039″	0.070″	17	54	9573K21	1.88
0.375″	0.188″	1.5″	0.039″	0.070″	15	40	9573K12	2.25
0.375″	0.188″	1.75″	0.039″	0.070″	15	34	9573K23	2.40
0.375″	0.188″	2″	0.039″	0.070″	14	28	9573K13	2.85
0.375″	0.188″	2.5″	0.039″	0.070″	15	24	9573K29	2.94
0.375″	0.188″	3″	0.039″	0.070″	16	21	9573K14	3.43
0.375″	0.188″	12″	0.039″	0.070″	18	6	9573K31	17.22
0.5″	0.281″	1″	0.052″	0.093″	28	110	9573K15	2.08
0.5″	0.281″	1.25″	0.052″	0.093″	26	82	9573K16	2.20
0.5″	0.281″	1.5″	0.052″	0.093″	26	68	9573K17	2.54
0.5″	0.281″	1.75″	0.052″	0.093″	26	60	9573K33	2.59
0.5″	0.281″	2″	0.052″	0.093″	28	55	9573K18	3.01
0.5″	0.281″	2.5″	0.052″	0.093″	28	45	9573K43	4.05
0.5″	0.281″	3″	0.052″	0.093″	26	35	9573K19	3.71
0.5″	0.281″	3.5″	0.052″	0.093″	26	30	9573K44	4.93
0.5″	0.281″	12″	0.052″	0.093″	21	7	9573K45	18.43
0.625″	0.344″	1″	0.069″	0.109″	41	164	9573K46	2.38
0.625″	0.344″	1.25″	0.069″	0.109″	40	128	9573K47	2.46
0.625″	0.344″	1.5″	0.069″	0.109″	41	108	9573K22	2.85
0.625″	0.344″	2″	0.069″	0.109″	44	88	9573K24	3.40
0.625″	0.344″	2.5″	0.069″	0.109″	38	60	9573K25	3.61
0.625″	0.344″	3″	0.069″	0.109″	42	56	9573K26	4.05
0.625″	0.344″	3.5″	0.069″	0.109″	42	48	9573K27	4.42
0.625″	0.344″	4″	0.069″	0.109″	44	44	9573K28	4.75
0.75″	0.375″	1″	0.075″	0.165″	78	312	9573K48	4.35
0.75″	0.375″	1.25″	0.075″	0.165″	80	256	9573K79	4.66
0.75″	0.375″	1.5″	0.075″	0.165″	75	200	9573K32	3.24
0.75″	0.375″	1.75″	0.075″	0.165″	77	176	9573K51	5.43
0.75″	0.375″	2″	0.075″	0.165″	72	144	9573K34	3.73
0.75″	0.375″	2.5″	0.075″	0.165″	75	120	9573K35	4.86
0.75″	0.375″	3″	0.075″	0.165″	72	96	9573K36	5.34
0.75″	0.375″	3.5″	0.075″	0.165″	70	80	9573K37	7.53
0.75″	0.375″	4″	0.075″	0.165″	72	72	9573K38	8.01
0.75″	0.375″	4.5″	0.075″	0.165″	72	64	9573K39	8.67
0.75″	0.375″	5″	0.075″	0.165″	75	60	9573K41	9.37
0.75″	0.375″	6″	0.075″	0.165″	75	50	9573K42	8.98
0.75″	0.375″	12″	0.075″	0.165″	72	24	9573K59	23.02
1″	0.5″	1″	0.100″	0.215″	138	550	9573K62	5.61
1″	0.5″	1.25″	0.100″	0.215″	141	450	9573K63	5.84
1″	0.5″	1.5″	0.100″	0.215″	131	350	9573K64	6.03
1″	0.5″	1.75″	0.100″	0.215″	131	300	9573K65	6.48
1″	0.5″	2″	0.100″	0.215″	130	260	9573K52	5.32
1″	0.5″	2.5″	0.100″	0.215″	125	200	9573K53	5.70
1″	0.5″	3″	0.100″	0.215″	124	165	9573K54	6.34
1″	0.5″	3.5″	0.100″	0.215″	131	150	9573K55	6.64
1″	0.5″	4″	0.100″	0.215″	120	120	9573K56	7.05
1″	0.5″	4.5″	0.100″	0.215″	117	104	9573K57	8.26
1″	0.5″	5″	0.100″	0.215″	120	96	9573K58	8.80
1″	0.5″	6″	0.100″	0.215″	120	80	9573K61	10.82
1.25″	0.625″	1.5″	0.115″	0.285″	186	496	9573K66	8.74
1.25″	0.625″	2″	0.115″	0.285″	176	352	9573K67	7.72
1.25″	0.625″	2.5″	0.115″	0.285″	180	288	9573K68	8.25
1.25″	0.625″	3″	0.115″	0.285″	180	240	9573K69	9.32
1.25″	0.625″	3.5″	0.115″	0.285″	175	200	9573K71	10.01
1.25″	0.625″	4″	0.115″	0.285″	176	176	9573K72	10.91
1.25″	0.625″	4.5″	0.115″	0.285″	180	160	9573K73	12.09
1.25″	0.625″	5″	0.115″	0.285″	170	136	9573K74	13.15
1.25″	0.625″	6″	0.115″	0.285″	180	120	9573K76	16.02
1.25″	0.625″	7″	0.115″	0.285″	182	104	9573K75	29.60
1.25″	0.625″	8″	0.115″	0.285″	176	88	9573K77	34.18
1.5″	0.75″	2″	0.135″	0.345″	265	530	9573K81	8.34
1.5″	0.75″	2.5″	0.135″	0.345″	281	450	9573K82	9.38
1.5″	0.75″	3″	0.135″	0.345″	270	360	9573K83	10.91
1.5″	0.75″	3.5″	0.135″	0.345″	263	300	9573K84	12.28
Blue, Medium Load (Cont.)								
1.5″	0.75″	4″	0.135″	0.345″	270	270	9573K85	$13.90
1.5″	0.75″	4.5″	0.135″	0.345″	259	230	9573K86	15.08
1.5″	0.75″	5″	0.135″	0.345″	263	210	9573K87	16.78
1.5″	0.75″	5.5″	0.135″	0.345″	254	185	9573K78	32.15
1.5″	0.75″	6″	0.135″	0.345″	255	170	9573K89	19.84
2″	1″	2.5″	0.195″	0.468″	625	1,000	9573K91	17.74
2″	1″	3″	0.195″	0.468″	623	830	9573K92	25.38
2″	1″	3.5″	0.195″	0.468″	567	648	9573K93	27.97
2″	1″	4″	0.195″	0.468″	600	600	9573K94	30.01
2″	1″	5″	0.195″	0.468″	588	470	9573K96	36.05
2″	1″	8″	0.195″	0.468″	570	285	9573K99	54.33
Red, Medium to Heavy Load—Load at 20% deflection. Max. deflection is 37%.								
0.375″	0.188″	1″	0.046″	0.073″	18	90	9584K11	1.61
0.375″	0.188″	1.25″	0.046″	0.073″	18	73	9584K16	2.00
0.375″	0.188″	1.5″	0.046″	0.073″	20	67	9584K17	2.29
0.375″	0.188″	1.75″	0.046″	0.073″	20	58	9584K18	2.46
0.375″	0.188″	2″	0.046″	0.073″	20	50	9584K12	3.01
0.5″	0.281″	1″	0.061″	0.094″	34	168	9584K19	2.11
0.5″	0.281″	1.25″	0.061″	0.094″	33	130	9584K21	2.35
0.5″	0.281″	1.5″	0.061″	0.094″	29	95	9584K13	2.69
0.5″	0.281″	2″	0.061″	0.094″	30	75	9584K14	3.24
0.625″	0.344″	1″	0.081″	0.123″	60	300	9584K15	2.69
0.625″	0.344″	1.5″	0.081″	0.123″	57	190	9584K22	2.52
0.625″	0.344″	2″	0.081″	0.123″	59	148	9584K24	3.61
0.625″	0.344″	2.5″	0.081″	0.123″	58	115	9584K25	4.02
0.625″	0.344″	3″	0.081″	0.123″	60	100	9584K26	4.26
0.75″	0.375″	1″	0.093″	0.156″	100	500	9584K29	4.80
0.75″	0.375″	1.25″	0.093″	0.156″	95	380	9584K31	5.00
0.75″	0.375″	1.5″	0.093″	0.156″	96	320	9584K32	4.26
0.75″	0.375″	2″	0.093″	0.156″	99	248	9584K34	4.94
0.75″	0.375″	2.5″	0.093″	0.156″	96	192	9584K35	5.28
0.75″	0.375″	3″	0.093″	0.156″	86	144	9584K36	5.89
0.75″	0.375″	3.5″	0.093″	0.156″	90	128	9584K37	5.78
0.75″	0.375″	4″	0.093″	0.156″	96	120	9584K38	7.01
1″	0.5″	1″	0.115″	0.218″	152	760	9584K41	5.96
1″	0.5″	1.25″	0.115″	0.218″	156	624	9584K43	6.30
1″	0.5″	1.5″	0.115″	0.218″	149	496	9584K44	6.64
1″	0.5″	2″	0.115″	0.218″	160	400	9584K52	6.12
1″	0.5″	2.5″	0.115″	0.218″	155	310	9584K53	6.72
1″	0.5″	3″	0.115″	0.218″	150	250	9584K54	7.17
1″	0.5″	3.5″	0.115″	0.218″	151	216	9584K55	7.85
1″	0.5″	4″	0.115″	0.218″	147	184	9584K56	8.55
1″	0.5″	4.5″	0.115″	0.218″	153	170	9584K57	9.36
1″	0.5″	5″	0.115″	0.218″	144	144	9584K58	10.65
1″	0.5″	6″	0.115″	0.218″	144	120	9584K61	12.39
1.25″	0.625″	1.5″	0.156″	0.281″	343	1,144	9584K45	9.17
1.25″	0.625″	2″	0.156″	0.281″	346	864	9584K67	8.30
1.25″	0.625″	2.5″	0.156″	0.281″	312	624	9584K68	8.88
1.25″	0.625″	3″	0.156″	0.281″	307	512	9584K69	10.04
1.25″	0.625″	3.5″	0.156″	0.281″	308	440	9584K71	10.78
1.25″	0.625″	4″	0.156″	0.281″	294	368	9584K72	11.63
1.25″	0.625″	4.5″	0.156″	0.281″	288	320	9584K46	21.10
1.25″	0.625″	6″	0.156″	0.281″	300	250	9584K76	17.68
1.5″	0.75″	2″	0.187″	0.312″	432	1,080	9584K81	11.18
1.5″	0.75″	2.5″	0.187″	0.312″	428	856	9584K82	12.63
1.5″	0.75″	3″	0.187″	0.312″	374	624	9584K83	14.72
1.5″	0.75″	3.5″	0.187″	0.312″	370	528	9584K84	20.52
1.5″	0.75″	4″	0.187″	0.312″	384	480	9584K85	17.50
1.5″	0.75″	5″	0.187″	0.312″	368	368	9584K87	21.19
1.5″	0.75″	6″	0.187″	0.312″	365	304	9584K89	25.16
2″	1″	2.5″	0.225″	0.437″	592	1,184	9584K91	26.83
2″	1″	3″	0.225″	0.437″	576	960	9584K92	21.89
2″	1″	5″	0.225″	0.437″	560	560	9584K96	41.35
2″	1″	8″	0.225″	0.437″	563	352	9584K99	78.49

(Continued on following page)

High-Performance Chrome-Silicon Steel Die Springs *(Continued from previous page)*

Manufactured to handle repetitive punching and stamping jobs, these springs have high tensile strength for reliable, consistent operation over a long lifetime. Ends are closed and ground flat so springs stand straight and are easy to stack. They follow the Raymond die springs color code.

Fits Hole Size	Fits Rod Size	O'all Lg.	Wire Ht.	Wire Wd.	Load, lbs.	Rate, lbs./ inch		
Bronze, Heavy Load—Load at 15% deflection. Max. deflection is 30%.								
0.375″	0.188″	1″	0.054″	0.072″	17	110	9588K11	$1.75
0.375″	0.188″	1.5″	0.054″	0.072″	18	80	9588K15	2.46
0.375″	0.188″	2″	0.054″	0.072″	22	72	9588K12	3.23
0.5″	0.281″	1″	0.072″	0.095″	35	236	9588K13	2.64
0.5″	0.281″	1.5″	0.072″	0.095″	35	155	9588K14	3.01
0.5″	0.281″	2″	0.072″	0.095″	33	110	9588K29	3.23
0.625″	0.344″	1″	0.093″	0.125″	64	424	9588K31	2.73
0.625″	0.344″	1.5″	0.093″	0.125″	61	272	9588K22	3.41
0.625″	0.344″	2″	0.093″	0.125″	62	208	9588K24	3.88
0.625″	0.344″	2.5″	0.093″	0.125″	64	170	9588K25	4.08
0.625″	0.344″	3″	0.093″	0.125″	65	144	9588K26	4.54
0.75″	0.375″	1″	0.125″	0.165″	162	1,080	9588K16	4.11
0.75″	0.375″	1.25″	0.125″	0.165″	165	880	9588K33	5.45
0.75″	0.375″	1.5″	0.125″	0.165″	148	656	9588K32	4.52
0.75″	0.375″	2″	0.125″	0.165″	149	496	9588K34	5.24
0.75″	0.375″	2.5″	0.125″	0.165″	150	400	9588K35	5.78
0.75″	0.375″	3″	0.125″	0.165″	153	340	9588K36	6.24
0.75″	0.375″	3.5″	0.125″	0.165″	147	280	9588K37	7.14
0.75″	0.375″	4″	0.125″	0.165″	150	250	9588K38	8.04
0.75″	0.375″	6″	0.125″	0.165″	144	160	9588K42	11.93
1″	0.5″	1″	0.158″	0.221″	312	2,080	9588K39	6.75
1″	0.5″	1.25″	0.158″	0.221″	321	1,712	9588K73	5.71
1″	0.5″	1.5″	0.158″	0.221″	266	1,184	9588K18	5.96
1″	0.5″	1.75″	0.158″	0.221″	273	1,040	9588K19	6.34
1″	0.5″	2″	0.158″	0.221″	270	900	9588K52	6.83
1″	0.5″	2.5″	0.158″	0.221″	255	680	9588K53	7.78
1″	0.5″	3″	0.158″	0.221″	245	544	9588K54	8.04
1″	0.5″	3.5″	0.158″	0.221″	239	456	9588K55	8.77
1″	0.5″	4″	0.158″	0.221″	240	400	9588K56	9.55
1″	0.5″	4.5″	0.158″	0.221″	238	352	9588K57	10.40
1″	0.5″	5″	0.158″	0.221″	234	312	9588K58	11.74
1″	0.5″	6″	0.158″	0.221″	230	256	9588K59	17.91
1.25″	0.625″	1.5″	0.200″	0.286″	477	2,120	9588K21	7.83
1.25″	0.625″	2″	0.200″	0.286″	449	1,496	9588K67	8.74
1.25″	0.625″	2.5″	0.200″	0.286″	441	1,176	9588K68	9.57
1.25″	0.625″	3″	0.200″	0.286″	428	952	9588K69	10.59
1.25″	0.625″	4″	0.200″	0.286″	398	664	9588K72	13.16
1.25″	0.625″	5″	0.200″	0.286″	398	530	9588K74	20.73
1.25″	0.625″	6″	0.200″	0.286″	382	424	9588K76	25.38
Bronze, Heavy Load (Cont.)								
1.25″	0.625″	8″	0.200″	0.286″	394	328	9588K41	$46.40
1.5″	0.75″	2″	0.225″	0.337″	571	1,904	9588K81	11.96
1.5″	0.75″	2.5″	0.225″	0.337″	581	1,550	9588K82	13.51
1.5″	0.75″	3″	0.225″	0.337″	585	1,300	9588K83	15.39
1.5″	0.75″	3.5″	0.225″	0.337″	559	1,064	9588K84	17.09
1.5″	0.75″	4″	0.225″	0.337″	547	912	9588K85	19.16
1.5″	0.75″	4.5″	0.225″	0.337″	529	784	9588K86	28.48
1.5″	0.75″	5″	0.225″	0.337″	534	712	9588K87	31.26
1.5″	0.75″	6″	0.225″	0.337″	526	584	9588K89	37.34
2″	1″	2.5″	0.280″	0.470″	975	2,600	9588K91	21.91
2″	1″	3″	0.280″	0.470″	900	2,000	9588K92	23.81
2″	1″	4″	0.280″	0.470″	900	1,500	9588K94	29.37
2″	1″	5″	0.280″	0.470″	825	1,100	9588K96	33.89
2″	1″	6″	0.280″	0.470″	846	940	9588K98	41.72
2″	1″	8″	0.280″	0.470″	876	730	9588K99	52.74
Green, Extra-Heavy Load—Load at 15% deflection. Max. deflection is 25%.								
0.375″	0.188″	1″	0.059″	0.080″	33	220	9595K35	2.38
0.375″	0.188″	2″	0.059″	0.080″	27	90	9595K24	3.18
0.5″	0.281″	1″	0.084″	0.097″	48	320	9595K36	2.64
0.5″	0.281″	2″	0.084″	0.097″	42	140	9595K25	3.75
0.625″	0.344″	1″	0.110″	0.126″	95	630	9595K37	3.11
0.625″	0.344″	2″	0.110″	0.126″	87	290	9595K27	4.22
0.75″	0.375″	1″	0.135″	0.165″	210	1,400	9595K38	5.68
0.75″	0.375″	2″	0.135″	0.165″	204	660	9595K31	6.06
0.75″	0.375″	3″	0.135″	0.165″	182	405	9595K32	7.00
0.75″	0.375″	4″	0.135″	0.165″	180	300	9595K33	8.58
1″	0.5″	1.5″	0.195″	0.216″	360	1,600	9595K39	9.77
1″	0.5″	2″	0.195″	0.216″	348	1,160	9595K11	8.60
1″	0.5″	3″	0.195″	0.216″	331	736	9595K12	9.44
1″	0.5″	4″	0.195″	0.216″	331	552	9595K41	19.87
1.25″	0.625″	2″	0.244″	0.288″	576	2,050	9595K14	9.99
1.25″	0.625″	3″	0.244″	0.288″	533	1,220	9595K15	12.77
1.5″	0.75″	2″	0.323″	0.343″	1,128	4,085	9595K17	15.65
1.5″	0.75″	2.5″	0.323″	0.343″	1,104	2,944	9595K42	31.55
1.5″	0.75″	3″	0.323″	0.343″	1,040	2,550	9595K18	19.90
1.5″	0.75″	5″	0.323″	0.343″	1,020	1,360	9595K43	53.25
1.5″	0.75″	6″	0.323″	0.343″	994	1,104	9595K44	63.49
2″	1″	3″	0.387″	0.450″	1,404	3,120	9595K19	31.72
2″	1″	4.5″	0.387″	0.450″	1,274	1,888	9595K22	40.33

Spring-Tempered Steel Die Springs

Use these springs in low-cycle die press applications such as trimming and stamping. All have closed and ground flat ends so they stand straight and are easy to stack. Maximum deflection is 15%.

Fits Hole Size	Fits Rod Size	O'all Lg.	Wire Ht.	Wire Wd.	Load, lbs.	Rate, lbs./ inch		1-9	10-Up
0.563″	0.25″	1″	0.06″	0.13″	39	260	9623K11	$4.80	$3.86
0.563″	0.25″	1.5″	0.06″	0.13″	35	155	9623K12	5.59	4.49
0.563″	0.25″	2″	0.06″	0.13″	36	120	9623K13	6.34	5.10
0.563″	0.25″	2.5″	0.06″	0.13″	38	100	9623K14	6.34	5.10
0.75″	0.375″	1″	0.09″	0.16″	80	536	9623K21	3.56	2.86
0.75″	0.375″	1.5″	0.09″	0.16″	85	376	9623K22	3.83	3.08
0.75″	0.375″	2″	0.09″	0.16″	79	264	9623K23	4.32	3.47
0.75″	0.375″	2.5″	0.09″	0.16″	78	208	9623K24	4.95	3.98
0.75″	0.375″	3″	0.09″	0.16″	79	176	9623K25	5.46	4.39
0.75″	0.375″	3.5″	0.09″	0.16″	76	144	9623K26	5.95	4.78
0.75″	0.375″	4″	0.09″	0.16″	77	128	9623K27	6.46	5.20
0.75″	0.375″	6″	0.09″	0.16″	72	80	9623K32	10.78	8.67
1″	0.5″	1″	0.11″	0.22″	120	800	9623K33	4.32	3.47
1″	0.5″	1.5″	0.11″	0.22″	126	560	9623K34	5.07	4.08
1″	0.5″	2″	0.11″	0.22″	120	400	9623K35	5.46	4.39
1″	0.5″	2.5″	0.11″	0.22″	117	312	9623K36	6.46	5.20
1″	0.5″	3″	0.11″	0.22″	115	256	9623K37	7.56	6.08
1″	0.5″	3.5″	0.11″	0.22″	113	216	9623K38	8.12	6.53
1″	0.5″	4″	0.11″	0.22″	110	184	9623K39	8.68	6.98
1″	0.5″	5″	0.11″	0.22″	108	144	9623K42	11.39	9.16
1″	0.5″	6″	0.11″	0.22″	108	120	9623K43	15.15	12.18
1″	0.5″	8″	0.11″	0.22″	96	80	9623K44	18.90	15.20
1.063″	0.5″	1″	0.13″	0.25″	216	1,440	9623K45	9.44	7.59
1.063″	0.5″	1.5″	0.13″	0.25″	149	660	9623K46	9.80	7.88
1.063″	0.5″	2″	0.13″	0.25″	156	520	9623K47	10.49	8.43
1.125″	0.563″	1″	0.14″	0.25″	180	1,200	9623K57	9.32	7.49
1.125″	0.563″	1.5″	0.14″	0.25″	198	880	9623K58	10.73	8.63
1.125″	0.563″	2″	0.14″	0.25″	180	600	9623K59	11.90	9.57
1.125″	0.563″	3″	0.14″	0.25″	176	390	9623K62	13.15	10.57
1.25″	0.625″	1.5″	0.16″	0.28″	252	1,120	9624K15	9.82	8.04
1.25″	0.625″	2″	0.16″	0.28″	240	800	9624K16	10.84	8.87
1.25″	0.625″	2.5″	0.16″	0.28″	231	616	9624K17	$11.36	$9.29
1.25″	0.625″	3″	0.16″	0.28″	234	520	9624K18	11.84	9.69
1.25″	0.625″	3.5″	0.16″	0.28″	231	440	9624K19	12.31	10.07
1.25″	0.625″	4″	0.16″	0.28″	226	376	9624K21	13.31	10.89
1.25″	0.625″	4.5″	0.16″	0.28″	223	330	9624K22	14.36	11.75
1.25″	0.625″	5″	0.16″	0.28″	216	288	9624K23	16.27	13.31
1.25″	0.625″	6″	0.16″	0.28″	216	240	9624K25	18.71	15.31
1.25″	0.625″	7″	0.16″	0.28″	210	200	9624K26	20.38	16.67
1.25″	0.625″	10″	0.16″	0.28″	204	136	9624K28	27.02	22.11
1.5″	0.75″	2″	0.19″	0.31″	300	1,000	9624K29	12.82	10.49
1.5″	0.75″	2.5″	0.19″	0.31″	291	776	9624K31	13.22	10.82
1.5″	0.75″	3″	0.19″	0.31″	292	648	9624K32	13.56	11.09
1.5″	0.75″	3.5″	0.19″	0.31″	286	544	9624K33	15.27	12.49
1.5″	0.75″	4″	0.19″	0.31″	283	472	9624K34	15.78	12.91
1.5″	0.75″	4.5″	0.19″	0.31″	281	416	9624K35	18.42	15.07
1.5″	0.75″	5″	0.19″	0.31″	270	360	9624K36	20.73	16.96
1.5″	0.75″	6″	0.19″	0.31″	266	296	9624K37	23.69	19.38
1.5″	0.75″	8″	0.19″	0.31″	250	208	9624K38	30.29	24.78
1.5″	0.75″	10″	0.19″	0.31″	252	168	9624K39	47.36	38.75
1.75″	0.875″	4″	0.20″	0.38″	322	536	9624K45	21.69	17.75
1.75″	0.875″	5″	0.20″	0.38″	312	416	9624K47	27.18	22.24
1.75″	0.875″	6″	0.20″	0.38″	302	336	9624K48	30.38	24.85
1.75″	0.875″	10″	0.20″	0.38″	288	192	9624K52	54.27	44.40
2″	1″	2.5″	0.22″	0.44″	386	1,030	9624K53	19.73	16.15
2″	1″	3″	0.22″	0.44″	389	864	9624K54	22.69	18.56
2″	1″	3.5″	0.22″	0.44″	382	728	9624K55	23.93	19.58
2″	1″	4″	0.22″	0.44″	374	624	9624K56	27.67	22.64
2″	1″	5″	0.22″	0.44″	366	488	9624K58	35.49	29.04
2″	1″	6″	0.22″	0.44″	353	392	9624K61	39.49	32.31
2″	1″	10″	0.22″	0.44″	336	224	9624K65	73.02	59.75
2″	1″	12″	0.22″	0.44″	331	184	9624K66	80.93	66.22

Heavy-Load Alloy Steel Die Springs

Larger than typical die springs, these offer greater stability while taking on your heavy loads. All have high tensile strength for reliable operation over a long lifetime. Ends are closed and ground flat so springs stand straight and are easy to stack.



Fits Hole Size	Fits Rod Size	O'all Lg.	Wire Dia.	Defl. % @ Load	Load, lbs.	Rate, lbs./ inch		
2.5″	1.5″	3″	0.437″	12.9	665	1,715	9622K51	$63.41
2.5″	1.5″	3.5″	0.437″	14.6	724	1,415	9622K52	90.73
2.5″	1.5″	4″	0.437″	18.3	927	1,265	9622K53	68.97
2.5″	1.5″	5″	0.437″	19.4	933	960	9622K55	71.92
2.5″	1.5″	6″	0.437″	21.9	1,051	800	9622K56	76.13
2.5″	1.5″	8″	0.437″	25.0	1,200	600	9622K57	76.78
2.5″	1.5″	12″	0.437″	24.7	1,112	375	9622K59	114.10

Fits Hole Size	Fits Rod Size	O'all Lg.	Wire Dia.	Defl. % @ Load	Load, lbs.	Rate, lbs./ inch		
3″	1.812″	4″	0.500″	22.4	1,593	1,775	9622K62	$94.68
3″	1.812″	15″	0.500″	25.3	1,593	420	9622K67	111.15
4.125″	2.625″	3″	0.625″	18.0	1,727	3,200	9622K68	137.22
4.125″	2.625″	8″	0.625″	26.9	2,198	1,020	9622K74	115.69
4.125″	2.625″	10″	0.625″	27.0	2,198	815	9622K75	160.38
4.125″	2.625″	12″	0.625″	27.1	2,198	675	9622K76	166.24

Corrosion-Resistant Polyurethane Die Springs

A quieter, more vibration-resistant alternative to traditional steel die springs, these are made of polyurethane to resist oxidation, oil, and abrasion in high load, high pressure applications. Maximum deflection is 15%. Durometer is 95A. Temperature range is –50° to 180° F.



Fits Hole Size	Fits Rod Size	O'all Lg.	Load, lbs.	Rate, lbs./in.		
0.688″	0.188″	1″	470	1,880	1578T1	$2.62
0.688″	0.188″	1.25″	365	1,460	1578T2	3.23
0.688″	0.188″	1.5″	315	1,260	1578T3	3.59
0.75″	0.25″	1″	555	2,220	1578T4	2.75
0.75″	0.25″	1.25″	425	1,700	1578T5	3.30
0.75″	0.25″	1.5″	365	1,460	1578T6	3.80
0.875″	0.375″	1″	755	3,020	1578T7	3.23
0.875″	0.375″	1.25″	590	2,360	1578T8	3.80
0.875″	0.375″	1.5″	475	1,900	1578T9	4.45
0.875″	0.375″	2″	340	1,360	1578T11	6.13

Fits Hole Size	Fits Rod Size	O'all Lg.	Load, lbs.	Rate, lbs./in.		
1″	0.5″	1″	875	3,500	1578T12	$4.12
1″	0.5″	1.25″	580	2,320	1578T13	4.64
1″	0.5″	1.5″	555	2,220	1578T14	5.29
1″	0.5″	2″	425	1,700	1578T15	6.64
1.375″	0.75″	1.25″	1,280	5,120	1578T16	5.75
1.375″	0.75″	1.5″	1,100	4,400	1578T17	6.83
1.375″	0.75″	2″	820	3,280	1578T18	8.44
1.75″	1″	1.25″	1,940	7,760	1578T19	7.01
1.75″	1″	1.5″	1,605	6,420	1578T21	8.04
1.75″	1″	2″	1,175	4,700	1578T22	10.42
1.75″	1″	2.5″	935	3,740	1578T23	12.39

Cut-to-Length Die Springs

Keep these 36″ long springs on hand so you can cut the right length whenever you need it. All have open ends. To determine the spring rate, divide the rate constant by the length (in inches) you cut.

Fits Hole Size	Fits Rod Size	Wire Size	Rate Constant		
Square Wire					
0.438″	0.25″	0.063″	106	9621K11	$20.20
0.5″	0.25″	0.094″	508	9621K14	22.04
0.563″	0.375″	0.063″	50	9621K12	22.06
0.563″	0.313″	0.094″	344	9621K15	22.09
0.688″	0.5″	0.063″	29	9621K13	22.17
0.688″	0.438″	0.094″	188	9621K16	24.89
0.688″	0.375″	0.125″	736	9621K18	27.52
0.813″	0.563″	0.094″	102	9621K17	27.49
0.813″	0.5″	0.125″	418	9621K19	28.93
0.938″	0.625″	0.125″	264	9621K21	29.22
0.938″	0.5″	0.188″	1,932	9621K27	54.65
1.063″	0.75″	0.125″	210	9621K22	30.87
1.063″	0.625″	0.188″	1,440	9621K28	54.37

Fits Hole Size	Fits Rod Size	Wire Size	Rate Constant		
Square Wire (Cont.)					
1.188″	0.813″	0.156″	416	9621K26	$53.65
1.188″	0.75″	0.188″	1,044	9621K29	54.65
1.313″	0.875″	0.188″	723	9621K31	55.22
1.813″	1.125″	0.281″	2,111	9621K44	126.43
1.813″	1.063″	0.313″	3,724	9621K47	124.29
2.063″	1.313″	0.313″	2,489	9621K48	155.64
2.313″	1.563″	0.313″	1,936	9621K49	155.42
Round-Edge Rectangular Wire					
0.75″	0.375″	0.156″	453	9625K12	28.04
1″	0.5″	0.219″	597	9625K13	51.85
1.5″	0.75″	0.313″	1,770	9625K17	63.84
2″	1″	0.438″	2,283	9625K19	102.45

Die-Spring Cages

Protect dies from damage caused by spring failure. Cages enclose springs and retain fragments if they should break. All are made of 0.049″ thick steel.



Cage Shown with Spring



Length	0.75″ ID		1″ ID		1.25″ ID		1.5″ ID		2″ ID	
1.5″	1878K11	$3.89	1878K19	$4.25	1878K33	$5.02	1878K42	$4.90	1878K56	$5.15
2″	1878K12	4.12	1878K22	4.52	1878K34	5.44	1878K43	5.40	1878K57	5.53

Die-Spring Screw Caps

In addition to providing a backing for springs, these screw caps can also be used to control spring tension. Install them by drilling and tapping a hole through your die set. All screw caps are made of hardened steel and have a black-oxide finish.



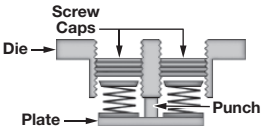

Screw Caps Shown in a Stamping Die

Thread Size	Hex Size	Thickness		
7/16″-20	3/16″	1/4″	96235K3	$2.33
1/2″-20	1/4″	5/16″	96235K5	2.58
9/16″-18	1/4″	5/16″	96235K7	2.70
5/8″-18	1/4″	5/16″	96235K9	2.94
3/4″-16	1/4″	5/16″	96235K11	3.00

Thread Size	Hex Size	Thickness		
7/8″-14	1/4″	5/16″	96235K13	$3.33
1″-14	1/4″	5/16″	96235K15	3.51
1 1/8″-12	1/4″	5/16″	96235K17	4.42
1 1/4″-12	1/4″	5/16″	96235K19	4.77
1 3/8″-12	1/2″	1/2″	96235K21	11.93

Torsion Springs

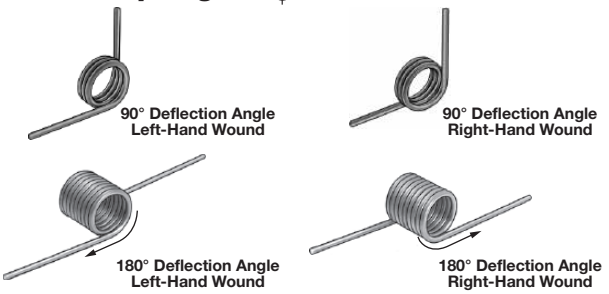

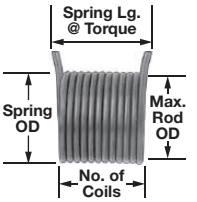

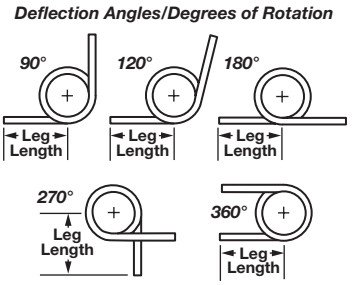

Commonly found in clothespins, spring clamps, mousetraps, motors, and spring-return mechanisms, torsion springs maintain pressure over a short distance in a rotational direction. They are often supported by a rod, mandrel, or arbor.

Squeezing a torsion spring reduces the spring OD, which tightens the spring around a shaft and increases the spring length. Since the spring gets tighter as it is squeezed around the shaft, a maximum rod OD for each spring is listed. Using a larger rod OD will interfere with the spring motion.

Torsion springs should be used in the direction in which the coils are wound. Choose from five different deflection angles/degrees of rotation. Each represents the angle between the legs of the spring as well as the maximum spring rotation. All springs rotate until their legs are parallel. For example, a spring with a 90° deflection angle/degrees of rotation has a 90° angle between its legs, and it will rotate a maximum of 90°. Torque, in.-lbs. is the torque required to rotate the spring legs to the parallel position. Spring length @ torque is the length of the spring at that time.

Steel music wire torsion springs have high strength. **Type 302 stainless steel torsion springs** offer good corrosion resistance.

To Order: Please specify right-hand or left-hand wind direction.

				Steel Music Wire						Type 302 Stainless Steel				
Spring OD	Wire Dia.	Leg Length	Max. Rod OD	No. of Coils	Torque, in.-lbs.	Spring Length @ Torque	Pkg. Qty.		Pkg.	No. of Coils	Torque, in.-lbs.	Spring Length @ Torque		Each
90° Deflection Angle/Degrees of Rotation														
0.105″	0.012″	0.375″	0.065″	3.25	0.050	0.054″	6	9271K511	$5.01	4.25	0.030	0.066″	9287K362	$2.01
0.160″	0.017″	0.500″	0.093″	3.25	0.125	0.081″	6	9271K11	5.63	2.25	0.117	0.081″	9287K11	4.39
0.178″	0.018″	0.500″	0.109″	3.25	0.150	0.080″	6	9271K512	5.01	4.25	0.090	0.099″	9287K363	2.00
0.234″	0.018″	0.750″	0.156″	2.25	0.150	0.058″	6	9271K513	5.01	3.25	0.080	0.081″	9287K364	2.00
0.235″	0.025″	0.750″	0.140″	3.25	0.402	0.096″	6	9271K15	5.81	2.25	0.375	0.113″	9287K13	4.58
0.281″	0.030″	1.000″	0.172″	3.25	0.670	0.116″	6	9271K19	6.00	2.25	0.625	0.135″	9287K27	5.00
0.288″	0.032″	1.000″	0.172″	3.25	0.879	0.152″	6	9271K24	6.20	2.25	0.820	0.152″	9287K23	5.24
0.309″	0.040″	1.250″	0.187″	4.25	1.473	0.198″	6	9271K33	6.89	3.25	1.375	0.220″	9287K32	4.95
0.315″	0.035″	1.250″	0.187″	3.25	1.071	0.135″	6	9271K28	6.41	2.25	1.000	0.158″	9287K34	5.24
0.357″	0.045″	1.250″	0.203″	4.25	2.143	0.259″	6	9271K37	7.16	3.25	2.000	0.259″	9287K36	5.67
0.373″	0.028″	1.000″	0.250″	2.25	0.550	0.091″	6	9271K514	5.01	3.25	0.300	0.126″	9287K365	2.30
0.375″	0.048″	1.250″	0.218″	4.25	2.679	0.238″	6	9271K42	7.33	3.25	2.500	0.264″	9287K38	6.05
0.386″	0.038″	1.250″	0.250″	3.25	1.280	0.170″	6	9271K515	5.01	4.25	0.770	0.209″	9287K366	2.17
0.408″	0.051″	2.000″	0.234″	4.25	3.107	0.293″	6	9271K46	7.62	2.25	2.900	0.293″	9287K42	6.34
0.453″	0.045″	1.250″	0.312″	3.25	2.150	0.191″	6	9271K516	5.01	4.25	1.330	0.248″	9287K367	3.02
0.484″	0.054″	2.000″	0.296″	4.25	3.509	0.310″	6	9271K51	7.63	2.25	3.275	0.310″	9287K44	6.90
0.499″	0.059″	2.000″	0.296″	4.25	4.500	0.340″	6	9271K55	7.79	3.25	4.200	0.340″	9287K46	7.25
0.499″	0.059″	2.000″	0.312″	4.25	4.500	0.320″	6	9271K517	6.47	5.25	2.870	0.384″	9287K368	3.30
0.560″	0.063″	2.000″	0.343″	4.25	5.518	0.362″	6	9271K59	7.81	2.25	5.150	0.362″	9287K48	7.76
0.675″	0.063″	2.000″	0.469″	3.25	5.500	0.268″	6	9271K518	6.47	4.25	3.370	0.347″	9287K369	3.95
0.678″	0.078″	2.000″	0.406″	4.25	10.446	0.450″	6	9271K64	7.82	3.25	9.750	0.450″	9287K49	7.87
0.748″	0.085″	2.500″	0.467″	4.25	12.860	0.455″	1	9271K519	1.78	5.25	8.430	0.553″	9287K371	4.37
0.754″	0.070″	2.000″	0.531″	3.25	7.500	0.298″	6	9271K521	6.47	4.25	4.670	0.385″	9287K372	4.34
0.776″	0.095″	3.000″	0.453″	3.25	17.140	0.546″	1	9271K67	2.89	3.25	16.000	0.546″	9287K51	3.98
0.848″	0.105″	3.500″	0.500″	5.25	21.000	0.656″	1	9271K522	1.94	6.25	14.630	0.788″	9287K373	4.63
0.848″	0.106″	3.500″	0.500″	3.25	22.470	0.604″	1	9271K72	4.00	3.25	20.970	0.604″	9287K103	5.51
0.871″	0.095″	3.000″	0.554″	4.25	17.140	0.509″	1	9271K523	1.78	5.25	11.210	0.618″	9287K374	4.51
0.978″	0.115″	4.000″	0.594″	5.25	28.000	0.594″	1	9271K524	2.19	6.25	18.160	0.863″	9287K375	5.55
0.989″	0.125″	4.000″	0.591″	4.25	34.290	0.844″	1	9271K76	6.78	4.25	32.000	0.844″	9287K104	9.32
1.102″	0.135″	4.000″	0.666″	6.25	40.000	0.978″	1	9271K525	2.50	7.25	27.390	1.148″	9287K376	6.15
1.102″	0.135″	4.000″	0.666″	4.25	42.860	0.911″	1	9271K81	6.89	4.25	40.000	0.911″	9287K105	9.52
1.110″	0.095″	3.000″	0.812″	3.25	17.140	0.404″	1	9271K526	1.78	4.25	10.660	0.523″	9287K377	5.10
1.342″	0.105″	3.500″	1.031″	3.25	21.000	0.446″	1	9271K527	1.94	4.25	13.130	0.578″	9287K378	5.19
1.372″	0.125″	4.000″	1.031″	4.25	32.000	0.656″	1	9271K528	2.34	5.25	21.400	0.813″	9287K379	6.87
1.450″	0.115″	4.000″	1.094″	3.25	28.000	0.489″	1	9271K529	2.19	4.25	17.380	0.633″	9287K381	5.55
1.492″	0.135″	4.000″	1.125″	4.25	40.000	0.709″	1	9271K531	2.50	5.25	27.000	0.878″	9287K382	6.64
120° Deflection Angle/Degrees of Rotation														
0.235″	0.025″	0.750″	0.140″	5.17	0.330	0.154″	6	9271K568	5.01	6.16	0.230	0.192″	9287K354	2.14
0.309″	0.040″	1.250″	0.187″	6.17	1.430	0.287″	6	9271K569	5.01	7.16	0.990	0.347″	9287K355	2.85
0.315″	0.035″	1.250″	0.187″	5.17	0.960	0.216″	6	9271K571	5.01	6.16	0.640	0.268″	9287K356	3.24
0.484″	0.054″	2.000″	0.296″	5.17	3.540	0.333″	6	9271K572	6.47	6.16	2.340	0.414″	9287K357	3.97
0.560″	0.063″	2.000″	0.343″	5.17	5.680	0.389″	6	9271K573	6.47	6.16	3.810	0.483″	9287K358	4.32
0.678″	0.078″	2.000″	0.406″	6.17	9.260	0.559″	6	9271K574	6.47	7.16	7.330	0.676″	9287K359	4.23
1.102″	0.135″	4.000″	0.666″	7.17	44.360	1.102″	1	9271K575	2.50	8.16	32.240	1.305″	9287K361	6.45
180° Deflection Angle/Degrees of Rotation														
0.109″	0.012″	0.375″	0.067″	6.00	0.050	0.086″	6	9271K68	5.63	5.00	0.047	0.090″	9287K52	4.79
0.130″	0.015″	0.500″	0.078″	6.00	0.100	0.107″	6	9271K77	6.00	5.00	0.093	0.113″	9287K56	5.02
0.133″	0.014″	0.500″	0.078″	6.00	0.075	0.150″	6	9271K73	5.81	5.00	0.070	0.105″	9287K54	4.89
0.183″	0.015″	0.750″	0.109″	4.00	0.100	0.075″	6	9271K82	6.20	3.00	0.093	0.083″	9287K58	5.13
0.186″	0.021″	0.750″	0.109″	7.00	0.250	0.173″	6	9271K532	5.01	8.00	0.170	0.200″	9287K383	2.14
0.216″	0.018″	0.750″	0.140″	5.00	0.150	0.109″	6	9271K86	6.41	4.00	0.140	0.117″	9287K61	5.27
0.217″	0.018″	0.750″	0.140″	5.00	0.150	0.109″	6	9271K533	5.01	6.00	0.100	0.135″	9287K384	2.13
0.224″	0.025″	0.750″	0.140″	7.00	0.402	0.206″	6	9271K92	6.89	6.00	0.375	0.213″	9287K63	5.46
0.249″	0.017″	0.375″	0.170″	4.00	0.130	0.090″	6	9271K534	5.01	5.00	0.090	0.111″	9287K385	2.00
0.249″	0.028″	1.000″	0.140″	7.00	0.552	0.238″	6	9271K96	7.16	6.00	0.515	0.238″	9287K65	5.01

(Continued on following page)

Torsion Springs *(Continued from previous page)*

				Steel Music Wire						Type 302 Stainless Steel				
Spring OD	Wire Dia.	Leg Length	Max. Rod OD	No. of Coils	Torque, in.-lbs.	Spring Length @ Torque	Pkg. Qty.		Pkg.	No. of Coils	Torque, in.-lbs.	Spring Length @ Torque		Each
180° Deflection Angle/Degrees of Rotation														
0.304″	0.035″	1.250″	0.187″	7.00	1.070	0.290″	6	9271K535	$5.01	8.00	0.800	0.333″	9287K386	$2.01
0.305″	0.025″	1.000″	0.203″	5.00	0.420	0.151″	6	9271K536	5.01	6.00	0.270	0.188″	9287K387	2.32
0.340″	0.028″	1.000″	0.235″	5.00	0.550	0.175″	6	9271K537	5.01	6.00	0.380	0.210″	9287K388	1.96
0.363″	0.038″	1.250″	0.240″	7.00	1.280	0.315″	6	9271K538	5.01	8.00	0.940	0.361″	9287K389	2.17
0.366″	0.032″	1.000″	0.250″	5.00	0.880	0.200″	6	9271K539	5.01	6.00	0.610	0.240″	9287K391	2.01
0.404″	0.048″	1.250″	0.250″	8.00	2.679	0.450″	6	9271K18	7.62	7.00	2.500	0.456″	9287K68	6.05
0.430″	0.051″	2.000″	0.275″	8.00	3.100	0.470″	6	9271K543	6.47	9.00	2.290	0.536″	9287K392	2.59
0.450″	0.035″	1.250″	0.281″	5.00	1.071	0.212″	6	9271K14	7.44	4.00	1.000	0.228″	9287K66	5.87
0.519″	0.050″	2.000″	0.343″	5.00	1.500	0.242″	6	9271K545	6.47	6.00	2.500	0.375″	9287K331	2.61
0.526″	0.059″	2.000″	0.328″	8.00	4.500	0.560″	6	9271K23	8.00	7.00	4.200	0.561″	9287K69	6.92
0.526″	0.059″	2.000″	0.335″	8.00	4.500	0.540″	6	9271K544	6.47	9.00	3.390	0.620″	9287K393	3.24
0.556″	0.051″	2.000″	0.375″	5.00	3.100	0.365″	6	9271K546	6.47	6.00	2.540	0.383″	9287K332	2.64
0.575″	0.045″	2.000″	0.390″	5.00	2.150	0.280″	6	9271K547	5.01	6.00	1.470	0.338″	9287K333	2.34
0.619″	0.048″	2.000″	0.406″	5.00	2.750	0.292″	6	9271K549	5.01	6.00	1.790	0.360″	9287K335	2.63
0.625″	0.070″	2.000″	0.406″	8.00	7.500	0.640″	6	9271K548	6.47	9.00	5.740	0.735″	9287K334	3.61
0.654″	0.054″	2.000″	0.460″	6.00	3.500	0.390″	6	9271K552	6.47	7.00	2.380	0.459″	9287K337	3.03
0.672″	0.075″	2.000″	0.418″	8.00	9.200	0.689″	6	9271K551	6.47	9.00	7.070	0.788″	9287K336	3.99
0.681″	0.059″	2.000″	0.470″	6.00	4.500	0.425″	6	9271K553	6.47	7.00	3.290	0.502″	9287K338	3.61
0.757″	0.075″	2.000″	0.486″	7.00	9.200	0.612″	6	9271K554	6.47	8.00	6.980	0.713″	9287K339	4.24
0.767″	0.063″	2.000″	0.500″	6.00	5.518	0.475″	6	9271K27	8.06	5.00	5.150	0.475″	9287K72	6.37
0.781″	0.078″	2.000″	0.500″	7.00	10.450	0.637″	6	9271K555	6.47	8.00	7.930	0.741″	9287K341	4.22
0.803″	0.078″	2.000″	0.500″	7.00	10.446	0.660″	6	9271K32	8.97	6.00	9.750	0.663″	9287K73	8.88
0.810″	0.070″	2.000″	0.565″	6.00	7.500	0.500″	6	9271K556	6.47	7.00	5.550	0.595″	9287K342	3.80
0.891″	0.085″	2.500″	0.580″	7.00	12.860	0.694″	1	9271K557	1.78	8.00	9.700	0.808″	9287K343	4.54
0.920″	0.095″	3.000″	0.593″	8.00	17.140	0.872″	1	9271K558	1.94	9.00	13.100	0.998″	9287K344	5.10
0.982″	0.105″	3.500″	0.609″	9.00	21.000	1.050″	1	9271K559	2.19	10.00	16.560	1.208″	9287K345	5.55
0.982″	0.106″	3.500″	0.609″	7.00	22.500	0.998″	1	9271K85	3.67	7.00	21.000	0.998″	9287K75	5.10
1.038″	0.095″	3.000″	0.686″	7.00	17.140	0.775″	1	9271K561	1.94	8.00	12.910	0.903″	9287K346	5.18
1.082″	0.125″	4.000″	0.666″	9.00	34.280	1.438″	1	9271K89	5.97	9.00	32.000	1.438″	9287K106	8.25
1.189″	0.135″	4.000″	0.735″	9.00	42.860	1.553″	1	9271K95	6.89	9.00	40.000	1.553″	9287K108	9.52
1.348″	0.115″	4.000″	0.859″	7.00	28.000	0.920″	1	9271K562	2.34	8.00	21.160	1.093″	9287K347	5.72
1.356″	0.125″	4.000″	0.885″	7.00	34.290	1.188″	1	9271K91	6.89	7.00	32.000	1.188″	9287K107	9.52
270° Deflection Angle/Degrees of Rotation														
0.184″	0.021″	0.750″	0.109″	10.75	0.234	0.266″	6	9271K41	6.00	9.75	0.218	0.266″	9287K85	5.02
0.187″	0.023″	0.750″	0.109″	10.75	0.330	0.282″	6	9271K45	6.20	9.75	0.308	0.288″	9287K88	5.27
0.259″	0.017″	0.750″	0.156″	5.75	0.125	0.123″	6	9271K36	5.81	4.75	0.117	0.128″	9287K82	4.79
0.353″	0.038″	1.250″	0.218″	10.75	1.275	0.465″	6	9271K49	6.41	9.75	1.190	0.475″	9287K89	5.44
0.377″	0.030″	1.000″	0.250″	7.75	0.680	0.280″	6	9271K563	5.01	8.75	0.480	0.315″	9287K348	2.04
0.556″	0.045″	2.000″	0.359″	7.75	2.143	0.415″	6	9271K54	6.89	6.75	2.000	0.428″	9287K92	5.67
0.826″	0.070″	2.000″	0.531″	8.75	7.500	0.717″	6	9271K58	8.58	7.75	7.000	0.735″	9287K93	8.75
1.086″	0.115″	4.000″	0.688″	13.75	28.000	1.696″	1	9271K564	2.71	14.75	22.420	1.898″	9287K349	5.55
1.342″	0.106″	3.500″	0.891″	7.75	22.500	1.076″	1	9271K4	4.00	7.75	21.000	1.076″	9287K94	5.51
1.660″	0.135″	4.000″	1.112″	11.75	40.000	1.721″	1	9271K565	3.18	12.75	31.830	1.958″	9287K351	6.43
1.666″	0.135″	4.000″	1.112″	9.75	42.860	1.654″	1	9271K7	6.89	9.75	40.000	1.654″	9287K101	9.52
360° Deflection Angle/Degrees of Rotation														
0.271″	0.021″	1.000″	0.187″	9.50	0.234	0.242″	6	9271K63	5.81	8.50	0.218	0.242″	9287K98	4.79
0.371″	0.018″	1.000″	0.266″	5.50	0.150	0.117″	6	9271K566	5.01	6.50	0.110	0.153″	9287K352	2.21
0.508″	0.040″	2.000″	0.343″	10.50	1.500	0.470″	6	9271K567	5.01	11.50	1.140	0.540″	9287K353	2.27
0.798″	0.063″	2.000″	0.516″	11.50	5.520	0.820″	1	9271K5	2.19	11.50	5.150	0.820″	9287K99	2.99
1.755″	0.135″	4.000″	1.188″	12.50	42.860	2.025″	1	9271K9	6.89	12.50	40.000	2.025″	9287K102	9.52

Custom Torsion Springs

Whatever the size, we'll get the spring you need. Send us a description, drawing, or sample of the torsion spring you require. For information about torsion spring specifications, please refer to the illustrations shown on page 1292.

To Order: Please specify the following:
1. Part number for the deflection angle listed at right.
2. Wind direction: right-hand or left-hand.
3. Material: music wire, stainless steel, or other material.
4. Finish: plain or zinc plated.
5. Dimensions: spring OD, wire diameter, leg length, and number of coils.

Deflection Angle	
90°	9535K21
120°	9535K71
180°	9535K31
270°	9535K41
360°	9535K51

Spring Tools

Spring Winder Kits—Wind your own extension, compression, and torsion springs with 1/8″ to 1 1/4″ IDs. Tools handle round, square, and flat wire with a maximum diameter or thickness of 3/16″. They include a pitch gauge and wire holder.

Master kit includes a winder; a cam lock tension release; two handles for large and small mandrels; six 12″ long mandrels in 1/8″, 1/4″, 3/8″, 1/2″, 5/8″, and 3/4″ sizes; a wrench; four 1/4-lb. coils of 0.029″, 0.047″, 0.067″, and 0.085″ dia. spring wire; a spring end-looping tool; and a multipurpose nipper that cuts wire up to 0.100″ dia.

General purpose kit is the same as the master kit, but doesn't include a looping tool and nipper.

Utility spring kit includes a winder; one handle; a wrench; and four 12″ long mandrels in 1/8″, 1/4″, 3/8″, and 1/2″ sizes.

Spring Winder Tool—For use with a lathe and mandrel, this winder handles round, square, and flat wire with a maximum diameter or thickness of 3/16″. Wire tension and the distance between turns are adjustable. Overall length is 7″.

Spring End-Looping Tool—Form loop and hook ends on coiled extension springs with 1/8″ to 1/2″ ODs and up to 0.062″ wire diameter or thickness. Includes an adjustable stop with wrench; small and large forming punches. Overall length is 6 1/2″.

Spring Compressor Set—Steel jaws hook onto compression or die springs to facilitate installation and removal. One set includes two compressors. Overall length is 12 1/4″.

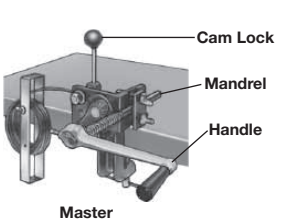

Master Spring Winder Kit


Spring End-Looping Tool

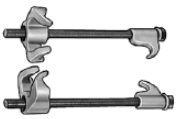
Spring Compressor Set

Master Spring Winder Kit	9676K1	$411.67
General Purpose Spring Winder Kit	9676K4	298.33
Utility Spring Winder Kit	9676K2	236.67
Spring Winder Tool	9527K11	98.00
Spring End-Looping Tool	9674K3	117.31
Spring Compressor Set	6241A77	47.07

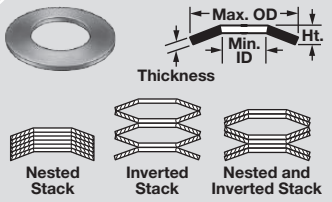

About Belleville Disc Springs

Hold large loads in small spaces. These conical springs are often used under bolt heads to maintain tension and keep the bolt from loosening. They're also used to maintain tension at the ends of valves and bearings. Compared to Belleville washers, these repeatedly return to their original height once working loads are removed.

Use springs singly, or stack as shown to increase load and deflection (the distance the spring compresses). In a nested stack, the load is increased by the number of springs used. In an inverted stack, the deflection is increased by the number of springs in the stack, while retaining the load of only one across the span of the stack. In a nested and inverted stack, both load and deflection are increased.

Deflection @ Working Load—Distance the spring compresses when the given load is applied.

Flat Load—Load at which the spring is completely compressed.

Belleville Disc Springs

Steel springs are high-carbon steel for strength, unless noted.

Stainless steel springs offer corrosion resistance. Springs that are under 0.073″ thick are made of 300 series stainless steel. Springs with a thickness of 0.073″ and larger are made of 17-7 PH stainless steel.

Min. ID	Max. OD	Thickness	Ht.	Defl. @ Working Load	Working Load, lbs.	Flat Load, lbs.	Steel Pkg. Qty.	Steel	Steel Pkg.	Stainless Steel Pkg. Qty.	Stainless Steel	Stainless Steel Pkg.
0.093″	0.187″	0.007″	0.013″	0.003″	6	10	12	9712K51	$12.03	12	9713K51	$13.22
0.093″	0.187″	0.010″	0.015″	0.002″	15	28	12	9712K52	12.03	12	9713K52	13.22
0.125″	0.250″	0.009″	0.017″	0.004″	11	17	12	9712K53	5.80	12	9713K53	6.37
0.125″	0.250″	0.013″	0.020″	0.003″	26	48	12	9712K54	5.04	12	9713K54	5.56
0.125″	0.375″	0.019″	0.028″	0.005″	41	73	12	9712K16	10.65	—	—	—
0.138″	0.281″	0.010″	0.020″	0.005″	15	23	12	9712K11	5.69	—	—	—
0.138″	0.281″	0.013″	0.021″	0.004″	24	43	12	9712K12	6.04	—	—	—
0.138″	0.281″	0.015″	0.023″	0.004″	33	62	12	9712K55	6.03	12	9713K55	6.63
0.156″	0.312″	0.011″	0.022″	0.006″	18	27	12	9712K56	5.92	12	9713K56	6.52
0.156″	0.312″	0.017″	0.025″	0.004″	41	75	12	9712K57	7.18	12	9713K57	7.89
0.164″	0.343″	0.013″	0.024″	0.006″	25	38	12	9712K13	9.58	—	—	—
0.164″	0.343″	0.016″	0.026″	0.005″	36	65	3	9712K111	2.41	3	9713K11	2.63
0.164″	0.343″	0.019″	0.028″	0.005″	55	93	12	9712K14	6.80	12	9713K14	7.48
0.190″	0.375″	0.015″	0.027″	0.006″	34	55	12	9712K58	4.77	12	9713K58	5.73
0.190″	0.375″	0.018″	0.028″	0.005″	46	81	12	9712K15	6.30	—	—	—
0.190″	0.375″	0.020″	0.030″	0.005″	60	110	12	9712K59	4.24	12	9713K59	4.67
0.190″	0.375″	0.030″	0.036″	0.003″	125	233	3	9712K112	7.60	3	9713K12	9.16
0.190″	0.562″	0.019″	0.037″	0.009″	45	67	6	9712K18	6.19	—	—	—
0.190″	0.562″	0.028″	0.042″	0.007″	87	163	6	9712K19	6.26	—	—	—
0.220″	0.437″	0.016″	0.031″	0.008″	40	60	12	9712K17	10.04	12	9713K17	11.04
0.220″	0.437″	0.020″	0.032″	0.006″	57	98	3	9712K113	7.75	3	9713K13	10.29
0.220″	0.437″	0.023″	0.034″	0.005″	76	139	3	9712K114	7.35	3	9713K15	10.15
0.220″	0.687″	0.034″	0.050″	0.008″	125	229	3	9712K115	3.41	3	9713K16	6.04
0.255″	0.500″	0.018″	0.034″	0.008″	45	70	12	9712K61	4.24	12	9713K61	5.19
0.255″	0.500″	0.022″	0.036″	0.007″	65	115	12	9712K62	4.22	12	9713K62	7.33
0.255″	0.500″	0.025″	0.038″	0.007″	95	160	12	9712K63	4.24	12	9713K63	5.54
0.255″	0.500″	0.038″	0.047″	0.004″	190	400	12	9712K64	5.84	12	9713K64	6.44
0.255″	0.637″	0.032″	0.048″	0.008″	118	222	12	9712K21	7.83	—	—	—
0.255″	0.750″	0.025″	0.049″	0.012″	77	114	3	9712K116	1.59	3	9713K18	2.00
0.255″	0.750″	0.036″	0.054″	0.009″	147	261	3	9712K117	1.67	3	9713K19	2.00
0.265″	0.562″	0.042″	0.055″	0.010″	400	567	12	9712K411	6.64	12	9713K411	13.78
0.265″	0.687″	0.052″	0.069″	0.014″	620	884	6	9712K412	9.78	12	9713K412	21.52
0.265″	0.812″	0.061″	0.084″	0.018″	950	1,350	12	9712K413	7.06	12	9713K413	12.49
0.281″	0.875″	0.050″	0.066″	0.013″	310	445	12	9712K414	7.87	6	9713K414	14.66
0.281″	0.875″	0.075″	0.086″	0.009″	720	1,032	12	9712K415	7.87	6	9713K415	14.66
0.317″	0.625″	0.022″	0.042″	0.010″	70	105	12	9712K65	5.61	12	9713K65	6.99
0.317″	0.625″	0.032″	0.048″	0.008″	145	260	12	9712K66	5.35	12	9713K66	6.34
0.317″	0.625″	0.047″	0.059″	0.006″	300	600	12	9712K67	7.37	12	9713K67	12.03
0.317″	0.937″	0.030″	0.060″	0.002″	110	159	—	—	—	3	9713K21	6.70
0.317″	0.937″	0.030″	0.060″	0.015″	110	159	3	9712K118	2.85	—	—	—
0.317″	0.937″	0.045″	0.067″	0.011″	218	395	12	9712K73	12.68	6	9713K73	13.39
0.328″	0.687″	0.052″	0.068″	0.013″	630	892	6	9712K416	12.18	12	9713K416	26.78
0.328″	0.812″	0.061″	0.081″	0.016″	850	1,214	12	9712K417	7.06	12	9713K417	14.67
0.328″	0.937″	0.070″	0.094″	0.019″	1,130	1,610	12	9712K418	9.81	6	9713K418	10.24
0.344″	1.000″	0.090″	0.102″	0.010″	1,040	1,499	12	9712K419	12.52	6	9713K419	8.85
0.344″	1.125″	0.062″	0.083″	0.017″	470	671	12	9712K421	10.35	3	9713K421	8.78
0.380″	0.750″	0.028″	0.051″	0.012″	110	175	12	9712K68	5.73	12	9713K68	7.29
0.380″	0.750″	0.034″	0.055″	0.011″	166	282	12	9712K69	6.72	12	9713K69	10.84
0.380″	0.750″	0.040″	0.059″	0.010″	235	415	12	9712K71	5.46	12	9713K71	7.94
0.380″	0.750″	0.056″	0.070″	0.007″	430	845	12	9712K72	6.38	12	9713K72	12.60
0.380″	1.125″	0.053″	0.080″	0.014″	299	535	12	9712K79	10.16	6	9713K79	11.56
0.380″	1.125″	0.078″	0.097″	0.009″	597	1,235	6	9712K24	13.59	—	—	—
0.390″	0.812″	0.061″	0.079″	0.014″	810	1,163	12	9712K422	9.85	6	9713K422	14.66
0.390″	0.937″	0.070″	0.092″	0.018″	1,070	1,528	12	9712K423	13.89	6	9713K423	10.24
0.390″	1.250″	0.065″	0.085″	0.016″	420	598	12	9712K424	15.78	3	9713K424	8.78
0.406″	0.875″	0.062″	0.074″	0.010″	476	644	12	9712K425	7.87	6	9713K425	14.66
0.406″	0.875″	0.089″	0.100″	0.009″	1,290	1,871	12	9712K426	7.87	6	9713K426	14.66
0.406″	0.875″	0.109″	0.124″	0.012″	3,230	4,687	12	9712K427	10.11	6	9713K427	14.66
0.406″	1.000″	0.062″	0.092″	0.024″	900	1,262	12	9712K428	7.44	12	9713K428	12.60
0.406″	1.000″	0.105″	0.118″	0.010″	1,830	2,657	12	9712K429	13.56	12	9713K429	16.69
0.406″	1.188″	0.098″	0.119″	0.017″	1,660	2,400	6	9712K431	14.32	3	9713K431	8.78
0.406″	1.188″	0.105″	0.125″	0.016″	1,950	2,812	6	9712K432	14.32	3	9713K432	12.37
0.406″	1.240″	0.072″	0.096″	0.019″	700	994	12	9712K433	15.70	3	9713K433	8.78
0.406″	1.250″	0.074″	0.098″	0.019″	740	1,061	12	9712K434	15.96	3	9713K434	8.78

(Continued on following page)

Belleville Disc Springs *(Continued from previous page)*

Min. ID	Max. OD	Thickness	Ht.	Defl. @ Working Load	Working Load, lbs.	Flat Load, lbs.	Steel Pkg. Qty.	Steel	Steel Pkg.	Stainless Steel Pkg. Qty.	Stainless Steel	Stainless Steel Pkg.
0.442″	0.875″	0.031″	0.059″	0.014″	135	205	12	9712K22	$8.36	6	9713K22	$12.45
0.442″	0.875″	0.045″	0.067″	0.011″	270	495	12	9712K23	7.94	6	9713K23	8.86
0.453″	0.937″	0.070″	0.090″	0.016″	1,030	1,471	12	9712K435	11.52	6	9713K435	10.24
0.453″	1.188″	0.089″	0.120″	0.025″	1,890	2,698	6	9712K436	14.32	3	9713K436	8.78
0.460″	0.875″	0.059″	0.083″	0.019″	900	1,272	12	9712K437	7.87	6	9713K437	14.66
0.505″	1.000″	0.035″	0.067″	0.016″	175	260	12	9712K74	7.06	12	9713K74	13.59
0.505″	1.000″	0.043″	0.071″	0.014″	250	431	12	9712K75	8.06	6	9713K75	9.35
0.505″	1.000″	0.050″	0.075″	0.013″	340	600	12	9712K76	7.60	6	9713K76	8.06
0.505″	1.000″	0.073″	0.091″	0.009″	675	1,335	12	9712K77	9.43	6	9713K77	12.33
0.505″	1.262″	0.060″	0.091″	0.016″	409	731	6	9712K25	7.93	_	_	_
0.505″	1.500″	0.047″	0.093″	0.023″	251	366	1	9712K119	1.78	1	9713K24	3.81
0.505″	1.500″	0.070″	0.104″	0.017″	495	896	12	9712K87	19.09	3	9713K87	10.23
0.505″	1.500″	0.102″	0.128″	0.013″	1,039	2,060	1	9712K121	5.44	1	9713K25	5.89
0.531″	1.000″	0.062″	0.085″	0.018″	770	1,090	12	9712K438	7.44	12	9713K438	12.94
0.531″	1.000″	0.089″	0.100″	0.009″	1,070	1,542	12	9712K439	13.00	12	9713K439	26.63
0.531″	1.063″	0.090″	0.106″	0.013″	1,370	1,977	12	9712K44	14.33	3	9713K44	8.78
0.531″	1.063″	0.100″	0.116″	0.013″	1,870	2,712	12	9712K441	15.07	3	9713K441	8.78
0.531″	1.125″	0.062″	0.083″	0.017″	520	736	12	9712K442	10.35	3	9713K442	8.78
0.531″	1.218″	0.074″	0.104″	0.024″	1,040	1,475	12	9712K443	9.20	3	9713K443	8.78
0.531″	1.250″	0.062″	0.092″	0.024″	580	860	12	9712K444	10.35	3	9713K444	8.78
0.531″	1.250″	0.078″	0.103″	0.020″	940	1,429	12	9712K445	10.35	3	9713K445	8.78
0.531″	1.250″	0.090″	0.114″	0.019″	1,390	2,003	12	9712K446	11.34	1	9713K446	6.45
0.531″	1.250″	0.125″	0.143″	0.014″	2,780	4,024	12	9712K447	12.14	1	9713K447	6.45
0.531″	1.375″	0.100″	0.120″	0.016″	1,280	1,846	12	9712K448	18.00	3	9713K448	11.62
0.531″	1.500″	0.095″	0.125″	0.024″	1,370	1,966	12	9712K449	18.33	3	9713K449	13.02
0.567″	1.125″	0.038″	0.073″	0.018″	195	285	12	9712K78	10.15	6	9713K78	14.74
0.567″	1.125″	0.056″	0.084″	0.014″	405	735	12	9712K81	10.58	6	9713K81	16.53
0.593″	1.188″	0.089″	0.115″	0.021″	1,730	2,489	6	9712K451	14.32	3	9713K451	8.78
0.630″	1.250″	0.040″	0.082″	0.021″	230	330	12	9712K82	7.41	6	9713K82	14.66
0.630″	1.250″	0.051″	0.087″	0.018″	340	582	1	9712K122	.81	1	9713K26	2.70
0.630″	1.250″	0.062″	0.092″	0.015″	475	870	12	9712K83	9.89	6	9713K83	20.73
0.630″	1.250″	0.089″	0.111″	0.011″	980	1,914	12	9712K84	14.74	1	9713K84	6.49
0.630″	1.875″	0.057″	0.115″	0.030″	370	522	6	9712K26	16.61	_	_	_
0.630″	1.875″	0.086″	0.129″	0.022″	730	1,319	6	9712K93	16.53	1	9713K93	26.92
0.630″	1.875″	0.127″	0.158″	0.016″	1,646	3,105	1	9712K28	11.11	_	_	_
0.656″	1.312″	0.098″	0.126″	0.022″	2,050	2,934	12	9712K452	13.71	3	9713K452	15.70
0.656″	1.500″	0.100″	0.140″	0.032″	2,250	3,210	3	9712K453	12.96	3	9713K453	14.26
0.656″	1.625″	0.085″	0.105″	0.016″	570	826	6	9712K454	10.01	1	9713K454	7.06
0.656″	1.750″	0.140″	0.183″	0.034″	4,650	6,686	6	9712K455	13.90	1	9713K455	9.05
0.656″	1.875″	0.057″	0.115″	0.046″	410	525	6	9712K456	14.32	1	9713K456	7.06
0.656″	2.000″	0.150″	0.206″	0.045″	5,630	8,061	1	9712K457	22.99	1	9713K457	25.30
0.687″	2.000″	0.125″	0.161″	0.029″	2,100	3,136	6	9712K458	21.63	1	9713K458	13.13
0.687″	2.375″	0.187″	0.227″	0.032″	5,440	8,147	1	9712K459	25.15	1	9713K459	36.89
0.692″	1.375″	0.044″	0.088″	0.023″	265	375	12	9712K85	16.53	3	9713K98	11.04
0.692″	1.375″	0.067″	0.101″	0.017″	565	1,025	12	9712K462	20.43	3	9713K462	11.62
0.755″	1.500″	0.045″	0.093″	0.024″	283	400	12	9712K86	9.81	6	9713K86	22.87
0.755″	1.500″	0.060″	0.102″	0.021″	455	774	1	9712K27	1.87	1	9713K99	4.19
0.755″	1.500″	0.072″	0.107″	0.018″	665	1,180	12	9712K88	17.07	3	9713K88	10.92
0.755″	1.500″	0.107″	0.134″	0.013″	1,400	2,833	12	9712K89	18.94	1	9713K89	5.88
0.812″	2.250″	0.156″	0.202″	0.037″	4,130	6,206	1	9712K463	14.81	1	9713K463	35.85
0.880″	1.750″	0.057″	0.114″	0.029″	450	650	12	9712K91	22.22	3	9713K91	16.35
0.880″	1.750″	0.085″	0.128″	0.022″	910	1,630	6	9712K92	12.83	1	9713K92	9.32
0.937″	2.750″	0.187″	0.235″	0.038″	4,930	7,246	1	9712K466	34.98	1	9713K466	38.48
1.000″	2.000″	0.065″	0.130″	0.032″	590	860	6	9712K94	13.09	1	9713K94	7.48
1.000″	2.000″	0.084″	0.136″	0.026″	855	1,488	1	9712K29	10.61	_	_	_
1.000″	2.000″	0.097″	0.145″	0.024″	1,180	2,140	6	9712K95	16.61	1	9713K95	13.15
1.000″	2.000″	0.142″	0.177″	0.017″	2,410	4,824	1	9712K31	7.60	_	_	_
1.000″	3.000″	0.135″	0.202″	0.034″	1,720	3,118	1	9712K38	27.26	_	_	_
1.063″	3.500″	0.219″	0.281″	0.050″	6,270	9,362	1	9712K467	25.30	_	_	_
1.125″	2.250″	0.073″	0.148″	0.035″	730	1,100	1	9712K33	5.54	_	_	_
1.125″	2.250″	0.159″	0.198″	0.019″	3,005	5,973	1	9712K35	15.58	_	_	_
1.187″	2.437″	0.250″	0.278″	0.022″	9,580	13,921	1	9712K469	13.37	_	_	_
1.250″	2.500″	0.080″	0.160″	0.040″	870	1,260	3	9712K96	13.98	_	_	_
1.250″	2.500″	0.120″	0.180″	0.030″	1,746	3,200	1	9712K97	5.80	1	9713K97	30.58
1.250″	2.500″	0.175″	0.219″	0.022″	3,630	7,149	1	9712K123	18.20	1	9713K28	40.97
1.312″	4.000″	0.312″	0.382″	0.056″	15,670	22,670	1	9712K471	40.44	_	_	_
1.375″	2.750″	0.087″	0.173″	0.041″	960	1,440	1	9712K36	13.07	_	_	_
1.375″	2.750″	0.132″	0.196″	0.031″	1,950	3,210	1	9712K98	33.22	_	_	_
1.406″	2.750″	0.087″	0.173″	0.069″	1,120	1,440	1	9712K473	13.06	_	_	_
1.406″	2.750″	0.132″	0.196″	0.051″	2,670	3,210	1	9712K474	33.22	_	_	_
1.531″	2.750″	0.219″	0.255″	0.029″	7,100	10,138	1	9712K476	11.57	_	_	_
1.531″	3.000″	0.093″	0.189″	0.077″	1,290	1,630	1	9712K477	25.89	_	_	_
1.531″	3.000″	0.143″	0.213″	0.056″	3,120	4,380	1	9712K478	28.68	_	_	_
1.562″	3.250″	0.250″	0.305″	0.044″	10,560	15,273	1	9712K479	28.68	_	_	_
1.687″	4.750″	0.437″	0.497″	0.048″	26,290	38,012	1	9712K481	60.21	_	_	_
1.937″	3.750″	0.281″	0.360″	0.063″	16,890	24,348	1	9712K482	32.99	_	_	_
1.937″	5.000″	0.250″	0.333″	0.066″	6,310	9,003	1	9712K483	48.49	_	_	_
2.000″	4.000″	0.125″	0.250″	0.063″	2,010	2,910	1	9712K42	26.23	_	_	_
2.562″	5.000″	0.250″	0.312″	0.050″	5,220	7,532	1	9712K485	47.04	_	_	_
2.562″	5.000″	0.281″	0.387″	0.085″	12,780	18,286	1	9712K486	48.22	_	_	_

Metric Belleville Disc Springs

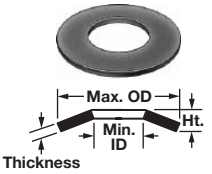

All of these springs are made to the requirements of DIN 2093.
High-carbon steel offers strength.
Chrome-vanadium steel provides strength as well as wear resistance.
Type 17-7 PH stainless steel offers corrosion resistance.

Thickness, mm	Load Tolerance
High-Carbon and Chrome-Vanadium Steel	
Less than 1.25	+25%, −7.5%
1.25 to 3.0	+15%, −0.08%
3.01 to 6.0	+10%, −5.0%
Type 17-7 PH Stainless Steel	
0.4 to 2.0	±20%

Min. ID, mm	Max. OD, mm	Thick., mm	Ht., mm	Defl. @ Work. Load, mm	Work. Load, lbs.	Pkg. Qty.		Pkg.
High-Carbon Steel								
4.2	8.0	0.4	0.60	0.15	47	12	96445K211	$2.53
5.2	10.0	0.5	0.75	0.187	73	12	96445K215	2.84
6.2	12.5	0.5	0.85	0.262	66	12	96445K216	3.01
6.2	12.5	0.7	1.00	0.225	148	12	96445K221	3.21
7.2	14.0	0.5	0.90	0.3	63	12	96445K226	3.09
7.2	14.0	0.8	1.10	0.225	179	12	96445K227	3.65
8.2	16.0	0.4	0.90	0.375	35	12	96445K231	3.14
8.2	16.0	0.8	1.20	0.3	185	12	96445K232	3.87
8.2	16.0	0.9	1.25	0.262	228	12	96445K236	3.86
8.2	18.0	0.8	1.30	0.375	176	12	96445K238	4.06
8.2	23.0	0.8	1.55	0.562	161	12	96445K257	4.10
9.2	18.0	1	1.40	0.3	282	12	96445K241	4.34
10.2	20.0	0.8	1.35	0.412	168	12	96445K246	3.68
10.2	20.0	1	1.55	0.412	320	12	96445K247	4.63
10.2	20.0	1.1	1.55	0.337	342	12	96445K251	5.55
10.2	23.0	1	1.70	0.525	296	12	96445K262	5.09
14.2	28.0	1	1.80	0.6	249	12	96445K273	6.40
Chrome Vanadium Steel								
10.2	20.0	1.25	1.75	0.375	557	12	96445K872	5.36
12.2	25.0	1.5	2.05	0.412	658	12	96445K267	6.14
14.2	28.0	1.5	2.15	0.487	639	12	96445K278	7.15
14.3	34.0	1.5	2.55	0.787	672	12	96445K316	7.82
16.3	31.5	1.25	2.15	0.675	430	12	96445K284	7.04
16.3	31.5	1.75	2.45	0.525	870	12	96445K289	7.40
16.3	31.5	2	2.75	0.562	1,388	12	96445K295	8.74
16.3	40.0	1.5	2.80	0.975	618	12	96445K327	11.59
18.3	35.5	2	2.80	0.6	1,166	12	96445K322	11.03
20.4	40.0	1.5	2.65	0.862	589	6	96445K333	9.32
20.4	40.0	2.25	3.15	0.675	1,461	6	96445K339	10.71
20.4	40.0	2.5	3.45	0.712	2,111	6	96445K345	11.40
20.4	50.0	2	3.50	1.125	1,054	6	96445K351	12.00
20.5	60.0	2.5	4.70	1.65	2,081	1	96445K367	6.00
25.4	50.0	2	3.40	1.05	1,071	6	96445K356	12.18
Chrome Vanadium Steel (Cont.)								
25.4	50.0	3	4.10	0.825	2,692	6	96445K359	$12.84
28.5	56.0	3	4.30	0.975	2,560	1	96445K362	6.00
30.5	60.0	3	4.70	1.275	2,973	1	96445K378	2.87
31	63.0	2.5	4.25	1.312	1,616	1	96445K384	3.34
31	63.0	3.5	4.90	1.05	3,378	1	96445K389	3.55
35.5	70.0	3	5.10	1.575	2,762	1	96445K411	4.31
36	71.0	4	5.60	1.2	4,616	1	96445K422	5.38
40.5	70.0	4	5.70	1.275	5,595	1	96445K416	5.00
40.5	70.0	5	6.40	1.05	8,860	1	96445K873	5.39
41	80.0	3	5.30	1.725	2,365	1	96445K437	4.94
46	90.0	5	7.00	1.5	7,049	1	96445K447	9.00
51	100.0	4	7.00	2.25	4,648	1	96445K551	10.25
51	100.0	6	8.20	1.65	10,796	1	96445K554	15.86
51	125.0	6	9.40	2.55	9,961	1	96445K564	23.21
61	125.0	6	9.60	2.7	11,403	1	96445K567	24.46
71	150.0	6	10.85	3.637	10,959	1	96445K113	38.13
72	140.0	5	9.00	3	6,277	1	96445K111	26.60
Type 17-7 PH Stainless Steel								
4.2	8.0	0.4	0.60	0.15	51	12	96475K211	6.33
5.2	10.0	0.5	0.75	0.19	79	12	96475K215	6.76
6.2	12.5	0.5	0.85	0.32	81	12	96475K216	7.71
6.2	12.5	0.7	1.00	0.2	143	12	96475K221	9.00
6.2	18.0	0.8	1.30	0.38	176	12	96475K238	9.63
8.2	16.0	0.6	1.05	0.41	112	12	96475K331	8.78
8.2	16.0	0.7	1.15	0.34	155	12	96475K233	8.80
8.2	16.0	0.9	1.25	0.25	232	12	96475K236	8.89
10.2	20.0	0.9	1.45	0.42	255	12	96475K346	13.63
10.2	20.0	1	1.55	0.39	330	12	96475K247	13.63
12.2	25.0	1.5	2.05	0.36	629	6	96475K267	9.09
14.2	27.9	1	1.80	0.73	302	6	96475K273	9.09
14.2	27.9	1.5	2.15	0.46	655	6	96475K278	12.42
16.3	31.5	2	2.75	0.46	1,247	6	96475K396	14.90
18.3	35.6	2	2.80	0.57	1,184	6	96475K322	14.99

High-Temperature Belleville Disc Springs

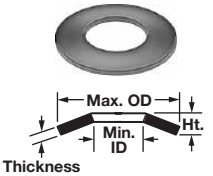

Cold and hot environments are no problem—these springs can withstand temperatures from –400° to 1100°F. All are made of Inconel, a high-strength nickel alloy with excellent corrosion resistance. Working load and flat-load tolerances are ±20%.

Min. ID	Max. OD	Thick.	Ht.	Defl. @ Working Load	Working Load, lbs.	Flat Load, lbs.		
0.317″	0.630″	0.032″	0.058″	0.012″	257	365	97125K31	$3.00
0.322″	0.688″	0.050″	0.063″	0.010″	575	1,000	97125K33	3.80
0.380″	0.755″	0.040″	0.056″	0.012″	333	570	97125K37	3.86
0.505″	1.005″	0.050″	0.073″	0.019″	578	800	97125K51	6.45
0.625″	1.255″	0.040″	0.074″	0.023″	228	300	97125K65	7.63
0.625″	1.255″	0.050″	0.080″	0.025″	478	600	97125K67	9.06
0.773″	1.500″	0.125″	0.147″	0.020″	3,242	6,200	97125K25	20.66
0.995″	2.005″	0.084″	0.136″	0.036″	1,201	2,300	97125K79	21.22

Belleville Disc Springs for Flange Bolts

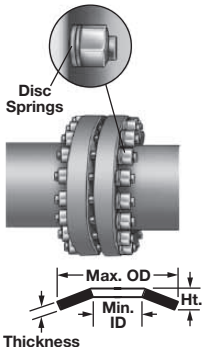

In addition to maintaining tension and preventing bolts from loosening, these springs absorb force from flange movement caused by mechanical shock and thermal expansion and contraction. They are designed to fit flange bolt sizes. All are made from 17-7 PH stainless steel for good corrosion resistance.

Fits Bolt Size: Inch	Fits Bolt Size: Metric	Min. ID	Max. OD	Thick.	Ht.	Flat Load, lbs.		
___	8 mm	0.331″	0.591″	0.079″	0.091″	3,822	9294K59	$2.20
3/8″	10 mm	0.390″	0.714″	0.080″	0.086″	1,200	9294K61	1.90
7/16″	_____	0.452″	0.820″	0.080″	0.097″	2,800	9294K63	2.94
1/2″	12 mm	0.515″	0.900″	0.089″	0.100″	2,100	9294K11	2.52
___	14 mm	0.567″	0.984″	0.098″	0.116″	4,046	9294K34	2.59
5/8″	16 mm	0.656″	1.145″	0.125″	0.143″	6,000	9294K12	3.70
3/4″	20 mm	0.781″	1.365″	0.131″	0.150″	5,100	9294K13	5.05
7/8″	22 mm	0.906″	1.585″	0.160″	0.180″	7,100	9294K14	8.56
1″	26 mm	1.032″	1.805″	0.168″	0.195″	8,600	9294K15	11.09
1 1/4″	32 mm	1.281″	2.240″	0.190″	0.225″	10,500	9294K17	20.02
1 1/2″	38 mm	1.531″	2.680″	0.250″	0.290″	19,000	9294K19	45.92

Belleville Disc Springs for Ball Bearings

Install these springs, also known as bearing preload washers, against ball bearings to handle loads as well as reduce noise and end movement of the bearings. These springs are not rated for flat load.

High-carbon steel offers strength.

Chrome-vanadium steel provides strength as well as wear resistance.

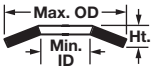



For Inch Ball Bearings

For Bearing Trade No.	Min. ID	Max. OD	Ht.	Defl. @ Work. Load	Work. Load, lbs.		Pkg. of 10
High-Carbon Steel							
R2	0.228″	0.366″	0.0158″	0.0059″	6	94065K21	$4.82
R3	0.319″	0.492″	0.0196″	0.0074″	8	94065K26	2.70
R4	0.406″	0.618″	0.0216″	0.0089″	7	94065K32	2.76
R6	0.539″	0.862″	0.0295″	0.0118″	11	94065K44	3.58
R8	0.724″	1.110″	0.0433″	0.0207″	23	94065K54	4.72
R10	1.000″	1.358″	0.0473″	0.0207″	35	94065K62	8.09

For Metric Ball Bearings

For Bearing Trade No.	Min. ID, mm	Max. OD, mm	Ht., mm	Defl. @ Work. Load, mm	Work. Load, lbs.		Pkg. of 10
High-Carbon Steel							
623, EL3	6.2	9.8	0.4	0.15	5	94065K24	$3.33
624, EL4	7.2	12.8	0.5	0.19	7	94065K28	4.44
625, 634, EL5	8.2	15.8	0.55	0.23	5	94065K34	3.77
607, EL7	10.2	18.8	0.7	0.26	11	94065K41	4.01
608, 627, EL8	12.3	21.8	0.75	0.30	10	94065K42	4.19
609, EL9	14.3	23.7	0.9	0.38	18	94065K46	4.66
6001	17.3	27.7	1	0.45	18	94065K52	5.13
6200	17.4	29.7	1.1	0.53	19	94065K56	5.24
6002, 6201	20.4	31.7	1.1	0.53	18	94065K58	5.35
6300	20.4	34.6	1.1	0.53	14	94065K64	6.36
6301	20.4	36.6	1.3	0.60	25	94065K68	6.52

For Metric Ball Bearings (Cont.)

For Bearing Trade No.	Min. ID, mm	Max. OD, mm	Ht., mm	Defl. @ Work. Load, mm	Work. Load, lbs.		Pkg. of 10
High-Carbon Steel (Cont.)							
6003, 6202	22.4	34.6	1.2	0.53	27	94065K66	$6.90
6203	25.5	39.6	1.3	0.60	25	94065K77	8.47
6004, 6302	25.5	41.6	1.4	0.68	25	94065K79	9.99
6005, 6204, 6303	30.5	46.5	1.5	0.68	34	94065K84	10.95
							Pkg. of 5
6205, 6304	35.5	51.5	1.5	0.68	30	94065K85	$9.87
6206	40.5	54.5	1.5	0.68	32	94065K87	10.52
6007, 6206, 6305	40.5	61.5	1.8	0.83	40	94065K112	Pkg. of 2 $5.43
6306	45.5	71.5	2.1	1.05	42	94065K114	7.24
6008	50.5	67.5	1.7	0.75	36	94065K162	6.51
6207	50.5	71.5	2.1	1.05	49	94065K116	8.83
6010, 6208	55.5	79.5	2.3	1.13	59	94065K124	7.90
6209	60.5	84.5	2.5	1.20	81	94065K128	8.78
6011, 6210	65.5	89.5	2.5	1.20	75	94065K135	9.73
							Pkg. of 1
6013, 6211	70.5	99.0	2.6	1.20	75	94065K142	$6.81
6012	75.5	94.5	2.2	0.90	73	94065K168	9.69
Chrome-Vanadium Steel							
6014, 6212	75.5	109.0	2.7	1.09	89	94065K149	7.67

Wave Disc Springs

Choose these wave-shaped springs to hold light loads in small spaces. Also known as wave spring washers, they're also great for use with ball bearings because they handle loads as well as reduce noise and end movement of the bearings.

High-carbon steel offers strength.

Type 302 stainless steel offers corrosion resistance.





Min. ID	Max. OD	Thick-ness	Ht.	Defl. @ Work. Load	Work. Load, lbs.	Pkg. Qty.		Pkg.
High-Carbon Steel								
0.224″	0.406″	0.008″	0.047″	0.039″	5.4	10	9714K12	$4.73
0.245″	0.377″	0.006″	0.030″	0.015″	3	25	9714K24	11.37
0.330″	0.502″	0.007″	0.035″	0.015″	4	25	9714K27	11.37
0.377″	0.494″	0.009″	0.029″	0.009″	4	25	9714K26	11.57
0.393″	0.662″	0.006″	0.053″	0.047″	37.5	10	9714K14	6.43
0.393″	0.662″	0.012″	0.059″	0.047″	77.2	10	9714K15	6.43
0.420″	0.633″	0.008″	0.040″	0.015″	4	25	9714K31	11.37
0.439″	0.623″	0.008″	0.037″	0.012″	4	25	9714K29	11.37
0.480″	0.780″	0.008″	0.063″	0.055″	55.1	10	9714K1	6.99
0.506″	0.749″	0.009″	0.050″	0.020″	5.5	25	9714K34	11.37
0.511″	0.898″	0.012″	0.063″	0.051″	77.2	10	9714K16	7.13
0.563″	0.746″	0.009″	0.047″	0.017″	4	25	9714K33	11.37
0.625″	0.870″	0.010″	0.060″	0.030″	5.5	25	9714K36	11.37
0.649″	0.977″	0.012″	0.067″	0.055″	40.8	10	9714K17	7.20
0.694″	0.940″	0.010″	0.066″	0.033″	7.5	25	9714K58	12.78
0.720″	1.066″	0.020″	0.067″	0.047″	101.4	10	9714K3	7.54
0.747″	1.144″	0.012″	0.118″	0.106″	39.7	10	9714K18	7.71
0.755″	1.024″	0.011″	0.071″	0.036″	8.5	25	9714K59	12.78
0.814″	1.100″	0.012″	0.073″	0.037″	10	25	9714K61	14.03
0.831″	1.122″	0.012″	0.075″	0.038″	11	25	9714K62	14.03
0.876″	1.179″	0.013″	0.080″	0.040″	12	25	9714K63	14.03
0.936″	1.255″	0.014″	0.087″	0.044″	15	25	9714K64	14.03
0.944″	1.424″	0.012″	0.079″	0.067″	86	10	9714K19	8.87
0.993″	1.270″	0.012″	0.106″	0.094″	33.1	10	9714K38	8.16
1.021″	1.371″	0.015″	0.099″	0.050″	18	25	9714K65	14.77
1.064″	1.408″	0.016″	0.157″	0.141″	99.2	10	9714K39	8.44
1.139″	1.487″	0.020″	0.098″	0.078″	110.3	10	9714K93	9.32
1.171″	1.563″	0.017″	0.105″	0.053″	21	10	9714K66	12.37
1.171″	1.563″	0.020″	0.125″	0.063″	31	10	9714K67	12.37
1.209″	1.613″	0.018″	0.110″	0.055″	24	10	9714K68	12.43
1.231″	1.641″	0.019″	0.112″	0.056″	25.5	10	9714K69	11.82
1.249″	1.599″	0.020″	0.118″	0.098″	143.3	10	9714K5	9.77
1.308″	1.674″	0.014″	0.118″	0.104″	57.3	10	9714K6	10.76
1.374″	1.839″	0.020″	0.125″	0.063″	30	2	9714K71	3.39
1.535″	2.048″	0.022″	0.140″	0.071″	35	2	9714K72	3.47
1.594″	2.088″	0.016″	0.138″	0.122″	157.7	10	9714K94	14.52
1.594″	2.088″	0.020″	0.138″	0.118″	286.7	10	9714K8	14.52
1.618″	2.152″	0.023″	0.148″	0.075″	38	2	9714K73	$3.55
1.786″	2.237″	0.020″	0.138″	0.118″	79.4	10	9714K95	14.53
1.832″	2.440″	0.025″	0.168″	0.086″	45	2	9714K74	3.64
2.007″	2.665″	0.028″	0.184″	0.094″	57	2	9714K75	7.62
2.150″	2.836″	0.030″	0.197″	0.100″	65	2	9714K76	10.12
2.370″	3.138″	0.035″	0.207″	0.103″	88	2	9714K77	14.65
2.440″	3.267″	0.028″	0.157″	0.129″	220.5	10	9714K9	14.54
2.553″	3.348″	0.036″	0.227″	0.115″	90	1	9714K78	8.03
2.690″	3.539″	0.038″	0.234″	0.118″	100	1	9714K79	8.54
2.987″	3.937″	0.042″	0.258″	0.130″	120	1	9714K81	10.81
3.310″	4.320″	0.045″	0.302″	0.154″	140	1	9714K82	11.36
3.552″	4.647″	0.047″	0.334″	0.172″	159	1	9714K83	11.91
3.830″	5.017″	0.050″	0.355″	0.183″	177	1	9714K84	12.52
Type 302 Stainless Steel								
0.114″	0.193″	0.004″	0.023″	0.011″	0.4	25	9714K21	11.75
0.174″	0.252″	0.006″	0.030″	0.015″	0.8	25	9714K22	12.50
0.223″	0.315″	0.007″	0.030″	0.015″	0.8	25	9714K23	12.50
0.245″	0.377″	0.006″	0.030″	0.015″	3	25	9714K25	12.97
0.330″	0.502″	0.007″	0.035″	0.015″	4	25	9714K28	14.24
0.420″	0.633″	0.008″	0.040″	0.015″	4	25	9714K32	14.24
0.439″	0.623″	0.008″	0.040″	0.015″	4	10	9714K97	11.18
0.506″	0.749″	0.009″	0.050″	0.020″	5.5	25	9714K35	15.70
0.625″	0.870″	0.010″	0.060″	0.030″	5.5	25	9714K37	15.70
0.694″	0.940″	0.010″	0.066″	0.033″	7.5	10	9714K99	11.73
0.814″	1.100″	0.012″	0.073″	0.037″	10	10	9714K112	11.73
0.831″	1.122″	0.012″	0.075″	0.038″	11	10	9714K113	11.73
0.936″	1.255″	0.014″	0.087″	0.044″	15	10	9714K115	11.88
1.021″	1.371″	0.015″	0.099″	0.050″	18	10	9714K116	12.32
1.209″	1.613″	0.018″	0.110″	0.055″	24	2	9714K118	3.20
1.231″	1.641″	0.019″	0.112″	0.056″	25	2	9714K119	3.39
1.374″	1.839″	0.020″	0.125″	0.063″	30	2	9714K121	4.21
1.535″	2.048″	0.022″	0.140″	0.071″	35	2	9714K122	4.21
1.618″	2.152″	0.023″	0.148″	0.075″	38	2	9714K123	4.60
1.832″	2.440″	0.025″	0.168″	0.086″	45	2	9714K124	4.61
2.007″	2.665″	0.028″	0.184″	0.094″	57	2	9714K125	5.04
2.150″	2.836″	0.030″	0.197″	0.100″	65	2	9714K126	6.27

Curved Disc Springs





Made to fit standard rod and hole sizes, curved disc springs handle light loads in small spaces. They are often used to reduce end movement of bearings and other parts.
High-carbon steel offers strength.
Type 301 stainless steel offers corrosion resistance.

Fits Hole Size	Fits Rod Size	Min. ID	Max. OD	Thickness	Ht.	High-Carbon Steel: Defl. @ Load	Load, lbs.	Pkg. Qty.		Pkg.	Type 301 Stainless Steel: Defl. @ Load	Load, lbs.	Pkg. Qty.		Pkg.
1/4"	#5	0.135"	0.245"	0.0040"	0.049"	0.018"	0.80	10	9715K22	$7.21	0.026"	1.00	10	9716K31	$7.50
11/32"	#8	0.174"	0.322"	0.0050"	0.064"	0.024"	1.21	10	9715K34	7.37	0.034"	1.50	10	9716K36	7.70
11/32"	#10	0.203"	0.322"	0.0050"	0.053"	0.026"	1.12	10	9715K38	9.00	0.026"	1.12	10	9716K73	10.37
3/8"	#8	0.174"	0.370"	0.0113"	0.039"	0.024"	9.00	10	9715K37	9.00	0.024"	9.00	10	9716K72	10.05
3/8"	#10	0.200"	0.370"	0.0090"	0.047"	0.015"	3.45	10	9715K24	7.76	0.028"	4.50	10	9716K41	9.21
7/16"	#10	0.200"	0.423"	0.0113"	0.047"	0.027"	9.00	10	9715K43	9.03	0.027"	9.00	10	9716K42	9.16
7/16"	1/4"	0.269"	0.423"	0.0065"	0.070"	0.025"	1.39	10	9715K25	7.76	0.037"	1.75	10	9716K45	9.23
7/16"	1/4"	0.269"	0.423"	0.0082"	0.055"	0.019"	2.05	10	9715K26	7.76	0.032"	2.50	10	9716K46	9.26
1/2"	1/4"	0.265"	0.490"	0.0075"	0.091"	0.033"	2.50	10	9715K27	9.68	0.046"	3.50	10	9716K62	9.21
1/2"	1/4"	0.265"	0.490"	0.0110"	0.063"	0.034"	7.00	10	9715K53	9.27	0.034"	7.00	10	9716K77	10.66
1/2"	5/16"	0.331"	0.490"	0.0075"	0.077"	0.028"	1.66	10	9715K48	9.13	0.041"	2.25	10	9716K95	8.74
9/16"	1/4"	0.265"	0.551"	0.0145"	0.060"	0.034"	14.00	10	9715K54	9.32	0.018"	8.60	10	9716K78	9.50
9/16"	1/4"	0.265"	0.551"	0.0185"	0.052"	0.037"	21.00	10	9715K55	9.34	0.034"	21.00	10	9716K47	9.50
5/8"	5/16"	0.327"	0.612"	0.0130"	0.077"	0.042"	9.00	10	9715K62	9.11	0.042"	9.00	10	9716K48	8.74
5/8"	3/8"	0.400"	0.612"	0.0090"	0.098"	0.036"	2.41	10	9715K29	7.76	0.056"	3.00	10	9716K51	9.47
5/8"	3/8"	0.400"	0.612"	0.0130"	0.074"	0.043"	6.00	10	9715K68	9.92	0.024"	4.65	10	9716K82	10.05
11/16"	3/8"	0.400"	0.672"	0.0100"	0.115"	0.042"	3.52	5	9715K49	4.16	0.059"	4.50	10	9716K79	9.50
3/4"	3/8"	0.395"	0.735"	0.0110"	0.129"	0.073"	6.00	10	9715K72	9.89	0.073"	6.00	10	9716K52	9.50
3/4"	3/8"	0.395"	0.735"	0.0160"	0.086"	0.050"	12.00	10	9715K73	9.89	0.050"	12.00	10	9716K53	9.53
13/16"	1/2"	0.531"	0.795"	0.0113"	0.129"	0.069"	5.00	10	9715K79	11.76	0.047"	3.43	10	9716K84	11.89
13/16"	1/2"	0.531"	0.795"	0.0170"	0.098"	0.054"	10.00	10	9715K81	11.79	0.032"	8.05	10	9716K85	11.58
1"	1/2"	0.525"	0.980"	0.0140"	0.164"	0.083"	10.00	10	9715K82	11.79	0.060"	6.91	10	9716K86	11.89
1"	1/2"	0.525"	0.980"	0.0180"	0.131"	0.073"	15.00	10	9715K83	11.79	0.045"	11.06	10	9716K87	11.58
1"	1/2"	0.525"	0.980"	0.0210"	0.110"	0.063"	20.00	10	9715K84	11.76	0.063"	20.00	5	9716K88	8.37
1"	5/8"	0.663"	0.980"	0.0140"	0.169"	0.092"	7.00	10	9715K88	11.76	0.062"	5.62	5	9716K92	8.89
1"	5/8"	0.663"	0.980"	0.0210"	0.118"	0.067"	14.00	10	9715K89	11.79	0.039"	11.87	5	9716K93	8.89
1 1/8"	3/4"	0.800"	1.103"	0.0160"	0.185"	0.098"	8.00	10	9715K91	11.76	0.068"	7.00	5	9716K94	8.90
1 1/8"	3/4"	0.800"	1.103"	0.0210"	0.138"	0.069"	12.00	10	9715K92	11.76	0.069"	12.00	5	9716K96	8.89
1 1/4"	1/2"	0.525"	1.225"	0.0210"	0.151"	0.085"	25.00	10	9715K85	11.74	0.052"	25.00	5	9716K89	8.38

Finger Disc Springs

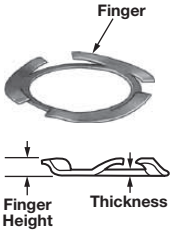

You'll get the flexibility of disc springs and the load strength of wave springs in these finger springs. They're designed to absorb vibration as well as reduce noise, end movement, and skidding wear on parts rotating at high speeds. Springs are made from Grade 1074 high-carbon steel for strength. They have six 0.125" high fingers (except spring with a bearing OD of 0.630" has three 0.0937" high fingers).

For Bearing Trade No.	Bearing OD	Min. ID	Max. OD	Thickness	Defl. @ Load	Max. Load, lbs.	Pkg. Qty.		Pkg.
R4, 625, 634	0.630"	0.312"	0.595"	0.010"	0.062"	1	10	9717K51	$12.44
R4A, 626, 635	0.748"	0.344"	0.728"	0.006"	0.062"	8	10	9717K52	12.60
608, 627, 636	0.866"	0.453"	0.846"	0.006"	0.062"	7	10	9717K53	10.42
608, 627, 636	0.866"	0.453"	0.846"	0.008"	0.062"	14	10	9717K54	9.97
629, 6000	1.024"	0.516"	1.004"	0.006"	0.062"	10	10	9717K57	10.36
629, 6000	1.024"	0.516"	1.004"	0.007"	0.062"	13	10	9717K58	10.72
2000, 6903	1.181"	0.688"	1.164"	0.009"	0.062"	14	10	9717K59	9.64
2000, 6903	1.181"	0.688"	1.164"	0.018"	0.062"	81	10	9717K62	10.36
6002, 6201	1.260"	0.688"	1.240"	0.008"	0.062"	15	10	9717K63	10.06
6002, 6201	1.260"	0.688"	1.240"	0.010"	0.062"	23	10	9717K65	10.36
6003, 6202, 6300	1.378"	0.814"	1.360"	0.011"	0.062"	17	10	9717K66	9.20
6003, 6202, 6300	1.378"	0.814"	1.360"	0.014"	0.062"	26	10	9717K67	10.72
6203	1.575"	0.971"	1.555"	0.014"	0.062"	23	10	9717K68	12.44
6203	1.575"	1.000"	1.555"	0.018"	0.062"	42	10	9717K69	12.44
6005, 6204, 6303	1.850"	1.189"	1.830"	0.016"	0.062"	26	5	9717K71	8.12
6205, 6304	2.047"	1.359"	2.022"	0.019"	0.062"	27	5	9717K72	8.80

Corrosion-Resistant Polyurethane Flat Disc Springs



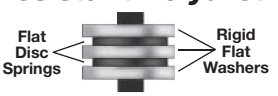

Stacked Springs

Able to hold high loads in small spaces, similar to Belleville springs, these springs resist oxidation, oil, and abrasion. Durometer is 95A with a tolerance of +5. Load tolerance is ±25%. Deflection range is 0-10% for static applications; 0-20% for dynamic applications.

When stacked, these springs must be separated by rigid flat washers (see illustration). The washers must be large enough to cover the entire surface of the disc springs. For washers, see 98017A on page 3252.

Fits Rod Size	OD	Thickness	Defl. @ Load	Load, lbs.	Pkg. Qty.		Pkg.
3/16"	0.5"	0.125"	0.013"	150	6	94045K116	$7.30
1/4"	0.5"	0.250"	0.025"	100	6	94045K122	8.73
1/4"	0.625"	0.250"	0.025"	198	6	94045K126	8.39
1/4"	0.75"	0.125"	0.013"	294	6	94045K127	10.45
1/4"	0.814"	0.125"	0.013"	405	6	94045K128	11.61
5/16"	0.75"	0.125"	0.013"	250	6	94045K142	8.29
5/16"	0.875"	0.125"	0.013"	312	6	94045K146	12.79
3/8"	0.625"	0.250"	0.025"	150	6	94045K161	9.52
3/8"	0.75"	0.250"	0.025"	295	6	94045K163	9.29
3/8"	0.875"	0.125"	0.013"	518	6	94045K165	12.79

Fits Rod Size	OD	Thickness	Defl. @ Load	Load, lbs.	Pkg. Qty.		Pkg.
3/8"	1"	0.125"	0.013"	716	6	94045K167	$15.36
7/16"	0.75"	0.250"	0.025"	180	6	94045K172	9.06
1/2"	0.875"	0.250"	0.025"	325	6	94045K212	13.43
1/2"	1.063"	0.125"	0.013"	700	3	94045K216	10.22
1/2"	1.375"	0.125"	0.013"	1,600	3	94045K226	12.52
5/8"	1.188"	0.250"	0.025"	700	3	94045K511	10.96
3/4"	1.313"	0.250"	0.025"	700	1	94045K331	3.70
3/4"	1.625"	0.125"	0.005"	1,150	1	94045K335	4.40
1"	2"	0.250"	0.02"	1,700	1	94045K371	6.56

Material Handling

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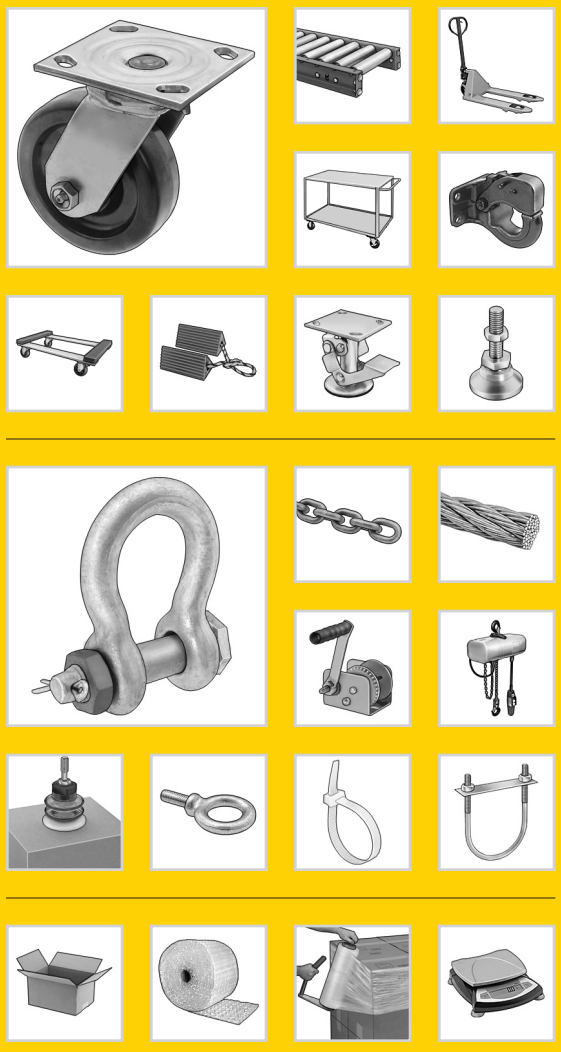

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Roller Conveyors and Stands

Easily move light-to-medium weight flat- and uneven-bottom objects. *Note:* Capacities are based on an evenly distributed load with a stand at each end. Capacities for 10-ft. lengths can be increased to those listed for 5-ft. lengths by adding a center stand. The length of the material you're conveying should be at least three times the roller spacing.

Conveyors

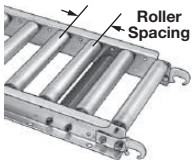

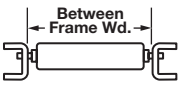

Roller Conveyor Profile

Frames are 2½" high and have two hooks at one end to connect conveyor sections. Rollers have ¼" dia. spring-loaded axles and steel ball bearings.
1⅜" dia. rollers project 3/16" above the frame. Overall conveyor height is 2 11/16".
1.9" dia. rollers project ½" above the frame. Overall conveyor height is 3".
Steel conveyors are stronger than aluminum and have a galvanized finish.
Aluminum conveyors are lighter than steel with better corrosion resistance.
Also Available: 90° curves. Please ask for 5825K777 and specify conveyor overall width, roller diameter, and material (steel or aluminum).

		5-ft. Lengths				10-ft. Lengths			
O'all Wd.	Between Frame Wd.	Cap., lbs./ft.	3" Roller Spacing		1½" Roller Spacing	Cap., lbs./ft.	4½" Roller Spacing	3" Roller Spacing	1½" Roller Spacing
1⅜" Dia. Rollers—Steel									
12"	10"	200	5825K24	$109.65	5825K81 $171.93	50	5825K19 $160.00	5825K15 $196.84	5825K11 $325.61
15"	13"	200	5825K25	118.25	5825K82 187.54	50	5825K21 167.89	5825K16 209.65	5825K12 347.37
18"	16"	200	5825K26	123.51	5825K83 196.49	50	5825K22 178.25	5825K17 218.95	5825K13 368.07
24"	22"	200	5825K27	135.61	5825K84 223.68	50	5825K23 198.95	5825K18 245.79	5825K14 410.53
1⅜" Dia. Rollers—Aluminum									
12"	10"	100	58245K81	116.83	58245K61 178.33	30	58245K41 161.67	58245K31 208.33	58245K21 345.00
15"	13"	100	58245K82	121.67	58245K62 191.67	30	58245K42 165.50	58245K32 220.00	58245K22 368.33
18"	16"	100	58245K83	145.17	58245K63 199.67	30	58245K43 184.50	58245K33 234.83	58245K23 392.00
24"	22"	100	58245K87	146.67	58245K64 233.17	30	58245K47 211.67	58245K37 266.50	58245K27 465.00

		5-ft. Lengths				10-ft. Lengths			
O'all Wd.	Between Frame Wd.	Cap., lbs./ft.	4½" Roller Spacing		3" Roller Spacing	Cap., lbs./ft.	6" Roller Spacing	4½" Roller Spacing	3" Roller Spacing
1.9" Dia. Rollers—Steel									
12"	10"	200	5675K81	$117.09	5675K17 $137.09	50	5675K31 $158.73	5675K21 $201.75	5675K11 $241.09
15"	13"	200	5675K82	123.82	5675K18 146.18	50	5675K32 162.91	5675K22 215.09	5675K12 264.55
18"	16"	200	5675K83	131.45	5675K19 159.09	50	5675K33 169.82	5675K23 233.27	5675K13 283.64
24"	22"	200	5675K85	147.45	5675K28 178.91	50	5675K35 181.45	5675K25 262.73	5675K15 322.36
26"	24"	200	5675K86	153.82	5675K29 186.00	50	5675K36 205.27	5675K26 275.82	5675K16 340.91

Stands

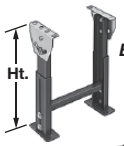



Stands are steel with a blue powder-coated finish. *Note:* Stands are compatible only with the conveyors listed above.
Bolt-On—Stands attach to conveyor frames with 5/16"-18 bolts (not included). Mounting plates adjust to allow you to set the conveyor at a decline.
Portable—Conveyor rests on top of the stand.
Mobile—Stands have four swivel casters with brakes. Conveyor rests on top of the stand.

For O'all Wd.	17" to 23" Ht.		24" to 30" Ht.		31" to 37" Ht.		38" to 44" Ht.	
Bolt-On								
12"	5833K211	$37.11	5833K311	$41.00	5833K411	$43.78	5833K511	$45.78
15"	5833K212	38.00	5833K312	43.11	5833K412	45.89	5833K512	49.11
18"	5833K213	38.67	5833K313	43.78	5833K413	46.67	5833K513	49.67
24"	5833K215	39.56	5833K315	45.67	5833K415	48.78	5833K515	51.78
26"	5833K216	40.78	5833K316	46.22	5833K416	49.74	5833K516	52.67
	12" to 18" Ht.		**18" to 30" Ht.**		**24" to 40" Ht.**		**30" to 50" Ht.**	
Portable								
12"	5882K11	$33.83	5882K16	$37.62	5882K22	$38.72	5882K27	$43.09
15"	5882K12	34.89	5882K17	38.72	5882K23	40.64	5882K28	43.19
18"	5882K13	35.74	5882K18	39.36	5882K24	41.28	5882K29	43.83
24"	5882K15	38.72	5882K21	41.28	5882K26	42.98	5882K32	46.81
Mobile—For 10-ft. conveyor lengths								
12"	_____	____	5837K21	150.55	5837K24	155.09	5837K27	156.36
15"	_____	____	5837K31	152.00	5837K37	158.55	5837K33	160.73
18"	_____	____	5837K22	152.55	5837K25	158.73	5837K28	161.45
24"	_____	____	5837K23	158.18	5837K26	164.00	5837K29	166.36

Washdown Roller Conveyors and Stands

Suitable for food equipment and washdown applications, conveyors are made of stainless steel and meet USDA standards. *Note:* Capacities are based on an evenly distributed load with a stand at each end. Capacities for 10-ft. lengths can be increased to those listed for 5-ft. lengths by adding a center stand. The length of the material you're conveying should be at least three times the roller spacing.

Conveyors

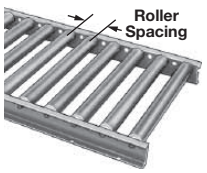

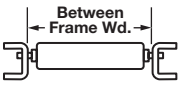

Roller Conveyor Profile

Rollers are 1⅝" dia. and project 5/16" above the frame. Roller spacing is 3". Frames are 2½" high. Overall conveyor height is 2 13/16". To join conveyor sections, use a common stand. Rollers have 7/16" hex spring-loaded axles and plastic-encased stainless steel ball bearings.
Also Available: 90° curves. Please ask for 5811K777 and specify conveyor overall width.

		5-ft. Lengths			10-ft. Lengths	
O'all Wd.	Between Frame Wd.	Cap., lbs./ft.			Cap., lbs./ft.	
18"	16"	235	5811K32	$543.75	60	5811K22 $1,064.06
24"	22"	235	5811K33	646.88	60	5811K23 1,278.12

Stands

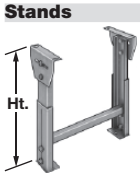

Stands are made of stainless steel and attach to conveyor frames with 5/16"-18 bolts (not included). Mounting plates adjust to allow you to set the conveyor at a decline. *Note:* Stands are compatible only with the conveyors listed above.

For Overall Wd.	17" to 23" Ht.		24" to 30" Ht.		31" to 37" Ht.	
18"	57585K12	$85.34	57585K22	$98.81	57585K32	$112.71
24"	57585K13	88.90	57585K23	102.37	57585K33	115.76

Heavy Duty Roller Conveyors and Stands

Choose these durable steel conveyors for more demanding shipping and assembly applications. *Note:* Capacities are based on an evenly distributed load with a stand at each end. Capacities for 10-ft. lengths can be increased to those listed for 5-ft. lengths by adding a center stand. The length of the material you're conveying should be at least three times the roller spacing.

Conveyors

Rollers are 1.9″ diameter and project 1/4″ above the frame. Frames are 3 1/2″ high and have coupling plates to connect sections. Overall conveyor height is 3 3/4″. Frames have a green powder-coated finish. Rollers have 7/16″ hex spring-loaded axles and steel ball bearings.

Also Available: 90° curves. Please ask for 5746K888 and specify conveyor overall width.

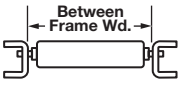

Roller Conveyor Profile

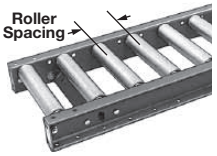

O'all Wd.	Between Frame Wd.	5-ft. Lengths Cap., lbs./ft.	4 1/2″ Roller Spacing		3″ Roller Spacing		10-ft. Lengths Cap., lbs./ft.	6″ Roller Spacing		4 1/2″ Roller Spacing		3″ Roller Spacing	
13″	10″	620	5746K165	$130.90	5746K164	$167.38	118	5746K163	$225.37	5746K162	$261.82	5746K161	$334.88
16″	13″	620	5746K118	119.00	5746K117	152.18	118	5746K113	204.92	5746K112	237.98	5746K111	304.37
18″	15″	620	5746K142	125.35	5746K141	159.92	118	5746K116	214.80	5746K115	250.87	5746K114	319.82
20″	17″	620	5746K143	131.72	5746K75	167.52	118	5746K71	224.38	5746K45	263.60	5746K41	335.17
24″	21″	620	5746K144	144.62	5746K76	182.82	118	5746K72	244.47	5746K46	289.07	5746K42	365.62
30″	27″	620	5746K145	163.72	5746K77	205.72	118	5746K73	274.03	5746K47	327.43	5746K43	411.58
36″	33″	620	5746K146	182.82	5746K78	228.77	118	5746K74	303.83	5746K48	365.65	5746K44	457.67

Stands

Stands have a green powder-coated finish and bolt to conveyor frames using the included fasteners. Mounting plates adjust to allow you to set the conveyor at a decline. *Note:* Stands are compatible only with the conveyors listed above.

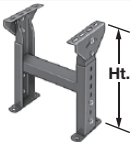

For O'all Wd.	16″ to 21″ Ht.		20″ to 25″ Ht.		24″ to 35″ Ht.		34″ to 45″ Ht.	
13″	5183K65	$49.69	5183K66	$51.78	5183K67	$57.09	5183K68	$65.69
16″	5183K61	49.69	5183K62	51.78	5183K63	57.09	5183K64	65.69
18″	5183K71	49.69	5183K72	51.78	5183K73	57.09	5183K74	65.69
20″	5183K21	49.69	5183K22	51.78	5183K23	57.09	5183K24	65.69
24″	5183K31	49.69	5183K32	51.78	5183K33	57.09	5183K34	65.69
30″	5183K41	49.69	5183K42	51.78	5183K43	57.09	5183K44	65.69
36″	5183K51	49.69	5183K52	51.78	5183K53	57.09	5183K54	65.69

Super Duty Roller Conveyors and Stands

Our strongest roller conveyors are built to handle the heaviest loads. Made of heavy-gauge steel. *Note:* Capacities are based on an evenly distributed load with a stand at each end. Capacities for 10-ft. lengths can be increased to those listed for 5-ft. lengths by adding a center stand. The length of the material you're conveying should be at least three times the roller spacing.

Conveyors

Rollers are 2 1/2″ diameter and project 1/4″ above the frame. Frames are 4″ high and have coupling plates to connect sections. Overall conveyor height is 4 1/4″. Rollers have 11/16″ hex spring-loaded axles and steel ball bearings that are double shielded to keep debris out and to extend bearing life.

Also Available: 90° curves. Please ask for 5747K888 and specify conveyor overall width.

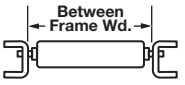

Roller Conveyor Profile

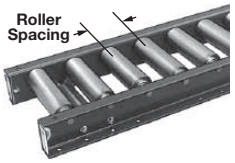

O'all Wd.	Between Frame Wd.	5-ft. Lengths Cap., lbs./ft.	4 1/2″ Roller Spacing		3″ Roller Spacing		10-ft. Lengths Cap., lbs./ft.	6″ Roller Spacing		4 1/2″ Roller Spacing		3″ Roller Spacing	
12″	9″	800	5747K11	$308.31	5747K101	$392.80	375	5747K46	$453.04	5747K28	$540.16	5747K12	$695.38
18″	15″	800	5747K15	336.00	5747K103	434.96	375	5747K48	495.47	5747K32	596.47	5747K16	777.33
24″	21″	800	5747K21	363.73	5747K105	475.80	375	5747K55	538.25	5747K36	652.82	5747K19	859.27
30″	27″	800	5747K23	402.36	5747K106	533.91	375	5747K56	598.04	5747K38	731.75	5747K22	974.45
52″	49″	800	5747K27	514.95	5747K108	701.22	375	5747K58	767.49	5747K45	959.20	5747K26	1,303.58

Stands

Stands have a blue powder-coated finish and bolt to conveyor frames using the included fasteners. Mounting plates adjust to allow you to set the conveyor at a decline. *Note:* Stands are compatible only with the conveyors listed above.



For O'all Wd.	17″ to 22″ Ht.		23″ to 33″ Ht.		32″ to 46″ Ht.	
12″	5812K51	$73.24	5812K61	$81.30	5812K71	$109.04
18″	5812K53	74.58	5812K63	82.68	5812K73	111.56
24″	5812K55	75.88	5812K65	84.08	5812K75	114.06
30″	5812K56	77.20	5812K66	85.46	5812K76	116.56
52″	5812K59	82.02	5812K69	90.56	5812K79	125.76

Bench-Top Adjustable Roller Conveyors

Designed to rest on your work surface, these conveyors have two sets of axle holes so you can position the conveying surface 1/8″ above the frame or 3/4″ below the frame (position below to use the frame as a guide rail). *Note:* Capacities are based on an evenly distributed load. The length of the material you're conveying should be at least three times the roller spacing.

Rollers are 3/4″ dia. Roller spacing is 1″. Frames are 2 1/2″ high. Overall conveyor height is 2 5/8″. Rollers have 1/4″ dia. spring-loaded axles and steel ball bearings.

Steel conveyors are stronger than aluminum and have a galvanized finish.

Aluminum conveyors are lightweight and corrosion resistant.

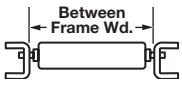

Roller Conveyor Profile

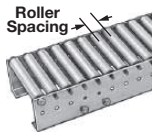

O'all Wd.	Between Frame Wd.	Steel 5-ft. Lengths Cap., lbs./ft.			Steel 10-ft. Lengths Cap., lbs./ft.			Aluminum 5-ft. Lengths Cap., lbs./ft.			Aluminum 10-ft. Lengths Cap., lbs./ft.		
6″	4 7/8″	120	5677K75	$218.00	35	5677K65	$423.45	100	5677K44	$227.27	25	5677K35	$432.73
12″	10 3/8″	120	5677K76	250.36	35	5677K66	463.45	100	5677K54	272.36	25	5677K36	467.09
15″	13 7/8″	120	5677K77	263.64	35	5677K67	538.00	100	5677K64	287.45	25	5677K37	540.18

Skate Wheel Conveyors & Ball Transfer Plates

For replacement skate wheels, see page 1310.

Lightweight Skate Wheel Conveyors and Stands

Easier to move than roller conveyors, skate wheel conveyors are for light duty loading and unloading of flat-bottom objects. *Note:* Capacities are based on an evenly distributed load with a stand at each end. Capacities for 10-ft. lengths can be increased to those listed for 5-ft. lengths by adding a center stand. The length and width of the material you're conveying should be at least three times the axle spacing.

Conveyors



Wheels are 1.9″ dia. and project 3⁄8″ above the frame. Frames are 2 1⁄2″ high and have hooks at one end to connect sections. Overall conveyor height is 2 7⁄8″. Axles are 1⁄4″ dia.; axle spacing is 3″. Wheels have steel ball bearings.

Steel frames are stronger than aluminum and have a galvanized finish. *Steel wheels* are durable and have a zinc-plated finish. *Plastic wheels* are nonmarring. Color is black. **To Order:** Please specify steel or plastic wheels.

Aluminum frames are lighter than steel with better corrosion resistance.

Also Available: 90° curves. Please ask for 56755K888 and specify frame material, skate wheel material (for steel conveyors), and conveyor overall width.

		Steel Frames with Steel or Plastic Wheels				Aluminum Frames with Aluminum Wheels			
		5-ft. Lengths		10-ft. Lengths		5-ft. Lengths		10-ft. Lengths	
O'all Wd.	Wheels Per Ft.	Cap., lbs./ft.		Cap., lbs./ft.		Cap., lbs./ft.		Cap., lbs./ft.	
12″	10	175	56755K41 $128.55	35	56755K31 $232.90	130	56755K51 $121.41	16	56755K56 $242.81
15″	10	175	56755K42 138.59	35	56755K32 258.76	130	56755K52 126.91	16	56755K57 253.81
18″	14	175	56755K43 161.10	35	56755K33 294.93	130	56755K53 153.52	16	56755K58 307.05
24″	24	175	56755K44 226.93	35	56755K35 423.33	130	56755K54 217.33	16	56755K61 434.66

Stands

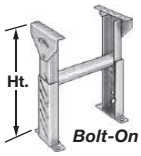



Stands are steel. *Note:* Stands are compatible only with the conveyors listed above.

Bolt-On—Stands bolt to conveyor frames using the included fasteners. Mounting plates adjust to allow you to set the conveyor at a decline. Stands have a galvanized finish.

Portable—Conveyor rests on top of the stand. Stands have a blue powder-coated finish.

For Overall Wd.	15″ to 20″ Ht.		19″ to 24″ Ht.		23″ to 28″ Ht.		27″ to 32″ Ht.		31″ to 42″ Ht.	
Bolt-On										
12″	5214K25	$40.70	5214K26	$43.38	5214K27	$46.05	5214K28	$52.46	5214K29	$59.16
15″	5214K31	41.48	5214K32	44.16	5214K33	46.84	5214K34	54.04	5214K35	60.73
18″	5214K71	42.25	5214K72	44.95	5214K73	47.62	5214K74	55.59	5214K75	62.29
24″	5214K82	43.82	5214K83	46.48	5214K84	49.16	5214K85	58.70	5214K86	65.38
			11″ to 17″ Ht.		17″ to 29″ Ht.		23″ to 39″ Ht.		29″ to 51″ Ht.	
Portable										
12″ and 15″			5214K11	$41.51	5214K12	$45.60	5214K13	$48.55	5214K14	$52.84
18″			5214K15	42.75	5214K16	46.89	5214K17	49.74	5214K18	54.18
24″			5214K21	44.11	5214K22	48.21	5214K23	51.18	5214K24	55.52

Flexible Skate Wheel Conveyors



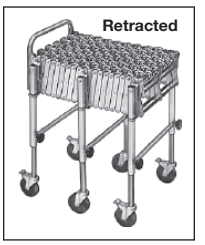

Accordion-style side rails and swivel casters with brakes let you quickly curve, expand, and retract these conveyors. They have 1.9″ dia. skate wheels for flat-bottom objects in assembly lines or packaging and shipping applications. Wheels project 3⁄8″ above the frame. Axles are 5⁄16″ dia.; axle spacing is 5 1⁄4″ when the conveyor is fully expanded. Conveyors have a handle that stops boxes at one end and telescoping legs to adjust the height and brackets to connect sections. Frames are steel with a zinc-plated finish. *Note:* Capacities are based on an evenly distributed load.

Steel wheels have steel ball bearings for impact resistance.

Nylon wheels resist moisture and corrosion. Wheels are red and have nylon bearings.

O'all Wd.	Wheels Per Axle	O'all Height Range	Cap., lbs./ft.	2′4″ to 8′11″ Lg.		3′3″ to 12′10″ Lg.		6′2″ to 24′8″ Lg.	
Steel Wheels									
18″	6	28″ to 44″	226	5717K41	$788.33	5717K42	$996.11	5717K43	$1,684.05
24″	8	28″ to 44″	226	5717K44	816.27	5717K45	1,062.46	5717K46	1,829.84
Nylon Wheels									
14″	6	28″ to 44″	226	5717K52	660.00	5717K32	823.25	5717K12	1,353.17
18″	6	28″ to 44″	226	5717K53	703.65	5717K33	905.32	5717K13	1,521.67
24″	8	28″ to 44″	226	5717K54	737.70	5717K34	956.83	5717K14	1,634.29

Multidirectional Miniature Ball Transfer Plates



Also known as ball-bearing parallels, these transfer plates have multidirectional balls that project from the top and bottom to position and move small, heavy items over short distances. Plates are steel with a black-oxide finish and have 3⁄8″ dia. steel balls. Overall height is 3⁄8″.

Lg.	Wd.	Cap., lbs.	
6″	2 1⁄2″	18,000	5764K31 $17.68
12″	2 1⁄2″	36,000	5764K32 31.90
18″	2 1⁄2″	54,000	5764K33 48.36

Multidirectional Ball Transfer Plates



Rotate and position material on your floor or bench top. Plates are steel with a blue powder-coated finish and have 1″ dia. steel balls in zinc-plated steel housings. Overall height is 3″.

Note: The length and width of the material you're moving should be at least three times the ball spacing.

Lg.	Wd.	Cap., lbs./Ball	6″ Ball Spacing		4″ Ball Spacing		3″ Ball Spacing	
24″	24″	65	5689K71	$130.61	5689K61	$197.19	5689K51	$279.90
24″	36″	65	5689K72	180.03	5689K62	273.85	5689K52	402.60
24″	48″	65	5689K73	225.84	5689K63	378.79	5689K53	495.25
36″	36″	65	5689K74	265.76	5689K64	404.96	5689K54	548.41
36″	48″	65	5689K75	338.81	5689K65	497.90	5689K55	725.87
48″	48″	65	5689K76	411.27	5689K66	641.12	5689K56	897.60

Replacement Ball Transfer 5689K41 $3.12

Multidirectional Ball Transfer Conveyors and Stands

Use these ball transfer conveyors alone or add them to the Heavy Duty Roller Conveyors on page 1301 to rotate and position material along your conveying line. *Note:* The length and width of the material you're conveying should be at least three times the ball spacing.

Conveyors

Balls project 1/4" above the frame. Frames are 3 1/2" high and have coupling plates at each end to connect conveyor sections. Overall conveyor height is 3 3/4". Frames are steel with a green powder-coated finish and have 1" dia. steel balls with zinc-plated steel housings.

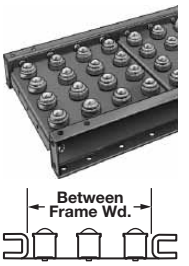

Overall Wd.	Between Frame Wd.	Cap., lbs./Ball	2-ft. Lengths: 4" Ball Spacing		2-ft. Lengths: 3" Ball Spacing		3-ft. Lengths: 4" Ball Spacing		3-ft. Lengths: 3" Ball Spacing	
16"	13"	65	2271T31	$120.45	2271T1	$198.98	2271T21	$180.75	2271T14	$298.52
18"	15"	65	2271T32	139.05	2271T2	228.72	2271T22	207.75	2271T15	342.98
20"	17"	65	2271T9	156.45	2271T3	258.40	2271T23	234.75	2271T16	387.60
24"	21"	65	2271T33	192.58	2271T4	317.93	2271T24	288.85	2271T17	476.82
30"	27"	65	2271T34	246.57	2271T5	407.13	2271T25	369.85	2271T18	610.63
36"	33"	65	2271T13	287.83	2271T6	496.37	2271T26	450.98	2271T19	744.47
Replacement Ball Transfer									6460K31	$4.00

Plates

Extend your ball transfer conveyor or add multidirectional functionality to your roller conveyor. Plates have 3/8" Wd. x 5/8" Ht. mounting slots (fasteners not included) and can be mounted to the axle holes of your roller conveyor once rollers are removed. Plates are steel with a green powder-coated finish and have 1" dia. steel balls with zinc-plated steel housings.

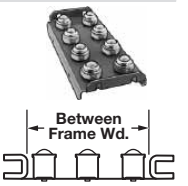

Between Frame Wd.	Cap., lbs./Ball	6" Lengths: 4" Ball Spacing		6" Lengths: 3" Ball Spacing	
13"	65	2271T81	$25.93	2271T71	$44.63
15"	65	2271T82	30.22	2271T72	51.70
17"	65	2271T83	34.52	2271T73	58.78
21"	65	2271T84	43.11	2271T74	72.95
27"	65	2271T85	55.92	2271T75	94.18
33"	65	2271T86	65.78	2271T76	115.43
Replacement Ball Transfer				6460K31	$4.00

Stands

Stands bolt to frames using the included hardware. Mounting plates adjust to allow you to set conveyors at a decline; Stands are steel with a green powder-coated finish. *Note:* Stands are compatible only with the conveyors listed above.



For Overall Wd.	16" to 21" Ht.		20" to 25" Ht.		24" to 35" Ht.		34" to 45" Ht.	
16"	5183K61	$49.69	5183K62	$51.78	5183K63	$57.09	5183K64	$65.69
18"	5183K71	49.69	5183K72	51.78	5183K73	57.09	5183K74	65.69
20"	5183K21	49.69	5183K22	51.78	5183K23	57.09	5183K24	65.69
24"	5183K31	49.69	5183K32	51.78	5183K33	57.09	5183K34	65.69
30"	5183K41	49.69	5183K42	51.78	5183K43	57.09	5183K44	65.69
36"	5183K51	49.69	5183K52	51.78	5183K53	57.09	5183K54	65.69

Conveyor Rails

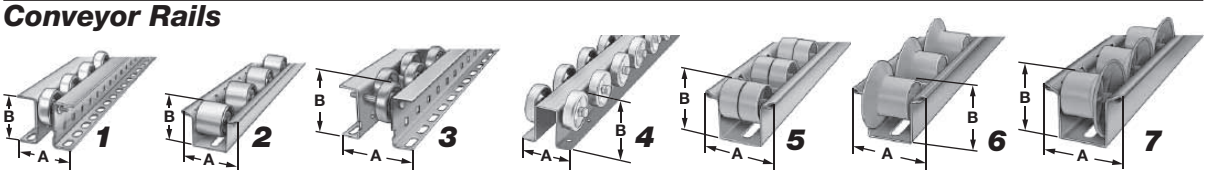

When you don't need the support of a complete conveyor, these rails are a lightweight and economical solution. Use rails to convey packages and pallets in flow racks and in confined spaces.

Frames are galvanized steel. Wheels have steel ball bearings, except ABS plastic wheels, which have a plain bore (no bearings). For replacement wheels, see page 1310.

Styles 6 and *7* have flanged wheels that guide material. *Style 6* has flanges on the left side when facing the unloading end of the rail. *Style 7* has flanges on the right side when facing the unloading end of the rail.

Wheel Size: Dia.	Wd.	Wheel Spacing	Cap., lbs./Wheel	Frame Wd. (A)	O'all Ht. (B)	Mounting Hole: Lg.	Wd.	Ctr.-to-Ctr.	5-ft. Lengths		10-ft. Lengths	
Durable Steel Wheels*—*Finish is zinc plated.												
1	1 15/16"	9/16"	3"	100	2 7/8"	3"	1"	3/8"	1 1/2"	5880K73	$57.90	5880K71	$107.42
1	2 1/4"	13/16"	3"	300	3"	3 1/8"	1"	3/8"	1 1/2"	5880K41	111.17	5880K422	211.60
2	1 7/8"	1 1/2"	3"	150	3"	2 1/2"	2"	3/8"	3"	5880K152	101.70	5880K53	193.92
3	1 15/16"	9/16"	1 1/2"	100	3 3/4"	3"	1"	3/8"	1 1/2"	5815K61	94.95	5815K41	172.03
4	1 15/16"	5/8"	3"	20	2 3/4"	2 1/2"	1/4" Dia.	—	2 3/8"	5673K44	60.48	5673K64	120.95
6	1 15/16"	3 3/16"	3"	200	4 27/32"	2 1/2"	2"	3/8"	3"	5880K176	121.20	5880K178	240.47
7	1 15/16"	3 3/16"	3"	200	4 27/32"	2 1/2"	2"	3/8"	3"	5880K175	121.20	5880K177	240.47
Impact-Resistant ABS Plastic Wheels*—*Color is white.												
5	1 5/8"	13/16"	3"	25	3"	2 3/8"	2"	3/8"	3"	5880K122	44.87	5880K23	81.22
5	1 5/8"	13/16"	4 1/2"	25	3"	2 3/8"	2"	3/8"	3"	5880K124	37.48	5880K25	64.28
6	1 5/8"	1 1/8"	3"	30	3"	2 3/8"	2"	3/8"	3"	5880K172	40.98	5880K174	72.95
7	1 5/8"	1 1/8"	3"	30	3"	2 3/8"	2"	3/8"	3"	5880K171	40.98	5880K173	72.95
Nonmarring Nylon Wheels*—*Color is black.												
1	2 7/8"	1 1/4"	3"	330	3 5/8"	3 1/2"	1"	3/8"	1 1/2"	5880K78	95.75	5880K79	168.98

Heavy Duty Conveyor Rails

All-steel construction gives these rails the durability to carry heavy loads. Wheels have double ball bearings for handling high capacities and extending wheel life. Wheel spacing is 2 5/32". Frames and wheels have a plain finish. Rails can be drilled for mounting or welded in place.

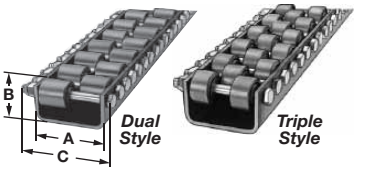

Wheel Size: Dia.	Wd.	Cap., lbs./sq. in.	Frame Wd. (A)	O'all Ht. (B)	O'all Wd. (C)	5-ft. Lengths		10-ft. Lengths	
Dual Style									
1 1/8"	1 1/8"	500	3"	1 3/4"	4"	5161T61	$393.30	5161T62	$985.98
Triple Style									
1 1/4"	27/32"	1,000	3"	2"	4"	5161T71	612.27	5161T72	1,183.48

Build-Your-Own Corrosion-Resistant Conveyor Rails

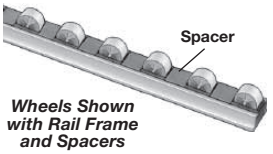

Wheels Shown with Rail Frame and Spacers

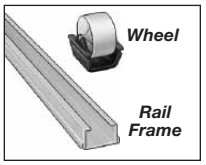

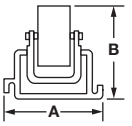

Assemble your own lightweight conveyor rails that are suitable for washdowns. Wheels have a built-in bracket that snaps into the aluminum frame (sold separately). Frames can be cut to your desired length and drilled for mounting. They have interlocking sides so you can connect rails side by side. Minimum wheel spacing is 1 1/8". Use spacers (sold separately) to increase wheel spacing by 7/8". Multiple spacers can be used.

Wheels are acetal and have a plain bore (no bearings). Wheel diameter is 1". Color is red for *1/2" wide wheels* and white for *9/16" wide wheels*. Axle is stainless steel for *1/2" wide wheels* and nylon for *9/16" wide wheels*.

	Cap., lbs./Wheel	Frame Wd. (A)	O'all Ht. (B)		Pkg. of 20
Wheels and Spacers					
1/2" Wd. Wheels	25	1 1/2"	1 1/2"	5897K41	$24.40
9/16" Wd. Wheels	3	1 1/2"	1 1/2"	5897K21	12.76
Spacers				5897K51	4.22
Rail Frames					
5-ft. Length				5897K75 Each	$17.46
10-ft. Length				5897K71 Each	$33.80

Multidirectional Conveyor Rails

Ball Transfer Rails

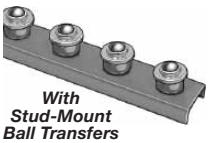
With Stud-Mount Ball Transfers

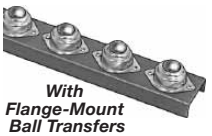
With Flange-Mount Ball Transfers

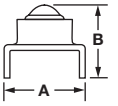

Ball transfer rails let you rotate material in any direction. Frames are galvanized steel and have 1" dia. steel balls in zinc-plated steel housings. Weld rails in place.

Stud-mount ball transfers are attached to the rail with a 1/4"-20 stud and nut. For replacement ball transfers, see page 1311.

Flange-mount ball transfers are riveted in place.

Ball Spacing	Cap., lbs./Ball	Frame Wd. (A)	O'all Ht. (B)	*5-ft. Lengths*		*10-ft. Lengths*	
With Stud-Mount Ball Transfers							
3"	65	2 1/2"	2 1/2"	5697K71	$70.18	5697K81	$127.27
4"	65	2 1/2"	2 1/2"	5697K72	56.55	5697K82	101.27
With Flange-Mount Ball Transfers							
3"	75	2 1/2"	2 3/16"	5697K11	87.27	5697K31	170.73
4"	75	2 1/2"	2 3/16"	5697K21	68.36	5697K41	138.91
6"	75	2 1/2"	2 3/16"	5697K23	52.55	5697K43	100.75

Skate Wheel Rails



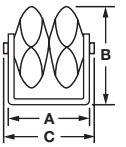

Wheels have miniature rollers that move material across the width as well as the length of the rails. Frames are galvanized steel and have 1/4" dia. holes for mounting (fasteners not included). Wheels are 1.9" dia. and 15/16" wide. They're made of corrosion-resistant acetal and have a plain bore (no bearings). Color is gray. For replacement wheels, see page 1310.

Wheel Spacing	Cap., lbs./Wheel	Frame Wd. (A)	O'all Ht. (B)	O'all Wd. (C)	*5-ft. Lengths*		*10-ft. Lengths*	
2"	25	1 1/2"	2 1/2"	2 5/32"	57705K71	$421.05	57705K72	$833.33
4"	25	1 1/2"	2 1/2"	2 5/32"	57705K73	287.72	57705K74	519.30

Roller Conveyor Rails with Package Stop

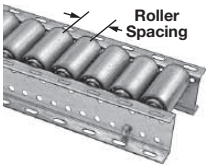



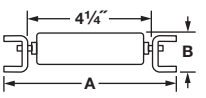

Roller Conveyor Profile

Support heavy loads in pallet flow and conveying applications. The removable package stop prevents material from falling off the rail. Frames and rollers are steel with a galvanized finish. Roller diameter is 1.9"; roller spacing is 2". Rollers have steel ball bearings. Mounting slots are 7/8" x 3/8" and spaced 2" center-to-center.

Cap., lbs./Roller	Frame Wd. (A)	O'all Ht. (B)	*5-ft. Length*		*10-ft. Length*	
200	6 1/2"	3 1/2"	5235T52	$160.83	5235T51	$315.83

Heavy Duty Belt Conveyors

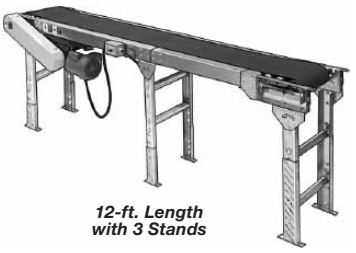
12-ft. Length with 3 Stands

Move heavy boxes and irregularly shaped items in assembly line, sorting, and packing applications. Conveyors have a 3 1/2" high galvanized steel bed, a black PVC belt, and a 1/2-hp totally enclosed fan-cooled motor. Conveyors run at 60 fpm and include stands that adjust the overall conveyor height from 34" to 38". Frames have coupling plates to connect sections. *Note:* Capacities are based on an evenly distributed load.

120-volt AC conveyors have single-phase motors with an on/off switch and a 10-ft. power cord with a three-prong plug. *230/460-volt AC* conveyors have three-phase motors with connections for hardwiring. **To Order:** Please specify voltage.

Also Available: Conveyors with a 1/2-hp, 90-volt DC motor and a variable speed range of 7-60 fpm. Please ask for 5816K888 and specify belt width and conveyor length.

Also Available: Replacement belts and other replacement parts. For belts, please ask for 5816K666 and specify belt width and conveyor length. For other replacement parts, please ask for 5816K777 and specify belt width and part desired.

Belt Wd.	Frame Wd.	Available AC Voltage	*7-ft. Length with 2 Stands* Cap., lbs.			*12-ft. Length with 3 Stands* Cap., lbs.			*22-ft. Length with 4 Stands* Cap., lbs.		
12"	17"	120, 230/460	498	5816K41	$2,148.91	487	5816K43	$2,344.82	465	5816K47	$2,736.77
20"	25"	120, 230/460	463	5816K51	2,278.95	445	5816K53	2,585.26	408	5816K57	3,197.85
24"	29"	120, 230/460	445	5816K52	2,344.24	423	5816K54	2,703.82	380	5816K58	3,426.77

Bench-Top Belt Conveyors

A top-mount motor allows these conveyors to sit right on your bench top, so there's no need for brackets or stands. Guide rails extend 1″ above the conveyor's surface to keep parts from falling off the belt. Conveyors have a 4″ high steel bed, a brown neoprene belt, and a 1/4-hp motor. They operate on 120 volts AC and include a 12-ft. power cord with a three-prong plug.

Note: Capacities are based on an evenly distributed load.

Also Available: Replacement belts. Please ask for 5900K888 and specify belt width and conveyor length.



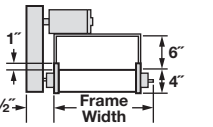

Belt Wd.	Frame Wd.	Cap., lbs.	Speed, fpm	5-ft. Lengths		10-ft. Lengths	
Fixed Speed							
6″	8½″	200	60	5900K52	$1,296.33	5900K62	$1,430.00
12″	14½″	200	60	5900K54	1,346.67	5900K64	1,530.00
Variable Speed							
6″	8½″	200	5-60	5900K781	1,863.33	5900K785	1,985.00
12″	14½″	200	5-60	5900K782	1,905.00	5900K786	2,078.33

Ready-To-Run Mini Belt Conveyors

Run these conveyors right out of the box—plug in and go. Also known as low-profile conveyors. Add surface-mounting brackets (sold separately) for countertop use or two stands (sold separately) for freestanding applications. *Note:* Capacities are based on an evenly distributed load.

Light Duty Aluminum Mini Conveyors

Lightweight and corrosion resistant, conveyors are made of aluminum with a stainless steel bed. T-slotted side rails let you quickly mount items to the conveyor without drilling. T-slot width is 10 mm. Conveyors have a 1 7/8″ high bed, an FDA-compliant white urethane belt, and a 1/30-hp motor. They operate on 120 volts AC.

Fixed-speed conveyors have a 7-ft. power cord with a three-prong plug.

Variable-speed conveyors have a 5-ft. power cord with a three-prong plug.

Also Available: Cleated belting. Please ask for 5734K999 and specify belt width, conveyor length, cleat height, and cleat spacing.

Also Available: Replacement belting. Please ask for 5734K91 and specify belt width and conveyor length.

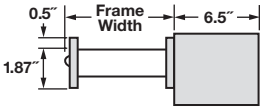



Conveyor Shown with Two Stands and Cross Brace

Belt Wd.	Frame Wd.	3-ft. Lengths		5-ft. Lengths		8-ft. Lengths	
Fixed Speed—To Order: *Please specify speed: 9, 15, 21, or 35 fpm*							
1 3/4″	2½″	5734K211	$1,341.48	5734K311	$1,553.70	5734K411	$1,991.19
2 3/4″	3½″	5734K221	1,378.07	5734K321	1,608.25	5734K421	2,089.52
3 3/4″	4½″	5734K231	1,396.78	5734K331	1,644.33	5734K431	2,150.22
6″	6¾″	5734K241	1,496.53	5734K341	1,763.81	5734K441	2,284.06
8″	8¾″	5734K251	1,563.24	5734K351	1,892.45	5734K451	2,445.83
12″	12¾″	5734K261	1,653.67	5734K361	2,016.45	5734K461	2,618.46
Variable Speed—To Order: *Please specify speed range: 3-15, 6-35, or 10-58 fpm*							
1 3/4″	2½″	5734K216	1,802.51	5734K316	1,928.22	5734K416	2,349.82
2 3/4″	3½″	5734K226	1,837.82	5734K326	1,997.15	5734K426	2,441.42
3 3/4″	4½″	5734K236	1,860.67	5734K336	2,023.77	5734K436	2,506.34
6″	6¾″	5734K246	1,942.24	5734K346	2,119.31	5734K446	2,611.34
8″	8¾″	5734K256	2,016.40	5734K356	2,259.79	5734K456	2,772.62
12″	12¾″	5734K266	2,103.62	5734K366	2,402.18	5734K466	2,823.49

Speed, fpm	Cap., lbs.
Fixed-Speed Conveyors	
9	65
15	40
21	35
35	30
Variable-Speed Conveyors	
3-15	60
6-35	50
10-58	30

Accessories for Light Duty Aluminum Mini Conveyors

Stands mount to conveyors with the included fasteners and have leveling feet to compensate for uneven floors. Base is 14″ wide. Made of aluminum.

Stand Height	Each
24″ to 36″	5734K521 $287.23
30″ to 48″	5734K522 287.23

Cross braces are recommended for all stands to add stability. Made of aluminum.

For Conveyor Lg.	Each
3 ft.	5734K531 $83.19
5 ft.	5734K532 83.19
8 ft.	5734K533 83.19

Surface-mounting brackets attach to conveyors with the included fasteners and mount to a surface with 1/4″ fasteners (not included). Made of steel with a black painted finish.

(A)	(B)	Each
3″	2″	5734K511 $18.29
5″	3″	5734K512 22.08

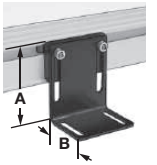

Heavy Duty Steel Mini Conveyors

Steel construction and greater horsepower give these conveyors higher capacities and speeds. Conveyors have a 1 7/8″ high bed, aluminum side rails, an FDA-compliant white urethane belt, and a 1/3-hp motor. They operate on 120 volts AC and include an 8-ft. power cord with a three-prong plug. Frame has a tan powder-coated finish.

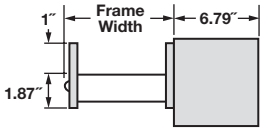



Conveyor Shown with Two Stands and Cross Braces

Belt Wd.	Frame Wd.	Cap., lbs.	3-ft. Lengths		5-ft. Lengths		10-ft. Lengths	
Fixed Speed—To Order: *Please specify speed: 20, 40, 60, or 120 fpm*								
6″	6¼″	135	5861K75	$1,481.62	5861K76	$1,595.83	5861K78	$2,081.80
12″	12¼″	270	5861K83	1,815.65	5861K84	1,993.45	5861K85	2,714.32
Variable Speed—To Order: *Please specify speed range: 10-20, 20-40, 30-60, or 60-120 fpm*								
6″	6¼″	135	5861K86	1,898.62	5861K91	2,012.84	5861K92	2,498.81
12″	12¼″	270	5861K93	2,232.66	5861K94	2,410.45	5861K99	3,131.33

Accessories for Heavy Duty Steel Mini Conveyors

Stands mount to conveyors with the included fasteners and have leveling feet to compensate for uneven floors. Base is 16″ wide. Made of steel with a tan powder-coated finish.

Stand Height	Each
16″ to 24″	5861K905 $240.29
23″ to 36″	5861K906 256.46
35″ to 48″	5861K907 259.69
47″ to 60″	5861K908 280.15

Cross braces are recommended for all stands to add stability. Made of steel with a tan powder-coated finish.

For Conveyor Lg.	Pair
3 ft.	5861K909 $183.18
5 ft.	5861K911 199.34
10 ft.	5861K912 239.21

Surface-mounting brackets mount conveyors to a work surface. Mounting fasteners included. Made of steel with a zinc-plated finish.

(A)	(B)	Each
4 13/16″	1¼″	5861K463 $36.05

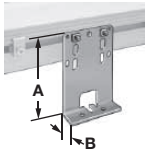

Powered Roller Conveyors

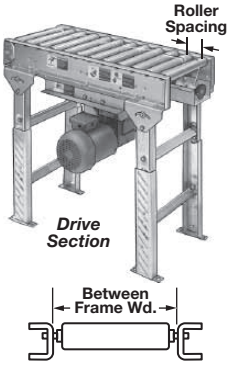

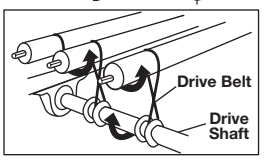

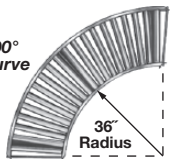

Also known as line-shaft and live-roller conveyors, these are driven by a common drive shaft and urethane belts. Conveyors run at a constant speed of 60 fpm. The drive shaft continues to run even when the accumulation of packages may cause some rollers to stop turning.

Rollers are 1.9″ dia. and have a single groove to accommodate the drive belts. Roller spacing is 3″. Rollers and frames are steel with a galvanized finish, unless otherwise stated. Rollers have steel ball bearings and 7/16″ hex axles. Frames are 5 1/2″ high and have coupling plates to connect sections. Stands bolt to the conveyor frames and adjust the overall conveyor height from 36″ to 48″. For replacement rollers, see page 1308. *Note:* Capacities are based on an evenly distributed load.

Drive sections drive up to 60 ft. of conveyor on either side and can be hardwired for material flow in either direction. They have a 1/2-hp, three-phase, totally-enclosed fan-cooled motor that operates on 230/460 volts AC.

Extensions connect to drive sections to lengthen the conveyor.

90° curves have tapered rollers that keep packages centered. Rollers are zinc-plated steel.

Also Available: Replacement rollers and stands. Please ask for 5898K777 and specify roller or stand and conveyor part number. For other replacement parts, please ask for 5898K888 and specify part required.

Overall Wd.	Between Frame Wd.	Cap., lbs./ft.	DRIVE SECTION 3-ft. Length with 2 Stands		EXTENSION 5-ft. Length with 1 Stand		EXTENSION 7-ft. Length with 1 Stand		EXTENSION 10-ft. Length with 2 Stands		90° CURVE 36″ Radius with 1 Stand	
16″	13″	60	5898K11	$1,261.75	5898K12	$496.95	5898K13	$673.54	5898K14	$978.86	5898K18	$1,609.31
19″	16″	60	5898K21	1,302.52	5898K22	523.48	5898K23	710.11	5898K24	986.29	5898K28	1,667.75
25″	22″	60	5898K31	1,383.98	5898K32	576.51	5898K33	737.80	5898K34	1,033.22	5898K38	1,784.62
35″	32″	60	5898K81	1,519.80	5898K82	664.88	5898K83	905.05	5898K84	1,178.32	5898K85	1,979.40

Air-Powered Vacuum Conveyors

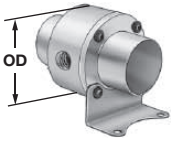

Vacuum for Hose Shown with Mounting Bracket

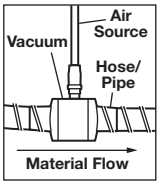

Attach hose, duct hose, or pipe to these vacuums to create a powerful inline conveyor that moves plastic pellets, scrap trim, sawdust, and other bulk solids. A small amount of compressed air at the inlet produces a vacuum at one end and a high-output flow at the other. Vacuums have no moving parts and require minimal maintenance. A complete conveying system requires a vacuum, hose or pipe, filter, regulator (to control flow), and air hose. For filters and regulators, the max. scfm rating at 80 psi should be equal to or greater than the air consumption of the vacuum. See pgs. 297-299 for hose, pgs. 253-261 for duct hose, pg. 48 for pipe, pg. 1026 for filters and regulators, and pg. 264-266 for air hose.

Vacuums for NPT-threaded pipe have male threads on the intake and exhaust ends.

Aluminum vacuums are lightweight and corrosion resistant. ***Steel vacuums*** are more durable than aluminum so they're better for larger, more abrasive objects such as steel shot and glass beads.

Mounting brackets are made of stainless steel. Mounting fasteners not included.

Also Available: Stainless steel vacuums. Please ask for 2379T888 and specify hose/pipe size.

For Hose ID/ Pipe Size	Vacuum ID	Vacuum OD	Vacuum Lg.	Air Inlet, NPT Female	Aluminum Vacuum scfm @ 80 psi		Steel Vacuum scfm @ 80 psi		Mounting Bracket Mtg. Hole Dia.	
For Hose										
3/4″	1/2″	1 7/8″	3 7/8″	1/4″	11	2379T11 $110.62	26	2379T51 $445.11	3/16″	2379T31 $27.31
1″	3/4″	2 1/8″	3 7/8″	1/4″	15	2379T12 132.82	35	2379T52 499.02	3/16″	2379T31 27.31
1 1/4″	1″	2 3/8″	3 7/8″	1/4″	26	2379T13 167.84	49	2379T53 550.42	5/16″	2379T32 31.67
1 1/2″	1 1/4″	2 3/4″	4 3/8″	3/8″	33	2379T14 202.55	55	2379T54 595.56	5/16″	2379T32 31.67
2″	1 3/4″	3 1/4″	4 3/8″	3/8″	45	2379T15 240.16	75	2379T55 650.73	5/16″	2379T33 36.31
2 1/2″	2 1/4″	3 3/4″	4 3/8″	3/8″	59	2379T16 258.87	—	—	5/16″	2379T33 36.31
3″	2 3/4″	4 1/4″	5 5/8″	1/2″	69	2379T17 412.53	—	—	5/16″	2379T34 44.31
4″	3 3/4″	5 1/4″	5 5/8″	1/2″	95	2379T18 582.12	—	—	5/16″	2379T34 44.31
For NPT-Threaded Pipe										
3/4″	1/2″	1 7/8″	3 7/8″	1/4″	11	2379T35 127.60	26	2379T61 555.44	3/16″	2379T31 27.31
1″	3/4″	2 1/8″	4 1/4″	1/4″	15	2379T36 161.64	35	2379T62 664.53	3/16″	2379T31 27.31
1 1/4″	1″	2 3/8″	4 5/8″	1/4″	26	2379T37 204.95	49	2379T63 734.73	5/16″	2379T32 31.67
1 1/2″	1 1/4″	2 3/4″	4 5/8″	3/8″	33	2379T38 246.91	55	2379T64 797.42	5/16″	2379T32 31.67
2″	1 3/4″	3 1/4″	4 5/8″	3/8″	45	2379T39 290.44	75	2379T65 861.36	5/16″	2379T33 36.31

Small Diameter Conveyor Rollers

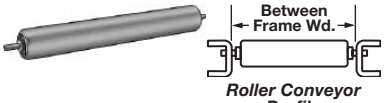

Roller Conveyor Profile

Rollers have spring-loaded axles and steel ball bearings unless otherwise stated.

Galvanized steel rollers are strong and provide some corrosion resistance.

Aluminum rollers are lightweight and corrosion resistant.

PVC rollers are lightweight and nonmarking. Rollers have plastic-encased stainless steel bearings. Temp. range is 30° to 150° F. Color is gray.

Stainless steel rollers provide excellent corrosion resistance for washdown applications. Rollers have plastic-encased stainless steel bearings. Temp. range is 30° to 150° F.

For Between Frame Wd.	Gauge/ Thick.	Cap., lbs.		
3/4″ Roller Dia. — *1/4″ Round Axle*				
Galvanized Steel				
4 7/8″	20	30	2278T11	$7.00
10 3/8″	20	30	2278T15	7.95
13 7/8″	20	30	2278T18	8.52
Aluminum				
4 7/8″	20	20	2278T21	6.90
10 3/8″	20	20	2278T25	8.00
13 7/8″	20	20	2278T28	8.43
Stainless Steel				
4 7/8″	20	20	2278T31	15.53
10 3/8″	20	20	2278T35	20.59
13 7/8″	20	20	2278T38	24.07
0.78″ Roller Dia. — *1/4″ Round Axle*				
PVC				
4″	0.06″	10	2297T11	6.98
8″	0.06″	10	2297T15	7.27
12″	0.06″	10	2297T19	8.37

For Between Frame Wd.	Gauge/ Thick.	Cap., lbs.		
7/8″ Roller Dia. — *1/4″ Round Axle*				
Plain Steel				
4 7/8″	13	45	2287T11	$9.80
10 3/8″	13	45	2287T17	10.31
13 7/8″	13	45	2287T21	11.83
17 7/8″	13	45	2287T25	13.12
1 3/8″ Roller Dia. — *1/4″ Round Axle*				
Galvanized Steel				
10″	18	90	2282T11	6.05
12″	18	74	2282T12	6.67
13″	18	68	2282T13	6.92
16″	18	54	2282T15	7.79
20″	18	41	2282T17	8.78
22″	18	36	2282T19	9.57
24″	18	32	2282T22	10.12
30″	18	23	2282T25	11.89
36″	18	15	2282T28	13.62

For Between Frame Wd.	Gauge/ Thick.	Cap., lbs.		
1 3/8″ Roller Dia. — *1/4″ Round Axle (Cont.)*				
Aluminum				
10″	18	40	2282T31	$6.32
13″	18	40	2282T32	6.68
16″	18	40	2282T35	7.21
18″	18	40	2282T37	7.57
22″	18	40	2282T39	8.29
1 5/8″ Roller Dia. — *7/16″ Hex Axle*				
Stainless Steel				
10″	16	100	2279T11	28.19
12″	16	100	2279T13	32.36
14″	16	100	2279T15	34.91
16″	16	100	2279T17	35.56
18″	16	100	2279T19	39.91
20″	16	100	2279T22	44.95
22″	16	100	2279T24	45.99
28″	16	100	2279T31	50.25

Standard 1.9″ Diameter Conveyor Rollers

Use these rollers to replace any 1.9″ dia. rollers or build a custom conveyor. All rollers have spring-loaded axles.



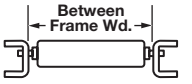

Roller Conveyor Profile

Steel Rollers with 1/4″ Round Axles

Rollers are made of 16-ga. steel with a galvanized finish and have steel ball bearings. Temp. range is –15° to 220° F.

For Between Frame Wd.	Cap., lbs.			For Between Frame Wd.	Cap., lbs.		
6″	125	5890K301	$7.29	16″	125	5890K312	$9.96
10″	125	5890K304	8.21	18″	125	5890K314	10.65
13″	125	5890K306	9.24	22″	125	5890K316	11.44
14″	125	5890K308	9.59	24″	125	5890K318	12.27

Steel Rollers with 7/16″ Hex Axles

General Purpose—Rollers are made of 16-ga. steel with a galvanized finish and have zinc-plated steel ball bearings. Temperature range is –20° to 350° F.

Heavy Duty—These durable rollers are made of 12-ga. steel and have heavy duty zinc-plated steel ball bearings. Temperature range is –20° to 250° F.

Quiet-Roll—Rollers have quiet-running, maintenance-free precision steel ball bearings with a plastic housing. Rollers are made of 16-ga. steel with a galvanized finish. Temperature range is –20° to 165° F.

Quiet-Roll with Tapered Axle—Tapered axles fit securely in worn axle holes. Rollers have quiet-running, maintenance-free precision steel ball bearings with a static-control plastic housing. Rollers are made of 16-ga. steel with a galvanized finish. Temperature range is –4° to 212° F.

Washdown—Stainless steel rollers and axles offer excellent corrosion resistance. Rollers have stainless steel ball bearings with a plastic housing. Temperature range is 10° to 150° F.

For Between Frame Wd.	*General Purpose* Cap., lbs.			*Heavy Duty* Cap., lbs.			*Quiet-Roll* Cap., lbs.			*Quiet-Roll with Tapered Axle* Cap., lbs.			*Washdown* Cap., lbs.		
9″	265	2277T11	$7.57	650	2565T41	$32.04	460	2263T1	$17.03	340	5928K11	$21.57	170	2247T1	$46.48
10″	265	2277T12	7.98	625	2565T42	33.00	400	2263T2	17.43	340	5928K12	22.01	170	2247T2	48.84
12″	265	2277T35	8.74	575	2565T43	34.80	330	2263T25	18.34	340	5928K13	22.84	170	2247T4	53.56
13″	265	2277T13	9.12	525	2565T44	35.80	300	2263T3	18.90	340	5928K14	23.24	170	2247T5	55.92
14″	265	2277T41	9.52	450	2565T45	36.64	280	2263T4	19.25	340	5928K15	23.68	170	2247T6	58.28
15″	265	2277T16	9.90	400	2565T48	37.47	260	2263T5	19.65	340	5928K16	24.08	170	2247T7	60.64
16″	265	2277T18	10.29	375	2565T51	38.31	240	2263T6	19.95	340	5928K17	24.49	170	2247T8	63.00
17″	265	2277T19	10.67	350	2565T52	39.16	225	2263T7	20.15	285	5928K29	24.92	170	2247T9	65.36
18″	265	2277T21	11.07	325	2565T53	39.98	210	2263T8	21.31	285	5928K31	25.32	170	2247T11	67.72
19″	265	2277T22	11.45	300	2565T54	40.82	200	2263T9	21.81	285	5928K32	25.76	170	2247T12	70.08
20″	265	2277T56	11.83	290	2565T55	41.64	190	2263T11	22.03	285	5928K33	26.16	170	2247T13	72.44
21″	265	2277T23	12.21	280	2565T56	42.49	180	2263T31	22.88	230	5928K34	26.84	155	2247T14	74.80
22″	265	2277T24	12.62	270	2565T57	43.33	170	2263T12	23.63	230	5928K35	26.97	155	2247T15	77.16
23″	265	2277T25	13.00	250	2565T58	44.16	165	2263T13	23.85	230	5928K36	27.41	155	2247T16	79.52
24″	265	2277T26	13.38	240	2565T59	45.00	155	2263T14	23.93	230	5928K37	27.84	130	2247T37	81.88
25″	265	2277T27	13.76	230	2565T61	45.82	150	2263T15	24.06	175	5928K38	28.24	130	2247T38	84.24
26″	265	2277T28	14.17	220	2565T62	46.67	145	2263T16	24.12	175	5928K39	28.68	130	2247T39	86.60
27″	265	2277T29	14.55	210	2565T63	47.49	135	2263T17	24.48	175	5928K48	29.08	115	2247T41	88.96
28″	265	2277T31	14.93	210	2565T64	48.14	130	2263T18	24.79	175	5928K51	29.49	115	2247T42	91.32
30″	265	2277T32	15.71	190	2565T65	49.91	125	2263T21	25.26	175	5928K52	30.32	105	2247T44	96.04
31″	265	2277T33	16.10	190	2565T66	50.82	120	2263T22	25.36	175	5928K18	30.76	95	2247T45	98.40
32″	265	2277T57	16.48	180	2565T67	51.67	115	2263T26	25.54	175	5928K19	31.16	95	2247T46	100.76
33″	265	2277T34	16.86	170	2565T68	52.58	110	2263T23	25.59	160	5928K21	31.57	95	2247T47	103.12
34″	265	2277T51	17.26	160	2565T69	53.46	110	2263T32	25.86	160	5928K22	31.97	85	2247T48	105.48
35″	265	2277T58	17.62	160	2565T71	54.33	105	2263T33	26.34	160	5928K23	32.41	85	2247T49	107.84
36″	265	2277T59	18.00	155	2565T72	55.26	100	2263T34	26.70	160	5928K24	32.81	85	2247T51	110.20
37″	265	2277T37	18.38	150	2565T73	55.84	100	2263T24	27.07	140	5928K27	33.24	80	2247T52	112.56
39″	265	2277T38	19.17	145	2565T75	57.95	95	2263T27	27.44	140	5928K28	34.08	80	2247T53	117.28

PVC, Polyethylene-Covered, and Polyurethane-Covered Rollers with 7/16″ Hex Axles

Corrosion-Resistant PVC—Choose these nonmarring rollers for light duty applications. Rollers are made of 0.11″ thick PVC and have plastic-encased steel ball bearings. Temp. range is 14° to 176° F. Color is gray.

Nonstick Polyethylene Covered—Rollers are made of 16-ga. steel with a nonremovable cover. Rollers have quiet-running, maintenance-free precision steel ball bearings in a plastic housing. Temperature range is 10° to 150° F. Color is white.

Abrasion-Resistant Polyurethane Covered—The nonremovable polyurethane cover gives these steel rollers extra abrasion resistance. Rollers are made of 16-ga. steel and have quiet-running, maintenance-free precision steel ball bearings in a plastic housing. Temp. range is 10° to 150° F. Color is black.

For Between Frame Wd.	*Corrosion-Resistant PVC* Cap., lbs.			*Nonstick Polyethylene Covered* Cap., lbs.			*Abrasion-Resistant Polyurethane Covered* Cap., lbs.		
9″	40	2255T31	$15.63	150	2210T21	$29.26	150	2446T61	$37.67
10″	40	2255T32	16.42	150	2210T22	30.37	150	2446T62	39.58
12″	40	2255T33	18.10	150	2210T23	32.62	150	2446T63	43.44
13″	40	2255T34	18.90	150	2210T24	33.73	150	2446T64	45.38
14″	40	2255T35	19.67	150	2210T25	34.87	150	2446T65	47.31
15″	40	2255T36	20.46	150	2210T28	35.98	150	2446T68	49.24
16″	40	2255T37	21.31	150	2210T31	37.09	150	2446T71	51.18
17″	40	2255T38	22.08	150	2210T32	38.22	150	2446T72	53.11
18″	35	2255T39	22.94	150	2210T33	39.33	150	2446T73	55.04
21″	25	2255T43	25.35	125	2210T36	42.69	125	2446T76	60.82
22″	25	2255T44	26.12	125	2210T37	43.79	125	2446T77	62.76
24″	20	2255T16	27.79	125	2210T39	46.04	125	2446T79	66.62
30″	10	2255T53	32.30	105	2210T45	52.76	105	2446T85	78.20
39″	—	—	—	65	2210T55	62.82	65	2446T95	95.60

Tapered Rollers for Curved Conveyors

Keep packages on track in curved sections of 1.9″ dia. roller conveyors. Rollers taper from approximately 2 1/2″ diameter on the outside to 1 5/8″ on the inside end so packages maintain their orientation through the curve. Rollers are made of 14-ga. steel with a galvanized finish. They have 7/16″ hex spring-loaded axles and steel ball bearings.



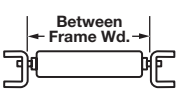

Roller Conveyor Profile

For Between Frame Wd.	Cap., lbs.			For Between Frame Wd.	Cap., lbs.		
15″	250	2245T1	$49.53	21″	250	2245T7	$52.45
16″	250	2245T2	50.62	22″	250	2245T8	53.32
17″	250	2245T3	50.73	24″	250	2245T11	53.62
18″	250	2245T4	52.20	25″	250	2245T12	54.85
19″	250	2245T5	52.27	27″	250	2245T14	58.98
20″	250	2245T6	52.35				

Grooved Rollers for Belt-Driven Conveyors



Single Groove

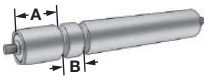

Double Groove

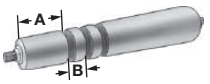

Tapered Triple Groove

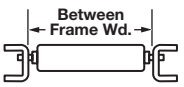

Roller Conveyor Profile

Rollers have grooves to accommodate 3/16″ diameter belts in line-shaft conveyors. (See page 1095 for urethane belts.) All rollers have 7/16″ hex spring-loaded axles and steel ball bearings. Rollers are steel with a galvanized finish.

Single-groove and ***double-groove*** rollers are 1.9″ diameter and made of 16-ga. steel. *Double-groove* rollers can also be used with powered conveyor rollers.

Tapered triple-groove rollers improve package tracking in curved sections of 1.9″ dia. roller conveyors. Rollers taper from approximately 2 1/2″ diameter on the outside to 1 5/8″ on the inside end. Rollers are made of 14-ga. steel.

For Between Frame Wd.	Single Groove Cap., lbs.	(A)		Double Groove Cap., lbs.	(A)	(B)		Tapered Triple Groove Cap., lbs.	(A)	(B)	
10″	295	2.7″	2334T51▲ $16.01	225	2.5″	1.3″	2334T81 $13.16				
13″	265	2.7″	2334T62 12.73	225	2.5″	1.3″	2334T72 14.28	290	1.75″	1″	2312T31● $49.17
15″	265	2.7″	2334T53 13.15	225	2.5″	1.3″	2334T83 15.08	250	2.5″	1″	2312T52 73.88
16″	265	2.7″	2334T63 13.70	225	2.5″	1.3″	2334T73 15.44	250	2.5″	1″	2312T53 74.97
18″	265	2.7″	2334T67 14.26	225	2.5″	1.3″	2334T84 16.22	250	2.5″	1″	2312T55 76.53
21″	265	2.7″	2334T54 15.00	225	2.5″	1.3″	2334T75 16.36	250	2.5″	1″	2312T58 76.78
22″	265	2.7″	2334T64 15.50	225	2.5″	1.3″	2334T76 16.70	250	2.5″	1″	2312T59 78.97
26″	265	2.7″	2334T68 16.67	225	2.5″	1.3″	2334T85 18.09				
27″	265	2.7″	2334T55 16.83	225	2.5″	1.3″	2334T77 18.47	250	2.5″	1″	2312T65 79.38
28″	265	2.7″	2334T66 17.35	225	2.5″	1.3″	2334T78 18.75	250	2.5″	1″	2312T66 79.45
32″	265	2.7″	2334T69 17.79	225	2.5″	1.3″	2334T86 21.46	250	2.5″	1″	2312T67 86.22
33″	265	2.7″	2334T56 18.65	190	2.5″	1.3″	2334T87 21.82				
39″	265	2.7″	2334T57 20.52	110	2.5″	1.3″	2334T88 24.08				

▲Made of 0.15″ thick steel. ●Roller is plain steel.

Powered 1.9″ Diameter Conveyor Rollers

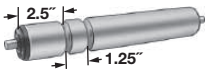

24V DC

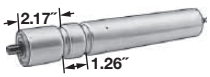

120V AC and 230V AC

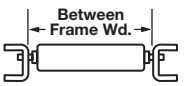

Roller Conveyor Profile

Also known as drive rollers, these rollers connect to other double-groove rollers with 3/16″ diameter belts to power gravity conveyors. (See page 1095 for urethane belts.) All rollers have 7/16″ hex spring-loaded axles and quiet-running precision steel ball bearings that are shielded to keep out dirt and debris.

24-volt DC rollers drive up to nine rollers and have a continuous duty cycle with up to 30 starts and stops per minute. They are made of 16-ga. steel with a galvanized finish. All have a brushless motor and an integrated current-limiting circuit that protects the motor. Temperature range is 32° to 104° F.

120-volt AC and ***230-volt AC*** rollers drive up to five rollers and have a duty cycle of three seconds on, two seconds off. They are made of 1/16″ thick steel with a zinc-plated finish and include a terminal mounting bracket. Temp. range is 14° to 104° F. *120-volt AC* rollers have a single-phase motor. *230-volt AC* rollers have a three-phase motor.

To Order: Please specify voltage and speed.

For Between Frame Wd.	24V DC Cap., lbs.	Available Speeds, fpm		Available in 120V AC and 230V AC Cap., lbs.	Available Speeds, fpm	
13″	70	22-68, 29-88, 45-135	2250T81 $414.48	120	33, 53, 67	2298T71 $502.75
16″	70	22-68, 29-88, 45-135	2250T82 414.48			
21″	70	22-68, 29-88, 45-135	2250T84 414.48	75	33, 53, 67	2298T74 519.36
22″	70	22-68, 29-88, 45-135	2250T85 414.48			
27″	70	22-68, 29-88, 45-135	2250T86 414.48	65	33, 53, 67	2298T76 528.50
28″	70	22-68, 29-88, 45-135	2250T87 414.48			
31″	70	22-68, 29-88, 45-135	2250T88 414.48	55	33, 53, 67	2298T77 537.84

Large Diameter Conveyor Rollers



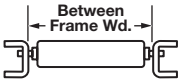

Roller Conveyor Profile

Keep things moving with roller diameters beyond the typical 1.9″.

Aluminum rollers are lightweight and corrosion resistant. They have spring-loaded axles and steel ball bearings.

Steel rollers are stronger than aluminum. They have steel ball bearings and spring-loaded axles, except 3 1/2″ diameter rollers, which include cotter pins to attach axles to the conveyor frame. 2 9/16″ and 3 1/2″ diameter rollers have sealed bearings to keep out dirt and moisture for longer life.

Stainless steel rollers offer excellent corrosion resistance. They have spring-loaded axles and sealed stainless steel ball bearings to keep out dirt and moisture for longer life.

For Between Frame Wd.	Gauge/ Thick.	Cap., lbs.		
2″ Roller Dia.— *1/4″ Round Axle*				
Aluminum				
10″	16	65	2276T71	$9.02
13″	16	65	2276T73	10.23
16″	16	65	2276T75	11.10
18″	16	65	2276T77	12.09
22″	16	65	2276T79	12.96
2″ Roller Dia.— *7/16″ Hex Axle*				
Steel				
10″	12	300	2276T11	10.15
12″	12	300	2276T13	10.85
14″	12	300	2276T15	11.95
16″	12	300	2276T63	12.69
18″	12	300	2276T18	13.48
20″	12	300	2276T21	14.48
22″	12	300	2276T23	14.77
24″	12	300	2276T25	15.98
26″	12	300	2276T27	17.05
28″	12	300	2276T29	17.69
32″	12	300	2276T32	19.31
34″	12	300	2276T34	20.17
36″	12	300	2276T36	20.99
50″	12	300	2276T41	37.16
60″	14	75	2276T51	66.75
2 1/2″ Roller Dia.— *7/16″ Hex Axle*				
Steel				
10″	14	280	2281T11	11.50

For Between Frame Wd.	Gauge/ Thick.	Cap., lbs.		
2 1/2″ Roller Dia.— *7/16″ Hex Axle (Cont.)*				
Steel (Cont.)				
11 1/2″	11	285	2281T41	$22.36
16″	14	280	2281T14	13.18
18″	14	280	2281T16	13.80
22″	14	280	2281T19	16.12
26″	14	280	2281T23	16.77
28″	14	280	2281T25	17.77
30″	14	280	2281T27	18.69
34″	14	280	2281T31	20.38
40″	14	280	2281T35	21.55
Stainless Steel				
9″	14	170	2281T911	71.40
13″	14	170	2281T913	90.62
15″	14	170	2281T914	99.74
17″	14	170	2281T915	109.82
21″	14	170	2281T917	129.02
2 1/2″ Roller Dia.— *11/16″ Hex Axle*				
Steel				
9″	11	645	2281T51	22.97
12″	11	645	2281T53	23.35
13″	11	645	2281T54	24.24
15″	11	645	2281T56	26.16
17″	11	645	2281T58	28.20
19″	11	645	2281T61	29.96
21″	11	645	2281T63	31.91
22″	11	645	2281T64	32.93

For Between Frame Wd.	Gauge/ Thick.	Cap., lbs.		
2 1/2″ Roller Dia.— *11/16″ Hex Axle (Cont.)*				
Steel (Cont.)				
23″	11	640	2281T65	$33.73
24″	11	640	2281T66	34.85
25″	11	640	2281T67	35.84
27″	11	640	2281T69	37.82
30″	11	640	2281T72	39.76
31″	11	640	2281T73	40.80
33″	11	640	2281T75	42.40
36″	11	640	2281T78	44.53
37″	11	640	2281T79	46.27
40″	11	640	2281T82	47.47
49″	11	635	2281T88	59.49
2 9/16″ Roller Dia.— *11/16″ Hex Axle*				
Steel				
39″	7	790	2371T13	71.07
51″	7	555	2371T14	88.60
3 1/2″ Roller Dia.— *11/16″ Hex Axle*				
Steel				
8″	0.21″	1,100	2253T11	51.96
14″	0.21″	1,100	2253T16	63.23
20″	0.21″	1,100	2253T21	74.77
23″	0.21″	1,100	2253T61	85.26
26″	0.21″	1,100	2253T26	86.38
31″	0.21″	1,100	2253T62	97.95
39″	0.21″	1,100	2253T63	113.59
51″	0.21″	1,100	2253T64	140.00

Powered Large Diameter Conveyor Rollers

Add power to your 2½″ diameter roller gravity conveyor or create a custom powered conveyor. Rollers are made of 3⁄32″ thick steel with a nickel-plated finish. They have 11⁄16″ hex spring-loaded axles and quiet-running precision steel ball bearings. Rollers can be hardwired to operate in either direction. Duty cycle is 70% for a 40-minute period. Temperature range is 14° to 130° F. *120-volt AC* motors are single phase. *220-volt AC* motors are three phase.

To Order: Please specify voltage and speed.

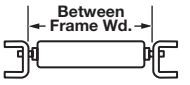



Roller Conveyor Profile

For Between Frame Wd.	Cap., lbs.	Available AC Voltage	Available Speeds, fpm		
15″	365	120, 220	33, 66	58095K31	$516.36
16″	355	120, 220	33, 66	58095K32	520.00
22″	310	120, 220	33, 66	58095K33	565.45
24″	285	120, 220	33, 66	58095K34	572.72
27″	270	120, 220	33, 66	58095K35	$581.98
28″	265	120, 220	33, 66	58095K36	587.27
30″	240	120, 220	33, 66	58095K37	594.55
40″	175	120, 220	33, 66	58095K38	624.89

Rollers for Chain-Driven Conveyors

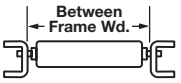

Roller Conveyor Profile



Replace worn rollers on chain-driven conveyors. Rollers are made of steel and have spring-loaded axles. Each roller has two welded sprockets for connecting to ANSI No. 40 roller chain. Sprockets are spaced 1⅛″ center to center; clearance between the end of the roller bearing and the first sprocket is 11⁄16″. For replacement chain, see page 1078.

Roller Dia.	For Between Frame Wd.	Hex Axle Size	Cap., lbs.	Number of Teeth per Sprocket		
1.9″	31″	7⁄16″	280	18	5921K11	$49.10
1.9″	43″	7⁄16″	175	18	5921K14	57.76
2½″	47″	11⁄16″	630	22	5921K15	82.04
2½″	55″	11⁄16″	505	22	5921K16	88.98

Speed Reducers for Roller Conveyors



Also known as pallet brakes, these mount underneath the rollers on your gravity conveyor and create friction on the rollers to control the conveyor's speed. Speed reducers have an internal brake that gradually engages as the speed of the rollers increases.

Use with 1⅜″, 1.9″, and 2½″ dia. roller conveyors with 2″-4″ roller spacing. Units are steel with a rubber-coated plastic wheel and include hardware for attachment to the conveyor frame. Overall size is 7⅜″ Lg. × 4″ Wd. × 4¾″ Ht. For best results, the spacing of the reducers should be equal to the length of the material you're conveying.

Capacity Range, lbs.		
25-500	8424T12	$87.50
175-1,800	8424T13	87.50
500-2,500	8424T14	87.50

Bearings for Conveyor Rollers

Press fit bearings into tubing or pipe to replace worn or damaged bearings or make your own rollers. For galvanized pipe, see pg. 61. For stainless steel pipe, see pgs. 6-7. For PVC pipe, see pgs. 84 and 90.

Precision ball bearings have quiet, maintenance-free balls that are shielded to keep out contaminants for longer life.

Zinc-Plated Steel—Temperature range is –10° to 225° F. Bearings have steel balls.

Acetal—Temperature range is –40° to 180° F. *Sleeve bearings* ride directly on the axle and have no moving parts to wear out. *Ball bearings with hex axle* have stainless steel balls.

Polypropylene—Temp range is –10° to 140° F. Bearings have stainless steel balls, except *precision ball bearings*, which have steel balls.

Stainless Steel—Temp. range is –10° to 300° F. Bearings have stainless steel balls and offer excellent corrosion resistance.

Nylon—Temp. range is –20° to 210° F. Bearings have steel balls.

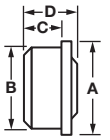



Zinc-Plated Steel and Stainless Steel Ball Bearing



Acetal Sleeve Bearing



Polypropylene Ball Bearing



Nylon Precision Ball Bearing with Hex Axle



Acetal Ball Bearing with Hex Axle

For Tubing

OD (A)	Fits ID (B)	For Tubing Gauge	Cap., lbs.	For Axle	(C)	(D)		
Zinc-Plated Steel Ball Bearings								
1⅝″	1.5″	16	145	7⁄16″ Hex	0.4″	0.8″	5907K11	$2.94
1.9″	1.7″	12	300	7⁄16″ Hex	0.4″	0.7″	5907K17	4.40
2½″	2.3″	11	425	11⁄16″ Hex	0.8″	1.2″	5907K13	8.74
2½″	2.3″	11	425	11⁄16″ Hex	0.8″	1.2″	5907K15♦	9.94
Acetal Sleeve Bearings—*Color is white.*								
1″	0.9″	18	60	¼″ Dia.	0.4″	0.6″	60565K11	3.07
1″	0.9″	18	125	½″ Dia.	0.4″	0.6″	60565K12	3.19
1¼″	1.1″	16	110	⅜″ Dia.	0.4″	0.6″	60565K14	8.12
1½″	1.4″	16	260	⅝″ Dia.	0.6″	0.9″	60565K15	7.58
1¾″	1.6″	16	240	½″ Dia.	0.7″	1″	60565K18	5.07
2″	1.9″	18	240	½″ Dia.	0.7″	1″	60565K19	5.71
2.2″●	2.1″	—	300	⅝″ Dia.	0.7″	1″	60565K23	14.17
2½″	2.4″	16	360	¾″ Dia.	0.7″	1″	60565K26	15.22
3″	2.8″	11	540	¾″ Dia.	1.1″	1.5″	60565K28	36.00
Polypropylene Ball Bearings—*Color is white.*								
1.8″	1.6″	9	45	7⁄16″ Hex	0.6″	0.8″	60725K66	7.18
1.8″	1.6″	9	65	7⁄16″ Hex	0.6″	0.9″	60725K67	9.71
1.9″	1.8″	12	45	7⁄16″ Hex	1″	1.2″	60725K44	7.57
1.9″	1.8″	12	65	7⁄16″ Hex	1″	1.2″	60725K65	10.14
2″	1.9″	16	45	7⁄16″ Hex	0.6″	0.8″	60725K74	8.86
2″	1.9″	16	65	7⁄16″ Hex	0.6″	0.9″	60725K75	11.38
Polypropylene Precision Ball Bearings—*Color is black.*								
1⅜″	1.3″	18	300	¼″ Dia.	0.4″	0.6″	6161T45	6.45
1.9″	1.8″	16	1,010	7⁄16″ Hex	0.9″	1.2″	6161T46	7.51
2½″	2.3″	11	250	11⁄16″ Hex	1.1″	1.4″	6161T31	13.18
Stainless Steel Ball Bearings								
1⅝″	1.5″	16	145	7⁄16″ Hex	0.4″	0.8″	5907K12	21.86
2½″	2.3″	11	425	11⁄16″ Hex	0.8″	1.2″	5907K14	31.77
Nylon Precision Ball Bearings with 7⁄16″ Hex Axle—*Color is black.*								
1.9″	1.8″	16	640	—	2.1″	2.3″	2273T3	10.62

♦ Bearing is shielded to keep out debris. ● For 2″ size EMT conduit.

For Schedule 40 Pipe

For Pipe Size	OD (A)	Fits ID (B)	Cap., lbs.	For Axle	(C)	(D)		
Zinc-Plated Steel Ball Bearings								
3″	3.1″	3.1″	600	11⁄16″ Hex	1″	1.3″	5907K16♦	$29.74
Acetal Sleeve Bearings—*Color is white.*								
1″	1.3″	1.1″	110	⅜″ Dia.	0.4″	0.6″	60565K13	4.86
1½″	1.9″	1.6″	240	½″ Dia.	0.7″	1″	60565K17	4.46
2″	2.4″	2.1″	110	⅜″ Dia.	0.7″	1″	60565K21	9.56
2″	2.4″	2.1″	240	½″ Dia.	0.7″	1″	60565K22	5.71
2½″	2.9″	2.5″	240	½″ Dia.	0.7″	1″	60565K27	13.22
Polypropylene Ball Bearings—*Color is white.*								
1″	1.2″	1″	30	5⁄16″ Hex	0.7″	0.9″	60725K61	6.84
1½″	1.8″	1.6″	45	7⁄16″ Hex	0.6″	0.8″	60725K43	7.18
1½″	1.8″	1.6″	65	7⁄16″ Hex	0.6″	0.9″	60725K64	9.71
2″	2.3″	2.1″	60	7⁄16″ Hex	0.6″	0.8″	60725K46	10.04
2″	2.3″	2.1″	80	7⁄16″ Hex	0.6″	0.9″	60725K76	12.57
Acetal Ball Bearings with 7⁄16″ Hex Axle★—*Color is white.*								
1½″	1.9″	1.6″	55	—	1.4″	1.8″	2273T1	12.18
2″	2.4″	2.1″	55	—	1.4″	1.9″	2273T2	13.50

♦ Bearing is shielded to keep out debris.
★ Axle includes a male threaded end for use in 5⁄16″ dia. axle holes.

For Schedule 80 Pipe

For Pipe Size	OD (A)	Fits ID (B)	Cap., lbs.	For Axle	(C)	(D)		
Acetal Sleeve Bearings—*Color is white.*								
1½″	1.9″	1.5″	240	½″ Dia.	0.7″	1″	60565K16	$7.63
Polypropylene Ball Bearings—*Color is white.*								
1½″	1.6″	1.5″	45	7⁄16″ Hex	0.6″	0.8″	60725K42	6.70
1½″	1.6″	1.5″	65	7⁄16″ Hex	0.6″	0.9″	60725K63	9.71

Shaft-Mount Conveyor Rollers





Two Rollers Shown with Shaft

Slip these rollers onto a shaft (not included) for a better grip at high speeds and on lightweight products such as paper. Rollers are made of polyurethane, which is nonmarking and resists abrasion. Temp. range is –40° to 170° F. Color is yellow for 30A durometer, blue for 60A durometer, and red for 90A durometer. A higher durometer means increased hardness, less compression, and less friction.

To Order: Please specify durometer.

For Shaft OD	OD	Wd.	Available Durometers		
1/2"	1"	1/2"	30A, 60A, 90A	60185K911	$3.91
1/2"	1 1/2"	3/4"	30A, 60A, 90A	60185K912	5.91
3/4"	1 1/2"	1/2"	30A, 60A, 90A	60185K916	5.09
3/4"	2 1/4"	1"	30A, 60A, 90A	60185K918	8.45
1"	2"	3/4"	30A, 60A, 90A	60185K919	6.73
1"	3"	1"	30A, 60A, 90A	60185K921	9.25
2"	4"	3/4"	30A, 60A, 90A	60185K924	9.82

Conveyor Roller Brackets



Surface-Mount Bracket



Frame-Repair Bracket

Surface-mount brackets let you create custom conveyors, support stands, or package stops. Brackets are steel with a galvanized finish and have a 13/32" Wd. × 1" Lg. mounting slot (fasteners not included). *Note:* Two brackets are required for each roller.

Frame-repair bracket mounts to your conveyor frame to recondition a worn hex axle hole or to convert a round axle hole to a hex axle hole. Bracket is polypropylene and includes fasteners for mounting to your axle and frame.

For Axle Size	(A)		
Surface-Mount Brackets			
1/4" Round	1 29/32"	4960T11	$6.13
7/16" Hex	2 13/16"	4960T12	6.50
11/16" Hex	3"	4960T13	6.88
Frame-Repair Brackets			
7/16" Hex	1 3/8"	4960T14	28.48

Cut-to-Width Conveyor Roller Covers



Reduce noise, absorb impact and shock, and extend the life of your rollers with these nonmarking covers. ***Polyurethane*** has a high-friction surface for high speeds and inclines. ***PVC*** is for use in corrosive environments.

Slide-on covers are 1/8" thick. For easier installation, use lubricant and an air nozzle (sold separately). Lubricant is water based and loses its lubrication properties upon drying to ensure covers retain a snug fit. Air nozzles deliver a cushion of air that makes it easier to slide the cover onto a roller. Air inlet is 1/4" NPT female.

Heat-shrink covers are 0.05" thick and conform to the shape of your roller when heated. Minimum shrink temperature is 212° F. *White PVC* covers are FDA compliant. *2 1/2" tapered* cover fits rollers that taper from 2 1/2" to 1 1/2" dia.

Slide-On Covers—5-ft. Widths

For Roller Dia.	Orange Polyurethane	Each	Black Polyurethane	Each	Gray PVC	Each
Covers						
1 3/8"	5872K13	$31.42	5872K51	$31.42	———	———
1.9"	5872K15	38.40	5872K53	38.40	5872K61	$41.14
2"	5872K16	40.57	5872K55	40.57	———	———
2 1/2"	5872K18	47.08	5872K57	47.08	5872K62	46.55
Accessories						
Lubricant (1-qt. Spray Bottle)			5872K32	Each		$13.38
Air Nozzle for 1 3/8" Dia. Roller			5872K21	Each		117.74
Air Nozzle for 1.9" Dia. Roller			5872K22	Each		117.74
Air Nozzle for 2" Dia. Roller			5872K23	Each		141.94
Air Nozzle for 2 1/2" Dia. Roller			5872K24	Each		146.66

Heat-Shrink Covers—5-ft. Widths

For Roller Dia.	Orange PVC	Each	Black PVC	Each	White PVC	Each
1 3/8"	5872K33	$22.69	5872K25	$22.69	5872K63	$33.04
1.9"	5872K34	25.00	5872K26	25.00	5872K64	35.70
2"	5872K35	25.00	5872K27	25.00	5872K65	35.70
2 1/2"	5872K36	32.44	5872K28	32.44	5872K66	46.58
2 1/2" Tapered	5872K37	35.43	5872K29	35.43	5872K67	45.89

Heat-Shrink Covers—Short Widths

For Roller Dia.	For Roller Width	Orange PVC Pkg. of 5	
1.9"	12"	5872K91	$26.83
1.9"	24"	5872K92	53.66

Skate Wheels



Steel wheels are stronger than aluminum and have steel ball bearings.

Aluminum wheels are lightweight and corrosion resistant. Wheels have steel ball bearings.

Rubber on steel wheel consists of 1/16" thick rubber on a steel core with steel ball bearings. Rubber has a durometer of 50D.

Polyurethane on steel wheels consist of 5/32" thick polyurethane on a steel core and with steel ball bearings. *Orange* polyurethane has a durometer of 75A. *Yellow* polyurethane has a durometer of 85A.

Nylon wheels are nonmarking, corrosion resistant, and quieter than metal. *Style 3* has a nylon hub with an abrasion-resistant acetal wheel and steel ball bearings. *Style 4* has a plain bore (no bearings).

	Wheel Dia.	Wd.	Bore Dia.	Cap., lbs.	Hub Lg.	Color		
Steel								
1	1.9"	1 1/2"	5/16"	150	1 3/4"	———	9960T28	$5.31
1	1 15/16"	9/16"	1/4"	50	13/16"	———	9960T51	1.34
1	1 15/16"	9/16"	1/4"	150	7/8"	———	9960T52	2.51
1	1 15/16"	9/16"	1/4"	200	7/8"	———	9960T27	3.51
1	1 15/16"	9/16"	5/16"	200	7/8"	———	9960T32	2.49
1	1 15/16"	5/8"	5/16"	100	13/16"	———	9960T31	2.05
1	2 1/4"	13/16"	5/16"	300	1"	———	9960T29	4.42
Aluminum								
1	1 15/16"	5/8"	1/4"	50	13/16"	———	9960T33	1.43
Rubber on Steel — *Temperature range is –40° to 160° F*								
2	2 1/16"	3/4"	1/4"	100	13/16"	Black	9960T72	4.04
Polyurethane on Steel — *Temperature range is 28° to 90° F*								
2	2 1/4"	9/16"	5/16"	80	7/8"	Orange	9960T24	3.83
2	2 1/4"	9/16"	5/16"	80	7/8"	Yellow	9960T26	3.83
Nylon — *Temperature range is –4° to 212° F*								
3	1.9"	5/8"	1/4"	25	15/16"	White/Black	2290T3	4.54
4	2"	5/8"	1/4"	50	13/16"	Black	9960T4	1.60

ABS wheels are nonmarking and quieter than metal. They resist corrosion and acids. *Styles 4* and *5* have a plain bore (no bearings). *Style 5* has a 2 3/4" Dia. × 1/2" Wd. flange on one side. *Style 6* has acetal roller bearings.

Glass-filled nylon wheel is stronger than nylon and is a good choice for washdowns and harsh environments. Wheel has steel ball bearings.

Polycarbonate wheels have high capacities and good impact resistance. *225-* and *580-lb. cap.* wheels have a plain bore (no bearings). *320-lb. cap.* wheels have steel ball bearings.

Multidirectional acetal wheels have rollers that rotate around the wheel core to allow movement of material in any direction. Wheels have a plain bore (no bearings).

	Wheel Dia.	Wd.	Bore Dia.	Cap., lbs.	Hub Lg.	Color		
ABS — *Temperature range is –22° to 150° F*								
4	1 5/8"	13/16"	1/4"	25	7/8"	White	9960T21	$0.85
5	1 5/8"	1 1/8"	1/4"	30	1 5/8"	White	9960T3	1.50
6	1 7/8"	11/16"	1/4"	25	13/16"	Orange/White	2290T31	2.58
Glass-Filled Nylon — *Temperature range is –40° to 250° F*								
7	2 7/8"	1 1/4"	5/16"	330	1 5/8"	Black	9960T71	2.54
Polycarbonate — *Temperature range is 1° to 120° F*								
7	1.9"	1"	11/32"	225	1 5/32"	Black	9960T81	1.57
7	2 7/8"	1 1/8"	13/32"	320	1 5/8"	Black	9960T84	5.56
7	2 7/8"	1 1/8"	13/32"	580	1 3/8"	Black	9960T83	3.40
Multidirectional Acetal — *Temperature range is –40° to 194° F*								
8	1.9"	1 5/16"	1/4"	25	1 5/16"	Blue/Gray	2289T41	16.00
8	1.9"	1 5/16"	5/16"	25	1 5/16"	Blue/Gray	2289T42	16.00
8	2"	1 1/2"	5/16"	25	1 1/2"	Gray/Black	2289T1	16.00
8	2 11/32"	2"	5/16"	45	2"	Gray/Black	2289T2	19.20
8	3 5/32"	2 3/8"	5/16"	90	2 3/8"	Gray/Black	2289T3	28.80

About Ball Transfers


Ball Up


Ball Down


Angle

Ball transfers provide unlimited change of direction and easy movement of loads. Use transfers with the ball up in diverter tables, conveyor lines, and transfer tables. Several transfers can also be used ball down as casters or at an angle to form stock stands for pipe and tubing.

Steel transfers are durable. ***Nylon*** transfers are nonmarking. ***Stainless steel*** transfers offer the most corrosion resistance.

Stud-Mount Ball Transfers

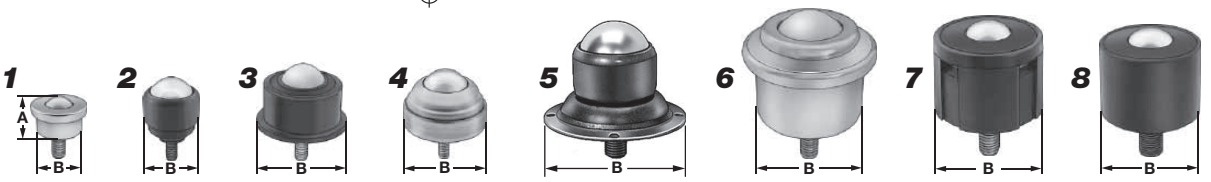

Transfers can be used ball up, ball down, or at an angle, unless noted. Temperature range for nylon balls and housings is 32° to 212°F.

	Ball Dia.	Ball Material	Housing Material	Cap., lbs.	(A)	(B)	Thread Size	Stud Lg.		
General Purpose										
1	5/8"	Steel	Zinc-Plated Steel	30	13/16"	15/16"	1/4"-20	3/4"	6460K21	$6.67
1	5/8"	Nylon	Zinc-Plated Steel	15	13/16"	15/16"	1/4"-20	3/4"	6460K11	12.30
1	1"	Steel	Zinc-Plated Steel	200	1 1/4"	1 3/8"	5/16"-18	3/4"	6460K12	17.98
1	1"	Nylon	Zinc-Plated Steel	100	1 1/4"	1 3/8"	5/16"-18	3/4"	6460K13	28.30
2	1"	Steel	Black-Oxide Steel	150	1 7/16"	1 7/32"	1/4"-20	13/32"	6460K41	9.20
2	1"	Steel	Black-Oxide Steel	150	1 7/16"	1 7/32"	5/16"-18	11/16"	6460K42	9.82
2	1"	Nylon	Black-Oxide Steel	75	1 7/16"	1 7/32"	5/16"-18	11/16"	6460K43◆	10.45
2	1 1/4"	Steel	Black-Oxide Steel	250	1 3/4"	1 15/32"	3/8"-16	15/16"	6460K61	12.53
3	1"	Nylon	Black Nylon	45	1 3/8"	2 1/16"	5/16"-18	5/8"	6460K27●	9.10
3	1"	Stainless Steel	Gray Nylon	110	1 3/8"	2 1/16"	5/16"-18	5/8"	6460K91●	15.02
4	1"	Steel	Zinc-Plated Steel	75	1 3/8"	1 3/4"	1/4"-20	11/16"	6460K31◆	4.00
4	1"	Steel	Zinc-Plated Steel	75	1 3/8"	1 3/4"	5/16"-18	11/16"	6460K35◆	4.26
4	1"	Nylon	Zinc-Plated Steel	75	1 3/8"	1 3/4"	1/4"-20	11/16"	6460K32◆	11.58
4	1"	Nylon	Zinc-Plated Steel	75	1 3/8"	1 3/4"	5/16"-18	11/16"	6460K36◆	12.11
4	1"	Nylon	Stainless Steel	75	1 3/8"	1 3/4"	1/4"-20	11/16"	6460K33◆	27.57
4	1"	Nylon	Stainless Steel	75	1 3/8"	1 3/4"	5/16"-18	11/16"	6460K81◆	29.96
4	1"	Stainless Steel	Zinc-Plated Steel	75	1 3/8"	1 3/4"	5/16"-18	11/16"	6460K37◆	14.56
4	1"	Stainless Steel	Stainless Steel	125	1 3/8"	1 3/4"	1/4"-20	11/16"	6460K34◆	28.95
4	1"	Stainless Steel	Stainless Steel	125	1 3/8"	1 3/4"	5/16"-18	11/16"	6460K39◆	28.52
5	1"	Steel	Black-Oxide Steel	150	1 1/2"	2 7/16"	3/8"-16	11/16"	6460K45	13.08
5	1 1/8"	Steel	Black-Oxide Steel	200	1 21/32"	2 7/16"	3/8"-16	11/16"	6460K46	13.90
5	1 1/4"	Steel	Black-Oxide Steel	250	1 3/4"	2 7/16"	3/8"-16	11/16"	6460K47	14.57
6	1 1/2"	Steel	Zinc-Plated Steel	250	2 5/16"	2 3/16"	3/8"-16	1"	6460K49◆	18.57
6	1 1/2"	Nylon	Zinc-Plated Steel	250	2 5/16"	2 3/16"	3/8"-16	1"	6460K71◆	25.95
6	1 1/2"	Stainless Steel	Stainless Steel	350	2 5/16"	2 3/16"	3/8"-16	1"	6460K44◆	52.23
Washdown *—With dual-sealed ball and side vents to expel contaminants.*										
7	1"	Stainless Steel	Black Nylon	525	1 3/4"	2"	M10	1 9/16"	6617K83	140.51
Heavy Duty *—With impact-resistant housing.*										
8	1/2"	Steel	Black-Painted Steel	100	7/8"	7/8"	5/16"-24	1"	6460K51	37.25
8	1/2"	Steel	Black-Oxide Steel	75	3/4"	13/16"	5/16"-24	5/8"	6460K48	53.98
8	1"	Steel	Black-Painted Steel	500	1 7/8"	1 3/4"	1/2"-20	1"	6460K52	110.05
8	1"	Steel	Black-Oxide Steel	700	2"	2"	1/2"-20	1"	6460K53	167.32
8	1 1/2"	Steel	Black-Oxide Steel	2,200	2 7/8"	2 3/8"	3/4"-16	1 5/8"	6460K54	215.19

◆Not for use in angled applications. ●Not for use in ball-down or angled applications.

Miniature Stud-Mount Ball Transfers

Move small parts in measuring and automation applications. Mount transfers with the ball up. Ball is stainless steel and housing is aluminum.



Ball Dia.	Cap., lbs.	(A)	(B)	Thread Size	Stud Lg.		
3/16"	20	1/4"	5/16"	M2	3/32"	2440T31	$45.71
1/4"	35	13/32"	1/2"	M3	1/4"	2440T32	52.02
5/16"	55	1/2"	19/32"	M4	5/16"	2440T33	58.68

Pop-Up Ball Transfers and Pads

Ball transfer and pad rise when you supply air and retract into the housing when air supply ceases. Place units in workstations or between conveyor rollers to move or hold material. Housing is galvanized steel with a brass barbed fitting on the bottom for 1/16" ID tubing. Both operate on 50 psi.

Ball transfer lets you move and divert material without lifting. Ball is steel.

Pad has a polyurethane surface that, when raised, holds a load in place. Temp. range is 32° to 100°F.


Ball Transfer

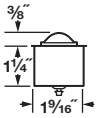


Pad

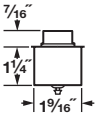

	Cap., lbs.		
Ball Transfer	15	57855K4	$31.17
Pad	30	57855K8	36.28

Press-Fit Wheels

Create a low-profile conveying surface. Wheels have a black nylon housing. Temperature range is –50° to 120°F.

Nylon wheel is black and has a PTFE sleeve-style bearing.

Steel wheel is zinc plated and has a precision ball bearing.

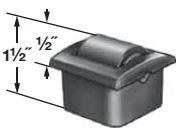

Wheel Material	Cap., lbs.	Wheel Dia.	For Hole Size		
Nylon	50	1 3/16"	1 3/4" Sq.	2303T11	$12.60
Steel	400	1 5/16"	1 3/4" Sq.	2303T32	15.75

Nonmarring Cushion Ball Transfers

A large-diameter ball handles delicate and polished surfaces. Covers on the bearing and mounting stud keep out dust and debris. Stud is steel with M14 threads and has zinc-plated steel locknuts. Temp. range is –4° to 140°F.

Rubber balls are black. ***Polyurethane*** balls are red.



Ball Dia.	Cap., lbs.	Ht.	*Rubber*		*Polyurethane*	
1 3/8"	30	1 13/16"	2411T111	$16.48	2411T211	$33.37
1 31/32"	40	2 17/32"	2411T121	21.28	2411T221	39.67

Flange-Mount Ball Transfers



Transfers can be used ball up, ball down, or at an angle, unless noted. Temp. range for nylon and acetal balls and housings is 32° to 195°F.

	Ball Dia.	Ball Material	Housing Material	Cap., lbs.	(A)	Flange Size Lg.	Flange Size Wd.	Bolt Holes Ctr.-to-Ctr.	Bolt Holes Dia.		
General Purpose											
1	1″	Steel	Black Nylon	110	1 3/8″	2 29/32″	2 1/16″	2 3/8″	9/32″	**5674K51**●	$6.53
1	1″	Stainless Steel	Gray Nylon	110	1 3/8″	2 29/32″	2 1/16″	2 3/8″	9/32″	**5674K53**●	16.08
2	1″	Acetal	White Nylon	20	1 5/16″	2 1/2″	1 3/4″	1 3/4″	7/32″	**5674K77**●	14.57
3	1″	Steel	Zinc-Plated Steel	75	1 3/16″	2 3/4″	2″	2 3/16″	7/32″	**5674K1**♦	3.07
3	1″	Steel	Zinc Plated Steel	150	1 3/16″	2 3/4″	2″	2 3/16″	7/32″	**5674K14**♦	5.50
3	1″	Nylon	Zinc-Plated Steel	75	1 3/16″	2 3/4″	2″	2 3/16″	7/32″	**5674K47**♦	13.41
3	1″	Nylon	Stainless Steel	35	1 3/16″	2 3/4″	2″	2 3/16″	7/32″	**5674K28**	28.58
3	1″	Stainless Steel	Zinc-Plated Steel	75	1 3/16″	2 3/4″	2″	2 3/16″	7/32″	**5674K17**♦	16.50
3	1″	Stainless Steel	Stainless Steel	125	1 3/16″	2 3/4″	2″	2 3/16″	7/32″	**5674K13**♦	31.31
4	1 11/16″	Steel	Black-Oxide Steel	90	1″	2 7/16″	1 11/16″	2″	5/32″	**5674K57**	7.12
4	1″	Steel	Black-Oxide Steel	135	1 9/32″	2 7/16″	1 11/16″	2″	5/32″	**5674K58**	8.20
5	1″	Steel	Black-Oxide Steel	135	1 1/2″	2 7/16″ Dia.	—	2 3/16″	5/32″	**5674K61**	9.22
5	1 1/8″	Steel	Black-Oxide Steel	180	1 21/32″	2 7/16″ Dia.	—	2 3/16″	5/32″	**5674K63**	9.88
5	1 1/4″	Steel	Black-Oxide Steel	225	1 3/4″	2 7/16″ Dia.	—	2 3/16″	5/32″	**5674K64**	10.15
6	1 1/2″	Steel	Zinc-Plated Steel	250	1 13/16″	3″	3″	2 15/32″	9/32″	**5674K2**●	16.16
6	1 1/2″	Nylon	Zinc-Plated Steel	125	1 13/16″	3″	3″	2 7/16″	9/32″	**5674K22**	34.12
6	1 1/2″	Stainless Steel	Zinc-Plated Steel	250	1 13/16″	3″	3″	2 7/16″	9/32″	**5674K16**	45.74
6	1 1/2″	Stainless Steel	Stainless Steel	250	1 13/16″	3″	3″	2 7/16″	9/32″	**5674K24**	65.93
Shock Absorbing—*Furnished with a 1/4″ thick neoprene mounting pad.*											
6	1 1/2″	Steel	Zinc-Plated Steel	250	2 1/16″	3″	3″	2 7/16″	9/32″	**5674K41**	25.75
6	1 1/2″	Stainless Steel	Stainless Steel	250	2 1/16″	3″	3″	2 7/16″	9/32″	**5674K42**	73.17
Washdown—*With dual-sealed ball and side vents to expel contaminants.*											
7	1″	Stainless Steel	Black Nylon	525	1 25/32″	3″	3″	2 9/32″	1/4″	**6617K85**	147.78
Heavy Duty—*With impact-resistant housing.*											
1	1/2″	Steel	Black-Painted Steel	100	7/8″	1 7/8″	1 1/4″	1 3/8″	5/32″	**5674K48**	42.05
8	1″	Steel	Black-Painted Steel	500	1 5/8″	2 1/4″	2 1/4″	1 3/4″	7/32″	**5674K29**	100.80
8	1″	Steel	Black-Painted Steel	830	1 3/4″	3″	3″	2 9/32″	5/16″	**5674K37**	144.32
8	1″	Steel	Black-Oxide Steel	705	1 25/32″	3″	3″	2 9/32″	9/32″	**5674K68**	191.33
8	1 1/2″	Steel	Black-Painted Steel	2,400	2 3/8″	3″	3″	2 9/32″	5/16″	**5674K38**	186.14
8	1 1/2″	Steel	Black-Oxide Steel	2,200	2 15/32″	3″	3″	2 9/32″	9/32″	**5674K71**	235.73

●Not for use in ball-down or angled applications. ♦Not for use in angled applications.

Countersunk Flange-Mount Ball Transfers

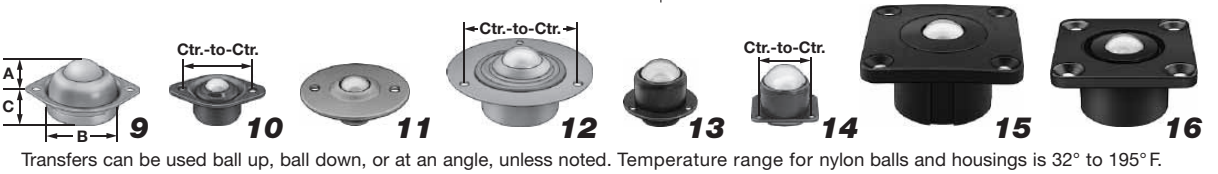

Transfers can be used ball up, ball down, or at an angle, unless noted. Temperature range for nylon balls and housings is 32° to 195°F.

	Ball Dia.	Ball Material	Housing Material	Cap., lbs.	(A)	(B)	(C)	Flange Size Lg.	Flange Size Wd.	Bolt Holes Ctr.-to-Ctr.	Bolt Holes Dia.		
General Purpose													
9	1″	Steel	Zinc-Plated Steel	75	3/4″	1 3/4″	1/2″	2 3/4″	2 1/8″	2 3/16″	7/32″	**2415T33**	$8.42
9	1″	Nylon	Zinc-Plated Steel	35	3/4″	1 3/4″	1/2″	2 3/4″	2 1/8″	2 3/16″	7/32″	**2415T43**	16.43
9	1″	Stainless Steel	Zinc-Plated Steel	75	3/4″	1 3/4″	1/2″	2 3/4″	2 1/8″	2 3/16″	7/32″	**2415T35**	20.53
9	1″	Stainless Steel	Stainless Steel	75	3/4″	1 3/4″	1/2″	2 3/4″	2 1/8″	2 3/16″	7/32″	**2415T36**	38.71
11	5/8″	Steel	Steel	20	3/8″	31/32″	3/8″	1 11/16″ Dia.	—	1 1/4″	1/8″	**2415T13**	4.63
11	3/4″	Steel	Zinc-Plated Steel	20	13/32″	1 3/16″	15/32″	2 13/32″ Dia.	—	1 3/4″	7/32″	**2415T15**▲	7.87
11	3/4″	Stainless Steel	Stainless Steel	20	13/32″	1 3/16″	15/32″	2 13/32″ Dia.	—	1 3/4″	7/32″	**2415T16**▲	22.68
11	1″	Steel	Zinc-Plated Steel	55	9/16″	1 1/2″	5/8″	2 7/8″ Dia.	—	2 3/16″	3/16″	**2415T17**▲	9.11
11	1″	Stainless Steel	Stainless Steel	20	9/16″	1 1/2″	5/8″	2 7/8″ Dia.	—	2 3/16″	3/16″	**2415T18**▲	27.37
13	1 11/16″	Steel	Black-Oxide Steel	90	27/32″	21/32″	5/32″	1 5/16″ Dia.	—	31/32″	1/8″	**2415T24**	5.92
13	1″	Steel	Black-Oxide Steel	135	1 1/8″	59/64″	1/8″	1 23/32″ Dia.	—	1 9/32″	5/32″	**2415T25**	6.71
13	1 1/8″	Steel	Black-Oxide Steel	180	1 1/4″	31/32″	5/32″	1 13/16″ Dia.	—	1 11/32″	5/32″	**2415T27**	9.29
13	1 1/4″	Steel	Black-Oxide Steel	225	1 3/8″	1 1/16″	1/8″	2″ Dia.	—	1 15/32″	5/32″	**2415T31**	10.18
14	1 11/16″	Steel	Black-Oxide Steel	90	27/32″	21/32″	5/32″	31/32″	1 15/64″	1 1/16″, 1 31/32″	1/8″	**2415T21**	6.03
14	1″	Steel	Black-Oxide Steel	135	1 1/8″	59/64″	1/8″	1 3/8″	1 3/4″	1″, 1 3/8″	5/32″	**2415T22**	6.63
14	1 1/8″	Steel	Black-Oxide Steel	180	1 1/4″	31/32″	5/32″	1 3/8″	1 3/4″	1″, 1 3/8″	5/32″	**2415T23**	9.29
Shock Absorbing—*With spring-loaded ball; maximum deflection is 1/4″ @ 65 lbs. load.*													
12	1″	Steel	Zinc-Plated Steel	125	1/2″	1 11/16″	15/16″	3 1/8″ Dia.	—	2 3/8″	3/16″	**2415T11**●	30.39
12	1″	Stainless Steel	Stainless Steel	125	1/2″	1 11/16″	15/16″	3 1/8″ Dia.	—	2 3/8″	3/16″	**2415T48**●	67.55
Washdown—*With dual-sealed ball and side vents to expel contaminants.*													
15	1″	Stainless Steel	Black Nylon	525	1/2″	2″	1 1/4″	3″	3″	2 9/32″	1/4″	**6617K84**	130.33
Heavy Duty—*With impact-resistant housing.*													
10	1/2″	Steel	Black-Painted Steel	100	5/16″	15/16″	5/8″	1 7/8″	1 1/4″	1 3/8″	5/32″	**2415T81**	41.26
16	1″	Steel	Black-Painted Steel	500	15/32″	1 3/4″	15/32″	2 1/4″	2 1/4″	1 3/4″	7/32″	**2415T82**	106.95
16	1″	Steel	Black-Painted Steel	830	1/2″	2″	1 1/4″	3″	3″	2 9/32″	5/16″	**2415T79**	140.48
16	1″	Steel	Black-Oxide Steel	350	1/2″	2″	1 1/4″	3″	3″	2 9/32″	9/32″	**2415T52**▲	175.98
16	1 1/2″	Steel	Black-Painted Steel	2,400	1″	2 3/8″	1 3/8″	3″	3″	2 9/32″	5/16″	**2415T84**	199.67

▲Capacity is approximately twice as high when used in the ball-up position. ●Not for use in ball-down or angled applications.

Press-Fit Ball Transfers

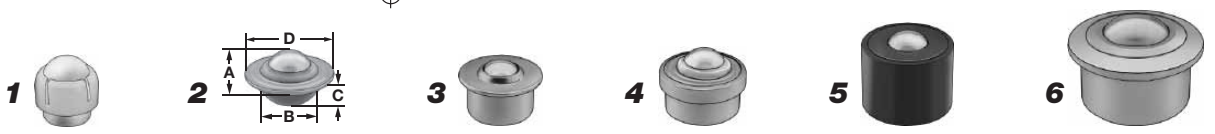

Transfers can be used ball up, ball down, or at an angle, unless noted. Temperature range for Style 1 is 32° to 195° F.

	Ball Dia.	Ball Material	Housing Material	Cap., lbs.	(A)	(B)	(C)	(D)		
General Purpose										
1	1″	Acetal	White Nylon	20	15/16″	1″	3/8″	1 5/16″	6421K45●	$13.62
2	5/8″	Steel	Zinc-Plated Steel	40	3/8″	1″	3/8″	1 3/8″	6421K41●	7.03
2	1″	Stainless Steel	Zinc-Plated Steel	125	9/16″	1 1/2″	5/8″	1 27/32″	6421K42●	24.05
3	5/8″	Steel	Zinc-Plated Steel	65	3/8″	15/16″	7/16″	1 7/32″	6421K66▲	10.53
3	7/8″	Steel	Zinc-Plated Steel	175	3/8″	1 13/32″	25/32″	1 25/32″	6421K67▲	15.03
3	1 3/16″	Steel	Zinc-Plated Steel	330	17/32″	1 25/32″	29/32″	2 3/16″	6421K68▲	28.23
3	1 3/4″	Steel	Zinc-Plated Steel	670	3/4″	2 7/16″	1 11/32″	2 15/16″	6421K69▲	62.80
Shock Absorbing— *With spring-loaded ball; maximum deflection is 1/4″ @ 65 lbs. load.*										
4	1″	Steel	Zinc-Plated Steel	125	13/16″	1 11/16″	5/8″	1 31/32″	6602K44●	25.97
4	1″	Stainless Steel	Stainless Steel	125	13/16″	1 11/16″	5/8″	1 31/32″	6602K47●	43.33
Heavy Duty— *With impact-resistant housing.*										
5	1/2″	Steel	Black-Painted Steel	100	5/32″	7/8″	23/32″	———	6421K48	39.20
5	1/2″	Steel	Black-Oxide Steel	77	1/8″	13/16″	5/8″	———	6421K51	50.93
5	1″	Steel	Black-Painted Steel	500	9/32″	1 3/4″	1 11/32″	———	6421K49	96.76
5	1″	Steel	Black-Oxide Steel	705	1/4″	2″	1 17/32″	———	6421K53	144.16
5	1 1/2″	Steel	Black-Oxide Steel	2,200	1/2″	2 3/8″	1 29/32″	———	6421K54	187.58
6	1 3/16″	Steel	Zinc-Plated Steel	310	17/32″	1 25/32″	29/32″	2 5/32″	6421K81▲	36.06
6	1 3/4″	Steel	Zinc-Plated Steel	530	3/4″	2 7/16″	1 11/32″	2 15/16″	6421K82▲	77.53

●Not for use in ball-down or angled applications. ▲Capacity is approximately twice as high when used in the ball-up position.

Screw Conveyor Components

Add on to your existing screw conveyor or keep it running like new. Components are made of steel unless noted.

Screws are designed for right-hand operation. Screws with a greater edge thickness offer longer service life for abrasive materials.

Trough covers include 10 clamps and a rubber seal.

Discharge spouts can be welded to a cutout in the trough.

Coupling shafts connect two screws together. ***End shafts*** support the end conveyor section. ***Bolts*** connect shafts to the screw.

End-shaft seals prevent material contamination and discharge.

End-shaft bearings support the end of the shaft and help the screw rotate.

Bearing hangers mount inside the trough (bearing sold separately). ***Hardwood*** bearings are oil impregnated and are commonly used in agricultural applications. ***UHMW*** bearings are FDA and USDA compliant and work well with chemicals and wet environments. ***Iron*** bearings are oil impregnated and offer longer life for abrasive materials. ***Bronze*** bearings are oil impregnated and handle temperatures up to 850° F.

Also Available: Stainless steel components. Please ask for 5866K88 and specify screw and shaft diameters and components desired.







Screw Dia.	Screw Lg.	Screw Edge Thick.	Screw Shaft Dia.	Screw Each	Trough Lg.	Trough Each	Trough Cover Lg.	Trough Cover Each	Extra Cover Clamp Each	Discharge Spout Each
6″	9′10″	1/16″	1 1/2″	5866K21 $188.05	10′	5866K45 $204.58	10′	5866K64 $145.11	5866K63 $10.39	5866K81 $63.97
9″	9′10″	3/16″	1 1/2″	5866K24 306.33	10′	5866K46 331.16	10′	5866K65 169.23	5866K63 10.39	5866K82 73.97
9″	9′10″	3/16″	2″	5866K25 354.34	10′	5866K46 331.16	10′	5866K65 169.23	5866K63 10.39	5866K82 73.97
12″	11′10″	3/16″	2″	5866K26 510.27	12′	5866K62 562.04	12′	5866K67 206.73	5866K63 10.39	5866K83 107.86
12″	11′9″	3/16″	2 7/16″	5866K27 527.30	12′	5866K62 562.04	12′	5866K67 206.73	5866K63 10.39	5866K83 107.86
14″	11′9″	1/8″	2 7/16″	5866K28 479.26	12′	5866K71 592.75	12′	5866K68 245.50	5866K63 10.39	5866K84 125.72







For Shaft Dia.	Coupling Shaft Each	End Shaft Each	Bolts Pkg. of 4	End-Shaft Seal Each	End-Shaft Bearing Each
1 1/2″	5866K35 $24.63	5866K51 $24.47	5866K37 $10.66	5866K72 $92.60	5914K51 $111.90
2″	5866K36 44.21	5866K52 43.98	5866K38 18.28	5866K73 104.75	5914K52 169.33
2 7/16″	5866K39 66.29	5866K53 66.29	5866K42 20.58	5866K74 122.66	5914K53 214.69





For Screw Dia.	For Shaft Dia.	Trough End Each	Bearing Hanger Each	BEARING FOR BEARING HANGER Hardwood Each	UHMW Each	Iron Each	Bronze Each
6″	1 1/2″	5866K11 $72.23	5866K31 $66.83	5914K44 $17.67	5914K47 $20.44	5914K71 $35.95	5914K35 $126.06
9″	1 1/2″	5866K12 90.93	5866K32 87.62	5914K44 17.67	5914K47 20.44	5914K71 35.95	5914K35 126.06
9″	2″	5866K13 136.39	5866K76 88.30	5914K45 21.23	5914K48 22.34	5914K72 41.90	5914K37 169.27
12″	2″	5866K14 136.39	5866K34 128.82	5914K45 21.23	5914K48 22.34	5914K72 41.90	5914K37 169.27
12″	2 7/16″	5866K15 136.39	5866K77 135.49	5914K61 42.56	5914K63 30.11	5914K73 62.99	——— ———
14″	2 7/16″	5866K16 136.39	5866K78 162.85	5914K61 42.56	5914K63 30.11	5914K73 62.99	——— ———

Conveyor Belting

Food-grade belting is FDA compliant for food handling when used with stainless steel lacing.

Belting ***for slider-bed conveyors*** has a low-friction surface on the bottom that smoothly glides along the bed of the conveyor. Belting ***for roller-bed conveyors*** has a tough cover on the bottom to grip rollers.

Also Available: Belts with lacing installed and "endless" belts (continuous loops without lacing). We can also customize your belt with cleats, pegs, and punched holes. When ordering, please specify the part number of the belting you need and how you want it customized.

Smooth Belting for Flat Conveyors



Standard

General purpose PVC resists impact and tears. Belting is one ply with a cover on the top. Maximum temperature is 180° F.

Cut-resistant PVC is two ply for extra strength. Belting has a cover on the top. Maximum temperature is 158° F.

Slip-top nylon is good for accumulation applications where products need to remain in a fixed position while the belt is moving. Belting is four ply with a hard cover on the top. Maximum temperature is 250° F.

Oil-resistant neoprene not only has superior resistance to oils but also resists shrinking. It has a low-friction surface on the top. Maximum temperature is 250° F. *0.06″ thick* is three ply. *0.11″ thick* is five ply.

Food-grade general purpose nitrile, also known as Hycar and Buna-N, is the most popular food-grade belting. It resists animal fats and oils. Belting is two ply with a cover on the top. Max. temp. is 250° F.

Food-grade oil-resistant vinyl-nitrile is nonstaining and resists fats and grease. Impervious to hot water. Belting is two ply with a glossy cover on the top. Maximum temperature is 180° F.

Food-grade abrasion-resistant urethane is more durable than nitrile. It's nonstaining and nonsticking. Belting is two ply with a glossy cover on the top. Maximum temperature is 180° F.

Heavy duty abrasion-resistant SBR (styrene butadiene rubber) is excellent for abrasive and high-impact applications including conveying stone, sand, and glass particles. Belting is two ply with a tough cover on the top. Maximum temperature is 200° F.

	Standard						Food Grade			Heavy Duty	
	General Purpose PVC		Cut-Resistant PVC	Slip-Top Nylon	Oil-Resistant Neoprene		General Purpose Nitrile	Oil-Resistant Vinyl-Nitrile	Abrasion-Resistant Urethane	Abrasion-Resistant SBR	
Thick.	0.14″	0.16″	0.11″	0.12″	0.06″	0.11″	0.09″	0.11″	0.06″	0.27″	0.36″
Use Alligator Lacing No. (Pg. 1315)	7	15	7	7	1	7	7S	7S	1S	Use Bolt-On Lacing (Pg. 1317)	
Use Clipper Lacing No. (Pg. 1316)	1	2	1SP	1SP	36SP	1SP	1XSP	1SP	25	Use Bolt-On Lacing (Pg. 1317)	

To Order: Please specify width and length.

	Thick.	Color	Min. Pulley Dia.	PIW▲		Per Ft. 2″ Wide	4″ Wide	6″ Wide	8″ Wide	10″ Wide	12″ Wide	18″ Wide	24″ Wide
Standard for Slider-Bed Conveyors													
General Purpose PVC	0.14″	Black	3″	120	**6001K2**	$0.84	$1.68	$2.52	$3.40	$4.18	$5.08	$7.62	$10.06
General Purpose PVC	0.16″	Black	3″	150	**6001K4**	1.02	2.04	3.08	4.06	5.12	6.10	9.24	12.18
Cut-Resistant PVC	0.11″	Green	1 15/16″	69	**60055K3**	1.70	3.42	5.10	6.82	8.52	10.24	15.34	20.46
Slip-Top Nylon	0.12″	Tan	2″	50	**60535K5**	2.19	4.34	6.52	8.66	10.86	13.04	19.54	26.04
Oil-Resistant Neoprene	0.06″	Brown	1″	33	**5751K301**	1.42	2.86	4.28	5.70	7.12	8.56	12.82	17.14
Oil-Resistant Neoprene	0.11″	Brown	2″	50	**5751K302**	2.36	4.76	7.10	9.50	11.86	14.24	21.36	28.48
Food Grade for Slider-Bed Conveyors													
General Purpose Nitrile	0.09″	White	2″	70	**6073K401**	1.37	2.72	4.11	5.51	6.88	8.23	12.35	16.48
Oil-Resistant Vinyl-Nitrile	0.11″	White	1 1/2″	100	**5999K5**	1.21	2.44	3.68	4.89	6.10	7.33	10.99	14.65
Abrasion-Resistant Urethane	0.06″	White	1″	50	**60335K1**	1.96	3.93	5.89	7.89	9.86	11.82	17.71	23.63
Heavy Duty for Roller-Bed Conveyors													
Abrasion-Resistant SBR	0.27″	Black	10″	150	**6000K1**	___	___	___	___	___	9.19	13.76	18.34
Abrasion-Resistant SBR	0.36″	Black	10″	220	**6000K3**	___	___	___	___	___	9.80	14.07	19.60

▲ Maximum belt tension in pounds per inch of width.

Textured Belting for Incline Conveyors

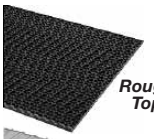

Rough Top

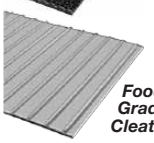

Food Grade Cleated

The surface keeps your material from slipping and rolling when traveling on inclines and declines. Maximum temperature is 250° F, except general purpose PVC belting, which has a maximum temperature of 158° F.

Rough-top belting has a deeply textured surface to grip packages and cartons. *Note:* The top surface of the belt ends should be removed (by skiving or grinding) before installing lacing. Recommended lacing is based on the thickness of the belt after removing the top surface. For Surface Removal Tool, see 6202T48 on page 1317.

General purpose PVC resists impact and tears. Belting is two ply with a cover on the top.

Extra-grip SBR (styrene butadiene rubber) has good impact resistance and an excellent grip. Belting has a cover on the top. *0.25″ thick* belting is two ply. *0.27″ thick* belting is three ply.

Oil-resistant neoprene has a good grip along with superior oil resistance. Belting is three ply with a cover on the top.

Abrasion-resistant nitrile has a hard textured surface that resists punctures and abrasion. Belting is three ply with a cover on the top.

Food-grade cleated has 1/8″ high cleats every inch. Also known as Hycar and Buna-N, it resists animal fats and oils. Belting is three ply with a cover on the top.

	Rough Top					Food Grade Cleated
	General Purpose PVC	Extra-Grip SBR		Oil-Resistant Neoprene	Abrasion-Resistant Nitrile	General Purpose Nitrile
Thick.	0.21″	0.25″	0.27″	0.30″	0.31″	0.25″
Use Alligator Lacing No. (Pg. 1315)	7	7	7	7	15	15S
Use Clipper Lacing No. (Pg. 1316)	UCM36LL	1	2	1	2	2

To Order: Please specify width and length.

	Max. Incline	Thick.	Color	Min. Pulley Dia.	PIW▲		Per Ft. 3″ Wide	4″ Wide	6″ Wide	8″ Wide	10″ Wide	12″ Wide	18″ Wide	24″ Wide
Rough Top for Slider-Bed Conveyors														
General Purpose PVC	20°	0.21″	Green	2 1/2″	46	**5994K4**	$2.26	$3.00	$4.43	$6.00	$7.49	$8.98	$13.48	$17.98
Extra-Grip SBR	25°	0.25″	Black	2″	150	**5994K7**	1.82	2.40	3.63	4.85	6.00	7.27	10.78	14.53
Extra-Grip SBR	25°	0.27″	Tan	3″	200	**5994K8**	3.19	4.24	6.36	8.47	10.62	12.71	19.09	25.46
Oil-Resistant Neoprene	25°	0.30″	Black	3″	225	**5994K1**	3.16	4.25	6.34	8.46	10.59	12.70	19.03	25.40
Abrasion-Resistant Nitrile	25°	0.31″	Blue	2 1/2″	150	**5994K9**	5.10	6.80	10.20	13.60	16.98	20.41	30.60	40.78
Food Grade Cleated for Slider-Bed Conveyors														
General Purpose Nitrile	30°	0.25″	White	2″	150	**5987K1**	___	5.34	8.00	10.66	13.35	15.99	24.00	32.02

▲ Maximum belt tension in pounds per inch of width.

Bolt-On Cleats for Conveyor Belts

Convert any smooth conveyor belt into a belt for inclines. Cut cleats to the length you need with a utility knife.

Abrasion-Resistant EPDM— More durable than nitrile, EPDM also has better resistance to acids and weather. Cleats attach to belts with the included bolts and nuts. Maximum temperature is 300°F.

Food-Grade Oil-Resistant Nitrile— The smooth surface is easy to clean and prevents build up of debris. Nitrile resists acids, abrasion, and weather. Cleats have integral threaded inserts for a secure connection and attach to belts with the included stainless steel screws and washers. Maximum temperature is 240°F. FDA compliant.



Abrasion-Resistant EPDM



Food-Grade Oil-Resistant Nitrile

Ht.	Lg.	For Max. Belt Thickness	Min. Pulley Dia.	Black		White	
Abrasion-Resistant EPDM							
1¼″	48″	0.43″	3″	5881K14	$48.55	———	———
2″	48″	0.43″	3″	5881K16	65.15	———	———
3″	48″	0.43″	3″	5881K18	72.99	———	———
4″	48″	0.55″	4″	5881K24	107.85	———	———
Food-Grade Oil-Resistant Nitrile							
⅝″	24″	0.31″	2″	6131K21	55.52	6131K71	$60.87
1″	24″	0.31″	2″	6131K22	55.63	6131K72	60.99
1½″	24″	0.31″	2″	6131K23	55.73	6131K73	61.08
2″	24″	0.31″	2″	6131K24	68.83	6131K74	75.18

About Conveyor Belt Lacing

Lacing Style	Belt Thickness	Page
Hammer-On Alligator	Up to 0.31″	1315
Press-On Clipper	Up to 0.39″	1316
Staple-On Alligator	0.0625″ to 0.25″	1317
Bolt-On	0.25″ to 0.625″	1317



Hammer-On Alligator

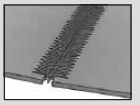

Press-On Clipper



Staple-On Alligator

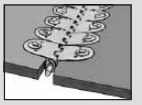

Bolt-On

Lacing creates a strong, reliable connection on belting ends that provides more convenient belt installation than "endless" (continuous-loop) belts.

Hammer-On Alligator— Lacing is low profile and requires no special tools for installation.

Press-On Clipper— A lacer clinches these low-profile hooks onto the belt for reduced installation time and consistent connections.

Staple-On Alligator— Staples secure the lacing plates to the conveyor belt for a strong, impact-resistant connection.

Bolt-On— The heaviest duty style we offer, lacing consists of plates compressed into the belt by bolts and nuts.

Hammer-On Alligator Lacing for Conveyor Belts

Since the only tool you'll need to install this lacing is a hammer, it's perfect for repairs and areas where lacing machines would be difficult to use. The low-profile, one-piece design runs smoothly over idler rollers without catching on conveyed products. Lacing can be cut to size with wire-cutting pliers. Each box includes lacing, connecting pins, and an installation gauge pin with clips, except No. 00 lacing does not require clips.

Type 316 stainless steel lacing provides better corrosion resistance than galvanized steel and is nonmagnetic.

Also Available: Extra connecting pins and installation clips. For connecting pins, please ask for 6110K888 and specify lacing number and length. For clips, please ask for 6110K777 and specify lacing number.

For Belt Thickness	Min. Pulley Dia.	Recommended Lacing
Up to 0.06″	1″	No. 00
0.06″ to 0.09″	1½″	No. 1A, 1S
0.09″ to 0.14″	2″	No. 7, 7S
0.13″ to 0.16″	2½″	No. 15, 15S
0.16″ to 0.19″	3″	No. 20, 20S
0.19″ to 0.22″	4″	No. 25
0.22″ to 0.28″	5″	No. 27
0.28″ to 0.31″	7″	No. 35





End View

Galvanized Steel

Length	No. 00 Lacing Box of 4		No. 1A Lacing Box of 4		No. 7 Lacing Box of 4		No. 15 Lacing Box of 4	
12″	6110K129	$30.70	6110K135	$30.05	6110K155	$28.75	6110K178	$30.05
14″	6110K121	35.77	6110K131	35.01	6110K151	33.54	6110K171	35.01
16″	6110K122	40.91	6110K132	40.05	6110K152	38.34	6110K172	40.05
18″	6110K123	45.97	6110K133	45.03	6110K153	43.12	6110K173	45.03
20″	6110K124	51.13	6110K134	50.05	6110K154	47.92	6110K174	50.05
24″	6110K125	61.37	6110K136	60.09	6110K156	58.55	6110K176	60.09
30″	6110K101	74.92	6110K139	75.09	6110K159	71.89	6110K179	75.09
36″	6110K126	92.00	6110K142	90.09	6110K162	87.80	6110K182	90.09
48″	6110K127	122.67	6110K144	120.12	6110K164	117.11	6110K184	120.12

Length	No. 20 Lacing Box of 4		No. 25 Lacing Box of 4		No. 27 Lacing Box of 4		No. 35 Lacing Box of 4	
12″	6110K217	$35.21	6110K235	$35.21	6110K255	$33.89	6110K274	$43.44
14″	6110K211	41.02	6110K231	41.02	6110K251	39.53	6110K271	50.70
16″	6110K212	46.89	6110K232	46.89	6110K252	45.19	6110K272	57.92
18″	6110K213	52.74	6110K233	52.74	6110K253	50.86	6110K273	65.18
20″	6110K214	60.31	6110K234	58.61	6110K254	56.46	6110K102	68.79
24″	6110K432	70.32	6110K411	72.89	6110K417	67.82	6110K423	86.91
30″	6110K433	87.93	6110K412	91.13	6110K418	84.74	6110K424	108.61
36″	6110K434	105.47	6110K413	109.31	6110K419	101.67	6110K425	130.32
48″	6110K436	140.67	6110K415	140.67	6110K421	135.54	6110K426	173.77

Type 316 Stainless Steel

Length	No. 1S Lacing Box of 4		No. 7S Lacing Box of 4		No. 15S Lacing Box of 4		No. 20S Lacing Box of 4	
12″	6116K106	$60.47	6116K145	$68.62	6116K164	$77.04	6116K184	$104.60
14″	6116K121	70.58	6116K141	80.09	6116K161	89.89	6116K181	121.98
16″	6116K101	76.63	6116K142	91.51	6116K162	102.72	6116K182	139.42
18″	6116K123	90.74	6116K143	102.98	6116K163	115.53	6116K183	156.86
20″	6116K102	95.78	6116K144	114.42	6116K104	121.98	6116K105	165.57
24″	6116K126	121.00	6116K146	137.32	6116K166	154.09	6116K186	209.16
36″	6116K103	172.38	6116K152	205.93	6116K172	231.14	6116K192	313.75

Press-On Clipper Lacing for Conveyor Belts

Conveyor Belt Lacing



Standard



Unibar

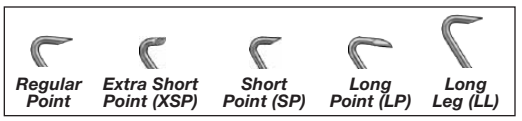

Clipper lacing is a low-profile connection that is installed with a lacer for reduced installation time and consistent connections (lacer sold separately). Lacing consists of hooks in a staggered pattern. Long leg (LL) hooks hold more belt fibers than regular hooks, which prevents the lacing from pulling out once installed.

Note: Two laces are required for each joint.

Stainless steel lacing provides better corrosion resistance than steel. Lacing is magnetic, unless noted.

Standard— Each hook is secured to a cardboard sheet. Use on flat and troughed conveyors.

Unibar— More durable and easier to install than standard lacing, each hook is welded to a metal bar. Use on flat conveyors.

For Belt Thickness	Series No.	Min. Pulley Dia.	Hook Wire Dia.	Lace Length	Laces/ Box	Galvanized Steel	Box	Stainless Steel	Box
Standard— *Connecting pins included, unless noted.*									
Up to 0.063″	25	15/16″	0.025″	6″	48	6123K21	$70.87	6123K31■	$101.02
Up to 0.063″	25	15/16″	0.025″	12″	12	6123K18	34.96	6123K19■	50.14
Up to 0.063″	25LL	2″	0.025″	6″	24	6123K23	46.70	6123K33■	76.47
0.063″ to 0.093″	36SP	2″	0.036″	12″	12	_____	_____	6123K37■●	85.79
0.063″ to 0.093″	36LLSP	3″	0.036″	12″	12	_____	_____	6123K38■●	85.79
0.063″ to 0.093″	1XSP	2″	0.040″	6″	24	6123K24	36.87	6123K34	49.98
0.063″ to 0.125″	25LP	15/16″	0.025″	6″	48	6123K22	72.28	6123K32■	103.11
0.093″ to 0.125″	36	2″	0.036″	12″	12	_____	_____	6123K39■●	85.79
0.093″ to 0.125″	36LL	3″	0.036″	12″	12	_____	_____	6123K41■●	85.79
0.093″ to 0.125″	1SP	2″	0.040″	6″	24	6123K25	36.87	6123K35	49.98
0.125″ to 0.156″	1	2″	0.040″	6″	24	6123K11	37.49	6123K59	52.04
0.125″ to 0.156″	1	2″	0.040″	12″	12	6123K57	33.95	6123K58	46.98
0.125″ to 0.156″	1LL	3″	0.040″	6″	24	6123K26	45.00	6123K36	60.96
0.125″ to 0.156″	2SP	2″	0.054″	12″	12	6123K67	34.45	6123K42	61.74
0.156″ to 0.187″	2	2″	0.054″	12″	12	6123K12	34.45	6123K51	61.74
0.187″ to 0.219″	3	3″	0.054″	12″	12	6123K13	36.60	6123K52	65.06
0.219″ to 0.250″	4	4″	0.054″	12″	12	6123K14	37.98	6123K53	67.57
0.250″ to 0.281″	4½	4″	0.054″	12″	12	6123K15	40.28	6123K54	74.43
0.281″ to 0.313″	5	5″	0.054″	12″	12	6123K16	44.66	6123K55	86.00
0.313″ to 0.343″	6	6″	0.054″	12″	12	6123K17	50.77	6123K56	96.51
0.343″ to 0.390″	7	7″	0.054″	12″	12	6123K61	53.45	6123K62	102.40
Unibar— *Connecting pins sold separately.*						Plain Steel		Stainless Steel	
0.063″ to 0.093″	UCM36SP	2″	0.036″	12″	12	_____	_____	6164K14■	$95.17
0.063″ to 0.093″	UCM36LLSP	3″	0.036″	12″	12	_____	_____	6164K15■	104.66
0.063″ to 0.125″	UX-1SP	2″	0.040″	12″	12	_____	_____	6164K18■	67.43
0.063″ to 0.125″	UX-1SP	2″	0.040″	24″	10	_____	_____	6164K24■	105.68
0.093″ to 0.125″	UCM36	2″	0.036″	12″	12	_____	_____	6164K16■	95.17
0.093″ to 0.125″	UCM36LL	3″	0.036″	12″	12	_____	_____	6164K17■	104.66
0.125″ to 0.156″	UX-1	2″	0.040″	12″	12	_____	_____	6164K19■	67.43
0.125″ to 0.156″	UX-1	2″	0.040″	24″	10	_____	_____	6164K25■	105.68
0.125″ to 0.156″	U3-1	3½″	0.054″	6″	24	6164K47	$28.79	6164K11	56.13
0.125″ to 0.156″	U3-1	3½″	0.054″	12″	12	6164K48	28.79	6164K12	56.13
0.125″ to 0.156″	U3-1	3½″	0.054″	24″	10	6164K49	45.70	6164K13	94.17
0.156″ to 0.187″	U3-2	3½″	0.054″	6″	24	6164K51	29.11	6164K21	56.13
0.156″ to 0.187″	U3-2	3½″	0.054″	12″	12	6164K52	29.11	6164K22	56.13
0.156″ to 0.187″	U3-2	3½″	0.054″	24″	10	6164K53	46.13	6164K23	93.72
0.187″ to 0.219″	U3	3½″	0.054″	12″	12	6164K55	30.89	6164K32	56.13
0.187″ to 0.219″	U3	3½″	0.054″	24″	10	6164K56	50.87	6164K33	93.72
0.219″ to 0.250″	U4	4″	0.054″	12″	12	6164K57	31.60	6164K59	58.85
0.281″ to 0.313″	U5	5″	0.054″	12″	12	6164K58	37.26	6164K61	70.57

■ Nonmagnetic. ●Connecting pins sold separately.

Connecting Pins

Insert a pin into the lacing and lock it in place by bending the ends at a 90° angle. Pins have a nylon coating. *Stainless steel* is nonmagnetic.

For Lacing Series No. ♦	Pin OD	STEEL 12″ Lengths Pkg. of 12		STEEL Cut-to-Length Max. Continuous Lg., ft.		STEEL Cut-to-Length Per Ft.♥	STAINLESS STEEL 12″ Lengths Pkg. of 12		STAINLESS STEEL Cut-to-Length Max. Continuous Lg., ft.		STAINLESS STEEL Cut-to-Length Per Ft.♥
25, 36, 1, UX-1, UCM36	0.065″	6225K13	$11.45	100	6225K53	$0.83	6225K23	$20.83	100	6225K63	$0.96
2, 3, U3-1, U3-2, U3	0.093″	6225K14	13.34	100	6225K54	1.07	6225K24	26.09	100	6225K64	1.25
4, U4	0.109″	6225K15	15.26	100	6225K55	1.07	6225K25	26.66	100	6225K65	1.35
4½, 5, U5	0.125″	6225K16	17.13	100	6225K56	1.18	6225K26	28.02	100	6225K66	1.46
6, 7, U6, U7	0.156″	6225K18	23.30	100	6225K58	1.46	6225K28	31.89	100	6225K68	1.70

♦Works with all leg and point styles for a given series number. ♥For lengths of 100 ft. or more, price is approximately 10% less.

Lacers



A



B

To lace belts wider than the working width, repeat the operation.

Style A lacers mount in your vise. ***Style B*** lacers are wider for more efficient installation.

Holding strips are required for Style B to load the lacing. To Order: Please specify lacing series number.

For Lacing Series No. ♣	Working Width	O'all Size Ht.	Wd.	Dp.	Lacer	Each	Holding Strip	Each
A 25	7″	2″	7⅝″	3½″	6139K6	$120.74	_____	_____
A 36	7″	2″	7⅝″	3½″	6139K5	117.62	_____	_____
A 1	7″	2″	7⅝″	3½″	6139K4	106.92	_____	_____
A 2 to 7	4″	2″	5″	3½″	6139K2	83.26	_____	_____
A 2 to 7	7″	2″	7⅝″	3½″	6139K3	119.58	_____	_____
B 36, 1 to 7	14″	15″	20″	10″	57465K91	1,280.77	57465K9	$114.00
B 36, 1 to 7	24″	15″	30″	10″	6227K24	2,067.05	6227K2	139.24
B 36, 1 to 7	36″	15″	42″	10″	6227K36	2,133.71	6227K3	140.67
B 36, 1 to 7	48″	15″	54″	10″	6227K48	2,199.52	6227K5	145.92
B 36, 1 to 7	60″	15″	66″	10″	6227K61	2,265.35	6227K6	158.53

♣Works with both Standard and Unibar lacing in all leg and point styles for a given series number.

Staple-On Alligator Lacing for Conveyor Belts

Lacing

Not only is this lacing strong and impact resistant, it's easier to install than bolt-on lacing. An installation tool (required; sold separately) guides staples as they are driven into place. Each box contains lacing and nylon-coated connecting pins for four connections.

Stainless steel lacing provides better corrosion resistance than steel and is nonmagnetic.

For Belt Thickness	Min. Pulley Dia.	Recommended Lacing
1/16" to 1/8"	2"	No. 62
1/8" to 3/16"	3"	No. 125
3/16" to 1/4"	4"	No. 187



Lace Length	NO. 62 LACING Steel Box of 4		NO. 62 LACING Stainless Steel Box of 4		NO. 125 LACING Steel Box of 4		NO. 125 LACING Stainless Steel Box of 4		NO. 187 LACING Steel Box of 4		NO. 187 LACING Stainless Steel Box of 4	
10"					6016K281	$63.02	6016K287	$114.46				
12"	6016K211	$72.02	6016K222	$126.74	6016K252	75.58	6016K288	137.35	6016K232	$84.75	6016K244	$187.04
14"					6016K282	88.21	6016K289	160.25				
16"	6016K212	96.00			6016K283	100.82	6016K291	183.16	6016K233	113.05	6016K245	249.33
18"	6016K213	106.96	6016K223	190.09	6016K254	113.42	6016K292	206.04	6016K234	127.21	6016K246	280.53
20"	6016K214	118.88			6016K284	126.02	6016K293	228.89	6016K235	141.37	6016K247	311.68
24"	6016K215	142.63	6016K224	253.47	6016K256	151.19	6016K294	274.70	6016K236	169.60	6016K248	374.04
30"	6016K216	178.32	6016K225	316.81	6016K257	189.04	6016K295	343.39	6016K237	212.02	6016K249	467.60
36"	6016K217	213.93	6016K226	380.21	6016K258	226.79	6016K296	412.04	6016K238	254.39	6016K261	561.07
42"	6016K218	254.58			6016K285	269.89	6016K297	490.65	6016K239	302.61	6016K262	668.23
48"	6016K219	290.21	6016K227	516.11	6016K286	307.70	6016K298	559.32	6016K241	344.98	6016K264	761.75
60"	6016K221	361.53	6016K228	640.30	6016K263	383.30	6016K299	696.67	6016K243	429.79		

Installation Tools and Replacement Parts

Each installation tool includes a staple driver and guide blocks. Compatible with the lacing listed above. For belts wider than the tool width listed, repeat the operation.

Also Available: Replacement connecting pins and retaining washers. For pins, please ask for 6016K888 and specify steel or stainless steel pins, 10- or 100-ft. length, and lacing series number. For washers, please ask for 6016K777 and specify lacing series number.

		Each
2" Wide Installation Tool	6016K271	$113.05
4" Wide Installation Tool	6016K272	228.33
6" Wide Installation Tool	6016K274	339.21
12" Wide Installation Tool	6016K273	678.40
Replacement Staple Driver	6016K824	54.11
Replacement Staple Guide Block	6016K278	21.07



6" Wide Installation Tool

Bolt-On Lacing for Heavy Duty Conveyor Belts

Commonly used in mining conveyors, this galvanized steel lacing repairs and extends thick, heavy belts. Laces include fasteners and a nylon-coated connecting pin for one connection.

Installation tools are required for proper installation. Punch holes in the belt using the *power punch bit*, then fasten bolts with the *power wrench bit*. *Quick-change adapter* lets you use the power bits with a 1/2" impact wrench. ***Templates*** serve as guides when punching holes and cutting belt ends.

Also Available: Stainless steel lacing and power wrench bit for stainless steel fasteners. For lacing, please ask for 6143K888 and specify belt width. For power wrench bit, please ask for 6143K94.

For Belt Wd.	Thick.	Min. Pulley Dia.	Lace		Template	
18"	1/4" to 5/8"	9"	6143K1	$47.51	6143K21	$50.40
24"	1/4" to 5/8"	9"	6143K3	60.91	6143K23	50.40
30"	1/4" to 5/8"	9"	6143K5	77.98	6143K24	63.04
36"	1/4" to 5/8"	9"	6143K6	95.07	6143K25	75.65
60"	1/4" to 5/8"	9"	6143K11	163.21	6143K28	126.04
Installation Tools						
Power Punch Bit					6143K92	$26.25
Power Wrench Bit					6143K93	40.60
Quick-Change Adapter					6143K95	98.14
Bolt Cutters					6143K91	39.86



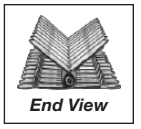

End View

Pulleys for Conveyor Belts



Replace worn and damaged pulleys or create new conveyors. Pulleys are steel and have a keyway with two set screws at each end, unless noted. For keyed shafts, see pages 1130-1131. Also known as crowned pulleys, 4" to 8" diameter pulleys have tapered ends to improve belt tracking.

To Order: Please specify bore size: 1/2" bore with 1/8"×1/16" keyway (unless noted), 5/8" or 3/4" bore with 3/16"×3/32" keyway, or 1" bore with 1/4"×1/8" keyway.

Also Available: Pulleys with 1/4" thick rubber coating (lagging). Please ask for 5706K888 and specify pulley diameter (without coating), pulley width, and bore size.

Also Available: Stainless steel pulleys. Please ask for 5706K777 and specify pulley diameter, pulley width, and bore size.

Pulley Width	For Belt Width	2" Diameter		4" Diameter		6" Diameter		8" Diameter	
6"	4"	5706K11★	$71.31	5706K12	$94.05	5706K41	$130.71	5706K51	$139.11
8"	6"	5706K15★	72.63	5706K16	95.00	5706K42	133.10	5706K52	149.77
10"	8"	5706K19★	74.00	5706K21	95.71	5706K43	135.95	5706K53	156.82
12"	10"	5706K24★	75.42	5706K25	96.67	5706K44	138.81	5706K54	171.43
14"	12"	5706K28★	76.90	5706K29	97.62	5706K45	143.33	5706K55	181.90
16"	14"	5706K33★	78.44	5706K34	98.33	5706K46	148.33	5706K56	192.14
18"	16"	5706K37★	80.04	5706K38★	99.51	5706K47	152.86	5706K57	202.86
20"	18"	5706K13★	81.71	5706K14	101.43	5706K61	158.10	5706K71	213.33
22"	20"	5706K17★	83.45	5706K18	103.81	5706K62	163.10	5706K72	224.05
26"	24"	5706K22★	85.26	5706K23	109.52	5706K63	172.86	5706K73	233.86
32"	30"	5706K26★	87.16	5706K27	116.90	5706K64	187.38	5706K74	276.90
38"	36"	5706K31★	89.14	5706K32	124.52	5706K65	201.67	5706K75	308.33

★ 1/2" bore size has a single set screw at each end without keyway.

Maintenance Tools for Conveyor Belts

Belt cutting tools are portable so you can safely cut your conveyor belts right on your job site.

Surface removal tool, also known as a skiver, removes the rough top surface of your conveyor belt for secure lacing connections.

	For Max. Belt Wd.	Thick.		
Belt Cutting Tool	14"	3/8"	6141K11	$793.06
Belt Cutting Tool	36"	1/2"	6202T47	1,599.60
Surface Removal Tool			6202T48	22.77



Belt Cutting Tool for 14" Max. Belt Wd.

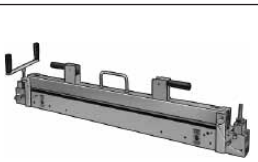

Belt Cutting Tool for 36" Max. Belt Wd.



Surface Removal Tool

Conveyor Belt Tensioners and Bearings



Tensioner and Bearing

Extend or retract your conveyor belt pulley to adjust the tension on the belt. Tensioners mount to the sides of the conveyor and attach to bearings (sold separately) that hold the pulley shaft. *Note:* Two tensioners and two bearings are required.

Tensioners are steel with a gray painted finish and have a cadmium-plated steel adjustment rod and nut. Mounting hole diameter is 9/16″ (fasteners not included).

Bearings are cast iron and have a locking collar with two set screws. Temperature range is –20° to 200° F.

Also Available: Stainless steel tensioners and stainless steel bearings with a plastic housing. For tensioners, please ask for 6029K888 and specify maximum adjustment: 3″, 6″, 9″, or 12″. For bearings, please ask for 6029K777 and specify shaft diameter: 5/8″, 3/4″, 7/8″, or 1″.

Tensioners

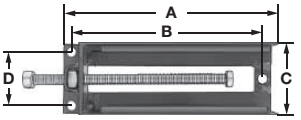

Styles 1, 2, and 3



Style 4

Style	Maximum Adjustment	(A)	(B)	(C)	(D)		
1	1½″	7″	6″	4 1/16″	3 3/16″	6029K41	$98.22
2	3″	8½″	7½″	4 1/16″	3 3/16″	6029K42	115.80
2	6″	11½″	10½″	4 1/16″	3 3/16″	6029K43	126.09
2	9″	14½″	13½″	4 1/16″	3 3/16″	6029K44	145.11
3	6″	12 3/8″	11 3/8″	4 11/16″	3 11/16″	6029K46	141.60
3	9″	15 3/8″	14 3/8″	4 11/16″	3 11/16″	6029K47	158.45
3	12″	18 3/8″	17 3/8″	4 11/16″	3 11/16″	6029K48	172.98
4	6″	14″	12 7/8″	5 1/16″	3 1/16″	6029K51	191.45
4	9″	17″	15 7/8″	5 1/16″	3 1/16″	6029K52	205.82
4	12″	20″	18 7/8″	5 1/16″	3 1/16″	6029K53	232.75
4	18″	26″	24 7/8″	5 1/16″	3 1/16″	6029K54	271.64

Bearings

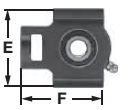

Side View



End View

For Shaft Dia.	Fits Style	Dynamic Load Cap., lbs.	Max., rpm	(E)	(F)	(G)		
½″	1, 2	2,100	7,500	3½″	3 11/16″	17/32″	6029K61	$81.75
5/8″	1, 2	2,100	7,500	3½″	3 11/16″	17/32″	6029K62	81.75
3/4″	1, 2	2,610	6,500	3½″	4″	17/32″	6029K22	88.65
15/16″	1, 2	2,800	5,500	3½″	4 3/32″	17/32″	6029K24	88.65
1″	1, 2	2,800	5,500	3½″	4 3/32″	17/32″	6029K25	88.65
1 3/16″	3	4,380	4,500	4″	4 5/8″	17/32″	6029K27	103.92
1¼″	3	5,780	4,000	4″	5″	17/32″	6029K28	121.29
1 7/16″	3	5,780	4,000	4″	5″	17/32″	6029K31	121.29
1½″	4	7,340	3,500	4½″	5 19/32″	1 1/16″	6029K32	137.23
1¾″	4	7,900	3,000	4½″	5¾″	1 1/16″	6029K33	143.31
1 15/16″	4	7,880	3,000	4½″	5 29/32″	1 1/16″	6029K36	160.69

Conveyor Belt Tensioners with Protected Adjusting Screw

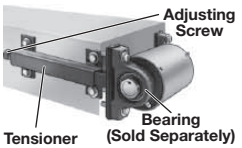

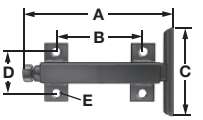

Side View

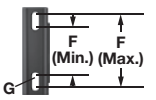

End View

Prevent debris buildup, corrosion, and thread damage—these tensioners have a totally enclosed adjusting screw. Tensioners mount to the sides of the conveyor and attach to base-mount bearings (not included; see pages 1211-1221) that hold the pulley shaft. *Note:* Two tensioners and two bearings are required.

Stainless steel tensioners are for use in washdown and corrosive environments.

Maximum Adjustment	(A)	(B)	(C)	(D)	(E)	(F) Min.	(F) Max.	(G)	Steel		Stainless Steel	
3″	6 7/8″	3 9/16″	5¼″	2 5/8″	½″	2 15/16″	4 5/16″	3/8″	60085K11	$105.46	60085K31	$186.16
3″	8½″	4 3/8″	7″	3″	½″	3 13/16″	5 11/16″	½″	60085K14	148.72	60085K34	277.82
6″	10 3/8″	7 1/16″	5¼″	2 5/8″	½″	2 15/16″	4 5/16″	3/8″	60085K12	116.92	60085K32	222.98
6″	11½″	7 3/8″	7″	3″	½″	3 13/16″	5 11/16″	½″	60085K15	162.90	60085K35	329.76
9″	14 3/8″	11 1/16″	5¼″	2 5/8″	½″	2 15/16″	4 5/16″	3/8″	60085K13	126.38	60085K33	262.66
9″	14½″	10 3/8″	7″	3″	½″	3 13/16″	5 11/16″	½″	60085K16	171.68	60085K36	390.34
12″	19 1/8″	14 1/8″	10″	4″	5/8″	5 9/16″	8 11/16″	5/8″	60085K19	237.22		

Sprocket-Driven Conveyor Belts

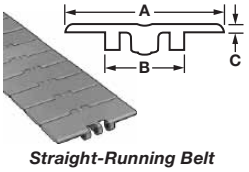

Straight-Running Belt

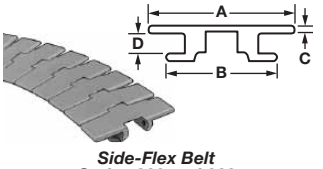

Side-Flex Belt Series 880 and 882

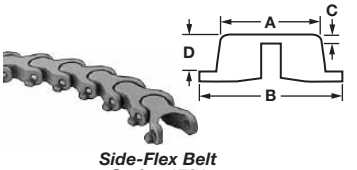

Side-Flex Belt Series 1701

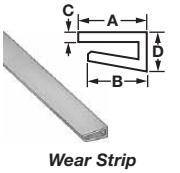

Wear Strip

An excellent choice for food handling, packaging, and bottling, belts consist of links connected by stainless steel pins. Also known as conveyor chain. Links are FDA-compliant brown acetal and temperature range is –40° to 194° F, unless otherwise stated.

Straight-running belts have overlapping links so there are no gaps. *High-temperature* belts are made of stainless steel, which is nonmagnetic and corrosion resistant. Temperature range is –94° to 806° F.

Side-flex belts have tabs on the bottom that keep the belt from lifting off the track when traveling through curved sections of conveyor.

Wear strips attach to conveyor frames up to 1/8″ thick to reduce friction and abrasion on your belt. Made of white UHMW polyethylene.

Also Available: Acetal rivets to attach wear strips to your frame. Please ask for 6369K888 and specify 3/4″, 1″, or 1½″ rivet length.

(A)	(B)	(C)		
Straight-Running Belts — *10-ft. Length*				
Series 820				
3 1/4″	1 5/8″	5/32″	6378K21	$86.04
4″	1 5/8″	5/32″	6378K22	111.67
4½″	1 5/8″	5/32″	6378K23	107.50
6″	1 5/8″	5/32″	6378K24	155.00
7½″	1 5/8″	5/32″	6378K25	160.00
Series 821				
7½″	5 3/8″	3/16″	6378K61	170.73
10″	5 3/8″	3/16″	6378K62	216.73
12″	5 3/8″	3/16″	6378K63	229.64
High-Temperature Series 815				
3 1/4″	1 21/32″	1/8″	6378K51	222.73
4½″	1 21/32″	1/8″	6378K52	328.91
6″	1 21/32″	1/8″	6378K53	421.09
7½″	1 21/32″	1/8″	6378K54	498.73

(A)	(B)	(C)	(D)		
Side-Flex Belts — *10-ft. Length*					
Series 880 — *Minimum curve radius is 15 3/4″.*					
3 1/4″	2 7/16″	5/32″	15/32″	6378K31	$101.45
4 1/2″	2 7/16″	5/32″	15/32″	6378K32	105.09
Series 882 — *Minimum curve radius is 24″.*					
4 1/2″	3″	3/16″	1 1/16″	6378K36	203.27
7½″	3″	3/16″	1 1/16″	6378K33	217.45
10″	3″	3/16″	1 1/16″	6378K34	247.09
12″	3″	3/16″	1 1/16″	6378K35	259.64
Series 1701 — *Minimum curve radius is 5″.*					
2 1/8″	2 5/8″	5/32″	3/4″	6378K93	187.92
Wear Strips — *5-ft. Length*					
3/4″	3/4″	1/8″	3/8″	6369K24	11.67
1″	3/4″	3/16″	7/16″	6369K25	13.67
1 1/2″	3/4″	3/16″	7/16″	6369K26	14.56
2″	3/4″	3/16″	7/16″	6369K27	25.67

Sprockets and Idler Wheels for Sprocket-Driven Conveyor Belts

Drive sprockets and idler wheels keep your belt moving smoothly. For quick installation, sprockets and wheels consist of two halves connected by corrosion-resistant fasteners, unless noted. Made of polyamide. Temp. range is 32° to 194° F.

DRIVE SPROCKETS | IDLER WHEELS


820 and 815 Belt Series


821 Belt Series


880 and 882 Belt Series


1701 Belt Series


820 and 815 Belt Series


880 and 882 Belt Series

For Belt Series	For Shaft Dia.	No. of Teeth	OD	Wd.	Color		
Drive Sprockets							
820	1″	21	5.08″	2.09″	Black	6369K811	$49.52
820	1.25″	21	5.08″	2.09″	Black	6369K812	49.52
820	1″	23	5.59″	2.09″	Black	6369K821	58.46
820	1.25″	23	5.59″	2.09″	Black	6369K822	61.38
820	1″	25	6.06″	2.09″	Black	6369K831	61.83
820	1.25″	25	6.06″	2.09″	Black	6369K832	67.67
821	1.18″	25	6.07″	3.16″	White	6369K44	33.92
815	0.79″	21	5.12″	1.67″	Gray	6369K41	60.71
815	0.79″	23	5.59″	1.67″	White	6369K42	61.71
815	0.79″	25	6.07″	1.67″	Gray	6369K43	66.37
880	1″	12	5.80″	2.30″	Black	6369K861	60.77
880	1.25″	12	5.80″	2.30″	Black	6369K862	60.77
882	1″	12	5.87″	2.30″	Black	6369K891	55.38

★ One-piece construction.

For Belt Series	For Shaft Dia.	No. of Teeth	OD	Wd.	Color		
Drive Sprockets (Cont.)							
882	1.25″	12	5.87″	2.30″	Black	6369K892	$55.38
1701	0.79″	8	5.14″	1.67″	Gray	6369K45★	41.57
1701	0.79″	10	6.37″	1.67″	Gray	6369K46★	51.10
Idler Wheels							
820, 815	1″	—	5.10″	2.32″	Black	6369K911★	30.77
820, 815	1″	—	6.08″	2.32″	Black	6369K931★	30.46
820, 815	1.25″	—	5.10″	2.32″	Black	6369K912★	29.90
820, 815	1.25″	—	6.08″	2.32″	Black	6369K932★	29.90
880	1″	12	5.80″	2.30″	Black	6369K961	60.77
880	1.25″	12	5.80″	2.30″	Black	6369K962	60.77
882	1″	12	5.87″	2.30″	Black	6369K991	55.38
882	1.25″	12	5.87″	2.30″	Black	6369K992	51.60

Overhead Enclosed-Track Conveyor Components

The enclosed track protects trolleys and chain from contamination and damage. Components fit track with an inside width of 2½″.

Track


Straight



90° Horizontal Curve

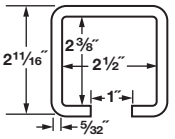

Steel track provides the runway for trolleys, carriers, and chain in manual and powered systems. Install at least one hanger bracket (sold separately) every 5 feet. Track has a blue painted finish.

Straight—10 ft. Length		5927K11	$119.64
90° Horizontal Curve—2 ft. Radius		5927K12	168.75
90° Horizontal Curve—3 ft. Radius		5927K13	216.96
90° Horizontal Curve—4 ft. Radius		5927K14	265.18

Brackets

Brackets are steel and have a ½″ dia. hole in the top for hanging from threaded rod.

Hanger bracket holds track in place with nuts (not included) on threaded rod.

Joint bracket connects two sections of track when tightened with the included bolts.


Hanger Bracket


Joint Bracket

	Ht.		
Hanger Bracket	4½″	5927K19	$29.70
Joint Bracket	4 7/16″	5927K18	128.48

Trolleys for Manual Conveyors

Sturdy cast iron construction and ball bearing wheels provide smooth operation. Wheels and ball bearings are steel. Distance from the bottom of the track to the center of (A) is 1½″.

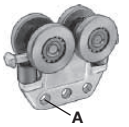

Ht.	Wd.	(A)	Cap., lbs.		
4 9/16″	6″	17/32″	250	5927K42	$56.25

Carriers and Chain for Powered Conveyors


Carrier Shown Open



Carrier Shown Closed


Chain

Carrier attaches loads to the chain with a scissor-like action and pivot as the conveyor makes elevation changes. Maximum incline is 45°. Use where swinging loads are permitted.

Chain is a series of smooth-rolling, alternating vertical and horizontal wheels that carry loads along the track. Steel pins connect the wheels and detach for quick installation and replacement. Vertical wheel axles spaced every 8″ serve as attachment points for carriers. *Note:* Capacity listed is per attachment point.

	Cap., lbs.		
Carrier—4¼″ Ht. × 1″ Wd.	125	5927K27	$3.60
Chain—20 ft. Lg.	125	5927K34	654.91

Overhead I-Beam Conveyor Components

I-beam conveyors are built to handle heavier loads than enclosed-track conveyors and are easy to install and expand.

Track

I-beam track provides the runway for trolleys in manual and powered systems. Made of steel with a gray primer finish. *Note:* Not designed for building structural support.



Track Ht.	Flange Wd.	Track Thick.	Lg., ft.	Weight, lbs./ft.		
3″	2.33″	0.17″	10	5.7	5920K2	$145.69
4″	2.66″	0.19″	10	7.7	5920K3	146.74

Trolleys for Manual Conveyors

Prevent excess wear on your track and trolley—only the wheels of these hand-push trolleys come in contact with the I-beam. Trolleys can be taken apart for installation anywhere along the I-beam. Wheels and ball bearings are steel; brackets are cast iron.

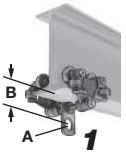

1


2

	For Track Ht.	For Flange Wd.	(A)	(B)	Cap., lbs.		
1	3″-4″	2.33″-2.66″	1 1/16″	2¾″	500	5920K35	$112.50
2	4″-6″	2.66″-3.33″	1½″	4 15/16″	1,500	5920K37	232.73

Trolleys for Powered Conveyors

The two-bolt bottom connection keeps the trolleys from loosening during use. Trolleys are made of forged steel and have steel ball bearings.

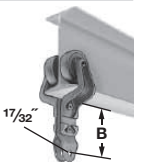

For Track Ht.	For Chain Trade Size	(B)	Cap., lbs.		
3″	X348	5⅝″	200	5920K24	$39.97
4″	X458	6 1/16″	400	5920K25	66.00
4″	X458	6⅞″	400	5920K26	56.00

Chain for Powered Conveyors

You can assemble and disassemble this steel chain without any tools, yet its design makes it virtually impossible to disconnect while in use.


Chain Shown with Trolleys

For Track Ht.	Chain Trade Size	Lg., ft.		
3″	X348	10	5920K21	$158.65
4″	X458	10	5920K22	170.67

Hooks for Powered Conveyors

Hooks allow items to rotate 90° while suspended. They attach to trolleys with a ½″ bolt and nut (not included). Made of malleable iron.

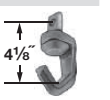

5920K31 ..... $16.20

Easy-Cut Strip Brushes and Holders

Cut these flexible brushes and holders to fit your conveyor. Brushes have fused bristles that won't fall out when the backing is cut. All can be cut to size with scissors.

Brushes



Backing and bristles are black nylon. Maximum temperature is 250°F.
To Order: Please specify length.

O'all Ht.	Bristle Dia.	Available Lengths, ft.		Per Ft.
1″	0.010″	3, 5, 10, 25, 50, 100	7900T1	$2.28
2″	0.010″	3, 5, 10, 25, 50, 100	7900T5	3.34
3″	0.012″	3, 5, 10, 25, 50, 100	7900T2	4.39

Brush Holders

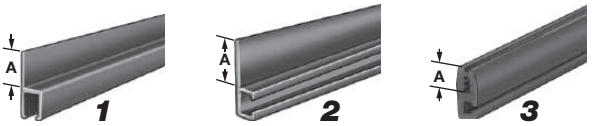

Holders are black plastic. *Styles 1* and *2* can be drilled for mounting. *Style 3* has a top channel that grips onto surfaces up to 3/32″ thick.

	(A)	3-ft. Length	Each	5-ft. Length	Each	10-ft. Length	Each
1	1/2″	7900T34	$7.09	7900T35	$11.80	7900T36	$23.62
2	1/2″	7900T41	7.09	7900T42	11.80	7900T43	23.62
3	3/8″	7900T61	7.09	7900T62	11.91	7900T63	23.67

Tight-Seal Strip Brushes

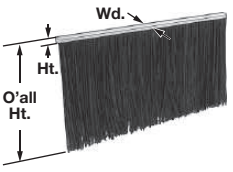


0.006″ Dia. Bristles (Actual Size)


0.014″ Dia. Bristles (Actual Size)


0.045″ Dia. Bristles (Actual Size)

Brushes have dense bristles that can dust, stop, and separate items on a conveyor. They also keep heat, sprayed liquids, and chips contained. Bristles are held in place by a continuous metal backing and a binding wire. Brushes can be cut to size with wire-cutting pliers (see page 2743). The larger the bristle diameter, the stiffer the bristles. For strip brush holders, see page 1321.

General Purpose Nylon Bristles— Bristles are abrasion resistant. Color is black. Maximum temperature is 225°F.

Static-Control Nylon Bristles— Nylon dissipates static to keep it from building up. Color is black. Maximum temperature is 200°F.

Detectable Polyester Bristles— Bristles contain a compound that metal detectors and x-ray equipment can detect. Color is gray. Maximum temperature is 200°F.

Food-Grade Polyester— Made of FDA-compliant polyester, brushes are good for food and beverage conveying. Color is white. Maximum temperature is 200°F.

High-Temperature PTFE Bristles— Choose these brushes for high-temperature and nonstick applications. Color is off-white. Maximum temperature is 500°F.

Ultra-Soft Horsehair Bristles— Excellent for picking up dust and fine powders in finishing and cleaning applications. Color is brown. Maximum temperature is 300°F.

Soft Brass Bristles— Bristles won't scratch other metals. Brass is conductive to prevent static buildup. Maximum temperature is 500°F.

Corrosion-Resistant Stainless Steel Bristles— Use for corrosive and high-temperature environments. Stiffer than brass. Maximum temperature is 800°F.

Steel backing has a galvanized finish. *Stainless steel backing* resists corrosion.
To Order: Please specify length in 1-ft. increments. Maximum continuous length is 8 ft. except for brushes with PTFE bristles, which have a maximum continuous length of 6 ft.

O'all Ht.	Bristle Dia.		Per Ft.
General Purpose Nylon Bristles			
1/8″ Wd. × 1/8″ Ht. Steel Backing			
3/4″	0.006″	74405T1	$3.70
1″	0.008″	74405T2	4.04
2″	0.010″	74405T3	4.41
3″	0.012″	74405T4	4.92
1/8″ Wd. × 1/8″ Ht. SS Backing			
3/4″	0.006″	74715T1	4.06
1″	0.008″	74715T2	4.19
2″	0.010″	74715T3	4.54
3″	0.012″	74715T4	5.06
3/16″ Wd. × 7/32″ Ht. Steel Backing			
1″	0.010″	74405T5	2.16
2″	0.010″	74405T6	2.76
2″	0.014″	74405T7	2.99
3″	0.014″	74405T8	3.45
4″	0.014″	74405T9	4.32
6″	0.014″	74405T11	5.72
3/16″ Wd. × 7/32″ Ht. SS Backing			
1″	0.010″	74715T5	4.64
2″	0.014″	74715T6	5.39
3″	0.014″	74715T7	5.68
4″	0.014″	74715T8	6.76
6″	0.014″	74715T9	7.92
5/16″ Wd. × 5/16″ Ht. Steel Backing			
1″	0.010″	74405T12	2.95
2″	0.014″	74405T13	3.50
2″	0.020″	74405T14	3.90
3″	0.014″	74405T15	3.99
3″	0.020″	74405T16	5.07
3″	0.030″	74405T17	5.80
4″	0.020″	74405T18	6.05
4″	0.030″	74405T19	6.16
6″	0.020″	74405T21	6.94
6″	0.045″	74405T22	10.05
8″	0.045″	74405T23	15.38
10″	0.045″	74405T24	16.26
5/16″ Wd. × 5/16″ Ht. SS Backing			
1″	0.010″	74715T11	6.35
2″	0.014″	74715T12	6.27
2″	0.020″	74715T13	7.14
3″	0.014″	74715T14	6.92
3″	0.020″	74715T15	7.76

O'all Ht.	Bristle Dia.		Per Ft.
General Purpose Nylon Bristles (Cont.)			
5/16″ Wd. × 5/16″ Ht. SS Backing (Cont.)			
3″	0.030″	74715T16	$8.48
4″	0.020″	74715T17	9.12
4″	0.030″	74715T18	9.64
6″	0.020″	74715T19	11.06
6″	0.045″	74715T21	11.48
8″	0.045″	74715T22	15.64
10″	0.045″	74715T23	18.44
7/16″ Wd. × 7/16″ Ht. Steel Backing			
2″	0.014″	74405T25	9.00
3″	0.020″	74405T26	11.15
4″	0.020″	74405T27	13.04
6″	0.045″	74405T28	17.23
8″	0.045″	74405T29	25.62
10″	0.045″	74405T31	26.88
Static-Control Nylon Bristles			
3/16″ Wd. × 7/32″ Ht. Steel Backing			
1″	0.008″	74405T61	11.49
2″	0.012″	74405T62	16.97
3″	0.020″	74405T63	22.51
5/16″ Wd. × 5/16″ Ht. Steel Backing			
1″	0.008″	74405T64	14.00
2″	0.012″	74405T65	21.06
3″	0.020″	74405T66	28.14
Detectable Polyester Bristles			
3/16″ Wd. × 7/32″ Ht. Steel Backing			
1″	0.014″	7443T61	7.09
2″	0.014″	7443T62	11.66
3″	0.024″	7443T63	16.66
5/16″ Wd. × 5/16″ Ht. Steel Backing			
1″	0.014″	7443T64	12.51
2″	0.014″	7443T65	18.06
3″	0.024″	7443T66	23.51
Food-Grade Polyester Bristles			
3/16″ Wd. × 7/32″ Ht. SS Backing			
1″	0.008″	7442T11	5.86
2″	0.012″	7442T12	6.86
3″	0.020″	7442T13	7.89
5/16″ Wd. × 5/16″ Ht. SS Backing			
1″	0.008″	7442T14	7.94
2″	0.012″	7442T15	9.77
3″	0.020″	7442T16	11.60

O'all Ht.	Bristle Dia.		Per Ft.
High-Temperature PTFE Bristles			
5/16″ Wd. × 5/16″ Ht. Steel Backing			
1″	0.035″	7028T1	$46.98
2″	0.035″	7028T2	91.62
3″	0.035″	7028T3	131.96
Ultra-Soft Horsehair Bristles			
3/16″ Wd. × 7/32″ Ht. Steel Backing			
1″	0.008″	8801T1	4.61
2″	0.008″	8801T2	6.93
3″	0.008″	8801T3	9.58
5/16″ Wd. × 5/16″ Ht. Steel Backing			
1″	0.008″	8801T4	5.57
2″	0.008″	8801T5	9.26
3″	0.008″	8801T6	12.96
Soft Brass Bristles			
3/16″ Wd. × 7/32″ Ht. SS Backing			
1″	0.004″	98295T1	23.10
2″	0.006″	98295T2	23.70
3″	0.008″	98295T3	25.92
4″	0.006″	98295T4	30.47
6″	0.008″	98295T5	43.95
5/16″ Wd. × 5/16″ Ht. SS Backing			
1″	0.006″	98295T6	18.02
2″	0.008″	98295T7	24.33
3″	0.010″	98295T8	29.45
4″	0.008″	98295T9	41.37
6″	0.014″	98295T11	51.40
Corrosion-Resistant SS Bristles			
3/16″ Wd. × 7/32″ Ht. SS Backing			
1″	0.004″	63595T1	19.84
2″	0.006″	63595T2	20.38
3″	0.008″	63595T3	20.86
4″	0.006″	63595T4	25.46
6″	0.008″	63595T5	40.09
5/16″ Wd. × 5/16″ Ht. SS Backing			
1″	0.006″	63595T6	24.68
2″	0.010″	63595T7	28.71
3″	0.014″	63595T8	36.38
4″	0.010″	63595T9	44.18
6″	0.014″	63595T11	54.70

Tight-Seal Strip Brush Holders

Slide a strip brush into one of these holders and position it on your conveyor. Use with the Tight-Seal Strip Brushes shown on the previous page. Holders have a channel for one strip brush, except *Style 2*, which holds two brushes. Cut holders to size with a hacksaw. They can be drilled for mounting, except *Style 8,* which has a top channel that grips onto surfaces up to 1/16" thick.

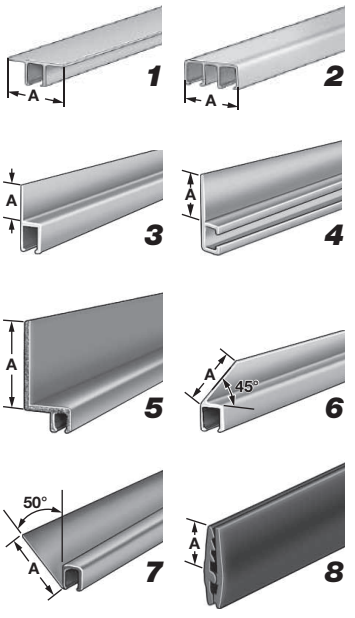

For Backing Wd.	Ht.	(A)		To Order: Please specify length. 1-ft.	2-ft.	3-ft.	4-ft.	5-ft.	6-ft.	7-ft.	8-ft.
Lightweight Aluminum											
1	1/8"	3/4"	8813T43	$3.79	$4.92	$5.28	$6.79	$7.15	$7.56	$9.45	$10.95
1	3/16"	7/32"	1"	8813T41	5.29	6.34	6.87	8.47	9.03	9.52	13.25	15.33
1	5/16"	5/16"	1 1/4"	8813T42	5.55	6.63	7.19	8.83	9.95	11.05	13.26	15.46
1	7/16"	7/16"	1 3/4"	8813T44	7.83	9.42	10.20	12.54	14.10	15.66	18.80	21.95
2	3/16"	7/32"	15/16"	8813T45	5.67	6.79	7.94	9.06	10.21	11.39	13.60	15.87
2	5/16"	5/16"	1 3/16"	8813T46	6.40	7.70	8.98	10.26	11.55	13.05	15.39	17.96
3	1/8"	1/8"	5/8"	8813T54	4.09	4.92	5.34	5.75	6.15	6.97	8.62	9.84
3	3/16"	7/32"	7/8"	8813T52	5.64	7.04	8.18	9.02	9.59	10.15	14.10	16.35
3	5/16"	5/16"	3/4"	8813T53	5.41	6.51	8.65	9.74	10.28	12.44	14.06	15.69
3	7/16"	7/16"	1 13/16"	8813T55	7.23	9.40	10.84	14.46	16.62	19.50	23.85	25.32
4	1/8"	1/8"	1/2"	8813T49	4.25	5.53	5.99	6.83	7.68	8.53	10.69	12.41
4	3/16"	7/32"	5/8"	8813T47	5.21	6.61	7.12	8.13	9.13	10.65	12.70	14.73
4	5/16"	5/16"	1 1/16"	8813T48	5.81	6.98	7.55	9.88	10.47	12.20	14.52	16.27
4	7/16"	7/16"	7/8"	8813T51	7.71	9.26	10.80	14.66	16.99	20.07	23.94	27.79
5	3/16"	7/32"	2"	8813T56	5.49	6.60	7.17	8.82	11.02	12.12	14.33	16.92
5	5/16"	5/16"	2"	8813T57	6.16	7.38	8.01	9.84	12.33	13.55	16.01	17.25
6	3/16"	7/32"	1 13/16"	8813T58	5.76	7.48	8.63	9.78	10.94	11.51	14.39	16.12
6	5/16"	5/16"	1 1/8"	8813T59	5.47	7.11	8.20	10.39	11.50	12.57	14.21	16.40
7	3/16"	7/32"	1"	8813T61	4.38	5.22	6.09	6.97	7.87	8.72	11.35	12.21
7	5/16"	5/16"	1 5/8"	8813T62	5.47	6.56	7.67	9.33	10.97	12.06	14.27	16.45
Flexible Black PVC											
8	1/8"	1/8"	9/16"	8813T63	3.67	4.76	5.48	7.33	8.43	9.56	10.99	12.46
Corrosion-Resistant Stainless Steel											
3	3/16"	7/32"	1 1/16"	8813T36	13.77	16.52	19.27	23.42	26.17	28.92	35.81	38.56
3	5/16"	5/16"	5/8"	8813T37	12.09	16.94	19.37	21.79	26.62	32.67	36.31	41.15

Direct-Mount Strip Brushes

Brushes have bristles stapled into a PVC backing. The backing can be drilled for mounting, except *Style 11*, which has a top channel that grips onto surfaces up to 1/16" thick. Use brushes to clean conveyor belts as well as to contain dust, sprayed liquids, heat, and chips. Bristles are black. The larger the bristle diameter, the stiffer the bristles.

Flexible backing can be cut to size with a utility knife. *Rigid backing* can be cut to size with a hacksaw.

General Purpose Nylon Bristles—Bristles are abrasion resistant. Maximum temperature is 150°F.

Ultra-Soft Horsehair Bristles—Excellent for picking up dust and fine powders in finishing and cleaning applications. Maximum temperature is 300°F.

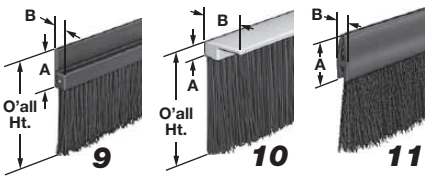

O'all Ht.	(A)	(B)	Bristle Dia.	3-ft. Length		6-ft. Length	
General Purpose Nylon Bristles—*Flexible Black PVC Backing*							
9	2"	1"	5/16"	0.008"	7372T4	$34.71	7372T11 $66.51
9	3"	1"	5/16"	0.012"	7372T5	36.26	7372T12 72.51
9	4"	1"	5/16"	0.020"	7372T6	37.60	7372T13 75.23
10	1 7/16"	7/16"	1"	0.008"	7372T14	34.71	7372T17 69.46
10	2 7/16"	7/16"	1"	0.012"	7372T15	36.26	7372T18 72.51
10	3 7/16"	7/16"	1"	0.020"	7372T16	37.60	7372T19 75.23
11	1 7/8"	7/8"	3/8"	0.008"	7372T1	37.43	7372T7 74.86
11	2 7/8"	7/8"	3/8"	0.012"	7372T2	39.46	7372T8 78.89
11	3 7/8"	7/8"	3/8"	0.020"	7372T3	40.66	7372T9 81.29
General Purpose Nylon Bristles—*Rigid Gray PVC Backing*							
9	3"	2"	9/16"	0.008"	7410T27	43.03	7410T34 86.06
9	4"	2"	9/16"	0.012"	7410T28	48.49	7410T35 97.03

O'all Ht.	(A)	(B)	Bristle Dia.	3-ft. Length		6-ft. Length	
General Purpose Nylon Bristles—*Rigid Gray PVC Backing (Cont.)*							
9	5"	2"	9/16"	0.020"	7410T29	$51.17	7410T36 $102.37
10	1 9/16"	9/16"	2"	0.008"	7410T31	43.86	7410T37 87.71
10	2 9/16"	9/16"	2"	0.012"	7410T32	49.43	7410T38 98.89
10	3 9/16"	9/16"	2"	0.020"	7410T33	52.14	7410T39 104.31
Ultra-Soft Horsehair Bristles—*Rigid Gray PVC Backing*							
9	3"	2"	9/16"	0.008"	7410T14	59.60	7410T21 119.20
9	4"	2"	9/16"	0.008"	7410T15	70.80	7410T22 141.57
9	5"	2"	9/16"	0.008"	7410T16	82.09	7410T23 164.17
10	1 9/16"	9/16"	2"	0.008"	7410T17	59.60	7410T24 119.20
10	2 9/16"	9/16"	2"	0.008"	7410T18	70.80	7410T25 141.57
10	3 9/16"	9/16"	2"	0.008"	7410T19	82.09	7410T26 164.17

Cylindrical Conveyor Brushes

With polypropylene bristles in a tight spiral pattern, these brushes are effective for cleaning conveyor belts and chain. Bristles are black. The larger the bristle diameter, the stiffer the bristles.

Bristles are mounted on a steel tube and include set screws for securing to a 1" diameter shaft (shaft not included). Maximum temperature is 200°F.



O'all Lg.	Brush Lg.	4" Brush Dia., 0.006" Bristle Dia.		6" Brush Dia., 0.02" Bristle Dia.		8" Brush Dia., 0.03" Bristle Dia.		10" Brush Dia., 0.035" Bristle Dia.	
14"	12"	7437T71	$124.54	7437T72	$196.45	7437T73	$220.69	7437T74	$251.64
20"	18"	7437T27	137.38	7437T11	202.52	7437T16	232.31	7437T22	257.52
22"	20"	7437T28	150.43	7437T12	229.57	7437T17	271.12	7437T23	286.14
24"	22"	7437T29	164.74	7437T13	238.02	7437T18	298.24	7437T24	314.71
26"	24"	7437T31	180.93	7437T61	271.29	7437T64	324.21	7437T67	360.45
34"	32"	7437T32	231.10	7437T14	333.95	7437T19	385.14	7437T25	431.57
38"	36"	7437T33	269.02	7437T62	360.12	7437T65	434.76	7437T68	471.12
50"	48"	7437T34	345.02	7437T63	436.86	7437T66	535.00	7437T69	610.19

Adjustable Conveyor Brushes

Adjust the angle to fit 11" to 29" wide conveyors using the mounting kit (sold separately). Use brushes for light cleaning and product positioning. The larger the bristle diameter, the stiffer the bristles. Max. temp. is 225°F.

Mounting kit includes a 1/2" Dia.×36" Lg. shaft, mounting brackets, and hardware.

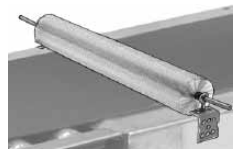

Brush and Mounting Kit

Bristle Dia.	Color	3 1/2" Brush Dia.		4" Brush Dia.		6" Brush Dia.	
0.012"	White	75505T13	$48.24	75505T24	$54.67	75505T71	$80.51
0.018"	White	75505T11	48.24	75505T22	54.67	75505T72	80.51
0.030"	Black	75505T15	48.24	75505T26	54.67	75505T73	80.51
Mounting Kit						75505T51	$84.15

Adjust-a-Rail Conveyor Guide Rails

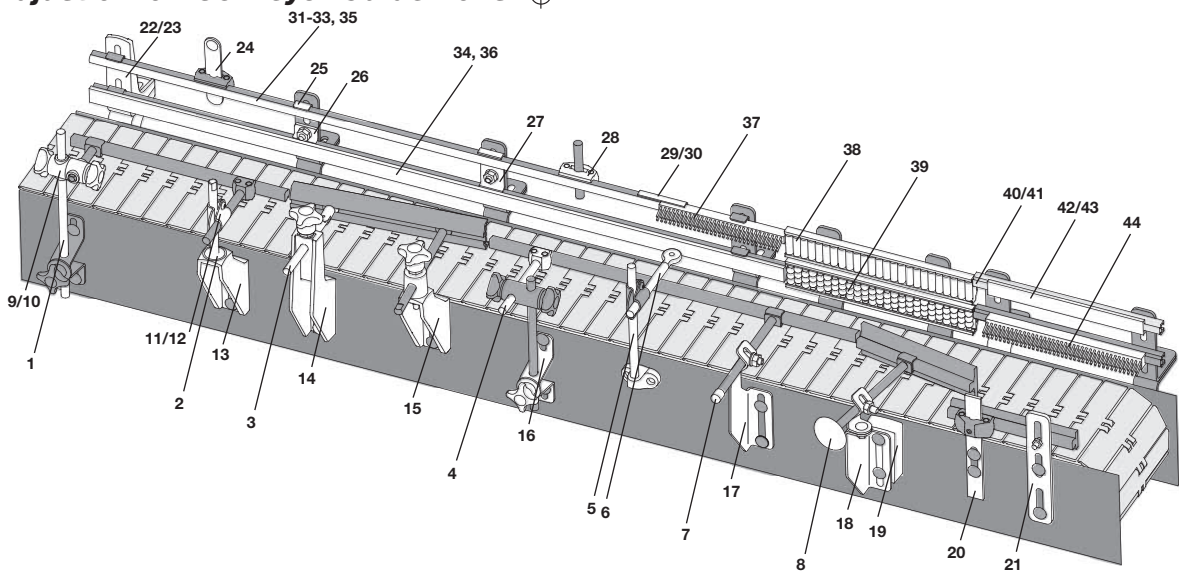

Mounting Rods and Accessories



Use rods with mounting rod brackets, connectors, and clamps to support and position guide rails and accessories. All rods are ½″ diameter and made of stainless steel.

(1) Mounting rods have black plastic end caps.

(2&3) Threaded mounting rods accept a 5⁄16″-18 bolt. *(3) Pivoting threaded mounting rods* make angle-mounting easy.

(4) Mounting rod with clamp includes a plastic clamp with two bolts for a tight grip on your guide rail.

(5) T-style mounting rod includes a plastic bracket for mounting to your conveyor. Mounting holes are ¼″ dia. (fasteners not included).

(6) Rod with accessory/sensor holder has a plastic holder with a ¼″ dia. hole for attachments.

(7&8) End caps cover mounting rod ends.

1	6″ Lg. Mounting Rod	9268K71	$10.37
1	9″ Lg. Mounting Rod	9268K72	12.81
1	12″ Lg. Mounting Rod	9268K73	20.24
2	3″ Lg. Threaded Mounting Rod	9268K74	16.87
2	5″ Lg. Threaded Mounting Rod	9268K75	17.43
2	8″ Lg. Threaded Mounting Rod	9268K76	21.56
2	10″ Lg. Threaded Mounting Rod	9268K77	24.31
3	5″ Lg. Pivoting Threaded Mounting Rod	9268K78	23.54
3	7″ Lg. Pivoting Threaded Mounting Rod	9268K79	26.30
4	5″ Lg. Mounting Rod with Clamp	9268K137	13.30
5	8″ Lg. T-Style Mounting Rod	9268K144	15.81
6	5″ Lg. Rod with Accessory/Sensor Holder	9268K147	12.20
7	Red Plastic End Cap	9268K149	.56
7	Yellow Plastic End Cap	9268K148	.56
8	Black Rubber End Cap	5896T5	8.44

Mounting Rod Connectors

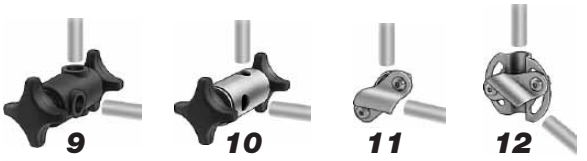

All connectors fit ½″ diameter rods.

(9&10) Connectors have plastic knobs for easy adjustment.

(12) Connector rotates for mounting versatility.

9	90° Angle—Plastic	9268K85	$21.48
10	90° Angle—Stainless Steel	9268K23	49.30
11	90° Angle—Stainless Steel	9268K146	11.17
12	Adjustable Angle—Stainless Steel	9268K145	16.72

Mounting Rod Brackets

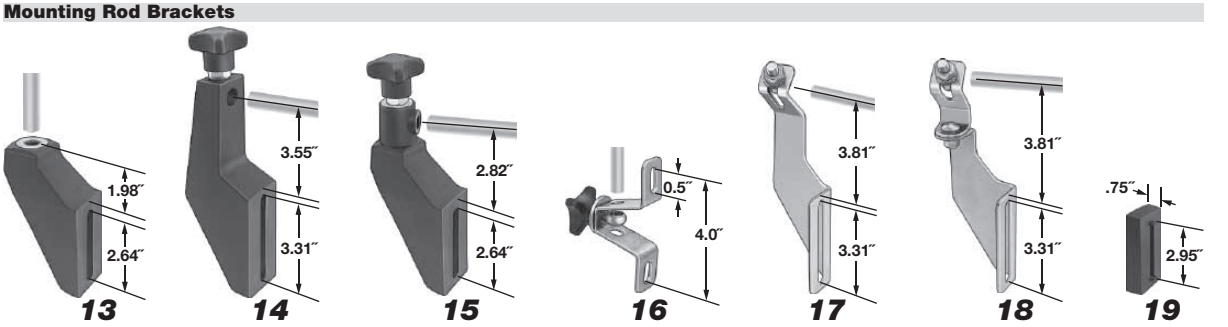

Brackets accommodate ½″ diameter rods. Mounting slots are 0.41″ wide (fasteners not included). *Plastic brackets* and *spacer* are black. Brackets *with swivel head* offer added versatility for angled mounting.

(14-16) Brackets have a plastic knob for easy adjustment.

(19) Bracket spacer increases the distance between the bracket and the conveyor frame. Multiple spacers can be used. Spacer is not for use with Style 16.

13	Plastic Bracket for Threaded Vertical Rod	9268K22	$13.15
14	Plastic Bracket for Horizontal Rod	9268K37	26.80
15	Plastic Bracket w/ Swivel Head for Horizontal Rod	9268K38	27.91
16	Stainless Steel Bracket for Vertical Rod	9268K36	28.91
17	Stainless Steel Bracket for Horizontal Rod	9268K26	30.78
18	Stain. Steel Bracket w/ Swivel Head for Horiz. Rod	9268K27	38.69
19	Plastic Bracket Spacer	9268K39	6.37

(Continued on following page)

Adjust-a-Rail Conveyor Guide Rails *(Continued from previous page)*

Mounting Bars and Brackets

Mounting bars and brackets support clamps to position guide rails and sensors. Bars and brackets are made of stainless steel, except Style 22, which is black plastic. Mounting fasteners not included, except for Style 20.

(22&23) Mounting brackets are in two pieces that can be offset for extra clearance between the conveyor and the guide rail or sensor.

(24) Bars for sensors mount with *Style 28* clamp to position sensors and reflectors.

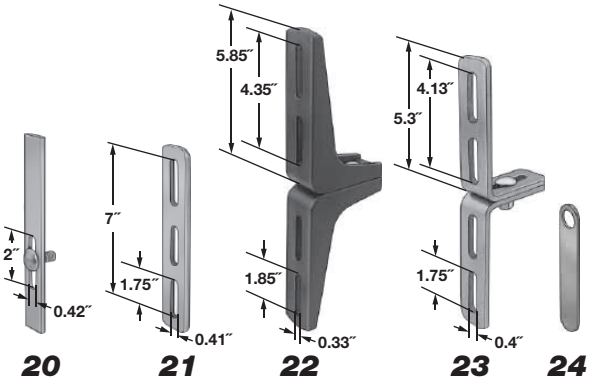

20	4½″ Ht. Mounting Bar	**9268K87**	$13.20
20	7½″ Ht. Mounting Bar	**9268K88**	15.15
21	8″ Ht. Mounting Bar	**9268K143**	18.02
22	11¾″ Ht. Mounting Bracket	**9268K32**	25.52
23	⅛″ Thick., 10⅝″ Ht. Mounting Bracket	**9268K34**	27.06
23	3⁄16″ Thick., 10⅝″ Ht. Mounting Bracket	**9268K151**	33.56
23	¼″ Thick., 10⅝″ Ht. Mounting Bracket	**9268K152**	43.02
24	5″ Ht. Bar for 12 mm Sensors	**9268K83**	16.26
24	5″ Ht. Bar for 18 mm Sensors	**9268K84**	16.26

Rail Clamps and Connectors

Components are made of stainless steel, unless otherwise stated.

(25-27) Rail clamps are used with threaded mounting rods or mounting brackets to hold guide rails in place. *Styles 25 and 27* include hardware for mounting. *Style 26* has a 5⁄16″ dia. mounting hole (fasteners not included).

(28) Rail clamp for mounting rods and bars connects a guide rail to a mounting rod, mounting bar, or sensor bar. Made of black plastic.

(29&30) Rail connectors join two guide rails. *Style 29* taps on with a hammer. *Style 30* includes bolts and nuts for a stronger connection.



25	Rail Clamp	**9268K51**	$3.20
26	Offset-Rail Clamp	**9268K135**	2.52
27	Double-Rail Clamp	**9268K55**	7.57
28	Rail Clamp for Mounting Rods and Bars	**9268K53**	$8.43
29	Rail Connector	**9268K24**	2.83
30	Heavy Duty Rail Connector	**9268K136**	14.24

Guide Rails, Brushes, and Roller Rails

(31-36) Guide rails have UHMW polyethylene wear strips and are USDA compliant. *Styles 31-34* have stainless steel channels. *Styles 35-36* have a white low-friction wear strip and a stainless steel core.

(37) Flexible brushes have a PVC backing and white nylon bristles.

(38&39) Roller rails keep things moving where items tend to jam. Rails have gray acetal rollers and include 5⁄16″-18 bolts for mounting. *Style 38* has an aluminum channel. *Style 39* has a PVC channel.

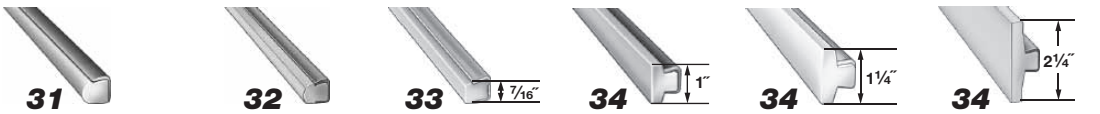

Lg., ft.	31 Round	32 Curved	33 Flat	34 1″ Wide Flat	34 1¼″ Wide Flat	34 2¼″ Wide Flat
With White Low-Friction Wear Strip						
5	**9268K41** $32.55	**9268K42** $32.55	**9268K44** $32.55	**9268K16** $38.83	**9268K43** $42.23	**9268K128** $51.28
8	**9268K103** 55.81	**9268K105** 49.87	**9268K109** 49.87	**9268K101** 59.57	**9268K107** 64.77	**9268K129** 78.64
10	**9268K104** 56.38	**9268K106** 56.38	**9268K111** 56.38	**9268K102** 67.23	**9268K108** 74.04	**9268K131** 89.15
With Black Static-Control Wear Strip						
5	**9268K112** 39.29	**9268K115** 39.29	**9268K125** 39.29	**9268K118** 47.14	**9268K122** 51.55	**9268K132** 62.62
8	**9268K113** 60.00	**9268K116** 60.00	**9268K126** 60.00	**9268K119** 72.19	**9268K123** 79.05	**9268K133** 95.62
10	**9268K114** 68.33	**9268K117** 68.33	**9268K127** 68.33	**9268K121** 82.14	**9268K124** 90.24	**9268K134** 108.57

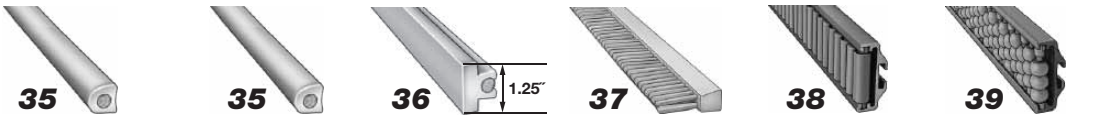

Lg., ft.	35 Flexible Round with 1⁄4″ Dia. Core	35 Flexible Round with 3⁄8″ Dia. Core	36 Flexible Flat with 3⁄8″ Dia. Core	37 Flexible Brush	38 Large Roller Rail	39 Flexible Small Roller Rail
5	**9268K11** $37.00	**9268K12** $42.00	**9268K13** $45.40	**9268K164** $56.92	**9268K139** $172.43	**9268K171** $175.44
10	**9268K31** 74.00	**9268K33** 84.00	**9268K35** 90.80	**9268K166** 113.88		

Build-Your-Own Guide Rail

Choose a channel and a wear strip or brush to create your own rail.

(40&41) Channels are aluminum and attach to mounting bars and brackets with a 5⁄16″-18 bolt and hex nut (not included).

(42&43) Wear strips are made of FDA-compliant white UHMW polyethylene.

(44) Brushes have a PVC channel and white nylon bristles.

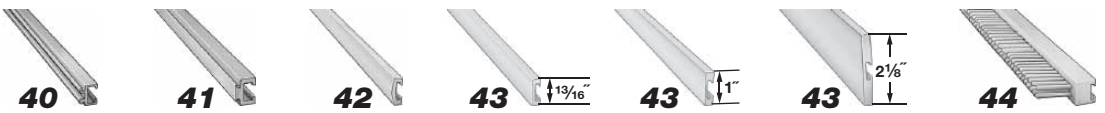

Lg., ft.	CHANNEL Standard	CHANNEL Heavy Duty	WEAR STRIP Curved	WEAR STRIP 13⁄16″ Wide Flat	WEAR STRIP 1″ Wide Flat	WEAR STRIP 2⅛″ Wide Flat	BRUSH
5	**9269K21** $8.12	**9269K42** $13.11	**9269K24** $7.78	**9269K23** $8.67	**9269K25** $10.77	**9269K27** $15.66	**9269K54** $56.92
8		**9269K421** 16.72	**9269K41** 10.00	**9269K46** 9.86	**9269K35** 14.01	**9269K37** 21.36	**9269K55** 91.12
10	**9269K212** 12.68	**9269K422** 20.90	**9269K39** 12.14	**9269K43** 12.14	**9269K36** 14.46	**9269K38** 22.50	**9269K56** 113.88

Material & Pipe Support Stands

Material Support Stands

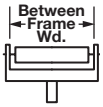















Feed materials into drill presses, band saws, and other equipment with less lifting. Frames are steel.

(A&B) Stands have folding legs with nonskid rubber end caps. Roller is 1⅞″ dia. and made of steel. *Style B* also has a stationary support stand and ⅝″ dia. ball transfers; ball spacing is 2″.

(C) Feet have flanges with a ⅜″ dia. hole for mounting. Roller is 2″ dia. and made of steel.

(D) Four legs with adjustable leveling feet provide stability. Roller is 1.9″ dia. and made of galvanized steel.

(E&F) Stands have multiple 1⅜″ dia. galvanized steel rollers. Roller spacing is 4″. Legs have adjustable leveling feet. *Style E* is 18″ Lg.×15″ Wd. *Style F* is 66″ Lg.×15″ Wd. and has folding legs.

(G) The top rail is 18″ wide and has 1″ dia. steel ball transfers; ball spacing is 2″. Feet have flanges with a ⅜″ dia. hole for mounting.

	Between Frame Wd.	Cap., lbs.	Height		
A	11½″	250	28″ to 43″	5771K51	$51.72
B	12″	200	27″ to 43″	5771K52	71.50
C	16″	300	23″ to 39″	2756T1	64.15
C	16″	300	28″ to 50″	2756T2	66.48
D	16″	500	22″ to 32″	5750K25	140.00
D	16″	500	28″ to 45½″	5750K26	$140.00
E	13″	500	26½″ to 43½″	5760K68	198.67
F	13″	500	26½″ to 43½″	5760K65	335.44
G	—	200	28″ to 48″	5904K4	78.18

Build-Your-Own Material Support Stands



V-Style Support



Wheel Support



Roller Support



Optional Sleeve for V Style



Optional Ball Transfers for V Style



Tripod Frame



Folding Tripod Frame

Combine a support with a frame below to build your own stand (all sold separately). Together, the stand height adjusts from 28″ to 49″.

Supports

V-style support has 4″ Lg.×3″ Wd. arms.
Wheel supports have two 4″ dia. wheels.
Roller support holds both round and flat material. Roller is 2″ dia. and made of steel. Between frame width is 10″.
Optional sleeve and ***ball transfers*** slide onto the arms of the V-style support. Fasteners included. *Note:* Using the optional ball transfers reduces the capacity of the frame to 1,000 lbs.

	Material	For Pipe OD	Cap., lbs.		Each
V-Style Support	Steel	⅛″ to 36″	2,000	8732T21	$39.71
Wheel Support	Steel	1¼″ to 24″	2,000	8732T22	58.08
Wheel Support	Stainless Steel	1¼″ to 24″	2,000	8732T23	90.72
Roller Support	Steel	⅛″ to 10″	2,000	8732T24	115.23
Optional Sleeve for V Style	Stainless Steel	⅛″ to 36″	2,000	8732T33	22.50
					Pair
Optional Ball Transfers for V Style	Steel	⅜″ to 12″	1,000	8732T25	$93.40
Optional Ball Transfers for V Style	Stainless Steel	⅜″ to 12″	1,000	8732T34	124.22

Frames

Frames are steel. *Folding tripod* frame stores in less space.

	Cap., lbs.		Each
Tripod	2,000	8732T26	$76.93
Folding Tripod	2,000	8732T27	93.82

V-Style Material Support Stands







Shown with Optional V Wheels and Casters

Support pipe and bar stock while cutting and welding. Stands and accessories are steel.

(H) Stands have two 1″ dia. ball transfers to feed and rotate material. Ball transfers for 5006T66 adjust to three positions along each arm. Legs have nonskid rubber end caps.

(J) Two 2″ dia. rollers provide smooth material feed. Feet have flanges with ⅜″ dia. holes for mounting.

(K) Each arm is flat and 12″ long. Legs have adjustable leveling feet. *Optional V wheels* mount into the arms to make rotating material easier. Wheels are 4″ dia. *Optional casters* have 8″ dia. steel wheels with a brake.

	For Pipe OD	Cap., lbs.	Height		
H	Up to 3″	150	24″ to 40″	5006T65	$126.45
H	Up to 6″	200	24″ to 40″	5006T66	138.76
J	Up to 4″	400	25¾″ to 38″	5006T71	74.36
K	4″ to 36″	2,500	27″ to 39″	5006T72	333.92
Optional V Wheels for Style K (Set of 4)				5006T73	83.75
Optional Casters for Style K (Set of 5)				5006T94	336.18

Adjustable Pipe Support Stands

Tabletop Stand



Stand sits on your work surface and allows you to position pipe perpendicular or parallel to the frame. Frame is steel with four 4½″ dia. steel wheels and 1½″ dia. axles. Wheels adjust to fit 3″ to 30″ OD pipe. Capacity is 2,500 lbs. Overall size is 17½″ Lg.×6½″ Wd.×6¼″ Ht.

2683T15 ..... **Each** $98.36

Build-Your-Own Stands



Tabletop Frame with Ball Transfer Supports



Fixed Ht. Frame with Steel Wheel Supports

Combine a frame and a pair of supports to create a tabletop or floor stand. Position the supports along the top of the frame to fit ½″ to 36″ OD pipe.

Frames— Made of steel. *Tabletop* frame is 22″ Lg.×6″ Wd. and has four flanges with ½″ dia. holes for mounting to your work surface.

Supports— *Ball transfers* are 1½″ dia. *Wheels* are 4″ dia. Stainless steel wheels are more corrosion resistant than steel wheels.

	Cap., lbs.		Each
Frames			
Tabletop	2,000	2683T24	$107.92
Fixed 24″ Ht.	2,000	2683T25	154.76
Adjust. 29″ to 43″ Ht.	2,000	2683T26	211.82
Supports			**Pair**
Steel Ball Transfer	1,000	2683T23	$88.75
Steel Wheel	2,000	2683T21	70.73
Stainless Steel Wheel	2,000	2683T22	105.92

Glass-Filled Nylon Frame Hand Trucks

With a frame made of black glass-filled nylon, these trucks are as strong as steel yet as lightweight as aluminum.

Both trucks have a steel handle and load plate. Stair glides on the back let you easily move your load up and down stairs and over curbs. Trucks roll on 10″ dia. wheels. Shipped assembled.

Pneumatic wheels are quiet and shock absorbing. ***Cushion rubber-tread wheels*** handle heavy loads and provide a cushioned ride.



Cap., lbs.	Load Plate, Wd. × Dp.	Handle Ht.		Each
Pneumatic Wheels				
600	14½″ × 7″	48″	24105T21	$70.43
Cushion Rubber-Tread Wheels				
600	14½″ × 7″	48″	24105T22	70.43

Steel Hand Truck with Wood Handles

Wood handles are more comfortable to hold in hot and cold environments, and they make these trucks quieter and more shock absorbing than all-metal trucks.

Frame is 11-ga. steel with a green powder-coated finish. Truck rolls on 10″ dia. rubber-tread wheels.



Cap., lbs.	Load Plate, Wd. × Dp.	Handle Ht.		Each
1,000	23″ × 6″	57″	2604T24	$466.85

Steel Hand Trucks



With Optional Fold-Down Load Plate Extension









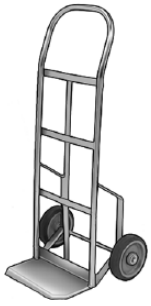

A ***B*** ***C*** ***D*** ***E*** ***F***

Trucks

All welded-steel construction offers you the most durable hand trucks around.

Cushion rubber-tread wheels will not go flat and provide a cushioned ride. ***Pneumatic wheels*** are quiet and shock absorbing. ***Rubber-tread wheels*** handle heavy loads and roll smoothly over rough surfaces. ***Steel wheels*** are ideal for heavy loads.

Heavy duty trucks are made of heavy gauge steel so they stand up to abuse and demanding applications. ***Trucks with stair glides*** make it easier to move loads up and down stairs and over curbs.

(C) Also known as shovel-nose trucks, these trucks have a tapered load plate.
(D) Reduce your tilting effort by 66%. A spring-loaded pedal allows the axle to shift farther from the load plate during tilting.
(E) Has two rear wheels for increased stability and better mobility. Has a tapered load plate.
(F) Type 304 stainless steel offers superior corrosion resistance in washdown and other harsh environments.

Handle Styles



Style 1



Style 2



Style 3



Style 4

Handle Style	Load Plate, Wd. × Dp.	Handle Ht.	Wheel Dia.	Frame Dia.	Frame Gauge	Cushion Rubber-Tread Wheels Cap., lbs.			Pneumatic Wheels Cap., lbs.		
Steel—*Gray powder-coated finish*											
A	3	24″ × 12″	60″	15″	1″	16	—	—	—	1,000	2655T53	$161.60
Steel—*Red powder-coated finish*												
A	1	14″ × 8″	46½″	8″	1″	16	600	2655T31	$40.01	—	—	—
A	1	14″ × 8″	46½″	10″	1″	16	800	2655T32	66.34	800	2655T38	65.79
A	2	14″ × 8″	45½″	10″	1″	16	800	2655T35	73.45	800	2655T51	81.75
A	3	14″ × 8″	50½″	10″	1″	16	800	2655T5	79.36	800	2655T7	82.02
A	4	14″ × 8″	56″	8″	1″	16	600	2655T22●	89.51	—	—	—
Heavy Duty Steel with Stair Glides—*Green powder-coated finish*												
B	1	14″ × 8″	50″	10″	1¼″	14	800	2605T7	139.81	800	2605T9	158.33
B	2	14″ × 8″	50″	10″	1¼″	14	800	2605T15	139.81	800	2605T14	158.33
B	3	14″ × 8″	50″	10″	1¼″	14	800	2605T12	139.81	800	2605T11	158.33
C	1	17½″-14″ × 13″	51″	10″	1¼″	14	800	2660T3	170.83	800	2660T4	180.83
Heavy Duty Steel Easy Tilt with Stair Glides—*Orange enamel finish*												
D	1	14″ × 8″	50″	10″	1″	11	700	26355T21	306.58	600	26355T22	258.19
Heavy Duty Steel with Stair Glides—*Orange enamel finish*							Rubber-Tread Wheels			Steel Wheels		
C	1	17″-11″ × 14″	50″	8″	1¼″	12	1,000	2594T11	$192.70	1,500	2594T12	$265.63
Heavy Duty Steel with Rear Wheels—*Orange enamel finish*												
E	2	18″-11½″ × 14″	62″	10″/6″	1¼″	11	1,000	2581T51	315.47	—	—	—
Type 304 Stainless Steel with Stair Glides—*Polished finish*												
F	1	15″ × 8″	46″	8″	1″	14	500	3993T1	645.23	—	—	—

● Has stair glides.

Optional Fold-Down Load Plate Extension—Extension adds 18″ to the depth of the load plate. Capacity with extension in use is 200 lbs. Compatible with 2655T31, T32, T35, T38, and T51 hand trucks.

2655T81 ..... **Each** $27.58

Warning! ***Never exceed capacities.***

Aluminum Hand Trucks



Straight Frame with Solid Load Plate and Optional Fold-Down Load Plate and Frame Extension



Curved Frame with Open Load Plate and Optional Stair Glides and Accessory Bag

Trucks

All aluminum construction creates trucks that are much lighter in weight. Shipped assembled.

Curved-frame trucks provide better support when moving drums.

Cushion rubber-tread wheels will not go flat and provide a cushioned ride. ***Pneumatic wheels*** are quiet and shock absorbing.

Handle Styles



Style 1



Style 2



Style 3

Handle Style	Cap., lbs.	Handle Ht.	OPEN LOAD PLATE: Load Plate, Wd.×Dp.	8″ Dia. Cushion Rubber-Tread Wheels	Each	10″ Dia. Pneumatic Wheels	Each	SOLID LOAD PLATE: Load Plate, Wd.×Dp.	8″ Dia. Cushion Rubber-Tread Wheels	Each	10″ Dia. Pneumatic Wheels	Each
Straight Frame												
1	600	50″	14″×7½″	2611T11	$134.54	2611T43	$148.05	14″×9″	2611T71	$134.55	2611T75	$148.03
1	600	50″	18″×7½″	2611T12	143.30	2611T44	156.79	18″×9″	2611T72	143.31	2611T76	156.80
2	600	48″	14″×7½″	2611T17	141.90	2611T46	155.40	14″×9″	2611T77	141.92	2611T79	155.40
2	600	48″	18″×7½″	2611T24	150.67	2611T47	164.16	18″×9″	2611T32	150.68	2611T81	164.17
3	600	52″	14″×7½″	2611T49	152.89	2611T5	166.38	14″×9″	2611T83	152.91	2611T84	166.38
3	600	52″	18″×7½″	2611T25	161.66	2611T18	175.17	18″×9″	2611T33	161.66	2611T85	175.15
Curved Frame												
2	600	48″	18″×7½″	2611T27	171.15	2611T48	183.08	18″×7½″	2611T34	171.15	2611T82	183.08

Optional Stair Glides— Make moving up and down stairs and over curbs easy. Glides have reversible wear strips for twice the service life.

2611T65 ..... **Per Set** $39.76

Optional Fold-Down Load Plate Extensions— Fold down to increase the depth of the load plate to 30″. Capacity with extension is 300 lbs.

For Straight-Frame Trucks..... 2611T54 **Each** $55.40
For Curved-Frame Trucks..... 2611T53 **Each** $55.40

Optional Frame Extension— For trucks with Handle Styles 1 and 2 only. Increases handle height to 60″.

2611T62 ..... **Each** $23.14

Optional Accessory Bag— Attaches to the cross braces of the frame to conveniently hold essentials. Bag is 12″ Wd.×18″ Ht.×2″ Dp. Made of black nylon.

2611T37 ..... **Each** $20.90

Light Duty Fold-Up Hand Trucks





9940T52 Shown

Take them anywhere—these trucks fold up for easy transport and space-saving storage. All have a telescoping handle and a shock cord to secure your load. Handle and frame are made of steel. Load plate is chrome-plated steel wire. Stair glides on the back let you easily move up and down stairs and over curbs. Shipped assembled.

Rubber-tread wheels are quiet and protect your floors.

Never-go-flat wheels (also known as semi-pneumatic) are quiet and shock absorbing, and you won't have to worry about having a flat.

9940T52 provides increased stability and better mobility with two fold-down legs that have swivel casters with 3″ dia. solid rubber wheels.

Cap., lbs.	Load Plate, Wd.×Dp.	Handle Ht. Extended	Handle Ht. Retracted	Wheel Dia.		
Rubber-Tread Wheels						
150	11¾″× 9½″	41″	18¾″	4″	9940T49	$103.45
Never-Go-Flat Rubber Wheels						
300	15¾″×12½″	48″	20″	6″	9940T51	190.91
300	15¾″×12½″	48″	20″	6″	9940T52	240.00

Hand Trucks with Safety Straps

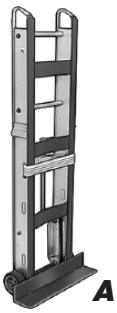

A



B



C

Also known as appliance trucks, these durable hand trucks secure your load with a 2″ wide web strap and a ratchet-style tightener. They also feature padded contact surfaces to protect your load and rotating rubber stair climbers on the back for easy moving up and down stairs and over curbs. Shipped assembled.

(A) Two-wheel aluminum truck is lighter than the steel trucks and has a cotton strap. Frame has a 2″ wide contact surface. The load plate has a red powder-coated finish. Side-mounted hand grips offer better control.

(B) Two-wheel steel truck has a nylon strap and an automatic strap recoil device that stores excess strap. Frame has a red powder-coated finish.

(C) Four-wheel steel trucks offer additional support with two fold-down legs that have swivel casters with 3½″ dia. thermoplastic rubber (TPR) wheels. All have a nylon strap and an automatic strap recoil device that stores excess strap. Frame has a red powder-coated finish.

Cap., lbs.	Load Plate, Wd.×Dp.	Handle Ht.	Wheel Dia.		Each
(A) Aluminum with Rubber-Tread Wheels					
500	24″×4½″	59″	5″	2871T32	$418.83
(B) Steel with Cushion Rubber-Tread Wheels					
800	24″×5″	60″	8″	2598T92	333.85
(C) Steel with Thermoplastic Rubber (TPR) Wheels					
1,200	24″×5″	60″	8″	2654T4	$516.67
1,200	24″×5″	66″	8″	2654T5	527.00
1,200	24″×5″	72″	8″	2654T6	537.33

Warning! ***Never exceed capacities.***

Stair-Climbing Battery-Powered Hand Trucks

Let the truck do the work for you—motorized rotating rollers on the back of these trucks make moving heavy items on stairs easier. Rollers are 2″ dia. polyurethane and run on a ½-hp, 50-amp motor powered by a sealed, maintenance-free battery. A circuit breaker and a battery charger with a 5′10″ long cord with three-prong plug are included. A 2″ wide polyester strap with a ratchet-style tightener secures the load and an automatic recoil device stores excess strap. Trucks are made of magnesium and roll on two rubber-tread wheels. Shipped assembled.

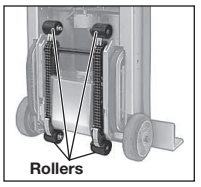
Rollers



Cap., lbs.	Load Plate, Wd. × Dp.	Handle Ht.	Wheel Dia.		Each
850	24″ × 4″	66″	6″	2849T1	$3,190.02
850	24″ × 4″	72″	6″	2849T2	3,257.09

Optional Load Plate Extension—Slips over the load plate to increase size to 28″ Wd. × 12″ Dp. Made of steel.

2849T4 ..... **Each** $149.51

Multitask Hand/Platform/Dolly Trucks

A telescoping frame and folding handles let you easily convert from a hand truck to a one- or two-handled platform truck to a dolly in minutes. Trucks are steel with a textured black powder-coated finish. Stair glides let you easily move your load up and down stairs and over curbs.

In the hand truck position, trucks roll on two polyurethane wheels; in the platform truck and dolly positions they roll on the two polyurethane wheels and two swivel casters with thermoplastic rubber (TPR) wheels. Shipped assembled except for wheels and casters, which must be installed (hardware is included).



Cap., lbs.	Platform Size, Lg. × Wd.	Handle Ht.	Wheel Dia.		Each
500	28″ to 42½″ × 12½″	24″	8″/4″	2838T1	$167.71
500	34″ to 52″ × 13½″	32″	8″/5″	2838T2	203.75

Convertible Hand/Platform Trucks

Trucks

Removable handles let you convert the truck by moving the handle from the hand truck position to the platform truck position. ***Quick convert*** have a lever that releases the platform to fold down when needed and to lock against the frame when not in use. Shipped assembled.

Black Glass-Filled Nylon Frame Truck—Lightweight and an economical alternative to aluminum. The handle is steel with a black powder-coated finish. Stair glides on the back let you easily move your load up and down stairs and over curbs. As a platform truck, it rolls on two pneumatic wheels and two swivel casters with polypropylene wheels.

Steel Trucks—Have a red powder-coated finish. As a platform truck, they roll on two rubber wheels (unless noted) and two swivel casters with polypropylene wheels.

Aluminum Trucks—As a platform truck, they roll on two pneumatic wheels and two swivel casters with thermoplastic rubber (TPR) wheels. One caster has a side wheel brake.

Aluminum Battery-Powered Trucks—The same as the aluminum trucks above but have a drive motor to move heavy loads over long distances as well as up and down inclines. They have a handle-mounted variable speed control with forward and reverse functions. The drive can be disengaged for manual use. Trucks include a battery charger with 5′10″ long cord with three-prong plug.


Steel with Removable Handle



Handle Styles

Style 1



Style 2



Handle Style	Wheel Dia.	As Hand Truck: Cap., lbs.	Load Plate, Wd. × Dp.	Handle Ht.	As Platform Truck: Cap., lbs.	Platform Size, Lg. × Wd. × Ht.	Handle Ht.		Each
Black Glass-Filled Nylon Frame with Removable Handle									
1	10″/5″	600	14½″ × 7″	49½″	600	37¼″ × 12″ × 10½″	37¼″	2621T85	$103.89
Steel with Removable Adjustable Handle									
1	8″/4″	600	14″ × 8″	46″ to 61″	600	36″ × 12″ × 12″	38¾″	9924T21	85.97
1	10″/5″	800	14″ × 8″	46″ to 61″	800	36″ × 12″ × 12″	40½″	9924T31 ♦	107.84
Aluminum Quick Convert									
1	10″/5″	600	18″ × 9″	61½″	1,200	51½″ × 12″ × 11″	46″	2389T21	375.09
2	10″/5″	600	18″ × 9″	52″	1,200	38¼″ × 12″ × 11″	41″	2389T22	347.49
Aluminum Battery-Powered Quick Convert									
1	10″/5″	600	18″ × 7½″	61¾″	1,200	50¾″ × 12″ × 10⅝″	45½″	2389T73	2,348.66
2	10″/5″	600	18″ × 7½″	51¾″	1,200	38″ × 12″ × 10⅝″	40½″	2389T72	2,331.86

♦ Has two pneumatic wheels and two swivel casters with polypropylene wheels.



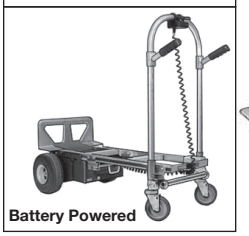
Battery Powered


Aluminum Quick Convert

Dual Battery Pack for 2389T72 ***and T73***—Ideal for high usage applications. Both batteries are enclosed in a case that plugs into the motor and keeps one battery charging while the other is in use.

2389T74 ..... **Each** $394.02

High-Stack Narrow Platform Trucks

Tall handles on each end let you stack higher than other trucks, and a narrow platform allows for maneuvering in tight spaces. Color is gray. The removable handles are steel with a powder-coated finish. Trucks have two rigid wheels in the center of the platform and two swivel casters at each end of the platform. This design allows for tight turns and turning in place. Wheels are polyurethane, unless otherwise stated. Shipped assembled.

Plastic platform is steel reinforced and has a nonslip surface. Center wheels are rubber tread. ***Steel platform*** has a nonslip diamond pattern on the surface.



Cap., lbs.	Platform Size, Lg. × Wd. × Ht.	Handle Ht.	Wheel Dia.		Each
Plastic Platform					
1,500	60″ × 18″ × 11″	63″	8″/4″	8747T21	$344.92
Steel Platform					
1,850	63″ × 16″ × 11″	61″	8″/4″	8747T31	154.74

Warning! ***Never exceed capacities.***

Steel Platform Trucks

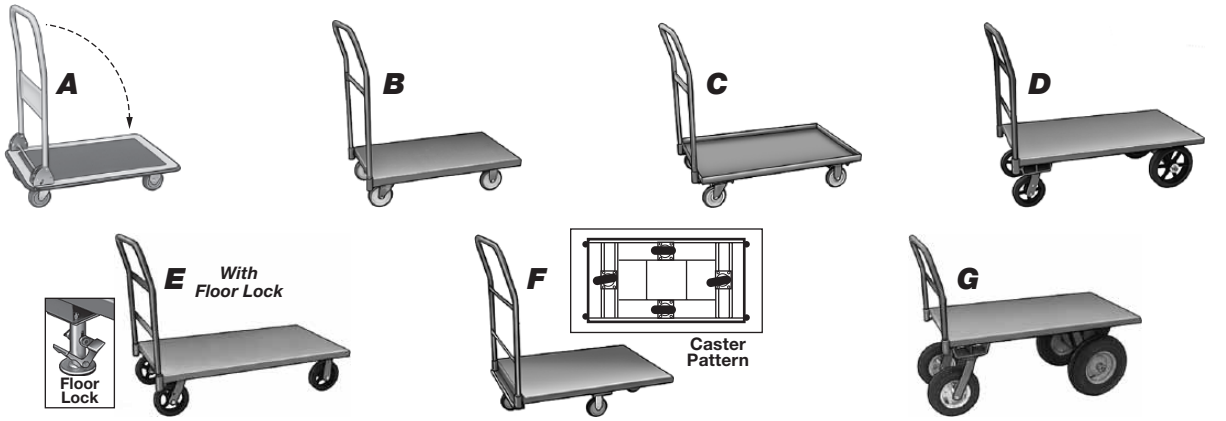

Rugged steel trucks offer a variety of capacities and wheel materials for handling light to heavy duty applications. All roll on two rigid and two swivel casters and are shipped assembled (unless noted). For Stainless Steel Platform Trucks, please see page 1330.

Rubber-tread wheels roll smoothly over rough surfaces. ***Polyurethane wheels*** are smooth rolling and nonmarking. ***Pneumatic wheels*** are quiet and shock absorbing. ***Thermoplastic rubber (TPR) wheels*** roll over rough surfaces and are nonmarking and chemical resistant.

Light Duty Trucks— Have a spring-loaded fold-down handle for convenient storage, protective bumpers, and a nonslip blue vinyl surface on the top of the platform. Trucks have a beige enamel finish.

Medium Duty Trucks— Have a removable handle and a gray powder-coated finish. *Lipped platforms* have a 1½″ high lip that prevents your load from slipping off.

Heavy Duty Trucks— Have a removable handle and are made of heavy gauge steel to withstand demanding applications.

Flush platforms and *flush platforms with floor lock* have a gray powder-coated finish on the platform and a blue powder-coated finish on the handle.

Flush platform quick turns have a gray powder-coated finish. Casters are mounted in a diamond pattern to allow for tighter turns and better maneuverability.

	Platform Size, Lg. × Wd. × Ht.	Platform Gauge	Handle Ht.	Wheel Dia.	Rubber-Tread Wheels Cap., lbs.		Each	Polyurethane Wheels Cap., lbs.		Each
Light Duty										
Flush Platform with Folding Handle										
A	29″ × 19″ × 5 11/16″	16	33¼″	4″	400	2753T33♦	$121.08	—	—	—
A	35″ × 23″ × 7″	16	33″	5″	600	2753T34♦	195.42	—	—	—
Medium Duty										
Flush Platform										
B	32″ × 18″ × 9″	14	37″	6″	1,600	9925T39	180.50	1,200	9925T29★	$142.50
B	36″ × 24″ × 9″	14	37″	6″	1,600	9925T41	191.58	1,200	9925T31★	157.80
B	48″ × 24″ × 9″	14	37″	6″	1,600	9925T42	199.50	1,200	9925T32★	165.85
B	60″ × 24″ × 9″	14	37″	6″	1,600	9925T43	214.15	1,200	9925T33★	177.12
Lipped Platform										
C	32″ × 18″ × 9″	14	37″	6″	1,600	9925T61	180.50	1,200	9925T65★	142.50
C	36″ × 24″ × 9″	14	37″	6″	1,600	9925T62	191.58	1,200	9925T66★	155.17
C	48″ × 24″ × 9″	14	37″	6″	1,600	9925T63	199.50	1,200	9925T67★	163.08
C	60″ × 24″ × 9″	14	37″	6″	1,600	9925T64	210.58	1,200	9925T68★	174.17
Heavy Duty										
Flush Platform										
D	48″ × 24″ × 16½″	12	43″	12″/8″	3,000	2539T22	378.42	4,000	2539T42	438.58
D	48″ × 30″ × 16½″	12	43″	12″/8″	3,000	2539T24	398.74	4,000	2539T44	460.75
D	60″ × 30″ × 16½″	12	43″	12″/8″	3,000	2539T26	421.17	4,000	2539T46	484.50
D	72″ × 36″ × 16½″	12	43″	12″/8″	3,000	2539T28	468.67	4,000	2539T48	532.00
E	48″ × 24″ × 11″	12	39″	8″	2,400	2329T21	242.25	3,600	2329T61●	264.42
E	48″ × 30″ × 11″	12	39″	8″	2,400	2329T23	262.83	3,600	2329T63●	285.00
E	60″ × 30″ × 11″	12	39″	8″	2,400	2329T24	291.33	3,600	2329T64●	311.92
E	72″ × 36″ × 11″	12	39″	8″	2,400	2329T25	338.83	3,600	2329T65●	357.83
Flush Platform with Floor Lock										
E	48″ × 24″ × 11″	12	39″	8″	2,400	2329T31	280.25	3,600	2329T51	302.42
E	48″ × 30″ × 11″	12	39″	8″	2,400	2329T33	298.74	3,600	2329T52	323.00
E	60″ × 30″ × 11″	12	39″	8″	2,400	2329T34	329.33	3,600	2329T53	349.92
E	72″ × 36″ × 11″	12	39″	8″	2,400	2329T35	376.83	3,600	2329T54	395.83
Flush Platform Quick Turn										
F	36″ × 24″ × 8″	12	38″	5″	—	—	—	1,200	2887T31	221.96
F	48″ × 24″ × 8″	12	38″	5″	—	—	—	1,200	2887T32	238.31
F	60″ × 30″ × 8″	12	38″	5″	—	—	—	1,200	2887T33	308.00
F	72″ × 36″ × 8″	12	38″	5″	—	—	—	1,200	2887T34	378.87
					Pneumatic Wheels					
Medium Duty										
Flush Platform										
E	36″ × 24″ × 12″	14	40″	9″	1,200	2535T51	$253.33	—	—	—
E	48″ × 24″ × 12″	14	40″	9″	1,200	2535T52	261.25	—	—	—
E	48″ × 30″ × 12″	14	40″	9″	1,200	2535T55	277.08	—	—	—
Heavy Duty										
Flush Platform										
E	60″ × 30″ × 12″	12	40″	9″	1,200	2535T54	319.83	—	—	—
E	72″ × 36″ × 12″	12	40″	9″	1,200	2535T56	364.17	—	—	—
G	48″ × 24″ × 21″	12	41″	16″/12″	2,500	2535T12	497.74	—	—	—
G	60″ × 36″ × 21″	12	41″	16″/12″	2,500	2535T16	554.17	—	—	—
G	72″ × 36″ × 21″	12	41″	16″/12″	2,500	2535T17	577.92	—	—	—

♦ Has thermoplastic rubber (TPR) wheels and is shipped unassembled. ★ Platform height is 7½″; wheel dia. is 5″.
● Swivel casters have a face wheel brake.

Warning! ***Never exceed capacities.***

Wood Platform Trucks

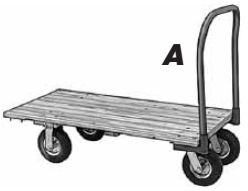

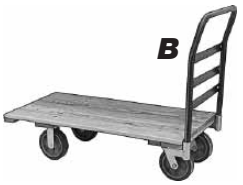



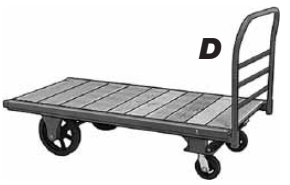

Not only are trucks with a wood platform quieter, they grip your load and absorb impact better than trucks with a steel platform. All have a removable steel handle. Trucks roll on two rigid and two swivel casters. ***Rubber-tread wheels*** roll smoothly over rough surfaces. ***Polyurethane wheels*** are smooth rolling and nonmarking. ***Pneumatic wheels*** are quiet and shock absorbing.

(A) Handle has a green powder-coated finish.

(B) Handle has a blue painted finish. *Trucks with polyurethane wheels* have a side wheel brake on the swivel casters.

(C) A steel edge around the platform and steel reinforcing offer support, stability, and protection. Handle has a blue painted finish.

(D) A steel edge around the platform and steel reinforcing offer support, stability, and protection. Handle has a gray powder-coated finish.

	Cap., lbs.	Platform Size, Lg. × Wd. × Ht.	Handle Ht.	Wheel Dia.		Each
Medium Duty						
With Rubber-Tread Wheels						
A	1,400	30″ × 18″ × 8½″	34⅜″	5″	2873T75	$184.77
A	1,400	42″ × 24″ × 8½″	32″	5″	2873T76	206.00
A	1,400	48″ × 24″ × 8½″	32″	5″	2873T77	214.29
A	1,400	60″ × 30″ × 8½″	32″	5″	2873T78	241.85
A	2,000	48″ × 24″ × 11½″	35″	8″	9730T78	272.65
A	2,000	60″ × 30″ × 11½″	35″	8″	9730T75	277.85
A	2,000	72″ × 36″ × 11½″	35″	8″	9730T76	331.69
B	2,000	48″ × 24″ × 12″	39½″	8″	2854T31	278.35
B	2,000	48″ × 30″ × 12″	39½″	8″	2854T33	293.85
B	2,000	60″ × 30″ × 12″	39½″	8″	2854T34	312.66
With Polyurethane Wheels						
B	2,400	48″ × 24″ × 12″	39½″	8″	2506T41	340.75
B	2,400	48″ × 30″ × 12″	39½″	8″	2506T43	356.25
B	2,400	60″ × 30″ × 12″	39½″	8″	2506T44	375.06
B	2,400	72″ × 36″ × 12″	39½″	8″	2506T48	419.65

	Cap., lbs.	Platform Size, Lg. × Wd. × Ht.	Handle Ht.	Wheel Dia.		Each
Medium Duty (Cont.)						
With Pneumatic Wheels						
B	1,200	48″ × 24″ × 14¼″	41¾″	10″	9730T81	$345.95
B	1,400	60″ × 30″ × 14¼″	41¾″	10″	9730T85	380.26
B	1,400	72″ × 36″ × 14¼″	41¾″	10″	9730T86	433.58
Heavy Duty with Steel-Edged Platform						
With Rubber-Tread Wheels						
C	1,800	48″ × 24″ × 11¾″	37¾″	8″	8783T53	477.75
C	1,800	48″ × 30″ × 11¾″	37¾″	8″	8783T55	492.48
C	1,800	60″ × 30″ × 11¾″	37¾″	8″	8783T54	526.40
C	1,800	72″ × 36″ × 11¾″	37¾″	8″	8783T56	582.72
D	3,300	48″ × 30″ × 15″	41¾″	12″/8″	2316T32	673.58
D	3,300	60″ × 30″ × 15″	41¾″	12″/8″	2316T33	724.23
D	4,000	48″ × 30″ × 19½″	45½″	16″/8″	2316T62	920.97
D	4,000	60″ × 30″ × 19½″	45½″	16″/8″	2316T63	970.64
D	4,000	72″ × 36″ × 19½″	45½″	16″/8″	2316T65	1,025.13

Aluminum Platform Trucks

Aluminum platform trucks weigh less than many steel and wood platform trucks yet are just as strong. Handle is removable. Trucks roll on two rigid and two swivel casters with rubber wheels. All are shipped unassembled.

Diamond-tread platforms grip your load.





Cap., lbs.	Platform Size, Lg. × Wd. × Ht.	Handle Ht.	Wheel Dia.		Each
Smooth Platform					
2,000	42″ × 24″ × 11⅞″	41″	8″	2543T25	$384.66
2,000	48″ × 24″ × 11⅞″	41″	8″	2543T26	401.60
2,000	48″ × 30″ × 11⅞″	41″	8″	2543T27	419.61
2,000	60″ × 30″ × 11⅞″	41″	8″	2543T28	457.02
2,000	72″ × 30″ × 11⅞″	41″	8″	2543T3	486.07
Diamond-Tread Platform					
2,000	42″ × 24″ × 11⅞″	41″	8″	2543T29	418.27
2,000	48″ × 24″ × 11⅞″	41″	8″	2543T31	433.91
2,000	48″ × 30″ × 11⅞″	41″	8″	2543T32	459.73
2,000	60″ × 30″ × 11⅞″	41″	8″	2543T33	527.14

Ergonomic Raised Platform Trucks

Be good to your back—the raised platform on these trucks provides a comfortable work height to reduce the amount of bending over while loading and unloading. Frame and removable handle are made of steel with a powder-coated finish. Trucks roll on two rigid and two swivel casters with rubber-tread wheels.

Swivel casters are available with and without a side wheel brake.

Steel platforms offer better strength and durability compared to wood and plastic. Color is red.

Wood platforms are impact absorbing and quieter than steel. Frame and handle are red.

Plastic platforms are lightweight and resist dents and corrosion. Color is red.



				FIXED-HEIGHT TRUCKS				***ADJUSTABLE-HEIGHT TRUCKS***			
Cap., lbs.	Platform Size, Lg. × Wd.	Handle Ht.	Wheel Dia.	Platform Ht.	***Swivel Casters without Brake***	Each	***Swivel Casters w/ Side Wheel Brake***	Each	Platform Ht.	***Swivel Casters without Brake***	Each	***Swivel Casters w/ Side Wheel Brake***	Each
Steel Platform													
1,200	48″ × 24″	43″	8″	26″	2349T35	$456.25	2349T37	$490.95	26″ to 32″	2349T51	$454.70	2349T53	$489.42
1,200	60″ × 30″	43″	8″	26″	2349T36	508.32	2349T38	543.02	26″ to 32″	2349T52	482.11	2349T54	516.81
Wood Platform													
1,200	48″ × 24″	43″	8″	26″	2349T2	327.40	2349T3	362.11	26″ to 32″	2349T41	385.21	2349T43	394.98
1,200	60″ × 30″	43″	8″	26″	2349T4	370.17	2349T5	404.89	26″ to 32″	2349T42	418.42	2349T44	453.12
Plastic Platform													
1,200	48″ × 24″	43″	8″	26″	2349T31	418.49	2349T33	453.19	26″ to 32″	2349T45	444.80	2349T47	479.52
1,200	60″ × 30″	43″	8″	26″	2349T32	452.99	2349T34	487.69	26″ to 32″	2349T46	480.49	2349T48	515.20

Warning! ***Never exceed capacities.***

Plastic Platform Trucks

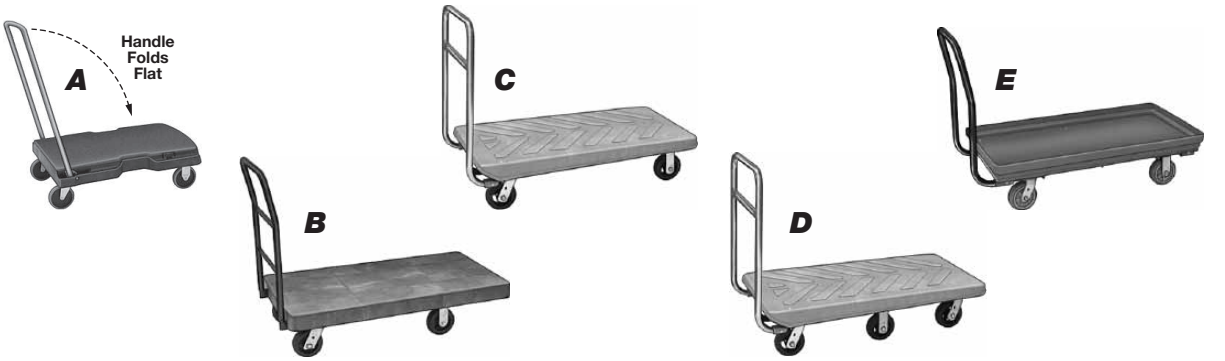

Plastic platforms resist corrosion and dents. Trucks have a removable handle and two rigid and two swivel casters (unless noted). *Styles A* and *B* are shipped unassembled. *Styles C-E* are shipped assembled.

Steel-reinforced platforms offer added strength and durability.

(A) Has a nonremovable three-position handle that folds down flat so truck can be used as a dolly. Platform is black with a nonslip surface; handle is steel with a gray epoxy finish. Casters have thermoplastic rubber (TPR) wheels.

(B) Platform is black with a textured surface; handle is steel with a red powder-coated finish. Wheels are rubber, unless noted.

(C) Platform is gray with a nonslip surface and a protective front bumper; handle is zinc-plated steel. Casters have rubber-tread wheels.

(D) Have the same features as *Style C*, but have four swivel casters and two rigid casters in the center of the platform for easier turning and maneuverability.

(E) Offer a 3″ high lip on the platform that prevents your load from sliding off. The platform is blue and has drainage holes. Handle is steel with a black powder-coated finish and can be used in the handle pockets located at either end of the platform. Casters have thermoplastic rubber (TPR) wheels.

	Cap., lbs.	Platform Size, Lg. × Wd. × Ht.	Handle Ht.	Wheel Dia.		Each
Flush Platform						
A	400	31¾″ × 20⅞″ × 8⅞″	37⅝″	5″	2890T1	$159.71
Steel-Reinforced Flush Platform						
B	1,000	36″ × 24″ × 10½″	39⅝″	6″	9839T31	494.33
B	1,000	70″ × 40″ × 11½″	37″	6″	9839T82	969.93
B	2,000	36″ × 24″ × 10½″	39⅝″	6″	9839T81★	518.12
B	2,000	48″ × 24″ × 12½″	41⅝″	8″	9839T32	552.30
B	2,000	60″ × 30″ × 12½″	41⅝″	8″	9839T34	635.83
B	2,500	48″ × 24″ × 12⅜″	41½″	8″	9839T83★	564.25
Steel-Reinforced Flush Platform (Cont.)						
B	2,500	60″ × 30″ × 12⅜″	41½″	8″	9839T84★	$652.88
C	2,200	48″ × 24″ × 11″	40″	6″	87805T31	348.44
C	2,200	60″ × 30″ × 11″	40″	6″	87805T32	408.93
D	2,400	48″ × 24″ × 11″	40″	6″	87805T41	387.50
D	2,700	60″ × 30″ × 11″	40″	6″	87805T42	444.64
Steel-Reinforced Lipped Platform						
E	1,600	48″ × 24″ × 12″	38″	6″	87535T11	535.45
E	1,600	60″ × 30″ × 12″	38″	6″	87535T12	599.36

★ Wheels are polyolefin.

Add-On Side and End Panels for 9839T82**—**For better load containment, add these panels to convert platform truck to a box truck. Set includes four side panels and two end panels. All are 15″ high; color is black.

9839T85 ..... **Per Set** $389.05

Stainless Steel Platform Trucks

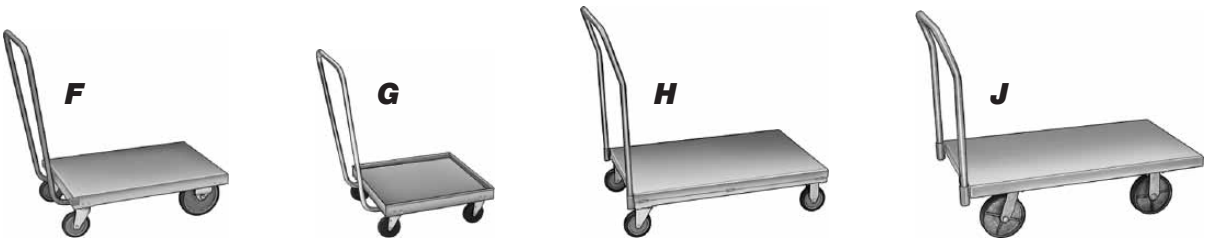

Easy cleaning and superior rust and corrosion resistance—that's what stainless steel platform trucks are all about. Handles are stainless steel (unless noted). Shipped assembled.

(F&G) Have four swivel casters with thermoplastic rubber (TPR) wheels (unless noted). *Lipped platforms* have a 1½″ high lip that prevents your load from sliding off.

(H&J) Have a removable handle and two rigid and two swivel casters with polyurethane wheels.

	Cap., lbs.	Platform Size, Lg. × Wd. × Ht.	Platform Gauge	Handle Ht.	Wheel Dia.		Each
Type 430 Stainless Steel							
Flush Platform							
F	650	30″ × 20″ × 8 5/16″	16	35¼″	8″/5″	8773T16♦	$585.14
H	1,200	30″ × 18″ × 8¾″	16	38″	5″	2603T55	333.47
H	1,200	36″ × 18″ × 8¾″	16	38″	5″	2603T51	364.80
H	1,200	36″ × 24″ × 8¾″	16	38″	5″	2603T52	395.58
H	1,200	48″ × 24″ × 8¾″	16	38″	5″	2603T53	424.77
H	1,200	60″ × 30″ × 8¾″	16	38″	5″	2603T54	537.20
Lipped Platform							
G	200	20¾″ × 20¾″ × 6 15/16″	20	32″	4″	8773T12●	318.29
G	400	20¾″ × 20¾″ × 8⅜″	18	32″	5″	8773T14	466.85
Type 304 Stainless Steel							
Flush Platform							
J	2,000	44″ × 24″ × 11 5/8″	14	38 13/16″	8″	2603T67	636.47
J	2,000	56″ × 30″ × 11 5/8″	14	38 13/16″	8″	2603T68	709.85

♦ Has two rigid and two swivel casters. ● Has a chrome-plated steel handle and solid rubber wheels.

Warning! ***Never exceed capacities.***

Stake Trucks



Wood Platform



Steel Platform

Stakes at each corner hold your load in place during transport and are easily removed for quick unloading. Shipped assembled.

Rubber-tread wheels roll smoothly over rough surfaces. ***Polyurethane wheels*** handle heavier loads and are nonmarking.

Wood platforms absorb minor impact and reduce noise. They have two rigid wheels and two swivel casters mounted in a diamond pattern for better maneuverability. ***Steel platforms*** are more durable than wood. They have two rigid and two swivel casters with side wheel brakes.

Cap., lbs.	Platform Size, Lg. × Wd. × Ht.	Stake Ht.	Wheel Dia.		Each
Wood Platform with Rubber-Tread Wheels					
2,200	48″ × 24″ × 16¼″	29″	12″/6″	2864T21	$685.46
2,200	48″ × 30″ × 16¼″	29″	12″/6″	2864T22	692.57
2,200	60″ × 30″ × 16¼″	29″	12″/6″	2864T23	715.63
Steel Platform with Rubber-Tread Wheels					
2,400	48″ × 24″ × 11″	30″	8″	2864T41	314.91
2,400	48″ × 30″ × 11″	30″	8″	2864T42	334.26
2,400	60″ × 30″ × 11″	30″	8″	2864T43	360.65
Steel Platform with Polyurethane Wheels					
3,600	48″ × 24″ × 11″	30″	8″	2864T51	332.50
3,600	48″ × 30″ × 11″	30″	8″	2864T52	351.85
3,600	60″ × 30″ × 11″	30″	8″	2864T53	378.24

Motorized Platform Trucks



Move heavy material without the physical stress of pushing and pulling—these trucks have a totally enclosed, maintenance-free drive system that moves up to 1,000 lbs.

The drive system runs on two rechargeable 12-volt batteries and includes an 8-ft. long self-retracting cord with three-prong plug. Battery charges in five to six hours. Trucks run approximately 15 miles/6 hours per charge.

Trucks are steel with a white powder-coated finish. The reinforced platform has a black nonskid surface. The handle-mounted controller has a two-speed switch, dual thumb controls for forward and reverse, a horn, and an emergency stop switch.

Trucks roll on four swivel casters with thermoplastic rubber (TPR) wheels and have two pneumatic drive wheels. Shipped assembled.

Cap., lbs.	Platform Size, Lg. × Wd. × Ht.	Handle Ht.	Wheel Dia.		Each
1,000	45½″ × 25½″ × 11½″	40″	8.8″/5″	9921T45	$3,089.13
1,000	52″ × 25½″ × 11½″	40″	8.8″/5″	9921T46	3,139.86
1,000	64″ × 25½″ × 11½″	40″	8.8″/5″	9921T47	3,190.58
Replacement 12-Volt Battery				7448K52	94.52

Polypropylene Carts



A

With Optional 4-gal. Utility Bin



B



C



D

Made of strong yet lightweight polypropylene, these carts resist dents and corrosion. Shipped unassembled.

To Order: Please specify color where necessary.

Thermoplastic rubber (TPR) wheels roll over rough surfaces and are nonmarking and chemical resistant. ***Pneumatic wheels*** are quiet and shock absorbing.

Optional drawers mount under the top shelf. They can be locked and include two keys. Mounting hardware is included.

(A) Shelves have a 1″ high lip on three sides and a ¼″ high lip on one side. Frame is aluminum. Carts roll on four swivel casters.

(B) Same as *Style A*, but it has enclosure panels on three sides.

(C) Shelves have a 2¾″ high lip on all sides to prevent items from sliding off. Handle has built-in bins. Rounded corners protect walls and furniture from damage. Carts roll on two rigid and two swivel casters.

(D) Top shelf has recessed edge to catch small parts; bottom shelf has a 2½″ high lip on each end. Handle has built-in bins. Rounded corners protect walls and furniture from damage. Carts roll on two rigid and two swivel casters.

Cart Cap., lbs.	Shelf Size, Lg. × Wd.	Top Shelf Ht.	Shelf Clearance	No. of Shelves	Cap. per Shelf, lbs.	Handle Ht.	Wheel Dia.	Available Colors	Carts	Each	Optional Drawers Cap., lbs.	Dp.	Each
With Two Handles and Lipped Shelves													
Thermoplastic Rubber (TPR) Wheels													
A 200	25″ × 17⅝″	33⅜″	11¾″	3	67	37¾″	4″	Off-White	2240T54	$257.40	—	—	—
A 300	29¼″ × 20″	33½″	11¾″	3	100	37¹³⁄₁₆″	4″	Off-White	2240T55	291.50	15	3″	2240T63 $76.35
B 300	29¼″ × 20¼″	33½″	11¾″	3	100	37¹³⁄₁₆″	4″	Off-White	2240T57	468.77	15	3″	2240T63 76.35
With Single Utility Handle and Lipped Shelves													
Thermoplastic Rubber (TPR) Wheels													
C 500	31⅛″ × 17⅛″	32⅞″	19¾″	2	250	38⅞″	5″	Black, Beige	2602T21	181.05	—	—	—
C 500	36⅜″ × 25¼″	32⅞″	19¾″	2	250	39″	5″	Black, Beige	2602T24	242.07	40	4¼″	2602T42 111.11
C 750	46⅜″ × 25¼″	33¼″	19¾″	2	375	39¼″	5″	Black, Beige	2602T83	422.75	40	4¼″	2602T42 111.11
Pneumatic Wheels													
C 500	36⅜″ × 25¼″	37″	20¾″	2	250	43⅛″	8″	Black	2602T842	509.68	40	4¼″	2602T42 111.11
C 750	46⅜″ × 25¼″	37″	20¾″	2	375	43⅛″	8″	Black	2602T852	634.47	40	4¼″	2602T42 111.11
With Single Utility Handle and Flush Top Shelf													
Thermoplastic Rubber (TPR) Wheels													
D 500	31″ × 17¼″	32⅛″	20¾″	2	250	38⅛″	5″	Black, Beige	2602T61	228.43	—	—	—
D 500	36½″ × 25¼″	32⅛″	20¾″	2	250	38⅛″	5″	Black, Beige	2602T66	253.13	—	—	—

Optional Utility Bins— Snap on to styles A-C. Made of polypropylene. Color is black.

Size		Each
4-Gal.	2602T51	$43.53
8-Gal.	2602T52	91.31

Optional Surge-Protected Outlet Strip for Carts with Single Utility Handle— Three-receptacle, three-prong, 15-amp outlet strip with 15-ft. long power cord and three-prong plug.

2602T53 ..... Each $63.04

Warning! ***Never exceed capacities.***

Food-Grade Polyethylene Carts


With Three Shelves

Carts meet NSF/ANSI standards. They have a 7/16″ high lip around the shelves to contain spills and prevent items from sliding off. The frame is chrome-plated steel. Carts roll on four swivel casters. *4″ dia. wheels* are thermoplastic (TPR) rubber; *5″ dia. wheels* are rubber. Shipped unassembled. **To Order:** Please specify shelf color: blue or gray.

Carts with three shelves have a middle shelf that adjusts in 1″ increments.

Cart Cap., lbs.	Shelf Size, Lg. × Wd.	Top Shelf Ht.	Shelf Clearance	No. of Shelves	Cap. per Shelf, lbs.	Handle Ht.	Wheel Dia.		
300	31 5/8″ × 23 5/8″	33 11/16″	24″	2	150	35 1/2″	4″	5007T61	$182.04
400	31 5/8″ × 23 5/8″	33 11/16″	1″ to 24″	3	150 ■	35 1/2″	4″	5007T71	222.42
400	37 7/16″ × 27 11/16″	35″	24″	2	200	36 7/8″	5″	5007T65	216.75
500	37 7/16″ × 27 11/16″	35″	1″ to 24″	3	200 ■	36 7/8″	5″	5007T75	264.21

■ Never exceed cart capacity.

Plastic Workbenches with Sliding Lid



A sliding lid offers two great functions—a work surface and a locking cover. The lid slides in either direction to extend your work surface. You also can remove the lid completely and store it on the side of the cart. To secure items stored in the top compartment, the lid can be locked with a padlock (not included) that has a maximum shackle diameter of 3/16″.

The workbench is made of gray plastic and has a handle with built-in tool holders at each end. The top compartment has a 3 1/4″ inside height; bottom shelf has a 3″ high lip. Top compartment and lower shelf have a drain plug. Workbench rolls on four swivel casters with solid rubber wheels. Two of the casters have a side wheel brake. Shipped unassembled.

Overall Cap., lbs.	Wd.	Dp.	Ht.	Shelf Dp.	Capacity, lbs. Top	Capacity, lbs. Shelf	Wheel Dia.		
300	38 1/2″	22″	39″	17″	150	150	4″	2205T1	$239.02

Plastic Workbenches


Workbench


Cabinet Workbench


Workbench with Locking Top and Drawer

These workbenches won't rust or dent. All are made of black plastic and roll on two rigid and two swivel casters (two with brake) with rubber wheels. Shipped unassembled.

Workbench has two removable compartmentalized bins at each end and two bins that slide out from either side. Handle has a built-in bin for small items. The bottom shelf has a 2 3/4″ high lip on the ends to keep items from sliding off.

Cabinet workbench is the same as the plastic workbench above, but has a locking cabinet for additional secure storage. Two keys are included.

Workbench with locking top and drawer has a locking top that flips up to reveal a 1 1/2″ deep compartmentalized tray. A locking drawer mounted under the top offers additional secure storage. Drawer is 4″ deep; capacity is 40 lbs. The two included keys fit both the top and the drawer. Workbench also has four hanging hooks and a three-receptacle outlet strip with a 10-ft. long power cord and three-prong plug. The bottom shelf has a 4 1/2″ high lip to keep items from sliding off.

Overall Cap., lbs.	Wd.	Dp.	Ht.	Shelf Dp.	Capacity, lbs. Top	Capacity, lbs. Shelf	Wheel Dia.		
Workbench									
330	38″	19 1/2″	34 1/2″	19″	180	150	5″	2609T11	$433.87
Cabinet Workbench									
330	38″	19 1/2″	34 1/2″	19″	180	150	5″	2609T12	592.24
Workbench with Locking Top and Drawer									
500	53″	26″	38″	24″	250	250	5″	2609T31	575.73

Polypropylene Cleaning Carts


A


B

A place for everything—these carts hold your brooms, mops, buckets, cleaning supplies, floor signs, and more. All have three shelves and a front platform ideal for holding a mop bucket. Carts also have grips that accommodate handles up to 1 1/8″ diameter and a yellow vinyl bag that has a side zipper and attaches to the handle. Carts roll on two 8″ dia. rigid thermoplastic (TPR) wheels and two swivel casters with 4″ dia. thermoplastic (TPR) wheels. Shipped unassembled.

(A) Top and bottom shelves have a 3″ high lip; middle shelf and front platform have a 1 1/2″ high lip. Cart has six handle grips. Bag capacity is 20.8 gallons. Color is blue (unless noted).

(B) Top shelf has two removable 10-qt. caddies that each hold six spray bottles. Middle shelf has a 3/4″ high lip; bottom shelf has a 6 3/4″ high lip; and the front platform has a 3 3/4″ high back with a 1 3/4″ high lip on each side that tapers to 1/2″ high in front. Cart has five handle grips and a dust pan holder. Bag capacity is 34 gallons. Shelves and front platform are black.

Cart Cap., lbs.	Shelf Size, Lg. × Wd. Top	Middle	Bottom	Top Shelf Ht.	Shelf Clearance Top to Middle	Shelf Clearance Middle to Bottom	Cap. per Shelf, lbs. Top	Middle	Bottom	Front Platform Size, Lg. × Wd.	Cap., lbs.	Handle Ht.		
(A) With Polypropylene Shelves and Frame														
235	17 1/4″ × 13 1/4″	17 1/4″ × 11″	15 3/4″ × 12″	38 3/8″	12 1/2″	15″	75	15	15	18″ × 17″	50	38 3/8″	7101T73	$200.56
235	17 1/4″ × 13 1/4″	17 1/4″ × 11″	15 3/4″ × 12″	38 3/8″	12 1/2″	15″	75	15	15	18″ × 17″	50	38 3/8″	7101T76 ★	200.56
(B) With Polypropylene Shelves and Aluminum Frame														
250	16 3/4″ × 14 3/4″	16 3/4″ × 14 3/4″	16 3/4″ × 14 3/4″	36 1/2″	10 3/4″	10 3/4″	50	50	50	21 1/2″ × 15 1/2″	100	41″	7101T37 ■	320.16

★ Color is black. ■ Never exceed cart capacity.

Light Duty Carts with Electrical Outlet Strips





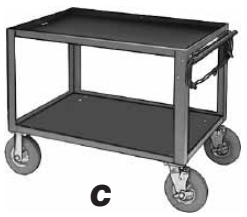





4874T17 Shown

Don't get stuck without an outlet strip and power cord. Also known as A/V and audio/visual carts, these carts come with a three-receptacle, three-prong, 15-amp outlet strip with a 15-ft. long power cord and three-prong plug. Outlet strips are UL listed and CSA certified, except Style C, which is not CSA certified. Shelves have a 1/4" high lip (unless noted). Carts roll on four swivel casters; two with a side wheel brake (unless noted).

Steel carts are heavier and more durable than polyethylene carts. Styles A and B have a black powder-coated finish. Shipped unassembled. Style A is steel. It has a nonslip mat on the top shelf. Style B is steel with plastic shelves. The top shelf has two nonslip strips. Style C has a gray powder-coated finish and includes a nonslip mat on each shelf. Shipped assembled.

Polyethylene carts are lightweight and will not dent or rust. Color is black. Shipped unassembled.

Carts with locking cabinet provide secure storage. They have a recessed handle and include two keys.

(A) *Adjustable-height* carts' top shelf adjusts in 2" increments.

(C) Shelves have a 1½" high lip. Cart rolls on two rigid and two swivel casters. The swivel casters have a side wheel brake.

(D) All shelves have a slip-resistant surface. *Adjustable-height* carts' top shelf adjusts to heights of 16", 26", 34", and 42".

Also Available: Carts with shelves in other colors. Please ask for 4731T888 and specify with or without a cabinet, shelf height, and color: blue, gray, orange, red, or yellow.

	Cart Cap., lbs.	Shelf Size, Lg. × Wd.	Top Shelf Ht.	Shelf Clearance: Top to Bottom	Shelf Clearance: Top to Middle	Shelf Clearance: Middle to Bottom	No. of Shelves	Cap. per Shelf, lbs.	Shelf ga.	Wheel Dia.	Carts	Each	Carts with Locking Cabinet	Each
Steel Carts														
Fixed Height with Solid Rubber Wheels														
A	200	24" × 18"	26"	16¾"	—	—	2	100	20	4"	4874T13	$137.45	—	—
A	200	24" × 18"	34"	—	11½"	12"	3	66	20	4"	4874T14	154.55	—	—
Fixed Height with Solid Polypropylene Wheels														
B	400	24"x18"	34"	—	29½"	—	2	200	—	4"	—	—	5065T44	$280.00
Adjustable Height with Solid Rubber Wheels														
A	200	24" × 18"	24" to 42"	—	16¾" Max.	14¾"	3	66	20	4"	4874T16	130.17	4874T17	216.70
Fixed Height with Pneumatic Wheels														
C	600	48" × 30"	34"	20"	—	—	2	300	12	8"	27095T4★	560.42	—	—
Polyethylene Carts														
Fixed Height with Solid Rubber Wheels														
D	200	24" × 18"	16"	8"	—	—	2	100	—	4"	4731T51	90.77	—	—
D	200	24" × 18"	26"	16½"	—	—	2	100	—	4"	4731T52	86.15	4731T72	176.92
D	200	24" × 18"	34"	—	8½"	16½"	3	66	—	4"	4731T53	104.62	4731T73	193.85
D	200	24" × 18"	42"	—	16½"	16½"	3	66	—	4"	4731T54	110.77	4731T74	196.92
E	300	32" × 24"	27"	18"	—	—	2	200/100 ♦	—	4"	27995T22	185.96	27995T41	307.75
E	300	32" × 24"	40"	—	11½"	18"	3	150/75 ♦	—	4"	27995T33	231.58	27995T42	343.86
E	300	32" × 24"	48"	—	19½"	18"	3	150/75 ♦	—	4"	27995T34	236.84	27995T43	359.65
E	300	32" × 24"	54"	—	25½"	18"	3	150/75 ♦	—	4"	27995T35	236.84	27995T44	363.16
Adjustable Height with Solid Rubber Wheels														
D	200	24" × 18"	16" to 42"	—	16½" Max.	16½"	3	66	—	4"	4731T55	125.42	4731T75 ▲	203.08

★ Outlet has six receptacles. ♦ First capacity listed is for the top shelf; the second listing is for all other shelves.
▲ Top shelf height is 26" to 42".

Gentle-Ride Instrument Carts with No-Slip Shelves

Have a safe journey—the shelves on these steel carts have a nonslip vinyl surface that keeps your load in place. Two rigid and two swivel casters with pneumatic wheels (unless noted) provide a cushioned ride. Color is gray. Shipped assembled.

(F) Have a protective bumper around the top shelf to protect walls and furniture from damage.

(G) *Lipped shelves* have a 1½" high lip.

(H) Have a protective bumper around the top shelf, a 5" deep lockable drawer with two keys, and a six-receptacle, three-prong, 15-amp outlet strip with a 15-ft. long power cord and three-prong plug. The outlet strip is UL listed and has a circuit breaker.







With Lipped Shelves

	Cart Cap., lbs.	Shelf Size, Lg. × Wd. Top	Shelf Size, Lg. × Wd. Bottom	Top Shelf Ht.	Shelf Clearance	No. of Shelves	Cap. per Shelf, lbs.	Shelf ga.	Handle Ht.	Wheel Dia.	Flush Shelves	Each	Lipped Shelves	Each
F	1,000	36" × 22"	30" × 22"	35"	20"	2	500	14■	34"	9"	2619T61	$380.00	—	—
F	1,000	36" × 22"	30" × 22"	35"	25"	2	500	14■	34"	5"	2619T59 ♥	308.33	—	—
G	1,200	36" × 24"	36" × 24"	34"	18"	2	600	14	37"	9"	23545T61	372.96	23545T71	$372.96
G	1,200	48" × 24"	48" × 24"	34"	18"	2	600	14	37"	9"	23545T62	409.91	23545T72	409.91
G	1,200	60" × 30"	60" × 30"	34"	18"	2	600	14	37"	9"	23545T63	531.30	23545T73	531.30
H	1,200	36" × 24"	26" × 24"	34"	14"	2	600	12	35"	8"	27095T51	756.26	—	—
H	1,200	48" × 24"	38" × 24"	34"	14"	2	600	12	35"	8"	27095T52	848.22	—	—

■ Top shelf is made of ¾" thick wood composite. ♥ Has four swivel casters with polyurethane wheels and side wheel brakes.

Warning! Never exceed capacities.

Light Duty Bolt-Together Steel Carts


A


B


C *With Optional Drawer*


D


E


F


G

An economical alternative to welded carts for less demanding applications. All shelves are reversible from a lipped shelf that keeps items from sliding off to a flush shelf for a smooth work surface. Color is gray. Shipped unassembled.

Carts with 3″ dia. wheels roll on four swivel casters with polypropylene wheels.

Carts with 5″ dia. wheels roll on two rigid and two swivel casters with polypropylene wheels.

Carts with drawers can be locked with a padlock (not included) that has a maximum shackle diameter of 1/4″. For padlocks, please see pages 2914-2925.

(B) Shelves are enclosed on three sides. The back panel can be removed to allow access from two sides.

(D) Also includes four bin boxes for additional storage. The swivel casters have a side wheel brake.

(G) Cabinet has a lock with two keys.

Optional Drawer for Style C Carts— Carts accommodate one or two drawers. Drawer is mounted under top shelf with lip up.

Drawer is 18″ Lg. × 12″ Wd. × 4″ Dp. Capacity is 75 lbs.

4633T66 ..... **Each** $25.68

Cart Cap., lbs.	Shelf Size, Lg. × Wd.	Top Shelf Ht.	Lip Ht.	Shelf Clearance	No. of Shelves/ Drawers	Cap. per Shelf/ Drawer, lbs.	Drawer Depth	Shelf ga.	Handle Ht.	Wheel Dia.	Carts	Each	Extra Shelves	Each
(A) With Shelves														
320	24″ × 18″	34½″	2¼″	24½″	2	100	—	20	—	3″	**9037T32**	$89.66	—	—
500	36″ × 24″	42″	2″	15½″	3	166	—	20	—	5″	**2466T11**	252.53	**2466T31**	$44.22
500	43″ × 20″	42″	2″	15½″	3	166	—	20	—	5″	**2466T13**	263.80	**2466T32**	41.65
(B) With Shelf Enclosures														
500	36″ × 24″	42″	2″	15½″	3	166	—	20	—	5″	**2466T19**	332.00	**2466T31**	44.22
(C) With Shelves and Push Handle														
500	28″ × 20″	32″	3½″	19½″	2	250	—	20	32″	5″	**4633T3**	93.84	**4633T62**	23.42
500	30″ × 16″	32″	3½″	19½″	2	250	—	20	32″	5″	**4633T2**	91.69	**4633T61**	20.87
500	36″ × 24″	32″	3½″	19½″	2	250	—	20	32″	5″	**4633T1**	108.46	**4633T63**	31.73
800	30″ × 16″	32″	3″	19½″	2	400	—	18	32″	5″	**4633T41**	120.32	**4633T64**	27.29
800	36″ × 24″	32″	3″	19½″	2	400	—	18	32″	5″	**4633T42**	146.89	**4633T65**	40.84
1,000	30″ × 18″	36″	2″	24¾″	2	500	—	16	36″	5″	**4794T41**	133.22	**4794T51**	28.55
1,000	36″ × 24″	36″	2″	24¾″	2	500	—	16	36″	5″	**4794T42**	168.33	**4794T52**	40.92
(D) With Shelves, Tool-Holder Handle, and Drawers														
500	28″ × 16″	34″	2″	8″	3/3	200/75■	15⅝″	20	34″	5″	**4794T43**	246.19	—	—
(E) With Shelves and Drawers														
320	24″ × 18″	34½″	2¼″	14½″	2/2	100/75■	4⅝″	20	—	3″	**9037T52**	173.88	—	—
(F) With Drawers														
320	24″ × 18″	34½″	2¼″	—	1/4	100/75■	4⅝″	20	—	3″	**9037T53**	258.06	—	—
(G) With Drawers and Cabinet														
320	24″ × 18″	34½″	2¼″	—	1/2	100/75■	4⅝″	20	—	3″	**9037T51**	265.35	—	—

■ Never exceed cart capacity.

Welded Steel Carts with Extra-High Lipped Shelves


H


J


K

Don't worry about your material slipping or rolling off—an extra-high lip around the shelves gives these carts versatile carrying capabilities.

Carts roll on two rigid and two swivel casters with nonmarking polyurethane wheels. Color is gray. Shipped assembled.

	Cart Cap., lbs.	Shelf Size, Lg. × Wd.	Top Shelf Ht.	Lip Ht. Top	Lip Ht. Bottom	Shelf Clearance	No. of Shelves	Cap. per Shelf, lbs.■	Shelf ga.	Handle Ht.	Wheel Dia.		Each
H	1,200	30″ × 18″	35″	3″	3″	22½″	2	1,200	12	35″	5″	**22041T11**	$215.91
H	1,200	36″ × 24″	35″	3″	3″	22½″	2	1,200	12	35″	5″	**22041T12**	251.80
H	3,600	30″ × 18″	38″	3″	3″	22½″	2	2,000	12	36½″	6″	**22041T41**	269.73
H	3,600	36″ × 24″	38″	3″	3″	22½″	2	2,000	12	36½″	6″	**22041T42**	309.61
H	3,600	48″ × 24″	38″	3″	3″	22½″	2	2,000	12	36½″	6″	**22041T43**	344.37
J	1,200	30″ × 18″	35″	6″	6″	16½″	2	1,200	12	35″	5″	**22041T13**	249.72
J	1,200	36″ × 24″	35″	6″	6″	16½″	2	1,200	12	35″	5″	**22041T14**	303.69
J	3,600	36″ × 24″	38″	6″	6″	16½″	2	2,000	12	36½″	6″	**22041T54**	343.97
J	3,600	48″ × 24″	38″	6″	6″	16½″	2	2,000	12	36½″	6″	**22041T55**	398.02
K	3,600	30″ × 18″	38″	12″	1½″	15″	2	2,000	12	36½″	6″	**22041T61**	303.02
K	3,600	36″ × 24″	38″	12″	1½″	15″	2	2,000	12	36½″	6″	**22041T62**	350.52

■ Never exceed cart capacity.

Warning! ***Never exceed capacities.***

Welded Steel Carts



A

With Two Shelves and Polyurethane Wheels



B

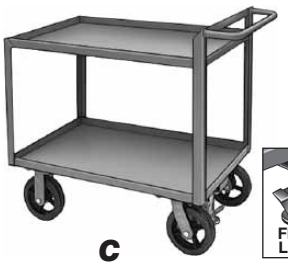

C

With Rubber-Tread Wheels and Floor Lock



D

With Three Shelves

Welded-steel construction offers you the most durable carts around. All shelves are 12-ga. steel. Color is gray. Shipped assembled.

Thermoplastic rubber (TPR) wheels are quiet and protect your floor. ***Polyurethane wheels*** are smooth rolling and nonmarking. ***Rubber-tread wheels*** provide higher capacity and roll smoothly over rough surfaces. ***Phenolic wheels*** are water resistant and an economical choice.

(A) All bottom shelves have a 1½″ high lip. Middle shelf on carts with three shelves is the same (flush or lipped) as the top shelf. Carts roll on two rigid and two swivel casters with a side wheel brake (unless noted).

(B) Have a low top shelf to reduce lifting and a raised offset handle for easier pushing. Bottom shelf has a 1½″ high lip. Carts roll on two rigid and two swivel casters with a side wheel brake.

(C) Have an offset handle for easier pushing and a crossbar to protect your hands when items slide. Carts roll on two rigid and two swivel casters. *Carts with a floor lock* keep cart stationary when loading and unloading.

(D) All shelves are reinforced (unless noted). Carts roll on two rigid and two swivel casters. *Carts with a floor lock* keep cart stationary when loading and unloading.

Medium Duty Carts

Shelf Size, Lg. x Wd.	Top Shelf Ht.	Shelf Clearance	Cap. per Shelf, lbs.■	Handle Ht.	Wheel Dia.	THERMOPLASTIC RUBBER (TPR) WHEELS — Cart Cap., lbs.	Flush Top Shelf	Each	1½″ Lipped Top Shelf	Each	POLYURETHANE WHEELS — Cart Cap., lbs.	Flush Top Shelf	Each	1½″ Lipped Top Shelf	Each
(A) With Two Shelves															
24″ x 18″	35″	25″	600	35″	5″	800	2204T41	$219.30	2204T45	$219.30	1,200	2204T11	$219.30	2204T15	$219.30
24″ x 18″	35″	25″	600	35″	5″	800	2204T51♦	231.11	2204T55♦	231.11	1,200	2204T71♦	231.11	2204T81♦	231.11
30″ x 18″	35″	25″	600	35″	5″	800	2204T42	235.98	2204T46	235.98	1,200	2204T12	235.98	2204T16	235.98
30″ x 18″	35″	25″	600	35″	5″	800	2204T52♦	247.78	2204T56♦	247.78	1,200	2204T72♦	247.78	2204T82♦	247.78
36″ x 24″	35″	25″	600	35″	5″	800	2204T43	263.76	2204T47	263.76	1,200	2204T13	263.76	2204T17	263.76
36″ x 24″	35″	25″	600	35″	5″	800	2204T53♦	275.56	2204T57♦	275.56	1,200	2204T73♦	275.56	2204T83♦	275.56
48″ x 24″	35″	25″	600	35″	5″	800	2204T44	285.96	2204T48	285.96	1,200	2204T14	285.96	2204T18	285.96
48″ x 24″	35″	25″	600	35″	5″	800	2204T54♦	297.78	2204T58♦	297.78	1,200	2204T74♦	297.78	2204T84♦	297.78
(A) With Three Shelves															
24″ x 18″	35″	12″	400	35″	5″	800	2204T31	263.76	2204T34	263.76	1,200	2204T21	263.76	2204T25	263.76
30″ x 18″	35″	12″	400	35″	5″	800	2204T32	274.85	2204T35	274.85	1,200	2204T22	274.85	2204T26	274.85
36″ x 24″	35″	12″	400	35″	5″	800	2204T33	310.96	2204T36	310.96	1,200	2204T23	310.96	2204T27	310.96
(B) With Two Easy-Load Shelves															
30″ x 18″	27″	17″	600	39″	5″	800	23555T41	235.98	23555T46	235.98	1,200	23555T11	235.98	23555T14	235.98
36″ x 24″	27″	17″	600	39″	5″	800	23555T42	268.72	23555T47	268.72	1,200	23555T12	271.17	23555T15	271.17
48″ x 24″	27″	17″	600	39″	5″	800	23555T43	296.96	23555T48	296.96	1,200	23555T13	296.96	23555T16	296.96
60″ x 30″	27″	17″	600	39″	5″	800	23555T44	365.54	23555T49	365.54	1,200	23555T21	365.54	23555T23	365.54
72″ x 36″	27″	17″	600	39″	5″	800	23555T45	494.35	23555T51	494.35	1,200	23555T22	494.35	23555T24	494.35

Shelf Size, Lg. x Wd.	Top Shelf Ht.	Shelf Clearance	Cap. per Shelf, lbs.■	Handle Ht.	Wheel Dia.	RUBBER-TREAD WHEELS — Cart Cap., lbs.	Flush Shelves	Each	1½″ Lipped Shelves▲	Each	POLYURETHANE WHEELS — Cart Cap., lbs.	Flush Shelves	Each	1½″ Lipped Shelves▲	Each
(C) With Two Shelves															
36″ x 24″	30″	19½″	2,000	34″	6″	2,000	2892T411	$314.08	2892T415	$314.08					
36″ x 24″	32″	19½″	2,000	36″	8″	2,400	2892T1	323.56	2892T5	323.56	3,600	2892T51★	$366.15	2892T55★	$366.15
48″ x 24″	30″	19½″	2,000	34″	6″	2,000	2892T412	337.16	2892T416	337.16					
48″ x 24″	32″	19½″	2,000	36″	8″	2,400	2892T2	362.90	2892T6	362.90	3,600	2892T52★	403.75	2892T56★	403.75
48″ x 30″	30″	19½″	2,000	34″	6″	2,000	2892T413	413.04	2892T417	413.04					
60″ x 30″	30″	19½″	1,700	34″	6″	2,000	2892T414	445.31	2892T418	445.31					
60″ x 30″	32″	19½″	1,700	36″	8″	2,400	2892T4	446.50	2892T8	446.50	3,600	2892T54★	490.83	2892T58★	490.83
(C) With Two Shelves and Floor Lock															
36″ x 24″	32″	19½″	2,000	36″	8″	2,400	2892T311	372.40	2892T315	372.40	3,600	2892T61	413.65	2892T65	413.65
48″ x 24″	32″	19½″	2,000	36″	8″	2,400	2892T312	408.50	2892T316	408.50	3,600	2892T62	451.25	2892T66	451.25
60″ x 30″	32″	19½″	1,700	36″	8″	2,400	2892T314	492.10	2892T318	492.10	3,600	2892T64	538.33	2892T68	538.33

■ Never exceed cart capacity. ♦ Has four swivel casters; two with side wheel brake. ▲ Shelf clearance is 18″.
★ Swivel casters have side wheel brake.

Extra-Heavy Duty Carts

Shelf Size, Lg. x Wd.	Top Shelf Ht.	Cap. per Shelf, lbs.■	Handle Ht.	PHENOLIC WHEELS — Cart Cap., lbs.	Shelf Clearance	Wheel Dia.	Flush Shelves	Each	1½″ Lipped Shelves	Each	PHENOLIC WHEELS AND FLOOR LOCK — Cart Cap., lbs.	Shelf Clearance	Wheel Dia.	Flush Shelves	Each
(D) With Two Shelves															
36″ x 24″	36″	2,000	36″	3,600	24″	6″	27015T7★●	$304.72	27015T8★●	$304.72					
36″ x 24″	36″	2,000	36″	4,000	23½″	8″	2463T9	411.19			4,000	23½″	8″	2463T29	$497.38
48″ x 24″	36″	2,000	36″	3,600	24″	6″	27015T1★	345.94	27015T2★	345.94					
48″ x 24″	36″	2,000	36″	4,000	23½″	8″	2463T11	445.95			4,000	23½″	8″	2463T31	487.64
48″ x 34″	36″	2,000	36″	4,000	23½″	8″	2463T14	495.24			4,000	23½″	8″	2463T34	564.05
60″ x 24″	36″	2,000	36″								4,000	23½″	8″	2463T32	535.95
60″ x 30″	36″	1,700	36″	3,600	24″	6″	27015T12★	390.36	27015T14★	390.36					
60″ x 34″	36″	2,000	36″	4,000	23½″	8″	2463T15	505.95			4,000	23½″	8″	2463T35	576.19
72″ x 34″	36″	2,000	36″	4,000	23½″	8″	2463T16	577.38			4,000	23½″	8″	2463T36	645.95
(D) With Three Shelves															
36″ x 24″	36″	2,000	36″	3,600	11″	6″	27015T3★●	353.11	27015T5★●	353.11	4,000	11″	8″	2463T39♥	550.24
48″ x 24″	36″	2,000	36″	3,600	11″	6″	27015T4★	405.94	27015T6★	405.94	4,000	11″	8″	2463T41♥	589.29

■ Never exceed cart capacity. ★ Swivel casters have side wheel brake. ● Only bottom shelf is reinforced. ♥ Capacity per shelf is 1,333 lbs.

Warning! Never exceed capacities.

Welded Steel Carts with Writing Surface



Carts have a 21″ Wd.×12″ Lg. writing surface with a convenient storage pocket underneath—great for taking notes and holding paperwork. The bottom shelf has a 1½″ high lip. Carts roll on two rigid and two swivel casters with polyurethane wheels. Swivel casters have a side wheel brake. Color is gray. Shipped assembled.

Carts with flush top shelf provide a smooth work surface. **Carts with lipped top shelf** have a 1½″ high lip to keep items from sliding off.

Cart Cap., lbs.	Writing Surface Ht.	Shelf Size, Lg.×Wd.	Top Shelf Ht.	Shelf Clearance	No. of Shelves	Cap. per Shelf, lbs.■	Shelf ga.	Handle Ht.	Wheel Dia.	Flush Top Shelf		Lipped Top Shelf	
1,200	39″	36″×24″	35″	25″	2	1,200	12	40″	5″	2689T71	$257.16	2689T81	$257.16
1,200	39″	48″×24″	35″	25″	2	1,200	12	40″	5″	2689T72	283.36	2689T82	283.36

■ Never exceed cart capacity.

Mobile Steel Tables with Shelf



Top is flush without a handle for a flat work surface that makes it easier to move large, bulky items on and off these tables. Tables have a 7-ga. steel frame, a 12-ga. steel top, and a shelf. They roll on two rigid and two swivel casters with brakes. Color is gray. Shipped assembled.

Overall Size		Capacity, lbs.			Polyurethane Wheels				Rubber Wheels			
Wd.	Dp.	Top	Shelf	Overall	Ht.	Wheel Dia.			Ht.	Wheel Dia.		
36″	18″	600	600	1,200	30″	5″	2826T51	$219.98	34″	8″	2826T61	$351.04
36″	24″	600	600	1,200	30″	5″	2826T52	257.48	34″	8″	2826T62	361.04
48″	24″	600	600	1,200	30″	5″	2826T53	282.44	34″	8″	2826T63	391.15
60″	30″	600	600	1,200	30″	5″	2826T54	351.15	34″	8″	2826T64	461.35
72″	36″	600	600	1,200	30″	5″	2826T55	513.42	34″	8″	2826T65	574.17

Food-Grade Steel Carts with Adjustable Shelves



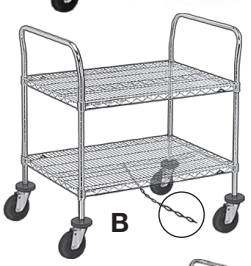



Just what you need in food processing, laboratory, and other sanitary environments. Casters have a bumper to protect walls and furniture from damage. Shipped unassembled.

Extra shelves (sold separately) can be added without disassembling the cart.

Wire shelves minimize dust accumulation and maximize air circulation. Shelves adjust in 1″ increments. Carts roll on four swivel casters.

Type 304 stainless steel carts offer superior corrosion resistance. *Washdown casters* have a grease fitting, making them ideal for high-pressure washdown applications. *Conductive chrome-plated steel* carts have a braided cable that dissipates static charges. Surface resistivity is less than 10^3 ohms.

Solid shelves are ideal for small items and items with feet that could fall through wire shelves. Shelves are 18 gauge and adjust in 1″ increments. Carts roll on four swivel casters.

Cart Cap., lbs.	Shelf Size, Lg.×Wd.	Top Shelf Ht.	Shelf Clearance	No. of Shelves	Cap. per Shelf, lbs.	Handle Ht.	Wheel Dia.	Carts		Extra Shelves	
Wire Shelves											
(A) Chrome-Plated Steel with Cushion Rubber Wheels											
800	36″×18″	31½″	1″ to 21½″	2	400	39″	5″	2698T71	$227.96	2698T87	$42.07
800	36″×24″	31½″	1″ to 21½″	2	400	39″	5″	2698T72	254.84	2698T88	51.55
800	48″×24″	31½″	1″ to 21½″	2	400	39″	5″	2698T73	273.40	2698T89	60.42
(A) Type 304 Stainless Steel with Polyurethane Wheels											
1,200	36″×18″	31½″	1″ to 21½″	2	600	39″	5″	6578T11	603.55	6578T21	146.83
1,200	36″×24″	31½″	1″ to 21½″	2	600	39″	5″	6578T12	682.03	6578T22	186.76
1,200	48″×24″	31½″	1″ to 21½″	2	600	39″	5″	6578T13	762.59	6578T23	225.65
(A) Type 304 Stainless Steel with Washdown Casters and Polyurethane Wheels											
1,200	36″×18″	31½″	1″ to 21½″	2	600	39″	5″	6578T14	876.79	6578T21	146.83
1,200	36″×24″	31½″	1″ to 21½″	2	600	39″	5″	6578T15	954.24	6578T22	186.76
1,200	48″×24″	31½″	1″ to 21½″	2	600	39″	5″	6578T16	1,035.48	6578T23	225.65
(B) Conductive Chrome-Plated Steel with Cushion Rubber Wheels											
800	36″×18″	31½″	1″ to 21½″	2	400	39″	5″	8784T71	260.53	8784T61	54.42
800	36″×24″	31½″	1″ to 21½″	2	400	39″	5″	8784T72	287.40	8784T62	81.35
800	48″×24″	31½″	1″ to 21½″	2	400	39″	5″	8784T73	305.96	8784T63	90.54
Solid Shelves											
(C) Galvanized Steel with Cushion Rubber Wheels											
800	36″×18″	31½″	1″ to 21½″	2	400	39″	5″	8378T21	291.23	8378T91	72.28
800	36″×24″	31½″	1″ to 21½″	2	400	39″	5″	8378T22	323.40	8378T92	86.32
800	48″×24″	31½″	1″ to 21½″	2	400	39″	5″	8378T23	345.86	8378T93	97.54

Food-Grade Light Duty Welded Steel Carts with Stainless Steel Shelves

Corrosion-resistant Type 430 stainless steel shelves—a great choice for food and laboratory applications. Carts have welded construction. Shipped assembled.

(A&B) Shelves have reinforced edges that are rolled under for easy cleaning. Frame is chrome-plated steel. Carts roll on four swivel casters with rubber wheels.

(C) Shelves have a 1½″ high lip on three sides. The handle and front legs have bumpers to protect walls and furniture from damage. Carts roll on two rigid and two swivel casters with polyurethane wheels.


A


B


C

	Cart Cap., lbs.	Shelf Size, Lg. × Wd.	Top Shelf Ht.	Shelf Clearance	No. of Shelves	Cap. per Shelf, lbs.	Shelf ga.	Handle Ht.	Wheel Dia.		Each
A	500	24″ × 15½″	31″	18¾″	2	250	20	35¾″	4″	**2532T13**	$443.49
A	500	33″ × 21″	35⅜″	21½″	2	250	20	40⅛″	5″	**2532T15**	532.20
B	500	33″ × 21″	35⅜″	10¾″	3	165	20	40⅛″	5″	**2532T16**	646.90
C	700	24″ × 15½″	32¾″	19″	2	350	18	34¼″	8″/5″	**6147T11**	670.24
C	700	27″ × 18″	33½″	19″	2	350	18	34½″	8″/5″	**6147T1**	675.88
C	700	33″ × 21″	35⅝″	21″	2	350	18	37⅛″	8″/5″	**6147T3**	776.27

Welded Type 430 Stainless Steel Carts

Type 430 stainless steel gives you corrosion resistance while welded construction provides durability. Carts roll on four swivel casters with rubber wheels. Shipped assembled.

(D) The low top shelf reduces lifting for easier loading and unloading. Two swivel casters have a side wheel brake.

(E) Top and middle shelves have a 1″ high lip on three sides. Bottom shelf has a flush top.

(F) Top and middle shelves have a 1″ high lip on three sides; bottom shelf has a flush top. The handle and front legs have a bumper to protect walls and furniture from damage.

(G) The top and middle shelves have a 2″ high lip on three sides and a guardrail on one side. Bottom shelf has a flush top with a guardrail on all sides. The handle and front legs have a bumper.

(H) A drawer adds storage for tools and supplies. Drawer is 4¼″ deep. Top and middle shelves have a 1″ high lip on three sides. Bottom shelf has a flush top.

(J) Has two drawers for storage. Drawers are 4¼″ deep. Top and middle shelves have a 1″ high lip on three sides. Bottom shelf has a flush top with a guardrail on three sides.


D


E


F


G


H


J

	Cart Cap., lbs.	Shelf Size, Lg. × Wd.	Top Shelf Ht.	Shelf Clearance	No. of Shelves/ Drawers	Cap. per Shelf/ Drawer, lbs.	Shelf ga.	Handle Ht.	Wheel Dia.		Each
With Flush Easy-Load Shelves											
D	400	24″ × 20″	21 3/16″	9½″	2	200	18	—	4″	**9028T31**	$516.67
D	400	24″ × 20″	29 3/16″	17½″	2	200	18	—	4″	**9028T32**	538.33
D	400	32″ × 24″	21 3/16″	9½″	2	200	18	—	4″	**9028T33**	663.33
D	400	32″ × 24″	29 3/16″	17½″	2	200	18	—	4″	**9028T34**	686.67
With Lipped Shelves											
E	300	18¾″ × 16⅝″	30⅛″	10¾″	3	100	22	—	3½″	**2268T21**	247.41
F	300	24″ × 15½″	32⅛″	11¾″	3	100	22	32⅛″	3½″	**2544T6**	212.91
F	300	27″ × 18″	33″	12¼″	3	100	22	33″	3½″	**2544T7**	241.91
F	500	24″ × 15½″	33⅜″	11⅞″	3	165	20	33⅜″	4″	**2544T1**	282.21
F	500	27″ × 18″	33⅜″	11⅞″	3	165	20	33⅜″	4″	**2544T2**	309.82
F	500	35″ × 21″	37¼″	13⅛″	3	165	20	37¼″	5″	**2544T4**	530.50
G	500	27″ × 18″	33¾″	9″	3	165	20	33¾″	4″	**2544T3**	438.16
H	300	18¾″ × 16¾″	30⅛″	8⅛″	3/1	100/20■	22	—	3½″	**2268T23**	523.73
J	500	36⅜″ × 20⅛″	35″	10″	3/2	165/20■	20	—	4″	**2268T25**	1,092.97

■ Never exceed cart capacity.

Warning! ***Never exceed capacities.***

Heavy Duty Welded Type 430 Stainless Steel Carts



A
With Flush Top Shelf



B
With Lipped Top Shelf

Handling heavy loads and withstanding corrosion—that's what these carts are all about. Carts have welded construction. They roll on two rigid and two swivel casters with nonmarking polyurethane wheels; the swivel casters have a side wheel brake. Shipped assembled.

Flush top shelf carts provide a smooth work surface. The bottom shelf is lipped. Carts *with three shelves* have a flush middle shelf.

Lipped top shelf carts keep items from sliding off. All shelves on these carts are lipped.

	Cart Cap., lbs.	Shelf Size, Lg.×Wd.	Top Shelf Ht.	Lip Ht.	Shelf Clearance	Cap. per Shelf, lbs.	Shelf ga.	Handle Ht.	Wheel Dia.	Flush Top Shelf		Lipped Top Shelf	
With Two Shelves													
A	1,200	36″×24″	27″	1½″	17″	600	16	37″	5″	2586T46	$589.48	2586T34	$589.48
A	1,200	48″×24″	27″	1½″	17″	600	16	37″	5″	2586T47	646.66	2586T35	646.66
A	1,200	60″×30″	27″	1½″	17″	600	16	37″	5″	2586T48	807.22	2586T36	807.22
B	1,200	30″×18″	35″	1½″	25″	600	16	35″	5″	2586T43	521.29	2586T31	521.29
B	1,200	30″×18″	35″	3″	22″	600	16	35″	5″	—	—	2586T37	602.67
B	1,200	36″×24″	35″	1½″	25″	600	16	35″	5″	2586T44	589.48	2586T32	589.48
B	1,200	36″×24″	35″	3″	22″	600	16	35″	5″	—	—	2586T38	756.64
B	1,200	48″×24″	35″	1½″	25″	600	16	35″	5″	2586T45	646.66	2586T33	646.66
With Three Shelves													
B	1,200	30″×18″	35″	1½″	12″	400	16	35″	5″	2586T49	611.47	2586T39	611.47
B	1,200	36″×24″	35″	1½″	12″	400	16	35″	5″	2586T51	714.86	2586T41	714.86
B	1,200	48″×24″	35″	1½″	12″	400	16	35″	5″	2586T52	794.02	2586T42	794.02

Mobile Stainless Steel Tables with Shelf



A flush top and shelf provide a smooth, corrosion-resistant work surface and make loading and unloading easy. All tables are 18-ga. stainless steel. They have four swivel casters with rubber wheels. Shipped assembled.

Overall Size			*Capacity, lbs.*					
Wd.	Dp.	Ht.	Top	Shelf	Overall	Wheel Dia.		
33½″	18½″	36″	150	150	300	2″	9029T22	$494.56
36½″	20½″	36″	150	150	300	2″	9029T23	526.55
48½″	24½″	36″	150	150	300	2″	9029T25	604.42

Food-Grade Aluminum Carts with Polyethylene Tote Boxes



With Three Tote Boxes

Slide the included tote boxes in and out on the rails for easy access to stored materials. When not in use on the cart, the tote boxes nest for compact storage. Carts roll on four swivel casters with polyurethane wheels. Shipped assembled.

Tote boxes are made of gray high-density polyethylene. Material is FDA compliant. Design is USDA approved.

Cart frame and **rails** are made of rustproof all-welded aluminum tubing. Material is USDA approved.

No. of Tote Boxes	Cart Cap., lbs.	O'all Size, Lg.×Wd.×Ht.	Tote Box Size, Lg.×Wd.×Ht.	Rail Clearance	Cap. per Tote Box, lbs.	Wheel Dia.		
1	150	25″×16″×19½″	25″×16″×8″	10″	100	5″	5076T81	$133.17
2	250	28″×16″×33½″	25″×16″×8″	10″	100	5″	5076T82	204.96
3	350	27″×19″×42″	25″×16″×8″	10″	100	5″	5076T83	240.82
6	400	27″×19″×72″	25″×16″×8″	10″	100■	5″	5076T84	299.11

■ Never exceed cart capacity.

		Each 1-11	Each 12-Up
Extra Tote Box	5076T42	$21.18	$18.26

Aluminum Ladder Carts



C

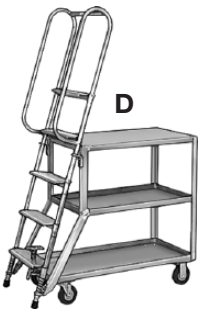

D

No need to lug around a ladder and a cart—these carts do the job of both. A foot pedal on the bottom step activates the built-in floor lock that secures the cart for use as a ladder. Simply step off the ladder to release the floor lock.

All carts have a flush top shelf; middle and bottom shelves have a 1½″ high lip to keep items from sliding off. Shelves are ⅛″ thick.

Rails have nonmarking rubber feet. The steps are 4¾″ Lg.×17″ Wd. Carts roll on two rigid and two swivel casters with nonmarking rubber-tread wheels. Shipped assembled.

(C) Overall height is 50″; top step height is 30″.

(D) Overall height is 71½″; top step height is 50″.

	Cart Cap., lbs.	*Shelf Size, Lg.×Wd.* Top and Middle	Bottom	Shelf Clearance	Top Shelf Ht.	No. of Shelves	Cap. per Shelf, lbs.■	Wheel Dia.		
C	500	31½″×19½″	39½″×19½″	28¾″	38″	2	500	5″	2567T2	$908.52
D	500	31½″×19½″	39½″×19½″	13½″	38″	3	500	5″	2567T3	1,198.74

■ Never exceed cart capacity.

Plated-Steel Wire Basket Carts

Also known as mail carts, these carts have convenient removable baskets. The top basket has removable, adjustable bars to hold letter- and legal-size hanging file folders. Carts have welded construction and a chrome-plated finish. Shipped unassembled.

200-lb. capacity cart rolls on two rigid and two swivel casters with hard rubber wheels. ***250-lb. capacity*** cart has two rigid never-go-flat rubber (also known as semi-pneumatic) wheels and two swivel casters with hard rubber wheels.


250-lb. Capacity

Cart Cap., lbs.	Basket Size, Lg. × Wd. × Ht. Top	Bottom	Basket Clearance	No. of Baskets	Cap. per Basket, lbs.	Handle Ht.	Wheel Dia.		Each
200	25″ × 17¼″ × 11″	25″ × 17¼″ × 7½″	10¾″	2	100	38¼″	4″	1263T7	$245.65
250	36″ × 17¼″ × 11″	36″ × 17¼″ × 7½″	10¾″	2	125	39¼″	10″/5″	1263T9	356.45

	For 200-lb. Capacity Cart	Each	For 250-lb. Capacity Cart	Each
Extra Top Basket	1263T71	$78.54	1263T91	$94.97
Extra Bottom Basket	1263T72	71.31	1263T92	67.73

Twin-Side Steel Shelf Carts

Carts are divided into two identical sides so you can efficiently organize two operations on one cart. Shelves are solid and mounted at a slight incline (unless noted) to keep your material from sliding off. Carts have a gray enamel finish. Shipped assembled.

Cart with Solid Divider and Sides— Cart rolls on two rigid and two swivel casters with phenolic wheels.

Carts with Mesh Divider and Sides— Bottom shelf has a 1½″ high lip to keep your load from sliding off. Carts roll on two rigid and two swivel casters with rubber-tread wheels. Casters are mounted in a diamond pattern to allow for tighter turns and better maneuverability.


With Solid Divider and Sides


With Mesh Divider and Sides

Cart Cap., lbs.	Shelf Size, Lg. × Wd.	Top Shelf Ht.	Shelf Clearance	No. of Shelves	Cap. per Shelf, lbs.	Shelf ga.	Cart Ht.	Handle Ht.	Wheel Dia.		Each
With Solid Divider and Sides											
2,000	39″ × 11″	47¾″	8″	5	200	16	56″	36″	5″	22045T21★	$647.15
With Mesh Divider and Sides											
1,600	48″ × 14″	40″	14⅛″	3	300	14	55⅞″	—	6″	22225T21●	657.69
1,600	60″ × 14″	40″	14⅛″	3	300	14	55⅞″	—	6″	22225T22●	712.50

★ Clearance from bottom shelf is 12″. ● Bottom shelf is flat and made of 12 ga. steel.

Three-Sided Mesh-Panel Steel Shelf Carts

Stack 'em high and have easy access to your load. Tall mesh panels on three sides give you good visibility and prevent your load from slipping off. All carts have a solid flush bottom shelf and a gray powder-coated finish. They roll on two rigid and two swivel casters with rubber-tread wheels. Shipped assembled.

Carts with two shelves have a solid top shelf that can be mounted with the 1½″ high lip up or down. Top shelf adjusts in 3½″ increments from 18″ to 48″ high above the bottom shelf using the included mounting clips.


With Two Shelves

Cart Cap., lbs.	Cap., cu. ft.	Shelf Size, Lg. × Wd.	No. of Shelves	Cap. per Shelf, lbs.	Shelf ga.	Cart Ht.	Handle Ht.	Wheel Dia.		Each
2,000	24	36″ × 24″	1	2,000	12	57″	37″	8″	2559T1	$446.88
2,000	24	36″ × 24″	2	1,000	12	57″	37″	8″	2559T4	657.35
2,000	32	48″ × 24″	1	2,000	12	57″	37″	8″	2559T2	475.71
2,000	32	48″ × 24″	2	1,000	12	57″	37″	8″	2559T5	700.60
2,000	50	60″ × 30″	1	2,000	12	57″	37″	8″	2559T3	559.33
2,000	50	60″ × 30″	2	1,000	12	57″	37″	8″	2559T6	807.29

Steel Mesh Box Trucks

Thanks to the mesh design of these trucks, you can keep your items visible and maximize air circulation. Made of gray powder-coated steel. Trucks roll on two rigid and two swivel casters with urethane wheels. Shipped assembled.



Cart Cap., lbs.	Cap., cu. ft.	Interior Size, Lg. × Wd. × Ht.	Exterior Size, Lg. × Wd. × Ht.	Handle Ht.	Wheel Dia.		Each
1,200	10	36″ × 24″ × 20″	36½″ × 24½″ × 27″	27″	5″	1083N13	$298.87
1,200	13.3	48″ × 24″ × 20″	48½″ × 24½″ × 27″	27″	5″	1083N12	338.52

Disposable Hamper and Box Truck Liners

Protect the inside of your hampers and box trucks. Liners are made of clear polyethylene and are tall enough to extend over the top of the hamper or truck for easy removal. Twist ties are included.



Cap., cu. ft.	Lg. × Wd. × Ht.	Thickness, mil	Case Qty.		Per Case
7	30″ × 20″ × 40″	1.25	50	9021T41	$22.44
10	34″ × 22″ × 43″	1.25	50	9021T42	27.11
15	36″ × 26″ × 48″	1.25	50	9021T43	33.33
19	40″ × 28″ × 50″	1.25	50	9021T44	38.22
27	48″ × 32″ × 50″	1.75	25	9021T45	31.67
32	54″ × 34″ × 50″	1.75	25	9021T46	34.89

Warning! ***Never exceed capacities.***

Fabric Hampers



Canvas

It doesn't matter if your load is wet or dry, these hampers can handle it. All have a welded spring-steel frame; the bottom support is wood reinforced with welded flat steel. They also have reinforced wear points, fabric handles, and a storage pocket. Hampers nest together for storage. They roll on two rigid and two swivel casters with rubber wheels. Casters are mounted in a diamond pattern to allow for tighter turns and better maneuverability, and they have debris guards to protect the wheel bearings from contamination. Shipped assembled.

Canvas hampers have riveted seams for added strength. Color is white.

Vinyl-coated nylon hampers resist dirt and grease and have a smooth, snag-free surface.

To Order: Please specify color: blue, gray, red, or yellow.

Spring-loaded shelves raise and lower the load for easier loading and unloading. Fabric-covered springs on each corner of the vinyl-covered steel shelf mount inside the hamper.

Also Available: Replacement hamper liners. Please ask for 2555T41 for canvas and specify hamper part number; or 2631T888 for vinyl-coated nylon and specify hamper part number and color.

					HAMPERS				Spring-Loaded Shelves	
					Canvas		Vinyl-Coated Nylon			
Cap., lbs.	Cap., cu. ft.	Interior Size, Lg. × Wd. × Ht.	Exterior Size, Lg. × Wd. × Ht.	Wheel Dia.		Each		Each		Each
500	7	30″ × 20″ × 21″	31″ × 21″ × 26″	3″	2555T22	$195.73	2631T12	$195.73	2555T61	$72.31
500	10	34″ × 22″ × 23″	35″ × 23″ × 29″	3″	2555T12	220.77	2631T11	220.77	2555T62	74.10
500	15	36″ × 26″ × 28″	37″ × 27″ × 34″	3″	2555T13	255.13	2631T14	255.13	2555T63	76.84
500	20	40″ × 28″ × 30″	41″ × 29″ × 37″	3″	2555T14	308.51	2631T26	308.51	2555T64	90.56
500	25	48″ × 32″ × 30″	49″ × 33″ × 37″	3″	2555T15	363.92	2631T36	363.92	2555T65	98.79
660	30	54″ × 34″ × 30″	55″ × 35″ × 38″	4″	2555T16	427.94	2631T46	427.94	2555T66	109.77

Elevated Polyethylene Box Trucks



Go easy on your back—these elevated box trucks minimize bending when reaching for loads. The seamless, 1/4″ thick, polyethylene body is strong enough for wet and dry loads. It prevents leaks, resists many chemicals, and can be cleaned with hot water and detergent. The frame is made of tubular steel. Trucks roll on four swivel casters with rubber wheels. Shipped unassembled.

To Order: Please specify color: blue, gray, natural, red, or yellow. *Note:* Red is not recommended for wet materials because color may bleed.

Cap., lbs.	Cap., cu. ft.	Interior Size, Lg. × Wd. × Ht.	Exterior Size, Lg. × Wd. × Ht.	Wheel Dia.		Each
400	5	26″ × 18″ × 18 1/4″	30″ × 22″ × 29 3/4″	3″	22135T3	$234.05
400	7	30″ × 20″ × 20 1/2″	32 1/2″ × 22″ × 32 1/4″	3″	22135T4	245.98

Ribbed-Sidewall Polyethylene Box Trucks



Truck with Steel Frame

Ribbed sidewalls add strength while a seamless interior prevents leaks. The body is made of 1/4″ thick polyethylene that resists many chemicals and can be cleaned with hot water and detergent. The tapered shape allows trucks to nest together for space-saving storage. All casters have rubber wheels and debris guards to protect the wheel bearings from contamination. Shipped assembled.

Trucks with steel frame have a reinforced tubular steel frame with a gray powder-coated finish.

To Order: Please specify color: blue, gray, natural, or red. *Note:* Red is not recommended for wet materials because color may bleed.

Frameless sanitary trucks are made of resins that comply with USDA standards. All have encapsulated hardware and a capped drain for easy cleaning and sanitizing. Casters are mounted directly to the body. Color is natural.

					STEEL FRAME				FRAMELESS SANITARY			
					With Two Rigid and Two Swivel Casters		With Four Swivel Casters		With Two Rigid and Two Swivel Casters		With Four Swivel Casters	
Cap., lbs.	Cap., cu. ft.	Interior Size, Lg. × Wd. × Ht.	Exterior Size, Lg. × Wd.	Wheel Dia.	O'all Ht.	Each	O'all Ht.	Each	O'all Ht.	Each	O'all Ht.	Each
500	10	33″ × 21″ × 23″	36″ × 24″	3″	27″	2880T11 $275.13	2880T5	$275.13	27 1/2″	27255T11 $292.74	27255T21	$292.74
660	15	35″ × 25″ × 28″	39″ × 28 1/2″	4″	34″	2880T12 329.12	2880T6	329.12	35″	27255T12★ 358.37	27255T22★	358.37
760	20	39″ × 27″ × 30 1/2″	42″ × 30″	5″	37″	2880T13 366.80	2880T7	366.80	36 3/4″	27255T13 415.45	27255T23	415.45
760	25	47″ × 31″ × 30 1/2″	50″ × 34″	5″	37″	2880T14 412.46	2880T8	412.46	37 1/2″	27255T14 459.92	27255T24	459.92

★ Capacity is 760 lbs.; wheel diameter is 5″.

Steel-Reinforced Sidewall Polyethylene Box Trucks



Standard with Optional Hinged Lid



Towable

Don't fight the battle of bulging anymore. These trucks can hold higher capacities and keep their shape thanks to tubular steel reinforcement on the exterior of the sidewalls. The seamless, 1/4″ thick, polyethylene body prevents leaks, resists many chemicals, and can be cleaned with hot water and detergent. The tapered shape allows trucks to nest together for space-saving storage. Frame is made of tubular steel with a red powder-coated finish. Body is black. All trucks are USDA compliant for meat and poultry. Shipped assembled.

Standard trucks roll on two rigid and two swivel casters with polypropylene wheels. Casters are mounted in a diamond pattern to allow for tighter turns and better maneuverability.

Towable truck has a hinged tow bar that can be locked in an upright position for nontowing applications. Includes a hitch pin coupler for towing a maximum of three trucks. Truck rolls on two rigid and two swivel casters with polyurethane wheels. Maximum tow speed is 5 mph.

Optional hinged lids cover and conceal your load. They add approximately 8 1/2″ to the exterior height (unless noted). Color is black.

Cap., lbs.	Cap., cu. ft.	Interior Size, Lg. × Wd. × Ht.	Exterior Size, Lg. × Wd. × Ht.	Wheel Dia.	Trucks	Each	Optional Hinged Lids	Each
Standard								
700	8	33″ × 21 1/2″ × 23″	38 3/8″ × 26″ × 28 1/4″	4″	9718T71	$487.53	9718T81	$187.52
800	12	37 1/2″ × 23 1/2″ × 29″	43 1/4″ × 28″ × 33 7/8″	4″	9718T72	596.63	9718T82	205.42
1,000	16	39″ × 27″ × 32″	44 3/8″ × 31″ × 38 1/4″	5″	9718T73	687.90	9718T83	221.62
1,200	20	43 1/2″ × 29 1/2″ × 32″	48 1/4″ × 34 1/8″ × 37 7/8″	5″	9718T74	811.63	9718T84	237.80
Towable								
1,200	27	53″ × 29 1/2″ × 35″	59″ × 34″ × 42 7/8″	5″	9718T75	1,469.66	9718T85♣	322.20

♣ Adds approximately 5″ to exterior height.

Warning! Never exceed capacities.

Double-Wall Rim Polyethylene Box Trucks

Give 'em your toughest jobs—these trucks have a double-wall top rim that can take the hardest knocks. The body is made of 3/16" thick polyethylene that resists many chemicals and can be cleaned with hot water and detergent. The tapered shape allows trucks to nest together for space-saving storage. All have a molded-in handle and a steel frame. Trucks roll on two axle-mounted rubber wheels and two swivel casters with rubber wheels. Shipped assembled.



Cap., lbs.	Cap., cu. ft.	Interior Size, Lg. × Wd. × Ht.	Exterior Size, Lg. × Wd. × Ht.	Wheel Dia.	Blue	Each	Gray	Each
1,000	16	41" × 27" × 28"	48" × 31" × 34½"	10"/5"	9719T19	$567.46	9719T41	$567.46
1,000	24	53" × 27½" × 30"	60" × 31½" × 35½"	12"/5"	9719T21	686.69	9719T42	686.69
1,500	39	65" × 31" × 33"	72" × 35½" × 40"	12"/6"	9719T22	1,010.55	9719T43	1,010.55

Heavy Duty Steel Box Trucks

With their heavy gauge welded-steel construction, these trucks can take a beating yet keep on hauling your waste, scrap, and bulk materials. Bottom panel is solid 12-ga. steel. Trucks roll on two rigid and two swivel casters with rubber wheels. All have a gray powder-coated finish. Shipped assembled.

Trucks with solid side panels prevent small items from falling out. Made of 12-ga. steel. ***Trucks with mesh side panels*** maximize air circulation and visibility of contents. Made of 13-ga. steel.

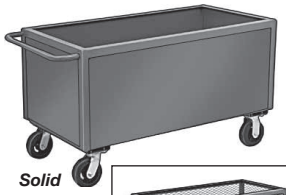

Solid

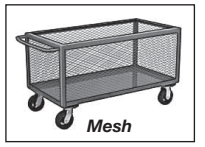

Mesh

Cap., lbs.	Cap., cu. ft.	Interior Size, Lg. × Wd. × Ht.	Exterior Size, Lg. × Wd. × Ht.	Wheel Dia.	Solid Side Panels	Each	Mesh Side Panels	Each
2,000	10	36" × 24" × 20"	41¼" × 24½" × 28½"	6"	9991T3	$329.29	9991T7	$294.85
2,000	13	48" × 24" × 20"	53¼" × 24¼" × 28½"	6"	9991T4	361.39	9991T8	320.05
2,000	20	60" × 30" × 20"	65¼" × 30¼" × 28½"	6"	9991T6	433.66	9991T9	411.61

Wheelbarrows

Load after load, these heavy duty wheelbarrows keep performing. All have a rugged steel frame and legs. Handles are painted steel, unless noted. Shipped unassembled.

Pneumatic wheels are quiet and shock absorbing.

Flat-free wheels are solid yet provide a cushioned ride.

(A) Tray is 17-ga. blue steel and has a rolled rim for extra strength.

(B) Tray is 16-ga. blue steel with a rolled rim for extra strength.



A



B

Cap., cu. ft.	Overall Size, Lg.xWd.xHt.	Wheel Dia.	Pneumatic Wheels	Each	Flat-Free Wheels	Each
(A) Single Wheel						
6	59¾"×25"×27¾"	16"	2323T14★	$127.41	2323T24	$169.25
(B) Dual Wheels						
6	59½"×25½"×29½"	16"	2262T31	209.22	2262T41	259.60

★Handles are wood.

Dump Carts

Save your back—these carts are easier to maneuver than a wheelbarrow. The location of the wheels allows the carts tighter turns and easier dumping. Shipped assembled, unless otherwise stated.

Polyethylene trays are lightweight yet strong, and an economical alternative to steel. ***Steel trays*** have heavy gauge construction to withstand abuse.

(C) Frame is tubular steel with a green powder-coated finish; tray is black. Carts roll on two puncture-proof never-go-flat (also known as semi-pneumatic) wheels. 23115T12 ships unassembled.

(D) Tray has a curved bottom and 1½" wide reinforced rockers. Frame and tray are blue 14-ga. steel. Carts roll on two pneumatic wheels.



C



D

Cap., lbs.	Cap., cu. ft.	Overall Size, Lg. × Wd. × Ht.	Wheel Dia.		Each
(C) With Polyethylene Tray					
200	3½	47" × 27½" × 24¾"	20"	23115T12	$242.92
300	7½	58" × 32¾" × 28¼"	20"	23115T11	277.87
(D) With Steel Tray					
1,760	6	58½" × 29½" × 33"	27"	2810T31	1,082.49
1,760	8	59¾" × 34½" × 33¼"	27"	2810T33	1,117.65

Warning! ***Never exceed capacities.***

Polyethylene Tilting Dump Trucks



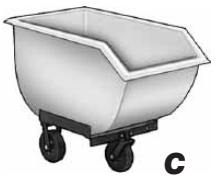

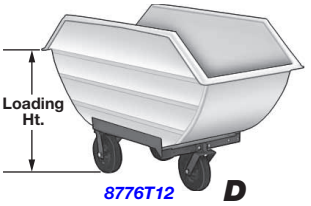




Forklift Pockets





Tough, sturdy, and easy to handle, these trucks are simple to empty—just tilt and dump. All have a seamless polyethylene body that resists many chemicals and can be cleaned with high pressure water or steam.

(A) Trucks have a tubular steel frame and handle (unless noted). Steel side rails (except for 2434T61, T62, and T66) provide added support. All trucks have two axle-mounted wheels and two swivel casters. Color is black. Shipped assembled.

13½- and 27-cu. ft. capacity trucks have hooks below the handle for hanging accessories (unless noted).

(B) Same as *Style A*, but truck is blue with a recycling imprint on the side. Shipped assembled.

(C&D) Sloped ends make loading and dumping these trucks easier. A rounded bottom also adds to the dumping ease. Frame is welded steel. Trucks roll on two rigid and one swivel caster (except for 8776T13, which has two rigid and two swivel casters). Trucks are made of FDA-compliant materials. Color is white. Some assembly is required (hardware included). *Style D* have ribbed walls for added strength.

(E) Trucks can be moved around your facility by a forklift. All have a welded tubular steel frame and handle, 6″ Wd.×3″ Ht. forklift pockets, two axle-mounted wheels, and two swivel casters, unless noted. Color is black. Shipped assembled. 28755T41 and *T42* have steel side rails for added support and hooks below the handle for hanging accessories. Fork pocket spacing is 17″ center-to-center. 28755T43 has fork pockets spaced 15″ center-to-center.

(F) Same as *Style A*, but with a ¾″ dia. hitch pin and 24″ long tow bar that allow you to connect and tow a maximum of three trucks using a lift or forklift truck with a trailer (drawbar coupler) hitch. Max. tow speed is 5 mph. Color is black. Shipped assembled.

Note: Don't exceed 2,100 lbs. total cap. for all three trucks.

(G) Made of structural polyethylene, these trucks are more durable than our other polyethylene trucks. They have two axle-mounted wheels and two swivel casters. Made of USDA-accepted and FDA-compliant materials. Color is black. Shipped assembled.

Capacity lbs.	Capacity cu. ft.	Capacity cu. yds.	Overall Size, Lg.×Wd.×Ht.	Loading Ht.	Wheel Dia.	Trucks	Each	Optional Hinged Lids Ht.	Optional Hinged Lids	Each
(A) With Rubber-Tread Wheels (unless noted)										
450	13½	½	56¾″×28″ ×38⅝″	38⅝″	10″/4″	2434T61★	$580.62	9″	2434T54	$167.22
850	13½	½	60½″×28″ ×38⅝″	38⅝″	10″/3½″	2434T63	860.44	9″	2434T54	167.22
850	27	1	72¼″×33½″×43¾″	43¾″	12″/5″	2434T62	785.17	8½″	2434T55	224.06
1,200	40½	1½	80½″×43″ ×49½″	49½″	12″/4″	2434T65♥	1,901.47	3″	2935T83	531.58
1,250	27	1	72¼″×33½″×43¾″	43¾″	12″/5″	2434T64	1,072.28	8½″	2434T55	224.06
1,400	13½	½	60½″×28″ ×38⅝″	38⅝″	10″/3½″	2434T67	971.48	9″	2434T54	167.22
1,900	54	2	81¼″×46¾″×50″	50″	12″/4″	2434T66♥	2,381.09	—	—	—
2,100	27	1	72¼″×33½″×43¾″	43¾″	12″/5″	2434T68♠	1,235.85	8½″	2434T55	224.06
(B) Recycling with Rubber-Tread Wheels										
850	13½	½	60½″×28″ ×38⅝″	38⅝″	10″/3½″	2434T28	853.99	9″	2434T54	167.22
(C) Easy-to-Load/Dump with One Sloped End and Rubber-Tread Wheels										
500	11	0.4	44″ ×27″ ×35″	29½″	8″/8″	8776T11	339.86	—	—	—
(D) Easy-to-Load/Dump with Two Sloped Ends and Rubber-Tread Wheels										
600	22	0.8	65″ ×32″ ×41″	33¼″	10″/10″	8776T12	494.83	—	—	—
1,200	27	1	72″ ×35″ ×41″	33¼″	10″/10″	8776T13	623.08	—	—	—
(E) With Forklift Pockets and Rubber-Tread Wheels (unless noted)										
850	13½	½	60½″×28″ ×38⅝″	38⅝″	10″/3½″	28755T41■	986.03	9″	2434T54	167.22
1,200	40½	1½	80½″×43″ ×49½″	49½″	12″/4″	28755T43▲	2,150.91	3″	2935T83	531.58
1,250	27	1	72¼″×33½″×43¾″	43¾″	12″/5″	28755T42	1,247.80	8½″	2434T55	224.06
(F) Towable with Polyurethane Wheels										
2,100	27	1	72¼″×33½″×43¾″	43¾″	16″/6″	2434T57	1,463.56	8½″	2434T55	224.06
(G) Heavy Duty with Rubber-Tread Wheels (unless noted)										
450	13½	½	57⅜″×26⅞″×33⅞″	33⅞″	10″/4″	9922T4	514.80	9″	9922T8	113.22
600	20¼	¾	64½″×30¼″×38″	38″	12″/4″	9922T1♦	587.45	8¾″	9922T3	204.95
850	13½	½	57⅜″×26⅞″×33⅞″	33⅞″	10″/4″	9922T5	509.67	9″	9922T8	113.22
1,000	20¼	¾	64½″×30¼″×38″	38″	12″/4″	9922T2	690.52	8¾″	9922T3	204.95
1,250	27	1	70¾″×33½″×42¼″	42¼″	12″/5″	9922T6♠	711.15	9″	9922T9	151.77
2,100	27	1	70¾″×33½″×42¼″	42¼″	12″/5″	9922T7♠	771.84	9″	9922T9	151.77

★ No handle or hooks for hanging accessories. ♥ Wheels are rubber. Casters are phenolic. ♠ Wheels are rubber. Casters are polypropylene.
■ Has one swivel caster. ▲ Wheels are polypropylene. Casters are rubber. ♦ Wheels are polyethylene. Casters are rubber.

Polyethylene Tilt-and-Lock Hoppers



Just pull the handle to release the lock and tilt to empty; tilt back and the hoppers will lock in place. Made of polyethylene, these hoppers are lighter than steel hoppers, plus they won't rust, dent, or pit.

For strength, all hoppers have ribbed side walls and a red steel frame with forklift pockets. They roll on two rigid and two swivel casters with polypropylene wheels. Color is black. Shipped assembled.

Note: Not for use with hand hydraulic pallet trucks.

Capacity lbs.	Capacity cu. ft.	Capacity cu. yds.	Overall Size, Lg.×Wd.×Ht.	Forklift Pockets, Wd.×Ht.	Wheel Dia.		Each
750	13½	½	55″ ×26¼″×47⅝″	229⁄16″×2¼″	6″	2935T71	$1,994.23
1,000	27	1	71½″×31¼″×52½″	25½″ ×2¼″	6″	2935T72	2,283.70
1,000	40½	1½	83⅝″×42⅞″×56¼″	22¾″ ×2½″	6″	2935T45	3,270.39
1,000	54	2	837⁄8″×46″ ×57⅝″	22⅜″ ×2½″	6″	2935T43	3,484.05
1,000	67½	2½	83½″×55″ ×56⅝″	26⅜″ ×2½″	6″	2935T44	3,735.76

Warning! Never exceed capacities.

Steel Easy-Empty Hoppers

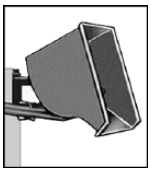

Hopper in Dump Position



Locking Latch on the Hoppers

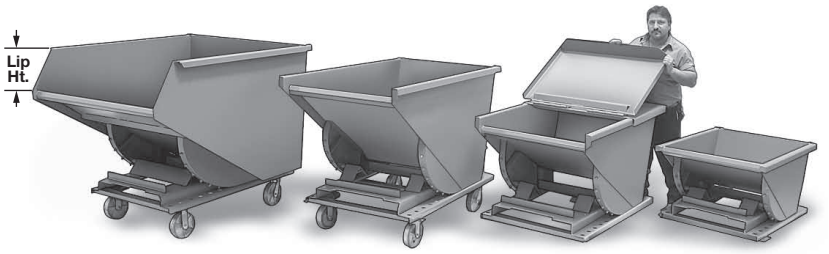

Mobile 54-cu. ft. Capacity | *Mobile 27-cu. ft. Capacity* | *13½-cu. ft. Capacity with Optional Hinged Lid* | *6¾-cu. ft. Capacity*

Release the locking latch and these perfectly balanced hoppers dump their load and then automatically return to an upright, locked position. Made of steel with a gray finish, all have a smooth formed edge around the top and lip (where applicable) for superior durability. The interior seams are welded for strength. All have a pallet base with forklift pockets. Shipped assembled.

Mobile Hoppers— Have two rigid and two swivel casters. *Note:* Casters will add 9″ to the overall height of the hopper.

Cast iron wheels combine strength and durability with abrasion and heat resistance.

Polyurethane wheels allow loads to be rolled easily while protecting your floor.

Hoppers

Capacity cu. ft.	Capacity cu. yds.	Overall Size, Lg. × Wd. × Ht.	Lip Ht.	Forklift Pockets, Wd. × Ht.	PALLET-BASE HOPPERS Cap., lbs.		Each	MOBILE HOPPERS Cap., lbs.	Wheel Dia.	Cast Iron Wheels	Each	Polyurethane Wheels	Each
Standard Duty—*Hopper is 11-ga. Steel; Base is 7-ga. Steel*													
13½	½	53″ × 38″ × 33″	3″	27″ × 3″	3,000	3793T41	$649.12	3,000	8″	3793T46	$938.60	3793T51	$1,043.86
27	1	64″ × 40″ × 40″	3″	29″ × 3″	4,000	3793T42	798.25	4,000	8″	3793T47	1,087.72	3793T52	1,192.98
40½	1½	64″ × 58″ × 40″	3″	29″ × 3″	5,000	3793T43	912.28	5,000	8″	3793T48	1,197.74	3793T53	1,297.74
54	2	64″ × 58″ × 46″	11½″	29″ × 3″	5,000	3793T44	1,017.54	5,000	8″	3793T49	1,297.74	3793T54	1,412.28
Heavy Duty—*Hopper is 7-ga. Steel; Base is 7-ga. Steel*													
6¾	¼	45″ × 34″ × 23″	—	23″ × 3″	4,000	3793T19	587.72	4,000	8″	3793T29	877.19	3793T59	964.91
9	⅓	53″ × 32″ × 33″	3″	21″ × 3″	4,000	3793T11	649.12	4,000	8″	3793T21	938.60	3793T31	1,043.86
13½	½	53″ × 38″ × 33″	3″	27″ × 3″	4,000	3793T12	697.74	4,000	8″	3793T22	991.23	3793T32	1,096.49
20¼	¾	59″ × 40″ × 37″	3″	29″ × 3″	5,000	3793T13	842.11	5,000	8″	3793T23	1,119.79	3793T33	1,236.84
27	1	64″ × 40″ × 40″	3″	29″ × 3″	6,000	3793T14	921.05	5,000	8″	3793T24	1,210.53	3793T34	1,315.79
40½	1½	64″ × 58″ × 40″	3″	29″ × 3″	6,000	3793T15	1,114.04	5,000	8″	3793T25	1,398.60	3793T35	1,497.74
54	2	64″ × 58″ × 46″	11½″	29″ × 3″	6,000	3793T16	1,258.74	5,000	8″	3793T26	1,536.46	3793T36	1,657.89
67½	2½	64″ × 70″ × 46″	11½″	29″ × 3″	5,000	3793T17♣	1,336.81	5,000	8″	3793T73♣	1,640.35	3793T83♣	1,745.61
Extra-Heavy Duty—*Hopper is 7-ga. Steel; Base is ¼″ Thick Steel*													
9	⅓	53″ × 32″ × 33″	3″	21″ × 3″	5,000	3793T58	719.30	5,000	8″	3793T63	1,008.77	3793T64	1,114.04
13½	½	53″ × 38″ × 33″	3″	27″ × 3″	5,000	3793T65	771.93	5,000	8″	3793T66	1,061.40	3793T67	1,164.01
20¼	¾	59″ × 40″ × 37″	3″	29″ × 3″	6,000	3793T68	912.28	5,000	8″	3793T69	1,197.74	3793T78	1,297.74
27	1	64″ × 40″ × 40″	3″	29″ × 3″	7,000	3793T61	991.23	5,000	8″	3793T71	1,280.70	3793T81	1,371.53
54	2	64″ × 58″ × 46″	11½″	29″ × 3″	7,000	3793T62	1,324.56	5,000	8″	3793T72	1,614.04	3793T82	1,719.30
67½	2½	71″ × 47″ × 55″	20″	29″ × 3″	7,000	3793T37■	1,412.28	5,000	8″	3793T74■	1,697.74	3793T84■	1,797.74
81	3	71″ × 58″ × 55″	20″	29″ × 3″	6,000	3793T45	1,596.49	5,000	8″	3793T75	1,879.37	3793T85	1,991.23
108	4	71″ × 80″ × 55″	20″	43″ × 3″	6,000	3793T38	1,982.46	5,000	8″	3793T76	2,271.93	3793T99	2,377.19
135	5	71″ × 100″ × 55″	20″	43″ × 3″	6,000	3793T39	2,324.56	5,000	8″	3793T18	2,614.04	3793T27	2,719.30

♣ Use optional lid 3793T94. ■ Use optional lid 3793T98.

Optional Hinged Lids

Lids for 6¾- to 40½-cu. ft. capacity hoppers are two piece. Lids for 54- to 135-cu. ft. capacity hoppers are three piece.
Note: Lids will add approximately 1″ to the overall height of the hopper.

Fits Hopper Cap. cu. ft.	Fits Hopper Cap. cu. yds.	Overall Size, Lg. × Wd.	Gauge		Each
6¾	¼	42″ × 35″	11	3793T86	$245.45
9	⅓	51¾″ × 33″	11	3793T87	309.09
13½	½	51¼″ × 38¾″	11	3793T88	327.27
20¼	¾	59″ × 41″	11	3793T89	363.64
27	1	64¼″ × 41″	11	3793T91	381.82
40½	1½	64½″ × 59″	11	3793T92	527.27
54	2	76″ × 59″	11	3793T93	$609.09
67½	2½	76″ × 71″	11	3793T94	681.82
67½	2½	89¼″ × 48″	11	3793T98	554.55
81	3	89¼″ × 59″	11	3793T95	630.63
108	4	89¼″ × 81½″	11	3793T96	836.36
135	5	89¼″ × 101½″	11	3793T97	991.38

Steel Bottom-Empty Hoppers

Fill these hoppers with your bulk material, hoist them to your work location, and then release the bottom trapdoor for quick, complete discharge. All are made of steel and have a hoisting eye.
Note: Not recommended for fine material such as sand or powder.

The ***400-lb. capacity hopper*** has a handle on each side of the trap door. The ***800-*** and ***1,600-lb. capacity hoppers*** have one handle for the trapdoor and a positive shutoff to stop the discharge flow between loads.



400-lb. Capacity



800-lb. Capacity

Capacity lbs.	Capacity cu. ft.	Capacity cu. yds.	Overall Size, Lg. × Wd. × Ht.	Bottom Opening	Gauge		Each
400	3½	0.13	18″ × 18″ × 24″	9¼″ × 16½″	18	3674T2	$431.72
800	7	0.26	30″ × 30″ × 28″	10″ × 10″	16	3674T1	749.65
1,600	14	0.52	30″ × 30″ × 41″	10″ × 10″	12	3674T5	969.92

Warning! Never exceed capacities.

Wood Deck Wagons





Look no further if you need a smooth and gentle ride for transporting fragile loads. Wood decks are quieter and more impact absorbing than steel decks. All wagons have a steel frame and a T-style pull handle. They roll on pneumatic wheels that cushion the load over rough surfaces and obstructions.

(A) A two-piece handle with a cushion grip steers each wheel independently for better stability. The T-end is removable for towing applications. Maximum tow speed is 25 mph. Frame and handle have a black painted finish. Shipped unassembled.

(B) Pivoting front wheels and axle provide "fifth-wheel" steering for tighter turns and easier maneuverability. The welded frame and handle have a blue enamel finish. Shipped assembled.

Cap., lbs.	Deck Size, Lg. × Wd. × Ht.	Deck Thick.	Handle Lg.	Wheel Dia.		Each
(A) With Yellow Pine Deck						
2,000	32″ × 28″ × 14″	1½″	32″	10½″	8354T39	$409.43
2,000	47″ × 28″ × 14″	1½″	32″	10½″	8354T41	432.08
2,000	72″ × 28″ × 14″	1½″	32″	10½″	8354T42	454.72
2,000	96″ × 28″ × 14″	1½″	32″	10½″	8354T43	475.47

Cap., lbs.	Deck Size, Lg. × Wd. × Ht.	Deck Thick.	Handle Lg.	Wheel Dia.		Each
(B) With Oak Deck						
2,500	48″ × 30″ × 20⅛″	1″	36″	16″	2313T42	$917.44
2,500	60″ × 36″ × 20⅛″	1″	36″	16″	2313T44	1,025.56
2,500	72″ × 36″ × 20⅛″	1″	36″	16″	2313T45	1,057.47
4,500	72″ × 36″ × 20⅛″	1″	36″	16″	2313T65	1,148.92

Steel Deck Wagons







Dependable and durable, these wagons have a lipped deck to keep items from sliding off. Pivoting front wheels and axle provide "fifth-wheel" steering for tighter turns and easier maneuverability. All have a vinyl-gripped handle that stays upright when not being pulled. Color is red.

Never-go-flat rubber wheels are puncture proof. ***Pneumatic wheels*** offer a cushioned ride.

(C) Perforated decks allow drainage and keep debris from accumulating. Shipped assembled.

(D&E) Solid decks offer maximum durability. *Style D* is shipped assembled; *Style E* is shipped unassembled.

	Cap., lbs.	Deck Size, Lg. × Wd.	Deck Gauge	Lip Ht.	Handle Lg.	***Never-Go-Flat Rubber Wheels*** Deck Ht.	Wheel Dia.		Each	***Pneumatic Wheels*** Deck Ht.	Wheel Dia.		Each
With Perforated Deck													
C	1,200	36″ × 24″	12	1½″	32″	11¼″	10″	23135T51	$185.25	11¼″	10″	23135T52	$220.08
With Solid Deck													
D	1,200	36″ × 24″	12	1½″	32″	10¼″	8″	23135T12	191.73	___	___	___	___
D	1,200	36″ × 24″	12	1½″	32″	11¼″	10″	23135T15	202.09	11¼″	10″	23135T16	240.09
E	1,200	36″ × 24″	12	6″	32″	11¼″	10″	23135T44	241.82	11¼″	10″	23135T45	278.09

Heavy Duty Steel Deck Wagons



Flush Deck with 16″ Dia. Pneumatic Wheels



Lipped Deck with Rubber-Tread Wheels

Bring out the big guns—these rugged wagons handle your heaviest loads. Deck is reinforced for strength. Pivoting front wheels and axle provide "fifth wheel" steering for easier maneuverability and tighter turns. All have a vinyl-gripped T-handle that stays upright when not being pulled. Color is gray. Shipped assembled.

Lipped-deck wagons have a 1½″ high lip to prevent loads from slipping off.

Pneumatic wheels offer a cushioned ride over rough surfaces. ***Rubber-tread wheels*** accommodate heavier loads on smooth surfaces.

Also Available: Wagons with a 2½″ ID tow eye at the end of the handle for intermittent, low-speed towing. These wagons have 16″ dia. pneumatic wheels. Please ask for 2538T888 and specify flush or lipped deck and deck size.

Cap., lbs.	Deck Size, Lg. × Wd. × Ht.	Deck Gauge	Handle Lg.	Wheel Dia.	***Flush Deck***	Each	***Lipped Deck***	Each
With Pneumatic Wheels								
2,000	36″ × 24″ × 16½″	12	35″	12″	2538T11	$388.64	2538T26	$388.64
2,000	48″ × 24″ × 16½″	12	35″	12″	2538T12	397.27	2538T27	397.27
2,000	48″ × 30″ × 16½″	12	35″	12″	2538T13	418.00	2538T28	418.00
2,000	60″ × 30″ × 16½″	12	35″	12″	2538T14	438.73	2538T29	438.73
3,000	48″ × 30″ × 18½″	12	35″	16″	2538T75	452.55	2538T85	452.55
3,000	60″ × 30″ × 18½″	12	35″	16″	2538T76	473.27	2538T86	473.27
3,000	72″ × 36″ × 18½″	12	35″	16″	2538T77	523.36	2538T87	523.36
With Rubber-Tread Wheels								
3,500	36″ × 24″ × 16½″	12	35″	12″	2538T88	428.24	2538T94	428.24
3,500	48″ × 24″ × 16½″	12	35″	12″	2538T89	440.45	2538T95	440.45
3,500	48″ × 30″ × 16½″	12	35″	12″	2538T91	461.18	2538T96	461.18
3,500	60″ × 30″ × 16½″	12	35″	12″	2538T92	481.91	2538T97	481.91
3,500	72″ × 36″ × 16½″	12	35″	12″	2538T93	532.00	2538T98	532.00

Box Trailer



Move large quantities of loose material around your facility. Made of structural foam, the trailer interior is seamless and smooth. The rear panel slides up for easy dumping and cleaning. Trailer rolls on pneumatic wheels for a cushioned ride over rough surfaces. Max. tow speed is 3 mph. Color is black. Shipped unassembled.

Cap., lbs.	Cap., cu. ft.	Interior Size, Lg. × Wd. × Ht.	Exterior Size, Lg. × Wd. × Ht.	Tow Bar Proj.	Wheel Dia.		Each
1,500	15	49″ × 31¾″ × 16″	54⅛″ × 39½″ × 33¼″	21 13/16″	16″	2896T74	$612.05

Warning! ***Never exceed capacities.***

Steering Trailers



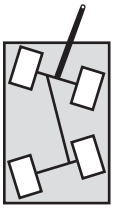



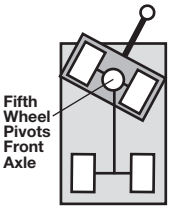

Pull up to five of these welded-steel trailers at the same time using their rear hitch. All roll on pneumatic wheels for a smooth, cushioned ride over rough surfaces. Max. tow speed is 5 mph. Shipped assembled.

Four-wheel steering trailers have pivoting axles connected by a tie rod for accurate tracking when pulling two or more trailers. Color is green.

Fifth-wheel steering trailers have pivoting front wheels and axle for easier maneuverability and tighter turning under heavy loads. Deck is reinforced with 12-ga. square steel channel. Color is gray.

Cap., lbs.	Deck Size, Lg. × Wd. × Ht.	Deck ga.	Tow Bar Proj.	Wheel Dia.		Each
Four-Wheel Steering						
2,000	60″ × 36″ × 19¼″	14	33″	16″	3506T21	$1,444.79
2,000	96″ × 48″ × 19¼″	14	33″	16″	3506T22	1,566.25
Fifth-Wheel Steering						
4,500	72″ × 36″ × 24″	12	36⅛″	16″	2818T41	1,954.62
4,500	96″ × 48″ × 24″	12	36⅛″	16″	2818T51	2,472.43

Drawbar Couplers, Drawbar Eyes, and Tow Hook

All the accessories you'll need to properly connect your trailer for towing. ***Trailer/load weight capacity*** is the total weight being towed. ***Vertical capacity*** (also known as tongue weight) represents the weight of the load on the drawbar eye or hitch ball.

Note: Capacity is reduced 25% in off-road use.

Drawbar Couplers

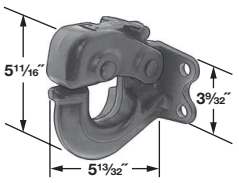

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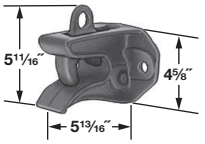

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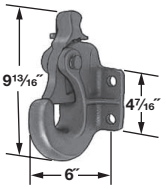

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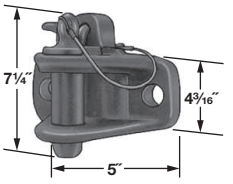

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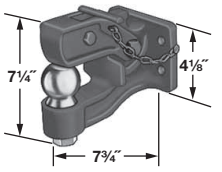

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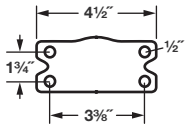

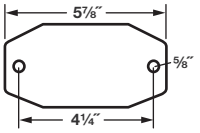

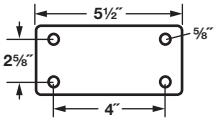

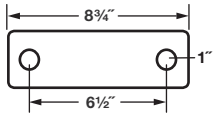

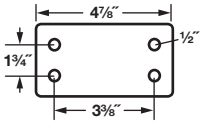

Also known as pintle hitches, drawbar couplers are used with drawbar eyes (sold separately on this page) to connect your trailer to your vehicle for towing. Made of steel. Use Grade 8 screws (not included, see pages 3145-3148) for mounting.

Drawbar eye/ball couplers include a chrome-plated steel ball for use with ball-style hitch connections.

Trailer/Load Weight Cap., lbs.	Vertical Cap., lbs.	*For Drawbar Eye* Min. Eye ID	*For Drawbar Eye* Max. Ring Thick.	Ball Dia.	Mounting Screw Size		Each
Drawbar Eye Couplers							
A 10,000	2,000	2″	1⅝″	—	½″	2853T1	$81.64
B 12,000	Not Rated	2″	1″	—	⅝″	2853T6	192.91
C 30,000	4,500	2″	1½″	—	⅝″	2853T4	221.37
D 60,000	Not Rated	2″	1 13/16″	—	1″	2853T8	288.06
Drawbar Eye/Ball Couplers							
E 16,000	3,000	2 1/16″	2″	2″	½″	2288T2	114.48
E 16,000	3,000	2⅜″	1 13/16″	2 5/16″	½″	2288T3	128.15

Drawbar Eyes

Drawbar eyes connect to the drawbar couplers (sold separately on this page) for trailer towing. ***Bolt-on eyes*** are made of forged steel. Use Grade 8 screws (not included, see pages 3145-3148) for mounting. ***Weld-on eyes*** are made of cast steel.

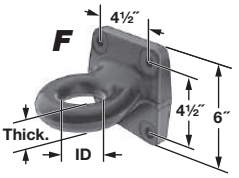

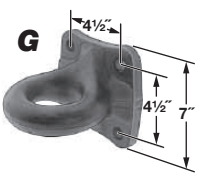





Trailer/ Load Wt. Cap., lbs.	Vertical Cap., lbs.	*Eye* ID	*Eye* Ring Thick.	Mounting Screw Size		Each
Bolt On						
F 42,000	7,000	2½″	1¼″	⅝″	12675T83	$86.87
G 60,000	15,000	3″	1⅝″	¾″	12675T84	120.69
Weld On						
H 12,000	1,800	2″	⅞″	—	12675T11	59.94
J 90,000	13,500	2⅜″	1⅝″	—	12675T73	112.73

Tow Hook

Mount this hook to your bumper or trailer for a simple towing connection. Made of forged steel. Use Grade 8 screws (not included, see pages 3145-3148) for mounting.

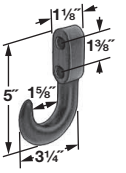

Trailer/Load Wt. Cap., lbs.	Mounting Plate Thick.	Mounting Screw Size		Each
10,000	1″	½″	2589T9	$10.66

Warning! ***Never exceed capacities.***

Hitch Receivers, Inserts, Pins, and Balls

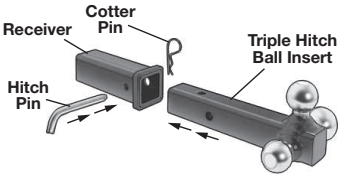

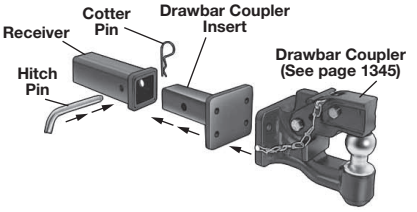

Like the examples shown at left, you can create a hitch that's right for your towing needs. All the components you need for a complete hitch are sold separately.

Trailer/load weight capacity is the total weight being towed.

Vertical capacity (also known as tongue weight) represents the weight of the load on the drawbar eye or hitch ball.

Receivers and Inserts

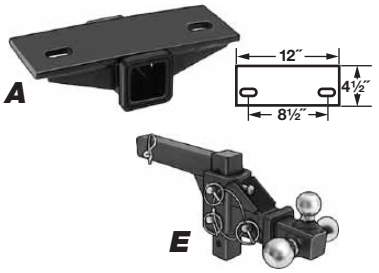

All receivers and inserts are steel with a black powder-coated finish (unless noted).

(A&B) Receivers are standard 2″ square models. *Style A* includes mounting hardware.

(C) Raise or drop the ball to the height that works for your trailer. Accept ball with a 1″-14 thread size.

(D&E) Three hitch sizes in one. Inserts include 1⅞″, 2″, and 2⁵⁄₁₆″ dia. chrome-plated steel balls. *Adjustable insert* has a 12″ vertical adjustment in 1¼″ increments.

(F) Get the versatility of mating with a drawbar eye or hitch ball coupler. The 2″ dia. ball is chrome-plated steel. Insert accepts drawbar eye with a 2½″ to 3″ ID and maximum eye ring thickness of 1⁹⁄₁₆″.

(G&H) Allow you to connect your drawbar coupler to a receiver. The coupler mounts to the mounting plate with ½″ dia. Grade 8 screws (not included). Please see page 1345 for couplers and pages 3145-3148 for Grade 8 screws.

	Trailer/Load Weight Cap., lbs.	Vertical Cap., lbs.	Drop/ Rise	O'all Lg.		Each
Bolt-On Receiver						
A	5,000	500	—	12″	2507T15	$66.60
Weld-On Receiver						
B	Not Rated	Not Rated	—	8″	2507T63	19.06
Reversible Inserts						
C	6,000	600	2″/ ¾″	12″	2507T21	17.61
C	6,000	600	4″/2¾″	12¼″	2507T22	21.50
Triple Hitch Ball Insert						
D	6,000/7,500/10,000	Not Rated	—	12″	7765T44	60.42
Adjustable Triple Hitch Ball Insert						
E	6,000/7,500/10,000	Not Rated	—	20⁷⁄₃₂″	7765T45	161.54
Combination Drawbar Insert with Hitch Ball						
F	7,000	2,400	—	15¹¹⁄₃₂″	2507T41★	99.16
Drawbar Coupler Inserts						
G	16,000	3,000	—	7″	2507T31♦	60.76
H	16,000	3,000	—	8½″	2507T32♦	86.85

★ Cap. shown is for hitch ball. Cap. for drawbar eye is 12,000 lbs.
♦ Has a black painted finish.

Hitch Pins

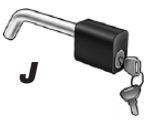

A hitch pin is required to secure the insert in the receiver.

Hitch pin with ½″ dia. fits 1¼″ square receivers. ***Hitch pins with ⅝″ dia.*** fit 2″ square receivers. *Style J* also fits 2½″ square receivers.



	Dia.	Lg.		Each
With Two Keys				
J	½″	7″	6685A41	$13.56
J	⅝″	7″	6685A52	13.76
With Cotter Pin				
K	⅝″	5½″	2507T51	5.62

Hitch Balls

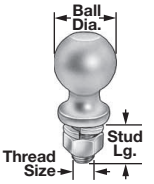

Trailer/Load Weight Cap., lbs.	Ball Dia.	Thread Size	Stud Lg.		Each
Chrome-Plated Steel					
2,000	1⅞″	¾″-16	1½″	8785T41	$9.37
3,500	2″	¾″-16	1½″	8785T42	9.49
3,500	2″	¾″-16	2⁵⁄₁₆″	8785T21	10.07
5,000	2″	1″-14	2⅛″	8785T5	12.17
6,000	2⁵⁄₁₆″	1″-14	2⅛″	8785T22	18.00
10,000	2⁵⁄₁₆″	11⁄4″-12	2¼″	8785T6	19.34
Type 303 Stainless Steel					
2,000	1⅞″	¾″-16	1¾″	8785T94	30.64
8,200	2″	1″-14	1¾″	8785T82	35.67
8,200	2⁵⁄₁₆″	1″-14	1¾″	8785T98	46.75

Hitch-Ball Trailer Couplers

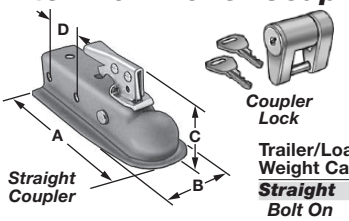

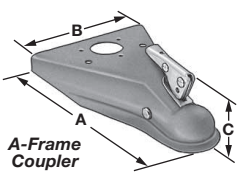

Bolt or weld these steel couplers to the trailer tongue for easy hook-up to the towing vehicle's hitch ball. All couplers meet Society of Automotive Engineers (SAE) J684 standard classes.

Note: Trailer/load weight capacity is the total weight being towed.

Straight couplers bolt or weld to a single-channel trailer tongue. *Bolt-on* couplers use Grade 8 screws (not included, please see pages 3145-3148) and have a 5⁄16″ dia. hole in the latch lever to accommodate the coupler lock (sold separately) or your own padlock.

A-frame couplers weld onto an A-frame (two-channel) trailer tongue set at a 50° angle.

Trailer/Load Weight Cap., lbs.	Fits Ball Size	For Tongue Wd.	Mounting Screw Dia.	(A)	(B)	(C)	(D)		Each
Straight									
Bolt On									
2,000	1⅞″	2″	⅜″	8¾″	3⅝″	3⅝″	2¼″	2743T2	$10.86
3,500	2″	2″	½″	11″	4″	4⅛″	3¹⁄₁₆″	2743T6	14.49
3,500	2″	3″	½″	11″	4″	4⅛″	3¹⁄₁₆″	2743T5	20.07
Weld On									
8,500	2⁵⁄₁₆″	3″	—	14″	4½″	6¼″	—	2743T7	81.82
A-Frame									
Weld On									
5,000	2″	—	—	13½″	9¾″	4½″	—	2743T13	33.87
10,000	2⁵⁄₁₆″	—	—	12¾″	10⅞″	4½″	—	2743T15	55.00
Coupler Lock with Two Keys for 2743T2, 2743T6, and 2743T5								2743T8	9.94

Warning! Never exceed capacities.

Automatic Trailer Couplers

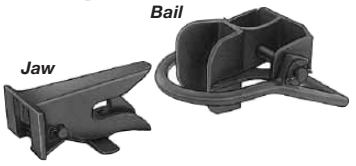

No worries that these weld-on components will uncouple when turning or going over small obstacles. The trailer-mounted jaw has a spring-loaded lever that opens as the vehicle-mounted bail presses against it. Once the bail pushes past the open lever, it closes to secure the bail for towing. To uncouple, just depress the lever. Made of steel with gray finish. Use for towing over level surfaces. Not recommended for highway use.

Note: Trailer/load weight capacity is the total weight being towed.

Trailer/Load Weight Cap., lbs.	O'all Size, Lg. x Wd. x Ht.	Mounting Plate Size, Wd. x Ht.	Coupled Lg.		Each
Jaw					
8,000	11" x 6" x 5¾"	6" x 3½"	17¾"	9726T61	$139.33
Bail					
8,000	16" x 7⅝" x 6½"	7⅝" x 3½"	17¾"	9726T62	187.47

Easy-Push Trailer Mover



Make your job easier when moving trailers. A long handle with rubber grips provides added leverage while pneumatic wheels allow easy rolling.

Mover is made of steel with a black powder-coated finish and has a removable chrome-plated hitch ball. Shipped unassembled.

Note: Vertical capacity (also known as tongue weight) represents the weight of the load at the hitch ball.

Vertical Cap., lbs.	O'all Wd.	Hitch Ball Dia.	Ground-to-Ball Ht.	Handle Lg.	Wheel Dia.		Each
700	24"	1⅞"	16"	29"	12"	22275T12	$288.11

Battery-Powered Trailer Movers



With these movers, one person can do the work of two or three. Ideal for moving heavy machinery. These movers operate on two 12-volt batteries (included) and have a built-in 20-amp battery charger and level meter. Under typical conditions, movers will run approximately eight hours on a full charge.

Movers are equipped with a hydraulic hitch ball lift that raises the ball into the coupling and transfers the weight to the mover for better traction. The hitch ball can be mounted to the lift at a height of 9" to 15" and adjusts in 2" increments. The lift has 7" of travel. Handle has diamond-patterned grips. Shipped assembled.

Note: Trailer/load weight capacity is the total weight being towed with full traction. Vertical capacity (also known as tongue weight) represents the weight of the load at the hitch ball.

Pneumatic wheels are quiet and shock absorbing. ***Flat-free wheels*** are solid yet provide a cushioned ride.

Trailer/ Load Weight Cap., lbs.	Vertical Cap., lbs.	Overall Size, Lg. x Wd. x Ht.	Hitch Ball Dia.	hp	Travel Speed, fpm	Wheel Dia.	*Pneumatic Wheels*	Each	*Flat-Free Wheels*	Each
40,000	1,000	64¼" x 34½" x 41⅜"	2"	2	140	18⅝"	22065T46	$7,666.47	22065T48	$7,933.80

Trailer Safety Chains

Don't let your trailer get away from you if the hitch fails. Chains and hooks are steel with an electro-galvanized finish. Do not use for lifting applications. Chains must be used in pairs and each chain must meet or exceed your trailer capacity. For example, if you need to haul a 7,600-lb. load, choose two 25475T8 chains, each with a 7,600-lb. trailer/load weight capacity. Chains meet Society of Automotive Engineers (SAE) J684 standards.

Note: Trailer/load weight capacity is the total weight being towed.

3,000- to 7,600-lb. capacity chains have an S-hook at each end.

16,000-lb. capacity chain has a clevis-style hook with a latch at one end.

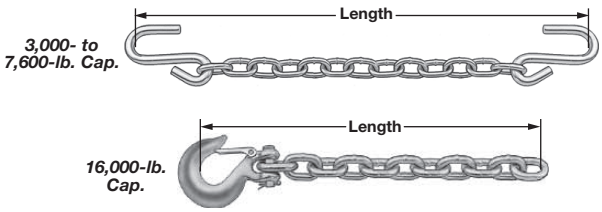

Trailer/Load Weight Cap., lbs.	*Chains* Trade Size	Dia.	Lg.	Hook Opening		Each	*Additional Hooks*	Each
3,000	3/16"	7/32"	48"	¾"	25475T2	$8.14	25475T1	$1.57
3,500	5/0	¼"	48"	¾"	25475T4	9.64	25475T3	1.79
5,000	¼"	9/32"	48"	¾"	25475T6	12.92	25475T5	2.11
7,600	8/0	11/32"	48"	¾"	25475T8	17.15	25475T7	3.40
16,000	⅜"	13/32"	35"	15/16"	25475T11	24.44	25475T9	7.68

Trailer Kingpin Locks



Don't compromise security—cover the entire kingpin of your trailer to prevent theft. Lock is recessed and housed in high-strength cast iron to prevent twisting and prying. The pick-resistant locking mechanism slides in like a drawer. Choose from locks keyed differently (each opens with a different key) and keyed alike (all open with the same key). For optimal security, locks include two keys that may only be duplicated by the manufacturer.

Max. Kingpin Size	Overall Size, Lg. x Wd. x Ht.	*Keyed Differently* Each	*Keyed Alike* Each
2½"	6" x 4½" x 3"	1757A39 $181.82	1757A42 $181.82

Engine, Casting, and Die Stands



The mounting plate on these stands rotates 360° and locks in position. Four arms adjust to hold various castings and come with mounting hardware. Stands have a heavy duty steel frame with cast iron wheels (6671A16 are 3" OD and A17 are 3½" OD). They quickly disassemble for transport and storage.

Cap., lbs.	O'all Size, Lg. x Wd. x Ht.		Each
750	31½" x 31½" x 36¾"	6671A16	$184.33
1,250	33⅜" x 33⅞" x 42¾"	6671A17	282.68

Warning! ***Never exceed capacities.***

Cycles

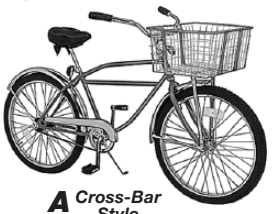

A Cross-Bar Style



Rear Cabinet



C With Rear Perforated Basket



B Step-Through Style

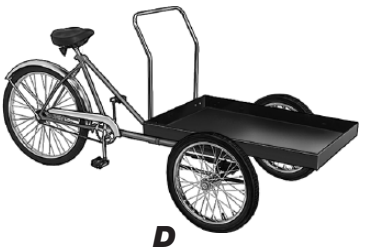

D

Our single-speed classic cycles are made in the USA and have basket, cabinet, or platform storage to fit your transport needs. All frames are made of steel with an orange painted finish (unless noted) and have chrome-plated fenders and padded seats. Shipped partially assembled.

Pneumatic wheels are quiet and shock absorbing. ***Flat-free wheels*** are solid yet provide a cushioned ride.

(A) Wire basket is zinc-plated steel.
(B) Wire basket is black vinyl-coated steel.
(C) *Perforated basket* is steel with a black enamel finish.
Rear cabinet is steel with a gray enamel finish. The hinged lid can be locked with a padlock (not included) that has a maximum shackle diameter of ½". For padlocks, please see pages 2914-2925.
(D) Front platform is steel with a black enamel finish.

	Cap., lbs.	O'all Lg.	Rear Wd.	Basket/Cabinet/Platform Size, Lg. × Wd. × Dp.	Wheel Dia.	Brake Style Front/Rear	Pneumatic Wheels	Each	Flat-Free Wheels	Each
Cross-Bar Bicycles										
With Front Wire Basket										
A	350	72"	____	21" × 15" × 9"	26"	___/Coaster	2701T22	$489.83	2701T71	$567.24
Step-Through Bicycles										
With Front Wire Basket										
A	300	72"	____	21" × 15" × 9"	26"	___/Coaster	2701T17	489.83	2701T72	567.24
Step-Through Tricycles										
With Rear Wire Basket										
B	300	68"	29½"	21" × 15" × 9"	24"	Caliper/Coaster	2701T18★	810.94	2701T19★	904.69
With Rear Perforated Basket										
C	500	73"	33¾"	22" × 23" × 11"	26"	Drum/Coaster	2701T31	1,282.76	2701T32	1,384.48
With Rear Cabinet										
C	500	73"	33¾"	22" × 23" × 12"	26"	Drum/Coaster	2701T33	1,351.72	2701T35	1,437.93
With Front Platform										
D	550	90"	37½"●	38" × 26" × 2"	26"	___/Coaster	2701T36	1,155.17	2701T37	1,258.62

★ Has a blue finish. ● Front width.

Also Available: Accessories and parts not listed. Please ask for 2701T888 and specify manufacturer part number.

Accessories

	Mfr. Part No.		Each
Squeeze-Style Bulb Horn	303	2701T134	$19.44
Battery-Powered Mega-Horn	3973	2701T135	33.31
Orange Safety Flag on 6-ft. Pole	3978	2701T142	13.75
Battery-Powered Headlight	3976	2701T155	26.11

Replacement Chain, Inner Tubes, and Pneumatic Tires

	Mfr. Part No.		Each
Chain for Bicycles	4914D	2701T515	$25.56
Chain for Style B Tricycles	4914W	2701T98	25.56
Chain for Style C Tricycles	4914S	2701T83	26.67
Chain for Style D Tricycles	4914C	2701T521	25.56
Connecting Link for Styles A, C, and D	4914A	2701T132	1.78
Connecting Link for Style B	4914M	2701T91	1.89
24" Inner Tube	4923E	2701T522	8.33
26" Inner Tube	4923A	2701T511	8.44
24" Pneumatic Tire	4922E	2701T523	26.11
26" Pneumatic Tire	4922A	2701T512	27.78

Replacement Parts

	Mfr. Part No.		Each
For All Cycles			
Coaster Brake Kit	SS721	2701T133	$41.67
Crank Hardware/Bearing Set	1265	2701T104	18.89 Per Pair
Pedals	7217	2701T23	$14.44
For Bicycles			Each
Seat	6910V	2701T114	$39.44
Front Wire Basket	7228	2701T136	45.65
For Style B Tricycles			
Seat	6910V	2701T114	39.44
Rear Wire Basket	5927BLK-C	2701T139	43.56
For Style C Tricycles			
Seat	6910V-5	2701T96	41.68
Rear Perforated Basket	M13970	2701T81	180.00
Rear Cabinet	M17350	2701T82	215.00
For Style D Tricycles			
Seat	6911V	2701T147	48.89
Front Platform	3927STPT	2701T95	231.25

Quilted Protective Pads



Also known as furniture pads, these quilted pads give your furniture and equipment added protection during moving and storage. The quilted pattern prevents bunching, and the double-stitched edging reduces rips and snags. One side of the pad is blue; the other side is dark blue.

Polyester and ***heavy duty polyester*** pads are made of polyester and have blended polyester/wool fill.

Heavy duty cotton/polyester pads are more durable than polyester pads. They are a blend of cotton and polyester and have blended polyester/wool fill.

Approximate Size, Lg. × Wd.	Polyester Fill oz./yd.	Thick.		Each	Heavy Duty Polyester Fill oz./yd.	Thick.		Each	Heavy Duty Cotton/Polyester Fill oz./yd.	Thick.		Each
24" × 24"	32	3/16"	2256T51	$5.84	36	¼"	2256T63	$7.30	36	¼"	2256T22	$8.03
36" × 36"	32	3/16"	2256T58	6.98	36	¼"	2256T68	8.73	36	¼"	2256T28	10.18
48" × 36"	32	3/16"	2256T52	9.31	36	¼"	2256T64	11.64	36	¼"	2256T23	13.55
48" × 48"	32	3/16"	2256T56	10.84	36	¼"	2256T66	13.55	36	¼"	2256T26	15.58
72" × 60"	32	3/16"	2256T53	11.85	36	¼"	2256T65	14.81	36	¼"	2256T21	16.38
80" × 72"	32	3/16"	2256T54	12.58	36	¼"	2256T61	15.73	36	¼"	2256T3	21.07
96" × 80"	32	3/16"	2256T57	16.47	36	¼"	2256T67	20.58	36	¼"	2256T27	29.52
120" × 80"	32	3/16"	2256T55	20.60	36	¼"	2256T62	25.75	36	¼"	2256T24	36.90

Warning! ***Never exceed capacities.***

Plastic Equipment-Moving Slides

And away you go—slide equipment and furniture across carpeted and smooth surfaces. Slides have a smooth bottom surface and a 1/2" thick foam pad on the top that holds the load in place. Slides are white; foam is black. *Note:* Do not use slides on concrete.

The *11 1/2" long* slide is for items with legs. Place one slide under each leg. The *48" long* slide is best for items without legs such as file cabinets and boxes. Slide has holes for a pull strap (sold separately).

Size, Lg. x Wd.		Each 1-3	4-Up
11 1/2" x 6 3/4"	2137T46	$11.84	$9.98
48" x 6 3/4"	2137T47	23.68	19.96
Pull Straps for 2137T47 (Set of Two)	2137T48	Per Set	$12.45



Two 2137T47 Slides Shown with Pull Straps

Tilt-and-Lift Dollies





Here's an easy way to move your file cabinets, drums, and crates. Slide the load plate of the dolly under the edge of the load and step down on the other end of the dolly to raise the load.

Two axle-mounted rubber wheels under the load plate balance the load and prevent it from tipping. Two swivel casters with rubber wheels are mounted at the step-down end for easy turning.

Dollies are made of square steel tubing with a vinyl coating for a nonskid, nonmarring contact surface. Shipped assembled.

Cap., lbs.	Overall Size, Lg. x Wd. x Ht.	Wheel Dia.		Each
600	32" x 15" x 3 1/2"	3"/2 1/2"	2649T14	$132.84
600	32" x 18" x 3 1/2"	3"/2 1/2"	2649T16	144.72

Lift-and-Roll Dollies

Position these dollies under your load, depress the removable handle to lift the load, and you're ready to roll. A safety latch locks the dollies in the raised position; a handle-activated lock release lowers the load. The platform and handle are square steel tubing with a red vinyl coating for a nonskid, nonmarring contact surface. All other surfaces have a silver powder-coated finish. Dollies roll on four swivel casters with rubber wheels. Shipped assembled.



With Desk Attachment



2761T13 & T15

Cap., lbs.	Deck Size, Lg. x Wd.	Deck Ht. Min.	Deck Ht. Max.	Wheel Dia.		Each
600	26 1/2" to 38" x 16"	1 1/4"	6 1/4"	4"	2761T18	$501.43
600	32" x 16"	4 3/4"	10 1/4"	3"	2761T13	295.35
600	32" x 16"	6"	11 1/4"	4"	2761T15	330.87

Single-Pedestal Desk Attachment— Acts as a pedestal substitute for moving right- and left-hand single-pedestal desks. The support height is adjustable to fit a variety of desk sizes. Capacity is 250 lbs.

2761T17 ..... **Each** $128.94

Steel Dollies

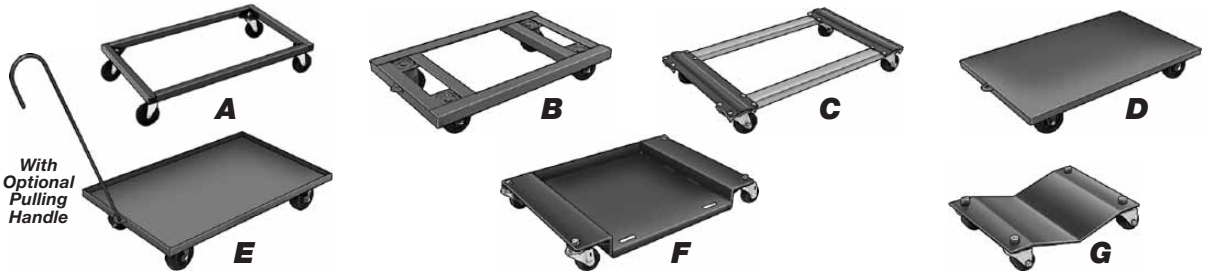

Put these steel dollies to the test in your toughest environments. All roll on four swivel casters. Shipped assembled.

(A) Has reinforced corners for strength and vinyl end caps to protect walls and furniture from damage. Made of welded square tubing with a green powder-coated finish. Wheels are rubber.

(B) Welded angle iron frame and extra cross braces withstand abuse. Dollies have an eye for attaching a pulling handle (sold separately). Wheels are rubber (unless noted).

(C) The 4" wide raised ends have a protective coating for a nonskid, nonmarring contact surface. Have bolted construction and a gray powder-coated finish. Wheels are polypropylene.

(D) A solid flush deck lets you easily load and unload. Have an eye for attaching a pulling handle (sold separately). Dollies have a green powder-coated finish. Wheels are rubber (unless noted).

(E) Same as *Style D* except deck has a 1" high lip to keep your load from sliding off. Wheels are rubber (unless noted).

(F) Has a low-profile front edge for easy loading and a 2 1/4" high lip on the other three sides to keep your load from sliding off. Has a green powder-coated finish. Wheels are polyurethane.

(G) The deck height gradually lowers from the ends to create a recessed center to hold the wheels of vehicles, trailers, and machinery. Have a red powder-coated finish. Wheels are polyurethane.

	Cap., lbs.	Overall Size, Lg. x Wd. x Ht.	Center Opening, Lg. x Wd.	Wheel Dia.		Each
Open Deck						
A	400	25" x 15" x 4 3/4"	23" x 13"	3"	8971T4	$50.91
B	1,600	30" x 18" x 5 1/2"	16 1/8" x 14"	4"	2843T6	158.78
B	1,600	36" x 24" x 5 1/2"	22 1/8" x 20"	4"	2843T7	166.29
B	2,000	30" x 18" x 5 1/2"	16 1/8" x 14"	4"	2843T8♦	169.91
B	2,000	36" x 24" x 5 1/2"	22 1/8" x 20"	4"	2843T9♦	177.16
Open Deck with Nonmarring Gripper Ends						
C	1,000	30" x 18" x 4 1/2"	22 1/4" x 11 1/4"	3"	8956T6	74.38
C	1,000	36" x 24" x 4 1/2"	28 1/8" x 17 1/4"	3"	8956T8	85.25
Solid Flush Deck						
D	1,600	30" x 18" x 5 3/8"	———	4"	2730T5	159.63
D	1,600	36" x 24" x 5 3/8"	———	4"	2730T6	168.08
D	2,000	30" x 18" x 5 3/8"	———	4"	2730T7♦	160.67
D	2,000	36" x 24" x 5 3/8"	———	4"	2730T8♦	184.02
Solid Lipped Deck						
E	1,600	30" x 18" x 6 3/8"	———	4"	2596T3	$156.25
E	1,600	36" x 24" x 6 3/8"	———	4"	2596T4	167.69
E	2,000	36" x 24" x 6 3/8"	———	4"	2596T6♦	179.67
Solid Low-Profile Deck						
F	840	30" x 22" x 4 3/4"	———	3"	8781T14★	215.83
Solid Deck with Recessed Center						
G	1,500	16" x 8" x 3 1/4"-1 3/4"	———	2"	8920T61	47.92
G	1,500	16" x 12" x 3 1/4"-1 3/4"	———	2"	8920T62	55.00
G	1,500	16" x 16" x 3 1/4"-1 3/4"	———	2"	8920T63	60.00
G	2,500	16" x 8" x 3 1/2"-2 1/4"	———	2 1/2"	8920T64	81.00
G	2,500	16" x 12" x 3 1/2"-2 1/4"	———	2 1/2"	8920T65	89.00
G	2,500	16" x 16" x 3 1/2"-2 1/4"	———	2 1/2"	8920T66	95.00

♦ Wheels are cast iron. ★ Usable deck size is 21" x 21 3/4"; deck height at front is 2 1/2".

Optional Pulling Handle for Styles B, D, and E— Pull rather than push your dolly. Handle is made of 3/8" dia. steel and is 36" long.

2596T7 ..... **Each** $9.78

Warning! ***Never exceed capacities.***

Movers' Choice Wood Dollies


A


With Raised Rubber-Capped Ends B


C


D

A nonmarring, impact-absorbing, and quiet ride is what these dollies are all about. All dollies roll on four swivel casters with impact- and chemical-resistant polypropylene wheels. Shipped assembled.

Raised carpet-covered ends and ***carpet-covered deck*** provide added protection from damage to the load.

Raised rubber-capped ends also provide added protection from damage, plus they grip the load to keep it from sliding.

Deck Size, Lg. × Wd.	Center Opening, Lg. × Wd.	900-lb. Capacity Deck Ht.	Wheel Dia.		Each	1,200-lb. Capacity Deck Ht.	Wheel Dia.		Each	1,400-lb. Capacity Deck Ht.	Wheel Dia.		Each
Open Deck													
(A) Flush													
30″ × 18″	22½″ × 11½″	6″	3″	2509T36	$63.82	7″	4″	2509T46	$68.90	8″	5″	2509T91	$82.80
36″ × 24″	28½″ × 16½″	6″	3″	2509T37	72.65	7″	4″	2509T47	78.21	8″	5″	2509T92	91.80
36″ × 36″	28½″ × 28½″	6″	3″	2509T61	80.51	7″	4″	2509T64	87.52	8″	5″	2509T93	99.00
42″ × 42″	34½″ × 34½″	6″	3″	2509T62	102.11	7″	4″	2509T65	106.14	8″	5″	2509T94	118.80
48″ × 42″	41½″ × 34½″	6″	3″	2509T63	108.00	7″	4″	2509T66	113.59	8″	5″	2509T95	124.20
(B) With Raised Ends													
30″ × 18″	22½″ × 11½″	6″	3″	2509T31	60.61	7″	4″	2509T41	67.50	8″	5″	2509T96	82.47
36″ × 24″	28½″ × 16½″	6″	3″	2509T32	70.53	7″	4″	2509T42	76.85	8″	5″	2509T97	92.29
(B) With Raised Carpet-Covered Ends													
30″ × 18″	18″ × 10½″	6½″	3″	2509T33	68.94	7½″	4″	2509T43	75.60	8½″	5″	2509T98	84.44
36″ × 24″	28½″ × 16½″	6½″	3″	2509T34	82.08	7½″	4″	2509T44	87.62	8½″	5″	2509T99	104.07
(B) With Raised Rubber-Capped Ends													
30″ × 18″	24″ × 10¼″	7″	3″	2509T35	68.94	8″	4″	2509T45	77.76	9″	5″	2509T67	84.44
Solid Deck													
(C) Flush													
30″ × 18″	—	6″	3″	2509T38	72.69	7″	4″	2509T48	83.08	8″	5″	2509T68	95.40
36″ × 24″	—	6″	3″	2509T39	83.08	7″	4″	2509T49	93.46	8″	5″	2509T69	104.07
36″ × 36″	—	6″	3″	2509T26	103.85	7″	4″	2509T11	112.15	8″	5″	2509T77	121.75
42″ × 42″	—	6″	3″	2509T27	141.23	7″	4″	2509T12	153.69	8″	5″	2509T78	161.02
48″ × 42″	—	6″	3″	2509T28	151.62	7″	4″	2509T13	164.08	8″	5″	2509T79	170.84
(D) Carpet-Covered Flush													
30″ × 18″	—	6½″	3″	2509T21	78.55	7½″	4″	2509T14	89.35	8½″	5″	2509T85	104.14
36″ × 24″	—	6½″	3″	2509T22	94.25	7½″	4″	2509T15	106.04	8½″	5″	2509T86	123.42
36″ × 36″	—	6½″	3″	2509T23	112.08	7½″	4″	2509T16	120.23	8½″	5″	2509T87	135.00
42″ × 42″	—	6½″	3″	2509T24	161.02	7½″	4″	2509T17	168.87	8½″	5″	2509T88	176.90
48″ × 42″	—	6½″	3″	2509T25	188.51	7½″	4″	2509T18	196.36	8½″	5″	2509T89	204.83

Easy-Stack Wood Dollies


Single Dolly


Five Dollies Stacked

A space-saving design lets you stack and transport up to 35 dollies. As you stack, each dolly interlocks with the top of the previous dolly for compact stacking.

The deck is made of 1″ thick plywood and the legs are carpet covered to keep your load from slipping off. Dollies roll on four swivel casters with rubber wheels. Shipped assembled.

Cap., lbs.	Overall Size, Lg. × Wd. × Ht.	Wheel Dia.		Each
660	24″ × 24″ × 5½″	3″	5336T8	$48.84
800	24″ × 24″ × 5″	3″	5336T9	59.38

Aluminum Dollies


E


F

Lightweight yet strong, these dollies are easy to pick up and carry to where you need them. All roll on four swivel casters.

(E) Have riveted construction and a ⅜″ dia. hole in the frame for installing a tow hook, rope, or chain (not included). Casters have polypropylene wheels. Shipped assembled.

(F) Welded-channel construction and a center brace provide the strength you need for heavier loads. Casters have phenolic wheels that must be attached with included fasteners.

Cap., lbs.	Overall Size, Lg. × Wd. × Ht.	Center Opening, Lg. × Wd.	Wheel Dia.		Each
(E) Flush Open Deck					
900	24″ × 18″ × 5¼″	12″ × 6½″	3″	2764T3	$182.25
900	30″ × 21″ × 5¼″	18″ × 9″	3″	2764T4	202.79
(F) Flush Open Deck with Center Support					
2,000	36″ × 21″ × 10″	33½″ × 8⅝″●	5″	2764T1	302.26
2,000	42″ × 24″ × 10″	39½″ × 10⅛″●	5″	2764T2	317.44

● Opening size on each side of the center support.

Polyethylene Dollies


G

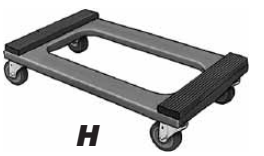
H


J

Look no further if you need dollies that are lightweight, corrosion resistant, nonmarring, and easy to clean. All roll on four swivel casters with cushion rubber wheels (unless noted).

(G&H) Both styles are reinforced with steel. Color is red. Shipped assembled. *Style H* has rubber-capped ends that grip the load.

(J) Color is green, except 220-lb. capacity dolly is blue. Wheels are polyurethane. Shipped unassembled.

Cap., lbs.	Overall Size, Lg. × Wd. × Ht.	Center Opening, Lg. × Wd.	Wheel Dia.		Each
Open Deck					
(G) Flush					
1,000	30″ × 18″ × 6⅝″	22½″ × 10½″	4″	24385T4	$100.15
(H) With Raised Rubber-Capped Ends					
1,000	30″ × 18″ × 7⅝″	22½″ × 10½″	4″	24385T3	118.90
Solid Deck					
(J) Flush					
220	24″ × 16″ × 4½″	—	3″	24385T41	65.00
500	30″ × 18″ × 6″	—	4″	24385T42	117.18
500	33½″ × 21¼″ × 6″	—	4″	24385T43	146.88

Warning! ***Never exceed capacities.***

Food-Grade Aluminum Dolly

For use in food-service application, this dolly meets NSF/ANSI standards and is USDA approved. Deck is made of 1/8″ thick rustproof aluminum, so it's lightweight yet strong enough for heavy loads. It has a 1 3/4″ high lip on three sides to keep your load from sliding off and open corners for easy drainage. Dolly rolls on two rigid and two swivel casters with polypropylene wheels. Shipped assembled.



Cap., lbs.	Overall Size, Lg. × Wd. × Ht.	Wheel Dia.		Each
300	33″ × 27″ × 8″	5″	1666T1	$196.47

***Optional Pulling Handle*—** Pull rather than push your dolly. Handle is made of 3/8″ dia. steel and is 36″ long.

1666T9	Each	$20.60

Adjust-a-Length Aluminum Dolly

Also known as an appliance dolly, this dolly is adjustable in length to handle a variety of moving jobs. Used (and sold) in pairs, each half of the dolly has a 3″ × 3″ support at each end. A nonmarring rubber pad on the top of the supports grips your load. Each half of the dolly rolls on 16 plastic wheels (eight wheels mounted under each support). Shipped assembled.

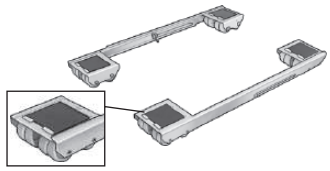

Cap. per Pair, lbs.	Adjustable Lg.	Ht.	Wheel Dia.		Per Pair
2,000	18 1/4″ to 28″	1 1/4″	3/16″	2402T13	$33.33

Large-Deck Heavy Duty Steel Dollies

Welded steel channel and six axle-mounted wheels provide strength for moving pallets, machinery, large containers, and other heavy equipment. The center wheels are mounted lower than the end wheels for easier pivoting. Dollies have a yellow powder-coated finish. Shipped assembled.

6,000-lb. capacity dolly has steel wheels. ***10,000-lb. capacity*** dolly has cast iron wheels.



Cap., lbs.	Overall Size, Lg. × Wd. × Ht.	Center Opening, Lg. × Wd.	Wheel Dia.		Each
6,000	36″ × 24″ × 6 3/16″	33 3/16″ × 12 1/2″	5″	2735T3	$468.31
10,000	60″ × 36″ × 8 1/2″	56 3/16″ × 21 3/16″	8″	2735T2	763.63

Large-Deck Heavy Duty Aluminum Dollies

Although they weigh less than comparable steel dollies, these welded aluminum channel dollies are just as strong. Plus they're easier to get moving. Dollies roll on axle-mounted phenolic wheels. The center wheels are mounted lower than the end wheels for easier pivoting. The frame has an extra set of axle holes so the center wheels can be mounted at the same height as the end wheels. Shipped assembled.



Cap., lbs.	Overall Size, Lg. × Wd. × Ht.	Center Opening, Lg. × Wd.	No. of Wheels	Wheel Dia.		Each
3,600	36″ × 36″ × 4 1/2″	33 1/2″ × 22 1/16″	6	3 1/2″	2584T11	$302.54
3,600	42″ × 42″ × 4 1/2″	39 1/2″ × 28 1/16″	6	3 1/2″	2584T21	329.44
3,600	48″ × 42″ × 4 1/2″	45 1/2″ × 28 1/16″	6	3 1/2″	2584T24	337.02
5,400	36″ × 36″ × 4 1/2″	33 1/2″ × 22 1/16″	8	3 1/2″	2584T12	369.62
5,400	42″ × 42″ × 4 1/2″	39 1/2″ × 28 1/16″	8	3 1/2″	2584T22	392.57
5,400	48″ × 48″ × 4 1/2″	45 1/2″ × 34 1/16″	8	3 1/2″	2584T17	406.11
7,200	48″ × 42″ × 4 1/2″	45 1/2″ × 28 1/16″	10	3 1/2″	2584T26	448.60
7,200	48″ × 48″ × 4 1/2″	45 1/2″ × 34 1/16″	10	3 1/2″	2584T29	459.72

Hydraulic Lift-and-Move Fork Dollies

Your solution for moving large, bulky, and long loads. Dollies are used (and sold) in pairs. Each half has adjustable-width forks that go under the load and a hand-operated hydraulic lift that lifts and lowers the load. Steel cleats on the forks grip the load and a 12′ Lg. × 2″ Wd. web strap with a ratchet buckle attaches to each side of the dollies to stabilize and secure the load. Dollies are welded steel and each rolls on two swivel casters with phenolic wheels (unless noted). Shipped assembled.





Cap. per Pair, lbs.	Size, Lg. × Wd.	Handle Ht.	Fork Ht.	Fork Lg.	Outside Fork Wd.	Max. Lift	Wheel Dia.		Per Pair
2,000	12 1/2″ × 22″	47 1/2″	3/4″	5″	7 1/4″ to 17 1/2″	5 1/8″	5″	2751T21	$1,129.15
4,000	16 1/2″ × 23″	44″	1 1/8″	6″	5″ to 19 1/2″	12″	6″	2751T22	1,487.77
6,000	16 3/4″ × 23″	42 1/2″	1 1/8″	6″	6″ to 19 1/2″	6″	6″	2751T23	1,648.83
10,000	18″ × 24″	45 1/2″	1 1/8″	6″	9 1/4″ to 19 1/2″	6″	8″	2751T25●	2,057.34

● Wheels are cast iron.

Wheeled Levers

Here's the leverage you need when raising a big load. Also known as Johnson bars, pry bars, pry trucks, and mules, these levers are often used in pairs to lift each end of a load so a dolly can be slid underneath. Shipped assembled.

Rubber wheels are quiet and protect your floors. ***Cast iron wheels*** handle heavy loads.

(A) Have a 1 3/4″ thick oak handle and beveled steel load plate with green powder-coated finish.

(B&C) *Style B* has a tubular handle, a wedge-style steel load plate, and a blue painted finish. *Style C* has a tubular handle and a beveled steel load plate with grooves for a better grip on the load. A steel step bar opposite the load plate makes it easier to push the load plate under the load. Lever has a blue powder-coated finish.

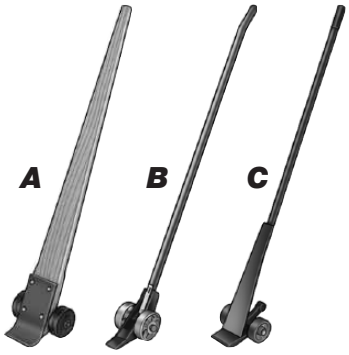

	Handle Lg.	Load Plate, Lg. × Wd.	Wheel Dia.	Rubber Wheels Cap., lbs.		Each	Cast Iron Wheels Cap., lbs.		Each
Wood Handle									
A	5 ft.	3″ × 6″	5″	1,000	2750T5	$137.76	3,500	2750T1	$127.29
A	6 ft.	3″ × 6″	5″	1,000	2750T6	144.14	4,250	2750T4	136.61
A	7 ft.	3″ × 6″	5″	1,000	2750T7	156.74	5,000	2750T3	155.36
Steel Handle									
B	6 ft.	7 3/4″ × 3 1/4″	6″	———	———	———	2,400	2752T16	206.99
C	6 ft.	3 1/2″ × 6″	5″	5,000	2752T17★	135.00	———	———	———

★ Wheels are polyurethane.

Warning! ***Never exceed capacities.***

Heavy Duty Low-Profile Dolly



Low to the ground and high in strength—this compact welded-steel dolly has a 1/4" thick deck with a 1/2" high lip on two sides for better load retention. It rolls on four axle-mounted heat-treated steel wheels. Shipped assembled.

Cap., lbs.	Overall Size, Lg. x Wd. x Ht.	Wheel Dia.		Each
10,000	11 1/2" x 8 3/4" x 2 5/16"	2"	2725T81	$155.78

Compact Swivel-Plate Roller Dollies



Swivel Plate



Tilt-and-Swivel Plate

Their small size combined with the swivel plate make these dollies easy to handle and position when moving heavy machinery. The plate is removable so the dollies can be permanently installed on equipment that's moved frequently. Use 1/2"-13 cap screws (not included, please see pages 3151 and 3160) for installation. Dollies are welded steel and roll on two steel rollers.

Tilt-and-swivel plate dolly has a tilt plate under the swivel plate to compensate for uneven floors. Dolly includes a 5 1/4" long side bar to ease turning the dolly under load.

Dollies

Cap., lbs.	Plate Size	Overall Size, Lg. x Wd. x Ht.	Roller Dia.		Each
Swivel Plate					
5,000	4" x 4"	8 1/8" x 6" x 4 1/2"	3 1/4"	2736T22	$280.31
Tilt-and-Swivel Plate					
25,000	5" x 5"	9" x 6 3/4" x 5 1/2"★	3 1/4"	2736T24	490.31
30" Long Steering Handle for 2736T22				2736T25	Each $93.80

★ Width is 12" with side bar extension.

Dolly Kit

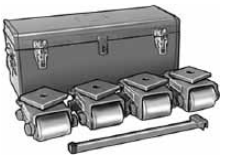

Includes four dollies with a swivel plate, a 16 1/2" long steering handle, and a steel storage box.

Total Cap., lbs.	Cap. per Dolly, lbs.		Per Kit
20,000	5,000	2736T27	$1,355.82

Grip-Plate Steel Roller Track Dollies



Cushion-Grip Swivel Plate



Cushion-Grip Swivel Plate with Lock



Cushion-Grip Rigid Plate



Diamond-Grip Swivel Plate with Lock



Diamond-Grip Rigid Plate

Small-diameter hardened-steel rollers rotate around a center plate to evenly distribute weight and make moving heavy equipment easier. All have welded construction and a green painted finish.

Cushion-grip dollies have a black neoprene rubber pad on the plate that firmly grips your load without damaging the surface.

Diamond-grip dollies have small teeth on the plate that grip the load.

Swivel plates provide controlled turning as well as straight-line movement. ***Swivel plates with lock*** provide more controlled turns by locking every 45°. ***Rigid plates*** are ideal for straight-line movement.

Dollies

Cap., lbs.	Rollers No.	Rollers Dia.	Cushion-Grip Plate Size	Cushion-Grip Overall Size, Lg. x Wd. x Ht.	Cushion-Grip Each	Diamond-Grip Plate Size	Diamond-Grip Overall Size, Lg. x Wd. x Ht.	Diamond-Grip Each
Swivel Plate								
1,500	14	11/16"	4" Lg. x 2 1/2" Wd.	6 1/2" x 3 5/8" x 3 5/16"	2763T38 $219.11	—	—	—
4,000	12	15/16"	4" Lg. x 2 1/2" Wd.	6 1/2" x 4 1/8" x 3 15/16"	2763T39 294.40	—	—	—
Swivel Plate with Lock								
7,500	14	15/16"	5 3/4" Dia.	10 1/2" x 5 3/4" x 5"	2763T41 401.70	5 3/4" Dia.	10 1/2" x 5 3/4" x 4 3/4"	2763T85 $409.00
15,000	12	1 3/16"	5 3/4" Dia.	10 1/2" x 5 3/4" x 5 1/4"	2763T42 442.90	5 3/4" Dia.	10 1/2" x 5 3/4" x 5"	2763T86 450.58
20,000	12	1 3/16"	5 3/4" Dia.	10 1/2" x 5 3/4" x 5 1/4"	2763T45 471.73	5 3/4" Dia.	10 1/2" x 5 3/4" x 5"	2763T87 480.91
30,000	14	1 3/16"	5 3/4" Dia.	12 3/4" x 6 3/8" x 5 1/8"	2763T43 537.67	5 3/4" Dia.	12 3/4" x 6 3/8" x 4 7/8"	2763T88 505.73
Rigid Plate								
1,500	14	11/16"	4" Lg. x 2 1/2" Wd.	6 1/2" x 3 5/8" x 3"	2763T58 200.24	—	—	—
4,000	12	15/16"	4" Lg. x 2 1/2" Wd.	6 1/2" x 4 1/8" x 3 9/16"	2763T59 260.69	—	—	—
7,500	14	15/16"	5 3/4" Dia.	10 1/2" x 5 3/4" x 4 1/8"	2763T61 389.91	6" Lg. x 5 5/8" Wd.	10 1/2" x 5 5/8" x 4"	2763T81 375.29
15,000	12	1 3/16"	5 3/4" Dia.	10 1/2" x 5 3/4" x 4 7/16"	2763T62 400.67	6" Lg. x 5 5/8" Wd.	10 1/2" x 5 5/8" x 4 1/4"	2763T82 415.75
20,000	12	1 3/16"	5 3/4" Dia.	10 1/2" x 5 3/4" x 4 7/16"	2763T65 429.52	6" Lg. x 5 5/8" Wd.	10 1/2" x 5 5/8" x 4 1/4"	2763T83 447.20
30,000	14	1 3/16"	5 3/4" Dia.	12 3/4" x 6 3/8" x 4 1/4"	2763T63 493.37	6 1/4" Lg. x 6" Wd.	12 3/4" x 6 3/8" x 4 3/32"	2763T84 471.73
36" Long Steering Handle								2763T71 Each $68.55
48" Long Steering Handle								2763T72 Each $76.40

Dolly Kits



Cushion-Grip Swivel Plate Kit

Include four dollies, two steering handles, and a steel carrying case.

Total Cap., lbs.	Cap. per Dolly, lbs.	Steering Handle Lg.	Cushion-Grip Plate Size	Cushion-Grip Overall Size, Lg. x Wd. x Ht.	Cushion-Grip Each	Diamond-Grip Plate Size	Diamond-Grip Overall Size, Lg. x Wd. x Ht.	Diamond-Grip Each
Swivel Plate								
6,000	1,500	14"	4" Lg. x 2 1/2" Wd.	6 1/2" x 3 5/8" x 3 5/16"	2757T31 $822.78	—	—	—
16,000	4,000	30"	4" Lg. x 2 1/2" Wd.	6 1/2" x 4 1/8" x 3 15/16"	2757T32 1,056.96	—	—	—
Swivel Plate with Lock								
30,000	7,500	48"	5 3/4" Dia.	10 1/2" x 5 3/4" x 5"	2757T33 1,633.95	5 3/4" Dia.	10 1/2" x 5 3/4" x 4 3/4"	2757T41 $1,644.83
60,000	15,000	48"	5 3/4" Dia.	10 1/2" x 5 3/4" x 5 1/4"	2757T34 1,829.28	5 3/4" Dia.	10 1/2" x 5 3/4" x 5"	2757T42 1,792.20
80,000	20,000	48"	5 3/4" Dia.	10 1/2" x 5 3/4" x 5 1/4"	2757T35 1,937.66	5 3/4" Dia.	10 1/2" x 5 3/4" x 5"	2757T43 1,896.78
120,000	30,000	48"	5 3/4" Dia.	12 3/4" x 6 3/8" x 5 1/8"	2757T36 2,176.31	5 3/4" Dia.	12 3/4" x 6 3/8" x 4 7/8"	2757T44 2,134.48

Warning! Never exceed capacities.

High-Capacity Cleated Roller Dollies

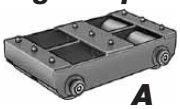
A
12,000-lb. Cap.


A
30,000-lb. Cap.


B


C


D


E

Conquer your most demanding moving requirements with these welded-steel dollies. The plate has steel cleats that grip the load and keep it from slipping.

Polyurethane rollers are quieter than steel rollers and protect your floor. ***Rigid plates*** have cleats along their entire length. Ideal for straight-line movement. ***Swivel plates*** are 7″ sq. and provide controlled turning as well as straight-line movement.

Smooth-Surface Dollies— Four rollers provide easy movement over smooth surfaces.

All-Surface Dollies— Four larger center rollers and one smaller roller on each end allow for easy transport over uneven surfaces.

Easy-Turn All-Surface Dollies— Two larger center rollers rotate independently for easy turning and exceptional maneuverability. A single smaller roller on each end allows for easy movement over uneven surfaces.

Cap., lbs.	Overall Size, Lg. × Wd. × Ht.	Roller Dia.	Steel Rollers	Each	Polyurethane Rollers	Each
Smooth-Surface Dollies						
(A) With Rigid Plate						
12,000	15¾″ × 10½″ × 4⅜″	3¼″	9905T11	$448.26	9905T51	$650.58
30,000	15¾″ × 10½″ × 4⅜″	3¼″	9905T12	573.22	9905T52	775.54
All-Surface Dollies						
(B) With Rigid Plate						
40,000	23¾″ × 11″ × 4⅝″	3½″/3¼″	8757T72♦	856.00	8757T62	1,153.39
75,000	23¾″ × 11″ × 4⅝″	3½″/3¼″	8757T73	864.56	—	—
(C) With Swivel Plate						
40,000	23¾″ × 11″ × 5¼″	3½″/3¼″	8757T82♦	937.44	8757T65	1,235.70
75,000	23¾″ × 11″ × 5¼″	3½″/3¼″	8757T83	948.42	—	—
Easy-Turn All-Surface Dollies						
(D) With Rigid Plate						
8,000	19¼″ × 10½″ × 4½″	3½″/3¼″	9914T11	526.30	9914T31	724.96
20,000	19½″ × 11″ × 4⅝″	3½″/3¼″	9914T17	551.08	9914T32	751.74
30,000	19½″ × 11″ × 4⅝″	3½″/3¼″	9914T18	578.00	—	—
(E) With Swivel Plate						
8,000	19¼″ × 10½″ × 5¼″	3½″/3¼″	9914T13	607.98	9914T34	807.27
20,000	19½″ × 11″ × 5¼″	3½″/3¼″	9914T14	643.93	9914T35	841.98
30,000	19½″ × 11″ × 5¼″	3½″/3¼″	9914T15	667.89	—	—
48″ Long Steering Handle for Dollies with a Swivel Plate					9914T19 Each	$188.29

♦ Capacity is 50,000 lbs.

Cushion-Grip Plate Nylon Roller Dollies

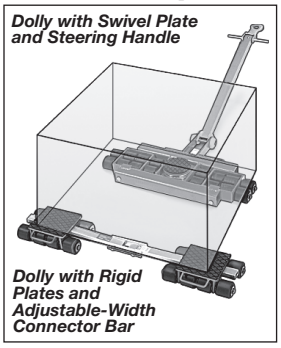
Dolly with Swivel Plate and Steering Handle

Dolly with Rigid Plates and Adjustable-Width Connector Bar

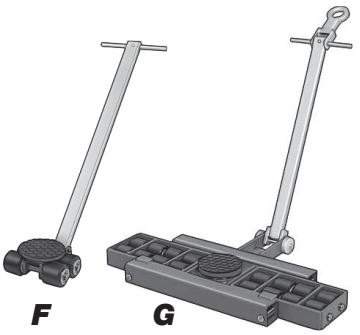
F G

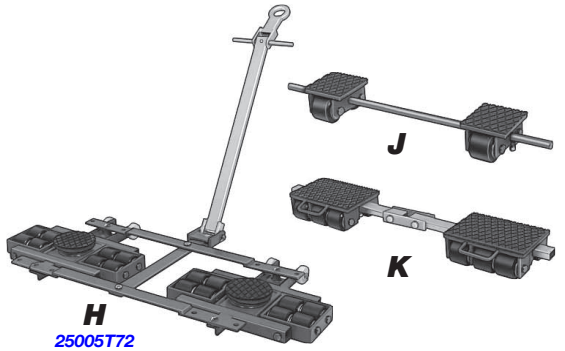
H
25005T72

J

K

Used alone or with each other, these dollies make easy work of moving heavy, bulky loads. Their design lets you move over both smooth and uneven surfaces. A textured rubber pad on the plate grips your load without damaging the surface. All dollies are made of welded steel with a red powder-coated finish and roll on nonmarking nylon wheels.

Swivel plates provide controlled turning as well as straight-line movement. ***Rigid plates*** are ideal for straight-line movement.

(F&G) Have a T-style steering handle. *Style G* also have a 2″ ID ring for towing applications up to 1.9 mph.

(H) The adjustable frame has two contact points and fits a variety of loads. Both have a T-style steering handle; 25005T72 also has a 2″ ID ring for towing applications up to 1.9 mph.

(J&K) Two contact points are connected by an adjustable bar that keeps them parallel. *Style K* dollies have convenient carrying handles.

Cap., lbs.	Plate Size	Overall Size, Lg. × Wd. × Ht.	Handle Length	Rollers per Dolly No.	Rollers per Dolly Dia.	Each
With Swivel Plate and Steering Handle						
F 4,400	6 11/16″ Dia.	6 11/16″ × 10 5/8″ × 4″	39¾″	4	3″	25005T57 $394.19
F 6,600	6 11/16″ Dia.	6 11/16″ × 10 5/8″ × 4 5/16″	39¾″	4	3 5/16″	25005T51 550.19
G 13,200	6 11/16″ Dia.	20½″ × 24″ × 4 5/16″	42½″	8	3 5/16″	25005T52 1,377.42
G 19,800	6 11/16″ Dia.	23″ × 33 1/8″ × 4 5/16″	42½″	12	3 5/16″	25005T53 1,660.00
G 26,400	6 11/16″ Dia.	24 7/16″ × 40 5/8″ × 4 5/16″	42½″	16	3 5/16″	25005T54 2,024.62
G 39,600	6 11/16″ Dia.	24 7/16″ × 40 5/8″ × 4 5/16″	42½″	16	3 5/16″	25005T61 2,896.92
With Swivel Plates, Adjustable-Width Frame, and Steering Handle						
H 13,200	6 11/16″ Dia.	23″ × 21 11/16″ to 45 5/16″ × 4 5/16″	37 13/16″	4	3 5/16″	25005T71 1,367.69
H 26,400	6 11/16″ Dia.	24½″ × 26″ to 39 7/16″ × 4 5/16″	42½″	8	3 5/16″	25005T72 2,929.23
With Rigid Plates and Adjustable-Width Connector Bar						
J 4,400	6″ Lg. × 6″ Wd.	7 1/8″ × 11 13/16″ to 39 3/8″ × 4″	—	2	3″	25005T56 348.90
J 6,600	6″ Lg. × 6″ Wd.	6 11/16″ × 11 13/16″ to 39 3/8″ × 4 5/16″	—	2	3 5/16″	25005T41 454.58
K 13,200	7/8″ Lg. × 8 11/16″ Wd.	10 13/16″ × 25 1/4″ to 40 9/16″ × 4 5/16″	—	4	3 5/16″	25005T42 953.23
K 19,800	7/8″ Lg. × 12 5/8″ Wd.	10 7/16″ × 33″ to 48 7/16″ × 4 5/16″	—	6	3 5/16″	25005T43 1,195.38
K 26,400	7/8″ Lg. × 16″ Wd.	10 13/16″ × 40″ to 56 5/16″ × 4 5/16″	—	8	3 5/16″	25005T44 1,472.00
K 39,600	7/8″ Lg. × 16″ Wd.	10 13/16″ × 40″ to 56 5/16″ × 4 5/16″	—	8	3 5/16″	25005T62 2,078.46

Warning! ***Never exceed capacities.***

Versatile-Top Steel Roller Track Dolly Kits



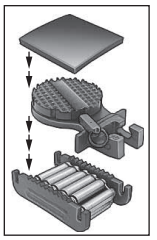

Use these dollies with their rigid top plate for straight-line movement, or add the included diamond-top swivel top plates with lock for controlled turning as well as straight-line movement. The diamond-top swivel top plates have small teeth to grip your load and come with a neoprene rubber pad that can be placed on top to create a nonmarring grip top. The swivel locks every 45° for better control during turns. Dollies are made of welded steel with a green painted finish. Small-diameter, chain-activated, hardened-steel rollers rotate around the center plate to evenly distribute the weight for easier moving.

Each kit contains four dollies, four diamond-top swivel top plates, four neoprene rubber pads, two 48″ long steering handles, and a steel storage case.

Also Available: Individual dollies and diamond-top swivel top plates with lock. Please ask for 2723T888 and specify a dolly or swivel top plate and the capacity.

Total Cap., lbs.	Cap., per Dolly, lbs.	Dolly Size, Lg. × Wd. × Ht.	Swivel Top Plate, Dia.	Ht. with Swivel Top Plate	Rollers per Dolly No.	Rollers per Dolly Dia.		Per Kit
30,000	7,500	8 5/8″ × 4 7/16″ × 2 3/4″	5 3/4″	4 7/16″	13	15/16″	2723T51	$1,828.25
40,000	10,000	8 5/8″ × 5 5/16″ × 2 3/4″	5 3/4″	4 7/16″	13	15/16″	2723T52	1,952.46
80,000	20,000	10 3/8″ × 5 3/16″ × 3 3/8″	5 3/4″	5 1/16″	14	1 3/16″	2723T53	2,228.98
100,000	25,000	10 3/8″ × 5 5/8″ × 3 3/8″	5 3/4″	5 1/16″	14	1 3/16″	2723T54	2,338.97
Extra 48″ Steering Handle							2723T15	Each $87.54

Multidirectional Roller Dollies



4,400-lb. Capacity

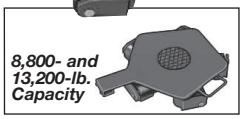

8,800- and 13,200-lb. Capacity

Maneuver machines and heavy loads into confined spaces. The rollers on these dollies swivel independently, allowing movement in any direction. All dollies have a textured rubber pad in the center to grip the load. Dollies are welded steel with a red powder-coated finish, have convenient carrying handles, and roll on nonmarking nylon rollers.

Cap., lbs.	Plate Dia.	Overall Size, Lg. × Wd. × Ht.	Rollers No.	Rollers Dia.		Each
4,400	6 3/4″	27″ × 20 5/16″ × 4 5/16″	3	3 5/16″	3490T1	$1,219.35
8,800	9 13/16″	29 1/2″ × 22 1/8″ × 4 5/16″	5	3 5/16″	3490T2	1,829.03
13,200	9 13/16″	30″ × 22 1/8″ × 4 5/16″	5	3 5/16″	3490T3	2,395.16

Dual Swivel-Plate Dollies



600-lb. Capacity

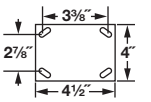

Two plates, one smaller than the other, swivel independently for maneuverability in tight spaces. Ideal for theatrical applications. Ball bearings between the plates allow you to turn and position the load without any caster movement. The smaller plate has four 1/2″ × 3/4″ slots for permanent mounting (fasteners not included). All dollies are made of steel with a black painted finish and roll on three swivel casters.

600-lb. capacity dolly has dual thermoplastic rubber (TPR) wheels.

2,000-lb. capacity dolly has polyurethane wheels.

Cap., lbs.	Overall Size, Dia. × Ht.	Wheel Dia.		Each
600	14″ × 5 5/8″	3″	83485T11	$345.83
2,000	18″ × 7 1/4″	4″	83485T12	454.17

Multidirectional Tripod Dollies



A



B



C

If you need to move machinery and equipment with legs look no further—just place each leg into the recessed center of a dolly and away you go. Dollies have three swivel casters for maximum maneuverability.

Rubber wheels are high impact. ***Cast iron wheels*** combine strength and durability to handle higher capacities than rubber wheels. ***Phenolic wheels*** are lightweight and protect your floors.

(A) Use for large diameter legs. Made of cast iron.

(B) Same as *Style A*, but these have a smaller recessed center.

(C) Moves loads with and without legs. Has a 1/4″ high lip on the longest edge for load retention. Made of 12-ga. steel with a vinyl coating for a nonskid, nonmarring contact surface.

Cap., lbs.	Overall Size	O'all Ht.	Center Recess Top Dia.	Center Recess Bottom Dia.	Center Recess Depth	Wheel Type	Wheel Dia.		Each
(A) With Large Recessed Center									
375	11″ Dia.	3″	5″	3 3/16″	2″	Rubber	2″	2744T5	$76.41
450	11″ Dia.	3″	5″	3 3/16″	2″	Cast Iron	2″	2744T4	76.41
630	15″ Dia.	4 1/4″	6 3/4″	5 1/4″	2″	Rubber	3″	2745T11	105.10
750	15″ Dia.	4 1/4″	6 3/4″	5 1/4″	2″	Cast Iron	3″	2745T12	105.10
750	15″ Dia.	4 1/4″	6 3/4″	5 1/4″	2″	Phenolic	3″	2745T13	105.10
(B) With Small Recessed Center									
525	12″ Dia.	4 1/4″	1 3/4″	1 1/4″	1 1/4″	Rubber	2 1/2″	2745T2	122.29
525	12″ Dia.	4 1/4″	1 3/4″	1 1/4″	1 1/4″	Cast Iron	2 1/2″	2745T1	122.29
(C) With Small Recessed Center and Lip									
400	19 3/4″ Lg. × 8″ Wd.	3 1/2″	3″	3/4″	1″	Rubber	2 1/2″	9009T4	75.60

Air-Glide Multidirectional Dolly Kits





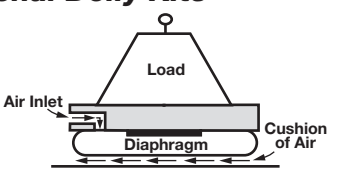

Also known as bearing movers, air casters, and air bearings, these dollies float your load on a cushion of air. As air escapes out of the neoprene air diaphragm located under the aluminum top plate, your load is lifted for easy, frictionless movement in any direction over smooth surfaces. Not only are these dollies ideal for unevenly distributed loads, their low lift height reduces the risk of injury to personnel and damage to your equipment.

Kits include four dollies, a regulator with an on/off control to ensure proper air flow to each dolly, and four 20-ft. long hoses with quick-connect fittings.

Total Cap., lbs.	Cap., per Dolly, lbs.	Overall Size, Lg. × Wd. × Ht.	Lift Ht.	Full Load cfm @ 90 psi	Air Inlet	Kits		Additional Dollies	
10,000	2,500	12 1/8″ × 12 1/8″ × 1 7/8″	3/4″	25	1/2″	8787T72	$5,706.00	8787T92	$846.71
17,000	4,250	15 1/8″ × 15 1/8″ × 1 7/8″	7/8″	25	1/2″	8787T73	7,092.00	8787T93	1,166.45
28,000	7,000	21 1/8″ × 21 1/8″ × 2″	1 1/8″	21	3/4″	8787T74	9,588.00	8787T94	1,788.16

Warning! ***Never exceed capacities.***

Sheet and Panel Cradle Dollies

Make transporting large, long loads such as doors, sheet stock, and partitions a one-person job. Dollies have a carpet-covered, 3/16″ thick steel cradle for a nonmarring contact surface. The cradle adjusts to accommodate a variety of load widths. All roll on two never-go-flat rubber (also known as semi-pneumatic) wheels. Shipped assembled.

Cap., lbs.	Cradle Wd.	Cradle Size, Lg. × Ht.	Wheel Dia.		Each
300	1″	-2 1/2″ .. 4″ × 5 1/2″	8″	2754T11	$137.27
300	2 1/2″	-4 1/2″ .. 4″ × 5 1/2″	8″	2754T12	137.27
300	4 1/4″	-9 1/2″ .. 4″ × 5 1/2″	8″	2754T13	146.36



Sheet and Panel Trucks



A



B



C



D



E *2,400-lb. Capacity*



F



G *With Optional Handle*

A-Frame Trucks

Quickly and easily load these trucks from both sides. All have welded steel construction. Shipped assembled.

(A) Trucks have a 1″ high lip along the length of the deck to keep your load from sliding off. They have a 12-ga. steel deck, a gray powder-coated finish, and roll on four swivel casters with phenolic wheels.

(B) Have nonmarring neoprene pads on contact surfaces, blue nylon web tie-down straps with zinc-plated quick-tight cam-style buckles, and welded forklift pockets. Made of 1/4″ thick steel with a hot-dipped galvanized finish for corrosion resistance. Roll on two rigid and two swivel casters with phenolic wheels. Swivel casters have a side wheel brake. All casters have a quick-release pin for easy removal to convert the trucks to storage racks. Overall height is reduced by 11″ without casters.

Cap., lbs.	Deck Size, Lg. × Wd. × Ht.	O'all Ht.	Usable Ht.	Usable Deck per Side	Wheel Dia.		Each
(A) Medium Duty							
2,000	36″ × 24″ × 7 3/4″	57″	48″	6″	6″	2570T11	$296.40
2,000	48″ × 24″ × 7 3/4″	57″	48″	6″	6″	2570T12	319.20
2,000	48″ × 30″ × 7 3/4″	57″	48″	9″	6″	2570T22	347.70
2,000	60″ × 30″ × 7 3/4″	57″	48″	9″	6″	2570T24	376.20
2,000	72″ × 36″ × 7 3/4″	57″	48″	12″	6″	2570T34	402.75
(B) Heavy Duty							
4,000	82″ × 44″ × 19″	69″	48″	15″	8″	9938T41	1,583.88
4,000	96″ × 44″ × 19″	81″	60″	16″	8″	9938T51	1,975.67

Rail Trucks

Trucks have a flush deck for easy loading and unloading from the ends. Their removable rails allow you to configure the truck to suit your load. All roll on two rigid and two swivel casters (unless noted). Shipped unassembled.

(C) Trucks are corrosion resistant and easy to clean. Deck is reinforced with steel and has a black nonskid surface. The rails are steel with a gray powder-coated finish.

(D) Made of 12-ga. steel. The deck is reinforced and has a red vinyl coating for a nonskid, nonmarring contact surface. Rails have crossbars for added strength and a silver painted finish.

(E) *1,200-lb. capacity truck* is 12-ga. steel with a gray powder-coated finish. *2,400-lb. capacity trucks* are made of 16-ga. steel with a silver painted finish. The deck and top half of the rails have a red vinyl coating for a nonskid, nonmarring contact surface.

(F) Rails at three different heights offer greater versatility. Trucks have a 12-ga. steel deck and a gray powder-coated finish.

(G) Deck is 12-ga. steel. All trucks have a powder-coated finish. The deck is gray; the rails are blue. The two swivel casters have a face wheel brake.

Cap., lbs.	Deck Size, Lg. × Wd. × Ht.	O'all Ht.	No. of Rails	Rail Ht.	Width Between Rails	Rail Sockets per End	Wheel Type	Wheel Dia.		Each
Solid Polyethylene Deck with Removable Rails										
C 2,000	48″ × 24″ × 10 3/8″	38 1/2″	3	28 1/8″	9″	3	Polyurethane	6″	2632T71	$696.92
C 2,000	60″ × 30″ × 10 3/8″	38 1/2″	3	28 1/8″	12″	3	Polyurethane	6″	2632T72	743.55
Expanded Steel Deck with Removable Rails										
D 3,200	54″ × 30″ × 11 3/4″	38″	2	26 1/4″	8 1/2″	4	Polypropylene	8″	2225T61	734.40
Open Steel Deck with Removable Rails										
E 1,200	31″ × 28″ × 8″	35″	3	27″	12″	3	Polyurethane	5″	2225T49 ♦	233.89
E 2,400	36″ × 27 1/2″ × 7 1/2″	33 3/4″	3	26″	11 7/8″	3	Phenolic	5″	2225T51	416.42
E 2,400	36″ × 27 1/2″ × 7 1/2″	52 1/2″	3	45″	11 7/8″	3	Phenolic	5″	2225T52	538.96
Solid Steel Deck with Removable Rails										
F 2,000	36″ × 24″ × 9″	46″	6	12″/24″/36″ ●	2 1/2″	7	Phenolic	6″	2765T41	436.35
F 2,000	48″ × 24″ × 9″	46″	6	12″/24″/36″ ●	2 1/2″	7	Phenolic	6″	2765T42	463.46
F 2,000	60″ × 30″ × 9″	46″	6	12″/24″/36″ ●	3 1/2″	7	Phenolic	6″	2765T43	512.77
G 3,600	36″ × 24″ × 9″	36″	2	27″	6″	4	Polyurethane	6″	2765T44	353.11
G 3,600	48″ × 24″ × 9″	36″	2	27″	6″	4	Polyurethane	6″	2765T45	374.62
G 3,600	60″ × 30″ × 9″	36″	2	27″	8″	4	Polyurethane	6″	2765T46	405.91

♦ Has four swivel casters. ● Includes two rails of each height.

Accessories for Style G

Extra Rails		Each
For 2765T44	2765T51	$47.50
For 2765T45	2765T52	53.44
For 2765T46	2765T53	61.35

Opt. 1 1/2″ High Deck Lip		Each
For 2765T44	2765T54	$24.94
For 2765T45	2765T55	27.71
For 2765T46	2765T56	29.69

Opt. Push Handle		Each
For 2765T44 and T45	2765T57	$31.67
For 2765T46	2765T58	31.67

Warning! ***Never exceed capacities.***

Cradle Trucks & Spool Racks

Bar and Pipe Cradle Trucks

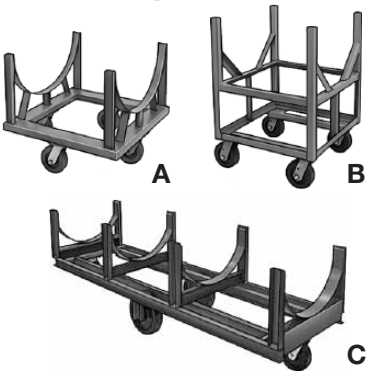

Let gravity keep your long loads centered and balanced—great for pipe, bar stock, and channel. The open design allows easy loading and unloading with forklifts and slings. All have welded steel construction. Color is gray. Shipped assembled.

(A) Quick-turn trucks have casters mounted in a diamond pattern for better maneuverability. *3,000-lb. capacity* truck rolls on four swivel casters with phenolic wheels. *4,000-lb. capacity* truck rolls on two rigid and two swivel casters with steel wheels.

(B) Ergo-height truck has a higher cradle height for less bending during loading and unloading. It rolls on four swivel casters with phenolic wheels.

(C) High-capacity truck moves and stores your heaviest loads. It has a swivel caster with a phenolic wheel on each end and two axle-mounted phenolic wheels in the center for better maneuverability and rolling over obstructions.

Cap., lbs.	No. of Cradles	Cradle Size, Ht. × Wd. × Dp.	Wheel Dia.		
A) Quick Turn					
3,000	2	12¾″ × 26″ × 13½″	6″	2270T3	$493.33
4,000	3	12¾″ × 26″ × 13½″	8″	8780T11	648.00
B) Ergo Height					
3,000	2	20″ × 21″ × 14″	6″	8780T53	373.67
C) High Capacity					
10,000	4	16″ × 24″ × 13″	12″/8″	2270T5	736.06

Bar and Pipe Dolly



The combination of an offset handle and a V-shaped cradle lets one person balance and move loads up to 20″ in diameter and 20-ft. long. Dolly is welded steel and consists of a 3/16″ thick cradle and a 36″ long T-style handle with vinyl grips. It rolls on two axle-mounted pneumatic wheels. Color is gray. Shipped assembled.

Cap., lbs.	Cradle Size, Lg. × Wd.	Wheel Dia.		
1,000	30″ × 12″	16″	2727T66	$366.15

Easy-Carry Spool Racks



Racks are powder-coated black steel with a 23″ Lg. × 5/8″ Dia. galvanized steel spindle. Shipped assembled.

For Max. Spool OD	Overall Size Wd.	Ht.	Dp.	Overall Cap., lbs.		
7″	24″	7½″	8″	50	22315T61	$119.85
11″	24″	11½″	8″	70	22315T62	119.85

Spool Racks


Wall Mount


Floor Mount

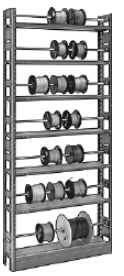
Free-standing

Wall-mount racks are 19-ga. gray powder-coated steel with steel spindles. They have four 3/8″ dia. mounting holes (fasteners not included). Shipped unassembled.

Floor-mount racks should be securely bolted to the floor. They adjust on 2″ centers using nuts and bolts. Racks are 7-ga. steel with a painted gray finish and have steel spindles. They have four 7/8″ dia. mounting holes (fasteners not included). *Add-on units* attach to a complete unit to extend the width for additional storage. Shipped unassembled.

Freestanding rack includes shelves for additional support. It adjusts on 1½″ centers using nuts and bolts. Rack is 13-ga. steel with a painted gray finish and has galvanized steel spindles. Shipped unassembled.

No. of Storage Levels	For Max. Spool OD	Overall Size Wd.	Ht.	Dp.	Capacity, lbs. Per Storage Level	Overall	Spindle Size Dia.	Lg.	Complete Units		Add-On Units	
Wall Mount												
2	7″	26½″	21½″	6″	60	120	5/8″	25¾″	4702T12	$67.07	—	—
4	7″	26½″	36½″	6″	60	240	5/8″	25¾″	4702T11	98.29	—	—
Floor Mount												
4	48″	44″	96″	24″	2,000	8,000	2″	36″	9335T31	727.08	9335T61	$572.72
4	48″	44″	96″	36″	2,000	8,000	2″	36″	9335T33	761.70	9335T63	590.03
4	48″	56″	96″	24″	2,000	8,000	2″	48″	9335T32	783.89	9335T62	626.79
4	48″	56″	96″	36″	2,000	8,000	2″	48″	9335T34	830.18	9335T64	644.18
Freestanding												
7	16″	36″	84″	8″	100	1,050	11/16″	35¾″	5079T23	447.94	—	—

Mobile Spool Racks


Three Storage Levels

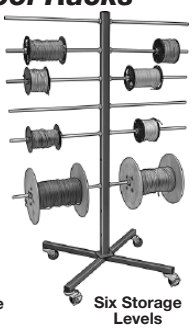
Six Storage Levels

Rack with three storage levels includes three fixed steel spindles. A wire guide on the handle allows for controlled dispensing. The frame is steel and has four swivel casters (two with brakes) with 3″ dia. rubber wheels. Color is red. Shipped assembled.

Rack with six storage levels includes six aluminum spindles that adjust on 7″ centers. Shaft collars secure the spools on the spindles. The frame is 14-ga. gray powder-coated steel and includes four swivel casters (two with brakes) with 3″ dia. polyurethane wheels. Shipped unassembled.

No. of Storage Levels	For Spool Size Min. ID	Max. OD	Overall Size Wd.	Ht.	Dp.	Capacity, lbs. Per Storage Level	O'all	Spindle Size Dia.	Lg.		
3	3/4″	7″	26″	32″	16″	Not Rated	350	1/2″	26″	2595T1	$466.55
6	7/8″	24″	48″	70″	32″	75	900	3/4″	44″	8762T48	339.23

Warning! Never exceed capacities.

Mobile Spool Racks with Removable Carrier

Transport all your spools at the same time, or use the removable rack to carry only the spools you need. When individual carriers are removed, this rack doubles as a hand truck.

Each carrier holds spools up to 7½″ dia., except the rack with four storage levels has one carrier that holds up to 16″ dia. spools. Both racks include three fixed vises and two holders for conduit benders; the four-level rack also includes a wire guide (wire guide sold separately for five-level rack). Racks are steel with rubber wheels. Color is red.

Wire guide has ten ½″ dia. holes. Made of steel.



Five Storage Levels

No. of Storage Levels	Overall Size Wd.	Ht.	Dp.	O'all Cap., lbs.		
4	25½″	46″	27″	600	22395T7	$878.84
5	23½″	45½″	18½″	300	22395T4	759.69
Wire Guide—14″ Wd. × 14″ Dp.					22395T5	80.00

Roll-On Low-Profile Reel Stands

No need to lift heavy reels—just roll them up the built-in ramp for easy loading. Rollers on the top of the stands allow the reels to spin freely as you wind or dispense rope, wire, hose, and chain. Stands have four mounting holes (fasteners not included).

1,200-lb. capacity stand holds reels up to 28″ wide. Made of 12-ga. steel. Color is green.

1,500-lb. capacity stand is designed to be used in pairs to accommodate reels of any width; capacity for the pair is 3,000 lbs. Made of 7-ga. steel. Color is red and yellow.



1,200-lb. Capacity



Two 1,500-lb. Capacity (Sold Separately)

Cap., lbs.	Overall Size Lg.	Wd.	Ht.	Mounting Hole Dia.		
1,200	28 3/16″	31½″	5¼″	⅜″	2742T11	$463.46
1,500	29½″	11″	4½″	½″	2742T14	359.25

Reel Jacks

Speed up dispensing from your reels. Use a pair of these adjustable-height, heavy duty steel jacks to lift and support each end of a spindle (sold separately). A screw mechanism adjusts the height of the jacks. Rollers on the top of the jacks allow the spindle to spin freely as you wind or dispense rope, wire, hose, and chain. Color is green.

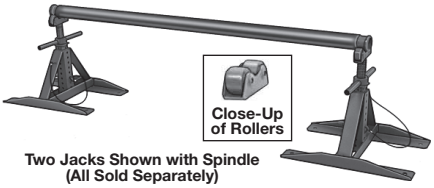

Two Jacks Shown with Spindle (All Sold Separately)

Cap., lbs.	Height Min.	Max.	Max. Reel Dia. At Min. Ht.	At Max. Ht.	Base Lg.	Base Wd.		
2,500	13″	28″	28″	56″	14½″	20″	2985T12	$222.07
2,500	22″	54″	46″	96″	24″	23″	2985T13	313.53
Spindle for Reel Jacks— 2 3/8″ Dia. × 62″ Lg.							2985T27	220.01

Single-Cylinder Hand Trucks

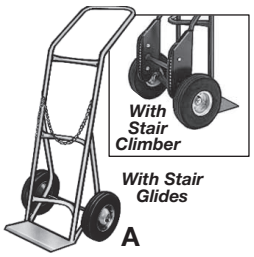











Move individual cylinders safely and easily. Shipped assembled.

Four-wheel trucks have rear legs with swivel casters for additional stability and better mobility. **Steel** and **aluminum trucks** are welded and have cross braces that support the cylinder when the truck is tilted.

(A) Trucks have a chain to secure the load and a green powder-coated finish. Trucks *with stair glides* ease the load over stairs and curbs. Trucks *with stair climbers* have a rotating nylon belt for moving over stairs and curbs.

(B) Truck is lightweight and spark resistant. It has a chain to secure the load and a dual-wheel hand brake for better load control on stairs, ramps, and inclines.

(C) Truck resists weather, corrosion, and sparks. A nylon strap secures the load. Color is black.

(D) The rear legs fold for compact storage. Trucks have a chain with plastic sleeve to secure the load and a green powder-coated finish. *Conductive wheels* have resistivity less than 250,000 ohms.

(E) A built-in hand jack with a crank handle safely lifts the cylinder up to 11″ for placement. A tightening handle puts tension on the chain to secure the cylinder. Has a red powder-coated finish.

(F) Designed for larger cylinders. A flat hook secures the cylinder. Two 2″ dia. steel rollers on the front of the truck allow you to tilt the truck forward for easier loading. Has a green powder-coated finish.

Max. Cylinder Dia.	Cap., lbs.	Load Plate, Wd. × Dp.	Handle Ht.	Chain/Strap/ Hook Ht.	Wheel Type	Wheel Dia.		
Two-Wheel Trucks								
(A) Steel with Stair Glides								
9¼″	500	14″ × 7″	48″	27″	Rubber Tread	10″	8777T23	$128.90
9¼″	500	14″ × 7″	48″	27″	Pneumatic	10″	8777T25	150.71
9¼″	500	14″ × 7″	48″	27″	Never-Go-Flat	14″	8777T27	156.43
(A) Steel with Stair Climber								
9¼″	500	14″ × 7″	48″	27″	Rubber Tread	10″	8777T13	182.14
9¼″	500	14″ × 7″	48″	27″	Pneumatic	10″	8777T14	223.13
(B) Aluminum								
14″	600	14½″ × 7″	49″	36″	Pneumatic	12″	6444T72	758.21
(C) Polyethylene								
12″	250	15½″ × 13″	46″	13″ and 25″	Polypropylene	10″	2230T51	155.71
Four-Wheel Trucks								
(D) Steel with Fold-Up Legs								
10½″	300	14″ × 6″	45½″	32″	Never-Go-Flat/Solid Rubber	8″/3″	2561T13	109.56
(D) Steel with Fold-Up Legs and Conductive Wheels								
10½″	300	14″ × 6″	45½″	32″	Never-Go-Flat/Solid Rubber	8″/3″	2561T12	199.17
(E) Steel Lift Assist								
12″	1,000	13″ × 11″	57″	28″	Pneumatic/Polypropylene	10″/3″	5012T51	527.27
(F) Steel For Large Diameter Cylinders								
20″	950	———	59″	50″ to 60″	Rubber Tread/Rubber Tread	12″/6″	5242T16	716.38

Warning: *Never exceed capacities.*

Double-Cylinder Hand Trucks





















Two cylinders…one trip. Safely and easily transport two cylinders at a time with these trucks. Shipped assembled.

Front-to-back trucks are ideal for narrow aisles and confined spaces. ***Steel trucks*** have welded construction and a green powder-coated finish (unless noted).

(A&B) A lip at the back of the load plate prevents cylinders from sliding off. Trucks include a chain to secure the load, a hose hook, and a tool tray. *Style A* has a 3″ high lip; *Style B* has a 4½″ high lip.

(C) A 1″ high lip at the back of the load plate prevents cylinders from sliding off. Trucks include a tool tray and a chain to secure the load.

(D) A 1″ high lip at the back of the load plate prevents cylinders from sliding off. Truck includes a chain to secure the load and a lockable tool box.

(E) A 1″ high lip at the back of the load plate prevents cylinders from sliding off. Truck includes a chain to secure the load, a 62″ long handle with 3″ ID tow ring, and a lockable tool box. Max. tow speed is 5 mph.

(F) Raised containment rings on the load plate and a steel bar on the frame secure the load. Truck has a 61″ long handle with a 3″ ID ring for lifting or for towing up to 5 mph. The tow bar can be secured in the upright position for lifting.

(G) Rear legs with swivel casters provide added stability and better mobility. Legs fold up for compact storage. Quick-tight straps secure the load. *Optional tool tray* is 19⅞″ Lg. × 5″ Wd. × 5″ Ht. *Optional locking posts* fit into slots on the frame of the truck and over the collar of 7″ and 10″ cylinders for additional securement.

(H) Truck is lightweight and resists weather, corrosion, and sparks. Color is black. A chain secures the load.

(J) The trucks include two chains to secure each cylinder, two hose hooks, and a tool tray.

(K) The load plate has a 4¼″ floor clearance for easier moving over obstructions. Includes one chain to secure each cylinder and a removable tool tray.

	Max. Cylinder Dia.	Cap., lbs.	Load Plate, Wd. × Dp.	Handle Ht.	Chain/Band/ Strap Ht.	Wheel Type	Wheel Dia.		Each
Side-By-Side Trucks									
Steel									
A	9¼″	300	17″ × 8″	45″	22¾″	Never-Go-Flat	8″	2521T11	$75.67
B	10½″	350	20″ × 9″	45½″	22¾″	Rubber Tread	10″	2521T14	128.83
C	13½″	450	24″ × 13″	45¾″	27″	Rubber Tread	12″	2624T3	202.31
C	13½″	450	24″ × 13″	45¾″	27″	Pneumatic	16″	2624T5	254.62
D	13½″	500	24″ × 13″	48½″	24″	Pneumatic	16″	8351T71	382.50
E	13½″	500	24″ × 13″	48½″	24″	Steel	30″	2527T14	377.50
F	13½″/9¼″	500	24″ × 13″	49½″	24″	Pneumatic	21″	9930T31	737.69
G	12″	1,000	20¾″ × 10″	47″	28″	Pneumatic	10½″/3″	5543T61 ♦	357.55
Polyethylene									
H	12″	500	13″ × 13″	45 3/16″	27″	Pneumatic	16½″	2230T21	342.86
Front-To-Back Trucks									
Steel									
J	12½″/10½″	400	12″ × 8″/11″ × 11″	49″	19″/34″	Never-Go-Flat	10″	2560T31	168.64
J	12½″/10½″	400	12″ × 8″/11″ × 11″	49″	19″/34″	Rubber Tread	10″	2560T32	166.95
K	12″/9″	800	15″ × 23¾″	40″	29″	Rubber Tread	10″/4″	2625T14 ■	221.09
Accessories for Style G									
Optional Tool Tray								5543T62	51.44
Optional Locking Posts (Set of Two)								5543T63	90.19

♦ Color is gray. ■ Has a green painted finish.

Steel Six-Cylinder and Eight-Cylinder Trucks



Eight-Cylinder Truck

Wheel multiple cylinders at a time right to where you need them. A chain on each side of the truck secures the cylinders during transport. Trucks have welded construction, an orange enamel finish, and roll on two rigid and two swivel casters with phenolic wheels. Shipped assembled.

Six-cylinder truck has a floor lock to keep the truck stationary during loading and unloading.

Eight-cylinder truck has a 10″ deep fold-down ramp for smooth loading and unloading. The two swivel casters have a side wheel brake.

No. of Cylinders	Max. Cylinder Dia.	Cap., lbs.	Load Plate, Wd. × Dp.	Handle Ht.	Chain Ht.	Wheel Dia.		Each
6	9¼″	1,500	46″ × 24″	42″	37″	6″	2348T1	$545.34
8	9¼″	1,500	60½″ × 24″	42″	37″	8″	2348T2	745.99

Warning! ***Never exceed capacities.***

Pail Dollies

Take the work out of moving heavy pails—wheel them around on a dolly.

(A&B) Have durable welded 10- and 11-ga. steel construction and an orange enamel finish. Dollies roll on four swivel casters with polypropylene wheels. Shipped assembled.

Style A has a cross-brace deck. *Style B* has a solid deck.

(C) Made of chemical-resistant polypropylene and has a cross-brace deck. It rolls on five twin-wheel, friction-grip stem swivel casters with nylon wheels. The wheels are mounted outside of the deck for added stability. Color is beige. Casters must be installed.


A


B


C

Max. Pail Size, gal.	Cap., lbs.	Inside Dia.	O'all Ht.	Deck Ht.	Lip Ht.	Wheel Dia.		Each
Steel								
A 5	700	12¼″	6³⁄₁₆″	3⁹⁄₁₆″	2½″	2½″	**9915T11**	$65.84
B 5	700	12¼″	6³⁄₁₆″	3⁹⁄₁₆″	2½″	2½″	**9915T12**	81.07
Polypropylene								
C 6	75	11″	3¹¹⁄₁₆″	2¹⁵⁄₁₆″	¾″	1½″	**26135T11**	29.38

Solid-Deck Drum Dollies


D


E


F


G

Drums have a solid deck for great overall support and a lip to retain the load.

(D) Made of 10- to 12-ga. steel with an orange enamel finish. Roll on four swivel casters with rubber wheels (unless noted). Shipped assembled.

(E) Ideal for harsh environments. Made of 14-ga. Type 304 SS. Roll on four swivel casters with polypropylene wheels. Shipped assembled.

(F) Made of lightweight yet strong ¼″ thick aluminum. Rolls on four swivel casters with polypropylene wheels. Casters must be installed (fasteners included).

(G) Polyethylene will not corrode and is dent and chip resistant. Color is black. Rolls on five swivel casters with polypropylene wheels. Shipped assembled.

Max. Drum Size, gal.	Cap., lbs.	Inside Dia.	O'all Ht.	Deck Ht.	Lip Ht.	Wheel Dia.		Each
(D) Steel								
30	900	19¼″	5½″	4″	2½″	3″	**9915T13**	$78.25
55	900	23¼″	5½″	4″	2½″	3″	**9915T14**	90.33
85	900	29″	5½″	4″	2½″	3″	**9915T15**★	97.09
(E) Type 304 Stainless Steel								
35	920	21″	5⅜″	5″	⅞″	3½″	**2608T61**	387.98
55	920	23½″	5½″	5″	1″	3½″	**2608T62**	405.38
(F) Aluminum								
55	900	24″	5¾″	3¾″	2″	3″	**2608T64**	337.91
(G) Polyethylene								
55	500	23½″	7⅛″	5⅛″	2″	3″	**2421T41**	109.53

★ Wheels are polypropylene.

Cross-Brace Deck Drum Dollies

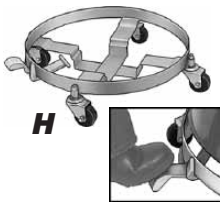
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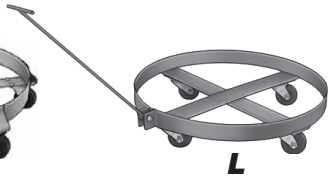
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M

Make transporting 30-, 55-, and 85-gal. drums less of a chore. All dollies have welded construction and roll on four swivel casters (unless noted).

Casters mounted outside the deck offer increased stability.

(H) A foot-operated tilter locks the drum at a 10° angle for easier emptying. Made of 11-ga. steel with a zinc-plated finish. Casters must be installed (fasteners included).

(J) Made of 10- and 12-ga. steel with a gray powder-coated finish (unless noted). Shipped assembled (unless noted).

(K) Five swivel casters provide maximum stability. Made of 10- and 12-ga. steel and have a gray powder-coated finish. Shipped assembled.

(L) Includes a removable 30″ long T-style handle for pulling. Made of 6-ga. steel with a gray painted finish. Shipped assembled.

(M) *Steel* are 10- and 11-ga. with an orange enamel finish. Shipped assembled.

Type 304 stainless steel have 10-ga. construction and are ideal for harsh environments. Shipped assembled.

Aluminum has lightweight yet strong ¼″ thick construction. Casters must be installed (fasteners included).

Max. Drum Size, gal.	Cap., lbs.	Inside Dia.	O'all Ht.	Deck Ht.	Lip Ht.	Wheel Type	Wheel Dia.		Each
Casters Mounted Outside Deck									
Steel with Drum Tilter									
H 55	900	23½″	61¼″	41¼″	2″	Rubber	3″	**9915T31**	$123.49
H 55	1,200	23½″	6″	4″	2″	Cast Iron	3″	**9915T32**	141.38
Steel									
J 30	1,000	19¼″	5¾″	3⅞″	2½″	Polypropylene	3″	**2412T25**	76.07
J 55	900	24″	5¾″	4″	2″	Rubber	3″	**9915T16**●	109.70
J 55	1,000	23¼″	6½″	3¾″	2½″	Polypropylene	3″	**2412T26**	80.23
J 55	1,400	23¼″	6½″	4″	2½″	Polypropylene	3″	**2412T27**	88.28
K 55	1,250	23¼″	6½″	3⅞″	2½″	Polypropylene	3″	**2412T41**	94.37
K 55	1,400	23¼″	6½″	3⅞″	2½″	Cast Iron	3″	**2412T42**	107.03
Casters Mounted Under Deck									
Steel with Handle									
L 55	1,000	24″	57⁄8″	3⅞″	2″	Rubber	3″	**9917T91**	150.00
Steel									
M 30	700	19¼″	5¼″	3¾″	2½″	Rubber	2½″	**9915T5**	60.59
M 30	900	19¼″	5¼″	3¾″	2½″	Steel	2½″	**9915T6**	83.97
M 30	900	19¼″	5½″	4″	2½″	Rubber	3″	**9915T1**	70.34
M 30	1,200	19¼″	5½″	4″	2½″	Steel	3″	**9915T3**	89.10
M 55	700	23¼″	5¼″	3¾″	2½″	Rubber	2½″	**9915T7**	56.41
M 55	900	23¼″	5¼″	3¾″	2½″	Steel	2½″	**9915T8**	92.81
M 55	900	23¼″	5½″	4″	2½″	Rubber	3″	**9915T2**	60.17
M 55	1,200	23¼″	5½″	4″	2½″	Steel	3″	**9915T4**	87.11
M 85	900	29″	5½″	4″	2½″	Polypropylene	3″	**9915T9**	78.57
Type 304 Stainless Steel									
M 30	800	19″	6⅛″	4″	2⅛″	Rubber	3″	**2608T12**	165.04
M 55	800	24″	6⅛″	4″	2⅛″	Rubber	3″	**2608T14**	185.80
Aluminum									
M 55	900	24″	5¾″	3¾″	2″	Polypropylene	3″	**2608T63**	169.55

● Made of 12-ga. steel with an orange painted finish. Casters must be installed (fasteners included).

Optional Center Caster with Polypropylene Wheel for 2412T41 ..... **2412T43** **Each** $8.98
Optional Center Caster with Cast Iron Wheel for 2412T42 ..... **2412T44** **Each** $12.36

Warning! ***Never exceed capacities.***

Octagonal-Frame Drum Dollies



With Optional Sorbent Sock

Go ahead, give it your heavy loads, this solid-deck dolly can take it. Oversized to handle overpack drums, it has welded steel construction and rolls on four swivel casters. It can accommodate a sorbent sock (sold separately) to soak up spills and leaks. Made of 1/8″ thick steel with a yellow enamel finish. Casters must be installed (fasteners included).

Max. Drum Size, gal.	Cap., lbs.	Inside Wd.	O'all Ht.	Deck Ht.	Lip Ht.	Wheel Type	Wheel Dia.		Each
85	1,000	30 5/8″	5 5/8″	3 7/8″	1 7/8″	Polypropylene	3″	22175T21	$131.09

Optional 3″ Dia. × 84″ Lg. Sorbent Sock for 22175T21 ... **7193T67** **Each** 1-6 $11.89 7-Up $10.62

Cross-Brace Deck All-Shape Drum Dollies

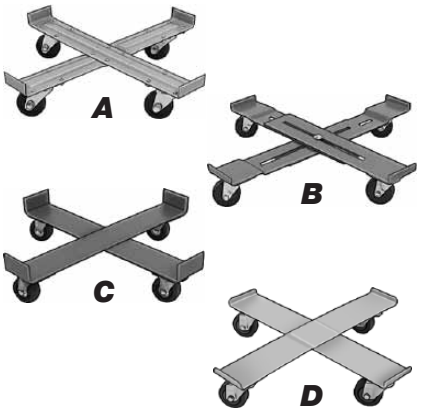

Not only do these dollies transport round drums, most are also capable of handling square cartons and crates. Dollies roll on four swivel casters. Shipped assembled.

(A) Made of 13-ga. steel with a gray epoxy finish. Wheels are polypropylene.

(B) Adjust the cross braces to fit your load. Made of 7-ga. steel with an orange enamel finish. Wheels are rubber.

(C) Made of 1/4″ thick steel with a blue painted finish. Wheels are rubber. *Note:* Not recommended for square containers.

(D) Made of 10-ga. Type 304 stainless steel for corrosion resistance. Wheels are rubber.

Max. Drum Size, gal.	Cap., lbs.	Braces Lg.	Braces Wd.	O'all Ht.	Deck Ht.	Lip Ht.	Wheel Dia.		Each
Bolted Deck									
(A) Steel									
55	1,000	24″	31 1/2″	51 1/8″	4″	1 1/2″	3″	28005T6	$54.33
(B) Steel with Adjustable Cross Braces									
30	1,000	14 1/4″-19 1/4″	41 1/8″	51 1/4″	41 1/4″	1″	3″	27745T5	101.53
85	1,000	23 1/2″-36 1/2″	41 1/8″	51 1/4″	41 1/4″	1″	3″	27745T4	117.44
Welded Deck									
(C) Steel									
15	1,000	16″	4″	6″	4″	2″	3″	2713T39	88.54
55	1,000	24 1/2″	4″	6″	4″	2″	3″	2713T21	91.95
(D) Type 304 Stainless Steel									
55	800	24″	41 1/2″	4 13/16″	41 1/16″	3/4″	3″	2713T42	136.50

Square-Frame Drum and Crate Dollies



Open Deck



Solid Deck

A removable T-style handle and a square deck make these dollies easier to push, pull, and steer along walls and aisles. Dollies are capable of handling both round drums and square cartons and crates. Both roll on four swivel casters. Shipped assembled.

Open deck is 6-ga. steel with a gray painted finish and phenolic wheels. Handle is 31″ long. *Note:* Do not use with loads less than 23″ dia. or 23″ square.

Solid deck is 11-ga. steel with a blue polyester coating and a drain plug for spills and leaks. Wheels are polypropylene. Handle is 28″ long.

Max. Drum Size, gal.	Cap., lbs.	Inside Lg. × Wd.	O'all Ht.	Deck Ht.	Lip Ht.	Wheel Dia.		Each
Open Deck								
55	1,120	24″ × 24″	7 5/16″	5 5/16″	2″	4″	9917T92	$161.02
Solid Deck								
55	900	23 5/8″ × 23 5/8″	6″	4″	2″	3″	9917T88	157.88

Open-Front Drum Dolly Truck



A winning combination—an open front on the deck makes loading and unloading easier while a lip on the other three sides keeps the load from sliding off. The dolly truck can handle round drums as well as square crates and cartons. It has a removable tubular steel handle for pushing, pulling, and steering. The handle has a cable and hose holder and a 21″ Lg. × 6″ Wd. × 12″ Dp. steel tool box.

The dolly truck is 12-ga. steel with a gray enamel finish and rolls on two rigid and two swivel casters with phenolic wheels. Shipped assembled.

Max. Drum Size, gal.	Cap., lbs.	Inside Lg. × Wd.	O'all Size, Lg. × Wd. × Ht.	Deck Ht.	Lip Ht.	Wheel Dia.		Each
55	2,000	25″ × 25″	33″ × 25″ × 41″	6 1/2″	2″	5″	2367T51	$202.15

Easy-Load Drum Dolly Trucks



Maximize stability and minimize spills. Dolly trucks have a large, open deck that sits low to the ground to slide under drums for better support and minimal tipping. A T-style tubular steel handle pivots out for pulling, locks upright for pushing, and folds in for storage. All have welded 5/16″ thick steel construction, an orange enamel finish, and roll on two axle-mounted front wheels and one center-mounted rear swivel caster. Shipped assembled.

For Drum Size, gal.	Cap., lbs.	Inside Wd. × Dp.	O'all Size, Wd. × Ht.	Deck Ht.	Lip Ht.	Wheel Type	Wheel Dia.		Each
55	1,000	27″ × 16 1/2″	33″ × 38 1/2″	1/2″	3 1/2″	Rubber/Polypropylene	6″/3″	2642T51	$138.04
55	1,200	27″ × 16 1/2″	33″ × 38 1/2″	1/2″	3 1/2″	Polypropylene	6″/3″	2642T52	127.79
55	1,200	27″ × 16 1/2″	33″ × 38 1/2″	1/2″	3 1/2″	Steel	6″/3″	2642T53	153.60

Warning! ***Never exceed capacities.***

Drum Trucks

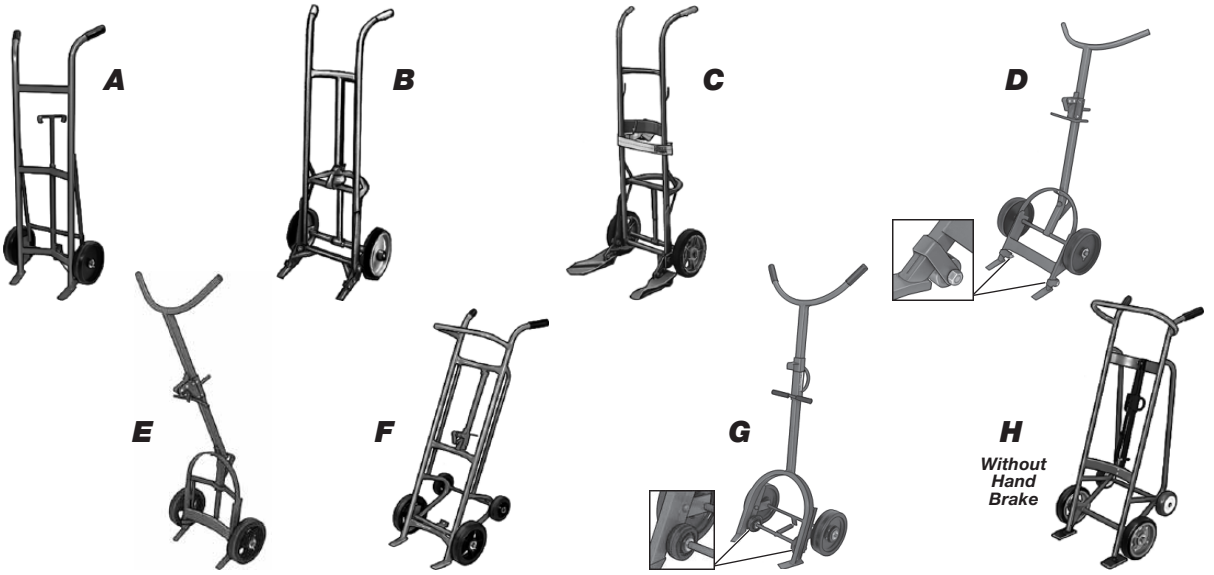

All have welded construction, axle-mounted wheels, and load wedges that slide under the drum for lifting.

Two-wheel trucks are great for transporting drums over short distances. ***Four-wheel trucks*** offer better load support and take the strain off your arms and back. Ideal for heavier loads, traveling longer distances, and loading and unloading drums from pallets.

Steel trucks handle your most demanding application. ***Aluminum*** trucks are lightweight, easy to move, and spark resistant.

(A) Has a kickstand to keep the truck standing, an adjustable rim catch that clamps to the top of the drum to secure it, dual handles with grips, and an orange enamel finish.

(B) Have an upright design that keeps the trucks standing, an adjustable rim catch that clamps to the top of the drum to secure it, and a spring-loaded axle that makes it easier to tilt the trucks backwards and get them rolling. Trucks also have dual handles with grips and an orange enamel finish.

(C) Have an upright design that keeps the trucks standing, a 2″ wide strap with spring-loaded cinching buckle to secure the drum, and a spring-loaded axle that makes it easier to tilt the trucks backwards and get them rolling. The strap is 27″ high when trucks are in the upright position. Trucks also have dual handles with grips and an orange enamel finish.

(D) A curved frame creates a cradle for the drum and keeps the trucks standing. Rollers on the load wedges make it easy to load and unload drums from pallets. Trucks also have an adjustable rim catch that clamps to the top of the drum to secure it, dual handles, and an orange enamel finish.

(E) Have an upright design that keeps the trucks standing, a curved frame to cradle the drum for balanced loading and unloading, an adjustable rim catch that clamps to the top of the drum to secure it, and a spring-loaded axle that makes it easier to tilt the trucks backwards and get them rolling. Trucks also have dual handles and an orange enamel finish.

(F) Trucks are balanced to stay standing and have dual handles with grips as well as a loop handle for better control. They also have an adjustable rim catch that clamps to the top of the drum to secure it and an orange enamel finish.

(G) Have a heavy duty cradle, an upright design that keeps the trucks standing, an adjustable rim catch that clamps to the top of the drum to secure it, and a spring-loaded axle that makes it easier to tilt the trucks backwards and get them rolling. Trucks also have dual handles with grips and a red powder-coated finish.

(H) A spring-loaded rim catch automatically clamps to the top lip of the drum as the drum is tilted, eliminating the need for manual attachment and adjustment. Trucks are balanced to stay standing and have dual handles with grips as well as a loop handle for better control. *Steel trucks* have a green enamel finish.

2850T11 and 2850T13 also have a hand brake for more control on ramps and inclines.

	For Drum Sizes gal.	Ht.	Dia.	Cap., lbs.	For Drum Types	O'all Size, Wd. × Ht.	Wheel Type	Wheel Dia.		Each
Two-Wheel Trucks										
Steel										
A	30, 55	30″	-42″ ... 18″	-24″	1,000	Steel	25½″ × 59″	Polypropylene	10″	2776T91	$176.64
B	30, 55, 85	20″	-41″ ... 17″	-23″	1,000	Steel	23¾″ × 61″	Polypropylene	10″	2311T13	330.77
B	30, 55, 85	20″	-41″ ... 17″	-23″	1,000	Steel	23¾″ × 61″	Rubber Tread	10″	2311T14	350.82
C	30, 55	28½″	-50″ ... 18″	-24″	1,000	Steel, Fiber, Plastic	23½″ × 59½″	Rubber Tread	10″	23615T3	435.36
C	30, 55, 85	28½″	-50″ ... 18″	-34″	1,000	Steel, Fiber, Plastic	23½″ × 59½″	Rubber Tread	10″	23615T4	447.73
D	30, 55, 85	25″	-48″ ... 18″	-34″	1,000	Steel, Fiber	24½″ × 59″	Polypropylene	10″	2865T2	215.81
D	30, 55, 85	25″	-48″ ... 18″	-34″	1,000	Steel, Fiber	24½″ × 59″	Rubber Tread	10″	2865T4	273.73
D	30, 55, 85	25″	-48″ ... 18″	-34″	1,000	Steel, Fiber	24½″ × 59″	Steel	10″	2865T3	316.79
E	30, 55, 85	25″	-48″ ... 18″	-34″	1,000	Steel, Fiber	24½″ × 59″	Polypropylene	10″	8755T53	267.71
E	30, 55, 85	25″	-48″ ... 18″	-34″	1,000	Steel, Fiber	24½″ × 59″	Rubber Tread	10″	8755T51	315.73
E	30, 55, 85	25″	-48″ ... 18″	-34″	1,000	Steel, Fiber	24½″ × 59″	Steel	10″	8755T52	350.48
Four-Wheel Trucks										
Steel										
F	30, 55	28″	-40″ ... 18″	-24″	1,000	Steel, Fiber	24½″ × 62″	Polypropylene	10″/6″	2637T2	275.43
F	30, 55	28″	-40″ ... 18″	-24″	1,000	Steel, Fiber	24½″ × 62″	Rubber Tread	10″/6″	2637T4	330.84
F	30, 55	28″	-40″ ... 18″	-24″	1,000	Steel, Fiber	24½″ × 62″	Steel	10″/6″	2637T3	367.58
G	5-85	24½″	-48″ ... 13″	-27″	1,000	Steel, Fiber, Plastic	24″ × 61″	Phenolic	10″/4″	2514T3	348.07
G	5-85	24½″	-48″ ... 13″	-27″	1,000	Steel, Fiber, Plastic	25¼″ × 61″	Thermoplastic Rubber (TPR)	10″/4″	2514T4	375.26
H	30, 55	23″	-37″ ... 19¼″	-23½″	1,000	Steel, Fiber, Plastic	24½″ × 59″	Rubber Tread/Polyurethane	10″/6″	2850T15	591.62
H	30, 55	23″	-37″ ... 19¼″	-23½″	1,000	Steel, Fiber, Plastic	26″ × 59″	Pneumatic/Polyurethane	12½″/6″	2850T16	577.46
Steel with Hand Brake										
H	30, 55	23″	-37″ ... 19¼″	-23½″	1,000	Steel, Fiber, Plastic	24½″ × 59″	Rubber Tread/Polyurethane	10″/6″	2850T11	797.23
Aluminum										
H	30, 55	23″	-37″ ... 18″	-24″	1,000	Steel, Fiber, Plastic	24½″ × 59″	Rubber Tread/Polyurethane	10″/6″	2850T17	635.86
H	30, 55	23″	-37″ ... 18″	-24″	1,000	Steel, Fiber, Plastic	26″ × 59″	Pneumatic/Polyurethane	12½″/6″	2850T18	666.29
Aluminum with Hand Brake										
H	30, 55	23″	-37″ ... 18″	-24″	1,000	Steel, Fiber, Plastic	24½″ × 59″	Rubber Tread/Polyurethane	10″/6″	2850T13	849.63

Warning! ***Never exceed capacities.***

Raise-It Drum Trucks







Lift, transport, and place drums without a forklift. A V-style base makes it easy to load and unload drums from pallets and platforms. All trucks are made of steel with an enamel finish.

(A) A U-shaped handle engages a gas spring and ratchet mechanism to lift, hold, and release the drum. The length of the handle provides proper leverage, and the base has built-in counterbalance for stability. Three alloy steel hooks securely hold the drum below the rim. For easy steering, the truck rolls on two front axle-mounted polypropylene wheels and two rear swivel casters with polypropylene wheels. Color is blue. Shipped unassembled.

(B) A hand-operated hydraulic pump lifts and lowers the drum while a claw-style grabber attaches to the rim of the drum for a secure hold. Dual handles provide controlled maneuverability. Truck has two front axle-mounted polypropylene wheels and a rear swivel caster with a phenolic wheel and side wheel brake to keep the truck stationary during lifting and lowering. Color is green. Shipped assembled.

(C) A dual foot-operated hydraulic pump lifts and lowers the drum while a spring-loaded clamp securely grips the rim of the drum. The legs are retractable for easier maneuvering in tight spaces. Truck has two front rigid casters and two rear swivel casters. Wheels are phenolic. A floor lock keeps the truck stationary during lifting and lowering. Color is orange. Shipped assembled.

	For Drum Sizes gal.	Ht.	Dia.	Cap., lbs.	For Drum Types	O'all Size, Wd. × Ht.	Handle Ht.	Max. Lift	Wheel Dia.		Each
A	55	34″ -36″	22″-23½″	800	Steel, Fiber, Plastic	49″ ×47″	21″-74½″	6½″	6″/4″	22375T61	$868.79
B	30, 55, 85	26¼″-32¼″	18″-26″	800	Steel	49⅞″ ×61¾″	45⅛″	20½″	6″/8″	22375T4	1,763.57
C	30, 55, 85	25½″-40″	18″-26″	1,100★	Steel, Fiber, Plastic	36¼″-41″ ×48¼″-79½″	41⅝″	20″	5″	22375T5	2,477.41

★ Capacity shown is with legs extended. Capacity is 650 lbs. with legs retracted.

Drum Trucks/Dispensing Stands







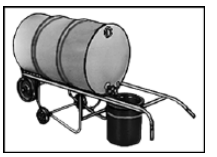





All-in-one convenience—trucks transport, store, and allow dispensing of drums. All have steel construction.

(D) Trucks have a drum saddle with a chain and ratchet-style tightener to secure the drum. Drums can be lifted 5⅛″ to 11″ from the floor. A handle lock prevents unintentional lowering and a tilt lock keeps the drum vertical. Release the tilt lock for mixing. Trucks roll on two front axle-mounted wheels and one rear swivel caster and have a blue enamel finish. Shipped unassembled.

(E) Trucks have a hook-style grabber that attaches to the rim of the drum for a secure hold, welded steel wedges that slide under the drum for easy loading, and dual handles with grips. When in the dispensing position, rollers on the frame allow you to rotate the drum for mixing. Trucks have an orange enamel finish. Shipped assembled.

(F) Truck has a 2″ wide polyester strap with spring-loaded cinching buckle to secure the drum, extra-wide load wedges for easy loading, dual handles with grips, and a kickstand to keep the truck standing. It rolls on two axle-mounted front and two axle-mounted rear wheels and has an orange enamel finish. Shipped assembled.

(G) Corrosion-resistant Type 304 stainless steel construction makes this truck great for harsh environments and washdown applications. Its unique design allows for easy loading and unloading of drums from pallets. Forged steel load wedges slide under the drum for easy loading and a spring-loaded kickstand keeps the truck standing and adds stability during dispensing. Shipped unassembled.

	For Drum Sizes gal.	Ht.	Dia.	Cap., lbs.	For Drum Types	Approx. Drum Drain Ht.	O'all Size, Wd. × Ht.	Wheel Type	Wheel Dia.		Each
Steel											
D	55	34″-36″	22½″-24″	800	Steel, Plastic	17″	35¼″ ×66″	Polypropylene	8″/4″	2646T17	$637.88
D	55	36″	22½″	800	Steel	17″	35¼″ ×66″	Polypropylene	8″/4″	2646T15	595.35
E	55, 85	30″-40″	18″ -26″	1,000	Steel	14″	25″ ×62″	Polypropylene	10″/6″	2493T13	239.21
E	55, 85	30″-40″	18″ -26″	1,000	Steel	14″	25″ ×62″	Rubber Tread	10″/6″	2493T11	306.64
E	55, 85	30″-40″	18″ -26″	1,000	Steel	14″	25″ ×62″	Steel	10″/6″	2493T12	351.67
F	30, 55	34″-38″	17″ -23″	1,000	Steel, Fiber, Plastic	15″	23¾″ ×58″	Rubber Tread	10″/6″	23615T5	369.36
Type 304 Stainless Steel											
G	30, 55, 85	31″-41″	14″ -28″	1,000	Steel, Fiber, Plastic	12¾″	19¾″ ×62 11/16″	Polypropylene	8″	2493T37	841.35

Spill-Containment Drum Trucks/Dispensing Stands



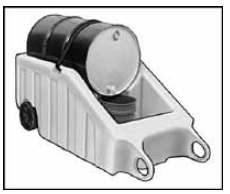

Lightweight yet durable, these corrosion-resistant polyethylene trucks/stands not only transport and dispense your drums, they also contain spills. A U-shaped platform with a recessed step and molded handles makes loading, unloading, and tipping to dispense easier. A 2″ wide nylon strap secures the drum. In the dispensing position, the drum is held at a slight downward angle for better flow. The spill containment reservoir has an 80-gallon capacity and two openings with ¾″ garden hose thread. Trucks/stands roll on two axle-mounted solid wheels and meet EPA 40 CFR 264.175. Shipped assembled.

For Drum Sizes gal.	Ht.	Dia.	Cap., lbs.	For Drum Types	Approx. Drum Drain Ht.	O'all Size, Lg. × Wd. × Ht.	Wheel Type	Wheel Dia.		Each
55	34″	24″	600	Steel, Fiber, Plastic	15″	26½″ ×32½″ ×69″	Polypropylene	10″	25315T14	$525.00
55	34″	24″	600	Steel, Fiber, Plastic	15″	26½″ ×34½″ ×69″	Rubber	10″	25315T24	576.92

Warning! **Never exceed capacities.**

Drum Dispensing Stands

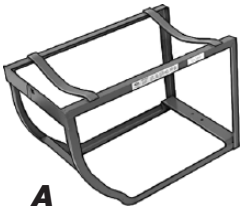

Without Handle

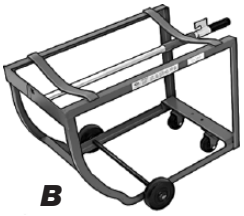

With One Telescoping Handle



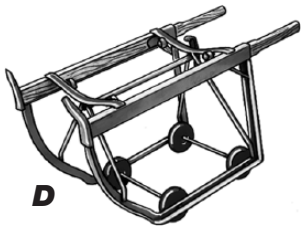

Also known as drum cradles, these welded steel stands are an economical way to store, mix, and drain your drums. Shipped assembled.

Stationary stands are ideal for permanent storage. ***Mobile stands*** let you move your drums right to where you need them.

(A) The frame has a skid-resistant surface to prevent sliding when loading. A drum rim catch in the base of the frame secures the drum. Stands have an orange enamel finish.

2301T5 also has a telescoping zinc-plated steel handle that increases leverage when tipping to empty the drum.

(B) The frame has a skid-resistant surface to prevent sliding when loading. A drum rim catch in the base of the frame secures the drum. Stands roll on two front axle-mounted wheels and two rear swivel casters (unless noted) for better steering. All have an orange enamel finish.

Stands with handle also have an additional drum rim catch and a telescoping zinc-plated steel handle that increases leverage when tipping to empty the drum.

(C) Dual telescoping steel handles give you extra leverage and control when tipping to empty the drum. A drum rim catch on each handle secures the drum. Stands have a green powder-coated finish and roll on two front axle-mounted wheels and two rear swivel casters for better steering.

(D) Steel load wedges slide under the drum for easy loading and cross braces with rollers let you rotate the drum for draining and mixing in the horizontal position. Dual oak handles give you extra leverage and control when tipping to empty the drum. A drum rim catch on the frame secures the drum. Stands have an orange enamel finish and roll on two front and two rear axle-mounted wheels.

For Drum Sizes gal.	Ht.	Dia.	Cap., lbs.	For Drum Types	Approx. Drum Drain Ht.	O'all Size, Lg. × Wd. × Ht.	Wheel Type	Wheel Dia.		Each
Stationary Stands										
(A) Without Handle										
30, 55	29″	-40″	18″	-24″	1,000	Steel	18¾″	30″ × 18″	× 20¼″	—	—	2301T1	$99.97
(A) With One Telescoping Steel Handle ■										
30, 55	29″	-40″	18″	-24″	1,000	Steel	18¾″	36½″ × 18″	× 20¼″	—	—	2301T5	126.27
Mobile Stands										
(B) Without Handle										
30, 55	29″	-40″	18″	-24″	1,000	Steel	20¾″	30″ × 22″	× 22½″	Polypropylene	5″/3″	2301T4	131.65
30, 55	29″	-40″	18″	-24″	1,000	Steel	20¾″	30″ × 22″	× 22½″	Polypropylene	5″	2301T9●	146.29
30, 55	29″	-40″	18″	-24″	1,000	Steel	20¾″	30″ × 22″	× 22½″	Rubber/Polypropylene	5″/3″	2301T3	138.61
(B) With One Telescoping Steel Handle ■										
30, 55	29″	-40″	18″	-24″	1,000	Steel	20¼″	36½″ × 22″	× 22″	Steel	4″/2½″	2301T6	176.13
30, 55	29″	-40″	18″	-24″	1,000	Steel	20¾″	36½″ × 22″	× 22½″	Polypropylene	5″/3″	2301T8	155.97
30, 55	29″	-40″	18″	-24″	1,000	Steel	20¾″	36½″ × 22″	× 22½″	Polypropylene	5″	2301T21●	166.63
30, 55	29″	-40″	18″	-24″	1,000	Steel	20¾″	36½″ × 22″	× 22½″	Rubber	5″/3″	2301T7	165.22
(C) With Dual Telescoping Steel Handles ■										
30, 55	28¾″-34½″		19¼″-23½″		700	Steel, Plastic	18⅞″	43½″ × 16¼″ × 23⁷⁄₁₆″		Aluminum/Polyethylene	2½″	2396T95	115.45
30, 55	28¾″-34½″		19¼″-23½″		700	Steel, Plastic	18⅞″	43½″ × 16¼″ × 23⁷⁄₁₆″		Polyethylene/Rubber	5″/3″	2396T96	130.00
(D) With Dual Telescoping Oak Handles ■										
15, 30, 55	29″	-40″	14″	-24″	1,000	Steel	20″	43½″ × 18½″ × 22″		Steel	4″	2710T1	197.30
15, 30, 55	29″	-40″	14″	-24″	1,000	Steel	20½″	43½″ × 18½″ × 22½″		Polypropylene	5″	2710T3	194.21
15, 30, 55	29″	-40″	14″	-24″	1,000	Steel	20½″	43½″ × 18½″ × 22½″		Rubber	5″	2710T2	205.52

■ Length is with handles in the retracted position. ● Has two rear axle-mounted wheels and is designed for use with horizontal drum cabinets.

Hydraulic Drum Handlers

Look no further if you need a drum handler that makes it easy for one person to lift, move, and dispense a full drum. Handlers have a hydraulic lift that positions the drum at the required height and a manual dispensing control that tilts the drum at the proper angle for emptying. They can also rotate the drums 360° in either direction. A drum saddle with chain and ratchet-style tightener secures the drum and a floor lock keeps the handlers stationary. All are welded steel with a blue enamel finish and roll on two front axle-mounted polyolefin wheels and two rear swivel casters with polyolefin wheels.

Hand-operated handlers have a single-action, lever-operated hydraulic lift. Shipped unassembled.

Electric handler makes lifting the drum faster and easier. Just push the button to lift and release the button to stop lifting. The hydraulic lift is powered by a 1-hp, 115-VAC, 60-Hz, single-phase, totally enclosed fan cooled (TEFC) motor with an 8-ft. long power cord and three-prong plug. Amp draw is 12.8 at full load. Load will not drop in the event of a power failure. Shipped assembled.

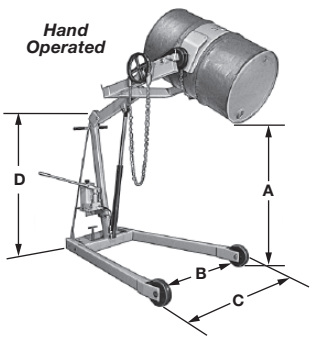

For Drum Sizes gal.	Dia.	Cap., lbs. Full Drum	Half-Full Drum ♦	For Drum Types	Dispense Ht. (A)	(B)	(C)	(D)	Dispense Control	Wheel Dia.		Each
Hand Operated												
55	22½″	800	500	Steel	60″	37″	44″	55″	Crank Handle	8″/4″	3692T12	$2,180.77
55	22½″	800	500	Steel	72″	37″	44″	55″	Pull Chain	8″/4″	3692T13	2,191.54
Electric												
55	22½″	800	500	Steel	72″	37″	44″	55″	Pull Chain	8″/4″	3692T15	3,166.15

Optional 30-Gallon (18½″-19″ Dia.) Drum Adapter ..... 3407T52 **Each** $150.51

♦ In half-full drums contents shift, which reduces capacity.

Warning! ***Never exceed capacities. Never use to lift items over people.***

Drum Dumpers, Slings & Lifters

Electric Hydraulic Drum Dumpers

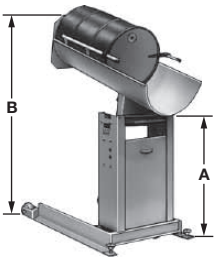

An electric hydraulic lift makes it quicker and easier to lift and empty drums, and a chute controls the flow of the material being dispensed to prevent splashes and spills. A clamp on each side of the chute secures the drum. Dumpers operate on a 3/4-hp, 120V AC, 60-Hz, single-phase, totally enclosed nonventilated (TENV) motor and have a three-prong NEMA 5-15 plug socket (cord not included; see page 829). Amp draw is 12 at full load. All have a handheld pendant switch with an 8-ft. long coil cord and operate only when the push-buttons are engaged. A limit switch turns off the motor when the drum reaches the maximum height. Load will not drop in the event of a power failure.

Dumpers are steel with a blue enamel finish, and roll on two front axle-mounted phenolic wheels and two rear swivel casters with phenolic wheels. Screw-down floor locks keep dumpers stationary during operation. Shipped assembled.

For Drum Sizes gal.	Ht.	Dia.	Cap., lbs.	For Drum Types	Dispense Ht. (A)	(B)	O'all Size, Lg. × Wd. × Ht.	Wheel Dia.		
30, 55	28″-35″	19″-24″	1,000	Steel, Fiber, Plastic	36″	96″	61½″ × 36″ × 63¾″	8″	8911T51	$3,694.36
30, 55	28″-35″	19″-24″	1,000	Steel, Fiber, Plastic	48″	116¾″	71½″ × 36″ × 72½″	8″	8911T53	3,848.31
30, 55	28″-35″	19″-24″	1,000	Steel, Fiber, Plastic	60″	137¼″	80″ × 36″ × 84½″	8″	8911T55	4,017.32

Drum Slings

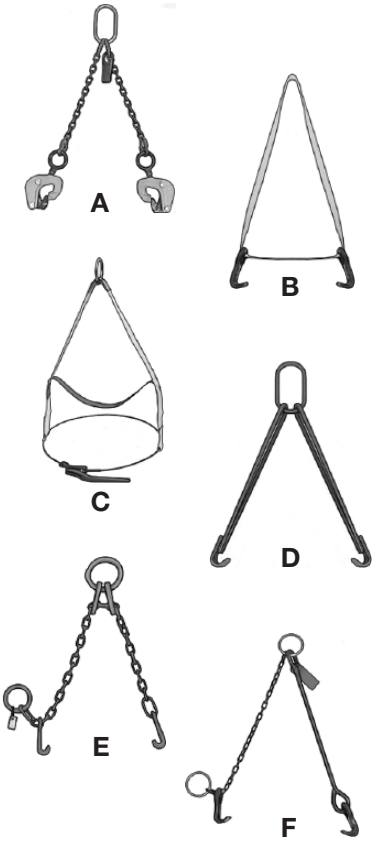







Pair up these slings with overhead lifting equipment for an efficient way to pick, lift, stack, and place steel drums.

Sling **with clamps** keeps a grip on the rim of the drum even when not under load.

Slings **with hooks** grip the rim of the drum as the sling is lifted.

Sling **with wire rope** is tightened and locked around the body of the drum with a load binder.

Style A sling is made of 9/32 steel chain with one lifting eye.

Style B slings are made of one-ply, 1″ wide, yellow nylon webbing with two steel hooks.

Style C sling is made of one-ply, 2″ wide, yellow polyester webbing with one lifting eye. A 1/4″ dia., 7 × 19 galvanized steel wire rope secures the drum.

Style D slings have rigid bar legs with a steel hook at each end and one lifting eye. 3401T1 has 5/8″ dia. steel legs. 3401T6 is made of spark-resistant components. It has 1/2″ dia. 304 stainless steel legs with aluminum-bronze hooks. 3401T7 has 1/2″ dia. steel legs.

Style E sling is made of 5/16 steel chain with a steel hook at each end and two lifting eyes; use the center eye for horizontal lifts and the other eye for near vertical lifts. It has two fittings on the center eye that allow you to adjust the length of the sling legs.

Style F sling has one flexible 3/16 Grade 80 steel chain leg with a hook, one rigid 5/8″ dia. steel leg with a hook, and two round lifting eyes. Use the center eye for horizontal lifts and the other eye for near vertical lifts.

For Drum Sizes gal.	Max. Ht.	Dia.	Cap., lbs.	For Drum Material	Lifting Eye Opening	Hook Opening Wd.		
Vertical Lift Sling with Clamps								
A 30, 55	—	Up to 25″	2,200	Steel	5″ Lg. × 2½″ Wd.	7/8″	3389T4	$747.55
Vertical Lift Sling with Hooks								
B 20, 30, 55	—	Up to 24″	1,000	Steel	—	1⅛″	8843T49	75.36
Vertical Lift Sling with Wire Rope								
C 55	—	22¾″	1,000	Steel	3″ Dia.	—	8843T51	229.73
Horizontal Lift Slings with Hooks								
B 20, 30, 55	36″	—	1,000	Steel	—	1⅛″	8843T52	81.02
D 55	35″	—	2,000	Steel	4½″ Lg. × 3″ Wd.	1½″	3401T1	319.71
D 55	36″	—	1,000	Steel	5″ Lg. × 2⅝″ Wd.	1½″	3401T7	38.22
Spark-Resistant Horizontal Lift Sling with Hooks								
D 55	36″	—	1,000	Steel	3″ Lg. × 2¾″ Wd.	3/4″	3401T6	152.44
Horizontal/Near Vertical Lift Slings with Hooks								
E 55	38″	—	1,100	Steel	3½″ Dia./2½″ Dia.★	13/16″	3615T14	390.00
F 55, 85	41″	—	2,000	Steel	3″ Dia./3″ Dia.★	1¼″	3615T21	296.73

★ First dia. is the center lifting eye; second dia. is the eye for near vertical lifts.

Drum Lifters

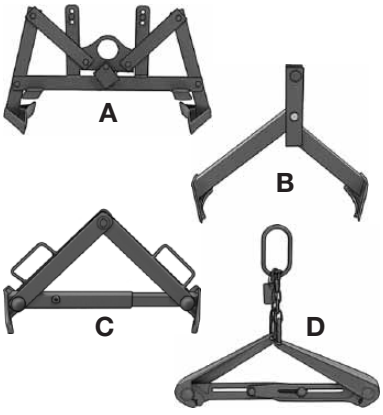



Use with overhead lifting equipment on closed-head drums and open-head drums with lids securely in place. Lifters grip as they pick up the drum.

Style A lifter has pads to grip with equal pressure on both sides for a secure, even lift. Has a lifting eye and a blue enamel finish.

Style B lifter has pads to grip with equal pressure on both sides for a secure, even lift and requires a manual release. Has a bolt for attaching your lifting device and an orange enamel finish.

Style C lifter has guide handles to give you ultimate drum control and pads to grip with equal pressure on both sides for a secure, even lift. Has a bolt for attaching your lifting device and a blue enamel finish.

Style D lifters have clamps with high-strength jaws that get a vise-like grip on drum rims up to 1″ deep without damaging them. The gripping action is unaffected by greasy and oily surfaces. Clamps have a dual-lever design and are connected by chain with a lifting eye. Have a gray finish.

For Drum Sizes gal.	Dia.	Cap., lbs.	For Drum Material	Lifting Eye/Bolt Opening		
A 55	22½″	1,000	Steel	3″ Dia.	3695T12	$229.42
B 55, 85	22″, 28″	1,000	Steel	3/4″ Dia. × 2″ Lg.	36945T72	145.02
C 30, 55	18″-26″	1,000	Steel, Plastic, Fiber	3/4″ Dia. × 1½″ Lg.	36945T73	216.49
D 20, 30, 55	16″-24″	750	Steel	5″ Lg. × 2½″ Wd.	3389T1	527.00
D 20, 30, 55	18″-24″	2,000	Steel	4″ Lg. × 2½″ Wd.	3389T3	709.00

Warning: Never use to lift people or items over people.

Tilting Drum Lifters

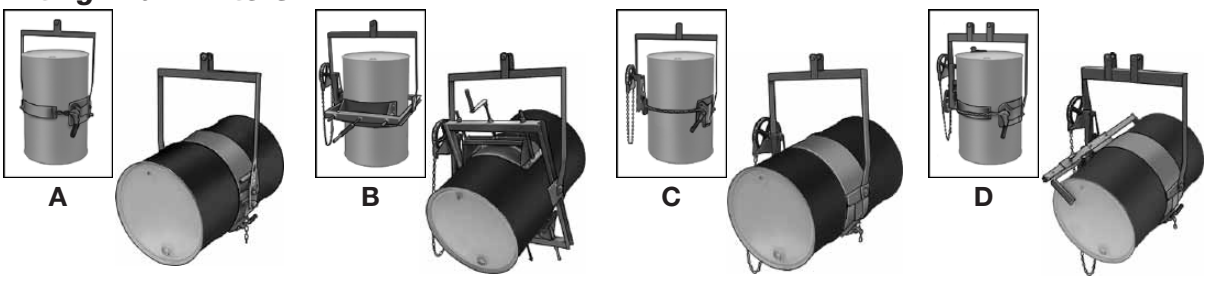

Raise, transport, tilt, and drain full drums using the hook of a crane or hoist. A lock on each side of the frame keeps the drum vertical or horizontal during transport. Lifters have a chain with ratchet tightener to secure the drum, unless noted. Made of steel with a blue enamel finish.

Chain hand wheel lifters have a chain with a 6-ft. operating length.

Optional **tilt brake** holds your drum in place if chain is released.

	For Drum Sizes gal.	Dia.	Cap., lbs. Full Drum	Half-Full Drum▲	For Drum Material		
Hand Operated							
A	55	22½″	800	500	Steel	3669T1	$238.89
A	55	21″-23″	800	500	Steel, Fiber	3669T3	316.58
A	55	22½″-23″	800	500	Steel, Fiber	3669T18	339.22
Chain Hand Wheel							
B	20, 30, 55	15″-23″	500	250	Steel, Fiber	3666T44■	1,188.87
C	55	22″-23½″	800	500	Steel, Fiber	3666T13	695.87
C	55	22½″	1,500	800	Steel	3666T16	860.82
C	55	22½″	2,000	1,000	Steel	3666T42	1,738.80
D	55	22″-23½″	1,500	800	Steel, Plastic	3666T43	954.14
Optional 30-Gal. (18½″-19″ Dia.) Drum Adapter for 3669T18 and 3666T13, T16, and T43						3407T52	$150.51
Optional Tilt Brake						3669T15	$227.50

▲ In half-full drums, contents shift, which reduces capacity.
■ Pads with adjustment screws secure the drum.

Fork-Mount Side-Grip Drum Movers

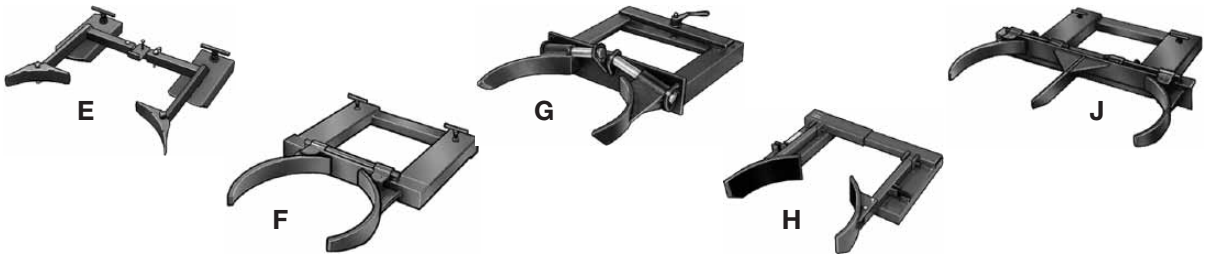

Their gripping arms automatically close and lock around the drum when lifting and release when drum is set down. Locking screws clamp down on the forks to secure the movers to your forklift. All are made of steel and shipped assembled (unless noted).

(E) For proper operation, this mover can only be used with drums with a 3/16″ minimum rim depth. Shipped unassembled.

(H) Gripping arms are rubber lined for a nonslip contact surface.

	For Drum Sizes gal.	Dia.	Cap., lbs.	For Drum Types	Fork Pockets Wd. × Ht.	Ctr.-to-Ctr.		
Single-Drum Movers								
E	30, 55	18″-22½″	1,000	Plastic	5⅜″ × 1½″	19¾″-23⅝″	36755T2	$429.21
F	30, 55	18″, 22″	1,500	Steel	5½″ × 2″	22″	3421T17	597.03
F	55	22″	1,500	Steel	5½″ × 2″	22″	3421T14	497.97
G	15, 30, 55	13″, 17¼″, 22½″	1,500	Steel	22½″ × 3½″	22½″	3421T21	873.28
H	30, 55, 85	18″-28″	1,500	Steel	5⅝″ × 1⅝″	21¾″-30″	3421T22	597.63
Two-Drum Mover								
J	55	22″	3,000♣	Steel	7″ × 2¼″	25⅝″	3421T16	874.41

♣ Capacity is for two drums.

Fork-Mount Top-Grip Drum Movers

No more hassles when moving drums in areas with little or no side clearance. Made of welded steel, movers have locking screws that clamp down on the forks to secure the movers to your forklift. The jaws automatically grip the top of the drum when lifting and release when the drum is set down. Use with closed- and open-head drums.

Optional drum protector is made of 3″ wide flexible PVC and bolts to the base of the mover to cushion and protect the drum from wear (mounting hardware included).

Note: Two-drum mover requires two protectors.

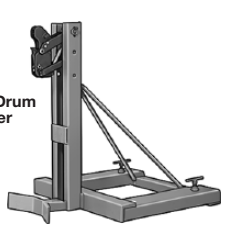



For Drum Sizes gal.	Dia.	Cap. per Drum, lbs.	For Drum Types	Fork Pockets Wd. × Ht.	Ctr.-to-Ctr.	Single Drum		Two Drum	
30-85	18″-26″	1,000	Steel, Fiber, Plastic	7″ × 2¼″	25⅝″	3399T11♠	$767.62	3399T12	$1,150.81
30-85	18″-26″	1,600	Steel, Fiber, Plastic	7″ × 2¼″	20⅜″	3399T7	1,736.39	3399T8	2,813.91
Optional Drum Protector for 3399T7 and T8								3399T9	$79.97

♠ Fork pockets are 5½″ Wd. × 2″ Ht. and 22″ center-to-center.

Warning: Never use to lift people or items over people.

Fork-Mount Pivoting Drum Handlers



Handlers mount to the forks on your forklift for lifting and transport, plus they pivot for manual tilting so dispensing is easier. The band clamps around the drum and is secured with a latch. The fork pockets pivot for manual tilting. Made of steel.

For Drum Sizes gal.	Dia.	Cap., lbs.	For Drum Types	Fork Pockets Wd. × Ht.	Ctr.-to-Ctr.		Each
30	18″-18½″	1,000	Ribbed Steel	5″ × 3″	26″	3419T32	$72.89
55	22″-22½″	1,000	Ribbed Steel	5″ × 3″	30″	3419T21	74.38

Fork-Mount Hand-Chain Dispense Drum Handlers



Slide handlers onto the forks on your forklift and raise, tilt, and drain drums without leaving your seat. A geared mechanism operated by a hand chain lets you tilt and drain. Hand chain has a 10-ft. operating length. Handlers also allow 360° rotation in either direction. A chain with ratchet-style tightener secures the drum (unless noted). All are made of steel.

Optional tilt brake holds your drum in place if chain is released. Can be used with all handlers except Style A with a full-drum capacity of 2,000 lbs.

	For Drum Sizes gal.	Dia.	Cap., lbs. Full Drum	Half-Full Drum ♦	For Drum Types	Fork Pockets Wd. × Ht.	Ctr.-to-Ctr.		Each
A	55	22″-23½″	800	500	Steel, Fiber	6½″ × 2½″	31″	3407T91	$871.13
A	55	22″-23½″	1,500	800	Steel, Fiber	6½″ × 2½″	31″	3407T16	994.84
A	55	22½″	2,000	1,000	Steel	6½″ × 2½″	31″	3407T21★	2,329.43
B	55	22″-23½″	1,500	800	Steel, Fiber	6½″ × 2½″	31″	3407T19	1,140.20

Optional 30-Gallon (18½″-19″ Dia.) Drum Adapter — 3407T52 Each $150.51
Optional Tilt Brake — 3669T15 Each $227.50

♦ In half-full drums contents shift, which reduces cap. ★ Has two chains with ratchet-style tighteners.

Fork-Mount Lifting and Towing Adapters

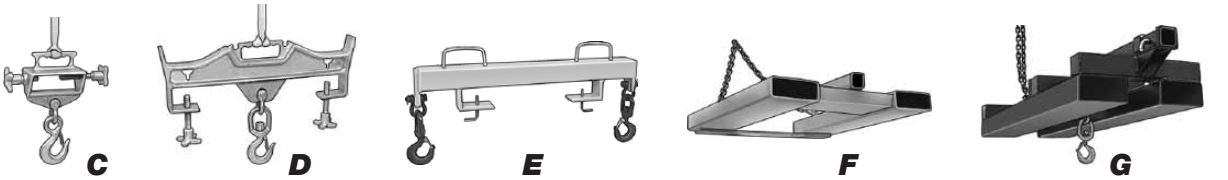

Convert your forklift into lifting or towing equipment. All adapters are made of steel and all lifting hooks have a latch.

(C) Single-fork hook lifting adapters have T-style locking thumb screws and a web strap to secure adapters to one fork and the forklift. Hook is zinc plated.

(D) Dual-fork hook lifting adapters same as *Style C* but have a swivel hook and attach to both forks.

(E) Spreader beam lifting adapters have two hooks to lift loads and L-shaped fork brackets that accommodate forks of any width. Inside height of fork brackets is 2½″. T-style thumb screws secure adapters to forks. Have a yellow enamel finish.

(F) Towing adapter has a drawbar receiver welded between the fork pockets. A chain with a grab hook and a connecting pin secures adapter to the forks. Has a yellow enamel finish. For couplers and inserts, please see pages 1345-1346.

(G) Combination lifting/towing adapter has a hook for vertical lifting and a receiver welded between the fork pockets that accepts a hitch receiver for towing applications. A chain and hook secure adapter to the forks. Has a black enamel finish. Please see page 1346 for inserts.

Cap., lbs. Hook	Receiver	Fork Pockets, Wd. × Ht.	O'all Size, Wd. × Ht.	O'all Lg.	Hook Opening		Each
(C) Single-Fork Hook Lifting Adapter with Rigid Hook							
4,000	—	6″ × 2¼″	11½″-13½″ × 15″	—	⅞″	3380T25	$94.17
(C) Single-Fork Hook Lifting Adapter with Swivel Hook							
4,000	—	6″ × 2¼″	11½″-13½″ × 15″	—	⅞″	3380T26	99.15
(D) Dual-Fork Hook Lifting Adapters							
4,000	—	7¼″ × 2½″	23 3/16″ × 14 7/16″	—	⅞″	3380T31	222.81
10,000	—	6 5/16″ × 3½″	23″ × 21 5/8″	—	1½″	3380T33	361.69
(E) Spreader Beam Lifting Adapters							
4,000	—	—	33¼″ × 13 7/8″	—	1 5/16″	3380T35	530.57
10,000	—	—	42¾″ × 15 7/8″	—	1 5/16″	3380T37	916.38
(F) Towing Adapter							
—	6,000	7½″ × 2½″	30″ × 5 9/16″	30″	—	5098T92	704.62
(G) Combination Lifting/Towing Adapter							
4,000	2,000	6¼″ × 2 7/8″	20″ × 9″	54″	1″	5098T91	780.24

Fork Extensions



Add length to the forks for extra support of long and large loads. All are 5/16″ thick welded steel with cast steel tips and a yellow powder-coated finish. Steel loops secure them to the forks. OSHA standards require that length of extensions is 150% or less of the supporting fork length. *Note:* Extensions reduce the capacity of your forklift. Please refer to your forklift manufacturer for load capacity reductions.

Lg.	Cap./ Pair, lbs.	FOR FORK SIZE 4½″ Wd. × 2″ Ht.	Per Pair	5½″ Wd. × 2″ Ht.	Per Pair	6½″ Wd. × 2½″ Ht.	Per Pair
4′3″	4,000	2462T12	$241.12	2462T14	$252.76	2462T16	$296.30
5′6″	4,000	2462T22	260.44	2462T24	279.77	2462T26	327.20
6′3″	4,000	2462T32	281.62	2462T34	301.65	2462T36	358.00
7′3″	4,000	2462T42	302.81	2462T44	323.61	2462T46	397.53
8′3″	4,000	2462T52	324.29	2462T54	364.07	2462T56	434.28

Fork Bumpers



Protect your load from dents without reducing load capacity. These bumpers include black powder-coated steel brackets and red polyurethane inserts. Brackets are adhesive-backed for permanent mounting to fork uprights. Inserts slide into the brackets and provide excellent wear resistance and vibration damping. Simply replace inserts when worn.

Fits Fork Wd.	O'all Size, Wd. × Ht. × Dp.	Bumpers	Per Pair	Repl. Inserts	Per Pair
4″-5″	4″ × 24″ × 1½″	1110T1	$292.42	1110T6	$157.67
6″-8″	6″ × 24″ × 1½″	1110T3	385.00	1110T8	209.97

Warning! ***Never exceed capacities. Never use to lift items over people.***

Forklift Booms

Handle long, cumbersome loads without special equipment. All booms are made of steel with a yellow painted finish, have two forged steel swivel hooks with latch, and are labeled with capacity for each hook position. They secure to the forklift with a chain and grab hook. Fork pockets are 2½″ Ht.×7½″ Wd. × 30″ Dp. (unless noted). *Note:* Capacities are approximate and depend on the type and load capabilities of the forklift used. Check with the manufacturer of your forklift for load capabilities before using.

(A) Horizontal fixed-length boom is 8 ft. long with five hook positions spaced 12″ apart. First position is located 4 ft. from the fork pocket end.

(B) Horizontal telescoping booms adjust from 7 ft. to 12 ft. long in 12″ increments. One hook is mounted at the end of the boom. The other hook has four positions spaced 12″ apart. The first position is located 3 ft. from the fork pocket end.

(C) Vertically adjustable telescoping booms are the same as Style B, plus they have five vertical height adjustments in increments of approximately 15″ with a maximum height of 6′4″.

(D) High-reach telescoping boom is designed for tall loads where more bottom clearance is needed. Length adjusts from 4 ft. to 6 ft. in 12″ increments. Has three hook positions on the adjustable length spaced 12″ apart. The fixed section has three hook positions spaced 6″ apart. The first hook position is 4 ft. from the fork pocket end.

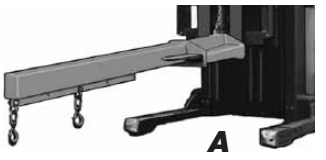
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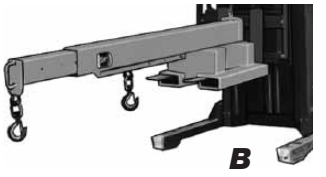
B

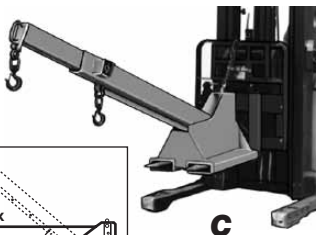

C


D

Capacity, lbs. at Hook Position										Fork Pockets, Ctr.-to-Ctr.	Hook Opening		Each
3 ft.	4 ft.	5 ft.	6 ft.	7 ft.	8 ft.	9 ft.	10 ft.	11 ft.	12 ft.				
(A) Horizontal Fixed-Length													
—	4,000	3,500	3,000	2,500	2,000	—	—	—	—	11½″	1 1/16″	**3638T31**★	$949.88
(B) Horizontal Telescoping													
4,000	4,000	4,000	4,000	3,200	2,600	2,200	1,900	1,600	1,500	15″	1 1/16″	**3638T22**	1,207.12
6,000	6,000	6,000	6,000	5,000	4,200	3,500	3,000	2,700	2,500	15″	1 5/16″	**3638T27**	1,353.01
8,000	8,000	8,000	8,000	7,000	5,700	4,800	4,100	3,600	3,100	15″	1 9/16″	**3638T24**	1,644.12
(C) Vertically Adjustable Telescoping													
4,000	4,000	4,000	4,000	3,200	2,600	2,200	1,900	1,600	1,500	15″	1 1/16″	**3638T25**	1,754.57
6,000	6,000	6,000	6,000	5,000	4,200	3,500	3,000	2,700	2,500	15″	1 5/16″	**3638T32**	1,880.00
8,000	8,000	8,000	8,000	7,000	5,700	4,800	4,100	3,600	3,100	15″	1 9/16″	**3638T33**	2,415.81
(D) High-Reach Telescoping													
—	4,000	3,500	1,800	—	—	—	—	—	—	12½″	1 1/16″	**3638T41**	2,275.97

★ Fork pockets are 2½″ Ht.×5½″ Wd.×24″ Dp.

Pallet Pullers

Position heavily-loaded pallets for easy forklift access. All pullers are made of steel with a powder-coated finish (unless noted). The jaws have gripping teeth. Rated capacity is based on moving pallets over smooth surfaces. *Note:* Do not use pullers for lifting.

(E) Single-scissor puller provides a wide jaw opening. A pull chain closes the jaws. Color is black.

(F) Double-scissor puller provides greater gripping force compared to a single-scissor puller. A pull chain closes the jaws. Color is yellow.

(G) Cam-action puller has low-profile jaws for maximum gripping strength. A welded handle allows easy positioning and removal. A pull chain closes the jaws.

Optional pull chain with grab hooks connects the puller's chain to a forklift. Pull chain is 20-ft. long.


E


F

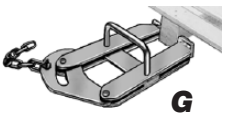
G

Pulling Cap., lbs.	Jaw Ht.	Jaw Opening	Chain Lg.		Each
(E) Single Scissor					
5,000	2¾″	7″	28″	**9928T19**	$81.82
(F) Double Scissor					
5,000	2¾″	3″	28″	**9928T31**	90.31
(G) Cam Action					
5,000	1½″	3″	10″	**9928T32**●	79.56
Optional Pull Chain with Grab Hooks				**9928T44** Each	$65.74

● Has a zinc-chrome finish.

Pallet Truck Replacement Parts

Reduce downtime—we offer the most common replacement parts for the most popular pallet trucks.

Wheel kits include two load wheels and two steer wheels with all necessary bearings, axles, and hardware.

Seal kits include all U-cups, scrapers, seals, washers, and O-rings needed to maintain smooth operation.

Also Available: Other replacement parts. Please ask for 2641T999 and specify truck manufacturer, model number, and part required.

Mfr.	Models	Wheel Kits	Each	Seal Kits	Each
BT	L2000, L2000-U	**2641T51**	$134.97	**2641T65**	$71.04
BT	L2300, L2300-U	**2641T51**	134.97	**2641T65**	71.04
Crown	PTH	**2641T52**	130.52	**2641T66**	47.26
Crown	PTH 50	**2641T53**	$131.41	**2641T67**	$56.62
Jet	PT 2748 A	**2641T41**	124.26	**2641T68**	45.10
Jet	PT 2748 L	**2641T42**	152.64	**2641T68**	45.10
King	KJ 2002	**2641T55**	124.26	**2641T68**	45.10
Lift Rite/Big Joe	L50	**2641T56**	134.97	**2641T69**	46.82
Lift Rite/Big Joe	L55	**2641T57**	134.07	**2641T71**	47.25
Mobile	ECO I-55	**2641T61**	134.91	**2641T73**	45.66
Mobile	ML55	**2641T58**	137.62	**2641T72**	39.81
Mobile	MLX55	**2641T59**	128.76	**2641T72**	39.81
Multiton	J, M, TM	**2641T62**	134.97	**2641T74**	59.89
Multiton	TM55	**2641T63**	129.59	**2641T75**	42.15
Pallet Mule	AA-5500	**2641T64**	140.29	**2641T76**	40.30

Warning! ***Never exceed capacities. Never use to lift people.***

For more information about pallet compatibility, go to mcmaster.com and search for **4982TAC**.

Pallet Trucks



A

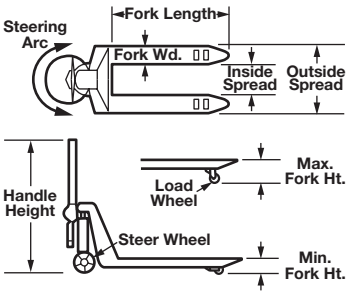

Before selecting a pallet truck, determine the weight of your load as well as the size and style of your pallets. The most commonly used pallets measure 48″ Lg. × 40″ Wd.

For pallets 26″ to 32″ wide, use a pallet truck with an outside fork spread of 20½″.

For pallets 33″ to 40″ wide, use a pallet truck with an outside fork spread of 27″.

For pallets 41″ to 48″ wide, use a pallet truck with an outside fork spread of 33″.



B&C

All trucks have a hydraulic pump, welded-steel frame, and forks with cutouts for the load wheels. The handle has a three-position hand control (raise, lower, and neutral). A relief valve prevents pressure build-up to provide overload protection.

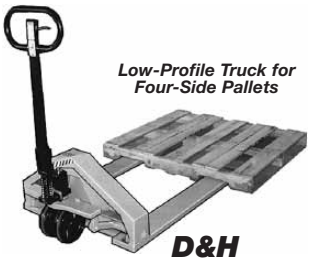

Low-Profile Truck for Four-Side Pallets

D&H

(A-G) Trucks for Two-Side Pallets

Two-side pallets allow fork entry at each width end.

(A) Standard trucks have tapered forks with entry and exit rollers. Steer and load wheels are polyurethane. Trucks have a gray and blue powder-coated finish.

(B) Premium trucks combine a high-performance pump and a reinforced frame for dependability and long service life. All have rounded forks with entry glides and exit rollers. Steer and load wheels are nylon (unless noted). Trucks have a yellow and black powder-coated finish.

(C) Heavy duty truck is for high-capacity applications. It has rounded forks with entry glides and exit rollers. Steer and load wheels are steel. Truck has a yellow and black powder-coated finish.

(D) Low-profile trucks have a lower fork height. All have rounded forks with entry glides and exit rollers. Steer wheels are nylon; load wheels are steel. Trucks have a yellow and black powder-coated finish.

(E) Easy-start truck gets your load moving with minimal effort. As you pump the handle the steer wheels start rotating and accelerate the truck. A hand grip directs the acceleration so the truck starts easily whether you are pushing or pulling. Truck also has precision steering and rounded forks with entry and exit rollers. Steer and load wheels are polyurethane. Truck has a yellow and black powder-coated finish.

(F) Corrosion-resistant truck has a galvanized frame, stainless steel components, and a specially-designed pump that stands up to harsh environments. It has rounded forks with entry glides and exit rollers. Steer and load wheels are nylon.

(G) Type 304 stainless steel truck offers maximum corrosion resistance for the most demanding environments. Truck has rounded forks with entry and exit rollers and a polished finish. Steer and load wheels are nylon.



E

Cap., lbs.	Fork Size, Lg. × Wd.	Fork Spread Outside	Fork Spread Inside	Fork Height Min.	Fork Height Max.	O'all Lg.	Handle Ht.	Steering Arc	Wheel Dia.		Each
(A) Standard Trucks											
5,500	36″ × 6″	20½″	9″	3″	8″	51″	48″	200°	8″/3″	**4982T11**	$583.00
5,500	36″ × 6″	27″	15″	3″	8″	51″	48″	200°	8″/3″	**4982T21**	583.00
5,500	42″ × 6″	20½″	9″	3″	8″	57″	48″	200°	8″/3″	**4982T12**	583.00
5,500	42″ × 6″	27″	15″	3″	8″	57″	48″	200°	8″/3″	**4982T22**	583.00
5,500	48″ × 6″	20½″	9″	3″	8″	63″	48″	200°	8″/3″	**4982T13**	583.00
5,500	48″ × 6″	27″	15″	3″	8″	63″	48″	200°	8″/3″	**4982T23**	583.00
(B) Premium Trucks											
5,500	36″ × 7″	20½″	6½″	3″	7¾″	50⅝″	48″	210°	8″/3″	**9838T76**	596.15
5,500	36″ × 7″	27″	13″	3″	7¾″	50⅝″	48″	210°	8″/3″	**9838T88**	596.15
5,500	42″ × 7″	20½″	6½″	3″	7¾″	56⅝″	48″	210°	8″/3″	**9838T75**	596.15
5,500	42″ × 7″	27″	13″	3″	7¾″	56⅝″	48″	210°	8″/3″	**9838T87**	596.15
5,500	48″ × 7″	20½″	6½″	3″	7¾″	62⅝″	48″	210°	8″/3″	**9838T74**	596.15
5,500	48″ × 7″	27″	13″	3″	7¾″	62⅝″	48″	210°	8″/3″	**9838T85**	596.15
5,500	48″ × 7″	27″	13″	3″	7¾″	62⅝″	48″	210°	8″/3″	**9838T86**★	664.42
(C) Heavy Duty Truck											
8,000	48″ × 7″	27″	13″	3¼″	8″	61⅝″	48″	210°	8″/3″	**2659T37**	1,443.55
(D) Low-Profile Trucks											
5,000	48″ × 6″	20½″	8½″	2″	6¾″	61 9⁄16″	48″	210°	8″/2″	**2700T61**	750.00
5,000	48″ × 6″	27″	15″	2″	6¾″	61 9⁄16″	48″	210°	8″/2″	**2700T62**	750.00
(E) Easy-Start Truck											
5,000	48″ × 6 1⁄8″	27″	14¾″	3″	7½″	64½″	48″	180°	6¾″/3″	**2733T28**	1,313.56
(F) Corrosion-Resistant Truck											
5,500	48″ × 7″	27″	13″	3″	7¾″	61⅝″	48″	210°	8″/3″	**2707T55**	1,336.92
(G) Type 304 Stainless Steel Truck											
4,400	48″ × 6 5⁄16″	27″	14⅜″	2⅞″	7¾″	62″	48″	200°	7″/2⅞″	**27245T4**	2,160.66

★ Steer and load wheels are steel.



F&G

(H) Truck for Four-Side Pallets

Four-side pallets allow fork entry at each width end as well as each length end.

(H) Low-profile truck has lower fork height. To prevent improper loading, truck has rounded forks with pallet stops that restrict entry to adjoining pallets. It has nylon steer wheels and steel load wheels. Truck has a yellow and black powder-coated finish.

Cap., lbs.	Fork Size, Lg. × Wd.	Fork Spread Outside	Fork Spread Inside	Fork Height Min.	Fork Height Max.	O'all Lg.	Handle Ht.	Steering Arc	Wheel Dia.		Each
(H) Low-Profile Truck											
5,000	48″ × 6″	33″	21″	1¾″	6½″	61 9⁄16″	48″	210°	8″/1¾″	**22105T25**	$932.20

Warning! ***Never exceed capacities. Never use to lift people.***

For more information about pallet compatibility, go to mcmaster.com and search for **4982TAC**.

Battery-Powered Pallet Trucks

No more struggling to move a load—this truck requires only minimal effort to start and stop, which makes it more ergonomic and efficient than manual pallet trucks. Truck is for use with 30″ to 40″ wide pallets, on inclines or declines up to 10°.

A hydraulic pump raises and lowers the rounded forks at the touch of a button while a variable-speed throttle controls forward and reverse speed. An automatic brake stops the truck when the handle is released. Truck also has a safety button that automatically reverses the direction of travel if the truck comes in contact with the operator.

Truck includes 24 VDC batteries, a charger, and a 6-ft. cord with a three-prong plug. Operates for eight hours on a full charge when used intermittently. A discharge indicator lets you know when batteries need charging.

Truck is steel with a red plastic cover. Steer and load wheels are polyurethane.

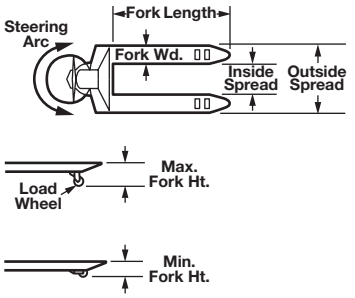



Before selecting a pallet truck, determine the weight of your load as well as the size and style of your pallets. The most commonly used pallets measure 48″ Lg. × 40″ Wd.

Cap., lbs.	Fork Size, Lg. × Wd.	Fork Spread Outside	Fork Spread Inside	Fork Ht. Min.	Fork Ht. Max.	O'all Lg.	Handle Ht.	Steering Arc	Wheel Dia.	No. of Batteries		Each
4,500	45½″ × 6¾″	27″	13½″	3¼″	8⅝″	68⅝″	47″	180°	10″/3¼″	4	2207T31	$6,580.00

About Load Center

Load center is measured horizontally from the back of forks or a platform. To help ensure safe and balanced lifting, the center of a balanced load should not be positioned past the load center. Also, the overall length of a balanced load should never be more than twice the load center.

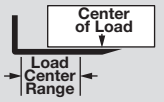

Improperly Balanced Load

Load-Positioning Lift Trucks

The load-moving benefit of a pallet truck combined with the load-positioning capabilities of a lift truck. Trucks are made of steel and have polyurethane steer and load wheels. A relief valve prevents pressure build-up to provide overload protection.

Note: Use with open-bottom pallets only.

Foot-operated trucks have a single-speed hydraulic pump that raises the load 13/16″ per stroke and a lever to control lowering the forks. The steer wheels swivel for better maneuverability; one has a face wheel brake to prevent movement when using the truck as a lift table. Trucks have a black and blue enamel finish.

Hand-operated trucks have a lever on the handle to raise and lower the forks. A two-speed hydraulic pump raises the load 3/8″ per stroke. Trucks are yellow with a black handle. All have a powder-coated finish.

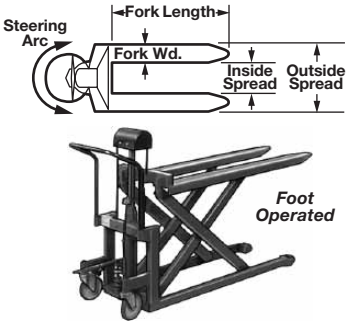



Cap., lbs.	Fork Size, Lg. × Wd.	Fork Spread Outside	Fork Spread Inside	Fork Ht. Min.	Fork Ht. Max.	Load Center	O'all Size, Lg. × Ht.	Handle Ht.	Steering Arc	Wheel Dia.	Base Leg Spread Outside	Base Leg Spread Inside		Each
Foot-Operated Trucks														
1,000	42½″ × 6″	20½″	8½″	3⅝″	32 13/16″	22″	61 15/16″ × 42½″	39 13/16″	180°	6″/2¾″	16¼″	9″	9735T37	$1,418.45
1,000	42½″ × 6″	27″	15″	3⅝″	32 13/16″	22″	61 15/16″ × 42½″	39 13/16″	180°	6″/2¾″	23″	15¼″	9735T38	1,489.46
Hand-Operated Trucks														
3,000	48″ × 7″	20½″	6½″	3¼″	31½″	24″	64½″ × 67″	48″	180°	8″/3″	18″	8½″	4980T51	1,919.71
3,000	48″ × 7″	27″	13″	3¼″	31½″	24″	64½″ × 67″	48″	180°	8″/3″	25″	15½″	4980T52	1,919.71

Lift-and-Tilt Lift Truck

Look no further if you need a truck that not only moves your load, but will also lift and tilt your pallets and containers for better load positioning.

This steel truck has two hand-operated levers; one to raise and lower the forks and one to tilt the forks. The dual-position hydraulic pump raises the load 7/16″ per stroke as well as tilts the forks up to 90°. Truck has a yellow and black powder-coated finish. Steer and load wheels are polyurethane.

Note: Use with open-bottom pallets only.

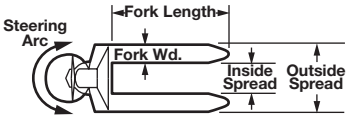

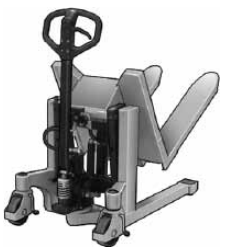

Cap., lbs.	Fork Size, Lg. × Wd.	Fork Spread Outside	Fork Spread Inside	Fork Ht. Horizontal Min.	Fork Ht. Horizontal Max.	Fork Ht. Vertical Min.	Fork Ht. Vertical Max.	Load Center Min.	Load Center Max.	O'all Size, Lg. × Ht.	Handle Ht.	Steering Arc	Wheel Dia.	Base Leg Spread Outside	Base Leg Spread Inside		Each
2,200	31″ × 6½″	21½″	8½″	3¼″	11″	29″	37″	7½″	15½″	41″ × 44¼″	44¼″	170°	5″/3″	20¾″	13½″	9516T1	$1,452.98

Warning! Never exceed capacities. Never use to lift people.

For information about pallet compatibility, go to mcmaster.com and search for **4982TAC**.

Foot-Operated Lift Trucks




1&4

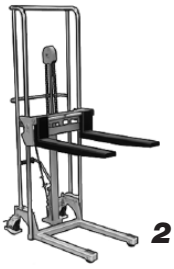
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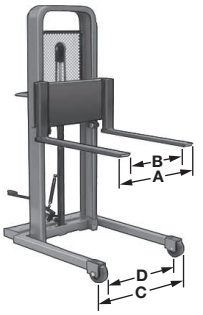

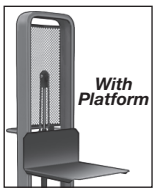

3&5


6

A foot-operated lever and a single-speed hydraulic pump allow you to raise and lower the forks or platform with less effort. Trucks are made of steel and roll on polyurethane wheels (unless noted).

(1&2) Trucks with Adjustable-Width Forks—*Style 1* raises the load 3/4″ per stroke. Base has two rear rubber-tread wheels and two front swivel casters. A foot-operated wheel lock on the rear wheels keeps the truck stationary. *Style 2* raises the load 1″ per stroke. Base has two rear swivel casters with a face wheel brake and two front wheels.

(3) Trucks with Adjustable-Width Forks and Straddle Base— Have a greater distance between the base legs for easier access to loads on pallets. They raise the load 1 1/8″ per stroke. Base has two rear swivel casters and two front wheels. Wheels are phenolic. A floor lock keeps trucks stationary.

(4&5) Trucks with Platform—*Style 4* is the same as *Style 1*, but has a platform with 6″ high backplate in place of the forks. *Style 5* are the same as *Style 3*, but have a platform with 11 1/4″ high backplate in place of the forks. Wheels are phenolic.

(6) Truck with Platform and Hand-Truck Base— Picks up, moves, and positions loads like a conventional hand truck. It raises the load 3/4″ per stroke. Rolls on two rear rubber-tread wheels and has a tapered platform with 6″ high backplate. A foot-operated wheel lock keeps it stationary.

Cap., lbs.	Fork Size, Lg.×Wd.	Fork Spread (A)	Fork Spread (B)	Platform Size, Lg.×Wd.	Fork/Platform Height Min.	Fork/Platform Height Max.	Load Ctr.	O'all Size, Lg.×Ht.	Handle Ht.	Wheel Dia.	(C)	(D)		Each
Trucks with Adjustable-Width Forks														
1 750	18″ ×3″	6″ -22″	0″ -16″	———	5 3/4″	4′6″	9″	2′4 1/4″ ×5′1/2″	5′1/2″	8″/3 1/2″	22 1/2″	———	9815T62	$1,189.43
2 880	25 1/2″×4 1/4″	8 1/2″-21 1/2″	0″ -13″	———	3 1/2″	4′11″	12 1/2″	3′1″ ×5′10″	3′5 3/4″	5″/3″	18 3/8″	14 1/2″	2622T81	756.60
Optional 26″ Lg.×22″ Wd. Platform for 2622T81													2622T82	96.85
Trucks with Adjustable-Width Forks and Straddle Base														
3 1,000	30″ ×3″	6 1/2″-26 1/2″	1/2″-20 1/2″	———	3 1/4″	4′2″	18″	4′1″ ×5′6″	3′6 1/4″	5″/4″	32″	26″	2666T44	1,737.58
3 1,000	30″ ×3″	6 1/2″-26 1/2″	1/2″-20 1/2″	———	3 1/4″	6′4″	18″	4′1″ ×7′8″	3′6 1/4″	5″/4″	32″	26″	2666T46	2,010.00
Trucks with Platform														
4 750	———	———	———	22″×22″	5 3/4″	4′6″	10″	2′7 1/4″ ×5′1/2″	5′1/2″	8″/3 1/2″	22 1/2″	———	9815T52	1,095.18
5 1,000	———	———	———	24″×24″	5 1/4″	4′4″	15″	3′2″ ×5′6″	3′6 1/4″	5″/4″	21″	15″	2666T1	1,564.50
5 1,000	———	———	———	24″×24″	5 1/4″	5′6″	15″	3′2″ ×6′8″	3′6 1/4″	5″/4″	21″	15″	2666T2	1,762.62
5 1,000	———	———	———	30″×32″	5 1/4″	5′6″	18″	3′8″ ×6′8″	3′6 1/4″	5″/4″	30″	24″	2666T42	2,074.66
Trucks with Platform and Hand-Truck Base														
6 750	———	———	———	22″×22″	0″	4′6″	10″	2′7 3/8″ ×5′1/2″	5′1/2″	8″	———	———	2347T14	1,019.41

Battery-Powered Lift Trucks

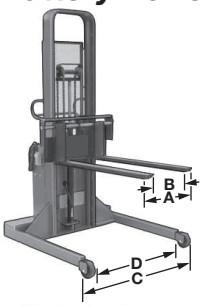

7


8


9

The hydraulic pump raises and lowers the forks or platform 5″ per second when fully loaded. The pump is powered by a sealed, maintenance-free, rechargeable 12 VDC battery. The built-in charger has an LED charge indicator and a 6-ft. long power cord with three-prong plug. It fully charges the battery in 5-10 hours. The push-button control has a self-retracting cord. Retracted length is 26 1/2″; extended length is 7 ft. Trucks are steel and have phenolic wheels (unless noted). A floor lock keeps the trucks stationary. Meet ASME B56.10.

(7) Trucks with adjustable-width forks and straddle base have a greater distance between the base legs for easier access to loads on pallets. The base has two rear swivel casters with polyurethane wheels and two front polyurethane wheels.

2814T13 also has adjustable-width base legs and a telescoping mast. Overall height with mast fully extended is 12′7″.

(8) Trucks with adjustable-width forks and counterweight base have short legs on the base for closer access to the load. The base has two rear swivel casters and two front wheels. A counterweight set (sold separately) is required.

(9) Trucks with platform have a narrow width to fit in tight spaces. The base has two rear swivel casters and two front wheels.

Cap., lbs.	Fork Size, Lg.×Wd.	Fork Spread (A)	Fork Spread (B)	Platform Size, Lg.×Wd.	Fork/Platform Height Min.	Fork/Platform Height Max.	Load Ctr.	O'all Size, Lg.×Ht.	Handle Ht.	Wheel Dia.	(C)	(D)		Each
(7) Trucks with Adjustable-Width Forks and Straddle Base														
2,000	42″×3″	6″ -29″	0″ -23″	———	1 1/2″	5′4″	24″	4′2″ ×6′11″	4′3 1/4″	6″/5″	48″	42″	2814T21	$4,517.71
2,000	42″×3″	7 3/8″-31″	1 3/8″-25″	———	1 1/2″	10′10″	24″	4′6″ ×7′3 1/2″	3′10″	6″/5″	42″-57″	35″-50″	2814T13	6,790.51
(8) Trucks with Adjustable-Width Forks and Counterweight Base														
1,000	25″×3″	6 1/2″-24 1/2″	1/2″-18 1/2″	———	1″	5′4″	13″	3′1 1/4″×6′8″	3′2″	5″	26 1/4″	20 1/4″	2813T41	3,423.63
1,000	25″×3″	6 1/2″-24 1/2″	1/2″-18 1/2″	———	1″	6′4″	13″	3′1 1/4″×7′8″	3′2″	5″	26 1/4″	20 1/4″	2813T42	3,464.07
Counterweight Set for Max. 668-lb. Load Weight (Eight 50-lb. Weights)													2813T32	389.90
Counterweight Set for Max. 1,000-lb. Load Weight (Twelve 50-lb. Weights)													2813T33	624.75
(9) Trucks with Platform														
1,500	———	———	———	24″×24″	6″	5′	15″	3′2″ ×6′	4′3 3/4″	5″	21″	15″	2665T1	3,546.98
2,000	———	———	———	24″×27″	6″	5′8″	15″	3′2″ ×6′11″	4′3 3/4″	5″	26″	20″	2665T12	3,870.79

Warning! Never exceed capacities. Never use to lift people.

For information about pallet compatibility, go to mcmaster.com and search for **4982TAC**.

Winch-Operated Lift Trucks

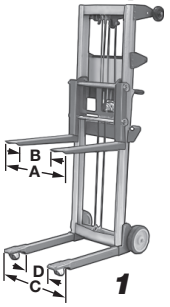

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Turn the winch handle to raise and lower the forks or platform approximately 1″ per handle rotation. A brake keeps the load in place.

(1&2) Trucks with reversible forks allow you to invert the forks and gain additional lifting height. The base has two rear thermoplastic rubber (TPR) wheels and two front dual-wheel swivel casters with rubber-tread wheels. Trucks are steel and aluminum.

Style 2 also have adjustable-width base legs to better straddle pallets and other items for easier access to the load.

(3) Trucks with reversible forks and counterweight base have shorter base legs for closer access to the load. Forks can be inverted for additional lifting height. Base has two rear swivel casters with polyurethane wheels and a side wheel brake and two front polyurethane wheels. Made of steel and aluminum.

(4) Truck with platform has two rear swivel casters with phenolic wheels and two front phenolic wheels. A floor lock keeps the truck stationary and a safety catch holds the platform in place if the winch fails. Made of steel.

(5) Truck with low-profile platform allows you to get your load on the platform with minimal manual lifting. The platform has a 2″ high lip on two sides to keep the load from sliding off. The base has two rear rubber-tread wheels and two front cast iron wheels. Made of steel.

	Cap., lbs.	Fork Size, Lg.×Wd.	Fork Spread (A)	Fork Spread (B)	Platform Size, Lg.×Wd.	Fork/Platform Ht. Min.	Fork/Platform Ht. Max.	Inverted Load Ctr.	O'all Size, Lg.×Ht.	Handle Ht.	Wheel Dia.	(C)	(D)		Each
Trucks with Reversible Forks															
1	400	22½″×4″	20½″	12½″	—	3½″	8′3″	10′½″	12″	2′10¾″	×5′7½″	4′6″	8″/2″	24¾″	12⅝″	**9937T22**	$1,420.71
1	500	22½″×4″	20½″	12½″	—	3½″	4′1½″	5′11″	12″	2′10¾″	×5′7½″	4′6″	8″/2″	24¾″	12⅝″	**9937T21**	1,190.60
2	350	22½″×4″	20½″	12½″	—	2″	12′	13′9½″	12″	3′7″	×6′6½″	4′6″	8″/2″	28¾″-43½″	21⅜″-36″	**9937T24**	1,620.81
2	400	22½″×4″	20½″	12½″	—	3½″	8′3″	10′½″	12″	3′7″	×5′7½″	4′6″	8″/2″	28¾″-43½″	21⅜″-36″	**9937T32**	1,495.75
2	500	22½″×4″	20½″	12½″	—	3½″	4′1½″	5′11″	12″	3′7″	×5′7½″	4′6″	8″/2″	28¾″-43½″	21⅜″-36″	**9937T31**	1,265.64
Trucks with Reversible Forks and Counterweight Base															
3	400	22½″×4″	20½″	12½″	—	3½″	8′3″	10′½″	12″	2′4½″	×5′7½″	4′6″	5″/4″	28¾″-43½″	21⅜″-36″	**9937T34**	1,855.93
3	500	22½″×4″	20½″	12½″	—	3½″	4′1½″	5′11″	12″	2′4½″	×5′7½″	4′6″	5″/4″	28¾″-43½″	21⅜″-36″	**9937T33**	1,620.03
Truck with Platform															
4	750	—	—	—	24″×24″	4½″	4′6″	—	15″	3′1″	×5′11″	3′9″	6″/4″	24″	19″	**2668T1**	1,762.30
Truck with Low-Profile Platform															
5	500	—	—	—	20″×20″	¼″	4′7″	—	10″	2′5¹³⁄₁₆″	×5′6½″	4′8″	6″/2″	30½″	—	**8713T55**	628.16
Optional 23″ Lg.×22″ Wd. Platform for Trucks with Forks																**9937T25**	**Each**	$294.92

Winch-Operated Mast-Style Lift Trucks

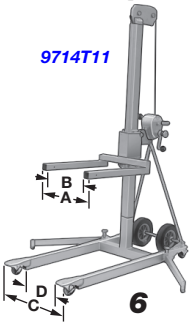

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9

Choose from masts with multiple sections and masts that telescope to reach the desired height. Turn the winch handle to raise and lower the forks. A brake holds the load in place.

(6) Trucks with Sectional Mast and Outriggers— Have a single-speed winch with dual handles to move the load 1⅜″ per handle rotation. Rear folding outriggers with leveling feet and four swivel casters with rubber wheels and a side wheel brake provide added stability. Trucks are steel. UL listed.

9714T11 has two extra mast sections. The base also has two rear never-go-flat (semipneumatic) wheels for easier transport over uneven surfaces. Overall width with outriggers is 6′9″. 9714T12 has three extra mast sections. Base also has front outriggers. Overall width with outriggers is 6 feet.

(7-9) Trucks with Telescoping Mast— Roll through doorways in the upright position. A standard winch moves the load 1⅜″ per handle rotation. The base has four swivel casters with polyurethane wheels. Rear casters have a side wheel brake and swivel lock. Mast is aluminum; base is steel.

Style 8 also has rear outriggers with four swivel casters with polyurethane wheels for added stability. Overall width with outriggers is 6′4½″.

Style 9 also have adjustable-width base legs to better straddle pallets and other items for easier access to the load.

	Cap., lbs.	Fork Size, Lg.×Wd.	Fork Spread (A)	Fork Spread (B)	Fork Height Min.	Fork Height Max.★	Load Ctr.	O'all Size, Lg.×Ht.	Wheel Dia.	(C)	(D)		Each
Trucks with Sectional Mast and Outriggers													
6	500	24″	×2″	20″	16″	4¼″	5′, 8′, 9′, 12′	12″	5′½″	×13′10″	10″/3″	29″	21″	**9714T11**	$1,490.46
6	500	24″	×2″	20″	16″	4¼″	5′, 10′, 14′, 16′, 20′	12″	5′7″	× 6′10″	3″	27″	21″	**9714T12**	1,731.69
Trucks with Telescoping Mast													
7	800	27½″×1½″	11½″-30″	6½″-25″	6″	14′7½″-16′4″	18″	6′2″	× 6′6½″	5″/4″	31½″	23½″		**9734T72**	3,209.14
8	800	27½″×1½″	11½″-30″	6½″-25″	6″	19′6″ -21′2½″	18″	6′10″	× 6′6½″	5″/4″	31½″	23½″		**9734T83**	3,633.07
9	800	27½″×1½″	11½″-30″	6½″-25″	6″	14′7½″-16′4″	18″	6′2″	× 6′6½″	5″/4″	31½″-58″	23½″-50″		**9734T75**	3,641.82
9	1,000	27½″×1½″	11½″-30″	6½″-25″	6″	9′9½″-11′5½″	18″	4′11½″	× 6′6½″	5″/4″	31½″-58″	23½″-50″		**9734T74**	2,884.34

★Based on the number of mast sections used or the amount of telescoping.

Warning! Never exceed capacities. Never use to lift people.

Foot-Operated Mobile Lift Tables


A

Move these tables where you need them, then adjust your work to a comfortable height. They have a foot lever and hydraulic pump to raise loads. They have two rigid and two swivel casters, unless noted. All tables are steel.

(A) Scissor-Style Lift Tables

Tables have a hand-operated lever for controlled lowering. Casters have rubber wheels, unless noted. A floor lock keeps the table stationary, unless noted.

330-lb. capacity table has a relief valve that prevents pressure build-up and provides overload protection. One swivel caster has a brake.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation per Stroke	Handle Height	Tabletop Gauge	Wheel Dia.		
330	27½″	18″	8½″-28½″	1¼″	31½″	14	4″	5014T15★	$715.67
550	31½″	20″	9½″-31½″	1″	36½″	14	4″	2779T42	779.06
770	36″	24″	14″-49½″	¾″	38″	14	5″	2779T45	1,533.76
1,100	36″	24″	12″-36½″	½″	38″	14	5″	2779T43	1,025.17
1,760	39½″	24″	12″-40″	⅜″	39″	14	6″	2779T44■	1,428.84

★ Does not have a floor lock. ■ Wheels are plastic.


B

(B) Scissor-Style Lift Tables

A hand-operated lever provides controlled lowering. Wheels are phenolic. A floor lock keeps the table stationary. Meet ANSI MH 29.1.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation per Stroke	Handle Height	Tabletop Gauge	Wheel Dia.		
600	32″	20″	10″-33″	1″	35½″	7	5″	2791T22	$972.79
1,000	36″	24″	9½″-33″	⅝″	35½″	7	5″	2791T23	1,537.94
1,000	48″	24″	9½″-45″	¾″	35½″	7	5″	2791T25	1,713.97
1,000	48″	36″	9½″-45″	¾″	35½″	7	5″	2791T28	2,056.76
1,500	48″	24″	9½″-45″	½″	35½″	7	5″	2791T26	1,788.09


C

(C) Lift Tables for Tight Spaces

The top extends beyond the base for easier access to tight spaces and bench tops. A foot-operated lever lowers the load. Wheels are phenolic. A floor lock keeps the table stationary. Meet ANSI MH 29.1.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation per Stroke	Handle Height	Tabletop Gauge	Wheel Dia.		
2,000	36″	24″	24″-36″	1¼″	40″	7	5″	24485T21	$1,289.53
2,000	36″	24″	30″-48″	1¼″	40″	7	5″	24485T22	1,466.72
2,000	36″	24″	36″-60″	1¼″	40″	7	5″	24485T23	1,536.82


D
Five Posts

(D) Post-Style Lift Tables

The posts raise the tables straight up—no pinch points like scissor-style lift tables. A hand-operated valve controls lowering. Wheels are phenolic, unless noted. A floor lock keeps the table stationary, unless noted.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation per Stroke	Handle Height	Tabletop Gauge	Wheel Dia.		
One Post									
200	16″	16″	28½″-46″	⅜″	___	7	3″	2576T71♣	$388.42
Three Posts									
500	18″	18″	30½″-47½″	⅜″	30″	7	4″	2576T72	659.28
1,000	36″	18″	30½″-47½″	⅜″	30″	7	4″	2576T73	792.89
Five Posts									
2,000	36″	24″	37″-59″	⅜″	36½″	3	6″	2576T74	1,235.41
2,000	48″	32″	37″-59″	⅜″	36½″	3	6″	2576T77	1,369.49
6,000	48″	32″	37″-59″	⅜″	36½″	3	6″	2576T78	1,433.39

♣ Has four swivel casters with plastic wheels; does not have a floor lock.


E

(E) Long-Tabletop Lift Tables

An extra-long, reinforced tabletop gives you plenty of room for oversized loads. A foot-operated lever controls lowering. Tables have four swivel casters with steel wheels. Two floor locks keep the table stationary.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation per Stroke	Tabletop Gauge	Wheel Dia.		
2,000	60″	30″	30″-48″	¼″	10	5″	8759T84	$1,782.88
2,000	72″	30″	30″-48″	¼″	10	5″	8759T81	1,922.38
2,000	96″	30″	30″-48″	¼″	10	5″	8759T82	1,946.82
2,000	120″	30″	30″-48″	¼″	10	5″	8759T83	2,077.15

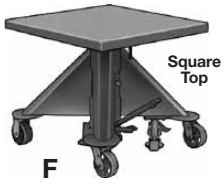

F

(F) Turntable-Top Lift Tables

The tabletop rotates 360° to reduce reaching and locks in any position. A mechanical vent prevents pressure build-up to provide overload protection. A foot-operated lever controls lowering. Wheels are cast iron. The floor lock keeps the table stationary.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation per Stroke	Tabletop Gauge	Wheel Dia.		
Square Top								
1,000	30″	30″	27″-45″	½″	3	5″	2777T1	$1,696.62
2,000	30″	30″	27″-45″	⅜″	3	5″	2777T2	1,912.73
Round Top								
1,000	30″ Dia.	___	27″-45″	½″	3	5″	2777T34	1,958.44
2,000	30″ Dia.	___	27″-45″	⅜″	3	5″	2777T35	2,093.46

Warning: *Do not move while under load. Never use to lift people.*

Hand-Crank Mobile Lift Tables



Use the hand crank to adjust your work to a comfortable height. The handle is removable and can be operated from either side of the table. It has two speeds for fast and slow adjustment. Tables are steel and have two rigid and two swivel casters. A floor lock keeps the table stationary. Meet ANSI MH 29.1.

Plastic wheels are smooth rolling and nonmarking. **Cast iron wheels** combine strength and durability with abrasion and heat resistance.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation per Stroke	Tabletop Gauge	Wheel Dia.	With Plastic Wheels		With Cast Iron Wheels	
2,000	36″	24″	24″-42″	1/8″/1/4″	7	5″	2847T2	$1,081.34	2847T1	$1,193.18
2,000	36″	30″	24″-42″	1/8″/1/4″	7	5″	2847T6	1,523.28	2847T5	1,641.82

Angled Hand-Crank Mobile Lift Tables



Turn the hand wheels to adjust the load and tilt it up to 30° for a more ergonomic angle. A 3″ high lip on the end supports your load when the tabletop is tilted. Tables are steel and have four swivel casters with plastic wheels. Brakes on two of the casters keep the table stationary.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation per Stroke	Tabletop Gauge	Wheel Dia.		
300	24″	24″	32″-42″	1/8″	12	4″	27955T4	$596.03

Battery-Powered Mobile Lift Tables


A

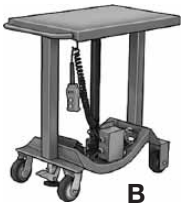
B
Three Posts

Push the button and a hydraulic pump adjusts the load. Tables run on a motor that is powered by a sealed, maintenance-free, rechargeable 12V DC battery. The built-in charger has a 22″ long power cord and three-prong plug. It fully charges the battery in 6-8 hours. The NEMA rated hand-operated push-button control has a self-retracting cord. Tables are steel and have two rigid and two swivel casters. A floor lock keeps the table stationary. Meet ANSI MH 29.1.

(A) Scissor Style

Tables have a 5-amp battery charger and phenolic wheels. Control cord is 2½-8 ft. long.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation Speed, in./sec.	Duty Rating, cycles/hr.	Handle Height	Tabletop Gauge	Wheel Dia.		
1,000	36″	24″	9½″-33″	2¼	15	35½″	7	5″	2791T41	$2,399.56
1,000	48″	24″	9½″-45″	2½	15	35½″	7	5″	2791T43	2,510.74
1,500	48″	24″	9½″-45″	1¾	15	35½″	7	5″	2791T44	2,529.26
1,500	48″	36″	9½″-45″	1¾	15	35½″	7	5″	2791T46	2,853.53

(B) Post Style

Tables have a 10-amp battery charger and plastic wheels. Control cord is 4-10 ft. long.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation Speed, in./sec.	Duty Rating, cycles/hr.	Handle Height	Tabletop Gauge	Wheel Dia.		
Three Posts										
1,000	30″	20″	25″-37″	¾	15	24½″	7	5″	2790T43	$1,746.82
1,000	30″	20″	34″-52″	¾	15	33½″	7	5″	2790T44	1,828.03
Five Posts										
2,000	36″	24″	25″-37″	¾	15	24½″	7	5″	2790T45	1,871.19
2,000	36″	24″	34″-52″	¾	15	33½″	7	5″	2790T46	1,890.00

Foot-Operated Stationary Lift Tables


Lift Table Skirt



Make repetitive lifting and positioning less of a chore. These tables have a foot lever and hydraulic pump to raise the load. A hand knob provides controlled lowering. All have a compact design, so they fit in confined spaces. Made of steel. Meet ANSI MH 29.1.

Lift table skirts protect the working parts of the table from dust, dirt, and debris. They are vinyl and bolt directly to the table frame. Mounting fasteners are included. Color is blue and yellow.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation per Stroke	Tabletop Gauge	Lift Tables		Lift Table Skirts	
440	25½″	19½″	5″-21″	½″	13	8758T23	$994.88	3740T73	$640.41
550	32″	19½″	5″-28″	½″	13	8758T24	1,095.63	3740T74	620.16
660	40″	20″	9½″-54″	¾″	10	8758T27	1,570.89	3740T75	990.98
1,100	40″	20″	6″-31½″	½″	10	8758T25	1,266.97	3740T76	710.74
1,650	40″	20″	6″-31½″	⅜″	10	8758T26	1,412.11	3740T76	710.74

Air-Powered Stationary Lift Tables


Lift Table Skirt



Connect these tables to your compressed air system; a hydraulic pump and a 40 psi air-driven motor make repetitive lifting and positioning less of a chore. Tables have a compact design, so they fit in confined spaces. They have a foot-operated push-button control, ¼ NPT female air connection, and include a 6-ft. hydraulic hose. Made of steel. Meet ANSI MH 29.1.

Lift table skirts protect the working parts of the table from dust, dirt, and debris. They are vinyl and bolt directly to the table frame. Mounting fasteners are included. Color is blue and yellow.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation Speed, in./sec.	Tabletop Gauge	Lift Tables		Lift Table Skirts	
550	32″	19½″	6″-28″	½	13	8758T44	$1,997.84	3740T74	$620.16
660	40″	20″	9½″-54″	¾	10	8758T47	2,264.61	3740T75	990.98
1,100	40″	20″	6″-31½″	½	10	8758T45	2,156.67	3740T76	710.74

Warning: *Do not move while under load. Never use to lift people.*

Electric Stationary Lift Tables


Lift Table Skirt

A


B With Hand Control


C

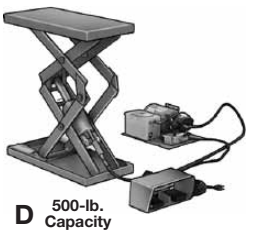
D 500-lb. Capacity


E With Optional Loading Ramp


F 3,500-lb. Capacity

An electric motor and a hydraulic pump perform repetitive lifting and positioning with the push of a button. Tables are steel. Meet ANSI MH 29.1.

Lift table skirts protect the working parts of the table from dust, dirt, and debris. Styles A&B and 3740T72 are blue and yellow vinyl. Mounting fasteners are included. Styles C&D and 3740T56 are black and yellow plastic.

(A) Standard Lift Tables with External Motor

Tables have a 120V AC, 60 Hz, single-phase, 8.4-amp motor with an 8-ft. long power cord and three-prong plug, unless noted. They have a NEMA 1 rated hand-operated push-button control with a 10-ft. long cord, unless noted.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation Speed, in./sec.	Duty Rating, cycles/hr.	Tabletop Gauge	Lift Tables		Lift Table Skirts	
550	32″	19½″	6″-28″	2¼	9	13	8758T34	$1,954.51	3740T74	$620.16
660	40″	20″	9½″-54″	3¼	9	10	8758T37	2,338.86	3740T75	990.98
1,100	25½″	18″	8½″-33½″	1¾	9	10	8758T38	2,292.70	3740T78	620.16
1,100	40″	20″	6″-31½″	2	9	10	8758T35	2,227.38	3740T76	710.74
1,650	40″	20″	6″-31½″	1½	9	10	8758T36	2,292.70	3740T76	710.74
2,000	48″	28″	8½″-38½″	1¼	9	7	8758T33★	2,616.39	3740T72	826.57
2,000	48″	36″	8½″-38½″	1¼	9	7	8758T39★	2,690.16	3740T72	826.57

★ Has an internal 10.8-amp motor and a NEMA 12 rated hand-operated push-button control.

(B) Standard Lift Tables with Internal Motor

Tables have an internal motor with an 8-ft. long power cord and three-prong plug, except 480V AC tables do not include a plug.

To Order: Please specify hand or foot-operated push-button control. Tables *with hand-operated push-button control* have a NEMA 4 rated control with 10-ft. long cord. Tables *with foot-operated push-button control* have a NEMA 1 rated control with 10-ft. long cord.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation Speed, in./sec.	Duty Rating, cycles/hr.	Tabletop Gauge	Lift Tables		Lift Table Skirts	
120V AC, 60 Hz (single phase, 14.5 amps)										
3,000	48″	28″	9″-42½″	1¼	9	7	2900T31	$2,771.01	3740T72	$826.57
3,000	48″	36″	9″-42½″	1¼	9	7	2900T32	2,850.72	3740T72	826.57
5,000	56″	32″	9″-48″	¾	9	3	2900T34	3,556.52	3740T77	1,123.00
5,000	72″	48″	9″-48″	¾	9	3	2900T35	3,821.74	3740T77	1,123.00
480V AC, 60 Hz (three phase, 2.2 amps)										
3,000	48″	28″	9″-42½″	1¼	9	7	2900T41	3,075.36	3740T72	826.57
3,000	48″	36″	9″-42½″	1¼	9	7	2900T42	3,155.07	3740T72	826.57
5,000	56″	32″	9″-48″	¾	9	3	2900T44	3,860.87	3740T77	1,123.00
5,000	72″	48″	9″-48″	¾	9	3	2900T45	4,126.09	3740T77	1,123.00

(C) Long-Tabletop Lift Tables

An extra-large tabletop provides plenty of room for oversized loads. Tables have a 120V AC, 60 Hz, single-phase, 8.4-amp internal motor with a 10-ft. long power cord and three-prong plug. They have a NEMA 1 rated foot-operated push-button control with a 10-ft. long cord.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation Speed, in./sec.	Duty Rating, cycles/hr.	Tabletop Gauge	Lift Tables		Lift Table Skirts	
2,000	96″	48″	6½″-42½″	¾	12	7	2874T67	$5,002.67	3740T65	$1,071.27
6,000	96″	48″	8″-44″	½	12	7	2874T68	11,477.33	3740T66	1,071.27

(D) Lift Tables for Tight Spaces

These tables are compact, yet provide the lifting capacity of standard lift tables. They have a 120V AC, 60 Hz, single-phase, 8.4-amp motor with a 10-ft. long power cord and three-prong plug. They have a NEMA 1 rated foot-operated push-button control with a 10-ft. long cord.

500-lb. capacity table has an external motor; **2,000-lb. capacity** table has an internal motor.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation Speed, in./sec.	Duty Rating, cycles/hr.	Tabletop Gauge	Lift Tables		Lift Table Skirts	
500	25″	12″	5″-30″	1¾	12	7	2846T11	$3,429.33	3740T41	$476.00
2,000	42″	18″	6″-42″	1	12	7	2846T12	4,165.33	3740T47	657.20

(E) Floor-Load Lift Tables

The tabletop can go as low as 3″, making loading and unloading from the floor and pallets easier. A toe guard at the base of the table provides safety for the operator. Tables have a 120V AC, 60 Hz, single-phase, 8.4-amp external motor with an 8-ft. long power cord and three-prong plug. They have a NEMA 4 rated hand-operated push-button control and 6-ft. long hydraulic hose.

Cap., lbs.	Lg.	Wd.	Ht.	Elevation Speed, in./sec.	Duty Rating, cycles/hr.	Tabletop Gauge	Lift Tables	
550	40″	23½″	3″-29½″	2½	9	10	2295T42	$2,762.46
1,100	40″	23½″	3″-30″	1¼	9	10	2295T43	3,261.19
Optional 23″ Long Loading Ramp							2295T52	$347.43

(F) Turntable-Top Lift Tables

The turntable rotates to reduce reaching. Tables have a 120V AC, 60 Hz, single-phase, internal motor with a 10-ft. long power cord and three-prong plug. They have a NEMA 1 rated foot-operated push-button control with a 10-ft. long cord.

2,000- and **3,000-lb. capacity** tables are round and have a 14.5-amp motor. **3,500-lb. capacity** table is square with a 43″ dia. turntable. It has a 17-amp motor.

Cap., lbs.	Tabletop Size	Ht.	Elevation Speed, in./sec.	Duty Rating, cycles/hr.	Tabletop Gauge	Lift Tables		Lift Table Skirts	
2,000	43″ Dia.	11½″-41½″	1¼	9	11	2901T43	$2,920.29	3740T72	$826.57
3,000	43″ Dia.	12″-45½″	1¼	9	11	2901T44	3,463.77	3740T72	826.57
3,500	48″ Sq.	8″-43½″	¾	20	7	2901T15	5,044.50	3740T56	752.00

Warning: Never use to lift people.

Stationary Air-Lift Tables

No hydraulics, motors, or pumps to maintain and no electrical connection required. These tables connect to your compressed air system. Durable air bags provide consistent and smooth lifting. A relief valve prevents pressure build-up to provide overload protection. Tables are steel and operate on 15 cfm at 80 psi.

Lift table skirts protect the working parts of the table from dust, dirt, and debris. They are black and yellow plastic.


Lift Table Skirt


Air-Lift Table

Air-Lift Tables

Tables come ready to operate. They have a hand-operated push-button control to raise and lower the load.

Cap., lbs.	Lg.	Wd.	Ht.	Tabletop Gauge	Air Inlet, NPT female	Lift Tables		Lift Table Skirts	
2,000	48″	48″	8″-32″	3	1/4	99295T11	$2,825.45	3740T51	$742.20
4,000	48″	48″	8″-32″	3	1/4	99295T13	3,493.64	3740T51	742.20

Design-Your-Own Air-Lift Tables

Choose your table based on capacity, then choose the type of control and top that best suit your application.

Controls include a 12-ft. long air hose.

Tabletop is 36″ Lg. × 48″ Wd. × 1/4″ Thick.

The **turntable top** rotates to allow easy access to the load during loading and unloading. Made of steel, it measures 36″ Lg. × 48″ Ht. × 1/2″ Thick.

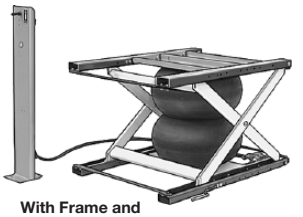
With Frame and Hand-Operated Push-Button Control

Cap., lbs.	Frame Size Lg.	Wd.	Ht.	Frame Gauge	Air Inlet, NPT female	Lift Tables		Lift Table Skirts	
1,000	35 1/2″	47″	7″-32″	3	1/2	9409T1	$2,297.06	9409T9	$523.68
2,000	35 1/2″	47″	7″-32″	3	1/2	9409T2	2,397.74	9409T9	523.68
3,000	35 1/2″	47″	7″-32″	3	1/2	9409T3	2,517.65	9409T9	523.68

Hand-Operated Push-Button Control	9409T5	$264.62	Tabletop	9409T8	$384.62
Foot-Operated Push-Button Control	9409T6	378.46	Turntable Top	9409T4	1,332.35

Pallet Stands and Turntables—*Not for Lifting*

Adjustable pallet stand holds pallets at one of three fixed heights. Height is manually adjustable from the fold storage height of 8 3/4″ up to 24″, 30 1/2″, and 34″. Stand is steel and 40″ Lg. × 40″ Wd. Capacity is 4,000 lbs. Use an optional turntable to rotate your load.

23835T9 ..... $634.02


Pallet Stand

Open-ring turntables are steel and have evenly spaced roller bearings so the ring turns smoothly. They are 2″ Ht. × 40″ Dia. Use on floors, work benches, and lift tables as well as the pallet stand listed above.

Cap., lbs.		
2,000	8771T42	$372.53
4,000	8771T44	436.84
6,000	8771T46▲	493.37

▲ Do not exceed stand capacity.


Open-Ring Turntable

Low-profile turntable is designed for floor use. It has a tapered ramp around the perimeter for easy 360° loading and unloading with pallet and lift trucks. Made of steel. Turntable is 7/8″ Ht. × 43 3/8″ Dia. Capacity is 4,000 lbs.

2695T2 ..... $989.09


Low-Profile Turntable

Spring-Actuated Auto-Leveling Pallet Stands—*Not for Lifting*

Use one to three springs (included) to automatically maintain a convenient ergonomic working height based on the load. A built-in damper provides smooth and gradual raising and lowering without bounce. The turntable rotates 360° to reduce reaching. The stand must be loaded to at least the minimum capacity for auto-leveling to engage. Stand is steel. The base is 36 1/4″ Lg. × 36 5/8″ Wd. and can be moved with a forklift.



Cap., lbs.	Ht.	Turntable Dia.		
400-4,500	9 1/2″-27 1/2″	43 5/8″	2914T11	$1,795.00

Air-Actuated Auto-Leveling Pallet Stands—*Not for Lifting*

This stand keeps the top of your load at a convenient height; an air cylinder automatically returns the stand to your set height as you add or remove parts of your load. The turntable rotates 360° to reduce reaching. A maximum of 60 psi of air is needed for setup but not for operation. Adjust height before adding pallets. A three-position knob allows capacity adjustments while a relief valve prevents pressure build-up to provide overload protection. The stand must be loaded to at least the minimum capacity for auto-leveling to engage.

Stands are steel. The base is 49″ Lg. × 24 3/8″ Wd. and can be moved with a forklift. Inlet is 1/4 NPT female. Meet ANSI MH 29.1.



Cap., lbs.	Ht.	Turntable Dia.		
250-4,000	10 1/2″-30 1/2″	43″	2883T7	$2,555.69

Warning: *Never use to lift people.*

Dock Levelers, Dockboards & Dock Plates

About Dock Levelers, Dockboards, and Dock Plates

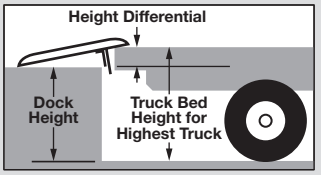

Use dock levelers, dockboards, and dock plates to bridge gaps between loading docks and trucks that are loading and unloading cargo. There are three factors to consider when making your selection:

Height Differential— The difference between the height of your loading dock and the height of your truck bed. The larger the height differential, the longer your dockboard or dock plate should be.

To calculate height differential, subtract the height of your dock from the height of the truck bed (typically 55″ for most semi-trailers and 59″ for refrigerated trailers and container trailers).

Width— Your leveler, dockboard, or dock plate should be 12″ to 18″ wider than your forklift or pallets (whichever is wider). Wider dockboards and dock plates also offer greater maneuverability when placing material inside the trailer.

Capacity— The weight of the load plus the weight of your loading equipment (hand truck, forklift, lift truck, etc.). Load capacities shown are for a single-shift operation. For multiple shifts, choose a board with a capacity 5,000 lbs. higher than your actual expected loads.

Dock Levelers

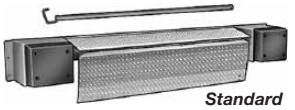

Standard

Permanently attach levelers to bridge the gap between the edge of your dock and the truck you're loading or unloading. For use with a forklift, pallet, or hand truck.

Each leveler has a steel deck plate; a hinged, steel lip plate; and two 13″ Lg. × 12″ Wd. × 4″ Thick. rubber bumpers that are attached to steel bumper blocks. Dual extension springs act as a counterbalance to aid the leveler as it mechanically lifts the lip plate onto the truck bed; the springs return the lip plate to its original position when the truck pulls away. The deck plate and lip plate have a diamond-pattern tread for positive traction.

Weld levelers to a dock face with a min. 8″ wide steel channel embedded into concrete at the dock edge. If the dock edge does not have an 8″ wide steel channel, use the ***optional installation kit*** (sold separately) for bolt-on mounting.

Standard Levelers— An included lifting hook raises the lip plate. Comes with a hanger for storing the lifting hook when not in use.

Levelers with Handle— Pull the self-storing handle back about 50° and then return it to its original vertical position to lift the lip plate. It's so easy, there's no need to bend, push, or lean.

Note: To determine your load, take the gross weight of your equipment, add your typical load weight, and then multiply by two.

Plate Wd.	O'all Wd.	Max. Ht. Differential	Lg.	Load Cap., lbs.	*Standard*	Each	*With Handle*	Each
66″	102″	±5″	27¾″	20,000	**8749T21**	$845.45	**8749T23**	$936.36
72″	108″	±5″	27¾″	20,000	**8749T22**	900.00	**8749T24**	981.82

Optional Installation Kit (includes ramp plate, 17 anchor bolts, and four angles; color is gray) **8749T53** Each $281.82

Dockboards

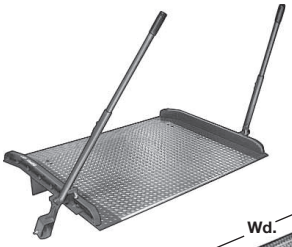

Aluminum/Steel with Wheels

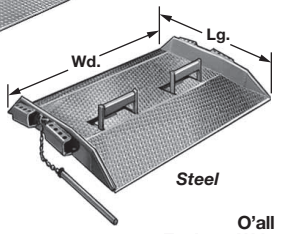

Steel

The best portable choice for handling heavy loads, these dockboards usually require you to use a forklift to move them to your dock. For use when loading and unloading trucks using forklifts, battery-operated hand trucks, and other powered equipment. All have a tread-plate surface for positive traction, plus side curbs to lessen the chance of vehicle runoff.

Aluminum/Steel Dockboards— Have steel curbs bolted to an aluminum tread plate. The curbs are painted high-visibility yellow.

Aluminum/Steel Dockboards with Wheels— Telescoping handles with wheels allow one person to lift and position these dockboards without using a forklift. Retract the handles when the dockboard is in position. All have steel curbs bolted to an aluminum tread plate. The curbs are painted blue.

Steel Dockboards— The heaviest dockboards we offer, these are built to endure high-traffic use. Made of steel with welded-on steel side curbs. Dockboards have steel pins that you drop into any of the eight holes along their edges—this anchors the dockboard in the space between the dock and the truck. All have forklift loops that flip up for easy maneuvering and fold flat when not in use. Color is gray with blue side curbs.

O'all Wd.	Max. Ht. Differential	Lg.		Each
Aluminum/Steel				
10,000-lb. Load Capacity				
60″	±7″	48″	**21905T82**	$727.26
60″	±10″	60″	**21905T83**	899.39
60″	±12″	72″	**21905T34**	1,093.61
15,000-lb. Load Capacity				
60″	±5″	36″	**21905T81**	622.23
60″	±7″	48″	**21905T52**	906.43
60″	±10″	60″	**21905T74**	1,108.57
60″	±12″	72″	**21905T75**	1,338.93

O'all Wd.	Max. Ht. Differential	Lg.		Each
Aluminum/Steel (Cont.)				
20,000-lb. Load Capacity				
60″	±5″	36″	**21905T84**	$673.44
Aluminum/Steel with Wheels				
10,000-lb. Load Capacity				
60″	±5″	48″	**8178T11**	1,047.31
60″	±7″	60″	**8178T12**	1,219.86
15,000-lb. Load Capacity				
60″	±5″	48″	**8178T13**	1,249.42
60″	±7″	60″	**8178T14**	1,453.53

O'all Wd.	Max. Ht. Differential	Lg.		Each
Steel				
15,000-lb. Load Capacity				
60″	±5″	48″	**2244T21**	$979.44
60″	±7″	60″	**2244T22**	1,152.84
60″	±8½″	72″	**2244T23**	1,329.34
72″	±5″	48″	**2244T31**	1,074.86
72″	±7″	60″	**2244T32**	1,249.31
72″	±8½″	72″	**2244T33**	1,424.78
72″	±10″	84″	**2244T34**	1,597.74

Aluminum Dock Plates

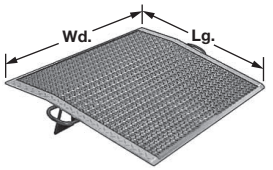

Lighter than steel, these aluminum dock plates have two handles for manual positioning at your dock. Use with hand trucks, pallet trucks, and other walk-on/walk-off loading and unloading equipment. A tread-plate surface provides positive traction.

O'all Wd.	Max. Ht. Differential	Lg.	Load Cap., lbs.		Each
⅜″ Thick					
36″	±4″	30″	3,000	**2251T28**	$295.10
36″	±5″	36″	2,500	**2251T72**■	395.73
36″	±7″	48″	1,900	**2251T29**	428.69
42″	±4″	30″	3,300	**2251T33**	321.96
48″	±3″	24″	5,200	**2251T34**	306.52
48″	±4″	30″	4,100	**2251T35**	368.62
48″	±5″	36″	3,500	**2251T36**	426.58
48″	±7″	48″	2,600	**2251T38**	549.79
48″	±9″	60″	1,800	**2251T92**	677.13
60″	±5″	36″	4,100	**2251T43**	519.75

■ Edges are high-visibility yellow.

O'all Wd.	Max. Ht. Differential	Lg.	Load Cap., lbs.		Each
⅜″ Thick (Cont.)					
60″	±7″	48″	2,900	**2251T47**	$671.96
72″	±3″	24″	7,200	**2251T77**■	594.47
½″ Thick					
48″	±5″	36″	5,300	**2251T53**	495.88
48″	±7″	48″	3,800	**2251T57**	649.88
60″	±3″	24″	10,000	**2251T58**	449.31
60″	±4″	30″	7,800	**2251T59**	573.60
60″	±5″	36″	6,600	**2251T66**	660.54
72″	±4″	30″	9,500	**2251T67**	663.71
72″	±5″	36″	7,800	**2251T68**	775.50

Wheel-Riser Ramps

In addition to elevating trucks to dock height for easy loading and unloading, these ramps can be used to elevate the front or rear wheels of any vehicle for maintenance jobs. Ramps are made of heavy duty aluminum with a tread-plate surface for positive traction. Load capacity is 15,000 lbs. per ramp.

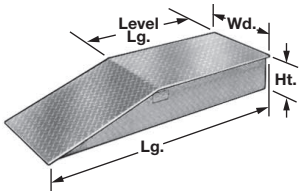

Ht.	Wd.	Level Lg.	O'all Lg.		Each
5 7/8"	18"	30"	48"	2179T11	$462.00
5 7/8"	24"	30"	48"	2179T15	537.40
7 7/8"	18"	30"	54"	2179T12	527.60
11 7/8"	24"	36"	72"	2179T18	950.50

Low-Height Walk Ramps

Make pushing your hand truck easier; use these ramps to navigate 3" to 5" high curbs and door thresholds. Ramps are made of aluminum with a diamond-tread surface for good traction and welded side handles for easier positioning.

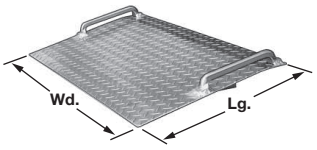

Wd.	Lg.	Load Cap., lbs.		Each
30"	18"	600	2187T32	$116.91
36"	18"	700	2187T33	146.14

Walk Ramps

No dock available? Use these ramps to create a walkway for loading and unloading trucks. They're useful when using a hand truck.

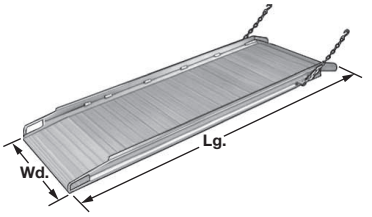

Ramps are aluminum with a nonskid serrated deck and welded side curbs to prevent run-offs. There's a 9" apron that lays on a truck bed to provide a smooth transition from truck to ramp. Furnished with two handles and two 18" long security chains to secure ramp to truck.

Note: Not for use with pallet trucks and forklifts.

Ht. Range Min.	Ht. Range Max.	Usable Wd.	O'all Wd.	Lg.	Cap., lbs.		Each
6"	25"	26"	28"	7'	1,800	2167T31	$529.09
6"	29"	38"	40"	8'	1,600	2167T46	698.53
6"	38"	38"	40"	10'	1,500	2167T65	838.56
6"	46"	38"	40"	12'	1,400	2167T49	948.15
6"	62"	38"	40"	16'	1,000	2167T51	1,197.75

Make-A-Ramp Sets

Convert standard 2×8 and 2×12 lumber into all-purpose ramps. Each set contains two steel ramp tops and two rubber feet with a ribbed, nonslip surface. Furnished with assembly hardware.



For Lumber Size		Each
2× 8	21765T55	$43.12
2×12	21765T56	64.69

Space-Saving Ramps

You won't need a lot of storage space for these ramps. Use them to move equipment, and then fold or retract them for convenient carrying and storage. Ramps have side curbs to lessen the chance of runoffs and are made of extruded aluminum alloy. Furnished in pairs; each component has an antislip surface.

***Telescoping*—**For up to 6" high curbs.

***Folding*—**For up to 10" high curbs. Has two handles for easier carrying.

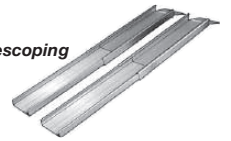

Style	Max. Length	Storage Lg.	Usable Wd.	Cap., lbs.	Ramp Sides		Per Pair
Telescoping	72"	39 5/8"	7 7/8"	550 (per pair)	2 3/4" Curb	21775T111	$288.91
Folding	120"	65"	7 7/8"	550 (per pair)	2" Curb	21775T121	376.70

Wheel Chocks for Tires Up to 28" Diameter

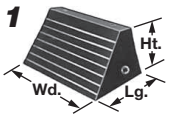

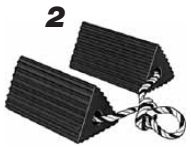





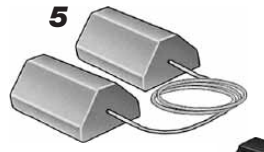



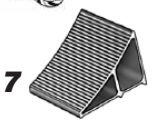







	Chock Size, Lg. × Wd. × Ht.	Material	Color	Features		Each
For Up to 24" Diameter Tires						
1	8" × 9" × 5 3/4"	Rubber	Orange	Has 1" ID eyebolt for attaching rope or chain	2232T13	$28.34
For Up to 26" Diameter Tires						
2	5" × 10" × 4 3/8"	Rubber	Black	Consists of two chock components; that are connected by a 3-ft. long polypropylene rope	22285T63	76.58
For Up to 28" Diameter Tires						
1	7 1/2" × 10" × 6"	Rubber	Black	Has a 3/4" ID eyebolt for attaching rope or chain	2232T12	16.93
3	6 1/2" × 4" × 3 1/4"	Rubber	Black	Has a hollow middle for attaching rope or chain	2267T11	7.94
3	6 1/2" × 6" × 3 1/4"	Rubber	Black	Has a hollow middle for attaching rope or chain	2267T12	11.13
3	6 1/2" × 12" × 3 1/4"	Rubber	Black	Has a hollow middle for attaching rope or chain	2267T13	21.71
4	6" × 9 1/2" × 3 7/8"	Plastic	Yellow	Made of recycled plastic; has a 27" long nylon rope	2188T1	16.00
5	6" × 9 1/2" × 3 7/8"	Plastic	Yellow	Made of recycled plastic; consists of two chock components that are connected by a 33" long nylon rope	2188T2	37.46
6	4" × 10" × 4"	Rubber	Black	Has reflective tape on all three sides for nighttime visibility	2175T24	25.26
6	6" × 12" × 6"	Rubber	Black	Has reflective tape on all three sides for nighttime visibility	2175T23	44.43
6	6" × 30" × 6"	Rubber	Black	Has reflective tape on all three sides for nighttime visibility	2175T22	121.43
7	8 3/4" × 6" × 6"	Aluminum	Yellow	Has solid base with cleats for gripping; yellow powder-coated finish	2254T17	65.85
8	8 3/4" × 9" × 6"	Rubber	Black	Has a 3/4" ID eyebolt for attaching rope or chain	2259T1	44.00
9	8" × 10" × 5 1/2"	Rubber	Black	Has a carrying handle	2200T25	29.63
10	7 7/8" × 9 1/4" × 6"	Rubber	Black	Has a U-bolt handle for attaching rope or chain	2232T14	25.53

Wheel Chocks & Railroad Equipment

Wheel Chocks for Tires Up to 30″ Diameter and Larger

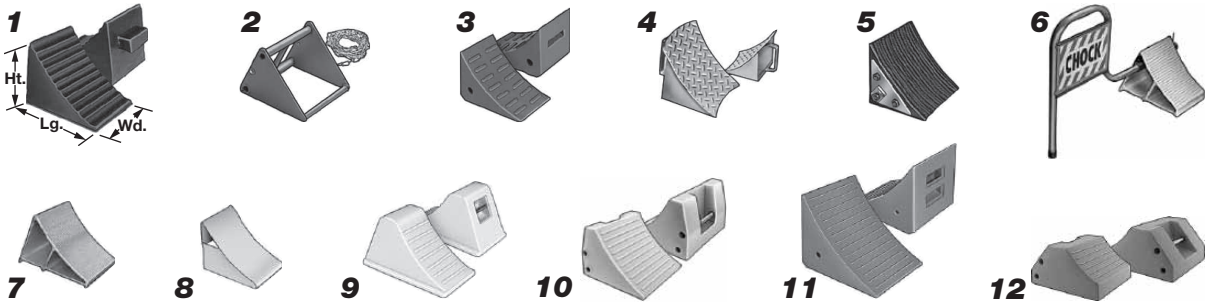

	Chock Size, Lg. × Wd. × Ht.	Material	Color	Features		Each
For Up to 30″ Diameter Tires						
1.	10″ × 7 1/4″ × 8″	Rubber	Black	Has a 3/4″ dia. hole for attaching rope or chain	8827T41	$29.27
2.	9 15/16″ × 9 13/16″ × 8 1/4″	Steel	Yellow	Has nonslip gripping teeth; furnished with a 10-ft. chain	2213T21	52.66
3.	11 1/4″ × 7 3/4″ × 8″	Polyurethane	Orange	Has a 3/4″ dia. through hole for attaching rope or chain	2269T14	35.52
4.	8″ × 7 1/2″ × 9″	Steel	Yellow	—	2257T14	53.69
5.	8″ × 8″ × 8″	Rubber	Black	Has laminated rubber pads compressed between steel plates; anchor plate has a 5/8″ dia. hole for attaching rope or chain	2200T41	36.13
6.	10 3/4″ × 7″ × 8″	Aluminum	Yellow	Has a flag (red and white striped with black lettering) to insert and lock on either side of chock	9399T91	188.00
7.	12″ × 7″ × 8″	Aluminum	—	Has solid base with gripper cleats; hollow middle for attaching rope or chain	2254T14	48.11
For Up to 32″ Diameter Tires						
8.	10 3/4″ × 8″ × 9″	Steel	Yellow	Saw-tooth bottom for gripping; 1/2″ dia. hole in back for attaching rope or chain	2774T1	35.17
For Up to 46″ Diameter Tires						
9.	21″ × 11 1/4″ × 12 1/4″	Polyurethane	Yellow	Complies with NFPA (National Fire Protection Association) 1901 and 1906; has two aluminum plates with cleats for gripping	21745T13	282.58
For Up to 65″ Diameter Tires						
10.	15″ × 15″ × 11″	Polyurethane	Yellow	Base has antislip rubber pads; has a 1 3/8″ dia. hole for attaching rope or chain	21835T51	244.44
11.	17″ × 14″ × 14″	Polyurethane	Orange	Has a 1″ dia. hole for attaching rope or chain	2269T13	194.05
For Up to 105″ Diameter Tires						
12.	17 3/4″ × 15 1/4″ × 10″	Polyurethane	Yellow	Base has antislip rubber pads; has a 1 1/8″ dia. hole for attaching rope or chain	2269T16	362.88

Railcar Derailers



Secure the wedge clamp on these derailers to the rail head to protect people, buildings, and other freight cars from uncontrolled car movements. Derailers operate by lifting the railcar's wheel and dropping it clear of the rail. For temporary installation.

All are double-end style for derailment in both directions. They're made of ductile iron and have a safety-yellow enamel finish.

The clamp and the detachable, reflective "DERAIL" flag can be locked in position with a padlock (not included) that has a 3/8″ shackle diameter. Flag is blue with white lettering and is 48″ high.

Note: If you are unsure of your rail size, choose the derailer for 60- to 141-lb./3-ft. rails. It's the most common size range.

For Rail Size, lbs./3 ft.	Length		Each
20- 60	19 3/4″	2184T1	$576.38
60-141	32 3/4″	2184T2	617.83

Wheel Chock Anchoring Set

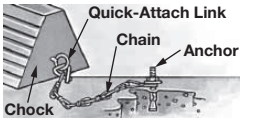

Set includes 15 feet of plated-steel chain, a zinc-plated-steel quick-attach link, a stainless steel wedge anchor, and a zinc-plated-steel drive anchor. Simply thread chain over the quick-attach link and close securely with hammer or vise. Chock not included.

56835T85 ..... **Per Set** $14.91

Railcar Mover



The easiest, most economical way to move railcars short distances. This mover is made of ductile and malleable iron with a hardwood handle and heat-treated steel spurs. The spurs securely grip the rail as you push downward on the handle to create the leverage needed to move the railcar. Contact points adjust to the wheel for full contact over the entire length of the stroke.

Approx. O'all Lg.		Each
66″	2221T8	$268.63

Railcar Wheel Chocks and Stops

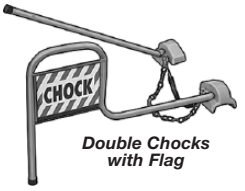

Double Chocks with Flag

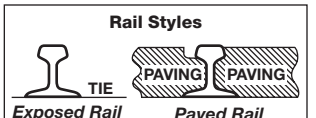

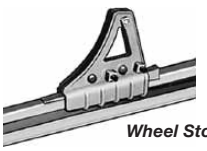

Wheel Stop

Chocks and stops have a painted safety-yellow enamel finish.

Railcar Wheel Chocks

Chock the wheels on stationary railcars to keep them from moving during loading, unloading, and servicing. They're for use on 75- to 141-lb./3-ft. rails and railcars that have 28″ to 42″ diameter wheels. Chocks are made of cast steel and install quickly and easily without tools. All meet OSHA regulations 1910.110 (15), 1910.111 (13), and 1910.30 (A) (5).

Chocks ***without flag*** have an angled handle. Chocks ***with flag*** have a flag to indicate that chocks are in use. Flag is red and white with black lettering. Distance between chock and flag is 17″.

Double Chocks—A chain connects two chocks; a rubber strap hooks onto the chain and draws the chocks together.

For Rail Style	Chock Size, Lg. × Ht.	*Without Flag*	Each	*With Flag*	Each
Single Chocks—*Prevent movement in one direction*					
Exposed	7 1/2″ × 2 3/4″	2261T11	$85.42	2261T1	$114.29
Paved	7 1/2″ × 2 3/4″	2261T12	74.55	2261T2	122.22
Double Chocks—*Prevent forward and backward movement*					
Exposed	5″ × 2″	2261T16	124.07	2261T6	157.38
Paved	5″ × 2″	2261T17	120.37	2261T7	148.15

Railcar Wheel Stops

Simply clamp these wheel stops to your rail (no drilling required) to stop moving railcars at track ends and approaches to buildings and doors. For use on 85- to 141-lb./3-ft. rails and railcars that have 33″ to 42″ diameter wheels. Impact speed should not exceed 3-mph switching speed. Made of rugged ductile iron. Stops stand 13 1/2″ above the top of the rail. Furnished in pairs.

2274T14 ..... **Per Pair** $810.00

Floor Locks

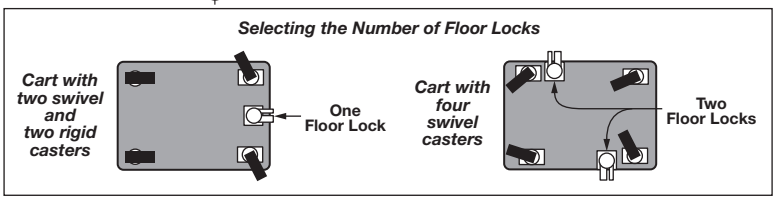

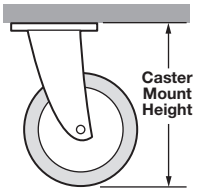

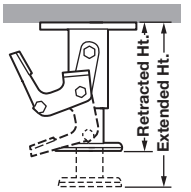

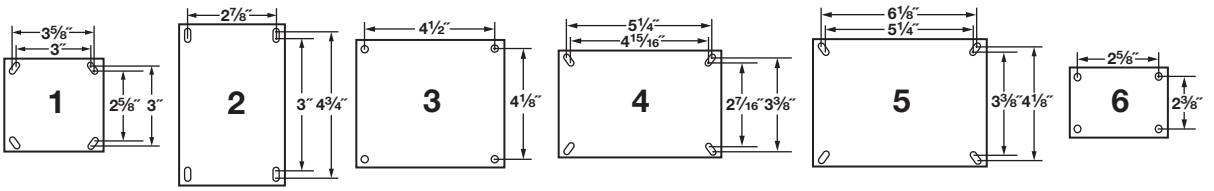

Stabilize carts, trucks, workbenches, and other mobile equipment during loading and unloading. Floor locks bolt or weld to the underside of your equipment (unless otherwise stated), and have a spring-loaded base with a nonskid floor pad to keep equipment stationary. Note: Floor locks are not load rated. They are designed to keep equipment in place, not lift it off the floor.

Extended height is the maximum height of the lock and should always be greater than or equal to your caster mount height.

Front Pedal

Locks have one pedal to extend and one to retract, both of which are easy to access without placing your foot underneath the equipment. Locks are zinc-plated steel and accommodate 3⁄8″ mounting bolts (not included).



For Caster Mount Height	Height: Extend.	Height: Retract.	Mtg. Plate: Style	Mtg. Plate: Lg.	Mtg. Plate: Wd.		
5 5⁄16″-5 1⁄2″	5 5⁄8″	4 7⁄8″	1	4 5⁄8″	3 3⁄4″	2478T61	$57.02
5 7⁄16″-5 5⁄8″	5 3⁄4″	5″	1	4 5⁄8″	3 3⁄4″	2478T65	58.11
6 3⁄16″-6 3⁄8″	6 1⁄2″	5 3⁄4″	1	4 5⁄8″	3 3⁄4″	2478T62	59.09
6 7⁄16″-6 5⁄8″	6 3⁄4″	6″	1	4 5⁄8″	3 3⁄4″	2478T66	59.28
6 15⁄16″-7 1⁄8″	7 1⁄4″	6 1⁄2″	1	4 5⁄8″	3 3⁄4″	2478T63	59.76
7 7⁄16″-7 5⁄8″	7 3⁄4″	7″	1	4 5⁄8″	3 3⁄4″	2478T67	59.57
9 7⁄16″-9 5⁄8″	9 3⁄4″	9″	1	4 5⁄8″	3 3⁄4″	2478T64	61.91

Adjustable Height

Unlike our other floor locks that are either fully extended or retracted, these locks can engage at any point up to the maximum extended height shown. The side pedal extends the lock while the center pedal retracts it. Locks are aluminum and accommodate 3⁄8″ mounting bolts (not included). Note: Locks are for bolt mounting only (cannot be welded).



For Caster Mount Height	Max. Extend. Height	Max. Retract. Height	Mtg. Plate: Style	Mtg. Plate: Lg.	Mtg. Plate: Wd.		
6 1⁄2″-7 1⁄2″	8″	5 1⁄2″	1	4 3⁄4″	3 3⁄4″	2510T17	$80.38
8″-10 1⁄2″	11″	7″	1	4 3⁄4″	3 3⁄4″	2510T18	83.76

Side Mount

This lock has a vertical mounting plate that attaches to the side of your equipment and accommodates a range of caster mount heights. One large foot pedal extends and retracts the lock. Lock is chrome-plated steel and accommodates 3⁄8″ mounting bolts (not included).



For Caster Mount Height	Height: Extend.	Height: Retract.	Mtg. Plate: Style	Mtg. Plate: Lg.	Mtg. Plate: Wd.		
10 3⁄4″ Max.	10 3⁄4″★	8 3⁄4″★	2	4 1⁄2″	6 1⁄2″	27185T11	$60.38

★ Measured from the bottom of the mounting plate.

Dual Release



Standard and Corrosion Resistant



High Clearance



Heavy Duty

A center pedal extends the lock, while either of the two side pedals retracts it. Locks accommodate 3⁄8″ bolts, except *Styles 4* and 5 *mounting plates* accommodate 1⁄2″ bolts. Mounting fasteners not included.

High-clearance locks have 3 1⁄8″ of ground clearance when retracted, which allows you to move equipment over ramps and obstructions.

Heavy duty locks have a thick iron frame for more durability than standard locks. The base pivots to accommodate uneven floors.

For Caster Mount Height	Height: Extend.	Height: Retract.	Mtg. Plate: Style	Mtg. Plate: Lg.	Mtg. Plate: Wd.		
Standard—Zinc-Plated Steel							
5 5⁄8″	5 7⁄8″	4 7⁄8″	1	4 1⁄2″	4″	2728T21	$39.83
6 1⁄2″	6 3⁄4″	5 3⁄4″	1	4 1⁄2″	4″	2728T22	39.83
7 1⁄4″	7 1⁄2″	6 1⁄2″	1	4 1⁄2″	4″	2728T23	39.83
7 3⁄8″	7 5⁄8″	6 3⁄8″	3	5 1⁄2″	5″	2728T32	55.44
7 1⁄2″	7 3⁄4″	6 3⁄4″	1	4 1⁄2″	4″	2728T24	45.94
7 1⁄2″	7 3⁄4″	6 1⁄2″	4	6 1⁄4″	4 1⁄2″	2728T29	59.04
9 1⁄2″	9 3⁄4″	8 3⁄4″	1	4 1⁄2″	4″	2728T25	39.83
9 1⁄2″	9 3⁄4″	8 1⁄2″	3	5 1⁄2″	5″	2728T33	56.23
10 1⁄8″	10 3⁄8″	9 3⁄8″	1	4 1⁄2″	4″	2728T26	46.98
10 1⁄8″	10 3⁄8″	9 1⁄8″	4	6 1⁄4″	4 1⁄2″	2728T31	60.13
10 1⁄2″	10 3⁄4″	9 1⁄2″	5	7 1⁄4″	5″	2728T28	65.09
Corrosion Resistant—Type 304 Stainless Steel							
5 5⁄8″	5 5⁄8″	4 1⁄2″	1	4 1⁄2″	4″	2338T46	86.55
6 1⁄2″	6 1⁄2″	5 3⁄8″	1	4 1⁄2″	4″	2338T49	92.14
7 1⁄2″	7 1⁄2″	6 1⁄2″	1	4 1⁄2″	4″	2338T47	96.07
High Clearance—Zinc-Plated Steel							
10 1⁄8″	10 3⁄8″	7″	1	4 1⁄2″	4″	9958T15	136.59
10 1⁄2″	10 3⁄4″	7 3⁄8″	5	7 1⁄4″	5″	9958T14	137.33
Heavy Duty—Gray Painted Cast Iron							
5 5⁄8″-5 7⁄8″	5 7⁄8″	4 9⁄16″	1	4 7⁄8″	4 1⁄4″	22845T44	85.64
7 1⁄4″-7 1⁄2″	7 3⁄4″	6″	4	6 1⁄2″	4 3⁄4″	22845T45	95.82
10 1⁄4″-10 5⁄8″	10 1⁄2″	9 1⁄8″	4	6 1⁄2″	4 3⁄4″	22845T46	134.82

Low Profile

With a retracted height of 3 3⁄8″, this floor lock stays out of the way when not in use. The side pedal extends and retracts the lock. Lock is black painted steel and accommodates 3⁄8″ mounting bolts (not included).



For Caster Mount Height	Height: Extend.	Height: Retract.	Mtg. Plate: Style	Mtg. Plate: Lg.	Mtg. Plate: Wd.		
5″-7″	7 1⁄4″	3 3⁄8″	6	4″	4″	2675T11	$120.62

About Casters and Wheels

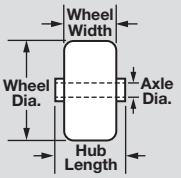



Plate Caster

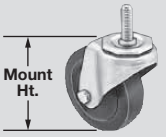

Stem Caster

Capacity

To determine the capacity required, divide the weight of your load by the number of casters. Choose an even higher capacity if your application involves shock loads (the impact of a load being dropped) or rolling over rough surfaces or obstructions such as thresholds.

Rolling Effort

The force required to start a wheel rolling and keep it rolling is affected by the size of the wheel, the shape of the tread, and the type of bearings in the wheel. Generally, the larger the wheel, the more easily it rolls. Rounded treads start rolling and turn easier than flat treads.

Wheel Material

The hardness of a wheel affects wheel traction, shock absorption, durability, and rolling effort. Softer wheels are quiet and have excellent shock absorption and traction on rough surfaces. Harder wheels are very durable, have higher capacities, and roll more easily on smooth surfaces and carpeting, but can be noisy and damaging to floors. If floor protection is a concern, choose a nonmarking material such as phenolic, nonmarking rubber, polyurethane, nylon, or glass-filled nylon. For replacement wheels, see pages 1414-1422.

		Floor Type				*Operating Environment*			
Wheel Hardness	Wheel Material	**Smooth Concrete, Steel**	**Hardwood, Brick, Tile, Linoleum, Asphalt**	**Ribbed**	**Carpet**	**Oil, Grease, Solvents, Mild Acids**	**Mild Alkalines**	**High Temp. (Above 160° F)**	**Low Temp. (Below –20° F)**
Extra Hard	Iron	✓				✓	✓	✓	✓
	Stainless Steel	✓				✓	✓	✓	✓
	Steel	✓				✓	✓	✓	✓
	Nylon	✓	✓		✓	✓	✓	✓	
	Glass-Filled Nylon	✓	✓		✓	✓		✓	✓
	Phenolic	✓			✓	✓		✓	✓
	Polypropylene	✓			✓				
	Polyurethane	✓	✓		✓	✓	✓		✓
	Rubber	✓	✓		✓				
Hard	Polyurethane	✓	✓	✓		✓	✓		✓
	Rubber	✓	✓	✓					
Soft	Polyurethane	✓	✓	✓		✓	✓		✓
	Neoprene	✓	✓	✓		✓	✓	✓	✓
	Rubber	✓	✓	✓					

Caster Selection Guide

The chart below lists our most popular casters for a given mounting style, capacity range, and operating environment.

	Plate Casters			**Stem Casters and Bracket Casters**
	2,000 lbs. and Up Pages 1381-1384, 1407	**700 to 2,000 lbs.** Pages 1384-1393, 1407	**Up to 700 lbs.** Pages 1393-1407	**Up to 1,100 lbs.** Pages 1408-1413
	 For powered towing, stamping trucks, scrap bins, and storage racks	 For utility trucks, trash containers, and production dollies	 For appliances, carts, and furniture	 For furniture, scaffolding, gates, and doors
	Page	**Page**	**Page**	**Page**
Standard	Brute 1382 Compact Alliance 1382 Stronghart 1383	Gladiator 1386 Spartan 1388-1389 Mauler 1390	Samson 1394 Cart-King 1397 Cart-Smart 1396, 1405	Threaded-Stem 1409 Friction-Grip Stem 1411
Corrosion Resistant	Corrosion-Resistant 1384	Washdown 1391	Washdown 1400 Corrosion-Resistant 1406	Washdown Easy-Roll Threaded-Stem 1408
Leveling	———	Leveling 1392	Leveling 1402, 1405	Leveling Threaded-Stem 1410
Shock Absorbing	Easy-Turn Air-Ride 1384	Shock-Absorbing 1392 Air-Ride 1393	Shock-Absorbing 1403 Air-Ride 1403, 1405	Shock-Absorbing Side-Mount 1413
High Temperature	———	High-Temperature 1390	Ultra-High Temperature 1402	Heavy Duty Threaded-Stem 1408
Low Profile	Compact Alliance 1382	Low-Profile 1393	Low-Profile 1404, 1406	Low-Profile Threaded-Stem 1409 Low-Profile Side-Mount 1413
Static Control	———	———	Static-Control 1398, 1405	Threaded-Stem 1409
Food Service	———	Patriot Food-Service 1391	Food-Service 1399	Wire Shelving Friction-Grip Stem 1412
Track	V-Groove Wheel 1407 Flanged-Wheel 1407	V-Groove Wheel 1407 Flanged-Wheel 1407	V-Groove Wheel 1407 Flanged-Wheel 1407	———

Colossus Casters—5,000 to 23,000 lbs.

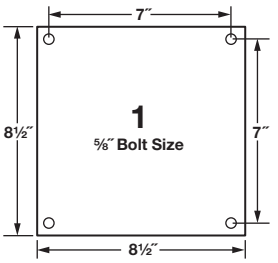

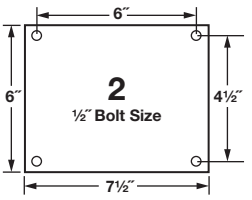



Swivel



Rigid



Dual Wheel Swivel

Move your heaviest loads with the largest casters we offer. Casters have a heavy duty forged steel frame for demanding applications. Impact-resistant tapered roller wheel bearings withstand both downward and side force and perform well at high speeds. Frame has a zinc-plated finish, unless noted. Wheels are nonmarking, except steel wheels.

Swivel casters have impact-resistant tapered roller bearings to withstand the stress of sudden force.

Dual-wheel casters provide better load distribution and easier turning than single-wheel casters.

Phenolic—Wheels are extra hard (90D durometer).

Abrasion-Resistant Polyurethane—Wheel treads are hard (95A durometer).

Long-Lasting Nylon—Wheels are extra hard (80D durometer).

Wheel Dia.	Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Mounting Plate 1—Single Wheel							
Brown Phenolic Wheels							
6″	5″	9″	8,000	2442T12	$628.52	2442T22	$433.62
Abrasion-Resistant Blue Polyurethane on Steel Wheels♦							
10″	4″	13″	5,000	2442T64	565.38	2442T65	411.60
12″	4″	15½″	6,000	2442T37	612.00	2442T38	479.38
Abrasion-Resistant Green Polyurethane on Steel Wheels							
10″	6″	13″	6,000	2442T86	612.20	2442T87	436.44
Long-Lasting Black Nylon Wheels							
6″	3″	9″	7,200	2442T53	527.54	2442T54	298.74
8″	3″	11″	7,200	2442T55	606.54	2442T56	370.10
10″	3″	13″	7,200	2442T57	646.31	2442T58	424.95
High-Capacity Steel Wheels♦							
6″	3″	9″	12,000	2442T18	422.12	2442T28	258.00
8″	4″	11″	17,000	2442T29	461.15	2442T33	296.00
10″	4″	13″	18,000	2442T31	484.04	2442T34	338.37
12″	4″	15½″	23,000	2442T35	827.88	2442T36	612.50

♦ Frame has a gray painted finish.

Wheel Dia.	Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Mounting Plate 1—Dual Wheel							
Abrasion-Resistant Green Polyurethane on Iron Wheels							
10″	3″	13″	6,000	2784T24	$684.82	2784T64	$437.91
10″	5″	13″	10,000	2784T25	889.26	2784T65	654.58
12″	4″	15½″	9,600	2784T26	816.14	2784T66	587.12
12″	5″	15½″	12,000	2784T29	947.20	2784T69	691.08
Mounting Plate 2—Single Wheel							
Abrasion-Resistant Red Polyurethane on Iron Wheels							
10″	4″	12½″	5,000	8756T53	490.57	8756T54	309.15
12″	4″	15½″	5,500	8756T55	458.00	8756T56	318.87
High-Capacity Steel Wheels							
6″	3″	8½″	10,000	8756T31	379.25	8756T21	249.06
8″	3″	10½″	5,500	8756T32	392.45	8756T22	232.08
8″	4″	10½″	10,000	8756T34	496.23	8756T24	311.32
10″	4″	12½″	10,000	8756T37	502.75	8756T27	373.58

Hercules Casters—3,500 to 20,000 lbs.

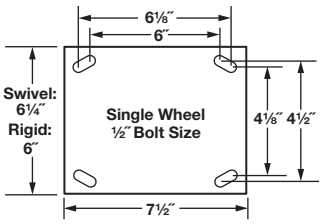

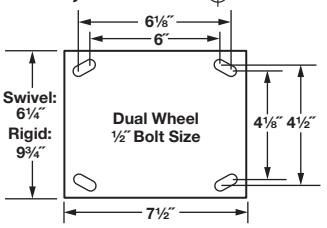



Swivel



Rigid



Dual Wheel Swivel

Not only do these casters offer some of the highest capacities, they withstand the stress of sudden impact. Swivel casters have large-diameter ball bearings for good impact resistance. The precision-machined (kingpinless) raceway provides smooth swiveling and extended service life. All casters have a steel frame with a blue painted finish. Polyurethane and phenolic wheels are nonmarking.

Swivel bearings are sealed to keep out dust and debris.

Dual-wheel casters provide better load distribution and easier turning than single-wheel casters.

Maintenance-free easy-roll bearings are completely sealed so they never need lubrication. Their precision steel balls provide the least rolling resistance of wheel bearings we offer.

Impact-resistant bearings have tapered rollers to withstand both downward and side force and perform well at high speeds.

Abrasion-Resistant Blue Polyurethane—Wheel treads are hard (92A durometer).

Abrasion-Resistant Black Polyurethane—Wheels are extra hard (70D durometer).

Black Phenolic—Wheels are extra hard (90D durometer).

Wheel Dia.	Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Single Wheel with Impact-Resistant Bearings							
Abrasion-Resistant Blue Polyurethane on Iron Wheels							
8″	4″	10½″	3,500	2465T81	$401.69	2465T82	$332.85
10″	4″	12½″	4,200	2465T83	476.73	2465T84	361.04
High-Capacity Steel Wheels							
6″	3″	8½″	7,000	2465T85	311.31	2465T86	204.46
8″	4″	10½″	20,000	2465T89	444.81	2465T91	360.40
10″	4″	12½″	20,000	2465T94	531.67	2465T95	431.06
Dual Wheel with Maintenance-Free Easy-Roll Bearings							
Abrasion-Resistant Black Polyurethane Wheels							
6″	3″	8¾″	4,000	2465T29	476.31	2465T39	354.67
8″	3″	10¾″	5,000	2465T22	569.33	2465T32	445.54

Wheel Dia.	Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Dual Wheel with Impact-Resistant Bearings							
Black Phenolic Wheels							
6″	3″	8¾″	4,000	2465T25	$480.44	2465T35	$269.02
8″	3″	10¾″	5,000	2465T26	484.21	2465T36	303.02
Long-Lasting Iron Wheels							
6″	3″	8¾″	6,000	2465T23	531.37	2465T33	270.13
8″	3″	10¾″	6,000	2465T24	532.15	2465T34	337.31
High-Capacity Steel Wheels							
6″	3″	8¾″	14,000	2465T27	627.27	2465T37	430.60
8″	3″	10¾″	11,000	2465T28	647.65	2465T38	455.87

Brute Casters—2,000 to 7,000 lbs.





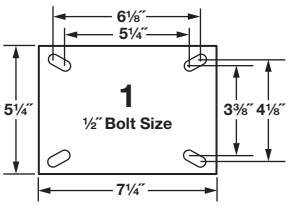

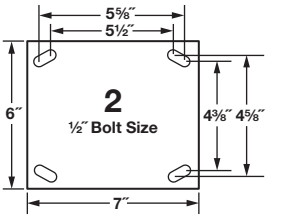

Swivel casters have large-diameter ball bearings and a precision-machined (kingpinless) raceway for good impact resistance, smooth swiveling, and extended service life. All casters have a steel frame with a blue painted finish. Wheels are nonmarking, except iron and steel wheels.

Maintenance-free easy-roll wheel bearings are completely sealed so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

Impact-resistant wheel bearings have tapered rollers to withstand both downward and side force and perform well at high speeds.

Black Phenolic—Wheels are extra hard (95D durometer).

Abrasion-Resistant Blue Polyurethane—Wheel treads are hard (95A durometer).

Abrasion-Resistant Black Polyurethane—Wheels are extra hard (70D durometer).

Wheel Dia.	Wd.	Cap. Ea., lbs.	*Mounting Plate 1* Mount Ht.	Swivel		Rigid		*Mounting Plate 2* Mount Ht.	Swivel		Rigid	
General Purpose Wheel Bearings												
Black Phenolic Wheels												
6″	3″	2,000	8″	2293T55	$96.54	2293T65	$52.63	8⅛″	5010T425	$117.02	5010T415	$72.02
8″	3″	2,500	10½″	2293T56	101.60	2293T66	58.73	10⅝″	5010T91	122.31	5010T71	72.45
10″	3″	2,900	12½″	2293T57	110.92	2293T67	69.13	12⅝″	5010T424	133.44	5010T419	86.55
12″	3″	3,500	15½″	2293T58	115.98	2293T68	83.94	15⅝″	5010T25	119.22	5010T26	85.53
Abrasion-Resistant Blue Polyurethane on Iron Wheels												
6″	3″	2,000	8″	2293T71	131.25	2293T81	89.69	8⅛″	5010T11■	180.02	5010T21■	127.11
8″	3″	2,500	10½″	2293T72	144.71	2293T82	102.58	10⅝″	5010T44■	174.00	5010T74■	140.96
10″	3″	3,000	12½″	2293T73	163.27	2293T83	133.87	12⅝″	5010T12■	201.49	5010T22■	161.44
12″	3″	3,400	15½″	2293T74	189.77	2293T84	171.13	15⅝″	5010T23■	268.89	5010T24■	228.11
Long-Lasting Iron Wheels												
6″	3″	3,000	8″	2293T31	115.29	2293T41	67.87	8⅛″	5010T461■	152.09	5010T465■	122.38
8″	3″	3,000	10½″	2293T32	121.23	2293T42	88.37	10⅝″	5010T31■	154.62	5010T41■	121.95
10″	3″	4,000	12½″	23515T38	128.12	23515T39	110.04	12⅝″	23515T36■	188.65	23515T37■	139.48
Maintenance-Free Easy-Roll Wheel Bearings												
Abrasion-Resistant Black Polyurethane Wheels												
6″	3″	2,000	8″	2293T15	180.94	2293T25	133.94	8⅛″	5010T13	170.44	5010T14	141.80
8″	3″	2,500	10½″	2293T16	230.06	2293T26	178.44	10⅝″	5010T15	224.40	5010T16	176.29
Impact-Resistant Wheel Bearings												
High-Capacity Steel Wheels												
6″	2½″	5,000	8″	23515T41	165.62	23515T51	116.17	8⅛″	23515T18	158.17	23515T19	119.54
6″	3″	7,000	8″	23515T16	198.00	23515T17	155.02	8⅛″	23515T11	210.96	23515T21	166.13
8″	3″	5,500	10½″	23515T42	206.87	23515T52	155.77	10⅝″	23515T61	213.81	23515T63	159.42
10″	3″	6,000	12½″	23515T71	253.50	23515T72	220.29	12⅝″	23515T34	257.67	23515T35	221.08
Optional Swivel Lock for Swivel Casters with Mounting Plate 1											23515T15	6.98
Optional Brake for Swivel Casters—To Order: Please specify 6″, 8″, or 10″ wheel dia.											23515T13	56.09

■ Has impact-resistant wheel bearings.

Compact Alliance Casters—1,800 to 4,000 lbs.







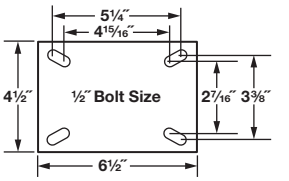

With the smallest mounting plates and the lowest mounting heights in their capacity range, these casters are a strong choice for tight spaces. Frame is steel with a blue painted finish. Wheels are nonmarking, except iron wheels.

Swivel casters have a precision-machined (kingpinless) raceway with large-diameter ball bearings for smooth swiveling and extended service life. Swivel bearings are sealed to keep out dust and debris.

Dual-wheel casters provide better load distribution and easier turning than single-wheel casters.

Phenolic—Wheels are extra hard (90D durometer).

Abrasion-Resistant Polyurethane—Wheel treads are hard (92A durometer).

Wheel Dia.	Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Single Wheel							
Black Phenolic Wheels							
6″	3″	7½″	2,000	22655T36	$91.00	22655T46	$58.00
8″	3″	10⅛″	2,500	22655T37	97.50	22655T47	63.02
10″	3″	11½″	2,900	22655T38	106.80	22655T48	70.80
Abrasion-Resistant Blue Polyurethane on Iron Wheels							
6″	3″	7½″	2,000	22655T54	131.78	22655T64	96.52
8″	2½″	10⅛″	1,800	22655T52	126.02	22655T62	89.40
10″	3″	11½″	3,000	22655T53	164.74	22655T63	129.98
Long-Lasting Iron Wheels							
6″	2½″	7½″	1,800	22655T75	102.16	22655T85	64.24
8″	3″	10⅛″	2,500	22655T73	107.62	22655T83	85.76
10″	3″	11½″	4,000	22655T74	136.56	22655T84	106.84
Optional Swivel Lock						22655T21	6.74
Optional Brake for Single-Wheel Swivel Casters—To Order: Please specify 6″, 8″, or 10″ wheel dia.						22655T1	56.09

Wheel Dia.	Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Dual Wheel							
Black Phenolic Wheels							
5″	2″	7½″	2,000	2435T51	$109.17	2435T61	$68.94
6″	2″	8″	2,400	2435T52	116.62	2435T62	76.15
8″	2″	10⅛″	2,800	2435T53	124.63	2435T63	82.85
Abrasion-Resistant Blue Polyurethane on Iron Wheels							
5″	2″	7½″	2,100	2435T31	136.62	2435T41	94.06
6″	2″	8″	2,460	2435T32	145.58	2435T42	98.35
8″	2″	10⅛″	3,000	2435T33	154.60	2435T43	121.23
Long-Lasting Iron Wheels							
5″	2″	7½″	2,000	2435T71	119.44	2435T81	74.62
6″	2″	8″	2,400	2435T72	126.56	2435T82	81.96
8″	2″	10⅛″	2,800	2435T73	134.44	2435T83	94.27

Stronghart Casters—2,000 to 3,500 lbs.

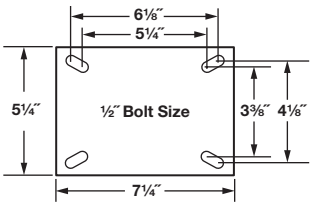


Swivel


Swivel with Brake


Swivel with Brake and Swivel Lock


Rigid



Dual Wheel Swivel

Forged steel construction holds up in demanding applications. Frame has a zinc-plated finish. Wheels are nonmarking, except iron and steel wheels.

Dual-wheel casters provide better load distribution and easier turning than single-wheel casters.

Maintenance-free easy-roll wheel bearings are completely sealed so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

Impact-resistant wheel bearings have tapered rollers to withstand both downward and side force and perform well at high speeds.

Phenolic—Wheels are extra hard (90D durometer).

Abrasion-Resistant Polyurethane—Wheel treads are hard (95A durometer).

Long-Lasting Nylon—Wheels are extra hard (80D durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake		Swivel with Brake and Swivel Lock		Rigid		Rigid with Brake	
Single Wheel with General Purpose Bearings													
Black Phenolic Wheels													
6″	3″	8″	2,000	2487T56	$127.78	2487T89	$180.47	2487T562	$218.73	2487T61	$59.39	2487T94	$112.02
8″	3″	10½″	2,500	2487T57	130.95	2487T91	182.53	2487T572	220.10	2487T62	66.70	2487T95	122.90
10″	3″	12½″	2,900	2487T58	142.65	2487T92	195.29	2487T582	236.84	2487T63	74.37	2487T96	129.58
12″	3″	15½″	3,500	2487T59	147.78	2487T93	199.84	2487T592	242.80	2487T64	85.06	2487T97	153.01
Abrasion-Resistant Green Polyurethane on Iron Wheels													
6″	3″	8″	2,040	2487T13	162.27	2487T33	213.00	2487T132	233.67	2487T19	101.12	2487T43	150.10
8″	3″	10½″	2,520	2487T14	175.80	2487T34	227.59	2487T142	259.86	2487T21	112.19	2487T44	173.28
10″	3″	12½″	3,000	2487T15	194.85	2487T35	244.58	2487T152	280.78	2487T22	136.85	2487T45	185.21
Long-Lasting Iron Wheels													
4″	3″	6″	2,000	2487T47	150.67	2487T81	197.32	2487T472	242.22	2487T52	75.16	2487T85	121.15
6″	3″	8″	2,800	2487T48	144.38	2487T82	191.11	2487T482	235.94	2487T53	73.77	2487T86	129.05
8″	3″	10½″	2,800	2487T49	140.16	2487T83	189.50	2487T492	224.32	2487T54	80.73	2487T87	128.76
10″	3″	12½″	2,800	2487T51	157.89	2487T84	208.64	2487T512	249.42	2487T55	101.31	2487T88	158.68
High-Capacity Steel Wheels													
6″	2½″	8″	3,500	2487T65	170.68	2487T98	220.37	2487T652	256.54	2487T67	108.24	2487T101	158.95
8″	3″	10½″	3,500	2487T66	199.74	2487T99	249.91	2487T662	290.29	2487T68	139.28	2487T102	193.16
Single Wheel with Maintenance-Free Easy-Roll Bearings													
Long-Lasting Black Nylon Wheels													
6″	3″	8″	3,500	2487T393	249.80	2487T27	261.51	2487T69	291.17	2487T392	143.72	2487T72	187.75
8″	3″	10½″	3,500	2487T29	325.70	2487T32	345.37	2487T73	362.84	2487T31	203.98	2487T74	246.08
Single Wheel with Impact-Resistant Bearings													
Abrasion-Resistant Green Polyurethane on Steel Wheels													
6″	4″	8″	2,990	2487T211	336.85	2487T215	386.57	2487T221	440.33	2487T414	267.34	2487T418	321.15
8″	4″	10½″	3,500	2487T213	309.35	2487T217	374.97	2487T223	405.55	2487T412	239.43	2487T416	317.98
Dual Wheel with General Purpose Bearings													
Black Phenolic Wheels													
6″	2½″	8″	3,200	9943T61	222.10	9943T611	299.29	9943T612	302.51	9943T63★	141.10	9943T631★	256.99
8″	2½″	10½″	3,500	9943T14	250.68	9943T141	325.47	9943T142	336.54	9943T34★	140.90	9943T341★	271.93
Abrasion-Resistant Green Polyurethane on Iron Wheels													
6″	2½″	8″	3,240	9943T62	289.17	9943T621	344.19	9943T622	347.67	9943T64★	199.27	9943T641★	315.16
8″	2½″	10½″	3,500	9943T12	304.17	9943T121	374.50	9943T122	395.90	9943T32★	230.03	9943T321★	324.52

★ Mounting plate is 7¼″ Lg. × 5″ Wd.

Trash-Container Casters—2,500 lbs.

Choose these steel casters for your scrap bins and hoppers—their legs are less angled than other casters so they better resist the stress of frequent impact. Wheels are iron. Frame has a gray powder-coated finish.

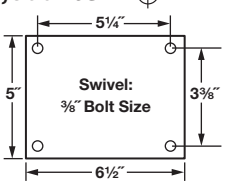

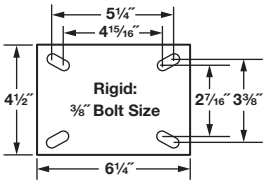


Swivel


Rigid

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
5″	2½″	7¼″	2,500	8363T21	$84.90	8363T41	$76.25
6″	2½″	7¾″	2,500	8363T22	91.04	8363T42	85.35
8″	2½″	10″	2,500	8363T23	114.96	8363T43	109.33

Easy-Turn Husky Casters—2,100 to 2,500 lbs.

A rounded tread and a lightweight wheel core make these casters easier to turn than others with the same capacities. Wheels are abrasion-resistant red polyurethane on a polypropylene core. Wheel treads are hard (95A durometer) and nonmarking. Frame is steel with a zinc-plated finish.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
6″	3″	8¼″	2,100	2470T41	$158.73	2470T51	$108.82
8″	3″	10¼″	2,400	2470T42	181.05	2470T52	125.44
10″	3″	12¼″	2,500	2470T43	196.73	2470T53	130.02

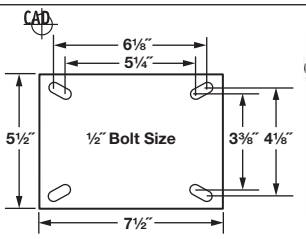


Swivel


Rigid

Corrosion-Resistant Casters—2,000 to 2,500 lbs.


Swivel


Rigid

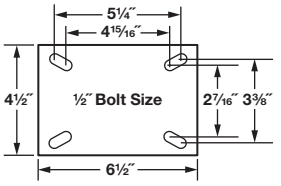

The best choice for harsh environments, these casters have a Type 304 stainless steel construction and completely sealed bearings. Wheels have maintenance-free easy-roll bearings that never need lubrication. Their precision balls provide the least rolling resistance of all the wheel bearings we offer. Wheels are nonmarking.

Swivel casters have a precision-machined (kingpinless) raceway with large-diameter ball bearings for smooth swiveling and extended service life.

Abrasion-Resistant Polyurethane—Wheels are extra hard (70D durometer).

Long-Lasting Nylon—Wheels are extra hard (75D durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Abrasion-Resistant Black Polyurethane Wheels							
6″	3″	7½″	2,000	22705T11	$327.53	22705T21	$222.75
8″	3″	10⅛″	2,500	22705T12	414.76	22705T22	289.47

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Long-Lasting Gray Nylon Wheels							
6″	2½″	7½″	2,300	22705T41	$345.45	22705T42	$199.38
8″	2½″	10⅛″	2,400	22705T43	343.42	22705T44	234.58

Easy-Turn Air-Ride Casters—2,000 to 2,340 lbs.



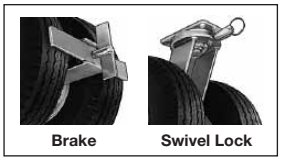
Brake

Swivel Lock

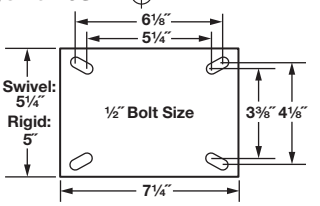

Quiet-rolling air-filled tires cushion your load when rolling over rough or uneven surfaces. These dual-wheel casters provide better load distribution and easier turning than single-wheel casters. Frame is steel with a zinc-plated finish. Wheels are black rubber.

Wheel Dia.	Wheel Wd.	Tire Size	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake and Swivel Lock		Rigid	
16.3″	4.8″	4.80/4.00-8	19⅛″	2,000	23585T31	$474.11	23585T312	$609.31	23585T41	$399.09
18.4″	5.7″	5.70/8	21¼″	2,340	23585T11	481.60	23585T112	530.88	23585T21	412.46

Heavy Duty Viking Casters—1,600 to 2,000 lbs.


Swivel


Swivel with Brake


Swivel with Brake and Swivel Lock


Rigid

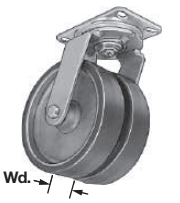

Dual Wheel Swivel

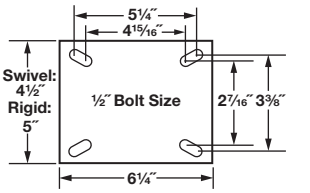

It's the forged steel construction that makes these casters more durable than the Viking Casters on the following page. Frame has a zinc-plated finish. Wheels are nonmarking, except iron wheels.

Dual-wheel casters provide better load distribution and easier turning than single-wheel casters.

Phenolic—Wheels are extra hard (90D durometer).

Abrasion-Resistant Polyurethane—Treads are hard (95A durometer) for single-wheel casters and extra hard (60D durometer) for dual-wheel casters.

Long-Lasting Glass-Filled Nylon—Wheels are extra hard (85D durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake		Swivel with Brake and Swivel Lock		Rigid		Rigid with Brake	
Single Wheel													
Black Phenolic Wheels													
6″	3″	7⅝″	2,000	2432T74	$100.92	2432T741	$155.37	2432T742	$187.29	2432T73	$63.81	2432T731	$118.82
8″	3″	10⅛″	2,000	2432T26	106.66	2432T47	162.78	2432T262	193.76	2432T27	69.41	2432T87	124.40
10″	3″	11½″	2,000	2432T28	115.91	2432T48	169.65	2432T282	202.46	2432T29	78.46	2432T88	137.97
Abrasion-Resistant Green Polyurethane on Iron Wheels													
6″	3″	7⅝″	2,000	2432T72	137.75	2432T721	190.18	2432T722	221.38	2432T71	102.40	2432T711	153.09
8″	2½″	10⅛″	2,000	2432T63	142.91	2432T52	195.87	2432T632	224.30	2432T67	105.94	2432T92	156.57
10″	3″	11½″	2,000	2432T64	175.24	2432T53	230.08	2432T642	266.75	2432T68	142.63	2432T93	192.74
Long-Lasting Iron Wheels													
4″	3″	5½″	2,000	2432T31	109.82	2432T54	164.00	2432T312	197.22	2432T33	73.13	2432T94	126.82
6″	2½″	7⅝″	2,000	2432T11	103.55	2432T55	154.94	2432T112	188.34	2432T12	68.17	2432T95	122.23
8″	3″	10⅛″	2,000	2432T13	114.26	2432T56	167.24	2432T132	203.32	2432T14	78.90	2432T96	132.96
10″	3″	11½″	2,000	2432T15	134.23	2432T57	187.21	2432T152	224.00	2432T16	98.95	2432T97	150.80
Dual Wheel													
Black Phenolic Wheels													
4″	2″	5½″	1,600	2787T34	147.94	2787T341	205.42	2787T342	229.66	2787T74	80.47	2787T741	153.81
5″	2″	6½″	2,000	2787T35	135.45	2787T351	185.36	2787T352	218.77	2787T75	76.56	2787T751	154.73
6″	2″	7½″	2,000	2787T36	116.52	2787T361	168.17	2787T362	204.66	2787T76	77.20	2787T761	136.84
8″	2″	10⅛″	2,000	2787T38	135.11	2787T381	188.72	2787T382	217.94	2787T77	92.43	2787T771	162.91
Abrasion-Resistant Green Polyurethane on Aluminum Wheels													
5″	2″	6½″	2,000	2787T25	167.96	2787T251	220.58	2787T252	257.24	2787T65	121.90	2787T651	181.41
6″	2″	7½″	2,000	2787T26	160.08	2787T261	208.34	2787T262	244.04	2787T66	116.62	2787T661	179.50
8″	2″	10⅛″	2,000	2787T28	181.76	2787T281	229.82	2787T282	261.70	2787T68	140.98	2787T681	195.57
Long-Lasting Black Glass-Filled Nylon Wheels													
4″	2″	5½″	1,600	2787T41	147.42	2787T411	197.68	2787T412	226.26	2787T42	85.17	2787T421	136.47
5″	2″	6½″	2,000	2787T43	134.94	2787T431	185.81	2787T432	215.93	2787T44	77.87	2787T441	143.59
6″	2″	7½″	2,000	2787T45	120.88	2787T451	172.19	2787T452	210.60	2787T46	76.89	2787T461	139.30

Viking Casters—1,600 to 2,000 lbs.

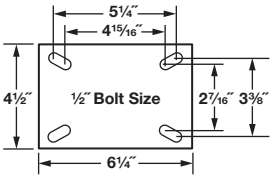


Swivel


Swivel with Brake


Swivel with Brake and Swivel Lock


Rigid


Rigid with Brake

Get the capacities of our Heavy Duty Viking Casters in a more economical formed steel construction. Frame has a zinc-plated finish. Wheels are nonmarking, except iron wheels.

Phenolic—Wheels are extra hard (90D durometer).
Abrasion-Resistant Polyurethane—Wheel treads are hard (95A durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake		Swivel with Brake and Swivel Lock		Rigid		Rigid with Brake	
Black Phenolic Wheels													
6″	2½″	7½″	1,600	2771T33	$74.79	2771T332	$136.98	2771T334	$172.81	2771T67	$52.77	2771T671	$115.69
8″	2½″	10⅛″	1,800	2771T34	76.29	2771T341	138.44	2771T342	147.56	2771T68	54.71	2771T681	117.67
10″	2½″	11½″	1,800	2771T37	87.38	2771T371	145.10	2771T372	171.44	2771T81	65.82	2771T811	126.61
Abrasion-Resistant Green Polyurethane on Iron Wheels													
6″	2½″	7½″	1,620	2771T23	103.35	2771T231	178.11	2771T232	201.75	2771T63	83.69	2771T631	145.17
8″	2½″	10⅛″	1,800	2771T24	119.54	2771T241	178.59	2771T242	198.46	2771T64	102.42	2771T641	162.37
10″	2½″	11½″	2,000	2771T28	137.95	2771T281	204.49	2771T282	219.22	2771T69	116.15	2771T691	177.61
Long-Lasting Iron Wheels													
5″	2½″	6½″	1,800	2771T12	97.14	2771T121	153.76	2771T122	178.89	2771T52	77.51	2771T521	133.43
6″	2½″	7½″	1,800	2771T13	79.54	2771T131	129.41	2771T132	159.34	2771T53	59.25	2771T531	117.29
8″	2½″	10⅛″	1,800	2771T14	91.87	2771T141	149.42	2771T142	161.40	2771T54	68.67	2771T541	126.98
10″	2½″	11½″	1,800	2771T15	112.23	2771T151	173.51	2771T152	194.14	2771T55	92.28	2771T551	170.23

Maintenance-Free Easy-Roll Casters—700 to 2,000 lbs.

Both the wheel bearings and the swivel bearings are completely sealed from dust and debris and never need lubrication. Bearings have precision steel balls for the least resistance to rolling and swiveling of all the bearings we offer. Frame is steel with a zinc-plated finish. Wheels are nonmarking.

Swivel casters have a precision-machined (kingpinless) raceway with large-diameter ball bearings for smooth swiveling and extended service life.

Cushioned Rubber—Wheel treads are soft (65A durometer).
Cushioned Polyurethane—Wheel treads are soft (75A durometer).
Abrasion-Resistant Polyurethane—Wheel treads are hard (92A durometer).
Long-Lasting Nylon—Wheels are extra hard (81D durometer).


Swivel


Rigid

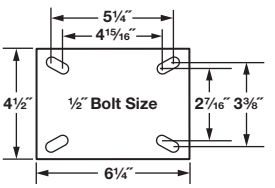

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Cushioned Gray Rubber on Aluminum Wheels							
6″	2″	8⁵⁄₁₆″	700	9152T41	$118.64	9152T42	$76.27
8″	2″	10¼″	900	9152T43	128.33	9152T44	91.53
Cushioned Red Polyurethane on Iron Wheels							
6″	2″	8⁵⁄₁₆″	1,000	9152T45	148.33	9152T46	110.00
8″	2″	10¼″	1,500	9152T47	168.33	9152T48	133.33
Abrasion-Resistant Brown Polyurethane on Iron Wheels							
6″	2″	8⁵⁄₁₆″	1,500	9152T51	138.98	9152T52	98.33
8″	2″	10¼″	2,000	9152T53	158.33	9152T54	121.67
Long-Lasting Red Nylon Wheels							
6″	2″	8⁵⁄₁₆″	1,500	9152T55	111.67	9152T56	71.67
8″	2″	10¼″	2,000	9152T57	125.42	9152T58	85.00

Heavy Duty Sure-Fire Casters—680 to 1,600 lbs.

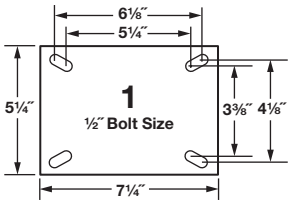

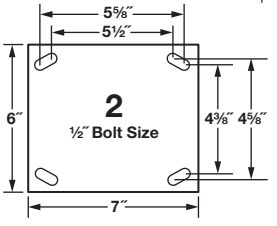


Swivel


Rigid

Thicker frames, larger mounting plates, and a heavy duty swivel design make these casters more durable than other casters in their capacity range. Swivel casters have a precision-machined (kingpinless) raceway with large-diameter ball bearings for smooth swiveling and extended service life. All casters have a steel frame with a blue painted finish. Wheels are nonmarking.

Phenolic—Wheels are extra hard (90D durometer).
Cushioned Rubber—Wheel treads are soft (75A durometer).

Wheel Dia.	Wheel Wd.	Cap. Ea., lbs.	Mounting Plate 1 Mount Ht.	Mounting Plate 1 Swivel		Mounting Plate 1 Rigid		Mounting Plate 2 Mount Ht.	Mounting Plate 2 Swivel		Mounting Plate 2 Rigid	
Black Phenolic Wheels												
6″	2½″	1,600	8″	27135T31	$98.67	27135T32	$51.67	8⅛″	27135T71	$104.55	27135T72	$62.99
Cushioned Black Rubber on Iron Wheels												
6″	3″	680	8″	27135T11	102.73	27135T21	56.36	8⅛″	27135T61	106.93	27135T62	64.41
8″	3″	840	10½″	27135T12	114.09	27135T22	68.80	10⅝″	27135T63	116.11	27135T64	73.71
10″	3″	1,000	12½″	27135T13	132.33	27135T23	78.45	12⅝″	27135T65	135.33	27135T66	92.87
Optional Swivel Lock for Mounting Plate 1 Casters											27135T51	6.60
Optional Brake for Swivel Casters—To Order Please specify 6″, 8″, or 10″ wheel dia.											23515T13	56.09

Vulcan Casters—700 to 1,500 lbs.





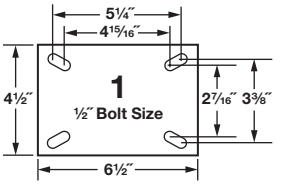

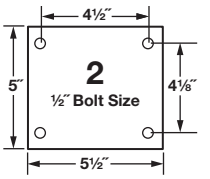

For smooth swiveling, good impact resistance, and extended service life, swivel casters have a precision-machined (kingpinless) raceway and large-diameter ball bearings. All casters have a steel frame with a zinc-plated finish. Wheels are nonmarking, except iron wheels.

Swivel bearings are sealed to keep out dust and debris.

Phenolic—Wheels are extra hard (90D durometer).

Abrasion-Resistant Polyurethane on Aluminum—Wheel treads are hard (95A durometer).

Abrasion-Resistant Polyurethane—Wheels are extra hard (63D durometer).

Long-Lasting Glass-Filled Nylon—Wheels are extra hard (85D durometer).

Mounting Plate 1

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Black Phenolic Wheels							
4″	2″	5⅝″	800	22665T31	$47.88	22665T41	$20.04
5″	2″	6½″	1,000	22665T32	47.70	22665T42	21.14
6″	2″	7½″	1,200	22665T33	52.79	22665T43	21.80
8″	2″	10⅛″	1,400	22665T34	58.61	22665T44	29.12
Abrasion-Resistant Blue Polyurethane on Aluminum Wheels							
4″	2″	5⅝″	700	22665T51	57.54	22665T61	32.62
5″	2″	6½″	1,050	22665T52	61.57	22665T62	31.98
6″	2″	7½″	1,230	22665T53	69.41	22665T63	35.59
8″	2″	10⅛″	1,500	22665T54	77.55	22665T64	49.77
Long-Lasting Black Glass-Filled Nylon Wheels							
4″	2″	5⅝″	800	22665T35	53.63	22665T45	22.87
5″	2″	6½″	1,000	22665T36	55.53	22665T46	25.27
6″	2″	7½″	1,200	22665T37	59.27	22665T47	30.08
Long-Lasting Iron Wheels							
4″	2″	5⅝″	800	22665T71	47.73	22665T81	21.45
5″	2″	6½″	1,000	22665T72	50.14	22665T82	24.39
6″	2″	7½″	1,200	22665T73	56.04	22665T83	27.07
8″	2″	10⅛″	1,400	22665T74	60.79	22665T84	33.61
Optional Swivel Lock						22665T76	7.12
Optional Brake for Swivel Casters—							
To Order: Please specify 4″, 5″, 6″, or 8″ wheel dia.						22665T75	11.76

Mounting Plate 2

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Black Phenolic Wheels							
4″	2″	5⅝″	800	30275T19	$46.90	30275T24	$20.98
5″	2″	6½″	1,000	30275T21	48.35	30275T25	22.42
6″	2″	7½″	1,200	30275T22	49.74	30275T26	23.94
8″	2″	10⅛″	1,400	30275T23	57.10	30275T27	28.90
Abrasion-Resistant Red Polyurethane on Aluminum Wheels							
4″	2″	5⅝″	700	30275T28	63.44	30275T33	33.79
5″	2″	6½″	1,000	30275T29	68.38	30275T34	39.02
6″	2″	7½″	1,200	30275T31	72.48	30275T35	41.96
8″	2″	10⅛″	1,500	30275T32	81.29	30275T36	49.38
Abrasion-Resistant Gray Polyurethane Wheels							
4″	2″	5⅝″	1,000	30275T45	81.56	30275T55	36.73
5″	2″	6½″	1,000	30275T46	83.23	30275T56	43.69
6″	2″	7½″	1,100	30275T47	84.46	30275T57	51.00
Long-Lasting Black Glass-Filled Nylon Wheels							
4″	2″	5⅝″	800	30275T41	63.02	30275T51	26.61
5″	2″	6½″	1,000	30275T42	64.56	30275T52	27.27
6″	2″	7½″	1,200	30275T43	63.74	30275T53	27.69
8″	2″	10⅛″	1,400	30275T44	75.42	30275T54	31.48
Optional Swivel Lock						30275T62	10.15
Optional Brake for Swivel Casters—							
To Order: Please specify 4″, 5″, 6″, or 8″ wheel dia.						2703T3	23.71

Gladiator Casters—700 to 1,500 lbs.





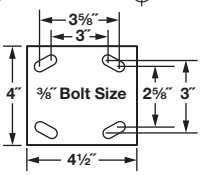

Swivel casters have dual precision-machined (kingpinless) raceways for better weight distribution and smoother swiveling than other kingpinless casters. Their large-diameter ball bearings withstand the stress of sudden impact and extend the service life of the caster.

All casters have a steel frame with a zinc-plated finish. Wheels are nonmarking, except iron and steel wheels.

Maintenance-free easy-roll wheel bearings are completely sealed so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

Black Phenolic—Wheels are extra hard (90D durometer).

Abrasion-Resistant Red Polyurethane—Wheel treads are hard (95A durometer).

Abrasion-Resistant Blue Polyurethane—Wheels are extra hard (70D durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
General Purpose Wheel Bearings							
Black Phenolic Wheels							
3¼″	2″	4⅝″	700	22455T28	$55.37	22455T49	$23.80
4″	2″	5⅝″	800	22455T24	53.43	22455T45	21.02
5″	2″	6½″	1,000	22455T25	55.83	22455T46	23.43
6″	2″	7½″	1,200	22455T26	57.87	22455T47	23.61
8″	2″	9½″	1,400	22455T27	65.74	22455T48	30.65
Abrasion-Resistant Red Polyurethane on Iron Wheels							
4″	2″	5⅝″	700	22455T15	58.06	22455T35	26.11
5″	2″	6½″	1,050	22455T16	61.60	22455T36	28.33
6″	2″	7½″	1,230	22455T17	63.61	22455T37	30.93
8″	2″	9½″	1,500	22455T18	72.31	22455T38	39.07
High-Strength Long-Lasting Iron Wheels							
4″	2″	5⅝″	1,500	22455T19	82.04	22455T41	48.98

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
General Purpose Wheel Bearings (Cont.)							
High-Strength Long-Lasting Iron Wheels (Cont.)							
5″	2″	6½″	1,500	22455T21	$93.06	22455T42	$59.26
6″	2″	7½″	1,500	22455T22	92.59	22455T43	58.80
8″	2″	9½″	1,500	22455T23	124.44	22455T44	88.52
High-Capacity Steel Wheels							
3″	2″	4½″	700	22455T81	57.41	22455T82	27.51
Maintenance-Free Easy-Roll Wheel Bearings							
Abrasion-Resistant Blue Polyurethane Wheels							
4″	2″	5⅝″	800	22455T51	82.87	22455T55	48.70
5″	2″	6½″	1,000	22455T52	95.19	22455T56	61.02
6″	2″	7½″	1,200	22455T53	110.28	22455T57	77.78
8″	2″	9½″	1,500	22455T54	159.07	22455T58	126.76

Cushioned-Load Bison Casters—1,000 to 1,500 lbs.





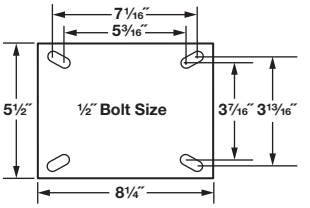

A thick rubber tread on iron wheels absorbs shock to protect your load. Frame is steel with a gray powder-coated finish. Wheel treads are abrasion-resistant hard black rubber (95A durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
8″	2″	9¾″	1,000	2420T21	$81.36	2420T31	$58.68
8″	2½″	9¾″	1,300	2420T22	93.57	2420T32	73.00
10″	2½″	11¾″	1,500	2420T23	132.49	2420T33	96.96

Kingston Casters—500 to 2,400 lbs.

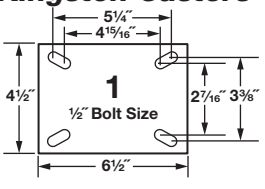

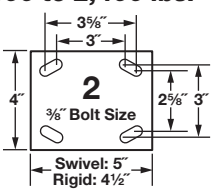



Swivel



Rigid



Swivel with Left Side Brake and Swivel Lock



Dual Wheel Swivel

For durability in demanding applications, these casters have a heavy duty forged steel construction. Casters with mounting plate 1 have a frame with a red painted finish; with mounting plate 2 have a frame with a gray painted finish. Wheels are nonmarking, except iron wheels.

Swivel casters have ball bearings and tapered roller bearings for easy swiveling and good impact resistance. **To Order:** For swivel casters with side brake, please specify right or left side brake.

Dual-wheel casters provide better load distribution and easier turning than single-wheel casters.

Maintenance-free easy-roll bearings are completely sealed so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

Phenolic—Wheels are extra hard (90D durometer).

Cushioned Polyurethane—Wheel treads are soft (85A durometer).

Abrasion-Resistant Polyurethane—Wheel treads are hard (95A durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid		Brake Type	Swivel with Brake		Swivel with Brake and Swivel Lock		Rigid with Brake	
									Casters with Brake					
Mounting Plate 1—Single Wheel with General Purpose Bearings														
Black Phenolic Wheels														
4″	2″	5⅝″	800	**2508T81**	$84.16	**2508T85**	$39.98	Side	**2508T16**	$87.64	**2886T71**	$117.50	**2508T29**	$53.00
5″	2″	6¾″	1,000	**2508T82**	83.44	**2508T86**	41.82	Side	**2508T17**	90.51	**2886T72**	118.46	**2508T72**	58.20
6″	2″	7¾″	1,200	**2508T83**	85.70	**2508T87**	42.84	Side	**2508T18**	91.24	**2886T73**	119.81	**2508T73**	54.20
8″	2″	9¾″	1,400	**2508T84**	88.06	**2508T88**	45.72	Side	**2508T19**	95.45	**2886T74**	124.23	**2508T74**	60.00
Mounting Plate 1—Single Wheel with Maintenance-Free Easy-Roll Bearings														
Cushioned Blue Polyurethane on Iron Wheels														
5″	2″	6¾″	840	**2508T31**	122.98	**2508T32**	80.58	Face	**2508T311**	167.28	**2886T25**	180.44	**2508T321**	129.36
6″	2″	7¾″	960	**2508T33**	127.72	**2508T34**	85.98	Face	**2508T331**	175.68	**2886T26**	182.62	**2508T341**	132.60
Abrasion-Resistant Green Polyurethane on Iron Wheels														
5″	2″	6¾″	1,050	**2508T62**	104.64	**2508T66**	60.48	Face	**2508T92**	151.64	**2886T86**	158.87	**2508T96**	108.44
6″	2″	7¾″	1,200	**2508T63**	109.18	**2508T67**	66.34	Face	**2508T93**	156.00	**2886T87**	162.62	**2508T97**	112.82
8″	2″	9¾″	1,500	**2508T64**	122.78	**2508T68**	80.76	Face	**2508T94**	169.12	**2886T88**	176.88	**2508T98**	129.98
Long-Lasting Red Painted Iron Wheels														
4″	2″	5⅝″	1,000	**2508T41**	93.52	**2508T45**	48.96	Side	**2508T21**	97.82	**2886T81**	127.31	**2508T76**	68.40
5″	2″	6¾″	1,300	**2508T42**	100.12	**2508T46**	54.80	Side	**2508T22**	105.45	**2886T82**	135.38	**2508T77**	73.00
6″	2″	7¾″	1,400	**2508T43**	100.74	**2508T47**	63.40	Side	**2508T23**	103.64	**2886T83**	134.62	**2508T78**	70.00
8″	2″	9¾″	1,500	**2508T44**	118.94	**2508T48**	68.80	Side	**2508T15**	122.01	**2886T89**	152.69	**2508T71**	91.40
Mounting Plate 2—Single Wheel with General Purpose Bearings														
Black Phenolic Wheels														
4″	2″	5⅝″	800	**2431T51**	78.90	**2431T55**	37.92	Side	**2431T511**	93.60	**2431T512**	119.80	**2431T551**	54.40
5″	2″	6½″	1,000	**2431T52**	81.58	**2431T56**	40.80	Side	**2431T521**	94.20	**2431T522**	120.60	**2431T561**	55.80
6″	2″	7½″	1,200	**2431T53**	82.00	**2431T57**	41.20	Side	**2431T531**	94.60	**2431T532**	121.60	**2431T571**	54.20
8″	2″	9½″	1,400	**2431T54**	87.14	**2431T58**	46.54	Side	**2431T541**	99.40	**2431T542**	125.20	**2431T581**	58.00
Mounting Plate 2—Single Wheel with Maintenance-Free Easy-Roll Bearings														
Abrasion-Resistant Green Polyurethane on Iron Wheels														
4″	2″	5⅝″	750	**2431T41**	93.52	**2431T45**	49.24	Face	**2431T411**	145.14	**2431T412**	170.40	**2431T451**	103.32
5″	2″	6½″	1,050	**2431T42**	99.92	**2431T46**	58.72	Face	**2431T421**	151.20	**2431T422**	174.86	**2431T461**	108.98
6″	2″	7½″	1,200	**2431T43**	103.82	**2431T47**	62.42	Face	**2431T431**	150.68	**2431T432**	166.88	**2431T471**	111.38
8″	2″	9½″	1,500	**2431T44**	118.66	**2431T48**	76.64	Face	**2431T441**	167.90	**2431T442**	181.90	**2431T481**	124.64
Long-Lasting Red Painted Iron Wheels														
4″	2″	5⅝″	1,000	**2431T61**	87.10	**2431T65**	47.12	Side	**2431T611**	103.40	**2431T612**	129.20	**2431T651**	66.60
5″	2″	6½″	1,300	**2431T62**	93.94	**2431T66**	52.94	Side	**2431T621**	102.38	**2431T624**	124.84	**2431T661**	70.20
6″	2″	7½″	1,400	**2431T63**	94.50	**2431T67**	54.26	Side	**2431T631**	109.00	**2431T632**	135.80	**2431T671**	68.00
Mounting Plate 2—Dual Wheel with Maintenance-Free Easy-Roll Bearings														
Abrasion-Resistant Blue Polyurethane on Aluminum Wheels														
4″	1″	5⅝″	500	**2593T41**	128.33	**2593T42**	91.82							
6″	1″	7½″	1,100	**2593T61**	148.73	**2593T62**	110.55							
8″	1″	9½″	2,400	**2593T81**	156.18	**2593T82**	119.98							

Easy-Turn Burly Casters—950 to 1,600 lbs.

The lightweight wheels have contoured treads for quick turning. Frame is steel with a zinc-plated finish. Wheels are nonmarking.

Cushioned Polyurethane—Wheel treads are soft (85A durometer).

Abrasion-Resistant Polyurethane—Wheel treads are hard (95A durometer).

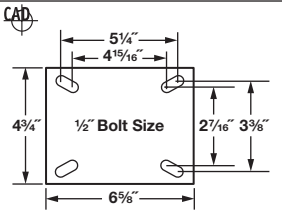





Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake		Rigid	
Cushioned Gray Polyurethane on Polypropylene Wheels									
6″	2½″	7¾″	950	**2468T21**	$88.13	**2468T61**	$107.20	**2468T31**	$66.02
8″	2½″	10¼″	1,100	**2468T22**	101.17	**2468T62**	120.43	**2468T32**	77.28
10″	2½″	12¼″	1,300	**2468T23**	115.65	**2468T63**	134.91	**2468T33**	90.50
Abrasion-Resistant Red Polyurethane on Polypropylene Wheels									
6″	2½″	7¾″	1,200	**2468T41**	88.13	**2468T71**	107.20	**2468T51**	66.02
8″	2½″	10¼″	1,400	**2468T42**	101.17	**2468T72**	120.43	**2468T52**	77.28
10″	2½″	12¼″	1,600	**2468T43**	115.65	**2468T73**	134.91	**2468T53**	90.50

Large-Plate Spartan Casters—700 to 1,600 lbs.


Swivel


Rigid

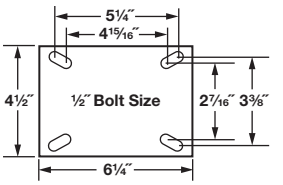

The largest-plate casters we offer in our Spartan series, these casters move heavy loads over smooth surfaces. Frame is steel with a zinc-plated finish. Wheels are nonmarking, except iron wheels.

Heavy duty casters have a forged steel frame for durability.

Maintenance-free easy-roll wheel bearings are completely sealed so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

Phenolic—Wheels are extra hard (90D durometer).

Abrasion-Resistant Polyurethane on Aluminum—Wheel treads are extra hard (60D durometer).

Abrasion-Resistant Polyurethane—Wheels are extra hard (75D durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Heavy Duty Swivel		Heavy Duty Rigid		Standard Duty Swivel		Standard Duty Rigid	
General Purpose Wheel Bearings											
Black Phenolic Wheels											
4″	2″	5⅝″	800	2422T51	$69.60	2422T32	$27.70	2494T24	$42.31	2494T42	$21.99
5″	2″	6½″	1,000	2422T52	73.91	2422T33	31.31	2494T25	44.02	2494T43	23.35
6″	2″	7½″	1,200	2422T53	80.87	2422T34	35.49	2494T26	44.78	2494T44	25.49
8″	2″	10⅛″	1,400	2422T54	85.01	2422T36	44.38	2494T27	50.76	2494T45	31.69
10″	2½″	11½″	1,600	2422T57	109.97	2422T38	69.78				
Abrasion-Resistant Green Polyurethane on Aluminum Wheels											
4″	2″	5⅝″	700	2422T94	84.18	2422T71	42.06	2494T81	56.58	2494T85	36.56
5″	2″	6½″	1,050	2422T91	89.13	2422T72	46.73	2494T82	61.42	2494T86	40.42
6″	2″	7½″	1,230	2422T92	100.98	2422T73	56.57	2494T83	65.36	2494T87	44.29
8″	2″	10⅛″	1,500	2422T93	111.05	2422T75	70.12	2494T84	76.42	2494T88	56.16
Long-Lasting Iron Wheels											
4″	2″	5⅝″	1,000	2422T11	70.78	2422T17	31.59	2494T11	45.36	2494T28	26.27
5″	2″	6½″	1,300	2422T12	76.33	2422T18	35.36	2494T12	48.02	2494T48	29.08
6″	2″	7½″	1,400	2422T13	83.27	2422T19	38.38	2494T13	51.27	2494T31	32.35
8″	2″	10⅛″	1,500	2422T14	90.09	2422T22	47.14	2494T14	59.64	2494T32	42.87
Maintenance-Free Easy-Roll Wheel Bearings											
Abrasion-Resistant Green Polyurethane Wheels											
4″	2″	5⅝″	1,000	2422T41	103.65	2422T411	55.33				
5″	2″	6½″	1,000	2422T42	113.47	2422T421	63.82				
6″	2″	7½″	1,000	2422T43	116.11	2422T431	67.48				
8″	2″	10⅛″	1,000	2422T44	142.46	2422T441	91.22				
Optional Swivel Lock—To Order: Please specify heavy duty or standard duty.										2422T48	14.05
Optional Brake for Wheels with General Purpose Bearings—To Order: Please specify 4″, 5″, 6″, or 8″ wheel dia.										2422T49	15.39

Spartan Casters—700 to 1,500 lbs.


Swivel


Rigid

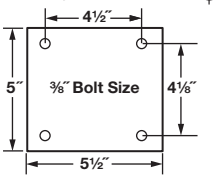

Similar to Large-Plate Spartan Casters, these are designed for heavy loads on smooth surfaces, except they have a slightly smaller mounting plate. Frame is steel with a zinc-plated finish. Wheels are nonmarking, except iron wheels.

Swivel casters with neoprene seals prevent contamination of the swivel bearing to extend service life.

Maintenance-free easy-roll wheel bearings are completely sealed so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

Phenolic—Wheels are extra hard (90D durometer).

Abrasion-Resistant Polyurethane on Aluminum—Wheel treads are extra hard (60D durometer).

Abrasion-Resistant Polyurethane—Wheels are extra hard (75D durometer).

Long-Lasting Glass-Filled Nylon—Wheels are extra hard (85D durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Neoprene Seals		Rigid	
General Purpose Wheel Bearings									
Black Phenolic Wheels									
4″	2″	5⅝″	800	8745T84	$36.36	8745T87	$44.88	8745T91	$21.84
5″	2″	6½″	1,000	8745T16	37.80	8745T56	45.48	8745T36	21.22
6″	2″	7⅜″	1,200	8745T17	38.42	8745T57	47.16	8745T37	24.38
8″	2″	9½″	1,400	8745T18	42.97	8745T58	50.79	8745T38	26.77
Abrasion-Resistant Green Polyurethane on Aluminum Wheels									
4″	2″	5⅝″	700	8745T83	49.12	8745T86	57.00	8745T89	31.99
5″	2″	6½″	1,200	8745T25	52.80	8745T65	60.86	8745T45	36.03
6″	2″	7⅜″	1,230	8745T26	56.14	8745T66	64.28	8745T46	40.20
8″	2″	9½″	1,500	8745T27	64.35	8745T67	72.64	8745T47	48.76
Long-Lasting Black Glass-Filled Nylon Wheels									
4″	2″	5⅝″	800	8745T101	41.14	8745T105	47.69	8745T201	23.05
5″	2″	6½″	1,000	8745T102	47.15	8745T106	54.25	8745T202	24.35
6″	2″	7⅜″	1,200	8745T103	43.52	8745T107	54.87	8745T203	25.16
8″	2″	9½″	1,400	8745T104	49.61	8745T108	55.64	8745T204	30.31
Long-Lasting Iron Wheels									
4″	2″	5⅝″	1,000	8745T85	37.00	8745T88	47.54	8745T92	23.40
5″	2″	6½″	1,300	8745T72	38.53	8745T61	50.69	8745T82	25.84
6″	2″	7⅜″	1,400	8745T13	40.54	8745T62	53.07	8745T33	29.63
8″	2″	9⅜″	1,500	8745T14	47.14	8745T63	62.08	8745T34	35.57
Maintenance-Free Easy-Roll Wheel Bearings									
Abrasion-Resistant Green Polyurethane Wheels									
4″	2″	5⅝″	1,000	8745T12	45.74	8745T41	50.75	8745T23	37.19
5″	2″	6½″	1,000	8745T19	48.66	8745T42	53.71	8745T28	40.98
6″	2″	7⅜″	1,000	8745T21	55.12	8745T43	58.93	8745T29	47.62
8″	2″	9½″	1,000	8745T22	74.40	8745T68	77.73	8745T32	66.03
Optional Swivel Lock								8745T95	21.47
Optional Brake for Wheels with General Purpose Bearings—To Order: Please specify 4″, 5″, 6″, or 8″ wheel dia.								2422T49	15.39

Compact-Plate Spartan Casters—700 to 1,500 lbs.

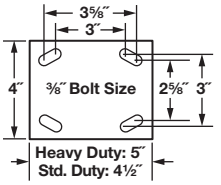


Swivel


Swivel with Brake


Swivel with Brake and Swivel Lock


Rigid


Rigid with Brake

The Spartan casters with the smallest mounting plate, these move heavy loads over smooth surfaces. Frame is steel with a zinc-plated finish. Wheels are nonmarking, except iron and steel wheels.

Heavy duty casters have a forged steel frame for durability.

Maintenance-free easy-roll wheel bearings are completely sealed so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

Sealed general purpose wheel bearings keep out contaminants to extend service life. *Swivel* casters also have a seal on the swivel.

Lightweight Polypropylene—Wheels are extra hard (65D durometer).

Phenolic—Wheels are extra hard (90D durometer).

Abrasion-Resistant Polyurethane on Aluminum—Wheel treads are extra hard (60D durometer).

Abrasion-Resistant Polyurethane—Wheels are extra hard (75D durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake		Swivel with Brake and Swivel Lock		Rigid		Rigid with Brake	
Heavy Duty Casters with General Purpose Wheel Bearings													
Black Phenolic Wheels													
4″	2″	5⅝″	800	2856T42	$57.39	2856T46	$108.43	2856T25	$139.33	2856T82	$22.53	2856T86	$77.72
5″	2″	6½″	1,000	2856T43	58.59	2856T47	108.56	2856T26	140.69	2856T83	23.37	2856T87	78.35
6″	2″	7½″	1,200	2856T44	64.67	2856T48	114.94	2856T27	147.17	2856T84	28.70	2856T88	79.39
8″	2″	10⅛″	1,400	2856T45	71.94	2856T49	118.20	2856T28	154.94	2856T85	33.97	2856T89	81.92
Abrasion-Resistant Green Polyurethane on Aluminum Wheels													
4″	2″	5⅝″	700	2856T36	69.41	2856T65	105.94	2856T15	149.46	2856T76	34.45	2856T111	82.44
5″	2″	6½″	1,050	2856T37	72.83	2856T66	122.02	2856T16	151.59	2856T77	37.85	2856T112	86.12
6″	2″	7½″	1,230	2856T38	81.44	2856T67	131.11	2856T17	162.70	2856T78	46.03	2856T113	93.08
8″	2″	10⅛″	1,500	2856T39	90.82	2856T68	141.70	2856T18	176.81	2856T79	55.91	2856T114	111.74
Long-Lasting Iron Wheels													
4″	2″	5⅝″	1,000	2856T32	57.28	2856T11	107.72	2856T101	142.19	2856T72	26.17	2856T121	76.32
5″	2″	6½″	1,300	2856T33	59.37	2856T12	108.13	2856T102	144.28	2856T73	28.51	2856T122	79.32
6″	2″	7½″	1,400	2856T34	65.91	2856T13	115.83	2856T103	150.07	2856T74	31.39	2856T123	79.66
8″	2″	10⅛″	1,500	2856T35	73.93	2856T14	128.98	2856T104	159.07	2856T75	38.40	2856T124	84.72
High-Capacity Steel Wheels													
4″	1½″	5⅝″	1,400	2856T51	87.44	2856T54	138.98	2856T57	173.78	2856T91	54.43	2856T94	103.83
5″	1¾″	6½″	1,500	2856T52	94.28	2856T55	141.00	2856T58	179.80	2856T92	60.50	2856T95	113.91
6″	2″	7½″	1,500	2856T53	100.96	2856T56	125.19	2856T59	186.63	2856T93	65.72	2856T96	112.58
Heavy Duty Casters with Maintenance-Free Easy-Roll Wheel Bearings													
Abrasion-Resistant Green Polyurethane Wheels													
4″	2″	5⅝″	1,000	2856T19	78.85	2856T62	122.04	2856T71	158.65	2856T24	36.68	2856T241	88.42
5″	2″	6½″	1,000	2856T21	82.69	2856T63	124.89	2856T81	161.76	2856T31	40.84	2856T311	92.60
6″	2″	7½″	1,000	2856T22	88.65	2856T64	136.85	2856T97	170.22	2856T41	45.02	2856T411	94.71
8″	2″	10⅛″	1,000	2856T23	106.04	2856T69	153.45	2856T98	184.07	2856T61	68.25	2856T611	103.13
Standard Duty Casters with General Purpose Wheel Bearings													
Lightweight Black Polypropylene Wheels													
8″	2″	9½″	850	2408T16	32.11	2408T181	80.38	2408T362	101.70	2408T23	23.37	2408T411	70.60
Black Phenolic Wheels													
3¼″	2″	4¼″	700	2408T42	28.05	2408T191	76.71	2408T381	98.55	2408T45	18.66	2408T431	66.62
4″	2″	5⅝″	800	2408T136	26.62	2408T192	74.60	2408T382	96.42	2408T134	16.86	2408T432	65.60
5″	2″	6½″	1,000	2408T142	27.81	2408T193	75.86	2408T383	97.70	2408T139	18.12	2408T433	65.66
6″	2″	7¼″	1,200	2408T147	29.23	2408T194	77.39	2408T384	99.17	2408T145	19.47	2408T434	67.06
8″	2″	9½″	1,250	2408T153	34.03	2408T195	82.49	2408T385	104.31	2408T152	24.53	2408T435	72.47
Abrasion-Resistant Green Polyurethane on Aluminum Wheels													
4″	2″	5⅝″	700	2408T33	39.24	2408T182	88.16	2408T363	109.44	2408T37	29.96	2408T412	78.07
5″	1½″	6½″	720	2408T87	41.67	2408T183	90.77	2408T364	112.27	2408T93	32.61	2408T413	80.93
5″	2″	6½″	1,050	2408T123	42.55	2408T184	91.72	2408T365	113.03	2408T121	33.41	2408T414	82.98
6″	2″	7¼″	1,230	2408T127	46.61	2408T185	96.12	2408T366	117.43	2408T126	37.37	2408T415	87.36
8″	2″	9½″	1,250	2408T131	55.97	2408T186	105.72	2408T367	127.04	2408T129	46.85	2408T416	95.94
Long-Lasting Iron Wheels													
3¼″	2″	4¼″	700	2408T41	38.58	2408T353	87.46	2408T391	108.75	2408T44	29.57	2408T451	77.55
4″	2″	5⅝″	1,000	2408T31	26.92	2408T354	74.42	2408T392	95.69	2408T35	18.64	2408T452	65.64
5″	2″	6½″	1,250	2408T103	28.93	2408T355	76.57	2408T393	98.55	2408T101	20.91	2408T453	66.56
6″	2″	7¼″	1,250	2408T108	31.62	2408T356	79.50	2408T394	100.80	2408T106	23.55	2408T454	70.18
8″	2″	9½″	1,250	2408T118	37.19	2408T357	85.63	2408T395	106.02	2408T117	30.46	2408T455	75.70
Standard Duty Casters with Sealed General Purpose Wheel Bearings													
Black Phenolic Wheels													
4″	2″	5⅝″	800	2408T163	35.26					2408T164	20.29		
5″	2″	6½″	1,000	2408T165	36.39					2408T166	21.04		
6″	2″	7¼″	1,200	2408T167	37.79					2408T168	22.84		
8″	2″	9½″	1,250	2408T169	40.68					2408T171	27.89		
Abrasion-Resistant Green Polyurethane on Aluminum Wheels													
4″	2″	5⅝″	700	2408T244	47.56					2408T268	32.81		
5″	2″	6½″	1,050	2408T156	50.87					2408T157	36.95		
6″	2″	7¼″	1,230	2408T158	54.83					2408T159	41.01		
8″	2″	9½″	1,250	2408T161	63.51					2408T162	49.91		
Long-Lasting Iron Wheels													
4″	2″	5⅝″	1,000	2408T232	35.52					2408T237	21.92		
5″	2″	6½″	1,250	2408T172	37.47					2408T173	25.23		
6″	2″	7¼″	1,250	2408T174	40.12					2408T176	26.14		
8″	2″	9½″	1,250	2408T178	44.94					2408T179	32.41		
Optional Weld-On Bracket for Standard Duty Casters—For quick replacement of casters.												49935T12	12.34

Mauler Casters—800 to 1,200 lbs.


Swivel


Rigid

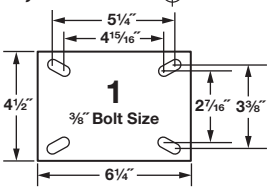

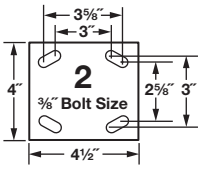

An economical alternative to our Spartan casters, these steel casters have a thinner frame for less demanding applications. Frame has a gray powder-coated finish. Wheels are nonmarking, except long-lasting iron wheel.

Swivel bearings are sealed to keep out dust and debris.

Phenolic—Wheels are extra hard (90D durometer).

Abrasion-Resistant Polyurethane—Wheel treads are hard (90A durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Mounting Plate 1 Swivel		Mounting Plate 1 Rigid		Mounting Plate 2 Swivel		Mounting Plate 2 Rigid	
Black Phenolic Wheels											
4″	2″	5⅝″	800	22945T41	$28.44	22945T81	$21.46	22955T41	$26.55	22955T81	$19.49
5″	2″	6½″	1,000	22945T42	29.60	22945T82	23.80	22955T42	28.19	22955T82	20.74
6″	2″	7¼″	1,200	22945T43	31.28	22945T83	27.50	22955T43	29.98	22955T83	24.55
8″	2″	9½″	1,200	22945T48	37.92	22945T88	32.20	22955T44	35.51	22955T84	28.23
Abrasion-Resistant Red Polyurethane on Iron Wheels											
4″	2″	5⅝″	900	44785T51	31.18	44785T52	23.73	19505T15	27.81	19505T25	24.15
5″	2″	6½″	1,000	22945T32	34.46	22945T72	28.82	22955T32	33.57	22955T72	26.32
6″	2″	7¼″	1,100	22945T33	37.32	22945T73	31.70	22955T33	36.79	22955T73	30.38
8″	2″	9½″	1,200	22945T34	45.56	22945T74	39.58	22955T34	44.23	22955T74	38.68
Long-Lasting Iron Wheels											
4″	2″	5⅝″	1,000	22945T51	30.52	22945T91	24.04	22955T51	28.26	22955T91	22.66
5″	2″	6½″	1,000	22945T52	32.08	22945T92	28.18	22955T52	30.62	22955T92	25.28
6″	2″	7¼″	1,200	22945T53	36.02	22945T93	34.66	22955T53	35.11	22955T93	29.77
8″	2″	9½″	1,200	22945T58	42.10	22945T98	43.30	22955T54	45.72	22955T94	39.36
Optional Brake for Swivel Casters										22955T36	11.45

Trash-Container Casters—1,000 to 1,200 lbs.


Swivel


Rigid

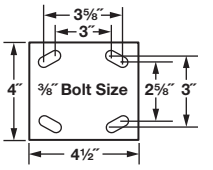

The legs of the swivel casters are less angled than other casters to withstand the stress of impact from containers that are frequently picked up and set back down. Frame is steel with a gray powder-coated finish.

Phenolic—Wheels are extra hard (90D durometer) and nonmarking.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Black Phenolic Wheels							
5″	2″	6½″	1,000	26275T11	$18.90	26275T31	$14.44
6″	2″	7½″	1,200	26275T12	20.08	26275T32	16.36
Long-Lasting Iron Wheels							
5″	2″	6½″	1,000	26275T21	23.48	26275T41	17.84
6″	2″	7½″	1,200	26275T22	27.78	26275T42	22.94

Heavy Duty Debris-Guard Casters—800 to 1,000 lbs.


Swivel


Rigid

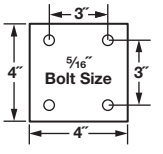

A thick frame and metal debris guards on the wheel bearings ensure smooth operation and extended service life. Frame is zinc-plated steel. Wheels are nonmarking, except long-lasting iron wheel.

Swivel bearings are sealed to keep out dust and debris.

Phenolic—Wheels are extra hard (90D durometer).

Abrasion-Resistant Rubber—Wheels are extra hard (80D durometer).

Abrasion-Resistant Polyurethane—Wheel treads are hard (90A durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Black Phenolic Wheels							
3″	2″	4½″	1,000	2523T74	$91.55	2523T75	$70.27
Abrasion-Resistant Black Rubber Wheels							
3″	1⅞″	4½″	800	2523T34	99.53	2523T48	74.00
4″	1⅞″	5½″	800	2523T36	95.69	2523T51	70.89

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Abrasion-Resistant Brown Polyurethane on Iron Wheels							
3″	1⅞″	4½″	800	2523T81	$141.27	2523T83	$113.95
4″	1⅞″	5½″	800	2523T82	144.51	2523T84	84.16
Long-Lasting Iron Wheels							
3″	1⅞″	4½″	1,000	2523T11	108.16	2523T21	75.13
4″	1⅞″	5½″	1,000	2523T14	126.36	2523T24	77.40

High-Temperature Corrosion-Resistant Casters—800 to 900 lbs.


Swivel


Rigid

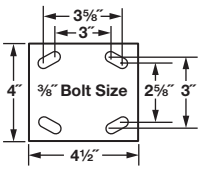

Great for bakeries and other areas requiring frequent washdowns, these casters are Type 304 stainless steel and withstand temperatures up to 475°F. Wheels are black glass-filled nylon that is extra hard (85D durometer) and nonmarking.

Swivel casters have a precision-machined (kingpinless) raceway with large-diameter ball bearings for smooth swiveling and extended service life. Bearings are sealed to keep out dust and debris.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
4″	2″	5⅝″	800	2192T12	$113.44	2192T11	$63.09
6″	2″	7½″	900	2192T16	147.83	2192T13	102.14
8″	2″	10⅛″	900	2192T18	162.75	2192T17	116.33
Optional Swivel Lock						2192T21	33.85
Optional Brake for Swivel Casters— To Order: Please specify 4″, 6″, or 8″ wheel dia.						2192T25	24.89

Easy-Roll Corrosion-Resistant Casters—700 to 1,200 lbs.

Type 304 stainless steel construction combined with precision steel ball bearings result in better corrosion resistance and smoother rolling than other casters in their capacity range. The wheel bearings are completely sealed so they never need lubrication. Wheels are black polyurethane that is extra hard (60D durometer) and nonmarking.

Swivel casters have a precision-machined (kingpinless) raceway with large-diameter ball bearings for smooth swiveling and extended service life. Bearings are sealed to keep out dust and debris.

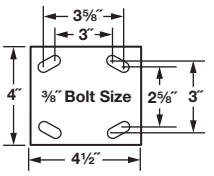


Swivel


Rigid

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
4″	2″	5⅝″	700	23355T51	$187.43	23355T61	$66.48
5″	2″	6½″	1,000	23355T52	188.72	23355T62	70.25
6″	2″	7½″	1,200	23355T53	$192.95	23355T63	$74.21
8″	2″	10⅛″	1,200	23355T54	229.38	23355T64	128.27
Optional Swivel Lock						23355T91	28.29
Optional Brake for Swivel Casters—To Order: Please specify 4″, 5″, 6″, or 8″ wheel dia.						23355T92	30.88

Washdown Food-Service Casters—800 to 1,000 lbs.

A stainless steel frame and rust-resistant bearings make these casters great for food-service equipment that's frequently washed down. Meet NSF/ANSI standards. Wheels are nonmarking.

Swivel bearings are sealed to keep out dust and debris.

Type 316 stainless steel frame provides better corrosion resistance than Type 304 stainless steel.

General purpose stainless steel wheel bearings have straight rollers for smoother rolling than acetal sleeve bearings.

Phenolic—Wheels are extra hard (90D durometer).

Abrasion-Resistant Red Polyurethane—Wheel treads are hard (90A durometer).

Abrasion-Resistant Black Polyurethane—Wheels are extra hard (65D durometer).

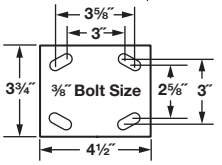


Swivel


Rigid

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Type 304 Stainless Steel Swivel		Type 304 Stainless Steel Rigid		Type 316 Stainless Steel Swivel		Type 316 Stainless Steel Rigid	
Acetal Sleeve Wheel Bearings											
Black Phenolic Wheels											
4″	2″	5⅝″	800	22595T77	$94.79	22595T81	$58.19	24015T23	$98.70	24015T39	$64.67
5″	2″	6½″	1,000	22595T78	105.46	22595T82	58.89	24015T24	107.61	24015T41	71.52
6″	2″	7½″	1,000	22595T79	106.20	22595T83	62.87	24015T25	108.69	24015T42	70.69
Abrasion-Resistant Red Polyurethane on Polypropylene Wheels											
5″	2″	6½″	850	22595T42	93.47	22595T46	49.52	24015T11	109.09	24015T27	77.48
6″	2″	7½″	900	22595T43	95.89	22595T47	51.74	24015T12	116.19	24015T28	80.52
Abrasion-Resistant Black Polyurethane Wheels											
4″	2″	5⅝″	1,000	22595T71	115.29	22595T74	74.57	24015T14	118.50	24015T31	78.44
5″	2″	6½″	1,000	22595T72	116.21	22595T75	75.86	24015T15	119.30	24015T32	85.50
6″	2″	7½″	1,000	22595T73	126.97	22595T76	84.57	24015T16	130.70	24015T33	86.46
General Purpose Stainless Steel Wheel Bearings											
Black Phenolic Wheels											
4″	2″	5⅝″	800	22595T11	86.67	22595T15	53.84	24015T67	134.24	24015T72	83.33
5″	2″	6½″	1,000	22595T12	88.07	22595T16	54.73	24015T68	139.17	24015T73	86.57
6″	2″	7½″	1,000	22595T13	91.88	22595T17	57.27	24015T69	146.70	24015T74	86.20
8″	2″	9½″	1,000	22595T14	99.74	22595T18	74.80	24015T71	156.20	24015T75	99.67
Abrasion-Resistant Red Polyurethane on Polypropylene Wheels											
5″	2″	6½″	850	22595T32	98.11	22595T36	58.43	24015T61	142.43	24015T64	89.83
6″	2″	7½″	900	22595T33	103.24	22595T37	61.37	24015T62	154.48	24015T65	93.98
8″	2″	9½″	950	22595T34	113.98	22595T38	67.61	24015T63	161.19	24015T66	104.65
Abrasion-Resistant Black Polyurethane Wheels											
4″	2″	5⅝″	1,000	22595T84	128.19	22595T87	84.44	24015T18	198.31	24015T35	149.20
5″	2″	6½″	1,000	22595T85	131.56	22595T88	86.80	24015T19	203.19	24015T36	159.63
6″	2″	7½″	1,000	22595T86	143.30	22595T89	97.78	24015T21	210.09	24015T37	162.91
Optional Brake for Swivel Casters										22595T91	25.92

Patriot Food-Service Casters—700 to 1,050 lbs.

A solid polyurethane wheel eliminates the possibility of tread separation. Use in food-service applications. Wheels are extra hard (55D durometer) and nonmarking. Frame is steel with a zinc-plated finish.

General purpose wheel bearings have straight rollers for smoother rolling than acetal sleeve bearings.

Optional swivel seal kit keeps out dust and debris.

Optional total lock brakes the wheel and locks the swivel in one operation.

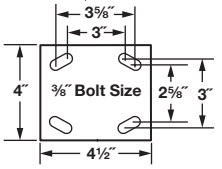


Swivel


Rigid

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Acetal Sleeve Wheel Bearings							
Abrasion-Resistant Blue Polyurethane Wheels							
4″	2″	5⅝″	700	2531T41	$31.33	2531T31	$26.36
5″	2″	6½″	900	2531T42	35.38	2531T32	30.30
6″	2″	7½″	900	2531T43	40.95	2531T33	34.58
8″	2″	9½″	1,050	2531T44	59.08	2531T34	53.60
General Purpose Wheel Bearings							
Abrasion-Resistant Blue Polyurethane Wheels							
4″	2″	5⅝″	700	2531T45	$32.97	2531T35	$29.33
5″	2″	6½″	900	2531T46	38.01	2531T36	33.45
6″	2″	7½″	900	2531T47	43.00	2531T37	38.31
8″	2″	9½″	1,050	2531T48	62.00	2531T38	56.44
Optional Swivel Seal Kit						2531T71	4.12
Optional Swivel Lock						2531T11	11.53
Optional Total Lock for Swivel Casters—To Order: Please specify 4″, 5″, 6″, or 8″ wheel dia.						2531T87	13.37

Easy-Turn Food-Service Casters—700 to 1,000 lbs.


Swivel


Swivel with Total Lock


Rigid

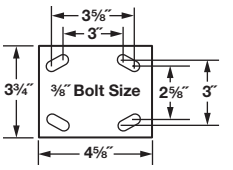

Contoured treads on lightweight wheels make these casters easy to turn. Use in food-service applications. Meet NSF/ANSI standards. Wheels are nonmarking. Frame is steel with a zinc-plated finish.

Swivel casters with total lock brake the wheel and lock the swivel in one operation.

Cushioned Polyurethane—Wheel treads are soft (85A durometer).

Abrasion-Resistant Polyurethane—Wheel treads are hard (95A durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Total Lock		Rigid	
Cushioned Gray Polyurethane on Polypropylene Wheels									
8″	2″	9½″	700	2498T47	$49.94	2498T472	$58.39	2498T56	$37.65
Abrasion-Resistant Red Polyurethane on Polypropylene Wheels									
5″	2″	6½″	700	2498T64	38.80	2498T642	49.53	2498T74	28.78
6″	2″	7½″	820	2498T65	41.80	2498T652	51.94	2498T75	31.51
8″	2″	9½″	1,000	2498T66	49.94	2498T662	58.39	2498T76	37.65

Leveling Casters—825 to 1,650 lbs.


With Thumbwheel Adjustment


With Ratchet Adjustment


Leveling Pad Extended

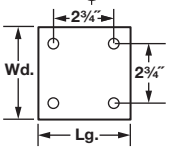

A leveling pad lifts the wheel off the ground to hold your mobile equipment in place, plus it can be adjusted to compensate for uneven surfaces. Wheels are black nylon, except 3½″ and 3 13/16″ dia. wheels are blue. Nylon is extra hard (90D durometer) and nonmarking. Mounting hardware included.

Aluminum casters have a steel mounting plate. Casters with *black finish* have general purpose swivel bearings. Casters with *ivory finish* have a precision-machined (kingpinless) raceway with large-diameter ball bearings for smooth swiveling and extended service life.

Type 304 stainless steel casters offer excellent corrosion resistance. Casters have a precision-machined (kingpinless) raceway with large-diameter ball bearings for smooth swiveling and extended service life.

Ratchet pulls out for easy adjustment and retracts out of the way when not in use.

Wheel Dia.	Wheel Wd.	Mount Ht. Min.	Mount Ht. Max.	Cap. Ea., lbs.	Mounting Plate Lg.	Mounting Plate Wd.	Mounting Plate Bolt Size	Adjustment Style	Swivel	
Aluminum Frame with Black Finish										
3″	1 3/16″	4¾″	5¼″	825	3¾″	3¾″	M10	Thumbwheel	9008T44	$69.93
3″	1 3/16″	4¾″	5¼″	1,100	3¾″	3¾″	M10	M16 Metric Nut	9008T46	82.16
3½″	2 7/32″	5 3/16″	5 13/16″	1,650	4″	4″	M12	M20 Metric Nut	9008T48	116.26
Aluminum Frame with Ivory Finish										
2 13/16″	1 3/16″	4¾″	5 3/16″	825	3¾″	3¾″	M10	Thumbwheel	9008T43	72.00
2 13/16″	1 3/16″	4¾″	5 3/16″	1,100	3¾″	3¾″	M10	M16 Metric Nut	9008T45	82.00
3 13/16″	2 1/16″	5 3/16″	5¾″	1,650	4″	4″	M12	M20 Metric Nut	9008T47	118.00
Type 304 Stainless Steel Frame										
2½″	1⅛″	4⅛″	4 11/16″	880	3 9/16″	3 9/16″	M8	Thumbwheel	9008T51	178.18
2½″	1⅛″	4⅛″	4 11/16″	880	3 9/16″	3 9/16″	M8	Ratchet	9008T53	249.09

Easy-Turn Leveling Casters—500 to 1,000 lbs.




Leveling Pad Extended

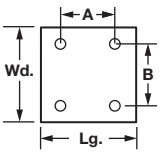

Adjusting the nut extends the leveling pad to keep your equipment stationary and compensate for uneven floors. The dual-wheel design provides better load distribution and easier turning than single-wheel casters. Wheels are nonmarking. Frame is Type 301 stainless steel.

Maintenance-free easy-roll wheel bearings are completely sealed, so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

Phenolic—Wheels are extra hard (95D durometer).

Abrasion-Resistant Polyurethane—Wheels are extra hard (75D durometer).

Wheel Dia.	Wheel Wd.	Mount Ht. Min.	Mount Ht. Max.	Cap. Ea., lbs.	Mounting Plate Lg.	Mounting Plate Wd.	Mounting Plate (A)	Mounting Plate (B)	Mounting Plate Bolt Size	Adjustment Nut Size	Swivel	
Plain Bore (No Bearings)												
Black Phenolic Wheels												
2½″	1″	3⅜″	4⅜″	500	3″	3″	2⅜″	2⅜″	5/16″	½″-13	9854T51	$78.00
3″	1¼″	4⅛″	5⅛″	800	3⅞″	3⅞″	3″	3″	⅜″	⅝″-11	9854T52	107.34
Maintenance-Free Easy-Roll Wheel Bearings												
Abrasion-Resistant Blue Polyurethane Wheels												
2½″	1″	3⅜″	4⅜″	500	3″	3″	2⅜″	2⅜″	5/16″	½″-13	9854T41	116.73
3″	1¼″	4⅛″	5⅛″	1,000	3⅞″	3⅞″	3″	3″	⅜″	⅝″-11	9854T42	168.00

Shock-Absorbing Casters—800 to 1,000 lbs.



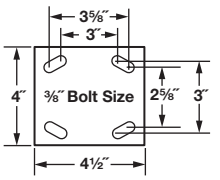

The springs in these casters take on bumpy surfaces and obstructions while preventing shock to the load. A seal on the swivel and metal debris guards on the wheel bearings retain lubricants and keep out contaminants. Bearings have precision steel balls, which provide the least rolling resistance of all the wheel bearings we offer. Wheels are gray polyurethane that is extra hard (55D durometer) and nonmarking. Frame is steel with a zinc-plated finish.

Wheel Dia.	Wheel Wd.	Mount Ht. No Load	Mount Ht. Max. Load	Cap. Ea., lbs. Min.	Cap. Ea., lbs. Max.	Swivel	
4″	2″	7½″	6½″	200	900	22645T11	$235.57
5″	2″	9″	8″	200	1,000	22645T12	250.77
6″	2″	9½″	8½″	200	1,000	22645T13	263.50
8″	2″	11½″	10″	200	800	22645T14	353.75

Air-Ride Casters—1,220 to 1,655 lbs.

Good for heavy and fragile loads, these casters have a forged steel construction and a cushioned pneumatic tire. Their impact-resistant wheel bearings have tapered rollers that withstand both downward and side force. Tires are black rubber. Frame has a red painted finish.

Swivel casters have impact-resistant ball and tapered-roller bearings that withstand both downward and side force.

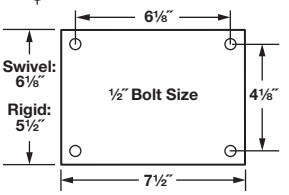





Wheel Dia.	Wheel Wd.	Tire Size	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
16″	4.8″	4.80/8	18¾″	1,220	28035T11	$293.46	28035T21	$226.54
18″	5.7″	5.70/8	21¼″	1,655	28035T12	403.88	28035T22	329.60

Easy-Turn Air-Ride Casters—700 to 1,570 lbs.

Dual wheels provide better load distribution and easier turning than single-wheel casters. Casters have a forged steel frame for durability. Frame has a zinc-plated finish.

Flat-free wheels cushion just as well as pneumatic wheels but are filled with polyurethane foam so they won't go flat.

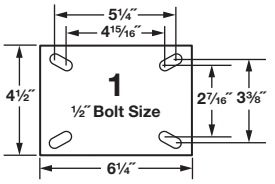

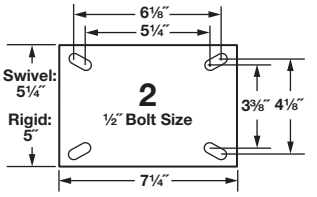



Wheel Dia.	Wheel Wd.	Tire Size	Mount Ht.	Cap. Ea., lbs.	Mounting Plate	Swivel		Rigid	
Black Rubber Pneumatic Wheels									
10″	4.1″	4.10/4	13″	700	1	2788T67	$201.75	2788T68	$151.29
12″	4.1″	4.10/6	15½″	890	2	2788T65	277.89	2788T66	184.75
14″	5.3″	5.30/6	17¾″	1,570	2	2788T36	292.10	2788T37	216.47
Black Rubber Flat-Free Wheels									
10″	4.1″	4.10/4	13″	700	1	2788T72	298.11	2788T71	248.92
12″	4.1″	4.10/6	15½″	890	2	2788T74	473.79	2788T73	402.75
14″	5.3″	5.30/6	17¾″	1,570	2	2788T76	534.01	2788T75	448.17

Low-Profile Casters—700 to 1,000 lbs.

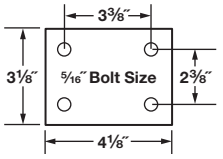


Swivel


Swivel with Brake


Rigid


Rigid with Brake

Choose these casters when you need high capacities and low mounting heights. Their wheel bearings are completely sealed and have precision steel balls, so they never need lubrication and provide the least rolling resistance of all the wheel bearings we offer. Wheels are black glass-filled nylon that is extra hard (85D durometer) and nonmarking. Frame is steel with a zinc-plated finish.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake		Rigid		Rigid with Brake	
3″	1 13⁄16″	3 31⁄32″	700	4937T11	$19.95	4937T12	$22.72	4937T15	$15.07	4937T16	$17.84
3″	1 13⁄16″	4 1⁄32″	1,000	4937T13	22.18	4937T14	25.16	4937T17	16.95	4937T18	19.98

Vulcan Casters—350 to 680 lbs.

More durable than other casters in their capacity range, these withstand the stress of sudden impact. Wheels are black rubber on an iron core. Wheel treads are soft (75A durometer). Frame is steel with a zinc-plated finish, except casters with a 3″ wide wheel, which have a blue painted finish.

Swivel casters have a precision-machined (kingpinless) raceway with large-diameter ball bearings for smooth swiveling and extended service life. Bearings are sealed to keep out dust and debris.

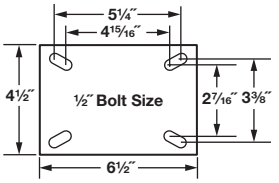


Swivel


Rigid

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid		Optional Swivel Lock		Optional Brake for Swivel Casters	
4″	2″	5⅝″	350	31105T11	$48.06	31105T21	$21.33	22665T76	$7.12	22665T751	$11.76
5″	2″	6½″	400	31105T12	49.82	31105T22	22.29	22665T76	7.12	22665T752	11.76
6″	2″	7½″	410	31105T16	51.41	31105T26	23.87	22665T76	7.12	22665T753	11.76
6″	3″	7½″	680	31105T14	84.11	31105T24	52.65	22655T21	6.74	22655T111	56.09

Large-Plate Samson Casters—350 to 675 lbs.


Swivel


Rigid

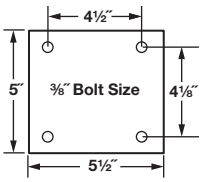

Designed for moderately heavy loads on smooth surfaces, these casters are a good choice when impact resistance isn't a concern. Frame is steel with a zinc-plated finish.

Cushioned Black Rubber—Wheel treads are soft (78A durometer).

Cushioned Gray Rubber—Wheel treads are soft (70A durometer) and nonmarking.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Cushioned Black Rubber on Iron Wheels							
4″	2″	5⅝″	350	2444T41	$30.12	2444T45	$25.29
5″	2″	6½″	450	2444T42	31.41	2444T46	25.40
6″	2″	7⅜″	500	2444T43	35.80	2444T47	27.53
8″	2″	9½″	600	2444T44	38.57	2444T48	32.33
Cushioned Gray Rubber on Polypropylene Wheels							
4″	2″	5⅝″	350	2444T15	$30.54	2444T35	$23.89
5″	2″	6½″	375	2444T16	32.01	2444T36	26.08
6″	2″	7⅜″	600	2444T17	34.68	2444T37	27.62
8″	2″	9½″	675	2444T18	37.37	2444T38	31.51

Optional Swivel Lock	2444T91	$26.90
Optional Brake for 4″ and 5″ Dia. Wheels	2422T98	15.39
Optional Brake for 6″ and 8″ Dia. Wheels	2422T99	15.39

Samson Casters—350 to 675 lbs.


Swivel


Swivel with Swivel Lock


Swivel with Total Lock


Rigid

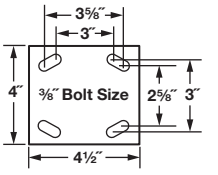

Like our Large-Plate Samson Casters these are good for moderately heavy loads on smooth surfaces, but they have a smaller mounting plate. Wheels are nonmarking, except cushioned black rubber and long-lasting iron wheels. Frame is steel with a zinc-plated finish.

Swivel casters with total lock brake the wheel and lock the swivel in one operation.

Sealed general purpose wheel bearings keep out dust and debris for longer service life. Swivel casters also have a seal on the swivel.

Lightweight Black Polypropylene—Wheels are extra hard (65D durometer).

Black Phenolic—Wheels are extra hard (90D durometer).

Cushioned Black Rubber on Iron—Wheel treads are soft (78A durometer).

Cushioned Gray Rubber on Polypropylene—Wheel treads are soft (70A durometer).

Abrasion-Resistant Green Polyurethane on Iron—Wheel treads are hard (95A durometer).

Abrasion-Resistant Green Polyurethane on Aluminum—Wheel treads are extra hard (60D durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Swivel Lock		Swivel with Total Lock		Rigid	
General Purpose Wheel Bearings											
Lightweight Black Polypropylene Wheels											
4″	2″	5⅝″	450	30305T32	$26.61	30305T85	$40.22	30305T851	$42.35	30305T42	$16.88
5″	2″	6½″	550	30305T34	27.25	30305T86	42.74	30305T861	44.08	30305T44	17.60
6″	2″	7¼″	650	30305T35	28.18	30305T87	43.28	30305T871★	45.21	30305T45	18.80
Black Phenolic Wheels											
3¼″	1½″	4¼″	600	30305T53	27.42	30305T532	35.07			30305T63	17.75
4″	1½″	5⅝″	600	30305T54	28.06	30305T541	33.89	30305T542	34.51	30305T64	18.42
5″	1½″	6½″	600	30305T55	29.10	30305T551	34.61	30305T552	36.51	30305T65	19.15
Cushioned Black Rubber on Iron Wheels											
4″	2″	5⅝″	350	30305T12	28.08	30305T81	42.45	30305T811	44.15	30305T22	20.29
5″	2″	6½″	450	30305T14	29.09	30305T82	43.35	30305T821	45.42	30305T24	21.29
6″	2″	7¼″	500	30305T15	29.82	30305T83	43.87	30305T831★	48.08	30305T25	22.76
8″	2″	9½″	600	30305T16	35.01	30305T84	50.79	30305T841	53.09	30305T26	30.19
Cushioned Gray Rubber on Polypropylene Wheels											
4″	2″	5⅝″	350	30305T56	29.98	30305T561	42.03	30305T562	44.25	30305T66	23.29
5″	2″	6½″	375	30305T57	30.15	30305T571	43.29	30305T572	44.97	30305T67	23.60
6″	2″	7¼″	600	30305T58	31.95	30305T581	44.02	30305T582★	46.65	30305T68	25.05
8″	2″	9½″	675	30305T59	36.88	30305T591	48.26	30305T592	55.58	30305T69	31.89
Abrasion-Resistant Green Polyurethane on Iron Wheels											
3¼″	2 3/16″	4¼″	540	30305T18	48.06	30305T181	48.73			30305T28	38.62
Abrasion-Resistant Green Polyurethane on Aluminum Wheels											
4″	1½″	5⅝″	600	30305T19	38.16	30305T193	40.76	30305T192	44.48	30305T29	28.68
Long-Lasting Iron Wheels											
3¼″	1½″	4¼″	400	30305T37	35.08	30305T372	36.80			30305T47	25.62
4″	1½″	5⅝″	600	30305T38	28.43	30305T383	35.44	30305T382	39.63	30305T48	20.46
5″	1½″	6½″	600	30305T39	29.84	30305T393	36.78	30305T392	41.45	30305T49	21.80
Sealed General Purpose Wheel Bearings											
Lightweight Black Polypropylene Wheels											
4″	2″	5⅝″	450	30305T75	34.59	30305T753	36.52	30305T752	41.02	30305T95	19.88
5″	2″	6½″	550	30305T76	35.86	30305T761	39.50	30305T762	41.87	30305T96	21.04
6″	2″	7¼″	650	30305T77	37.11	30305T771	40.08	30305T772★	42.24	30305T97	22.38
Cushioned Black Rubber on Iron Wheels											
4″	2″	5⅝″	350	30305T71	36.53	30305T711	39.05	30305T712	41.60	30305T91	22.38
5″	2″	6½″	450	30305T72	37.52	30305T721	39.94	30305T722	43.54	30305T92	23.30
6″	2″	7¼″	500	30305T73	38.18	30305T731	41.82	30305T732★	44.19	30305T93	24.79
8″	2″	9½″	600	30305T74	43.19	30305T741	47.10	30305T742	56.01	30305T94	30.46

★Mount height is 7½″

Optional Side Brake for 4″ and 5″ Dia. Wheels	2422T98	$15.39
Optional Side Brake for 6″ and 8″ Dia. Wheels	2422T99	15.39
Optional Face Brake for Swivel Casters—To Order: Please specify 4″, 5″, 6″, or 8″ wheel dia.	30305T98	10.24

Quiet-Glide Casters—330 to 770 lbs.

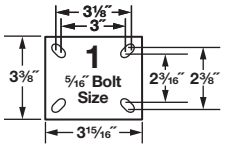

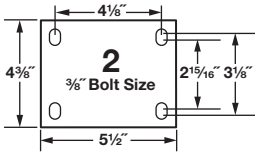


Swivel


Swivel with Total Lock


Rigid

Reduce noise in your work environment—a cushioned blue rubber tread provides a quiet ride. Metal debris guards protect the wheel bearings from contaminants for smooth operation and extended service life. Wheel treads are soft (65A durometer) and nonmarking; core is nylon. Frame is steel with a zinc-plated finish.

Swivel bearings are sealed to keep out dust and debris.

Swivel casters with total lock brake the wheel and lock the swivel in one operation.

Easy-roll wheel bearings have steel balls and require less effort to start rolling than general purpose bearings.

Wheel Dia.	*Wheel* Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Total Lock		Rigid	
Easy-Roll Wheel Bearings—Mounting Plate 1									
4″	1⅜″	4¹5/16″	330	27075T71	$17.38	27075T72	$26.16	27075T73	$15.28
5″	1⅜″	5¹5/16″	330	27075T81	23.18	27075T82	31.16	27075T83	20.66
General Purpose Wheel Bearings—Mounting Plate 2									
6¼″	2″	7¹1/16″	770	27075T74	54.98	27075T75	78.72	27075T76	42.96

Cushioned-Load Casters—350 to 675 lbs.

The soft rubber wheel tread and the sturdy steel frame withstand shock to protect your load. Frame has a zinc-plated finish.

Heavy duty casters have a forged steel frame for durability.

Cushioned Black Rubber—Wheel treads are soft (78A durometer).

Cushioned Gray Rubber—Wheel treads are soft (65A durometer) and nonmarking.


Swivel


Rigid

Wheel Dia.	*Wheel* Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid		Optional Swivel Lock		Optional Brake for Swivel Casters	
Heavy Duty Casters—Mounting Plate 1											
Cushioned Black Rubber on Iron Wheels											
4″	2″	5⅝″	350	2885T11	$57.38	2885T21	$26.84	2422T97	$14.05	2885T35	$11.66
6″	2″	7½″	500	2885T13	64.34	2885T23	29.57	2422T97	14.05	2885T37	12.15
8″	2″	10⅛″	600	2885T15	68.63	2885T25	35.69	2422T97	14.05	2885T38	14.38
Cushioned Gray Rubber on Polypropylene Wheels											
4″	2″	5⅝″	350	2885T31	61.08	2885T41	26.92	2422T97	14.05	2885T35	11.66
6″	2″	7½″	600	2885T33	66.29	2885T43	30.64	2422T97	14.05	2885T37	12.15
8″	2″	10⅛″	675	2885T34	74.01	2885T44	39.28	2422T97	14.05	2885T38	14.38
Heavy Duty Casters—Mounting Plate 2											
Cushioned Black Rubber on Iron Wheels											
4″	2″	5⅝″	350	80175T11	55.89	80175T15	28.35			2885T35	11.66
5″	2″	6½″	450	80175T12	56.85	80175T16	27.58			2885T36	11.43
6″	2″	7½″	500	80175T13	61.93	80175T17	29.27			2885T37	12.15
8″	2″	10⅛″	600	80175T14	69.16	80175T18	34.67			2885T38	14.38
Standard Duty Casters—Mounting Plate 1											
Cushioned Black Rubber on Iron Wheels											
4″	2″	5⅝″	350	2703T11	37.97	2703T21	22.33	2703T76	14.05	2422T98	15.39
5″	2″	6½″	450	2703T12	38.85	2703T22	23.36	2703T76	14.05	2422T98	15.39
6″	2″	7½″	500	2703T13	41.14	2703T23	25.60	2703T76	14.05	2422T99	15.39
8″	2″	10⅛″	600	2703T15	45.76	2703T25	30.30	2703T76	14.05	2422T99	15.39
Cushioned Gray Rubber on Polypropylene Wheels											
4″	2″	5⅝″	400	2703T41	42.33	2703T51	22.35	2703T75	8.34	2703T31	23.71
5″	2″	6½″	500	2703T42	44.00	2703T52	23.28	2703T75	8.34	2703T32	23.71
6″	2″	7½″	600	2703T61	43.88	2703T71	24.25	2703T75	8.34	2703T33	23.71
8″	2″	9½″	675	2703T62	45.25	2703T72	28.37	2703T75	8.34	2703T34	23.71

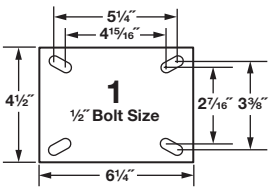

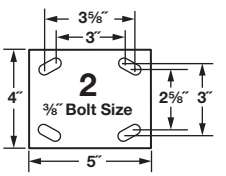

Mauler Casters—290 to 650 lbs.

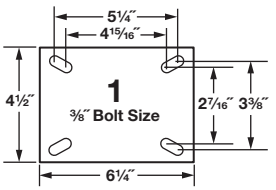

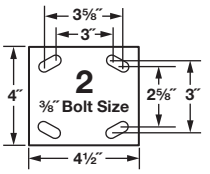


Swivel


Rigid

An economical way to move moderately heavy loads on smooth surfaces, these casters are similar to our Samson Casters on the previous page but have a thinner gauge frame. Frame is steel with a gray powder-coated finish.

Swivel bearings are sealed to keep out dust and debris.

Lightweight Polypropylene—Wheels are extra hard (70D durometer) and nonmarking.

Cushioned Rubber—Wheel treads are soft (70A durometer).

Wheel Dia.	*Wheel* Wd.	Mount Ht.	Cap. Ea., lbs.	*Mounting Plate 1* Swivel		*Mounting Plate 1* Rigid		*Mounting Plate 2* Swivel		*Mounting Plate 2* Rigid		Optional Brake for Swivel Casters	
Lightweight Black Polypropylene Wheels													
4″	2″	5⅝″	500	44785T61	$21.79	44785T71	$19.34	19505T31	$20.10	19505T41	$15.35	22955T36	$11.45
5″	2″	6½″	650	44785T62	23.49	44785T72	21.15	19505T32	21.13	19505T42	17.27	22955T36	11.45
Cushioned Black Rubber on Iron Wheels													
4″	2″	5⅝″	290	44785T11	25.06	44785T31	20.11	19505T11	20.51	19505T21	16.81	22955T36	11.45
5″	2″	6½″	350	44785T12	25.89	44785T32	25.28	19505T12	22.49	19505T22	18.23	22955T36	11.45
6″	2″	7¼″	410	44785T13	26.21	44785T33	26.45	19505T13	23.81	19505T23	20.57	22955T36	11.45
8″	2″	9½″	500	44785T14	32.91	44785T34	29.36	19505T14	28.23	19505T24	23.40	22955T36	11.45

Cushioned-Center Casters—440 to 485 lbs.



Swivel



Swivel with Total Lock



Rigid

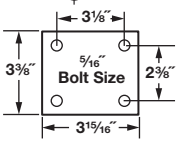

Get the strength of nylon with the cushion of rubber. The long-lasting white nylon wheels have a layer of rubber in the middle for good shock absorption. Wheel bearings are completely sealed, so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer. Wheels are extra hard (75D durometer) and nonmarking. Frame is steel with a zinc-plated finish.

Swivel casters with total lock brake the wheel and lock the swivel in one operation.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Total Lock		Rigid	
4″	1⅜″	5⅛″	440	27115T4	$31.84	27115T5	$39.58	27115T6	$27.58
5″	1⅜″	6⅛″	485	27115T1	37.58	27115T2	48.14	27115T3	33.74

Kingston Casters—300 to 410 lbs.



Swivel



Swivel with Right Side Brake



Swivel with Right Side Brake and Swivel Lock



Rigid



Rigid with Brake

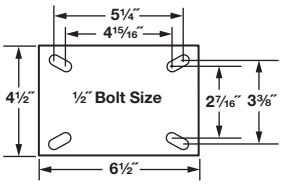

Forged steel construction gives these casters the strength for demanding applications. Wheels are black rubber on an iron core. Wheel treads are soft (70A durometer). Frame has a red painted finish.

Swivel casters have ball bearings and tapered roller bearings for smooth swiveling and good impact resistance. **To Order:** For swivel casters with brake, please specify right or left side brake.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake		Swivel with Brake and Swivel Lock		Rigid		Rigid with Brake	
4″	2″	5⅝″	300	32215T51	$91.58	32215T11	$97.07	32215T31	$117.07	32215T52	$53.58	32215T41	$64.55
5″	2″	6¾″	350	32215T53	97.38	32215T12	103.37	32215T32	120.64	32215T54	58.05	32215T42	69.64
6″	2″	7¾″	410	32215T55	90.64	32215T13	102.32	32215T33	119.30	32215T56	52.82	32215T43	67.64

Cart-Smart Casters—200 to 600 lbs.



Swivel



Swivel with Brake



Rigid

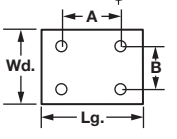

Mtg. Plate	Mounting Plate Dimensions: Swivel and Swivel with Brake: Plate Lg.	Plate Wd.	(A)	(B)	Rigid: Plate Lg.	Plate Wd.	(A)	(B)
1	3 13/16″	2¾″	3″	1¾″	4 7/16″	2¼″	3½″	1 1/16″
2	4⅛″	3⅛″	3 7/16″	2⅜″	4 15/16″	2½″	4″	1 3/16″
3	4⅛″	3⅛″	3 7/16″	2⅜″	5⅛″	2¼″	4″	1 3/16″
4	5″	4″	4″	3″	6¼″	3¼″	5″	2″
5	5⅛″	4″	4″	3″	6¼″	3⅛″	5″	1¾″

Choose from a variety of mounting plate sizes that match many common carts and dollies. Frame is steel with a zinc-plated finish.

Plain bore casters have a wheel that rides directly on the axle, making them an economical choice for equipment not frequently moved. Casters meet NSF/ANSI standards. *Swivel* casters have light duty single-ball swivel bearings.

General purpose wheel bearings have straight rollers for smoother rolling than casters with a plain bore. *Swivel* casters have a welded (kingpinless) raceway with two rows of ball bearings for smooth swiveling and extended service life.

Lightweight Black Polypropylene—Wheels are extra hard (60D durometer).

Cushioned Black Rubber—Wheels are soft (75A durometer).

Impact-Resistant Gray Rubber—Wheels are extra hard (75D durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Mtg. Plate	Mtg. Bolt Size	Swivel		Swivel with Brake		Rigid	
Plain Bore (No Bearings)											
Lightweight Black Polypropylene Wheels											
2½″	1⅛″	3 3/16″	200	1	5/16″	2407T52	$5.56	2407T84	$7.40	2407T92	$4.30
3″	1¼″	3 13/16″	270	2	5/16″	2407T53	6.29	2407T85	8.18	2407T93	5.00
4″	1 5/16″	5″	350	5	⅜″	2407T45	11.21	2407T42	15.12	2407T43	10.02
Cushioned Black Rubber Wheels											
4″	1 5/16″	5″	225	5	⅜″	2407T21	14.73	2407T71	15.56	2407T34	10.15
Impact-Resistant Gray Rubber Wheels											
2½″	1⅛″	3 3/16″	200	1	5/16″	2407T56	6.19	2407T73	7.87	2407T63	4.61
3″	1¼″	3 13/16″	270	2	5/16″	2407T57	7.74	2407T74	9.19	2407T64	5.98
4″	1 5/16″	5″	350	5	⅜″	2407T58	13.17	2407T75	18.95	2407T65	16.02
Long-Lasting Iron Wheels											
2½″	1″	3 3/16″	200	1	5/16″	2407T12	11.08	2407T81	12.40	2407T25	9.91
3″	1 3/16″	3 13/16″	300	2	5/16″	2407T13	11.85	2407T86	16.28	2407T26	11.88
4″	1⅜″	5″	450	5	⅜″	2407T14	20.42	2407T87	28.70	2407T27	22.62
General Purpose Wheel Bearings											
Cushioned Black Rubber on Iron Wheels											
4″	1½″	5¼″	200	4	5/16″	2457T62	22.48	_____	___	2457T67	19.06
Long-Lasting Iron Wheels											
3″	1⅜″	4″	350	3	5/16″	2457T41	16.96	_____	___	2457T46	14.40
4″	1½″	5¼″	600	4	5/16″	2457T42	24.50	_____	___	2457T47	20.62

Cart-King Casters—200 to 400 lbs.

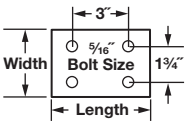


Swivel


Swivel with Face Brake


Swivel with Total Lock


Rigid



Dual Wheel Swivel with Side Brake


Dual Wheel Swivel with Thumb-Screw Brake

Our most popular casters for carts and dollies, these are offered in a variety of sizes and styles to fit your equipment. Frame is steel with a zinc-plated finish.

Swivel casters with total lock brake the wheel and lock the swivel in one operation.

Dual-wheel casters provide better load distribution and easier turning than single-wheel casters.

Plain bore casters have a wheel that rides directly on the axle, making them an economical choice for equipment not frequently moved.

Sleeve bearings prevent wear to the wheel bore and are a good choice when ease of rolling is not critical.

General purpose bearings have straight rollers that provide smooth rolling.

Easy-roll bearings have steel balls and require minimal effort to start rolling.

	Mounting Plate Dimensions			
	Swivel and Swivel with Brake		Rigid	
Mtg. Plate	Plate Lg.	Plate Wd.	Plate Lg.	Plate Wd.
1	3 5/8″	2 1/2″	3 5/8″	2 1/2″
2	3 5/8″	2 1/2″	3 5/8″	2 11/16″
3	3 5/8″	2 7/8″	4 1/8″	2 15/16″
4	3 3/4″	2 1/2″	3 3/4″	2 3/4″
5	3 3/4″	2 1/2″	3 3/4″	2 1/2″

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Mtg. Plate	Swivel		Swivel with Brake: Brake Type	Swivel with Brake		Rigid	
Single Wheel—Plain Bore (No Bearings)											
Cushioned Black Rubber Wheels—Soft (75A Durometer)											
3 1/2″	1 5/16″	4 3/4″	200	3	2370T11	$11.33	Face	2370T41	$13.12	2370T21	$8.52
4″	1 1/4″	5″	200	3	2370T13	14.47	Face	2370T42	15.65	2370T23	10.93
5″	1 1/4″	6 1/8″	200	3	2370T15	13.46	Face	2370T43	14.30	2370T25	11.61
Impact-Resistant Brown Rubber Wheels—Extra Hard (75D Durometer)											
3 1/2″	1 5/16″	4 3/4″	275	3	2370T12	12.10	Face	2370T44	13.54	2370T22	10.83
4″	1 1/4″	5″	275	3	2370T14	11.86	Face	2370T45	14.30	2370T24	9.58
5″	1 1/4″	6 1/8″	300	3	2370T16	14.20	Face	2370T46	18.38	2370T26	14.11
Abrasion-Resistant Blue Polyurethane Wheels—Extra Hard (55D Durometer)											
3″	1 1/4″	3 13/16″	270	1	8789T31	19.53	Face	8789T41	21.37	8789T34	16.21
4″	1 1/4″	5″	400	3	8789T32	26.75	Face	8789T42	26.44	8789T35	23.21
5″	1 1/4″	6 1/8″	400	3	8789T33	30.46	Face	8789T43	31.66	8789T36	27.41
Single Wheel—Acetal Sleeve Bearings											
Lightweight Black Polypropylene Wheels—Extra Hard (65D Durometer)											
3″	1 1/4″	4 1/4″	250	1	2370T17	7.43	Total Lock	2370T81	15.44	2370T37	4.46
4″	1 1/4″	5 1/8″	350	1	2370T18	8.47	Total Lock	2370T82	12.45	2370T38	5.44
5″	1 1/4″	6 3/16″	350	1	2370T19	9.64	Total Lock	2370T83	19.99	2370T39	6.35
Cushioned Gray Rubber on Polypropylene Wheels—Soft Tread (65A Durometer)											
3 1/2″	1 1/4″	4 11/16″	250	2	2702T21	13.11	Total Lock	2702T81	18.36	2702T41	9.91
4″	1 1/4″	5 1/8″	300	2	2702T22	14.29	Total Lock	2702T82	20.12	2702T42	11.02
5″	1 1/4″	6 3/16″	325	2	2702T23	16.84	Total Lock	2702T83	21.52	2702T43	12.78
Cushioned Gray Polyurethane on Polypropylene Wheels—Soft Tread (85A Durometer)											
3 1/2″	1 1/8″	4 3/4″	200	4	2502T71	19.05	Total Lock	2502T31	28.59	2502T75	14.53
4″	1 1/8″	5″	200	4	2502T72	21.55	Total Lock	2502T32	30.89	2502T76	16.81
5″	1 1/8″	6 1/8″	200	4	2502T73	23.07	Total Lock	2502T33	32.42	2502T77	18.34
6″	1 1/8″	7 1/16″	275	4	2502T74	24.75	Total Lock	2502T34	34.09	2502T78	20.25
Single Wheel—General Purpose Bearings											
Black Phenolic Wheels—Extra Hard (90D Durometer)											
3″	1 1/4″	4 1/4″	350	1	2370T51	13.87	Total Lock	2370T84	22.50	2370T59	11.46
4″	1 1/4″	5 1/8″	350	1	2370T53	15.28	Total Lock	2370T85	24.16	2370T62	12.04
5″	1 1/4″	6 3/16″	350	1	2370T54	16.43	Total Lock	2370T86	24.50	2370T63	12.94
Single Wheel—Easy-Roll Bearings											
Cushioned Gray Rubber on Polypropylene Wheels—Soft Tread (65A Durometer)											
3 1/2″	1 1/4″	4 11/16″	250	2	2702T31	15.56	Total Lock	2702T71	20.20	2702T51	11.67
4″	1 1/4″	5 1/8″	300	2	2702T32	15.78	Total Lock	2702T72	21.70	2702T52	13.42
5″	1 1/4″	6 3/16″	325	2	2702T33	17.44	Total Lock	2702T73	22.10	2702T53	14.67
Cushioned Gray Polyurethane on Polypropylene Wheels—Soft Tread (85A Durometer)											
3 1/2″	1 1/8″	4 3/4″	200	4	2502T51	19.63	Total Lock	2502T35	29.15	2502T56	15.06
4″	1 1/8″	5″	200	4	2502T52	22.42	Total Lock	2502T36	31.34	2502T57	17.42
5″	1 1/8″	6 1/8″	200	4	2502T53	23.69	Total Lock	2502T37	33.04	2502T58	18.86
6″	1 1/8″	7 1/16″	275	4	2502T54	25.45	Total Lock	2502T38	34.79	2502T59	20.64
Abrasion-Resistant Red Polyurethane on Polypropylene Wheels—Hard Tread (95A Durometer)											
3 1/2″	1 1/8″	4 3/4″	250	4	2502T61	19.63	Total Lock	2502T41	29.15	2502T66	15.06
4″	1 1/8″	5″	240	4	2502T62	22.42	Total Lock	2502T42	31.92	2502T67	17.42
5″	1 1/8″	6 1/8″	240	4	2502T63	23.69	Total Lock	2502T43	33.04	2502T68	18.86
6″	1 1/8″	7 1/16″	325	4	2502T64	25.45	Total Lock	2502T44	34.79	2502T69	20.64
Dual Wheel—Metal Sleeve Bearings											
Cushioned Black Rubber Wheels—Soft (70A Durometer)											
3″	13/16″	3 13/16″	250	5	9908T18	12.45	Side	9908T31	16.15	9908T41	11.51
Abrasion-Resistant Black Rubber Wheels—Hard (90A Durometer)											
2″	7/8″	2 7/8″	250	4	9908T12	10.28	Side	9908T32	13.94	9908T42	9.51
3″	13/16″	3 13/16″	300	5	9908T19	12.45	Side	9908T33	16.15	9908T43	11.51
Dual Wheel—Easy-Roll Bearings											
Oil-Resistant Black Neoprene Rubber Wheels—Soft (78A Durometer)											
2″	7/8″	3 1/4″	250	1	2455T31	24.91	Thumb Screw	2455T51	35.96	2455T33	20.05
2 1/2″	7/8″	3 3/4″	250	1	2455T32	27.85	Thumb Screw	2455T52	40.17	2455T34	22.84
Impact-Resistant Black Rubber Wheels—Extra Hard (80D Durometer)											
2″	7/8″	3 1/4″	375	1	2455T23	25.89	Thumb Screw	2455T53	31.66	2455T27	20.75
Abrasion-Resistant Black Polyurethane Wheels—Extra Hard (65D Durometer)											
2 1/2″	7/8″	3 3/4″	400	1	2455T24	27.87	Thumb Screw	2455T54	40.42	2455T28	24.56

Creston Casters—200 to 400 lbs.


Swivel


Swivel with Face Brake


Swivel with Wrap-Around Brake


Rigid

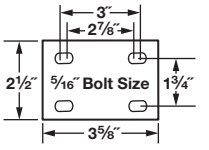

Swivel bearings have a seal to keep out dust and debris, lengthening the life of the caster. Casters with rubber and neoprene rubber wheels also have debris guards on the wheel bearings. All casters have a steel frame with a zinc-plated finish.

Swivel casters with wrap-around brake are easy to engage and have a rubber brake pad for a strong grip.

Easy-roll wheel bearings have steel balls and require less effort to start rolling than acetal sleeve bearings.

Abrasion-Resistant Polyurethane—Wheel treads are nonmarking.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Face Brake		Swivel with Wrap-Around Brake		Rigid	
Acetal Sleeve Wheel Bearings											
Impact-Resistant Black Rubber Wheels—Extra Hard (80D Durometer)											
2½″	1¼″	3¾″	400	9949T64	$29.99					9949T77	$27.43
3″	1¼″	4⅝″	400	9949T66	25.02	9949T96	$28.60	9949T54	$46.86	9949T79	21.15
3½″	1¼″	4¾″	400	9949T68	27.94	9949T97	29.72	9949T56	49.79	9949T82	24.49
4″	1¼″	5¼″	400	9949T71	30.64	9949T98	33.84	9949T58	50.28	9949T86	25.84
5″	1¼″	6¼″	400	9949T73	37.80	9949T99	43.89	9949T61	68.72	9949T88	32.08
6″	1¼″	7⅜″	400	9949T75	42.42			9949T63	73.60	9949T91	38.87
Oil-Resistant Black Neoprene Rubber Wheels—Soft (78A Durometer)											
2½″	1¼″	3¾″	200	9949T37	26.68					9949T51	24.05
3″	1¼″	4⅝″	200	9949T39	27.49	9949T92	30.77	9949T28	49.02	9949T53	23.32
3½″	1¼″	4¾″	200	9949T42	28.71	9949T93	32.67	9949T32	49.77	9949T55	25.09
4″	1¼″	5¼″	200	9949T44	32.05	9949T94	35.83	9949T34	52.29	9949T57	27.18
5″	1¼″	6¼″	200	9949T46	37.63	9949T95	43.14	9949T36	68.52	9949T59	31.91
6″	1¼″	7⅜″	200	9949T48	44.98			9949T38	76.15	9949T62	41.48
Easy-Roll Wheel Bearings											
Abrasion-Resistant Red Polyurethane on Polypropylene Wheels—Hard Tread (90A Durometer)											
3″	1¼″	4⅝″	300	9949T13	23.19	9949T17	25.74	9949T21	43.49	9949T27	18.83
4″	1¼″	5¼″	400	9949T14	25.51	9949T18	28.72	9949T22	45.13	9949T29	20.98
5″	1¼″	6¼″	400	9949T15	32.63	9949T19	33.40	9949T23	58.21	9949T31	25.02
6″	1¼″	7⅜″	400	9949T16	34.17			9949T25	61.85	9949T33	30.81
Oil-Resistant Black Neoprene Rubber Wheels—Soft (60A Durometer)											
5½″	1½″	6⅞″	200	9949T41	46.23			9949T43	76.66	9949T47	41.43
6″	1¼″	7⅜″	200	9949T52	44.26			9949T65	75.40	9949T67	39.04
8″	1 9/16″	9 7/16″	200	9949T24	69.55			9949T49	104.13	9949T26	55.55

Heavy Duty Debris-Guard Casters—350 lbs.


Swivel


Rigid

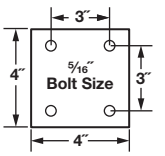

A thick frame and metal wheel guards keep these sturdy casters rolling smoothly. Wheels are soft (78A durometer) black rubber. Frame is steel with a zinc-plated finish.

Swivel bearings are sealed to keep out dust and debris.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
3″	1⅞″	4½″	350	97955T11	$97.74	97955T21	$72.89
4″	1⅞″	5½″	350	97955T12	99.85	97955T22	74.91

Debris-Guard Casters—200 to 300 lbs.


Swivel


Rigid

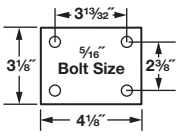

Metal wheel guards keep dust and debris from breaking your stride. Frame is steel with a zinc-plated finish.

Cushioned Black Rubber—Wheels are soft (75A durometer).

Impact-Resistant Gray Rubber—Wheels are extra hard (75D durometer) and nonmarking.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Cushioned Black Rubber Wheels							
3½″	15/16″	4¾″	200	2877T21	$24.13	2877T24	$15.29
4″	1¼″	5″	200	2877T31	18.74	2877T35	17.21
5″	1¼″	6⅛″	200	2877T32	21.05	2877T36	20.27

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Impact-Resistant Gray Rubber Wheels							
3½″	15/16″	4¾″	275	2877T28	$16.01	2877T27	$15.29
4″	1¼″	5″	275	2877T33	19.91	2877T37	17.21
5″	1¼″	6⅛″	300	2877T34	21.07	2877T38	20.27

Optional Brake for Swivel Casters—To Order: Please specify 3½″, 4″, or 5″ wheel dia. 2877T81 $6.58

Static-Control Casters—250 lbs.


Swivel


Rigid

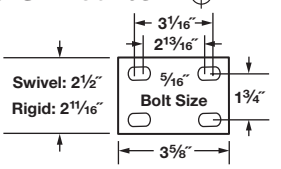

Protect sensitive electronic equipment from electrostatic discharge. The wheels on these casters dissipate static to keep it from building up. Average electrical resistance is less than 250,000 ohms. Casters meet NSF/ANSI standards and Fed. Spec. FF-C-88C. Wheels are gray rubber on a polypropylene core. Wheel treads are soft (75A durometer) and nonmarking. Frame is steel with a zinc-plated finish.

Optional total locks brake the wheel and lock the swivel in one operation.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
4″	1¼″	5⅛″	250	3238T11	$21.55	3238T12	$18.18
5″	1¼″	6 3/16″	250	3238T13	23.22	3238T14	21.20

Optional Total Lock for 4″ Dia. Swivel Caster 3238T211 $5.36

Optional Total Lock for 5″ Dia. Swivel Caster 3238T212 5.36

Trash-Container Casters—350 to 650 lbs.

Built to withstand the stress of impact, the legs of the swivel casters are less angled than other casters so these are good for containers that are frequently picked up and set back down. All casters have a steel frame with a gray powder-coated finish.

Acetal sleeve wheel bearings prevent wear to the wheel bore and are a good choice when ease of rolling is not critical.

Impact-Resistant Polypropylene—Wheels are extra hard (72D durometer) and nonmarking.

Cushioned Rubber—Wheel treads are soft (70A durometer).

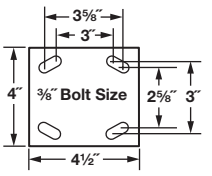





Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Plain Bore (No Bearings)							
Impact-Resistant Black Polypropylene Wheels							
5″	2″	6½″	650	22795T13	$18.62	22795T33	$14.16
6″	2″	7½″	650	22795T14	19.98	22795T34	15.20
Acetal Sleeve Wheel Bearings							
Cushioned Black Rubber on Iron Wheels							
5″	2″	6½″	350	22795T11	$21.56	22795T31	$15.54
6″	2″	7½″	410	22795T12	24.02	22795T32	19.44

Food-Service Casters—500 to 750 lbs.

Casters with polyurethane treads are treated to inhibit the growth of microbes and protect the wheels from degradation. Casters with phenolic wheels are BISSC (Baking Industry Sanitation Standards Committee) certified. All casters have a steel frame with a zinc-plated finish.

General purpose wheel bearings have straight rollers for smoother rolling than acetal sleeve bearings.

Polyurethane—Wheel treads are hard (90A durometer).

Phenolic—Wheel treads are extra hard (90D durometer).

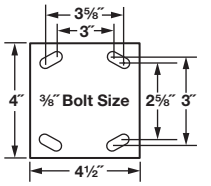





Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Acetal Sleeve Wheel Bearings							
Gray Polyurethane on Polypropylene Wheels							
4″	2″	5⅝″	700	49915T41	$36.94	49915T51	$29.92
5″	2″	6½″	750	49915T42	40.13	49915T52	33.25
General Purpose Wheel Bearings							
Black Phenolic Wheels							
4″	1½″	5⅝″	500	49915T11	$56.65	49915T21	$32.19
5″	1½″	6½″	500	49915T12	57.55	49915T22	33.09
6″	1½″	7⅜″	500	49915T13	61.69	49915T23	36.51

Glide-Light Food-Grade Casters—350 to 550 lbs.

The lightweight wheels on these casters are easy to get rolling. Use in food-service applications. Wheels are nonmarking. Frame is steel with a zinc-plated finish.

Easy-roll wheel bearings have steel balls and require less effort to start rolling than general purpose wheel bearings.

Cushioned Rubber—Wheel treads are soft (63A durometer).

Cushioned Polyurethane—Wheel treads are soft (85A durometer).

Abrasion-Resistant Polyurethane—Wheel treads are hard (95A durometer).

Optional total lock brakes the wheel and locks the swivel in one operation.

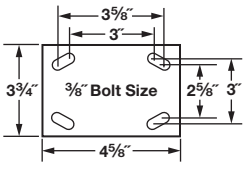





Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
General Purpose Wheel Bearings							
Cushioned Gray Rubber on Aluminum Wheels							
6″	2″	7½″	350	20115T51	$45.26	20115T71	$40.86
8″	2″	9½″	450	20115T52	52.50	20115T72	47.25
Cushioned Gray Polyurethane on Polypropylene Wheels							
4″	2″	5⅝″	450	20115T12	36.60	20115T22	26.46
5″	2″	6½″	500	20115T14	38.02	20115T24	28.20
6″	2″	7½″	550	20115T15	40.96	20115T25	30.88
General Purpose Wheel Bearings (Cont.)							
Abrasion-Resistant Red Polyurethane on Polypropylene Wheels							
4″	2″	5⅝″	500	20115T17	$36.60	20115T27	$26.46
Easy-Roll Wheel Bearings							
Cushioned Gray Rubber on Aluminum Wheels							
6″	2″	7½″	350	20115T53	53.40	20115T73	44.37
8″	2″	9½″	450	20115T54	60.56	20115T74	51.02

Optional Brake 2498T13 $5.66

Optional Total Lock for Swivel Casters—**To Order:** Please specify 4″, 5″, 6″, or 8″ wheel dia. 20115T82 13.93

Cardinal Food-Grade Casters—210 to 315 lbs.

A debris cap on the swivel keeps out contaminants for extended service life. Use in food-service applications. Casters with 4″ and 5″ dia. wheels also have debris guards on the wheel bearings. All casters have nonmarking wheels and a zinc-plated steel frame.

Swivel casters with total lock brake the wheel and lock the swivel in one operation.

Cushioned Rubber—Wheel treads are soft (85A durometer).

Abrasion-Resistant Polyurethane—Wheel treads are hard (45D durometer).

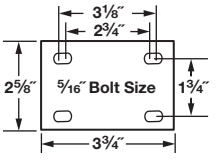







Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Total Lock		Rigid	
Cushioned Gray Rubber on Polypropylene Wheels									
3″	1¼″	4¼″	210	2426T55	$16.00	2426T65	$24.69	2426T75	$12.49
4″	1¼″	5¼″	260	2426T56	16.94	2426T66	25.60	2426T76	13.37
5″	1¼″	6¼″	280	2426T57	18.06	2426T67	27.11	2426T77	14.43
Abrasion-Resistant Gray Polyurethane on Polypropylene Wheels									
3″	1¼″	4¼″	250	2426T52	15.40	2426T62	24.14	2426T72	11.89
4″	1¼″	5¼″	300	2426T53	16.26	2426T63	24.89	2426T73	12.63
5″	1¼″	6¼″	315	2426T54	17.34	2426T64	26.37	2426T74	13.71

Patriot Food-Service Casters—300 to 550 lbs.


Swivel


Rigid

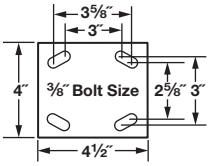

Cushioned rubber wheels protect your load. Use in food-service applications. Casters meet NSF/ANSI standards. Frame is steel with a zinc-plated finish.

Cushioned Gray Rubber—Wheels are rounded for quick turning. Wheel treads are soft (65A durometer) and nonmarking.

Cushioned Black Rubber—Wheel treads are soft (75A durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Cushioned Gray Rubber on Polypropylene Wheels							
4″	2″	5⅝″	350	2652T71	$26.00	2652T91	$23.38
5″	2″	6½″	400	2652T74	28.79	2652T94	25.88
6″	2″	7½″	450	2652T75	29.50	2652T95	28.13
Cushioned Black Rubber on Polypropylene Wheels							
6″	1½″	7½″	300	2652T51	$28.06	2652T61	$24.05
8″	2″	9½″	500	2652T52	34.56	2652T62	30.78
Optional Brake for Swivel Casters						2531T75	$12.44

Blackhawk Food-Service Casters—200 to 350 lbs.


Swivel


Rigid

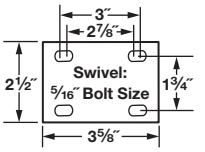

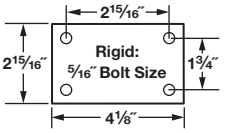

The steel frame has a black powder-coated finish to blend in with your equipment. Use in food-service applications. Casters meet NSF/ANSI standards.

Maintenance-free easy-roll wheel bearings are completely sealed so they never need lubrication. Their steel balls provide less rolling resistance than wheels with a plain bore.

Lightweight Polypropylene—Wheels are extra hard (60D durometer) and nonmarking.

Cushioned Rubber—Wheel treads are soft (70A durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Plain Bore (No Bearings)							
Lightweight Black Polypropylene Wheels							
2½″	1⅛″	3 5⁄16″	200	20135T11	$10.53	20135T16	$9.94
3″	1¼″	3 13⁄16″	270	20135T12	11.26	20135T17	9.12
4″	1¼″	5″	300	20135T14	13.35	20135T19	10.96
5″	1¼″	6⅛″	350	20135T15	16.39	20135T21	12.47
Maintenance-Free Easy-Roll Wheel Bearings							
Cushioned Gray Rubber on Polypropylene Wheels							
4″	1¼″	5″	250	20135T31	17.43	20135T34	15.44
5″	1¼″	6⅛″	300	20135T32	19.50	20135T35	18.31
6″	1⅜″	7 1⁄16″	325	20135T33	27.72	20135T36	24.18

Silent-Roll Maintenance-Free Casters—220 lbs.


Swivel


With Swivel Lock

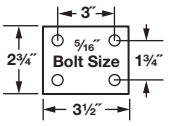

Popular in hospitals and laboratories, our quietest casters have a corrosion-resistant nylon frame and a cushioned gray rubber wheel with completely sealed easy-roll bearings. Debris guards on the wheel bearings and seals on the swivel ensure smooth operation and extend service life. Wheels are soft (85A durometer) and nonmarking. Mounting plate is steel with a zinc-plated finish.

Swivel casters with total lock brake the wheel and lock the swivel in one operation.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Swivel Lock		Swivel with Total Lock	
4″	1¼″	5 13⁄16″	220	2380T41	$47.58	2380T52	$53.06	2380T61	$55.50
5″	1¼″	6⅝″	220	2380T43	47.28	2380T54	56.22	2380T62	59.68

Washdown Casters—300 to 400 lbs.


Swivel


Rigid

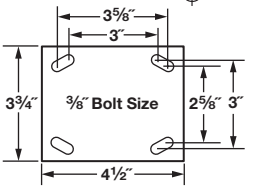

Our most corrosion-resistant casters have a Type 316 stainless steel frame that stands up to frequent washdowns. Wheels are gray rubber on a polypropylene core. Wheel treads are soft (80A durometer) and nonmarking.

Swivel bearings are sealed to keep out dust and debris.

General purpose stainless steel wheel bearings have straight rollers for smoother rolling than acetal sleeve bearings.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Acetal Sleeve Wheel Bearings							
4″	2″	5⅝″	300	23815T1	$98.31	23815T5	$63.05
5″	2″	6½″	350	23815T2	99.74	23815T6	72.93
6″	2″	7½″	400	23815T3	110.41	23815T7	74.95
General Purpose Stainless Steel Wheel Bearings							
4″	2″	5⅝″	300	23815T11	133.48	23815T15	92.97
5″	2″	6½″	350	23815T12	143.55	23815T16	100.76
6″	2″	7½″	400	23815T13	147.84	23815T17	103.41
Optional Brake for Swivel Casters						22595T91	$25.92

Corrosion-Resistant Casters—200 to 400 lbs.

With a Type 304 stainless steel frame for good corrosion resistance, these casters are an economical alternative to the Washdown Casters shown on the previous page. Wheels are nonmarking, except oil-resistant neoprene rubber wheels.

Swivel casters with total lock brake the wheel and lock the swivel in one operation.

General purpose stainless steel wheel bearings have straight rollers for smoother rolling than sleeve bearings.

Long-Lasting Nylon—Wheels are extra hard (80D durometer).

Abrasion-Resistant Polyurethane—Wheel treads are hard (95A durometer).

Oil-Resistant Neoprene Rubber—Wheels are soft (78A durometer).

Lightweight Polypropylene—Wheels are extra hard (90D durometer).

Mounting Plate 1



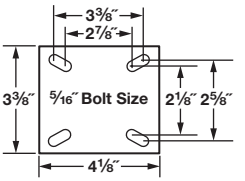

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel	Swivel with Total Lock	Rigid
Mounting Plate 1—Stainless Steel Sleeve Wheel Bearings						
Long-Lasting White Nylon Wheels						
3″	1 3/16″	4 1/4″	220	2833T51 $31.29	2833T511 $50.17	2833T54 $17.59
4″	1 3/8″	5 1/16″	300	2833T52 33.10	2833T521 52.33	2833T55 22.59
5″	1 5/8″	6 1/8″	350	2833T53 43.28	2833T531 62.24	2833T56 29.57
Mounting Plate 1—General Purpose Stainless Steel Wheel Bearings						
Abrasion-Resistant Red Polyurethane on Nylon Wheels						
4″	1 3/16″	5 1/16″	240	2833T61 42.41	2833T611 61.81	2833T63 28.79
5″	1 3/16″	6 1/8″	400	2833T62 51.55	2833T621 70.43	2833T64 37.93

Mounting Plate 2



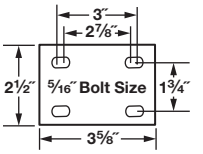

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel	Swivel with Brake	Rigid
Mounting Plate 2—Acetal Sleeve Wheel Bearings						
Oil-Resistant Black Neoprene Rubber Wheels						
2½″	1¼″	3¾″	200	8359T11 $44.15	——— ———	8359T113 $31.83
3″	1¼″	4 5/16″	200	8359T12 47.23	8359T121 $54.28	8359T123 32.83
4″	1¼″	5¼″	200	8359T15 51.53	8359T151 55.83	8359T153 42.23
5″	1¼″	6¼″	200	8359T16 53.58	8359T161 61.62	8359T163 44.53
6″	1¼″	7 3/8″	200	8359T17 63.94	8359T171 111.28	8359T173 66.34
Abrasion-Resistant Red Polyurethane on Polypropylene Wheels						
3″	1¼″	4 5/16″	300	8359T41 45.49	8359T411 52.06	8359T413 30.77
4″	1¼″	5¼″	400	8359T43 58.28	8359T431 68.70	8359T433 50.91
5″	1¼″	6¼″	400	8359T44 63.79	8359T441 71.25	8359T443 53.70
Mounting Plate 2—Stainless Steel Sleeve Wheel Bearings						
Lightweight Polypropylene Wheels—To Order. Please specify black or white.						
2½″	1¼″	3¾″	225	8359T18 42.04	——— ———	8359T35 27.00
3″	1¼″	4 5/16″	240	8359T19 46.55	8359T32 54.68	8359T36 29.02
4″	1¼″	5¼″	375	8359T26 48.76	8359T33 58.83	8359T37 41.26
5″	1¼″	6¼″	400	8359T28 51.71	8359T34 61.96	8359T38 43.00

Bright-Finish Washdown Casters—250 to 300 lbs.

The chrome plating not only gives these a high-luster finish but also provides good corrosion resistance. The easy-roll steel ball bearings have debris guards to keep out contaminants for extended service life. Wheels are black neoprene rubber that is soft (62A durometer) and oil resistant.

Swivel bearings are sealed to keep out dust and debris.

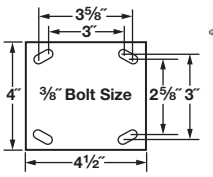



Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel	Swivel with Brake	Rigid
4″	1 3/8″	5 9/16″	250	28925T52 $80.96	28925T72 $97.65	28925T62 $62.73
5″	1 3/8″	6 5/8″	275	28925T54 85.44	28925T74 102.13	28925T64 66.92
6″	1 5/8″	7 9/16″	300	28925T55 112.70	28925T75 129.39	28925T65 93.75

Bright-Finish Casters—220 lbs.

The bright zinc finish gives these steel casters a clean appearance. Debris guards on the wheel bearings keep out contaminants for extended service life.

Swivel bearings are sealed to keep out dust and debris.

Swivel casters with total lock brake the wheel and lock the swivel in one operation.

Maintenance-free easy-roll wheel bearings never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

Long-Lasting Nylon—Wheels are extra hard (70D durometer) and nonmarking.

Cushioned Rubber—Wheel treads are soft (80A durometer) and nonmarking.

Static-Control Rubber—Wheels prevent static buildup. Surface resistance is less than 10^6 ohms. Wheel treads are soft (80A durometer).

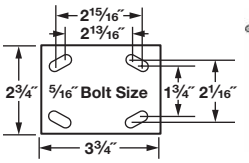



Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel	Swivel with Total Lock	Rigid
Plain Bore (No Bearings)						
Long-Lasting White Nylon Wheels						
3″	1 3/8″	4 5/8″	220	23055T26 $18.12	23055T46 $27.61	23055T66 $17.32
4″	1 3/8″	5½″	220	23055T27 21.06	23055T47 28.96	23055T67 18.42
5″	1 3/8″	6 3/8″	220	23055T28 25.54	23055T48 33.22	23055T68 21.59
Maintenance-Free Easy-Roll Wheel Bearings						
Cushioned Gray Rubber on Steel Wheels						
3″	1¼″	4½″	220	23055T21 24.09	23055T41 33.12	23055T61 23.79
4″	1¼″	5¼″	220	23055T22 27.49	23055T42 36.94	23055T62 25.75
5″	1¼″	6½″	220	23055T23 29.67	23055T43 39.14	23055T63 28.14
Static-Control Black Rubber on Steel Wheels						
3″	1¼″	4½″	220	23065T21 26.50	23065T41 35.97	23065T61 21.50
4″	1¼″	5¼″	220	23065T22 28.69	23065T42 38.18	23065T62 27.97
5″	1¼″	6½″	220	23065T23 31.25	23065T43 40.74	23065T63 29.93

Ultra-High-Temperature Casters—200 to 800 lbs.


Swivel


Rigid

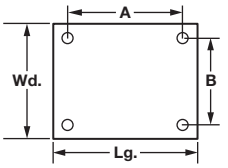

Withstanding temperatures up to 1600° F, these are the most heat-resistant casters we offer. Frame and wheels are long-lasting iron.

Swivel casters have general purpose double-ball swivel bearings, except 4 1/4" and 5 1/4" high casters, which have single-ball bearings for equipment that's not often moved.

Note: To match swivel casters to compatible rigid casters, choose swivel and rigid casters with the same mount height.

Mount Ht.	Wheel Dia.	Wheel Wd.	Cap. Ea., lbs.	Mounting Plate Lg.	Mounting Plate Wd.	Mounting Plate (A)	Mounting Plate (B)	Bolt Size		
Swivel Casters										
2 15/16"	2"	3/4"	200	3 3/4"	2 3/4"	2 7/8"	1 7/8"	1/4"	**2425T11**	$23.50
3 3/4"	2 1/2"	1"	300	4 5/8"	3 3/8"	3 1/2"	2 1/4"	5/16"	**2425T12**	32.67
4 1/4"	3"	1 1/4"	225	4 3/16"	3 1/4"	3 5/16"	2 3/8"	5/16"	**2425T23**	22.00
4 1/2"	3"	1 1/4"	375	5 1/8"	3 7/8"	3 7/8"	2 5/8"	3/8"	**2425T13**	42.33
5 1/4"	4"	1 1/2"	300	4 3/4"	3 3/4"	3 11/16"	2 11/16"	3/8"	**2425T24**	42.92
5 3/4"	4"	1 1/2"	600	5 5/8"	4 1/8"	4 1/2"	3"	3/8"	**2425T15**	63.75
8 5/16"	6"	2"	800	7"	5 1/2"	5 1/2"	4"	1/2"	**24075T11**	117.26
Rigid Casters										
2 15/16"	2 1/2"	1"	250	3 5/8"	2 3/8"	2 3/4"	1 1/4"	1/4"	**2425T32**	14.00
3 3/4"	3"	1 1/4"	350	4 1/2"	2 7/8"	3 5/16"	1 3/8"	5/16"	**2425T33**	20.25
4 1/4"	3 1/2"	1 1/2"	400	5"	3 1/8"	3 7/8"	1 11/16"	3/8"	**2425T34**	33.92
4 1/2"	4"	1 1/2"	600	5"	3 1/8"	3 7/8"	1 11/16"	3/8"	**2425T35**	34.75
5 1/4"	4"	1 1/2"	600	5"	3 1/8"	3 7/8"	1 11/16"	3/8"	**2425T36**	34.75
5 3/4"	4"	1 1/2"	600	5"	3 1/8"	3 7/8"	1 11/16"	3/8"	**2425T37**	36.92
8 5/16"	6"	2"	800	7 1/2"	4 1/2"	6"	3"	1/2"	**24075T21**	71.69

Nonmarking High-Temperature Casters—250 to 800 lbs.

Mounting Plate 1


Swivel


Rigid

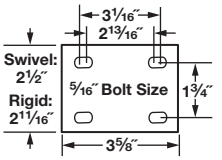

Mounting Plate 2


Swivel


Rigid

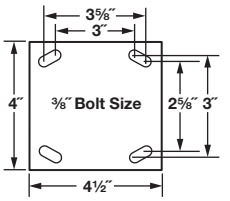

A floor-friendly alternative to casters with metal wheels, these have heat-resistant plastic or rubber treads. They're rated for use in temperatures up to 475° F. Frame is steel with a zinc-plated finish.

PTFE-coated steel sleeve wheel bearings eliminate the need for lubrication.

General purpose wheel bearings have straight rollers for smoother rolling than sleeve bearings.

Long-Lasting Glass-Filled Nylon—Wheels are extra hard (85D durometer).

Cushioned Rubber—Wheel treads are soft (75A durometer).

Phenolic—Wheels are extra hard (90D durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Mounting Plate	Swivel		Rigid	
Steel Sleeve Wheel Bearings								
Long-Lasting Brown Glass-Filled Nylon Wheels								
3 1/2"	1 1/4"	4 11/16"	300	1	**19525T12**	$25.51	**19525T16**	$14.05
4"	1 1/4"	5 1/8"	300	1	**19525T13**	23.53	**19525T17**	16.38
5"	1 1/4"	6 3/16"	325	1	**19525T14**	29.38	**19525T18**	18.73
PTFE-Coated Steel Sleeve Wheel Bearings								
Cushioned Black Rubber on Aluminum Wheels								
4"	1 1/4"	5 1/8"	250	1	**19525T21**	90.80	**19525T22**	73.20
5"	1 1/4"	6 3/16"	250	1	**19525T23**	90.80	**19525T24**	70.10
General Purpose Wheel Bearings								
Brown Phenolic Wheels								
3 1/4"	2"	4 1/4"	700	2	**19895T21**	37.52	**19895T23**	28.39
4"	2"	5 5/8"	800	2	**19895T22**	39.94	**19895T24**	31.18

Leveling Casters—275 to 600 lbs.


With Thumbwheel Adjustment


With Ratchet Adjustment


Leveling Pad Extended

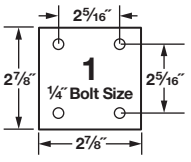

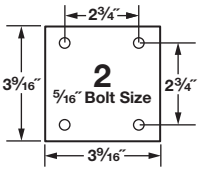

Adjust the leveling pad to keep equipment stationary and compensate for uneven floors. Wheels are black nylon that is extra hard (90D durometer) and nonmarking.

Aluminum casters have a steel mounting plate. Casters with *black finish* have general purpose swivel bearings. Casters with *ivory finish* have a precision-machined (kingpinless) raceway with large-diameter ball bearings for smooth swiveling and extended service life.

Type 304 stainless steel casters offer excellent corrosion resistance. Casters have a precision-machined (kingpinless) raceway with large-diameter ball bearings for smooth swiveling and extended service life.

Ratchet pulls out for easy adjustment and retracts out of the way when not in use.

Wheel Dia.	Wheel Wd.	Mount Ht. Min.	Mount Ht. Max.	Cap. Ea., lbs.	Adjustment Style	Swivel	
Mounting Plate 1							
Aluminum Frame with Black Finish							
2"	1"	3 1/4"	3 5/8"	275	Thumbwheel	**24125T23**	$40.00
2"	1"	3 1/4"	3 5/8"	275	Ratchet	**24125T43**	73.00
Aluminum Frame with Ivory Finish							
2"	1"	3 5/16"	3 11/16"	300	Thumbwheel	**24125T21**	40.00
2"	1"	3 5/16"	3 11/16"	300	Ratchet	**24125T41**	57.27
Type 304 Stainless Steel Frame							
2"	1"	3 5/16"	3 11/16"	550	Thumbwheel	**24125T31**	132.69
2"	1"	3 5/16"	3 11/16"	550	Ratchet	**24125T32**	188.46
Mounting Plate 2							
Aluminum Frame with Black Finish							
2 1/2"	1 3/16"	4 1/32"	4 5/8"	550	Thumbwheel	**24125T24**	51.09
2 1/2"	1 3/16"	4 1/32"	4 5/8"	550	Ratchet	**24125T44**	94.00
Aluminum Frame with Ivory Finish							
2 1/2"	1 3/16"	4 3/32"	4 11/16"	600	Thumbwheel	**24125T22**	52.80
2 1/2"	1 3/16"	4 3/32"	4 11/16"	600	Ratchet	**24125T42**	83.64

Shock-Absorbing Casters—500 lbs.

Minimize shock to your load on bumpy surfaces with these spring-loaded casters. Seals on the wheel bearings keep out contaminants for extended service life. Wheels are black rubber on an aluminum core. Wheel treads are soft (80A durometer). Frame is zinc-plated steel.

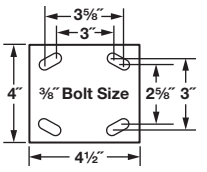





Wheel Dia.	Wheel Wd.	Mount Ht. No Load	Mount Ht. Max. Load	Cap. Ea., lbs. Min.	Cap. Ea., lbs. Max.	Swivel		Rigid	
6″	2″	8½″	8⅛″	50	500	2447T42	$166.17	2447T62	$149.41
8″	2″	10½″	10⅛″	50	500	2447T44	172.81	2447T64	160.04

Heavy Duty Air-Ride Casters—330 to 625 lbs.

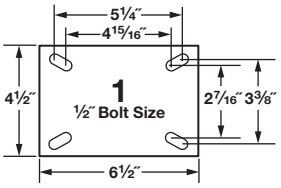

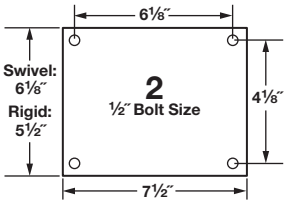


Swivel


Rigid



Dual Wheel Swivel

A forged steel frame and air-filled tires absorb shock to prevent damage to your load. Tires are black rubber. Frame has a red painted finish, except dual-wheel casters have a zinc-plated finish.

Single-wheel swivel casters have impact-resistant ball and tapered roller swivel bearings that withstand both downward and side force.

Dual-wheel casters provide better load distribution and easier turning than single-wheel casters. *Swivel* casters have general purpose double-ball swivel bearings.

Wheel Dia.	Wheel Wd.	Tire Size	Mount Ht.	Cap. Ea., lbs.	Mounting Plate	Swivel		Rigid	
Single Wheel									
8″	2.8″	2.80/2.50-4	10⅝″	330	1	53795T11	$119.45	53795T15	$77.64
10″	3.4″	3.40/3.00-5	12½″	480	1	53795T12	134.55	53795T16	92.00
12″	4.1″	4.10/3.50-6	15½″	625	2	53795T14	187.49	53795T17	125.64
Dual Wheel									
8″	2.8″	2.80/4	11″	590	1	53795T21	194.39	53795T22	165.36

Air-Ride Casters—200 to 500 lbs.

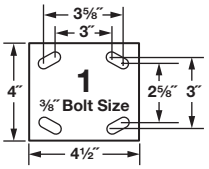

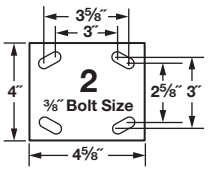

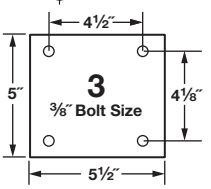


Swivel


Swivel with Brake


Rigid

Lower-capacity wheels and formed steel construction make these an economical alternative to our Heavy Duty Air-Ride Casters.

Air-filled wheels are quiet and shock absorbing.

Flat-free wheels, also known as semi-pneumatic wheels, have a tough, puncture-resistant tread and a core of nonpressurized air that does not require inflation.

Lightweight flat-free wheels are solid foam rubber or polyurethane so they cushion like air-filled wheels but won't go flat.

Wheel Dia.	Wheel Wd.	Tire Size	Mount Ht.	Cap. Ea., lbs.	Mounting Plate	Swivel		Swivel with Brake		Rigid	
Air-Filled Black Rubber Wheels											
8″	2.8″	2.80/2.50-4	9 15/16″	310	1	22925T71	$50.22	22925T74	$60.90	22925T81	$44.62
10″	4.1″	4.10/3.50-4	12″	350	1	22925T72	76.80	_____	____	22925T82	62.42
12″	4.1″	4.10/3.50-6	15″	450	1	22925T73	81.21	_____	____	22925T83	77.96
Air-Filled Gray Rubber Wheels											
6″	2″	_____	7½″	200	2	22925T17	41.12	22925T19■	55.66	22925T18	32.28
8″	2.8″	2.80/2.50-4	9 15/16″	310	1	22925T11	55.22	22925T29	72.44	22925T14	53.90
10″	4.1″	4.10/3.50-4	12″	350	1	22925T12	72.50	_____	____	22925T15	65.46
Flat-Free Black Rubber Wheels											
6″	2″	_____	7⅜″	200	3	2444T1	46.38	_____	____	2444T5	35.92
8″	2.5″	_____	10″	350	3	2444T2	59.93	_____	____	2444T6	43.88
Lightweight Flat-Free Black Rubber Wheels											
6″	2″	_____	7½″	250	1	22925T75	49.28	22925T76	54.87	22925T77	39.82
Lightweight Flat-Free Black Polyurethane Wheels											
8″	2.8″	2.80/2.50-4	10″	275	1	22925T31	47.60	22925T32	52.18	22925T33	43.78
10″	4.1″	4.10/3.50-4	12″	300	1	22925T34	54.13	22925T35	63.68	22925T36	49.74
12″	4.1″	4.10/3.50-6	15¾″	500	1	22925T37	81.23	_____	____	22925T38	78.83

■ Caster has a total lock that brakes the wheel and locks the swivel in one operation.

Corner-Mount Casters—350 to 580 lbs.



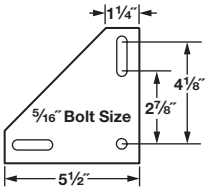

Mount these casters to the corners of carts, equipment, and angle iron. Casters have a precision-machined (kingpinless) raceway with large-diameter ball bearings for smooth swiveling and extended service life. Wheels are nonmarking. Frame is steel with a zinc-plated finish.

General purpose wheel bearings have straight rollers for smoother rolling than wheels with a plain bore.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel	
Plain Bore (No Bearings)					
Long-Lasting White Nylon Wheels—Extra Hard (83D Durometer)					
3″	1 3/8″	4½″	350	4992T62	$18.98
4″	1 3/8″	5½″	500	4992T66	21.15
General Purpose Wheel Bearings					
Black Phenolic Wheels—Extra Hard (90D Durometer)					
3″	1½″	4½″	380	4992T63	21.60
4″	1½″	5½″	550	4992T67	22.18
5″	1½″	6 7/16″	580	4992T72	23.60
Abrasion-Resistant Yellow Polyurethane on Iron Wheels—Hard Tread (95A Durometer)					
3″	1″	4½″	350	4992T41	46.15
4″	1⅛″	5½″	500	4992T42	51.33

Low-Profile Dual-Wheel Casters—264 to 600 lbs.



Round Plate

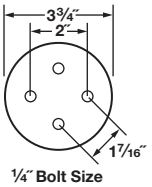

¼″ Bolt Size



Square Plate

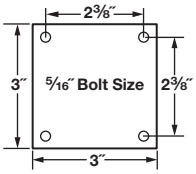

Stable and easy to turn, these have some of the lowest mounting heights in their capacity range and offer better load distribution than single-wheel casters. Wheels are nonmarking, except high-capacity steel wheels.

Round-plate casters have a zinc-plated iron frame and a steel mounting plate.

Square-plate casters have a 300 series stainless steel frame.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel	
Round Plate					
Long-Lasting Black Nylon Wheels—Extra Hard (83D Durometer)					
1 3/8″	9/16″	2″	264	9936T64	$28.40
Long-Lasting White Nylon Wheels—Extra Hard (83D Durometer)					
2″	9/16″	2½″	350	9936T63	29.50
Abrasion-Resistant Yellow Polyurethane on Iron Wheels—Hard Tread (95A Durometer)					
2″	9/16″	2½″	350	9936T61	49.62
High-Capacity Steel Wheels					
2″	9/16″	2½″	600	9936T62	39.58
Square Plate					
Black Phenolic Wheels—Extra Hard (95D Durometer)					
2½″	1″	3⅜″	500	4778T41	48.00
Abrasion-Resistant Blue Polyurethane Wheels—Extra Hard (75D Durometer)					
2½″	1″	3⅜″	500	4778T42	72.00

Mighty-Lite Casters—90 to 175 lbs.



Swivel



Swivel with Brake



Rigid

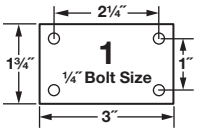

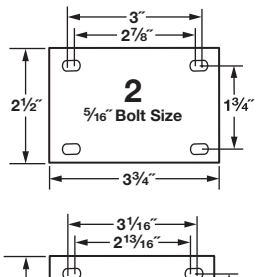

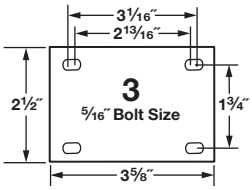

Double-ball bearings in the swivel provide smooth swiveling, making these our best general purpose casters in the lowest capacity range. Frame is steel with a zinc-plated finish. *Cushioned gray rubber wheels* are nonmarking.

Metal sleeve wheel bearings prevent wear to the wheel bore and are a good choice when ease of rolling is not critical.

General purpose wheel bearings have straight rollers that provide smooth rolling.

Easy-roll wheel bearings have steel balls and require less effort to start rolling than other bearings.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Mounting Plate	Swivel		Swivel with Brake		Rigid	
Plain Bore (No Bearings)										
Long-Lasting Iron Wheels										
2″	7/8″	2 7/8″	150	1	2406T11	$7.40	2406T61	$10.90	2406T19	$4.08
3″	13/16″	3 13/16″	150	1	2406T12	12.51	———	———	2406T21★	11.41
Metal Sleeve Wheel Bearings										
Cushioned Black Rubber Wheels—Soft (70A Durometer)										
2″	7/8″	2 7/8″	90	1	2406T15	6.67	2406T63	10.26	2406T24	3.64
3″	13/16″	3 13/16″	100	1	2406T16	9.16	2406T64	13.22	2406T25	6.96
Cushioned Black Rubber Wheels—Soft (78A Durometer)										
4″	15/16″	4¾″	125	2	2835T31	10.20	2835T33	11.51	2835T35	9.40
5″	15/16″	5¾″	135	2	2835T32	12.19	2835T34	13.59	2835T36	9.73
Abrasion-Resistant Black Rubber Wheels—Hard (90A Durometer)										
2″	7/8″	2 7/8″	150	1	2406T28	6.67	2406T65	10.26	2406T33	3.64
3″	13/16″	3 13/16″	150	1	2406T29	9.16	2406T66	13.22	2406T34	6.96
Impact-Resistant Black Rubber Wheels—Extra Hard (80D Durometer)										
4″	15/16″	4¾″	150	2	2835T37	10.01	2835T39	11.60	2835T42	9.24
5″	15/16″	5¾″	160	2	2835T38	12.14	2835T41	13.64	2835T43	9.78
General Purpose Wheel Bearings										
Cushioned Black Rubber Wheels—Soft (80A Durometer)										
3″	1¼″	4¼″	125	3	2835T11	12.09	2835T14	17.60	2835T17	10.06
4″	1¼″	5⅛″	150	3	2835T12	13.27	2835T15	20.48	2835T18	9.79
5″	1¼″	6 3/16″	175	3	2835T13	14.91	2835T16	21.89	2835T19	12.90
Easy-Roll Wheel Bearings										
Cushioned Gray Rubber Wheels—Soft (62A Durometer)										
4″	1¼″	5″	150	2	2835T51	22.51	2835T72	27.72	2835T71■	18.99
5″	1¼″	6⅛″	170	2	2835T52	25.79	2835T73	30.50	2835T54■	21.19
Optional Brake for 2″ Dia. Wheel Swivel Casters									2406T52	$4.06
Optional Brake for 3″ Dia. Rubber Wheel Swivel Casters									2406T53	4.06

★ Mounting plate is 3″ Lg. × 2″ Wd. ■ Mounting plate is 3¾″ Lg. × 2¾″ Wd.

Cart-Smart Casters—90 to 175 lbs.

Mtg. Plate	Mounting Plate Dimensions: Swivel and Swivel with Brake: Plate Lg.	Plate Wd.	(A)	(B)	Rigid: Plate Lg.	Plate Wd.	(A)	(B)
1	2 9/16"	1 7/8"	2 1/8"	15/16"	2 11/16"	1 1/2"	2 1/8"	15/16"
2	2 5/8"	1 15/16"	2 3/32"	15/16"	2 5/8"	1 15/16"	2 3/32"	15/16"
3	3 3/4"	2 3/4"	3"	1 3/4"	3 3/4"	2 3/4"	3"	1 3/4"
4	3 13/16"	2 3/4"	3"	1 3/4"	4 7/16"	2 1/4"	3 1/2"	1 1/16"
5	4 1/8"	3 1/8"	3 7/16"	2 3/8"	4 15/16"	2 1/2"	4"	1 3/16"

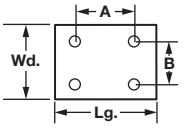



Offered in a variety of mounting plate sizes, these casters match many common carts and dollies. Frame is zinc-plated steel.

Acetal sleeve wheel bearings prevent wear to the wheel bore.

Lightweight Polypropylene—Wheels are hard (90A durometer), except 2" dia. wheels are extra hard (60D durometer).

Cushioned Rubber—Wheels are hard (90A durometer).

Impact-Resistant Rubber—Wheels are extra hard (60D durometer).

Abrasion-Resistant Polyurethane—Wheel treads are hard (45D durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Mtg. Plate	Mtg. Bolt Size	Swivel		Swivel with Brake		Rigid	
Plain Bore (No Bearings)											
Lightweight Black Polypropylene Wheels											
2"	1"	2 1/2"	150	1	1/4"	78155T41	$2.77	78155T42	$4.24	78155T43	$2.49
3"	1 1/8"	3 9/16"	110	2	1/4"	2724T41	5.40	2724T43	9.10	2724T45	4.52
4"	1 1/8"	4 11/16"	125	3	5/16"	2724T42	7.96	2724T44	11.80	2724T46	6.76
Cushioned Black Rubber Wheels											
2"	1"	2 1/2"	90	1	1/4"	78155T11	3.08	78155T14	4.24	78155T17	2.30
2 1/2"	1 1/8"	3 3/16"	100	4	5/16"	78155T12	6.26	78155T15	8.70	78155T19	3.99
3"	1 1/4"	3 13/16"	175	5	5/16"	78155T13	9.65	78155T16	10.46	78155T18	6.21
Impact-Resistant Gray Rubber Wheels											
2"	1"	2 1/2"	150	1	1/4"	78155T31	3.03	78155T32	4.35	78155T33	2.30
Long-Lasting Iron Wheels											
2"	1"	2 1/2"	150	1	1/4"	78155T51	4.71	78155T52	6.29	78155T53	4.04
Acetal Sleeve Wheel Bearings											
Abrasion-Resistant Red Polyurethane on Polypropylene Wheels											
2"	3/4"	2 1/2"	100	1	1/4"	78155T61	4.63	78155T62	6.21	78155T63	3.96

Static-Control Casters—75 to 200 lbs.

Prevent damage to sensitive electronic equipment—the wheels dissipate static to keep it from building up. Average surface resistance is less than 10^6 ohms. Wheels are soft (80A durometer) black rubber. Frame is steel with a zinc-plated finish.



Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake		Rigid	
Mounting Plate 1									
2"	15/16"	2 5/8"	75	2358T51	$3.91	2358T61	$5.33		
2 1/2"	15/16"	3 3/32"	90	2358T52	5.35	2358T62	6.63		
3"	15/16"	3 5/8"	100	2358T53	6.83	2358T63	8.08		
Mounting Plate 2									
3"	1 1/4"	3 3/4"	175	2358T21	10.98	2358T26	12.58	2358T32★	$14.42
4"	15/16"	4 3/4"	125	2358T22	12.25	2358T27	13.90	2358T33■	12.32
4"	1 1/4"	5"	200	2358T23	15.15	2358T28	16.69	2358T34	14.95
5"	15/16"	5 3/4"	135	2358T24	16.04	2358T29	17.31	2358T35	15.17

★ Wheel width is 1 3/8"; Mount height is 4". ■ Wheel width is 1".

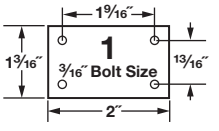

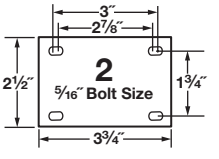

Air-Ride Casters—150 lbs.

The cushioned black rubber wheels absorb shock to eliminate noise and protect your load.

Swivel casters have a debris cap to keep out contaminants for extended service life.

Flat-free wheels are solid foam rubber so they cushion as well as air-filled wheels but won't go flat.

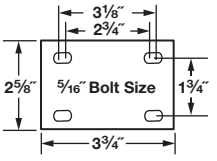



Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake		Rigid	
Air-Filled Rubber Wheels									
6"	1 1/4"	7 1/4"	150	4941T13	$39.32	4941T14	$42.47	4941T15	$37.20
Flat-Free Rubber Wheels									
6"	1 1/4"	7 1/4"	150	4941T21	24.08	4941T22	26.30	4941T23	23.68

Leveling Casters—55 lbs.

Turning the thumbwheel extends the leveling pad to keep your equipment stationary and compensate for uneven floors. Wheels are extra hard (90D durometer) black nylon. Frame is aluminum.

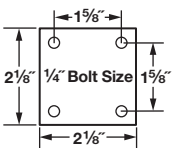





Wheel Dia.	Wheel Wd.	Mount Ht. Min.	Mount Ht. Max.	Cap. Ea., lbs.	Swivel with Black Finish		Swivel with Ivory Finish	
1 5/8"	3/4"	2 13/16"	3 3/16"	55	5475T12	$22.48	5475T11	$22.48

Corrosion-Resistant Casters—110 to 165 lbs.


Swivel


Rigid

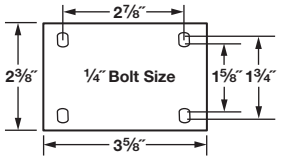

Type 304 stainless steel construction gives these better corrosion resistance than steel casters. A debris cap on the swivel keeps out contaminants for extended service life.

Easy-roll wheel bearings have steel balls and require less effort to start rolling than acetal sleeve bearings.

Oil-Resistant Neoprene Rubber—Wheels are soft (60A durometer).

Impact-Resistant Rubber—Wheels are extra hard (80D durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Acetal Sleeve Wheel Bearings							
Oil-Resistant Black Neoprene Rubber Wheels							
3″	15/16″	4 1/8″	110	8388T41	$33.20	8388T42	$25.66
4″	15/16″	5 1/8″	110	8388T43	41.22	8388T44	30.60
5″	15/16″	6 1/8″	110	8388T48	42.22	8388T49	34.03

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Rigid	
Easy-Roll Wheel Bearings							
Impact-Resistant Black Rubber Wheels							
3″	7/8″	4 1/8″	165	8388T51	$30.74	8388T52	$23.20
4″	7/8″	5 1/8″	165	8388T53	38.88	8388T54	28.26
5″	7/8″	6 1/8″	165	8388T55	40.72	8388T56	32.20

Low-Profile Casters—70 to 220 lbs.


Swivel



Dual Wheel Swivel with Brake

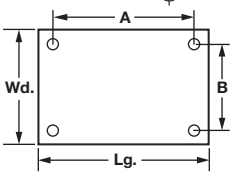

Mtg. Plate	Mounting Plate Dimensions				
	Plate Lg.	Plate Wd.	(A)	(B)	Bolt Size
1	2 1/8″	1 1/2″	1 21/32″	1 1/32″	3/16″
2	2 3/8″	2 3/8″	1 7/8″	1 7/8″	3/16″
3	3 3/4″	2 1/2″	3″	1 3/4″	5/16″

Used on hotel bellman's carts, these casters have a compact frame for small appliances and furniture. Wheels are nonmarking. Frame is plated steel.

Maintenance-free easy-roll wheel bearings are completely sealed so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

Lightweight Polypropylene—Wheel is extra hard (60D durometer).

Oil-Resistant Rubber—Wheels are hard (90A durometer). Casters provide better load distribution and easier turning than single-wheel casters.

Abrasion-Resistant Polyurethane—Wheel is hard (92A durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Mtg. Plate	Swivel		Swivel with Brake	
Plain Bore (No Bearings)								
Lightweight White Polypropylene Wheels—Single Wheel								
1 5/8″	1 1/16″	2 1/16″	70	1	2390T4	$3.61		
Oil-Resistant Gray Rubber Wheels—Dual Wheel								
2″	13/16″	2 13/16″	180	3	2390T5	7.40	2390T6	$7.95
Maintenance-Free Easy-Roll Wheel Bearings								
Abrasion-Resistant Brown Polyurethane Wheels—Single Wheel								
1 3/8″	1 1/16″	2 1/16″	220	2	4778T51	15.58		

Tight-Quarters Casters—75 to 125 lbs.


Swivel


Swivel with Brake

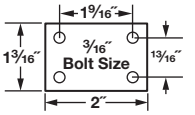

Low mount heights and small mounting plates make these a good choice where space is limited. Frame is steel with a zinc-plated finish.

Cushioned Rubber—Wheels are soft (78A durometer).

Impact-Resistant Rubber—Wheels are extra hard (80D durometer).

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake	
Cushioned Black Rubber Wheels							
2″	15/16″	2 5/8″	75	22785T41	$3.43	22785T46	$4.48
2 1/2″	15/16″	3 3/32″	90	22785T42	4.69	22785T47	6.00
3″	15/16″	3 5/8″	100	22785T43	5.83	22785T48	6.90
Impact-Resistant Black Rubber Wheels							
2″	15/16″	2 5/8″	90	22785T61	3.44	22785T66	4.49
2 1/2″	15/16″	3 3/32″	100	22785T62	4.69	22785T67	6.01
3″	15/16″	3 5/8″	125	22785T63	5.81	22785T68	6.91

Creeper Casters—50 lbs.



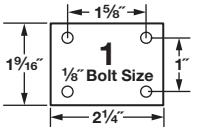

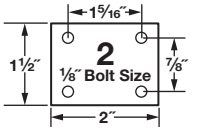

Commonly seen on creeper stools, these have a smooth-rolling angled wheel that creates a low profile. Frame is steel, except nylon wheel has a black plastic mounting plate. *Nylon* wheel is nonmarking.

Wheel Dia.	Mount Ht.	Cap. Ea., lbs.	Mounting Plate	Swivel	
Black Nylon Wheels					
2 3/4″	2 3/4″	50	1	2475T6	$3.27
Steel Wheels					
3″	3″	50	2	2475T7	4.25

Light Duty Furniture Casters—40 to 100 lbs.


Plastic Frame


Hood


Hood with Brake

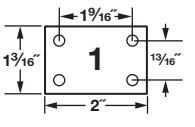

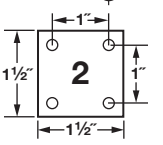

The twin-wheel design is lightweight and economical, making these casters popular for furniture and displays. Wheels are black. Casters meet BIFMA standards, except casters with 1 9/16″ dia. wheels.

Nylon—Wheels are extra hard (70D durometer).

Polyurethane—Wheels are hard (90A durometer).

To Order: For choose-a-finish metal hood, please specify matte black, antique brass, bright chrome, or satin chrome finish.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Mounting Bolt Size	Mounting Plate 1 Swivel		Mounting Plate 1 Swivel with Brake		Mounting Plate 2 Swivel		Mounting Plate 2 Swivel with Brake	
Black Plastic Frame—Nylon Wheels												
2 3/8″	2 1/16″	2 5/8″	100	1/8″	22575T25	$3.61	22575T55	$4.89	22575T23	$3.59	22575T53	$4.89
Black Plastic Frame—Polyurethane Wheels												
2 3/8″	2 1/16″	2 5/8″	100	1/8″	22575T33	5.27	22575T63	7.86	22575T32	5.29	22575T62	7.87
Black Plastic Hood—Nylon Wheels												
1 9/16″	1 9/16″	2 1/4″	40	3/16″	24215T48	1.47	24215T51	1.75	24215T44	1.42	24215T46	1.76
2″	1 7/8″	2 5/8″	75	3/16″	24215T74	1.78	24215T85	2.28	24215T72	1.87	24215T83	2.24
2 3/8″	1 7/8″	3″	100	3/16″	24215T49	2.07	24215T52	2.54	24215T45	2.05	24215T47	2.55
Choose-a-Finish Metal Hood—Nylon Wheels												
2″	1 5/8″	2 11/16″	75	1/8″	2798T134	6.05	2798T135	7.10				
Choose-a-Finish Metal Hood—Polyurethane Wheels												
2″	1 5/8″	2 11/16″	75	1/8″	2798T133	7.36						

V-Groove Wheel Track Casters—300 to 8,350 lbs.

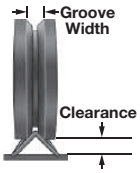



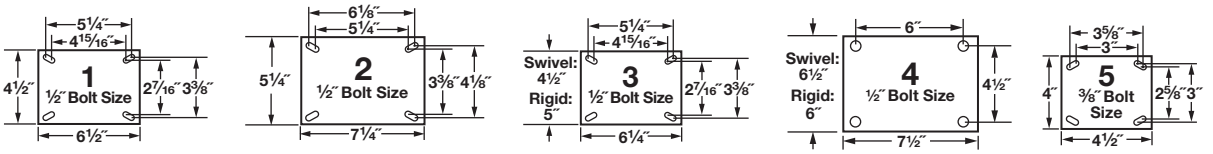

The wheels of these casters have a 90° V-groove and a flat tread to move your equipment on angle-iron track as well as the floor.

Swivel casters have general purpose double-ball bearings, unless otherwise stated.

Steel frames have a zinc-plated finish, except Style A casters with long-lasting iron wheels have a painted finish.

Style A casters have a thicker frame than standard duty steel frames for more durability. *Swivel* casters have a precision-machined (kingpinless) raceway with large-diameter ball bearings for smooth swiveling, good impact resistance, and extended service life.

Style B casters have a forged steel frame for demanding applications.

Style C casters have a thick forged steel frame as well as a forged steel wheel for the highest capacities. *Swivel* casters have impact-resistant tapered-roller bearings that withstand both downward and side force.

Casters with **corrosion-resistant Type 303 stainless steel wheels** are suitable for steam-cleaning applications.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Mounting Plate	Groove Width	Clearance 1¼″ Track	Clearance 1½″ Track	Clearance 2″ Track	Swivel		Rigid	
Heavy Duty Steel Frame												
(A) Long-Lasting Iron Wheels—Temperature range is –40° to 275° F												
4″	2″	5 5⁄8″	800	1	7⁄8″	1⁄8″	5⁄16″	—	8741T51	$105.48	8741T61	$54.44
6″	2″	7½″	1,000	1	7⁄8″	1⁄8″	5⁄16″	—	8741T52	118.56	8741T62	58.66
6″	2½″	7½″	2,500	1	7⁄8″	—	—	31⁄32″	8741T53	141.38	8741T63	80.38
8″	2½″	10⅛″	3,000	1	7⁄8″	—	—	31⁄32″	8741T54	148.36	8741T64	95.62
(A) High-Capacity Iron Wheels—Temperature range is 0° to 350° F												
6″	2½″	8″	3,500	2	7⁄8″	—	—	1 1⁄16″	9927T71	123.16	9927T75	83.91
6″	3″	8″	5,000	2	7⁄8″	—	—	1 1⁄16″	9927T72	132.06	9927T76	98.29
8″	3″	10½″	5,400	2	7⁄8″	—	—	1 1⁄16″	9927T73	147.29	9927T77	114.36
10″	3″	12½″	5,400	2	1 3⁄8″	—	—	7⁄8″	9927T74	191.14	9927T78	159.23
(B) Long-Lasting Iron Wheels—Temperature range is 0° to 350° F												
6″	2½″	7 5⁄8″	2,000	3	7⁄8″	—	—	1 1⁄8″	2453T51	122.66	2453T55	84.10
8″	2½″	10⅛″	2,000	3	7⁄8″	—	—	1 1⁄8″	2453T52	139.85	2453T56	98.33
8″	3″	10½″	2,500	2	7⁄8″	—	—	1 1⁄8″	2453T53	155.03	2453T57	104.00
10″	3″	12½″	3,000	2	1 3⁄8″	—	—	7⁄8″	2453T54	184.32	2453T58	126.06
(C) High-Capacity Steel Wheels—Temperature range is 0° to 350° F												
6″	3″	8½″	6,000	4	1 3⁄8″	—	—	7⁄8″	2453T61	394.78	2453T63	224.54
8″	4″	10½″	8,350	4	1 3⁄4″	—	—	11⁄16″	2453T62	466.26	2453T64	296.97
Standard Duty Steel Frame												
(D) Abrasion-Resistant Green Polyurethane Wheels—Temperature range is –30° to 220° F												
4″	2″	5 5⁄8″	300	5	7⁄8″	1⁄2″	3⁄4″	—	8382T41	45.80	8382T31	36.11
5″	2″	6½″	300	5	7⁄8″	1⁄2″	3⁄4″	—	8382T42	51.22	8382T32	42.17
(D) Long-Lasting Iron Wheels—Temperature range is 0° to 350° F												
4″	2″	5 5⁄8″	800	5	7⁄8″	1⁄2″	3⁄4″	—	2453T65	36.04	2453T71	26.63
5″	2″	6½″	800	5	7⁄8″	1⁄2″	3⁄4″	—	2453T66	43.61	2453T72	34.08
6″	2″	7¼″	1,000	5	7⁄8″	1⁄2″	3⁄4″	—	2453T67	49.40	2453T73	40.20
Corrosion-Resistant Type 304 Stainless Steel Frame												
(E) Abrasion-Resistant Green Polyurethane Wheels—Temperature range is –40° to 180° F												
4″	2″	5 5⁄8″	300	5	7⁄8″	1⁄2″	3⁄4″	—	8348T44	95.32	8348T31	73.35
5″	2″	6½″	300	5	7⁄8″	1⁄2″	3⁄4″	—	8348T45	103.62	8348T32	81.17
(E) Corrosion-Resistant Type 303 Stainless Steel Wheels—Temperature range is –30° to 600° F												
4″	2″	6″	850	5	7⁄8″	7⁄16″	5⁄8″	—	23325T21	246.49	23325T22	206.76
5″	2″	6½″	800	5	7⁄8″	7⁄16″	5⁄8″	—	23325T31	294.85	23325T32	253.40

Flanged-Wheel Track Casters—500 to 4,200 lbs.

Used on equipment that runs on rails and other square structural tubing, these casters have a flange on one or both sides of the wheel to keep them on track. Frame is steel with a painted finish. Wheels are iron with a painted finish, except 5″ dia. wheels are high-capacity steel. Temperature range is –30° to 300° F.

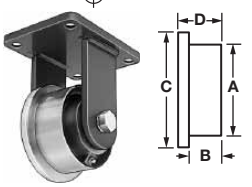

Single Flange

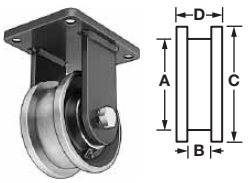

Double Flange

Wheel Dia. (A)	Wheel Wd. (B)	Flange Dia. (C)	O'all Wd. (D)	Mount Ht.	Cap. Ea., lbs.	Mtg. Plate	Rigid	
Single Flange								
3½″	1 7⁄16″	4½″	1 7⁄8″	5 3⁄8″	500	1	8786T11	$67.60
4 15⁄16″	1 7⁄16″	5 11⁄16″	2 1⁄8″	6 1⁄8″	1,000	1	8786T12	79.00
5″	2 1⁄16″	6″	2 11⁄16″	8″	4,200	2	8786T13	178.60
6 1⁄8″	1 11⁄16″	7″	2 3⁄32″	8 9⁄16″	2,000	2	8786T14	120.00
8″	2 1⁄4″	9½″	3″	10½″	3,000	2	8786T16	165.40
Double Flange								
5″	1 11⁄16″	6″	3″	8″	4,200	2	8786T22	211.00
6″	2 1⁄8″	7 5⁄16″	3″	8½″	2,500	2	8786T23	175.60

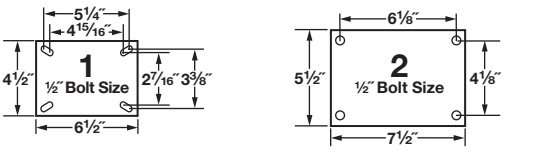

Heavy Duty Threaded-Stem Casters—*140 to 900 lbs.*



Stem Caster

Our strongest threaded-stem casters have a thick metal frame for heavy loads and long service life. Wheels are nonmarking, except black rubber wheels.

Swivel casters with total lock brake the wheel and lock the swivel in one operation.

Steel stem casters and **corrosion-resistant Type 304 stainless steel stem casters** have a debris cap on the swivel that keeps out contaminants. Stem length is 1½″ for ½″-13 stem, 2″ for ⅝″-11 stem, and 2½″ for ¾″-10 stem.

Long-stem steel casters have a 4″ long stem.

Add-a-bolt steel casters have a hole in the frame so you can create a stem from any ½″ dia. Grade 8 bolt.

Easy-roll wheels require minimal effort to start rolling.

High-Temperature Glass-Filled Nylon—Wheels withstand temperatures up to 550° F.



Stem Caster with Total Lock



Long-Stem Caster



Add-a-Bolt Caster

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Available Stem Thread Sizes	Swivel		Swivel with Total Lock	
Steel Stem Casters								
Lightweight Black Polypropylene Wheels—Extra Hard (90D Durometer)								
3½″	1¼″	4 13/16″	250	½″-13, ⅝″-11, ¾″-10	2437T71	$18.81	2384T71	$26.19
4″	1¼″	5 7/16″	300	½″-13, ⅝″-11, ¾″-10	2437T72	19.77	2384T72	27.13
5″	1¼″	6 7/16″	300	½″-13, ⅝″-11, ¾″-10	2437T73	20.30	2384T73	28.96
Cushioned Gray Rubber on Polypropylene Wheels—Soft Tread (80A Durometer)								
3½″	1⅜″	4 13/16″	240	½″-13, ⅝″-11, ¾″-10	2437T74	22.51	2384T74	33.15
4″	1⅜″	5 7/16″	250	½″-13, ⅝″-11, ¾″-10	2437T75	24.79	2384T75	33.15
Easy-Roll Cushioned Gray Rubber on Polypropylene Wheels—Soft Tread (80A Durometer)								
3½″	1⅜″	4 13/16″	240	½″-13, ⅝″-11, ¾″-10	2437T76	24.94	2384T76	32.01
4″	1⅜″	5 7/16″	250	½″-13, ⅝″-11, ¾″-10	2437T77	25.61	2384T77	34.00
5″	1⅜″	6 7/16″	275	½″-13, ⅝″-11, ¾″-10	2437T78	26.86	2384T78	36.35
Abrasion-Resistant Black Rubber Wheels—Hard (90A Durometer)								
4″	1½″	5⅜″	300	¾″-10	2834T98 ✓	36.14	2834T75 ✓★	42.54
5″	1½″	6⅜″	350	¾″-10	2834T99 ✓	40.46	2834T76 ✓★	47.12
Easy-Roll Abrasion-Resistant Red Polyurethane on Polypropylene Wheels—Hard Tread (90A Durometer)								
3½″	1¼″	4 13/16″	300	½″-13, ⅝″-11, ¾″-10	2437T79	25.44	2384T79	35.36
4″	1¼″	5 7/16″	300	½″-13, ⅝″-11, ¾″-10	2437T81	26.40	2384T81	35.67
5″	1¼″	6 7/16″	300	½″-13, ⅝″-11, ¾″-10	2437T82	26.65	2384T83	36.01
High-Temperature Black Glass-Filled Nylon Wheels—Extra Hard (85D Durometer)								
4″	1⅜″	4 15/16″	300	½″-13	2039T32	22.06	_____	_____
5″	1⅜″	6 1/16″	300	½″-13	2039T33	24.44	_____	_____
Corrosion-Resistant Type 304 Stainless Steel Stem Casters								
Lightweight Black Polypropylene Wheels—Extra Hard (90D Durometer)								
3½″	1¼″	4 13/16″	250	½″-13, ⅝″-11, ¾″-10	2454T83	53.24	2479T93	60.76
4″	1¼″	5 7/16″	300	½″-13, ⅝″-11, ¾″-10	2454T84	53.69	2479T94	61.20
Cushioned Gray Rubber on Polypropylene Wheels—Soft Tread (80A Durometer)								
3½″	1⅜″	4 13/16″	240	½″-13, ⅝″-11, ¾″-10	2454T85	56.73	2479T95	64.24
4″	1⅜″	5 7/16″	250	½″-13, ⅝″-11, ¾″-10	2454T86	57.07	2479T96	64.58
Easy-Roll Abrasion-Resistant Red Polyurethane on Polypropylene Wheels—Hard Tread (90A Durometer)								
3½″	1¼″	4 13/16″	300	½″-13	2454T74	59.71	2479T84	66.93
4″	1¼″	5 7/16″	300	½″-13	2454T75	60.02	2479T85	67.24
Long-Stem Steel Casters								
Lightweight Black Polypropylene Wheels—Extra Hard (68D Durometer)								
4″	2″	5⅝″	750	½″-13, ¾″-10	9813T91	26.87	9813T61	43.72
5″	2″	6½″	900	½″-13, ¾″-10	9813T92	27.68	9813T62	44.60
6″	2″	7½″	900	½″-13, ¾″-10	9813T93	29.77	9813T63	46.91
Abrasion-Resistant Black Polyurethane Wheels—Extra Hard (55D Durometer)								
4″	2″	5⅝″	650	½″-13, ¾″-10	9813T95	29.72	9813T65	48.13
5″	2″	6½″	800	½″-13, ¾″-10	9813T96	31.81	9813T66	51.00
6″	2″	7½″	900	½″-13, ¾″-10	9813T97	35.79	9813T67	56.15
8″	2″	9½″	900	½″-13, ¾″-10	9813T98	39.77	9813T68	61.55
Add-a-Bolt Steel Casters								
Lightweight Black Polypropylene Wheels—Extra Hard (65D Durometer)								
2½″	1¼″	3¾″	200	_____	9795T35	9.00	_____	_____
3″	1¼″	4″	200	_____	9795T36	10.40	_____	_____
4″	1¼″	5″	275	_____	9795T38	12.25	_____	_____
4″	2″	5⅝″	750	_____	9795T55	17.67	_____	_____
5″	1¼″	6 1/16″	300	_____	9795T39	12.83	_____	_____
5″	2″	6½″	900	_____	9795T56	19.79	_____	_____
Cushioned Gray Rubber on Polypropylene Wheels—Soft Tread (65A Durometer)								
2½″	1¼″	3¾″	140	_____	9795T31	12.01	_____	_____
4″	1¼″	5″	300	_____	9795T33	13.64	_____	_____
5″	1¼″	6 1/16″	325	_____	9795T34	14.77	_____	_____
Abrasion-Resistant Red Polyurethane on Polypropylene Wheels—Extra-Hard Tread (55D Durometer)								
2½″	1¼″	3¾″	250	_____	9795T41	12.76	_____	_____
3″	1¼″	4″	200	_____	9795T42	12.80	_____	_____
3½″	1¼″	4 9/16″	250	_____	9795T43	13.32	_____	_____
Abrasion-Resistant Black Polyurethane Wheels—Extra Hard (63D Durometer)								
4″	2″	5⅝″	650	_____	9795T51	21.63	_____	_____
5″	2″	6½″	800	_____	9795T52	23.52	_____	_____

✓ Swivel does not have a debris cap. ★ Caster has a wheel brake instead of a total lock.

Washdown Easy-Roll Threaded-Stem Casters—*240 lbs.*



Swivel

The nylon frame gives these casters the corrosion resistance you need for equipment that's frequently washed down. Seals on the swivel and wheel bearings keep out contaminants. Both the wheel bearings and swivel bearings have precision steel balls for the smoothest rolling and swiveling of all the bearings we offer. Wheels are nonmarking gray rubber on a polypropylene core. Wheel treads are soft (85A durometer).

Swivel casters with total lock brake the wheel and lock the swivel in one operation.

Stem Thread	Stem Lg.	Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Total Lock	
M12	28 mm	5″	1¼″	6 5/16″	240	2335T21	$41.63	2335T22	$44.44
M12	68 mm	5″	1¼″	6 5/16″	240	2335T23	43.30	2335T24	46.22

Threaded-Stem Casters—90 to 325 lbs.

Thread these casters into the metal legs of furniture, carts, chairs, and appliances. Frame is plated steel. Wheels are nonmarking, except black rubber wheels.

Dual-wheel casters provide better load distribution and easier turning than single-wheel casters.

Easy-roll bearings have steel balls and require minimal effort to start rolling.

Maintenance-free easy-roll bearings have completely sealed steel balls and never need lubrication. Debris guards on the wheel keep out contaminants for extended service life.

Static-Control Rubber—Wheels prevent static buildup. Surface resistance is less than 10^6 ohms. Meet BIFMA standards.

Shock-Absorbing Rubber—Wheel treads are thick rubber so they cushion like air-filled tires but won't go flat.



Swivel



Swivel with Brake



Wd.

Dual Wheel Swivel



Dual Wheel Swivel with Brake

Stem Thread	Stem Lg.	Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake	
Single Wheel									
Cushioned Black Rubber Wheels—Soft (78A Durometer)									
5/16"-18	1"	2 1/2"	15/16"	3"	90	2834T62	$7.35	2834T64	$9.01
3/8"-16	1 1/2"	2 1/2"	15/16"	3"	90	2834T19	7.52	2834T27	9.56
3/8"-16	1 1/2"	3"	15/16"	3 9/16"	100	2834T13	5.35	2834T28	10.02
1/2"-13	1 1/2"	3"	1 1/4"	3 9/16"	175	2834T37	10.70	2834T43	12.73
1/2"-13	1 1/2"	4"	1 1/4"	4 3/4"	200	2834T38	13.65	2834T44	15.10
1/2"-13	1 1/2"	5"	1 1/4"	5 13/16"	210	2834T16	17.98	2834T45	19.56
Static-Control Black Rubber Wheels—Soft (80A Durometer)									
3/8"-16	1 1/2"	2 1/2"	15/16"	3"	90	2368T52	6.68	2368T62	8.14
3/8"-16	1 1/2"	3"	15/16"	3 9/16"	100	2368T53	7.63	2368T63	10.12
1/2"-13	1 1/2"	3"	1 1/4"	3 9/16"	175	2368T54	11.72	2368T64	13.40
1/2"-13	1 1/2"	4"	1 1/4"	4 3/4"	200	2368T56	14.98	2368T66	15.65
1/2"-13	1 1/2"	5"	1 1/4"	5 13/16"	210	2368T58	19.90	2368T68	23.49
Impact-Resistant Black Rubber Wheels—Extra Hard (80D Durometer)									
5/16"-18	1"	2 1/2"	15/16"	3"	100	2834T65	7.35	—	—
3/8"-16	1 1/2"	2 1/2"	15/16"	3"	100	2834T24	7.49	2834T33	9.01
3/8"-16	1 1/2"	3"	15/16"	3 9/16"	125	2834T25	9.00	2834T34	10.65
1/2"-13	1 1/2"	3"	1 1/4"	3 9/16"	270	2834T39	10.70	2834T46	12.14
1/2"-13	1 1/2"	4"	1 1/4"	4 3/4"	280	2834T41	13.61	2834T47	14.97
1/2"-13	1 1/2"	5"	1 1/4"	5 13/16"	290	2834T42	18.03	2834T48	19.44
Single Wheel with Easy-Roll Bearings									
Cushioned Gray Rubber on Polypropylene Wheels—Soft Tread (65A Durometer)									
1/2"-13	1 1/2"	3 1/2"	1 1/4"	4 9/16"	250	2460T51	14.60	2460T54■	22.25
1/2"-13	1 1/2"	4"	1 1/4"	5"	300	2460T52	15.47	2460T55■	23.12
1/2"-13	1 1/2"	5"	1 1/4"	6 1/16"	325	2460T53	16.68	2460T56■	24.62
Abrasion-Resistant Red Polyurethane on Polypropylene Wheels—Extra-Hard Tread (55D Durometer)									
1/2"-13	1 1/2"	2 1/2"	1 1/4"	3 3/4"	250	2460T71	15.57	—	—
1/2"-13	1 1/2"	3 1/2"	1 1/4"	4 9/16"	250	2460T81	15.65	2460T84■	22.75
1/2"-13	1 1/2"	4"	1 1/4"	5"	275	2460T82	15.88	2460T85■	23.38
1/2"-13	1 1/2"	5"	1 1/4"	6 1/16"	300	2460T83	18.35	2460T86■	26.52
Shock-Absorbing Black Rubber on Polypropylene Wheels—Soft Tread (70A Durometer)									
1/2"-13	1 1/2"	6"	1 1/4"	7 1/8"	150	4429T31	21.51	4429T32	23.78
Single Wheel with Maintenance-Free Easy-Roll Bearings									
Cushioned Blue Rubber on Polypropylene Wheels—Soft Tread (75A Durometer)									
1/2"-13	7/8"	5"	1 1/4"	5 7/8"	250	23005T41	16.18	—	—
Abrasion-Resistant Blue Polyurethane on Polypropylene Wheels—Extra-Hard Tread (55D Durometer)									
1/2"-13	7/8"	5"	1 1/4"	5 7/8"	250	23005T61	16.75	—	—
Dual Wheel									
Lightweight Black Polypropylene Wheels—Extra Hard (70D Durometer)									
3/8"-16	1 1/2"	2"	7/8"	2 3/4"	225	24025T63	5.71	24025T64	6.20
1/2"-13	1 1/2"	2"	7/8"	2 3/4"	225	24025T71	5.76	24025T72	6.24
Cushioned Black Rubber Wheels—Soft (80A Durometer)									
5/16"-18	1 1/2"	2"	7/8"	2 3/4"	150	87845T51	9.72	87845T151	13.20
3/8"-16	1 1/2"	2"	7/8"	2 3/4"	150	87845T61	9.90	87845T161	13.96
3/8"-16	1 1/2"	3"	13/16"	3 11/16"	200	87845T63	11.38	87845T163	15.12
1/2"-13	1 1/2"	3"	13/16"	3 11/16"	200	87845T71	11.38	87845T171	15.12
Abrasion-Resistant Gray Rubber Wheels—Hard (90A Durometer)									
1/2"-13	1 1/2"	2"	7/8"	2 3/4"	180	24025T67	6.44	24025T68	6.96
Abrasion-Resistant Black Rubber Wheels—Hard (90A Durometer)									
5/16"-18	1 1/2"	2"	7/8"	2 3/4"	200	87845T52	9.72	87845T152	13.20
3/8"-16	1 1/2"	2"	7/8"	2 3/4"	200	87845T62	9.90	87845T162	13.96
3/8"-16	1 1/2"	3"	13/16"	3 11/16"	250	87845T64	11.38	87845T164	15.12
1/2"-13	1 1/2"	3"	13/16"	3 11/16"	250	87845T72	11.38	87845T172	15.12

■ Caster has a total lock that brakes the wheel and locks the swivel in one operation.

Low-Profile Threaded-Stem Casters—70 to 350 lbs.

A popular choice for business machines and display fixtures, these casters are offered with low mounting heights to keep your equipment stable. Casters have a plated steel frame. *Polypropylene* and *phenolic wheels* are nonmarking.

Static-Control Rubber—Wheels prevent static buildup. Surface resistance is less than 10^6 ohms. Meet BIFMA standards.



Swivel



Swivel with Brake

Stem Thread	Stem Lg.	Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake	
Cushioned Black Rubber Wheels—Soft (78A Durometer)									
3/8"-16	1 1/2"	1 5/8"	3/4"	2 3/16"	70	2834T11	$4.70	—	—
3/8"-16	1 1/2"	2"	7/8"	2 1/2"	80	2834T12	5.11	2834T26	$7.35
5/16"-18	1"	2"	15/16"	2 1/2"	75	2834T61	5.64	2834T63	6.80
Static-Control Black Rubber Wheels—Soft (80A Durometer)									
3/8"-16	1 1/2"	2"	15/16"	2 1/2"	75	2368T51	5.15	2368T61	6.71
Impact-Resistant Black Rubber Wheels—Extra Hard (80D Durometer)									
3/8"-16	1 1/2"	2"	15/16"	2 1/2"	90	2834T23	5.64	2834T32	7.19
Impact-Resistant Black Polypropylene Wheels—Extra Hard (70D Durometer)									
3/8"-16	1 1/2"	2"	1 13/16"	2 3/4"	300	24025T65	5.91	24025T66	6.40
1/2"-13	1 1/2"	2"	1 13/16"	2 3/4"	300	24025T51	5.96	24025T74	6.42
High-Capacity Black Phenolic Wheels—Extra Hard (90D Durometer)									
1/2"-13	2 1/2"	3"	1 3/4"	3 3/4"	350	24025T53	17.52	—	—

Leveling Threaded-Stem Casters—60 to 1,100 lbs.



With Thumbwheel Adjustment



Leveling Pad Extended

Not only does the leveling pad lift the wheel off the floor to keep equipment stationary, it also adjusts to compensate for uneven floors. Wheel is black nylon that is extra hard (90D durometer) and nonmarking.

Type 304 stainless steel frame offers excellent corrosion resistance.

Stem Thread	Stem Lg.	Wheel Dia.	Wheel Wd.	Mount Ht. Min.	Mount Ht. Max.	Cap. Ea., lbs.	Adjustment Style	Available Frame Finishes	Swivel	
Aluminum Frame										
3/8"-16	3/4"	1 3/4"	1 1/16"	2 13/16"	3 3/16"	60	Thumbwheel	Ivory	2445T51	$23.23
1/2"-13	1 1/4"★	2"	1"	3 5/16"	3 11/16"	300	Thumbwheel	Black, Ivory	2445T63	37.50
1/2"-13	1 1/4"★	2 1/2"	1 3/16"	4 1/8"	4 5/8"	600	Thumbwheel	Black, Ivory	2445T64	58.33
5/8"-11	1 1/4"	2 13/16"	1 3/16"	4 3/4"	5 3/16"	825	Thumbwheel	Ivory	2445T54	73.47
5/8"-11	1 1/4"	2 13/16"	1 3/16"	4 3/4"	5 1/2"	1,100	M16 Metric Nut	Ivory	2445T55	85.42
M8	3/4"	1 3/4"	3/4"	2 13/16"	3 3/16"	60	Thumbwheel	Ivory	2445T43	23.23
M12	1 1/4"★	2"	1"	3 5/16"	3 11/16"	300	Thumbwheel	Black, Ivory	2445T61	33.33
M12	1 1/4"★	2 1/2"	1 3/16"	4 1/8"	4 5/8"	600	Thumbwheel	Black, Ivory	2445T62	53.88
M16	1 1/4"	2 13/16"	1 3/16"	4 3/4"	5 3/16"	825	Thumbwheel	Ivory	2445T47	73.47
M16	1 1/4"	2 13/16"	1 3/16"	4 3/4"	5 1/2"	1,100	M16 Metric Nut	Ivory	2445T48	85.42
Type 304 Stainless Steel Frame										
3/8"-16	3/4"	1 3/4"	1 1/16"	2 13/16"	3 3/16"	110	Thumbwheel	____	2445T56	104.17
1/2"-13	1 1/4"	2"	1"	3 5/16"	3 11/16"	550	Thumbwheel	____	2445T57	129.17

★ Black frames have a 7/8" stem length.

Light Duty Threaded-Stem Casters—40 to 175 lbs.



Plastic Frame



Hood with Brake



Aluminum Frame with Brake

Also known as twin-wheel casters, these lightweight and economical casters are commonly found on furniture and displays. Meet BIFMA standards, unless noted.

Casters with a **white aluminum frame** met NSF/ANSI standards.

Black Nylon—Wheels are extra hard (70D durometer), except 4" dia. wheels are hard (95A durometer).

Black Polyurethane—Wheels are hard (90A durometer), except 4" dia. wheels are soft (75A durometer).

Gray Rubber—Wheel treads are soft (70A durometer).

To Order: For choose-a-finish metal hood, please specify matte black, antique brass, bright chrome, or satin chrome finish.

Stem Thread	Stem Lg.	Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake	
Black Plastic Frame—Black Nylon Wheels									
5/16"-18	1"	2 3/8"	2 1/16"	2 5/8"	100	22575T18	$3.59	22575T48	$4.89
3/8"-16	1"	2 3/8"	2 1/16"	2 5/8"	100	22575T21	3.62	22575T51	4.92
1/2"-13	1 1/2"	4"	2 15/16"	4 3/8"	175	2841T28	8.25	____	____
Black Plastic Frame—Black Polyurethane Wheels									
5/16"-18	1"	2 3/8"	2 1/16"	2 5/8"	100	22575T29	5.27	22575T59	7.83
3/8"-16	1"	2 3/8"	2 1/16"	2 5/8"	100	22575T31	5.27	22575T61	7.83
1/2"-13	1 1/2"	4"	2 15/16"	4 3/8"	175	2841T24	11.62	____	____
Black Plastic Hood—Black Nylon Wheels									
5/16"-18	1"	1 9/16"	1 9/16"	2"	40	24215T31♠	1.28	24215T33♠	1.61
5/16"-18	1"	2"	1 7/8"	2 3/8"	75	24215T67	1.60	24215T88	1.90
5/16"-18	1"	2 3/8"	1 7/8"	2 3/4"	100	24215T32	1.90	24215T34	2.35
3/8"-16	3/4"	1 9/16"	1 9/16"	2"	40	24215T35♠	1.37	24215T37♠	1.58
3/8"-16	3/4"	2"	1 7/8"	2 3/8"	75	24215T69	1.58	24215T81	1.91
3/8"-16	3/4"	2 3/8"	1 7/8"	2 3/4"	100	24215T36	1.92	24215T38	2.37
White Aluminum Frame—Gray Rubber on Aluminum Wheels									
M12	20 mm	4"	2 1/4"	4 3/4"	130	24805T63	49.07	24805T64■	78.83
M16	20 mm	5"	2 13/16"	5 11/16"	175	24805T65	78.65	24805T66■	103.56
Choose-a-Finish Metal Hood—Black Nylon Wheels									
5/16"-18	1"	2"	1 5/8"	2 1/2"	75	2798T128	5.84	2798T129	8.75

♠ Does not meet BIFMA standards. ■ Caster has a total lock that brakes the wheel and locks the swivel in one operation.

Light Duty Grip-Neck Stem Casters for Wood—75 to 100 lbs.



Swivel



Mounting Socket

Tap the included socket into a 3/8" Dia. x 1 5/8" Lg. hole in a wood leg or post to securely hold the stem. Also known as twin-wheel casters, they're lightweight and economical casters used on furniture and displays. Hood is metal.

To Order: Please specify hood finish: matte black, antique brass, bright chrome, or satin chrome.

Stem Dia.	Stem Lg.	Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake	
Black Nylon Wheels—Extra Hard (70D Durometer)									
5/16"	1 1/2"	2"	1 5/8"	2 3/8"	75	2798T123	$5.88	2798T124	$8.15
5/16"	1 1/2"	2 3/8"	2"	2 3/4"	100	2798T126	6.43	____	____
Black Polyurethane Wheels—Hard (90A Durometer)									
5/16"	1 1/2"	2"	1 5/8"	2 3/8"	75	2798T122	8.10	____	____
5/16"	1 1/2"	2 3/8"	2"	2 3/4"	100	2798T125	10.01	____	____

Hooded Friction-Grip Stem Casters—80 to 110 lbs.



Ball-Style Polypropylene Wheel



Neoprene Rubber Wheels

A hood covering the wheel gives these casters a clean, finished look. Press-fit these casters into tubing, sockets, or drilled holes, and friction on their stem's grip ring holds them in place. Frame is steel. Wheels are black. For mounting sockets, see page 1412.

Ball-style polypropylene wheel is extra hard (70D durometer).

Neoprene rubber wheels are soft (55A durometer) and oil resistant. The wheel bearings are completely sealed so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

Stem Dia.	Stem Lg.	Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel with Chrome Finish		Swivel with Black-Oxide Finish	
Ball-Style Polypropylene Wheels with Plain Bore (No Bearings)									
7/16"	1 7/16"	2"	____	2 5/8"	80	24055T32	$5.78	____	____
Neoprene Rubber Wheels with Maintenance-Free Easy-Roll Bearings									
3/8"	1"	3"	15/16"	3 7/8"	110	9909T51	14.44	9909T52	$16.26
7/16"	1 7/16"	3"	15/16"	3 7/8"	110	9909T53	14.58	9909T54	18.58

Friction-Grip Stem Casters—75 to 325 lbs.

Press-fit the stem into tubing, sockets, or drilled holes—friction on the stem's grip ring holds the caster in place. Frame is plated steel. For mounting sockets, see page 1412.

Single-wheel casters meet BIFMA standards, except casters with easy-roll bearings. **Dual-wheel** casters provide better load distribution and easier turning than single-wheel casters.

Easy-roll bearings have steel balls and require minimal effort to start rolling.

Static-Control Rubber—Wheels prevent static buildup. Surface resistance is less than 10^6 ohms.



Swivel



Swivel with Brake



Dual Wheel Swivel

Stem Dia.	Stem Lg.	Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake	
Single Wheel									
Cushioned Black Rubber Wheels—Soft (75A Durometer)									
3/8"	1"	2"	7/8"	2 1/2"	80	2391T23	$5.57	2391T34	$8.05
7/16"	1"	2"	15/16"	2 1/2"	75	2391T1	4.11	2391T14	5.16
7/16"	1"	2 1/2"	15/16"	3 1/16"	90	2391T2	6.12	2391T15	7.19
7/16"	1 3/8"	2"	15/16"	2 1/2"	75	2369T12	2.17	—	—
7/16"	1 3/8"	3"	1 1/4"	3 9/16"	175	2369T51	6.51	2369T57	7.07
7/16"	1 3/8"	4"	1 1/4"	4 3/4"	200	2369T52	9.38	2369T58	9.97
7/16"	1 3/8"	5"	1 1/4"	5 13/16"	210	2369T53	10.62	2369T59	11.28
7/16"	1 7/8"	3"	15/16"	3 9/16"	100	8805T31	3.16	8805T32	3.81
Impact-Resistant Black Rubber Wheels—Extra Hard (80D Durometer)									
7/16"	1"	2"	15/16"	2 1/2"	90	2391T12	4.10	2391T16	5.09
7/16"	1"	2 1/2"	15/16"	3 1/16"	100	2391T3	6.10	2391T17	7.53
7/16"	1 3/8"	3"	1 1/4"	3 9/16"	270	2369T54	6.86	2369T61	8.08
7/16"	1 3/8"	4"	1 1/4"	4 3/4"	280	2369T55	9.63	2369T62	10.51
7/16"	1 3/8"	5"	1 1/4"	5 13/16"	290	2369T56	10.83	2369T63	12.07
Static-Control Black Rubber Wheels—Soft (80A Durometer)									
7/16"	1 3/8"	2"	15/16"	2 1/2"	75	2366T41	4.94	2366T43	6.45
7/16"	1 3/8"	2 1/2"	15/16"	3 1/16"	90	2366T42	6.32	2366T44	7.86
7/16"	1 3/8"	3"	15/16"	3 9/16"	100	2366T51	7.71	2366T61	9.01
7/16"	1 3/8"	4"	1 1/4"	4 3/4"	200	2366T55	15.39	2366T65	15.54
Single Wheel with Easy-Roll Bearings									
Cushioned Gray Rubber on Polypropylene Wheels—Soft Tread (65A Durometer)									
5/8"	2 3/16"	3 1/2"	1 1/4"	4 9/16"	250	2512T61	16.65	2512T64■	24.16
5/8"	2 3/16"	4"	1 1/4"	5"	300	2512T62	17.47	2512T65■	25.02
5/8"	2 3/16"	5"	1 1/4"	6 1/16"	325	2512T63	18.63	2512T66■	26.23
Abrasion-Resistant Red Polyurethane on Polypropylene Wheels—Extra-Hard Tread (55D Durometer)									
5/8"	2 3/16"	3 1/2"	1 1/4"	4 9/16"	250	2512T71	17.28	2512T74■	24.79
5/8"	2 3/16"	4"	1 1/4"	5"	275	2512T72	18.49	2512T75■	25.05
5/8"	2 3/16"	5"	1 1/4"	6 1/16"	300	2512T73	19.79	2512T76■	27.40
Dual Wheel									
Cushioned Black Rubber Wheels—Soft (80A Durometer)									
3/8"	1"	2"	7/8"	2 3/4"	150	87855T51	9.72	87855T151	13.20
3/8"	1"	3"	1"	3 11/16"	200	87855T52	11.38	87855T152	15.12
7/16"	1 1/2"	2"	7/8"	2 3/4"	150	87855T61	9.72	87855T161	13.20
7/16"	1 1/2"	3"	1"	3 11/16"	200	87855T62	11.38	87855T162	15.12
Abrasion-Resistant Black Rubber Wheels—Hard (90A Durometer)									
3/8"	1"	2"	7/8"	2 3/4"	200	87855T53	9.72	87855T153	13.20
3/8"	1"	3"	1"	3 11/16"	250	87855T54	11.38	87855T154	15.78
7/16"	1 1/2"	2"	7/8"	2 3/4"	200	87855T63	9.72	87855T163	13.20
7/16"	1 1/2"	3"	1"	3 11/16"	250	87855T64	11.38	87855T164	15.12

■ Caster has a total lock that brakes the wheel and locks the swivel in one operation.

Light Duty Friction-Grip Stem Casters—40 to 110 lbs.

Commonly found on furniture and displays, these twin-wheel casters are lightweight and economical. Friction on the stem's grip ring holds the caster in place once it's press-fit into tubing, sockets, or drilled holes. Meet BIFMA standards, unless noted. Wheels are black and nonmarking. For mounting sockets, see page 1412.

Concealed-stem casters create a seamless joint between the top of the caster and the bottom of most swivel chairs.

Choose-a-finish metal hood is available in matte black, antique brass, bright chrome, and satin chrome finishes. **To Order:** Please specify finish.

Nylon wheels are extra hard (70D durometer). *Static-control wheels* prevent static buildup. Surface resistance is less than 10^4 ohms.

Polyurethane wheels are hard (90A durometer).



Plastic Frame



Concealed Stem Plastic Hood



Plastic Hood with Brake

Stem Dia.	Stem Lg.	Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake	
Black Plastic Frame—Nylon Wheels									
7/16"	7/8"	2"	1 13/16"	2 1/4"	75	22575T81♦	$2.45	22575T82♦	$3.08
7/16"	7/8"	2 3/8"	2 1/16"	2 5/8"	100	22575T14	3.59	22575T44	4.89
7/16"	1 3/8"	2 3/8"	2 1/16"	2 5/8"	100	22575T75	3.59	22575T76	4.89
Black Plastic Frame—Polyurethane Wheels									
7/16"	7/8"	2 3/8"	2 1/16"	2 5/8"	100	22575T27	5.27	22575T57	7.86
7/16"	1 3/8"	2 3/8"	2 1/16"	2 5/8"	100	22575T71	5.27	22575T72	7.86
Black Plastic Hood—Nylon Wheels									
3/8"	1"	2"	1 7/8"	2 3/8"	75	24215T61	1.75	24215T82	2.07
7/16"	7/8"	1 9/16"	1 9/16"	2"	40	24215T39♦	1.29	24215T42♦	1.65
7/16"	7/8"	2"	1 7/8"	2 3/8"	75	24215T63	1.72	24215T84	2.07
7/16"	7/8"	2 3/8"	1 7/8"	2 3/4"	100	24215T41	2.00	24215T43	2.42
7/16"	1 7/16"	2"	1 7/8"	2 3/8"	75	24215T65	1.89	24215T86	2.14
Concealed-Stem Black Plastic Hood—Nylon Wheels									
7/16"	7/8"	2 5/32"	2 5/32"	2 1/2"	75	27935T44	2.26	—	—
Choose-a-Finish Metal Hood—Polyurethane Wheels									
3/8"	1"	2"	1 5/8"	2 3/8"	75	2798T111	7.86	—	—
3/8"	1"	2 3/8"	2"	2 3/4"	100	2798T114	9.33	—	—
7/16"	7/8"	2"	1 5/8"	2 3/8"	75	2798T116	8.71	—	—
7/16"	7/8"	2 3/8"	2"	2 3/4"	100	2798T119	10.21	—	—
Chrome-Plated Metal Hood—Static-Control Nylon Wheels									
7/16"	7/8"	2"	2"	2 1/8"	110	22775T82	16.74	22775T81↙	18.50

♦ Does not meet BIFMA standards. ↙ Brake is internal; caster rolls when load is applied and stops when load is removed.

Wire Shelving Food-Service Friction-Grip Stem Casters—250 to 300 lbs.



Round Stem



Square Stem with Brake

Mobilize your food-service shelving. Casters meet NSF/ANSI standards. They press-fit into 1″ OD 16-ga. tubing, and friction on their stem's grip ring holds them in place. Stem is 7/8″ OD and 2 3/16″ long. A debris cap on the swivel keeps out contaminants. Frame is zinc-plated steel.

Lightweight Polypropylene—Wheels are extra hard (65D durometer).

Cushioned Rubber—Wheel treads are soft (65A durometer).

Abrasion-Resistant Polyurethane—Wheel treads are hard (95A durometer).

Also Available: Type 304 stainless steel casters for superior corrosion resistance. Please ask for 88005T888 and specify steel caster part number.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Available Stem Types	Swivel		Swivel with Brake	
Lightweight Black Solid Polypropylene Wheels								
4″	1 1/4″	4 15/16″	275	Round, Square	8703T61	$20.31	8703T63	$24.84
5″	1 1/4″	6 1/16″	300	Round, Square	8703T62	23.84	8703T64	28.05
Cushioned Gray Rubber on Polypropylene Wheels								
4″	1 1/4″	4 15/16″	250	Round, Square	8703T21	23.65	8703T22	31.40
5″	1 1/4″	6 1/16″	250	Round, Square	8703T23	25.49	8703T24	34.04
Abrasion-Resistant Gray Polyurethane on Polypropylene Wheels								
4″	1 1/4″	4 15/16″	275	Round, Square	8703T84	23.65	8703T85	30.76
5″	1 1/4″	6 1/16″	300	Round, Square	8703T36	26.02	8703T37	32.87

Mounting Sockets for Stem Casters

For Angle Iron and Channel

Friction-Grip Stem



Weld-On Inside Mount



Bolt-On Side Mount



Bolt-On Outside Mount

Threaded Stem

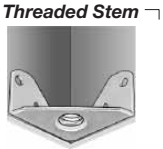

Bolt-On Inside Mount

Sockets mount to the sides or corners of angle iron and channel. Made of zinc-plated steel, except weld-on socket is plain steel.

Friction-grip stem sockets have 1 3/8″ Wd. × 1 11/16″ Ht. mounting flanges, except side-mount socket, which is 2 3/16″ wide overall.

Threaded-stem sockets have 2″ Wd. × 1 5/16″ Ht. mounting flanges.

	For Stem Dia.	Max. Lg.	Bolt Size		Pkg. of 4
Friction-Grip Stem Sockets					
Weld-On Inside-Mount	7/16″	1 1/2″	—	99305T65★	$6.28
Bolt-On Side-Mount	7/16″	1 1/2″	1/4″	99305T66	10.55
Bolt-On Outside-Mount	7/16″	1 1/2″	1/4″	99305T63	12.95
Bolt-On Inside-Mount	7/16″	1 1/2″	1/4″	99305T64	11.15
Threaded-Stem Sockets					
Bolt-On Inside-Mount	3/8″-16	—	3/16″	99305T68	8.55
Bolt-On Inside-Mount	5/16″-18	—	3/16″	99305T67	8.55

★Comes in package of 2.

For Wood



Teeth on the edge of the socket grip wood legs for a secure hold. Socket is zinc-plated steel.

For Stem Dia.	Max. Lg.	Mounting Hole Dia.	Dp.		Pkg. of 4
Grip-Neck Stem Sockets					
5/16″	1 1/2″	3/8″	1 5/8″	99015T27	$3.75

For Tubing

Grip-Neck Stem





For Round Tubing



For Square Tubing

Friction-Grip Stem





For Round Tubing



For Square Tubing

Press-fit these plastic sockets into round or square tubing.

For Tubing ID	For Stem Dia.	Max. Lg.		Pkg. of 4
Grip-Neck Stem Sockets for Round Tubing				
3/4″	7/16″	1 15/16″	9951T41	$6.25
7/8″	7/16″	1 15/16″	9951T42	4.69
1″	7/16″	1 15/16″	9951T43	5.00
Grip-Neck Stem Sockets for Square Tubing				
3/4″	7/16″	1 15/16″	9951T44	5.50
7/8″	7/16″	1 15/16″	9951T45	5.36
1″	7/16″	1 15/16″	9951T46	5.36
Friction-Grip Stem Sockets for Round Tubing				
25/32″	7/16″	1 7/8″	99065T61	6.40
27/32″	7/16″	1 7/8″	99065T64	6.75
7/8″	7/16″	1 13/16″	99065T63	6.61
29/32″	7/16″	1 7/8″	99065T72	7.26
Friction-Grip Stem Sockets for Square Tubing				
29/32″	7/16″	1″	99065T77	5.88
29/32″	7/16″	2″	99065T68	6.89

Expanding-Stem Casters—125 to 220 lbs.



Sleeve Style



Wedge Style



Wedge Style with Total Lock



Wedge-Style Stem Expanded

Create the exact stem diameter you need by tightening the stem's nut, which expands the stem for a snug fit inside your equipment's legs. Wheels are nonmarking gray rubber on polypropylene core. Frame is plated steel.

Sleeve-style stem has a rubber sleeve that expands as it is compressed. They meet NSF/ANSI standards. Wheel treads are soft (75A durometer).

Wedge-style stem has metal wedges that expand outward for a more secure fit than the sleeve-style stem. Wheel bearings are completely sealed, so they never need lubrication. Their precision steel balls provide the least rolling resistance of all bearings we offer. Wheel treads are soft (80A durometer). *Swivel casters with total lock* brake the wheel and lock the swivel in one operation.

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Available Stem Diameter Ranges	Swivel		Swivel with Total Lock	
Sleeve-Style Stem								
Acetal Sleeve Bearings								
3″	15/16″	3 5/8″	125	0.72″-0.85″, 0.85″-0.93″, 0.93″-1.03″, 1.36″-1.43″, 1.43″-1.59″	2484T111	$23.56	—	—
4″	15/16″	4 5/8″	125	0.72″-0.85″, 0.85″-0.93″, 0.93″-1.03″, 1.36″-1.43″, 1.43″-1.59″	2484T211	26.71	—	—
5″	15/16″	5 5/8″	125	0.72″-0.85″, 0.85″-0.93″, 0.93″-1.03″, 1.36″-1.43″, 1.43″-1.59″	2484T311	27.29	—	—
Wedge-Style Stem								
Maintenance-Free Easy-Roll Bearings								
3 1/8″	1″	4 1/4″	130	0.69″-0.75″, 0.79″-1″, 1″-1.18″	2320T81	21.61	2320T84	$26.10
4″	1 1/4″	5 1/4″	195	0.69″-0.75″, 0.79″-1″, 1″-1.18″	2320T82	22.89	2320T85	27.20
5″	1 1/4″	6 1/4″	220	0.69″-0.75″, 0.79″-1″, 1″-1.18″	2320T83	25.29	2320T86	29.80

Octagonal- and Square-Stem Casters—125 to 325 lbs.

The stems on these casters fit into square tubing and can also be bolted to angle iron using three 1/4" bolts. Stem is 3/4" OD and 2 1/16" long. Frame is zinc-plated steel.

Swivel casters with total lock brake the wheel and lock the swivel in one operation.

Octagonal-stem casters also fit inside round tubing.

Square-stem casters meet NSF/ANSI standards. *Abrasion-resistant polyurethane on polypropylene wheels* have easy-roll steel ball bearings.



Octagonal Stem



Square Stem with Total Lock

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Total Lock	
Octagonal Stem							
Abrasion-Resistant Black Rubber Wheels—Hard (90A Durometer)							
3"	31/32"	3 11/16"	125	22975T74	$12.68	22975T84★	$16.49
4"	31/32"	4 5/8"	135	22975T75	13.95	22975T85★	17.54
5"	31/32"	5 5/8"	145	22975T76	15.77	22975T86★	19.40
Square Stem							
Cushioned Gray Rubber on Polypropylene Wheels—Soft Tread (65A Durometer)							
3 1/2"	1 1/4"	4 9/16"	250	23085T22	18.40	23085T32	26.77
4"	1 1/4"	5"	300	23085T23	19.98	23085T33	29.52
5"	1 1/4"	6 1/16"	325	23085T24	20.25	23085T34	29.91
Abrasion-Resistant Red Polyurethane on Polypropylene Wheels—Extra-Hard Tread (55D Durometer)							
3 1/2"	1 1/4"	4 9/16"	250	23085T46	16.23	23085T56	30.78
5"	1 1/4"	6 1/16"	300	23085T48	26.00	23085T58	34.88

★ Caster has a wheel brake instead of a total lock.

Large Stem Casters—450 to 900 lbs.

Commonly used on scaffolding, these are the biggest stem casters we offer. All casters have a total lock that brakes the wheel and locks the swivel in one operation. Stems have two 1/2" dia. mounting holes. Frame is zinc-plated steel.

Cushioned Rubber—Wheel treads are soft (85A durometer).

Abrasion-Resistant Polyurethane—Wheel treads are hard (95A durometer) and nonmarking.



Stem Dia.	Stem Lg.	Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel with Total Lock	
Cushioned Black Rubber on Cast Iron Wheels							
1 1/4"	3 7/8"	5"	2"	6"	450	2888T51	$32.40
1 3/8"	3 7/8"	8"	2"	9 1/4"	600	2888T53	45.70
Abrasion-Resistant Red Polyurethane on Cast Iron Wheels							
1 1/4"	3 7/8"	5"	2"	6"	800	2888T64	40.51
1 3/8"	3 7/8"	6"	2"	7 1/4"	900	2888T66	46.57
1 3/8"	3 7/8"	8"	2"	9 1/4"	900	2888T68	48.44

Low-Profile Side-Mount Casters—100 lbs.

Mount this caster out of sight for a clean and finished look. Bracket has three 3/16" dia. mounting holes. Wheel is extra hard (70D durometer) and nonmarking polypropylene. Frame is zinc-plated steel.

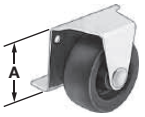

Wheel Dia.	Wheel Wd.	Mount Ht.	(A)	Cap. Ea., lbs.	Rigid	
2"	7/8"	1/2"	1 3/4"	100	9994T91	$4.52

Angle-Mount Casters—75 to 145 lbs.

The 90° angle bracket mounts inside square tubing and can also be bolted to angle iron using three 1/4" bolts. Frame is zinc-plated steel.

Cushioned Rubber—Wheels are soft (80A durometer).

Abrasion-Resistant Rubber—Wheels are hard (90A durometer).



Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel	
Cushioned Black Rubber Wheels					
2"	7/8"	2 3/4"	75	2399T1	$14.12
4"	31/32"	4 3/4"	110	2399T3	21.00
Abrasion-Resistant Black Rubber Wheels					
2"	7/8"	2 3/4"	100	2399T5	14.12
3"	13/16"	3 13/16"	100	2399T6	18.33
5"	31/32"	5 3/4"	145	2399T8	23.36

Socket-Mount Casters—300 lbs.

Slide the socket onto equipment legs, tighten the knurled thumb screw, and you're rolling. Casters have maintenance-free easy-roll ball bearings so they never need lubrication and provide the least rolling resistance of all the wheel bearings we offer. Wheels are red polyurethane on a polypropylene core. Wheel treads are hard (90A durometer) and nonmarking. Frame is zinc-plated steel.

Casters come in three sizes that fit a range of tubing ODs: 3/4"-1", 1"-1 1/4", and 1 1/4"-1 1/2".

To Order Please specify tubing OD range.



Swivel

Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Swivel		Swivel with Brake	
2 1/2"	1 1/4"	3 13/16"	300	2248T41	$44.58	2248T42	$61.31

Shock-Absorbing Side-Mount Casters—75 to 500 lbs.

Spring-loaded for good shock absorption, these casters are commonly used on gates and doors. All have a side mounting bracket for easy installation. Frame is zinc-plated steel. *Gray rubber* and *black polyurethane wheels* are nonmarking.

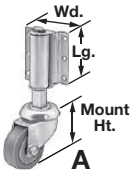







	Wheel Dia.	Wheel Wd.	Mount Ht.	Cap. Ea., lbs.	Max. Compression Force, lbs.	Max. Compression	Mounting Plate Lg.	Mounting Plate Wd.	Mounting Plate Bolt Size	Swivel	
Cushioned Gray Rubber on Plastic Wheels—Soft Tread (80A Durometer)											
A	2"	11/16"	2 11/16"	85	35	7/8"	2 11/32"	1 7/8"	3/16"	23045T31	$28.16
Cushioned Black Rubber Wheels—Soft (80A Durometer)											
B	3"	13/16"	3 7/8"	75	25	2"	3 5/8"	1"	5/16"	23045T33	34.66
Abrasion-Resistant Black Rubber Wheels—Hard (90A Durometer)											
B	3"	13/16"	3 7/8"	100	25	2"	3 5/8"	1"	5/16"	23045T34	34.66
C	2"	7/8"	2 3/4"	100	100	1 3/4"	5 1/4"	2"	5/16", 1/2"	87875T73	50.42
C	3"	13/16"	3 7/16"	125	100	1 3/4"	5 1/4"	2"	5/16", 1/2"	87875T74	52.38
Abrasion-Resistant Black Polyurethane Wheels—Extra Hard (63D Durometer)											
D	4"	2"	5 5/8"	500	500	7/8"	11"	4"	3/8"	87875T55	172.64
D	5"	2"	6 1/2"	500	500	7/8"	11"	4"	3/8"	87875T56	174.82
D	6"	2"	7 1/2"	500	500	7/8"	11"	4"	3/8"	87875T57	178.98

V-Groove Track Wheels



Move equipment on angle-iron track as well as the floor—these have a 90° V-groove machined into the flat tread.

General purpose bearings have straight rollers that provide smooth rolling.

Maintenance-free easy-roll bearings are completely sealed, so they never need lubrication. Their precision stainless steel balls provide the least rolling resistance of all the wheel bearings we offer.

Abrasion-Resistant Polyurethane—Wheels are extra hard (60D durometer) and nonmarking.

Phenolic—Wheels are extra hard (90D durometer) and nonmarking.

Corrosion-Resistant Type 303 Stainless Steel—Wheels are suitable for steam-cleaning applications.

To Order: Please specify axle diameter where applicable.

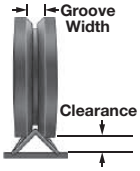

Wheel Dia.	Wheel Wd.	Available Axle Dia.	Hub Lg.	Cap. Ea., lbs.	Groove Width	Clearance 1¼″ Track	Clearance 1½″ Track	Clearance 2″ Track		
Acetal Sleeve Bearings										
Abrasion-Resistant Green Polyurethane—Temperature range is -40° to 180° F										
4″	2″	1/2″	2 7/16″	300	7/8″	1/2″	3/4″	—	22835T41	$25.24
5″	2″	1/2″	2 7/16″	300	7/8″	1/2″	3/4″	—	22835T42	32.26
General Purpose Bearings										
Abrasion-Resistant Green Polyurethane—Temperature range is -40° to 180° F										
4″	2″	1/2″	2 7/16″	300	7/8″	1/2″	3/4″	—	22835T51	27.56
5″	2″	1/2″	2 7/16″	300	7/8″	1/2″	3/4″	—	22835T52	35.72
6″	2″	1/2″	2 7/16″	300	7/8″	1/2″	3/4″	—	22835T53	45.35
Black Phenolic—Temperature range is -50° to 300° F										
4″	1 1/2″	1/2″	1 15/16″	380	7/8″	7/16″	5/8″	—	22425T1	26.16
6″	2″	1/2″	2 1/2″	750	7/8″	7/16″	5/8″	—	22425T2	31.52
6″	2 1/2″	3/4″	3 9/16″	1,120	1 1/4″	—	—	13/16″	22425T3	51.00
Long-Lasting Iron—Temperature range is -20° to 350° F (unless noted)										
3″	1 3/8″	1/2″	1 7/8″	450	1″	7/16″	5/8″	—	2310T7■	24.17
4″	1 1/2″	1/2″	1 15/16″	800	7/8″	1/2″	11/16″	—	2310T66	25.35
4″	2″	1/2″, 5/8″	2 1/2″	800	7/8″	1/2″	11/16″	—	2310T67	27.04
5″	2″	1/2″, 5/8″	2 1/2″	800	7/8″	1/2″	11/16″	—	2310T68	31.02
6″	2″	1/2″, 5/8″	2 1/2″	1,200	7/8″	1/2″	11/16″	—	2310T69	50.25
6″	2 1/2″	1″	3 9/16″	2,500	7/8″	—	—	1″	2310T71	51.69
6″	2 3/4″	1″	3 9/16″	2,500	7/8″	—	—	1″	2310T48	62.88
8″	2 1/2″	1″	3 9/16″	2,500	7/8″	—	—	1″	2310T73	71.54
8″	2 3/4″	1″	3 9/16″	2,500	1 3/8″	—	—	3/4″	2310T74	76.21
8″	3″	1″	3 9/16″	2,500	1 3/8″	—	—	3/4″	2310T75	77.83
10″	3″	1″	3 9/16″	3,000	1 3/8″	—	—	3/4″	2310T76	180.40
High-Capacity Iron—Temperature range is -30° to 600° F										
4″	2″	1/2″, 5/8″	2 3/16″	1,200	7/8″	7/16″	11/16″	—	23405T35	28.48
6″	2 1/2″	3/4″	2 13/16″	3,500	7/8″	—	—	7/8″	23405T33	59.84
8″	2 1/2″	3/4″	2 13/16″	3,500	7/8″	—	—	7/8″	23405T34	93.05
High-Capacity Forged Steel—Temperature range is -40° to 650° F										
6″	3″	1″	3 9/16″	6,000	1 3/8″	—	—	13/16″	23345T17	179.71
8″	4″	1 1/4″	4 9/16″	8,350	1 3/4″	—	—	11/16″	23345T19	266.84
10″	3″	1″	3 9/16″	5,000	1 3/8″	—	—	7/8″	23345T31	225.07
Maintenance-Free Easy-Roll Bearings										
Corrosion-Resistant Type 303 Stainless Steel—Temperature range is 0° to 390° F										
4″	1 3/8″	1/2″	1 5/8″	600	5/8″	9/16″	3/4″	—	23365T37	157.31
4″	2″	1/2″	2 1/2″	850	7/8″	7/16″	5/8″	—	23365T41	154.75
5″	2″	1/2″	2 1/2″	950	7/8″	7/16″	5/8″	—	23365T38	216.87
6″	2″	1/2″	2 1/2″	1,200	7/8″	7/16″	5/8″	—	23365T39	270.58

■ Temperature range is 5° to 220° F.

Flanged Track Wheels



Single Flange

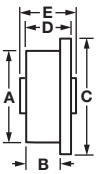



Double Flange

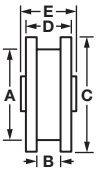

A flange on one or both sides of the wheel keeps your equipment running on track. Wheels have straight roller bearings and are made of steel with a black powder-coated finish. Temperature range is –13° to 250° F.

Also Available: Wheels with plain bore (no bearings). Please ask for 2353T999 and specify material, single or double flange, with or without keyway, with or without set screws, wheel dia., wheel width, flange dia., overall width, axle dia., and hub length.

To Order: Please specify axle diameter where applicable.

Wheel Dia. (A)	Wheel Wd. (B)	Flange Dia. (C)	O'all Wd. (D)	Available Axle Dia.	Hub Lg. (E)	Cap. Ea., lbs.		
Single-Flange Wheels								
3 1/4″	1″	4″	1 3/8″	1/2″	2 3/16″	1,250	2353T25	$52.13
3 1/2″	1 7/16″	4 1/8″	1 7/8″	3/4″	2 1/4″	1,600	2353T26	60.07
4 1/2″	1 9/16″	5 1/2″	2 3/8″	3/4″	2 1/2″	2,200	2353T28	91.99
4 15/16″	1 7/16″	5 11/16″	2 1/8″	1/2″	2 1/4″	1,550	2353T27	90.43
5″	2 1/16″	6″	2 11/16″	1″	3 1/4″	5,000	2353T29	163.65
6 1/8″	1 11/16″	7″	2 3/32″	3/4″, 1″	2 3/4″	2,400	2353T11	149.27
7 7/8″	1 3/4″	8 5/8″	2 1/4″	1″	2 1/2″	2,800	2353T33	179.36
8″	2 1/4″	9 1/4″	3″	3/4″, 1″	3 1/4″	3,000	2353T12	182.42
Double-Flange Wheels								
5″	1 11/16″	6″	3″	1″	3 5/8″	5,000	22495T51	164.50
6″	2 1/8″	7 5/16″	3″	3/4″	3 9/16″	2,800	22495T52	171.16
6″	2 1/8″	7 5/16″	3″	1″	3 9/16″	3,200	22495T53	171.16

Corrosion-Resistant Stainless Steel Wheels



The best choice for washdown applications such as food-processing areas, these wheels are Type 303 stainless steel with sealed Type 440C stainless steel bearings. Bearings never need lubrication and have precision stainless steel balls for the least rolling resistance of all wheel bearings we offer. Temperature range is –15° to 250° F.

Wheel Dia.	Wheel Wd.	Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
4″	1 3/8″	1/2″	1 5/8″	600	2330T51	$127.30
4″	2″	1/2″	2 1/2″	850	2330T52	142.80
5″	2″	1/2″	2 1/2″	950	2330T53	192.60
6″	2″	1/2″	2 1/2″	1,200	2330T54	258.24

High-Capacity Steel Wheels



Wheels are forged from steel for strength. They have rounded edges that ensure easy turning. Temperature range is –20° to 250°F.

General purpose bearings have straight rollers that provide smooth rolling.

Impact-resistant bearings have tapered rollers that withstand both downward and side force.

Wheel Dia.	Wheel Wd.	Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
General Purpose Bearings						
4″	1½″	½″	2 7/16″	1,400	2307T71	$47.12
4″	1½″	5/8″	2 7/16″	1,400	2307T22	49.97
5″	1¾″	½″	2 7/16″	1,500	2307T72	52.69
6″	2″	½″	2 7/16″	1,500	2307T73	65.17
6″	2½″	1″	3 9/16″	4,000	2307T74	81.73
6″	3″	1″	3 9/16″	6,000	2307T37	112.96
8″	2½″	1″	3 9/16″	4,000	2307T75	103.64
8″	3″	1″	3 9/16″	4,500	2307T76	106.58
10″	3″	1″	3 9/16″	5,000	2307T77	169.23
Impact-Resistant Bearings						
6″	3″	1″	3½″	10,000	2307T81	142.79
8″	3″	1″	3½″	10,000	2307T38	191.31
8″	4″	1¼″	4½″	20,000	2307T82	235.38
10″	4″	1¼″	4½″	20,000	2307T83	278.85

Long-Lasting Nylon Wheels



White



High-Temperature Black and Wear-Resistant Black



High-Capacity Black

Our most durable plastic wheels are made of nylon, which resists impact and wear as well as corrosion from water, oil, and detergents. Wheels are extra hard (65D-85D durometer) and nonmarking.

General purpose bearings have straight rollers that provide smooth rolling.

Maintenance-free easy-roll bearings are completely sealed, so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

High Temperature—Withstanding temperatures up to 480°F, these wheels are commonly used on racks in bakeries and curing ovens.

Wear Resistant—Glass-filled nylon wheels offer even more durability than other nylon wheels for maximum service life.

High Capacity—A lightweight alternative to metal wheels, these offer capacities approaching those of steel.

Wheel Dia.	Wheel Wd.	Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
Plain Bore (No Bearings)						
White—Temperature range is –4° to 176°F						
2½″	1″	25/64″	1 3/16″	260	9955T16	$2.71
3″	1″	25/64″	1 3/16″	350	9955T21	3.60
3″	1⅜″	15/32″	1¾″	350	9955T23	5.29
4″	1⅜″	15/32″	1¾″	495	9955T29	7.46
5″	1⅜″	15/32″	1¾″	595	9955T34	9.54
6″	1¾″	25/32″	2⅜″	1,100	9955T44	17.95
8″	2″	25/32″	2⅜″	1,100	9955T45	27.16
High-Temperature Black—Temperature range is –20° to 480°F						
3″	1⅜″	⅜″	1½″	325	2419T35	5.55
4″	1⅜″	⅜″	1½″	700	2419T36	6.90
General Purpose Bearings						
Wear-Resistant Black—Temperature range is –40° to 250°F						
4″	2″	½″	2 7/16″	800	2419T31	10.28
5″	2″	½″	2 7/16″	1,000	2419T32	12.22
6″	2″	½″	2 7/16″	1,200	2419T33	12.45
8″	2″	½″	2 7/16″	1,400	2419T34	15.01
Maintenance-Free Easy-Roll Bearings						
Wear-Resistant Black—Temperature range is –40° to 250°F						
4″	2″	½″	2 7/16″	800	2419T61	16.64
5″	2″	½″	2 7/16″	1,000	2419T62	17.19
6″	2″	½″	2 7/16″	1,200	2419T63	18.92
8″	2″	½″	2 7/16″	1,400	2419T64	24.15
High-Capacity Black—Temperature range is –15° to 180°F						
4″	2″	½″	2 7/16″	2,160	2309T51	50.55
5″	2″	½″	2 7/16″	2,160	2309T52	56.22
6″	2″	½″	2 7/16″	2,160	2309T53	82.03
6″	2½″	¾″	3″	7,200	2309T54	109.60
8″	2″	½″	2 7/16″	2,160	2309T56	129.56
8″	2½″	¾″	3″	7,200	2309T57	188.91

Long-Lasting Iron Wheels



Standard



High Strength

Rugged cast iron wheels offer the strength and wear resistance you need for heavy loads and long life.

Standard—Also known as gray iron. Wheels are solid, unless noted. Temperature range is –20° to 250°F.

High Strength—Made of ductile iron, wheels are more shock resistant than standard iron wheels. Wheels are spoked. Temperature range is –45° to 800°F.

General purpose bearings have straight rollers for smooth rolling.

To Order: Please specify axle diameter where applicable.

Wheel Dia.	Wheel Wd.	Available Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
Standard with Plain Bore (No Bearings)						
2″	15/16″	¼″	1″	300	2305T11 ★	$4.18
2½″	1″	5/16″	1⅜″	250	2305T3 ★	5.16
2½″	1″	⅜″	1⅜″	400	2305T8 ★	5.96
3″	1¼″	⅜″, ½″	1⅝″	450	2305T1	11.44
4″	1¼″	½″	1½″	550	2305T9	13.94
4″	1½″	½″	1 11/16″	650	2305T7	15.01
Standard with General Purpose Bearings						
3¼″	1½″	½″, 5/8″	1⅞″	400	2305T911	17.56
3¼″	2″	½″	2 7/16″	700	2305T92	17.41
4″	1½″	½″, 5/8″	1⅞″	600	2305T912	18.30
4″	2″	½″, 5/8″	2 7/16″	1,000	2305T913	19.42
5″	1½″	½″, 5/8″	1⅞″	600	2305T914	19.00
5″	1⅞″	½″, 5/8″	2 7/16″	1,000	2305T915	30.20
5″	2″	½″, ¾″	2 7/16″	1,300	2305T916	36.08
6″	1½″	½″, 5/8″	1⅞″	800	2305T917	32.08
6″	2″	½″	2 7/16″	1,300	2305T42	32.40
6″	2½″	¾″	3″	2,500	2305T51	52.00
8″	2″	½″, 5/8″	2 7/16″	1,500	2305T918	35.21
8″	3″	1″	3 9/16″	3,500	2305T16	65.38
16″	3″	1″	3 9/16″	3,000	2305T89 ★	183.64
High-Strength with General Purpose Bearings						
5¼″	2″	½″, ¾″	2½″	1,200	2308T41	36.24
6″	2″	½″, ¾″	2½″	1,700	2308T42	40.53
6″	2½″	¾″	3 1/16″	2,500	2308T63	58.78
8″	2½″	¾″	3 1/16″	2,900	2308T64	74.87
8″	3″	¾″, 1″	3 9/16″	3,200	2308T43	78.62
10″	2½″	¾″	3 1/16″	3,000	2308T66	83.64
10″	3″	1″	3 9/16″	3,500	2308T51	88.72
12″	2½″	¾″	3 1/16″	3,300	2308T85	117.09
12″	3″	1″	3 9/16″	3,800	2308T52	112.31

★ Wheels are spoked.

Econo-Lite Polypropylene Wheels



Made of lightweight polypropylene, these are the most economical wheels we offer. Wheels are extra hard (70D durometer) and nonmarking. They resist water, oil, gasoline, and solvents. Temperature range is –20° to 180°F.

General purpose bearings have straight rollers that provide smooth rolling.

To Order: Please specify axle diameter and color where applicable.

Wheel Dia.	Wheel Wd.	Available Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
Plain Bore (No Bearings)—Black						
2″	13/16″	5/16″	15/16″	100	2781T71	$0.93
3″	13/16″	¼″	15/16″	150	2781T72	1.47
3″	1¼″	⅜″, ½″	1 9/16″	250	2781T96	1.71
4″	1″	5/16″	1⅛″	135	2781T91	2.19
4″	1¼″	⅜″, ½″	1 9/16″	275	2781T97	2.35
4″	2″	¾″	2 5/16″	550	2781T15	4.28
5″	1″	5/16″	1⅛″	145	2781T92	2.60
5″	1¼″	⅜″, ½″	1 9/16″	290	2781T98	2.77
5″	2″	¾″	2 5/16″	700	2781T17	5.50
6″	2″	¾″	2¼″	700	2781T57	5.97
8″	2″	¾″	2 3/16″	1,000	2781T19	10.97
General Purpose Bearings—Available in black and white						
4″	1½″	½″	1⅞″	375	2781T585	7.17
4″	2″	½″	2 7/16″	500	2781T245	8.37
5″	1½″	½″	1⅞″	450	2781T595	8.30
5″	2″	½″, 5/8″	2 7/16″	700	2781T445	10.67
6″	1½″	½″	1⅞″	500	2781T415	11.00
6″	2″	½″, 5/8″	2 7/16″	750	2781T465	11.21
8″	2″	½″, 5/8″	2 7/16″	1,000	2781T485	13.80

Phenolic Wheels



The standard in plastic wheels, phenolic wheels are nonmarking and oil resistant. Wheels are extra hard (90D durometer). Temperature range is –50° to 250° F, unless noted.

Water Resistant— Unlike other phenolic, this special blend won't absorb water.

High Temperature— Wheels are commonly used in bakeries and production lines with heating elements. Temperature range is –65° to 475° F.

Impact Resistant— Treads are laminated to prevent chipping.

General purpose bearings have straight rollers that provide smooth rolling.

To Order: Please specify axle diameter where applicable.

Wheel Dia.	Wheel Wd.	Available Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
Water-Resistant Black with Plain Bore (No Bearings)						
3″	1¼″	½″	1⅜″	400	2315T61	$3.44
3½″	1¼″	½″	1⅜″	400	2315T64	3.83
4″	1¼″	½″	1⅜″	400	2315T62	4.08
5″	1¼″	½″	1⅜″	400	2315T63	5.39
Water-Resistant Black with General Purpose Bearings						
3″	1¼″	⅜″	1½″	400	2315T525	7.29
3¼″	1½″	½″, ⅝″	1⅞″	600	2315T91	11.20
3¼″	2″	½″	2 7/16″	700	2315T514	11.69
4″	1¼″	⅜″	1½″	400	2315T527	8.07
4″	1½″	½″, ⅝″	1⅞″	600	2315T92	9.92
4″	2″	½″, ⅝″	2 7/16″	800	2315T93	12.28
5″	1¼″	⅜″	1½″	400	2315T528	9.70
5″	1½″	½″, ⅝″	1⅞″	650	2315T94	12.91
5″	2″	½″, ⅝″	2 7/16″	1,000	2315T95	12.88
6″	2″	½″, ⅝″	2 7/16″	1,200	2315T96	14.44
6″	2½″	¾″	3 1/16″	1,600	2315T155	40.35
6″	3″	¾″	3 9/16″	2,000	2315T157	53.70
8″	2″	½″, ⅝″	2 7/16″	1,400	2315T97	22.89
8″	2½″	¾″	3 1/16″	1,800	2315T188	38.72
8″	3″	¾″	3 9/16″	2,500	2315T177	50.93
10″	2½″	¾″	3 9/16″	2,500	2315T481	45.93
10″	3″	¾″, 1″	3 9/16″	2,900	2315T98	62.98
12″	3″	¾″, 1″	3 9/16″	3,500	2315T99	66.72
High-Temperature Brown with Plain Bore (No Bearings)						
4″	1½″	½″	1⅞″	400	2653T11	17.94
4″	2″	½″	2 7/16″	600	2653T12	29.37
5″	2″	½″	2 7/16″	750	2653T14	36.44
6″	2″	½″	2 7/16″	900	2653T15	55.17
Impact-Resistant Brown with General Purpose Bearings						
4″	2″	½″	2 7/16″	1,000	4994T71	28.15
5″	2″	½″	2 7/16″	1,250	4994T72	35.68
6″	2″	½″	2 7/16″	1,500	4994T33	41.09
8″	2″	½″	2 7/16″	1,750	4994T75	76.68

Cut-to-Width Polyurethane Wheels

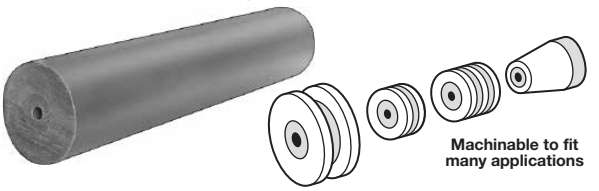

Machinable to fit many applications

Make your own wheels by cutting these 20″ long wheel blanks to size with a band saw. They're easy to machine so you can create V-groove and flanged wheels, as well as conveyor rollers and pulleys. Polyurethane resists abrasion, oil, and mild solvents, plus is nonmarking and shock absorbing. Temperature range is –60° to 212° F. Note: Do not cut with a circular saw.

Wheels with **30A durometer** are extra soft. Color is orange.

Wheels with **50A durometer** are comparable to soft rubber but more resilient. Color is yellow.

Wheels with **70A durometer** provide some cushion but are firmer than wheels with 30A and 50A durometer. Color is blue.

Wheels with **90A durometer** are hard and offer the most abrasion resistance. Color is red.

To Order: Please specify durometer: 30A, 50A, 70A, or 90A.

Dia.	Axle Dia.			Dia.	Axle Dia.		
1½″	⅜″	2292T31	$128.53	2½″	¾″	2292T52	$214.91
1½″	½″	2292T32	121.80	3″	½″	2292T54	246.37
2″	⅜″	2292T34	167.15	3″	⅝″	2292T55	236.55
2″	½″	2292T45	158.73	3″	¾″	2292T56	224.85
2″	⅝″	2292T46	155.50	4″	½″	2292T63	332.67
2″	¾″	2292T47	148.81	4″	¾″	2292T65	317.09
2½″	½″	2292T49	229.50	5″	1″	2292T72	451.34

Polyurethane Wheels



Polyurethane is wear resistant like plastic yet is quieter and more resilient. Wheels resist oil, grease, and mild acids and can be steam cleaned. They are extra hard (80D durometer) and nonmarking. Temperature range is –40° to 230° F.

General purpose bearings have straight rollers that provide smooth rolling.

Maintenance-free easy-roll bearings are completely sealed, so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

Wheel Dia.	Wheel Wd.	Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
Plain Bore (No Bearings)						
3″	1¼″	⅜″	1 11/16″	300	2472T18	$15.62
4″	1¼″	⅜″	1 11/16″	500	2472T22	16.90
5″	1¼″	⅜″	1 11/16″	700	2472T27	22.26
General Purpose Bearings						
4″	2″	½″	2 7/16″	700	2472T95	22.14
5″	2″	½″	2 7/16″	1,000	2472T96	29.26
6″	2″	½″	2 7/16″	1,200	2472T97	36.29
8″	2″	½″	2 7/16″	1,500	2472T98	45.12
Maintenance-Free Easy-Roll Bearings						
3″	2″	½″	2 7/16″	900	2472T55	30.84
4″	1¼″	⅜″	1 9/16″	600	2472T56	29.56
4″	2″	½″	2 7/16″	950	2472T59	35.44
5″	1¼″	⅜″	1 9/16″	700	2472T58	34.24
5″	2″	½″	2 7/16″	1,000	2472T65	43.60
6″	2″	½″	2 7/16″	1,100	2472T66	52.22
8″	2″	½″	2 7/16″	1,200	2472T68	85.80

Lightweight Polyurethane-Tread Wheels



Polypropylene Core



High-Capacity Aluminum Core

Wheels have a plastic or aluminum core so they're not only lighter than wheels with an iron core but also more corrosion resistant. Polyurethane is quiet and nonmarking and resists water, oil, and many solvents. Temperature range is –20° to 180° F.

General purpose bearings have straight rollers that provide smooth rolling.

Polypropylene Core

Treads are rounded for easy turning.

85A durometer tread is soft. Color is gray.

95A durometer tread is hard. Color is red.

To Order: Please specify tread durometer: 85A or 95A.

Wheel Dia.	Wheel Wd.	Axle Dia.	Hub Lg.	Cap. Ea., lbs. 85A	95A		
Acetal Sleeve Bearings							
3″	15/16″	5/16″	1″	125	145	2497T121	$3.89
4″	15/16″	5/16″	1 1/8″	135	155	2497T122	6.11
5″	15/16″	5/16″	1 1/8″	145	165	2497T125	9.02
General Purpose Bearings							
4″	1½″	⅜″	1 13/16″	300	400	2497T126	18.02
4″	2″	½″	2 5/16″	500	600	2497T127	22.95
5″	1½″	½″	2″	350	500	2497T128	20.89
5″	2″	½″	2 5/16″	600	700	2497T129	20.54
6″	1½″	½″	2″	420	560	2497T131	24.64
6″	2″	½″	2 5/16″	600	820	2497T132	24.52
8″	2″	½″	2 5/16″	800	1,000	2497T134	31.08
8″	3″	¾″	3⅜″	1,360	2,250	2497T135	73.67
10″	2½″	¾″	2 13/16″	1,300	1,580	2497T136	61.57
12″	3″	¾″	3⅜″	1,900	2,250	2497T138	106.83

High-Capacity Aluminum Core

The aluminum core gives these wheels the strength for heavier loads than polypropylene-core wheels. Wheels have an extra-hard red polyurethane tread (55D-70D durometer).

Wheel Dia.	Wheel Wd.	Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
General Purpose Bearings						
4″	2″	½″	2 7/16″	700	2438T41	$21.10
5″	2″	½″	2 7/16″	850	2438T42	22.12
6″	2″	½″	2 7/16″	900	2438T43	25.45
8″	2″	½″	2 7/16″	1,350	2438T44	33.76
10″	2½″	¾″	3″	1,900	2438T45	89.43

Polyurethane-Tread Wheels

Like polyurethane and rubber wheels, these protect your floor and eliminate noise, but their hard iron core makes them a higher-strength alternative. Temperature range is –20° to 180° F.

General purpose bearings have straight rollers that provide smooth rolling.

Maintenance-free easy-roll bearings are completely sealed, so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

Impact-resistant bearings have tapered rollers that withstand both downward and side force.



Cushioned Tread



Shock-Absorbing Tread

To Order: Please specify axle diameter where applicable.

Wheel Dia.	Wheel Wd.	Available Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
General Purpose Bearings						
Abrasion-Resistant Blue Tread—Hard (95A Durometer)						
3″	1¼″	⅜″	1⅞″	290	2351T97	$17.98
3½″	1¼″	⅜″	1⅞″	320	2351T98	20.12
4″	1¼″	⅜″	1⅞″	350	2351T99	24.36
4″	1½″	½″, ⅝″	1⅞″	675	2351T911	30.95
4″	2″	½″, ⅝″	2 7/16″	750	2351T791	32.02
5″	1½″	½″, ⅝″	1⅞″	700	2351T931	33.33
5″	2″	½″, ⅝″	2 7/16″	1,000	2351T211	37.56
6″	1½″	½″, ⅝″	2″	825	2351T932	42.26
6″	2″	½″, ⅝″	2 7/16″	1,200	2351T711	46.43
6″	2½″	¾″	3″	1,600	2351T34	60.24
6″	3″	¾″, 1″	3 9/16″	2,050	2351T321	61.90
8″	2″	½″, ⅝″, ¾″	2 7/16″	1,500	2351T231	51.62
8″	2½″	¾″	3″	2,050	2351T81	88.10
8″	3″	¾″, 1″	3 9/16″	2,500	2351T531	86.90
10″	2½″	¾″, 1″	3″	2,500	2351T371	116.64
10″	3″	¾″, 1″	3 9/16″	3,000	2351T541	102.38
12″	3″	¾″, 1″	3 9/16″	3,500	2351T181	159.52
Maintenance-Free Easy-Roll Bearings						
Cushioned Red Tread—Soft (85A Durometer)						
4″	2″	½″	2 7/16″	600	2211T21	55.22
5″	2″	½″	2 7/16″	840	2211T12	58.40
6″	2″	½″	2 7/16″	960	2211T13	64.44
6″	3″	¾″	3½″	1,640	2211T15	90.00
8″	2″	½″	2 7/16″	1,240	2211T14	69.93
8″	3″	¾″	3½″	2,000	2211T26	108.89

Wheel Dia.	Wheel Wd.	Available Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
Maintenance-Free Easy-Roll Bearings (Cont.)						
Abrasion-Resistant Purple Tread—Hard (92A Durometer)						
4″	2″	½″	2 7/16″	1,200	2147T31	$67.60
5″	2″	½″	2 7/16″	1,125	2147T32	60.60
6″	2″	½″	2 7/16″	1,400	2147T33	81.10
6″	3″	¾″	3½″	2,100	2147T44	113.10
8″	2″	½″	2 7/16″	2,000	2147T35	94.50
8″	3″	¾″	3½″	2,800	2147T36	162.60
10″	3″	¾″	3½″	3,500	2147T37	192.46
12″	3″	¾″	3½″	4,000	2147T48	272.00
High-Capacity Translucent Tread—Extra Hard (70D Durometer)						
4″	2″	½″	2 7/16″	975	2503T11	51.15
5″	2″	½″	2 7/16″	1,375	2503T12	57.90
6″	2″	½″	2 7/16″	1,625	2503T13	64.28
6″	2½″	¾″	3″	2,125	2503T14	80.88
6″	3″	¾″	3½″	2,860	2503T15	90.28
8″	2″	½″	2 7/16″	2,050	2503T16	76.08
8″	2½″	¾″	3″	2,550	2503T17	91.72
8″	3″	¾″	3½″	3,250	2503T18	103.22
10″	2½″	¾″	3″	3,250	2503T19	108.85
10″	3″	¾″	3½″	3,900	2503T21	118.55
12″	3″	¾″	3½″	4,550	2503T22	144.69
Impact-Resistant Bearings						
Shock-Absorbing Red Tread—Hard (95A Durometer)						
6″	2″	½″	2½″	1,000	5002T63	108.38
8″	2″	¾″	2½″	1,200	5002T64	118.60
8″	3″	¾″	3½″	1,600	5002T42	145.78

Polyurethane-Tread Pallet and Lift Truck Wheels

Replace worn or broken wheels on your equipment—these wheels are designed to fit specific models of pallet and lift trucks. Treads are hard (90A durometer) and nonmarking. Core is steel. Temperature range is –20° to 140° F.

Wheels with bearings have maintenance-free easy-roll bearings that are completely sealed so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

Also Available: Other manufacturers' wheels not shown. Please ask for 2670T999 and specify the manufacturer's name, part number, and wheel size.



3″ to 3⅜″ Dia. Wheels with Plain Bore



3″ to 3⅜″ Dia. Wheels with Bearings



4″ to 8″ Dia. Wheels with Plain Bore



4″ to 8″ Dia. Wheels with Bearings

Wheel Dia.	Wheel Wd.	Replacement for Manufacturer Part Numbers	Wheel with Plain Bore		Wheel with Bearings Axle Dia.		
BT Trucks							
3″	3¾″	126728, 131688, 15881, 167609			21/32″	2670T166	$39.51
3⅜″	3 15/16″	10100, 10265, 33010, 47153, 47963	2670T14	$35.35	25/32″	2670T111	39.40
7″	2⅜″	102664, 102665, 47146, 47974	2670T61	74.52	25/32″	2670T113	77.89
Crown Trucks							
3″	3⅞″	44506, 44507, 44725	2670T45	22.11	25/32″	2670T58	31.00
3¼″	3¼″	77084, 82740	2670T65	28.62	31/32″	2670T117	32.80
3¼″	3⅞″	40079, 82283-1, 82284, 82285, 83879	2670T75	25.85	25/32″	2670T137	35.04
3¼″	4½″	83970	2670T67	38.11	1 3/16″	2670T119	45.44
3¼″	6½″	100462	2670T167	48.80	31/32″	2670T168	53.21
4″	2½″	83179	2670T68	28.31	31/32″	2670T121	33.62
7″	2″	44495, 44496, 44497, 44498	2670T46	44.33	25/32″	2670T59	55.22
8″	2″	41269, 41275, 41276, 41277	2670T176	40.84	25/32″	2670T177	52.84
Hyster Trucks							
4″	2⅞″	1032195, 1195959, 1196530	2670T94	23.49	31/32″	2670T142	34.33
5″	2⅞″	1196604, 3005984, 365649	2670T95	38.91	31/32″	2670T143	49.76
6″	3″	1033557, 1151016, 1195247	2670T56★	55.84	31/32″	2670T131	62.44
Lift-Rite Trucks							
3″	3⅞″	10210, 312734	2670T146	19.89	25/32″	2670T147	26.11
8″	2″	10236B	2670T148	39.98	31/32″	2670T149	47.11
Multiton Trucks							
3¼″	3⅞″	325P, 90304	2670T75	25.85	25/32″	2670T137	35.04
8″	2″	800P, 90100, 90423	2670T176	40.84	25/32″	2670T177	52.84
Raymond Trucks							
3¼″	6″	632-069, 633-069	2670T83	41.87	31/32″	2670T141	49.47
4″	2⅞″	632-030, 632-031, 633-031	2670T94	23.49	31/32″	2670T142	34.33
5″	2⅞″	632-043, 640-070, 928-603	2670T95	38.91	31/32″	2670T143	49.76
Rol-Lift Trucks							
3¼″	3¾″	RL31, T42A	2670T77	29.52	¾″	2670T135■	36.68
8″	2″	3-91002, RL32, T23A	2670T79	41.84	¾″	2670T136	60.42
Yale Trucks							
3¼″	4½″	0652696-00, 0655092-00, 650546	2670T151	32.98	21/32″	2670T152	36.86
3⅜″	2¾″	1213591, 5013380	2670T43	26.76	31/32″	2670T133	30.53

★ Core is cast iron. ■ Width is 3⅞″.

Easy-Turn Polyurethane-Tread Wheels



A rounded tread allows these wheels to swivel more easily than flat-tread wheels. Treads are quiet, nonmarking, and resistant to oil and grease.

Easy-roll bearings have steel balls that require minimal effort to start rolling.

Maintenance-free easy-roll bearings are completely sealed, so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

Abrasion-resistant treads are hard (95A durometer). Temperature range is –30° to 200°F.

Cushioned treads are soft (80A durometer). Temperature range is –50° to 150°F.

To Order: Please specify axle dia. where applicable.

Wheel Dia.	Wheel Wd.	Available Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
Easy-Roll Bearings						
Abrasion-Resistant Red Tread on Aluminum Core						
4″	1½″	⅜″	1¾″	400	2286T51	$39.40
5″	1½″	⅜″	1¾″	525	2286T55	42.74
10″	1⅝″	⅝″, ¾″	2½″	1,200	2286T11	80.64
Maintenance-Free Easy-Roll Bearings						
Abrasion-Resistant Red Tread on Aluminum Core						
4″	1½″	½″	1¾″	400	2286T52	44.92
5″	1½″	½″	1¾″	525	2286T56	48.20
6″	1 15⁄16″	½″	2¼″	950	2286T63	61.38
8″	1⅝″	½″, ⅝″	2″	1,000	2286T12	69.22
8″	1 15⁄16″	⅝″, ¾″	2¼″	1,300	2286T13	85.54
Cushioned Blue Tread on Urethane Core						
2⅜″	1″	5⁄16″	1″	200	8946T61	11.82
2 11⁄16″	1″	5⁄16″	1″	240	8946T62	12.69
2⅞″	1″	5⁄16″	1″	230	8946T63	13.56
3″	1″	5⁄16″	1″	250	8946T64	14.40
3 15⁄16″	1″	5⁄16″	1″	340	8946T66	16.16
4⅜″	1″	5⁄16″	1″	375	8946T67	17.02

Rubber-Tread Wheels



Solid



Spoked

For the same smooth ride as solid rubber wheels but greater capacities, these have a durable black rubber tread and an iron core. Wheels have straight roller bearings that provide smooth rolling. Temperature range is –40° to 180°F.

To Order: Please specify axle diameter where applicable.

Wheel Dia.	Wheel Wd.	Available Axle Dia.	Hub Lg.	Core Style	Cap. Ea., lbs.		
Cushioned Tread—Soft (82A Durometer)							
4″	1½″	½″, ⅝″	1⅞″	Solid	250	2319T122	$14.39
5″	1½″	½″, ⅝″	1⅞″	Spoked	350	2319T771	14.63
6″	1½″	½″, ⅝″	1⅞″	Spoked	325	2319T271	18.95
6″	3″	¾″	3½″	Solid	750	2319T43	40.70
8″	2″	¾″	3″	Solid	600	2319T63	33.07
8″	2½″	½″, ⅝″	3″	Solid	850	2319T651	50.79
8″	2½″	1″	3 9⁄16″	Solid	850	2319T29	52.93
8″	3″	1″	3 9⁄16″	Solid	900	2319T321	55.01
10″	2½″	½″	3″	Solid	950	2319T98	47.90
10″	2½″	1″	3″	Solid	950	2319T331	58.06
10″	3″	1″	3 9⁄16″	Solid	1,000	2319T341	63.92
12″	2½″	⅞″, 1″	3″	Solid	950	2319T441	86.67
12″	3″	1″	3 9⁄16″	Solid	1,200	2319T61	80.74
12″	4″	1″	4 9⁄16″	Solid	1,600	2319T55	107.86
14″	2½″	¾″, 1″	3″	Solid	1,100	2319T772	115.29
16″	3″	¾″	3½″	Spoked	1,500	2319T81	116.43
Abrasion-Resistant Tread—Hard (95A Durometer)							
3¼″	1½″	½″	1⅞″	Solid	340	8368T11	18.81
4″	1½″	½″	1⅞″	Solid	400	8368T12	16.15
4″	2″	½″, ⅝″	2 7⁄16″	Spoked	350	2319T141	9.68
5″	1½″	½″	1⅞″	Spoked	560	8368T13	17.46
5″	2″	½″, ⅝″	2 7⁄16″	Spoked	400	2319T422	12.51
5″	2″	½″	2 7⁄16″	Spoked	700	8368T18	22.06
6″	2″	½″, ⅝″	2 7⁄16″	Spoked	400	2319T922	17.19
6″	2″	½″	2 7⁄16″	Spoked	820	8368T25	23.67
7″	1⅝″	½″, ⅝″	2¼″	Solid	760	8368T61	37.40
8″	2″	½″, ⅝″	2 7⁄16″	Spoked	450	2319T962	16.09
8″	2″	½″	2 7⁄16″	Spoked	1,000	8368T32	24.09
8″	2″	⅝″	2 7⁄16″	Spoked	1,000	8368T31	28.63
8″	2″	¾″	2 7⁄16″	Solid	1,000	8368T34	43.28
8″	2½″	⅝″, ¾″	3″	Solid	1,300	8368T62	70.40
10″	2½″	⅝″, ¾″	3″	Solid	1,500	8368T63	71.47
10″	3″	¾″	3½″	Solid	1,800	8368T41	72.91
12″	2½″	¾″, 1″	3″	Solid	1,700	8368T64	92.54
16″	3″	1″	3½″	Solid	2,500	8368T48	184.88

Rubber Wheels



With no possibility of tread separation, solid rubber wheels offer a durable, smooth ride. Temperature range is –20° to 180°F, except wheels with nylon sleeve bearings have a temperature range of –40° to 158°F.

Static-control rubber wheels prevent static buildup. Surface resistance is less than 10^6 ohms. Meet Fed. Spec. FF-C-77/FF-C-86.

Oil-resistant neoprene wheels won't degrade when they come in contact with oil. They also resist acids and solvents and are more resilient than other rubber wheels. Wheels have debris guards (unless noted) to keep out contaminants. *Easy-roll bearings* have steel balls that require minimal effort to start rolling.

Wheel Dia.	Wheel Wd.	Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
Cushioned Rubber with Nylon Sleeve Bearings						
Black—Soft (75A Durometer)						
1⅝″	¾″	7⁄32″	¾″	70	2337T1	$1.52
2″	⅞″	¼″	15⁄16″	80	2337T2	2.33
2½″	15⁄16″	¼″	15⁄16″	90	2337T45	1.47
2½″	1⅛″	5⁄16″	1⅜″	100	2337T32	1.81
3″	15⁄16″	¼″	15⁄16″	100	2337T41	1.90
3″	1¼″	⅜″	1½″	175	2337T33	2.51
3½″	1 5⁄16″	⅜″	1 9⁄16″	200	2337T34	3.17
4″	15⁄16″	5⁄16″	1 3⁄16″	125	2337T42	2.79
4″	1¼″	⅜″	1½″	200	2337T35	3.53
4″	1⅝″	7⁄16″	1 15⁄16″	240	2337T37	4.49
5″	15⁄16″	5⁄16″	1 3⁄16″	135	2337T43	3.72
5″	1¼″	⅜″	1½″	210	2337T38	5.38
5″	1½″	⅝″	1 15⁄16″	300	2337T39	7.03
Impact-Resistant Rubber with Nylon Sleeve Bearings						
Black—Extra Hard (75D Durometer)						
2″	15⁄16″	¼″	15⁄16″	90	2337T18	1.27
2½″	15⁄16″	¼″	15⁄16″	100	2337T46	2.11
3″	15⁄16″	¼″	15⁄16″	125	2337T21	2.29
3″	1¼″	⅜″	1½″	270	2337T13	2.53
4″	15⁄16″	5⁄16″	1 3⁄16″	150	2337T23	3.06
4″	1¼″	⅜″	1½″	280	2337T24	4.37
5″	15⁄16″	5⁄16″	1 3⁄16″	160	2337T25	4.13
5″	1¼″	⅜″	1½″	290	2337T26	6.20
Nonmarking Gray—Extra Hard (75D Durometer)						
2½″	1⅛″	5⁄16″	1⅜″	200	2337T12	2.61
3½″	15⁄16″	⅜″	1 9⁄16″	275	2337T22	4.16
4″	1⅝″	7⁄16″	1 15⁄16″	420	2337T17	6.57
5″	1½″	⅝″	1 15⁄16″	450	2337T19	9.63
Static-Control Rubber with Metal Sleeve Bearings						
Black—Soft (78A Durometer)						
2″	15⁄16″	¼″	15⁄16″	75	2328T71	2.61
2½″	15⁄16″	¼″	15⁄16″	90	2328T75	3.27
3″	15⁄16″	¼″	15⁄16″	100	2328T72	3.47
3″	1¼″	⅜″	1½″	175	2328T79	5.82
4″	15⁄16″	5⁄16″	1 3⁄16″	125	2328T73	7.13
4″	1¼″	⅜″	1½″	200	2328T77	10.36
5″	1¼″	⅜″	1½″	210	2328T78	11.79
Oil-Resistant Neoprene with Acetal Sleeve Bearings						
Black—Soft (78A Durometer)						
2½″	1¼″	⅜″	1½″	200	8369T62	12.68
3½″	1¼″	⅜″	1½″	200	8369T66	13.72
Black—Hard (90A Durometer)						
2½″	1¼″	⅜″	1½″	250	8369T63	12.97
3½″	1¼″	⅜″	1½″	250	8369T67	14.85
Oil-Resistant Neoprene with Easy-Roll Bearings						
Black—Soft (78A Durometer)						
2″	⅞″	⅜″	1″	110	8369T14▲	7.14
2½″	⅞″	⅜″	1″	110	8369T16▲	7.39
2½″	1¼″	⅜″	1½″	200	8369T18	11.34
3″	⅞″	5⁄16″	1⅛″	125	8369T21	8.73
3″	1¼″	⅜″	1½″	200	8369T23	14.59
4″	⅞″	5⁄16″	1⅛″	125	8369T2	13.57
4″	1¼″	⅜″	1½″	200	8369T4	17.48
5″	1¼″	⅜″	1½″	200	8369T6	23.41
Black—Hard (90A Durometer)						
2″	⅞″	⅜″	1″	120	8369T15▲	7.80
2½″	⅞″	⅜″	1″	120	8369T17▲	7.62
2½″	1¼″	⅜″	1½″	250	8369T19	10.68
3″	⅞″	5⁄16″	1⅛″	135	8369T22	9.01
3″	1¼″	⅜″	1½″	250	8369T24	15.26
3½″	1¼″	⅜″	1½″	250	8369T58	17.10
4″	⅞″	5⁄16″	1⅛″	135	8369T3	13.91
4″	1¼″	⅜″	1½″	250	8369T5	17.53
5″	1¼″	⅜″	1½″	250	8369T7	22.09

▲ Does not have debris guards.

Lightweight Rubber-Tread Wheels

Nylon or aluminum cores make these wheels lighter than standard iron-core wheels without sacrificing capacity. Their cushioned rubber treads provide a quiet, smooth ride. Treads are soft (70A durometer).

Maintenance-free easy-roll bearings are completely sealed, so they never need lubrication. Their precision steel balls provide the least rolling resistance of all the wheel bearings we offer.

General purpose bearings have straight rollers that provide smooth rolling (unless noted).

Oil-resistant neoprene treads won't degrade when they come in contact with oil. They also resist solvents and acids and are more resilient than other rubber wheels.



Nylon Core with Standard Tread



Aluminum Core with Thick Tread

To Order: Please specify axle diameter where applicable.

Wheel Dia.	Wheel Wd.	Available Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
Nylon Core with Maintenance-Free Easy-Roll Bearings						
Standard Blue Tread—Temp. range is -40° to 200° F						
3½″	1¼″	⅜″	1⅝″	225	2439T41	$7.45
4″	1¼″	⅜″	1⅝″	250	2439T42	12.29
4″	2″	½″	2½″	400	2439T61	13.43
5″	1¼″	⅜″	1⅝″	250	2439T43	14.05
5″	2″	½″	2½″	500	2439T62	15.78
6″	1¼″	⅜″	1⅝″	300	2439T44	14.83
6″	2″	½″	2½″	600	2439T63	19.33
8″	2″	½″	2½″	700	2439T64	25.93
8″	2″	⅝″	1⅞″	600	2439T65	26.56
10″	2″	⅝″	2¼″	800	2439T66	32.23
Aluminum Core with General Purpose Bearings						
Standard Black Tread—Temp. range is -30° to 180° F						
5″	1½″	½″	1¾″	270	2354T51	30.27
5″	1½″	⅝″	1 13/16″	270	2354T52	30.27
6″	1½″	½″	1¾″	325	2354T53	31.60
6″	1½″	⅝″	1 13/16″	325	2354T54	31.60
6″	2″	½″	2 3/16″	550	2354T34	35.72
6″	2″	⅝″	2 5/16″	460	2354T55	39.32
8″	2″	½″	2 3/16″	600	2354T18	45.89
8″	2″	¾″, 1″	2¼″	565	2354T71■	65.96
8″	2″	⅝″	2¼″	565	2354T56	49.57
10″	2½″	¾″	2 13/16″	850	2354T58	71.98
12″	2½″	¾″, 1″	2 13/16″	950	2354T62	96.23
Thick Black Tread—Temp. range is -70° to 160° F						
6″	2″	½″, ¾″	2½″	410	22865T41	45.59
7″	2″	½″	2½″	455	22865T16	45.82
7″	2″	⅝″	2 7/16″	455	22865T17	44.67
8″	1⅝″	½″	2½″	350	22865T18	73.28

■ Has precision steel ball bearings.

Wheel Dia.	Wheel Wd.	Available Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
Aluminum Core with General Purpose Bearings (Cont.)						
Thick Black Tread (Cont.)						
8″	1⅝″	⅝″	2 7/16″	350	22865T19	$73.28
9″	2″	½″	2½″	550	22865T24	51.23
9″	2″	¾″	2½″	550	22865T26	49.74
10″	2″	½″	2½″	730	22865T28▲	69.07
10″	2″	⅝″	2 7/16″	730	22865T27▲	69.07
10″	2″	¾″	2½″	730	22865T31▲	69.07
12″	2″	½″	2½″	720	22865T32▲	102.24
12″	2″	¾″	2½″	720	22865T33▲	102.24
14″	3″	¾″	3 9/16″	1,280	22865T36▲	181.93
14″	3″	1″	3 9/16″	1,280	22865T37▲	172.74
Oil-Resistant Black Neoprene Tread—Temp. range is –30° to 212° F						
4″	1½″	½″	2″	200	4996T11	37.87
5″	1½″	½″	2″	240	4996T13	40.98
6″	1½″	½″, ⅝″	2″	280	4996T31	42.81
6″	2″	½″, ¾″	2½″	410	4996T32	53.11
8″	2″	½″, ⅝″, ¾″	2½″	500	4996T33	67.50
10″	2½″	¾″	3″	790	4996T26▲	96.51
Aluminum Core with Maintenance-Free Easy-Roll Bearings						
Standard Black Tread—Temp. range is –30° to 200° F						
3″	1¼″	½″	1½″	150	2322T31	31.77
3½″	1¼″	½″	1½″	200	2322T32	33.27
5″	1½″	½″, ⅝″, ¾″	1¾″	270	2322T111	39.85
6″	1½″	½″, ⅝″, ¾″	1¾″	325	2322T211	41.10
6″	2″	½″, ¾″	2¼″	460	2322T241	48.25
8″	1⅝″	½″, ⅝″, ¾″	2″	450	2322T391	51.94
8″	2½″	1″	2¾″	700	2322T44	81.21
10″	2½″	⅝″, ¾″, 1″	2¾″	850	2322T551	94.38
12″	2½″	¾″	2¾″	950	2322T57	115.75

▲ Has a spoked core.

High-Performance Rubber-Tread Wheels

Thermoplastic rubber treads outlast standard rubber wheels with better resistance to water, steam, and acids. Treads are gray (unless noted) and nonmarking. Core is polypropylene. Temperature range is –40° to 180° F for extra-soft and hard treads and –45° to 120° F for soft treads.

Extra-soft treads provide superior cushioning and a quiet ride. Durometer is 40A.

Soft treads still provide a quiet, cushioned ride, but can roll over debris—even metal shavings and chips—without breaking apart. Durometer is 65A.

Hard treads have higher capacities to rival polyurethane-tread wheels, but won't squeak. Hard treads also make these wheels easy to roll. Durometer is 90A.

General purpose bearings have straight rollers that provide smooth rolling.

Easy-roll bearings have steel balls that require minimal effort to start rolling.



Extra-Soft Tread



Soft Tread

Wheel Dia.	Wheel Wd.	Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
Extra-Soft Tread with Plain Bore (No Bearings)						
3″	1″	5/16″	1 3/16″	100	2243T21	$4.62
4″	1″	5/16″	1 3/16″	110	2243T22	5.45
5″	1″	5/16″	1 3/16″	120	2243T23	6.25
Extra-Soft Tread with General Purpose Bearings						
4″	2″	½″	2½″	225	2243T41	13.12
5″	2″	½″	2½″	250	2243T42	17.50
6″	2″	½″	2½″	275	2243T43	20.62
8″	2″	½″	2½″	325	2243T44	24.62
Extra-Soft Tread with Easy-Roll Bearings						
2½″	1⅜″	⅜″	1⅝″	125	2243T31	7.62
5″	1¼″	⅜″	1⅝″	160	2243T32	8.60
Soft Tread with Acetal Sleeve Bearings						
1⅝″	⅞″	5/16″	1 1/32″	60	2829T27	2.38
2″	⅞″	5/16″	1 1/32″	75	2829T421	2.38
2½″	1¼″	⅜″	1½″	140	2829T67	5.70
3″	⅞″	5/16″	1⅛″	125	2829T52	4.40
3″	1½″	½″	2 7/16″	250	2829T11	11.54
3½″	1¼″	⅜″	1½″	250	2829T54	6.40
4″	⅞″	5/16″	1⅛″	135	2829T68	7.20
4″	1¼″	⅜″	1½″	300	2829T56	8.10
4″	1½″	½″	2 7/16″	325	2829T12	11.50
4″	2″	½″	2 7/16″	400	2829T58	12.62
5″	⅞″	5/16″	1⅛″	145	2829T59	7.20
5″	1¼″	⅜″	1½″	325	2829T61	9.90
5″	1½″	½″	2 7/16″	350	2829T13	14.40
5″	2″	½″	2 7/16″	375	2829T63	16.04
6″	1½″	½″	2 7/16″	375	2829T14	16.10
6″	2″	½″	2 7/16″	600	2829T422	17.32

Wheel Dia.	Wheel Wd.	Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
Soft Tread with Acetal Sleeve Bearings (Cont.)						
8″	1½″	½″	2 7/16″	500	2829T423	$24.70
8″	2″	½″	2 7/16″	675	2829T424	20.50
Soft Tread with General Purpose Bearings						
3″	1½″	⅜″	1⅞″	250	2829T16	12.58
3″	1½″	½″	2 7/16″	250	2829T17	13.02
4″	1½″	⅜″	1⅞″	325	2829T18	13.18
4″	1½″	½″	2 7/16″	325	2829T19	12.20
4″	2″	½″	2 7/16″	400	2829T85	14.34
5″	1½″	⅜″	1⅞″	350	2829T21	15.26
5″	1½″	½″	2 7/16″	350	2829T22	15.00
5″	2″	½″	2 7/16″	500	2829T88	17.88
6″	1½″	⅜″	1⅞″	375	2829T23	17.76
6″	1½″	½″	2 7/16″	375	2829T24	17.70
6″	2″	½″	2 7/16″	600	2829T42	19.60
8″	1½″	½″	2 7/16″	500	2829T25	25.56
8″	2″	½″	2 7/16″	675	2829T43	21.10
10″	2½″	¾″	3½″	1,000	2829T98★	56.86
12″	3″	¾″	3½″	1,700	2829T99★	68.14
Soft Tread with Easy-Roll Bearings						
2½″	1¼″	⅜″	1½″	140	2829T15	6.40
3½″	1¼″	⅜″	1½″	250	2829T72	8.50
4″	1¼″	⅜″	1½″	300	2829T73	10.30
5″	1¼″	⅜″	1½″	325	2829T74	12.30
Hard Tread with General Purpose Bearings						
4″	2″	½″	2 7/16″	600	2829T33	14.33
5″	2″	½″	2 7/16″	750	2829T36	15.70
6″	2″	½″	2 7/16″	900	2829T39	18.05

★ Tread is black.

Rubber-Tread Wheels

For information about wheels, see page 1380.

Easy-Turn Rubber-Tread Wheels



Also known as balloon tires, these have a rounded, cushioned tread for easy turning and good shock absorption. Wheels have steel ball bearings that require minimal effort to start rolling. Tread is soft (62A durometer) and nonmarking; core is aluminum. Temperature range is –20° to 160° F.

To Order: Please specify axle diameter.

Wheel Dia.	Wd.	Available Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
6″	2″	1/2″, 5/8″, 3/4″	2 1/4″	350	9957T21	$31.00
8″	2″	5/8″, 3/4″	2 1/4″	450	9957T22	39.96
10″	2″	5/8″, 3/4″	2 1/4″	550	9957T23	59.16

Cushioned Rubber-Tread Wheels



Smooth Rim



Lug-Type Rim



Polypropylene Core



Aluminum Core

Hollow Tread *Solid Tread*

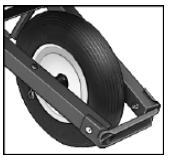

Center-Mount Hub



Side-Mount Hub

Thick rubber treads offer more cushion than standard rubber treads, and unlike air-filled tires there's no chance of flats. Treads are ribbed black rubber, unless noted.

Hollow Tread—Also known as semi-pneumatic wheels, these have a puncture-resistant tread and a pocket of nonpressurized air that doesn't require inflation. Temperature range is not rated. All rims are welded. *Smooth rims* are better for light duty applications. *Lug-type rims* have a series of indentations that line up with the tire's lugs to lock the tire in place so it won't slip on the rim.

Solid Tread—*Polypropylene core* has a soft tread (80A durometer). Temperature range is –22° to 212° F. *Aluminum core* has a soft tread (60A durometer) that's molded onto the core for durability. Temperature range is –40° to 120° F.

Center-mount hubs are symmetrical for equal clearance on both sides of the wheel. **Side-mount hubs** are offset for extra clearance between the wheel and your equipment.

Easy-roll bearings have steel balls and require less effort to start rolling. **General purpose bearings** have straight rollers that provide smooth rolling.

To Order: Please specify axle diameter where applicable.

Wheel Dia.	Wd.	Available Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
Hollow Tread with Steel Smooth Rim						
Center-Mount Hub with Easy-Roll Bearings						
6″	1 1/2″	1/2″	1 1/2″	55	2331T11	$5.54
8″	1 3/4″	1/2″	2″	60	2331T15	8.32
8″	1 3/4″	5/8″	2″	110	2331T12	10.38
10″	1 3/4″	1/2″, 5/8″	2″	80	2331T63	10.42
12″	1 3/4″	1/2″	1 7/8″	90	2331T18	14.82
14″	1 3/4″	5/8″, 3/4″	2 1/8″	150	8352T64	21.56
Side-Mount Hub with Easy-Roll Bearings						
6″	1 1/2″	1/2″	1 3/8″	55	2331T51■	5.76
7″	1 1/2″	1/2″	1 3/8″	55	2331T13■	6.50
8″	1 3/4″	1/2″	1 3/8″	60	2331T53■	7.14
Hollow Tread with Steel Lug-Type Rim						
Center-Mount Hub with General Purpose Bearings						
6″	2″	5/8″, 3/4″	2 1/4″	150	2336T66★	27.05
8″	2 1/2″	5/8″, 3/4″	2 1/2″	350	2336T62	33.79
10″	2 3/4″	5/8″, 3/4″, 1″	3 1/4″	250	2336T63	25.92
12″	3″	5/8″, 3/4″, 1″	3″	350	2336T64	40.50
16″	4″	5/8″, 3/4″, 1″	6″	450	2336T15	99.74
Center-Mount Hub with Easy-Roll Bearings						
6″	2″	5/8″, 3/4″	2 1/4″	150	8352T66★	14.95
8″	2 1/2″	5/8″, 3/4″	2 1/4″	150	8352T42	18.38
10″	2 3/4″	5/8″, 3/4″	2 1/4″	200	8352T43	19.89

■ Wheels have a diamond tread. ★Wheels have a solid tread.

Wheel Dia.	Wd.	Available Axle Dia.	Hub Lg.	Cap. Ea., lbs.		
Hollow Tread with Steel Lug-Type Rim						
Center-Mount Hub with Easy-Roll Bearings (Cont.)						
10″	2 3/4″	5/8″, 3/4″	3″	200	8352T44	$19.89
12″	3″	5/8″, 3/4″	3″	185	8352T45	28.48
Side-Mount Hub with Easy-Roll Bearings						
8″	2 1/2″	5/8″, 3/4″	2 1/4″	150	8352T46	18.42
10″	2 3/4″	5/8″	2 1/4″	150	8352T25	19.40
10″	2 3/4″	3/4″	2 1/4″	200	8352T31	21.48
Solid Tread with Polypropylene Core						
Center-Mount Hub with Easy-Roll Bearings						
8″	2″	5/8″, 3/4″	2 1/2″	450	2839T11	15.65
10″	2″	5/8″, 3/4″	3 1/4″	550	2839T12	22.47
12″	2 3/4″	3/4″	3 1/4″	850	2839T57	27.95
Side-Mount Hub with Easy-Roll Bearings						
8″	2″	5/8″, 3/4″	2 1/4″	450	2839T13	15.67
10″	2″	5/8″, 3/4″	2 1/4″	550	2839T14	22.48
Solid Tread with Aluminum Core						
Center-Mount Hub with General Purpose Bearings						
6″	2″	5/8″, 3/4″	2 1/4″	300	2481T11	39.83
8″	2 1/2″	5/8″, 3/4″	2 1/4″	500	2481T12	55.40
10″	2 3/4″	5/8″, 3/4″	2 3/4″	700	2481T13	78.85
12″	2 3/4″	1″, 1 1/4″	3 1/4″	800	2481T32	139.96
16″	4″	1″, 1 1/4″	4 1/4″	1,200	2481T33	291.13

Spoked Wheels



1



2



3

Commonly used on carts, these wheels are lightweight and have easy-roll steel ball bearings.

Hollow-tread wheels, also known as semi-pneumatic wheels, have a tough, puncture-resistant black rubber tread and a pocket of nonpressurized air that does not require inflation.

Wheel Dia.	Wd.	Axle Dia.	Hub Lg.	Cap. Ea., lbs.	Tread		
(1) Hollow Tread with Polypropylene Rim							
14″	1 3/4″	1/2″	2 7/16″	75	A	29635T31	$15.11
16″	1 3/4″	1/2″	2 7/16″	75	A	29635T32	19.14
20″	1 3/4″	5/8″	2 7/16″	150	B	29635T33	43.66
(2) Hollow Tread with Zinc-Plated Steel Rim							
16″	1 3/4″	1/2″	2 3/4″	125	A	2893T71	46.02
20″	1 3/4″	5/8″	3 3/8″	150	A	2893T72	55.65
(2) Air-Filled with Zinc-Plated Steel Rim							
20″	2 1/8″	3/4″	3 3/8″	150	C	2875T85	61.47
26″	2 1/8″	3/4″	4 7/16″	150	C	2875T84	72.87

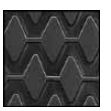

Hollow Tread A



Hollow Tread B



Air-Filled Tread C

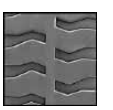

Flat-Free Tread D

Air-filled wheels are quiet and shock-absorbing. They consist of a single-ply black rubber tire with an inner tube.

Flat-free wheels have a molded polyurethane tire on the rim.

Steel wheels have a welded construction.

Wheel Dia.	Wd.	Axle Dia.	Hub Lg.	Cap. Ea., lbs.	Tread		
(2) Flat-Free with Zinc-Plated Steel Rim							
20″	2″	3/4″	3 3/8″	150	D	22585T48	$104.09
26″	2″	3/4″	4 7/16″	200	D	22585T49	136.13
(3) Steel Wheels							
18″	2″	3/4″	3″	200	—	2525T11	73.75
24″	2″	3/4″	3″	200	—	2525T12	93.75

Air-Ride Wheels and Tires



A B C D E F G H



Complete Wheel



Replacement Tire



Center-Mount Hub



Side-Mount Hub

Also known as pneumatic wheels, these consist of an air-filled rubber tire on a steel rim and are among the quietest, most shock-absorbing wheels available. Wheels 5″ and wider offer better load distribution so they won't damage grass or sod but still provide good traction.

Standard Rims—Tires are tubeless, unless noted.

Easy-Maintenance Rims—Consist of two pieces bolted together so the wheels can be quickly repaired or replaced. Tires have inner tubes for more puncture resistance than tubeless tires. For replacement inner tubes, see page 1422.

Center-mount hubs are symmetrical for equal clearance on both sides of the wheel. *General purpose bearings* have straight rollers that provide smooth rolling. *Easy-roll bearings* have steel balls and require minimal effort to start rolling.

Side-mount hubs are offset for extra clearance between the wheel and your equipment. Their easy-roll bearings have steel balls and require minimal effort to start rolling.

To Order: Please specify axle diameter where applicable.

Wheel Dia.	Wheel Wd.	Tire Size	Available Axle Dia.	Hub Lg.	Cap. Ea., lbs.	Black Rubber Tread	Black Rubber Complete Wheel		Black Rubber Replacement Tire		Nonmarking Gray Rubber Tread	Nonmarking Gray Rubber Complete Wheel		Nonmarking Gray Rubber Replacement Tire	
Standard Rims															
Center-Mount Hub with General Purpose Bearings															
16.1″	4.7″	4.80/4.00-8	1¼″	4″	745	A	8353T85	$68.05	4991T46	$32.71	—	—	—	—	—
18″	5.9″	5.70/4.50-8	1¼″	4″	910	A	8353T88	94.53	4991T48	55.65	—	—	—	—	—
18″	8.5″	18/850×8	¾″, 1″	3¼″	515	B	2223T11	86.57	4991T17	41.34	—	—	—	—	—
Center-Mount Hub with Easy-Roll Bearings															
9″	2.6″	2.80/2.50-4	⅝″	3″	295	A	8353T17■	30.69	4991T41	11.95	A	23315T73■	$41.03	4991T61	$16.55
10.4″	3.4″	4.10/3.50-4	⅝″, ¾″	3″	350	C	8353T27	30.27	4991T15	13.78	C	23315T31■	42.83	4991T62	19.40
12.4″	3.6″	4.10/3.50-6	⅝″, ¾″	3″	440	C	8353T28	38.98	4991T16	18.80	D	23315T32■	55.04	4991T91	26.91
13″	5″	13/500×6	⅝″, ¾″	3″	295	B	2223T12	41.29	4991T18	20.24	—	—	—	—	—
15.7″	3.9″	4.80/4.00-8	¾″	3″	300	E	8353T59■	26.86	4991T86	16.88	—	—	—	—	—
15.7″	4″	4.80/4.00-8	⅝″	4″	300	E	8353T54	34.77	4991T86	16.88	—	—	—	—	—
15.9″	3.9″	4.80/4.00-8	½″, ⅝″, ¾″	6″	485	E	8353T38	39.51	4991T87	18.21	—	—	—	—	—
15.9″	3.9″	4.80/4.00-8	⅝″, ¾″	7½″	485	E	8353T86	40.13	4991T87	18.21	—	—	—	—	—
16″	6.5″	16/650×8	⅝″, ¾″	3″	415	B	2223T13	61.74	4991T25	33.13	—	—	—	—	—
Side-Mount Hub with Easy-Roll Bearings															
10.4″	3.4″	4.10/3.50-4	⅝″, ¾″	2¼″	350	C	8353T33	30.97	4991T15	13.78	C	23315T33■	48.40	4991T62	19.40
Easy-Maintenance Rims															
Center-Mount Hub with General Purpose Bearings															
9″	2.6″	2.80/2.50-4	¾″, 1″	3½″	295	A	4997T85	43.45	4991T41	11.95	A	23315T19	47.70	4991T61	16.55
9″	3.7″	9/3.50-4	⅝″, ¾″	4″	230	F	4997T86	47.76	4991T14	18.11	B	23315T34	47.53	4991T22	16.90
10.4″	3.4″	4.10/3.50-4	¾″, 1″	3½″	350	C	4997T87	45.58	4991T15	13.78	C	23315T35	54.08	4991T62	19.40
12.4″	3.6″	4.10/3.50-6	1″	4″	440	C	4997T28	58.99	4991T16	18.80	D	23315T72	70.80	4991T91	26.91
14″	4.6″	5.30/4.50-6	1″	4″	635	C	4997T29	65.40	4991T58	30.57	—	—	—	—	—
Center-Mount Hub with Easy-Roll Bearings															
9″	2.6″	2.80/2.50-4	⅝″, ¾″	3″	295	A	4997T89	39.34	4991T41	11.95	A	23315T36	49.27	4991T61	16.55
9″	2.6″	2.80/2.50-4	½″, ⅝″	3½″	295	A	4997T91	40.25	4991T41	11.95	A	23315T25	49.26	4991T61	16.55
10.4″	3.4″	4.10/3.50-4	½″, ⅝″	3½″	350	C	4997T92	39.34	4991T15	13.78	C	23315T26	50.65	4991T62	19.40
11.5″	3.4″	4.10/3.50-5	⅝″, ¾″	3″	380	C	4997T93	48.79	4991T12	16.18	G	23315T27	59.83	4991T19	25.26
12.4″	3.6″	4.10/3.50-6	⅝″, ¾″	4″	440	C	4997T94	61.86	4991T16	18.80	D	23315T28	63.50	4991T91	26.91
14″	4.6″	5.30/4.50-6	⅝″, ¾″	4″	635	C	4997T95	61.86	4991T58	30.57	—	—	—	—	—
Side-Mount Hub with Easy-Roll Bearings															
9″	2.6″	2.80/2.50-4	⅝″, ¾″	2¼″	295	A	4997T96	39.34	4991T41	11.95	A	23315T29	49.49	4991T61	16.55
Easy-Maintenance Rims for Casters															
Center-Mount Hub with Easy-Roll Bearings															
6″	2″	—	½″	27/16″	200	A	2717T41	21.92	—	—	H	2717T55	24.57	—	—
8″	2.5″	2.80/2.50-4	½″	3¼″	300	A	2717T42	39.20	—	—	A	2717T52	37.78	—	—
10″	3.5″	4.10/3.50-4	½″	4″	350	A	2717T43	48.60	—	—	A	2717T53	31.92	—	—
12″	3.5″	4.10/3.50-6	½″	4⅜″	450	A	2717T44	54.89	—	—	—	—	—	—	—

■ Has inner tube.

Air-Ride Trailer Wheels

Like other air-filled tires these absorb shock to protect your load, but they have a stiff sidewall that prevents swaying during towing. Also known as pneumatic wheels, they consist of a black rubber tire on a steel rim. Wheels are suitable for highway use.

Four-hole rims have a 4″ bolt circle.

Five-hole rims have a 4½″ bolt circle.



J K



Wheel Dia.	Wheel Wd.	Tire Size	Load Range	Cap. Ea., lbs.	Tread	Wheel with Four-Hole Rim		Wheel with Five-Hole Rim	
16.1″	4.7″	4.80/4.00-8	B (4 ply)	590 @ 60 psi	J	2181T31	$35.78	2181T32	$35.78
18.1″	5.8″	5.70/5.00-8	B (4 ply)	715 @ 50 psi	J	2181T33	49.22	2181T34	49.22
20.5″	4.8″	4.80/4.00-12	B (4 ply)	780 @ 60 psi	J	2181T35	67.00	2181T36	67.00
21.9″	5.6″	5.30/4.50-12	C (6 ply)	1,045 @ 80 psi	J	2181T37	86.82	2181T38	86.82
26.3″	7.8″	ST205/75D14	C (6 ply)	1,760 @ 50 psi	K	—	—	2181T39	127.70
26.7″	7.6″	ST205/75D15	C (6 ply)	1,820 @ 50 psi	K	—	—	2181T41	129.32

Flat-Free Wheels



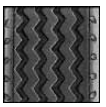

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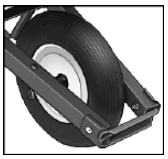

Center-Mount Hub



B



Side-Mount Hub



C

You'll get the quiet, cushioned ride of an air-filled tire without the possibility of a flat. All have easy-roll steel ball bearings. Treads are black. Rims are steel.

Lightweight Wheels—Made of high-density foam polyurethane, these are lighter in weight than foam-filled rubber tires. Polyurethane is nonmarking and water- and UV-resistant.

Extra-Stable Wheels—The original flat-free wheel, these consist of a conventional rubber tire filled with polyurethane foam. Wheels are more stable and handle higher speeds than lightweight wheels.

Center-mount hubs are symmetrical for equal clearance on both sides of the wheel. **Side-mount hubs** are offset for extra clearance between the wheel and your equipment.

To Order: Please specify axle diameter where applicable.

Wheel Dia.	Wheel Wd.	Tire Size	Available Axle Dia.	Hub Lg.	Cap. Ea., lbs.	Tread		
Lightweight Wheels								
Center-Mount Hub								
8.5″	4″	9/3.50-4	5/8″	4″	250	C	22245T31	$47.64
8.8″	2.7″	2.80/2.50-4	5/8″	3″	270	A	22245T11	39.41
9.8″	3.3″	4.10/3.50-4	5/8″, 3/4″	3 1/4″	300	A	22245T21	53.41
10.5″	4″	11/4.00-5	3/4″	5″	340	C	22245T32	66.32
13″	6″	13/6.5-6	3/4″	3″	305	C	22245T33	96.45
15″	3.4″	4.80/4.00-8	5/8″, 3/4″	6″	1,000	B	22245T22	90.61
15″	3.4″	4.80/4.00-8	3/4″	3″	1,000	B	22245T16	90.61
Side-Mount Hub								
8.8″	2.7″	2.80/2.50-4	5/8″	2 1/4″	270	A	22245T38	39.41
9.8″	3.3″	4.10/3.50-4	5/8″	2 1/4″	300	A	22245T17	53.41
9.8″	3.2″	4.10/3.50-4	5/8″	2 1/4″	300	B	22245T39	53.41
Extra-Stable Wheels								
Center-Mount Hub								
9″	2.6″	2.80/2.50-4	5/8″	3″	295	A	22615T31	44.90
10.4″	3.4″	4.10/3.50-4	5/8″, 3/4″	3″	260	A	22615T37	56.08
15.7″	4″	4.80/4.00-8	5/8″, 3/4″	6″	300	B	22615T78	110.90
Side-Mount Hub								
10.4″	3.4″	4.10/3.50-4	5/8″	2 1/4″	260	A	22615T34	58.06

Wheel Weights



Balance your wheels with these easy-to-install weights. They have an adhesive back and are supplied on a strip. Break off as many as you need and stick them to the underside of the wheel rim.

Weight per Piece, oz.	Length per Piece	Width per Piece	Pieces per Strip		
1/4	5/8″	3/4″	8	4991T111	$1.16
1/2	1 1/16″	3/4″	7	4991T112	2.81
1	1 1/4″	3/4″	4	4991T113	3.19

Lug Nuts



Lug nuts are open ended so they accommodate any thread length. Hex size is 13/16″.

Thread gauge lets you identify the most common bolt thread sizes: 7/16″-20, 1/2″-20, 9/16″-18, M12×1.25, M12×1.5, M12×1.75, M14×1.5, and M14×2.

	Available Thread Sizes		Pkg. of 4
Inch	7/16″-20, 1/2″-20, 9/16″-18	4991T971	$4.48
Metric	M12×1.25, M12×1.5, M12×1.75, M14×1.5, M14×2	4991T972	4.48
Thread Gauge		4991T966 Each	$23.71

Inner Tubes and Tire Sealants

Inner Tubes



Angled Stem



Parallel Stem



Straight Stem

Sealant-filled inner tubes contain Prevent-a-Flat sealant.

For Tire Size	Stem Type	Inner Tubes		Sealant-Filled Inner Tubes	
2.80/2.50-4	Angled	4991T29	$5.38	—	—
2.80/2.50-4	Parallel	4991T31	5.38	—	—
4.00/3.50-4	Angled	—	—	4991T72	$14.26
4.10/3.50-4	Angled	4991T32	5.59	—	—
4.10/3.50-4	Straight	4991T33	5.59	—	—
4.10/3.50-5	Angled	4991T34	7.02	—	—
4.10/3.50-5	Straight	4991T35	7.02	—	—
4.10/3.50-6	Angled	4991T36	6.35	4991T76	15.54
4.10/3.50-6	Straight	4991T37	6.35	—	—
4.80/4.00-8	Straight	4991T38	8.24	4991T78	15.72
5.30/4.50-6	Angled	4991T39	7.19	—	—
5.70/5.00-8	Straight	4991T45	12.63	—	—
9.00/3.50-4	Angled	4991T24	6.71	—	—

Emergency Tire Inflator/Sealant



Inflate tires and temporarily seal most punctures on the spot.

7345A29 ..... $8.75

Prevent-a-Flat Sealant

Fill your tire with this sealant before a puncture occurs. Temperature range is –10° to 110° F.

For Tire Type	Net Wt.	For Tires with Inner Tube		For Tubeless Tires	
Bicycle	8 oz.	4995T4	$7.48	4995T1	$7.48
Car	16 oz.	4995T5	10.00	4995T2	11.68
Truck	32 oz.	—	—	4995T3	17.88

Inner-Tube Repair Kit

Kit includes six 7/8″ square adhesive-backed patches that expand and contract with the tube, sandpaper for preparing the area around the puncture, and a carrying case.

4991T93 ..... $3.50

Tubeless-Tire Repair Kits



Repair kit includes five string patches, a tube of rubber cement, and tools to prepare the area around the puncture and apply the patches.

Refill kit includes 10 extra string patches.

Repair Kit	4991T83	$9.29
Refill Kit	4991T82	4.54

Tire Tread Gauge



Measure tread depth in 1/32″ increments up to 1″.

4991T85 ..... $4.69

Tire Valves and Valve Repair Tools

Tire Valves and Extensions


Tire Valve


Valve Extension

Tire valves snap into tubeless tire rims. Max. pressure is 60 psi. Valves are black rubber.

Valve extension lengthens the stem of the tire valve for easier access. Extension is brass.

	For Rim Hole Dia.	Installed Lg.	Pkg. Qty.		Pkg.
Tire Valve	0.453″	7/8″	2	4991T84	$2.09
Tire Valve	0.453″	1 1/4″	2	4991T951	3.46
Tire Valve	0.453″	1 1/2″	2	4991T952	3.80
Tire Valve	0.453″	2″	2	4991T953	4.00
Valve Extension	———	1 1/4″	4	4991T955	12.20

Tire Valve Caps

Keep dust and debris out of your tire valve.


Plastic

	Pkg. Qty.		Pkg.
Plastic	5	4991T956	$1.33
Chrome-Plated Brass	4	4991T94	3.93

Tire Valve Cores

Refurbish a worn valve by threading in one of these replacement cores. Maximum pressure is 200 psi. Cores are nickel-plated brass.



Pkg. of 5 ..... 4991T954 $2.87

Tire Valve Tools


Repair Tool


Installation Tool

Repair or replace valves and cores using these steel tools.

Tire valve repair tool rethreads the inside and outside of valve stems.

Tire valve installation tool has a grip handle so you can easily pull the stem of a new valve through the hole on your tire's rim. Tool has a built-in deflator.

Tire Valve Repair Tool	6115A11	$2.49
Tire Valve Installation Tool	6115A12	4.80

Wheel Bearings

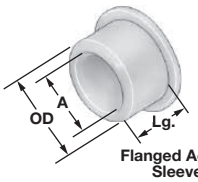

Flanged Acetal Sleeve


Standard Acetal Sleeve


Easy-Roll Ball

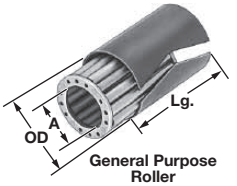

General Purpose Roller


Retaining Washer

Replace worn or damaged wheel bearings to keep your equipment rolling. Bearings and washers are steel, unless otherwise stated. Use *flanged acetal sleeve bearings* and *easy-roll ball bearings* in pairs. Axle diameter can be changed using reducer bushings (sold separately on this page). Note: Not for use in towing applications.

For impact-resistant tapered roller bearings, as well as other bearing materials and sizes, please see pages 1174-1209.

Acetal sleeve bearings are a good choice for washdown and dusty environments. Temperature range is –20° to 180° F.

Easy-roll ball bearings require minimal effort to start rolling and are best for low speeds.

General purpose roller bearings are the most popular style of bearing and provide smooth rolling.

Retaining washers hold roller bearings in place.

Bearings

For Axle Dia. (A)	OD	Lg.		
Flanged Acetal Sleeve Bearings				
3/4″	1 3/16″	3/4″	25635T9	$1.00
Standard Acetal Sleeve Bearings				
1/2″	1 3/16″	2 1/8″	25635T2	2.77
3/4″	1 3/16″	1 5/8″	25635T5	2.05
3/4″	1 3/16″	2 1/8″	25635T6	2.02
Easy-Roll Ball Bearings				
5/16″	1 1/8″	5/8″	23775T2★	3.49
3/8″	1 1/8″	5/16″	23775T4	6.88
1/2″	1 3/16″	1/2″	23775T5■	9.85
5/8″	1 3/8″	3/8″	23775T6	4.97
3/4″	1 3/8″	3/8″	23775T7	4.85
General Purpose Roller Bearings				
1/2″	15/16″	1 1/4″	25015T24	5.05
1/2″	1 1/16″	1 1/8″	25015T11	4.92
5/8″	1 3/16″	1 3/8″	25015T12	4.69
5/8″	1 3/16″	1 3/4″	25015T25	4.90

★ Hub is extended and adds 1/4″ to the length.

For Axle Dia. (A)	OD	Lg.		
General Purpose Roller Bearings (Cont.)				
5/8″	1 3/16″	1 7/8″	25015T14	$5.20
5/8″	1 3/16″	2″	25015T26	4.92
3/4″	1 3/16″	1 1/4″	25015T13	6.01
3/4″	1 3/16″	1 3/4″	25015T27	4.67
3/4″	1 3/16″	1 7/8″	25015T15	6.01
3/4″	1 3/16″	2″	25015T33	3.25
3/4″	1 3/16″	2 1/2″	25015T17	6.65
7/8″	1 7/16″	2″	25015T37	6.45
1″	1 7/16″	2″	25015T39	7.00
1″	1 7/16″	2 1/2″	25015T42	7.58
1″	1 9/16″	2 1/4″	25015T43	12.45
1″	1 15/16″	2 1/2″	25015T18	12.22
1″	1 15/16″	3″	25015T21	13.28
1 1/4″	1 15/16″	2 1/2″	25015T47	9.78
1 1/4″	1 15/16″	3″	25015T22	18.30
1 1/4″	2 7/16″	3″	25015T73	26.09

■ Hub is extended and adds 3/8″ to the length.

Retaining Washers

For Axle Dia. (A)	OD	Thick.		
1/2″	15/16″	3/16″	25015T61✓	$0.42
1/2″	1 1/16″	1/8″	25015T31	.51
5/8″	1 3/16″	3/32″	25015T52	2.31
5/8″	1 3/16″	7/32″	25015T62✓	.22
3/4″	1 3/16″	3/32″	25015T32	.26
3/4″	1 3/16″	7/32″	25015T63✓	.60
7/8″	1 7/16″	1/8″	25015T64	.90
1″	1 15/16″	3/32″	25015T35	1.00
1″	1 15/16″	1/8″	25015T71	2.05
1 1/4″	1 15/16″	3/32″	25015T36	.83
1 1/4″	1 15/16″	1/8″	25015T59	3.64
1 1/4″	2 7/16″	1/8″	25015T78	3.84

✓ Made of nylon.

Reducer Bushings for Wheels

Reducer bushings, also known as spanner bushings, reduce the inside diameter of a bearing to fit a particular axle size. Bushings also reduce wear on the axle when used in plain bores and with straight roller bearings. All are hardened steel and have a hole for lubrication.

Washers slide over the bushing and add 3/32″ to the hub length. Multiple washers can be used to match the length of the bushing. Washers are steel.





For Axle Dia. (A)	Reducer Bushing OD	Lg.			Washer	
5/16″	1/2″	1 5/16″	23275T23	$1.25	23275T21	$0.65
5/16″	1/2″	1 9/16″	23275T24	1.10	23275T21	.65
3/8″	1/2″	1 9/16″	23275T27	1.10	23275T21	.65
3/8″	1/2″	1 5/8″	23275T11	1.70	23275T21	.65
3/8″	1/2″	1 3/4″	23275T28	1.43	23275T21	.65
1/2″	5/8″	2″	23275T48	1.23	23275T37	3.28
1/2″	5/8″	2 1/4″	23275T49	1.43	23275T37	3.28
1/2″	3/4″	1 7/8″	23275T12	2.46	23275T22	.50

For Axle Dia. (A)	Reducer Bushing OD	Lg.			Washer	
1/2″	3/4″	2″	23275T61	$1.43	23275T22	$0.50
1/2″	3/4″	2 1/4″	23275T62	.80	23275T22	.50
1/2″	3/4″	2 7/16″	23275T13	2.72	23275T22	.50
1/2″	3/4″	3″	23275T15	3.24	23275T22	.50
5/8″	3/4″	2 7/16″	23275T14	3.18	23275T22	.50
3/4″	1″	3″	23275T16	4.63	23275T25	1.05
3/4″	1″	3 1/2″	23275T17	4.68	23275T25	1.05
1″	1 1/4″	3 9/16″	23275T18	12.01	23275T95	1.12

Wheel Axles



With Grease Fitting

Replace worn or broken caster axles. All include a hex nut and are made of zinc-plated steel, except 1¼″ dia. axle is plain steel with a blue painted hex head.

Axle Dia.	Axle Lg.	Thread Lg.		
Without Grease Fitting				
1/4″	1 1/2″	7/8″	23595T11	$0.50
1/4″	1 3/4″	7/8″	23595T12	.66
5/16″	2 1/4″	1″	23595T13	.80
3/8″	2 3/16″	9/16″	23595T14	1.56
3/8″	2 1/2″	1 1/8″	23595T15	2.12
1/2″	3″	1 1/8″	23595T16	2.26
1/2″	3 1/4″	3/4″	23595T17	2.36
5/8″	3 3/4″	1 5/8″	23595T18	4.78
3/4″	4″	1 3/4″	23595T19	6.03
3/4″	4 1/2″	1 3/4″	23595T2	6.83
3/4″	5″	2″	23595T21	7.10
1″	5″	2 1/2″	23595T24	13.21
1″	6″	2 3/4″	23595T25	28.01
1 1/4″	6 3/8″	1 3/8″	23595T22	45.21
With Grease Fitting				
5/16″	2 1/4″	1/2″	23595T41	1.82
1/2″	2 13/16″	3/4″	23595T42	3.18
1/2″	3″	1 1/4″	23595T43	2.18
1/2″	3 3/8″	5/8″	23595T44	3.24
1/2″	4″	1″	23595T45	6.24
1/2″	4 1/2″	1 1/4″	23595T46	6.77
3/4″	4 1/4″	1″	23595T47	11.47
3/4″	4 3/4″	11/16″	23595T48	10.22

Wheel Covers



For Center-Mount Wheels



For Side-Mount Wheels

Protect your floors from grime and scuffs, plus reduce noise. Covers are made of water-proof polypropylene fabric and can be easily slipped on and off your wheels.

Covers **for center-mount wheels** cover the tread of the wheel and are typically used on casters. All have a hook-and-loop closure.

Covers **for side-mount wheels** cover the tread and one side of the wheel. They're used on hand trucks and other wheels mounted on the end of an axle.

Wheel Dia.	Wheel Wd.	For Center-Mount Wheels	Pkg. of 2	For Side-Mount Wheels	Pkg. of 2
4″	1 1/4″	2516T51	$8.03	____	____
4″	2″	2516T52	8.05	____	____
5″	1 1/4″	2516T53	8.10	____	____
5″	2″	2516T54	8.16	2516T61	$7.04
6″	2″	2516T55	8.26	2516T62	7.16
8″	2″	2516T56	8.44	2516T63	7.60
10″	2″	2516T57	8.65	2516T64	8.60
10″	3″	2516T58	8.70	2516T65	8.80
10″	4″	2516T59	8.79	2516T66	9.08

Rest-On Feet











Place these feet under furniture and equipment. Feet are plastic. **Style 4** has a spiked bottom for use on carpeted floors.

	Size	Color	For Leg Size	Pkg. Qty.		Pkg.
1	2 1/2″ × 2 1/2″	Brown	2 1/16″ × 2 1/16″	4	2516T44	$3.89
2	1 7/8″ Dia.	Brown	1 9/16″ Dia.	4	2516T41	3.22
2	2 1/8″ Dia.	Brown	1 3/4″ Dia.	4	2516T42	2.91
3	1 7/8″ Dia.	Clear	1 1/2″ Dia.	4	2516T45	3.11
3	2 3/8″ Dia.	Clear	1 7/8″ Dia.	4	2516T46	2.87
4	1 7/8″ Dia.	Clear	1 1/2″ Dia.	4	2516T47	3.33
5	2 3/4″ Dia.	Blue	____	4	23225T15	14.85
5	2 3/4″ Dia.	Black	____	1	2551T36	1.25
5	5″ Dia.	Black	____	1	2551T37	3.47

Traction Chains



Durable steel chains keep you from spinning your wheels in snow and mud.

Chains **for cars** automatically adjust to the right tension as you drive, so they're easy to install and remove. Chains include a carrying case.

Chains **for trucks/SUVs** comply with NACM (National Association of Chain Manufacturer) specifications.

Also Available: Chains for other tire sizes. Please ask for 4991T999 and specify vehicle type and tire size.

For Tire Size		
For Garden Tractors and Snow Blowers		
15×6.00×6, 16×6.5×8	4991T976	$41.97
23×8.5×12, 8×12	4991T977	70.30
4.00/4.80×8	4991T975	37.91
For Forklifts		
27×8.50-15, 28×9-15, 28×9.50-15, 29×8-15, 7.00-12, 7.00-15, 8.15-15	4991T974	86.22
For Cars		
195/80-15, 215/55-17, 215/70-15, 225/50-17, 225/60-16	4991T131	222.65
215/75-15, 225/60-17, 225/65-16, 235/55-17, 255/50-16	4991T133	222.65
For Trucks/SUVs		
225/70R19.5, 245/75R17LT, 265/75R16LT, 31×10.50-15LT, P265/65R18, P265/70R16	4991T973	95.09

Slip-On Feet



Cover the bottom of furniture legs, canes, and crutches to gain traction and protect floors from scratches and wear.

Feet with a **reinforced bottom** have a metal washer in the base to prevent equipment legs from cutting through the rubber.

Oil-resistant rubber feet are neoprene.

UV-resistant rubber feet are EPDM, which withstands exposure to direct sunlight.

For Leg OD	Base Ht.	Choose a Color	Standard Pkg. Qty.		Standard Pkg.	Reinforced Bottom Pkg. Qty.		Reinforced Bottom Pkg.
(1) Plastic								
1/2″	1 1/4″	Gray	25	2427T81	$5.43	___	____	____
5/8″	1 1/4″	Gray	25	2427T82	5.71	___	____	____
3/4″	1 1/4″	Gray	25	2427T83	6.89	___	____	____
7/8″	1 3/8″	Gray	25	2427T84	7.05	___	____	____
1″	1 1/2″	Gray	25	2427T85	8.25	___	____	____
(2) Rubber								
1/4″	13/16″	Blk, Gry, Wh	10	2517T31	3.64	10	2517T11	$5.33
3/8″	1 1/8″	Blk, Gry, Wh	10	2517T32	5.15	10	2517T35	6.85
1/2″	1 3/16″	Blk, Gry, Wh	25	2517T71	6.15	25	2517T36	9.09
5/8″	1 9/32″	Blk, Gry, Wh	25	2517T72	6.90	25	2517T37	9.39
3/4″	1 3/8″	Blk, Gry, Wh	25	2517T73	8.08	25	2517T38	10.76
7/8″	1 1/2″	Blk, Gry, Wh	25	2517T74	9.94	25	2517T78	13.18
1″	1 9/16″	Blk, Gry, Wh	25	2517T75	11.13	10	2517T79	5.88
1 1/8″	1 21/32″	Blk, Gry, Wh	25	2517T76	12.77	10	2517T88	6.85
1 1/4″	1 13/16″	Blk, Gry, Wh	25	2517T77	13.14	10	2517T89	7.88
(2) Oil-Resistant Rubber								
3/4″	1 3/8″	Blk, Gry, Wh	25	2517T91	10.61	10	2517T94	6.06
1″	1 9/16″	Blk, Gry, Wh	10	2517T92	7.88	10	2517T95	9.70
1 1/4″	1 13/16″	Blk, Gry, Wh	10	2517T93	11.52	5	2517T96	6.67
(2) UV-Resistant Rubber								
3/4″	1 3/8″	Blk, Gry, Wh	25	2517T61	10.61	10	2517T64	6.06
1″	1 9/16″	Blk, Gry, Wh	10	2517T62	7.88	10	2517T65	9.70
1 1/4″	1 13/16″	Blk, Gry, Wh	10	2517T63	11.52	5	2517T66	6.67
(3) Rubber								
1/4″	13/16″	Blk, Gry, Wh	10	2517T33	3.64	10	2517T21	5.33
3/8″	1″	Blk, Gry, Wh	10	2517T34	5.15	10	2517T97	6.85
1/2″	1 1/16″	Blk, Gry, Wh	25	2517T81	7.50	25	2517T98	10.30
5/8″	1 1/16″	Blk, Gry, Wh	25	2517T82	8.34	25	2517T99	11.06
3/4″	1 7/32″	Blk, Gry, Wh	25	2517T83	9.37	25	2517T1	11.82
7/8″	1 5/16″	Blk, Gry, Wh	25	2517T84	11.07	25	2517T4	13.33
1″	1 1/2″	Blk, Gry, Wh	25	2517T85	11.67	10	2517T5	5.64
1 1/8″	1 1/2″	Blk, Gry, Wh	25	2517T86	12.57	10	2517T6	6.55
1 1/4″	1 5/8″	Blk, Gry, Wh	25	2517T87	13.04	10	2517T7	7.45

Feet



(1-8) Hammer On

Use on furniture with wood legs.

Styles 5-7 are cushioned to reduce noise and vibration. Style 7 feet have a tubular fastener that goes into the end grain without splitting the wood.

Style 8 has a swiveling base to compensate for angled legs and uneven surfaces.

	Base		Nail		Pkg.		
	Dia.	Ht.	Lg.	Dia.	Qty.		Pkg.
Zinc-Plated Steel Base							
1	3/4"	3/16"	1/4"	1/8"	50	2513T11	$4.40
1	7/8"	1/4"	7/32"	3/16"	50	2513T12	5.41
Nickel-Plated Steel Base							
2	3/4"	1/8"	5/8"	3/32"	50	2513T14	5.32
Beige Plastic Base							
3	5/8"	3/16"	3/4"	1/16"	50	2513T15	6.38
3	3/4"	7/32"	3/4"	1/16"	50	2513T16	7.00
3	7/8"	7/32"	3/4"	1/16"	50	2513T17	7.00
4	1/2"	3/16"	5/8"	1/16"	50	2513T18	8.29
4	3/4"	7/32"	3/4"	1/16"	50	2513T21	10.29
Nickel-Plated Steel Base with Black Plastic Cushion							
5	7/8"	13/32"	11/16"	3/32"	25	2513T1	8.14
5	1 1/16"	13/32"	11/16"	3/32"	25	2513T2	11.66
White Plastic Base with Black Plastic Cushion							
6	3/4"	7/16"	3/4"	3/32"	50	2513T48	16.71
6	1 1/8"	7/16"	3/4"	3/32"	25	2513T52	11.64
Gray Felt Base with Brown Plastic Cushion							
7	7/8"	1/4"	3/16"	5/16"	25	2513T22	9.43
7	1"	1/4"	3/16"	5/16"	25	2513T23	13.46
7	1 1/2"	1/4"	3/16"	5/16"	10	2513T24	6.23
Brass-Plated Steel Base with Plastic Bottom							
8	1 3/16"	1/4"	11/16"	3/32"	4	2513T53	2.66

(9&10) Screw On

Screw these feet to the bottom of wood furniture legs.

	Base		Screw		Choose a	Pkg.		
	Dia.	Ht.	Size	Lg.	Base Color	Qty.		Pkg.
Plastic Base with Foam Cushion								
9	3/4"	5/16"	No. 5	5/8"	Blue	8	23225T12	$8.95
9	1 1/8"	5/16"	No. 5	5/8"	Blue	8	23225T13	9.77
Plastic Base with Rubber Cushion								
10	1"	5/16"	No. 8	3/4"	Brn, Gry	4	23755T66	6.59
10	1 3/8"	3/8"	No. 8	3/4"	Brn, Gry, Wh	4	23755T67	6.86

(11-13) Swiveling Press Fit

A swiveling base compensates for angled legs and uneven surfaces. Press these feet into tubular legs of tables, chairs, and other furniture.

	For Leg			Base		
	Shape	OD	ID	Dia.		Each
Nickel-Plated Steel Base with Black Plastic Cushion						
11	Round	7/8"	0.75"-0.78"	1 1/8"	2450T65	$1.46
Plastic Base with Nickel-Plated Cover						
12	Round	3/4"	0.62"-0.65"	1 1/8"	2501T82	1.91
12	Round	1"	0.87"-0.9"	1 1/8"	2501T86	2.06
Stainless Steel Base						
13	Round	3/4"	0.62"-0.65"	1 1/16"	2501T72	3.06
13	Round	1"	0.87"-0.9"	1 1/16"	2501T75	3.06
13	Square	3/4"	0.62"-0.65"	1 1/16"	2501T73	3.06
13	Square	7/8"	0.75"-0.78"	1 1/16"	2501T74	3.06
13	Square	1"	0.87"-0.9"	1 1/16"	2501T76	3.06

(14-16) Press Fit

Press these feet into tubular legs of tables, chairs, and other furniture. Feet are black plastic.

	For Leg			Pkg.		
	OD	ID	Angle	Qty.		Pkg.
Standard for Round Leg						
14	3/4"	0.59"-0.68"	—	50	2436T61	$8.66
14	7/8"	0.72"-0.8"	—	50	2436T62	8.94
14	1"	0.84"-0.93"	—	50	2436T63	9.71
Standard for Square Leg						
14	3/4"	0.59"-0.68"	—	50	2436T64	8.65
14	7/8"	0.72"-0.8"	—	50	2436T65	8.95
14	1"	0.84"-0.93"	—	50	2436T66	9.34
Standard for Rectangular Leg						
14	1"×2"	0.87"×1.87"	—	25	2436T69	7.16
Angled for Square Leg						
15	3/4"	0.62"	Any	25	2436T68	4.48
15	3/4"	0.65"	Any	25	2436T67	5.39
16	3/4"	0.62"-0.65"	5°	25	27455T21	12.22
16	3/4"	0.62"-0.65"	25°	25	27455T22	12.22
16	7/8"	0.75"-0.78"	5°	25	27455T23	13.10
16	1"	0.87"-0.93"	15°	25	27455T25	12.33

(17-19) Adhesive Back

	Base		Choose a	Pkg.		
	Dia.	Ht.	Base Color	Qty.		Pkg.
Plastic Base						
17	3/4"	3/16"	White	50	2819T65	$7.22
17	1"	3/16"	White	50	2819T66	10.70
18	3/4"	3/16"	Black	50	2387T41	4.04
18	1"	3/16"	Black	50	2387T42	6.20
18	1 3/4"	3/16"	Black	24	2387T45	8.98
19	1 3/16"	3/8"	Black, White	4	23755T68	5.68
19	1 1/2"	7/16"	Black, White	4	23755T69	6.25
19	1 7/8"	1/4"	Blue	4	23225T14	9.53
Felt Base						
18	3/4"	1/4"	Brown	50	2819T71	7.28
18	1"	1/4"	Brown	50	2819T72	9.30
18	1 1/4"	1/4"	Brown	50	2819T73	13.60

(20-24) Slip On

Cover the bottom of furniture legs.

Style 24 swivel to compensate for uneven floors.

	For	Base		Pkg.		
	Leg OD	Dia.	Ht.	Qty.		Pkg.
Black Rubber Base						
20	9/32"	1 1/4"	1 1/8"	10	53535A33	$7.22
Gray Plastic Base with Gray Plastic Cushion						
21	3/4"-1 1/8"	1 3/4"	1 3/8"	4	2427T61	5.97
Gray Plastic Base with Brown Felt Cushion						
22	3/4"-1 1/8"	1 1/2"	1 1/2"	4	2427T62	5.75
23	15/16"-1 3/8"	1 3/4"	1"	4	2427T71	4.75
Nickel-Plated Steel Base						
24	5/8"	1 1/4"	1 5/16"	1	2450T61	1.86
Steel Base						
24	3/4"	1 1/4"	1 5/16"	1	2450T62	1.71

About Leveling Mounts

In addition to leveling the supports or legs of equipment, mounts position equipment above the floor for easier cleaning and inspection. Mounts that swivel compensate for uneven floors.

Vibration-damping leveling mounts also isolate vibration and noise transmitted from machines. Performance is measured by deflection (the distance the mount moves when subjected to force). Generally the higher the deflection rating, the greater the vibration and noise isolation.

Before selecting a mount, consider how your machine weight is distributed. If the weight is evenly distributed, use the following formula to find the capacity required per mount:

$$\text{Capacity per Mount} = \frac{\text{Total Machine Weight}}{\text{No. of Mounting Points}}$$

If the weight is unevenly distributed, select the capacity for each mount based on where the weight is concentrated.

Leveling Mounts with Threaded Stud

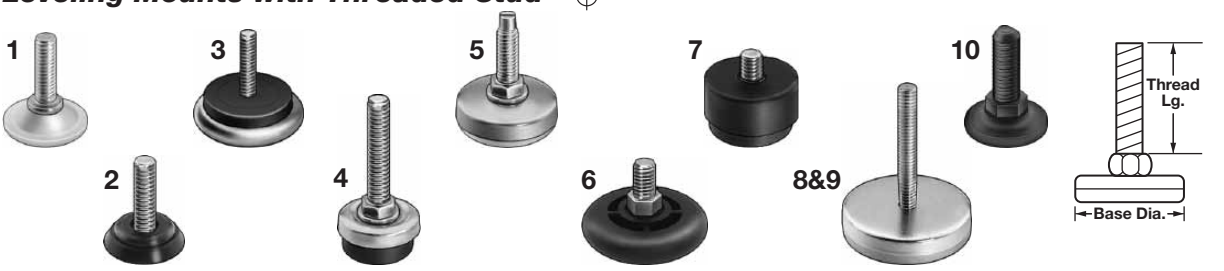

(1) Light Duty— Stud is zinc-plated steel; base is white plastic. Not rated for temperature or capacity.

(2) High Temperature— Stud is zinc-plated steel; base is black plastic.

(3) Cushion Rest— The black plastic cushion on top of the 304 stainless steel base provides padding between your furniture and the mount. Stud is zinc-plated steel. The 100-lb. capacity mount has a tee nut insert for mounting to unthreaded wood feet.

(4) Nonmarring— A black plastic cushion on the bottom of these mounts protects surfaces from scratches and wear. Mount is zinc-plated steel. Stud has a hex nut for height adjustment.

(5) Easy Adjust— A hex nut at the base of the stud and a slotted stud tip allow easy height adjustment. Stud is zinc-plated steel. Base is nickel-plated steel with a nonmarring plastic bottom.

(6) Low-Clearance Easy Adjust— Use when there is little room between the machine base and floor. Stud is galvanized steel. Base is black plastic.

(7) Self Adjusting— Often used on wobbly tables, these mounts automatically adjust up to 5/16" to compensate for uneven floors. Stud is zinc-plated steel. Base is black plastic.

(8) Heavy Duty— Use these zinc-plated steel mounts on heavy machines and equipment. Base has a nonmarring plastic bottom.

(9) Corrosion Resistant— Made of 303 stainless steel, these mounts resist corrosion from water and most chemicals. Base has a nonmarring plastic bottom.

(10) Oil Resistant— Made entirely of black plastic, these mounts won't scratch your surface.

Inch

Thread Size	Thread Lg.	Cap. per Mount, lbs.	Base Dia.	O'all Ht.	Pkg. Qty.		Pkg.
(1) Light Duty							
1/4"-20	1/2"	—	1 1/8"	7/8"	4	23015T81	$1.94
1/4"-20	1"	—	1 1/8"	1 3/8"	4	23015T82	1.68
5/16"-18	1"	—	1 1/8"	1 7/16"	4	23015T85	1.73
(2) High Temperature (-30° to 350° F)							
1/4"-20	1/2"	50	1 1/8"	15/16"	4	2284T51	2.74
1/4"-20	1"	50	1 1/8"	1 3/8"	4	2284T52	3.00
5/16"-18	1"	50	1 1/8"	1 3/8"	4	2284T54	3.14
5/16"-18	1 1/2"	50	1 1/8"	1 7/8"	4	2284T55	3.26
(3) Cushion Rest (-20° to 170° F)							
8-32	3/8"	50	1 1/8"	13/16"	4	2515T12	4.33
1/4"-20	7/8"	100	1 9/16"	1 3/8"	4	2515T16	7.58
1/4"-20	7/8"	125	1 1/4"	1 3/8"	4	2515T15	5.22
3/8"-16	1 5/8"	300	1 9/16"	2 1/4"	4	2515T17	9.25
(4) Nonmarring (-20° to 170° F)							
5/16"-18	3/4"	150	1 1/8"	1 1/2"	4	2515T18	7.05
5/16"-18	1 1/2"	150	1 1/8"	2 1/4"	4	2515T21	7.85
3/8"-16	3"	150	1 1/8"	3 3/4"	4	2515T19	11.57
1/2"-13	3"	200	1 9/16"	4 1/16"	4	2515T22	14.05
(5) Easy Adjust (-45° to 180° F)							
1/4"-20	1"	50	1 3/4"	1 3/4"	4	23015T67	5.14
5/16"-18	1"	50	1 3/8"	1 3/4"	4	23015T61	4.14
5/16"-18	1"	50	1 3/4"	1 5/8"	4	23015T32	4.09
5/16"-18	1 1/2"	50	1 3/8"	2 1/4"	4	23015T62	4.29
5/16"-18	2"	50	1 3/8"	2 3/4"	4	23015T63	4.63
3/8"-16	1"	50	1 3/8"	1 9/16"	4	23015T64	4.49
3/8"-16	1 1/2"	50	1 3/8"	2 1/4"	4	23015T65	4.66
3/8"-16	1 1/2"	50	1 3/4"	2 1/8"	4	23015T34	4.97
3/8"-16	3 1/2"	50	1 3/8"	4 1/4"	4	23015T66	5.46
(6) Low-Clearance Easy Adjust (32° to 113° F)							Each
3/8"-16	5/8"	110	2"	1 7/16"	—	21015T21	$3.29
(7) Self Adjusting (32° to 125° F)							
1/4"-20	5/16"	100	1 1/2"	1 1/2"	—	9995T91	5.36
5/16"-18	5/16"	100	1 1/2"	1 1/2"	—	9995T92	5.99
3/8"-16	5/16"	100	1 1/2"	1 1/2"	—	9995T93	6.89
(8) Heavy Duty (-20° to 170° F)							
10-24	1 1/2"	250	1 3/16"	2 1/4"	—	62805K31	2.02
1/4"-20	1 1/2"	250	1 3/16"	2 1/4"	—	62805K32	2.05
5/16"-18	1 1/2"	250	1 3/16"	2 1/4"	—	62805K33	2.12
5/16"-18	2"	250	2"	3"	—	62805K34	2.48

Thread Size	Thread Lg.	Cap. per Mount, lbs.	Base Dia.	O'all Ht.		Each
(8) Heavy Duty (Cont.)						
3/8"-16	2"	250	2"	3"	62805K35	$2.55
3/8"-16	2"	250	2 3/8"	3"	62805K36	2.80
3/8"-16	4"	250	2 3/8"	5"	62805K37	3.00
1/2"-13	2"	250	2 3/8"	3"	62805K38	3.31
1/2"-13	2"	500	2 3/4"	3 1/16"	62805K41	4.08
1/2"-13	4"	250	2 3/8"	5"	62805K39	3.79
1/2"-13	4"	500	2 3/4"	5 1/16"	62805K42	4.55
1/2"-13	4"	500	3 3/16"	5 1/8"	62805K45	7.76
1/2"-13	6"	500	3 3/16"	7 1/8"	62805K46	8.53
5/8"-11	2"	500	2 3/4"	3 1/16"	62805K43	5.45
5/8"-11	4"	500	2 3/4"	5 1/16"	62805K44	6.24
5/8"-11	4"	500	3 3/16"	5 1/8"	62805K47	8.53
5/8"-11	6"	500	3 3/16"	7 1/8"	62805K48	9.39
3/4"-10	2"	500	2 3/4"	3 1/16"	62805K71	7.08
3/4"-10	4"	500	2 3/4"	5 1/16"	62805K72	8.03
3/4"-10	4"	500	3 3/16"	5 1/8"	62805K73	9.82
3/4"-10	6"	500	3 3/16"	7 1/8"	62805K74	10.85
(9) Corrosion Resistant (-20° to 170° F)						
10-24	1 1/2"	250	1 3/16"	2 1/4"	1942K71	4.97
1/4"-20	1 1/2"	250	1 3/16"	2 1/4"	1942K72	5.11
5/16"-18	1 1/2"	250	1 3/16"	2 1/4"	1942K73	6.14
5/16"-18	2"	250	2"	3"	1942K41	6.20
3/8"-16	2"	250	2"	3"	1942K74	7.94
3/8"-16	2"	250	2 3/8"	3"	1942K42	8.13
3/8"-16	4"	250	2 3/8"	5"	1942K43	9.15
1/2"-13	2"	250	2 3/8"	3"	1942K75	10.37
1/2"-13	2"	500	2 3/4"	3"	1942K45	11.93
1/2"-13	4"	250	2 3/8"	5"	1942K44	9.50
1/2"-13	4"	500	2 3/4"	5"	1942K46	12.35
1/2"-13	4"	500	3 3/16"	5"	1942K48	16.55
1/2"-13	6"	500	3 3/16"	7"	1942K49	15.48
5/8"-11	2"	500	2 3/4"	3"	1942K47	13.78
5/8"-11	4"	500	2 3/4"	5 1/16"	1942K76	17.28
5/8"-11	4"	500	3 3/16"	5"	1942K51	16.25
5/8"-11	6"	500	3 3/16"	7 1/8"	1942K77	18.81
3/4"-10	2"	500	2 3/4"	3 1/16"	1942K52	18.15
3/4"-10	4"	500	2 3/4"	5 1/16"	1942K53	21.46
3/4"-10	4"	500	3 3/16"	5 1/8"	1942K54	22.55
3/4"-10	6"	500	3 3/16"	7 1/8"	1942K55	26.20

(Continued on following page)

Leveling Mounts with Threaded Stud *(Continued from previous page)*

Metric

Thread Size	Thread Lg., mm	Cap. per Mount, lbs.	Base Dia., mm	O'all Ht., mm		
(8) Heavy Duty (-20° to 170° F)						
M6	38	250	30	57	62805K49	$2.44
M8	38	250	30	57	62805K51	2.04
M8	38	250	52	64	62805K52	3.05
M10	51	250	52	76	62805K53	3.30
M10	51	250	61	76	62805K54	3.56
M10	102	250	61	127	62805K55	3.86
M12	51	250	61	76	62805K56	4.16
M12	51	500	71	78	62805K58	6.09
M12	102	250	61	127	62805K57	4.72
M12	102	500	71	129	62805K59	6.44
M12	102	500	81	130	62805K63	9.32
M12	152	500	81	181	62805K64	10.22
M16	51	500	71	78	62805K61	6.94
M16	102	500	71	129	62805K62	8.00
M16	102	500	81	130	62805K65	10.82
M16	152	500	81	181	62805K66	12.12

Thread Size	Thread Lg., mm	Cap. per Mount, lbs.	Base Dia., mm	O'all Ht., mm		
(9) Corrosion Resistant (-20° to 170° F)						
M6	38	250	30	57	1942K181	$6.50
M8	38	250	30	57	1942K182	7.83
M8	38	250	52	64	1942K183	8.98
M10	51	250	61	76	1942K184	11.14
M12	102	250	61	127	1942K185	14.38
M12	102	500	81	130	1942K186	17.97
(10) Oil Resistant (-10° to 140° F)						
M8	25	75	30	39	2814K11	1.31
M8	50	75	30	64	2814K12	1.62
M8	80	75	30	94	2814K13	2.75
M10	25	125	30	39	2814K21	1.58
M10	50	125	30	64	2814K22	2.04
M10	80	125	30	94	2814K23	2.77

Vibration-Damping Leveling Mounts with Threaded Stud

Use these mounts to minimize vibration and noise to prolong machine life and protect floors. Their cushion grips the floor for stability and is resistant to oil and grease. Mounts are zinc-plated steel for corrosion resistance. Cushion is black rubber with a temperature range of -40° to 200° F, except 6167K14 and K17 have a maximum temperature of 150° F.

Thread Size	Thread Lg.	Cap. per Mount, lbs.	Deflect. @ Cap.	Base Dia.	O'all Ht.		
1/4"-20	1 5/16"	75	0.04"	1 1/2"	2 1/16"	6167K15	$14.04
1/4"-20	1 5/16"	150	0.04"	1 1/2"	2 1/16"	6167K16	15.80
3/8"-16	1 5/8"	75	0.04"	2 1/8"	2 9/16"	6167K17	13.24
3/8"-16	1 5/8"	150	0.04"	2 1/8"	2 9/16"	6167K18	14.71
3/8"-16	1 5/8"	300	0.04"	2 1/8"	2 9/16"	6167K19	16.55
1/2"-13	1 11/16"	75	0.04"	2 1/8"	2 11/16"	6167K14	13.96
1/2"-13	1 11/16"	150	0.04"	2 1/8"	2 11/16"	6167K11	13.96
1/2"-13	1 11/16"	300	0.04"	2 1/8"	2 11/16"	6167K12	17.56
1/2"-13	1 11/16"	450	0.06"	2 1/8"	2 7/8"	6167K13	19.75

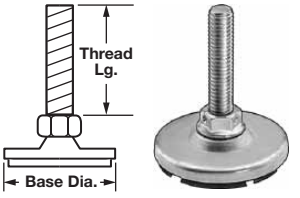

Extreme-Force Vibration-Damping Leveling Mounts

Higher deflection ratings translate to greater vibration and shock isolation than our other vibration-damping leveling mounts. These mounts have a black rubber base that grips the floor for stability and is resistant to oil and grease. Temperature range is -20° to 180° F.

Mounts **with threaded stud** include a locknut and a flange nut for height adjustment. Stud is zinc-plated steel.

Mounts **with threaded hole** have a steel insert and can be used with your own threaded stud or bolt.

Thread Size	Cap. per Mount, lbs.	Deflect. @ Cap.	Base Dia.	With Threaded Stud: Thread Lg.	With Threaded Stud: O'all Ht.			With Threaded Hole: Thread Dp.	With Threaded Hole: O'all Ht.		
3/8"-16	35	0.25"	2 3/16"	2 1/2"	3 5/16"	60855K72	$6.08	1/2"	1 3/16"	60855K71	$3.23
3/8"-16	65	0.25"	2 3/16"	2 1/2"	3 5/16"	60855K74	6.08	1/2"	1 3/16"	60855K73	3.23
3/8"-16	130	0.25"	2 3/16"	2 1/2"	3 5/16"	60855K76	6.08	1/2"	1 3/16"	60855K75	3.23
1/2"-13	40	0.20"	2 3/16"	2 1/2"	3 5/16"	60855K51	7.65	1/2"	1 3/16"	60855K31	4.12
1/2"-13	80	0.20"	2 3/16"	2 1/2"	3 5/16"	60855K52	7.65	1/2"	1 3/16"	60855K32	4.12
1/2"-13	180	0.20"	2 3/16"	2 1/2"	3 5/16"	60855K53	7.65	1/2"	1 3/16"	60855K33	4.12
1/2"-13	300	0.20"	2 3/16"	2 1/2"	3 5/16"	60855K54	7.65	1/2"	1 3/16"	60855K34	4.12
1/2"-13	600	0.20"	2 3/16"	2 1/2"	3 5/16"	60855K55	7.65	1/2"	1 3/16"	60855K35	4.12

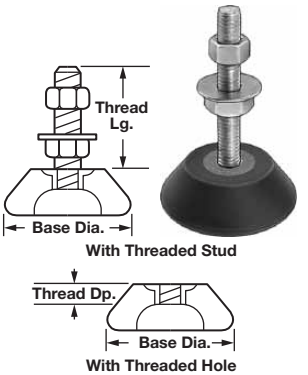

Quick-Install Vibration-Damping Leveling Mounts with Threaded Stud

A two-piece design simplifies installation and requires less clearance than one-piece mounts. Use these mounts to minimize vibration and noise to prolong machine life and protect floors. Their cushion grips the floor for stability and is resistant to oil and grease. Cushion is black rubber and has a temperature range of -20° to 180° F. Base is steel; stud is zinc-plated steel.

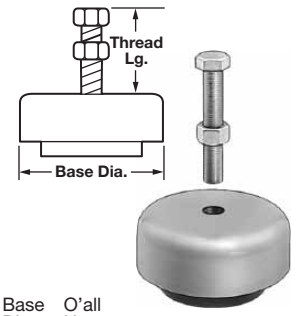

Thread Size	Thread Lg.	Cap. per Mount, lbs.	Deflect. @ Cap.	Base Dia.	O'all Ht.		
1/4"-28	1 3/4"	100	0.05"	2"	2 3/4"	60915K72	$40.62
3/8"-24	3"	300	0.06"	3 1/8"	4 1/2"	60915K73	40.62
1/2"-13	5"	1,000	0.13"	4 3/4"	6 1/2"	60915K74	39.20
3/4"-10	5"	4,200	0.19"	6 5/16"	6 5/8"	60915K75	65.43
3/4"-10	5"	10,000	0.18"	7 1/4"	6 5/8"	60915K83	106.14
1"-14	8"	13,000	0.12"	9"	10 1/4"	60915K77	152.03

Low-Clearance Swivel Leveling Mounts with Threaded Stud

At less than 2" tall, it's easy to position these compact mounts when clearance is limited. Mounts are made entirely of 304 stainless steel and resist corrosion from water and most chemicals. The base nut swivels 5° to compensate for uneven surfaces.

Mounts with a **cushion** are non-skid for an extra measure of stability. Cushion has a temperature range of 0° to 180° F.

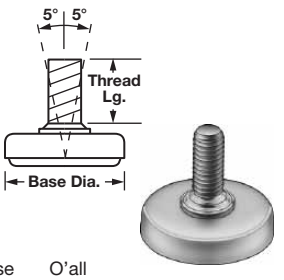

Thread Size	Thread Lg.	Cap. per Mount, lbs.	Base Dia.	O'all Ht.		
With Black Rubber Cushion						
3/8"-16	13/16"	85	1 1/4"	1 7/16"	83685T11	$9.17
3/8"-16	13/16"	175	1 9/16"	1 7/16"	83685T12	10.42
3/8"-16	13/16"	220	2"	1 1/2"	83685T13	13.06
Without Cushion						
3/8"-16	13/16"	440	1 1/4"	1 7/16"	83685T15	9.39
3/8"-16	13/16"	700	1 9/16"	1 7/16"	83685T16	11.20
3/8"-16	13/16"	790	2"	1 1/2"	83685T17	14.40

Swivel Leveling Mounts with Threaded Stud

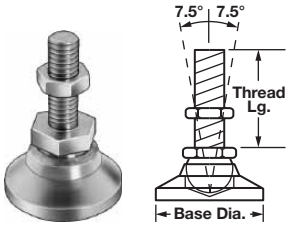

Mounts have a ball-and-socket design that swivels 7.5° to compensate for uneven floors. Mounts include a removable zinc-plated steel locknut.

Mounts with a **cushion** are nonskid for an extra measure of stability. Cushion is black rubber and has a temperature range of -20° to 170° F.

Nickel-Plated Steel—Provides some corrosion resistance. Stud is nickel-plated steel.

Zinc-Plated Steel—Offers more corrosion resistance than nickel. Stud is zinc-plated steel.

Black-Oxide Steel—Use where appearance is a concern. Stud is zinc-plated steel.

Plastic—An economical choice for applications is corrosive environments that don't require high load capacities. Base is white and nonmarring; stud is zinc-plated steel. Temperature range is -20° to 170° F.

Inch

Thread Size	Thread Lg.	Base Dia.	O'all Ht.	Cap. per Mount, lbs.	Nickel-Plated Steel		Zinc-Plated Steel		Black-Oxide Steel		Cap. per Mount, lbs.	Plastic	
10-32	1″	3/4″	1 1/2″	700	6111K39	$4.76	6111K74	$4.78	6111K214	$6.32	150	6111K71	$4.40
10-32	2″	3/4″	2 1/2″	700	6111K45	5.00	6111K12	5.10	6111K215	6.65	150	6111K408	4.66
1/4″-20	1 1/4″	1″	1 15/16″	1,000	6111K46	5.16	6111K75	5.28	6111K216	6.95	200	6111K72	5.04
1/4″-20	2 1/2″	1″	3 3/16″	1,000	6111K47	5.33	6111K23	5.51	6111K217	7.09	200	6111K411	5.20
1/4″-28	1 1/4″	1″	1 15/16″	775	6111K151	5.30	6111K165	5.35	6111K218	7.51	200	6111K412	5.25
5/16″-18	2″	1 1/4″	2 7/8″	2,500	6111K48	5.79	6111K24	5.82	6111K219	7.74	250	6111K414	5.76
5/16″-18	4″	1 1/4″	4 7/8″	2,500	6111K49	5.94	6111K31	6.05	6111K222	7.96	250	6111K417	5.82
3/8″-16	2″	1 1/4″	2 7/8″	3,750	6111K51	6.08	6111K21	6.31	6111K223	8.09	300	6111K41	5.94
3/8″-16	4″	1 1/4″	4 7/8″	3,750	6111K52	6.80	6111K32	7.26	6111K224	9.90	300	6111K422	6.77
3/8″-24	2″	1 1/4″	2 7/8″	3,300	6111K152	8.11	6111K166	8.45	6111K225	11.48	250	6111K421	7.17
1/2″-13	2″	1 7/8″	3 1/8″	5,000	6111K55	9.62	6111K22	9.77	6111K226	12.72	700	6111K42	8.68
1/2″-13	4″	1 7/8″	5 1/8″	5,000	6111K56	10.39	6111K33	10.75	6111K227	14.17	700	6111K423	10.05
1/2″-13	6″	1 7/8″	7 1/8″	5,000	6111K311	10.71	6111K317	11.06	6111K314	23.51	700	6111K324	10.93
1/2″-20	2″	1 7/8″	3 1/8″	4,000	6111K153	11.28	6111K167	11.74	6111K228	15.91	625	6111K424	11.08
5/8″-11	2″	2 1/2″	3 1/4″	6,000	6111K57	13.09	6111K13	15.60	6111K229	17.29	1,200	6111K43	12.83
5/8″-11	4″	2 1/2″	5 1/4″	6,000	6111K58	15.47	6111K34	17.18	6111K231	20.20	1,200	6111K426	14.50
5/8″-11	6″	2 1/2″	7 1/4″	6,000	6111K312	17.82	6111K318	18.05	6111K315	39.71	1,200	6111K325	15.69
5/8″-18	2″	2 1/2″	3 1/4″	5,000	6111K154	16.63	6111K168	17.81	6111K232	23.06	1,100	6111K427	16.03
3/4″-10	2″	3″	3 1/2″	7,400	6111K59	21.77	6111K14	22.24	6111K233	25.38	1,800	6111K44	19.08
3/4″-10	4″	3″	5 1/2″	7,400	6111K63	23.15	6111K35	24.30	6111K234	28.02	1,800	6111K429	21.29
3/4″-10	6″	3″	7 1/2″	7,400	6111K313	24.98	6111K319	25.36	6111K316	47.43	1,800	6111K326	20.97
3/4″-16	2″	3″	3 1/2″	6,200	6111K155	22.16	6111K169	23.24	6111K235	30.86	1,650	6111K431	21.80
7/8″-9	4″	4″	5 7/8″	15,000	6111K158	36.22	6111K174	36.57	6111K242	54.09	1,700	6111K437	34.29
7/8″-14	4″	4″	5 7/8″	13,500	6111K159	37.22	6111K175	38.15	6111K243	55.84	1,950	6111K438	35.56
1″-8	3 1/2″	4″	5 3/8″	20,000	6111K64	27.81	6111K11	28.30	6111K236	34.06	2,400	6111K37	26.13
1″-8	6″	4″	7 7/8″	20,000	6111K65	33.80	6111K36	34.25	6111K238	44.22	2,400	6111K432	32.48
1″-8	8″	4″	9 7/8″	20,000	6111K66	36.26	6111K38	37.09	6111K239	48.83	2,400	6111K435	34.06
1″-12	3 1/2″	4″	5 3/8″	18,000	6111K157	38.83	6111K173	39.54	6111K241	51.61	2,250	6111K436	33.10
1 1/4″-7	4″	6″	6 3/4″	43,000	6111K161	74.38	6111K176	81.23	6111K244	104.53	3,600	6111K439	79.80
1 1/4″-7	6″	6″	8 3/4″	43,000	6111K162	81.80	6111K177	92.44	6111K245	114.66	3,600	6111K441	82.39

Inch with Rubber Cushion

Thread Size	Thread Lg.	Base Dia.	O'all Ht.	Cap. per Mount, lbs.	Nickel-Plated Steel		Zinc-Plated Steel		Black-Oxide Steel		Cap. per Mount, lbs.	Plastic	
10-32	1″	3/4″	1 5/8″	525	6111K121	$5.57	6111K81	$5.62	6111K511	$6.11	150	6111K442	$5.40
10-32	2″	3/4″	2 5/8″	525	6111K146	5.65	6111K172	5.73	6111K512	7.13	150	6111K445	5.52
1/4″-20	1 1/4″	1″	2 1/16″	750	6111K147	5.78	6111K82	5.95	6111K513	8.08	200	6111K448	5.79
1/4″-20	2 1/2″	1″	3 5/16″	750	6111K148	5.92	6111K273	6.23	6111K514	8.26	200	6111K451	6.13
5/16″-18	2″	1 1/4″	3″	1,875	6111K163	6.28	6111K274	6.70	6111K515	9.42	250	6111K454	6.41
5/16″-18	4″	1 1/4″	5″	1,875	6111K164	7.05	6111K371	7.20	6111K516	10.07	250	6111K457	6.89
3/8″-16	2″	1 1/4″	3″	2,800	6111K178	7.16	6111K83	7.56	6111K517	10.13	300	6111K462	7.21
3/8″-16	4″	1 1/4″	5″	2,800	6111K179	8.53	6111K372	8.95	6111K518	11.33	300	6111K463	7.72
3/8″-24	2″	1 1/4″	3″	2,475	6111K181	8.81	6111K202	9.03	6111K519	10.13	250	6111K464	8.24
1/2″-13	2″	1 7/8″	3 1/4″	3,750	6111K182	10.32	6111K84	11.10	6111K521	14.13	700	6111K466	9.69
1/2″-13	4″	1 7/8″	5 1/4″	3,750	6111K183	11.14	6111K373	12.97	6111K522	16.79	700	6111K469	12.08
1/2″-13	6″	1 7/8″	7 1/4″	3,750	6111K255	12.89	6111K321	14.74	6111K523	19.36	700	6111K327	13.54
1/2″-20	2″	1 7/8″	3 1/4″	3,000	6111K184	12.25	6111K203	13.56	6111K524	14.13	625	6111K471	13.05
5/8″-11	2″	2 1/2″	3 3/8″	4,500	6111K185	14.91	6111K85	16.15	6111K525	20.11	1,200	6111K472	15.32
5/8″-11	4″	2 1/2″	5 3/8″	4,500	6111K191	17.73	6111K374	18.80	6111K526	26.36	1,200	6111K475	17.89
5/8″-11	6″	2 1/2″	7 3/8″	4,500	6111K256	22.39	6111K322	25.60	6111K527	29.30	1,200	6111K328	18.09
5/8″-18	2″	2 1/2″	3 3/8″	3,750	6111K199	17.75	6111K204	19.25	6111K528	23.82	1,100	6111K476	18.38
3/4″-10	2″	3″	3 5/8″	5,550	6111K246	20.34	6111K86	23.29	6111K529	27.58	1,800	6111K478	21.67
3/4″-10	4″	3″	5 5/8″	5,550	6111K247	24.35	6111K375	25.23	6111K531	31.25	1,800	6111K481	23.27
3/4″-10	6″	3″	7 5/8″	5,550	6111K257	33.36	6111K323	38.14	6111K532	40.84	1,800	6111K329	22.69
7/8″-9	4″	4″	6″	11,250	6111K249	36.14	6111K208	38.54	6111K533	42.20	1,700	6111K494	37.72
1″-8	3 1/2″	4″	5 1/2″	15,000	6111K252	26.12	6111K88	27.87	6111K534	42.52	2,400	6111K484	25.97
1″-8	6″	4″	8″	15,000	6111K253	30.98	6111K376	31.23	6111K535	45.02	2,400	6111K487	29.65
1″-8	8″	4″	10″	15,000	6111K254	35.69	6111K378	37.43	6111K536	49.31	2,400	6111K492	36.67
1 1/4″-7	4″	6″	6 7/8″	32,250	6111K258	83.83	6111K212	89.15	6111K537	112.87	3,600	6111K496	81.14

Metric

Thread Size	Thread Lg.	Base Dia.	O'all Ht.	Cap. per Mount, lbs.	Zinc-Plated Steel	
M6	25 mm	19 mm	38 mm	695	6301K71	$4.66
M8	32 mm	25 mm	49 mm	990	6301K72	5.42
M10	51 mm	32 mm	73 mm	3,740	6301K73	6.51
M12	51 mm	48 mm	79 mm	4,950	6301K74	9.97
M16	51 mm	64 mm	83 mm	5,940	6301K75	$16.03
M20	51 mm	76 mm	89 mm	7,370	6301K76	22.65
M24	89 mm	102 mm	137 mm	19,800	6301K77	26.63

(Continued on following page)

Swivel Leveling Mounts with Threaded Stud *(Continued from previous page)*

Metric with Rubber Cushion

Thread Size	Thread Lg.	Base Dia.	O'all Ht.	Cap. per Mount, lbs.	Zinc-Plated Steel	
M6	25 mm	19 mm	41 mm	515	6301K78	$5.36
M8	32 mm	25 mm	52 mm	750	6301K79	5.95
M10	51 mm	32 mm	76 mm	2,795	6301K81	7.20
M12	51 mm	48 mm	83 mm	3,740	6301K82	11.10
M16	51 mm	64 mm	86 mm	4,500	6301K83	$17.94
M20	51 mm	76 mm	92 mm	5,545	6301K84	24.58
M24	89 mm	102 mm	140 mm	14,960	6301K85	30.24

Swivel Leveling Mounts with Threaded Hole

Add your own threaded stud or bolt to build a mount that fits your needs. Mounts have a ball-and-socket design that swivels 7.5° to compensate for uneven floors.

Mounts with a **cushion** are nonskid for an extra measure of stability. Cushion is black rubber and has a temperature range of -20° to 170°F.

Nickel-Plated Steel—Provides some corrosion resistance.

Zinc-Plated Steel—Offers more corrosion resistance than nickel.

Black-Oxide Steel—Use where appearance is a concern.

Plastic—Base is white and nonmarring. Temperature range is -20° to 170°F.

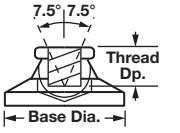



Inch

Thread Size	Thread Dp.	Base Dia.	O'all Ht.	Cap. per Mount, lbs.	Nickel-Plated Steel		Zinc-Plated Steel		Black-Oxide Steel		Cap. per Mount, lbs.	Plastic	
10-32	3/16"	3/4"	1/2"	700	6103K64	$3.45	6103K74	$3.62	6103K124	$4.80	150	6103K71	$3.15
1/4"-20	5/16"	1"	11/16"	1,000	6103K65	3.30	6103K75	3.84	6103K125	4.95	200	6103K72	3.38
5/16"-18	3/8"	1 1/4"	7/8"	2,500	6103K66	4.73	6103K63	4.92	6103K127	6.67	250	6103K96	4.54
3/8"-16	3/8"	1 1/4"	7/8"	3,750	6103K67	5.88	6103K21	5.87	6103K129	8.23	300	6103K41	5.67
1/2"-13	7/16"	1 7/8"	1 1/8"	5,000	6103K68	7.17	6103K22	7.22	6103K133	9.80	700	6103K42	6.97
1/2"-20	7/16"	1 7/8"	1 1/8"	4,000	6103K202	8.37	6103K203	8.60	6103K134	12.25	625	6103K116	9.25
5/8"-11	7/16"	2 1/2"	1 1/4"	6,000	6103K69	11.24	6103K13	11.41	6103K135	16.49	1,200	6103K43	11.06
5/8"-18	7/16"	2 1/2"	1 1/4"	5,000	6103K204	13.14	6103K205	13.59	6103K136	19.16	1,100	6103K117	12.59
3/4"-10	11/16"	3"	1 1/2"	7,400	6103K92	15.39	6103K14	17.06	6103K137	22.90	1,800	6103K44	14.91
3/4"-16	11/16"	3"	1 1/2"	6,200	6103K206	16.19	6103K207	17.03	6103K138	23.48	1,650	6103K118	15.49
1"-8	13/16"	4"	1 7/8"	20,000	6103K93	20.05	6103K12	20.49	6103K139	25.69	2,400	6103K73	19.42
1"-12	13/16"	4"	1 7/8"	18,000	6103K213	20.34	6103K214	20.94	6103K144	29.04	2,250	6103K122	19.83
1 1/4"-7	1 1/8"	6"	2 3/4"	43,000	6103K215	42.00	6103K216	48.80	6103K145	64.75	3,600	6103K123	43.17

Inch with Rubber Cushion

Thread Size	Thread Dp.	Base Dia.	O'all Ht.	Cap. per Mount, lbs.	Nickel-Plated Steel		Zinc-Plated Steel		Black-Oxide Steel		Cap. per Mount, lbs.	Plastic	
10-32	3/16"	3/4"	5/8"	525	6103K166	$4.01	6103K81	$4.12	6103K331	$5.05	150	6103K23	$3.78
1/4"-20	5/16"	1"	13/16"	750	6103K167	4.19	6103K82	4.58	6103K332	5.82	200	6103K24	3.86
5/16"-18	3/8"	1 1/4"	1"	1,875	6103K169	5.62	6103K95	5.77	6103K333	7.89	250	6103K45	5.48
5/16"-24	3/8"	1 1/4"	1"	1,600	6103K171	6.67							
3/8"-16	3/8"	1 1/4"	1"	2,800	6103K172	6.24	6103K83	7.13	6103K334	7.89	300	6103K46	5.52
3/8"-24	3/8"	1 1/4"	1"	2,475	6103K173	6.67							
1/2"-13	7/16"	1 7/8"	1 1/4"	3,750	6103K174	7.04	6103K84	8.00	6103K335	11.47	700	6103K47	6.50
1/2"-20	7/16"	1 7/8"	1 1/4"	3,000	6103K175	9.09	6103K181	10.26	6103K336	12.90	625	6103K104	8.44
5/8"-11	7/16"	2 1/2"	1 3/8"	4,500	6103K176	12.15	6103K85	14.12	6103K337	18.23	1,200	6103K48	11.82
5/8"-18	7/16"	2 1/2"	1 3/8"	3,750	6103K188	15.00	6103K182	16.34	6103K338	21.19	1,100	6103K105	14.73
3/4"-10	11/16"	3"	1 5/8"	5,550	6103K189	18.10	6103K86	20.49	6103K339	25.39	1,800	6103K49	16.39
3/4"-16	11/16"	3"	1 5/8"	4,650	6103K231	19.86	6103K183	20.34	6103K341	26.03	1,650	6103K106	19.54
1"-8	13/16"	4"	2"	15,000	6103K234	22.45	6103K88	23.42	6103K342	29.52	2,400	6103K51	21.91
1"-12	13/16"	4"	2"	13,500	6103K235	23.79	6103K186	24.49	6103K343	32.80	2,250	6103K109	23.35
1 1/4"-7	1 1/8"	6"	2 7/8"	32,250	6103K236	66.84	6103K187	67.02	6103K344	71.63	3,600	6103K112	61.84

Metric

Thread Size	Thread Dp.	Base Dia.	O'all Ht.	Cap. per Mount, lbs.	Zinc-Plated Steel	
M6	4 mm	19 mm	13 mm	690	6120K31	$3.72
M8	7.7 mm	25 mm	17 mm	990	6120K32	4.41
M10	9.4 mm	32 mm	22 mm	3,740	6120K33	5.50
M12	11 mm	48 mm	29 mm	4,950	6120K34	8.33
M16	11 mm	64 mm	32 mm	5,940	6120K35	$13.24
M20	13.7 mm	76 mm	38 mm	7,370	6120K36	17.06
M24	17.5 mm	102 mm	48 mm	19,800	6120K37	22.83

Metric with Rubber Cushion

Thread Size	Thread Dp.	Base Dia.	O'all Ht.	Cap. per Mount, lbs.	Zinc-Plated Steel	
M6	4 mm	19 mm	16 mm	515	6120K38	$4.12
M8	7.7 mm	25 mm	20 mm	750	6120K39	4.90
M10	9.4 mm	32 mm	25 mm	2,795	6120K41	6.02
M12	11 mm	48 mm	32 mm	3,740	6120K42	8.86
M16	11 mm	64 mm	35 mm	4,500	6120K43	$14.44
M20	13.7 mm	76 mm	41 mm	5,545	6120K44	18.38
M24	17.5 mm	102 mm	51 mm	14,960	6120K45	24.80

High-Capacity Swivel Leveling Mounts with Acme Threaded Stud

Broader, stronger threads enable faster adjustments and higher load capacities than standard V-shaped threads. Mounts have a ball-and-socket design that swivels 7.5° to compensate for uneven floors. They're made of zinc-plated steel for corrosion resistance.

Studs include a removable lock-nut.

Thread Size	Thread Lg.	Cap. per Mount, lbs.	Base Dia.	O'all Ht.		
1/4"-16	1 1/4"	1,500	1"	1 15/16"	6858K11	$9.09
5/16"-14	2"	3,750	1 1/4"	2 7/8"	6858K13	10.87
3/8"-12	2"	5,625	1 1/4"	2 7/8"	6858K15	11.48
1/2"-10	2"	7,500	1 7/8"	3 1/8"	6858K17	15.40
1/2"-10	4"	7,500	1 7/8"	5 1/8"	6858K18	20.52
5/8"-8	2"	9,000	2 1/2"	3 1/4"	6858K19	24.72
3/4"-6	2"	11,100	3"	3 1/2"	6858K22	31.26
1"-5	3 1/2"	30,000	4"	5 3/8"	6858K24	47.68
1"-5	6"	30,000	4"	7 7/8"	6858K26	55.74
1 1/4"-5	4"	60,000	6"	6 3/4"	6858K28	132.05

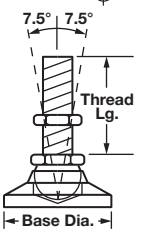



Corrosion-Resistant Swivel Leveling Mounts



With Threaded Stud



With Threaded Hole

Made entirely of stainless steel, these mounts hold up in harsh environments. Their ball-and-socket design swivels 7.5° to compensate for uneven floors.

Mounts **with threaded stud** include a removable locknut.

Mounts **with threaded hole** allow you to add your own threaded stud or bolt to build a mount that fits your needs.

303 Stainless Steel—Resists corrosion from water and most chemicals.

316 Stainless Steel—Provides superior corrosion resistance from chemicals, solvents, and water.

Size	Thread Lg.	Thread Dp.	Cap. per Mount, lbs.	Base Dia.	O'all Ht.	303 Stainless Steel		316 Stainless Steel	
With Threaded Stud									
Inch									
10-32	1″	—	700	3/4″	1 1/2″	6111K27	$9.52	6111K112	$19.60
10-32	2″	—	700	3/4″	2 1/2″	6111K67	10.60	6111K113	20.97
1/4″-20	1 1/4″	—	1,000	1″	1 15/16″	6111K28	12.56	6111K114	22.50
1/4″-20	2 1/2″	—	1,000	1″	3 3/16″	6111K68	13.84	6111K115	23.07
5/16″-18	2″	—	2,500	1 1/4″	2 7/8″	6111K69	14.72	6111K117	25.20
5/16″-18	4″	—	2,500	1 1/4″	4 7/8″	6111K97	15.46	6111K118	27.05
3/8″-16	2″	—	3,750	1 1/4″	2 7/8″	6111K61	14.72	6111K119	28.00
3/8″-16	4″	—	3,750	1 1/4″	4 7/8″	6111K89	18.16	6111K122	31.69
1/2″-13	2″	—	5,000	1 7/8″	3 1/8″	6111K62	19.68	6111K124	39.37
1/2″-13	4″	—	5,000	1 7/8″	5 1/8″	6111K92	24.00	6111K125	47.46
1/2″-13	6″	—	5,000	1 7/8″	7 1/8″	6111K331	28.32	6111K334	52.17
1/2″-20	2″	—	4,000	1 7/8″	3 1/8″	6111K188	30.28	6111K126	55.04
5/8″-11	2″	—	6,000	2 1/2″	3 1/4″	6111K53	38.92	6111K127	64.74
5/8″-11	4″	—	6,000	2 1/2″	5 1/4″	6111K93	42.80	6111K128	73.18
5/8″-11	6″	—	6,000	2 1/2″	7 1/4″	6111K332	46.03	6111K335	73.26
3/4″-10	2″	—	7,400	3″	3 1/2″	6111K54	51.92	6111K132	87.15
3/4″-10	4″	—	7,400	3″	5 1/2″	6111K94	57.05	6111K133	93.78
3/4″-10	6″	—	7,400	3″	7 1/2″	6111K333	61.33	6111K336	117.23
1″-8	3 1/2″	—	20,000	4″	5 3/8″	6111K29	63.64	6111K135	103.08
1″-8	6″	—	20,000	4″	7 7/8″	6111K95	71.87	6111K137	117.62
1″-8	8″	—	20,000	4″	9 7/8″	6111K96	77.40	6111K138	125.55
Metric									
M6	25 mm	—	690	19 mm	38 mm	6301K86	11.33	6301K31	22.87
M8	32 mm	—	990	25 mm	49 mm	6301K87	12.60	6301K32	25.91
M10	51 mm	—	3,740	32 mm	73 mm	6301K88	15.33	6301K33	31.50
M12	51 mm	—	4,950	48 mm	79 mm	6301K89	23.43	6301K34	48.26
M16	51 mm	—	5,940	64 mm	83 mm	6301K91	38.92	6301K35	75.53
M20	51 mm	—	7,370	76 mm	89 mm	6301K92	52.96	6301K36	106.22
M24	89 mm	—	19,800	102 mm	137 mm	6301K93	63.64	6301K37	126.35
With Threaded Hole									
Inch									
10-32	—	3/16″	700	3/4″	1/2″	6103K27	8.31	6103K146	13.50
1/4″-20	—	5/16″	1,000	1″	11/16″	6103K28	10.00	6103K147	16.50
5/16″-18	—	3/8″	2,500	1 1/4″	7/8″	6103K94	12.46	6103K149	20.94
3/8″-16	—	3/8″	3,750	1 1/4″	7/8″	6103K61	14.09	6103K152	23.10
1/2″-13	—	7/16″	5,000	1 7/8″	1 1/8″	6103K62	17.27	6103K154	31.53
1/2″-20	—	7/16″	4,000	1 7/8″	1 1/8″	6103K222	23.21	6103K155	39.42
5/8″-11	—	7/16″	6,000	2 1/2″	1 1/4″	6103K53	32.45	6103K156	53.28
3/4″-10	—	11/16″	7,400	3″	1 1/2″	6103K54	47.46	6103K158	74.83
1″-8	—	13/16″	20,000	4″	1 7/8″	6103K29	55.71	6103K163	90.85
Metric									
M6	—	4 mm	690	19 mm	13 mm	6120K46	7.71	_____	_____
M8	—	7.7 mm	990	25 mm	17 mm	6120K47	9.63	_____	_____
M10	—	9.4 mm	3,740	32 mm	22 mm	6120K48	12.00	_____	_____
M12	—	11 mm	4,950	48 mm	29 mm	6120K49	17.27	_____	_____
M16	—	11 mm	5,940	64 mm	32 mm	6120K51	28.22	_____	_____
M20	—	13.7 mm	7,370	76 mm	38 mm	6120K52	38.92	_____	_____
M24	—	17.5 mm	19,800	102 mm	48 mm	6120K53	53.48	_____	_____

Bolt-Down Swivel Leveling Mounts with Threaded Hole



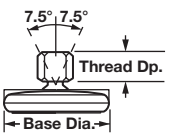

Punch-out holes in the base let you bolt down these mounts to keep your equipment stationary. Their ball-and-socket design swivels 7.5° to compensate for uneven floors. Add your own threaded stud or bolt to build a mount that fits your needs. Base is black plastic. Temperature range is -20° to 170°F.

Mounts with a **cushion** are nonskid for an extra measure of stability.

Zinc-Plated Steel Nut—Offers some corrosion resistance.

303 Stainless Steel Nut—Provides superior corrosion resistance.

Thread Size	Thread Dp.	Cap. per Mount, lbs.	Base Dia.	O'all Ht.■	Mount. Holes Dia.	Mount. Holes Ctr.-to-Ctr.	Zinc-Plated Steel Nut Without Cushion		Zinc-Plated Steel Nut With Cushion		303 Stainless Steel Nut Without Cushion		303 Stainless Steel Nut With Cushion	
3/8″-16	3/8″	3,500	4″	1 5/8″	7/16″	2 11/16″	60985K34	$6.06	60985K35	$7.38	60985K36	$12.32	60985K37	$15.40
1/2″-13	7/16″	4,000	2″	1 5/8″	1/4″	1 5/16″	60985K62	5.71	60985K73	6.83	60985K67	11.12	60985K78	12.55
1/2″-13	7/16″	5,000	4″	1 13/16″	7/16″	2 11/16″	60985K38	6.51	60985K39	7.76	60985K49	12.82	60985K59	15.66
5/8″-11	7/16″	5,000	3″	1 11/16″	5/16″	2 3/16″	60985K13	6.28	60985K23	7.73	60985K43	15.36	60985K53	17.22
5/8″-11	7/16″	6,000	4″	1 7/8″	7/16″	2 11/16″	60985K87	9.29	60985K88	11.88	60985K89	16.88	60985K91	19.85
3/4″-10	11/16″	7,500	4″	2″	7/16″	2 11/16″	60985K63	13.51	60985K74	19.08	60985K68	22.39	60985K79	26.09
1″-8	13/16″	7,500	4″	2 3/8″	7/16″	2 11/16″	60985K101	16.32	60985K102	20.56	60985K103	33.88	60985K104	39.94
1″-8	13/16″	10,000	5″	3″	1/2″	3 7/8″	60985K64	27.70	60985K75	31.38	60985K69	39.51	60985K81	45.88

■ Mounts with cushion: Add 1/16″ to overall height for 3,500- to 7,500-lb. mounts; add 5/16″ to 10,000-lb. mounts.

Bolt-Down Swivel Leveling Mounts with Threaded Stud

Punch-out holes in the base let you bolt down these mounts to keep your equipment stationary (fasteners not included). Their ball-and-socket design swivels 7.5° to compensate for uneven floors. Mounts also include a removable locknut. Base is black plastic. Temperature range is -20° to 170°F.

Mounts **with offset mounting hole** have an oval shape that allows you to secure these mounts without moving your machine.

Mounts **with cushion** are nonskid for an extra measure of stability. Cushion is black rubber.

Zinc-Plated Steel Stud—Offers some corrosion resistance.

303 Stainless Steel Stud—Provides superior corrosion resistance.

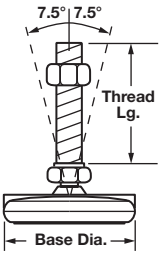





Two Mounting Holes—Inch

Thread Size	Thread Lg.	Cap. per Mount, lbs.	Base Dia.	O'all Ht.■	Mount. Holes Dia.	Mount. Holes Ctr.-to-Ctr.	Zinc-Plated Steel Stud Without Cushion		Zinc-Plated Steel Stud With Cushion		303 Stainless Steel Stud Without Cushion		303 Stainless Steel Stud With Cushion	
3/8"-16	3"	5,000	3"	4 1/8"	5/16"	2 3/16"	2531K59	$6.00	2531K61	$7.51	2531K84	$8.98	2531K89	$13.20
3/8"-16	4"	4,000	2"	5 1/8"	1/4"	1 5/16"	2531K31	6.29	2531K32	7.54	2531K33	9.56	2531K34	11.95
3/8"-16	4"	5,000	3"	5 1/8"	5/16"	2 3/16"	2531K91	6.39	2531K92	8.19	2531K93	11.55	2531K94	13.62
3/8"-16	6"	4,000	2"	7 1/8"	1/4"	1 5/16"	2531K24	7.18	2531K25	8.76	2531K44	14.81	2531K45	16.03
3/8"-16	6"	5,000	3"	7 1/8"	5/16"	2 3/16"	2531K95	7.40	2531K96	8.93	2531K97	16.03	2531K98	16.77
3/8"-16	8"	5,000	3"	9 1/8"	5/16"	2 3/16"	2531K101	8.19	2531K102	9.55	2531K103	17.87	2531K104	20.90
1/2"-13	3"	5,000	4"	4 5/16"	7/16"	2 11/16"	2531K123	7.52	2531K124	10.66	2531K125	14.07	2531K126	17.19
1/2"-13	4"	4,000	2"	5 1/8"	1/4"	1 5/16"	2531K35	6.43	2531K36	8.41	2531K37	12.69	2531K38	14.37
1/2"-13	4"	5,000	3"	5 1/8"	5/16"	2 3/16"	2531K39	6.55	2531K41	8.89	2531K42	13.19	2531K43	15.63
1/2"-13	4"	5,000	4"	5 5/16"	7/16"	2 11/16"	2531K127	7.92	2531K128	11.06	2531K129	14.68	2531K131	17.60
1/2"-13	6"	4,000	2"	7 1/8"	1/4"	1 5/16"	2531K105	7.26	2531K106	9.53	2531K107	13.34	2531K108	17.29
1/2"-13	6"	5,000	3"	7 1/8"	5/16"	2 3/16"	2531K114	7.27	2531K115	10.05	2531K116	14.86	2531K117	18.85
1/2"-13	6"	5,000	4"	7 5/16"	7/16"	2 11/16"	2531K132	9.66	2531K133	11.96	2531K134	15.90	2531K135	20.17
1/2"-13	8"	4,000	2"	9 1/8"	1/4"	1 5/16"	2531K109	8.80	2531K111	11.11	2531K112	14.60	2531K113	18.11
1/2"-13	8"	5,000	3"	9 1/8"	5/16"	2 3/16"	2531K118	8.00	2531K119	10.90	2531K121	16.14	2531K122	19.91
1/2"-13	8"	5,000	4"	9 5/16"	7/16"	2 11/16"	2531K136	10.27	2531K137	12.42	2531K138	16.98	2531K139	20.85
5/8"-11	3"	4,000	2"	4 1/8"	1/4"	1 5/16"	2531K141	6.57	2531K142	7.93	2531K143	15.45	2531K144	17.21
5/8"-11	3"	5,000	3"	4 1/8"	5/16"	2 3/16"	2531K158	7.04	2531K159	8.36	2531K161	16.07	2531K162	18.18
5/8"-11	3"	6,000	4"	4 5/16"	7/16"	2 11/16"	2531K172	10.32	2531K173	14.25	2531K174	18.21	2531K175	20.65
5/8"-11	4"	5,000	3"	5 1/8"	5/16"	2 3/16"	2531K48	7.11	2531K49	9.67	2531K51	17.41	2531K52	19.87
5/8"-11	4"	6,000	4"	5 5/16"	7/16"	2 11/16"	2531K176	10.91	2531K177	14.67	2531K178	19.16	2531K179	22.67
5/8"-11	6"	4,000	2"	7 1/8"	1/4"	1 5/16"	2531K149	7.79	2531K151	9.63	2531K152	18.05	2531K153	22.74
5/8"-11	6"	5,000	3"	7 1/8"	5/16"	2 3/16"	2531K163	8.05	2531K164	10.72	2531K165	22.31	2531K166	24.82
5/8"-11	6"	6,000	4"	7 5/16"	7/16"	2 11/16"	2531K66	13.67	2531K67	16.72	2531K68	24.00	2531K69	28.06
5/8"-11	8"	5,000	3"	9 1/8"	5/16"	2 3/16"	2531K167	8.65	2531K168	11.25	2531K169	22.66	2531K171	27.24
5/8"-11	8"	6,000	4"	9 5/16"	7/16"	2 11/16"	2531K181	13.53	2531K182	16.81	2531K183	22.78	2531K184	26.34
5/8"-11	10"	10,000	5"	12 1/4"	1/2"	3 7/8"	2531K198	29.12	2531K199	35.25	2531K201	44.65	2531K202	53.33
3/4"-10	4"	5,000	3"	5 1/8"	5/16"	2 3/16"	2531K203	9.66	2531K204	11.26	2531K205	19.18	2531K206	21.35
3/4"-10	4"	7,500	4"	5 5/16"	7/16"	2 11/16"	2531K216	14.73	2531K217	17.26	2531K218	23.77	2531K219	27.53
3/4"-10	4"	10,000	5"	6 1/4"	1/2"	3 7/8"	2531K225	22.23	2531K226	29.08	2531K227	38.00	2531K228	44.11
3/4"-10	6"	5,000	3"	7 1/8"	5/16"	2 3/16"	2531K207	11.82	2531K208	14.12	2531K209	24.18	2531K211	28.12
3/4"-10	6"	7,500	4"	7 5/16"	7/16"	2 11/16"	2531K71	18.85	2531K72	20.25	2531K73	27.43	2531K74	32.31
3/4"-10	6"	10,000	5"	8 1/4"	1/2"	3 7/8"	2531K85	23.73	2531K86	30.69	2531K87	39.97	2531K88	46.59
3/4"-10	8"	5,000	3"	9 1/8"	5/16"	2 3/16"	2531K212	12.78	2531K213	15.80	2531K214	25.94	2531K215	29.74
3/4"-10	8"	7,500	4"	9 5/16"	7/16"	2 11/16"	2531K221	18.27	2531K222	22.19	2531K223	28.80	2531K224	33.34
3/4"-10	8"	10,000	5"	10 1/4"	1/2"	3 7/8"	2531K229	27.13	2531K231	35.22	2531K232	44.22	2531K233	52.61
3/4"-10	10"	10,000	5"	12 1/4"	1/2"	3 7/8"	2531K234	30.53	2531K235	36.03	2531K236	47.06	2531K237	57.87
1"-8	6"	10,000	5"	8 1/4"	1/2"	3 7/8"	2531K11	35.39	2531K17	42.88	2531K14	49.36	2531K21	55.54

■ Mounts with cushion: Add 1/16" to overall height for 4,000- to 7,500-lb. mounts; add 5/16" to 10,000-lb. mounts.

Two Mounting Holes—Metric

Thread Size	Thread Lg., mm	Cap. per Mount, lbs.	Base Dia., mm	O'all Ht., mm■	Mount. Holes, mm Dia.	Mount. Holes, mm Ctr.-to-Ctr.	Zinc-Plated Steel Stud Without Cushion		Zinc-Plated Steel Stud With Cushion		303 Stainless Steel Stud Without Cushion		303 Stainless Steel Stud With Cushion	
M10	102	5,000	80	130	8.9	55.9	6992K13	$6.32	6992K37	$8.54	6992K65	$11.55	6992K84	$13.62
M12	76	4,000	51	105	6.4	33.8	6992K14	5.98	6992K38	8.21	6992K66	11.14	6992K85	14.12
M12	152	4,000	51	181	6.4	33.8	6992K16	6.61	6992K41	8.76	6992K68	12.37	6992K87	14.77
M12	152	5,000	102	185	11.9	68.8	6992K18	11.53	6992K43	14.02	6992K71	18.06	6992K89	21.77
M16	102	5,000	80	130	8.9	55.9	6992K19	10.71	6992K44	12.17	6992K72	19.83	6992K91	23.14
M16	152	6,000	102	185	11.9	68.8	6992K21	11.58	6992K45	13.19	6992K73	21.46	6992K92	26.01
M20	152	7,500	102	185	11.9	68.8	6992K22	14.73	6992K46	17.41	6992K74	27.68	6992K93	33.11

■ Mounts with cushion: Add 1.6 mm to overall height.

Offset Mounting Hole—Inch

Thread Size	Thread Lg.	Cap. per Mount, lbs.	Base Wd.	Base Lg.	O'all Ht.■	Mount. Hole Dia.	Zinc-Plated Steel Stud Without Cushion		Zinc-Plated Steel Stud With Cushion		303 Stainless Steel Stud Without Cushion		303 Stainless Steel Stud With Cushion	
1/2"-13	4"	5,000	4"	5 7/16"	5 5/16"	9/16"	6144K11	$15.72	6144K51	$18.80	6144K31	$28.22	6144K71	$34.39
1/2"-13	8"	5,000	4"	5 7/16"	9 5/16"	9/16"	6144K13	19.83	6144K53	23.85	6144K33	32.61	6144K73	38.67
5/8"-11	4"	6,000	4"	5 7/16"	5 5/16"	9/16"	6144K14	21.08	6144K54	25.51	6144K34	37.25	6144K74	44.47
5/8"-11	8"	6,000	4"	5 7/16"	9 5/16"	9/16"	6144K16	26.12	6144K56	31.53	6144K36	43.81	6144K76	51.26
3/4"-10	4"	7,500	4"	5 7/16"	5 5/16"	9/16"	6144K17	28.21	6144K57	33.37	6144K37	46.87	6144K77	52.45

■ Mounts with cushion: Add 3/16" to overall height.

Precision Leveling Mounts



These mounts have fine threads that give you precise adjustment control, so you can align machine components exactly. Add height to mounts using a swivel top or shim. All have an unthreaded hole and are made of steel.

Swivel tops allow mounts to level non-parallel surfaces with a maximum adjustment angle of 4°, while providing additional height. Use a **shim** under any mount to increase the height. Two **spanner wrenches** are required to adjust the height of each mount—one to brace the bottom half of the mount and the other to turn the top half.

For Screw Size	Cap. per Mount, lbs.	Base Dia.	Mounts O'all Ht.			Swivel Tops Ht.			Shims Ht.			Spanner Wrenches	
5/16", M8	10,700	1 1/4"	1 1/16"-7/8"	3757K13	$45.98	3/8"	3757K61	$30.30	3/16"	3757K76	$12.50	6975A14	$16.89
5/16", M8	10,700	1 1/4"	1 3/8"-2 3/16"	3757K39	49.57	3/8"	3757K61	30.30	3/16"	3757K76	12.50	6975A14	16.89
3/8", M10	20,800	1 3/4"	7/8"-1 3/16"	3757K15	49.57	1/2"	3757K62	33.23	1/4"	3757K77	14.92	6975A17	19.31
3/8", M10	20,800	1 3/4"	1 5/8"-2 5/8"	3757K42	58.57	1/2"	3757K62	33.23	1/4"	3757K77	14.92	6975A17	19.31

Leveling Mounts for Tubing



Insert these adjustable mounts into tube ends and level your equipment in a single step. They're black plastic and have a temperature range of -40° to 350° F.

Fits Tubing Outside	Inside	Wall	Base Dia.	Cap. per Mount, lbs.	Ht. Adj. Range Min.	Max.		
Square								
3/4"	5/8"	0.05"	1"	220	3/8"	1 1/8"	4146T11	$2.29
7/8"	3/4"	0.05"	1"	220	3/8"	1 1/8"	4146T12	2.47
1"	7/8"	0.05"	1"	330	3/8"	1 1/8"	4146T13	2.69
1 3/16"	1 1/16"	0.05"	1 1/4"	660	3/8"	1"	4146T14	3.26
1 3/8"	1 1/4"	0.05"	1 1/4"	660	3/8"	1"	4146T15	3.93
1 1/2"	1 3/8"	0.05"	1 1/4"	660	3/8"	1"	4146T16	4.50
1 3/4"	1 5/8"	0.05"	1 3/4"	660	3/8"	1 5/16"	4146T17	5.71
2"	1 15/16"	0.05"	1 3/4"	660	3/8"	1 5/16"	4146T18	6.13
Round								
1 1/4"	1 1/8"	0.05"	1 1/4"	660	3/8"	1"	4146T21	2.50
1 1/2"	1 3/8"	0.05"	1 1/4"	660	3/8"	1"	4146T23	3.81

Threaded Tube Inserts



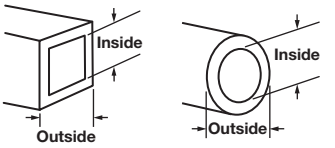

Install these inserts and you'll be able to use threaded leveling mounts on your tube-end machinery supports, instrument bases, and conveyor equipment. Inserts are plastic with brass threads and tap into place with a rubber hammer.

Inch inserts have a temperature range of 20° to 180° F.

Metric inserts have a temperature range of -20° to 180° F.

Inch

Fits Tubing Outside	Inside	Wall	Cap. per Insert, lbs.	O'all Ht.	Threaded Hole Size 3/8"-16		1/2"-13		5/8"-11		3/4"-10	
Square												
1" sq.	7/8" sq.	0.07"	1,100	1 3/16"	60945K56	$6.20	60945K57	$5.69				
1 3/16" sq.	1 1/16" sq.	0.07"	1,200	1 5/16"	60945K58	7.24						
1 1/2" sq.	1 3/8" sq.	0.08"	1,000	1 11/16"	60945K21	7.93	60945K22	7.91	60945K23	$7.91	60945K24	$7.91
1 1/2" sq.	1 1/4" sq.	0.12"	1,000	1 11/16"	60945K25	7.91	60945K26	7.91	60945K27	7.91	60945K28	7.91
2" sq.	1 7/8" sq.	0.07"	1,000	1 15/16"	60945K52	10.91	60945K53	10.93	60945K54	10.96	60945K55▲	10.91
2" sq.	1 13/16" sq.	0.12"	1,000	1 15/16"	60945K29	10.71	60945K31	10.78	60945K32	10.78	60945K33▲	10.78
2"×3"	1 3/4"×2 3/4"	0.13"	1,760	1 15/16"					60945K49	14.16	60945K51	14.16
Round												
1 1/2" dia.	1 3/8" dia.	0.07"	1,000	1 11/16"	60945K13	7.58	60945K14	7.58	60945K15	7.58	60945K42	7.58
1 11/16" dia.	1 9/16" dia.	0.07"	1,000	1 11/16"	60945K84	7.73	60945K85	7.73	60945K86	7.31		
1 15/16" dia.	1 11/16" dia.	0.11"	1,000	1 15/16"	60945K65	9.13	60945K66	9.16	60945K67	9.33	60945K68▲	9.13
2" dia.	1 15/16" dia.	0.07"	1,000	1 15/16"	60945K16	8.98	60945K17	8.98	60945K46	8.98	60945K48▲	8.98

▲ Maximum capacity is 1,760 lbs.

Metric

Fits Tubing Outside	Inside	Wall	Cap. per Insert, lbs.	O'all Ht.	Threaded Hole Size M10		M12		M16		M20	
Square												
1 1/2" sq.	15/16" sq.	0.12"	1,500	1 11/16"	60945K75	$6.62	60945K76	$6.62	60945K77	$6.62	60945K78	$6.62
2" sq.	1 13/16" sq.	0.12"	2,000	2"	60945K79	7.31	60945K81	7.31	60945K82	7.31	60945K83	7.31
Round												
1 1/2" dia.	15/16" dia.	0.065"	1,500	1 11/16"	60945K91	6.62	60945K92	6.62	60945K93	6.62	60945K94	6.62
2" dia.	1 13/16" dia.	0.065"	2,000	1 15/16"	60945K95	7.31	60945K96	7.31	60945K97	7.31	60945K98	7.31

Light Duty Threaded Tube Inserts

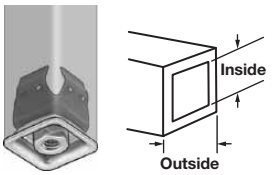

Slip these inserts in square tube ends to provide a thread for leveling mounts in your light equipment and furniture. Inserts have four flexible spring steel walls that grip the inside of tubing. Base is zinc-plated steel. Not rated for capacity.

Fits Tubing Outside, sq.	Inside, sq.	Wall	O'all Ht.	Thread		Pkg. of 4
1"	15/16"	0.07"	1 1/16"	1/4"-20	2417T27	$5.84
1"	15/16"	0.07"	1 1/16"	5/16"-18	2417T28	5.84
1 1/4"	1 3/16"	0.07"	1 1/16"	1/4"-20	2417T61	8.96
1 1/4"	1 3/16"	0.07"	1 1/16"	5/16"-18	2417T62	11.31
1 1/2"	1 7/16"	0.07"	1 1/16"	3/8"-16	2417T63	7.83

Leveling Mounts with Shielded Threaded Stud

A shield on the stud prevents dirt accumulation on the threads and provides a finished appearance. In addition to leveling equipment, use mounts to set workbenches and tables at a comfortable working height. Meet NSF/ANSI standards.

Style 1 stud is zinc-plated steel.

Style 2 stud is black-oxide steel.

O'all Ht.	Shield Dia.	Base Dia.	Cap. per Mount, lbs.	Thread Size	Thread Lg.		
Plastic Shield with Nickel-Plated Zinc Base— Max. temp is 175° F.							
1 6″-6 3/4″	2 3/8″	1 1/16″	2,000	1/2″-13	3/4″	**8365T51**	$11.38
Nickel-Plated Zinc Shield and Base							
1 6″-7″	2 3/8″	1 1/8″	2,000	1/2″-13	3/4″	**8365T57**	20.52
Nickel-Plated Zinc Shield with 201 Stainless Steel Base							
1 6″-7″	2 3/8″	1 1/16″	2,000	1/2″-13	3/4″	**8365T58**	20.38
201 Stainless Steel Shield and Base							
2 6″-7 3/4″	1 5/8″	1 1/4″	2,000	1/2″-13	3/4″	**8365T53**	29.60
2 6″-7 3/4″	2″	1 5/8″	2,000	3/4″-10	3/4″	**8365T62**	22.12



Leveling Mounts with Mounting Bracket

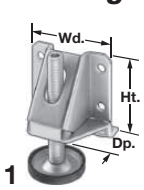

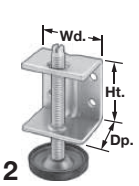

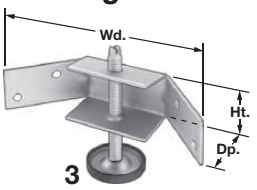

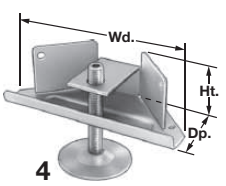





Install these mounts on machines without feet. Mounting brackets are zinc-plated steel.

Styles 1-4 have a steel base with a black plastic cushion, unless noted. Temperature range is -20° to 170° F. Mounting brackets have four 3/16″ dia. mounting holes and include 5/8″ long tapping screws.

Styles 5&6 have a shield on the stud that prevents dirt accumulation on the threads and provides a finished appearance. Mounting brackets have four 5/16″ dia. mounting holes spaced 2 5/8″ center-to-center (fasteners not included). Meet NSF/ANSI standards.

Mount with **plastic shield** has a maximum temperature of 175° F.

O'all Ht.	Base Dia.	Shield Dia.	Cap. per Mount, lbs.	Thread Size	Thread Lg.	Bracket Ht.	Bracket Wd.	Bracket Dp.	Pkg. Qty.		Pkg.
Zinc-Plated Steel Stud with Steel Base											
1 3″	1 1/4″	—	100	M10	2 11/16″	2 1/8″	2 1/8″	1 5/16″	4	**6943K1**	$14.91
2 3″	1 5/16″	—	100	M8	2 11/16″	1 5/8″	1 1/2″	1 1/8″	1	**6943K3**	3.80
3 3″	1 5/16″	—	100	M8	2 11/16″	1 5/16″	4 13/16″	1 7/16″	1	**6943K5**	4.07
4 2 3/4″	2″	—	100	M10	2 1/2″	1 7/16″	4 15/16″	1 15/16″	2	**6943K7**★	12.89
Plastic Shield with Nickel-Plated Zinc Base											
5 6″-6 3/4″	1 1/16″	2 3/8″	2,000	—	—	—	3 1/2″	3 1/2″	1	**8365T52**	11.27
Nickel-Plated Zinc Shield with 201 Stainless Steel Base											
5 6″-7″	1 1/16″	2 3/8″	2,000	—	—	—	3 1/2″	3 1/2″	1	**8365T59**	28.84
201 Stainless Steel Shield with 201 Stainless Steel Base											
6 6″-7 3/4″	1 1/4″	1 5/8″	2,000	—	—	—	3 1/2″	3 1/2″	1	**8365T54**	30.80
6 6″-7 3/4″	1 1/16″	2″	2,000	—	—	—	3 1/2″	3 1/2″	1	**8365T61**	35.38

★Base does not have a cushion.

Swivel Leveling Mounts with Mounting Bracket

Ready for installation on the bottom of machines and equipment without feet, these mounts come with their own bracket. Their ball-and-socket design swivels 25° to compensate for uneven floors. Brackets are stainless steel and have four mounting holes (fasteners not included).

Aluminum mounts have an aluminum base and a zinc-plated steel stud. They are corrosion resistant and lightweight. **Stainless steel** mounts have a stainless steel base and stud.

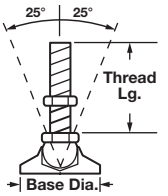



Thread Size	Thread Lg.	Cap. per Mount, lbs.	Base Dia.	O'all Ht.	Bracket Lg.	Bracket Wd.	Bracket Ht.	Mount. Hole Dia.	Aluminum		303 Stainless Steel	
1/2″-13	3″	500	1 7/8″	4 5/16″	3″	3″	1 1/16″	5/16″	**6577K23**	$42.41	**6577K32**	$52.76
5/8″-11	3 1/2″	1,000	2 3/8″	5 1/4″	3 7/8″	3 7/8″	1 1/4″	3/8″	**6577K25**	61.03	**6577K34**	78.62
Replacement Brackets for 1/2″-13 Mounts											**6577K12**	21.18
Replacement Brackets for 5/8″-11 Mounts											**6577K14**	34.71

Heavy Duty Leveling Mounts

Choose from mounts that support 3,000 to 30,000 lbs. for heavy machinery. Since your machine rests on top of these mounts, they're good for equipment with inaccessible mounting feet or no feet at all. Mounts have a ribbed top to maximize grip and prevent liquids from settling. Turn the bolt to adjust the level and compensate for uneven floors. Mounts are cast iron; stud is zinc-plated steel.

Vibration-damping mounts have a cushion underneath the base that resists oil, grease, and acids. Temperature range is 0° to 150° F.


Standard

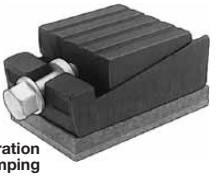
Vibration Damping

Cap. per Mount, lbs.	Base Lg.	Base Wd.	Anchor Hole Dia.	Standard O'all Ht.			Vibration Damping O'all Ht.	Cushion Thick.	Deflect. @ Cap.		
3,000	3 1/2″	6″	—	1 1/8″-1 3/8″	**6012K41**	$116.00	1 7/8″-2 1/8″	3/4″	0.15″	**6012K44**	$148.51
9,000	3 1/2″	6″	—	2 1/4″-2 5/8″	**6012K51**	121.16	3″-3 3/8″	3/4″	0.15″	**6012K54**	154.04
15,000	3 1/2″	5 3/4″	1″	2 1/2″-2 11/16″	**6015K2**	130.72	3″-3 3/16″	1/2″	0.09″	**6015K22**	186.09
20,000	3 1/2″	6 3/4″	1 1/8″	2 3/4″-3″	**6015K3**	144.79	3 1/4″-3 1/2″	1/2″	0.09″	**6015K32**	200.25
30,000	3 1/2″	6 3/4″	1 1/8″	2 3/4″-3″	**6015K41**	200.09	3 1/4″-3 1/2″	1/2″	0.2″	**6015K68**	225.72

Thread-On Feet

Great as nonslip feet, thread these rubber suction cups to the bottom of your lightweight equipment. They are made of black rubber, except 53535A45 is gray.



Base Dia.	Base Ht.	Thread Size	Thread Lg.	Pkg. Qty.		Pkg.
1″	5/16″	8-32	1/4″	10	**53535A11**	$7.54
1″	5/16″	8-32	3/8″	10	**53535A22**	9.67
1 3/8″	1/2″	8-32	1/4″	10	**53535A12**	8.78
1 3/8″	1/2″	8-32	3/8″	10	**53535A25**	11.02
1 1/2″	5/8″	8-32	3/8″	12	**53535A23**	$11.25
3 1/8″	1 17/32″	1/4″-20	3/8″	4	**53535A45**	10.87
3 3/4″	1 3/8″	5/16″-18	5/8″	1	**53535A46**	6.02

Vibration-Damping Leveling Mounts

For technical drawings and 3-D models, go to mcmaster.com.

About Vibration-Damping Mounts

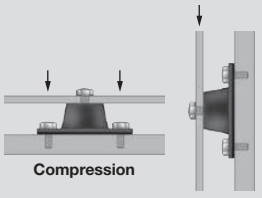

Vibration-damping mounts isolate vibration and noise transmitted to and from machinery. They reduce maintenance costs, prolong equipment life, and protect floors. Performance is measured by deflection (the distance the mount moves when subjected to force). Generally, the higher the deflection rating, the greater the vibration and noise isolation.

Most vibration-damping mounts are used in *compression* applications. Some mounts can also be used in *shear* applications, where force is applied to the stud or bolt hole from the side.

Before selecting a mount, consider how your machine weight is distributed. If the weight is evenly distributed, use the following formula to find the capacity required per mount:

$$\text{Capacity per Mount} = \frac{\text{Total Machine Weight}}{\text{No. of Mounting Points}}$$

If the weight is unevenly distributed, select the capacity for each mount based on where the weight is concentrated.

Swivel Vibration-Damping Leveling Mounts

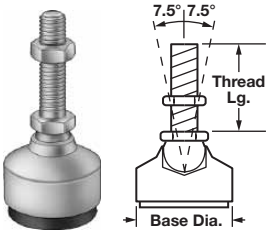

With Threaded Stud

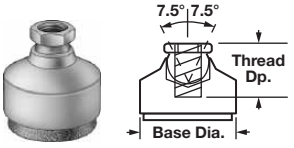

With Threaded Hole

Use these mounts to minimize vibration and noise to prolong machine life and protect floors. Their ball-and-socket design swivels 7.5° to compensate for uneven floors. They're zinc-plated steel. Cushion is rubber and has a temperature range of -20° to 170° F.

Standard mounts have a black cushion. **High capacity** mounts have a brown cushion.

Mounts **with threaded stud** come with a removable locknut. Stud is zinc-plated steel.

Mounts **with threaded hole** can be used with your own threaded stud or bolt to build a mount that fits your needs.

Thread Size	Cap. per Mount, lbs.	Deflect. @ Cap.	Base Dia.	With Threaded Stud: Thread Lg.	With Threaded Stud: O'all Ht.		With Threaded Hole: Thread Dp.	With Threaded Hole: O'all Ht.	
Standard									
1/4"-20	150	0.05"	1 1/4"	1 1/4"	2 11/16"	6330K41	$13.47	5/16"	1 7/16"	6319K61	$11.64
5/16"-18	200	0.05"	1 1/4"	2"	3 1/2"	6330K43	14.16	3/8"	1 1/2"	6319K63	12.27
3/8"-16	200	0.05"	1 1/4"	2"	3 1/2"	6330K21	12.20	3/8"	1 1/2"	6319K41	10.58
1/2"-13	1,000	0.04"	1 7/8"	2"	3 3/4"	6330K28	20.65	7/16"	1 3/4"	6319K37	18.30
5/8"-11	1,800	0.05"	2 1/2"	2"	3 7/8"	6330K29	30.20	7/16"	1 7/8"	6319K38	23.24
3/4"-10	2,500	0.06"	3"	2"	4 1/8"	6330K31	39.21	9/16"	2 1/8"	6319K51	36.46
1"-8	4,500	0.06"	4"	3 1/2"	6"	6330K32	55.13	11/16"	2 1/2"	6319K52	50.62
1 1/4"-7	10,000	0.06"	6"	4"	6 7/8"	6330K33	70.93	1 1/4"	2 7/8"	6319K53	69.82
High Capacity									
1/4"-20	750	0.05"	1 1/4"	1 1/4"	2 11/16"	6330K42	22.67	5/16"	1 7/16"	6319K62	21.00
5/16"-18	900	0.05"	1 1/4"	2"	3 1/2"	6330K44	23.87	3/8"	1 1/2"	6319K64	22.13
3/8"-16	995	0.05"	1 1/4"	2"	3 1/2"	6330K34	20.56	3/8"	1 1/2"	6319K54	19.07
1/2"-13	2,400	0.06"	1 7/8"	2"	3 3/4"	6330K35	27.40	7/16"	1 3/4"	6319K55	26.89
5/8"-11	4,400	0.06"	2 1/2"	2"	3 7/8"	6330K36	41.54	7/16"	1 7/8"	6319K56	34.90
3/4"-10	6,500	0.08"	3"	2"	4 1/8"	6330K37	55.09	9/16"	2 1/8"	6319K57	51.00
1"-8	11,800	0.08"	4"	3 1/2"	6"	6330K38	79.53	11/16"	2 1/2"	6319K58	71.45
1 1/4"-7	27,100	0.08"	6"	4"	6 7/8"	6330K39	114.02	1 1/4"	2 7/8"	6319K59	109.51

Low-Clearance Swivel Vibration-Damping Leveling Mounts

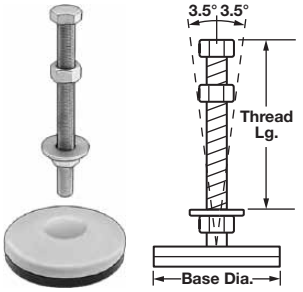

A two-piece design requires less clearance than one-piece mounts and simplifies installation—raise your machine just enough to slide the base underneath, then insert the stud from above. Use these mounts to minimize vibration and noise to prolong machine life and protect floors. The stud rests in an unthreaded depression in the center of the base and swivels 3.5° to compensate for uneven floors. They have a cast iron base with a black rubber cushion that's good for use indoors in dry conditions. Temperature range is -40° to 200°. Stud is zinc-plated steel.

Thread Size	Thread Lg.	Cap. per Mount, lbs.	Deflect. @ Cap.	Base Dia.	O'all Ht.		
5/16"-24	3 1/2"	250	0.04"	2 1/2"	4 1/4"	6011K11	$32.45
1/2"-20	5 1/2"	500	0.04"	3 1/2"	6 5/8"	6011K12	48.77
1/2"-20	5 1/2"	1,000	0.04"	3 1/2"	6 5/8"	6011K13	57.69
3/4"-16	5 1/2"	2,000	0.04"	7"	6 7/8"	6011K14	121.50
3/4"-16	5 1/2"	4,000	0.04"	7"	6 7/8"	6011K15	145.93
3/4"-16	5 1/2"	8,000	0.06"	7"	7"	6011K18	179.07
3/4"-16	5 1/2"	12,000	0.06"	7"	7"	6011K19	215.29

Extreme-Force Swivel Vibration-Damping Leveling Mounts

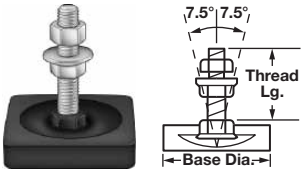

Square Base with Threaded Stud

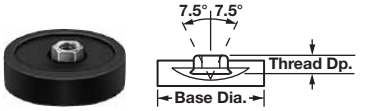

Round Base with Threaded Hole

Higher deflection ratings translate to greater vibration and shock isolation. These mounts have a black rubber base that grips the floor for stability and is resistant to oil and grease. Their ball-and-socket design swivels 7.5° to compensate for uneven floors. Temperature range is -20° to 180° F.

Mounts **with threaded stud** include a removable locknut and a flange nut. Stud is zinc-plated steel.

Mounts **with threaded hole** can be used with your own threaded stud or bolt to build a mount that fits your needs.

Thread Size	Cap. per Mount, lbs.	Deflect. @ Cap.	Base Size	With Threaded Stud: Thread Lg.	With Threaded Stud: O'all Ht.		With Threaded Hole: Thread Dp.	With Threaded Hole: O'all Ht.	
Square Base									
1/2"-13	350	0.13"	3" Sq.	2 5/8"	3 1/2"	63965K47	$19.96	1/2"	7/8"	63965K45	$12.60
1/2"-13	700	0.13"	3" Sq.	2 5/8"	3 1/2"	63965K48	22.51	1/2"	7/8"	63965K46	14.14
Round Base									
1/2"-13	500	0.13"	3" Dia.	2 5/8"	3 1/2"	63965K66	21.59	1/2"	1"	63965K62	13.59
1/2"-13	1,000	0.13"	3" Dia.	2 5/8"	3 1/2"	63965K67	23.51	1/2"	1"	63965K63	14.74
3/4"-10	3,700	0.13"	5" Dia.	4 5/8"	6 3/8"	63965K68	44.04	3/4"	1 3/4"	63965K64	34.85
3/4"-10	8,000	0.13"	5" Dia.	4 5/8"	6 3/8"	63965K69	48.14	3/4"	1 3/4"	63965K65	37.28

Stainless Steel Swivel Vibration-Damping Leveling Mounts

All-stainless steel construction stands up to water and chemicals and won't rust or corrode. Use these mounts to minimize vibration and noise to prolong machine life and protect floors. Their ball-and-socket design swivels to compensate for uneven floors. Mounts are 304 stainless steel with a black rubber cushion under the base. Temperature range is 0° to 200°F, except the 1¼" dia. base has a temperature range of -20° to 170°F.

Standard mounts swivel 7.5°. They include a removable locknut and washer, unless noted.

Bolt-down mounts have a hole in the base so you can bolt them down to keep equipment stationary. Mounting hole is ⅝" dia. (fasteners not included). Mounts swivel 5°.

Food-grade mounts are designed for use with food-processing equipment because they have no place for contamination to accumulate. Mounts swivel 10°.

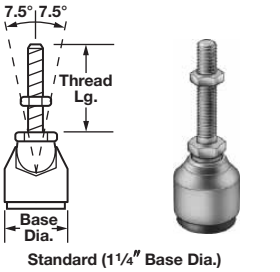

Standard (1¼" Base Dia.)

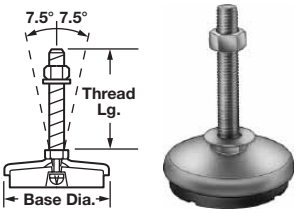

Standard (2⅝" and Larger Base Dia.)

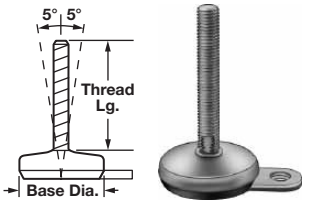

Bolt Down

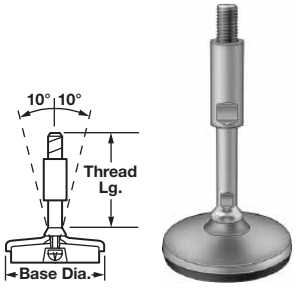

Food Grade

Thread Size	Cap. per Mount, lbs.	Deflect. @ Cap.	Base Dia.	With Stud: O'all Ht.	With Stud: Thread Lg.			With Extra-Long Stud: O'all Ht.	With Extra-Long Stud: Thread Lg.		
Standard											
¼"-20	300	0.05"	1¼"	5½"	4"	6221K31♦	$28.32	7½"	6"	6221K32♦	$29.91
5/16"-18	400	0.05"	1¼"	5½"	4"	6221K33♦	29.20	7½"	6"	6221K34♦	30.84
⅜"-16	500	0.05"	1¼"	5½"	4"	6221K35♦	30.11	7½"	6"	6221K36♦	31.80
½"-13	500	0.07"	2⅝"	4 15/16"	4"	6221K44	42.29	6 15/16"	6"	6221K45	45.67
½"-13	1,000	0.12"	3 13/16"	5⅜"	4"	6221K11	47.80	7⅜"	6"	6221K51	53.00
½"-13	2,000	0.12"	3 13/16"	5⅜"	4"	6221K21	49.82	7⅜"	6"	6221K61	53.38
½"-13	3,000	0.17"	5½"	5 15/16"	4"	6221K71	72.41	7 15/16"	6"	6221K72	74.45
⅝"-11	500	0.07"	2⅝"	5"	4"	6221K42	47.72	7"	6"	6221K43	52.30
⅝"-11	1,000	0.12"	3 13/16"	5 7/16"	4"	6221K12	53.38	7 7/16"	6"	6221K52	57.95
⅝"-11	2,000	0.12"	3⅞"	5 7/16"	4"	6221K22	55.41	7 7/16"	6"	6221K62	59.96
⅝"-11	3,000	0.17"	5½"	6"	4"	6221K73	76.38	—	—	—	—
⅝"-11	4,000	0.17"	5½"	—	—	—	—	8"	6"	6221K81	81.46
¾"-10	1,000	0.12"	3⅞"	5 9/16"	4"	6221K13	60.61	7 9/16"	6"	6221K53	66.95
¾"-10	2,000	0.12"	3⅞"	5 9/16"	4"	6221K23	62.62	7 9/16"	6"	6221K63	68.96
¾"-10	3,000	0.17"	5½"	6⅛"	4"	6221K75	80.44	8⅛"	6"	6221K76	85.52
¾"-10	4,000	0.17"	5½"	6⅛"	4"	6221K82	84.50	8⅛"	6"	6221K83	89.49
M12	500	0.07"	2⅝"	5 11/16"	4¾"	6221K27	48.12	—	—	—	—
M12	1,000	0.12"	3⅞"	6⅛"	4¾"	6221K28	56.04	—	—	—	—
M12	2,000	0.12"	3⅞"	6⅛"	4¾"	6221K29	58.07	—	—	—	—
M16	500	0.07"	2⅝"	5 11/16"	4¾"	6221K47	59.62	—	—	—	—
M16	1,000	0.12"	3⅞"	6⅛"	4¾"	6221K48	61.50	—	—	—	—
M16	2,000	0.12"	3⅞"	6⅛"	4¾"	6221K49	65.16	—	—	—	—
M20	1,000	0.12"	3⅞"	5 11/16"	4¾"	6221K66	70.50	—	—	—	—
M20	2,000	0.12"	3⅞"	6 5/16"	4¾"	6221K67	68.40	—	—	—	—
Bolt Down											
½"-13	1,770	0.01"	2 15/16"	4⅞"	4"	6221K16	34.29	—	—	—	—
½"-13	2,220	0.06"	3 15/16"	5¼"	4"	6221K91	51.14	—	—	—	—
⅝"-11	1,770	0.01"	2 15/16"	4⅞"	4"	6221K37	36.86	6⅞"	6"	6221K38	39.00
⅝"-11	2,220	0.06"	3 15/16"	5¼"	4"	6221K84	53.43	7¼"	6"	6221K85	55.86
¾"-10	1,770	0.01"	2 15/16"	—	—	—	—	6⅞"	6"	6221K19	43.86
¾"-10	2,220	0.06"	3 15/16"	—	—	—	—	7¼"	6"	6221K98	60.71
Food Grade											
⅝"-11	1,100	0.05"	2⅜"	7 5/8"	6½"	3356K2	59.16	9½"	8½"	3356K3	67.80
⅝"-11	2,200	0.05"	3 3/16"	7¾"	6½"	3356K7	79.71	9½"	8½"	3356K8	91.89
⅝"-11	3,300	0.05"	3 15/16"	7⅞"	6½"	3356K15	77.90	—	—	—	—
¾"-10	1,100	0.05"	2⅜"	7⅞"	6½"	3356K4	63.60	—	—	—	—
¾"-10	2,200	0.05"	3 3/16"	7¾"	6½"	3356K9	72.48	9 11/16"	8½"	3356K13	80.68
¾"-10	3,300	0.05"	3 15/16"	7⅞"	6½"	3356K21	84.78	—	—	—	—
1"-8	5,500	0.16"	4 1/16"	7⅞"	6½"	3356K33	110.40	—	—	—	—

♦ Washer not included.

Tear-Resistant Light Duty Vibration-Damping Mounts

A specially designed natural rubber body provides uniform stress distribution, isolates vibration, and protects from occasional shock in compression load applications. Metal parts are aluminum for 2-8 lb. capacity mounts and steel for 12-90 lb. capacity mounts. Rubber is black. Temperature range is 0° to 170°F.

All have four mounting holes (fasteners not included). **Surface** mounts have a holder that raises the entire mount above the supporting base, eliminating the need to drill a large hole in the base material. **Optional washers** can be installed (one on each end of the mount) to keep equipment supported if the rubber fails.

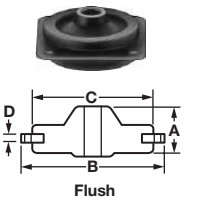

Flush

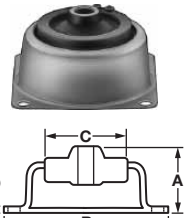

Surface

Cap. per Mount, lbs.	Deflect. @ Max. Cap.	Duro-meter	O'all Ht. (A)	O'all Wd. (B)	(C)	(D)	Center Hole Dia.	*Mount. Holes* Dia.	Ctr.-to-Ctr.	Mounts		Optional Washer	
Flush													
2	0.06"	35A	0.41"	1.25"	1.00"	0.03"	0.17"	0.14"	1.00"	6008K41	$7.91	6008K97	$1.71
4	0.06"	40A	0.41"	1.25"	1.00"	0.03"	0.17"	0.14"	1.00"	6008K13	8.42	6008K97	1.71
8	0.06"	45A	0.50"	1.25"	1.00"	0.03"	0.17"	0.14"	1.00"	6008K61	7.89	6008K97	1.71
12	0.06"	50A	0.62"	1.75"	1.50"	0.05"	0.26"	0.17"	1.38"	6008K14	6.73	6008K98	1.87
20	0.06"	45A	1.00"	2.25"	2.00"	0.06"	0.39"	0.20"	1.75"	6008K15	11.18	6008K99	4.18
30	0.06"	45A	1.12"	1.75"	1.50"	0.05"	0.26"	0.17"	1.38"	6008K63	7.82	6008K98	1.87
45	0.06"	50A	1.00"	2.25"	2.00"	0.06"	0.39"	0.20"	1.75"	6008K33	11.11	6008K99	4.18
90	0.06"	53A	1.81"	2.25"	2.00"	0.06"	0.39"	0.20"	1.75"	6008K67	27.16	6008K99	4.18
Surface													
2	0.06"	35A	0.78"	1.69"	1.00"	0.03"	0.17"	0.14"	1.38"	6008K42	16.74	6008K97	1.71
4	0.06"	40A	0.78"	1.69"	1.00"	0.03"	0.17"	0.14"	1.38"	6008K16	17.10	6008K97	1.71
8	0.06"	45A	0.81"	1.69"	1.00"	0.03"	0.17"	0.14"	1.38"	6008K62	14.38	6008K97	1.71
12	0.06"	50A	1.12"	2.38"	1.50"	0.05"	0.26"	0.17"	1.94"	6008K26	16.46	6008K98	1.87
20	0.06"	45A	1.56"	3.00"	2.00"	0.06"	0.39"	0.26"	2.50"	6008K34	22.76	6008K99	4.18
30	0.06"	45A	1.41"	2.38"	1.50"	0.05"	0.26"	0.17"	1.94"	6008K64	20.70	6008K98	1.87
45	0.06"	50A	1.56"	3.00"	2.00"	0.06"	0.39"	0.20"	2.50"	6008K36	28.52	6008K99	4.18
90	0.06"	53A	2.38"	3.00"	2.00"	0.06"	0.39"	0.20"	2.50"	6008K71	43.85	6008K99	4.18

Oil-Resistant Light Duty Vibration-Damping Mounts

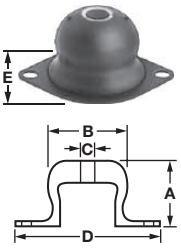

Specifically designed for light vertical load applications, these mounts buckle under loads to protect small equipment such as compressors and pumps from vibration and shock. They're made of oil-resistant rubber and have an aluminum mounting flange with two holes (fasteners not included). Temperature range is –20° to 180° F. Rubber is black.

Cap. per Mount, lbs.	Deflect. @ Max. Cap.	Durometer	O'all Ht. (A)	OD (B)	ID (C)	Base Lg. (D)	Base Wd. (E)	Mount. Holes Dia.	Mount. Holes Ctr.-to-Ctr.		
6.5	0.12″	40A	0.75″	0.90″	0.26″	1.68″	1.25″	0.16″	1.41″	6772K811	$7.20
11	0.12″	50A	0.75″	0.90″	0.26″	1.68″	1.25″	0.16″	1.41″	6772K812	7.20
15	0.12″	60A	0.75″	0.90″	0.26″	1.68″	1.25″	0.16″	1.41″	6772K813	7.20
18	0.12″	70A	0.75″	0.90″	0.26″	1.68″	1.25″	0.16″	1.41″	6772K814	7.20

Vibration-Damping Grommets and Bushings

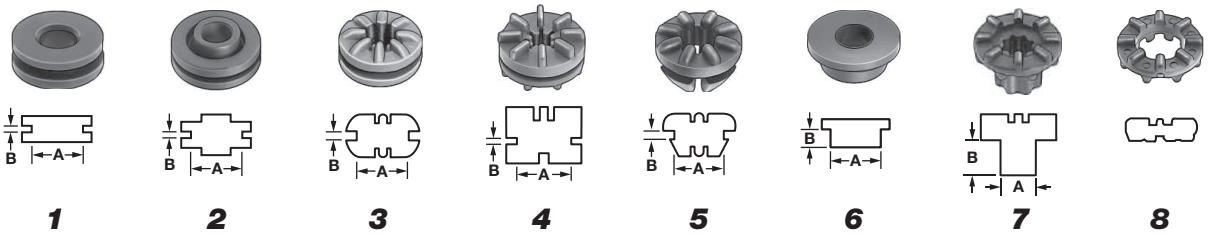

Dampen vibration as well as isolate and reduce shock and motion in motors, fans, blowers, actuators, circuit boards, and other electromechanical equipment. Unlike grommets, bushings can work with a range of hole thicknesses.

Ribbed grommets and bushings are more flexible. Use *ribbed bushings* (Style 7) with *flat ribbed rings* (Style 8) to fill space between the bushing and the equipment surface.

High Damping— Made of PVC, these grommets and bushings absorb vibration quickly and rebound less than their low-damping equivalents. Durometer is 56A. Temp. range is 55° to 105° F. Color is blue.

Low Damping— Compared to high-damping grommets and bushings, these absorb vibration more slowly and have more elastic for greater rebound. They are made of rubber. Durometer is 57A. Temperature range is –40° to 120° F. Color is black.

				HIGH DAMPING Compression Cap. per Mount, lbs.	HIGH DAMPING Compression Deflect. @ Max. Cap.	HIGH DAMPING Shear Cap. per Mount, lbs.	HIGH DAMPING Shear Deflect. @ Max. Cap.		Pkg. of 25	LOW DAMPING Compression Cap. per Mount, lbs.	LOW DAMPING Compression Deflect. @ Max. Cap.	LOW DAMPING Shear Cap. per Mount, lbs.	LOW DAMPING Shear Deflect. @ Max. Cap.		Pkg. of 25
ID	OD	O'all Thick. (A)	(B)												
(1) Grommets															
0.18″	0.44″	0.19″	0.31″	0.06″	13	0.02″	0.2	0.01″	9311K124	$11.23	13	0.02″	0.2	0.01″	9311K5	$11.23
0.18″	0.46″	0.22″	0.32″	0.04″	14	0.02″	0.2	0.02″	9311K125	11.23	14	0.02″	0.4	0.02″	9311K1	11.23
0.18″	0.50″	0.18″	0.34″	0.06″	17	0.01″	0.2	0.01″	9311K123	11.23	17	0.02″	0.3	0.02″	9311K4	11.23
0.18″	0.75″	0.40″	0.56″	0.06″	40	0.04″	1.5	0.03″	9311K128	12.36	40	0.04″	1.7	0.04″	9311K2	12.36
0.19″	0.39″	0.31″	0.24″	0.05″	10	0.02″	0.2	0.01″	9311K126	11.23	10	0.03″	0.3	0.01″	9311K7	11.23
0.19″	0.50″	0.12″	0.36″	0.06″	17	0.01″	0.2	0.01″	9311K121	11.23	17	0.01″	0.2	0.02″	9311K3	11.23
0.19″	0.50″	0.18″	0.38″	0.06″	17	0.01″	0.2	0.01″	9311K122	11.23	17	0.03″	0.3	0.02″	9311K6	11.23
0.25″	0.63″	0.62″	0.44″	0.12″	26	0.07″	1.7	0.02″	9311K132	11.80	26	0.07″	1.6	0.02″	9311K11	11.80
0.27″	0.63″	0.33″	0.38″	0.06″	25	0.03″	0.7	0.01″	9311K127	11.23	25	0.04″	1.0	0.02″	9311K8	11.23
0.28″	0.75″	0.40″	0.50″	0.07″	40	0.03″	1.3	0.02″	9311K129	12.36	40	0.04″	1.6	0.02″	9311K9	12.36
0.30″	0.75″	0.50″	0.50″	0.08″	40	0.05″	2.1	0.03″	9311K131	11.80	40	0.06″	2.4	0.03″	9311K12	11.80
(2) Grommets															
0.25″	0.75″	0.38″	0.56″	0.06″	2	0.03″	0.1	0.02″	9311K141	12.36	2	0.03″	0.01	0.02″	9311K111	12.36
(3) Ribbed Grommets															
0.15″	0.39″	0.28″	0.30″	0.05″	0.3	0.01″	—	—	9311K64	10.80	0.3	0.01″	—	—	9311K65	12.04
0.16″	0.38″	0.23″	0.25″	0.06″	3	0.01″	—	—	9311K138	11.23	3	0.01″	—	—	9311K17	11.23
0.16″	0.39″	0.27″	0.30″	0.04″	0.3	0.01″	—	—	9311K35	11.23	0.3	0.01″	—	—	9311K18	11.23
0.18″	0.44″	0.19″	0.31″	0.05″	1.5	0.01″	—	—	9311K133	9.54	1.5	0.01″	—	—	9311K13	9.54
0.19″	0.56″	0.32″	0.38″	0.06″	6	0.02″	0.1	0.02″	9311K139	11.23	6	0.03″	0.2	0.03″	9311K19	11.23
0.22″	0.56″	0.31″	0.38″	0.06″	6	0.02″	0.1	0.02″	9311K134	12.48	—	—	—	—	—	—
0.23″	0.56″	0.38″	0.38″	0.13″	6	0.03″	0.2	0.02″	9311K136	11.23	6	0.03″	0.2	0.02″	9311K14	11.23
0.28″	0.63″	0.31″	0.38″	0.06″	6	0.02″	0.1	0.01″	9311K135	11.23	6	0.02″	0.1	0.01″	9311K15	11.23
0.28″	0.63″	0.38″	0.38″	0.13″	6	0.03″	0.2	0.02″	9311K137	11.23	6	0.02″	0.1	0.02″	9311K16	11.23
(4) Ribbed Grommets															
0.17″	0.75″	0.39″	0.56″	0.06″	8	0.02″	0.2	0.06″	9311K62	12.36	8	0.03″	0.2	0.06″	9311K63	12.25
(5) Ribbed Grommets															
0.16″	0.38″	0.26″	0.25″	0.06″	3	0.01″	—	—	9311K66	12.00	3	0.01″	—	—	9311K67	12.00
(6) Bushings															
0.19″	0.50″	0.18″	0.36″	0.12″	17	0.01″	0.2	0.02″	9311K51	9.55	17	0.02″	0.3	0.03″	9311K112	10.61
0.27″	0.75″	0.26″	0.42″	0.14″	40	0.02″	1.0	0.02″	9311K53★	11.50	40	0.04″	1.5	0.02″	9311K113★	11.50
0.43″	1.27″	0.33″	0.75″	0.09″	100	0.04″	3.7	0.06″	9311K142★	10.79	100	0.03″	2.6	0.03″	9311K114★	10.79
(7) Ribbed Bushings															
0.26″	0.81″	0.56″	0.47″	0.31″	10	0.05″	0.5	0.03″	9311K143★	9.89	10	0.05″	0.5	0.04″	9311K116★	9.89
0.26″	1.00″	1.06″	0.47″	0.54″	25	0.08″	2.1	0.02″	9311K144■	11.54	25	0.05″	1.3	0.05″	9311K115■	11.54
(8) Flat Ribbed Rings															
0.46″	0.81″	0.25″	—	—	10	0.05″	0.5	0.04″	9311K145★	9.89	10	0.05″	0.5	0.04″	9311K117★	9.89
0.46″	1.00″	0.52″	—	—	25	0.05″	1.3	0.06″	9311K146■	11.54	25	0.05″	1.3	0.06″	9311K118■	11.54

★ Package quantity is 10. ■ Package quantity is 5.

For information about vibration-damping mounts, see page 1434. For information about durometer, see page 3588.

Versa-Mount Vibration-Damping Mounts

Mount in any direction with this two-piece design. Mounts have an unthreaded zinc-plated steel insert to handle both compression and shear loads. Made of oil-resistant black rubber. Furnished with a washer to keep equipment supported if the rubber fails. Temperature range is –20° to 180° F.



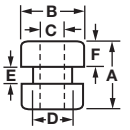

Compression		Shear									
Cap. per Mount, lbs.	Deflect. @ Max. Cap.	Cap. per Mount, lbs.	Deflect. @ Max. Cap.	Duro-meter	O'all Ht. (A)	OD (B)	ID (C)	(D)	(E)	(F)		
40	0.04″	20	0.01″	35A	1.25″	1.31″	0.40″	0.79″	0.38″	0.49″	6309K31	$5.70
90	0.04″	30	0.01″	45A	1.25″	1.31″	0.40″	0.79″	0.38″	0.49″	6309K32	5.70
130	0.07″	50	0.02″	35A	1.94″	1.88″	0.53″	1.30″	0.56″	0.78″	6309K34	8.30
140	0.04″	40	0.01″	55A	1.25″	1.31″	0.40″	0.79″	0.38″	0.49″	6309K58	5.70
240	0.07″	90	0.02″	55A	1.94″	1.88″	0.53″	1.30″	0.56″	0.78″	6309K35	8.30
250	0.04″	50	0.01″	65A	1.25″	1.31″	0.40″	0.79″	0.38″	0.49″	6309K33	5.70
380	0.07″	165	0.02″	65A	1.94″	1.88″	0.53″	1.30″	0.56″	0.78″	6309K36	8.30
490	0.08″	225	0.03″	55A	2.43″	2.55″	0.66″	1.58″	0.88″	0.90″	6309K39	12.50
630	0.07″	280	0.02″	75A	1.94″	1.88″	0.53″	1.30″	0.56″	0.78″	6309K37	8.30
860	0.08″	385	0.03″	65A	2.43″	2.55″	0.66″	1.58″	0.88″	0.90″	6309K41	12.50
1,330	0.08″	690	0.03″	75A	2.43″	2.55″	0.66″	1.58″	0.88″	0.90″	6309K42	12.50

Extreme-Temperature Light Duty Vibration-Damping Mounts

These clear silicone gel mounts retain flexibility in temperatures from –40° to 390° F, and won't discolor when exposed to the sun. Use them for protecting fragile equipment, such as electronics, from vibration in light duty compression load applications. All have an unthreaded brass insert. Not rated for deflection.

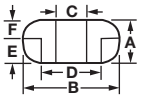



Cap. per Mount, lbs.	Durometer	O'all Ht. (A)	OD (B)	ID (C)	(D)	(E)	(F)		
0.4	5A	0.26″	0.43″	0.12″	0.28″	0.14″	0.12″	1074N1	$23.44
1.3	10A	0.32″	0.55″	0.12″	0.35″	0.16″	0.16″	1074N2	23.66
2.2	14A	0.32″	0.55″	0.12″	0.35″	0.16″	0.16″	1074N3	23.66
8.2	15A	0.46″	0.98″	0.16″	0.55″	0.26″	0.20″	1074N4	26.36
17.6	30A	0.46″	0.98″	0.16″	0.55″	0.26″	0.20″	1074N5	26.36

Vibration-Damping Mounts

Rubber with high-damping qualities provides effective shock protection and a quick return to system equilibrium in compression load applications. Use with precision and electromechanical equipment as well as small pumps and fans. Temperature range is 55° to 105° F. Color is blue.





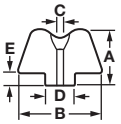

1

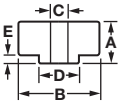

2

	Cap. per Mount, lbs.	Deflect. @ Max. Cap.	Durometer	O'all Ht. (A)	OD (B)	ID (C)	(D)	(E)		
1	20	0.07″	56A	0.97″	1.50″	0.19″	0.50″	0.22″	60525K13	$3.89
1	20	0.06″	56A	0.97″	1.50″	0.33″	0.51″	0.22″	60525K14	3.89
2	70	0.02″	56A	0.63″	1.17″	0.33″	0.50″	0.13″	60525K21	3.93
2	140	0.03″	56A	0.82″	1.66″	0.44″	0.75″	0.19″	60525K22	10.85
2	300	0.03″	56A	1.01″	2.37″	0.58″	1.01″	0.26″	60525K23	13.03
2	700	0.06″	56A	1.39″	3.67″	0.55″	1.00″	0.36″	60525K24	21.21

Oil-Resistant Vibration-Damping Mounts

Made of oil-resistant rubber, mounts isolate vibration, shock, and noise in compression load applications. Install under machines and equipment such as generators, HVAC equipment, electric motors, pumps, and blowers. Temperature range is 10° to 180° F. Rubber is black.

Styles 3, ***5***, and ***6*** can be stacked for additional shock protection. ***Style 6*** base is covered by rubber.

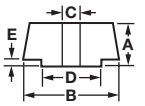



3

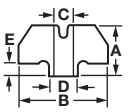



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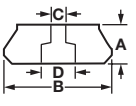



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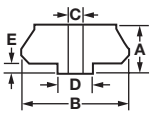



6

	Cap. per Mount, lbs.	Deflect. @ Max. Cap.	Durometer	O'all Ht. (A)	OD (B)	ID (C)	(D)	(E)		
Rubber										
3	130	0.18″	40A	0.81″	1.75″	0.63″	1.12″	0.12″	64865K85	$1.74
3	200	0.18″	50A	0.81″	1.75″	0.63″	1.12″	0.12″	64865K86	1.74
3	250	0.18″	60A	0.81″	1.75″	0.63″	1.12″	0.12″	64865K87	1.74
3	400	0.18″	70A	0.81″	1.75″	0.63″	1.12″	0.12″	64865K88	1.74
4	100	0.26″	40A	1.78″	3.00″	0.62″	1.06″	0.47″	64865K201	5.60
4	150	0.26″	50A	1.78″	3.00″	0.62″	1.06″	0.47″	64865K202	5.60
4	230	0.26″	60A	1.78″	3.00″	0.62″	1.06″	0.47″	64865K203	5.60
4	300	0.26″	70A	1.78″	3.00″	0.62″	1.06″	0.47″	64865K204	5.60
Rubber with Steel Top Plate										
5	75	0.10″	40A	1.00″	2.50″	0.63″	1.25″	—	64865K94	5.66
5	100	0.10″	50A	1.00″	2.50″	0.63″	1.25″	—	64865K95	5.66
5	150	0.10″	60A	1.00″	2.50″	0.63″	1.25″	—	64865K96	5.66
5	250	0.10″	70A	1.00″	2.50″	0.63″	1.25″	—	64865K97	5.66
Rubber with Steel Top Plate and Bottom Plates										
5	250	0.21″	40A	1.25″	2.75″	0.63″	0.94″	—	64865K81	7.89
5	350	0.21″	50A	1.25″	2.75″	0.63″	0.94″	—	64865K82	7.89
5	450	0.21″	60A	1.25″	2.75″	0.63″	0.94″	—	64865K83	7.89
5	600	0.21″	70A	1.25″	2.75″	0.63″	0.94″	—	64865K84	7.89
6	660	0.21″	40A	1.77″	4.06″	0.64″	1.27″	0.30″	64865K89	19.09
6	1,100	0.21″	50A	1.77″	4.06″	0.64″	1.27″	0.30″	64865K91	19.09
6	1,400	0.21″	60A	1.77″	4.06″	0.64″	1.27″	0.30″	64865K92	19.09
6	1,800	0.21″	70A	1.77″	4.06″	0.64″	1.27″	0.30″	64865K93	19.09

Chemical-Resistant Vibration-Damping Mounts

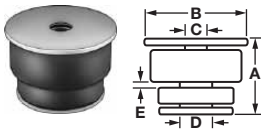

Made of a specially formulated rubber, mounts withstand exposure to weather and resist oil, antifreeze, and other petroleum-based fluids. Use for long-term service in compression applications such as electric motors, air compressors, and generators. An unthreaded steel insert in the center of the mount provides stability, while steel washers at the top and bottom add support. Temp. range is –40° to 200° F. Rubber is black.

Cap. per Mount, lbs.	Deflect. @ Max. Cap.	Durometer	O'all Ht. (A)	OD (B)	ID (C)	(D)	(E)		
1,150	0.16″	70A	2 3/8″	2 1/2″	1/2″	1 1/4″	1/4″	7145N2	$24.37
1,650	0.22″	88A	1 11/16″	2 1/2″	1/2″	7/8″	1/4″	7145N1	19.93

Bolt-Down Vibration-Damping Mounts









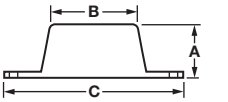









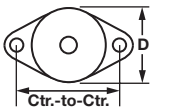

Keep mounts stationary in compression load applications—mounting holes in the flange base allow you to fasten them in place. Mounts provide vibration, shock, and noise isolation for rotating equipment such as fans, blowers, pumps, compressors, and generators. Made of oil-resistant rubber with a steel base. Styles 1-7 have a tapped hole in the center that allows you to use your own threaded rod or bolt; Style 8 has an unthreaded through-hole. Base has two mounting holes, except Style 7 has four holes (fasteners not included).

Fail-safe mounts have an interlocking steel design that keeps the mount intact even if the rubber fails.

Styles 1&2— Temperature range is 10° to 180° F.

Styles 3&4— Mounts are covered in rubber for superior corrosion resistance. The underside of the base has a nonskid surface. *Style 3* have a slotted flange hole. Temp. range is –20° to 180° F. *Style 4* include a bolt and washer. Temp. range is –20° to 225° F.

Style 5— Mounts provide high deflection and shock isolation. Temperature range is –20° to 180° F.

Styles 6&7— Mounts have a low profile and a high load capacity. Temperature range is 0° to 180° F.

Style 8— Temperature range is 10° to 180° F.

To Order: Please specify capacity per mount where necessary from those listed in the table.

	Thread/ Hole Dia.	Available Capacities per Mount, lbs. (Durometer)	Deflect. @ Max. Cap.	O'all Ht. (A)		Base Lg. (C)	Base Wd. (D)	Mount. Holes Dia.	Mount. Holes Ctr.-to-Ctr.	Color		
Standard												
1	5/16″-18	50 (40A), 80 (50A), 110 (60A), 160 (70A)	0.12″	1.00″	1.20″	3.13″	1.75″	0.34″	2.38″	Black	64875K1	$4.40
2	3/8″-16	130 (40A), 250 (50A), 350 (60A), 480 (70A)	0.12″	1.12″	1.83″	3.75″	2.25″	0.34″	3.00″	Black	64875K3	6.69
2	3/8″-16	210 (30A)	0.10″	1.12″	1.78″	3.75″	2.27″	0.34″	3.00″	Black	64875K241	8.14
2	3/8″-16	370 (40A)	0.10″	1.12″	1.78″	3.75″	2.27″	0.34″	3.00″	Black	64875K242	8.14
2	3/8″-16	520 (50A)	0.10″	1.12″	1.78″	3.75″	2.27″	0.34″	3.00″	Black	64875K243	8.14
2	3/8″-16	680 (60A)	0.10″	1.12″	1.78″	3.75″	2.27″	0.34″	3.00″	Black	64875K244	8.14
2	3/8″-16	750 (70A)	0.08″	1.12″	1.78″	3.75″	2.27″	0.34″	3.00″	Black	64875K245	8.14
2	1/2″-20	130 (40A), 250 (50A), 350 (60A), 480 (70A)	0.12″	1.12″	1.83″	3.75″	2.25″	0.34″	3.00″	Black	64875K2	6.69
3	1/2″-13	1,500 (40A)	0.25″	1.63″	3.00″	6.25″	4.63″	0.56″	5.00″	Black	64875K711	47.70
3	1/2″-13	1,500 (40A)	0.50″	2.75″	3.00″	6.25″	4.63″	0.56″	5.00″	Black	64875K811	60.76
3	1/2″-13	2,250 (50A)	0.25″	1.63″	3.00″	6.25″	4.63″	0.56″	5.00″	Red	64875K712	47.70
3	1/2″-13	2,250 (50A)	0.50″	2.75″	3.00″	6.25″	4.63″	0.56″	5.00″	Red	64875K812	60.76
3	1/2″-13	3,000 (60A)	0.25″	1.63″	3.00″	6.25″	4.63″	0.56″	5.00″	Green	64875K713	47.70
3	1/2″-13	3,000 (60A)	0.50″	2.75″	3.00″	6.25″	4.63″	0.56″	5.00″	Green	64875K813	60.76
3	1/2″-13	4,000 (70A)	0.25″	1.63″	3.00″	6.25″	4.63″	0.56″	5.00″	Gray	64875K714	47.70
3	1/2″-13	4,000 (70A)	0.50″	2.75″	3.00″	6.25″	4.63″	0.56″	5.00″	Gray	64875K814	60.76
4	5/16″-18	45 (30A), 75 (40A), 125 (50A)	0.35″	1.50″	1.19″	3.19″	1.63″	0.31″	2.38″	Black	6423K4	17.14
4	3/8″-16	150 (40A), 380 (60A), 600 (70A)	0.40″	1.88″	1.75″	3.88″	2.31″	0.31″	3.00″	Black	6423K5	20.50
4	1/2″-13	600 (60A), 1,000 (70A)	0.50″	2.75″	2.56″	5.50″	3.31″	0.50″	4.13″	Black	6423K6	47.33
4	1/2″-13	2,100 (70A)	0.50″	2.75″	3.38″	6.25″	4.00″	0.50″	5.00″	Black	6423K613	59.82
4	1/2″-13	4,300 (70A)	0.50″	2.75″	3.38″	6.75″	4.38″	0.50″	5.50″	Black	6423K614	75.67
5	1/2″-13	60 (48A), 100 (56A), 130 (64A)	0.20″	1.50″	1.53″	4.41″	2.00″	0.41″	3.75″	Black	67555K31	43.28
5	1/2″-13	200 (56A), 260 (64A)	0.20″	1.50″	1.53″	4.41″	4.00″	0.41″	3.75″	Black	67555K61	46.96
5	1/2″-13	700 (40A), 1,000 (50A), 1,500 (60A), 2,500 (70A)	0.25″	1.61″	3.13″	5.13″	3.00″	0.44″	4.13″	Black	67555K11	43.83
5	1/2″-13	1,500 (50A), 2,000 (60A), 3,000 (70A), 4,400 (80A)	0.19″	1.61″	5.31″	7.25″	3.00″	0.44″	6.25″	Black	67555K71	139.11
5	3/4″-10	700 (40A), 1,000 (50A), 1,500 (70A)	0.25″	1.50″	3.13″	5.13″	3.00″	0.44″	4.13″	Black	67555K41	49.83
5	M12	700 (40A), 1,000 (50A), 1,500 (60A), 2,500 (70A)	0.25″	1.61″	3.13″	5.13″	3.00″	0.44″	4.13″	Black	67555K21	45.17
6	5/8″-11	1,500 (65A)	0.03″	1.19″	4.00″	7.00″	2.50″	0.66″	5.50″	Black	57535K46	78.22
6	5/8″-11	3,000 (60A)	0.03″	1.19″	4.00″	7.00″	4.00″	0.66″	5.50″	Black	57535K47	129.33
7	5/8″-11	7,500 (50A)	0.03″	1.19″	4.00″	7.00″	8.00″	0.66″	5.50″	Black	57535K48	301.71
Fail Safe												
1	1/4″-20	46 (30A), 87 (40A), 115 (50A), 137 (60A)	0.05″	0.75″	0.92″	2.27″	1.25″	0.26″	1.75″	Black	64875K39	6.35
1	5/16″-18	85 (30A), 170 (40A), 250 (50A), 340 (60A)	0.08″	1.02″	1.20″	3.13″	1.73″	0.34″	2.38″	Black	64875K16	5.18
1	3/8″-16	210 (30A), 360 (40A), 520 (50A), 680 (60A)	0.10″	1.25″	1.86″	3.81″	2.32″	0.34″	3.00″	Black	64875K36	8.57
1	1/2″-13	471 (30A), 713 (40A), 940 (50A), 1,064 (60A)	0.13″	1.78″	2.42″	5.50″	3.37″	0.51″	4.12″	Black	64875K23	18.60
1	3/4″-10	900 (30A), 1,106 (40A), 1,630 (50A), 2,500 (60A)	0.13″	1.84″	3.10″	6.41″	4.09″	0.53″	5.00″	Black	64875K46	24.16
1	3/4″-10	2,270 (30A), 3,520 (40A), 4,124 (50A), 6,600 (60A)	0.17″	2.25″	4.12″	7.41″	5.10″	0.63″	6.00″	Black	64875K48	29.34
1	M6	46 (30A), 87 (40A), 115 (50A), 137 (60A)	0.05″	0.75″	0.92″	2.27″	1.25″	0.26″	1.75″	Black	64875K42	6.35
1	M8	85 (30A), 170 (40A), 250 (50A), 340 (60A)	0.08″	1.02″	1.20″	3.13″	1.73″	0.34″	2.38″	Black	64875K43	5.10
1	M8	210 (30A), 360 (40A), 520 (50A), 680 (60A)	0.10″	1.25″	1.86″	3.81″	2.32″	0.34″	3.00″	Black	64875K44	7.50
1	M12	470 (30A), 715 (40A), 940 (50A), 1,064 (60A)	0.13″	1.78″	2.42″	5.50″	3.37″	0.51″	4.12″	Black	64875K45	17.44
1	M20	900 (30A), 1,106 (40A), 1,630 (50A), 2,500 (60A)	0.13″	1.84″	3.10″	6.41″	4.09″	0.53″	5.00″	Black	64875K47	24.16
8	1/2″ Dia.	375 (40A), 800 (50A), 925 (60A), 1,425 (70A)	0.13″	1.66″	3.25″	5.38″	3.25″	0.53″	4.12″	Black	64875K5	13.62
8	5/8″ Dia.	525 (40A), 1,000 (50A), 1,250 (60A), 1,950 (70A)	0.13″	1.66″	3.94″	6.25″	3.94″	0.53″	5.00″	Black	64875K38	19.34
8	3/4″ Dia.	525 (40A), 1,000 (50A), 1,250 (60A), 1,950 (70A)	0.13″	1.66″	3.94″	6.25″	3.94″	0.53″	5.00″	Black	64875K6	20.26

For information about vibration-damping mounts, see page 1434. For information about durometer, see page 3588.

Extreme-Temperature Bolt-Down Vibration-Damping Mounts

Made of silicone, mounts withstand temperatures from –80° to 300° F in compression load applications. All have a flange base with two mounting holes so you can bolt them in place (fasteners not included). Mounts have a tapped hole in the center for use with your own threaded rod or bolt. **To Order:** Please specify capacity per mount from those listed in the table.

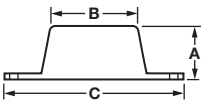

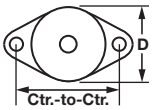



Thread	Available Capacities per Mount, lbs. (Durometer)	Deflect. @ Max. Cap.	O'all Ht. (A)	OD (B)	Base Lg. (C)	Base Wd. (D)	Mount. Holes Dia.	Mount. Holes Ctr.-to-Ctr.		
5/16"-18	35 (30A), 45 (40A), 70 (50A), 120 (60A)	0.20"	1.00"	1.25"	3.13"	1.75"	0.34"	2.38"	6962K41	$14.51
5/16"-18	35 (30A), 45 (40A), 70 (50A), 120 (60A)	0.40"	1.25"	1.25"	3.13"	1.75"	0.34"	2.38"	6962K44	16.80
3/8"-16	135 (30A), 170 (40A), 240 (50A), 380 (60A), 550 (70A)	0.25"	1.25"	1.75"	3.88"	2.38"	0.34"	3.00"	6962K42	20.26
3/8"-16	135 (30A), 170 (40A), 240 (50A), 380 (60A), 550 (70A)	0.50"	1.75"	1.75"	3.88"	2.38"	0.34"	3.00"	6962K45	23.54
1/2"-13	250 (40A), 525 (50A), 750 (60A), 1,100 (70A)	0.25"	1.75"	2.50"	5.50"	3.38"	0.56"	4.13"	6962K43	41.40
1/2"-13	250 (40A), 525 (50A), 750 (60A), 1,100 (70A)	0.50"	2.88"	2.50"	5.50"	3.38"	0.56"	4.13"	6962K46	46.94

Versa-Mount Bolt-Down Vibration-Damping Mounts

Mount in any direction for use in compression and shear load applications. Made of oil-resistant rubber encased in zinc-plated steel for a long service life. Mounts have four mounting holes (fasteners not included). Temperature range is –20° to 180° F.



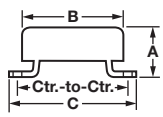

Thread	Cap. per Mount, lbs.	Compression Deflect. @ Max. Cap.	Shear Deflect. @ Max. Cap.	Durometer	O'all Ht. (A)	OD (B)	Base Size, sq. (C)	Mount. Holes Dia.	Mount. Holes Ctr.-to-Ctr.		
1/4"-20	14	0.01"	0.01"	40A	1 1/8"	2 5/16"	2 3/8"	0.20"	1 15/16"	6188K411	$25.56
1/4"-20	24	0.01"	0.01"	50A	1 1/8"	2 5/16"	2 3/8"	0.20"	1 15/16"	6188K412	25.56
1/4"-20	60	0.01"	0.01"	68A	1 1/8"	2 5/16"	2 3/8"	0.20"	1 15/16"	6188K414	25.56
3/8"-16	50	0.01"	0.01"	44A	1 1/2"	3"	3"	0.27"	2 1/2"	6188K512	38.78
3/8"-16	110	0.01"	0.01"	70A	1 1/2"	3"	3"	0.27"	2 1/2"	6188K514	38.78

Spring-Action High-Deflection Bolt-Down Vibration-Damping Mounts

Spring action provides high deflection, which translates to greater isolation of vibration and noise for machines operating as slowly as 500 rpm. Mounts are for use in compression load applications. They have upper and lower cast iron housings that contain a steel spring and prevent horizontal movement of the mount. A layer of rubber between the housings prevents metal-to-metal contact while a rubber pad bonded to the base plate limits movement.

Mounts have two mounting slots (fasteners not included). An adjustment bolt with locking nut lets you use mounts for leveling. For best results, adjust the leveling bolt so that the upper housing is 1/4"-1/2" above the top of the lower housing. Temperature range is –20° to 180° F.

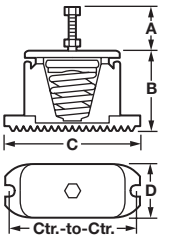



Thread Size	Thread Lg. (A)	Cap. per Mount, lbs.	Deflection @ Max. Cap.	Ht. (B)	Base Lg. (C)	Base Wd. (D)	Mount. Holes Dia.	Mount. Holes Ctr.-to-Ctr.	Mounts		Repl. Spring	
3/8"-16	3"	50	1.00"	3 3/8"	5 7/8"	2 3/8"	7/16"	5"	6219K71	$45.42	6219K11	$6.95
3/8"-16	3"	100	1.00"	3 3/8"	5 7/8"	2 3/8"	7/16"	5"	6219K84	45.42	6219K12	6.95
3/8"-16	3"	150	1.00"	3 3/8"	5 7/8"	2 3/8"	7/16"	5"	6219K72	45.30	6219K13	6.95
3/8"-16	3"	250	0.83"	3 3/8"	5 7/8"	2 3/8"	7/16"	5"	6219K73	45.30	6219K14	6.95
3/8"-16	3"	370	0.75"	3 3/8"	5 7/8"	2 3/8"	7/16"	5"	6219K87	45.30	6219K15	6.95
3/8"-16	3"	520	0.75"	3 3/8"	5 7/8"	2 3/8"	7/16"	5"	6219K88	45.42	6219K25	14.00
1/2"-13	3 1/2"	675	1.32"	5 1/4"	7 3/4"	3"	5/8"	6 1/2"	6219K74	60.35	6219K17	16.24
1/2"-13	3 1/2"	900	1.02"	5 1/4"	7 3/4"	3"	5/8"	6 1/2"	6219K91	60.35	6219K18	16.24
1/2"-13	3 1/2"	1,200	0.90"	5 1/4"	7 3/4"	3"	5/8"	6 1/2"	6219K92	66.45	6219K19	16.24
1/2"-13	3 1/2"	1,785	0.88"	5 1/4"	7 3/4"	3"	5/8"	6 1/2"	6219K94	69.58	6219K35	23.97

Inflatable High-Deflection Vibration-Damping Mounts

Connect these compact mounts to your air supply for vibration and shock isolation in compression load applications. They handle the high deflection of equipment such as punch presses, blowers, forging hammers, shakers, vibrators, and air compressors. Add or release air to use these mounts as leveling devices (±1/4" adjustment). Mounts have four mounting holes (fasteners not included) and a 0.30" dia. threaded air connection—inflate as you would a bicycle tire. Temperature range is –20° to 180° F.

Mounts are black rubber. They have an aluminum top plate and base, except the 1/2"-13 and 5/8"-11 thread mounts with a capacity of 1,200-lbs. and higher have a steel top plate.

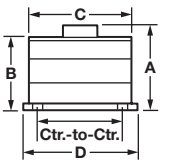



Thread	Max. Static Cap. per Mount, lbs.	Max. Deflection	Max. psi	Durometer	O'all Ht. (A)	(B)	OD (C)	Base Size, sq. (D)	Mount. Holes Dia.	Mount. Holes Ctr.-to-Ctr.		
3/8"-16	100	1"	60	60A	2.50"	2.00"	2.88"	3.00"	0.30"	2.38"	62075K21	$93.96
1/2"-13	300	1"	60	60A	2.45"	1.91"	4.14"	4.19"	0.30"	3.50"	62075K22	95.82
1/2"-13	600	1.5"	80	60A	3.50"	2.94"	5.00"	5.12"	0.30"	4.25"	62075K23	113.30
1/2"-13	1,200	1.5"	80	60A	3.50"	2.94"	6.74"	6.88"	0.30"	6.00"	62075K24	148.30
5/8"-11	2,400	1.5"	80	60A	3.50"	2.94"	9.66"	10.00"	0.56"	8.50"	62075K25	215.16
5/8"-11	4,800	1.5"	80	60A	3.50"	2.94"	13.31"	13.50"	0.56"	12.00"	62075K26	365.78
M10	100	0.5"	85	65A	2.50"	1.94"	2.89"	3.00"	0.30"	2.38"	62075K31	59.78
M12	300	0.5"	85	65A	2.50"	1.94"	4.14"	4.19"	0.30"	3.50"	62075K32	75.33
M12	550	0.5"	85	65A	3.50"	2.94"	5.00"	5.13"	0.30"	4.25"	62075K33	109.44
M12	1,200	0.5"	85	65A	3.50"	2.94"	6.74"	6.88"	0.30"	6.00"	62075K34	171.22
M16	2,400	0.5"	85	65A	3.50"	2.94"	9.66"	10.00"	0.56"	8.50"	62075K35	218.22

Vibration-Damping Mounts

For information about vibration-damping mounts, see page 1434. For information about durometer, see page 3588.

Seismic Vibration-Damping Mounts



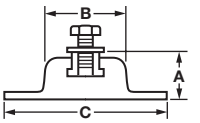

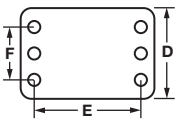

Limit damage during moderate earthquakes. The mounts have a seismic rating of 1 g (acceleration of gravity) and dissipate vibration and noise in compression and shear load applications. They are made of black rubber with a steel housing, come with a cadmium-plated steel cap screw and washer for height adjustment, and have six mounting holes (fasteners not included). Temperature range is –20° to 225° F.

Thread	Compression: Cap. per Mount, lbs.	Compression: Deflect. @ Max. Cap.	Shear: Cap. per Mount, lbs.	Shear: Deflect. @ Max. Cap.	Durometer	Ht. (A)	OD (B)	Base: Lg. (C)	Base: Wd. (D)	Mount. Holes: Dia.	Mount. Holes: (E)	Mount. Holes: (F)		
1/2"-13	250	0.15"	200	0.09"	30A	1 7/8"	2 3/4"	4 3/4"	3"	7/16"	3 7/8"	2"	5724K41	$57.31
1/2"-13	525	0.15"	420	0.09"	45A	1 7/8"	2 3/4"	4 3/4"	3"	7/16"	3 7/8"	2"	5724K42	57.31
1/2"-13	1,000	0.15"	800	0.09"	60A	1 7/8"	2 3/4"	4 3/4"	3"	7/16"	3 7/8"	2"	5724K43	57.31
5/8"-11	1,400	0.15"	400	0.09"	40A	1 7/8"	3 1/2"	6 1/4"	3 3/4"	9/16"	5"	2 1/2"	5724K44	68.85
5/8"-11	2,100	0.15"	600	0.09"	50A	1 7/8"	3 1/2"	6 1/4"	3 3/4"	9/16"	5"	2 1/2"	5724K45	68.85
5/8"-11	3,500	0.15"	1,000	0.09"	60A	1 7/8"	3 1/2"	6 1/4"	3 3/4"	9/16"	5"	2 1/2"	5724K46	68.85

Oil-Resistant Heavy Duty Vibration-Damping Mounts



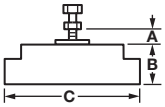

Made of resilient, black nitrile rubber that withstands oil, these mounts have an aluminum top plate that not only supports heavy loads, but also displaces vibration and shock through the entire mount. Use them in compression load applications with punch presses, milling machines, grinders, and air compressors. Hundreds of suction pockets on the bottom of each mount prevent machine walking. Mounts come with a zinc-plated steel bolt and nut, and have two tapped holes for mounting versatility. Temperature range is –25° to 250° F.

Cap. per Mount, lbs.	Deflection @ Max. Cap.	Durometer	Thread: Size	Thread: Lg. (A)	Ht. (B)	Base Size, sq. (C)		
500	0.18"	60A	1/2"-20	1 1/2"	1 3/16"	4"	6424K21	$48.49
1,000	0.12"	60A	1/2"-20	1 1/2"	1 3/16"	6"	6424K12	61.55
1,875	0.21"	80A	1/2"-20	1 1/2"	1 3/16"	4"	6424K23	48.49
2,500	0.13"	80A	1/2"-20	1 1/2"	1 3/16"	6"	6424K14	61.55

Chemical-Resistant Heavy Duty Vibration-Damping Mounts



The polyurethane base on these mounts resists solvents, gasoline, and oil, while the metal plate sustains heavy loads. Use them in compression load applications to minimize vibration and noise. Temperature range is –80° to 180° F. Base is blue.

Zinc-plated steel plate offers some corrosion resistance. ***Stainless steel plate*** provides superior corrosion resistance.

Thread	Cap. per Mount, lbs.	Deflection @ Max. Cap.	Durometer	O'all Ht. (A)	Base Dia. (B)	Dia. (C)	***Zinc-Plated Steel Plate***		***Stainless Steel Plate***	
5/16"-18	250	0.22"	65A	1/2"	2"	1 5/8"	6102K11	$47.45	6102K17	$50.74
3/8"-16	1,500	0.24"	65A	5/8"	3"	2 1/2"	6102K12	61.62	6102K18	65.56
3/8"-16	3,000	0.34"	65A	7/8"	4"	3 3/8"	6102K13	68.80	6102K19	87.39
1/2"-13	5,000	0.28"	65A	1"	5"	4 1/4"	6102K14	108.05	6102K21	127.39
5/8"-11	7,000	0.30"	65A	1 1/4"	6"	5"	6102K15	159.20	6102K22	186.25
3/4"-10	12,000	0.39"	65A	1 1/2"	8"	6 3/4"	6102K16	220.36	6102K23	275.89

Vibration-Damping Sandwich Mounts

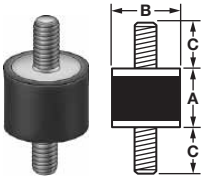

Style 1

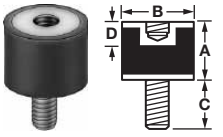

Style 2

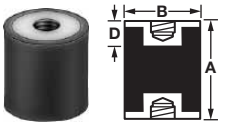

Style 3

Diminish vibration, shock, and noise in compression and shear load applications. Mounts have two threaded studs and/or inserts that are sandwiched between black natural rubber or neoprene. Durometer is 50A, unless noted.

Natural rubber has superior resistance to tears and abrasion as well as good flexibility in cold temperatures. Temperature range is –10° to 150° F. ***Neoprene*** has good resistance to weather and acids; moderate resistance to oils. Temperature range is 10° to 180° F.

Inch Thread	Metric Thread	Compression: Cap. per Mount, lbs.	Compression: Deflect. @ Max. Cap.	Shear: Cap. per Mount, lbs.	Shear: Deflect. @ Max. Cap.	Ht. (A)	Wd. (B)	Thread: Lg. (C)	Thread: Dp. (D)	***Inch Thread***		***Metric Thread***	
Style 1—*Male Threaded Stud on Each End*													
Steel Studs—**To Order:** *Please specify natural rubber or neoprene mount.*													
6-32	—	3	0.03"	—	—	1/4"	3/16"	1/2"	—	9376K181●	$2.63	—	—
8-32	M4	7	0.05"	0.75	0.04"	1/2"	3/8"	1/2"	—	9376K11	1.57	9376K201	$1.57
8-32	M4	20	0.05"	3	0.06"	1/2"	5/8"	1/2"	—	9376K25	1.97	9376K202	1.97
10-32	—	8	0.05"	—	—	1/2"	3/8"	1/2"	—	9376K183●	2.53	—	—
1/4"-20	M6	31	0.07"	4.5	0.06"	5/8"	5/8"	1/2"	—	9376K27	1.76	9376K203	1.76
1/4"-20	M6	40	0.08"	6	0.08"	3/4"	3/4"	1/2"	—	9376K32	1.80	9376K204	1.80
1/4"-20	M6	45	0.10"	8	0.10"	1"	1"	1/2"	—	9376K37	1.83	9376K208	1.83
1/4"-20	M6	50	0.05"	15	0.10"	1/2"	1"	1/2"	—	9376K33	1.89	9376K205	1.89
1/4"-20	M6	50	0.08"	9	0.10"	3/4"	1"	1/2"	—	9376K34	1.87	9376K206	1.87
1/4"-20	—	50	0.08"	9	0.10"	3/4"	1"	3/4"	—	9376K116	1.91	—	—
1/4"-20	M6	75	0.08"	12	0.12"	3/4"	1 1/4"	1/2"	—	9376K38	1.95	9376K209	1.95
1/4"-20	M6	110	0.08"	18	0.15"	3/4"	1 1/2"	1/2"	—	9376K39	2.40	9376K211	2.40
5/16"-18	—	30	0.10"	3	0.08"	1"	3/4"	5/8"	—	9376K121	2.03	—	—
5/16"-18	M8	40	0.30"	—	—	3"	1"	5/8"	—	9376K47	2.48	9376K215	2.48
5/16"-18	M8	45	0.10"	8	0.10"	1"	1"	5/8"	—	9376K45	2.03	9376K214	2.03

● Square shape.

(Continued on following page)

For information about vibration-damping mounts, see page 1434. For information about durometer, see page 3588.

Vibration-Damping Sandwich Mounts *(Continued from previous page)*

Inch Thread	Metric Thread	Compression: Cap. per Mount, lbs.	Compression: Deflect. @ Max. Cap.	Shear: Cap. per Mount, lbs.	Shear: Deflect. @ Max. Cap.	Ht. (A)	Wd. (B)	Thread: Lg. (C)	Thread: Dp. (D)	Inch Thread		Metric Thread	
***Style 1—**Male Threaded Stud on Each End (Cont.)*													
***Steel Studs—**To Order: Please specify natural rubber or neoprene mount.*													
5/16"-18	M8	50	0.08"	9	0.10"	3/4"	1"	5/8"	—	9376K43	$2.17	9376K213	$2.17
5/16"-18	M8	70	0.10"	12	0.12"	1"	1 1/4"	5/8"	—	9376K55	2.20	9376K217	2.20
5/16"-18	M8	70	0.13"	10	0.12"	1 1/4"	1 1/4"	5/8"	—	9376K56	2.45	9376K218	2.45
5/16"-18	M8	75	0.08"	12	0.12"	3/4"	1 1/4"	5/8"	—	9376K49	2.28	9376K216	2.28
5/16"-18	M8	80	0.10"	15	0.14"	1"	1 3/8"	5/8"	—	9376K58	2.18	9376K219	2.18
5/16"-18	M8	110	0.08"	18	0.15"	3/4"	1 1/2"	5/8"	—	9376K59	2.24	9376K221	2.24
5/16"-18	M8	125	0.10"	20	0.15"	1"	1 9/16"	5/8"	—	9376K61	2.92	9376K222	2.92
5/16"-24	—	125	0.10"	20	0.15"	1"	1 9/16"	5/8"	—	9376K132	2.92	—	—
3/8"-16	M10	125	0.10"	20	0.15"	1"	1 9/16"	5/8"	—	9376K64	3.30	9376K224	3.30
3/8"-16	M10	165	0.16"	55	0.20"	1 5/8"	2"	5/8"	—	9376K66	5.17	9376K226	5.17
3/8"-16	M10	180	0.14"	46	0.20"	1 3/8"	2"	5/8"	—	9376K156	7.66	9376K157	7.66
3/8"-16	M10	370	0.08"	90	0.15"	3/4"	2"	1 1/8"	—	9376K65	4.72	9376K225	4.72
3/8"-16	M10	375	0.06"	85	0.16"	5/8"	1 9/16"	5/8"	—	9376K154	5.00	9376K155	5.00
3/8"-16	M10	560	0.09"	160	0.25"	7/8"	2 1/2"	1 1/8"	—	9376K67	5.33	9376K227	5.33
1/2"-13	M12	668	0.15"	199	0.31"	1 1/2"	3 1/8"	1 1/4"	—	9376K68	10.78	9376K228	10.78
1/2"-13	M12	720	0.40"	140	0.30"	2 1/4"	3 1/8"	1 1/4"	—	9376K69	17.47	9376K229	17.47
***Stainless Steel Studs—**Mount is natural rubber. Studs are stainless steel for excellent corrosion resistance.*													
8-32	M4	20	0.05"	3	0.06"	1/2"	5/8"	1/2"	—	5823K2	6.27	5823K61	6.27
1/4"-20	M6	50	0.08"	9	0.10"	3/4"	1"	1/2"	—	5823K5	5.47	5823K62	5.47
5/16"-18	M8	45	0.10"	8	0.10"	1"	1"	5/8"	—	5823K8	6.22	5823K63	6.22
5/16"-18	M8	70	0.13"	10	0.12"	1 1/4"	1 1/4"	5/8"	—	5823K11	9.47	5823K64	9.47
5/16"-18	M8	80	0.10"	15	0.14"	1"	1 3/8"	5/8"	—	5823K14	8.97	5823K65	8.97
3/8"-16	M10	125	0.10"	20	0.15"	1"	1 9/16"	5/8"	—	5823K17	9.43	5823K66	9.43
3/8"-16	M10	370	0.08"	90	0.15"	3/4"	2"	1 1/8"	—	5823K21	9.56	5823K67	9.56
***Style 2—**Male Threaded Stud on One End; Female Threaded Insert on One End*													
***Steel Stud and Insert—**To Order: Please specify natural rubber or neoprene mount.*													
8-32	M4	7	0.05"	0.75	0.04"	1/2"	3/8"	1/2"	1/8"	9376K71	1.93	9376K231	1.93
8-32	M4	20	0.05"	3	0.06"	1/2"	5/8"	1/2"	3/16"	9376K72	2.06	9376K232	2.06
1/4"-20	M6	31	0.07"	4.5	0.06"	5/8"	5/8"	1/2"	3/16"	9376K73	2.17	9376K233	2.17
1/4"-20	M6	50	0.06"	15	0.10"	3/4"	1"	1/2"	3/16"	9376K74	2.41	9376K234	2.41
1/4"-20	M6	55	0.10"	8	0.10"	1"	1"	1/2"	3/16"	9376K75	2.65	9376K235	2.65
1/4"-20	M6	75	0.03"	25	0.10"	1/2"	1"	1/2"	3/16"	9376K76	2.35	9376K236	2.35
5/16"-18	M8	55	0.10"	8	0.10"	1"	1"	5/8"	3/16"	9376K77	2.41	9376K237	2.41
5/16"-18	M8	80	0.10"	15	0.14"	1"	1 3/8"	5/8"	3/16"	9376K78	2.54	9376K238	2.54
3/8"-16	M10	125	0.10"	20	0.15"	1"	1 9/16"	5/8"	1/4"	9376K168	5.50	9376K169	5.50
3/8"-16	M10	165	0.16"	55	0.20"	1 5/8"	2"	5/8"	3/8"	9376K82	5.50	9376K242	5.50
3/8"-16	M10	165	0.20"	45	0.20"	2"	2"	1 1/8"	3/8"	9376K81	5.75	9376K241	5.75
3/8"-16	M10	192	0.14"	54	0.20"	1 3/8"	2"	5/8"	3/8"	9376K92	5.45	9376K252	5.45
3/8"-16	M10	375	0.06"	85	0.16"	5/8"	1 9/16"	5/8"	1/4"	9376K158	5.17	9376K159	5.17
1/2"-13	M12	720	0.40"	140	0.30"	2 1/4"	3 1/8"	1 1/4"	9/16"	9376K83	21.00	9376K243	21.00
***Stainless Steel Stud and Insert—**Mount is natural rubber. Stud and insert are stainless steel for excellent corrosion resistance.*													
8-32	M4	20	0.05"	3	0.06"	1/2"	5/8"	1/2"	3/16"	5823K22	8.33	5823K68	8.33
1/4"-20	M6	50	0.08"	9	0.10"	3/4"	1"	1/2"	3/16"	5823K23	10.43	5823K69	10.43
5/16"-18	M8	55	0.08"	8	0.10"	1"	1"	5/8"	3/16"	5823K24	9.69	5823K71	9.69
5/16"-18	M8	70	0.13"	10	0.12"	1 1/4"	1 1/4"	5/8"	3/16"	5823K25	10.48	5823K52	10.48
5/16"-18	M8	80	0.10"	15	0.14"	1"	1 3/8"	5/8"	3/16"	5823K26	12.17	5823K73	12.17
3/8"-16	M10	125	0.10"	20	0.15"	1"	1 9/16"	5/8"	1/4"	5823K27	14.26	5823K75	14.26
***Style 3—**Female Threaded Insert on Each End*													
***Steel Inserts—**To Order: Please specify natural rubber or neoprene mount.*													
8-32	M4	7	0.05"	0.75	0.04"	1/2"	3/8"	—	1/8"	9376K84	2.18	9376K244	2.18
8-32	M4	25	0.03"	5	0.03"	1/2"	5/8"	—	3/16"	9376K85	2.13	9376K245	2.13
1/4"-20	M6	55	0.10"	8	0.10"	1"	1"	—	3/16"	9376K174	3.30	9376K175	3.30
1/4"-20	M6	210	0.02"	30	0.05"	1/2"	1"	—	3/16"	9376K86	2.61	9376K246	2.61
5/16"-18	M8	55	0.10"	8	0.10"	1"	1"	—	3/16"	9376K87	2.75	9376K247	2.75
5/16"-24	M8	170	0.10"	40	0.15"	1"	1 1/2"	—	3/16"	9376K88	4.50	9376K248	4.50
3/8"-16	M10	165	0.16"	55	0.20"	1 5/8"	2"	—	3/8"	9376K89	5.45	9376K249	5.45
3/8"-16	M10	192	0.14"	54	0.20"	1 3/8"	2"	—	3/8"	9376K176	7.27	9376K177	7.27
1/2"-13	M12	720	0.40"	140	0.30"	2 1/4"	3 1/8"	—	9/16"	9376K91	18.50	9376K251	18.50
***Steel Inserts with Locking Hex Nut—**Mount is neoprene.*													
1/2"-13	—	90	0.12"	25	0.20"	2 1/8"	2"	—	7/16"	64885K51★	9.03	—	—
1/2"-13	—	130	0.12"	45	0.20"	2 1/8"	2"	—	7/16"	64885K52	9.03	—	—
1/2"-13	—	150	0.08"	60	0.20"	1 3/4"	2"	—	7/16"	64885K42	9.26	—	—
1/2"-13	—	185	0.16"	45	0.20"	2 5/8"	2"	—	7/16"	64885K34▲	22.73	—	—
1/2"-13	—	210	0.12"	70	0.20"	2 1/8"	2"	—	7/16"	64885K53▲	9.03	—	—
1/2"-13	—	265	0.06"	90	0.20"	1 1/2"	2"	—	7/16"	64885K31	17.33	—	—
1/2"-13	—	280	0.16"	70	0.20"	2 5/8"	2"	—	7/16"	64885K35♣	22.73	—	—
1/2"-13	—	310	0.08"	140	0.20"	1 3/4"	2"	—	7/16"	64885K44♣	9.26	—	—
1/2"-13	—	310	0.12"	100	0.20"	2 1/8"	2"	—	7/16"	64885K54♣	9.03	—	—
1/2"-13	—	370	0.06"	125	0.20"	1 1/2"	2"	—	7/16"	64885K32▲	17.33	—	—
1/2"-13	—	560	0.06"	200	0.20"	1 1/2"	2"	—	7/16"	64885K33♣	17.33	—	—
***Stainless Steel Inserts—**Mount is natural rubber. Inserts are stainless steel for excellent corrosion resistance.*													
8-32	M4	20	0.05"	3	0.06"	1/2"	5/8"	—	3/16"	5823K31	6.84	5823K81	6.84
1/4"-20	M6	50	0.08"	9	0.10"	3/4"	1"	—	3/16"	5823K37	10.66	5823K82	10.66
5/16"-18	M8	50	0.08"	9	0.10"	3/4"	1"	—	3/16"	5823K32	10.66	5823K87	10.66
5/16"-18	M8	55	0.10"	8	0.10"	1"	1"	—	3/16"	5823K33	11.33	5823K83	11.33
5/16"-18	M8	70	0.13"	10	0.12"	1 1/4"	1 1/4"	—	3/16"	5823K34	12.73	5823K84	12.73
5/16"-18	M8	80	0.10"	15	0.14"	1"	1 3/8"	—	3/16"	5823K35	13.50	5823K85	13.50
3/8"-16	M10	125	0.10"	20	0.15"	1"	1 9/16"	—	1/4"	5823K36	16.50	5823K86	16.50

★ Durometer is 40A. ▲ Durometer is 60A. ♣ Durometer is 70A.

Chemical-Resistant Vibration-Damping Sandwich Mounts





Style 1





Style 2

Solvents, acids, and oils are no problem for these mounts. Made of black polyurethane sandwiched between two threaded steel studs and/or inserts, they're excellent for reducing vibration and noise in motors, fans, blowers, pumps, and office machines.

Standard mounts are tough, yet flexible. Use them in compression and shear load applications. Temperature range is 55° to 105° F. ***Extra-soft mounts*** are more flexible than standard mounts. Use them in compression load applications. Temperature range is –20° to 160° F.

Thread	Compression: Cap. per Mount, lbs.	Compression: Deflect. @ Max. Cap.	Shear: Cap. per Mount, lbs.	Shear: Deflect. @ Max. Cap.	Durometer	Ht. (A)	Wd. (B)	Thread: Lg. (C)	Thread: Dp. (D)		
Style 1—*Male Threaded Stud on Each End*											
Standard Inch											
4-40	4	0.04″	1.5	0.15″	58A	5/16″	5/16″	3/16″	—	96905K31	$5.21
6-32	8	0.03″	3	0.24″	58A	1/2″	3/8″	3/8″	—	96905K48	5.54
8-32	8	0.03″	3	0.24″	58A	1/2″	3/8″	3/8″	—	96905K32	5.71
1/4″-20	20	0.04″	5	0.14″	58A	5/8″	5/8″	1/2″	—	96905K33	6.09
5/16″-18	50	0.03″	13	0.09″	58A	3/4″	1″	5/8″	—	96905K34	7.00
Extra-Soft Inch											
8-32	8	0.15″	—	—	7A	1/2″	3/4″	1/2″	—	20125K61	5.86
1/4″-20	16	0.20″	—	—	7A	1″	1 1/2″	1/2″	—	20125K63	7.23
1/4″-20	40	0.17″	—	—	7A	13/16″	1 3/4″	1/2″	—	20125K68	7.84
Extra-Soft Metric											
M6	15	0.20″	—	—	7A	1″	1 1/2″	1/2″	—	20125K67	7.59
M6	40	0.17″	—	—	7A	7/8″	1 3/4″	1/2″	—	20125K65	8.00
Style 2—*Male Threaded Stud on One End; Female Threaded Insert on One End*											
Standard Inch											
4-40	2	0.02″	0.8	0.08″	58A	5/16″	5/16″	3/16″	1/8″	96905K35	5.21
6-32	4	0.02″	2	0.16″	58A	1/2″	3/8″	3/8″	3/16″	96905K39	5.54
8-32	4	0.02″	2	0.16″	58A	1/2″	3/8″	3/8″	3/16″	96905K36	5.71
1/4″-20	12	0.02″	3.5	0.10″	58A	5/8″	5/8″	1/2″	1/4″	96905K37	6.15
5/16″-18	45	0.03″	10	0.07″	58A	3/4″	1″	5/8″	5/16″	96905K38	9.09
Extra-Soft Inch											
8-32	6	0.15″	—	—	7A	1/2″	3/4″	1/2″	1/4″	20125K62	5.86
1/4″-20	18	0.20″	—	—	7A	1″	1 1/2″	1/2″	3/8″	20125K64	7.23
1/4″-20	40	0.17″	—	—	7A	13/16″	1 3/4″	1/2″	3/8″	20125K69	7.84
Extra-Soft Metric											
M6	18	0.20″	—	—	7A	1″	1 1/2″	1/2″	1/2″	20125K66	7.59
M6	40	0.17″	—	—	7A	7/8″	1 3/4″	1/2″	1/2″	20125K71	8.00

Extreme-Temperature Vibration-Damping Sandwich Mounts





Style 1





Style 2

In addition to having the widest temperature range of all the sandwich mounts we offer, these resist UV light, ozone, and oxidation. Mounts are made of silicone sandwiched between two threaded steel studs and/or inserts. Use them to isolate vibration and shock in compression and shear load applications. Temperature range is –80° to 300° F. Color is black for 30A durometer; green for 40A durometer; and orange for 50A, 60A, and 70A durometer.

Inch Thread	Metric Thread	Compression: Cap. per Mount, lbs.	Compression: Deflect. @ Max. Cap.	Shear: Cap. per Mount, lbs.	Shear: Deflect. @ Max. Cap.	Durometer	Ht. (A)	Wd. (B)	Thread: Lg. (C)	Thread: Dp. (D)	Inch Thread		Metric Thread	
Style 1—*Male Threaded Stud on Each End*														
1/4″-20	M6	25	0.08″	8	0.12″	30A	3/4″	1″	1/2″	—	4403K277	$6.14	4403K722	$6.46
1/4″-20	M6	35	0.08″	12	0.12″	40A	3/4″	1″	1/2″	—	4403K311	6.14	4403K755	6.46
1/4″-20	M6	40	0.06″	8	0.07″	30A	1/2″	1″	1/2″	—	4403K122	5.71	4403K53	6.00
1/4″-20	M6	50	0.08″	16	0.12″	50A	3/4″	1″	1/2″	—	4403K333	6.14	4403K788	6.46
1/4″-20	M6	60	0.06″	12	0.07″	40A	1/2″	1″	1/2″	—	4403K155	5.71	4403K56	6.00
1/4″-20	M6	65	0.08″	22	0.12″	60A	3/4″	1″	1/2″	—	4403K36	6.14	4403K81	6.46
1/4″-20	M6	80	0.06″	16	0.07″	50A	1/2″	1″	1/2″	—	4403K188	5.71	4403K59	6.00
1/4″-20	M6	90	0.08″	30	0.12″	70A	3/4″	1″	1/2″	—	4403K39	6.14	4403K84	6.46
1/4″-20	M6	100	0.06″	20	0.07″	60A	1/2″	1″	1/2″	—	4403K211	5.71	4403K65	6.00
1/4″-20	M6	140	0.06″	28	0.07″	70A	1/2″	1″	1/2″	—	4403K244	5.71	4403K68	6.00
5/16″-18	M8	50	0.09″	12	0.12″	30A	3/4″	1 1/4″	5/8″	—	4403K422	8.89	4403K73	9.11
5/16″-18	M8	60	0.12″	15	0.12″	30A	1″	1 1/2″	5/8″	—	4403K577	9.83	4403K85	10.06
5/16″-18	M8	75	0.09″	22	0.12″	40A	3/4″	1 1/4″	5/8″	—	4403K455	8.89	4403K76	9.11
5/16″-18	M8	90	0.12″	20	0.12″	40A	1″	1 1/2″	5/8″	—	4403K611	9.83	4403K86	10.06
5/16″-18	M8	100	0.09″	30	0.12″	50A	3/4″	1 1/4″	5/8″	—	4403K488	8.89	4403K79	9.11
5/16″-18	M8	125	0.12″	30	0.12″	50A	1″	1 1/2″	5/8″	—	4403K633	9.83	4403K87	10.06
5/16″-18	M8	150	0.09″	40	0.12″	60A	3/4″	1 1/4″	5/8″	—	4403K511	8.89	4403K82	9.11
5/16″-18	M8	175	0.12″	45	0.12″	60A	1″	1 1/2″	5/8″	—	4403K661	9.83	4403K88	10.06
5/16″-18	M8	180	0.09″	55	0.12″	70A	3/4″	1 1/4″	5/8″	—	4403K544	8.89	4403K83	9.11
5/16″-18	M8	225	0.12″	55	0.12″	70A	1″	1 1/2″	5/8″	—	4403K699	9.83	4403K89	10.06
Style 2—*Male Threaded Stud on One End; Female Threaded Insert on One End*														
1/4″-20	M6	25	0.08″	8	0.10″	30A	3/4″	1″	1/2″	1/4″	4403K133	6.77	4403K588	7.11
1/4″-20	M6	35	0.08″	12	0.10″	40A	3/4″	1″	1/2″	1/4″	4403K166	6.77	4403K622	7.11
1/4″-20	M6	50	0.08″	16	0.10″	50A	3/4″	1″	1/2″	1/4″	4403K199	6.77	4403K644	7.11
1/4″-20	M6	65	0.08″	22	0.10″	60A	3/4″	1″	1/2″	1/4″	4403K22	6.77	4403K67	7.11
1/4″-20	M6	90	0.08″	30	0.10″	70A	3/4″	1″	1/2″	1/4″	4403K25	6.77	4403K71	7.11
5/16″-18	M8	50	0.08″	12	0.08″	30A	3/4″	1 1/4″	5/8″	5/16″	4403K288	9.77	4403K11	9.97
5/16″-18	M8	60	0.10″	15	0.12″	30A	1″	1 1/2″	5/8″	5/16″	4403K433	10.83	4403K29	11.03
5/16″-18	M8	75	0.08″	22	0.08″	40A	3/4″	1 1/4″	5/8″	5/16″	4403K322	9.77	4403K14	9.97
5/16″-18	M8	90	0.10″	20	0.12″	40A	1″	1 1/2″	5/8″	5/16″	4403K466	10.83	4403K35	11.03
5/16″-18	M8	100	0.08″	30	0.08″	50A	3/4″	1 1/4″	5/8″	5/16″	4403K344	9.77	4403K17	9.96
5/16″-18	M8	125	0.10″	30	0.12″	50A	1″	1 1/2″	5/8″	5/16″	4403K499	10.83	4403K38	11.03
5/16″-18	M8	150	0.08″	40	0.08″	60A	3/4″	1 1/4″	5/8″	5/16″	4403K377	9.77	4403K23	9.97
5/16″-18	M8	175	0.10″	45	0.12″	60A	1″	1 1/2″	5/8″	5/16″	4403K522	10.83	4403K44	11.03
5/16″-18	M8	180	0.08″	55	0.08″	70A	3/4″	1 1/4″	5/8″	5/16″	4403K411	9.77	4403K26	9.97
5/16″-18	M8	225	0.10″	55	0.12″	70A	1″	1 1/2″	5/8″	5/16″	4403K555	10.83	4403K47	11.03

For information about vibration-damping mounts, see page 1434.

Extreme-Temperature Wire Rope Vibration-Damping Mounts

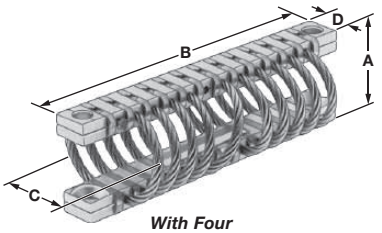

With Four Mounting Holes

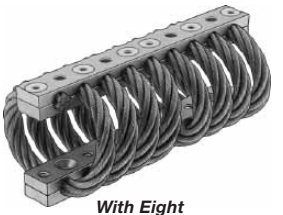

With Eight Mounting Holes

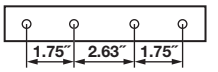

Mounting Holes for 62225K6, K8 & K14

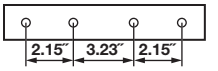

Mounting Holes for 62225K9

Isolate shock and vibration in harsh temperatures as well as harsh environments. Able to withstand temperatures from –150° to 500°F, these rugged mounts are resistant to corrosion and oils. They're made of stainless steel cable that is wound into aluminum bars, which are chromate coated for additional corrosion resistance. Use them in compression and shear load applications with pumps, compressors, generators, and electronic equipment. Mounts have four or eight mounting holes for installation (fasteners not included).

Compression		Shear						Mounting Holes			
Cap. per Mount, lbs.	Deflect. @ Max. Cap.	Cap. per Mount, lbs.	Deflect. @ Max. Cap.	O'all Ht. (A)	O'all Lg. (B)	O'all Wd. (C)	Bar Wd. (D)	No.	Dia.	Ctr.-to-Ctr.	
9	0.13″	2	0.13″	1.0″	3.1″	1.2″	0.4″	4	0.20″	2.70″	62225K1 $47.40
12	0.13″	3	0.13″	1.4″	4.4″	1.6″	0.5″	4	0.20″	4.00″	62225K11 50.90
17	0.13″	4	0.13″	1.3″	4.4″	1.5″	0.5″	4	0.20″	4.00″	62225K7 51.30
25	0.13″	7	0.13″	1.1″	4.4″	1.3″	0.5″	4	0.20″	4.00″	62225K2 51.30
40	0.13″	12	0.13″	1.5″	5.0″	1.8″	0.6″	4	0.30″	4.50″	62225K3 55.93
55	0.13″	19	0.13″	1.3″	5.0″	1.6”	0.6″	4	0.30”	4.50″	62225K12 56.90
75	0.13″	20	0.13″	1.3″	5.0″	1.7″	0.6″	4	0.30″	4.50″	62225K4 53.00
125	0.13″	39	0.13″	1.6″	5.0″	1.8″	0.6″	4	0.30″	4.50″	62225K13 57.90
175	0.13″	53	0.13″	1.4″	5.0″	1.6″	0.6″	4	0.30”	4.50″	62225K5 56.50
200	0.13″	95	0.13″	2.9″	6.7″	3.5″	1.0″	8	0.30″	★	62225K14 107.00
300	0.13″	60	0.13″	2.8″	8.5″	3.3″	1.0″	8	0.30″	★	62225K6 100.75
500	0.13″	105	0.13″	3.5″	8.5″	4.1″	1.0″	8	0.30″	★	62225K8 171.36
900	0.13″	200	0.13″	3.9″	10.5″	4.4″	1.0″	8	0.40″	★	62225K9 222.50

★ See illustrations for location and distances between mounting holes.

Extreme-Temperature Stainless Steel Mesh Vibration-Damping Mounts

Tightly layered stainless steel mesh provides superior damping in temperatures from –120° to 500°F. It also offers excellent resistance to corrosion and oils. Use these mounts in compression load applications with HVAC systems, blowers, fans, compressors, gas engines, and electric motors.

To install ***mounts with counterbore hole***, use a standard socket head cap screw (not included).

Round

Cap. per Mount, lbs.	Deflect. @ Max. Cap.	O'all Ht. (A)	OD (B)	ID (E)	Counterbore Dia. (F)	Counterbore Dp. (G)		
Solid								
280	0.18″	9/16″	15/16″	—	—	—	1073N11	$20.58
315	0.18″	9/16″	1″	—	—	—	1073N12	20.81
450	0.24″	13/16″	1 3/8″	—	—	—	1073N13	26.57
560	0.26″	13/16″	1 3/4″	—	—	—	1073N14	30.14
900	0.26″	13/16″	2 1/8″	—	—	—	1073N15	39.38
With Hole								
9	0.08″	3/8″	9/16″	5/16″	—	—	1073N21	14.28
75	0.13″	3/8″	3/4″	5/16″	—	—	1073N22	19.44
110	0.22″	5/8″	7/8″	1/4″	—	—	1073N23	20.71
135	0.21″	5/8″	15/16″	7/16″	—	—	1073N24	20.43
175	0.21″	9/16″	1 1/8″	3/8″	—	—	1073N25	24.86
220	0.22″	9/16″	1 3/8″	3/8″	—	—	1073N26	25.01
335	0.23″	13/16″	1 11/16″	13/16″	—	—	1073N28	25.01
335	0.27″	13/16″	1 9/16″	7/16″	—	—	1073N27	23.01
500	0.28″	13/16″	2 1/8″	3/4″	—	—	1073N29	27.64
670	0.23″	13/16″	2 7/16″	1 9/16″	—	—	1073N74	34.76
With Counterbore Hole								
50	0.11″	1/2″	13/16″	3/16″	3/8″	3/16″	1073N41	18.72
65	0.12″	1/2″	13/16″	1/4″	7/16″	1/4″	1073N42	18.72
90	0.14″	5/8″	1″	1/4″	1/2″	5/16″	1073N43	19.85
110	0.24″	13/16″	1 3/8″	3/8″	5/8″	7/16″	1073N44	21.88
785	0.28″	7/8″	2 1/16″	7/16″	11/16″	7/16″	1073N45	39.13

Rectangle

Cap. per Mount, lbs.	Deflect. @ Max. Cap.	O'all Ht. (A)	O'all Lg. (C)	O'all Wd. (D)	ID (E)	Counterbore Dia. (F)	Counterbore Dp. (G)		
With Counterbore Hole									
165	0.22″	3/4″	1 1/8″	1 1/8″	1/4″	7/16″	5/16″	1073N51	$32.27
1,120	0.21″	1″	2 9/16″	2″	3/8″	13/16″	3/8″	1073N52	60.67

Ring

Cap. per Mount, lbs.	Deflect. @ Max. Cap.	O'all Ht. (A)	OD (B)	ID (E)	(H)	(J)		
7	0.01″	3/16″	11/16″	5/16″	1/2″	1/8″	1073N31	$19.00
20	0.02″	3/16″	13/16″	7/16″	5/8″	1/8″	1073N32	19.14
30	0.03″	1/4″	15/16″	9/16″	11/16″	3/16″	1073N33	19.29
45	0.06″	5/16″	1 3/16″	11/16″	7/8″	3/16″	1073N34	19.71
45	0.07″	5/16″	1 7/16″	7/8″	1 1/8″	3/16″	1073N35	23.57



Round Solid

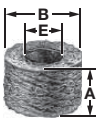

Round with Hole

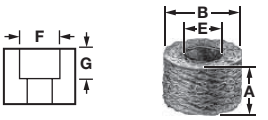

Round with Counterbore Hole

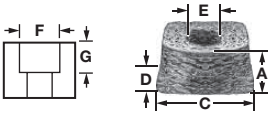

Rectangle with Counterbore Hole

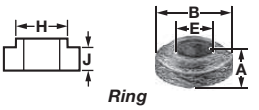

Ring

Vibration-Damping Mounts & Pads

For information about vibration-damping mounts, see page 1434. For information about durometer, see page 3588.

Precision Equipment Mounts

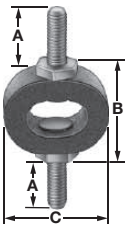

Allowing deflection in all directions, these ring mounts are made of rubber to protect your equipment from shock and vibration. Often used with electronics, measuring devices, small pumps, and compressors. Mounts are suitable for both compression and shear load applications. Threads are male, and made of zinc-plated steel. Temperature range is –10° to 150° F. Color of ring is black.

Thread		Compression		Shear						
Size	Lg. (A)	Cap. per Mount, lbs.	Deflection @ Max. Cap.	Cap. per Mount, lbs.	Deflection @ Max. Cap.	Durometer	Ring Ht. (B)	Ring Dia. (C)		
6-32	1/2″	1	0.04″	1	0.08″	55A	9/16″	9/16″	5822K3	$9.00
6-32	1/2″	2	0.04″	2	0.06″	65A	9/16″	9/16″	5822K4	9.00
10-32	5/8″	2.5	0.09″	2.5	0.16″	55A	11/16″	13/16″	5822K6	9.42
10-32	5/8″	3	0.10″	3	0.12″	65A	11/16″	13/16″	5822K7	9.42
1/4″-20	3/4″	5	0.09″	5	0.15″	55A	15/16″	1 1/8″	5822K8	10.96
1/4″-20	3/4″	8	0.11″	8	0.12″	65A	15/16″	1 1/8″	5822K9	10.96
5/16″-18	15/16″	13	0.22″	13	0.20″	55A	1 11/16″	1 11/16″	5822K11	12.50
5/16″-18	15/16″	20	0.26″	20	0.15″	65A	1 11/16″	1 11/16″	5822K12	12.50

About Vibration-Damping Pads

Slide pads under equipment, such as drill presses, milling machines, saws, and air conditioning units, to minimize vibration. Performance is measured by deflection (the distance the pad material moves when subjected to force)—the higher the rating, the greater the vibration isolation. Stack pads for increased deflection; metal shims are recommended between layers.

Before selecting a pad, consider how your machine weight is distributed. If the weight is evenly distributed, use the following formulas to determine the capacity per mounting point in psi.

$$\text{Capacity per Mounting Point} = \frac{\text{Total Machine Weight}}{\text{No. of Mounting Points}}$$

$$\text{psi} = \frac{\text{Capacity per Mounting Point}}{\text{Area (in sq. in.)}}$$

If the weight is unevenly distributed, select the capacity for each mount based on where the weight is concentrated.

Depending on your application, some pad materials are better suited than others. Use this chart to compare the resistance qualities of different materials:

Material	Oil	Weather	Tear	Abrasion
PVC	Fair	Fair	Fair	Fair
Natural Rubber	Poor	Fair	Excellent	Excellent
Recycled Rubber	Excellent	Excellent	Excellent	Excellent
Silicone	Good	Excellent	Fair	Good
Nitrile	Excellent	Poor	Fair	Good
Neoprene	Good	Good	Fair	Good

Chemical-Resistant PVC Vibration-Damping Pads

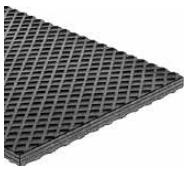

Made of fiber-reinforced PVC, pads endure exposure to corrosive chemicals, such as ammonium hydroxide (used in cleaning agents and solutions), chlorine, and hydrochloric acid. Pads that are 5/8″ thick also contain cork for increased deflection. Pads have a diamond texture. Temperature range is 32° to 150° F. Color is green.

Pads

Lg.	Wd.	Thick.	Cap. per Mounting Point, psi	Deflect. @ Max. Cap.	Durometer		Each
20″	10″	1/4″	174	0.04″	85A	5998K4	$21.08
20″	10″	5/8″	116	0.05″	80A	5998K5	54.40
39″	20″	1/4″	174	0.04″	85A	5998K1	73.58
39″	20″	5/8″	116	0.05″	80A	5998K2	204.89

Pad Packs

Packs include four 1/4″ thick pads and four 5/8″ thick pads.

Lg.	Wd.	Cap. per Mounting Point, psi	Deflect. @ Max. Cap.	Durometer		Pkg. of 8
2″	2″	90	0.05″	80A	60105K61	$9.52
3″	3″	90	0.05″	80A	60105K62	20.50
4″	4″	90	0.05″	80A	60105K63	33.80
5″	5″	90	0.05″	80A	60105K64	50.53
6″	6″	90	0.05″	80A	60105K65	71.25
8″	8″	90	0.04″	80A	60105K66	119.26
10″	10″	90	0.04″	80A	60105K67	186.33

Tear-Resistant Rubber Vibration-Damping Pads



Natural



Recycled

For excellent durability, try pads made of textured rubber, which resist abrasion and tears. Color is black.

Natural rubber has a waffle design composed of 2″ squares for a suction-cup grip between machinery and the floor. Temperature range is –20° to 180° F.

Recycled rubber provides greater capacity for heavier equipment than natural rubber pads. It offers excellent oil and weather resistance. Pads are textured. Temperature range is –20° to 200° F.

Lg.	Wd.	Thick.	Cap. per Mounting Point, psi	Deflect. @ Max. Cap.	Durometer		
Natural Rubber							
6″	6″	3/8″	45	0.06″	45A	60015K42	$11.72
6″	6″	3/4″	30	0.11″	40A	60015K43	18.62
18″	18″	3/8″	45	0.06″	45A	60015K21	61.03
18″	18″	3/4″	30	0.11″	40A	60015K41	93.55
Recycled Rubber							
35″	35″	1/2″	225	0.22″	45A	60015K54	115.00
35″	35″	1″	225	0.44″	55A	60015K55	149.50

Extreme-Temperature Silicone Vibration-Damping Pads



Able to withstand temperatures from –40° to 375° F, these small pads work well with precision equipment, small pumps, and compressors. Made of silicone gel, pads have a nubby texture on top to secure your equipment, while a smooth bottom grips the underlying surface.

Lg.	Wd.	Thick.	Cap. per Mounting Point, psi	Deflect. @ Max. Cap.	Durometer	Color		
4″	4″	1/4″	2	0.09″	10A	Dark Gray	1075N1	$80.22
4″	4″	1/4″	6	0.11″	20A	Gray	1075N2	80.22
4″	4″	1/4″	11	0.11″	40A	Green	1075N3	80.22

For information about vibration-damping pads, see page 1444. For information about durometer, see page 3588.

Oil-Resistant Nitrile Vibration-Damping Pads

For excellent resistance to oil and solvents, choose nitrile pads.

Rectangular Pads

Temperature range is 5° to 200°F. *Low-damping* pads are black. *High-damping* pads are green.

Lg.	Wd.	Thick.	Cap. per Mounting Point, psi	Deflect. @ Max. Cap.	Duro-meter		Each
Low Damping							
6″	6″	5/16″	50	0.03″	50A	4056K41	$11.29
6″	6″	5/16″	100	0.03″	60A	4056K42	11.67
6″	6″	5/16″	200	0.03″	70A	4056K43	12.07
6″	6″	1/2″	280	0.04″	80A	4056K44	26.03
18″	18″	5/16″	50	0.03″	50A	4056K45	70.54
18″	18″	5/16″	100	0.03″	60A	4056K46	72.50
18″	18″	5/16″	200	0.03″	70A	4056K47	74.57
18″	18″	1/2″	280	0.04″	80A	4056K48	127.33
High Damping							
20″	20″	9/16″	250	0.16″	70A	4056K53	129.28
20″	20″	1″	250	0.22″	70A	4056K57	206.87
20″	40″	9/16″	250	0.16″	70A	4056K51	233.67
20″	40″	1″	250	0.22″	70A	4056K55	378.63

Rectangular Pad Packs

Packs contain four 1/4″ thick pads and four 5/8″ thick pads. Temperature range is 5° to 200°F. Color is green.

Lg.	Wd.	Cap. per Mounting Point, psi	Deflect. @ Max. Cap.	Duro-meter		Pkg. of 8
2″	2″	220	0.14″	70A	4159K61	$11.57
3″	3″	220	0.12″	70A	4159K62	25.02
4″	4″	220	0.12″	70A	4159K63	45.73
5″	5″	220	0.12″	70A	4159K64	60.67
6″	6″	220	0.12″	70A	4159K65	85.58
8″	8″	220	0.07″	70A	4159K66	136.48
10″	10″	220	0.06″	70A	4159K67	193.91



Rectangular Pad

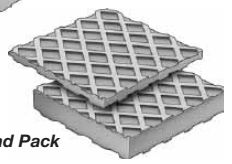

Pad Pack



Round Pad

Round Pads

Temperature range is 40° to 200°F. Color is black.

Dia.	Thick.	Cap. per Mounting Point, psi	Deflect. @ Max. Cap.	Duro-meter		Each
2″	5/16″	50	0.04″	48A	5996K11	$4.96
2″	5/16″	100	0.04″	65A	5996K12	5.51
2″	1/2″	200	0.06″	48A	5996K13	6.53
2″	1/2″	300	0.06″	65A	5996K14	7.91
4″	5/16″	50	0.04″	48A	5996K41	16.02
4″	5/16″	100	0.04″	65A	5996K42	17.91
4″	1/2″	200	0.06″	48A	5996K43	21.09
4″	1/2″	300	0.06″	65A	5996K44	25.67
6″	5/16″	50	0.04″	48A	5996K61	38.40
6″	5/16″	100	0.04″	65A	5996K62	42.76
6″	1/2″	200	0.06″	48A	5996K63	50.42
6″	1/2″	300	0.06″	65A	5996K64	61.40
8″	5/16″	50	0.04″	48A	5996K81	65.64
8″	5/16″	100	0.04″	65A	5996K82	73.13
8″	1/2″	200	0.06″	48A	5996K83	77.66
8″	1/2″	300	0.06″	65A	5996K84	85.95

Oil-Resistant Neoprene Vibration-Damping Pads



Smooth Pad



Textured Pad



Pad Pack

Isolate shock and vibration with neoprene pads, which are durable and resist oils, solvents, and weather. Temperature range is 0° to 175°F.

Pads

Color is dark green. *Textured* pads provide stability and a secure grip between your machinery and the floor.

Lg.	Wd.	Thick.	Cap. per Mounting Point, psi	Deflect. @ Max. Cap.	Duro-meter		Each
Smooth							
6″	6″	3/8″	500	0.04″	90A	5996K51	$10.38
6″	6″	5/8″	500	0.06″	90A	5996K52	15.82
6″	6″	1″	500	0.16″	90A	5996K53	23.26
18″	18″	3/8″	500	0.04″	90A	5996K71	93.53
18″	18″	5/8″	500	0.06″	90A	5996K72	142.49
18″	18″	1″	500	0.16″	90A	5996K73	209.31
20″	20″	9/16″	500	0.06″	90A	5996K32	133.06
20″	40″	9/16″	500	0.06″	90A	5996K31	240.55
Textured							
20″	20″	1″	500	0.16″	90A	5996K34	204.80
20″	40″	1″	500	0.16″	90A	5996K33	374.85

Pad Packs

Packs contain four 1/4″ thick top pads with a smooth surface and four 1/2″ thick bottom pads with a patterned surface that grips the floor. Color is black.

Lg.	Wd.	Cap. per Mounting Point, psi	Deflect. @ Max. Cap.	Duro-meter		Pkg. of 8
2″	2″	60	0.05″	45A	1968K51	$11.50
3″	3″	60	0.05″	45A	1968K52	24.73
4″	4″	60	0.05″	45A	1968K53	45.25
5″	5″	60	0.06″	45A	1968K54	67.60
6″	6″	60	0.06″	45A	1968K55	84.78
8″	8″	60	0.05″	45A	1968K56	135.22
10″	10″	60	0.05″	45A	1968K57	192.07

High-Capacity Oil-Resistant Nitrile Vibration-Damping Pads

Able to shoulder a maximum load of 1,500 psi, these pads can support heavy machinery. Temperature range is –65° to 200°F. Color is black.



Pads

Lg.	Wd.	Thick.	Cap. per Mounting Point, psi	Deflect. @ Max. Cap.	Duro-meter		Each
12″	12″	1/8″	1,500	0.04″	80A	5940K57	$36.81
12″	12″	1/4″	1,500	0.09″	80A	5940K58	41.53
12″	12″	3/8″	1,500	0.14″	80A	5940K59	50.83
12″	12″	1/2″	1,500	0.15″	80A	5940K51	68.31
12″	12″	1″	1,500	0.28″	80A	5940K54	113.33
12″	24″	1/8″	1,500	0.04″	80A	5940K61	48.19
12″	24″	1/4″	1,500	0.09″	80A	5940K62	68.92
12″	24″	3/8″	1,500	0.14″	80A	5940K63	76.63
12″	24″	1/2″	1,500	0.15″	80A	5940K52	114.44
12″	24″	1″	1,500	0.28″	80A	5940K55	216.56
24″	24″	1/8″	1,500	0.04″	80A	5940K64	80.77
24″	24″	1/4″	1,500	0.09″	80A	5940K65	129.09
24″	24″	1/2″	1,500	0.15″	80A	5940K53	218.71
24″	24″	1″	1,500	0.28″	80A	5940K56	389.72

Pad Packs

Lg.	Wd.	Thick.	Cap. per Mounting Point, psi	Deflect. @ Max. Cap.	Duro-meter		Pkg. of 4
4″	4″	1/8″	1,500	0.02″	80A	5713K11	$34.75
4″	4″	1/4″	1,500	0.05″	80A	5713K9	25.17
4″	4″	3/8″	1,500	0.06″	80A	5713K8	30.78
4″	4″	1/2″	1,500	0.08″	80A	5713K3	33.36
4″	4″	1″	1,500	0.20″	80A	5713K5	66.08
6″	6″	1/8″	1,500	0.02″	80A	5713K4	50.19
6″	6″	1/4″	1,500	0.05″	80A	5713K2	56.56
6″	6″	3/8″	1,500	0.06″	80A	5713K1	60.76
6″	6″	1/2″	1,500	0.08″	80A	5713K6	64.81
6″	6″	1″	1,500	0.20″	80A	5713K7	124.60

Hydraulic Bottle Jacks


Standard


Heavy Duty


Low Profile


Tall Ram


Hand Operated Tall Body


Foot Operated Tall Body


Air Powered

Use these versatile jacks for lifting, spreading, bending, pushing, and straightening. They have a steel body and include hydraulic oil. The handle is removable, except for foot-operated jacks. All jacks can be used vertically. *Standard*, *heavy duty*, *low-profile*, and *tall-ram* jacks can also be used horizontally; for horizontal use, the pumping mechanism (where the handle meets the jack) must be positioned under the jack body.

Heavy duty jacks have fewer moving parts than standard jacks. The ram body screws onto the base so that it can be opened for inspection and repair. The ram is nickel-plated for corrosion resistance.

Low-profile jacks have a short body to fit into low-clearance spaces. The handle pumps from side-to-side, requiring less vertical space than other bottle jacks.

Tall-ram jacks fit in the same vertical space as our standard bottle jacks, but lift higher.

Hand-operated tall-body jacks are twice as tall as standard bottle jacks. Secure equipment to the ram through a mounting hole on the ram's tip. Jacks have two 5/16" dia. mounting holes in the base, except the 16,000-lb. jack has two 3/8" dia. holes. Fasteners not included.

Foot-operated tall-body jacks are equipped with two foot pedals for hands-free use, one to raise the ram and another to lower it. They are twice as tall as standard bottle jacks. Jacks have two 5/16" × 5/8" mounting holes (fasteners not included).

Air-powered jacks use air pressure to raise loads with less effort than with other bottle jacks. They operate on 110 to 175 psi of air pressure and include a 4-ft. long air hose with a 1/4 male quick-disconnect fitting. They can also be operated manually.

Cap., lbs.	Min. Ht.	Max. Lift	Ram OD	Base Size Lg.	Base Size Wd.	Handle Lg.		
Standard								
4,000	7"	6 5/8"	3/4"	4 5/8"	3 1/8"	13"	8803T11	$39.07
6,000	7 1/2"	6 5/8"	7/8"	4 7/8"	3 1/4"	15"	8803T12	47.76
16,000	7 7/8"	7 3/4"	1 3/8"	6"	3 1/2"	22"	8803T15	69.60
24,000	7 1/8"	6 5/8"	1 3/4"	6 3/4"	4 3/4"	26"	8803T26	80.80
24,000	9 3/8"	9 1/8"	1 3/4"	6 3/4"	4 3/4"	26"	8803T18	80.80
40,000	7"	5"	2 1/8"	7 5/8"	5 3/4"	32"	8803T28	108.62
40,000	10 5/8"	6 7/8"	2 1/8"	7 5/8"	5 3/4"	32"	8803T27	108.62
60,000	11"	6 5/8"	2 3/8"	8"	6"	32"	8803T29	173.82
100,000	11 3/4"	7 1/8"	2 1/2"	8 1/2"	7"	32"	8803T42	521.55
Heavy Duty								
6,000	8 1/2"	8 1/2"	7/8"	4 1/2"	5 7/8"	21"	2912T12	236.36
6,000	10 1/4"	10 1/4"	1 1/4"	5 7/8"	4 1/4"	21"	2912T83	240.91
10,000	8 5/8"	9"	1 1/4"	6 1/4"	4 3/4"	21"	2912T13	236.36
10,000	10 1/4"	11 3/4"	1 3/8"	6 1/4"	4 5/8"	21"	2912T84	250.00
16,000	9 1/8"	10 1/8"	1 3/8"	6 1/2"	5 1/4"	21"	2912T14	227.27
16,000	11"	12 1/2"	1 5/8"	6 1/2"	5 1/8"	21"	2912T85	254.55
24,000	9"	10 1/2"	1 5/8"	6 3/4"	5 3/4"	21"	2912T15	231.82
40,000	11"	6 1/2"	1 7/8"	6 3/4"	6 7/8"	30 3/4"	2912T16	363.38
60,000	11 1/8"	7"	2 1/8"	5 1/2"	7"	30 3/4"	2912T17	630.95
120,000	12"	6 5/8"	3 1/8"	9 3/8"	7 1/2"	39 1/2"	2912T9	1,232.00
Low Profile								
10,000	2 1/2"	3/4"	1 1/8"	3" Dia.	—	9 1/2"	2976T11	188.71
10,000	3 1/2"	1 1/2"	1 1/8"	3" Dia.	—	9 1/2"	2976T12	363.79
20,000	4 3/4"	1 3/16"	1 5/8"	4 3/8" Dia.	—	17 3/8"	2976T13	506.37
40,000	5 1/8"	1 3/16"	2 1/8"	4 3/4" Dia.	—	23 7/8"	2976T14	611.21
Tall Ram								
12,000	8 1/2"	12"	1 3/4"	4 3/4"	5 1/4"	27 5/8"	2840T1	396.39
26,000	9 1/8"	13 3/8"	1 7/8"	7"	7 3/8"	27 5/8"	2840T3	434.75
Hand Operated Tall Body								
3,000	19 7/8"	15 3/8"	1"	5 1/8"	4 1/2"	19 3/4"	2923T51	96.28
6,000	19 7/8"	15 3/8"	1"	5 1/8"	4 1/2"	19 3/4"	2923T62	103.42
8,000	19 7/8"	15 3/8"	1"	5 1/8"	4 1/2"	19 3/4"	2923T31	121.10
16,000	24 1/8"	19 1/8"	1 3/8"	5"	4 3/4"	19 3/4"	2923T41	158.24
Foot Operated Tall Body								
2,000	26"	19"	7/8"	3/4"	4 1/4"	11 3/4"	2831T63	497.23
2,000	32"	25"	7/8"	3/4"	4 1/4"	11 3/4"	2831T66	512.00
2,000	38"	31"	7/8"	3/4"	4 1/4"	11 3/4"	2831T69	526.77
Air Powered								
24,000	9 1/2"	9"	1 3/4"	7 7/8"	6 1/4"	24"	29575T11	306.28
40,000	9 3/4"	9"	2 1/4"	8 1/2"	7 1/8"	24"	29575T12	341.22
60,000	11"	7 1/8"	2 1/2"	10 1/4"	8 1/4"	38 1/8"	29575T13	628.21

Hydraulic Jacks with Wheels


Flat Saddle


Air Powered

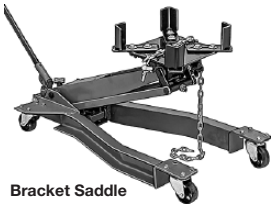
Bracket Saddle

Roll these jacks from job to job. They include hydraulic oil and have a steel body, except the 3 1/2" high flat-saddle jack is aluminum.

Flat-saddle jacks fit under hard-to-reach places.

Air-powered jack uses air pressure to raise loads with less effort than other jacks. It operates on 110 to 150 psi of air pressure and includes a 1/4 male quick-disconnect air inlet and a 3-ft. long air hose.

Bracket-saddle jacks have a saddle with adjustable corner brackets and chains to securely grip and align loads. It swivels forward, backward, and side-to-side for precise adjustments. The handle rotates 360° to operate in any position.

Note: Jacks should not be moved when under load.

Cap., lbs.	Min. Ht.	Max. Lift	Saddle Size Dia.	Saddle Size Wd.	Base Size Lg.	Base Size Wd.	Base Size Ht.	Handle Lg.		
Flat Saddle										
4,000	3 1/2"	15"	4 1/2"	—	25 3/4"	11 3/4"	6"	45"	2908T11	$475.41
4,000	5 1/2"	18 1/4"	4 1/2"	—	24 1/4"	13 3/8"	6 1/8"	39 3/8"	2908T15	242.32
6,000	5 3/4"	14"	5 1/2"	—	27 1/2"	13 3/8"	6 3/8"	42 1/8"	2908T17	274.60
Air Powered										
44,000	9 3/4"	9 1/2"	2"	—	22 7/8"	12 1/2"	7"	48 3/4"	28975T26	720.18
Bracket Saddle										
1,000	6 7/8"	24 7/8"	11" Lg.	13"	38 1/4"	19 3/4"	6 7/8"	24"	2906T35	546.88
2,000	5 7/8"	24 7/8"	14" Lg.	16"	36 3/4"	18 1/4"	5 7/8"	24"	2906T45	723.16

Warning: *Never use to support people or loads over people.*

Two-Height Hydraulic Jacks

As versatile as bottle jacks, but with two lifting points—a toe for lifting loads low to the ground, and a saddle for a higher, more stable lifting point. Jacks are made of steel and include hydraulic oil.

10,000- and **20,000-lb.** capacity jacks have a handle that swivels 180°.



Cap., lbs.	Max. Lift	Min. Toe Ht.	Toe Size Lg.	Toe Size Wd.	Min. Saddle Ht.	Saddle Size Lg.	Saddle Size Wd.	Base Size Lg.	Base Size Wd.	Handle Lg.		
4,000	4 1/2"	5/8"	2"	2"	9 1/4"	3 1/2"	2 3/8"	5"	7"	11 1/2"	8799T29	$428.68
10,000	4 5/8"	1"	2 1/4"	3"	11 1/2"	4 3/4"	3 3/8"	7 1/8"	10 5/8"	23 1/2"	8799T31	936.22
20,000	5 5/8"	1 1/8"	2 3/8"	3 1/4"	12 7/8"	5 3/4"	4 5/8"	8 5/8"	11 1/4"	23 1/2"	8799T32	1,442.17

Powered Hydraulic Pumps

Use a powered pump to lift with less effort than with a hand pump. Pumps are part of a lifting system—use with a ram that has a lower oil capacity (for rams and hose, see pages 1448 and 1449). Maximum pressure is 10,000 psi. Pumps include hydraulic oil and have a 3/8 NPTF female hose connection. They are steel and aluminum. Mounting fasteners not included.

Air Powered—Pumps operate horizontally.

Plug In—Pump from up to 10 feet away with the included remote control. All operate vertically. *116-cu. in.* oil capacity pump has a 120V AC motor. Includes a 6-ft. cord with three-prong plug. *590-cu. in.* oil capacity pump has a 120/240V AC motor. Includes an 8-ft. cord with a plug that fits a NEMA 5-20 receptacle.



Air Powered 90 cu. in. Oil Capacity



Plug In 116 cu. in. Oil Capacity



Plug In 590 cu. in. Oil Capacity

Oil Cap., cu. in.	Air Inlet, NPTF female	Operating Air Pressure, psi	hp	Lg.	Wd.	Ht.	Mounting Hole Dia.		
Air Powered									
36	1/4	60-120	—	14 3/4"	5 5/8"	5 3/4"	5/16"	29215T12	$723.87
90	1/4	60-150	—	10 5/8"	5 3/4"	8 1/8"	3/8"	29215T37	561.55
127	1/4	25-125	—	13 5/8"	6 1/2"	8 3/8"	3/16"	29215T13	884.96
Plug In									
116	—	—	1/2	9 5/8"	9 5/8"	14 1/4"	3/8"	28945T31	2,085.45
590	—	—	1 1/2	11 1/2"	9 1/2"	19 5/8"	1/2"	2920T17	3,514.51

Hydraulic Hand Pumps

Also known as trailer pumps, these pumps have a body that is taller than it is long to fit in a narrow space. Use as part of a permanent lifting system—bolt down the base (fasteners not included) and attach a ram with a lower oil capacity and a hose (for rams and hose, see pages 1438 and 1439). Pumps are made of cast iron and include hydraulic oil. They operate vertically and have a 3/8 NPTF female hose connection.



Oil Cap., cu. in.	Max. Pressure, psi	Lg.	Wd.	Ht.	Handle Lg.	Mounting Hole Dia.		
148	3,000	8"	8"	11 1/8"	20"	9/16"	42985K78	$610.52
148	6,500	8"	8"	11 1/8"	20"	9/16"	42985K74	610.52
148	12,000	8"	8"	11 1/8"	20"	9/16"	42985K77	610.52

Hydraulic Jacks with Extenders and Pryers

Lift in tight spaces where a bottle jack won't fit.

Lifting, Pushing, and Prying

- Jack (ram, hand pump with hydraulic oil, hose, and male connector)
- Pushing accessories (rubber head, multi-point head, and serrated saddle)
- Prying accessories (hydraulic wedge, wedge head, ram toe, and plunger toe)
- Stabilizing base
- Plastic case

8,000-lb. jack includes five ram extenders (3", 6 1/8", 8 1/2", 16 1/2", and 19 1/2" lengths).
20,000-lb. jack includes four ram extenders (4", 10", 18", and 27" lengths).

Lifting, Pushing, Prying, and Pulling

- Jack (ram, pump, hydraulic oil, hose, and a male connector)
- Pushing accessories (rubber head, multi-point head, and serrated saddle)
- Prying accessories (hydraulic wedge, wedge head, ram toe, and plunger toe)
- Pulling accessories (two chains with hooks, chain pull plate, and clamp head)
- Stabilizing base
- Male and female adapters
- Metal case

8,000-lb. jack includes six ram extenders (3", 6", 18", and three 15" lengths), three ram extender connectors, and four locking pins.
20,000-lb. jack includes four ram extenders (6", 12", 15", and 18" lengths), two ram extender connectors, and four locking pins.



8,000-lb. Lifting, Pushing, and Prying Set

Cap., lbs.★	Max. Pressure, psi	Ram Min. Ht.	Ram Max. Lift	Ram OD	Ram Oil Cap., cu. in.	Pump Oil Cap., cu. in.	Pump Lg.	Pump Wd.	Pump Ht.		
Lifting, Pushing, and Prying											
8,000	8,000	10 3/4"	4 7/8"	1 1/2"	4	16	12 7/8"	5 3/4"	5 1/8"	2964T2	$252.15
20,000	10,000	13 3/4"	6"	2 1/8"	14	46	20 3/8"	5 3/4"	5 1/8"	2964T5	394.87
Lifting, Pushing, Prying, and Pulling											
8,000	7,000	10 1/8"	4 3/4"	2"	5	15	14 3/4"	4 1/2"	5"	2894T47	1,307.50
20,000	10,000	12 3/8"	5 7/8"	2 1/2"	14	50	20"	5 7/8"	5 1/2"	2894T48	1,790.83

★ When ram extenders or accessories are used, the rated capacity is reduced by 50% for each extender and accessory connected.

Warning: Never use to support people or loads over people.

Hydraulic Jacks

Lift in tight spaces where a bottle jack won't fit. Choose a jack, or create a custom jack by choosing a ram, pump, hose, and pressure gauge.

Jacks


A


B

Jacks include a steel ram, a two-speed hand pump with hydraulic oil, a pressure gauge, and a 6-ft. hydraulic hose. Max. pressure is 10,000 psi. All can be used horizontally or vertically. For vertical use, the pump head (where the handle meets the pump) must be pointed down. Mounting fasteners are not included. Hose connections are 3/8 NPTF female. Rams with collar threads are threaded at the top for mounting in a fixture or with a mounting plate (sold separately; see page 1449). *Style A* pumps are steel; *Style B* pumps are aluminum.

Jacks with ram center hole have an unthreaded hole for attaching a threaded rod so you can use them in pulling applications.

	Cap., lbs.	Min. Ht.	Max. Lift	Ram: OD	Ram: Center Hole Dia.	Ram: Oil Cap., cu. in.	Ram: Collar Threads	Pump: Oil Cap., cu. in.	Pump: Lg.	Pump: Wd.	Pump: Ht.	Pump: Mounting Hole Dia.		
Standard Jacks														
A	10,000	1 5/8"	5/8"	2 5/8"	—	0.6	—	20	14 1/4"	5"	5 1/8"	1/4"	2897T83	$979.88
A	10,000	4 3/8"	1 1/8"	1 1/2"	—	1	1 1/2"-16	20	14 1/4"	5"	5 1/8"	1/4"	2897T81	1,029.02
A	10,000	6 5/8"	3 1/8"	1 1/2"	—	3	1 1/2"-16	20	14 1/4"	5"	5 1/8"	1/4"	2897T82	1,034.61
A	10,000	8 1/2"	5 1/8"	1 1/2"	—	5	1 1/2"-16	20	14 1/4"	5 1/8"	5"	1/4"	2897T71	956.46
A	10,000	10 3/4"	7 1/8"	1 1/2"	—	12.6	1 1/2"-16	45	25 5/8"	5 3/4"	5 3/8"	—	2897T72	1,011.79
A	20,000	4 7/8"	2 1/8"	2 1/4"	—	4.2	2 1/4"-14	45	25 5/8"	5 3/4"	5 3/8"	—	2897T73	983.62
A	20,000	9 3/4"	6"	2 1/4"	—	13.7	2 1/4"-14	45	25 5/8"	5 3/4"	5 3/8"	—	2897T74	998.53
A	50,000	10 3/4"	6 1/8"	3 1/2"	—	32.2	3 5/16"-12	134	20 3/4"	5 3/4"	6 7/8"	5/16"	2897T75	1,413.41
A	60,000	4 5/8"	2 3/8"	4"	—	15.8	—	45	25 5/8"	5 3/4"	5 3/8"	—	2897T76	943.23
A	110,000	11 1/8"	6 1/8"	5"	—	69	5"-12	134	20 3/4"	5 3/4"	6 7/8"	5/16"	2897T77	1,762.20
A	200,000	5 5/8"	2"	6 1/2"	—	44.2	—	134	20 3/4"	5 3/4"	6 7/8"	5/16"	2897T78	1,336.20
B	10,000	8 1/2"	5"	1 1/2"	—	5	1 1/2"-16	20	13 1/4"	3 3/4"	5 5/8"	1/4"	2897T51	998.27
B	20,000	4 3/4"	2 1/8"	2 1/4"	—	4.8	2 1/4"-14	55	21"	4 3/4"	7"	1/4"	2897T52	1,093.78
B	20,000	9 3/4"	6 1/8"	2 1/4"	—	13.7	2 1/4"-14	55	21"	4 3/4"	7"	—	2897T53	1,186.65
B	50,000	10 3/4"	6 1/4"	3 3/8"	—	32.2	3 5/16"-12	55	21"	4 3/4"	7"	—	2897T54	1,490.73
B	60,000	4 5/8"	2 3/8"	4"	—	15.8	—	55	21"	4 3/4"	7"	—	2897T55	1,467.48
B	100,000	4 7/8"	2 3/8"	4 7/8"	—	22.9	—	55	21"	4 3/4"	7"	—	2897T56	1,643.12
Jacks with Ram Center Hole														
A	24,000	7 1/4"	3"	2 3/4"	3/4"	8.3	2 3/4"-16	45	25 5/8"	5 3/8"	5 3/4"	—	2902T41	1,255.62
A	60,000	7 1/8"	2 1/2"	4 1/2"	1 1/4"	18	4 1/2"-12	45	25 5/8"	5 3/8"	5 3/4"	—	2902T43	1,563.44

Rams


Lifting, Prying, and Spreading

Rams are made of steel and have a maximum pressure of 10,000 psi, except the lifting, prying, and spreading rams are made of iron and have a maximum pressure of 8,000 psi. All can be used vertically or horizontally. Mounting fasteners are not included. Hose connections are 3/8 NPTF female. Rams with collar threads are threaded at the top of the ram for mounting in a fixture or with a mounting plate (sold separately; see page 1449).

Lifting, prying, and spreading rams are wedge-shaped to squeeze into tight spaces.

Lifting, pulling, and pushing rams have an unthreaded hole through the center for attaching a threaded rod.


Low Profile Lifting and Pushing


Lifting and Pushing


Lifting, Pulling, and Pushing

Cap., lbs.	Min. Ht.	Max. Lift	Oil Cap., cu. in.	Lg.	Wd.	Ram Hole Dia.	Mounting Hole Dia.	Collar Threads		
Lifting, Prying, and Spreading										
2,000	1/2"	3 3/4"	0.7	6 1/2"	2 1/4"	—	—	—	2988T35	$350.00
2,000	1 3/8"	11 3/4"	3.4	21"	2 3/8"	—	—	—	2988T15	611.70
Low Profile Lifting and Pushing										
10,000	1 1/2"	1/4"	0.2	2 9/16"	1 3/4"	—	3/16"	—	2921T11	245.98
10,000	1 7/8"	5/8"	0.6	2 9/16"	1 3/4"	—	3/16"	—	2921T2	245.98
20,000	1 3/4"	3/8"	0.9	3 1/4"	2 3/16"	—	1/4"	—	2921T12	310.34
40,000	2 1/8"	3/8"	2	4"	3"	—	3/8"	—	2921T4	562.76
60,000	2 3/8"	1/2"	3.2	4 1/2"	3 3/4"	—	3/8"	—	2921T14	623.40
100,000	2 5/8"	5/8"	6.9	5 1/2"	5"	—	7/16"	—	2921T15	713.83
Lifting and Pushing										
10,000	4 3/8"	1 1/8"	0.9	1 1/2" Dia.	—	—	1/4"	1 1/2"-16	2990T8	368.06
10,000	6 5/8"	3 1/8"	2.9	1 1/2" Dia.	—	—	1/4"	1 1/2"-16	2990T87	375.00
10,000	8 1/2"	5 1/8"	5	1 1/2" Dia.	—	—	1/4"	1 1/2"-16	2990T12	266.63
10,000	10 3/4"	7 1/8"	7	1 1/2" Dia.	—	—	1/4"	1 1/2"-16	2990T13	319.71
10,000	12 7/8"	9 1/8"	9.1	1 1/2" Dia.	—	—	1/4"	1 1/2"-16	2990T11	354.78
20,000	3 1/2"	1 1/2"	3.4	2 3/4" Dia.	—	—	—	—	2945T12	320.85
20,000	4 7/8"	2 1/8"	4.1	2 1/4" Dia.	—	—	5/16"	2 1/4"-14	2990T17	264.08
20,000	9 3/4"	6"	13.7	2 1/4" Dia.	—	—	5/16"	2 1/4"-14	2990T18	300.07
20,000	13 3/4"	10"	22.7	2 1/4" Dia.	—	—	5/16"	2 1/4"-14	2990T21	415.63
30,000	10 3/4"	6 3/8"	19	2 3/4" Dia.	—	—	3/8"	2 3/4"-16	2990T24	501.07
40,000	3 7/8"	1 3/4"	7.8	3 5/8" Dia.	—	—	—	—	2945T14	452.81
50,000	10 3/4"	6 1/8"	32.2	3 1/2" Dia.	—	—	1/2"	3 5/16"-12	2990T27	491.29
50,000	18 3/4"	14 1/8"	73.4	3 1/2" Dia.	—	—	1/2"	3 5/16"-12	2990T28	713.90
60,000	4 5/8"	2 3/8"	15.8	4" Dia.	—	—	—	—	2945T16	482.02
60,000	15 1/4"	8 1/4"	53.6	4" Dia.	—	—	—	3 5/16"-12	2990T2	998.93
100,000	4 7/8"	2 3/8"	22.8	4 7/8" Dia.	—	—	—	—	2945T18	601.30
110,000	11 1/8"	6 1/8"	69	5" Dia.	—	—	1/2"	5"-12	2990T32	965.03
200,000	5 5/8"	2 1/4"	44.2	6 1/2" Dia.	—	—	—	—	2945T21	841.66
200,000	14 1/8"	6 5/8"	137	7" Dia.	—	—	3/4"	6 7/8"-12	2990T4	2,099.53
Lifting, Pulling, and Pushing										
24,000	7 1/4"	3"	8.3	2 3/4" Dia.	—	3/4"	5/16"	2 3/4"-16	2990T34	554.50
40,000	6 1/2"	2"	9.4	3 7/8" Dia.	—	1"	3/8"	3 7/8"-12	2990T64	782.20
60,000	7 1/8"	2 1/2"	18	4 1/2" Dia.	—	1 1/4"	3/8"	4 1/2"-12	2990T65	941.95
60,000	13"	6 1/8"	44.2	4 1/2" Dia.	—	1 1/4"	3/8"	4 1/2"-12	2990T66	1,319.86
120,000	9 3/4"	3"	38.2	6 1/4" Dia.	—	2 1/8"	1/2"	6 1/4"-12	2990T67	1,514.57

(Continued on following page)

Warning: *Never use to support people or loads over people.*

Hydraulic Jacks *(Continued from previous page)*

Pumps

Pumps have a maximum pressure of 10,000 psi and a 3/8 NPTF hose connection. They can be used horizontally or vertically; for vertical use, the pump head (where the handle meets the pump) must be pointed down. The oil capacity of your pump must be more than that of your ram. All include hydraulic oil. Mounting fasteners are not included. *Style C* is steel; *Style D* is aluminum.

Two-speed pumps are quick to pump until the load is engaged, then pump more slowly for precise positioning.


C

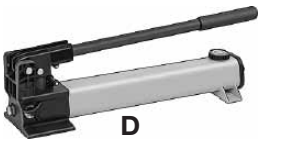
D

	Oil Cap., cu. in.	Lg.	Wd.	Ht.	Mounting Hole Dia.		
One Speed							
C	45	24 7/8"	5 3/8"	5 3/4"	—	2992T15	$285.65
D	20	13 1/4"	3 3/4"	5 5/8"	1/4"	2942T8	438.20
Two Speed							
C	20	14 1/4"	5"	5 1/8"	1/4"	2992T13	287.61
C	45	25 5/8"	5 3/8"	5 3/4"	—	2992T17	373.42
C	134	22"	5 3/4"	7 1/4"	5/16"	2992T73	467.49
D	20	13 1/4"	3 3/4"	5 5/8"	1/4"	2942T9	438.20
D	55	21"	4 3/4"	7"	—	2942T2	444.75
D	155	21 3/4"	7 1/8"	9"	3/8"	2942T3	745.32

Hose with Fittings

Hose is reinforced with steel. Maximum pressure is 10,000 psi.



Pipe Size, NPTF Male	Length, ft.	Black Rubber		Yellow Plastic	
1/4	6	2916T7	$58.13	—	—
1/4, 3/8	6	2916T4	144.73	2916T24	$184.29
3/8	6	2916T5	128.98	2916T21	173.29
3/8	10	2916T8	180.09	2916T22	238.11
3/8	20	2916T9	334.85	2916T23	457.28

Pressure Gauges

Monitor hydraulic oil pressure levels to guard against overload. Gauges are liquid filled to reduce needle vibration and include a 4 1/4" long steel adapter to mount the gauge in line with the hose. Both have a stainless steel case. Accuracy is ±1%.



Pipe Size, NPTF Female	Pipe Size, NPTF Male	Gauge Dia.	Pressure Range, psi	Graduations, psi/bar		
3/8	3/8	2 1/2"	0-10,000	500/50	2965T3	$132.04
3/8	3/8	4"	0-10,000	500/50	2965T4	214.89

Accessories for Hydraulic Jacks

Accessories have a maximum pressure of 10,000 psi.

Hose Couplings


Screw On


Quick Disconnect

Connect a hose to a ram or pump.

	Pipe Size, NPTF Female	Pipe Size, NPTF Male		
Screw On	1/4	1/4	2941T12	$67.86
Screw On	3/8	3/8	2941T11	70.34
Quick Disconnect	3/8	3/8	2941T13	210.06

Flow-Adjustment Valves

Control the flow of oil to adjust ram speed, or shut it off to temporarily hold a load. Valves are needle style and made of steel.



Pipe Size, NPTF Female		
1/4	2983T18	$167.70
3/8	2983T41	103.68

Mounting Plates

Thread one of these plates onto your ram to mount it at the point of use. The 10,000-lb. mounting plate is 3" Lg. × 3" Wd. × 1" Thick.; the 20,000-lb. mounting plate is 3 1/2" Lg. × 3 1/2" Wd. × 1" Thick. Mounting fasteners are not included.



For Ram: Cap., lbs.	For Ram: Collar Threads	Mounting Hole: Dia.	Mounting Hole: Ctr.-to-Ctr.		
10,000	1 1/2"-16	5/16"	2 1/8"	2983T27	$137.22
20,000	2 1/4"-14	5/16"	2 5/8"	2983T57	154.07

Steel Hose Fittings

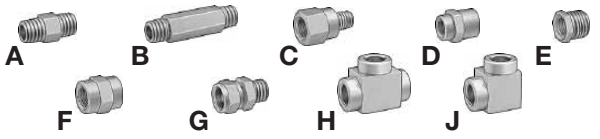

		Pipe Size, NPTF			
A	2" Straight Connector	3/8 Male	3/8 Male	2983T34	$12.88
B	3" Straight Connector	3/8 Male	3/8 Male	2983T35	32.72
C	Straight Reducer	3/8 Female	1/4 Male	2983T14	22.27
D	Straight Reducer	3/8 Female	1/4 Female	2983T13	33.32
E	Straight Reducer	3/8 Male	1/4 Female	2983T16	13.51
F	Straight Connector	3/8 Female	3/8 Female	2983T15	28.98
G	Swivel Straight Connector	3/8 Male	3/8 Female	2983T17	61.64
H	Tee Connector	3/8 Female	3/8 Female	2983T37	37.78
J	90° Elbow Connector	3/8 Female	3/8 Female	2983T36	30.64

Manifolds

Operate multiple rams from a single pump. Made of steel.

Compact manifold lets you connect up to five rams to a single pump. Includes four plugs to cover ports not in use. It has two 1/4" dia. mounting holes (fasteners not included).


Compact

Flow-adjustment manifold lets you connect up to four rams and a gauge to a pump. Ram connections have flow-adjustment valves that control the flow of oil to adjust ram speed or shut it off to temporarily hold a load. Combine two or more manifolds for larger systems. Includes an 18" long rubber hose and mounting fasteners.


Flow Adjustment

	Number of Ports	Pipe Size, NPTF Female		
Compact	6	3/8	2983T33	$132.86
Flow Adjustment	4	3/8	2983T31	758.89

Warning: **Never use to support people or loads over people.**

Two-Height Ratchet Jacks



Choose between two lifting points—use the toe for lifting loads low to the ground, or use the saddle when you need a higher, more stable lifting point. The ratcheting action raises or lowers the load one notch at a time. A removable steel handle can be used at two different positions to get the best angle for lifting.

Aluminum jack is lighter than iron for easier portability.

Cap., lbs.	Max. Lift	Min. Toe Ht.	Toe Size Lg.	Toe Size Wd.	Min. Saddle Ht.	Saddle Size Lg.	Saddle Size Wd.	Base Size Lg.	Base Size Wd.	Handle Lg.		
Iron												
10,000	7″	1¾″	2½″	1⅛″	14″	2⅝″	2⅜″	5″	7⅜″	36″	2954T1	$587.87
10,000	10″	1¾″	2½″	1⅛″	17″	2⅝″	2⅜″	5″	7⅜″	36″	2954T2	620.30
10,000	13″	1¾″	2½″	1⅛″	20″	2⅝″	2⅜″	5″	7⅜″	36″	2954T3	667.28
20,000	9½″	1⅝″	2⅜″	1⅛″	17¼″	2⅞″	2⅝″	6″	8¾″	60″	2954T51	1,050.96
20,000	12″	2″	2⅜″	2½″	21⅝″	3″	2½″	6½″	10¼″	60″	2954T4	1,127.97
30,000	12¾″	2¼″	2⅝″	2¼″	23¼″	3½″	2⅞″	8″	10¼″	70″	2954T56	1,336.09
30,000	18″	2¼″	2⅝″	2¼″	28″	3½″	2⅞″	8″	11″	70″	2954T57	1,433.52
Aluminum												
20,000	12″	2″	2⅜″	2½″	21⅝″	3″	2½″	6½″	10¼″	60″	2954T9	1,142.48

Ratchet Jacks



These jacks can be used to lift, spread, push, pull, and clamp. The ratcheting action raises or lowers the load one notch at a time. For clamping, turn the top plate 90° and ratchet the jack to secure your workpiece. The maximum clamping force is 750 lbs. Jacks are iron with a 32″ long steel handle. Base is 7″ Lg. × 4″ Wd.

Note: Jacks must be loaded with at least 150 lbs. to safely lower your load one notch at a time. When loaded with less than 150 lbs., the notches are bypassed and the load will drop freely.

Cap., lbs.	Min. Ht.	Max. Lift	Toe Size Lg.	Toe Size Wd.		
150-2,500	4½″	45¼″	4½″	1⅜″	2925T7	$118.85
150-4,500	4½″	34⅛″	4½″	1⅜″	2925T6	116.27

Jack Pads



Create a hard surface for your jack when lifting on soft surfaces such as dirt or asphalt. Pads are plastic and resist moisture, chemicals, and oil.

Lg.	Wd.	Ht.		
18″	18″	1″	4130T26	$159.44
24″	22″	1″	4130T27	208.63
24″	24″	2″	4130T28	406.36

Inflatable Air Wedges



Thin enough to fit in the smallest spaces and strong enough to pry open a door. Made of reinforced vinyl.

Wedge Size Lg.	Wedge Size Wd.	Min. Ht.	Max. Lift		
6¼″	5¾″	5⁄64″	2⅝″	3833T43	$40.85
11″	5⅛″	5⁄64″	2⅞″	3833T44	48.75

Screw Jacks



Bar Adjustable with Swivel Saddle (Shown with Turning Bar)



Wrench Adjustable with Swivel Saddle



Wrench Adjustable with Rigid Saddle

The screw adjustment lets you make small changes to the height of your load.

Bar Adjustable—A turning bar (sold separately) gives you leverage to lift heavier loads than wrench-adjustable screw jacks. The saddle swivels 9° to keep loads from slipping. The jack head has multiple openings so you can choose the best angle for inserting the turning bar. The jack body is iron.

Wrench Adjustable—Use these low-profile jacks in confined spaces. Jack *with rigid saddle* is also known as a spreader jack. Made of steel. Jacks *with swivel saddle* keep loads from slipping. Also known as planer jacks, they are made of iron and have a side locking screw that keeps the jack extended and prevents lowering due to vibration. The saddle swivels 25°.

Cap., lbs.	Min. Ht.	Max. Lift	Saddle Dia.	Base Size	Jacks		Turning Bars Lg.		
Bar Adjustable with Swivel Saddle									
24,000	9⅝″	3¾″	2⅞″	4¾″ Dia.	2926T13	$160.68	24″	2926T42	$49.45
24,000	11⅝″	5¾″	2⅞″	5½″ Dia.	2926T14	166.57	24″	2926T42	49.45
24,000	15¾″	9¾″	2⅞″	6¼″ Dia.	2926T16	212.73	24″	2926T42	49.45
40,000	11⅞″	5″	3⅛″	6″ Dia.	2926T18	227.16	36″	2926T43	38.29
40,000	13¾″	7″	3⅛″	6½″ Dia.	2926T19	241.31	36″	2926T43	38.29
40,000	15¾″	9″	3⅛″	6¾″ Dia.	2926T21	263.14	36″	2926T43	38.29
48,000	17″	8¼″	3¼″	7¼″ Dia.	2926T24	350.54	42″	2926T44	107.61
48,000	23″	14¼″	3¼″	8½″ Dia.	2926T27	479.21	42″	2926T44	107.61
Wrench Adjustable with Rigid Saddle									
6,000	3″	1″	1½″	2″ Wd.	2915T21	85.02	—	—	—
Wrench Adjustable with Swivel Saddle									
4,000	2¾″	1″	1¼″	2⅜″ Wd.	8791T6	83.96	—	—	—
8,000	3¾″	1½″	1¾″	3⅛″ Wd.	8791T5	113.48	—	—	—
12,000	5¼″	2¼″	2⅛″	4″ Wd.	8791T7	170.26	—	—	—
16,000	7½″	4″	2½″	5⅜″ Wd.	8791T8	243.97	—	—	—

Scissor Jacks



Standard



Hydraulic

Fit this compact jack under low-height loads. Handle is removable.

Standard—Base has two ⅜″ dia. mounting holes (fasteners not included).

Hydraulic—Jack has a grooved, rubber saddle designed for vehicle lifting.

Capacity, lbs. @ Min. Ht.	Capacity, lbs. @ 7″ Ht.	Max. Lift	Min. Ht.	Max. Lift	Max. Wd.	Saddle Size Lg.	Saddle Size Wd.	Base Size Lg.	Base Size Wd.	Handle Lg.		
Standard												
250	675	3,000	4″	9″	10½″	5⅛″	2″	7⅜″	4¼″	22″	2952T51	$64.46
Hydraulic												
1,760	1,760	1,760	4½″	10½″	15½″	2½″	1½″	4¼″	4½″	14½″	28985T15	132.60

Warning: Never use to support people or loads over people.

Leveling Jacks

Mount these jacks to equipment to raise and level it. They have a foot plate for stability, unless noted.

Side Mount—Weld the included mount to equipment then attach the jack to the mount. A pin locks the jack in a vertical position; pull the pin to rotate the jack into a horizontal position when not in use.

Through-Hole Mount—Mount jacks through a hole in the frame of your equipment and fasten the mounting plate.

Style C jacks have a triangular plate that can be bolted or welded onto your equipment. They're commonly used with an A-frame trailer coupler. Mount through a 2¼" dia. hole; mounting plate has three 7/16" Lg. x 13/16" Wd. holes (fasteners not included).

Style D jacks mount through a 1¼" dia. hole. They have a round mounting plate with six ¼" dia. holes (fasteners not included). Jacks have a slip-resistant rubber pad.



Cap., lbs.	Min. Ht.	Max. Lift	O'all Ht.	Mounting Plate Size Lg.	Wd.		
(A) Side Mount with Rectangular Mounting Plate							
Top Handle							
2,000	11"	10"	17 7/8"	4"	5"	2963T24	$72.32
2,000	16 1/2"	15"	26"	4"	5"	2963T25	69.67
5,000	11 1/4"	10"	18"	4 3/8"	5"	2963T28	74.34
5,000	14 1/2"	15"	27 1/2"	4 3/8"	5"	2963T35	90.94
Side Handle							
2,000	10 7/8"	10"	22 3/4"	4 3/8"	5"	2963T44	90.23
2,000	16"	15"	27 5/8"	4"	5"	2963T45	75.02
5,000	10 3/8"	10"	22 7/8"	4"	5"	2963T48	92.70
5,000	15 3/8"	15"	27 7/8"	4"	5"	2963T49	97.09
(B) Side Mount with Tube Mounting Plate							
Top Handle							
2,000	16"	15"	22 7/8"	2" Dia.	—	2963T15	84.91
5,000	11 1/4"	10"	18"	2" Dia.	—	2963T18	89.96
5,000	15 3/8"	15"	23 3/8"	2" Dia.	—	2963T19	97.70
Side Handle							
2,000	10 7/8"	10"	23"	2" Dia.	—	2963T71	100.38
2,000	15"	15"	27 1/8"	2" Dia.	—	2963T72	80.19

Cap., lbs.	Min. Ht.	Max. Lift	O'all Ht.	Mounting Plate Size Lg.	Wd.		
(B) Side Mount with Tube Mounting Plate (Cont.)							
Side Handle (Cont.)							
5,000	10 1/2"	10"	23"	2" Dia.	—	2963T73	$101.28
5,000	15 1/2"	15"	28"	2" Dia.	—	2963T74	119.26
7,000	11"	10"	25 5/8"	3" Dia.	—	2963T75	118.64
10,000	17"	12 5/8"	39 1/2"	4" Dia.	—	2963T81	267.66
(C) Through-Hole Mount with Triangular Mounting Plate							
Top Handle							
2,000	8 7/8"	15"	24 1/4"	5 1/8"	4 1/4"	2933T31	65.21
5,000	10 3/8"	15"	24 1/8"	5 1/8"	4 1/4"	2933T11	60.96
5,000	10 7/8"	15"	24 3/8"	5 1/8"	4 1/4"	2933T35★	44.30
Side Handle							
2,000	8 5/8"	13"	35 1/2"	5 1/8"	4 1/4"	2933T32	72.45
(D) Through-Hole Mount with Round Mounting Plate							
Top Handle							
5,000	4 1/2"	9"	19 3/4"	3 5/8" Dia.	—	2953T1	119.42
5,000	4 1/2"	17"	27 3/4"	3 5/8" Dia.	—	2953T2	135.80
5,000	4 1/2"	21"	31 3/4"	3 5/8" Dia.	—	2953T3	144.53

★ Does not have a foot plate.

Leveling Jacks with Wheel

Mount these steel jacks to equipment to raise and level it. A swivel caster with a plastic wheel lets you reposition your load.

Side Mount—Slide the frame of your equipment through the mounting plate. Mounting fasteners are included. *Style C* jacks have a locking pin that locks the jack in a vertical position; pull the pin to rotate the jack into a horizontal position when not in use.

Through-Hole Mount—Mount through a 2¼" dia. hole in the frame of your equipment; mounting plate can be bolted or welded. These jacks are commonly used with an A-frame trailer coupler. They have a 5 1/8" x 4 1/4" triangular mounting plate with three 7/16" Wd. x 13/16" Lg. mounting holes (fasteners not included).

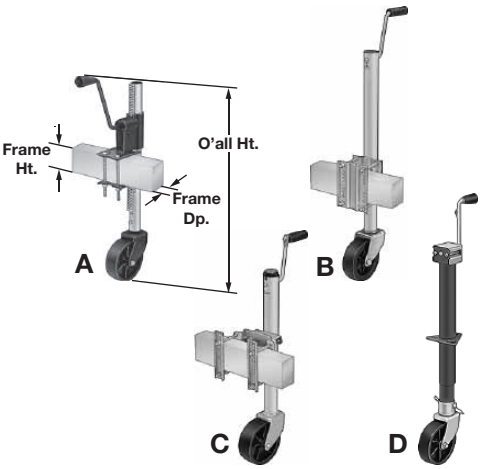

	Cap., lbs.	Min. Ht.	Max. Lift	O'all Ht.	For Frame Size Ht.	Dp.	Handle Lg.		
Side Mount									
A	750	7 1/2"	16"	27 7/8"	0"-5"	1 7/8"-2 7/8"	5 1/2"	2958T6	$157.21
B	1,000	10 1/4"	15"	33 5/8"	1"-5"	0"-3"	6"	8792T45	76.14
C	1,200	12 1/2"	10"	28 1/8"	2"-4"	1 1/2"-3"	6"	8792T44	73.28
C	1,200	14 1/2"	10 1/2"	29 1/8"	2"-5"	0"-3"	6"	8792T43	72.62
C	1,500	13 5/8"	12"	32 5/8"	2"-5"	0"-3"	6"	2958T25	136.48
Through-Hole Mount									
D	1,200	8 5/8"	13"	35 5/8"	—	—	6 1/2"	2933T22	84.81

Jack Stands

Hold and adjust the height of heavy loads such as truck trailers. Jacks are steel with a safety yellow finish.

Ratchet Jack Stands—The ratcheting action of these jacks makes adjusting them under load easier than screw jack stands.

Style A jacks can hold up to 50,000 lbs. when used as a stand.

Styles B-D jacks can hold up to 100,000 lbs. when used as a stand. They have two rubber wheels and a removable handle. *Style C* also has a steel front wheel.

Note: Jack stands should not be moved when under load.

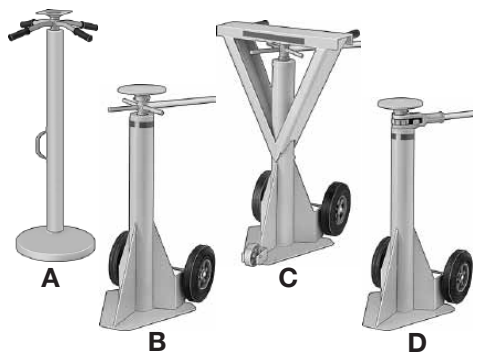

	Cap., lbs.	Min. Ht.	Max. Lift	Saddle Size Lg.	Wd.	Base Size Lg.	Wd.	Handle Lg.		
Screw Jack Stands										
A	5,000	44"	7"	5"	5"	14" Dia.	—	—	8817T61	$135.12
B	40,000	39 1/2"	11 1/2"	8" Dia.	—	16"	17 5/8"	20"	8817T62	327.44
C	40,000	39 1/2"	11 1/2"	24"	6"	16"	17 5/8"	20"	8817T74	475.54
Ratchet Jack Stands										
C	40,000	39 1/2"	11 1/2"	24"	6"	16"	17 5/8"	20"	8817T67	475.54
D	40,000	39"	12"	8" Dia.	—	16"	17 5/8"	20"	8817T63	370.12

Warning: Never use to support people or loads over people.

Air-Powered Lifting Bags



Use these rugged rubber lifting bags under heavy loads with less than 1″ of clearance. They also work well on soft surfaces and under water. To increase lift height, stack with an additional bag. Maximum pressure is 150 psi.

Bags include a push-button controller and a 32-ft. air hose.

Replacement hose is 3/8″ dia. and has a female quick-disconnect coupling on one end and a male air inlet on the other end.

Cap., lbs.	Min. Ht.	Max. Lift	Base Size Lg.	Base Size Wd.	Lifting Bags		Replacement Bags	
3,000	3/4″	2 1/4″	6″	6″	28935T111	$1,080.00	28935T211	$358.55
7,000	3/4″	2 3/4″	12″	6″	28935T112	1,190.00	28935T212	473.87
16,000	7/8″	5 1/2″	12″	12″	28935T113	1,416.00	28935T213	710.81
27,000	7/8″	7 1/4″	15″	15″	28935T114	1,532.00	28935T214	832.42
38,000	7/8″	8 1/8″	21″	15″	28935T115	1,584.00	28935T215	886.94
51,000	7/8″	9 7/8″	20″	20″	28935T116	1,798.00	28935T216	1,060.00
76,000	7/8″	12 1/8″	24″	24″	28935T117	1,926.00	28935T217	1,188.00
Replacement Hose							28935T413	$82.64

Vertical Braces—*Not for Lifting*



Locking Pin

Support beams and joists with these tall braces. All are made of steel.

Locking-pin braces have holes spaced in 6″ increments. To adjust the height, extend the brace to the approximate height needed and insert the locking pin through the hole to secure. Then turn the threaded handle counterclockwise to raise it up to 6″ for more precise height adjustments. Top plate and base each have four 9/16″ dia. mounting holes (fasteners not included).

Locking-ring braces are notched in 4″ increments. To adjust the height, slide the safety lock into the notch to secure at the approximate height needed. Then turn the 10″ long handle for final height adjustments. Top plate and base each have two 3/8″ and two 5/8″ dia. mounting holes (fasteners not included).

Capacity, tons @ Min. Ht.	Capacity, tons @ Max. Ht.	Min. Ht.	Max. Ht.	Top Plate Size Lg.	Top Plate Size Wd.	Base Size Lg.	Base Size Wd.		
Locking Pin									
3 7/8	2	6′6″	11′6″	4 3/4″	4 3/4″	4 3/4″	4 3/4″	2929T13	$203.22
4 7/8	1 1/2	10′	18′	4 3/4″	4 3/4″	4 3/4″	4 3/4″	2929T14	292.54
Locking Ring									
8 3/4	7	5′8″	8′4″	4″	4″	4″	4″	2946T1	127.63
9	8 1/2	2′1″	3′5″	4″	4″	4″	4″	2946T4	83.56
9	8 1/2	3′4″	5′4″	4″	4″	4″	4″	2946T3	99.98
9	9	1′4″	2′	4″	4″	4″	4″	2946T5	71.82

Trench Braces—*Not for Lifting*

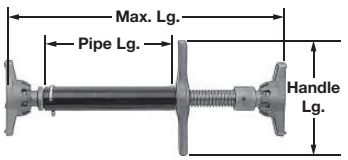

Support trench walls when installing pipes, cables, and other buried equipment. The ends tilt up to 10° for angular shoring and have spikes that dig into surfaces for a tight grip. Braces are steel and iron.

8-ton braces have a 1 3/8″ dia. screw for width adjustments. The included pipe can be replaced with a piece of Schedule 40 pipe up to 40 1/2″ long.

13-ton braces have a 1 7/8″ dia. screw for width adjustments. The included pipe can be replaced with a piece of Schedule 40 pipe up to 50″ long.

Cap., tons	Min. Lg.	Max. Lg.	Pipe Lg.	Handle Lg.	Base Size Lg.	Base Size Wd.		
8	18 1/2″	25 1/2″	10 1/2″	9 1/2″	3″	6″	2950T11	$122.59
8	30 1/2″	41″	22 1/2″	9 1/2″	3″	6″	2950T15	138.10
13	38″	52″	26″	11″	4 1/4″	8″	2950T17	221.03
13	50″	64″	38″	11″	4 1/4″	8″	2950T19	230.86

Jack Stands—*Not for Lifting*

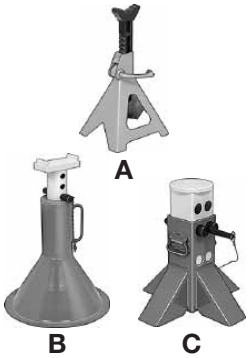

After raising a load, add these steel stands for support.

Locking Handle—The handle locks the ratchet bar in place to support the load. Height is adjustable in 9/16″ increments for 6,000-lb. stands and in 11/16″ increments for 12,000-lb. stands.

Locking Pin—Insert the pin through the riser to lock the bar in place. Height is adjustable in 1 1/2″ increments for 24,000-lb. stands and 3″ increments for 40,000-lb. stands.

Note: Do not raise or lower stands while under load. Always use stands in pairs and on a hard, flat surface.

Warning: Never use to support people or loads over people.

	Cap. per Pair, lbs.	Min. Ht.	Max. Ht.	Saddle Size Lg.	Saddle Size Wd.	Base Size Lg.	Base Size Wd.		
Locking Handle									
A	6,000	12″	17 3/4″	1″	3 1/2″	7 1/2″	8 1/4″	8059T31	$47.76
A	12,000	15 5/8″	23 3/4″	1 1/4″	4 1/4″	10 3/8″	11 5/8″	8059T32	86.89
Locking Pin									
B	24,000	19″	29 1/2″	3″	6″	15 7/8″ Dia.	—	8059T33	557.73
C	40,000	15 1/4″	24″	6″ Dia.	—	15 1/2″	15 1/2″	8059T34	1,220.99

Twine

Smaller in diameter than rope, twine is designed for light duty applications such as tying, binding, and cinching.

Grip-Tight High-Strength Nylon



The twisted construction lets you tightly grip this twine without it slipping. Twine is nylon for a good balance between stretch and strength. It resists UV rays and rot. Color is white.

Dia.	Trade Size	Breaking Strength, lbs.	Length, ft.		
Pocket Card					
0.058″	18	180	250	1938T18	$2.22
½-lb. Tube					
0.046″	12	100	900	1938T31	3.97
0.058″	18	180	550	1938T32	3.98
0.065″	21	210	400	1938T33	3.98
0.073″	24	250	330	1938T34	3.98
0.078″	30	290	310	1938T35	3.98
0.085″	36	330	260	1938T36	3.84
0.103″	48	430	190	1938T37	3.84
0.125″	72	630	130	1938T38	3.84
1-lb. Tube					
0.046″	12	100	1,800	1938T39	7.68
0.058″	18	180	1,100	1938T41	7.68
0.065″	21	210	800	1938T42	7.68
0.073″	24	250	660	1938T43	7.68
0.078″	30	290	620	1938T44	7.68
0.085″	36	330	535	1938T45	7.47
0.103″	48	430	380	1938T46	7.47
0.125″	72	630	260	1938T47	7.47

Wear-Resistant High-Strength Nylon



The braided construction makes this twine more wear resistant and less likely to unravel than twisted twine. It is nylon for a good balance between stretch and strength. It resists UV rays and rot. Twine comes on a tube.

Dia.	Trade Size	Breaking Strength, lbs.	Length, ft.		
White					
0.046″	12	80	100	2057T35	$3.60
0.046″	12	80	250	2057T36	4.93
0.058″	18	130	250	2057T75	4.79
0.058″	18	130	480	2057T76	8.55
0.058″	18	130	960	2057T77	16.55
High-Visibility Fluorescent—Choose a color: orange, pink, yellow					
0.058″	18	150	250	2057T88	5.57
0.058″	18	150	500	2057T86	10.48
0.058″	18	150	1,000	2057T87	19.76

Weather- and Wear-Resistant Polyester



With excellent resistance to UV rays and rot, this polyester twine is a great choice for outdoor use. It has a wear-resistant braided construction that makes it less likely to unravel than twisted twine. Color is white. Twine comes on a spool.

Dia.	Breaking Strength, lbs.	Length, ft.		
0.033″	50	100	8936T61	$14.59
0.042″	90	100	8936T62	15.63
0.060″	180	100	8936T63	17.92

Grip-Tight Weather-Resistant Polypropylene



Resistant to rot, mildew, oil, gas, and acid, this polypropylene twine lasts in the harshest conditions. The twisted construction lets you tightly grip it without it slipping. Color is white.

Dia.	Breaking Strength, lbs.	Length, ft.		
Pocket Card				
0.050″	130	150	2078T34	$2.48
10-lb. Tube				
0.050″	130	8,500	2078T11	33.89
0.070″	180	6,500	2078T12	33.89
0.080″	210	5,500	2078T13	33.89
0.100″	260	4,500	2078T14	33.89
0.110″	250	4,200	2078T21	35.58
0.110″	380	2,800	2078T23	35.58
0.110″	400	2,720	2078T22	35.58
0.130″	320	3,500	2078T15	33.89
0.240″	600	1,810	2078T24	35.58

Comfort-Grip Cotton



Unpolished



Polished

This twine is made of soft cotton, so you can grip it without hurting your hands. It has a twisted construction. Color is white.

Polished—Twine has a smooth finish for added wear resistance.

Dia.	Trade Size	Breaking Strength, lbs.	Length, ft.		
Unpolished—Pocket Card					
0.046″	—	20	250	1929T41	$2.52
0.078″	—	40	150	1929T42	2.76
Unpolished—½-lb. Ball					
0.060″	18	30	510	1931T13	4.08
0.075″	24	40	390	1931T15	4.08
0.078″	30	60	300	1931T18	4.08
0.094″	36	70	250	1931T21	4.08
0.110″	48	80	180	1931T24	4.08
0.120″	60	100	140	1931T25	4.08
Unpolished—1-lb. Ball					
0.125″	72	120	250	1931T26	8.20
Unpolished—2½-lb. Spool					
0.038″	—	10	8,230	1929T12	15.02
0.046″	—	20	6,170	1929T14	15.02
0.054″	—	20	5,000	1929T16	15.02
0.062″	—	30	4,110	1929T28	15.02
Polished—½-lb. Ball					
0.058″	24	40	500	1931T51	6.17
0.080″	60	90	270	1931T35	6.42
Polished—1-lb. Tube					
0.098″	4½	110	400	1931T36	11.88
0.116″	6	110	320	1931T47	11.88

Easy-Knot Jute



This jute twine is softer than sisal twine for a more comfortable grip, but more coarse than cotton for a tighter knot. It has a twisted construction. Color is brown.

Dia.	Trade Size	Breaking Strength, lbs.	Length, ft.		
Pocket Card					
0.094″	14	40	250	1936T61	$3.04
½-lb. Tube					
0.078″	24	70	210	1936T31	1.74
0.141″	24	120	250	1936T32	2.65
50-lb. Spool					
0.078″	28	80	24,400	1936T24	108.97
0.141″	28	140	14,650	1936T44	108.97

Coarse Easy-Knot Sisal



The coarsest of our twine, use this sisal twine for the longest-lasting knots. It has a twisted construction. Color is brown.

Dia.	Breaking Strength, lbs.	Length, ft.		
Pocket Card				
0.094″	70	150	1932T51	$3.24
10-lb. Tube				
0.094″	180	3,000	1932T1	29.40
0.125″	340	1,470	1932T2	29.98
50-lb. Spool				
0.094″	180	15,000	1932T3	127.94
0.125″	340	7,350	1932T4	131.15

Comfort-Grip Waxed Linen



Treated with wax to resist mildew, this linen twine is often used as lacing cord in electrical applications. You can grip it without hurting your hands. It has a twisted construction. Color is white. Twine comes on a tube. Meets MIL-T-713, Type N.

Dia.	Trade Size	Breaking Strength, lbs.	Length, ft.		
0.040″	6	30	450	3858T13	$18.58
0.046″	8	40	330	3858T12	18.58
0.056″	12	70	220	3858T11	18.58

Clear Nylon Line

Also known as fishing line, this line is very thin, yet strong and wear resistant.

Dia.	Breaking Strength, lbs.	Length, ft.		
0.008″	4	990	9442T5	$11.86
0.012″	8	990	9442T1	11.86
0.017″	10	900	9442T2	11.86
0.022″	30	660	9442T3	$11.86
0.028″	50	820	9442T4	15.35



Rope—For Lifting



Wet-Environment
Wear Resistant



Wet-Environment
Easy Splice



Low-Stretch
Wear Resistant



Low-Stretch
Easy Splice



High-Temperature
Wear Resistant



High-Temperature
No Flatten

Lightweight and strong, this rope is an alternative to wire rope for lifting. Rope can be spliced, which allows you to add a fitting or connect rope. It knots easily and does not rotate under load.

Wet Environment—Strong even when wet, this rope is a high-performance polyethylene also known as Spectra. Maximum temperature is 150° F. *Wear-resistant* rope has a polyester cover. It is white with black and red strands. *Easy-splice* rope is dark pink.

Low Stretch—For more control over your load, this rope has excellent resistance to stretch and slip. It is a high-performance polyester also known as Vectran. Maximum temperature is 150° F. *Wear-resistant* rope is white with green strands; *easy-splice* rope is brown.

High Temperature—Because it's made of a high-performance aramid also known as Technora, this rope keeps its strength in temperatures up to 300° F and is chemical and corrosion resistant. *Wear-resistant* rope is white with red and yellow strands; *no-flatten* rope is brown.

Wear-resistant rope has a braided cover that protects the braided core from wear during use.

Easy-splice rope is braided with a hollow core, so it's easier to splice than other rope for adding a fitting or connecting rope together.

No-flatten rope has a solid braided construction that keeps it from flattening during use.

Note: The safety factor for capacity is 5:1.

Dia.	Capacity, lbs.	Lengths, ft.		Per Ft.
Wet Environment				
Wear Resistant				
1/4"	800	10, 25, 50, 75, 100, 200, 300	36965T15	$1.41
5/16"	1,400	5, 10, 25, 50, 75, 100, 200, 300	36965T16	2.00
3/8"	2,000	5, 10, 25, 50, 75, 100, 200, 300	36965T17	2.74
1/2"	4,200	5, 10, 25, 50, 75, 100, 200, 300	36965T18	4.63
Easy Splice				
1/4"	1,500	5, 10, 25, 50, 75, 100, 200, 300	36965T21	1.49
5/16"	2,600	5, 10, 25, 50, 75, 100, 200, 300	36965T22	2.32
3/8"	3,300	5, 10, 25, 50, 75, 100, 200, 300	36965T23	3.13
1/2"	6,400	2, 5, 10, 25, 50, 75, 100, 200, 300	36965T24	4.84
Low Stretch				
Wear Resistant				
1/4"	1,000	10, 25, 50, 75, 100, 200, 300	2222T45	1.70
5/16"	1,500	5, 10, 25, 50, 75, 100, 200, 300	2222T46	2.85
3/8"	2,500	5, 10, 25, 50, 75, 100, 200, 300	2222T47	5.38
1/2"	4,000	5, 10, 25, 50, 75, 100, 200, 300	2222T48	7.50
Easy Splice				
1/4"	1,600	5, 10, 25, 50, 75, 100, 200, 300	2222T41	2.67
5/16"	2,300	2, 5, 10, 25, 50, 75, 100, 200, 300	2222T42	3.90
3/8"	3,500	2, 5, 10, 25, 50, 75, 100, 200, 300	2222T43	5.25
1/2"	6,200	2, 5, 10, 25, 50, 75, 100, 200, 300	2222T44	9.45
High Temperature				
Wear Resistant				
3/16"	550	10, 25, 50, 75, 100, 200, 300	3790T11	.65
1/4"	750	10, 25, 50, 75, 100, 200, 300	3790T12	1.00
5/16"	1,100	10, 25, 50, 75, 100, 200, 300	3790T13	1.19
3/8"	1,900	5, 10, 25, 50, 75, 100, 200, 300	3790T14	2.09
7/16"	2,000	5, 10, 25, 50, 75, 100, 200, 300	3790T15	2.86
1/2"	3,200	5, 10, 25, 50, 75, 100, 200, 300	3790T16	3.82
No Flatten				
3/16"	750	5, 10, 25, 50, 75, 100, 200, 300	3790T31	1.27
1/4"	1,400	5, 10, 25, 50, 75, 100, 200, 300	3790T32	1.66
5/16"	2,100	5, 10, 25, 50, 75, 100, 200, 300	3790T33	2.58
3/8"	2,900	5, 10, 25, 50, 75, 100, 200, 300	3790T34	3.79
1/2"	6,000	2, 5, 10, 25, 50, 75, 100, 200, 300	3790T36	5.95

Comfort-Grip Wear-Resistant Rope—Not for Lifting



Standard



Shock Absorbing

Also known as sash cord, this rope has a soft cotton cover, so you can grip it without hurting your hands. The braided cover protects the braided core from wear during use. Rope knots easily and does not rotate under load. Maximum temperature is 150° F.

Standard—Rope has a polyester core and a polished finish for added wear resistance. Color is white.

Shock Absorbing—Rope is made of nylon to compensate for sudden force, such as in towing applications or dock lines. The rope resists rot and mildew. When wet, it can lose up to 20% of its strength. Color is white with red strands, except the 9/32" dia. rope is all white.

Note: The safety factor for capacity is 12:1.

Dia.	Capacity, lbs.	Length, ft.		
Standard				
7/64"	8	100	3851T21	$5.42
1/8"	10	100	3851T22	5.98
9/64"	10	100	3851T23	6.62
5/32"	10	100	3851T24	8.76
3/16"	40	100	3848T51	13.60
7/32"	50	100	3848T52	14.11
1/4"	60	100	3848T53	18.87
5/16"	100	100	3848T54	29.27
3/8"	100	100	3848T55	38.96
7/16"	200	100	3848T56	56.38
1/2"	250	100	3848T57	70.53

Dia.	Capacity, lbs.	Length, ft.		
Shock Absorbing				
3/16"	50	100	3848T41	$16.13
7/32"	60	100	3848T42	18.69
1/4"	80	100	3848T43	21.20
9/32"	100	100	3848T44	18.53
5/16"	100	100	3848T45	32.89
3/8"	150	100	3848T46	45.00
7/16"	250	100	3848T47	64.38
1/2"	300	100	3848T48	82.42

Warning: ***Never use to lift people or items over people.***

Shock-Absorbing Rope—Not for Lifting

Use this rope when you need to compensate for sudden force, such as in towing applications or dock lines. Rope is rot and mildew resistant, except for flexible rope. Maximum temperature is 300° F.

Note: The safety factor for capacity is 12:1.

Grip Tight

The twisted construction gives this nylon rope a grooved surface, allowing you to grip it tight without it slipping. Rope can lose up to 20% of its strength when wet. It can be spliced, which allows you to add a fitting or connect rope. Color is white.



Dia.	Capacity, lbs.	Lengths, ft.		Per Ft.
3/16"	70	100, 200, 300, 600, 1,000	3827T31	$0.09
1/4"	100	100, 200, 300, 600, 1,000, 1,200	3827T37	.11
5/16"	150	50, 100, 200, 300, 600, 1,200	3827T33	.19
3/8"	250	50, 100, 200, 300, 600, 1,200	3827T34	.26
1/2"	450	25, 50, 100, 200, 300, 600, 1,200	3827T35	.52
5/8"	700	10, 25, 50, 100, 300, 600, 1,200	3827T36	.85
3/4"	1,000	10, 50, 100, 300, 600, 1,200	3827T21	1.16
1"	1,800	10, 25, 50, 100, 300, 600	3827T22	1.72
1 1/4"	2,900	10, 25, 50, 100, 300, 600	3827T23	2.57
1 1/2"	4,000	5, 10, 25, 50, 100, 300, 600	3827T24	3.18

No Flatten

Solid braided construction keeps this nylon rope from flattening during use and disperses wear evenly, making it a good choice for high-friction applications, such as passing through pulleys. It knots easily and does not rotate under load. Rope can lose up to 20% of its strength when wet. Color is white.



Dia.	Capacity, lbs.	Lengths, ft.		Per Ft.
1/8"	20	100, 200, 500, 1,000	3838T711	$0.04
5/32"	30	100, 200, 500, 1,000	3838T721	.06
3/16"	50	100, 200, 500, 1,000	3838T531	.08
7/32"	70	100, 200, 500, 1,000	3838T741	.08
1/4"	90	50, 100, 200, 500, 1,000	3838T561	.12
5/16"	100	50, 100, 200, 500, 1,000	3838T751	.18
3/8"	150	50, 100, 200, 500, 1,000	3838T771	.24
7/16"	250	25, 100, 200, 500, 1,000	3838T681	.39
1/2"	300	25, 50, 100, 200, 500, 1,000	3838T791	.44

Flexible

Also known as 550 cord, this all-nylon rope has a strand core, so it bends freely. You can peel back the braided cover and remove the seven core strands to use it in light duty applications, such as tying items together. Rope is black with a white core.



Dia.	Capacity, lbs.	Lengths, ft.		Per Ft.
5/32"	40	50, 100, 250, 500	3696T38	$0.08

Low-Stretch Flexible

Rope has a strand core, which allows it to bend freely. The core is polyester to give the rope stretch resistance. The cover is braided nylon. Color is white.

Coated—Rope has a clear acrylic coating on the outside to reduce wear.



Dia.	Capacity, lbs.	Lengths, ft.		Per Ft.
Uncoated				
7/64"	30	100, 200, 500, 1,000, 3,000	3696T13	$0.06
1/8"	30	100, 200, 500, 1,000, 3,000	3696T16	.06
9/64"	30	100, 200, 500, 1,000, 3,000	3696T19	.07
5/32"	30	100, 200, 500, 1,000, 3,000	3696T23	.07
3/16"	40	100, 200, 500, 1,000, 3,000	3696T26	.11
Coated				
7/64"	40	100, 200, 500, 1,000, 3,000	3696T12	.06
1/8"	50	100, 200, 500, 1,000, 3,000	3696T15	.07
9/64"	50	100, 200, 500, 1,000, 3,000	3696T18	.08
5/32"	60	100, 200, 500, 1,000, 3,000	3696T22	.08
3/16"	60	100, 200, 500, 1,000, 3,000	3696T25	.12

High-Strength Wear Resistant

This nylon rope shares the weight of a load between the core and the cover, giving it added strength. The braided cover protects the braided core from wear during use. Rope can be spliced, which allows you to add a fitting or connect rope. It can lose up to 20% of its strength when wet. Color is white with blue and red strands.



Dia.	Capacity, lbs.	Lengths, ft.		Per Ft.
1/4"	150	25, 50, 100, 200, 300, 600	3836T31	$0.43
5/16"	200	25, 50, 100, 200, 300, 600	3836T33	.57
3/8"	350	25, 50, 100, 200, 300, 600	3836T34	.63
1/2"	600	10, 25, 50, 100, 200, 300, 600	3836T35	.98
5/8"	1,000	10, 50, 100, 200, 300, 600	3836T36	1.58
3/4"	1,300	5, 10, 50, 100, 300, 600	3836T37	2.16
1"	2,500	5, 10, 50, 100, 300, 600	3836T38	3.54
1 1/4"	3,600	5, 10, 50, 100, 300, 600	3836T39	4.94

Reinforced Wire-Core Rope—Not for Lifting

The wire core makes this rope more wear resistant than rope with a fiber core, and it helps the rope keep its shape, so it won't stretch with repeated use. Rope does not rotate under load. Color is white.

Comfort Grip—This soft cotton rope with twisted construction allows you to grip it tight without it slipping or hurting your hands. Maximum temperature is 150° F.

Shock Absorbing—Often used with pulleys and sheaves, this braided nylon rope is more wear resistant than cotton and has more stretch to help compensate for sudden force. Maximum temperature is 300° F.

Note: The safety factor for capacity is 12:1.



Comfort Grip



Shock Absorbing

Dia.	Wire Dia.	Capacity, lbs.	Lengths, ft.		Per Ft.
Comfort Grip					
3/16"	3/32"	70	25, 50, 100, 200, 500, 1,000	3849T44	$0.40
1/4"	3/32"	70	25, 50, 100, 200, 500, 1,000	3849T45	.48
5/16"	3/32"	70	25, 50, 100, 200, 500, 1,000	3849T46	.60
3/8"	3/32"	70	25, 50, 100, 200, 500, 1,000	3849T47	.65
Shock Absorbing					
3/16"	3/32"	60	25, 50, 100, 200, 500, 1,000	8921T61	.42
1/4"	3/32"	90	25, 50, 100, 200, 500, 1,000	8921T82	.49
5/16"	1/8"	150	25, 50, 100, 200, 500, 1,000	8921T83	.62
3/8"	5/32"	200	25, 50, 100, 200, 500, 1,000	8921T84	.73

Low-Stretch Rope—Not for Lifting

Choose this polyester rope for applications that require minimal stretch, such as in tie-down applications. It resists UV rays, rot, oil, and gas. Maximum temperature is 200° F.

Note: The safety factor for capacity is 12:1.

Standard



No Flatten



Reflective Flexible

No Flatten—Solid braided construction keeps the rope from flattening during use and disperses wear evenly, making it a good choice for high-friction applications, such as passing through pulleys. It knots easily and does not rotate under load. Color is white.

Reflective Flexible—Rope has a strand core, which allows it to bend freely. Color is black with reflective strands.

Dia.	Capacity, lbs.	Lengths, ft.		Per Ft.
No Flatten				
1/8"	30	100, 200, 500, 1,000	3852T11	$0.06
5/32"	50	100, 200, 500, 1,000	3852T51	.12
3/16"	50	100, 200, 500, 1,000	3852T36	.19
7/32"	70	100, 200, 500, 1,000	3852T35	.09
1/4"	90	50, 100, 200, 500, 1,000	3852T38	.22
5/16"	100	50, 100, 200, 500, 1,000	3852T41	.39
3/8"	150	25, 50, 100, 200, 500, 1,000	3852T42	.57
1/2"	300	25, 50, 100, 200, 500, 1,000	3852T43	.87
Reflective Flexible				
1/8"	40	25, 50, 325	3132T1	.50
5/32"	80	25, 40, 300	3132T2	.87

Grip Tight



Standard



Comfort Grip



Lightweight

The twisted construction gives this rope a grooved surface, allowing you to grip it tight without it slipping. Rope can be spliced, which allows you to add a fitting or connect rope.

Standard—Color is white.

Comfort Grip—The soft polyester cover is easy on your hands. Rope is white with orange strands.

Lightweight—Made of a polyester blend, this rope is approximately 15% lighter than standard polyester rope. Color is light blue with green and red strands.

Dia.	Capacity, lbs.	Lengths, ft.		Per Ft.
Standard				
3/16"	60	100, 200, 300, 600	3828T14	$0.09
1/4"	100	50, 100, 200, 300, 600	3828T11	.13
5/16"	150	50, 100, 200, 300, 600	3828T12	.21
3/8"	200	25, 50, 100, 200, 300, 600	3828T13	.28
1/2"	400	25, 50, 100, 200, 300, 600	3828T23	.50
5/8"	650	10, 50, 100, 200, 300, 600	3828T24	.78
3/4"	900	10, 50, 100, 300	3828T25	1.12
1"	1,600	10, 50, 100, 300	3828T26	1.98
Comfort Grip				
5/16"	150	50, 100, 200, 300, 600	36955T11	.36
3/8"	200	50, 100, 200, 300, 600	36955T12	.36
7/16"	350	25, 50, 100, 200, 300, 600	36955T13	.48
1/2"	400	25, 50, 100, 200, 300, 600	36955T14	.57
Lightweight				
3/8"	300	50, 100, 200, 300, 600	8878T35	.43
1/2"	500	25, 50, 100, 200, 300, 600	8878T46	.72
5/8"	750	10, 25, 50, 100, 200, 300, 600	8878T57	.98
3/4"	1,100	10, 50, 100, 300	8878T66	1.92
1"	1,900	5, 10, 50, 100, 300	8878T77	3.39

Wear Resistant



A braided cover protects the braided core from wear during use. It knots easily and does not rotate under load. Color is white with red strands.

Dia.	Capacity, lbs.	Lengths, ft.		Per Ft.
3/16"	100	50, 100, 200, 300, 600	3789T21	$0.33
1/4"	150	25, 50, 100, 200, 300, 600	3789T22	.49
5/16"	250	25, 50, 100, 200, 300, 600	3789T23	.64
3/8"	300	50, 100, 200, 300, 600	3789T24	.83
7/16"	400	10, 50, 100, 200, 300, 600	3789T25	1.06
1/2"	700	10, 50, 100, 200, 300, 600	3789T26	1.34
5/8"	1,000	5, 10, 50, 100, 300	3789T28	2.05
3/4"	1,800	5, 10, 50, 100, 300	3789T19	2.56

Rope with Eyes—Not for Lifting



Save time when attaching rope to tie downs and hooks. Made of polyester, rope has excellent stretch resistance for applications that require more control over your load. It resists UV rays, rot, oil, and gas. The braided cover protects the braided core from wear during use. Rope knots easily and won't rotate under load. Color is white with red strands. Maximum temperature is 200° F.

Rope with Eye on One End—Rope can be spliced, which allows you to add a fitting or connect rope on the end without a loop.

Note: The safety factor for capacity is 12:1.

Dia.	Capacity, lbs.	Eye Lg.		3 ft.	6 ft.	8 ft.	12 ft.	20 ft.	50 ft.	Other Lengths, ft.
With Eye on One End										
1/2"	700	4"	8328T1	$36.32	$38.84	$40.52	$43.86	$50.52	$75.60	3 to 50
With Eye on Both Ends										
1/2"	700	4"	8328T6	81.72	88.17	92.47	101.07	118.27	182.77	3 to 50

Easy-Knot Grip-Tight Rope—Not for Lifting



The rough texture of this sisal rope allows it to make tight and long-lasting knots. It has a twisted construction that makes it easy to hold tight without slipping. Color is brown. Maximum temperature is 180° F.

Note: The safety factor for capacity is 12:1.

Dia.	Capacity, lbs.	Lengths, ft.		Per Ft.
3/16"	20	100, 200, 500, 2,000	3819T51	$0.05
1/4"	30	100, 200, 500, 1,000	3819T52	.07
5/16"	50	100, 200, 500, 1,000	3819T53	.10
3/8"	70	100, 200, 500	3819T54	.14
1/2"	100	50, 100, 200, 500	3819T56	.29
3/4"	250	25, 50, 100, 200, 500	3819T58	.58

Wet-Environment Rope—Not for Lifting

This polypropylene rope floats in water, resists rot, and doesn't lose strength when wet. It also resists acid, oil, and gas. Maximum temperature is 200°F.

Note: The safety factor for capacity is 12:1.

Grip Tight

The twisted construction gives rope a grooved surface, allowing you to grip it tight without it slipping. Rope can be spliced, which allows you to add a fitting or connect rope.

Extra Grip—A coarse, natural texture makes this rope easier to grip than other wet-environment rope. Rope knots easily.

UV Resistant—Also known as truck tie-down rope, this rope has added UV-ray inhibitors to protect it from deterioration when used outdoors.

High Strength—Rope is made of premium polypropylene for increased strength.


Solid Color


Striped


Extra Grip


UV Resistant


High Strength

Dia.	Capacity, lbs.	Choose a Color	Lengths, ft.		Per Ft.
Solid Color					
1/8"	20	Yellow	100, 300, 600, 1,000, 3,000	3837T33	$0.03
3/16"	50	Black, White, Yellow	100, 200, 300, 600, 1,000, 1,200	3837T16	.04
1/4"	90	Black, White, Yellow	100, 200, 300, 600, 1,200	3837T17	.06
3/8"	200	Black, White, Yellow	100, 200, 300, 600, 1,200	3837T18	.14
1/2"	300	Black, White, Yellow	50, 100, 200, 300, 600, 1,200	3837T19	.22
5/8"	450	Black, White, Yellow	50, 100, 200, 300, 600	3837T21	.33
3/4"	600	Black, White, Yellow	25, 50, 100, 200, 300, 600	3837T22	.47
1"	1,000	Black, White, Yellow	10, 25, 100, 200, 300, 600	3837T23	.74
Striped					
1/4"	90	White/Red, Yellow/Black, Yellow/Dark Pink	200, 300, 600	6068T14	.08
5/16"	100	White/Red, Yellow/Black, Yellow/Dark Pink	200, 300, 600	6068T15	.10
3/8"	150	White/Red, Yellow/Black, Yellow/Dark Pink	100, 200, 300, 600	6068T16	.16
Extra Grip					
1/4"	90	Brown	100, 200, 300, 600	3846T22	.08
3/8"	200	Brown	50, 100, 200, 300, 600	3846T24	.18
1/2"	300	Brown	50, 100, 200, 300, 600	3846T26	.32
5/8"	450	Brown	50, 100, 200, 300, 600	3846T28	.46
3/4"	600	Brown	25, 100, 200, 300, 600	3846T31	.62
UV Resistant					
3/8"	200	Black/Orange	100, 200, 300, 600	3818T21	.14
7/16"	250	Black/Orange	100, 200, 300, 600	3818T22	.24
1/2"	300	Black/Orange	50, 100, 200, 300, 600	3818T23	.23
5/8"	450	Black/Orange	50, 100, 200, 300, 600	3818T24	.33
3/4"	600	Black/Orange	25, 100, 200, 300, 600	3818T25	.47
1"	1,000	Black/Orange	10, 100, 200, 300, 600	3818T26	.74
High Strength					
1/4"	100	Green	100, 200, 600, 1,200	3875T2	.07
5/16"	200	Green	100, 200, 600, 1,200	3875T3	.09
3/8"	350	Green	100, 200, 600, 1,200	3875T4	.15
1/2"	400	Green	50, 100, 200, 600, 1,200	3875T5	.23
5/8"	850	Green	50, 100, 200, 600, 1,200	3875T6	.36
3/4"	1,100	Green	25, 50, 100, 200, 600, 1,200	3875T7	.55
1"	1,800	Green	10, 25, 100, 200, 600, 1,200	3875T8	.88

No Flatten

Solid braided construction keeps the rope from flattening during use and disperses wear evenly, making it a good choice for high-friction applications, such as passing through pulleys. It knots easily and does not rotate under load.



Dia.	Capacity, lbs.	Color	Lengths, ft.		Per Ft.
1/8"	10	White	100, 200, 500, 1,000	3873T18	$0.05
5/32"	20	White	100, 200, 500, 1,000	3873T19	.07
3/16"	50	White	100, 200, 500, 1,000	3873T21	.11
1/4"	60	White	50, 100, 200, 500, 1,000	3873T23	.16
5/16"	100	White	50, 100, 200, 500, 1,000	3873T24	.26
3/8"	150	White	25, 100, 200, 500, 1,000	3873T25	.37

Easy Splice

Braided with a hollow core, this rope is easier to splice than other rope, so you can add a fitting or connect rope together. It does not rotate under load.



Dia.	Capacity, lbs.	Color	Lengths, ft.		Per Ft.
1/8"	10	Yellow	100, 200, 300, 500, 1,000	3856T13	$0.03
3/16"	30	Yellow	100, 200, 300, 500, 1,000	3856T14	.04
1/4"	70	Yellow	100, 200, 300, 500, 1,000	3856T15	.05
1/4"	80	Orange	100, 200, 300, 500, 1,000	3856T21	.05
1/4"	80	White/Blue	100, 200, 300, 500, 1,000	3856T41	.05
1/4"	80	White/Red	100, 200, 300, 500, 1,000	3856T31	.05
5/16"	100	Yellow	100, 200, 300, 500, 1,000	3856T16	.08
3/8"	100	Yellow	100, 200, 300, 500, 1,000	3856T18	.12

Extra-Grip-Tight Rope—Not for Lifting

Softer than all other grip-tight rope, this manila rope is more comfortable to grip. It has a twisted construction that makes it easy to hold tight without slipping. Rope can be spliced, which allows you to add a fitting or connect rope. Color is brown. Maximum temperature is 160°F.

Note: The safety factor for capacity is 12:1.



Dia.	Capacity, lbs.	Lengths, ft.		Per Ft.
1/4"	40	100, 200, 300, 400, 600, 1,200	3825T31	$0.07
3/8"	100	100, 200, 300, 400, 600, 1,200	3825T32	.14
1/2"	150	50, 100, 200, 300, 600, 1,200	3825T33	.30
5/8"	300	25, 50, 100, 200, 300, 600, 1,200	3825T34	.48
3/4"	400	25, 50, 100, 200, 300, 600, 1,200	3825T35	.60
1"	650	10, 25, 50, 100, 200, 600, 1,200	3825T36	.92
1 1/4"	1,000	10, 50, 100, 200, 300, 600	3825T37	1.46
1 1/2"	1,300	5, 10, 50, 100, 300, 600	3825T38	2.05
2"	2,300	5, 10, 50, 100, 300, 600	3825T39	3.67

Wire Rope—For Lifting

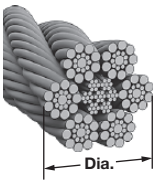

Standard
6 x 19


Wear Resistant
6 x 26


Flexible
6 x 37


Rotation Resistant
18 x 7

Use this lightweight alternative to chain with an overhead crane or to make your own sling. It is preformed to prevent it from unraveling when cut, and it's lubricated to reduce wear. It has an IWRC core and meets ASTM A1023.

Standard—Wire rope has a good balance of abrasion resistance and flexibility.

Flexible—This wire rope withstands repeated bending over a drum or pulley better than other wire rope.

Rotation Resistant—The outer strands of this wire rope lay in the opposite direction of the core to counteract rotation while under load.

High-strength wire rope is a premium steel that increases the strength approximately 10%.

Wear-resistant wire rope has flattened outer strands to give it a smooth surface and to reduce wear.

Galvanized wire rope resists rusting and corrosion.

Note: The safety factor for capacity is 5:1.

Dia.	Capacity, lbs.	Fits Pulley/ Drum Dia.	Lengths, ft.		Per Ft.
Standard					
6x19					
3/16"	750	6 3/4"	10, 25, 50, 100, 300	3440T55	$1.34
1/4"	1,300	9"	10, 25, 50, 100	3440T56	1.52
5/16"	2,100	11 1/4"	5, 10, 25, 50, 100	3440T57	2.10
3/8"	3,000	12"	5, 10, 25, 50, 100	3440T58	2.39
7/16"	4,000	14"	5, 10, 25, 50, 100	3440T59	2.95
1/2"	5,300	16"	5, 10, 25, 50, 100	3440T61	3.61
9/16"	6,700	20 1/4"	2, 5, 10, 25, 50, 100	3440T62	4.48
5/8"	8,200	20"	2, 5, 10, 25, 50, 100	3440T63	5.62
High Strength 6x19					
3/8"	3,300	12"	5, 10, 25, 50, 100	3440T66	2.79
1/2"	5,800	16"	2, 5, 10, 25, 50, 100	3440T67	4.58
5/8"	9,000	20"	2, 5, 10, 25, 50, 100	3440T68	5.88
Wear Resistant 6x26					
3/8"	3,500	12"	2, 5, 10, 25, 50, 100	3321T11	4.93
7/16"	4,700	14"	2, 5, 10, 25, 50, 100	3321T12	5.70
1/2"	6,100	16"	2, 5, 10, 25, 50, 100	3321T13	6.42
Flexible					
6x37					
1/4"	1,300	7"	5, 10, 25, 50, 100	3441T65	2.08
5/16"	2,100	8 3/4"	5, 10, 25, 50, 100	3441T66	2.41

Dia.	Capacity, lbs.	Fits Pulley/ Drum Dia.	Lengths, ft.		Per Ft.
Flexible (Cont.)					
6x37 (Cont.)					
3/8"	3,000	10 1/2"	5, 10, 25, 50, 100	3441T67	$3.17
7/16"	4,000	12 1/4"	5, 10, 25, 50, 100	3441T68	3.91
1/2"	5,300	14"	2, 5, 10, 25, 50, 100	3441T69	4.97
9/16"	6,700	15 3/4"	2, 5, 10, 25, 50, 100	3441T73	5.71
5/8"	8,200	17 1/2"	2, 5, 10, 25, 50, 100	3441T72	5.91
High Strength 6x37					
3/8"	3,300	10 1/2"	5, 10, 25, 50, 100	3441T74	3.31
1/2"	5,800	14"	2, 5, 10, 25, 50, 100	3441T75	5.18
5/8"	9,000	17 1/2"	2, 5, 10, 25, 50, 100	3441T76	6.16
Galvanized 6x37					
1/4"	1,300	7"	5, 10, 25, 50, 100	3323T21	2.80
3/8"	3,000	10 1/2"	2, 5, 10, 25, 50, 100	3323T22	4.02
1/2"	5,300	14"	2, 5, 10, 25, 50, 100	3323T23	5.05
Rotation Resistant					
18x7					
3/8"	3,300	13 1/2"	2, 5, 10, 25, 50, 100	3690T25	5.21
7/16"	4,400	15 3/4"	2, 5, 10, 25, 50, 100	3690T26	6.19
1/2"	5,800	18"	2, 5, 10, 25, 50, 100	3690T27	5.63
9/16"	7,600	20 1/4"	2, 5, 10, 25, 50, 100	3690T28	6.53

Wire Rope with Fitting—For Lifting

This 6x19 IWRC steel wire rope has a good balance of abrasion resistance and flexibility. It is preformed to prevent it from unraveling when cut, and it's lubricated to reduce wear. Fittings are steel, except the 3/16" dia. wire rope with stop has an aluminum fitting.

Note: The safety factor for capacity is 5:1.

Wire Rope with Eye



With an eye, also known as a thimble, already installed, you can quickly attach a hook or a shackle to your wire rope. The thimble prevents fraying and the end is secured with a metal sleeve.

Dia.	Eye Lg.	Eye Wd.	Capacity, lbs.	Fits Pulley/ Drum Dia.		5 ft.	10 ft.	25 ft.	50 ft.	100 ft.	Other Lengths, ft.
3/16"	1 1/4"	5/8"	700	6 3/4"	3440T71	$21.83	$36.39	$80.06	$145.56	$283.84	5 to 100
1/4"	1 1/2"	7/8"	1,300	9"	3440T72	18.97	31.62	69.58	126.50	246.67	5 to 100
5/16"	1 7/8"	1"	2,000	11 1/4"	3440T73	20.51	34.19	75.21	136.75	266.66	5 to 100
3/8"	2"	1"	2,800	12"	3440T74	24.90	41.49	91.28	165.97	323.64	5 to 100
1/2"	2 3/4"	1 1/2"	5,000	16"	3440T75	33.40	55.66	122.46	222.66	434.19	5 to 100
5/8"	3 1/4"	1 3/4"	7,800	20"	3440T76	46.17	76.94	169.28	307.78	600.17	5 to 100

Wire Rope with Stop



This wire rope has a stop, also known as a ferrule fitting, already installed to hold the rope in place.

Dia.	Stop Dia.	Stop Lg.	Capacity, lbs.	Fits Pulley/ Drum Dia.		5 ft.	10 ft.	25 ft.	50 ft.	100 ft.	Other Lengths, ft.
3/16"	1/2"	3/4"	750	6 3/4"	3440T81	$22.48	$37.46	$82.41	$149.84	$292.19	5 to 100
1/4"	1/2"	1 3/8"	1,300	9"	3440T82	19.96	33.27	73.18	133.06	259.47	5 to 100
5/16"	3/4"	1 1/4"	2,000	11 1/4"	3440T83	21.75	36.24	79.73	144.97	282.69	5 to 100
3/8"	3/4"	1 5/8"	2,900	12"	3440T84	26.23	43.71	96.16	174.84	340.94	5 to 100
1/2"	1 1/8"	2 1/8"	5,200	16"	3440T85	36.11	60.19	132.41	240.75	469.46	5 to 100
5/8"	1 3/8"	2 7/8"	8,000	20"	3440T86	52.34	87.23	191.90	348.91	680.37	5 to 100

Warning: Never use to lift people or items over people.

Corrosion-Resistant Wire Rope—*For Lifting*

Choose this stainless steel wire rope when lifting in corrosive environments. Rope is preformed to prevent it from unraveling when cut, and it's lubricated to reduce wear. *Extra-lubricated* wire rope has an additional coating of lubrication for added wear and corrosion resistance.

Standard—The 6×19 IWRC construction offers a good balance of abrasion resistance and flexibility.

Flexible—This 6×37 IWRC wire rope withstands repeated bending over a drum or pulley better than other corrosion-resistant wire rope.

Rotation Resistant—The outer strands of this wire rope lay in the opposite direction of the core to counteract rotation while under load.

Note: The safety factor for capacity is 5:1.



Standard 6×19 | **Flexible 6×37** | **Rotation Resistant 19×7**

Dia.	Capacity, lbs.	Fits Pulley/ Drum Dia.	Lengths, ft.		Per Ft.
18-8 Stainless Steel					
Standard 6×19—Meets Fed. Spec. RR-W-410					
7/16"	3,100	11½"	2, 5, 10, 25, 50, 100	3461T76	$5.63
½"	4,400	13"	2, 5, 10, 25, 50, 100	3461T75	7.29
Flexible 6×37—Meets Fed. Spec. RR-W-410					
3/16"	600	2¾"	2, 5, 10, 25, 50, 100	3461T26	2.98
¼"	1,000	3½"	2, 5, 10, 25, 50, 100	3461T22	3.10
5/16"	1,600	4½"	2, 5, 10, 25, 50, 100	3461T25	3.98
3/8"	2,300	5¼"	2, 5, 10, 25, 50, 100	3461T27	5.22
Rotation Resistant 19×7					
1/8"	300	3¼"	5, 10, 25, 50, 100	3461T37	.87
Extra-Lubricated 18-8 Stainless Steel					
Rotation Resistant 19×7—Meets MIL-DTL-83140					
3/16"	650	5"	2, 5, 10, 25, 50, 100	3461T38	$1.51
¼"	1,100	6½"	2, 5, 10, 25, 50, 100	3461T34	2.66
3/8"	2,100	9¾"	2, 5, 10, 25, 50, 100	3461T36	4.96
316 Stainless Steel					
Standard 6×19					
½"	4,100	13"	2, 5, 10, 25, 50, 100	8908T58	11.45

Wire Rope—*Not for Lifting*



Steel Standard 6×19 | **Steel Ultra-Flexible 7×19** | **Galvanized Steel Flexible 7×7** | **Galvanized Steel Ultra-Flexible 7×19** | **Galvanized Steel Difficult-to-Bend 1×7** | **Galvanized Steel Difficult-to-Bend 1×19** | **Galvanized Iron Low Strength 6×7**

Use this general purpose wire rope for hanging, tethering, and constructing barriers. Rope is preformed to prevent it from unraveling when cut, and it's lubricated to reduce wear. *Extra-lubricated* wire rope has an additional coating of lubrication for added wear and corrosion resistance. Wire rope with a diameter less than 1/16" is also known as braided wire and is often used for lightweight suspending applications, such as hanging light fixtures.

Steel—*Standard 6×19* wire rope has a fiber core; *ultra-flexible 7×19* wire rope has an IWRC core.

Galvanized Steel and **Extra-Lubricated Galvanized Steel—**The galvanized finish resists corrosion. The wire rope has a strand core.

Galvanized Iron—Also known as sash cord, this wire rope is designed for low-capacity applications. It has a fiber core.

Difficult-to-bend wire rope has a stiff construction, so it's often used as bracing and guy wires.

Note: The safety factor for capacity is 5:1.

Dia.	Capacity, lbs.	Fits Pulley/ Drum Dia.	Lengths, ft.		Per Ft.
Steel					
Standard 6×19—Meets ASTM A1023					
3/16"	650	6¾"	10, 25, 50, 100, 300	3440T15	$0.96
¼"	1,200	9"	10, 25, 50, 100, 300	3440T16	1.37
5/16"	1,800	11¼"	5, 10, 25, 50, 100	3440T17	1.95
3/8"	2,600	12"	5, 10, 25, 50, 100	3440T18	2.24
7/16"	3,600	14"	5, 10, 25, 50, 100	3440T19	3.17
½"	4,700	16"	5, 10, 25, 50, 100	3440T21	3.41
5/8"	7,300	20"	2, 5, 10, 25, 50, 100	3440T23	4.87
Ultra-Flexible 7×19—Meets ASTM A1023					
5/16"	2,100	8¼"	5, 10, 25, 50, 100	3688T11	2.33
3/8"	3,000	9¾"	2, 5, 10, 25, 50, 100	3688T12	2.79
7/16"	4,000	11"	2, 5, 10, 25, 50, 100	3688T13	5.56
½"	5,300	13"	2, 5, 10, 25, 50, 100	3688T14	4.33
9/16"	6,700	14¼"	2, 5, 10, 25, 50, 100	3688T17	7.14
5/8"	8,200	16¼"	2, 5, 10, 25, 50, 100	3688T16	5.56
Galvanized Steel					
Flexible 7×7—Meets ASTM A1023					
3/64"	50	2¼"	25, 50, 100, 300, 500	3450T82	.24
1/16"	90	2¾"	25, 50, 100, 300, 500	3450T24	.27
3/32"	150	4¼"	25, 50, 100, 300, 500	3450T26	.27
1/8"	300	5½"	25, 50, 100, 300, 500	3450T28	.38
5/32"	500	7"	25, 50, 100, 300, 500	3450T29	.47
3/16"	700	8¼"	25, 50, 100, 300, 500	3450T31	.59
¼"	1,200	11"	10, 25, 50, 100, 300	3450T32	.77
Ultra-Flexible 7×19—Meets ASTM A1023					
3/32"	200	2¾"	25, 50, 100, 300, 500	3450T37	.41
1/8"	400	3½"	25, 50, 100, 300, 500	3450T38	.51
5/32"	550	4½"	25, 50, 100, 300, 500	3450T39	.55
3/16"	800	5¼"	10, 25, 50, 100, 300	3450T41	.72
7/32"	1,100	6¼"	10, 25, 50, 100, 300	3450T42	1.03
¼"	1,400	7"	10, 25, 50, 100, 300	3450T43	1.17
5/16"	1,900	8¾"	5, 10, 25, 50, 100	3450T45	1.45
3/8"	2,800	10½"	5, 10, 25, 50, 100	3450T46	1.81
Galvanized Steel					
Difficult-to-Bend 1×7—Meets ASTM A475					
¼"	1,300	Not Rated	25, 50, 100, 300, 500	3498T74	$0.50
5/16"	2,200	Not Rated	10, 25, 50, 100, 300	3498T75	.70
3/8"	3,000	Not Rated	10, 25, 50, 100, 200	3498T76	1.10
½"	5,300	Not Rated	10, 25, 50, 100, 200	3498T78	2.21
Difficult-to-Bend 1×19					
3/16"	900	Not Rated	10, 25, 50, 100, 300, 500	3498T65	.75
¼"	1,600	Not Rated	10, 25, 50, 100, 300	3498T66	1.16
Extra-Lubricated Galvanized Steel					
Ultra-Flexible 7×19—Meets MIL-DTL-83420					
3/32"	200	2¾"	10, 25, 50, 100, 300	3332T51	.70
1/8"	400	3½"	10, 25, 50, 100, 300	3332T52	.70
5/32"	550	4½"	10, 25, 50, 100, 300	3332T53	.75
3/16"	800	5¼"	10, 25, 50, 100, 300	3332T54	.98
7/32"	1,100	6¼"	5, 10, 25, 50, 100	3332T55	1.40
¼"	1,400	7"	5, 10, 25, 50, 100	3332T56	1.58
5/16"	1,900	8¾"	5, 10, 25, 50, 100	3332T58	1.99
3/8"	2,800	10½"	2, 5, 10, 25, 50, 100	3332T59	2.47
Difficult-to-Bend 1×7—Meets MIL-DTL-87161					
1/32"	30	Not Rated	50, 100, 200, 300, 500	3498T41	.07
3/64"	70	Not Rated	50, 100, 200, 300, 500	3498T42	.11
Difficult-to-Bend 1×19—Meets MIL-DTL-87161					
1/16"	100	Not Rated	50, 100, 200, 300, 500	3498T61	.15
3/32"	200	Not Rated	50, 100, 200, 300, 500	3498T62	.26
1/8"	400	Not Rated	25, 50, 100, 300, 500	3498T63	.41
5/32"	650	Not Rated	25, 50, 100, 300, 500	3498T64	.61
Galvanized Iron					
Low Strength 6×7					
1/16"	20	2¾"	25, 50, 100, 300, 500	3449T14	.43
3/32"	60	3¼"	25, 50, 100, 300, 500	3449T15	.54
1/8"	100	5½"	10, 25, 50, 100, 300	3449T16	.63
3/16"	200	8¼"	10, 25, 50, 100, 300	3449T18	1.30
¼"	350	11"	5, 10, 25, 50, 100	3449T19	1.84

Warning: *Never use to lift people or items over people.*

Corrosion-Resistant Wire Rope—*Not for Lifting*



Flexible 3×7


Flexible 7×7


Ultra-Flexible 7×19


Difficult-to-Bend 1×7


Difficult-to-Bend 1×19

This wire rope can handle corrosive environments, such as areas that are frequently washed down. Rope is preformed to prevent it from unraveling when cut, unless noted. It's lubricated to reduce wear; *extra-lubricated* wire rope has an additional coating of lubrication for added wear and corrosion resistance. Rope has a strand core except flexible 3×7, which has a hollow core. Wire rope with a diameter less than 1/16" is also known as braided wire and is often used for lightweight suspending applications, such as hanging light fixtures.

18-8 Stainless Steel and **Extra-Lubricated 18-8 Stainless Steel**—This wire rope has good corrosion resistance and is an economical alternative to 316 stainless steel wire rope.

316 Stainless Steel—This wire rope has excellent corrosion resistance.

Note: The safety factor for capacity is 5:1.

Dia.	Capacity, lbs.	Fits Pulley/ Drum Dia.	Lengths, ft.		Per Ft.
18-8 Stainless Steel					
Flexible 3×7					
1/32"	20	1 1/2"	50, 100, 200, 300, 500	3461T91	$0.17
Flexible 7×7					
0.018"	8	1"	10, 25, 50, 100, 300	3461T31★	.46
0.027"	10	1 1/4"	10, 25, 50, 100, 300	3461T32★	.64
1/32"	20	1 1/2"	25, 50, 100, 300, 500	3461T325	.36
0.035"	30	1 1/2"	10, 25, 50, 100, 300	3461T33	.62
5/64"	100	2 3/4"	25, 50, 100, 300, 500	3461T57	.37
1/8"	300	5 1/2"	10, 25, 50, 100, 300	3461T46	.63
5/32"	450	7"	5, 10, 25, 50, 100	3461T47	.98
3/16"	700	8 1/4"	5, 10, 25, 50, 100	3461T48	1.17
1/4"	1,200	11"	5, 10, 25, 50, 100	3461T51	1.87
3/8"	2,400	16 1/2"	2, 5, 10, 25, 50, 100	3461T52	3.85
Ultra-Flexible 7×19					
0.024"	10	3/4"	5, 10, 25, 50, 100	3461T62★	1.41
0.038"	30	1 1/4"	5, 10, 25, 50, 100	3461T63★	1.23
3/64"	50	1 1/4"	10, 25, 50, 100, 300	3461T632	1.29
1/16"	90	1 3/4"	10, 25, 50, 100, 300	3461T633	.73
7/32"	1,000	5 3/4"	5, 10, 25, 50, 100	3461T78	1.52
Difficult-to-Bend 1×7					
0.012"	5	Not Rated	50, 100, 200, 300, 500	3461T1	.07
1/64"	8	Not Rated	50, 100, 200, 300, 500	3461T2	.07
0.018"	10	Not Rated	50, 100, 200, 300, 500	3461T3	.07
0.021"	10	Not Rated	50, 100, 200, 300, 500	3461T4	.07
0.024"	20	Not Rated	50, 100, 200, 300, 500	3461T5	.07
0.027"	20	Not Rated	50, 100, 200, 300, 500	3461T6	.07
1/32"	30	Not Rated	50, 100, 200, 300, 500	3461T61	.07
0.038"	40	Not Rated	50, 100, 200, 300, 500	3461T8	.08
3/64"	70	Not Rated	50, 100, 200, 300, 500	3461T9	.12
1/16"	100	Not Rated	50, 100, 200, 300, 500	3461T41	.20
3/32"	200	Not Rated	25, 50, 100, 300, 500	3461T42	.47
1/8"	350	Not Rated	25, 50, 100, 300, 500	3461T43	.62
3/16"	750	Not Rated	10, 25, 50, 100, 300	3461T71	1.21
1/4"	1,700	Not Rated	10, 25, 50, 100, 300	3461T58	1.38
3/8"	3,600	Not Rated	10, 25, 50, 100, 200	3461T59	3.24
Difficult-to-Bend 1×19					
1/32"	30	Not Rated	50, 100, 200, 300, 500	3461T188	.14
3/64"	70	Not Rated	50, 100, 200, 300, 500	3461T175	.14
1/16"	100	Not Rated	50, 100, 200, 300, 500	3461T82	.24
5/64"	150	Not Rated	25, 50, 100, 300, 500	3461T829	.30
3/32"	200	Not Rated	25, 50, 100, 300, 500	3461T83	.36
1/8"	400	Not Rated	10, 25, 50, 100, 300, 500	3461T84	.66
5/32"	650	Not Rated	10, 25, 50, 100, 300	3461T85	.98
3/16"	900	Not Rated	10, 25, 50, 100, 300	3461T18	1.40
1/4"	1,600	Not Rated	5, 10, 25, 50, 100	3461T21	1.95
5/16"	2,500	Not Rated	10, 25, 50, 100, 200	3461T23	3.10
3/8"	3,500	Not Rated	10, 25, 50, 100, 200	3461T24	4.28
Extra-Lubricated 18-8 Stainless Steel					
Flexible 3×7—Meets MIL-DTL-83420					
1/32"	20	1 1/2"	50, 100, 200, 300, 500	3458T51	.17
Extra-Lubricated 18-8 Stainless Steel (Cont.)					
Flexible 7×7—Meets MIL-DTL-83420					
3/64"	50	2 1/4"	25, 50, 100, 300, 500	3461T35	$0.34
1/16"	90	2 3/4"	25, 50, 100, 300, 500	3461T44	.32
3/32"	150	3 1/4"	25, 50, 100, 300, 500	3461T45	.47
Ultra-Flexible 7×19—Meets MIL-DTL-83420					
3/32"	150	2 1/2"	10, 25, 50, 100, 300	3461T64	.88
1/8"	350	3 1/4"	5, 10, 25, 50, 100	3461T65	1.05
5/32"	450	4 1/4"	5, 10, 25, 50, 100	3461T66	1.15
3/16"	700	5"	5, 10, 25, 50, 100	3461T67	1.43
1/4"	1,200	6 1/2"	5, 10, 25, 50, 100	3461T69	2.30
5/16"	1,800	8 1/4"	2, 5, 10, 25, 50, 100	3461T72	3.77
3/8"	2,400	9 3/4"	2, 5, 10, 25, 50, 100	3461T73	4.63
Difficult-to-Bend 1×7—Meets MIL-DTL-87161					
1/32"	30	Not Rated	50, 100, 200, 300, 500	3458T151	.07
3/64"	70	Not Rated	50, 100, 200, 300, 500	3458T131	.12
1/16"	100	Not Rated	50, 100, 200, 300, 500	3458T35	.20
Difficult-to-Bend 1×19—Meets MIL-DTL-87161					
3/64"	70	Not Rated	50, 100, 200, 300, 500	3458T22	.14
1/16"	100	Not Rated	50, 100, 200, 300, 500	3458T23	.24
5/64"	150	Not Rated	25, 50, 100, 300, 500	3458T24	.30
3/32"	200	Not Rated	25, 50, 100, 300, 500	3458T25	.36
1/8"	400	Not Rated	25, 50, 100, 300, 500	3458T26	.66
5/32"	650	Not Rated	10, 25, 50, 100, 300	3458T27	.98
3/16"	900	Not Rated	10, 25, 50, 100, 300	3458T28	1.40
1/4"	1,600	Not Rated	5, 10, 25, 50, 100	3458T91	1.95
5/16"	2,500	Not Rated	10, 25, 50, 100, 200	3458T93	3.10
3/8"	3,500	Not Rated	10, 25, 50, 100, 200	3458T94	4.28
316 Stainless Steel					
Flexible 7×7					
1/16"	70	2 3/4"	10, 25, 50, 100, 300, 500	8908T32	.49
3/32"	100	3 1/4"	10, 25, 50, 100, 300	8908T64	.63
1/8"	250	5 1/2"	10, 25, 50, 100, 300	8908T66	.84
Ultra-Flexible 7×19					
1/8"	250	3 1/4"	10, 25, 50, 100, 300	8908T44	1.21
3/16"	550	5"	5, 10, 25, 50, 100, 200	8908T48	1.94
1/4"	950	6 1/2"	2, 5, 10, 25, 50, 100	8908T52	3.52
5/16"	1,500	8 1/4"	2, 5, 10, 25, 50, 100	8908T54	4.31
3/8"	2,200	9 3/4"	2, 5, 10, 25, 50, 100	8908T56	5.99
Difficult-to-Bend 1×7					
1/16"	90	Not Rated	50, 100, 200, 300, 500	8908T27	.26
3/32"	200	Not Rated	25, 50, 100, 300, 500	8908T28	.57
1/8"	300	Not Rated	10, 25, 50, 100, 300	8908T29	.94
Difficult-to-Bend 1×19					
1/8"	350	Not Rated	10, 25, 50, 100, 200, 300	8908T12	.85
3/16"	800	Not Rated	5, 10, 25, 50, 100	8908T16	2.34
1/4"	1,300	Not Rated	2, 5, 10, 25, 50, 100	8908T22	3.59
5/16"	2,100	Not Rated	10, 25, 50, 100, 200	8908T24	5.39
3/8"	2,900	Not Rated	10, 25, 50, 100, 200	8908T26	7.42

★Not preformed, which can result in the wire rope unraveling when cut.

Nonmagnetic Corrosion-Resistant Wire Rope—*Not for Lifting*

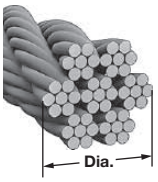

Flexible 7×7


Ultra-Flexible 7×19

Made of specialty grade 305 stainless steel, this wire rope is nonmagnetic and corrosion resistant. Rope is preformed to prevent it from unraveling when cut, and it has an additional coating of lubrication for added wear and corrosion resistance. It has a strand core.

Note: The safety factor for capacity is 5:1.

Dia.	Capacity, lbs.	Fits Pulley/ Drum Dia.	Lengths, ft.		Per Ft.
Flexible 7×7—Meets MIL-DTL-18375					
1/16"	70	2 3/4"	25, 50, 100, 300, 500	8909T12	$0.41
3/32"	100	3 1/4"	10, 25, 50, 100, 300	8909T14	.55
Ultra-Flexible 7×19—Meets MIL-DTL-18375					
1/8"	250	3 1/4"	5, 10, 25, 50, 100	8909T16	1.00
3/16"	550	5"	5, 10, 25, 50, 100	8909T22	1.69
1/4"	950	6 1/2"	2, 5, 10, 25, 50, 100	8909T31	2.39

Nonsparking Corrosion-Resistant Wire Rope—Not for Lifting

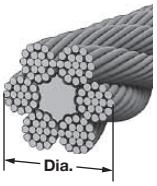

Standard 6×19


Wear Resistant 6×7


Flexible 7×7


Ultra-Flexible 7×19

Made of phosphor bronze, this wire rope inhibits sparking and resists corrosion. It is preformed to prevent it from unraveling when cut, unless noted. It is lubricated to reduce wear. Wire rope with a diameter less than 1/16″ is also known as braided wire and is often used for lightweight suspending applications, such as hanging light fixtures.

Standard and **wear-resistant** wire rope have a fiber core. **Flexible** and **ultra-flexible** wire rope have a strand core.
Note: The safety factor for capacity is 5:1.

Dia.	Capacity, lbs.	Fits Pulley/ Drum Dia.	Lengths, ft.		Per Ft.
Standard 6×19					
1/8″	100	3 1/4″	2, 5, 10, 25, 50, 100	3462T21	$1.68
3/16″	250	5″	2, 5, 10, 25, 50, 100	3462T22	3.41
1/4″	450	6 1/2″	2, 5, 10, 25, 50, 100	3462T23	6.56
Wear Resistant 6×7					
1/32″	8	1 1/2″	10, 25, 50, 100, 300	3462T11★	.31
3/64″	10	2 1/4″	10, 25, 50, 100, 300	3462T12	.40
1/16″	30	2 3/4″	10, 25, 50, 100, 300	3462T13	.65
3/32″	60	3 1/4″	5, 10, 25, 50, 100	3462T14	.86
1/8″	100	5 1/2″	5, 10, 25, 50, 100	3462T15	1.89
Flexible 7×7					
1/32″	8	1 1/2″	10, 25, 50, 100, 300	3462T51★	.89
1/16″	30	2 3/4″	10, 25, 50, 100, 300	3462T53	.70
1/8″	100	5 1/2″	5, 10, 25, 50, 100	3462T55	2.11
Ultra-Flexible 7×19					
1/8″	100	2 1/2″	2, 5, 10, 25, 50, 100	3462T61	2.45
3/16″	300	3 3/4″	2, 5, 10, 25, 50, 100	3462T62	4.49

★Not preformed, which can result in the wire rope unraveling when cut.

Ultra-Corrosion-Resistant Wire Rope—Not for Lifting

The superior corrosion resistance of nickel-copper makes this wire rope best for use with salt water and acidic- and alkaline-based solutions. Rope is preformed to prevent it from unraveling when cut, and it's lubricated to reduce wear. It has a strand core. Wire rope with a diameter less than 1/16″ is also known as braided wire and is often used for lightweight suspending applications, such as hanging light fixtures.
Note: The safety factor for capacity is 5:1.

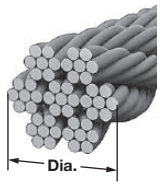

Flexible 7×7


Ultra-Flexible 7×19

Dia.	Capacity, lbs.	Fits Pulley/ Drum Dia.	Lengths, ft.		Per Ft.
Flexible 7×7					
3/64″	20	2 1/4″	10, 25, 50, 100, 300	3453T31	$0.73
1/16″	40	2 3/4″	10, 25, 50, 100, 300	3453T32	1.24
3/32″	90	3 1/4″	5, 10, 25, 50, 100	3453T33	1.58
1/8″	150	5 1/2″	2, 5, 10, 25, 50, 100	3453T34	4.51
Ultra-Flexible 7×19					
3/32″	90	2 1/2″	5, 10, 25, 50, 100	3453T51	2.88
1/8″	150	3 1/4″	2, 5, 10, 25, 50, 100	3453T52	4.74
3/16″	350	5″	2, 5, 10, 25, 50, 100	3453T54	7.03
1/4″	700	6 1/2″	2, 5, 10, 25, 50, 100	3453T55	16.75

Low-Stretch Coated Wire Rope—Not for Lifting

This nylon-coated wire rope is stretched during construction to minimize elongation under load. Use it when accuracy is critical, such as in precision mechanical applications. It is 18-8 stainless steel, which has good corrosion resistance. It is lubricated to reduce wear and has a strand core. Color is gray. Temperature range is -40° to 180° F. Wire rope with a coated diameter less than 1/16″ is also known as braided wire and is often used for lightweight suspending applications, such as hanging light fixtures.
Note: When attaching fittings to coated wire rope, the coating must be removed from the installation area. The safety factor for capacity is 5:1.


Flexible 7×7


Ultra-Flexible 7×19

Rope Dia. Coated	Rope Dia. Bare	Capacity, lbs.	Fits Pulley/ Drum Dia.	Lengths, ft.		Per Ft.
Flexible 7×7						
0.030″	0.024″	10	1 1/4″	10, 25, 50, 100, 300	34235T21	$1.01
0.034″	0.027″	10	1 1/4″	10, 25, 50, 100, 300	34235T22	1.06
0.037″	0.032″	20	1 1/2″	10, 25, 50, 100, 300	34235T23	.88
0.046″	0.036″	30	1 3/4″	10, 25, 50, 100, 300	34235T24	.95
1/16″	0.048″	50	2 1/4″	10, 25, 50, 100, 300	34235T25	.98
Ultra-Flexible 7×19						
0.030″	0.024″	10	3/4″	5, 10, 25, 50, 100	34235T26	1.91
0.037″	0.032″	20	1″	5, 10, 25, 50, 100	34235T27	1.86
0.046″	0.036″	30	1″	5, 10, 25, 50, 100	34235T28	1.77
1/16″	0.048″	50	1 1/2″	5, 10, 25, 50, 100	34235T29	1.68

Coated Stainless Steel Wire Rope—*Not for Lifting*



Flexible 3×7

The plastic coating protects this wire rope from abrasion and your drums and pulleys from wear. It's made of 18-8 stainless steel, which has good corrosion resistance. Rope is preformed to prevent it from unraveling when cut, unless noted. It's lubricated to reduce wear; *extra-lubricated* wire rope has an additional coating of lubrication for added wear and corrosion resistance. It has a strand core, except flexible 3×7 has a hollow core. Wire rope with a coated diameter less than 1/16″ is also known as braided wire and is often used for lightweight suspending applications, such as hanging light fixtures.

Standard and **Extra-Lubricated Standard—**The nylon coating protects the rope from abrasion. Rope has a temperature range of -40° to 180° F, except extra-lubricated wire rope is -65° to 200° F.

Weather Resistant—The vinyl coating protects the rope from abrasion and resists UV rays better than nylon. Temperature range is -30° to 180° F.

Chemical Resistant—The FEP (fluorinated ethylene propylene) coating protects the rope from abrasion and has excellent chemical resistance for use in the most demanding environments. Temperature range is -350° to 400° F.

Note: When attaching fittings to coated rope, the coating must be removed from the installation area. The safety factor for capacity is 5:1.



Flexible 7×7



Ultra-Flexible 7×19



Difficult-to-Bend 1×7

Rope Dia. Coated	Rope Dia. Bare	Capacity, lbs.	Fits Pulley/ Drum Dia.	Choose a Color	Lengths, ft.		Per Ft.
Standard							
Flexible 3×7							
0.014″	0.009″	2	3/4″	Clear	25, 50, 100, 300, 500	8930T16★	$0.34
0.037″	0.032″	20	1 3/4″	Clear	25, 50, 100, 300, 500	8930T52	.37
Flexible 7×7							
0.019″	0.014″	5	3/4″	Clear	25, 50, 100, 300, 500	8930T18★	.46
0.024″	0.018″	8	1 1/4″	Clear	25, 50, 100, 300, 500	8930T22★	.46
0.034″	0.027″	10	1 1/2″	Clear	10, 25, 50, 100, 300	8930T24★	.60
0.037″	0.032″	20	1 3/4″	Clear	10, 25, 50, 100, 300	8930T26	.61
0.044″	0.035″	30	2″	Clear	10, 25, 50, 100, 300	8930T28	.61
1/16″	3/64″	50	2 3/4″	Black, Clear, Orange, Red	25, 50, 100, 300, 500	8923T314	.32
3/32″	1/16″	90	3 1/4″	Black, Clear, Orange, Red	25, 50, 100, 300, 500	8923T324	.45
1/8″	1/16″	90	5 1/2″	Black, Clear, Orange, Red	25, 50, 100, 300, 500	8923T33	.57
1/8″	3/32″	150	5 1/2″	Black, Clear, Orange, Red	25, 50, 100, 300, 500	8923T344	.54
5/32″	3/32″	150	7″	Black, Clear, Orange, Red	10, 25, 50, 100, 300	8923T354	.63
3/16″	3/32″	150	8 1/4″	Black, Clear, Orange, Red	10, 25, 50, 100, 300	8923T36	.77
Ultra-Flexible 7×19							
0.03″	0.024″	10	3/4″	Clear	1, 5, 10, 25, 50, 100	8930T51★	1.37
0.037″	0.032″	20	1″	Clear	5, 10, 25, 50, 100	8930T53★	1.37
0.046″	0.038″	30	1 1/4″	Clear	5, 10, 25, 50, 100	8930T54★	1.37
1/16″	3/64″	50	1 3/4″	Clear	5, 10, 25, 50, 100	8930T32	1.25
3/32″	1/16″	90	1 3/4″	Clear	5, 10, 25, 50, 100	8930T34	1.22
3/16″	1/8″	350	5″	Black, Clear, Orange, Red	10, 25, 50, 100, 300	8923T71	1.05
7/32″	1/8″	350	5 3/4″	Black, Clear, Orange, Red	10, 25, 50, 100, 300	8923T724	1.10
1/4″	3/16″	700	6 1/2″	Black, Clear, Orange, Red	5, 10, 25, 50, 100	8923T734	1.64
5/16″	3/16″	700	8 1/4″	Black, Clear, Orange, Red	5, 10, 25, 50, 100	8923T74	1.79
5/16″	1/4″	1,200	8 1/4″	Black, Clear, Orange, Red	2, 5, 10, 25, 50, 100	8923T754	3.05
Difficult-to-Bend 1×7							
0.01″	0.006″	1	Not Rated	Clear	25, 50, 100, 300, 500	8930T14★	.17
Extra-Lubricated Standard							
Flexible 7×7—Meets MIL-DTL-83420							
1/16″	3/64″	50	2 3/4″	Clear	25, 50, 100, 300, 500	3459T41	.46
3/32″	1/16″	90	3 1/4″	Clear	10, 25, 50, 100, 300	3459T42	.52
1/8″	1/16″	90	5 1/2″	Clear	10, 25, 50, 100, 300	3459T43	.71
1/8″	3/32″	150	5 1/2″	Clear	10, 25, 50, 100, 300	3459T44	.75
5/32″	3/32″	150	7″	Clear	10, 25, 50, 100, 300	3459T45	.93
Ultra-Flexible 7×19—Meets MIL-DTL-83420							
1/8″	3/32″	150	3 1/4″	Clear	10, 25, 50, 100, 300	3459T71	1.12
3/16″	1/8″	350	5″	Clear	10, 25, 50, 100, 300	3459T72	1.45
1/4″	3/16″	700	6 1/2″	Clear	5, 10, 25, 50, 100	3459T73	2.28
5/16″	1/4″	1,200	8 1/4″	Clear	2, 5, 10, 25, 50, 100	3459T74	3.64
3/8″	1/4″	1,200	9 3/4″	Clear	2, 5, 10, 25, 50, 100	3459T75	4.47
Weather Resistant							
Flexible 7×7							
1/16″	3/64″	50	2 3/4″	Black, Clear, Orange, Red, Yellow	25, 50, 100, 300, 500	8912T314	.32
3/32″	1/16″	90	3 1/4″	Black, Clear, Orange, Red, Yellow	25, 50, 100, 300, 500	8912T324	.45
1/8″	1/16″	90	5 1/2″	Black, Clear, Orange, Red, Yellow	25, 50, 100, 300, 500	8912T33	.53
1/8″	3/32″	150	5 1/2″	Black, Clear, Orange, Red, Yellow	25, 50, 100, 300, 500	8912T344	.53
5/32″	3/32″	150	7″	Black, Clear, Orange, Red, Yellow	25, 50, 100, 300, 500	8912T354	.59
3/16″	3/32″	150	8 1/4″	Black, Clear, Orange, Red, Yellow	25, 50, 100, 300, 500	8912T36	.62
Ultra-Flexible 7×19							
3/16″	1/8″	350	5″	Black, Clear, Orange, Red, Yellow	10, 25, 50, 100, 300	8912T71	.91
7/32″	1/8″	350	5 3/4″	Black, Clear, Orange, Red, Yellow	10, 25, 50, 100, 300	8912T724	.99
1/4″	3/16″	700	6 1/2″	Black, Clear, Orange, Red, Yellow	5, 10, 25, 50, 100	8912T734	1.38
5/16″	3/16″	700	8 1/4″	Black, Clear, Orange, Red, Yellow	5, 10, 25, 50, 100	8912T74	1.61
5/16″	1/4″	1,200	8 1/4″	Black, Clear, Orange, Red, Yellow	5, 10, 25, 50, 100	8912T754	2.81
13/32″	5/16″	1,800	11 1/2″	Black, Clear, Orange, Red, Yellow	2, 5, 10, 25, 50, 100	8912T764	3.47
15/32″	3/8″	2,400	13″	Black, Clear, Orange, Red, Yellow	2, 5, 10, 25, 50, 100	8912T774	4.75
Chemical Resistant							
Flexible 7×7							
0.021″	0.014″	5	3/4″	Clear	10, 25, 50, 100, 300	3423T21★	.64
0.026″	0.018″	8	1″	Clear	10, 25, 50, 100, 300	3423T22★	.58
0.036″	0.027″	10	1 1/2″	Clear	10, 25, 50, 100, 300	3423T23★	.80
0.04″	0.032″	20	1 3/4″	Clear	10, 25, 50, 100, 300	3423T24	.92
0.049″	0.036″	30	2″	Clear	5, 10, 25, 50, 100	3423T26	.82
0.062″	3/64″	50	2 1/2″	Clear	5, 10, 25, 50, 100	3423T28	.85
0.084″	1/16″	90	3 1/2″	Clear	5, 10, 25, 50, 100	3423T31	1.27
Ultra-Flexible 7×19							
0.04″	0.032″	20	1″	Clear	5, 10, 25, 50, 100	3423T25★	1.45
0.049″	0.038″	30	1 1/4″	Clear	5, 10, 25, 50, 100	3423T27★	1.62
0.062″	3/64″	50	1 1/2″	Clear	5, 10, 25, 50, 100	3423T29	1.55
0.084″	1/16″	90	1 3/4″	Clear	2, 5, 10, 25, 50, 100	3423T32	1.77

★Not preformed, which can result in the wire rope unraveling when cut.

Coated Galvanized Steel Wire Rope—Not for Lifting

Made of galvanized steel, this wire rope is an economical choice when you need the abrasion resistance of a plastic coating. Rope is preformed to prevent it from unraveling when cut, and it's lubricated to reduce wear. *Extra-lubricated* wire rope has an additional coating of lubrication for added wear and corrosion resistance. It has a strand core.

Standard and **Extra-Lubricated Standard**—The nylon coating protects the rope from abrasion. Temperature range is -65° to 200°F.

Weather Resistant—The vinyl coating resists UV rays better than nylon. Temperature range is -30° to 180°F.

Chemical Resistant—Each strand inside the wire rope is surrounded by polypropylene, which reduces friction by keeping the strands from rubbing against each other. The outside coating gives the wire rope excellent abrasion and corrosion resistance. Temperature range is 0° to 200°F.

Note: When attaching fittings to coated rope, the coating must be removed from the installation area. The safety factor for capacity is 5:1.



Flexible 7×7



Ultra-Flexible 7×19



Chemical-Resistant Flexible 7×7



Chemical-Resistant Ultra-Flexible 7×19

Rope Dia. Coated	Rope Dia. Bare	Capacity, lbs.	Fits Pulley/ Drum Dia.	Choose a Color	Lengths, ft.		Per Ft.
Standard							
Flexible 7×7							
1/16″	3/64″	50	2 3/4″	Black, Clear, Orange, Red	25, 50, 100, 300, 500	8923T115	$0.32
3/32″	1/16″	90	3 1/4″	Black, Clear, Orange, Red	25, 50, 100, 300, 500	8923T125	.39
1/8″	1/16″	90	5 1/2″	Black, Clear, Orange, Red	25, 50, 100, 300, 500	8923T134	.48
1/8″	3/32″	150	5 1/2″	Black, Clear, Orange, Red	25, 50, 100, 300, 500	8923T144	.48
5/32″	3/32″	150	7″	Black, Clear, Orange, Red	10, 25, 50, 100, 300	8923T154	.57
3/16″	3/32″	150	8 1/4″	Black, Clear, Orange, Red	10, 25, 50, 100, 300	8923T164	.66
Ultra-Flexible 7×19							
3/16″	1/8″	400	5″	Black, Clear, Orange, Red	10, 25, 50, 100, 300	8923T517	.99
7/32″	1/8″	400	5 3/4″	Black, Clear, Orange, Red	10, 25, 50, 100, 300	8923T524	1.04
1/4″	3/16″	800	6 1/2″	Black, Clear, Orange, Red	5, 10, 25, 50, 100	8923T535	1.48
5/16″	3/16″	800	8 1/4″	Black, Clear, Orange, Red	5, 10, 25, 50, 100	8923T541	1.61
5/16″	1/4″	1,400	8 1/4″	Black, Clear, Orange, Red	2, 5, 10, 25, 50, 100	8923T554	2.00
13/32″	5/16″	1,900	8 1/2″	Black, Clear, Orange, Red	5, 10, 25, 50, 100	8923T564	2.70
15/32″	3/8″	2,800	10″	Black, Clear, Orange, Red	5, 10, 25, 50, 100	8923T574	3.32
Extra-Lubricated Standard							
Flexible 7×7—Meets MIL-DTL-83420							
1/16″	3/64″	50	2 3/4″	Clear	25, 50, 100, 300, 500	3459T61	.52
3/32″	1/16″	90	3 1/4″	Clear	10, 25, 50, 100, 300	3459T62	.68
1/8″	1/16″	90	5 1/2″	Clear	10, 25, 50, 100, 300	3459T63	.91
1/8″	3/32″	150	5 1/2″	Clear	10, 25, 50, 100, 300	3459T64	.76
5/32″	3/32″	150	7″	Clear	10, 25, 50, 100, 300	3459T65	.96
Ultra-Flexible 7×19—Meets MIL-DTL-83420							
1/8″	3/32″	200	3 1/4″	Clear	10, 25, 50, 100, 300	3459T31	.93
3/16″	1/8″	400	5″	Clear	10, 25, 50, 100, 300	3459T32	1.16
1/4″	3/16″	800	6 1/2″	Clear	5, 10, 25, 50, 100	3459T33	1.73
5/16″	1/4″	1,400	8 1/4″	Clear	2, 5, 10, 25, 50, 100	3459T34	2.66
3/8″	1/4″	1,400	9 3/4″	Clear	2, 5, 10, 25, 50, 100	3459T35	3.67
Weather Resistant							
Flexible 7×7							
1/16″	3/64″	50	2 3/4″	Black, Clear, Orange, Red, Yellow	25, 50, 100, 300, 500	8912T114	.29
3/32″	1/16″	90	3 1/4″	Black, Clear, Orange, Red, Yellow	25, 50, 100, 300, 500	8912T125	.31
1/8″	1/16″	90	5 1/2″	Black, Clear, Orange, Red, Yellow	25, 50, 100, 300, 500	8912T13	.37
1/8″	3/32″	150	5 1/2″	Black, Clear, Orange, Red, Yellow	25, 50, 100, 300, 500	8912T145	.37
5/32″	3/32″	150	7″	Black, Clear, Orange, Red, Yellow	25, 50, 100, 300, 500	8912T154	.41
3/16″	3/32″	150	8 1/4″	Black, Clear, Orange, Red, Yellow	25, 50, 100, 300, 500	8912T16	.42
Ultra-Flexible 7×19							
3/16″	1/8″	400	5″	Black, Clear, Orange, Red, Yellow	10, 25, 50, 100, 300	8912T51	.68
7/32″	1/8″	400	5 3/4″	Black, Clear, Orange, Red, Yellow	10, 25, 50, 100, 300	8912T524	.74
1/4″	3/16″	800	6 1/2″	Black, Clear, Orange, Red, Yellow	5, 10, 25, 50, 100	8912T531	1.08
5/16″	3/16″	800	8 1/4″	Black, Clear, Orange, Red, Yellow	5, 10, 25, 50, 100	8912T54	1.24
5/16″	1/4″	1,400	8 1/4″	Black, Clear, Orange, Red, Yellow	5, 10, 25, 50, 100	8912T555	1.76
13/32″	5/16″	1,900	8 1/2″	Black, Clear, Orange, Red, Yellow	2, 5, 10, 25, 50, 100	8912T564	2.23
15/32″	3/8″	2,800	10″	Black, Clear, Orange, Red, Yellow	2, 5, 10, 25, 50, 100	8912T574	2.73
High-Visibility Flexible 7×7							
1/8″	1/16″	90	5 1/2″	Fluorescent: Green, Red, Yellow	25, 50, 100, 300, 500	9018T11	.50
3/16″	3/32″	150	8 1/4″	Fluorescent: Green, Red, Yellow	25, 50, 100, 300, 500	9018T21	.61
3/16″	1/8″	300	8 1/4″	Fluorescent: Green, Red, Yellow	25, 50, 100, 300, 500	9018T31	.71
5/16″	3/16″	700	13 3/4″	Fluorescent: Green, Red, Yellow	10, 25, 50, 100, 300	9018T41	1.60
Chemical Resistant							
Flexible 7×7							
1/8″	3/32″	150	5 1/2″	Black	10, 25, 50, 100, 300	8939T21	.34
5/32″	1/8″	300	7″	Black, Green, Yellow	10, 25, 50, 100, 300	8939T32	.42
7/32″	5/32″	500	10 1/4″	Black	5, 10, 25, 50, 100	8939T25	.76
1/4″	3/16″	700	11″	Black	5, 10, 25, 50, 100	8939T26	1.26
5/16″	1/4″	1,200	13 3/4″	Black	5, 10, 25, 50, 100	8939T27	1.72
Ultra-Flexible 7×19							
13/32″	5/16″	1,900	8 1/2″	Black	2, 5, 10, 25, 50, 100	8939T28	2.98
15/32″	3/8″	2,800	10″	Yellow	2, 5, 10, 25, 50, 100	8939T29	3.78

Chain—For Lifting

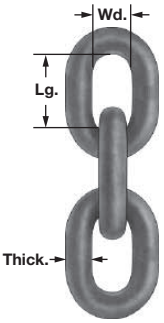

Grades 80, 100, and 63



Grade 120

Strong and durable, use this chain for your lifting applications. It is heat treated and stamped with the grade and manufacturer. Meets NACM (National Association of Chain Manufacturers) standards.

When using fittings with chain, you must match the trade size and meet or exceed the chain's grade. For fittings, see connectors and shackles on pages 1483-1488 and hooks for lifting on pages 1494-1498.

General Purpose Grade 80—Chain meets ASTM A391. Maximum temperature is 400° F.

High-Strength Grade 100—This chain is approximately 25% stronger than Grade 80 chain. It meets ASTM A973. Maximum temperature is 400° F.

Extra-High-Strength Grade 120—The strongest chain grade we offer, this chain is approximately 20% stronger than Grade 100 chain and 50% stronger than Grade 80 chain. The links are square, which helps spread wear evenly at the contact points. Maximum temperature is 400° F.

High-Temperature Grade 63—With a maximum temperature of 500° F, this chain withstands higher temperatures than other steel chain.

Zinc-plated steel chain has good corrosion resistance.

Trade Size	Metric Trade Size	Thick.	Inside Link Size Wd.	Inside Link Size Lg.	Capacity, lbs.	Weight, lbs. per ft.	Approximate Links per ft.	Lengths, ft.		Per Ft.
General Purpose Grade 80										
Black Painted Steel										
7/32	5.5	0.22″	0.32″	0.68″	2,100	0.5	18	1, 2, 3, 4, 5, 10, 25, 50	3587T22	$3.87
9/32	7	0.28″	0.41″	0.88″	3,500	0.8	13	1, 2, 3, 4, 5, 10, 25, 50	3587T14	4.88
5/16	8	0.33″	0.48″	1.02″	4,500	1.1	11	1, 2, 3, 4, 5, 10, 25, 50	3587T57	5.80
3/8	10	0.40″	0.57″	1.22″	7,100	1.5	9	1, 2, 3, 4, 5, 10, 25, 50	3587T15	6.68
1/2	13	0.51″	0.69″	1.54″	12,000	2.6	8	1, 2, 3, 4, 5, 10, 25, 50	3587T16	11.04
5/8	16	0.63″	0.92″	1.93″	18,100	3.7	6	1, 2, 3, 4, 5, 10, 25, 50	3587T17	14.84
3/4	20	0.79″	1.01″	2.44″	28,300	5.8	5	1, 2, 3, 4, 5, 10, 25, 50	3587T18	32.56
Zinc-Plated Steel										
9/32	7	0.28″	0.41″	0.82″	3,500	0.8	13	1, 2, 3, 4, 5, 10, 25, 50	3457T31	10.11
5/16	8	0.31″	0.46″	0.94″	4,500	1.2	12	1, 2, 3, 4, 5, 10, 25, 50	3457T61	10.89
1/2	13	0.50″	0.78″	1.52″	12,000	2.7	9	1, 2, 3, 4, 5, 10, 25, 50	3457T41	20.08
5/8	16	0.61″	0.87″	1.89″	18,100	3.8	8	1, 2, 3, 4, 5, 10, 25, 50	3457T51	31.47
High-Strength Grade 100										
Steel										
7/32	5.5	0.22″	0.32″	0.68″	2,700	0.5	17	1, 2, 3, 4, 5, 10, 25, 50	3410T74	5.20
9/32	7	0.28″	0.38″	0.83″	4,300	0.8	14	1, 2, 3, 4, 5, 10, 25, 50	3410T62	5.49
5/16	8	0.32″	0.43″	0.95″	5,700	1	12	1, 2, 3, 4, 5, 10, 25, 50	3410T77	5.87
3/8	10	0.39″	0.53″	1.18″	8,800	1.5	10	1, 2, 3, 4, 5, 10, 25, 50	3410T64	7.51
1/2	13	0.51″	0.69″	1.54″	15,000	2.6	7	1, 2, 3, 4, 5, 10, 25, 50	3410T72	12.64
5/8	16	0.63″	0.85″	1.89″	22,600	3.9	6	1, 2, 3, 4, 5, 10, 25, 50	3410T66	20.82
3/4	20	0.81″	1.14″	2.42″	35,300	6.3	4	1, 2, 3, 4, 5, 10, 25, 50	3410T79	22.18
Black Zinc-Plated Steel										
7/32	5.5	0.22″	0.32″	0.68″	2,700	0.5	17	1, 2, 3, 4, 5, 10, 25, 50	3410T95	5.98
9/32	7	0.28″	0.38″	0.83″	4,300	0.8	14	1, 2, 3, 4, 5, 10, 25, 50	3410T82	8.44
5/16	8	0.32″	0.43″	0.95″	5,700	1	12	1, 2, 3, 4, 5, 10, 25, 50	3410T97	9.71
3/8	10	0.39″	0.53″	1.18″	8,800	1.5	10	1, 2, 3, 4, 5, 10, 25, 50	3410T84	12.00
1/2	13	0.51″	0.69″	1.54″	15,000	2.6	7	1, 2, 3, 4, 5, 10, 25, 50	3410T92	18.80
5/8	16	0.63″	0.85″	1.89″	22,600	3.9	6	1, 2, 3, 4, 5, 10, 25, 50	3410T86	27.84
3/4	20	0.79″	1.01″	2.44″	35,300	5.8	5	1, 2, 3, 4, 5, 10, 25, 50	3410T96	46.62
Extra-High-Strength Grade 120										
Blue Powder-Coated Steel										
9/32	7	0.28″	0.39″	0.87″	5,200	0.9	14	1, 2, 3, 4, 5, 10, 25, 50	5478T1	10.60
5/16	8	0.32″	0.43″	0.98″	6,600	1.1	13	1, 2, 3, 4, 5, 10, 25, 50	5478T4	12.80
3/8	10	0.39″	0.56″	1.30″	10,600	1.8	10	1, 2, 3, 4, 5, 10, 25, 50	5478T2	15.83
1/2	13	0.51″	0.73″	1.61″	17,900	3.1	8	1, 2, 3, 4, 5, 10, 25, 50	5478T3	26.66
High-Temperature Grade 63										
Steel										
9/32	7	0.28″	0.41″	0.87″	2,800	0.8	13	1, 2, 3, 4, 5, 10, 25, 50	3387T21	7.87
5/16	8	0.33″	0.48″	1.01″	4,200	1.2	12	1, 2, 3, 4, 5, 10, 25, 50	3387T31	9.23
3/8	10	0.39″	0.54″	1.18″	5,000	1.5	11	1, 2, 3, 4, 5, 10, 25, 50	3387T41	8.31
1/2	13	0.53″	0.77″	1.56″	9,000	2.7	10	1, 2, 3, 4, 5, 10, 25, 50	3387T51	14.36



Wear Gauge for Grade 80 and Grade 100 Chain—Gauge measures the maximum allowable wear tolerances on links of Grade 80 and Grade 100 steel chain, as required by OSHA. If the gauge can be inserted over any part of the link, the chain should be taken out of service. For use on chain trade sizes 9/32, 3/8, 1/2, 5/8, 3/4, 7/8, and 1.

To Order: Please specify chain grade and the manufacturer's stamp on the chain: C8, L8, P8, C10, L10, P10, PW, PWA, H29, or KWB.

3831T41 ..... $9.60

Corrosion-Resistant Chain—For Lifting

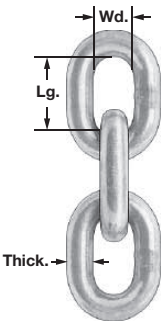

Use this stainless steel chain when lifting in food processing areas and environments where chemicals are used. It resists rust and salt water. Maximum temperature is 650° F.

When using fittings with chain, you must match the trade size and meet or exceed the chain's grade. For fittings, see connectors and shackles on pages 1483-1488 and hooks for lifting on pages 1494-1498.

Trade Size	Metric Trade Size	Thick.	Inside Link Size Wd.	Inside Link Size Lg.	Capacity, lbs.	Weight, lbs. per ft.	Approximate Links per ft.	Lengths, ft.		Per Ft.
Grade 63—316 Stainless Steel										
3/16	5	0.20″	0.30″	0.59″	1,400	0.4	20	1, 2, 3, 4, 5, 10, 25, 50	33645T41	$9.05
9/32	7	0.28″	0.38″	0.83″	2,700	0.8	14	1, 2, 3, 4, 5, 10, 25, 50	33645T42	19.29
3/8	10	0.39″	0.53″	1.18″	5,500	1.5	10	1, 2, 3, 4, 5, 10, 25, 50	33645T43	38.18
1/2	13	0.51″	0.69″	1.54″	9,300	2.6	7	1, 2, 3, 4, 5, 10, 25, 50	33645T56	51.37
5/8	16	0.63″	0.85″	1.89″	13,900	3.9	6	1, 2, 3, 4, 5, 10, 25, 50	33645T57	72.12

Warning: *Never use to lift people or items over people.*

Chain—Not for Lifting

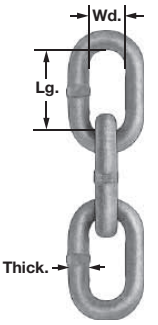

Use this strong chain for binding loads, tie downs, and towing applications. It is stamped with the grade and manufacturer. Meets ASTM A413 and NACM (National Association of Chain Manufacturers) standards. Chain has a maximum temperature of 400° F, except chain with powder-coated finish has a maximum temperature of 200° F.

When using fittings with chain, you must match the trade size and meet or exceed the chain's grade. For fittings, see connectors and shackles on pages 1483-1488 and hooks on pages 1494-1498.

Tangle-Resistant Grade 30—This is the strongest tangle-resistant chain we offer. Shorter links make it easier to coil and less likely to knot.

High-Strength Grade 40/43—This chain is approximately 50% stronger than Grade 30 chain.

Extra-High-Strength Grade 70—This chain is approximately 20% stronger than Grade 40/43 chain and 60% stronger than Grade 30 chain. It meets D.O.T. 49 CFR. 393.102.

Zinc-plated steel chain has good corrosion resistance. **Galvanized steel** chain has excellent corrosion resistance and can be used outdoors.

Trade Size	Metric Trade Size	Thick.	Inside Link Size Wd.	Inside Link Size Lg.	Capacity, lbs.	Weight, lbs. per ft.	Approximate Links per ft.	Lengths, ft.		Per Ft.
General Purpose Grade 30										
Steel										
1/8	4	0.16″	0.27″	0.90″	400	0.3	13	5, 10, 25, 50, 100, 200, 300	3592T12	$0.77
3/16	5.5	0.21″	0.39″	0.95″	800	0.4	12	5, 10, 25, 50, 100, 200, 300	3592T14	.88
1/4	7	0.28″	0.46″	1.24″	1,300	0.6	9	5, 10, 25, 50, 100, 200, 300	3592T15	1.29
5/16	8	0.33″	0.49″	1.30″	1,900	0.8	9	5, 10, 25, 50, 100, 200, 300	3592T16	1.86
3/8	10	0.40″	0.60″	1.45″	2,600	1.2	8	5, 10, 25, 50, 100, 200, 300	3592T17	2.72
1/2	13	0.52″	0.81″	1.56″	4,500	2.7	7	5, 10, 25, 50, 100, 200	3592T19	5.42
5/8	16	0.63″	1.00″	1.87″	6,900	4	6	5, 10, 25, 50, 100	3592T22	8.09
3/4	20	0.78″	1.07″	2.40″	10,600	6.3	4	5, 10, 25, 50, 100	3592T23	19.82
Green Powder-Coated Steel										
1/8	3	0.13″	0.24″	0.92″	400	0.2	13	5, 10, 25, 50, 100, 200, 300	3411T51	1.96
3/16	5.5	0.20″	0.40″	0.98″	800	0.4	13	5, 10, 25, 50, 100, 200, 300	3411T71	2.74
1/4	7	0.26″	0.48″	1.24″	1,300	0.6	11	5, 10, 25, 50, 100, 200, 300	3411T72	3.35
5/16	8	0.33″	0.48″	1.28″	1,900	1	10	5, 10, 25, 50, 100, 200, 300	3411T73	5.04
3/8	10	0.39″	0.55″	1.37″	2,600	1.4	9	5, 10, 25, 50, 100, 200, 300	3411T74	6.67
1/2	13	0.51″	0.75″	1.78″	4,500	2.4	7	5, 10, 25, 50, 100	3411T75	16.11
Zinc-Plated Steel										
1/8	4	0.16″	0.27″	0.90″	400	0.3	13	5, 10, 25, 50, 100, 200, 300	3592T13	.94
3/16	5.5	0.21″	0.39″	0.95″	800	0.4	12	5, 10, 25, 50, 100, 200, 300	3592T31	1.15
1/4	7	0.28″	0.46″	1.24″	1,300	0.6	9	5, 10, 25, 50, 100, 200, 300	3592T32	1.60
5/16	8	0.33″	0.49″	1.30″	1,900	0.8	9	5, 10, 25, 50, 100, 200, 300	3592T33	2.18
3/8	10	0.40″	0.60″	1.45″	2,600	1.2	8	5, 10, 25, 50, 100, 200, 300	3592T34	2.85
1/2	13	0.52″	0.81″	1.56″	4,500	2.7	7	5, 10, 25, 50, 100, 200	3592T36	6.39
Galvanized Steel										
1/8	4	0.16″	0.27″	0.90″	400	0.3	13	5, 10, 25, 50, 100, 200, 300	3592T18	1.07
3/16	5.5	0.21″	0.39″	0.95″	800	0.4	12	5, 10, 25, 50, 100, 200, 300	3592T44	1.34
1/4	7	0.28″	0.46″	1.24″	1,300	0.6	9	5, 10, 25, 50, 100, 200, 300	3592T45	2.02
5/16	8	0.33″	0.49″	1.30″	1,900	0.8	9	5, 10, 25, 50, 100, 200, 300	3592T46	2.75
3/8	10	0.40″	0.60″	1.45″	2,600	1.2	8	5, 10, 25, 50, 100, 200, 300	3592T47	3.75
1/2	13	0.52″	0.81″	1.56″	4,500	2.7	7	5, 10, 25, 50, 100, 200	3592T49	6.70
5/8	16	0.63″	1.00″	1.87″	6,900	4	6	5, 10, 25, 50, 100	3592T81	9.59
Tangle-Resistant Grade 30										
Steel										
1/4	7	0.28″	0.50″	1.02″	1,300	0.6	12	5, 10, 25, 50, 100, 200	3575T22	1.89
5/16	8	0.34″	0.49″	0.99″	1,900	1.2	11	5, 10, 25, 50, 100, 200	3575T23	3.80
3/8	10	0.39″	0.62″	1.09″	2,600	1.6	10	5, 10, 25, 50, 100, 200	3575T24	5.02
1/2	13	0.50″	0.75″	1.33″	4,500	2.7	9	5, 10, 25, 50, 100, 200	3575T26	10.22
Galvanized Steel										
1/4	7	0.27″	0.43″	0.87″	1,300	0.8	13	5, 10, 25, 50, 100, 200	3575T32	4.13
5/16	8	0.34″	0.49″	0.99″	1,900	1.2	11	5, 10, 25, 50, 100, 200	3575T33	5.79
3/8	10	0.39″	0.62″	1.09″	2,600	1.6	10	5, 10, 25, 50, 100, 200	3575T34	7.93
1/2	13	0.51″	0.75″	1.33″	4,500	2.8	9	5, 10, 25, 50, 100, 200	3575T36	12.99
High-Strength Grade 40/43										
Steel										
1/4	7	0.27″	0.50″	1.02″	2,600	0.7	11	1, 2, 3, 4, 5, 10, 25, 50	3588T14	1.95
5/16	8	0.32″	0.49″	1.15″	3,900	1	10	1, 2, 3, 4, 5, 10, 25, 50	3588T15	2.34
3/8	10	0.39″	0.60″	1.30″	5,400	1.4	9	1, 2, 3, 4, 5, 10, 25, 50	3588T16	3.28
1/2	13	0.52″	0.81″	1.56″	9,200	2.7	7	1, 2, 3, 4, 5, 10, 25, 50	3588T18	5.85
5/8	16	0.63″	0.85″	2.02″	13,000	3.8	6	1, 2, 3, 4, 5, 10, 25, 50	3588T49	9.15
3/4	20	0.78″	1.02″	2.61″	20,200	5.4	4	1, 2, 3, 4, 5, 10, 25, 50	3588T51	21.24
Zinc-Plated Steel										
1/4	7	0.27″	0.50″	1.02″	2,600	0.7	11	1, 2, 3, 4, 5, 10, 25, 50	3588T34	2.07
5/16	8	0.32″	0.49″	1.15″	3,900	1	10	1, 2, 3, 4, 5, 10, 25, 50	3588T35	2.48
3/8	10	0.39″	0.60″	1.30″	5,400	1.4	9	1, 2, 3, 4, 5, 10, 25, 50	3588T36	3.46
1/2	13	0.52″	0.81″	1.56″	9,200	2.7	7	1, 2, 3, 4, 5, 10, 25, 50	3588T37	6.27
Galvanized Steel										
1/4	7	0.27″	0.50″	1.02″	2,600	0.7	11	1, 2, 3, 4, 5, 10, 25, 50	3588T22	2.63
5/16	8	0.32″	0.49″	1.15″	3,900	1	10	1, 2, 3, 4, 5, 10, 25, 50	3588T23	3.22
3/8	10	0.39″	0.60″	1.30″	5,400	1.4	9	1, 2, 3, 4, 5, 10, 25, 50	3588T24	4.14
1/2	13	0.52″	0.81″	1.56″	9,200	2.7	7	1, 2, 3, 4, 5, 10, 25, 50	3588T26	7.36
5/8	16	0.63″	1.00″	1.87″	13,000	4	6	1, 2, 3, 4, 5, 10, 25, 50	3588T27	10.76
Extra-High-Strength Grade 70										
Zinc-Plated Steel										
1/4	7	0.27″	0.46″	1.24″	3,100	0.6	9	1, 2, 3, 4, 5, 10, 25, 50	3363T91	2.73
5/16	8	0.32″	0.49″	1.15″	4,700	1	10	1, 2, 3, 4, 5, 10, 25, 50	3363T92	3.41
3/8	10	0.38″	0.60″	1.30″	6,600	1.4	9	1, 2, 3, 4, 5, 10, 25, 50	3363T93	4.57
1/2	13	0.50″	0.81″	1.56″	11,300	2.4	7	1, 2, 3, 4, 5, 10, 25, 50	3363T95	7.84

Corrosion-Resistant Chain—Not for Lifting

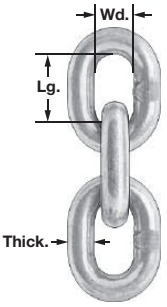

This chain withstands conditions that can deteriorate steel chain.

304 and **316 stainless steel** chain are the most corrosion resistant. 316 stainless steel is more corrosion resistant than 304 stainless steel, so you can use it in food processing areas and environments where chemicals are used. Maximum temperature is 750° F.

Aluminum and **brass** chain have excellent corrosion resistance. Maximum temperature is 100° F.

Trade Size	Metric Trade Size	Thick.	Inside Link Size Wd.	Inside Link Size Lg.	Capacity, lbs.	Approximate Links per ft.	Lengths, ft.		Per Ft.
304 Stainless Steel									
1/8	4	0.16″	0.26″	0.94″	400	13	1, 2, 3, 4, 5, 10, 20, 25, 50	3392T41	$5.23
3/16	5	0.20″	0.38″	0.95″	1,200	13	1, 2, 3, 4, 5, 10, 20, 25, 50	3392T51	8.19
9/32	7	0.28″	0.45″	0.86″	2,000	14	1, 2, 3, 4, 5, 10, 20, 25, 50	3392T52	14.11
5/16	8	0.32″	0.46″	0.94″	2,400	13	1, 2, 3, 4, 5, 10, 20, 25, 50	3392T53	19.43
3/8	10	0.39″	0.55″	1.10″	3,500	11	1, 2, 3, 4, 5, 10, 20, 25, 50	3392T54	26.89
316 Stainless Steel									
5/64	2	0.08″	0.14″	0.87″	50	14	1, 2, 3, 4, 5, 10, 20, 25, 50	3618T11	3.29
7/64	3	0.12″	0.21″	1.02″	100	12	1, 2, 3, 4, 5, 10, 20, 25, 50	3618T12	5.06
1/8	4	0.16″	0.26″	0.94″	400	13	1, 2, 3, 4, 5, 10, 20, 25, 50	3618T13	5.43
3/16	5	0.20″	0.38″	0.95″	1,200	13	1, 2, 3, 4, 5, 10, 20, 25, 50	3618T14	8.83
9/32	7	0.28″	0.43″	0.87″	2,000	14	1, 2, 3, 4, 5, 10, 20, 25, 50	3618T15	16.26
5/16	8	0.32″	0.46″	0.94″	2,800	13	1, 2, 3, 4, 5, 10, 20, 25, 50	3618T16	21.69
3/8	10	0.39″	0.55″	1.10″	3,500	11	1, 2, 3, 4, 5, 10, 20, 25, 50	3618T17	31.14
1/2	13	0.51″	0.69″	1.54″	7,400	8	1, 2, 3, 4, 5, 10, 20, 25, 50	3618T18	46.00
Aluminum									
17/64	7	0.26″	0.37″	1.06″	500	11	1, 2, 3, 4, 5, 10, 20, 25, 50	3620T21	16.38
Brass									
3/16	5.5	0.22″	0.40″	0.95″	300	13	1, 2, 3, 4, 5, 10, 20, 25, 50	3619T451	42.42
1/4	7	0.28″	0.50″	1.00″	500	12	1, 2, 3, 4, 5, 10, 20, 25, 50	3619T561	50.86
3/8	10	0.41″	0.59″	1.25″	800	9	1, 2, 3, 4, 5, 10, 20, 25, 50	3619T581	76.00

Light Duty Chain—Not for Lifting

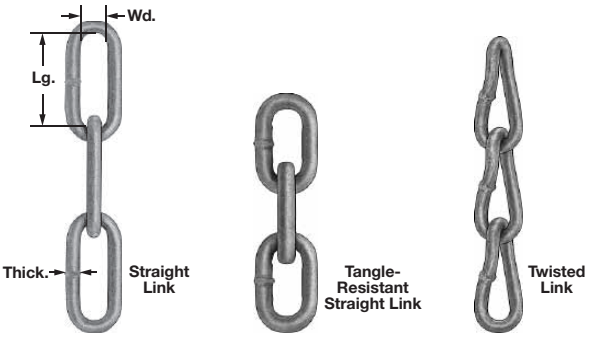

Use this chain to hang lightweight items and construct barriers.

Tangle-Resistant Straight Link—Chain has short, wide links that make it easier to coil and less likely to knot.

Twisted Link—The twisted links allows this chain to lie flatter than other light duty chain.

Zinc-plated steel chain has good corrosion resistance. **Galvanized steel** chain has excellent corrosion resistance.

Trade Size	Thick.	Inside Link Size Wd.	Inside Link Size Lg.	Capacity, lbs.	Approximate Links per ft.	Lengths, ft.	Steel	Per Ft.	Zinc-Plated Steel	Per Ft.	Galvanized Steel	Per Ft.
Straight Link												
4	0.12″	0.21″	1.11″	200	10	5, 10, 25, 50, 100	3594T14	$0.82	3594T44	$0.96	_____	___
2	0.15″	0.26″	1.18″	300	10	5, 10, 25, 50, 100	3594T15	.90	3594T45	1.05	3594T25	$1.66
1	0.16″	0.28″	1.25″	300	9	5, 10, 25, 50, 100	3594T22	1.02	3594T52	1.30	_____	___
1/0	0.17″	0.31″	1.24″	400	9	5, 10, 25, 50, 100	3594T16	1.04	3594T46	1.32	3594T26	1.73
2/0	0.19″	0.34″	1.30″	500	9	5, 10, 25, 50, 100	3594T17	1.08	3594T47	1.28	3594T27	1.99
3/0	0.21″	0.36″	1.30″	600	9	5, 10, 25, 50, 100	_____	___	3594T53	1.49	_____	___
4/0	0.21″	0.38″	1.39″	600	8	5, 10, 25, 50, 100	3594T18	1.40	3594T48	1.64	3594T28	1.94
5/0	0.25″	0.45″	1.55″	800	7	5, 10, 25, 50, 100	3594T19	1.61	3594T49	1.75	3594T29	2.21
6/0	0.28″	0.50″	1.81″	1,100	6	2, 5, 10, 25, 50, 100	3594T79	2.29	3594T89	2.68	3594T96	2.74
7/0	0.30″	0.50″	1.92″	1,300	6	2, 5, 10, 25, 50, 100	3594T75	2.19	3594T85	2.66	3594T95	3.34
9/0	0.36″	0.60″	2.17″	2,000	5	2, 5, 10, 25, 50, 100	3594T76	3.16	3594T86	2.89	3594T97	3.11
Tangle-Resistant Straight Link												
4	0.12″	0.21″	0.55″	200	21	10, 25, 50, 100	3593T14	1.02	3593T41	1.28	_____	___
3	0.14″	0.24″	0.59″	200	20	5, 10, 25, 50, 100	_____	___	3593T47	1.81	_____	___
2	0.15″	0.26″	0.61″	300	19	5, 10, 25, 50, 100	3593T15	1.38	3593T42	1.41	_____	___
1	0.16″	0.28″	0.63″	300	19	5, 10, 25, 50, 100	_____	___	3593T48	1.88	_____	___
1/0	0.17″	0.31″	0.74″	400	16	5, 10, 25, 50, 100	3593T16	1.40	3593T43	1.63	_____	___
2/0	0.19″	0.34″	0.78″	500	15	5, 10, 20, 25, 50, 100	3593T17	1.45	3593T44	1.94	_____	___
3/0	0.21″	0.36″	1.01″	600	12	5, 10, 25, 50, 100	_____	___	3593T49	2.12	_____	___
4/0	0.21″	0.40″	0.95″	700	12	5, 10, 25, 50, 100	3593T12	1.64	3593T59	2.00	_____	___
5/0	0.25″	0.44″	1.07″	900	11	2, 5, 10, 25, 50, 100	3593T19	1.97	3593T46	2.65	3593T88	3.73
6/0	0.28″	0.48″	1.34″	1,100	9	2, 5, 10, 25, 50, 100	3593T26	4.38	_____	___	_____	___
7/0	0.30″	0.55″	1.19″	1,300	10	2, 5, 10, 25, 50, 100	3593T25	2.65	_____	___	_____	___
7/0	0.31″	0.53″	1.49″	1,400	8	2, 5, 10, 25, 50, 100	_____	___	3593T58	5.38	_____	___
Twisted Link												
4	0.12″	0.18″	1.09″	100	11	10, 25, 50, 100	3594T34	.92	3594T64	1.06	_____	___
3	0.14″	0.21″	1.14″	200	10	5, 10, 25, 50, 100	_____	___	3594T71	1.49	_____	___
2	0.15″	0.22″	1.15″	200	10	5, 10, 25, 50, 100	3594T35	.97	3594T65	1.06	_____	___
1/0	0.17″	0.27″	1.22″	400	9	5, 10, 25, 50, 100	3594T36	1.41	3594T66	1.50	_____	___
2/0	0.19″	0.29″	1.24″	400	9	5, 10, 25, 50, 100	3594T37	1.38	3594T67	1.50	_____	___

Choose-a-Color Light Duty Chain—Not for Lifting

Brightly colored for visibility, this coated steel chain is commonly used as a safety barrier to mark restricted areas.

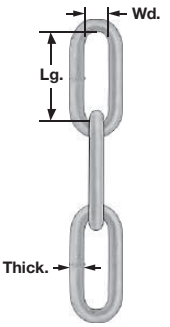

Trade Size	Thick.	Inside Link Size Wd.	Inside Link Size Lg.	Capacity, lbs.	Approximate Links per ft.	Choose a Color	Lengths, ft.		Per Ft.
1/0	0.18″	0.32″	1.24″	400	10	Orange, Red, Yellow, Fluorescent Yellow	5, 10, 25, 50, 100	3594T3	$3.14
2/0	0.19″	0.34″	1.30″	500	9	Orange, Red, Yellow, Fluorescent Yellow	5, 10, 25, 50, 100	3594T4	3.28
4/0	0.21″	0.38″	1.39″	600	8	Orange, Red, Yellow, Fluorescent Yellow	5, 10, 25, 50, 100	3594T5	3.47

Cut-Resistant Chain—Not for Lifting

Securely tie down items and lock up tools. Chain is case-hardened for cut and wear resistance.
Square Link—For maximum security, square links are more difficult to cut with bolt cutters than round links.
Zinc-plated steel chain has good corrosion resistance.

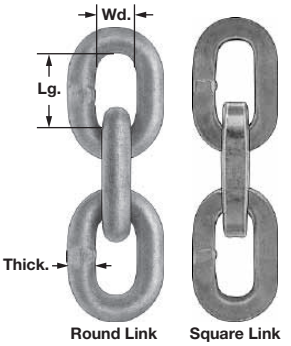

Trade Size	Metric Trade Size	Thick.	Inside Link Size Wd.	Inside Link Size Lg.	Approximate Links per ft.	Lengths, ft.		Per Ft.
Round Link								
Gray Powder-Coated Steel								
1/4	7	0.26″	0.45″	1.20″	10	2, 5, 10, 25, 50, 100	8954T18	$6.49
Zinc-Plated Steel								
3/16	6	0.21″	0.34″	0.95″	13	2, 5, 10, 25, 50, 100	8949T31	4.43
1/4	7	0.26″	0.45″	1.20″	10	2, 5, 10, 25, 50, 100	8949T32	4.52
5/16	8	0.31″	0.47″	1.27″	9	2, 5, 10, 25, 50, 100	8949T33	5.35
3/8	10	0.37″	0.57″	1.36″	9	2, 5, 10, 25, 50, 100	8949T34	6.07
1/2	13	0.48″	0.75″	1.70″	7	2, 5, 10, 25, 50, 100	8949T35	15.49
Square Link								
Zinc-Plated Steel								
9/32	7	0.28″	0.37″	0.94″	12	2, 5, 10, 25, 50, 100	36015T4	7.50
3/8	10	0.39″	0.60″	1.50″	8	2, 5, 10, 25, 50, 100	36015T3	17.89

Light Duty Tangle-Resistant Chain—Not for Lifting

Chain is highly flexible and resists kinking and tangling.
Smooth Straight Link—The links have smooth sides to prevent the chain from snagging.
Twisted Link—Small, twisted links make this flexible chain the most resistant to tangling and knotting.
Zinc-plated steel chain has good corrosion resistance. **Nickel- and brass-plated steel** chain have excellent corrosion resistance. **304 stainless steel** chain is the most corrosion resistant and can be used outdoors.

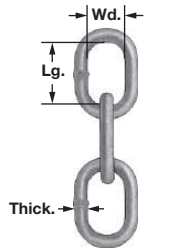

Straight Link


Smooth Straight Link


Twisted Link

Trade Size	Metric Trade Size	Thick.	Inside Link Size Wd.	Inside Link Size Lg.	Capacity, lbs.	Approximate Links per ft.	Lengths, ft.		Per Ft.
Straight Link									
Steel									
2/0	_	0.19″	0.47″	0.88″	400	13	5, 10, 25, 50, 100	3596T14	$1.51
4/0	_	0.21″	0.50″	0.88″	600	13	5, 10, 25, 50, 100	3596T16	1.79
Zinc-Plated Steel									
2/0	_	0.19″	0.47″	0.88″	400	13	5, 10, 25, 50, 100	3596T24	1.67
4/0	_	0.21″	0.50″	0.88″	600	13	5, 10, 25, 50, 100	3596T26	1.89
Smooth Straight Link									
Steel									
5/64	2	0.08″	0.17″	0.50″	70	23	10, 25, 50, 100	8951T17	.72
Zinc-Plated Steel									
5/64	2	0.08″	0.17″	0.50″	70	23	10, 25, 50, 100	8951T16	.94
1/8	3	0.12″	0.34″	1.35″	200	9	10, 25, 50, 100	36055T12	1.12
Nickel-Plated Steel									
5/64	2	0.08″	0.17″	0.50″	70	23	10, 25, 50, 100	8951T19	1.14
Brass-Plated Steel									
5/64	2	0.08″	0.17″	0.50″	70	23	10, 25, 50, 100	8951T18	1.11
Twisted Link									
Nickel-Plated Steel									
___	1.8	0.07″	0.12″	0.24″	Not Rated	46	5, 10, 25, 50, 100	3614T111	1.49
___	2	0.08″	0.14″	0.31″	Not Rated	42	5, 10, 25, 50, 100	3614T201	1.52
___	2.3	0.10″	0.17″	0.33″	Not Rated	36	5, 10, 25, 50, 100	3614T301	1.62
___	2.8	0.12″	0.18″	0.40″	Not Rated	30	5, 10, 25, 50, 100	3614T141	2.00
304 Stainless Steel									
5/64	2	0.07″	0.13″	0.30″	100	37	2, 5, 10, 25, 50, 100	3602T11	5.26
3/32	2.5	0.09″	0.16″	0.31″	100	39	2, 5, 10, 25, 50, 100	3602T12	5.46
1/8	3	0.11″	0.27″	0.50″	200	24	2, 5, 10, 25, 50, 100	3602T13	5.91

Lock-Link Chain—*Not for Lifting*

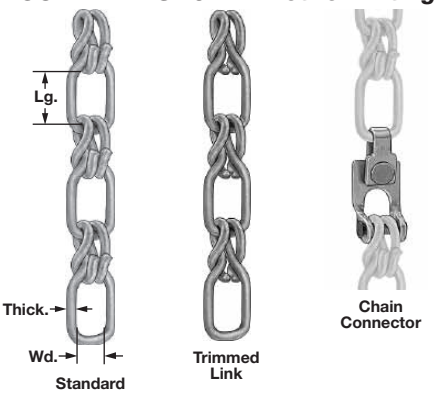

The ends of the chain are locked around the connecting link, allowing it to lie flatter than other chain. It is often used to operate overhead doors and machinery.

Trimmed Link—The trimmed links allow chain to sit closer against a chain wheel or sprocket. For chain wheels, see page 1472.

Zinc-plated steel chain has good corrosion resistance. **Galvanized steel** chain has excellent corrosion resistance and can be used outdoors.

Use a **chain connector** to form your chain into a loop when using with a chain wheel. Made of zinc-plated steel.

Trade Size	Thick.	*Inside Link Size* Wd.	*Inside Link Size* Lg.	Capacity, lbs.	For Chain Wheel Size	Lengths, ft.	Chain	Chain Per Ft.	Chain Connectors	Chain Connectors Each
Standard										
Zinc-Plated Steel										
2/0	0.14″	0.42″	0.70″	300	_____	10, 25, 50, 100	3600T37	$0.79	_____	____
3/0	0.15″	0.50″	0.74″	400	_____	5, 10, 25, 50, 100	3600T38	.90	_____	____
Galvanized Steel										
2/0	0.15″	0.43″	0.70″	300	_____	5, 10, 25, 50, 100, 200	3600T59	1.74	_____	____
Trimmed Link										
Zinc-Plated Steel										
2	0.09″	0.35″	0.58″	100	_____	10, 25, 50, 100, 200	3600T34	.53	_____	____
1/0	0.12″	0.43″	0.60″	200	1, 1½, 2	10, 25, 50, 100, 200	3600T36	.69	3600T83	$7.16
4/0	0.16″	0.51″	0.88″	400	2½, 3, 3½	5, 10, 25, 50, 100	3600T39	1.70	3600T81	13.02
5/0	0.18″	0.60″	1.10″	500	4, 4½, 5	5, 10, 25, 50, 100	3600T41	2.33	3600T82	14.27
Galvanized Steel										
2	0.09″	0.35″	0.60″	100	_____	10, 25, 50, 100	3600T56	1.18	_____	____
1/0	0.12″	0.39″	0.55″	200	1, 1½, 2	10, 25, 50, 100, 200	3600T58	1.54	3600T83	7.16
4/0	0.16″	0.51″	0.88″	400	2½, 3, 3½	5, 10, 25, 50, 100	3600T62	2.48	3600T81	13.02
5/0	0.18″	0.60″	1.10″	500	4, 4½, 5	5, 10, 25, 50, 100	3600T63	2.69	3600T82	14.27

Coil Chain—*Not for Lifting*

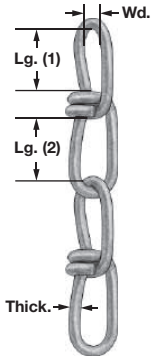

Lightweight and flexible, use this chain in applications such as hanging signs and fixtures.

Zinc-plated steel chain has good corrosion resistance. **Vinyl-covered zinc-plated steel** chain has a cover that prevents the chain from scratching items that come in contact with it. Trade size 3 is yellow, trade size 1/0 is blue, and trade size 2/0 is green. **Galvanized steel** and **304 stainless steel** chain have excellent corrosion resistance and can be used outdoors.

Trade Size	Thick.	*Inside Link Size* Wd.	*Inside Link Size* Lg. (1)	*Inside Link Size* Lg. (2)	Capacity, lbs.	Lengths, ft.		Per Ft.
White Powder-Coated Steel								
3	0.08″	0.25″	0.45″	0.46″	90	10, 25, 50	3599T61	$1.05
Yellow Powder-Coated Steel								
2/0	0.14″	0.38″	0.89″	0.96″	200	10, 25, 50, 100, 125	3599T65	1.33
Zinc-Plated Steel								
5	0.06″	0.19″	0.35″	0.45″	50	25, 50, 100, 200, 300, 500	3599T46	.30
4	0.07″	0.21″	0.41″	0.53″	70	25, 50, 100, 200, 300, 500	3599T47	.31
3	0.08″	0.25″	0.45″	0.65″	90	25, 50, 100, 200, 300, 500	3599T48	.33
2	0.09″	0.28″	0.53″	0.65″	100	25, 50, 100, 250	3599T49	.37
1	0.11″	0.35″	0.73″	0.83″	100	25, 50, 100, 250	3599T51	.41
1/0	0.12″	0.38″	0.61″	1.00″	200	25, 50, 100, 250	3599T52	.46
2/0	0.14″	0.38″	0.80″	0.84″	200	25, 50, 100, 250	3599T53	.67
2/0	0.14″	0.38″	1.15″	1.20″	200	25, 50, 100, 250	3599T57	.51
3/0	0.15″	0.38″	0.99″	1.04″	300	10, 25, 50, 100, 250	3599T54	.62
4/0	0.16″	0.40″	0.90″	1.10″	300	10, 25, 50, 100	3599T55	.71
Vinyl-Covered Zinc-Plated Steel								
3	0.08″	0.25″	0.51″	0.75″	90	100, 200, 300, 500	8963T12	1.14
1/0	0.12″	0.38″	0.97″	1.06″	200	100, 250	8963T14	1.44
2/0	0.14″	0.38″	0.93″	1.08″	200	100, 225	8963T16	1.79
Galvanized Steel								
3	0.08″	0.25″	0.45″	0.65″	90	10, 25, 50, 100	3599T78	.49
1/0	0.12″	0.30″	0.65″	0.87″	200	10, 25, 50, 100	3599T82	1.16
2/0	0.14″	0.38″	0.89″	0.96″	200	10, 25, 50, 100	3599T83	1.22
4/0	0.16″	0.43″	0.86″	0.86″	300	5, 10, 25, 50, 75, 100	3599T85	1.62
8/0	0.23″	0.57″	1.17″	1.18″	700	2, 5, 10, 25, 50, 75, 100	3599T88	3.83
304 Stainless Steel								
3	0.08″	0.25″	0.45″	0.65″	90	5, 10, 25, 50, 100	3616T24	1.52
1	0.11″	0.35″	0.73″	0.83″	100	2, 5, 10, 25, 50, 100	3616T25	2.49
2/0	0.14″	0.38″	0.80″	0.84″	200	2, 5, 10, 25, 50, 100	3616T26	2.96

Sash Chain—Not for Lifting

Also known as sash cord, this thin chain is used over pulleys and for hanging double-hung window sashes. The flat links fold back on themselves for maximum flexibility.

Zinc-plated steel chain has good corrosion resistance. **Copper-** and **nickel-plated steel, brass,** and **bronze** chain have excellent corrosion resistance. **302/304** and **430 stainless steel** chain are the most corrosion resistant and can be used outdoors.

Trade Size	Thick.	Inside Link Size Wd.	Inside Link Size Lg.	Capacity, lbs.	Lengths, ft.		Per Ft.
Steel							
12	0.01″	0.05″	0.14″	20	10, 25, 50, 100, 300	3385T14	$0.67
8	0.04″	0.12″	0.30″	70	25, 50, 100, 300, 500	3607T14	.38
25	0.04″	0.12″	0.30″	90	25, 50, 100, 300, 500	3607T15	.45
30	0.03″	0.14″	0.40″	80	25, 50, 100, 300, 500	3607T16	.49
35	0.04″	0.14″	0.40″	100	10, 25, 50, 100, 300, 500	3607T17	.54
40	0.04″	0.14″	0.40″	100	10, 25, 50, 100, 300, 500	3607T18	.63
45	0.05″	0.14″	0.40″	100	10, 25, 50, 100, 300	3607T19	.70
50	0.06″	0.18″	0.45″	200	10, 25, 50, 100, 300	3607T21	.89
60	0.06″	0.20″	0.54″	200	5, 10, 25, 50, 100	3607T22	1.37
65	0.07″	0.25″	0.63″	300	5, 10, 25, 50, 100	3607T23	1.69
Zinc-Plated Steel							
8	0.04″	0.12″	0.30″	70	25, 50, 100, 300, 500	3607T24	.45
25	0.04″	0.12″	0.30″	90	10, 25, 50, 100, 300, 500	3607T25	.53
30	0.03″	0.14″	0.40″	80	10, 25, 50, 100, 300, 500	3607T26	.53
35	0.04″	0.14″	0.40″	100	10, 25, 50, 100, 300, 500	3607T27	.58
40	0.04″	0.14″	0.40″	100	10, 25, 50, 100, 300, 500	3607T28	.66
45	0.05″	0.14″	0.40″	100	10, 25, 50, 100, 300	3607T29	.82
50	0.06″	0.18″	0.45″	200	5, 10, 25, 50, 100, 300	3607T31	1.05
60	0.06″	0.20″	0.54″	200	5, 10, 25, 50, 100	3607T32	1.57
65	0.07″	0.25″	0.63″	300	5, 10, 25, 50, 100	3607T33	1.97
Copper-Plated Steel							
8	0.04″	0.12″	0.30″	70	25, 50, 100, 300	3607T34	.60
25	0.04″	0.12″	0.30″	90	10, 25, 50, 100, 300	3607T35	.69
30	0.03″	0.14″	0.40″	80	10, 25, 50, 100, 300	3607T36	1.03
35	0.04″	0.14″	0.40″	100	10, 25, 50, 100, 300	3607T37	.92
40	0.04″	0.14″	0.40″	100	10, 25, 50, 100, 300	3607T38	1.08
45	0.05″	0.14″	0.40″	100	10, 25, 50, 100, 300	3607T39	1.03
50	0.06″	0.18″	0.45″	200	10, 25, 50, 100, 300	3607T41	1.18
60	0.06″	0.20″	0.54″	200	5, 10, 25, 50, 100	3607T42	1.71
65	0.07″	0.25″	0.63″	300	5, 10, 25, 50, 100	3607T43	1.77
Nickel-Plated Steel							
12	0.01″	0.05″	0.14″	20	10, 25, 50, 100, 300	3385T16	1.24
8	0.04″	0.12″	0.30″	70	10, 25, 50, 100, 300	3607T64	.96
25	0.04″	0.12″	0.30″	90	10, 25, 50, 100, 300	3607T65	1.04
30	0.03″	0.14″	0.40″	80	10, 25, 50, 100, 300	3607T66	.96
35	0.04″	0.14″	0.40″	100	10, 25, 50, 100, 300	3607T67	.93
40	0.04″	0.14″	0.40″	100	10, 25, 50, 100, 200	3607T68	1.07
45	0.05″	0.14″	0.40″	100	10, 25, 50, 100	3607T69	1.21
50	0.06″	0.18″	0.45″	200	5, 10, 25, 50, 100	3607T71	1.32
60	0.06″	0.20″	0.54″	200	5, 10, 25, 50, 100	3607T72	1.72
65	0.07″	0.25″	0.63″	300	2, 5, 10, 25, 50, 100	3607T73	2.28
Brass							
12	0.01″	0.05″	0.14″	10	10, 25, 50, 100	3385T17	1.23
Nickel-Plated Brass							
12	0.01″	0.05″	0.14″	10	5, 10, 25, 50, 100	3385T18	1.37
Bronze							
8	0.04″	0.12″	0.30″	60	5, 10, 25, 50, 100	3607T54	2.06
25	0.04″	0.12″	0.30″	80	5, 10, 25, 50, 100	3607T55	2.26
30	0.03″	0.14″	0.40″	70	5, 10, 25, 50, 100	3607T56	2.39
35	0.04″	0.14″	0.40″	100	2, 5, 10, 25, 50, 100	3607T57	3.19
40	0.04″	0.14″	0.40″	100	2, 5, 10, 25, 50, 100	3607T58	3.27
45	0.05″	0.14″	0.40″	100	2, 5, 10, 25, 50, 100	3607T59	3.88
50	0.06″	0.18″	0.45″	200	2, 5, 10, 25, 50, 100	3607T61	4.74
302/304 Stainless Steel							
8	0.04″	0.12″	0.28″	70	2, 3, 4, 5, 10, 25, 50, 100	3610T21	3.04
25	0.04″	0.15″	0.30″	200	2, 3, 4, 5, 10, 25, 50, 100	3610T11	2.58
35	0.04″	0.17″	0.37″	100	2, 3, 4, 5, 10, 25, 50, 100	3610T32	4.21
430 Stainless Steel							
12	0.01″	0.05″	0.14″	20	2, 3, 4, 5, 10, 25, 50, 100	8950T14	1.06

Images are actual size.

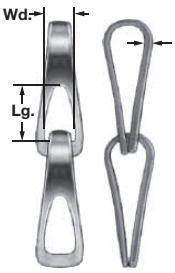

Size 12



Sizes 8 and 25



Sizes 30, 35, 40, and 45



Size 50



Size 60



Size 65

Register Chain—Not for Lifting

Use this chain to operate furnace ducts and ventilation registers. You can pry open the link ends to add additional links without cutting the chain.

Zinc-plated steel chain has good corrosion resistance.

Trade Size	Thick.	Inside Link Size Wd.	Inside Link Size Lg.	Capacity, lbs.	Lengths, ft.		Per Ft.
Steel							
18	0.05″	0.13″	0.19″	9	25, 50, 100, 200	3601T14	$0.37
Zinc-Plated Steel							
18	0.05″	0.13″	0.19″	9	25, 50, 100	3601T34	.46
10	0.14″	0.38″	0.50″	80	5, 10, 25, 50, 100, 200	3601T38	1.11

Images are actual size.

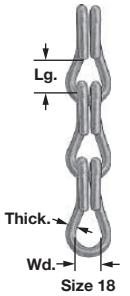

Size 18



Size 10

Plumbers' Chain—Not for Lifting

Images are actual size.

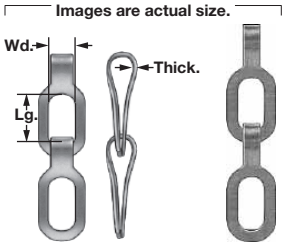

Size 2/0 Size 1/0

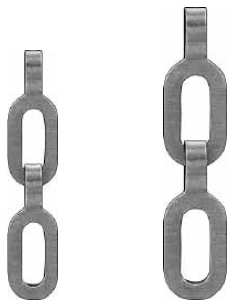

Size 1 Size 2

Chain has flat links that take up little space and fold back on themselves for maximum flexibility, making it good for plumbing applications.

Zinc-plated steel chain has good corrosion resistance. **Nickel-plated steel, brass,** and **aluminum** chain have excellent corrosion resistance. **302/304 stainless steel** chain is the most corrosion resistant and can be used outdoors.

Trade Size	Thick.	*Inside Link Size* Wd.	Lg.	Capacity, lbs.	Lengths, ft.		Per Ft.
Steel							
2/0	0.02″	0.13″	0.28″	30	10, 25, 50, 100, 300	3608T11	$0.48
1/0	0.02″	0.13″	0.29″	40	10, 25, 50, 100, 300	3608T12	.52
1	0.03″	0.13″	0.34″	50	10, 25, 50, 100, 300	3608T13	.61
2	0.03″	0.14″	0.39″	60	10, 25, 50, 100, 300	3608T14	.81
Zinc-Plated Steel							
2/0	0.02″	0.13″	0.28″	30	10, 25, 50, 100, 300	3608T26	.58
1/0	0.02″	0.13″	0.29″	40	10, 25, 50, 100, 300	3608T27	.63
1	0.03″	0.13″	0.34″	50	10, 25, 50, 100, 300	3608T28	.71
2	0.03″	0.14″	0.39″	60	10, 25, 50, 100, 300	3608T29	.90
Nickel-Plated Steel							
2/0	0.02″	0.13″	0.28″	30	10, 25, 50, 100, 300	3608T711	1.09
1/0	0.02″	0.13″	0.29″	40	10, 25, 50, 100, 300	3608T721	1.12
1	0.03″	0.13″	0.34″	50	10, 25, 50, 100, 300	3608T731	.88
2	0.03″	0.14″	0.39″	60	10, 25, 50, 100, 300	3608T741	1.10
Brass							
2/0	0.02″	0.10″	0.30″	20	5, 10, 25, 50, 100	3608T21	1.73
1/0	0.02″	0.10″	0.30″	30	5, 10, 25, 50, 100	3608T22	2.08
1	0.03″	0.13″	0.34″	40	5, 10, 25, 50, 100	3608T41	1.64
2	0.03″	0.14″	0.39″	50	5, 10, 25, 50, 100	3608T24	1.97
Nickel-Plated Brass							
2/0	0.02″	0.13″	0.28″	20	5, 10, 25, 50, 100	3608T31	1.52
1/0	0.02″	0.13″	0.29″	30	5, 10, 25, 50, 100	3608T32	1.58
1	0.03″	0.13″	0.34″	40	5, 10, 25, 50, 100	3608T33	1.85
2	0.03″	0.14″	0.39″	50	5, 10, 25, 50, 100	3608T34	2.39
Aluminum							
2/0	0.01″	0.13″	0.28″	20	10, 25, 50, 100	3608T92	.82
302/304 Stainless Steel							
2/0	0.02″	0.13″	0.28″	50	5, 10, 25, 50, 100	3608T51	1.12
1/0	0.02″	0.13″	0.29″	70	5, 10, 25, 50, 100	3608T52	1.20
1	0.03″	0.13″	0.34″	100	5, 10, 25, 50, 100	3608T53	1.28

Jack Chain—Not for Lifting

Images are actual size.

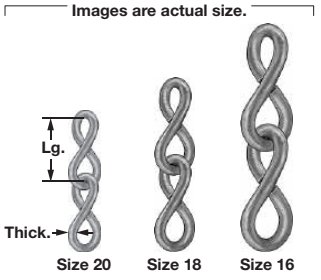

Size 20 Size 18 Size 16

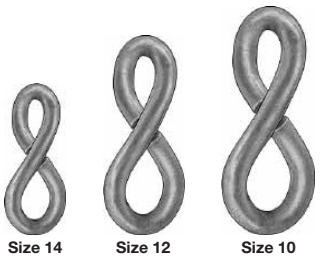

Size 14 Size 12 Size 10

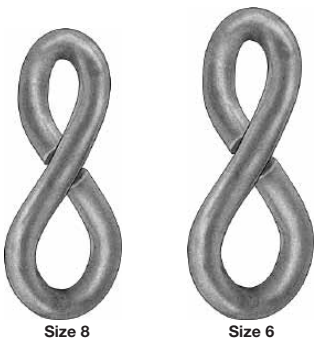

Size 8 Size 6

The links are formed into a figure eight then twisted into a 90° angle for a lightweight chain suitable for hanging applications.

Zinc-plated steel chain has good corrosion resistance. **Nickel-plated steel, brass-plated steel**, and **brass** chain have excellent corrosion resistance. **304 stainless steel** chain is the most corrosion resistant and can be used outdoors.

Trade Size	Thick.	Inside Lg.	Capacity, lbs.	Lengths, ft.		Per Ft.
Zinc-Plated Steel						
18	0.05″	0.39″	5	25, 50, 100, 300, 500	3603T36	$0.29
16	0.06″	0.52″	10	25, 50, 100, 300, 500	3603T37	.30
14	0.08″	0.63″	10	25, 50, 100, 300, 500	3603T76	.34
12	0.11″	0.80″	20	25, 50, 100, 300	3603T77	.41
10	0.14″	0.95″	40	10, 25, 50, 100, 300	3603T41	.62
8	0.16″	1.09″	60	10, 25, 50, 100, 300	3603T42	.70
6	0.19″	1.21″	80	10, 25, 50, 100, 300	3603T773	.74
Nickel-Plated Steel						
20	0.03″	0.30″	3	25, 50, 100, 300	3603T85	.52
18	0.05″	0.39″	5	25, 50, 100, 300	3603T86	.40
16	0.06″	0.52″	10	25, 50, 100, 300	3603T87	.72
14	0.08″	0.63″	10	25, 50, 100, 300	3603T88	.70
12	0.11″	0.80″	20	25, 50, 100, 300	3603T89	.49
10	0.14″	0.95″	40	10, 25, 50, 100, 200	3603T91	.94
8	0.16″	1.09″	60	10, 25, 50, 100, 200	3603T92	1.07
6	0.19″	1.21″	80	10, 25, 50, 100	3603T93	1.07
Brass-Plated Steel						
20	0.03″	0.30″	3	25, 50, 100, 300	3603T94	.52
18	0.05″	0.39″	4	25, 50, 100, 300	3603T95	.40
16	0.06″	0.52″	10	25, 50, 100, 300	3603T96	.72
14	0.08″	0.63″	10	25, 50, 100, 300	3603T97	.42
12	0.11″	0.80″	20	25, 50, 100, 300	3603T98	.49
10	0.14″	0.95″	40	10, 25, 50, 100, 200	3603T99	.94
8	0.16″	1.09″	60	10, 25, 50, 100, 200	3603T101	1.07
6	0.19″	1.21″	80	10, 25, 50, 100	3603T102	1.07
Brass						
20	0.03″	0.30″	2	25, 50, 100, 200	3603T926	.68
18	0.05″	0.39″	4	10, 25, 50, 100, 200	3603T354	.75
16	0.06″	0.52″	8	10, 25, 50, 100	3603T928	.90
14	0.08″	0.63″	10	10, 25, 50, 100	3603T903	1.07
12	0.11″	0.80″	20	5, 10, 25, 50, 100	3603T904	1.68
10	0.14″	0.95″	30	5, 10, 25, 50, 100	3603T905	2.54
304 Stainless Steel						
18	0.05″	0.39″	5	10, 25, 50, 100, 200	3617T2	.67
16	0.06″	0.52″	10	10, 25, 50, 100, 200	3617T3	.73
14	0.08″	0.63″	10	10, 25, 50, 100, 200	3617T4	.95
12	0.11″	0.80″	20	5, 10, 25, 50, 100, 200	3617T5	1.36
10	0.14″	0.95″	40	5, 10, 25, 50, 100	3617T6	2.23
8	0.16″	1.09″	60	2, 5, 10, 25, 50, 100	3617T7	3.28

Bead Chain—*Not for Lifting*

Also known as ball chain, use this chain to keep tools with machines, keys with chucks, and gas and dust caps with tanks. Use bead chain links (sold separately) to connect or mount chain.

Screw-Mount Links—These links allow you to mount chain with a screw, bolt, or rivet. Hole diameter for trade sizes 3 and 6 is 0.13″; for trade sizes 8, 10, and 13 it is 0.193″; and for trade size 20 it is 0.262″.

Splicing Links—Thread chain through the hole of these links to form an adjustable loop or connect chain ends to form a longer chain.

Loop Links—Use these links to connect the ends of chain to form a longer chain or create a loop for key chains and ID tags.

Push-Mount Links—Mount these links in a drilled hole to secure small items such as pens. Links can also be attached as the end of a pull chain. Hole diameter for trade sizes 2 and 3 is 1/8″; for trade size 6 it is 5/32″; for trade sizes 8 and 10 it is 7/32″; and for trade size 13 it is 5/16″.

Nickel-plated steel, aluminum, and **brass** chain have excellent corrosion resistance. **304 stainless steel** chain is the most corrosion resistant and can be used outdoors

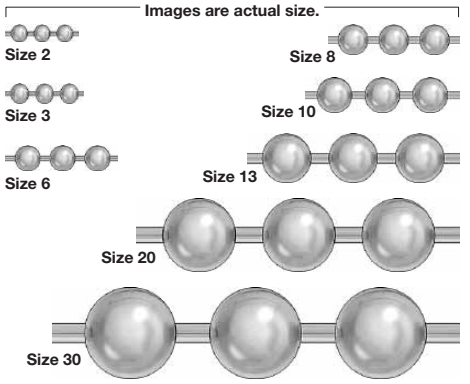

Bead Chain and Fittings



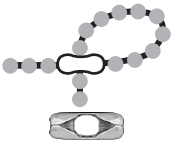



Trade Size	Bead Dia.	Tensile Strength, lbs.	Chain Lengths, ft.		Chain Per Ft.	Screw-Mount Links Pkg. Qty.		Screw-Mount Links Pkg.	Splicing Links Pkg. Qty.		Splicing Links Pkg.	Loop Links Pkg. Qty.		Loop Links Pkg.	Push-Mount Links Pkg. Qty.		Push-Mount Links Pkg.
Nickel-Plated Steel																	
3	3/32″	20	50, 100, 300	3606T89	$0.20	100	3606T27	$9.32	100	3606T37	$2.91	100	3606T72	$2.83	100	3606T141	$3.14
6	1/8″	30	50, 100, 300	3606T91	.22	100	3606T27	9.32	100	3606T41	3.19	100	3606T73	3.20	100	3606T142	4.42
8	5/32″	40	50, 100, 300	3606T92	.27	100	3606T31	11.97	100	3606T44	4.79	100	3606T74	4.33	100	3606T143	7.56
10	3/16″	40	25, 50, 100	3606T93	.31	100	3606T31	11.97	100	3606T44	4.79	—	—	—	100	3606T143	7.56
13	1/4″	90	25, 50, 100	3606T94	.57	10	3606T34	2.78	100	3606T47	9.20	—	—	—	100	3606T144	10.70
20	3/8″	170	5, 10, 25, 50	3606T301	1.14	10	3606T331	8.28	10	3606T441	5.60	—	—	—	—	—	—
30	1/2″	170	5, 10, 25, 50	3606T302	1.69	—	—	—	10	3606T442	7.69	—	—	—	—	—	—
Aluminum																	
3	3/32″	10	50, 100, 300	3606T53	.21	100	3606T27	9.32	100	3606T37	2.91	100	3606T471	1.27	100	3606T141	3.14
6	1/8″	10	50, 100, 300	3606T54	.24	100	3606T27	9.32	100	3606T41	3.19	100	3606T472	1.72	100	3606T142	4.42
10	3/16″	30	25, 50, 100	3606T55	.39	100	3606T31	11.97	100	3606T272	4.54	—	—	—	100	3606T143	7.56
13	1/4″	40	10, 25, 50	3606T56	.73	10	3606T34	2.78	100	3606T273	10.06	—	—	—	100	3606T144	10.70
20	3/8″	120	5, 10, 25, 50	3606T305	1.31	10	3606T331	8.28	10	3606T274	5.60	—	—	—	—	—	—
Nickel-Plated Brass																	
2	3/32″	10	50, 100, 300	3606T52	.28	—	—	—	100	3606T37	2.91	100	3606T72	2.83	100	3606T141	3.14
3	3/32″	20	50, 100, 300	3606T11	.28	100	3606T27	9.32	100	3606T37	2.91	100	3606T72	2.83	100	3606T141	3.14
6	1/8″	30	25, 50, 100	3606T64	.33	100	3606T27	9.32	100	3606T41	3.19	100	3606T73	3.20	100	3606T142	4.42
8	5/32″	40	25, 50, 100	3606T65	.46	100	3606T31	11.97	100	3606T44	4.79	100	3606T74	4.33	100	3606T143	7.56
10	3/16″	40	25, 50, 100	3606T17	.49	100	3606T31	11.97	100	3606T44	4.79	—	—	—	100	3606T143	7.56
13	1/4″	90	10, 25, 50	3606T51	.91	10	3606T34	2.78	100	3606T47	9.20	—	—	—	100	3606T144	10.70
20	3/8″	150	5, 10, 25, 50	3606T303	1.46	10	3606T331	8.28	10	3606T441	5.60	—	—	—	—	—	—
30	1/2″	170	5, 10, 25, 50	3606T304	1.98	—	—	—	10	3606T442	7.69	—	—	—	—	—	—
Brass																	
3	3/32″	20	50, 100, 300	3606T118	.21	—	—	—	100	3606T813	1.05	100	3606T811	1.84	100	3606T818	2.81
6	1/8″	30	50, 100, 300	3606T119	.29	100	3606T816	9.32	100	3606T814	3.03	100	3606T812	3.03	100	3606T819	3.80
10	3/16″	40	25, 50, 100	3606T121	.46	100	3606T817	11.97	100	3606T815	4.33	—	—	—	100	3606T821	5.84
304 Stainless Steel																	
3	3/32″	20	25, 50, 100	3606T13	.40	50	3606T29	7.27	100	3606T39	3.55	100	3606T78	3.54	—	—	—
6	1/8″	40	25, 50, 100	3606T16	.45	50	3606T29	7.27	—	—	—	100	3606T79	3.87	—	—	—
10	3/16″	100	10, 25, 50	3606T19	.61	10	3606T33	2.65	100	3606T275	9.81	—	—	—	—	—	—
13	1/4″	130	5, 10, 25, 50	3606T23	1.26	10	3606T36	3.87	—	—	—	—	—	—	—	—	—
Black Painted Steel																	
3	3/32″	20	10, 25, 50	3376T31	.66	10	3376T622	4.22	100	3376T521	6.81	—	—	—	50	3376T527	8.72
6	1/8″	30	10, 25, 50	3376T33	.75	10	3376T622	4.22	100	3376T522	6.81	—	—	—	50	3376T528	8.72
10	3/16″	50	10, 25, 50	3376T35	.82	10	3376T623	4.44	100	3376T523	10.89	—	—	—	25	3376T529	8.51

Bead Chain with Fitting Attached

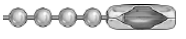

Trade Size	Bead Dia.	Tensile Strength, lbs.	4″ Length Pkg. Qty.		4″ Length Pkg.	6″ Length Pkg. Qty.		6″ Length Pkg.	8″ Length Pkg. Qty.		8″ Length Pkg.	12″ Length Pkg. Qty.		12″ Length Pkg.
Nickel-Plated Steel														
3	3/32″	20	100	3606T1	$6.59	100	3606T6	$9.01	50	3606T571	$13.14	25	3606T572	$8.23
6	1/8″	30	100	3606T573	11.29	100	3606T574	12.42	25	3606T575	8.23	25	3606T576	9.19
13	1/4″	90	10	3606T577	7.77	10	3606T578	10.90	10	3606T579	13.39	10	3606T581	14.49
304 Stainless Steel														
3	3/32″	20	100	3606T5	11.53	50	3606T175	7.47	25	3606T582	12.86	25	3606T583	14.29
6	1/8″	40	25	3606T584	4.35	25	3606T585	7.26	25	3606T586	9.68	25	3606T587	12.86
13	1/4″	130	10	3606T588	13.71	5	3606T589	11.94	5	3606T591	12.15	5	3606T592	13.75

ID Tags

Tags are 304 stainless steel. Use with chain sizes 2, 3, and 6. Hole diameter is 5/32″. They are 2″ Lg. × 1 1/8″ Wd. × 0.033″ Thick.



3606T48 — Pkg. of 25 $13.65

Chain Wheels for Overhead Valves


Iron


Impact-Resistant Iron


Chain Container

Open and close overhead valves right from the floor. Wheels attach to almost any handwheel-operated valve. Use with lock-link chain made of galvanized steel (not included; see page 1468).

Corrosion-Resistant Galvanized Iron—Wheels are better for high-moisture environments than other iron wheels. Mounting fasteners are stainless steel.

Impact-Resistant Iron—Wheels are made of high-strength ductile iron. Wheels for 7¾" dia. and larger handwheels have a plate that attaches to the valve wheel with lugs. To release large or stubborn valves, pull the chain—the impact of the wheel hitting the plate opens or closes the valve.

Chain container is plastic and 4" Dia. × 12" Lg.

For Handwheel Dia.	For Chain Trade Size	Wheel Size	Sprocket OD	Bore ID	O'all Ht.	Iron		Lightweight Aluminum		Corrosion-Resistant Galvanized Iron		Impact-Resistant Iron	
2"-4"	2	0	4"	½"	4⅝"	9765K11	$45.53	9765K71	$60.60	8017K21	$77.00	9765K51	$41.76
4¼"-5¾"	1/0	1	5¾"	⅞"	6⅜"	9765K13	71.07	9765K72	63.04	8017K22	112.21	9765K52	70.82
6"-7½"	1/0	1½	7½"	⅞"	7¾"	9765K15	72.89	9765K73	72.94	8017K23	130.92	9765K53	73.06
7¾"-9"	1/0	2	9"	2⅛"	10½"	9765K17	97.71	9765K74	100.06	8017K24	169.96	9765K54	216.98
9¼"-12½"	4/0	2½	12"	2⅛"	12½"	9765K19	140.84	9765K75	143.45	8017K25	243.06	9765K55	262.42
12¾"-15½"	4/0	3	15½"	2⅛"	15½"	9765K21	172.29	9765K76	168.79	8017K26	317.94	9765K56	368.24
15¾"-19"	4/0	3½	18½"	3"	18½"	9765K23	253.49	9765K77	339.19	8017K27	459.25	9765K57	742.60
19¼"-22"	5/0	4	21½"	3"	21½"	9765K25	347.93	9765K78	512.88	8017K28	649.71	9765K58	992.34
Chain Container												3600T85	77.03

Pulls

Operate overhead doors, ventilators, skylights, and more.

Light Duty Rope Pulls



Rope is braided nylon and has a 1" plastic ball on one end. Not rated for work load limit.

Rope Dia.		1 ft.	2 ft.	5 ft.	8 ft.
¼"	2677T5	$11.20	$11.87	$13.88	$15.89

Chain Pulls



Pulls are made of sash chain and have a 1" ID split ring on each end. Not rated for work load limit.

Chain Trade Size	*Inside Link* Wd.	Lg.		1 ft.	2 ft.	5 ft.	8 ft.
Zinc-Plated Steel							
8	0.15"	0.30"	2678T1	$13.73	$14.64	$17.37	$20.10
40	0.17"	0.40"	2678T3	14.34	15.67	19.66	23.65
Type 304L Stainless Steel							
8	0.12"	0.26"	2678T6	19.07	22.05	30.99	39.93
35	0.15"	0.34"	2678T7	19.80	22.74	31.56	40.38

Heavy Duty Chain Pulls


Plastic Handle

The strongest pulls we offer, these chain pulls have welded links and a handle on one end.

Plastic handle is 3" Lg. × 1½" Wd.

Steel handle has an inside size of 5" Lg. × 4½" Wd.

Note: Never exceed work load limits.

Work Load Limit, lbs.	*Inside Link* Wd.	Lg.		1 ft.	2 ft.	5 ft.	8 ft.
Steel with Plastic Handle							
55	0.21"	1.11"	2679T1	$56.93	$57.95	$61.91	$65.87
Zinc-Plated Steel with Steel Handle							
400	0.32"	1.25"	2679T85	120.03	122.41	129.55	136.69

Rope Ends and Stops

Screw-On Ends



Thread the screw into the fitting to hold it tight against the rope. Fitting is black plastic and screw is stainless steel. Use with twisted or braided nylon and polyester ropes. Maximum temperature is 240° F.

For Rope Dia.		Pkg. of 10
5/16"	3382T11	$10.00
⅜"	3382T12	11.21
½"	3382T13	12.42
⅝"	3382T14	13.94
¾"	3382T15	15.85

Stops



Keep ropes from slipping through pulleys and cleats or create a pull for overhead equipment. Not rated for temperature.

For Rope Dia.	OD	Choose a Color	Pkg. Qty.		Pkg.
5/32"	⅝"	Black, Blue, Green, Red	10	1381T11	$9.40
3/16"	¾"	Black, Blue, Green, Red	10	1381T12	11.40
3/16"	1"	Black, Blue, Green, Red	10	1381T13	12.80
¼"	1¼"	Black, Blue, Green, Red	1	1381T14	1.64

Heat-Shrink Ends



Cut a sleeve to size, slip it over your rope, and shrink with a heat gun. Sleeves are black plastic. Maximum temperature is 230° F.

For Rope Dia.		4-ft. Lg.
⅛"-¼"	3847T22	$6.51
3/16"-⅜"	3847T23	7.08
⅜"-¾"	3847T24	12.05
¾"-1½"	3847T25	32.72

Marlin Spikes


For Rope


For Wire Rope

Fray rope for splicing and to attach fittings. Spikes are forged steel. They have a 5/16" dia. hole for attaching a lanyard. Lengths may vary slightly. Diameter is measured at the thickest part.

Lg.	Dia.	For Rope		For Wire Rope	
6"	⅝"	3876T11	$20.00		
8"	1"	3876T12	21.70	3876T17	$39.62
10"	1"	3876T13	24.06	3876T18	45.85
12"	1"	3876T14	28.49	3876T19	46.89

Rope Throw Weights



Add weight to your rope so it lands where you want it. Weights are durable nylon and weigh approximately 1 lb. All have a ⅞" dia. nickel-plated steel ring.

Throw weights with rope include 150 feet of ⅛" dia. high-visibility yellow polyethylene rope.

	Bag Size Lg.	Wd.	Orange		Red	
Throw Weights	5½"	2"	8318T111	$15.15	8318T112	$15.15
Throw Weights with Rope	5½"	2"	8318T211	29.17	8318T212	29.17

Rope Compression Sleeves and Tools—Not for Lifting

Compression sleeves create a strong, permanent loop when installed with a compression tool. They're also known as swaging and splicing sleeves, crimps, and ferrules. Use with braided or twisted rope. They're made of aluminum and are compatible with Nicopress® compression tools. Not rated for capacity.

Compression tools are used to compress sleeves onto rope. All are hand tools with steel handles (unless noted) and include one measuring gauge. For use with aluminum sleeves only. *Multidiameter* tools can be used with more than one sleeve size.



Compression Sleeve



Sleeve

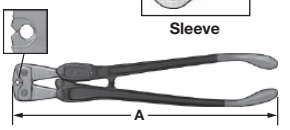

Single-Diameter Tool

For Rope Dia.	Sleeve Lg.	No. of Compressions Req'd	Sleeves Pkg. Qty.		Pkg.	Compression Tools: Single Diameter (A)			Compression Tools: Multidiameter (A)		
1/16"	3/8"	1	25	3633T2	$5.33	18 1/4"	3377T12	$195.43	20"	3582T1	$218.65
1/8"	11/16"	3	25	3633T4	8.64	18 1/4"	35155T14	195.43	20"	3582T1	218.65
3/16"	1"	4	25	3633T5	11.42	18 1/4"	35155T15	195.43	20"	3582T2	218.65
1/4"	1 1/4"	5	10	3633T6	6.71	18 1/4"	35155T16	195.43	20"	3582T3	218.65
5/16"	1 1/8"	4	10	3633T7	10.17	23"	3633T27★	1,624.72	—	—	—
3/8"	19/16"	2	10	3633T8	16.72	—	3633T35■	3,801.68	—	—	—
1/2"	2"	2	5	3633T9	13.77	—	3633T36■	3,801.68	—	—	—

★ Hydraulic hand tool; handle is fiberglass. ■ Hydraulic bench tool; handle is aluminum.

Easy-Install Rope Clamps—Not for Lifting

Make a removable loop without specialty tools— secure the two halves of the clamp with the included stainless steel screws. Clamps are black plastic and have threaded brass inserts. Temperature range is –40° to 220° F. Use with nylon and polypropylene rope.



For Rope Dia.	Clamp Lg.	Clamp Wd.	Clamp Thick.	Cap., lbs.		
3/16"	1 7/16"	5/8"	7/16"	100	36815T11	$4.61
1/4", 5/16"	1 3/16"	7/8"	1/2"	100	36815T12	4.91
3/8"	2"	1 1/8"	3/4"	200	36815T13	5.39
7/16", 1/2"	2 1/2"	1 1/4"	7/8"	300	36815T14	6.67
9/16", 5/8"	3"	1 1/2"	1"	400	36815T15	8.33
3/4"	3 3/4"	2"	1 1/4"	600	36815T16	11.39

Quick-Install Wire Rope Clamps—Not for Lifting



Two Screw | Three Screw | One Bolt | Two Bolt

Make a removable loop without specialty tools. They're also known as tiller clamps. Not rated for capacity.

Two- and Three-screw clamps have a smooth, thin body that won't snag wire rope. Install using a screwdriver.

One-bolt clamps are for use in light duty and suspension applications. Install using a wrench.

Two-bolt clamps are stronger than one-bolt clamps and provide superior, nonslip holding power. Install using a wrench.

Two- and Three-Screw

For Rope Dia.	Clamp Lg.	Clamp Wd.	Clamp Thick.	Nickel-Plated Steel		Zinc-Plated Steel	
Two Screw							
1/8"	1 9/16"	3/4"	3/8"	3471T22	$5.28	3471T11	$3.19
3/16"	1 5/8"	7/8"	3/8"	3471T23	5.39	3471T12	3.53
1/4"	1 3/4"	15/32"	7/16"	3471T24	5.78	3471T13	4.17
5/16"	1 7/8"	1/2"	1/2"	3471T25	6.82	3471T14	5.13
Three Screw							
3/8"	2 5/16"	1 3/16"	5/8"	3471T26▲	15.44	3471T15♣	14.56

One- and Two-Bolt

For Rope Dia.	Clamp Lg.	Clamp Wd.	Clamp Thick.	18-8 Stainless Steel		316 Stainless Steel	
One Bolt							
1/8" - 1/4"	1 5/32"	15/16"	5/8"	5513T1	$3.63	3416T31	$4.85
Two Bolt							
5/64"	1 3/8"	7/16"	3/8"	5513T11	3.02	3677T51	4.40
1/8"	1 9/16"	9/16"	3/8"	5513T12	3.60	3677T52	5.51
5/32"	1 3/4"	3/4"	1/2"	5513T13	4.13	3677T53	6.43
3/16"	2"	7/8"	5/8"	5513T14	5.65	3677T54	9.11
1/4"	2 17/32"	1 1/16"	5/8"	5513T15	8.16	3677T55	10.89
5/16"	3 3/32"	1 3/16"	1"	5513T16	9.87	3677T56	13.18
3/8"	3 7/8"	1 1/2"	1 3/8"	5513T17	12.47	3677T58	16.33

▲ Nickel-plated iron. ♣ Zinc-plated iron.

High-Strength Wire Rope Clamps—Not for Lifting

Create a strong, removable loop. To install, slide the nut over the rope and tighten it onto the threaded halves with a torque wrench. Clamps are cadmium-plated forged steel. They meet MS-16843 and Fed. Spec. FF-C-450. Use with a 6×19 IWRC and 7×19 wire rope. Clamps are rated up to 90% of the rope's capacity.



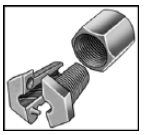

For Rope Dia.	Clamp Lg.	Clamp Wd.	Req'd Torque, ft.-lbs.		
1/8"	1 1/16"	5/8"	35	3489T27	$16.94
3/16"	1 5/16"	13/16"	80	3489T29	18.29
1/4"	1 1/2"	1"	145	3489T32	20.61
5/16"	1 15/16"	1 1/4"	225	3489T33	28.55
3/8"	2 3/16"	1 7/16"	325	3489T34	32.65
1/2"	2 7/8"	1 15/16"	575	3489T36	53.16

Twist-On Rope Clamps—Not for Lifting

Quickly create a stop or attachment point without tools. Slip the clamp over the rope and lock it in place with a twist. Clamps are blue plastic. Use with nylon rope. Attach a cap to the clamp to provide an attachment point for connectors.



Shown with Optional Cap

For Rope Dia.	Clamp Lg.	Clamp Wd.	Cap., lbs.		Pkg. of 3
3/8"	3"	1 3/4"	125	1224N13	$10.40
7/16"	3"	1 3/4"	80	1224N14	10.40
1/2"	3"	1 3/4"	100	1224N15	10.40
Optional Cap (Pkg. of 1)				1224N12	2.04

Rope Thimbles—Not for Lifting

Protect the inside of rope loops from fraying. These white plastic thimbles evenly distribute the weight of the rope around the loop to reduce snagging and tangling. Temperature range is –40° to 250° F.

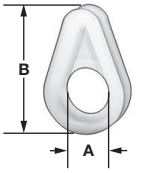

For Rope Dia.	(A)	(B)		
1/4"	9/16"	1 9/16"	34925T72	$0.94
3/8"	1"	2 11/16"	34925T74	1.36
1/2"	1"	2 7/8"	34925T75	1.51
5/8"	1 1/16"	3 1/8"	34925T76	2.32
3/4"	1 3/16"	3 9/16"	34925T77	2.81
1"	1 3/4"	4 15/16"	34925T78	5.24

Quick-Adjust Wire Rope Clamps—Not for Lifting

Create a loop without specialty tools. To install, feed wire rope through the clamp in one direction, form a loop, and feed the rope back through in the opposite direction until it is at least 3" past the clamp body. Use the included key to enlarge the loop. They're also known as Gripple rope clamps. Clamps are zinc.



For Rope Dia.	Clamp Lg.	Clamp Wd.	Clamp Thick.	Cap., lbs.		
1/16", 5/64", 3/32"	2"	1"	1/2"	100	34785T3	$2.34
1/8"	3"	1 1/8"	1/2"	80	34785T4	4.38
3/16"	3 3/8"	1 3/8"	1/2"	200	34785T8	7.18
1/4"	2 3/8"	1 5/8"	1/2"	200	34785T5	12.79
3/8"	5 1/4"	2 1/8"	3/4"	800	34785T7	28.12

Warning: *Test all assemblies for required strength before use. Remove rope coating before use.*

Wire Rope Clamps

For wire rope, see pages 1458-1463.

About Wire Rope Clamp Installation

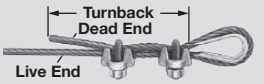

Single-Saddle Clamps

Single-saddle clamps must be oriented with the saddle on the long (live) end and U-bolt on the short (dead) end. They're also known as wire rope clips.



Double-Saddle Clamps

Double-saddle clamps apply equal pressure without crimping or crushing the wire rope, so orientation doesn't matter. They provide a saddle for both the long (live) and the short (dead) end of the wire rope. Also known as fist grip wire rope clips.

Crosby Forged Wire Rope Clamps—*Not for Lifting*



Single-Saddle Clamp



Double-Saddle Clamp

A forged fabrication allows these to be used in critical applications such as tie downs and support lines. They are rated up to 80% of the rope's capacity.

Galvanized steel clamps for rope diameters 1/4" and larger meet Fed. Spec. FF-C-450. *Single-saddle clamps* are painted red.

316 stainless steel clamps are the most corrosion resistant fittings we offer. They provide excellent resistance to salt water and chemicals.

For Rope Dia.	Single-Saddle Clamps: No. of Clamps Req'd	Rope Turnback	Req'd Torque, ft.-lbs.	Galvanized Steel	1-9	10-Up	316 Stainless Steel	1-9	10-Up	Double-Saddle Clamps: No. of Clamps Req'd	Rope Turnback	Req'd Torque, ft.-lbs.	Galvanized Steel	1-9	10-Up
1/8"	2	3 1/4"	4.5	3465T11	$2.84	$2.55	8913T12	$22.21	$18.85						
3/16"	2	3 3/4"	7.5	3465T12	3.10	2.77	8913T13	25.25	21.42	2	4"	30	3466T12	$10.38	$9.40
1/4"	2	4 3/4"	15	3465T13	4.26	3.82	8913T14	29.64	25.15	2	4"	30	3466T12	10.38	9.40
5/16"	2	5 1/4"	30	3465T14	4.46	3.99				2	5"	30	3466T13	10.92	9.89
3/8"	2	6 1/2"	45	3465T15	4.77	4.27	8913T15	41.93	35.58	2	5 1/4"	45	3466T14	11.19	10.13
7/16"	2	7"	65	3465T16	7.63	6.84				2	6 1/2"	65	3466T16	13.48	12.25
1/2"	3	11 1/2"	65	3465T17	7.69	6.94	8913T16	45.60	40.53	3	11"	65	3466T16	13.48	12.25
9/16"	3	12"	95	3465T47	9.88	8.74				3	12 3/4"	130	3466T18	18.78	17.11
5/8"	3	12"	95	3465T38	9.88	8.74	8913T17	67.75	60.22	3	13 1/2"	130	3466T18	18.78	17.11
3/4"	4	18"	130	3465T19	12.66	11.35				3	16"	225	3466T19	27.60	25.18
7/8"	4	19"	225	3465T21	18.04	16.17				4	26"	225	3466T45	34.70	31.80
1"	5	26"	225	3465T22	20.95	18.79				5	37"	225	3466T37	44.56	40.78
1 1/8"	6	34"	225	3465T41	23.35	20.93				5	41"	360	3466T38	55.91	51.17
1 1/4"	7	44"	360	3465T42	34.26	30.70				6	55"	360	3466T39	59.41	54.37
1 3/8"	7	44"	360	3465T43	46.02	41.26									
1 1/2"	8	54"	360	3465T44	46.16	41.40									

Cast Wire Rope Clamps—*Not for Lifting*



Use in noncritical applications where the strength of a forged clamp is not required. All meet Fed. Spec. FF-C-450.

Iron clamps are not rated for capacity. **Zinc-plated iron** clamps are mildly corrosion resistant. They are not rated for capacity. **Galvanized iron** clamps have a thicker coating than zinc-plated clamps for added corrosion resistance. They are not rated for capacity. **18-8 stainless steel** clamps are more corrosion resistant than galvanized clamps. They are rated up to 80% of the rope's capacity. **316 stainless steel** clamps are the most corrosion resistant fittings we offer. They provide excellent resistance to chemicals and salt water. They are rated up to 80% of the rope's capacity.

For Rope Dia.	No. of Clamps Req'd	Rope Turnback	Req'd Torque, ft.-lbs.	Iron	1-9	10-Up	Zinc-Plated Iron	1-9	10-Up	Galvanized Iron	1-9	10-Up
1/16"	3	4 3/4"	2				30325T13	$0.36	$0.32			
3/32"	3	4 3/4"	2	30325T14	$0.60	$0.54	30325T15	.68	.62			
1/8"	3	4 3/4"	3	30325T61	.60	.54	30325T26	.68	.62			
3/16"	3	5 1/2"	4.5	30325T62	.60	.54	30325T27	.68	.62			
1/4"	3	7"	15	30325T63	.78	.70	30325T28	.80	.73	30325T83	$1.10	$0.99
5/16"	3	7 3/4"	15	30325T64	.86	.78	30325T29	.89	.81	30325T84	1.22	1.10
3/8"	3	9 1/2"	30	30325T65	1.22	1.10	30325T31	1.31	1.18	30325T85	1.69	1.53
7/16"	3	10 1/4"	40	30325T66	1.49	1.35	30325T32	1.58	1.43	30325T86	2.07	1.87
1/2"	4	15 1/4"	45	30325T67	1.70	1.53	30325T33	1.85	1.67	30325T87	2.51	2.26
9/16"	4	16"	50	30325T48	2.03	1.83	30325T49	2.32	2.10	30325T55	3.15	2.85
5/8"	4	16"	75	30325T39	2.12	1.92	30325T45	2.43	2.20	30325T46	3.30	2.98
3/4"	5	22 1/4"	75	30325T69	3.03	2.74	30325T35	3.40	3.07	30325T89	4.71	4.25
7/8"	5	23 1/2"	130	30325T71	4.63	4.19	30325T36	5.18	4.68	30325T9	6.80	6.14
1"	6	31"	130	30325T72	5.65	5.10	30325T37	6.24	5.64	30325T91	8.68	7.85

For Rope Dia.	18-8 Stainless Steel: No. of Clamps Req'd	Rope Turnback	Req'd Torque, ft.-lbs.		1-9	10-Up	316 Stainless Steel: No. of Clamps Req'd	Rope Turnback	Req'd Torque, ft.-lbs.		1-9	10-Up
1/16"	2	3 1/4"	_	31985T19	$1.08	$0.95						
5/64"	_	_	_				2	2 1/4"	3	3017T41	$5.40	$4.50
1/8"	2	3 1/4"	_	31985T71	1.50	1.32	2	3 1/4"	4.5	3017T54	5.84	4.86
5/32"	2	3 3/4"	_	31985T81	1.73	1.53	2	3 3/4"	7.5	3017T42	5.98	4.97
3/16"	2	3 3/4"	_	31985T72	1.81	1.59	2	3 3/4"	7.5	3017T43	6.83	5.71
1/4"	2	4 3/4"	8	31985T73	2.29	2.05	2	4 3/4"	15	3017T44	7.79	6.50
5/16"	2	5 1/4"	15	31985T83	3.54	3.12	3	5 1/4"	30	3017T45	12.64	10.53
3/8"	2	6 1/2"	30	31985T74	6.94	6.12	3	6 1/2"	45	3017T46	16.72	14.39
1/2"	3	11 1/2"	45	31985T75	11.30	9.95	3	11 1/2"	45	3017T47	26.09	21.73
5/8"	3	12"	95	31985T26	21.19	18.67	3	12"	95	3017T49	38.32	31.93
3/4"	4	18"	130	31985T27	33.72	29.16	4	18"	130	3017T51	44.74	37.30
7/8"	4	19"	225	31985T28	57.03	49.32	4	19"	225	3017T52	62.64	52.20
1"	5	26"	225	31985T29	68.75	59.46	5	26"	225	3017T53	91.70	78.60

Warning: *Test all assemblies for required strength before use. Remove rope coating before use.*

For wire rope, see pages 1458-1463.

Wire Rope Clamp and Thimble Kits—Not for Lifting



Kits include clamps and thimbles to protect the inside of wire rope loops from fraying. Clamps must be oriented with the saddle on the long (live) end of rope and U-bolt on the short (dead) end.

Galvanized iron and **steel** clamps and thimbles are corrosion resistant. They are not rated for capacity. Kits include one galvanized steel thimble and meet Fed. Spec. FF-C-450.

18-8 stainless steel clamps and thimbles are chemical resistant. Kits include one 18-8 stainless steel thimble. They are rated up to 80% of the rope's capacity.

For Rope Dia.	Galvanized Iron: Rope Turnback	Req'd Torque, ft.-lbs.	No. of Clamps			Galvanized Steel: Rope Turnback	Req'd Torque, ft.-lbs.	No. of Clamps			18-8 Stainless Steel: Rope Turnback	Req'd Torque, ft.-lbs.	No. of Clamps		
1/8"	4 3/4"	3	3	3372T61	$3.58	3 1/4"	4.5	2	3372T21	$5.18	3 1/4"	_	2	3372T41	$5.30
3/16"	5 1/2"	4.5	3	3372T62	3.58	3 3/4"	7.5	2	3372T22	6.12	3 3/4"	_	2	3372T42	6.79
1/4"	7"	15	3	3372T63	3.98	4 3/4"	15	2	3372T23	8.06	4 3/4"	8	2	3372T43	8.40
5/16"	7 3/4"	15	3	3372T64	4.37	5 1/4"	30	2	3372T24	8.44	5 1/4"	15	2	3372T44	12.60
3/8"	9 1/2"	30	3	3372T65	5.49	6 1/2"	45	2	3372T25	9.03	6 1/2"	30	2	3372T45	22.97
7/16"	10 1/4"	40	3	3372T66	7.06	7"	65	2	3372T26	13.88	11 1/2"	45	2	3372T16	34.91
1/2"	15 1/4"	45	4	3372T67	9.75	11 1/2"	65	3	3372T27	19.17	11 1/2"	45	2	3372T16	34.91
1/2"	____	___	___	____	____	___	___	___	____	____	12"	95	3	3372T47	55.53
9/16"	____	___	___	____	____	___	___	___	____	____	12"	95	3	3372T47	55.53
5/8"	16"	75	4	3372T68	14.62	12"	95	3	3372T28	25.90	12"	95	3	3372T18	67.55
3/4"	22 1/4"	75	5	3372T69	22.87	18"	130	4	3372T29	42.78	18"	130	4	3372T19	109.75

Wire Rope Thimbles

Protect the inside of wire rope loops from fraying. No tools required for installation.
Zinc-plated steel thimbles are mildly corrosion resistant.
Galvanized steel thimbles are more corrosion resistant than zinc-plated steel.
18-8 stainless steel thimbles are more corrosion resistant to chemicals than steel thimbles.
316 stainless steel thimbles are the most corrosion resistant thimbles we offer. They offer excellent resistance to salt water and chemicals.

Light Duty Wire Rope Thimbles—Not for Lifting

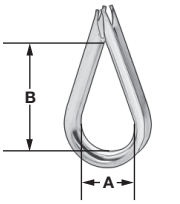

Also known as thin pattern thimbles. They meet Mil. Spec. MIL-T-5677 and AN Spec. 100.

For Rope Dia.	(A)	(B)	Zinc-Plated Steel: Pkg. Qty.			18-8 Stainless Steel: Pkg. Qty.		
1/64", 1/32", 3/64"	3/16"	1/4"	___	____	____	10	3436T12	$4.26
3/64", 1/16", 5/64", 3/32"	3/8"	11/16"	10	8914T12	$2.86	10	8914T22	4.56
3/32", 7/64", 1/8"	3/8"	3/4"	10	8914T13	3.43	10	8914T23	6.01
5/32"	7/16"	13/16"	10	8914T14	4.12	10	8914T24	6.98
3/16"	1/2"	1"	10	8914T15	4.57	10	8914T25	7.98
7/32", 1/4"	3/4"	1 7/16"	5	8914T16	3.00	1	8914T26	1.68
9/32", 5/16"	15/16"	1 13/16"	5	8914T17	5.27	1	8914T28	3.27
3/8"	1"	2"	5	8914T18	8.61	1	8914T27	3.71

Medium Duty Wire Rope Thimbles—Not for Lifting

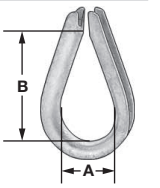

Also known as standard-pattern thimbles, these provide better damage and wear resistance than light duty thimbles. They meet Fed. Spec. FF-T-276B.

For Rope Dia.	Galvanized Steel: (A)	(B)			18-8 Stainless Steel: (A)	(B)			316 Stainless Steel: (A)	(B)		
3/32"	___	___	____	____	5/16"	9/16"	3868T41	$0.85	5/16"	9/16"	3868T21	$1.06
1/8"	1 1/16"	1 5/16"	3494T11 ★	$0.63	3/8"	3/4"	3868T42	.94	3/8"	3/4"	3868T22	1.36
5/32"	___	___	____	____	7/16"	13/16"	3868T43	1.18	7/16"	13/16"	3868T23	1.87
3/16"	1 1/16"	1 5/16"	3494T12 ★	.66	1/2"	13/16"	3868T44	1.30	1/2"	13/16"	3868T24	2.55
1/4"	1 1/16"	1 5/16"	3494T13 ★	.70	19/32"	1"	3868T45	1.90	19/32"	1"	3868T25	3.21
5/16"	1 3/16"	1 1/2"	3494T14	.86	25/32"	1 3/8"	3868T47	2.61	25/32"	1 3/8"	3868T27	4.54
3/8"	1 5/16"	1 5/8"	3494T15	.91	1 1/32"	1 5/8"	3868T48	6.16	1 1/32"	1 5/8"	3868T28	7.36
1/2"	1 1/8"	1 7/8"	3494T16	.95	1 3/16"	1 7/8"	3868T49	7.79	1 3/16"	1 7/8"	3868T29	8.63
5/8"	1 3/8"	2 1/4"	3494T17	2.49	1 1/2"	2 3/16"	3868T54	9.24	1 1/2"	2 3/16"	3868T31	12.39
3/4"	1 5/8"	2 1/2"	3494T18	3.29	1 3/4"	2 31/32"	3868T46	11.45	1 3/4"	2 31/32"	3868T26	14.93
7/8"	1 7/8"	3 1/2"	3494T19	5.06	1 13/16"	2 15/16"	3868T52	13.03	1 13/16"	2 15/16"	3868T32	15.73
1"	2 1/2"	4 1/4"	3494T21	5.65	2"	3 1/4"	3868T53	15.13	2"	3 1/4"	3868T33	18.22
1 1/8", 1 1/4"	2 3/4"	4 1/2"	3494T22	18.48	_	___	____	____	_	___	____	____

★ Finish is zinc plated.

Heavy Duty Wire Rope Thimbles—For Lifting

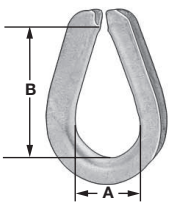

Also known as heavy-pattern thimbles.
Galvanized steel thimbles meet Fed. Spec. FF-T-276B. **Stainless steel** thimbles meet Fed. Spec. FF-T-276C.

For Rope Dia.	Galvanized Steel: (A)	(B)			18-8 Stainless Steel: (A)	(B)			316 Stainless Steel: (A)	(B)		
1/4"	7/8"	1 5/8"	3495T14	$0.67	15/16"	1 5/8"	3495T44	$2.04	15/16"	1 5/8"	3495T52	$4.20
5/16"	1 1/16"	1 7/8"	3495T15	1.17	1 1/8"	1 7/8"	3495T45	2.64	1 1/8"	1 7/8"	3495T53	5.46
3/8"	1 1/8"	2 1/8"	3495T16	1.67	1 1/8"	2 1/8"	3495T46	6.13	1 1/8"	2 1/8"	3495T54	9.92
7/16"	1 1/4"	2 3/8"	3495T17	3.03	1 1/4"	2 3/8"	3495T39	9.07	1 1/4"	2 3/8"	3495T58	13.35
1/2"	1 1/2"	2 3/4"	3495T18	3.46	1 9/16"	2 5/8"	3495T47	13.88	1 9/16"	2 5/8"	3495T55	15.80
9/16"	1 3/4"	3 1/4"	3495T21	3.67	1 1/2"	2 15/16"	3495T41	14.12	1 1/2"	2 15/16"	3495T59	16.28
5/8"	1 3/4"	3 1/4"	3495T21	3.67	1 13/16"	3 1/4"	3495T51	15.90	1 13/16"	3 1/4"	3495T56	20.12
3/4"	2"	3 3/4"	3495T22	8.51	2 1/16"	3 7/8"	3495T49	35.90	2 1/16"	3 7/8"	3495T57	48.60
7/8"	2 1/4"	4 1/4"	3495T23	9.48	2 5/16"	4 1/4"	3495T42	42.18	2 5/16"	4 1/4"	3495T61	57.84
1"	2 1/2"	4 1/2"	3495T24	15.20	2 9/16"	4 13/16"	3495T43	55.90	2 9/16"	4 13/16"	3495T62	72.65

Warning: *Test all assemblies for required strength before use. Remove rope coating before use.*

Compression Sleeves, Stops & Tools for Wire Rope

For wire rope, see pages 1458-1463.

Long-Loop Open-End Light Duty Wire Rope Thimbles—Not for Lifting

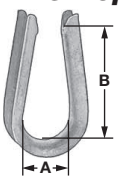

Open ends allow more space to connect attachments than other thimbles. They're galvanized steel and have a thick coating for corrosion resistance.

For Rope Dia.	(A)	(B)		
1/4"	11/16"	17/16"	30335T1	$1.11
5/16"	13/16"	19/16"	30335T2	1.13
3/8"	15/16"	1 3/4"	30335T3	1.13
1/2"	1 1/8"	2"	30335T4	1.61
5/8"	1 3/8"	2 3/8"	30335T5	3.74

Closed-End Light Duty Wire Rope Thimbles—Not for Lifting

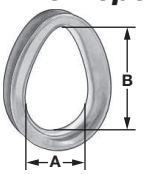

Smooth rounded edges and an endless design protect wire rope from snagging. They're 316 stainless steel and have excellent corrosion resistance to salt water and chemicals.

For Rope Dia.	(A)	(B)		
1/8"	3/8"	5/8"	3634T71	$5.94
3/16"	11/16"	1 1/16"	3634T73	7.33
1/4"	13/16"	1 5/16"	3634T74	10.10
5/16"	1"	1 9/16"	3634T75	21.46

Wire Rope Clamps with Thimbles—Not for Lifting

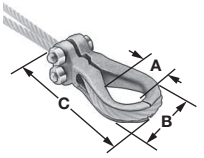

A clamp and thimble in one fitting eliminate the need for a separate thimble to protect loops from damage and wear. Clamps are cast bronze, except the 3/8" dia. clamp is cast steel. Use with six- or seven-strand wire rope. Install with a wrench.

For Rope Dia.	Rope Turnback	Req'd Torque, ft.-lbs.	(A)	(B)	(C)	Cap., lbs.		
1/8"	1/8"	8	9/16"	1 1/16"	2 1/2"	300	3467T14	$13.62
3/16"	3/16"	12	21/32"	1 11/32"	2 7/8"	600	3467T15	16.10
1/4"	1/4"	19	7/8"	1 3/4"	3 3/4"	1,000	3467T16	25.47
5/16"	5/16"	19	1 1/16"	2 1/8"	4 5/8"	1,600	3467T17	33.67
3/8"	3/8"	40	1 1/4"	2 7/16"	5 3/8"	2,200	3467T19	44.63

Wire Rope Compression Sleeves and Stops



Compression Sleeve



Stop

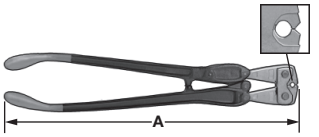

Single-Diameter Tool

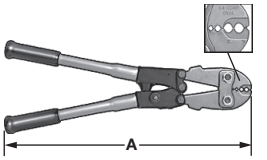

Multidiameter Tool

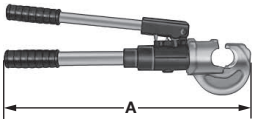

Hydraulic Hand Tool

Compression Sleeves—Install with a compression tool to create a strong, permanent loop. Compression sleeves are also known as ferrules, crimps, and swaging and splicing sleeves. All are compatible with the tools on this page or Nicopress® tools. They're rated up to 100% of the rope's capacity. *Copper* and *stainless steel* meet MIL-STD 51844.

Stops—Create a stop at the end of a wire rope to keep it from slipping through pulleys. *Aluminum* stops are rated up to 30% of the rope's capacity; *copper* and *zinc-plated copper* are rated up to 40%.

Compression Tools—Compress sleeves and stops onto wire rope. *Single-* and *multidiameter* tools have steel handles. Tools include a measuring gauge, except 3377T23 which is pliers-style. Multidiameter tools can be used with more than one sleeve or stop size. *Hydraulic compression tools* compress sleeves and stops onto rope and wire rope with less effort than standard compression tools. All tools include a die for the sleeve material and size specified. They have fiberglass handles.

Compression Sleeves and Tools—For Lifting

For Rope Dia.	Sleeve Lg.	No. of Compressions Req'd	*Sleeves* Pkg. Qty.		Pkg.	*Compression Tools* Single Diameter (A)			Multidiameter (A)			Hydraulic (A)		
Copper Compression Sleeves for Steel Wire Rope														
1/32"	1/4"	2	50	3897T31	$2.37	8 1/4"	3377T23	$47.55	—	—	—	—	—	—
3/64"	3/8"	1	50	3897T21	6.51	18 1/4"	3377T11	195.43	11 3/4"	3582T5	$167.00	—	—	—
1/16"	3/8"	1	50	3897T22	7.85	18 1/4"	3377T12	195.43	11 3/4"	3582T5	167.00	—	—	—
3/32"	3/8"	1	50	3897T23	9.64	18 1/4"	3632T13	195.43	20"	3582T1	218.65	—	—	—
1/8"	9/16"	3	25	3897T5	11.91	18 1/4"	35155T14	195.43	20"	3582T1	218.65	—	—	—
5/32"	5/8"	3	10	3897T6	5.49	18 1/4"	35155T15	195.43	20"	3582T3	218.65	—	—	—
3/16"	15/16"	4	10	3897T7	11.18	18 1/4"	35155T16	195.43	20"	3582T3	218.65	23"	3433T311	$1,768.07
7/32"	7/8"	4	10	3897T8	11.32	18 1/4"	35155T17	195.43	—	—	—	23"	3433T321	1,768.07
1/4"	1 1/8"	3	10	3897T9	17.32	33"	3377T18	440.00	34"	3582T6	548.37	23"	3433T261	1,768.07
5/16"	1 1/16"	4	5	3897T11	13.70	33"	35155T19	440.00	—	—	—	23"	3433T281	1,768.07
3/8"	1 1/4"	4	2	3897T12	9.51	—	—	—	—	—	—	23"	3433T178	1,768.07
Zinc-Plated Copper Compression Sleeves for Steel Wire Rope														
1/32"	1/4"	1	50	3898T29	2.32	8 1/4"	3377T23	47.55	—	—	—	—	—	—
3/64"	3/8"	1	50	3898T31	6.75	18 1/4"	3377T11	195.43	11 3/4"	3582T5	167.00	—	—	—
1/16"	3/8"	1	50	3898T32	7.35	18 1/4"	3377T12	195.43	11 3/4"	3582T5	167.00	—	—	—
3/32"	3/8"	1	50	3898T33	9.92	18 1/4"	3632T13	195.43	20"	3582T1	218.65	—	—	—
1/8"	9/16"	3	25	3898T14	10.83	18 1/4"	35155T14	195.43	20"	3582T1	218.65	—	—	—
5/32"	5/8"	3	10	3898T15	5.38	18 1/4"	35155T15	195.43	20"	3582T3	218.65	—	—	—
3/16"	15/16"	4	10	3898T16	10.13	18 1/4"	35155T16	195.43	20"	3582T3	218.65	23"	3433T311	1,768.07
7/32"	7/8"	4	10	3898T17	11.00	18 1/4"	35155T17	195.43	—	—	—	23"	3433T321	1,768.07
1/4"	1 1/8"	3	5	3898T18	8.12	33"	3377T18	440.00	34"	3582T6	548.37	23"	3433T261	1,768.07
5/16"	1 1/16"	4	2	3898T19	6.46	33"	35155T19	440.00	—	—	—	23"	3433T281	1,768.07
3/8"	1 1/4"	4	2	3898T21	8.50	—	—	—	—	—	—	23"	3433T178	1,768.07
1/2"	1 7/8"	6	1	3898T2	8.10	—	—	—	—	—	—	23"	3433T197	1,768.07
Tin-Plated Copper Compression Sleeves for Stainless Steel and Steel Wire Rope														
3/64"	3/8"	1	50	3883T21	7.64	18 1/4"	3377T11	195.43	11 3/4"	3582T5	167.00	—	—	—
1/16"	3/8"	1	50	3883T22	8.36	18 1/4"	3377T12	195.43	11 3/4"	3582T5	167.00	—	—	—
3/32"	3/8"	1	50	3883T42	10.39	18 1/4"	3632T13	195.43	20"	3582T1	218.65	—	—	—
1/8"	9/16"	3	25	3883T43	12.01	18 1/4"	35155T14	195.43	20"	3582T1	218.65	—	—	—
5/32"	5/8"	3	10	3883T44	6.07	18 1/4"	35155T15	195.43	20"	3582T3	218.65	—	—	—
3/16"	15/16"	4	10	3883T45	13.44	18 1/4"	35155T16	195.43	20"	3582T3	218.65	23"	3433T311	1,768.07
7/32"	7/8"	4	10	3883T46	11.69	18 1/4"	35155T17	195.43	—	—	—	23"	3433T321	1,768.07
1/4"	1"	3	5	3883T47	9.71	33"	3377T18	440.00	34"	3582T6	548.37	23"	3433T261	1,768.07
5/16"	1 1/16"	4	2	3883T48	6.26	33"	35155T19	440.00	—	—	—	23"	3433T281	1,768.07
3/8"	1 3/16"	4	2	3883T71	9.03	—	—	—	—	—	—	23"	3433T178	1,768.07

(Continued on following page)

Warning: *Test all assemblies for required strength before use. Remove rope coating before use.*

For wire rope, see pages 1458-1463.

Wire Rope Compression Sleeves and Stops *(Continued from previous page)*

Compression Sleeves and Tools—For Lifting (Cont.)

For Rope Dia.	Sleeve Lg.	No. of Compressions Req'd	Sleeves Pkg. Qty.		Sleeves Pkg.	Compression Tools: Single Diameter (A)			Compression Tools: Multidiameter (A)			Compression Tools: Hydraulic (A)		
18-8 Stainless Steel Compression Sleeves for Stainless Steel and Steel Wire Rope														
1/32"	1/4"	1	10	3755T11	$13.04	11 1/4"	3632T17	$149.13						
3/64"	3/8"	1	10	3755T12	13.71	18 1/4"	3377T11	195.43	11 3/4"	3582T5	$167.00			
1/16"	3/8"	1	10	3755T13	8.79	18 1/4"	3377T11	195.43						
3/32"	3/8"	1	10	3755T14	9.95	18 1/4"	3377T12	195.43						
1/8"	3/8"	1	5	3755T15	9.89	18 1/4"	3632T13	195.43						
5/32"	23/32"	3	2	3755T16	6.67	18 1/4"	35155T14	195.43						
3/16"	1"	4	2	3755T17	8.13	18 1/4"	35155T15	195.43						
1/4"	1 1/8"	1	1	3755T1	7.20							29"	3433T173 ★	$3,801.68

★ Hydraulic bench tool; handle is aluminum.

Compression Sleeves and Tools—Not for Lifting

For Rope Dia.	Sleeve Lg.	No. of Compressions Req'd	Sleeves Pkg. Qty.		Sleeves Pkg.	Compression Tools: Single Diameter (A)			Compression Tools: Multidiameter (A)			Compression Tools: Hydraulic (A)		
Aluminum Compression Sleeves for Steel Wire Rope														
1/16"	3/8"	1	50	3896T31	$6.56	18 1/4"	3377T12	$195.43	20"	3582T1	$218.65			
3/32"	1/2"	2	50	3896T32	8.41	18 1/4"	3632T13	195.43	20"	3582T1	218.65			
1/8"	5/8"	3	50	3896T3	10.60	18 1/4"	35155T14	195.43	20"	3582T1	218.65			
5/32"	3/4"	3	10	3896T4	2.78	18 1/4"	35155T15	195.43	20"	3582T1	218.65			
3/16"	7/8"	4	10	3896T5	3.86	18 1/4"	35155T16	195.43	20"	3582T3	218.65	23"	3433T331	$1,768.07
1/4"	1"	3	10	3896T6	5.55	33"	3377T18	440.00	34"	3582T6	548.37	23"	3433T341	1,768.07
5/16"	1 3/8"	4	5	3896T7	4.37	33"	35155T19	440.00				23"	3433T351	1,768.07
3/8"	1 7/16"	5	5	3896T9	5.31							23"	3433T178	1,768.07
1/2"	2 1/8"	4	5	3896T11	10.15							23"	3433T184	1,768.07

Stops and Tools—Not for Lifting

For Rope Dia.	OD	OD (Compressed)	Sleeve Lg.	No. of Compressions Req'd	Stops Pkg. Qty.		Stops Pkg.	Compression Tools: Single Diameter (A)			Compression Tools: Multidiameter (A)			Compression Tools: Hydraulic (A)		
Aluminum Stops for Steel Wire Rope																
1/16"	7/32"	3/16"	3/16"	1	50	3914T11	$7.81	18 1/4"	3377T12	$195.43	11 3/4"	3582T5	$167.00			
3/32"	11/32"	9/32"	5/16"	1	50	3914T2	8.04				18 1/4"	3582T22	195.43			
1/8"	11/32"	9/32"	5/16"	1	50	3914T3	8.25				18 1/4"	3582T22	195.43			
5/32"	13/32"	11/32"	5/16"	1	50	3914T4	9.48				18 1/4"	3582T22	195.43			
3/16"	7/16"	11/32"	5/16"	1	50	3914T5	9.68				18 1/4"	3582T22	195.43			
1/4"	21/32"	37/64"	11/16"	2	10	3914T6	6.12	33"	3377T18	440.00	34"	3582T6	548.37			
5/16"	11/16"	37/64"	11/16"	2	10	3914T7	7.28	33"	3377T18	440.00	34"	3582T6	548.37			
Copper Stops for Steel Wire Rope																
1/32"	7/64"		1/4"	2	50	3926T42	6.83	8 1/4"	3377T23	47.55						
3/64"	11/64"	5/32"	7/32"	1	50	3926T43	7.17	18 1/4"	3377T11	195.43	11 3/4"	3582T5	167.00			
1/16"	13/64"	3/16"	7/32"	1	50	3926T44	7.50	18 1/4"	3377T12	195.43	11 3/4"	3582T5	167.00			
3/32"	21/64"	9/32"	5/16"	1	50	3926T32	9.56				18 1/4"	3582T22	195.43			
1/8"	21/64"	9/32"	5/16"	1	50	3926T33	10.89				18 1/4"	3582T22	195.43			
5/32"	27/64"	11/32"	5/16"	1	25	3926T34	8.90				18 1/4"	3582T22	195.43			
3/16"	27/64"	11/32"	5/16"	1	25	3926T35	7.79				18 1/4"	3582T22	195.43	23"	3433T241	$1,768.07
7/32"	7/16"	11/32"	5/8"	2	10	3926T36	5.13				18 1/4"	3582T22	195.43	23"	3433T241	1,768.07
1/4"	21/32"	37/64"	11/16"	2	5	3926T37	8.15	33"	3377T18	440.00	34"	3582T6	548.37	23"	3433T261	1,768.07
5/16"	21/32"	37/64"	11/16"	2	5	3926T38	8.36	33"	3377T18	440.00	34"	3582T6	548.37	23"	3433T261	1,768.07
3/8"	21/32"	37/64"	11/16"	2	5	3926T39	8.57	33"	3377T18	440.00	34"	3582T6	548.37	23"	3433T261	1,768.07
Zinc-Plated Copper Stops for Stainless Steel and Steel Wire Rope																
1/32"	7/64"		1/4"	2	50	3936T33	9.18	8 1/4"	3377T23	47.55						
3/64"	11/64"	5/32"	7/32"	1	50	3936T34	9.65	18 1/4"	3377T11	195.43	11 3/4"	3582T5	167.00			
1/16"	13/64"	3/16"	7/32"	1	50	3936T35	9.94	18 1/4"	3377T12	195.43	11 3/4"	3582T5	167.00			
3/32"	21/64"	9/32"	5/16"	1	50	3936T13	11.94				18 1/4"	3582T22	195.43			
1/8"	21/64"	9/32"	5/16"	1	50	3936T14	12.54				18 1/4"	3582T22	195.43			
5/32"	27/64"	11/32"	5/16"	1	25	3936T15	10.26				18 1/4"	3582T22	195.43			
3/16"	27/64"	11/32"	5/16"	1	25	3936T16	10.64				18 1/4"	3582T22	195.43			
7/32"	7/16"	11/32"	5/8"	2	10	3936T17	6.41				18 1/4"	3582T22	195.43			
1/4"	21/32"	37/64"	11/16"	2	5	3936T18	9.14	33"	3377T18	440.00	34"	3582T6	548.37	23"	3433T261	1,768.07
5/16"	21/32"	37/64"	11/16"	2	5	3936T19	9.37	33"	3377T18	440.00	34"	3582T6	548.37	23"	3433T261	1,768.07
3/8"	21/32"	37/64"	11/16"	2	5	3936T21	9.61	33"	3377T18	440.00	34"	3582T6	548.37	23"	3433T261	1,768.07

Accessories for Rope and Wire Rope Compression Tools

Die for Hydraulic Hand Compression Tools—To Order: Please specify rope dia., oval or stop sleeve, and sleeve material.	3433T69	$206.84
Die for Hydraulic Bench Compression Tools—To Order: Please specify rope dia., oval or stop sleeve, and sleeve material.	3433T76	299.56
Replacement Measuring Gauge for Compression Tools (not for use with 3582T22)	3377T13	25.82
Replacement Cartridges for Hydraulic Hand Tool	3433T13	172.44

Compression Tools for Wire Rope Sleeves and Stops with Built-In Rope Cutter

Cut wire rope and compress sleeves onto a variety of wire rope diameters with one tool. All have hardened blades that surround and support the wire rope for a smooth, clean cut. For use with aluminum and copper sleeves (unless noted). Made from alloy steel. Overall length is 20 inches.



For Rope Dia.	Steel Handles		Fiberglass Handles	
For Compression Sleeves				
1/16", 3/32", 1/8", 5/32", 3/16"	3497T11 ■	$306.61	3497T21 ■	$373.14
1/8", 5/32", 3/16", 1/4"	3497T12 ▲	306.61	3497T22 ▲	373.09
For Stop Sleeves				
1/16"	3497T11	306.61	3497T21	373.14

■ Not for use on 3/16" copper sleeves. ▲ Not for use on 1/4" copper sleeves.

Warning: *Test all assemblies for required strength before use. Remove rope coating before use.*

Compression Sleeves, Stops & Fittings for Wire Rope

For wire rope, see pages 1458-1463.

Compression Sleeve Assortments for Wire Rope—*Not for Lifting*



All come in a plastic case with a lid chart. Sleeves meet MS-51844. Compression tools are required for installation (please see pages 1476-1477).

Aluminum Compression/Stop Kit

270 pieces for wire rope.

For Rope Dia.	3/64"	1/16"	3/32"	1/8"	5/32"	3/16"	1/4"
Compression Sleeves (No.)	35	50	30	20	8	6	3
Stops (No.)	—	50	30	20	8	8	2

30965T1 ..... $119.56

Tin-Plated Copper Compression/ Zinc-Plated Copper Stop Kit

305 pieces for wire rope.

For Rope Dia.	3/64"	1/16"	3/32"	1/8"	5/32"	3/16"	1/4"
Compression Sleeves (No.)	35	50	30	20	8	6	3
Stops (No.)	35	50	30	20	8	8	2

30965T3 ..... $144.34

Copper Compression/Stop Kit

385 pieces for wire rope.

For Rope Dia.	1/32"	3/64"	1/16"	3/32"	1/8"	5/32"	3/16"	1/4"
Compression Sleeves (No.)	40	35	50	30	20	8	6	3
Stops (No.)	40	35	50	30	20	8	8	2

30965T2 ..... $140.92

Zinc-Plated Copper Compression/Stop Kit

385 pieces for wire rope.

For Rope Dia.	1/32"	3/64"	1/16"	3/32"	1/8"	5/32"	3/16"	1/4"
Compression Sleeves (No.)	40	35	50	30	20	8	6	3
Stops (No.)	40	35	50	30	20	8	8	2

30965T4 ..... $147.24

Wire Rope Cutting Bands



Also known as seizing bands, these prevent fraying while cutting wire rope. To use, wrap the band around the wire rope and fasten the grooved seam with pliers.

For Rope Dia.	Lg.	Pkg. Qty.		Pkg.
3/16"	3/4"	50	3501T11	$12.31
1/4"	15/16"	50	3501T12	12.31
5/16"	1 1/8"	50	3501T13	14.74
3/8"	1 3/8"	50	3501T14	14.74
7/16"	1 9/16"	50	3501T15	18.46
1/2"	1 13/16"	50	3501T16	18.46
9/16"	2"	10	3501T17	4.92
5/8"	2 1/4"	10	3501T18	4.92
3/4"	2 11/16"	10	3501T21	6.92
1"	3 7/16"	10	3501T25	8.75

End Fittings for Wire Rope Railing—*Not for Lifting*

Tensioning Fitting



Create a wire rope railing, perimeter, or barrier. To install, mount the fitting to a wall or post and insert the wire rope into the body. They require three #8 screws for mounting. Made of 316 stainless steel, they offer excellent resistance to salt water and chemicals. Rated up to 80% of the rope's capacity.

Fixed fittings pivot up to 45°, but cannot be used to add tension to the wire rope.

Tensioning fittings have a body that can be rotated with a wrench to add tension to the wire rope. They pivot up to 45°.

For Rope Dia.	Lg. O'all	Lg. Retracted	Lg. Extended	Max. Adjust.		
Fixed						
5/32"	2.26"	—	—	—	9161T2	$18.16
Tensioning						
5/32"	—	4.05"	5.4"	1.35"	9161T1	20.72

Wedge-Lock Wire Rope End Fittings—*For Lifting*

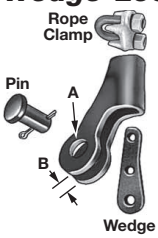



Also known as open wedge sockets. To install, attach the wire rope clamp through a hole at the top of the wedge and secure the wire rope against the clevis. Clamps are red painted steel. They meet ASME B30.26 and Fed. Spec. RR-S-550E. Use with six-, seven-, or eight-strand wire rope. They are rated up to 80% of the rope's capacity.

For Rope Dia.	(A)	(B)	End Fittings		Replacement Wedges		Replacement Pins	
3/8"	13/16"	13/16"	3484T71	$95.90	3484T81	$20.74	3484T47	$7.24
1/2"	1"	1"	3484T72	118.64	3484T82	19.52	3484T48	6.19
5/8"	1 7/32"	1 1/4"	3484T73	200.20	3484T83	25.96	3484T49	20.76
3/4"	1 13/32"	1 1/2"	3484T74	239.68	3484T84	35.56	3484T51	26.64

Sleeve-Lock Wire Rope End Fittings—*Not for Lifting*

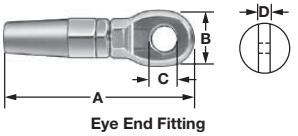

Eye End Fitting

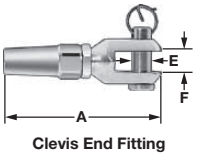

Clevis End Fitting

1 Unscrew the fitting and slide the assembled wedges over wire, leaving 1/4" of the wire rope exposed.

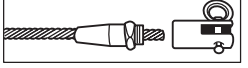

2 Slide the sleeve over exposed wire rope, and screw pieces together to tighten.

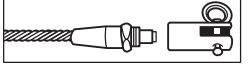

Add an attachment point and finished appearance to wire rope without having to fray the rope or use a compression tool. To install, unscrew the fitting, slide over the wire rope, then tighten the pieces together with a wrench. Use for light duty securing, tethering, and suspending. Fittings are 316 stainless steel. Not rated for capacity.

Eye End Fittings

For Rope Dia.	(A)	(B)	(C)	(D)		
1/8"	2 5/16"	7/16"	1/4"	15/64"	35215T11	$22.08
5/32"	2 11/16"	7/16"	3/8"	9/32"	35215T21	28.91
3/16"	3 1/4"	9/16"	7/16"	5/16"	35215T22	36.27
1/4"	3 7/8"	5/8"	1/2"	23/64"	35215T23	45.66
5/16"	4 13/16"	3/4"	9/16"	27/64"	35215T24	69.28
3/8"	5 1/4"	1"	11/16"	33/64"	35215T25	102.17

Clevis End Fittings

For Rope Dia.	(A)	(E)	(F)	Sleeve Dia.		
1/8"	2 1/2"	1/4"	1/4"	7/16"	35215T12	$28.69
5/32"	2 7/8"	5/16"	5/16"	1/2"	35215T26	43.41
3/16"	3 5/16"	7/16"	7/16"	9/16"	35215T27	58.56
1/4"	3 3/4"	1/2"	1/2"	5/8"	35215T28	75.02
5/16"	4 11/16"	9/16"	9/16"	3/4"	35215T29	112.27
3/8"	5 1/4"	11/16"	11/16"	1"	35215T31	157.44

***Warning:** Test all assemblies for required strength before use. Remove rope coating before use.*

Wire Rope Compression End Fittings—*Not for Lifting*

Create an attachment point to wire rope without having to fray the rope or use a compression tool. Fittings are made from 18-8 stainless steel. Install with roller swage press (sold separately) to compress the socket onto wire rope.



Stud End Fitting



Eye End Fitting

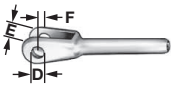

Clevis End Fitting

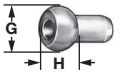

Ball with Shank End Fitting

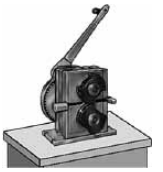
Roller Swage Press

Mil. Spec. Stud End Fittings—Meet MS-21259

For Rope Dia.	Thread Size	(A)	Cap., lbs.		
1/16"	6-40	3/16"	90	3870T21	$5.82
3/32"	10-32	1/4"	100	3870T22	6.02
1/8"	1/4"-28	1/4"	400	3870T23	8.13
5/32"	1/4"-28	5/16"	500	3870T27	8.13
3/16"	5/16"-24	3/8"	800	3870T25	10.55
1/4"	3/8"-24	1/2"	1,400	3870T26	26.82

Eye End Fittings—Meet MS-20668

For Rope Dia.	(B)	(C)	Cap., lbs.		
1/16"	3/16"	1/16"	90	3872T11	$6.41
3/32"	3/16"	1/8"	100	3872T12	6.73
1/8"	3/16"	3/16"	400	3872T13	8.31
5/32"	1/4"	3/16"	500	3872T14	11.56
3/16"	5/16"	1/4"	800	3872T15	17.18
1/4"	3/8"	5/16"	1,400	3872T17	29.40

Ball with Shank End Fittings—Meet MS-20664

For Rope Dia.	(G)	(H)	Cap., lbs.		
1/16"	1/4"	1/8"	90	3869T61	$1.16
3/32"	5/16"	3/16"	100	3869T62	1.74
1/8"	3/8"	1/4"	400	3869T63	2.06
5/32"	7/16"	1/4"	500	3869T64	2.79
3/16"	1/2"	5/16"	800	3869T65	3.73
1/4"	11/16"	3/8"	1,400	3869T67	9.94

Stud End Fittings

For Rope Dia.	Thread Size	(A)	Cap., lbs.		
1/16"	6-32	1/4"	90	3870T34	$5.83
3/32"	10-28	7/32"	100	3870T28	6.02
1/8"	1/4"-20	1/4"	400	3870T29	8.11
5/32"	1/4"-20	3/8"	500	3870T31	8.47
3/16"	5/16"-18	1/2"	800	3870T32	10.56
1/4"	3/8"-16	1/2"	1,400	3870T33	26.80

Clevis End Fittings—Meet MS-20667

For Rope Dia.	(D)	(E)	(F)	Cap., lbs.		
1/16"	3/16"	1/8"	7/32"	90	3865T12	$12.11
3/32"	3/16"	1/8"	1/4"	100	3865T13	12.64
1/8"	3/16"	1/4"	3/8"	400	3865T14	17.07
5/32"	1/4"	1/4"	13/32"	500	3865T15	21.64
3/16"	5/16"	5/16"	35/64"	800	3865T16	28.56
1/4"	3/8"	3/8"	11/16"	1,400	3865T18	47.24

Roller Swage Presses and Dies

Roller Swage Press— Use on 1/16" to 1/4" diameter wire rope. Dies sold separately.

3429T4 ..... $5,277.72

Dies— For 1/16" to 1/4" diameter wire rope. Set of two. **To Order:** Please specify wire rope diameter.

For Stud, Eye, and Clevis	3429T1	$658.32
For Ball with Shank	3429T2	978.95

Plug-Lock Wire Rope End Fittings—*For Lifting*

Fray the end of your wire rope with a marlin spike and screw the socket over the plug to install. An inspection hole allows you to check for proper installation—If you see wire strands, the fitting has been properly secured. For use with 6×19 IWRC, 6×19 fiber core, 7×7 and 7×19 wire rope. No specialty tools required for installation. Use an assembly kit (not included) to support the wire rope while you drive the plug into the wire rope end.

Zinc-plated steel fittings have mild corrosion resistance. **316 stainless steel** fittings are the most corrosion resistant fittings we offer. They have excellent resistance to salt water and chemicals.

Also Available: Replacement plugs. Please ask for 3475T1 and specify wire rope diameter.

Also Available: Assembly kits. Please ask for 3473T888 and specify wire rope diameter.

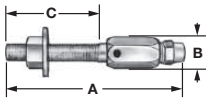

Stud End Fitting

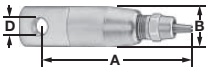

Eye End Fitting

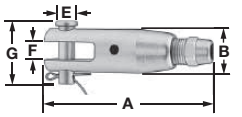

Clevis End Fitting


1
Pull the sleeve over the end of the wire rope.

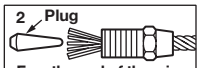

Fray the end of the wire rope and insert plug.



The wire strands should cover the plug.

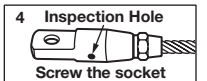

Screw the socket over the plug.

Stud End Fittings

For Rope Dia.	Thread Size	(A)	(B)	(C)	Cap., lbs.	Steel		Zinc-Plated Steel		316 Stainless Steel	
3/64"- 1/16"	10-32	3 1/8"	1/2"	1 11/16"	90	3475T15	$14.87	3475T16	$18.60	3475T14	$35.70
5/64"- 3/32"	1/4"-28	3 1/2"	9/16"	1 7/8"	100	3475T52	16.91	3475T62	20.03	3475T28	40.61
1/8"	1/4"-20	4 1/8"	5/8"	2 1/2"	300	3475T885	18.69	3475T892	23.36	3475T898	44.89
1/8"	1/4"-28	3 1/2"	9/16"	1 7/8"	300	3475T53	17.80	3475T63	22.25	3475T29	42.75
3/16"	3/8"-16	6 5/16"	3/4"	4 1/8"	700	3475T886	26.62	3475T893	33.27	3475T899	63.91
3/16"	3/8"-24	4 3/16"	3/4"	2 3/16"	700	3475T181	25.35	3475T351	31.67	3475T742	60.87
1/4"	1/2"-13	8"	1"	5"	1,300	3475T887	28.48	3475T894	35.59	3475T901	68.36
1/4"	1/2"-20	7 1/16"	7/8"	4 9/16"	1,300	3475T211	27.12	3475T371	33.90	3475T852	65.09
3/8"	3/4"-16	8 3/16"	1 1/8"	4 15/16"	3,000	3475T241	42.85	3475T411	53.68	3475T872	102.87
3/8"	5/8"-11	8 1/8"	1 1/8"	4 3/4"	3,000	3475T889	44.98	3475T895	56.38	3475T902	108.02
1/2"	3/4"-10	10 5/8"	1"	6 3/8"	5,300	____	____	____	____	3475T903	150.53
1/2"	3/4"-10	10 5/8"	1 7/16"	6 3/8"	5,300	3475T904	63.87	3475T896	79.85	____	____
1/2"	7/8"-14	11"	1 7/16"	6 15/16"	5,300	3475T261	60.84	3475T431	76.05	3475T882	121.31

Eye End Fittings

For Rope Dia.	(A)	(B)	(D)	Eye Thick.	Cap., lbs.	Steel		Zinc-Plated Steel		316 Stainless Steel	
3/64"- 1/16"	1 25/32"	1/2"	1/4"	3/16"	90	3474T31	$15.19	3474T61	$18.99	3474T41	$34.22
5/64"- 3/32"	2 1/8"	5/8"	5/16"	1/4"	100	3474T32	16.11	3474T62	20.11	3474T42	36.42
1/8"	2 1/8"	5/8"	5/16"	1/4"	300	3474T33	16.29	3474T63	20.37	3474T43	36.83
3/16"	2 19/32"	3/4"	3/8"	5/16"	600	3474T181	18.36	3474T652	22.97	3474T452	41.58
1/4"	3 1/4"	15/16"	7/16"	3/8"	1,100	3474T211	19.20	3474T662	24.02	3474T462	43.47
3/8"	4 7/32"	1 3/16"	9/16"	7/16"	2,600	3474T241	30.21	3474T682	37.90	3474T482	68.55

Clevis End Fittings

For Rope Dia.	(A)	(B)	(E)	(F)	(G)	Cap., lbs.	Steel		Zinc-Plated Steel		316 Stainless Steel	
3/64"- 1/16"	1 51/64"	1/2"	3/16"	3/16"	1/2"	90	3473T51	$23.04	3473T61	$28.81	3473T71	$51.87
5/64"- 3/32"	2 1/8"	5/8"	1/4"	1/4"	5/8"	100	3473T52	24.39	3473T62	30.50	3473T72	54.93
1/8"	2 1/8"	5/8"	1/4"	1/4"	5/8"	300	3473T53	24.67	3473T63	30.84	3473T73	55.51
3/16"	2 19/32"	3/4"	5/16"	5/16"	3/4"	700	3473T181	27.37	3473T381	34.84	3473T122	59.75
1/4"	3 1/4"	15/16"	3/8"	3/8"	15/16"	1,300	3473T211	29.11	3473T411	36.39	3473T132	68.49
3/8"	4 7/32"	1 3/16"	1/2"	7/16"	1 3/16"	3,000	3473T241	47.10	3473T441	58.92	3473T852	110.82

Warning: *Test all assemblies for required strength before use. Remove rope coating before use.*

Loop-to-Loop Wire Rope Lanyards—Not for Lifting

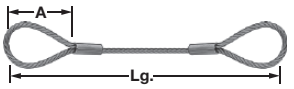

18-8 stainless steel lanyards have 18-8 stainless steel sleeves. **Galvanized steel** lanyards have zinc-plated copper sleeves.

To Order: Please specify uncoated or coated rope. Coating is nylon and has a temperature range of -40° to 200°F.

Lg.	Cap., lbs.		
18-8 Stainless Steel			
3/64″ rope dia.; A = 1″			
4″	50	30345T358	$2.51
5″	50	30345T362	2.51
6″	50	30345T511	2.54
7″	50	30345T368	2.54
8″	50	30345T514	2.54
10″	50	30345T375	2.63
12″	50	30345T517	2.66
14″	50	30345T382	2.69
16″	50	30345T385	2.71
18″	50	30345T521	2.74
24″	50	30345T524	2.77
30″	50	30345T395	3.54
3 ft.	50	30345T398	3.69
4 ft.	50	30345T442	4.00
1/16″ rope dia.; A = 1″			
6″	90	30345T96	2.54
8″	90	30345T97	2.66

Lg.	Cap., lbs.		
18-8 Stainless Steel (Cont.)			
1/16″ rope dia. (Cont.)			
12″	90	30345T98	$2.91
18″	90	30345T99	3.29
24″	90	30345T111	3.66
1/8″ rope dia.; A = 1 1/4″			
12″	300	30745T811	13.61
24″	300	30745T812	14.17
3 ft.	300	30745T813	14.72
4 ft.	300	30745T814	15.28
5 ft.	300	30745T815	15.83
6 ft.	300	30745T816	16.38
8 ft.	300	30745T817	17.49
10 ft.	300	30745T818	18.60
3/16″ rope dia.; A = 1 1/4″			
12″	700	30745T861	15.54
24″	700	30745T862	16.41
3 ft.	700	30745T863	17.29

Lg.	Cap., lbs.		
18-8 Stainless Steel (Cont.)			
3/16″ rope dia. (Cont.)			
4 ft.	700	30745T864	$18.17
5 ft.	700	30745T865	19.05
6 ft.	700	30745T866	19.92
8 ft.	700	30745T867	21.68
10 ft.	700	30745T868	23.44
Galvanized Steel			
3/64″ rope dia.; A = 1″			
6″	50	90312A271	2.03
8″	50	90312A274	2.09
12″	50	90312A277	2.17
18″	50	90312A281	2.31
24″	50	90312A284	2.43
1/8″ rope dia.; A = 1 1/4″			
6″	400	30645T33	5.29
8″	400	30645T34	5.54
12″	400	30645T831	6.69
18″	400	30645T35	6.80

Lg.	Cap., lbs.		
Galvanized Steel (Cont.)			
1/8″ rope dia. (Cont.)			
24″	400	30645T832	$7.83
3 ft.	400	30645T833	9.29
4 ft.	400	30645T834	9.64
5 ft.	400	30645T835	9.98
6 ft.	400	30645T836	10.33
8 ft.	400	30645T837	11.02
10 ft.	400	30645T838	11.71
3/16″ rope dia.; A = 1 1/4″			
12″	800	30645T881	11.66
24″	800	30645T882	12.23
3 ft.	800	30645T883	12.77
4 ft.	800	30645T884	13.31
5 ft.	800	30645T885	13.89
6 ft.	800	30645T886	14.43
8 ft.	800	30645T887	15.51
10 ft.	800	30645T889	16.57

Reinforced Loop-to-Reinforced Loop Wire Rope Lanyards—Not for Lifting

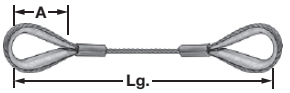

A thimble on the inside of the loop protects the loop from fraying.

18-8 stainless steel lanyards have 18-8 stainless steel thimbles and sleeves. **Galvanized steel** lanyards have galvanized steel thimbles and zinc-plated copper sleeves.

To Order: Please specify uncoated or coated rope. Coating is nylon and has a temperature range of -40° to 200°F.

Lg.	Cap., lbs.		
18-8 Stainless Steel			
1/8″ rope dia.; A = 11/16″			
12″	300	30745T831	$18.13
24″	300	30745T832	18.68
3 ft.	300	30745T833	19.24
4 ft.	300	30745T834	19.79
5 ft.	300	30745T835	20.35
6 ft.	300	30745T836	20.90
8 ft.	300	30745T837	22.01
10 ft.	300	30745T838	23.12

Lg.	Cap., lbs.		
18-8 Stainless Steel (Cont.)			
3/16″ rope dia.; A = 7/8″			
12″	700	30745T881	$22.32
24″	700	30745T882	23.20
3 ft.	700	30745T883	24.07
4 ft.	700	30745T884	24.95
5 ft.	700	30745T885	25.83
6 ft.	700	30745T886	26.71
8 ft.	700	30745T887	28.46
10 ft.	700	30745T889	30.22

Lg.	Cap., lbs.		
Galvanized Steel			
1/8″ rope dia.; A = 1 3/8″			
12″	400	30645T851	$10.43
24″	400	30645T852	10.73
3 ft.	400	30645T853	11.04
4 ft.	400	30645T854	11.34
5 ft.	400	30645T855	11.64
6 ft.	400	30645T856	11.94
8 ft.	400	30645T857	12.55
10 ft.	400	30645T858	13.15

Lg.	Cap., lbs.		
Galvanized Steel (Cont.)			
3/16″ rope dia.; A = 1 3/8″			
12″	800	30645T911	$14.04
24″	800	30645T912	14.58
3 ft.	800	30645T913	15.12
4 ft.	800	30645T914	15.67
5 ft.	800	30645T915	16.21
6 ft.	800	30645T916	16.75
8 ft.	800	30645T917	17.84
10 ft.	800	30645T918	18.93

Loop-to-Eye Wire Rope Lanyards—Not for Lifting

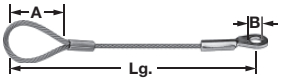

18-8 stainless steel lanyards have 18-8 stainless steel sleeves and eye fittings. **Galvanized steel** lanyards have zinc-plated copper sleeves and zinc-plated steel eye fittings (unless noted).

To Order: Please specify uncoated or coated rope. Coating is nylon and has a temperature range of -40° to 200°F.

Lg.	Cap., lbs.		
18-8 Stainless Steel			
3/64″ rope dia.; A = 1″; B = 13/64″; for #10 screw size			
4″	50	30345T167	$2.11
5″	50	30345T174	2.11
6″	50	30345T527	2.14
7″	50	30345T181	2.17
8″	50	30345T531	2.20
10″	50	30345T264	2.31
12″	50	30345T534	2.37
14″	50	30345T267	2.40
16″	50	30345T271	2.43
18″	50	30345T537	2.49
24″	50	30345T541	2.71
30″	50	30345T274	2.91
3 ft.	50	30345T277	3.11
4 ft.	50	30345T281	3.34

★Eye fittings are zinc-plated copper.

Lg.	Cap., lbs.		
18-8 Stainless Steel (Cont.)			
1/16″ rope dia.; A = 1″; B = 13/64″; for #10 screw size			
6″	70	30345T121	$2.71
8″	70	30345T124	2.82
12″	70	30345T127	3.06
18″	70	30345T131	3.37
24″	70	30345T134	3.69
1/8″ rope dia.; A = 1 1/4″; B = 1/4″			
12″	300	30745T821	17.59
24″	300	30745T822	18.14
3 ft.	300	30745T823	18.70
4 ft.	300	30745T824	19.25
5 ft.	300	30745T825	19.81
6 ft.	300	30745T826	20.36
8 ft.	300	30745T827	21.47
10 ft.	300	30745T828	22.58

Lg.	Cap., lbs.		
18-8 Stainless Steel (Cont.)			
3/16″ rope dia.; A = 1 1/4″; B = 1/2″			
12″	700	30745T871	$19.71
24″	700	30745T872	20.59
3 ft.	700	30745T873	21.47
4 ft.	700	30745T874	22.35
5 ft.	700	30745T875	23.22
6 ft.	700	30745T876	24.10
8 ft.	700	30745T877	25.86
10 ft.	700	30745T878	27.61
Galvanized Steel			
3/64″ rope dia.; A = 1″; B = 13/64″; for #10 screw size			
6″	50	90312A287★	1.83
8″	50	90312A291★	2.02
12″	50	90312A294★	2.11
18″	50	90312A297★	2.23
24″	50	90312A301★	2.31

Lg.	Cap., lbs.		
Galvanized Steel (Cont.)			
1/8″ rope dia.; A = 1 1/4″; B = 17/64″			
12″	400	30645T841	$9.00
24″	400	30645T842	9.30
3 ft.	400	30645T843	9.60
4 ft.	400	30645T844	9.90
5 ft.	400	30645T845	10.20
6 ft.	400	30645T846	10.51
8 ft.	400	30645T847	11.11
10 ft.	400	30645T848	11.72
3/16″ rope dia.; A = 1 1/4″; B = 1/2″			
12″	800	30645T891	10.88
24″	800	30645T892	11.35
3 ft.	800	30645T893	11.81
4 ft.	800	30645T894	12.28
5 ft.	800	30645T895	12.75
6 ft.	800	30645T896	13.22
8 ft.	800	30645T897	14.15
10 ft.	800	30645T898	15.08

Eye-to-Tab Wire Rope Lanyards—Not for Lifting

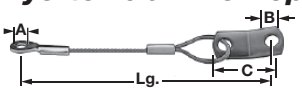

Lanyards and fittings are 18-8 stainless steel.

To Order: Please specify uncoated or coated rope. Coating is nylon and has a temperature range of -40° to 200°F.

Lg.	Cap., lbs.		
1/16″ rope dia.; A = 13/64″; B = 15/64″; C = 3/4″; for #10 screw size			
6″	70	30345T342	$3.37
8″	70	30345T345	3.51
12″	70	30345T348	3.60

Lg.	Cap., lbs.		
1/16″ rope dia. (Cont.)			
18″	70	30345T352	$3.74
24″	70	30345T355	3.86

Loop-to-Tab Wire Rope Lanyards—Not for Lifting

18-8 stainless steel lanyards have 18-8 stainless steel fittings. **Galvanized steel** lanyards have zinc-plated copper sleeves and 18-8 stainless steel tab fittings.

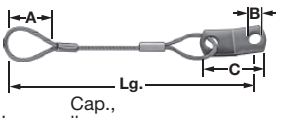

To Order: Please specify uncoated or coated rope. Coating is nylon and has a temperature range of -40° to 200° F.

Lg.	Cap., lbs.		
18-8 Stainless Steel			
3/64″ rope dia.; A = 1″; B = 15/64″; C = 3/4″			
4″	50	30345T284	$2.73
5″	50	30345T287	2.73
6″	50	30345T544	2.76
7″	50	30345T291	2.78
8″	50	30345T547	2.81
10″	50	30345T294	2.92
12″	50	30345T551	2.97

Lg.	Cap., lbs.		
18-8 Stainless Steel (Cont.)			
3/64″ rope dia. (Cont.)			
14″	50	30345T297	$3.03
16″	50	30345T311	3.08
18″	50	30345T554	3.11
24″	50	30345T557	3.45
30″	50	30345T314	4.05
3 ft.	50	30345T317	4.19
4 ft.	50	30345T321	4.49

Lg.	Cap., lbs.		
18-8 Stainless Steel (Cont.)			
1/16″ rope dia.; A = 1″; B = 15/64″; C = 3/4″			
6″	90	30345T324	$3.97
8″	90	30345T327	4.03
12″	90	30345T331	4.11
18″	90	30345T335	4.38
24″	90	30345T338	4.49

Lg.	Cap., lbs.		
Galvanized Steel			
3/64″ rope dia.; A = 1″; B = 15/64″; C = 3/4″			
6″	50	90312A304	$2.43
8″	50	90312A307	2.49
12″	50	90312A311	2.62
18″	50	90312A314	2.81
24″	50	90312A317	2.97

Eye-to-Eye Wire Rope Lanyards—Not for Lifting

18-8 stainless steel lanyards have 18-8 stainless steel eye fittings. **Galvanized steel** lanyards have steel eye fittings (unless noted).

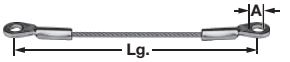

To Order: Please specify uncoated or coated rope. Coating is nylon and has a temperature range of -40° to 200° F.

Lg.	Cap., lbs.		
18-8 Stainless Steel			
3/64″ rope dia.; A = 13/64″; for #10 screw size			
4″	50	30345T161	$1.97
5″	50	30345T164	1.97
6″	50	30345T561	2.00
7″	50	30345T171	2.05
8″	50	30345T564	2.22
10″	50	30345T177	2.25
12″	50	30345T567	2.31
14″	50	30345T184	2.31
16″	50	30345T187	2.36
18″	50	30345T571	2.44
24″	50	30345T574	2.50
30″	50	30345T197	2.58
3 ft.	50	30345T191	2.67
4 ft.	50	30345T194	2.87
1/16″ rope dia.; A = 13/64″; for #10 screw size			
6″	70	30345T137	1.95
8″	70	30345T141	2.06
12″	70	30345T144	2.28

Lg.	Cap., lbs.		
18-8 Stainless Steel (Cont.)			
1/16″ rope dia. (Cont.)			
18″	70	30345T147	$2.62
24″	70	30345T151	2.95
1/8″ rope dia.; A = 1/4″			
6″	400	30745T94	13.07
8″	400	30745T95	13.63
12″	300	30745T841	16.26
18″	400	30745T96	16.53
24″	300	30745T842	17.68
30″	400	30745T97	20.00
3 ft.	300	30745T843	20.13
4 ft.	300	30745T844	20.63
5 ft.	300	30745T845	21.12
6 ft.	300	30745T846	21.61
8 ft.	300	30745T847	22.60
10 ft.	300	30745T848	23.58
3/16″ rope dia.; A = 1/2″			
12″	700	30745T891	23.86
24″	700	30745T892	24.74

Lg.	Cap., lbs.		
18-8 Stainless Steel (Cont.)			
3/16″ rope dia. (Cont.)			
3 ft.	700	30745T893	$25.62
4 ft.	700	30745T894	26.50
5 ft.	700	30745T895	27.37
6 ft.	700	30745T896	28.25
8 ft.	700	30745T897	30.01
10 ft.	700	30745T898	31.76
Galvanized Steel			
3/64″ rope dia.; A = 13/64″; for #10 screw size			
6″	50	90312A321■	1.68
8″	50	90312A324■	1.73
12″	50	90312A327■	1.92
18″	50	90312A331■	2.03
24″	50	90312A334■	2.27
1/8″ rope dia.; A = 1/4″			
6″	400	30645T36	8.14
8″	400	30645T37	8.49
12″	400	30645T861	9.30
18″	400	30645T38	10.14

Lg.	Cap., lbs.		
Galvanized Steel (Cont.)			
1/8″ rope dia. (Cont.)			
24″	400	30645T862	$10.77
30″	400	30645T39	10.90
3 ft.	400	30645T863	11.07
4 ft.	400	30645T864	11.37
5 ft.	400	30645T865	11.67
6 ft.	400	30645T866	11.97
8 ft.	400	30645T867	12.58
10 ft.	400	30645T868	13.18
3/16″ rope dia.; A = 1/2″			
12″	800	30645T921	11.82
24″	800	30645T922	12.29
3 ft.	800	30645T923	12.76
4 ft.	800	30645T924	13.22
5 ft.	800	30645T925	13.69
6 ft.	800	30645T926	14.16
8 ft.	800	30645T927	15.09
10 ft.	800	30645T928	16.03

■Eye fittings are copper.

Eye-to-Swivel-Fork Wire Rope Lanyards—Not for Lifting

The swivel fork allows the lanyard to rotate freely. Press the ends of the swivel fork together to use as an eye. Lanyards and fittings are 18-8 stainless steel.

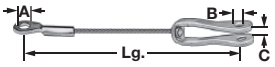

To Order: Please specify uncoated or coated rope. Coating is nylon and has a temperature range of -40° to 200° F.

Lg.	Cap., lbs.		
1/16″ rope dia.; A = 13/64″; B = 3/16″; C = 3/32″			
6″	100	30345T231	$12.55
8″	100	30345T234	12.62

Lg.	Cap., lbs.		
1/16″ rope dia. (Cont.)			
12″	100	30345T237	$12.80
18″	100	30345T241	13.08
24″	100	30345T244	13.32

Eye-to-Ball with Shank Wire Rope Lanyards—Not for Lifting

Lanyards and fittings are 18-8 stainless steel.

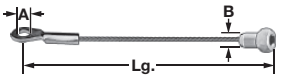

To Order: Please specify uncoated or coated rope. Coating is nylon and has a temperature range of -40° to 200° F.

Lg.	Cap., lbs.		
1/16″ rope dia.; A = 13/64″; B = 9/64″			
6″	90	30345T114	$2.46
8″	90	30345T117	2.57

Lg.	Cap., lbs.		
1/16″ rope dia. (Cont.)			
12″	90	30345T211	$2.83
18″	90	30345T214	3.20
24″	90	30345T217	3.57

Ball with Shank-to-Plain-End Wire Rope Lanyards—Not for Lifting

Ball with shank is 18-8 stainless steel (unless noted).

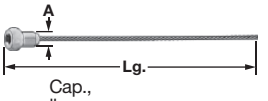

To Order: Please specify uncoated or coated rope. Coating is nylon and has a temperature range of -40° to 200° F.

Lg.	Cap., lbs.		
18-8 Stainless Steel			
3/64″ rope dia.; A = 1/8″			
6″	50	30345T577	$2.04
8″	50	30345T581	2.13
12″	50	30345T584	2.23
18″	50	30345T587	2.30
24″	50	30345T591	2.40
1/8″ rope dia.; A = 15/64″			
12″	300	30745T851	8.91
24″	300	30745T852	9.54
3 ft.	300	30745T853	10.17
4 ft.	300	30745T854	10.81
5 ft.	300	30745T855	11.44
6 ft.	300	30745T856	12.07

Lg.	Cap., lbs.		
18-8 Stainless Steel (Cont.)			
1/8″ rope dia. (Cont.)			
8 ft.	300	30745T857	$13.34
10 ft.	300	30745T858	14.61
3/16″ rope dia.; A = 5/16″			
12″	700	30745T911	12.22
24″	700	30745T912	13.22
3 ft.	700	30745T913	14.22
4 ft.	700	30745T914	15.23
5 ft.	700	30745T915	16.23
6 ft.	700	30745T916	17.23
8 ft.	700	30745T917	19.24
10 ft.	700	30745T918	21.25

Lg.	Cap., lbs.		
Galvanized Steel			
3/64″ rope dia.; A = 1/8″			
6″	50	90312A337	$1.80
8″	50	90312A341	1.88
12″	50	90312A344	1.98
18″	50	90312A347	2.07
24″	50	90312A351	2.17
1/8″ rope dia.; A = 15/64″			
12″	400	30645T871▲	7.61
24″	400	30645T872▲	7.91
3 ft.	400	30645T873▲	8.21
4 ft.	400	30645T874▲	8.51
5 ft.	400	30645T875▲	8.81
6 ft.	400	30645T876▲	9.12

Lg.	Cap., lbs.		
Galvanized Steel (Cont.)			
1/8″ rope dia. (Cont.)			
8 ft.	400	30645T877▲	$9.72
10 ft.	400	30645T878▲	10.32
3/16″ rope dia.; A = 5/16″			
12″	800	30645T931▲	9.72
24″	800	30645T932▲	10.19
3 ft.	800	30645T933▲	10.66
4 ft.	800	30645T934▲	11.12
5 ft.	800	30645T935▲	11.59
6 ft.	800	30645T936▲	12.06
8 ft.	800	30645T937▲	12.99
10 ft.	800	30645T938▲	13.93

▲Ball with shank is steel.

90°-Eye Wire Rope Lanyards—Not for Lifting

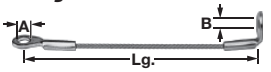

Eye-to-90°-Eye

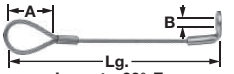

Loop-to-90°-Eye

Lanyards and fittings are 18-8 stainless steel.

To Order: Please specify uncoated or coated rope. Coating is nylon and has a temperature range of -40° to 200° F.

Lg.	Cap., lbs.		
Eye-to-90°-Eye			
1/16″ rope dia.; A = 13/64″; B = 13/64″; for #10 screw size			
6″	90	30345T91	$2.34
8″	90	30345T92	2.46
12″	90	30345T93	2.71
18″	90	30345T94	3.09
24″	90	30345T95	3.46

Lg.	Cap., lbs.		
Loop-to-90°-Eye			
1/16″ rope dia.; A = 1″; B = 13/64″; for #10 screw size			
6″	90	30345T85	$2.60
8″	90	30345T86	2.71
12″	90	30345T87	2.97
18″	90	30345T88	3.34
24″	90	30345T89	3.71

Carabiner-to-Carabiner Wire Rope Lanyards—Not for Lifting

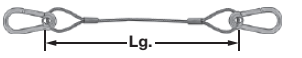



A large opening lets you quickly and easily attach to links and rings. Lanyards and carabiners are 18-8 stainless steel.

To Order: Please specify uncoated or coated rope. Coating is nylon and has a temperature range of -40° to 200° F.

Lg.	Cap., lbs.		
1/16″ rope dia.; A = 5/16″			
6″	20	30345T247	$15.67
8″	20	30345T251	15.75
12″	20	30345T254	15.92
18″	20	30345T257	16.17
24″	20	30345T261	16.45

Retractable Wire Rope Lanyards—Not for Lifting


Loop-to-Loop

These lanyards retract to a compact, coiled position to stay out of the way when not in use. All are 1/16″ dia. galvanized steel wire rope. **Eye** ends are zinc-plated steel. **Loop** ends have zinc-plated copper sleeves. **Tab** ends are 18-8 stainless steel. **Swivel fork** ends allow the lanyard to rotate freely. Press the ends of the swivel fork together to use as an eye. They're 18-8 stainless steel.

To Order: Please specify uncoated or coated rope. Coating is vinyl and has a temp. range of -40° to 170° F.

	Cap., lbs.	12″ Lg.		18″ Lg.		24″ Lg.		3 ft. Lg.		4 ft. Lg.	
Eye-to-Eye	70	90312A411	$6.27	90312A414	$6.60	90312A417	$7.06	90312A421	$7.19	90312A424	$7.68
Loop-to-Eye	70	90312A377	6.63	90312A381	7.09	90312A384	7.33	90312A387	8.17	90312A391	8.20
Loop-to-Loop	70	90312A361	7.07	90312A364	7.23	90312A367	7.61	90312A371	7.95	90312A374	8.43
Loop-to-Tab	70	90312A394	8.40	90312A397	9.20	90312A401	9.88	90312A404	10.26	90312A407	11.51
Swivel Fork-to-Swivel Fork	100	90312A241	23.42	90312A244	23.60	90312A247	23.77	90312A251	24.10	90312A254	24.42

Adjustable-Loop-to-Hook Wire Rope Lanyards—Not for Lifting





Create a choker loop around a supporting structure with the snap-hook end. Thread the lanyard through the lock end to secure it. Lanyards are 7×7 uncoated wire rope. Rope is zinc-plated steel; attachments are steel.

	1/16″ Rope Dia.			1/8″ Rope Dia.		
Lg., ft.	Cap., lbs.			Cap., lbs.		
3.3	100	1827T51	$7.37	200	1827T61	$7.87
6.6	100	1827T52	8.48	200	1827T62	10.58
9.9	100	1827T53	9.63	200	1827T63	11.72
16.4	100	1827T54	12.10	200	1827T64	10.12
32.8	100	1827T55	12.28	200	1827T65	15.43

Made-to-Order Wire Rope Lanyards—Not for Lifting

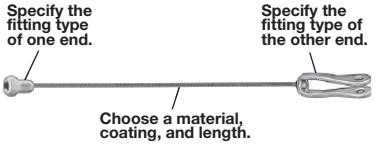

You can order any combination of lanyard material, coating, length, and end fittings. Choose from the following end fitting options: loop, reinforced loop, eye, 90° eye, tab, swivel fork, ball with shank, carabiner, coupling nut, threaded stud, and plain end.

	Choose Rope Coating	
Galvanized Steel Lanyards	Uncoated, Nylon	30645T999
18-8 Stainless Steel Lanyards	Uncoated, Nylon	30745T999

Create-Your-Own Wire Rope Lanyard Kits—Not for Lifting


Lanyard Kit with 1/16″ Rope Dia.

Lanyard kits with 1/32″ dia. wire rope contain 1×7 nylon-coated wire rope, 25 brass sleeves, and a compression tool with built-in rope cutter. Black-coated wire rope kit comes with black-oxide brass sleeves; clear-coated wire rope kit comes with nickel-plated brass sleeves. Temperature range is 14° to 176° F.

Lanyard kits with 1/16″ dia. wire rope contain 7×7 nylon-coated wire rope, 50 aluminum sleeves, 20 zinc-plated copper eye fittings, 10 18-8 stainless steel tabs, and a compression tool. Temperature range is -40° to 200° F.

Lanyard Kits

1/32″ Dia. Wire Rope		
Stainless Wire Rope w/Black Nylon Coating (30 ft.)	97840A680	$18.13
Stainless Wire Rope w/Clear Nylon Coating (30 ft.)	97840A670	18.13
1/16″ Dia. Wire Rope		
Stainless Wire Rope w/Clear Nylon Coating (20 ft.)	97840A860	49.37
Galv. Steel Wire Rope w/Clear Nylon Coating (25 ft.)	97840A660	43.87

Individual Components

Optional Attachments and Accessories		
1/4″ Dia. Zinc-Plated Steel Quick-Release Pin	98320A130	$1.62
316 Stainless Steel Split Ring	90905A655	.66
Fittings		
Black-Oxide Brass Compression Sleeves (Pkg. of 25)	97840A430	3.38
Nickel-Plated Brass Compression Sleeves (Pkg. of 25)	97840A420	3.38

Individual Components (Cont.)

Fittings (Cont.)		
Aluminum Compression Sleeves (Pkg. of 10)	97840A450	$2.19
Zinc-Plated Copper Eye Fittings (Pkg. of 10)	97840A470	1.80
18-8 Stainless Steel Tabs (Pkg. of 10)	97840A460	7.12
1/32″ Dia. Wire Rope		
Stainless Wire Rope w/Black Nylon Coating (30 ft.)	97840A570	4.40
Stainless Wire Rope w/Clear Nylon Coating (30 ft.)	97840A560	4.40
1/16″ Dia. Wire Rope		
Galv. Steel Wire Rope w/Clear Nylon Coating (25 ft.)	97840A440	6.25
Stainless Wire Rope w/Clear Nylon Coating (25 ft.)	97840A490	11.66
Tools		
Compression Tool	97840A480	14.76
Compression Tool with Built-In Rope Cutter	97840A410	14.02

Bead Chain Lanyards—Not for Lifting



Use these lanyards for light duty tethering applications—keep tools with machines, keep keys with chucks, and gas and dust caps with tanks. Lanyards are 18-8 stainless steel for corrosion resistance. They have an eye fitting at each end.

Lg.	Bead Dia.	Eye ID	Cap., lbs.		
4″	3/16″	3/16″	45	92730A110	$0.97
6″	3/16″	3/16″	45	92730A120	1.11
8″	3/16″	3/16″	45	92730A130	1.42
12″	3/16″	3/16″	45	92730A150	1.87

Low-Stretch Polyester Rope Lanyards—Not for Lifting

A lighter and more flexible alternative to wire rope lanyards. These lanyards have loop attachments at both ends; fittings are aluminum. They're not rated for temperature or capacity.

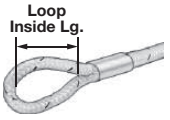

	1/16″ Rope Dia.			3/16″ Rope Dia.		
Lg.	Loop Inside Lg.			Loop Inside Lg.		
6″	1″	1227N11	$4.63	1 3/8″	1227N16	$4.88
8″	1″	1227N12	4.80	1 3/8″	1227N17	5.08
12″	1″	1227N13	5.13	1 3/8″	1227N18	5.53
18″	1″	1227N14	5.63	1 3/8″	1227N19	6.18
24″	1″	1227N15	6.13	1 3/8″	1227N21	6.80

Nylon Lanyards—Not for Lifting



These all-plastic lanyards are an economical alternative to rope and wire rope lanyards. Lanyards are black. Temperature range is -22° to 150° F. They have a capacity of 7 lbs.

	Rope Dia.	Lg.	Loop Inside Lg.	Eye ID	For Screw Size	Pkg. Qty.		Pkg.
Inch								
Loop/Eye	3/32″	10″	2″	3/16″	#10	10	2019T11	$6.29
Loop/Loop	3/32″	10″	1 1/2″	—	—	10	2019T13	6.29
Eye/Eye	3/32″	10″	—	1/4″	1/4″	25	2019T14	14.31
Metric–Dimensions in mm								
Loop/Eye	2.5	250	42	4.2	M4	1	92658A550	1.44

Sash Chain Lanyards—Not for Lifting



The chain has flat links that fold back on themselves for maximum flexibility. Use the split ring on one end to hold tags and keys. They have a capacity of 70 lbs.

18-8 stainless steel lanyards offer excellent corrosion resistance. **Zinc-plated steel** lanyards have good corrosion resistance in most environments.

Lg.	Chain Thick.	Chain Trade Size	Ring Dia.	18-8 Stainless Steel		Zinc-Plated Steel	
4″	0.031″	8	5/8″	92692A540	$1.80	92692A110	$0.97
6″	0.031″	8	5/8″	92692A550	2.11	92692A120	1.06
8″	0.031″	8	5/8″	92692A560	2.51	92692A130	1.14
12″	0.031″	8	5/8″	92692A551	3.29	92692A150	1.34
18″	0.031″	8	5/8″	92692A552	4.86	92692A160	1.54

Wire Rope and Chain Sling Identification Tags



Front



Back

Commonly used in conjunction with connecting links to meet OSHA standard 1910.184. Use a permanent marker or 1/4″ to 3/8″ high stamps to apply markings. Tag is steel.

Hole Dia.	Lg.	Wd.	Thick.		Pkg. of 5
1 1/16″	4″	1 1/2″	1/8″	8893T1	$15.75

Oblong and Pear-Shaped Links—For Lifting

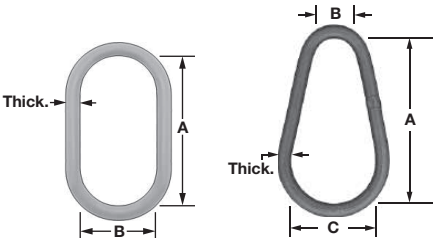

Also known as master and sling links, a large inner diameter provides room to attach multiple connectors or legs on a sling. All meet ASME B30.26. Forged links offer greater strength than welded links.

Pear-Shaped—The narrow end of these links restricts the movement of the rope and chain, while a wide end allows room to attach multiple connectors.

Extra high-strength (Grade 120) are the strongest links we offer. When used with chain of the same grade, they are approximately 20% stronger than Grade 100 links and about 35% stronger than Grade 80 links. They are alloy steel.

High-strength (Grade 100) links are approximately 20% stronger than Grade 80 links when used with chain of the same grade. They are alloy steel.

General purpose (Grade 80) links are alloy steel.

Corrosion resistant (Grade 63) and **(Grade 50)** connecting links are approximately 60% as strong as Grade 80 links when used with chain of the same grade. Links are 316 stainless steel (unless noted). They have excellent resistance to salt water and chemicals.

For Chain Trade Size								
One Chain	Two Chains	Thick.	(A)	(B)	(C)	Cap., lbs.		
Oblong								
Welded Extra High-Strength (Grade 120)—Blue Powder-Coated								
9/32	—	1/2″	4 5/8″	2 3/4″	—	6,100	5512T11	$22.09
3/8	—	3/4″	6 1/4″	3 3/4″	—	12,800	5512T12	48.83
1/2	—	1″	7 1/2″	4 1/4″	—	30,000	5512T13	99.74
Welded High-Strength (Grade 100)—Orange Painted								
7/32	—	7/16″	3 1/2″	2 9/16″	—	3,800	3119T2	12.38
9/32	7/32	9/16″	4 23/32″	2 3/4″	—	6,100	3119T3	16.75
5/16	9/32	5/8″	5 1/2″	3 1/8″	—	8,400	3119T11	24.95
3/8	5/16	3/4″	6 1/4″	3 3/4″	—	12,800	3119T5	33.17
1/2	3/8	7/8″	6 1/4″	4 5/16″	—	18,500	3119T6	43.43
5/8	1/2	1 1/16″	7 1/2″	4 5/16″	—	30,000	3119T12	75.49
3/4	5/8	1 1/4″	9 1/16″	5 1/8″	—	45,000	3119T13	133.17
7/8	3/4	1 1/2″	10 13/16″	5 7/8″	—	61,100	3119T14	242.46
Forged General Purpose (Grade 80)—Silver Painted								
1/4, 5/16	1/4	5/8″	5″	2 3/4″	—	7,400	31195T31	28.46
5/16	5/16	5/8″	6″	3″	—	9,000	31195T32★	33.33
5/16, 3/8	3/8	3/4″	6″	3 1/4″	—	12,300	31195T51	36.06
1/2, 5/8	1/2	1 33/32″	7 1/2″	4 1/4″	—	26,000	31195T24	67.92
5/8, 3/4	5/8	1 5/16″	9 1/2″	5 1/2″	—	39,100	31195T35	109.84
Welded General Purpose (Grade 80)								
7/32	7/32	3/8″	3″	1 1/2″	—	3,600	3568T38	23.96
9/32	7/32	1/2″	5″	2 1/2″	—	4,100	3568T42	28.28
3/8	3/8	3/4″	5 1/2″	2 3/4″	—	13,200	3568T43	42.95
1/2, 5/8	1/2	1″	7″	3 1/2″	—	22,500	3568T36	73.96
3/4	5/8	1 1/4″	8 3/4″	4 3/8″	—	32,500	3568T37	107.09
Welded Corrosion Resistant (Grade 63)								
3/16, 7/32	—	3/8″	3 1/8″	2″	—	1,900	30765T6■	29.33
—	3/8	3/4″	5 5/16″	2 15/16″	—	7,700	30765T7▲	63.54
1/2, 5/8	1/2	7/8″	6 5/16″	3 9/16″	—	13,900	30765T73▲	83.81
Welded Corrosion Resistant (Grade 50)								
9/32	—	1/2″	4 5/16″	2 3/8″	—	2,900	30765T85	29.06
Pear-Shaped								
Welded General Purpose (Grade 80)								
9/32	7/32	1/2″	5″	1 1/4″	2 1/2″	4,100	3570T34	23.63
1/2	3/8	3/4″	6″	1 3/4″	3″	13,200	3570T35	47.36
5/8	1/2	1″	8″	2 1/2″	4″	22,500	3570T36	73.14
3/4	5/8	1 1/4″	9″	3″	6″	32,500	3570T37	97.62
7/8	3/4	1 1/2″	12″	3″	6″	52,700	3570T42	109.42
1	7/8	1 3/4″	12″	4″	7″	73,500	3570T39	257.48
1 1/4	1	2″	14″	4″	7″	88,900	3570T43	287.56

★Gold painted. ■316L stainless steel. ▲318LN stainless steel.

Oblong Link Assemblies—For Lifting

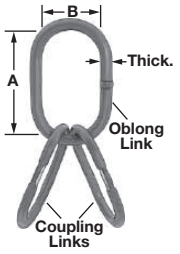

Providing better load distribution and alignment than single oblong links, these reduce wear in three- and four-leg slings. All links are alloy steel. Maximum lifting angle is 60°.

Extra high-strength (Grade 120) links are the strongest links we offer. When used with chain of the same grade, they are approximately 20% stronger than Grade 100 links and 35% stronger than Grade 80 links.

High-strength (Grade 100) links are approximately 20% stronger than Grade 80 links when used with chain of the same grade.

For Chain Trade Size	Thick.	Oblong Links (A)	Oblong Links (B)	Coupling Links (A)	Coupling Links (B)	Cap., lbs.		
Extra High-Strength (Grade 120)—Blue Powder-Coated								
9/32	11/16"	7 1/2"	4 5/16"	2 3/4"	1 5/16"	22,000	8472T11	$112.98
3/8	15/16"	9 1/16"	5 1/8"	3 5/16"	1 9/16"	33,200	8472T12	202.93
1/2	1 1/2"	10 13/16"	5 7/8"	5 1/2"	2 9/16"	61,100	8472T13	338.51
High-Strength (Grade 100)—Yellow Powder-Coated								
7/32	3/4"	5 7/8"	3 1/2"	4 11/16"	2 13/16"	11,000	7163T11	92.70
9/32	7/8"	6 5/16"	3 11/16"	5 1/2"	3 1/8"	17,600	7163T12	133.74
5/16	1"	7 1/2"	4 5/16"	5 7/8"	3 1/2"	21,300	7163T13	171.46
3/8	1 3/16"	7 7/8"	4 11/16"	6 5/16"	3 11/16"	35,200	7163T14	220.13
1/2	1 5/8"	9 13/16"	5 7/8"	7 7/8"	4 11/16"	57,200	7163T15	378.57
5/8	2"	11 13/16"	7 7/8"	7 7/8"	4 11/16"	77,000	7163T16	575.48
General Purpose (Grade 80)—Orange Powder-Coated								
7/32	5/8"	5 5/16"	3"	4 13/16"	2 11/16"	7,200	8948T12	75.65
9/32	3/4"	6 5/8"	3 11/16"	5 5/16"	3"	11,200	8948T13	88.31
3/8	1"	7 1/2"	4 5/16"	6 5/8"	3 11/16"	21,200	8948T14	128.98
1/2	1 1/4"	9 1/4"	5 5/16"	7 1/2"	4 5/16"	29,900	8948T15	162.84
5/8	1 3/4"	12 7/8"	7 3/8"	9 1/4"	5 5/16"	57,700	8948T16	548.53

Links with Chain-Shortening Hooks—For Lifting

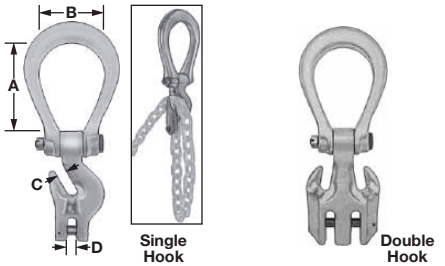

A pear-shaped link and hook for chain shortening allow you to create an adjustable-length chain sling. All are forged Grade 100 alloy steel with a silver powder-coated finish. They meet ASME B30.9.

For Chain Trade Size	(A)	(B)	(C)	(D)	Cap., lbs.		
Single Hook							
1/4	3 7/8"	3"	7/16"	3/8"	4,300	9168T1	$77.23
5/16	3 7/8"	3"	7/16"	3/8"	5,700	9168T2	80.78
3/8	4 13/16"	3 1/2"	1/2"	7/16"	8,800	9168T3	131.18
1/2	6"	4 1/8"	5/8"	9/16"	15,000	9168T4	168.71
5/8	6 7/8"	4 3/4"	3/4"	11/16"	22,600	9168T5	243.21
Double Hook							
1/4	3 7/8"	3"	7/16"	3/8"	8,600	9168T6	91.46
5/16	3 7/8"	3"	7/16"	3/8"	11,400	9168T7	93.13
3/8	4 13/16"	3 1/2"	1/2"	7/16"	17,600	9168T8	194.20
1/2	6"	4 1/8"	5/8"	9/16"	30,000	9168T9	242.91
5/8	6 7/8"	4 3/4"	3/4"	11/16"	45,200	9168T11	384.77

Figure-Eight Connecting Links—For Lifting

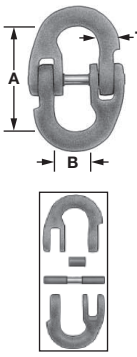

Also known as sling links, these are often used to connect the legs of a chain sling to a master link. All are forged.

Removable—These connecting links are also known as hammer locks.

Nonremovable—For security, these connectors must be cut off to be removed.

Extra high-strength (Grade 120) connecting links are the strongest links we offer. When used with chain of the same grade, they are approximately 20% stronger than Grade 100 links and about 35% stronger than Grade 80 links. They are alloy steel. All meet ASME B30.26.

High-strength (Grade 100) connecting links are approximately 20% stronger than Grade 80 links when used with chain of the same grade. They are alloy steel. All meet ASME B30.26.

General purpose (Grade 80) connecting links are alloy steel. All meet ASME B30.9.

Corrosion resistant (Grade 63) connecting links are approximately 60% as strong as Grade 80 links when used with chain of the same grade. These 318LN stainless steel links have excellent resistance to salt water and chemicals. All meet ASME B30.9.

For Chain Trade Size	Thick.	(A)	(B)	Cap., lbs.		
Removable						
Extra High-Strength (Grade 120)—Blue Powder-Coated						
9/32	7/16"	2 31/64"	2 1/32"	5,200	5514T3	$27.16
3/8	5/8"	2 3/4"	55/64"	10,600	5514T4	35.93
1/2	53/64"	3 3/4"	1"	17,900	5514T5	63.04
High-Strength (Grade 100)—Black Ultra-Corrosion Resistant Coated						
7/32	5/16"	1 3/4"	9/16"	2,700	33585T91	24.88
9/32	3/8"	2"	11/16"	4,300	33585T62	26.05
5/16	15/32"	2 7/16"	3/4"	5,700	33585T92	29.91
3/8	19/32"	2 13/16"	15/16"	8,800	33585T64	34.61
1/2	51/64"	3 7/16"	1 1/16"	15,000	33585T72	51.69
5/8	53/64"	4 1/16"	1 5/16"	22,600	33585T66	67.72
3/4	1 3/16"	4 1/2"	1 5/8"	35,300	33585T93	97.40
7/8	1 11/32"	6 5/16"	2"	42,700	33585T94	168.69
High-Strength (Grade 100)—Orange Painted						
7/32	5/16"	1 3/4"	9/16"	2,700	33585T81	22.21
9/32	3/8"	2"	11/16"	4,300	33585T42	22.79
5/16	15/32"	2 7/16"	3/4"	5,700	33585T82	26.52
3/8	19/32"	2 13/16"	15/16"	8,800	33585T44	27.36
1/2	51/64"	3 7/16"	1 1/16"	15,000	33585T52	45.98
5/8	53/64"	4 1/16"	1 5/16"	22,600	33585T46	61.49
3/4	1 3/16"	4 1/2"	1 5/8"	35,300	33585T83	88.58
7/8	1 11/32"	6 5/16"	2"	42,700	33585T84	157.24
General Purpose (Grade 80)						
7/32	1/4"	1 13/32"	29/64"	2,100	3578T13	19.71
9/32	5/16"	1 15/16"	9/16"	3,500	3578T14	19.71
3/8	1/2"	2 27/64"	13/16"	7,100	3578T15	21.02
1/2	45/64"	3 33/64"	1 5/32"	12,000	3578T16	34.82
5/8	13/16"	4 1/16"	1 13/32"	18,100	3578T17	42.81
3/4	15/16"	4 25/32"	1 23/32"	28,300	3578T18	57.85
7/8	1 3/64"	5 1/4"	1 57/64"	34,200	3578T19	87.47
Corrosion Resistant (Grade 63)						
3/16	9/32"	1 7/16"	1/2"	1,300	1119N13	58.20
9/32	3/8"	2 1/8"	11/16"	2,750	1119N14	63.96
3/8	33/64"	2 7/8"	15/16"	5,500	1119N11	109.91
1/2	11/16"	3 5/8"	1 1/8"	9,350	1119N24	117.74
5/8	53/64"	4 1/16"	1 7/16"	13,800	1119N12	206.88
Nonremovable						
High-Strength (Grade 100)—Orange Powder-Coated						
9/32	3/8"	2"	11/16"	4,300	6070T52	21.32
3/8	19/32"	2 13/16"	15/16"	8,800	6070T53	23.53
1/2	51/64"	3 7/16"	1 1/16"	15,000	6070T54	41.83
5/8	53/64"	4 1/16"	1 5/16"	22,600	6070T55	61.56

Links with Chain Saddles—For Lifting

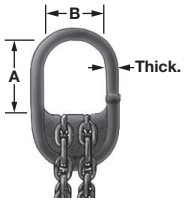

Create balanced chain slings and adjust their length quickly and easily. These chain saddles are welded Grade 100 alloy steel. Maximum lifting angle is 30°. They meet ASME B30.9.

For Chain Trade Size	Thick.	(A)	(B)	Cap., lbs.		
For Two Sling Legs						
9/32	37/64"	3"	2 1/2"	4,300	3660T31	$173.82
3/8	13/16"	3 1/2"	3"	8,800	3660T32	186.91
For Four Sling Legs						
9/32	13/16"	3 3/4"	3"	6,400	3660T41	252.99
3/8	1 1/8"	4 13/16"	4"	13,200	3660T42	379.69

Removable Pear-Shaped Connecting Links—For Lifting

These pear-shaped links provide more room for attachments than standard figure-eight connectors. They are forged Grade 80 alloy steel with a yellow powder-coated finish. All meet ASME B30.9.



For Chain Trade Size	Thick.	(A)	(B)	(C)	Cap., lbs.		
9/32	9/16"	5"	19/32"	2"	3,500	3697T81	$50.57
3/8	23/32"	6 19/64"	51/64"	2 39/64"	7,100	3697T82	76.77
1/2	7/8"	7 13/32"	1"	2 51/64"	12,000	3697T83	101.00

Rings—For Lifting

These welded rings meet ASME B30.26. They rotate for even wear.

General purpose (Grade 80) rings are alloy steel.

Corrosion resistant (Grade 50) rings are approximately 60% as strong as Grade 80 rings when used with chain of the same grade. They are 316 stainless steel and have excellent resistance to salt water and chemicals.



For Chain Trade Size	Thick.	(A)	Cap., lbs.		
General Purpose (Grade 80)					
9/32	1/2"	2 1/2"	4,300	3569T21	$40.44
3/8	3/4"	4"	8,600	3569T22	68.69
1/2	7/8"	4"	13,200	3569T23	72.53
5/8	1"	4"	19,000	3569T24	95.36
3/4	1 1/4"	5"	24,000	3569T25	117.52
Corrosion Resistant (Grade 50)					
1/8	3/8"	2"	700	33555T71	57.27
3/16	1/2"	2 1/2"	1,300	33555T72	52.09
1/4	5/8"	3"	1,800	33555T73	79.69

Rings—Not for Lifting

These rings rotate for even wear. They are welded.

Zinc-plated steel rings are mildly corrosion resistant.

Galvanized steel rings have a thick coating for corrosion resistance.

18-8 stainless steel rings have excellent corrosion resistance to chemicals.



For Chain Trade Size	Thick.	(A)	Cap., lbs.		
Steel					
3/16	3/16"	1 1/4"	200	3564T31	$0.57
3/16	3/16"	2"	100	3564T24	.63
1/4	1/4"	1 1/2"	400	3564T25	.72
1/4	1/4"	2"	300	3564T26	.90
5/16	5/16"	2"	600	3564T14	1.20
3/8	3/8"	2"	900	3564T16	1.72
3/8	3/8"	3"	700	3564T17	2.04
3/8	3/8"	4"	500	3564T18	2.62
1/2	1/2"	2 1/2"	1,400	3564T21	4.99
1/2	1/2"	3"	1,200	3564T22	5.93
5/8	5/8"	4"	1,700	3564T23	12.26
Zinc-Plated Steel					
3/16	3/16"	1 1/4"	200	3564T41	.69
3/16	3/16"	2"	100	3564T53	.81
1/4	1/4"	1 1/2"	400	3564T43	1.09
1/4	1/4"	2"	300	3564T44	1.29
5/16	5/16"	2"	600	3564T45	1.64
3/8	3/8"	2"	900	3564T46	1.97
3/8	3/8"	3"	700	3564T47	2.42
3/8	3/8"	4"	500	3564T48	3.14
1/2	1/2"	2 1/2"	1,400	3564T49	5.26
1/2	1/2"	3"	1,200	3564T51	6.48
5/8	5/8"	4"	1,700	3564T52	13.95
Galvanized Steel					
1/4	1/4"	1 1/2"	400	3068T21	1.22
1/4	1/4"	2"	300	3068T28	1.40
5/16	5/16"	2"	700	3068T29	1.97
3/8	3/8"	2"	900	3068T24	3.06
1/2	1/2"	3"	1,400	3068T25	4.69
1/2	1/2"	4"	1,200	3068T26	5.31
5/8	5/8"	4"	1,800	3068T27	15.70
18-8 Stainless Steel					
5/32	3/16"	3/4"	500	3769T71	1.15
5/32	3/16"	1"	500	3769T72	1.20
5/32	3/16"	1 1/4"	300	3769T73	1.35
3/16	1/4"	1"	600	3769T74	1.75
3/16	1/4"	1 1/2"	400	3769T75	2.33
3/16, 1/4	5/16"	1 1/2"	700	3769T76	4.67
3/16, 1/4	5/16"	2"	600	3769T77	4.93

D-Rings—Not for Lifting

The flat side allows you to connect webbing and strapping, so they lay flat and resist bunching.

Zinc-plated steel rings are mildly corrosion resistant.

316 stainless steel rings have excellent resistance to salt water and chemicals.

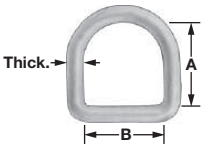

Thick.	(A)	(B)	Cap., lbs.		
Zinc-Plated Steel					
1/2"	2 1/2"	2 3/8"	4,000	31215T21	$6.50
5/8"	3"	3"	6,100	31215T22	10.29
3/4"	3"	3"	9,100	31215T23	13.11
1"	4"	3"	15,500	31215T24	18.13
316 Stainless Steel					
7/32"	21/32"	1 3/32"	2,400	30375T21	18.18
9/32"	27/32"	1 13/32"	3,900	30375T22	24.28
3/8"	1 3/32"	1 13/16"	4,500	30375T23	36.28

Bend-Close Connecting Links—Not for Lifting

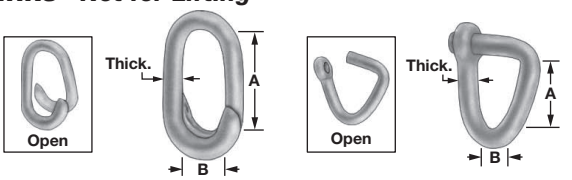

An economical option to join chain links and attach fittings. Connectors must be completely closed to perform at capacity. They cannot be reused after they've been closed. **Zinc-plated steel** connecting links are mildly corrosion resistant.

Light Duty—These connecting links are also known as lap links or repair links.

Medium Duty—Drive the end through the eye and flatten or weld it to keep closed. These connecting links are also known as cold shuts.

For Chain Trade Size	Thick.	(A)	(B)	Cap., lbs.	Pkg. Qty.		Pkg.
Light Duty							
Steel							
3/16	3/16"	1"	29/64"	200	10	3579T71	$4.85
1/4	1/4"	1 1/4"	1/2"	400	10	3579T53	7.40
5/16	5/16"	1 1/2"	39/64"	700	5	3579T54	7.46
3/8	3/8"	2"	13/16"	1,200	1	3579T76	2.07
1/2	1/2"	2 1/2"	1"	2,100	1	3579T77	3.19
Zinc-Plated Steel							
1/8	1/8"	3/4"	1/4"	100	10	3579T9	5.56
3/16	3/16"	1"	29/64"	200	10	3579T81	7.46
1/4	1/4"	1 1/4"	1/2"	400	10	3579T73	8.78
5/16	5/16"	1 1/2"	39/64"	700	5	3579T55	8.16
3/8	3/8"	2"	13/16"	1,200	1	3579T86	2.76
1/2	1/2"	2 1/2"	1"	2,100	1	3579T87	5.13
Medium Duty							
Steel							
3/16	11/64"	3/4"	11/32"	400	10	3579T201	3.81
1/4	15/64"	1 3/16"	3/8"	700	10	3579T202	5.28
5/16	19/64"	1 3/8"	7/16"	1,200	10	3579T203	10.47
3/8	23/64"	1 1/2"	5/8"	1,900	10	3579T204	11.61
7/16	27/64"	1 9/16"	11/16"	2,600	5	3579T205	9.09
1/2	31/64"	1 7/8"	3/4"	3,500	5	3579T206	11.27
5/8	39/64"	2"	1"	4,500	1	3579T207	8.91
Zinc-Plated Steel							
3/16	11/64"	3/4"	11/32"	400	10	3579T208	4.05
1/4	15/64"	1 3/16"	3/8"	700	10	3579T209	5.63
5/16	19/64"	1 3/8"	7/16"	1,200	10	3579T211	10.81
3/8	23/64"	1 1/2"	5/8"	1,900	10	3579T212	13.15
7/16	27/64"	1 9/16"	11/16"	2,600	5	3579T213	10.29
1/2	31/64"	1 7/8"	3/4"	3,500	5	3579T214	13.12
5/8	39/64"	2"	1"	4,500	1	3579T215	9.07

Oblong and Pear-Shaped Links—Not for Lifting

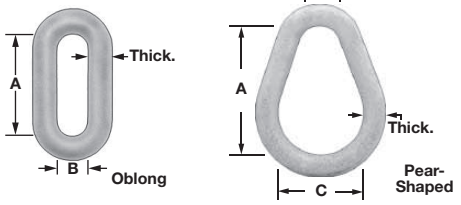

These provide room for snaps, carabiners and other nonlifting connectors. All are steel.

Galvanized steel links have a thick coating for corrosion resistance.

Thick.	(A)	(B)	(C)	Cap., lbs.	Red-Painted Steel		Galvanized Steel	
Oblong								
5/16"	1 3/4"	1/2"	—	2,500	3566T14	$7.46	3566T44	$7.86
3/8"	1 7/8"	9/16"	—	3,800	3566T15	8.24	3566T45	8.53
1/2"	2 3/8"	3/4"	—	6,500	3566T16	9.85	3566T46	10.19
5/8"	3 1/4"	1"	—	9,300	3566T17	14.80	3566T47	16.48
3/4"	3 1/2"	1 1/8"	—	14,000	3566T18	21.40	3566T48	23.38
7/8"	5 1/8"	2"	—	12,000	3566T19	43.49	3566T49	46.71
1"	5 3/4"	2 1/4"	—	15,200	3566T21	70.35	3566T51	83.50
1 1/4"	7"	2 1/2"	—	26,400	3566T22	117.08	3566T52	122.90
Pear-Shaped								
3/8"	2 1/4"	3/4"	1 1/2"	1,800	3567T14	7.60	3567T31	7.92
1/2"	3"	1"	2"	2,900	3567T15	9.70	3567T32	10.22
5/8"	3 3/4"	1 1/4"	2 1/2"	4,200	3567T16	14.55	3567T33	15.70
3/4"	4 1/2"	1 1/2"	3"	6,000	3567T17	21.53	3567T34	23.02
7/8"	5 1/4"	1 3/4"	3 1/2"	8,300	3567T18	33.10	3567T35	36.08
1"	6"	2"	4"	10,800	3567T19	52.12	3567T36	58.13
1 1/4"	7 3/4"	2 1/2"	5"	16,700	3567T21	96.69	3567T37	107.63

Hammer-Close Connecting Links—Not for Lifting

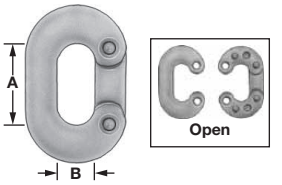

Strike the prongs with a ball peen hammer and they expand to hold the connecting link together.

Steel links meet Fed. Spec. RR-C-271D. They are forged.

Galvanized steel links have a thick coating for corrosion resistance. They are forged.

316 stainless steel links have excellent resistance to salt water and chemicals. They are cast.

For Chain Trade Size	Thick.	(A)	(B)	Cap., lbs.		
Steel						
1/4	1/4"	7/8"	7/16"	1,400	3576T12	$9.20
5/16	5/16"	1"	1/2"	2,000	3576T13	10.16
3/8	3/8"	1 1/8"	9/16"	2,800	3576T14	9.36
1/2	1/2"	1 7/16"	21/32"	4,700	3576T16	11.32
5/8	5/8"	1 7/8"	13/16"	7,200	3576T18	16.00
Galvanized Steel						
1/4	1/4"	7/8"	7/16"	1,400	3576T32	8.10
5/16	5/16"	1"	1/2"	2,000	3576T33	8.76
3/8	3/8"	1 1/8"	9/16"	2,800	3576T34	9.92
1/2	1/2"	1 7/16"	21/32"	4,700	3576T36	12.24
5/8	5/8"	1 7/8"	13/16"	7,200	3576T38	17.50
316 Stainless Steel						
1/4	5/16"	7/8"	27/64"	1,400	3863T22	12.97
5/16	23/64"	1"	1/2"	2,000	3863T23	20.86
3/8	13/32"	1 1/8"	37/64"	2,800	3863T21	29.79
1/2	1/2"	1 1/2"	3/4"	2,000	3863T34	28.57
5/8	5/8"	1 7/8"	1"	3,000	3863T35	38.86

Twist-Close Connecting Links—Not for Lifting

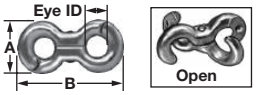

Often used to create wire rope barriers, these galvanized iron connecting links close under tension and open under slack. They're not for use in overhead lifting applications or as a link for chain or to repair chain.

Thick.	(A)	(B)	Eye ID	Cap., lbs.		
3/8"	13/16"	1 3/4"	1/4"	100	3346T21	$6.28
17/32"	1 11/32"	2 17/32"	9/16"	400	3346T24	15.40
5/8"	1 21/32"	3 3/16"	5/8"	900	3346T26	17.99
3/4"	2 1/2"	5 1/4"	1 1/16"	2,000	3346T28	36.17

Chain Shackles—For Lifting

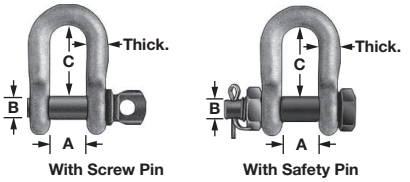

A narrow inner opening restricts the movement of wire rope and chain. These chain shackles are also known as D-shackles. All meet ASME B30.26 and Fed. Spec. RR-C-271F. Shackles are forged. **Galvanized steel** shackles have a thick coating for corrosion resistance. Pin is alloy steel. **316 stainless steel** shackles have excellent resistance to salt water and chemicals. Pin is 316 stainless steel.

Chain Shackles with Screw Pin—Screw the pin into position by hand for quick installation and removal. They're for use in low-vibration applications where the shackle remains stationary.

Chain Shackles with Safety Pin—A bolt fastened with a nut and cotter pin makes these shackles more secure than screw-pin shackles.

			With Screw Pin				With Safety Pin			
Thick.	(A)	(B)	(C)	Cap., lbs.			(C)	Cap., lbs.		
Galvanized Steel										
1/4"	1/2"	5/16"	29/32"	1,000	3560T44	$6.31	15/16"	1,100	3556T26	$11.70
5/16"	17/32"	13/32"	—	—	—	—	1 3/32"	1,600	3556T27	12.61
5/16"	9/16"	13/32"	1 1/32"	1,500	3560T45	6.84	—	—	—	—
3/8"	1 1/16"	15/32"	1 1/4"	2,000	3560T46	8.02	1 9/32"	2,200	3556T28	14.04
7/16"	3/4"	1/2"	1 1/2"	3,300	3560T47	12.38	1 1/2"	3,300	3556T29	18.11
1/2"	13/16"	21/32"	1 11/16"	4,400	3560T48	12.85	1 11/16"	4,400	3556T14	21.74
5/8"	1 1/16"	3/4"	2 1/16"	7,100	3560T49	25.14	—	—	—	—
5/8"	1 1/16"	25/32"	—	—	—	—	2 1/16"	7,100	3556T15	32.58
3/4"	1 1/4"	29/32"	2 13/32"	10,400	3560T51	37.88	2 13/32"	10,400	3556T16	49.55
7/8"	1 15/32"	1"	2 7/8"	14,300	3560T52	47.08	—	—	—	—
7/8"	1 15/32"	1 1/32"	—	—	—	—	2 7/8"	14,300	3556T17	62.72
1"	1 23/32"	1 5/32"	3 1/4"	18,700	3560T53	68.92	3 1/4"	18,700	3556T18	75.67
1 1/8"	1 13/16"	1 1/4"	3 9/16"	19,000	3560T54	107.86	3 9/16"	19,000	3556T19	110.11
1 1/4"	2 1/32"	1 13/32"	4"	26,400	3560T55	114.49	3 31/32"	24,000	3556T21	157.11
1 3/8"	2 1/4"	1 1/2"	4 15/32"	27,000	3560T86	155.45	4 15/32"	27,000	3556T32	197.16
1 1/2"	2 13/32"	1 21/32"	4 29/32"	34,000	3560T57	185.40	4 29/32"	34,000	3556T23	236.44
1 3/4"	2 29/32"	2"	5 3/4"	50,000	3560T58	365.81	5 3/4"	50,000	3556T24	427.35
2"	3 9/32"	2 1/4"	6 3/4"	70,000	3560T59	498.95	6 3/4"	70,000	3556T25	652.30
316 Stainless Steel										
1/4"	15/32"	5/16"	7/8"	1,000	35895T111	3.89	—	—	—	—
5/16"	17/32"	13/32"	1 1/32"	1,300	35895T112	6.82	—	—	—	—
3/8"	21/32"	15/32"	1 1/4"	1,500	35895T113	11.02	1 1/4"	1,500	35895T123	23.58
1/2"	13/16"	21/32"	1 19/32"	3,000	35895T114	21.09	1 19/32"	3,000	35895T124	40.35
5/8"	1 1/16"	3/4"	1 31/32"	4,000	35895T115	37.88	1 31/32"	4,000	35895T125	62.81
3/4"	17/32"	29/32"	2 13/32"	6,000	35895T116	59.49	2 13/32"	6,000	35895T126	103.35
7/8"	1 15/32"	1"	2 29/32"	8,000	35895T117	84.47	2 29/32"	8,000	35895T127	139.07
1"	1 11/16"	1 5/32"	3 7/32"	10,000	35895T118	116.11	3 7/32"	10,000	35895T128	337.40

Shackles—For Lifting

Also known as anchor and bow shackles, the wide body provides room to attach multiple connectors. All are forged. They meet ASME B30.26 and Fed. Spec. RR-C-271 (unless noted). **Black-oxide steel** shackles have a dark surface color. **Galvanized steel** shackles have a thick coating for corrosion resistance. **Galvanized alloy steel** shackles are stronger than steel shackles. **316 stainless steel** shackles have excellent resistance to salt water and chemicals.

Shackles with Screw Pin—Screw the pin into position by hand for quick installation and removal. They're for use in low-vibration applications where the shackle remains stationary.

Shackles with Safety Pin—A bolt fastened with a nut and cotter pin makes these shackles more secure than screw-pin shackles.

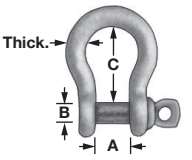

With Screw Pin

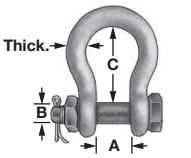

With Safety Pin

Thick.	(A)	(B)	(C)	Cap., lbs.		
With Screw Pin						
Black-Oxide Steel						
1/4"	15/32"	5/16"	1 1/8"	1,000	8494T12	$5.36
5/16"	17/32"	3/8"	1 1/4"	1,500	8494T13	6.75
3/8"	21/32"	7/16"	1 7/16"	2,000	8494T14	7.68
7/16"	23/32"	1/2"	1 11/16"	3,000	8494T15	8.88
1/2"	13/16"	5/8"	1 15/16"	4,000	8494T16	10.35
5/8"	1 1/16"	3/4"	2 1/2"	6,500	8494T17	19.10
3/4"	1 1/4"	7/8"	3"	9,500	8494T18	28.02
7/8"	1 7/16"	1"	3 1/4"	13,000	8494T19	38.76
1"	1 11/16"	1 1/8"	3 3/4"	17,000	8494T21	51.38
Galvanized Steel						
3/16"	13/32"	1/4"	29/32"	600	3558T44	5.55
1/4"	1/2"	5/16"	1 5/32"	1,100	3558T45	6.34
5/16"	17/32"	13/32"	1 1/4"	1,500	3558T46	8.31
3/8"	1 1/16"	15/32"	1 15/32"	2,200	3558T47	8.98
7/16"	3/4"	1/2"	1 23/32"	3,300	3558T48	9.16
1/2"	13/16"	21/32"	1 29/32"	4,400	3558T49	10.70
5/8"	1 1/16"	3/4"	2 13/32"	7,100	3558T51	20.66
3/4"	1 1/4"	29/32"	2 13/16"	10,400	3558T52	29.15
7/8"	1 15/32"	1"	3 5/16"	14,300	3558T53	39.89
1"	1 23/32"	1 5/32"	3 3/4"	18,700	3558T54	49.31
1 1/8"	1 13/16"	1 1/4"	4 1/4"	20,900	3558T55	83.73
1 1/4"	2 1/32"	1 13/32"	4 23/32"	26,400	3558T56	111.79
1 3/8"	2 1/4"	1 1/2"	5 1/4"	29,700	3558T57	119.17
1 1/2"	2 7/16"	1 21/32"	5 21/32"	34,000	3558T58	198.70
1 3/4"	2 31/32"	2"	7"	50,000	3558T59	328.12
2"	3 9/32"	2 1/4"	7 15/32"	70,000	3558T61	419.67
Galvanized Alloy Steel						
3/8"	1 1/16"	15/32"	1 13/32"	4,000	3663T51	8.49
1/2"	27/32"	21/32"	1 31/32"	6,600	3663T42	12.83
5/8"	1 1/16"	3/4"	2 7/16"	10,000	3663T43	19.64
3/4"	1 9/32"	29/32"	2 27/32"	14,000	3663T44	28.18
7/8"	1 15/32"	1"	3 5/16"	19,000	3663T45	36.77
1"	1 3/4"	1 5/32"	3 3/4"	25,000	3663T46	50.69
1 1/4"	2 1/32"	1 13/32"	4 21/32"	36,000	3663T47	102.19
1 1/2"	2 7/16"	1 21/32"	5 21/32"	50,000	3663T48★	192.16
1 3/4"	2 31/32"	2"	7"	68,000	3663T52★	335.40
2"	3 9/32"	2 1/4"	7 15/32"	86,000	3663T49★	466.76
316 Stainless Steel						
1/4"	1/2"	5/16"	1 1/8"	1,000	3583T11	6.63
5/16"	17/32"	13/32"	17/32"	1,300	3583T12	11.40
3/8"	1 1/16"	15/32"	1 7/16"	1,500	3583T13	18.09
7/16"	3/4"	1/2"	1 25/32"	2,000	3583T14	19.21
1/2"	27/32"	21/32"	1 27/32"	3,000	3583T15	30.00
5/8"	1 1/32"	3/4"	2 7/16"	4,000	3583T16	56.16
3/4"	1 1/4"	29/32"	2 27/32"	6,000	3583T17	81.82
7/8"	1 1/2"	1"	3 5/16"	8,000	3583T18	85.27
1"	1 23/32"	1 5/32"	3 13/16"	10,000	3583T19	122.58

★ Does not meet Fed. Spec. RR-C-271F.

Thick.	(A)	(B)	(C)	Cap., lbs.		
With Safety Pin						
Black-Oxide Steel						
1/4"	15/32"	5/16"	1 1/8"	1,000	8494T26	$12.08
5/16"	17/32"	3/8"	1 1/4"	1,500	8494T27	12.62
3/8"	21/32"	7/16"	1 7/16"	2,000	8494T28	14.50
7/16"	23/32"	1/2"	1 11/16"	3,000	8494T29	18.32
1/2"	13/16"	5/8"	1 15/16"	4,000	8494T31	19.37
5/8"	1 1/16"	3/4"	2 1/2"	6,500	8494T32	28.02
3/4"	1 1/4"	7/8"	3"	9,500	8494T33	40.30
7/8"	1 7/16"	1"	3 1/4"	13,000	8494T34	57.98
1"	1 11/16"	1 1/8"	3 3/4"	17,000	8494T35	78.48
Galvanized Steel						
3/16"	13/32"	1/4"	29/32"	700	3555T45	9.44
1/4"	1/2"	5/16"	1 5/32"	1,100	3555T46	9.50
5/16"	17/32"	13/32"	1 1/4"	1,600	3555T47	13.01
3/8"	1 1/16"	15/32"	1 15/32"	2,200	3555T48	13.27
7/16"	3/4"	1/2"	1 23/32"	3,300	3555T49	14.89
1/2"	13/16"	21/32"	1 29/32"	4,400	3555T51	21.63
5/8"	1 1/16"	25/32"	2 13/32"	7,100	3555T52	29.60
3/4"	1 1/4"	29/32"	2 13/16"	10,400	3555T53	42.47
7/8"	1 15/32"	1 1/32"	3 5/16"	14,300	3555T54	56.87
1"	1 23/32"	1 5/32"	3 3/4"	18,700	3555T55	77.20
1 1/8"	1 13/16"	1 1/4"	4 1/4"	20,900	3555T56	104.30
1 1/4"	2 1/32"	1 13/32"	4 21/32"	24,000	3555T57	156.80
1 3/8"	2 1/4"	1 1/2"	5 7/32"	27,000	3555T78	187.88
1 1/2"	2 7/16"	1 21/32"	5 21/32"	34,000	3555T59	262.30
1 3/4"	2 31/32"	2"	7"	50,000	3555T61	388.81
2"	3 9/32"	2 1/4"	7 15/32"	70,000	3555T62	489.86
Galvanized Alloy Steel						
1/2"	27/32"	21/32"	1 31/32"	6,600	8966T51	34.03
5/8"	1 1/16"	3/4"	2 7/16"	10,000	8966T52	45.28
3/4"	1 9/32"	29/32"	2 27/32"	14,000	8966T53	69.13
7/8"	1 15/32"	1"	3 5/16"	19,000	8966T54	75.94
1"	1 3/4"	1 5/32"	3 3/4"	25,000	8966T55	102.73
1 1/4"	2 1/32"	1 13/32"	4 21/32"	36,000	8966T76	143.54
1 1/2"	2 7/16"	1 21/32"	5 21/32"	60,000	8966T57	268.42
1 3/4"	2 31/32"	2"	7"	80,000	8966T12	545.55
2"	3 9/32"	2 1/4"	7 15/32"	100,000	8966T14	718.65
316 Stainless Steel						
1/4"	1/2"	5/16"	1 1/8"	1,000	3860T21	19.70
5/16"	17/32"	13/32"	17/32"	1,300	3860T22	21.13
3/8"	1 1/16"	15/32"	1 7/16"	1,500	3860T23	27.28
7/16"	3/4"	1/2"	1 25/32"	2,000	3860T24	33.50
1/2"	27/32"	21/32"	1 27/32"	3,000	3860T25	46.80
5/8"	1 1/32"	3/4"	2 7/16"	4,000	3860T26	72.90
3/4"	1 1/4"	29/32"	2 27/32"	6,000	3860T27	120.00
7/8"	1 1/2"	1"	3 5/16"	8,000	3860T28	150.30
1"	1 23/32"	1 5/32"	3 13/16"	10,000	3860T29	203.10

Heavy Duty Shackles—For Lifting

The strongest shackles we offer, these connectors have a pin with flush ends that prevents snagging and accidental disengagement. They can be assembled and disassembled with a hammer. Shackles are red powder-coated alloy steel. They meet ASME B30.26.

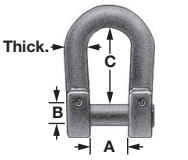

For Chain Trade Size	Thick.	(A)	(B)	(C)	Cap., lbs.		
9/32	5/16"	23/32"	13/32"	1 5/16"	3,500	3812T21	$19.16
3/8	7/16"	7/8"	9/16"	1 13/16"	7,100	3812T22	22.03
1/2	9/16"	1 3/32"	3/4"	2 9/16"	12,000	3812T23	34.52
5/8	11/16"	1 11/32"	15/16"	3"	18,100	3812T24	43.73

Web Sling Shackles—For Lifting

Also known as flat shackles, these have an extra-wide body so web slings and straps don't slide and bunch. These shackles are forged red-painted alloy steel. All meet ASME B30.26.

Shackles **with screw pin** are for use in low-vibration applications where the shackle remains stationary. Screw the pin into position by hand for quick installation and removal. Shackles **with safety pin** have a bolt fastened with a nut and cotter pin for a more secure connection than screw-pin shackles.

Optional spools (sold separately) fit on the pin to center attachments and keep rope from sliding across the pin.



With Screw Pin and Optional Spool

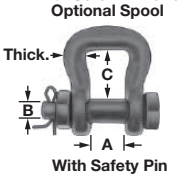

With Safety Pin

For Web Wd.	Thick.	(A)	(B)	(C)	Cap., lbs.	With Screw Pin		With Safety Pin		Optional Spools	
1"	3/4"	29/32"	3/4"	1 1/2"	6,500	35505T1	$30.18	35505T84■	$27.74	35505T92	$13.54
1 1/2"	1"	1 1/4"	29/32"	1 29/32"	13,000	35505T2	34.08	35505T85	52.21	35505T93	17.56
2"	1 1/8"	1 13/32"	1"	2 13/16"	17,500	35505T3	44.99	35505T86	69.56	35505T94	21.63
3"	1 3/8"	1 5/8"	1 1/4"	3 1/16"	25,000	35505T4	97.10	35505T87	127.65	35505T95	25.42
4"	1 3/4"	2 1/8"	1 1/2"	5 1/4"	41,000	35505T5	198.15	35505T88	228.90	35505T96	37.48
5"	2 1/4"	2 1/2"	2"	6 11/32"	70,000	35505T6	377.10	35505T89	396.42	35505T97	64.40
6"	2 3/4"	3"	2 1/4"	7 23/32"	100,000	35505T7	765.04	35505T91	836.80	35505T98	105.42

■ (A) is 1 1/16".

Shackles with Two Connectors—For Lifting

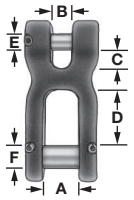

With Flush Pins

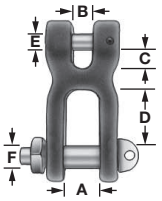

With Safety Pin

These forged alloy steel connectors meet ASME B30.26. They have a red powder-coated finish.

Shackles **with flush pins** have pins with flush ends to prevent snagging and accidental disengagement.

Shackles **with safety pin** have a bolt fastened with a nut and cotter pin on one end for a more secure connection than flush-pin connectors.

For Chain Trade Size	(A)	(B)	(C)	(D)	(E)	(F)	Cap., lbs.	With Flush Pins		With Safety Pin	
13/32	27/32"	1/2"	1/2"	1 7/16"	1/2"	21/32"	7,100	3532T11	$72.16	3532T26	$83.38
17/32	1 3/32"	21/32"	21/32"	1 15/16"	21/32"	13/16"	12,000	3532T12	96.80	3532T27	108.24
21/32	1 5/16"	23/32"	3/4"	2 7/32"	3/4"	1 1/32"	18,100	3532T13	138.60	3532T28	138.30

Shackles with Two Connectors—Not for Lifting

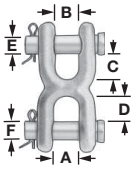

With Same-Size Openings

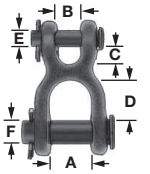

With Small-and-Large Openings

All have two connectors with round pins secured by cotter pins.

For Chain Trade Size	(A)	(B)	(C)	(D)	(E)	(F)	Cap., lbs.		
With Same-Size Openings—Zinc-Plated Steel									
1/4 - 5/16	15/32"	15/32"	7/16"	7/16"	3/8"	3/8"	4,700	3562T31	$4.69
3/8	1/2"	1/2"	15/32"	15/32"	15/32"	15/32"	6,600	3562T32	6.23
7/16 - 1/2	5/8"	5/8"	5/8"	5/8"	9/16"	9/16"	11,200	3562T33	11.64
With Small-and-Large Openings—Red-Painted Steel									
1/4	3/4"	1/2"	13/32"	3/4"	5/16"	1/2"	2,600	3562T21	16.64
5/16 - 3/8	1"	9/16"	1/2"	1"	15/32"	21/32"	5,400	3562T23	22.81
1/2	1 1/4"	13/16"	11/16"	1 1/4"	21/32"	3/4"	9,200	3562T25	39.38

Shackles—Not for Lifting

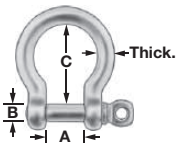

The wide body provides room to attach multiple connectors. Also known as anchor and bow shackles. All are 316 stainless steel and have excellent resistance to salt water and chemicals.

Shackles **with screw pin** are for use in low-vibration applications where the shackle remains stationary.

Shackles **with captive locking screw pin** have a lip on the shackle to keep the pin from falling out when loosened.

Thick.	(A)	(B)	(C)	Cap., lbs.		
With Screw Pin						
3/16"	7/16"	7/32"	31/32"	500	35355T13	$3.02
1/4"	1/2"	1/4"	1 3/32"	700	35355T14	3.86
5/16"	11/16"	5/16"	1 15/32"	1,000	35355T25	5.36
3/8"	13/16"	13/32"	1 25/32"	1,200	35355T26	9.28
1/2"	1 1/16"	17/32"	2 11/32"	2,500	35355T27	25.97
1"	1 31/32"	31/32"	4 7/16"	6,000	35355T28	105.43
With Captive Locking Screw Pin						
5/32"	11/32"	3/16"	23/32"	400	3797T61	14.87
3/16"	13/32"	7/32"	29/32"	600	3797T62	17.57
1/4"	1/2"	1/4"	1 3/32"	900	3797T53	23.03
5/16"	21/32"	11/32"	1 15/32"	1,600	3797T54	33.93
13/32"	13/16"	13/32"	1 13/16"	2,200	3797T55	52.48

Chain Shackles—Not for Lifting

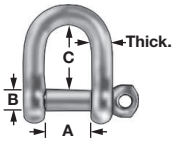

A narrow inner opening restricts the movement of wire rope and chain. These chain shackles are also known as D-shackles. All are 316 stainless steel and have excellent resistance to salt water and chemicals.

Shackles **with locking screw pin** have indentations in the shackle body to hold the head of the pin in place once fastened.

Shackles **with captive locking screw pin** have a lip on the shackle to keep the pin from falling out when loosened.

Thick.	(A)	(B)	(C)	Cap., lbs.		
With Locking Screw Pin						
5/32"	11/32"	3/16"	17/32"	300	3824T71	$8.48
3/16"	13/32"	7/32"	21/32"	400	3824T72	9.83
1/4"	1/2"	1/4"	13/16"	700	3824T73	12.63
5/16"	21/32"	11/32"	1 1/32"	1,100	3824T74	19.68
13/32"	13/16"	13/32"	1 5/16"	1,800	3824T75	32.26
15/32"	31/32"	1/2"	1 9/16"	2,600	3824T76	56.16
With Captive Locking Screw Pin						
5/32"	11/32"	3/16"	17/32"	400	3824T81	12.94
3/16"	13/32"	7/32"	21/32"	600	3824T82	15.62
1/4"	1/2"	1/4"	13/16"	900	3824T83	19.88
5/16"	21/32"	11/32"	1 1/32"	1,500	3824T84	30.42
13/32"	13/16"	13/32"	1 5/16"	2,200	3824T85	47.48
15/32"	31/32"	1/2"	1 9/16"	3,000	3824T86	72.20

Elongated Shackles—Not for Lifting

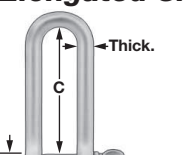

The long body increases the reach of your connection. These shackles are 316 stainless steel and have excellent resistance to salt water and chemicals.

Shackles **with screw pin** are for use in low-vibration applications where the shackle remains stationary.

Shackles **with locking screw pin** have indentations in the shackle body to hold the head of the pin in place once fastened.

Shackles **with captive locking screw pin** have a lip on the shackle that keeps the screw from falling out when loosened.

Thick.	(A)	(B)	(C)	Cap., lbs.		
With Screw Pin						
3/16"	7/16"	7/32"	1 1/2"	500	35685T52	$5.23
1/4"	1/2"	1/4"	1 3/4"	700	35685T43	6.50
5/16"	11/16"	5/16"	2 5/16"	1,000	35685T54	8.13
3/8"	25/32"	13/32"	2 29/32"	1,200	35685T55	12.01
With Locking Screw Pin						
5/32"	11/32"	3/16"	7/8"	300	3841T71	10.16
3/16"	13/32"	7/32"	1 5/32"	400	3841T72	12.32
1/4"	1/2"	1/4"	1 5/16"	700	3841T73	15.96
5/16"	21/32"	11/32"	1 9/16"	1,100	3841T74	25.13
With Captive Locking Screw Pin						
5/32"	11/32"	3/16"	1 1/4"	400	3841T81	16.36
3/16"	13/32"	7/32"	1 9/16"	600	3841T82	19.33
1/4"	1/2"	1/4"	1 13/16"	900	3841T83	26.01
5/16"	21/32"	11/32"	2 15/32"	1,500	3841T84	41.10

90° Twist Shackles—Not for Lifting

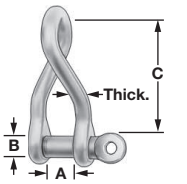

Minimize twisting and knotting of rope and chain. These shackles are 316 stainless steel and have excellent resistance to salt water and chemicals.

Thick.	(A)	(B)	(C)	Cap., lbs.		
5/32"	5/16"	5/32"	5/8"	200	33845T32	$6.55
3/16"	3/8"	3/16"	13/16"	500	33845T33	7.10
1/4"	7/16"	1/4"	1"	700	33845T34	8.38
5/16"	9/16"	5/16"	1 5/16"	1,000	33845T35	10.48
3/8"	23/32"	3/8"	1 13/16"	1,200	33845T36	14.15
1/2"	31/32"	1/2"	2 13/16"	1,500	33845T37	20.53

Ball Bearing Swivels—For Lifting

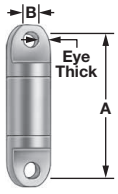

Eye-to-Eye

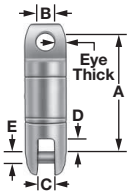

Eye-to-Clevis

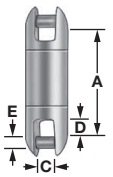

Clevis-to-Clevis

Use in lifting applications to adjust the position of a fitting or an object under load and minimize twisting and knotting. The bearings are permanently lubricated and sealed to keep out debris. All are made from alloy steel. Meet ASME B30.26.

Clevis ends have removable pins. A thimble is required for use with wire rope. Please see page 1475 for wire rope thimbles.

(A)	(B)	(C)	(D)	(E)	Eye Thick.	Cap., lbs.		
Eye-to-Eye								
2 5/8"	1/4"	—	—	—	1/4"	1,000	33575T661	$156.43
3 7/8"	3/8"	—	—	—	5/16"	1,500	33575T662	188.88
4 5/16"	5/8"	—	—	—	1/2"	3,000	33575T663	275.79
5 1/4"	7/8"	—	—	—	3/4"	6,000	33575T664	327.38
8 3/32"	1 1/4"	—	—	—	1"	10,000	33575T665	447.52
Eye-to-Clevis								
2 5/8"	1/4"	5/16"	3/8"	5/16"	1/4"	1,000	33575T1	133.13
3 7/8"	3/8"	3/8"	1/2"	3/8"	5/16"	1,500	33575T2	224.95
4 3/8"	5/8"	7/16"	23/32"	7/16"	1/2"	3,000	33575T3	308.25
5 3/8"	7/8"	3/4"	1 5/16"	5/8"	3/4"	6,000	33575T4	343.13
8 1/8"	1 1/4"	1"	1 5/16"	7/8"	1"	10,000	33575T5	486.38
Clevis-to-Clevis								
2 5/8"	—	5/16"	1 5/32"	5/16"	—	1,000	33575T651	137.12
3 7/8"	—	3/8"	1 1/16"	3/8"	—	1,500	33575T652	233.84
4 11/32"	—	7/16"	1 3/16"	7/16"	—	3,000	33575T653	306.55
5 1/2"	—	3/4"	1 5/16"	5/8"	—	6,000	33575T654	341.22
8 1/4"	—	1"	1 9/16"	7/8"	—	10,000	33575T655	483.69

Ball Bearing Swivels—Not for Lifting

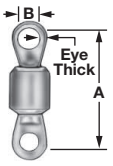

Eye-to-Eye

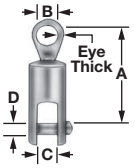

Eye-to-Clevis

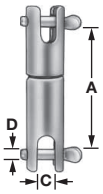

Clevis-to-Clevis

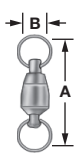

Split Ring-to-Split Ring

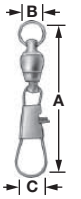

Split Ring-to-Snap

Adjust the position of a fitting or an object under load. The bearings are permanently lubricated and sealed to keep out debris.

Standard ball-bearing swivels are 316 stainless steel.

Miniature ball-bearing swivels have tapered holes so the snap and split ring can swing freely and pull from the center for perfect alignment. The body is nickel-plated brass; ball bearings are 18-8 stainless steel.

(A)	(B)	(C)	(D)	Eye Thick.	Cap., lbs.		
Standard							
Eye-to-Eye							
1 5/16"	5/16"	—	—	1/4"	1,100	8928T21	$65.05
Eye-to-Clevis							
1 7/8"	5/16"	3/8"	1/4"	1/4"	1,800	8928T13	71.07
Clevis-to-Clevis							
2 3/32"	—	3/8"	1/4"	—	1,800	8928T11	83.63
3 15/32"	—	1/2"	5/16"	—	2,800	8928T12	133.44
Miniature							
Split Ring-to-Split Ring							
5/8"	3/8"	—	—	—	10	3179T1	2.52
3/4"	1/4"	—	—	—	10	3179T2	2.70
1"	5/16"	—	—	—	30	3179T3	3.31
1 1/4"	3/8"	—	—	—	50	3179T4	3.98
1 1/2"	7/16"	—	—	—	70	3179T5	4.60
Split Ring-to-Snap							
1 1/16"	3/16"	3/16"	—	—	10	3179T6	3.65
1 5/16"	1/4"	1/4"	—	—	10	3179T7	3.68
1 5/8"	5/16"	5/16"	—	—	30	3179T8	3.88
2"	3/8"	3/8"	—	—	50	3179T9	4.36
2 3/8"	7/16"	7/16"	—	—	70	3179T11	4.81

Swivels—Not for Lifting



Eye-to-Eye



Eye-to-Clevis with Cotter Pin

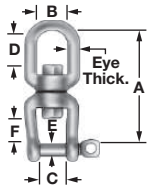

Eye-to-Clevis with Screw Pin

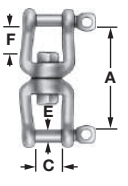

Clevis-to-Clevis

Rotate these swivels into position before a load is applied. They are not designed to swivel under load. **Galvanized steel** swivels have a thick coating for corrosion resistance. They are forged. All meet Fed. Spec. RR-C-271. **316 stainless steel** swivels have excellent resistance to salt water and chemicals. They are cast.

Eye-to-Eye—These swivels have an extra-large eye opening for oversized chain and rope.

Eye-to-Clevis—These swivels are used where frequent attaching and detaching is required.

Clevis-to-Clevis—These swivels connect combinations of chain and fittings. The screw pins allow quick and easy attachment without tools.

Eye-to-Eye

Eye Thick.	(A)	(B)	(C)	(D)	(F)	Cap., lbs.		
Galvanized Steel								
1/4"	2 7/8"	3/4"	3/4"	3/4"	1 1/16"	800	3552T14	$18.90
5/16"	3 5/8"	1"	1"	3/4"	1 1/4"	1,200	3552T15	20.42
3/8"	4 1/4"	1 1/4"	1 1/4"	1"	1 1/2"	2,200	3552T16	24.83
1/2"	5 3/4"	1 1/2"	1 1/2"	1 1/4"	1 15/16"	3,600	3552T17	31.22
5/8"	6 3/4"	1 3/4"	1 3/4"	1 5/8"	2 3/8"	5,200	3552T18	48.09
3/4"	7 1/4"	2"	2"	1 3/4"	2 1/2"	7,200	3552T19	62.15
7/8"	8 3/4"	2 1/4"	2 1/4"	2 1/8"	3 1/16"	10,000	3552T21	110.69
1"	9 3/4"	2 1/2"	2 1/2"	2 1/4"	3 1/2"	12,500	3552T22	130.75
1 1/4"	11 1/2"	3 1/8"	3 1/8"	3 1/4"	3 7/8"	18,000	3552T24	237.42
316 Stainless Steel								
3/16"	1 5/8"	1/2"	1/2"	9/16"	9/16"	300	3714T91	8.62
1/4"	2 1/8"	9/16"	9/16"	5/8"	5/8"	600	3714T92	9.62
5/16"	2 15/16"	3/4"	3/4"	7/8"	7/8"	1,000	3714T93	12.79
3/8"	3 3/4"	15/16"	15/16"	7/8"	7/8"	1,900	3714T94	17.89
1/2"	4 15/16"	1 5/16"	1 5/16"	1 1/4"	1 1/4"	2,700	3714T95	31.41
5/8"	6 1/16"	1 1/2"	1 1/2"	1 11/16"	1 11/16"	4,600	3714T96	57.14

Eye-to-Clevis—With cotter pin

Eye Thick.	(A)	(B)	(C)	(D)	(E)	(F)	Cap., lbs.		
Galvanized Steel									
1/4"	2 7/16"	3/4"	1/2"	3/4"	1/4"	3/4"	800	3553T14	$23.13
5/16"	2 7/8"	1"	1/2"	3/4"	5/16"	13/16"	1,200	3553T15	26.93
3/8"	3 1/2"	1 1/4"	11/16"	1"	3/8"	1 1/16"	2,200	3553T16	28.96
1/2"	4 11/16"	1 1/2"	3/4"	1 1/4"	1/2"	1 3/8"	3,600	3553T17	37.42
5/8"	5 1/2"	1 3/4"	15/16"	1 5/8"	5/8"	1 1/2"	5,200	3553T18	63.50
3/4"	5 7/8"	2"	1 1/8"	1 3/4"	3/4"	1 3/4"	7,200	3553T19	81.08
7/8"	7"	2 1/4"	1 3/16"	2 1/8"	7/8"	2 1/16"	10,000	3553T21	135.55
1"	8 5/8"	2 1/2"	1 3/4"	2 1/4"	1 1/8"	2 7/16"	12,500	3553T22	175.02
1 1/4"	8 7/16"	3 1/8"	2 1/16"	3 1/4"	1 3/8"	2 13/16"	18,000	3553T24	337.58

Eye-to-Clevis—With screw pin

Eye Thick.	(A)	(B)	(C)	(D)	(E)	(F)	Cap., lbs.		
316 Stainless Steel									
1/4"	2"	9/16"	1/2"	5/8"	7 32"	7/16"	600	30365T31	$10.66
5/16"	2 11/16"	3/4"	11/16"	13/16"	5/16"	5/8"	1,000	30365T32	14.00
3/8"	3 5/8"	15/16"	13/16"	1 1/8"	3/8"	3/4"	1,900	30365T33	20.66
1/2"	4 5/8"	1 5/16"	1"	1 1/4"	17/32"	1"	2,700	30365T34	45.32
5/8"	5 3/4"	1 7/16"	1 11/32"	1 11/16"	5/8"	1 5/16"	4,600	30365T35	74.03
3/4"	6 13/16"	1 9/16"	1 13/32"	2"	3/4"	1 9/16"	5,500	30365T36	121.21

Clevis-to-Clevis

(A)	(C)	(E)	(F)	Cap., lbs.		
316 Stainless Steel						
1 7/8"	1/2"	1/4"	7/16"	600	37405T24	$7.58
2 17/32"	5/8"	5/16"	5/8"	1,100	37405T25	13.81
3 3/16"	3/4"	3/8"	7/8"	1,500	37405T26	23.35
4 5/16"	1"	1/2"	1 1/8"	2,600	37405T27	41.47
5 7/16"	1 1/4"	5/8"	1 3/8"	4,700	37405T28	75.23
6 7/32"	1 1/2"	3/4"	1 5/8"	7,100	37405T29	122.11

About Turnbuckles and End Fittings

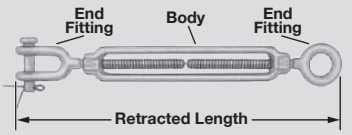

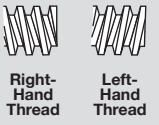

Turnbuckles are mechanical coupling devices that adjust length and tension. They consist of two threaded end fittings and a threaded body. One end fitting has right-hand threads (fitting tightens clockwise), and the other end has left-hand threads (fitting tightens counterclockwise). The turnbuckle body has matching right- and left-hand internal threads. Turning the turnbuckle body adjusts the end fittings an equal amount on each end.

Turnbuckles

Suited to your toughest applications, these turnbuckles have a strong, seamless, forged construction (unless noted).

Clevis end fittings include a clevis pin with cotter pin. **Stub end fittings** are unthreaded. **Stud end fittings** are fully threaded. End fittings with **oval eyes** have more room than round eyes to attach connectors.

Galvanized steel turnbuckles have a thick coating for corrosion resistance. Meet ASTM F1145-05 Type 1, Grade 1. **316 stainless steel** turnbuckles have excellent resistance to salt water and chemicals. Meet ASTM F1145-92 Type 1.

Also Available: Jam nuts for galvanized steel turnbuckles. Please ask for 3000T751 and specify thread size.

Eye to Eye



Cap., lbs.	Retracted Lg.	Max. Adjustment	(A)	(B)	Thread Size		
Galvanized Steel with Round Eyes							
500	8″	4″	1/2″	—	1/4″-20	2999T51	$13.37
800	9″	4 1/2″	5/8″	—	5/16″-18	2999T52	16.62
1,200	11 1/2″	6″	3/4″	—	3/8″-16	2999T53	17.96
2,200	13″	6″	1″	—	1/2″-13	2999T54	20.92
2,200	16″	9″	1″	—	1/2″-13	2999T55	28.79
2,200	19″	12″	1″	—	1/2″-13	2999T56	33.32
3,500	13 1/2″	6″	1 1/4″	—	5/8″-11	2999T57	26.33
3,500	17″	9″	1 1/4″	—	5/8″-11	2999T58	38.45
3,500	20 1/2″	12″	1 1/4″	—	5/8″-11	2999T59	41.77
5,200	14 3/4″	6″	1 1/2″	—	3/4″-10	2999T61	44.97
5,200	18″	9″	1 1/2″	—	3/4″-10	2999T62	53.89
5,200	21 3/4″	12″	1 1/2″	—	3/4″-10	2999T63	62.98
5,200	27 3/4″	18″	1 1/2″	—	3/4″-10	2999T64	79.62
7,200	18″	6″	1 3/4″	—	7/8″-9	2999T481	70.60
7,200	22 1/2″	12″	1 3/4″	—	7/8″-9	2999T65	80.77
7,200	28 1/2″	18″	1 3/4″	—	7/8″-9	2999T66	106.36
10,000	17″	6″	2″	—	1″-8	2999T67	83.88
10,000	25″	12″	2″	—	1″-8	2999T68	91.39
10,000	31″	18″	2″	—	1″-8	2999T69	121.91
316 Stainless Steel with Oval Eyes							
500	8″	4″	5/16″	3/4″	1/4″-20	3022T31	27.82
800	9 1/4″	4 1/2″	7/16″	15/16″	5/16″-18	3022T32	39.52
1,200	11 1/2″	6″	1/2″	1 1/8″	3/8″-16	3022T33	54.38
2,200	13″	6″	3/4″	17/16″	1/2″-13	3022T34	86.59
3,500	14 1/2″	6″	7/8″	1 3/4″	5/8″-11	3022T35	145.77
5,200	16 1/4″	6″	1″	2 1/16″	3/4″-10	3022T36	208.62

Clevis to Eye



Cap., lbs.	Retracted Lg.	Max. Adjustment	(A)	(B)	(C)	(D)	Thread Size		
Galvanized Steel with Round Eye									
500	8 1/4″	4″	1/2″	—	3/8″	1/4″	1/4″-20	3000T51	$16.37
800	9 1/4″	4 1/2″	5/8″	—	15/32″	1/4″	5/16″-18	3000T52	19.42
1,200	11 1/2″	6″	3/4″	—	1/2″	5/16″	3/8″-16	3000T53	21.89
2,200	13 1/4″	6″	1″	—	5/8″	7/16″	1/2″-13	3000T54	23.19
2,200	16 1/4″	9″	1″	—	5/8″	7/16″	1/2″-13	3000T55	29.93
2,200	19 1/4″	12″	1″	—	5/8″	7/16″	1/2″-13	3000T56	35.03
3,500	14 3/4″	6″	1 1/4″	—	7/8″	1/2″	5/8″-11	3000T57	32.04
3,500	18″	9″	1 1/4″	—	7/8″	1/2″	5/8″-11	3000T58	41.00
3,500	21 1/4″	12″	1 1/4″	—	7/8″	1/2″	5/8″-11	3000T59	47.16
5,200	15 3/4″	6″	1 1/2″	—	15/16″	5/8″	3/4″-10	3000T61	48.18
5,200	18 3/4″	9″	1 1/2″	—	15/16″	5/8″	3/4″-10	3000T62	53.65
5,200	22″	12″	1 1/2″	—	15/16″	5/8″	3/4″-10	3000T63	65.82
5,200	28″	18″	1 1/2″	—	15/16″	5/8″	3/4″-10	3000T64	80.69
7,200	19″	6″	1 3/4″	—	1 1/8″	3/4″	7/8″-9	3000T32	80.14
7,200	23 1/2″	12″	1 3/4″	—	1 1/8″	3/4″	7/8″-9	3000T65	84.88
7,200	29 1/2″	18″	1 3/4″	—	1 1/8″	3/4″	7/8″-9	3000T66	112.42
10,000	19 1/4″	6″	2″	—	1 3/16″	7/8″	1″-8	3000T67	91.48
10,000	25 1/4″	12″	2″	—	1 3/16″	7/8″	1″-8	3000T68	99.64
10,000	31 1/4″	18″	2″	—	1 3/16″	7/8″	1″-8	3000T69	139.77
316 Stainless Steel with Oval Eye									
500	8″	4″	5/16″	3/4″	7/16″	1/4″	1/4″-20	3022T41	28.69
800	9 1/4″	4 1/2″	7/16″	15/16″	1/2″	1/4″	5/16″-18	3022T42	40.74
1,200	11″	6″	1/2″	1 1/8″	9/16″	5/16″	3/8″-16	3022T43	60.90
2,200	12 1/2″	6″	3/4″	17/16″	5/8″	3/8″	1/2″-13	3022T44	86.69
3,500	14″	6″	7/8″	1 3/4″	3/4″	1/2″	5/8″-11	3022T45	130.00
5,200	15 3/4″	6″	1″	2 1/16″	1″	5/8″	3/4″-10	3022T46	194.81

Hook to Hook



Cap., lbs.	Retracted Lg.	Max. Adjustment	(E)	Thread Size		
Galvanized Steel						
400	8 1/2″	4″	1/4″	1/4″-20	2997T51	$13.37
700	9 1/2″	4 1/2″	1/2″	5/16″-18	2997T52	16.62
1,000	12″	6″	1/2″	3/8″-16	2997T53	17.96
1,500	14 1/4″	6″	13/16″	1/2″-13	2997T54	20.92
1,500	17 1/4″	9″	13/16″	1/2″-13	2997T55	28.79
1,500	20 1/4″	12″	13/16″	1/2″-13	2997T56	33.32
2,200	14 3/4″	6″	13/16″	5/8″-11	2997T57	26.33
2,200	17 3/4″	9″	13/16″	5/8″-11	2997T58	38.45
2,200	20 3/4″	12″	13/16″	5/8″-11	2997T59	41.77
3,000	16 3/4″	6″	7/8″	3/4″-10	2997T61	44.97
3,000	19 3/4″	9″	7/8″	3/4″-10	2997T62	53.89
3,000	22 3/4″	12″	7/8″	3/4″-10	2997T63	62.98
3,000	28 3/4″	18″	7/8″	3/4″-10	2997T64	79.62
5,000	20″	6″	1 1/4″	1″-8	2997T67	83.88
5,000	25 1/2″	12″	1 1/4″	1″-8	2997T68	91.39
316 Stainless Steel—Cast						
300	7″	4″	3/8″	1/4″-20	3022T612	27.82
500	7 3/4″	4 1/2″	7/16″	5/16″-18	3022T622	39.52
700	10 1/2″	6″	1/2″	3/8″-16	3022T632	54.38
1,000	10 1/2″	6″	9/16″	1/2″-13	3022T642	86.59

Hook to Eye



Cap., lbs.	Retracted Lg.	Max. Adjustment	(A)	(B)	(E)	Thread Size		
Galvanized Steel with Round Eye								
400	8 1/4″	4″	1/2″	—	1/4″	1/4″-20	2998T51	$13.37
700	9 1/4″	4 1/2″	5/8″	—	1/2″	5/16″-18	2998T52	16.62
1,000	11 3/4″	6″	3/4″	—	1/2″	3/8″-16	2998T53	17.96
1,500	13 3/4″	6″	1″	—	13/16″	1/2″-13	2998T54	20.92
1,500	16 3/4″	9″	1″	—	13/16″	1/2″-13	2998T55	28.79
1,500	19 3/4″	12″	1″	—	13/16″	1/2″-13	2998T56	33.32
2,200	14 1/4″	6″	1 1/4″	—	13/16″	5/8″-11	2998T57	26.33
2,200	17 1/2″	9″	1 1/4″	—	13/16″	5/8″-11	2998T58	38.45
2,200	20 3/4″	12″	1 1/4″	—	13/16″	5/8″-11	2998T59	41.77
3,000	15 3/4″	6″	1 1/2″	—	7/8″	3/4″-10	2998T61	44.97
3,000	19″	9″	1 1/2″	—	7/8″	3/4″-10	2998T62	53.89
3,000	22 1/4″	12″	1 1/2″	—	7/8″	3/4″-10	2998T63	62.98
3,000	28 1/4″	18″	1 1/2″	—	7/8″	3/4″-10	2998T64	79.62
5,000	19 3/4″	6″	2″	—	1 1/4″	1″-8	2998T67	83.88
5,000	25 1/4″	12″	2″	—	1 1/4″	1″-8	2998T68	91.39
316 Stainless Steel with Oval Eye—Cast								
300	7 1/2″	4″	5/16″	3/4″	3/8″	1/4″-20	3022T611	27.82
500	8 1/2″	4 1/2″	3/8″	15/16″	7/16″	5/16″-18	3022T621	39.52
700	10 3/4″	6″	1/2″	1 1/8″	1/2″	3/8″-16	3022T631	54.38
1,000	12″	6″	3/4″	17/16″	9/16″	1/2″-13	3022T641	86.59

(Continued on following page)

Turnbuckles *(Continued from previous page)*

Clevis to Clevis



Cap., lbs.	Retracted Lg.	Max. Adjustment	(C)	(D)	Thread Size		
Galvanized Steel							
500	8½″	4″	⅜″	¼″	¼″-20	3001T51	$19.48
800	9¼″	4½″	15⁄32″	¼″	5⁄16″-18	3001T52	23.20
1,200	11½″	6″	½″	5⁄16″	⅜″-16	3001T53	25.89
2,200	13½″	6″	⅝″	7⁄16″	½″-13	3001T54	27.70
2,200	16½″	9″	⅝″	7⁄16″	½″-13	3001T55	36.45
2,200	19½″	12″	⅝″	7⁄16″	½″-13	3001T56	41.07
3,500	14¾″	6″	⅞″	½″	⅝″-11	3001T57	37.25
3,500	18¾″	9″	⅞″	½″	⅝″-11	3001T58	49.87
3,500	21¾″	12″	⅞″	½″	⅝″-11	3001T59	56.98
5,200	16½″	6″	15⁄16″	⅝″	¾″-10	3001T61	50.25
5,200	19½″	9″	15⁄16″	⅝″	¾″-10	3001T62	56.20
5,200	22½″	12″	15⁄16″	⅝″	¾″-10	3001T63	68.71
5,200	28½″	18″	15⁄16″	⅝″	¾″-10	3001T64	82.69
7,200	19½″	6″	1 5⁄32″	¾″	⅞″-9	3001T32	88.72
7,200	24½″	12″	1 5⁄32″	¾″	⅞″-9	3001T65	89.26
7,200	30½″	18″	1 5⁄32″	¾″	⅞″-9	3001T66	110.74
10,000	20¼″	6″	1 3⁄16″	⅞″	1″-8	3001T67	97.91
10,000	25½″	12″	1 3⁄16″	⅞″	1″-8	3001T68	107.38
10,000	31½″	18″	1 3⁄16″	⅞″	1″-8	3001T69	145.23
10,000	39¾″	24″	1 3⁄8″	⅞″	1″-8	3001T71	254.60
15,200	31¾″	12″	1¾″	1⅛″	1¼″-7	3001T72	274.18
15,200	38¼″	18″	1¾″	1⅛″	1¼″-7	3001T73	342.60
15,200	44¼″	24″	1¾″	1⅛″	1¼″-7	3001T74	454.89
316 Stainless Steel							
500	7¾″	4″	7⁄16″	¼″	¼″-20	3022T51	34.00
800	9″	4½″	½″	¼″	5⁄16″-18	3022T52	47.62
1,200	10¾″	6″	9⁄16″	5⁄16″	⅜″-16	3022T53	66.51
2,200	12″	6″	⅝″	⅜″	½″-13	3022T54	88.00
3,500	13½″	6″	¾″	½″	⅝″-11	3022T55	133.07
5,200	15″	6″	1″	⅝″	¾″-10	3022T56	178.51
8,000	18″	6″	1¼″	⅞″	1″-8	3022T59	311.22

Unthreaded Stub to Stub

Also Available: Threaded stud to stud turnbuckles. For galvanized steel, please ask for 3041T777 and specify capacity and retracted length. For 316 stainless steel, please ask for 3022T888 and specify capacity and retracted length.



Cap., lbs.	Retracted Lg.	Max. Adjustment	(F)	Thread Size		
Galvanized Steel						
500	10″	4″	2 9⁄16″	¼″-20	3041T81	$13.07
800	11″	4½″	2 9⁄16″	5⁄16″-18	3041T82	16.09
1,200	16″	6″	4″	⅜″-16	3041T83	17.06
2,200	16″	6″	4″	½″-13	3041T84	19.30
2,200	19″	9″	4″	½″-13	3041T85	26.39
2,200	22″	12″	4″	½″-13	3041T86	33.85
3,500	16″	6″	3½″	⅝″-11	3041T87	23.91
3,500	19″	9″	3½″	⅝″-11	3041T88	35.02
3,500	22″	12″	3½″	⅝″-11	3041T89	39.97
5,200	17″	6″	4″	¾″-10	3041T71	31.28
5,200	20″	9″	4″	¾″-10	3041T72	40.22
5,200	23″	12″	4″	¾″-10	3041T73	56.53
5,200	29″	18″	4⅜″	¾″-10	3041T74	83.59
7,200	18″	6″	4″	⅞″-9	3041T75	41.67
7,200	24″	12″	4″	⅞″-9	3041T76	72.62
7,200	30″	18″	4″	⅞″-9	3041T77	125.40
9,800	19″	6″	4½″	1″-8	3041T78	51.78
9,800	25″	12″	4½″	1″-8	3041T79	78.18
9,800	31″	18″	4½″	1″-8	3041T91	124.01
14,800	20″	6″	4½″	1¼″-7	3041T92	83.34
21,000	20½″	6″	4¼″	1½″-6	3041T93	120.49
316 Stainless Steel						
500	9″	4″	2″	¼″-20	3022T21	34.63
800	10½″	4½″	2¼″	5⁄16″-18	3022T22	50.50
1,200	13″	6″	2⅞″	⅜″-16	3022T23	68.65
2,200	14¼″	6″	3″	½″-13	3022T24	99.47
3,500	15″	6″	3¼″	⅝″-11	3022T25	160.88
5,200	16″	6″	3½″	¾″-10	3022T26	190.82
8,000	18″	6″	4″	1″-8	3022T29	253.89

Turnbuckle Components

To Order: For all end fittings, specify right- or left-hand thread. **Also Available:** Stud end fittings. For galvanized steel, please ask for 2997T777 and specify thread size and max. adjustment. For 316 stainless steel, please ask for 3022T777 and specify thread size and max. adjustment.







Oval Eye

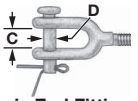

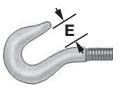

Thread Size	Max. Adjustment	Bodies O'all Lg.			Eye End Fittings (A)	(B)			Clevis End Fittings (C)	(D)			Hook End Fittings (E)		
Galvanized Steel															
¼″-20	4″	4 13⁄16″	30045T41	$7.54	½″	—	2999T741	$4.12	⅜″	¼″	3001T11	$7.64	¼″	2997T101	$4.12
5⁄16″-18	4½″	5 9⁄16″	30045T42	10.07	⅝″	—	2999T742	5.16	15⁄32″	¼″	3001T12	8.23	½″	2997T102	5.16
⅜″-16	6″	7⅛″	30045T43	10.58	¾″	—	2999T743	5.95	½″	5⁄16″	3001T13	9.38	½″	2997T103	5.95
½″-13	6″	7½″	30045T44	11.85	1″	—	2999T744	7.09	⅝″	7⁄16″	3001T14	9.90	13⁄16″	2997T104	7.09
½″-13	9″	10½″	30045T45	17.52	1″	—	2999T745	8.33	⅝″	7⁄16″	3001T15	12.71	13⁄16″	2997T105	8.33
½″-13	12″	13½″	30045T46	20.38	1″	—	2999T746	10.45	⅝″	7⁄16″	3001T16	14.21	13⁄16″	2997T106	10.45
⅝″-11	6″	7⅞″	30045T47	14.68	1¼″	—	2999T747	9.54	⅞″	½″	3001T17	15.05	13⁄16″	2997T107	9.54
⅝″-11	9″	10⅞″	30045T48	21.01	1¼″	—	2999T748	12.71	⅞″	½″	3001T18	18.57	13⁄16″	2997T108	12.71
⅝″-11	12″	13⅞″	30045T49	24.07	1¼″	—	2999T749	13.30	⅞″	½″	3001T19	21.06	13⁄16″	2997T109	13.30
¾″-10	6″	8¼″	30045T51	19.75	1½″	—	2999T751	18.92	15⁄16″	⅝″	3001T21	20.61	⅞″	2997T111	18.92
¾″-10	9″	11¼″	30045T52	23.54	1½″	—	2999T752	18.92	15⁄16″	⅝″	3001T22	22.21	⅞″	2997T112	20.88
¾″-10	12″	14¼″	30045T53	35.74	1½″	—	2999T753	20.88	15⁄16″	⅝″	3001T23	27.29	⅞″	2997T113	21.33
¾″-10	18″	20¼″	30045T54	53.62	1½″	—	2999T754	21.33	15⁄16″	⅝″	3001T24	28.38	⅞″	2997T114	23.23
⅞″-9	6″	8⅝″	30045T28	24.99	1¾″	—	2999T755	30.55	1⅛″	¾″	3001T25	37.71	1 1⁄16″	2997T115	30.55
⅞″-9	12″	14⅝″	30045T55	38.09	1¾″	—	2999T756	29.08	1⅛″	¾″	3001T26	38.77	1 1⁄16″	2997T116	29.08
⅞″-9	18″	20⅝″	30045T56	74.77	1¾″	—	2999T757	31.53	1⅛″	¾″	3001T27	41.39	1 1⁄16″	2997T117	31.53
1″-8	6″	9″	30045T57	30.81	2″	—	2999T758	36.98	1 3⁄16″	⅞″	3001T28	41.39	1¼″	2997T118	36.98
1″-8	12″	15″	30045T58	46.14	2″	—	2999T759	38.91	1 3⁄16″	⅞″	3001T29	44.27	1¼″	2997T119	38.91
1″-8	18″	21″	30045T59	74.77	2″	—	2999T761	42.18	1 3⁄16″	⅞″	3001T31	56.79	1¼″	2997T121	42.18
1¼″-7	6″	9¾″	30045T85	50.61	—	—	—	—	—	—	—	—	—	—	—
1¼″-7	12″	15⅛″	30045T62	90.04	1 13⁄16″	3 9⁄16″	2999T764★	109.46	1¾″	1⅛″	3001T34	159.93	—	—	—
1¼″-7	18″	21⅛″	30045T63	142.36	1 13⁄16″	3 9⁄16″	2999T765★	140.84	1¾″	1⅛″	3001T35	184.16	—	—	—
1¼″-7	24″	27⅜″	30045T64	197.30	1 13⁄16″	3 9⁄16″	2999T766★	167.70	1¾″	1⅛″	3001T36	238.76	—	—	—
316 Stainless Steel															
¼″-20	4″	4¾″	3022T11	14.53	5⁄16″	13⁄16″	3022T892★	6.27	7⁄16″	¼″	3022T884	11.38	⅜″	3022T899	3.67
5⁄16″-18	4½″	5½″	3022T12	19.38	7⁄16″	15⁄16″	3022T893★	9.56	½″	¼″	3022T885	16.02	7⁄16″	3022T901	7.16
⅜″-16	6″	7⅛″	3022T13	27.19	½″	1 1⁄16″	3022T894★	15.62	9⁄16″	5⁄16″	3022T886	25.00	½″	3022T902	14.04
½″-13	6″	7½″	3022T14	42.53	¾″	1⅜″	3022T895★	24.44	⅝″	⅜″	3022T887	29.18	9⁄16″	3022T903	21.76
⅝″-11	6″	7 13⁄16″	3022T15	68.33	⅞″	1 11⁄16″	3022T896★	37.69	¾″	½″	3022T906	47.24	¾″	3022T904	35.00
¾″-10	6″	8 3⁄16″	3022T16	88.37	1″	2″	3022T897★	54.69	1″	⅝″	3022T889	62.09	15⁄16″	3022T905	34.73
1″-8	6″	9″	3022T19	116.60	1⅜″	3″	3022T898★	91.89	1¼″	⅞″	3022T891	121.91	—	—	—

★ Eye is oval.

Weld-Mount Turnbuckles

These weldable turnbuckles and bodies are forged steel and meet ASTM F1145-05 Type 1, Grade 1. Stub and stud ends are steel. **Stub ends** are unthreaded. **Stud ends** are fully threaded. **To Order:** For replacement end fittings, please specify right- or left-hand thread.

Also Available: Jam nuts. Please ask for 2995T911 and specify thread size.



Cap., lbs.	Max. Adjustment	(F)	Thread Size	Turnbuckles: Retracted Lg.	Stub Ends		Stud Ends		Repl. Bodies: O'all Lg			Replacement Stub Ends	Replacement Stud Ends
500	4″	2 9/16″	1/4″-20	10″	2996T14	$11.94	2996T521	$12.28	4 13/16″	2995T14	$6.12	2995T795 $2.68	2995T821 $2.80
800	4 1/2″	2 9/16″	5/16″-18	11″	2996T15	14.35	2996T522	15.13	5 9/16″	2995T15	8.20	2995T796 2.94	2995T822 3.06
1,200	6″	4″	3/8″-16	16″	2996T16	15.23	2996T523	15.66	7 1/8″	2995T16	8.58	2995T797 3.20	2995T823 3.33
2,200	6″	4″	1/2″-13	16″	2996T17	17.22	2996T524	17.71	7 1/2″	2995T17	9.21	2995T798 3.68	2995T824 3.83
2,200	9″	4″	1/2″-13	19″	2996T18	24.13	2996T525	24.83	10 1/2″	2995T18	14.23	2995T799 4.48	2995T825 4.67
2,200	12″	4″	1/2″-13	22″	2996T19	30.95	2996T526	31.84	13 1/2″	2995T19	16.54	2995T801 6.65	2995T826 6.93
3,500	6″	3 1/2″	5/8″-11	16″	2996T21	19.49	2996T527	21.95	7 7/8″	2995T21	11.40	2995T802 4.59	2995T827 4.79
3,500	9″	3 1/2″	5/8″-11	19″	2996T22	32.02	2996T528	32.95	10 7/8″	2995T22	16.33	2995T803 6.87	2995T828 7.16
3,500	12″	3 1/2″	5/8″-11	22″	2996T23	36.54	2996T529	37.59	13 7/8″	2995T23	19.56	2995T804 7.83	2995T829 8.16
5,200	6″	4″	3/4″-10	17″	2996T24	27.28	2996T531	28.72	8 1/4″	2995T24	15.29	2995T805 5.81	2995T831 6.05
5,200	9″	4″	3/4″-10	20″	2996T25	36.79	2996T532	37.85	11 1/4″	2995T25	18.68	2995T806 8.16	2995T832 8.50
5,200	12″	4″	3/4″-10	23″	2996T26	50.47	2996T533	53.20	14 1/4″	2995T26	28.33	2995T807 10.37	2995T833 10.80
5,200	18″	3 7/8″	3/4″-10	29″	2996T47	74.63	2996T534	78.66	20 1/4″	2995T47	42.57	2995T808 14.99	2995T834 15.62
7,200	6″	4″	7/8″-9	18″	2996T28	34.73	2996T535	38.26	8 5/8″	2995T28	19.41	2995T809 8.19	2995T835 8.54
7,200	12″	4″	7/8″-9	24″	2996T29	63.32	2996T536	68.32	14 5/8″	2995T29	30.95	2995T811 16.61	2995T836 17.30
9,800	6″	4 1/2″	1″-8	19″	2996T321	42.22	2996T538	47.55	9″	2995T321★	24.43	2995T813 10.08	2995T838 10.76
9,800	12″	4 1/2″	1″-8	25″	2996T331	69.80	2996T539	73.56	15″	2995T331★	32.89	2995T814 15.35	2995T839 16.38
9,800	18″	4 1/2″	1″-8	31″	2996T52	110.72	2996T541	116.69	21″	2995T52★	54.39	2995T815 24.22	2995T841 25.23
14,800	6″	4 1/2″	1 1/4″-7	20″	2996T371	67.95	2996T542	76.52	9 3/4″	2995T371	36.45	2995T816 15.96	2995T843 17.04
21,000	6″	4 11/16″	1 1/2″-6	20 1/2″	2996T431	106.96	2996T543	110.61	10 3/8″	2995T431	56.20	2995T817 20.47	2995T847 21.86

★ Capacity is 10,000 lbs.

Closed-Body Turnbuckles

The closed body protects threads from damage and debris and has a slim profile to fit in tight spaces. Made of 18-8 stainless steel, they have excellent resistance to salt water and chemicals. Jam nuts are included.

Clevis end fittings pivot for easier connections and include a clevis pin with cotter ring.

Also Available: Replacement bodies and end fittings.

For replacement bodies, please ask for 3082T666 and specify thread size.

For replacement end fittings, please ask for 3082T888 and specify type of end fitting (eye, clevis, or hook), thread size, and right- or left-hand thread.

Eye to Eye



Cap., lbs.	Retracted Lg.	Max. Adjustment	(A)	Thread Size		
400	6 1/2″	2 1/2″	5/16″	10-32	3082T11	$21.00
1,000	8″	3″	3/8″	1/4″-28	3082T12	30.64
1,600	9″	3 3/4″	1/2″	5/16″-24	3082T13	37.95
2,800	10″	4 1/4″	5/8″	3/8″-24	3082T14	73.00
4,200	12″	4 3/4″	3/4″	1/2″-20	3082T15	102.20
5,900	14″	5″	7/8″	5/8″-18	3082T16	128.14

Clevis to Eye



Cap., lbs.	Retracted Lg.	Max. Adjustment	(A)	(C)	(D)	Thread Size		
400	6 1/2″	2 1/2″	5/16″	3/16″	3/16″	10-32	3082T21	$22.89
1,000	8″	3″	3/8″	1/4″	1/4″	1/4″-28	3082T22	32.70
1,600	9″	3 3/4″	1/2″	5/16″	5/16″	5/16″-24	3082T23	40.00
2,800	9 1/2″	4 1/4″	5/8″	3/8″	3/8″	3/8″-24	3082T24	77.29
4,200	12″	4 3/4″	3/4″	1/2″	1/2″	1/2″-20	3082T25	127.62
5,900	14″	5″	7/8″	5/8″	5/8″	5/8″-18	3082T26	186.60

Hook to Hook



Cap., lbs.	Retracted Lg.	Max. Adjustment	(E)	Thread Size		
80	6 1/2″	2 1/2″	1/4″	10-32	3082T37	$42.23
100	8″	3″	3/8″	1/4″-28	3082T42	43.83
200	9″	3 3/4″	1/2″	5/16″-24	3082T45	51.05
400	10″	4 1/4″	5/8″	3/8″-24	3082T48	74.22
700	12″	4 3/4″	3/4″	1/2″-20	3082T52	116.53
1,200	14″	5″	7/8″	5/8″-18	3082T55	147.75

Hook to Eye



Cap., lbs.	Retracted Lg.	Max. Adjustment	(A)	(E)	Thread Size		
80	6 1/2″	2 1/2″	5/16″	1/4″	10-32	3082T38	$35.16
100	8″	3″	3/8″	3/8″	1/4″-28	3082T43	38.75
200	9″	3 3/4″	1/2″	1/2″	5/16″-24	3082T46	44.50
400	10″	4 1/4″	5/8″	5/8″	3/8″-24	3082T49	71.50
700	12″	4 3/4″	3/4″	3/4″	1/2″-20	3082T53	107.00
1,200	14″	5″	7/8″	7/8″	5/8″-18	3082T56	137.75

Clevis to Clevis



Cap., lbs.	Retracted Lg.	Max. Adjustment	(C)	(D)	Thread Size		
400	6 1/2″	2 1/2″	3/16″	3/16″	10-32	3082T31	$22.95
1,000	8″	3″	1/4″	1/4″	1/4″-28	3082T32	33.78
1,600	9″	3 3/4″	5/16″	5/16″	5/16″-24	3082T33	42.09
2,800	9 1/2″	4 1/4″	3/8″	3/8″	3/8″-24	3082T34	72.45
4,200	12″	4 3/4″	1/2″	1/2″	1/2″-20	3082T35	149.37
5,900	14″	5″	5/8″	5/8″	5/8″-18	3082T36	206.54

Hook to Clevis



Cap., lbs.	Retracted Lg.	Max. Adjustment	(C)	(D)	(E)	Thread Size		
80	6 1/2″	2 1/2″	3/16″	3/16″	1/4″	10-32	3082T41	$33.75
100	8″	3″	1/4″	1/4″	3/8″	1/4″-28	3082T44	39.23
200	9″	3 3/4″	5/16″	5/16″	1/2″	5/16″-24	3082T47	45.75
400	10″	4 1/4″	3/8″	3/8″	5/8″	3/8″-24	3082T51	71.17
700	12″	4 3/4″	1/2″	1/2″	3/4″	1/2″-20	3082T54	131.12
1,200	14″	5″	5/8″	5/8″	7/8″	5/8″-18	3082T57	185.72

Light Duty Turnbuckles

Made of cast 316 stainless steel (unless noted), these turnbuckles are the economical choice when you need corrosion resistance.

Clevis end fittings include a clevis pin with cotter ring.

Also Available: For replacement bodies, ask for 30315T666 and specify thread size. For jam nuts and replacement end fittings, ask for 30315T333 and specify jam nut or type of end fitting (eye, clevis, hook, or stub), thread size, and right- or left-hand thread.

Eye to Eye



Cap., lbs.	Retracted Lg.	Max. Adjustment	(A)	Thread Size		
300	5½″	2½″	⅜″	10-24	30315T57	$11.95
400	6½″	3″	7/16″	¼″-20	30315T52	13.45
800	8¼″	4″	½″	5/16″-18	30315T53	20.00
1,200	11½″	6″	⅝″	⅜″-16	30315T54	24.63
2,200	12″	6″	¾″	½″-13	30315T15	37.26
2,800	15½″	8″	⅞″	⅝″-11	30315T56	80.67
3,500	19″	10″	1⅛″	¾″-10	30315T771	130.00

Hook to Hook



Cap., lbs.	Retracted Lg.	Max. Adjustment	(E)	Thread Size		
100	5½″	2½″	5/16″	10-24	30315T31	$11.95
200	6½″	3″	⅜″	¼″-20	30315T32	13.45
400	8¼″	4″	7/16″	5/16″-18	30315T33	20.00
700	11½″	6″	½″	⅜″-16	30315T34	24.63
1,000	12″	6″	⅝″	½″-13	30315T35	37.26
1,600	15¾″	8″	⅝″	⅝″-11	30315T37	80.67
2,000	19½″	10″	1⅛″	¾″-10	30315T773	130.00

Clevis to Clevis



Cap., lbs.	Retracted Lg.	Max. Adjustment	(C)	(D)	Thread Size		
300	5¼″	2½″	5/16″	3/16″	10-24	30315T611	$15.93
400	6¼″	3″	⅜″	¼″	¼″-20	30315T612	19.80
800	7¾″	4″	⅜″	5/16″	5/16″-18	30315T613	26.02
1,200	10¾″	6″	7/16″	⅜″	⅜″-16	30315T614	34.13
2,200	12″	6″	9/16″	7/16″	½″-13	30315T615	42.59
2,800	15¾″	8″	11/16″	⅝″	⅝″-11	30315T616	114.71
3,500	19½″	10″	⅞″	¾″	¾″-10	30315T617	177.71

Clevis to Eye



Cap., lbs.	Retracted Lg.	Max. Adjustment	(A)	(C)	(D)	Thread Size		
300	5½″	2½″	⅜″	5/16″	3/16″	10-24	30315T411	$15.93
400	6½″	3″	7/16″	⅜″	¼″	¼″-20	30315T412	19.80
800	8¼″	4″	½″	⅜″	5/16″	5/16″-18	30315T413	26.02
1,200	11½″	6″	⅝″	7/16″	⅜″	⅜″-16	30315T414	34.13
2,200	12″	6″	¾″	9/16″	7/16″	½″-13	30315T415	42.69
2,800	15¾″	8″	⅞″	11/16″	⅝″	⅝″-11	30315T416	99.77
3,500	19½″	10″	1⅛″	¾″	¾″	¾″-10	30315T417	159.52

Hook to Eye



Cap., lbs.	Retracted Lg.	Max. Adjustment	(A)	(E)	Thread Size		
100	5½″	2½″	⅜″	5/16″	10-24	30315T21	$11.95
200	6½″	3″	7/16″	⅜″	¼″-20	30315T22	13.45
400	8¼″	4″	½″	7/16″	5/16″-18	30315T23	20.00
700	11½″	6″	⅝″	½″	⅜″-16	30315T24	24.63
1,000	12″	6″	¾″	⅝″	½″-13	30315T25	37.26
1,600	15¾″	8″	⅞″	⅝″	⅝″-11	30315T27	80.67
2,000	19½″	10″	1⅛″	1⅛″	¾″-10	30315T772	130.00

Stub to Stub—Forged



Cap., lbs.	Retracted Lg.	Max. Adjustment	(F)	Thread Size		
300	5¼″	2½″	11/16″	10-24	30315T111	$15.41
400	9¼″	3″	2″	¼″-20	30315T112	26.51
800	10¾″	4″	2⅛″	5/16″-18	30315T113	40.54
1,200	13¼″	6″	2½″	⅜″-16	30315T114	54.02
2,200	14½″	6″	3″	½″-13	30315T115	76.12
2,800	16¼″	8″	3¼″	⅝″-11	30315T116	131.75
3,500	18¾″	10″	3⅜″	¾″-10	30315T117	174.10

Miniature Turnbuckles

If you have small-wire applications that require low tension, these are the turnbuckles you need.

Closed-body turnbuckles protect threads from damage and debris and have a slim profile to fit in tight spaces.

Zinc-plated steel is mildly corrosion resistant. **Aluminum** is lightweight and has good corrosion resistance. **18-8 stainless steel** has excellent resistance to salt water and chemicals.

To Order: Please specify end fittings: eye to eye, hook to eye, or hook to hook.



Open Body with Eye to Eye



Open Body with Hook to Eye



Closed Body with Hook to Hook

Cap., lbs.	Retracted Lg.	Max. Adjustment	(A)	(E)	Thread Size		
Open Body							
Steel with Zinc-Plated Steel End Fittings							
Not Rated	3½″	1¼″	5/16″	5/16″	8-32	3010T2	$1.12
Not Rated	4½″	1⅝″	5/16″	5/16″	10-24	3010T3	1.22
Not Rated	6″	2⅜″	7/16″	7/16″	¼″-20	3010T4	2.00
Not Rated	6¾″	2¾″	9/16″	9/16″	5/16″-18	3010T5	2.51
Not Rated	7¾″	3″	⅝″	⅝″	⅜″-16	3010T6	2.97
Aluminum with Zinc-Plated Steel End Fittings							
30	3½″	1¼″	¼″	¼″	8-32	3003T3	1.18
30	4″	1½″	5/16″	5/16″	10-24	3003T4	1.24
50	4½″	1⅞″	⅜″	⅜″	12-24	3003T5	1.32
60	5½″	2⅛″	7/16″	7/16″	¼″-20	3003T6	1.41
90	6¾″	2½″	9/16″	½″	5/16″-18	3003T7	2.34
100	7½″	3″	11/16″	9/16″	⅜″-16	3003T8	3.37

Cap., lbs.	Retracted Lg.	Max. Adjustment	(A)	(E)	Thread Size		
Open Body (Cont.)							
Aluminum with 18-8 Stainless Steel End Fittings							
30	3½″	1¼″	¼″	¼″	8-32	30095T7	$3.96
30	4″	1½″	5/16″	5/16″	10-24	30095T4	4.14
50	4½″	1⅞″	⅜″	⅜″	12-24	30095T8	4.56
60	5½″	2⅛″	7/16″	7/16″	¼″-20	30095T5	5.89
90	6¾″	2½″	9/16″	½″	5/16″-18	30095T9	9.44
100	7½″	3″	11/16″	9/16″	⅜″-16	30095T6	11.79
Closed Body							
Aluminum with Zinc-Plated Steel End Fittings							
40	4¼″	1 11/16″	¼″	¼″	10-24	30125T2	1.37
50	4¾″	1 15/16″	5/16″	5/16″	12-24	30125T3	1.72
90	5½″	2⅛″	⅜″	⅜″	¼″-20	30125T4	1.95
100	6½″	2 9/16″	½″	½″	5/16″-18	30125T5	2.63
200	7½″	3⅛″	⅝″	⅝″	⅜″-16	30125T6	3.34

Grab Hooks—*For Lifting*

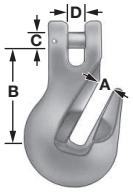

With Clevis

With a narrow opening and contoured sides, these securely hold a single link of chain. All are forged alloy steel. Maximum temperature is 300° F. They meet ASME B30.10.

Extra high-strength (Grade 120) hooks are the strongest hooks we offer. When used with chain of the same grade they are approximately 20% stronger than Grade 100 hooks.

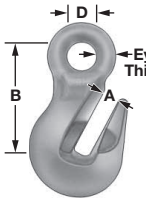

With Eye

For Chain Trade Size	Cap., lbs.	With Clevis (A)	(B)	(C)	(D)			With Eye Eye Thick.	(A)	(B)	(D)		
Extra High-Strength (Grade 120)—Blue Powder-Coated Finish													
9/32"	5,200	—	—	—	—	—	—	7/16"	7/16"	2 11/16"	13/16"	**5493T11**	$17.56
3/8"	10,600	—	—	—	—	—	—	9/16"	1/2"	3 7/16"	7/8"	**5493T12**	23.84
1/2"	17,900	—	—	—	—	—	—	11/16"	11/16"	4 3/8"	1"	**5493T13**	51.11
High-Strength (Grade 100)—Orange Powder-Coated Finish													
7/32"	2,700	5/16"	1 3/4"	5/16"	1/4"	**33985T81**	$20.55	5/16"	5/16"	2 1/16"	7/16"	**34645T21**	12.86
9/32"	4,300	3/8"	2 1/2"	3/8"	3/8"	**33985T82**	24.19	7/16"	3/8"	2 9/16"	5/8"	**34645T22★**	14.76
5/16"	5,700	3/8"	2 1/2"	3/8"	3/8"	**33985T83**	29.14	7/16"	3/8"	2 9/16"	5/8"	**34645T22**	14.76
3/8"	8,800	1/2"	3 1/16"	1/2"	1/2"	**33985T84**	36.14	9/16"	1/2"	3 1/16"	13/16"	**34645T23**	21.28
1/2"	15,000	5/8"	3 11/16"	5/8"	5/8"	**33985T85**	68.05	3/4"	5/8"	4"	1"	**34645T24**	37.73
5/8"	22,600	3/4"	4 9/16"	3/4"	13/16"	**33985T86**	92.61	15/16"	3/4"	4 3/4"	1 1/4"	**34645T25**	58.23
3/4"	35,300	7/8"	5 1/2"	15/16"	7/8"	**33985T87**	133.89	1"	15/16"	5 15/16"	1 3/8"	**34645T26**	78.88

★Capacity is 5,700 lbs.

Grab Hooks with Securing Pin—*For Lifting*

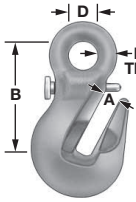

High-Strength (Grade 100)

A spring-loaded pin ensures chain won't separate from the hook when the load slackens. All hooks are forged alloy steel. They meet ASME B30.10.

High-strength (Grade 100) hooks are approximately 20% stronger than Grade 80 hooks when used with chain of the same grade. Hooks have a maximum temperature of 400° F.

General purpose (Grade 80) have a maximum temperature of 300° F.

Also Available: Securing pin repair kit for general purpose (Grade 80) hooks. Please ask for 3702T88 and specify chain trade size.

For Chain Trade Size	Cap., lbs.	Eye Thick.	(A)	(B)	(D)	With Eye	
High-Strength (Grade 100)—Orange Powder-Coated Finish							
9/32", 5/16"	5,700	1/2"	3/8"	2 9/16"	5/8"	**5142T1**	$35.23
3/8"	8,800	9/16"	1/2"	3 1/16"	13/16"	**5142T2**	42.19
1/2"	15,000	3/4"	5/8"	4"	1"	**5142T3**	72.23
5/8"	22,600	15/16"	3/4"	4 3/4"	1 1/4"	**5142T4**	111.30

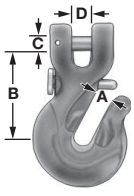

General Purpose (Grade 80)

For Chain Trade Size	Cap., lbs.	(A)	(B)	(C)	(D)	With Clevis	
General Purpose (Grade 80)—Red Powder-Coated Finish							
1/4", 5/16"	3,500	3/8"	2 3/8"	5/16"	7/16"	**3702T21**	$49.02
3/8"	7,100	1/2"	2 13/16"	7/16"	1/2"	**3702T22**	57.19
1/2"	12,000	5/8"	3 13/16"	5/8"	3/4"	**3702T23**	69.80
5/8"	18,100	11/16"	4 1/2"	3/4"	11/16"	**3702T24**	88.30
3/4"	28,300	7/8"	5 13/16"	1"	7/8"	**3702T25**	169.67

Grab Hooks—*Not for Lifting*

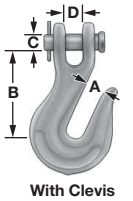

With Clevis

Often used in binding and tie-down applications, these hooks have a narrow opening to securely hold a single link of chain. Hooks are forged. Maximum temperature is 400° F.

316 stainless steel hooks have excellent resistance to salt water and chemicals.

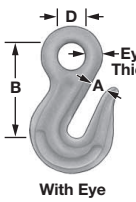

With Eye

For Chain Trade Size	Cap., lbs.	With Clevis (A)	(B)	(C)	(D)			With Eye Eye Thick.	(A)	(B)	(D)		
Steel—Orange-Painted Finish													
1/4"	3,500	3/8"	1 7/8"	5/16"	5/16"	**3536T54**	$7.44	3/8"	3/8"	2"	1/2"	**3536T81**	$6.48
5/16"	4,500	7/16"	2 3/8"	3/8"	3/8"	**3536T55**	10.84	7/16"	7/16"	2 3/8"	5/8"	**3536T82**	9.20
3/8"	7,100	1/2"	2 5/8"	1/2"	7/16"	**3536T56**	14.23	1/2"	1/2"	2 3/4"	3/4"	**3536T83**	10.91
7/16"	6,900	9/16"	3"	1/2"	1/2"	**3536T87**	21.30	9/16"	9/16"	3 3/16"	13/16"	**3536T84■**	20.07
1/2"	12,000	5/8"	3 5/16"	9/16"	9/16"	**3536T78**	25.61	5/8"	5/8"	3 9/16"	15/16"	**3536T85**	22.76
5/8"	18,100	3/4"	3 15/16"	3/4"	3/4"	**3536T79**	48.86	11/16"	11/16"	4 9/16"	1 1/16"	**3536T86**	39.30
316 Stainless Steel													
1/4"	1,500	5/16"	1 13/16"	3/8"	5/16"	**38115T3**	19.55	1/4"	5/16"	2"	1/2"	**38405T1**	15.78
5/16"	2,000	3/8"	2 1/16"	3/8"	3/8"	**38115T4**	27.98	5/16"	3/8"	2 1/4"	9/16"	**38405T2**	23.62
3/8"	2,500	1/2"	2 9/16"	7/16"	7/16"	**38115T5**	37.55	3/8"	1/2"	2 1/2"	5/8"	**38405T3**	34.30
1/2"	3,600	5/8"	2 13/16"	1/2"	1/2"	**38115T6**	81.83	1/4"	5/8"	3 3/8"	7/8"	**38405T4**	74.26

■ Has a clear finish.

Hooks—For Lifting

A spring latch ensures rope, chain, and fittings won't separate from the hook when the load slackens. The hook opening accommodates large anchor points. Hooks have a spring latch.

Extra high-strength (Grade 120) hooks are the strongest hooks we offer. When used with chain of the same grade, they are approximately 20% stronger than Grade 100 hooks and about 35% stronger than Grade 80 hooks. They're alloy steel. Maximum temperature is 300° F. All meet ASME B30.10.

High-strength (Grade 100) hooks are approximately 20% stronger than Grade 80 hooks when used with chain of the same grade. They are alloy steel. Maximum temperature is 300° F. All meet ASME B30.10. *Epoxy-coated hooks* are more corrosion resistant than powder-coated hooks.

General purpose (Grade 80) hooks are alloy steel. Maximum temperature is 400°. They meet ASME B30.9 (unless noted). *Hooks with half link* have a built-in half-link connector.

Corrosion resistant (Grade 63) hooks are approximately 60% as strong as Grade 80 hooks when used with chain of the same grade. They're 318LN stainless steel for excellent resistance to salt water and chemicals. Maximum temperature is 700° F.

Replacement latches include a latch, spring, and installation hardware.

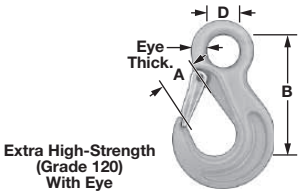

Extra High-Strength (Grade 120) With Eye

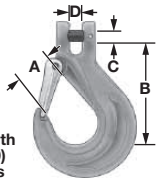

High-Strength (Grade 100) With Clevis

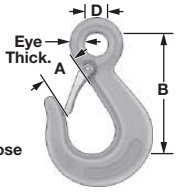

General Purpose (Grade 80) with Eye

For Chain Trade Size	With Clevis: Cap., lbs.	(A)	(B)	(C)	(D)			With Eye: Cap., lbs.	Eye Thick.	(A)	(B)	(D)			Replacement Latches	
Extra High-Strength (Grade 120)—Blue Powder-Coated Finish																
9/32"	—	—	—	—	—	—	—	5,200	7/16"	1"	4"	1"	5502T5	$36.10	33795T112	$11.92
3/8"	—	—	—	—	—	—	—	10,600	5/8"	1 1/4"	5 3/16"	1 5/16"	5502T7	56.00	33795T113	13.73
1/2"	—	—	—	—	—	—	—	17,900	3/4"	1 9/16"	6 1/4"	1 11/16"	5502T9	81.76	33795T114	17.08
High-Strength (Grade 100)—Black Epoxy-Coated Finish																
7/32"	2,700	3/4"	2 11/16"	5/16"	1/4"	33795T61	$32.41	2,700	3/8"	3/4"	3 5/16"	3/4"	33825T87	23.36	33795T111	8.81
9/32"	4,300	1"	3 3/4"	3/8"	3/8"	33795T82	39.67	5,700	7/16"	1"	4 3/16"	1"	33825T88	32.83	33795T112	11.92
5/16"	5,700	1"	3 11/16"	3/8"	3/8"	33795T62	41.53	5,700	7/16"	1"	4 3/16"	1"	33825T88	32.83	33795T112	11.92
3/8"	8,800	1 3/16"	4 5/16"	1/2"	7/16"	33795T84	62.83	8,800	5/8"	1 3/16"	5 1/8"	1 5/16"	33825T89	49.42	33795T113	13.73
1/2"	15,000	1 1/2"	5 3/8"	5/8"	9/16"	33795T72	102.96	15,000	3/4"	1 1/2"	6 7/16"	1 11/16"	33825T91	84.20	33795T114	17.08
5/8"	22,600	1 3/4"	6 1/8"	13/16"	11/16"	33795T86	174.50	22,600	15/16"	1 3/4"	7 3/16"	1 15/16"	33825T92	163.42	33795T115	19.65
3/4"	—	—	—	—	—	—	—	35,300	1 1/16"	2 1/16"	8 1/16"	2 3/16"	33825T93	222.48	33795T116	28.98
7/8"	—	—	—	—	—	—	—	42,700	1 1/8"	2 7/16"	8 7/8"	2 3/8"	33825T94	325.96	33795T117	34.75
High-Strength (Grade 100)—Orange Powder-Coated Finish																
7/32"	2,700	3/4"	2 11/16"	5/16"	1/4"	33795T51	29.19	2,700	3/8"	3/4"	3 5/16"	3/4"	33825T31	19.04	33795T111	8.81
9/32"	4,300	1"	3 3/4"	3/8"	3/8"	33795T32	34.30	5,700	7/16"	1"	4 3/16"	1"	33825T62	25.76	33795T112	11.92
5/16"	5,700	1"	3 11/16"	3/8"	3/8"	33795T52	35.28	5,700	7/16"	1"	4 3/16"	1"	33825T62	25.76	33795T112	11.92
3/8"	8,800	1 3/16"	4 5/16"	1/2"	7/16"	33795T34	56.00	8,800	5/8"	1 3/16"	5 1/8"	1 5/16"	33825T63	39.63	33795T113	13.73
1/2"	15,000	1 1/2"	5 3/8"	5/8"	9/16"	33795T42	88.73	15,000	3/4"	1 1/2"	6 7/16"	1 11/16"	33825T73	60.15	33795T114	17.08
5/8"	22,600	1 3/4"	6 1/8"	13/16"	11/16"	33795T36	140.24	22,600	15/16"	1 3/4"	7 3/16"	1 15/16"	33825T65	115.48	33795T115	19.65
3/4"	35,300	2 1/16"	7 3/16"	15/16"	15/16"	33795T53	210.69	35,300	1 1/16"	2 1/16"	8 1/16"	2 3/16"	33825T32	165.52	33795T116	28.98
7/8"	—	—	—	—	—	—	—	42,700	1 1/8"	2 7/16"	8 7/8"	2 3/8"	33825T33	251.89	33795T117	34.75
General Purpose (Grade 80)—Orange-Painted Finish																
7/32"	—	—	—	—	—	—	—	2,100	3/8"	1 1/8"	3 1/16"	3/4"	8934T41★	28.13	8934T49	11.00

★Meets ASME B30.10.

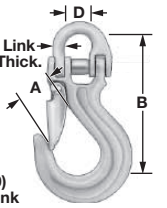

General Purpose (Grade 80) with Half Link

For Chain Trade Size	Cap., lbs.	Link Thick.	(A)	(B)	(D)	With Half Link		Replacement Latches	
General Purpose (Grade 80)—Yellow Powder-Coated Finish									
9/32"	3,500	3/8"	1 5/16"	4 5/8"	11/16"	3804T12	$53.66	3804T22	$6.68
3/8"	7,100	1/2"	1 5/8"	5 13/16"	1"	3804T13	69.21	3804T23	8.29
1/2"	12,000	9/16"	1 7/8"	7 5/16"	1 1/8"	3804T14	102.80	3804T24	13.94
5/8"	18,100	3/4"	2 3/16"	8 1/2"	1 3/8"	3804T15	140.53	3804T35	19.04
3/4"	28,300	7/8"	2 5/8"	9 3/16"	1 11/16"	3804T16	209.69	3804T36	26.51

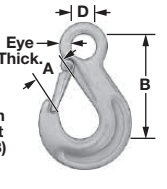

Corrosion Resistant (Grade 63) with Eye

For Chain Trade Size	Cap., lbs.	Eye Thick.	(A)	(B)	(D)	With Eye		Replacement Latches	
Corrosion Resistant (Grade 63)									
3/16"	1,400	5/16"	7/8"	3 5/16"	13/16"	30725T35	$91.89	30725T45	$25.78
9/32"	3,525	1/2"	1 1/4"	4 7/16"	1 1/16"	30725T31	118.74	30725T33	29.69
3/8"	5,500	5/8"	1 1/2"	5 1/4"	1 7/16"	30725T32	159.99	30725T34	29.14

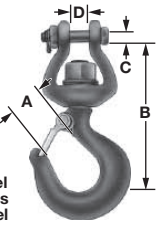

Alloy Steel with Clevis and Swivel

For Chain Trade Size	Cap., lbs.	(A)	(B)	(C)	(D)	With Clevis and Swivel		Replacement Latches	
Alloy Steel—Black-Painted Finish									
5/16"-1/2"	1,000	15/16"	4 9/16"	3/8"	9/16"	3527T5	$75.73	35315T42	$5.56
5/16"-1/2"	2,000	1 1/8"	5 13/16"	7/16"	11/16"	3527T6	98.13	35315T44	6.20

Load-Locking Latch Hooks—For Lifting

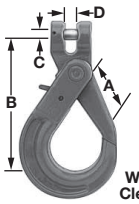

With Clevis



With Eye

For a more secure connection than standard hooks, the latch locks closed when a load is applied and stays closed until you press the trigger. **High-strength (Grade 100)** hooks are approximately 20% stronger than Grade 80 hooks when used with chain of the same grade. All are forged alloy steel. Maximum temperature is 400° F.

Hooks with clevis meet ASME B30.10.

Hooks with eye meet ASME B30.10.

Hooks with eye and swivel rotate for easy positioning before a load is applied. They meet ASME B30.9.

Hooks with clevis and ball-bearing swivel rotate under load. They meet ASME B30.9.

Replacement latch springs include a spring and installation hardware.

For Chain Trade Size	With Clevis Cap., lbs.	(A)	(B)	(C)	(D)			With Eye Cap., lbs.	Eye Thick.	(A)	(B)	(D)			Replacement Latch Springs	
High-Strength (Grade 100)—Silver Powder-Coated Finish																
1/4", 9/32"	4,300	1 1/2"	4 1/2"	3/8"	3/8"	5057T1	$118.84	5,700	7/16"	1 1/2"	5 5/16"	1 1/8"	5057T6	$113.45	5057T11	$24.87
5/16"	5,700	1 1/2"	4 1/2"	3/8"	3/8"	5057T2	121.92	5,700	7/16"	1 1/2"	5 5/16"	1 1/8"	5057T6	113.45	5057T11	24.87
3/8"	8,800	2 3/16"	5 1/2"	1/2"	7/16"	5057T3	154.71	8,800	9/16"	2 3/16"	6 9/16"	1 5/16"	5057T7	144.88	5057T12	29.42
1/2"	15,000	2 1/4"	6 13/16"	11/16"	9/16"	5057T4	223.04	15,000	3/4"	2 1/4"	8 1/4"	1 5/8"	5057T8	205.12	5057T13	35.87
5/8"	22,600	2 5/8"	8 1/4"	13/16"	11/16"	5057T5	371.99	22,600	7/8"	2 5/8"	10 1/16"	2 3/16"	5057T9	327.51	5057T14	45.24
General Purpose (Grade 80)—Red Powder-Coated Finish																
7/32"	2,100	1 3/8"	3 11/16"	5/16"	1/4"	3816T28	51.60	2,100	7/16"	1 3/8"	4 5/16"	13/16"	8957T2	44.16	3816T39	8.48
9/32", 5/16"	4,500	1 11/16"	4 13/16"	3/8"	3/8"	3816T29	78.91	4,500	1/2"	1 11/16"	5 3/8"	15/16"	8957T3	67.39	3816T41	12.98
3/8"	7,100	2 3/16"	5 11/16"	1/2"	1/2"	3816T33	105.11	7,100	9/16"	2 3/16"	6 5/8"	1 3/8"	8957T4	92.57	3816T42	14.61
1/2"	12,000	2 11/16"	7 1/16"	5/8"	9/16"	3816T34	149.73	12,000	13/16"	2 11/16"	8 1/16"	1 9/16"	8957T5	137.09	3816T43	16.43

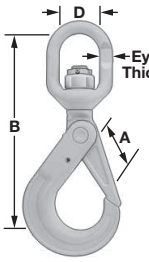

With Eye and Swivel

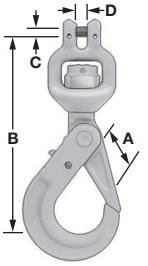

With Clevis and Ball-Bearing Swivel

For Chain Trade Size	Cap., lbs.	Eye Thick.	(A)	(B)	(D)	With Eye and Swivel		Replacement Latch Springs	
High-Strength (Grade 100)—Yellow Powder-Coated Finish									
7/32"	2,700	7/16"	1 1/8"	5 7/8"	1 5/16"	3682T88	$166.15	3719T81	$8.05
9/32"	4,300	1/2"	1 1/2"	7 3/16"	1 1/2"	3682T89	193.60	3682T39	10.31
3/8"	8,800	9/16"	1 11/16"	8 5/8"	1 11/16"	3682T91	227.95	3682T41	12.99
1/2"	15,000	3/4"	2 1/8"	11"	1 7/8"	3682T92	335.19	3682T42	17.76
5/8"	22,600	7/8"	2 3/8"	13 1/2"	2 3/8"	3682T93	398.32	3682T43	27.19

For Chain Trade Size	Cap., lbs.	(A)	(B)	(C)	(D)	With Clevis and Ball-Bearing Swivel		Replacement Latch Springs	
General Purpose (Grade 80)—Yellow Powder-Coated Finish									
7/32"	2,100	1 1/8"	5 13/16"	5/16"	1/4"	3719T61	$159.06	3719T81	$8.05
9/32", 5/16"	4,500	1 3/8"	7 1/8"	3/8"	3/8"	3719T71	198.93	3682T39	10.31

Slip Hooks—Not for Lifting

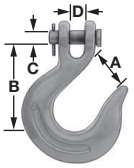

With Clevis

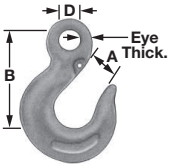

With Eye

Easily slip chain, rope, and fittings on and off these open-mouth hooks. All are forged alloy steel and have an orange powder-coated finish. Maximum temperature is 400° F.

For Chain Trade Size	With Clevis Cap., lbs.	(A)	(B)	(C)	(D)			With Eye Eye Thick.	(A)	(B)	(D)		
1/4"	2,700	15/16"	2 5/16"	5/16"	5/16"	30395T11	$9.96	5/16"	7/8"	2 5/8"	1/2"	3547T24	$8.91
5/16"	3,600	1 1/16"	2 9/16"	3/8"	3/8"	30395T12	15.57	3/8"	1 1/16"	3"	5/8"	3547T25	10.17
3/8"	5,500	1 1/4"	3"	1/2"	7/16"	30395T13	17.53	7/16"	1 1/4"	3 11/16"	3/4"	3547T26	12.28
7/16"	6,900	1 9/16"	3 1/2"	1/2"	1/2"	30395T14	32.12	7/16"	1 7/16"	3 15/16"	13/16"	3547T27★	21.79
1/2"	9,400	1 3/4"	3 15/16"	9/16"	9/16"	30395T15	34.41	1/2"	1 3/4"	4 5/16"	15/16"	3547T28	27.40
5/8"	14,200	2"	4 3/4"	3/4"	3/4"	30395T16	52.72	11/16"	2"	5 5/16"	1 3/16"	3547T29	45.28

★Capacity is 7,100 lbs.

Hooks—Not for Lifting

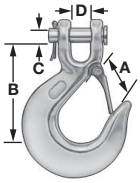

With Clevis

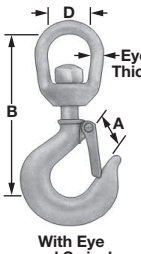

With Eye and Swivel

The latch ensures rope, chain, and fittings won't separate from the hook when the load slackens. Maximum temperature is 400° F. **Galvanized steel** hooks have a thick coating for corrosion resistance. **316 stainless steel** hooks have excellent resistance to salt water and chemicals.

Hooks with Clevis—These hooks are forged.

Hooks with Eye and Swivel—These hooks are cast and rotate for easy positioning.

Replacement latches include a latch, spring, and installation hardware.

For Chain Trade Size	Cap., lbs.	(A)	(B)	(C)	(D)	With Clevis		Replacement Latches	
316 Stainless Steel									
1/4"	1,000	9/16"	2 9/16"	3/8"	3/8"	32805T33	$32.78	32805T91	$8.63
5/16"	1,500	13/16"	2 3/4"	3/8"	3/8"	32805T34	40.41	32805T92	10.30
3/8"	2,000	15/16"	3 1/16"	1/2"	7/16"	32805T35	55.16	32805T93	13.08
1/2"	3,000	1 1/16"	3 1/2"	9/16"	1/2"	32805T36	107.58	32805T94	15.57

For Chain Trade Size	Cap., lbs.	Eye Thick.	(A)	(B)	(D)	With Eye and Swivel		Replacement Latches	
Galvanized Steel									
3/8"	1,500	3/8"	7/8"	4 7/16"	1 1/4"	3924T24	$21.47	3924T26	$3.73
1/2"	2,000	1/2"	15/16"	5 1/4"	1 1/2"	3924T25	25.76	3924T26	3.73
316 Stainless Steel									
3/16"	700	1/4"	11/16"	3 11/16"	7/8"	35165T63	18.86	35165T21	6.26
1/4"	1,400	5/16"	3/4"	4 5/16"	1 1/8"	35165T64	28.66	35165T22	6.26
1/4", 5/16"	2,200	3/8"	3/4"	4 3/4"	1 1/8"	35165T65	41.99	35165T23	7.48
5/16", 3/8"	3,300	1/2"	1 1/8"	5 13/16"	1 7/16"	35165T66	76.64	35165T24	12.52

Oversized Eye Hooks—For Lifting

If you've got large wire rope thimbles and heavy duty chain connectors, these hooks have a large eye to accommodate them. A spring latch ensures rope, chain, and fittings won't separate from the hook when the load slackens. All are forged. Maximum temperature is 199° F. They meet ASME B30.10.

Hooks with swivel have an eye that rotates for easy positioning.

Alloy steel hooks are painted gold. Maximum temperature is 199° F. **Steel** hooks are painted red. Maximum temperature is 199° F. **Stainless steel** hooks have excellent resistance to salt water and chemicals. Maximum temperature is 600° F.

Replacement latches include a latch, nut and bolt, and spring.

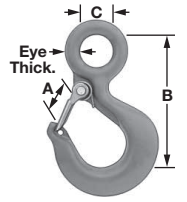

Hook

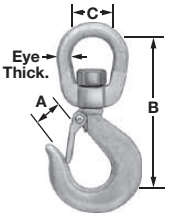

Hook with Swivel

Steel Hooks

Eye Thick.	(A)	(B)	(C)	Alloy Steel Cap., lbs.			Steel Cap., lbs.			Replacement Latches	
Hooks											
3/8"	7/8"	3 5/16"	3/4"	2,200	35315T811	$18.65	1,600	35315T821	$17.85	35315T41	$5.56
7/16"	7/8"	3 13/16"	15/16"	3,300	35315T812	24.00	2,200	35315T822	19.82	35315T42	5.56
9/16"	1"	4 1/8"	1 1/8"	4,400	35315T813	25.98	3,300	35315T823	23.68	35315T43	6.07
9/16"	1 1/8"	4 11/16"	1 1/4"	6,600	35315T814	33.26	4,400	35315T824	29.78	35315T44	6.20
3/4"	1 3/8"	5 3/4"	1 9/16"	11,000	35315T815	56.35	6,600	35315T825	51.48	35315T45	10.22
7/8"	1 5/8"	7 3/8"	2"	15,400	35315T816	120.00	11,000	35315T826	92.30	35315T46	16.64
1 1/8"	2 1/16"	9 1/16"	2 7/16"	24,200	35315T817	163.82	16,500	35315T827	137.16	35315T47	21.11
1 1/4"	2 1/4"	10 1/16"	2 13/16"	33,000	35315T818	221.64	22,000	35315T828	181.80	35315T48	21.11
1 9/16"	3"	12 1/2"	3 1/2"	48,400	35315T819	548.06	33,000	35315T829	451.53	35315T49	47.20
Hooks with Swivel											
3/8"	15/16"	4 9/16"	1 1/4"	2,200	3525T811	42.96	1,600	3525T819	37.38	35315T41	5.56
1/2"	15/16"	5 3/8"	1 1/2"	3,300	3525T812	50.64	2,200	3525T821	43.66	35315T42	5.56
5/8"	1 1/16"	6 1/8"	1 3/4"	4,400	3525T813	59.44	3,300	3525T822	54.92	35315T43	6.07
5/8"	1 3/16"	6 1/2"	1 3/4"	6,600	3525T814	67.40	4,400	3525T823	65.26	35315T44	6.20
3/4"	1 1/2"	7 1/2"	2"	11,000	3525T815	101.32	6,600	3525T824	85.80	35315T45	10.22
1"	1 3/4"	9 5/8"	2 1/2"	15,400	3525T816	181.06	11,000	3525T825	160.12	35315T46	16.64
1 1/8"	2 3/8"	11 3/8"	2 3/4"	24,200	3525T817	317.52	16,500	3525T826	264.40	35315T47	21.11
1 1/4"	2 5/8"	12 1/4"	3 1/8"	33,000	3525T818	346.03	22,000	3525T827	336.38	35315T48	21.11

Stainless Steel Hooks

Eye Thick.	(A)	(B)	(C)	316 Stainless Steel Cap., lbs.			Replacement Latches	
Hooks with Swivel								
3/8"	15/16"	4 3/8"	1 3/16"	1,000	3584T71	$162.71	3386T61	$8.34
1/2"	1 1/16"	5 1/4"	1 3/8"	1,500	3584T72	177.07	3584T612	8.34
1/2"	1 1/8"	5 5/8"	1 3/8"	2,000	3584T73	201.67	3386T62	10.50
5/8"	1 1/4"	6 1/2"	1 5/8"	2,500	3584T74	267.32	3386T62	10.50

Latch Kits for Hooks—For Lifting

Add functionality by installing a latch on your hook, or extend the life of your hook by replacing a damaged latch. All latches come with a nut and bolt (hooks not included). They meet ASME B30.10.

Spring Latch Kits for Hooks with Pinhole

These kits fit most hooks with a drilled pinhole. To select the correct size, check the capacity (measured in tons) of your hook. These latches are 18-8 stainless steel for excellent resistance to salt water and chemicals.

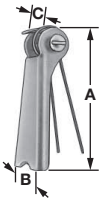



For Cap., tons: For Carbon Steel Hooks	For Alloy Steel Hooks	(A)	(B)	(C)	For Hole Dia.		
3/4	1	1 7/16"	9/16"	3/8"	5/32"	3526T71	$4.76
1	1 1/2	1 5/8"	9/16"	3/8"	5/32"	3526T72	5.06
1/2 - 2	2 - 3	1 13/16"	13/16"	1/2"	3/16"	3526T73	5.37
3	4 1/2	2 7/16"	1"	9/16"	11/64"	3526T74	8.69
5	7	2 15/16"	1 3/16"	9/16"	13/64"	3526T75	14.47
7 1/2 - 10	11 - 15	3 11/16"	1 1/2"	9/16"	17/64"	3526T76	18.06
15	22	4 15/16"	1 7/8"	13/16"	25/64"	3526T77	41.65
20	30	5 7/8"	2 9/16"	15/16"	33/64"	3526T78	48.47
25 - 30	37 - 45	6 1/2"	3 13/16"	2 3/16"	25/64"	3526T79	82.90
40	60	7 7/8"	4 1/8"	3 5/16"	33/64"	3526T81	166.69

Latch Kits for Hooks without Pinhole

Choose the latch that matches the neck diameter and hook opening of your hook, and clamp it in place.

Zinc-plated steel latches have mild corrosion resistance.

18-8 stainless steel latches have excellent resistance to salt water and chemicals.



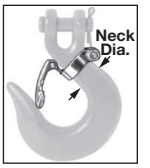

Neck Dia.	Hook Opening	Zinc-Plated Steel		18-8 Stainless Steel	
9/16"-5/8"	1 1/16"-1 1/8"	3544T11	$20.75	3544T31	$56.66
3/4"-13/16"	1 3/16"-1 5/16"	3544T12	22.72	3544T32	61.93
7/8"-1"	1 3/8"-1 1/2"	3544T13	23.90	3544T33	65.05
1 1/16"-1 1/4"	1 9/16"-1 7/8"	3544T14	30.87	3544T34	84.01
1 3/8"-1 1/2"	2"-2 1/8"	3544T15	34.29	3544T35	93.65
1 5/8"-1 11/16"	2 3/16"-2 5/16"	3544T16	45.50	3544T36	124.13
1 3/4"-1 13/16"	2 3/8"-2 5/8"	3544T17	45.86	3544T37	124.94
1 7/8"-2"	2 11/16"-3"	3544T18	51.77	3544T38	141.20
2 1/16"-2 1/8"	3 1/16"-3 3/8"	3544T19	60.32	3544T39	164.52
2 3/16"-2 1/4"	3 7/16"-3 5/8"	3544T21	65.72	3544T41	179.30
2 5/16"-2 3/8"	3 11/16"-3 13/16"	3544T22	66.71	3544T42	182.00
2 7/16"-2 3/4"	3 7/8"-4 1/8"	3544T23	68.89	3544T43	187.74
2 13/16"-3 1/4"	4 3/16"-4 1/2"	3544T24	75.96	3544T44	207.39

Spring Safety Latch Kits for Hooks with Pinhole

Prevent accidental release and keep the tip from snagging. These two-way safety spring latches are 18-8 stainless steel and resist salt water and chemicals. They fit most hooks with a drilled pinhole.

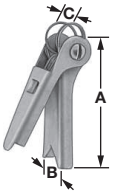



(A)	(B)	(C)	For Hole Dia.		
1 9/16"	9/16"	1/2"	5/32"	8944T12	$16.76
1 13/16"	13/16"	9/16"	3/16"	8944T14	18.71
2 3/8"	15/16"	11/16"	3/16"	8944T16	27.68
3"	1 3/16"	3/4"	3/16"	8944T18	36.66
3 5/8"	1 1/2"	13/16"	1/4"	8944T21	56.60
4 15/16"	1 15/16"	1 1/8"	3/8"	8944T23	73.18

Spring-Close Locking Latch Hooks—For Lifting

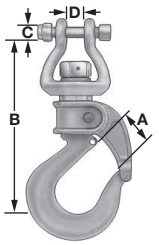

With Clevis and Swivel

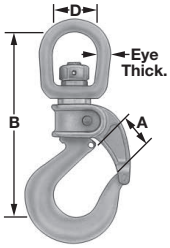

With Eye and Swivel

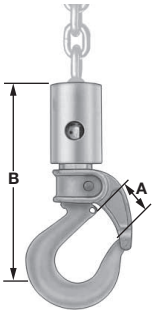

With Clevis and Ball-Bearing Swivel

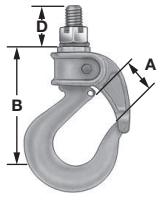

With Threaded Shank

Easily shut with one hand, the spring-loaded latch on these hooks swings 150° and snaps back in place to secure your load. Once closed, the latch can only be opened by releasing the locking mechanism. Hooks are forged alloy steel. Maximum temperature is 199° F. They meet ASME B30.10.

Hooks with clevis and swivel and **hooks with eye and swivel** rotate for easy positioning before a load is applied.

Hooks with clevis and ball-bearing swivel rotate under load. Attach to chain by inserting the included pin through a link.

Hooks with threaded shank attach by screwing the hook into place and securing with the included nut.

Replacement latches include a latch, spring, and installation hardware. Latches are steel.

Cap., lbs.	(A)	(B)	(C)	(D)	With Clevis and Swivel		Repl. Latches	
2,800	1 1/16"	5 9/16"	3/8"	1/2"	3946T11	$183.70	3946T43	$81.17
3,400	1 1/8"	5 13/16"	3/8"	1/2"	3946T12	180.68	3946T44	76.44
4,600	1 1/4"	6 7/8"	7/16"	5/8"	3946T13	226.59	3946T45	93.12

Cap., lbs.	Eye Thick.	(A)	(B)	(D)	With Eye and Swivel		Repl. Latches	
1,000	5/16"	1 1/16"	4 3/8"	1"	3946T58	$99.84	—	—
2,000	3/8"	1"	5 1/4"	1 1/4"	3946T81	144.34	3946T42	$75.61
2,800	1/2"	1 1/16"	6 1/8"	1 1/2"	3946T82	166.93	3946T43	81.17
3,400	1/2"	1 1/8"	6 9/16"	1 1/2"	3946T83	183.38	3946T44	76.44
4,600	5/8"	1 1/4"	7 7/16"	1 3/4"	3946T85	212.35	3946T45	93.12
8,000	5/8"	1 3/8"	8"	1 3/4"	3946T57	267.38	3946T46	93.98
8,400	3/4"	1 1/2"	8 5/8"	2"	3946T89	337.18	3946T47	144.73
11,000	7/8"	1 3/4"	7 15/16"	2 1/4"	3946T59	426.92	3946T51	172.12
14,400	1"	1 7/8"	10 11/16"	2 1/2"	3946T74	490.33	3946T48	194.10

For Chain Trade Size	Cap., lbs.	(A)	(B)	With Clevis and Ball-Bearing Swivel		Repl. Latches	
1/4"-9/32"	3,400	1 1/8"	6 1/2"	3970T91	$235.34	3946T44	$76.44
5/16"-3/8"	4,600	1 1/4"	7 3/8"	3970T93	282.19	3946T45	93.12
1/2"-9/16"	8,400	1 1/2"	9 9/16"	3970T95	517.32	3946T47	144.73

Thread Size	Cap., lbs.	(A)	(B)	(D)	With Threaded Shank		Repl. Latches	
1/2"-13	2,000	1"	3 3/8"	9/16"	3947T71	$114.96	3946T42	$75.61
9/16"-12	2,800	1 1/16"	3 11/16"	3/4"	3947T72	118.62	3946T43	81.17
5/8"-11	3,400	1 1/8"	3 7/8"	1 3/16"	3947T73	121.95	3946T44	76.44
3/4"-10	4,600	1 1/4"	4 1/2"	1"	3947T55	143.80	3946T45	93.12
7/8"-9	8,000	1 3/8"	4 7/8"	1 3/16"	3947T27	178.54	3946T46	93.98
1"-8	8,400	1 1/2"	5 3/16"	1 3/8"	3947T59	234.22	3946T47	144.73
1 1/8"-7	11,000	1 3/4"	5 1/2"	1 1/2"	3947T52	359.05	3946T51	172.12
1 1/4"-7	14,400	1 7/8"	6 1/16"	1 13/16"	3947T64	376.08	3946T48	194.10

Wide Mouth Hooks—For Lifting

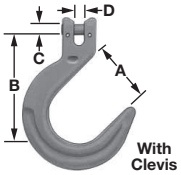

With Clevis

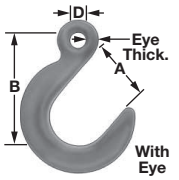

With Eye

Also known as foundry hooks, use these on thick molds, castings, and objects that don't have attachment points. They're forged alloy steel. All meet ASME B30.10.

High-strength (Grade 100) hooks are approximately 20% stronger than Grade 80 hooks when used with chain of the same grade. Maximum temperature is 400° F.

General purpose (Grade 80) hooks have a maximum temperature of 500° F.

		With Clevis					With Eye				
For Chain Trade Size	Cap., lbs.	(A)	(B)	(C)	(D)		Eye Thick.	(A)	(B)	(D)	
High-Strength (Grade 100)—Red-Painted Finish											
9/32"	4,300	2 5/8"	4 7/16"	3/8"	5/16"	3814T11 $63.59	7/16"	2 5/8"	4 3/4"	5/8"	3814T15 $73.01
3/8"	8,800	3"	5 1/2"	9/16"	7/16"	3814T12 91.38	5/8"	3 1/8"	5 3/4"	13/16"	3814T16 97.18
1/2"	15,000	3 7/8"	6 5/8"	3/4"	9/16"	3814T13 111.60	3/4"	3 3/4"	6 7/8"	1"	3814T17 132.28
5/8"	22,600	4 1/8"	7 5/8"	15/16"	11/16"	3814T14 155.60	7/8"	4 1/4"	8 1/16"	1 1/4"	3814T18 159.76
General Purpose (Grade 80)—Red Powder-Coated Finish											
1/4"	3,500	2 5/8"	4 5/16"	3/8"	3/8"	3540T27 55.28	9/16"	2 5/8"	4 7/8"	11/16"	3540T21 53.12
3/8"	7,100	3"	5 3/16"	1/2"	1/2"	3540T28 66.79	5/8"	3"	5 13/16"	13/16"	3540T22 65.38
1/2"	12,000	3 1/2"	6 5/16"	5/8"	5/8"	3540T29 102.37	13/16"	3 1/2"	6 7/8"	1"	3540T23 98.87
5/8"	18,100	4"	7 1/2"	3/4"	3/4"	3540T31 140.44	15/16"	4"	8 1/8"	1 5/16"	3540T24 126.98
3/4"	28,300	—	—	—	—	— —	1"	4 1/2"	9 5/16"	1 5/8"	3540T25 172.02

Narrow Body Eye Hooks—For Lifting

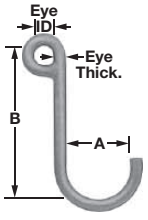

Welded


Forged

Insert in eyes, links, rings, and other connectors with small openings. Also known as sorting hooks or J-hooks. Maximum temperature is 400° F.

Forged hooks are stronger than welded hooks.

316 stainless steel hooks have excellent resistance to salt water and chemicals.

Cap., lbs.	Eye Thick.	(A)	(B)	Eye ID		
Alloy Steel—Welded						
200	5/16"	1 1/4"	5"	3/4"	3786T45	$33.04
300	3/8"	1 1/2"	6"	3/4"	3786T46	32.65
500	1/2"	2 1/2"	6"	3/4"	3786T15	33.95
800	5/8"	3 1/2"	8 1/2"	3/4"	3786T16	41.42
1,300	3/4"	3 1/2"	8 1/2"	3/4"	3786T37	46.20
1,600	13/16"	3 1/2"	8 1/2"	7/8"	3786T38	54.67
2,500	1"	4"	8 1/2"	1"	3786T19	60.40

Cap., lbs.	Eye Thick.	(A)	(B)	Eye ID		
Alloy Steel—Forged						
2,200	7/16"	2 11/16"	4 3/8"	3/4"	3786T25	$115.92
3,600	7/16"	3 5/8"	6 3/4"	3/4"	3786T26	139.81
316 Stainless Steel—Welded						
200	1/2"	3"	6"	9/16"	3786T39	54.73
300	5/8"	3"	6"	9/16"	3786T41	58.30
500	3/4"	3"	6"	3/4"	3786T42	67.59
900	1"	3"	6"	3/4"	3786T43	117.71

Unthreaded Shank Hooks—Not for Lifting

Cut your own threads or weld the shank in place. A drilled pinhole allows you to install an optional latch. All hooks are forged alloy steel with a black-painted finish. Maximum temperature is 199° F.

Optional latches include a latch, spring, and installation hardware.

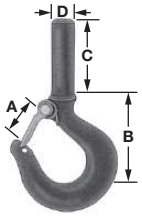

Shown with Optional Latch

Cap., lbs.	(A)	(B)	(C)	(D)	Hooks		Optional Latches	
2,200	15/16"	2 5/16"	2 1/16"	9/16"	3535T31	$9.32	35315T41	$5.56
3,300	1"	2 9/16"	2 1/4"	1 1/16"	3535T32	14.02	35315T42	5.56
4,400	1 1/16"	2 3/4"	2 9/16"	3/4"	3535T33	15.00	35315T43	6.07
6,600	1 3/16"	3 1/8"	2 13/16"	7/8"	3535T34	20.46	35315T44	6.20
11,000	1 1/2"	3 13/16"	3 7/16"	1 3/16"	3535T35	33.49	35315T45	10.22
15,400	1 3/4"	4 3/4"	3 13/16"	1 7/16"	3535T36	66.20	35315T46	16.64

Lever-Release Shackles—Not for Lifting

Disconnect by pulling the lever or attach rope to the eye on the lever for remote release. Lock the shackle with the included pin. Do not release while the product is under tension. These stainless steel shackles have excellent resistance to salt water and chemicals.

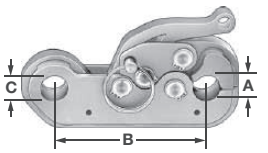

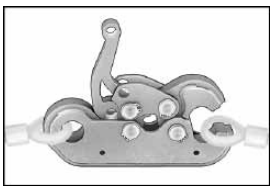

Cap., lbs.	(A)	(B)	(C)		
1,300	3/8"	2"	3/8"	3398T25	$416.00
3,300	9/16"	3 1/8"	9/16"	3398T26	567.43
7,000	13/16"	4 9/16"	13/16"	3398T27	874.65

Weld-On Hooks—Not for Lifting

Weld these hooks into place. They have a spring-loaded latch. All are forged general purpose (Grade 80) alloy steel with a yellow powder-coated finish. Maximum temperature is 400° F. They meet ASME B30.10.

Replacement latches include a latch, spring, and two pins.

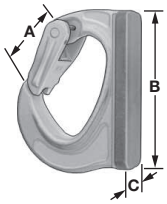

Cap., lbs.	(A)	(B)	(C)	Hooks		Replacement Latches	
6,600	1 3/16"	5 3/16"	3/8"	34685T31	$118.64	34685T41	$56.32
11,000	1 5/16"	6 1/2"	1/2"	34685T22	181.86	34685T42	61.41
22,000	1 7/8"	8 11/16"	9/16"	34685T23	241.61	34685T43	70.78

Pin-Release Shackles—Not for Lifting

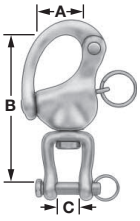

Clevis

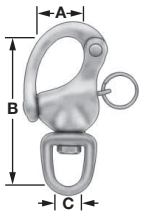

Eye



A spring-loaded pin on these shackles locks the arm closed. To release the arm, pull out the pin. Secure a rope to the ring on the pin for remote release where access is limited. They swivel to make positioning and connecting to the load easier. They have excellent resistance to salt water and chemicals.

Cap., lbs.	(A)	(B)	(C)		
316 Stainless Steel					
Clevis	1,500	3/4"	2 7/8"	1/2"	3899T55	$22.91
Clevis	2,000	1 1/16"	4 3/16"	3/4"	3899T56	59.20
Eye	1,500	3/4"	2 7/8"	5/8"	3899T53	19.40
Eye	2,000	1 1/16"	4 1/8"	7/8"	3899T54	39.58
17-4 PH Stainless Steel					
Clevis	2,100	13/16"	3 1/4"	7/16"	3899T41	68.85
Clevis	3,800	1"	4 1/4"	1 1/16"	3899T52	125.99
Eye	1,200	5/8"	2 3/8"	7/16"	3899T43	47.95
Eye	4,400	1"	4 1/8"	13/16"	3899T46	100.86

Trigger-Release Snaps with Eye—Not for Lifting

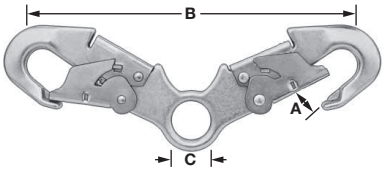

Snap with Trigger-Release Latches on Both Ends



Trigger-Release Snap with Eye



Safety Trigger-Release Snap with Eye



Wide-Mouth Trigger-Release Snap with Eye

A locking mechanism secures the latches on these snaps. Snaps are alloy steel.

Snaps with trigger-release latches on both ends and **trigger-release snaps with eye** have a latch that can be quickly released by squeezing the trigger.

Safety trigger-release snaps with eye have a more secure connection than standard trigger-release snaps. Squeeze the trigger and slide the latch grip down to release.

Wide-mouth trigger-release snaps with eye have a wide opening that accepts large diameters of rope and pipe. Squeeze the trigger to release.

Cap., lbs.	(A)	(B)	(C)		
Snap with Trigger-Release Latches on Both Ends					
1,000	5/8"	8 1/2"	1"	3927T39	$45.87
Trigger-Release Snap with Eye					
1,000	3/4"	5"	1"	3927T41	21.30
Safety Trigger-Release Snap with Eye					
1,000	5/8"	5"	1"	3927T22	42.28
Wide-Mouth Trigger-Release Snaps with Eye					
1,000	1 15/16"	6 1/2"	1"	3927T43	38.80
1,000	2 1/2"	7 3/4"	1"	3927T44	47.93

Threaded Connecting Links—Not for Lifting

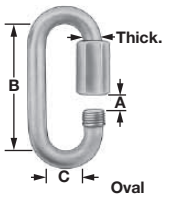


Square


Pear-Shaped


Triangle

Also known as quick links, screw the nut onto the threaded end to secure end fittings. They can be reused.

Square—Flat sides allow webbing and strapping to lay flat, so they won't slide and bunch.

Pear-Shaped—The narrow end restricts the movement of rope and chain, and a wide end allows room to attach multiple connectors.

Triangle—Use for three-sided connections. Flat sides ensure webbing and strapping lay flat, so they won't slide and bunch.

Zinc-plated steel links are mildly corrosion resistant. **316 stainless steel** links have excellent resistance to salt water and chemicals.

Also Available: Brass oval connectors. For connectors with a standard opening, please ask for 8947T888 and specify thickness.

For connectors with a large opening, please ask for 3711T888 and specify thickness.

Thick.	(A)	(B)	(C)	Zinc-Plated Steel Cap., lbs.			316 Stainless Steel Cap., lbs.		
Oval									
1/8"	3/16"	1 1/8"	3/8"	200	8947T14	$0.95	400	8947T24	$1.97
1/8"	3/8"	1 9/16"	3/8"	200	3711T21	3.53	400	3711T32	8.41
5/32"	7/32"	1 1/4"	7/16"	400	8947T11	1.05	600	8947T12	2.15
5/32"	7/16"	1 3/4"	1/2"	300	3711T71	3.39	500	3711T73	9.13
3/16"	1/4"	1 1/2"	1/2"	600	8947T15	1.45	900	8947T25	2.56
3/16"	1/2"	2 1/16"	1/2"	500	3711T22	4.06	800	3711T33	11.54
1/4"	9/32"	1 3/4"	9/16"	800	8947T16	1.56	1,400	8947T26	3.03
1/4"	9/16"	2 5/16"	9/16"	700	3711T23	4.66	1,200	3711T34	14.75
9/32"	3/8"	2"	11/16"	1,000	8947T44	1.21	1,400	8947T33	4.09
5/16"	3/8"	2 3/8"	11/16"	1,700	8947T17	2.26	2,400	8947T27	5.08
5/16"	11/16"	2 13/16"	11/16"	1,400	3711T24	7.05	2,100	3711T35	25.49
3/8"	1/2"	2 7/16"	3/4"	2,200	8947T18	3.47	—	—	—
3/8"	1/2"	2 3/4"	3/4"	—	—	—	3,900	8947T28	8.82
3/8"	3/4"	3"	3/4"	1,700	3711T25	7.72	2,700	3711T36	30.08
1/2"	1/2"	3 3/16"	7/8"	3,300	8947T23	5.50	5,500	8947T29	13.91
1/2"	15/16"	3 15/16"	15/16"	2,700	3711T26	12.76	4,800	3711T37	57.17
9/16"	9/16"	3 7/8"	1"	3,600	8947T31	10.73	—	—	—
9/16"	11/16"	3 21/32"	1 1/16"	—	—	—	7,700	8947T82	65.24
9/16"	1 1/16"	4 1/2"	1 1/16"	4,400	3711T27	17.96	6,800	3711T38	87.94
5/8"	3/4"	4 1/4"	1 1/8"	4,000	8947T32	17.34	9,900	8947T83	96.40
5/8"	1 1/8"	5 1/16"	1 1/8"	5,500	3711T28	27.12	8,800	3711T39	130.93
11/16"	1 1/4"	5 1/2"	1 1/4"	6,600	3711T29	44.53	—	—	—
3/4"	1 1/4"	5 1/2"	1 1/4"	—	—	—	10,800	3711T12	75.00
25/32"	1 3/8"	6 1/4"	1 3/8"	7,900	3711T31	63.22	—	—	—
Square									
3/32"	5/32"	15/16"	11/16"	80	33785T41	4.66	200	33785T61	10.24
1/8"	3/16"	1 1/16"	7/8"	100	33785T42	4.73	300	33785T62	10.36
5/32"	7/32"	1 1/4"	1"	200	33785T43	4.77	400	33785T63	11.25
3/16"	1/4"	1 1/2"	1 1/8"	300	33785T44	5.02	700	33785T64	12.00
1/4"	9/32"	1 11/16"	1/4"	500	33785T45	5.79	—	—	—
1/4"	9/32"	1 11/16"	1 1/4"	—	—	—	900	33785T65	16.07
9/32"	11/32"	1 15/16"	15/16"	800	33785T46	6.58	1,300	33785T66	20.15
5/16"	3/8"	2 5/32"	1 7/16"	1,200	33785T47	7.62	1,600	33785T67	27.73
3/8"	7/16"	2 3/8"	1 9/16"	1,500	33785T48	9.17	2,100	33785T68	32.97
7/16"	1/2"	2 11/16"	1 11/16"	1,900	33785T49	10.69	2,700	33785T69	41.50
1/2"	5/8"	3 1/16"	1 15/16"	2,400	33785T51	14.74	3,800	33785T71	58.01
9/16"	11/16"	3 1/2"	2 1/4"	3,900	33785T52	22.26	5,400	33785T72	100.07
5/8"	3/4"	4 1/16"	2 1/2"	4,800	33785T53	31.86	6,900	33785T73	143.44
Pear-Shaped									
1/8"	3/8"	1 13/16"	13/16"	100	3712T21	4.03	200	3712T31	8.32
5/32"	7/16"	2 1/16"	15/16"	100	3712T52	4.37	300	3712T47	9.47
3/16"	1/2"	2 3/8"	1 1/16"	200	3712T22	4.84	—	—	—
3/16"	1/2"	2 3/8"	1 3/16"	—	—	—	500	3712T32	11.66
1/4"	9/16"	2 11/16"	1 3/16"	400	3712T23	5.95	800	3712T33	15.68
5/16"	11/16"	3 5/16"	1 3/8"	1,000	3712T24	8.11	1,400	3712T34	23.66
3/8"	3/4"	3 1/2"	1 1/2"	1,300	3712T25	9.68	1,800	3712T35	33.68
1/2"	15/16"	4 11/16"	2"	1,900	3712T26	17.32	3,300	3712T36	59.08
9/16"	1 1/16"	5 1/16"	2 3/16"	3,100	3712T27	24.66	4,600	3712T37	94.34
5/8"	1 1/8"	5 11/16"	2 1/2"	4,400	3712T28	26.97	5,900	3712T38	141.21
Triangle									
1/8"	3/16"	1 3/16"	1"	100	3709T21	3.03	300	3709T31	7.82
5/32"	1/4"	1 1/4"	11/16"	200	3709T61	3.90	400	3709T53	10.20
3/16"	1/4"	1 1/2"	1 3/16"	300	3709T22	4.16	700	3709T32	10.76
1/4"	9/32"	1 11/16"	1 3/8"	500	3709T23	4.22	900	3709T33	13.97
5/16"	13/32"	2 1/4"	1 9/16"	1,200	3709T24	6.84	1,600	3709T34	19.34
3/8"	7/16"	2 5/16"	1 5/8"	1,500	3709T25	7.61	2,100	3709T35	24.34
1/2"	19/32"	3 1/8"	1 15/16"	2,400	3709T26	12.50	3,800	3709T36	53.11
9/16"	21/32"	3 11/16"	2 1/4"	3,900	3709T27	20.74	5,400	3709T37	82.74
5/8"	3/4"	4 3/16"	2 7/16"	4,800	3709T28	28.95	6,900	3709T38	123.21

Carabiners—Not for Lifting

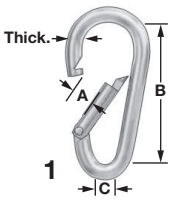

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Zinc-plated steel carabiners are mildly corrosion resistant.

Aluminum carabiners are more corrosion resistant than zinc-plated carabiners.

Black anodized aluminum carabiners blend into dark backgrounds and offer excellent corrosion resistance.

316 stainless steel carabiners have excellent resistance to salt water and chemicals.

	Cap., lbs.	Thick.	(A)	(B)	(C)		
Zinc-Plated Steel							
1	100	1/4"	5/16"	1 7/8"	5/16"	**3885T11**	$1.68
1	200	5/16"	7/16"	2 9/16"	1/2"	**3885T21**	2.60
1	400	3/8"	1/2"	3 1/4"	9/16"	**3885T31**	4.10
2	100	3/16"	1/4"	1 5/8"	1/4"	**3933T41**	.84
2	200	1/4"	5/16"	1 7/8"	5/16"	**3933T12**	1.02
2	300	5/16"	3/8"	2 9/16"	1/2"	**3933T14**	1.47
2	600	3/8"	1/2"	3 3/16"	5/8"	**3933T16**	2.34
2	800	7/16"	5/8"	3 15/16"	9/16"	**3933T18**	3.66
2	900	1/2"	1"	5 5/16"	7/8"	**3933T19**	6.42
3	200	1/4"	5/16"	1 7/8"	1/4"	**3933T22**	.91
3	500	5/16"	3/8"	2 5/8"	3/8"	**3933T23**	1.33
3	700	3/8"	7/16"	3 1/4"	1/2"	**3933T24**	2.57
3	800	7/16"	5/8"	3 7/8"	9/16"	**3933T25**	3.80
3	900	1/2"	3/4"	4 1/2"	5/8"	**3933T26**	4.73
4	400	3/8"	1/2"	3 1/4"	1 1/16"	**3934T12**	2.11
4	500	7/16"	3/4"	3 7/8"	1 3/8"	**3934T14**	3.70
5	900	7/16"	1 3/16"	3 3/8"	1 7/16"	**3934T15**	15.90
Black Powder-Coated Steel							
1	100	1/4"	3/8"	1 7/8"	1/4"	**3079T21**	3.31
1	200	5/16"	7/16"	2 1/2"	3/8"	**3079T22**	4.78
1	400	3/8"	1/2"	3 1/4"	7/16"	**3079T23**	7.17
2	100	3/16"	1/4"	1 5/8"	1/4"	**3079T31**	1.14
2	200	1/4"	5/16"	1 7/8"	5/16"	**3079T32**	1.59
2	300	5/16"	3/8"	2 1/2"	1/2"	**3079T33**	2.25
2	600	3/8"	1/2"	3 1/4"	5/8"	**3079T34**	2.90
2	800	7/16"	5/8"	3 7/8"	9/16"	**3079T35**	4.89
2	900	1/2"	1"	5 1/4"	7/8"	**3079T36**	8.74
3	100	3/16"	1/4"	1 5/8"	1/4"	**3079T41**	1.35
3	200	1/4"	5/16"	1 7/8"	1/4"	**3079T42**	1.77
3	300	5/16"	3/8"	2 1/2"	3/8"	**3079T43**	2.98
3	600	3/8"	1/2"	3 1/4"	1/2"	**3079T44**	3.84
3	800	7/16"	5/8"	3 7/8"	5/8"	**3079T45**	5.34
Aluminum							
5	500	3/8"	15/16"	2 7/8"	1/4"	**31375T19**	9.90
6	400	3/8"	3/4"	3 3/8"	1 1/4"	**31375T15**	7.50
6	400	7/16"	3/4"	3 3/8"	1 1/8"	**31375T13**	9.90
7	400	7/16"	5/8"	3 5/16"	1 1/16"	**31375T17**	8.70
Black Anodized Aluminum							
6	400	3/8"	3/4"	3 3/8"	1 1/4"	**31375T16**	10.15
6	400	7/16"	3/4"	3 3/8"	1 1/8"	**31375T14**	12.30
7	400	7/16"	5/8"	3 5/16"	1 1/16"	**31375T18**	12.30
316 Stainless Steel							
1	100	1/4"	3/8"	1 7/8"	1/4"	**31165T47**	6.32
1	200	5/16"	7/16"	2 9/16"	3/8"	**31165T48**	9.16
1	400	3/8"	9/16"	3 3/16"	7/16"	**31165T49**	15.38

	Cap., lbs.	Thick.	(A)	(B)	(C)		
316 Stainless Steel (Cont.)							
1	400	7/16"	3/4"	3 7/8"	1/2"	**31165T51**	$20.90
2	100	3/16"	1/4"	1 5/8"	5/16"	**31165T31**	2.98
2	100	1/4"	1/4"	1 7/8"	3/8"	**31165T22**	3.81
2	200	5/16"	3/8"	2 1/2"	1/2"	**31165T43**	7.34
2	400	3/8"	9/16"	3 1/8"	5/8"	**31165T42**	11.97
2	500	7/16"	5/8"	3 3/4"	3/4"	**31165T24**	16.37
3	200	3/16"	1/4"	1 5/8"	1/4"	**3716T51**	6.36
3	200	1/4"	5/16"	2"	1/4"	**3716T52**	6.40
3	500	5/16"	3/8"	2 1/2"	3/8"	**3716T53**	10.80
3	700	3/8"	1/2"	3 1/4"	1/2"	**3716T54**	14.49
3	800	7/16"	5/8"	3 7/8"	5/8"	**3716T55**	20.88
4	100	3/16"	3/8"	2 3/8"	9/16"	**3777T16**	8.12
4	100	1/4"	3/8"	1 7/8"	1 1/16"	**3777T11**	7.88
4	200	5/16"	7/16"	2 9/16"	15/16"	**3777T12**	11.52
4	400	3/8"	5/8"	3 3/16"	1 3/16"	**3777T13**	17.90
4	400	3/8"	5/8"	3 9/16"	1 3/8"	**3777T14**	19.86
4	400	7/16"	7/8"	3 7/8"	1 1/2"	**3777T15**	23.17
8	100	1/4"	7/16"	2 11/16"	1 1/16"	**3777T21**	14.00
8	200	5/16"	1/2"	2 7/8"	3/4"	**3777T22**	19.40
8	300	3/8"	9/16"	3 3/4"	1"	**3777T17**	27.38
9	200	1/4"	7/16"	2"	5/16"	**33975T51**	4.32
9	400	5/16"	1/2"	2 1/2"	1/2"	**33975T52**	7.70
9	700	3/8"	11/16"	3 1/8"	5/8"	**33975T53**	14.78
9	1,300	7/16"	15/16"	3 13/16"	3/4"	**33975T54**	18.10
10	200	1/4"	7/16"	1 7/8"	1/4"	**33975T61**	6.24
10	400	5/16"	1/2"	2 1/2"	3/8"	**33975T62**	9.31
10	700	3/8"	11/16"	3 1/16"	1/2"	**33975T63**	15.54
10	1,300	7/16"	15/16"	3 3/4"	5/8"	**33975T64**	18.45
11	500	5/16"	1/2"	2 1/2"	7/16"	**3777T73**	14.31
11	800	3/8"	5/8"	3 1/4"	1/2"	**3777T52**	21.20
12	300	1/4"	3/8"	1 7/8"	5/16"	**3764T44**	18.86
12	800	5/16"	1/2"	2 1/2"	1/2"	**3764T35**	14.30
13	300	1/4"	3/8"	1 7/8"	5/16"	**3764T31**	20.20
13	800	5/16"	1/2"	2 1/2"	7/16"	**3764T32**	26.71
13	1,300	3/8"	9/16"	3 3/16"	1/2"	**3764T33**	35.86
13	2,100	1/2"	13/16"	3 3/4"	5/8"	**3764T59**	57.45
14	400	1/4"	7/16"	1 7/8"	1/4"	**3764T47**	22.37
14	900	5/16"	9/16"	2 1/2"	7/16"	**3764T91**	29.24
14	1,400	3/8"	11/16"	3 3/16"	1/2"	**3764T39**	39.27
14	2,400	1/2"	15/16"	3 3/4"	5/8"	**3764T69**	61.78

Locking Carabiners—Not for Lifting

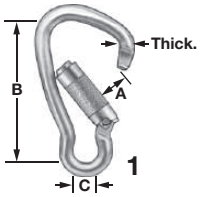

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A locking latch ensures a secure connection. **Zinc-plated steel** carabiners are mildly corrosion resistant. **Aluminum** carabiners are more corrosion resistant than zinc-plated carabiners. **316 stainless steel** carabiners have excellent resistance to salt water and chemicals.

Twist-Locking—To open, lift and twist the latch 90°.
Screw-Locking—Lock by screwing the latch into the body.
Slide-Locking—A lock slides upward over the latch to lock. The latch opens outward to accept large diameters of rope.

	Thick.	(A)	(B)	(C)	Zinc-Plated Steel Cap., lbs.			Aluminum Cap., lbs.			316 Stainless Steel Cap., lbs.		
Twist-Locking													
1	7/16″	13/16″	4″	11/16″	1,600	3216T11	$18.78	1,600	3293T31	$20.82	2,000	3370T51	$30.35
2	1/2″	1 1/16″	3 1/2″	1 1/16″	3,500	3216T12	32.16	2,200	3293T32	30.02	2,500	3370T52	43.49
Screw-Locking													
3	5/16″	11/16″	2 3/4″	1/2″	600	3216T21	14.87	400	3293T41	15.39	1,000	3370T61	21.90
3	3/8″	11/16″	3 5/16″	1/2″	1,200	3216T22	17.80	1,200	3293T42	19.21	1,500	3370T62	29.34
3	7/16″	15/16″	4 1/16″	11/16″	1,600	3216T23	19.05	1,600	3293T43	21.11	2,000	3370T63	34.71
4	1/2″	1 1/16″	3 1/2″	1 1/16″	3,500	3216T24	29.41	2,200	3293T44	31.02	2,500	3370T64	42.30
Slide-Locking													
5	5/16″	13/16″	3 3/16″	7/16″	—	—	—	—	—	—	400	3415T71	22.51
5	3/8″	1 1/4″	4″	9/16″	—	—	—	—	—	—	600	3415T72	32.55

S-Hooks—Not for Lifting

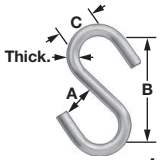

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Zinc-plated steel hooks are mildly corrosion resistant. **Black-oxide steel** hooks have a dark surface color. **Brass** hooks are more corrosion resistant than zinc-plated hooks. **Galvanized steel** hooks have a thick coating for good corrosion resistance. **Stainless steel** hooks have excellent resistance to salt water and chemicals. **Black plastic** hooks are lightweight and won't scratch your surface.

(1) Open End

Thick.	(A)	(B)	(C)	Zinc-Plated Steel Cap., lbs.	Pkg. Qty.		Pkg.	Black-Oxide Steel Cap., lbs.	Pkg. Qty.		Pkg.	Brass Cap., lbs.	Pkg. Qty.		Pkg.
1/16″	3/16″	5/8″	1/4″	10	25	9381T21	$2.81	10	25	6056T1	$4.25	5	25	9379T21	$3.74
1/16″	1/4″	1″	5/16″	10	25	9381T22	3.24	10	25	6056T2	4.38	5	25	9379T22	4.32
1/8″	3/16″	1″	3/8″	—	—	—	—	—	—	—	—	20	25	9379T23	8.34
1/8″	1/4″	1″	5/16″	30	25	9381T23	3.29	30	10	6056T4	3.75	—	—	—	—
1/8″	1/4″	1 3/4″	9/16″	40	25	9381T25	4.42	40	10	6056T5	4.03	—	—	—	—
1/8″	7/16″	1 1/2″	1/2″	20	25	9381T24	4.06	20	10	6056T3	3.80	20	25	9379T24	8.61
3/16″	1/4″	1″	5/16″	100	25	9381T51	4.31	100	10	6056T6	3.75	70	25	9379T11	10.63
3/16″	7/16″	1 1/2″	1/2″	100	10	9381T52	2.38	100	5	6056T7	5.66	80	10	9379T27	10.62
1/4″	5/16″	1 1/2″	1/2″	200	10	9381T54	4.05	200	5	6056T9	5.95	—	—	—	—
1/4″	9/16″	2″	11/16″	100	10	9381T55	3.91	100	5	6056T8	5.96	100	5	9379T28	11.25
5/16″	9/16″	2″	11/16″	400	10	9381T56	7.01	400	1	6056T13	2.98	—	—	—	—
5/16″	9/16″	2 3/8″	3/4″	300	10	9381T57	8.74	300	1	6056T11	3.08	—	—	—	—
3/8″	11/16″	2 1/2″	7/8″	400	10	9381T58	11.69	400	1	6056T12	3.41	—	—	—	—
1/2″	3/4″	3″	1 1/8″	800	1	9381T59	3.02	—	—	—	—	—	—	—	—


2

Thick.	(A)	(B)	(C)	Galvanized Steel Cap., lbs.	Pkg. Qty.		Pkg.	18-8 Stainless Steel Cap., lbs.	Pkg. Qty.		Pkg.	Black Plastic Cap., lbs.	Pkg. Qty.		Pkg.
1/16″	3/16″	5/8″	1/4″	—	—	—	—	10	25	9378T21	$3.81	—	—	—	—
1/16″	1/4″	1″	5/16″	10	25	9380T22	$4.46	10	25	9378T22	4.01	—	—	—	—
1/8″	1/4″	1″	5/16″	30	25	9380T23	8.80	30	25	9378T23	4.61	—	—	—	—
1/8″	1/4″	1 3/4″	9/16″	40	25	9380T25	10.59	50	10	9378T25	7.74	—	—	—	—
1/8″	7/16″	1 1/2″	1/2″	20	25	9380T24	6.72	—	—	—	—	—	—	—	—
1/8″	7/16″	1 9/16″	1/2″	—	—	—	—	30	25	9378T24	10.24	—	—	—	—
3/16″	1/4″	1″	5/16″	100	25	9380T9	7.46	100	10	9378T11	5.05	—	—	—	—
3/16″	7/16″	1 1/2″	1/2″	100	10	9380T1	3.37	100	10	9378T12	9.31	—	—	—	—
1/4″	5/16″	1 1/2″	1/2″	200	10	9380T16	5.21	300	5	9378T14	7.09	—	—	—	—
1/4″	9/16″	2″	11/16″	100	10	9380T12	5.05	100	5	9378T15	8.07	—	—	—	—
1/4″	1″	2 1/2″	5/8″	—	—	—	—	—	—	—	—	100	8	1926T21	$7.99
5/16″	9/16″	2″	11/16″	400	10	9380T13	7.98	100	1	9378T16	2.59	—	—	—	—
5/16″	9/16″	2 3/8″	3/4″	300	10	9380T17	8.28	400	1	9378T18	2.97	—	—	—	—
3/8″	11/16″	2 1/2″	7/8″	400	5	9380T14	9.97	—	—	—	—	—	—	—	—
1/2″	3/4″	3″	1 1/8″	800	1	9380T15	3.77	—	—	—	—	—	—	—	—


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Cap., lbs.	Thick.	(A)	(B)	(C)	Pkg. Qty.		Pkg.
(2, 3) Closed End							
(2) 18-8 Stainless Steel							
Not Rated	1/16″	1/16″	9/16″	3/16″	10	9375T31	$3.37
Not Rated	3/32″	1/16″	5/8″	3/16″	10	9375T32	4.08
Not Rated	1/8″	1/16″	1″	3/8″	10	9375T33	5.87
(3) Zinc-Plated Steel							
10	1/16″	1/16″	1″	3/8″	25	9377T13	3.91
10	1/8″	1/16″	15/16″	1/2″	25	9377T12	3.06
10	1/8″	1/16″	1 1/2″	5/8″	25	9377T11	3.31
30	1/8″	1/16″	1″	5/16″	25	9377T14	4.11
30	1/8″	1/16″	1″	3/8″	25	9376T3	3.18
30	1/8″	1/16″	1 3/4″	11/16″	25	9376T1	4.27
(3) 18-8 Stainless Steel							
20	1/8″	1/16″	1 1/4″	1/2″	10	9375T66	3.82
20	1/8″	1/16″	1 1/2″	5/8″	10	9375T67	4.17


5

Cap., lbs.	Thick.	(A)	(B)	(C)	Pkg. Qty.		Pkg.
(2, 3) Closed End (Cont.)							
(3) 18-8 Stainless Steel (Cont.)							
40	1/8″	1/16″	1″	5/16″	10	9375T65	$3.95
40	1/8″	1/16″	1″	3/8″	10	9375T68	4.77
40	1/8″	1/8″	1 3/4″	11/16″	10	9375T71	7.42
50	1/8″	1/16″	1 3/8″	1/2″	10	9375T69	5.74
(4, 5) Combination Open- and Closed End							
(4) Zinc-Plated Steel							
200	3/8″	3/4″	3 1/2″	5/8″	10	9373T11	10.19
(5) 316 Stainless Steel							
100	1/4″	3/8″	2″	5/16″	1	3631T88	6.75
200	3/16″	3/8″	1 3/4″	1/4″	1	3631T89	6.61
200	5/16″	7/16″	2 1/4″	7/16″	1	3631T82	8.82
300	3/8″	9/16″	2 11/16″	5/8″	1	3631T84	12.69

S-Hooks—For Lifting

Quickly attach to lines or fittings with small openings.

316 stainless steel hooks have excellent resistance to salt water and chemicals.

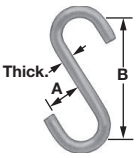

Cap., lbs.	Thick.	(A)	(B)		
Alloy Steel					
200	1/4″	3/4″	2 3/4″	3784T21	$33.58
500	3/8″	1 1/8″	4 1/8″	3784T22	39.62
1,000	1/2″	1 1/2″	5 1/2″	3784T23	47.97
1,500	5/8″	1 7/8″	7″	3784T24	55.88
2,000	3/4″	2 1/4″	8 1/4″	3784T25	65.96
2,400	7/8″	2 5/8″	9 1/2″	3784T28	46.52
3,200	1″	3″	11″	3784T27	106.86
316 Stainless Steel					
70	1/4″	3/4″	2 3/4″	3784T29	36.74
100	3/8″	1 1/8″	4 1/8″	3784T31	37.43
300	1/2″	1 1/2″	5 1/2″	3784T32	36.48
500	5/8″	1 7/8″	7″	3784T33	32.88
600	3/4″	2 1/4″	8 1/4″	3784T34	34.06
900	7/8″	2 5/8″	9 1/2″	3784T35	93.11
1,000	1″	3″	11″	3784T36	138.73

Mil. Spec. S-Hooks—Not for Lifting

These hooks meet MS-87006.

Cadmium-plated hooks have better corrosion resistance than steel hooks.

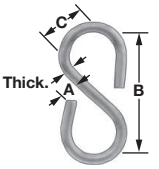

Cap., lbs.	Thick.	(A)	(B)	(C)		
Steel						
3	1/32″	3/16″	13/16″	1/8″	6027T11	$2.50
10	3/32″	1/16″	1 1/16″	3/8″	6027T13	2.75
10	1/8″	3/8″	1 7/16″	1/4″	6027T14	2.68
10	1/8″	9/16″	1 7/16″	5/16″	6027T15	2.56
20	3/32″	3/16″	15/16″	3/16″	6027T12	2.81
40	1/8″	1/4″	1 1/16″	3/16″	6027T16	2.84
60	5/32″	1/4″	1 1/16″	1/4″	6027T17	2.99
Cadmium-Plated Steel						
3	1/32″	3/16″	13/16″	1/8″	6027T18	2.80
10	1/8″	9/16″	1 7/16″	5/16″	6027T23	3.11
20	3/32″	1/16″	1 1/16″	3/8″	6027T21	3.27
20	3/32″	3/16″	15/16″	3/16″	6027T19	3.21
20	1/8″	3/8″	1 7/16″	1/4″	6027T22	3.38
40	1/8″	1/4″	1 1/16″	3/16″	6027T24	3.46
60	5/32″	1/4″	1 1/16″	1/4″	6027T25	3.59

S-Hooks with Latch—Not for Lifting

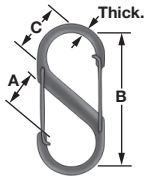

Latches on Both Ends



Latch on One End

For extra security, latches on these hooks snap back into place to secure your load.

Black plastic hooks are lightweight and won't scratch your surface.

Black powder-coated 400 series stainless steel hooks have excellent corrosion and abrasion resistance.

316 stainless steel hooks have excellent resistance to salt water and chemicals.

Cap., lbs.	Thick.	(A)	(B)	(C)		
Latches on Both Ends						
Black Plastic						
10	3/16″	3/8″	1 5/8″	9/16″	6043T2	$1.88
20	1/4″	11/16″	2 15/16″	1″	6043T3	2.50
Black Powder-Coated 400 Series Stainless Steel						
10	1/8″	1/2″	1 3/4″	5/8″	6043T4	2.76
70	1/4″	13/16″	3 1/16″	1 1/8″	6043T5	3.88
Latch on One End						
316 Stainless Steel						
100	1/4″	3/8″	2″	3/8″	6043T6	5.05
200	5/16″	5/8″	2 3/8″	5/8″	6043T7	8.02

Load-Rated Snaps—Not for Lifting

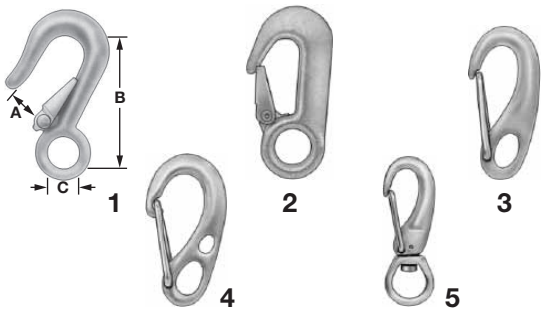

These snaps are thicker than standard snaps for a stronger connection. **Swivel** snaps rotate for easy positioning.

Zinc-plated steel snaps are mildly corrosion resistant.

Stainless steel snaps provide excellent resistance to salt water and chemicals.

	Cap., lbs.	(A)	(B)	(C)		
Standard						
Zinc-Plated Steel						
1	700	3/4″	3 1/8″	3/4″	3949T1	$5.23
2	900	1/2″	2 9/16″	5/8″	3949T2	5.09
316 Stainless Steel						
1	300	11/16″	3 1/8″	3/4″	8907T11	12.83
3	100	1/2″	1 5/8″	1/4″	8907T61	22.40
3	300	1/2″	2 3/8″	3/8″	8907T71	34.21
3	800	3/4″	2 7/8″	1/2″	8907T72	65.21
17-4 PH Stainless Steel						
4	1,000	3/8″	2 3/8″	3/8″	8907T73	39.79
4	2,200	9/16″	2 7/8″	9/16″	8907T74	80.41
Swivel						
316 Stainless Steel						
5	100	1/2″	2 3/8″	1/2″	8907T64	53.13
5	300	9/16″	3 3/8″	3/4″	8907T65	82.72

Light Duty Collar-Release Shackles—Not for Lifting

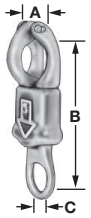



Pull the collar to release the shackle from its locked position. Made of nickel-plated iron. Not rated for capacity.

(A)	(B)	(C)		
5/8″	3 1/4″	5/8″	37115T4	$3.91

Slide-Bolt Snaps with Split Swivel Ring—Not for Lifting

Color-code keys and other small items with these plastic snaps. The split ring swivels and is made of nickel-plated steel.

To Order Please specify color: black, blue, red, white, or yellow.

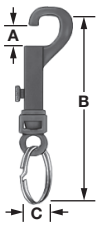

(A)	(B)	(C)		
3/8″	3 1/8″	7/8″	34365T1	$0.99

50-Piece Snap Assortment—Ten each of black, blue, red, white, and yellow.

34365T61 $49.74

Snaps

Slide-Bolt Snaps

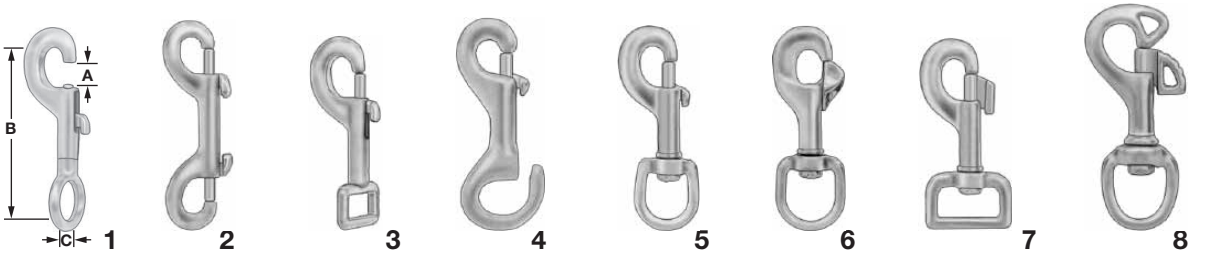

The slide bolt provides a more secure connection than standard snaps. **Swivel** snaps rotate for easy positioning.
Brass, bronze, and **nickel-plated** snaps have good corrosion resistance. **316 stainless steel** snaps have excellent resistance to salt water and chemicals.

	(A)	(B)	(C)		
Standard					
Nickel-Plated Zinc					
1	5/16"	3"	5/8"	3906T14	$1.88
1	5/16"	3"	3/4"	3906T16	2.08
1	3/8"	2 3/4"	1/2"	3906T12	1.84
2	3/8"	2 7/8"	—	3901T16	2.02
2	3/8"	3 1/4"	—	3901T19	2.31
2	3/8"	4"	—	3901T24	3.07
3	3/8"	2 5/8"	1"★	3902T16	2.46
Zinc-Plated Iron					
2	3/8"	3 5/8"	—	3901T52	3.24
2	3/8"	4 1/8"	—	3901T53	3.98
4	3/16"	2 1/4"	3/8"	3910T11	1.76
4	5/16"	2 7/8"	3/8"	3910T12	2.62
4	3/8"	3"	5/8"	3910T13	3.02
4	3/8"	3 1/4"	5/8"	3910T14	3.35
4	1/2"	5"	1"	3910T18	7.76
4	9/16"	4 1/4"	3/4"	3910T19	7.72
Bronze					
2	7/16"	4"	—	3901T32	5.99
4	3/8"	3"	1/2"	3910T31	4.00
4	1/2"	3 1/2"	1/2"	3910T32	5.91
316 Stainless Steel					
2	1/4"	2 15/16"	—	3901T54	10.95
2	3/8"	3 1/2"	—	3901T31	16.10
2	1/2"	4 1/8"	—	3901T55	18.37

★Dimension represents strap width. Use with strap up to 1/4" thick.

	(A)	(B)	(C)		
Swivel					
Nickel-Plated Zinc					
5	3/16"	2 1/8"	3/8"	3913T26	$1.10
5	3/8"	2 1/2"	3/8"	3913T11	1.28
5	3/8"	2 5/8"	1/2"	3913T12	1.40
5	3/8"	2 7/8"	5/8"	3913T16	1.80
5	3/8"	2 7/8"	3/4"	3913T17	1.89
5	3/8"	3 1/8"	7/8"	3913T19	2.10
5	3/8"	3 1/8"	1"	3913T22	2.34
5	7/16"	3 3/8"	1 1/8"	3913T23	2.85
6	3/8"	2 1/2"	5/8"	3963T1	1.98
6	3/8"	2 3/4"	3/4"	3963T2	2.07
7	3/8"	2 5/8"	1"★	3902T24	2.69
Nickel-Plated Iron					
5	5/8"	3 7/8"	5/8"	3913T25	3.55
Nickel-Plated Brass					
5	3/16"	1 3/8"	1/4"	3913T73	1.56
Bronze					
5	1/4"	2 1/2"	3/8"	3913T61	2.37
5	3/8"	2 5/8"	5/8"	3913T71	4.35
5	1/2"	4"	1 1/4"	3913T72	11.07
8	3/8"	3 1/8"	3/4"	3908T6	5.49
316 Stainless Steel					
5	3/8"	3"	3/8"	3913T51	11.53
5	3/8"	3"	1/2"	3913T52	11.96
5	3/8"	3"	5/8"	3913T53	11.66
5	3/8"	3 1/4"	3/4"	3913T54	12.75
5	1/2"	4 1/4"	1 1/4"	3913T56	16.66
5	9/16"	4 1/8"	1 1/8"	3913T55	16.98

Snaps

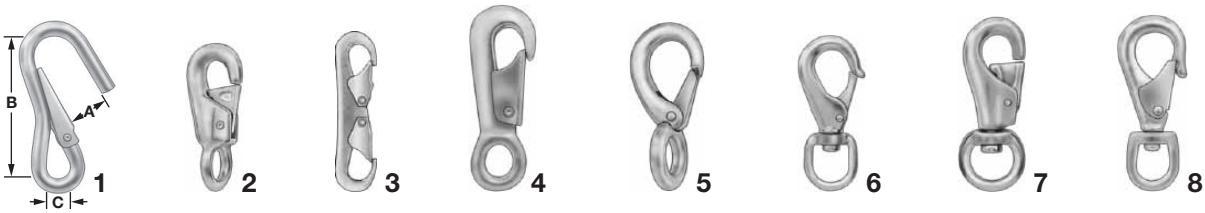

Swivel snaps rotate for easy positioning.
Zinc-plated and **zinc** snaps are mildly corrosion resistant. **Nickel-plated** and **bronze** snaps are more corrosion resistant than zinc-plated snaps. **316 stainless steel** snaps have excellent resistance to salt water and chemicals.

	(A)	(B)	(C)		
Standard					
Zinc-Plated Steel					
1	3/4"	3 1/2"	1/2"	3956T1	$3.32
Nickel-Plated Iron					
2	1/2"	3"	3/4"	3920T14	4.16
3	5/16"	3 1/16"	—	3904T18	2.76
3	7/16"	4 1/2"	—	3904T28	4.24
Zinc-Plated Iron					
4	9/16"	3 7/8"	5/8"	3735T15	3.78
Zinc					
5	1/4"	1 1/2"	7/16"	3905T11	1.18
5	5/16"	1 13/16"	1/2"	3905T12	1.83
5	7/16"	2 1/8"	9/16"	3905T13	2.30
5	9/16"	2 5/8"	11/16"	3905T14	3.43
5	5/8"	3 1/16"	13/16"	3905T16	4.35
5	3/4"	3 11/16"	1"	3905T18	7.48
316 Stainless Steel					
5	3/16"	1 3/4"	1/2"	3717T41	7.36
5	3/8"	2 3/8"	5/8"	3717T42	9.00
5	7/16"	3"	11/16"	3717T43	9.30
5	5/8"	3 3/8"	3/4"	3717T44	11.28

	(A)	(B)	(C)		
Swivel					
Nickel-Plated Zinc					
6	1/2"	2 1/2"	3/8"	3943T1	$2.59
6	1/2"	2 3/4"	1/2"	3943T2	2.84
6	1/2"	2 3/4"	5/8"	3943T3	2.77
6	1/2"	2 7/8"	3/4"	3943T4	2.88
6	1/2"	3 1/16"	1"	3943T5	3.30
Nickel-Plated Iron					
7	1/2"	3 3/8"	7/8"	3921T14	4.41
Zinc-Plated Iron					
8	3/8"	3 3/16"	5/8"	3903T12	6.24
8	3/4"	5 1/8"	1 1/8"	3903T22	10.24
Bronze					
6	3/8"	2 13/16"	5/8"	3903T41	5.03
6	7/16"	3 1/4"	3/4"	3903T42	6.42
6	9/16"	3 15/16"	7/8"	3903T43	9.55
316 Stainless Steel					
6	5/16"	3"	3/4"	3715T41	11.72
6	7/16"	3 3/8"	13/16"	3715T42	14.68
6	1/2"	4"	13/16"	3715T43	16.49

Overlapping-Arm Snaps with Swivel Eye

The force of the load helps keep the arms closed. Press the trigger for quick connection and disconnection.
Nickel-plated and **bronze** snaps offer some corrosion resistance. **316 stainless steel** snaps have excellent resistance to salt water and chemicals.

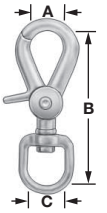



(A)	(B)	(C)		
Nickel-Plated Zinc				
3/8"	2 1/16"	1/2"	3919T12	$1.67
3/8"	2 3/8"	3/4"	3919T16	2.29
7/16"	2 1/8"	3/8"	3919T11	2.20
7/16"	2 1/8"	3/4"★	3919T24	2.56
7/16"	2 1/4"	5/8"	3919T13	2.08
11/16"	3 3/16"	3/4"	3919T14	3.53

★Eye is square. Dimension represents strap width. Use with strap up to 1/8" thick.

(A)	(B)	(C)		
Nickel-Plated Iron				
7/8"	3 7/16"	3/4"	3919T23	$4.32
1 1/16"	4 1/16"	1"	3919T15	6.76
Bronze				
3/8"	2 3/16"	1/2"	3932T14	3.58
316 Stainless Steel				
3/8"	2 3/16"	1/2"	3919T21	9.85
7/16"	2 7/16"	5/8"	3919T22	10.40

Light Duty Snaps

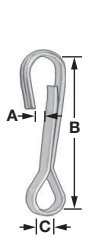

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10



11



12



13



14



15



16

Swivel snaps rotate for easy positioning.
Zinc-plated snaps are mildly corrosion resistant. **Nickel-plated** snaps are more corrosion resistant than zinc-plated snaps. **Plastic** snaps are lightweight and won't scratch your surface. **316 stainless steel** snaps have excellent resistance to salt water and chemicals.

(A)	(B)	(C)	Pkg. Qty.		Pkg.
Standard					
Nickel-Plated Steel					
1 1/8"	15/16"	3/16"	10	3960T1	$1.59
1 3/16"	1 1/4"	1/4"	10	3960T3	1.73
1 3/16"	1 3/8"	1/4"	10	3960T4	1.59
1 3/16"	1 5/8"	5/16"	10	3960T5	2.34
1 1/4"	1 7/8"	3/8"	10	3960T6	2.60
1 1/4"	2 3/16"	7/16"	10	3960T7	3.95
1 1/4"	2 1/2"	7/16"	10	3960T8	5.14
1 5/16"	1 1/8"	1/4"	10	3960T2	1.63
Zinc-Plated Steel					
2 3/8"	3 9/16"	5/8"	10	3959T1	9.71
3 3/8"	3 9/16"	—	1	3958T1	1.08
4 1/4"	1 3/8"	—	10	8990T61	7.86
4 1/4"	2 1/16"	—	10	8990T62	10.57
Zinc-Plated Iron					
5 5/16"	2 1/2"	—	1	3930T12	1.17
5 5/16"	2 3/4"	—	1	3930T14	1.53
Nickel-Plated Zinc					
6 1/2"	2 5/8"	5/8"	1	3957T1	1.63
7 3/8"	2 1/4"	5/8"■	1	3900T16	1.28
7 3/8"	2 1/4"	3/4"■	1	3900T18	1.47
7 7/16"	2 3/8"	1"■	1	3900T22	1.65
7 1/2"	2 3/4"	1 1/4"■	1	3900T24	1.78
7 1/2"	2 3/4"	1 1/2"■	1	3900T25	1.86
7 1/2"	3"	2"■	1	3900T26	1.90
Black Plastic					
8 1/4"	1 1/2"	—	10	30655T35	2.86
9 1/4"	1 3/8"	7/16"	10	8979T4	7.69
9 5/16"	1 3/4"	9/16"	1	8979T5	.88
9 3/8"	2 1/8"	3/4"	1	8979T6	1.36
White Plastic					
9 1/4"	1 1/2"	7/16"	10	8979T1	7.69
9 5/16"	1 3/4"	9/16"	1	8979T2	.88
9 3/8"	2 1/8"	3/4"	1	8979T3	1.36

(A)	(B)	(C)	Pkg. Qty.		Pkg.
Swivel					
Nickel-Plated Steel					
10 1/8"	1 1/4"	5/16"	10	8977T12	$6.00
10 1/4"	1 5/8"	3/8"	10	8977T13	6.25
10 1/4"	2"	7/16"	10	8977T14	8.33
10 5/16"	2 3/8"	1/2"	10	8977T15	8.80
Zinc-Plated Steel					
11 5/16"	4"	3/4"	1	3916T12	.96
11 5/16"	4 1/8"	7/8"	1	3916T14	1.06
12 1/4"	2 5/8"	—	10	3922T14	8.40
12 1/4"	3 1/2"	—	10	3922T15	10.35
12 1/4"	3 1/2"	—	10	3922T16	10.77
12 1/4"	3 3/4"	—	1	3922T17	1.06
Nickel-Plated Zinc					
13 3/16"	1 5/8"	1/4"	10	3929T12	9.62
13 3/16"	1 5/8"	3/8"	10	3929T14	9.65
13 9/32"	3 1/8"	3/4"	1	3929T26	2.01
14 3/16"	2 1/8"	—	10	3929T18	10.94
Black Plastic					
15 1/4"	1 7/8"	3/4"▲	10	30655T36	6.05
15 1/4"	1 7/8"	1"▲	10	30655T37	7.56
15 1/4"	1 7/8"	1 1/2"▲	10	30655T38	8.30
15 1/4"	1 7/8"	2"▲	10	30655T39	9.42
316 Stainless Steel					
16 3/8"	2 1/4"	1"♣	1	3482T11	7.93
16 3/8"	2 1/4"	1 1/2"♣	1	3482T12	9.16
16 3/8"	2 1/4"	2"♣	1	3482T13	10.93

■ Dimension represents strap width. Use with strap up to 5/16" thick.
▲ Dimension represents strap width. Use with strap up to 1/8" thick.
♣ Dimension represents strap width. Use with strap up to 3/16" thick.

About Pulleys



To Calculate the Load on a Single Pulley

Rope Angle	Multiply Load By
0°	2.00
30°	1.93
45°	1.84
60°	1.73
90°	1.41
120°	1.00
150°	0.52
160°	0.35
180°	0.00

Pulleys are wheels with a groove. **Mounted pulleys** have a housing with mounting holes. **Hanging pulleys** have a housing and hardware such as a hook for suspending.

Use multiple pulleys to reduce the force needed to move a load and to reduce the amount of load movement for finer motion control.

Use pulleys **for horizontal pulling** to assist with horizontal pulling or to guide a rope.

Capacity—The rope angle affects the load on a pulley. Use the chart to determine the capacity you'll need based on the angle of your rope. For example, if you are lifting a 100-lb. load at 0° straight down with a single pulley, then the load on your pulley is 200 lbs.

Size Selection—To minimize the bending stress on your rope, you should choose the largest possible pulley OD.

Pulley Diameter Checkers—Also known as groove gauges, these measure the groove of your pulley to check for wear as well as determine the correct wire rope size. Includes 14 gauges in 1/4" to 1 1/2" wire rope diameters.

3181T51 ..... $28.21

Metal Pulleys for Wire Rope


1


2


3


4


5



6

These pulleys are also known as sheaves. Pulleys *with ball bearings* are easier to turn than pulleys without ball bearings. **Stainless steel** is more corrosion resistant than iron and steel.

For Rope Dia.	OD	Cap., lbs.	Pulley Dia. (A)	For Shaft Dia. (B)	Wd.		
For Horizontal Pulling							
Iron							
1	1/4"	3"	950	2 3/8"	3/8"	9/16"	3168T25 $29.54
1	3/8"	3"	1,250	2 1/4"	3/8"	13/16"	3168T26 35.09
1	1/2"	5"	3,000	3 7/8"	3/4"	1 1/16"	3168T43 62.37
Steel							
1	7/8"	5 7/8"	4,300	4 3/8"	1 1/2"	1 3/4"	3175T69 149.46
Steel with Ball Bearings							
2	3/64"	1/2"	35	3/8"	1/8"	3/16"	3434T21 4.00
2	3/32"	1 1/16"	175	7/8"	3/16"	5/16"	3434T22 4.40
2	1/8"	1"	125	3/4"	3/16"	3/8"	3434T74 4.22
2	3/16"	1 1/4"	175	7/8"	1/4"	7/16"	3434T23 5.11
2	1/4"	1 3/4"	275	1 1/4"	3/8"	1/2"	3434T24 7.12
3	3/16"	1 1/4"	85	1"	5/32"	7/16"	3164T11 11.42
3	7/32"	2 3/4"	300	2 3/16"	5/8"	9/16"	3164T28 9.60
3	1 1/32"	2 3/4"	300	2 3/8"	3/8"	9/16"	3164T18 11.08
3	1 1/32"	3"	300	2 3/8"	3/8"	1 1/16"	3164T22 11.15
3	3/8"	2 7/8"	300	2 9/16"	1/4"	1/2"	3164T13 10.60
3	3/8"	3 1/16"	300	2 9/16"	3/8"	1/2"	3164T23 12.17
3	3/8"	4 1/16"	450	3 9/16"	3/8"	3/4"	3164T25 15.50
3	7/16"	3 3/8"	325	2 11/16"	3/8"	1 1/16"	3164T33 13.29
3	1/2"	3"	275	2 5/8"	5/16"	3/4"	3164T16 10.60
3	17/32"	2 7/8"	300	2 1/4"	1/2"	13/16"	3164T26 11.83
Stainless Steel							
4	1/8"	2 1/4"	1,000	1 7/8"	1/4"	13/16"	31695T21 31.43
4	3/16"	3 1/4"	1,500	2 3/4"	3/8"	15/16"	31695T23 59.97
4	1/4"	4 1/4"	3,000	3 1/2"	1/2"	1 1/8"	31695T25 96.62
4	5/16"	5 1/4"	5,000	4 3/8"	1/2"	1 3/8"	31695T27 156.02
4	3/8"	6 1/4"	8,000	5 1/4"	1/2"	1 5/8"	31695T29 178.62
Stainless Steel with Ball Bearings							
4	1/8"	2 1/4"	1,000	1 7/8"	3/8"	13/16"	3628T11 42.18
4	3/16"	3 1/4"	1,200	2 3/4"	1/2"	15/16"	3628T22 75.62
4	1/4"	4 1/4"	1,200	3 1/2"	1/2"	1 1/16"	3628T23 87.18

For Rope Dia.	OD	Cap., lbs.	Pulley Dia. (A)	For Shaft Dia. (B)	Wd.		
For Lifting							
Steel							
1	1/4"	4"	1,200	3 1/4"	1/2"	13/16"	3175T41 $60.31
1	1/4"	4"	1,200	3 1/4"	3/4"	13/16"	3175T42 62.14
1	5/16"	5"	1,800	4"	3/4"	1"	3175T45 83.31
1	3/8"	4"	1,600	3 1/8"	1/2"	13/16"	3175T43 60.14
1	3/8"	4"	1,700	3 1/8"	3/4"	13/16"	3175T44 62.26
1	3/8"	4 1/8"	1,600	3"	1"	1 1/2"	3175T46 78.17
1	3/8"	6"	2,700	4 15/16"	1 1/4"	1 1/8"	3175T49 110.74
1	3/8"	6"	2,800	5"	3/4"	1 1/16"	3175T47 107.77
1	3/8"	6"	2,800	5"	1"	1 1/16"	3175T48 108.63
1	3/8"	8"	3,600	6 1/2"	1 1/4"	1 3/8"	3175T61 176.60
1	1/2"	6"	3,200	4 7/8"	3/4"	1 1/16"	3175T62 107.97
1	1/2"	6"	3,600	4 7/8"	1"	1 1/16"	3175T63 108.89
1	1/2"	6"	3,600	4 15/16"	1 1/4"	1 1/8"	3175T64 110.83
1	1/2"	8"	4,800	6 5/8"	1"	1 3/8"	3175T65 174.94
1	5/8"	6"	3,200	5"	3/4"	1 1/16"	3175T66 108.03
1	5/8"	6"	4,200	5"	1"	1 1/16"	3175T67 108.94
1	5/8"	8"	6,000	6 5/8"	1 1/4"	1 3/8"	3175T68 176.80
5	1/8"	2 1/2"	675	2 1/4"	1/2"	1/2"	3434T78 7.46
5	3/16"	1 1/2"	525	1"	1/2"	1/2"	3434T116 3.76
5	3/16"	2"	600	1 1/2"	1/2"	1/2"	3434T117 5.04
5	1/4"	2 1/2"	675	2"	1/2"	1/2"	3434T118 7.95
5	1/4"	3"	800	2 1/2"	1/2"	1/2"	3434T119 10.15
5	5/16"	3 1/2"	1,550	3"	3/4"	1 1/16"	3434T121 14.50
5	3/8"	4"	1,700	3 1/4"	3/4"	1 1/16"	3434T79 18.67
5	3/8"	5"	1,850	4 1/4"	3/4"	1 1/16"	3434T81 30.08
5	3/4"	6"	6,000	5 3/16"	1"	1"	3164T82 36.46
Steel with Ball Bearings							
6	1/8"	2 1/4"	1,000	2"	12 mm	13/16"	3183T18 115.82
6	1/4"	4 1/4"	3,500	3 3/4"	20 mm	13/16"	3183T11 169.27
6	3/8"	6"	7,000	5 5/16"	30 mm	1 1/2"	3183T12 210.00
6	1/2"	8"	10,500	7"	35 mm	1 11/16"	3183T13 287.64
6	5/8"	10"	16,000	8 3/4"	45 mm	2"	3183T14 444.50

Machinable Pulleys



Customize the groove and bore to fit your application. The center of the pulley has a pilot hole so you can drill a bore to match a specific shaft size. Made of nylon, pulleys are easy to machine yet resist impact and corrosion. They are for use with wire rope and rope. Capacity is not rated.

OD		1/4" Wd.	1/2" Wd.	3/4" Wd.	1" Wd.	1 1/2" Wd.	2" Wd.
1"	9453T11	$10.34	$10.94	$11.54	$12.10	$13.26	$14.46
1 1/2"	9453T12	10.34	10.94	11.54	12.10	13.26	14.46
2"	9453T13	10.34	10.94	11.54	12.10	13.26	14.46
3"	9453T14	17.34	18.34	19.30	21.26	23.26	25.24
4"	9453T15	19.20	21.44	22.40	25.60	28.84	32.04
6"	9453T16	25.90	29.54	33.20	40.46	47.74	55.00

Warning: Never use to lift people or items over people.

Plastic Pulleys for Wire Rope

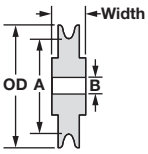


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Also known as sheaves, these pulleys are lightweight and corrosion resistant. Pulleys *with ball bearings* are easier to turn than pulleys without ball bearings.

	For Rope Dia.	OD	Cap., lbs.	Pulley Dia. (A)	For Shaft Dia. (B)	Wd.		
For Horizontal Pulling								
Acetal								
1	1/32"	3/8"	—	5/16"	1/8"	1/8"	3434T31	$1.27
1	1/32"	5/8"	—	1/2"	1/8"	1/8"	3434T32	1.38
1	3/64"	3/4"	—	5/8"	1/8"	3/16"	3434T33	1.52
1	3/64"	1"	—	13/16"	3/16"	3/16"	3434T75	1.65
1	3/64"	1 1/16"	—	7/8"	3/16"	1/4"	3434T34	1.70
1	1/16"	1 1/4"	—	1 1/16"	3/16"	1/4"	3434T35	1.80
1	1/8"	1 3/4"	—	1 3/8"	1/4"	5/16"	3434T37	2.12
1	3/16"	1 9/16"	—	1 1/4"	1/4"	3/8"	3434T38	2.15
1	1/4"	1 15/16"	—	1 9/16"	5/16"	7/16"	3434T39	2.70
Nylon								
2	3/32"	2 1/2"	200	2 3/16"	1/4"	1/4"	9466T61	6.61
2	3/16"	3"	800	2 1/2"	1/2"	7/16"	9466T63	7.62
2	3/16"	3 1/2"	800	3"	1/2"	7/16"	9466T64	8.25
2	1/4"	4"	1,400	3 3/8"	3/4"	1/2"	9466T65	10.38
2	1/4"	4 1/2"	1,400	3 7/8"	3/4"	1/2"	9466T66	11.25
2	1/4"	5"	1,400	4 3/8"	3/4"	1/2"	9466T67	11.62
3	5/16"	5 1/2"	1,600	4 5/8"	3/4"	5/8"	9466T68	13.75
3	5/16"	6"	1,600	5 1/4"	3/4"	5/8"	9466T69	15.25

	For Rope Dia.	OD	Cap., lbs.	Pulley Dia. (A)	For Shaft Dia. (B)	Wd.		
For Horizontal Pulling (Cont.)								
Nylon with Ball Bearings								
2	3/32"	2 1/2"	200	2 3/16"	1/4"	1/4"	9466T81	$18.00
2	3/16"	2 1/2"	800	2"	1/2"	7/16"	9466T82	15.62
2	3/16"	3 1/2"	800	3"	1/2"	7/16"	9466T84	16.75
2	1/4"	4"	1,400	3 3/8"	3/4"	1/2"	9466T85	20.25
2	1/4"	5"	1,400	4 3/8"	3/4"	1/2"	9466T87	22.25
3	5/16"	6"	1,600	5 1/4"	3/4"	5/8"	9466T89	24.88
4	1/32"	5/8"	10	1/2"	1/8"	1/8"	3434T12	10.00
4	3/64"	3/4"	10	5/8"	1/8"	3/16"	3434T13	10.00
4	3/64"	1 1/16"	90	7/8"	3/16"	1/4"	3434T14	10.12
4	1/16"	1 1/4"	90	1 1/16"	3/16"	1/4"	3434T73	10.12
4	3/32"	1 1/2"	90	1 1/4"	1/4"	5/16"	3434T15	10.50
4	1/8"	1 3/4"	90	1 3/8"	1/4"	5/16"	3434T16	10.50
For Lifting								
Nylon								
5	1/4"	1 1/2"	250	1 1/16"	1/4"	9/16"	9466T75	6.45
5	1/4"	2 3/4"	750	2 1/4"	5/16"	9/16"	9466T72	7.35
5	1/4"	3"	1,200	2 3/8"	5/16"	5/8"	9466T73	9.20

Mounted Pulleys for Wire Rope

Double Pulleys—Use with another pulley to reduce the force needed to move a load and to reduce the amount of load movement for finer motion control.

Stainless steel pulleys are more corrosion resistant than steel.

Pulleys *with ball bearings* are easier to turn than pulleys without ball bearings.

Style 8 pivots up to 200° for different pull directions.

	For Rope Dia.	Cap., lbs.	Mounting Holes Dia.	(A)	(B)	OD		
Pulleys—For Horizontal Pulling								
Steel								
1	1/4"	—	1/4"	2 1/4"	—	2"	3087T41	$16.15
1	3/8"	—	1/4"	3 5/8"	—	3"	3087T42	32.27
2	3/16"	—	3/16"	3 3/16"	7/16"	2 1/2"	3087T28	24.33
2	1/4"	—	1/4"	4 1/8"	13/16"	3 1/4"	3087T15	24.47
2	3/8"	—	1/4"	5 1/2"	13/16"	4 1/2"	3087T16	46.15
3	1/4"	—	1/4"	3 7/16"	13/16"	2"	3074T11	19.72
3	3/8"	—	1/4"	4 3/4"	1 1/16"	3"	3074T12	45.16
4	3/16"	—	3/16"	3 1/2"	9/16"	2 1/2"	3074T31	21.83
4	1/4"	—	3/16"	4 3/8"	13/16"	3 1/4"	3074T32	25.44
4	3/8"	—	1/4"	6 1/4"	3/4"	4 1/2"	3074T33	51.75
Steel with Ball Bearings and Stainless Steel Housing								
5	3/16"	150	3/16"	—	—	1 1/4"	3213T52	10.00
Pulleys—For Lifting								
Steel								
6	3/16"	600	3/16"	1 7/16"	1 1/16"	2"	3099T34	7.02
6	1/4"	800	3/16"	1 7/16"	1 1/16"	3"	3099T38	12.54
6	5/16"	1,550	1/4"	2 5/8"	1"	3 1/2"	3099T42	20.93
6	3/8"	1,550	1/4"	2 5/8"	1"	3 1/2"	3099T4	20.93
Steel with Ball Bearings								
7	1/4"	3,500	3/8"	2 3/8"	3 7/16"	4 1/4"	32225T41	348.83
7	3/8"	7,000	1/2"	3 1/4"	4 13/16"	6"	32225T42	511.00
7	1/2"	10,500	11/16"	4 1/2"	5 15/16"	8"	32225T43	697.67
8	1/4"	3,500	1/2"	3 15/16"	3 1/2"	4 1/4"	3417T43	514.77
8	3/8"	7,000	9/16"	8 1/2"	5 7/8"	6"	3417T45	864.77
Stainless Steel with Ball Bearings								
7	1/4"	3,500	3/8"	2 3/8"	3 7/16"	4 1/4"	3303T76	565.22
Double Pulleys—For Horizontal Pulling								
Steel								
9	3/16"	—	3/16"	3 1/4"	7/8"	2 1/2"	3087T31	24.25
9	1/4"	—	1/4"	4 1/8"	1 1/16"	3 1/4"	3087T17	32.90
10	1/4"	—	3/16"	4 7/16"	3/4"	3 1/4"	3074T35	43.66
Double Pulleys—For Lifting								
Steel								
11	3/16"	600	3/16"	2"	3/4"	2"	3099T44	11.78
11	1/4"	800	3/16"	2"	3/4"	3"	3099T46	22.90


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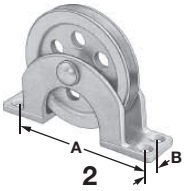

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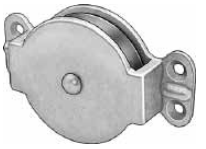
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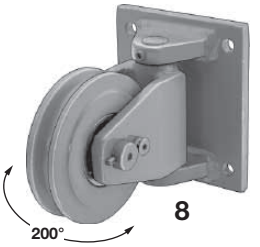

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Warning: *Never use to lift people or items over people.*

Hanging Pulleys for Wire Rope

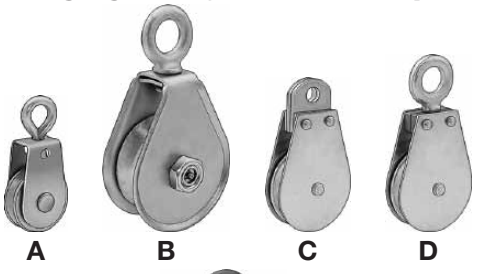



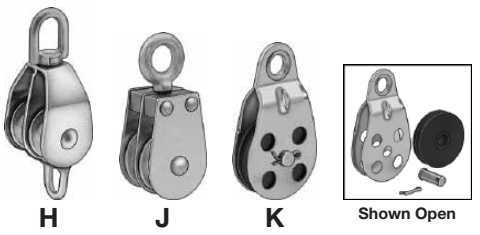



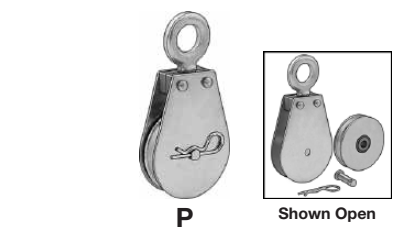



Double Pulleys—Use with another pulley to reduce the force needed to move a load and to reduce the amount of load movement for finer motion control.

Easy-Open Pulleys—Also known as snatch blocks, these pulleys open so it's easier to feed the rope through the housing—a free rope end is not needed.

Nylon is lightweight and corrosion resistant. **Stainless steel** is the most corrosion resistant.

Pulleys *with ball bearings* are easier to turn than pulleys without ball bearings.

Styles F and *H* pulleys have a bracket on the bottom that lets you tie off one end of your wire rope.

	For Rope Dia.	Cap., lbs.	Attachment Type	Attachment Opening Dia.	Overall Ht.	OD		
Pulleys—For Horizontal Pulling								
Nylon with Stainless Steel Housing								
A	1/4"	150	Swivel Eye	3/8"	2 13/16"	1 3/8"	**3213T59**	$9.59
Steel with Ball Bearings and Stainless Steel Housing								
A	3/16"	150	Swivel Eye	3/8"	2 3/4"	1 1/4"	**3213T57**	13.38
Stainless Steel								
A	1/2"	1,650	Swivel Eye	3/4"	4 7/8"	2"	**3213T21**	41.68
A	9/16"	2,475	Swivel Eye	15/16"	7"	3"	**3213T22**	72.44
A	5/8"	4,175	Swivel Eye	15/16"	8"	4"	**3213T23**	109.94
Steel with Ball Bearings								
B	1/2"	2,000	Swivel Eye	1 1/4"	8 7/8"	4 1/2"	**3170T27**	230.58
Pulleys—For Lifting								
Steel								
C	3/16"	600	Rigid Eye	3/8"	3 3/4"	2"	**3099T54**	8.39
C	1/4"	800	Rigid Eye	3/8"	4 13/16"	3"	**3099T58**	14.17
C	5/16"	1,550	Rigid Eye	9/16"	6 1/2"	3 1/2"	**3099T62**	24.58
C	3/8"	1,550	Rigid Eye	9/16"	6 1/2"	3 1/2"	**3099T69**	24.58
D	3/16"	600	Swivel Eye	5/8"	4 1/4"	2"	**3099T14**	10.61
D	1/4"	800	Swivel Eye	7/8"	5 5/8"	3"	**3099T18**	17.44
D	5/16"	1,550	Swivel Eye	1 3/16"	7 5/8"	3 1/2"	**3099T22**	29.79
D	3/8"	1,550	Swivel Eye	1 3/16"	7 5/8"	3 1/2"	**3099T108**	29.79
E	3/16"	600	Swivel Latching Hook	5/16" Wd.	4 5/8"	2"	**3099T49**	17.92
E	1/4"	675	Swivel Latching Hook	1/2" Wd.	5 3/4"	2 1/2"	**3099T53**	21.14
E	1/4"	800	Swivel Latching Hook	1/2" Wd.	6 1/4"	3"	**3099T59**	24.42
E	5/16"	1,550	Swivel Latching Hook	13/16" Wd.	8 1/2"	3 1/2"	**3099T61**	36.80
E	3/8"	1,550	Swivel Latching Hook	13/16" Wd.	8 1/2"	3 1/2"	**3099T68**	36.80
F	3/8"	6,000	Rigid Shackle	1 5/8"	17 5/16"	6"	**3129T65**	324.02
Steel with Ball Bearings								
G	3/8"	10,000	Rigid Shackle	1 1/4"	7 3/4"	4"	**8545T32**	468.00
G	1/2"	13,000	Rigid Shackle	1 1/2"	10 1/2"	6"	**8545T33**	612.21
G	5/8"	13,000	Rigid Shackle	1 3/4"	14 1/2"	8"	**8545T34**	840.58
Double Pulleys—For Horizontal Pulling								
Stainless Steel								
H	7/16"	1,100	Swivel Eye	1/2"	3 3/4"	1"	**3213T11**	42.80
H	7/16"	1,250	Swivel Eye	9/16"	4 1/2"	1 1/4"	**3213T12**	48.00
H	9/16"	1,850	Swivel Eye	3/4"	5 1/2"	2"	**3213T13**	73.50
Double Pulleys—For Lifting								
Steel								
J	3/16"	525	Swivel Eye	5/8"	3 13/16"	1 1/2"	**3099T23**	15.32
J	1/4"	800	Swivel Eye	7/8"	5 5/8"	3"	**3099T26**	29.08
J	5/16"	1,550	Swivel Eye	1 3/16"	7 5/8"	3 1/2"	**3099T27**	48.50
Easy-Open Pulleys—For Horizontal Pulling								
Nylon with Stainless Steel Housing								
K	1/8"	975	Rigid Eye	3/8"	2 5/8"	1"	**31265T81**	23.24
K	1/4"	1,850	Rigid Eye	3/8"	3 1/4"	1 3/4"	**31265T11**	34.31
Steel								
L	3/8"	4,000	Swivel Latching Hook	1" Wd.	10 5/16"	3"	**3257T14**	160.69
L	1/2"	8,000	Swivel Latching Hook	1 5/16" Wd.	14 3/4"	4 1/2"	**3257T15**	268.65
M	3/8"	4,000	Swivel Shackle	1 1/4"	10 3/8"	3"	**3257T24**	169.46
M	1/2"	8,000	Swivel Shackle	1 13/16"	15 5/16"	4 1/2"	**3257T25**	254.29
M	3/4"	16,000	Swivel Shackle	2 1/2"	20 3/16"	6"	**3257T26**	600.07
N	3/8"	4,000	Rigid Clevis	1/2"	4 7/8"	3"	**3257T34**	103.89
N	1/2"	8,000	Rigid Clevis	3/4"	7 1/2"	4 1/2"	**3257T35**	167.21
Easy-Open Pulleys—For Lifting								
Steel								
P	3/16"	600	Swivel Eye	5/8"	4 1/4"	2"	**3099T13**	11.88
P	1/4"	675	Swivel Eye	7/8"	5"	2 1/2"	**3099T15**	15.85
P	5/16"	1,550	Swivel Eye	1 3/16"	7 5/8"	3 1/2"	**3099T21**	31.06
P	3/8"	1,550	Swivel Eye	1 3/16"	7 5/8"	3 1/2"	**3099T41**	31.06
Q	3/8"	4,400	Swivel Hook	1" Wd.	9 3/4"	3"	**3197T11**	162.04
Q	1/2"	8,800	Swivel Hook	1 3/16" Wd.	15 1/8"	4 1/2"	**3197T12**	266.28
Q	3/4"	17,600	Swivel Hook	1 11/16" Wd.	18 7/8"	6"	**3197T13**	469.56
Q	7/8"	26,400	Swivel Hook	2 1/4" Wd.	19 3/4"	6"	**3128T33**	663.48
R	1/2"	8,800	Swivel Shackle	1 3/16"	13 1/8"	4 1/2"	**3197T22**	271.98
R	3/4"	17,600	Swivel Shackle	2 1/4"	18 7/8"	6"	**3197T23**	458.67
Easy-Open Double Pulleys—For Lifting								
Steel								
S	3/16"	600	Swivel Eye	5/8"	4 1/4"	2"	**3099T33**	18.98
S	5/16"	1,550	Swivel Eye	1 3/16"	7 5/8"	3 1/2"	**3099T39**	49.80

Warning: Never use to lift people or items over people.

Pulleys for Rope—For Horizontal Pulling

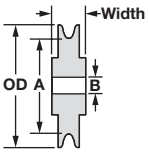


Acetal


Aluminum


Iron


Steel


Galvanized Steel


Stainless Steel

These pulleys are also known as sheaves. Pulleys *with ball bearings* are easier to turn than pulleys without ball bearings.
Acetal and **aluminum** are lightweight and corrosion resistant. **Galvanized steel** is more corrosion resistant than iron and steel. **Stainless steel** is the most corrosion resistant.

For Rope Dia.	OD	Cap., lbs.	Pulley Dia. (A)	For Shaft Dia. (B)	Wd.		
Acetal							
3/16"	3/4"	____	9/16"	5/16"	1/4"	8901T11	$1.80
3/16"	2 5/8"	____	2"	5/16"	1/2"	8901T46	7.67
Aluminum							
1/2"	2"	____	1 5/8"	3/8"	5/8"	3091T521	15.86
5/8"	4"	____	3 3/8"	5/8"	13/16"	3091T581	50.18
Aluminum with Ball Bearings							
1/2"	2"	____	1 5/8"	3/8"	5/8"	3091T531	43.37
5/8"	4"	____	3 3/8"	5/8"	13/16"	3091T591	77.45
Iron							
1"	4 3/4"	3,000	4 3/16"	5/8"	1 1/8"	3165T45	55.46
Steel							
3/8"	1 3/4"	750	1 7/16"	3/8"	1/2"	3165T41	20.74
1/2"	2 1/4"	1,000	1 15/16"	3/8"	5/8"	3165T42	24.37
Galvanized Steel							
5/8"	3"	1,250	2 11/16"	3/8"	3/4"	3165T43	29.51
3/4"	3 1/2"	2,000	3"	1/2"	1"	3165T44	40.79

For Rope Dia.	OD	Cap., lbs.	Pulley Dia. (A)	For Shaft Dia. (B)	Wd.		
Stainless Steel							
1/4"	1 1/4"	400	1"	1/4"	1/2"	3524T11	$18.05
5/16"	1 3/4"	600	1 7/16"	1/4"	5/8"	3524T12	21.38
3/8"	2 1/4"	1,000	1 7/8"	3/8"	13/16"	3524T14	24.78
7/16"	3 1/4"	1,500	2 13/16"	1/4"	15/16"	3524T16	40.67
1/2"	3 1/4"	1,500	2 3/4"	1/2"	15/16"	3524T18	50.64
9/16"	4 1/4"	3,000	3 11/16"	3/8"	1 1/8"	3524T2	60.64
5/8"	4 1/4"	3,000	3 5/8"	1/2"	1 1/8"	3524T22	74.18
3/4"	5 1/4"	5,000	4 1/2"	1/2"	1 3/8"	3524T24	98.40
1"	6 1/4"	8,000	5 1/4"	3/4"	1 5/8"	3524T27	171.76
Stainless Steel with Ball Bearings							
1/4"	1 1/4"	300	1"	1/4"	1/2"	3629T21	38.52
3/8"	2 1/4"	1,000	1 7/8"	3/8"	13/16"	3629T12	50.43
1/2"	3 1/4"	1,200	2 3/4"	1/2"	15/16"	3629T23	72.29
5/8"	4 1/4"	2,500	3 5/8"	5/8"	1 1/16"	3629T24	99.74

Mounted Pulleys for Rope—For Horizontal Pulling


1

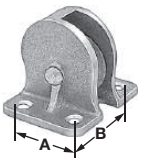

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7


8

Pulley *with ball bearings* is easier to turn than pulleys without ball bearings.
Nylon and **aluminum** are lightweight and corrosion resistant. **Stainless steel** is the most corrosion resistant.

For Rope Dia.	Cap., lbs.	Mounting Holes Dia.	(A)	(B)	OD		
Bronze							
1 1/4"	____	3/16"	1 3/8"	____	11/16"	3071T21	$13.94
2 3/8"	____	1/4"	1 3/8"	1 3/4"	1 1/2"	3071T23	38.76
Aluminum							
3 1/4"	____	3/16"	2 1/2"	____	1 1/8"	3073T21	15.60
3 5/16"	____	3/16"	2 7/8"	____	1 3/8"	3073T22	18.61
Iron							
4 1/4"	____	3/16"	1"	1"	1"	3117T4	14.08
4 5/16"	____	3/16"	1"	1"	1 1/4"	3117T5	15.51
4 3/8"	____	1/4"	1 3/16"	1 3/16"	1 1/2"	3117T6	17.84
Steel							
1 1/4"	____	3/16"	1 3/8"	____	11/16"	3071T7	8.22
2 3/8"	____	1/4"	1 3/8"	1 3/4"	1 1/2"	3071T8	15.17

For Rope Dia.	Cap., lbs.	Mounting Holes Dia.	(A)	(B)	OD		
Steel (Cont.)							
3 1/4"	____	3/16"	2 1/2"	____	1 1/8"	3073T11	$8.88
3 5/16"	____	3/16"	2 7/8"	____	1 3/8"	3073T12	9.57
3 3/8"	____	3/16"	3"	____	1 1/2"	3073T13	12.55
5 3/8"	____	1/4"	2 1/8"	____	1 1/2"	3071T2	8.41
5 5/8"	____	5/16"	3 1/2"	____	2 1/2"	3071T4	29.89
6 5/16"	____	3/16"	1 13/16"	____	1 3/8"	3071T1	6.29
6 1/2"	____	1/4"	2 5/8"	____	2"	3071T3	15.95
Nylon with Ball Bearings							
7 3/8"	1,100	1/4"	2 3/16"	____	2 3/16"	3211T41	49.67
Nylon with Stainless Steel Housing							
8 1/2"	1,750	1/4"	2 3/16"	____	2"	3211T32	63.51

Load-Assist Hanging Pulleys for Rope—For Horizontal Pulling

Reduce the force needed to hold your load in place. Unlike standard pulleys, these have a V-groove for more grip on your rope, and they ratchet when under load so they won't slip in the other direction. Pulleys are aluminum with a nylon housing. Pulley *for 3/8" dia. rope* can be set to ratchet even when not under load.

For Rope Dia.	Cap., lbs.	Attachment Type	Eye Dia.	Overall Ht.	OD		
5/16"	375	Swivel Shackle	3/8"	3 1/8"	1 9/16"	3195T54	$64.95
3/8"	550	Swivel Shackle	3/8"	3 7/8"	2 3/16"	3195T53	89.95



Hanging Pulleys for Rope

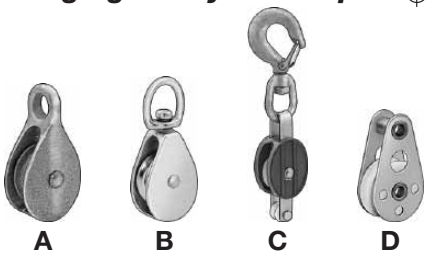





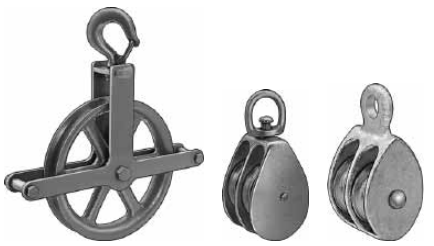



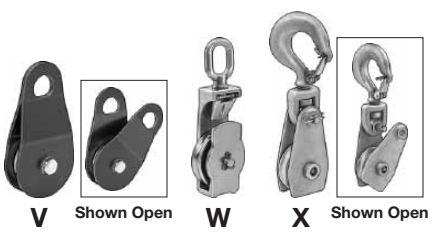

Double Pulleys—Use with another pulley to reduce the force needed to move a load and to reduce the amount of load movement for finer motion control.

Easy-Open Pulleys—Also known as snatch blocks, these pulleys open so it's easier to feed the rope through the housing—a free rope end is not needed.

Pulleys *with ball bearings* are easier to turn than pulleys without ball bearings.

Styles C, G, H, M, and *U* have a bracket on the bottom for tying off one end of a rope.

	For Rope Dia.	Cap., lbs.	Attachment Type	Attachment Opening Dia.	Overall Ht.	OD		
Pulleys—For Horizontal Pulling								
Aluminum								
A	3/16"	—	Rigid Eye	1/4"	2 1/16"	3/4"	3742T61	$11.69
A	5/16"	—	Rigid Eye	1/2"	3 1/8"	1 3/8"	3742T62	13.58
Bronze								
A	1/4"	—	Rigid Eye	3/8"	2 5/8"	1"	3083T21	21.68
A	3/8"	—	Rigid Eye	1/2"	3 5/16"	1 1/2"	3083T23	34.00
Iron								
A	3/8"	—	Rigid Eye	9/16"	3 1/2"	1 1/2"	3083T14	9.62
A	1/2"	—	Rigid Eye	1 1/16"	4 1/2"	2"	3083T16	18.58
A	5/8"	—	Rigid Eye	7/8"	5 5/16"	2 1/2"	3083T17	24.80
A	3/4"	—	Rigid Eye	15/16"	6 1/4"	3"	3083T18	33.23
Iron with Ball Bearings								
B	5/32"	25	Swivel Eye	1/4"	1 3/4"	1/2"	3742T51	2.28
B	3/16"	30	Swivel Eye	3/8"	2 1/4"	3/4"	3742T52	3.31
B	1/4"	30	Swivel Eye	3/8"	2 1/2"	1"	3742T53	3.84
B	5/16"	50	Swivel Eye	5/8"	3 1/2"	1 1/2"	3742T55	5.97
B	7/16"	55	Swivel Eye	1 1/16"	4 1/4"	2"	3742T56	7.75
Nylon								
C	1/2"	500	Swivel Latching Hook	7/8" Wd.	11 1/4"	2"	3748T1	86.74
Acetal with Stainless Steel Housing								
D	3/16"	325	Rigid Eye	3/16"	1 3/8"	3/4"	3184T55	12.54
D	5/16"	650	Rigid Eye	3/16"	2"	1 1/8"	3221T75	18.73
E	1/4"	325	Swivel Shackle	1/4"	2 1/8"	1"	3221T89	19.29
F	7/16"	875	Swivel Shackle	1/2"	3 1/2"	1 9/16"	3194T82	24.38
F	1/2"	1,650	Swivel Shackle	1/2"	4"	2"	3195T51	37.96
G	1/2"	1,650	Swivel Shackle	1/2"	5"	2"	3195T52	48.47
Steel								
H	5/8"	1,200	Rigid Latching Hook	3/4" Wd.	11 7/8"	3"	3151T35	98.80
H	3/4"	1,800	Rigid Latching Hook	1 1/16" Wd.	13 1/4"	3 1/2"	3151T36	120.20
Steel with Ball Bearings								
J	1 1/4"	2,000	Swivel Eye	1 1/4"	8 5/8"	4 1/2"	31775T26	163.54
Stainless Steel								
K	1/4"	400	Swivel Eye	5/8"	3 1/4"	1 1/4"	3499T11	32.25
K	5/16"	600	Swivel Eye	5/8"	3 7/8"	1 3/4"	3499T12	37.17
K	3/8"	1,000	Swivel Eye	13/16"	5"	2 1/4"	3499T13	42.76
L	3/8"	750	Swivel Hook	9/16" Wd.	5 1/2"	2"	3113T12	35.42
Pulleys—For Lifting								
Steel								
M	1/2"	2,000	Swivel Latching Hook	15/16" Wd.	11 7/16"	2 1/4"	3148T1	205.14
Steel with Ball Bearings								
N	7/8"	1,000	Swivel Latching Hook	7/8" Wd.	13"	8"	3140T1	242.62
N	1"	1,000	Swivel Latching Hook	7/8" Wd.	15 1/4"	10"	3140T2	323.86
N	1"	1,000	Swivel Latching Hook	7/8" Wd.	17 3/8"	12"	3140T3	281.88
Double Pulleys—For Horizontal Pulling								
Iron								
P	3/16"	—	Swivel Eye	9/16"	2 1/2"	7/8"	3742T43	5.78
P	5/16"	—	Swivel Eye	3/4"	3 5/8"	1 5/16"	3742T45	11.73
P	3/8"	—	Swivel Eye	3/4"	4 1/4"	1 13/16"	3742T46	14.81
Q	3/8"	—	Rigid Eye	1/2"	3 1/2"	1 1/2"	3083T43	16.68
Q	1/2"	—	Rigid Eye	13/16"	4 9/16"	2"	3083T45	32.20
Nylon								
R	1/2"	1,000	Swivel Latching Hook	7/8" Wd.	11 1/4"	2"	3748T2	125.79
Steel								
S	1/2"	1,400	Rigid Latching Hook	1 1/16" Wd.	11 1/2"	2 1/4"	3151T57	153.00
S	5/8"	1,800	Rigid Latching Hook	1 1/16" Wd.	12 7/8"	3"	3151T58	163.70
S	3/4"	2,500	Rigid Latching Hook	1 1/16" Wd.	14"	3 1/2"	3151T59	195.86
Stainless Steel								
T	1/4"	400	Swivel Eye	9/16"	3 1/4"	1 1/4"	3503T15	53.62
T	5/16"	600	Swivel Eye	5/8"	3 7/8"	1 3/4"	3503T16	62.95
T	3/8"	1,000	Swivel Eye	13/16"	5"	2 1/4"	3503T21	69.62
Double Pulley—For Lifting								
Steel								
U	1/2"	3,000	Swivel Latching Hook	1" Wd.	12 5/16"	2 1/4"	3148T3	288.84
Easy-Open Pulleys—For Horizontal Pulling								
Aluminum								
V	1/2"	—	Rigid Eye	3/4"	5"	2"	9493T41	38.00
Aluminum with Ball Bearings								
V	5/8"	—	Rigid Eye	15/16"	4 1/2"	2 3/8"	9493T42	82.00
Stainless Steel								
W	1/2"	1,500	Swivel Eye	15/16"	8 3/4"	3 1/4"	31625T41	125.96
W	5/8"	2,500	Swivel Eye	15/16"	10 1/4"	4 1/4"	31625T42	228.76
Easy-Open Pulleys—For Lifting								
Steel								
X	7/8"	4,000	Swivel Latching Hook	1 3/8" Wd.	11 1/4"	3"	3144T63	286.12
X	1 1/8"	8,000	Swivel Latching Hook	1 1/2" Wd.	13 15/16"	4"	3144T64	396.78

Warning: Never use to lift people or items over people.

Hanging Pulleys with Carabiner for Wire Rope—For Horizontal Pulling

Versatile and lightweight, you can mount this pulley to steel framing or hang as part of your rigging system. It is nylon with an aluminum housing and has ball bearings for easy turning.



For Rope Dia.	Cap., lbs.	Attachment Type	Eye Dia.	OD	Overall Ht.		
3/16"	900	Rigid Carabiner	3/4"	3 3/8"	7 3/8"	9466T11	$189.00

Hand-Held Puller Hooks

Pull crates, boxes, and bales with these steel hooks. Also known as manhole hooks and chain hooks.

Note: Not for lifting.



Lg.	Point Size	Eye Lg.	Eye Wd.		
18"	1/2"	2 1/2"	4 1/4"	2029T2	$27.62
30"	5/8"	2 1/2"	4 1/4"	2029T1	32.50

Manhole-Cover Lifters



With Chain Lift



With Magnet Lift

A long handle gives you the leverage to safely remove manhole covers by yourself.

Lifter **with chain lift** is adjustable to fit most covers. It includes a chain and hook to attach to the side openings of the manhole cover. Made of steel.

Lifter **with magnet lift** has a retractable handle that can be adjusted to lift at 90°, 105°, and 120°. It folds up for easy storage and has two 10" dia. wheels for easy transportation. Made of aluminum. Requires a lifting magnet (sold separately).

Lift Mechanism	Cap., lbs.	Handle Lg.		
Chain	500	36"	8906T65	$220.01
Magnet	400	41"-64"	8906T75	497.74
Magnet for 8906T75			3384T75	574.47

Hand-Held Puller Tongs

Also known as skidding tongs, these steel tongs have fine points that grab and hold even the hardest wood. The grip increases when tension is applied.

Note: Not for lifting.

For Material Thickness	Closed Ht.	Closed Wd.	Eye Dia.		
3 9/16"-16"	9 1/2"	19 1/2"	2 1/2"	3374T16	$119.33
4 1/2"-25"	12 3/4"	26 1/4"	2 3/4"	3374T18	157.71
7"-32"	15 1/4"	33"	3 1/4"	3374T21	241.45



Wire Rope with Hook

This flexible wire rope includes a hook with latch on one end for use with winches. It is preformed to prevent it from unraveling when cut, and it's lubricated to reduce wear. Rope is 7×19 galvanized steel wire rope, except 7/16" diameter and larger rope is 6×37 plain steel. Rope has an IWRC core.

Note: The safety factor for capacity is 5:1.



Rope Dia.	Capacity, lbs.	Hook Opening		10 ft.	15 ft.	20 ft.	25 ft.	30 ft.	40 ft.	50 ft.	100 ft.	200 ft.	Other Lgs., ft.
1/8"	400	13/16"	3308T51	$21.85	$24.20	$26.55	$28.90	$31.25	$35.95	$40.65	$64.15	$111.15	10 to 200
5/32"	550	13/16"	3308T52	22.88	26.83	30.78	34.73	38.68	46.58	54.48	93.98	172.98	10 to 200
3/16"	800	13/16"	3308T53	26.09	30.09	34.09	38.09	42.09	50.09	58.09	98.09	178.09	10 to 200
7/32"	1,100	13/16"	3308T54	30.81	36.06	41.31	46.56	51.81	62.31	72.81	125.31	230.31	10 to 200
1/4"	1,400	13/16"	3308T55	34.56	41.36	48.16	54.96	61.76	75.36	88.96	156.96	292.96	10 to 200
5/16"	1,900	7/8"	3308T57	40.73	48.93	57.13	65.33	73.53	89.93	106.33	188.33	352.33	10 to 200
3/8"	2,800	1"	3308T58	51.14	60.94	70.74	80.54	90.34	109.94	129.54	227.54	423.54	10 to 200
7/16"	4,000	1 1/16"	3308T59	60.60	73.15	85.70	98.25	110.80	135.90	161.00	286.50	537.50	10 to 200
1/2"	5,300	1 1/8"	3308T61	69.78	82.53	95.28	108.03	120.78	146.28	171.78	299.28	554.28	10 to 200
9/16"	6,700	1 5/16"	3308T62	105.80	121.05	136.30	151.55	166.80	197.30	227.80	380.30	685.30	10 to 200
3/4"	11,000	1 9/16"	3308T85	137.63	—	172.33	—	207.03	241.73	276.43	449.93	—	10 to 100

Rope with Hook—Not for Lifting

This rope has a hook with a latch on one end for use with winches. Made of polypropylene, the rope floats in water, resists rot, and doesn't lose strength when wet. It also resists acid, oil, and gas. The twisted construction gives rope a grooved surface, allowing you to grip it tight without it slipping. Color is black.

Note: The safety factor for capacity is 5:1.



Rope Dia.	Capacity, lbs.	Hook Opening		10 ft.	15 ft.	20 ft.	25 ft.	30 ft.	40 ft.	50 ft.	Other Lgs., ft.
5/16"	300	3/4"	2302T81	$19.07	$19.87	$20.67	$21.47	$22.27	$23.87	$25.47	10 to 50
3/8"	450	3/4"	2302T82	19.28	20.18	21.08	21.98	22.88	24.68	26.48	10 to 50
1/2"	750	3/4"	2302T83	19.86	21.01	22.16	23.31	24.46	26.76	29.06	10 to 50
5/8"	1,100	13/16"	2302T84	23.68	25.58	27.48	29.38	31.28	35.08	38.88	10 to 50

Straps with Hook for Winches

Straps are low-stretch polyester and have a hook with latch on one end. They include hardware for attachment to the winch.

Note: Breaking strength is the force at which straps will break, and should never be considered the work load limit. The work load limit depends on the application and is always significantly lower than the breaking strength.



Strap Wd.	Strap Lg., ft.	Breaking Strength, lbs.	Hook Opening		
2"	15	4,000	1/2"	3169T23	$12.83
2"	20	4,000	1/2"	3169T25	14.71
2"	25	4,000	1/2"	3169T27	16.42
3"	20	6,500	1/2"	3169T41	24.75

Warning: Never use to lift people or items over people.

Hand Winches for Horizontal Pulling

Pull at your own pace with these manual winches. They are steel.

Standard winches with a maximum capacity of 2,300 lbs. and up have two speeds; they wind quickly in high gear and more easily in low gear.

Note: Capacity is highest for the first layer of rope or webbing (at least five wraps of rope or webbing on the winch) and decreases as each additional layer is wound on the winch.

Winches for Rope and Winches for Wire Rope



Standard without Rope



Precise Positioning with Rope and Hook



Precise-Positioning Heavy Duty without Rope

Precise-positioning winches move loads more gradually than standard hand winches. They take longer to wind but require less effort. *Drill-wind precise-positioning* winches have a removable handle and a 5/8″ hex shank so you can wind these winches with a power drill. Maximum drill speed is 600 rpm. *Precise-positioning heavy duty* winches have one-piece gears that provide more durability than the riveted gears of other hand winches.

For additional rope lengths, see page 1511.

Cap., lbs. Max.	Cap., lbs. Fully Wound	For Rope Max. Lg., ft.	For Rope Dia.	Base Lg.	Base Wd.	Winch Ht.	Handle Lg.		Winches without Rope	Winches with Rope and Hook 10 ft.	20 ft.	30 ft.
Standard—For Rope												
900	450	20	5/16″	4 7/8″	3 1/2″	5″	5″	3644T201	$32.23	$60.62	$69.82	—
900	450	20	5/16″	4 7/8″	3 1/2″	5″	7″	3644T214	30.32	62.54	74.22	—
1,200	475	33	5/16″	5 3/8″	3 1/2″	6 1/2″	7″	3644T202	37.11	64.16	76.80	$86.56
1,400	550	24	3/8″	5 3/8″	3 1/2″	6 1/2″	7″	3644T203	37.32	68.62	79.76	—
1,700	550	28	1/2″	5 5/8″	4″	7 1/2″	8″	3644T204	53.26	84.36	91.00	—
2,300	925	18	1/2″	6 1/8″	6 1/2″	7″	10″	3644T205	94.28	125.48	—	—
Standard—For Wire Rope												
600	450	133	1/8″	4 7/8″	3 1/2″	5″	6″	3644T206	38.89	69.16	78.66	89.11
900	450	133	1/8″	4 7/8″	3 1/2″	5″	7″	3644T207	40.77	71.58	81.65	90.70
1,200	475	106	3/16″	5 3/8″	3 1/2″	6 1/2″	7″	3644T208	36.87	75.78	86.56	97.18
1,400	550	106	3/16″	5 3/8″	3 1/2″	6 1/2″	7″	3644T209	45.53	79.30	90.40	102.50
2,300	925	62	1/4″	6 1/8″	6 1/2″	7″	10″	3644T212	102.19	149.24	167.90	185.20
2,800	900	98	1/4″	6 3/4″	6 1/2″	8 1/4″	10″	3644T213	105.47	154.38	169.00	186.82
3,200	1,050	94	1/4″	6 3/4″	6 1/2″	8 1/4″	10″	3736T201	128.67	168.52	187.82	205.94
3,700	1,450	90	7/32″	8 5/8″	7 1/8″	7 1/4″	10″	3736T202	248.42	339.06	358.24	370.14
Precise Positioning—For Wire Rope												
1,500	725	64	3/16″	5 1/8″	5 1/8″	6 3/4″	8″	3205T201	69.67	100.50	110.50	123.60
2,000	950	64	3/16″	5 1/8″	5 1/8″	6 3/4″	8″	3205T202	75.50	104.22	114.42	126.22
Drill-Wind Precise Positioning—For Wire Rope												
2,000	800	49	9/32″	5 1/2″	4 3/8″	5 1/2″	7″	3205T205	96.94	133.54	144.34	154.22
Precise-Positioning Heavy Duty—For Wire Rope												
750	400	59	3/16″	5 3/4″	4 1/2″	5 1/2″	9″	3732T201	165.33	249.92	263.32	278.50
1,000	500	61	3/16″	4 1/2″	3 1/2″	5 1/2″	9″	3732T202	265.57	389.22	391.28	406.94
2,000	1,300	77	1/4″	6 3/4″	5″	7″	7″	3732T203	408.17	579.10	596.22	597.52
4,000	2,500	140	3/8″	9″	8″	12 3/4″	12″	3732T204	988.12	1,146.00	1,166.26	1,179.84

Winches with Webbing



Standard with Ratchet Handle

Webbing wraps neatly around the winch to prevent tangles in the line.

Standard with Ratchet Handle—Handle pumps up and down rather than turning completely around the winch and is good for tight spaces.

Cap., lbs. Max.	Cap., lbs. Fully Wound	Webbing Lg., ft.	Webbing Wd.	Base Lg.	Base Wd.	Winch Ht.	Handle Lg.		Winches with Webbing and Hook	Replacement Webbing with Hook	
Standard with Ratchet Handle											
400	200	15	2″	3 1/2″	3 1/2″	5″	9″	2300T41	$47.09	3169T23	$12.83
Standard											
900	450	15	2″	4 7/8″	3 1/2″	5″	7″	2300T43	55.55	3169T23	12.83
1,200	475	20	2″	5 3/8″	3 1/2″	6 1/2″	7″	2300T44	50.90	3169T25	14.71
1,700	550	20	2″	5 5/8″	4″	7 1/2″	8″	2300T46	63.47	3169T25	14.71
2,300	925	20	2″	6 1/8″	5 1/2″	7″	10″	2300T71	110.02	3169T25	14.71
2,800	900	20	2″	6 3/4″	5 1/2″	8 1/4″	10″	2300T72	111.66	3169T25	14.71
3,200	1,050	20	3″	6 3/4″	6 1/2″	8 1/4″	10″	2300T73	151.26	3169T41	24.75

Optional Gear Covers for Standard Winches

Protect winch gears from debris with these plastic covers. Fasteners are included.

For 600- and 900-lb. Max. Capacity Winches	3644T14	$7.32
For 1,200- and 1,400-lb. Max. Capacity Winches	3644T15	7.94

Hand Winches for Wire Rope—*For Lifting*



Open Body with Rope and Hook

These winches are designed for occasional use. An automatic brake holds the load when the handle is released. To lift, mount winches above the load or use winches with a pulley that's mounted above the load. Winches also pull horizontally and up an incline. They are steel. For additional wire rope lengths, see page 1511.

Enclosed gears offer protection from dirt and debris.

Note: Capacity is highest for the first layer of rope (at least five wraps of rope on the winch) and decreases as each additional layer of rope is wound on the winch.

Cap., lbs. Max.	Cap., lbs. Fully Wound	For Rope Max. Lg., ft.	For Rope Dia.	Base Lg.	Base Wd.	Winch Ht.	Handle Lg.		Winches without Rope	Winches with Rope and Hook 10 ft.	20 ft.	30 ft.
Open Body												
350	100	84	1/8″	5 1/8″	4″	4 1/4″	7″	3196T201	$58.51	$86.92	$96.58	$108.73
800	300	68	3/16″	5 1/8″	4″	5 1/2″	7″	3196T202	64.02	95.40	105.56	117.60
1,200	500	69	7/32″	5 1/8″	4″	6 3/4″	7″	3196T203	74.53	107.54	122.26	135.34
1,500	625	60	1/4″	5 1/2″	4 3/4″	7″	9″	3196T204	97.35	125.72	143.02	157.34
2,500	1,000	34	5/16″	7″	4 7/8″	7 1/2″	9″	3196T205	125.56	163.64	187.44	209.94
With Enclosed Gears												
1,200	625	46	7/32″	6 1/8″	3 5/8″	5 3/4″	12″	3196T206	102.19	131.46	143.38	157.28
1,500	625	45	1/4″	7 1/8″	3 5/8″	6 3/4″	12″	3196T207	133.56	166.84	185.78	204.94
2,500	1,300	40	5/16″	9 5/8″	5 5/8″	7″	12″	3196T208	232.60	257.92	282.42	302.92
3,500	1,825	28	3/8″	9 5/8″	5 5/8″	7 1/4″	12″	3196T209	248.37	284.94	310.68	—

Warning: Never use to lift people or items over people.

Heavy Duty Hand Winches for Wire Rope—For Lifting

Tackle frequent lifting jobs with these rugged winches—their one-piece machined gears stand up to daily use. An automatic brake holds the load when the handle is released. To lift, mount winches above the load or use winches with a pulley that's mounted above the load. Winches also pull horizontally or up an incline. They are steel, except corrosion-resistant winches are stainless steel. For additional wire rope lengths, see page 1511.

Precise-positioning winches move loads more gradually than other winches. These take longer to wind but require less effort. They have enclosed gears for protection from dirt and debris. *Drill-wind precise-positioning* winches have a removable handle and a 1⅛" hex shank so you can wind these winches with a power drill. Maximum drill speed is 400 rpm.

Wall-mount winches are fully enclosed for protection from dirt and debris.

Note: Capacity is highest for the first layer of rope (at least five wraps of rope on the winch) and decreases as each additional layer of rope is wound on the winch.



Standard with Rope and Hook



Precise Positioning without Rope



Wall Mount

Cap., lbs. Max.	Cap., lbs. Fully Wound	For Rope Max. Lg., ft.	For Rope Dia.	Base Lg.	Base Wd.	Winch Ht.	Handle Lg.		Winches without Rope	Winches with Rope and Hook 10 ft.	20 ft.	30 ft.
Standard												
1,000	500	43	7/32"	5"	3¾"	6"	11"	9472T201	$330.67	$469.32	$487.22	$501.36
2,000	1,200	39	5/16"	6"	5⅜"	7"	11"	3806T201	545.00	783.28	793.40	831.66
2,000	1,200	77	5/16"	6"	8⅜"	7"	11"	3806T202	566.00	807.54	821.02	855.04
4,000	2,500	83	½"	12½"	9½"	10¾"	19"	3806T203	1,390.16	1,561.69	1,602.95	1,636.50
Corrosion Resistant												
1,000	600	83	7/32"	6"	5¼"	7"	11"	23145T201	865.98	1,191.82	1,208.74	1,232.00
2,000	1,200	39	5/16"	6"	5⅜"	7"	11"	23145T202	1,114.06	1,236.38	1,254.12	1,281.47
Precise Positioning												
1,000	500	61	3/16"	4½"	3½"	5¾"	11"	3732T205	457.77	627.12	639.70	662.36
4,000	2,500	140	⅜"	9"	8"	12¾"	18"	3732T207	1,298.74	1,450.38	1,487.03	1,492.38
Drill-Wind Precise Positioning												
2,000	1,200	77	¼"	7¼"	6⅝"	8½"	11"	3732T206	697.74	954.26	962.46	995.52
Wall Mount												
250	150	43	⅛"	6 9/16"	2½"	____	11"	3224T11	468.22	____	____	____
650	350	81	3/16"	11⅞"	7⅞"	____	10"	3224T22	741.56	____	____	____
1,100	650	46	¼"	11⅞"	7⅞"	____	10"	3224T23	784.22	____	____	____

Electric Winches for Rope—For Horizontal Pulling

Rope does not accumulate on this winch, so it can handle longer lengths of rope than a standard winch. Attach one end of your rope to the load, wind a few wraps on the winch, then pull the free end of the rope as the winch turns to make pulling easier. Also known as a capstan winch. It has enclosed gears for protection from dirt and debris. Winch is aluminum and steel and has a foot control with a 10-ft. cord. Pulling direction is reversible. It operates on 120 volts AC and has a 15-ft. power cord with a three-prong plug. Current is 20 amps. Rope is not included (see pages 1454-1457).



Cap., lbs.	Minimum Line Speed, fpm	Duty Cycle @ Max. Cap.	Overall Lg.	Overall Wd.	Overall Ht.	For Rope Dia.		
800	30	15 min. on, 45 min. off	18¼"	13"	13⅛"	½"-¾"	3744T18	$1,975.00

Electric Winches for Wire Rope—For Horizontal Pulling



Plug In with Enclosed Gears



Plug In Fully Enclosed



Battery Powered with Enclosed Gears



Battery Powered Fully Enclosed

Winches are aluminum and steel. Pulling direction is reversible. For additional wire rope lengths, see page 1511. Winches **with enclosed gears** are partially covered for protection from dirt and debris. **Fully enclosed** winches are completely covered for protection from dirt and debris.

Plug In—Winches have a 6-ft. power cord with a three-prong plug and a hand control with a 6-ft. cord. Current is 10 amps. Winches with two capacities listed include a pulley, which must be used to achieve the higher capacity. *Fully enclosed* winches have a plastic housing.

Battery Powered—Winches include a 5-ft. cord for hardwiring to a 12-volt DC battery (not included). They have a hand control with a cord that is at least 15 ft. long. Winches have a manual brake and an automatic-reset circuit breaker to protect the motor. Winch *with enclosed gears* has a plastic housing. Current is 220 amps. *Fully enclosed* winch has a current of 340 amps.

Note: Capacity is highest for the first layer of rope (at least five wraps of rope on the winch) and decreases as each additional layer of rope is wound on the winch.

Cap., lbs. Max.	Cap., lbs. Fully Wound	Rope Lg., ft.	Rope Dia.	Minimum Line Speed, fpm	Duty Cycle @ Max. Cap.	Overall Lg.	Overall Wd.	Overall Ht.	Winches with Rope and Hook		Repl. Wire Rope with Hook	
Plug In—120V AC												
With Enclosed Gears												
1,000	550	45	5/32"	13	20 sec. on, 30 min. off	13⅜"	5⅜"	5⅝"	9475T25	$464.20	9475T251	$63.47
Fully Enclosed												
1,200, 1,800	425, 850	50	3/16"	6	180 sec. on, 30 min. off	10⅞"	8¼"	8⅛"	9354T61	451.55	3308T41	58.09
1,200	425	20	3/16"	9	180 sec. on, 30 min. off	10⅞"	8¼"	8⅛"	9354T41	409.26	3308T15	34.09
2,700, 4,000	1,050, 2,150	50	7/32"	2	180 sec. on, 30 min. off	11⅜"	8¼"	8⅛"	9354T62	498.00	3308T718	72.81
2,700	1,050	25	7/32"	3	180 sec. on, 30 min. off	11⅜"	8¾"	8⅛"	9354T42	455.19	3308T717	46.56
Battery Powered—12V DC												
With Enclosed Gears												
4,000	2,300	50	7/32"	4	20 sec. on, 20 min. off	13¾"	8"	6"	3075T46	663.46	3308T718	72.81
Fully Enclosed												
5,500	3,100	60	9/32"	7	20 sec. on, 20 min. off	19 1/16"	4½"	7"	3075T47	570.00	3308T45	124.53

Warning: Never use to lift people or items over people.

Hydraulic Winches for Wire Rope—For Horizontal Pulling



For high capacities and long life, these winches have a powerful hydraulic motor and hardened steel gears. They have an automatic brake that holds the load when the motor stops and enclosed gears for protection from dirt and debris. Winches pull horizontally or up an incline. They are aluminum and steel and have a 7/8″-14 UNF inlet. For additional wire rope lengths, see page 1511.

Note: Capacity is highest for the first layer of rope (at least five wraps of rope on the winch) and decreases as each additional layer of rope is wound on the winch.

Cap., lbs. Max.	Cap., lbs. Fully Wound	Minimum Line Speed, fpm	Max. Hydraulic Flow @ Pressure	Overall Lg.	Overall Wd.	Overall Ht.	For Rope Max. Lg., ft.	For Rope Dia.	Winches without Rope		Wire Rope with Hook 10 ft.	Wire Rope with Hook 75 ft.
6,000	3,600	32	15 gpm @ 1,700 psi	20 1/2″	6 3/8″	6 1/2″	99	5/16″	3232T21	$1,495.69	3308T72	$40.73	$147.33
9,000	5,400	20	15 gpm @ 2,200 psi	23 5/8″	8 1/2″	8 1/2″	126	3/8″	3232T27	1,506.78	3308T73	51.14	178.54
12,000	7,525	22	15 gpm @ 2,200 psi	24 1/4″	8 1/2″	8 1/2″	121	7/16″	3232T23	1,614.09	3308T74	60.60	223.75

Portable Electric Winches for Wire Rope—For Horizontal Pulling



With a handle and mounting hook for portability, these winches can move from job to job. Overload protection prevents operation if the load exceeds capacity. Winches are completely covered for protection from dirt and debris. They are aluminum and steel with a plastic housing and include wire rope with a hook.

Plug-in winch has a 1-ft. power cord with a three-prong plug.

Battery-powered winch includes rechargeable batteries.

Cap., lbs.	Rope Lg., ft.	Rope Dia.	Line Speed, fpm	Duty Cycle @ Max. Cap.	Hook Opening Wd.		
Plug In—120V AC							
1,000	15	7/32″	0-6.5	1 min. on, 30 min. off	7/8″	3630T61	$235.88
Battery Powered—24V DC							
1,000	15	7/32″	0-5	1 min. on, 30 min. off	7/8″	3630T62	453.25

Electric Winches for Wire Rope—For Lifting

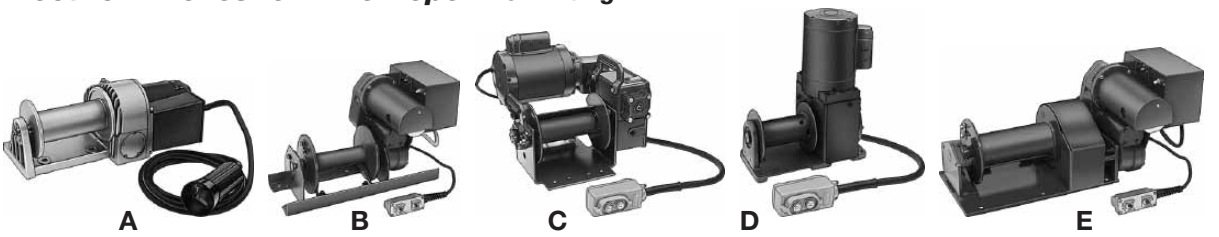

An automatic brake holds the load, even when power is lost. To lift, mount winch above the load or use winch with a pulley that's mounted above the load. Winches also pull horizontally or up an incline. Pulling direction is reversible. Winches are aluminum and steel and have enclosed gears for protection from dirt and debris. They have a hand control with a 6-ft. cord. Winches operate on 120 volts AC and have a 6-ft. power cord with a three-prong plug. Current is 19 amps. For additional wire rope lengths, see page 1511.

Heavy duty winches operate longer than standard winches.

Note: Capacity is highest for the first layer of rope (at least five wraps of rope on the winch) and decreases as each additional layer of rope is wound on the winch.

	Cap., lbs. Max.	Cap., lbs. Fully Wound	Minimum Line Speed, fpm	Duty Cycle @ Max. Cap.	Overall Lg.	Overall Wd.	Overall Ht.	For Rope Max. Lg., ft.	For Rope Dia.	Winches without Rope		Wire Rope with Hook 10 ft.	Wire Rope with Hook 75 ft.
Standard													
A	1,200	700	17	1 min. on, 1 min. off	20 1/4″	8 1/4″	7 1/2″	135	1/4″	9475T41	$1,803.63	3308T71	$34.56	$122.96
Heavy Duty													
B	1,000	600	20	15 min. on, 45 min. off	22 3/4″	13″	13 1/8″	250	1/4″	9475T36	2,048.02	3308T25	34.56	122.96
C	2,000	800	8	15 min. on, 45 min. off	16 5/8″	17 7/8″	14 1/4″	190	5/16″	9475T71	1,874.76	3308T72	40.73	147.33
D	2,000	1,200	13	15 min. on, 45 min. off	14 3/8″	8 7/8″	17 1/2″	90	5/16″	9475T45	1,897.74	3308T26	40.73	147.33
E	2,875	2,150	7	15 min. on, 45 min. off	27 1/4″	15″	12 3/4″	110	3/8″	9475T33	2,691.41	3308T73	51.14	178.54

Air-Powered Winches for Wire Rope—For Lifting

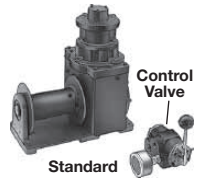



Because these winches run on compressed air, they give you a longer operating time than electric winches. They have an automatic brake that holds the load when the motor stops. To lift, mount winch above the load, or use winch with a pulley that's mounted above the load. Winches also pull horizontally or up an incline. Pulling direction is reversible. Winches are aluminum and steel and have enclosed gears for protection from dirt and debris. They have a 1/2 NPT female inlet. Air hose is not included. For additional wire rope lengths, see page 1511.

Standard winch has a duty cycle of 15 minutes on, 45 minutes off at maximum capacity. Minimum line speed is 13 fpm. Air consumption is 80 cfm @ 100 psi.

Heavy duty winches have a duty cycle of 30 minutes on, 10 minutes off at maximum capacity. Minimum line speed is 40 fpm. Air consumption is 100 cfm @ 90 psi.

Note: Capacity is highest for the first layer of rope (at least five wraps of rope on the winch) and decreases as each additional layer of rope is wound on the winch.

Cap., lbs. Max.	Cap., lbs. Fully Wound	Overall Lg.	Overall Wd.	Overall Ht.	For Rope Max. Lg., ft.	For Rope Dia.	Winches without Rope		Wire Rope with Hook 10 ft.	Wire Rope with Hook 75 ft.
Standard										
2,000	1,200	14 3/8″	8 7/8″	15″	90	5/16″	38635T11	$2,532.46	3308T72	$40.73	$147.33
Heavy Duty										
750	500	14 5/8″	14 3/4″	11 7/8″	125	1/4″	3651T21	4,425.00	3308T27	34.56	122.96
1,500	1,000	21 1/2″	17 1/2″	12 1/2″	170	1/4″	3651T22	6,390.00	3308T71	34.56	122.96

Warning: Never use to lift people or items over people.

Ratchet Pullers with Rope

Pullers provide the capacity of a winch in a versatile, portable tool. All have forged steel hooks. Pullers with two capacities listed include a pulley for twice the capacity but half the reach.

With Wire Rope—Wire rope is stronger than rope and webbing but not as bulky as chain.

With Rope—Fibrous rope is lighter and softer than wire rope and chain.

Compact pullers have a folding handle for storage in the included carrying case. Pullers and wire rope are steel.

Standard pullers are aluminum and steel. Pullers *with wire rope* have steel wire rope.

Heavy duty pullers have a thick, rugged frame for long life. Wire rope is steel. *Style D* are iron. *Style E* are aluminum. 3349T23 has a telescoping handle for compact storage.

Rapid-unwind pullers unwind four times faster than other pullers. They are aluminum with steel wire rope.

Corrosion-resistant pullers are made of anodized aluminum with stainless steel rope for corrosive environments.

Style E have a handle that is designed to bend when the load exceeds capacity. Pullers have an RFID (radio frequency identification) chip for location tracking.

Also Available: Replacement handles for Style E. Please ask for 3349T888 and specify puller part number.

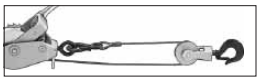

Puller with Pulley



A Shown Folded

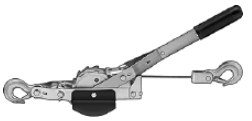

B



C



D



E

Cap., lbs.	Reach, ft.	Retracted Lg.	Handle Lg.	Rope Dia.	Hook Opening Wd.		
With Wire Rope							
Compact							
A 750	15	16″	18″	3/16″	3/4″	3054T68	$49.55
A 1,500	7½	21″	18″	3/16″	7/8″	3054T69	58.64
Standard							
B 1,000	15	15″	15″	3/16″	5/8″	3054T63	38.09
B 1,250/2,500	20/10	29″	27″	1/4″	1″	3054T67	163.45
B 1,500	22	23″	19″	5/32″	1″	3344T13	51.88
B 2,000	12	23″	19″	3/16″	1″	3344T54	45.35
B 2,000/4,000	12/6	23″/28″	19″	3/16″	1″	3344T55	60.67
C 2,000	6	21″	24″	1/4″	3/4″	3054T42	75.91
C 2,000	7½	18″	15″	3/16″	3/4″	3054T64	45.36
C 3,000	6	27″	33″	5/16″	7/8″	3054T43	204.55
Heavy Duty							
D 2,000/4,000	32½/16	22″/30″	18″	5/16″	3/4″	3343T5	276.90
D 3,000/6,000	17½/8½	23″/31″	18″	5/16″	3/4″	3343T4	272.60
E 750/1,500	25/12½	20″/23″	15″	5/32″	7/8″	3349T18	194.06
E 1,000	15	18″	18″	3/16″	7/8″	3349T17	153.58
E 1,100/2,250	20/10	20″/23″	18″	3/16″	7/8″	3349T19	197.17
E 1,500/3,000	30/15	22″/29″	25″	7/32″	7/8″	3349T21	249.06
E 2,000/4,000	20/10	22″/29″	30″	1/4″	7/8″	3349T22	254.25
E 3,000/6,000	15/7½	27″/34″	36″-55″	5/16″	1″	3349T23	607.08
Rapid Unwind							
E 1,000	15	18″	18″	3/16″	7/8″	3349T37	188.87
E 1,500/3,000	30/15	22″/29″	25″	7/32″	7/8″	3349T41	300.94
E 2,000/4,000	20/10	22″/29″	30″	1/4″	7/8″	3349T42	306.13
Corrosion Resistant							
E 1,000	15	18″	18″	3/16″	7/8″	3349T77	200.28
E 1,100/2,250	20/10	20″/23″	18″	3/16″	7/8″	3349T79	254.25
E 1,500/3,000	30/15	22″/29″	25″	7/32″	7/8″	3349T81	316.51
E 2,000/4,000	20/10	22″/29″	30″	1/4″	7/8″	3349T82	321.70
With Rope							
Standard							
B 1,500	20	24″	19″	1/2″	1″	33425T7	73.56
B 1,500/3,000	50/25	26″	19″	1/2″	1″	33425T21	114.55
B 1,500/3,000	100/50	26″	19″	1/2″	1″	33425T22	132.73

Ratchet Pullers with Webbing

These pullers have a soft, wide strap so they won't damage surfaces. They are steel with forged steel hooks.

Compact—Fold the handle for storage in the included carrying case. Webbing is nylon.

Standard—Webbing is nylon.

Heavy Duty—Have a thick, rugged frame for long life. Webbing is polyester.



Compact Shown Folded



Heavy Duty

Cap., lbs.	Reach, ft.	Retracted Lg.	Handle Lg.	Webbing Wd.	Hook Opening Wd.		
Compact							
750	8	15″	18″	1″	5/8″	33495T33	$49.55
1,500	4	18″	18″	1″	3/4″	33495T34	61.61
Standard							
1,000	8	17″	24″	1″	3/4″	33495T51	78.39
1,500	12	22″	27″	1 3/4″	3/4″	33495T52	176.43
3,000	6	24″	33″	1 3/4″	1 1/8″	33495T53	214.11
Heavy Duty							
1,500	7	20″	20″	1 1/4″	1″	33495T35	203.00
2,000	10	22″	30″	1 3/4″	1″	33495T36	266.00

Ratchet Pullers with Chain

Hardened steel chain makes these the strongest, most durable pullers we offer. A stop on one end of the chain prevents it from pulling completely through the ratchet. Pullers are aluminum and have forged steel hooks. Meet ANSI/ASME B30.21.

Heavy Duty—A thick, rugged frame gives these pullers long life.



Standard

Cap., lbs.	Retracted Lg.	Handle Lg.	Hook Opening Wd.		5-ft. Reach	10-ft. Reach	15-ft. Reach	20-ft. Reach
Standard								
1,600	11″	16″	1″	3263T1	$285.89	$368.09	$409.19	$450.29
3,300	13″	16″	1″	3263T2	372.68	454.68	618.68	700.68
Heavy Duty								
1,500	13″	21″	1″	3227T4	544.73	609.38	674.03	738.68
3,000	18″	21″	1″	3227T5	839.40	965.95	1,092.50	1,219.05
6,000	18″	21″	1 5/8″	3227T7	1,253.98	1,436.73	1,619.48	1,802.23

Lever Hoists & Pulley Hoists

Lever Chain Hoists



Compact


General Duty


Heavy Duty


Heavy Duty with Enclosed Gears

Use the ratcheting lever to lift and position your load, and the mechanical brake will securely hold it in place. A stop on one end of the chain prevents the chain from pulling completely through the hoist. All hoists have hardened steel chain and forged steel hooks. Body is steel, except compact heavy duty hoists and hoists with enclosed gears have an aluminum body. Hoists can be used outdoors, unless otherwise stated. All hoists meet ANSI/ASME B30.21.

Compact—Hoists are small enough to fit in your toolbox and can be used in tight spaces. They have a 360° rotating lever for use in any position. *Compact heavy duty hoists* have a thick rugged frame for long life.

General Duty—Not for outdoor use.

General Duty with Overload Protection—Hoist will not operate when the load exceeds capacity. They have a 360° rotating lever for use in any position.

Heavy Duty—These hoists have a thick, rugged frame for long life. *Heavy duty hoists with overload warning* have a lever that folds inward and alerts you with a click and an indicator light when the load exceeds capacity.

Heavy Duty with Enclosed Gears—These hoists have a thick, rugged frame that's enclosed for protection from debris and a 360° rotating lever for use in any position. Hoists with 12″ and 17″ long levers are not for outdoor use. *Heavy duty hoists with enclosed gears and overload protection* won't operate when the load exceeds capacity.

Cap., lbs.	Lever Lg.	Pulling Effort @ Cap., lbs.	Clearance (A)	Hook Opening	Wt., lbs. for 5-ft. Lift		5-ft. Lift	10-ft. Lift	15-ft. Lift	20-ft. Lift
Compact										
550	7″	60	10″	5/8″	5	3523T3	$141.39	$180.12	_____	_____
1,100	7″	60	12″	1″	7	3523T4	188.23	234.17	_____	_____
Compact Heavy Duty										
500	6″	40	9″	3/4″	3	3030T15	230.60	263.37	_____	_____
1,000	8″	65	10″	7/8″	6	3030T25	323.92	359.64	_____	_____
General Duty										
1,500	10″	50	12″	1 1/8″	19	3162T1	306.98	355.13	$403.28	$451.43
3,000	15″	60	13″	1 3/8″	30	3162T2	459.54	511.64	563.74	615.84
6,000	15″	75	17″	1 5/8″	37	3162T3	622.33	696.33	770.33	844.33
General Duty with and Overload Protection										
1,500	11″	35	13″	1 1/8″	15	3832T41	295.60	322.35	349.10	375.85
3,000	17″	50	15″	1 3/8″	24	3832T42	369.02	405.17	441.32	477.47
6,000	17″	75	19″	1 1/2″	46	3832T43	599.36	652.01	704.66	757.31
Heavy Duty										
1,500	10″	55	11″	7/8″	13	3305T62	431.94	496.24	560.54	624.84
2,000	10″	75	12″	1 1/8″	14	3305T11	485.97	557.77	629.57	701.37
3,000	11″	65	14″	1 1/4″	22	3305T14	609.84	681.84	753.84	825.84
4,000	11″	60	15″	1 3/8″	30	3305T12	653.39	742.64	831.89	921.14
5,500	11″	85	15″	1 3/8″	30	3305T63	690.00	779.25	868.50	957.75
6,000	17″	70	16″	1 1/2″	38	3305T13	798.87	894.62	990.37	1,086.12
Heavy Duty with Overload Warning										
1,500	15″	40	11″	7/8″	15	3305T65	599.68	663.98	728.28	792.58
2,000	15″	50	12″	1 1/8″	16	3305T15	653.71	725.51	797.31	869.11
3,000	15″	45	14″	1 1/4″	21	3305T16	777.58	849.58	921.58	993.58
4,000	15″	45	15″	1 3/8″	30	3305T17	821.13	910.38	999.63	1,088.88
5,500	15″	60	15″	1 3/8″	30	3305T66	857.74	946.99	1,036.24	1,125.49
6,000	17″	70	16″	1 1/2″	36	3305T18	966.61	1,062.36	1,158.11	1,253.86
Heavy Duty with Enclosed Gears										
1,600	12″	45	13″	1″	15	9476T16	525.54	594.69	663.84	732.99
1,600	22″	60	11″	1″	16	3336T1	525.54	596.99	668.44	739.89
3,300	17″	55	15″	1 1/8″	26	9476T17	730.29	824.99	919.69	1,014.39
3,300	22″	90	15″	1 1/8″	26	3336T2	730.29	828.09	925.89	1,023.69
6,600	22″	95	17″	1 1/8″	37	3336T3	946.35	1,142.10	1,337.85	1,533.60
Heavy Duty with Enclosed Gears and Overload Protection										
1,600	12″	45	13″	1″	15	9476T26	792.56	861.71	930.86	1,000.01
1,600	24″	60	11″	1″	17	3336T5	650.08	721.53	792.98	864.43
3,300	17″	55	15″	1 1/8″	29	9476T27	997.29	1,090.46	1,183.63	1,276.81
3,300	24″	90	15″	1 1/8″	28	3336T6	854.83	952.63	1,050.43	1,148.23
6,600	24″	95	17″	1 1/8″	37	3336T7	1,070.89	1,266.64	1,462.39	1,658.14

Pulley Hoists

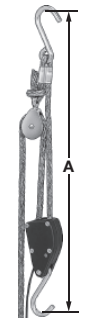

With Mechanical Brake


With Lever-Lock Brake


With Cleat Brake

These hoists come with fibrous rope that is lighter in weight and easier to handle than chain.

Mechanical brake automatically holds your load in place when you stop pulling the rope. Hoist and hooks are steel.

Lever-lock brake has a lever that locks against the rope to hold the load in place. Hoists and hooks are forged steel.

Cleat brake locks by pulling the rope through the cleat to hold your load in place. Hoists are corrosion-resistant stainless steel and plastic; hooks are stainless steel.

Cap., lbs.	Lift Lg., ft.	Pulling Effort @ Cap., lbs.	Clearance (A)	Rope Dia.	Hook Opening		
With Mechanical Brake							
250	10	125	12″	3/8″	1 1/4″	2973T41	$23.98
With Lever-Lock Brake							
350	12	90	19″	3/8″	5/8″	2973T27	58.09
500	16	85	19″	3/8″	5/8″	2973T21	106.96
With Cleat Brake							
875	8	200	12″	5/16″	5/8″	31825T21	279.88
1,225	9	300	14″	3/8″	5/8″	31825T22	391.39

***Warning:* Never use to lift people or items over people.**

Hand Chain Hoists

Pull the hand chain to lift and position your load, and the mechanical brake will securely hold it in place. Hoists have a steel body, hardened steel chain, and forged steel hooks, except fast-lift hoists have an aluminum body and spark-resistant hoists have an aluminum body, stainless steel chain, and bronze hooks. Hand chain is 2 ft. shorter than the lift. All hoists meet ANSI/ASME B30.16 and HST-2.

Hoists *with overload protection* will not operate when the load exceeds capacity.

General duty with enclosed gears and overload protection hoists have a frame that's enclosed to protect gears from debris and contamination for smooth operation.

Heavy duty hoists have rugged construction for long life.

Rotating with overload protection hoists have a body that spins 360° so you can operate them from any direction.

Fast lift with overload protection hoists have large gears to allow them to lift faster with each pull. Good for frequent lifting operations where user fatigue is a concern.



General Duty


General Duty with Enclosed Gears


Heavy Duty


Rotating


Fast Lift


Spark Resistant

Cap., lbs.	Pulling Effort @ Cap., lbs.	Pull Lg. to Lift 1 ft. @ Cap.	Clearance (A)	Hook Opening		10-ft. Lift	15-ft. Lift	20-ft. Lift	30-ft. Lift
General Duty (CM 622)									
1,100	55	29 ft.	12″	1″	3094T1	$157.95	$216.15	$274.35	———
2,200	80	37 ft.	13″	1″	3094T2	179.63	248.93	318.23	———
4,400	85	80 ft.	19″	1¼″	3094T3	350.72	479.12	607.52	———
6,600	65	154 ft.	22″	1¼″	3094T4	451.41	630.06	808.71	———
11,000	105	147 ft.	24″	1¾″	3094T5	920.54	1,230.04	1,539.54	———
General Duty with Enclosed Gears and Overload Protection (OZ Premium)									
1,000	50	28 ft.	13″	1⅛″	3912T41	252.71	306.36	360.01	$467.31
2,000	70	37 ft.	14″	1⅜″	3912T42	291.88	345.53	399.18	506.48
3,000	70	31 ft.	16″	1⅜″	3912T43	360.47	425.07	489.67	618.87
4,000	80	50 ft.	17″	1¼″	3912T11	399.13	451.93	504.73	610.33
6,000	60	70 ft.	21″	1½″	3912T12	475.19	567.19	659.19	843.19
Heavy Duty (Chester Hoist AM)									
1,100	35	44 ft.	13″	⅞″	3287T43	664.76	721.66	778.56	892.36
2,200	65	44 ft.	13″	⅞″	3287T44	740.89	797.79	854.69	968.49
4,400	70	88 ft.	16″	1″	3287T45	1,012.96	1,084.36	1,155.76	1,298.56
6,600	70	132 ft.	17″	1⅛″	3287T46	1,227.04	1,305.64	1,384.24	1,541.44
Rotating with Overload Protection (CM Hurricane)									
1,100	45	30 ft.	12″	⅞″	3713T81	294.38	362.33	430.28	566.18
2,200	55	49 ft.	14″	1⅛″	3713T82	334.00	409.75	485.52	637.08
4,400	75	71 ft.	16″	1⅜″	3713T83	519.87	608.92	697.97	876.07
Fast Lift with Overload Protection (CM Cyclone)									
550	25	23 ft.	13″	1″	3324T1	828.50	958.70	1,088.90	1,349.30
1,100	50	23 ft.	13″	1″	3324T2	848.22	978.42	1,108.62	1,369.02
2,200	70	30 ft.	14″	1⅛″	3324T3	975.02	1,118.52	1,262.02	1,549.02
3,300	80	41 ft.	18″	1¼″	3324T4	1,307.71	1,460.81	1,613.91	1,920.11
4,400	85	52 ft.	18″	1¼″	3324T5	1,491.10	1,648.95	1,806.80	2,122.50
11,000	75	156 ft.	25″	1⅝″	3324T8	2,909.40	3,252.55	3,595.70	4,282.00
Spark Resistant									
1,000	50	25 ft.	13″	1″	3322T15	2,101.15	2,417.50	2,944.75	3,999.25
2,000	70	35 ft.	14″	1″	3322T16	2,232.61	3,176.51	4,120.41	6,008.21

Trolley-Mount Hand Chain Hoists

A built-in trolley provides stability as these hoists travel along your beam. They can be mounted on fixed beams as well as on cranes with beams. Pull the hand chain to lift and position your load, and the mechanical brake will securely hold it in place. Hoists have hardened steel chain and a forged steel hook. Body is steel, except fast-lift hoists have an aluminum body. Hand chain is 2 ft. shorter than the lift, unless noted. All hoists meet ANSI/ASME B30.16 and HST-2.

Hoists *with overload protection* will not operate when the load exceeds capacity.

Chain-Driven Trolley Mount—A separate hand chain makes these hoists and their built-in trolleys easier to move.

Fast-lift hoists have large gears to lift faster with each pull. Good for frequent lifting operations where user fatigue is a concern.

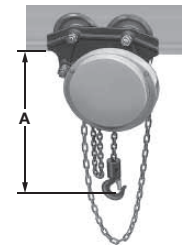

Trolley Mount


Chain-Driven Trolley Mount

Cap., lbs.	Pulling Effort @ Cap., lbs.	Pull Lg. to Lift 1 ft. @ Cap.	For Beam Wd.	Min. Curve Radius	Clearance (A)	Hook Opening		10-ft. Lift	15-ft. Lift	20-ft. Lift	30-ft. Lift
Trolley Mount											
General Duty (Chester Hoist AM)											
1,100	35	24 ft.	2¾″-4⅝″	48″	12″	⅞″	3287T61	$791.76	$848.66	$905.56	$1,019.36
2,200	65	44 ft.	2¾″-4⅝″	48″	12″	⅞″	3287T62	848.59	905.49	962.39	1,076.19
4,400	70	88 ft.	3″-5½″	60″	14″	1″	3287T63	1,155.96	1,227.36	1,298.76	1,441.56
6,600	70	132 ft.	3½″-6″	78″	16″	1⅛″	3287T64	1,568.04	1,646.64	1,725.24	1,882.44
Fast Lift with Overload Protection (CM Cyclone)											
1,100	50	23 ft.	2¾″-5½″	30″	12″	1″	3313T1	1,497.37	1,637.39	1,777.52	2,057.53
1,100	50	23 ft.	3⅜″-5″	36″	9″	1″	3058T1★	1,974.69	2,114.90	2,254.73	2,534.53
2,200	70	30 ft.	2¾″-5½″	30″	12″	1″	3313T2	1,699.29	1,853.62	2,007.67	2,316.30
2,200	70	30 ft.	3⅜″-5″	36″	10″	1⅛″	3058T2★	2,095.89	2,250.02	2,404.46	2,713.09
4,400	85	52 ft.	3¾″-5½″	30″	16″	1⅜″	3313T3	2,326.59	2,494.14	2,661.88	2,996.68
Chain-Driven Trolley Mount											
General Duty (Chester Hoist AM)											
1,100	35	24 ft.	2¾″-4⅝″	12″	48″	⅞″	3287T71	1,071.40	1,175.90	1,280.40	1,489.40
2,200	65	44 ft.	2¾″-4⅝″	12″	48″	⅞″	3287T72	1,136.40	1,240.90	1,345.40	1,554.40
4,400	70	88 ft.	3″-5½″	14″	60″	1″	3287T73	1,482.08	1,562.78	1,643.48	1,804.88
6,600	70	132 ft.	3½″-6″	16″	78″	1⅛″	3287T74	1,956.58	2,073.53	2,190.48	2,424.38
Fast Lift with Overload Protection (CM Cyclone)											
1,100	50	23 ft.	2¾″-5½″	30″	12″	1″	3313T6	2,475.04	2,690.63	2,906.01	3,337.40
2,200	70	30 ft.	2¾″-5½″	30″	12″	1″	3313T7	2,524.76	2,755.27	2,985.69	3,446.76
4,400	85	52 ft.	3¾″-5½″	30″	16″	1⅜″	3313T8	2,723.97	2,966.32	3,208.67	3,693.37

★ Hand chain for 30-ft. lift is 3 ft. shorter than the lift.

Warning: Never use to lift people or items over people.

Electric Chain Hoists



Compact


General Duty


Dual Brake


Continuous Use


Dual Speed Precise Positioning

Use the handheld control to effortlessly lift your load. Overload protection prevents hoists from operating if the load exceeds capacity. Hoists can run for 30 minutes per hour, except continuous use hoists. They meet ANSI/ASME B30.16 and ANSI/ASME H4, unless otherwise stated.

Hoists are aluminum and can be used outdoors. Chain and hooks are steel, unless otherwise stated. They have a brake, a hook for mounting, and a chain container (except corrosion-resistant hoists do not have a chain container). Power cord does not include a plug, unless otherwise stated. For plugs, see pages 819-822.

120-volt AC hoists have single-phase motors; *240- and 460-volt AC* hoists have three-phase motors.

Compact (CM Shopstar) hoists are small and lightweight so you can easily move them between jobs. Power cord is 6 ft. C-UL listed. 120-volt AC hoists have a three-prong plug.

General duty (CM Valustar) hoists have a 5-ft. power cord. 120-volt AC hoists meet ANSI/ASME H3.

General duty (CM Lodestar NH) hoists have adjustable maximum and minimum height limit switches to let you set the lifting range. Power cord is 15 ft.

Corrosion-resistant (CM Lodestar NH Cleanchoice) hoists have stainless steel chain and hooks to reduce corrosion and prevent contamination. Adjustable maximum and minimum height limit switches let you set the lifting range. Power cord is 5 ft.

Variable-speed precise-positioning (CM Lodestar NH) hoists allow you to change or hold the speed at any time during operation. Adjustable max. and min. height limit switches let you set the lifting range. Power cord is 5 ft.

Dual-brake (CM Budgit) hoists have a disc friction brake as well as a mechanical brake to stop the load and hold it in place when you're not lifting. Power cord is 5 ft.

Continuous-use (Harrington NER 2) hoists have a fan-cooled motor for continuous running times and a flip-down cover for quick maintenance. The electromagnetic brake provides quick, secure braking and works when there is no power. Power cord is 15 ft.

Dual-speed precise-positioning (Ingersoll Rand Quantum) hoists have a low speed for precise positioning and a high speed for quick lifting. A multiple-disc friction brake provides long life. Adjustable maximum and minimum height limit switches let you set the lifting range. Power cord is 15 ft. UL listed.

Also Available: CM Lodestar NH hoists in 40- and 50-ft. lifts. Please specify part number below, AC voltage, and lift.

Cap., lbs.	Lifting Speed, fpm	Clearance (A)	Hook Opening	Choose a Voltage (AC)		10-ft. Lift	15-ft. Lift	20-ft. Lift
Compact (CM Shopstar)								
300	16	12″	7/8″	120V, 240V, 460V	23285T57	$1,279.40	$1,383.30	$1,487.20
600	8	12″	7/8″	120V, 240V, 460V	23285T58	1,495.46	1,632.36	1,769.26
General Duty (CM Valustar)								
550	16	15″	1″	120V, 240V, 460V	9477T1	1,770.50	1,875.20	1,979.90
1,100	16	15″	1″	120V, 240V, 460V	9477T2	2,105.00	2,209.70	2,314.40
2,200	8	18″	1 1/8″	120V, 240V, 460V	9477T3	2,294.05	2,471.90	2,649.75
2,200	16	16″	1 1/8″	120V, 240V, 460V	9477T4	2,420.97	2,547.27	2,673.57
4,400	8	23″	1 1/4″	120V, 240V, 460V	9477T5	2,965.12	3,190.22	3,415.32
General Duty (CM Lodestar NH)								
275	32	14″	1″	120V, 240V, 460V	3316T962	1,945.28	2,040.28	2,135.28
275	60	14″	1″	120V, 240V, 460V	3316T963	2,270.23	2,365.23	2,460.23
550	16	14″	1″	120V, 240V, 460V	3316T964	2,256.91	2,351.91	2,446.91
550	32	14″	1″	120V, 240V, 460V	3316T965	2,373.22	2,468.22	2,563.22
1,100	8	20″	1 1/8″	120V, 240V, 460V	3316T966	2,500.17	2,662.47	2,824.77
1,100	16	14″	1″	120V, 240V, 460V	3316T967	2,578.31	2,673.31	2,768.31
1,100	32	16″	1 1/8″	120V, 240V, 460V	3316T968	2,857.97	2,973.62	3,089.27
2,200	8	19″	1 1/8″	120V, 240V, 460V	3316T969	2,735.46	2,897.76	3,060.06
2,200	16	16″	1 1/8″	120V, 240V, 460V	3316T971	2,881.95	2,997.60	3,113.25
4,400	8	23″	1 1/4″	120V, 240V, 460V	3316T972	3,538.95	3,742.80	3,946.65
4,400	16	23″	1 1/4″	240V, 460V	3316T973	4,519.14	4,722.99	4,926.84
6,600	5	30″	1 1/4″	120V, 240V, 460V	3316T974	4,329.14	4,621.39	4,913.64
6,600	11	30″	1 1/4″	240V, 460V	3316T975	5,021.66	5,313.91	5,606.16
Corrosion Resistant (CM Lodestar NH Cleanchoice)								
550	16	14″	1″	120V, 240V, 460V	24555T84	4,619.97	4,908.47	5,196.97
1,100	16	14″	1″	120V, 240V, 460V	24555T85	4,940.94	5,229.44	5,517.94
2,200	8	19″	1 1/8″	120V, 240V, 460V	24555T86	5,713.68	6,263.98	6,814.28
Variable-Speed Precise-Positioning (CM Lodestar NH)								
550	2-16	14″	1″	240V, 460V	2917T35	2,641.34	2,740.64	2,839.94
1,100	2-16	14″	1″	240V, 460V	2917T36	2,963.63	3,062.93	3,162.23
2,200	2-16	16″	1 1/8″	240V, 460V	2917T37	3,606.43	3,722.08	3,837.73
4,400	1-8	23″	1 1/4″	240V, 460V	2917T38	4,261.66	4,465.51	4,669.36
Dual Brake (CM Budgit Man Guard)								
550	16	17″	1 1/8″	120V, 240V, 460V	3319T11	2,071.29	2,147.19	2,223.09
1,100	16	17″	1 1/8″	120V, 240V, 460V	3319T12	2,343.43	2,419.33	2,495.23
2,200	8	18″	1 1/4″	120V, 240V, 460V	3319T13	2,455.35	2,582.50	2,709.65
2,200	16	18″	1 1/4″	120V, 240V, 460V	3319T14	2,570.34	2,697.49	2,824.64
4,400	8	23″	1 3/8″	120V, 240V, 460V	3319T15	3,067.95	3,295.10	3,522.25
4,400	16	23″	1 3/8″	240V, 460V	3319T16	3,436.57	3,663.72	3,890.87
6,600	5	26″	1 1/2″	120V, 240V, 460V	3319T17	3,788.61	4,130.16	4,471.71
6,600	10	26″	1 1/2″	240V, 460V	3319T18	4,188.83	4,530.38	4,871.93
Continuous Use (Harrington NER 2)								
250	55	14″	1 1/8″	240V, 460V	2672T51	2,615.80	2,716.93	2,818.98
500	36	14″	1 1/8″	240V, 460V	2672T53	2,312.40	2,413.53	2,515.58
500	53	15″	1 1/8″	240V, 460V	2672T52	3,103.24	2,970.48	3,072.28
1,000	15	15″	1 1/8″	120V, 240V, 460V	2672T54 ★	2,429.93	2,531.98	2,633.60
1,000	29	15″	1 1/8″	240V, 460V	2672T55	2,712.38	2,814.42	2,916.00
2,000	14	17″	1 1/4″	240V, 460V	2672T56	2,729.69	2,846.31	2,962.02
2,000	28	17″	1 1/8″	240V, 460V	2672T64	3,904.33	4,020.75	4,136.63
4,000	14	23″	1 5/8″	240V, 460V	2672T58	3,784.76	3,938.73	4,091.15
6,000	17	33″	1 3/4″	240V, 460V	2672T61	4,782.42	5,098.04	5,412.63
Dual-Speed Precise-Positioning (Ingersoll Rand Quantum)								
550	8/32	18″	1″	240V, 460V	3329T11	3,135.59	3,271.33	3,406.69
1,100	8/32	18″	1″	240V, 460V	3329T13	3,507.21	3,584.64	3,662.10
2,200	4/16	19″	1″	240V, 460V	3329T14	3,880.88	4,029.84	4,176.30
2,200	8/32	22″	1 1/4″	240V, 460V	3329T15	4,894.85	4,985.92	5,076.48
4,400	4/16	25″	1 1/4″	240V, 460V	3329T16	5,328.24	5,476.61	5,611.39

★ Harrington NER 2, SNER

Warning: *Never use to lift people or items over people.*

Trolley-Mount Electric Chain Hoists

Hoists come mounted to a trolley for a stable ride on your beam. Use the handheld push-button control to effortlessly lift your load. Overload protection prevents hoists from operating if the load exceeds capacity. They can run for 30 minutes per hour. Hoists are aluminum with a steel trolley, chain, and hooks. All have a brake and chain container and can be used outdoors. They meet ANSI/ASME B30.16 and ANSI/ASME H4.

120-volt AC hoists have single-phase motors and include a three-prong plug. *230-* and *460-volt AC* hoists have three-phase motors and do not include a plug (please see pages 819-822).

With Motorized Trolley—Hoists travel along beams at 75 fpm.

Single-speed (CM Lodestar NH) hoists have a 5-ft. power cord.

Dual-speed precise-positioning (Ingersoll Rand Quantum) hoists have a low speed for precise positioning and a high speed for quick lifting. A multiple-disc friction brake provides long life. Power cord is 15 ft. UL listed.

Variable-speed precise-positioning (CM Lodestar NH) hoists allow you to change or hold the speed at any time during operation. Power cord is 5 ft.

Also Available: CM Lodestar NH hoists in 40- and 50-ft. lifts. Please specify hoist part number, AC voltage, and lift.



Single and Variable Speed with Manual Trolley



Dual Speed with Manual Trolley

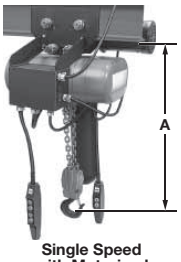

Single Speed with Motorized Trolley

Cap., lbs.	Lifting Speed, fpm	For Beam Wd.	Clearance (A)	Hook Opening	Choose a Voltage (AC)		10-ft. Lift	15-ft. Lift	20-ft. Lift	30-ft. Lift
With Manual Trolley										
Single Speed (CM Lodestar NH)										
550	16	2¾"-5½"	14"	1"	120V, 240V, 460V	3316T976	$2,549.00	$2,644.00	$2,739.00	$2,929.00
550	32	2¾"-5½"	14"	1"	120V, 240V, 460V	3316T977	2,665.31	2,760.31	2,855.31	3,045.31
1,100	8	2¾"-5½"	19"	1⅛"	120V, 240V, 460V	3316T978	2,792.28	2,954.58	3,116.88	3,441.48
1,100	16	2¾"-5½"	14"	1"	120V, 240V, 460V	3316T979	2,870.40	2,965.40	3,060.40	3,250.40
2,200	8	2¾"-5½"	19"	1⅛"	120V, 240V, 460V	3316T981	3,027.55	3,189.85	3,352.15	3,676.75
2,200	16	2¾"-5½"	16"	1⅛"	120V, 240V, 460V	3316T982	3,174.05	3,289.70	3,405.35	3,636.65
4,400	8	3½"-6"	23"	1¼"	120V, 240V, 460V	3316T983	4,067.23	4,271.08	4,474.93	4,882.63
6,600	5	4"-5½"	30"	1¼"	120V, 240V, 460V	3316T984	5,157.49	5,449.74	5,741.99	6,326.49
Dual-Speed Precise-Positioning (Ingersoll Rand Quantum)										
550	8/32	2¾"-8"	18"	1"	240V, 460V	3329T21	3,267.35	3,402.95	3,538.45	
1,100	8/32	2¾"-8"	18"	1"	240V, 460V	3329T23	3,638.97	3,716.51	3,793.71	
2,200	4/16	3"-8"	19"	1"	240V, 460V	3329T24	4,060.00	4,192.21	4,320.66	
4,400	4/16	3½"-8"	25"	1¼"	240V, 460V	3329T26	5,623.68	5,771.93	5,907.07	
Variable-Speed Precise-Positioning (CM Lodestar NH)										
550	2-16	2¾"-5½"	14"	1"	240V, 460V	2917T46	2,933.45	3,032.75	3,132.05	
1,100	2-16	2¾"-5½"	14"	1"	240V, 460V	2917T47	3,255.74	3,355.04	3,454.34	
2,200	2-16	2¾"-5½"	16"	1⅛"	240V, 460V	2917T48	3,898.54	4,014.19	4,129.84	
4,400	1-8	3½"-6"	23"	1¼"	240V, 460V	2917T49	4,789.92	4,993.77	5,197.62	
With Motorized Trolley										
Single Speed (CM Lodestar NH)										
1,100	16	3½"-5½"	14"	1"	120V, 240V, 460V	3316T985	5,473.57	5,568.57	5,663.57	5,853.57
2,200	8	3½"-5½"	19"	1⅛"	120V, 240V, 460V	3316T986	5,637.83	5,800.08	5,962.33	6,286.83
4,400	8	3½"-5½"	23"	1¼"	120V, 240V, 460V	3316T987	6,408.48	6,570.78	6,733.08	7,057.68
6,600	5	4"-5½"	30"	1¼"	120V, 240V, 460V	3316T988	7,749.12	8,041.37	8,333.62	8,918.12

Inverted Electric Chain Hoists

These hoists hang upside down and rise along with your load, making them great for lifting lighting and backdrops for trade shows, concerts, and theaters. They are easier to mount than standard electric chain hoists since you connect the hook to the lifting point, rather than the entire hoist body. Use the handheld control to effortlessly lift your load. Overload protection prevents hoists from operating if the load exceeds capacity. A maximum height limit switch prevents the load from hitting the hoist; a minimum height limit switch prevents the load from hitting the ground. Hoists can run for 30 minutes per hour. They meet ANSI/ASME B30.16 and ANSI/ASME H4.

Hoists are made of aluminum with steel chain and hooks. They have a push-button control, a disc friction brake, and a chain container. Power cord is 20 ft. for hoists with 15-ft. lift, 35 ft. for hoists with 30-ft. lift, and 65 ft. for hoists with 60-ft. lift (except 120-volt AC hoists with 60-ft. lift, which have a 50-ft. power cord). Power cords do not include a plug (please see pages 819-822).

120-volt AC hoists have single-phase motors; *230-* and *460-volt AC* hoists have three-phase motors.



Cap., lbs.	Lifting Speed, fpm	Clearance (A)	Hook Opening	Choose a Voltage (AC)		15-ft. Lift	30-ft. Lift	60-ft. Lift
1,000	16	19"	1⅛"	120V, 240V, 460V	8534T11	$2,696.19	$3,076.14	$3,836.04
1,000	32	19"	1⅛"	120V, 240V, 460V	8534T12	2,851.19	3,231.14	3,991.04
2,000	16	19"	1⅛"	120V, 240V, 460V	8534T13	2,943.81	3,323.76	4,083.66

Replacement Parts for Electric Chain Hoists

Minimize your downtime—original manufacturer parts keep your hoist in operation.

To Order: For bottom hooks, latches for hook, and chain containers, please specify capacity and lifting speed. For chain containers for CM Valustar and CM Lodestar/Lodestar NH, please also specify material (steel or fabric). For additional parts such as brake components, please specify serial number, manufacturer part number, hoist capacity, and voltage.

Hoist Model	Push-Button Controls	Bottom Hooks	Latch for Hooks	Chain Containers	Additional Parts
CM Shopstar (120V AC)	23285T731	23285T726	23285T727	23285T91	23285T999
CM Shopstar (230V AC and 460V AC)	3304T62	23285T726	23285T727	23285T91	23285T999
CM Valustar	3304T62	3304T71	3324T61	3314T11	9477T999
CM Lodestar/Lodestar NH	3304T62	3304T72	3324T62	3314T12	3316T999
CM Lodestar NH Cleanchoice	3304T62	24555T91	24555T92	24555T93	24555T999
Budgit Man Guard	3319T212	3319T41	3319T42	3280T31	3319T999
Harrington NER	2672T45	2672T21	2672T22	2672T23	2672T999
Ingersoll Rand Quantum	3329T59	3329T41	3329T42	3329T43	3329T999

Warning: Never use to lift people or items over people.

Air-Powered Chain Hoists

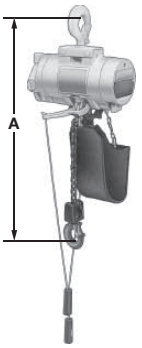

General Duty and Spark Resistant with Pull Control



General Duty with Overload Protection with Pull Control



Variable Speed with Lever Control



General Duty and Spark Resistant with Lever Control

Hoists have a cool-running motor for continuous operation. The brake stops the load and holds it in place when you're not lifting. All hoists meet ANSI/ASME B30.16. A filter-regulator-lubricator is required to lubricate the gears and clean and regulate the incoming air (not included; please see pages 1026-1032).

Hoists *with overload protection* will not operate when the load exceeds capacity.

General duty and **spark-resistant (CM Budgit Series 2200** and **6000)** hoists have an aluminum body. Inlet pipe size is 3/8 NPT for 2200 series hoists; 3/4 NPT for 6000 series hoists.

General duty hoists have a steel chain, chain container, and hooks. *Spark-resistant* hoists have a stainless steel chain, bronze hooks, and stainless steel latches.

General duty with overload protection (Harrington TCR) hoists have a durable cast-iron housing for a longer life, a chain container, and steel chain and hooks. Inlet pipe size is 1/2 NPT.

Variable-speed precise-positioning compact with overload protection (CM ShopAir) hoists allow you to change or hold the speed at any time during operation so you can start the hoist softly and gradually decelerate. They are small and lightweight so you can easily move them between jobs. Hoists have an aluminum body, steel chain and hooks, and a chain container. Inlet pipe size is 3/8 NPT.

Cap., lbs.	Lifting Speed, fpm	Clearance (A)	cfm @ 90 psi	Hook Opening		10-ft. Lift	15-ft. Lift	20-ft. Lift
Pull Control								
General Duty (CM Budgit 2200)								
550	65	16″	48	1 1/8″	3320T1	$2,723.79	$2,807.79	$2,891.79
1,100	45	16″	48	1 1/8″	3320T2	2,952.60	3,036.60	3,120.60
Spark Resistant (CM Budgit 2200)								
825	60	16″	48	1 1/8″	3320T13	3,332.24	3,684.49	4,036.74
General Duty with Overload Protection (Harrington TCR)								
250	68	19″	63	1 1/8″	8702T21	3,103.77	3,183.42	3,263.07
1,000	68	19″	63	1 1/8″	8702T23	3,154.39	3,234.04	3,313.69
2,000	37	19″	62	1 1/8″	8702T25	4,517.56	4,606.01	4,694.46
4,000	19	22″	62	1 1/8″	8702T27	5,832.78	5,999.53	6,166.28
Lever Control								
Variable-Speed Precise-Positioning Compact with Overload Protection (CM ShopAir)								
300	31	11″	34	1″	2340T45	1,862.19	1,950.19	2,035.34
500	21	11″	34	1″	2340T46	2,008.94	2,094.16	2,179.38
600	16	12″	34	1″	2340T47	2,073.94	2,217.20	2,356.75
1,000	11	12″	34	1″	2340T48	2,220.69	2,364.88	2,504.42
General Duty (CM Budgit 2200)								
550	65	16″	48	1 1/8″	3320T3	3,252.18	3,367.43	3,482.68
1,100	45	16″	48	1 1/8″	3320T4	3,306.72	3,421.97	3,537.22
2,200	23	18″	48	1 1/4″	3320T5	3,906.88	4,104.38	4,301.88
General Duty (CM Budgit 6000)								
4,400	15	22″	80	1 3/8″	3320T7	5,498.29	5,775.69	6,053.09
Spark Resistant with Overload Protection (CM Budgit 6000)								
1,100	16	17″	80	1 1/4″	3320T17	5,315.03	5,842.28	6,369.53
2,200	8	22″	80	1 1/4″	3320T18	6,113.85	7,121.70	8,129.55
General Duty with Overload Protection (Harrington TCR)								
500	68	19″	63	1 1/8″	8702T22	3,784.02	3,914.52	4,045.02
1,000	68	19″	63	1 1/8″	8702T24	3,887.04	4,017.44	4,147.84
2,000	37	19″	62	1 1/8″	8702T26	4,720.04	4,859.24	4,998.44
4,000	19	22″	62	1 1/8″	8702T28	5,947.34	6,164.74	6,382.14

Powered Wire Rope Hoists

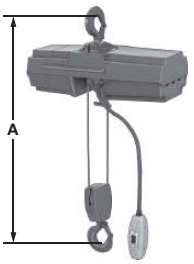

Electric



High-Speed Electric Shown with Optional Mounting Bracket



Air Powered

These hoists are quieter and more stable than electric chain hoists.

Electric hoist has a handheld push-button control and thermal motor protection to prevent overheating. It has an aluminum body, steel wire rope, and steel hooks. The electromagnetic brake provides quick, secure braking and works when there is no power. Control cord is 6 ft. long; power cord is 1 1/2 ft. long with a three-prong plug. Operates on 120 volts AC. UL listed.

High-speed electric hoist has an electromagnetic and a mechanical brake that provides quick, secure braking and works when there is no power. Maximum and minimum height switches keep your load from hitting the hoist or the ground. Body, wire rope, and hooks are steel. Control cord is 23 ft. long; power cord is 16 ft. long with a three-prong plug. Operates on 120 volts AC. Meets ANSI/ASME B30.16.

Optional *mounting bracket* mounts to pipe or scaffolding up to 2 1/8″ OD.

Air-powered hoist allows you to change or hold the speed at any time during operation. The gears are enclosed to protect them from debris and contamination for smooth operation. Hoist has a cast iron body, steel wire rope, and steel hooks. Operates on 21.2 cfm at 90 psi. Inlet pipe size is 3/8 NPT.

Cap., lbs.	Lift Lg., ft.	Lifting Speed, fpm	Clearance (A)	Wire Rope Dia.	Hook Opening	Amps	Duty Cycle, min./hour		
Electric									
500	10	16	14″	1/8″	3/4″	3	10	9479T51	$859.53
High Speed Electric									
500	90	75	26″	3/16″	7/8″	9	15	9479T52	1,665.79
Optional Mounting Bracket—18″ Ht. × 41″ Wd.								9479T53	325.44
Air Powered									
300	7	36	23″	5/32″	7/8″	—	Continuous Use	23155T4	2,056.42

Warning: *Never use to lift people or items over people.*

Hoist Trolleys

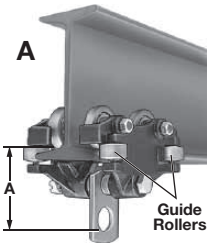

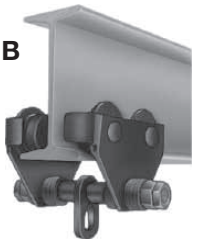

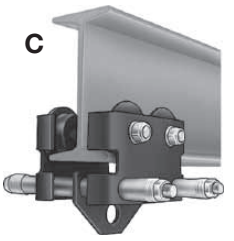

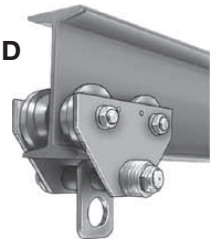



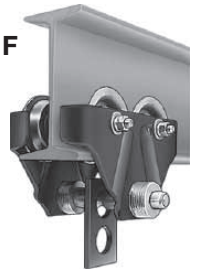

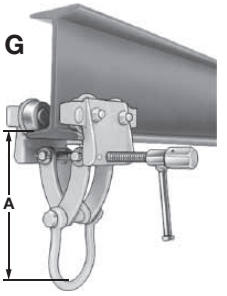



Transport hook-mount hoists along a beam. For use on flat as well as tapered beams, unless noted.

Trolleys **with mounting bar** take up less vertical space than mounting eyes and are good for applications with low clearance. Trolleys **with mounting bar and eye** allow you to remove the mounting eye and use the mounting bar for applications that require lower clearance.

Styles A-F include spacing washers that can be added and removed to fit a range of beam widths. Trolleys have bumpers to protect wheels from collisions with other equipment on your beam. Style A also has side guide rollers to prevent the trolley from wobbling.

Styles G & H have a screw adjustment, so they can be quickly and easily adjusted to fit your beam. Style G has wheel bumpers to protect wheels from collisions with other equipment on your beam and a trolley lock to prevent the trolley from coming loose after it is mounted. It fits beams with a maximum thickness of 1″.

	Cap., lbs.	For Beam Wd.	For Min. Beam Ht.	Clearance (A)	Min. Curve Radius	Eye Dia.	Wheel Material		
With Mounting Eye									
Cast Iron									
A	500	2″-2½″	3″	3½″	24″	1″	Steel	9483T47 ★	$94.92
Steel									
B	1,100	2½″-5½″	3″	4¼″	35″	⅞″	Steel	9482T74	171.61
B	2,200	3″-8″	5″	5¼″	35″	1⅛″	Steel	9482T75	202.29
B	4,400	3¾″-8″	6″	6″	59″	1⅝″	Steel	9482T76	336.52
B	6,600	4″-8″	8″	7½″	71″	1⅞″	Steel	9482T77	572.35
B	11,000	4¾″-8″	10″	10″	94″	2½″	Steel	9482T78	821.70
C	550	2″-8½″	4″	4″	27″	1⅛″	Steel	3267T61	160.98
C	1,100	2″-8½″	4″	4″	27″	1⅛″	Steel	3267T62	164.98
C	2,200	2½″-8½″	5″	4½″	36″	1⅜″	Steel	3267T63	194.13
C	4,400	2½″-8½″	6″	5¼″	45″	1⅞″	Steel	3267T64	316.27
C	6,600	3″-8½″	8″	6¼″	55″	2¼″	Steel	3267T65	548.27
G	2,240	2½″-8″	3″	8″-9¾″	59″	3⅛″	Steel	9469T15	544.03
G	4,480	3″-8″	3″	8″-9¾″	59″	3⅛″	Steel	9469T17	586.03
Stainless Steel									
D	1,000	2¾″-5″	4″	5″	20″	1¾″	Stainless Steel	3289T11	3,571.08
D	2,000	3″-5″	5″	5½″	24″	1¾″	Stainless Steel	3289T12	3,857.54
D	4,000	3½″-6¼″	6″	6¾″	30″	2⅛″	Stainless Steel	3289T13	5,787.38
With Mounting Bar									
Steel									
E	300	2½″-4½″	3″	2½″	18″	—	Nylon Plastic	3269T51	137.93
H	1,000	2¾″-5″	4″	2″	7″	—	Steel	3189T2	174.48
H	2,000	2¾″-5″	4″	1¾″	7″	—	Steel	3189T3	213.79
H	4,000	3½″-5½″	6″	2″	10″	—	Steel	3189T5	349.94
H	6,000	4″-6¼″	8″	2¾″	10″	—	Steel	3189T6	585.26
With Mounting Bar and Eye									
Steel									
F	1,000	2¾″-4½″	4″	6″	24″	1½″	Cast Iron	3269T52	142.31
F	2,000	3″-5¼″	5″	6½″	36″	1½″	Cast Iron	3269T53	211.54
F	4,000	3½″-6″	6″	6½″	48″	1½″	Cast Iron	3269T54	259.62
F	6,000	4″-8″	8″	8½″	60″	2½″	Cast Iron	3269T55	409.62
F	10,000	4¾″-8″	10″	9½″	60″	2½″	Cast Iron	3269T56	759.62

★ For use on tapered beams only.

Warning: *Never use to lift people or items over people.*

Chain-Driven Hoist Trolleys

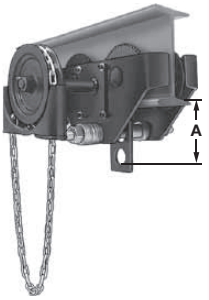

A separate hand chain makes these trolleys easy to move. Use with hook-mount hoists. The included spacing washers can be added and removed to fit a range of beam widths. The trolley and chain are steel. Wheels are cast iron or steel. For use on flat as well as tapered beams, unless noted.

General duty trolleys have bumpers that protect wheels from collisions with other equipment on your beam.

Heavy duty trolleys have a rugged construction for long life.

Cap., lbs.	For Beam Wd.	For Min. Beam Ht.	Clearance (A)	Min. Curve Radius	Eye Dia.		
General Duty							
2,200	3″-8″	5″	6″	36″	1½″	3295T21	$461.54
4,400	3½″-8″	6″	6¼″	48″	1½″	3295T22	626.67
6,600	4″-8″	7″	8″	42″	2½″	3295T23	880.00
11,000	4¾″-8″	8″	8¼″	60″	2½″	3295T24	1,254.19
Heavy Duty							
2,000	3″-5″	6″	5¾″	36″	1½″	3271T25	1,008.06
4,000	3¼″-6¼″	6″	6½″	36″	1⅜″	3271T36	1,274.19
8,000	4″-6½″	8″	7¾″	42″	2½″	3271T28★	1,960.00
12,000	4¾″-7″	8″	8¾″	54″	2¾″	3271T29★	2,362.90

★ For use on tapered beams only.

Motorized Hoist Trolleys

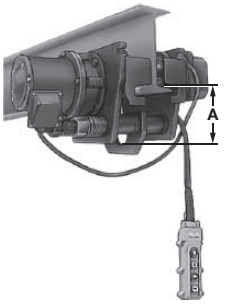

With the touch of a button, these trolleys effortlessly move hook-mount hoists along your flat or tapered beam. Trolleys have a mounting eye and the included spacing washers can be added and removed to fit a range of beam widths. Hardwire your hoist to the trolley to operate both the trolley and your single-speed hoist with the hand-held control. The maximum trolley speed is 78 fpm. The control cord is 17 ft. Trolleys and wheels are cast iron.

120V AC trolleys have single-phase motors. *240V-* and *460V-* AC trolleys have three-phase motors.

Cap., lbs.	For Beam Wd.	For Min. Beam Ht.	Clearance (A)	Min. Curve Radius	Eye Dia.	Choose a Voltage (AC)		
4,400	3½″-6″	6″	5″	52″	2½″	120V, 240V, 460V	94855T1	$2,119.77
6,600	4″-7″	8″	5¼″	71″	2⅞″	120V, 240V, 460V	94855T2	2,508.42

Hoist Cable Trolleys

Mount these trolleys to your existing wire rope, channel, or beam to create a cable and hose travel system. Also known as festoon trolleys.

For Wire Rope Travel



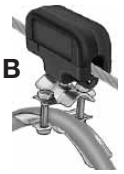



Trolleys are nylon with a nylon wheel and a steel clamp.

	For Cable/Hose	For Wire Rope Dia.	Cap., lbs.		
A	Round 0.5″-1″ OD	¼″-⅜″	25	3288T14	$22.28
B	Round 0.95″-1.25″ OD	3⁄16″-⅜″	15	3298T42	16.99
C	Flat	3⁄16″-⅜″	15	3298T43	24.53

For Channel Travel



Trolleys are steel with steel wheels and a plastic clamp.

For Round Cable/Hose OD	*For Channel Size* Wd.	Ht.	Cap., lbs.		
0.4″-0.63″	1¼″	1 3⁄16″	30	3358T81	$31.45
0.67″-0.98″	1¼″	1 3⁄16″	30	3358T82	33.51
1.02″-1.42″	1¼″	1 3⁄16″	30	3358T84	41.13

For Beam Travel



For use with flat as well as tapered beams. All have nylon wheels. The trolley *for round cable and hose* is steel and has a steel clamp; the trolley *for flat cable and hose* is nylon with an aluminum clamp.

For Cable/Hose	*For Beam Wd.* Min.	Max.	Cap., lbs.		
Round 0.5″-1.5″ OD	2½″	5″	35	3301T16	$53.94
Flat	—	4½″	55	3301T21	90.43

Long-Arm Lifting Tongs



Also known as die-lifting tongs, these are good for lifting tall objects and for reaching into machinery. Apply tension to the lifting eye and the scissor-action grip firmly grabs your material. Tongs are made of steel. Meet ANSI/ASME B.30.20.

Cap., lbs.	*For Max. Object Size* Wd.	Thick.	*Closed Size* Ht.	Wd.	Lifting Eye Dia.		
2,000	20″	7″	29″	30″	4″	22735T31	$908.48
2,500	28″	9½″	39″	40½″	5″	22735T32	1,077.87
3,000	38″	10¾″	47½″	52″	6″	22735T33	1,324.49

Beam-Lifting Tongs



Apply tension to the lifting eye and the scissor-action grip firmly grabs flat as well as tapered beams. Tongs are made of steel and have a hold-open latch for loading and releasing. Meet ANSI/ASME B30.20.

Cap., lbs.	*For Max. Beam* Wd.	Thick.	*Closed Size* Ht.	Wd.	Lifting Eye Dia.		
2,000	10″	1″	25″	7½″	4″	3367T1	$490.71
3,000	5″	⅝″	14″	6½″	4″	3367T6	357.86
6,000	8″	1″	21″	9½″	4″	3367T3	651.43

Warning: Never use to lift people or items over people.

Wire-Rope-Travel Hoist Cable Trolley Systems

Also known as festoon kits, these systems keep your hoist's cable or hose tangle-free and out of the way. They consist of a series of small trolleys that travel on the included wire rope, carrying your cable or hose along with them. Because these systems mount to the side of your crane, they require minimal structural support. Round cable, air hose, and flat cable are sold separately. Please see page 844 for round cable, page 839 for flat cable, and pages 264-270 for air hose.

Trolley systems include nylon trolleys, wire rope, rope brackets, a cable/hose bracket, and a tow bracket.

Additional parts can be used to expand a trolley system or build your own trolley system.

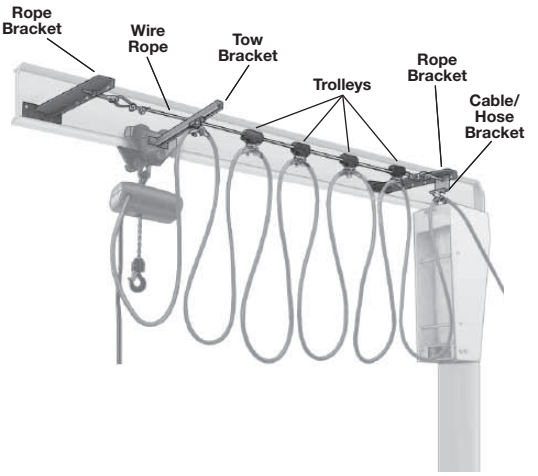

For 0.6″-0.94″ OD Round Cable/Air Hose

Minimum required cable/hose length is based on 6 ft. of cable or hose between trolleys plus an additional 7½ ft. at each end.

Max. Travel Lg., ft.	O'all Lg., ft.	Min. Required Cable/Hose Lg., ft.	Cap., lbs.		
Trolley Systems					
22	25	43	60	3298T11	$366.66
35	39	64	105	3298T12	410.90
50	56	85	150	3298T13	459.57
65	72	106	195	3298T14	505.69
Additional Parts					
Trolley				3298T41	16.25
Wire Rope Bracket				3298T51	62.26
Cable/Hose Bracket				3298T44	34.96
Tow Bracket				3298T52	45.64
Tow Clamp				3298T47	28.77

For Other Round Cable/Air Hose Sizes

For 0.95″-1.25″ OD Cable/Hose	
Trolley Systems (22-, 35-, 50-, or 65-ft. Max. Travel Lg.)	3298T1
Additional Parts (Trolleys, Brackets, Clamps)	3298T3
For Flat Cable	
Trolley Systems (24-, 39-, or 54-ft. Max. Travel Lg.)	3298T2
Additional Parts (Trolleys, Brackets, Clamps)	3298T4

Channel-Travel Hoist Cable Trolley Systems

Also known as festoon kits, these systems keep your hoist's cable or hose tangle-free and out of the way. They include a series of small trolleys that travel along steel channel so they are stronger and run straighter than wire-rope-travel systems and are better for high speeds. Round cable, air hose, and flat cable are sold separately. Please see page 844 for round cable, page 839 for flat cable, and pages 264-270 for air hose.

Trolley systems include steel trolleys, a tow trolley, steel channel, cable/hose bracket, and end stops.

Additional parts can be used to expand a trolley system or build your own trolley system.

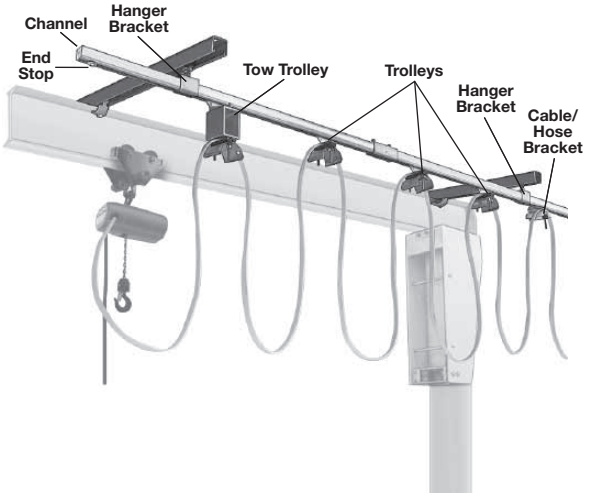

For Flat Cable

Minimum required cable/hose length is based on 6 ft. of cable or hose between trolleys plus an additional 7½ ft. at each end.

Max. Travel Lg., ft.	O'all Lg., ft.	Min. Required Cable/Hose Lg., ft.	Cap., lbs.		
Trolley Systems					
18	20	52	120	3358T71	$237.02
37	40	74	280	3358T72	388.96
46	50	85	360	3358T73	466.34
75	80	119	600	3358T74	706.84
Additional Parts					
Trolley				3358T85	13.93
Tow Trolley				3358T89	20.36
10-ft. Channel				3358T35	20.46
Cable/Hose Bracket				3358T34	16.60
Joint Bracket				3358T36	10.76
Anchor Bracket				3358T38	7.74
Hanger Bracket				3358T37	5.85
End Stop				3358T39	3.71

For Round Cable/Air Hose

For 0.4″-0.63″ OD Cable/Hose	
Trolley Systems (18-, 37-, 46-, or 75-ft. Max. Travel Lg.)	3358T1
Additional Parts (Trolleys, Channel, Brackets)	3358T4
For 0.67″-0.98″ OD Cable/Hose	
Trolley Systems (18-, 37-, 46-, or 75-ft. Max. Travel Lg.)	3358T2
Additional Parts (Trolleys, Channel, Brackets)	3358T5
For 1.02″-1.42″ OD Cable/Hose	
Trolley Systems (18-, 37-, 46-, or 75-ft. Max. Travel Lg.)	3358T3
Additional Parts (Trolleys, Channel, Brackets)	3358T6

Warning: ***Never use to lift people or items over people.***

Gantry Cranes

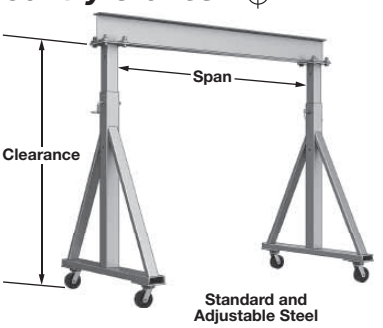

Standard and Adjustable Steel


Adjustable Aluminum


Easy-Store Adjustable

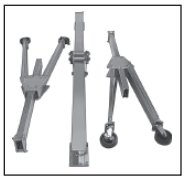
Disassembled

These cranes can be rolled into your work area for infrequent lifts and then rolled away to free up space. They have four swivel casters. Meet CMAA standards.

Standard—Wheels are polyurethane.

Adjustable—Adjust the vertical clearance and horizontal span to suit your needs. *Aluminum* cranes are lightweight. Clearance adjusts in 6″ increments. Casters have brakes and polyurethane wheels. *Yellow-painted steel* cranes adjust vertically in 12″ increments. Legs pivot for maneuverability in tight places and wheels are steel, except 3110T22 and 3110T23 have legs that do not pivot and their wheels are phenolic.

Easy-Store Adjustable—Cranes can be quickly broken down into three pieces for convenient transport and storage. Clearance adjusts in 6″ increments. Cranes include a trolley that slides along the beam. The trolley has a mounting slot to hang your lifting device. It is 1½″ Ht. × 15⁄16″ Wd. for 1,000-lb. capacity cranes, 1⅞″ Ht. × 1 3⁄16″ Wd. for 2,000-lb. cranes, and 2″ Ht. × 1 7⁄16″ Wd. for 4,000-lb. cranes. Casters have brakes and phenolic wheels. Meet ANSI/ASME B30.11.

Cap., lbs.	Clearance	Span	Overall Lg.	Overall Wd.	Beam Wd.	Beam Ht.		
Standard—Steel								
2,000	10′	10′	12′	5′4″	3⅜″	6″	**3110T52**	$1,530.00
4,000	10′	10′	12′	5′4″	4″	8″	**3110T53**	1,911.18
Adjustable—Aluminum								
2,000	8′-10′	4′-6′	8′	5′1″	3⅜″	6″	**3763T11**	3,337.09
2,000	8′-10′	6′-10′	12′	5′1″	4″	8″	**3763T12**	3,808.36
4,000	8′-10′	4′-6′	8′	4′11″	4″	8″	**3763T31**	4,658.18
4,000	8′-10′	6′-10′	12′	4′11″	5″	12″	**3763T33**	6,340.36
Adjustable—Yellow-Painted Steel								
2,000	5′-7′	4′-10′	11′6″	4′	4″	8″	**3110T22**	1,629.03
2,000	6′-9′	4′-10′	11′6″	5′	4″	8″	**3110T23**	1,654.84
2,000	7′-10′	6′-10′	11′6″	5′6″	3⅜″	6″	**3110T24**	2,047.96
2,000	8′-12′	7′-10′	11′6″	6′6″	3⅜″	6″	**3110T25**	2,343.54
2,000	9′-14′	8′-10′	11′6″	7′6″	3⅜″	6″	**3110T26**	2,525.78
Adjustable—Yellow-Painted Steel (Cont.)								
4,000	7′-9′	5′-10′	11′6″	5′	4″	8″	**3110T33**	$2,399.70
4,000	7′-10′	6′-10′	11′6″	5′6″	4″	8″	**3110T34**	2,586.17
4,000	9′-14′	8′-10′	11′6″	7′6″	4″	8″	**3110T36**	2,849.97
6,000	7′-10′	6′-9′	11′6″	5′6″	4⅝″	10″	**3110T44**	3,430.35
6,000	9′-14′	8′-9′	11′6″	7′6″	4⅝″	10″	**3110T46**	3,814.10
10,000	9′-14′	8′-9′	11′6″	7′6″	5″	12″	**3110T63**	4,716.42
Easy-Store Adjustable—Aluminum								
1,000	6′-9′	7′	8′	4′8″	3¼″	5″	**3775T61**	2,641.29
1,000	7′-10′	11′	12′	4′8″	4″	8″	**3775T62**	3,529.55
2,000	6′-9′	6′8″	8′	4′7″	4″	8″	**3775T63**	3,159.94
2,000	7′-10′	10′8″	12′	4′7″	4″	8″	**3775T64**	3,822.90
4,000	6′-9′	6′7″	8′	4′7″	5″	12″	**3775T65**	4,301.65
4,000	7′-10′	10′7″	12′	4′7″	5″	12″	**3775T66**	6,365.63

Hydraulic Cranes

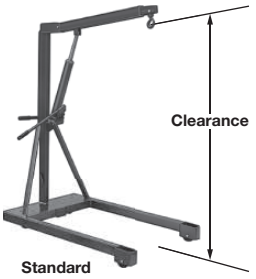

Standard


Easy Store


Shown Folded


Close Lift

Also known as engine cranes, a hydraulic hand pump raises and lowers the arm (boom) to lift items without the need for a hoist. Cranes are steel and have a steel latching hook that swivels. The hook opening is 1″.

Standard—Have two rigid and two swivel casters. Cranes meet ASME PASE specifications.

Easy Store—Fold these cranes for convenient transport and storage. Cranes have three rigid and two swivel casters. Meet ASME PASE specifications.

Close Lift—With no legs in front, these cranes let you lift close to your load. Cranes have two rigid and two swivel casters. Meet ANSI Z535 and ASME PALD-12.

Repair kits contain hydraulic components subject to wear such as O-rings, gaskets, and seals.

Arm Lg.	Cap., lbs. Retracted Arm	Cap., lbs. Extended Arm	Overall Lg.	Overall Wd.	Overall Ht.	Clearance	Wheel Material	Cranes		Repair Kits	
Standard											
41″	500	—	4′5″	2′7″	4′8″	1′10″-7′7″	Phenolic	**3237T31**	$2,009.68	**3237T11**	$77.42
47″-59″	1,000	450	4′6″	2′11″	6′	2′1″-9′9″	Phenolic	**3237T32**	2,114.92	**3237T11**	77.42
54″-95″	2,000	300	5′10″	2′10″	6′4″	7″-8′10″	Phenolic	**3237T33**	3,424.19	**3237T11**	77.42
58″-88″	3,000	500	6′7″	2′11″	6′7″	2′10″-9′11″	Steel	**3237T34**	3,674.19	**3237T11**	77.42
Easy Store											
41″-66″	1,000	450	5′1″	4′	5′11″	1′2″-9′5″	Phenolic	**3733T35**	4,250.79	_____	_____
54″-95″	2,000	300	6′6″	4′3″	6′3″	8″-10′8″	Phenolic	**3733T36**	5,131.75	_____	_____
Close Lift											
44″-62″	500	350	7′6″	2′7″	4′11″	9″-8′8″	Phenolic	**3255T51**	2,185.48	**3237T61**	63.19
44″-62″	1,000	600	8′8″	2′7″	5′7″	6″-8′8″	Phenolic	**3255T52**	3,343.55	**3255T71**	71.53
52″-91″	2,000	1,000	10′4″	2′7″	6′4″	8″-11′6″	Iron	**3255T55**	4,998.39	**3237T62**	83.09
52″-91″	2,000	1,000	10′4″	2′7″	6′4″	8″-11′6″	Phenolic	**3255T53**	4,829.03	**3237T62**	83.09

***Warning:* Never use to lift people or items over people.**

Lift Helper Cranes

Designed for small jobs such as lifting jigs and dies in tight work spaces. Cranes have a hand winch and an automatic brake that holds your load securely when the handle is released. Cranes are yellow powder-coated steel, and have a steel roller chain and a steel latching hook that swivels. The hook opening is 3/4". Meet ANSI/ASME B30.16.

Tabletop- and **floor-mount** cranes rotate 360°.

Mobile crane can be disassembled for convenient transport and storage. It rotates 30° and has two rigid and two swivel casters. Wheels are plastic. Distance between legs is 28".



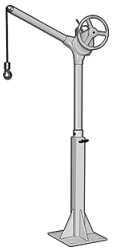

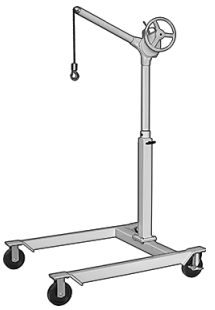

Arm Lg.	Cap., lbs.	Lift Lg., ft.	Tabletop Mount O'all Ht.			Floor Mount O'all Ht.			Mobile O'all Ht.		
21"	500	6	3'6"	3276T94	$878.91	5'4"	3276T98	$1,113.28	6'1"	3276T99	$1,611.33
Additional Bases			—	3276T93	164.06	—	3276T95	439.45	—	3276T96	1,025.39

Hand-Winch Cranes

Also known as davit cranes, these lift objects out of holes such as sewers. An automatic brake holds your load securely when the handle is released.

Floor Mount and **Wall Mount—**Cranes rotate 360°.

Mobile—Cranes have two rigid and two swivel casters. Wheels are rubber and steel. *Fixed-arm* cranes are for openings up to 2 ft. in diameter. *Adjustable-arm* cranes are for openings up to 3 ft. in diameter.

Steel cranes have a galvanized steel wire rope and a steel latching hook that swivels. Hook opening is 7/8". *Powder-coated steel* cranes offer some corrosion resistance. *Galvanized steel* cranes have more corrosion resistance than powder-coated steel.

Stainless steel cranes have the most corrosion resistance. They have a stainless steel wire rope and latching hook. Hook opening is 11/16" for fixed-arm cranes; 3/4" for adjustable-arm cranes.

Also Available: 15" extension bases for cranes with adjustable arm lengths. Please ask for 3276T888 and specify the McMaster-Carr part number of your crane.

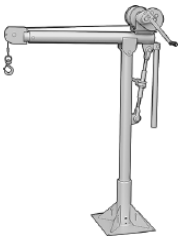

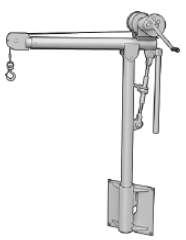

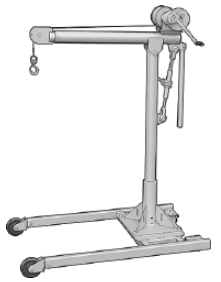

Arm Lg.	Cap., lbs. Retracted Arm	Cap., lbs. Extended Arm	Lift Lg., ft.	Floor Mount O'all Ht.			Wall Mount O'all Ht.			Mobile O'all Ht.		
Fixed Arm												
Powder-Coated Steel												
42"	500	—	11	4'4"	3276T101	$831.19	4'4"	3276T114	$947.43	4'9"	3276T127	$1,292.31
42"	500	—	35	4'4"	3276T102	856.38	4'4"	3276T115	972.63	4'9"	3276T128	1,317.50
Galvanized Steel												
42"	500	—	11	4'4"	3276T107	919.33	4'4"	3276T121	1,055.94	4'9"	3276T134	1,360.13
42"	500	—	35	4'4"	3276T108	944.53	4'4"	3276T122	1,081.13	4'9"	3276T135	1,385.31
Stainless Steel												
42"	500	—	11	4'4"	32525T75	2,004.34	4'4"	32525T82	2,164.19	4'9"	32525T88	2,330.81
42"	500	—	35	4'4"	32525T76	2,033.41	4'4"	32525T83	2,193.25	4'9"	32525T89	2,359.88
Adjustable Arm												
Powder-Coated Steel												
36"-66"	1,000	500	23	4'10"	3276T103	1,757.31	5'2"	3276T116	1,813.50	5'7"	3276T129	2,691.19
36"-66"	1,000	500	47	4'10"	3276T104	1,784.44	5'2"	3276T117	1,840.63	5'7"	3276T131	2,718.31
46"-82"	2,000	1,100	21	5'3"	3276T206	2,618.53	5'4"	3276T219	2,680.53	5'10"	3276T233	3,821.72
46"-82"	2,000	1,100	45	5'3"	3276T205	2,645.66	5'4"	3276T218	2,707.66	5'10"	3276T232	3,973.00
Galvanized Steel												
36"-66"	1,000	500	23	4'10"	3276T109	1,982.06	5'2"	3276T123	2,046.00	5'7"	3276T136	2,853.94
36"-66"	1,000	500	47	4'10"	3276T111	2,009.19	5'2"	3276T124	2,073.13	5'7"	3276T137	2,881.06
46"-82"	2,000	1,100	21	5'3"	3276T213	2,992.47	5'4"	3276T226	3,058.34	5'10"	3276T239	4,118.16
46"-82"	2,000	1,100	45	5'3"	3276T212	3,019.60	5'4"	3276T225	3,085.47	5'10"	3276T238	4,145.28
Stainless Steel												
36"-66"	1,000	500	23	4'10"	32525T77	3,787.81	5'2"	32525T84	3,822.69	5'7"	32525T91	4,421.38
36"-66"	1,000	500	47	4'10"	32525T78	3,868.22	5'2"	32525T85	3,903.09	5'7"	32525T92	4,501.78
46"-82"	2,000	1,100	21	5'3"	32525T281	6,120.56	5'4"	32525T287	6,230.03	5'10"	32525T294	6,863.59
46"-82"	2,000	1,100	45	5'3"	32525T279	6,196.13	5'4"	32525T286	6,305.59	5'10"	32525T293	6,939.16

Pallet Lifters

Use these lifters with a hoist as an alternative to forklifts to lift items on pallets. Forks slip under pallets and remain balanced whether the pallets are full or empty. Lifters are steel with a yellow-painted finish. They have built-in guiding handles. Lifters conform to ASME B30.20.

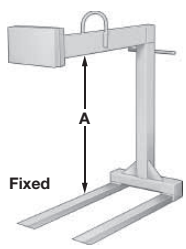

Cap., lbs.	O'all Ht.	O'all Wd.	Clearance (A)	Fork Inside Spread	Fork Lg.	Inside Hook Wd.		
Fixed								
2,000	62"	25"	48"	21"	48"	6"	3645T16	$1,523.47
4,000	63"	25"	48"	17"	48"	6"	3645T23	2,119.00
6,000	66"	27"	48"	18"	48"	6 1/8"	3645T26	2,945.33
Adjustable								
4,000	62"-86"	41"	40"-64"	9"-28"	43"	3"	3645T27	2,349.75

Column-Mount Rotating Cranes

Designed to save valuable floor space, these cranes mount to structural columns. Also known as jib cranes, the beam accommodates most trolleys. Use ASTM A325 structural bolts (not included, see page 3176) to mount cranes to columns that are able to support the thrust force of the cranes under load. Cranes are yellow-painted steel and have beam stops to limit trolley travel.

With 200° Rotation

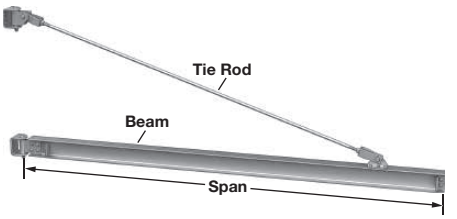

Cranes are supported by a steel tie rod to handle high amounts of thrust force.

Cap., lbs.	Thrust/Pull Force, lbs.	Overall Ht.	Beam Wd.	Beam Ht.		
8-ft. Span						
1,000	3,930	3′4″	4″	6¼″	3245T41	$930.65
2,000	7,710	3′4″	4″	6¼″	3245T71	930.65
10-ft. Span						
1,000	4,550	3′7″	4″	6¼″	3245T42	975.81
2,000	8,880	3′7″	4″	6¼″	3245T72	975.81
12-ft. Span						
1,000	4,400	4′4″	4″	6¼″	3245T76	1,022.58
2,000	8,560	4′4″	4″	6¼″	3245T87	1,022.58
14-ft. Span						
1,000	4,320	5′1″	4″	6¼″	3245T77	1,067.74
2,000	8,420	5′1″	5¼″	8¼″	3245T88	1,153.04
4,000	16,580	5′3″	5¼″	8¼″	3245T98	1,485.48
20-ft. Span						
1,000	4,560	7′1″	5¼″	8¼″	3245T78	1,329.03
2,000	8,650	7′1″	5¾″	10½″	3245T99	1,579.03
4,000	16,980	7′3″	6½″	12½″	3245T96	1,996.77
Other spans (up to 30 ft.) and capacities (up to 10,000 lbs.)					3245T999	
Replacement Parts for 1,000- and 2,000-lb. Capacity Cranes						
Beam and Rod Mounting Bracket Set					3395T11	505.62
Tie Rod—Please specify crane span (8-20 ft.).					3395T1	220.00

With 180° Rotation

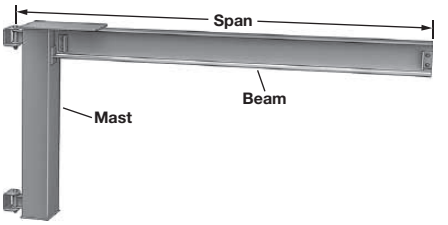

Cranes consist of a beam in an L-shaped design that maximizes overhead space.

Cap., lbs.	Thrust/Pull Force, lbs.	Overall Ht.	Beam Wd.	Beam Ht.		
8-ft. Span						
500	1,290	4′9″	4″	6¼″	3729T65	$935.48
1,000	2,430	4′9″	5¼″	8¼″	3729T66	987.10
2,000	4,740	4′9″	5¼″	8¼″	3729T67	987.10
10-ft. Span						
500	1,680	4′9″	4″	6¼″	3729T75	969.35
1,000	3,080	4′9″	5¼″	8¼″	3729T76	1,032.26
2,000	5,000	5′9″	5¾″	10½″	3729T77	1,619.35
12-ft. Span						
500	2,090	4′9″	4″	6¼″	3729T87	1,003.23
1,000	3,730	4′9″	5¼″	8¼″	3729T88	1,075.81
2,000	6,040	5′9″	5¾″	10½″	3729T89	1,675.81
4,000	15,000	4′11″	6½″	12½″	3729T86	1,983.87
14-ft. Span						
1,000	4,750	4′9″	5¼″	8¼″	3729T96	1,120.97
2,000	7,080	5′9″	5¾″	10½″	3729T97	1,730.65
20-ft. Span						
1,000	5,350	6′9″	6½″	12½″	3729T54	2,201.61
Other spans (up to 20 ft.) and capacities (up to 10,000 lbs.)					3729T999	
Replacement Parts for 500- to 2,000-lb. Capacity Cranes						
Mast Mounting Bracket Set					3390T11	402.75

Foundation-Mount Rotating Cranes

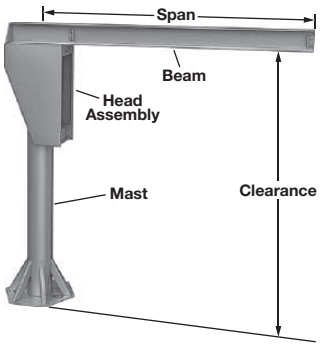

Install these cranes with anchor bolts (sold separately) set in a reinforced-concrete foundation. They rotate 360° to maximize floor space. Also known as jib cranes, they consist of a mast, head assembly, and flat beam that accommodates most trolleys. They are yellow-painted steel. Use the included base plate pattern as a template to properly set anchor bolts into the foundation.

Anchor bolts include leveling nuts and securing nuts with washers to hold the mast's base plate. They are steel.

Cap., lbs.	Overall Ht.	Clearance	Beam Wd.	Beam Ht.	For Foundation Lg.	For Foundation Wd.	For Foundation Dp.	Cranes		Anchor Bolts Lg.	Anchor Bolts Pkg. Qty.	Anchor Bolts	Anchor Bolts Pkg.
10-ft. Span													
500	10′7″	10′	4″	6¼″	4′	4′	3′	3244T71	$2,284.06	33″	6	3244T15	$195.71
1,000	10′7″	10′	4″	6¼″	4′	4′	3′	3244T72	2,334.81	33″	6	3244T15	195.71
2,000	10′9″	10′	5¼″	8¼″	5′	5′	4′	3244T73	2,888.24	42″	6	3244T16	311.43
12-ft. Span													
1,000	10′9″	10′	5¼″	8¼″	4′	4′	3′	3244T81	3,016.67	33″	6	3244T17	264.29
2,000	10′11″	10′	5¾″	10½″	6′	6′	4′	3244T82	3,128.36	42″	6	3244T16	311.43
14-ft. Span													
1,000	10′9″	10′	5¼″	8¼″	5′	5′	3′	3244T91	3,075.40	33″	6	3244T17	264.29
2,000	13′1″	12′	6½″	12½″	6′	6′	4′	3244T52	3,997.74	42″	6	3244T16	311.43
4,000	13′5″	12′	7″	16¼″	7′	7′	4′	3244T53	4,521.43	42″	12	3244T18	608.57
Other spans (from 10 ft. up to 20 ft.), capacities (up to 10,000 lbs.), and clearances (up to 20 ft.)												3244T999	

Warning: Never use to lift people or items over people.

Floor-Mount Rotating Cranes

No need to pour a special foundation—you can install these cranes on a reinforced concrete floor. Also known as jib cranes, they rotate 360° to maximize floor space and have enclosed-track beams that keep the trolley running smoothly by preventing debris from collecting on the track. The trolley has a mounting bar for your lifting device. Cranes are blue-painted steel. Use Grade 5 steel stud anchors for concrete (not included, please see pages 3350-3351) to mount cranes to a minimum 6″ deep reinforced concrete floor.

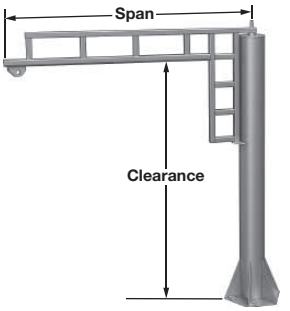

Cap., lbs.	Overall Ht.	Clearance	Trolley Eye Dia.		
6-ft. Span					
150	8′8″	8′	1″	22485T148	$1,427.59
250	11′1″	10′	1″	22485T149	1,647.94
8-ft. Span					
150	11′1″	10′	1″	22485T151	1,536.19
250	11′1″	10′	1″	22485T253	1,796.61
250	9′1″	8′	1″	22485T251	1,617.38
500	9′4″	8′	1⅛″	22485T261	1,766.03
1,000	11′4″	10′	1¼″	22485T263	2,434.49
10-ft. Span					
150	11′1″	10′	1″	22485T152	1,559.38
250	11′4″	10′	1″	22485T254	1,993.77
250	9′4″	10′	1″	22485T252	1,935.78
12-ft. Span					
500	13′7″	12′	1⅛″	22485T262	2,635.87

Workstation Cranes

Able to cover a larger work area than rotating cranes, these allow you to position your load anywhere inside the four posts. They do not require installation in a foundation—you can install them on a reinforced concrete floor. Cranes have two fixed beams, a moving beam that travels along the fixed beams, a trolley, a cable travel system, and four posts. Beams have an enclosed track that keeps the moving beam and trolley running smoothly by preventing debris from collecting on the track. The trolley has a mounting bar for your lifting device. The cable travel system includes 14-gauge flat cable and cable trolleys to carry your lifting device's power cable. Fixed beams and posts are gray-painted steel; moving beam is yellow-painted steel. Use steel stud anchors for concrete (not included, please see pages 3350-3351) to mount cranes to a minimum 6″ deep reinforced concrete floor.

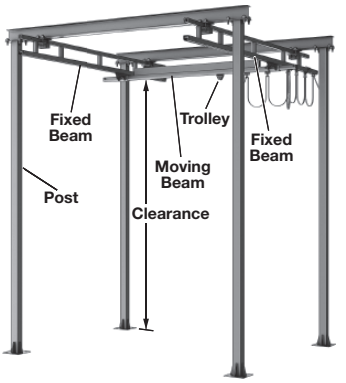

Cap., lbs.	Beam Lg. Fixed	Beam Lg. Moving	Overall Ht.	Clearance	Overall Wd.	Inside Wd.	Cable Lg.		
500	11′6″	10′	13′11″	12′	11′6″	10′4″	30′	3299T11	$4,878.25
500	23′	15′	13′11″	12′	16′6″	15′4″	49′	3299T31	6,420.82
1,000	11′6″	10′	14′3″	12′	11′6″	10′4″	30′	3299T12	5,417.75
1,000	23′	15′	14′3″	12′	16′6″	15′4″	49′	3299T32	7,244.38
2,000	11′6″	10′	14′7″	12′	11′7″	10′4″	30′	3299T13	6,741.37
2,000	23′	15′	14′9″	12′	16′7″	15′4″	49′	3299T33	8,888.55

Build-Your-Own Workstation Cranes

Create your own crane with or without posts. Mount beams to your structural ceiling supports for a post-free crane, to four posts for a traditional crane, or to a combination of ceiling supports and posts to free up some floor space. All components are orange powder-coated steel.

Beam—Each beam can be installed as either a fixed or moving beam. Beams have an enclosed track that prevents debris from collecting on the track. The trolley slides along the beam and has a 1¼″ dia. eye for mounting your lifting device. Wheels are plastic. Fasteners are included. **Connection bracket** joins fixed beams together to extend the length of your crane.

Post—Mount each post to a minimum of 4″ deep reinforced concrete floor with steel stud anchors for concrete (not included, please see pages 3350-3351).

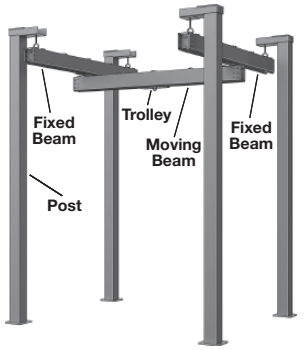

Cap., lbs.	Overall Lg.		Each
Beam			
1,000	8′	4281T51	$443.66
1,000	12′	4281T52	492.96
Connection Bracket		4281T57	73.94

Cap., lbs.	For Trolley Ht.	Overall Ht.		Each
Post				
1,000	10′	12′	4281T53	$443.66
1,000	12′	14′	4281T54	468.31
1,000	14′	16′	4281T55	492.96

Beam Trolleys

Also known as end trucks, use these trolleys with your own beams to create a crane. For example, use two trolleys to allow a beam to move along two structural beams. Trolleys are steel with iron wheels and are for use on tapered as well as flat beams. Bumpers on the trolley body protect the wheels. Fasteners are included.

Top/bottom-mount trolleys allow you to run your moving beam along either the top or bottom of your fixed beams.

Bottom-mount trolleys are used on the bottom of fixed beams.

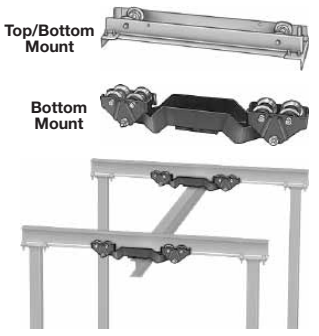

Bottom-Mount Trolleys Used with I-Beams to Create a Crane

Cap., lbs.	For Fixed Beam Wd.	For Fixed Beam Ht.	For Moving Beam Wd.	For Moving Beam Ht.	Overall Lg.		Pair
Top/Bottom Mount							
1,000	3½″-5″	6″-10″	3½″-4½″	6″-10″	4′	3247T31	$503.33
2,000	3½″-5″	6″-12″	3½″-5″	6″-10″	4′	3247T41	635.00
4,000	3½″-5¼″	6″-12″	3½″-6″	6″-18″	4′2″	3247T71	1,166.67
6,000	3½″-5¼″	6″-12″	3½″-6″	6″-18″	4′2″	3247T81	1,283.33
Bottom Mount							
4,000	3″-5¼″	5″-18″	3½″-5½″	6″-15″	4′1″	3751T1	1,652.31

Warning: Never use to lift people or items over people.

Plate-Lifting Clamps

Get a grip on metal plates when you need to lift and position them. Clamps are steel. Meet ANSI/ASME B30.20.

Vertical Lift

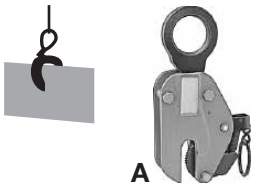

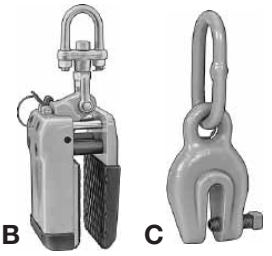

Use these clamps to raise your plate straight up from its original vertical position.

(A) Teeth Grip with Lock and Remote Release—Clamps close under their own weight; as the load increases, so does the grip. Clamps have a pull chain so you can open them remotely when they are not under load. They lock when open for easy loading and lock closed to prevent accidental release. For use with plates that have a hardness of less than Rockwell C33/300 Brinell.

(B) Nonmarring Pad Grip—Clamps close under their own weight and have pads to grip your plates without damaging them; as the load increases, so does the grip. Clamps open automatically when they are not under load so you can easily insert a new plate. They can be used with any material including plates of any hardness, composites, and stone.

(C) Screw Grip—Clamps have a screw that you manually adjust to grip and release plates. For use with plates that have a hardness of less than Rockwell C33/300 Brinell. Not for use on hardened alloy plates.

Cap., lbs.	For Plate Thickness	Opening Ht.	O'all Wd.	O'all Ht.	Lifting Eye Opening	Clamps		Replacement Grippers	
(A) Teeth Grip with Lock and Remote Release									
1,000	Up to 3/4"	2 13/16"	4 5/8"	11 1/4"	2 3/8" Dia.	3352T19	$322.73	3352T33	$126.82
2,000	Up to 3/4"	3 3/16"	5 7/8"	13 3/4"	2 5/8" Dia.	3352T21	453.41	3352T34	154.09
4,000	Up to 1"	3 1/2"	6 3/4"	16 3/8"	3 5/8" Dia.	3352T22	597.73	3352T35	215.45
(B) Nonmarring Pad Grip									
100-2,200	5/8"-2"	8 1/2"	6 3/8"	14 1/8"	1" Dia.	8804T55	533.50	8804T74	177.67
100-2,200	1 1/8"-3"	10 1/4"	7 5/8"	15 1/4"	1" Dia.	8804T56	588.19	8804T75	195.85
(C) Screw Grip									
5,000	Up to 1"	4"	5 1/2"	14 1/2"	2 1/2" x 6"	3357T1	429.04	3357T11	110.07
5,000	Up to 1 1/2"	4"	6 1/2"	14 1/2"	2 1/2" x 6"	3357T2	505.71	3357T12	119.84
5,000	Up to 2"	4"	7 1/2"	14 1/2"	2 1/2" x 6"	3357T3	598.93	3357T13	127.53
Replacement Lifting Eyes—Please specify clamp part number								8857T555	

Vertical Lift with 90° Tilt



Clamps can take a plate that is stacked horizontally and tilt it up 90° so it can be lifted in a vertical position. After lifting, clamps can place the plate back down in the original position (plate can not be flipped over). These clamps close under their own weight; as the load increases, so does the grip. For use with plates that have a hardness of less than Rockwell C43/400 Brinell.

(D) Teeth Grip with Plate-Separating Leg—Clamps have one long, pointed leg to pry stacked plates apart. They open manually.

(E) Teeth Grip with Lock and Remote Release— Clamps have a pull chain so you can open them remotely when they are not under load. They lock when open for easy loading and lock closed to prevent accidental release.

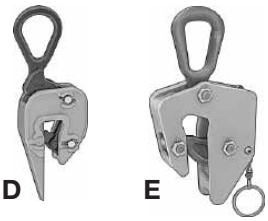

Cap., lbs.	For Plate Thickness	Opening Ht.	O'all Wd.	O'all Ht.	Lifting Eye Opening	Clamps		Replacement Grippers	
(D) Teeth Grip with Plate-Separating Leg									
1,100	1/16"-5/8"	2 3/16"	4"	11 13/16"	2" x 2 3/4"	8857T62	$532.34	8857T26	$105.66
2,200	1/16"-3/4"	3 1/16"	4 3/4"	14"	2 1/16" x 3 1/16"	8857T63	749.36	8857T27	144.75
(E) Teeth Grip with Lock and Remote Release									
6,600	1/16"-1 1/4"	4 3/8"	7 1/4"	14 3/8"	2" x 3 1/2"	8857T14	971.13	8857T51	431.62
11,000	1/16"-1 1/2"	5"	8 7/8"	16"	2 1/2" x 3 1/2"	8857T15	1,610.80	8857T52	558.39
Replacement Lifting Eyes—Please specify clamp part number								8857T555	

Vertical Lift with 180° Flip

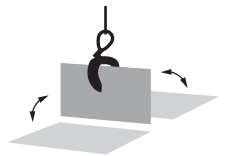

Take a plate that is stacked horizontally, lift it vertically, and then place it down horizontally on its other side. Clamps *with lock* allow for easy loading when open and prevent accidental release when closed.

Teeth grip and *nonmarring pad grip* clamps close under their own weight to grip your load; as the load increases, so does the grip.

(F) Teeth Grip—For use with plates that have a hardness of less than Rockwell C43/400 Brinell.

(G) Teeth Grip for Odd Shapes—Clamps are designed for securely gripping oddly shaped items. For use with plates that have a hardness of less than Rockwell C43/400 Brinell.

(H) Teeth Grip with Sling—Clamps come with a two-leg chain sling to make it easier to lift large or flexible plates. 8857T21 has a 20 3/4" long sling; 8857T22 has a 30" long sling. For use with plates that have a hardness of less than Rockwell C43/400 Brinell.

(J) Teeth Grip with Lock—For use with plates that have a hardness of less than Rockwell C45/420 Brinell.

(K) Compact Teeth Grip with Lock—For use with plates that have a hardness of less than Rockwell C37/345 Brinell.

(L) Teeth Grip with Lock and Pivoting Eye—The lifting eye pivots to allow lifting angles up to 45° without reducing the capacity. The eye adjusts to accommodate unbalanced loads. For use with plates that have a hardness of less than Rockwell C37/345 Brinell.

(M) Nonmarring Pad Grip with Lock and Pivoting Eye—Clamps have pads to grip your plates without damaging them. The lifting eye pivots to allow lifting angles up to 15° without reducing the capacity. The eye adjusts to accommodate unbalanced loads. They can be used with any material including plates of any hardness, composites, and stone.

(N) Screw Grip—Clamps have a screw that you manually adjust to grip and release plates. For use with plates that have a hardness of less than Rockwell C43/400 Brinell. Not for use on hardened alloy plates.

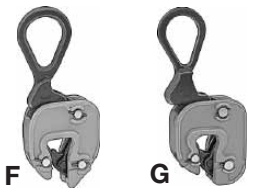

Cap., lbs.	For Plate Thickness	Opening Ht.	O'all Wd.	O'all Ht.	Lifting Eye Opening	Clamps		Replacement Grippers	
(F) Teeth Grip									
1,100	1/16"-5/8"	2 3/16"	4"	9 1/2"	2" x 2 3/4"	8857T32	$338.00	8857T26	$105.66
2,200	1/16"-3/4"	3 1/16"	4 3/4"	11 1/4"	2 1/16" x 3 1/16"	8857T33	480.07	8857T27	144.75
6,600	1/16"-1"	3 9/16"	6"	14"	3" x 3 13/16"	8857T35	835.94	8857T28	198.62
(G) Teeth Grip for Odd Shapes									
1,100	1/16"-5/8"	2 1/8"	4"	9 1/2"	2" x 2 5/8"	8857T18	405.74	8857T26	105.66
2,200	1/16"-3/4"	2 5/8"	4 3/4"	11 5/16"	2 1/16" x 3 1/16"	8857T58	576.07	8857T27	144.75
6,600	1/16"-1"	3 7/16"	6"	15 1/16"	3" x 3 13/16"	8857T59	835.93	8857T28	198.62

(Continued on following page)

Warning: *Never use to lift people or items over people.*

Plate-Lifting Clamps *(Continued from previous page)*

Vertical Lift with 180° Flip

Cap., lbs.	For Plate Thickness	Opening Ht.	O'all Wd.	O'all Ht.	Lifting Eye Opening	Clamps		Replacement Grippers	
(H) Teeth Grip with Sling									
1,100	1/16"-5/8"	2 7/8"	4"	7 1/2"	3"x6"	8857T21	$858.67	8857T26	$105.66
2,200	1/16"-3/4"	3 5/8"	4 3/4"	9 1/4"	3"x6"	8857T22	1,071.59	8857T27	144.75
(J) Teeth Grip with Lock									
1,000	Up to 1 3/8"	2 3/4"	5 7/8"	12"	2 1/4" Dia.	8845T57	315.00	8845T308	104.36
2,000	Up to 1 3/8"	2 3/4"	5 7/8"	12"	2 1/4" Dia.	8845T56	427.42	8845T308	104.36
4,000	Up to 1 5/8"	4 1/8"	8 3/8"	16 1/4"	3" Dia.	8845T55	556.82	8845T334	157.82
8,000	Up to 2 1/8"	4 5/8"	10"	18"	3 1/2" Dia.	8845T58	846.36	8845T335	234.18
(K) Compact Teeth Grip with Lock									
2,200	Up to 3/4"	1 3/4"	5"	8 1/2"	1 3/16" Dia.	8845T72	412.74	8845T506	168.85
4,400	Up to 1 3/8"	3 1/16"	7 1/2"	13 1/4"	2 3/4" Dia.	8845T73	581.83	8845T515	210.71
(L) Teeth Grip with Lock and Pivoting Eye									
2,200	Up to 3/4"	1 3/4"	5"	8 3/4"	1 9/16" Dia.	8845T74	523.60	8845T506	168.85
(M) Nonmarring Pad Grip with Lock and Pivoting Eye									
1,100	Up to 3/8"	3 1/4"	5"	10"	1 9/16" Dia.	8804T51	779.20	8845T372	434.83
2,200	Up to 3/4"	4 5/16"	7 1/4"	12 1/8"	1 3/16" Dia.	8804T52	967.55	8845T371	563.71
(N) Screw Grip									
2,200	1/16"-1"	2 1/4"	5 3/8"	7 7/8"	1 3/4"x2 7/8"	3700T11	470.45	3700T36	152.33
6,600	1/16"-2"	3 3/4"	7 7/8"	10 5/8"	1 7/8"x3 3/8"	3700T12	926.89	3700T37	326.85
13,200	1/16"-3"	4 1/2"	10"	14 3/8"	3 3/8"x4 1/2"	3700T14	1,691.93	3700T38	592.07
Replacement Lifting Eyes—Please specify clamp part number								8857T555	

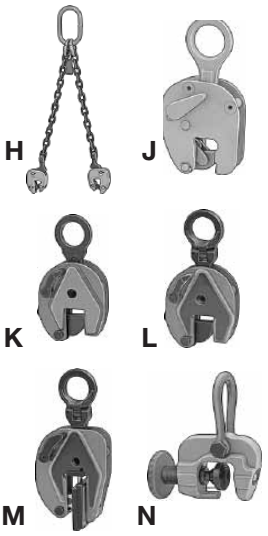

Horizontal Lift

Use in pairs with a two-leg sling (not included) to transfer metal plates in a horizontal position. Unlike other plate-lifting clamps, these can pick up multiple plates at the same time. For use with plates that have a hardness of less than Rockwell C45/420 Brinell.

(P) Teeth Grip—Clamps close under their own weight to grip your load; as the load increases, so does the grip.

(Q) Teeth Grip with Lock—Clamps lock when open for easy loading and lock closed to prevent accidental release.



Cap., lbs. (per pair)	For Plate Thickness	Opening Wd.	O'all Wd.	O'all Ht.	Lifting Eye Opening		Pair
(P) Teeth Grip							
50-1,000	Up to 1"	4"	5 3/4"	6 1/8"	1 1/2" Dia.	8955T2	$228.03
100-2,000	Up to 2"	5 3/8"	8 3/8"	10 1/4"	1 1/2" Dia.	8955T3	361.93
150-3,000	Up to 2"	5 3/8"	8 3/8"	10 1/4"	1 1/2" Dia.	8955T4	432.44
300-6,000	Up to 2"	5 3/8"	8 3/8"	10 3/8"	1 1/2" Dia.	8955T5	478.07
800-16,000	Up to 3"	6 1/2"	9 3/4"	13 5/8"	2 1/4" Dia.	8955T6	852.26
(Q) Teeth Grip with Lock							
200-4,000	Up to 1"	4 3/4"	7 7/8"	10 1/4"	2" Dia.	8955T81	665.26
400-8,000	Up to 1 1/2"	6 1/4"	9 3/8"	14 1/2"	2 1/2" Dia.	8955T82	879.85
600-12,000	Up to 1 1/2"	6 1/4"	9 3/8"	14 1/2"	2 1/2" Dia.	8955T83	1,030.07
800-16,000	Up to 2"	7"	10 3/4"	18 1/8"	2 3/4" Dia.	8955T84	1,394.89
Replacement Lifting Eyes—Please specify clamp part number							8857T555

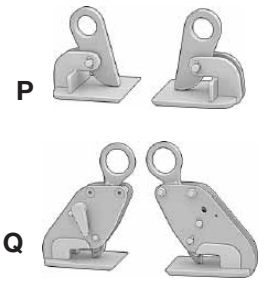

Lifting Beams

Also known as spreader beams, these beams adjust to stabilize long or unbalanced loads when lifting. All are steel with a yellow painted finish and are marked with capacity. Meet ANSI/ASME B30.20.

With Shackles—Shackles and lifting eye have screw pins to adjust every 3" for the 250-lb. capacity beam, 4" for the 500-lb. capacity beam, and 6" for the 1,000-lb. capacity beam.

With Latching Hooks—Hooks are adjustable.

With Brackets—Brackets and lifting eye are adjustable every 2".

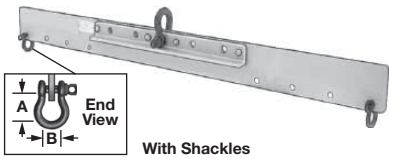

With Shackles

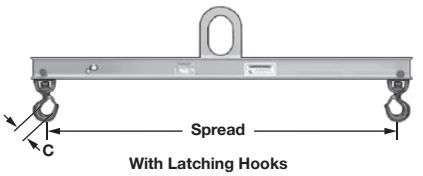

With Latching Hooks

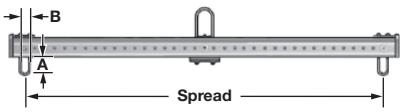

With Brackets

Cap., lbs.	Spread	*Lifting Eye Opening* Lg.	Wd.	O'all Ht.	(A)	(B)	(C)		
With Shackles									
250	18"-36"	1 1/2"	1"	5 1/8"	1"	3/4"	—	37615T21	$222.08
500	22"-46"	1 3/4"	1 1/4"	5 3/4"	1 1/2"	1"	—	37615T22	303.78
1,000	36"-72"	1 3/4"	1 1/4"	6 7/8"	1 1/2"	1"	—	37615T23	343.44
With Latching Hooks									
2,000	36", 48"	5"	3"	12 3/4"	—	—	7/8"	3657T11	733.57
2,000	48", 60", 72"	5"	3"	13 3/4"	—	—	7/8"	3657T12	759.16
4,000	36", 48"	5"	3"	13 3/4"	—	—	7/8"	3657T21	844.15
4,000	48", 60", 72"	5"	3"	14 3/4"	—	—	7/8"	3657T22	878.66
With Brackets									
2,500	12"-72"	4 3/4"	2 1/2"	12"	3"	1 1/2"	—	3977T11	645.61
4,000	12"-72"	5 3/4"	3"	15"	4"	2"	—	3977T12	693.91
8,000	16"-96"	7 3/4"	4"	22"	6"	3"	—	3977T13	1,032.68
10,000	16"-120"	9 3/4"	5"	26"	6"	3"	—	3977T14	1,429.15

Warning: *Never use to life people or items over people.*

Plate-Lifting Clamps & Lifting Magnets

Light Duty Plate-Lifting Clamps



Lift metal plates that weigh up to 500 lbs. and have a hardness of less than Rockwell C43/400 Brinell. Clamps close under their own weight; as the load increases, so does the grip. They open automatically when they are not under load so you can easily insert a new plate. Clamps are made of steel and are for vertical lifting only.

Style A—Use the handle to lift metal plates by hand.

Style B—Has a 1½″ Lg.×1″ Wd. eye for lifting.

	Cap., lbs.	For Max. Thick.	Opening Ht.	Overall Wd.	Overall Ht.		
A	500	5/16″	1 7/8″	4″	6″	**3359T14**	$212.71
B	500	5/16″	1 7/8″	3 3/4″	8″	**3359T15**	242.81

Coil-Lifting Hooks



These hooks have a pivoting tip to lift and move bulky, hard-to-maneuver coils of wire from a horizontal to a vertical position. They are made of steel with a yellow painted finish. Meet ANSI/ASME B30.20.

Cap., lbs.	Lifting Eye Opening Lg.	Lifting Eye Opening Wd.	Coil Size Max. Wd.	Coil Size Max. Radius	Coil Size Min. ID		
1,000	3 1/4″	2″	6″	13″	9″	**3595T14**	$890.84
2,000	3 1/4″	2″	8″	16″	10″	**3595T17**	898.76
4,000	4″	2 5/8″	10″	18″	12 1/2″	**3595T18**	1,089.87

Industrial Battery Lifters



Lift forklift batteries and other large, heavy batteries. Beams are made of lightweight, nonconductive fiberglass and have acid-resistant polyester straps.

Cap., lbs.	For Battery Lg.	Lifting Eye Opening Lg.	Lifting Eye Opening Wd.			
4,800	30″-42″	38″	6″	3″	**70605K43**	$731.40
7,000	30″-42″	38″	5 1/2″	2 3/4″	**70605K44**	834.08

Pry-Off Lifting Magnets

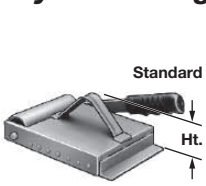



Also known as permanent lifting magnets, these magnets hold your load until you pull the lever and pry off the magnet. They have a lifting eye for attaching a hook or sling. Housing and lifting eye are stainless steel. Maximum operating temperature is 260° F.

Nonmarring roller release prevents scraping and gouging your load as it is released. Magnets meet ANSI/ASME B30.20.

Note: Capacities listed are based on lifting flat metal that has a clean, smooth surface. If used on dirty, oily, thin, or curved surfaces, the capacities will be reduced.

Cap., lbs. 1/16″ Thick Material	Cap., lbs. 1/4″ Thick Material	Cap., lbs. 1″ Thick Material	Cap., lbs. 2″ Thick Material	Max. Lg., ft. 1/16″ Thick Material	Max. Lg., ft. 1/4″ Thick Material	Max. Lg., ft. 1″ Thick Material	Max. Lg., ft. 2″ Thick Material	O'all Size Lg.	O'all Size Wd.	O'all Size Ht.	Lifting Eye Opening		
Standard													
100	500	1,000	____	3	4	6	___	9 1/2″	6 1/2″	3 1/4″	1 3/4″	**3750T41**	$582.35
150	750	1,500	____	4	6	8	___	13 3/4″	6 1/4″	5″	3 3/8″	**3750T42**	676.47
250	1,250	2,500	____	5	8	12	___	16 1/4″	6 1/4″	6 1/4″	3 3/4″	**3750T43**	1,340.19
Nonmarring Roller Release													
___	300	400	400	_	6	10	10	7 3/4″	7 1/4″	6 3/4″	2 7/8″	**3292T71**	390.58
___	300	1,000	1,000	_	6	10	10	10 3/4″	7 1/4″	6 3/4″	2 7/8″	**3292T72**	532.61
___	300	1,500	1,500	_	6	10	10	14 3/4″	7 1/4″	6 3/4″	2 7/8″	**3292T73**	695.65
___	1,100	3,000	3,000	_	6	10	10	19 1/4″	10 1/2″	7″	2 7/8″	**3292T74**	1,382.01

Switch-Off Lifting Magnets



Manual





Manual with Vertical Lift



Remote

No need to pry these permanent lifting magnets off your load—an on/off switch makes it easy to separate loads. Also known as permanent lifting magnets. They have a lifting eye for attaching a hook or sling. Housing and lifting eye are steel, unless noted. Maximum operating temperature is 180° F. Meet ANSI/ASME B30.20.

Manual On/Off Control—Use the on/off handle to engage the magnet. The handle locks in both the on and off positions to prevent accidental release.

Magnets *with vertical lift* are for horizontal and vertical lifting. 3384T83 has a pivoting lifting eye for both horizontal and vertical lifting. 3384T54 has an extra detachable eye that mounts on the side to lift loads vertically.

Remote On/Off Control—With the help of a battery and a remote control, this magnet remotely turns on and off with the push of a button. If the battery loses power, the magnet will stay in the on position until you use the secondary manual release. Rechargeable batteries and charger are included.

Note: Capacities listed are based on lifting flat, rigid metal that has a clean, smooth surface. If used on dirty, oily, thin, or curved surfaces, the capacities will be reduced. Do not use on metal that flexes.

Cap., lbs. 1/4″ Thick Material	Cap., lbs. 1/2″ Thick Material	Cap., lbs. 1″ Thick Material	Cap., lbs. 2″ Thick Material	Max. Lg., ft. 1/4″ Thick Material	Max. Lg., ft. 1/2″ Thick Material	Max. Lg., ft. 1″ Thick Material	Max. Lg., ft. 2″ Thick Material	O'all Size Lg.	O'all Size Wd.	O'all Size Ht.	Lifting Eye Opening		
Manual On/Off Control													
180	250	250	250	6	8	10	10	4 1/2″	2 1/2″	5″	1 3/8″	**3384T79**	$276.60
270	600	800	800	6	8	10	10	7 3/4″	3 1/2″	8 3/4″	2 3/8″	**3384T75**	574.47
___	800	1,600	1,600	_	8	10	10	10 3/4″	4 3/4″	8 3/4″	3 1/2″	**3384T76**	957.45
___	___	1,450	2,500	_	_	10	10	12 1/2″	7″	8 3/4″	4 3/4″	**3384T77**	1,861.70
Manual On/Off Control with Vertical Lift													
260	500	600	600	6	8	10	10	9 1/2″	4 1/2″	6 1/2″	2 1/8″	**3384T54**■	1,397.74
270	334	334	334	6	8	10	10	6 1/2″	4″	9 1/4″	2 1/2″	**3384T83**★	704.55
Remote On/Off Control													
360	550	600	600	6	8	10	10	8 1/2″	4″	13″	2 1/4″	**3530T22**	1,272.73

■ 150 lb. vertical cap. for 1″ thick material. ★ 50 lb. vertical cap. for 1″ thick material. Eye is stainless steel.

Warning: Never use to lift people or items over people.

Hand-Held Magnetic Pullers

Slide steel plates and blocks at least 1/8" thick off a stack then push the handle to release materials. Made of aluminum.



Cap., lbs.	Overall Lg.	Wd.	Ht.		
250	6 1/4"	7 1/4"	9 1/2"	7421A32	$188.27
600	6 1/4"	7 1/4"	9 1/2"	7421A34	259.55

Hand-Held Magnetic Lifters

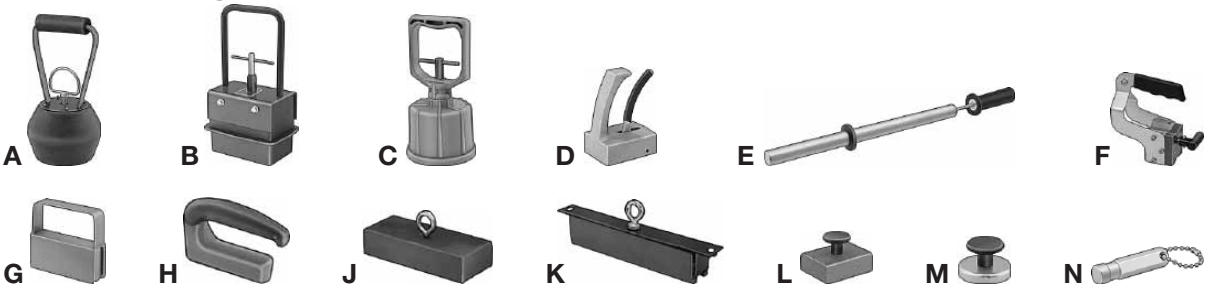

Easily grab iron and steel fasteners, small sheets, and other parts from work areas, bins, and hard-to-reach places.

Style H has an easy-grip handle and includes slide-on shields to cover the magnet when not in use.

Styles J and **K** have a lifting eye for attaching a hook, rope, or chain to lower magnets into hard-to-reach spaces. Eye diameter is 5/8" for Style J; 1/2" for Style K.

Styles L and **M** are also known as blueprint holders.

	Cap., lbs.	Overall Lg.	Wd.	Ht.	Material		
Pull-Lever Release							
A	4	3 1/2" Dia.	—	8"	Plastic	5839A35	$31.91
A	4	3 1/2" Dia.	—	28"	Plastic	5839A37	36.17
B	2	4 3/4"	1 3/4"	9 1/4"	Plastic	5839A11	62.55
B	2	4 3/4"	1 3/4"	9 1/4"	Stainless Steel	5839A21	104.69
B	2	4 3/4"	1 3/4"	32 1/2"	Plastic	5839A31	94.79
B	4	4 3/4"	3 1/4"	9 1/4"	Plastic	5839A12	103.54
B	6	6 1/4"	4 3/4"	9 1/4"	Plastic	5839A13	170.62
C	9	4 1/2" Dia.	—	9"	Plastic	56725A21	81.97
C	9	4 1/2" Dia.	—	19 3/4"	Plastic	56725A22	116.00
D	100	3 1/2"	2 1/2"	5"	Aluminum	57865A55	117.36
Pull-Bar Release							
E	8	1" Dia.	—	15"	Steel	4495A11	61.62
E	8	1" Dia.	—	36"	Steel	4495A12	110.50
On/Off Switch Release							
F	60	6"	2"	5"	Steel	5839A48	108.00
F	100	7 1/2"	3 3/8"	7 3/4"	Steel	5839A49	230.00

	Cap., lbs.	Overall Lg.	Wd.	Ht.	Material		
Manual Pry Release							
G	80	4 1/2"	1 1/4"	3 3/4"	Steel	5839A41	$114.93
H	100	5 1/4"	1"	3 1/2"	Plastic	55025A51	11.81
J	100	2"	2"	2 1/2"	Steel	55025A23	16.06
J	150	5"	2"	2 1/2"	Steel	55025A24	20.41
J	225	5"	2"	3 1/2"	Steel	55025A27	41.23
K	100	6"	3/4"	2 1/4"	Steel	55025A38	12.66
L	20	2 1/2"	2 1/2"	1 1/2"	Steel	83475A42	9.31
L	35	2"	2 3/4"	1 1/2"	Steel	83475A11	5.57
L	40	2 1/2"	2 1/2"	1 1/2"	Steel	83475A43	15.55
L	45	3"	3 1/4"	1 1/2"	Steel	83475A12	5.93
M	16	1 1/2" Dia.	—	1"	Steel	83475A21	4.26
M	65	2 3/4" Dia.	—	1 1/2"	Steel	83475A13	7.08
N	5	1/2"	1/2"	2 5/16"	Aluminum	54945A41	12.13
N	7	3/4"	3/4"	2 1/2"	Aluminum	54945A42	19.04

Magnetic Sheet Metal Separators



Separate stacked steel sheets without prying, scratching, or bending them. These stainless steel separators have a magnet which causes your stacked sheets to fan out. When you remove the top sheet, the next sheet automatically moves up. Separators have two nonmagnetic bars to keep plates moving freely. Maximum temperature is 400° F.

How to Select a Separator—Using the chart below, locate the sheet width and thickness you're working with to determine the style and number of separators you'll need. Note: The chart is approximate and you may need to add more separators.

Sheet Wd.	Sheet Thickness 20-26 ga. Style (Qty.)	12-18 ga. Style (Qty.)	7-10 ga. Style (Qty.)	1/4" Style (Qty.)
6"	A (2)	B (2)	C (1)	C (1)
12"	A (1)	B (1)	C (2)	C (2)
18" to 24"	A (2)	B (2)	C (2)	C (4)
36" to 48"	A (2)	B (2)	C (3)	C (4)

Style	Max. Stack Ht.	O'all Size Lg.	Wd.	Ht.		
A	6 1/2"	3 1/8"	4 1/4"	7 3/8"	5864K12	$190.00
A	9 1/2"	3 1/8"	4 1/4"	10 3/8"	5864K13	220.37
A	15 1/2"	3 1/8"	4 1/4"	16 3/8"	5864K14	320.00
B	10"	4 5/8"	6 1/4"	11"	5864K15	313.33
C	12"	5 1/2"	8 1/4"	13"	5864K28	498.33

Push-Button Pen-Sized Small Parts Lifters



Press the button on this lifter to create a vacuum to pick up and release small, delicate parts. Use on smooth, nonporous, flat surfaces. The body is aluminum and has a storage compartment to hold extra tips (includes one straight tip with a 1/4" dia. cup and three angled tips with 1/8", 1/4", and 3/8" dia. cups). All tips are metal with conductive (10^4 ohms/sq.) silicone rubber cups. It can lift up to 2 oz. using the tip with the 3/8" dia. cup.

Replacement tips with **silicone rubber** cups are conductive (10^4 ohms/sq.) and have a maximum temperature of 445° F; **rubber** cups are antistatic (10^{11} ohms/sq.) and have a maximum temperature of 250° F.

Lifter

Cup Material	Cup Color	Overall Lg.	Max. Temp.		
Silicone Rubber	Black	5 3/4"	445° F	3718A11	$71.25

Replacement Tips with Cups

Cup Dia.	Choose a Cup Material	Straight Tips		Angled Tips	
1/8"	Silicone Rubber, Rubber	3718A21	$5.28	3718A31	$5.28
1/4"	Silicone Rubber, Rubber	3718A22	5.28	3718A32	5.28
3/8"	Silicone Rubber, Rubber	3718A23	5.28	3718A33	5.28

Warning: Never use to lift people or items over people.

Suction-Cup Lifters

Push-to-Grip—Horizontal Lifting Only


A


B


C


D


E


F


G


H


J

Push down to create a vacuum and grip your items. Use on smooth, nonporous surfaces. Lifters are for flat or curved surfaces, except the lifter with a vinyl plastic cup is for flat surfaces only. Max. temperature is 200°F for lifters with rubber cups, 125°F for the vinyl plastic cup, and 445°F for the silicone rubber cup. Cups are black, except the silicone rubber cup is red.

Style E—Handle is aluminum.

Style F—Have two cups that are 3½″ center-to-center for 5717A16; 6″ for 5717A21 and 5717A22. Handle is aluminum.

Style G—Handle is steel.

	Release Method	Cap., lbs.	Cup Dia.	Cup Material		
A	Pull Tab	4	2¼″	Rubber	**8547A14**	$1.22
A	Pull Tab	6	2⅝″	Rubber	**8547A11**	2.20
B	Pull Tab	10	3¼″	Rubber	**8547A12**	2.87
B	Pull Tab	25	4¾″	Vinyl Plastic	**56595A41**	8.00
C	Pull Tab	15	3¼″	Rubber	**8547A13**	8.98
D	Push Button	3	2⅛″	Rubber	**8547A21**	24.00
D	Push Button	10	3¼″	Rubber	**7387A41**	26.00
D	Push Button	10	3¼″	Silicone Rubber	**7387A11**	31.79
E	Pull Bar	15	3″	Rubber	**5762A18**	32.45
E	Pull Bar	25	4″	Rubber	**5762A22**	34.61
E	Pull Bar	35	5″	Rubber	**5762A25**	36.67
F	Pull Bar	30	3″	Rubber	**5717A16**	42.45

Style H—Have two cups that are 3¼″ center-to-center. Handle is steel.

Style J—Allows two people to carry metal, glass, and plastic sheets with one lifter. They have two cups that are 19¾″ center-to-center. Handle is aluminum.

Holder mounts to a wall and holds Styles E and F lifters for quick access. It is orange plastic, 14″ Ht.×9″ Wd., and includes mounting fasteners.

Note: Capacities are for horizontal lifting. Not recommended for vertical lifting.

	Release Method	Cap., lbs.	Cup Dia.	Reach	Cup Material		
F	Pull Bar	50	4″	—	Rubber	**5717A21**	$41.86
F	Pull Bar	75	5″	—	Rubber	**5717A22**	46.96
G	Push Button	3	2⅛″	15″	Rubber	**5795A2**	36.08
G	Push Button	3	2⅛″	18″	Rubber	**5795A14**	39.41
G	Push Button	5	3¼″	15″	Rubber	**5795A23**	37.94
G	Push Button	5	3¼″	18″	Rubber	**5795A25**	41.18
G	Push Button	6	4″	15″	Rubber	**5795A24**	41.67
G	Push Button	6	4″	18″	Rubber	**5795A26**	45.88
H	Push Button	6	2⅛″	15″	Rubber	**5795A1**	57.84
H	Push Button	6	2⅛″	18″	Rubber	**5795A13**	59.80
J	Pull Ring	50	4″	31″	Rubber	**5793A11**	88.24
J	Pull Ring	75	5″	31″	Rubber	**5793A12**	91.18
Holder for Styles E and F						**5717A7**	39.22

Pump-to-Grip—Horizontal and Vertical Lifting


K


L


M


N


P


Q

A built-in pump generates more suction for lifting and holding heavier items than push-grip lifters. An indicator on the pump lets you know when you have suction loss. Use on smooth, nonporous surfaces. Lifters are for flat or curved surfaces, except Style K are for flat surfaces only. Lifters have a pull tab to release materials, except Style K have a release valve. Cups are black rubber. Maximum temperature is 120°F.

Style M has a 180° pivoting handle for lifting flexibility.

Style N has a 180° pivoting tie-down ring instead of a handle to secure loads with a rope, chain, or cord.

Note: Capacities are for both horizontal and vertical lifting.

	Cap., lbs.	Cup Dia.	Handle Material		
K	125	8″	Brass	**53615A13**	$113.81
K	125	8″	Plastic	**53615A14**	74.51
L	70	6″	Aluminum	**53615A11**	60.52
M	70	6″	Stainless Steel	**53615A12**	64.03
N	70	6″	Stainless Steel	**53615A34**	63.93
P	70	6″	Brass	**53615A31**	74.85
Q	15	3″	Plastic	**53615A19**	46.09
Q	40	3″×6″	Aluminum	**53615A15**	61.53

Lock-to-Grip—Vertical Lifting Only


R&S


T


U

For a strong, continuous grip, these lifters have levers to lock them in place. Flip the levers back to release the suction. Use on smooth, nonporous, flat surfaces. Cups are black rubber. Maximum temperature is 100°F.

Style U has swiveling cups for mounting flexibility.

Replacement cup kit includes a cup, a lever, and a spring.

Holder mounts to a wall for quick access. It is orange plastic, 14″ Ht.×9″ Wd., and includes mounting fasteners.

Note: Capacities are for vertical lifting. Not recommended for horizontal lifting.

	Cap., lbs.	*Cup* Dia.	*Cup* Ctr.-to-Ctr.	Overall Lg.	Handle Material		
R	130	4¾″	8 3/16″	13″	Aluminum	**5535A83**	$53.92
S	130	4¾″	8 13/16″	13 3/4″	Plastic	**5535A84**	39.22
T	220	4¾″	8 3/16″	13″	Aluminum	**5608A91**	82.75
U	95	4¾″	10½″	15½″	Plastic	**5535A82**	55.56
Replacement Cup Kits for Styles R, T, and U						**5535A93**	13.69
Replacement Cup Kits for Style S						**5608A71**	11.37
Holder						**5717A7**	39.22

Squeeze-Bulb Pen-Sized Small Parts Lifters



Squeeze and release the finger-size bulb to create a vacuum; squeeze the bulb again to release. Use on smooth, nonporous, flat surfaces. They have a rubber body and metal tips. A plastic box holds the lifter and extra tips.

Rubber Cups—You'll get five straight tips with 3/32″, 1/8″, 1/4″, 3/8″, and 1/2″ dia. cups and two angled tips with 1/8″ and 1/4″ dia. cups. Cups are static dissipative (10^8 ohms/sq.).

Silicone Rubber Cups—You'll get five straight tips with 3/32″, 1/8″, 3/16″, 1/4″, and 3/8″ dia. cups and two angled tips with 1/8″ and 3/16″ dia. cups.

Cup Material	Color	Max. Temp.	Overall Lg.		
Rubber	Black	240°F	3¾″	**54195A49**	$32.85
Silicone Rubber	Clear	100°F	3″	**54195A52**	67.49

Electric Pen-Sized Small Parts Lifters



This lifter uses a quiet continuous-vacuum system and fingertip control to pick up and release small, delicate parts. It can lift up to 1/2 lb. at 5″ Hg. Press the button on the probe to release suction. Use on smooth, nonporous, flat surfaces. Lifter includes a 5-ft. long coiled vacuum hose and nine metal tips (four straight tips with 1/8″, 1/4″, 3/8″, and 1/2″ dia. cups; five angled tips with 3/32″, 1/8″, 3/16″, 1/4″, and 3/8″ dia. cups). It has an aluminum body and is static dissipative (10^8 ohms/sq.). It operates on 120 volts AC.

Cup Material	Color	Max. Temp.	*Overall* Lg.	Wd.	Ht.		
Rubber	Black	250°F	7¼″	2½″	3″	**5670A2**	$259.21
9-Piece Replacement Cup Kit						**5670A66**	39.10

Warning: Never use to lift items over people.

Pick-and-Place Grippers

Use these grippers with your gripping fingers to lift and move items in pick-and-place applications. Housing is aluminum. Temperature range is 20° to 140°F, except steel parallel grippers have a temperature range of -30° to 180°F.

Spring Jaw Return—Have a single air port to close the jaws and grip items from the outside. An internal spring opens the jaws to release the grip.

Forced-Air Jaw Return—Have two air ports: one to move the jaws open and another to move them closed. The jaws allow you to grip items from the outside as well as the inside.

Angular grippers allow a more secure grip on irregularly shaped loads.

Note: Choose a gripper with a holding force at least 10 times your item's weight.


Stainless Steel Parallel Gripper


Aluminum Parallel Gripper


Steel Parallel Gripper


Steel Angular Gripper

							Spring Jaw Return			Forced-Air Jaw Return			
Max. Wd.	Min. Wd.	Overall Ht.	Overall Wd.	Overall Dp.	Port Thread Size, Female	Max. Pressure, psi	External Gripping Force, lbs. @ 72.5 psi			External Gripping Force, lbs. @ 72.5 psi	Internal Gripping Force, lbs. @ 72.5 psi		
Stainless Steel Parallel Grippers													
0.598″	0.441″	2.24″	1.14″	0.65″	M3	100	1.59	6220K311	$223.18	2.47	3.82	6220K11	$223.18
0.823″	0.587″	2.65″	1.5″	0.93″	M5	100	6.06	6220K312	229.54	7.64	10.11	6220K12	229.54
1.035″	0.642″	3.34″	1.97″	1.09″	M5	100	7.41	6220K313	315.90	9.44	14.83	6220K13	315.90
Aluminum Parallel Grippers													
3.858″	2.677″	2.28″	5.04″	2.17″	M5	85	—	—	—	10.12	10.12	6743K2	383.92
5.906″	3.937″	3.19″	7.72″	2.99″	M5	85	—	—	—	29.45	29.45	6743K3	525.59
8.661″	5.906″	3.94″	10.71″	3.23″	⅛ BSPT	85	—	—	—	51.25	51.25	6743K4	687.13
Steel Parallel Grippers													
1.14″	0.97″	1.44″	1.13″	1″	10-32, M5	100	—	—	—	26	21	5791K11	425.00
2.5″	2.13″	1.4″	2″	1.5″	10-32, M5	100	—	—	—	25	30	5791K13	549.67
Steel Angular Grippers													
30°	-10°	2.06″	0.91″	0.65″	M3	85	0.9	6220K51	143.33	2.5	2.5	6220K41	143.33
30°	-10°	2.46″	1.2″	0.93″	M5	85	3.4	6220K52	149.44	7.6	7.6	6220K42	149.44
30°	-10°	3.1″	1.65″	1.09″	M5	85	6.3	6220K53	179.78	9.5	9.5	6220K43	179.78
30°	-10°	3.62″	2.05″	1.32″	M5	85	12.6	6220K54	199.74	14.6	14.6	6220K44	199.74

Create-a-Vacuum Lifters

These lifters power your vacuum cup without an installed vacuum system.

Complete Lifters

These all-in-one lifters include a rubber vacuum cup and a device to generate suction. They have an aluminum housing.

Air Powered—Also known as venturi devices, these lifters connect to any compressed air source and operate at 45 psi. Air consumption is 1 scfm. Air connection is ⅛ BSPP female. Maximum vacuum is 27″ Hg. Maximum temperature is 120°F.

Electric—Hardwire lifter to your electrical source to create a vacuum (cable sold separately below). It operates on 24 volts DC and draws 0.5 amps. Maximum vacuum is 5″ Hg. Maximum temperature is 140°F.


Air Powered


Electric

Cup Dia.	Overall Ht.	Overall Wd.	Cap., lbs. @ Max. Vacuum	Lifters		Replacement Cups	
Air Powered for Flat Surfaces							
2″	3¼″	4⅜″	21	4560A31	$194.48	4560A65	$35.69
3⅛″	2⅞″	4⅜″	55	4560A41	195.38	4560A66	37.83
Air Powered for Textured and Curved Surfaces							
3⅛″	3⅞″	4⅜″	41	4560A21	216.53	4560A64	58.82
Electric for Flat Surfaces							
1⅝″	2⅛″	1⅝″	1	4560A51	539.31	4560A67	38.44
12-ft. Connection Cable for Electric Lifter						6897K36	32.02

Air-Powered Create-a-Vacuum Fittings

Connect these fittings to your vacuum cup (not included) and compressed air source to create a vacuum generating system. Also known as venturi devices. Air connection is ¼ BSPP female. Fittings are aluminum.



Air Consumption, scfm @ 26.5″ Hg	Overall Ht.	Overall Wd.	Choose a Pipe Size		
0.42	1⅜″	1¼″	⅛ BSPP Female, ¼ BSPP Female	5293A1	$39.96
0.74	1⅜″	1¼″	⅛ BSPP Female, ¼ BSPP Female	5293A2	39.96
1.26	1⅜″	1¼″	⅛ BSPP Female, ¼ BSPP Female	5293A3	39.96

Vacuum Cup Fittings

For Height Adjustment

Use these fittings to accommodate items with variable height. Fittings have an internal spring and are also known as spring plungers. They have M5 female connections. Fittings include two ⅛ BSPP male adapters and washers.

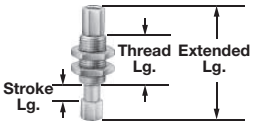

Extended Lg.	Stroke Lg.	Thread Lg.		
1⅝″	¼″	23/32″	5306A1	$47.06
1⅞″	⅜″	⅞″	5306A2	48.92
2⅞″	¾″	1 9/16″	5306A3	59.92
4⅝″	1½″	2 17/32″	5306A4	59.92

For Angle Adjustment

Able to rotate 360° and flex to 45°, these fittings help your vacuum cups grip items that are positioned at an angle. They have one male connection and one female connection with the same size NPT threads.



Pipe Size	Overall Lg.		
¼	2⅜″	6176A4	$60.36
⅜	2⅜″	6176A6	66.07

Warning: Never use to lift people or items over people.

Vacuum Cups

Use cups with a vacuum system to grip, lift, and move items.
Flat Surfaces—Lift flat items such as glass and metal sheets.
Textured and Curved Surfaces—Cups have a single bellows for lifting textured as well as curved items such as bottles and cylinders.
Varied-Height Surfaces—With multiple bellows, these cups are commonly used on a conveyor line to lift objects with differing heights, shapes, and orientations.

Standard


Flat Surfaces


Textured and Curved Surfaces


Varied-Height Surfaces

Rubber cups are abrasion resistant and have better oil resistance than vinyl cups. Color is black, except 15-, 30-, and 55- to 275-lb. capacity cups are blue. Maximum temperature is 230° F.
Vinyl plastic cups have excellent wear resistance. Color is blue. Maximum temperature is 120° F.
Cups *with UNC threads* have an additional connection with NPT threads. *80-lb. capacity cup* has a 1/8 NPT connection; *100-* and *160-lb. capacity cups* have a 1/4 NPT connection; and the *275-lb. capacity cup* has a 3/8 NPT connection.

Cap., lbs. @ 24″ Hg	Cup Dia.	Overall Ht.	Choose a Gender	Choose a Connection Size	Vacuum Cups		Replacement Cups	
Flat Surfaces—Rubber								
0.6	1/2″	1″	M, F	10-32 UNF, 1/8 NPT	5427A832	$5.03	5427A304	$2.22
2.2	7/8″	1 1/8″	M, F	10-32 UNF, 1/8 NPT	5427A834	5.42	5427A305	2.54
7	1 1/2″	1 1/2″	M, F	1/8 NPT, 1/4 NPT	5427A835	10.60	5427A307	4.56
15	2 1/2″	1 1/4″	F	1/4 NPT	54995A41	16.55		
15.1	2 1/8″	1 1/2″	M, F	1/8 NPT, 1/4 NPT	5427A837	10.86	5427A308	4.82
30	3 1/2″	1 3/8″	F	3/8 NPT	54995A42	21.75		
36.2	3″	2 1/4″	M, F	1/8 NPT, 1/4 NPT, 3/8 NPT	5427A838	18.30	5427A309	13.00
55	4 1/2″	1 5/8″	F	3/8 NPT	54995A43	21.22		
80	5 1/2″	1 5/8″	F	1/2″-13 UNC	54995A65	68.73	54995A15	37.80
100	6 5/8″	1 7/8″	F	1/2″-13 UNC	54995A35	67.36	54995A36	56.00
160	7 3/4″	1 7/8″	F	5/8″-11 UNC	54995A33	102.82	54995A34	76.70
275	9 3/4″	1 1/2″	F	3/4″-10 UNC	54995A64	128.86		
Flat Surfaces—Vinyl Plastic								
24.44	3 1/4″	1 1/4″	F	3/8 NPT	7275A57	17.54		
41.79	4 1/4″	1 1/4″	F	3/8 NPT	7275A58	19.60		
Textured and Curved Surfaces—Rubber								
0.54	1/2″	1 1/4″	M, F	10-32 UNF, 1/8 NPT	5427A819	6.25	5427A101	3.20
0.8	5/8″	1 1/4″	M, F	10-32 UNF, 1/8 NPT	5427A818	6.25	5427A102	3.35
1.1	3/4″	1 3/8″	M, F	10-32 UNF, 1/8 NPT	5427A821	6.25	5427A103	3.20
1.7	3/4″	1 1/4″	M, F	10-32 UNF, 1/8 NPT	5427A836	6.65	5427A104	3.68
1.9	1″	1 3/8″	M, F	10-32 UNF, 1/8 NPT	5427A822	6.65	5427A105	3.52
2.5	1″	1 1/2″	M, F	10-32 UNF, 1/8 NPT	5427A811	7.45	5427A106	4.16
4.3	1 3/8″	1 3/4″	M, F	1/8 NPT, 1/4 NPT	5427A823	10.22	5427A107	4.50
7	1 3/4″	1 3/4″	M, F	1/8 NPT, 1/4 NPT	5427A824	11.52	5427A108	5.80
13.3	2 1/8″	2″	M, F	1/8 NPT, 1/4 NPT	5427A825	14.76	5427A109	8.72
28	3 1/8″	2 7/8″	M, F	1/8 NPT, 1/4 NPT, 3/8 NPT	5427A826	23.44	5427A111	18.14
Varied-Height Surfaces—Rubber								
0.2	3/8″	1 1/8″	M, F	10-32 UNF, 1/8 NPT	5427A812	8.12	5427A113	3.90
0.34	3/8″	1 1/4″	M, F	10-32 UNF, 1/8 NPT	5427A813	6.65	5427A114	3.52
0.7	5/8″	1 1/2″	M, F	10-32 UNF, 1/8 NPT	5427A814	7.05	5427A115	3.84
1.37	3/4″	1 1/2″	M, F	10-32 UNF, 1/8 NPT	5427A815	7.45	5427A116	4.16
2	1″	2″	M, F	10-32 UNF, 1/8 NPT	5427A817	8.28	5427A118	4.82
3.8	1 3/8″	2 1/8″	M, F	1/8 NPT, 1/4 NPT	5427A827	11.50	5427A119	5.46
5.5	1 3/4″	2 1/2″	M, F	1/8 NPT, 1/4 NPT	5427A828	13.46	5427A301	7.42
13	2 3/8″	2 7/8″	M, F	1/8 NPT, 1/4 NPT	5427A829	15.80	5427A302	9.76
Varied-Height Surfaces—Vinyl Plastic								
17.5	2 3/4″	2 7/8″	F	3/8 NPT	7275A17	22.16		
32.53	3 3/4″	2″	F	3/8 NPT	7275A19	23.36		
46.85	4 1/2″	2 1/2″	F	3/8 NPT	7275A21	21.32		

High Temperature


Flat Surfaces


Textured and Curved Surfaces


Varied-Height Surfaces

Designed to take the heat, these clear silicone cups have a maximum temperature of 600° F.

Cap., lbs. @ 24″ Hg	Cup Dia.	Overall Ht.	Choose a Gender	Choose a Connection Size	Vacuum Cups		Replacement Cups	
Flat Surfaces								
0.6	1/2″	1″	M, F	10-32 UNF, 1/8 NPT	3766A45	$6.25	3766A46	$3.35
2.2	7/8″	1 1/8″	M, F	10-32 UNF, 1/8 NPT	3766A47	6.65	3766A48	3.68
7	1 1/2″	1 1/2″	M, F	1/8 NPT, 1/4 NPT	3766A49	11.54	3766A57	6.06
15.1	2 1/8″	1 1/2″	M, F	1/8 NPT, 1/4 NPT	3766A58	14.46	3766A59	9.12
36.2	3″	2 1/4″	M, F	1/8 NPT, 1/4 NPT, 3/8 NPT	3766A65	21.26	3766A66	16.69
Textured and Curved Surfaces								
0.54	1/2″	1 1/4″	M, F	10-32 UNF, 1/8 NPT	3766A21	8.28	3766A22	5.04
0.8	5/8″	1 1/4″	M, F	10-32 UNF, 1/8 NPT	3766A18	8.68	3766A184	5.37
1.1	3/4″	1 3/8″	M, F	10-32 UNF, 1/8 NPT	3766A23	8.68	3766A24	5.37
1.7	3/4″	1 1/4″	M, F	10-32 UNF, 1/8 NPT	3766A5	9.90	3766A1	6.39
1.9	1″	1 3/8″	M, F	10-32 UNF, 1/8 NPT	3766A25	9.90	3766A26	6.39
2.5	1″	1 1/2″	M, F	10-32 UNF, 1/8 NPT	3766A11	8.56	3766A6	7.07
4.3	1 3/8″	1 3/4″	M, F	1/8 NPT, 1/4 NPT	3766A27	13.80	3766A28	8.43
7	1 3/4″	1 3/4″	M, F	1/8 NPT, 1/4 NPT	3766A29	15.76	3766A31	10.48
13.3	2 1/8″	2″	M, F	1/8 NPT, 1/4 NPT	3766A32	19.98	3766A33	14.89
Varied-Height Surfaces								
0.15	1/4″	1 1/8″	M, F	10-32 UNF, 1/8 NPT	3766A77	8.68	3766A754	5.37
0.2	3/8″	1 1/8″	M, F	10-32 UNF, 1/8 NPT	3766A12	8.68	3766A124	5.37
0.34	3/8″	1 1/4″	M, F	10-32 UNF, 1/8 NPT	3766A13	8.28	3766A134	5.04
0.7	5/8″	1 1/2″	M, F	10-32 UNF, 1/8 NPT	3766A14	8.68	3766A144	5.37
1.37	3/4″	1 1/2″	M, F	10-32 UNF, 1/8 NPT	3766A15	9.07	3766A154	5.70
3.8	1 3/8″	2 1/8″	M, F	1/8 NPT, 1/4 NPT	3766A36	14.40	3766A37	9.05
5.5	1 3/4″	2 1/2″	M, F	1/8 NPT, 1/4 NPT	3766A38	16.40	3766A39	11.14
13	2 3/8″	2 7/8″	M, F	1/8 NPT, 1/4 NPT	3766A41	21.28	3766A42	16.25

(Continued on following page)

Warning: Never use to lift people or items over people.

Vacuum Cups *(Continued from previous page)*

Long Wear

Made of flexible, durable polyurethane, these cups will last longer than rubber cups. They are good for lifting cardboard boxes and other items with abrasive surfaces. Maximum temperature is 120° F.

Textured and Curved Surfaces—Color is blue and yellow.

Varied-Height Surfaces—Color is green and yellow.





Textured and Curved Surfaces



Varied-Height Surfaces

Cap., lbs. @ 24″ Hg	Cup Dia.	Overall Ht.	Choose a Gender	Choose a Connection Size	Vacuum Cups		Replacement Cups	
Textured and Curved Surfaces								
41.1	3 3/8″	1 3/4″	F	3/8 NPSF	6049A15	$35.28	—	—
Varied-Height Surfaces								
0.7	1/2″	1″	M	M5	6049A41	9.16	6049A31	$7.59
3.6	1″	1 1/4″	M, F	1/8 NPT, 1/8 BSPP, M5	6049A52	23.86	6049A34	18.61
5.6	1 1/2″	1 3/4″	M, F	1/4 NPT, 1/8 NPSF, 1/4 BSPP	6049A53	31.99	6049A35	25.34
15.4	2 1/8″	2 1/8″	M, F	1/4 NPT, 1/8 NPSF, 1/4 BSPP	6049A54	37.41	6049A36	29.21
29.3	3 1/8″	2 5/8″	M, F	1/8 NPSF, 3/8 NPSF, 3/8 BSPP	6049A55	52.91	6049A37	44.48

For Bagged Material

These cups have a long, flexible lip to maintain their grip even as contents shift and the bag changes shape during lifting. Cups are red silicone rubber. Maximum temperature is 390° F.





Cap., lbs. @ 18″ Hg	Cup Dia.	Overall Ht.	Choose a Gender	Choose a Connection Size	Vacuum Cups		Replacement Cups	
Varied-Height Surfaces								
0.14	7/8″	1 1/2″	M, F	1/8 NPT, 1/8 BSPP, M5	7696T21	$16.32	7696T11	$11.66
0.36	1 1/4″	2″	M	1/4 NPT, 3/8 NPT, 1/4 BSPP, 3/8 BSPP	7696T22	22.66	7696T12	16.59
0.49	1 5/8″	2 3/8″	M	1/4 NPT, 3/8 NPT, 1/4 BSPP, 3/8 BSPP	7696T23	27.13	7696T13	21.06
0.97	2″	2 7/8″	M	1/4 NPT, 3/8 NPT, 1/4 BSPP, 3/8 BSPP	7696T24	32.98	7696T14	25.48

Bend Preventing



The oval shape of this cup provides a greater surface area for gripping—good for lifting long, thin objects without bending them. It has a center vacuum connection and two outside mounting holes.

Standard cups are made of rubber for good oil and abrasion resistance. Connection is 3/8 NPT female. Mounting holes have 5/16 UNC female threads. Maximum temperature is 225° F.

Long-wear cups are made of flexible, durable polyurethane to last longer than rubber cups. They are good for lifting cardboard boxes and other items with abrasive surfaces. Connection is 3/8 NPSF female. Mounting holes are 0.12″ dia. Maximum temperature is 120° F.

	Cap., lbs. @ 24″ Hg	*Cup* Lg.	*Cup* Wd.	Overall Ht.	Flat Surfaces Cup Color			Textured and Curved Surfaces Cup Color		
Standard	105	5 1/2″	2 1/2″	1 1/4″	Black	6174A2	$36.90	Black	6174A1	$36.90
Long Wear	34.3	3 3/4″	1 1/2″	7/8″	Green	6174A42	24.85	Red	6174A41	24.85

Push-On Vacuum Cups

These cups have an unthreaded mounting hole for use with vacuum systems that have an unthreaded fitting such as a barbed fitting. Made of vinyl, cups have excellent wear resistance but low oil resistance. Color is blue. Maximum temperature is 120° F.

Style D cups have a single bellows for lifting textured and curved items as well as objects of differing heights.



A



B



C



D

	Cap., lbs. @ 24″ Hg	Cup Dia.	Overall Ht.	Mounting Hole Dia.		
Flat Surfaces						
A	1.17	3/4″	1/2″	0.18″	7275A61	$3.23
A	2.31	1″	3/8″	0.24″	7275A34	2.80
A	3.61	1 1/4″	1/2″	0.31″	7275A39	6.30
B	3.39	1 1/4″	3/4″	0.25″	7275A62	4.28
B	5.28	1 5/8″	7/8″	0.25″	7275A44	4.20
B	7.33	1 7/8″	7/8″	0.56″	7275A63	5.90
B	8.62	2″	3/4″	0.56″	7275A47	7.35
B	9.25	2″	3/4″	0.25″	7275A49	7.35
C	0.03	1/8″	1/2″	0.05″	7275A24	3.17
C	0.08	1/4″	3/8″	0.06″	7275A27	3.23
C	0.14	1/4″	1/2″	0.06″	7275A28	3.23
C	0.35	1/2″	1/2″	0.13″	7275A14	3.23
C	1.3	3/4″	1 1/4″	0.38″	7275A64	3.38
C	2.45	1 1/8″	3/4″	0.23″	7275A36	3.92
C	2.5	1 1/8″	1″	0.38″	7275A35	3.23
C	3.61	1 1/4″	1″	0.41″	7275A38	2.97
C	6.61	1 3/4″	3/4″	0.38″	7275A59	4.85
C	9.07	2″	1 1/8″	0.38″	7275A48	6.30
C	14.11	2 1/2″	2″	0.62″	7275A55	6.30
C	22.09	3 1/8″	1 3/8″	0.48″	7275A56	10.08
Textured, Curved, and Varied-Height Surfaces						
D	0.07	1/4″	1/2″	0.06″	7275A22	5.15
D	0.14	1/4″	1/2″	0.06″	7275A29	4.62
D	0.39	1/2″	5/8″	0.06″	7275A65	5.15
D	0.63	5/8″	5/8″	0.15″	7275A26	3.42
D	1.3	3/4″	3/4″	0.26″	7275A66	3.80
D	2.75	1 1/8″	7/8″	0.14″	7275A23	4.20
D	3.33	1 1/4″	7/8″	0.27″	7275A67	3.80
D	4.41	1 3/8″	1″	0.28″	7275A43	3.80

Warning: *Never use to lift people or items over people.*

About Sling Configurations and Capacity

Slings can be used in different configurations depending on the type of load you are lifting. The charts below show how capacity is impacted by different sling configurations. For example, a one-leg sling that is used vertically with a rated capacity of 2,400 lbs. will have a reduced capacity of 1,900 lbs. when used as a choker and an increased capacity of 4,800 lbs. when used as a basket.

One-Leg Slings

Lowest Capacity → Highest Capacity

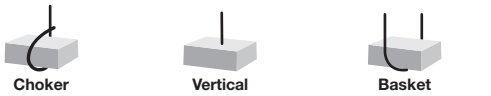

Choker
- Holds irregular or unbalanced loads securely
- Wraps around thin objects for lifting

Vertical
- Most common lift configuration
- Attaches to your load with a hook

Basket
- More stable, distributes the load evenly
- Strongest one-leg configuration

Multi-Leg Slings

Lowest Capacity → Highest Capacity



30° Angle | **45° Angle** | **60° Angle**

- Multi-leg slings provide more stability and control to the load being lifted than one-leg slings.
- The sling's lift angle affects rated lifting capacity. As the angle of the sling decreases, the sling capacity also decreases.
- 30° angle significantly reduces capacity, but can be used when you have limited vertical clearance. Slings should never be used at an angle less than 30°.

One-Leg Capacity Label—Slings are labeled with capacity in the choker, vertical, and basket configurations.

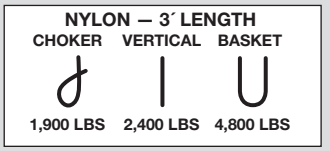

Multi-Leg Capacity Label—Slings are labeled with capacity at a 30°, 45°, and 60° angle.

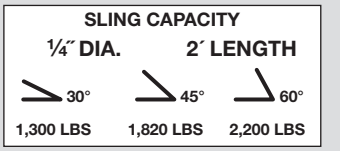

Web Slings

Lightweight and flexible, web slings are less likely than other slings to mar, scratch, or dent fragile loads. They include a tag that shows the material, length, and capacities in each configuration. Maximum temperature is 180°F. Slings meet OSHA 1910.184 and ANSI specification B30.9.

Note: Web slings are susceptible to cuts and abrasion and should not be exposed to sharp edges. They have a red warning core that becomes visible when the sling is worn and should be removed from use.

Nylon slings stretch more than polyester, minimizing shock to the load. Choose nylon when greasy conditions exist.

Polyester slings have minimal stretch to provide more control over the load. They resist most acids and have blue thread sewn through the material to distinguish them from nylon.

Flat Eye



Also known as Type 3 slings, the eyes lie in a flat position for easy removal from beneath loads.

Capacity, lbs.												
Choker	Vertical	Basket	Eye Lg.	Choose a Material		3 ft.	4 ft.	5 ft.	6 ft.	8 ft.	10 ft.	Other Lgs., ft.
1″ Web Width												
950	1,200	2,400	8½″	Nylon, Polyester	9073T631	$10.46	$11.18	$11.90	$12.62	$14.06	$15.50	3 to 20
1,200	1,500	3,000	8½″	Nylon, Polyester	3403T429	13.25	14.18	15.11	16.04	17.90	19.76	3 to 20
1,900	2,400	4,800	8½″	Nylon, Polyester	9072T631	14.42	16.04	17.66	19.28	22.52	25.76	3 to 20
2,475	3,100	6,200	10″	Nylon, Polyester	3383T429	16.15	18.35	20.55	22.75	27.15	31.55	3 to 20
4,400	5,500	11,000	10″	Nylon, Polyester	9077T1	35.13	40.03	44.93	49.83	59.63	69.43	3 to 20
2″ Web Width												
1,900	2,400	4,800	10″	Nylon, Polyester	9073T632	—	13.75	15.17	16.60	19.44	22.28	4 to 20
2,475	3,100	6,200	10″	Nylon, Polyester	3403T431	18.06	19.58	21.10	22.62	25.66	28.70	3 to 20
3,800	4,800	9,600	10″	Nylon, Polyester	9072T632	19.55	22.50	25.45	28.40	34.30	40.20	3 to 20
4,950	6,200	12,400	10″	Nylon, Polyester	3383T431	20.10	23.51	26.92	30.33	37.15	43.97	3 to 20
8,800	11,000	22,000	10″	Nylon, Polyester	9077T2	46.94	55.10	63.26	71.42	87.74	104.06	3 to 20
3″ Web Width												
2,625	3,300	6,600	11″	Nylon, Polyester	9073T11	—	30.05	32.30	34.55	39.05	43.55	4 to 20
3,750	4,700	9,400	11″	Nylon, Polyester	3403T432	28.11	30.11	32.11	34.11	38.11	42.11	3 to 20
5,275	6,600	13,200	11″	Nylon, Polyester	9072T14	—	31.81	35.65	39.49	47.17	54.85	4 to 20
7,500	9,400	18,800	12″	Nylon, Polyester	3383T432	32.78	37.38	41.98	46.58	55.78	64.98	3 to 20
13,100	16,400	32,800	12″	Nylon, Polyester	9077T3	76.29	86.63	96.97	107.31	127.99	148.67	3 to 20
4″ Web Width												
4,950	6,200	12,400	12″	Nylon, Polyester	3403T433	39.16	42.06	44.96	47.86	53.66	59.46	3 to 20
6,900	8,600	17,200	12″	Nylon, Polyester	9072T15	—	42.65	47.95	53.25	63.85	74.45	4 to 20
10,000	12,500	25,000	12″	Nylon, Polyester	3383T433	42.43	48.63	54.83	61.03	73.43	85.83	3 to 20
16,300	20,400	40,800	12″	Nylon, Polyester	9077T4	93.03	106.75	120.47	134.19	161.63	189.07	3 to 20
6″ Web Width												
7,500	9,400	18,800	14″	Nylon, Polyester	3403T434	68.25	74.21	80.17	86.13	98.05	109.97	3 to 20
15,025	18,800	37,600	14″	Nylon, Polyester	3383T434	72.22	83.53	94.84	106.15	128.77	151.39	3 to 20
24,475	30,600	61,200	14″	Nylon, Polyester	9077T5	137.42	160.70	183.98	207.26	253.82	300.38	3 to 20

(Continued on following page)

Web Slings *(Continued from previous page)*

Twisted Eye

Also known as Type 4 slings, the eyes are turned 90° so you can form a choker configuration more easily than with flat-eye slings.

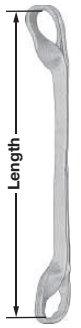

Capacity, lbs.												
Choker	Vertical	Basket	Eye Lg.	Choose a Material		3 ft.	4 ft.	5 ft.	6 ft.	8 ft.	10 ft.	Other Lgs., ft.
1″ Web Width												
1,200	1,500	3,000	10″	Nylon, Polyester	3403T529	$13.25	$14.18	$15.11	$16.04	$17.90	$19.76	3 to 20
2,475	3,100	6,200	10″	Nylon, Polyester	3383T529	16.15	18.35	20.55	22.75	27.15	31.55	3 to 20
4,400	5,500	11,000	10″	Nylon, Polyester	9077T6	35.13	40.03	44.93	49.83	59.63	69.43	3 to 20
2″ Web Width												
2,475	3,100	6,200	10″	Nylon, Polyester	3403T531	18.06	19.58	21.10	22.62	25.66	28.70	3 to 20
4,950	6,200	12,400	10″	Nylon, Polyester	3383T531	20.10	23.51	26.92	30.33	37.15	43.97	3 to 20
8,800	11,000	22,000	10″	Nylon, Polyester	9077T8	46.94	55.10	63.26	71.42	87.74	104.06	3 to 20
3″ Web Width												
2,625	3,300	6,600	11″	Nylon, Polyester	9073T14	____	30.05	32.30	34.55	39.05	43.55	4 to 20
3,750	4,700	9,400	11″	Nylon, Polyester	3403T532	28.11	30.11	32.11	34.11	38.11	42.11	3 to 20
5,275	6,600	13,200	11″	Nylon, Polyester	9072T21	____	31.81	35.65	39.49	47.17	54.85	4 to 20
7,500	9,400	18,800	12″	Nylon, Polyester	3383T532	____	32.79	37.39	41.99	51.19	60.39	4 to 20
4″ Web Width												
10,000	12,500	25,000	12″	Nylon, Polyester	3383T533	____	42.42	48.62	54.82	67.22	79.62	4 to 20
16,300	20,400	40,800	12″	Nylon, Polyester	9077T13	93.03	106.75	120.47	134.19	161.63	189.07	3 to 20

Eyeless

Also known as Type 5 and endless slings, these have a longer life span than slings with eyes because they can be rotated to change the load-bearing point.

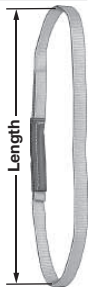

Capacity, lbs.											
Choker	Vertical	Basket	Choose a Material		3 ft.	4 ft.	5 ft.	6 ft.	8 ft.	10 ft.	Other Lgs., ft.
1″ Web Width											
2,475	3,100	6,200	Nylon, Polyester	3403T681	$14.28	$16.28	$18.28	$20.28	$24.28	$28.28	3 to 20
4,950	6,200	12,400	Nylon, Polyester	3383T681	27.68	32.05	36.42	40.79	49.53	58.27	3 to 20
8,200	10,200	20,400	Nylon, Polyester	9077T15	44.77	52.33	59.90	73.30	92.32	111.34	3 to 20
2″ Web Width											
4,950	6,200	12,400	Nylon, Polyester	3403T682	21.28	24.60	27.92	31.24	37.88	44.52	3 to 20
10,000	12,500	25,000	Nylon, Polyester	3383T682	37.10	43.42	49.74	56.06	68.70	81.34	3 to 20

Web Slings with Hooks

Securely hook these slings to a load that has lift attachments. Lightweight and flexible, web slings are less likely than other slings to mar, scratch, or dent fragile loads. They include a tag that shows the material, length, and capacities in each configuration. Made of nylon, slings are stretchy to minimize shock to the load and are good for when greasy conditions exist. Maximum temperature is 190° F. Meet OSHA standard 1910.184 and ANSI specification B30.9.

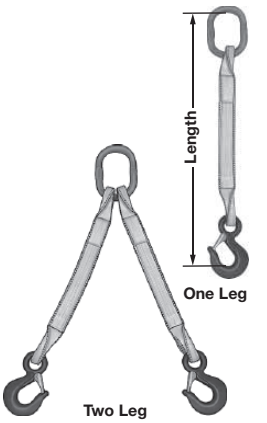

Capacity, lbs.											
Web Wd.	at 30°	at 45°	at 60°	Vertical	Hook Opening		3 ft.	6 ft.	8 ft.	10 ft.	Other Lgs., ft.
One Leg											
1″	____	____	____	3,200	7⁄8″	8864T51	$89.87	$94.76	$98.02	$101.28	3 to 20
2″	____	____	____	6,400	1 3⁄8″	8864T52	146.84	155.60	161.44	167.28	3 to 20
Two Leg											
1″	3,200	4,500	5,525	____	7⁄8″	8864T53	131.62	140.74	146.82	152.90	3 to 20
2″	6,400	9,050	11,075	____	1 3⁄8″	8864T57	252.51	267.81	278.01	288.21	3 to 20
Three Leg											
1″	4,800	6,800	8,300	____	7⁄8″	8864T58	188.76	202.80	212.16	221.52	3 to 20
2″	9,600	13,500	16,600	____	1 3⁄8″	8864T59	366.71	389.63	404.91	420.19	3 to 20
Four Leg											
1″	6,400	9,050	11,075	____	7⁄8″	8864T82	278.96	296.48	308.16	319.84	3 to 20
2″	12,800	18,100	22,175	____	1 3⁄8″	8864T84	507.35	537.92	558.30	578.68	3 to 20

Web Sling Protectors

Increase the life of your slings by positioning these protectors over areas prone to wear. Wrap the protector around your sling and secure with the hook-and-loop closure. Maximum temperature is 190° F.



For Web Wd.	Overall Size Lg.	Wd.	Thick.		
1″	12″	3″	½″	3339T1	$13.29
2″	12″	4″	½″	3339T2	15.45
4″	12″	6″	½″	3339T3	21.79

Warning: Never use to lift people or items over people.

Wear-Resistant Web Slings

More wear and abrasion resistant than other slings, these tough slings are reinforced for extreme environments. They include a tag that shows the material, length, and capacities in each configuration. Maximum temperature is 190° F. Meet OSHA standard 1910.184 and ANSI specification B30.9.

With Plastic-Coated Edges—Slings have plastic-coated fibers woven into the edges for added abrasion resistance.

With Nylon Outer Layer—Thick, abrasion-resistant nylon fibers are woven into the outer layer of the webbing for extra protection.

With Cordura Outer Strips—Also known as Cordura-reinforced, these slings have a layer of ultra-abrasion-resistant nylon strips sewn on each side.

Nylon slings stretch more than polyester, minimizing shock to the load. Choose nylon when greasy conditions exist. **Polyester** slings have minimal stretch to provide more control over the load. They resist most acids and have blue thread sewn through the material to distinguish them from nylon.

Flat Eye



With Cordura Outer Strips

Also known as Type 3 slings, the eyes lie in a flat position for easy removal from beneath loads.

Capacity, lbs.												
Choker	Vertical	Basket	Choose a Material	Eye Lg.		3 ft.	4 ft.	5 ft.	6 ft.	8 ft.	10 ft.	Other Lgs., ft.
With Plastic-Coated Edges												
1″ Web Width												
1,250	1,600	3,200	Nylon, Polyester	8½″	33625T121	$16.26	$18.64	$21.02	$23.40	$28.16	$32.92	2 to 20
2,550	3,200	6,400	Nylon, Polyester	8½″	3360T73	16.81	19.41	22.01	24.61	29.81	35.01	2 to 20
4,950	6,200	12,400	Nylon, Polyester	10″	3468T126	33.51	39.73	45.95	52.17	64.61	77.05	3 to 20
2″ Web Width												
2,550	3,200	6,400	Nylon, Polyester	10″	33625T74	20.17	23.41	26.65	29.89	36.37	42.85	2 to 20
5,100	6,400	12,800	Nylon, Polyester	10″	3360T76	23.31	26.89	30.47	34.05	41.21	48.37	2 to 20
9,900	12,400	24,800	Nylon, Polyester	12″	3468T127	41.50	51.34	61.18	71.02	90.70	110.38	3 to 20
With Cordura Outer Strips												
2″ Web Width												
3,675	4,600	9,200	Nylon	10″	8964T555	17.70	23.73	29.76	35.79	47.85	59.91	3 to 20
6,150	7,700	15,400	Nylon	10″	8964T557	31.42	40.10	48.78	57.46	74.82	92.18	3 to 20

Twisted Eye

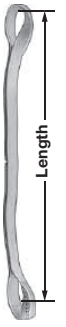

With Nylon Outer Layer

Also known as Type 4 slings, the eyes are turned 90° so you can form a choker configuration more easily than with flat-eye slings.

Capacity, lbs.												
Choker	Vertical	Basket	Choose a Material	Eye Lg.		3 ft.	4 ft.	5 ft.	6 ft.	8 ft.	10 ft.	Other Lgs., ft.
With Plastic-Coated Edges												
1″ Web Width												
1,250	1,600	3,200	Nylon, Polyester	8½″	33625T551	$16.26	$18.64	$21.02	$23.40	$28.16	$32.92	2 to 20
2,550	3,200	6,400	Nylon, Polyester	8½″	3360T53	16.81	19.41	22.01	24.61	29.81	35.01	2 to 20
4,950	6,200	12,400	Nylon, Polyester	10″	3468T131	33.51	39.73	45.95	52.17	64.61	77.05	3 to 20
2″ Web Width												
2,550	3,200	6,400	Nylon, Polyester	10″	33625T46	20.17	23.41	26.65	29.89	36.37	42.85	2 to 20
5,100	6,400	12,800	Nylon, Polyester	10″	3360T57	23.31	26.89	30.47	34.05	41.21	48.37	2 to 20
9,900	12,400	24,800	Nylon, Polyester	12″	3468T132	41.50	51.34	61.18	71.02	90.70	110.38	3 to 20
With Nylon Outer Layer												
1″ Web Width												
800	1,000	2,000	Nylon	10″	3056T41	16.80	17.84	18.88	19.92	22.00	24.08	3 to 20
1,600	2,000	4,000	Nylon	10″	3056T51	24.80	26.70	28.60	30.50	34.30	38.10	3 to 20
With Cordura Outer Strips												
2″ Web Width												
3,675	4,600	9,200	Nylon	10″	8964T551	17.70	23.73	29.76	35.79	47.85	59.91	3 to 20
6,150	7,700	15,400	Nylon	10″	8964T553	31.42	40.10	48.78	57.46	74.82	92.18	3 to 20

Eyeless

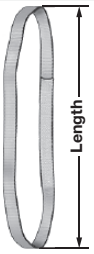

With Plastic-Coated Edges

Also known as Type 5 and endless slings, these have a longer life span than slings with eyes because they can be rotated to change the load-bearing point.

Capacity, lbs.											
Choker	Vertical	Basket	Choose a Material		3 ft.	4 ft.	5 ft.	6 ft.	8 ft.	10 ft.	Other Lgs., ft.
With Plastic-Coated Edges											
1″ Web Width											
2,500	3,200	6,400	Nylon, Polyester	33625T541	$15.37	$18.54	$21.71	$24.88	$31.22	$37.56	2 to 20
4,900	6,200	12,400	Nylon, Polyester	3360T28	37.28	43.21	49.14	55.07	66.93	78.79	2 to 20
2″ Web Width											
5,000	6,400	12,800	Nylon, Polyester	33625T17	21.71	26.40	31.09	35.78	45.16	54.54	2 to 20
9,800	12,200	24,400	Nylon, Polyester	3360T35	51.74	61.58	71.42	81.26	100.94	120.62	2 to 20

Extra-Wide Basket Slings



Also known as cargo slings, these wide slings give you extra stability and balance when lifting your bulkiest loads. Their eyes are reversible to allow both sides to wear equally, and they include a tag that shows the material, length, and capacity. Maximum temperature is 190° F. Meet OSHA 1910.184 and ANSI specification B30.9.

Nylon slings stretch more than polyester, minimizing shock to the load. Choose nylon when greasy conditions exist.

Polyester slings have minimal stretch to provide more control over the load. They resist most acids and have blue thread sewn through the material to distinguish them from nylon.

Web Wd.	Capacity, lbs. (Basket)	Eye Lg.	Choose a Material		6 ft.	8 ft.	10 ft.	12 ft.	Other Lgs., ft.
6″	6,000	9″	Nylon, Polyester	8937T44	$61.07	$70.43	$79.79	$89.15	6 to 20
12″	6,000	18″	Nylon, Polyester	8937T45	104.52	128.20	151.88	175.56	6 to 20
16″	10,000	24″	Nylon, Polyester	8937T46	119.90	155.44	190.98	226.52	6 to 20
24″	10,000	24″	Nylon, Polyester	8937T47	156.00	206.54	257.08	307.62	6 to 20

Warning: Never use to lift people or items over people.

For information about sling configurations and capacity, see page 1536.

Web Slings with Choker Fittings

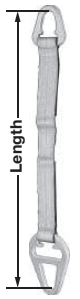

Designed for use in the choker configuration, the end fittings keep these slings correctly positioned during use. They include a tag that shows the material, length, and capacities in each configuration. Maximum temperature is 180° F. Meet OSHA standard 1910.184 and ANSI specification B30.9. End fittings are steel.

Wear Resistant—Slings have plastic-coated fibers woven into the edges for added abrasion resistance.

Nylon slings stretch more than polyester, minimizing shock to the load. Choose nylon when greasy conditions exist.

Polyester slings have minimal stretch to provide more control over the load. They resist most acids and have blue thread sewn through the material to distinguish them from nylon.

Capacity, lbs.			Eye										
Choker	Vertical	Basket	Lg.	Wd.	Choose a Material		3 ft.	4 ft.	5 ft.	6 ft.	8 ft.	10 ft.	Other Lgs., ft.
Standard													
2″ Web Width													
2,475	3,100	6,200	2¼″	1½″	Nylon, Polyester	3403T331	$79.70	$81.56	$83.42	$85.28	$89.00	$92.72	3 to 20
4,950	6,200	12,400	2¼″	1½″	Nylon, Polyester	3383T329	81.30	84.58	87.86	91.14	97.70	104.26	3 to 20
3″ Web Width													
3,750	4,700	9,400	3¼″	1½″	Nylon, Polyester	3403T332	108.37	111.04	113.71	116.38	121.72	127.06	3 to 20
7,025	8,800	17,600	3¼″	1½″	Nylon, Polyester	3383T332	113.79	118.97	124.15	129.33	139.69	150.05	3 to 20
Wear Resistant													
2″ Web Width													
2,500	3,200	6,400	1¾″	1¾″	Polyester	3485T21	91.53	94.61	97.69	100.77	106.93	113.09	3 to 20
5,000	6,400	12,800	1¾″	1¾″	Polyester	3485T27	95.48	101.98	108.48	114.98	127.98	140.98	3 to 20

Round Slings



Flat Eye

Choose these slings when you need a flexible sling with more strength and wear resistance than web slings. Slings are made of polyester cords encased in a polyester sleeve for strength and wear resistance. They include a tag that shows the material, length, and capacities in each configuration. They are color coded by capacity and resist most acids. Maximum temperature is 190° F. Meet OSHA standard 1910.184 and ANSI specification B30.9.

Wear Resistant—Slings have nylon strips sewn into the sleeve to slow deterioration, making them three times more abrasion resistant than other round slings.

Flat Eye

Also known as Type 3 slings, the eye on each end allows you to quickly change your sling into the choker, vertical, or basket configuration.

Capacity, lbs.				Web	Eye							
Choker	Vertical	Basket	Color	Wd.	Lg.		3 ft.	4 ft.	5 ft.	6 ft.	8 ft.	10 ft.	Other Lgs., ft.
Standard													
4,200	5,300	10,600	Green	3″	10″	33995T43	$22.91	$30.51	$38.11	$45.71	$60.91	$76.11	3 to 20
6,700	8,400	16,800	Yellow	4¼″	12″	33995T45	28.42	37.20	45.98	54.76	72.32	89.88	3 to 20
10,600	13,200	26,400	Red	4¼″	14″	33995T49	—	52.74	65.06	77.38	102.02	126.66	4 to 20
17,000	21,200	42,400	Blue	4¼″	16″	33995T53	—	68.95	85.70	102.45	135.95	169.45	4 to 20

Eyeless

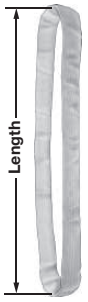

Eyeless

Also known as Type 5 and endless slings, these have a longer life span than slings with eyes because they can be rotated to change the load-bearing point.

Capacity, lbs.				Web							
Choker	Vertical	Basket	Color	Wd.		3 ft.	4 ft.	5 ft.	6 ft.	8 ft.	10 ft.	Other Lgs., ft.
Standard												
4,200	5,300	10,600	Green	2″	33995T13	$15.00	$18.14	$21.28	$24.42	$30.70	$36.98	2 to 20
6,700	8,400	16,800	Yellow	2 7/16″	33995T15	19.17	24.17	29.17	34.17	44.17	54.17	3 to 20
10,600	13,200	26,400	Red	3⅛″	33995T19	28.37	35.82	43.27	50.72	65.62	80.52	3 to 20
17,000	21,200	42,400	Blue	3⅛″	33995T23	43.29	55.35	67.41	79.47	103.59	127.71	3 to 20
Wear Resistant												
4,200	5,300	10,600	Green	2″	8527T32	18.17	22.60	27.03	31.46	40.32	49.18	2 to 20
6,700	8,400	16,800	Yellow	2 7/16″	8527T33	23.44	29.43	35.42	41.41	53.39	65.37	3 to 20
10,600	13,200	26,400	Red	3″	8527T35	34.71	43.57	52.43	61.29	79.01	96.73	3 to 20
17,000	21,200	42,400	Blue	3″	8527T37	51.20	65.34	79.48	93.62	121.90	150.18	3 to 20

Mesh Slings

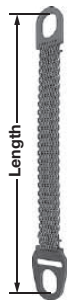

Made of galvanized steel mesh to be more cut and abrasion resistant than web or round slings, yet maintain the flexibility to conform to your load. End fittings are zinc-plated steel. They are stamped with capacities in each configuration. Maximum temperature is 550° F. Meet OSHA standard 1910.184 and ANSI specification B30.9.

Capacity, lbs.			Mesh	Eye									
Choker	Vertical	Basket	Wd.	Lg.	Wd.		3 ft.	4 ft.	5 ft.	6 ft.	8 ft.	10 ft.	Other Lgs., ft.
2,300	2,300	4,600	2″	3″	2″	3404T31	$171.77	$194.89	$218.01	$241.13	$287.37	$333.61	3 to 20
3,500	3,500	7,000	3″	3⅜″	2¼″	3404T32	192.00	217.21	242.42	267.63	318.05	368.47	3 to 20
4,800	4,800	9,600	4″	4″	3″	3404T33	212.36	239.46	266.56	293.66	347.86	402.06	3 to 20
7,200	7,200	14,400	6″	4½″	3½″	3404T34	228.90	257.82	286.74	315.66	373.50	431.34	3 to 20
9,600	9,600	19,200	8″	6″	4¼″	3404T35	283.64	315.18	346.72	378.26	441.34	504.42	3 to 20

Warning: Never use to lift people or items over people.

Wire Rope & Adjustable Chain Slings

For information about sling configurations and capacity, see page 1536.

Wire Rope Slings

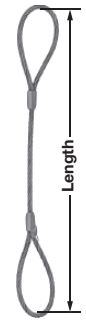

Crimped Eye


Crimped and Reinforced Thimble Eye


Woven Eye

These slings are more abrasion and cut resistant than web and round slings, yet lighter in weight than mesh and chain slings. They include a tag that shows capacities in each configuration.

Crimped Eye—Ends are secured with a metal sleeve. Maximum temperature is 400° F. *General purpose* slings are made of cut- and abrasion-resistant 6×19 IWRC steel wire rope. *Corrosion-resistant* slings are made of 7×7 IWRC galvanized steel wire rope, which is easier to handle and bend than 6×19 IWRC and 6×19 fiber core steel wire rope.

Crimped and Reinforced Thimble Eye—A metal thimble in each loop prevents fraying. Ends are secured with a metal sleeve. Slings are made of cut- and abrasion-resistant 6×19 IWRC steel wire rope. Maximum temperature is 400° F.

Woven Eye—Ends are woven back into the sling body, reducing the chance of the sling catching when lifting a load. Slings are made of flexible 6×19 fiber core steel wire rope. Maximum temperature is 180° F.

Wire Rope Dia.	Capacity, lbs. Choker	Vertical	Basket	Eye Lg.		3 ft.	4 ft.	5 ft.	6 ft.	8 ft.	10 ft.	Other Lgs., ft.
Crimped Eye—General Purpose												
1/4″	950	1,300	2,600	4″	3550T11	$11.36	$13.10	$14.84	$16.58	$20.06	$23.54	2 to 20
3/8″	2,200	2,800	5,800	6″	3550T14	16.20	18.48	20.76	23.04	27.60	32.16	2 to 20
1/2″	3,800	5,000	10,200	8″	3550T17	25.67	27.94	30.21	32.48	37.02	41.56	3 to 20
5/8″	5,800	7,800	15,600	10″	3550T21	36.88	40.48	44.08	47.68	54.88	62.08	3 to 20
3/4″	8,200	11,200	22,000	12″	3550T24	____	58.07	62.80	67.53	76.99	86.45	4 to 20
7/8″	11,200	15,200	30,000	14″	3550T27	____	81.26	87.48	93.70	106.14	118.58	4 to 20
1″	14,400	19,600	40,000	16″	3550T31	____	_____	114.62	122.35	137.81	153.27	5 to 20
Crimped Eye—Corrosion Resistant												
1/4″	725	1,000	2,000	4″	8942T81	27.09	30.20	33.31	36.42	42.64	48.86	2 to 20
3/8″	1,600	2,200	4,400	6″	8942T82	31.59	34.72	37.85	40.98	47.24	53.50	2 to 20
1/2″	2,600	3,800	7,400	8″	8942T83	37.54	41.30	45.06	48.82	56.34	63.86	2 to 20
5/8″	3,800	5,600	11,000	10″	8942T84	53.99	59.43	64.87	70.31	81.19	92.07	3 to 20
Crimped and Reinforced Thimble Eye												
1/4″	____	1,300	2,600	1 5/8″	3550T34	16.81	18.55	20.29	22.03	25.51	28.99	2 to 20
3/8″	____	2,800	5,600	2 1/8″	3550T37	27.78	30.06	32.34	34.62	39.18	43.74	2 to 20
1/2″	____	5,000	10,200	2 3/4″	3550T41	35.27	37.54	39.81	42.08	46.62	51.16	2 to 20
5/8″	____	7,800	15,600	3 1/4″	3550T44	51.75	55.35	58.95	62.55	69.75	76.95	2 to 20
3/4″	____	11,200	22,000	3 3/4″	3550T47	69.92	74.65	79.38	84.11	93.57	103.03	3 to 20
7/8″	____	15,200	30,000	4 1/4″	3550T51	94.26	100.48	106.70	112.92	125.36	137.80	3 to 20
Woven Eye												
1/4″	825	1,075	2,200	4″	3550T81	24.42	25.71	27.00	28.29	30.87	33.45	3 to 20
3/8″	1,875	2,400	4,800	6″	3550T84	27.41	29.06	30.71	32.36	35.66	38.96	3 to 20

Wire Rope Slings with Hooks

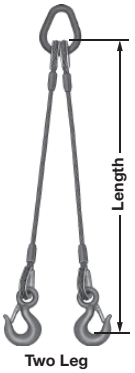

Two Leg

Securely hook these slings to a load that has lift attachments. Made of cut- and abrasion-resistant 6×19 IWRC steel wire rope, these slings are more abrasion and cut resistant than web and round slings, yet lighter in weight than mesh and chain slings. They include a tag that shows capacities in each configuration. Ends are secured with a metal sleeve. Slings with two, three, and four legs have a steel top connecting link. Maximum temperature is 400° F. Meet OSHA standard 1910.184 and ANSI specification B30.9.

Wire Rope Dia.	Capacity, lbs. at 30°	at 45°	at 60°	Vertical	Hook Opening		2 ft.	3 ft.	6 ft.	8 ft.	10 ft.	Other Lgs., ft.
One Leg												
1/4″	____	____	____	1,300	3/4″	3550T54	$32.37	$34.19	$39.65	$43.29	$46.93	2 to 20
3/8″	____	____	____	2,800	3/4″	3550T57	43.16	45.44	52.28	56.84	61.40	2 to 20
Two Leg												
1/4″	1,300	1,800	2,200	____	3/4″	9089T31	79.83	82.79	91.67	97.59	103.51	2 to 20
3/8″	2,800	4,000	5,000	____	3/4″	9089T32	110.03	113.94	125.67	133.49	141.31	2 to 20
Three Leg												
1/4″	1,925	2,800	3,400	____	3/4″	8940T21	177.50	184.16	204.14	217.46	230.78	2 to 20
3/8″	4,400	6,000	7,400	____	3/4″	8940T22	293.72	302.53	328.96	346.58	364.20	2 to 20
Four Leg												
1/4″	2,600	3,600	4,400	____	3/4″	8952T51	243.84	252.72	279.36	297.12	314.88	2 to 20
3/8″	5,800	8,200	10,000	____	3/4″	8952T52	366.50	378.25	413.50	437.00	460.50	2 to 20

Adjustable Chain Slings


One Leg


Two Leg

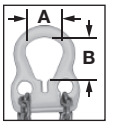

Adjust the chain length and number of legs without changing slings. The chain provides strength and ruggedness to withstand your harshest working conditions. The top link is powder-coated steel and is stamped with capacities in each configuration. Hooks have a replaceable latch (for replacement latches, see page 1497). Maximum temperature is 390° F. Meet OSHA standard 1910.184 and ANSI specification B30.9. Note: Do not use slings at an angle less than 45°.

Trade Size	Capacity, lbs. One Leg Vertical	Two Leg at 60°	(A)	(B)	Chain Lg., ft.		
7/32	2,700	4,700	2 3/16″	2 11/16″	6	33665T33	$140.46
7/32	2,700	4,700	2 3/16″	2 11/16″	10	33665T34	166.49
9/32	4,300	7,400	2 7/8″	3 3/16″	6	33665T43	170.25
9/32	4,300	7,400	2 7/8″	3 3/16″	10	33665T44	197.51
3/8	8,800	15,200	3 3/4″	4 1/8″	10	33665T53	275.28
3/8	8,800	15,200	3 3/4″	4 1/8″	14	33665T54	307.77

***Warning:* Never use to lift people or items over people.**

Chain Slings

The chain provides strength and ruggedness to withstand your harshest working conditions. They include a tag that shows chain grade and size, length, and capacities in each configuration.

Grade 80 Steel Chain Slings with Latching Hooks

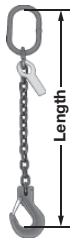

One Leg



Two Leg



Three Leg



Four Leg

Slings include a steel top connecting link and a steel latching hook on each leg. Maximum temperature is 400° F. Meet OSHA standard 1910.184 and ANSI specification B30.9. Hook has a replaceable latch (for replacement latches, see page 1497).

Trade Size	Capacity, lbs. at 30°	at 45°	at 60°	Vertical	Hook Opening		2 ft.	3 ft.	6 ft.	8 ft.	10 ft.	Other Lgs., ft.
One Leg												
9/32	—	—	—	3,500	1 1/8"	3405T27	$119.45	$123.29	$134.81	$142.49	$150.17	2 to 20
3/8	—	—	—	7,100	1 3/8"	3405T28	150.39	156.18	173.55	185.13	196.71	2 to 20
1/2	—	—	—	12,000	1 3/4"	3405T29	228.16	238.06	267.76	287.56	307.36	2 to 20
5/8	—	—	—	18,100	2"	3405T32	302.30	316.26	358.14	386.06	413.98	2 to 20
Two Leg												
7/32	2,100	3,000	3,600	—	1 1/4"	3406T35	233.83	243.13	271.03	289.63	308.23	2 to 20
9/32	3,500	4,900	6,100	—	1 1/8"	3406T19	241.27	251.24	281.15	301.09	321.03	2 to 20
3/8	7,100	10,000	12,300	—	1 3/8"	3406T21	248.40	259.88	294.32	317.28	340.24	2 to 20
1/2	12,000	17,000	20,800	—	1 3/4"	3406T22	347.67	365.29	418.15	453.39	488.63	2 to 20
5/8	18,100	25,600	31,300	—	2"	3406T28	—	540.96	615.51	665.21	714.91	2 to 20
Three Leg												
9/32	5,200	7,400	9,100	—	1 1/8"	3408T14	368.84	380.20	414.28	437.00	459.72	2 to 20
3/8	10,600	15,100	18,400	—	1 3/8"	3408T15	471.20	488.08	538.72	572.48	606.24	2 to 20
1/2	18,000	25,500	31,200	—	1 3/4"	3408T24	—	651.42	730.74	783.62	836.50	2 to 20
5/8	27,100	38,400	47,000	—	2"	3408T25	—	983.30	1,089.38	1,160.10	1,230.82	2 to 20
Four Leg												
9/32	5,200	7,400	9,100	—	7/8"	3409T19	418.03	432.07	474.19	502.27	530.35	2 to 20
3/8	10,600	15,100	18,400	—	1 3/8"	3409T28	540.19	561.45	625.23	667.75	710.27	2 to 20
1/2	18,000	25,500	31,200	—	1 3/4"	3409T29	—	748.00	846.58	912.30	978.02	2 to 20
5/8	27,100	38,400	47,000	—	2"	3409T31	—	1,171.31	1,310.33	1,403.01	1,495.69	2 to 20

Made-to-Order Chain Slings

Select a chain grade, hook style, and chain length to create your own sling.

Grade 80 steel slings have a maximum temperature of 400° F. They meet OSHA standard 1910.184 and ANSI specification B30.9.

Grade 100 steel slings are approximately 20% stronger than Grade 80 steel. Maximum temperature is 400° F. They meet OSHA standard 1910.184 and ANSI specification B30.9.

Grade 63 stainless steel slings are more corrosion resistant than steel slings. Made of 318LN and 316L stainless steel. Maximum temperature is 700° F.

Latching hooks allow you to quickly release your load and have a replaceable latch (for replacement latches, see page 1497).

Locking hooks prevent accidental hook openings and have a replaceable latch spring (for replacement latch springs, see page 1496).

Chain-shortening hooks, also known as grab hooks, securely hold a single link of chain in the opening to shorten an adjacent leg.



Latching Hook



Locking Hook



Chain-Shortening Hook



Three Leg with Locking Hook

Trade Size	Choose a Hook Style★	Choose a Length, ft.	Grade 80 Steel Cap., lbs. at 30°	Grade 80 Steel Cap., lbs. Vertical		Grade 100 Steel Cap., lbs. at 30°	Grade 100 Steel Cap., lbs. Vertical		Grade 63 Stainless Steel Cap., lbs. at 30°	Grade 63 Stainless Steel Cap., lbs. Vertical	
One Leg											
9/32	Latching, Locking, Chain Shortening	2 to 20	—	3,500	3405T33	—	—	—	—	—	—
3/8	Latching, Locking, Chain Shortening	2 to 20	—	7,100	3405T34	—	8,800	33945T452	—	—	—
Two Leg											
9/32	Latching, Locking, Chain Shortening	2 to 20	3,500	—	3406T29	4,300	—	33945T453	2,700	—	33675T641
3/8	Latching, Locking, Chain Shortening	2 to 20	7,100	—	3406T31	8,800	—	33945T454	5,500	—	33675T35
Three Leg											
9/32	Latching, Locking, Chain Shortening	2 to 20	5,200	—	3408T26	6,400	—	3500T21	4,000	—	33675T37
3/8	Latching, Locking, Chain Shortening	2 to 20	10,600	—	3408T27	13,200	—	3500T22	8,200	—	33675T647
Four Leg											
9/32	Latching, Locking, Chain Shortening	2 to 20	5,200	—	3409T72	6,400	—	3446T11	4,000	—	33675T36
3/8	Latching, Locking, Chain Shortening	2 to 20	10,600	—	3409T45	13,200	—	3446T12	8,200	—	33675T654

★Stainless steel slings are only available with latching hooks.

Warning: Never use to lift people or items over people.

About Lifting with Hoist Rings

Designed for angular lifting, hoist rings resist stresses that would bend or break an eyebolt. They have a lifting ring that pivots 180° front to back and a base that swivels 360° to compensate for pitch, roll, and sway when lifting heavy or unbalanced loads.

Safety Note: Hoist rings should never be used at an angle less than 30°. Install the base of the hoist ring flush to the mounting surface and tighten to the recommended torque that is stamped on the ring. For torque wrenches, see pages 2800-2804.

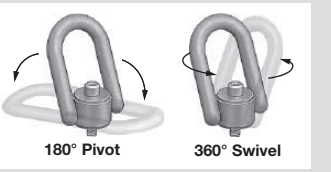

180° Pivot 360° Swivel

Hoist Rings—For Lifting



Forged



Machined

With a lifting ring that pivots 180° front to back and a base that swivels 360°, hoist rings resist stresses that would bend or break an eyebolt. All are made of black-oxide steel.

Machined hoist rings have a smooth finish to protect slings and hooks from damage and excess wear during lifting.

Note: Capacities listed are for vertical lifting only. As the lift angle changes from vertical, the amount of weight the hoist ring can lift is significantly reduced. For example, when lifting a 1,000 lb. load at a 45° angle, you must choose a hoist ring with a capacity of at least 1,400 lbs.

Thread Size	Thread Lg.	Inside Wd.	O'all Ht.	Vertical Cap., lbs.		
Inch Thread						
Forged						
1/4"-20	9/16"	1 1/4"	3 7/8"	550	2994T59	$55.19
5/16"-18	9/16"	1 1/4"	3 7/8"	800	2994T61	55.19
5/16"-18	1 1/16"	1 1/4"	4 3/8"	800	2994T62	55.19
3/8"-16	9/16"	1 1/4"	3 7/8"	1,000	2994T63	55.19
3/8"-16	1 1/16"	1 1/4"	4 3/8"	1,000	2994T64	55.19
1/2"-13	3/4"	2"	6 1/8"	2,500	2994T91	66.85
1/2"-13	3/4"	2"	7 5/8"	2,500	2994T42	74.38
1/2"-13	1"	2"	6 3/8"	2,500	2994T65	66.85
1/2"-13	1"	2"	7 7/8"	2,500	2994T92	74.38
1/2"-13	1 1/16"	1 1/4"	4 3/8"	2,250	2994T41	55.19
1/2"-13	1 1/4"	2"	6 5/8"	2,500	2994T66	66.85
1/2"-13	1 1/4"	2"	8 1/8"	2,500	2994T93	74.38
5/8"-11	3/4"	2"	6 1/8"	4,000	2994T94	66.85
5/8"-11	3/4"	2"	7 5/8"	4,000	2994T43	74.38
5/8"-11	1"	2"	6 3/8"	4,000	2994T67	66.85
5/8"-11	1"	2"	7 7/8"	4,000	2994T95	74.38
5/8"-11	1 1/4"	2"	6 5/8"	4,000	2994T68	66.85
5/8"-11	1 1/4"	2"	8 1/8"	4,000	2994T96	74.38
3/4"-10	1"	2"	6 3/8"	5,000	2994T69	69.44
3/4"-10	1"	2"	7 7/8"	5,000	2994T44	77.31
3/4"-10	1"	3"	8 3/8"	7,000	2994T445	151.17
3/4"-10	1"	3"	10"	7,000	2994T455	168.29
3/4"-10	1 1/4"	3"	8 5/8"	7,000	2994T72	151.17
3/4"-10	1 1/4"	3"	10 1/4"	7,000	2994T97	168.29
3/4"-10	1 1/2"	2"	6 7/8"	5,000	2994T71	69.44
3/4"-10	1 1/2"	2"	8 3/8"	5,000	2994T45	77.31
3/4"-10	1 1/2"	3"	8 7/8"	7,000	2994T73	151.17
7/8"-9	1"	3"	8 3/8"	8,000	2994T475	151.17
7/8"-9	1"	3"	10"	8,000	2994T485	168.29
7/8"-9	1 1/4"	3"	8 5/8"	8,000	2994T74	151.17
7/8"-9	1 1/4"	3"	10 1/4"	8,000	2994T98	168.29
1"-8	1 1/4"	3"	8 5/8"	10,000	2994T76	156.85
1"-8	1 1/4"	3"	10 1/4"	10,000	2994T85	174.62
1"-8	1 1/2"	3"	8 7/8"	10,000	2994T75	156.85
1"-8	1 1/2"	3"	10 1/2"	10,000	2994T99	174.62
1"-8	2 1/4"	3"	9 5/8"	10,000	2994T77	156.85
1"-8	2 1/4"	3"	11 1/4"	10,000	2994T78	174.62
1 1/4"-7	1 7/8"	4"	11 1/8"	15,000	2994T79	220.69
1 1/4"-7	2 5/8"	4"	11 7/8"	15,000	2994T81	238.31
1 3/8"-6	2 5/8"	4"	11 7/8"	20,000	2994T82	255.04
1 1/2"-6	2 5/8"	4"	11 7/8"	24,000	2994T83	274.55
2"-4 1/2	3"	4"	12 1/4"	30,000	2994T84	428.16
2"-8	3"	4"	12 1/4"	30,000	2994T495	428.16
Machined						
1/4"-20	9/16"	13/16"	3 1/4"	600	3052T103	59.57
5/16"-18	3/8"	13/16"	3"	800	3052T102	59.57
5/16"-18	9/16"	13/16"	3 1/4"	800	3052T55	76.80
3/8"-16	9/16"	13/16"	3 1/4"	1,000	3052T56	76.80
1/2"-13	3/4"	1 3/4"	5 5/8"	2,500	3052T58	95.11
1/2"-13	13/16"	1 3/4"	7 1/2"	2,500	3052T132	100.24
1/2"-13	1"	1 3/4"	5 7/8"	2,500	3052T72	95.11
1/2"-13	1 1/16"	1 3/4"	7 3/4"	2,500	3052T86	88.33
1/2"-13	1 5/16"	1 3/4"	6 1/8"	2,500	3052T122	97.00
5/8"-11	13/16"	1 3/4"	5 5/8"	4,000	3052T73	83.90

Thread Size	Thread Lg.	Inside Wd.	O'all Ht.	Vertical Cap., lbs.		
Inch Thread						
Machined (Cont.)						
5/8"-11	13/16"	1 3/4"	7 1/2"	4,000	3052T15	$88.35
5/8"-11	1 1/16"	1 3/4"	5 7/8"	4,000	3052T119	92.87
5/8"-11	1 1/16"	1 3/4"	7 3/4"	4,000	3052T89	88.33
5/8"-11	1 5/16"	1 3/4"	6 1/8"	4,000	3052T121	92.87
5/8"-11	1 5/16"	1 3/4"	8"	4,000	3052T91	88.33
3/4"-10	1 1/16"	1 3/4"	5 7/8"	5,000	3052T123	92.87
3/4"-10	1 1/16"	1 3/4"	7 3/4"	5,000	3052T92	88.33
3/4"-10	1 1/16"	2 3/4"	7 5/8"	7,000	3052T64	176.81
3/4"-10	1 5/16"	1 3/4"	6 1/8"	5,000	3052T124	92.87
3/4"-10	1 5/16"	1 3/4"	8"	5,000	3052T133	100.24
3/4"-10	1 9/16"	1 3/4"	6 3/8"	5,000	3052T125	92.87
3/4"-10	1 9/16"	1 3/4"	8 1/4"	5,000	3052T93	88.33
3/4"-10	1 9/16"	2 3/4"	8 1/8"	7,000	3052T126	209.53
3/4"-10	1 9/16"	2 3/4"	9 3/4"	7,000	3052T95	180.58
7/8"-9	1 1/16"	2 3/4"	7 5/8"	8,000	3052T65	180.20
1"-8	1 5/16"	2 3/4"	7 7/8"	10,000	3052T66	179.32
1"-8	1 5/16"	2 3/4"	9 1/2"	10,000	3052T97	180.58
1"-8	1 9/16"	2 3/4"	8 1/8"	10,000	3052T67	191.95
1"-8	1 9/16"	2 3/4"	9 3/4"	10,000	3052T98	180.58
1"-8	2 5/16"	2 3/4"	8 7/8"	10,000	3052T127	221.58
1"-8	2 5/16"	2 3/4"	10 1/2"	10,000	3052T101	180.58
1 1/8"-8	2 5/16"	2 3/4"	8 7/8"	10,000	3052T115	244.02
1 1/4"-7	1 15/16"	3 1/2"	10 5/8"	15,000	3052T68	289.92
1 1/4"-8	1 15/16"	3 1/2"	10 5/8"	15,000	3052T116	328.14
1 1/2"-6	2 3/4"	4 1/2"	15 1/4"	24,000	3052T74	354.63
1 1/2"-8	2 3/4"	4 1/2"	15 1/4"	24,000	3052T131	389.67
2"-4 1/2	3"	4 1/2"	15 1/2"	30,000	3052T69	437.58
2"-8	3"	4 1/2"	15 1/2"	30,000	3052T117	437.58
2 1/2"-4	4"	6"	20 7/8"	50,000	3052T75	1,336.64
2 1/2"-8	4"	6"	20 7/8"	50,000	3052T118	1,236.17
Metric Thread—Dimensions in millimeters						
Forged						
M8×1.25	16	33	98	875	3005T71	63.78
M8×1.25	21	33	103	875	3005T115	63.78
M10×1.5	16	33	98	975	3005T72	63.78
M10×1.5	26	33	108	975	3005T125	63.78
M12×1.75	25	50	160	2,300	3005T73	77.24
M12×1.75	25	50	200	2,300	3005T74	85.96
M12×1.75	32	50	167	2,300	3005T135	77.24
M12×1.75	32	50	207	2,300	3005T185	85.96
M14×2	25	50	161	3,300	3005T145	77.24
M14×2	25	50	200	3,300	3005T195	85.96
M14×2	32	50	168	3,300	3005T155	77.24
M14×2	32	50	207	3,300	3005T205	85.96
M16×2	25	50	160	4,175	3005T75	77.24
M16×2	25	50	200	4,175	3005T76	85.96
M16×2	32	50	167	4,175	3005T165	77.24
M16×2	32	50	207	4,175	3005T215	85.96
M20×2.5	25	50	160	4,850	3005T175	80.24
M20×2.5	25	50	200	4,850	3005T225	89.33
M20×2.5	28	71	216	6,600	3005T235	174.69
M20×2.5	28	71	257	6,600	3005T265	194.47
M20×2.5	38	50	173	4,850	3005T77	80.24
M20×2.5	38	50	213	4,850	3005T78	89.33

(Continued on following page)

Warning: Never use to lift people or items over people.

Hoist Rings—For Lifting *(Continued from previous page)*

Thread Size	Thread Lg.	Inside Wd.	O'all Ht.	Vertical Cap., lbs.		
Metric Thread—Dimensions in millimeters (Cont.)						
Forged (Cont.)						
M24×3	28	71	216	9,250	3005T245	$174.69
M24×3	28	71	257	9,250	3005T275	194.47
M24×3	38	71	226	9,250	3005T79	174.69
M24×3	38	71	267	9,250	3005T81	194.47
M30×3.5	38	71	226	9,900	3005T255	181.24
M30×3.5	38	71	267	9,900	3005T285	201.78
M30×3.5	48	71	236	9,900	3005T64	181.24
M30×3.5	48	71	277	9,900	3005T295	201.78
M30×3.5	67	101	302	15,425	3005T82	263.57
M36×4	67	101	302	24,250	3005T65	338.19
Machined						
M8×1.25	17	21	85	875	29495T11	65.31
M10×1.5	18	21	86	975	29495T42	83.91
M12×1.75	19	44	142	2,300	29495T43	100.24
M12×1.75	19	44	190	2,300	29495T71	105.20
M16×2	24	44	146	4,175	29495T12	$79.02
M16×2	24	44	195	4,175	29495T13	86.75
M20×2.5	29	71	195	6,600	29495T16	152.48
M20×2.5	29	71	236	6,600	29495T17	186.12
M20×2.5	30	44	152	4,850	29495T14	80.15
M20×2.5	30	44	201	4,850	29495T15	86.75
M24×3	34	71	200	9,250	29495T18	152.48
M24×3	34	71	241	9,250	29495T19	186.12
M30×3.5	46	89	268	15,425	29495T48	375.90
M30×3.5	54	71	220	9,900	29495T21	176.35
M30×3.5	54	71	261	9,900	29495T22	186.12
M30×3.5	66	89	288	15,425	29495T51	393.08
M42×4.5	79	114	396	27,550	29495T23	392.31
M48×5	79	114	396	29,750	29495T24	392.31

Corrosion-Resistant Hoist Rings—For Lifting

Use outdoors and in other environments where corrosion is a factor.

316 stainless steel hoist rings are more corrosion resistant than nickel-coated steel hoist rings.

Note: Capacities listed are for vertical lifting only. As the lift angle changes from vertical, the amount of weight the hoist ring can lift is significantly reduced. For example, when lifting a 1,000 lb. load at a 45° angle, you must choose a hoist ring with a capacity of at least 1,400 lbs.



Thread Size	Thread Lg.	Inside Wd.	O'all Ht.	Vertical Cap., lbs.		
Inch Thread						
Nickel-Coated Steel						
5/16"-18	9/16"	13/16"	31/4"	800	3145T21	$107.88
5/16"-18	9/16"	1 1/4"	37/8"	800	3145T36	87.21
3/8"-16	9/16"	13/16"	31/4"	1,000	3145T22	107.88
3/8"-16	9/16"	1 1/4"	37/8"	1,000	3145T37	87.21
1/2"-13	3/4"	1 3/4"	55/8"	2,500	3145T24	129.88
1/2"-13	3/4"	1 3/4"	7 1/2"	2,500	3145T25	155.45
1/2"-13	3/4"	2"	6 1/8"	2,500	3145T38	107.73
1/2"-13	1"	1 3/4"	57/8"	2,500	3145T71	129.88
1/2"-13	1 1/16"	1 3/8"	47/8"	2,500	3145T23	129.88
1/2"-13	1 1/4"	1 3/4"	6 1/8"	2,500	3145T26	129.88
5/8"-11	1"	1 3/4"	57/8"	4,000	3145T27	129.88
5/8"-11	1"	1 3/4"	7 3/4"	4,000	3145T28	155.45
5/8"-11	1"	2"	6 3/8"	4,000	3145T39	131.67
5/8"-11	1 1/4"	1 3/4"	6 1/8"	4,000	3145T29	129.88
3/4"-10	1"	1 3/4"	57/8"	5,000	3145T31	129.88
3/4"-10	1"	2"	6 3/8"	5,000	3145T48	131.67
3/4"-10	1"	2 3/4"	7 5/8"	7,000	3145T72	299.36
3/4"-10	1 1/4"	3"	8 5/8"	7,000	3145T49	291.78
3/4"-10	1 1/2"	1 3/4"	6 3/8"	5,000	3145T32	129.88
3/4"-10	1 1/2"	1 3/4"	8 1/4"	5,000	3145T33	155.45
3/4"-10	1 1/2"	2 3/4"	8 1/8"	7,000	3145T73	299.36
7/8"-9	1"	2 3/4"	7 5/8"	8,000	3145T74	307.04
1"-8	1 1/4"	2 3/4"	7 7/8"	10,000	3145T34	277.52
1"-8	1 1/2"	2 3/4"	8 1/8"	10,000	3145T75	307.04
1"-8	1 1/2"	3"	8 7/8"	10,000	3145T86	265.25
1"-8	2 1/4"	2 3/4"	8 7/8"	10,000	3145T35	277.52
1 1/4"-7	1 7/8"	4"	11 1/8"	15,000	3145T87	408.60
1 1/2"-6	2 5/8"	4"	11 7/8"	24,000	3145T88	490.78
2"-4 1/2	3"	4"	12 1/4"	30,000	3145T89	645.55
316 Stainless Steel						
1/4"-20	1/2"	7/8"	3 1/4"	300	2949T24	228.55
5/16"-18	5/16"	7/8"	3"	400	2949T25	228.55
5/16"-18	9/16"	7/8"	3 1/4"	400	2949T31	228.55
3/8"-16	9/16"	7/8"	3 1/4"	500	2949T32	$228.55
1/2"-13	13/16"	1 3/4"	5 5/8"	1,250	2949T34	297.43
1/2"-13	1 1/8"	1 3/8"	4 7/8"	1,250	2949T33	297.43
1/2"-13	1 5/16"	1 3/4"	6 1/8"	1,250	2949T35	297.43
5/8"-11	1 1/16"	1 3/4"	57/8"	2,000	2949T36	297.43
5/8"-11	1 5/16"	1 3/4"	6 1/8"	2,000	2949T37	297.43
3/4"-10	1 1/16"	1 3/4"	57/8"	2,500	2949T38	297.43
3/4"-10	1 9/16"	1 3/4"	6 3/8"	2,500	2949T39	297.43
7/8"-9	1 1/16"	2 3/4"	7 5/8"	4,000	2949T29	539.28
1"-8	2 5/16"	2 3/4"	8 7/8"	5,000	2949T46	539.28
Metric Thread—Dimensions in millimeters						
Nickel-Coated Steel						
M8×1.25	13	21	81	875	3145T41	121.37
M8×1.25	16	33	98	875	3145T91	98.11
M10×1.5	16	33	98	975	3145T92	98.11
M10×1.5	18	21	86	975	3145T42	121.37
M12×1.75	19	44	142	2,300	3145T43	146.11
M12×1.75	25	50	160	2,300	3145T93	131.67
M14×2	25	50	161	3,300	3145T94	131.67
M16×2	25	50	160	4,175	3145T95	107.73
M16×2	29	44	152	4,175	3145T44	146.11
M20×2.5	25	50	160	4,850	3145T96	148.12
M20×2.5	34	44	157	4,725	3145T45	146.11
M24×3	28	71	216	9,250	3145T97	265.25
M24×3	37	71	200	9,250	3145T46	240.16
M30×3.5	38	71	226	9,900	3145T98	265.25
316 Stainless Steel						
M8×1.25	13	22	81	425	2949T61	260.68
M10×1.5	18	22	86	550	2949T62	260.68
M12×1.75	19	44	140	1,150	2949T63	317.60
M16×2	29	44	150	2,075	2949T64	317.60
M20×2.5	34	44	155	2,350	2949T65	317.60
M24×3	37	72	203	4,600	2949T66	577.33

Quick-Connect Hoist Rings—For Lifting

Save time when lifting by quickly connecting and disconnecting your hoist ring. Thread the included insert into a tapped hole on your load, then lock the lifting ring into the insert. A button releases the lifting ring from the insert and is recessed to prevent accidental release. Hoist rings are made of 17-4 PH stainless steel.

Extra inserts let you use one hoist ring on multiple items.

Note: Capacities listed are for vertical lifting only. As the lift angle changes from vertical, the amount of weight the hoist ring can lift is significantly reduced. For example, when lifting a 1,000 lb. load at a 45° angle, you must choose a hoist ring with a capacity of at least 1,400 lbs.

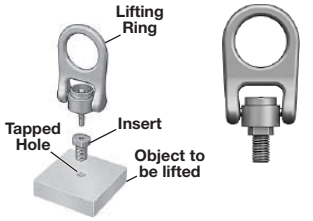

Thread Size	Thread Lg.	Eye Dia.	O'all Ht.	Vertical Cap., lbs.	Insert Hole Dia.	Hoist Rings with Insert		Extra Inserts	
1/2"-13	13/16"	1 1/2"	4 1/2"	400	1/4"	2986T72	$141.27	2986T81	$35.14
3/4"-10	7/8"	1 1/2"	4 5/8"	700	5/16"	2986T73	156.09	2986T82	38.19
3/4"-10	7/8"	1 1/2"	4 5/8"	1,000	3/8"	2986T74	156.09	2986T83	38.19

Warning: Never use to lift people or items over people.

Wide-Base Hoist Rings—*For Lifting*



The wide, round base has more contact with the load than conventional hoist rings. Hoist rings are made of black-oxide steel.

Note: Capacities listed are for vertical lifting only. As the lift angle changes from vertical, the amount of weight the hoist ring can lift is significantly reduced. For example, when lifting a 1,000 lb. load at a 45° angle, you must choose a hoist ring with a capacity of at least 1,400 lbs.

Thread Size	Thread Lg.	Inside Wd.	O'all Ht.	Vertical Cap., lbs.		
1/2"-13	3/4"	1 3/4"	7 3/4"	2,500	3070T51	$115.42
5/8"-11	15/16"	1 3/4"	7 15/16"	4,000	3070T52	115.42
3/4"-10	1 1/8"	1 3/4"	8 1/8"	5,000	3070T53	115.42
1"-8	1 1/2"	2 3/4"	10"	10,000	3070T54	228.54
1 1/4"-7	1 7/8"	3 1/2"	11 1/8"	15,000	3070T55	357.80

Shackle Hoist Rings—*For Lifting*



Remove the shackle after lifting while keeping the base installed for future use. Hoist rings have a black-oxide steel base and a zinc-plated steel eye.

Note: Capacities listed are for vertical lifting only. As the lift angle changes from vertical, the amount of weight the hoist ring can lift is significantly reduced. For example, when lifting a 1,000 lb. load at a 45° angle, you must choose a hoist ring with a capacity of at least 1,400 lbs.

Thread Size	Thread Lg.	Inside Wd.	O'all Ht.	Vertical Cap., lbs.		
1/2"-13	1"	1 1/2"	5 3/16"	2,500	3026T11	$177.19
5/8"-11	1"	1 1/2"	5 3/16"	4,000	3026T12	177.19
3/4"-10	1 1/2"	1 7/8"	7 1/16"	5,000	3026T13	339.94
7/8"-9	1 1/4"	2 5/8"	8 1/2"	8,000	3026T24	379.31
1"-8	1 1/2"	2 5/8"	8 3/4"	10,000	3026T25	379.31
1 1/4"-7	1 7/8"	2 3/4"	10 1/8"	15,000	3026T26	543.98
1 1/2"-6	2 1/4"	3 3/4"	14"	24,000	3026T27	707.62

Side-Mount Hoist Rings—*For Lifting*



Choose these hoist rings when you need to lift your load from the side. They are made of steel.

Note: Capacities listed are for vertical lifting only. As the lift angle changes from vertical, the amount of weight the hoist ring can lift is significantly reduced. For example, when lifting a 1,000 lb. load at a 45° angle, you must choose a hoist ring with a capacity of at least 1,400 lbs.

Thread Size	Thread Lg.	Inside Wd.	O'all Ht.	Vertical Cap., lbs.		
Inch Thread						
5/16"-18	1/2"	1 3/4"	4"	650	29525T51	$26.52
3/8"-16	9/16"	1 3/4"	4"	800	29525T52	38.50
1/2"-13	3/4"	2"	6 1/2"	1,800	29525T53	55.91
5/8"-11	15/16"	2"	6 1/2"	2,500	29525T54	63.88
3/4"-10	1 1/8"	2"	6 1/2"	4,100	29525T55	101.02
Metric Thread—Dimensions in millimeters						
M8×1.25	16	45	101	710	29525T63	27.85
M10×1.5	20	45	101	1,100	29525T65	40.42
M12×1.75	24	51	165	1,575	29525T66	58.70
M16×2	32	51	165	3,075	29525T67	67.08
M20×2.5	40	51	165	5,025	29525T68	106.07

Wrench-Tighten Hoist Rings—*For Lifting*



Compact



Large Eye

No need for a torque wrench—install hoist rings using an adjustable wrench.

Large Eye—The large eye opening gives you more hook size options for connecting to your load. *17-4 PH stainless steel* hoist rings are more corrosion resistant than steel.

Note: Capacities listed are for vertical lifting only. As the lift angle changes from vertical, the amount of weight the hoist ring can lift is significantly reduced. For example, when lifting a 1,000 lb. load at a 45° angle, you must choose a hoist ring with a capacity of at least 1,400 lbs.

Thread Size	Thread Lg.	Inside Wd.	O'all Ht.	Vertical Cap., lbs.		
Compact—Steel						
5/16"-18	1/2"	1 1/8"	4 7/16"	800	2932T21	$90.20
3/8"-16	1/2"	1 1/8"	4 7/16"	1,000	2932T22	90.20
1/2"-13	3/4"	1 3/8"	6 5/8"	2,500	2932T23	121.07
5/8"-11	1"	1 3/8"	6 7/8"	4,000	2932T24	121.07
3/4"-10	1 1/4"	1 1/2"	8 5/16"	5,000	2932T25	173.36
Large Eye—Steel						
5/16"-18	1/2"	1 1/2"	4 1/8"	800	3046T61	67.51
3/8"-16	9/16"	1 1/2"	4 1/4"	1,000	3046T62	70.74
1/2"-13	11/16"	3"	7 1/8"	2,500	3046T63	80.59
5/8"-11	15/16"	3"	7 3/8"	4,000	3046T64	85.69
3/4"-10	1 1/8"	3"	7 1/2"	5,000	3046T65	90.32
1"-8	1 1/2"	3 5/8"	11 1/4"	10,000	3046T66	173.88
Large Eye—17-4 PH Stainless Steel						
5/16"-18	1/2"	1 1/2"	4 1/8"	800	3046T71	158.57
3/4"-10	1 1/8"	3"	7 1/2"	5,000	3046T75	212.21

Nonswiveling Hoist Rings—*For Lifting*



Top View Two Mounting Holes

Top View Four Mounting Holes

The fixed base provides added stability and allows you to lift heavy loads with smaller thread sizes. The lifting ring pivots for angular lifts. Hoist rings are made of black-oxide steel and include mounting bolts.

Note: Capacities listed are for vertical lifting only. As the lift angle changes from vertical, the amount of weight the hoist ring can lift is significantly reduced. For example, when lifting a 1,000 lb. load at a 45° angle, you must choose a hoist ring with a capacity of at least 1,400 lbs.

Thread Size	Thread Lg.	Inside Wd.	O'all Ht.	Vertical Cap., lbs.		
With Two Mounting Holes						
5/16"-18	13/16"	1"	3 7/8"	2,000	29505T21	$14.76
3/8"-16	3/4"	1 1/4"	4 5/8"	2,500	29505T22	17.69
1/2"-13	1 3/8"	1 1/2"	6"	5,000	29505T23	26.73
With Four Mounting Holes						
1/2"-13	1 3/8"	1 3/4"	7 1/2"	12,000	29505T24	59.24
5/8"-11	1 1/2"	2"	9 1/8"	20,000	29505T25	88.08

Warning: Never use to lift people or items over people.

Eyebolts—For Lifting

Also known as machinery eyebolts. **Zinc-plated steel** eyebolts offer good corrosion resistance.

Note: Capacities listed are for vertical lifting only. Eyebolts with shoulder can be used for angular lifting up to 45°, but the capacities will be significantly reduced. For angular lifting, we recommend hoist rings, sold on pages 1542-1544. Eyebolts without shoulder are for vertical lifting only.



With Shoulder



Without Shoulder

Thread Size	Thread Lg.	Eye Dia.	Vertical Cap., lbs.	With Shoulder				Without Shoulder			
				Steel		Zinc-Plated Steel		Steel		Zinc-Plated Steel	
1/4"-20	1"	3/4"	500	3014T45	$3.01	3014T251	$4.16	3013T45	$2.86	3013T341	$3.95
1/4"-20	2"	3/4"	500	3014T901	10.22	3014T102	11.56	3013T901	9.71	3013T128	10.98
1/4"-20	3"	3/4"	500	3014T902	11.88	3014T103	13.43	3013T902	11.29	3013T129	12.76
1/4"-28	1"	3/4"	500	3014T256	4.86	3014T104	5.39	3013T111	4.62	3013T13	5.12
5/16"-18	1 1/8"	7/8"	900	3014T46	3.20	3014T252	4.49	3013T46	3.04	3013T342	4.27
5/16"-18	2"	7/8"	900	3014T903	10.73	3014T105	13.12	3013T903	10.19	3013T131	12.46
5/16"-18	3"	7/8"	900	3014T904	12.23	3014T106	14.22	3013T904	11.62	3013T132	13.51
5/16"-18	4"	7/8"	900	3014T905	13.94	3014T107	16.29	3013T905	13.24	3013T133	15.48
5/16"-24	1 1/8"	7/8"	900	3014T257	5.11	3014T108	5.71	3013T121	5.89	3013T134	5.42
3/8"-16	5/8"	1"	1,300	3014T956	3.15	3014T957	7.57				
3/8"-16	3/4"	1"	1,300	3014T954	3.15	3014T955	7.57				
3/8"-16	1 1/4"	1"	1,300	3014T471	3.81	3014T253	5.32	3013T471	3.62	3013T343	5.05
3/8"-16	2 1/2"	1"	1,400	3014T62	12.21	3014T142	13.33	3013T62	11.60	3013T101	12.66
3/8"-16	3"	1"	1,400	3014T63	12.50	3014T143	13.76	3013T63	11.88	3013T102	13.07
3/8"-16	4"	1"	1,400	3014T906	13.88	3014T109	15.46	3013T906	13.19	3013T135	14.69
3/8"-16	4 1/2"	1"	1,300	3014T907	15.02	3014T11	9.98	3013T907	14.27	3013T136	9.48
3/8"-16	6"	1"	1,300	3014T974	8.66	3014T975	10.82	3013T969	8.23	3013T971	10.27
3/8"-24	1 1/4"	1"	1,400	3014T258	8.94						
7/16"-14	1 3/8"	1 1/16"	1,800	3014T481	4.79	3014T144	5.68	3013T481	4.55	3013T103	5.40
7/16"-14	2"	1 1/16"	2,000	3014T908	11.84	3014T112	14.36	3013T908	11.25	3013T137	13.64
7/16"-14	3"	1 1/16"	2,000	3014T909	12.66	3014T113	14.86	3013T909	12.03	3013T138	14.12
7/16"-14	4"	1 1/16"	2,000	3014T911	14.23	3014T114	16.34	3013T911	13.52	3013T139	15.52
7/16"-14	4 1/2"	1 1/16"	2,000	3014T912	16.16	3014T115	18.21	3013T912	15.35	3013T14	17.30
7/16"-20	1 3/8"	1 1/16"	1,800	3014T941	8.87	3014T947	11.08	3013T961	8.42	3013T962	10.53
1/2"-13	1 1/2"	1 3/16"	2,400	3014T491	5.13	3014T254	5.85	3013T491	4.87	3013T104	5.56
1/2"-13	2 1/2"	1 3/16"	2,600	3014T64	13.46	3014T145	14.73	3013T64	12.79	3013T105	13.99
1/2"-13	3"	1 3/16"	2,600	3014T65	14.10	3014T146	15.60	3013T65	13.39	3013T106	14.82
1/2"-13	4"	1 3/16"	2,400	3014T913	15.29	3014T116	13.46	3013T913	14.53	3013T141	12.79
1/2"-13	4 1/2"	1 3/16"	2,400	3014T914	17.11	3014T117	12.55	3013T914	16.25	3013T142	11.92
1/2"-13	6"	1 3/16"	2,400	3014T972	10.30	3014T973	12.88	3013T967	9.79	3013T968	12.23
1/2"-20	1 1/2"	1 3/16"	2,600	3014T259	4.45	3014T118	7.44	3013T344	4.23	3013T143	7.07
1/2"-20	2 1/2"	1 3/16"	2,600	3014T263	11.09	3014T119	15.45	3013T126	17.92	3013T144	14.68
9/16"-12	1 5/8"	1 1/4"	3,000	3014T51	7.89	3014T147	7.82	3013T51	7.50	3013T107	7.43
9/16"-12	2"	1 1/4"	3,200	3014T915	14.75	3014T12	16.95	3013T915	14.01	3013T145	16.10
9/16"-12	3"	1 1/4"	3,200	3014T916	15.83	3014T121	17.86	3013T916	15.04	3013T146	16.97
9/16"-12	4"	1 1/4"	3,200	3014T917	17.68	3014T122	19.69	3013T917	16.80	3013T147	18.71
9/16"-12	4 1/2"	1 1/4"	3,200	3014T918	19.56	3014T123	21.56	3013T918	18.58	3013T148	20.48
9/16"-18	1 5/8"	1 1/4"	3,000	3014T942	14.87	3014T948	18.59	3013T972	14.13	3013T973	17.67
5/8"-11	1 3/4"	1 3/8"	4,000	3014T52	8.12	3014T148	10.62	3013T52	7.71	3013T108	10.09
5/8"-11	2 1/2"	1 3/8"	4,000	3014T66	19.51	3014T149	21.14	3013T66	18.53	3013T109	20.08
5/8"-11	3"	1 3/8"	4,000	3014T67	20.40	3014T152	22.33	3013T67	19.38	3013T11	21.21
5/8"-11	4"	1 3/8"	4,000	3014T919	22.62	3014T124	22.30	3013T919	21.49	3013T149	21.18
5/8"-11	4 1/2"	1 3/8"	4,000	3014T921	24.94	3014T125	23.16	3013T921	23.69	3013T15	22.00
5/8"-11	6"	1 3/8"	4,000	3014T969	15.21	3014T971	19.01	3013T965	14.45	3013T966	18.07
5/8"-18	1 3/4"	1 3/8"	4,000	3014T264	12.85	3014T126	12.46	3013T345	12.21	3013T151	11.84
3/4"-10	2"	1 1/2"	5,000	3014T531	8.40	3014T255	14.15	3013T531	7.98	3013T112	13.44
3/4"-10	2 1/2"	1 1/2"	6,000	3014T68	22.34	3014T153	24.70	3013T68	21.22	3013T113	23.46
3/4"-10	3"	1 1/2"	6,000	3014T69	23.34	3014T154	25.47	3013T69	22.17	3013T114	24.20
3/4"-10	4"	1 1/2"	6,000	3014T922	25.83	3014T127	28.92	3013T922	24.54	3013T152	27.47
3/4"-10	4 1/2"	1 1/2"	6,000	3014T923	27.24	3014T128	30.15	3013T923	25.88	3013T153	28.64
3/4"-10	5"	1 1/2"	6,000	3014T924	29.43	3014T129	32.21	3013T924	27.96	3013T154	30.60
3/4"-10	6"	1 1/2"	5,000	3014T967	18.67	3014T968	23.35	3013T963	17.73	3013T964	22.18
3/4"-16	2"	1 1/2"	6,000	3014T261	11.94	3014T13	15.76	3013T346	11.34	3013T155	14.97
7/8"-9	2 1/4"	1 11/16"	7,000	3014T54	11.80	3014T155	18.88	3013T54	11.21	3013T115	17.94
7/8"-9	3"	1 11/16"	7,000	3014T925	26.02	3014T131	30.69	3013T925	24.72	3013T156	29.16
7/8"-9	4"	1 11/16"	7,000	3014T926	28.83	3014T132	32.65	3013T926	27.39	3013T157	31.02
7/8"-9	4 1/2"	1 11/16"	7,000	3014T927	31.03	3014T133	34.40	3013T927	29.48	3013T158	32.68
7/8"-9	5"	1 11/16"	7,000	3014T928	32.41	3014T134	35.84	3013T928	30.79	3013T159	34.05
7/8"-14	2 1/4"	1 11/16"	7,000	3014T943	21.04	3014T949	26.29	3013T974	19.99	3013T975	24.98
1"-8	2 1/2"	1 13/16"	9,000	3014T55	16.09	3014T156	26.45	3013T55	16.09	3013T116	25.13
1"-8	3"	1 13/16"	9,000	3014T929	31.92	3014T135	37.66	3013T929	30.32	3013T16	35.78
1"-8	4"	1 13/16"	9,000	3014T931	35.34	3014T136	41.35	3013T931	33.57	3013T161	39.28
1"-8	4 1/2"	1 13/16"	9,000	3014T932	37.86	3014T137	43.74	3013T932	35.97	3013T162	41.55
1"-8	5"	1 13/16"	9,000	3014T933	39.54	3014T138	45.64	3013T933	37.56	3013T163	43.36
1"-12	2 1/2"	1 13/16"	9,000	3014T944	25.43	3014T951	31.81	3013T976	24.16	3013T977	30.21
1"-14	2 1/2"	1 13/16"	9,000	3014T262	23.69	3014T139	31.02	3013T127	22.51	3013T164	29.47
1 1/8"-7	2 3/4"	2"	12,000	3014T56	26.80	3014T14	38.61	3013T56	25.46	3013T165	36.68
1 1/4"-7	3"	2 3/16"	15,000	3014T57	33.48	3014T141	46.58	3013T57	31.81	3013T166	44.25
1 1/4"-12	3"	2 3/16"	15,000	3014T946	44.51	3014T953	55.65	3013T981	42.28	3013T982	52.87
1 1/2"-6	3 1/2"	2 1/2"	21,000	3014T58	53.72	3014T191	62.17	3013T58	51.03	3013T167	59.06
1 3/4"-5	3 3/4"	2 7/8"	28,000	3014T59	89.13	3014T192	97.97	3013T59	84.67	3013T168	93.07
2"-4 1/2	4"	3 1/4"	38,000	3014T61	111.14	3014T193	129.86	3013T61	105.58	3013T169	123.37
2 1/2"-4	5"	4"	56,000	3014T101	390.45	3014T194	535.69	3013T88	370.93	3013T17	508.91

Warning: *Never use to lift people or items over people.*

Metric Eyebolts with Shoulder—For Lifting



Steel and Galvanized Steel



Zinc-Plated Steel and Stainless Steel

Also known as machinery eyebolts. Zinc-plated steel and stainless steel eyebolts meet DIN 580.

Zinc-plated steel eyebolts offer good corrosion resistance. **Galvanized steel** eyebolts have a hot-dipped finish for more corrosion resistance than zinc-plated steel. **304 stainless steel** eyebolts are more corrosion resistant than galvanized steel. **316 stainless steel** are the most corrosion-resistant eyebolts.

Note: Capacities listed are for vertical lifting only. Eyebolts with shoulder can be used for angular lifting up to 45°, but the capacities will be significantly reduced. For angular lifting, we recommend hoist rings, sold on pages 1542-1544.

Thread Size	Thread Lg., mm	Eye Dia., mm	Vertical Cap., lbs.		
Steel					
M6×1	12	19	450	3040T11	$5.58
M7×1	14	22	800	3040T12	5.89
M8×1.25	16	25	1,100	3040T13	5.89
M8×1.25	76	25	975	3040T31	15.84
M10×1.5	20	27	1,625	3040T14	6.13
M12×1.75	24	30	2,250	3040T15	6.63
M12×1.75	76	30	2,250	3040T33	17.79
M14×2	28	33	3,500	3040T16	8.78
M16×2	32	35	3,975	3040T17	10.04
M16×2	76	35	3,500	3040T35	26.97
M18×2.5	36	38	4,700	3040T18	13.30
M18×2.5	76	38	4,700	3040T36	31.22
M20×2.5	40	41	6,300	3040T19	14.26
M24×3	48	46	8,475	3040T21	18.13
M27×3	48	51	11,450	3040T22	26.72
M30×3.5	60	55	14,100	3040T23	34.78
M36×4	72	63	19,750	3040T24	58.67
M42×4.5	84	73	26,350	3040T25	87.58
M48×5	96	82	36,150	3040T27	121.04
Zinc-Plated Steel					
M6×1	12	14	150	3107T41	3.82
M8×1.25	13	20	300	3107T42	3.97
M10×1.5	17	25	500	3107T43	3.76
M12×1.75	21	30	725	3107T44	5.02
M16×2	27	35	1,525	3107T45	7.00
M20×2.5	30	40	2,625	3107T46	9.02
M24×3	36	50	3,950	3107T47	16.09
M30×3.5	45	60	7,050	3107T48	32.28
M36×4	54	70	10,125	3107T49	56.52
M42×4.5	63	80	13,875	3107T65	87.00
M48×5	68	90	18,950	3107T66	131.00

Thread Size	Thread Lg., mm	Eye Dia., mm	Vertical Cap., lbs.		
Galvanized Steel					
M6×1	26	19	450	4843T11	$4.50
M7×1	29	22	800	4843T12	4.75
M8×1.25	32	25	975	4843T13	4.70
M10×1.5	35	28	1,625	4843T14	5.36
M12×1.75	38	30	2,250	4843T15	6.05
M14×2	45	35	3,500	4843T16	8.08
M16×2	45	35	3,500	4843T17	9.41
M18×2.5	51	38	4,700	4843T18	12.52
M20×2.5	57	43	6,300	4843T19	17.09
M24×3	64	46	8,475	4843T21	23.44
M27×3	70	51	11,450	4843T22	37.84
M30×3.5	76	55	14,100	4843T23	42.05
M36×4	89	63	19,750	4843T24	71.75
304 Stainless Steel					
M8×1.25	13	20	300	3100T11	5.17
M10×1.5	17	25	500	3100T12	7.92
M12×1.75	21	30	725	3100T13	13.54
M16×2	27	35	1,525	3100T14	20.52
M20×2.5	30	40	2,625	3100T15	36.30
M24×3	36	50	3,950	3100T16	77.08
M30×3.5	45	60	7,050	3100T17	102.10
M36×4	54	70	10,125	3100T18	223.20
316 Stainless Steel					
M8×1.25	13	20	300	3130T11	5.46
M10×1.5	17	25	500	3130T12	10.95
M12×1.75	21	30	725	3130T13	16.21
M16×2	27	35	1,525	3130T14	31.25
M20×2.5	30	40	2,625	3130T15	32.46
M24×3	36	50	3,950	3130T21	82.49
M30×3.5	45	60	7,050	3130T22	161.99
M36×4	54	70	10,125	3130T23	230.72

Eyebolts with Nuts—For Lifting



With Shoulder



Without Shoulder

Also known as nut eyebolts, these are designed for through-hole applications.

Galvanized steel eyebolts have a hot-dipped finish for corrosion resistance. **304 stainless steel** eyebolts are more corrosion resistant than galvanized steel. **316 stainless steel** are the most corrosion-resistant eyebolts.

Note: Capacities listed are for vertical lifting only. Eyebolts with shoulder can be used for angular lifting up to 45°, but the capacities will be significantly reduced. For angular lifting, we recommend hoist rings, sold on pages 1542-1544. Eyebolts without shoulder are for vertical lifting only.

Thread Size	Shank Lg.	Thread Lg.	Eye Dia.	Vertical Cap., lbs.	With Shoulder		Without Shoulder	
Inch Thread								
Galvanized Steel								
1/4"-20	2"	1 1/2"	1/2"	500	3018T14	$4.00	3016T14	$3.80
1/4"-20	3"	1 1/2"	1/2"	500	3018T23	4.29	3016T15	4.09
1/4"-20	4"	2"	1/2"	500	3018T34	5.37	3016T16	5.11
1/4"-20	5"	2 1/2"	1/2"	500			3016T17	6.46
1/4"-20	6"	3"	1/2"	500			3016T18	6.61
5/16"-18	2 1/4"	1 1/2"	5/8"	800	3018T15	5.06	3016T23	4.82
5/16"-18	3 1/4"	1 1/2"	5/8"	800	3018T24	5.31	3016T24	5.06
5/16"-18	4 1/4"	2 1/2"	5/8"	800	3018T35	5.67	3016T26	5.40
5/16"-18	5"	2 1/2"	5/8"	800			3016T27	6.61
5/16"-18	6"	3"	5/8"	800			3016T28	7.75
3/8"-16	2 1/2"	1 1/2"	3/4"	1,200	3018T16	5.52	3016T32	5.26
3/8"-16	3"	1 1/2"	3/4"	1,200	3018T25	6.11	3016T33	5.82
3/8"-16	4"	1 1/2"	3/4"	1,200			3016T34	7.02
3/8"-16	4 1/4"	2"	3/4"	1,200			3016T35	6.52
3/8"-16	4 1/2"	2"	3/4"	1,200	3018T36	6.52		
3/8"-16	4 1/2"	2 1/2"	3/4"	1,200	3018T83	16.02	3016T76	15.26
3/8"-16	5"	2 1/2"	3/4"	1,200	3018T26	8.29	3016T36	7.90
3/8"-16	6"	3"	3/4"	1,200	3018T27	8.46	3016T37	8.06
3/8"-16	8"	4"	3/4"	1,200	3018T28	11.25	3016T38	10.71
3/8"-16	10"	4"	3/4"	1,200			3016T11	15.44
1/2"-13	2"	1 7/8"	1"	2,100	3018T44	7.20	3016T39	6.86
1/2"-13	3 1/4"	1 1/2"	1"	2,100	3018T17	7.50	3016T42	7.14
1/2"-13	4"	2"	1"	2,100			3016T41	8.25
1/2"-13	4 1/2"	2"	1"	2,100	3018T29	7.68	3016T44	7.31
1/2"-13	6"	3"	1"	2,100	3018T37	9.72	3016T45	9.26
1/2"-13	8"	4"	1"	2,100	3018T45	13.53	3016T46	12.89
1/2"-13	10"	4"	1"	2,100	3018T46	16.94	3016T47	16.13
1/2"-13	12"	4"	1"	2,100	3018T47	17.40	3016T48	16.57

(Continued on following page)

Warning: *Never use to lift people or items over people.*

Eyebolts with Nuts—For Lifting *(Continued from previous page)*

Thread Size	Shank Lg.	Thread Lg.	Eye Dia.	Vertical Cap., lbs.	With Shoulder		Without Shoulder	
Inch Thread (Cont.)								
Galvanized Steel (Cont.)								
5/8"-11	4"	2"	1 1/4"	5,200	3018T18	$27.16	3016T82	$25.87
5/8"-11	4 1/2"	2"	1 1/4"	3,500	3018T43	11.54	3016T52	10.99
5/8"-11	6"	3"	1 1/4"	3,500	3018T38	14.14	3016T53	13.47
5/8"-11	8"	4"	1 1/4"	3,500	3018T48	20.97	3016T54	19.97
5/8"-11	10"	4"	1 1/4"	3,500	3018T49	23.43	3016T55	22.31
5/8"-11	12"	4"	1 1/4"	3,500	3018T51	24.56	3016T56	23.39
5/8"-11	15"	6"	1 1/4"	3,500	_____	____	3016T57	30.17
5/8"-11	18"	6"	1 1/4"	3,500	_____	____	3016T58	39.32
3/4"-10	4 1/2"	2 1/2"	1 1/2"	5,200	3018T19	16.84	3016T62	16.04
3/4"-10	6"	3"	1 1/2"	5,200	3018T39	18.95	3016T63	18.05
3/4"-10	8"	4"	1 1/2"	5,200	_____	____	3016T64	27.74
3/4"-10	10"	4"	1 1/2"	5,200	_____	____	3016T65	29.99
3/4"-10	12"	4"	1 1/2"	5,200	_____	____	3016T66	30.77
3/4"-10	15"	6"	1 1/2"	5,200	_____	____	3016T67	36.18
3/4"-10	18"	6"	1 1/2"	5,200	_____	____	3016T68	48.74
7/8"-9	5"	2 1/2"	1 3/4"	7,000	3018T21	28.39	3016T71	27.04
7/8"-9	6"	3 1/2"	1 3/4"	7,000	_____	____	3016T12	34.02
7/8"-9	8"	4"	1 3/4"	7,000	3018T41	35.65	3016T72	33.95
7/8"-9	12"	4"	1 3/4"	7,000	_____	____	3016T73	45.62
7/8"-9	18"	6"	1 3/4"	7,000	_____	____	3016T74	59.75
1"-8	6"	3"	2"	10,000	3018T22	38.71	3016T84	36.87
1"-8	9"	4"	2"	10,000	3018T42	45.72	3016T85	43.54
1"-8	12"	4"	2"	10,000	_____	____	3016T87	52.90
1"-8	18"	6"	2"	10,000	_____	____	3016T88	60.28
1"-8	24"	6"	2"	10,000	_____	____	3016T83	87.62
1 1/4"-7	6"	5"	2 3/16"	13,500	_____	____	3016T95	78.78
1 1/4"-7	8"	4"	2 1/2"	21,000	3018T81	123.31	_____	____
1 1/4"-7	12"	4"	2 3/16"	13,500	_____	____	3016T97	92.29
1 1/4"-7	12"	4"	2 1/2"	21,000	3018T82	138.47	_____	____
1 1/4"-7	20"	6"	2 1/2"	21,000	_____	____	3016T98	164.60
1 1/2"-6	12"	4"	2 1/2"	20,000	_____	____	3016T13	138.21
1 1/2"-6	15"	6"	3"	24,000	3018T86	180.66	_____	____
304 Stainless Steel								
1/4"-20	4"	1"	1/2"	450	_____	____	3069T31	23.22
1/4"-20	4"	1"	3/4"	450	3069T52	24.38	_____	____
5/16"-18	4"	1 1/4"	5/8"	775	_____	____	3069T32	22.67
5/16"-18	4"	1 1/4"	7/8"	775	3069T53	23.80	_____	____
3/8"-16	4 1/2"	1 1/2"	3/4"	1,150	3069T41	32.67	_____	____
1/2"-13	4 1/2"	2"	1"	2,150	3069T54	32.50	3069T33	30.95
1/2"-13	6"	2"	1"	2,150	3069T42	32.92	3069T34	31.35
5/8"-11	4"	2 1/4"	1 3/8"	3,425	_____	____	3069T35	48.33
5/8"-11	4"	2 1/2"	1 3/8"	3,425	3069T55	50.75	_____	____
5/8"-11	6"	2 1/4"	1 3/8"	3,425	3069T43	57.89	3069T36	55.13
3/4"-10	6"	2 1/2"	1 1/2"	5,125	3069T44	79.82	3069T37	76.02
7/8"-9	6"	3"	1 3/4"	7,125	_____	____	3069T38	101.00
1"-8	6"	3 1/2"	2"	9,350	3069T45	143.90	3069T39	137.05
316 Stainless Steel								
1/4"-20	1 1/4"	1"	1/2"	500	3032T64	17.71	3032T51	16.87
1/4"-20	2"	1 1/2"	1/2"	500	3032T41	16.67	3032T31	15.88
1/4"-20	4"	2"	1/2"	500	3032T61	20.99	3032T57	19.99
5/16"-18	1 7/16"	3/8"	5/8"	800	3032T65	21.23	3032T52	20.22
5/16"-18	2 1/4"	1 1/2"	5/8"	800	3032T42	20.54	3032T32	19.56
5/16"-18	4 1/4"	2 1/2"	5/8"	800	3032T62	25.31	3032T58	24.10
3/8"-16	3/4"	3/4"	3/4"	1,200	3032T66	24.55	3032T68	23.32
3/8"-16	1 1/2"	1"	3/4"	1,200	3032T67	25.04	3032T54	23.85
3/8"-16	2 1/2"	1 1/2"	3/4"	1,200	3032T43	23.53	3032T33	22.41
3/8"-16	4 1/4"	2"	3/4"	1,200	_____	____	3032T59	27.82
3/8"-16	4 1/2"	2"	3/4"	1,200	3032T63	29.21	_____	____
1/2"-13	3 1/4"	1 1/2"	1"	2,200	3032T44	35.79	3032T34	34.09
1/2"-13	6"	3"	1"	2,200	3032T45	42.18	3032T35	40.17
5/8"-11	4 1/2"	2"	1 1/4"	3,500	3032T46	57.40	3032T36	54.67
3/4"-10	1"	7/8"	1 1/2"	5,125	3032T108	49.50	3032T118	47.02
3/4"-10	2"	1 3/4"	1 1/2"	5,125	3032T109	55.64	3032T119	52.86
3/4"-10	4 1/2"	2"	1 1/2"	5,125	3032T47	74.23	3032T37	70.70
3/4"-10	6"	3"	1 1/2"	5,125	3032T124	86.23	3032T125	81.92
7/8"-9	5"	2 1/2"	1 3/4"	7,125	3032T48	115.15	3032T38	109.67
1"-8	1 7/16"	1 3/8"	2"	9,350	3032T112	91.59	3032T122	87.01
1"-8	2 1/2"	2 1/4"	2"	9,350	3032T113	107.86	3032T123	102.47
1"-8	6"	3"	2"	9,350	3032T49	154.85	3032T39	147.48
Metric Thread—Dimensions in millimeters								
316 Stainless Steel								
M6×1	51	39	12	500	3032T11	4.34	3032T77	4.12
M8×1.25	58	39	16	800	3032T14	6.86	3032T81	6.52
M10×1.5	20	20	19	1,200	3032T16	9.07	3032T83	8.62
M10×1.5	64	39	19	1,200	3032T18	9.64	3032T85	9.16
M12×1.75	39	26	25	2,150	3032T21	15.84	3032T87	15.05
M12×1.75	83	39	25	2,150	3032T22	20.70	3032T88	19.66
M16×2	51	45	31	3,425	3032T25	35.70	3032T92	33.91
M18×2.5	26	26	38	5,125	3032T28	51.98	3032T95	49.38
M24×3	36	36	50	9,350	3032T74	96.18	3032T101	91.37

Warning: *Never use to lift people or items over people.*

Corrosion-Resistant Eyebolts—For Lifting



With Shoulder



Without Shoulder

Use these eyebolts outdoors and in other environments where corrosion is a factor. **316 stainless steel** are the most corrosion resistant eyebolts.

Note: Capacities listed are for vertical lifting only. Eyebolts with shoulder can be used for angular lifting up to 45°, but the capacities will be significantly reduced. For angular lifting, we recommend hoist rings, sold on pages 1542-1544. Eyebolts without shoulder are for vertical lifting only.

Thread Size	Thread Lg.	Eye Dia.	With Shoulder: Vertical Cap., lbs.			Without Shoulder: Vertical Cap., lbs.		
304 Stainless Steel								
1/4"-20	1"	3/4"	450	33045T77	$10.71	450	33045T71	$10.17
1/4"-20	1 1/2"	3/4"	500	33045T33	14.21	—	—	—
1/4"-20	2"	3/4"	500	33045T32	15.60	—	—	—
1/4"-20	3"	3/4"	500	33045T31	16.42	—	—	—
1/4"-20	4"	3/4"	500	33045T29	16.89	—	—	—
5/16"-18	1 1/8"	7/8"	775	33045T78	14.57	775	33045T72	13.84
5/16"-18	1 1/2"	7/8"	900	33045T28	19.05	—	—	—
5/16"-18	2"	7/8"	900	33045T27	20.94	—	—	—
5/16"-18	3"	7/8"	900	33045T51	23.86	—	—	—
3/8"-16	1 1/4"	1"	1,300	33045T81	18.93	1,300	33045T79	17.98
3/8"-16	3"	1"	1,300	33045T52	25.79	1,300	33045T35	24.50
1/2"-13	1 1/2"	1 3/16"	2,400	33045T82	20.28	2,150	33045T73	19.31
1/2"-13	3"	1 3/16"	2,400	33045T53	31.51	2,400	33045T34	29.93
1/2"-13	6"	1 3/16"	—	—	—	2,400	33045T25	38.48
5/8"-11	1 3/4"	1 3/8"	4,000	33045T83	36.98	3,425	33045T74	35.22
5/8"-11	3"	1 3/8"	4,000	33045T37	47.76	—	—	—
3/4"-10	2"	1 1/2"	5,000	33045T84	37.64	5,125	33045T75	35.85
3/4"-10	3"	1 1/2"	5,000	33045T54	65.16	—	—	—
1"-8	2 1/2"	1 13/16"	9,000	33045T85	83.16	9,350	33045T76	79.20
1 1/4"-7	3"	2 3/16"	15,000	33045T86	135.22	—	—	—
316 Stainless Steel								
1/4"-20	1"	3/4"	500	8891T72	11.28	500	8891T32	10.72
1/4"-20	3"	3/4"	500	8891T55	28.64	500	8891T61	27.21
5/16"-18	1 1/8"	7/8"	900	8891T75	17.52	900	8891T35	16.64
5/16"-18	3"	7/8"	900	8891T51	30.23	900	8891T56	28.72
3/8"-16	1 1/4"	1"	1,400	8891T88	20.04	1,400	8891T48	19.04
3/8"-16	3"	1"	1,400	8891T52	35.45	1,400	8891T57	33.68
1/2"-13	1 1/2"	1 3/16"	2,600	8891T79	25.93	2,600	8891T39	24.63
1/2"-13	3"	1 3/16"	2,600	8891T53	38.57	2,600	8891T58	36.64
5/8"-11	1 3/4"	1 3/8"	4,000	8891T82	38.37	4,000	8891T42	36.45
5/8"-11	3"	1 3/8"	4,000	8891T54	56.43	4,000	8891T59	53.61
3/4"-10	2"	1 1/2"	6,000	8891T84	52.23	6,000	8891T44	49.74

Rotating Eyebolts—For Lifting



Unlike conventional eyebolts, you can rotate the eye 360° to match the angle of your load. Eyebolts are made of steel with a pink powder-coated finish. They include a removable key for tightening the bolt.

Note: Capacities listed are for vertical lifting only. Eyebolts with shoulder can be used for angular lifting up to 45°, but the capacities will be significantly reduced. For angular lifting, we recommend hoist rings, sold on pages 1542-1544.

Thread Size	Thread Lg.	Eye Dia.	Vertical Cap., lbs.		
Inch Thread					
3/8"-16	9/16"	1"	875	3059T69	$57.05
1/2"-13	11/16"	1 3/16"	1,650	3059T71	64.15
5/8"-11	15/16"	1 3/8"	3,300	3059T72	75.37
3/4"-10	1 3/16"	1 9/16"	5,050	3059T73	108.13
1"-8	1 3/8"	1 7/8"	7,050	3059T74	134.25
1 1/4"-7	1 3/4"	2 3/8"	9,900	3059T75	175.14
1 1/2"-6	2 1/8"	2 13/16"	15,425	3059T76	283.02
2"-4 1/2	2 13/16"	3 11/16"	26,450	3059T77	478.22
Metric Thread—Dimensions in millimeters					
M12×1.75	18	30	1,650	3059T51	64.15
M16×2	24	35	3,300	3059T52	75.37
M20×2.5	30	40	5,050	3059T53	98.05
M24×3	36	48	7,050	3059T54	134.25

Low-Temperature Eyebolts—For Lifting



With Shoulder



Without Shoulder

These eyebolts retain their strength in temperatures as low as -40° F. All are made of steel and meet ASTM F541.

Note: Capacities listed are for vertical lifting only. Eyebolts with shoulder can be used for angular lifting up to 45°, but the capacities will be significantly reduced. For angular lifting, we recommend hoist rings, sold on pages 1542-1544. Eyebolts without shoulder are for vertical lifting only.

Thread Size	Thread Lg.	Eye Dia.	Vertical Cap., lbs.	With Shoulder		Without Shoulder	
3/8"-16	1 1/4"	1"	1,475	3049T72	$15.80	3049T71	$15.01
1/2"-13	1 1/2"	1 3/16"	2,700	3049T92	19.68	3049T82	18.70
5/8"-11	1 3/4"	1 3/8"	4,300	3049T93	27.30	3049T83	25.93
3/4"-10	2"	1 1/2"	6,400	3049T94	32.46	3049T84	30.84
7/8"-9	2 1/4"	1 11/16"	8,800	3049T95	46.81	3049T85	44.47
1"-8	2 1/2"	1 13/16"	11,600	3049T96	62.48	3049T86	59.36
1 1/4"-7	3"	2 3/16"	18,400	3049T51	77.46	—	—
1 1/2"-6	3 1/2"	2 1/2"	26,600	3049T52	117.52	—	—

Warning: *Never use to lift people or items over people.*

Low-Visibility Eyebolts—For Lifting

The matte black-oxide finish won't reflect light, allowing the eyebolts to blend into the background. All are made of steel.

Note: Capacities listed are for vertical lifting only. Eyebolts with shoulder can be used for angular lifting up to 45°, but the capacities will be significantly reduced. For angular lifting, we recommend hoist rings, sold on pages 1542-1544. Eyebolts without shoulder are for vertical lifting only.



With Shoulder



Without Shoulder

Thread Size	Thread Lg.	Eye Dia.	Vertical Cap., lbs.	With Shoulder		Without Shoulder	
1/4"-20	1"	3/4"	500	3067T51	$4.33	3067T71	$4.11
5/16"-18	1 1/8"	7/8"	900	3067T52	4.58	3067T72	4.35
3/8"-16	1 1/4"	1"	1,400	3067T53	5.44	3067T73	5.17
3/8"-16	3"	1"	1,400	3067T54	13.91	3067T74	13.21
1/2"-13	1 1/2"	1 3/16"	2,600	3067T55	6.65	3067T75	6.32
1/2"-13	3"	1 3/16"	2,600	3067T56	15.94	3067T76	15.14
5/8"-11	1 3/4"	1 3/8"	4,000	3067T57	10.94	3067T77	10.39
5/8"-11	3"	1 3/8"	4,000	3067T58	23.31	3067T78	22.14
3/4"-10	2"	1 1/2"	6,000	3067T59	14.72	3067T79	13.98
3/4"-10	3"	1 1/2"	6,000	3067T61	26.12	3067T81	24.81
7/8"-9	2 1/4"	1 11/16"	7,000	3067T62	19.93	3067T82	18.93
1"-8	2 1/2"	1 13/16"	9,000	3067T64	27.20	3067T84	25.84
1 1/4"-7	3"	2 3/16"	15,000	3067T66	47.46	3067T86	45.09
1 1/2"-6	3 1/2"	2 1/2"	21,000	3067T67	71.59	3067T87	68.01

Eye Nuts—For Lifting

Create your own lifting eye by adding an eye nut to a stud or bolt.

Zinc-plated steel eye nuts offer good corrosion resistance. **Galvanized steel** eye nuts have a hot-dipped finish for more corrosion resistance than zinc-plated steel. **304 stainless steel** eye nuts are more corrosion resistant than galvanized steel. **316 stainless steel** are the most corrosion resistant eye nuts.

Note: Capacity applies to the eye nut only. The stud or bolt you use will affect the overall capacity. Eye nuts are for vertical lifting only.



Heavy Duty Oval Eye



Round Eye



Oval Eye

Thread Size	Eye Dia.	Vertical Cap., lbs.		
Inch Thread				
Steel—Heavy Duty Oval Eye				
3/8"-16	7/8"	1,800	3274T41	$6.83
1/2"-13	1 1/8"	3,600	3274T42	8.67
5/8"-11	1 3/8"	5,800	3274T43	11.16
3/4"-10	1 1/2"	10,600	3274T44	18.79
7/8"-9	1 5/8"	14,400	3274T51	29.06
1"-8	1 3/4"	18,800	3274T46	34.70
1 1/4"-7	2"	29,400	3274T47	53.98
1 1/2"-6	2 1/2"	35,600	3274T48	89.81
Zinc-Plated Steel—Round Eye				
1/4"-20	3/4"	300	3112T31	5.14
5/16"-18	3/4"	300	3112T32	5.14
3/8"-16	15/16"	500	3112T33	5.68
1/2"-13	1 3/16"	725	3112T34	7.30
5/8"-11	1 3/8"	1,525	3112T35	11.43
3/4"-10	1 9/16"	2,625	3112T36	16.49
7/8"-9	1 15/16"	3,950	3112T37	35.14
1"-8	1 15/16"	3,950	3112T38	35.14
1 1/4"-7	2 3/4"	7,050	3112T59	108.89
1 1/2"-6	3 1/8"	10,125	3112T61	182.22
Galvanized Steel—Oval Eye				
1/4"-20	3/4"	500	3019T14	6.03
5/16"-18	3/4"	825	3019T15	6.16
3/8"-16	1"	1,225	3019T16	6.36
7/16"-14	1 1/4"	1,700	3019T17	6.46
1/2"-13	1 1/4"	2,225	3019T18	7.03
5/8"-11	1 1/2"	3,600	3019T19	7.56
3/4"-10	1 3/4"	5,200	3019T21	14.09
7/8"-9	2"	7,200	3019T22	16.86
1"-8	2 1/4"	10,000	3019T23	29.43
1 1/4"-7	2 1/2"	15,500	3019T25	41.07
1 1/2"-6	3 1/8"	22,500	3019T27	129.83
316 Stainless Steel—Heavy Duty Oval Eye				
3/8"-16	7/8"	1,800	3061T43	21.70
1/2"-13	1 1/8"	3,600	3061T44	35.38
5/8"-11	1 3/8"	5,800	3061T45	61.13
3/4"-10	1 1/2"	10,600	3061T46	88.58
316 Stainless Steel—Oval Eye				
1/4"-20	3/4"	500	3061T14	15.77
5/16"-18	3/4"	825	3061T15	16.78
3/8"-16	1 1/4"	1,225	3061T25	19.98
1/2"-13	1 1/4"	2,225	3061T18	21.26
5/8"-11	1 1/2"	3,600	3061T21	28.96
3/4"-10	1 3/4"	5,200	3061T23	42.94

Thread Size	Eye Dia.	Vertical Cap., lbs.		
Metric Thread—Dimensions in millimeters				
Steel—Heavy Duty Oval Eye				
M8×1.25	22	1,100	3274T61	$10.83
M12×1.75	28	2,300	3274T62	13.73
M16×2	35	3,700	3274T63	16.67
M18×2.5	38	6,000	3274T64	25.06
M20×2.5	41	7,600	3274T65	40.17
M24×3	44	11,000	3274T66	47.37
M30×3.5	50	14,000	3274T67	72.75
M36×4	63	19,000	3274T68	120.70
Zinc-Plated Steel—Round Eye				
M6×1	14	150	3112T51	4.26
M8×1.25	20	300	3112T52	4.60
M10×1.5	25	500	3112T53	5.97
M12×1.75	30	725	3112T54	7.00
M16×2	35	1,525	3112T55	10.14
M20×2.5	40	2,625	3112T56	14.86
M24×3	50	3,950	3112T57	27.14
M30×3.5	60	7,050	3112T58	55.14
Galvanized Steel—Oval Eye				
M6×1	19	350	3019T31	9.01
M8×1.25	25	800	3019T32	9.16
M10×1.5	31	1,175	3019T33	9.26
M12×1.75	31	1,700	3019T34	9.47
M16×2	38	2,500	3019T35	11.57
M20×2.5	50	5,000	3019T36	26.31
M24×3	50	5,000	3019T37	26.31
304 Stainless Steel—Round Eye				
M8×1.25	20	300	3155T11	5.03
M10×1.5	25	500	3155T12	10.95
M12×1.75	30	725	3155T13	10.53
M16×2	35	1,525	3155T14	16.74
M24×3	50	3,950	3155T17	44.19
M36×4	70	10,125	3155T19	158.97
316 Stainless Steel—Oval Eye				
M6×1	19	475	3061T26	14.04
M8×1.25	19	775	3061T27	18.43
M10×1.5	32	1,150	3061T28	26.13
M12×1.75	32	2,150	3061T29	26.25
M16×2	38	3,425	3061T31	35.00
M18×2.5	42	4,700	3061T32	59.29
316 Stainless Steel—Round Eye				
M8×1.25	20	300	3174T11	6.71
M10×1.5	25	500	3174T12	10.18
M12×1.75	30	750	3174T13	13.33
M16×2	35	1,525	3174T14	21.80
M24×3	50	3,950	3174T16	66.07
M30×3.5	60	7,050	3174T17	121.89

Warning: *Never use to lift people or items over people.*

Nylon-Coated Eyebolts—For Lifting



Route wire and cable through the smooth eye without snagging. Made of steel. Temperature range is 30° to 275° F.

Note: Capacities listed are for vertical lifting only. Eyebolts with shoulder can be used for angular lifting up to 45°, but the capacities will be significantly reduced. For angular lifting, we recommend hoist rings, sold on pages 1542-1544. Eyebolts without shoulder are for vertical lifting only.

Thread Size	Thread Lg.	Eye Dia.	Vertical Cap., lbs.	With Shoulder		Without Shoulder	
1/4"-20	1"	3/4"	500	7691T21	$6.24	7691T32	$5.93
5/16"-18	1 1/8"	7/8"	900	7691T22	6.46	7691T33	6.14
3/8"-16	1 1/4"	1"	1,400	7691T23	7.24	7691T34	6.88
1/2"-13	1 1/2"	1 3/16"	2,600	7691T24	8.44	7691T35	8.02
5/8"-11	1 3/4"	1 3/8"	4,000	7691T25	12.14	7691T36	11.53
3/4"-10	2"	1 1/2"	6,000	7691T26	15.18	7691T37	14.42

Unthreaded Routing Eyebolts—Not for Lifting



Also known as blank eyebolts, you can weld or thread these to suit your application.

316 stainless steel eyebolts are the most corrosion resistant.

Shank Dia.	Shank Lg.	Eye Dia.	With Shoulder		Without Shoulder	
Steel						
1/4"	1"	3/4"	3080T41	$2.98	3080T11	$2.83
5/16"	1 1/8"	7/8"	3080T42	3.50	3080T12	3.32
3/8"	1 1/4"	1"	3080T43	3.60	3080T13	3.42
3/8"	2 1/2"	1"	3080T44	7.98	3080T14	7.58
3/8"	3"	1"	3080T45	7.98	3080T15	7.58
1/2"	1 1/2"	1 3/16"	3080T47	4.35	3080T17	4.13
1/2"	3"	1 3/16"	3080T49	9.70	3080T19	9.21
5/8"	1 3/4"	1 3/8"	3080T52	7.14	3080T22	6.78
3/4"	2"	1 1/2"	3080T55	9.94	3080T25	9.44
3/4"	3"	1 1/2"	3080T57	19.25	3080T27	18.29
7/8"	2 1/4"	1 11/16"	3080T58	13.62	3080T28	12.94
Steel (Cont.)						
1"	2 1/2"	1 13/16"	3080T59	$18.48	3080T29	$17.56
1 1/8"	2 3/4"	2"	3080T61	34.88	3080T31	33.14
1 1/4"	3"	2 3/16"	3080T62	39.15	3080T32	37.19
1 1/2"	3 1/2"	2 1/2"	3080T63	73.96	3080T33	70.26
316 Stainless Steel						
1/4"	3/4"	3/4"	3109T62	11.55	3109T51	10.97
1/4"	1 1/4"	1/2"	3109T63	11.78	3109T52	11.19
3/8"	3/4"	3/4"	3109T66	16.35	3109T55	15.53
3/8"	1 1/2"	3/4"	3109T67	16.35	3109T56	15.53
1/2"	3/4"	1 3/16"	3109T68	29.41		

Routing Eyebolts with Nuts—Not for Lifting



Also known as nut eyebolts, these bent-closed eyebolts are designed for through-hole applications. Use them for routing wire and for other light duty applications.

Zinc-plated steel eyebolts offer good corrosion resistance. **Black-oxide steel** eyebolts are more corrosion resistant than zinc-plated steel. **304 stainless steel** eyebolts are more corrosion resistant than black-oxide steel. **316 stainless steel** are the most corrosion resistant eyebolts.

Thread Size	Shank Lg.	Thread Lg.	Eye Dia.	Zinc-Plated Steel Pkg. Qty.		Zinc-Plated Steel Pkg.	Black-Oxide Steel Pkg. Qty.		Black-Oxide Steel Pkg.	304 Stainless Steel Pkg. Qty.		304 Stainless Steel Pkg.	316 Stainless Steel Pkg. Qty.		316 Stainless Steel Pkg.
6-32	3/4"	5/8"	1/4"	10	9489T45	$1.86	10	9489T111	$2.28	5	9489T52	$5.55	1	9489T511	$1.37
8-32	1 1/8"	1"	1/4"	10	9489T46	1.89	10	9489T112	2.38	5	9489T53	6.82	1	9489T512	1.40
10-24	1"	7/8"	3/8"	10	9489T47	2.25	10	9489T113	2.82	5	9489T54	7.55	1	9489T514	1.47
10-24	1 3/8"	1 1/4"	5/16"	10	9489T48	2.25	10	9489T114	2.82	5	9489T55	8.33	1	9489T513	1.43
10-24	2"	1"	3/8"	10	9489T49	2.42	10	9489T115	3.13	5	9489T81	8.74	1	9489T515	1.77
10-24	3"	1 1/2"	3/8"	10	9489T51	2.63	10	9489T116	3.43	5	9489T82	9.10	1	9489T516	1.93
1/4"-20	1"	7/8"	1/2"	10	9489T17	2.99	10	9489T117	4.08	5	9489T56	8.01	1	9489T517	2.00
1/4"-20	1 1/2"	1 1/4"	1/2"	10	9489T18	3.14	10	9489T118	4.31	5	9489T57	8.68	1	9489T518	2.17
1/4"-20	2"	1 1/4"	1/2"	10	9489T19	3.50	10	9489T119	4.72	5	9489T58	9.18	1	9489T519	2.23
1/4"-20	2 1/2"	1 1/4"	1/2"	10	9489T21	3.71	10	9489T121	5.09	5	9489T59	9.70	1	9489T521	2.50
1/4"-20	3"	1 1/2"	1/2"	10	9489T22	3.77	10	9489T122	5.16	5	9489T61	10.19	1	9489T522	2.60
1/4"-20	3 1/2"	2"	1/2"	10	9489T711	4.08	10	9489T721	5.65	5	9489T771	11.56	1	9489T523	2.80
1/4"-20	4"	2 1/2"	1/2"	10	9489T23	4.34	10	9489T123	6.05	5	9489T62	11.55	1	9489T524	2.87
1/4"-20	5"	3"	1/2"	10	9489T24	4.64	10	9489T124	6.59	1	9489T63	2.49	1	9489T525	3.17
1/4"-20	6"	3 3/4"	1/2"	10	9489T25	5.54	10	9489T125	7.78	1	9489T64★	2.86	1	9489T526	3.60
5/16"-18	1"	7/8"	5/8"	10	9489T26	4.58	10	9489T126	6.32	1	9489T65	2.29	1	9489T527	3.30
5/16"-18	2"	1 1/4"	5/8"	10	9489T27	5.09	10	9489T127	7.20	1	9489T66	2.66	1	9489T528	3.43
5/16"-18	3"	1 1/2"	5/8"	10	9489T28	5.54	10	9489T128	7.95	1	9489T67	3.07	1	9489T529	3.87
5/16"-18	3 1/2"	2"	5/8"	10	9489T712	5.70	10	9489T722	8.45	1	9489T772	3.28	1	9489T531	4.20
5/16"-18	4"	2 1/2"	5/8"	10	9489T29	6.14	10	9489T129	8.90	1	9489T68	3.47	1	9489T532	4.33
5/16"-18	5"	3"	5/8"	10	9489T713	7.26	10	9489T723	10.73	1	9489T773	3.97	1	9489T533	4.57
5/16"-18	6"	3 3/4"	5/8"	10	9489T714	8.10	10	9489T724	11.96	1	9489T774★	4.39	1	9489T534	4.77
3/8"-16	1"	7/8"	3/4"	10	9489T31	6.55	10	9489T131	9.41	1	9489T71	3.38	1	9489T538	4.83
3/8"-16	2"	1 1/4"	3/4"	10	9489T32	7.36	10	9489T132	10.60	1	9489T72	3.94	1	9489T539	4.97
3/8"-16	2 1/2"	1 1/2"	3/4"	10	9489T33	7.66	10	9489T133	11.11	1	9489T73	4.21	1	9489T541	5.47
3/8"-16	3"	1 1/2"	3/4"	10	9489T34	7.90	10	9489T134	11.68	1	9489T74	4.49	1	9489T542	5.60
3/8"-16	3 1/2"	2"	3/4"	10	9489T715	8.01	10	9489T725	12.01	1	9489T775	4.68	1	9489T543	6.17
3/8"-16	4"	2 1/2"	3/4"	10	9489T35	8.26	10	9489T135	12.36	1	9489T75	5.05	1	9489T544	6.27
3/8"-16	5"	3"	3/4"	10	9489T36	9.16	10	9489T136	13.55	1	9489T76	5.60	1	9489T545	6.90
3/8"-16	6"	3 3/4"	3/4"	10	9489T37	10.11	1	9489T137	1.52	1	9489T77★	6.48	1	9489T546	7.60
3/8"-16	7 3/8"	2 1/2"	1/2"	1	9489T86	1.91	1	9489T142	2.35	1	9489T251	9.73	1	9489T535	11.50
3/8"-16	9 3/8"	2 1/2"	1/2"	1	9489T87	2.33	1	9489T143	2.83	1	9489T252	11.40	1	9489T536	12.47
3/8"-16	11 3/8"	2 1/2"	1/2"	1	9489T88	1.91	1	9489T144	2.35	1	9489T253	12.20	1	9489T537	13.43
1/2"-13	2"	1 1/2"	1"	5	9489T38	8.67	1	9489T138	2.34	1	9489T78	8.80	1	9489T551	9.60
1/2"-13	4"	2 1/2"	1"	1	9489T39	2.07	1	9489T139	2.75	1	9489T79	10.29	1	9489T552	12.57
1/2"-13	6"	3 3/4"	1"	1	9489T41★	2.36	1	9489T141★	3.20	1	9489T85★	12.47	1	9489T553	14.97
1/2"-13	7 3/16"	2 1/2"	5/8"	1	9489T89	3.21	1	9489T145	3.78	1	9489T261	18.68	1	9489T547	23.97
1/2"-13	9 3/16"	2 1/2"	5/8"	1	9489T91	3.40	1	9489T146	4.00	1	9489T262	21.40	1	9489T548	25.87
1/2"-13	11 3/16"	2 1/2"	5/8"	1	9489T92	3.62	1	9489T147	4.26	1	9489T263	23.30	1	9489T549	27.80
5/8"-11	7"	2 1/2"	3/4"	1	9489T93	5.89	1	9489T148	6.80	1	9489T83	18.75	1	9489T554	21.58
3/4"-10	6 15/16"	3"	7/8"	1	9489T94	13.17	1	9489T149	16.46	1	9489T84	20.63	1	9489T555	23.73
3/4"-10	8 15/16"	3"	7/8"	1	9489T95	14.14	1	9489T151	17.19	1	9489T97	21.25	1	9489T556	24.45
3/4"-10	11 15/16"	3"	7/8"	1	9489T96	16.44	1	9489T152	18.88	1	9489T98	22.50	1	9489T557	25.88

★Thread length is 4".

Warning: *Never use to lift people or items over people.*

Closed-Eye Routing Eyebolts with Nuts—Not for Lifting



These eyebolts are welded closed to keep wire and cable from slipping out. They are stronger than bent-closed and open-eye routing eyebolts.

Zinc-plated steel eyebolts offer good corrosion resistance. **316 stainless steel** are the most corrosion resistant eyebolts. They also include two washers.

Thread Size	Shank Lg.	Thread Lg.	Eye Dia.		
Zinc-Plated Steel					
5/16"-18	2 1/2"	1 1/4"	5/8"	9494T51	$1.96
3/8"-16	2 1/2"	1 1/2"	3/4"	9494T52	2.44
3/8"-16	4"	2 1/2"	3/4"	9494T53	2.69
1/2"-13	4"	2 1/2"	1"	9494T54	4.88
1/2"-13	6"	4"	1"	9494T55	5.89
316 Stainless Steel					
10-24	2"	1 1/2"	3/8"	9494T31	6.21
10-24	3"	2"	3/8"	9494T32	6.79
1/4"-20	2"	1 1/2"	7/16"	9494T34	7.12
1/4"-20	3"	2"	7/16"	9494T35	8.18
1/4"-20	4"	2"	7/16"	9494T36	9.06
1/4"-20	5"	2"	7/16"	9494T37	9.65
1/4"-20	6"	2"	7/16"	9494T38	10.88

Thread Size	Shank Lg.	Thread Lg.	Eye Dia.		
316 Stainless Steel (Cont.)					
5/16"-18	3"	2"	1/2"	9494T39	$11.41
5/16"-18	4"	2"	1/2"	9494T41	12.75
5/16"-18	5"	2"	1/2"	9494T42	14.25
5/16"-18	6"	2"	1/2"	9494T43	15.75
3/8"-16	3"	2"	5/8"	9494T44	11.96
3/8"-16	4"	2"	5/8"	9494T45	13.00
3/8"-16	5"	2"	5/8"	9494T46	13.88
3/8"-16	6"	2"	5/8"	9494T47	15.28
1/2"-13	3"	2"	1/2"	9494T61	15.53
1/2"-13	4"	2"	1/2"	9494T62	16.73
1/2"-13	5"	2"	1/2"	9494T63	18.00
1/2"-13	6"	2"	1/2"	9494T64	19.13

Routing Eyebolts for Wood—Not for Lifting



Also known as screw eyes, use the sharp point of these bent-closed eyebolts to mount directly into wood.

Zinc-plated steel eyebolts offer good corrosion resistance. **Brass** and **300 series stainless steel** eyebolts are more corrosion resistant than zinc-plated steel.

Trade Size	Wire Dia.	Shank Lg.	Thread Lg.	Eye Dia.	Zinc-Plated Steel Pkg. Qty.		Pkg.	Brass Pkg. Qty.		Pkg.	300 Series Stainless Steel Pkg. Qty.		Pkg.
214 1/2	5/64"	3/8"	3/16"	1/8"	50	9496T36	$4.56	50	9497T57	$11.09	25	30425T21	$7.71
214	5/64"	1/2"	3/8"	1/8"	50	9496T35	4.56	50	9497T51	11.09	25	30425T22	7.75
212 1/2	7/64"	3/8"	5/16"	3/16"	50	9496T34	5.52	50	9497T58	12.77	25	30425T23	8.38
212	7/64"	9/16"	7/16"	3/16"	50	9496T33	5.52	50	9497T52	12.39	25	30425T24	8.43
210	9/64"	11/16"	9/16"	3/16"	50	9496T32	6.20	25	9497T53	8.24	25	30425T25	9.67
208	5/32"	13/16"	11/16"	3/16"	50	9496T31	8.00	20	9497T54	10.37	20	30425T26	10.10
206	3/16"	1"	3/4"	1/4"	50	9496T29	10.56	10	9497T55	7.29	10	30425T27	8.37
204	7/32"	1 1/8"	15/16"	1/4"	20	9496T28	7.32	10	9497T56	10.68	5	30425T28	8.24
114	5/64"	1/2"	3/8"	1/4"	50	9496T27	5.14	50	9497T41	11.37	25	30425T29	8.27
112	7/64"	9/16"	7/16"	1/4"	50	9496T26	6.12	50	9497T42	13.37	25	30425T31	9.15
110	9/64"	11/16"	9/16"	5/16"	50	9496T25	6.88	25	9497T43	8.82	25	30425T32	10.98
108	5/32"	13/16"	11/16"	3/8"	50	9496T24	9.00	20	9497T44	10.42	10	30425T33	7.75
106	3/16"	1"	3/4"	7/16"	50	9496T23	10.28	10	9497T45	8.16	10	30425T34	9.77
104	7/32"	1 1/8"	15/16"	7/16"	20	9496T22	6.96	10	9497T46	13.38	5	30425T35	8.33
14	5/64"	1/2"	3/8"	5/16"	50	9496T21	5.60	50	9497T31	13.15	25	30425T36	8.80
12	7/64"	9/16"	7/16"	3/8"	50	9496T19	6.52	25	9497T32	7.84	25	30425T37	9.14
10	9/64"	11/16"	9/16"	3/8"	50	9496T18	7.48	25	9497T33	10.19	25	30425T38	11.84
9	9/64"	3/4"	5/8"	7/16"	50	9496T17	8.52	20	9497T34	10.14	20	30425T39	12.93
8	5/32"	13/16"	11/16"	7/16"	50	9496T16	9.48	20	9497T35	11.57	20	30425T17	11.70
6	3/16"	1"	3/4"	1/2"	50	9496T15	12.52	10	9497T36	8.14	10	30425T41	10.03
4	7/32"	1 1/8"	15/16"	9/16"	20	9496T14	8.72	5	9497T37	7.53	10	30425T18	11.50
2	17/64"	15/16"	1 1/8"	11/16"	10	9496T13	6.84	5	9497T38	9.50	5	30425T42	11.61
0	5/16"	1 9/16"	1 1/4"	13/16"	10	9496T12	8.72	1	9497T39	3.39	5	30425T19	13.43
000	23/64"	2 1/16"	1 5/8"	1 1/8"	10	9496T11	14.52	—	—	—	1	30425T43	6.73
—	1/4"	2 3/4"	1 5/16"	1/2"	—	—	—	—	—	—	5	30455T61	5.99
—	1/4"	2 13/16"	1 1/2"	1/2"	10	9589T1	5.90	—	—	—	—	—	—
—	1/4"	4"	1 7/8"	1/2"	—	—	—	—	—	—	5	30455T62	6.56
—	5/16"	2 3/4"	1 3/4"	5/8"	—	—	—	—	—	—	5	30455T63	8.31
—	5/16"	2 13/16"	1 5/8"	5/8"	10	9589T2	8.97	—	—	—	—	—	—
—	5/16"	4 3/4"	1 3/4"	5/8"	—	—	—	—	—	—	1	30455T51	2.36
—	3/8"	2 3/4"	1 3/4"	3/4"	—	—	—	—	—	—	1	30455T52	2.80
—	3/8"	3 1/16"	2"	3/4"	10	9589T3	12.82	—	—	—	—	—	—

Routing Eyebolts for Wire Rope—Not for Lifting

Also known as thimble eyebolts, the large, contoured groove in the eye reduces kinks and minimizes the wear on your wire rope. They are made of steel and have a hot-dipped galvanized finish for corrosion resistance.



0° Eye Angle



45° Eye Angle

Thread Size	Shank Lg.	Thread Lg.	Eye Dia.		
0° Eye Angle					
5/8"-11	10"	4"	1/2"	3081T41	$13.01
3/4"-10	12"	6"	1/2"	3081T52	21.08
45° Eye Angle					
5/8"-11	10"	4"	5/8"	3081T42	16.67
3/4"-10	12"	6"	5/8"	3081T54	29.92

Fiberglass Routing Eyebolts—Not for Lifting

These eyebolts have excellent corrosion and chemical resistance. Temperature range is -20° to 200° F.



With Shoulder



Without Shoulder

Thread Size	Thread Lg.	Eye Dia.	With Shoulder		Without Shoulder	
1/4"-20	1"	7/16"	30295T22	$5.66	—	—
1/4"-20	1"	1/2"	—	—	30295T32	$5.38
1/4"-20	1 1/2"	1/2"	30295T23	6.44	30295T33	6.12
3/8"-16	1"	3/4"	30295T24	7.03	30295T34	6.68
3/8"-16	1 1/2"	3/4"	30295T25	7.34	30295T35	6.97
1/2"-13	1 1/4"	1"	30295T26	7.96	30295T36	7.56
1/2"-13	1 3/4"	1"	30295T27	8.12	30295T37	7.71
5/8"-11	1 3/4"	1 1/4"	30295T28	8.69	30295T38	8.26

Warning: Never use for lifting.

Nonconductive Plastic Routing Eyebolts with Nuts—Not for Lifting



These plastic eyebolts won't conduct heat and electricity, preventing damage to your wire and cable. They are lightweight and corrosion resistant. Temperature range is -40° to 185° F.

Thread Size	Shank Lg.	Thread Lg.	Eye Dia.	Pkg. Qty.		Pkg.
6-32	3/4"	5/8"	1/4"	25	9686T71	$6.01
8-32	1 1/8"	1"	1/4"	25	9686T72	6.18
10-24	1"	7/8"	3/8"	25	9686T73	6.33
1/4"-20	1"	7/8"	1/2"	25	9686T74	10.60
1/4"-20	1 1/2"	1 1/4"	1/2"	25	9686T75	10.78
1/4"-20	2"	1 1/4"	1/2"	25	9686T76	11.12
5/16"-18	1"	7/8"	5/8"	25	9686T78	11.98
5/16"-18	2"	1 1/4"	5/8"	25	9686T79	12.42
3/8"-16	1"	7/8"	3/4"	25	9686T81	13.66
3/8"-16	2"	1 1/4"	3/4"	10	9686T82	5.77
3/8"-16	2 1/2"	1 1/2"	3/4"	10	9686T83	6.83
3/8"-16	4"	2 1/2"	3/4"	10	9686T84	7.27

Open-Eye Routing Eyebolts—Not for Lifting



Quickly insert and remove wire and cable. Eyebolts are zinc-plated steel.

Thread Size	Thread Lg.	Eye Dia.	Pkg. Qty.		Pkg.
10-24	2 5/16"	5/16"	20	9490T1	$6.79
10-24	3 5/16"	5/16"	20	9490T2	8.17
10-24	5 5/16"	5/16"	10	9490T3	8.00
1/4"-20	2"	1/2"	20	9490T4	7.60
1/4"-20	3"	1/2"	20	9490T5	11.56
1/4"-20	5"	1/2"	10	9490T6	8.65

Nonconductive Routing Rings

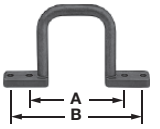

The smooth, nonconductive surface prevents damage when routing wire, cable, and other light materials. Also known as distribution rings, these have a large opening to route multiple cable runs. Made of plastic. Mounting hole diameter is 7/32" (fasteners not included). Temperature range is -30° to 465° F.

Inside Ht.	Inside Wd.	Mounting Holes Center-to-Center (A)	(B)		
2 3/8"	1 3/4"	3 1/16"	4 5/16"	1710T31	$2.31
3 1/4"	3"	4 1/4"	5 1/2"	1710T32	2.52
3 1/4"	5"	6 1/4"	7 1/2"	1710T33	3.37

Routing Ringbolts—Not for Lifting



A pivoting routing ring accommodates bends in your wire and cable.

Galvanized steel ringbolts are hot dipped for added corrosion resistance. **Type 316 stainless steel** are the most corrosion resistant ringbolts.

Thread Size	Shank Lg.	Thread Lg.	Eye Dia.		
Galvanized Steel					
1/4"-20	2"	1 1/2"	1 3/4"	3025T43	$19.41
5/16"-18	2 1/4"	1 1/2"	2"	3025T44	21.91
3/8"-16	2 1/2"	1 1/2"	2 1/2"	3025T45	22.46
1/2"-13	3 1/4"	1 1/2"	3"	3025T46	33.26
Type 316 Stainless Steel					
1/4"-20	2"	1 1/2"	1 3/4"	3025T21	7.78
5/16"-18	2 1/4"	1 1/2"	2"	3025T22	12.40
3/8"-16	4 1/4"	2 1/2"	2 1/2"	3025T23	17.55

Removable Routing Ringbolts—Not for Lifting



With Eyebolt Ring | With D-Ring

Install these ringbolts where you need them for your routing application, then remove the ring when not in use. Each includes two rings and two mounting bolts. Made of zinc-plated steel.

Ringbolt with D-ring has a pivoting routing ring that accommodates bends in your wire and cable.

Thread Size	Mounting Bolt Thread Lg.	Eye Dia.		Pair
With Eyebolt Ring				
5/8"-11	1 13/16"	15/16"	8830T51	$11.50
3/4"-10	1 3/4"	1 1/8"	8830T52	15.57
With D-Ring				
7/8"-9	4"	2 1/2"	8830T53	25.79

Open-Eye Routing Rings for Cable



Without Insert



With Insert

Also known as bridle rings, the open-eye design allows you to quickly install wire and cable for routing. Made of zinc-plated steel.

Rings with Insert—The plastic insert provides a larger surface area to prevent kinking and damage when routing. Temperature range is -30° to 190° F.

Standard thread rings mount onto beam clamps and threaded rod hangers.

Wood screw thread rings have a sharp point to mount directly into wood.

Thread Size	Thread Lg.	Eye Dia.	Without Insert Pkg. Qty.		Without Insert Pkg.	With Insert Pkg. Qty.		With Insert Pkg.
Standard Thread								
10-24	3/4"	1"	10	1706T11	$4.46	_	_____	___
1/4"-20	1"	1 1/2"	10	1706T12	5.55	5	1706T51	$8.41
1/4"-20	1"	2"	10	1706T13	5.84	5	1706T52	8.93
1/4"-20	1"	4"	10	1706T14	12.58	1	1706T53	4.71
Wood Screw Thread								
3/16"	3/4"	1"	10	1706T31	4.92	_	_____	___
1/4"	1"	1 1/2"	10	1706T32	6.19	5	1706T61	8.77
1/4"	1"	2"	10	1706T33	7.28	5	1706T62	12.00

Click-Open Routing Rings



Steel Wall Mount



Steel Beam Mount



Plastic Wall Mount

A locking latch keeps multiple runs of wire, cable, and other light materials from slipping out, and also allows easy installation and removal.

Wall mounting rings have a 1/4" dia. mounting hole.

Beam mounting ring mounts to flanges up to 1/2" thick.

Mount Type	Max. Bundle Dia.	Overall Size Ht.	Wd.	Lg.		
Steel						
Wall	2"	6 1/4"	2 1/4"	2 3/8"	1717T91	$2.75
Beam	2"	6 1/2"	2 1/4"	2 3/8"	1717T93	4.63
Plastic						
Wall	1"	3 3/8"	1 1/8"	1 3/4"	3141T45	2.78
Wall	1"	1 7/8"	1"	1 5/8"	3141T44	2.14
Wall	1"	4 7/8"	1 1/8"	2 1/2"	3141T46	4.46

Warning: Never use for lifting.

Tie-Down Rings

A pivoting ring lets you secure loads in various directions. Mounting screws not included, except with Style 11. ***Zinc-plated steel*** rings provide some corrosion resistance. ***300 series stainless steel*** rings offer more corrosion resistance. ***Steel*** ring has square mounting holes that accept carriage bolts. ***High-strength steel*** rings have a red powder coating that provides some corrosion resistance.

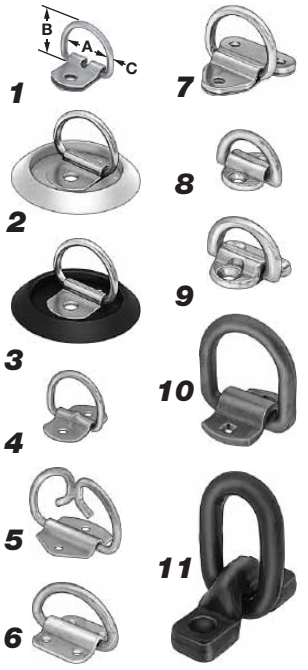

	Work Load Limit, lbs.	(A)	(B)	(C)	Base Plate Wd.	Base Plate Lg.	Screw Size	Mtg. Holes, Ctr.-to-Ctr.		
Zinc-Plated Steel										
1	500	2″	2 1/4″	1/4″	1 5/8″	1 5/16″	3/8″	___	3076T13	$1.05
2	200	1 9/16″	1 13/16″	3/16″	4 1/8″ Dia.	___	1/4″	1 1/16″	88525T31	1.98
3	500	2″	2 1/4″	1/4″	4 1/16″ Dia.	___	3/8″	1 3/16″	3076T12	2.12
4	400	1 1/2″	1 11/16″	1/4″	1 1/4″	2 3/16″	No. 14	1 1/4″	3076T34	1.50
4	800	1″	1 13/16″	1/4″	13/16″	2 1/8″	No. 14	1 3/8″	3076T35	1.60
4	1,000	1 1/2″	1 3/8″	1/4″	1 1/4″	1 5/8″	1/4″	15/16″	3076T31	2.19
5	1,000	2 3/4″	2 1/4″	1/4″	1 7/8″	2 1/8″	1/4″	1 3/8″	3076T71	17.62
6	3,500	2 5/16″	1 3/4″	5/16″	1 7/8″	2 1/8″	1/4″	1 1/8″, 1 1/4″	3076T33	19.27
6	3,500	3 3/16″	3 3/4″	5/16″	2 1/2″	2 3/16″	1/4″	1 3/4″, 1 3/8″	3076T36	19.60
300 Series Stainless Steel										
1	50	7/8″	7/8″	1/8″	11/16″	13/16″	No. 12	___	33815T31	1.09
1	400	1 1/2″	1 1/2″	3/16″	1 1/8″	1 5/16″	3/8″	___	33815T51	4.29
4	210	1 1/2″	1 5/16″	1/4″	1 1/8″	2″	No. 12	1 5/16″	33815T32	7.47
4	400	1″	1 1/2″	3/16″	5/8″	2″	1/4″	1 3/8″	33815T41	24.87
7	1,000	1 1/2″	1 1/2″	1/4″	2″	2 1/4″	1/4″	1 1/4″, 1 1/2″	33815T42	41.62
7	1,500	2″	2 1/8″	5/16″	2 1/2″	3″	5/16″	1 1/2″, 2″	33815T43	76.79
8	1,200	1 1/16″	1 1/8″	1/4″	1 1/16″	1 1/2″	No. 12	15/16″	33815T22	18.87
8	2,000	1 3/8″	1 5/16″	5/16″	1 3/8″	1 15/16″	No. 14	1 1/4″	33815T23	23.36
8	4,000	1 3/4″	1 9/16″	3/8″	1 3/4″	2 1/2″	No. 16	1 5/8″	33815T24	38.47
9	1,500	1 1/16″	1 3/16″	1/4″	1 1/2″	1 5/8″	1/4″	1 1/16″, 1 1/16″	33815T11	57.70
9	2,500	1 3/8″	1 3/8″	5/16″	2″	2 3/16″	5/16″	1 3/8″, 1 3/8″	33815T12	72.47
9	5,000	2 5/16″	2 1/16″	3/8″	2 15/16″	2 5/8″	3/8″	1 3/4″, 1 3/4″	33815T13	102.20
Steel										
10	4,080	2 3/8″	3 1/2″	1/2″	1 3/4″	3″	3/8″	2″	3076T11	8.45
High-Strength Steel										
11	6,940	1 9/16″	5 1/8″	11/16″	1 1/2″	5 1/8″	M16	3 1/2″	3076T61	40.52
11	11,680	1 15/16″	6 3/4″	7/8″	1 7/8″	6 1/2″	M20	4 1/2″	3076T62	68.60

Recessed Tie-Down Rings

Rings mount flush and fold down when not in use to protect the ring and your load from damage. Mount rings in a 1″ deep cutout. Rings are made of zinc-plated steel.

D-rings swivel 360°. *Dual D-ring* has an extra D-ring with a 2 1/8″ wide flat section for webbing and meets MS-209J.



	Work Load Limit, lbs.	(A)	(B)	(C)	Base Size	Screw Size	Mtg. Holes, Ctr.-to-Ctr.		
Round Ring	1,665	1 3/8″	1 3/4″	7/16″	4 1/2″ × 4 7/8″	3/8″	3″, 3 1/4″	8304T13	$4.88
D-Ring	2,000	3 3/8″	1 13/16″	5/16″	6 1/4″ Dia.	5/16″	3 13/16″, 3 13/16″	8304T11	18.38
Dual D-Ring	830	2 7/8″	1 1/2″	3/8″	6 1/4″ Dia.	1/4″	3 13/16″, 3 13/16″	8304T12	21.75

Swivel Tie-Down Rings

All are made of 300 series stainless steel for excellent corrosion resistance. Mounting fasteners not included.

Swivel eyes rotate 360°. ***Heavy duty swivel tabs*** have a single mounting hole and swivel around a concrete bolt anchor (see 92405A on page 3352).

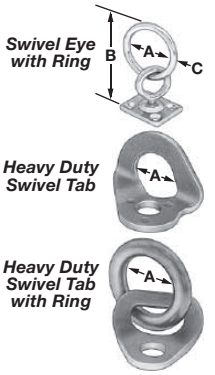

	Work Load Limit, lbs.	(A)	(B)	(C)	Base Plate Wd.	Base Plate Lg.	Screw/ Anchor Size	Mtg. Holes, Ctr.- to-Ctr.		
Swivel Eye										
	200	5/8″	1 9/32″	3/16″	1 1/4″	1 3/16″	No. 8	7/8″, 11/16″	31665T1	$4.14
	300	3/4″	1 9/16″	1/4″	1 5/16″	1 9/16″	No. 8	1″, 3/4″	31665T2	4.86
	480	3/4″	1 13/16″	5/16″	1 9/16″	1 15/16″	No. 10	1 3/8″, 1″	31665T4	6.63
Swivel Eye with Ring										
	200	1 3/16″	2 1/2″	3/16″	1 1/4″	1 3/16″	No. 8	7/8″, 11/16″	31665T21	6.12
	300	1 9/16″	3 1/8″	1/4″	1 5/16″	1 9/16″	No. 8	1″, 3/4″	31665T22	7.42
	480	1 15/16″	3 3/4″	5/16″	1 9/16″	1 15/16″	No. 10	1 3/8″, 1″	31665T24	10.72
Heavy Duty Swivel Tab										
	1,120	1 3/16″	___	___	1 11/16″	2 3/8″	3/8″	___	31665T43	6.14
Heavy Duty Swivel Tab with Ring										
	1,120	1 5/16″	3 1/4″	3/8″	2″	2 1/16″	3/8″	___	31665T42	13.89

Weld-On Tie-Down Eyes

Also known as pad eyes, these eyes provide a strong and rigid anchor point on machinery, equipment, and vehicles. Not rated for work load limit. ***300 series stainless steel*** eyes offer more corrosion resistance than steel eyes.

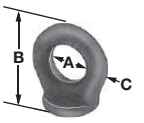

(A)	(B)	(C)	Base Plate Dia.		
Steel					
1/4″	3/4″	3/16″	5/8″	3024T14	$2.52
3/8″	1″	1/4″	7/8″	3024T16	3.71
5/8″	1 5/16″	1/4″	1″	3024T18	4.19
3/4″	1 5/8″	3/8″	1 1/16″	3024T22	3.86
1″	2 5/16″	9/16″	1 7/16″	3024T23	7.91
1 3/16″	2 3/8″	7/16″	1 11/16″	3024T24	6.64
1 1/4″	2 3/4″	11/16″	1 3/4″	3024T26	11.38

(A)	(B)	(C)	Base Plate Dia.		
300 Series Stainless Steel					
1/2″	1 1/16″	3/16″	3/8″	8892T9	$6.20
5/8″	1 5/16″	1/4″	9/16″	8892T11	8.68
3/4″	1 9/16″	5/16″	5/8″	8892T12	10.60
1″	2″	3/8″	7/8″	8892T14	19.96
1 1/4″	2 1/2″	1/2″	1″	8892T16	29.84
1 1/2″	3 1/4″	5/8″	1 3/8″	8892T18	61.20

Warning! ***Never exceed work load limits. Never use for lifting applications.***

Weld-On Tie-Down Rings

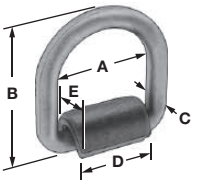

Also known as lashing rings, these pivoting rings have a welding plate for permanent attachment.

***Steel*—**Finish is plain, except the 2,000-lb. model, which has a zinc-plated ring.

***High-Strength Steel*—**Welding plate has a plain finish; ring has a red painted finish.

***300 Series Stainless Steel*—**Rings offer more corrosion resistance than steel rings.

Work Load Limit, lbs.	(A)	(B)	(C)	(D)	(E)		
Steel							
2,000	2 9/16"	2 11/16"	3/8"	2"	15/16"	3028T31	$6.46
4,080	2 3/8"	3 1/2"	1/2"	2"	1 5/16"	3028T32	9.97
6,130	3"	4 1/4"	5/8"	2 1/2"	1 5/8"	3028T25	13.68
9,120	3"	4 1/2"	3/4"	2 1/4"	1 5/8"	3028T26	18.43
15,500	3"	6"	1"	2 1/4"	2 1/8"	3028T27	19.43
High-Strength Steel							
2,100	1 3/8"	2 13/16"	1/2"	1 5/16"	1 5/16"	3028T53	20.70
3,500	1 11/16"	3 5/16"	9/16"	1 1/2"	1 1/2"	3028T54	23.96
7,100	1 7/8"	4"	1 1/16"	1 11/16"	1 13/16"	3028T55	25.31
12,000	2 9/16"	5 11/16"	1"	2 3/8"	2 3/8"	3028T56	38.62
18,100	2 13/16"	6 1/8"	1 1/16"	2 9/16"	2 11/16"	3028T57	64.90
300 Series Stainless Steel							
1,100	1 3/8"	3"	1/2"	1 5/16"	1 1/4"	3028T33	121.21
2,200	2"	3 13/16"	5/8"	1 13/16"	1 5/8"	3028T34	211.93

Magnetic Tie-Down Rings



Powerful rare earth magnets attach to ferrous metal surfaces with a turn of the handle. The base has two 1 1/8" dia. holes for tie-down applications. Housing is nickel-plated steel. Handle is aluminum with a black powder coating. Work load limit is based on direct contact on a flat, smooth, untreated 1/4" thick surface. Variations in mounting surface conditions will reduce the work load limit.

Work Load Limit, lbs.	O'all Ht.		
35	2 3/4"	3154T4	$54.77
110	4 3/4"	3154T5	183.33

Adhesive-Backed Tie-Down Rings



Create anchor points without drilling or welding. Strong polyethylene rope is sewn to an adhesive-backed foam rubber base. Base flexes to mount on curved surfaces and adheres to glass, metal, or plastic. Adhesive is acrylic. Begins to harden in 20 minutes and reaches full strength in 72 hours. Temperature range is –95° to +165° F.

Work Load Limit, lbs.	Base Wd	Base Lg.		
140	2 1/2"	3 1/8"	8310T13	$11.00

Webbing Guides

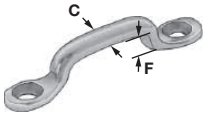

Also known as footman's loops, guides are made of zinc-plated steel. They can also be used as anchor points in tie-down applications.

Also Available: 300 series stainless steel webbing guides. Please ask for 8030T888 and specify maximum webbing width and (F).

For Max. Webbing Wd.	(C)	(F)	Mtg. Holes Dia.	Mtg. Holes Ctr.-to-Ctr.	Pkg. Qty.		Pkg.
1"	1/4"	1/4"	1/4"	2 1/8"	10	8030T11	$8.14
1 1/2"	1/4"	5/16"	1/4"	2 5/8"	10	8030T12	8.33
1 1/2"	1/4"	7/16"	1/4"	2 5/8"	10	8030T13	8.94
2"	1/4"	5/16"	1/4"	3 1/8"	10	8030T14	9.58

Adhesive-Mount Webbing Guides



Guide is made of glass-reinforced thermoplastic and has adhesive tabs to hold it in place temporarily during installation (adhesive for mounting is sold separately).

Adhesive is acrylic. Begins to harden in 30 minutes and reaches full strength in 24 hours. Temp. range is –67° to +250° F. This product is compliant under all state VOC rules in effect on April 1, 2011.

Work Load Limit, lbs.	For Max. Webbing Wd.	Base Wd.	Base Lg.		
100	1"	1"	3 1/4"	8310T11	$10.50
Adhesive (0.12 oz.)				8310T12	4.44

Rope Guides

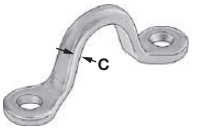

Guides are made of 300 series stainless steel for excellent corrosion resistance.

For Max. Rope Dia.	(C)	Mtg. Holes Dia.	Mtg. Holes Ctr.-to-Ctr.		
3/8"	1/8"	1/8"	1 1/4"	8860T81	$2.70
1/2"	3/16"	1/8"	1 9/16"	8860T85	3.17
9/16"	1/4"	1/8"	1 11/16"	8860T82	3.68
5/8"	5/16"	3/16"	1 15/16"	8860T83	4.33
11/16"	3/8"	5/16"	2 7/16"	8860T84	7.33

Rope Cleats



Provide a temporary hold for rope. Mounting screws not included.

***(1-3) Wing Style*—**Wrap rope around the cleat.

***(4) Folding*—**Flip up when needed and store flat when not in use.

***(5) Open Jam*—**The tapered gripping body provides quick holding.

***(6) Rotating Cam*—**Two cams pinch together onto hard-to-hold ropes. All have corrosion-resistant ball bearings.

For Max. Rope Dia.	O'all Lg.	O'all Ht.	Screw Size	Mtg. Holes, Ctr.-to-Ctr.		
Wing Style						
Black Nylon						
1.. 1/4"	3"	1 1/16"	No. 6	1"	33805T31	$1.33
1.. 5/16"	4"	7/8"	No. 8	1 1/8"	33805T32	1.55
1.. 3/8"	5"	1 1/16"	No. 10	1 7/16"	33805T33	2.61
1.. 7/16"	6 1/2"	1 3/8"	No. 12	1 11/16"	33805T34	5.00
Galvanized Iron						
1.. 1/4"	3 1/2"	1"	No. 8	13/16"	33805T41	.92
1.. 5/16"	4"	1 1/8"	No. 10	7/8"	33805T42	1.29
1.. 3/8"	5"	1 5/16"	No. 12	1 1/16"	33805T43	1.66
1.. 7/16"	6"	1 3/8"	No. 14	1 1/4"	33805T44	2.11
1.. 5/8"	8"	2 1/8"	5/16"	1 11/16"	33805T45	5.92
1.. 3/4"	10"	2 1/2"	3/8"	2 3/8"	33805T46	8.55
1.. 1"	14"	3 1/2"	1/2"	4 1/4"	33805T48	23.55
Aluminum						
1.. 5/8"	8"	1 7/8"	No. 14	1 1/2"	33805T54	7.86
1.. 3/4"	10"	2 1/4"	5/16"	1 15/16"	33805T55	11.05
Brass						
2.. 3/16"	2 1/2"	1/2"	No. 6	7/16"	33805T51	2.15
2.. 1/4"	4 1/16"	3/4"	No. 8	1/2"	33805T52	5.61
Chrome-Plated Zinc						
2.. 1/4"	4 7/16"	7/8"	No. 10	13/16"	33805T53	1.57
300 Series Stainless Steel						
3.. 7/16"	6"	1 1/4"	No. 14	2 1/4", 1 1/8"	33805T21	13.93
3.. 5/8"	8"	1 1/2"	No. 14	2 13/16", 1 3/8"	33805T22	22.22
3.. 3/4"	10"	1 7/8"	5/16"	3 5/8", 1 3/4"	33805T23	35.90
Folding						
300 Series Stainless Steel						
4.. 3/8"	3 7/16"	1 13/16"	No. 14	1 1/4", 1 1/4"	33805T61	19.75
Open Jam						
Black Nylon						
5.. 1/4"	2 1/16"	13/16"	No. 8	1 7/16"	34915T42	3.47
5.. 5/16"	2 7/8"	1"	No. 10	2 1/8"	34915T44	4.35
5.. 1/2"	3 3/4"	1 3/8"	No. 14	2 13/16"	34915T41	8.45
Rotating Cam						
Glass-Reinforced Acetal						
6.. 5/16"	1 7/8"	3/4"	No. 10	1 1/16"	3491T75	21.35
6.. 1/2"	2 5/8"	1"	No. 10	1 1/2"	3491T76	25.40
Aluminum						
6.. 1/2"	2 9/16"	1 3/16"	No. 10	1 1/2"	3491T94	32.08
6.. 5/8"	3 3/8"	1 1/4"	1/4"	2 1/16"	3491T95	50.47
Optional Accessories for Rotating-Cam Cleats						
Rope Guide for 3491T75					3491T84	9.15
Rope Guide for 3491T76					3491T86	9.15
Rope Guide for 3491T94					3491T12	9.15
Saddle for 3491T75					3491T83	4.14
Saddle for 3491T76					3491T85	4.14
Saddle for 3491T94					3491T11	4.92
Saddle for 3491T95					3491T13	4.92

***Warning!* Never exceed work load limits. Never use for lifting applications.**

Cargo-Securing Track, Straps, and Accessories

Start with track and add the straps and accessories you need to keep your cargo from shifting inside vans, trucks, and trailers.

Track

Also known as E-track, this track has connection slots for a variety of cargo securement and organizing options. Track has 1/4″ dia. mounting holes (mounting fasteners not included).

Powder-coated steel is gray. *Galvanized steel* is more corrosion resistant.

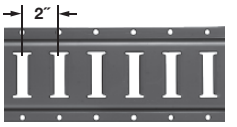

Horizontal Track

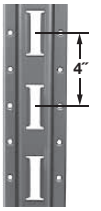

Vertical Track

Lg.	Wd.	Powder-Coated Steel		Galvanized Steel	
Horizontal Track					
5 ft.	5″	88525T11	$16.38	88525T8	$18.76
10 ft.	5″	88525T17	33.88	88525T18	38.14
Vertical Track					
5 ft.	3 7/16″	88525T42	13.62		
10 ft.	3 7/16″	88525T51	26.48		

Plates

Plates are a smaller version of the track. ***Single-slot plates*** have 5/16″ square mounting holes (mounting fasteners not included). ***Double-slot plate*** includes fasteners for mounting.

Zinc-plated steel and *black-finish steel* are corrosion resistant. *Type 304 stainless steel* provides more corrosion resistance.


Single-Slot Plate



Double-Slot Plate

Lg.	Wd.	Zinc-Plated Steel		Black-Finish Steel		Type 304 Stainless Steel	
Single-Slot Plate							
1″	5 3/4″	88525T93	$4.78	88525T95	$4.78	88525T94	$5.98
Double-Slot Plate							
5 1/4″	6 3/8″	88525T92	20.42				

Straps



With Track Fittings on Both Ends and Ratchet-Tight Buckle


Quick-Tight Buckle


Latch Hook and D-Ring on One End


D-Ring and Wire Hook on One End

Also known as logistic straps. All buckles, fittings, and hooks are made of zinc-plated steel. Track fittings snap into slots on the track.

Ratchet-tight buckles let you apply maximum tension on the strap, but take longer to tighten.

Torque-limiting ratchet-tight buckles prevent damage caused by overtightening. You set the amount of tension applied.

Quick-tight buckles, also known as cam buckles, tighten the fastest. Pull the strap through; push the spring-loaded cam down to release.

Buckle Type	Webbing Wd.	Max. Lg.	Work Load Limit, lbs.	Low-Stretch Polyester Webbing Color			Abrasion-Resistant Polyester Webbing Color		
Track Fittings on Both Ends									
Ratchet-Tight	2″	12 ft.	1,000	Gold	8794T52	$18.80	Yellow	3356T33	$23.45
Ratchet-Tight	2″	16 ft.	1,000	Gray	8794T53	20.30	Yellow	3356T34	26.77
Ratchet-Tight	2″	20 ft.	1,000	Dark Blue	8794T56	21.46	Yellow	3356T36	30.09
Torque-Limiting Ratchet-Tight	2″	12 ft.	1,330	Yellow	8794T61	46.91			
Torque-Limiting Ratchet-Tight	2″	16 ft.	1,330	Yellow	8794T62	48.02			
Quick-Tight	2″	12 ft.	800	Gold	8794T54	15.55	Yellow	3356T31	22.66
Quick-Tight	2″	16 ft.	800	Gray	8794T55	16.61	Yellow	3356T32	25.98
Quick-Tight	2″	20 ft.	800	Dark Blue	8794T57	16.32	Yellow	3356T35	29.30
Latch Hook and D-Ring on One End; Track Fitting on One End									
Ratchet-Tight	1″	4 ft.	1,000	Blue	8837T13	26.14			
D-Ring and Wire Hook on One End; Track Fitting on One End									
Ratchet-Tight	1″	4 ft.	1,000	Blue	8837T11	27.51			

Accessories

Accessories have fittings that snap or lock into the track and are made of zinc-plated steel.

Track fitting with slot has a slot for 2″ wide webbing (see page 1561).

Track fitting with D-ring has a 6″ Lg.×2″ Wd. polyester webbing strap with a D-ring sewn on the end.

Coupling connects two track fittings so you can change the end fitting on your strap or connect two straps together.

Adjustable aluminum beams provide lightweight decking and bracing. Beams have a zinc-plated steel track fitting on each end. Work load limit is based on an evenly distributed load.

Wood beam bracket allows you to mount a 2×4 to the track for economical bracing.

Storage bag has a track fitting on each end. Made of vinyl.

Cargo net has a track fitting and tightening buckle in each corner. Made of nylon mesh. Includes a vinyl storage bag.


Track Fitting with Slot


Track Fitting with Hook


Track Fitting with D-Ring


Track Fitting with Pivoting D-Ring


Coupling


Adjustable Aluminum Beam


Wood Beam Bracket


Storage Bag


Cargo Net

	Work Load Limit, lbs.		
Track Fitting with Slot	1,000	3648T25	$2.91
Track Fitting with Hook	335	88525T35	3.02
Track Fitting with D-Ring	1,000	88525T16	6.14
Track Fitting with Pivoting D-Ring (2″ Wd.)	2,000	88525T26	11.25
Track Fitting with Pivoting Round Ring (1 3/4″ Wd.)	2,000	88525T37	4.78
Coupling	1,330	88525T27	10.34
Adjustable Aluminum Beam (85″-95″ Lg.)	2,000	88525T19	78.10
Adjustable Aluminum Beam (92″-102″ Lg.)	2,000	88525T21	82.55
Wood Beam Bracket	Not Rated	88525T22	6.49
Storage Bag (14″ Ht.×24″ Wd.)	Not Rated	88525T36	17.21
Cargo Net (48″ Ht.×84″ Wd.)	Not Rated	88525T34	141.35

Warning! ***Never exceed work load limits. Never use for lifting applications.***

Quick-Adjust Cargo-Securing Track

Slide fittings between anchor points on the track for quick adjustment. Also known as logistics track or L-track.

Track and Plate

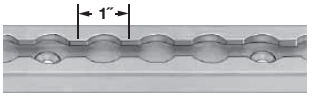

Track



Plate

Track and plate are made of aluminum.

Track has 1/4″ dia. mounting holes (mounting fasteners not included). Meets MS-33601.

Plate is a smaller version of the track that provides an attachment point for single-mount fittings. Plate has 3/16″ dia. mounting holes (mounting fasteners not included).

Length	Width		
Track			
2 ft.	1 3/8″	39695T31	$14.45
4 ft.	1 3/8″	39695T32	27.88
8 ft.	1 3/8″	39695T33	55.00
Plate			
1 3/4″ Dia.	—	39695T35	17.49

Fittings

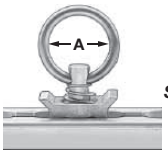

Single-Mount Round Ring



Single-Mount D-Ring



Single-Mount Mounting Stud



Double-Mount Round Ring

All fittings are made of zinc-plated steel. *Round rings* and *D-rings* are spring loaded. *Mounting stud* is 1 5/16″ long and has 3/8″-24 threads for mounting items to the track.

Single mount fit into one anchor point. ***Double mount*** fit into two anchor points.

Fitting Type	Work Load Limit, lbs.	(A)		
Single Mount				
Round Ring	670	1 1/8″	39695T34	$13.66
D-Ring	670	2 1/8″	39695T38	22.54
Mounting Stud	1,330	—	39695T37	45.60
Double Mount				
Round Ring	1,666	1 3/4″	39695T36	6.98

Cargo Nets

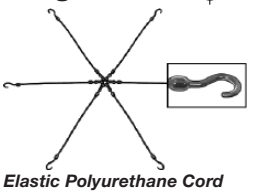

Elastic Polyurethane Cord

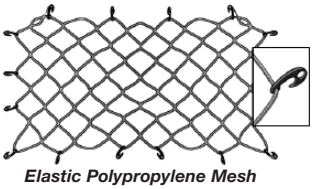

Elastic Polypropylene Mesh

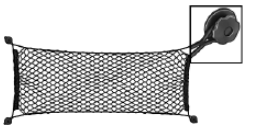

Polypropylene Mesh

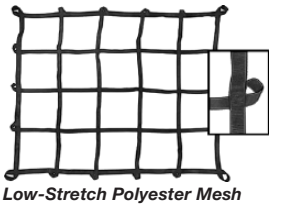

Low-Stretch Polyester Mesh

Secure and contain material in vans and trailers.

Elastic polyurethane cord nets are weather and chemical resistant. Cords are strung together on a central ring and have a plastic 1 1/2″ ID mounting hook on each end. **To Order:** Please specify black, red, or yellow.

Elastic polypropylene mesh nets include plastic 1″ ID mounting hooks. Net color varies.

Polypropylene mesh nets are woven and framed with elastic cord. Nets have a loop in each corner and include plastic adhesive-backed mounting knobs. For a more secure hold, use the included fasteners to mount the knobs. Opening size is 1″×1 1/4″. Color is black. The 45″ long net folds in half to create a basket; each mounting knob securely holds two loops. Usable width is 12″ when used as a basket.

Low-stretch polyester mesh nets are stronger than polypropylene and polyurethane nets. They are made of quick-drying black polyester webbing. Opening size is 10″×10″. Nets have loops for anchoring every 11″.

Min. Size Lg.	*Min. Size* Wd.	*Max. Size* Lg.	*Max. Size* Wd.	No. of Mounting Points		
Elastic Polyurethane Cord— *With Mounting Hooks*						
37″ Dia.	—	74″ Dia.	—	4	30145T21	$19.28
49″ Dia.	—	98″ Dia.	—	6	30145T22	28.82
Elastic Polypropylene Mesh— *With Mounting Hooks*						
50″	40″	75″	60″	16	30145T31	30.71
96″	72″	114″	108″	32	30145T51	58.33
Polypropylene Mesh— *With Mounting Knobs*						
30″	12″	36″	12″	4	44115T2	14.24
45″	24″	60″	24″	2	44115T3	20.36
48″	12″	60″	12″	4	44115T1	18.43
Low-Stretch Polyester Mesh— *With Mounting Loops*						
—	—	60″	46″	18	9933T53	52.79
—	—	80″	60″	24	9933T54	58.38

Cargo Bars

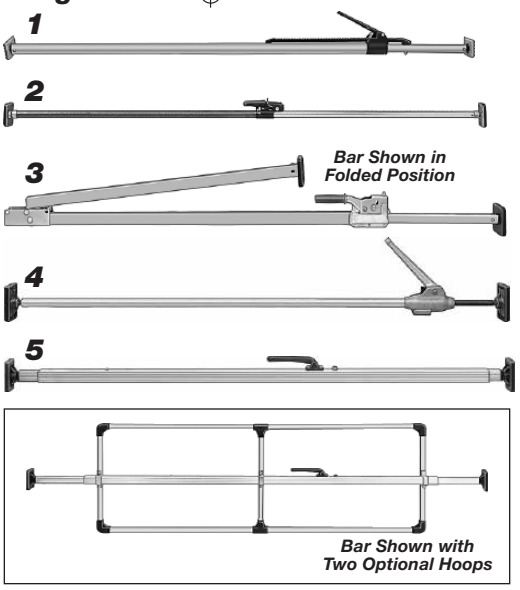

Bar Shown with Two Optional Hoops

Place bars against trailer or truck bed walls to brace your loads. All have pivoting rubber pads at each end for slip resistance. Lengths under 80″ are for use in trucks and vans. Lengths over 80″ can be used in full-sized trailers. Steel provides high strength. Aluminum is lightweight yet strong.

(1) Lever Lock— Lift the lever and pull the bar to extend length, then press down to lock. Lift lever again to release.

(2-4) Ratchet— Have a ratchet handle with a spring-loaded release. Press the spring-loaded release to manually adjust the length, then ratchet the handle to tighten the bar.

(3) Folding ratchet style folds at a center hinge for storage.

(4) Heavy duty ratchet style is more durable than other ratchet-style bars.

(5) Pump Tight— Push the spring-loaded button to adjust the length in 3″ increments, then pump the handle to further tighten the bar. Internal hydraulics prevent the bar from overtightening. Has a separate push-button release.

Optional hoops provide added protection against cargo shifting. Two hoops are provided, unless noted. Hoops are aluminum, except Styles 1 and 3, which are galvanized steel.

Style	Length Range	OD	*Bars* Each		*Optional Hoops* Set	
Steel						
1 .. Lever Lock	90″-104″	1 1/2″	3182T21	$41.48	3182T19	$54.71
2 .. Ratchet	40″- 70″	1″	3182T72	37.57	—	—
3 .. Folding Ratchet	88″-116″	1 1/2″ Sq.	3182T1	69.24	3182T11	60.48
4 .. Heavy Duty Ratchet	45″- 70″	1″	3182T74	121.57	—	—
4 .. Heavy Duty Ratchet	88″-120″	1 1/4″	3182T15	143.18	3182T17	74.83
Aluminum						
1 .. Lever Lock	90″-104″	1 1/2″	3182T18	52.49	3182T19	54.71
4 .. Heavy Duty Ratchet	88″-120″	1″	3182T14	132.62	3182T16	74.83
5 .. Pump Tight	83″-114″	1 3/4″ Sq.	3182T12	116.36	3182T23♦	60.00

♦ Set includes one hoop.

Warning! ***Never exceed work load limits. Never use for lifting applications.***

Ratchet Load Binders

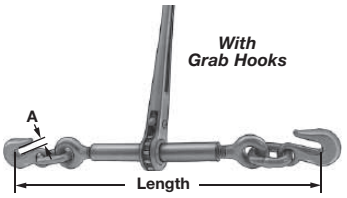

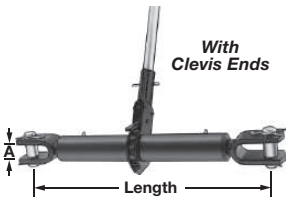

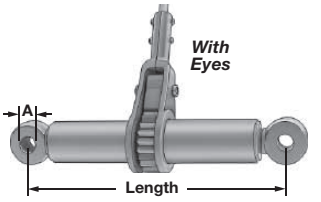

Also known as ratchet jacks, these steel load binders have a reversible ratchet that lets you incrementally tension or release your load without kickbacks.

***With Grab Hooks*—**Bind loads on heavy equipment in transit and during construction activities. Meet D.O.T. (Department of Transportation) 393.102 specifications and CVSA (Commercial Vehicle Safety Alliance) requirements.

***With Clevis Ends*—**Push apart or pull together walls, structural members, steel plates, and more. Pin diameter is 1″.

***With Eyes*—**Tighten down loads in heavy duty applications such as connecting barges and constructing bridges.

For Chain Size	Work Load Limit, lbs.	Approx. Length Range	Take-Up Length	(A)	Handle Length		
With Grab Hooks							
5/16″-3/8″	8,800	23″-31″	8″	1/2″	14″	2967T5	$122.58
3/8″-1/2″	9,200	38″-60″	22″	5/8″	14″	2967T7	214.23
3/8″-1/2″	15,000	25″-33″	8″	5/8″	14″	2967T3	133.52
1/2″-5/8″	16,000	26″-34″	8″	11/16″	14″	2967T6	190.60
With Clevis Ends							
———	15,000/8,000▲	20″-28″	8″	1 1/8″	12″	2966T14	130.24
With Eyes							
———	40,000	23″-37″	14″	1 5/16″	26″	2979T24	575.57

▲Pulling/pushing.

Lever Load Binders

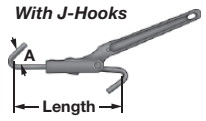





Pull the lever on these binders to take up the slack in the chain. Made of steel.

***With J-Hooks*—**Has one rigid and one swivel hook.

***With Grab Hooks*—**Have two swivel hooks. Meet D.O.T. (Department of Transportation) 393.102 specifications and CVSA (Commercial Vehicle Safety Alliance) requirements.

***Easy Release with Grab Hooks*—**The body pivots as you release tension on the chain, preventing kickback. Has two swivel hooks. Meets D.O.T. 393.102 specifications and CVSA requirements.

For Chain Size Grade 30	Grade 40/43	Grade 70	Work Load Limit, lbs.	Max. Length	Take-Up Length	(A)	Handle Length		
With J-Hooks									
3/16″	———	———	375	9 1/2″	3″	1 1/8″	9 3/4″	3098T67	$14.60
With Grab Hooks									
1/4″	1/4″	———	2,600	16 3/8″	3 3/4″	5/16″	11″	2968T4	33.57
3/8″	3/8″	5/16″	5,400	23″	4 1/2″	1/2″	16″	2968T5	51.44
———	3/8″-1/2″	3/8″-1/2″	9,200	25 3/4″	4 1/2″	5/8″	19″	2968T2	140.70
———	1/2″-5/8″	1/2″-5/8″	13,000	29 3/4″	4 3/4″	11/16″	21″	2968T3	234.74
Easy Release with Grab Hooks									
———	3/8″	5/16″	4,700●	26 3/8″	4″	1/2″	13″	2968T9	48.18

●Work load limit is 5,400 lbs. when used with 3/8″ Grade 40/43 chain.

Tow Straps

Standard Straps

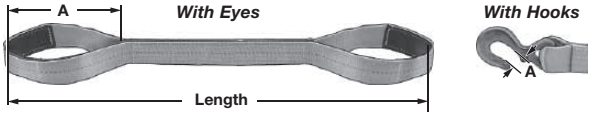

Lighter and easier to handle than chain, these straps absorb shock and will not scratch or damage the contact surface. ***Straps with eyes*** are silver polyester webbing with a reinforced eye at each end. ***Straps with hooks*** are made of orange nylon webbing and have a steel hook at each end.

To Order: Please specify length: 15, 20, 25, or 30 ft.

Webbing Width	Work Load Limit, lbs.	(A)	15-ft. Length	Each	Extra Length Per Ft.
With Eyes					
2″	5,300	10″	3798T11	$35.56	$1.18
2″	10,700	10″	3798T13	57.47	2.29
3″	8,000	11″	3798T12	49.74	2.40
3″	14,300	11″	3798T14	83.11	4.95
With Hooks					
2″	5,166	15/16″	3798T36	58.91	1.57
2″	9,000	1 1/8″	3798T38	84.45	3.38
3″	12,000	17/16″	3798T39	162.04	4.91

Retractable Strap

Strap retracts into the plastic housing for quick, tidy storage. Strap is made of yellow polypropylene webbing with a steel hook at each end.



Webbing Width	Work Load Limit, lbs.	Length		Each
2″	3,000	14 ft.	3798T15	$23.16

Welded Chain with Hooks



Bind, bundle, tow, and haul—rugged steel chain with a steel grab hook at each end does it all. Meets D.O.T. (Department of Transportation) 393.102 specifications.

Grade 70 (transport) chain has a high strength-to-weight ratio. It has a zinc-plated finish.

Chain Size	Work Load Limit, lbs.	(A)	14-ft. Length		20-ft. Length	
Grade 40/43 (High Test) Chain						
5/16″	3,900	7/16″	3426T41	$48.05	3426T44	$61.44
3/8″	5,400	1/2″	3426T51	60.11	3426T8	81.60
1/2″	9,200	5/8″	———	———	3426T5	144.16
Grade 70 (Transport) Chain						
5/16″	4,700	7/16″	3362T61	58.14	3362T73	79.56
3/8″	6,600	1/2″	3362T63	72.77	3362T76	99.25
1/2″	11,300	5/8″	———	———	3362T43	170.88

Corner Protectors and Pads for Straps

Prevent damage to your webbing and cargo. For additional styles, see page 1537.

Plastic protector has a corner recess to protect cargo edges.

Rubber pads resist abrasion and conform to the load to evenly distribute corner stresses.

Plastic Protector



Rubber Pad



For Webbing Width			
Plastic Protector			
2″-4″	88405T5	$2.47	
Rubber Pads			
2″-3″	88405T6	3.97	
4″	88405T7	4.66	

***Warning!* Never exceed work load limits. Never use for lifting applications.**

Tie-Down Winches and Straps

Winches


Weld On (Side Mount)


Bolt On


Weld On/Bolt On


Easy-Ratchet Cap


Tensioning Bar

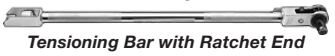
Tensioning Bar with Ratchet End

Pair these winches with a strap (sold separately) to secure loads for transit. Designed for right-hand operation. Meet D.O.T. (Department of Transportation), California Highway Patrol, and North American Cargo Securement Standard requirements. Winches and accessories are made of steel.

Weld-on and ***bolt-on*** winches require a tensioning bar (sold separately). Winches have a black finish. *Bolt-on* winches have two mounting bolts.

Weld-on/bolt-on winch tensions with a 1⅛″ hex wrench (see 5163A86 on page 2763). Weld or bolt in place. Winch has two ½″ dia. mounting holes (fasteners not included). It has a spring-loaded release. Frame has a black finish; all other components have a zinc-plated finish.

Easy-ratchet cap slips onto the winch to allow continuous tensioning without removing the tensioning bar. ***Tensioning bar with ratchet end*** has a built-in ratchet so you can quickly tighten the winch. The other end can attach to lever load binder handles for safe opening and closing.

Mounting Style	For Webbing Wd.	Work Load Limit, lbs.	Ht.	Wd.	Dp.		
Weld-On Winches							
Bottom	2″-4″	5,500	5½″	7¾″	3½″	33545T11	$23.20
Side	2″-4″	5,500	4⅜″	7¾″	4″	33545T25	22.72
Weld-On/Bolt-On Winches							
Bottom/Side	2″	3,335	4″	5″	3″	33545T31	18.50
Bolt-On Winches							
Bottom	2″-4″	5,500	5½″	7¾″	3½″	33545T18	26.32
Accessories for Weld-On and Bolt-On Winches							
Tensioning Bar						33545T19	26.52
Easy-Ratchet Cap						33545T37	31.18
Tensioning Bar with Ratchet End						33545T21	58.28

Straps



Flat Hook — Delta Ring — Loop Eye

Thread one end of the strap through a winch (sold separately); the ratcheting of the winch tensions the strap. Straps have a flat hook, delta ring, or loop eye on the other end. *Flat hook* and *delta ring* are zinc-plated steel, except flat hooks on low-stretch polyester webbing and ultra abrasion-resistant polyester webbing, which have a black finish.

Low-stretch polyester webbing is quick drying. Color is yellow.

Abrasion-resistant polyester webbing is yellow with black cut-resistant edges.

Ultra abrasion-resistant polyester webbing is impregnated with PVC for the most abrasion resistance and UV protection. Color is orange.

Web-bing Wd.	Work Load Limit, lbs.	WITH FLAT HOOK (A)	27-ft. Length		30-ft. Length		WITH DELTA RING (B)	27-ft. Length		30-ft. Length		WITH LOOP EYE (C)	27-ft. Length		30-ft. Length	
Low-Stretch Polyester Webbing																
2″	3,335	⅝″	9572T51	$23.06	9572T42	$24.48	1⅞″	9572T73	$24.47	9572T74	$28.48	—	—	—	—	—
3″	5,400	⅝″	9572T54	22.98	9572T56	24.77	—	—	—	—	—	—	—	—	—	—
4″	5,400	⅝″	9572T55	25.37	9572T47	27.57	2⅞″	9572T81	27.97	9572T82	30.51	6″	—	—	9572T86 ●	$20.49
Abrasion-Resistant Polyester Webbing																
3″	5,000	½″	3521T31	34.10	3521T33	37.03	2⅞″	3521T35	39.09	3521T37	41.75	7″	3521T63	$31.15	3521T64	36.87
4″	5,000	½″	3521T32	35.12	3521T34	38.30	2⅞″	3521T36	41.07	3521T38	43.89	7″	3521T67	33.44	3521T68	38.39
Ultra Abrasion-Resistant Polyester Webbing																
2″	3,335	½″	3792T61	25.95	3792T62	28.65	1⅞″	3792T51	25.95	3792T52	28.65	—	—	—	—	—
3″	4,335	⅝″	3792T69	30.62	3792T71	33.12	2⅛″	3792T74	31.25	3792T75	33.75	—	—	—	—	—
4″	5,400	⅝″	3792T41	34.88	3792T42	37.38	2⅝″	3792T78	35.38	3792T79	37.88	—	—	—	—	—

● Work load limit is 5,000 lbs.

Heavy Duty Ratchet Tie-Down Straps

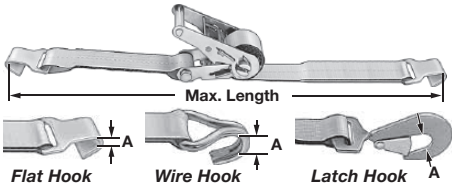

Flat Hook — Wire Hook — Latch Hook

Tough jobs are no problem—these straps have high-strength webbing, buckles, and hooks to handle demanding applications. Meet D.O.T. (Department of Transportation), CVSA (Commercial Vehicle Safety Alliance), and California Highway Patrol regulations. Straps have ratchet-tight buckles for maximum tension. *Zinc-plated steel* offers some corrosion resistance. *300 series stainless steel* provides more corrosion resistance.

Low-stretch polyester webbing is quick drying. Color is yellow. *Zinc-plated steel flat hooks* have a black finish.

Abrasion-resistant polyester webbing is yellow with black cut-resistant edges.

Ultra abrasion-resistant polyester webbing is impregnated with PVC for the most abrasion resistance and UV protection. Color is orange. *Flat hooks* have a black finish.

Web-bing Wd.	Work Load Limit, lbs.	WITH FLAT HOOKS (A)	12-ft. Max. Lg.		27-ft. Max. Lg.		30-ft. Max. Lg.		WITH WIRE HOOKS (A)	12-ft. Max. Lg.		27-ft. Max. Lg.		30-ft. Max. Lg.	
Zinc-Plated Steel Buckle and Hooks															
Low-Stretch Polyester Webbing															
2″	2,000	½″	29665T13	$22.98	29665T31	$24.38	29665T32	$26.88	¾″	29665T33	$22.98	29665T34	$30.50	29665T35	$31.57
2″	3,335	½″	29665T14	24.52	29665T41	27.38	29665T42	31.45	¾″	29665T36	24.52	29665T37	27.38	29665T38	31.45
2″	4,000	⅝″	29665T15	30.48	29665T51	32.50	29665T52	35.00	⅞″	29665T43	29.76	29665T44	36.25	29665T45	38.75
3″	5,000	⅝″	29665T16	48.00	29665T21	62.22	29665T22	64.44	1″	29665T46	58.00	29665T47	70.21	29665T48	72.34
4″	5,400	⅝″	29665T17	60.00	29665T18	68.89	29665T19	71.11	1″	29665T53	60.00	29665T54	83.70	29665T55	85.87
Abrasion-Resistant Polyester Webbing															
2″	1,600	½″	3428T22	22.55	3428T26	33.13	3428T27	35.07	⅝″	3428T61	25.16	3428T62	36.28	3428T63	38.30
2″	3,300	½″	3428T32	25.29	3428T36	39.16	3428T37	41.39	1″	3428T64	25.84	3428T65	39.50	3428T66	41.78
3″	5,000	½″	3428T42	64.67	3428T46	73.20	3428T47	75.52	1″	3428T67	60.85	3428T68	73.04	3428T69	75.47
4″	5,000	½″	3428T51	75.28	3428T52	87.71	3428T53	93.31	1″	3428T71	72.74	3428T72	85.61	3428T73	89.73
Ultra Abrasion-Resistant Polyester Webbing															
2″	2,000	½″	3791T25	26.19	3791T21	26.83	3791T23	28.75	¾″	3791T61	26.19	3791T62	27.18	3791T63	28.99
2″	3,335	½″	3791T45	28.10	3791T41	29.82	3791T43	31.64	¾″	3791T64	28.10	3791T65	29.82	3791T66	31.64
2″	4,000	⅝″	3791T35	33.33	3791T31	35.19	3791T33	37.08	⅞″	3791T67	33.33	3791T68	35.19	3791T69	37.08
3″	5,000	⅝″	3791T55	65.00	3791T51	77.29	3791T53	79.38	1″	3791T71	65.00	3791T72	84.38	3791T73	86.46
4″	5,400	⅝″	3791T81	68.00	3791T82	86.67	3791T83	88.89	1″	3791T74	67.82	3791T75	88.89	3791T76	91.11
300 Series Stainless Steel Buckle and Hooks															
Low-Stretch Polyester Webbing															
2″	1,670	1″	3509T73 ★	116.11	3509T74 ★	128.41	3509T75 ★	129.45	—	—	—	—	—	—	—

★ Straps have latch hooks.

Warning! ***Never exceed work load limits. Never use for lifting applications.***

Heavy Duty Ratchet Tie-Down Straps with Webbing Spool

Excess webbing spools onto the ratchet-tight buckle of these straps to keep it neatly out of your way during use. The buckle and fittings are made of galvanized steel; the webbing is yellow polyester. Max. length is 27 ft.

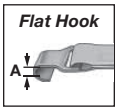

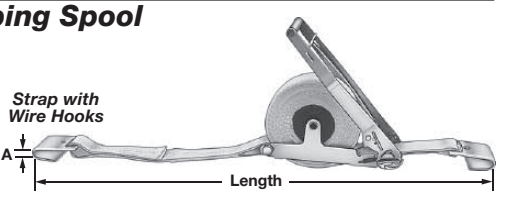

Hook Type	Webbing Wd.	Work Load Limit, lbs.	(A)		
Flat Hooks	2″	3,333	3/4″	29665T57	$42.46
Wire Hooks	2″	3,333	13/16″	29665T56	42.46

Ratchet Tie-Down Straps



Ratchet-tight buckles let you apply maximum tension to the straps. All straps come with your choice of webbing material: ultra-abrasion-resistant nylon or low-stretch polyester.

Straps with Hooks

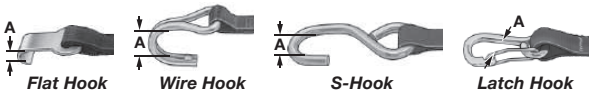

Straps with Zinc-Plated Steel Hooks—1″ wide nylon webbing is black; 2″ wide nylon webbing is gray. 1″ wide polyester webbing is white; 2″ wide polyester webbing is brown.

Straps with Stainless Steel Hooks—Also has a stainless steel buckle. Nylon webbing is black; polyester webbing is blue.

To Order: Please specify nylon or polyester webbing as well as length: 3, 4, 6, 8, 10, 12, 16, or 20 ft.

Hook Type	Webbing Wd.	Work Load Limit, lbs.	(A)	3-ft. Length Each		Extra Length Per Ft.
With Zinc-Plated Steel Hooks						
Flat Hooks	1″	333	1/4″	8834T3	$29.39	$0.65
Flat Hooks	2″	1,666	11/16″	8834T32	33.44	1.00
Wire Hooks	1″	333	1 1/32″	8834T22	25.40	.65
Wire Hooks	2″	500	15/16″	8834T1	33.64	1.00
S-Hooks	1″	333	1 1/32″	8834T19	23.44	.65
Latch Hooks	2″	1,666	15/16″	8834T38	35.73	1.00
With Stainless Steel Hooks						
Flat Hooks	1″	350	1/4″	31025T81	44.43	.68
Flat Hooks	1 1/2″	1,000	5/8″	31025T83	102.24	.79
Flat Hooks	2″	1,500	5/8″	31025T85	116.12	.84
Wire Hooks	1″	400	3/4″	31025T87	45.54	.68
Wire Hooks	1 1/2″	1,000	3/4″	31025T89	103.35	.68
Wire Hooks	2″	1,500	3/4″	31025T92	116.12	.84
Latch Hooks	1″	350	15/16″	31025T17	53.49	.68
Latch Hooks	1 1/2″	1,100	1 1/8″	31025T18	114.27	.79
Latch Hooks	2″	1,540	1 9/16″	31025T19	139.97	.84

Straps with D-Rings

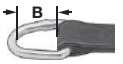

The buckle and D-rings are zinc-plated steel. 1″ wide nylon webbing is black; 2″ wide nylon webbing is gray. 1″ wide polyester webbing is white; 2″ wide polyester webbing is brown.

To Order: Please specify nylon or polyester webbing as well as length: 3, 4, 6, 8, 10, 12, 16, or 20 ft.

Webbing Wd.	Work Load Limit, lbs.	(B)	3-ft. Length Each		Extra Length Per Ft.
1″	333	1 3/8″	8834T15	$26.51	$0.65
2″	1,666	1 3/4″	8834T17	33.16	1.00

Straps with Mounting Plates



The buckle and mounting plates are zinc-plated steel. 1″ wide nylon webbing is black; 2″ wide nylon webbing is gray. 1″ wide polyester webbing is white; 2″ wide polyester webbing is brown.

To Order: Please specify nylon or polyester webbing as well as length: 3, 4, 6, 8, 10, 12, 16, or 20 ft.

Webbing Wd.	Work Load Limit, lbs.	(C)	3-ft. Length Each		Extra Length Per Ft.
1″	333	1/2″	8834T34	$24.61	$0.65
2″	1,666	3/4″	8834T36	31.91	1.00

Combination-End Ratchet Tie-Down Straps





Each end has a wire hook along with a movable D-ring—use them together to create a soft loop in a choker configuration, or separately in a variety of applications. All have a ratchet-tight buckle. The buckle and fittings are zinc-plated steel. The webbing is blue polyester.

To Order: Please specify length: 3, 4, 6, 8, 10, 12, 16, or 20 ft.

Webbing Wd.	Work Load Limit, lbs.	(A)	3-ft. Length Each		Extra Length Per Ft.
1″	835	3/8″	9575T51	$16.62	$0.18
2″	1,670	7/8″	9575T52	23.79	.50

Retractable Ratchet Tie-Down Straps

A lever handle with spring release dispenses and retracts the webbing, while a ratchet applies the right amount of tension.

Straps with S-Hooks on Both Ends



Ratchets and hooks are black plastic-coated steel. Webbing is black nylon, except 9116T12 is polyester.

Webbing Wd.	Max. Lg.	Work Load Limit, lbs.	(A)		
1″	6 ft.	500	1″	9116T61	$18.30
1″	10 ft.	400	7/8″	9116T12	18.85
2″	6 ft.	1,100	1 1/8″	9116T62	21.48
2″	10 ft.	1,100	1 1/8″	9116T64	22.30

Multi-Mount Straps with S-Hook on One End









Strap has a 3/8″ dia. mounting hole in the ratchet housing and includes fasteners. The ratchet housing is black plastic. The hook is black plastic-coated steel; webbing is black polyester.

Latch hook is black plastic-coated steel with a zinc-plated steel mounting plate. Overall length is 10″.

Cargo track fitting has a zinc-plated steel mounting plate on one end and an E-track style connector on the other. Overall length is 7″.

Webbing Wd.	Max. Lg.	Work Load Limit, lbs.	(A)		
Straps					
2″	6 ft.	1,167	1 1/8″	8836T3	$47.70
Accessories					
45° Steel Mounting Bracket				8836T41	8.00
Latch Hook				8836T42	7.78
Cargo Track Fitting				8836T43	12.71

Shock-Absorbing Tie-Down Straps

The rubber bar stretches for proper tension on the strap and contracts if your load shifts. Straps have a zinc-plated steel quick-tight buckle, which is also known as a cam buckle. Webbing is red polyester. Hooks are plastic-coated steel.

Webbing Wd.	Max. Lg.	(A)		Each
1″	6 ft.	1 1/2″	2352T11	$18.62
1″	10 ft.	1 1/2″	2352T12	20.92
1″	19 ft.	1 1/2″	2352T13	24.75

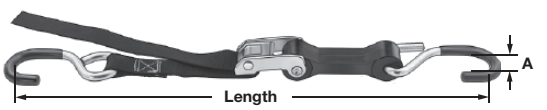

Warning! ***Never exceed work load limits. Never use for lifting applications.***

Sliding-Ratchet Tie-Down Straps

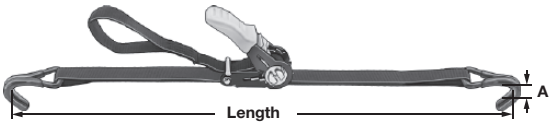

The ratchet slides along the webbing, so you can position it where you want. Straps have a plastic-coated steel hook at each end. The ratchet is black powder-coated steel. Webbing is black polyester.

Webbing Wd.	Max. Lg.	Work Load Limit, lbs.	(A)		
1″	16 ft.	450	1″	3886T11	$14.40
1 1/8″	16 ft.	900	1″	3886T12	25.38

Pull-Tight Tie-Down Ropes

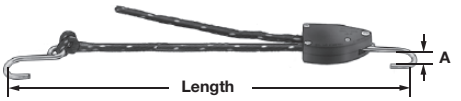

Tie-Down Ropes

Pull the rope through the automatic-locking ratchet to tension; press the lever to release. The ratchet is glass-filled nylon. Rope is braided polypropylene and has zinc-plated steel hooks.

Rope Dia.	Max. Lg.	Work Load Limit, lbs.	(A)		
1/8″	6 ft.	75	5/8″	29925T14■	$6.72
1/4″	8 ft.	150	1 1/8″	29925T13	10.22
1/4″	10 ft.	150	1 1/8″	29925T12	10.63
3/8″	8 ft.	250	1 1/4″	29925T23	15.72
3/8″	10 ft.	250	1 1/4″	29925T22	16.48
3/8″	15 ft.	250	1 1/8″	29925T25	17.76
1/2″	10 ft.	500	1 1/2″	29925T24	28.64
1/2″	15 ft.	500	1 9/16″	29925T26	31.98

■ Rope is braided polyester.

Create-Your-Own Tie-Down Ropes

Add one of these ratchets to rope sold separately on pg. 1457 to make your own tie down. Ratchets include a hook for the end of the rope.

For Rope Dia.	(A)		
1/4″	1 1/8″	29925T51	$6.86
3/8″	1 1/4″	29925T52	10.86

Retractable Seatbelt-Style Tie-Down Straps



Securing your load can be as simple as using a seatbelt. Permanently mount the spring-retracting strap on one side and the buckle on the other—they both have a 3/8″ dia. mounting hole (fasteners not included). The housing is black plastic, the webbing is black polyester, and the end fitting and buckle are zinc-plated steel.

Webbing Wd.	Max. Lg.		
1″	5′9″	3285T71	$22.61
2″	4′11″	3285T72	21.66

Pull-Tight Tie-Down Straps



Try these pull-tight straps in low-tension applications for faster tightening than ratchet-style straps. All straps have a zinc-plated steel quick-tight buckle. Quick-tight buckles are also known as cam buckles; lift the cam, pull the webbing through, then release the cam to hold.

Straps with Hooks



Straps have a zinc-plated steel hook on each end. Comes in your choice of webbing material: ultra-abrasion-resistant gray nylon or low-stretch brown polyester. **To Order:** Please specify webbing material, as well as length: 3, 4, 6, 8, 10, 12, 16, or 20 ft.

Hook Type	Webbing Wd.	Work Load Limit, lbs.	(A)	3-ft. Length	Each	Extra Length Per Ft.
Flat Hooks	1″	333	5/16″	8834T58	$15.12	$0.70
Flat Hooks	2″	1,000	11/16″	8834T6	20.31	1.00
Wire Hooks	1″	500	7/16″	8834T5	13.28	.70
Wire Hooks	2″	500	15/16″	8834T4	17.75	1.00
S-Hooks	1″	400	1 1/16″	8834T48	11.80	.70
Latch Hooks	2″	1,000	15/16″	8834T66	21.55	1.00

Straps with D-Rings

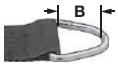

These straps have a zinc-plated steel D-ring on each end. Comes in your choice of webbing material: ultra-abrasion-resistant gray nylon or low-stretch brown polyester. **To Order:** Please specify webbing material, as well as length: 3, 4, 6, 8, 10, 12, 16, or 20 ft.

Webbing Wd.	Work Load Limit, lbs.	(B)	3-ft. Length	Each	Extra Length Per Ft.
1″	500	1 3/16″	8834T44	$13.71	$0.70
2″	1,000	1 3/4″	8834T46	19.91	1.00

Straps with Mounting Plates

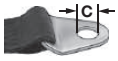

Straps have a zinc-plated steel mounting plate on each end. Comes in your choice of webbing material: ultra-abrasion-resistant gray nylon or low-stretch brown polyester. **To Order:** Please specify webbing material, as well as length: 3, 4, 6, 8, 10, 12, 16, or 20 ft.

Webbing Wd.	Work Load Limit, lbs.	(C)	3-ft. Length	Each	Extra Length Per Ft.
1″	333	1/2″	8834T62	$12.69	$0.70
2″	1,000	3/4″	8834T64	18.43	1.00

Protective Covers for Buckles



Avoid damage to your load caused by buckle vibration during transport with these black vinyl covers. Hook and loop edging secures the cover around buckles for up to 2″ wide webbing.

88405T8 ..... $14.00

Locking Pull-Tight Tie-Down Straps

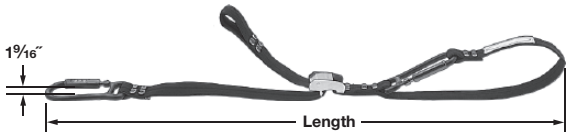

Combination-lock carabiners on each end of this strap keep your items securely tied down. One end of the strap has an easy-to-grip loop for tightening; the other end slips onto the carabiner to form a soft loop that prevents scratches. Strap has a zinc-plated steel quick-tight buckle, also known as a cam buckle. Braided stainless steel cable reinforces the black nylon webbing, creating a strong, thick strap that won't pull all the way out of the buckle. Carabiners are steel with a black finish.

Webbing Wd.	Max. Lg.	Work Load Limit, lbs.		
1 3/8″	7 ft.	500	3840T1	$39.90

Warning! *Never exceed work load limits. Never use for lifting applications.*

Elastic Tie-Down Straps

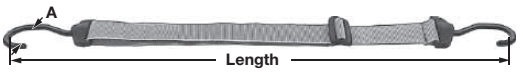

Elastic strap stretches and adjusts for easy load securing. Strap is made of rubber with a polypropylene cover and has nonmarring plastic-coated steel swivel hooks on each end.

Strap Wd.	O'all Lg.	Maximum Stretched Lg.	(A)	Color		
2"	28"-48"	72"	1½"	Yellow	8832T3	$3.18

Slides for Webbing

Add slides to webbing to make your own adjustable straps. You can either thread both ends of the webbing through the plate or sew one end of the webbing to the plate.



Light Duty

Slides are not load rated. Color is black.

For Max. Webbing Wd.	Plastic Pkg. Qty.		Plastic Pkg.	Painted Steel Pkg. Qty.		Painted Steel Pkg.
¾"	25	2974T45	$4.84	—	—	—
1"	25	2974T46	5.42	5	3361T67	$2.70
1½"	25	2974T47	10.43	5	3361T68	3.70
2"	25	2974T48	11.93	5	3361T69	4.40

Heavy Duty

Choose these slides for higher-tension applications.

For Max. Webbing Wd.	Zinc-Plated Steel Work Load Limit, lbs.		Zinc-Plated Steel Each	Stainless Steel Work Load Limit, lbs.		Stainless Steel Each
1"	333	3648T4	$2.62	150	3361T71	$3.27
1½"	—	—	—	200	3361T72	3.93
2"	1,670	3648T35	4.29	250	3361T73	5.70

Light Duty Straps with Fittings

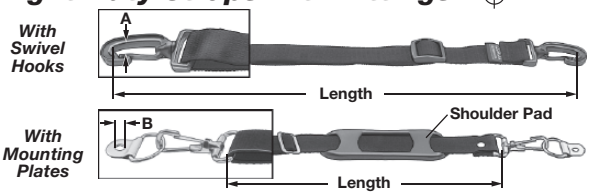

Carry or tie down loads with these adjustable straps. Color is black.

Straps ***with swivel hooks*** allow the load to rotate without twisting the strap. Hooks are black plastic.

Straps ***with mounting plates*** have a rubber shoulder pad and a latch hook to release the strap from the mounting plate. Mounting plates and latch hooks are nickel-plated steel. Mounting fasteners not included.

Also Available: Shoulder pads. Please ask for 88405T888 and specify webbing width.

Webbing Wd.	Lg.	(A)	(B)	Lightweight Polypropylene		Shock-Absorbing Nylon	
With Swivel Hooks							
1"	28"-48"	⅜"	—	3090T151	$6.37	3090T191	$9.41
2"	28"-48"	⅜"	—	3090T171	8.56	3090T221	9.80
With Mounting Plates							
1"	29"-48"	—	7/32"	29685T81	8.63	29685T84	9.57
1½"	29"-48"	—	7/32"	29685T82	9.82	29685T85	10.70
2"	29"-48"	—	7/32"	29685T83	12.45	29685T86	11.83

Finishing Tips for Webbing

Prevent frayed ends and make threading easier. Install with a hammer, pliers, or a vise. Made of plated steel.

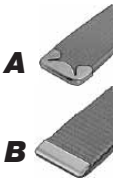

	For Webbing Wd.	Pkg. Qty.		Pkg.
A	1½"	50	9576T49	$9.18
B	¾"	50	9576T47	8.33
B	1"	50	9576T48	13.65
B	2"	10	9576T51	9.00

Webbing

Create your own straps, belts, and tie downs. Webbing has a finished end and a locking stitch that won't unravel when cut. To prevent fraying after cutting cotton, Nomex, and Kevlar webbing, fold and sew or use a finishing tip. For a finished end when cutting polypropylene, nylon, and polyester, use a hot-blade knife (see page 2379).

Note: Breaking strength is the force at which new webbing will break, and should never be considered the work load limit. The work load limit depends on application and the method used to create a finished assembly, and is always significantly lower than the breaking strength.

Extra-strength cotton has a nylon core. ***Lightweight polypropylene*** is economical and resists moisture. ***Shock-absorbing nylon*** has good stretch and recovery with abrasion and mildew resistance. ***Ultra-abrasion-resistant nylon*** is tightly woven for abrasion and slip resistance. ***Low-stretch polyester*** is soft and quick drying. ***Slip-resistant polyurethane-coated polyester*** has good cut resistance and stays flexible in low temperatures.



To Order: Please specify length from those listed. Please also specify color where necessary.

Also Available: Additional lengths. Please ask for 3643T888 and specify webbing material, width, length, and color (where necessary).

Standard Lengths

Wd.	Thick.	Breaking Strength, lbs.	Available Lengths, ft.		Per Ft.
Cotton — *Color is olive.*					
¾"	1/16"	300	10, 25, 50, 100, 150	3643T91	$0.60
1"	1/16"	300	10, 25, 50, 100, 150	3643T92	.77
1½"	1/16"	440	5, 10, 25, 50, 100	3643T93	1.26
2"	1/16"	580	5, 10, 25, 50, 100	3643T94	1.29
Extra-Strength Cotton — *Color is tan.*					
1"	3/32"	1,150	5, 10, 25, 50, 100	3531T51	.85
1½"	3/32"	2,200	5, 10, 25, 50, 100	3531T52	1.00
2"	3/32"	2,400	5, 10, 25, 50, 100	3531T53	1.30
Lightweight Polypropylene — *Color is black or yellow.*					
¾"	1/16"	500	25, 50, 100, 200, 300	8852T61	.26
1"	1/16"	750	25, 50, 100, 200, 300	8852T62	.29
1½"	1/16"	1,000	10, 25, 50, 100, 200, 300	8852T63	.45
2"	1/16"	1,400	10, 25, 50, 100, 200, 300	8852T64	.53
Shock-Absorbing Nylon — *Color is black, blue, red, or yellow.*					
¾"	3/32"	2,850	10, 25, 50, 100, 150	3510T81	.55
1"	3/32"	3,800	10, 25, 50, 100, 150	3510T82	.59
1½"	3/32"	5,100	5, 10, 25, 50, 100, 150	3510T83	.81
2"	3/32"	6,800	5, 10, 25, 50, 100, 150	3510T84	.90
Ultra-Abrasion-Resistant Nylon — *1" wide is black; 2" wide is gray.*					
1"	1/16"	2,500	5, 10, 25, 50, 100, 150	3439T31	$0.99
2"	1/16"	4,800	5, 10, 25, 50, 100, 150	3439T32	1.00
Low-Stretch Polyester — *Color is black or brown*					
1"	1/16"	1,200	5, 10, 25, 50, 100, 150	3444T21	.67
2"	1/16"	2,400	5, 10, 25, 50, 100, 150	3444T22	1.02
Slip-Resistant Polyurethane-Coated Polyester — *Color is black.*					
¾"	3/32"	750	5, 10, 25, 50, 100	3364T41	1.08
1"	3/32"	1,000	5, 10, 25, 50, 100	3364T42	1.33
1½"	3/32"	1,500	5, 10, 25, 50, 100	3364T43	1.96
2"	3/32"	2,000	5, 10, 25, 50, 100	3364T44	1.96
High-Temperature Nomex — *Color is black.*					
¾"	1/16"	600	5, 10, 25, 50, 100	8737T91	2.22
1"	1/16"	850	5, 10, 25, 50, 100	8737T92	3.03
2"	1/16"	1,700	5, 10, 25, 50, 100	8737T93	6.75
Cut-Resistant Kevlar — *Color is black.*					
¾"	1/16"	2,500	5, 10, 25, 50, 100	8739T11	3.47
1"	1/16"	4,000	5, 10, 25, 50, 100	8739T12	4.57
1½"	1/16"	5,500	5, 10, 25, 50, 100	8739T13	6.78

Short Lengths

Webbing has a finished end. Color is black.

Wd.	Breaking Strength, lbs.	Lg., ft.	Pkg. Qty.		Pkg.
Lightweight Polypropylene					
1"	700	1	10	8852T21	$6.11
1"	700	2	5	8852T22	5.14
1"	700	3	5	8852T23	6.09
1"	700	4	2	8852T24	3.89
1"	700	5	2	8852T25	4.79
1"	700	6	2	8852T26	5.07
Shock-Absorbing Nylon					
1"	1,000	1	10	3510T51	$8.72
1"	1,000	2	5	3510T52	7.21
1"	1,000	3	5	3510T53	9.24
1"	1,000	4	2	3510T54	5.58
1"	1,000	5	2	3510T55	6.88
1"	1,000	6	2	3510T56	7.62

Warning! ***Never exceed work load limits. Never use for lifting applications.***

Buckles for Webbing

Add these buckles to webbing (see page 1561) to create your own cinching and tie-down straps.

Light Duty







Buckles are not load rated. *Sew-on* buckles require at least one end of the webbing to be permanently attached. *No-sew* buckles have a gripper bar on each side that holds webbing in place without sewing.

(1&2) Feed-through buckles are easy to thread and cinch quickly. *Plastic* buckles release by lifting up on the end. *Nickel-plated steel* buckles have a movable center bar for tightening and releasing.

(3) Hinged buckles hold tight upon cinching; push down on the end of the buckle to release.

(4) Squeeze-release buckles can be released with one hand.

(5) Easy-release buckle needs just a pinch on the sides to release, making it ideal for gloved hands.

(6) Spring-loaded clamp buckle has a clamp that holds the webbing. To release, push down on the clamp.

(7) Quick-tight buckles are also known as cam buckles. Lift the cam up to release.

	For Webbing Wd.	Pkg. Qty.	Sew On	Pkg.	No Sew	Pkg.
Feed-Through — *Black Plastic*						
1	¾″	25	29705T11	$5.45	29705T21	$7.21
1	1″	25	29705T81	6.16	29705T22	7.62
1	1½″	25	29705T13	14.47		
1	2″	5	29705T14	10.47		
Feed-Through — *Nickel-Plated Steel*						
2	¾″	25	9576T61	13.51		
2	1″	25	9576T62	21.88		
Hinged — *Nickel-Plated Steel*						
3	1½″	5	9576T65	9.93		
3	2″	5	9576T66	11.11		
Squeeze-Release — *Black Plastic*						
4	¾″	10	29705T82	5.04		
4	1″	10	29705T83	6.22	29705T86	7.78
4	1½″	10	29705T361	14.07	29705T87♦	12.56
4	2″	5	29705T17	11.91	29705T85	14.56

♦Package quantity is 5.

	For Webbing Wd.	Pkg. Qty.	Sew On	Pkg.	No Sew	Pkg.
Squeeze-Release — *Aluminum*						
4	¾″	1	9576T74	$3.18		
4	1″	1	9576T75	3.60		
4	1½″	1	9576T76	5.76		
4	2″	1	9576T77	6.36		
Easy-Release — *Black Plastic*						
5	1″	10			29705T88	$12.08
Spring-Loaded Clamp — *Nickel-Plated Steel*						
6	1″	5	9576T63	10.15		
Quick-Tight — *Black Plastic*						
7	¾″	10	29705T27	5.63		
7	1″	10	29705T29	7.74		
7	1½″	10	29705T84	10.18		
7	2″	5			29705T31	14.62

Heavy Duty





Choose these sew-on buckles for higher-tension applications.

(8) Feed-through buckles are easy to thread and cinch quickly. Lift the end of the buckle to release.

(9) Flip-tight buckles, also known as over-center buckles, tighten by flipping and locking the buckle into position.

(10) Quick-tight buckles, also known as cam buckles, tighten the fastest. Push down on the cam and pull strap through the buckle.

(11-13) Ratchet-tight buckles let you apply maximum tension on the webbing but take longer to tighten.

	For Webbing Wd.	Work Load Limit, lbs.		Each
Feed-Through — *Stainless Steel*				
8	1″	500	9576T78	$8.70
Flip-Tight — *Zinc-Plated Steel*				
9	¾″ and 1″	335	3648T82	3.34
9	2″	500	3648T75	7.68
Flip-Tight — *Stainless Steel*				
9	¾″ and 1″	260	3648T23	16.41
9	2″	500	3648T24	27.27
Quick-Tight — *Zinc-Plated Steel*				
10	¾″ and 1″	400	3648T31	4.49
10	2″	833	3648T71	8.10

	For Webbing Wd.	Work Load Limit, lbs.		Each
Quick-Tight — *Stainless Steel*				
10	1″	100	3648T17	$8.52
Ratchet-Tight — *Zinc-Plated Steel*				
11	¾″ and 1″	500	3648T3	7.89
12	2″	3,670	3648T14	19.67
13	2″	3,670	3648T15	44.60
Ratchet-Tight — *Stainless Steel*				
11	1″	350	3648T21	16.03
12	1½″	1,320	3648T16	54.02
12	2″	1,670	3648T22	71.47

Mounting Plates for Webbing


3648T41


3648T95

Create a permanent attachment point for tie-down straps. Plates are made of zinc-plated steel.

For Webbing Wd.	Work Load Limit, lbs.	Mtg. Hole Dia.		
¾″ and 1″	333	½″	3648T41	$3.56
2″	1,000	½″	3648T95	6.10

Cut-to-Length Cinching Straps


Polypropylene Webbing and Feed-Through Buckle


EPDM Rubber and Squeeze-Release Buckle

Cut rolls to length and add the included no-sew buckles. Webbing and rubber are black. Buckles are black plastic.

Polypropylene webbing is lightweight, economical, and moisture resistant. Comes with feed-through buckles, which are easy to thread quickly.

EPDM rubber is weather resistant and stretches to hold tarps and bundles tight. Comes with squeeze-release buckles, which can be released with one hand.

Straps					Extra Buckles		
Wd.	Lg., ft.	No. of Buckles		Each	Pkg. Qty.		Pkg.
Polypropylene Webbing							
1″	30	6	8846T49	$12.49	10	8846T52	$7.49
EPDM Rubber							
1″	25	5	8846T61	22.93	10	29705T86	7.78

Warning! ***Never exceed work load limits. Never use for lifting applications.***

Hooks for Webbing

For webbing, see page 1561.

Sew On

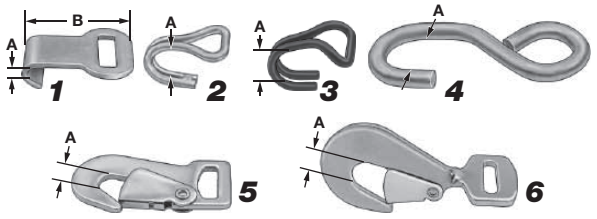

Hooks require webbing to be permanently attached, except *Style 3*, which is split so you can slip it on and off any sewn loop.

For Webbing Wd.	Work Load Limit, lbs.	(A)	(B)		
***Flat Hook**—Zinc-Plated Steel*					
1 ¾″ and 1″	600	5/16″	2″	3648T45	$4.55
1 2″	1,666	5/8″	3 1/16″	3648T85	3.73
***Flat Hook**—Stainless Steel*					
1 1″	350	1/4″	1 1/16″	3648T18	2.48
1 1½″	1,000	5/8″	2 13/16″	3648T19	6.82
1 2″	1,500	5/8″	2 13/16″	3648T29	11.50
***Wire Hook**—Zinc-Plated Steel*					
2 ¾″ and 1″	666	1 1/8″	2 1/2″	3648T43	3.95
2 2″	833	7/16″	1 11/16″	3648T83	2.09
***Wire Hook**—Stainless Steel*					
2 1″	400	¾″	2 3/4″	3648T33	5.46
2 1½″	1,000	¾″	3 7/16″	3648T34	8.10
2 2″	1,500	¾″	3 7/16″	3648T36	12.66
***Removable Wire Hook**—Black Plastic-Coated Steel*					
3 2″	1,000	1 1/4″	3 7/16″	88525T28	5.98
***S-Hook**—Zinc-Plated Steel*					
4 ¾″ and 1″	400	1 1/8″	4 11/16″	3648T42	1.94
4 ¾″ and 1″	500	1 1/8″	4 5/8″	3648T47●	2.59
***S-Hook**—Stainless Steel*					
4 ¾″ and 1″	200	1″	4″	3648T26	5.21
4 1½″	300	1½″	4½″	3648T37	6.22
4 2″	400	2 1/4″	6 3/16″	3648T27	12.15
***Latch Hook**—Zinc-Plated Steel*					
5 ¾″ and 1″	1,835	½″	3 3/4″	3648T46	2.33
5 2″	2,100	1″	4 1/4″	3648T93	3.65
***Latch Hook**—Stainless Steel*					
6 2″	1,670	1″	6″	3648T28	28.32

●Hook is black plastic-coated steel.

No Sew

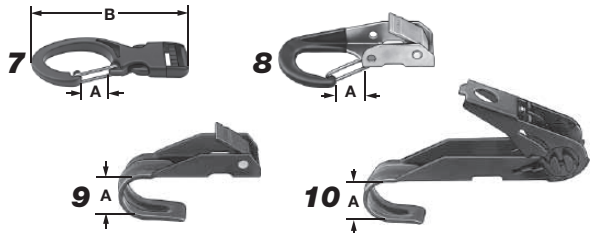

A built-in no-sew buckle allows you to quickly attach webbing to the hook.

Style 7 has a squeeze-release buckle with a gripper bar that holds webbing in place.

Styles 8 and ***9*** have a quick-tight buckle, also known as a cam buckle. Push down on the spring-loaded cam and pull webbing through the buckle.

Style 10 has a ratchet-tight buckle for maximum tension.

For Webbing Wd.	Work Load Limit, lbs.	(A)	(B)		
***Latch Hook**—Black Plastic*					
7 1″	40	¾″	4 3/4″	29705T89	$2.75
***Latch Hook**—Zinc-Plated Steel*					
8 1″	400	1″	4 7/8″	3648T76	8.75
***J-Hook**—Black Powder-Coated Steel*					
9 1″	400	1½″	4½″	3648T77	8.50
10 1″	400	1½″	7 3/8″	3648T78	15.63

Rings for Webbing

For webbing, see page 1561.

D-Rings

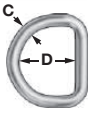

For Webbing Wd.	Work Load Limit, lbs.	(C)	(D)	Pkg. Qty.		Pkg.
Black Plastic						
¾″	—	3/16″	5/8″	25	3781T51	$6.08
1″	—	3/16″	5/8″	25	3781T52	6.64
2″	—	3/16″	¾″	25	3781T54	9.02
Nickel-Plated Steel						
1″	200	7/32″	13/16″	10	9372T21	6.67
1 1/4″	200	1/4″	1 1/8″	10	9372T15	8.00
1½″	200	1/4″	1½″	10	9372T16	9.33
2″	200	1/4″	1¾″	10	9372T23	14.67
Zinc-Plated Steel						**Each**
¾″ and 1″	1,670	1/4″	1 5/16″	—	3648T73	$2.46
2″	1,666	1/4″	1 11/16″	—	3648T87	2.65
Stainless Steel						
1½″	400	3/16″	1½″	—	34905T91	2.57
2″	400	3/16″	2″	—	34905T92	2.97
2″	780	1/4″	2 1/8″	—	34905T93	4.37
2½″	1,200	5/16″	2 3/8″	—	34905T95	7.93
3″	1,200	5/16″	2 5/8″	—	34905T96	8.67

Round Rings

Rings are nickel-plated steel. For load-rated round rings, see page 1485.



For Webbing Wd.	(C)	Pkg. Qty.		Pkg.
½″	1/8″	10	8894T1	$3.33
5/8″	1/8″	10	8894T2	3.45
¾″	1/8″	10	8894T3	3.57
7/8″	5/32″	10	8894T4	4.81
1″	5/32″	10	8894T5	5.18
1 1/4″	3/16″	10	8894T7	4.81

Chemical-Resistant Polyurethane Tie-Down Cords and Straps

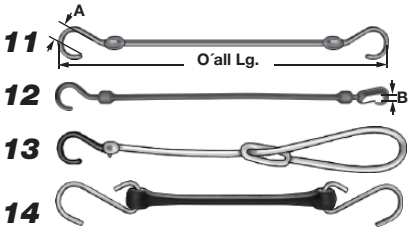

Polyurethane stands up to oil, grease, fuel, ozone, and salt water. *Plastic hooks* protect the contact surface. *Zinc-plated steel hooks* are stronger than plastic and offer some corrosion resistance. *Stainless steel hooks* provide superior corrosion resistance.

Style 13 has a loop end you can cinch around large anchor points.

To Order: Please specify black, blue, orange, red, or yellow.

O'all Lg.	Maximum Stretched Lg.	(A)	(B)	Cord Dia./ Strap Wd.		
(11) Cords with Plastic Hooks						
12 1/2″	24″	1″	—	5/16″	3097T61	$5.64
18 1/2″	36″	1″	—	5/16″	3097T62	5.89
24 1/2″	48″	1″	—	5/16″	3097T63	6.07
(12) Cords with Plastic Hook and Plastic Latch Hook						
18 1/2″	36″	1″	7/16″	5/16″	3097T11	6.31
24 1/2″	48″	1″	7/16″	5/16″	3097T21	6.49
(13) Cord with Plastic Hook and Loop End						
30 1/4″	60″	3/4″	—	3/8″	3097T85	5.87
(14) Straps with Zinc-Plated Steel Hooks						
12 1/4″	24″	1″	—	3/4″	3097T41	5.29
18 1/4″	36″	1″	—	3/4″	3097T42	5.78
24 1/4″	48″	1″	—	3/4″	3097T43	6.49
36 1/4″	72″	1″	—	3/4″	3097T44	7.56
(14) Straps with Stainless Steel Hooks						
12 1/4″	24″	1″	—	3/4″	3097T51	6.33
18 1/4″	36″	1″	—	3/4″	3097T52	6.53
24 1/4″	48″	1″	—	3/4″	3097T53	6.82
36 1/4″	72″	1″	—	3/4″	3097T54	7.00

Harsh-Environment Fluoroelastomer Tie-Down Straps

Fluoroelastomer rubber straps and stainless steel hooks provide superior protection from corrosion with excellent resistance to weather, heat, oil, grease, and fuel. Straps are black.

O'all Lg.	Maximum Stretched Lg.	(A)	Strap Wd.		
14″	19″	7/8″	1 1/32″	3895T11	$21.84
19″	26″	7/8″	1 1/32″	3895T12	25.03



Warning! ***Never exceed work load limits. Never use for lifting applications.***

Weather-Resistant EPDM Rubber Tie-Down Straps



Standard Strap



Adjustable Strap with Holes



Adjustable Strap with Slide Fitting

Made of black weather-resistant EPDM rubber, these tie-down straps, which are also called tarp straps, stretch for a secure hold.
Zinc-plated steel hooks offer good corrosion resistance. ***Stainless steel hooks*** offer excellent corrosion resistance. ***Plastic-coated steel hooks*** are nonmarring to protect surfaces.

Standard Straps

Also Available: Standard straps without hooks. Please ask for 3891T888 and specify length: 10″, 15″, 21″, 31″, or 41″.

O'all Lg.	Maximum Stretched Lg.	(A)	Strap Wd.	Zinc-Plated Steel Hooks	Each	Stainless Steel Hooks	Each
6″	9″	9/16″	3/4″	3891T12	$0.90		
10″	15″	15/16″	5/8″	3891T13	1.03		
14″	22″	1″	3/4″	3891T14	1.34	3891T22	$3.10
19″	31″	1″	3/4″	3891T15	1.59	3891T23	3.48
25″	40″	1″	3/4″	3891T18	1.67	3891T24	3.93
28″	42″	1″	3/4″	3891T16	1.76		
35″	58″	1″	3/4″	3891T19	2.19	3891T26	4.24
45″	70″	7/8″	3/4″	3891T21	3.40	3891T27	5.26

Extra Hooks—Have a 7/8″ opening (A).

Zinc-Plated Steel Hooks (10/Pkg.)	3891T51	Pkg.	$3.83
Stainless Steel Hooks (10/Pkg.)	3891T52	Pkg.	$16.67

Adjustable Straps

O'all Lg.	Maximum Stretched Lg.	(A)	Strap Wd.	Zinc-Plated Steel Hooks	Each	Plastic-Coated Steel Hooks	Each
With Holes							
24″	54″	1″	3/4″	3891T1	$3.23		
34″	79″	1″	3/4″	3891T2	3.63		
With Slide Fitting							
41″	61″	13/16″	9/16″			3891T3	$3.85

Assortments

10-Pc. Assortments—Include four each of 14″ long and two each of 19″, 25″, and 35″ long standard straps.

Straps with Zinc-Plated Steel Hooks	3891T42	Pkg.	$15.33
Straps with Stainless Steel Hooks	3891T43	Pkg.	$33.16

50-Pc. Assortment—Includes ten each of 8″, 14″, 19″, 25″, and 35″ long standard straps.

Straps with Zinc-Plated Steel Hooks	3891T41	Pkg.	$84.47

Fabric-Covered Elastic Tie-Down Cords and Straps

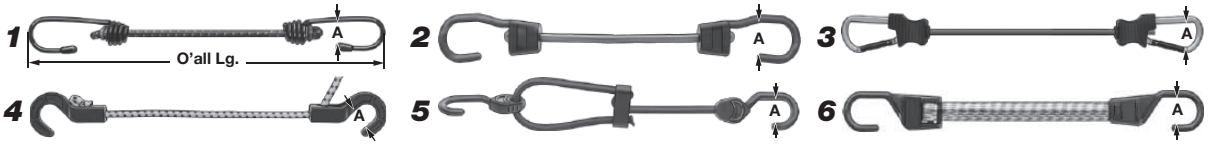

You may know these as Bungee cords and shock cords—they have a woven fabric cover that protects the inner elastic cord from abrasion. Cover is polypropylene unless otherwise stated.
Heavy duty cords provide better abrasion resistance and longer life. ***UV-resistant cords*** are ideal for outdoor use. ***Corrosion-resistant cords*** have a nylon cover and stand up to chlorine and salt water.

O'all Lg.	Maximum Stretched Lg.	(A)	Cord Dia.	Color	Pkg. Qty.		Pkg.
(1) Cords with Plastic-Coated Steel Hooks							
8″	14″	3/4″	3/16″	Multi	10	8835T87	$14.12
8″	14″	3/4″	1/4″	Multi	10	8835T93	14.84
8″	14″	3/4″	13/32″	Multi	5	8835T108	11.08
12″	21″	3/4″	3/16″	Multi	10	8835T88	14.94
12″	21″	3/4″	1/4″	Multi	5	8835T94	9.14
12″	21″	3/4″	13/32″	Multi	5	8835T21	11.28
16″	28″	3/4″	1/4″	Multi	5	8835T95	9.89
16″	28″	3/4″	13/32″	Multi	5	8835T81	11.50
18″	32″	3/4″	3/16″	Multi	10	8835T89	15.49
18″	32″	3/4″	1/4″	Multi	5	8835T96	10.21
18″	32″	3/4″	13/32″	Multi	5	8835T22	12.37
24″	42″	3/4″	3/16″	Multi	10	8835T91	16.79
24″	42″	3/4″	1/4″	Multi	5	8835T97	11.50
24″	42″	3/4″	13/32″	Multi	5	8835T24	14.30
28″	49″	3/4″	1/4″	Multi	5	8835T98	12.79
28″	49″	3/4″	13/32″	Multi	5	8835T26	15.14
32″	56″	3/4″	1/4″	Multi	5	8835T101	13.01
32″	56″	3/4″	13/32″	Multi	5	8835T27	16.66
36″	63″	3/4″	1/4″	Multi	5	8835T102	14.20
36″	63″	3/4″	13/32″	Multi	5	8835T28	17.94
40″	70″	3/4″	1/4″	Multi	5	8835T103	14.40
40″	70″	3/4″	13/32″	Multi	5	8835T29	17.40
48″	84″	3/4″	1/4″	Multi	5	8835T104	15.91
48″	84″	3/4″	13/32″	Multi	5	8835T82	21.71
56″	98″	3/4″	1/4″	Multi	5	8835T105	19.32
56″	98″	3/4″	13/32″	Multi	1	8835T83	5.07
64″	112″	3/4″	1/4″	Multi	1	8835T106	4.30
64″	112″	3/4″	13/32″	Multi	1	8835T84	6.03
72″	126″	3/4″	13/32″	Multi	1	8835T85	5.13
(1) Heavy Duty Cords with Zinc-Plated Steel Hooks							Each
18″	27″	13/16″	3/8″	Black	—	8687T61	$2.53
24″	36″	13/16″	3/8″	Black	—	8687T62	2.69
32″	48″	13/16″	3/8″	Black	—	8687T63	3.01
48″	72″	13/16″	3/8″	Black	—	8687T65	3.56
(1) UV-Resistant Cords with Zinc-Plated Steel Hooks							
12″	18″	7/8″	3/8″	Black	—	8835T61	3.27
16″	24″	7/8″	3/8″	Black	—	8835T31	3.73

Plastic-coated steel and ***plastic hooks*** are nonmarring to protect surfaces. ***Zinc-plated steel hooks*** offer good corrosion resistance. ***Stainless steel hooks*** provide excellent corrosion resistance. ***Aluminum carabiner hooks*** are spring loaded, so they snap closed for a more secure hold than open hooks.

O'all Lg.	Maximum Stretched Lg.	(A)	Cord Dia./ Strap Wd.	Color		Each
(1) UV-Resistant Cords with Zinc-Plated Steel Hooks (Cont.)						
18″	27″	7/8″	3/8″	Black	8835T62	$3.88
24″	36″	7/8″	3/8″	Black	8835T32	4.34
28″	42″	7/8″	3/8″	Black	8835T63	4.65
32″	48″	7/8″	3/8″	Black	8835T33	4.96
36″	54″	7/8″	3/8″	Black	8835T64	5.28
48″	72″	7/8″	3/8″	Black	8835T35	6.20
56″	84″	7/8″	3/8″	Black	8835T36	6.84
72″	108″	7/8″	3/8″	Black	8835T38	8.09
(1) Corrosion-Resistant Cords with Stainless Steel Hooks						
12″	18″	7/8″	13/32″	Wht/Blk	8835T11	5.64
16″	24″	7/8″	13/32″	Wht/Blk	8835T12	5.89
18″	27″	7/8″	13/32″	Wht/Blk	8835T13	6.16
24″	36″	7/8″	13/32″	Wht/Blk	8835T14	6.50
36″	54″	7/8″	13/32″	Wht/Blk	8835T17	7.18
48″	72″	7/8″	13/32″	Wht/Blk	8835T19	7.98
72″	108″	7/8″	13/32″	Wht/Blk	8835T46	9.51
(2) Cords with Plastic-Coated Steel Large-Opening Hooks						
18″	27″	1 1/8″	11/32″	Black	8687T51	2.03
24″	36″	1 1/8″	11/32″	Yellow	8687T52	2.37
32″	48″	1 1/8″	11/32″	Gray	8687T53	2.60
40″	60″	1 1/8″	11/32″	Orange	8687T54	2.86
48″	72″	1 1/8″	11/32″	Gray	8687T55	3.14
(3) Heavy Duty Cords with Aluminum Carabiner Hooks						
24″	36″	3/4″	11/32″	Yellow	8687T71	7.02
36″	48″	3/4″	11/32″	Black	8687T72	7.30
48″	72″	3/4″	11/32″	Orange	8687T73	7.58
(4) Adjustable Cords with Plastic Hooks						
6″-20″	30″	1″	3/8″	Multi	88595T33	2.23
6″-30″	45″	1″	3/8″	Multi	88595T34	2.79
6″-40″	60″	1″	3/8″	Multi	88595T35	2.86
(5) Adjustable Heavy Duty Cords with Plastic-Coated Steel Hooks						
16″-24″	36″	1″	11/32″	Green	4018T1	2.80
22″-32″	48″	1″	11/32″	Orange	4018T3	3.09
28″-48″	72″	1″	11/32″	Yellow	4018T4	3.53
(6) Adjustable Straps with Plastic-Coated Steel Hooks						
10″-54″	81″	13/16″	3/4″	Wht/Or	8687T74	3.22

Warning! ***Never use for lifting applications.***

Elastic Cord and Strap

Make your own elastic tie downs by combining this cord and strap with the fittings on this page.

Latex Rubber Cord and Strap with Cover

Also known as Bungee cord, this stretches up to 1.5 times its length. All have a woven polypropylene cover, unless otherwise stated.

UV-resistant cord and ***strap*** are ideal for outdoor use.

Abrasion-resistant cord has a durable nylon cover that stands up to chlorine and salt water.

To Order: Please specify length and color where necessary; continuous lengths greater than the longest length listed are also available.


General Purpose Cord


UV-Resistant Strap

Dia./ Wd.	Available Lengths, ft.	Available Colors		Per Ft.
General Purpose Cord				
3/32"	50, 100, 200, 500	Blk, Blu, Grn, Red, Yel	8858T81	$0.12
1/8"	50, 100, 200, 500	Blk, Blu, Grn, Red, Yel	8858T82	.20
3/16"	50, 100, 200, 500	Blk, Blu, Grn, Red, Yel	8858T21	.25
1/4"	50, 100, 200, 500	Multi	8858T5	.42
5/16"	25, 50, 100, 200, 300	Multi	8858T2	.45
3/8"	25, 50, 100, 200, 300	Multi	8858T3	.66
1/2"	10, 25, 50, 100, 200, 300	Multi	8858T6	.71
5/8"	2, 5, 10, 25, 50, 100	Multi	8858T71	4.99
3/4"	2, 5, 10, 25, 50, 100	Multi	8858T73	7.31
UV-Resistant Cord				
3/32"	50, 100, 200, 500	White/Blue	8858T83	.16
1/8"	50, 100, 200, 500	White/Blue	8858T84	.21
3/16"	50, 100, 200, 500	White/Blue	8858T85	.33
1/4"	25, 50, 100, 200, 500	White/Blue	8858T12	.59
5/16"	25, 50, 100, 200, 500	White/Blue	8858T13	.60
3/8"	25, 50, 100, 200, 300	White/Blue	8858T14	.88

Weather-Resistant EPDM Rubber Cord and Strap

EPDM stretches up to three times its length.

To Order: Please specify length; continuous lengths greater than the longest length listed are also available.


Cord


Strap

Dia./Wd.	Available Lengths, ft.	Color		Per Ft.
Cord				
5/16"	25, 50, 100	Black	3937T32	$0.52
7/16"	25, 50, 100, 200	Black	3937T31	.63
Strap				
1/2"	25, 50, 100, 200	Black	3937T43	.52
3/4"	25, 50, 100	Black	3937T44	.75

Chemical-Resistant Polyurethane Cord

This premium cord is nonmarring, plus it stands up to oils, ozone, and salt water. It stretches up to two times its length.

To Order: Please specify length and color; continuous lengths greater than the longest length listed are also available.



Dia.	Available Lengths, ft.	Available Colors		Per Ft.
7/32"	10, 25, 50	Blk, Blu, Red, Yel	3961T4	$0.66
1/4"	10, 25, 50	Blk, Blu, Red, Yel	3961T2	.74
5/16"	5, 10, 25, 50	Blk, Blu, Red, Yel	3961T3	1.09
3/8"	5, 10, 25, 50	Blk, Blu, Red, Yel	3961T1	1.51

Hooks for Elastic Cord and Strap

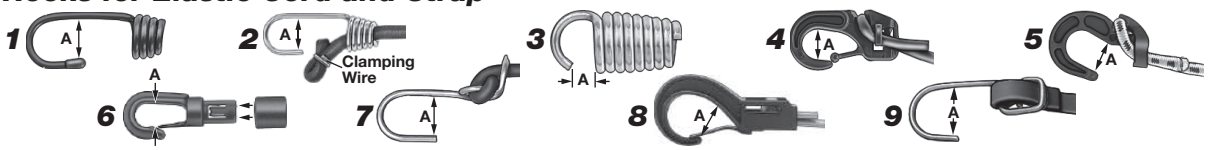

Plastic-coated steel and ***plastic*** hooks protect the contact surface. Color is black.

Stainless steel hooks have excellent corrosion resistance.

	For Dia./Wd.	(A)	Pkg. Qty.		Pkg.
Plastic-Coated Steel—*For Cord*					
1	3/16"	3/4"	10	3862T51	$5.09
1	1/4"	3/4"	10	3862T52	5.51
1	5/16"	3/4"	10	3862T53	5.91
1	3/8"	3/4"	10	3862T54	6.69
1	1/2"	7/8"	10	3862T55	9.09
Zinc-Plated Steel—*For Cord*					
2	3/16"	9/16"	10	3862T61	5.78
2	1/4"	11/16"	10	3862T62	7.19
2	5/16"	3/4"	10	3862T63	8.91
2	3/8"	7/8"	4	3862T64	4.07
2	1/2"	7/8"	4	3862T21	4.87
Stainless Steel—*For Cord*					
2	3/16"	9/16"	4	3862T81	8.24
2	1/4"	11/16"	4	3862T82	9.30
2	5/16"	3/4"	4	3862T83	9.33
2	3/8"	7/8"	4	3862T84	10.02
2	1/2"	7/8"	4	3862T85	10.43

Styles 1, 2, and *3* include a clamping wire that must be crimped to the end of the cord to retain the hook.

Style 6 include a collar that grips the cord when pushed into place.

	For Dia./Wd.	(A)	Pkg. Qty.		Pkg.
Heavy Duty Zinc-Plated Steel—*For Cord*					
3	3/16", 1/4"	1/4"	10	3862T45	$11.03
3	5/16", 3/8"	3/8"	10	3862T47	16.18
3	7/16", 1/2"	3/8"	5	3862T48	10.32
Adjustable Plastic—*For Cord*					
4	1/8", 3/16", 1/4"	3/4"	10	3961T15	8.18
5	5/16", 3/8"	7/8"	10	3862T2	8.04
Plastic—*For Cord*					
6	7/32", 1/4"	3/8"	6	3961T6	5.06
6	5/16"	7/16"	6	3961T7	7.72
Galvanized Steel—*For Cord*					
7	5/16"	15/16"	25	3937T12	11.86
7	7/16"	15/16"	25	3937T22	13.06
Plastic—*For Strap*					
8	5/8"	1 1/4"	10	3862T86	7.00
Galvanized Steel—*For Strap*					
9	1/2", 3/4"	1"	10	3937T52	9.00

Ball Fittings and Locks for Elastic Cord

Position fittings and locks anywhere along your cord. All are black plastic.

Ball fittings include a clamping wire that must be crimped onto the cord ends to hold fitting in place.

Wheel locks have a slide-release serrated wheel that grips the cord as it is pulled through the lock.

Ball, ***barrel***, and ***square locks*** are spring loaded for quick adjustment.

	For Dia.	Pkg. Qty.		Pkg.
Ball Fittings	3/16"	10	3862T26	$3.80
Ball Fittings	1/4"	10	3862T27	4.20
Wheel Locks	1/8"	25	3734T4	12.02
Ball Locks	3/16"	25	3734T1	7.21
Barrel Locks	3/16"	25	3734T3	8.81
Square Locks	1/4"	25	3734T5	9.20



Warning! ***Never use for lifting applications.***

Cable Ties

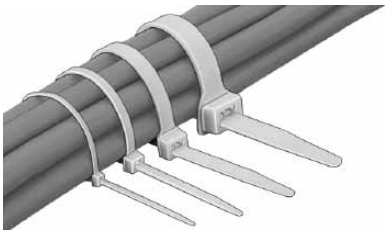

Bundle and secure your cable, wire, and hose with these nylon cable ties. Also known as zip ties. Temperature range is 32° to 180° F.

Narrow ties are highly flexible and conform to irregularly shaped material better than standard, wide, and extra-wide cable ties.

Standard ties balance flexibility and strength, making them good for most bundling applications.

Wide and **extra wide** ties are stronger but less flexible than our narrow and standard cable ties. Use these ties for heavy duty applications that require extra strength.

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Meets Mil. Spec.	Meets UL Spec.	Pkg. Qty.	White	White Per Pkg. 1-9	White Per Pkg. 10-Up	Black	Black Per Pkg. 1-9	Black Per Pkg. 10-Up
Narrow													
3″	5/8″	10	0.09″	0.04″	—	UL 62275, UL 94V2	100	7130K101	$6.54	$5.76	7130K102	$7.16	$6.31
4″	7/8″	10	0.10″	0.04″	MS 3367-4	UL 62275, UL 94V2	100	7130K12	2.27	1.88	7130K52	2.43	1.98
6″	1 1/2″	10	0.10″	0.04″	MS 3367-4	UL 62275, UL 94V2	100	7130K41	4.09	3.34	7130K42	4.43	3.62
8″	2 1/8″	10	0.10″	0.04″	MS 3367-4	UL 62275, UL 94V2	100	7130K31	4.90	4.02	7130K32	5.62	4.61
Standard													
5 1/2″	1″	40	0.14″	0.05″	MS 3367-5	UL 62275, UL 94V2	100	7130K13	4.31	3.52	7130K53	4.80	3.93
5 1/2″	1″	50	0.19″	0.06″	—	UL 94V2	100	7130K47	5.37	4.59	7130K48	5.80	4.96
7 1/2″	1 3/4″	50	0.18″	0.05″	MS 3367-1	UL 62275, UL 94V2	100	7130K19	3.78	3.14	7130K59	4.12	3.43
8″	2″	70	0.17″	0.06″	—	UL 94V2	100	80005K11	7.00	5.89	80005K51	7.24	6.08
8 1/2″	2 3/8″	40	0.14″	0.05″	—	UL 62275	50	7130K103	3.40	2.98	7130K104	3.50	3.07
8 1/2″	2 3/8″	40	0.14″	0.05″	—	UL 62275, UL 94V2	100	7130K14	5.48	4.49	7130K54	6.11	5.00
11″	3″	50	0.18″	0.05″	MS 3367-7	UL 62275, UL 94V2	100	7130K15	7.01	5.84	7130K55	7.61	6.33
11″	3″	70	0.17″	0.06″	—	UL 94V2	100	80005K12	9.97	8.37	80005K52	10.72	9.00
14″	4″	70	0.17″	0.06″	—	UL 94V2	100	80005K13	11.22	9.43	80005K53	12.70	10.67
14 1/2″	4 1/8″	50	0.18″	0.05″	MS 3367-2	UL 62275, UL 94V2	50	7130K16	4.61	3.84	7130K56	5.83	4.75
17″	5″	50	0.18″	0.06″	—	UL 62275, UL 94V2	50	7130K21	6.32	5.51	7130K61	7.06	6.11
21 1/2″	5 7/8″	50	0.19″	0.06″	—	UL 62275, UL 94V2	50	7130K105	12.80	11.77	7130K106	14.62	13.45
Wide													
8 1/2″	2″	120	0.30″	0.08″	—	UL 62275, UL 94V2	50	7130K43	7.30	6.39	7130K44	8.47	7.37
12″	3″	120	0.30″	0.07″	—	UL 62275, UL 94V2	50	7130K45	8.22	6.93	7130K46	9.64	8.38
15″	4″	120	0.30″	0.08″	MS 3367-3	UL 62275, UL 94V2	50	7130K172	10.19	8.81	7130K572	11.40	9.65
17″	4 7/8″	170	0.35″	0.07″	—	UL 94V2	10	80005K44	4.66	3.91	80005K54	5.06	4.36
18″	5″	120	0.30″	0.08″	—	UL 62275, UL 94V2	50	7130K49	12.32	10.68	7130K51	13.41	11.62
21″	5 7/8″	170	0.35″	0.08″	—	UL 62275, UL 94V2	10	80005K45	5.79	4.98	80005K55	5.99	4.82
21 1/2″	6″	120	0.31″	0.08″	—	UL 62275, UL 94V2	10	7130K33	6.93	5.93	7130K68	7.56	6.40
24″	7″	120	0.30″	0.07″	—	UL 94V2	25	7130K912	7.15	6.20	7130K922	9.00	7.80
24″	7″	170	0.34″	0.08″	MS 3367-10	UL 62275, UL 94V2	10	80005K46	5.48	4.62	80005K56	6.33	5.31
28″	8″	120	0.30″	0.07″	MS 3367-6	UL 94V2	10	7130K932	4.05	3.56	7130K942	3.89	3.36
32″	9 7/8″	170	0.35″	0.08″	MS 3367-11	UL 62275, UL 94V2	25	80005K27	13.50	11.25	80005K28	14.24	11.96
37″	11″	170	0.34″	0.09″	MS 3367-13	UL 62275, UL 94V2	25	7130K22	10.43	8.74	7130K62	11.42	9.58
41″	12″	170	0.35″	0.09″	MS 3367-10	UL 94V2	10	7130K242	7.93	6.97	7130K642	8.00	6.90
45 1/2″	13″	170	0.36″	0.08″	—	UL 62275, UL 94V2	10	7130K34	13.39	11.33	7130K66	14.39	12.17
48″	15″	170	0.35″	0.09″	MS 3367-15	UL 94V2	10	7130K252	6.78	5.93	7130K652	8.25	7.14
60″	18 1/8″	170	0.35″	0.08″	—	UL 94V2	5	7130K81	9.81	8.23	—	—	—
Extra Wide													
9″	2″	250	0.50″	0.09″	—	UL 62275	25	69455K11	17.19	14.47	69455K12	17.97	15.13
15″	4″	250	0.50″	0.08″	MS 3367-19	UL 62275	25	69455K21	14.30	12.05	69455K41	16.04	13.43
22″	6″	250	0.50″	0.08″	MS 3367-21	UL 62275	10	69455K22	8.10	6.86	69455K42	8.96	7.52
28 1/2″	8″	250	0.50″	0.08″	MS 3367-22	UL 62275	10	69455K23	10.40	8.72	69455K43	11.41	9.61
34 1/2″	10″	250	0.50″	0.09″	—	UL 62275	10	69455K24	17.19	14.47	69455K44	17.97	15.13

Fine-Adjustment Cable Ties



Reduce gaps between your cable tie and bundle—these ties have a smoother body than standard cable ties, allowing you to adjust them to the exact size of your material. The slightly ribbed body keeps the tie from slipping, and the stainless steel tooth in the head ensures a tight hold. Ties are nylon. Temperature range is 32° to 180° F.

Narrow ties are highly flexible and conform to irregularly shaped material better than standard and wide cable ties.

Standard ties balance flexibility and strength, making them good for most bundling applications.

Wide ties are stronger but less flexible than our narrow and standard cable ties. Use these ties for heavy duty applications that require extra strength.

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Meets Mil. Spec.	Meets UL Spec.	Pkg. Qty.	White	White Per Pkg. 1-9	White Per Pkg. 10-Up	UV-Resistant Black	UV-Resistant Black Per Pkg. 1-9	UV-Resistant Black Per Pkg. 10-Up
Narrow													
3 1/2″	5/8″	10	0.09″	0.03″	MS 3367-4	UL 62275, UL 94V2	100	6614K11	$5.63	$4.80	6614K51	$12.09	$10.57
Standard													
5 1/2″	1 1/8″	30	0.14″	0.03″	MS 3367-5	UL 62275, UL 94V2	50	6614K22	7.52	6.34	6614K62	8.37	7.01
7 1/2″	1 3/4″	50	0.19″	0.04″	MS 3367-1	UL 62275, UL 94V2	50	6614K13	8.98	7.45	6614K53	9.52	7.98
8″	2″	30	0.14″	0.03″	—	UL 62275, UL 94V2	50	6614K24	8.31	6.88	6614K64	10.29	8.63
11 1/2″	3″	50	0.19″	0.06″	MS 3367-7	UL 62275, UL 94V2	50	6614K15	15.30	13.39	6614K55	17.66	15.46
14″	4″	50	0.19″	0.06″	MS 3367-2	UL 62275, UL 94V2	50	6614K17	16.39	14.45	6614K57	18.48	16.28
Wide													
13 1/2″	3 1/2″	120	0.27″	0.06″	MS 3367-3	UL 62275, UL 94V2	10	6614K16	6.73	5.92	6614K56	7.72	6.80
30″	9″	120	0.27″	0.06″	MS 3367-6	UL 62275, UL 94V2	10	6614K18	14.04	12.36	6614K58	16.91	14.89

High-Strength Cable Ties

Stronger and wider than our standard cable ties, these ties can be used as an alternative to metal strapping. Color is black.

Nylon ties meet UL 94V2.

Acetal ties resist moisture and chemicals. They meet UL 94HB.

Style A ties have a temp. range of -40° to 180° F. **Style B** ties have a temp. range of -20° to 260° F.



	O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Pkg. Qty.	Nylon	Pkg.	Acetal	Pkg.
A	8″	2″	400	0.50″	0.06″	10	7177K61	$6.25	7177K66	$10.00
A	11″	2¾″	400	0.50″	0.06″	10	7177K62	6.50	7177K67	10.25
A	15″	4″	400	0.50″	0.06″	5	7177K44	4.22	7177K81	6.72
A	33″	9⅝″	400	0.50″	0.06″	5	7177K45	6.38	7177K82	9.53
A	50″	15″	400	0.50″	0.06″	5	7177K46	7.50	7177K83	11.56
A	6 ft.	18″	400	0.50″	0.06″	5	7177K63	7.75	7177K68	12.88
A	10 ft.	37″	400	0.50″	0.06″	5	7177K64	11.88		
B	18″	4¾″	1,130	0.75″	0.14″	1	1168N1	5.08		
B	24″	6⅝″	1,130	0.75″	0.14″	1	1168N2	5.72		
B	30″	8½″	1,130	0.75″	0.14″	1	1168N3	6.35		

High-Strength Cut-to-Length Cable Ties

Create custom-length cable ties for large bundles and heavy materials. Cut the strap and attach a buckle—no tool required. Color is black. Use the optional tensioning tool (sold separately) to get more tension than with hand tightening.

Acetal ties resist moisture and chemicals.

Style A has a temperature range of -40° to 180° F. *Nylon* ties meet UL 94V2. *Acetal* ties meet UL 94HB.

Style B buckles have a tab that releases the strap. Ties have a temperature range of -20° to 260° F.

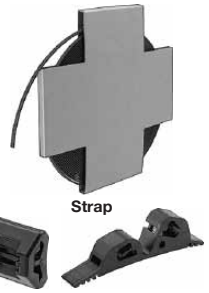

	Breaking Strength, lbs.	Wd.	Thick.	Strap and Buckles: O'all Lg., ft.	No. of Buckles	Each	Additional Strap: O'all Lg., ft.	Each	Additional Buckles: No. of Buckles	Pkg.
Nylon										
A	400	0.50″	0.06″	100	25	7177K71 $24.00	300	7177K73 $26.00	25	7177K74 $11.00
A	400	0.50″	0.06″	50	25	7177K72 17.60	300	7177K73 26.00	25	7177K74 11.00
B	960	0.75″	0.14″	100	100	1168N13 225.95	100	1168N23 171.36	5	1168N33 12.31
Acetal										
A	400	0.50″	0.06″	100	25	7177K76 40.50	300	7177K78 72.00	25	7177K79 14.50
A	400	0.50″	0.06″	50	25	7177K77 29.20	300	7177K78 72.00	25	7177K79 14.50
Optional Tensioning Tool—Please specify strap and buckle style A or B						7177K7				

Long-Lasting Cable Ties

These tough ties withstand dryness and are less likely to crack and break than standard cable ties.

Polypropylene ties won't get brittle in the driest conditions. They withstand most acids, alcohols, and salts. Temperature range is 40° to 220° F.

Nylon 12 ties are designed for use with solar panels, so they withstand prolonged UV exposure without becoming brittle. They resist most chemicals. Temperature range is -40° to 200° F.



O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Meets UL Spec.	Pkg. Qty.		Pkg.
Polypropylene								
Narrow								
4″	¾″	10	0.09″	0.05″	UL 94HB	100	70215K61	$4.19
Standard								
6″	1¼″	10	0.14″	0.05″	UL 94HB	100	70215K62	8.24
7½″	1¾″	30	0.19″	0.06″	UL 94HB	100	70215K63	7.54
11½″	3″	30	0.19″	0.06″	UL 94HB	50	70215K65	9.89
14½″	4″	30	0.19″	0.06″	UL 94HB	50	70215K66	10.88
Wide								
8″	2″	90	0.31″	0.08″	UL 94HB	25	70215K64	5.16
14½″	4″	90	0.31″	0.08″	UL 94HB	25	70215K67	10.24
28½″	8″	90	0.31″	0.08″	UL 94HB	10	70215K68	5.95
Nylon 12								
Standard								
8″	1⅞″	40	0.18″	0.05″	UL 94V2	10	70215K96	7.38
15″	4¼″	40	0.18″	0.05″	UL 94V2	10	70215K97	9.49
18″	5¼″	40	0.19″	0.05″	UL 94V2	10	70215K98	12.95

Choose-a-Color Cable Ties

Identify your bundles at a glance with these colored nylon cable ties. Temperature range is 32° to 180° F.



O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Meets Mil. Spec. ■	Meets UL Spec.	Pkg. Qty.		Per Pkg. 1-9	Per Pkg. 10-Up
Solid—Choose a color: blue, gray, green, orange, purple, red, yellow; fluorescent: blue, green, orange, pink, yellow										
Narrow										
4″	⅞″	10	0.10″	0.04″	MS3367-4	UL 62275, UL 94V2	100	71295K62	$2.20	$1.97
Standard										
6″	1⅜″	40	0.14″	0.05″	MS3367-5	UL 62275, UL 94V2	100	71295K63	3.33	2.96
7½″	1⅞″	50	0.18″	0.05″	MS3367-1	UL 62275, UL 94V2	100	71295K69	3.38	3.04
9″	2⅜″	40	0.14″	0.05″	MS3367-5	UL 62275, UL 94V2	100	71295K64	3.60	3.27
11″	3″	50	0.18″	0.05″	MS3367-7	UL 62275, UL 94V2	100	71295K66	6.81	6.05
14″	4″	50	0.18″	0.05″	MS3367-2	UL 62275, UL 94V2	100	71295K67	8.57	7.69
Wide										
15″	4″	120	0.30″	0.08″	MS3367-3	UL 62275, UL 94V2	25	71295K78★	6.12	5.44
Striped—Choose a color: green/black, green/purple, green/red, green/white, green/yellow, orange/black, orange/purple, orange/red, orange/white, or orange/yellow										
Narrow										
4″	¾″	10	0.10″	0.04″		UL 62275, UL 94V2	50	6632K3	6.58	6.03

■ Fluorescent colors do not meet Mil. Spec. ★Not available in purple and fluorescent yellow.

Chemical-Resistant Cable Ties



For use in environments subjected to chemicals, these ties withstand the most corrosive conditions.
ETFE ties, also known as Tefzel ties, resist most chemicals, solvents, and strong mineral acids. Color is blue.
PEEK ties withstand most chemicals and extreme temperatures, making them an alternative to metal ties. Color is brown.

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Meets UL Spec.	Temperature Range, °F	Pkg. Qty.		Pkg.
ETFE									
4″	3/4″	10	0.09″	0.05″	UL 62275, UL 2043, UL 94V0	-60° to 300°	10	70215K81	$4.28
7 1/2″	1 3/4″	30	0.19″	0.06″	UL 62275, UL 2043, UL 94V0	-60° to 300°	10	70215K92	11.92
14 1/2″	4″	30	0.19″	0.06″	UL 62275, UL 2043, UL 94V0	-60° to 300°	5	70215K93	7.57
15″	4″	90	0.31″	0.08″	UL 62275, UL 2043, UL 94V0	-60° to 300°	1	70215K94	3.69
PEEK									
5 1/2″	1 1/2″	50	0.14″	0.05″	UL 94V0	-20° to 350°	1	70215K76	8.42
7 1/2″	1 7/8″	150	0.19″	0.06″	UL 94V0	-70° to 500°	1	70215K28	3.57

Flame-Retardant Cable Ties



These ties meet UL flammability requirements.
Nylon ties extinguish within 30 seconds. Color is black.
Quick-extinguish nylon ties stop burning within 10 seconds. Color is white.
Low-smoke halar ties produce little smoke and can be used in air-handling (plenum) spaces. Color is red.

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Meets UL Spec.	Temperature Range, °F	Pkg. Qty.		Pkg.
Nylon									
Narrow									
4″	3/4″	10	0.09″	0.05″	UL 62275, UL 94V2	-40° to 220°	100	70215K51	$4.35
6″	1 1/2″	10	0.09″	0.05″	UL 62275, UL 94V2	-40° to 220°	100	70215K12	6.26
8″	2″	10	0.09″	0.05″	UL 62275, UL 94V2	-40° to 220°	100	70215K14	6.95
Standard									
6″	1 1/4″	40	0.14″	0.05″	UL 62275, UL 94V2	-40° to 220°	100	70215K52	7.04
7 1/2″	1 3/4″	50	0.19″	0.06″	UL 62275, UL 94V2	-40° to 220°	100	70215K53	9.65
11 1/2″	3″	50	0.19″	0.06″	UL 62275, UL 94V2	-40° to 220°	100	70215K54	13.70
14 1/2″	4″	50	0.19″	0.06″	UL 62275, UL 94V2	-40° to 220°	50	70215K55	7.86
Wide									
8″	2″	120	0.31″	0.08″	UL 62275, UL 94V2	-40° to 220°	25	70215K56	7.21
14 1/2″	4″	120	0.31″	0.08″	UL 62275, UL 94V2	-40° to 220°	25	70215K57	9.89
17 1/2″	5″	120	0.31″	0.08″	UL 62275, UL 94V2	-40° to 220°	25	70215K23	11.00
28 1/2″	8″	120	0.31″	0.08″	UL 62275, UL 94V2	-40° to 220°	10	70215K59	11.02
36 1/2″	11 1/4″	170	0.36″	0.08″	UL 62275, UL 94V2	-40° to 220°	10	70215K26	13.86
Quick-Extinguish Nylon									
Narrow									
4″	3/4″	10	0.09″	0.05″	UL 94V0	-40° to 200°	100	70215K71	5.32
Standard									
6″	1 1/4″	10	0.14″	0.05″	UL 94V0	-40° to 200°	100	70215K72	9.84
7 1/2″	1 3/4″	30	0.19″	0.06″	UL 94V0	-40° to 200°	100	70215K73	13.54
11 1/2″	3″	30	0.19″	0.06″	UL 94V0	-40° to 200°	50	70215K74	12.80
Low-Smoke Halar									
Narrow									
4″	5/8″	10	0.10″	0.04″	UL 62275, UL 2043, UL 94V0	-70° to 250°	10	70215K32	14.94
Standard									
7 1/2″	1 7/8″	50	0.19″	0.06″	UL 62275, UL 2043, UL 94V0	-70° to 250°	1	70215K33	1.83
11 1/2″	3″	50	0.19″	0.06″	UL 62275, UL 2043, UL 94V0	-70° to 250°	1	70215K34	4.08

Metal-Detector-Grade Cable Ties



Use these nylon cable ties when detection and retrieval is essential, such as in food processing and pharmaceutical applications. Ties are brightly colored for visibility and can be seen by X-ray equipment and metal detectors. They have a stainless steel tooth for a tight hold, except 8 1/2″ and 11″ lengths have a steel tooth.

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Meets UL Spec.	Temperature Range, °F	Color	Pkg. Qty.		Pkg.
3 1/2″	5/8″	10	0.09″	0.04″	UL 94V2	-40° to 180°	Blue	10	7418K53	$3.12
7 1/2″	1 3/4″	50	0.19″	0.05″	UL 94V2	-40° to 180°	Blue	10	7418K54	3.55
8 1/2″	2″	40	0.14″	0.05″	_____	32° to 180°	Green	10	7418K61	2.48
11″	3″	50	0.18″	0.05″	_____	32° to 180°	Green	10	7418K62	4.23
13 1/2″	3 1/2″	120	0.27″	0.06″	UL 94V2	-40° to 180°	Blue	5	7418K55	9.88
14″	4″	50	0.19″	0.05″	UL 94V2	-40° to 180°	Blue	10	7418K56	6.97

Static-Dissipative Cable Ties



Protect sensitive electronic equipment from static buildup. Ties are nylon. They have a surface resistivity of less than 10^8 ohms.

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Meets UL Spec.	Temperature Range, °F	Choose a Color		Each
4″	1 1/8″	10	0.10″	0.04″	UL 94V2	-40° to 180° F	Blue, Green, Red, Yellow	7262K41	$1.99
8″	2 3/8″	40	0.14″	0.06″	UL 94V2	-40° to 180° F	Blue, Green, Red, Yellow	7262K42	2.12
11 1/2″	3 1/2″	50	0.19″	0.06″	UL 94V2	-40° to 180° F	Blue, Green, Red, Yellow	7262K43	2.33
18 1/2″	5 5/8″	50	0.19″	0.06″	UL 94V2	-40° to 180° F	Blue, Green, Red, Yellow	7262K44	2.67
36 1/2″	11 1/8″	50	0.19″	0.06″	UL 94V2	-40° to 180° F	Pink	7262K46	6.67

Easy-Removal Cable Ties

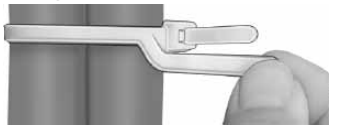

Pull the tab to tear off these cable ties—no cutting or tools required. Ties are nylon. Temperature range is 32° to 180° F.

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Choose a Color		Pkg. of 100
5 1/2″	1 1/4″	30	0.14″	0.05″	Black, Green, Red, White, Yellow	1218N1	$3.38

ID Tag Cable Ties

Label your bundle with a permanent-ink marker. Ties are nylon.

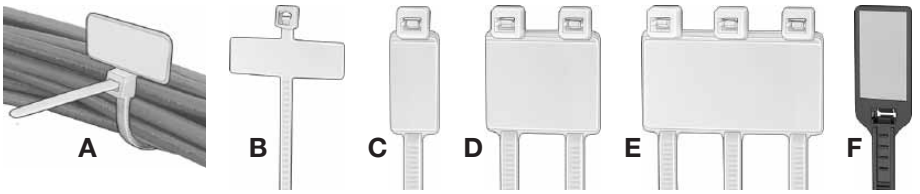

	O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Label Surface Wd.	Label Surface Ht.	Meets UL Spec.	Temperature Range, °F	Pkg. Qty.		Pkg.
White												
A	4½″	¾″	10	0.10″	0.04″	¾″	¼″	UL 62275, UL 94V2	32° to 180°	50	**7568K12**	$6.76
B	4″	¾″	10	0.09″	0.04″	⅞″	¼″	UL 62275, UL 94V2	32° to 180°	50	**7568K11**	6.75
C	8″	1⅞″	50	0.18″	0.06″	½″	1″	UL 94V2	32° to 180°	50	**7568K21**	6.21
C	15½″	3⅞″	50	0.19″	0.06″	½″	2⅛″	UL 62275, UL 94V2	32° to 180°	50	**7568K81**	14.93
D	8″	1⅝″	50	0.19″	0.05″	1⅛″	1″	UL 62275, UL 94V2	32° to 180°	10	**7568K82**	4.97
E	8″	1⅝″	50	0.19″	0.05″	1¾″	1″	UL 62275, UL 94V2	32° to 180°	10	**7568K83**	4.68
Choose a Color—Please specify blue, green, orange, red, white, or yellow												
F	7½″	1⅞″	120	0.25″	0.06″	½″	⅞″	_____	-50° to 200°	10	**8515T62**	7.09

Reusable Cable Ties

Whether you plan to change the bundle size or just need a temporary hold, these ties have a convenient release tab for removal and reuse. Temperature range is 32° to 180° F.

Squeeze-release ties are the easiest to release.
Push-release ties are more difficult to accidentally release.
Flip-to-release ties have a tab that flips down to release and adjust, and flips up to lock.

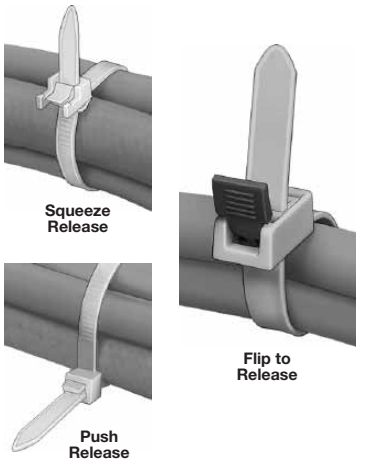

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Meets UL Spec.	Pkg. Qty.	White		Black	
								Pkg.		Pkg.
Squeeze Release										
5½″	1¼″	40	0.21″	0.05″	UL 94V2	50	**7134K51**	$5.88	**7134K52**	$6.43
8″	2″	40	0.21″	0.05″	UL 94V2	50	**7134K53**	6.44	**7134K54**	7.05
10½″	2½″	40	0.21″	0.05″	UL 94V2	50	**7134K45**	9.21	**7134K46**	10.13
15″	4″	250	0.52″	0.09″	UL 94V2	25	**7134K32**	14.64	**7134K33**	16.11
21½″	6″	250	0.52″	0.09″	UL 94V2	10	**7134K93**	10.61	_____	___
27½″	8″	250	0.52″	0.09″	UL 94V2	5	**7134K95**	6.10	_____	___
Push Release										
6″	1½″	50	0.19″	0.05″	UL 94V2	100	**7134K21**	7.07	**7134K2**	8.12
8″	2″	50	0.19″	0.05″	UL 94V2	100	**7134K31**	7.76	**7134K3**	8.62
9″	2⅛″	250	0.49″	0.08″	UL 62275, UL 94V2	25	**7134K41**	8.85	**7134K4**	7.72
15½″	4″	170	0.35″	0.08″	UL 94V2	10	**7134K42**	8.95	**7134K5**	8.66
22″	5⅞″	250	0.49″	0.08″	UL 62275, UL 94V2	10	**7134K43**	12.47	**7134K6**	11.83
Flip to Release									**Yellow**	
29½″	8¼″	200	0.51″	0.08″	UL 94V2	5	_____	___	**7134K81**	8.65

No-Snag Cable Ties

The rounded, low-profile head keeps these nylon ties from snagging and allows them to fit in tight spaces. Temperature range is 32° to 180° F.



O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Meets Mil. Spec.	Meets UL Spec.	Pkg. Qty.	White		UV-Resistant Black	
									Pkg.		Pkg.
7½″	1¾″	50	0.18″	0.05″	MS 3367-23	UL 62275, UL 94V2	100	**7483K32**	$4.36	**7483K33**	$4.47
11½″	3″	50	0.18″	0.05″	MS 3367-29	UL 62275, UL 94V2	50	**7483K34**	4.77	**7483K35**	4.88
14½″	4″	50	0.18″	0.05″	MS 3367-24	UL 62275, UL 94V2	50	**7483K36**	5.46	**7483K37**	5.60
16″	4″	120	0.30″	0.08″	MS 3367-25	UL 62275, UL 94V2	25	**7483K38**	5.23	**7483K39**	5.34

No-Gap Cable Ties

Ties fit tighter around material than standard cable ties to keep them from slipping and moving. Ties are nylon. Temperature range is 32° to 180° F.

Flexible Strap and **Perforated Flexible Strap**—Ties have a thin, flexible strap that fits tightly around irregularly shaped bundles.

Curved Head—The head of this cable tie is contoured to fit against pipe, tubing, and other round material.

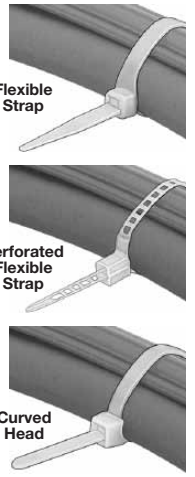

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Meets UL Spec.	Pkg. Qty.	White		Black	
								Pkg.		Pkg.
Flexible Strap										
4″	⅞″	10	0.12″	0.04″	UL 62275, UL 94V2	50	**7345K21**	$11.11	**7345K22**	$12.96
6″	1½″	40	0.17″	0.04″	UL 62275, UL 94V2	50	**7345K23**	12.87	**7345K24**	14.06
8½″	2″	50	0.23″	0.05″	UL 62275, UL 94V2	50	**7345K25**	16.27	**7345K26**	15.43
10½″	2½″	70	0.23″	0.05″	UL 62275, UL 94V2	25	**7345K27**	14.09	**7345K28**	15.38
12½″	3⅛″	70	0.23″	0.05″	UL 62275, UL 94V2	25	**7345K29**	14.74	**7345K31**	15.79
15″	4″	50	0.20″	0.04″	UL 94V2	100	**6788K42**	14.19	**6788K44**	15.62
15½″	4⅛″	120	0.33″	0.06″	UL 62275, UL 94V2	5	**7345K32**	4.96	**7345K33**	5.49
18½″	5⅛″	170	0.38″	0.07″	UL 62275, UL 94V2	5	**7345K34**	6.28	**7345K35**★	7.21
Perforated Flexible Strap										
7″	1¾″	40	0.14″	0.04″	UL 94V2	100	**6788K11**	4.03	**6788K51**	4.30
11″	3″	40	0.14″	0.04″	UL 94V2	100	**6788K12**	5.72	**6788K52**	6.29
Curved Head										
4″	½″	20	0.10″	0.04″	UL 62275, UL 94V2	100	**6705K31**	9.51	**6705K35**	10.52
8″	1¾″	60	0.19″	0.05″	UL 62275, UL 94V2	100	**6705K32**	12.95	**6705K36**	14.30

★Meets UL 94HB only.

Cable Ties

Multiple-Bundle Cable Ties


Two Bundle


Three Bundle

Secure and separate parallel bundles with the same tie. Ties are nylon. Temperature range is 32° to 180° F.

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Meets UL Spec.	Pkg. Qty.		Pkg.
Two-Bundle White								
8″	3/4″	50	0.19″	0.05″	UL 62275, UL 94V2	50	6705K13	$9.16
15 1/2″	2″	50	0.19″	0.05″	UL 62275, UL 94V2	50	6705K24	10.22
Three-Bundle UV-Resistant Black								
20″	1 5/8″	120	0.50″	0.07″		1	6705K62	3.17

Mountable Cable Ties


Adhesive Back/ Screw-In Mount

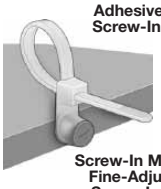
Screw-In Mount and Fine-Adjustment Screw-In Mount


Screw-In Mount with Reusable Tie

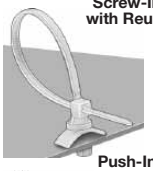
Push-In Mount


Through-Hole Mount

Attach these nylon cable ties to a surface to keep your bundles in place. Temperature range is 32° to 180° F.
Reusable ties let you adjust the size of your bundle without removing the mounted tie.
Adhesive Back/Screw-In Mount with Reusable Tie—Tie sticks to any clean, smooth surface. It has mounting slots on the base to secure with screws. Tie has a 7/8″ Lg. × 1″ Wd. base.
Screw-In Mount—Use a fastener (not included) to mount.
Fine Adjustment Screw-In Mount—Ties have a smoother body than standard cable ties, allowing you to adjust them to the exact size of your material. Fastener not included.
Screw-In Mount with Reusable Tie—Ties have a 1 1/8″ Lg. × 1 1/8″ Wd. base. Fastener not included.
Push-In Mount—Ties fit into a drilled hole.
Through-Hole Mount—Ties include a separate head and strap. Thread the strap through a drilled hole and secure the head on the other side. The head can be mounted above or below the mounting surface.

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Screw Size	Mount. Hole Dia.	Meets UL Spec.	Pkg. Qty.	White	Pkg.	Black	Pkg.
Adhesive Back/Screw-In Mount with Reusable Tie												
4 1/2″	1 1/8″	—	0.28″	0.04″	#4	0.12″	UL 94V2	1			7565K56	$0.59
Screw-In Mount												
4 1/2″	3/4″	10	0.10″	0.04″	#4	0.12″	UL 62275, UL 94V2	100	7295K1	$10.16	7295K11	10.89
6 1/2″	1 1/4″	30	0.14″	0.05″	#8	0.17″	UL 62275, UL 94V2	100	7295K2	10.62	7295K12	10.57
8 1/2″	1 3/4″	50	0.18″	0.05″	#10	0.21″	UL 62275, UL 94V2	100	7295K3	10.65	7295K13	11.13
11″	3″	50	0.19″	0.06″	#10	0.19″	UL 94V2	100	7295K6	11.36	7295K16	11.36
15″	4″	120	0.31″	0.08″	1/4″	0.25″	UL 62275, UL 94V2	10	7295K5	7.29	7295K15	7.87
15 1/2″	4″	50	0.18″	0.08″	#10	0.22″	UL 62275, UL 94V2	50	7295K41	12.63	7295K14	12.78
22″	6″	120	0.31″	0.08″	1/4″	0.25″	UL 62275, UL 94V2	10	7295K42	6.10	7295K43	6.61
29″	8″	120	0.31″	0.08″	1/4″	0.25″	UL 62275, UL 94V2	10	7295K44	9.39	7295K45	10.16
Fine-Adjustment Screw-In Mount												
4″	5/8″	10	0.09″	0.03″	#4	0.12″	UL 94V2	10	7296K11	4.11	7296K21	4.50
6″	1 1/8″	40	0.14″	0.03″	#8	0.16″	UL 94V2	10	7296K12	4.14	7296K22	4.60
8″	1 3/4″	50	0.18″	0.06″	#10	0.19″	UL 94V2	10	7296K13	4.40	7296K23	5.20
14″	3 1/2″	120	0.30″	0.08″	1/4″	0.25″	UL 94V2	10	7296K15	11.54	7296K25	13.75
14 1/2″	4″	50	0.18″	0.04″	#10	0.19″	UL 94V2	10	7296K14	8.67	7296K24	11.90
Screw-In Mount with Reusable Tie												
4 1/2″	1″	—	0.50″	0.04″	#6	0.20″	UL 94V2	10			7565K51	9.77
6″	1 1/2″	—	0.50″	0.04″	#6	0.20″	UL 94V2	10			7565K52	9.97
7 1/2″	2″	—	0.50″	0.04″	#6	0.20″	UL 94V2	10			7565K53	12.57
Push-In Mount												
4 1/2″	3/4″	10	0.10″	0.04″	—	0.19″	UL 94V2	100	6686K11	7.34		
5″	1 1/8″	—	0.28″	0.04″	—	0.25″	UL 94V2	25	7565K54	9.61		
8″	1 5/8″	50	0.19″	0.05″	—	0.25″	UL 94V2	100	6686K16	14.08		
8″	2″	50	0.18″	0.05″	—	0.25″	UL 94V2	25			6686K21	9.19
Through-Hole Mount												
15″	4 1/4″	100	0.22″	0.05″	—	0.63″	UL 94HB	10			6686K26	8.09

Cable Tie Assortments

Have the cable tie you need on hand. Cable ties meet UL 62275 and UL 94V2, except the 400-piece colored assortment, which only meets UL 94V2. Temperature range is 32° to 180° F.

400-Piece Assortments



O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	No. of Pcs.
4″	7/8″	10	0.10″	200
7 1/2″	1 7/8″	50	0.18″	100
11″	3″	50	0.18″	100

White	7338K53	$12.58
UV-Resistant Black	7338K36	12.77

400-Piece Colored Assortment



Assortment includes blue, green, red, and yellow ties.

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	No. of Pcs.
4″	7/8″	10	0.15″	50 of each color
7 1/2″	1 7/8″	50	0.22″	25 of each color
11″	3″	50	0.22″	25 of each color

7338K35 ... $18.42

500-Piece Assortments



O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	No. of Pcs. White	No. of Pcs. Black
4″	7/8″	10	0.10″	200	200
6″	1 1/2″	40	0.13″	100	200
8″	2″	40	0.13″	200	100

White	80005K1	$17.10
UV-Resistant Black	80005K2	19.17

250-Piece Striped Assortment



Assortment includes blue, brown, gray, green, and orange ties, all with white stripes.

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	No. of Pcs.
4″	3/4″	10	0.10″	50 of each color

7338K42 ... $63.47

Cable Tie Mounts

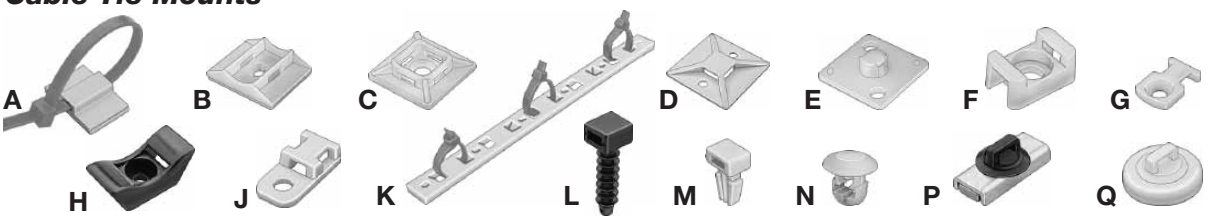

Mount these plastic holders to a surface and add a cable tie to secure your bundle.

Screw-In Mount—Requires a fastener (not included) to mount. *Style K* holds up to five bundles.

Push-In Mount—Push through a drilled hole to mount. *Style L* has a ridged shaft to mount in materials such as concrete, brick, and stone.

Magnetic Back—Mount your bundle to steel beams, joists, and rails. The magnet is rated to hold up to 10 lbs.

Two-way mounts allow ties to be inserted from opposite sides. **Four-way** mounts allow ties to be inserted from any side. **Any-way** mounts allow ties to be inserted from opposite sides and have a head that spins 360° to route the cable in any direction.

	For Max. Cable Tie Wd.	Thick.	Screw Size	Mounting Hole Dia.	*Overall Size* Lg.	Wd.	Ht.	Temperature Range, °F	Pkg. Qty.	White	Pkg.	Black	Pkg.
Adhesive Back													
Two Way													
A	0.19″	0.08″	—	—	1 1/16″	1 1/16″	5/16″	32° to 180°	50	7566K23	$9.89	—	—
Adhesive Back/Screw-In Mount													
Two Way													
B	0.30″	0.09″	#6	0.16″	1 1/4″	1″	5/16″	-40° to 150°	50	7566K27	16.51	—	—
Four Way													
C	0.20″	0.08″	#6	0.16″	3/4″	3/4″	1/4″	-40° to 180°	25	7566K73	3.53	—	—
C	0.21″	0.06″	#6	0.16″	3/4″	3/4″	3/16″	32° to 140°	50	7566K25	8.12	7582K11	$8.53
D	0.18″	0.06″	#8	0.19″	1 1/8″	1 1/8″	1/4″	-40° to 170°	50	7566K62	11.88	7582K22	12.47
D	0.20″	0.07″	#6	0.17″	1″	1″	3/16″	-40° to 180°	25	7566K72	6.00	—	—
D	0.35″	0.09″	#8	0.19″	1 1/2″	1 1/2″	5/16″	-40° to 170°	25	7566K64	10.91	7582K23	11.46
D	0.54″	0.13″	#8	0.19″	2″	2″	7/16″	-20° to 150°	10	7566K47	7.03	7566K71	7.38
Any Way													
E	0.14″	0.06″	#8	0.19″	1″	1″	3/8″	32° to 180°	10	7566K52	4.14	7566K53	4.35
Screw-In Mount													
Two Way													
F	0.21″	0.05″	#6	0.15″	9/16″	3/8″	5/16″	0° to 180°	100	7566K12	9.94	—	—
F	0.21″	0.07″	#8	0.18″	5/8″	3/8″	5/16″	0° to 180°	100	7566K13	10.45	—	—
F	0.30″	0.13″	1/4″	0.25″	7/8″	11/16″	7/16″	32° to 180°	50	7566K55	7.35	7566K68	7.72
F	0.36″	0.09″	1/4″	0.26″	7/8″	5/8″	3/8″	0° to 180°	100	—	—	7585K11	16.51
G	0.30″	0.23″	#8	0.19″	3/4″	1/2″	1/8″	32° to 180°	100	7566K29	19.23	—	—
H	0.50″	0.23″	#10	0.20″	1 11/16″	3/4″	5/8″	-40° to 180°	10	—	—	7582K82	15.11
H	0.50″	0.23″	#8	0.18″	1 11/16″	3/4″	5/8″	-40° to 180°	10	—	—	7582K81	15.11
H	0.50″	0.23″	1/4″	0.26″	1 11/16″	3/4″	5/8″	-40° to 180°	10	—	—	7582K83	15.11
Four Way													
D	0.14″	0.05″	#4	0.12″	3/4″	3/4″	3/16″	-40° to 180°	100	7566K24	14.14	7582K61	14.85
D	0.18″	0.06″	#8	0.19″	1 1/8″	1 1/8″	1/4″	-40° to 180°	50	7566K41	11.95	7582K62	12.55
D	0.35″	0.09″	#8	0.19″	1 1/2″	1 1/2″	1/4″	-40° to 180°	25	7566K43	9.99	7582K63	10.49
J	0.18″	0.06″	#10	0.20″	13/16″	7/16″	3/16″	-40° to 180°	100	7566K35	13.08	7582K65	13.73
J	0.18″	0.06″	#8	0.19″	13/16″	7/16″	3/16″	-40° to 180°	100	7566K28	13.08	7582K64	13.73
Multi-Bundle Two Way													
K	0.30″	0.11″	#6	0.22″	8 1/8″	11/16″	3/16″	-40° to 180°	1	7566K46	5.86	—	—
Push-In Mount													
Two Way													
L	0.18″	0.10″	—	0.18″	1/4″	3/8″	1 3/16″	-40° to 180°	10	—	—	7566K33	8.28
M	0.18″	0.07″	—	0.25″	3/16″	7/16″	5/8″	-40° to 180°	50	7566K31	7.80	7582K71	8.19
N	0.19″	0.05″	—	0.25″	—	7/16″	7/16″	-40° to 180°	50	7566K32	9.19	7566K36	9.65
Magnetic Back													
Any Way													
P	0.23″	0.11″	—	—	1 1/16″	7/16″	7/16″	-40° to 170°	1	—	—	1186N15	6.86
Q	0.23″	0.11″	—	—	—	3/4″	7/16″	-40° to 170°	1	1186N12	5.00	1186N11	5.00
Q	0.23″	0.11″	—	—	—	15/16″	7/16″	-40° to 170°	1	1186N14	6.86	1186N13	6.86

Cable Tie Assortments with Mounts and Tensioning Tool

An all-in-one solution, these assortments include cable ties, adhesive back/screw-in mount four-way cable tie mounts, and a tensioning tool. Cable ties and mounts are white. Temperature range is 32° to 180° F. Cable ties meet UL 62275 and UL 94V2. They come in a plastic compartmented case.



600-Piece Assortment

Cable Ties

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	No. of Pcs.
4″	7/8″	10	0.10″	100
5 1/2″	1 3/8″	40	0.14″	100
9″	2 3/8″	40	0.14″	100
11″	3″	50	0.18″	100

Cable Tie Mounts

Screw Size	Mounting Hole Dia.	No. of Pcs.
#4	0.13″	100
#6	0.16″	100

7338K33 $74.18

800-Piece Assortment

Cable Ties

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	No. of Pcs.
Standard				
4″	7/8″	10	0.10″	100
5 1/2″	1 3/8″	40	0.14″	100
11″	3″	50	0.18″	100
Screw-In Mount				
5″	1 1/4″	40	0.14″	100
7″	1 3/4″	50	0.18″	100
Reusable				
5″	1 1/4″	50	0.30″	100

Cable Tie Mounts

Screw Size	Mounting Hole Dia.	No. of Pcs.
#4	0.13″	100
#6	0.16″	100

7338K34 $85.07

Cable Holders & Cable Tie Tools

Cable Holders



Mount to a surface to secure and route cable. Holders are plastic, unless otherwise stated.

Styles A and **B** meet UL 94V2. They are white. Temperature range is -40° to 180° F.

Style C is white. Temperature range is -40° to 180° F.

Styles D, E, and **F** meet UL 94V0. They are gray. Temperature range is 32° to 120° F.

Style G has a flexible strap that wraps around bundles. It is steel with a white plastic coating. Temperature range is 70° to 120° F.

Style H holders are white with a 7/32″ dia. mounting hole, except holder for 1/8″ max. bundle dia. has a 5/32″ mounting hole. Holders meet UL 94V2. Temperature range is -40° to 180° F. Fastener not included.

Style J pushes through a drilled 3/16″ dia. hole to mount. Holder is white. Temperature range is -40° to 180° F.

Style K clips onto pipe and conduit. Holder for 1/8″ max. bundle dia. clips onto a 5/8″ dia. tube. Holder for 1/4″ max. bundle dia. clips onto a 13/16″ dia. tube. Holder is white. Temperature range is -40° to 180° F.

Style L has a push-button for quick release. Holder is black. It is not rated for temperature.

Styles M, N, and **P** have a magnet that can hold up to 10 lbs. They meet UL 62275, UL 2043, and UL 94V2, except Style P meets UL 94HB. They are black. Temperature range is -40° to 170° F.

	Max. Bundle Dia.	Overall Size Lg.	Wd.	Ht.	Pkg. Qty.		Pkg.
Adhesive Back							
A	5/16″	1 13/16″	3/4″	7/16″	10	69965K81	$10.19
A	5/8″	3 1/8″	3/4″	3/4″	1	69965K93	1.74
B	3/8″	1″	3/4″	7/8″	25	7565K46	9.52
B	9/16″	1 1/4″	3/4″	1 1/8″	25	7565K47	11.83
B	3/4″	1 1/2″	3/4″	1 1/4″	10	7565K48	6.55
B	1″	2″	1″	1 3/4″	10	7565K49	7.39
C	1/4″	1/2″	1/2″	9/16″	25	7565K65	4.15
C	1/4″	5/8″	3/8″	3/4″	25	69965K97	4.53
C	1/4″	1″	1/2″	11/16″	50	7565K41	11.43
C	3/8″	3/4″	1/2″	3/4″	25	69965K96	8.89
D	3/8″	1 1/16″	1″	7/16″	100	69965K91	14.18
E	1/4″	1/2″	1/2″	7/16″	25	7565K31	3.19
E	1/2″	3/4″	3/4″	3/4″	25	7565K32	4.49
E	3/4″	1 1/8″	1″	1 1/16″	25	7565K33	10.80
E	1″	1 1/2″	1 1/4″	1 5/16″	10	7565K34	5.87
F	1/8″	3/4″	3/4″	5/16″	25	7586K11	8.97
F	1/4″	3/4″	3/4″	1/2″	25	7586K12	9.22
F	3/8″	3/4″	3/4″	5/8″	25	7586K14	11.40
F	1/2″	1″	1″	11/16″	25	7586K15	14.91
G	1/8″	5/16″	5/16″	1/8″	25	69845K61	11.09
G	5/16″	9/16″	9/16″	3/16″	25	69845K62	12.63
G	7/16″	3/4″	3/4″	7/16″	10	69845K63	6.67

	Max. Bundle Dia.	Overall Size Lg.	Wd.	Ht.	Pkg. Qty.		Pkg.
Screw-In Mount							
H	1/8″	3/4″	3/8″	1/4″	50	7572K11	$7.53
H	1/4″	7/8″	7/16″	3/8″	50	7572K12	7.99
H	3/8″	7/8″	7/16″	1/2″	50	7572K13	8.45
H	1/2″	1 3/16″	7/16″	11/16″	50	7572K14	8.91
H	5/8″	1 1/8″	1/2″	13/16″	50	7572K15	9.32
H	3/4″	1 5/16″	1/2″	15/16″	50	7572K16	10.49
H	1″	1 9/16″	1/2″	1 3/16″	50	7572K17	10.50
H	1 1/2″	2 1/8″	1/2″	1 3/4″	50	7572K18	13.01
Push-In Mount							
J	1/8″	5/8″	1/4″	7/8″	100	7565K42	7.89
J	1/4″	5/8″	1/4″	1 1/8″	100	7565K43	8.17
J	5/8″	5/8″	1/4″	1 1/2″	100	7565K44	10.05
J	1″	5/8″	1/4″	1 3/4″	100	7565K45	11.29
Clip-On Mount							
K	1/8″	1″	1/4″	1 1/8″	25	7565K66	5.05
K	1/4″	1 1/8″	1/4″	1 7/16″	25	7565K67	5.18
L	1″	2 3/16″	7/16″	2″	1	5413T31	1.42
L	1 5/8″	3 9/16″	1/2″	3″	1	5413T32	2.25
L	2 3/4″	5 5/16″	5/8″	4 1/2″	1	5413T33	3.11
Magnetic Back							
M	1/2″	1″	1″	13/16″	1	1228N7	6.86
N	1/2″	1/2″	3/4″	3/4″	1	1228N5	5.00
N	3/4″	3/4″	3/4″	1″	1	1228N3	5.00
N	1″	1″	15/16″	1 1/4″	1	1228N1	6.86
P	1/2″	1″	7/16″	1″	1	1228N8	6.86
P	3/4″	1″	7/16″	3/4″	1	1228N9	6.86

Cable Tie Tensioning Tools

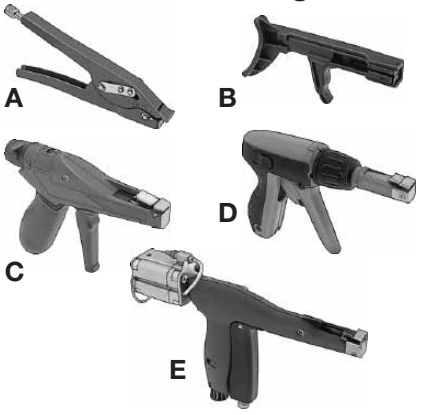

Tools tighten the cable tie and cut off the excess tie.

Precise Adjustment—Multiple tension settings ensure a precise fit around your bundle. *Style D* has a 360° rotating barrel, allowing you to tighten cable ties in small spaces.

Air-Powered Precise Adjustment—Handle high production jobs with minimal effort. Multiple tension settings ensure a precise fit around your bundle. Operates on 100 psi compressed air and includes a 1/8 NPT male connector.

	For Cable Tie Wd.	Breaking Strength, lbs.	Tool Material	Tools		Replacement Blades	
Light Duty							
A	0.01″-0.50″	10-400	Steel	7177K75	$70.00		
B	0.10″-0.18″	10-40	Nylon	5401T11	37.62		
B	0.10″-0.19″	18-50	Steel	5202T11	57.78		
B	0.30″-0.35″	120-170	Plastic	7139K76	42.74		
Precise Adjustment							
C	0.10″-0.19″	10-50	Aluminum	7368K7	182.41	7368K4	$22.94
C	0.18″-0.53″	50-250	Plastic	75785K29	355.84	75785K22	29.58
D	0.10″-0.18″	10-50	Plastic	5035T83	144.74	5035T94	4.58
D	0.19″-0.30″	50-120	Plastic	5035T84	264.96	5035T93	4.58
Air-Powered Precise Adjustment							
E	0.10″-0.19″	10-50	Aluminum	7368K8	621.55	7368K4	22.94

Cable Tie Removal Tools



Safety guards on the tip ensure you cut the cable tie without damaging your material. The spring-action handles reduce fatigue. Tool is steel.

For Cable Tie Wd.	Breaking Strength, lbs.		
0″-1/2″	10-250	7635K12	$21.20

Cable Tie Holsters



Keep cable ties at your fingertips with this clip-on holster. A strap automatically tightens as you remove cable ties, and the holster swivels to keep ties within reach.

Ht.	Wd.	For Max. Bundle Diameter		
4 1/8″	3 1/2″	4″	1225N11	$10.96

Hook and Loop Cable Ties

Flexible, reusable, and adjustable—use these ties when you have delicate bundles or bundles that frequently change in size.

Ties

Flame Retardant—Ties meet UL 94V2 to extinguish within 30 seconds.



O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Temp. Range, °F	Pkg. Qty.		Pkg.
Choose a Color—Please specify black, green, orange, or red							
6″	1¼″	10	⅜″	0° to 220°	10	6605K23	$6.15
6″	1¼″	10	½″	0° to 220°	10	6605K11	6.08
8″	1⅞″	10	½″	0° to 220°	10	6605K12	6.79
11″	2⅞″	10	½″	0° to 220°	10	6605K13	8.00
13″	3½″	10	½″	0° to 220°	10	6605K24	10.79
15″	4⅛″	10	¾″	0° to 220°	5	6605K14	9.26
18″	5″	10	¾″	0° to 220°	5	6605K15	11.70
24″	7″	10	¾″	0° to 220°	5	6605K16	13.78

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Temp. Range, °F	Pkg. Qty.		Pkg.
Flame Retardant—Color is black							
6″	1¼″	10	½″	0° to 120°	10	6605K51	$7.55
8″	1⅞″	10	½″	0° to 120°	10	6605K52	9.92
11″	2⅞″	10	½″	0° to 120°	10	6605K53	11.67
15″	4⅛″	10	¾″	0° to 120°	5	6605K54	11.52
18″	5″	10	¾″	0° to 120°	5	6605K55	13.27
24″	7″	10	¾″	0° to 120°	5	6605K56	14.72

Cut-to-Length Ties

Ties are not rated for breaking strength. Temperature range is 0° to 220° F.
Easy Peel—This tie opens easily to adjust bundle size.



O'all Lg.	Easy Peel ½″ Wd.	Easy Peel ¾″ Wd.	Easy Peel 1″ Wd.	Easy Peel 1½″ Wd.	Easy Peel 2″ Wd.		Standard ½″ Wd.	Standard ¾″ Wd.	Standard 1″ Wd.	Standard 1½″ Wd.	Standard 2″ Wd.
Black											
15 ft.	9402T51 $5.60	$7.22	$8.95	____	____	9402T61	$7.00	$9.02	$11.17	$18.62	$31.02
Choose a Color—Please specify black, blue, green, orange, purple, white, or yellow											
30 ft.	9402T71★ 8.10	____	13.12	$19.88	$26.62	____	____	____	____	____	____

★2″ width not available in white.

Hook and Loop Cable Ties with Buckle

The buckle allows you to cinch these ties tighter than our standard hook and loop cable ties. Ties are not rated for breaking strength.

Ties

Standard—*6″ and 8″ long* ties have a plastic buckle. *10-ft. and 20-ft. long* ties have a steel buckle.
Choose a Color—Identify your bundles at a glance. Buckles are plastic.
Elastic—These ties stretch to hold material tightly without slipping. Buckles are plastic.
Strong Grip—The hook and loop holds more tightly than other hook and loop. Buckle is steel.
Weather Resistant—Ties withstand exposure to UV rays and water. Buckle is steel. They meet ASTM D6193 and Mil. Spec. A-A-55126B.



O'all Lg.	Max. Bundle Dia.	Temp. Range, °F		⅝″ Wd.	1″ Wd.	2″ Wd.
Standard—Color is black						
6″	1¼″	0° to 220°	3955T88	____	$1.33	____
8″	1⅝″	0° to 220°	3955T89	____	1.36	____
10 ft.	33″	-70° to 220°	3955T251	____	3.55	$5.57
20 ft.	70″	-70° to 220°	3955T261	____	5.67	9.49
Choose a Color—Please specify black, blue, green, orange, red, or yellow						
12″	2¾″	____	3955T241	$1.33	1.44	2.04
18″	4½″	____	3955T285■	1.41	1.70	2.52
24″	5″	____	3955T286▲	1.56	2.07	2.85
36″	8½″	____	3955T289	1.79	2.66	3.48
48″	12″	____	3955T291♣	2.06	3.28	4.00
Elastic—Color is black						
12″	2¾″	____	3029T51	2.00	2.35	3.75
18″	4½″	____	3029T52	2.50	2.50	5.03
24″	5″	-70° to 220°	3029T53	3.02	3.10	6.20

O'all Lg.	Max. Bundle Dia.	Temp. Range, °F		⅝″ Wd.	1″ Wd.	2″ Wd.
Elastic—Color is black (Cont.)						
36″	8½″	-70° to 220°	3029T54	$4.18	$5.42	$8.90
48″	12″	-70° to 220°	3029T55	5.34	6.97	11.47
Strong Grip—Color is black						
12″	2¾″	____	3955T271	____	3.41	6.11
18″	4½″	____	3955T242	____	5.74	9.56
24″	5″	____	3955T252	____	5.74	10.11
36″	8½″	____	3955T262	____	6.93	12.45
48″	12″	____	3955T283	____	8.00	15.81
Weather Resistant—Color is black						
12″	2¾″	-70° to 220°	3955T272	1.74	2.10	2.76
18″	4½″	-70° to 220°	3955T281	2.05	2.55	3.25
24″	5″	-70° to 220°	3955T282	2.34	3.00	4.02
36″	8½″	-70° to 220°	3955T284	2.76	3.91	5.62
48″	12″	-70° to 220°	3955T292	3.53	4.81	7.05

■ ⅝″ width not available in red. ▲⅝″ width not available in orange. ♣ 1″ width not available in green or yellow. ⅝″ width not available in red or yellow.

Cut-to-Length Ties

Create your own hook and loop cable ties—no sewing required. Strap is black hook and loop. Buckles are plastic.



O'all Lg.	Wd.	Temperature Range, °F	Strap and Buckles: No. of Buckles		Strap and Buckles: Each	Additional Buckles:	Additional Buckles: Pkg. of 10
15 ft.	1″	0° to 150°	10	8846T62	$19.17	8846T53	$2.20

Hook and Loop Cable Tie Mounts

Mount to a surface and add a hook and loop cable tie to secure your bundle. Mounts are black plastic, except Style B is white plastic.
Magnetic Back—Mount material up to 15 lbs. on steel beams, joists, and rails. Mount swivels 360°. It meets UL 2043.



A



B



C

	For Max. Tie Wd.	Screw Size	Mounting Hole Dia.	Overall Size: Lg.	Overall Size: Wd.	Overall Size: Ht.	Temperature Range, °F	Pkg. Qty.		Pkg.
Adhesive Back/Screw-In Mount										
A	½″	¼″	0.25″	2½″	1″	¼″	40° to 115°	10	1256N3	$12.32
A	1″	¼″	0.25″	3¼″	1½″	¼″	40° to 115°	10	1256N4	14.55
Screw-In Mount										
A	½″	¼″	0.25″	2½″	1″	¼″	0° to 150°	10	1256N5	10.69
A	1″	¼″	0.25″	3¼″	1½″	¼″	0° to 150°	10	1256N6	12.66
B	¾″	#10	0.21″	1¼″	1¼″	⅜″	-40° to 180°	25	1256N1	6.02
Magnetic Back										
C	⅝″	____	____	____	15⁄16″ Dia.	¾″	-40° to 170°	1	1256N2	7.50

Hook and Loop & Metal Cable Ties

Mountable Hook and Loop Cable Ties

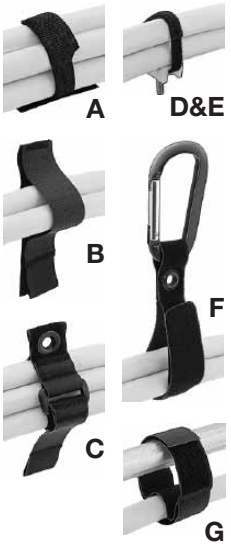

A built-in mount lets you attach cable ties wherever you need them. Ties are not rated for breaking strength.

Style A wraps around material and attaches to itself. The adhesive back sticks to a smooth, clean surface. Temperature range is 40° to 110° F.

Style B presses closed over a bundle and the adhesive back sticks to a smooth, clean surface. Temperature range is -20° to 200° F.

Style C has a plastic buckle that allows you to cinch the tie. It has a brass grommet for mounting. Fastener not included. Temperature range is -70° to 200° F.

Styles D and **E** have a plastic base with an attached screw. Temperature range is 0° to 220° F. *Style D* screw is for use in wood.

Style F has a carabiner to quickly mount. Temperature range is 0° to 120° F.

Style G has a closed loop that allows you to feed material through and loose ends that can attach around pipe or conduit. Temperature range is -70° to 200° F.

	O'all Lg.	Max. Bundle Dia.	Wd.	Screw Size	Mount. Hole Dia.		
Adhesive Back—Choose a color: black, gray, or white							
A	6″	1¼″	⅞″	—	—	**6912K61**★	$1.38
B	2″	¾″	⅝″	—	—	**6912K41**	4.28
B	2″	¾″	1″	—	—	**6912K43**	4.58
B	4″	1½″	⅝″	—	—	**6912K42**	4.88
B	4″	1½″	1″	—	—	**6912K44**	5.17
B	8″	3¼″	1″	—	—	**6912K45**	6.75
B	12″	4½″	1″	—	—	**6912K46**	8.40
Screw-In Mount—Choose a color: black, gray, or white							
C	7″	1½″	1″	¼″	0.28″	**6912K54**	5.66
C	10″	2½″	1″	¼″	0.28″	**6912K55**	6.00
C	16″	4″	2″	¼″	0.28″	**6912K57**	9.52

★Only available in black.

	O'all Lg.	Max. Bundle Dia.	Wd.	Screw Size	Mount. Hole Dia.		
Screw-In Mount—Choose a color: black, gray, or white (Cont.)							
C	22″	6¼″	1″	¼″	0.28″	**6912K56**	$7.28
C	28″	7¾″	2″	¼″	0.28″	**6912K58**	12.07
C	46″	13½″	2″	¼″	0.28″	**6912K59**	16.05
D	8″	2″	¼″	#12	—	**1151N2**★	4.08
E	8″	2″	¼″	#8	—	**1151N3**★	4.08
Clip-On Mount—Color is black							
F	12″	2½″	¾″	—	—	**6912K62**	5.79
Hook and Loop Mount—Color is black							
G	7″	2⅛″	1″	—	—	**6605K91**	2.12
G	10″	2¾″	1″	—	—	**6605K92**	2.30

Stainless Steel Cable Ties


Locking


Perforated Locking


Fold Over


Nylon-Coated Fold Over

For use in the harshest environments, these ties withstand chemicals and UV rays. Use the optional tensioning tools (sold separately) for more tension than hand tightening.

Locking—These ties have a locking ball in the head for a strong hold.

Perforated Locking—Ties have teeth in the head that lock into the notches on the strap, providing the most secure hold.

Fold Over—These reusable ties allow you to make changes to bundles. The strap folds over the head to secure.

Nylon-coated cable ties provide additional corrosion resistance. Color is black. Temperature range is -70° to 300° F. Ties meet UL 94V0.

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Pkg. Qty.		Pkg.
Locking						
8″	2″	200	0.18″	5	**6898K61**	$10.81
8″	2″	300	0.31″	5	**6898K68**	11.95
10″	2⅝″	200	0.18″	5	**6898K62**	11.67
10″	2⅝″	300	0.31″	5	**6898K69**	12.90
14″	4″	200	0.18″	5	**6898K63**	11.19
14″	4″	300	0.31″	5	**6898K71**	14.16
20½″	6″	200	0.18″	5	**6898K64**	14.70
20½″	6″	300	0.31″	1	**6898K72**	3.91
27″	8″	200	0.18″	1	**6898K65**	3.97
27″	8″	300	0.31″	1	**6898K73**	3.69
33″	10″	200	0.18″	1	**6898K66**	4.77
33″	10″	300	0.31″	1	**6898K74**	4.29
42″	12″	200	0.18″	1	**6898K67**	5.84
42″	12″	300	0.31″	1	**6898K75**	6.09
Optional Tensioning Tool					6898K84 Each	$474.90
Perforated Locking						
6″	1¼″	250	0.27″	5	**6898K42**	10.60
6″	1¼″	400	0.47″	5	**6898K43**	12.36
9″	2⅛″	250	0.27″	5	**6898K44**	11.44
9″	2⅛″	400	0.47″	5	**6898K45**	12.05
12″	3⅛″	250	0.27″	5	**6898K46**	13.30
12″	3⅛″	400	0.47″	5	**6898K47**	13.53
18″	5″	250	0.27″	5	**6898K48**	14.10
18″	5″	400	0.47″	1	**6898K49**	3.42
24″	7″	250	0.27″	1	**6898K52**	3.26
24″	7″	400	0.47″	1	**6898K53**	3.99
Optional Tensioning Tool					6898K21 Each	$103.04
Nylon-Coated Perforated Locking						
6″	1¼″	250	0.27″	5	**6898K22**	14.92
6″	1¼″	400	0.47″	1	**6898K23**	3.52

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Pkg. Qty.		Pkg.
Nylon-Coated Perforated Locking (Cont.)						
9″	2⅛″	250	0.27″	1	**6898K24**	$3.42
9″	2⅛″	400	0.47″	1	**6898K25**	3.79
12″	3⅛″	250	0.27″	1	**6898K26**	3.36
12″	3⅛″	400	0.47″	1	**6898K27**	3.99
18″	5″	250	0.27″	1	**6898K28**	4.13
18″	5″	400	0.47″	1	**6898K29**	4.89
24″	7″	250	0.27″	1	**6898K32**	5.12
24″	7″	400	0.47″	1	**6898K33**	5.78
Optional Tensioning Tool					6898K21 Each	$103.04
Fold Over						
10″	2¼″	—	0.75″	1	**1853T61**	.69
16″	3⅝″	—	0.75″	1	**1853T62**	.96
28″	8¼″	—	0.75″	1	**1853T63**	1.40
45″	12½″	—	0.75″	1	**1853T64**	2.36
78″	23″	—	0.75″	1	**1853T65**	4.24
Nylon-Coated Fold Over						
7″	1½″	70	0.25″	5	**69855K71**	12.13
7″	1½″	100	0.38″	5	**69855K81**	13.19
10″	2½″	70	0.25″	5	**69855K72**	13.07
10″	2½″	100	0.38″	5	**69855K82**	15.76
13″	3⅜″	70	0.25″	5	**69855K73**	14.06
13″	3⅜″	100	0.38″	5	**69855K83**	16.53
19″	5⅜″	70	0.25″	5	**69855K74**	15.23
19″	5⅜″	100	0.38″	5	**69855K84**	18.12
25″	7¼″	70	0.25″	1	**69855K75**	3.87
25″	7¼″	100	0.38″	1	**69855K85**	3.97
31″	9″	100	0.38″	1	**69855K86**	4.95
37″	11″	100	0.38″	1	**69855K87**	6.26
Optional Tensioning Tool					6898K21 Each	$103.04

Stainless Steel Cable Tie Mounts



Use these mounts with stainless steel cable ties when working in corrosive environments. Mount using a fastener (not included).

	For Max. Tie Wd.	Screw Size	Mounting Hole Dia.	*Overall Size* Lg.	Wd.	Ht.		
A	0.31″	#10	0.21″	15⁄16″	7⁄16″	3⁄16″	**5253T63**	$2.05
A	0.31″	#8	0.17″	15⁄16″	7⁄16″	3⁄16″	**5253T62**	2.05
A	0.31″	¼″	0.28″	15⁄16″	7⁄16″	3⁄16″	**5253T64**	2.05
B	0.31″	#8	0.17″	¾″	¾″	5⁄16″	**5253T65**	3.64

Aluminum ID Tag Cable Ties



Stamp or emboss these ties to label your material. The strap folds over the head to secure.

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	*Label Surface* Wd.	Ht.	Wd.	Pkg. of 50	
1½″	½″	10	0.25″	½″	½″	**1601T65**	$11.73
3½″	⅞″	10	0.25″	1″	½″	**1601T64**	12.26
3½″	1″	10	0.25″	1⅜″	¾″	**1601T13**	12.68
6½″	2″	10	0.25″	1″	½″	**1601T63**	13.03
10″	3″	10	0.50″	2¾″	¾″	**1601T61**	13.55

Elastic Cable Ties

These stretchy ties conform to irregularly shaped bundles and grip material more tightly than standard cable ties. Fittings are plastic. Ties are not rated for breaking strength.

Wraparound—Temperature range is 30° to 110°F.

Lanyard—Ties accommodate bundles that frequently change in size. Feed your bundle through the loop and pull the end of the tie to cinch tight. They have a temperature range of -10° to 140°F except 12″ ties are not rated for temperature.



Wraparound



Lanyard

O'all Lg.	Max. Bundle Dia.	Dia.	Color	Pkg. Qty.		Pkg.
Wraparound						
8″	3¾″	3⁄16″	Black	25	8730T42	$11.47
12″	5⅝″	5⁄16″	Black	10	8730T43	5.79
Lanyard						
12″	4½″	⅛″	Black	8	8730T44	5.37
24″	7⅜″	⅜″	Yellow	1	8730T41	2.19
40″	15″	⅜″	Blue	1	8730T51	2.88

Elastic Beaded Cable Ties

The evenly spaced ball-shaped heads allow you to adjust your bundle size. They are weather resistant. Temperature range is -20° to 220°F.



O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Bead Dia.	Pkg. Qty.		Pkg.
8″	2″	10	¼″	10	1198N1	$11.25
14″	5″	50	½″	1	1198N2	7.40
24″	8″	70	⅝″	1	1198N3	11.13

Elastic No-Slip Cable Ties

These ties are wide and flat for a no-slip grip. Ties are not rated for breaking strength or temperature.



O'all Lg.	Max. Bundle Dia.	Wd.	Color	Pkg. Qty.		Pkg.
Standard						
3″	1¾″	⅜″	Red	10	30185T11	$8.62
4″	3¼″	⅜″	Green	10	30185T12	8.99
5″	5″	⅜″	Orange	10	30185T13	9.15
11″	9½″	⅝″	Blue	10	30185T16	16.71
Weather Resistant						
3½″	1¾″	⅜″	Black	10	30185T17	7.37
5″	3½″	⅝″	Black	10	30185T21	11.31
7″	5¼″	⅝″	Black	10	30185T19	14.00
11″	6¾″	⅝″	Black	5	30185T23	15.91

Foam Cable Tie Assortments





These soft cable ties won't damage delicate material. The slanted grooves gently grip your material while securely holding the tie. Ties can be used outdoors. Not rated for breaking strength. Temperature range is 32° to 200°F.

O'all Lg.	Max. Bundle Dia.	Wd.	Color	No. of Pcs.	
4½″	1″	0.25″	Green	5	
6″	1¼″	0.30″	White	10	
7¼″	1½″	0.38″	Black	10	
9779T11				Pkg. of 25	$6.88

Beaded Cable Ties

Use these cable ties in light duty applications, such as tagging and attaching documentation to equipment.
Reusable—The beads on this tie snap into the head and can be released.
Nylon ties have a temperature range of 32° to 180°.
Polypropylene ties won't get brittle in dry conditions. Temperature range is 32° to 140°F.



Nonreusable



Reusable

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Bead Dia.	Meets UL Spec.	Choose a Color	Pkg. Qty.		Pkg.
Nonreusable								
Nylon								
5½″	1⅛″	10	0.05″	UL 94V2	Black, Blue, Orange, Red, White, Yellow	500	7189K31	$5.56
Polypropylene								
8½″	2″	8	0.05″	UL 94HB	Black, Blue, Orange, Red, Yellow	100	7189K32	5.98
Reusable								
Nylon								
4″	1″	20	3⁄32″	UL 94V2	White	100	7567K31	5.46
5″	1¼″	20	3⁄32″	UL 94V2	White	100	7567K32	6.41
6″	1¾″	20	3⁄32″	UL 94V2	White	100	7567K33	9.20
8½″	2⅜″	50	⅛″	UL 94V2	White	50	7567K34	6.67
10½″	3⅛″	50	⅛″	UL 94V2	White	50	7567K35	8.43
12½″	3⅝″	50	⅛″	UL 94V2	White	50	7567K56	8.69
Polypropylene								
4″	1″	10	3⁄32″	UL 94HB	Blue, Red, Yellow	100	7567K41	5.52
5″	1¼″	10	3⁄32″	UL 94HB	Blue, Red, Yellow	100	7567K42	6.80
6″	1¾″	10	3⁄32″	UL 94HB	Blue, Red, Yellow	100	7567K43	9.64
8½″	2⅜″	30	⅛″	UL 94HB	Blue, Red, Yellow	50	7567K44	7.15
10½″	3⅛″	30	⅛″	UL 94HB	Blue, Red, Yellow	50	7567K45	8.82
12½″	3⅝″	30	⅛″	UL 94HB	Blue, Red, Yellow	50	7567K66	9.50

Fixed-Loop Cable Ties

Often used as tamper seals and in tagging applications, these ties let you create a consistent loop size every time. Temperature range is 32° to 180°F.



O'all Lg.	Bundle Dia.	Breaking Strength, lbs.	Wd.	Thick.	Choose a Color		Pkg. of 100
Nylon							
5″	1⅜″	30	0.11″	0.04″	Black, Blue, Green, Red	1881T71	$10.03

Cut-to-Length Perforated Cable Ties

Thread the end through one of the perforations to secure. Not rated for breaking strength or temperature.



O'all Lg.	Wd.	Color		
Polyethylene				
500 ft.	0.56″	Yellow	14655T12	$33.75

Twist Ties

Ties



O'all Lg.	Max. Bundle Dia.	Wd.	Choose a Color	Pkg. Qty.	Paper Covered Pkg.	Plastic Covered Pkg.
4″	5/8″	5/32″	Blue, Green, Red, White, Yellow	2,000	2065T61 $6.88	2048T81 $7.30
6″	1 1/4″	5/32″	Blue, Green, Red, White, Yellow	2,000	2065T62 12.35	2048T82 11.65
8″	1 7/8″	5/32″	Blue, Green, Red, White, Yellow	1,000	2065T63 10.91	2048T83 10.16
10″	2 1/2″	5/32″	Blue, Green, Red, White, Yellow	1,000	2065T64 13.38	2048T84 13.85
12″	3 1/8″	5/32″	Blue, Green, Red, White, Yellow	1,000	2065T65 16.91	2048T85 16.53

Cut-to-Length Ties with Plastic Cover



Comes on a spool for use in twist tie machines.

O'all Lg.	Wd.	Choose a Color		Pkg.
2,460 ft.	0.16″	Blue, Green, Red, White, Yellow	2048T31	$51.25

Nylon Twist Ties

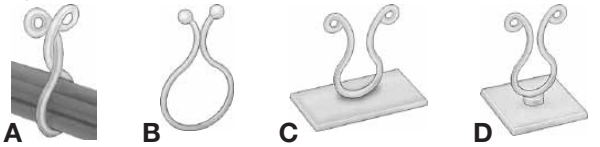

Already formed to the shape of a round bundle, these ties close with a quick twist of the top. Ties are white nylon. Temperature range is -40° to 180°F, except ties with adhesive back have a temperature range of 32° to 180°F.

	O'all Ht.	Max. Bundle Dia.	Dia.	*Base Size* Wd.	Lg.	Meets UL Spec.	Pkg. Qty.		Pkg.
Standard									
A	1″	1/4″	0.08″	—	—	UL 94V2	100	70535K51	$5.92
A	1″	3/8″	0.08″	—	—	UL 94V2	100	70535K52	6.25
A	1″	1/2″	0.08″	—	—	UL 94V2	100	70535K53	6.62
A	1″	5/8″	0.08″	—	—	UL 94V2	100	70535K54	7.18
A	1 1/2″	3/4″	0.08″	—	—	UL 94V2	100	70535K55	7.72
A	1 1/2″	1″	0.08″	—	—	UL 94V2	100	70535K56	9.27
B	2″	1 1/8″	0.07″	—	—	UL 94V2	100	70535K57	11.06
B	2 1/2″	1 3/8″	0.07″	—	—	UL 94V2	100	70535K58	12.89
B	3″	1 1/2″	0.07″	—	—	UL 94V2	100	70535K59	15.65
B	3 1/2″	1 3/4″	0.07″	—	—	UL 94V2	100	70535K61	17.21
Adhesive Back									
C	1″	3/8″	0.08″	1/2″	1″	UL 94V2	50	70535K72	11.81
C	1″	1/2″	0.08″	1/2″	1″	UL 94V2	50	70535K73	13.06
C	1 1/2″	3/4″	0.08″	1/2″	1″	UL 94V2	50	70535K75	13.73
D	1 1/2″	3/8″	0.08″	1″	1″	UL 94V2	50	70535K66	16.09
D	1 1/2″	1/2″	0.08″	1″	1″	UL 94V2	50	70535K67	15.16

Foam Twist Ties

The softest of our twist ties, they have a cushioned outer layer for bundling delicate materials.

Ties



Standard



With Plastic-Coated Ends

Ties with plastic-coated ends won't scratch your material.

O'all Lg.	Max. Bundle Dia.	Dia.	Includes Color (Qty.)	Pkg. Qty.		
Standard						
8″	1 1/2″	0.25″	Green (20)	20	9841T24	$4.83
With Plastic-Coated Ends						
5″	1/2″	0.38″	Black (3), Gray (2), Orange (3)	8	9841T21	5.85
7″	1″	0.38″	Black (2), Gray (2), Orange (2)	6	9841T22	5.28
14″	3″	0.38″	Black (2), Gray (2), Orange (2)	6	9841T23	7.83

Cut-to-Length Ties



O'all Lg.	Dia.	Color		
32 ft.	0.25″	Green	9841T28	$7.43

Rubber Twist Ties

A hard rubber coating and wire core helps these ties maintain their shape.

Ties



Standard



Choose a Color



Adhesive Back



Screw-In Mount



Clip-On Mount

Ties have finished ends, except standard ties have unfinished ends.

Screw-In Mount—Ties have a plastic base that holds the twist tie. They include two #8 screws.

O'all Lg.	Max. Bundle Dia.	Dia.	Pkg. Qty.		Pkg.
Standard—Color is green					
8″	1 1/2″	0.13″	20	9841T25	$4.83
Choose-a-Color—Please specify black or orange					
3″	3/8″	0.24″	4	1010N1	5.77
6″	1 3/8″	0.24″	2	1010N2	5.77
12″	3 1/8″	0.24″	2	1010N3	7.14
18″	4 3/4″	0.40″	2	1010N4	7.71
24″	6 1/2″	0.40″	2	1010N5	8.34
32″	9 1/4″	0.40″	2	1010N6	9.63
Adhesive Back—Color is black					
4″	3/8″	0.24″	2	1010N31	6.43
5″	3/4″	0.24″	2	1010N37	7.14
Screw-In Mount—Color is black					
12″	3 1/8″	0.24″	1	1010N35	7.14
24″	6 3/8″	0.24″	1	1010N36	9.00
Clip-On Mount—Color is black					
3″	3/8″	0.24″	2	1010N32	5.77
12″	3 1/8″	0.24″	1	1010N34	6.73
24″	6 3/8″	0.24″	1	1010N33	7.71

Cut-to-Length Ties



O'all Lg.	Dia.	Choose a Color		
16 ft.	0.20″	Black, Green	2048T19	$5.14
16 ft.	0.25″	Green	9841T27	7.88

Rubber Cinching Straps



Use in heavy duty bundling applications such as securing PVC pipe, rebar, and lumber. The rubber strap conforms to the shape of your material to prevent it from slipping. They are UV resistant for outdoor use. Buckle is aluminum. Temperature range is -20° to 140°F.

O'all Lg.	Max. Bundle Dia.	Breaking Strength, lbs.	Wd.	Color		
14″	5 1/4″	170	7/8″	Fluorescent Blue	8730T46	$7.50
18″	6 3/4″	170	7/8″	Fluorescent Yellow	8730T45	8.00
25″	8 1/4″	200	1″	Orange	8730T61	9.80

Cinching Straps


Feed Through


Squeeze Release


Quick Tight


Spring-Loaded Clamp


Flip Tight


Ratchet-Tight Buckle with Hook Strap

Also known as lashing straps, use these to tightly secure material.

Nylon is abrasion resistant and strong, yet flexible. **Polypropylene** is water resistant and has some UV resistance. **Polyester** repels water, resists mildew, and won't stretch as much as other materials. It has better UV resistance than polypropylene. **Cotton** is soft and easy to handle.

Feed-through buckles are easy to thread quickly.

Squeeze-release buckles can be released with one hand.

Quick-tight buckles are also known as cam buckles. They tighten faster than feed-through buckles and provide a more secure hold than spring-loaded clamp buckles.

Spring-loaded clamp buckles are easy to release for quick adjustments. Press down on the clamp to release the strap.

Flip-tight buckles are also known as over-center buckles. The buckle flips down to close, adding additional tension to the strap.

Ratchet-tight buckles let you quickly cinch straps more tightly than other buckles.

Buckles with hook strap have a built-in hook on the end to quickly connect to the buckle—no need to spend time threading the end through the buckle.

Straps with Plastic Buckle—Not rated for breaking strength or temperature.

		Nylon						Polypropylene					
Wd.	Choose a Color		2 ft.	3 ft.	4 ft.	12 ft.	Other Lgs., ft.	Choose a Color		2 ft.	3 ft.	4 ft.	12 ft.	Other Lgs., ft.
Feed Through														
1″	Black, Yellow	29695T69	$4.46	$4.77	$5.08	$7.56	2 to 12	Black, Yellow	29695T105	$3.29	$3.60	$3.91	$6.39	2 to 12
Squeeze Release														
3/4″	Black, Yellow	29695T392	4.99	5.27	5.55	7.79	2 to 12	Black	29695T29	4.28	4.56	4.84	7.08	2 to 12
1″	Black, Yellow	29695T393	4.97	5.28	5.59	8.07	2 to 12	Black, Yellow	29695T39	4.64	4.95	5.26	7.74	2 to 12
1 1/2″	Black, Yellow	29695T394	7.10	7.49	7.88	11.00	2 to 12	Black, Yellow	29695T49	5.12	5.51	5.90	9.02	2 to 12
2″	Black	29695T96	10.24	10.68	11.12	14.64	2 to 12	Black, Yellow	29695T53	6.95	7.39	7.83	11.35	2 to 12
Quick Tight														
3/4″	Black, Yellow	29695T291	5.31	5.59	5.87	8.11	2 to 12	Black	29695T57	2.99	3.27	3.55	5.79	2 to 12
1″	Black, Yellow	29695T292	5.12	5.43	5.74	8.22	2 to 12	Black, Yellow	29695T59	3.83	4.14	4.45	6.93	2 to 12
2″	Black	29695T391	10.24	10.68	11.12	14.64	2 to 12	Black, Yellow	29695T63	5.99	6.43	6.87	10.39	2 to 12

Straps with Nickel-Plated Steel Buckle—Temperature range is 40° to 110° F.

		Cotton							Polypropylene					
Wd.	Breaking Strength, lbs.	Color		2 ft.	3 ft.	4 ft.	12 ft.	Other Lgs., ft.	Color		2 ft.	3 ft.	4 ft.	12 ft.	Other Lgs., ft.
Feed Through															
3/4″	40	Green	3706T111	$4.07	$4.58	$5.09	$9.17	2 to 12							
1″	60	Green	3706T131	6.21	6.81	7.41	12.21	2 to 12							
1 1/2″	250	Tan	3705T141	9.33	10.67	12.01	22.73	2 to 12	Black	8854T121	$7.25	$7.80	$8.35	$12.75	2 to 12
2″	250	Tan	3705T99	12.28	14.06	15.84	30.08	2 to 12	Black	8854T759	8.88	9.51	10.14	15.18	2 to 12
Spring-Loaded Clamp															
1″	150	Tan	3705T161	6.55	7.71	8.87	18.15	2 to 12	Black	8854T739	6.34	6.88	7.42	11.74	2 to 12

Straps with Zinc-Plated Steel Buckle—Maximum temperature is 180° F.

		Nylon							Polyester					
Wd.	Breaking Strength, lbs.	Color		3 ft.	4 ft.	6 ft.	8 ft.	12 ft.	Other Lgs., ft.	Color		3 ft.	4 ft.	12 ft.	Other Lgs., ft.
Quick Tight															
1″	500	Gray	8842T89	$9.60	$10.13	$11.19	$12.25	$14.37	3 to 20	Brown	8842T899	$9.60	$10.13	$14.37	3 to 20
2″	1,000	Gray	8842T808	12.95	13.83	15.59	17.35	20.87	3 to 20	Brown	8842T809	12.95	13.83	20.87	3 to 20
Quick-Tight Buckle with Hook Strap—Please specify strap material, length, and width from the sizes listed above															8842T965
Flip Tight															
1″	330	Gray	8842T892	13.15	13.68	14.74	15.80	17.92	3 to 20	Brown	8842T891	13.15	13.68	17.92	3 to 20
2″	500	Gray	8842T894	15.25	16.13	17.89	19.65	23.17	3 to 20	Brown	8842T893	15.25	16.13	23.17	3 to 20
Flip-Tight Buckle with Hook Strap—Please specify strap material, length, and width from the sizes listed above															8842T963
Ratchet Tight															
1″	830	Gray	8842T896	14.50	15.03	16.09	17.15	19.27	3 to 20	Brown	8842T895	14.50	15.03	19.27	3 to 20
2″	1,660	Gray	8842T898	24.95	25.83	27.59	29.35	32.87	3 to 20	Brown	8842T897	24.95	25.83	32.87	3 to 20
Ratchet-Tight Buckle with Hook Strap—Please specify strap material, length, and width from the sizes listed above															8842T961

Snap-In Plastic Clamps

Run parallel lines of pipe, hose, or tubing by clicking them into these clamps. Clamps are UV-resistant acetal and can be used outdoors. They have a mounting hole in the center (fastener not included). Color is black. Temperature range is -40° to 210° F.





ID					Mounting		
Min.	Max.	Lg.	Wd.	Thick.	Hole Dia.		Pkg. of 10
5/32″	1/4″	3/4″	5/8″	1/16″	1/8″	7429K41	$3.78
1/4″	5/16″	13/16″	13/16″	1/16″	1/8″	7429K42	4.58
5/16″	3/8″	1″	1″	1/16″	5/32″	7429K43	4.64
3/8″	1/2″	1 1/8″	1 1/4″	1/16″	5/32″	7429K44	4.73
1/2″	5/8″	1 3/8″	1 3/8″	1/16″	11/64″	7429K45	5.38
5/8″	3/4″	1 5/8″	1 3/4″	1/16″	13/64″	7429K46	7.96
3/4″	7/8″	1 7/8″	2 1/16″	1/16″	7/32″	7429K47	9.42
7/8″	1″	2 3/8″	2 1/2″	1/16″	1/4″	7429K48	13.23

About Selecting Clamps Using Pipe, Conduit, or Tubing Trade Size

Find your trade size below, note the Clamp IDs that work with that trade size, then match the Clamp ID to the ID provided on the following pages.

For Pipe and Rigid Conduit

Trade Size	Clamp ID
1/8	3/8", 7/16"
1/4	1/2", 9/16"
3/8	5/8", 11/16"
1/2	13/16", 7/8", 15/16"
3/4	1", 1 1/16"
1	1 3/8", 1 7/16"
1 1/4	1 5/8", 1 11/16"
1 1/2	1 7/8", 1 15/16"
2	2 3/8", 2 7/16"
2 1/2	2 13/16", 2 7/8", 2 15/16"
3	3 1/2"
3 1/2	4", 4 1/16"
4	4 1/2"

For Thin-Wall (EMT) Conduit

Trade Size	Clamp ID
1/2	3/4"
3/4	13/16", 7/8", 15/16"
1	1 1/8", 1 3/16"
1 1/4	1 1/2", 1 9/16"
1 1/2	1 3/4"
2	2 1/4", 2 5/16"
2 1/2	2 13/16", 2 7/8", 2 15/16"
3	3 1/2"

For Medium-Wall (IMC) Conduit

Trade Size	Clamp ID
1/2	13/16", 7/8", 15/16"
3/4	1", 1 1/16"
1	1 1/4", 1 5/16"
1 1/4	1 5/8", 1 11/16"
1 1/2	1 13/16", 1 7/8", 1 15/16"
2	2 3/8", 2 7/16"
2 1/2	2 13/16", 2 7/8", 2 15/16"
3	3 1/2"
3 1/2	4"
4	4 1/2"

For Copper Tubing

Trade Size	Clamp ID
1/4	3/8", 7/16"
3/8	1/2", 9/16"
1/2	5/8", 11/16"
5/8	3/4"
3/4	13/16", 7/8", 15/16"
1	1 1/8", 1 3/16"
1 1/4	1 3/8", 1 7/16"
1 1/2	1 5/8", 1 11/16"
2	2 1/8", 2 3/16"
2 1/2	2 5/8"
3	3 1/8"
4	4 1/8", 4 3/16"

Clamps

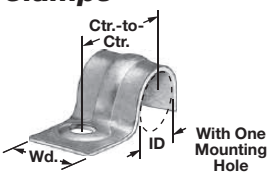

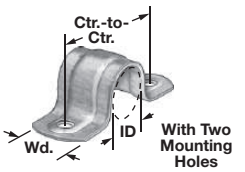

Secure pipe, conduit, tubing, and other round material. Fasteners not included.

Heavy Duty—These extra-thick clamps are less likely to bend under heavy loads.

Zinc-plated steel clamps have good corrosion resistance in most environments. **304 stainless steel** clamps are more corrosion resistant than zinc-plated steel. **316 stainless steel** clamps are the most corrosion resistant. **Brass** clamps are excellent for use with copper, since brass won't corrode copper like steel and stainless steel.

With One Mounting Hole

ID	Ctr.-to-Ctr.	Wd.	Thick.	Mounting Hole Dia.	Pkg. Qty.		Pkg.
Steel							
1/8"	3/8"	1/2"	1/32"	3/16"	50	9434T11	$3.39
3/16"	7/16"	1/2"	1/32"	3/16"	50	9434T12	3.55
1/4"	1/2"	1/2"	1/32"	3/16"	50	9434T13	3.48
5/16"	1/2"	1/2"	1/32"	3/16"	50	9434T14	3.76
3/8"	9/16"	5/8"	3/64"	3/16"	50	9434T15	4.20
7/16"	9/16"	5/8"	3/64"	3/16"	50	9434T16	4.34
1/2"	5/8"	5/8"	3/64"	3/16"	50	9434T17	4.64
11/16"	13/16"	3/4"	3/64"	1/4"	50	9434T18	6.20
3/4"	13/16"	3/4"	3/64"	1/4"	50	9434T27	6.53
13/16"	15/16"	7/8"	3/64"	1/4"	50	9434T19	6.69
15/16"	15/16"	7/8"	3/64"	1/4"	50	9434T28	7.76
1"	1 1/16"	7/8"	3/64"	1/4"	50	9434T22	8.44
1 3/16"	1 3/16"	7/8"	3/64"	1/4"	50	9434T23	10.40
1 5/16"	1 5/16"	1"	1/16"	1/4"	50	9434T24	12.37
1 1/2"	1 9/16"	1"	1/16"	1/4"	25	9434T25	8.60
Zinc-Plated Steel							
1 11/16"	1 3/4"	7/8"	3/32"	3/16"	10	9435T66	6.39
2 3/8"	2 3/4"	7/8"	7/64"	3/16"	10	9435T68	12.18
Heavy Duty Zinc-Plated Steel							
11/16"	13/16"	7/8"	1/8"	1/4"	25	9434T77	9.54
13/16"	15/16"	7/8"	1/8"	1/4"	25	9434T71	10.54
15/16"	15/16"	7/8"	1/8"	1/4"	25	9434T78	11.27
1 1/16"	1 1/4"	7/8"	1/8"	1/4"	25	9434T72	11.25
1 3/16"	1 7/16"	7/8"	1/8"	1/4"	10	9434T79	6.25
1 5/16"	1 1/2"	7/8"	1/8"	1/4"	25	9434T73	14.99
1 11/16"	1 9/16"	1"	1/8"	5/16"	10	9434T74	9.19
1 7/8"	1 13/16"	1 1/4"	1/8"	3/8"	5	9434T75	6.33
2 3/8"	2 1/4"	1 1/4"	3/16"	3/8"	5	9434T76	9.48
304 Stainless Steel							
11/16"	3/4"	7/8"	5/64"	1/4"	5	8897T21	4.99
13/16"	7/8"	7/8"	5/64"	1/4"	5	8897T11	5.41
15/16"	7/8"	7/8"	5/64"	1/4"	5	8897T22	6.68
1 1/16"	1 1/4"	7/8"	5/64"	1/4"	5	8897T12	6.94
1 3/16"	1 5/16"	7/8"	5/64"	1/4"	5	8897T23	7.41
1 5/16"	1 3/8"	7/8"	5/64"	1/4"	5	8897T13	8.01
1 11/16"	1 9/16"	1"	3/32"	5/16"	1	8897T14	2.02
1 7/8"	1 7/8"	1"	1/8"	3/8"	1	8897T15	3.55
2 3/8"	2 3/16"	1 1/4"	1/8"	3/8"	1	8897T16	4.96
316 Stainless Steel							
13/16"	15/16"	5/8"	5/64"	1/4"	1	9750T71	1.70
Brass							
1/8"	7/16"	1/2"	1/32"	3/16"	25	9488T15	9.11
3/16"	7/16"	1/2"	1/32"	3/16"	25	9488T16	9.45
1/4"	1/2"	1/2"	1/32"	3/16"	25	9488T17	9.46
5/16"	1/2"	1/2"	1/32"	3/16"	25	9488T18	10.02
3/8"	9/16"	5/8"	3/64"	3/16"	25	9488T19	10.63
1/2"	5/8"	5/8"	3/64"	3/16"	25	9488T21	12.97
3/4"	13/16"	3/4"	3/64"	1/4"	10	9488T22	8.70
13/16"	15/16"	7/8"	3/64"	1/4"	10	9488T11	10.82
15/16"	15/16"	1"	1/16"	1/4"	1	9488T12	2.24
1 1/2"	1 9/16"	1"	1/16"	1/4"	1	9488T24	2.64

With Two Mounting Holes

ID	Ctr.-to-Ctr.	Wd.	Thick.	Mounting Hole Dia.	Pkg. Qty.		Pkg.
Steel							
9/16"	13/16"	5/8"	1/32"	1/8"	50	9439T41	$4.97
11/16"	1 11/16"	3/4"	1/32"	3/16"	50	9439T42	6.18
13/16"	1 13/16"	3/4"	1/32"	3/16"	50	9439T43	7.76
15/16"	2 1/16"	3/4"	1/32"	3/16"	50	9429T35	7.95
1 1/16"	2 1/16"	3/4"	1/32"	3/16"	50	9439T44	8.29
1 3/16"	2 5/8"	3/4"	1/32"	3/16"	50	9429T36	7.18
1 5/16"	2 7/16"	3/4"	1/32"	3/16"	50	9439T24	10.26
1 1/2"	2 15/16"	7/8"	3/64"	1/4"	50	9429T37	11.56
1 11/16"	3 1/4"	7/8"	3/64"	1/4"	25	9439T23	7.69
1 3/4"	3 1/16"	1"	3/64"	1/4"	25	9429T38	8.64
2 3/16"	3 3/4"	1"	3/64"	1/4"	25	9429T39	11.10
Heavy Duty Steel							
13/16"	2 3/4"	1 1/4"	1/8"	7/16"	1	3039T14	1.80
1 1/16"	3"	1 1/4"	1/8"	7/16"	1	3039T15	1.80
1 5/16"	3 3/8"	1 1/4"	1/8"	7/16"	1	3039T16	1.84
1 11/16"	3 3/4"	1 1/4"	1/8"	7/16"	1	3039T17	2.09
1 7/8"	4 1/4"	1 1/4"	1/8"	7/16"	1	3039T18	2.57
2 3/8"	4 1/2"	1 1/4"	1/8"	7/16"	1	3039T19	2.77
2 7/8"	5 1/4"	1 1/4"	1/4"	7/16"	1	3039T21	4.13
3 1/2"	6"	1 1/4"	1/4"	7/16"	1	3039T22	4.35
4 1/2"	7 3/8"	1 1/2"	1/4"	1/2"	1	3039T24	5.19
Zinc-Plated Steel							
15/16"	2 3/8"	3/4"	3/32"	3/16"	10	9439T11	6.35
1 11/16"	3 5/16"	7/8"	5/64"	1/4"	10	9439T12	7.76
1 7/8"	3 7/16"	1"	3/32"	1/4"	10	9439T13	10.07
2 3/8"	3 7/8"	1 1/4"	3/32"	5/16"	1	9439T14	1.35
2 7/8"	4 11/16"	1 1/4"	3/32"	3/8"	1	9439T15	1.69
3 1/2"	5 1/2"	1 1/4"	1/8"	3/8"	1	9439T16	2.68
4"	6 9/16"	1 1/4"	3/16"	5/8"	1	9439T17	4.05
4 1/2"	6 11/16"	1 1/4"	3/16"	5/8"	1	9439T18	4.38
Heavy Duty Zinc-Plated Steel							
13/16"	2 3/4"	1 1/4"	1/8"	7/16"	1	9439T31	2.10
1 1/16"	3"	1 1/4"	1/8"	7/16"	1	9439T32	2.10
1 5/16"	3 3/8"	1 1/4"	1/8"	7/16"	1	9439T33	2.22
1 11/16"	3 3/4"	1 1/4"	1/8"	7/16"	1	9439T34	2.53
1 7/8"	4 1/4"	1 1/4"	1/8"	7/16"	1	9439T35	3.04
2 3/8"	4 1/2"	1 1/4"	1/8"	7/16"	1	9439T36	3.35
2 7/8"	5 1/4"	1 1/4"	1/4"	7/16"	1	9439T37	5.19
3 1/2"	6"	1 1/4"	1/4"	7/16"	1	9439T38	5.61
4 1/2"	7 3/8"	1 1/2"	1/4"	1/2"	1	9439T39	7.22
304 Stainless Steel							
9/16"	1 1/4"	5/8"	1/32"	3/16"	1	8874T14	1.09
11/16"	1 7/16"	5/8"	1/32"	3/16"	1	8874T15	1.25
13/16"	1 11/16"	5/8"	1/32"	3/16"	1	8874T16	1.43
15/16"	1 7/8"	3/4"	1/32"	17/64"	1	8874T43	1.41
1 1/16"	2 1/8"	3/4"	1/32"	9/32"	1	8874T13	1.65
1 3/16"	2 5/16"	3/4"	1/32"	17/64"	1	8874T44	1.70
1 5/16"	2 1/2"	3/4"	1/32"	17/64"	1	8874T18	1.78
1 1/2"	2 5/8"	7/8"	3/64"	17/64"	1	8874T45	3.14
1 11/16"	2 7/8"	7/8"	3/64"	17/64"	1	8874T19	2.96
1 3/4"	3 1/4"	1 1/4"	3/64"	17/64"	1	8874T46	3.44
1 7/8"	3 3/8"	1 1/4"	1/16"	9/32"	1	8874T21	5.09
2 3/16"	3 11/16"	1 1/4"	1/16"	17/64"	1	8874T47	6.19
2 3/8"	3 7/8"	1 1/4"	1/16"	21/64"	1	8874T22	5.63

For information about ordering clamps by pipe, conduit, or tube size, see page 1578.

Plastic Clamps

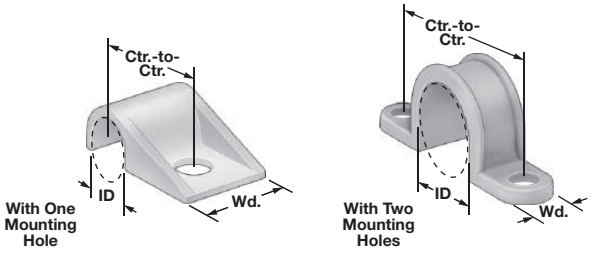

An alternative to metal clamps, use plastic clamps to avoid the corrosion of metal-to-metal contact. They reduce wear on softer materials, such as tubing or cables. Temperature range is –30° to 180° F. Fasteners not included.

Clamps **with one mounting hole** are white nylon; clamps **with two mounting holes** are light gray polypropylene.

ID	Ctr.-to-Ctr.	Wd.	Thick.	Mounting Hole Dia.	Pkg. Qty.		Pkg.
With One Mounting Hole							
1/8"	5/16"	1/2"	1/16"	13/64"	100	3192T41	$7.57
1/4"	3/8"	1/2"	1/16"	13/64"	100	3192T42	6.49
3/8"	7/16"	1/2"	1/16"	13/64"	100	3192T43	7.04
1/2"	1/2"	1/2"	1/16"	13/64"	100	3192T44	9.42
With Two Mounting Holes							
13/16"	1 1/2"	9/16"	9/64"	3/16"	50	3192T51	9.49
1 1/16"	1 13/16"	9/16"	9/64"	3/16"	50	3192T52	8.84
1 5/16"	2"	9/16"	9/64"	3/16"	25	3192T53	6.78
1 11/16"	2 3/8"	5/8"	9/64"	3/16"	25	3192T54	12.33
1 7/8"	2 11/16"	11/16"	9/64"	3/16"	10	3192T55	7.09
2 3/8"	3 1/4"	3/4"	11/64"	3/16"	5	3192T56	3.65
2 7/8"	4 1/2"	1"	11/64"	5/16"	5	3192T57	5.75
3 1/2"	5 1/4"	1 1/8"	13/64"	3/8"	5	3192T58	8.51
4 1/2"	6 1/2"	1 5/16"	13/64"	3/8"	5	3192T59	10.20

Small-Space Plastic Clamps

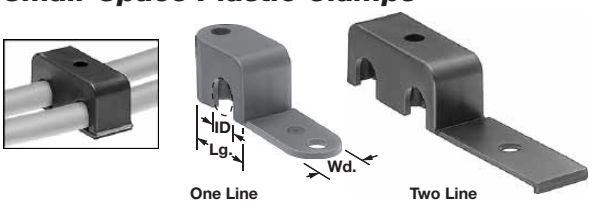

Fit these low-profile clamps into tight spaces, such as in pneumatic systems. Clamps are polypropylene to withstand moisture and most chemicals. They have a 9/32" dia. mounting hole (fasteners not included). Color is black. Temperature range is –20° to 190° F.

ID	Wd.	Ht.	Pkg. Qty.	One Line Lg.		Pkg.	Two Line Lg.		Pkg.
1/8"	1/2"	7/16"	25	7/8"	2993T81	$6.78	1 1/4"	2993T91	$9.68
1/4"	1/2"	7/16"	25	7/8"	2993T82	6.78	1 1/4"	2993T92	9.68
5/16"	1/2"	7/16"	25	7/8"	2993T14	6.78	1 1/4"	2993T35	9.68
3/8"	5/8"	9/16"	25	1 1/16"	2993T83	8.88	1 9/16"	2993T93	13.20
7/16"	5/8"	9/16"	25	1 1/16"	2993T16	8.88	1 9/16"	2993T37	13.20
1/2"	13/16"	7/8"	10	1 3/8"	2993T84	6.33	2 1/8"	2993T94	8.97
5/8"	13/16"	7/8"	10	1 3/8"	2993T19	6.33	2 1/8"	2993T42	8.97
3/4"	13/16"	13/16"	10	1 11/16"	2993T85	7.92	2 13/16"	2993T95	11.78
7/8"	13/16"	13/16"	10	1 11/16"	2993T22	7.92	2 13/16"	2993T48	11.78
1"	13/16"	13/16"	10	1 11/16"	2993T86	7.92	2 13/16"	2993T96	11.78

Adhesive-Back Plastic Clamps

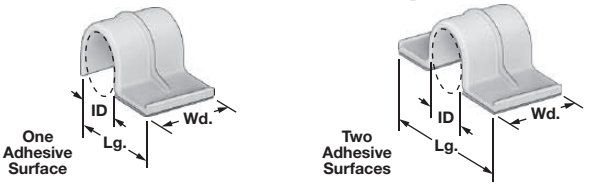

Backed with foam adhesive tape, mount clamps to a smooth surface—no fasteners required. They are nylon, making them noncorrosive and nonconductive. Color is white. Temperature range is –20° to 150° F.

ID	Wd.	Thick.	Pkg. Qty.	One Adhesive Surface Lg.		Pkg.	Two Adhesive Surfaces Lg.		Pkg.
1/8"	3/8"	1/16"	25	1/2"	2978T65	$6.83	3/4"	2978T61	$7.78
1/4"	1/2"	1/16"	25	7/8"	2978T66	7.21	1 7/16"	2978T62	8.15
3/8"	5/8"	1/16"	25	1"	2978T67	7.97	1 9/16"	2978T63	8.81
1/2"	3/4"	1/16"	25	1 1/8"	2978T68	8.17	1 5/8"	2978T64	9.31

Plastic Expansion Clamps

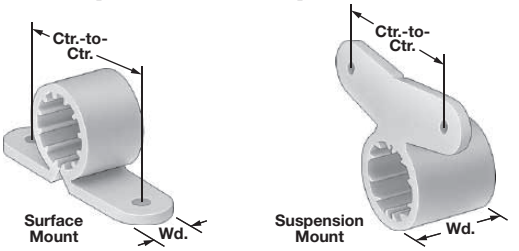

Flexible grooves inside these clamps allow material to expand and contract. They are polypropylene for moisture and chemical resistance. Fasteners not included. Color is white. Temperature range is 0° to 140° F.

ID	Ctr.-to-Ctr.	Wd.	Ht.	Thick.	Mounting Hole Dia.		
Surface Mount							
5/8"	1 13/16"	5/8"	1 1/16"	1/8"	1/8"	8972T11	$0.53
Suspension Mount							
5/8"	13/16"	5/8"	1 3/4"	1/8"	1/8"	8972T31	.55
7/8"	1 7/16"	11/16"	2"	1/8"	1/8"	8972T32	.64
1 1/8"	1 7/16"	7/8"	2 1/16"	1/8"	1/8"	8972T33	.72

Connectable Plastic Clamps

Use clamps individually or connect them for multiple lines. Clamps are polypropylene, making them moisture and chemical resistant. They have a 11/64" × 31/64" mounting slot in the base (fasteners not included). Color is light gray. Temperature range is –40° to 190° F.

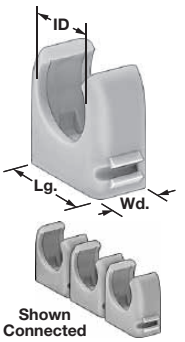

ID	Lg.	Wd.	Ht.		
3/4"	1 1/16"	9/16"	1 1/16"	2339T31	$0.43
13/16"	1 3/16"	9/16"	1 3/16"	2339T11	.53
7/8"	1 1/4"	9/16"	1 1/4"	2339T32	.57
1"	1 3/8"	9/16"	1 3/8"	2339T12	.80
1 1/4"	1 5/8"	9/16"	1 9/16"	2339T13	1.00
1 3/4"	2 5/16"	9/16"	2 1/8"	2339T35	3.40
1 7/8"	2 3/8"	9/16"	2 3/16"	2339T15	1.64
2 3/16"	2 3/4"	9/16"	2 1/2"	2339T36	3.57
2 3/8"	2 15/16"	9/16"	2 5/8"	2339T16	3.60

Multiline Plastic Clamps

Organize multiple lines by snapping pipe, hose, or tubing into these black polyethylene clamps. They have good chemical and UV resistance. Temperature range is –80° to 260° F.

Clamps for 10 lines have a mounting hole on the bottom of each slot (fasteners not included). They can be cut to the number of lines you need.

Clamps for 7 and **5 lines** have a mounting hole on each end (fasteners not included).

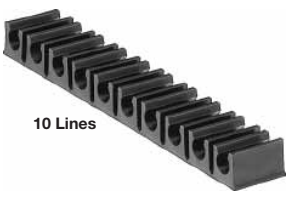

ID	No. of Lines	Lg.	Wd.	Ht.	Mounting Hole Dia.		
5/32"	10	4"	5/8"	3/8"	1/8"	2216T11	$1.98
3/16"	10	4"	5/8"	3/8"	1/8"	2216T12	1.98
1/4"	10	4"	5/8"	3/8"	1/8"	2216T13	1.98
3/8"	7	4 7/16"	11/16"	5/8"	13/64"	2216T14	6.21
1/2"	5	4 1/2"	11/16"	13/16"	13/64"	2216T15	6.21

Vibration-Damping Clamps

For information about ordering clamps by pipe, conduit, or tube size, see page 1578.

Rail-Mount Vibration-Damping Clamps

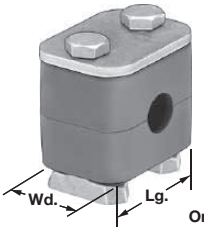

One Line



Two Line

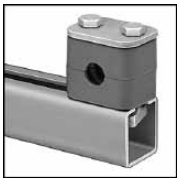

Commonly used for pressurized lines in hydraulic systems, these clamps fit tightly around material to lessen vibration and noise. Mount into rails (sold separately below) using the included rail nuts. Clamps include a metal top plate. Temperature range is –20° to 190° F.

Not for use with strut channel. For strut-mount vibration-damping clamps, please see pages 1596-1597.

Standard—Use with lines that have a maximum pressure of 2,000 psi. Color is green (unless noted).

High Pressure—Use with lines that have a maximum pressure of 5,000 psi. Color is black.

Zinc-plated steel has good corrosion resistance in most environments. **304 stainless steel** is more corrosion resistant than zinc-plated steel. **316 stainless steel** is the most corrosion resistant.

Standard

ID	Lg.	Wd.	Ht.	With Zinc-Plated Steel Hardware		With 304 Stainless Steel Hardware	
One Line Polypropylene Clamps							
1/4"	1 1/2"	13/16"	1 1/16"	3015T1	$3.59	3015T81	$11.84
3/8"	1 1/2"	13/16"	1 1/16"	3015T2	3.70	3015T82	11.94
1/2"	1 11/16"	13/16"	1 5/16"	3015T3	3.85	3015T83	12.49
9/16"	1 11/16"	13/16"	1 5/16"	3015T13	3.57	3015T93	12.49
5/8"	1 11/16"	13/16"	1 5/16"	3015T4	3.91	3015T84	12.83
11/16"	1 11/16"	13/16"	1 5/16"	3015T14	3.68	3015T94	12.66
3/4"	2"	13/16"	1 7/16"	3015T5	3.97	3015T85	13.06
13/16"	2"	13/16"	1 7/16"	3015T15	3.80	3015T95	13.06
7/8"	2"	13/16"	1 7/16"	3015T6	4.03	3015T86	13.24
1"	2"	13/16"	1 7/16"	3015T7	4.10	3015T87	13.43
1 1/16"	2 3/8"	13/16"	1 11/16"	3015T16	4.03	3015T96	14.66
1 1/4"	2 13/16"	13/16"	2 5/16"	3015T8	4.29	3015T88	15.44
1 5/16"	2 13/16"	13/16"	2 5/16"	3015T17	4.20	3015T97	15.44
1 1/2"	2 13/16"	13/16"	2 5/16"	3015T9	4.41	3015T89	15.91
1 11/16"	2 13/16"	13/16"	2 5/16"	3015T18	4.79	3015T98	15.91
1 3/4"	3 7/16"	13/16"	2 5/8"	3015T11	6.18	3015T91	17.86
1 7/8"	3 7/16"	13/16"	2 5/8"	3015T19	6.17	3015T191	19.24
2"	3 7/16"	13/16"	2 5/8"	3015T12	6.27	3015T92	18.38
2 1/4"	4 13/16"	13/16"	3 11/16"	3015T411	9.97	3015T131	29.83
2 3/8"	4 13/16"	13/16"	3 11/16"	3015T415	9.97	3015T135	28.26
2 1/2"	4 13/16"	13/16"	3 11/16"	3015T412	10.12	3015T132	29.83
2 3/4"	4 13/16"	13/16"	3 11/16"	3015T419	10.27	3015T429	29.83
2 7/8"	4 13/16"	13/16"	3 11/16"	3015T416	10.12	3015T136	28.26
3"	4 13/16"	13/16"	3 11/16"	3015T413	10.59	3015T133	30.69
3 1/2"	5 13/16"	13/16"	4 11/16"	3015T417	12.94	3015T137	46.24
4"	5 13/16"	13/16"	4 11/16"	3015T414	13.32	3015T134	41.83
4 1/2"	5 3/4"	1 1/4"	4 7/8"	3015T418★	16.61	3015T428★	40.03
Two Line Polypropylene Clamps							
1/4"	1 7/16"	13/16"	1 1/16"	3252T141	3.47	3252T161	11.24
3/8"	1 7/16"	13/16"	1 1/16"	3252T142	3.52	3252T162	11.37
1/2"	2 1/8"	13/16"	1 1/16"	3252T83	4.29	3252T63	11.39
5/8"	2 1/8"	13/16"	1 1/16"	3252T84	4.35	3252T64	11.70
11/16"	2 1/8"	13/16"	1 1/16"	3252T89	4.29	3252T69	11.39
3/4"	2 11/16"	13/16"	1 1/2"	3252T85	4.89	3252T65	12.84
13/16"	2 11/16"	13/16"	1 1/2"	3252T91	4.89	3252T71	12.57
1"	2 11/16"	13/16"	1 1/2"	3252T86	4.96	3252T66	13.01
1 1/16"	3 3/16"	13/16"	1 5/8"	3252T92	5.53	3252T72	13.97
1 1/4"	4 3/16"	13/16"	2 1/8"	3252T87	6.52	3252T67	16.18
1 5/16"	4 3/16"	13/16"	2 1/8"	3252T93	6.52	3252T73	16.18
1 1/2"	4 3/16"	13/16"	2 1/8"	3252T88	6.61	3252T68	16.62

★ Color is black.

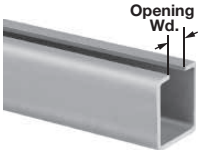

Ht.	Wd.	Opening Wd.	39 3/8" Lg. Mounting Rails Steel		39 3/8" Lg. Mounting Rails 304 Stainless Steel		78 3/4" Lg. Mounting Rails Steel		78 3/4" Lg. Mounting Rails 304 Stainless Steel	
7/16"	1 1/8"	27/64"	3015T432	$6.65	3015T442	$32.78	3015T433	$13.26	3015T443	$65.56
9/16"	1 1/8"	27/64"	3015T99	7.35	3015T992	35.12	3015T431	14.79	3015T441	70.33
13/16"	1 1/8"	27/64"	3015T991	13.13	3015T993	58.00	3015T434	25.18	3015T444	116.00

High Pressure

ID	Lg.	Wd.	Ht.	With Steel Hardware		With 316 Stainless Steel Hardware	
One Line Polypropylene Clamps							
1/4"	2 1/4"	1 1/4"	1 3/4"	3249T61	$5.83	3249T255	$35.00
3/8"	2 1/4"	1 1/4"	1 3/4"	3249T62	5.97	3249T256	35.71
1/2"	2 1/4"	1 1/4"	1 3/4"	3249T63	6.13	3249T257	36.46
9/16"	2 1/4"	1 1/4"	1 3/4"	3249T75	5.97	3249T195	37.23
5/8"	2 1/4"	1 1/4"	1 3/4"	3249T64	6.30	3249T184	38.89
11/16"	2 1/4"	1 1/4"	1 3/4"	3249T76	6.13	3249T196	38.89
3/4"	2 3/4"	1 1/4"	2 1/4"	3249T65	6.83	3249T185	40.26
13/16"	2 3/4"	1 1/4"	2 1/4"	3249T77	6.65	3249T197	42.58
7/8"	2 3/4"	1 1/4"	2 1/4"	3249T66	7.03	3249T186	41.32
1"	2 3/4"	1 1/4"	2 1/4"	3249T67	7.24	3249T187	42.58
1 1/16"	2 3/4"	1 1/4"	2 1/4"	3249T78	6.83	3249T198	43.91
1 1/4"	3 3/8"	1 1/4"	2 3/4"	3249T68	7.40	3249T188	42.94
1 5/16"	3 3/8"	1 1/4"	2 3/4"	3249T79	7.40	3249T199	44.28
1 1/2"	3 3/8"	1 1/4"	2 3/4"	3249T69	$7.62	3249T189	$42.94
1 11/16"	4 1/2"	1 3/4"	3 7/8"	3249T81	13.71	3249T211	62.32
1 3/4"	4 1/2"	1 3/4"	3 7/8"	3249T71	13.18	3249T191	62.32
1 7/8"	4 1/2"	1 3/4"	3 7/8"	3249T82	13.89	3249T212	62.32
2"	4 1/2"	1 3/4"	3 7/8"	3249T72	13.53	3249T192	62.32
2 1/4"	4 1/2"	1 3/4"	3 7/8"	3249T312	14.28	3249T125	70.10
2 3/8"	4 1/2"	1 3/4"	3 7/8"	3249T83	14.48	3249T213	62.32
2 1/2"	4 1/2"	1 3/4"	3 7/8"	3249T73	14.69	3249T193	62.32
2 3/4"	4 1/2"	1 3/4"	3 7/8"	3249T74	15.12	3249T194	62.32
2 7/8"	6"	2 1/4"	5 1/8"	3249T315	50.77	3249T129	212.42
3"	6"	2 1/4"	5 1/8"	3249T313	50.77	3249T126	200.84
3 1/2"	6"	2 1/4"	5 1/8"	3249T316	50.77	3249T131	216.59

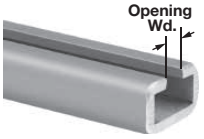

Ht.	Wd.	Opening Wd.	39 3/8" Lg. Mounting Rails Steel		39 3/8" Lg. Mounting Rails 316 Stainless Steel		78 3/4" Lg. Mounting Rails Steel		78 3/4" Lg. Mounting Rails 316 Stainless Steel	
7/8"	1 9/16"	25/64"	3249T97	$39.21	3249T971	$131.00	3249T98	$64.47	3249T981	$238.50

Cut-to-Length Clamps



Customize this clamp to your object—clamp has a bend and stay design that allows you to mold it to any size or shape. It is 316 stainless steel with a black plastic coating and withstands abrasion, corrosion, and UV rays. Mount using fasteners (not included). Temperature range is –100° to 140° F.

Wd.	Thick.	Mounting Hole Dia.	Lengths, ft.		Per Ft.
1/2"	3/64"	3/16"	1, 2, 5	1213N1	$3.36
3/4"	3/64"	9/32"	1, 2, 5	1213N2	5.73
1"	3/64"	5/16"	1, 2, 5	1213N3	7.73

For information about ordering clamps by pipe, conduit, or tube size, see page 1578.

Weld-Mount Vibration-Damping Clamps

For a more secure connection than rail-mount clamps, weld the bottom plate of these clamps onto your rails. They fit tightly around pressurized lines in hydraulic systems to lessen vibration.

Standard—Use with lines that have a max. pressure of 2,000 psi. Color is green (unless noted). Temperature range is –20° to 190° F.

High Pressure—These clamps withstand more than double the pressure of our standard clamps. *Polypropylene* clamps are for use with lines that have a maximum pressure of 5,000 psi. Color is black. Temperature range is –20° to 190° F. *Aluminum* clamps are for use with lines that have a maximum pressure of 10,000 psi. Temperature range is –40° to 570° F.

Zinc-plated steel hardware has good corrosion resistance in most environments. Clamps have a zinc-plated steel top plate and a zinc-phosphate-coated steel bottom plate. **304 stainless steel** hardware is more corrosion resistant than zinc-plated steel.

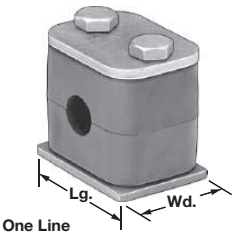

One Line



Two Line

Standard

ID	Lg.	Wd.	Ht.	With Zinc-Plated Steel Hardware		With 304 Stainless Steel Hardware	
One Line Polypropylene Clamps							
1/4"	1 1/2"	13/16"	15/16"	3015T21	$2.91	3015T41	$11.22
3/8"	1 1/2"	13/16"	15/16"	3015T22	3.00	3015T42	11.40
1/2"	1 11/16"	13/16"	19/16"	3015T23	3.03	3015T43	11.81
9/16"	1 11/16"	13/16"	19/16"	3015T33	2.86	3015T53	12.14
5/8"	1 11/16"	13/16"	19/16"	3015T24	3.07	3015T44	12.14
11/16"	1 11/16"	13/16"	19/16"	3015T34	2.94	3015T54	12.31
3/4"	2"	13/16"	1 11/16"	3015T25	3.22	3015T45	12.61
13/16"	2"	13/16"	1 11/16"	3015T35	3.09	3015T55	12.61
7/8"	2"	13/16"	1 11/16"	3015T26	3.25	3015T46	12.79
1"	2"	13/16"	1 11/16"	3015T27	3.29	3015T47	12.97
1 1/16"	2 3/8"	13/16"	1 15/16"	3015T36	3.64	3015T56	13.74
1 1/4"	2 13/16"	13/16"	2 9/16"	3015T28	3.66	3015T48	15.11
1 5/16"	2 13/16"	13/16"	2 9/16"	3015T37	3.71	3015T57	15.11
1 1/2"	2 13/16"	13/16"	2 9/16"	3015T29	3.77	3015T49	15.51
1 11/16"	2 13/16"	13/16"	2 9/16"	3015T38	3.77	3015T58	15.31
1 3/4"	3 7/16"	13/16"	2 7/8"	3015T31	5.46	3015T51	17.27
1 7/8"	3 7/16"	13/16"	2 7/8"	3015T39	5.32	3015T59	18.68
2"	3 7/16"	13/16"	2 7/8"	3015T32	5.61	3015T52	17.81
2 1/4"	4 13/16"	13/16"	4 1/16"	3015T311	10.12	3015T121	33.13
2 3/8"	4 13/16"	13/16"	4 1/16"	3015T315	10.37	3015T125	33.87
One Line Polypropylene Clamps (Cont.)							
2 1/2"	4 13/16"	13/16"	4 1/16"	3015T312	$10.24	3015T122	$33.87
2 3/4"	4 13/16"	13/16"	4 1/16"	3015T319	10.49	3015T329	34.64
2 7/8"	4 13/16"	13/16"	4 1/16"	3015T316	10.49	3015T126	34.64
3"	4 13/16"	13/16"	4 1/16"	3015T313	10.90	3015T123	35.03
3 1/2"	5 13/16"	13/16"	5 1/16"	3015T317	13.95	3015T127	54.13
4"	5 13/16"	13/16"	5 1/16"	3015T314	14.71	3015T124	54.13
4 1/2"	5 3/4"	1 1/4"	5 1/16"	3015T338 ■	16.00	3015T328 ■	35.06
Two Line Polypropylene Clamps							
1/4"	1 7/16"	13/16"	1 3/16"	3252T111	3.08	3252T124	11.86
3/8"	1 7/16"	13/16"	1 3/16"	3252T112	3.14	3252T125	12.20
1/2"	2 3/16"	13/16"	1 1/4"	3252T3	3.38	3252T23	16.15
5/8"	2 3/16"	13/16"	1 1/4"	3252T4	3.55	3252T24	16.36
11/16"	2 3/16"	13/16"	1 1/4"	3252T9	3.38	3252T29	16.15
3/4"	2 3/4"	13/16"	1 11/16"	3252T5	4.12	3252T25	18.00
13/16"	2 3/4"	13/16"	1 11/16"	3252T11	4.12	3252T31	17.55
1"	2 3/4"	13/16"	1 11/16"	3252T6	4.18	3252T26	18.23
1 1/16"	3 3/8"	13/16"	1 13/16"	3252T12	5.05	3252T32	20.08
1 1/4"	4 5/16"	13/16"	2 5/16"	3252T7	5.97	3252T27	23.59
1 5/16"	4 5/16"	13/16"	2 5/16"	3252T13	6.00	3252T33	23.59
1 1/2"	4 5/16"	13/16"	2 5/16"	3252T8	6.03	3252T28	23.90

■ Color is black.

High Pressure

ID	Lg.	Wd.	Ht.	With Steel Hardware		With 304 Stainless Steel Hardware	
One Line Polypropylene Clamps							
1/4"	2 7/8"	1 1/4"	2 1/16"	3249T101	$5.86	3249T221	$27.61
3/8"	2 7/8"	1 1/4"	2 1/16"	3249T102	5.99	3249T222	28.35
1/2"	2 7/8"	1 1/4"	2 1/16"	3249T103	6.03	3249T223	29.14
9/16"	2 7/8"	1 1/4"	2 1/16"	3249T115	5.86	3249T237	26.23
5/8"	2 7/8"	1 1/4"	2 1/16"	3249T104	6.20	3249T224	29.97
11/16"	2 7/8"	1 1/4"	2 1/16"	3249T116	6.03	3249T238	27.04
3/4"	3 3/8"	1 1/4"	2 9/16"	3249T105	7.34	3249T225	31.54
13/16"	3 3/8"	1 1/4"	2 9/16"	3249T117	7.44	3249T239	30.71
7/8"	3 3/8"	1 1/4"	2 9/16"	3249T106	7.44	3249T226	32.42
1"	3 3/8"	1 1/4"	2 9/16"	3249T107	7.66	3249T227	33.34
1 1/16"	3 3/8"	1 1/4"	2 9/16"	3249T118	7.66	3249T241	31.54
1 1/4"	4"	1 1/4"	3 1/16"	3249T108	7.81	3249T228	34.38
1 5/16"	4"	1 1/4"	3 1/16"	3249T119	8.26	3249T242	34.38
1 1/2"	4"	1 1/4"	3 1/16"	3249T109	7.92	3249T229	35.33
1 11/16"	5 7/8"	1 3/4"	4 1/4"	3249T121	14.22	3249T243	64.31
1 3/4"	5 7/8"	1 3/4"	4 1/4"	3249T111	13.49	3249T231	62.70
1 7/8"	5 7/8"	1 3/4"	4 1/4"	3249T122	14.61	3249T244	66.00
2"	5 7/8"	1 3/4"	4 1/4"	3249T112	13.84	3249T232	62.70
2 1/4"	5 7/8"	1 3/4"	4 1/4"	3249T311	15.03	3249T321	62.70
2 3/8"	5 7/8"	1 3/4"	4 1/4"	3249T123	15.03	3249T245	67.78
2 1/2"	5 7/8"	1 3/4"	4 1/4"	3249T113	15.29	3249T233	62.70
2 3/4"	5 7/8"	1 3/4"	4 1/4"	3249T114	15.47	3249T234	62.70
2 7/8"	7 3/8"	2 1/4"	5 1/2"	3249T252	35.18	3249T246	142.71
3"	7 3/8"	2 1/4"	5 1/2"	3249T249	37.04	3249T235	142.71
3 1/2"	7 3/8"	2 1/4"	5 1/2"	3249T253	36.14	3249T247	142.71
4"	10"	3"	7 5/8"	3249T251	93.02	3249T236	339.89
4 1/2"	10"	3"	7 5/8"	3249T254	97.79	3249T248	339.89
One Line Aluminum Clamps							
3/8"	2 15/16"	13/16"	1 7/8"			3050T71	$12.75
1/2"	2 15/16"	13/16"	1 7/8"			3050T72	12.75
5/8"	2 15/16"	13/16"	1 7/8"			3050T73	12.75
11/16"	2 15/16"	13/16"	1 7/8"			3050T84	12.75
3/4"	3 7/16"	13/16"	2 9/16"			3050T74	17.40
13/16"	3 7/16"	13/16"	2 9/16"			3050T85	17.40
7/8"	3 7/16"	13/16"	2 9/16"			3050T75	17.40
1"	3 7/16"	13/16"	2 9/16"			3050T76	17.40
1 1/16"	3 7/16"	13/16"	2 9/16"			3050T86	17.40
1 1/4"	4"	13/16"	3"			3050T77	19.98
1 5/16"	4"	13/16"	3"			3050T87	19.98
1 1/2"	4"	13/16"	3"			3050T78	19.98
1 11/16"	5 9/16"	1 13/16"	4 5/16"			3050T88	40.73
1 3/4"	5 9/16"	1 13/16"	4 5/16"			3050T79	40.73
1 7/8"	5 9/16"	1 13/16"	4 5/16"			3050T89	40.73
2"	5 9/16"	1 13/16"	4 5/16"			3050T81	40.73
2 3/8"	5 9/16"	1 13/16"	4 5/16"			3050T91	40.73
2 1/2"	5 9/16"	1 13/16"	4 5/16"			3050T82	40.73
2 3/4"	5 9/16"	1 13/16"	4 5/16"			3050T83	40.73
2 7/8"	7 1/8"	2 3/8"	5 9/16"			3050T62	82.00
3"	7 1/8"	2 3/8"	5 9/16"			3050T68	82.00
3 1/2"	7 1/8"	2 3/8"	5 9/16"			3050T63	82.00
4"	8 15/16"	3 3/16"	7 13/16"	3050T69	$178.38		
4 1/2"	8 15/16"	3 3/16"	7 13/16"	3050T64	178.38		
5 9/16"	10 5/8"	3 9/16"	9 1/16"	3050T65	298.11		
6 5/8"	10 5/8"	3 9/16"	9 1/16"	3050T66	303.85		
8 5/8"	13 7/16"	4 3/4"	12 5/8"	3050T67	683.55		

Two-Line Clamps

Mount parallel lines with a single clamp. Fastener not included.

Zinc-plated steel clamps have good corrosion resistance in most environments. **Brass** clamps are excellent for use with copper, since brass won't cause copper to corrode like zinc-plated steel.

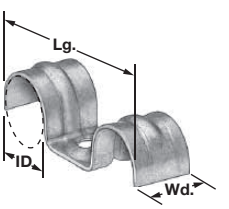

ID	Lg.	Wd.	Thick.	Mounting Hole Dia.	Zinc-Plated Steel Pkg. Qty.		Zinc-Plated Steel Pkg.	Brass Pkg. Qty.		Brass Pkg.
1/8"	1"	1/2"	1/32"	3/16"	50	9431T11	$5.06	25	9431T21	$10.60
1/4"	1 5/16"	1/2"	1/32"	3/16"	50	9431T12	5.69	25	9431T22	13.76
3/8"	1 5/8"	1/2"	1/32"	3/16"	50	9431T13	7.87	10	9431T23	7.64
1/2"	1 13/16"	1/2"	1/32"	3/16"	50	9431T18	9.46	10	9431T26	9.88
5/8"	2"	1/2"	1/32"	3/16"	50	9431T39	9.70	10	9431T27	10.49

Vibration-Damping Clamps

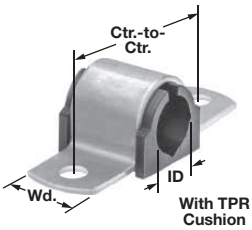

With TPR Cushion



With SBR Cushion

Rubber cushions in these clamps reduce vibration, noise, and wear from clamp edges. They protect lines from corrosion caused by metal-to-metal contact. Cushions are black. Fasteners not included.

With TPR (Thermoplastic Rubber) Cushion—For use in chemical environments, TPR can withstand most oils, chemicals, and cleaning solvents. Temperature range is –50° to 270°F.

With SBR (Styrene Butadiene Rubber) Cushion—SBR has better vibration and noise control than TPR. Commonly used in HVAC and plumbing applications, SBR withstands abrasion, oxidation, and moisture. Temperature range is –60° to 220°F.

Zinc-plated steel clamps have good corrosion resistance in most environments. **304 stainless steel** clamps are more corrosion resistant than zinc-plated steel.

ID	Ctr.-to-Ctr.	Wd.	Thick.	Mounting Hole Dia.	Zinc-Plated Steel		304 Stainless
With TPR Cushion							
1/4"	13/16"	5/8"	1/16"	17/64"	**11355T881**	$1.45	$3.14
3/8"	15/16"	5/8"	1/16"	17/64"	**11355T882**	1.48	3.22
1/2"	1 1/16"	3/4"	1/16"	17/64"	**11355T883**	1.52	3.33
5/8"	1 1/16"	3/4"	1/16"	17/64"	**11355T884**	1.62	3.39
3/4"	1 13/16"	3/4"	1/16"	17/64"	**11355T885**	1.84	3.82
7/8"	2 1/16"	3/4"	1/16"	17/64"	**11355T886**	2.01	4.35
1"	2 1/16"	3/4"	1/16"	17/64"	**11355T887**	2.09	4.47
1 1/16"	2 1/4"	3/4"	1/16"	17/64"	**11355T889**	2.39	5.25
1 1/8"	2 5/16"	3/4"	1/16"	17/64"	**11355T891**	2.39	5.25
1 1/4"	2 3/8"	1 1/4"	1/16"	17/64"	**11355T892**	2.59	5.61
1 5/16"	2 1/2"	1 1/4"	5/64"	17/64"	**11355T893**	2.73	5.75
1 1/2"	2 3/4"	1 1/4"	5/64"	17/64"	**11355T895**	2.84	6.02
1 5/8"	2 7/8"	1 1/4"	5/64"	17/64"	**11355T896**	3.45	7.25
1 11/16"	3 1/8"	1 1/4"	7/64"	11/32"	**11355T897**	3.82	8.10
1 3/4"	3 1/8"	1 1/4"	7/64"	11/32"	**11355T898**	3.82	8.10
1 7/8"	3 5/16"	1 1/4"	7/64"	11/32"	**11355T899**	3.93	8.82
2"	3 3/8"	1 1/4"	7/64"	11/32"	**11355T901**	5.41	11.34
2 1/8"	3 3/4"	1 1/4"	7/64"	11/32"	**11355T902**	6.36	13.76
With SBR Cushion							
1/4"	1 13/16"	5/8"	1/32"	3/16"	**8981T881**	2.07	3.56
3/8"	1 13/16"	5/8"	1/32"	3/16"	**8981T882**	2.11	3.56

ID	Ctr.-to-Ctr.	Wd.	Thick.	Mounting Hole Dia.	Zinc-Plated Steel		304 Stainless
With SBR Cushion (Cont.)							
1/2"	1 13/16"	5/8"	1/32"	3/16"	**8981T883**	$2.16	$3.64
9/16"	1 13/16"	5/8"	1/32"	3/16"	**8981T884**	2.24	3.72
5/8"	1 13/16"	5/8"	1/32"	3/16"	**8981T885**	2.18	3.68
1 1/16"	1 13/16"	5/8"	1/32"	3/16"	**8981T886**	2.26	3.76
3/4"	1 13/16"	5/8"	1/32"	3/16"	**8981T887**	2.21	3.90
13/16"	2 1/2"	3/4"	3/64"	1/4"	**8981T891**	3.40	7.50
7/8"	2 1/2"	3/4"	3/64"	1/4"	**8981T889**	3.28	7.33
1"	2 1/2"	3/4"	3/64"	1/4"	**8981T892**	3.35	7.41
1 1/16"	2 1/2"	3/4"	3/64"	1/4"	**8981T893**	3.44	7.59
1 1/8"	4 1/4"	1 1/4"	1/16"	1/4"	**8981T894**	8.49	20.48
1 1/4"	4 1/4"	1 1/4"	1/16"	1/4"	**8981T895**	8.69	20.12
1 5/16"	4 1/4"	1 1/4"	1/16"	1/4"	**8981T896**	9.36	19.11
1 3/8"	4 1/4"	1 1/4"	1/16"	1/4"	**8981T897**	8.69	20.37
1 1/2"	4 1/4"	1 1/4"	1/16"	1/4"	**8981T898**	8.80	20.62
1 5/8"	4 1/4"	1 1/4"	1/16"	1/4"	**8981T899**	8.90	20.38
1 11/16"	4 1/4"	1 1/4"	1/16"	1/4"	**8981T901**	9.48	18.98
1 3/4"	4 1/4"	1 1/4"	1/16"	1/4"	**8981T902**	9.01	20.63
1 7/8"	4 1/4"	1 1/4"	1/16"	1/4"	**8981T903**	9.19	20.90
2"	4 1/4"	1 1/4"	1/16"	1/4"	**8981T905**	9.31	21.17
2 1/8"	4 1/4"	1 1/4"	1/16"	1/4"	**8981T906**	9.36	21.45

Stand-Off Clamps

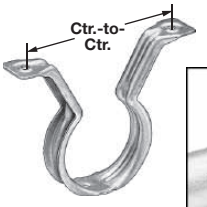



Keep your material from coming in contact with the mounting surface without using a spacer. Clamps are zinc-plated steel for good corrosion resistance. Mounting fasteners are included. Clamps meet UL 203.

ID	Ctr.-to-Ctr.	Wd.	Ht.	Thick.	Mounting Hole Dia.		Pkg. of 10
1 1/16"	2 15/16"	1"	2 11/16"	3/64"	3/16"	**3311T61**	$15.26
1 5/16"	2 15/16"	1"	2 15/16"	3/64"	3/16"	**3311T62**	15.89
1 5/8"	2 15/16"	1"	3 5/16"	1/16"	3/16"	**3311T63**	16.83
1 7/8"	3 13/16"	1"	3 7/8"	1/16"	3/16"	**3311T64**	18.37
2 3/8"	4 5/8"	1"	4"	1/16"	3/16"	**3311T65**	19.63

Adjustable Clamps

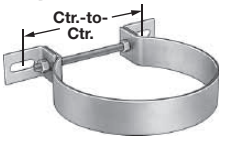

Secure vertical pipes in sanitation drain applications. Tighten the included bolt and nut for an exact fit around material. Clamps are 304 stainless steel. They include a mountable bracket that has two 1 1/4" × 7/16" mounting slots for 3/8" dia. screws.

ID Min.	*ID* Max.	Ctr.-to-Ctr.	Wd.	Ht.	Thick.		
4 1/2"	4 3/4"	5 5/16"	1 1/2"	6 1/4"	1/8"	**3116T71**	$94.56
6 5/8"	6 7/8"	6 5/8"	1 1/2"	9"	1/8"	**3116T72**	100.18
8 5/8"	9"	9 1/4"	1 1/2"	12"	1/8"	**3116T73**	116.50
10 3/4"	11 1/16"	10"	1 1/2"	13 1/4"	1/8"	**3116T74**	150.04
12 3/4"	13 3/16"	12"	2"	15 1/4"	1/8"	**3116T75**	170.86
14"	14 1/4"	12"	2"	18 1/4"	1/8"	**3116T76**	207.46
16"	16 1/4"	16"	2"	18 1/4"	1/8"	**3116T77**	222.32

Riser Clamps



Use these clamps to support vertical pipes through floors. Mounting fasteners are included. Clamps meet Manufacturers' Standardization Society SP-58 and SP-69, Type 8.

Zinc-plated steel clamps have good corrosion resistance in most environments. They meet Fed. Spec. WW-H-171, Type 8.

304 stainless steel clamps are more corrosion resistant than zinc-plated steel.

ID	Capacity, lbs.	Lg.	Ht.		
Zinc-Plated Steel					
13/16"	250	8 1/2"	1"	**3065T44**	$3.82
1 1/16"	250	9"	1"	**3065T45**	3.94
1 5/16"	250	9"	1"	**3065T46**	3.97
1 11/16"	250	9 7/16"	1"	**3065T47**	4.82
1 7/8"	250	9 7/8"	1"	**3065T48**	5.09
2 3/8"	250	10 1/4"	1 3/16"	**3065T23**	5.43
2 7/8"	390	11"	1 3/16"	**3065T51**	5.64
3 1/2"	530	11 3/4"	1 3/16"	**3065T52**	5.93
4"	670	12 5/8"	1 3/16"	**3065T53**	7.31
4 1/2"	810	13"	1 1/2"	**3065T54**	8.60
5 9/16"	1,160	14 1/2"	1 1/2"	**3065T25**	10.11
6 5/8"	1,570	16"	2"	**3065T56**	13.10
8 5/8"	2,500	18 1/4"	2"	**3065T27**	25.80
10 3/4"	2,500	20 5/8"	2"	**3065T28**	33.03
12 3/4"	2,700	22 3/8"	2"	**3065T29**	44.47

ID	Capacity, lbs.	Lg.	Ht.		
304 Stainless Steel					
13/16"	220	8 7/8"	1 1/4"	**2989T31**	$14.45
1 1/16"	220	8 7/8"	1 1/4"	**2989T32**	14.98
1 5/16"	220	8 7/8"	1 1/4"	**2989T33**	15.89
1 11/16"	250	10"	1 1/4"	**2989T41**	17.61
1 7/8"	250	10 1/4"	1 1/4"	**2989T34**	18.59
2 3/8"	300	10 1/4"	1 1/4"	**2989T15**	23.30
2 7/8"	400	11 1/4"	1 1/4"	**2989T16**	23.42
3 1/2"	500	11 3/8"	1 1/4"	**2989T37**	24.20
4"	600	12 7/8"	1 1/2"	**2989T42**	29.70
4 1/2"	750	12 7/8"	1 1/2"	**2989T38**	30.57
5 9/16"	1,160	13 3/4"	2"	**2989T39**	42.20
6 5/8"	1,570	14 3/4"	2"	**2989T19**	46.35
8 5/8"	2,500	18 1/2"	2"	**2989T21**	87.11
10 3/4"	2,500	20 1/4"	2"	**2989T22**	98.09
12 3/4"	2,700	22 3/4"	2"	**2989T23**	152.13

For information about ordering clamps by pipe, conduit, or tube size, see page 1578.

Loop Clamps

Wrap these clamps around your line. Fasteners not included.

Galvanized steel clamps have good corrosion resistance in most environments. 1/2" wide clamps have a 9/32" dia. mounting hole; 3/4" wide clamps have a 13/32" dia. mounting hole.

Aluminum clamps are more corrosion resistant than galvanized steel. Mounting hole diameter is 7/32".

321 stainless steel clamps have excellent corrosion resistance. Mounting hole diameter is 13/64".

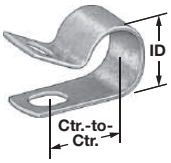

ID	Pkg. Qty.	1/2" Wide Ctr.-to-Ctr.		Pkg.	3/4" Wide Ctr.-to-Ctr.		Pkg.
Galvanized Steel							
3/16"	50	7/16"	8863T31	$9.08	9/16"	8863T32	$10.58
1/4"	50	1/2"	8863T1	9.49	5/8"	8863T33	11.21
3/8"	50	9/16"	8863T2	9.62	11/16"	8863T34	11.51
1/2"	50	5/8"	8863T3	10.46	3/4"	8863T35	12.32
5/8"	25	11/16"	8863T4	5.58	13/16"	8863T36	6.67
3/4"	25	3/4"	8863T5	6.00	7/8"	8863T37	7.05
7/8"	25	13/16"	8863T6	6.70	15/16"	8863T38	8.03
1"	25	7/8"	8863T7	7.11	1"	8863T39	9.41
1 1/4"	25	1"	8863T8	7.95	1 1/8"	8863T41	9.46
1 1/2"	25	1 1/8"	8863T9	8.57	1 1/4"	8863T42	11.26
1 3/4"	25	1 1/4"	8863T11	9.59	1 3/8"	8863T43	12.55
2"	10	1 3/8"	8863T44	8.68	1 1/2"	8863T45	9.22
Aluminum							
3/16"	5	7/16"	8863T51	4.94			
1/4"	5	7/16"	8863T52	4.98			
3/8"	5	1/2"	8863T53	5.05			
1/2"	5	9/16"	8863T54	5.12			
5/8"	5	5/8"	8863T55	5.19			
3/4"	5	13/16"	8863T56	5.74			

★Width is 3/8".

ID	Pkg. Qty.	1/2" Wide Ctr.-to-Ctr.		Pkg.	3/4" Wide Ctr.-to-Ctr.		Pkg.
Aluminum (Cont.)							
7/8"	5	13/16"	8863T57	$5.85			
1"	5	15/16"	8863T58	6.59			
1 1/4"	5	1 1/16"	8863T59	11.98			
1 1/2"	5	1 3/16"	8863T61	9.78			
1 3/4"	5	1 5/16"	8863T62	12.37			
2"	5	1 7/16"	8863T63	10.27			
321 Stainless Steel							
3/16"	5	7/16"	8863T64★	5.16			
1/4"	5	7/16"	8863T65★	5.28			
3/8"	5	1/2"	8863T66★	5.34			
1/2"	5	9/16"	8863T67★	5.53			
5/8"	5	5/8"	8863T68★	5.58			
3/4"	5	3/4"	8863T69	6.11			
7/8"	5	13/16"	8863T71	6.20			
1"	5	7/8"	8863T72	10.97			
1 1/4"	5	1"	8863T73	11.11			
1 1/2"	5	1 1/8"	8863T74	9.85			
1 3/4"	5	1 1/4"	8863T75	10.30			
2"	5	1 3/8"	8863T76	11.54			

Plastic Loop Clamps

Prevent corrosion to your material caused by metal-to-metal contact with these nonconductive plastic clamps. They surround your material, keeping it from coming in contact with the mounting surface. Fasteners not included.

Nylon clamps are nonconductive and noncorrosive. Temperature range is –40° to 180° F. Material meets ASTM D-4066.

Polypropylene clamps resist moisture and UV rays, making them good for outdoor use. Temperature range is –40° to 200° F.



ID	Ctr.-to-Ctr.	Wd.	Mounting Hole Dia.	Choose a Color	Pkg. Qty.		Pkg.
Nylon							
1/16"	3/16"	5/32"	3/32"	Black, White	100	8876T58	$6.37
1/8"	5/16"	3/8"	11/64"	Black, White	100	8876T11	5.73
3/16"	1/4"	5/32"	3/32"	Black, White	100	8876T59	6.40
3/16"	7/16"	3/8"	11/64"	Black, White	100	8876T12	5.73
1/4"	7/16"	3/8"	11/64"	Black, White	100	8876T13	5.65
5/16"	1/2"	3/8"	11/64"	Black, White	100	8876T2	7.37
3/8"	5/8"	3/8"	11/64"	Black, White	100	8876T22	6.19
7/16"	9/16"	3/8"	11/64"	Black, White	100	8876T24	6.95
1/2"	5/8"	3/8"	11/64"	Black, White	100	8876T3	7.81
5/8"	11/16"	1/2"	13/64"	Black, White	100	8876T32	11.05
3/4"	13/16"	1/2"	13/64"	Black, White	100	8876T33	11.22

ID	Ctr.-to-Ctr.	Wd.	Mounting Hole Dia.	Choose a Color	Pkg. Qty.		Pkg.
Nylon (Cont.)							
7/8"	13/16"	1/2"	13/64"	Black, White	100	8876T4	$13.18
1"	15/16"	1/2"	13/64"	Black, White	100	8876T42	13.60
1 1/8"	1"	1/2"	13/64"	Black, White	50	8876T44	13.74
1 1/4"	1 1/16"	1/2"	13/64"	Black, White	25	8876T52	8.45
1 1/2"	1 3/16"	1/2"	13/64"	Black, White	25	8876T53	8.31
Polypropylene							
1/4"	25/64"	3/8"	13/64"	Black	10	2220T71	1.56
3/8"	31/64"	3/8"	11/64"	Black	10	2220T72	2.03
1/2"	35/64"	3/8"	13/64"	Black	10	2220T73	2.23
3/4"	21/32"	1/2"	13/64"	Black	10	2220T74	4.33

Snug-Fit Vibration-Damping Loop Clamps

Clamps have a molded cushion for a tighter fit around material than our other vibration-damping loop clamps. Mounting hole diameter is 13/64" (fasteners not included). They meet MS-21919.

Neoprene Cushion—Use in environments where clamps are exposed to oil and ozone. Cushion is black. Temperature range is –40° to 210° F.

Silicone Cushion—Silicone withstands ozone, sunlight, oxidation, and high temperatures. Cushion is white. Temperature range is –80° to 450° F.

Aluminum clamps have good corrosion resistance. **304 stainless steel** clamps are more corrosion resistant than aluminum.



ID	Ctr.-to-Ctr.	Wd.	Thick.	Pkg. Qty.	Neoprene Cushion	Pkg.
Aluminum						
1/4"	1/2"	1/2"	1/32"	5	3177T1	$5.18
3/8"	9/16"	1/2"	1/32"	5	3177T11	5.53
1/2"	5/8"	1/2"	1/32"	5	3177T12	5.97
5/8"	13/16"	1/2"	3/64"	5	3177T13	6.93
3/4"	7/8"	1/2"	3/64"	5	3177T14	7.06
7/8"	15/16"	1/2"	3/64"	5	3177T15	7.48
1"	1"	1/2"	3/64"	5	3177T16	7.65
1 1/4"	1 1/8"	1/2"	1/16"	5	3177T17	8.92
1 1/2"	1 1/4"	1/2"	1/16"	1	3177T18	1.78
1 3/4"	1 3/8"	1/2"	1/16"	1	3177T19	1.91
2"	1 1/2"	1/2"	1/16"	1	3177T2	2.15
Other IDs from 2 1/4" to 4" in 1/4" increments					3177T4	

ID	Ctr.-to-Ctr.	Wd.	Thick.	Pkg. Qty.	Neoprene Cushion	Pkg.	Silicone Cushion	Pkg.
304 Stainless Steel								
1/4"	1/2"	3/8"	1/32"	5	3177T5	$5.75	3177T7	$6.78
3/8"	9/16"	3/8"	1/32"	5	3177T51	6.09	3177T71	7.21
1/2"	5/8"	3/8"	1/32"	5	3177T52	6.51	3177T72	7.85
5/8"	3/4"	1/2"	1/32"	5	3177T53	7.66	3177T73	9.31
3/4"	13/16"	1/2"	1/32"	5	3177T54	7.73	3177T74	9.40
7/8"	7/8"	1/2"	1/32"	5	3177T55	8.20	3177T75	9.97
1"	15/16"	1/2"	1/32"	5	3177T56	8.31	3177T76	10.46
1 1/4"	1 1/16"	1/2"	1/32"	5	3177T57	9.94	3177T77	11.98
1 1/2"	1 3/16"	1/2"	1/32"	1	3177T58	1.90	3177T78	2.39
1 3/4"	1 5/16"	1/2"	1/32"	1	3177T59	2.08	3177T79	2.44
2"	1 1/2"	1/2"	3/64"	1	3177T6	2.33	3177T8	2.96
Other IDs from 2 1/4" to 4" in 1/4" increments— Please specify ID and neoprene or silicone cushion					3177T31			

Vibration-Damping Loop Clamps

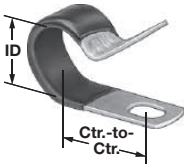

Made of metal with a wear-resistant cushion, these clamps combine good corrosion resistance with vibration resistance. Fasteners not included.

Vinyl Cushion—Durable vinyl withstands moisture and some chemicals. Cushion is black. Temperature range is –30° to 180° F. 1/2″ wide clamps have a 9/32″ dia. mounting hole; 3/4″ wide clamps have a 13/32″ dia. mounting hole.

EPDM Cushion—Use in environments where clamps are exposed to water and steam. EPDM withstands ozone and aging. Clamps have a 17/64″ dia. mounting hole. Cushion is black. Temperature range is –40° to 210° F.

Silicone Cushion—Silicone withstands ozone, sunlight, oxidation, and high temperatures. Clamps have a 17/64″ dia. mounting hole. Cushion is red. Temperature range is –60° to 450° F.

Zinc-plated steel clamps have good corrosion resistance in most environments. **304 stainless steel** clamps are more corrosion resistant than zinc-plated steel.

	1/2″ Wide Clamps with Vinyl Cushion				3/4″ Wide Clamps with Vinyl Cushion				1/2″ Wide Clamps with EPDM Cushion				1/2″ Wide Clamps with Silicone Cushion			
ID	Ctr.-to-Ctr.	Pkg. Qty.		Pkg.	Ctr.-to-Ctr.	Pkg. Qty.		Pkg.	Ctr.-to-Ctr.	Pkg. Qty.		Pkg.	Ctr.-to-Ctr.	Pkg. Qty.		Pkg.
Zinc-Plated Steel																
3/16″	1/2″	25	8863T23	$5.56	5/8″	25	8863T24	$6.09								
1/4″	1/2″	25	8863T12	5.65	5/8″	25	8863T25	6.22	1/2″	25	3225T2	$5.76	9/16″	10	3225T42	$4.35
3/8″	9/16″	25	8863T13	5.46	11/16″	25	8863T26	6.56	9/16″	25	3225T3	5.80	5/8″	10	3225T43	5.10
1/2″	5/8″	25	8863T14	6.28	3/4″	25	8863T27	8.86	5/8″	25	3225T4	6.14	11/16″	10	3225T44	5.36
5/8″	11/16″	25	8863T15	6.90	13/16″	25	8863T28	8.52	3/4″	25	3225T5	6.91	3/4″	10	3225T45	5.94
3/4″	3/4″	25	8863T16	7.39	7/8″	25	8863T29	9.00	13/16″	25	3225T6	7.29	13/16″	10	3225T46	6.43
7/8″	13/16″	25	8863T17	7.88	15/16″	25	8863T77	9.49	7/8″	25	3225T7	7.71	7/8″	10	3225T47	6.98
1″	7/8″	25	8863T18	9.21	1″	10	8863T78	4.48	1″	25	3225T8	8.01	15/16″	10	3225T48	7.09
1 1/4″	1″	25	8863T19	10.09	1 1/8″	25	8863T79	12.46	1 1/8″	10	3225T14	7.24	1 1/8″	10	3225T56	8.33
1 1/2″	1 1/8″	10	8863T21	4.44	1 1/4″	25	8863T81	14.02	1 1/4″	10	3225T9	7.38	1 1/4″	10	3225T49	9.22
1 3/4″	1 1/4″	10	8863T22	4.70	1 3/8″	10	8863T82	6.51	1 3/8″	10	3225T15	8.38	1 3/8″	10	3225T52	11.88
2″	1 7/16″	10	8863T83	9.32	1 9/16″	10	8863T84	9.72	1 1/2″	10	3225T11	10.50	1 1/2″	10	3225T53	12.13
Other IDs from 2 1/4″ to 4″ in 1/4″ increments—Please specify ID; vinyl, EPDM, or silicone cushion; and 1/2″ or 3/4″ width				8863T991												
304 Stainless Steel																
1/4″									1/2″	25	3225T22	8.18	9/16″	10	3225T62	6.00
3/8″									9/16″	25	3225T23	8.86	5/8″	10	3225T63	6.50
1/2″									5/8″	25	3225T24	9.55	11/16″	10	3225T64	6.88
5/8″									3/4″	25	3225T25	10.56	3/4″	10	3225T65	7.74
3/4″									13/16″	25	3225T26	11.28	13/16″	10	3225T66	8.25
7/8″									7/8″	25	3225T27	12.09	7/8″	10	3225T67	9.00
1″									1″	25	3225T28	12.82	15/16″	10	3225T68	10.00
1 1/4″									1 1/8″	10	3225T34	9.47	1 1/8″	10	3225T61	10.95
1 1/2″									1 1/4″	10	3225T29	9.60	1 1/4″	10	3225T69	12.09
1 3/4″									1 3/8″	10	3225T35	10.71	1 3/8″	10	3225T72	13.81
2″									1 1/2″	10	3225T31	13.10	1 1/2″	5	3225T73	12.50
Other IDs from 2 1/4″ to 4″ in 1/4″ increments—Please specify ID and EPDM or silicone cushion				3225T1												

Clamping Hangers



With Bolt and Nut

Also known as conduit hangers, these hangers are molded to fit tightly around material. They load from the bottom so you can add or remove material without disassembling the hanger. Hangers have an unthreaded hole on top for mounting with threaded rod or a fastener (not included). UL listed.

Galvanized steel hangers have good corrosion resistance in most environments. **304 stainless steel** hangers are more corrosion resistant than galvanized steel.

					Galvanized Steel		304 Stainless	
ID	Cap., lbs.	Wd.	Ht.	Mtg. Hole Dia.	Pkg. Qty.	Pkg.	Pkg. Qty.	Pkg.
With Bolt and Nut								
13/16″	50	3/4″	1 15/16″	1/4″	3006T131	10	$4.38	1	$1.84
1 1/16″	50	7/8″	2″	1/4″	3006T132	10	5.04	1	1.99
1 5/16″	60	7/8″	2 7/16″	1/4″	3006T133	10	5.94	1	2.48
1 1/2″	70	7/8″	2 5/8″	1/4″	3006T134	10	6.34	1	2.58
1 3/4″	80	7/8″	2 15/16″	1/4″	3006T135	10	7.06	1	2.65
1 7/8″	80	1″	3 1/4″	5/16″	3006T136	10	10.06	1	4.21
2 3/8″	100	1 1/4″	3 13/16″	5/16″	3006T137	10	11.23	1	5.10
2 7/8″	120	1 1/4″	4 7/16″	5/16″	3006T138	10	14.42	1	5.94
3 1/2″	160	1 1/4″	5 1/8″	5/16″	3006T139	5	8.44	1	7.84
4″	200	1 1/4″	5 3/4″	5/16″	3006T141	5	9.78	1	8.35
4 1/2″	230	1 3/4″	7 1/2″	1/2″	3006T142	2	11.05	1	12.47
Without Bolt and Nut								
13/16″	50	3/4″	1 15/16″	1/4″	3006T881	10	3.05	1	1.41
1 1/16″	50	7/8″	2″	1/4″	3006T882	10	3.49	1	1.53
1 5/16″	60	7/8″	2 7/16″	1/4″	3006T883	10	4.49	1	2.07
1 1/2″	70	7/8″	2 5/8″	1/4″	3006T884	10	5.26	1	2.09
1 3/4″	80	7/8″	2 15/16″	1/4″	3006T885	10	5.46	1	2.20
1 7/8″	80	1″	3 1/4″	5/16″	3006T886	10	8.21	1	3.35
2 3/8″	100	1 1/4″	3 13/16″	5/16″	3006T887	10	9.18	1	4.17
2 7/8″	120	1 1/4″	4 7/16″	5/16″	3006T889	10	12.71	1	5.10
3 1/2″	160	1 1/4″	5 1/8″	5/16″	3006T991	5	6.80	1	6.20
4″	200	1 1/4″	5 11/16″	5/16″	3006T992	5	9.01	1	6.98
4 1/2″	230	1 3/4″	7 1/2″	1/2″	3006T993	2	8.61	1	10.61

Sanitary Clamping Hangers

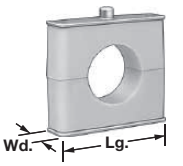

With Top Plate



With Stacking Bolts



Shown Connected

The smooth surface of these hangers prevents debris buildup and makes it easy to remove residue. Hangers are beige Santoprene with 304 stainless steel hardware. Temperature range is –40° to 270° F.

Hangers with top plate have a threaded hole on top for inserting 3/8″-16 threaded rod (not included). They include a top and bottom plate.

Hangers with stacking bolts allow you to run parallel lines. They include a top plate and stacking bolts. To mount, these hangers must be connected to a hanger with top plate (sold separately).

Note: All hangers must be the same length and height. Do not exceed the capacity of the individual hanger in multiple hanger applications.

					With Top Plate		With Stacking Bolts	
ID	Cap., lbs.	Lg.	Wd.	Ht.				
1/4″	350	1 15/16″	1 1/4″	1 7/16″	3063T11	$23.95	3063T19	$24.87
1/2″	350	1 15/16″	1 1/4″	1 7/16″	3063T12	23.95	3063T21	24.87
3/4″	350	1 15/16″	1 1/4″	1 7/16″	3063T13	23.95	3063T22	24.87
1″	350	1 15/16″	1 1/4″	1 7/16″	3063T14	23.95	3063T23	24.87
1″	350	3 3/8″	1 1/4″	2 11/16″	3063T24	29.57	3063T31	27.82
1 1/2″	350	3 3/8″	1 1/4″	2 11/16″	3063T25	29.57	3063T32	27.82
2″	350	3 3/8″	1 1/4″	2 11/16″	3063T26	29.57	3063T33	27.82
2″	350	5″	1 1/4″	4 7/16″	3063T84	40.55	3063T95	36.90
2 1/2″	350	5″	1 1/4″	4 7/16″	3063T85	40.55	3063T96	36.90
3″	350	5″	1 1/4″	4 7/16″	3063T86	40.55	3063T97	36.90
3 1/2″	350	5″	1 1/4″	4 7/16″	3063T87	40.55	3063T98	36.90

For information about ordering clamps by pipe, conduit, or tube size, see page 1578. For threaded rod, see pages 3182-3197.

Two-Piece Clamping Hangers

Load your material between the two halves of the ring and tighten the included bolts for a snug hold. Hang using a threaded rod (not included). They meet Fed. Spec. WW-H-171E, Type 25 and Manufacturers' Standardization Society SP-69 and SP-58, Type 12.

Iron hangers are for use in applications where corrosion is not a factor. **Zinc-plated iron** hangers offer some corrosion resistance. Use **304 stainless steel** hangers in corrosive environments.

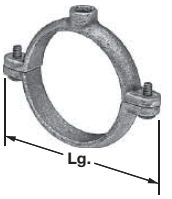

ID	Capacity, lbs.	Lg.	Wd.	Ht.	For Threaded Rod Size	Iron		Zinc-Plated Iron		304 Stainless Steel	
11/16"	180	1 13/16"	9/16"	1 3/8"	3/8"-16	3023T67	$2.96	3023T22	$3.29	3023T81	$28.32
15/16"	180	2 1/16"	9/16"	1 9/16"	3/8"-16	3023T68	3.07	3023T23	4.04	3023T82	33.86
1 1/16"	180	2 1/4"	9/16"	1 3/4"	3/8"-16	3023T69	3.38	3023T24	4.17	3023T83	33.92
1 5/16"	180	2 11/16"	9/16"	2 1/8"	3/8"-16	3023T71	3.51	3023T25	4.21	3023T84	38.87
1 11/16"	180	3"	9/16"	2 1/2"	3/8"-16	3023T72	4.39	3023T26	5.70	3023T85	38.54
1 7/8"	180	3 5/16"	9/16"	2 13/16"	3/8"-16	3023T73	6.28	3023T27	7.62	3023T86	48.65
2 3/8"	180	3 13/16"	9/16"	3 1/4"	3/8"-16	3023T74	8.47	3023T28	9.83	3023T87	52.10
2 7/8"	300	4 3/4"	11/16"	3 15/16"	1/2"-13	3023T15	12.26	3023T29	13.95	3023T88	91.61
3 1/2"	300	5 9/16"	13/16"	4 5/8"	1/2"-13	3023T16	14.58	3023T31	16.61	3023T89	86.36
4 1/2"	300	6 11/16"	13/16"	5 3/4"	1/2"-13	3023T48	23.25	3023T32	26.27	3023T91	90.57

Stackable Clamping Hangers

Connect hangers together to organize multiple lines. Hang using a threaded rod (not included) or mount using the included screw. Hangers are 303 stainless steel. They have two halves that fasten with the included screws.

Stacking clamps have a flat side with a 1/4"-20 threaded hole and a flat side with a 10-24 threaded hole to connect to another stacking clamp or an end clamp.

End clamps have a flat side with a 1/4"-20 threaded hole for mounting to threaded rod or to connect to the 10-24 threaded hole of the stacking clamp.





Stacking Clamp



End Clamp

ID	Lg.	Wd.	Stacking Clamp		End Clamp	
3/4"	1 1/2"	1/2"	2236T21	$27.18	2236T31	$23.50
1"	1 3/4"	1/2"	2236T22	29.67	2236T32	25.98
1 1/8"	1 7/8"	1/2"	2236T23	30.98	2236T33	27.23
1 1/4"	2 1/16"	1/2"	2236T24	32.62	2236T34	28.93
1 3/8"	2 1/4"	5/8"	2236T25	35.65	2236T35	31.93
1 1/2"	2 3/8"	5/8"	2236T26	38.02	2236T36	34.33

Vibration-Damping Clamping Hangers

Hangers have a cushion that surrounds pipe, conduit, or tubing to reduce vibration and protect your material from damage. They have a threaded nut on top for threaded rod (not included). Hangers are zinc-plated steel with a black rubber cushion. Temperature range is –50° to 230° F.



ID	Capacity, lbs.	Lg.	Wd.	Ht.	For Threaded Rod Size		
9/16"	180	1 7/8"	15/16"	1 5/16"	3/8"-16	2615T11	$1.58
11/16"	180	1 1/8"	15/16"	1 1/2"	3/8"-16	2615T12	1.62
7/8"	180	2 3/8"	15/16"	1 3/4"	3/8"-16	2615T13	1.66
1 1/16"	180	2 1/2"	15/16"	2"	3/8"-16	2615T14	1.81
1 3/8"	180	2 13/16"	15/16"	2 1/8"	3/8"-16	2615T15	1.89
1 11/16"	180	3"	15/16"	2 1/2"	3/8"-16	2615T16	1.91
1 15/16"	180	3 5/16"	15/16"	2 5/8"	3/8"-16	2615T17	2.07
2 3/16"	180	3 13/16"	15/16"	3 3/16"	3/8"-16	2615T18	2.07
2 3/8"	180	3 7/8"	15/16"	3 3/16"	3/8"-16	2615T19	2.17
2 5/8"	300	4 1/2"	15/16"	3 5/16"	3/8"-16	2615T21	2.24
2 7/8"	300	4 1/2"	15/16"	3 5/8"	3/8"-16	2615T22	2.38
3 1/8"	300	4 3/4"	15/16"	4 1/8"	3/8"-16	2615T23	2.48
3 1/2"	300	5"	15/16"	4 1/4"	3/8"-16	2615T24	2.54
4 1/8"	300	6 1/4"	1 3/16"	5 5/16"	3/8"-16	2615T25	2.88
4 1/2"	300	6 3/8"	1 3/16"	5 5/16"	3/8"-16	2615T26	3.02

Washdown Vibration-Damping Clamping Hangers

These 316 stainless steel hangers provide maximum corrosion resistance in wet environments. Designed to prevent debris buildup, clamps have rounded edges and include acorn nuts to conceal fastener threads. The cushion fits tightly around material to lessen vibration and noise. Hangers have a threaded hole on top for mounting with a threaded rod (not included). Temperature range is –60° to 400° F.

With Silicone Cushion—Silicone withstands steam cleaning, as well as ozone, sunlight, and oxidation. Cushion is made of FDA listed materials. Color is blue.

With PTFE Cushion—PTFE withstands most chemicals. Cushion is made of FDA listed materials. Color is white.

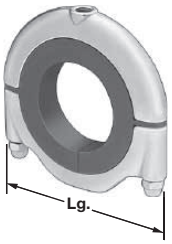

ID	Cap., lbs.	Lg.	Ht.	For Threaded Rod Size	With Silicone Cushion		With PTFE Cushion	
1/4"	400	2 1/16"	2 1/4"	3/8"-16	8831T31	$29.22	—	—
3/8"	400	2 1/16"	2 1/4"	3/8"-16	8831T32	29.22	—	—
1/2"	400	2 1/16"	2 1/4"	3/8"-16	8831T33	29.22	8831T46	$33.45
3/4"	400	2 1/16"	2 1/4"	3/8"-16	8831T34	29.22	8831T47	33.45
1"	400	2 9/16"	2 3/4"	3/8"-16	8831T35	34.30	8831T48	41.59
1 1/4"	400	2 9/16"	2 3/4"	3/8"-16	8831T36	34.32	—	—
1 1/2"	600	3 5/8"	3 1/2"	3/8"-16	8831T37	56.56	8831T62	70.76
2"	600	3 5/8"	3 1/2"	3/8"-16	8831T38	56.56	8831T63	70.76
2 1/2"	600	5 1/4"	5 1/8"	1/2"-13	8831T39	102.78	8831T64	127.67
3"	600	5 1/4"	5 1/8"	1/2"-13	8831T41	102.78	8831T65	128.31
4"	1,000	6 3/4"	6 5/8"	5/8"-11	8831T42	146.35	8831T66	182.81
6"	2,000	9"	8 13/16"	3/4"-10	8831T43	252.08	8831T67	310.42

Weld-Mount Washdown Clamping Hangers

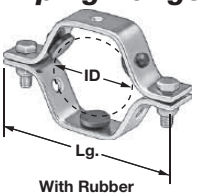

With Rubber Inserts



With Plastic Insert

Mount these clamps by welding a rod to the top for a strong, secure connection when hanging lines (rod not included, see pages 3777-3778). Hangers are corrosion-resistant 304 stainless steel for use in wet environments. They have an insert to lessen vibration and minimize movement. Temperature range is 10° to 230° F.

With Rubber Inserts—Hangers have three rubber pads to tightly grip material. Inserts are black.

With Plastic Insert—The insert completely surrounds material to compensate for material expansion and contraction. Insert is white.

ID	Cap., lbs.	Lg.	Wd.	Ht.	With Rubber Inserts		With Plastic Insert	
3/4"	780	3 7/16"	1"	1 1/2"	2218T1	$7.06	—	—
1"	780	3 7/16"	1"	1 1/2"	2218T2	7.70	2218T41	$9.28
1 1/2"	780	4"	1"	2 1/8"	2218T3	8.36	2218T42	10.02
2"	780	4 1/2"	1"	2 1/2"	2218T4	10.08	2218T43	11.72
2 1/2"	780	5"	1"	3 1/8"	2218T5	11.48	2218T44	13.34
3"	780	5 1/2"	1"	3 3/4"	2218T6	13.20	2218T45	14.92
4"	780	7"	1"	4 3/4"	2218T7	16.92	2218T46	19.20
6"	780	9 1/4"	1"	6 5/8"	2218T71	29.90	2218T47	41.58
8"	780	11 1/2"	1"	8 5/8"	2218T72	52.36	2218T48	62.84

Snap-On Clamping Hangers



Clip hanger onto a 3/8" dia. threaded rod (not included). They have a locking arm that clicks closed around your material. Use more than one hanger on the same threaded rod to hold multiple lines. Hangers are black nylon. Temperature range is –40° to 270° F.

ID	Cap., lbs.	Lg.	Ht.		
3/4"	150	1 1/2"	1 5/8"	3945T71	$2.43
1"	150	1 5/8"	1 5/8"	3945T73	2.63
1 1/4"	150	2 1/8"	1 5/8"	3945T75	3.00
1 1/2"	150	2 3/8"	1 5/8"	3945T77	3.57
2"	150	2 3/4"	1 5/8"	3945T79	4.14

Push-Close Clamping Hangers



Lock these hangers without having to tighten bolts or screws. To mount, insert 3/8"-16 threaded rod into the top mounting hole or snap into 1 5/8" wide strut channel (not included). Hangers are black nylon. Temperature range is –70° to 250° F.

ID	Cap., lbs.	Lg.	Ht.		
9/16"	170	1 7/16"	2 1/16"	3166T41	$2.00
1 1/16"	190	1 7/16"	2 1/8"	3166T42	2.00
1 3/16"	210	1 1/2"	2 1/4"	3166T43	2.00
1 1/16"	310	1 13/16"	2 1/2"	3166T44	2.51
1 5/16"	320	2 1/8"	2 13/16"	3166T45	2.54
1 11/16"	360	2 9/16"	3 3/16"	3166T46	2.86
1 7/8"	380	2 13/16"	3 1/2"	3166T47	3.09
2 3/8"	410	3 1/4"	4"	3166T48	3.71
2 7/8"	500	3 11/16"	4 3/8"	3166T49	3.86
3 1/2"	600	3 15/16"	5 15/16"	3166T51	5.29
4 1/2"	950	5"	7"	3166T52	5.86

Adjustable Push-Close Clamping Hangers



Clamps fit around a range of material sizes and lock by pushing the sides together. They have an unthreaded hole to mount with a fastener or use with an adapter (sold separately) to suspend from strut channel or threaded rod (not included). Hangers are gray plastic. Temperature range is 20° to 180° F. Meet UL 2239.

Hangers

ID	Cap., lbs.	Lg.	Ht.	Mounting Hole, Lg. x Wd.		
7/16"-9/16"	100	13/16"	1 3/16"	5/16" x 3/16"	30075T112	$0.69
1/2"-5/8"	130	13/16"	1 1/4"	5/16" x 3/16"	30075T113	.75
5/8"-3/4"	180	15/16"	1 7/16"	5/16" x 3/16"	30075T114	.88
3/4"-7/8"	180	1"	1 9/16"	5/16" x 3/16"	30075T115	.88
7/8"-15/16"	300	1 1/8"	1 5/8"	5/16" x 3/16"	30075T116	1.10
1"-1 1/16"	300	1 1/4"	1 13/16"	5/16" x 3/16"	30075T117	1.10
1 1/8"-1 3/16"	430	1 3/8"	1 15/16"	5/16" x 3/16"	30075T118	1.56
1 1/4"-1 3/8"	270	1 9/16"	2 3/16"	3/8" Dia.	30075T119	1.56
1 3/8"-1 1/2"	280	1 11/16"	2 3/8"	3/8" Dia.	30075T211	1.77
1 1/2"-1 11/16"	280	1 7/8"	2 9/16"	3/8" Dia.	30075T212	1.98
1 3/4"-2"	280	2 3/16"	2 7/8"	3/8" Dia.	30075T213	2.71
2"-2 3/16"	220	2 5/16"	3 1/8"	3/8" Dia.	30075T214	3.44
2 1/8"-2 1/2"	290	2 5/8"	3 1/2"	3/8" Dia.	30075T215	3.65
2 7/8"-3 1/8"	620	3 1/16"	4 9/16"	1/2" Dia.	30075T216	6.88
3 1/8"-3 9/16"	610	3 7/16"	5"	1/2" Dia.	30075T217	9.76
4 1/2"-5"	960	5 1/2"	6 7/16"	1/2" Dia.	30075T218	10.41

Optional Strut Channel Adapters



These adapters allow hangers to mount in 1 5/8" wide strut channel. Adapters are gray plastic. Temperature range is 20° to 130° F.

For Hanger ID		
1/2"-2 1/2"	30075T29	$3.17
2 13/16"-5"	30075T31	7.81

Optional Threaded Rod Adapters



Adapters allow you to suspend hangers from threaded rod. They are 304 stainless steel.

For Hanger ID	For Threaded Rod Size		
1/2"-1 1/16"	1/4"-20	30075T21	$0.64
1 1/8"-2 1/2"	3/8"-16	30075T24	1.20
2 13/16"-5"	3/8"-16	30075T25	2.76

Strap-Mount Clamping Hangers



Suspend material by using these hangers with strap hangers (not included, see page 1598). Hangers are zinc-plated steel. They include a bolt and nut to close the hanger.

ID	Cap., lbs.	Wd.	Ht.		
13/16"	270	7/8"	2"	3033T11	$0.40
1 1/16"	270	7/8"	2 1/4"	3033T12	.43
1 5/16"	270	7/8"	2 1/2"	3033T13	.47
1 11/16"	270	7/8"	3"	3033T14	.51
1 7/8"	270	7/8"	3 1/4"	3033T15	.55
2 3/8"	270	7/8"	3 7/8"	3033T16	.70
2 7/8"	500	1 1/4"	4 3/8"	3033T17	1.02
3 1/2"	500	1 1/4"	5 1/2"	3033T18	1.22
4 1/2"	500	1 1/4"	6 1/2"	3033T21	1.73
5 9/16"	500	1 1/4"	7 1/2"	3033T32	2.03
6 5/8"	500	1 1/4"	8 3/4"	3033T33	2.30

Strap-Mount Loop Hangers



Hang material from different heights using the 12" Lg. x 1" Wd. strap. The strap has mounting holes spaced on 7/8" centers and alternate between 9/32" and 7/32" diameter (fasteners not included). Hangers are zinc-plated steel with a black vinyl coating on the loop to prevent corrosion caused by metal-to-metal contact. Temperature range is –20° to 150° F.

ID	Cap., lbs.	Wd.	Ht.	Thick.		
1 7/8"	150	1"	3 3/4"	3/64"	30565T5	$3.18
2 3/8"	150	1"	4 1/4"	3/64"	30565T6	3.38
3 1/2"	150	1"	5 1/2"	1/16"	30565T7	3.71
4 1/2"	150	1"	6 1/2"	1/16"	30565T8	4.17
6 5/8"	150	1"	9 1/2"	1/16"	30565T9	12.12

Swivel Loop Hangers



Hangers include a swivel nut to adjust the direction of the hanger after installation. They are also known as teardrop hangers. They have a threaded hole on top for mounting with threaded rod (not included). Meet Fed. Spec. WW-H-171E, Type 10 and Manufacturers' Standardization Society SP-69, Type 10.

Zinc-plated steel hangers have good corrosion resistance. UL listed and FM approved.

Copper-plated steel hangers won't corrode copper material.

PVC-coated steel hangers reduce wear on material. Coating is black. Temperature range is –30° to 200° F.

ID	Cap., lbs.	Wd.	Ht.	Thick.	For Threaded Rod Size	Pkg. Qty.		Pkg.
Zinc-Plated Steel								
13/16"	400	5/8"	3"	3/64"	3/8"-16	10	3064T11	$6.28
1 1/16"	400	5/8"	3 1/8"	3/64"	3/8"-16	10	3064T12	6.28
1 5/16"	400	5/8"	3 3/8"	3/64"	3/8"-16	10	3064T13	6.48
1 11/16"	400	5/8"	3 3/4"	3/64"	3/8"-16	10	3064T14	6.48
1 7/8"	400	5/8"	4"	3/64"	3/8"-16	10	3064T15	6.74
2 3/8"	400	5/8"	4 5/8"	3/64"	3/8"-16	10	3064T16	7.16
2 7/8"	600	3/4"	5 1/2"	3/32"	1/2"-13	1	3064T17	2.62
3 1/2"	600	3/4"	6 3/8"	3/32"	1/2"-13	1	3064T18	2.71
4"	600	3/4"	7"	3/32"	1/2"-13	1	3064T19	3.86
4 1/2"	1,000	3/4"	7 1/2"	3/32"	5/8"-11	1	3064T21	4.85
Copper-Plated Steel								
5/8"	400	5/8"	3"	3/64"	3/8"-16	10	3064T31	9.48
7/8"	400	5/8"	3"	3/64"	3/8"-16	10	3064T32	9.48
1 1/8"	400	5/8"	3"	3/64"	3/8"-16	10	3064T33	9.76
1 3/8"	400	5/8"	3 1/4"	3/64"	3/8"-16	10	3064T34	9.76
1 5/8"	400	5/8"	3 3/4"	3/64"	3/8"-16	10	3064T35	11.22
2 1/8"	400	5/8"	4 1/8"	3/64"	3/8"-16	1	3064T36	1.06
2 5/8"	600	3/4"	4 3/4"	3/64"	3/8"-16	1	3064T37	1.20
3 1/8"	600	3/4"	5 3/8"	5/64"	3/8"-16	1	3064T38	1.93
4 1/8"	1,000	3/4"	6 1/4"	5/64"	3/8"-16	1	3064T79	2.05
PVC-Coated Steel								
13/16"	610	5/8"	2 5/16"	1/16"	3/8"-16	1	3064T41	4.11
1 1/16"	610	5/8"	2 5/8"	1/16"	3/8"-16	1	3064T42	4.11
1 5/16"	610	5/8"	2 7/8"	1/16"	3/8"-16	1	3064T43	4.35
1 11/16"	610	5/8"	3 7/16"	1/16"	3/8"-16	1	3064T44	4.40
1 7/8"	610	5/8"	3 11/16"	1/16"	3/8"-16	1	3064T45	5.98
2 3/8"	610	5/8"	4 3/16"	1/8"	3/8"-16	1	3064T46	6.62
2 7/8"	970	3/4"	5 5/16"	1/8"	1/2"-13	1	3064T47	8.21
3 1/2"	970	3/4"	6"	1/8"	1/2"-13	1	3064T48	9.80
4"	970	3/4"	6 1/2"	1/8"	1/2"-13	1	3064T49	10.60
4 1/2"	1,250	3/4"	7 1/8"	1/8"	5/8"-11	1	3064T51	12.81

For information about ordering clamps by pipe, conduit, or tube size, see page 1578. For threaded rod, see pages 3182-3197.

Hinged Loop Hangers



Also known as clevis hangers, these hangers include a bolt that can be adjusted to compensate for line movement and vibration. Hangers have an unthreaded hole on top to mount using a threaded rod or fastener (not included). They meet Fed. Spec. WW-H-171, Type 1 and Manufacturers' Standardization Society SP-69 and SP-58, Type 1.

Steel—1 1/16" to 12 3/4" ID hangers are UL listed.

Zinc-Plated Steel—Hangers have good corrosion resistance in most environments. 2 7/8" to 8 5/8" ID hangers are UL and C-UL listed and FM approved.

304 Stainless Steel—Choose these hangers when you need more corrosion resistance than zinc-plated steel. 1 1/16" to 8 5/8" ID hangers are FM approved; 2 7/8" to 8 5/8" ID hangers are UL listed.

316 Stainless Steel—The most corrosion resistant hangers. UL listed and FM approved.

ID	Cap., lbs.	Wd.	Ht.	Thick.	Mounting Hole Dia.		
Steel							
13/16"	730	3/4"	2"	7/64"	7/16"	3037T12	$1.10
1 1/16"	730	3/4"	2 3/8"	7/64"	7/16"	3037T14	1.10
1 5/16"	730	3/4"	2 3/4"	7/64"	7/16"	3037T15	1.13
1 11/16"	730	3/4"	3 3/8"	7/64"	7/16"	3037T16	1.31
1 7/8"	730	3/4"	3 7/8"	7/64"	7/16"	3037T17	1.43
2 3/8"	730	3/4"	4 3/8"	7/64"	7/16"	3037T18	1.64
2 7/8"	1,350	1"	5 1/4"	1/8"	9/16"	3037T32	2.84
3 1/2"	1,350	1"	6 3/8"	1/8"	9/16"	3037T33	3.87
4"	1,350	1 1/4"	7 1/8"	1/8"	9/16"	3037T22	3.33
4 1/2"	1,430	1 1/4"	7 5/8"	1/8"	11/16"	3037T23	4.00
5 9/16"	1,430	1 1/4"	8 5/8"	9/64"	11/16"	3037T24	5.54
6 5/8"	1,940	1 1/2"	10 1/8"	5/32"	13/16"	3037T25	7.36
8 5/8"	2,000	1 3/4"	12 9/16"	11/64"	13/16"	3037T34	12.15
10 3/4"	3,600	1 3/4"	15"	11/64"	15/16"	3037T27	21.68
12 3/4"	3,800	1 3/4"	17 5/16"	11/64"	15/16"	3037T28	27.33
Zinc-Plated Steel							
13/16"	610	3/4"	2 1/4"	5/64"	3/8"	3037T61	1.63
1 1/16"	610	3/4"	2 7/16"	5/64"	3/8"	3037T62	1.63
1 5/16"	610	3/4"	2 3/4"	5/64"	3/8"	3037T63	1.74
1 11/16"	610	1"	3 1/16"	5/64"	3/8"	3037T64	1.92
1 7/8"	610	1"	3 5/8"	5/64"	3/8"	3037T65	2.15
2 3/8"	610	1"	4 1/4"	5/64"	3/8"	3037T66	2.37
2 7/8"	1,130	1 3/16"	5 1/4"	7/64"	1/2"	3037T67	3.75
3 1/2"	1,130	1 3/16"	6"	7/64"	1/2"	3037T68	4.71
4"	1,130	1 3/16"	6 7/16"	7/64"	1/2"	3037T69	4.93
4 1/2"	1,130	1 3/16"	7 5/16"	1/8"	5/8"	3037T81	5.68
5 9/16"	1,430	1 3/16"	8 15/16"	5/32"	5/8"	3037T72	7.82
6 5/8"	1,940	1 1/2"	10 3/8"	13/64"	3/4"	3037T73	9.95
8 5/8"	2,000	1 1/2"	13 13/16"	13/64"	3/4"	3037T74	15.71
10 3/4"	3,600	2"	16 1/4"	15/64"	7/8"	3037T75	31.64
12 3/4"	3,800	2"	18 3/8"	15/64"	7/8"	3037T76	35.93
304 Stainless Steel							
13/16"	610	7/8"	2 1/8"	1/16"	7/16"	3309T512	5.99
1 1/16"	610	7/8"	2 7/16"	1/16"	7/16"	3309T522	6.05
1 5/16"	610	7/8"	2 13/16"	1/16"	7/16"	3309T532	6.12
1 11/16"	610	7/8"	3 7/16"	1/16"	7/16"	3309T542	7.10
1 7/8"	610	7/8"	4"	3/32"	7/16"	3309T552	7.83
2 3/8"	610	7/8"	4 7/8"	3/32"	7/16"	3309T562	7.76
2 7/8"	1,130	1 3/16"	6 1/8"	1/8"	9/16"	3309T572	20.10
3 1/2"	1,130	1 3/16"	6 9/16"	1/8"	9/16"	3309T582	21.27
4 1/2"	1,430	1 3/16"	7 13/16"	1/8"	11/16"	3309T612	28.19
5 9/16"	1,430	1 1/4"	9"	11/64"	11/16"	3309T622	38.19
6 5/8"	1,940	1 1/2"	10 1/8"	11/64"	13/16"	3309T632	49.04
8 5/8"	2,000	1 3/4"	12 5/8"	11/64"	13/16"	3309T642	68.38
10 3/4"	3,600	1 3/4"	15 1/4"	15/64"	15/16"	3309T654	109.11
12 3/4"	3,800	2"	18"	1/4"	15/16"	3309T655	120.15
316 Stainless Steel							
4"	1,130	1 3/16"	6 15/16"	1/8"	9/16"	3309T592	27.95

Stainless Steel Loop Hangers



Use these stainless steel hangers in environments where they are exposed to chemicals and other corrosive materials. They are also known as teardrop hangers. Hangers have an unthreaded hole on top for mounting with a threaded rod or fastener (not included). They require two nuts for mounting.

316 stainless steel clamps are the most corrosion resistant.

ID	Cap., lbs.	Wd.	Ht.	Thick.	Mounting Hole Dia.		
304 Stainless Steel							
13/16"	610	7/8"	1 15/16"	1/16"	7/16"	3273T51	$5.06
1 1/16"	610	7/8"	2 1/16"	1/16"	7/16"	3273T52	5.29
1 5/16"	610	7/8"	2 9/16"	1/16"	7/16"	3273T53	5.33
1 7/8"	610	7/8"	3 5/16"	1/16"	7/16"	3273T54	9.44
2 3/8"	610	7/8"	4 1/16"	1/16"	7/16"	3273T55	8.85
3 1/2"	970	1"	4 15/16"	3/32"	9/16"	3273T57	17.89
4 1/2"	970	1"	5 7/8"	1/8"	9/16"	3273T58	18.06
6 5/8"	1,250	1 1/2"	8 7/8"	1/8"	13/16"	3273T59	37.30
316 Stainless Steel							
7/8"	610	1"	2 5/16"	1/16"	7/16"	3064T61	6.36
1"	610	1"	2 5/8"	1/16"	7/16"	3064T62	6.48
1 3/8"	610	1"	2 7/8"	1/16"	7/16"	3064T63	6.80
1 5/8"	610	1"	3 7/16"	1/16"	7/16"	3064T64	7.84
1 15/16"	610	1"	3 11/16"	1/16"	7/16"	3064T65	9.56
2 3/8"	610	1"	4 3/16"	1/8"	7/16"	3064T66	9.73
2 7/8"	970	1"	5 5/16"	1/8"	7/16"	3064T67	13.43
3 1/2"	970	1"	6"	1/8"	7/16"	3064T68	19.12
4"	970	1"	6 1/2"	1/8"	9/16"	3064T69	24.63
4 1/2"	1,250	1 1/4"	7 1/8"	1/8"	9/16"	3064T71	26.43

Side-Load Loop Hangers

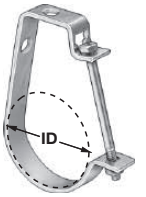

Access your material without removing the mounted hanger. Hangers include a removable bolt for side loading material. They have two mounting holes—one on the side for wall mounting and another on top for mounting with a threaded rod or fastener (not included).

Zinc-plated steel hangers have good corrosion resistance in most environments. **304 stainless steel** hangers are more corrosion resistant than zinc-plated steel.

ID	Cap., lbs.	Ht.	Thick.	Mounting Hole Dia. Side	Mounting Hole Dia. Top		
Zinc-Plated Steel							
1 1/16"	400	3 3/8"	1/8"	7/16"	3/8"	3131T52	$2.12
1 5/16"	400	3 9/16"	1/8"	7/16"	3/8"	3131T53	2.17
1 11/16"	400	4 1/16"	1/8"	7/16"	3/8"	3131T54	2.17
1 7/8"	400	4 1/2"	1/8"	7/16"	3/8"	3131T55	2.41
2 3/8"	400	4 7/8"	1/8"	7/16"	3/8"	3131T56	2.99
2 7/8"	500	5 13/16"	1/8"	9/16"	9/16"	3131T57	5.89
3 1/2"	500	6 9/16"	1/8"	9/16"	9/16"	3131T58	6.13
4"	800	8"	7/64"	—	1/2"	3131T59	7.71
4 1/2"	550	8 1/4"	3/16"	9/16"	11/16"	3131T61	8.91
5 9/16"	550	9 3/8"	3/16"	9/16"	11/16"	3131T62	16.54
6 5/8"	600	10 7/8"	1/4"	9/16"	13/16"	3131T63	17.40
304 Stainless Steel							
1 1/16"	400	3 3/8"	1/8"	7/16"	7/16"	3131T66	8.67
1 5/16"	400	3 5/8"	1/8"	7/16"	7/16"	3131T67	9.07
1 11/16"	400	4 1/8"	1/8"	7/16"	7/16"	3131T68	9.89
1 7/8"	400	4 9/16"	1/8"	7/16"	7/16"	3131T69	10.58
2 3/8"	400	4 7/8"	1/8"	7/16"	7/16"	3131T71	11.33
2 7/8"	500	5 7/8"	1/8"	9/16"	9/16"	3131T72	14.30
3 1/2"	500	6 5/8"	1/8"	9/16"	9/16"	3131T73	15.13
4"	500	7 1/8"	1/8"	9/16"	9/16"	3131T74	15.44
4 1/2"	550	8 3/8"	3/16"	9/16"	11/16"	3131T75	17.98
5 9/16"	550	9 9/16"	3/16"	9/16"	11/16"	3131T76	21.44
6 5/8"	600	11 1/16"	1/4"	9/16"	13/16"	3131T77	27.16

Loop Hangers with Roller

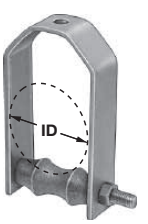

A roller on the bottom of these hangers compensates for moving material, such as in hydraulic applications. They have an unthreaded hole on top for mounting with a threaded rod or fastener (not included). Hangers are steel with a cast iron roller.

ID	Cap., lbs.	Wd.	Ht.	Thick.	Mounting Hole Dia.		
2 3/8"	150	1 1/4"	4 3/4"	11/64"	7/16"	3084T31	$17.26
2 7/8"	220	1 1/4"	6"	11/64"	9/16"	3084T32	17.04
3 1/2"	310	1 1/4"	6 5/8"	11/64"	9/16"	3084T33	19.00
4"	390	1 1/4"	7 1/4"	17/64"	9/16"	3084T34	25.34
4 1/2"	470	1 1/2"	7 7/8"	17/64"	11/16"	3084T35	26.13
5 9/16"	680	1 3/4"	9 3/16"	25/64"	11/16"	3084T36	29.51
6 5/8"	780	2"	10 3/8"	25/64"	13/16"	3084T37	$36.69
8 5/8"	780	2 1/2"	12 5/8"	25/64"	13/16"	3084T38	54.91
10 3/4"	960	2 1/2"	14 15/16"	25/64"	15/16"	3084T39	65.42
12 3/4"	1,200	2 1/2"	17 3/8"	33/64"	15/16"	3084T41	96.14
14"	1,200	2 1/2"	19"	33/64"	1 1/8"	3084T42	236.84
16"	1,200	2 1/2"	20 3/4"	33/64"	1 1/8"	3084T43	304.01

About Selecting U-Bolts Using Pipe, Conduit, or Tubing Trade Size

Find your trade size below, note the U-Bolt IDs that work with that trade size, then match the U-Bolt ID to the ID provided on the following pages.

For Pipe and Rigid Conduit

Trade Size	U-Bolt ID
3/8	3/4"
1/2	1"
3/4	1 1/8"
1	1 1/2"
1 1/4	1 3/4"
1 1/2	2"
2	2 1/2"
2 1/2	3"
3	3 1/2"
3 1/2	4", 4 1/16"
4	4 1/2"

For Thin-Wall (EMT) Conduit

Trade Size	U-Bolt ID
1/2	13/16"
3/4	1 1/16"
1	1 1/4"
1 1/2	1 13/16"
2	2 3/8"
2 1/2	3"
3	3 1/2"
3 1/2	4", 4 1/16"
4	4 1/2"

For Medium-Wall (IMC) Conduit

Trade Size	U-Bolt ID
1/2	15/16"
3/4	1 1/8"
1	1 3/8"
1 1/4	1 3/4"
1 1/2	1 15/16"
2	2 1/2"
2 1/2	3"
3	3 1/2"
3 1/2	4"
4	4 1/2"

For Copper Tubing

Trade Size	U-Bolt ID
1/2	3/4"
5/8	13/16"
3/4	1"
1	1 3/16"
1 1/4	1 1/2"
1 1/2	1 11/16"
2	2 1/4"
2 1/2	2 7/8"
3	3 1/8"
4	4 1/8", 4 3/16"

U-Bolts with Mounting Plates

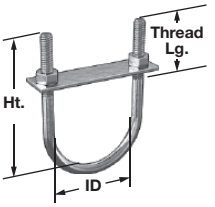

One Mounting Plate



Two Mounting Plates

The mounting plate provides a more secure hold at the mounting surface.

Black-oxide steel U-bolts offer some corrosion resistance. **Zinc-plated steel** U-bolts have good corrosion resistance in most environments. **Galvanized steel** U-bolts have better corrosion resistance than black-oxide and zinc-plated steel. **304 stainless steel** U-bolts offer excellent corrosion resistance. U-bolts with one mounting plate come with two hex nuts; U-bolts with two mounting plates come with four hex nuts.

ID	For Pipe Size	Ht.	Thread Lg.	Cap., lbs.	No. of Mounting Plates		Black-Oxide Steel	Zinc-Plated Steel	Galv. Steel	304 SS
1/4"-20 Thread Size										
9/16"	1/4	1 1/4"	3/4"	425	1	3043T251	$0.89	$0.65	$0.89	$3.11
3/4"	3/8	1 1/4"	5/8"	425	1	3043T252	.93	.67	.91	3.14
3/4"	3/8	2 1/4"	1 1/2"	425	1	3043T253	1.00	.74	.97	3.63
1"	1/2	1 3/4"	1"	425	1	3043T254	1.06	.75	1.02	3.77
1 1/8"	3/4	2"	1"	425	1	3043T255	1.14	.77	1.09	3.85
1 1/4"	3/4	2 1/4"	1 1/4"	425	1	3043T256	1.18	.81	1.22	4.16
1 1/2"	1	2 3/4"	1 3/8"	425	1	3043T257	1.22	.85	1.22	4.43
1 3/4"	1 1/4	3"	1 3/8"	425	1	3043T258	1.25	.90	1.31	4.69
2"	1 1/2	3 1/4"	1 3/8"	425	1	3043T259	1.29	.93	1.35	4.96
5/16"-18 Thread Size										
1"	1/2	2 3/16"	1 3/8"	600	1	3043T261	1.32	.96	1.43	5.16
1 3/8"	1	2 3/16"	1"	600	1	3043T262	1.38	1.01	____	5.29
1 1/2"	1	2 3/16"	1"	600	1	3043T263	1.42	1.02	1.52	5.39
1 3/4"	1 1/4	2 11/16"	1 1/8"	600	1	3043T264	1.50	1.11	1.57	5.49
2"	1 1/2	2 11/16"	1"	600	1	3043T265	1.56	1.15	1.63	5.61
2 1/2"	2	3 3/16"	1"	600	1	3043T266	1.66	1.26	1.77	6.05
3"	2 1/2	3 11/16"	1"	600	1	3043T267	1.73	1.38	1.87	6.86
3/8"-16 Thread Size										
1"	1/2	2 1/4"	1 1/4"	1,075	1	3043T272	1.77	1.55	1.94	7.06
1"	3/4	2 1/8"	1 1/8"	Not Rated	2	29535T11	____	____	____	7.65
1"	3/4	3 3/8"	2 1/2"	Not Rated	2	29535T12	____	____	____	7.85
1"	3/4	4 1/2"	3 7/16"	Not Rated	2	29535T13	____	____	____	8.45
1 1/4"	3/4	2 1/4"	1 1/4"	1,075	1	3043T273	1.86	1.72	2.14	7.20
1 1/2"	1	2 1/2"	1 1/4"	1,075	1	3043T274	1.94	1.79	2.23	7.52
1 3/4"	1 1/4	2 3/4"	1 1/8"	1,075	1	3043T275	2.07	1.92	2.38	8.12
2"	1 1/2	2 5/8"	1 1/4"	1,075	1	3043T276	2.16	1.95	2.38	8.22
2 1/2"	2	3 1/8"	1 1/4"	1,075	1	3043T277	2.30	2.13	2.53	9.32
3"	2 1/2	3 5/8"	1 1/4"	1,075	1	3043T278	2.74	2.18	2.82	10.14
3 1/2"	3	4 1/8"	1 1/4"	1,075	1	3043T279	2.95	2.35	3.04	11.35
7/16"-14 Thread Size										
1 7/16"	1	4 3/4"	3 7/16"	Not Rated	2	29535T14	____	____	____	12.38
1/2"-13 Thread Size										
1 3/8"	1	4"	2 9/16"	Not Rated	2	29535T15	____	____	____	11.64
1 3/8"	1	4 3/4"	3 7/16"	Not Rated	2	29535T16	____	____	____	11.91
1 3/8"	1	6"	4 3/4"	Not Rated	2	29535T17	____	____	____	17.55
1 1/2"	1	7 11/16"	6 3/16"	Not Rated	2	29535T18	____	____	____	26.95
3"	2 1/2	4 1/2"	1 5/8"	2,000	1	3043T281	4.51	4.18	4.96	16.77
3 1/2"	3	5"	1 1/2"	2,000	1	3043T282	4.86	4.63	5.33	18.21
4"	3 1/2	5 1/2"	1 1/2"	2,000	1	3043T283	5.33	4.99	5.83	20.70
4 1/2"	4	6"	1 1/2"	2,000	1	3043T284	5.94	5.55	6.52	21.28

Square U-Bolts

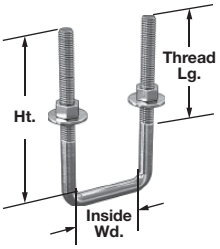

Suspend and route flat-bottomed objects such as strut channel and small duct. All come with two hex nuts and two washers. Capacity is 1,075 lbs.

Zinc-plated steel U-bolts have good corrosion resistance in most environments. **304 stainless steel** U-bolts offer excellent corrosion resistance.

Inside Wd.	Ht.	Thread Lg.	Zinc-Plated Steel		304 Stainless Steel	
3/8"-16 Thread Size						
2"	2 5/8"	1 1/2"	3060T44	$2.46	3060T71	$7.88
2"	4 5/8"	3"	3060T45	2.87	3060T72	9.18
2"	6 5/8"	3 3/4"	3060T46	3.57	3060T73	11.73
4"	2 5/8"	1 1/2"	3060T47	2.75	3060T74	8.56
4"	4 5/8"	3"	3060T48	3.13	3060T75	9.95
4"	6 5/8"	3 3/4"	3060T49	3.86	3060T76	12.79

Inside Wd.	Ht.	Thread Lg.	Zinc-Plated Steel		304 Stainless Steel	
3/8"-16 Thread Size (Cont.)						
6"	4 5/8"	3"	3060T51	$3.57	3060T77	$12.35
6"	6 5/8"	3 3/4"	3060T52	4.15	3060T78	14.59
6"	8 5/8"	5 5/8"	3060T53	5.12	3060T79	18.53
8"	4 5/8"	3"	3060T54	5.60	3060T81	16.04
8"	6 5/8"	3 3/4"	3060T55	5.94	3060T82	18.61
8"	8 5/8"	5 5/8"	3060T56	6.27	3060T83	22.12

U-Bolts

Black-oxide steel U-bolts offer some corrosion resistance. **Zinc-plated steel** U-bolts have good corrosion resistance in most environments. **Galvanized steel** U-bolts have better corrosion resistance than black-oxide and zinc-plated steel. **304 stainless steel** U-bolts offer excellent corrosion resistance. All come with hex nuts.

Add an optional **mounting plate** for a more secure hold at the mounting surface.

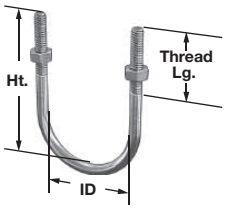

					U-Bolts					Mounting Plates					
ID	For Pipe Size	Ht.	Thread Lg.	Cap., lbs.		Steel	Black-Oxide Steel	Zinc-Plated Steel	Galv. Steel	304 SS		Steel	Black-Oxide Steel	Zinc-Plated Steel	Galv. Steel	304 SS
1/4"-20 Thread Size																
9/16"	1/4	1 1/4"	3/4"	425	3043T211	—	$0.66	$0.47	$0.66	$2.30	8875T951	—	$0.21	$0.18	$0.21	$1.16
3/4"	3/8	1 1/4"	5/8"	425	3043T212	—	.72	.47	.68	2.35	8875T952	—	.21	.18	.21	1.29
3/4"	3/8	2 1/4"	1 1/2"	425	3043T213	—	.75	.55	.77	2.60	8875T953	—	.21	.18	.21	1.29
7/8"	1/2	2 15/16"	2 1/2"	425	8880T51	$0.80	—	1.27	1.80	4.48	8875T983	$0.18	—	—	.21	1.37
1"	1/2	1 3/4"	1"	425	3043T214	—	.78	.59	.77	2.64	8875T954	—	.21	.19	.21	1.37
1 1/8"	3/4	2"	1"	425	3043T215	—	.80	.62	.81	2.77	8875T955	—	.25	.21	.26	1.57
1 1/8"	3/4	3 3/16"	2 1/2"	425	8880T52	.84	—	1.30	1.84	4.55	8875T984	.20	—	.21	.26	1.57
1 1/4"	3/4	2 1/4"	1 1/4"	425	3043T216	—	.81	.65	.84	3.07	—	—	—	—	—	—
1 3/8"	1	3 7/16"	2 1/2"	425	8880T53	.91	—	1.36	1.93	4.69	8875T985	.25	—	—	.29	1.72
1 1/2"	1	2 3/4"	1 3/8"	425	3043T217	—	.85	.68	.88	3.16	8875T957	—	.28	.25	.28	1.72
1 3/4"	1 1/4	3"	1 3/8"	425	3043T218	—	.88	.72	.92	3.24	8875T958	—	.30	.28	.29	1.87
2"	1 1/2	3 1/4"	1 3/8"	425	3043T219	—	.90	.74	.97	3.43	8875T961	—	.32	.28	.31	1.93
5/16"-18 Thread Size																
15/16"	1/2	2 7/16"	1 1/2"	600	8880T54	1.24	—	1.71	1.88	6.25	—	—	—	—	—	—
1"	1/2	2 3/16"	1 3/8"	600	3043T221	—	.95	.77	1.14	3.53	8875T962	—	.25	.21	—	1.55
1 1/8"	3/4	2 3/4"	1 1/2"	600	8880T55	1.27	—	1.78	1.96	6.55	—	—	—	—	—	—
1 3/8"	1	2 3/16"	1"	600	3043T222	—	1.02	.78	—	3.60	8875T963	—	.30	.26	—	1.81
1 7/16"	1	3 1/16"	1 1/2"	600	8880T56	1.29	—	1.83	2.01	6.83	—	—	—	—	—	—
1 1/2"	1	2 3/16"	1"	600	3043T223	—	1.04	.79	1.15	3.69	8875T964	—	—	—	.29	1.87
1 3/4"	1 1/4	2 11/16"	1 1/8"	600	3043T224	—	1.10	.87	1.23	4.14	8875T965	—	.31	.26	—	1.98
1 3/4"	1 1/4	3 3/16"	1 1/2"	600	8880T57	1.31	—	1.91	2.10	7.05	—	—	—	—	—	—
2"	1 1/2	2 11/16"	1"	600	3043T225	—	1.14	.92	1.27	4.26	8875T966	—	.36	.31	—	2.13
2"	1 1/2	3 1/2"	1 1/2"	600	8880T58	1.34	—	1.98	2.18	7.38	—	—	—	—	—	—
2 1/2"	2	3 3/16"	1"	600	3043T226	—	1.23	.94	1.33	4.64	8875T967	—	.41	.36	.39	2.47
3"	2 1/2	3 11/16"	1"	600	3043T227	—	1.29	1.02	1.40	5.06	8875T968	—	.44	.38	.44	2.69
3/8"-16 Thread Size																
15/16"	1/2	3"	2 3/8"	1,075	8880T61	1.44	—	1.73	2.45	7.07	8875T986	.38	—	.39	.47	3.02
1"	1/2	2 1/4"	1 1/4"	1,075	3043T231	—	1.31	.99	1.46	5.16	8875T969	—	.45	.39	.47	3.02
1 1/8"	3/4	3 5/16"	2 3/8"	1,075	8880T62	1.48	—	1.76	2.49	7.23	8875T987	.45	—	—	.47	—
1 1/4"	3/4	2 1/4"	1 1/4"	1,075	3043T232	—	1.34	1.03	1.50	5.26	8875T971	—	.50	.44	.50	3.15
1 3/8"	1	3 7/16"	2 3/8"	1,075	8880T63	1.52	—	1.79	2.54	7.41	8875T988	.46	—	—	.50	2.99
1 1/2"	1	2 1/2"	1 1/4"	1,075	3043T233	—	1.41	1.08	1.57	5.56	8875T972	—	.52	.46	.53	3.72
1 11/16"	1 1/4	3 3/4"	2 3/8"	1,075	8880T64	1.56	—	1.81	2.46	7.62	8875T989	.49	—	.50	.59	4.17
1 3/4"	1 1/4	2 3/4"	1 1/8"	1,075	3043T234	—	1.42	1.14	1.65	5.72	8875T973	—	.57	.50	.59	4.17
2"	1 1/2	2 5/8"	1 1/4"	1,075	3043T235	—	1.46	1.18	1.71	5.89	8875T974	—	.65	.55	.66	4.21
2"	1 1/2	4"	2 1/2"	1,075	8880T65	1.62	—	1.92	2.68	7.44	8875T991	.53	—	.55	.66	4.21
2 7/16"	2	4 7/16"	2 1/2"	1,075	8880T66	1.72	—	1.90	2.90	8.27	8875T992	.61	—	.64	.75	4.85
2 1/2"	2	3 1/8"	1 1/4"	1,075	3043T236	—	1.55	1.20	1.73	6.05	8875T975	—	.75	.64	.75	4.85
2 1/2"	2	4 5/16"	1 3/4"	1,075	8880T67	2.56	—	3.07	3.37	9.80	8875T997	—	—	.64	—	4.85
3"	2 1/2	3 5/8"	1 1/4"	1,075	3043T237	—	1.67	1.34	1.82	6.43	8875T976	—	.83	.71	.81	5.00
3"	2 1/2	4 13/16"	1 3/4"	1,075	8880T68	2.66	—	3.20	3.52	10.23	8875T998	—	—	.71	.81	5.00
3 1/2"	3	4 1/8"	1 1/4"	1,075	3043T238	—	1.88	1.45	1.96	6.86	8875T977	—	.92	.76	.86	5.51
3 5/8"	3	5 3/8"	1 3/4"	1,075	8880T69	2.78	—	3.33	3.66	11.35	—	—	—	—	—	—
4 1/8"	3 1/2	5 13/16"	1 3/4"	1,075	8880T71	2.83	—	3.43	3.78	12.13	—	—	—	—	—	—
4 5/8"	4	6 1/2"	1 3/4"	1,075	8880T72	2.96	—	3.60	3.96	13.13	—	—	—	—	—	—
1/2"-13 Thread Size																
2 15/16"	2 1/2	5 1/4"	3"	2,000	8880T73	3.22	—	3.37	5.13	15.31	8875T993	.74	—	.76	.92	4.85
3"	2 1/2	4 1/2"	1 5/8"	2,000	3043T241	—	3.48	3.20	3.78	12.05	8875T978	—	.89	.76	.92	4.85
3 1/2"	3	5"	1 1/2"	2,000	3043T242	—	3.95	3.42	4.17	13.26	8875T979	—	—	.83	.94	6.65
3 9/16"	3	5 3/4"	3"	2,000	8880T74	3.38	—	3.48	5.31	16.37	8875T994	.88	—	.90	.99	6.65
4"	3 1/2	5 1/2"	1 1/2"	2,000	3043T243	—	4.21	3.69	4.55	15.95	8875T981	—	1.05	.90	1.03	7.36
4 1/16"	3 1/2	6 1/4"	3"	2,000	8880T75	3.78	—	4.50	6.46	18.35	8875T995	.93	—	.95	1.09	7.36
4 1/2"	4	6"	1 1/2"	2,000	3043T244	—	4.74	4.15	5.13	16.10	8875T982	—	1.16	.98	1.13	6.27
4 9/16"	4	6 3/4"	3"	2,000	8880T76	3.81	—	4.53	6.53	19.06	8875T996	.96	—	.98	1.19	6.27
5 5/8"	5	7 1/4"	2"	2,000	3043T245	—	5.90	5.68	7.38	19.64	—	—	—	—	—	—
5 5/8"	5	7 13/16"	3"	2,000	8880T77	4.83	—	5.36	7.47	23.80	—	—	—	—	—	—
6 3/4"	6	8 3/8"	2"	2,000	3043T246	—	7.02	6.08	8.16	26.51	—	—	—	—	—	—
8 3/4"	8	10 3/8"	2"	2,000	3043T247	—	7.98	6.97	9.38	29.98	—	—	—	—	—	—
5/8"-11 Thread Size																
6 3/4"	6	9 1/2"	3 3/4"	3,225	3043T296	—	16.78	12.20	11.50	44.96	—	—	—	—	—	—
8 3/4"	8	11 1/8"	3 3/4"	3,225	3043T297	—	19.33	13.80	15.83	50.72	—	—	—	—	—	—
3/4"-10 Thread Size																
10 7/8"	10	13 13/16"	4"	4,825	3043T285	—	35.82	25.29	29.00	97.46	—	—	—	—	—	—
7/8"-9 Thread Size																
12 7/8"	12	16 1/16"	4 1/4"	6,725	3043T292	—	49.11	33.89	38.84	163.72	—	—	—	—	—	—
14 1/8"	14	17 5/16"	4 1/4"	6,725	3043T293	—	54.20	37.87	43.38	188.39	—	—	—	—	—	—
16 1/8"	16	19 5/16"	4 1/4"	6,725	3043T294	—	60.20	41.87	47.93	204.26	—	—	—	—	—	—
1"-8 Thread Size																
18 1/8"	18	21 11/16"	4 3/4"	8,850	3043T295	—	87.27	57.56	65.56	—	—	—	—	—	—	—

Aluminum and 316 Stainless Steel U-Bolts

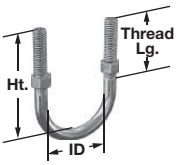

Aluminum U-bolts are lightweight and corrosion resistant. **316 stainless steel** U-bolts are the most corrosion resistant.

Add an optional **mounting plate** for a more secure hold at the mounting surface.

ID	For Pipe Size	Ht.	Thread Lg.	U-Bolts		Mounting Plates	
Aluminum							
¼"-20 Thread Size—Capacity is 200 lbs.							
¾"	⅜	1¼"	⅝"	3035T11	$2.54	3035T65	$2.01
1"	½	1¾"	1"	3035T12	2.68	3035T66	2.07
1⅛"	¾	2"	1"	3035T13	2.78	3035T67	2.11
1½"	1	2¾"	1⅜"	3035T14	2.99	3035T68	2.24
1¾"	1¼	3"	1⅜"	3035T15	3.12	3035T69	2.31
2"	1½	3¼"	1⅜"	3035T16	3.22	3035T71	2.38
5⁄16"-18 Thread Size—Capacity is 425 lbs.							
2½"	2	3⅜6"	1"	3035T19	4.36	3035T72	2.88
3"	2½	3 11⁄16"	1"	3035T55	4.60	3035T73	3.02
⅜"-16 Thread Size—Capacity is 625 lbs.							
3½"	3	4⅛"	1¼"	3035T24	6.89	3035T74	4.63
½"-13 Thread Size—Capacity is 1,000 lbs.							
4½"	4	6"	1½"	3035T26	19.94	3035T75	5.26
316 Stainless Steel							
¼"-20 Thread Size—Capacity is 475 lbs.							
⅞"	½	3¼"	2⅛"	29605T41	4.17	29605T53	3.88
1⅛"	¾	3 5⁄16"	2⅛"	29605T42	4.36	29605T54	3.99
1⅜"	1	3 7⁄16"	2⅛"	29605T43	4.44	29605T55	4.00
5⁄16"-18 Thread Size—Capacity is 950 lbs.							
15⁄16"	½	2 7⁄16"	1½"	29605T1	5.83	29605T21	3.89
1⅛"	¾	2¾"	1½"	29605T2	5.94	29605T22	3.98
1 7⁄16"	1	3 1⁄16"	1½"	29605T3	6.12	29605T23	4.06
1¾"	1¼	3⅜6"	1½"	29605T4	6.33	29605T24	4.16
2"	1½	3½"	1½"	29605T5	6.55	29605T25	4.25
⅜"-16 Thread Size—Capacity is 1,200 lbs.							
1 11⁄16"	1¼	3¾"	2⅛"	29605T44	6.90	29605T56	5.20
2"	1½	4"	2½"	29605T45	9.99	29605T57	5.30
2½"	2	4 5⁄16"	1¾"	29605T6	9.06	29605T26	5.89
3"	2½	4 13⁄16"	1¾"	29605T7	9.74	29605T27	6.29
3⅝"	3	5⅜"	1¾"	29605T8	10.44	29605T28	6.84
4⅛"	3½	5 13⁄16"	1¾"	29605T9	11.01	—	—
4⅝"	4	6½"	1¾"	29605T11	11.82	29605T31	7.69
½"-13 Thread Size—Capacity is 2,250 lbs.							
2 15⁄16"	2½	5¼"	3"	29605T46	19.50	29605T58	7.88
3 9⁄16"	3	5 13⁄16"	3"	29605T47	21.47	29605T59	8.55
4 1⁄16"	3½	6 5⁄16"	3"	29605T48	24.19	29605T61	9.07
4 9⁄16"	4	6 13⁄16"	3"	29605T49	24.94	29605T62	9.58
5⅝"	5	7¾"	3"	29605T12	25.73	29605T32	18.13
⅝"-11 Thread Size—Capacity is 3,550 lbs.							
6¾"	6	9½"	3½"	29605T13	47.82	29605T33	32.22
8¾"	8	11½"	3¾"	29605T14	70.15	29605T34	38.86
¾"-10 Thread Size—Capacity is 5,250 lbs.							
10⅞"	10	13¾"	4"	29605T15	110.02	29605T35	54.03
⅞"-9 Thread Size—Capacity is 7,500 lbs.							
12⅞"	12	16"	4¼"	29605T16	163.64	29605T36	74.69
14⅛"	14	17⅜"	4¼"	29605T51	251.61	29605T63	109.99
16⅛"	16	19⅜"	4¼"	29605T52	357.59	29605T64	114.05

Nonconductive U-Bolts

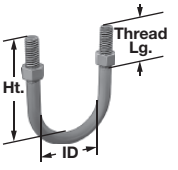

Made of polyurethane, these U-bolts have no metal parts to conduct electricity or cause metal-to-metal corrosion. They are abrasion, chemical, and UV resistant. All come with two polyurethane hex nuts. Color is gray. Temperature range is –40° to 150° F.

ID	For Pipe Size	Cap., lbs.	Ht.	Thread Lg.		
⅜"-16 Thread Size						
15⁄16"	½	75	2 1⁄16"	1¼"	30485T21	$3.48
1⅛"	¾	75	2¼"	1¼"	30485T22	3.60
1⅜"	1	75	2½"	1¼"	30485T23	3.75
1 11⁄16"	1¼	75	2 13⁄16"	1¼"	30485T24	3.91
2"	1½	75	3⅛"	1¼"	30485T25	4.93
½"-13 Thread Size						
2 7⁄16"	2	150	3 11⁄16"	1½"	30485T26	7.03
2 15⁄16"	2½	150	4 3⁄16"	1½"	30485T27	7.65
3 9⁄16"	3	150	4 13⁄16"	1½"	30485T28	8.27
4 1⁄16"	3½	150	5⅜"	1½"	30485T29	8.36
4 9⁄16"	4	150	5 7⁄8"	1½"	30485T31	8.98

Rubber-Cushioned U-Bolts

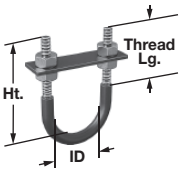

Prevent your pipe, conduit, and tubing from vibrating and reduce corrosion caused by metal-to-metal contact with these cushioned U-bolts. Cushion is black. All come with four hex nuts and a rubber mounting plate. Temperature range is –67° to 250° F.

Galvanized steel U-bolts have good corrosion resistance in most environments. **304 stainless steel** U-bolts offer excellent corrosion resistance.

Note: Not rated for capacity.

ID	For Pipe Size	Ht.	Thread Lg.	Galvanized Steel		304 Stainless Steel	
¼"-20 Thread Size							
1"	¾	3⅛"	2½"	30555T31	$5.06	30555T41	$7.78
1¼"	1	3⅜"	2½"	30555T32	5.13	30555T42	7.81
⅜"-16 Thread Size							
1⅝"	1¼	3 11⁄16"	2½"	30555T23	7.40	30555T53	9.85
1⅞"	1½	3 15⁄16"	2½"	30555T33	7.54	30555T43	12.53
2⅜"	2	4 7⁄16"	2½"	30555T34	7.87	30555T44	13.71
½"-13 Thread Size							
2⅞"	2½	5 3⁄16"	3"	30555T35	10.09	30555T45	17.24
3½"	3	5¾"	3"	30555T36	10.62	30555T46	21.41
4½"	4	6¾"	3"	30555T37	12.11	30555T47	24.34
5½"	5	7¾"	3"	30555T24	13.60	30555T54	28.47
⅝"-11 Thread Size							
6⅝"	6	9 7⁄16"	3¾"	30555T38	17.44	30555T48	38.72
8⅝"	8	11½"	3¾"	30555T39	20.41	30555T49	54.72
¾"-10 Thread Size							
10¾"	10	13¾"	4"	30555T21	27.96	30555T51	66.07
⅞"-9 Thread Size							
12¾"	12	16"	4¼"	30555T22	39.17	30555T52	107.42

Vibration-Damping U-Bolts

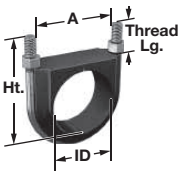

Reduce vibration and noise in your lines—a black plastic cushion grips pipe, tubing, and conduit tightly to prevent movement. All come with two nylon-insert locknuts. Temperature range is –50° to 270° F.

Zinc-plated steel U-bolts have good corrosion resistance in most environments.

316 stainless steel U-bolts are the most corrosion resistant.

ID	For Pipe Size	Ht.	Thread Lg.	(A)	Zinc-Plated Steel		316 Stainless Steel	
¼"-20 Thread Size—Capacity is 475 lbs.								
13⁄16"	½	1 15⁄16"	1"	1 5⁄16"	3176T31	$5.75	3176T11	$12.51
⅞"	—	1 15⁄16"	1"	1 5⁄16"	3176T45	5.61	3176T49	12.41
1"	½	2⅛"	1"	1½"	3176T46	5.98	3176T5	12.78
1 1⁄16"	¾	2⅛"	1"	1½"	3176T32	6.05	3176T12	12.95
1¼"	—	2⅜"	1"	1¾"	3176T47	6.13	3176T51	13.38
1 5⁄16"	1	2⅜"	1"	1¾"	3176T33	6.25	3176T13	13.43
1⅜"	—	2 7⁄16"	1"	1¾"	3176T48	6.26	3176T52	13.69
⅜"-16 Thread Size—Capacity is 1,200 lbs.								
1 11⁄16"	1¼	2 15⁄16"	1¼"	2⅛"	3176T34	7.59	3176T14	17.95
1⅞"	1½	3⅜6"	1¼"	2⅜"	3176T35	8.17	3176T15	18.46
2⅜"	2	3 11⁄16"	1¼"	2 15⁄16"	3176T36	8.85	3176T16	19.06
½"-13 Thread Size—Capacity is 2,250 lbs.								
2⅞"	2½	4 7⁄16"	1 7⁄16"	3⅜"	3176T37	10.95	3176T17	31.19
3½"	3	5 1⁄16"	1 7⁄16"	4"	3176T38	12.11	3176T18	33.25
4"	3½	5¾"	1½"	4½"	3176T39	14.50	3176T19	38.29
4½"	4	6 3⁄16"	1½"	5"	3176T41	15.35	3176T21	41.09
5 9⁄16"	5	7 5⁄16"	1⅝"	6"	3176T42	21.81	3176T22	48.55
⅝"-11 Thread Size—Capacity is 3,600 lbs.								
6⅝"	6	8¾"	2"	7⅛"	3176T43	30.37	3176T23	79.71
8⅝"	8	10¾"	2"	9 3⁄16"	3176T44	43.74	3176T24	101.60

Strut-Style Supports



Place these supports on any horizontal surface to secure pipe, conduit, and tubing with strut-mount clamps. The zinc-plated steel channel on top works with clamps that fit a 1⅝" wide strut channel. Supports have a black plastic base. Base is weighted for stability without mounting. Temperature range is -40° to 150° F.

Base Lg.	Base Wd.	Base Ht.	Cap., lbs.	Strut Lg.	Strut Ht.			
10⅜"	4"	4"	50	10⅞"	13⁄16"	3253T43	$24.80
10⅜"	4¾"	6"	50	10⅞"	13⁄16"	3253T44	30.32

Clamping U-Bolts

The rounded mounting plate on these U-bolts fully surrounds pipe, conduit, and tubing for a more secure fit than other U-bolts. They are also known as muffler clamps.

Inch U-bolts come with two hex nuts. Not rated for temperature.

Metric U-bolts come with four hex nuts. Temperature range is –22° to 194°F.

Zinc-plated steel U-bolts have good corrosion resistance in most environments. **Chrome-plated steel** U-bolts are more corrosion resistant than zinc-plated steel. **304 stainless steel** U-bolts offer excellent corrosion resistance.

Note: Not rated for capacity.

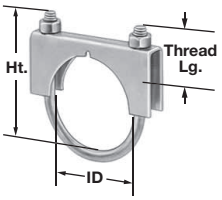

ID	Ht.	Thread Lg.		Steel	Zinc-Plated Steel	Chrome-Plated Steel	304 Stainless Steel
Inch							
5/16"-18 Thread Size							
1 5/16"	2 1/16"	1"	3042T111	$1.47	$1.61	$3.76	
1 7/16"	2 1/8"	1"	3042T112	1.46	1.66	3.80	
1 9/16"	2 5/16"	1"	3042T113	1.49	1.68	3.84	
1 5/8"	2 1/2"	1"	3042T114	1.54	1.71	3.88	
1 3/4"	2 9/16"	1"	3042T115	1.56	1.75	3.60	
1 7/8"	2 7/8"	1"	3042T116	1.59	1.80	3.72	
2"	2 15/16"	1"	3042T117	1.61	1.84	3.78	
2 1/8"	3 1/16"	1"	3042T118	1.63	1.86	4.30	
2 3/16"	3 1/8"	1"	3042T119	1.72	1.91	4.30	
2 3/8"	3 5/16"	1"	3042T121	1.74	1.95	4.36	
2 5/8"	3 9/16"	1 1/4"	3042T122	1.79	1.98	4.34	
3/8"-16 Thread Size							
2 1/8"	3 11/16"	1 1/2"	3042T123	2.17	2.52	6.15	$7.12
2 3/8"	3 13/16"	1 1/2"	3042T124	2.24	2.67	6.21	7.82
2 5/8"	4 1/16"	1 1/2"	3042T125	2.30	2.76	6.29	8.45
2 7/8"	4 5/16"	1 1/2"	3042T126	2.35	2.82	6.37	8.98
3 1/8"	4 9/16"	1 1/2"	3042T127	2.43	2.88	6.42	9.39
3 3/8"	4 13/16"	1 1/2"	3042T128	2.53	2.98	6.50	10.01
3 5/8"	5 1/16"	1 1/2"	3042T129	2.58	3.04	6.58	10.61
4 1/8"	5 7/8"	1 1/2"	3042T131	2.67	3.13	6.68	11.52
4 5/8"	6 3/16"	1 1/2"	3042T132	2.79	3.21	6.74	14.71
5 1/8"	6 13/16"	1 1/2"	3042T133	3.36	3.98	7.28	15.72
5 5/8"	7 1/8"	1 1/2"	3042T134	3.47	4.13	7.46	15.98
6 1/8"	7 1/2"	1 1/2"	3042T135	3.59	4.44	7.78	16.96
Metric							
M10×1.5 Thread Size							
1 1/8"	2 3/8"	1 5/8"	3066T31	—	6.73	—	—
1 1/2"	2 9/16"	1 5/8"	3066T32	—	8.55	—	—
1 3/4"	3"	2"	3066T33	—	8.99	—	—
2"	3 1/4"	2"	3066T34	—	8.01	—	—
M12×1.75 Thread Size							
2 1/2"	3 13/16"	2 3/8"	3066T35	—	9.48	—	—
3 1/4"	4 1/2"	2 3/8"	3066T36	—	13.14	—	—
3 11/16"	5"	2 3/8"	3066T37	—	14.37	—	—
M16×2 Thread Size							
4 11/16"	6 1/8"	3 3/16"	3066T38	—	20.62	—	—
5 13/16"	6 15/16"	3 3/16"	3066T59	—	21.61	—	—
6 7/8"	7 15/16"	3 3/16"	3066T41	—	38.26	—	—

Adjustable-Height Strut-Style Supports

Adjust supports to the exact height you need to route pipe, conduit, and tubing. They have a 1 5/8" Wd.×13/16" Ht. galvanized steel strut channel for use with strut-mount clamps. Supports have galvanized steel threaded rods and a black plastic base. Base is weighted for stability without mounting. Fits up to pipe size 2 1/2, unless noted. Temperature range is –30° to 180°F.

Support with strut channel and loop hanger has a galvanized steel hanger.

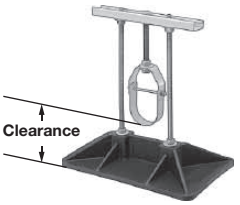

With Strut Channel and Loop Hanger

Strut Lg.	Cap., lbs.	Base Lg.	Base Wd.	Base Thick.	For Max. OD	Clearance		
With Strut Channel								
8"	100	8"	10"	2 1/2"	3"	3 1/2"-10"	8487T15	$37.64
12"	150	16"	10"	3"	4 1/8"	4 1/2"-12"	8487T16★	58.25
With Strut Channel and Loop Hanger								
12"	150	16"	10"	3"	3"	3"-6"	8487T18	68.07

★ Fits up to 3 1/2 pipe size.

Floor-Mount Supports

Set supports at the height you need. To install, add a pipe size 2 steel extension pipe (not included) that is approximately 4" shorter than the desired height. Tack weld extension pipe to the base and support, then bolt the base to the floor. Fine-tune the overall height using the adjustment screw. Height adjustment range is 7" to 10".

Clamp-Style

The clamp fully surrounds pipe and conduit to reduce vibration and provide a secure hold. Clamp has a black rubber cushion.

Supports for pipe sizes 2 and 3 have a 6" Lg.×4" Wd.×1/4" Thick base with two mounting holes; Supports for pipe sizes 4 to 12 have an 8" Lg.×8" Wd.×1/4" Thick base with four mounting holes.

Temperature range is –70° to 200°F. Capacity is 10,000 lbs.

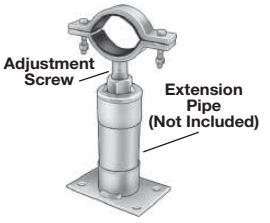

For OD	For Pipe Size	Clamp Thick.	Galvanized Steel		304 Stainless Steel	
2 3/8"	2	3/8"	8427T69	$139.35	8427T826	$264.68
3 1/2"	3	3/8"	8427T71	139.35	8427T827	270.17
4 1/2"	4	1/2"	8427T72	152.82	8427T828	334.08
6 5/8"	6	1/2"	8427T73	156.20	8427T829	351.31
8 5/8"	8	1/2"	8427T74	160.39	8427T831	351.31
10 3/4"	10	1/2"	8427T75	165.45	8427T832	369.63
12 3/4"	12	1/2"	8427T76	173.92	8427T833	391.59
36" Extension Pipe					7750K396	48.77
60" Extension Pipe					7750K436	81.27

Saddle-Style

Support has an open design for access to your pipe and conduit after installation. Cushion is black rubber.

Supports for pipe sizes 2 and 3 have a 6" Lg.×4" Wd.×1/4" Thick base with two mounting holes; supports for pipe sizes 4 to 12 have an 8" Lg.×8" Wd.×1/4" Thick base with four mounting holes.

Temperature range is –70° to 200°F. Capacity is 10,000 lbs.

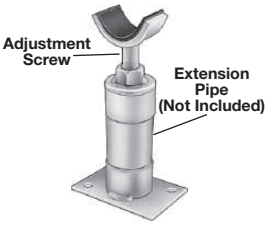

For OD	For Pipe Size	Saddle Wd.	Saddle Thick.	Galvanized Steel		304 Stainless Steel	
2 3/8"	2	2"	3/8"	8427T21	$92.52	8427T818	$183.85
3 1/2"	3	2"	3/8"	8427T23	92.52	8427T819	186.59
4 1/2"	4	2"	1/2"	8427T24	111.95	8427T821	227.15
6 5/8"	6	2"	1/2"	8427T25	111.95	8427T822	233.72
8 5/8"	8	2"	1/2"	8427T26	111.95	8427T823	240.34
10 3/4"	10	2"	1/2"	8427T27	130.05	8427T824	252.78
12 3/4"	12	2"	1/2"	8427T28	130.88	8427T825	259.19
36" Extension Pipe						7750K396	48.77
60" Extension Pipe						7750K436	81.28

Flange-Style

Bolt directly to the pipe flange on ANSI Class 125 pipe for support.

Base is 6" Lg.×4" Wd.×1/4" Thick with two mounting holes. The flange plate is 1/4" Thick.

Capacity is 10,000 lbs.

Note: Not rated for temperature.

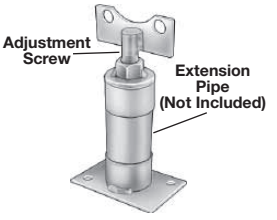

For OD	For Pipe Size	Flange Plate Hole Ctr.-to-Ctr.	Flange Plate Hole Dia.	Galvanized Steel		304 Stainless Steel	
2 3/8"	2	3 3/8"	3/4"	8427T61	$99.74	8427T811	$205.07
3 1/2"	3	4 1/4"	3/4"	8427T63	99.74	8427T812	205.07
4 1/2"	4	2 7/8"	3/4"	8427T64	99.74	8427T813	205.07
6 5/8"	6	3 5/8"	7/8"	8427T65	99.74	8427T814	205.07
8 5/8"	8	4 1/2"	7/8"	8427T66	99.74	8427T815	205.07
10 3/4"	10	3 11/16"	1"	8427T67	107.65	8427T816	228.95
12 3/4"	12	4 3/8"	1"	8427T68	107.65	8427T817	228.95
36" Extension Pipe						7750K396	48.77
60" Extension Pipe						7750K436	81.28

Beam Clamps for Threaded Rod


A


B


C


D


E


F


G


H


J

Designed for use on flat or tapered beams, unless noted.
Zinc-plated iron clamps offer some corrosion resistance.
Zinc-plated steel clamps offer good corrosion resistance.
304 stainless steel clamps offer excellent corrosion resistance.
316 stainless steel clamps offer maximum corrosion resistance.
Styles A, B, C, F, and **J**—Clamps have a locknut to prevent loosening.
Styles D, E, and **H**—Clamps have a threaded hole on the side for supporting a hanger or routing ring.
Styles A and **C** meet Fed. Spec. WW-H-171, Type 23 and Manufacturers' Standardization Society MSS-SP-69, Type 23. **Style A** are UL listed and FM approved. **Style C** meet UL 203.
316 stainless steel Style B meet ASTM A351 and ASTM F593.
Style F meet Fed. Spec. WW-H-171, Type 19; Manufacturers' Standardization Society MSS-SP-69, Type 19; and UL 203.
Styles G and **H** meet Fed. Spec. WW-H-171, Type 23; Manufacturers' Standardization Society MSS-SP-58, Type 19; and Manufacturers' Standardization Society MSS-SP-58, Type 23.
Style J meet Manufacturers' Standardization Society MSS-SP-69, Type 19 and Manufacturers' Standardization Society MSS-SP-69, Type 23. **Zinc-plated iron Style J** meet UL 203; **304 stainless steel Style J** are UL listed.

	For Threaded Rod Size	Max. Beam Thick.	Throat Dp.	Cap., lbs.		
Bottom Mount						
Iron						
A	3/8"-16	3/4"	3/4"	400	3048T51★	$1.65
A	1/2"-13	3/4"	3/4"	500	3048T61★	1.82
A	5/8"-11	3/4"	5/8"	550	3048T43★	4.89
Zinc-Plated Iron						
B	10-24	3/4"	1/2"	275	88715T712	1.26
B	1/4"-20	5/8"	1/2"	275	88715T713	1.33
B	5/16"-18	3/4"	1/2"	525	88715T717	3.77
B	3/8"-16	3/4"	5/8"	750	88715T718	5.43
B	1/2"-13	7/8"	7/8"	900	88715T719	8.13
B	M6×1	1/2"	1/2"	275	3173T2	6.37
B	M8×1.25	1/2"	1/2"	275	3173T4	8.02
B	M10×1.5	3/4"	1/2"	525	3173T5	9.32
Steel						
C	3/8"-16	13/16"	1"	400	29915T81	1.95
C	1/2"-13	13/16"	1 1/16"	500	29915T82	3.80
C	5/8"-11	13/16"	7/8"	550	29915T83	6.17
C	3/4"-10	13/16"	3/4"	600	29915T84	7.04
C	7/8"-9	13/16"	1 1/4"	900	29915T85	20.86
D	3/8"-16	5/8"	7/8"	1,500	3235T81	2.20
D	3/8"-16	7/8"	1 1/16"	1,500	3235T82	2.47
D	1/2"-13	5/8"	15/16"	4,050	3235T83	2.75
D	1/2"-13	7/8"	3/4"	4,050	3235T84	4.15
Zinc-Plated Steel						
E	1/4"-20	1/2"	1/2"	75	3044T1	1.04
E	3/8"-16	3/4"	1/2"	200	3044T2	3.93
304 Stainless Steel						
C	3/8"-16	13/16"	1"	400	3241T38	10.74
C	1/2"-13	13/16"	1 1/16"	500	3241T39	19.55

	For Threaded Rod Size	Max. Beam Thick.	Throat Dp.	Cap., lbs.		
Bottom Mount						
316 Stainless Steel						
B	1/4"-20	3/4"	1/2"	150	29615T1	$16.06
B	3/8"-16	1"	3/4"	750	29615T2	29.97
B	1/2"-13	1"	3/4"	1,100	29615T3	43.92
Top Mount						
Iron						
F	5/8"-11	1 5/16"	3/4"	1,200	3027T95	7.56
F	3/4"-10	1 5/16"	3/4"	1,600	3027T96	10.10
Top/Bottom Mount						
Iron						
G	3/8"-16	13/16"	9/16"	250	3027T87	1.94
G	3/8"-16	1 1/4"	9/16"	250	3027T93	3.18
G	1/2"-13	13/16"	9/16"	750	3027T88	3.17
G	1/2"-13	1 1/4"	9/16"	750	3027T94	4.33
Zinc-Plated Iron						
H	1/4"-20	7/8"	1/2"	100	3027T76	1.88
J	3/8"-16	3/4"	1/2"	400	3027T11	1.94
J	1/2"-13	3/4"	1/2"	500	3027T12	2.41
J	5/8"-11	3/4"	1/2"	600	3027T13	4.73
J	3/4"-10	3/4"	5/8"	800	3027T34	8.40
J	7/8"-9	3/4"	5/8"	1,200	3027T35	9.23
304 Stainless Steel						
J	3/8"-16	3/4"	1/2"	400	3020T1	21.87
J	1/2"-13	3/4"	1/2"	500	3020T2	23.71

★ Designed for use on flat beams only.

Angled Beam Clamps for Threaded Rod



The clamp body wraps around the bottom edge of beams angled at 45° or 90°. Also known as purlin clamps. Clamps are FM approved; and meet UL 2239; Fed. Spec. WW-H-171, Type 23; and Manufacturers' Standardization Society MSS-SP-58, Type 23.
Zinc-plated iron clamp offers some corrosion resistance.

For Threaded Rod Size	Max. Lip Ht. 45°	Max. Lip Ht. 90°	Max. Beam Thick.	Throat Dp.	Cap., lbs.		
Iron							
3/8"-16	2"	1 1/2"	1"	13/16"	400	11365T18	$8.52
Zinc-Plated Iron							
3/8"-16	2"	1 1/2"	1"	13/16"	400	11365T19	10.95

Sloped Beam Clamps for Threaded Rod



Clamp rotates 360° as well as pivots up to 45° to ensure threaded rod hangs straight, even on sloped beams. Designed for use on the bottom of flat or tapered beams. A locknut prevents loosening. Clamps are zinc-plated steel.

For Threaded Rod Size	Max. Beam Thick.	Throat Dp.	Cap., lbs.		
3/8"-16	11/16"	3/4"	325	4725T23	$11.61

Center-Mount Beam Clamps for Threaded Rod





Clamps grip both sides of the beam for a centered and stable load.

Adjustable width clamps have an adjusting screw to fit a range of beam widths. They meet Manufacturers' Standardization Society MSS-SP-58, Type 30.

Fixed width clamps have a hanging bolt that slides through an eye nut for attaching threaded rod (sold separately).

Galvanized steel clamps offer good corrosion resistance. They meet Manufacturers' Standardization Society MSS-SP-69, Type 21 and Fed. Spec. WW-H-171, Type 21.

304 stainless steel clamps offer excellent corrosion resistance. They meet Manufacturers' Standardization Society MSS-SP-58, Type 21 and ASTM A36.

Adjustable Width

For Threaded Rod Size	For Beam Wd.	Max. Beam Thick.	Cap., lbs.		
Iron					
3/8"-16	2"-7"	9/16"	600	3266T43	$13.18
1/2"-13	2"-7"	9/16"	1,125	3266T44	14.15
5/8"-11	2"-7"	9/16"	1,350	3266T45	15.20
3/4"-10	2"-7"	9/16"	1,350	3266T46	16.55
7/8"-9	2"-7"	9/16"	1,350	3266T52	17.38

Fixed Width

Min. Eye Dia.	Max. Beam Wd.	Max. Beam Thick.	Cap., lbs.	Beam Clamps		Eye Nuts Thread Size		
Galvanized Steel								
1/2"	3"	3/8"	700	3045T51	$6.51	5/16"-18	3019T15	$6.16
1/2"	4"	1/2"	700	3045T52	7.17	5/16"-18	3019T15	6.16
1/2"	5"	5/8"	700	3045T53	7.51	5/16"-18	3019T15	6.16
1/2"	6"	3/4"	700	3045T54	7.71	5/16"-18	3019T15	6.16
1/2"	7"	7/8"	700	3045T55	9.23	5/16"-18	3019T15	6.16
5/8"	3"	3/8"	1,000	3045T74	18.49	3/8"-16	3019T16	6.36
5/8"	4"	1/2"	1,000	3045T75	19.84	3/8"-16	3019T16	6.36
5/8"	5"	5/8"	1,000	3045T76	21.38	3/8"-16	3019T16	6.36
5/8"	6"	3/4"	1,000	3045T77	23.16	3/8"-16	3019T16	6.36
5/8"	7"	7/8"	1,000	3045T78	24.08	3/8"-16	3019T16	6.36
5/8"	8"	7/8"	1,000	3045T79	25.27	3/8"-16	3019T16	6.36
3/4"	4"	1/2"	3,000	3045T81	24.69	5/8"-11	3019T19	7.56
3/4"	5"	5/8"	3,000	3045T82	26.14	5/8"-11	3019T19	7.56
3/4"	6"	3/4"	3,000	3045T83	27.69	5/8"-11	3019T19	7.56
3/4"	7"	7/8"	3,000	3045T84	29.46	5/8"-11	3019T19	7.56
3/4"	8"	7/8"	3,000	3045T85	30.08	5/8"-11	3019T19	7.56
304 Stainless Steel								
1/2"	3"	3/8"	700	3086T31	12.62	5/16"-18	3061T15	16.78
1/2"	4"	1/2"	700	3086T32	13.17	5/16"-18	3061T15	16.78
1/2"	5"	5/8"	700	3086T33	13.70	5/16"-18	3061T15	16.78
1/2"	6"	3/4"	700	3086T34	14.13	5/16"-18	3061T15	16.78
1/2"	7"	7/8"	700	3086T35	14.58	5/16"-18	3061T15	16.78

Press-Fit Beam Clamps for Threaded Rod





Hammer clamps onto the top or bottom of a flat or tapered beam. Clamps are steel.

For Threaded Rod Size	For Beam Thick.	Cap., lbs.		
1/4"-20	1/8"-1/4"	150	11715T81	$0.91
1/4"-20	5/16"-1/2"	150	11715T82	.93
1/4"-20	9/16"-3/4"	150	11715T83	1.24
3/8"-16	1/8"-1/4"	150	11715T84	.93
3/8"-16	5/16"-1/2"	150	11715T85	.95
3/8"-16	9/16"-3/4"	150	11715T86	1.30

Beam Clamps for Hooks and Hangers

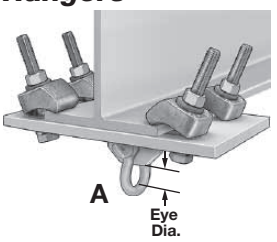

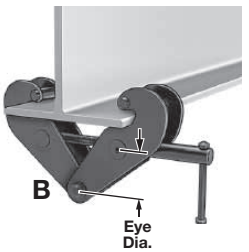

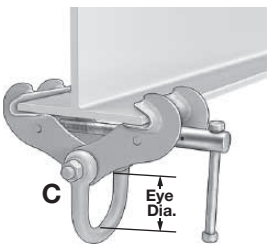

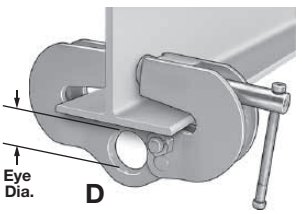

Designed for use on flat or tapered beams. Clamps are steel.

Style A clamps fit in low-headroom areas. Two bolts with spacers grip each side of the beam. Minimum beam thickness is 1/8". Note: Capacity applies only for vertical loads.

Style B-C clamps have a T-handle for quick and easy attachment and removal. Note: Capacity applies only to vertical loads.

Style D clamps grip the sides and center of the beam for securely hanging equipment such as chain hoists and slings that pull down at any angle from the eye. They have a T-handle for quick and easy attachment and removal. Note: Capacity applies to loads 0° to 90° from vertical.

	For Beam Wd.	Max. Beam Thick.	Eye Dia.	Cap., lbs.		
A	4"-8"	15/16"	1 3/16"	5,000	8821T11	$237.22
A	8"-12"	1 1/8"	1 3/16"	5,000	8821T12	261.93
A	12"-16"	1 13/16"	1 3/16"	5,000	8821T13	292.68
A	16"-20"	1 13/16"	1 3/16"	5,000	8821T14	343.93
B	3"-9"	13/16"	2 7/8"	2,000	8941T71	91.64
B	3"-9"	13/16"	2 7/8"	4,000	8941T72	104.09
B	3 1/4"-12 1/2"	1 5/16"	4 1/16"	6,000	8941T73	157.69
B	3 5/8"-12 1/8"	1 5/16"	3 1/2"	10,000	8941T74	197.12
B	3 5/8"-12 1/2"	1 3/8"	5 3/16"	20,000	8941T75	314.33
C	3"-7 1/2"	7/8"	3 3/4"	4,475	8941T25	236.04
C	3"-7 1/2"	7/8"	3 3/4"	6,700	8941T26	331.05
C	3"-7 1/2"	7/8"	4 1/8"	11,200	8941T18	574.12
C	3 1/2"-12"	1"	3 3/4"	6,700	8941T27	585.10
C	3 1/2"-12"	1"	4 1/2"	11,200	8941T16	702.92
C	6"-10"	7/8"	3 7/8"	8,950	8941T13	484.00
C	6"-12"	1 5/8"	4 1/8"	11,200	8941T42	618.24
C	8"-18"	1 5/8"	4 1/8"	13,425	8941T14	777.80
D	6"-8"	1"	2 5/8"	6,700	8941T62	947.66
D	6"-12"	1"	2 7/8"	11,200	8941T63	1,296.01

Beam Clamps for Pipe, Tube, and Conduit

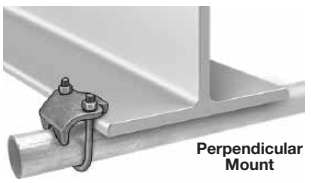

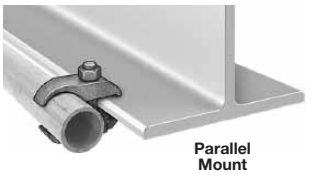

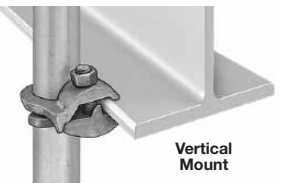

Designed for use on the top or bottom of flat or tapered beams.
316 stainless steel clamps meet ASTM A351; ASTM A193 B8M, Class 1; and ASTM F593.
Galvanized iron clamps are not rated for capacity.

For OD	For Pipe/Rigid Conduit Size	For Beam Thick.	Throat Dp.	Cap., lbs.		
Perpendicular Mount						
Galvanized Iron						
5/8"	3/8	1/8"-3/4"	7/16"	—	29585T81	$10.14
13/16"	1/2	1/8"-3/4"	7/16"	—	29585T82	11.22
1"	3/4	1/8"-3/4"	7/16"	—	29585T83	11.70
1 5/16"	1	1/8"-3/4"	7/16"	—	29585T84	12.81
1 5/8"	1 1/4	1/8"-3/4"	7/16"	—	29585T85	14.19
1 7/8"	1 1/2	1/8"-3/4"	7/16"	—	29585T86	16.27
2 3/8"	2	1/8"-3/4"	7/16"	—	29585T87	19.22
2 7/8"	2 1/2	1/8"-3/4"	7/16"	—	29585T88	21.80
3 1/2"	3	1/8"-3/4"	7/16"	—	29585T89	23.58
4"	3 1/2	1/8"-3/4"	7/16"	—	29585T91	30.10
4 1/2"	4	1/8"-3/4"	7/16"	—	29585T92	32.92
316 Stainless Steel						
13/16"	1/2	1/8"-3/4"	—	150	29585T1	18.90
1"	3/4	1/8"-3/4"	—	150	29585T2	20.62
1 5/16"	1	1/8"-3/4"	—	200	29585T3	21.00
1 5/8"	1 1/4	1/8"-3/4"	—	225	29585T4	26.40
1 7/8"	1 1/2	1/8"-3/4"	—	250	29585T5	30.69
2 3/8"	2	1/8"-3/4"	—	500	29585T6	39.73
2 7/8"	2 1/2	1/8"-3/4"	—	500	29585T7	47.61
3 1/2"	3	1/8"-3/4"	—	500	29585T8	55.15
4"	3 1/2	1/8"-3/4"	—	600	29585T9	58.65
4 1/2"	4	1/8"-3/4"	—	700	29585T11	63.40

For OD	For Pipe/Rigid Conduit Size	For Beam Thick.	Throat Dp.	Cap., lbs.		
Parallel Mount						
Galvanized Iron						
13/16"	1/2	1/8"-3/4"	7/16"	—	8868T61	$16.43
1"	3/4	1/8"-3/4"	7/16"	—	8868T62	17.86
1 5/16"	1	1/8"-3/4"	7/16"	—	8868T63	19.35
1 5/8"	1 1/4	1/8"-3/4"	7/16"	—	8868T64	20.88
1 7/8"	1 1/2	1/8"-3/4"	7/16"	—	8868T65	21.96
2 3/8"	2	1/8"-3/4"	7/16"	—	8868T66	25.54
2 7/8"	2 1/2	1/8"-3/4"	7/16"	—	8868T67	32.08
3 1/2"	3	1/8"-3/4"	7/16"	—	8868T68	34.34
4"	3 1/2	1/8"-3/4"	7/16"	—	8868T69	36.90
4 1/2"	4	1/8"-3/4"	7/16"	—	8868T74	38.50
Vertical Mount						
Galvanized Iron						
13/16"	1/2	1/8"-3/4"	7/16"	—	8868T81	15.68
1"	3/4	1/8"-3/4"	7/16"	—	8868T82	16.32
1 5/16"	1	1/8"-3/4"	7/16"	—	8868T83	18.97
1 5/8"	1 1/4	1/8"-3/4"	7/16"	—	8868T84	19.71
1 7/8"	1 1/2	1/8"-3/4"	7/16"	—	8868T85	20.31
2 3/8"	2	1/8"-3/4"	7/16"	—	8868T86	22.34
2 7/8"	2 1/2	1/8"-3/4"	7/16"	—	8868T87	26.52
3 1/2"	3	1/8"-3/4"	7/16"	—	8868T88	31.32

Easy-Position Beam Clamps for Pipe, Tube, and Conduit

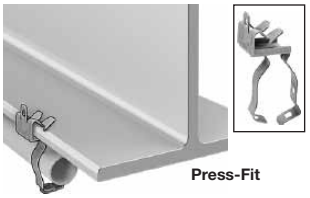



Clamps have a swiveling hanger for easy 360° positioning once installed. Designed for use on flat or tapered beams. Clamps are zinc-plated steel.

Press-fit clamps hammer onto the top or bottom of the beam. Minimum beam thickness is 5/16".

Clamp-on clamps attach to the bottom of the beam. They have a 1/4"-20 threaded hole on the side for supporting a hanger or routing ring.

For OD	For Pipe/Rigid Conduit Size	Max. Beam Thick.	Cap., lbs.	Throat Dp.		
Press-Fit						
3/4"-1"	1/2	1/2"	75	7/16"	3007T11	$0.96
1 3/16"-1 5/16"	1	1/2"	75	7/16"	3007T12	1.06
1 9/16"-1 5/8"	1 1/4	1/2"	75	7/16"	3007T13	2.42
1 3/4"-1 7/8"	1 1/2	1/2"	75	7/16"	3007T14	2.50
2 1/4"-2 3/8"	2	1/2"	75	7/16"	3007T15	2.58
Clamp-On						
11/16"-13/16"	3/8, 1/2	1/2"	50	1/2"	30015T31	1.62
15/16"-1"	3/4	1/2"	50	1/2"	30015T32	1.66
1 3/16"-1 5/16"	1	1/2"	60	1/2"	30015T33	1.69
2 1/4"-2 3/8"	2	1/2"	75	1/2"	30015T17	2.13
1 1/2"	—	1/2"	75	1/2"	30015T14	1.73
1 11/16"	1 1/4	1/2"	75	1/2"	30015T15	1.84
1 7/8"	1 1/2	1/2"	75	1/2"	30015T16	1.98

Parallel Beam-to-Beam Clamps



Join two flat beams together without welding or drilling. The bolt can be removed to attach threaded rod (not included; see pages 3182-3197).

Zinc-plated iron clamps offer some corrosion resistance.

Galvanized iron clamps offer better corrosion resistance than zinc-plated iron.

For Threaded Rod Size	For Beam Thick.	Throat Dp.	Cap., lbs.		
Zinc-Plated Iron					
3/8"-16	3/4"-1 11/16"	1"	425	3272T41	$12.41
1/2"-13	1"-2 3/8"	1 3/8"	625	3272T42	19.38
5/8"-13	1 1/8"-2 3/4"	1 11/16"	1,250	3272T43	27.55
3/4"-11	1 1/4"-3 1/4"	2"	1,875	3272T44	43.87
1"-9	1 3/4"-3 3/4"	3"	3,125	3272T45	131.07
Galvanized Iron					
3/8"-16	3/4"-1 11/16"	1"	425	3272T46	14.44
1/2"-13	1"-2 3/8"	1 3/8"	625	3272T47	22.12
5/8"-13	1 1/8"-2 3/4"	1 11/16"	1,250	3272T48	31.51
3/4"-11	1 1/4"-3 1/4"	2"	1,875	3272T49	52.40
1"-9	1 3/4"-3 3/4"	3"	3,125	3272T51	147.18

Perpendicular Beam-to-Beam Clamps

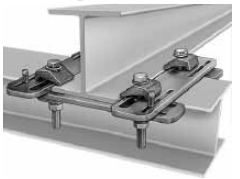

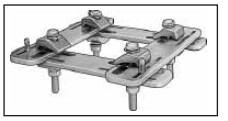

Create a span between two flat beams for lifting equipment, creating overhead conveyor systems, and supporting structural applications—without welding or drilling. Clamps are zinc-plated steel.

For Beam Wd.	For Beam Thick.	Cap., lbs.		
2 1/2"-7 1/2"	1/8"-1"	4,750	3008T12	$328.86

Beam Clamps with Tie Wire Hanger

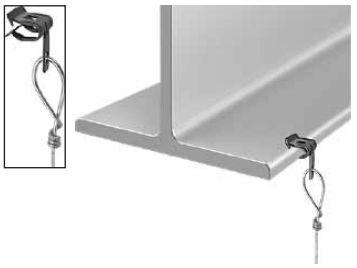

Hammer these clamps directly to the top or bottom of a beam and use the tie wire in suspended ceiling and other hanging applications. Use on flat beams. Clamps are steel.

For Beam Thick.	Tie Wire Lg., ft.	Tie Wire Gauge		
1/8"-1/4"	6	12	5326K17	$1.69
5/16"-1/2"	6	12	5326K19	1.69

Beam Clamps for Strut Channel

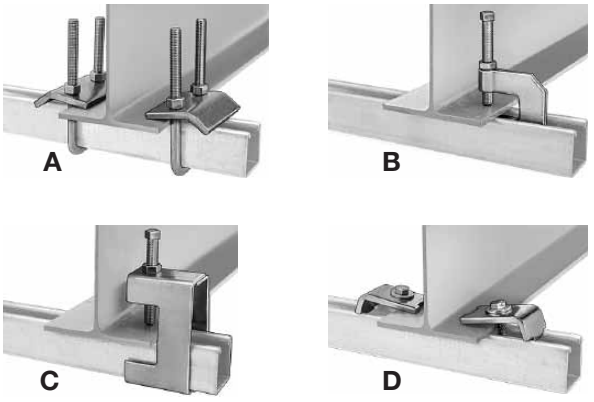

Designed for use on the bottom of flat or tapered beams, unless noted.

Zinc-plated steel clamps offer good corrosion resistance.

304 stainless steel clamps have excellent corrosion resistance.

Style A clamps have mounting plates that grip the beam and square U-bolts that cradle the channel.

Style B clamps have a plate on the bottom that slides into the strut channel and a locknut to prevent loosening. They have a threaded hole on the bottom for supporting threaded rod. Meet Fed. Spec. WW-H-171, Type 23 and Manufacturers' Standardization Society MSS-SP-58, Type 23.

Style C clamp wraps around the strut channel and has a locknut to prevent loosening. It has a threaded hole on the bottom for supporting threaded rod.

Style D clamp fits into strut channel and secures to the beam with a bolt and 1/2"-13 channel nut (sold separately). Minimum beam thickness is 1/4". Mounting hole diameter is 9/16" (fasteners not included).

For Channel Ht.	For Threaded Rod Size	Max. Beam Thick.	Throat Dp.	Cap., lbs.	Pkg. Qty.		Pkg.
Zinc-Plated Steel							
A 13/16"-1 5/8"	—	3/4"	5/8"	1,000	2	1815T11	$8.75
A 2 7/16"-3 1/4"	—	3/4"	5/8"	1,000	2	1815T13	10.00
B 1 5/8"-3 1/4"	3/8"-16	5/8"	1 1/4"	250	1	1815T31	7.05
B 1 5/8"-3 1/4"	1/2"-13	5/8"	1 1/4"	350	1	1815T42	12.08
C 13/16"-1 5/8"	3/8"-16	1 5/8"	5/8"	400	1	1815T21	7.32
D 13/16"-3 1/4"	—	5/8"	5/8"	1,100	2	1815T16	3.09
304 Stainless Steel							
A 13/16"-1 5/8"	—	3/4"	5/8"	1,200	2	1815T12★	67.30
A 1 5/8"-3 1/4"	—	3/4"	5/8"	1,200	2	1815T14★	74.38
1/2"-13 Channel Nut for Style D (Pkg. of 5)						3259T44	6.71

★ Use on flat beams only.

Railing Clamps

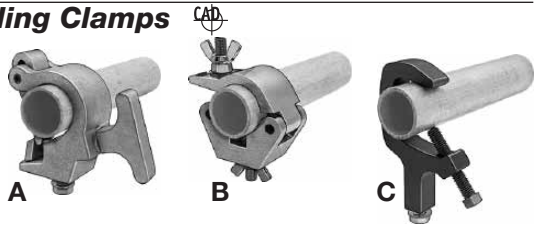

Clamp onto pipe and scaffolding to hang lighting fixtures and other equipment from the bolt on the bottom.

Style A clamps have a T-handle for quick and easy attachment and removal. The bolt can be removed to insert threaded rod.

Style B clamps have wing nuts for easy adjustment. Remove the wing nut from the bottom bolt and reattach after mounting equipment.

Style C clamps are grooved on the inside for a superior grip. The bolt can be removed to insert threaded rod.

For OD	For Pipe/Rigid Conduit Size	Bolt Size	Cap., lbs.		
Aluminum with Steel Bolt					
A 1 15/16"-2"	1 1/2	1/2"-13	1,100	3126T33	$43.33
B 1 15/16"-2"	1 1/2	M12×1.75	1,650	3126T31	48.40
Anodized Aluminum with Steel Bolt					
C 1 1/16"-1 5/16"	3/8, 1/2, 3/4, 1	5/16"-18	125	30285T35	12.20
C 1 5/16"-2 3/8"	1, 1 1/4, 1 1/2, 2	1/2"-13	600	30285T56	16.67
Anodized Aluminum with Stainless Steel Bolt					
C 1 5/16"-2 3/8"	1, 1 1/4, 1 1/2, 2	1/2"-13	600	30285T57	30.00

Threaded Rod Wall Mounts

Designed to hang threaded rod from walls and other surfaces such as beams and joists. Fasteners are not included.

Zinc-plated steel mounts offer good corrosion resistance.

304 stainless steel mounts offer excellent corrosion resistance.

Note: Capacity is for the mount only. Mounting surface and fastening hardware will affect the ultimate capacity.

Offset



Mounts require a nut to secure threaded rod. They have one mounting hole. Meet Fed. Spec. WW-H-171, Type 35 and Manufacturers' Standardization Society MSS-SP-58, Type 34.

For Rod Dia.	Cap., lbs.	Distance from Mounting Surface	Mounting Hole Dia.		Each
Steel					
3/8"	650	1 3/16"	7/16"	3053T4	$1.91
1/2"	650	1 3/16"	9/16"	3053T5	2.16
5/8"	850	1 3/8"	11/16"	3053T6	6.43
Zinc-Plated Steel					
3/8"	650	1 3/16"	7/16"	3053T14	2.18
1/2"	650	1 3/16"	9/16"	3053T15	2.92
5/8"	850	1 3/8"	11/16"	3053T16	7.10
304 Stainless Steel					
3/8"	650	1 1/8"	7/16"	3053T7	14.12
1/2"	650	1 1/8"	9/16"	3053T8	16.05
5/8"	850	1 1/2"	11/16"	3053T9	45.99

Offset with Mounting Bracket



Mounts have a zinc-plated steel mounting bracket and one mounting hole.

For Rod Dia.	Cap., lbs.	Distance from Mounting Surface	Mounting Hole Dia.		Pkg. of 10
Steel					
1/4"	150	1"	1/4"	11715T73	$7.90
3/8"	150	1"	1/4"	11715T74	8.10

Close Mount



Mounts have three mounting holes.

For Threaded Rod Size	Cap., lbs.	Distance from Mounting Surface	Mounting Hole Dia.		Pkg. of 10
Zinc-Plated Steel					
3/8"-16	250	3/4"	1/4", 1/2"	11715T75	$12.11

Strut-Mount Metal Routing Clamps



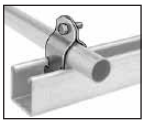

Tighten the screw to secure pipe, tubing, and conduit to your strut channel. Clamps fit 1 5/8" wide strut channel and are 1 1/4" wide.

Zinc-plated steel clamps offer good corrosion resistance.
Copper-plated steel clamps resist corrosion when used with copper tubing.
PVC-coated steel clamps offer mild corrosion resistance and are compatible with PVC pipe and conduit.
304 stainless steel clamps offer better corrosion resistance than zinc-plated steel.
316 stainless steel clamps provide maximum corrosion resistance.

ID	Cap., lbs.	Lg.	Ht.	Thick.		
Zinc-Plated Steel						
1/4"	400	3/8"	1 11/16"	1/16"	3115T119	$1.21
3/8"	400	1/2"	1 13/16"	1/16"	3115T122	1.27
1/2"	400	5/8"	1 15/16"	1/16"	3115T351	1.33
5/8"	400	3/4"	2 1/16"	1/16"	3115T352	1.40
5/8"	400	3/4"	2 3/16"	1/16"	3115T81	1.04
11/16"	400	13/16"	2 1/16"	1/16"	3115T13	1.42
13/16"	400	15/16"	2 1/4"	1/16"	3115T14	1.48
7/8"	400	1"	2 5/16"	1/16"	3115T353	1.49
15/16"	600	1 1/16"	2 7/16"	5/64"	3115T77	1.10
1 1/16"	600	1 3/16"	2 9/16"	5/64"	3115T15	1.52
1 1/8"	600	1 1/4"	2 5/8"	5/64"	3115T354	1.55
1 3/16"	600	1 5/16"	2 11/16"	5/64"	3115T83	1.16
1 5/16"	600	1 7/16"	2 7/8"	5/64"	3115T16	1.57
1 3/8"	600	1 1/2"	2 7/8"	5/64"	3115T355	1.69
1 7/16"	600	1 9/16"	3 1/16"	5/64"	3115T84	1.23
1 5/8"	600	1 3/4"	3 1/8"	5/64"	3115T356	1.74
1 11/16"	600	1 13/16"	3 1/4"	5/64"	3115T17	1.74
1 11/16"	800	1 7/8"	3 5/16"	7/64"	3115T85	1.33
1 7/8"	800	2 1/16"	3 1/2"	7/64"	3115T18	1.85
2 1/8"	800	2 5/16"	3 5/8"	7/64"	3115T357	1.83
2 3/16"	800	2 3/8"	3 3/4"	7/64"	3115T86	1.48
2 3/8"	800	2 9/16"	4"	7/64"	3115T19	2.04
2 5/8"	800	2 13/16"	4"	7/64"	3115T358	2.04
2 7/8"	800	3 1/16"	4 9/16"	7/64"	3115T21	2.24
3 1/8"	800	3 5/16"	4 7/16"	7/64"	3115T359	2.24
3 1/2"	800	3 11/16"	5 1/4"	7/64"	3115T22	2.44
3 5/8"	1,000	3 7/8"	5 1/8"	1/8"	3115T361	2.82
4"	1,000	4 1/4"	5 3/4"	1/8"	3115T23	3.24
4 1/8"	1,000	4 3/8"	5 11/16"	1/8"	3115T362	3.23
4 1/2"	1,000	4 3/4"	6 1/4"	1/8"	3115T24	3.28
5 9/16"	1,000	5 13/16"	7 1/4"	1/8"	3115T25	4.44
6 5/8"	1,000	6 7/8"	8 7/8"	1/8"	3115T26	4.76
8 5/8"	1,000	8 7/8"	10 3/8"	1/8"	3115T27	5.64
10 3/4"	1,000	11"	13"	1/8"	3115T28	7.87
12 3/4"	1,000	13"	15"	1/8"	3115T112	10.90
Copper-Plated Steel						
3/8"	400	1/2"	1 13/16"	1/16"	3115T123	1.32
1/2"	400	5/8"	1 15/16"	1/16"	3115T29	1.40
5/8"	400	3/4"	2 1/16"	1/16"	3115T31	1.46
7/8"	400	1"	2 5/16"	1/16"	3115T11	1.52
1 1/8"	600	1 1/4"	2 5/8"	5/64"	3115T32	1.68
1 3/8"	600	1 1/2"	2 7/8"	5/64"	3115T33	1.77
1 5/8"	600	1 3/4"	3 1/8"	5/64"	3115T12	1.92
2 1/8"	800	2 5/16"	3 9/16"	7/64"	3115T35	2.19
Copper-Plated Steel (Cont.)						
2 5/8"	800	2 13/16"	4 3/16"	7/64"	3115T36	$2.39
3 1/8"	800	3 5/16"	4 11/16"	7/64"	3115T37	2.64
3 5/8"	1,000	3 7/8"	5 1/4"	1/8"	3115T98	3.36
4 1/8"	1,000	4 3/8"	5 3/4"	1/8"	3115T39	3.65
PVC-Coated Steel						
5/8"	400	3/4"	2 7/16"	5/64"	3115T71	3.12
15/16"	600	1 1/16"	2 3/16"	1/16"	3115T72	3.21
1 3/16"	600	1 5/16"	2 11/16"	5/64"	3115T73	3.43
1 7/16"	600	1 9/16"	3 1/16"	5/64"	3115T74	3.65
1 11/16"	800	1 7/8"	3 5/16"	7/64"	3115T75	3.89
2 3/16"	800	2 3/8"	3 3/4"	7/64"	3115T76	4.21
304 Stainless Steel						
11/16"	400	13/16"	2 1/16"	1/16"	3115T41	3.08
13/16"	400	15/16"	2 1/4"	1/16"	3115T42	3.30
1 1/16"	600	1 3/16"	2 9/16"	5/64"	3115T43	3.79
1 5/16"	600	1 7/16"	2 7/8"	5/64"	3115T44	4.00
1 11/16"	600	1 13/16"	3 1/4"	5/64"	3115T45	4.25
1 7/8"	800	2 1/16"	3 1/2"	7/64"	3115T46	4.90
2 3/8"	800	2 9/16"	4"	7/64"	3115T47	5.27
2 7/8"	800	3 1/16"	4 9/16"	7/64"	3115T48	5.63
3 1/2"	800	3 11/16"	5 1/4"	7/64"	3115T49	6.27
4"	1,000	4 1/4"	5 3/4"	1/8"	3115T51	7.61
4 1/2"	1,000	4 3/4"	6 1/4"	1/8"	3115T52	8.47
5 9/16"	1,000	5 13/16"	7 1/4"	1/8"	3115T53	9.59
6 5/8"	1,000	6 7/8"	8 7/8"	1/8"	3115T54	10.64
8 5/8"	1,000	8 7/8"	10 3/8"	1/8"	3115T66	12.59
10 3/4"	1,000	11"	13"	1/8"	3115T67	16.79
12 3/4"	1,000	13"	15"	1/8"	3115T113	20.15
316 Stainless Steel						
11/16"	400	13/16"	2 1/16"	1/16"	3115T94	3.67
13/16"	400	15/16"	2 1/4"	1/16"	3115T96	3.60
1 1/16"	600	1 3/16"	2 9/16"	5/64"	3115T56	4.36
1 5/16"	600	1 7/16"	2 7/8"	5/64"	3115T57	4.64
1 11/16"	600	1 13/16"	3 1/4"	5/64"	3115T58	4.96
1 7/8"	800	2 1/16"	3 1/2"	7/64"	3115T59	5.71
2 3/8"	800	2 9/16"	4"	7/64"	3115T61	6.18
2 7/8"	800	3 1/16"	4 9/16"	7/64"	3115T62	6.59
3 1/2"	800	3 11/16"	5 1/4"	7/64"	3115T63	7.29
4"	1,000	4 1/4"	5 3/4"	1/8"	3115T64	11.09
4 1/2"	1,000	4 3/4"	6 1/4"	1/8"	3115T65	11.76
5 9/16"	1,000	5 13/16"	7 1/4"	1/8"	3115T115	13.59
6 5/8"	1,000	6 7/8"	8 7/8"	1/8"	3115T116	15.18
8 5/8"	1,000	8 7/8"	10 3/8"	1/8"	3115T117	18.03
10 3/4"	1,000	11"	13"	1/8"	3115T118	22.82
12 3/4"	1,000	13"	15"	1/8"	3115T114	26.71

Vibration-Damping Strut-Mount Routing Clamps

Plastic Clamps without Cushion

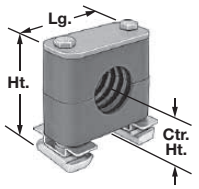



Dampen vibration and noise when supporting tube and pipe in hydraulic applications up to 2,000 psi. Clamps fit 1 5/8" wide strut channel. They are 1 3/16" wide. Color is green. Temperature range is –20° to 190° F.

Note: Clamps are not rated for capacity.

Clamps with steel hardware offer good corrosion resistance.
Clamps with 316 stainless steel hardware offer better corrosion resistance than clamps with zinc-plated hardware.

ID	Ctr. Ht.	Lg.	Ht.	Plastic with Steel Hardware		Plastic with 316 Stainless Steel Hardware	
1/4"	9/16"	17/16"	1 11/16"	1819T11	$5.85	1819T31	$37.08
3/8"	9/16"	17/16"	1 11/16"	1819T12	5.85	1819T32	37.08
1/2"	5/8"	15/8"	1 15/16"	1819T13	6.01	1819T33	37.75
9/16"	5/8"	15/8"	1 15/16"	1819T22	6.01	1819T42	37.75
5/8"	5/8"	15/8"	1 15/16"	1819T14	6.01	1819T34	37.75
11/16"	5/8"	15/8"	1 15/16"	1819T23	6.01	1819T43	37.75
3/4"	11/16"	2"	2 1/16"	1819T15	6.30	1819T35	38.24
13/16"	11/16"	2"	2 1/16"	1819T24	6.30	1819T44	38.24
7/8"	11/16"	2"	2 1/16"	1819T16	6.30	1819T36	38.24
1"	11/16"	2"	2 1/16"	1819T17	6.30	1819T37	38.24
1 1/16"	13/16"	2 5/16"	2 5/16"	1819T25	6.78	1819T45	39.28
1 1/4"	1 1/8"	2 13/16"	2 15/16"	1819T18	6.91	1819T38	40.65
1 5/16"	1 1/8"	2 13/16"	2 15/16"	1819T26	6.91	1819T46	40.65
1 1/2"	1 1/8"	2 13/16"	2 15/16"	1819T19	$6.91	1819T39	$40.65
1 11/16"	1 1/8"	2 13/16"	2 15/16"	1819T27	6.91	1819T47	40.65
1 3/4"	1 5/16"	3 3/8"	3 1/4"	1819T51	8.38	1819T61	41.42
1 7/8"	1 5/16"	3 3/8"	3 1/4"	1819T28	8.38	1819T48	43.15
2"	1 5/16"	3 3/8"	3 1/4"	1819T21	8.38	1819T41	41.42
2 1/4"	1 13/16"	4 3/4"	4 3/8"	1819T52	11.24	1819T62	54.18
2 3/8"	1 13/16"	4 3/4"	4 3/8"	1819T29	11.24	1819T49	56.44
2 1/2"	1 13/16"	4 3/4"	4 3/8"	1819T53	11.24	1819T63	54.18
2 7/8"	1 13/16"	4 3/4"	4 3/8"	1819T56	11.24	1819T66	56.44
3"	1 13/16"	4 3/4"	4 3/8"	1819T54	11.24	1819T64	54.18
3 1/2"	2 5/16"	5 13/16"	5 3/8"	1819T57	13.67	1819T67	65.66
4"	2 5/16"	5 13/16"	5 3/8"	1819T55	13.67	1819T65	65.66

(Continued on following page)

Vibration-Damping Strut-Mount Routing Clamps *(Continued from previous page)*

Metal Clamps with Plastic Cushion

The plastic cushion reduces vibration and resists most oils, chemicals, and cleaning compounds. Clamps fit 1⅝" wide strut channel and are 1¼" wide. Cushion is black. Temperature range is –50° to 270° F.

Note: Clamps are not rated for pressure or capacity.

Zinc-plated steel clamps offer good corrosion resistance. Hardware is steel.

304 stainless steel clamps offer better corrosion resistance than zinc-plated steel. Hardware is 304 stainless steel, unless noted.

316 stainless steel clamps provide maximum corrosion resistance. Hardware is 304 stainless steel, unless noted.





					Zinc-Plated Steel		304 Stainless Steel		316 Stainless Steel					
ID	Ctr. Ht.	Lg.	Ht.	Thick.					Ctr. Ht.	Lg.	Ht.	Thick.		
¼"	¼"	⅝"	1¾"	1/16"	32625T49	$1.55	32625T37	$3.52	¼"	⅝"	1¾"	5/64"	32625T89	$4.45
⅜"	5/16"	13/16"	1⅞"	1/16"	32625T51	1.60	32625T38	3.61	5/16"	¾"	1⅞"	5/64"	32625T93	4.45
½"	7/16"	15/16"	2"	1/16"	32625T52	1.63	32625T39	3.68	⅜"	⅞"	2"	5/64"	32625T94	4.63
9/16"	7/16"	1"	2"	1/16"	32625T17	1.62	32625T23	3.54	⅜"	15/16"	2"	5/64"	32625T126	5.61
⅝"	7/16"	1 1/16"	2 3/16"	1/16"	32625T53	1.72	32625T41	3.73	7/16"	1"	2 1/8"	5/64"	32625T95	4.63
11/16"	½"	1⅛"	2 3/16"	1/16"	32625T18	1.70	32625T81	3.73	7/16"	1 1/16"	2 3/16"	5/64"	32625T127	6.03
¾"	½"	13/16"	2⅜"	5/64"	32625T54	1.82	32625T42	4.80	9/16"	15/16"	2 7/16"	5/64"	32625T96	5.30
13/16"	9/16"	15/16"	2½"	5/64"	32625T71	2.14	32625T82	5.44	⅝"	1 7/16"	2½"	5/64"	32625T128	7.18
⅞"	9/16"	15/16"	2½"	5/64"	32625T55	2.14	—	—	9/16"	1 7/16"	2½"	5/64"	32625T97	6.28
1"	⅝"	17/16"	2⅝"	5/64"	32625T56	2.19	32625T44	5.72	11/16"	1 11/16"	2 11/16"	7/64"	32625T98	7.40
1 1/16"	11/16"	1 9/16"	2¾"	5/64"	32625T19	2.43	32625T24	6.64	¾"	1 13/16"	2 13/16"	7/64"	32625T129	8.56
1⅛"	11/16"	1 9/16"	2¾"	5/64"	32625T57	2.48	32625T45	6.64	¾"	1 13/16"	2 13/16"	7/64"	32625T99	7.53
1¼"	¾"	1 11/16"	2⅞"	5/64"	32625T58	2.69	32625T46	7.12	13/16"	1 15/16"	2 15/16"	7/64"	32625T182	8.81
1 5/16"	13/16"	1¾"	3"	5/64"	32625T72	2.81	32625T83	7.90	⅞"	2¼"	3⅜"	⅛"	32625T131	10.45
1⅜"	13/16"	1 13/16"	3"	5/64"	32625T59	2.92	32625T47	7.91	13/16"	2¼"	3¼"	⅛"	32625T183	9.35
1½"	15/16"	1 15/16"	3 3/16"	7/64"	32625T61	2.92	32625T48	8.42	15/16"	2¼"	3 5/16"	⅛"	32625T111	10.68
1⅝"	15/16"	2 1/16"	3 7/16"	7/64"	32625T62	3.37	32625T11	9.38	1"	2½"	3 5/16"	⅛"	32625T112	10.83
1 11/16"	1"	2 3/16"	3 7/16"	7/64"	32625T21	3.78	32625T25	9.15	1 1/16"	2½"	3 11/16"	⅛"	32625T132	11.85
1¾"	1"	2 3/16"	3 9/16"	7/64"	32625T31	3.94	32625T12	9.55	1 1/16"	2½"	3 11/16"	⅛"	32625T113	11.97
1⅞"	1⅛"	2 5/16"	3¾"	7/64"	32625T73	4.33	32625T13	10.60	13/16"	2½"	3⅞"	⅛"	32625T133	14.63
2"	1⅛"	2 7/16"	3 13/16"	⅛"	32625T63	5.14	32625T14	11.63	13/16"	2¾"	3⅞"	⅛"	32625T115	13.17
2⅛"	1¼"	2 9/16"	4"	7/64"	32625T64	5.79	32625T15	12.06	15/16"	3"	4¼"	⅛"	32625T116	13.32
2¼"	1 7/16"	3¼"	4 7/16"	⅛"	32625T26	4.81	32625T43	13.43	1 7/16"	3¼"	4 7/16"	⅛"	32625T117	14.98
2⅜"	1 7/16"	3¼"	4 7/16"	⅛"	32625T32	4.96	32625T27	14.54	1 7/16"	3¼"	4 7/16"	⅛"	32625T134	14.80
2⅜"	1 7/16"	2 13/16"	4 11/32"	7/64"	32625T74	6.64	32625T65	13.33	—	—	—	—	—	—
2½"	1 7/16"	2 15/16"	4½"	7/64"	32625T33	7.34	32625T16	17.04	1 9/16"	3½"	4⅝"	⅛"	32625T119	23.61
2⅝"	1 9/16"	3½"	4⅝"	⅛"	32625T79	5.05	32625T88	22.61	1 9/16"	3½"	4⅝"	⅛"	32625T121	22.90
2⅞"	1 11/16"	3 5/16"	4⅞"	7/64"	32625T75	8.79	32625T28	17.04	1 11/16"	3¾"	4 15/16"	⅛"	32625T135■	27.38
3"	1 13/16"	3 9/16"	5"	7/64"	32625T34	9.74	32625T84	18.16	1 13/16"	4"	5⅛"	⅛"	32625T122	23.35
3⅛"	1 13/16"	3 9/16"	5⅛"	7/64"	32625T35	10.68	32625T85	19.11	1 13/16"	4"	5⅛"	⅛"	32625T123	24.38
3½"	2"	3 15/16"	5 9/16"	⅛"	32625T36	12.27	32625T87	19.35	2"	4⅜"	5 9/16"	⅛"	32625T136■	37.11
3⅝"	—	—	—	—	—	—	—	—	2 1/16"	4½"	5⅝"	⅛"	32625T124■	34.78
4"	2 5/16"	4 7/16"	6 3/16"	⅛"	32625T91	13.70	32625T92	30.97	2 5/16"	5"	6 3/16"	⅛"	32625T137■	42.65
4⅛"	2⅜"	5 1/16"	6¼"	⅛"	32625T66	13.08	32625T67★	26.89	2⅜"	5 1/16"	6¼"	⅛"	32625T125■	39.23
4½"	2 9/16"	5½"	6 11/16"	⅛"	32625T163	16.75	32625T164★	40.83	2 9/16"	5½"	6 11/16"	⅛"	32625T184■	48.27
5 9/16"	3 1/16"	6½"	7 11/16"	⅛"	32625T68	26.67	32625T77★	50.88	3 1/16"	6½"	7 11/16"	⅛"	32625T138■	60.33
6⅝"	3 9/16"	7½"	8 11/16"	⅛"	32625T76	36.30	32625T78★	61.52	3 9/16"	7½"	8 11/16"	⅛"	32625T139■	71.00

★ Screw is 316 stainless steel. ■ Hardware is 316 stainless steel.

Plastic Clamps with Rubber Cushion

The rubber cushion on these clamps reduces vibration and line noise. They are often used in refrigeration, HVAC, and hydraulic applications. Clamps fit 1⅝" wide strut channel and are 1⅝" wide. Color is black. Hardware is 304 stainless steel. Temperature range is –50° to 250° F.

Note: Clamps are not rated for pressure or capacity.



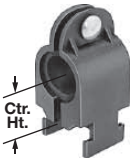

ID	Ctr. Ht.	Lg.	Ht.	Thick.	Plastic	
¼"	1¼"	1½"	3⅜"	⅛"	3190T1	$3.47
5/16"	1¼"	1½"	3⅜"	⅛"	3190T2	3.54
⅜"	1¼"	1½"	3⅜"	⅛"	3190T3	3.54
½"	1¼"	1½"	3⅜"	⅛"	3190T4	3.71
⅝"	1¼"	1½"	3⅜"	⅛"	3190T5	3.79

ID	Ctr. Ht.	Lg.	Ht.	Thick.	Plastic	
11/16"	1¼"	1½"	3⅜"	⅛"	3190T11	$3.79
¾"	1¼"	1½"	3⅜"	⅛"	3190T6	3.88
13/16"	1¼"	1½"	3⅜"	⅛"	3190T12	3.88
⅞"	1¼"	1½"	3⅜"	⅛"	3190T7	3.98
1"	1¼"	1½"	3⅜"	⅛"	3190T13	3.98

Narrow-Space Strut-Mount Metal Routing Clamps

Even when these clamps are installed side by side, the screws remain accessible. Clamps fit 1⅝" wide strut channel. They are zinc-plated steel.

Style B clamps have an angled screw, making them easy to access with a screwdriver or drill in low-headroom applications. Clamps have a gold finish. They are UL listed.





A





B

	ID	Cap., lbs.	Lg.	Wd.	Ht.	Thick.		
A	⅜"-11/16"	200	1"	¾"	1¾"	1/16"	3979T7	$0.99
A	⅝"-⅞"	200	1¼"	¾"	2"	1/16"	3979T8	1.03
A	¾"-1⅛"	200	1½"	¾"	2¼"	1/16"	3979T9	1.03
A	1"-1½"	200	1¾"	¾"	2½"	1/16"	3979T11	1.07
A	1¼"-1 11/16"	350	2¼"	¾"	2¾"	7/64"	3979T12	1.25
A	1¾"-2 3/16"	350	2¾"	¾"	3¼"	7/64"	3979T13	1.35
B	13/16"	400	1 1/16"	1¼"	2½"	5/64"	3979T14	1.53
B	11/16"	500	1 5/16"	1¼"	2¾"	5/64"	3979T15	1.70
B	1 5/16"	500	1 7/16"	1¼"	3⅛"	5/64"	3979T16	1.85
B	1 11/16"	500	1 15/16"	1¼"	3½"	5/64"	3979T17	2.13
B	1⅞"	800	2⅛"	1¼"	4"	7/64"	3979T18	2.35
B	2⅜"	800	2⅝"	1¼"	4½"	7/64"	3979T19	2.56

Stand-Off Strut-Mount Metal Routing Clamps



Parallel



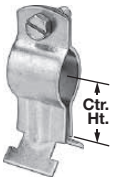

Perpendicular



Hold pipe, tubing, and conduit away from strut channel. Clamps fit 1⅝" wide strut channel. They are zinc-plated steel.

ID	Cap., lbs.	Ctr. Ht.	Lg.	Wd.	Ht.	Thick.		
Parallel								
11/16"	—	2 1/16"	1 1/4"	13/16"	3 3/16"	1/16"	**3193T11**	$3.13
13/16"	—	2 3/16"	1 1/4"	15/16"	3 3/8"	1/16"	**3193T12**	3.30
1 1/16"	—	2 5/16"	1 1/4"	1 3/16"	3 5/8"	5/64"	**3193T13**	3.43
1 5/16"	—	2 1/4"	1 1/4"	1 7/16"	4"	5/64"	**3193T14**	3.50
1 11/16"	—	2 1/2"	1 1/4"	1 13/16"	4 3/8"	5/64"	**3193T15**	3.67
1 7/8"	—	2 5/8"	1 1/4"	2 1/8"	4 3/4"	7/64"	**3193T16**	3.97
2 3/8"	—	3 1/8"	1 1/4"	2 9/16"	5 3/8"	7/64"	**3193T17**	4.22
2 7/8"	—	3 1/8"	1 1/4"	3 1/16"	5 3/4"	7/64"	**3193T18**	4.54
3 1/2"	—	3 3/8"	1 1/4"	3 11/16"	6 3/8"	7/64"	**3193T19**	4.86
4"	—	3 7/8"	1 1/4"	4 1/4"	7"	1/8"	**3193T21**	5.20
4 1/2"	—	5 1/2"	1 1/4"	4 3/4"	7 3/8"	1/8"	**3193T22**	5.35
Perpendicular								
11/16"	25	1 3/16"	1 1/2"	1 1/4"	2 13/16"	5/64"	**3571T11**	1.99
13/16"	35	1 1/4"	1 9/16"	1 1/4"	3"	5/64"	**3571T12**	2.04
1 1/16"	40	1 3/8"	1 5/8"	1 1/4"	3 3/16"	5/64"	**3571T13**	2.09
1 5/16"	50	1 1/2"	1 3/4"	1 1/4"	3 1/2"	5/64"	**3571T14**	2.15

Strut Channel Beam Mounts





Mount strut channel between the sides of a beam to run cables and conduit along the beam without drilling. Position the mounts at either end of a piece of strut channel that is 1"-1½" shorter than your beam opening. Turn the bolt on the mount to tighten. Studded tops hold the mounts securely against the beam. Made of zinc-plated steel.

For Strut Channel Ht.	Wd.	Cap., lbs.		
1⅝"	1⅝"	500	**1815T15**	$11.23

Low-Profile Strut-Mount Metal Routing Clamps

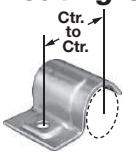



These clamps fit in low-clearance areas. Use with a screw and a strut channel nut (not included) on 1⅝" wide strut channel. Clamps are 1⅝" wide. Mounting hole diameter is ¼". Clamps are zinc-plated steel.
Note: Not rated for capacity.

ID	Ctr.-to-Ctr.	Lg.	Thick.		
¼"	9/16"	1 3/16"	1/16"	**3545T11**	$0.95
5/16"	9/16"	1 1/4"	1/16"	**3545T12**	.95
3/8"	5/8"	1 5/16"	1/16"	**3545T13**	.95
1/2"	5/8"	1 7/16"	1/16"	**3545T14**	.95
5/8"	3/4"	1 5/8"	5/64"	**3545T15**	1.01
3/4"	13/16"	1 11/16"	5/64"	**3545T16**	.94
7/8"	7/8"	1 13/16"	5/64"	**3545T17**	1.07
1"	7/8"	1 15/16"	5/64"	**3545T18**	1.07

Lock-Close Strut-Mount Plastic Routing Clamps





Slide clamps into strut channel and snap closed around pipe, tubing, and conduit for quick installation with no tools required. Clamps are black plastic and fit 1⅝" wide strut channel. Temperature range is 20° to 280° F. Meet UL 2043.

ID	Ctr. Ht.	Lg.	Wd.	Ht.	Thick.		
5/8"	1"	1 3/16"	1 1/2"	1 15/16"	3/32"	**3656T83**	$2.74
3/4"	1 1/16"	1 3/16"	1 1/2"	2 1/16"	3/32"	**3656T84**	3.17
7/8"	1 3/16"	1 3/16"	1 1/2"	2 3/16"	3/32"	**3656T85**	3.37
1 1/8"	1 1/4"	1 3/16"	1 1/2"	2 7/16"	3/32"	**3656T86**	4.23
1 3/8"	1 3/8"	1 3/16"	1 1/2"	2 11/16"	1/8"	**3656T87**	5.06
1 5/8"	1 1/2"	1 3/16"	1 1/2"	3 1/16"	1/8"	**3656T88**	5.91

Tie Wire Hangers

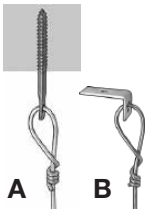

Hangers have stiff wire attached to support suspended ceilings and electrical fixtures.
Style A hanger has a 3" long screw for use in wood.
Style B has a ⅝" Lg. × ¾" Wd. × 1 1/4" Ht. steel mounting bracket. The bracket is 1/16" thick with a 5/16" dia. mounting hole.

		Wire Lg., ft.	Wire Gauge		
A	Anchor for Wood	6	12	**5326K21**	$0.86
B	Angle Bracket	6	12	**5326K11**	.92

Strap Hangers



Perforated



Solid

Cut as much strap as you need to hang duct, pipe, and other materials.
Perforated straps that have two mounting hole diameters have alternately spaced large and small mounting holes.
Solid straps allow you to drill your own mounting holes.
Zinc-plated steel straps are corrosion resistant.
Copper-plated steel straps resist corrosion when used with copper tubing.
304 stainless steel straps are more corrosion resistant than zinc-plated steel.
Note: Straps are not rated for capacity.

Perforated

Wd.	Thick.	Mounting Hole Dia.	Mounting Hole Ctr.-to-Ctr.	5-ft. Lg.		10-ft. Lg.		100-ft. Lg.	
Steel									
1 1/4"	7/64"	3/8"	5/8"	**9600T51**	$14.96	—	—	—	—
Zinc-Plated Steel									
3/4"	1/32"	1/8", 1/4"	1/2"	—	—	**3051T11**	$1.73	**3051T12**	$12.12
3/4"	3/64"	1/8", 1/4"	1/2"	—	—	**3051T13**	2.05	**3051T14**	15.31
3/4"	1/16"	9/32"	11/16"	**9600T36**	9.01	—	—	—	—
7/8"	1/16"	9/32"	11/16"	**9600T37**	10.21	—	—	—	—
1"	5/64"	9/32"	11/16"	**9600T38**	10.69	—	—	—	—
Copper-Plated Steel									
3/4"	1/32"	3/16", 1/4"	1/2"	—	—	**3051T15**	3.36	**3051T16**	27.65
304 Stainless Steel									
3/4"	1/32"	3/16", 1/4"	1/2"	—	—	**3051T21**	8.11	**3051T22**	77.54
3/4"	3/64"	3/16", 1/4"	1/2"	—	—	**3051T23**	11.49	**3051T24**	97.80

Solid

Wd.	Thick.	10-ft. Lg.		100-ft. Lg.	
Zinc-Plated Steel					
1"	1/32"	**3051T25**	$5.77	**3051T26**	$29.34
1"	3/64"	**3051T27**	7.23	**3051T28**	33.43

Wd.	Thick.	10-ft. Lg.		100-ft. Lg.	
304 Stainless Steel					
1"	1/32"	**3051T31**	$15.71	**3051T32**	$92.29
1"	3/64"	**3051T33**	18.57	**3051T34**	123.81

Threaded Rod Anchors

Anchors suspend threaded rod from the ceiling or parallel to walls or floors. Anchors are zinc-plated steel.

Anchors for steel have a sharp cutting point for mounting directly into steel. Use a drill along with the *drive socket* (sold separately) for installation.

Anchors for wood require a drill along with the *drive socket* (sold separately) for installation.

Anchors for concrete require a hole drilled by an ANSI 1/4" masonry bit. Use a rotary hammer or hammer drill along with the *drive socket* (sold separately) for installation.

Note: Capacity is for the anchor only. Mounting surface will affect the ultimate capacity.

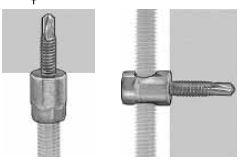

Ceiling Mount

Wall Mount

For Threaded Rod Size	Ceiling Mount Cap., lbs.		Pkg. of 5	Wall Mount Cap., lbs.		Pkg. of 5
For Steel—1/16" Min. Material Thick.						
1/4"-20	175	97085A470	$6.19	425	97085A583	$6.80
3/8"-16	225	97085A510	6.48	425	97085A560	7.68
For Wood—1 1/2" Min. Material Thick.						
1/4"-20	425	97085A520	6.19	350	97085A570	6.81
3/8"-16	425	97085A530	6.48	350	97085A580	7.68
For Concrete—2 1/4" Min. Material Thick.						
1/4"-20	525	97085A540	6.21	525	97085A581	6.81
3/8"-16	525	97085A550	6.48	525	97085A582	7.69
Drive Socket					97085A210 Each	$21.69

Threaded Rod Vibration Dampers

Reduce vibration and sound on air-handling units, pipe, and duct work suspended from threaded rod. Two lengths of threaded rod and two hex nuts are required for installation. Dampers are zinc-plated steel. Temperature range is –40° to 180°F.

Dampers with cushion provide sound control. Cushion is rubber.

Dampers with spring and cushion have a powder-coated steel spring to dampen vibration and a rubber cushion for sound control.

Note: Capacity is for damper only. Mounting surface and fastening hardware will affect the ultimate capacity.



With Cushion



With Spring and Cushion

For Threaded Rod Size	Cap., lbs.	Deflection @ Max. Cap.	Housing Lg.	Wd.	Ht.		
With Cushion							
3/8"-16	75	0.4"	2 1/4"	2"	3"	29895T54	$16.12
3/8"-16	100	0.4"	2 1/4"	2"	3"	29895T56	16.75
5/8"-11	550	0.5"	3"	2 1/4"	4 1/2"	29895T63	22.59
With Spring and Cushion							
3/8"-16	75	1.09"	2 3/4"	2 1/4"	5 1/4"	29895T4	25.77
5/8"-11	100	1.29"	3 1/4"	3"	7"	29895T45	30.21
5/8"-11	150	1.44"	3 1/4"	3"	7"	29895T72	31.55
5/8"-11	250	1.16"	3 1/4"	3"	7"	29895T73	31.55
5/8"-11	350	1.24"	3 1/4"	3"	7"	29895T48	33.81

Threaded Rod Eye Nuts

Add an eye to the end of your threaded rod. All eye nuts are iron.

Turnbuckle eye nuts have a swivel eye. Meet Manufacturers' Standardization Society MSS-SP-69, Type 15 and Fed. Spec. WW-H-171, Type 15.

Note: Capacity is for the eye nut only. Mounting surface and fastening hardware will affect the ultimate capacity.

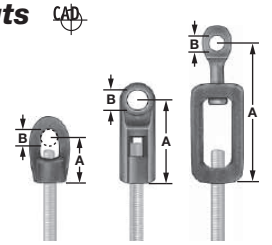

Eye Nut Socket Turnbuckle

For Threaded Rod Size	(A)	(B)	Threaded Hole Dp.	Cap., lbs.		
Eye Nuts						
1/4"-20	1"	1/4"	3/8"	225	9436T029	$1.23
3/8"-16	1 1/8"	1/4"	1/2"	600	9436T041	1.36
1/2"-13	1 3/8"	1/4"	5/8"	1,125	9436T82	1.93
5/8"-11	1 1/2"	3/8"	3/4"	1,800	9436T83	4.11
3/4"-10	1 3/4"	1/2"	13/16"	2,700	9436T84	7.55
Socket Eye Nuts						
3/8"-16	2"	1/2"	13/16"	600	29995T71	4.05
1/2"-13	2 1/4"	1/2"	15/16"	1,125	29995T72	6.30
5/8"-11	2 3/8"	1/2"	1"	1,550	29995T73	8.19
3/4"-10	2 7/8"	1/2"	1 3/16"	2,100	29995T74	11.70
Turnbuckle Eye Nuts						
1/4"-20	2 1/2"	1/4"	1 1/4"	225	3002T5	9.13
3/8"-16	3 7/8"	7/16"	1 7/8"	725	3002T1	9.32
1/2"-13	3 7/8"	7/16"	1 13/16"	725	3002T6	11.33
5/8"-11	4 7/8"	1/2"	2 5/16"	725	3002T3	17.40
3/4"-10	4 7/8"	9/16"	2 5/16"	850	3002T4	21.14

Threaded Rod Ceiling Mounts

These mounts affix to your ceiling to support threaded rod.

Zinc-plated iron mounts offer good corrosion resistance.

304 stainless steel mounts offer excellent corrosion resistance.

Note: Capacity is for the mount only. Mounting surface and fastening hardware will affect the ultimate capacity.

Flush

Also known as nut plates. Mounts have two mounting holes (fasteners not included).



For Threaded Rod Size	Cap., lbs.	Mounting Hole Dia.	Ctr.-to-Ctr.		
Iron					
3/8"-16	175	1/4"	1 15/16"	11445T1	$1.83
1/2"-13	175	1/4"	1 15/16"	11445T2	2.11
Zinc-Plated Iron					
3/8"-16	175	1/4"	1 15/16"	11445T3	2.03
1/2"-13	175	1/4"	1 15/16"	11445T4	2.55
304 Stainless Steel					
3/8"-16	175	5/16"	2 1/4"	11445T13	14.21
1/2"-13	175	5/16"	2 1/4"	11445T11	15.78

Offset

Mounts have a zinc-plated steel bracket and one mounting hole (fasteners not included).



For Rod Dia.	Cap., lbs.	Mounting Hole Dia.		Pkg. of 10
Steel				
1/4"	150	1/4"	11715T71	$7.51
3/8"	150	1/4"	11715T72	7.71

Threaded Rod Wall Brackets

Hang threaded rod at a fixed distance from the wall. Secure threaded rod with a nut (not included). Brackets have two mounting holes.

Zinc-plated steel brackets offer good corrosion resistance. Meet Fed. Spec. WW-H-171, Type 32; Manufacturers' Standardization Society MSS-SP-58, Type 31; and Manufacturers' Standardization Society MSS-SP-69, Type 31.

304 stainless steel brackets offer excellent corrosion resistance.

Note: Capacity is for the bracket only. Mounting surface and fastening hardware will affect the ultimate capacity.

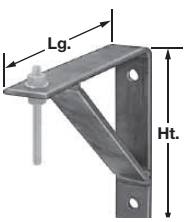

For Rod Dia.	Cap., lbs.	Lg.	Wd.	Ht.	Mounting Hole Dia.	Ctr.-to-Ctr.		
Steel								
7/16"	750	9"	2"	9"	9/16"	6 1/2"	2971T11	$33.08
7/16"	750	13"	2"	13"	9/16"	10 1/2"	2971T12	48.09
7/16"	750	19"	2"	19"	9/16"	16 1/2"	2971T13	96.82
Zinc-Plated Steel								
7/16"	750	9"	2"	9"	9/16"	6 1/2"	2971T21	35.51
7/16"	750	13"	2"	13"	9/16"	10 1/2"	2971T22	54.83
7/16"	750	19"	2"	19"	9/16"	16 1/2"	2971T23	119.11
304 Stainless Steel								
3/8"	725	10"	2"	9"	13/16"	6 1/2"	2971T24	132.02
3/8"	725	14"	2"	13"	13/16"	10 1/2"	2971T25	252.36
3/8"	725	20"	2"	19"	13/16"	16 1/2"	2971T26	538.87

One mil equals 0.001″.

Press-to-Close Bags

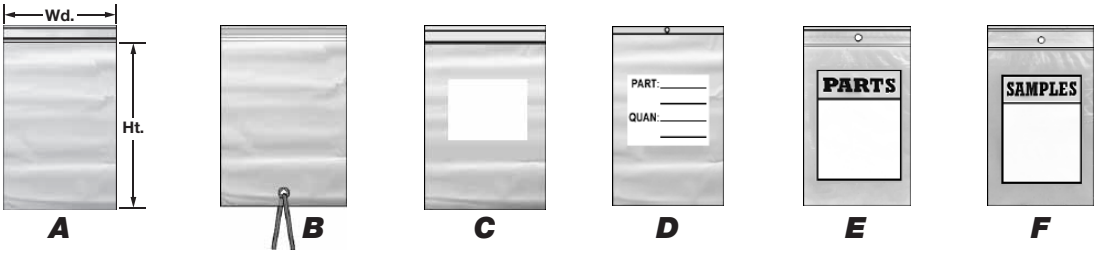

Bags are made of FDA-compliant polyethylene resin. 8″×8″ bags have an approximate capacity of one quart. 12″×12″ bags have an approximate capacity of one gallon. The 6- and 8-mil thick bags are more puncture resistant than 2- and 4-mil thick bags.

Standard— Color is clear.

Choose-a-Color— To Order: Please specify opaque black, opaque white, translucent blue, translucent green, translucent red, or translucent yellow.

Bags with Brass Grommet— Bags include a twist tie for hanging tags and instructions. Color is clear.

Mark-On— Bags have a white space to write on. Color is clear. *Style D* bags have black letters. *Styles E* and *F* bags have red letters.

Wd.	Ht.	Thick., mils	Pkg. Qty.		Pkg.
(A) Standard					
2″	3″	2	100	1959T11	$1.62
2″	3″	4	100	1959T71	2.31
2″	3″	6	100	19215T11	6.48
3″	3″	2	100	1959T28	1.91
3″	3″	4	100	1959T83	3.49
3″	4″	2	100	1959T12	2.20
3″	4″	4	100	1959T23	3.79
3″	5″	2	100	1959T13	2.71
3″	5″	4	100	1959T24	4.81
3″	5″	6	100	19215T12	7.94
4″	4″	2	100	1959T14	2.80
4″	4″	4	100	1959T25	4.92
4″	6″	2	100	1959T15	3.64
4″	6″	4	100	1959T26	6.91
4″	6″	6	100	19215T81	11.37
4″	6″	8	50	14545T12	11.94
5″	8″	2	100	1959T16	5.39
5″	8″	4	100	1959T27	10.24
5″	8″	6	50	19215T13	10.31
5″	8″	8	25	14545T24	8.25
6″	6″	2	100	1959T17	4.84
6″	6″	4	100	1959T29	9.57
6″	8″	6	50	19215T82	11.57
6″	8″	8	25	14545T13	8.66
6″	9″	2	100	1959T18	7.62
6″	9″	4	100	1959T31	13.48
6″	9″	6	25	19215T14	7.00
6″	9″	8	25	14545T25	9.33
8″	8″	2	50	1959T39	4.43
8″	8″	4	50	1959T84	6.91
8″	8″	6	25	19215T15	6.93
8″	8″	8	25	14545T26	12.18
8″	10″	2	100	1959T19	9.13
8″	10″	4	100	1959T32	14.49
8″	10″	6	25	19215T83	7.42
8″	10″	8	10	14545T14	4.64
9″	12″	2	50	1959T45	5.27
9″	12″	4	50	1959T48	9.08
9″	12″	6	25	19215T84	9.08
9″	12″	8	10	14545T15	5.59
10″	12″	2	50	1959T63	5.92
10″	12″	4	50	1959T74	10.04
10″	12″	6	25	19215T85	9.69
10″	12″	8	10	14545T16	5.81
10″	13″	2	50	1959T57	7.40
10″	13″	4	50	1959T85	11.73
12″	12″	2	50	1959T64	7.79
12″	12″	4	50	1959T75	13.12
12″	12″	6	25	19215T16	13.40
12″	12″	8	10	14545T27	7.90
12″	15″	2	50	1959T65	8.50
12″	15″	4	50	1959T76	14.23
12″	15″	6	25	19215T86	13.85
12″	15″	8	10	14545T17	7.39
13″	18″	2	25	1959T66	5.81
13″	18″	4	25	1959T86	10.49
13″	18″	6	10	19215T87	7.53
13″	18″	8	10	14545T18	10.18
16″	20″	2	25	1959T67	$8.58
16″	20″	4	10	1959T87	6.50
16″	20″	6	10	19215T91	11.54
16″	20″	8	10	14545T19	13.55
18″	24″	2	25	1959T68	11.88
18″	24″	4	10	1959T88	8.53
18″	24″	6	10	19215T92	12.73
18″	24″	8	5	14545T21	8.91
24″	24″	2	10	1959T69	12.10
24″	24″	4	10	1959T89	13.26
24″	24″	6	5	19215T93	10.85
24″	24″	8	5	14545T22	11.51
24″	30″	6	5	19215T17	16.01
24″	30″	8	5	14545T28	12.10
24″	36″	6	5	19215T24	11.54
24″	36″	8	1	14545T29	2.83
28″	30″	6	5	19215T94	14.15
28″	30″	8	1	14545T23	3.18
30″	36″	6	1	19215T26	3.56
30″	36″	8	1	14545T31	4.65
36″	48″	6	1	19215T28	5.02
36″	48″	8	1	14545T32	6.67
42″	48″	6	1	19215T31	5.73
42″	48″	8	1	14545T33	7.53
(A) Choose-a-Color					
2″	3″	2	100	1959T21	2.93
3″	5″	2	100	1959T22	4.43
4″	6″	2	100	1959T33	5.80
6″	9″	2	100	1959T34	10.80
8″	10″	2	50	1959T72	7.27
9″	12″	2	50	1959T73	8.50
(B) With Brass Grommet					
3½″	6″	4	25	1959T516	8.78
4½″	9″	4	25	1959T513	9.48
5″	7″	4	25	1959T511	11.23
5½″	9″	4	25	1959T512	11.80
5¾″	11″	4	25	1959T514	12.22
9½″	13″	4	25	1959T515	19.59
(C) Mark-On					
2″	3″	2	100	1959T51	1.44
2″	3″	4	100	1959T47	2.65
3″	4″	2	100	1959T52	1.93
3″	4″	4	100	1959T91	3.35
3″	5″	2	100	1959T53	2.52
3″	5″	4	100	1959T58	4.65
4″	6″	2	100	1959T54	3.35
4″	6″	4	100	1959T59	6.85
4″	6″	6	25	14555T11	7.72
4″	6″	8	25	14555T61	9.12
5″	8″	2	100	1959T55	5.39
5″	8″	4	100	1959T61	10.67
5″	8″	6	50	14555T17	9.39
5″	8″	8	25	14555T19	10.84
6″	8″	6	25	14555T12	10.39
6″	8″	8	25	14555T62	11.70
6″	9″	2	100	1959T56	5.28
6″	9″	4	100	1959T62	10.34
6″	9″	6	25	14555T21	10.21
6″	9″	8	25	14555T22	$11.87
8″	10″	2	25	1959T92	1.92
8″	10″	4	25	1959T93	3.80
8″	10″	6	25	14555T13	13.33
8″	10″	8	10	14555T63	5.89
9″	12″	2	50	1959T46	6.27
9″	12″	4	50	1959T49	12.29
9″	12″	6	10	14555T14	5.99
9″	12″	8	10	14555T64	7.24
10″	12″	2	50	1959T94	5.19
10″	12″	4	50	1959T95	9.56
10″	12″	6	10	14555T15	6.91
10″	12″	8	10	14555T65	7.54
12″	12″	6	10	14555T23	8.12
12″	12″	8	10	14555T24	10.82
12″	15″	6	10	14555T16	8.28
12″	15″	8	10	14555T66	10.57
18″	24″	6	10	14555T18	16.38
18″	24″	8	5	14555T25	12.53
24″	30″	6	5	14555T26	12.05
24″	30″	8	5	14555T27	14.66
24″	36″	6	5	14555T28	14.02
24″	36″	8	1	14555T29	3.33
31″	36″	6	1	14555T31	5.00
31″	36″	8	1	14555T32	6.14
(D) Mark-On with "Part" and "Quan" Imprint					
3″	4″	2	100	1959T35	4.12
3″	4″	4	100	1959T41	5.73
4″	6″	2	100	1959T36	6.56
4″	6″	4	100	1959T42	10.69
6″	8″	2	50	1959T37	5.04
6″	8″	4	50	1959T43	8.33
9″	12″	2	50	1959T38	8.63
9″	12″	4	25	1959T44	7.93
10″	12″	2	50	1959T96	7.28
10″	12″	4	25	1959T97	6.64
12″	15″	2	25	1959T98	5.15
12″	15″	4	25	1959T99	9.98
(E) Mark-On with "Parts" Imprint					
3″	4″	2	100	14525T11	4.81
3″	4″	4	100	14525T19	6.79
4″	6″	2	100	14525T13	8.17
4″	6″	4	100	14525T22	12.27
6″	8″	2	50	14525T15	6.30
6″	8″	4	50	14525T24	10.31
9″	12″	2	50	14525T17	11.39
9″	12″	4	25	14525T26	8.10
(F) Mark-On with "Samples" Imprint					
3″	4″	2	100	14525T12	4.81
3″	4″	4	100	14525T21	7.40
4″	6″	2	100	14525T14	8.18
4″	6″	4	100	14525T23	12.27
6″	8″	2	50	14525T16	6.30
6″	8″	4	50	14525T25	10.31
9″	12″	2	50	14525T18	11.39
9″	12″	4	25	14525T27	7.71

One mil equals 0.001″.

Specialty Press-to-Close Bags

UV Inhibiting—Protect contents from damage caused by ultraviolet light. Bags are polyethylene. Color is translucent brown, except 12″ wide bag, which is opaque brown.

Corrosion Inhibiting—A corrosion inhibitor protects ferrous and nonferrous metals from corrosion. Bags are nitrite-free polyethylene. Color is translucent blue.

Tarnish Inhibiting—Bags are made of polyethylene and have a coating that prevents tarnishing of precious metals. Color is clear.

Antistatic—Bags are made of polyethylene with an additive that prevents static charge from building up on the bag's surface. Color is translucent pink.

Static Dissipative—Bags are made of antistatic, amine-free polyethylene with an additional layer of coated polyester to protect against static discharge. Color is clear.

Static Shielding—Offer multi-layered protection for static-sensitive electronic components. The inner layer is amine-free polyethylene with an additive that prevents static build-up. The outer layer is coated polyester to protect against static discharge. The middle layer is aluminized polyester that stops static from passing through the bag. Color is translucent silver.

Static Shielding Moisture Barrier—Bags have all the benefits of static-shielding bags plus a layer of aluminum for protection from EMI/RFI static fields and moisture. The inner layer is amine-free polyethylene. The outer layer is coated polyester. Meet IPC/JEDEC J-STD-033. Color is opaque silver.

Clean Room—Suitable for Class 100 clean rooms. Bags are polyethylene. Color is clear.

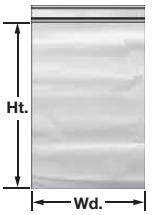

Wd.	Ht.	Thick., mils	Pkg. Qty.		Pkg.
UV Inhibiting					
3″	5″	3	25	19495T19	$3.54
4″	6″	3	25	19495T21	3.94
6″	8″	3	25	19495T22	6.16
8″	10″	3	25	19495T31	8.10
9″	12″	3	25	19495T32	9.37
12″	12″	3	25	19495T23	13.10
15″	18″	3	25	19495T33	20.18
20″	20″	3	25	19495T34	22.51
Corrosion Inhibiting					
4″	6″	4	25	19635T75	8.97
6″	8″	4	25	19635T72	9.22
8″	10″	4	10	19635T76	6.65
9″	12″	4	10	19635T77	9.23
12″	18″	4	10	19635T74	12.37
Tarnish Inhibiting					
4″	4″	2	50	19635T83	4.94
Antistatic					
3″	5″	4	50	2053T63	7.89
4″	6″	4	50	2053T64	9.09
4″	6″	6	25	2053T41	4.89
6″	8″	4	50	2053T65	14.97
6″	8″	6	25	2053T42	8.29
8″	10″	4	25	2053T24	9.60

Wd.	Ht.	Thick., mils	Pkg. Qty.		Pkg.
Antistatic (Cont.)					
8″	10″	6	25	2053T19	$12.89
9″	12″	4	25	2053T25	12.47
9″	12″	6	10	2053T44	5.51
12″	12″	4	25	2053T26	14.19
12″	12″	6	10	2053T45	7.62
12″	15″	4	10	2053T71	4.13
12″	15″	6	10	2053T74	6.54
13″	18″	4	10	2053T27	9.26
13″	18″	6	10	2053T46	9.23
15″	18″	4	10	2053T28	8.19
18″	24″	4	10	2053T72	7.01
18″	24″	6	5	2053T75	6.91
20″	20″	4	10	2053T29	12.31
24″	24″	4	10	2053T73	9.74
Static Dissipative					
3″	5″	3.5	10	1948T81	3.67
4″	6″	3.5	10	1948T82	3.84
5″	8″	3.5	10	1948T83	3.93
8″	10″	3.5	10	1948T84	5.87
10″	12″	3.5	10	1948T85	7.69
12″	16″	3.5	10	1948T86	9.11
12″	18″	3.5	10	1948T87	9.73

Wd.	Ht.	Thick., mils	Pkg. Qty.		Pkg.
Static Shielding					
3″	5″	3	25	4663T1	$5.71
4″	6″	3	25	4663T2	6.25
6″	8″	3	25	4663T3	9.00
6″	10″	3	25	4663T4	9.64
8″	10″	3	25	4663T5	11.39
10″	12″	3	10	4663T6	6.29
12″	15″	3	10	4663T7	8.40
24″	18″	3	1	4663T8	3.11
30″	23″	3	1	4663T9	5.63
Static Shielding Moisture Barrier					
6″	8″	3.6	10	2178K19	11.43
8″	10″	3.6	10	2178K21	13.14
10″	12″	3.6	5	2178K22	8.57
12″	15″	3.6	5	2178K23	13.57
Clean Room					
4″	6″	4	50	4896T6	11.50
6″	8″	4	50	4896T7	14.00
8″	10″	4	25	4896T8	10.82
10″	12″	4	10	4896T9	6.01
12″	15″	4	10	4896T11	8.21

Zipper Bags

Get a secure seal with a zipper that can be easily closed while wearing gloves. Bags are made from FDA-compliant polyethylene resin; zippers are polypropylene. Color is clear.

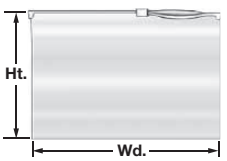

Wd.	Ht.	Thick., mils	Pkg. Qty.		Pkg.
8″	7″	2.7	25	20085T4	$14.61
9″	12″	2.7	25	20085T5	18.01
10″	7″	2.7	25	20085T6	17.19
10½″	11″	2.7	25	20085T7	18.63
14″	11″	2.7	10	20085T8	8.74
16″	12″	2.7	10	20085T9	11.00
16″	16″	2.7	10	20085T21	11.08

Zipper Bags with Air-Removal Valve

Reduce storage space and shipping costs as well as prevent unwanted movement during shipment. Press any vacuum hose to the one-way valve to remove air from the bag. Bags have a double seal with a zipper for a secure closure. All are made of FDA-compliant resins. The inner layer is polyethylene and the outer layer is nylon. Color is clear.



Wd.	Ht.	Thick., mils		Each
21″	33″	3.3	1665T1	$9.29
27″	40″	3.3	1665T2	13.00
36″	48″	3.3	1665T3	18.57

Leakproof Bags

Bags have pull tabs so you can hold them open without touching the inside. For a leakproof seal, turn bag tops over the double-wire closure three times and fold in the tabs. Bags are made of polyethylene. Color is clear.

Mark-on bags have a white space to write on.

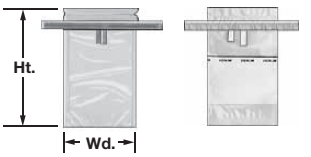

Wd.	Ht.	Thick., mils	Pkg. Qty.	***Plain***	Pkg.	***Mark-On***	Pkg.
2½″	5″	2.25	50			1942T61	$8.00
3″	5″	2.25	50	1942T51	$8.45	1942T62	8.70
4½″	9″	2.5	50	1942T54	13.49	1942T64	13.90

Bubble Bags

The convenience of a bag and the protection of bubble wrap all in one. Bags are made of polyethylene and have 3/16″ high bubbles.

Plain bags are clear.

Antistatic bags contain an additive that prevents static charge from building up on the surface. Color is translucent pink.

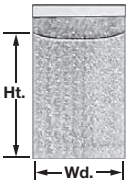

Bag with Adhesive Strip



Press-to-Close Bag

Wd.	Ht.	***Plain*** Pkg. Qty.		Pkg.	***Antistatic*** Pkg. Qty.		Pkg.
Bags with Adhesive Strip							
4″	5½″	50	1922T31	$6.95	50	1922T41	$8.65
7″	8½″	50	1922T32	13.17	50	1922T42	19.16
8″	11½″	50	1922T23	19.02	25	1922T43	14.13
12″	23½″	25	1922T28	22.37	—	—	—
15″	17½″	25	1922T27	21.87	—	—	—
18″	23½″	10	1922T33	14.65	10	1922T46	18.45
Press-to-Close Bags							
4″	6″	5	1922T47	6.22	5	1922T53	7.22
6″	8″	5	1922T48	7.06	5	1922T54	8.22
8″	10″	1	1922T49	1.78	1	1922T55	2.67
10″	12″	1	1922T51	2.00	1	1922T56	2.97
12″	15″	1	1922T52	2.46	1	1922T57	3.13

Heat-Sealable Bags

One mil equals 0.001″.

Open-Top Bags

Seal the top with heat or close with a twist tie. For heat sealers, see page 1603. For twist ties, see page 1576.

Standard



Flat

Bags are made from FDA-compliant polyethylene resin. Color is clear, unless otherwise stated.
Gusseted bags have an accordion fold on each side that expands to fit bulky items.
Flat-bottom bags have a cardboard insert so they can stand and be filled more easily. Color is translucent white.

Wd.	Ht.	Thick., mils	Pkg. Qty.		Pkg.
Flat					
3″	3″	1.5	100	1928T11	$1.34
3″	3″	2	100	1928T52	1.65
3″	3″	4	100	1928T53	2.51
3″	4″	1.5	100	1928T12	1.52
3″	4″	2	100	1928T64	1.95
3″	4″	4	100	1928T65	3.07
3″	5″	1.5	100	1928T13	1.85
3″	5″	2	100	1928T5	1.95
3″	5″	4	100	1928T51	3.74
4″	6″	1.5	100	1928T14	2.57
4″	6″	2	100	1928T66	2.75
4″	6″	4	100	1928T67	5.53
5″	6″	1.5	100	1928T15	3.08
5″	6″	2	100	1928T68	3.23
5″	6″	4	100	1928T69	6.03
5″	8″	1.5	100	1928T16	3.96
5″	8″	2	100	1928T7	4.12
5″	8″	4	100	1928T71	7.96
6″	12″	1.5	100	1928T17	4.95
6″	12″	2	100	1928T72	5.26
6″	12″	4	100	1928T73	11.28
7″	9″	1.5	100	1928T18	3.69
7″	9″	2	100	1928T74	3.78
7″	9″	4	100	1928T75	8.55
8″	10″	1.5	100	1928T19	6.50
8″	10″	2	100	1928T76	7.50
8″	10″	4	50	1928T77	8.20
9″	12″	1.5	100	1928T21	7.41
9″	12″	2	100	1928T78	9.08
9″	12″	4	50	1928T79	9.32
10″	12″	1.5	100	1928T22	8.86
10″	12″	2	100	1928T8	10.36
10″	12″	4	50	1928T81	11.36

Wd.	Ht.	Thick., mils	Pkg. Qty.		Pkg.
Flat (Cont.)					
10″	16″	2	100	1928T82	$12.88
10″	16″	4	50	1928T83	11.99
12″	16″	1.5	100	1928T23	13.48
12″	16″	2	50	1928T54	8.44
12″	16″	4	50	1928T55	13.14
12″	18″	1.5	100	1928T24	14.12
12″	18″	2	50	1928T84	9.32
12″	18″	4	25	1928T85	9.20
14″	20″	1.5	25	1928T91	4.61
14″	20″	2	25	1928T96	5.89
14″	20″	4	25	1928T913	10.70
16″	24″	1.5	25	1928T92	5.83
16″	24″	2	25	1928T97	7.36
16″	24″	4	25	1928T914	13.60
18″	24″	1.5	25	1928T93	6.48
18″	24″	2	25	1928T98	8.01
18″	24″	4	25	1928T915	15.28
20″	24″	1.5	25	1928T94	7.20
20″	24″	2	25	1928T99	9.15
20″	24″	4	10	1928T916	6.63
24″	30″	1.5	25	1928T95	10.16
24″	30″	2	25	1928T912	13.28
24″	30″	4	10	1928T917	8.66

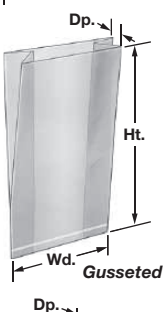

Gusseted

Wd.	Ht.	Dp.	Thick., mils	Pkg. Qty.		Pkg.
Gusseted						
4″	8″	2″	1.5	100	1928T31	$4.15
4″	8″	2″	2	100	1928T34	5.89
4″	12″	2″	1.5	100	1928T32	6.24
8″	18″	4″	1.5	50	1928T33	8.31
8″	18″	4″	2	50	1928T36	9.83
8″	18″	4″	4	25	1928T28	15.23
Flat Bottom						
6″	10″	3½″	4	25	1939T41	7.10
7″	13½″	4″	4	25	1939T42	9.67

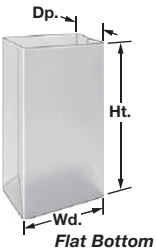

Flat Bottom

Specialty

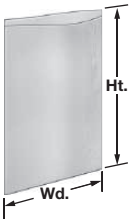

Antistatic bags are polyethylene with an additive that prevents static charge from building up on the bag's surface. Color is translucent pink.
Static-shielding bags offer multi-layered protection. The inner layer is amine-free polyethylene with an additive that prevents static build-up. The outer layer is coated polyester to protect against static discharge. The middle layer is aluminized polyester that stops static from passing through the bag. Color is translucent silver.

Wd.	Ht.	Thick., mils	Pkg. Qty.		Pkg.
Antistatic					
3″	5″	4	100	2096T21	$4.91
3″	5″	6	100	2096T31	8.93
4″	6″	4	100	2096T22	6.89
4″	6″	6	100	2096T32	12.66
6″	8″	4	100	2096T23	9.52
6″	8″	6	50	2096T33	7.40
8″	10″	4	50	2096T24	6.88
8″	10″	6	25	2096T34	6.76
9″	12″	4	50	2096T41	9.35
9″	12″	6	25	2096T43	7.84
12″	18″	4	25	2096T42	7.52
12″	18″	6	10	2096T44	5.54
18″	24″	4	10	2096T51	5.63
18″	24″	6	10	2096T53	10.41

Wd.	Ht.	Thick., mils	Pkg. Qty.		Pkg.
Antistatic (Cont.)					
24″	36″	4	10	2096T52	$11.97
24″	36″	6	5	2096T54	10.07
Static Shielding					
3″	5″	3	100	2082T61	9.24
4″	6″	3	50	2082T71	5.50
5″	8″	3	50	2082T62	7.78
6″	8″	3	50	2082T72	10.29
6″	10″	3	50	2082T63	10.25
8″	10″	3	25	2082T64	7.44
9″	12″	3	25	2082T73	10.37
10″	12″	3	25	2082T65	10.51
12″	18″	3	10	2082T66	6.95
18″	24″	3	5	2082T74	6.47
24″	30″	3	1	2082T75	2.17

Cut-to-Length Bags on a Roll

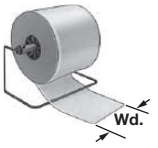

Roll Shown with Optional Dispenser

Cut the length you need and heat seal the ends to create a bag. Bags are made of FDA-compliant polyethylene resin. Rolls have a 1″ ID core. Color is clear. For heat sealers, see page 1603. ***Optional dispensers*** fit rolls up to 14″ OD.

	2 MILS THICK		***4 MILS THICK***		***6 MILS THICK***	
	1,500-ft. Roll	***3,000-ft. Roll***	***750-ft. Roll***	***1,500-ft. Roll***	***500-ft. Roll***	***1,000-ft. Roll***
Wd.	***10¼″ OD***	***14″ OD***	***10¼″ OD***	***14″ OD***	***10¼″ OD***	***14″ OD***
2⅝″	2062T702 $38.94	2062T24 $58.91	2062T802 $38.94	2062T16 $58.91	2062T902 $38.94	——— ———
3″	2062T703 43.71	2062T18 67.34	2062T803 43.71	2062T21 67.34	2062T903 43.71	2062T23 $67.34
4″	2062T704 54.80	2062T25 85.69	2062T804 54.80	2062T27 85.69	2062T904 54.80	2062T29 85.69
5″	2062T705 64.57	2062T32 105.00	2062T805 64.57	2062T34 105.00	2062T905 64.57	2062T31 105.00
6″	2062T706 76.69	2062T36 125.97	2062T806 76.69	2062T38 125.97	2062T906 76.69	2062T42 125.97
8″	2062T708 96.34	2062T44 161.26	2062T808 96.34	2062T46 161.26	2062T908 96.34	2062T48 161.26
10″	2062T71 106.77	2062T52 197.46	2062T81 106.77	2062T54 197.46	2062T91 106.77	2062T56 197.46
12″	2062T712 129.51	2062T58 236.91	2062T812 129.51	2062T62 236.91	2062T912 129.51	2062T64 236.91
14″	2062T714 138.09	2062T66 270.63	2062T814 138.09	2062T68 270.63	2062T914 138.09	2062T65 270.63
16″	2062T716 167.86	2062T72 309.20	2062T816 167.86	2062T74 309.20	2062T916 167.86	2062T76 309.20
18″	2062T718 183.49	2062T73 336.91	2062T818 183.49	2062T75 336.91	2062T918 183.49	2062T78 336.91
Optional Dispenser for Rolls up to 12″ Wide						2062T11 $25.28
Optional Dispenser for Rolls up to 24″ Wide						2062T12 33.65

One mil equals 0.001″.

Open-Top Bags on a Roll

Perforated so you can quickly and easily tear them off. Bags are made of polyethylene and are compatible with automatic, semi-automatic, and manual packaging systems. Color is clear.

Rolls have a 1″ ID core. Roll OD is 10″. Bags can be heat-sealed shut.

Wd.	Lg.	1.5 mils Thick No. of Bags		Roll	2 mils Thick No. of Bags		Roll
3″	3″	5,500	19615T41	$72.71	—	—	—
3″	5″	3,000	19615T42	56.98	—	—	—
4″	4″	4,000	19615T43	83.59	3,000	19615T53	$86.60
4″	6″	2,500	19615T44	58.70	2,000	19615T54	59.36
5″	6″	2,500	19615T45	63.80	2,000	19615T55	65.57
6″	8″	1,750	19615T66	57.65	1,500	19615T56	69.33
8″	10″	1,500	19615T47	73.44	1,250	19615T57	84.95

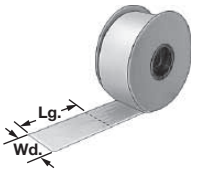

Heat Sealers with Timer

Also known as impulse sealers, these sealers have an operating temperature of approximately 550° F and an eight-setting timer that regulates the length of the heating cycle. Seal polyethylene, polyolefin, PVC, and Mylar. All sealers have a flat sealing surface with nonstick covers. Operate on 120 VAC, 60 Hz and have a 5½-ft. cord with a three-prong plug. Sealers have one heating element, except 19475T11, T12, and T13, which have two heating elements. UL listed, unless noted.

Hand-operated sealers with cutter have a built-in blade to cut off excess material.

Foot-operated sealers include a 4¾″ deep shelf that is 29″ high.

Repair kits for hand-operated sealers include two heating elements and three covers (two upper and one lower). *Kits for hand-operated sealers with cutter* also include a replacement cutting blade. ***Repair kits for foot-operated sealers*** include two heating elements and an upper and lower cover.

To Order: For replacement cover, please specify upper or lower cover.


Hand Operated


Foot Operated

Seal Wd.	Seal Lg.	Max. Total Material Thick., mils	Amps	Heat Sealer		Repair Kit		Replacement Heating Element		Replacement Sealing Pad		Replacement Cover	
Hand Operated													
4″	3/32″	5	2	2054T29★	$82.50	2054T49	$10.26	2054T11	$1.71	2054T59	$8.00	2054T68	$1.71
8″	3/32″	6	3	2054T31	105.13	2054T51	17.14	2054T12	2.29	2054T61	14.43	2054T78	2.14
12″	3/32″	6	5	2054T32	155.00	2054T52	22.85	2054T13	3.93	2054T62	19.14	2054T79	2.86
16″	3/32″	6	7	2054T35★	225.64	2054T55	25.71	2054T14	4.86	2054T65	25.71	2054T82	3.43
20″	3/32″	6	7	2054T89★	305.00	2054T93	40.00	2054T15	6.72	2054T37	28.86	2054T83	3.94
Hand Operated with Cutter													
8″	3/32″	6	3	2054T33	182.22	2054T53	20.51	2054T26	2.29	2054T38	14.43	2054T96	2.88
12″	3/32″	6	5	2054T34	244.44	2054T54	23.07	2054T27	3.93	2054T39	19.14	2054T97	3.53
16″	3/32″	6	7	2054T36★	318.18	2054T56	33.33	2054T28	4.86	2054T43	25.71	2054T98	4.12
Foot Operated													
12″	3/32″	6	5	19475T18	404.26	19475T25	48.57	19475T81	4.86	19475T87	20.00	19475T14	9.10
12″	3/16″	20	14	19475T11★	603.77	19475T42	54.54	19475T91	7.14	19475T94	20.00	19475T17	9.10
18″	3/32″	6	6	19475T23	531.91	19475T26	60.00	19475T82	5.71	19475T88	33.57	19475T15	11.43
18″	3/16″	20	17	19475T12★	732.08	19475T43	63.64	19475T92	9.00	19475T95	33.57	19475T19	11.43
24″	3/32″	6	8	19475T24★	585.11	19475T27	74.29	19475T83	6.57	19475T89	42.71	19475T16	14.90
24″	3/16″	20	20	19475T13★	828.30	19475T44	69.09	19475T93	10.71	19475T96	42.71	19475T22	14.90

★ Not UL listed.

Hand-Held Heat Sealers

You choose the temperature and control the duration of the heat application. Typically used with thick, tough-to-seal materials. Operate on 120 VAC, 60 Hz. Sealers have one heating element, except 19035T1, 2064T16, and 2064T18, which have two heating elements.

Spot-crimp style has a pliers-style design for sealing vacuum-formed polyethylene, polystyrene, polypropylene, and PVC trays and blister packs. Has a 6-ft. cord with a two-prong plug.

Iron style seals overwraps of irregularly shaped packages and bags. Use on cellophane and foils. Add a nonstick cover (included) for sealing Pliofilm, polyethylene, and vinyl. Has a 4½-ft. cord with a three-prong plug. UL listed.

Clamp style are not only for hand-held use; they have feet under the bottom jaw for table-top operation, as well as a detachable foot pedal for hands-free operation.

2064T13 is suitable for polyethylene, polypropylene, and PVC. It includes nonstick covers and a 4½-ft. cord with a two-prong plug.

2064T16 and *T18* are suitable for cellophane, aluminum foil, and waxed and coated papers. 2064T16 also seals cloth foil, brown-paper foil, and similar laminates. Both have an 8-ft. cord with a two-prong plug.

Rotary style have a wheel to seal large polyethylene and cellophane films. Also have a heat shield and a protective handle. Cord is 6 ft. long with a two-prong plug.


Spot-Crimp Style


Iron Style


Clamp Style


Rotary Style

Seal Wd.	Seal Lg.	Max. Total Material Thick., mils	Amps	Sealing Surface	Operating Temperature, °F		Each
Spot-Crimp Style							
3/8″	3/16″	100	0.1	Textured	356°, 410°	19035T1	$140.82
Iron Style							
4″	1 3/4″	16	2	Flat	100°-500°	1983T2	95.58
Clamp Style							
6″	1/16″	12	0.3	Flat	270°	2064T13	245.00
6″	9/16″	120	0.5	Flat	260°, 350°, 500°	2064T16	297.50
6″	9/16″	120	0.5	Serrated	260°, 350°, 500°	2064T18	297.50
Rotary Style							
—	3/16″	6	0.7	Textured	80°-420°	1986T3	200.52
—	11/32″	6	0.7	Textured	80°-420°	1986T4	224.49

Replacement Parts

		Each			Pkg.
Heating Element for 1983T2	1983T5	$21.56	Covers for 1983T2 (2/Pkg.)	1983T4	$11.18
Heating Element for 2064T13, T16, and T18	2064T22	40.35	Cover for 2064T13 (1/Pkg.)	2064T21	7.52
Thermostat for 1983T2	1983T6	40.00	Top and Bottom Housing for 2064T13, T16, and T18	2064T24	95.45

Vacuum Sealers, Bags & Tubes

One mil equals 0.001″.

Vacuum Heat Sealers and Bags



Create an airtight seal around your items. Sealer heat seals the bag and removes air at the same time. It has a 1/4″ NPT inlet for connection to your compressed air line. Air consumption is 2.5 cfm. Working pressure is 80-125 psi. Operates on 120 VAC, 60 Hz and has a 12-ft. cord with a three-prong plug.

Bags have a nylon outer layer and a polyethylene inner layer. Color is clear.

Sealer

Seal Wd.	Seal Lg.	Max. Total Material Thick., mils	Amps		Each
15 1/2″	1/4″	8	10	4895T1	$1,658.33

Bags

Wd.	Ht.	Thick., mils	Pkg. Qty.		Pkg.
6″	8″	3	50	4895T2	$6.88
8″	10″	3	25	4895T3	5.31
10″	12″	3	25	4895T4	7.34
12″	15″	3	10	4895T5	5.00

Heat-Shrink Wrapping Systems



Systems include a cradle, a heat sealer, a heat gun, and a roll of clear PVC film that shrinks when heated. Both the sealer and the heat gun have a 9 1/2-ft. cord and plug; they operate on 120 VAC, 60 Hz. The system for 6″-16″ wide rolls comes with a 15″ Wd. x 500 ft. Lg. roll of film. The system for 6″-28″ wide rolls comes with a 26″ Wd. x 500 ft. Lg. roll of film.

System for 6″-16″ Wide Rolls	19435T3	$446.37
System for 6″-28″ Wide Rolls	19435T4	635.08
Replacement Heat Gun	19435T5	87.44

Heat-Shrink Bags

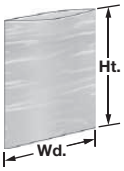

A great alternative to press-to-close bags and paper wrap, these bags can be heat sealed and shrunk for a skin-tight barrier. Recommended shrink temperature is approximately 200°F. Bags have an open top and are made of PVC. Color is clear.

Wd.	Ht.	Thick., mils	Pkg. Qty.		Pkg.
6 1/4″	10 3/4″	1	50	19945T2	$4.36
8″	12″	1	50	19945T3	5.13
9″	14″	1	50	19945T4	6.54
12 1/4″	18″	1	25	19945T8	6.99
12 1/2″	14″	1	25	19945T5	5.51
14″	18″	1	25	19945T9	8.08

Heat-Shrink Film



Film shrinks when heated to create a form-fitting barrier. Rolls are 500 ft. long. Color is clear.

PVC film requires less heat to shrink. Recommended shrink temp. is 200°-275°F.

Polyolefin film is food grade and is more flexible than PVC. Recommended shrink temperature is 270°-300°F.

Wd.	Thick., mils	*PVC*	Roll	*Polyolefin*	Roll
10″	0.6			19435T1	$40.29
10″	0.75	19435T6	$33.10	19435T2	50.57
12″	0.75	19435T7	39.71	19435T22	60.69
14″	0.75			19435T24	70.80
16″	0.75	19435T8	52.95	19435T26	80.91
18″	0.75			19435T28	91.03
26″	1	19435T9	122.74		

Drawstring Bags

Bags have a cotton drawstring closure.

Cotton

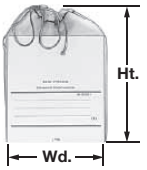

Mailing

Bags are made of 100% 4-oz. cotton. Color is off-white. *Mailing* bags have a white cardboard address tag attached. Tag is 4″ Lg. x 3 1/2″ Wd.

Wd.	Ht.	Pkg. Qty.	*Plain*	Pkg.	*Mailing*	Pkg.
3 1/4″	5″	25	1925T61	$7.64	1925T71	$11.97
4″	6″	25	1925T82	8.63	1925T72	13.47
5″	8″	25	1925T63	11.90	1925T73	17.09
6″	10″	25	1925T84	16.37	1925T74♥	8.95
8″	12″	10	1925T66	9.25	1925T76	11.92

♥ Package quantity is 10.

Polyethylene



Color is clear.

Wd.	Ht.	Thick., mils	Pkg. Qty.		Pkg.
4″	6″	2	100	20705T2	$11.78
5″	8″	2	100	20705T3	13.88
6″	10″	2	50	20705T4	7.91
9″	12″	2	50	20705T6	8.31
10″	14″	2	50	20705T7	9.70

Paper Bags

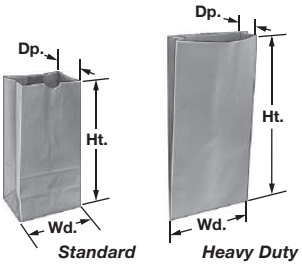

Standard *Heavy Duty*

Bags have an open top. Color is brown.

Standard bags have a flat bottom that allows them to stand and be filled more easily.

Heavy duty bags are taller and stronger than other paper bags. They're two-ply for added durability.

Wd.	Ht.	Dp.	Size No.	Pkg. Qty.		Pkg.
Standard						
4 1/8″	7 7/8″	2 1/2″	2	100	1977T1	$7.67
5 1/4″	10 15/16″	3 7/16″	5	100	1977T4	8.47
6 1/8″	12 3/8″	4″	8	50	1977T7	7.70
7 3/4″	16″	4 3/4″	16	25	1977T21	9.80
12″	17″	7″	1/6	25	1977T24	8.24
Heavy Duty						
6″	39″	3 1/2″	—	1	14325T11	1.29
12 1/2″	26″	3″	—	1	14325T15	1.91
18″	36″	9″	—	1	14325T16	3.31

Burlap Bags

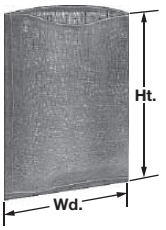

Bags have an open top. Color is tan.

Lightweight bags are made of 7-oz. burlap and have a loose weave.

Heavyweight bags are made of 10-oz. burlap and have a tighter weave for extra sturdiness.

Wd.	Ht.	Pkg. Qty.	*Lightweight*	Pkg.	*Heavyweight*	Pkg.
8″	12″	10	1923T11	$6.22	1923T31	$7.31
12″	20″	10	1923T12	7.90	1923T32	8.39
14″	20″	10	1923T13	8.36	1923T33	9.04
18″	24″	10	1923T14	11.17	1923T34	12.26
21″	44″	5	1923T15	8.66	1923T35	9.07

Square Corrugated Cardboard Tubes



The shape of these tubes prevents rolling. Tubes meet Edge Crush Test (ECT) 32, which means they can withstand up to 32 lbs. of force per inch before the edges collapse. Close by tucking tabs into their slots. Shipped flat. Color is white.

Inside Size Wd.	Ht.	Lg.	Wall Thick.		Pkg.
3″	3″	25″	0.125″	20895T72	$2.18
3″	3″	37″	0.125″	20895T73	2.87
3″	3″	43″	0.125″	20895T74	2.98
5″	5″	25″	0.125″	20895T75	2.78
5″	5″	37″	0.125″	20895T76	3.62
5″	5″	43″	0.125″	20895T77	4.09

Cardboard Tubes

Store and mail blueprints, posters, and maps, as well as protect parts and rods.

End-Cap Style—Come with two polyethylene end caps. Color is white.

Heavy Duty End-Cap Style—Tubes are thick for extra crush resistance. Two steel end caps with gripper teeth are included. Color is brown.

Telescoping-Cap Style—A 6″ cap slides on to close the tube. Tape the seam when shipping. Tubes have a permanent steel end. Color is white.

Screw-Cap Style—A threaded cap provides a secure closure. Tubes have a crimped cap on the end. Caps are made of aluminum. Color is brown.


End-Cap Style


Telescoping-Cap Style


Screw-Cap Style

Inside Dia.	Lg.	Wall Thick.	Pkg. Qty.		Pkg.
End-Cap Style					
2″	18″	0.060″	5	20545T21	$7.47
2″	24″	0.060″	5	20545T22	8.35
2″	30″	0.060″	5	20545T23	9.25
2″	36″	0.060″	5	20545T24	11.07
2″	48″	0.060″	5	20545T29	14.90
3″	18″	0.070″	5	20545T25	10.15
3″	24″	0.070″	5	20545T26	11.33
3″	30″	0.070″	5	20545T27	13.07
3″	36″	0.070″	5	20545T28	14.92
4″	18″	0.080″	5	20545T35	14.54
4″	24″	0.080″	1	20545T36	4.25
4″	30″	0.080″	1	20545T37	4.45
4″	36″	0.080″	1	20545T38	4.98
4″	48″	0.080″	1	20545T39	6.04
Extra End Caps for 2″ Dia. Tubes			10	20545T41	2.98
Extra End Caps for 3″ Dia. Tubes			10	20545T42	5.28
Extra End Caps for 4″ Dia. Tubes			10	20545T43	8.17
Heavy Duty End-Cap Style					Each
3¼″	39″	0.150″		1951T33	$12.05
3¼″	51″	0.150″		1951T35	13.69
3¼″	63″	0.150″		1951T37	14.85
Extra Steel End Cap				1951T39	.68
Telescoping-Cap Style					
2⅞″	24″	0.125″		20545T31	2.74
2⅞″	36″	0.125″		20545T33	3.02
2⅞″	42″	0.125″		20545T34	3.41
Screw-Cap Style					
1¾″	4¼″	0.125″		38585T11	2.42
2¼″	6¾″	0.125″		38585T14	3.14
3⅛″	7½″	0.125″		38585T15	4.21

Cut-to-Length Plastic Tubes


Round Tube (Shown with Square End Caps)

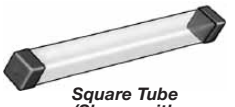
Square Tube (Shown with Square End Caps)

Use scissors to cut these clear, semirigid polyethylene tubes to the length you need. Tubes are oil and moisture resistant. Wall thickness is 0.022″.

Round tubes use red vinyl end caps (sold separately). *Sealed-end* tubes have one open end.

Square tubes won't roll away. They can be stacked, and the flat surface is easier to label than a round surface. PVC end caps (sold separately) close the ends of the tubes. **To Order:** For end caps, please specify black or red.

Inside Size	Tubes Lg.		Each	End Caps Shape	Pkg. Qty.		Pkg.
Round							
0.28″ Dia.	48″	2044T41	$0.91	Square	100	2044T61	$8.33
0.40″ Dia.	48″	2044T42	1.20	Square	100	2044T62	9.70
0.53″ Dia.	48″	2044T43	1.49	Square	100	2044T63	9.90
0.70″ Dia.	48″	2044T44	1.71	Square	100	2044T64	14.53
0.79″ Dia.	48″	2044T45	1.88	Square	50	2044T65	10.62
0.93″ Dia.	48″	2044T46	2.25	Square	50	2044T66	9.64
1.09″ Dia.	48″	2044T47	2.42	Square	50	2044T67	11.77
1.36″ Dia.	48″	2044T48	3.12	Square	50	2044T68	14.47
1.64″ Dia.	48″	2044T49	4.25	Square	25	2044T69	10.79
2.05″ Dia.	48″	2044T51■	6.71	Round	25	2044T71	11.62
2.55″ Dia.	48″	2044T52■	7.51	Round	25	2044T72	14.10
Round with Sealed End							
0.28″ Dia.	5″	2044T73	.61	Square	100	2044T61	8.33
0.40″ Dia.	4¾″	2044T74	.63	Square	100	2044T62	9.70
0.53″ Dia.	7″	2044T75	.91	Square	100	2044T63	9.90
0.70″ Dia.	6⅛″	2044T76	1.11	Square	100	2044T64	14.53
0.79″ Dia.	6⅛″	2044T77	1.27	Square	50	2044T65	10.62
0.93″ Dia.	4¾″	2044T78	1.10	Square	50	2044T66	9.64
1.09″ Dia.	7″	2044T79	1.32	Square	50	2044T67	11.77
1.36″ Dia.	4¾″	2044T81	1.43	Square	50	2044T68	14.47
Square							
0.40″ Sq.	48″	1921T11	1.67	Square	100	1921T31	8.82
0.53″ Sq.	48″	1921T12	1.98	Square	100	1921T32	9.63
0.79″ Sq.	48″	1921T13	2.33	Square	50	1921T33	7.75
1.09″ Sq.	48″	1921T14	3.23	Square	50	1921T34	9.92
1.36″ Sq.	48″	1921T15	3.92	Square	25	1921T35	9.47

■ Wall thickness is 0.028″.

Adjustable-Length Plastic Tubes

Set the length of these tubes to fit their contents. Durable and reusable, tubes are made of rigid PVC and resist oil and moisture. Color is clear. Wall thickness is 0.04″.

Round tubes can be adjusted by twisting the two halves. A hexagon end prevents rolling.

Square tubes are easier to label and stack. To adjust the length, push the ends of the tube together or pull them apart.


Round Tube

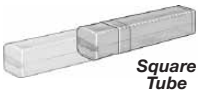
Square Tube

Inside Size	TUBE LENGTH 3¹⁄₈″ Min. to 4³⁄₄″ Max.		4³⁄₄″ Min. to 7⅞″ Max.		7⅞″ Min. to 13¾″ Max.	
Round Tubes						
0.39″ Dia.	2108T11	$0.96	2108T12	$1.07		
0.51″ Dia.	2108T14	1.03	2108T15	1.15	2108T16	$1.40
0.63″ Dia.	2108T17	1.16	2108T18	1.32	2108T19	1.49
0.79″ Dia.	2108T21	1.21	2108T22	1.46	2108T23	1.76
0.87″ Dia.	2108T24	1.31	2108T25	1.52	2108T26	1.89
1.02″ Dia.	2108T27	1.73	2108T28	1.81	2108T29	2.33
1.26″ Dia.	2108T31	1.79	2108T32	1.98	2108T33	2.47
1.46″ Dia.	2108T34	1.88	2108T35	2.11	2108T36	2.59
1.65″ Dia.	2108T37	1.91	2108T38	2.16	2108T39	2.70
2.05″ Dia.	2108T41♣	2.16	2108T42♣	2.62	2108T43♣	3.49
2.56″ Dia.	2108T44♣	2.62	2108T45♣	3.41	2108T46♣	4.54
3.15″ Dia.	2108T47♣	6.34	2108T48♣	8.19	2108T49♣	9.33
4.13″ Dia.	2108T51♣	7.69	2108T52♣	9.33	2108T53♣	10.31
Square Tubes						
0.55″ Sq.	2108T54	.89	2108T55	1.00	2108T56	1.21
1″ Sq.	2108T57	1.16	2108T58	1.24	2108T59	1.59
1.77″ Sq.	2108T61	1.97	2108T62	2.31	2108T63	2.90
2.17″ Sq.	2108T64♣	2.23	2108T65♣	2.59	2108T66♣	3.35

♣ Made of polyethylene; color is white.

Spools

Store twine, wire, rope, and chain. Spools are black plastic.

One-Piece Spools

No assembly required—these spools are all one piece.



Wd.	Core OD	ID	Flange Dia.		Each
4″	1⅞″	¾″	6½″	2381T11	$7.44
5″	1⅞″	¾″	6½″	2381T21	7.63
5″	3½″	¾″	10½″	2381T15	20.33
6″	1⅞″	¾″	6½″	2381T13	7.95
6″	3½″	¾″	10½″	2381T17	20.47
8″	1⅞″	¾″	6½″	2381T22	8.19
8″	3½″	¾″	10½″	2381T19	20.88
10″	1⅞″	¾″	6½″	2381T23	8.52
10″	3½″	¾″	10½″	2381T25	21.44
12″	1⅞″	¾″	6½″	2381T24	8.79
12″	3½″	¾″	10½″	2381T26	21.95

Build-Your-Own Spools

Create a custom spool with these interchangeable cores and flanges. *Note:* For each spool, order one core plus one pair of flanges.

Flanges are threaded and have tabs for nonslip stacking.



Cores Wd.	OD	ID	Each	Flanges Dia.	Pair
4½″	6″	1½″ 38305T28	$4.00	12″	38305T33 $8.24
6″	6″	1½″ 38305T29	4.14	14″	38305T21 11.51
7″	6″	2¼″ 38305T31	4.14	18″	38305T22 14.89
9″	6″	1½″ 38305T32	4.29	24″	38305T23 26.47
11″	6″	1½″ 38305T11	5.00		
17″	6″	1½″ 38305T12	5.40		
19″	8″	2¼″ 38305T13	8.28		
25″	8″	1½″ 38305T14	10.03		

Shipping Envelopes

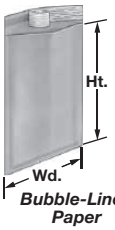

Bubble-Lined Paper

Envelopes have an adhesive-strip closure, except for *open-top paper* envelopes.

Paper envelopes have a durable exterior. Color is brown.

Plastic envelopes have a water- and tear-resistant exterior. Color is white.

Padded envelopes have a paper-filled liner to cushion contents. Envelopes also have a reinforced bottom.

Bubble-lined envelopes have a puncture-resistant liner with 1/8" high bubbles that protects contents.

Bubble Lined

Wd.	Ht.	Size No.	Paper Pkg. Qty.	Paper	Paper Pkg.	Plastic Pkg. Qty.	Plastic	Plastic Pkg.
5"	10"	00	25	2049T83	$10.61	—	—	—
6"	10"	0	25	2049T84	12.10	10	1901T62	$8.25
8½"	12"	2	25	2049T86	16.79	10	1901T63	10.77
9½"	14½"	4	25	2049T88	22.16	10	1901T64	13.15
10½"	16"	5	10	2049T89	11.94	10	1901T65	16.15
14¼"	20"	7	10	2049T92	18.30	10	1901T66	25.47

Padded

Wd.	Ht.	Size No.	Pkg. Qty.	Open-Top Paper	Open-Top Paper Pkg.	Paper	Paper Pkg.
5"	10"	00	10	1947T12	$4.87	—	—
6"	10"	0	10	1947T13	5.22	1947T91	$7.02
8½"	12"	2	10	1947T15	6.60	1947T93	8.71
9½"	14½"	4	10	1947T17	7.82	1947T95	10.73
10½"	16"	5	10	1947T18	9.02	1947T96	13.09
14¼"	20"	7	5	1947T23	8.56	1947T98	9.90

Plain

Wd.	Ht.	Pkg. Qty.	Plastic	Plastic Pkg.
6"	9"	25	19535T11	$10.12
7½"	10½"	25	19535T17	11.07
9"	12"	25	19535T13	12.76
10"	13"	25	19535T14	13.37
12"	15½"	10	19535T15	9.44
14½"	19"	10	19535T18	11.24

Corrugated Cardboard Boxes

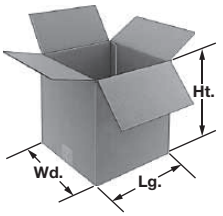



Flaps meet in the center when folded. Boxes are tested to Edge Crush Test (ECT) standards, which measure the amount of force a carton can withstand before the edges collapse. Color is brown. Shipped flat.

Standard boxes meet ECT 32 (32 lbs. per inch), which is comparable to a 200-lb. burst strength. ***Heavy duty*** boxes meet ECT 44 (44 lbs. per inch), which is comparable to a 250-lb. burst strength. ***Double-wall heavy duty*** boxes meet ECT 51 (51 lbs. per inch), which is comparable to a 275-lb. burst strength.

Optional stand has five dividers for sorting boxes. It is made of steel with a black painted finish.

For box sealing tape and sealing tape dispensers, see pages 3485-3489.

Standard

Inside Size Lg.	Wd.	Ht.	Pkg. Qty.		Pkg.
4"	4"	4"	10	2056T211	$6.97
5"	5"	5"	10	2056T212	8.23
6"	4"	4"	10	2056T213	7.89
6"	6"	4"	10	2056T214	8.71
6"	6"	6"	10	2056T215	8.88
8"	6"	4"	10	2056T216	10.89
8"	6"	6"	10	2056T217	12.06
8"	8"	4"	10	2056T218	12.33
8"	8"	6"	10	2056T219	12.69
8"	8"	8"	10	2056T311	14.46
9"	9"	9"	10	2056T23	17.71
10"	6"	6"	10	2056T312	13.00
10"	8"	6"	10	2056T313	14.94
10"	8"	8"	10	2056T314	16.36
10"	10"	5"	10	2056T315	16.64
10"	10"	10"	10	2056T316	20.09
12"	6"	4"	10	2056T317	12.19
12"	6"	6"	10	2056T34	12.88
12"	8"	6"	10	2056T318	15.75
12"	8"	8"	10	2056T319	17.52
12"	10"	4"	10	2056T361	17.25
12"	10"	6"	10	2056T362	18.85
12"	10"	8"	10	2056T363	21.50
12"	12"	2"	10	2056T814	27.73
12"	12"	6"	10	2056T364	22.11
12"	12"	10"	10	2056T365	24.28
12"	12"	12"	10	2056T366	25.74
14"	8"	8"	10	2056T367	18.67
14"	10"	8"	10	2056T103	23.00
14"	11"	6"	10	2056T368	20.76
14"	14"	14"	10	2056T369	34.90

Standard (Cont.)

Inside Size Lg.	Wd.	Ht.	Pkg. Qty.		Pkg.
16"	12"	10"	10	2056T411	$28.82
16"	12"	12"	10	2056T121	32.29
16"	16"	12"	10	2056T412	42.00
16"	16"	16"	10	2056T413	45.50
18"	6"	6"	10	2056T414	15.15
18"	10"	8"	10	2056T415	28.60
18"	12"	6"	10	2056T416	29.27
18"	12"	10"	10	2056T417	30.54
18"	12"	12"	10	2056T418	31.36
18"	14"	8"	10	2056T419	32.21
18"	18"	4"	5	2056T815	19.16
18"	18"	18"	5	2056T421	26.26
20"	12"	8"	5	2056T442	20.42
20"	14"	12"	5	2056T443	22.43
20"	20"	12"	5	2056T444	35.40
20"	20"	20"	5	2056T67	38.83
24"	4"	4"	5	2056T811	17.38
24"	6"	6"	5	2056T445	15.13
24"	12"	12"	5	2056T446	24.05
24"	16"	16"	5	2056T169	37.82
24"	24"	6"	5	2056T816	36.27
24"	24"	16"	5	2056T75	45.13
24"	24"	24"	5	2056T76	47.34
26"	18"	16"	5	2056T77	41.50
30"	14"	10"	5	2056T175	33.71
32"	6"	6"	5	2056T812	21.57
36"	14"	10"	5	2056T447	35.50
36"	16"	16"	5	2056T448	43.13
36"	24"	6"	5	2056T817	42.15
48"	8"	8"	5	2056T813	34.82

Heavy Duty

Inside Size Lg.	Wd.	Ht.	Pkg. Qty.		Pkg.
6"	6"	6"	5	20855T62	$9.31
8"	6"	4"	5	20855T63	12.31
8"	6"	6"	5	20855T64	15.90
8"	8"	8"	5	20855T65	15.66
10"	10"	10"	5	20855T66	16.24
12"	12"	6"	5	20855T67	16.39
12"	12"	12"	5	20855T68	20.63
14"	14"	14"	5	20855T69	20.79
16"	12"	10"	5	20855T81	17.96
16"	16"	16"	5	20855T82	24.56
18"	12"	12"	5	20855T83	17.60
18"	18"	12"	5	20855T84	30.24
18"	18"	18"	5	20855T39	32.66
20"	16"	14"	5	20855T85	30.30
20"	20"	20"	5	20855T42	40.33
24"	12"	12"	5	20855T43	27.35
24"	18"	12"	5	20855T86	32.69
24"	24"	16"	5	20855T44	50.48
24"	24"	24"	5	20855T45	52.69

Double-Wall Heavy Duty

Inside Size Lg.	Wd.	Ht.	Pkg. Qty.		Pkg.
12"	12"	12"	5	20855T11	26.73
14"	14"	14"	5	20855T12	31.41
16"	16"	16"	5	20855T13	36.75
18"	18"	18"	5	20855T14	42.99
20"	20"	20"	5	20855T15	49.94
24"	24"	24"	5	20855T16	66.36

Optional Stand (44" Lg. × 18" Wd. × 26" Ht.) — 2056T818 Each $204.14
Optional Casters for Stand (4/Set) — 2056T819 Set 39.71

Adjustable-Height Corrugated Cardboard Boxes

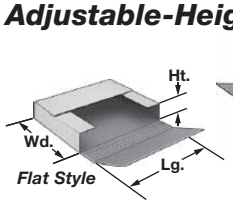

Flat Style


Standard Style

Fold along the incremental creases to adjust the height. Boxes meet Edge Crush Test (ECT) 32, withstanding up to 32 lbs. of force per inch before the edges collapse. Shipped flat. ***Flat style*** are sized for mailing catalogs and books. Color is white. ***Standard style*** are brown.

Inside Size Lg.	Wd.	Ht.	Style	Pkg. Qty.		Pkg.
9⅝"	6⅝"	⅝", 1¼"	Flat	5	20905T11	$6.10
11⅛"	8⅝"	½", 1", 1½", 2"	Flat	5	20905T13	7.20
11¼"	8¾"	2", 4", 6"	Standard	5	20905T21	20.24
12"	9"	2", 4", 6"	Standard	5	20905T23	19.90
14"	12"	2", 4", 6"	Standard	5	20905T26	25.59
17⅛"	14⅛"	½", 1", 1½", 2"	Flat	5	20905T16	12.30
26"	20"	4", 6", 8", 10", 12"	Standard	5	20905T28	47.60

Reinforced Corrugated Cardboard Boxes

Once folded, these reinforced cartons have double walls on three sides for added support. Boxes meet Edge Crush Test (ECT) 32, withstanding up to 32 lbs. of force per inch before the edges collapse. Color is white. Shipped flat.

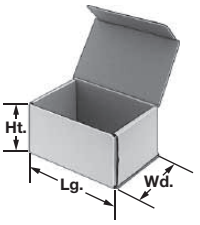

Inside Size Lg.	Wd.	Ht.	Pkg. Qty.		Pkg.
3″	3″	2″	10	21225T81	$6.06
4″	4″	3″	10	21225T82	8.17
5″	3″	2″	10	21225T83	6.79
5″	5″	3″	10	21225T85	9.90
6″	4″	3″	10	21225T86	8.68
6½″	4⅞″	3¾″	10	21225T87	10.78
8″	4″	4″	10	21225T91	10.58
10″	4″	4″	10	21225T93	9.97
13½″	3½″	3½″	10	21225T94	10.12
36¼″	4⅞″	4″	10	21225T97	25.64

Static Control Corrugated Cardboard Boxes

Protect your static-sensitive materials. Boxes are lined with 1½″ thick (½″ base, 1″ peak) foam that prevents static build-up. Rated to 200 lbs. for burst strength. Box color is black. Shipped assembled.

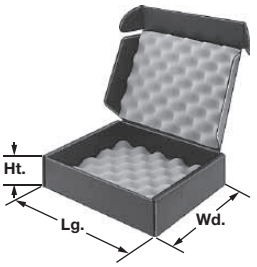

Inside Size Lg.	Wd.	Ht.		
7″	5″	2½″	20835T11	$6.99
10½″	8½″	2½″	20835T14	11.51
12½″	10½″	2½″	20835T16	14.14
15¼″	7⅛″	2½″	20835T15	13.05
20½″	15½″	2½″	20835T17	38.55

Liquid Shipping Containers

Containers are authorized for shipping hazardous materials per CFR Title 49.

Note: It is the responsibility of the shipper to properly package and label all hazardous materials, and ensure appropriate method of shipment in compliance with all applicable regulatory guidelines.

Certified for Packing Groups II and III

Containers consist of a box and a collapsible or rigid jug. Suitable for most liquids, jugs are made of FDA-compliant polyethylene resin. The *5-gal. jugs* have a handle.

Collapsible jug collapses as it dispenses for uninterrupted flow. Jug has a 38 mm screw cap. Box is white and has an opening to access the jug's spout.

Rigid jug has a 70 mm screw cap with threads for attaching a spigot. It also has a pouring vent with a cap. Box is brown.



With Collapsible Jug



With Rigid Jug

Cap., gal.	Meet Specification		
With Collapsible Jug			
2½	UN 4G/Y16/S	4935T8	$9.71
5	UN 4G/Y32/S	4935T9	12.87
With Rigid Jug			
5	UN 4G/Y30/S	49525T68	12.27

Certified for Packing Groups I, II, and III

Get superior leak protection for hazardous liquids. Containers consist of an amber glass bottle, a sorbent pouch, a can, a 4-mil thick poly bag, a corrugated insert, and a box. You'll also get instructions and tape for all sealing requirements. Bottle has a 53 mm PTFE-coated screw cap.



Cap., oz.	Meet Specification		
16	UN 4GV/X4/S	49525T72	$54.02
32	UN 4GV/X4/S	49525T82	56.18

Insulated Corrugated Cardboard Boxes

Lined with 2″ thick polystyrene panels, these boxes protect temperature-sensitive products during shipping. Rated to 200 lbs. for burst strength. Box color is white. Shipped assembled.

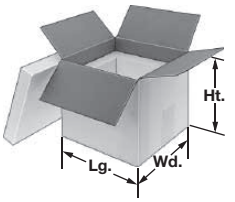

Inside Size Lg.	Wd.	Ht.		
6½″	8″	6″	20725T4	$13.26
8″	9½″	6″	20725T5	14.40
8″	9½″	9½″	20725T6	17.21
12″	15″	12″	20725T7	28.58

Lightweight Cardboard Boxes

Boxes conform to Fed. Spec. PPP-B-566 Variety I, Style II, Type D, Class A for folding cardboard boxes. Color is brown. Shipped flat.

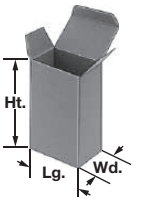

Inside Size Lg.	Wd.	Ht.	Wall Thick.	Pkg. Qty.		Pkg.
2″	2″	3″	0.024″	10	2070T22	$7.55
3″	2″	5¼″	0.036″	10	2070T23	8.47
4″	2½″	6¼″	0.036″	10	2070T25	9.04
5″	3¼″	7¼″	0.036″	10	2070T26	10.61

Corrugated Polypropylene Boxes

Strong and reusable, boxes resist punctures, moisture, and many acids. Color is white. Shipped flat.

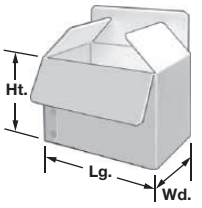

Inside Size Lg.	Wd.	Ht.	Wall Thick.		
10″	10″	10″	0.16″	20975T1	$17.43
24″	12″	12″	0.2″	20975T5	33.08
26″	18″	16″	0.2″	20975T6	35.83

Cardboard Shipping Crates

Multiple layers of laminated cardboard make these crates a more durable alternative to corrugated boxes. They are also lighter, less expensive, and more shock resistant than wood crates. Crates consist of two U-shaped channels and two U-shaped end caps. They can be cut to any length with a band saw. To assemble, place one channel on top of the other and close off the ends with the end caps. Color is white.

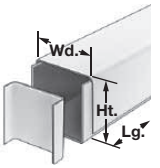

Crate: Overall Size Lg.	Wd.	Ht.	Wall Thick.			Extra End Cap	
48″	4″	4″	0.16″	30165T52	$32.78	30165T32	$0.83
48″	6″	6″	0.16″	30165T53	40.94	30165T33	1.98
48″	8″	8″	0.16″	30165T54	56.29	30165T34	3.00
48″	12″	8″	0.16″	30165T55	65.70	30165T35	4.94

Box-Stitching Wire

Refill your electric box-bottom stitchers. Wire is furnished in a 25-lb. coil that has an approximate 2⅝″ ID. Made of steel with a copper finish.



Wd.	Thick.		
0.074″	0.037″	1954T3	$67.84
0.103″	0.020″	1954T6	67.84

Box Reducers

Save on shipping costs—cut your boxes down to size. Run the steel scoring wheel along the inside of the box to create new flaps that fold over. You can reduce box height by 2⅜″ to 11¾″. Reducer is 12¾″ long and made of chrome-plated steel.



Box Reducer	2036T15	$16.94
Repl. Scoring Wheel	2036T19	3.50

Adjustable Box Staplers



Manual Strip Style



Air-Powered Strip Style



Air-Powered Roll Style

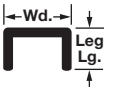

Precisely set staples into corrugated cardboard boxes. These staplers have adjustable settings that control the tightness of the staple clinch and the depth of the staple, which prevents the staple from coming into contact with the box contents.

Staplers for 5/8" leg length are for use on single-wall corrugated boxes. For double-wall corrugated boxes, use staplers for 3/4" leg length.

Air-powered staplers have a 1/4" NPT air inlet and operate on 80-90 psi. *Roll-style staplers* are for high-production applications.

Staple Wd.	Staple Leg Lg.	Staplers: Staple Capacity		Each	Staples: Staples per Box		Box
Manual Strip-Style Staplers							
1 1/4"	5/8"	150	2028T61	$208.25	2,500	2028T15	$8.98
1 1/4"	3/4"	150	2028T62	208.25	2,000	2028T16	8.02
1 3/8"	5/8"	100	2028T63	208.25	2,500	2028T17	10.98
1 3/8"	3/4"	100	2028T64	208.25	2,000	2028T18	9.43
Air-Powered Strip-Style Staplers							
1 1/4"	5/8"	150	2038T41	398.74	2,500	2028T15	8.98
1 1/4"	3/4"	150	2038T42	398.74	2,000	2028T16	8.02
1 3/8"	5/8"	100	2038T43	398.74	2,500	2028T17	10.98
1 3/8"	3/4"	100	2038T44	398.74	2,000	2028T18	9.43
					Staples: Staples per Roll		Roll
Air-Powered Roll-Style Staplers							
1 1/4"	5/8"	1,000	2026T21	497.74	1,000	2026T13	$4.48
1 1/4"	3/4"	1,000	2026T22	497.74	1,000	2026T14	4.69

Also Available: Replacement parts. Please ask for 2028T888 and specify repair kit, anvil, or staple tray, as well as stapler part number.

Air-Powered Clinch Staplers for Boxes



Great for packaging applications, these plier-style staplers compress the material as the staple is driven for a tight clinch. Staplers have a 1/4" NPT air inlet and operate on 70-85 psi. They accommodate a range of staple leg lengths. Throat opening is 5 1/2" Lg. x 7/8" Ht.

Staplers

Staple Wd.	Staple Leg Lg.	Staple Capacity		Each
1/2"	5/16"-5/8"	84	7418A51	$758.76
1/2"	3/8", 1/2", 5/8"	100	7418A31	903.69

Staples

For Stapler	Staples per Box		Per Box: 5/16" Leg	3/8" Leg	1/2" Leg	9/16" Leg	5/8" Leg
7418A51	5,000	7418A5	$9.76	$11.57	$12.19	$12.53	$15.20
7418A31	2,400	7418A3	____	12.46	14.74	____	15.60

Box-Bottom Staplers



Manual

Also known as bottomers, these staplers secure the bottoms of boxes. They hold 250 1 1/4" wide staples (sold separately) with either a 5/8" or 3/4" leg length. Staplers are 46" Lg. x 24" Wd. (at the rear legs) x 52" Ht. and have leveling pads for stability. Max. box height is 39".

Air-powered stapler is furnished with a combination filter/regulator. It has a 1/4" NPT air inlet and operates on 60-80 psi.

Staplers

	Each
Manual	19245T11 $734.50
Air-Powered	19245T12 1,159.58

Staples

Leg Lg.	Staples per Box		Box
5/8"	2,500	2028T15	$8.98
3/4"	2,000	2028T16	8.02

Box Staples

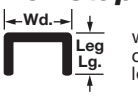

Staples with 5/8" long legs are for use on single-wall corrugated cardboard boxes. For double-wall corrugated cardboard boxes, use staples with 3/4" long legs.

Strip-Style Staples

Staple Type	Wd.	Leg Lg.	Staples per Box		Box: 1-9	10-Up
For BEA, Beck, CCC, Duo-Fast, ISM, Kihlberg, and Salco Staplers						
C58, JK561-C58	1 1/4"	5/8"	2,500	2028T15	$8.98	$7.77
C34, JK561-C34	1 1/4"	3/4"	2,000	2028T16	8.02	6.94
A58	1 3/8"	5/8"	2,500	2028T17	10.98	9.53
A34	1 3/8"	3/4"	2,000	2028T18	9.43	8.16
For Bostitch Staplers						
SW7437-58	1 3/8"	5/8"	2,500	2028T21	11.68	10.13
SW7437-34	1 3/8"	3/4"	2,000	2028T23	10.38	9.35

Roll-Style Staples

Staple Type	Wd.	Leg Lg.	Staples per Roll		Roll: 1-23	24-Up
For BEA, Beck, CCC, Duo-Fast, ISM, Kihlberg, and Salco Staplers						
RR1-58, JK555-5/8	1 1/4"	5/8"	1,000	2026T13	$4.48	$3.93
RR1-34, JK555-3/4	1 1/4"	3/4"	1,000	2026T14	4.69	4.12
For Bostitch Staplers						
SWC7437-58-1M	1 3/8"	5/8"	1,000	2026T15	4.67	4.10
SWC7437-34-1M	1 3/8"	3/4"	1,000	2026T18	4.90	4.30

Corrugated Sheets



Use these sheets as liners between pallets or layers of stacked material. Sheets can also reinforce the bottom of shipping boxes.

Cardboard sheets are brown.

Polypropylene sheets resist punctures, moisture, and many acids. Color is white.

Wd.	Lg.	Thick.	Pkg. Qty.		Pkg.
Cardboard					
24"	36"	3/16"	5	20585T22	$6.89
36"	48"	3/16"	5	20585T24	11.21
Crush-Resistant Cardboard					
20"	48"	1/2"	4	2088T42	32.55
Polypropylene					
12"	12"	1/8"	5	20585T25	5.90
24"	24"	1/8"	1	20585T26	4.78
24"	48"	1/8"	1	20585T27	9.56
48"	48"	1/8"	1	20585T28	18.18

Corrugated Cardboard Rolls



Wrap or weave between items to provide cushioning. Rolls have a 17" diameter. Color is brown.

Wd.	Lg., ft.	Thick.		Roll
18"	100	3/16"	1917T5	$15.81
24"	100	3/16"	1917T6	20.41
36"	100	3/16"	1917T7	30.41
48"	100	3/16"	1917T8	40.40

Paper Roll Cutters



Horizontal



Vertical

A spring-loaded blade provides clean cuts every time. Cutters fit rolls up to 9" in diameter. Made of steel with a gray powder-coated finish. Mounting fasteners not included.

Horizontal cutters mount on a countertop, under a counter, or on the wall. Cutters have four 1/4" dia. mounting holes. Come with rubber feet. Shipped assembled.

Vertical cutters fit in a 14" x 14" area. Four 1/2" dia. mounting holes in the legs let you stabilize the cutter. Shipped unassembled.

For Roll Wd.		
Horizontal Cutters		
12"	1945T3	$35.75
18"	1945T5	43.25
20"	1945T6	46.51
24"	1945T7	51.64
30"	1945T8	58.88
36"	1945T9	63.75
Vertical Cutters		
30" and 36"	2067T16	213.69
40" and 48"	2067T18	253.69

One mil equals 0.001″.

Paper Rolls and Sheets

Rolls have a 9″ diameter with a 1″ ID core, unless noted.
White Newsprint—Clean, low-cost packing material.
Brown Kraft—Good as an outer wrap for parcels.
Reinforced Brown—Two sheets of brown paper (also known as kraft paper) are layered and reinforced with high-strength fiberglass to handle heavy products. Also protects contents from moisture.
Raised Pattern Brown—The raised pattern provides absorbency. Ideal as an interleaving material.
Laminated White—Also known as freezer paper, this FDA-compliant paper is coated with polyethylene on one side for resistance to moisture and tearing.

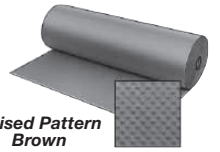
Raised Pattern Brown

Rolls

Wd.	White Newsprint Lg., ft.	Thick., mils		Roll	Brown Kraft Lg., ft.	Thick., mils		Roll	White Kraft Lg., ft.	Thick., mils		Roll
12″	1,440	2	20565T13	$19.43	1,000	4.5	1916T51	$23.72	1,000	4	2174T11	$31.28
18″	1,440	2	20565T14	29.15	1,000	4.5	1916T52	33.83	1,000	4	2174T12	47.00
24″	1,440	2	20565T15	38.90	1,000	4.5	1916T53	41.57	1,000	4	2174T13	62.56
30″	1,440	2	20565T16	48.45	1,000	4.5	1916T54	60.68	1,000	4	2174T14	78.46
36″	1,440	2	20565T17	58.10	1,000	4.5	1916T55	64.52	1,000	4	2174T15	94.15
48″	1,440	2	20565T19	77.53	1,000	4.5	1916T57	85.38	1,000	4	2174T16	125.59

Wd.	Reinforced Brown Lg., ft.	Thick., mils		Roll	Raised Pattern Brown Lg., ft.	Thick., mils		Roll	Laminated White Lg., ft.	Thick., mils		Roll
12″	—	—	—	—	—	—	—	—	1,000	3.5	1974T21	$41.80
18″	300	8	2060T38■	$59.41	360	15	2138T12	$24.84	1,000	3.5	1974T22	62.60
24″	300	8	2060T39■	79.95	360	15	2138T13	33.24	1,000	3.5	1974T23	82.76
30″	300	8	2060T37■	99.95	360	15	2138T14	41.55	1,000	3.5	1974T24	107.16
36″	300	8	2060T41■	112.95	360	15	2138T15	49.65	1,000	3.5	1974T25	165.47
48″	300	8	2060T42■	148.87	—	—	—	—	1,000	3.5	1974T26	220.67

■ Has a 3″ ID core.

Sheets

Wd.	Lg.	White Newsprint Thick., mils	Sheets/Pkg.		Pkg.	Brown Kraft Thick., mils	Sheets/Pkg.		Pkg.
15″	20″	2	2,400	20565T21	$54.33	4	1,800	1916T71	$88.45
18″	24″	2	1,660	20565T22	54.33	4	1,250	1916T72	88.45
24″	36″	2	165	20565T23	19.22	—	—	—	—
24″	36″	2	833	20565T12	54.33	4	625	1916T73	88.45

Corrosion- and Tarnish-Inhibiting Wrap

Also known as volatile corrosion inhibitor (VCI) wrap, these chemically impregnated wraps protect metals from corrosion and tarnish. For the best protection, the coated side should be in contact with the metal.



Corrosion-Inhibiting Wrap

Paper—Also known as kraft paper, for use on ferrous metal products. Meets MIL-PRF-3420.
Polyethylene Film—Heat-sealable film that's particularly effective for protecting steel and tin. The *18″ roll* unfolds into 36″×36″ perforated sheets; the *24″ roll* unfolds into 48″×48″ perforated sheets. The *48″ roll* is not folded or perforated.

Wd.	Roll Lg., ft.	Dia.	Thick., mils	Color		
Paper						
36″	300	6″	4.4	Brown	7889T32	$98.00
36″	300	7″	7	Brown	7889T34	115.80
Polyethylene Film						
18″	500	6″	1.5	Yellow	7889T28	76.90
24″	500	6″	1.5	Yellow	7889T29	102.33
48″	250	5″	4	Green	7889T27	99.74

Tarnish-Inhibiting Wrap

This bleached, odorless paper protects silver- and gold-plated electronic components.

Wd.	Lg.	Thick., mils	Sheets/Pkg.	Color		Pkg.
12″	12″	4	50	White	2074T21	$8.58

Polyethylene Mesh Sleeves

Shield shafts and threaded parts from abrasion and chipping. Sleeves can be cut to size. They are approximately 1/16″ thick.
Corrosion-inhibiting sleeves contain a corrosion inhibitor to protect metals.
To Order: For elastic sleeves, please specify length from available lengths listed. The last length listed is the maximum continuous length.


Elastic

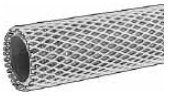
Nonelastic

Elastic Sleeves

For Dia.	Available Lengths, ft.	Color		Per Ft.
1/4″-1/2″	10, 50, 100, 200, 300, 650	Yellow	5969K21	$0.22
1/2″-1″	10, 50, 100, 200, 300, 550	Blue	5969K22	.22
1″-1 1/2″	10, 50, 100, 200, 340	Red	5969K23	.32
1 1/2″-2″	10, 50, 100, 180	Black	5969K24	.58
2″-2 1/2″	10, 50, 100, 160	White	5969K25	.71
2 1/2″-3″	10, 50, 100, 120	Yellow	5969K26	.84
3″-4″	10, 50, 90	Green	5969K27	1.04
4″-5″	10, 50, 70	Orange	5969K28	1.22
5″-6″	10, 50, 60	Brown	5969K31	1.29
6″-7″	10, 50	Blue	5969K32	1.67
7″-9″	10, 40	White	5969K33	2.15

Corrosion-Inhibiting Elastic Sleeves

For Dia.	Available Lengths, ft.	Color		Per Ft.
1/4″-3/8″	10, 50, 100, 200, 300, 550, 650	White	5969K41	$0.42
3/8″-3/4″	10, 50, 100, 200, 300, 550, 650	White	5969K42	.41
1/2″-1″	10, 50, 100, 200, 300, 550, 650	White	5969K43	.57
1″-1 1/2″	10, 50, 100, 200, 300, 550, 650	White	5969K44	.66
1 1/2″-2″	10, 50, 100, 200, 300, 550, 650	White	5969K45	.78
2″-2 1/2″	10, 50, 100, 200, 300, 550, 650	White	5969K46	.76
2 1/2″-3″	10, 50, 100, 200, 300, 550, 650	White	5969K47	.97
3″-4″	10, 50	White	5969K48	1.38
4″-5″	10, 50	White	5969K49	1.69
5″-6 1/4″	10, 50	White	5969K51	1.72
6 1/4″-7 1/2″	10, 50	White	5969K52	1.65
7 1/2″-9″	10, 50	White	5969K53	2.64

Nonelastic Sleeves

For Dia.	Lg., ft.	Color		Each
1/2″	3	White	5979K81	$0.75
3/4″	3	Orange	5979K82	1.03
1″	3	Black	5979K83	1.41
1 1/4″	3	Green	5979K84	1.73
1 1/2″	3	Yellow	5979K85	1.80
1 3/4″	3	Gray	5979K86	2.16
2″	3	Blue	5979K87	$2.28
2 1/2″	3	Red	5979K88	3.12
3″	3	Purple	5979K89	3.30
3 1/2″	3	Brown	5979K91	3.95
4″	3	White	5979K92	4.61

Protective Wrap

One mil equals 0.001″.

Bubble Wrap



Rolls are perforated every 12″ and have a 3″ ID core. Wrap is polyethylene. Color is clear.

Bubble wrap in dispenser box allows one-hand use. Dispenser for 12″ wide bubble wrap is 20″ Sq.×12½″ Wd.; dispenser for 24″ wide bubble wrap is 20½″ Sq.×25″ Wd.

Self-adhering bubble wrap instantly clings to itself but not the item being wrapped. Wrap continues to adhere after multiple uses.



Bubble Ht.	Bubble Dia.	Roll Wd.	Roll Lg., ft.	Roll Dia.		Roll
Bubble Wrap						
3⁄16″	3⁄8″	12″	150	18½″	2051T63	$28.89
3⁄16″	3⁄8″	12″	300	25″	2051T42	43.50
3⁄16″	3⁄8″	24″	150	18½″	2051T65	55.36
3⁄16″	3⁄8″	24″	300	25″	2051T46	95.16
1⁄2″	1¼″	12″	62	21½″	2051T67	16.20
1⁄2″	1¼″	12″	125	28″	2051T44	25.78
1⁄2″	1¼″	24″	62	20″	2051T69	31.96
1⁄2″	1¼″	24″	125	27″	2051T48	49.16
Bubble Wrap in Dispenser Box						
3⁄16″	3⁄8″	12″	175	—	2051T11	43.65
1⁄2″	1¼″	24″	50	—	2051T71	35.20
Self-Adhering Bubble Wrap						
3⁄16″	3⁄8″	12″	150	18″	2051T51	59.69
3⁄16″	3⁄8″	12″	300	24½″	2051T52	119.39
3⁄16″	3⁄8″	24″	150	18″	2051T53	114.08
3⁄16″	3⁄8″	24″	300	24½″	2051T54	205.35

Protective-Wrap Dispensers



Wrap Sold Separately

Mount to a wall, tabletop, or floor to dispense foam wrap or bubble wrap. Dispensers fit rolls up to 40″ in diameter and are made of steel with a black painted finish. Mounting fasteners included.

For Max. Roll Wd.	Dispenser Lg.	Wd.	Ht.		
12″	18½″	15½″	22″	1116T1	$43.78
24″	18½″	27½″	22″	1116T2	50.78

Absorbent Wrap



Multilayered cellulose packaging material soaks up spills and moisture and has thermal insulation qualities similar to fiberglass. It cushions, absorbs shock, and protects contents from scratches. Wrap is 100% recycled.

Rolls are perforated every 12″ and come in a dispenser box for one-hand use. Color is tan. Box size is 24″ Lg.×12¼″ Wd.×24″ Ht.

Thick.	Wd.	Lg., ft.		Roll
0.175″	12″	200	3388T17	$31.48
0.25″	12″	200	3388T25	39.55

Foam Peanuts and Dispensers



Peanuts are made of polystyrene. Color is white.

Dispenser includes a 40″ Wd.×69″ Ht. dispenser bag with frame, 6″ ID×1 ft. Lg. flexible tube, valve to control dispensing, rope, and pulleys. Minimum ceiling height is 10 ft.

Peanuts			
7½ cu. ft. Package	20535T24	$24.62	
Dispenser			
30 cu. ft. Capacity	20535T14	192.31	

Instant-Expanding Package Foam



Create custom-fitted packaging for products of almost any size or shape. Put a flat foam pack on each side of your product and press on the indicated spots until foam begins to expand. When activated, packs expand up to 27 times the original size and start to set within 60 seconds. Pack is made of polyethylene; foam is a polyurethane composite. Color is blue.

Max. Expansion, cu. in.	Flat Size Lg.	Flat Size Wd.	For Approximate Box Size Lg.	For Approximate Box Size Wd.	For Approximate Box Size Ht.		
180	18″	15″	8″	8″	8″	1978T74	$5.59
390	18″	18″	10″	10″	10″	1978T75	6.87
510	24″	18″	12″	12″	12″	1978T76	8.56
630	24″	18″	14″	14″	14″	1978T77	9.47
755	27″	22″	18″	12″	12″	1978T78	10.57

Foam Wrap





Made of polyethylene, this foam is nonabrasive and moisture resistant. Rolls are perforated every 12″ and have a 3″ ID core. Color is white.

Foam wrap in dispenser box allows one-hand use. Box is 19½″ Lg.×12½″ Wd.×20″ Ht.

Self-adhering foam wrap instantly clings to itself but not the item being wrapped. Wrap continues to adhere after multiple uses.

Thick.	Wd.	Lg., ft.	Dia.		Roll
Foam Wrap					
1⁄16″	12″	625	25″	2007T23	$42.10
1⁄16″	24″	625	25″	2007T24	84.20
1⁄8″	12″	275	24″	2007T27	33.98
1⁄8″	24″	275	24″	2007T28	67.88
Foam Wrap in Dispenser Box					
1⁄8″	12″	175	—	2007T71	53.10
Self-Adhering Foam Wrap					
1⁄16″	12″	625	24″	2007T31	295.80
1⁄16″	24″	625	24″	2007T32	581.70

Disposable Void-Filler Air Bags



Reduce product damage in transit. These inflatable paper bags prevent tipping and provide a cushion between products and walls. Color is brown.

Use the ***inflator nozzle*** (sold separately) to fill bags with compressed air (3 psi maximum). The nozzle connects to your air supply and includes a tip that fits a receptacle in each bag. Puncture bags to deflate.

Wd.	Ht.		
24″	36″	19295T51	$13.90
36″	48″	19295T52	17.24
36″	66″	19295T53	18.17
36″	72″	19295T61	18.67
36″	84″	19295T54	19.29
48″	48″	19295T62	17.85
48″	60″	19295T63	18.43
48″	72″	19295T64	18.85
48″	84″	19295T55	21.58
48″	96″	19295T65	22.20
Inflator Nozzle (¼″ NPT Female)		19295T57	103.03
Replacement Nozzle Tip		19295T58	42.00

Heavy Duty Heat-Shrink Wrap



Use wrap for long-term storage and transportation of large and irregularly shaped objects. Wrap is made of thick polyethylene that shrinks when heated to create a skin-tight barrier. Material is folded on the roll for compact storage. Rolls are approximately 5 ft. wide and have a 3″ ID core. Shrink temperature is 275° F. Color is white. ***Tape*** holds seams together and patches holes.

For heat gun, see 30975K11 on page 2727.

Wd.	Lg.	Thick., mils		Roll
17 ft.	110 ft.	7	9441T1	$191.53
24 ft.	120 ft.	7	9441T2	294.98
32 ft.	100 ft.	7	9441T3	327.77
Tape (2″ Wd.×180 ft. Lg.)			9441T4	$14.25
Tape (4″ Wd.×180 ft. Lg.)			9441T5	28.47

Corrosion-Inhibiting Heat-Shrink Bags



Get all the benefits of heat-shrink wrap in a convenient bag. Bags also contain a corrosion inhibitor to protect metals and are UV resistant. They're made of polyester-lined polyethylene that shrinks when heated and have a hook-and-loop closure so it's easy to seal them. Shrink temperature is 210° F. Color is tan. For heat guns, see page 2725.

Wd.	Ht.	Thick., mils		Roll
12″	12″	7	4656T1	$7.43
18″	18″	7	4656T2	10.57
24″	24″	7	4656T3	14.94

Stretch Wrap

Bundle cartons and stabilize pallet loads without tape, strapping, or twine, plus protect your shipments from moisture, dirt, and abrasion. This polyethylene stretch wrap conforms to the contours of any item and adheres to itself. Rolls have a 3″ ID core.



Standard Wrap

To Order: For choose-a-color wrap, please specify opaque black, opaque white, translucent blue, translucent green, translucent orange, or translucent red.

Wd.	Gauge (Thickness)	Lg., ft.	Dia.		Each	Pkg. Qty.	
Clear							
3″	80 (0.0008″)	1,500	5½″	2092T485	$6.88	18	$103.32
3″	90 (0.0009″)	1,000	4¾″	2092T225	5.75	18	90.36
3″	120 (0.0012″)	600	4¾″	2092T355	4.61	18	72.72
5″	80 (0.0008″)	1,500	5½″	2092T535	10.32	12	103.56
5″	90 (0.0009″)	1,000	4¾″	2092T245	9.65	12	101.40
5″	120 (0.0012″)	600	4¾″	2092T365	7.74	12	80.64
12″	60 (0.0006″)	2,000	5⅝″	2008T21	21.90	—	—
12″	80 (0.0008″)	1,500	5⅝″	2008T341	20.37	4	70.08
12″	90 (0.0009″)	1,500	5 13⁄16″	2008T41	22.91	—	—
15″	60 (0.0006″)	2,000	5⅝″	2008T22	27.35	—	—
15″	80 (0.0008″)	1,500	5⅝″	2008T351	25.44	4	87.52
15″	90 (0.0009″)	1,500	5 13⁄16″	2008T28	28.63	—	—
18″	60 (0.0006″)	2,000	5⅝″	2008T331	32.83	4	111.76
18″	80 (0.0008″)	1,500	5⅝″	2008T361	30.53	4	105.04
18″	90 (0.0009″)	1,500	5 13⁄16″	2008T531	34.35	4	118.16
Choose-a-Color							
3″	80 (0.0008″)	1,000	4¾″	2092T61	7.36	—	—
5″	80 (0.0008″)	1,000	4¾″	2092T62	9.27	—	—
15″	80 (0.0008″)	1,500	5 11⁄16″	2008T51	26.14	—	—
18″	80 (0.0008″)	1,500	5 11⁄16″	2008T52	31.51	4	106.44

Specialty Wrap

High-performance wrap has already been through a stretching process, which results in better load holding. Unlike other stretch wrap, it does not decrease in width during application, meaning fewer trips around to cover the load. Color is clear.

Corrosion-inhibiting wrap contains a corrosion inhibitor to protect metals. Color is translucent blue.

Antistatic wrap protects sensitive items from static charges. Color is translucent dark red.

Wd.	Gauge (Thickness)	Lg., ft.	Dia.		Roll
High Performance					
15″	30 (0.0003″)	1,900	5½″	2141T62	$14.87
17″	30 (0.0003″)	2,000	5⅞″	2141T63	14.70
18″	63 (0.00063″)	1,500	5″	2141T54	23.71
Corrosion Inhibiting					
18″	100 (0.001″)	1,500	6″	19905T4	81.41
Antistatic					
18″	80 (0.0008″)	1,500	5½″	1899T75	42.10

Wide Stretch Wrap for Machines

Furnished in longer lengths for high-volume applications, rolls are compatible with stretch wrap machines and have a 3″ ID core. Wrap is polyethylene. Color is clear.

High-strength wrap is thinner but more elastic and puncture resistant than standard wrap.



Wd.	Gauge (Thickness)	Lg., ft.	Dia.		Roll
Standard					
20″	80 (0.0008″)	2,500	4½″	19575T65	$71.62
20″	80 (0.0008″)	5,000	8 1⁄16″	19575T41	124.00
50″	80 (0.0008″)	6,000	10″	19575T43	276.92
High Strength					
20″	63 (0.00063″)	5,000	8″	19575T42	97.81

Narrow Stretch Wrap with Comfort Handle

A plastic handle with a soft plastic sleeve allows the roll to spin freely. Squeeze the sleeve to reduce the roll's spinning speed. One handle is included. Wrap is polyethylene. Rolls have a 1¾″ ID core.

Standard Wrap



Wd.	Gauge (Thickness)	Lg., ft.	Dia.	Rolls/ Case		Case
Clear						
3″	80 (0.0008″)	1,000	4⅜″	4	21265T2	$23.79
3″	120 (0.0012″)	650	4¼″	4	21265T4	23.68
5″	80 (0.0008″)	1,000	4⅜″	4	21265T3	32.01
5″	120 (0.0012″)	650	4¼″	4	21265T5	32.52
Translucent Blue						
3″	80 (0.0008″)	1,000	4⅜″	4	21265T812	27.79
5″	80 (0.0008″)	1,000	4⅜″	4	21265T822	37.05
Translucent Green						
3″	80 (0.0008″)	1,000	4⅜″	4	21265T813	27.79
5″	80 (0.0008″)	1,000	4⅜″	4	21265T823	37.05
Translucent Orange						
3″	80 (0.0008″)	1,000	4⅜″	4	21265T814	27.79
5″	80 (0.0008″)	1,000	4⅜″	4	21265T824	37.05
Translucent Red						
3″	80 (0.0008″)	1,000	4⅜″	4	21265T811	27.79
5″	80 (0.0008″)	1,000	4⅜″	4	21265T821	37.05
Replacement Handle					21265T6	Each $5.79

Wrap with Message

Send your message loud and clear. Wrap is clear and has a repeating message printed in black on an eye-catching 1½″ red stripe.



Message	Wd.	Gauge (Thickness)	Lg., ft.	Dia.		Roll
Do Not Break Load	5″	80 (0.0008″)	500	4″	20305T1	$18.80
Fragile	5″	80 (0.0008″)	500	4″	20305T3	18.80
Do Not Double Stack	5″	80 (0.0008″)	500	4″	20305T2	18.80
Do Not Accept If Seal Is Broken	5″	80 (0.0008″)	500	4″	20305T6	18.80

Wide Stretch Wrap with Handles



Comfort Handles



Cardboard Handles

No need for a separate dispenser—these rolls already have dispensing handles. Wrap is polyethylene. Rolls have a 1″ ID core.

Wrap with Comfort Handles

Plastic handles with soft plastic sleeves allow the roll to spin freely. Squeeze the sleeves to reduce the roll's spinning speed. *Opaque black* has an ultraviolet inhibitor (UVI) additive that protects from ultraviolet rays.

To Order: For choose-a-color wrap, please specify opaque black, opaque white, translucent blue, translucent green, translucent orange, or translucent red.

Wd.	Gauge (Thickness)	Lg., ft.	Dia.		Roll 1-3	Roll 4-Up
Clear Wrap						
15″	80 (0.0008″)	1,000	4⅛″	20915T81	$19.09	$17.22
20″	80 (0.0008″)	1,000	4⅛″	20915T2	28.62	25.44
20″	120 (0.0012″)	800	4⅛″	20915T4	29.88	26.56
30″	80 (0.0008″)	1,000	4⅛″	20915T3	40.25	35.78
Choose-a-Color Wrap						
20″	80 (0.0008″)	1,000	4⅛″	20915T71	27.28	24.44

Wrap with Cardboard Handles

The cardboard core extends out of each end for use as handles. A pair of protective gloves is included to reduce friction.

Wd.	Gauge (Thickness)	Lg., ft.	Dia.	Rolls/ Case		Case
Clear Wrap						
20″	80 (0.0008″)	1,000	3¾″	4	2047T41	$101.20

Stretch Wrap Dispensers

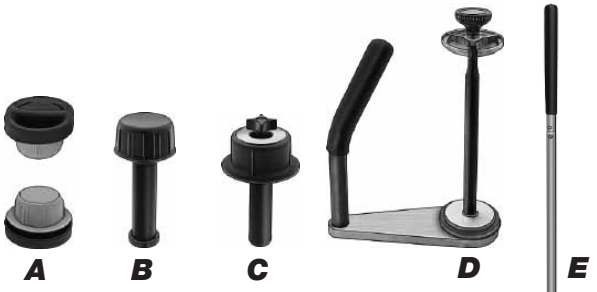

(A) Includes a grip ring to protect your hand and a core ring to turn the roll. Made of plastic.
(B) Made of plastic.
(C) Made of steed. Has a tension-control knob and a cushion grip.
Styles D and ***E*** have tension control that adjusts the roll's spinning speed from free rolling to maximum stretch.
(D) Have an angled handle with a cushion grip to reduce fatigue. Made of cast zinc alloy.
(E) The long handle eliminates bending and reaching. Has a brake lever and a handle with a 12″ long cushion grip. Made of aluminum. Overall length is 60″.

	For Roll Wd.	Fits Core ID		Pair
A	Any	3″	6241T11	$7.74 Each
B	3″ to 6″	3″	2092T19	$4.09
C	3″ to 6″	3″	2092T21	31.82
D	12″, 15″, 18″	3″	2089T1	69.42
D	18″ to 20″	3″	2089T2	81.05
E	11″ to 20″	3″	2089T31	196.13

Rolling Stretch Wrap Dispensers


Stretch Wrap Sold Separately

Roll this dispenser to wherever you need it. It has adjustable-height steering handles and four swivel casters for easy maneuverability. Dispenser is made of steel. The stretch wrap holder can be adjusted for varying roll widths and accepts rolls with a max. diameter of 15″ (stretch wrap sold separately). A two-stage brake system provides precise control of how fast the roll spins. Overall size is 20″ Lg.×35″ Wd.×78″ Ht.

Stretch wrap is 50″ Wd.×6,000 ft. Lg. Wrap is made of clear polyethylene and is 0.0008″ thick. Roll has a 10″ diameter and a 3″ ID core.

For Max. Roll Wd.	Fits Core ID		
60″	3″	19575T21	$863.46
Stretch Wrap		19575T43	276.92

Stretch Wrap Machines



A powered platform on these machines turns your pallets while stretch wrap unrolls off the mast for quick and easy coverage. Mast controls the tension while you move the counterbalanced wrap holder up and down.

Max. load size is 55″ Lg.× 55″ Wd.×84″ Ht. Unit accepts 12″ to 20″ wide rolls with a maximum diameter of 6″ and a 3″ ID core (stretch wrap sold separately). Platform is 3″ Ht.×59″ Dia. and rotates up to 15 rpm. Overall size is 92″ Ht.×102″ Lg. Machine is made of steel. It has a ½-hp motor with a knob to control the speed. Operates on 120 VAC @ 15 amps, 60 Hz and includes a 12-ft. power cord with three-prong plug.

Stretch wrap is 20″ Wd.×2,500 ft. Lg. Wrap is made of clear polyethylene and is 0.0008″ thick. Roll has an 4½″ diameter and a 3″ ID core.

Optional pallet truck ramp makes loading and unloading with pallet trucks easier. Size is 60″ Lg.× 48″ Wd. Made of steel.

Stretch Wrap Machine	6098T63	$3,617.02
Stretch Wrap	19575T65	71.62
Optional Pallet Truck Ramp	6098T73	510.25

Document Holders


Press-to-Close

Holders are clear polyethylene pouches with an adhesive back to attach them to a package.

Holders ***with adhesive closure*** secure documents inside. ***Press-to-close*** holders are resealable. Holders ***with open end*** provide easy access to documents.

Wd.	Ht.	Pkg. Qty.		Pkg.
With Adhesive Closure				
7″	5½″	100	2077T17	$8.78
10″	5½″	100	2077T26	12.34
10″	7″	100	2077T27	18.11
12″	9½″	50	2077T38	12.93
Press-to-Close				
7″	4½″	50	2077T51	9.88
7″	6½″	25	2077T53	6.76
10″	6½″	25	2077T54	8.29
10″	8½″	25	2077T55	9.40
11″	5½″	25	2077T52	7.53
11″	8½″	25	2077T56	10.00
13″	9½″	10	2077T57	5.72
With Open End				
8″	4″	100	2077T13	7.36
8″	4½″	100	2077T14 ♦	8.78

♦ Back is red.

Document Holders with Message

Pouch-Style Holders

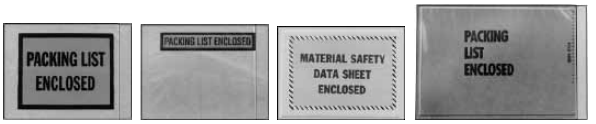

Holders consist of clear polyethylene pouches with an orange and black imprint. All have an adhesive back to attach them to a package.

Holders ***with adhesive closure*** secure documents inside. Holders ***with open end*** provide easy access to documents.

Imprint	Wd.	Ht.	Pkg. Qty.		Pkg.
With Adhesive Closure					
F Packing List Enclosed	5½″	4½″	100	2077T21	$4.53
F Packing List Enclosed	6″	4½″	100	2077T23	5.65
F Packing List Enclosed	7″	5½″	100	2077T15	8.78
G Invoice Enclosed	5½″	4½″	100	2077T31	4.53
G Invoice Enclosed	6″	4½″	100	2077T32	5.68
G Packing List Enclosed	5½″	4½″	100	2077T22	4.53
G Packing List Enclosed	6″	4½″	100	2077T25	5.65
G Packing List Enclosed	7″	5½″	100	2077T16	8.78
G Packing List Enclosed	10″	5½″	100	2077T24	12.34
G Packing List Enclosed—Spanish/English	5½″	4½″	100	2077T11	4.92
G Packing List Enclosed—French/English	5½″	4½″	100	2077T18	4.92
H Material Safety Data Sheet Enclosed	6″	4½″	100	2077T49▲	5.48
With Open End					
J Packing List Enclosed	8″	5¼″	100	2077T12★	11.22
J Packing List Enclosed	10″	8½″	50	2077T41★	11.34

▲ Imprint is red and black. ★ Front is orange.

Tape-Style Holders


Pad ***Roll*** ***Dispenser for Rolls***

With adhesive backing on the edges, this clear polypropylene tape forms a pouch for documents.

Pad— Peel the holder off the pad to reveal the adhesive edges. Imprint has orange letters.

Rolls— Cut a holder from the roll and apply. Rolls have a 4″ diameter with a 3″ ID core. *Packing List Enclosed* imprint has red letters. *Documents Enclosed* imprint has orange letters. Use *dispenser for rolls* (sold separately) for easy dispensing and cutting.

Imprint	Wd.	Ht.	No. of Holders		Each
Pad					
Packing List Enclosed	6″	5″	25	19565T31	$2.58
Rolls					
Packing List Enclosed	6″	5″	333	19565T51	21.45
Documents Enclosed	6″	5″	333	19565T41	40.36
Dispenser for Rolls				75785A41	88.64
Replacement Blade for Dispenser				75785A43	22.73

International-Symbol Shipping Labels



14385T32



14385T33



14385T39



14385T35


14385T31

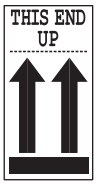

14385T36



14385T34



14385T42



14385T37



14385T38



14385T41

Recognized worldwide, these labels are made of paper with an adhesive backing. All are white and have a black and red imprint. Label size is 3″ Wd.×4″ Ht. except 14385T36, which is 4″ Wd.×8″ Ht. Roll diameter is 4¼″, except 14385T36, which is 5¼″. All rolls have a 1″ ID core.

Wd.	Ht.	Labels per Roll	Roll
3″	4″	250	$12.88
4″	8″	100	12.03

Shock-Indicating Labels

You'll know at a glance if your package has incurred shock. All labels are adhesive backed.

Sensitivity is measured in "G" (G-force), which represents the force required to activate the indicator.

Single Use

At the center of these paper labels is a small liquid-filled glass vial with a protective plastic housing. When subjected to shock, the liquid turns a bright color.

Use the table to determine the proper label for your package.



Package Wt.	Package Size 0-1 cu. ft.	1-5 cu. ft.	6-15 cu. ft.	16-50 cu. ft.	50-Up cu. ft.
0-10 lbs.	Green	Green	Orange	Orange	Red
11-25 lbs.	Green	Orange	Orange	Red	Red
26-50 lbs.	Orange	Orange	Red	Red	Purple
51-100 lbs.	Orange	Red	Red	Purple	Purple
101-250 lbs.	Red	Red	Purple	Purple	Yellow
251-1,000 lbs.	Red	Red	Purple	Yellow	Yellow
1,001 lbs.-Up	_____	Purple	Yellow	Yellow	Yellow

Indicator Color	Sensitivity, G-force	Wd.	Ht.	Pkg. Qty.		Pkg.
Green	100 G	3 13/16″	3 13/16″	50	2032T5	$206.67
Orange	75 G	3 13/16″	3 13/16″	50	2032T6	206.67
Red	50 G	3 13/16″	3 13/16″	50	2032T7	206.67
Purple	37 G	3 13/16″	3 13/16″	50	2032T9	206.67
Yellow	25 G	3 13/16″	3 13/16″	50	2032T8	206.67

Resettable

Reset these indicating labels with a paper clip—they can be reused up to 50 times. Labels have arrows that turn from red to blue to indicate which surface of the package sustained impact. *Note:* Mount the labels in the direction you want shock to be monitored. Use three indicating labels to monitor a package in all directions.

A 3¾″ Wd.×3⅞″ Ht. warning label for the outside of the package and a 3¾″ Wd.×¾″ Ht. label for the bill of lading are also included. Indicating labels are made of plastic; warning labels are made of paper.


Indicating Label



Warning Labels

Sensitivity, G-force	Wd.	Ht.		Each
100 G	7/8″	2″	19095T16	$6.22
50 G	7/8″	2″	19095T15	6.22
25 G	7/8″	2″	19095T14	6.22
15 G	7/8″	2″	19095T13	6.22
10 G	7/8″	2″	19095T12	6.22
5 G	7/8″	2″	19095T11	6.22

Hazardous-Material Shipping Labels

All labels are made of paper with an adhesive backing. For D.O.T. vehicle placards, see page 1911.

D.O.T. (Department of Transportation) Labels



1964T14



1964T24



1964T25



1964T26



1964T27



1964T28



1964T11



1964T82



1964T13



1964T88



1964T12



1964T93

Labels comply with D.O.T. 49CFR 172.400 (HM 181) and are consistent with IATA (International Air Transport Association), ICAO (International Civil Aviation Organization), and IMDG (International Maritime Dangerous Goods) regulations. May be used for international and domestic shipments. Size is 4″ Wd.×4″ Ht. except 1964T93, which is 5″ Wd.×4 5/16″ Ht. Roll diameter is 4¼″. Rolls have a 3″ ID core.

Labels per Roll	Roll
250	$12.91

ORM (Other Regulated Material) Labels

Label products that are "other regulated materials, domestic" (ORM-D). This includes products that are considered hazardous but aren't covered under specific product classifications. Labels are blue with a white imprint. Size is 2½″ Wd.×1½″ Ht. Roll diameter is 4″. Rolls have a 3″ ID core.





Imprint	Labels per Roll		Roll
ORM-D	250	1971T42	$5.36
ORM-D-AIR	250	1971T41	5.36

Package Tip-Indicating Labels

Quickly identify containers that have been tipped during transit. An arrow-shaped window on the red indicator turns blue if the package is tipped 90° or more. Includes five 2¾″ Wd.×3¾″ Ht. indicating labels, five 3¾″ Wd.×5¼″ Ht. warning labels for the outside of the package, and five 3¾″ Wd.×¾″ Ht. warning labels for the bill of lading. All labels are adhesive backed. Indicating labels are made of plastic; warning labels are made of paper. Warning labels are white with a red imprint.



Indicating Label



Warning Labels

19455T5 ..... Pkg. $10.76

Package-Handling Warning Labels

Get the attention of package handlers. Labels are made of paper with an adhesive backing. Roll diameter is 4½″, except 2031T53, which is 5″. Rolls have a 3″ ID core.

Fragile is white with a red imprint.

Attention electrostatic sensitive devices is yellow with a black imprint.

Heavy is white with black, red, and yellow imprint.







Imprint	Wd.	Ht.	Labels per Roll		Roll
Fragile	4″	4″	250	2031T56	$14.56
Attention Electrostatic Sensitive Devices	4″	4″	250	2031T55	14.56
Heavy	8″	2″	250	2031T53	14.94

Metal Strapping



Coil



Mini Coil in Dispenser Box



Solid



Punched

Secure your pallet loads, bundles, and crates with this strapping.

Coils are wound like a spool of thread. *Carbon steel* coils weigh approximately 100 lbs. *Type 302 stainless steel* coils weigh approximately 85 lbs. ***Mini coils*** are wound like a roll of tape, so the coil width is equal to the strapping width.

Low-carbon steel has a black painted finish, finished edges, and a wax coating to reduce friction. Meets ASTM D3953.

High-carbon steel is heat treated, providing high strength with elongation for shock resistance. Strapping has a black painted finish, rounded edges, and a wax coating to reduce friction. Meets ASTM D3953.

Type 302 stainless steel offers superior corrosion resistance over carbon steel. This strapping is oiled for lubricity. Meets ASTM A666.

Note: To match strapping with compatible seals, tools, and dispensers, choose items with the same "Strapping Group No." For strapping tensioners and kits, see page 1615. For strapping dispensers, see page 1618.

Strapping Group No.	Strapping Wd.	Strapping Thick.	Average Breaking Strength, lbs.	Coil 3" Wd. × 16" ID Approx. Lg., ft.			Mini Coil in Dispenser Box Approx. Lg., ft.		
Low-Carbon Steel—Solid									
1	3/8"	0.015"	675	5,500	19285T11	$135.76	300	19285T31	$22.31
2	1/2"	0.015"	900	4,125	19285T12	133.02	300	19285T32	24.07
2	1/2"	0.020"	1,150	3,085	19285T13	123.00	300	19285T33	25.48
3	1/2"	0.023"	1,320	2,685	19285T14	122.72	300	19285T34	25.94
4	5/8"	0.015"	1,080	3,295	19285T15	131.66	300	19285T35	26.55
4	5/8"	0.020"	1,440	2,475	19285T16	121.78	300	19285T36	26.75
5	5/8"	0.023"	1,650	2,150	19285T17	121.28	300	19285T37	27.81
6	3/4"	0.015"	1,300	2,750	19285T18	133.40	300	19285T38	26.49
6	3/4"	0.020"	1,725	2,055	19285T19	118.78	300	19285T39	26.74
7	3/4"	0.023"	1,980	1,795	19285T21	116.74	300	19285T41	27.09
Low-Carbon Steel—Punched (0.14" hole dia. on 3/4" centers)									
6	3/4"	0.020"	1,425	1,960	19285T96	114.25	200	19285T91	40.80
High-Carbon Steel—Solid									
2	1/2"	0.020"	1,500	3,085	14615T11	135.81	300	14615T41	25.91
4	5/8"	0.020"	1,875	2,475	14615T12	132.25	300	14615T42	29.71
5	5/8"	0.023"	2,150	2,150	14615T13	133.13	300	14615T43	33.79
8	3/4"	0.025"	2,800	1,645	14615T14	123.79	300	14615T47	37.46
8	3/4"	0.031"	3,500	1,330	14615T15	120.46	300	14615T48	35.98
9	1 1/4"	0.029"	5,540	865	14615T18★	124.02	—	—	—
9	1 1/4"	0.031"	5,500	810	14615T21★	118.94	200	14615T46	27.25
Type 302 Stainless Steel—Solid									
2	1/2"	0.015"	900	3,330	2111T21	537.10	200	2111T35	47.50
2	1/2"	0.020"	1,200	2,500	2111T22	541.46	200	2111T36	58.67
6	3/4"	0.020"	1,800	1,665	2111T23	545.90	200	2111T37	90.42
8	3/4"	0.025"	2,675	1,330	2111T24	550.41	200	2111T38	108.33

★ Coil is 1 1/4" wide.

Seals for Metal Strapping



Open



Closed

Seals are crimped onto metal strapping with a sealer (sold separately) to keep strapping under tension.

Open seals are for use on flat surfaces. They snap onto overlapping strap ends during or after application of tension.

Closed seals are for use on irregular surfaces as well as rounded objects. They feed onto strap ends before tension is applied with a tensioner.

Zinc-plated steel seals meet ASTM D3953. ***Type 304 stainless steel*** seals meet ASTM A666.

Note: To match seals with compatible strapping, choose items with the same strapping width or "Strapping Group No."

For Strapping Group No.	For Strapping Width	Length	Pkg. Qty.	Open Seals		Closed Seals	
					Pkg.		Pkg.
Zinc-Plated Steel							
1	3/8"	1"	250	14595T1	$8.96	14595T5	$11.83
2, 3	1/2"	1"	250	14595T2	10.58	14595T6	11.32
4, 5	5/8"	1"	250	14595T3	10.79	14595T7	13.01
6-8	3/4"	1"	250	14595T4	11.64	14595T8	13.54
6-8	3/4"	1 3/4"	50	14595T9	5.91	14595T12	8.16
9	1 1/4"	2 3/16"	50	14595T11	9.37	14595T13	10.56
Type 304 Stainless Steel							
2, 3	1/2"	1"	25	2112T31	7.46	2112T32	9.25
6-8	3/4"	1"	25	—	—	2112T33	10.14

Sealers for Metal Strapping

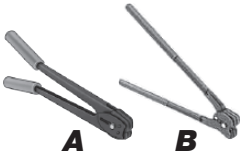

A B



C

Also known as crimpers, sealers secure seals (sold separately) onto metal strapping.

(A&B) Front-action sealers are for use with lower-capacity (narrow and thin) strapping.

(C) Side-action sealers are for use with higher-capacity (wide and thick) strapping when extra force is needed.

Sealers for open seals cut two notches on each side of the seal with one operation.

Sealers for closed seals cut a single notch on each side of the seal with one operation. For best results, apply two notches per seal.

Note: To match a sealer with compatible strapping, choose items with the same strapping width and thickness or "Strapping Group No."

For Strapping Group No.	For Strapping Width	For Strapping Thickness	For Open Seals		For Closed Seals	
Front-Action Sealers						
A 1	3/8"	0.015"-0.025"	20275T46	$97.40	20275T513	$106.48
A 2, 3	1/2"	0.015"-0.023"	20275T47	96.76	20275T514	104.54
A 4, 5	5/8"	0.015"-0.023"	20275T48	97.40	20275T515	104.54
A 6, 7	3/4"	0.015"-0.023"	20275T49	97.40	20275T516	104.54
B 3	1/2"	0.023"-0.031"	20275T51	180.40	—	—
B 5	5/8"	0.023"-0.031"	20275T52	180.40	—	—
B 7, 8	3/4"	0.023"-0.031"	20275T53	180.40	—	—
Side-Action Sealers						
C 8	3/4"	0.025"-0.035"	20275T57	420.83	20275T55	319.81
C 9	1 1/4"	0.025"-0.035"	20275T58	420.83	20275T56	319.81

Tensioners for Metal Strapping

Tensioners draw strapping tight around your packages.

Tensioners for Open Seals— Use on flat surfaces. Strapping is wrapped around the package and overlapped on top.

Tensioners for Closed Seals— Use on irregular surfaces as well as rounded objects. Place the seal on one end and fold strapping back to form a hook, then slide the other end of the strapping through the seal. Tensioners push against the seal as they tighten strapping.

Styles A and ***C*** have ratchet action for unlimited take-up. Tensioner holds the bottom strap while a feedwheel bites into the strap and tightens it.

Style B holds the bottom strap and tensions the top strap by winding it around the take-up wheel for maximum tension.

Styles D and ***E*** are a rack-and-pinion style that pushes the seal to create high tension without slip. Pull strapping tight manually before applying tension.

Note: To match a tensioner to compatible strapping, choose items with the same strapping width and thickness or "Strapping Group No." For strapping, see page 1614.

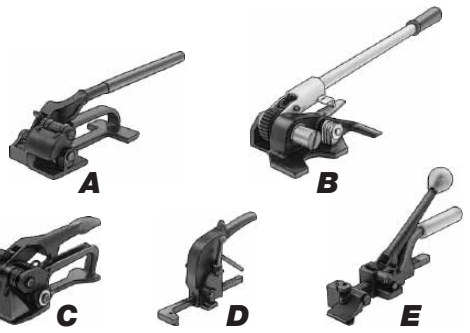

Tensioners For Open Seals

For Strapping Group No.	For Strapping Width	For Strapping Thickness		
Standard				
A ... 1-7	3/8"- 3/4"	0.015"-0.023"	2071T163	$186.96
A ... 8, 9	3/4"-1 1/4"	0.025"-0.031"	2071T164	438.94
High Tension				
B ... 8, 9	3/4"-1 1/4"	0.025"-0.035"	2071T79	393.23

Tensioners For Closed Seals

For Strapping Group No.	For Strapping Width	For Strapping Thickness		
Standard				
C ... 1-7	3/8"- 3/4"	0.015"-0.025"	20275T24	$379.18
C ... 5, 7-9	5/8"-1 1/4"	0.023"-0.031"	20275T25	463.22
High Tension				
D ... 1-7	3/8"- 3/4"	0.015"-0.023"	20275T23	310.38
E ... 5, 7-9	5/8"-1 1/4"	0.023"-0.031"	20275T22	413.20

Combination Tensioners/Sealers for Metal Strapping

These tools do double duty, pulling metal strapping tight and then sealing it. They create a sealless joint by crimping interlocking notches into the strapping and cutting off the excess.

Note: To match tensioners/sealers with compatible strapping, choose items with the same strapping width and thickness or "Strapping Group No." For strapping, see page 1614.

For Strapping Group No.	For Strapping Width	For Strapping Thickness		
2, 3	1/2"	0.015"-0.025"	20275T91	$1,124.76
4, 5	5/8"	0.015"-0.025"	20275T92	1,124.76
6, 7	3/4"	0.015"-0.025"	20275T93	1,124.76



Metal Strapping Kits

All kits include a tensioner, a sealer, and a strap cutter.

Open seals are best for flat surfaces. *Closed seals* can be used on irregular surfaces as well as rounded objects.

Kits with mini coils have two 200-ft. mini coils of low-carbon steel strapping in dispenser boxes and 500 open seals. Kits come in a steel carrying case with trays for storing tools.

Dispenser kits include a steel dispenser with a tool tray and wheels and 2,500 seals for high-volume applications. Use with 3" wide coils of strapping (sold separately on page 1614). *Note:* To match a kit to compatible strapping, choose items with the same strapping width and thickness or "Strapping Group No."







Kits with Mini Coils

	Average Breaking Strength, lbs.	Kits with Open Seals	Each	Extra Strapping	Each	Extra Seals Pkg. Qty.	Pkg.
With 1/2" x 0.020" Strapping	1,180	20455T24	$440.20	20455T32	$24.26	500	20455T56 $13.85
With 3/4" x 0.020" Strapping	1,765	20455T26	492.21	20455T34	34.60	500	20455T58 15.73

Dispenser Kits

For Strapping Group No.	For Strapping Width	For Strapping Thickness	Kits with Open Seals	Each	Kits with Closed Seals	Each	Extra Seals Pkg. Qty.	Open Seals Pkg.	Closed Seals Pkg.
2, 3	1/2"	0.015"-0.023"	20455T11	$617.40	20455T15	$870.56	250	14595T2 $10.58	14595T6 $11.32
4, 5	5/8"	0.015"-0.023"	20455T12	617.40	20455T16	870.56	250	14595T3 10.79	14595T7 13.01
6, 7	3/4"	0.015"-0.023"	20455T13	617.40	20455T17	996.09	250	14595T4 11.64	14595T8 13.54

Edge and Corner Protectors

Protect the edges and corners of your boxes from strapping indentations and bumps during shipping. All protectors are formed 90° angles.

Cardboard protectors are made of multiple layers of cardboard that are glued and laminated. They also improve the stacking strength of boxes. Color is white.

Plastic protectors have a ridged channel to hold metal or plastic strapping in place during tightening. The outside of the protector is nonslip and nonmarring. Color is black.


Cardboard


Plastic

Cardboard Protectors

Wd.	Ht.	0.160" Thick Pkg. Qty.		Pkg.	0.225" Thick Pkg. Qty.		Pkg.
3"	2"	50	19275T31	$11.40	—	—	—
3"	3"	—	—	—	25	19275T41	$9.78
24"	3"	5	19275T32	8.02	5	19275T42	11.56
36"	3"	5	19275T33	10.60	1	19275T43	5.41
48"	3"	1	19275T34	5.41	1	19275T44	6.27

Plastic Protectors

Wd.	Ht.	Thick.	Pkg. Qty.		Pkg.
1 3/8"	1"	0.095"	100	1967T43♦	$6.25
2 1/2"	1 3/4"	0.090"	100	1967T44	12.12
5 1/4"	2"	0.120"	50	1967T45	15.45

♦ Color is white.

Plastic Strapping


Coil


Mini Coil in Dispenser Box

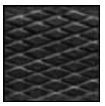
Embossed


Bonded

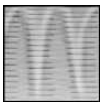
Woven

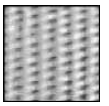
Heavy Duty Woven

Lighter and safer than metal, plastic strapping is also more flexible.

Coils are wound like a spool of thread. ***Mini coils*** are wound like a roll of tape, so the coil width equals the strapping width.

Embossed polypropylene is for light duty applications. Color is black.

Smooth polyester is stronger than polypropylene strapping. It can sustain a moderate stretch and return to its original condition. Color is black.

Bonded polyester is pliable and shock resistant. Color is white.

Woven polyester is flexible and shock resistant like bonded polyester but has a cross thread to prevent tearing and fraying. Color is white.

Heavy duty woven polyester is thicker and more durable than woven polyester strapping. Color is white.

Note: To match strapping with compatible seals, tools, and dispensers, choose items with the same "Strapping Group No." For strapping tensioners and kits, see page 1617. For strapping dispensers, see page 1618.

Strapping Group No.	Strapping Wd.	Strapping Thick.	Average Breaking Strength, lbs.	Coils 3" Wd. × 16" ID Approx. Lg., ft.			Coils 6" Wd. × 16" ID Approx. Lg., ft.			Mini Coils in Dispenser Box Approx. Lg., ft.		
Embossed Polypropylene												
10	3/8"	0.020"	250	—	—	—	—	—	—	300	14495T77	$4.91
11	1/2"	0.018"	300	4,500	14495T32	$40.50	9,000	14495T52	$58.13	300	14495T62	7.83
11	1/2"	0.022"	500	—	—	—	8,000	14495T81★	135.31	300	14495T82★	10.40
11	1/2"	0.026"	500	3,600	14495T74	39.51	7,200	14495T73	74.07	300	14495T75	7.91
12	1/2"	0.030"	600	3,600	14495T33	54.24	7,200	14495T53	88.74	300	14495T63	10.05
13	5/8"	0.025"	700	3,000	14495T34	54.87	6,000	14495T54	99.74	300	14495T78	10.60
17	3/4"	0.033"	1,000	2,200	14495T71	63.08	4,500	14495T72	110.61	300	14495T79	15.56
Smooth Polyester												
14	1/2"	0.020"	600	3,600	14465T11	67.41	7,200	14465T21	120.82	300	14465T31	12.96
14	1/2"	0.025"	775	2,900	14465T12	63.82	5,800	14465T22	120.21	300	14465T32	14.57
15	5/8"	0.025"	900	2,300	14465T13	64.13	4,600	14465T23	128.18	300	14465T33	17.62
16	5/8"	0.030"	1,100	1,900	14465T14	62.85	3,800	14465T51 ♣	109.82	300	14465T34	20.86
16	5/8"	0.035"	1,400	2,000	14465T15 ♣	79.11	4,000	14465T52 ♣	120.82	300	14465T53	24.61
17	3/4"	0.040"	1,600	—	—	—	3,000	14465T16 ♣	158.11	300	14465T17 ♣	28.38
Bonded Polyester				***5 1/2" Wd. × 3" ID***								
10	3/8"	0.025"	500	5,250	14575T51	95.95	—	—	—	1,125	14575T41 ♥	31.08
14	1/2"	0.025"	650	3,900	14575T52	94.59	—	—	—	750	14575T42 ♥	31.08
15	5/8"	0.025"	800	3,000	14575T53	93.24	—	—	—	600	14575T43 ♥	31.08
17	3/4"	0.025"	950	2,100	14575T54	90.54	—	—	—	420	14575T44 ♥	31.08
Woven Polyester				***5 1/2" Wd. × 3" ID***								
10	3/8"	0.025"	500	5,250	14575T14	99.74	—	—	—	300	14575T21	12.66
11	1/2"	0.025"	650	3,900	14575T11	98.65	—	—	—	300	14575T22	16.20
13	5/8"	0.025"	800	3,000	14575T12	97.27	—	—	—	300	14575T23	21.00
17	3/4"	0.025"	950	2,100	14575T13	94.59	—	—	—	300	14575T24	23.68
Heavy Duty Woven Polyester				***6 1/4" Wd. × 3" ID***								
18	5/8"	0.032"	1,005	3,000	1585T22	111.80	—	—	—	—	—	—
19	3/4"	0.041"	1,835	2,000	1585T24	136.10	—	—	—	250	1585T27 ▲■	18.90
20	1 1/4"	0.042"	2,865	—	—	—	—	—	—	330	1585T25 ■	33.90

★ Made of smooth polypropylene. ♣ Color is green. ♥ Coil is 3" wide. ▲ Coil is 6 1/4" wide. ■ Coil does not come in a dispenser box.

Buckles and Seals for Plastic Strapping

Buckles and seals hold strapping under tension. *Note:* To match buckles and seals to compatible strapping, choose items with the same strapping material and width or material and "Strapping Group No."

Buckles


Plastic


Steel Wire

Buckles are designed for low-tension applications. Tighten strapping by hand or with a tensioner. ***Plastic*** and ***steel wire*** buckles are for polypropylene and bonded and woven polyester strapping. ***Heavy duty steel wire*** buckles are for heavy duty woven polyester strapping.

For Strapping Group No.	For Strapping Width	Lg.	Pkg. Qty.		Pkg.
Plastic					
10-12, 14	3/8", 1/2"	2 1/8"	250	1958T81	$7.58
11-15	1/2", 5/8"	2 1/4"	200	1958T87	7.26
Steel Wire					
10	3/8"	3/4"	250	1958T83	10.30
11, 12, 14	1/2"	1"	250	1958T84	11.14
13, 15	5/8"	1 1/4"	100	1958T85	5.51
17	3/4"	1 1/4"	100	1958T86	6.51
Heavy Duty Steel Wire					
18	5/8"	1"	10	1958T65	3.88
19	3/4"	1 1/4"	10	1958T66	4.92
20	1 1/4"	2 1/4"	10	1958T67	5.18

Seals

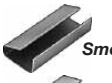
Smooth


Serrated

Crimp with a sealer after tightening strapping with a tensioner. Seals are made of zinc-plated steel.

Smooth seals meet ASTM D3950. ***Serrated*** seals have teeth on the inside to bite strapping for high-strength applications.

For Strapping Group No.	For Strapping Width	Lg.	Pkg. Qty.		Pkg.
Smooth—*For Polypropylene Strapping*					
10	3/8"	1 1/4"	250	1958T91	$10.03
11, 12	1/2"	1 1/4"	100	1958T92	4.99
13	5/8"	1 1/4"	100	1958T93	5.62
17	3/4"	1 1/4"	100	1958T94	6.24
Serrated—*For Smooth Polyester Strapping*					
14	1/2"	1 1/4"	100	1958T53	7.26
15, 16	5/8"	1 1/4"	100	1958T76	9.57
17	3/4"	1 1/4"	50	1958T11	9.88

Sealers for Plastic Strapping



Also known as crimpers, sealers secure seals (sold separately) on strapping.

Note: To match a sealer to compatible strapping, choose items with the same strapping width and thickness or "Strapping Group No."

For Strapping Group No.	For Strapping Width	For Strapping Thickness	Handle Length		
For Smooth Seals and Polypropylene Strapping					
10	3/8"	0.015"-0.023"	14"	20885T31	$201.87
11	1/2"	0.010"-0.027"	13"	20885T32	46.82
11	1/2"	0.010"-0.027"	17"	20885T33	52.93
12	1/2"	0.015"-0.031"	17"	20885T41	94.00
13	5/8"	0.010"-0.027"	17"	20885T38	57.18
17	3/4"	0.015"-0.040"	17"	20885T61	94.00
For Serrated Seals and Smooth Polyester Strapping					
14	1/2"	0.015"-0.040"	17"	20885T27	105.00
15, 16	5/8"	0.020"-0.050"	17"	20885T28	105.00
17	3/4"	0.020"-0.050"	17"	20885T11	166.86

Tensioners for Plastic Strapping

(A&B) Hand-tension styles are designed for use with buckles in low-tension applications. ***Style A*** lets you tighten strapping while threading plastic or wire buckles. It has a built-in cutter. ***Style B*** uses leverage to pull strapping tight.

(C&D) High-tension styles hold the bottom strap and tension the top strap by winding it around a take-up wheel. All have a built-in cutter.

Note: To match tensioners to compatible strapping, choose items with the same strapping material, width, and thickness or material and "Strapping Group No." For strapping, see page 1616.

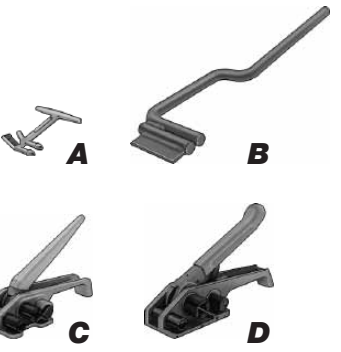

For Strapping Material	For Strapping Group No.	For Strapping Width	For Strapping Thickness		
Hand Tension					
A ... Polypropylene	10-13, 17	1/4"-3/4"	Up to 0.045"	20885T81	$4.50
B ... Heavy Duty Woven Polyester	18-20	Up to 1 1/2"	Up to 0.070"	20885T14	41.10
High Tension					
C ... Polypropylene	10-13, 17	1/4"-3/4"	Up to 0.035"	20885T65	71.70
D ... Polypropylene and Polyester	11-19	1/2"-3/4"	0.015"-0.050"	20885T263	145.11
D ... Polypropylene and Polyester	13, 15-20	5/8"-1 1/4"	0.025"-0.050"	20885T66	450.00

Combination Tensioners/Sealers for Plastic Strapping

With one tool you can tighten and seal polypropylene and smooth polyester strapping.

(E) Manual tensioners/sealers have multiple levers for tensioning and sealing. They require a separate seal to make the joint in a strapping assembly. Serrated zinc-plated steel seals sold separately.

(F&G) Battery-powered tensioners/sealers use heat and friction to create a sealless weld on strapping.

(F) Has manual tension, so the battery is used only for the sealing and cutting process. An adjustable friction clutch prevents overtightening of the strapping. Comes with a rechargeable 12-volt battery and a battery charger that operates on 120 VAC and has a 6-ft. power cord with a two-prong plug.

(G) Have automatic tension, cutting, and sealing. Come with two rechargeable 18-volt batteries and battery charger that operates on 120 VAC and has a 6-ft. power cord with a two-prong plug.

Note: To match tensioners/sealers to compatible strapping, choose items with the same strapping material, width, and thickness or material and "Strapping Group No." For strapping, see page 1616.



For Strapping Group No.	For Strapping Width	For Strapping Thickness	***Tensioners/Sealers*** Each	***Seals*** Pkg. Qty.		Pkg.
Manual						
E ... 11, 14	1/2"	Up to 0.031"	20885T62 ... $590.00	100	1958T53	$7.26
E ... 13, 15, 16	5/8"	Up to 0.040"	20885T67 ... 590.00	100	1958T76	9.57
Battery Powered						
F ... 10-17	3/8"-3/4"	0.018"-0.040"	20995T3 ... 2,131.15	—	—	—
G ... 11, 14	1/2"	0.016"-0.025"	2097T43 ... 3,676.39	—	—	—
G ... 12	1/2"	0.026"-0.041"	2097T44 ... 3,676.39	—	—	—
G ... 13, 15, 16	5/8"	0.026"-0.041"	2097T45 ... 3,676.39	—	—	—

Replacement 12-Volt Battery for Style F	20995T7	Each	$267.27
Replacement 18-Volt Battery for Style G	2097T61	Each	$262.50

Plastic Strapping Kits



Everything you need to handle plastic strapping tasks. Strapping is black and comes in a dispenser box, except for Style K, which comes on a steel dispenser with wheels.

Smooth polyester strapping is stronger than polypropylene. It can sustain a moderate stretch and return to its original condition.

(H) Include a tensioner with built-in cutter and 300 buckles.

(J) Includes a tensioner, sealer, and 1,000 seals.

(K) Include a tensioner, sealer, and 500 seals.

Strapping Wd.	Thick.	Average Breaking Strength, lbs.	Coil Lg., ft.		Each
Kits with Polypropylene Strapping					
With Plastic Buckles					
H ... 1/2"	0.018"	300	3,000	1966T1	$46.64
With Steel Wire Buckles					
H ... 1/2"	0.018"	300	3,000	1966T3	46.64
With Smooth Seals					
J ... 1/2"	0.026"	500	7,200	1966T31	284.73
K ... 1/2"	0.026"	500	3,600	1966T32	582.41
Kit with Smooth Polyester Strapping					
With Serrated Seals					
K ... 1/2"	0.025"	775	5,800	1966T33	646.87
Extra Buckles and Seals					
Plastic Buckles (250/Pkg.)				1966T8 Pkg.	$7.58
Wire Buckles (250/Pkg.)				1966T9 Pkg.	$11.14
Smooth Seals (250/Pkg.)				1966T11 Pkg.	$7.42
Serrated Seals (100/Pkg.)				1958T53 Pkg.	$7.26

Strapping Machines



Capable of securing 15 polypropylene straps per minute, this portable machine saves you time and energy. Strapping is manually pulled over the package and fed into the strapping inlet. Machine tensions the strapping around the package, makes a sealless weld, and feeds out strapping for the next package. Use with 8" wide × 8" ID coils of polypropylene strapping (sold separately).

Machine is 35" Lg. × 23" Wd. × 30" Ht. It has four swivel casters, two with brakes. Unit operates on 120 VAC @ 4.6 amps, 50/60 Hz. Comes with a 15-ft. power cord with a three-prong plug.

For Strapping Width

3/8" and 1/2"	1950T5	...	$1,210.64

Plastic Strapping for Strapping Machines



Polypropylene strapping is furnished on coils designed to fit strapping machines. Color is white.

Strapping Width	Thickness	Average Breaking Strength, lbs.	Approx. Lg., ft.		
8" Wd. × 8" ID Coils					
1/4"	0.024"	200	18,000	1950T11	$96.00
3/8"	0.022"	300	12,900	1950T6	80.44
1/2"	0.024"	325	9,900	1950T7	80.51
1/2"	0.028"	500	7,200	1950T12	85.42
8" Wd. × 9" ID Coils					
1/4"	0.024"	200	18,000	1950T13	96.00
3/8"	0.022"	300	12,900	1950T14	80.44
1/2"	0.024"	325	9,900	1950T15	80.51
1/2"	0.028"	500	7,200	1950T16	85.42

Strapping Dispensers


A


B


C


D


E

Keep strapping coils neat and ready to use. All dispensers are steel with a black painted finish. Include a tool tray, unless otherwise stated.

(A) Has large wheels for better maneuvering and has a spring-loaded brake that prevents strapping from unspooling.

(B) Lays horizontally on a work surface. Does not include a tool tray.

(C) Has rubber tires that work well on rough surfaces and a brake that prevents strapping from unspooling.

(E) Holds up to three mini coils in dispenser box.

Note: To match dispensers to compatible strapping, choose items with the same strapping material, width, coil width, and ID or the same material and "Strapping Group No." For strapping, see pages 1614 and 1616.

	For Strapping Material	For Strapping Group No.	For Strapping Width	For Coil Width	For Coil ID		
For Coils							
A	Steel and Plastic	1-8, 10-17	3⁄8″-3⁄4″	3″-6″	16″	14635T11	$333.51
B	Steel	1-8	3⁄8″-3⁄4″	3″	16″	14635T15	571.07
C	Steel	9	3⁄4″-1 1⁄4″	3⁄4″-1 1⁄4″	16″	14635T14	496.88
D	Bonded and Woven Polyester	11, 13-15, 17-19	1⁄2″-1 1⁄4″	3″-6 1⁄4″	3″	14635T17	220.50
For Mini Coils in Dispenser Box							
E	Steel and Plastic	6-9, 17, 19, 20	3⁄4″-2″	3⁄4″-2″	—	14635T13	518.09

Bale and Bundle Wire Ties



Single-loop ties have a loop on one end. Feed the straight end through the loop and twist. They are longer for cardboard, lumber, and other large bundles. *Black annealed steel* is pliable. *Painted steel* is more corrosion resistant than black annealed steel. Color is gray.

Double-loop ties are shorter than single-loop ties and have a loop on each end that can be twisted around each other for a secure closure. Use on bags, cables, and other small bundles. *Black annealed steel* is pliable. *Type 304 stainless steel* offers better corrosion resistance than black annealed steel. *PVC-coated steel* reduces slipping and allows for extra-tight twists. Color is yellow.

Single-Loop Ties

Lg., ft.	Pkg. Qty.	Black Annealed Steel	Pkg.	Painted Steel	Pkg.
14 Gauge (0.08″ OD)					
8	25	2000T81	$10.39	2000T21	$10.84
10	25	2000T82	12.91	2000T22	13.51
12	25	2000T83	15.43	2000T23	16.16
14	25	2000T84	17.98	2000T24	18.80
15	25	2000T85	19.22	2000T25	20.09
18	25	2000T86	22.98	2000T26	24.04
13 Gauge (0.09″ OD)					
8	25	2000T71	13.59	2000T31	14.22
10	25	2000T72	16.89	2000T32	17.64
12	25	2000T73	20.15	2000T33	21.09
14	25	2000T74	23.46	2000T34	24.53
15	25	2000T75	25.09	2000T35	26.24
18	25	2000T76	30.00	2000T36	31.38

Double-Loop Ties

Lg.	Pkg. Qty.		Pkg.
Black Annealed Steel			
19 Gauge (0.041″ OD)			
4″	500	2001T54	$10.35
6″	500	2001T55	11.30
8″	500	2001T56	12.28
17 Gauge (0.054″ OD)			
3″	500	2001T58	11.65
4″	500	2001T59	12.12
5″	500	2001T61	11.72
16 Gauge (0.063″ OD)			
6″	250	2001T64	7.35
7″	250	2001T66	10.42
8″	250	2001T67	10.60
9″	250	2001T68	11.36
10″	250	2001T69	11.80
11″	250	2001T51	12.36
12″	250	2001T52	12.98
14″	250	2001T53	14.04
17″	250	2001T79	15.94

Lg.	Pkg. Qty.		Pkg.
Black Annealed Steel (Cont.)			
14 Gauge (0.08″ OD)			
12″	250	2001T88	$15.40
15″	250	2001T98	17.24
Type 304 Stainless Steel			
16 Gauge (0.063″ OD)			
6″	50	2001T211	9.02
8″	50	2001T212	10.26
12″	50	2001T213	12.84
PVC-Coated Steel			
16 Gauge (0.063″ OD)			
4″	250	2001T24	10.56
5″	250	2001T31	11.92
6″	250	2001T26	12.98
7″	250	2001T27	13.85

Wire Tie Twisters



Use with Bale and Bundle Wire Ties. Hooks and shafts are steel.

Standard-grip twister has a revolving handle for quick twisting. Handle is wood.

Spring-return twister has a spiral shaft that rotates when the handle is pulled back. Handle is plastic.

Standard-Grip Twister	2002T3	$2.88
Spring-Return Twister	2002T5	29.63

High-Strength Rubber Banding


Heavy Duty

An economical alternative to strapping, these reusable bands keep items of all shapes and sizes in place during transit. No tools required. Color is green.

Heavy duty are suitable for drums, barrels, pails, and for securing protective covers.

Light duty hold rolled material and small boxes together.

Heavy Duty

Relaxed Band Size Wd.	Thick.	Circum.	For Pallet Size Width	Depth	Pkg. Qty.		Pkg.
1⁄2″	1⁄16″	72″	32″	40″	2	8848T24	$5.88
1⁄2″	1⁄16″	92″	40″	48″	2	8848T25	6.46
3⁄4″	1⁄16″	56″	24″	32″	2	8848T26	5.58
3⁄4″	1⁄16″	72″	32″	40″	2	8848T27	6.22
3⁄4″	1⁄16″	84″	36″	48″	2	8848T28	6.56
3⁄4″	1⁄16″	92″	40″	48″	2	8848T29	7.01
3⁄4″	1⁄16″	112″	48″	60″	2	8848T31	7.78
1 1⁄2″	1⁄16″	72″	32″	40″	1	8848T83	6.37
1 1⁄2″	1⁄16″	92″	48″	48″	1	8848T84	7.15
1 1⁄2″	1⁄16″	112″	48″	60″	1	8848T32	9.98

Light Duty

Relaxed Band Size Wd.	Thick.	Circum.	Pkg. Qty.		Pkg.
1⁄4″	1⁄16″	24″	25	8848T91	$8.05
1⁄4″	1⁄16″	28″	25	8848T92	8.77
1⁄4″	1⁄16″	46″	10	8848T94	6.36
1⁄4″	1⁄16″	52″	10	8848T95	7.42
1⁄4″	1⁄16″	80″	5	8848T96	5.81
1⁄2″	1⁄16″	28″	10	8848T93	7.10
1⁄2″	1⁄16″	46″	5	8848T81	5.84
3⁄4″	1⁄16″	46″	5	8848T82	8.34

High-Security Tamper Seals

Our strongest tamper seals require cable or bolt cutters for removal. Not offered blank for security reasons. Seals meet C-TPAT (Customs-Trade Partnership Against Terrorism) and U.S. International Customs (ISO 17712) requirements, unless noted.

(1) Wire Rope Seals— Seals are made of strong steel cable with a chrome-plated steel locking end fitting.

(2) Pull-Tight Wire Rope Seals— Insert the free end of the rope into the seal and pull it tight. Seal body is coated zinc, except 2083T34 is anodized aluminum. Wire rope is galvanized steel.

(3) Bolt-Style Seal— Bolt is steel with a plastic coating that resists corrosion yet scratches easily to show evidence of tampering. To install, snap apart the plastic attachment holding the bolt and body together and insert the bolt into the body.

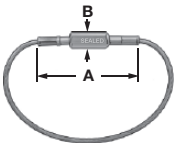

1



2

Stock Seals

Wire rope seals are stamped "Sealed" and have random numbers. *Bolt-style seal* is stamped with one letter and six random numbers. When sealed, overall length is 3½".

Seal Size (A)	Seal Size (B)	Wire Rope Dia.	Open Lg.	Avg. Breaking Strength, lbs.	Color		Each
(1) Wire Rope Seal							
3½"	9/16"	3/16"	16½"	2,250	—	1943T12	$2.91
(2) Pull-Tight Wire Rope Seals							
3/4"	1 1/4"	1/16"	12"	750	White	2083T31♦	3.74
1"	1 1/4"	1/8"	12"	2,250	White	2083T52	4.15
1 5/8"	1 3/8"	3/16"	12"	4,500	Red	2083T34	3.14
(3) Bolt-Style Seal							
1 9/16"	7/16"	—	—	3,000	Yellow	19515T2	2.59

♦ Does not meet C-TPAT or ISO 17712 requirements.

Custom Seals

Personalize seals with wording and numbers. **To Order:** Please specify characters, starting number (all seals will be consecutively numbered from the starting number), and color (where applicable). Blu=Blue, Grn=Green, and Wh=White.

Note: The maximum number of characters per line includes spaces.

Seal Size (A)	Seal Size (B)	Wire Rope Dia.	Open Lg.	Avg. Breaking Strength, lbs.	Characters Max. Lines	Characters Max. per Line	Max. Digits in Starting Number	Available Colors	Min. Order		Per 100
(1) Wire Rope Seal											
3½"	9/16"	3/16"	16½"	2,250	1	8	6	—	100	1943T11	$336.07
(2) Pull-Tight Wire Rope Seals											
3/4"	1 1/4"	1/16"	12"	750	1	6	6	Blu, Grn, Red, Wh.	100	2083T41♦	327.50
1"	1 1/4"	1/8"	12"	2,250	1	8	6	Blu, Grn, Red, Wh.	100	2083T62	362.50

♦ Does not meet C-TPAT or ISO 17712 requirements.


3
Open

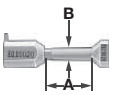

Sealed

Tamper Seals

Insert the free end into the seal body to close. Seals must be cut or broken to be opened. Not offered blank for security reasons. Seals are plastic, unless otherwise stated.

Fixed-loop seals have a set loop size when the seal end is pushed into the seal body. Use on trucks and other containers with large openings. ***Pull-tight seals*** adjust to keep a tight seal on containers.

(5&6) Conform to Mil. Spec. FF-S-2738A. Made of tin-plated steel.

(7) Imprinted with a black bar code. Made of tin-plated steel. *Code 39* seal has M11 identification and eight characters. *Interleaved 2 of 5* seal has M12 identification and 12 characters.

(9) Have a wire hasp loop end.

(10) Has a pull tab for tool-free removal.

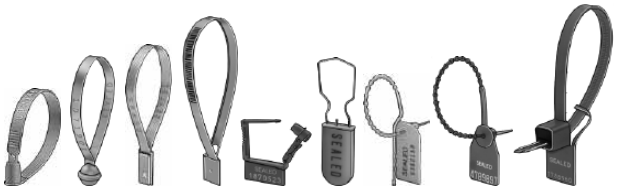
4 5 6 7 8 9 10 11 12

Stock Seals

Seals are stamped "Sealed" and have random consecutive numbers.

Wd.	Open Lg.	Avg. Breaking Strength, lbs.	Color	Pkg. Qty.		Pkg.
Fixed-Loop Seals						
4	5/16"	8 1/4"	55	Blue	40	2076T15	$9.14
5	5/16"	8 1/2"	150	Silver	50	2003T62	13.35
6	5/16"	8 3/4"	90	Silver	50	2003T61	8.38
Fixed-Loop Bar-Code Seal *—Code 39*						
7	3/8"	8 3/8"	100	White	25	21155T21	11.25
Fixed-Loop Bar-Code Seal *—Interleaved 2 of 5*						
7	3/8"	8 3/8"	100	White	25	21155T22	11.25

Wd.	Open Lg.	Avg. Breaking Strength, lbs.	Color	Pkg. Qty.		Pkg.
Padlock-Style Seals						
8	1 1/16"	1 1/2"	3	Red	50	19125T3	$12.22
9	3/4"	3 1/8"	100	Red	50	2041T5	10.70
Pull-Tight Seals						
10	1/8"	7 7/8"	6	White	50	2162T11	12.47
11	3/16"	9 7/8"	50	Red	50	21245T21	11.63
12	3/8"	11 5/8"	110	Red	50	21075T21	14.42

Custom Seals

Personalize seals with wording and numbers. Styles 5 and 6 are available with a silver finish or coated with colored polyester.

To Order: Please specify characters and starting number (all seals will be consecutively numbered from the starting number). For seals with two or three lines of characters, please specify characters and on which line they should appear. Where applicable, please also specify color. Blk=Black, Blu=Blue, Gry=Gray, Grn=Green, Or=Orange, and Yel=Yellow.

Note: The maximum number of characters per line includes spaces.

Wd.	Open Lg.	Avg. Breaking Strength, lbs.	Characters Max. Lines	Characters Max. per Line	Max. Digits in Starting Number	Available Colors	Min. Order		Per 1,000 1,000-4,999	Per 1,000 5,000-Up
Fixed-Loop Seals										
4	5/16"	8 1/4"	55	1	20	7	Blu, Grn, Red, Yel	1,000	2076T11	$283.33	$242.86
5	5/16"	8 1/2"	150	1	18	7	Silver	1,000	2003T28■	250.84	229.68
5	5/16"	8 1/2"	150	1	18	7	Blu, Grn, Or, Red, Yel	1,000	2003T29■	268.41	247.24
6	5/16"	8 3/4"	90	1	15	7	Silver	1,000	2003T26■	142.70	117.08
6	5/16"	8 3/4"	90	1	15	7	Blu, Grn, Or, Red, Yel	1,000	2003T27■	169.73	144.11
Padlock-Style Seals										
8	1 1/16"	1 1/2"	3	2	11	7	Blu, Grn, Red, Yel	1,000	19125T2	399.70	340.43
9	3/4"	3 1/8"	100	3	13	7	Blk, Blu, Gry, Grn, Or, Red, Yel	1,000	2041T7	199.74	180.47
Pull-Tight Seals										
11	3/16"	9 7/8"	50	3	11	7	Blu, Grn, Red, Yel	1,000	21245T11	425.00	361.70
12	3/8"	11 5/8"	110	3	13	7	Blu, Grn, Red, Yel	1,000	21075T11	475.00	395.83

■ Order in multiples of 100.

Tamper Seals

Tamper Seal Labels

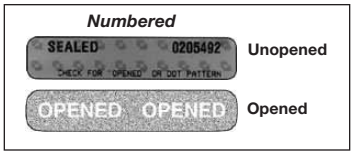

You'll know instantly if someone has peeled off these security labels. When peeled, the adhesive separates from the backing to reveal the word "Opened." Not offered blank for security reasons.
Numbered label is imprinted with "Sealed" and random consecutive numbers. ***Numbered and bar coded*** label is imprinted with random consecutive numbers and standard bar code 39.

	Lg.	Wd.	Pkg. Qty.	Pkg.
Numbered	2½″	½″	50	20195T3 $10.91
Numbered and Bar Coded	2⅝″	1″	100	20195T5 13.80

Disc-Style Tamper Seals


With Lead Disc


With Numbered Lead Disc


With Aluminum Disc

Know if your controls, valves, and containers have been tampered with. To seal, insert the end of the wire into the hole in the disc and close it permanently with a seal press (sold separately).

Stock Seals

One end of the wire is anchored in the disc. Discs are blank, except ***numbered discs***, which are printed with "Sealed" and six random consecutive numbers.

Disc Size	Wire Ga.	Wire OD	Pkg. Qty.	6″ Lg. Wire Pkg.		8″ Lg. Wire Pkg.		12″ Lg. Wire Pkg.	
Lead Disc with Copper-Coated Steel Wire									
5/16″ Dia.	23	0.052″	100	2011T111	$11.65	2011T121	$12.82	2011T141	$13.91
3/8″ Dia.	23	0.052″	100	2011T151	12.93	2011T161	13.84	2011T181	14.60
7/16″ Dia.	23	0.052″	100	2011T191	13.88	2011T211	14.10	2011T231	14.69
1/2″ Dia.	23	0.052″	100	2011T241	15.86	2011T251	16.30	2011T271	17.35
Lead Disc with Type 304 Stainless Steel Wire									
5/16″ Dia.	27	0.030″	100	2011T331	12.12	2011T341	13.06	2011T361	14.73
3/8″ Dia.	27	0.030″	100	2011T621	12.70	2011T631	13.64	2011T651	15.33
7/16″ Dia.	27	0.030″	100	2011T661	14.05	2011T671	14.97	2011T691	16.55
1/2″ Dia.	27	0.030″	100	2011T921	15.11	2011T931	16.08	2011T951	17.84
Lead Disc with Copper Wire									
5/16″ Dia.	22	0.050″	100	2011T711	17.84	2011T721	20.41	2011T741	25.43
3/8″ Dia.	22	0.050″	100	2011T751	19.10	2011T761	21.69	2011T781	26.83
7/16″ Dia.	22	0.050″	100	2011T791	20.12	2011T801	22.55	2011T821	27.40
1/2″ Dia.	22	0.050″	100	2011T831	24.25	2011T841	25.57	2011T861	29.82
Numbered Lead Disc with Galv. Steel Wire				***12″ Lg. Wire***		***16″ Lg. Wire***		***20″ Lg. Wire***	
7/16″ Dia.	30	0.030″	10	2006T2	7.80	2006T5	8.00	2006T3	8.80
Aluminum Disc with Galvanized Steel Wire				***8″ Lg. Wire***		***10″ Lg. Wire***		***12″ Lg. Wire***	
15/32″ Lg. × 3/8″ Wd.	25	0.055″	50	2069T21	9.55	2069T23	10.45	2069T25	11.25

Custom Seals

Personalize your seals with wording and numbers. Discs are lead and wire is galvanized steel. One end of the wire is anchored in the disc. **To Order:** Please specify characters (up to 10, including spaces) and starting number (up to six digits; all seals will be consecutively numbered from the starting number).

Disc Size	Wire Ga.	Wire OD	Min. Order	12″ Lg. Wire Per 1,000 1,000-4,999	12″ Lg. Wire Per 1,000 5,000-Up	16″ Lg. Wire Per 1,000 1,000-4,999	16″ Lg. Wire Per 1,000 5,000-Up	20″ Lg. Wire Per 1,000 1,000-4,999	20″ Lg. Wire Per 1,000 5,000-Up
7/16″ Dia.	30	0.030″	1,000	2006T1 $725.00	$644.44	2006T7 $775.00	$688.89	2006T9 $875.00	$777.78

Make-Your-Own Seals


Lead Disc

Create seals using discs and strips or spools of twisted wire. ***Discs*** have two holes and are blank. ***Wire spools*** have a 6″ OD and 5/8″ ID.

Disc Size	Hole Dia.	Pkg. Qty.	Discs Pkg.
Lead			
5/16″ Dia.	0.055″	100	2037T11 $6.96
3/8″ Dia.	0.062″	100	2037T12 8.61
7/16″ Dia.	0.072″	100	2037T15 11.46
1/2″ Dia.	0.095″	100	2037T13 13.79
Aluminum — *Use with 22- and 23-ga. wire.*			
15/32″ Lg. × 3/8″ Wd.	0.095″	100	2069T31 9.12

Wire Ga.	Wire OD	Wire Lg.	Pkg. Qty.	Wire Strips Pkg.
Copper-Coated Steel				
23	0.052″	6″	100	2013T61 $6.35
23	0.052″	8″	100	2013T62 8.23
23	0.052″	12″	100	2013T63 12.10
23	0.052″	18″	100	2013T64 12.47


Wire Spool

Wire Material	Wire Ga.	Wire OD	250-ft. Wire Spools Each	500-ft. Wire Spools Each	1,000-ft. Wire Spools Each
Copper-Coated Steel	23	0.052″	2013T26 $23.19	2013T24 $37.94	2013T25 $70.26
Galvanized Steel	23	0.052″	2013T27 28.97	2013T36 47.41	2013T37 87.80
Type 304 Stainless Steel	27	0.030″	2013T29 37.26	2013T35 60.97	2013T55 112.90
Copper	22	0.050″	2013T28 63.14	2013T47 103.31	2013T46 191.32

Seal Presses


A


B

Squeeze the spring-loaded top handle together with the bottom handle to seal discs.
(A) Presses for lead-disc seals come with two flat dies. Presses are made of steel.
(B) Presses for lead- and aluminum-disc seals have two flat dies. One die is adjustable to fine-tune the depth of the impression on the seal. *Extra die* replaces the adjustable die. Presses are made of malleable iron.
To Order: For engraved dies, please specify up to four characters including spaces for each die.

	Max. Disc Size	O'all Lg.	Presses with Blank Dies Each	Presses with Engraved Dies Each	Extra Dies Blank Each	Extra Dies Engraved Each
A	7/16″ Dia.	5″	2012T3 $49.54	2012T1 $73.55	2012T4 $7.64	2012T5 $8.56
B	9/16″ Dia.	8″	2016T1 97.95	2016T2 110.19	2016T24 19.64	2016T25 23.74

Bench Scales

Use these small scales to weigh lightweight items. They have a tare function and plastic housing.

Compact—Scales fit in your hand for weighing on the go. They are battery operated (batteries are included) and have a plastic platform. *4-* and *11-oz. capacity* scales measure in ounces, grams, troy ounces, and pennyweights; *42-oz. capacity* scales measure in ounces and grams.

Compact with Flip Cover—The attached cover protects the scale while you carry it. It measures in ounces, grams, carats, and grains. It is battery operated (batteries are included) and has a stainless steel platform.

Standard—Scales have a plastic platform. They are battery operated (batteries are included) or operate with an AC adapter (sold separately). They measure in ounces, grams, troy ounces, and pennyweights; *4-* and *11-lb. capacity* scales also measure in pounds.

Precision—Use when you need high accuracy. They have a stainless steel platform and operate with the included AC adapter or four AA batteries (not included). They measure in ounces, pounds, grams, kilograms, troy ounces, and pennyweights.



Compact



Compact with Flip Cover



Standard



Precision

Capacity		Accuracy		Graduations		Platform Size			
English	Metric	English	Metric	English	Metric	Wd.	Dp.		
Compact									
4 oz.	120 g	±0.2 oz.	±0.1 g	0.2 oz.	0.1 g	3″ Dia.	—	1722T11	$174.00
11 oz.	320 g	±0.2 oz.	±0.2 g	0.2 oz.	0.1 g	3″ Dia.	—	1722T12	217.00
42 oz.	1,200 g	±0.2 oz.	±10 g	0.1 oz.	2 g	3″	3¾″	1722T61	103.69
Compact with Flip Cover									
17 oz.	500 g	±0.02 oz.	±0.3 g	0.005 oz.	0.1 g	2¾″	2″	1722T71	55.00
Standard									
7 oz.	200 g	±0.005 oz.	±0.1 g	0.1 oz.	0.1 g	4¾″ Dia.	—	1863T11	85.58
4 lbs.	2,000 g	±0.05 oz.	±1 g	0.05 oz.	1 g	4¾″ Dia.	—	1863T61	85.58
11 lbs.	5,000 g	±0.05 oz.	±1 g	0.05 oz.	1 g	4¾″ Dia.	—	1863T62	117.31
Precision									
8 oz.	220 g	±0.0005 oz.	±0.01 g	0.0005 oz.	0.01 g	4¾″ Dia.	—	1760T89	403.77
15 oz.	420 g	±0.005 oz.	±0.1 g	0.005 oz.	0.1 g	4¾″ Dia.	—	1760T9	222.64
22 oz.	620 g	±0.005 oz.	±0.1 g	0.005 oz.	0.1 g	6¾″	5½″	1760T92	329.25
5 lbs.	2,200 g	±0.005 oz.	±0.1 g	0.005 oz.	0.1 g	6¾″	5½″	1760T86	416.04
18 lbs.	8,200 g	±0.05 oz.	±1 g	0.05 oz.	1 g	6¾″	5½″	1760T94	345.28
AC Adapter (For Standard Scales)								1760T5	46.32

Bench Scales with Remote Display

Weigh loads without obstructing the display. Scales have a tare function and include an AC adapter. The display can be mounted up to 9 ft. from the platform and has a plastic housing. The platform is steel.

Standard—*77-lb. capacity* scale can also operate on three C batteries (not included). It includes a mounting bracket with four 3/16″ dia. holes for wall mounting the display (fasteners not included). *150-* and *400-lb. capacity* scales can also operate on a 9-volt battery (not included). The display has two 1/4″ dia. keyhole slots for wall mounting (fasteners not included).

Large Platform—Scales accommodate larger loads. They can also operate on three C batteries (not included) and include a mounting bracket with four 3/16″ dia. holes for wall mounting (fasteners not included).



Capacity		Accuracy		Graduations		Platform Size			Scales		Replacement AC Adapters	
lbs.	kg	lbs.	kg	lbs.	kg	Ht.	Wd.	Dp.				
Standard												
77	35	±0.05	±0.02	0.05	0.02	1¾″	11″	12⅜″	17295T21	$186.08	1760T5	$50.81
150	68	±0.4	±0.2	0.2	0.1	2¼″	12½″	12″	17295T31	167.92	17295T33	20.33
400	180	±1	±0.4	0.5	0.2	2″	12¼″	12″	17295T39	196.03	17295T33	20.33
Large Platform												
165	75	±0.1	±0.05	0.1	0.05	3″	15⅝″	20½″	17295T24	326.33	1760T5	50.81
440	200	±0.2	±0.1	0.2	0.1	3″	15⅝″	20½″	17295T25	355.67	1760T5	50.81

Legal-for-Trade Bench Scales

For use wherever products are sold by weight. Scales have a tare function and a plastic housing with a stainless steel platform. NTEP approved.

Washdown—Scales are rated IP65 for protection from water projected from a nozzle. They are USDA compliant and operate on six D batteries (not included).

Remote Display—Position the display up to 3 ft. from the platform for an unobstructed view when weighing large loads. The display has two 1/2″ dia. keyhole slots for mounting (fasteners not included), and can also be connected to the platform with the included steel column. Scales have a 2-ft. power cord with plug and can also operate on six C batteries (not included). *25-* and *50-lb. capacity* scales have a 13¾″ high column; *100-* to *500-lb. capacity* scales have a 26¾″ high column.



Washdown



Remote Display

Capacity		Accuracy		Graduations		Platform Size				
English	Metric	English	Metric	English	Metric	Ht.	Wd.	Dp.		
Washdown										
4 lbs.	2 kg	±0.002 lbs.	±1 g	0.002 lbs.	1 g	—	9″	9″	17345T61	$404.84
10 lbs.	4 kg	±0.005 lbs.	±2 g	0.005 lbs.	2 g	—	9″	9″	17345T62	404.84
20 lbs.	10 kg	±0.01 lbs.	±5 g	0.01 lbs.	5 g	—	9″	9″	17345T63	404.84
40 lbs.	20 kg	±0.02 lbs.	±10 g	0.02 lbs.	10 g	—	9″	9″	17345T64	404.84
Remote Display										
25 lbs.	10 kg	±0.003 lbs.	±0.001 kg	0.002 lbs.	0.001 kg	3⅝″	12″	12″	1852T81	1,129.27
50 lbs.	25 kg	±0.006 lbs.	±0.002 kg	0.005 lbs.	0.002 kg	3⅝″	12″	12″	1852T82	1,129.27
100 lbs.	50 kg	±0.012 lbs.	±0.005 kg	0.01 lbs.	0.005 kg	4½″	18″	18″	1852T83	1,255.24
250 lbs.	100 kg	±0.031 lbs.	±0.01 kg	0.02 lbs.	0.01 kg	4½″	18″	18″	1852T84	1,255.24
500 lbs.	250 kg	±0.062 lbs.	±0.02 kg	0.05 lbs.	0.02 kg	5⅜″	24″	24″	1852T85	1,803.47

Dial Bench Scales



Compact



Standard and Corrosion Resistant



Easy Carry

Use for quick, frequent weighing. Scales can be manually reset to zero.

Compact—These small scales have a stainless steel platform and an aluminum housing. They meet NSF/ANSI standards.

Standard—Scales have a steel housing. *10-* to *40-lb. capacity* scales have a stainless steel platform and meet NSF/ANSI standards. *60-* to *200-lb. capacity* scales have a steel platform.

Corrosion Resistant—Scales have a stainless steel housing and platform for use in areas where moisture is a factor.

Easy Carry—With a handle and platform built into the body, these scales are designed for easy portability. *100-lb. capacity* scale is steel; *250-lb. capacity* scale is stainless steel.

Capacity		*Accuracy*		*Graduations*		Dial	*Platform Size*			
English	Metric	English	Metric	English	Metric	Dia.	Lg.	Wd.		
Compact										
2 lbs.	900 g	±0.5 oz.	±10 g	0.25 oz.	5 g	6 3/8″	6″	4 5/8″	**1814T81**	$90.91
5 lbs.	2 kg	±1.5 oz.	±30 g	0.5 oz.	10 g	6 3/8″	6″	4 5/8″	**1814T82**	90.91
25 lbs.	10 kg	±6 oz.	±150 g	2 oz.	50 g	6 3/8″	6″	4 5/8″	**1814T83**	90.91
50 lbs.	____	±4 oz.	____	4 oz.	____	6 3/8″	6″	4 5/8″	**1730T5**	77.40
Standard										
10 lbs.	4.5 kg	±2 oz.	±50 g	1 oz.	25 g	7 1/4″	9″	9″	**17525T13**	156.60
10 lbs.	____	±2 oz.	____	1 oz.	____	7 1/4″	9″	9″	**1818T7**	170.84
20 lbs.	9 kg	±2 oz.	±50 g	1 oz.	25 g	7 1/4″	9″	9″	**17525T14**	158.75
40 lbs.	18 kg	±4 oz.	±100 g	2 oz.	50 g	7 1/4″	9″	9″	**17525T15**	161.94
40 lbs.	____	±4 oz.	____	2 oz.	____	7 1/4″	9″	9″	**1818T72**	176.66
60 lbs.	27 kg	±4 oz.	±100 g	4 oz.	100 g	10 1/8″	13″	13″	**17525T18**	256.77
100 lbs.	45 kg	±4 oz.	±100 g	4 oz.	100 g	10 1/8″	13″	13″	**17525T22**	286.60
200 lbs.	90 kg	±8 oz.	±250 g	8 oz.	250 g	10 1/8″	15 1/2″	15 1/2″	**17525T24**	379.27
Corrosion Resistant										
10 lbs.	4.5 kg	±1 oz.	±20 g	1 oz.	20 g	8″	9″	9″	**17525T52**	156.80
40 lbs.	18 kg	±2 oz.	±100 g	2 oz.	100 g	8″	9″	9″	**17525T54**	166.13
Easy Carry										
100 lbs.	____	±3 lbs.	____	1 lbs.	____	____	13 1/4″	10 1/2″	**1728T16**	119.02
250 lbs.	____	±4 lbs.	____	1 lbs.	____	____	13 1/4″	10 1/2″	**1728T19**	125.98

Beam-Balance Scales

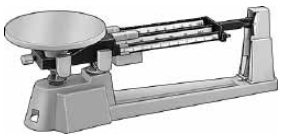

Weigh small quantities of lightweight materials. The housing and beams are aluminum; the platform is 6″ dia. and stainless steel.

Scale **with reset** allows you to manually zero out weight up to 225 g.

Optional weight set increases the capacity of the scale. It includes one 500 g and two 1,000 g weights.

Capacity, g				*Accuracy, g*			*Graduations, g*					
Front Beam	Middle Beam	Back Beam	Capacity with Additional Weights	Front Beam	Middle Beam	Back Beam	Front Beam	Middle Beam	Back Beam	**Without Reset**		**With Reset**	
10	500	100	2,610	±0.05	±0.05	±0.05	0.1	100	10	**1856T21**	$161.54	**1856T22**	$233.65
Optional Weight Set												**1856T25**	68.75

Counting Scales



A



B



C

Count materials in addition to weighing. Scales have a tare function. Housing is plastic and platform is stainless steel.

Styles A and **C** scales can be set to weigh in ounces, pounds, grams, milligrams, kilograms, carats, troy ounces, pennyweights, grains, taels, mommes, Newtons, and ticals. Include an AC adapter. *Style C* includes a shield to protect from drafts and vibration.

Style B scales have a wide platform for weighing large materials. They show total weight, unit weight, and quantity simultaneously. They have a 5-ft. cord with plug and can also operate on the included rechargeable battery.

	Capacity		*Accuracy*		*Graduations*		*Platform Size*			
	lbs.	g	lbs.	g	lbs.	g	Wd.	Dp.		
A	1.8	820	±0.00002	±0.01	0.00002	0.01	7″	7 3/4″	**1764T28**	$1,081.97
A	3.3	1,500	±0.00002	±0.01	0.00002	0.01	7″	7 3/4″	**1764T27**	1,161.97
A	4.9	2,200	±0.00002	±0.01	0.00002	0.01	7″	7 3/4″	**1910T44**	1,558.33
A	9.3	4,200	±0.0002	±0.1	0.0002	0.1	7″	7 3/4″	**1764T71**	991.80
A	18.1	8,200	±0.0002	±0.1	0.0002	0.1	7″	7 3/4″	**1764T29**	1,011.03
B	6	____	±0.0005	____	0.0005	____	9 7/8″	8 1/4″	**1743T3**	410.64
B	12	____	±0.001	____	0.001	____	11 7/8″	9 1/2″	**1743T5**	410.64
B	24	____	±0.002	____	0.002	____	13 1/4″	11″	**1743T7**	410.64
C	0.49	220	±0.000002	±0.001	0.000002	0.001	5″ Dia.	____	**1764T75**	1,311.54
C	0.49	220	±0.0000002	±0.0001	0.0000002	0.0001	3 1/2″ Dia.	____	**1910T47**	2,841.64
C	0.98	420	±0.000002	±0.001	0.000002	0.001	5″ Dia.	____	**1910T43**	1,650.00

Legal-for-Trade Counting Scales



Count loose parts and weigh materials that are sold by weight. The weighing function is legal-for-trade, and the counting function can be turned off for use as a weigh-only scale. Scales have a tare function and a 9-pin RS-232 serial port to connect to your PC (cable not included; see page 1884). They have a 10-ft. cord with plug. Housing is aluminum. *2- and 5-lb. capacity* scales have an aluminum platform; *10- to 200-lb. capacity* scales have a stainless steel platform. NTEP approved.

Optional data-logging software is Windows compatible and allows you to upload data. Furnished on a CD.

Capacity English	*Capacity* Metric	*Accuracy* English	*Accuracy* Metric	*Graduations* English	*Graduations* Metric	*Platform Size* Wd.	*Platform Size* Dp.		
2 lbs.	907.2 g	±0.0001 lbs.	±0.05 g	0.0002 lbs.	0.1 g	8″	8″	17565T51	$793.95
5 lbs.	2,268 g	±0.0003 lbs.	±0.25 g	0.0005 lbs.	0.5 g	8″	8″	17565T52	793.95
10 lbs.	4,536 g	±0.0005 lbs.	±0.25 g	0.001 lbs.	0.5 g	14″	12″	17565T53	793.95
20 lbs.	9.072 kg	±0.001 lbs.	±0.0005 kg	0.002 lbs.	0.001 kg	14″	12″	17565T38	793.95
50 lbs.	22.68 kg	±0.0025 lbs.	±0.0025 kg	0.005 lbs.	0.005 kg	14″	12″	17565T55	793.95
100 lbs.	45.36 kg	±0.005 lbs.	±0.0025 kg	0.01 lbs.	0.005 kg	14″	12″	17565T56	793.95
200 lbs.	90.72 kg	±0.01 lbs.	±0.005 kg	0.02 lbs.	0.01 kg	14″	12″	17565T39	793.95
Optional Data-Logging Software								1852T5	462.00

Weighing Dishes

Weigh small objects and loose materials such as liquids and powders.

Aluminum



Styles A-D have a maximum temperature of 700° F; **Styles E-G** have a maximum temperature of 500° F.

	Cap., ml	Dia.	Ht.	Pkg. Qty.		Pkg.
With Crimped Sides and Handle						
A	8	1 1/8″	3/8″	50	17805T21	$8.90
A	20	1 11/16″	1/2″	100	17805T63	7.87
A	60	2 1/4″	5/8″	100	17805T64	9.43
A	80	2 3/4″	5/8″	100	17805T65	13.17
With Crimped Sides						
B	20	1 3/4″	1/2″	50	17805T22	10.82
B	70	2 1/2″	1 1/16″	50	17805T23	10.35
B	75	2 7/16″	1 1/4″	100	17805T56	12.55
B	180	7 1/8″	1″	25	17805T25	14.28
B	200	4 5/16″	1 1/8″	25	17805T24	12.05
C	40	2 3/4″	1/4″	10	17805T72	6.60

	Cap., ml	Dia.	Ht.	Pkg. Qty.		Pkg.
With Crimped Sides (Cont.)						
C	50	4″	5/16″	10	17805T74	$6.84
C	60	5″	3/16″	25	17805T76	8.90
With Smooth Sides						
D	80	2 7/8″	1 1/16″	100	17805T81	10.96
D	140	4 1/16″	3/4″	25	17805T82	10.24
Miniature with Crimped Sides						
E	0.035	1/4″	1/8″	20	17805T27	13.50
F	1.12	1/4″ Wd. × 1″ Lg.	1/4″	5	17805T26	9.57
Miniature with Smooth Sides and Handle						
G	0.35	1/2″	1/8″	20	17805T28	14.20

Plastic

Dishes flex for pouring without losing their shape. Maximum temperature is 140° F.



	Cap., ml	Lg.	Wd.	Ht.	Choose a Color	Pkg. Qty.		Pkg.
With Smooth Sides								
H	20	1 5/8″	1 5/8″	5/16″	Blue, Semi-Clear	100	17735T94	$6.38
H	100	3 1/2″	3 1/2″	1″	Blue, Semi-Clear	100	17735T95	10.50
H	330	5 1/2″	5 1/2″	7/8″	Blue, Semi-Clear	50	17735T96	10.49

Weighing Scoops

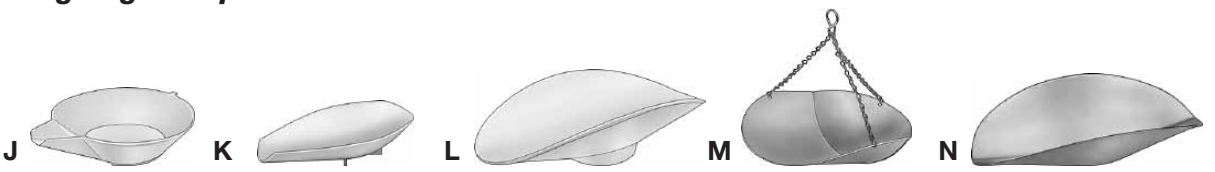

Scoop, weigh, and pour with these versatile scoops.

Style M has chains for use with hanging scales. Scoop hangs 13″ from the scale.

	Type	Ht.	Wd.	Lg.		
White Plastic						
J	Flat Base	2 5/8″	10″ Dia.	—	1783T46	$14.62
K	Three-Foot Base	2 3/4″	6″	12″	1783T32	39.20
L	Flat Base	5 1/2″	11 1/2″	21 1/2″	1783T55	43.52
Black Plastic						
J	Flat Base	2 5/8″	10″ Dia.	—	1783T48	36.45

	Type	Ht.	Wd.	Lg.		
Steel						
M	Hanging	7″	12 1/2″	12″	1752T8	$30.56
Stainless Steel						
J	Flat Base	1 5/8″	7 3/8″	11 7/8″	1783T25	68.70
L	Flat Base	5 1/4″	11″	21 1/2″	1783T21	166.67
N	Round Base	5 1/2″	11″	21 1/2″	1784T36	157.41

Load-Estimating Hanging Scales



Determine approximate weights of large, bulky materials that are not practical to weigh using a floor scale. Scales convert pressure readings (in psi) to weight in pounds. They are often used in loading vehicles and can be suspended from a crane, block and tackle lift, A-frame, or forklift blade. Housing is aluminum and hooks are steel. Dial is 4″ dia.

Capacity, lbs.	Accuracy, lbs.	Graduations, lbs.	Ht.	Wd.	Dp.	Hook Opening		
2,000	±60	20	14″	4 1/8″	5″	1 1/8″	17685T41	$314.46
5,000	±150	100	14″	4 1/8″	5″	1 1/8″	17685T42	314.46

Hanging Scales

Hanging Scales



Hand-Held



Corrosion Resistant

Weigh items that don't fit on a standard bench scale. Scales have a tare function and are battery operated (batteries are included).

Hand-Held—Hang these plastic scales from the top hook, or attach the included bar handle to weigh by hand. They include a plastic carrying pouch.

Corrosion Resistant—A sealed aluminum housing protects these scales in wet environments. Scales have a bottom steel hook with a 3/4" opening.

Capacity lbs.	Capacity kg	Accuracy lbs.	Accuracy kg	Graduations lbs.	Graduations kg	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Top Hook Opening Ht.	Top Hook Opening Wd.		
Hand-Held												
22	10	±0.088	±0.04	0.02	0.01	13 3/8"	3 3/4"	2 1/4"	1 1/2"	1"	3952T51	$105.00
55	25	±0.22	±0.1	0.05	0.02	13 3/8"	3 3/4"	2 1/4"	1 1/2"	1"	3952T52	105.00
99	45	±0.396	±0.18	0.1	0.05	13 3/8"	3 3/4"	2 1/4"	1 1/2"	1"	3952T53	126.00
Corrosion Resistant												
250	—	±0.25	—	0.05	—	13 1/2"	6 3/4"	4 3/8"	2"	1"	17545T24	1,399.44
1,000	—	±1	—	0.2	—	13 1/2"	6 3/4"	4 3/8"	2"	1"	17545T26	1,399.44

Legal-for-Trade Hanging Scales



Compact



Washdown

Use these hanging scales wherever products are sold by weight. They have a tare function. NTEP approved.

Compact—Scales are plastic. They operate on four C batteries (not included).

Washdown—Scales have an aluminum housing that is rated NEMA 4 for indoor/outdoor use and protection from dust and washdowns. Scales include a rechargeable battery, an AC adapter, and a certificate of calibration traceable to NIST. They have steel hooks. *2,000-lb. capacity* scale has a 1 1/8" bottom hook opening; *5,000-lb. capacity* scale has a 1 1/2" bottom hook opening.

Capacity English	Capacity Metric	Accuracy English	Accuracy Metric	Graduations English	Graduations Metric	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Top Hook Opening Ht.	Top Hook Opening Wd.		
Compact												
6 lbs.	2.7 kg	±0.005 lbs.	±0.002 kg	0.005 lbs.	2 g	11 1/8"	4 3/4"	2"	—	3/4" Dia.	3952T41	$301.13
30 lbs.	13.6 kg	±0.02 lbs.	±0.01 kg	0.02 lbs.	0.01 kg	11 1/8"	4 3/4"	2"	—	3/4" Dia.	3952T43	301.13
Washdown												
2,000 lbs.	1,000 kg	±2 lbs.	±1 kg	1 lbs.	0.5 kg	12"	9"	12 3/4"	2 3/8"	2"	1820T23	1,939.52
5,000 lbs.	2,500 kg	±5 lbs.	±2.5 kg	2 lbs.	1 kg	16 3/4"	9"	12 3/4"	3 3/8"	2 3/8"	1820T25	2,406.05

Dial Hanging Scales



A



B



C



D



E

Scales can be manually set to zero.

Style A housing is brass.

Style B housing is aluminum.

Style C housing is steel.

Style D scales have an aluminum, open-face dial. *70-lb. capacity* scale has a steel housing with an 8" dia. dial; *200-* and *400-lb. capacity* scales have a cast iron housing and a 7" dia. dial.

Style E are also known as crane scales. The heavy duty construction allows them to simultaneously lift and weigh bulk loads. They have an aluminum housing with steel top and bottom hooks and a 10" dia. dial. Include a certificate of calibration traceable to NIST. The *5,000-lb. capacity* scale has a 1 3/8" bottom hook opening; the *20,000-lb. capacity* scale has a 2 1/8" bottom hook opening.

	Capacity English	Capacity Metric	Accuracy English	Accuracy Metric	Graduations English	Graduations Metric	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Top Hook Opening Ht.	Top Hook Opening Wd.		
A	2 lbs.	1 kg	±0.5 oz.	±20 g	0.5 oz.	20 g	11"	3/4" Dia.	—	1 1/4"	2 3/4"	1757T51	$122.81
A	10 lbs.	5 kg	±4 oz.	±100 g	4 oz.	100 g	11"	3/4" Dia.	—	1 1/4"	2 3/4"	1757T54	122.81
A	50 lbs.	25 kg	±8 oz.	±250 g	8 oz.	250 g	13"	1" Dia.	—	1 1/4"	2 3/4"	1757T57	122.81
A	100 lbs.	50 kg	±1 lbs.	±500 g	1 lbs.	50 g	16"	1 1/4" Dia.	—	1 1/2"	3 1/2"	1757T59	198.95
B	4 lbs.	2 kg	±1 oz.	±25 g	1 oz.	25 g	9 1/4"	3/4" Dia.	—	1 1/2"	1"	1757T37	61.25
B	10 lbs.	5 kg	±1 oz.	±50 g	1 oz.	50 g	9 1/4"	3/4" Dia.	—	1 1/2"	1"	1757T38	61.25
B	20 lbs.	10 kg	±4 oz.	±100 g	4 oz.	100 g	9 1/4"	3/4" Dia.	—	1 1/2"	1"	1757T34	61.25
B	50 lbs.	25 kg	±8 oz.	±250 g	8 oz.	250 g	12 1/2"	1 1/4" Dia.	—	2 1/4"	1 1/2"	1757T39	61.25
C	50 lbs.	22.5 kg	±1 lbs.	±0.5 kg	1 lbs.	0.5 kg	15 1/8"	2"	1 7/8"	3/4"	3/4"	1756T1	41.84
C	110 lbs.	50 kg	±1 lbs.	±0.5 kg	1 lbs.	0.5 kg	26 7/8"	3 3/8"	2 1/4"	1 1/8"	1 1/8"	1756T2	55.85
C	330 lbs.	150 kg	±5 lbs.	±2.5 kg	5 lbs.	2 kg	19 1/2"	3 1/4"	2"	1 1/8"	1 1/8"	1756T5	71.13
D	70 lbs.	31 kg	±0.6 lbs.	±272 g	0.1 lbs.	50 g	16 3/4"	8 1/8"	1 7/8"	1 1/4"	7/8"	1752T6	62.96
D	200 lbs.	—	±0.5 lbs.	—	0.5 lbs.	—	18 3/4"	7"	3"	2 1/8"	7/8"	1753T4	319.35
D	400 lbs.	—	±1 lbs.	—	1 lbs.	—	18 3/4"	7"	3"	2 1/8"	7/8"	1753T5	330.42
E	5,000 lbs.	—	±25 lbs.	—	20 lbs.	—	20"	10 1/2"	4 7/8"	1 3/4"	1 5/8"	1766T54	1,162.06
E	20,000 lbs.	—	±100 lbs.	—	100 lbs.	—	28"	10 1/2"	7 1/2"	1 3/4"	1 5/8"	1766T61	1,578.98

Floor Scales

Weigh large, bulky loads without having to lift them far from the ground. Scales have a tare function.

Portable—Similar in style to a hand truck, this scale tilts back on two rubber wheels to move. Scale is 42″ high. It has a steel frame and aluminum platform, and is battery operated (batteries are included).

Remote Display—Position the stainless steel display up to 14 ft. from the platform to read at a safe distance. The platform is steel with two plastic wheels. It has a ramp on both sides to slide or roll material on and off. Scales have a 9-pin RS-232 serial port to connect to your PC (cable not included; see page 1884). They operate with the included AC adapter or six C batteries (not included).

Optional data-logging software for remote-display scales is Windows compatible and allows you to upload data. Furnished on a CD.



Portable

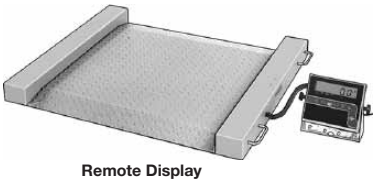

Remote Display

Capacity lbs.	Capacity kg	Accuracy lbs.	Accuracy kg	Graduations lbs.	Graduations kg	Platform Size Ht.	Platform Size Wd.	Platform Size Dp.		
Portable										
500	225	±0.1	±0.1	0.1	0.1	1¾″	16″	18″	5721T75	$856.67
Remote Display										
500	220	±0.2	±0.1	0.2	0.1	1½″	32½″	30″	5934T67	1,545.70
1,000	450	±0.5	±0.2	0.5	0.2	1½″	32½″	30″	5934T73	1,766.79
Optional Data-Logging Software for Remote-Display Scales									1852T5	462.00

Legal-for-Trade Floor Scales

For use wherever products are sold by weight, these legal-for-trade scales accommodate large loads. They have a tare function. The platform is steel and the display has a stainless steel housing. NTEP approved.

Portable—Roll this scale wherever you need to weigh. It is 49¾″ high, and has four plastic wheels and a 9-pin RS-232 serial port to connect to your PC (cable not included; see page 1884). Operates with the included AC adapter or six C batteries (not included).

Optional data-logging software for portable scale is Windows compatible and allows you to upload data. Furnished on a CD.

Standard and **Large Platform with Remote Display—**Keep a safe distance when weighing large loads. The display includes a 20-ft. cord and has four 5/16″ dia. keyhole slots for mounting (fasteners not included). Scales have a 10-ft. power cord with plug. *Standard with remote display* scales have a smooth platform with 3¼″ high side rails to keep loads in place. *Large platform with remote display* scales have adjustable feet that compensate for an uneven floor.



Portable

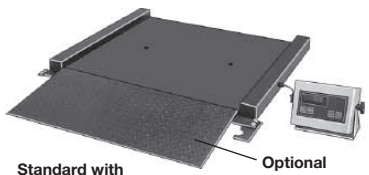

Standard with Remote Display

Optional Ramp

Capacity lbs.	Capacity kg	Accuracy lbs.	Accuracy kg	Graduations lbs.	Graduations kg	Platform Size Ht.	Platform Size Wd.	Platform Size Dp.	Scales		Optional Ramps Ramp Dp.		
Portable													
1,000	440	±0.5	±0.2	0.5	0.2	7½″	19″	28″	1858T65	$1,463.08			
Standard with Remote Display													
1,000	450	±0.1	±0.05	0.2	0.1	1½″	30″	30″	1892T11	1,587.31	16″	1892T25	$280.33
2,500	1,130	±0.25	±0.1	0.5	0.2	1½″	36″	36″	1892T12	1,781.34	16″	1892T26	289.47
Large Platform with Remote Display													
1,000	450	±0.1	±0.05	0.2	0.1	3″	48″	48″	19005T31	1,457.46	36″	19005T44	390.83
2,000	900	±0.25	±0.1	0.5	0.2	3″	48″	48″	19005T32	1,457.46	36″	19005T44	390.83
5,000	2,260	±0.5	±0.25	1	0.5	3″	48″	48″	19005T33	1,457.46	36″	19005T44	390.83
10,000	4,530	±1	±0.5	2	1	3″	48″	48″	19005T35	1,457.46	36″	19005T44	390.83
Optional Data-Logging Software for Portable Scale												1852T5	462.00

Legal-for-Trade Counting Floor Scales

Count and weigh loads that are difficult to lift. The weighing function is legal-for-trade—you can use wherever products are sold by weight. Scales have a tare function and automatically adjust graduations to give more exact readings for lighter material. They are 30½″ high and have a stainless steel platform. Operate with the included AC adapter or six D batteries (not included). Accuracy is ±1 graduation. NTEP approved.



English, lbs. Capacity	English, lbs. Graduations	Metric, kg Capacity	Metric, kg Graduations	Platform Size Ht.	Platform Size Wd.	Platform Size Dp.		
150	0.01 for 0-30 0.02 for 30-60 0.05 for 60-150	60	0.005 for 0-15 0.01 for 15-30 0.02 for 30-60	2¼″	13″	16¾″	17195T64	$837.10
500	0.05 for 0-150 0.1 for 150-300 0.2 for 300-500	220	0.02 for 0-60 0.05 for 60-150 0.1 for 150-220	2⅞″	15⅜″	20⅞″	17195T65	948.39

Load-Estimating Floor Scales

Estimate the weight of large loads that don't fit on a standard floor scale. Scales convert pressure readings (in psi) to weight in pounds. Commonly used to prevent overloading a trailer tongue. They include a removable 2⅜″ long extension and have an aluminum body, a steel piston, and a 2¾″ dia. dial.



Capacity, lbs.	Accuracy, lbs.	Graduations, lbs.	Scale Ht.	Overall Ht. with Extension	Base Dia.		
1,000	±30	20	4½″	6¾″	3¼″	17645T21	$169.78
2,000	±60	50	4½″	6¾″	3¼″	17645T32	169.78
5,000	±150	100	4½″	6¾″	3¼″	17645T45	169.78

Scales & Test Weights

Personnel Scales



Measure a person's weight and height. Scale has an extendable rod that measures height between 28″ and 82″. The base is steel with a plastic top. It has a tare function and includes a rechargeable battery and an AC adapter.

Capacity		Accuracy		Graduations		Platform Size				
lbs.	kg	lbs.	kg	lbs.	kg	Ht.	Wd.	Dp.		
550	250	±0.4	±0.2	0.2	0.1	4″	10 7/8″	14 5/8″	1834T31	$395.00

Test Weights

Calibrate your scale with these stainless steel test weights. They include a statement of accuracy and are marked with their weight.
Legal-for-trade—Class F weights meet NIST Class F tolerances.
Standard—Class 7 weights meet ANSI/ASTM Class 7 tolerances.

Individual Weights



Class F



Class 7

Weight	Tolerance	Dia.	Ht.		
English Legal-for-Trade—Class F					
0.5 oz.	±0.00009 oz.	1/2″	9/16″	1908T23	$30.93
1 oz.	±0.00019 oz.	5/8″	13/16″	1908T22	30.83
4 oz.	±0.00081 oz.	1″	1 3/16″	1908T19	37.70
8 oz.	±0.00158 oz.	1 1/4″	1 9/16″	1908T18	47.97
12 oz.	±0.00246 oz.	1 3/8″	2″	1908T17	44.53
1 lbs.	±0.00015 lbs.	1 1/2″	2 3/16″	1908T16	54.83
2 lbs.	±0.0002 lbs.	1 7/8″	2 11/16″	1908T15	64.63
3 lbs.	±0.0003 lbs.	2 1/4″	2 13/16″	1908T14	102.80
5 lbs.	±0.0005 lbs.	2 1/2″	3 3/4″	1908T12	108.69
10 lbs.	±0.00099 lbs.	3 1/4″	4 7/16″	1908T11	176.23
Metric Standard—Class 7					
1 g	±0.0045 g	3/16″	5/16″	1777T21	6.85
2 g	±0.007 g	5/16″	5/16″	1777T22	6.85
5 g	±0.013 g	3/8″	1/2″	1777T23	6.85
10 g	±0.021 g	7/16″	5/8″	1777T24	6.85
20 g	±0.033 g	9/16″	3/4″	1777T25	6.85
50 g	±0.062 g	3/4″	1 1/16″	1777T26	9.14
100 g	±0.1 g	1″	1 1/4″	1777T27	11.42
200 g	±0.16 g	1 1/4″	1 1/2″	1777T28	18.26

Weight	Tolerance	Dia.	Ht.		
Metric Standard—Class 7 (Cont.)					
500 g	±0.3 g	1 5/8″	2 1/4″	1777T29	$36.56
1,000 g	±0.47 g	2″	2 7/8″	1777T31	66.24
2,000 g	±0.75 g	2 5/16″	3 7/8″	1777T32	121.07
Metric Legal-for-Trade—Class F					
1 g	±0.0009 g	3/16″	1/4″	1908T41	24.00
2 g	±0.0011 g	1/4″	5/16″	1908T42	24.00
5 g	±0.0015 g	3/8″	3/8″	1908T44	24.00
20 g	±0.004 g	9/16″	1 1/16″	1908T46	30.83
50 g	±0.01 g	3/4″	7/8″	1908T48	34.27
100 g	±0.02 g	1″	1″	1908T49	37.70
200 g	±0.04 g	1 1/4″	1 3/8″	1908T51	41.13
300 g	±0.06 g	1 3/8″	1 11/16″	1908T52	52.86
400 g	±0.07 g	1 1/2″	1 7/8″	1908T53	58.27
500 g	±0.07 g	1 1/2″	2 3/8″	1908T54	52.86
1 kg	±0.0001 kg	2″	2 5/8″	1908T56	61.69
2 kg	±0.0002 kg	2 1/2″	3 5/16″	1908T58	105.74
3 kg	±0.0003 kg	2 11/16″	4 1/8″	1908T61	152.74
5 kg	±0.0005 kg	3 3/16″	4 7/8″	1908T65	182.11

Sets



Class F



Class 7

English 11-piece set has a leather case; 17-piece set has a plastic-covered cardboard case with metal corners.
Metric sets are furnished in a plastic case, except the legal-for-trade 13-piece set, which is leather.

	Weight, lbs.													
	0.001	0.002	0.005	0.01	0.02	0.05	0.1	0.2	0.5	1	2	5	10	
English Legal-for-Trade—Class F														
11 Piece	1	2	1	1	2	1	1	2	0	0	0	0	0	9047T34 $172.20
17 Piece	1	2	1	1	2	1	1	2	1	1	2	1	1	9047T33 591.67

	Weight, g										
	1	2	5	10	20	50	100	200	500	1,000	2,000
Metric Standard—Class 7											
12 Piece	1	2	1	2	1	1	2	1	1	0	0	1787T12 $84.30
13 Piece	1	2	1	2	1	1	2	1	1	1	0	1787T13 125.42
14 Piece	1	2	1	1	2	1	1	2	1	1	1	1787T14 211.30

	Weight, mg									Weight, g					
	1	2	5	10	20	50	100	200	500	1	2	5	10	20	50
Metric Legal-for-Trade—Class F															
20 Piece	1	2	1	1	2	1	1	2	1	1	2	1	1	2	1	9048T41 $182.98

	Weight, g								
	1	2	5	10	20	50	100	200	500	1,000
Metric Legal-for-Trade—Class F										
12 Piece	1	2	1	1	2	1	1	2	1	0	9048T42 $288.19
13 Piece	1	2	1	1	2	1	1	2	1	1	9048T43 370.53

Grip-Handle Test Weights



Securely grip these portable weights. They are cast iron and marked with their weight. For applications requiring traceability, choose a weight with a certificate traceable to NIST.
Standard—Class 7 weights meet ANSI/ASTM Class 7 tolerances.
Legal-for-trade—Class F weights meet NIST Class F tolerances.

Weight	Tolerance	Lg.	Wd.	Ht.	With Statement of Accuracy		With NIST Certificate	
English Standard—Class 7								
5 lbs.	±0.0016 lbs.	2 9/16″	4″	3 1/4″	1788T86	$62.50	1788T87	$138.30
10 lbs.	±0.0022 lbs.	3 1/4″	5″	4″	1788T15	81.82	1788T71	156.38
English Legal-for-Trade—Class F								
20 lbs.	±0.002 lbs.	4 1/2″	5 3/4″	5 1/8″	1788T14	104.55	1788T72	177.66
25 lbs.	±0.002 lbs.	4 1/2″	6 1/2″	4 15/16″	1788T13	117.61	1788T73	181.91
50 lbs.	±0.005 lbs.	5 1/2″	7 15/16″	6 9/16″	1788T12	132.95	1788T74	196.28
100 lbs.	±0.01 lbs.	7″	9 1/8″	7 7/8″	1788T11	562.50	1788T75	622.34
500 lbs.	±0.05 lbs.	12″	11 1/2″	15 3/4″	1788T46	1,413.00	1788T77	1,553.37
Metric Legal-for-Trade—Class F								
10 kg	±0.001 kg	4 1/2″	6″	5″	1788T25	122.73	1788T79	181.91
20 kg	±0.002 kg	5 5/8″	7 5/8″	5 15/16″	1788T26	127.84	1788T81	186.70
25 kg	±0.0025 kg	5 1/2″	7 11/16″	7 1/8″	1788T27	153.41	1788T82	210.64

Hanging Test Weights

A built-in hook extends for use with a hanging scale and retracts into the weight for use with a bench scale. Weights are marked with their weight and include a statement of accuracy. Made of stainless steel.

Standard—Class 6 weights meet ANSI/ASTM Class 6 tolerances.

Legal-for-trade—Class F weights meet NIST Class F tolerances.



Weight	Tolerance	Dia.	Ht.		
English Standard—Class 6					
1 oz.	±0.0001 oz.	5/8"	2 1/4"	1914T21	$87.84
2 oz.	±0.0002 oz.	13/16"	2 1/4"	1914T19	87.84
4 oz.	±0.0004 oz.	1"	2 1/4"	1914T18	87.84
8 oz.	±0.0007 oz.	1 1/4"	4"	1914T17	87.84
1 lbs.	±0.0001 lbs.	1 5/8"	4 1/2"	1914T16	93.75
2 lbs.	±0.0001 lbs.	2"	5"	1914T15	125.00
5 lbs.	±0.0004 lbs.	2 5/8"	6 1/2"	1914T14	170.00
10 lbs.	±0.0007 lbs.	3 1/2"	6 1/4"	1914T13	250.00
20 lbs.	±0.0011 lbs.	4"	9 3/16"	1914T12	477.78

Weight	Tolerance	Dia.	Ht.		
Metric Standard—Class 6					
1 kg	±0.0001 kg	2"	5 3/8"	1914T33	$100.75
2 kg	±0.0002 kg	2 5/8"	5 9/16"	1914T32	172.00
5 kg	±0.0005 kg	3 3/4"	6 3/8"	1914T31	243.67
Metric Legal-for-Trade—Class F					
50 g	±0.01 g	13/16"	2 1/4"	1914T36	42.97
100 g	±0.02 g	1"	2 3/8"	1914T35	54.43
200 g	±0.04 g	1 1/4"	2 11/16"	1914T34	57.30
500 g	±0.07 g	1 3/4"	3 1/8"	1914T37	99.74

Precision Test Weights

Our most accurate test weights, use these to calibrate precision scales. They are marked with their weight, meet ANSI/ASTM Class 1 tolerances, and include a statement of accuracy. Their accuracy can be affected by the oil from your fingers—weights should always be handled with gloves or forceps.

Individual Weights

Weights come in a protective plastic case and include a cotton glove. Made of highly polished stainless steel.



30 g-500 g



1,000 g and Up

Weight	Tolerance	Dia.	Ht.		
30 g	±0.000074 g	3/4"	5/8"	17605T31	$66.83
40 g	±0.000074 g	3/4"	13/16"	17605T32	70.98
50 g	±0.000097 g	3/4"	1"	17605T33	70.98
100 g	±0.00025 g	1"	1 1/16"	17605T34	77.78
150 g	±0.000375 g	1 1/8"	1 3/16"	17605T35	89.09
200 g	±0.0005 g	1 3/16"	1 9/16"	17605T36	89.09
300 g	±0.00075 g	1 1/2"	1 1/2"	17605T37	104.44

Weight	Tolerance	Dia.	Ht.		
400 g	±0.000975 g	1 1/2"	1 7/8"	17605T38	$114.53
500 g	±0.0012 g	1 1/2"	2 5/16"	17605T39	116.33
1,000 g	±0.0025 g	2"	2 9/16"	17605T41	142.86
2 kg	±0.000005 kg	2 1/2"	3 5/16"	17605T42	174.12
4 kg	±0.000975 kg	3"	4 9/16"	17605T43	337.78
5 kg	±0.000012 kg	3 1/4"	4 7/8"	17605T44	362.94

Sets

Sets include forceps and are furnished in a plastic case. 1-20 mg weights are aluminum, 50-500 mg weights are 304 stainless steel, and 1-100 g weights are a specially formulated stainless steel with lower magnetic properties than 304 stainless steel.



	Weight, mg									*Weight, g*									
	1	2	5	10	20	50	100	200	500	1	2	5	10	20	50	100		
9 Piece	0	0	0	0	0	0	0	0	0	1	2	1	1	2	1	1	9049T11	$599.17
17 Piece	0	0	0	1	2	1	1	2	1	1	2	1	1	2	1	1	9049T12	891.80
21 Piece	1	2	1	1	2	1	1	2	1	1	2	1	1	2	1	1	9049T13	947.54

Interlocking Test Weights

Stack multiple weights to calibrate your scales—they are grooved to fit together. Weights are cast iron and are marked with their weight. They have a 9/16" wide slot for use with a hanger (sold separately) to test hanging scales. Weights meet ANSI/ASTM Class 6 tolerances and include a statement of accuracy.



Weights (Shown with Optional Hanger)

Weights

Weight	Tolerance	Dia.	Ht.		
1/2 lbs.	±0.0001 lbs.	3 3/4"	5/16"	1850T11	$39.29
1 lbs.	±0.00015 lbs.	5"	5/16"	1850T12	42.32
2 lbs.	±0.0002 lbs.	5"	9/16"	1850T13	48.38
5 lbs.	±0.0005 lbs.	5"	1 1/8"	1850T14	68.53
10 lbs.	±0.001 lbs.	6"	1 1/2"	1850T15	85.67
20 lbs.	±0.002 lbs.	8"	1 7/8"	1850T16	116.51
50 lbs.	±0.005 lbs.	10 1/4"	2 3/4"	1850T17	216.53

Weight	Tolerance	Dia.	Ht.		
500 g	±0.05 g	5"	5/16"	1850T22	$43.61
1 kg	±0.0001 kg	5"	9/16"	1850T23	57.44
2 kg	±0.0002 kg	5"	1"	1850T24	62.30
5 kg	±0.0005 kg	6"	1 11/16"	1850T25	99.97
10 kg	±0.001 kg	8"	1 15/16"	1850T26	135.26
20 kg	±0.002 kg	10 1/4"	2 3/8"	1850T27	239.87

Optional Hangers for English Weights

Capacity, lbs.	Dia.	Ht.	Hanger Wt., lbs.		
200	3 3/4"	9 1/4"	1	1850T41	$78.62
200	3 3/4"	20 1/4"	1	1850T42	87.68

Optional Hanger for Metric Weights

Capacity, kg	Dia.	Ht.	Hanger Wt., kg		
75	3 3/4"	9 1/4"	1	1850T51	$123.97

Counterbalance Weights for Beam Scales

Add these stackable cast iron weights to the end of a beam scale to increase its total capacity. Also known as counterpoise weights. They have a 1/2" wide slot for hanging on a beam or a hanger. They meet ANSI/ASTM Class 7 tolerances and are marked with their weight.

Use the *optional weight hanger* to hang weights on a beam scale. Hanger is 4" Dia. x 5 1/8" Ht.



Weights (Shown with Optional Hanger)

Weight, lbs.	Increased Capacity, lbs.	Tolerance, lbs.	Dia.	Ht.		
1/2:100 Ratio						
1/2	100	±0.01	2 7/8"	9/16"	1809T18	$40.96
1	200	±0.02	3 17/32"	1/2"	1809T19	52.66
1:100 Ratio						
1/2	50	±0.01	2 7/8"	9/16"	1809T14	40.96
1	100	±0.01	4 1/16"	5/8"	1809T15	40.96
2	200	±0.02	4 1/16"	15/16"	1809T16	46.81
5	500	±0.10	3 3/4"	2 3/16"	1809T17	46.81
Optional 50-lb. Capacity Weight Hanger (Weighs 7 oz.)					1809T31	76.06

Counters

Push-Button Counters



A **B** Shown with Base **C** **D** **E** **F** **G** With 2 Counters **H** With 2 Counters

Counters can be reset to zero. They count up, except Style D counts up and down. Counters *with digital display* have a battery-powered LCD. *Surface-mount* counters do not include mounting fasteners.

	No. of Counters	No. of Digits	*O'all Size* Ht.	Wd.	Dp.	Screw Size	Housing		
Hand-Held with Analog Display									
A	1	4	2.4″	1.6″	1.9″	____	Steel	**1707T5**	$12.29
B	1	4	2.3″	1.7″	2.1″	____	Plastic	**16705T21**	38.94
Optional Base for Style B	_		1.9″	2.2″	2.1″	No. 4	Plastic	**16705T36**	17.57
Hand-Held with Digital Display									
C	1	4	2.4″	1.4″	0.6″	____	Plastic	**1960T56**	16.66
D	1	4	2.4″	1.4″	0.6″	____	Plastic	**1960T57**	18.44
Surface Mount with Analog Display									
E	1	5	1.5″	2.6″	1.3″	No. 5	Plastic	**1685T31**	73.10
F	1	4	2.8″	2.1″ Dia.	___	No. 6	Steel	**1888T34**	15.57
G	1	4	2.8″	2.1″ Dia.	___	No. 6	Steel	**1888T14**	13.96
G	1	4	2.8″	2.1″ Dia.	___	No. 6	Stainless Steel	**1888T44**	70.26
G	2	4	2.6″	2.7″	2.4″	No. 6	Steel	**1882T11**	43.29
G	3	4	2.6″	3.9″	2.4″	No. 6	Steel	**1882T12**	67.39
G	4	4	2.6″	5.2″	2.4″	No. 6	Steel	**1882T13**	97.76
G	5	4	2.6″	6.4″	2.4″	No. 6	Steel	**1882T14**	111.68
G	6	4	2.6″	7.6″	2.4″	No. 6	Steel	**1882T15**	148.39
H	1	4	1.6″	2.7″	2.4″	No. 12	Zinc	**1714T3**	71.64
H	2	4	1.6″	4″	2.4″	No. 12	Zinc	**1714T11**	124.67
H	3	4	1.6″	5.3″	2.4″	No. 12	Zinc	**1714T12**	165.33
H	4	4	1.6″	6.6″	2.4″	No. 12	Zinc	**1714T13**	239.75
H	5	4	1.6″	7.5″	2.4″	No. 12	Zinc	**1714T14**	277.20

Air-Actuated Counters



Surface Mount



Panel Mount

Register up to 600 pulses of compressed air per minute. Counts decrease as air hose length increases; the length of your hose should not exceed 2½ feet to reach 600 counts per minute. Pressure must drop to 0 psi between pulses. All counters can be reset to zero. Air inlet is 10-32 female. Mounting fasteners not included. Housing is plastic. Temperature range is 32° to 140° F.

No. of Digits	*O'all Size* Ht.	Wd.	Dp.	*Panel Cutout* Ht.	Wd.	Screw Size	Operating Pressure, psi		
Surface Mount									
4	1.9″	1.5″	3.2″	____	____	No. 8	25-100	**8684T35**	$211.81
6	1.9″	2.1″	3.2″	____	____	No. 8	25-100	**8684T26**	262.24
Panel Mount									
4	1.6″	1.6″	2.5″	0.9″	1.4″	No. 4	25-100	**8684T23**	189.40
6	1.6″	2.1″	2.5″	1″	2″	No. 4	25-100	**8684T14**	240.95

Large-Display Counters



Visible from over 100 feet away, these counters have a large-digit LED display that can be adjusted to suit lighting conditions. All count up or down, have screw terminal connections, and can be wired for remote reset. Counters require a sensor, encoder, or switch for count input (not included; see pages 947-950 and 1631). They operate on 50-250V AC or 21.6-250V DC and have a 6-ft. cord with a three-prong plug. Memory backup retains programming in the event of a power failure. Counters require 10-32 bolts for mounting (not included). Counters have an aluminum housing that offers protection from dust and washdowns and can be used outdoors (meets NEMA 4X). CE marked and UL and C-UL listed. Temperature range is 32° to 140° F.

Counters with output relay send a signal to another device when a set point is reached. Output relay is rated 5 amps @ 120/240V AC or 28V DC.

			2¼″ Digit Ht.					**4″ Digit Ht.**				
No. of Digits	*Max. Counts/Minute* Switch Contact	DC Input	*O'all Size* Ht.	Wd.	Dp.			Ht.	Wd.	Dp.		
Counters												
4	3,000	1,500,000	4″	12″	2¼″	**16635T41**	$434.42	7⅞″	20″	2¼″	**16635T42**	$608.83
6	3,000	1,500,000	4″	16″	2¼″	**16635T43**	503.75	7⅞″	26″	2¼″	**16635T44**	736.67
Counters with Output Relay												
6	3,000	1,500,000	4″	16″	2¼″	**16635T81**	565.50	7⅞″	26″	2¼″	**16635T83**	798.42

Counters with Light-Beam Sensor

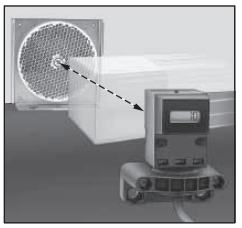

Medium Range

A built-in sensor counts objects as they pass by. Counters count up from zero, have a six-digit LCD, and register up to 2,000 counts per minute. They operate on 10-250V AC or 12-115V DC and have 6-ft. wire leads. To reset the count, touch the top of the display with the included magnet. In the event of a power failure, the memory backup retains the count for up to 100 hours.

Overall size is 2.5″ Ht. × 1.4″ Wd. × 2″ Dp. Counters have a plastic housing that offers protection from dust and washdowns and can be used outdoors (meets NEMA 4X). Temperature range is 32° to 122° F.

Sensing Range	Minimum Object Size		
Short (0″-1½″)	0.06″ Dia.	**4403T51**	$323.97
Medium (6″-30 ft.)	2.65″ Dia.	**4403T52**	328.56
Long (0″-200 ft.)	0.5″ Dia.	**4403T53**	412.02

Voltage-Actuated Counters

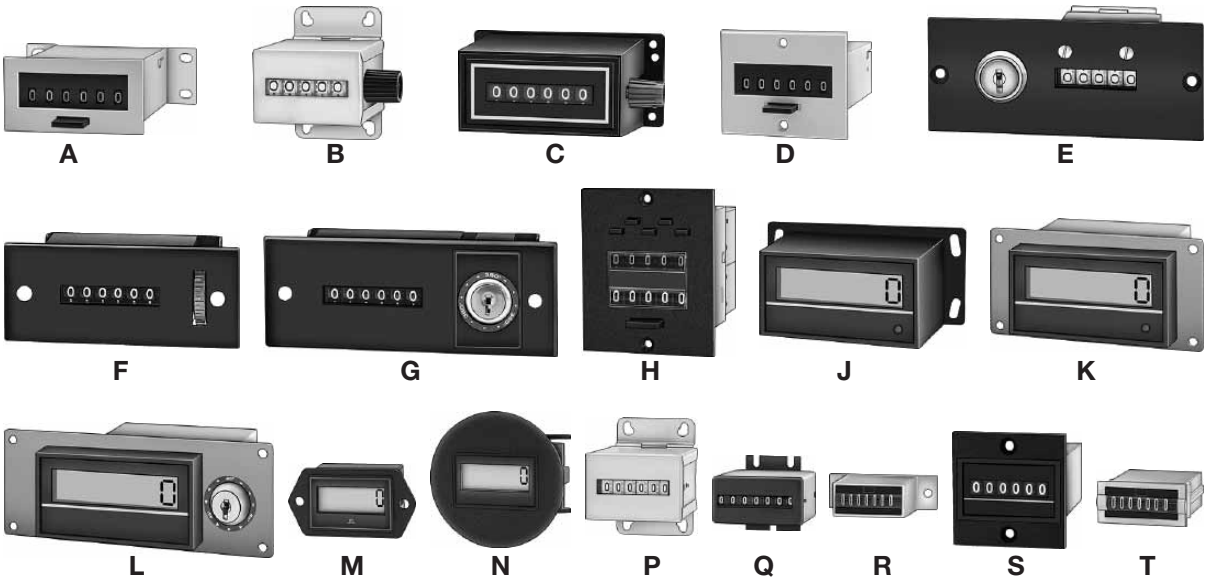

Used on machine tools, printing presses, and packaging machinery, these count up as they receive an input from a switch, sensor, or encoder (not included; see pages 947-950). Counters have wire leads, unless otherwise stated. Mounting fasteners not included, except for Styles F, G, and M. Temperature range is 14° to 122° F.

With Reset— Counters have a push-button, knob, or key reset.

Without Reset— Prevent tampering or accidental loss of data.

Analog counters (also known as electromechanical counters) are UL recognized, except Style H.

(H) Analog panel-mount counter with output relay has push-on electrical connections and two resettable displays. One shows a set point and the other counts incoming pulses. When the count reaches the set point, the counter triggers a relay and continues to count. Output relay is rated 5 amps for *120V AC counter* and 2 amps for *24V DC counter*.

Digital counters have a battery-powered LCD. *Styles M* and *N* have 1/4″ spade terminals and are UL and C-UL recognized.

To Order: Please specify input voltage where applicable.

	No. of Digits	Max. Counts/ Minute	*O'all Size* Ht.	Wd.	Dp.	*Panel Cutout* Ht.	Wd.	Screw Size	Housing	Available Input Voltages		
With Reset												
Analog Surface-Mount												
A	4	600	1.2″	2.6″	2.9″	—	—	No. 4	Plastic	120V AC	8686T27	$49.35
A	6	600	1.2″	3.1″	2.9″	—	—	No. 4	Plastic	120V AC, 24V DC	8686T51	52.78
B	5	600	2.4″	2.3″	2.3″	—	—	No. 5	Steel	120V AC	8686T16	101.43
C	6	1,000	2.6″	3.7″	1.8″	—	—	No. 6	Zinc	120V AC	8686T57	142.31
Analog Panel-Mount												
D	4	600	1.8″	1.8″	2.6″	1.1″	1.5″	No. 4	Plastic	120V AC	8686T28	53.70
D	6	600	1.8″	2.3″	2.6″	1.1″	2″	No. 4	Plastic	120V AC, 12V DC, 24V DC	1806T72	53.70
E	5	600	1.9″	4.5″	2.3″	1.4″	3″	No. 6	Steel	120V AC	8686T23	166.43
F	6	1,000	1.9″	4.5″	2.3″	1.8″	3.9″	No. 6	Zinc	120V AC	8686T58	157.04
G	6	1,000	2.2″	5.6″	2.3″	1.8″	4.9″	No. 6	Zinc	120V AC	8686T59	207.69
Analog Panel-Mount with Output Relay												
H	5	600	2.7″	2.2″	2.8″	2″	2″	No. 4	Plastic	120V AC, 24V DC	2148T17	217.23
Digital Surface-Mount												
J	6	2,400	1.8″	3.9″	3″	—	—	No. 5	Zinc	6-240V AC/DC	1874T81	179.14
Digital Panel-Mount												
K	6	2,400	1.9″	4.5″	2.9″	1.8″	3″	No. 8	Zinc	6-240V AC/DC	1874T82	190.09
L	6	2,400	2.2″	5.5″	2.9″	1.5″	4.8″	No. 8	Zinc	6-240V AC/DC	1874T83	208.53
M	8	2,400	1.1″	2.1″	1.2″	1″	1.5″	No. 5	Plastic	20-300V AC	1874T91	34.29
N	8	2,400	2.2″ Dia.	—	1.2″	1″	1.5″	—	Plastic	20-300V AC	1874T93	34.29
Without Reset												
Analog Surface-Mount												
P	6	600	2.3″	1.8″	2.4″	—	—	No. 5	Steel	120V AC, 24V DC	1876T81	43.07
Q	7	600	1.7″	1.6″	1.4″	—	—	No. 5	Plastic	24V AC, 120V AC, 12V DC	1876T77	34.32
R	7	1,500	0.6″	1.8″	1.7″	—	—	No. 5	Plastic	12V DC, 24V DC	1806T71	35.35
Analog Panel-Mount												
S	6	1,000	1.8″	1.8″	2.3″	1.1″	1.8″	No. 5	Plastic	120V AC	1876T34	40.11
S	6	1,200	1.8″	1.8″	2.3″	1.1″	1.8″	No. 5	Plastic	12V DC, 24V DC	1806T73	57.50
T	7	600	0.6″	1.3″	1.3″	0.6″	1.2″	—	Plastic	120V AC	1806T12	49.11

Counter/Ratemeters



Count events while tracking rates in units such as gallons per minute. Counter/ratemeter has a button that toggles between the count and the rate, and its scaling function lets you adjust the unit of measure to suit your application. Meter counts up from zero and accepts switch contact and DC voltage input (2-28V DC high level; 0-1.2V DC low level). It has screw terminal connections and requires a sensor, encoder, or switch for count input (not included; see pages 947-950).

Display is a battery-powered LCD and can be wired for remote reset. It has a plastic housing that offers protection from dust and washdowns and can be used outdoors (meets NEMA 4X). Temperature range is –4° to 158° F.

No. of Digits	*Max. Counts/Minute* Switch Contact	DC Input	*O'all Size* Ht.	Wd.	Dp.	*Panel Cutout* Ht.	Wd.		
8	1,200	600,000	1.6″	3″	1.3″	1.3″	2.7″	16665T27	$218.85

Counters for DIN Panel Cutouts


A


B


C


D

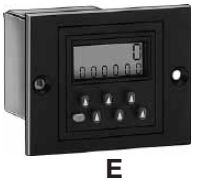
E


F

For quick installation, these counters fit standard DIN panel cutouts. Counters can be reset to zero and have screw terminals. Housing is plastic. Temperature range is 32° to 104°F.

All counters require a device such as a sensor, encoder, or switch for count input (not included; see pages 947-950 and 1631).

Counters with Output Relay—Send a signal to another device to start/stop a process or to signal an alarm when a set point is reached. All have two set points, except Style E has one set point. Output relay is rated 5 amps @ 250V AC, except Style E is rated 0.5 amps @ 230V AC and 2 amps @ 30V DC.

Style A are battery powered. Their housing offers protection from dust and washdowns and can be used outdoors (meet NEMA 4). UL recognized.

Style B are battery powered and have a backlit display for good visibility in low-light conditions (external 5V DC power supply required). UL and C-UL recognized.

Style C operate on 10-30V DC and maintain the count if power is lost. Their housing offers protection from dust and washdowns and can be used outdoors (meet NEMA 4X). 1745T21 has a scaling function so you can adjust the unit of measure to suit your application.

Style D operate on 120V AC and retain the count and the programming if power is lost. They include password lockout and a scaling function so you can adjust the unit of measure to suit your application. Their housing offers protection from dust and washdowns and can be used outdoors (meet NEMA 4X). UL and C-UL listed.

Style E is battery powered and includes a gasket for protection from direct water spray (meets IP65). UL and C-UL recognized.

Style F operates on 85-250V AC or 11-14V DC and retains programming if power is lost. It has a scaling function so you can adjust the unit of measure to suit your application. Counter includes a gasket for protection from direct water spray (meets IP65). UL and C-UL recognized.

Count Function	No. of Digits	Max. Counts/Minute	Panel Cutout DIN	Panel Cutout Ht.	Panel Cutout Wd.	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.	Input Voltage		
Counters											
Standard											
A Up	8	1,200	1/32	0.87″	1.77″	1″	1.9″	2.0″	24-240 V AC/DC (High), 0-2 V AC/DC (Low)	1737T25	$85.77
A Up	8	60,000	1/32	0.87″	1.77″	1″	1.9″	2.0″	Switch Contact	1737T22 ♣	68.20
A Up	8	60,000	1/32	0.87″	1.77″	1″	1.9″	2.0″	4.5-30V DC (High), 0-2V DC (Low)	1737T23 ♣	84.40
B Up or Down	8	600	1/32	0.87″	1.77″	1″	1.9″	2.1″	10-240V AC, 10-110V DC	1737T52	59.55
B Up or Down	8	600,000	1/32	0.87″	1.77″	1″	1.9″	2.1″	18V DC	1737T41 ♣	52.70
C Up	6	600,000	1/32	0.87″	1.77″	1″	1.9″	2.4″	Switch Contact, 4-30V DC (High), 0-1V DC (Low)	1745T11 ♣	153.23
C Up and Down	6	600,000	1/32	0.87″	1.77″	1″	1.9″	2.4″	Switch Contact, 4-30V DC (High), 0-1V DC (Low)	1745T21 ♣	187.10
D Up or Down	6	1,200,000	1/8	1.77″	3.62″	2.1″	4″	3.3″	Switch Contact up to 30V DC	7959T33	235.83
With 12V DC Power Source for External Sensor											
D Up or Down	6	1,200,000	1/8	1.77″	3.62″	2.1″	4″	3.3″	Switch Contact up to 30V DC	7959T41	269.30
Counters with Output Relay											
Standard											
D Up or Down	6	1,200,000	1/8	1.77″	3.62″	2.1″	4″	3.3″	Switch Contact up to 30V DC	7959T42	289.73
E Up or Down	6	1,500	1/16	1.77″	1.77″	1.9″	1.9″	3.1″	12-250V AC/DC	1774T23	164.15
F Up and Down	6	690,000	1/16	1.77″	1.77″	2″	2″	4.2″	Switch Contact up to 30V DC	1774T45	213.28
With 12V DC Power Source for External Sensor											
D Up or Down	6	1,200,000	1/8	1.77″	3.62″	2.1″	4″	3.3″	Switch Contact up to 30V DC	7959T43	325.70
D Up and Down	6	1,200,000	1/8	1.77″	3.62″	2.1″	4″	3.3″	Switch Contact up to 30V DC	7959T39	356.57

♣ Maximum counts per minute for low-level voltage is 1,800.

Counters and Ratemeters for 1/8 DIN Panel Cutouts


Counter/Ratemeter


Counter with Enclosure and Sensor

Keep counts and rates in one meter that fits into a 1.77″×3.62″ cutout. Meters can be reset to zero and have a high-visibility digital LED display. A scaling function lets you adjust the unit of measure to suit your application. Meters have a plastic housing that offers protection from dust and washdowns and can be used outdoors (meets NEMA 4X). UL and C-UL listed. Temperature range is 32° to 122°F.

Counter/ratemeters have screw terminals, accept switch contact or 0-30V DC, and include a 12V DC power source for external sensors. Counter/ratemeters require a device such as a sensor, encoder, or switch for count input (not included; see pages 947-950 and 1631). *Optional output relays* (sold separately) send a signal to start/stop a process or to trigger an indicator when a set point is reached.

Counter with enclosure and sensor has a plastic enclosure and a 3/4″ Dia.×3 1/2″ Lg. stainless steel sensor. Sensor counts metallic objects at a maximum range of 0.059″ and includes a 10-ft. cable. Counter includes a 6-ft. power cord with three-prong plug. It has an output relay and two set points; when a set point is reached, the relay sends a signal to another device to start/stop a process or to signal an alarm. Output relay is rated 5 amps @120V/240V AC or 28V DC.

Count Function	No. of Digits	Max. Counts/Minute	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.	Operating Voltage		
Counter/Ratemeters								
Up and Down	6	2,000,000	2″	3.8″	4.2″	85-250V AC	2620T51	$307.67
Up and Down	6	2,000,000	2″	3.8″	4.2″	11-36V DC	2620T52	339.08
Optional Output Relay for Two Set Points (Rated 5A @ 120/240V AC or 28V DC)							2620T53	44.42
Optional Output Relay for Four Set Points (Rated 3A @ 250V AC or 30V DC)							2620T54	56.33
Counter with Enclosure and Sensor								
Up or Down	6	300,000	7.5″	7.5″	5.1″	85-250V AC	18875T71	561.36

DIN Panel-Cutout Adapters



Adapters consist of two steel plates and a rubber gasket that fit over your panel cutout to accommodate a counter that's smaller than the DIN/panel-cutout size. They offer protection from dust and washdowns and can be used outdoors (meet NEMA 4).

For DIN Size From	For DIN Size To	For Panel Cutout Ht.	For Panel Cutout Wd.	For Counter Ht.	For Counter Wd.		
1/4	1/8	3.62″	3.62″	1.77″	3.62″	1647T12	$38.10
1/4	1/16	3.62″	3.62″	1.77″	1.77″	1647T13	38.10
1/8	1/16	1.77″	3.62″	1.77″	1.77″	1647T11	51.55

Rotating-Shaft Encoders

Count shaft revolutions by connecting one of these encoders to a voltage-actuated counter (not included). Units require 5-28V DC. Maximum shaft speed is 6,000 rpm. Temperature range is 32° to 185° F.

Units that *count up and down* increase or decrease count depending on the direction of the shaft rotation.

Encoders have a 2 1/4″ Lg. × 2 1/4″ Wd. aluminum housing and a 3/8″ dia. shaft that projects 3/4″ from the housing on two sides. Maximum output is 250 mA @ 5-28V DC. *Cables* (sold separately) connect the encoder to your counter. *Wheels* and *mounting bracket* (sold separately) allow you to use the encoder for length measurement. Choose the *polyurethane wheel* for wear resistance or the *rubber wheel* for good grip. *Bracket* is 8.3″ Lg. × 7.3″ Wd. and requires No. 12 screws for mounting (not included).

Encoder kit consists of an encoder, a mounting bracket, and a 6 1/2-ft. cable. Encoder has a nylon housing and a 1/4″ dia. shaft that projects 1/2″ from the housing on one side. Maximum output is 20 mA @ 5-28V DC. Bracket requires 1/4″ dia. screws for mounting (not included). Overall size is 4 1/4″ Lg. × 2 3/4″ Wd. *Wheel* (sold separately) allows you to use the encoder for length measurement.



Encoder Shown with Optional Wheel and Optional Mounting Bracket

To Order: Please specify counts per revolution.

	Count Function	Available Counts per Revolution		
Encoder	Up	10, 60, 100, 120, 500, 600, 1,200	16695T46	$214.29
Encoder	Up and Down	10, 60, 100, 120, 500, 600, 1,200	16695T47	234.16
Encoder Kit	Up and Down	500, 600, 1,000, 1,800, 2,500	16695T57	307.42
Accessories for Encoder				
10-ft. Cable			16695T14	64.29
20-ft. Cable			16695T27	83.39
12″ Circumference Polyurethane Wheel (3.82″ Dia. × 0.7″ Wd.)			16695T28	82.74
12″ Circumference Rubber Wheel (3.82″ Dia. × 0.75″ Wd.)			16695T12	103.11
Mounting Bracket			16695T13	185.85
Accessories for Encoder Kit				
6″ Circumference Polyurethane Wheel (1.91″ Dia. × 0.25″ Wd.)			16695T56	54.00



Encoder Kit Shown with Optional Wheel

Rotating-Shaft Counters

Get precise counts from clutches, couplings, rotors, and rotating shafts. All counters can be reset to zero. Counters require No. 5 mounting screws (not included), except counter with shaft on two sides, which requires No. 8 mounting screws. Housing is plastic. Temperature range is 0° to 140° F.

Shaft direction is the direction of rotation when you're looking at the counter from the end of the shaft.



Shaft on Right Side



Shaft on Two Sides

No. of Digits	Max. Counts/ Minute	Counts/ Revolution	*Shaft Direction* Counts Up	Counts Down	*O'all Size* Ht.	Wd.	Dp.		
Shaft on Right Side— 1/8″ Dia. × 7/16″ Lg. Shaft									
5	10,000	10	Counterclockwise	Clockwise	1.5″	3.2″	1.4″	1697T64	$89.13
5	10,000	10	Clockwise	Counterclockwise	1.5″	3.2″	1.4″	1697T65	89.13
Shaft on Left Side— 1/8″ Dia. × 7/16″ Lg. Shaft									
5	10,000	10	Clockwise	Counterclockwise	1.5″	3.2″	1.4″	1697T32	88.08
Shaft on Two Sides— 0.28″ Dia. × 11/16″ Lg. Shaft									
7	1,000	1	Clockwise/Counterclockwise		3.2″	5.1″	1.9″	1697T84	344.33

Lever-Actuated Counters



A



B



C



D

To keep an accurate count, connect the spring-return lever on these counters to an object moving in a straight line, such as a punch press or drill press. All counters count up from zero. Temperature range is 14° to 117° F. Mounting fasteners not included.

	No. of Digits	Max. Counts/ Minute	*Count Activation* Lever Travel	Lever Direction	*O'all Size* Ht.	Wd.	Dp.	Screw Size	Housing		
With Reset— Right-Hand Lever											
A	5	400	40°	Counterclockwise	1.8″	3.8″	1.9″	No. 4	Steel	1895T23	$251.33
B	5	800	37°–60°	Counterclockwise	3.8″	6.8″	2.3″	No. 10	Steel	1895T11	243.15
C	5	1,000	40°–45°	Counterclockwise	1.5″	2.6″	1.3″	No. 5	Plastic	1895T49	73.10
C	5	1,000	49°–60°	Counterclockwise	1.5″	3.2″	1.4″	No. 5	Plastic	1895T52	57.06
C	6	1,000	40°–70°	Counterclockwise	3.3″	5.6″	2.2″	No. 10	Zinc	1895T53	146.79
With Reset— Left-Hand Lever											
B	5	800	37°–60°	Clockwise	3.8″	6.8″	2.3″	No. 10	Steel	1895T28	259.45
C	5	1,000	40°–45°	Clockwise	1.5″	2.6″	1.3″	No. 5	Plastic	1895T26	73.10
Without Reset— Right-Hand Lever											
D	6	500	17°	Counterclockwise	2.3″	2.4″	1.7″	No. 5	Steel	1895T34	44.20

Hour Meter/Counters

Keep track of time while counting events. Units have two displays that cannot be reset. One display counts to 99999.99 hours. The other counts to 9999999 as it receives input from a sensor, encoder, or switch (not included; see pages 947-950). Meter/counters have screw terminals. Housing is plastic. Temperature range is 5° to 140° F.



Input Voltage	No. of Digits	*O'all Size* Ht.	Wd.	Dp.	*Panel Cutout* Ht.	Wd.		
24V AC	7	2.2″	2.2″	1.5″	1.9″	1.9″	16655T141	$158.95
120V AC	7	2.2″	2.2″	1.5″	1.9″	1.9″	16655T142	150.95
12-24V DC	7	2.2″	2.2″	1.5″	1.9″	1.9″	16655T171	221.76

Minute and Hour Meters


A


B


C


D


E


F


G


H


J


K


L


M


N


P


Q

All meters have a plastic housing. Meters show a running time to one decimal place, except eight-digit meters show a running time to two decimal places. They mount in a panel cutout, except Style E mounts on a DIN 3 rail. Meters are UL recognized, unless noted.

1672T22 and *Styles P* and *Q* are sealed to offer protection from dust and water (1672T22 and *Style P* meet NEMA 4X; *Style Q* meets IP67).

AC meters operate on 60 Hz, unless noted.

Without Reset—Prevent tampering or accidental loss of data.

With Reset—Counters have a push-button or knob reset.

(P) Hour meter with digital displays and output relay has two displays. One shows the total running time and cannot be reset; the other shows the time elapsed since the last maintenance and can be wired for remote reset. When a set point is reached, an indicator light turns on and the relay sends a signal to another device. Output relay is rated 0.2 amps @ 265V AC or 40V DC.

To Order: Please specify operating voltage where applicable.

	No. of Digits	*O'all Size* Ht.	Wd.	Dp.	*Panel Cutout* Ht.	Wd.	Screw Size	Electrical Connections	Available Operating Voltages		
Without Reset											
Minute Meters with Analog Display											
A	6	2.9″ Dia.	—	2″	2.3″ Dia.	—	No. 4	Wire Leads	120V AC	8672T75	$49.77
Hour Meters with Analog Display											
A	6	2.9″ Dia.	—	2″	2.3″ Dia.	—	No. 4	Screw Terminals	120V AC	8672T31	61.35
A	6	2.9″ Dia.	—	2″	2.3″ Dia.	—	No. 4	Wire Leads	24V AC, 120V AC, 230V AC	8672T59	75.76
A	6	3.5″ Dia.	—	2.5″	2.9″ Dia.	—	No. 6	Wire Leads	120V AC	1693T26 ♥	62.69
B	6	3″	3″	2.5″	2.3″	2.3″	No. 4	Wire Leads	120V AC	1693T84 ♥	60.63
C	5	1.3″	2.2″	1.9″	1″	1.5″	No. 6	¼″ Male Quick Disconnects	10-80V DC	1896T53	48.92
C	6	1.1″	2.1″	1.9″	1″	1.5″	No. 6	Wire Leads	120V AC	1684T31	38.17
C	6	1.1″	2.1″	1.9″	1″	1.5″	No. 6	Screw Terminals	120V AC, 240V AC	1684T26 ♥	38.08
D	7	2.1″	2.1″	1.6″	0.9″	1.8″	—	Screw Terminals	24V AC, 120V AC, 230V AC	8681T87	94.97
E	7	2.4″	1.9″	1.9″	—	—	—	Screw Terminals	120V AC, 220V AC	8695T33	84.30
F	5	2.9″ Dia.	—	1.9″	1″	1.5″	No. 6	Wire Leads	120V AC	1877T86	43.00
F	5	2.9″ Dia.	—	1.9″	1″	1.5″	No. 6	¼″ Male Quick Disconnects	8-32V DC	1877T85	43.00
G	5	1.1″	2.1″	1.9″	1″	1.5″	No. 6	Wire Leads	120V AC	1877T82	43.00
G	5	1.1″	2.1″	1.9″	1″	1.5″	No. 6	¼″ Male Quick Disconnects	8-32V DC	1877T81	43.00
H	5	2.9″ Dia.	—	1.9″	2″ Dia.	—	No. 6	¼″ Male Quick Disconnects	10-80V DC	1896T51	47.83
H	6	2.8″ Dia.	—	1.3″	2″ Dia.	—	No. 6	¼″ Male Quick Disconnects	24V AC, 120V AC, 230V AC	1672T22	38.92
J	6	2.4″ Dia.	—	1.3″	2″ Dia.	—	—	¼″ Male Quick Disconnects	24V AC, 120V AC, 230V AC	1672T23	34.74
K	5	2.3″ Dia.	—	2″	2″ Dia.	—	—	¼″ Male Quick Disconnects	8-32V DC	1877T83	43.00
L	5	2.5″ Dia.	—	1.9″	2″ Dia.	—	—	¼″ Male Quick Disconnects	10-80V DC	1896T52	50.05
Hour Meters with Digital Display											
M	6	1.3″	2.1″	0.8″	1″	1.5″	No. 6	¼″ Male Quick Disconnects	15-75V AC/9-60V DC	1878T43 ♣	27.85
M	6	1.3″	2.1″	0.8″	1″	1.5″	No. 6	¼″ Male Quick Disconnects	75-270V AC/36-185V DC	1878T42 ♣	27.85
N	6	2.3″ Dia.	—	0.6″	2.1″ Dia.	—	—	¼″ Male Quick Disconnects	15-75V AC/9-60V DC	1878T67 ♣	42.48
N	6	2.3″ Dia.	—	0.6″	2.1″ Dia.	—	—	¼″ Male Quick Disconnects	75-270V AC/36-185V DC	1878T71 ♣	42.48
Hour Meters with Digital Displays and Output Relay											
P	6	2.3″ Dia.	—	1.7″	2″ Dia.	—	—	Wire Leads	85-265V AC/90-360V DC, 10-40V DC	17045T8 ★	98.33
With Reset											
Minute Meters with Analog Display											
B	5	3″	3″	3″	2.3″	2.3″	No. 4	Wire Leads	120V AC	1693T57 ♥	113.87
Hour Meters with Digital Display											
Q	8	1″	1.9″	2.1″	0.9″	1.8″	—	Screw Terminals	10-240V AC/5-110V DC	17015T11	58.22
Q	8	1″	1.9″	2.1″	0.9″	1.8″	—	Screw Terminals	Switch Contact	17015T12	43.33

♥ UL listed. ♣ Operates on 48-440 Hz. ★ Not UL recognized.

Electric-Motor Hour Meters



With a sensor that's activated by your electric motor's magnetic field, these meters show the motor's running time in hours to one decimal place. Use the adhesive back to mount the sensor to your motor. Display has a battery-powered LCD and requires No. 5 screws for mounting (not included). Cord between the sensor and the display is 4-ft. long. Housing is plastic. Temp. range is –40° to 185° F.

Meter **with reset** alerts the user when a set point is reached.

No. of Digits	*O'all Size* Ht.	Wd.	Dp.	Without Reset		With Reset	
5	1.9″	2.9″	0.8″	1114T27	$91.46	1114T28	$95.12

Vibration-Activated Hour Meters


R S T

Record the running time of machines and vehicles that vibrate while operating. Display is a battery-powered LCD that shows hours to one decimal place. Meters cannot be reset and have a plastic housing that offers protection from dust and temporary submersion in water (meets IP67). Temp. range is –13° to 158° F.

Style R requires #6 screws for mounting (not included).

	No. of Digits	*O'all Size* Ht.	Wd.	Dp.	*Panel Cutout* Ht.	Wd.		
R	6	1.3″	2.2″	0.7″	1″	1.5″	8678T63	$43.90
S	6	1.3″	1.8″	0.7″	1″	1.5″	8678T64	43.90
T	6	2.4″ Dia.	—	0.8″	2″ Dia.	—	8678T62	43.90

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C123-1633 Furniture & Storage.indd 1 09/30/16 9:46:12 AM

Heavy Duty Drawer Cabinets



A



B

Store your heaviest tools and parts in these steel cabinets. Drawers have a handle with a label holder.

Cabinets have a lock with two keys. They're shipped assembled. Use cabinets individually or stack up to three high, except the 17-drawer full-height cabinets can only be stacked two high. Note: Only stack cabinets with the same width and depth dimensions. Do not exceed the load capacity of the bottom cabinet.

Style B cabinets have compartmented drawers. They can also be connected side-by-side.

Style A Cabinets

Total No. of Drawers	Drawers: No.	Drawers: Ht.	Drawers: Dp.	Drawers: Cap., lbs.	Overall Size: Ht.	Overall Size: Dp.	Overall Cap., lbs.	Choose a Color	30″ Wd. Cabinets; 25″ Wd. Drawers		45″ Wd. Cabinets; 39½″ Wd. Drawers	
Bench Height												
4	1	2¼″, 3¾″, 5¼″, 12½″	25″	400	34″	29″	1,600	Blue, Gray	4795T65	$1,021.28	49555T87	$1,691.27
5	1	3″, 3¾″										
	3	5¼″	25″	400	34″	29″	2,000	Blue, Gray	4795T66	1,154.58	49555T88	1,897.74
6	1	3¾″, 4½″										
	2	5¼″, 7″	25″	400	45″	29″	2,400	Blue, Gray	4795T55	1,356.18	49555T85	2,280.67
7	2	2¼″, 6¼″										
	1	3″, 5¼″, 7″	25″	400	45″	29″	2,800	Blue, Gray	4795T17	1,479.10	49555T36	2,467.00
7	3	2¼″										
	1	3¾″, 5¼″, 6¼″, 10″	25″	400	45″	29″	2,800	Blue, Gray	4795T16	1,465.59	49555T37	2,443.38
9	4	2¼″, 3″										
	1	9¼″	25″	400	45″	29″	3,600	Blue, Gray	4795T18	1,697.74	49555T86	2,821.74
Full Height												
7	2	5¼″, 6¼″, 7″										
	1	10″	25″	400	60″	29″	2,800	Blue, Gray	4795T11	1,597.74	49555T81	2,729.13
10	2	2¼″, 3¾″										
	3	5¼″										
	1	3″, 6¼″, 7″	25″	400	60″	29″	4,000	Blue, Gray	4795T13	1,947.54	49555T83	3,218.13
10	3	2¼″, 3″										
	1	4½″, 5¼″, 6¼″, 12½″	25″	400	60″	29″	4,000	Blue, Gray	4795T12	1,929.29	49555T38	3,116.57
11	2	2¼″, 3″										
	3	3¾″										
	4	5¼″	25″	400	60″	29″	4,400	Blue, Gray	4795T14	2,123.75	49555T84	3,376.28
17	17	2¼″	25″	400	60″	29″	6,800	Blue, Gray	4795T15	2,808.44	49555T39	4,454.79

Optional Steel Drawer Divider Sets for Style A Cabinets

For Drawer Ht.	For 25″ Wd. Drawers: 8-Compartment Set		12-Compartment Set		24-Compartment Set		For 39½″ Wd. Drawers: 8-Compartment Set		12-Compartment Set		24-Compartment Set	
2¼″-3″	4795T75	$10.01	4795T85	$12.78	4795T29	$14.58	49555T22	$8.94	49555T26	$19.21	49555T31	$21.10
3¾″-4½″	4795T76	12.36	4795T86	15.93	4795T39	19.66	49555T23	12.16	49555T27	25.28	49555T32	29.14
5¼″-6¼″	4795T77	15.49	4795T87	17.07	4795T49	26.92	49555T24	15.38	49555T28	31.24	49555T33	39.40
7″-12½″	4795T78	17.99	4795T88	19.84	4795T59	32.04	49555T25	17.86	49555T29	36.97	49555T34	47.47

Style B Cabinets

Total No. of Drawers	Drawers: No.	Drawers: Ht. (No. of Compartments)	Drawers: Wd.	Drawers: Dp.	Drawers: Cap., lbs.	Overall Size: Wd.	Overall Size: Ht.	Overall Size: Dp.	Overall Cap., lbs.	Choose a Color		
Bench Height												
6	2	2″ (44), 5″ (13)										
	1	3″ (9), 7″ (4)	18″	24″	425	23″	34″	29″	2,600	Blue, Gray	7573T66	$1,219.80
Full Height												
7	4	5″ (42)										
	1	7″ (9), 9″ (4), 11″ (4)	24″	24″	425	29″	60″	29″	3,000	Blue, Gray	7573T61	1,808.00

Bench-Height Drawer Cabinets with Stackable Cabinet



Remove the stackable cabinet and carry only the tools you need. Both cabinets are steel and come with a security bar and a lock with two keys. In addition to steel drawers, the stackable cabinet has three plastic drawers for storing small parts. The cabinet has four casters (two rigid; two swivel) with 3″ dia. plastic wheels. Color is red. Shipped assembled.

	Compartments/Drawers: Wd.	Ht.	Dp.	Cap., lbs.	Overall Size: Wd.	Ht.	Dp.	Overall Cap., lbs.		
Top Compartment (Stackable Cabinet)	22″	3″	10¾″	25						
4 Drawers (Stackable Cabinet)	15″	1¾″	10½″	25						
3 Bottom Drawers (Stackable Cabinet)	4¼″	¾″	6″	2						
2 Drawers (Mobile Cabinet)	22″	3¾″	12½″	25						
Bottom Compartment (Mobile Cabinet)	26″	15″	13″	25	27″	44″	14″	225	63885A55	$187.05

Stackable Drawer Cabinets and Mobile Cabinets

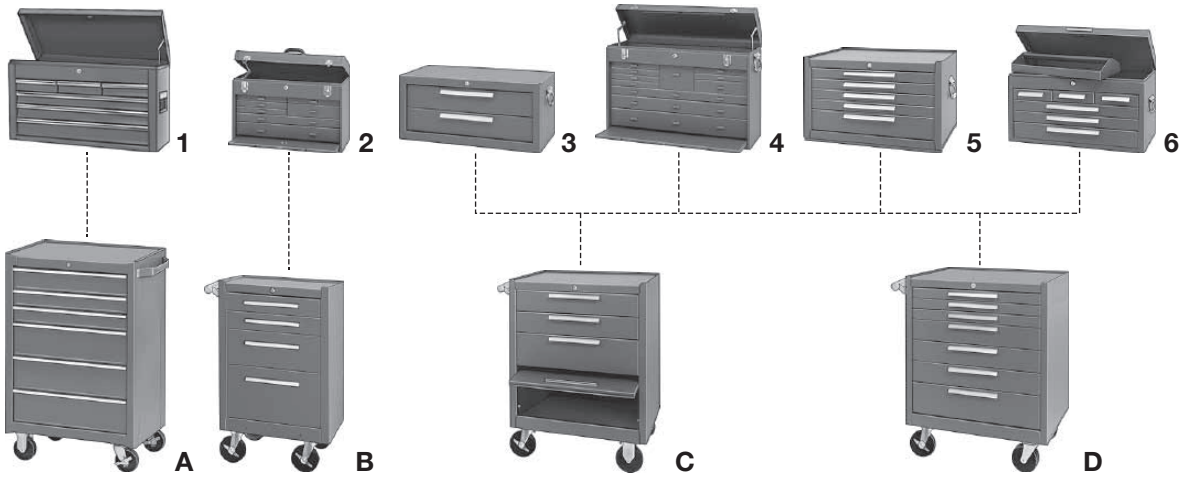

Create a versatile storage solution from the top down. Use cabinets individually or stacked on top of compatible bench-height drawer cabinets. They have a lock and come with two keys. Made of steel, they're shipped assembled.

Note: When stacking, do not exceed the overall capacity of the bottom cabinet. Only stack cabinets with similar width and depth dimensions.

Optional drawer dividers are adjustable and made of aluminum.

Drawer Cabinets

Cabinets **with felt-lined drawers** protect precision tools. They are also known as machinist's chests.

Styles 2&4 come with adjustable steel drawer dividers and a locking drop-front panel that prevents access to drawers for added security.

Style 6 has a removable tote tray with a socket-set divider.

Total No.	Drawers/Compartments: Configuration	Wd.	Ht.	Dp.	Cap., lbs.	Overall Size: Wd.	Ht.	Dp.	Overall Cap., lbs.	Compatible Bench-Height Cabinets	Cabinets		Optional Drawer Dividers	Pkg. of 4
Red Tabletop Cabinets														
1 6	Top Compartment	26″	3″	10¾″	50									
	3 Drawers	6½″	1¾″	10½″	50									
	2 Drawers	22¼″	1¾″	10½″	50									
	1 Drawer	22¼″	2¾″	10½″	50	26″	16″	12″	350	A	6379A21	$186.50	_____	____
Brown Tabletop Cabinets with Felt-Lined Drawers														
2 7	Top Compartment	20″	4½″	8¼″	100									
	4 Drawers	8½″	1″	7½″	60									
	1 Drawer	8½″	2″	7½″	60									
	1 Drawer	18¼″	1½″	7½″	60									
	1 Drawer	18¼″	2¼″	7½″	60	21″	14″	9″	500	B	6578A1	256.91	_____	____
3 2	1 Drawer	24″	2″	10¾″	60									
	1 Drawer	24″	4″	10¾″	60	27″	9½″	13″	100	C, D	6563A24	159.60	_____	____
4 11	Top Compartment	26½″	4½″	8¼″	100									
	1 Drawer	5½″	4¼″	7½″	60									
	6 Drawers	8½″	1″	7½″	60									
	1 Drawer	8½″	2″	7½″	60									
	1 Drawer	24¾″	1½″	7½″	60									
	1 Drawer	24¾″	2¼″	7½″	60									
	1 Drawer	24¾″	3″	7½″	60	27″	18″	9″	750	C, D	6586A4	409.04	_____	____
Brown Tabletop Cabinets														
3 2	2 Drawers	22¾″	4″	10¾″	80	27″	12″	13″	150	C, D	6623A47	206.01	6623A51	$18.67
5 5	4 Drawers	23″	2″	16½″	100									
	1 Drawer	23″	4″	16½″	100	27″	17″	18″	600	C, D	6580A34	463.47	6623A52	18.74
6 6	Top Compartment	26″	4″	11¾″	80									
	3 Drawers	6¾″	2″	10¾″	80									
	2 Drawers	22¾″	2″	10¾″	80									
	1 Drawer	22¾″	3″	10¾″	80	26″	15″	12″	550	C, D	6623A14	409.04	6623A51	18.67

Mobile Drawer Cabinets

Cabinets have four casters (two rigid; two swivel with brakes). *Style A* wheels are plastic. *Style B-D* wheels are rubber.

Total No.	Drawers/Compartments: Configuration	Wd.	Ht.	Dp.	Cap., lbs.	Overall Size: Wd.	Ht.	Dp.	Overall Cap., lbs.	Compatible Tabletop Cabinets	Cabinets		Optional Drawer Dividers	Pkg. of 4
Red Bench-Height Cabinets														
A 6	1 Drawer	22¼″	4″	16¼″	50									
	2 Drawers	22¼″	2¾″	16¼″	50									
	3 Drawers	22¼″	6″	16¼″	50	27″	41″	18″	700	1	6379A24	$385.39	_____	____
Brown Bench-Height Cabinets														
B 4	2 Drawers	16½″	3″	16½″	100									
	1 Drawer	16½″	6¼″	16½″	100									
	1 Drawer	16½″	9½″	16½″	100	21″	34″	18″	800	2	6382A66	486.29	_____	____
C 3	2 Drawers	23″	4″	16½″	100									
	1 Drawer	23″	6″	16½″	100									
	Bottom Compartment	24″	11¼″	17¾″	100	27″	35″	18″	800	3, 4, 5, 6	6623A15	532.27	6623A52	$18.74
D 7	3 Drawers	25″	2″	18½″	100									
	3 Drawers	25″	4″	18½″	100									
	1 Drawer	25″	6″	18½″	100	29″	35″	20″	1,400	3, 4, 5, 6	6581A14	777.10	6580A33	20.73

Mobile Bench-Height Drawer Cabinets


A


B


C


D


E

Roll these cabinets where you need them for ample drawer storage and a flat work surface. They have four casters (two rigid; two swivel) and come with a lock and two keys.

Styles A-C Cabinets

Cabinets are shipped assembled.
Steel cabinets have plastic wheels. Drawers are lined with nonslip rubber. *Style A* has a wood work surface. *Style B* has a rubber work surface.
Stainless steel cabinet is corrosion resistant. Wheels are polyurethane.

	Total No. of Drawers	Drawers: No.	Wd.	Ht.	Dp.	Cap., lbs.	Overall Size: Wd.	Ht.	Dp.	Overall Cap., lbs.	Choose a Color		
Steel													
A	11	1	36½″	4″	16¼″	100							
		1	22¼″	1¾″	16¼″	50							
		4	22¼″	2¾″	16¼″	50							
		1	22¼″	6″	16¼″	100							
		1	11½″	1¾″	16¼″	50							
		2	11½″	2¾″	16¼″	50							
		1	11½″	12½″	16¼″	100	41″	38″	18″	1,100	Black, Red	**63895A77**	$763.10
B	11	1	36½″	4″	16¼″	150							
		1	22¼″	1¾″	16¼″	70							
		1	22¼″	2¾″	16¼″	70							
		3	22¼″	6″	16¼″	150							
		1	11½″	1¾″	16¼″	70							
		3	11½″	2¾″	16¼″	70							
		1	11½″	12½″	16¼″	150	41″	43″	18″	3,200	Black, Red	**7933A73**	1,195.22
Stainless Steel													
C	5	1	25″	2″	18½″	100							
		3	25″	4″	18½″	100							
		1	25″	10″	18½″	100	29″	35″	20″	1,600	Gray	**6372A42**	2,850.81

Styles D&E Cabinets

Sort tools and materials by adjusting the various drawer compartments in these cabinets. Cabinets are made of steel and have a ribbed plastic work surface. Drawer handles have a slot for a label. Wheels are polyurethane. Shipped assembled.

	Total No. of Drawers	Drawers: No.	Ht. (No. of Compartments)	Wd.	Dp.	Cap., lbs.	Overall Size: Wd.	Ht.	Dp.	Overall Cap., lbs.	Choose a Color		
D	7	4	2″ (52)										
		1	3″ (8), 5″ (6), 7″ (6)	24″	18″	425	29″	42″	23″	3,000	Blue, Gray	**7573T67**	$1,748.83
E	7	4	2″ (58)										
		1	3″ (18), 5″ (12), 7″ (6)	36″	18″	425	41″	42″	23″	3,000	Blue, Gray	**7573T68**	2,008.10

Drawer Cabinet Liners

Protect drawer beds and tools from scratches and dents.
Rust-inhibiting liner is treated to protect drawer contents against rust. The surface is ribbed.

	Wd.	Thick.	Max. Lg., ft.		Per Ft.
Standard	24″	⅛″	100	**6181T85**	$2.78
Rust Inhibiting	40″	3/32″	30	**6181T87**	17.64

Drawer Cabinet Organizers



Keep tools and small parts in place and protected from damage in this plastic organizer.
Size is 16″ Wd. × 1¼″ Ht. × 11″ Dp.

47625T87 $30.72

Small-Parts Cabinets with Compartmented Boxes

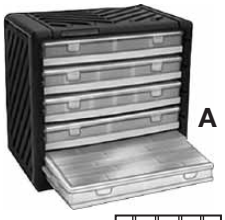
A

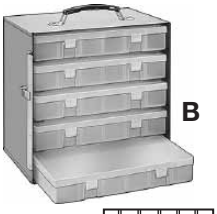
B


C

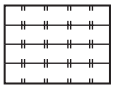
4 to 20 Compartments

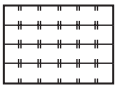
4 to 24 Compartments

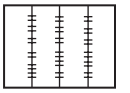
4 to 13 Compartments

Remove individual boxes to take the parts you need without moving the entire storage unit. Use the included dividers to create compartments. Cabinets are shipped assembled.
Style A won't dent, chip, or rust. It is stackable.
Style B has a built-in handle for easy carrying. It has a hinge that can be locked with a padlock (⅜″ max. shackle dia.) to secure boxes. It has two 3/16″ dia. mounting holes for wall mounting (fasteners not included).
Style C are stackable and can be secured with eight 5/16″ dia. mounting holes.

	Overall Size: Wd.	Ht.	Dp.	Material	Boxes: Number of Compartments	Wd.	Ht.	Dp.	Material	Cabinets		Replacement Boxes	
A	15″	16″	14½″	Plastic	4-20	13½″	2″	9″	Plastic	**67425T33**	$83.36	**4629T62**	$14.29
B	13½″	13″	9″	Steel	4-24	13″	2¼″	9″	Plastic	**67425T36**	131.42	**45505T51**	8.84
C	15″	11″	11½″	Steel	4-13	13″	2″	9¼″	Steel	**67425T34**	143.02	**5158T2**	19.35
C	20″	15″	15½″	Steel	4-13	18¼″	3″	11¾″	Steel	**67425T35**	190.40	**5158T19**	28.62

Design-Your-Own Small-Parts Cabinets with Compartmented Boxes

Create your own storage system by choosing a frame and adding boxes, which come in a variety of compartment configurations (sold separately below). Boxes **with adjustable dividers** allow you to create a range of compartment sizes.

Easy-Carry Steel Frames and Plastic Boxes

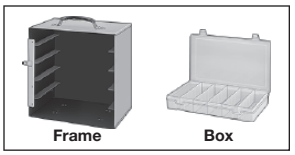



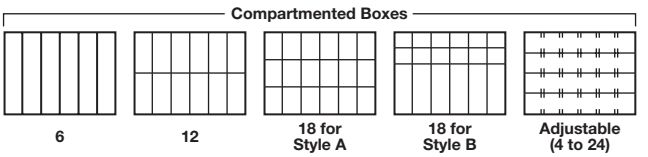

Carry multiple compartmented boxes at once using the built-in handle. Frames have a locking hinge that can be secured with a padlock (3/8″ max. shackle diameter). They have four 3/16″ mounting holes for wall mounting. Shipped assembled. Frames are gray and boxes are semi-clear.

	Frame Size Wd.	Ht.	Dp.	Frames (without Boxes)		*Box Size* Wd.	Ht.	Dp.	Boxes with Fixed Dividers: Choose a Number of Compartments			Boxes with Adjustable Dividers: Number of Compartments		
A	11″	10½″	6½″	45505T21	$42.58	11″	1¾″	6¾″	6, 12, 18	45505T9	$5.93	3 to 18	45505T31	$6.76
B	13½″	13″	9″	45505T41	48.07	13½″	2¼″	9″	6, 12, 18	45505T11	7.34	4 to 24	45505T51	8.84

Stackable Steel Frames and Steel Boxes











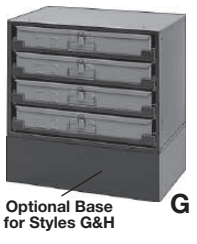



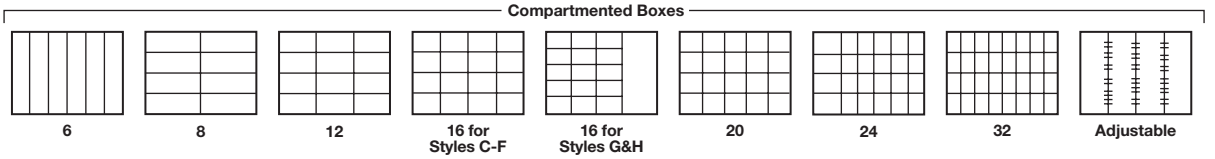

Frames are stackable with others of the same width and depth. Frames and boxes are shipped assembled. Boxes and frames with friction drawer slides are gray; boxes and frames with a ball bearing drawer slide are black.

Frames **with friction drawer slides** have eight 5/16″ dia. mounting holes for stacking. *Style F* has a locking door and comes with two keys. *Optional locking hinges* for *Styles D&E* secure with a padlock (3/8″ max. shackle diameter). They're chrome-plated steel.

Frames **with ball-bearing drawer slides** offer smoother and quieter operation than friction slides. Boxes have plastic compartments. Mounting fasteners for stacking are included.

Optional bases are 15″ high, except 5158T25 is 15½″ high; *Style F* is 12″ high; and *Styles G&H* are 6″ high.

	Frame Size Wd.	Ht.	Dp.	Frames (without Boxes)		Optional Bases		*Box Size* Wd.	Ht.	Dp.	Boxes with Fixed Dividers: Choose a Number of Compartments			Boxes with Adjustable Dividers: Number of Compartments		
Frames with Friction Drawer Slides																
C	16″	7″	12″	5158T31	$58.95	5158T26	$45.34	13″	2″	9¼″	8, 12, 16, 20, 24	5158T1	$17.14	4-13	5158T2	$19.35
C	20″	9″	16″	5158T34	62.76	5158T25	51.39	18¼″	3″	11¾″	6, 12, 16, 20, 24, 32	5158T3	28.62	4-13	5158T19	28.62
D	16″	12″	12″	5158T23	75.10	5158T26	45.34	13″	2″	9¼″	8, 12, 16, 20, 24	5158T1	17.14	4-13	5158T2	19.35
D	20″	15″	16″	5158T22	87.52	5158T25	51.39	18¼″	3″	11¾″	6, 12, 16, 20, 24, 32	5158T3	28.62	4-13	5158T19	28.62
E	16″	17″	12″	5158T33	107.44	5158T26	45.34	13″	2″	9¼″	8, 12, 16, 20, 24	5158T1	17.14	4-13	5158T2	19.35
Optional Locking Hinge for Style D (12″ Height)															5158T61	12.56
Optional Locking Hinge for Style D (15″ Height) and Style E															5158T62	12.56
Frames with Friction Drawer Slides and Locking Door																
F	21″	24″	14″	6885T11	162.33	6885T31	42.18	18″	3″	12″	6, 12, 16, 20, 24, 32	6885T1	23.35	4-16	6885T21	23.55
Frames with Ball Bearing Drawer Slides																
G	21″	15″	13″	8641A71	180.83	8641A88	70.40	18″	3″	12″	16, 20, 24, 32	8641A1	37.32	4-16	8641A83	42.60
H	21″	25″	13″	8641A72	248.43	8641A88	70.40	18″	3″	12″	16, 20, 24, 32	8641A1	37.32	4-16	8641A83	42.60

Antistatic Small-Parts Cabinets

Cabinets have a 3-ft. long static-safe grounding cord to protect your sensitive components from electrostatic damage. They have a surface resistivity of 10^{10} ohms/sq. Cabinets are made of black plastic and come with 10 dividers; each drawer holds up to three dividers. They are shipped assembled.



Drawers Total	Across	Down	Wd.	Ht.	Dp.	*Cabinet Size* Wd.	Ht.	Dp.	Cabinets		Extra Drawer Dividers Pkg. Qty.		Pkg.
26	5	3	2″	1¼″	5¼″						25	4845T68	$4.79
	4	2	2½″	2¼″	5¼″								
	2	1	5¼″	2¼″	5¼″						12	4845T82	9.10
	1	1	10¾″	2¼″	5¼″	12″	16½″	6″	4845T57	$96.88	12	4845T82	9.10
30	5	6	2″	1¼″	5¼″	12″	11″	6″	4845T53	78.47	25	4845T68	4.79

Small-Parts Cabinets and Bin Shelving

Whether you need multiple drawers or open-front shelves, we have your small-parts storage covered. Cabinets and bin shelving are made of steel and are shipped assembled. Color is gray.

Cabinets

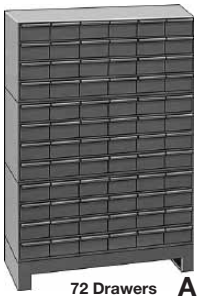
72 Drawers **A**


B


C


5 Drawers **D**


E

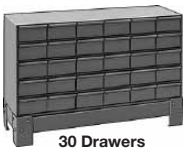
30 Drawers with Optional Base **F**


18 Drawers **G**


24 Drawers **H**

Choose from a variety of configurations on these small-parts cabinets. They come with two steel dividers per drawer, unless otherwise stated.

Stackable cabinets can be combined with others of the same width and depth for additional capacity.

Style A dividers are plastic.

Style B has a slot for a label.

Styles C&D have a slot for a label. *Style C* do not come with dividers. *Style D* come with one steel divider per drawer that fits lengthwise down the center.

Style F can be stacked up to three high; they have eight 5/16″ dia. mounting holes. Dividers are plastic. Optional bases are 5 1/2″ high.

Styles G&H can be stacked up to two high. They have eight 17/32″ dia. mounting holes. Drawers have a slot for a label.

	Drawers				Overall Size					Optional Drawer Dividers			
	Total	Across × Down	Wd.	Ht.	Dp.	Wd.	Ht.	Dp.	Cabinets	Pkg. Qty.		Pkg.	Optional Bases
Cabinets													
A	48	6×8	5 1/4″	2 3/4″	11 1/4″	34″	33 1/2″	12″	**4522T21**	$474.23	12	**4522T43**	$8.68
A	72	6×12	5 1/4″	2 3/4″	11 1/4″	34″	48″	12″	**4522T31**	623.15	12	**4522T43**	8.68
A	96	6×16	5 1/4″	2 3/4″	11 1/4″	34″	62 1/2″	12″	**4522T41**	845.36	12	**4522T43**	8.68
B	54	6×9	5 1/2″	3″	11″	36″	43″	12″	**4620T42**	1,040.51	10	**4620T44**	12.94
C	30	3×10	9″	2 3/4″	11 1/4″	30 1/2″	33″	11 1/2″	**4619T25**	418.29	30	**4619T27**	40.26
C	30	3×10	9″	2 3/4″	14 1/4″	30 1/2″	33″	14 1/2″	**4619T26**	445.95	30	**4619T27**	40.26
D	5	1×5	16 1/4″	6″	26 1/2″	19″	40 1/2″	28″	**4924T11**	735.08	1	**4924T13**	14.67
D	7	1×7	16 1/4″	6″	26 1/2″	19″	52″	28″	**4924T12**	909.51	1	**4924T13**	14.67
E	32	8×4	4 1/4″	2″	11″	34″	10 1/2″	12″	**4620T41**	371.35	1	**4620T43**	.95
Stackable Cabinets													
F	9	3×3	5 1/4″	2 3/4″	11 1/4″	17″	11″	11 1/2″	**5150T26**	86.95	12	**4522T43**	8.68
F	12	6×2	5 1/4″	2 3/4″	11 1/4″	33 1/2″	7 1/2″	11 1/2″	**5150T67**	111.64	12	**4522T43**	8.68
F	18	3×6	5 1/4″	2 3/4″	11 1/4″	17″	21″	11 1/2″	**5150T27**	141.62	12	**4522T43**	8.68
F	18	6×3	5 1/4″	2 3/4″	11 1/4″	33 1/2″	11″	11 1/2″	**5150T14**	133.20	12	**4522T43**	8.68
F	18	6×3	5 1/4″	3 1/2″	11 1/4″	33 1/2″	13″	11 1/2″	**5150T11**	164.00	12	**5150T33**	8.62
F	18	6×3	5 1/4″	3 1/2″	17″	33 1/2″	13″	17″	**5150T21**	239.61	12	**5150T33**	8.62
F	24	6×4	5 1/4″	2 3/4″	11 1/4″	33 1/2″	14 1/2″	11 1/2″	**5150T16**	181.89	12	**4522T43**	8.68
F	24	6×4	5 1/4″	3 1/2″	11 1/4″	33 1/2″	17″	11 1/2″	**5150T12**	218.91	12	**5150T33**	8.62
F	24	6×4	5 1/4″	3 1/2″	17″	33 1/2″	17″	17″	**5150T22**	309.04	12	**5150T33**	8.62
F	30	6×5	5 1/4″	2 3/4″	11 1/4″	33 1/2″	17 1/2″	11 1/2″	**5150T68**	236.12	12	**4522T43**	8.68
F	30	6×5	5 1/4″	3 1/2″	11 1/4″	33 1/2″	21″	11 1/2″	**5150T13**	250.25	12	**5150T33**	8.62
F	30	6×5	5 1/4″	3 1/2″	17″	33 1/2″	21″	17″	**5150T23**	345.05	12	**5150T33**	8.62
G	8	4×2	5 1/2″	3″	11″	23″	9 1/2″	12″	**4613T13**	148.56	1	**9980T44**	1.65
G	18	6×3	5 1/2″	3″	11″	34″	13 1/2″	12″	**4613T14**	313.23	1	**9980T44**	1.65
G	18	6×3	5 1/2″	3″	17″	34″	13 1/2″	18″	**4613T17**	392.38	1	**9980T44**	1.65
H	12	4×3	8 1/4″	3″	11″	34″	13 1/2″	12″	**4613T41**	368.71	5	**4613T49**	12.34
H	12	4×3	8 1/4″	3″	17″	34″	13 1/2″	18″	**4613T42**	463.13	5	**4613T49**	12.34
H	24	8×3	4 1/4″	3″	11″	34″	13 1/2″	12″	**4613T22**	389.60	10	**4613T47**	8.75
H	24	8×3	4 1/4″	3″	17″	34″	13 1/2″	18″	**4613T23**	586.73	10	**4613T47**	8.75
Labels for Style G and H Cabinets (Pkg. of 320)												**1515T334**	12.50

Stackable Bin Shelving


42 Bins

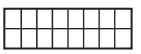
16 Bins

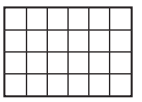
24 Bins

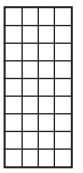
36 Bins

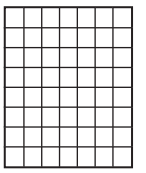
56 Bins

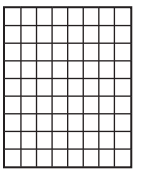
72 Bins

Only stack units with the same width and depth; stacked units should not exceed 66″ high. Each unit has four 5/16″ dia. mounting holes on the top and bottom to secure to a surface or each other. To prevent contents from spilling out, shelves have a lip that's 1 1/8″ high. They have a space for a label.

Bin Openings				Overall Size				
Total	Across × Down	Wd.	Ht.	Wd.	Ht.	Dp.		
16	8×2	4″	5 1/8″	34″	11 1/2″	12″	**4694T11**	$84.73
18	6×3	5 3/8″	6 3/8″	34″	19 1/2″	12″	**4694T12**	109.69
24	6×4	5 3/8″	5 1/2″	34″	24″	12″	**4694T15**	113.74
32	8×4	4″	4 1/2″	34″	19 1/2″	8 1/2″	**4694T32**	98.46
36	4×9	4″	4 1/2″	18″	42″	12″	**4694T17**	139.78
40	8×5	4″	4″	34″	22 1/2″	8 1/2″	**4694T33**	102.61

Bin Openings				Overall Size				
Total	Across × Down	Wd.	Ht.	Wd.	Ht.	Dp.		
40	8×5	4″	4 1/2″	34″	24″	12″	**4694T22**	$124.39
42	6×7	5 3/8″	5 1/2″	34″	42″	12″	**4694T23**	168.22
56	7×8	4 1/2″	5 1/8″	34″	42″	12″	**4694T18**	181.67
72	8×9	4″	4 1/2″	34″	42″	8 1/2″	**4694T35**	161.81
72	8×9	4″	4 1/2″	34″	42″	12″	**4694T19**	196.22

Steel Small-Parts Cabinets with Plastic Drawers

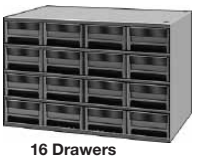
A
16 Drawers


B


C


D
20 Drawers

Keep small parts organized with these sturdy steel-frame cabinets with plastic drawers. Shipped assembled. Color is gray.

Styles A&B come with two plastic dividers per drawer and a label holder. *Style B* has a steel key-locking door and comes with two keys.

Style C comes with one plastic divider per drawer but can hold up to seven.

Style D drawers come with two dividers; they can hold up to three total. They have two 3/16″ dia. mounting holes for wall mounting.

	Drawers					Overall Size					Extra Dividers			Replacement Drawers	
	Total	Across × Down	Wd.	Ht.	Dp.	Wd.	Ht.	Dp.	Cabinets		Pkg. Qty.		Pkg.		
A	9	3×3	5″	3″	10½″	17″	11″	11″	4600T41	$91.78	25	4600T53	$14.81	4600T75	$9.55
A	15	5×3	3″	3″	10½″	17″	11″	11″	4600T38	91.78	25	4600T52	13.18	4600T74	7.72
A	16	4×4	4″	2″	10½″	17″	11″	11″	4600T36	91.78	25	4600T51	12.25	4600T73	5.45
A	20	5×4	3″	2″	10½″	17″	11″	11″	4600T33	91.78	25	4600T48	11.66	4600T72	4.61
A	28	7×4	2″	2″	10½″	17″	11″	11″	4600T32	91.78	25	4600T47	12.70	4600T71	4.21
B	9	3×3	5″	3″	10½″	17″	11″	11″	5058T51	131.08	25	4600T53	14.81	4600T75	9.55
C	18	6×3	2¾″	2½″	5¾″	18″	9½″	6″	4600T21	61.26	25	4600T22	10.19	4600T82	2.05
D	20	5×4	2″	1¾″	5½″	16½″	12″	6½″	4532T51	90.25	20	4532T54	6.34		
D	64	8×8	2″	1¾″	5½″	26″	21½″	6½″	4532T52	213.18	20	4532T54	6.34		

Plastic Small-Parts Cabinets

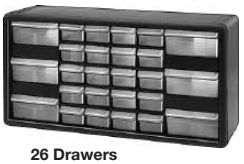
26 Drawers


16 Drawers

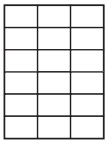
18 Drawers

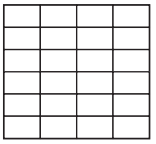
24 Drawers

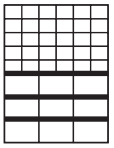
39 Drawers

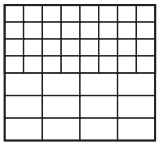
44 Drawers

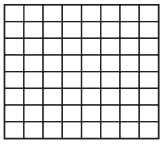
64 Drawers

These cabinets won't dent, chip, or rust. Place cabinets on a table or mount them to the wall for organized access to small parts. Drawers are made of clear plastic. Shipped assembled.

Cabinets have a black frame with 3/16″ dia. mounting holes, except the *18-drawer* and *39-drawer* cabinets have a gray frame with 7/16″ dia. mounting holes.

Optional dividers are plastic; each drawer holds one divider.

Drawers					Overall Size					Optional Dividers			Replacement Drawers	
Total	Across × Down	Wd.	Ht.	Dp.	Wd.	Ht.	Dp.	Cabinets		Pkg. Qty.		Pkg.		
16	4×4	2″	1½″	5¼″	10½″	8½″	6½″	9619T61	$15.91	16	9619T92	$4.48	9619T78	$1.27
18	3×6	4¼″	2¼″	5½″	15″	18½″	6½″	9619T29	27.53					
24	4×6	4¼″	2″	5¼″	20″	16″	6½″	9619T71	34.33	6	9619T93	4.03	9619T79	2.24
26	4×5	2″	1½″	5¼″						16	9619T92	4.48	9619T78	1.27
	2×3	4¼″	2″	5¼″	20″	10″	6½″	9619T62	22.61	6	9619T93	4.03	9619T79	2.24
39	6×5	2″	1¼″	5½″										
	3×3	4¼″	2¼″	5½″	15″	18½″	6½″	9619T28	28.85					
44	8×4	2″	1½″	5¼″						16	9619T92	4.48	9619T78	1.27
	4×3	4¼″	2″	5¼″	20″	16″	6½″	9619T75	32.14	6	9619T93	4.03	9619T79	2.24
64	8×8	2″	1½″	5¼″	20″	16″	6½″	9619T77	35.80	16	9619T92	4.48	9619T78	1.27

Revolving Storage Bins

These compact bins spin for access to small parts. They are shipped unassembled. *Plastic* bin units are black; *steel* bin units are gray.

Styles A-C have storage levels that rotate independently. *Style A* storage levels detach to transport or reconfigure without removing contents. *Style B* rolls on four swivel casters with 3″ dia. polyurethane wheels.

Style D has 15 storage levels that each have 12 bins. Pull out the bin boxes for easy access to contents. Overall depth is 31″. The overall diameter is measured from corner to corner. Each bin has a label holder.

Optional dividers are steel, except Style D are plastic. Add them to increase the number of bins per storage level. **17″ dia.** bins hold up to 12 dividers per storage level. **34″ dia.** bins hold up to 25 dividers per storage level.


A


B


8 Levels
C

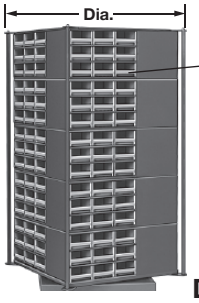

D


Bins

	Overall Size		Bins				Storage Levels		Storage Bins		Optional Dividers		
	Dia.	Ht.	Total	Wd.	Ht.	Dp.	No.	Cap., lbs.			Pkg. Qty.		Pkg.
Plastic													
A	12″	15″	18	5½″	1¼″	5¼″	3	30	44545T1	$18.73			
B	20″	37½″	24	9¼″	2⅛″	8⅛″	4	75	44535T12	222.75			
Steel													
C	17″	25½″	24	13″	3⅜″	7½″	6	60	4649T72	280.25	1	4649T24	$5.17
C	17″	41½″	40	13″	3⅜″	7½″	10	60	4649T41	436.73	1	4649T24	5.17
C	34″	34½″	20	21″	7″	15″	4	500	4649T33	632.35	1	4649T88	6.12
C	34″	66″	40	21″	7″	15″	8	500	4649T11	1,165.60	1	4649T88	6.12
D	44″	60″	180	51⅛″	3″	10½″	15	65	4600T43	1,904.72	25	4600T53	14.81
Replacement Bin for Style D												4600T75	9.55

Bin-Box Racks



Wall-Mount Rack (18 Bin Boxes)



Tabletop Rack (40 Bin Boxes)



Full-Height Rack (48 Bin Boxes in Three Sizes)

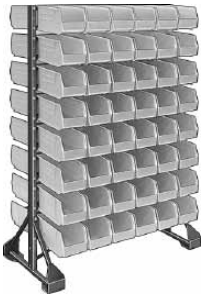

Full-Height Rack with Bin-Boxes on Two Sides (96 Bin Boxes)



Wall-Mount and Tabletop Racks



Full-Height Racks

These steel racks come with removable plastic bin boxes that have a slot for a label. They're shipped unassembled. Color is gray. **Wall-mount** and **tabletop** racks have 5/16″ dia. mounting holes.

	Bin Boxes					*Overall Size*						
Total	Across ×Down	Wd.	Ht.	Dp.	Cap., lbs.	Wd.	Ht.	Dp.	Cap., lbs.	Choose a Bin Color	**Racks with Bin Boxes**	**Replacement Bin Box**
Wall-Mount Racks												
18	6×3	5 1/2″	5″	10 7/8″	30	36″	19″	11″	160	Blue, Red, Yellow	**4666T95** $108.54	**4666T63** $5.42
32	8×4	4 1/8″	3″	7 3/8″	10	36″	19″	7 1/2″	160	Blue, Red, Yellow	**4666T94** 81.40	**4666T62** 2.13
Tabletop Racks												
12	4×3	5 1/2″	5″	10 7/8″	30	28″	20″	11″	120	Blue, Red, Yellow	**4666T79** 104.19	**4666T63** 5.42
18	6×3	5 1/2″	5″	10 7/8″	30	36″	20″	11″	120	Blue, Red, Yellow	**4666T99** 146.34	**4666T63** 5.42
30	6×5	4 1/8″	3″	7 3/8″	10	28″	20″	8 1/2″	120	Blue, Red, Yellow	**4666T78** 102.30	**4666T62** 2.13
40	8×5	4 1/8″	3″	7 3/8″	10	36″	20″	8″	120	Blue, Red, Yellow	**4666T98** 136.46	**4666T62** 2.13
Full-Height Racks												
18	4×3	8 1/4″	7″	14 3/4″	60							**4666T65** 9.97
	2×3	16 1/2″	7″	14 3/4″	75	36″	53″	15″	250	Blue, Red, Yellow	**4666T87** 375.15	**4666T67** 13.58
24	4×6	8 1/4″	7″	10 3/4″	50	36″	53″	14″	250	Blue, Red, Yellow	**4666T75** 380.00	**4666T64** 8.39
39	6×5	5 1/2″	5″	10 7/8″	30							**4666T63** 5.42
	3×3	11″	5″	10 7/8″	50	36″	53″	14″	250	Blue, Red, Yellow	**4666T85** 403.35	**4666T66** 7.66
48	8×2	4 1/8″	3″	7 3/8″	10							**4666T62** 2.13
	6×4	5 1/2″	5″	10 7/8″	30							**4666T63** 5.42
	4×2	8 1/4″	7″	10 3/4″	50	36″	53″	14″	250	Blue, Red, Yellow	**4666T84** 420.85	**4666T64** 8.39
48	6×8	5 1/2″	5″	10 7/8″	30	36″	53″	14″	250	Blue, Red, Yellow	**4666T74** 436.40	**4666T63** 5.42
96	8×12	4 1/8″	3″	7 3/8″	10	36″	53″	14″	250	Blue, Red, Yellow	**4666T73** 379.92	**4666T62** 2.13
Full-Height Racks with Bin Boxes on Two Sides												
48	4×6 per side	8 1/4″	7″	10 3/4″	50	36″	53″	21 1/2″	500	Blue, Red, Yellow	**4666T89** 565.98	**4666T64** 8.39
96	6×8 per side	5 1/2″	5″	10 7/8″	30	36″	53″	22″	500	Blue, Red, Yellow	**4666T88** 611.65	**4666T63** 5.42

Bench-Height Bin-Box Racks



Plastic with 36 Bin Boxes



Steel with 48 Bin Boxes

Organize and transport sorted items around warehouses, offices, and assembly lines in these racks. They come with plastic removable bin boxes that have a slot for a label. Racks are shipped unassembled. Color is gray.

Plastic racks are strong but lightweight. They have a compartmented handle for storing supplies. Racks have four casters (two rigid; two swivel with brakes) with 5″ dia. rubber wheels.

Steel racks have four casters (two rigid, one swivel, and one swivel with brake) with 4″ dia. plastic wheels.

	Bin Boxes					*Overall Size*			Overall			
Total	Across ×Down per Side	Wd.	Ht.	Dp.	Cap., lbs.	Wd.	Ht.	Dp.	Cap., lbs.	Choose a Bin Color	**Racks with Bin Boxes**	**Replacement Bin Box**
Plastic												
8	2×2	16 1/2″	7″	14 3/4″	75	46″	35″	24″	400	Blue, Yellow	**5130T73** $342.98	**4666T67** $13.58
16	4×2	8 1/4″	7″	14 3/4″	60	46″	35″	24″	400	Blue, Yellow	**5130T72** 376.32	**4666T65** 9.97
18	3×3	11″	5″	10 7/8″	50	46″	35″	24″	400	Blue, Yellow	**5130T69** 358.87	**4666T66** 7.66
30	5×3	5 1/2″	5″	10 7/8″	30	42″	35″	19″	400	Blue, Yellow	**5130T63** 340.68	**4666T63** 5.42
36	6×3	5 1/2″	5″	10 7/8″	30	46″	35″	24″	400	Blue, Yellow	**5130T68** 393.05	**4666T63** 5.42
70	7×5	4 1/8″	3″	5 3/8″	10	42″	35″	19″	400	Blue, Yellow	**5130T61** 291.68	**4666T61** 1.20
80	8×5	4 1/8″	3″	7 3/8″	10	46″	35″	24″	400	Blue, Yellow	**5130T67** 377.92	**4666T62** 2.13
Steel												
48	6×4	5 1/2″	5″	10 7/8″	30	38 1/2″	36 1/2″	24″	250	Blue, Yellow	**4666T77** 603.40	**4666T63** 5.42
96	8×6	4 1/8″	3″	7 3/8″	10	38 1/2″	36 1/2″	24″	250	Blue, Yellow	**4666T76** 568.31	**4666T62** 2.13

Bench-Height Bin Shelving



Roll this two-sided bin shelving wherever needed to keep materials organized and accessible. Bins slope slightly and have a 1 1/8″ high lip to keep contents in place. It has a nonskid rubber work surface.

Bin shelving has four casters (two rigid; two swivel with brakes) with 5″ dia. polyurethane wheels. Made of steel, it's shipped assembled. Color is gray.

	Bins				*Overall Size*			Overall		
Total	Across ×Down	Wd.	Ht.	Dp.	Wd.	Ht.	Dp.	Cap., lbs.		
80	8×5	4″	4 1/2″	11 7/8″	34″	30″	24″	1,200	**1035N11**	$501.91

Design-Your-Own Bin-Box Racks

Create a unique storage configuration by selecting a rack and corresponding bin boxes (sold separately).

Racks are shipped unassembled. *Wall-mount* and *tabletop* racks have 5/16″ dia. mounting holes, unless noted.

When selecting bin boxes, make sure the total height used by the boxes does not exceed the usable height of the rack, and that the total width of the boxes does not exceed the overall width of the rack.


A

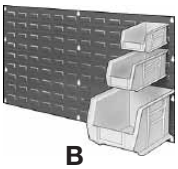
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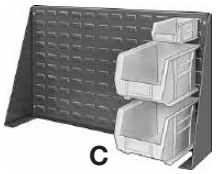
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D


E&K

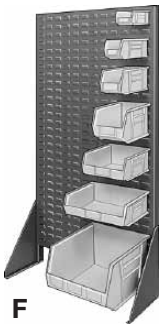
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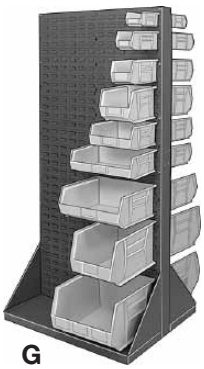
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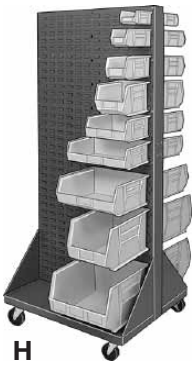
H


J

Steel Bin-Box Racks

Standard racks are gray. *Style H* has four casters (two rigid; two swivel) with 5″ dia. rubber wheels. *Style J* has four casters (two rigid; one swivel; one swivel with brake) and 4″ dia. plastic wheels.

Static-control racks are used with antistatic and conductive bin boxes to protect contents from static buildup. They are painted black. *Style K* bottom rail can only accommodate antistatic and conductive bin boxes with a usable height of 4″.

Optional mobile kits include four casters (two rigid; one swivel; and one swivel with brake) with 4″ dia. wheels. Kit for Style E has plastic wheels; kit for Style K has rubber wheels.

	Overall Size Wd.	Ht.	Dp.	Usable Ht. of Rack	Mount. Holes	Cap., lbs.		
Standard								
Wall Mount								
A	48″	3″	½″	7″	10	110	4666T39	$30.25
B	18″	19″	½″	18″	20	160	4666T18 ■	24.07
B	36″	19″	½″	18″	20	160	4666T41	31.63
B	36″	61″	½″	59″	44	500	4666T19	123.81
Tabletop								
C	28″	20″	8½″	19″	4	120	4666T47	52.53
C	36″	20″	8″	19″	4	120	4666T59	67.15
Full Height								
D	36″	53″	14″	48″	—	250	4666T55	237.99
E	36″	53″	20″	48″ per side	—	500	4666T57	246.47
F	36″	66″	12½″	59″	—	800	4666T8	320.17
G	36″	75″	32″	72″ per side	—	2,000	4666T48	533.88
Optional Mobile Kit for Style E						500	4666T71	99.76
Mobile								
H	36″	72″	25″	59″ per side	—	1,200	4666T28	561.60
J	39″	37″	24″	24″ per side	—	250	4666T58	450.14
Static Control								
Wall Mount								
B	18″	18″	½″	18″	18	160	4925T58	36.70
B	36″	18″	½″	18″	27	160	4925T59	61.81
Tabletop								
C	18″	18″	7½″	18″	4	130	4925T71	62.74
C	36″	18″	7½″	18″	4	130	4925T72	90.68
Full Height								
K	36″	54″	20″	44″ per side	—	1,200	4925T24	298.74
Optional Mobile Kit for Style K						500	4925T31	116.40

■ Mounting holes are 3/8″ dia.

Plastic Bin Boxes

Bin boxes have a slot for a label.

Dividers are black plastic. *Lids* are clear plastic.

Antistatic and **conductive** bin boxes should be paired with static-control holders. *Antistatic* boxes drain static slowly; *conductive* boxes drain static quickly.



Overall Size Wd.	Ht.	Dp.	Ht. Used per Box	Boxes Across by Wd. of Holder 18″	28″	36″	39″	48″	Cap., lbs.	Choose a Bin Color	Bin Boxes		Dividers Pkg. of 6		Lids	
Standard																
4⅛″	3″	5⅜″	4″	4	6	8	8	11	10	Blue, Red, Yellow, Semi-Clear	4666T61	$1.20	4666T42	$5.74	4666T81	$1.15
4⅛″	3″	7⅜″	4″	4	6	8	8	11	10	Blue, Red, Yellow, Semi-Clear	4666T62	2.13	4666T43	6.24	4666T82	1.22
4⅛″	4″	10⅞″	6″	4	6	8	8	11	30	Blue, Red, Yellow, Semi-Clear	4666T91	3.04	4666T113	11.78	4666T117	2.37
5½″	5″	10⅞″	6″	3	4	6	6	8	30	Blue, Red, Yellow, Semi-Clear	4666T63	5.42	4666T44	8.54	4666T83	2.45
5½″	5″	14¾″	6″	3	4	6	6	8	50	Blue, Red, Yellow, Semi-Clear	4666T92	5.89	4666T114	16.17		
8¼″	7″	10¾″	8″	2	3	4	4	5	50	Blue, Red, Yellow, Semi-Clear	4666T64	8.39	4666T46	9.99		
8¼″	7″	14¾″	8″	2	3	4	4	5	60	Blue, Red, Yellow, Semi-Clear	4666T65	9.97	4666T45	11.76		
11″	5″	10⅞″	6″	1	2	3	3	4	50	Blue, Red, Yellow, Semi-Clear	4666T66	7.66	4666T44	8.54	4666T86	4.93
11″	10″	18″	12″	1	2	3	3	4	60	Blue, Red, Yellow, Semi-Clear	4666T49	18.26	4666T115	22.60		
16½″	5″	10⅞″	6″	1	1	2	2	2	60	Blue, Red, Yellow, Semi-Clear	4666T93	12.06	4666T44	8.54		
16½″	7″	14¾″	8″	1	1	2	2	2	75	Blue, Red, Yellow, Semi-Clear	4666T67	13.58	4666T45	11.76		
16½″	11″	18″	12″	1	1	2	2	2	75	Blue, Red, Yellow, Semi-Clear	4666T2	22.91	4666T116	29.30		
Antistatic—Surface resistivity is 10^9-10^{12} ohms/sq.																
4″	2″	3½″	4″	4	—	8	—	—	10	Blue	4925T41	6.02				
4″	3″	7″	4″	4	—	8	—	—	25	Blue	4925T42	7.53				
5⅞″	5″	9½″	6″	3	—	6	—	—	30	Blue	4925T44	18.31				
8⅞″	3″	6⅝″	4″	2	—	3	—	—	30	Blue	4925T43	15.44				
Conductive—Surface resistivity is less than 10^5 ohms/sq.																
5⅞″	5″	9½″	6″	3	—	6	—	—	30	Black	4925T64	10.33				
8⅞″	3″	6⅝″	4″	2	—	3	—	—	30	Black	4925T63	13.13				
11½″	6″	12⅞″	8″	1	—	3	—	—	40	Black	4925T67	32.03				

Design-Your-Own Tilt-Out Bin Racks

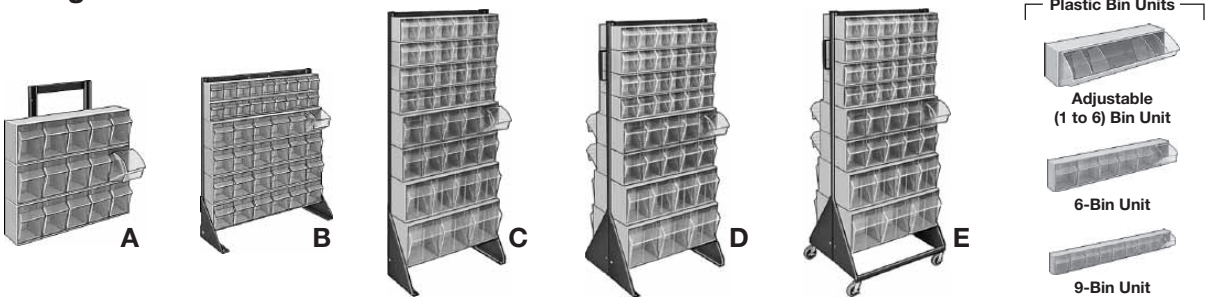

Choose corresponding bins (sold separately) to customize your rack. When selecting bins, make sure the total height used by the bins does not exceed the usable height of the rack.

Steel Racks

Racks are gray and come with fasteners to attach bin units. They're shipped unassembled. *Wall-mount* rack has four 5/16" dia. mounting holes. *Mobile* rack has four swivel casters with brakes and 3" dia. polyurethane wheels.

		Overall Size Wd.	Ht.	Dp.	Usable Ht. of Rack	O'all Cap., lbs.	Max. No. of Bin Units that Fit on Each Rack Adjustable Bin	3 Bin	4 Bin	5 Bin	6 Bin	9 Bin		
A	Wall Mount	13"	24"	1"	24"	Not Rated	4	2	3	3	5	8	**4453T31**	$54.41
B	Tabletop	23 5/8"	28"	8"	24"	250	4	2	3	3	5	8	**4453T26**	191.30
C	Full Height	23 5/8"	52"	8"	48"	250	8	5	6	7	11	16	**4453T23**	210.65
D	Full Height	23 5/8"	52"	16"	48" per side	500	16	10	12	14	22	32	**4453T24**	383.54
E	Mobile	23 5/8"	56"	16"	48" per side	500	16	10	12	14	22	32	**4453T25**	471.11

Plastic Bin Units

Bins can be stacked on a surface, wall mounted, or attached to a rack. They consist of a complete row of clear tilt-out bins encased in a beige frame. Bins have two 5/16" dia. mounting holes.

Bin Compartments Total	Wd.	Ht.	Dp.	Height Used per Bin Unit	Bin Units Wd.	Dp.	Cap., lbs.	Bin Units		Extra Dividers Pkg. Qty.	Pkg.
1 to 6	4"-22 1/2"★	5 3/4"	3 3/4"	6"	23 5/8"	5"	30	**4453T14**	$36.94	4	**4453T81** $10.67
3	7 3/8"	8 5/8"	5 7/8"	9 1/2"	23 5/8"	7 1/2"	50	**4453T22**	68.03	3	**4453T82** 17.04
4	5 5/8"	7 1/2"	5"	8"	23 5/8"	6 1/2"	50	**4453T21**	58.73	4	**4453T83** 13.19
5	4 1/4"	5 3/4"	3 3/4"	6 1/2"	23 5/8"	5"	40	**4453T5**	38.92		
6	3 1/2"	3 3/4"	2 5/8"	4 1/2"	23 5/8"	3 1/2"	40	**4453T6**	24.26		
9	2 1/8"	2 1/2"	1 3/4"	3"	23 5/8"	2 1/2"	40	**4453T9**	21.11		

★Comes with five clear plastic dividers to create up to 6 bin compartments.

Extra-Large Stackable Bin-Box Racks

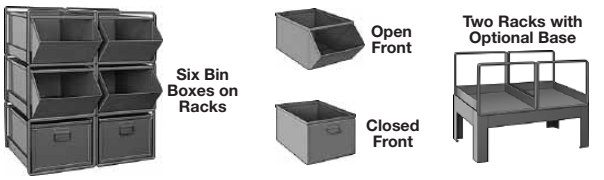

Use these steel components to create storage for large parts. Bin boxes, racks, and bases are shipped assembled. Color is gray.

Open-front bin boxes have a lip that extends 4".

Racks can be used individually or stacked up to nine high. Each rack holds one bin box.

Optional bases secure two racks side-by-side. They're 12" high.

Bin Boxes Wd.	Ht.	Dp.	Cap., lbs.	Open Front		Closed Front	
12"	9 1/2"	16 1/2"	100	**1095N22**	$36.68	**1095N23**	$37.02
15"	11"	19"	100	**1095N26**	51.44	**1095N27**	50.60

Racks Wd.	Ht.	Dp.	Cap., lbs.		Optional Bases	
12 1/2"	10"	17"	100	**1095N21**	$30.44	**1095N24**	$102.70
15 1/2"	11 1/2"	19 1/2"	100	**1095N25**	34.54	**1095N28**	102.90

Extra-Large Bin-Box Racks

Sort and store large, bulky parts. These steel stationary and mobile racks come with bin boxes. Color is gray.

Stationary Racks


6 Bin Boxes

Bin boxes for these racks are made of heavy duty fiberglass-reinforced plastic. They resist oil and solvents and withstand temperatures from -60° to 250° F. Racks are shipped unassembled.

Bin Boxes Total	Wd.	Ht.	Dp.	Cap., lbs.	Overall Size Wd.	Ht.	Dp.	Storage Levels No.	Cap., lbs.	Choose a Bin Color	Racks with Bin Boxes		Replacement Bin Box	
6	16 1/4"	8"	24"	500	36 1/2"	30"	19"	3	150	Gray, Green, Red	**9973T31**	$450.13	**9973T7**	$46.21
12	16 1/4"	8"	24"	500	36 1/2"	57"	19"	6	150	Gray, Green, Red	**9973T33**	762.84	**9973T7**	46.21
16	16 1/4"	8"	24"	500	36 1/2"	75"	19"	8	150	Gray, Green, Red	**9973T35**	959.18	**9973T7**	46.21

Mobile Racks


6 Bin Boxes

Mobile racks have four casters (two rigid; two swivel with brakes) with 5" dia. plastic wheels. They're shipped assembled.

Bin Boxes Total	Wd.	Ht.	Dp.	Cap., lbs.	Overall Size Wd.	Ht.	Dp.	Storage Levels No.	Cap., lbs.	Bin Color	Racks with Bin Boxes		Replacement Bin Box	
6	18 3/8"	12"	20"	150	41"	48"	18"	3	300	Blue	**9430T11**	$679.11	**28765T643**	$24.22
12	18 3/8"	12"	20"	150	78"	48"	18"	3	500	Blue	**9430T13**	871.99	**28765T643**	24.22

Extra-Large Bin Racks

With built-in storage compartments, these high-capacity racks let you wheel around the extra pounds. Racks have four swivel casters with 6″ dia. plastic wheels. They're steel. Shipped assembled.


3 Bins


9 Bins

No. of Bins	Bin Size Wd.	Ht.	Dp.	Overall Size Wd.	Ht.	Dp.	Storage Levels No.	Cap., lbs.	Overall Cap., lbs.		
3	32″	12½″	15″	32″	45½″	20″	3	800	2,400	9339T1	$621.30
9	10½″	12½″	15″	32″	45½″	20″	3	800	2,400	9339T3	731.50
12	8″	12½″	15″	32″	45½″	20″	3	800	2,400	9339T4	796.10

Bin-Box Shelving

Organize your parts, tools, and supplies in the plastic bin boxes on these steel shelves. They're shipped unassembled. Bin boxes have a slot for a label.

Optional dividers are black plastic.

Solid shelving is gray. *Style B* bin boxes are notched to hang from the shelf above them, so they pull out and tilt down.

Wire shelving maximizes air circulation and allows light to pass through for increased visibility. Shelving units are chrome plated and have leveling feet to compensate for uneven floors.

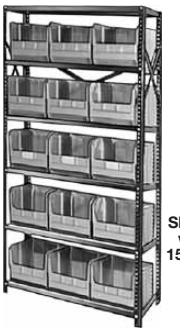
A
Shown with 15 Bins

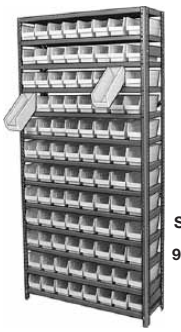
B
Shown with 96 Bins

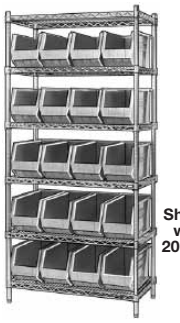
C
Shown with 20 Bins

	Bin Boxes Total (Each)	Wd.	Ht.	Dp.	Cap., lbs.	Shelves No.	Cap., lbs.	Choose a Bin Color	Shelving with Bin Boxes		Replacement Bin Box		Optional Dividers Pkg. Qty.	Pkg.	
Solid Shelving															
36″ Wd. × 75″ Ht. × 12″ Dp. Shelving															
A	14	16½″	7″	14¾″	75	7	400	Blue, Yellow	61525T32	$376.71	42185T49	$17.37	6	42185T78	$14.04
A	28	8¼″	7″	14¾″	60	7	400	Blue, Yellow	61525T31	433.98	42185T48	9.97	6	42185T78	14.04
B	36	11⅛″	4″	11⅝″	20	12	250	Blue, Red, Yellow	4665T71	439.50	4644T7	4.76	6	4644T26	9.10
B	48	8⅜″	4″	11⅝″	15	12	250	Blue, Red, Yellow	4665T72	417.17	4644T6	3.13	12	4644T25	12.63
B	60	6⅝″	4″	11⅝″	15	12	250	Blue, Red, Yellow	4665T73	399.39	4644T3	2.96	24	4644T22	11.11
B	78 (48)	4⅛″	4″	11⅝″	10						4644T2	1.87	24	4644T21	9.95
	(30)	6⅝″	4″	11⅝″	15	12	250	Blue, Red, Yellow	4665T74	409.88	4644T3	2.96	24	4644T22	11.11
B	96	4⅛″	4″	11⅝″	10	12	250	Blue, Red, Yellow	4665T75	408.29	4644T2	1.87	24	4644T21	9.95
B	144	2¾″	4″	11⅝″	7	12	250	Blue, Red, Yellow	4665T76	424.41	4644T1	1.69	—	—	—
36″ Wd. × 75″ Ht. × 18″ Dp. Shelving															
A	10	16½″	11″	18″	75	5	400	Blue, Yellow	61525T26	489.15	42185T53	26.71	6	42185T59	27.09
A	15	11″	10″	18″	75	5	400	Blue, Yellow	61525T25	507.16	42185T52	21.00	6	42185T82	27.27
A	21	11″	8″	16″	75	7	400	Blue, Yellow	61525T24	570.15	42185T51	15.41	6	42185T81	24.45
A	24	8¼″	9″	18″	60	6	400	Blue, Yellow	61525T34	651.12	42185T96	17.75	6	42185T97	26.60
B	36	11⅛″	4″	17⅞″	20	12	250	Blue, Red, Yellow	4665T81	594.44	4644T9	7.98	6	4644T26	9.10
B	48	8⅜″	4″	17⅞″	20	12	250	Blue, Red, Yellow	4665T82	544.64	4644T8	4.85	12	4644T25	12.63
B	60	6⅝″	4″	17⅞″	20	12	250	Blue, Red, Yellow	4665T83	482.88	4644T5	3.53	24	4644T22	11.11
B	78 (48)	4⅛″	4″	17⅞″	15						4644T4	2.43	24	4644T22	11.11
	(30)	6⅝″	4″	17⅞″	20	12	250	Blue, Red, Yellow	4665T84	489.99	4644T5	3.53	24	4644T22	11.11
B	96	4⅛″	4″	17⅞″	15	12	250	Blue, Red, Yellow	4665T85	507.43	4644T4	2.43	24	4644T21	9.95
Wire Shelving															
36″ Wd. × 75″ Ht. × 18″ Dp. Shelving															
C	10	16½″	11″	18″	75	5	800	Blue, Yellow	5830T21	374.42	28765T35	26.42	1	28765T56	4.34
C	20	8¼″	9″	18″	60	5	800	Blue, Yellow	5830T22	423.46	28765T36	17.46	1	28765T55	3.58
48″ Wd. × 75″ Ht. × 18″ Dp. Shelving															
C	30	8¼″	9″	18″	60	6	800	Blue, Yellow	5830T23	615.45	28765T36	17.46	1	28765T55	3.58
C	42	6⅝″	7″	17⅞″	20	6	800	Black	5830T24	506.15	8361T73	6.33	—	—	—

Gravity-Flow Bin-Box Racks

Contents flow forward in the angled bin boxes so you can select what you need without pulling out the box. Racks are made of steel and come with plastic bin boxes that have a slot for a label. Shipped unassembled.

Style D mobile rack has four casters (two rigid; two swivel) with 5″ dia. rubber wheels.

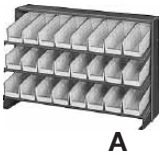
A

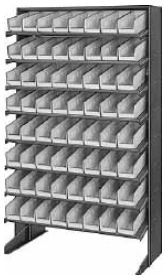
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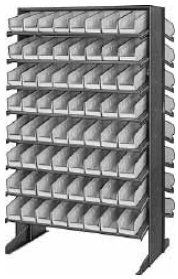
C

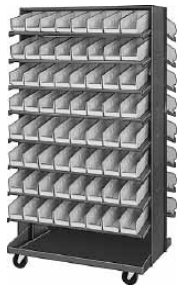
D

		Bin Boxes Total	Wd.	Ht.	Dp.	Cap., lbs.	Overall Size Wd.	Ht.	Dp.	Overall Cap., lbs.	Choose a Bin Color	Racks with Bin Boxes		Replacement Bin Box	
A	Tabletop	24	4⅛″	4″	11⅝″	20	36″	21″	12″	250	Blue, Red, Yellow	5060T34	$129.26	4644T2	$1.87
B	Full Height	64	4⅛″	4″	11⅝″	20	36″	60″	12″	400	Blue, Red, Yellow	5060T32	298.67	4644T2	1.87
C	Full Height	128	4⅛″	4″	11⅝″	20	36″	60″	24″	800	Blue, Red, Yellow	5060T33	621.24	4644T2	1.87
D	Mobile	128	4⅛″	4″	11⅝″	20	36″	66″	24″	1,000	Blue, Red, Yellow	5060T35	725.25	4644T2	1.87

Full-Height Bin-Box Cabinets


A


B


C


D


E


F

Organize parts and equipment with these cabinets that come with removable plastic bin boxes. Doors have a hasp for a padlock. Bin boxes hang from a panel; they have a slot for a label. Made of steel, cabinets are welded and shipped assembled. Color is gray.

Extra-Heavy Duty—These cabinets have the thickest steel construction that we offer.

Styles A-C—These cabinets come with leveling feet that compensate for uneven floors. Hasp accepts a padlock with a 1/4″ max. shackle dia. *Styles A&B* have shelves that adjust on 4″ centers. *Style A* have six door shelves that adjust on 2″ centers; capacity is 30 lbs. per shelf.

Styles D-F—These cabinets have 6″ high legs that can be bolted to the floor and provide forklift access. Legs have 3/4″ dia. mounting holes, except 60″ wide cabinets have 1/2″ dia. mounting holes. Hasp accepts a padlock with a 3/8″ max. shackle dia. *Styles D&E* have shelves that adjust on 2″ centers, except 60″ wide cabinet shelves adjust on 4″ centers.

	Bin Boxes				Overall Size								
	Total (Each)	Wd.	Ht.	Dp.	Cap., lbs.	Wd.	Ht.	Dp.	No. of Shelves	Cap. per Shelf, lbs.	Choose a Bin Color	Cabinets with Bin Boxes	Replacement Bin Boxes	Extra Shelves
Heavy Duty														
A	64 (48)	4 1/8″	3″	7 3/8″	10								4666T62 $2.13	
	(16)	8 1/4″	7″	14 3/4″	60	38″	72″	24″	2	800	Blue, Yellow	4554T51 $1,182.70	4666T65 9.97	4554T36 $61.40
A	84 (64)	4 1/8″	3″	7 3/8″	10								4666T62 2.13	
	(20)	8 1/4″	7″	14 3/4″	60	48″	72″	24″	2	700	Blue, Yellow	4554T52 1,405.75	4666T65 9.97	4554T37 72.40
B	96	4 1/8″	3″	5 3/8″	10	38″	72″	24″	4	800	Blue, Yellow	4554T53 1,051.18	4666T61 1.20	4554T36 61.40
B	128	4 1/8″	3″	5 3/8″	10	48″	72″	24″	4	700	Blue, Yellow	4554T54 1,350.95	4666T61 1.20	4554T37 72.40
C	132 (48)	4 1/8″	3″	5 3/8″	10								4666T61 1.20	
	(48)	4 1/8″	3″	7 3/8″	10								4666T62 2.13	
	(18)	5 1/2″	5″	10 7/8″	30								4666T63 5.42	
	(12)	8 1/4″	7″	14 3/4″	60								4666T65 9.97	
	(6)	16 1/2″	7″	14 3/4″	70	38″	72″	24″	—	—	Blue, Yellow	4554T55 1,301.66	4666T67 13.58	— —
E	185 (80)	4 1/8″	3″	5 3/8″	10								4666T61 1.20	
	(90)	4 1/8″	3″	7 3/8″	10								4666T62 2.13	
	(6)	8 1/4″	7″	14 3/4″	60								4666T65 9.97	
	(9)	16 1/2″	7″	14 3/4″	70	60″	84″	24″	3	500	Blue, Yellow	5819T58 1,558.71	4666T67 13.58	5819T71 89.20
F	227 (80)	4 1/8″	3″	5 3/8″	10								4666T61 1.20	
	(90)	4 1/8″	3″	7 3/8″	10								4666T62 2.13	
	(30)	5 1/2″	5″	10 7/8″	30								4666T63 5.42	
	(18)	8 1/4″	7″	14 3/4″	60								4666T65 9.97	
	(9)	16 1/2″	7″	14 3/4″	70	60″	84″	24″	—	—	Blue, Yellow	5819T59 1,476.10	4666T67 13.58	— —
Extra-Heavy Duty														
D	94	4 1/8″	3″	7 3/8″	10	36″	78″	24″	4	1,900	Blue, Yellow	4491T61 1,403.69	4666T62 2.13	4491T75 76.00
D	144	4 1/8″	3″	7 3/8″	10	48″	78″	24″	4	1,200	Blue, Yellow	4491T45 1,751.10	4666T62 2.13	4491T49 72.00
E	110 (94)	4 1/8″	3″	7 3/8″	10								4666T62 2.13	
	(16)	8 1/4″	7″	14 3/4″	60	36″	78″	24″	3	1,900	Blue, Yellow	4491T62 1,501.41	4666T65 9.97	4491T75 76.00
E	164 (144)	4 1/8″	3″	7 3/8″	10								4666T62 2.13	
	(20)	8 1/4″	7″	14 3/4″	60	48″	78″	24″	3	1,200	Blue, Yellow	4491T46 1,957.31	4666T65 9.97	4491T49 72.00
F	126 (94)	4 1/8″	3″	7 3/8″	10								4666T62 2.13	
	(32)	8 1/4″	7″	14 3/4″	60	36″	78″	24″	—	—	Blue, Yellow	4491T63 1,518.52	4666T65 9.97	— —
F	184 (144)	4 1/8″	3″	7 3/8″	10								4666T62 2.13	
	(40)	8 1/4″	7″	14 3/4″	60	48″	78″	24″	—	—	Blue, Yellow	4491T47 2,055.60	4666T65 9.97	— —

Full-Height Bin-Box Cabinets with Clear-View Doors


Cabinet


Mobile Cabinet

Keep an eye on inventory without opening the doors. Cabinets come with removable yellow bin boxes that hang from panels. Handle has a lock with two keys. Bin boxes have a slot for a label. Made of steel, cabinets are welded and shipped assembled. Color is beige, except mobile cabinet is gray. **Mobile cabinet** has four swivel casters (two with brakes) with plastic wheels. *Optional dividers* are black plastic.

	Bin Boxes				Overall Size			Overall Cap., lbs.	Cabinets with Bin Boxes	Replacement Bin Box
	Total	Wd.	Ht.	Dp.	Cap., lbs.	Wd.	Ht.	Dp.			
Cabinets											
	18	16 1/2″	7″	14 3/4″	70	36″	78″	18″	1,000	4381T13 $1,123.76	4666T15 $13.58
	36	8 1/4″	7″	14 3/4″	60	36″	78″	18″	1,000	4381T14 1,153.00	4666T14 9.97
Mobile Cabinet											
	36	8 1/4″	7″	14 3/4″	60	36″	78″	18″	750	4381T15 1,294.37	4666T14 9.97
Optional Dividers (Pkg. of 6)											4666T45 11.76

Full-Height Low-Profile Bin-Box Cabinets with Shelves

Turn a tight space into an efficient storage center with these shallow-depth cabinets. They come with removable bin boxes that rest on shelves. Made of steel, they have recessed handles with a lock and two keys. Cabinets are shipped assembled. Color is gray. Bin boxes are plastic and have a slot for a label. *Optional dividers* are white plastic.



Bin Boxes						Shelves							
Total (Each)	Color	Wd.	Ht.	Dp.	Cap., lbs.	Overall Size Wd.	Ht.	Dp.	No.	Cap., lbs.	Cabinets with Bin Boxes	Replacement Bin Box	Optional Dividers
40 (20)	Red	5 7/8"	4 3/4"	9 1/4"	14							4903T54 $4.95	
(20)	Green	5 7/8"	4 3/4"	9 1/4"	14	27"	63"	10"	10	60	4905T44 $736.03	4905T53 4.95	4903T31 $2.68
52 (24)	Red	5 7/8"	4 3/4"	9 1/4"	14							4903T54 4.95	
(28)	Blue	5 7/8"	4 3/4"	9 1/4"	14	27"	80"	10"	13	60	4905T43 892.69	4903T59 4.95	4903T31 2.68
90 (42)	Red	4 1/4"	3"	6 1/2"	7							4903T53 2.08	
(48)	Green	4 1/4"	3"	6 1/2"	7	27"	63"	10"	15	60	4905T42 763.84	4905T63 2.08	4903T32 1.44
114 (54)	Blue	4 1/4"	3"	6 1/2"	7							4903T58 2.08	
(60)	Red	4 1/4"	3"	6 1/2"	7	27"	80"	10"	19	60	4905T41 922.66	4903T53 2.08	4903T32 1.44

Wall-Mount and Tabletop Bin-Box Cabinets

Cabinets come with removable bin boxes and have a lock with two keys. Made of steel, cabinets are shipped assembled. Color is gray. Bin boxes are plastic and have a slot for a label.

Cabinets with Panels—Bin boxes hang from the panel in the back of these cabinets. For wall mounting, cabinets have 3/8" dia. holes.

Cabinets with Shelves—Bin boxes rest on the shelves of these sturdy cabinets. Doors are solid and have recessed handles. Cabinets have 1/2" slots for wall mounting.

Optional dividers are white plastic.



Cabinet with Panel



Cabinet with Shelves

Cabinets with Panels

Bin Boxes					Overall Size			Overall		Cabinets		Replacement	
Total	Wd.	Ht.	Dp.	Cap., lbs.	Wd.	Ht.	Dp.	Cap., lbs.	Choose a Bin Color	with Bin Boxes		Bin Box	
With Solid Doors													
12	8 1/4"	7"	10 3/4"	50	36"	30"	12"	200	Blue, Red, Yellow	6390T33	$324.78	4666T64	$8.39
24	5 1/2"	5"	10 7/8"	30	36"	30"	12"	200	Blue, Red, Yellow	6390T32	339.26	4666T63	5.42
42	4 1/8"	4"	10 7/8"	30	36"	30"	12"	200	Blue, Red, Yellow	6390T31	344.47	4666T91	3.04
With Clear-View Doors													
12	8 1/4"	7"	10 3/4"	50	36"	30"	12"	200	Blue, Red, Yellow	6390T36	386.33	4666T64	8.39
24	5 1/2"	5"	10 7/8"	30	36"	30"	12"	200	Blue, Red, Yellow	6390T35	400.81	4666T63	5.42
42	4 1/8"	4"	10 7/8"	30	36"	30"	12"	200	Blue, Red, Yellow	6390T34	407.11	4666T91	3.04

Cabinets with Shelves

Bin Boxes						Overall Size			Shelves		Cabinets		Replacement		Optional	
Total (Each)	Color	Wd.	Ht.	Dp.	Cap., lbs.	Wd.	Ht.	Dp.	No.	Cap., lbs.	with Bin Boxes		Bin Box		Dividers	
22 (6)	Blue	4 1/4"	3"	6 1/2"	7								4903T58	$2.08	4903T32	$1.44
(16)	Blue	5 7/8"	4 3/4"	9 1/4"	14	27"	30"	10"	5	60	41535T77	$424.34	4903T59	4.95	4903T31	2.68
42	Blue	4 1/4"	3"	6 1/2"	7	27"	30"	10"	7	60	41535T78	433.98	4903T58	2.08	4903T32	1.44

Plastic and Stainless Steel Shelf Cabinets



A



B



C



D



E



F



G

These are the most corrosion resistant cabinets we offer.

Plastic—Often used outdoors, these cabinets are corrosion, weather, and impact resistant. They have a hasp for a padlock. Color is gray. Shipped unassembled. **Style A** comes with mounting hardware.

Stainless Steel—Cabinets are shipped assembled. **Styles D&F** have a locking handle with two keys. *Style D* has 1/4" dia. mounting holes. **Style E** meets NSF/ANSI standards. Mounting holes must be drilled. **Style G** have a hasp for a padlock.

	Overall Size			No. of Shelves		Cap. per	Max. Shackle			
	Wd.	Ht.	Dp.	Fixed	Adjustable (Ctr.-to-Ctr.)	Shelf, lbs.	Diameter	Cabinets		Extra Shelves	
Plastic											
A Wall Mount	24"	27"	14"	_	1 (2")	35	3/8"	8236T5	$139.13	_____	_____
B Bench Height	36"	37"	18"	1	_____	70	3/4"	14795T36	138.52	_____	_____
C Full Height	36"	72"	18"	3	_____	70	3/4"	41085T11	251.55	_____	_____
Stainless Steel											
D Wall Mount	30"	30"	12"	_	2 (2")	150	—	4746T4	721.64	_____	_____
E Wall Mount	36"	36"	13"	_	2 (1/2")	250	—	4746T1	1,079.48	4746T3	$73.08
F Bench Height	36"	37"	24"	_	2 (3 1/2")	400	—	4746T5	1,235.10	4746T7	112.91
F Full Height	36"	61"	18"	_	3 (3 1/2")	400	—	9678T51	1,500.75	9678T58	69.00
Extra-Heavy Duty Stainless Steel											
G Full Height	36"	78"	24"	_	4 (2")	1,900	1/2"	9678T52	3,831.03	9678T56	159.62
G Full Height	48"	78"	24"	_	4 (2")	1,200	1/2"	9678T54	4,631.03	9678T57	196.15

Full-Height Shelf Cabinets


A
Shown with Four Shelves


D


B


E
Shown with Four Shelves


C

Stretch your storage capacity with these tall steel cabinets that protect supplies, parts, and equipment. They have a locking handle and come with two keys, except Style D lock is electronic and Style E handle has a hasp for a padlock with a ½″ max. shackle diameter.

Fire-resistant cabinet is double walled with air space in between to insulate contents from heat. Handle is recessed.

Mobile cabinets have four swivel casters (two with brakes) with 4″ dia. plastic wheels.

Cabinet with electronic push-button lock has a dated history of entry, security alarm, and a key to bypass the electronic lock. Keypad lock is mounted on the door and operates on four AA batteries (included).

Heavy duty mobile cabinets have four casters (two rigid; two swivel with brakes) with 5″ dia. plastic wheels.

Extra-heavy duty cabinets have the thickest steel construction that we offer, so they stand up to the toughest applications. They have 6″ legs that offer forklift access and can be bolted to the floor for added stability (¾″ dia. mounting holes).

	Overall Size			No. of Shelves									
	Wd.	Ht.	Dp.	Fixed	Adjustable (Ctr. to Ctr.)	Cap. per Shelf, lbs.	Choose a Color	Assembled Cabinets		Unassembled Cabinets		Extra Shelves	
Standard													
A	18″	42″	18″	_	2 (2″)	70	Beige	_____	_____	**6538T51**	$147.45	**6538T55**	$9.40
A	18″	66″	18″	_	4 (2″)	70	Beige	_____	_____	**6538T52**	195.65	**6538T55**	9.40
B	30″	66″	15″	_	4 (2″)	150	Beige	_____	_____	**6538T53**	215.22	**6538T54**	13.20
B	36″	72″	12″	1	3 (4″)	300	Gray	**4587T79**	$465.50	_____	_____	_____	_____
B	36″	72″	18″	_	4 (2″)	150	Beige, Black, Gray	**5089T51**	284.80	**5089T53**	233.84	**4588T84**	21.00
B	36″	72″	24″	_	4 (2″)	200	Beige, Black, Gray	**5089T54**	330.32	**5089T52**	269.97	**4587T63**	24.50
B	36″	78″	18″	_	4 (2″)	150	Beige, Black, Gray	**4587T71**	397.13	**4587T73**	344.42	**4588T84**	21.00
B	36″	78″	24″	_	4 (2″)	200	Beige, Black, Gray	**4587T72**	435.48	**4587T75**	375.33	**4587T63**	24.50
B	48″	78″	24″	_	4 (2″)	400	Beige, Black, Gray	**4587T94**	584.07	**4625T5**	489.06	**4588T52**	29.87
Fire Resistant													
B	34″	65″	18″	_	4 (2½″)	350	Beige	**4840T61**	894.78	_____	_____	**4840T62**	53.30
Mobile													
C	36″	79″	18″	_	4 (2″)	150	Beige, Black, Gray	**5089T41**	356.50	**5089T65**	336.55	**4588T84**	21.00
C	36″	79″	24″	_	4 (2″)	200	Beige, Black, Gray	**5089T55**	433.87	**5089T73**	369.74	**4587T63**	24.50
C	36″	85″	24″	_	4 (2″)	200	Beige, Black, Gray	**4587T87**	538.48	**4587T86**	461.12	**4587T63**	24.50
C	48″	85″	24″	_	4 (2″)	200	Beige, Black, Gray	**4587T95**	663.48	**4625T6**	621.27	**4588T52**	29.87
With Electronic Push-Button Lock													
D	48″	78″	24″	_	4 (2″)	400	Gray	**4312T21**	691.69	_____	_____	**4588T521**	29.87
Heavy Duty													
A	18″	60″	24″	_	4 (4″)	1,500	Gray	**4576T31**	555.01	_____	_____	**4576T65**	36.12
A	18″	72″	24″	_	4 (4″)	1,500	Gray	**4576T32**	636.10	_____	_____	**4576T65**	36.12
B	36″	72″	19″	1	3 (4″)	1,500	Gray	**4775T33**	699.82	_____	_____	**4775T35**	61.44
B	36″	72″	24″	1	3 (4″)	1,500	Gray	**4775T38**	847.90	_____	_____	**4775T83**	74.49
B	36″	78″	19″	1	3 (4″)	1,500	Gray	**4775T18**	736.07	_____	_____	**4775T35**	61.44
B	36″	78″	24″	1	3 (4″)	1,500	Gray	**4775T63**	894.61	_____	_____	**4775T83**	74.49
B	48″	72″	19″	1	3 (4″)	1,000	Gray	**4775T71**	827.22	_____	_____	**4775T56**	74.49
B	48″	72″	24″	1	3 (4″)	1,000	Gray	**4775T73**	957.37	_____	_____	**4775T57**	84.98
Heavy Duty Mobile													
C	36″	78″	19″	1	3 (4″)	1,500	Gray	**4775T77**	843.36	_____	_____	**4775T35**	61.44
C	36″	78″	24″	1	3 (4″)	1,500	Gray	**4775T84**	1,011.06	_____	_____	**4775T83**	74.49
C	36″	84″	19″	1	3 (4″)	1,500	Gray	**4775T78**	886.34	_____	_____	**4775T35**	61.44
C	36″	84″	24″	1	3 (4″)	1,500	Gray	**4775T85**	1,056.00	_____	_____	**4775T83**	74.49
C	48″	78″	19″	1	3 (4″)	1,000	Gray	**4775T87**	968.63	_____	_____	**4775T56**	74.49
C	48″	78″	24″	1	3 (4″)	1,000	Gray	**4775T89**	1,111.39	_____	_____	**4775T57**	84.98
Extra-Heavy Duty													
E	36″	66″	24″	_	3 (2″)	1,900	Gray	**45965T18**	1,030.61	_____	_____	**45965T33**	91.19
E	36″	78″	20″	_	4 (2″)	1,900	Gray	**45965T12**	1,077.55	_____	_____	**45965T31**	89.00
E	36″	78″	24″	_	4 (2″)	1,900	Gray	**45965T13**	1,116.33	_____	_____	**45965T33**	91.19
E	48″	66″	24″	_	3 (2″)	1,200	Gray	**45965T14**	1,251.02	_____	_____	**45965T34**	95.55
E	48″	78″	24″	_	4 (2″)	1,200	Gray	**45965T15**	1,295.92	_____	_____	**45965T34**	95.55
E	60″	78″	24″	_	4 (2″)	1,600	Gray	**45965T16**	1,510.20	_____	_____	**45965T36**	119.34
E	72″	78″	24″	_	4 (2″)	1,500	Gray	**45965T44**	2,010.20	_____	_____	**45965T47**	142.86

Full-Height Compartmented Shelf Cabinets

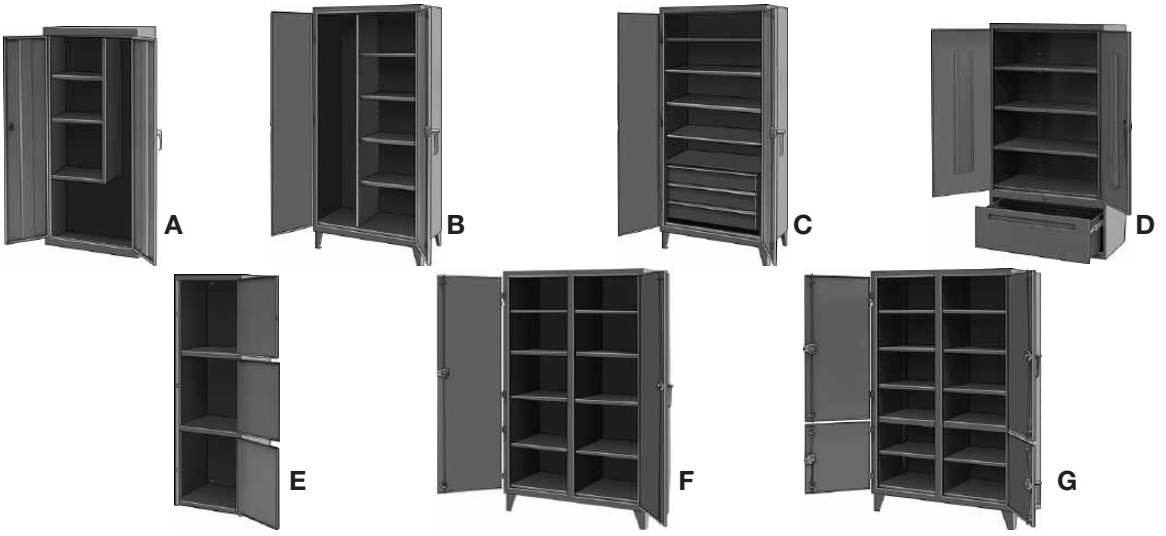

Choose from a variety of storage configurations with these compartmentalized steel cabinets. Those with adjustable shelves allow customization; shelves adjust on 2″ centers. Shipped assembled.

Extra-heavy duty cabinets have the thickest steel construction that we offer. They have 6″ legs that provide forklift access. Legs can be bolted to the floor for added stability; they have ¾″ dia. mounting holes, except Style C has ½″ dia. mounting holes.

Cabinets have handles with a hasp for a padlock (⅜″ max. shackle diameter), except Style A handle has a lock with two keys.

Cabinets with individually locking doors allow for controlled access by providing compartments that can be locked separately. Each handle has a hasp for a padlock (⅜″ max. shackle diameter), except Style D has a lock with two keys that unlock the shelf cabinet and the file drawer.

	Overall Size Wd.	Ht.	Dp.	No. of Shelves Fixed	Adjustable	Cap. per Shelf, lbs.	Choose a Color	Cabinets		Extra Shelves	
Cabinets											
Standard											
A	36″	66″	18″	3	–	70	Beige	7964T1	$325.93	—	—
Extra-Heavy Duty											
B	36″	78″	24″	–	4	1,100	Gray	6149T67	1,067.86	44695T51	$79.45
B	48″	78″	24″	–	4	700	Gray	6149T68	1,266.67	44695T52	83.86
B	60″	78″	24″	–	4	950	Gray	6149T69	1,433.33	45965T33	91.19
C	36″	78″	24″	–	4	1,900	Gray	6149T21	1,046.58	6149T22	57.24
Cabinets with Individually Locking Doors											
Standard											
D	36″	66″	18″	1	2	150	Beige, Black, Gray	99716A100	484.78	99716A200	21.00
Heavy Duty											
E	24″	74″	24″	2	–	500	Gray	5107T12	594.97	—	—
Extra-Heavy Duty											
F	36″	78″	24″	–	8	950	Gray	45975T4	1,216.95	45975T11	40.38
F	48″	78″	24″	–	8	600	Gray	45975T2	1,433.90	45975T12	46.15
F	60″	78″	24″	–	8	800	Gray	45975T3	1,533.90	45975T13	48.08
F	72″	78″	24″	–	8	750	Gray	45975T5	1,640.68	45975T14	51.65
G	48″	78″	24″	2	8	600	Gray	29395T22	1,869.49	45975T12	46.15
G	60″	78″	24″	2	8	800	Gray	29395T23	1,880.00	45975T13	48.08
G	72″	78″	24″	2	8	750	Gray	29395T24	1,932.20	45975T14	51.65

Full-Height Wardrobe Cabinets

Hang up coats, uniforms, and other garments in these steel wardrobe cabinets. They have a shelf that adjusts on 2″ centers and a garment rod. Handles have a lock and come with two keys, except extra-heavy duty cabinets have a hasp for a padlock with a ½″ max. shackle diameter.

Mobile cabinet has four swivel casters with brakes and 4″ dia. rubber wheels.

Extra-heavy duty cabinets have the thickest steel construction that we offer, so they stand up to the toughest applications. They have 6″ legs for forklift access; legs can be bolted to the floor for added stability (¾″ dia. mounting holes).


Standard


Mobile


Extra-Heavy Duty

Overall Size Wd.	Ht.	Dp.	Cap. per Shelf, lbs.	Choose a Color	Assembled Cabinets		Unassembled Cabinets		Extra Shelves	
Standard										
36″	72″	18″	175	Beige, Gray	5180T5	$247.15	5180T1	$207.52	5089T56	$19.44
36″	78″	18″	150	Beige, Gray	5180T4	357.27	—	—	5141T8	21.00
36″	78″	24″	200	Beige, Gray	5180T3	387.36	5180T2	332.08	4587T63	24.50
Mobile										
36″	77″	24″	200	Beige, Gray	9705T22	473.19	—	—	9705T54	26.44
Extra Heavy Duty										
36″	78″	24″	1,900	Gray	4305T21	965.00	—	—	45965T33	91.19
48″	78″	24″	1,200	Gray	4305T22	1,096.67	—	—	45965T34	95.55

Full-Height Wardrobe Cabinets with Shelves


Standard


Mobile


Heavy Duty

The steel garment rod on these cabinets provides a space for hanging, while the shelves allow additional storage. Full-width shelves are fixed; half-width shelves adjust on 2″ centers. Cabinets have a locking handle with two keys, except heavy duty cabinets have a hasp for a padlock with a ½″ max. shackle diameter.

Mobile cabinet has four swivel casters with brakes and 4″ dia. rubber wheels.

Heavy duty cabinets have 6″ legs that offer forklift access and can be bolted to the floor for added stability (¾″ dia. mounting holes).

Overall Size Wd.	Ht.	Dp.	Shelf Width Left	Right	Capacity per Shelf, lbs. Full Shelf	Half Shelf	Choose a Color	Assembled Cabinets		Unassembled Cabinets		Extra Shelves	
Standard													
36″	72″	18″	—	18″	175	80	Beige, Gray	4585T85	$267.44	4585T1	$224.57	4585T22	$8.07
36″	78″	18″	—	18″	150	70	Beige, Gray	4585T8	415.24	4585T2	361.39	4585T44	12.40
36″	78″	24″	—	18″	200	70	Beige, Gray	4585T9	461.07	4585T4	397.59	4585T54	14.01
Mobile													
36″	77″	24″	—	18″	200	100	Beige, Gray	9705T17	548.97	—	—	9705T27	15.86
Heavy Duty													
36″	78″	24″	14″	20″	750	1,100	Gray	44695T41	1,172.88	—	—	44695T31	79.45
48″	78″	24″	19″	27″	500	700	Gray	44695T42	1,369.49	—	—	44695T32	83.86
60″	78″	24″	23¾″	34¼″	650	950	Gray	44695T43	1,523.33	—	—	44695T33	98.35

Ventilated Shelf Cabinets and Cages


A

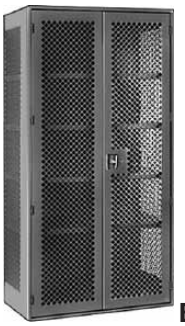
B


C


D

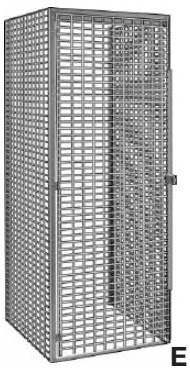
E

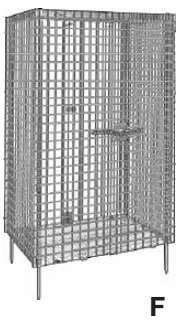
F


G

For air circulation and visibility, choose these steel mesh cabinets. Color is gray, unless otherwise stated.

Assembled Cabinets

Style A has shelves that adjust on 2″ centers. Handle has a hasp for a padlock with a 5⁄16″ max. shackle diameter.

Style B have a fixed middle shelf plus three shelves that adjust on 4″ centers. Handle is recessed and has a lock with two keys.

Style C has four casters (two rigid; two swivel) with 5″ diameter plastic wheels. Shelf is fixed. Handle has a hasp for a padlock with a 7⁄16″ max. shackle diameter. Color is blue.

Style D cabinets have the thickest steel construction that we offer. They have 6″ legs that offer forklift access and can be bolted to the floor for added stability (¾″ dia. mounting holes). Shelves adjust on 2″ centers. Handle has a hasp for a padlock with a ½″ max. shackle diameter.

Overall size Wd.	Ht.	Dp.	Cap. per Shelf, lbs.	Cabinets		Extra Shelves	
(A) Standard							
24″	78″	21″	200	8209T25	$650.43	8209T27	$35.56
(B) Heavy Duty							
36″	72″	19″	1,500	4537T11	796.89	4775T35	61.44
36″	72″	24″	1,500	4537T12	947.40	4775T83	74.49
48″	72″	19″	1,000	4537T13	918.03	4775T56	74.49
48″	72″	24″	1,000	4537T14	1,043.28	4775T57	84.98
(C) Heavy Duty Mobile							
48″	57″	30″	1,000	8736T33	648.46	—	—
(D) Extra-Heavy Duty							
36″	78″	24″	1,900	9662T71	1,154.55	45965T33	91.19
48″	78″	24″	1,200	9662T72	1,280.36	45965T34	95.55
60″	78″	24″	1,600	9662T73	1,437.50	45965T36	119.34

Unassembled Cages

Style E have a hasp for a padlock with a ½″ max. shackle diameter.

Styles F&G have doors that open to lay flat against the side of the cage. Handle has a hasp for a padlock with a ¼″ max. shackle diameter. Cages are chrome plated for corrosion resistance. *Style F* come with leveling feet to compensate for uneven floors. *Style G* have four swivel casters with 5″ dia. polyurethane wheels.

Optional shelves adjust on 1″ centers.

Overall Size Wd.	Ht.	Dp.	Cages		Optional Shelves Cap. per Shelf, lbs.		
(E) Standard							
36″	90″	36″	45995T26	$333.82	300	45995T131	$91.77
48″	90″	48″	45995T28	410.77	275	45995T134	121.92
(F) Heavy Duty—Meet NSF/ANSI Standards							
39″	67″	28″	8281T25	795.73	800★	8744T81	51.55
63″	67″	28″	8281T26	1,072.96	600★	8744T83	71.97
(G) Heavy Duty Mobile—Meet NSF/ANSI Standards							
41″	68″	28″	8744T71	895.62	800★	8744T81	51.55
53″	68″	28″	8744T72	1,066.20	800★	8744T82	60.42
65″	68″	28″	8744T73	1,128.07	600★	8744T83	71.97

★Max. load capacity for entire cabinet is 1,200 lbs.

Full-Height Shelf Cabinets with Clear-View Doors

Keep an eye on inventory without opening the doors. These cabinets have see-through plastic door panels and four full-width shelves that adjust on 2″ centers. Made of welded steel, they're shipped assembled.

Standard cabinets have a locking handle with two keys.

Extra-heavy duty cabinets have the thickest steel construction that we offer, so they stand up to the toughest applications. They have 6″ legs that offer forklift access and can be bolted to the floor for added stability (¾″ dia. mounting holes). Doors have a hasp for a padlock with a ½″ max. shackle diameter.



Standard



Extra-Heavy Duty

Overall Size Wd.	Ht.	Dp.	Cap. per Shelf, lbs.	Choose a Color	Cabinets		Extra Shelves	
Standard								
36″	72″	18″	150	Beige, Gray	5389T71	$408.58	5389T1	$21.00
36″	72″	24″	200	Beige, Gray	5389T72	459.38	5389T2	24.50
48″	78″	18″	400	Beige, Gray	5389T73	683.47	5389T3	31.96
48″	78″	24″	400	Beige, Gray	5389T74	726.80	5389T4	29.87
Extra-Heavy Duty								
48″	78″	24″	1,200	Gray	44905T32	1,519.05	45965T34	95.55
60″	78″	24″	1,600	Gray	44905T33	1,720.63	45965T36	119.34

Bench-Height Shelf Cabinets



A



B
One Shelf



C



D
One Shelf



E



F



G



H



J



K



L

Choose from a variety of storage options with these compact steel cabinets. They have shelves that adjust on 2″ centers, except Style G has fixed shelves.

Styles A-G have a lock and come with two keys. *Style C* have four swivel casters (two with brakes) with 4″ dia. plastic wheels. *Style G* also has a hasp for a padlock with a ½″ max. shackle diameter.

Styles H-L have the thickest steel construction that we offer. They have a hasp for a padlock with a ½″ max. shackle diameter. *Styles K&L* have four casters (two rigid; two swivel with brakes) with 6″ dia. polyurethane wheels.

	Overall Size Wd.	Ht.	Dp.	Shipped	No. of Shelves	Cap. per Shelf, lbs.	Choose a Color	Cabinets		Extra Shelves	
Standard											
A	19″	30″	24″	Assembled	1	70	Gray	4927T16	$204.73	4927T111	$23.74
B	36″	30″	18″	Assembled	1	150	Gray	4927T12	244.04	4927T112	21.00
B	36″	30″	18″	Unassembled	1	150	Beige	4927T44	155.43	5089T29	21.00
B	36″	42″	18″	Assembled	2	150	Gray, Beige	4588T62	234.45	4588T84	21.00
B	36″	42″	18″	Unassembled	2	150	Gray, Beige	4588T63	221.22	4588T84	21.00
B	36″	42″	24″	Unassembled	1	200	Gray, Beige	4588T65	259.50	4588T87	24.50
B	48″	42″	24″	Assembled	1	400	Gray, Beige	4588T51	408.78	4588T52	29.87
Mobile											
C	36″	37″	18″	Assembled	1	150	Gray	4927T14	293.56	4927T112	21.00
C	36″	37″	24″	Assembled	1	200	Gray	5632T22	327.16	5389T211	24.50
With Sliding Doors											
D	36″	29″	18″	Assembled	1	175	Gray, Beige	5071T9	255.79	5071T41	23.80
D	36″	42″	18″	Assembled	2	175	Gray, Beige	39795T3	273.99	5071T41	23.80
With Clear-View Doors											
E	36″	42″	18″	Assembled	2	150	Gray, Beige	5386T61	307.00	5386T71	21.00
E	36″	42″	24″	Assembled	2	200	Gray, Beige	5386T62	333.15	5386T72	24.50
Ventilated											
F	36″	42″	18″	Assembled	2	150	Gray	8209T23	510.67	———	———
Heavy Duty											
G	24″	42″	19″	Assembled	2	1,000	Gray	5108T31	332.52	———	———
Extra-Heavy Duty											
H	24″	36″	20″	Assembled	2	1,900	Gray	4362T6	741.38	45965T27	65.45
J	36″	30″	18″	Assembled	2	1,900	Gray	4362T5	782.76	4362T81	73.08
J	36″	36″	20″	Assembled	2	1,900	Gray	4362T7	851.72	3973T65	84.62
J	36″	42″	20″	Assembled	2	1,900	Gray	3973T11	970.37	3973T65	84.62
J	48″	42″	24″	Assembled	2	1,200	Gray	3973T14	1,220.37	45965T34	95.55
Extra-Heavy Duty Mobile											
K	24″	44″	20″	Assembled	2	1,500	Gray	3973T41	935.19	45965T27	65.45
L	36″	44″	20″	Assembled	2	1,500	Gray	3973T42	1,127.78	3973T65	84.62
L	36″	50″	20″	Assembled	2	1,500	Gray	3973T43	1,181.48	3973T65	84.62

Wall-Mount and Tabletop Shelf Cabinets

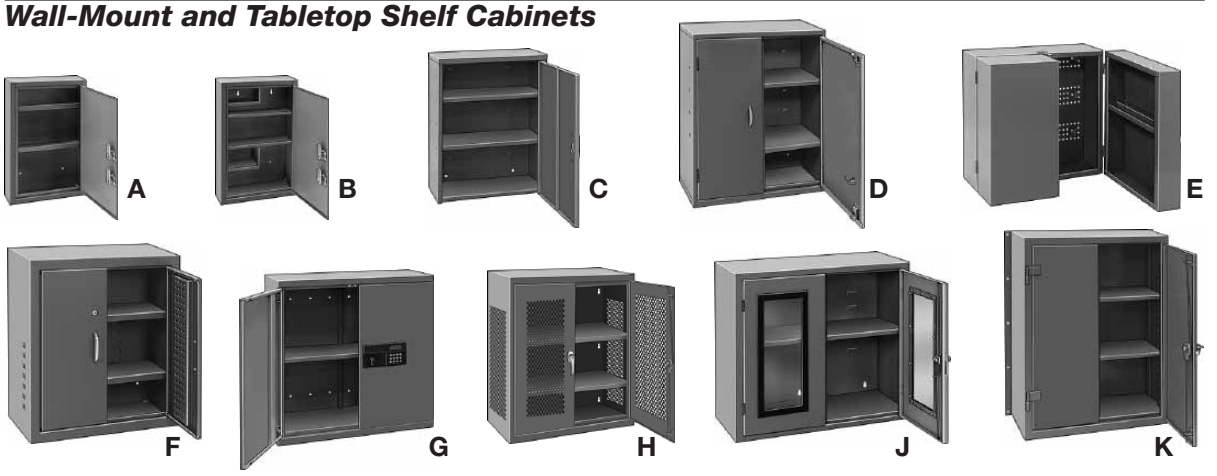

Keep floor space clear with these steel cabinets that can be hung on the wall or placed on a table. They are welded and shipped assembled, unless otherwise stated.

Styles A&B have two separately keyed locks for added security (two keys per lock included). They have two 3/16″ dia. and two 3/8″ dia. mounting holes.

Styles C&D have a lock with two keys. They have four 3/8″ dia. mounting holes.

Style E comes with 12 pegboard hooks. One door has two fixed shelves; the other has a tool rack and small parts tray. Handle has a hasp for a padlock with a 5/16″ max. shackle diameter.

Style F has a lock with two keys. Cabinets have four 3/8″ dia. mounting holes.

Style G has a keypad lock powered by four AA batteries (included). It has a dated history of entry, security alarm, low-battery indicator, and a key to bypass the electronic lock. It's shipped unassembled.

Styles H&J have a locking handle with two keys. *Style H* has fifteen 3/8″ wide mounting slots. *Style J* has see-through plastic door panels. Cabinet has eight 1/4″ wide mounting slots.

Style K has a hasp for a padlock with a 1/2″ max. shackle diameter. Includes two mounting brackets; each bracket has five 1/2″ dia. holes.

	Overall Size Wd.	Ht.	Dp.	*No. of Shelves* Fixed	Adjustable	Cap. per Shelf, lbs.	Choose a Color	Cabinets		Extra Shelves	
Low Profile with Dual Lock											
A	8″	12 1/2″	3″	2	–	10	Beige	4460T1	$82.15		
B	14″	17 1/2″	3 1/2″	4	–	10	Beige	4460T2	100.82		
Standard											
C	18″	24″	9″	–	2	50	Gray	5102T24	145.14	5102T34	$23.96
D	26 1/2″	21″	9″	3	–	50	Gray	4531T25	112.41		
D	26 1/2″	30″	9″	1	1	50	Gray	5102T27	164.63	5102T37	26.13
D	26 1/2″	30″	9″	2	–	50	Gray	4531T27	131.92		
D	26 1/2″	30″	9″	5	–	50	Gray	4531T26	154.69		
D	35 1/2″	24″	9″	1	–	50	Gray	4531T28	143.41		
With Pegboard											
E	30″	24″	11″	2	–	30	Gray	4590T28	112.51		
F	26 1/2″	30″	9″	1	1	50	Gray	5041T15	183.38	5102T37	26.13
F	35 1/2″	24″	9″	1	1	50	Gray	5041T11	197.28	5041T22	27.50
With Electronic Lock											
G	30″	30″	12″	–	1	150	Beige, Black, Gray	4312T1	176.06		
Ventilated											
H	26″	30″	12″	–	2	70	Gray	8209T24	259.79		
With Clear-View Doors											
J	30″	26″	12″	–	1	200	Beige	14725T55	471.06	14725T56	35.40
Extra-Heavy Duty											
K	36″	48″	14″	–	2	1,900	Gray	4447T35	1,194.55	4447T45	51.73

Heavy Duty Outdoor Shelf Cabinets with Forklift Access

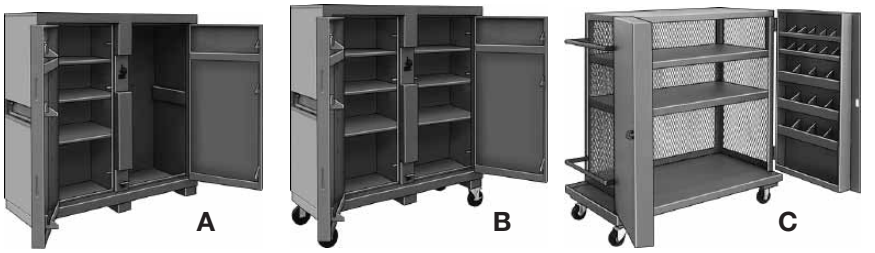

The doors on these cabinets open wide for visibility and access. Handle is recessed and accepts a padlock (2″ max. width; 3/8″ max. shackle dia.). Shelves are fixed, except Style B bottom shelf adjusts on 3 1/2″ centers.

Mobile cabinets have four casters (two rigid; two swivel with brakes) with 6″ dia. plastic wheels.

Style B—Cabinet *with four doors* opens from the front and back.

Style C—Mesh sides allow air to flow. Cabinet has 46 door compartments and external storage bars for tools with a long handle.

	No. of Doors	*Overall Size* Wd.	Dp.	Overall Cap., lbs.	Color	Cabinets O'all Ht.			Mobile Cabinets O'all Ht.		
Cabinets											
A	2	60″	24″	2,000	Brown	60″	7336A47	$1,506.61	68″	7336A53	$1,657.43
B	2	60″	24″	2,000	Brown	60″	7336A45	1,405.53	68″	7336A51	1,583.08
B	4	60″	30″	2,000	Brown	60″	7336A46	1,946.00	68″	7336A52	2,103.13
Ventilated Cabinet											
C	2	48″	28″	1,600	Green	—			59 1/2″	8448T62	2,168.03

Heavy Duty Outdoor Storage Chests with Forklift Access

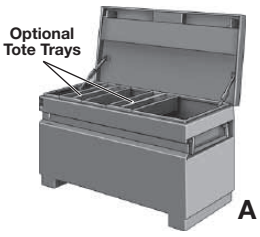

A


Mobile B


C


D

Also known as job boxes, these steel chests secure equipment and supplies on site. They have side handles and a 3½″ high base. *Mobile chests* have four casters (two rigid; two swivel with brakes) with plastic wheels, unless noted.

Styles B &C—Chests have a bi-fold lid with gas springs so the lid is easy to open. **Style C** have a fixed top shelf and a hinged bottom shelf that folds away when not in use.

Style D—The hinged lid and drop-front gate allow quick access to large equipment. Casters have polyurethane wheels.

	Chests					Mobile Chests					
	Overall Size			*Overall Ht.*			*Overall Ht.*				Optional Tote Trays	
	Wd.	Dp.	Color	Closed	Open		Closed	Open				
(A) Chests—Accepts one padlock (2¼″ max. width; ⅜″ max. shackle dia.)												
A	32″	19″	Beige	18½″	34½″	6758A1	$375.45	—	—	—	—	6758A51	$68.58
A	36″	19″	Beige	21½″	37½″	6758A2	393.45	—	—	—	—	6758A51	68.58
A	42″	19″	Beige	23½″	39½″	6758A3	442.95	—	—	—	—	6758A51	68.58
A	48″	24″	Beige	28½″	49½″	6758A4	546.45	33½″	54½″	6758A24	$689.40	6758A52	68.58
A	48″	30″	Beige	34½″	61½″	6758A5	632.40	39½″	66½″	6758A25	786.67	6758A53	72.67
A	60″	24″	Beige	28½″	49½″	6758A6	639.74	35½″	56½″	6758A26	837.42	6758A52	68.58
A	60″	30″	Beige	41½″	68½″	6758A7	733.82	48½″	75½″	6758A27	909.78	6758A53	72.67
A	72″	24″	Beige	28½″	49½″	6758A8	731.12	35½″	57″	6758A28	915.88	6758A52	68.58
(B) Chests with Shelves—Accepts one padlock (2¼″ max. width; ⅜″ max. shackle dia.)												
B	48″	30″	Beige	49″	78″	6568A46	1,010.69	56½″	85½″	6568A51	1,175.51	—	—
B	60″	30″	Beige	49″	78″	6568A48	1,046.64	56½″	85½″	6568A52	1,206.77	—	—
B	72″	30″	Beige	49″	78″	6568A49	1,216.86	56½″	85½″	6568A54	1,377.44	—	—
(C) Slant-Top Chests with Shelves—Accepts two padlocks (2″ max. width; ⅜″ max. shackle dia.)												
C	48″	30″	Green	51½″	65″	6183A76	914.56	59″	72″	6183A81	1,156.09	—	—
C	60″	30″	Green	51½″	65″	6183A77	992.37	59″	72″	6183A82	1,243.69	—	—
(D) Ventilated Chest—Accepts one padlock (½″ max. shackle dia.)												
D	54″	24½″	Gray	—	—	—	—	47″	61″	6758A45	763.45	—	—

Outdoor Storage Chests


A&B


C


D


E-G

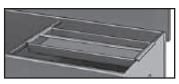
Style F

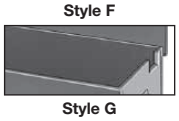
Style G


H


J


K


L


M

Keep equipment and supplies protected with these versatile chests. They have a hasp for a padlock with a shackle dia. up to ¼″, except Styles B, H, and J have a lock and come with two keys.

Style C has plastic wheels and a retractable handle for mobility.

Styles E-G have side handles, except the 18″ wide chest only has a top handle. *Style F* has a removable tote tray for organizing small tools and items. *Style G* is often used with welding equipment and has a cutout for connected lines.

Style H has floor-mounting baseplates, so it can be locked in place or detached for portability. Mounting hardware included.

Style J door is rimmed with a thick rubber gasket to keep out moisture and dust. These cabinets are often mounted to the underbed of a truck.

Style M are designed for marine environments. Hardware is stainless steel, and the lid has a gas spring so it's easy to open.

	Overall Size			Choose a Color		
	Wd.	Ht.	Dp.			
Plastic						
A	35″	14″	15½″	Black	45205T65	$56.70
B	37″	20½″	22″	Black	45205T66	96.82
C	40″	19½″	24″	Black	45205T87	113.40
D	35¾″	19¾″	17⅝″	Black	63695A65	156.51
D	44¾″	20⅞″	17⅝″	Black	63695A62	202.83
Steel						
E	18″	7″	8″	Beige	6566A2	125.55
E	24″	9½″	11″	Beige	6566A4	148.45
E	31″	15″	18″	Green	6566A9	300.28
F	55″	18″	18″	Beige	6561A14	512.87
G	30″	12″	16″	Brown	6566A5	188.38
H	32″	13″	11″	White	7331A56	164.37

	Overall Size			Choose a Color		
	Wd.	Ht.	Dp.			
Steel (Cont.)						
J	24″	18″	18″	Black, White	6781A33	$367.02
J	36″	18″	18″	Black, White	6781A34	451.56
J	48″	18″	18″	Black, White	6781A35	507.26
Aluminum						
K	30″	12½″	13½″	—	6622A1	297.74
K	36″	14½″	17½″	—	6622A2	298.36
L	36″	24″	22″	—	6622A6	548.78
L	48″	24″	22″	—	6622A3	633.02
Fiberglass						
M	39½″	21½″	20″	White	8579A54	457.25
M	44½″	27½″	26½″	White	8579A55	556.25
M	72″	27½″	26½″	White	8579A57	811.21

Safety Cabinets for Flammables



Full-Height Cabinet with Hinged Doors (Two Shelves)



Bench-Height Cabinet with Sliding Door


Bench-Height Mobile Cabinet with Hinged Doors


Wall-Mount Cabinet


Tabletop Cabinet

These steel storage cabinets meet requirements for OSHA and NFPA (National Fire Protection Agency) Code 30. OSHA regulations restrict storage of more than 60 gallons of flammables with a flash point below 100° F in a single cabinet. They're FM approved, unless noted.

They have double-wall construction and come with a safety label, key-locking handle, capped air vents, a connection for a grounding wire, and a raised door sill to contain spills. Cabinets are yellow. They're shipped assembled.

Cabinets **with self-closing doors** are required in some jurisdictions. They have fusible links that melt at 165° F to close the doors.

Full- and *bench-height* cabinets come with leveling feet to compensate for uneven floors, except mobile cabinets have four casters (two rigid; two swivel) with 3″ dia. polyurethane wheels.

Overall Size Wd.	Dp.	*Cans per Cabinet* 1 gal.	5 gal.	*Adjustable Shelves* No.	Ctr.-to-Ctr.	No. of Doors	Cabinets O'all Ht.			Cabinets with Self-Closing Doors O'all Ht.			Extra Shelves	
Full-Height Cabinets														
Hinged Doors														
24″	18″	8	3	3	3″	1	65″	4477T11	$646.37	65″	4477T12	$730.81	4477T13	$34.93
34″	34″	24	12	2	3″	2	65″	4477T4	926.27	65″	4495T26	927.18	4477T9	81.04
43″	18″	12	9	2	3″	2	65″	4477T3	769.16	65″	4495T25	845.06	4477T8	48.72
43″	31″	33	18	2	5¼″	2	65″	4477T61	1,030.61	67″	4495T54	1,147.82	4477T82	99.34
Sliding Doors														
34″	34″	24	12	2	3″	1	—	—	—	65″	4495T13	1,001.24	4477T9	81.04
43″	18″	12	9	2	5¼″	1	—	—	—	65″	4495T51	845.32	4598T76	51.05
43″	31″	33	18	2	5¼″	1	—	—	—	65″	4495T53★	1,118.26	4477T82	99.34
Mobile with Hinged Doors														
43″	18″	12	9	2	5¼″	2	69″	4158T11	1,249.92	71″	4158T12	1,457.63	4598T76	51.05
43″	31″	33	18	2	5¼″	2	69″	4158T74	1,322.79	71″	4158T76	1,486.89	4477T82	99.34
Bench-Height Cabinets														
Hinged Doors														
24″	18″	4	1	1	3″	1	35″	4477T31	440.37	35″	4495T21	453.95	4477T13	34.93
24″	18″	4	2	1	5¼″	1	44″	4477T87	513.87	46″	4477T88	588.98	4477T86	44.00
35″	22″	8	2	1	3″	2	—	—	—	35″	4495T27	678.51	4477T81	50.25
36″	24″	12	3	1	3″	2	35″	4477T51	725.24	—	—	—	4477T52	42.68
43″	18″	8	6	1	3″	2	44″	4477T2	621.00	44″	4495T24	682.25	4477T8	48.72
47″	22″	16	3	1	5¼″	2	36″	4477T62	736.63	—	—	—	4477T83	71.07
59″	22″	20	8	1	5¼″	4	36″	4477T89	1,037.28	—	—	—	4477T93	91.38
Sliding Doors														
43″	18″	8	6	1	5¼″	1	—	—	—	44″	4495T52	710.59	4598T76	51.05
Mobile with Hinged Doors														
24″	18″	4	1	1	5¼″	1	39″	4158T81	763.79	41″	4158T82	885.45	4477T86	44.00
36″	24″	12	3	1	5¼″	2	39″	4158T83	789.37	41″	4158T84	1,007.47	4158T77	60.31
43″	18″	8	6	1	5¼″	2	48″	4158T71	794.81	50″	4158T72	1,007.47	4598T76	51.05
Wall-Mount Cabinets														
Hinged Doors														
43″	18″	4	—	—	—	2	18″	4477T16	508.96	18″	4477T32	569.95	—	—
43″	18″	4	3	1	3″	2	24″	4477T17	600.12	24″	4477T27	673.03	4477T8	48.72
Mounting Hardware for Wall-Mount Cabinets													4477T14	61.13
Tabletop Cabinets														
Hinged Doors														
17″	17″	1	—	1	5¼″	1	22″	4477T63★	341.67	24″	4495T55★	449.09	4477T84	39.01

★Not FM approved.

Self-Closing Door Conversion Kits for Safety Cabinets

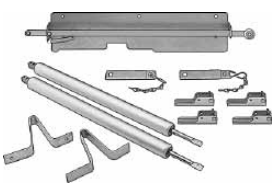
For Two-Door Cabinets

Install this hardware on most hinged safety cabinets to make the doors self closing, which is required in some jurisdictions. It comes with fusible links that melt at 165° F to close the doors.

	Fits Cabinet Size (Wd.×Ht.×Dp.)		
For One-Door Cabinets	17″×22″×17″; 24″×35″×18″; 24″×44″×18″	44775T24	$87.83
For Two-Door Cabinets	34″×65″×34″	44775T252	225.83
For Two-Door Cabinets	35″×35″×22″	44775T253	225.83
For Two-Door Cabinets	43″×44″×12″; 43″×44″×18″; 43″×65″×18″	44775T18	225.83

Safety Cabinets for Flammables in 1-Gallon Cans

Also known as paint and ink cabinets, these have shelves that can be spaced to maximize 1-gallon can storage.

Cabinets are FM approved and meet requirements for OSHA and NFPA (National Fire Protection Agency) Code 30. OSHA regulations restrict storage of more than 60 gallons of flammables with a flash point below 100° F in a single cabinet.

Made of steel, cabinets have double-wall construction. They have a key-locking handle, capped air vents, a connection for a grounding wire, and a raised door sill to contain spills. Each has a safety label. Shipped assembled.

Self-closing cabinets, required in some jurisdictions, have fusible links that melt at 165° F to close the doors.



Bench-Height with Hinged Doors (Three Shelves)

Overall Size Wd.	Dp.	Cans per Cabinet, 1 gal.	Adjustable Shelves No.	Ctr.-to-Ctr.	No. of Doors	Choose a Color	Cabinets with Hinged Doors O'all Ht.		Cabinets with Self-Closing Hinged Doors O'all Ht.		Extra Shelves	
Full-Height Cabinets												
31″	31″	96	5	5¼″	2	Red, Yellow	65″	4598T7	$1,032.68	67″	4598T8	$1,051.22	4598T72	$83.15
43″	18″	60	5	5¼″	2	Red, Yellow	65″	4598T84	825.29	67″	4598T87	938.82	4598T76	51.05
Bench-Height Cabinets												
24″	18″	18	2	5¼″	1	Red, Yellow	44″	4598T88	513.50	46″	4598T89	558.48	4477T86	44.00
43″	18″	40	3	3″	2	Red, Yellow	44″	4598T5	778.63	44″	4598T6	857.59	4477T8	48.72

Outdoor Safety Cabinets for Flammables

Store your flammables outdoors in these weather- and rust-resistant cabinets. They have a sloped top with a front overhang, a water-resistant seal, and a key-locking handle. They have forklift channels and can be bolted to the floor (7/8″ dia. mounting holes).

Cabinets are FM approved and meet requirements for OSHA and NFPA (National Fire Protection Agency) Code 30. OSHA regulations restrict storage of more than 60 gallons of flammables with a flash point below 100° F in a single cabinet.

They're made of steel and have double-wall construction, capped air vents, a connection for a grounding wire, and a raised door sill to contain spills. Shipped assembled. Cabinets are yellow and have a safety label.

Self-closing cabinets, required in some jurisdictions, have fusible links that melt at 165° F to close the doors.



Full-Height with Hinged Doors

Overall Size Wd.	Dp.	Cans per Cabinet 1 gal.	5 gal.	Adjustable Shelves No.	Ctr.-to-Ctr.	No. of Doors	Cabinets with Hinged Doors O'all Ht.		Cabinets with Self-Closing Hinged Doors O'all Ht.		Extra Shelves	
Full-Height Cabinets												
31″	31″	12	12	2	5¼″	2	69″	1141N15	$1,445.88	71″	1141N16	$1,651.92	4598T72	$83.15
43″	18″	12	9	2	5¼″	2	69″	1141N13	1,268.50	71″	1141N14	1,472.75	4598T76	51.05
43″	31″	24	18	2	5¼″	2	69″	1141N17	1,773.75	71″	1141N18	1,974.42	4477T82	99.34
Bench-Height Cabinets												
43″	18″	8	6	1	5¼″	2	48″	1141N11	1,109.04	50″	1141N12	1,313.29	4598T76	51.05

Safety Cabinets for Flammables in 55-Gallon Drums

Cabinets are oversized to store and protect flammables in drums. Cabinets meet requirements for OSHA and NFPA (National Fire Protection Agency) Code 30. OSHA regulations restrict storage of more than 60 gallons of flammables with a flash point below 100° F in a single cabinet.

They're made of steel and have double-wall construction, a key-locking handle, a connection for a grounding wire, and capped air vents. The door sill is raised to contain spills. Leveling feet are included to compensate for uneven floors. Cabinets are yellow and have a safety label. Shipped assembled.

Self-closing cabinets, required in some jurisdictions, have fusible links that melt at 165° F to close the doors.

Optional ramp is 24½″ Wd. x 28″ Dp. Color is yellow.

Full-height cabinets for vertical storage have rollers inside the cabinet making contents easy to load and remove. An adjustable shelf provides space for 5-gallon cans. Cabinets are FM approved. *Optional spill-control pallets* bring full-height cabinets into compliance with EPA 40 CFR 264. They're 6½″ high. Made of steel and plastic.

Bench-height cabinets for horizontal storage store drums horizontally. To allow gravity-flow dispensing, use the *optional drum stand* and drip container (not included).



Full-Height Cabinet (Shown with Optional Spill-Control Pallet)



Bench-Height Cabinet (Shown with Optional Drum Stand and Ramp)

Overall Size Wd.	Dp.	Drums per Cabinet, 55 gal.	Adjustable Shelves No.	Ctr.-to-Ctr.	Cans per Shelf, 5 gal.	No. of Doors	Cabinets with Hinged Doors O'all Ht.		Cabinets with Self-Closing Hinged Doors O'all Ht.		Extra Shelves	
Full-Height Cabinets for Vertical Storage												
31″	31″	1	1	5¼″	1	2	65″	45885T71	$921.33	67″	45885T73	$1,074.53	45885T55	$91.38
56″	31″	2	1	5¼″	2	2	65″	45885T72	1,488.30	67″	45885T74	1,598.39	45885T56	96.45
Optional Spill-Control Pallet for 1-Drum Full-Height Cabinets (90 gal. capacity)											45885T4	394.03		
Optional Spill-Control Pallet for 2-Drum Full-Height Cabinets (110 gal. capacity)											45885T6	453.69		
Bench-Height Cabinets for Horizontal Storage												
30″	48″	1	—	—	—	2	50″	9877T15	972.03	50″	9877T16	1,053.11	—	—
Optional Drum Stand for Bench-Height Cabinets											2301T9	146.29		
Optional Ramp for Full- and Bench-Height Cabinets											9877T21	166.09		

Outdoor Safety Cabinets for Flammables in 55-Gallon Drums

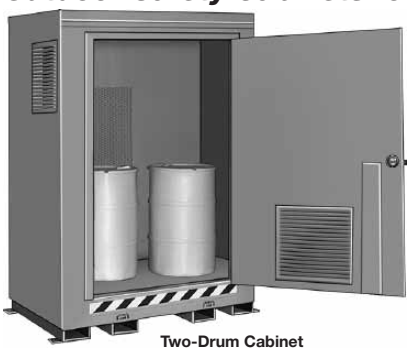

Two-Drum Cabinet

Keep your workplace safe and free up valuable floor space by storing drums outdoors. These steel cabinets have double-wall construction, forklift channels, and an explosion-relief panel. A secondary reservoir holds leaks from damaged drums and has removable grating for easy sump cleaning.

Cabinets are FM approved and meet requirements for OSHA and NFPA (National Fire Protection Agency) Code 30. OSHA regulations restrict storage of more than 60 gallons of flammables with a flash point below 100°F in a single cabinet; do not exceed 120 gallons of any liquid with a flash point.

They have a safety label, key-locking handle, air vents, and a grounding wire connection. Cabinets have four 7/8" dia. mounting holes for mounting to the floor. Color is gray. Shipped assembled.

Overall Size Wd.	Ht.	Dp.	Drums per Cabinet, 55 gal.	Reservoir Cap., gal.	No. of Doors		
60"	83"	42"	2	55	1	4555T61	$4,627.11
60"	83"	60"	4	68	1	4555T62	5,477.89

Safety Cabinets for Aerosol Cans



Two slide-out shelves store up to 24 aerosol cans and offer easy access. Cabinet has a raised door sill to contain spills. It's made of steel. Shipped assembled. Color is yellow.

Overall Size Wd.	Ht.	Dp.	Cans per Cabinet	No. of Shelves	No. of Doors		
21"	27"	18"	24	2	1	4938T1	$831.90

Refrigerators and Freezers for Flammables



Refrigerator

Built for long-lasting safety and service, these refrigerators provide cold storage of flammable liquids in your laboratory or plant. Both are UL listed and meet requirements for OSHA and NFPA (National Fire Protection Agency) Code 99. The housing is steel and has a safety label; interior is plastic. They operate on 120 volts AC. Color is white. **Freezer/refrigerator** also meets NFPA Code 45.

Overall Size Wd.	Ht.	Dp.	Cap., cu. ft.	Temperature Range Refrigerator	Freezer	Adjustable Shelves No.	Ctr.-to-Ctr.	No. of Doors		
Bench-Height Refrigerator										
24"	34"	26"	6.1	33° to 45°F	—	2	3½", 5½"	1	46215T31	$1,981.65
Full-Height Freezer/Refrigerator										
24"	60"	29"	10.1	34° to 53°F	-4° to 10°F	3	4¼"	2	46215T37	3,187.14

Safety Cabinets for Gas Cylinders

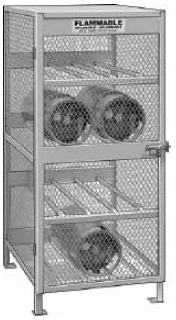

Steel Horizontal Storage (For 8 Cylinders)

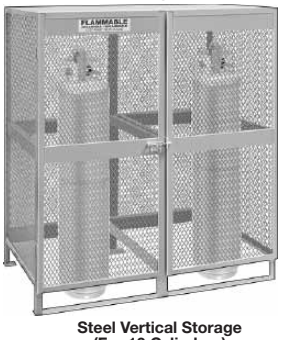

Steel Vertical Storage (For 10 Cylinders)



Aluminum Horizontal Storage (For 4 Cylinders)

Store and secure gas cylinders with these ventilated cabinets. They meet requirements for OSHA and NFPA (National Fire Protection Agency) Code 58.

Cabinets have a safety label. Doors are hinged and have a hasp for a padlock (1/4" max. shackle dia.). Legs can be bolted to the floor. Shelves are fixed (where applicable).

Steel—Cabinets are yellow. *Unassembled* cabinets have 9/16" dia. holes for floor mounting. *Assembled* cabinets have 1/4" dia. holes for floor mounting, except the 33" high cabinet has 1/2" dia. holes.

Aluminum—These cabinets are more corrosion resistant than steel. They have 1/2" dia. holes for floor mounting.

Cylinders per Cabinet	No. of Fixed Shelves	Unassembled Overall Size Wd.	Ht.	Dp.	No. of Doors			Assembled Overall Size Wd.	Ht.	Dp.	No. of Doors		
Steel Cabinets													
Horizontal Storage—For 20-, 30-, 33-, and 40-lb. Cylinders of LP Gas													
4	2	33"	37"	39"	1	9993T21	$463.65	33"	39"	39"	1	9993T14	$481.36
8	4	33"	70"	39"	1	9993T22	673.43	33"	70"	39"	1	9993T11	751.22
12	4	49"	70"	39"	1	9993T23	802.18	51"	70"	39"	2	9993T12	908.51
16	4	65"	70"	39"	2	9993T24	1,071.55	62"	70"	39"	2	9993T13	1,147.67
Vertical Storage—For 20- and 33-lb. Cylinders of LP Gas													
2	—	—	—	—	—	—	—	31"	33"	16"	2	9993T25	390.13
Vertical Storage—For Up to 200-lb. Cylinders of Acetylene, MAPP, Oxygen, and Similar Gases													
5	—	33"	70"	39"	1	4669T3	539.28	33"	70"	38"	1	4669T2	632.54
10	—	65"	70"	39"	2	4669T4	830.77	60"	70"	38"	2	4669T1	968.71
Aluminum Cabinets													
Horizontal Storage—For 20- and 33-lb. Cylinders of LP Gas													
4	1	—	—	—	—	—	—	30"	33"	32"	2	4751T41	487.23
6	1	—	—	—	—	—	—	43"	33"	32"	2	4751T45	638.75
8	3	—	—	—	—	—	—	30"	65"	32"	2	4751T42	787.29
12	3	—	—	—	—	—	—	43"	65"	32"	2	4751T43	1,065.07
16	3	—	—	—	—	—	—	60"	65"	32"	2	4751T44	1,153.02
Vertical Storage— For 20- and 33-lb. Cylinders of LP Gas													
2	—	—	—	—	—	—	—	31"	33"	16"	2	4751T51	426.33

Safety Cabinets for Flammable Acids and Corrosives

Protect your work environment by containing flammable acids and corrosives in these safety cabinets. They're FM approved and meet requirements for OSHA and NFPA (National Fire Protection Agency) Code 30, unless noted. OSHA regulations restrict storage of more than 60 gallons of flammables with a flash point below 100° F in a single cabinet.

Cabinets are blue and marked with a safety label. They're made of steel and have double-wall construction. They have a key-locking handle, capped air vents, a connection for a grounding wire, and raised door sills. Cabinets come with spill control trays and leveling feet. Shipped assembled.

Self-closing cabinets, required in some jurisdictions, have fusible links that melt at 165° F to close the doors.

Optional plastic in-cabinet enclosure allows you to store harsh acids such as hydrochloric, nitric, phenol, and sulfuric acids. It fits inside 43" wide full- and bench-height cabinets. Shipped assembled.



Full Height with Hinged Doors



Tabletop


Optional Plastic In-Cabinet Enclosure

Overall Size Wd.	Ht.	Dp.	Cans per Cabinet 1 gal.	5 gal.	Adjustable Shelves No.	Ctr.-to-Ctr.	No. of Doors	Cabinets with Hinged Doors		Cabinets with Self-Closing Hinged Doors		Spill Control Trays		Extra Shelves	
Full-Height Cabinets															
34"	65"	34"	45	12	2	3"	2	9988T14	$1,031.70	9988T17	$1,083.27	9988T8	$60.90	4477T9	$81.04
43"	65"	18"	21	9	2	3"	2	9988T2	993.32	9988T18	999.32	9988T4	70.31	4477T8	48.72
Bench-Height Cabinets															
35"	35"	22"	16	2	1	3"	2	9988T5	749.06			9988T11	75.34	9988T81	50.25
43"	44"	18"	14	6	1	3"	2	9988T1	825.99	9988T28	910.12	9988T4	70.31	4477T8	48.72
Tabletop Cabinets															
17"	22"	17"	4	—	1	3"	1	9988T32★	505.06			9988T7	38.80	9988T6	25.34
43"	18"	18"	7	—	—	—	2	9988T12	592.12						
Optional Plastic In-Cabinet Enclosure															
38"	18"	13"	5	2	—	—	2	4180T3■	259.02						

★Not FM approved. ■ Does not meet OSHA and NFPA requirements; not FM approved.

Plastic Safety Cabinets for Nonflammable Acids and Corrosives

Secure your harshest nonflammable liquids in these plastic cabinets that resist corrosion—even from acid vapors. They're shipped assembled and come with a safety label. Doors have a hasp for a padlock with a 5/16" max. shackle dia.

Tabletop cabinet is often used in clean rooms. It has a raised door sill to contain spills. Color is white.

Bench-height cabinet has a basin in the cabinet floor to keep spills contained. Color is blue.


Tabletop

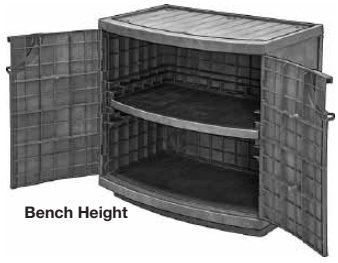
Bench Height

	Overall Size Wd.	Ht.	Dp.	Cans per Cabinet, 1 gal.	Adjustable Shelves No.	Ctr.-to-Ctr.	No. of Doors	Cabinets		Extra Shelves	
Tabletop	12"	16"	16"	2	—	—	1	45315T47	$491.07		
Bench Height	36"	35"	25"	8	1	3"	2	43325T43	831.50	43325T44	$265.79

Standards and Shelf Supports for Cabinets and Bookcases

These standards can be surface mounted or flush mounted inside a routed groove. Four shelf supports per shelf and four standards are required (sold separately).

Steel and **aluminum** standards have slots on 1/2" centers and mounting holes on 6" centers. Mount standards with No. 3 screws (not included).

Stainless steel standards offer excellent corrosion resistance. Mount standards with No. 5 screws (not included). *Single-slotted standards* have slots on 5/8" centers and mounting holes on 7 3/4" centers. *Double-slotted standards* are more stable than single-slotted. They have slots on 7/8" centers and mounting holes on 7" centers. *Shelf supports for double-slotted standards* have a rubber pad to protect shelves.

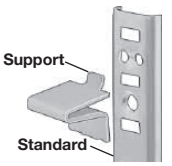

Steel and Aluminum


Stainless Steel (Single Slotted)


Stainless Steel (Double Slotted)

Steel and Aluminum

	Wd.	Dp.	Standards	18" Ht.	24" Ht.	36" Ht.	48" Ht.	60" Ht.	72" Ht.	84" Ht.	Shelf Supports Proj.	Cap. per Four, lbs.	Pkg. of 100	
Single-Slotted Zinc-Plated Steel	5/8"	1/4"	1748A96	$1.30	$1.57	$2.33	$3.03	$3.90	$4.57	$5.33	3/4"	240	1748A93	$15.00
Single-Slotted White-Painted Steel	5/8"	1/4"	1748A97	2.03	2.13	3.30	4.40	5.37	6.50	7.53	3/4"	240	1748A41	20.00
Single-Slotted Aluminum	5/8"	1/4"	1748A98	1.20	1.47	1.87	3.00	3.63	4.37	5.13	3/4"	160	1748A95	17.50

Stainless Steel

	Wd.	Standards Dp.		72" Ht.	Shelf Supports Proj.	Cap. per Four, lbs.	Pkg. of 12	
Single-Slotted Stainless Steel	5/8"	1/4"	11865A11	$14.97	7/8"	40	11865A21	$11.90
Double-Slotted Stainless Steel	5/8"	1/4"	11865A12	15.51	3/4"	95	11865A22	15.57

Shelf Supports for Cabinets and Bookcases

Peg Dia.	Wd.	Proj.	Material		Pkg. of 50
3/16"	1/2"	3/4"	Nickel-Plated Steel	1741A13	$11.16
3/16"	5/8"	5/8"	Brown Plastic	1741A19	11.43
1/4"	1/2"	3/4"	Nickel-Plated Steel	1741A11	9.52
1/4"	1/2"	3/4"	Brass-Plated Steel	1741A12	11.56


Steel


Plastic

Shelf Brackets & Shelves

Shelf Brackets


A

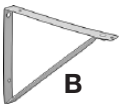
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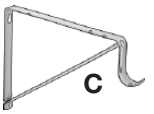
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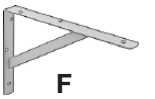
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Support shelves with these wall-mount brackets. Mounting screws are not included, except Style D comes with screws. **Style C** holds a rod with a 1 3/8" max. diameter (sold separately). **Stainless steel** brackets are corrosion resistant.

Overall Size Dp.	Ht.	Wd.	Cap., lbs.	Screw Size	Choose a Color		
(A) Steel							
3 1/4"	5 1/4"	1 1/2"	100	No. 7	Gray	1735A51	$0.97
5 1/4"	7 1/8"	1 5/8"	100	No. 7	Gray	1735A53	1.07
7 1/8"	9 1/4"	1 1/2"	100	No. 7	Gray	1735A54	1.33
9 1/8"	11 1/8"	1 3/4"	100	No. 7	Gray	1735A55	2.10
11 1/8"	13 1/8"	1 7/8"	100	No. 7	Gray	1735A56	3.00
(B) Steel							
10 3/8"	9"	1"	250	No. 10	White	47095T77	2.91
18 1/4"	13 5/8"	1"	250	No. 10	White	47095T78	11.11
(C) Steel with Garment Rod Holder							
12 1/2"	9 5/8"	1"	200	No. 10	White	47055T28	2.88
6-ft. Lg. White-Painted Steel Garment Rod						47055T11	14.92
8-ft. Lg. White-Painted Steel Garment Rod						47055T12	20.17

Overall Size Dp.	Ht.	Wd.	Cap., lbs.	Screw Size	Choose a Color		
(D) Stainless Steel							
4"	4 3/4"	5/8"	40	No. 7	—	19135A22	$21.00
5 7/8"	7 1/8"	5/8"	55	No. 7	—	19135A23	32.00
7 7/8"	9 1/2"	3/4"	60	No. 7	—	19135A24	40.00
9 3/8"	11 7/8"	7/8"	75	No. 7	—	19135A25	47.69
15 3/4"	18 7/8"	1 1/4"	180	No. 12	—	19135A27	138.46
(E) Heavy Duty Steel							
12"	8"	1 1/2"	500	No. 12	Black	2217T21	16.62
24"	18"	1 1/2"	500	No. 12	Black	2217T23	36.27
(F) Heavy Duty Steel							
11 7/8"	8"	1"	500	5/16"	Black, White	2736A1	8.77
15 3/4"	10"	1"	500	5/16"	Black, White	2736A2	11.00
19 3/4"	13 1/8"	1"	500	5/16"	Black, White	2736A3	13.17
21 3/4"	14 1/4"	1"	500	5/16"	Black, White	2736A4	15.89

Fold-Away Shelf Brackets

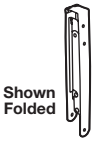
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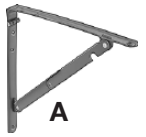
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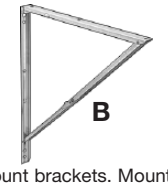
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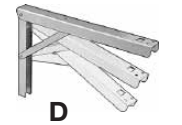
D


E

Save space with these collapsible wall-mount brackets. Mounting screws are not included. Brackets with a zinc-plated or polished finish are corrosion resistant.

Multi-position heavy duty brackets allow you to lower your shelf 10° or 20°.

Heavy duty stainless steel bracket meets NSF/ANSI standards.

Overall Size Dp.	Ht.	Wd.	Cap., lbs.	Screw Size	Finish		
(A) Steel							
8"	8"	1"	Not Rated	No. 8	Gray	1738A1	$11.55
12"	12"	1 1/4"	Not Rated	No. 8	Gray	1738A2	13.80
16"	16"	1 1/4"	Not Rated	No. 8	Gray	1738A3	15.29
(B) Steel							
23 3/4"	21"	1 3/8"	100	No. 10	Zinc Plated	1780A2	36.31
(C) Heavy Duty Steel							
13"	5 1/4"	3 1/4"	160	5/16"	Gray	47025T33	75.45
16 5/8"	7 1/8"	4 1/2"	550	3/8"	Gray	47025T43	120.18

Overall Size Dp.	Ht.	Wd.	Cap., lbs.	Screw Size	Finish		
(C) Heavy Duty Steel (Cont.)							
18 7/8"	6"	3 1/4"	160	5/16"	Gray	47025T35	$82.73
22 7/8"	8 3/4"	4 1/2"	550	3/8"	Gray	47025T45	135.00
(D) Multi-Position Heavy Duty Steel							
11 7/8"	8"	1 1/4"	370	No. 10	Zinc Plated	1294A51	21.20
15 3/4"	10 5/8"	1 1/2"	370	No. 10	Zinc Plated	1294A52	30.18
(E) Heavy Duty Stainless Steel							
12"	6 1/2"	1 1/4"	330	No. 10	Polished	19085A37	42.05

Shelves


Composite Wood with Square Corners


Composite Wood with Round Corners


Black Plastic

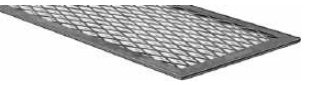
Stainless Steel

Composite wood shelves have a plastic-laminate finish that protects them from stains and scratches. Shelves with square corners are 5/8" thick and have a 200-lb. capacity. Shelves with round corners are 3/4" thick and have a 300-lb. capacity.

Black plastic shelves are durable and easy to clean. They are 1/4" thick. Not rated for capacity.

Stainless steel shelves are corrosion resistant and vented to prevent dust buildup. They are 1/8" thick. Not rated for capacity.

		Composite Wood							
			Square Corners		Round Corners		Black Plastic		Stainless Steel	
Dp.	Wd.	Choose a Color								
6"	24"	White	50385T22	$7.09	—	—	50385T15	$13.82	—	—
8"	24"	Woodgrain, White	50385T24	6.20	50385T81	$9.27	50385T16	18.36	—	—
8"	36"	Woodgrain, White	50385T2	7.72	50385T82	11.76	50385T17	27.55	—	—
8"	48"	Woodgrain, White	50385T29	12.34	—	—	50385T18	36.73	—	—
10"	24"	Woodgrain, White	50385T28	7.70	50385T83	10.76	50385T19	23.64	—	—
10"	36"	Woodgrain, White	50385T3	9.63	50385T84	13.44	50385T48	36.73	—	—
10"	48"	Woodgrain, White	50385T5	12.82	—	—	50385T49	47.27	—	—
10"	60"	Woodgrain, White	50385T32	19.23	—	—	50385T55	66.18	—	—
10"	72"	Woodgrain, White	50385T7	19.24	—	—	50385T64	82.64	—	—
12"	24"	Woodgrain, White	50385T9	7.72	—	—	50385T65	27.55	50385T74	$82.27
12"	36"	Woodgrain, White	50385T4	11.54	50385T45	17.61	50385T66	41.36	50385T75	102.32
12"	48"	Woodgrain, White	50385T6	15.40	50385T46	21.95	50385T67	55.09	50385T76	122.40
12"	60"	Woodgrain, White	50385T1	19.24	—	—	50385T68	82.64	50385T77	145.05
12"	72"	Woodgrain, White	50385T8	23.05	—	—	50385T69	82.64	—	—
16"	36"	White	50385T25	17.05	—	—	50385T71	55.09	—	—
16"	48"	White	50385T26	22.76	—	—	50385T72	82.64	—	—
16"	60"	White	50385T27	28.40	—	—	50385T73	110.18	—	—
20"	36"	Woodgrain, White	—	—	50385T47	30.19	—	—	—	—

Warning: *Capacity may be reduced due to wall material and fastener choice.*

Adjustable Standards and Shelf Brackets

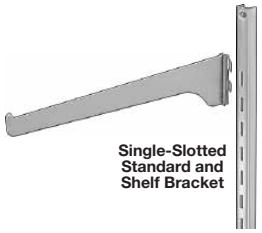

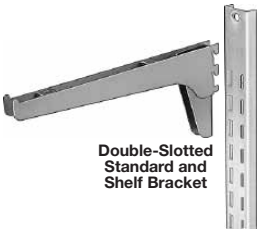

Adjust spacing between shelves quickly with these steel wall-mount shelving components. **Double-slotted** standards and shelf brackets are more stable and hold heavier loads than single-slotted standards and brackets.

Standards

Standards have slots on 1″ centers and mounting holes on 12″ centers.
Single-slotted standards are mounted with No. 8 screws (not included).
Double-slotted standards are mounted with No. 10 screws (not included).

Ht.	Dp.	Choose a Finish	Single Slotted Wd.			Double Slotted Wd.		
12″	½″	White, Zinc	⅝″	1736A8	$2.87	—	—	—
24″	½″	White, Zinc	⅝″	1736A7	3.17	1¼″	1751A41	$4.70
36″	½″	White, Zinc	⅝″	1736A1	4.72	1¼″	1751A42	7.02
48″	½″	White, Zinc	⅝″	1736A2	6.25	1¼″	1751A43	9.40
60″	½″	White, Zinc	⅝″	1736A3	7.67	1¼″	1751A44	11.60
72″	½″	White, Zinc	⅝″	1736A4	8.75	1¼″	1751A45	14.07
84″	½″	White, Zinc	⅝″	1736A42■	10.77	1¼″	1751A46	16.22
96″	½″	White, Zinc	⅝″	1736A6	13.77	1¼″	1751A47	18.70

■ Not available in white.

Shelf Brackets

For Shelf Dp.	Choose a Finish	Single Slotted Cap., lbs.			Double Slotted Cap., lbs.		
4″	White, Zinc	200	1737A9	$2.37	—	—	—
6″	White, Zinc	160	1737A1	2.33	—	—	—
8″	White, Zinc	160	1737A2	2.35	340	1751A51	$8.12
10″	White, Zinc	120	1737A3	2.77	280	1751A52	8.50
12″	White, Zinc	95	1737A4	2.85	260	1751A53	9.10
14″	White, Zinc	100	1737A5	3.23	240	1751A54	9.57
16″	White, Zinc	95	1737A6	3.85	220	1751A55	10.15
18″	White, Zinc	80	1737A7	4.38	190	1751A56	12.10
20″	White, Zinc	60	1737A8	4.90	180	1751A57	12.10
22″	White, Zinc	—	—	—	160	1751A58	17.18
24″	White, Zinc	—	—	—	160	1751A59	18.17

Quick-Mount Standards and Shelf Brackets

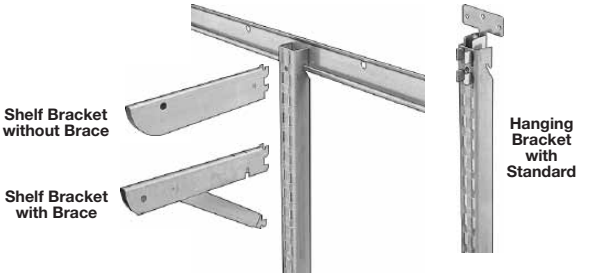

Hanging Tracks

Take the hassle out of leveling and positioning your standards with these hanging tracks. Mounting holes are on 12″ centers; mount with No. 10 screws (not included). Made of galvanized steel.

Wd.	Ht.	Dp.		
40″	1¾″	¼″	1938A21	$7.00
80″	1¾″	¼″	1938A22	12.77

Hanging Bracket

Hanging brackets mount to a joist or stud to support a standard. They're made of galvanized steel and come with mounting screws.

Wd.	Ht.	Dp.		
2½″	3″	1⅜″	1938A23	$3.43

Standards

These standards mount to a hanging bracket or track (sold separately), making them easier to install than other standards. They have slots on ½″ centers. Mounting holes are on 12″ centers and require No. 10 screws (not included). They can also be wall mounted.

Ht.	Wd.	Dp.		
24″	1¼″	1″	1938A11	$5.40
48″	1¼″	1″	1938A12	10.60
72″	1¼″	1″	1938A13	15.80

Shelf Brackets

For shelves, see page 1656.

Dp.	Cap., lbs.		
Without Brace			
5¼″	150	1938A31	$3.90
10″	150	1938A32	4.73
13⅞″	150	1938A33	5.53
With Brace			
10″	300	1938A41	5.70
12⅞″	300	1938A42	6.53
19⅞″	300	1938A43	9.20

Standards, Shelf Brackets, and Shelves

Design a complete shelving unit with these standards, shelf brackets, and metal shelves (sold separately). All components are corrosion resistant and are often used for quality control, laboratory, and food service applications.
Standards have mounting holes on 12″ centers. Mount with No. 10 screws (not included). They have slots on 2″ centers.
Shelf brackets have a tab that locks them onto the standard.
Shelves attach to brackets with included mounting screws for a sturdy connection. If using other shelves, use **shelf rests** (sold separately) to clip shelves to the top of the bracket.

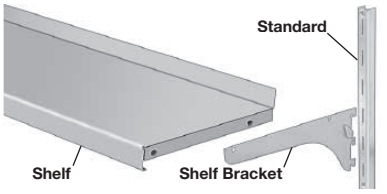

Standards

	Wd.	Dp.	Choose a Finish		24″ Ht.	36″ Ht.	48″ Ht.	60″ Ht.	72″ Ht.	84″ Ht.	96″ Ht.
Steel	⅞″	¾″	White, Zinc	1752A91	$8.72	$13.12	$17.50	$21.67	$26.05	$30.45	$34.98
Stainless Steel	⅞″	¾″	—	1713A77	29.95	39.82	44.37	55.22	66.22	—	—

Shelf Brackets and Shelves

	Steel							Stainless Steel						
	Shelf Brackets				Shelves			Shelf Brackets			Shelves			
Shelf Depth	Cap., lbs.	Choose a Finish			Wd.	Cap., lbs.		Cap., lbs.			Wd.	Cap., lbs.		
8″	440	White, Zinc	1752A71	$7.02	32″	200	2129A11 $49.42	280	1713A71	$16.65	32″	180	2174A31	$94.32
10″	380	White, Zinc	1752A72	7.35	32″	200	2129A12 52.08	210	1713A72	19.70	32″	180	2174A32	104.20
12″	530	White, Zinc	1752A73	9.17	32″	200	2129A13 54.54	200	1713A73	21.45	32″	180	2174A33	113.40
14″	450	White, Zinc	1752A74	9.93	32″	200	2129A14 59.10	170	1713A74	24.90	32″	180	2174A34	134.56
16″	360	White, Zinc	1752A75	10.82	32″	200	2129A15 70.12	170	1713A75	27.60	32″	180	2174A35	146.80
18″	270	White, Zinc	1752A76	11.37	—	—	— —	—	—	—	—	—	—	—
20″	380	White, Zinc	1752A77	12.38	32″	200	2129A17 74.14	130	1713A76	35.25	32″	180	2174A37	151.48
22″	310	White, Zinc	1752A78	14.07	—	—	— —	—	—	—	—	—	—	—
24″	270	White, Zinc	1752A79	16.92	—	—	— —	—	—	—	—	—	—	—
Optional Zinc-Plated Shelf Rest (Pkg. of 10)													1752A36	8.57
Optional White-Painted Shelf Rest (Pkg. of 10)													1752A38	11.80

Warning: *Capacity may be reduced due to wall material and fastener choice.*

Wall-Mount Shelving

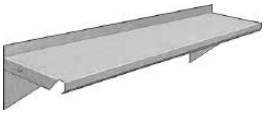

These smooth, solid shelves are corrosion resistant and easy to clean. They meet NSF/ANSI standards. Shipped unassembled.

Galvanized steel shelves are 8″ high and have 5/16″ dia. mounting holes (fasteners not included).

Stainless steel shelves resist corrosion better than galvanized steel. They have 1/4″ dia. mounting holes (fasteners not included). *12″ deep shelves* are 8″ high; *16″ deep shelves* are 12″ high.

Warning: Shelf capacity may be reduced due to wall material and fastener choice.

Wd.	Shelf Cap., lbs.	Galvanized Steel 12″ Dp.	Galvanized Steel 16″ Dp.	Stainless Steel 12″ Dp.	Stainless Steel 12″ Dp.	Stainless Steel 16″ Dp.
24″	100	4584T111	$69.29	$79.46	45855T111	$95.39	$114.48
36″	100	4584T112	75.64	88.32	45855T112	106.00	128.45
48″	100	4584T113	87.98	99.71	45855T113	115.89	146.29
60″	100	4584T114	97.09	110.95	45855T114	132.16	163.41
72″	200	4584T115	107.18	122.75	45855T115	152.64	184.11
84″	200	4584T116	$126.45	$145.75	45855T116	$187.68	$226.93
96″	200				45855T117	201.41	242.62
108″	200				45855T118	227.84	270.21
120″	200				45855T119	246.23	291.91

Adjustable-Height Wall-Mount Wire Shelving

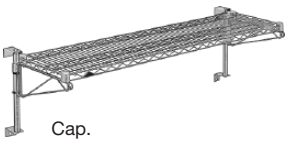

The posts have grooves that allow shelves to adjust on 1″ centers. They have 7/8″ dia. mounting holes (fasteners not included). Shelving meets NSF/ANSI standards and MIL-S-40144E. Shipped unassembled.

Chrome-plated steel shelves have good corrosion resistance. **Stainless steel** shelves have excellent corrosion resistance.

Warning: Shelf capacity may be reduced due to wall material and fastener choice.

Wd.	Cap. per Shelf, lbs.	Chrome-Plated Steel 14″ Dp.	Chrome-Plated Steel 18″ Dp.	Stainless Steel 14″ Dp.	Stainless Steel 18″ Dp.
One Shelf—16″ Height					
24″	250	4717T111	$135.79	$140.74	4717T125	$334.70	$371.81
36″	250	4717T112	137.34	141.67	4717T126	339.03	369.29
48″	250	4717T113	143.22	150.64	4717T127	365.02	395.43
60″	250	4717T115	151.26	159.02	4717T128	408.32	451.00
Two Shelves—36″ Height							
24″	120	4717T116	249.93	259.83	4717T129	628.18	704.64
36″	120	4717T117	248.81	261.69	4717T131	642.17	714.32
Two Shelves—36″ Height (Cont.)							
48″	120	4717T118	$264.78	$279.63	4717T132	$700.32	$771.24
60″	120	4717T119	280.86	296.33	4717T133	780.75	868.98
Three Shelves—56″ Height							
24″	80	4717T121	335.86	353.56	4717T134	897.76	1,004.92
36″	80	4717T122	343.35	350.40	4717T135	918.36	1,027.52
48″	80	4717T123	353.31	383.25	4717T136	997.13	1,112.89
60″	80	4717T124	385.11	408.31	4717T137	1,126.22	1,259.51

Heavy Duty Wall-Mount Vented Shelving



These corrosion-resistant shelves hold twice the weight of other wall-mount shelving. Mounting holes must be drilled. Made of aluminum, shelves meet NSF/ANSI standards. Shipped assembled.

Warning: Shelf capacity may be reduced due to wall material and fastener choice.

Wd.	Ht.	Dp.	Shelf Cap., lbs.		
36″	12 1/8″	20″	700	1139N11	$157.50
48″	12 1/8″	20″	600	1139N12	174.00
60″	12 1/8″	20″	500	1139N13	201.75

Platform Racks



Wire Rack



Plastic Vented Rack



Aluminum and Stainless Steel Vented Rack

Also known as dunnage racks, these keep bulky items stored off the floor. They are corrosion resistant and meet NSF/ANSI standards.

Chrome-plated steel and **stainless steel wire racks** have leveling feet to compensate for uneven floors. Shipped unassembled.

Plastic vented racks are one piece, so they're easy to clean. Color is gray. Shipped assembled.

Aluminum and **stainless steel vented racks** are shipped assembled.

Wd.	Ht.	Dp.	Cap., lbs.		
Chrome-Plated Steel Wire Racks					
24″	14 1/2″	18″	800	9272T15	$82.44
36″	14 1/2″	24″	800	9272T17	95.66
Stainless Steel Wire Racks					
24″	14 1/2″	18″	800	9272T16	240.40
36″	14 1/2″	24″	800	9272T18	278.16
Plastic Vented Racks					
36″	12″	22″	2,200	9272T25	104.31
48″	12″	22″	2,200	9272T26	117.80
60″	12″	22″	2,200	9272T27	135.83
Aluminum Vented Racks					
36″	12″	24″	3,000	9272T35	82.85
48″	12″	24″	2,500	9272T36	96.96
60″	12″	24″	2,000	9272T37	103.08
Stainless Steel Vented Racks					
36″	12″	24″	2,100	9272T45	261.67
48″	12″	24″	1,800	9272T46	286.36
60″	12″	24″	1,500	9272T47	327.38

Quick-Assembly Vented Plastic Shelving



Three Shelves



Pop the posts into the holes and these shelves are ready to load—no tools required. Made entirely of plastic, these units won't rust, dent, peel, or chip. Shelves are fixed at 21 1/4″ apart. Color is black.

Wd.	Dp.	Cap. per Shelf, lbs.	2 Shelves Ht.	2 Shelves	3 Shelves Ht.	3 Shelves	4 Shelves Ht.	4 Shelves
36″	24″	250	27″	8383T11 $116.37	51″	8383T23 $195.74	75″	8383T43 $275.10
48″	24″	325	27″	8383T12 188.00	51″	8383T21 311.02	75″	8383T41 434.03
66″	24″	450	27″	8383T13 194.42	51″	8383T25 324.05	75″	8383T45 453.66
96″	24″	675	27″	8383T14 231.45	51″	8383T27 390.18	75″	8383T47 548.87
96″	36″	1,000	27″	8383T15 370.34	51″	8383T28 638.81	75″	8383T48 907.31

Heavy Duty Vented Plastic Shelving

Often used in food service areas and laboratories, these shelving units have removable, dishwasher-safe panels that are treated to prevent degradation caused by the growth of stain- and odor-causing bacteria. Shelving meets NSF/ANSI standards. The included split sleeves wedge underneath shelves and snap onto posts. Push the quick-adjust lever down to lock shelves into place. They adjust in 1″ increments. Shelf panels are blue plastic. They rest on epoxy-coated steel posts. Shipped unassembled.

Shelving has leveling feet to compensate for uneven floors.

Mobile shelving comes with four swivel casters (two with brakes) with 5″ dia. plastic wheels. Casters add 6½″ to the height.

Shelf dividers are 8″ high and made of plastic.

Label holder snaps onto the front of the shelf. It's 4″ Wd. × 1½″ Ht. and made of plastic.

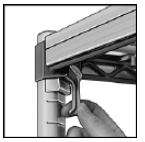



Shelving



Mobile Shelving

Wd.	Cap. per Shelf, lbs.★	No. of Shelves	Shelving 18″ Dp.		Shelving 24″ Dp.		Mobile Shelving 24″ Dp.		Extra Shelves 18″ Dp.		Extra Shelves 24″ Dp.	
54″ High												
24″	800	4	4716T311	$379.50	4716T315	$441.15	4724T615	$594.50	4716T131	$70.13	4716T135	$87.38
36″	800	4	4716T312	393.00	4716T316	454.50	4724T616	597.74	4716T132	73.49	4716T136	88.88
48″	800	4	4716T313	451.50	4716T317	534.00	4724T617	680.00	4716T133	88.12	4716T137	108.75
60″	600	4	4716T314	520.50	4716T318	615.00	4724T618	761.00	4716T134	105.38	4716T138	129.00
63″ High												
24″	800	4	4716T331	390.00	4716T335	459.00	4724T625	605.00	4716T131	70.13	4716T135	87.38
36″	800	4	4716T332	403.50	4716T336	465.00	4724T626	611.00	4716T132	73.49	4716T136	88.88
48″	800	4	4716T333	462.00	4716T337	544.50	4724T627	690.50	4716T133	88.12	4716T137	108.75
60″	600	4	4716T334	531.00	4716T338	625.50	4724T628	767.79	4716T134	105.38	4716T138	129.00
74″ High												
24″	800	4	4716T351	396.00	4716T355	465.00	4724T635	611.00	4716T131	70.13	4716T135	87.38
36″	800	4	4716T352	406.12	4716T356	471.00	4724T636	617.00	4716T132	73.49	4716T136	88.88
48″	800	4	4716T353	468.00	4716T357	550.50	4724T637	696.50	4716T133	88.12	4716T137	108.75
60″	600	4	4716T354	537.00	4716T358	631.50	4724T638	777.50	4716T134	105.38	4716T138	129.00
Accessories												
Shelf Divider for 18″ Dp. Shelving											4716T711	16.12
Shelf Divider for 24″ Dp. Shelving											4716T712	17.62
Label Holder											4716T731	3.75

★Overall capacity is 2,000 lbs. for shelving and 1,200 lbs. for mobile shelving.

Three-Sided Mobile Wire Shelving

The three-sided design stabilizes packages and other contents when moving. Shelving is made of zinc-plated steel to resist corrosion and meets NSF/ANSI standards. The included split sleeves snap onto the posts to hold shelves. Shelves adjust on 2″ centers. They have four swivel casters with brakes and 5″ dia. polyurethane wheels. Shipped unassembled.



Sleeve



Wd.	Ht.	Dp.	Capacity, lbs. Per Shelf	Capacity, lbs. Overall	No. of Shelves	Mobile Shelving		Extra Shelves	
36″	70″	19″	1,000	1,200	4	9038T41	$473.06	9038T51	$40.54
36″	70″	25″	1,000	1,200	4	9038T42	525.14	9038T52	45.83
48″	70″	19″	1,000	1,200	4	9038T43	543.56	9038T53	46.33
48″	70″	25″	1,000	1,200	4	9038T44	593.37	9038T54	54.55
60″	70″	19″	800	1,200	4	9038T45	582.65	9038T55	51.13
60″	70″	25″	800	1,200	4	9038T46	655.49	9038T56	65.53

Heavy Duty Coated Wire Shelving

These steel shelves are epoxy-coated, making them chemical and corrosion resistant. Shelves secure onto posts with shelf clips, which allow you to add new shelves or adjust existing ones without moving other shelves. Shelves adjust on 3″ centers.

Shelving has leveling feet to compensate for uneven floors.

Mobile shelving has four casters (two rigid; two swivel with brakes) with 5″ dia. polyurethane wheels.

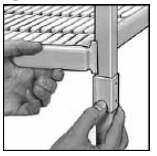



Shelving



Mobile Shelving

Wd.	Dp.	Capacity, lbs. Per Shelf	Capacity, lbs. Overall	No. of Shelves	Choose a Color	Shelving Ht.			Mobile Shelving Ht.		Extra Shelves	
36″	18″	1,050	1,200	4	Gray, White	75″	45955T64	$252.93	81″	45955T77	$330.49	45955T52	$57.47
36″	24″	1,050	1,200	4	Gray, White	75″	45955T65	279.27	81″	45955T78	360.30	45955T53	65.71
48″	18″	700	1,200	4	Gray, White	75″	45955T66	284.60	81″	45955T79	366.34	45955T54	65.35
48″	24″	700	1,200	4	Gray, White	75″	45955T67	310.93	81″	45955T87	396.15	45955T57	75.44
60″	18″	500	1,200	4	Gray, White	75″	45955T68	334.67	81″	45955T88	423.02	45955T62	80.67
60″	24″	500	1,200	4	Gray, White	75″	45955T69	361.00	81″	45955T89	452.83	45955T99	88.73

Heavy Duty Wire Shelving



Complete Unit (Four Shelves)



Add-On Unit

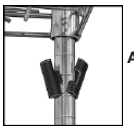

Adjustable Shelving

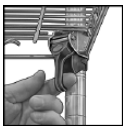

Quick-Adjust Shelving



Mobile Unit

This sturdy wire shelving provides excellent air circulation and visibility and resists dust buildup. Shelves adjust on 1″ centers and meet NSF/ANSI standards. Shipped unassembled.

Zinc-plated and *chrome-plated* steel have good corrosion resistance. *Stainless steel* has excellent corrosion resistance.

Adjustable Shelving—Attach shelves to posts with the included plastic split sleeves. They snap onto the posts to hold shelves.

Quick-Adjust Shelving—Pull up on the lever to adjust shelf height; push it down to lock shelves onto the post.

Complete units come with leveling feet to compensate for uneven floors.

Add-on units connect to the shelves of complete units with S-hooks (included). They can be attached inline or at a 90° angle to fit in a corner.

Mobile units have four swivel casters (two with brakes) with 5″ dia. polyurethane wheels. Casters add 6½″ to the height.

Wd.	Cap. per Shelf, lbs.★	No. of Shelves	Complete Units 18″ Dp.	Complete Units 24″ Dp.	Complete Units 36″ Dp.	Add-On Units 18″ Dp.	Add-On Units 24″ Dp.	Add-On Units 36″ Dp.	Mobile Units 18″ Dp.	Mobile Units 24″ Dp.
Adjustable Shelving—Zinc-Plated Steel										
35″ High										
24″	800	2	**5101T368** $126.53	$141.13	$144.18	**5101T414** $122.08	$136.68	$139.72	**2563T14** $268.07	$287.13
36″	800	2	**5101T369** 128.36	144.18	207.77	**5101T415** 123.73	139.72	203.65	**2563T15** 274.36	290.18
48″	800	2	**5101T372** 142.35	163.64	234.72	**5101T416** 137.89	159.18	230.61	**2563T16** 288.35	309.64
55″ High										
24″	800	4	**5101T373** 210.48	239.68	245.77	**5101T417** 204.58	232.62	238.46	**2563T17** 342.22	385.68
36″	800	4	**5101T374** 213.07	245.77	407.58	**5101T462** 208.09	240.38	400.20	**2563T27** 347.40	391.77
48″	800	4	**5101T375** 242.12	284.70	465.98	**5101T463** 234.95	278.06	457.18	**2563T28** 380.07	422.67
60″	600	4	**5101T376** 277.40	334.58	521.95	**5101T464** 270.99	331.68	515.13	**2563T29** 413.07	472.63
72″	600	4	**5101T377** 312.68	373.52	607.12	**5101T465** 305.14	369.98	599.75	**2563T31** 443.89	519.52
63″ High										
24″	800	4	**5101T378** 213.07	243.33	249.42	**5101T466** 208.00	238.18	246.11	**2563T32** 354.23	389.33
36″	800	4	**5101T379** 217.78	246.95	411.23	**5101T467** 211.53	244.11	405.28	**2563T33** 363.78	395.42
48″	800	4	**5101T382** 245.77	288.35	469.63	**5101T468** 238.61	282.10	462.72	**2563T34** 391.77	434.35
60″	600	4	**5101T383** 281.05	338.23	525.60	**5101T469** 272.76	330.76	517.77	**2563T36** 427.05	476.30
72″	600	4	**5101T384** 316.33	377.17	610.77	**5101T472** 309.40	368.75	606.51	**2563T38** 462.33	523.17
75″ High										
24″	800	4	**5101T385** 219.00	245.74	254.28	**5101T473** 212.06	240.55	250.56	**2563T39** 365.00	394.20
36″	800	4	**5101T386** 222.65	254.28	416.10	**5101T474** 213.89	246.49	407.67	**2563T41** 368.65	400.28
48″	800	4	**5101T387** 250.63	293.22	474.50	**5101T476** 244.92	284.47	457.61	**2563T42** 396.63	439.22
60″	600	4	**5101T388** 285.92	343.10	530.47	**5101T477** 277.35	335.87	520.16	**2563T54** 431.92	489.10
72″	600	4	**5101T389** 321.20	382.03	615.63	**5101T478** 314.33	377.26	608.93	**2563T56** 467.20	528.03
87″ High										
24″	800	4	**5101T392** 237.25	266.45	272.53	**5101T479** 226.49	255.69	261.77		
36″	800	4	**5101T393** 240.90	272.53	434.35	**5101T482** 230.14	261.77	423.59		
48″	800	4	**5101T394** 268.88	311.47	492.75	**5101T483** 258.12	300.71	481.99		
60″	600	4	**5101T395** 304.17	361.35	548.72	**5101T484** 293.41	350.59	537.96		
72″	600	4	**5101T396** 339.45	400.28	633.88	**5101T485** 328.69	389.52	623.12		
Quick-Adjust Shelving—Chrome-Plated Steel										
55″ High										
24″	800	4	**4092T26** 237.56	279.63	289.53				**4184T11** 386.03	428.10
36″	800	4	**4092T48** 241.27	289.53	414.49				**4184T12** 389.75	438.00
48″	800	4	**4092T27** 277.15	325.41	473.88				**4184T13** 425.63	473.88
60″	600	4	**4092T28** 310.56	372.42	530.80				**4184T14** 451.38	520.90
72″	600	4	**4092T29** 360.05	431.81	617.41				**4184T15** 508.53	580.29
63″ High										
24″	800	4	**4092T31** 241.27	283.34	293.24				**4184T16** 389.75	431.81
36″	800	4	**4092T32** 244.98	293.24	418.20				**4184T17** 393.46	438.96
48″	800	4	**4092T33** 280.86	329.12	469.63				**4184T18** 429.34	477.59
60″	600	4	**4092T34** 314.27	376.14	534.51				**4184T19** 462.75	524.61
72″	600	4	**4092T35** 363.76	435.53	621.12				**4184T21** 512.24	584.00
75″ High										
24″	800	4	**4092T36** 246.22	288.29	298.19				**4184T22** 394.69	436.76
36″	800	4	**4092T37** 249.93	298.19	423.15				**4184T23** 398.41	446.66
48″	800	4	**4092T38** 285.81	334.07	482.54				**4184T24** 434.29	478.49
60″	600	4	**4092T39** 319.22	381.08	539.46				**4184T25** 467.69	529.56
72″	600	4	**4092T41** 368.71	432.41	626.07				**4184T26** 517.19	588.95
87″ High										
24″	800	4	**4092T42** 264.78	306.85	316.75					
36″	800	4	**4092T43** 268.49	314.08	441.71					
48″	800	4	**4092T44** 304.37	352.63	501.10					
60″	600	4	**4092T45** 337.78	399.64	558.02					
72″	600	4	**4092T46** 387.27	459.03	644.63					

★ Overall capacity is 2,000 lbs. for complete units and 1,200 lbs. for mobile units.

Adjustable Shelving—Stainless Steel

Pricing is approximately three times higher than adjustable zinc-plated shelving.

Choose a Width	Cap. per Shelf, lbs.★	No. of Shelves	Complete Units Choose a Height	Complete Units Choose a Depth		Mobile Units Choose a Height	Mobile Units Choose a Depth	
24″, 36″, 48″, 60″	600	4	55″, 63″, 75″, 87″	18″, 24″, 36″	**5101T785**	55″, 63″, 75″	18″, 24″	**2563T345**

★Overall capacity is 2,000 lbs. for complete units and 1,200 lbs. for mobile units.

(Continued on following page)

Heavy Duty Wire Shelving *(Continued from previous page)*

Accessories and Replacement Parts

Ledges—Prevent items from falling off your shelves with these 4″ high chrome-plated steel ledges. You can use them as side ledges or back ledges.

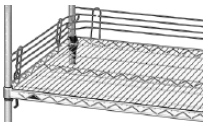

Lg.			Lg.		
18″	5101T11	$12.49	48″	5101T19	$21.78
24″	5101T13	13.77	60″	5101T21	23.70
36″	5101T15	17.29	72″	5101T23	28.18

Shelf Dividers—Snap these 8″ high dividers into place. Made of chrome-plated steel.
Push Handles—Attach to shelving posts with the included split sleeves.

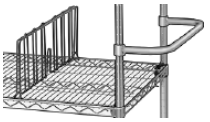

For Overall Depth	Chrome-Plated Steel		Stainless Steel	
Shelf Dividers				
18″	5101T43	$15.05	———	———
24″	5101T44	19.25	———	———
36″	5101T139	28.18	———	———
Push Handles				
18″	5101T1	25.93	5101T4	$81.96
24″	5101T2	26.58	5101T5	91.57

Slides and **Tote Boxes**—Save shelf space by suspending tote boxes from slides.
Slides mount to the underside of 18″ or 24″ deep shelves. Made of aluminum.
Tote boxes are 17½″ Wd. × 22½″ Lg. and made of gray plastic.



For O'all Dp.	Slides Pair		Tote Boxes 5″ Ht.	6″ Ht.	8″ Ht.	12″ Ht.
18″	5101T198	$47.18	5101T981	$19.99	$20.90	$25.34	$32.39
24″	5101T199	54.40	5101T981	19.99	20.90	25.34	32.39

Label Holders and **Labels**—Snap these holders onto wire shelving. They are compatible with bar code scanners and protect labels from dust and dirt. *Label holders* are clear plastic and come with a label. *Extra labels* are white cardstock supplied on perforated sheets for use with laser printers.

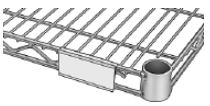

Wd.	Ht.	Label Holders Pkg. of 12		Extra Labels Pkg. of 200	
3″	1 5/16″	1679T33	$11.39	1679T51	$4.58

Floor Protectors—Slip these plastic disks onto the leveling feet to prevent floor damage.
Floor-Mounting Plate—Bolt posts to the floor for greater stability. Plate adjusts to compensate for uneven floors. It has 5/16″ dia. mounting holes (bolts not included). Made of zinc-plated steel.



Floor Protectors (Pkg. of 4)	5101T49	$15.03
Floor-Mounting Plate	5101T45	8.65

Extra Shelves—Come with split sleeves. For add-on units, shelves require S-hooks (sold separately).

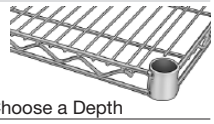

	Choose a Width	Choose a Depth	
Adjustable Shelves			
Zinc-Plated Steel	24″, 36″, 48″, 60″, 72″	18″, 24″, 36″	5101T447
Chrome-Plated Steel	24″, 36″, 48″, 60″, 72″	18″, 24″, 36″	5101T497
Stainless Steel	24″, 36″, 48″, 60″	18″, 24″, 36″	5101T487
Quick-Adjust Shelves			
Chrome-Plated Steel	24″, 36″, 48″, 60″, 72″	18″, 24″, 36″	5101T582
Stainless Steel	24″, 36″, 48″, 60″, 72″	18″, 24″, 36″	5101T592

S-Hooks—Replace lost S-hooks or use when adding shelves to an add-on unit. Two hooks are required for each shelf.

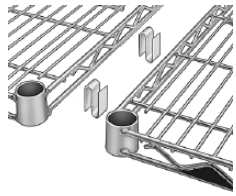

S-Hooks (Pkg. of 8) 5101T29 $26.76

Replacement Split Sleeves—Each package will install one shelf. Made of plastic. *Conductive* split sleeves dissipate static electricity. Surface resistance is 10^4 ohms/sq.


For Adjustable Shelving


For Quick-Adjust Shelving

	Standard Pkg. of 4		Conductive Pkg. of 4	
For Adjustable Shelving	5101T41	$6.42	5101T791	$8.16
For Quick-Adjust Shelving	4092T61	7.61	5101T792	24.37
16½″ Long Grounding Cable			5101T793	18.90

Replacement Posts—Posts *for complete and add-on units* come with leveling feet to compensate for uneven floors.



	Choose a Height	
For Complete and Add-On Units		
Chrome-Plated Steel	35″, 55″, 63″, 75″, 87″	5101T777
Stainless Steel	55″, 63″, 75″, 87″	5101T787
For Mobile Units		
Chrome-Plated Steel	41½″, 61½″, 69½″, 81½″	5101T646
Stainless Steel	61½″, 69½″, 81½″	5101T656

Casters—Replace broken or missing casters for mobile units. They cannot be used to convert stationary units to mobile units. Casters have 5″ dia. polyurethane wheels and are 6½″ high.



	Pair	
Swivel Casters	5101T47	$72.26
Swivel Casters with Brake	5101T48	81.40

Extra Heavy Duty Wire Shelving

This shelving is reinforced to hold nearly twice as much weight as other wire shelving, and is chrome plated to resist corrosion. Shelf panels are removable for easy cleaning.
Split sleeves snap onto the posts to hold shelves. Shelves adjust on 1″ centers. Posts have leveling feet to compensate for uneven floors. Shelving meets NSF/ANSI standards. Shipped unassembled.
Floor-mounting plate secures shelving to the floor for increased stability. It's made of zinc-plated steel and has three 5/16″ dia. mounting holes.

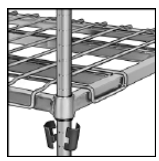


Floor-Mounting Plate



Wd.	Cap. per Shelf, lbs.	No. of Shelves	63″ High Shelving		75″ High Shelving		Extra Shelves	
18″ Deep								
24″	1,600	4	4930T11	$536.39	4930T21	$550.20	4930T31	$121.12
36″	1,600	4	4930T13	590.67	4930T23	595.53	4930T33	132.46
48″	1,300	4	4930T15	659.02	4930T25	672.62	4930T35	152.29
60″	1,000	4	4930T17	757.19	4930T27	762.02	4930T37	172.79
24″ Deep								
24″	1,600	4	4930T12	590.67	4930T22	595.53	4930T32	132.46
36″	1,600	4	4930T14	625.57	4930T24	637.68	4930T34	143.79
48″	1,300	4	4930T16	709.42	4930T26	714.25	4930T36	163.62
60″	1,000	4	4930T18	830.25	4930T28	835.07	4930T38	187.82
Floor-Mounting Plate							5101T45	8.65

Heavy Duty Shelving



Open Shelving Complete Unit (Six Shelves)



Open Shelving Add-On Unit



Closed Shelving Complete Unit (Six Shelves)



Store heavy items on this steel shelving. Shelves adjust on 1½″ centers; they attach to shelves with included clips. Shelving is gray. Shipped unassembled.

Open Shelving—These units allow visibility of stored items.

Closed Shelving—The back and side panels stabilize and secure materials better than open shelving.

Add-on units connect to complete units to extend shelving.

Extra shelves come with shelf clips.

Shelving

Wd.	Dp.	Cap. per Shelf, lbs.	No. of Shelves	Open Shelving: Complete Units		Open Shelving: Add-On Units		Closed Shelving: Complete Units		Closed Shelving: Add-On Units		Extra Shelves	
60″ High													
36″	12″	1,150	5	4829T314	$247.06	4829T331	$199.93	4829T323	$328.93	4829T337	$276.76	4829T184	$34.84
36″	18″	1,300	5	4829T315	278.72	4829T332	234.75	4829T324	377.93	4829T338	315.09	4829T185	35.79
36″	24″	1,150	5	4829T316	317.91	4829T333	271.47	4829T325	423.39	4829T339	361.44	4829T186	47.62
48″	12″	750	5	4829T317	291.32	4829T334	246.75	4829T326	390.57	4829T341	338.50	4829T187	38.75
48″	18″	700	5	4829T321	328.59	4829T335	282.29	4829T327	448.70	4829T342	377.52	4829T188	48.76
48″	24″	750	5	4829T322	374.13	4829T336	327.69	4829T328	490.41	4829T343	435.28	4829T189	57.81
84″ High													
36″	12″	1,150	6	4829T821	266.71	4829T881	220.20	4829T827	349.96	4829T887	290.85	4829T184	34.84
36″	18″	1,300	6	4829T822	299.40	4829T882	251.51	4829T828	396.00	4829T888	326.66	4829T185	35.79
36″	24″	1,150	6	4829T823	339.86	4829T883	290.60	4829T829	448.06	4829T889	372.25	4829T186	47.62
48″	12″	750	6	4829T751	328.35	4829T754	281.84	4829T757	420.28	4829T761	371.27	4829T187	38.75
48″	18″	700	6	4829T752	361.27	4829T755	313.38	4829T758	468.00	4829T762	407.33	4829T188	48.76
48″	24″	750	6	4829T753	406.21	4829T756	356.95	4829T759	523.68	4829T763	457.56	4829T189	57.81

Accessories and Replacement Parts



Shown with Divider Set

Drawers—Install these steel drawers in 36″ wide shelving using drawer supports (required; sold separately). Color is gray.

Drawer Divider Sets—Keep small parts organized in up to 24 compartments. Sets include steel partitions and aluminum dividers.

Drawer Ht.	Drawers		Drawer Divider Sets	
For 18″ Dp. Shelving				
4″	4829T222	$197.65	4829T131	$105.31
5″	4829T231	201.75	4829T132	122.35
6″	4829T241	208.11	4829T133	129.97
7″	4829T251	224.11	4829T134	131.48
For 24″ Dp. Shelving				
4″	4829T521	213.10	4829T136	108.64
5″	4829T531	216.60	4829T137	126.10
6″	4829T581	226.74	4829T139	136.36
7″	4829T551	239.63	4829T138	134.78

Drawer Supports—*Single-drawer support* is used to install a single drawer. *Multiple-drawer supports* are used to install any combination of drawers; the sum of the overall drawer height should equal the height of the drawer support.

Single-Drawer Support (Pkg. of 4)	4829T145	$29.44
Multiple-Drawer Support—18″ High	4829T127	168.56
Multiple-Drawer Support—36″ High	4829T128	184.12

Shelf Dividers—These steel dividers adjust on 3″ centers. Color is gray.

Ht.	For 12″ Dp. Shelving		For 18″ Dp. Shelving		For 24″ Dp. Shelving	
6″	4829T567	$5.14	4829T573	$6.17	4829T651	$7.23
9″	4829T568	5.93	4829T574	6.76	4829T652	7.27
12″	4829T569	6.42	4829T575	7.62	4829T653	8.89
15″	4829T571	7.91	4829T576	8.89	4829T654	11.52

Replacement Shelf Clips—Replace lost or damaged clips.

Shelf Clips (Pkg. of 20)	4829T37	$5.94

Heavy Duty Gravity-Flow Shelving

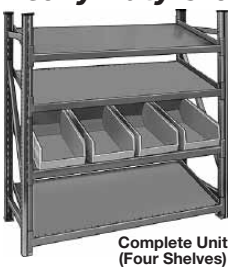

Complete Unit (Four Shelves)



Add-On Unit

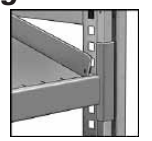

The sloped shelves on these shelving units allow parts to flow forward, providing access and visibility. Shelves adjust on 2″ centers and have a 15° slope. They have a ¾″ high front lip and 2⅝″ high sides to keep contents in place.

Shelving snaps together quickly. Legs have ⅝″ dia. mounting holes so they can be bolted to the floor. Shipped unassembled. Color is gray.

These units are often used with bin boxes (sold separately on page 1766).

Add-on units connect to complete units to extend shelving.

Optional casters have 5¾″ dia. polyurethane wheels and add 8″ to the overall height. Overall capacity for units with casters is 1,200 lbs.

Cap. per Shelf, lbs.	No. of Shelves	Complete Units: Wd.	Dp.			Add-On Units: Wd.	Dp.			Extra Shelves	
60″ High Shelving											
550	4	56″	24″	46665T61	$803.17	53″	24″	46665T71	$628.03	46665T54	$129.29
550	4	56″	32″	46665T62	919.97	53″	32″	46665T72	728.10	46665T55	145.26
Optional Rigid Casters for 60″ High Shelving										46665T91	Pair $150.99
Optional Swivel Casters with Brake for 60″ High Shelving										46665T92	Pair $195.10
79″ High Shelving											
550	5	56″	24″	46665T64	926.50	53″	24″	46665T74	774.99	46665T54	129.29
550	5	56″	32″	46665T65	1,051.10	53″	32″	46665T75	864.29	46665T55	145.26

Heavy Duty Quick-Assembly Shelving

Faster to assemble than other heavy duty shelving, these units require no hardware. The uprights come assembled, and shelves slide into place. Shelves can be tilted 6° or 12° by raising the back of the shelf one or two lug positions, allowing items to flow forward for easy access.

Shelves adjust on 2″ centers. Legs can be bolted to the floor for added stability (½″ dia. mounting holes). Shelving is shipped unassembled. Color is gray.

Open Shelving—Allows visibility of stored items.

Vented Shelving—Keeps materials better contained while allowing visibility.

Complete units include cross braces for added support.

Add-on units connect to complete units to extend shelving.

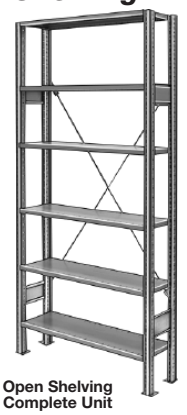

Open Shelving Complete Unit



Open Shelving Add-On Unit

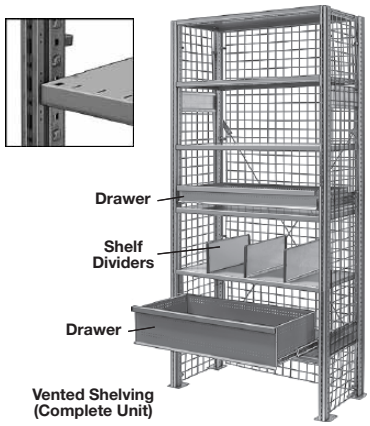

Vented Shelving (Complete Unit)

Shelving

Wd.	Dp.	Cap. per Shelf, lbs.	No. of Shelves	Open Shelving: Complete Units 86″ Ht.	Open Shelving: Complete Units 98″ Ht.	Open Shelving: Add-On Units 86″ Ht.	Open Shelving: Add-On Units 98″ Ht.	Vented Shelving: Complete Units 86″ Ht.	Vented Shelving: Add-On Units 86″ Ht.	Extra Shelves
39″	12″	600	6	4909T11 $297.10	$301.75	4909T12 $201.75	$203.70	4909T311 $363.73	4909T331 $224.07	4909T711 $22.90
39″	18″	1,000	6	4909T13 362.68	371.82	4909T14 279.07	281.12	4909T313 380.92	4909T333 342.23	4909T712 33.48
39″	24″	1,000	6	4909T15 433.90	435.92	4909T16 344.23	346.30	4909T315 523.52	4909T335 412.93	4909T713 44.43
51″	12″	600	6	4909T17 385.60	389.84	4909T18 285.18	289.25	4909T317 462.98	4909T337 346.30	4909T714 36.13
51″	18″	1,000	6	4909T19 470.57	472.58	4909T56 380.92	384.20	4909T319 560.18	4909T339 452.20	4909T715 50.55
51″	24″	1,000	6	4909T55 532.97	543.17	4909T58 454.25	456.30	4909T322 628.23	4909T342 525.57	4909T716 61.65

Accessories

Cross braces lock onto the posts to stabilize add-on units—no hardware required. Order one pair of braces for every third unit.

		Pair
For 39″ Wide Shelving	4909T811	$24.44
For 51″ Wide Shelving	4909T812	24.44

Drawers are steel and compatible with 18″ deep shelving units. They come with ball-bearing drawer slides and can hold 150 lbs. Color is gray.

O'all Ht.	For 39″ Wd. × 18″ Dp. Shelves	
4″	4909T851	$193.10
8″	4909T852	202.22

Shelf dividers fit into the slots on the shelf surface and keep shelf contents organized. They adjust on 1½″ centers.

Ht.		
For 12″ Dp. Shelves		
4″	4909T821	$4.64
7″	4909T822	5.00
13½″	4909T823	7.46
For 18″ Dp. Shelves		
4″	4909T824	6.00
7″	4909T825	6.70
13½″	4909T827	8.40
For 24″ Dp. Shelves		
4″	4909T829	6.22
7″	4909T831	7.34
13½″	4909T833	11.00

Heavy Duty Stainless Steel Shelving

This shelving is corrosion resistant and is often used in laboratories and food service applications. Shelving meets NSF/ANSI standards. The included split sleeves snap onto the posts to hold shelves. Shelves adjust on 1″ centers. Leveling feet compensate for uneven floors. Shipped unassembled.





Wd.	Dp.	Cap. per Shelf, lbs.	No. of Shelves	63″ High Shelving	75″ High Shelving	Extra Shelves
36″	18″	800	4	4691T11 $851.93	4691T41 $870.03	4691T81 $180.00
36″	24″	800	4	4691T12 1,005.32	4691T42 1,013.37	4691T82 220.00
48″	18″	800	4	4691T13 1,002.68	4691T43 1,020.78	4691T83 219.31
48″	24″	800	4	4691T14 1,177.22	4691T44 1,195.32	4691T84 264.83
60″	24″	600	4	4691T15 1,394.08	4691T45 1,398.77	4691T85 321.38

Heavy Duty All-Welded Mobile Shelving

These one-piece units have an all-welded steel construction to support heavy tools and materials. They have casters (two rigid; two swivel) with 8″ dia. plastic wheels. Color is gray. Shipped assembled.

Shelves with lip have a 1½″ high raised edge.

Wd.	Ht.	Dp.	Shelf Clearance	Capacity, lbs. Per Shelf	Capacity, lbs. Overall	Shelves with Lip		Shelves without Lip	
4 Shelves									
37″	62″	25″	15″	1,000	3,000	22205T29	$418.21	22205T19	$418.21
49″	62″	25″	15″	1,000	3,000	22205T31	452.79	22205T21	452.79
61″	62″	31″	15″	1,000	3,000	22205T33	560.21	22205T23	560.21
5 Shelves									
37″	62″	25″	11″	1,000	3,000	22205T49	481.33	22205T39	481.33
49″	62″	25″	11″	1,000	3,000	22205T51	520.37	22205T41	520.37
61″	62″	31″	11″	1,000	3,000	22205T53	649.65	22205T43	649.65



Five Shelves with Lip

Extra Heavy Duty Quick-Assembly Shelving

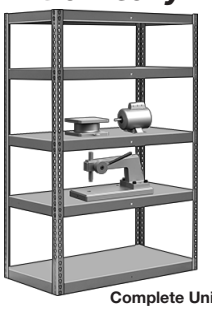
Complete Unit


Add-On Unit

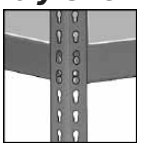


Floor Plate

This shelving quickly snaps together with no tools or hardware needed, yet is strong enough to handle your heavy parts and equipment. Shelves adjust on 1½″ centers. Shipped unassembled. Color is gray.

Add-on units connect to complete units to extend shelving.

Floor plates allow you to bolt units to the floor (⅜″ dia. mounting holes). They're made of steel.

Wd.	Dp.	Cap. per Shelf, lbs.	No. of Shelves	Complete Units	60″ Ht.	72″ Ht.	96″ Ht.	Add-On Units	60″ Ht.	72″ Ht.	96″ Ht.	Extra Shelves	
36″	18″	4,000	5	4952T101	$265.46	$270.09	$284.23	4952T102	$272.86	$274.71	$283.91	4952T31	$42.87
36″	24″	4,000	5	4952T103	314.95	320.60	335.52	4952T104	308.19	307.62	316.83	4952T32	55.86
48″	18″	4,000	5	4952T105	334.07	351.90	367.13	4952T106	326.10	331.00	340.21	4952T33	60.27
48″	24″	4,000	5	4952T107	373.26	374.81	384.74	4952T108	365.29	370.19	379.40	4952T34	67.12
60″	18″	3,200	5	4952T109	380.98	403.57	413.43	4952T112	373.02	377.91	387.12	4952T35	84.54
60″	24″	3,200	5	4952T113	445.02	507.53	517.10	4952T114	437.05	441.95	451.16	4952T36	99.83
72″	24″	2,700	5	4952T115	538.31	615.05	624.53	4952T116	530.34	535.24	544.45	4952T37	123.84
Floor Plates for Complete Units (Pkg. of 4)												4952T51	6.74
Floor Plates for Add-On Units (Pkg. of 2)												4952T52	3.68

Extra Heavy Duty All-Welded Shelving


Five Shelves

These one-piece units have an all-welded steel construction to support heavy tools and materials. Posts can be anchored to the floor for added stability (⅝″ dia. mounting holes). Color is gray.

Wd.	Ht.	Dp.	Cap. per Shelf, lbs.	4 Shelves Shelf Clearance		5 Shelves Shelf Clearance	
32″	72″	18″	2,000	20¾″	7673T11 $281.55	15″	7673T15 $324.73
36″	72″	24″	2,000	20¾″	7673T12 329.91	15″	7673T16 381.73
48″	72″	24″	2,000	20¾″	7673T13 418.00	15″	7673T17 494.00
60″	72″	24″	2,000	20¾″	7673T14 480.18	15″	7673T18 570.00

Brute Shelving


Open Shelving


Closed Shelving

Our strongest and most durable shelving, these units have shelf capacities 25% higher than any other shelving. Shelves adjust on 1″ centers and attach to posts with included bolts. Shipped unassembled. Color is gray.

Open shelving allows visibility of stored items.

Closed shelving has side and back panels to contain materials.

Wd.	Dp.	*Capacity, lbs.* Per Shelf	Overall	No. of Shelves	Shelving 60″ Ht.		72″ Ht.		Extra Shelves	
Open Shelving										
36″	18″	5,000	6,000	4	6595T11	$606.53	$670.62	6595T56	$83.36	
36″	24″	5,000	6,000	4	6595T12	615.47	679.55	6595T57	85.94	
48″	24″	5,000	6,000	4	6595T13	647.10	711.18	6595T58	99.96	
60″	24″	3,300	6,000	4	6595T14	725.05	789.13	6595T59	116.26	
Closed Shelving										
36″	18″	5,000	6,000	4	6595T21	661.15	733.37	6595T56	83.36	
36″	24″	5,000	6,000	4	6595T22	667.42	742.68	6595T57	85.94	
48″	24″	5,000	6,000	4	6595T23	730.80	812.50	6595T58	99.96	
60″	24″	3,300	6,000	4	6595T24	830.30	879.84	6595T59	116.26	

Extra Heavy Duty Shelving with Roll-Out Shelves

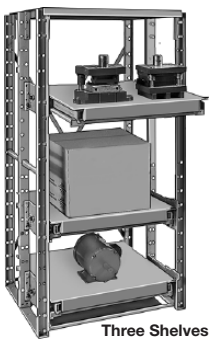
Three Shelves

The high-capacity shelves on these units pull out to access heavy dies, machinery, and tools. They slide on ball bearings so you can retrieve contents horizontally with a forklift and vertically with a hoist, crane, or monorail system. When fully extended, they lock in place.

Shelves adjust on 2″ centers and attach to posts with included bolts. Made of steel, they're shipped unassembled. Color is gray.

Warning: Shelving must be securely anchored to the floor (⅞″ dia. mounting holes).

Wd.	Dp.	Shelf Wd.	Cap. per Shelf, lbs.	3 Shelves 62″ Ht.		72″ Ht.	4 Shelves 85″ Ht.		Extra Shelves	
44″	36″	36″	2,000	44665T51	$2,794.00	$2,930.34	44665T27	$3,474.71	44665T71	$844.04
56″	36″	48″	2,000	44665T52	3,019.87	3,077.86	44665T28	3,648.87	44665T72	896.16
56″	48″	48″	2,000	44665T53	3,266.77	3,362.76	44665T29	4,020.74	44665T73	974.19

Standard Duty Shelving

For general industrial storage applications, these steel units have shelves that adjust on 1½″ centers. They attach to posts with included shelf clips. Shipped unassembled. Color is gray.

Open shelving allows visibility of stored items.

Closed shelving includes side and back panels to keep materials better contained.

Shelf attachment hardware can be used instead of shelf clips for a sturdier connection.

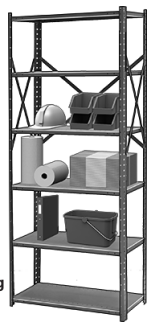

Open Shelving (Six Shelves)



Closed Shelving (Six Shelves)

Wd.	Dp.	Cap. per Shelf, lbs.	Open Shelving: 4 Shelves 45″ Ht.	Open Shelving: 6 Shelves 75″ Ht.	Open Shelving: 6 Shelves 87″ Ht.	Closed Shelving: 4 Shelves 45″ Ht.	Closed Shelving: 6 Shelves 75″ Ht.	Closed Shelving: 6 Shelves 87″ Ht.	Extra Shelves
36″	12″	800	5004T41 $105.18	5004T401 $118.64	$126.43	5004T44 $142.23	5004T501 $176.42	$192.55	5004T301 $12.97
36″	18″	800	5004T42 118.52	5004T402 137.44	146.89	5004T45 157.95	5004T502 201.11	216.73	5004T302 16.22
36″	24″	800	5004T43 131.39	5004T403 155.83	165.95	5004T46 176.11	5004T503 230.57	243.47	5004T303 22.40
48″	12″	400	—	5004T404 142.02	151.97	—	5004T504 217.93	230.19	5004T304 18.57
48″	18″	450	—	5004T405 182.09	193.19	—	5004T505 263.91	285.75	5004T305 23.00
48″	24″	500	—	5004T406 210.46	222.61	—	5004T506 303.36	318.95	5004T306 29.18
Replacement Shelf Clips (Pkg. of 20)									5196T802 6.85
Shelf Attachment Hardware (Pkg. of 20 nuts and 20 bolts)									5004T801 11.98

Quick-Assembly Shelving with Particleboard Shelves

Don't fumble with nuts, bolts, or shelf clips—shelves have rivets that tap into keyhole slots on the posts with a rubber mallet. Shelf supports and posts are steel; color is gray. Shelves are ⅝″ thick composite wood and adjust on 1½″ centers. Shipped unassembled.

Add-on units attach to the posts of a complete unit.





Complete Unit



Add-On Unit

Wd.	Ht.	Dp.	Cap. per Shelf, lbs.	No. of Shelves	Complete Units	Add-On Units	Extra Shelves
36″	84″	12″	600	6	44605T66 $104.54	44605T71 $102.44	44605T51 $14.28
36″	84″	18″	600	6	44605T67 119.49	44605T72 117.82	44605T52 17.54
36″	84″	24″	600	6	44605T68 130.10	44605T73 129.34	44605T53 19.76
48″	84″	12″	500	6	44605T69 121.17	44605T74 117.90	44605T54 17.62
48″	84″	18″	500	6	44605T81 139.42	44605T75 136.89	44605T55 18.97
48″	84″	24″	500	6	44605T82 151.42	44605T76 147.34	44605T56 23.50

Plastic Shelving

Pop the posts into the shelf, then tap down with a rubber mallet. Shelves are made of black plastic, so they won't rust, dent, peel, or chip. Posts are steel. Shipped unassembled.

Mobile shelving has four swivel casters with brakes and 5″ dia. plastic wheels.



Shelving (Four Shelves)



Mobile Shelving (Four Shelves)

Wd.	Dp.	Cap. per Shelf, lbs.	Shelving: Ht.	Shelving: Shelf Clearance		Mobile Shelving: Ht.	Mobile Shelving: Shelf Clearance	
4 Shelves								
36″	20″	200	46″	11¾″	9076T11 $380.44	73″	19½″	9076T13 $475.56
36″	20″	200	72″	20¼″	9076T12 418.49	—	—	—
5 Shelves								
36″	20″	160	60″	11¾″	9076T21 494.56	63″	11¼″	9076T23 608.71
36″	20″	160	72″	14¾″	9076T22 513.60	—	—	—
6 Shelves								
36″	20″	130	73″	11¾″	9076T31 589.67	—	—	—

Lipped Mobile Shelving

Shelves are reversible, allowing you to use them as a flush surface or with a lip to prevent items from falling off. Bottom shelf is fixed. This shelving has a handle and four casters (two rigid; two swivel) with 5″ dia. wheels, making it easy to maneuver. Shipped unassembled. Color is gray.

Shelving with 1¼″ High Shelf Lip—The top four shelves adjust on 1″ centers. Wheels are rubber.

Shelving with 3″ High Shelf Lip—Shelf clearance is 14″. These units can accept one extra shelf (sold separately), making it a five-shelf unit with 9¾″ shelf clearance. Wheels are plastic.



Mounted Flush



Mounted with Lip



Open Shelving with 1¼″ High Shelf Lip

Wd.	Ht.	Dp.	Capacity, lbs. Per Shelf	Capacity, lbs. Overall	No. of Shelves	Open Shelving	Closed Shelving	Extra Shelves
Shelving with 1¼″ High Shelf Lip								
36″	57″	18″	420	1,000	5	2546T61 $197.60	2546T69 $240.19	2546T81 $21.28
36″	57″	24″	420	1,000	5	2546T62 227.49	2546T71 261.10	2546T82 24.55
48″	57″	18″	320	1,000	5	2546T63 229.68	2546T72 264.68	2546T83 24.93
48″	57″	24″	320	1,000	5	2546T64 254.74	2546T73 292.10	2546T84 29.68
Shelving with 3″ High Shelf Lip								
30″	60″	16″	250	500	4	9035T14 200.70	—	9035T31 27.29
36″	60″	24″	250	500	4	9035T16 254.46	—	9035T32 40.84

Tray Racks and Trays



Narrow Steel Shelving Shown with Trays



Wide Aluminum Shelving Shown with Trays

These racks, also known as bakery carts and bun racks, meet NSF/ANSI standards and are often used for food service, electronics, and small-parts assembly applications. Access from either side makes it easy to load and unload the slide-in trays (sold separately). Racks have four swivel casters and 5″ dia. rubber wheels. Shipped unassembled.

Zinc-plated steel racks have good corrosion resistance.

Aluminum racks have excellent corrosion resistance. Two of the casters have brakes.

Racks

Holds No. of Trays	Tray Clearance	Overall Cap., lbs.	Narrow Overall Size Wd.	Ht.	Dp.			Wide Overall Size Wd.	Ht.	Dp.		
Zinc-Plated Steel												
20	3″	200	22″	69″	27″	8778T41	$285.14	30″	69″	20″	8778T31	$285.14
38	1½″	200	22″	69″	27″	8778T42	313.73	30″	69″	20″	8778T32	313.73
Aluminum												
11	5″	300	21″	65″	28″	9989T63	527.25	29″	65″	19″	9989T61	525.00
18	3″	300	21″	65″	28″	9989T62	569.25	29″	65″	19″	9989T59	569.25

Trays

Trays slide into the rack; they meet NSF/ANSI standards. Plastic tray is white.

	Wd.	Ht.	Lg.	Max. Temp.		
Aluminum	18″	1″	26″	—	9989T54	$18.11
Plastic	18″	1″	26″	175° F	9989T56	18.55

Adjustable-Bin Shelving



14 Bins

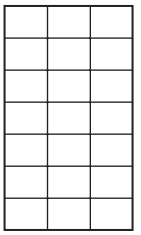

21 Bins (a)

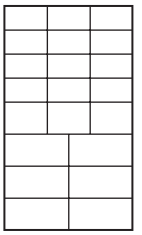

21 Bins (b)

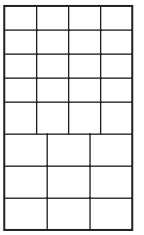

29 Bins

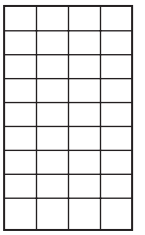

36 Bins

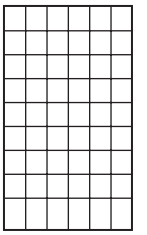

54 Bins

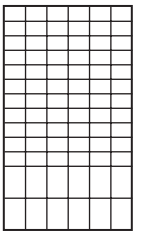

78 Bins

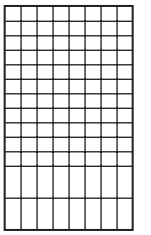

104 Bins

Choose from a variety of bin configurations with this steel shelving. Dividers snap in and out, allowing you to adjust the size of the compartments with the included divider clips. They adjust on 2″ centers. Shipped unassembled. Color is gray.

Shelving

Bin Openings Total	Bin Openings Ht. (Qty.)	Overall Size Wd.	Overall Size Ht.	Cap. per Shelf, lbs.	12″ Depth		18″ Depth		24″ Depth	
14	12″ (14)	36″	85″	720	4641T17	$221.34	4641T18	$274.33	4641T19	$318.36
21(a)	12″ (21)	36″	85″	720	4641T11	250.93	4641T12	314.20	4641T51	364.67
21(b)	9″ (12) 12″ (9)	36″	85″	720	4641T21	254.67	4641T22	318.39	4641T23	371.57
29	9″ (16) 12″ (13)	36″	85″	720	4641T27	276.81	4641T28	345.99	4641T29	415.72
36	9″ (32) 12″ (4)	36″	85″	720	4641T14	305.22	4641T15	378.82	4641T16	460.85
54	9″ (48) 12″ (6)	36″	85″	720	4641T37	361.93	4641T38	450.97	4641T53	554.55
78	6″ (66) 9″ (12)	36″	85″	720	4641T41	414.16	4641T42	526.16	4641T54	651.53
104	6″ (88) 9″ (16)	36″	85″	720	4641T44	473.80	4641T45	604.20	4641T46	747.60

Accessories



Shown with Doors

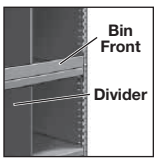

Doors—Convert your bin shelving to a locking cabinet. These steel doors come with a key-locking handle, two keys, and fasteners.

4641T26 ..... $211.82

Bin Fronts—Keep small parts from falling off shelves. These steel bin fronts provide a 1½″ high lip and come with fasteners.

4641T57 ..... $5.20

Extra Dividers—Create additional bin openings with these steel dividers. They adjust on 2″ centers. Divider clips are included.

Ht.	12″ Depth		18″ Depth		24″ Depth	
6″	4586T32	$3.52	4586T36	$3.93	4586T91	$4.93
9″	4586T33	4.87	4586T37	5.16	4586T92	6.82
12″	4586T34	5.23	4586T38	5.49	4586T93	7.88
Replacement Divider Clips (Pkg. of 4)					4641T52	.56

Heavy Duty Wide and Deep Shelving

Also known as bulk racks, these units offer more storage space per level for large items and boxes. No nuts or bolts are required for assembly—rivets on the ends of the shelf supports insert into keyhole slots on the posts. Posts and shelf supports are black. Shipped unassembled.

Complete units consist of three shelves, 14-ga. posts, and 16-ga. shelf supports. Shelves adjust on 1½″ centers. *Composite wood shelves* are ⅝″ thick. *Wire shelves* are made of 4-ga. steel wire with 2″×4″ openings.

Add-on units connect to the complete units.

Also Available: Replacement parts. To order, please ask for 6946T888 and specify the required part.



Composite Wood Shelf

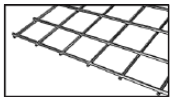

Wire Shelf

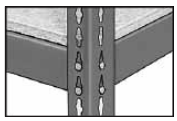

Keyhole Slots/Rivets



Complete Unit with Composite Wood Shelves



Add-On Unit with Composite Wood Shelves

Overall Size Wd.	Ht.	Dp.	Cap. per Shelf, lbs. Composite Wood	Wire	Complete Units	Composite Wood	Wire	Add-On Units	Composite Wood	Wire	Extra Shelves	Composite Wood	Wire
48½″	84″	24½″	700	700	6946T1	$142.30	$193.15	6946T11	$139.02	$189.87	6946T23	$40.28	$57.23
48½″	84″	36½″	750	500	6946T2	171.19	241.81	6946T13	168.28	238.90	6946T24	51.55	75.09
48½″	84″	48½″	920	500	6946T3	204.19	290.56	6946T14	201.73	288.10	6946T25	62.44	91.23
72½″	84″	24½″	770	1,000	6946T4	176.78	292.13	6946T15	174.07	289.42	6946T26	52.82	91.27
72½″	84″	36½″	650	1,000	6946T5	216.05	366.62	6946T16	213.68	364.25	6946T27	67.55	117.74
72½″	84″	48½″	680	1,000	6946T6	259.03	439.42	6946T17	257.15	437.54	6946T28	81.84	141.97
96½″	84″	24½″	620	620	6946T7	236.31	339.30	6946T18	235.12	338.11	6946T29	75.81	110.14
96½″	84″	36½″	620	620	6946T8	291.41	432.71	6946T19	290.75	432.05	6946T31	96.10	143.20
96½″	84″	48½″	620	620	6946T9	355.39	500.80	6946T22	355.55	500.96	6946T34	120.51	168.98

Sheet Racks

To create a rack, order a base and the number of dividers you need. The base holds a maximum of 10 dividers. Dividers slide into the base and don't need hardware. They adjust on 3¾″ centers.

Base has forklift entry. It should only be moved with a forklift when empty. It is 14-ga. powder-coated gray steel and has four 9/16″ dia. holes for mounting to the floor (fasteners not included).

Divider is 12-ga. gray powder-coated steel.





Base with Three Dividers

Wd.	Ht.	Dp.	Cap., lbs.		
Base					
72″	7″	40″	1,500	4883T2	$500.54
Divider					
69″	36″	1½″	300	4883T24	119.64

Heavy Duty Stackable Racks for Pipe and Bars



Six Racks Stacked Three High



Rack with Optional Divider

Stack racks up to six units high and easily reconfigure as your needs change.

Racks are 14-ga. gray powder-coated steel, except 16″ racks are 11-ga. steel. They have 2″ square posts. Shipped assembled.

Optional dividers divide the vertical space to add additional storage levels. Made of steel.

Overall Size Wd.	Ht.	Dp.	Overall Cap., lbs.	Racks		Optional Dividers	
12″	13½″	16″	2,500	5083T12	$63.70	5083T18	$19.41
14″	17″	19″	3,700	5083T13	66.95	5083T23	39.02
15″	20½″	22″	5,600	5083T16	73.61	5083T24	45.06
16″	23½″	26″	7,500	5083T15	95.53	5083T19	47.49

Rack Upright Post Protectors



Floor Mount



Post Mount

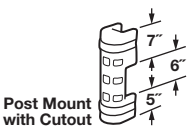

Post Mount with Cutout

Protect 3″ wide rack posts from damage caused by vehicles.

Floor-mount protectors bolt to the floor with four 9/16″ dia. anchors (not included). They are 3-ga. yellow powder-coated steel.

Post-mount protectors secure to posts with two hook and loop straps. They are yellow plastic. *Protector with cutout* fits uprights with intersecting beams. Protector can be flipped to accommodate beam location.

Overall Ht.	For Beam Ht.		1-11	12-Up
Floor Mount				
8″	—	44455T43	$32.22	$29.05
12″	—	44455T44	34.23	30.87
18″	—	44455T45	40.29	36.33
24″	—	44455T46	48.35	43.59
36″	—	44455T47	60.42	54.48
48″	—	44455T48	78.55	70.82
Post Mount				
18″	—	4327T31	46.47	41.22
Post Mount with Cutout				
18″	3″-6″	4327T32	46.47	41.21

Extra Heavy Duty Wide and Deep Shelving

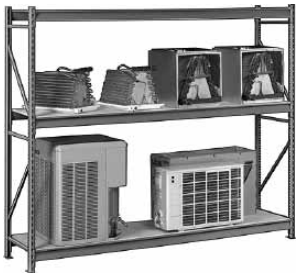

Complete Unit with Three Composite Wood Shelves



Add-On Unit with Three Composite Wood Shelves

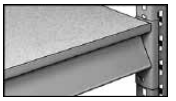

Composite Wood Shelf

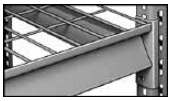

Wire Shelf

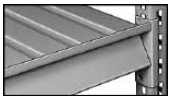

Steel Shelf

Also known as bulk racks, these units hold oversized equipment and raw material. Color is gray. Shipped unassembled.

Complete and **add-on units** consist of 14-ga. steel posts and shelf supports as well as shelves. Shelf supports have rivets that slide into keyhole slots on posts and adjust on 2″ centers. Posts have foot plates with a 9/16″ dia. hole for anchoring to the floor (fasteners not included). *Add-on units* attach to the posts of a complete unit.

Extra shelves come with components for one shelf.

Composite wood shelves are 5/8″ thick. **Wire shelves** are 5-ga. powder-coated steel wire with 2″×4″ openings. **Steel shelves** are 22-ga. powder-coated steel.

O'all Size Wd.★	Dp.	Cap. per Shelf, lbs.	Complete Units Composite Wood	Wire	Steel	Add-On Units Composite Wood	Wire	Steel	Extra Shelves Composite Wood	Wire	Steel
Shelving with 3 Shelves—84″ High											
64½″	24½″	3,800	**4670T152** $243.73	$329.96	$329.96	**4670T311** $190.84	$277.07	$277.07	**4670T363** $45.98	$74.73	$74.73
64½″	36½″	3,800	**4670T112** 278.31	367.71	362.75	**4670T302** 220.24	310.62	304.67	**4670T356** 54.05	84.51	82.22
76½″	24½″	2,700	**4670T113** 274.82	340.38	342.07	**4670T303** 221.93	287.78	289.18	**4670T357** 56.35	78.20	78.76
76½″	36½″	2,700	**4670T114** 318.18	404.15	411.07	**4670T304** 254.65	346.07	353.00	**4670T358** 65.53	96.00	98.31
76½″	48½″	2,700	**4670T115** 350.65	440.33	478.29	**4670T305** 287.42	377.09	415.05	**4670T359** 74.73	104.62	117.27
100½″	24½″	2,100	**4670T116** 323.09	411.02	412.76	**4670T306** 270.20	358.13	359.87	**4670T366** 72.44	101.75	102.33
100½″	36½″	2,100	**4670T117** 374.85	495.56	500.75	**4670T307** 316.78	437.49	442.67	**4670T367** 86.24	126.47	128.20
100½″	48½″	2,100	**4670T118** 423.15	607.67	587.00	**4670T308** 359.91	544.44	523.76	**4670T374** 98.89	160.40	153.51
Shelving with 4 Shelves—96″ High											
64½″	24½″	3,800	**4670T192** 285.07	398.74	398.74	**4670T333** 234.47	349.51	349.51	**4670T363** 45.98	74.73	74.73
64½″	36½″	3,800	**4670T119** 330.04	451.85	442.69	**4670T309** 273.13	394.95	385.78	**4670T356** 54.05	84.51	82.22
76½″	24½″	2,700	**4670T128** 326.58	414.00	416.25	**4670T328** 275.98	363.40	365.65	**4670T357** 56.35	78.20	78.76
76½″	36½″	2,700	**4670T129** 381.38	497.82	507.05	**4670T329** 319.02	440.91	450.15	**4670T358** 65.53	96.00	98.31
76½″	48½″	2,700	**4670T165** 423.09	542.65	593.27	**4670T346** 361.00	480.56	531.18	**4670T359** 74.73	104.62	117.27
100½″	24½″	2,100	**4670T166** 390.95	508.18	510.51	**4670T347** 340.35	457.58	459.91	**4670T366** 72.44	101.75	102.33
100½″	36½″	2,100	**4670T167** 458.76	619.71	626.62	**4670T348** 401.85	562.80	569.71	**4670T367** 86.24	126.47	128.20
100½″	48½″	2,100	**4670T168** 519.75	765.78	738.22	**4670T349** 457.65	703.69	676.13	**4670T374** 98.89	160.40	153.51
Shelving with 4 Shelves—120″ High											
76½″	36½″	2,700	**4670T287** 395.49	508.34	526.62	**4670T298** 328.80	450.69	459.93	**4670T358** 65.53	96.00	98.31
100½″	36½″	2,100	**4670T288** 478.33	639.27	646.18	**4670T299** 411.64	572.58	579.49	**4670T367** 86.24	126.47	128.20
100½″	48½″	2,100	**4670T289** 539.31	785.35	757.78	**4670T301** 467.44	713.47	685.91	**4670T374** 98.89	160.40	153.51

★ For add-on units, the overall width is 1½″ less than the complete unit.

Document Racks



Rack with Three Storage Levels and 60 Boxes

These racks include boxes for convenient document storage. Racks are easy to assemble—rivets on the ends of the shelf supports insert into keyhole slots on the posts. Storage levels adjust on 1½″ centers and include 5/8″ thick composite wood decking. Racks are made of 14-ga. steel. Color is gray. Shipped unassembled. The boxes are made of white corrugated cardboard and are sized to hold letter- or legal-size files; they include a lid, large label area, and hand holds.

Overall Size Wd.	Dp.	Cap. per Storage Level, lbs.	No. of Boxes	*Box Size* Wd.	Ht.	Dp.		
Racks with 3 Storage Levels—60″ High								
69″	16″	800	30	12½″	10½″	16¼″	**4965T61**	$265.18
69″	32″	800	60	12½″	10½″	16¼″	**4965T62**	410.22
Racks with 4 Storage Levels—84″ High								
69″	16″	800	40	12½″	10½″	16¼″	**4965T63**	355.64
69″	32″	800	80	12½″	10½″	16¼″	**4965T64**	549.02

Extra Boxes—12½″ Wd.×10½″ Ht.×16¼″ Lg. **5074T12** Each 1-11 $4.04 12-Up $3.44

Rack and Conveyor Netting

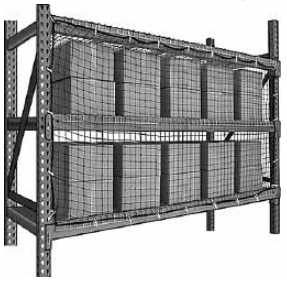

Attach netting to your racks and conveyors to secure inventory, increase safety, and help meet OSHA requirements. Netting is made of nylon cord with a 5/16″ dia. polypropylene border. To achieve the stated capacity, netting must be properly secured in 1-ft. increments with cable ties that are rated 175 lbs. and higher (not included). Netting meets NFPA (National Fire Protection Agency) Code 701. Color is black.

Warning: Not for use as a personnel restraint.

To Order: Please specify width: 8, 10, 12, 25, 50, or 100 ft.

O'all Ht.	Cord Dia.		Per Ft.
¾″ Wd.×¾″ Ht. Opening—250-lb. Capacity			
2 ft.	0.06″	**6653T19**	$6.22
4 ft.	0.06″	**6653T24**	9.59
8 ft.	0.06″	**6653T64**	16.26
1″ Wd.×1″ Ht. Opening—500-lb. Capacity			
2 ft.	0.05″	**6653T65**	5.52
4 ft.	0.05″	**6653T66**	8.59
6 ft.	0.05″	**6653T67**	11.74
8 ft.	0.05″	**6653T68**	14.78

O'all Ht.	Cord Dia.		Per Ft.
1¾″ Wd.×1¾″ Ht. Opening—1,250-lb. Capacity			
2 ft.	0.09″	**6653T29**	$5.94
4 ft.	0.09″	**6653T46**	9.50
6 ft.	0.09″	**6653T47**	13.15
8 ft.	0.09″	**6653T74**	17.41
10 ft.	0.09″	**6653T75**	20.20
4″ Wd.×4″ Ht. Opening—2,500-lb. Capacity			
8 ft.	0.19″	**6653T77**	25.83
10 ft.	0.19″	**6653T78**	31.70

Heavy Duty Pallet Racks

Store heavy, bulky loads on these racks that are designed to withstand frequent use of power-lifting equipment. Beams insert into keyhole slots on the uprights, adjust on 2″ centers, and secure with locking pins to prevent accidental separation. Racks are RMI (Rack Manufacturer's Institute) compliant. Shipped unassembled.

Uprights are 13-ga. steel with 3″ Wd. × 1⅝″ Dp. posts. Mount to the floor with two ⅝″ dia. concrete anchors per column (not included). Color is green. Beams are 14-ga. steel with a 1⅝″ Ht. × 1″ Dp. step for decking (not included). Color is orange.

Extra storage levels consist of one pair of beams. **Decking** is steel and has an overall capacity of 2,500 lbs., except galvanized steel wire decking has an overall capacity of 2,000 lbs. **To Order:** For wire decking, please specify finish: gray painted or galvanized steel.

Warning: Do not exceed the capacity of uprights or beams, whichever is rated lowest within your rack assembly.

Also Available: Accessories. For pallet supports, please ask for 4940T3 and specify rack depth. For row spacers, please ask for 4940T4 and specify width. For shims, please ask for 4940T151.

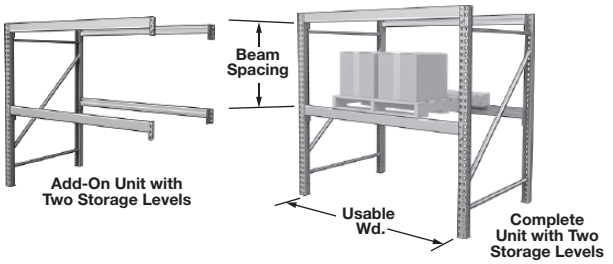

Max. Beam Spacing	Upright Cap. per Pair, lbs.	Max. Beam Spacing	Upright Cap. per Pair, lbs.
36″	21,700	72″	10,800
48″	17,900	84″	8,400
60″	13,900	96″	6,600

Complete Racks

Usable Wd.	Overall Ht.	Size Dp.	Cap. per Storage Level, lbs.	Complete Units O'all Wd.			Add-On Units O'all Wd.			Extra Storage Levels		Wire Decking for One Level		Solid Decking for One Level	
Two Storage Levels															
60″	5 ft.	30″	7,800	66″	4940T551	$215.22	63″	4940T662	$161.79	4940T62	$56.73	44705T55	$32.02	4341T45	$147.47
60″	6 ft.	36″	7,800	66″	4940T557	231.55	63″	4940T661	169.96	4940T62	56.73	44705T65	35.46	4341T55	132.45
96″	7 ft.	48″	8,400	102″	4940T233	340.66	99″	4940T243	261.28	4940T75	95.42	44705T87	84.40	4341T77	313.36
96″	8 ft.	48″	8,400	102″	4940T234	356.37	99″	4940T244	267.28	4940T75	95.42	44705T87	84.40	4341T77	313.36
96″	10 ft.	48″	8,400	102″	4940T235	377.68	99″	4940T245	280.87	4940T75	95.42	44705T87	84.40	4341T77	313.36
120″	10 ft.	48″	6,600	126″	4940T236	415.34	123″	4940T246	316.39	4940T77	113.62	44705T88	90.96	4341T78	346.94
Three Storage Levels															
72″	7 ft.	30″	6,600	78″	4940T681	327.07	75″	4940T711	255.64	4940T74	64.28	44705T41	51.50	4341T46	197.70
72″	7 ft.	36″	6,600	78″	4940T682	332.63	75″	4940T712	258.42	4940T74	64.28	44705T66	58.08	4341T56	262.72
72″	7 ft.	48″	6,600	78″	4940T683	342.96	75″	4940T713	263.58	4940T74	64.28	44705T86	71.66	4341T76	345.66
72″	8 ft.	36″	6,600	78″	4940T691	349.10	75″	4940T721	266.66	4940T74	64.28	44705T66	58.08	4341T56	262.72
96″	7 ft.	30″	8,400	102″	4940T316	415.73	99″	4940T416	344.30	4940T75	95.42	44705T43	56.22	4341T47	267.32
96″	7 ft.	36″	8,400	102″	4940T317	421.28	99″	4940T417	347.07	4940T75	95.42	44705T67	63.44	4341T57	238.76
96″	7 ft.	48″	8,400	102″	4940T319	431.61	99″	4940T419	352.24	4940T75	95.42	44705T87	84.40	4341T77	313.36
96″	8 ft.	36″	8,400	102″	4940T318	437.76	99″	4940T418	355.31	4940T75	95.42	44705T67	63.44	4341T57	238.76
96″	8 ft.	42″	5,000	102″	4940T781	420.44	99″	4940T791	331.29	4940T659	80.95	44105T11	67.54	4341T11	261.17
96″	8 ft.	48″	8,400	102″	4940T321	448.39	99″	4940T421	360.63	4940T75	95.42	44705T87	84.40	4341T77	313.36
96″	10 ft.	42″	5,000	102″	4940T782	443.87	99″	4940T786	343.02	4940T659	80.95	44105T11	67.54	4341T11	261.17
96″	10 ft.	48″	8,400	102″	4940T322	470.78	99″	4940T422	371.82	4940T75	95.42	44705T87	84.40	4341T77	313.36
96″	12 ft.	42″	8,400	102″	4940T783	530.41	99″	4940T787	408.08	4940T75	95.42	44105T11	67.54	4341T11	261.17
96″	12 ft.	48″	8,400	102″	4940T323	513.73	99″	4940T423	393.30	4940T75	95.42	44705T87	84.40	4341T77	313.36

Design-Your-Own Racks

Choose from uprights up to 16 feet high and beams up to 144″ wide to create a pallet rack to fit your needs. Beams insert into keyhole slots on the uprights and secure with locking pins to prevent accidental separation. Compatible only with our Heavy Duty Pallet Racks.

Uprights

Ht.		30″ Dp.	36″ Dp.	42″ Dp.	48″ Dp.	54″ Dp.
5 ft.	4940T811	$55.94	$58.44	$60.19	$61.78	———
6 ft.	4940T812	61.95	64.48	66.28	67.75	$69.67
7 ft.	4940T813	74.78	77.69	80.34	83.09	87.67
8 ft.	4940T814	82.20	86.73	89.48	92.20	94.90

Ht.		30″ Dp.	36″ Dp.	42″ Dp.	48″ Dp.	54″ Dp.
10 ft.	4940T815	$94.08	$98.62	$101.11	$103.83	$106.45
12 ft.	4940T816	———	118.69	122.33	126.08	135.36
16 ft.	4940T817	———	———	167.38	172.31	173.59

Beams

Wd.	Cap. per Pair, lbs.		Pair
4″ High			
48″	9,700	4940T86	$51.09
60″	7,800	4940T85	56.73
72″	6,600	4940T19	64.29
84″	5,700	4940T91	73.28
96″	5,000	4940T161	80.95

Wd.	Cap. per Pair, lbs.		Pair
5″ High			
48″	13,600	4940T211	$61.44
60″	11,000	4940T212	73.41
108″	6,300	4940T213	96.19
120″	5,600	4940T214	104.72

Wd.	Cap. per Pair, lbs.		Pair
6″ High			
72″	11,000	4940T218	$76.28
84″	9,500	4940T219	85.75
96″	8,400	4940T221	95.25
108″	7,500	4940T222	104.72

Wd.	Cap. per Pair, lbs.		Pair
6″ High (Cont.)			
120″	6,600	4940T223	$114.00
132″	5,700	4940T224	134.09
144″	5,000	4940T225	144.50

Decking for Heavy Duty Pallet Racks

Compatible with pallet racks with 1⅝″ stepped beams. Decking has supports that rest on the step. Overall capacity is 2,500 lbs., except galvanized steel wire decking is 2,000 lbs.

To order, measure the width of the beams in your pallet rack, then use the chart to determine the quantity and width of the decking sections required.

Wire Decking—Gray painted decking is 6-ga. steel; galvanized steel decking is 4-ga. steel. Both have openings up to 2½″ Wd. × 4″ Dp. **To Order:** Please specify finish: gray painted or galvanized.

Solid Decking—Made of 14-ga. gray painted steel.

Beam Wd.	Sections Req'd per Rack Level	Beam Wd.	Sections Req'd per Rack Level
48″	One 46″ Wide	108″	Two 52″ Wide
60″	One 58″ Wide	120″	Two 58″ Wide
72″	Two 34″ Wide	132″	One 34″ and Two 46″ Wide
84″	Two 40″ Wide	144″	Three 46″ Wide
96″	Two 46″ Wide		

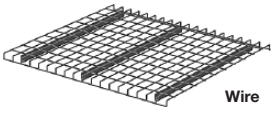

Wd.	Wire For Rack Depth 30″	36″	42″	48″	54″	Solid For Rack Depth 30″	36″	42″	48″
34″	44705T31 $25.75	$29.04	$31.29	$35.83	$39.62	4341T13 $98.85	$131.36	$142.89	$172.83
40″	44705T33 26.97	28.98	34.92	39.09	41.68	———	———	———	———
46″	44705T34 28.11	31.72	33.77	42.20	53.98	4341T14 133.66	119.38	130.58	156.68
52″	44705T35 30.47	33.82	36.42	43.07	54.42	———	———	———	———
58″	44705T36 32.02	35.46	42.22	45.48	56.97	4341T15 147.47	132.45	177.43	173.47

Extra-Heavy Duty Pallet Racks

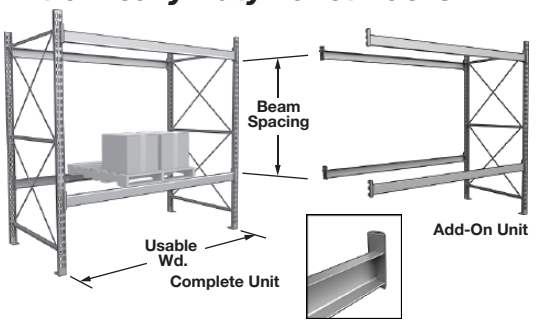

With up to 9,600 lbs. capacity per storage level, these are the strongest pallet racks we offer. They are built for use with power-lifting equipment. Beams slip into keyhole slots on the uprights, adjust on 2½″ centers, and lock with spring clips to prevent accidental separation. Racks are RMI (Rack Manufacturer's Institute) compliant. They are gray powder-coated steel. Shipped unassembled.

Uprights are 10-ga. steel with 3″ Wd. × 1¼″ Dp. posts. Mount to the floor with four 9/16″ concrete anchors (not included). Beams are channel style. *3″ high beams* are 8-ga. steel. *4″ high beams* are 7-ga. steel. *5″ high beams* are 6-ga. steel.

Extra storage levels consist of one pair of beams.

Warning: Do not exceed the capacity of uprights or beams, whichever is rated lowest within your rack assembly.

Max. Beam Spacing	Upright Cap. per Pair, lbs.	Max. Beam Spacing	Upright Cap. per Pair, lbs.
48″	31,000	72″	21,000
60″	26,000	84″	17,000

Complete Racks

Usable Wd.	Overall Size Ht.	Dp.	Beam Ht.	Cap. per Storage Level, lbs.	Complete Units with Two Levels O'all Wd.			Add-On Units O'all Wd.			Extra Storage Levels	
95½″	8 ft.	36″	4″	9,600	101½″	5217T15	$616.53	98½″	5217T25	$457.22	5217T8	$156.79
95½″	8 ft.	48″	4″	9,600	101½″	5217T16	670.37	98½″	5217T26	484.14	5217T8	156.79
95½″	10 ft.	48″	4″	9,600	101½″	5217T17	706.88	98½″	5217T27	502.40	5217T8	156.79

Design-Your-Own Racks

Select from a variety of uprights and beams to build your own personalized rack. Compatible only with our Extra-Heavy Duty Pallet Racks.

Uprights

Ht.	36″ Deep		42″ Deep		48″ Deep	
8 ft.	5217T11	$167.69	5217T21	$180.63	5217T31	$196.02
10 ft.	5217T12	204.63	5217T22	211.48	5217T32	215.23
12 ft.	5217T13	238.06	5217T23	260.75	5217T33	252.63
16 ft.	5217T14	355.51	5217T24	373.64	5217T34	353.15

Beams

Beams 107½″ and wider require a minimum of one beam tie (sold separately).

Usable Wd.	Ht.	Cap. per Pair, lbs.		Pair
71½″	3″	7,300	5217T41	$101.06
95½″	3″	4,500	5217T42	138.19
95½″	4″	9,600	5217T45	156.79
107½″	3″	3,500	5217T43	142.07
107½″	4″	8,300	5217T46	159.34
107½″	5″	9,600	5217T48	181.45
119½″	3″	2,900	5217T44	142.32
119½″	4″	6,700	5217T47	170.47
119½″	5″	8,600	5217T49	199.60
143½″	5″	7,200	5217T51	281.80

Accessories

Pallet Supports

Two supports are recommended per pallet. They are 4″ wide. *Raised supports* are 2¾″ high.

For Rack Dp.	Flush Cap., lbs.			Raised Cap., lbs.		
36″	1,500	5217T61	$34.63	3,200	5217T64	$41.15
42″	1,300	5217T62	30.93	2,800	5217T65	47.72
48″	1,100	5217T63	40.76	2,400	5217T66	51.59

Row Spacers

Maintain consistent spacing between pallet racks and increase stability. Use one spacer every 4 feet. Made from 2″ square steel. Fasteners included.

Wd.		
8″	5217T71	$17.16
10″	5217T72	17.56
12″	5217T73	18.78

Beam Ties

Prevent beams from rotating when moving pallets in and out of racks. A minimum of one beam tie is required per pair of beams 107½″ and wider. Fasteners included.

5217T52 ..... $39.31

Wire Decking for Extra-Heavy Duty Pallet Racks

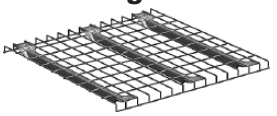



Use with box- and channel-style pallet rack beams. Decking has flanges that rest on the top of the beam for support. Overall capacity is 2,500 lbs.

Painted gray decking is 6-ga. steel wire with 2½″ Wd. × 4″ Dp. openings.

Galvanized decking is 4-ga. steel wire with 2″ Wd. × 4″ Dp. openings.

To Order: Please specify finish: gray painted or galvanized steel.

To order, measure the width of the beams in your pallet rack, then use the chart to determine the quantity and width of the decking sections required.

Beam Wd.	Sections Req'd per Rack Level	Beam Wd.	Sections Req'd per Rack Level
71½″	Two 34″ Wide	119½″	Two 34″ and One 46″ Wide
95½″	Two 46″ Wide	143½″	Three 46″ Wide
107½″	Two 52″ Wide		

Wd.	For 36″ Deep Racks		For 42″ Deep Racks		For 48″ Deep Racks	
34″	4507T31	$29.80	4507T61	$35.95	4507T64	$41.13
46″	4507T32	31.91	4507T62	36.58	4507T65	45.42
52″	4507T33	33.82	4507T63	41.52	4507T66	54.38

Rack Backing Panels



Create a sturdy barrier to prevent material from falling with this alternative to pallet rack netting. Panels are 8-ga. galvanized steel with 1½″ Wd. × 3″ Ht. openings. They are compatible with most pallet racks with 3″ wide posts and keyhole slots. Panels include four 6″ deep mounting brackets and fasteners.

Overall Wd.	36″ High		48″ High	
98½″	1229N11	$96.62	1229N14	$109.07
122½″	1229N12	107.25	1229N15	122.67
146½″	1229N13	129.50	1229N16	148.75

Quick-Mount Rack Netting

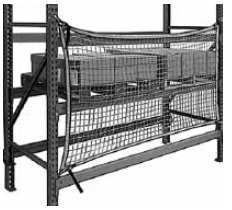



No need for cable ties—this netting includes hardware that slips into any post with keyhole slots. Attach netting to your racks to secure inventory, increase safety, and help meet OSHA requirements.

Adjustable straps allow netting to fit rack openings ±1 ft. the width of the netting. Netting is made from 0.17″ dia. gray nylon cord with 2″ Wd. × 2″ Ht. openings and a 3″ wide nylon border. It meets NFPA (National Fire Protection Agency) Code 701.

Warning: Not for use as a personnel restraint.

Overall Size Wd.	Ht.	Overall Cap., lbs.		
4 ft.	4 ft.	2,500	4563T11	$180.00
8 ft.	4 ft.	2,500	4563T12	225.44
8 ft.	8 ft.	2,500	4563T13	283.96

Pallets

Pallets for Racks with Decking

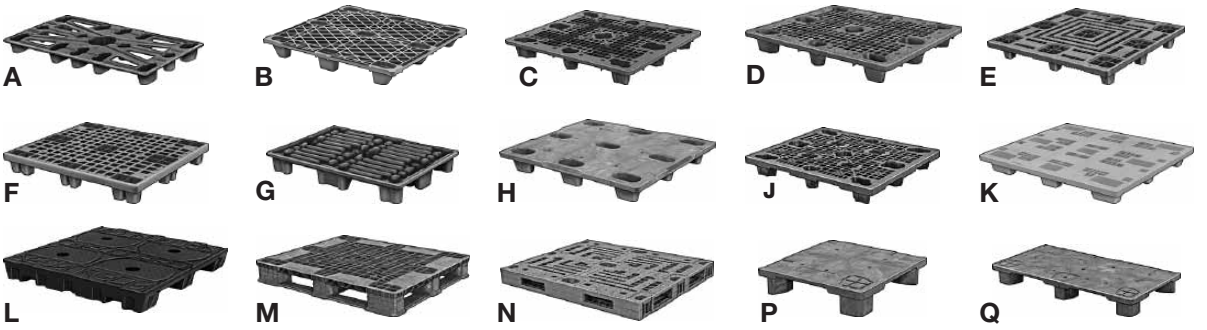

Pallets for Racks without Decking



Unlike nestable pallets, stackable pallets can be stored in stacks for easy forklift access.

Pallets for Racks with Decking—When stored in racks, these pallets require a supporting deck surface. See pages 1669-1670 for pallet racks and decking. *Antislip pallet* has rubber grips to prevent material from sliding off while in transit. *Food-grade pallet* is suitable for food processing environments. It is made from FDA listed materials and is USDA compliant. *Drum pallet* has molded indentations that hold 55-gallon drums while in transit.

Pallets for Racks without Decking—Built to rest directly on the beams of a pallet rack. See pages 1669-1670 for pallet racks. *Food-grade pallet* is designed for use in food processing and other sanitary environments. It is made from FDA listed materials and is USDA compliant.

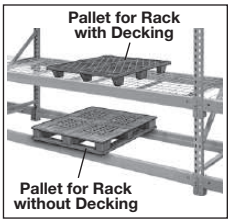

Pallets for Racks with Decking

	Overall Size Wd.	Ht.	Dp.	Capacity, lbs. While Moving	When Stationary	Max. Fork Opening Wd.	Ht.	No. of Entry Points for Forklifts	Pallet Jacks	Hand Trucks		
Nestable Pallets												
Plastic with Vented Surface—Color is black												
A	12″	1½″	24″	800	800	4½″	1½″	—	—	2	**4123T26**	$5.80
B	40″	5¼″	48″	1,500	3,500	13¼″	4″	4	4	—	**4123T16**	20.83
C	40″	5¾″	48″	2,750	15,000	11″	3¾″	4	4	—	**4123T12**	40.37
D	40¼″	5¾″	48¼″	4,000	30,000	11¼″	3¾″	4	4	—	**4123T56**	49.44
E	48″	6″	48″	4,000	30,000	10½″	3½″	4	4	—	**4123T38**	113.63
Plastic with Vented Surface—Color is gray												
F	40″	6″	48″	1,200	10,000	12″	4″	4	4	—	**4123T34**	66.77
Plastic with Solid Surface—Color is black												
G	28″	5¼″	42″	2,500	10,000	8″	3¾″	4	4	—	**4560T41**	139.47
H	40″	6″	48″	4,000	30,000	10¼″	4½″	4	4	—	**4560T52**	92.72
H	48″	6″	48″	4,000	30,000	9¾″	4¼″	4	4	—	**4560T43**	129.79
Antislip Plastic with Vented Surface—Color is black												
J	40¼″	5¾″	48¼″	2,700	15,000	11¼″	3¾″	4	4	—	**1274N11**	51.87
Food-Grade Plastic with Vented Surface—Color is pink												
K	40″	5¼″	48″	2,000	10,000	10¾″	3½″	4	4	—	**4123T35**	93.25
Plastic with Solid Surface for Drums—Color is black												
L	48½″	6″	48½″	3,500	9,000	11¾″	3¾″	2	2	—	**5017T58**	269.82
Stackable Pallets												
Plastic with Vented Surface—Color is black												
M	40″	6″	48″	4,000	30,000	11½″	3½″	2	2	—	**4802T66**	109.85
N	48″	6″	60″	3,500	30,000	11″	2¾″	4	—	—	**4802T77**	267.59
N	48″	6″	72″	4,000	30,000	11″	2¾″	4	—	—	**4802T78**	288.50
Plastic with Solid Surface—Color is gray												
P	24″	5½″	24″	1,000	8,000	13½″	4″	4	4	—	**4123T46**	22.67
Q	24″	5½″	48″	2,000	15,000	14¼″	4″	2	2	—	**4123T44**	42.50

Pallets for Racks without Decking

	Overall Size Wd.	Ht.	Dp.	Capacity, lbs. While Moving	When Stationary	On Rack	Max. Fork Opening Wd.	Ht.	No. of Entry Points for Forklifts	Pallet Jacks		
Stackable Pallets												
Plastic with Vented Surface—Color is black												
R	40″	5¾″	48″	5,000	30,000	2,800	12″	3½″	4	4	**4410T41**	$161.66
FM Approved Plastic with Vented Surface—Color is black												
S	40″	6¾″	48″	5,000	30,000	2,000	10½″	3¾″	4	4	**23125T84**	260.58
Plastic with Solid Surface—Color is black												
T	48″	6½″	48″	4,000	30,000	1,200	9¾″	3½″	4	4	**4410T32**	222.52
Food-Grade Plastic with Vented Surface—Color is blue												
S	40″	6¾″	48″	5,000	30,000	2,000	10½″	3¾″	4	4	**23125T67**	186.28
Steel with Vented Surface—16-ga.												
U	48″	4¼″	48″	4,000	40,000	4,000	9¾″	1¾″	4	2	**8748T4**	177.27
Steel with Solid Surface—12-ga.												
V	42″	5″	48″	6,000	40,000	8,000	20¾″	3″	2	—	**4542T3**	318.03

Racks for Pipe & Bars

A-Frame Racks

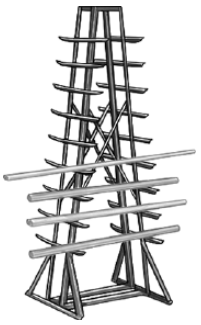

Horizontal Storage Rack



Vertical-Storage Rack with One Usable Side

Horizontal-storage rack can store 1- to 10-ft. long material. It has straight arms with a 1/2″ high fixed lip. Rack is gray powder-coated steel. Shipped unassembled.

Vertical-storage racks can hold 2- to 12-ft. long material. Shipped unassembled. *Rack with one usable side* has three storage openings and three 150-lb. capacity shelves. It is gray powder-coated steel. *Rack with two usable sides* has six storage openings and four 600-lb. capacity shelves. It is green-painted steel with orange shelves. Rack has four 13/32″ dia. holes to mount to the floor (fasteners not included).

Overall Size Wd.	Ht.	Dp.	No. of Arms	Arm Lg.	No. of Storage Levels	Capacity, lbs. Per Storage Level	Overall		
Horizontal-Storage Rack									
Two Usable Sides									
30″	84″	30″	36	9″	9	100	1,800	44485T57	$344.50
Vertical-Storage Racks									
One Usable Side									
36″	84″	24″	12	6″	—	—	3,000	5106T5	254.58
Two Usable Sides									
42″	84″	36″	32	6″	—	—	2,400	5106T2	426.46

Design-Your-Own Mobile Racks with Arms, Spindles, and Shelves

Store bars, spools, and other items on a single versatile rack. Choose a frame and add components to store pipe, flat stock, and spools. The hanger beams and shelves attach to the frame without fasteners. Frames and components are orange-painted steel.

Frames



35″ Wide Rack with One Usable Side



72 1/2″ Wide Rack with Two Usable Sides

Frames are 7-ga. steel. They have four casters (two rigid and two swivel) with 6″ dia. plastic wheels. Components adjust on frame on 2 1/4″ centers. Shipped assembled.

Overall Size Wd.	Ht.	Dp.	Max. No. of Shelves	Max. No. of Hanger Beams	Overall Cap., lbs.		
One Usable Side							
35″	65 1/2″	24″	7	10	2,500	4651T13	$318.50
72 1/2″	65 1/2″	24″	14	20	2,500	4651T14	485.72
Two Usable Sides							
35″	65 1/2″	40 1/2″	14	20	2,500	4651T15	415.28
72 1/2″	65 1/2″	40 1/2″	28	40	2,500	4651T19	726.90

Components

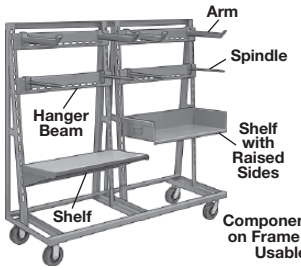

Components Shown on Frame with One Usable Side

Hanger beam has 12 slots and is required to support arms and spindles. It adjusts on 2 1/4″ centers. Capacity is 500 lbs.

4651T16 ..... Each $44.78

Spindles hold spools, gears, and wheels. Use with a hanger beam. Capacity is 150 lbs.

Dia.	Lg.		Each
1/2″	15″	4651T28	$14.44
5/8″	15″	4651T29	15.28
3/4″	15″	4651T31	17.16
1″	15″	4651T32	20.12

Arms are straight, 15″ long, and have a 1 1/4″ high fixed lip to prevent material from falling off. Use with a hanger beam for storing pipe, tubing, and flat stock. Capacity is 250 lbs.

4651T23 ..... Pair $45.24

Shelves are 16-ga. steel. Size is 33″ Wd. × 6″ Ht. × 15″ Dp. Capacity is 500 lbs.

Shelf	4651T17	$66.83
Shelf with Raised Sides	4651T18	71.02

Racks for Pipe and Bars

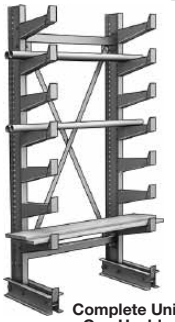

Complete Unit with One Usable Side

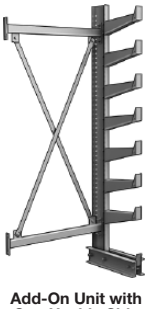

Add-On Unit with One Usable Side

Also known as cantilever racks. Columns are 11-ga. steel and have a flat, 7-ga. steel base that can be used as additional storage. Arms are straight, 14-ga. galvanized steel and have a 2 1/8″ high removable lip that can be reversed to make a flush end for storing flat material. They are 14″ long and adjust on 1 1/2″ centers using nuts and bolts. Color is gray. Shipped unassembled.

Complete units include two columns, 14 arms per usable side, and braces.

Add-on units attach to a complete unit to store longer material. They include one column, seven arms per usable side, and braces.

Warning: Not for use with power-lifting equipment such as forklift trucks.

Overall Size Wd.	Ht.	Dp.	No. of Storage Levels	Complete Units: Capacity, lbs. Per Storage Level	Complete Units: Capacity, lbs. Overall			Add-On Units: Additional Cap., lbs. Per Storage Level	Add-On Units: Additional Cap., lbs. Overall		
One Usable Side											
41 1/2″	84″	21″	7	1,000	7,000	4900T88	$678.51	500	3,500	4900T44	$376.65
79 1/2″	84″	21″	7	1,000	7,000	4900T91	705.21	500	3,500	4900T45	399.95
Two Usable Sides											
41 1/2″	84″	34″	7	1,000	14,000	4900T89	986.89	500	7,000	4900T46	526.82
79 1/2″	84″	34″	7	1,000	14,000	4900T92	1,010.22	500	7,000	4900T47	552.77

Mobile Racks for Pipe and Bars



Rack has two rigid and two swivel casters with 5″ dia. plastic wheels. There is one pair each of 12″, 14″, 16″, and 20″ long straight arms with a 3″ high fixed lip. It is 12-ga. gray powder-coated steel. Shipped unassembled. Also known as cantilever racks.

Optional floor lock can be welded or bolted to the underside of the rack. It has four 3/8″ dia. holes.

Warning: Not for use with power-lifting equipment such as forklift trucks.

Overall Size Wd.	Ht.	Dp.	No. of Storage Levels	Capacity, lbs. Per Storage Level	Overall		
50″	69″	43″	4	250	1,000	2870T11	$617.56
Optional Floor Lock						2728T22	39.83

Heavy Duty Racks for Pipe and Bars

Also known as cantilever racks. They have a flat base that can be used as additional storage. Arms connect to columns using pin-and-lock assemblies and adjust on 3″ centers. Arms are 12-ga. steel, except 36″ long arms are 14-ga. steel. Columns and bases are 12-ga. steel. Racks are gray powder-coated steel and have 11/16″ dia. mounting holes (fasteners not included). Shipped unassembled.

Warning: Not for use with power-lifting equipment such as forklift trucks.

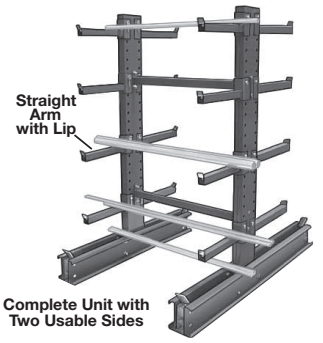

Complete Unit with Two Usable Sides

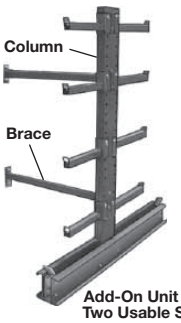

Add-On Unit with Two Usable Sides

Complete Racks

Arms are straight and have a 1 1/8″ high removable lip that can be reversed to make a flush end for storing flat material.

Overall Size Wd.	Ht.	Dp.	No. of Storage Levels	Arm Spacing, Ctr.-to-Ctr.	Arm Lg.	Complete Units: Cap., lbs. Per Storage Level	Overall		Each	Add-On Units: Additional Cap., lbs. Per Storage Level	Overall		Each
One Usable Side													
42″	84″	31″	4	36″	18″	1,700	21,000	44525T7	$669.68	850	10,500	44525T701	$355.48
54″	84″	31″	4	48″	18″	1,700	21,000	44525T11	698.63	850	10,500	44525T101	382.22
54″	96″	37″	4	48″	24″	1,300	15,000	44525T12	756.90	650	7,500	44525T102	404.78
78″	120″	46″	6	72″	36″	850	11,400	44525T13	986.98	400	5,700	44525T103	524.44
Two Usable Sides													
42″	84″	53″	4	36″	18″	1,700	42,000	44525T8	915.39	850	21,000	44525T801	480.32
54″	84″	53″	4	48″	18″	1,700	42,000	44525T21	952.81	850	21,000	44525T201	502.72
54″	96″	65″	4	48″	24″	1,300	30,000	44525T22	1,031.12	650	15,000	44525T202	541.89
78″	120″	82″	6	72″	36″	850	22,800	44525T23	1,446.90	400	11,400	44525T203	754.41

Design-Your-Own Racks

Use individual components to create your own personalized storage solution. To build a complete rack, order at least two columns, a set of braces, and your desired number of arms.

The length of the braces determines the width of the rack.

Add on to the rack by using another column, a set of braces, and arms. Components are only compatible with other Heavy Duty Racks for Pipe and Bars.

Columns

For Arm Lg.	Max. No. of Arms per Side	One Usable Side: Overall Dp.	Cap. per Column, lbs.		Each	Two Usable Sides: Overall Dp.	Cap. per Column, lbs.		Each
84″ High									
18″	8	31″	10,500	44525T41	$236.05	53″	21,000	44525T44	$273.00
24″	8	37″	7,500	44525T42	241.87	65″	15,000	44525T45	294.96
30″	8	46″	5,700	44525T43	255.16	82″	11,400	44525T46	295.06
36″	8	46″	5,700	44525T43	255.16	82″	11,400	44525T46	295.06
96″ High									
18″	9	31″	10,500	44525T47	255.83	53″	21,000	44525T51	291.27
24″	9	37″	7,500	44525T48	261.64	65″	15,000	44525T52	314.73
30″	9	46″	5,700	44525T49	274.93	82″	11,400	44525T53	314.84
36″	9	46″	5,700	44525T49	274.93	82″	11,400	44525T53	314.84
120″ High									
18″	12	31″	10,500	44525T54	285.96	53″	21,000	44525T57	322.91
24″	12	37″	7,500	44525T55	291.78	65″	15,000	44525T58	344.87
30″	12	46″	5,700	44525T56	305.07	82″	11,400	44525T59	344.97
36″	12	46″	5,700	44525T56	305.07	82″	11,400	44525T59	344.97

Arms

Lg.	Cap. per Arm, lbs.	Straight: Without Lip		Straight: With Removable Lip, Lip Ht.			Inclined: Without Lip		Inclined: With Removable Lip, Lip Ht.		
18″	850	44525T86	$24.72	1 1/8″	44525T75	$26.24	44525T92	$24.43	1 1/8″	44525T81	$27.20
24″	650	44525T87	26.34	1 1/8″	44525T76	29.06	44525T93	25.99	1 1/8″	44525T82	27.80
30″	500	44525T88	28.27	1 1/8″	44525T77	30.52	44525T94	28.69	1 1/8″	44525T83	30.75
36″	400	44525T89	33.51	1 1/8″	44525T78	33.68	44525T95	32.33	1 1/8″	44525T84	34.16

Braces

For Rack Wd.	For Arm Spacing, Ctr.-to-Ctr.	Pkg. Qty.		Pkg.	For Rack Wd.	For Arm Spacing, Ctr.-to-Ctr.	Pkg. Qty.		Pkg.
42″	36″	2	44525T19	$63.27	78″	72″	2	44525T26	$85.22
54″	48″	2	44525T24	66.62	103″	96″	2	44525T27	90.45
67″	60″	2	44525T25	68.14					

Extra-Heavy Duty Racks for Pipe and Bars

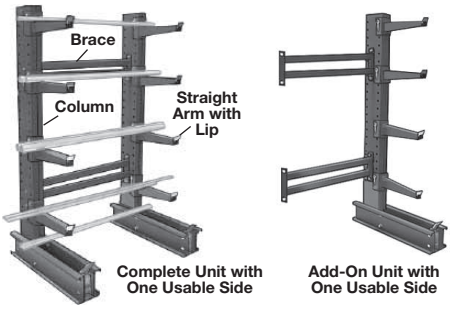

These cantilever racks are made to be used with forklifts and cranes. They have a flat base that can be used as additional storage. Arms connect to columns using pin-and-lock assemblies and adjust on 3″ centers. *18″ and 24″ long arms* are 11-ga. steel; *30″ to 48″ long arms* are 10-ga. steel. Columns are 10-ga. steel, except 96″ high columns are 11-ga. steel. Bases are 7-ga. steel. Racks are gray powder-coated steel and have 11/16″ dia. mounting holes (fasteners not included). Shipped unassembled.

Complete Racks

Arms are straight and have a 1 1/8″ high removable lip that can be reversed to make a flush end for storing flat material.

Overall Size Wd.	Ht.	Dp.	No. of Storage Levels	Arm Spacing, Ctr.-to-Ctr.	Arm Lg.	Complete Units: Cap., lbs. Per Storage Level	Overall		Each	Add-On Units: Additional Cap., lbs. Per Storage Level	Overall		Each
One Usable Side													
76″	96″	40″	4	72″	24″	4,000	25,000	4849T1	$954.24	2,000	12,500	4849T21	$519.77
76″	120″	49″	6	72″	36″	2,600	24,600	4849T13	1,360.34	1,300	12,300	4849T22	755.27
76″	144″	61″	8	72″	48″	2,000	19,300	4849T15	1,750.83	1,000	9,650	4849T23	952.08
Two Usable Sides													
76″	96″	65″	4	72″	24″	4,000	50,100	4849T2	1,301.44	2,000	25,050	4849T24	702.96
76″	120″	82″	6	72″	36″	2,600	49,300	4849T14	1,974.34	1,300	24,650	4849T25	1,062.02
76″	144″	106″	8	72″	48″	2,000	38,700	4849T16	2,632.12	1,000	19,350	4849T26	1,398.35

Design-Your-Own Racks

With multiple heights, widths, and arm styles to choose from, create a rack that fits your needs. To build a complete rack, order at least two columns, a set of braces, and your desired number of arms. The length of the braces determines the width of the rack. Add on to the rack by using another column, a set of braces, and arms. Components are only compatible with other Extra-Heavy Duty Racks for Pipe and Bars.

Columns

For Arm Lg.	Max. No. of Arms per Side	One Usable Side: Overall Dp.	Cap. per Column, lbs.		Each	Two Usable Sides: Overall Dp.	Cap. per Column, lbs.		Each
96″ High									
18″	9	34″	14,950	4849T41	$302.52	53″	29,900	4849T45	$355.19
24″	9	37″	12,500	4849T42	312.40	65″	25,050	4849T46	371.60
30″	9	46″	9,450	4849T43	324.13	82″	18,900	4849T47	394.02
36″	9	46″	9,450	4849T43	324.13	82″	18,900	4849T47	394.02
42″	9	58″	7,600	4849T44	343.07	106″	15,200	4849T67	450.62
48″	9	58″	7,600	4849T44	343.07	106″	15,200	4849T67	450.62
120″ High									
18″	12	34″	20,600	4849T68	366.01	53″	41,250	4849T54	417.64
24″	12	37″	16,850	4849T69	372.88	65″	33,700	4849T55	435.40
30″	12	46″	12,300	4849T71	400.53	82″	24,650	4849T56	457.82
36″	12	46″	12,300	4849T71	400.53	82″	24,650	4849T56	457.82
42″	12	58″	9,700	4849T53	406.55	106″	19,450	4849T57	514.42
48″	12	58″	9,700	4849T53	406.55	106″	19,450	4849T57	514.42
144″ High									
18″	14	34″	20,450	4849T58	414.48	53″	40,900	4849T63	470.80
24″	14	37″	16,700	4849T59	427.70	65″	33,450	4849T64	487.21
30″	14	46″	12,250	4849T61	439.43	82″	24,500	4849T65	509.63
36″	14	46″	12,250	4849T61	439.43	82″	24,500	4849T65	509.63
42″	14	58″	9,650	4849T62	458.37	106″	19,350	4849T66	566.23
48″	14	58″	9,650	4849T62	458.37	106″	19,350	4849T66	566.23

Arms

Lg.	Cap. per Arm, lbs.	Without Lip			With Removable Lip: Lip Ht.		
18″	2,500	4849T79	$28.69	1 1/8″	4849T76	$34.06
18″	2,500	4849T87	31.14	1 1/8″	4849T91	31.61
24″	2,000	4849T81	31.46	1 1/8″	4849T77	37.13
24″	2,000	4849T88	34.22	1 1/8″	4849T92	34.38
30″	1,600	4849T82	34.86	1 1/8″	4849T93	37.79
36″	1,300	4849T83	38.23	1 1/8″	4849T72	41.82
42″	1,100	4849T84	43.95	1 1/8″	4849T73	47.66
48″	1,000	4849T85	45.65	1 1/8″	4849T74	52.51

Braces

For Rack Wd.	For Arm Spacing, Ctr.-to-Ctr.	Pkg. Qty.		Pkg.
For 96″ High Columns				
46″	36″	2	4849T329	$79.12
58″	48″	2	4849T331	90.59
70″	60″	2	4849T332	97.87
82″	72″	2	4849T333	113.67
For 120″ and 144″ High Columns				
46″	36″	3	4849T334	118.67
58″	48″	3	4849T335	135.88
70″	60″	3	4849T336	146.81
82″	72″	3	4849T328	170.50

Wire Decking for Racks for Pipe and Bars

Decking can be used on racks for pipe and bars with straight arms. Decking is 6-ga. steel wire mesh with 2″ × 4″ openings. Color is gray. Overall capacity is 3,000 lbs.

Note: Do not exceed the capacity per storage level of your rack.

For Arm Lg.	For 42″ and 46″ Wide Racks: Arm Spacing, Ctr.-to-Ctr.			For 54″ and 58″ Wide Racks: Arm Spacing, Ctr.-to-Ctr.			For 67″ and 70″ Wide Racks: Arm Spacing, Ctr.-to-Ctr.			For 76″, 78″, and 82″ Wide Racks: Arm Spacing, Ctr.-to-Ctr.		
18″	36″	4881T32	$32.95	48″	4881T42	$40.17	60″	4881T52	$58.38	72″	4881T62	$69.24
24″	36″	4881T33	33.04	48″	4881T43	40.72	60″	4881T53	60.26	72″	4881T63	78.15
36″	36″	4881T35	36.91	48″	4881T45	45.11	60″	4881T55	72.82	72″	4881T65	85.42
48″	36″	4881T37	45.98	48″	4881T47	57.00	60″	4881T57	79.07	72″	4881T67	92.84

Cylinder Racks

Tabletop

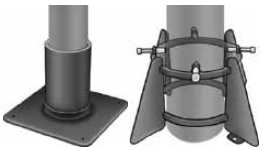

A B

Bench Mount



C D

Wall Mount

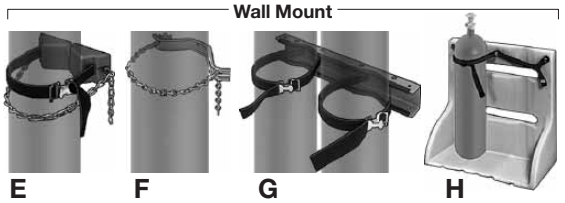

E F G H

Floor Mount

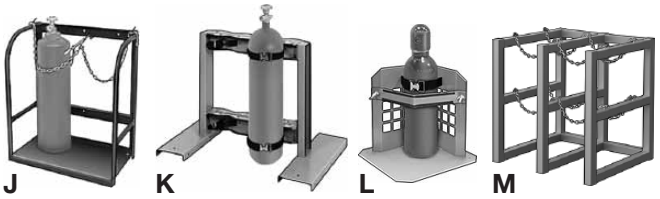

J K L M

With Forklift Entry

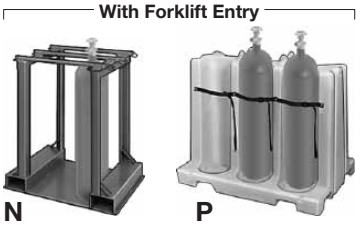

N P

All racks meet OSHA requirements. Styles B, E, L, and M also meet NFPA (National Fire Protection Agency) Code 1. Mounting fasteners not included, unless otherwise stated.

Caution: Chains and straps do not support cylinder weight. Cylinders should rest on the floor or in the base of the rack.

Tabletop Racks—Style B have nylon set screws to secure the cylinder inside the rack.

Bench-Mount Racks—Clamp to a bench top without fasteners. Style C are for use with 1/32″ to 2 1/2″ thick bench tops; Style D are for use with 1″ to 2 3/4″ thick bench tops.

Wall-Mount Racks—Style H must rest on the floor in addition to being secured to the wall.

Floor-Mount Racks—Style M include fasteners that meet IBC (International Building Code) 2006.

Racks with Forklift Entry—Racks should be empty when moved with a forklift.

	For Max. No. of Cylinders	For Cylinder Dia.	Overall Size Wd.	Ht.	Dp.	Mounting Hole Dia.	No.		
Tabletop									
Plastic Drop-In Base—Gray									
A	1	2 1/2″-3″	7 3/4″	6″	7 3/4″	1/4″	4	2283T23	$44.09
Steel with Set Screws—Powder-Coated Gray									
B	1	3 1/4″-4 1/4″	12 1/4″ Dia.	7″	—	1/4″	3	2283T66	50.91
B	1	5″-6 3/4″	15″ Dia.	7″	—	1/4″	4	2283T19	74.55
Bench Mount									
Steel with Steel Chain—Zinc Plated									
C	1	7″-9″	10 1/2″	4 1/2″	5″	—	—	2283T4	27.40
C	1	9″-16″	19 1/2″	4 1/2″	8″	—	—	2283T5	34.15
Steel with 1 1/2″ Wide Fabric Strap—Powder-Coated Gray									
D	1	4″-12″	8″	4″	4 1/4″	—	—	2283T12	47.34
D	2	4″-12″	23 3/4″	4″	4″	—	—	2283T64	86.09
Stainless Steel with 1 1/2″ Wide Fabric Strap									
D	1	4″-12″	8″	4″	4 1/4″	—	—	2283T62	85.20
D	2	4″-12″	23 3/4″	4″	4″	—	—	2283T65	138.40
Wall Mount									
Plastic with 1 1/2″ Wide Fabric Strap and Steel Chain—Red									
E	1	4″-12″	10 1/2″	4″	2 1/2″	5/16″	2	2283T11	24.49
E	2	4″-12″	16 1/2″	4 1/2″	2″	5/16″	4	2283T67	53.54
Steel with Steel Chain—Zinc Plated (unless noted)									
F	1	7″-9″	10 1/2″	1 1/4″	3″	3/8″	2	2283T1	14.67
F	1	9″-16″	19 1/2″	1 1/4″	6″	3/8″	2	2283T3	21.58
F	2	2 1/2″-9 1/4″/2 1/2″-13″ ★	25″	2 3/4″	6″	3/8″	3	2283T7 ■	70.68
Steel with 1 1/2″ Wide Fabric Strap—Powder-Coated Gray									
G	1	4″-12″	8″	4″	2″	13/32″	2	2283T22	26.12
G	2	4″-12″	23 3/4″	4″	2″	13/32″	4	2283T72	52.96
G	3	4″-12″	35 3/4″	4″	2″	13/32″	6	2283T17	72.60
G	4	4″-12″	47 3/4″	4 1/4″	2 1/4″	13/32″	8	2283T18	99.64
Stainless Steel with 1 1/2″ Wide Fabric Strap									
G	1	4″-12″	8″	4″	2″	13/32″	2	2283T61	57.70
G	2	4″-12″	23 3/4″	4″	2″	13/32″	4	2283T63	99.00
Plastic with 1″ Wide Fabric Strap—Yellow									
H	2	3″-12 3/8″	28″	30″	14″	1/2″	3	2283T95	146.55
Floor Mount									
Steel with Steel Chain—Painted Green									
J	2	2 1/2″-9 1/4″/2 1/2″-13″ ★	26″	29″	13″	3/8″	3	2283T9	131.13
Steel with 1 1/2″ Wide Fabric Strap—Powder-Coated Gray									
K	4	4″-12″	40″	30″	24″	13/32″	4	2283T14	350.62
K	6	4″-12″	52″	30″	24″	13/32″	4	2283T15	402.75
Steel with 1 1/2″ Wide Fabric Strap and Bar—Powder-Coated Gray									
L	1	4″-10″	16″	15″	16″	13/32″	3	2283T16	151.25
Steel with Steel Chain for Seismic Zone 4—Powder-Coated Black									
M	4	4″-12″	30″	30″	26″	17/32″	6	2283T41	731.82
M	8	4″-12″	58″	30″	26″	17/32″	10	2283T51	1,190.91
With Forklift Entry									
Steel with Bars—Painted Orange									
N	4	6″-9″	34″	41″	23″	—	—	8379T11	304.81
N	6	6″-9″	34″	41″	33″	—	—	8379T12	384.06
N	8	6″-9″	34″	41″	43″	—	—	8379T13	455.74
Plastic with 1″ Wide Fabric Strap—Yellow									
P	6	3″-10″	48″	41″	31″	—	—	2246T33	382.76

★ One side holds a cylinder up to 9 1/4″ dia.; the other side holds a cylinder up to 13″ dia. ■ Painted green.

Stackable Spill-Control Racks for Pails, Cans, and Drums

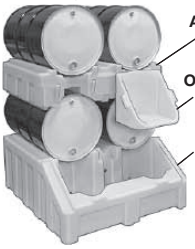

Racks for Drum Storage

Racks are yellow plastic and have forklift channels. Shipped assembled.

Base units meet EPA 40 CFR 264.175. *Base unit for pails and cans* has a reservoir to contain spills up to 8 gallons. *Base unit for drums* has a reservoir to contain spills up to 102 gallons, plus a deep well that holds two 5-gallon pails for dispensing.

Add-on units allow you to create up to two additional storage levels on a base unit.

Optional shelf attaches to the add-on unit for drums.

For Max. No. of Containers	Overall Size Wd.	Ht.	Dp.	O'all Cap., lbs.		
For 5-Gallon and 6½-Gallon Pails and Cans						
Base Unit	2	31″	15″	29″	200	**44895T8** $136.36
Add-On Unit	2	31″	18½″	19″	100	**44895T9** 98.21
For 30-Gallon and 55-Gallon Drums						
Base Unit	2	49″	23″	53″	3,000	**44895T11** 515.62
Add-On Unit	2	49″	13″	41″	2,400	**44895T12** 218.75
Optional Shelf	–	17″	18″	22″	60	**44895T13** 81.25

Stackable Drum Racks


Three-Drum Rack Stacked Two High

Store 55-gallon drums in racks that can be stacked up to four high. They are 14-ga. steel and have forklift channels. Color is orange. Shipped assembled.

For Max. No. of 55-gal. Containers	Overall Size Wd.	Ht.	Dp.	O'all Cap., lbs.		
2	45½″	12½″	30″	1,600	**2326T11**	$126.45
3	71½″	12½″	30″	2,400	**2326T12**	187.31

Heavy Duty Lockers with Lever Handles


Three Lockers Across


Lever Handle

Twice as thick as other lockers, these 12-ga. steel lockers are the most durable ones we offer. They have a steel handle that can accommodate a padlock (not included) with a max. ½″ dia. shackle. Each locker has a fixed shelf, garment rod, coat hook, and 6″ high legs. They have four ¾″ dia. mounting holes (fasteners not included). Color is gray. Shipped assembled.

Inside Size Wd.	Ht.	Dp.	O'all Size Wd.	Ht.	Dp.		
One Locker Across							
10″	66¾″	18″	14″	78″	18″	**9618T51**	$811.67
Three Lockers Across							
10″	66¾″	18″	38″	78″	18″	**9618T71**	1,346.67

Outdoor Spill-Control Drum Racks



Racks have a reservoir to contain leaks from damaged drums and removable grating for cleaning. They have forklift channels. Racks are yellow plastic with a black door and can be locked with a padlock that's at least 4″ long with a max. 7/16″ shackle diameter. Shipped unassembled.

For Max. No. of 55-gal. Containers	Overall Size Wd.	Ht.	Dp.	Capacity Spill, gal.	O'all, lbs.		
2	60″	73″	37½″	58	2,000	**5375T45**	$870.69
4	65″	69″	58″	66	6,000	**5375T46**	1,087.30

Pallet-Style Stackable Racks

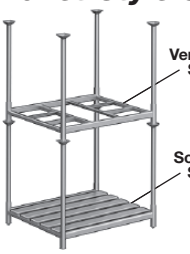

With forklift access on four sides, you can move these racks as easily as you move your pallets. Stack racks up to five units high, and easily reconfigure as your needs change. Racks should only be moved one unit at a time. Color is gray. Shipped unassembled.

2,000-lb. capacity racks have 13-ga. steel posts. *4,000-lb. capacity racks* have 14-ga. steel posts.

Overall Size Wd.	Ht.	Dp.	Usable Size Wd.	Dp.	With Vented Steel Surface		With Solid Wood Surface	
2,000-lb. Capacity								
48″	3 ft.	42″	45″	39″	**28775T51**	$218.30	**28775T61**	$243.11
48″	3 ft.	48″	45″	45″	**28775T53**	259.85	**28775T63**	286.92
48″	4 ft.	48″	45″	45″	**28775T83**	262.13	**28775T93**	289.28
60″	4 ft.	48″	57″	45″	**28775T84**	270.82	**28775T94**	295.36
4,000-lb. Capacity								
48″	3 ft.	42″	43″	37″	**28775T55**	251.13	**28775T65**	276.56
48″	3 ft.	48″	43″	43″	**28775T57**	267.96	**28775T67**	289.88
48″	4 ft.	48″	43″	43″	**28775T87**	285.04	**28775T97**	299.11
60″	4 ft.	48″	55″	43″	**28775T88**	293.53	**28775T98**	313.12

Lockers with Master Door



Individuals can access their locker compartments with their own key, while an authorized person can access all compartments at one time with a master key. Locker comes with locks, a master key, and two keys per compartment. It has 18-ga. gray powder-coated steel doors with ventilated 24-ga. steel walls. Shipped assembled.

Total No. of Lockers	Inside Size Wd.	Ht.	Dp.	Overall Size Wd.	Ht.	Dp.		
10	12″	7″	16″	16½″	77½″	16″	**5138T25**	$344.04

Stackable Plastic Lockers with Tab Handles


Flat Top with 35¼″ Inside Height


Slope Top with 11¼″ Inside Height


Tab Handle

Mix and match sizes and styles to create a customized locker system. Made of ¼″ thick gray plastic, these lockers are not only quieter than metal lockers, they also resist rust, dents, and scratches. They have a stainless steel tab handle that accommodates a padlock (not included) with a max. ⅜″ dia. shackle. Lockers are ventilated and have two drain holes. Shipped assembled. *Lockers with a 35¼″ inside height* have a coat hook.

Slope-top lockers prevent people from leaving items on top of lockers. They can be used alone or stacked on flat-top lockers.

Inside Size Wd.	Ht.	Dp.	Overall Size Wd.	Dp.	Flat Top O'all Ht.			Slope Top O'all Ht.		
11¼″	11¼″	14¼″	12″	15″	12″	**4420T1**	$69.98	23″	**4420T2**	$76.68
11¼″	35¼″	14¼″	12″	15″	36″	**4420T5**	128.98	47″	**4420T6**	135.33

Lockers with Pull-Up Handles




Pull-Up Handle

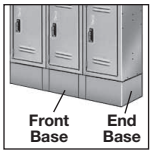

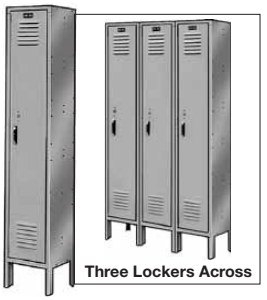

One Locker Down

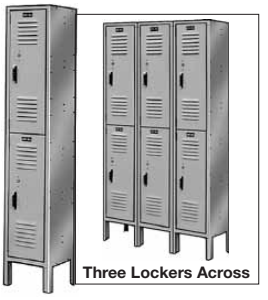

Two Lockers Down

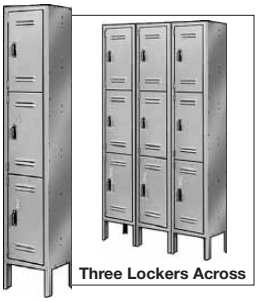

Three Lockers Down

Lockers are powder-coated steel and have 24-ga. steel walls, 16-ga. steel doors, 6″ high legs, and a chrome-plated zinc handle. They accommodate a padlock with a max. 5/16″ dia. shackle (not included). They also have a knockout for installing a locker lock or combination lock (see page 2935). Shipped unassembled.

One Locker Down—All have one fixed shelf. The *12″* and *15″ deep units* have four coat hooks per locker. The *18″* and *21″ deep units* have three coat hooks and one garment rod per locker.

Two and Three Lockers Down—Have four coat hooks per locker.

Slope Tops—Maintain an uncluttered appearance by discouraging people from leaving items on top of lockers. Made of steel.

Front and End Bases—Create a finished look while preventing dirt and debris from collecting underneath lockers. Made of steel.

Inside Size Wd.	Ht.	Dp.	*O'all Size* Ht.	Dp.	Choose a Color	*One Locker Across* O'all Wd.	Lockers		Slope Tops		*Three Lockers Across* O'all Wd.	Lockers		Slope Tops	
One Locker Down															
12″	60″	12″	66″	12″	Beige, Gray	12″	4862T1	$155.03	4862T901	$30.38	36″	4862T41	$404.27	4862T66	$42.86
12″	60″	15″	66″	15″	Beige, Gray	12″	4862T2	161.61	4862T902	28.85	36″	4862T42	421.45	4862T67	45.21
12″	60″	18″	66″	18″	Beige, Gray	12″	4862T3	169.88	4862T903	25.01	36″	4862T43	442.96	4862T68	47.63
12″	72″	15″	78″	15″	Beige, Gray	12″	4862T4	177.46	4862T902	28.85	36″	4862T44	462.97	4862T67	45.21
12″	72″	18″	78″	18″	Beige, Gray	12″	4862T5	184.44	4862T903	25.01	36″	4862T45	472.95	4862T68	47.63
15″	72″	18″	78″	18″	Beige, Gray	15″	4862T6	206.10	4862T905	29.66	45″	4862T46	537.55	4862T72	53.96
18″	72″	18″	78″	18″	Beige, Gray	18″	4862T7	214.37	4862T906	34.66	54″	4862T47	559.22	4862T73	59.50
18″	72″	21″	78″	21″	Beige, Gray	18″	4862T8	224.50	4862T907	70.77	54″	4862T48	585.59	4862T744	119.42
Two Lockers Down															
12″	30″	12″	66″	12″	Beige, Gray	12″	4862T9	186.83	4862T901	30.38	36″	4862T34	487.06	4862T66	42.86
12″	36″	12″	78″	12″	Beige, Gray	12″	4862T91	192.28	4862T901	30.38	36″	4862T35	502.75	4862T66	42.86
12″	36″	15″	78″	15″	Beige, Gray	12″	4862T92	202.62	4862T902	28.85	36″	4862T36	525.92	4862T67	45.21
12″	36″	18″	78″	18″	Beige, Gray	12″	4862T93	210.38	4862T903	25.01	36″	4862T37	535.14	4862T68	47.63
15″	36″	15″	78″	15″	Beige, Gray	15″	4862T94	224.28	4862T904	35.80	45″	4862T38	584.75	4862T69	49.38
Three Lockers Down															
12″	24″	15″	78″	15″	Beige, Gray	12″	4862T98	262.87	4862T902	28.85	36″	4862T99	685.37	4862T67	45.21

Front Bases

For Overall Wd.	Choose a Color		
12″	Beige, Gray	4862T95	$12.82
15″	Beige, Gray	4862T96	12.90
18″	Beige, Gray	4862T97	13.35
36″	Beige, Gray	4862T986	42.39
45″	Beige, Gray	4862T987	42.65
54″	Beige, Gray	4862T988	44.17

End Bases

For Overall Dp.	Choose a Color		
12″	Beige, Gray	4862T13	$11.99
15″	Beige, Gray	4862T14	12.69
18″	Beige, Gray	4862T15	12.96
21″	Beige, Gray	4862T16	13.41

Number Plate Sets

Plates are 2 3/4″ Wd. × 1″ Ht. Made of aluminum. Fasteners included.

Numbers			Numbers		
1-25	4862T711	$23.61	51-75	4862T921	$25.71
26-50	4862T712	23.61	76-100	4862T922	25.71

Locker Fasteners and Replacement Handle

Locker Fasteners—Use to connect a row of lockers. Includes twelve each 10-24 × 1/2″ Lg. bolts and 10-24 nuts. Made of zinc-plated steel.

Locker Fasteners (Pkg.)	5162T995	$4.84
Replacement Pull-Up Handle	4862T129	$12.65

Plastic Lockers with Pull-Up Handles

Prevent rust, corrosion, and dents with these plastic lockers. They're also quiet, resist scratches, and are easy to maintain. One locker and two locker down units have one coat hook per locker; the one locker down units also have a fixed shelf.

Lockers have 3/8″ thick walls, 1/2″ thick doors, stainless steel hinges, and plastic handles with a stainless steel hasp that accommodates a padlock (not included) with a max. 9/32″ dia. shackle. Shipped assembled.

Lockers have white walls. Add end panels (sold separately) to the exposed sides of your lockers to create a more finished look. Fasteners included.


Pull-Up Handle



One Locker Down


Two Lockers Down


Three Lockers Down

Inside Size Wd.	Ht.	Dp.	*Overall Size* Wd.	Ht.	Dp.	Choose a Color	One Locker Across		End Panels	
One Locker Down										
11″	58 1/4″	11″	12″	60″	12″	Beige, Gray	46135T11	$397.00	46135T91	$97.57
11″	70 1/4″	17″	12″	72″	18″	Beige, Gray	46135T61	486.94	46135T96	98.00
Two Lockers Down										
11″	28 3/4″	11″	12″	60″	12″	Beige, Gray	46135T12	404.00	46135T91	97.57
11″	34 3/4″	17″	12″	72″	18″	Beige, Gray	46135T62	517.00	46135T96	98.00
Three Lockers Down										
11″	23 1/4″	17″	12″	72″	18″	Beige, Gray	46135T63	543.00	46135T96	98.00

Lockers with Recessed and Tab Handles



One Locker Down with Recessed Handle

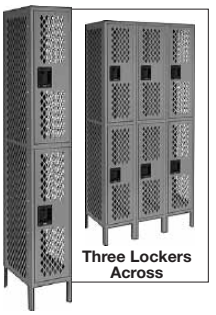

See-Through Two Lockers Down with Recessed Handles



Five Lockers Down with Tab Handles

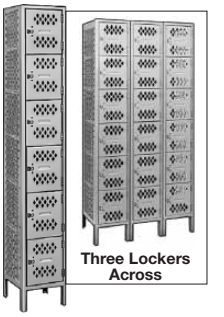

See-Through Six Lockers Down with Tab Handles


Sixteen Total Lockers with External Garment Rod


Recessed Handle


Tab Handle


Four Total Lockers with External Garment Rod

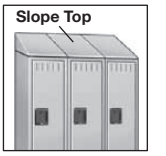

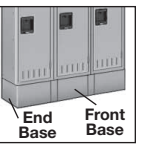

Lockers have handles that accommodate a padlock (not included) with a max. 3⁄8″ dia. shackle. They also have a knockout for installing a locker lock or combination lock (see page 2935). They are powder-coated steel. **To Order:** Please specify color: beige or gray.

Lockers—Have 6″ high legs. *Lockers with recessed handles* have ventilated 16-ga. steel doors, 24-ga. steel walls, and a black powder-coated steel handle. They have three coat hooks per locker. One locker down units have one fixed shelf per locker. *18″, 21″,* and *24″ deep units* also have one garment rod per locker. *Lockers with tab handles* have ventilated 18-ga. steel doors, 24-ga. steel walls, and a zinc-plated steel handle.

See-Through Lockers—Have 14-ga. steel doors, 18-ga. steel walls, 6″ high legs, and a black powder-coated steel handle. *One locker down units* have a garment rod, a fixed shelf, and two hooks per locker. *Two locker down units* have three hooks per locker.

Lockers with External Garment Rod—Have 18-ga. steel doors, 24-ga. steel body, and a zinc-plated steel handle.

Slope Tops—Maintain an uncluttered appearance by discouraging people from leaving items on top of lockers. Made of steel.

Front and End Bases—Create a finished look while preventing dirt and debris from collecting underneath lockers. Made of steel.

Lockers

Inside Size Wd.	Ht.	Dp.	*O'all Size* Ht.	Dp.	O'all Wd.		*One Locker Across* Unassembled Lockers	Assembled Lockers		Slope Tops	O'all Wd.		*Three Lockers Across* Unassembled Lockers	Assembled Lockers		Slope Tops
One Locker Down with Recessed Handle																
12″	60″	12″	66″	12″	12″	5162T114	$163.44	$210.93	5162T79	$26.09	36″	5162T129	$335.59	$426.07	5162T91	$41.74
12″	60″	15″	66″	15″	12″	5162T115	172.44	219.05	5162T99	27.27	36″	5162T134	380.39	486.26	5162T92	47.20
12″	60″	18″	66″	18″	12″	5162T116	174.43	222.02	5162T83	29.54	36″	5162T135	365.69	479.59	5162T93	50.63
12″	72″	12″	78″	12″	12″	4916T17	158.41	———	5162T79	26.09	36″	4916T18	366.66	———	5162T91	41.74
12″	72″	15″	78″	15″	12″	5162T117	163.93	228.76	5162T99	27.27	36″	5162T136	375.74	492.18	5162T92	47.20
12″	72″	18″	78″	18″	12″	5162T118	177.80	243.93	5162T83	29.54	36″	5162T137	388.47	504.32	5162T93	50.63
15″	72″	18″	78″	18″	15″	5162T119	184.79	258.37	5162T84	36.71	45″	5162T138	414.34	551.11	5162T94	56.77
18″	72″	21″	78″	21″	18″	5162T124	303.69	321.46	5162T85	44.47	54″	4916T86	639.65	———	5162T85	44.47
24″	72″	24″	78″	24″	24″	5162T19	———	358.21	5162T95	64.62	—	———	———	———	———	———
Two Lockers Down with Recessed Handles																
12″	36″	12″	78″	12″	12″	5162T125	175.25	242.14	5162T79	26.09	36″	5162T139	409.75	517.94	5162T91	41.74
12″	36″	15″	78″	15″	12″	5162T126	180.86	250.25	5162T99	27.27	36″	5162T144	433.51	536.45	5162T92	47.20
12″	36″	18″	78″	18″	12″	5162T127	188.16	258.54	5162T83	29.54	36″	5162T145	441.15	548.01	5162T93	50.63
15″	36″	18″	78″	18″	15″	5162T128	232.54	273.96	5162T84	36.71	45″	5162T146	575.75	611.26	5162T94	56.77
Five Lockers Down with Tab Handles																
12″	12″	12″	66″	12″	12″	5162T147	153.67	220.17	5162T79	26.09	36″	5162T155	360.17	406.20	5162T91	41.74
12″	12″	15″	66″	15″	12″	5162T148	161.15	231.83	5162T99	27.27	36″	5162T156	375.65	454.95	5162T92	47.20
15″	12″	18″	66″	18″	15″	5162T55	———	268.02	5162T84	36.71	45″	5162T58	———	572.14	5162T94	56.77
Six Lockers Down with Tab Handles																
12″	12″	12″	78″	12″	12″	5162T149	163.82	247.14	5162T79	26.09	36″	5162T157	407.65	531.30	5162T91	41.74
12″	12″	15″	78″	15″	12″	5162T154	171.28	258.37	5162T99	27.27	36″	5162T158	424.73	575.12	5162T92	47.20
12″	12″	18″	78″	18″	12″	5059T19	180.35	———	5162T83	29.54	36″	5059T21	440.20	———	5162T93	50.63
15″	12″	18″	78″	18″	15″	5162T46	———	300.18	5162T84	36.71	45″	5162T47	———	680.95	5162T94	56.77

See-Through Lockers

Inside Size Wd.	Ht.	Dp.	*O'all Size* Ht.	Dp.	*One Locker Across* O'all Wd.	Lockers		Slope Tops		*Three Lockers Across* O'all Wd.	Lockers		Slope Tops	
One Locker Down with Recessed Handle—Shipped Assembled														
12″	72″	18″	78″	18″	12″	4201T11	$309.54	5162T83	$29.54	36″	4201T21	$689.14	5162T93	$50.63
Two Lockers Down with Recessed Handles—Shipped Assembled														
12″	36″	18″	78″	18″	12″	4201T12	327.02	5162T83	29.54	36″	4201T22	750.89	5162T93	50.63
Six Lockers Down with Tab Handles—Shipped Assembled														
12″	12″	18″	78″	18″	12″	4201T13	378.19	5162T83	29.54	36″	4201T23	869.50	5162T93	50.63

Lockers with External Garment Rod

Inside Size Wd.	Ht.	Dp.	*Overall Size* Wd.	Ht.	Dp.	Lockers		Front Base		End Base	
Four Total Lockers with Tab Handles—Shipped Assembled											
12″	12″	18″	48″	17″	18″	5162T18	$251.97	———	—	———	—
Sixteen Total Lockers with Tab Handles—Shipped Unassembled											
12″	12″	18″	72″	78″	18″	4870T52	500.50	5162T69	$8.62	5162T75	$7.38

(Continued on following page)

Lockers with Recessed and Tab Handles

(Continued from previous page)

Front Bases—Choose a color: beige, gray

For O'all Wd.		
12″	5162T71	$4.31
15″	5162T72	4.79
18″	5162T65	5.75
24″	5162T96	9.98

For O'all Wd.		
36″	5162T66	$12.92
45″	5162T67	14.37
54″	5162T68	17.25

End Bases—Choose a color: beige, gray

For O'all Dp.		
12″	5162T73	$7.04
15″	5162T74	7.25
18″	5162T75	7.38

For O'all Dp.		
21″	5162T76	$14.36
24″	5162T97	15.05

Locker Fasteners

Use to connect a row of lockers. Includes twelve 10-24 × ½″ Lg. bolts and twelve 10-24 nuts. Made of zinc-plated steel.

Locker Fasteners (Pkg.)	5162T995	$4.84

Number Plate Sets

Made of 2¾″ Wd. × 1″ Ht. aluminum. Fasteners included.

Numbers		
1-25	4862T711	$23.61
26-50	4862T712	23.61

Numbers		
51-75	4862T921	$25.71
76-100	4862T922	25.71

Quiet-Close Lockers with Recessed Handles

Good for areas where noise is an issue, such as offices and corridors. Doors have a double-wall construction to make opening and closing them quieter than standard lockers. Lockers have 24-ga. steel walls, 20-ga. ventilated steel doors, and a black plastic handle that accommodates a padlock with a max. 7/16″ dia. shackle (not included). You can also install a key lock (sold separately). Shipped unassembled.

One locker down unit has a fixed shelf, a garment rod, and two coat hooks. **Two lockers down unit** has two coat hooks per locker.

Add-on units (furnished without one side panel) mount to either side of a complete unit to make up a row of lockers. Every fifth locker should be a complete unit to maintain stability. Fasteners included.

Four and sixteen total lockers have one garment rod.

To Order: Please specify color: beige or gray.



Recessed Handle



Four Total Lockers

Inside Size Wd.	Ht.	Dp.	Overall Size Wd.	Ht.	Dp.	Complete Units		Add-On Units	
One Locker Down									
12″	72″	18″	12″	72″	18″	4597T1	$155.65	4597T2	$138.38
Two Lockers Down									
12″	36″	18″	12″	72″	18″	4597T3	165.28	4597T4	146.31
Six Lockers Down									
12″	12″	18″	12″	72″	18″	4597T6	210.50	4597T9	193.77
Four Total Lockers									
11¼″	12″	18″	45″	17½″	18″	4597T8	194.50		
Sixteen Total Lockers									
11½″	12″	18″	69″	72″	18″	4597T7	615.47		
Key Lock with Two Keys								4597T46	9.15



Two Lockers Down Add-On Unit



Two Lockers Down Complete Unit



Sixteen Total Lockers

Plastic Sheds

In addition to resisting weather, rust, rot, and dents, these sheds snap together for easy assembly. Each unit has 1½″ thick walls and includes a floor. Color is beige. Shipped unassembled.

Styles A & B accommodate a padlock with a max. 5/16″ dia. shackle (not included). Style C accommodates a padlock with a max. ¼″ dia. shackle (not included).

Overall Size Wd.	Ht.	Dp.	Inside Size Wd.	Ht.	Dp.	Door Opening Size Wd.	Ht.		
A	56″	51″	32″	50″	46″	24″	47″	46″	8257T19	$270.40
B	56″	79″	30″	50″	76″	24″	48″	74″	8257T21	424.26
C	55″	76″	75″	52″	72″	72″	55″	72″	8257T23	719.26



A



B



C

Sheds

Add valuable storage space with these weather- and rust-resistant sheds. Shipped unassembled.

Style A have 33-ga. galvanized steel walls and 26-ga. steel frames. Doors can be installed at either 49″ wide end and accommodate padlocks with a max. 3/8″ dia. shackle (padlock not included). Color is white.

Style B has 32-ga. vinyl-coated steel walls and 25-ga. steel frames. They accommodate padlocks (not included) with a max. ¼″ dia. shackle. Color is beige.

Foundation Kits—Create the base for installing a floor. Kits accept plywood flooring (not included). They are galvanized steel.

Auger Anchor Kit—Includes four 30″ long augers, a 60-ft. cable, and four cable clamps. Made of steel.

Concrete Anchor Kit—Includes four steel corner gussets, 11 perimeter clips, 16 2″ long bolts, and a ¼″ masonry drill bit.

Shelving Kit—Includes a 30″ high shelving unit with three 34″ Wd. × 12″ Dp. galvanized steel shelves and fasteners. Each shelf has an 85-lb. capacity. Color is gray.

Overall Size Wd.	Ht.	Dp.	Inside Size Wd.	Ht.	Dp.	Door Opening Size Wd.	Ht.	Sheds		Foundation Kits	
A	49″	82″	80″	48″	81″	78″	39″	60″	6722T11	$339.20	6696T59	$107.62
A	49″	82″	116″	48″	81″	114″	39″	60″	6722T13	453.85	6696T59	107.62
B	96″	80″	72″	95″	78″	66″	43″	69″	6722T15	470.32	6696T57	57.16
Auger Anchor Kit											6696T31	52.46
Concrete Anchor Kit											6696T56	39.38
Shelving Kit											6722T22	42.40

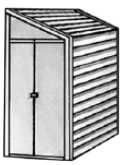

A



B

Wire Partitions

(A) Wall Panel
Consists of woven wire framed with vertical and horizontal channels and a center reinforcing bar. Includes a top cap rail and a floor shoe with two 3/8" dia. mounting holes.

(B) Wall Panel with Slide-Up Window
Woven wire is framed with vertical and horizontal channels and has a center reinforcing bar. Window is 22 1/2" Wd. x 17 3/4" Ht. Includes 22 1/4" Wd. x 12" Dp. shelf, top cap rail, and a floor shoe with two 3/8" dia. mounting holes.

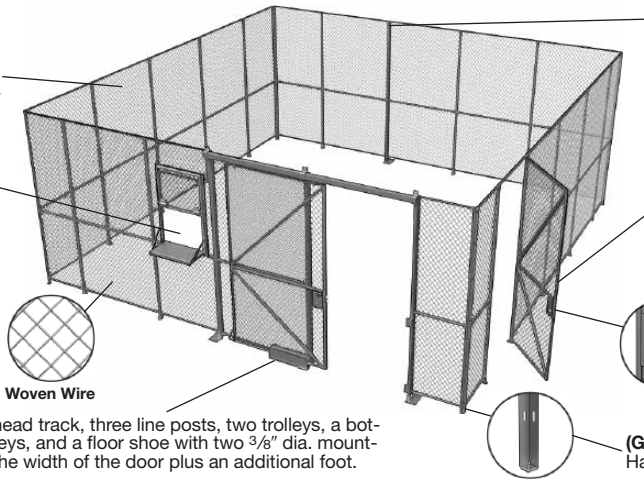

(J) Line Post
Add a line post every 10 feet or every other panel. Has a 5" x 9" baseplate with four 7/16" dia. mounting holes.

(E) Hinged Door
Includes a top cap rail, a lock with two keys, and a floor shoe with two 3/8" dia. mounting holes.

(D) Sliding Door
Includes one door panel, an overhead track, three line posts, two trolleys, a bottom door guide, a lock with two keys, and a floor shoe with two 3/8" dia. mounting holes. Track length is double the width of the door plus an additional foot.

(G) Right-Angle Corner Post
Has one 11/16" dia. mounting hole.



(C) Adjustable Filler Panel
Has an expanded metal panel and two vertical channels for framing. Panel can be cut down from 13" to 2 1/2" wide.

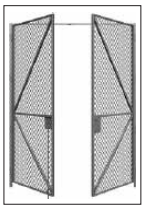

(F) Hinged Double Door
Choose from doors that swing out and doors that swing in. Includes a top cap rail, two line posts, a lock with two keys, and floor mounting fasteners.



(H) Adjustable Corner Post
Adjusts to make corners other than 90°. Has two 3/8" dia. mounting holes.



(K) Tee-Joint Kit
Allows you to attach wall panels perpendicularly, often in order to make smaller compartments within a larger wire enclosure.

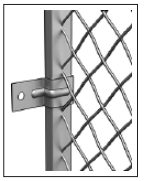

(L) Wall Mounting Kit
Has four clamps with 3/8" dia. mounting holes.

Create secure but visible tool and stock rooms. Panels and doors are woven wire, except adjustable filler panels are flattened mesh. All doors lock from the outside only. Door opening direction is determined when standing outside the partition. Components are gray powder-coated steel, except tee-joint kits and wall-mounting kits are galvanized steel. All components include fasteners for assembly. Components with mounting holes include mounting fasteners.

Note: There's a 3" clearance between the bottom of the wall panels and doors and the floor.

To Order—Please feel free to contact us or email us your drawing if you would like help determining what components you'll need.

1. Make a rough drawing of your partition, including overall width, depth, and height (7-, 8-, 10-, or 12-ft. high).
2. Indicate location, size, and style of door panels.
3. Determine the number and width of wall panels needed. For in-between widths, you may require adjustable filler panels.
4. Order a right-angle corner post for each 90° corner. For corners other than 90°, order an adjustable corner post.
5. Order a line post for every 10 feet or every other panel.
6. If your partition will make use of an existing wall, order one wall mounting kit for each panel you'll connect to a wall.

Wd.	Door Opening Wd.	7-ft. High		8-ft. High		10-ft. High		12-ft. High	
Panels									
(A) Wall Panels									
1 ft.	____	6716T21	$95.33	6716T71	$98.92	6716T171	$133.24	6716T11	$199.94
2 ft.	____	6716T22	97.73	6716T72	104.19	6716T172	135.11	6716T12	211.55
3 ft.	____	6716T23	115.17	6716T73	133.11	6716T173	152.54	6716T13	237.80
4 ft.	____	6716T24	120.40	6716T74	135.53	6716T174	158.28	6716T14	255.06
5 ft.	____	6716T25	124.91	6716T75	139.68	6716T175	162.63	6716T15	269.06
(B) Wall Panels with Slide-Up Window									
3 ft.	____	6716T26	381.70	6716T76	391.16	6716T176	406.17	6716T16	435.01
5 ft.	____	6716T711	409.11	6716T712	414.66	6716T714	423.63	6716T17	665.22
(C) Adjustable Filler Panels									
2 1/2"-13"	____	6716T321	87.09	6716T322	93.86	6716T324	117.09	6716T325	123.27
Doors									
(D) Sliding Doors—Choose door opening direction (facing from outside): slides left or slides right.									
3 ft.	3 ft.	6716T111	425.05	6716T117	437.21	6716T124	465.62	6716T131	522.57
4 ft.	4 ft.	6716T112	463.11	6716T118	472.60	6716T125	520.11	6716T132	776.13
5 ft.	5 ft.	6716T113	494.77	6716T119	523.18	6716T126	553.05	6716T133	851.52
6 ft.	6 ft.	6716T114	590.75	6716T121	607.94	6716T127	651.87	6716T134	1,071.29
8 ft.	8 ft.	6716T115	754.09	6716T122	793.73	6716T128	886.56	6716T135	1,142.64
10 ft.	10 ft.	6716T116	848.51	6716T123	925.41	6716T129	1,066.04	6716T136	1,312.26
(E) Hinged Doors—Choose door opening direction (facing from outside): swings left or swings right.									
3 ft.	2'10 1/2"	6716T51	266.26	6716T341	308.76	6716T53	339.46	6716T57	485.13
4 ft.	3'10 1/2"	6716T52	295.29	6716T342	347.00	6716T54	377.66	6716T58	560.58
(F) Hinged Double Doors—Choose door opening direction (facing from outside): swings in or swings out.									
6 ft.	5'10 1/2"	6716T35	881.83	6716T37	897.74	6716T39	1,159.08	6716T42	1,555.18
8 ft.	7'10 1/2"	6716T36	951.39	6716T38	992.86	6716T41	1,217.22	6716T43	1,654.09
Posts									
(G) Right-Angle Corner Posts	____	6719T245	23.22	6719T113	25.16	6719T247	28.06	6719T39	48.60
(H) Adjustable Corner Posts	____	6719T248	42.58	6719T241	47.42	6719T242	56.13	6719T44	98.31
(J) Line Posts	____	6719T243	42.58	6719T312	46.71	6719T262	61.93	6719T45	97.87
Kits									
(K) Tee-Joint Kit	____							6719T99	$25.09
(L) Wall Mounting Kit	____							6719T193	8.58

Complete Wire Partitions

These complete partitions include everything you'll need. We'll supply the wall and door panels with floor shoes, right-angle corner posts, a line post (when necessary), and wall mounting kits (when necessary; fasteners included). Made of gray powder-coated steel.

Use two-sided partitions to create a room in a corner, three-sided partitions to create a room along a wall, and four-sided partitions to create a freestanding room. All partitions include a lock with two keys and floor shoes with two 3/8" dia. mounting holes. Two- and three-sided partitions also include a wall mounting kit.

Partitions are 10-ga. woven wire with 1½" openings. Door opening direction is determined when standing outside the partition. The *8- and 12-ft. wide partitions* have a hinged door that swings left. Actual door opening size is 3'11" Wd. × 7'10½" Ht. The *10-, 20-, and 30-ft. wide partitions* have a sliding door that slides left. Sliding doors are supplied with an 11-ft. long track. Actual door opening height is 1" shorter than listed height; actual door opening width is 5 feet.

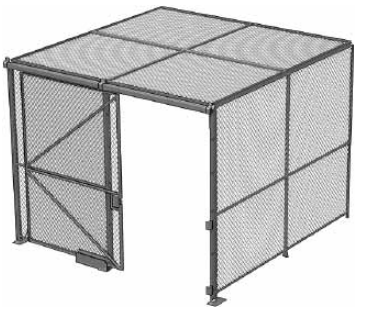

Overall Size Wd.	Dp.	Without Roof 2 Sided		Without Roof 3 Sided		Without Roof 4 Sided		With Roof 2 Sided		With Roof 3 Sided		With Roof 4 Sided	
8-ft. High													
8 ft.	8 ft.	6719T56	$747.49	6719T36	$952.91	6719T76	$1,220.10	6719T107	$1,073.29	6719T128	$1,233.41	6719T26	$1,541.32
8 ft.	12 ft.	6719T57	880.83	6719T37	1,272.01	6719T77	1,443.38	6719T108	1,317.40	6719T129	1,563.62	6719T27	1,785.60
10 ft.	10 ft.	6719T51	897.72	6719T31	1,214.50	6719T71	1,428.96	6719T109	1,304.78	6719T21	1,527.80	6719T28	1,669.75
12 ft.	12 ft.	6719T58	984.70	6719T38	1,375.87	6719T78	1,674.13	6719T118	1,710.83	6719T22	1,977.66	6719T29	2,304.01
20 ft.	10 ft.	6719T52	1,238.69	6719T32	1,520.67	6719T72	1,981.64	6719T119	1,843.23	6719T23	2,054.81	6719T46	2,347.45
20 ft.	15 ft.	6719T53	1,369.37	6719T33	1,684.22	6719T73	2,208.43	6719T126	2,259.21	6719T24	2,546.37	6719T47	2,972.87
30 ft.	20 ft.	6719T55	1,683.98	6719T35	2,236.10	6719T75	2,830.90	6719T127	3,763.43	6719T25	4,179.92	6719T48	4,785.68
10-ft. High													
10 ft.	10 ft.	6719T61	1,081.28	6719T41	1,399.65	6719T81	1,669.36	6719T49	1,424.06	6719T68	1,610.35	6719T88	1,910.07
20 ft.	10 ft.	6719T62	1,433.52	6719T42	1,687.98	6719T82	2,210.44	6719T66	2,021.30	6719T86	2,301.45	6719T89	2,706.19
20 ft.	15 ft.	6719T63	1,512.26	6719T43	1,978.06	6719T83	2,497.69	6719T67	2,459.66	6719T87	2,833.05	6719T69	3,387.38

Easy-to-Assemble Wire Partitions



(B) Hinged Door
Swings open to the left. Includes a lock with two keys.

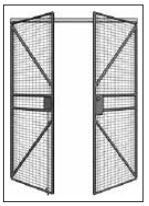

(C) Hinged Double Door
Includes a lock with two keys. Choose from doors that swing in and doors that swing out.

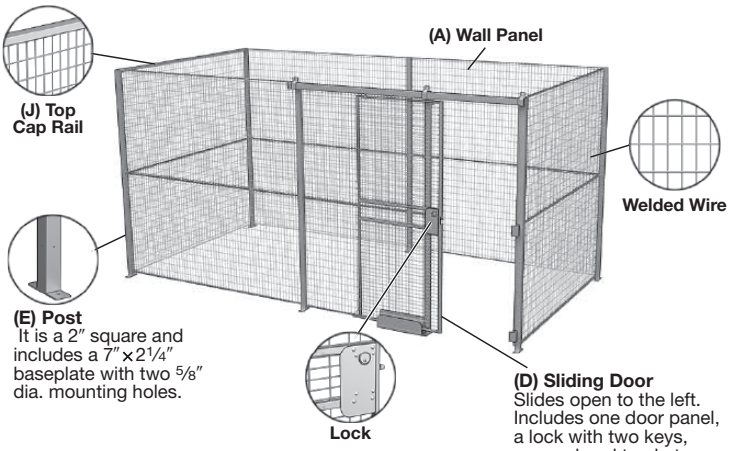

(E) Post
It is a 2" square and includes a 7" × 2¼" baseplate with two 5/8" dia. mounting holes.

(D) Sliding Door
Slides open to the left. Includes one door panel, a lock with two keys, an overhead track, two trolleys, and a bottom door guide.

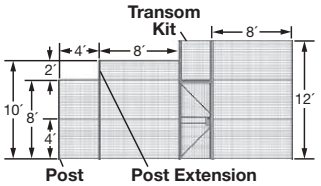

(H) Transom Kit
Can be used to fill the space above doors on 10- and 12-ft. high partitions. Kits for 10-ft. high partitions are 8' Wd. × 2' Ht. and kits for 12-ft. high partitions are 8' Wd. × 4' Ht.

Due to the welded-wire construction these panels require fewer nuts and bolts, and won't unravel if you need to cut around a pipe or other obstruction. Wall panels and doors are 8-ga. galvanized steel welded wire with 1½" Wd. × 3" Ht. openings. Components include fasteners for assembly and mounting.

Stack wall panels horizontally to form 8-, 10-, or 12-ft. high partitions. All have a modular design, which makes them easier to assemble and relocate than woven-wire models. There are 1" bends around the top and bottom of each wall panel for extra rigidity. Bolt wall panels together horizontally at the bends and then vertically to posts.

To Order—Please feel free to contact us or email us your drawing if you would like help determining what components you'll need.

1. Make a rough drawing of your partition, including overall width, depth, and height.
2. Indicate location, size, and style of door panels. Choose from hinged and sliding doors. Door opening directions are determined when standing outside the partition. If you want to fill the space above the doors on 10- and 12-ft. high partitions, order one transom kit per door. Transoms can be cut to match your door width.
3. Determine the number of wall panels you'll need. Wall panels can be stacked to reach desired partition height and cut if you need them to be less than 4- or 8-ft. wide between posts.
4. Use posts between each wall panel, on both sides of doors, and at corners. Order extensions to make 10- or 12-ft. high posts.
5. For added support and a more finished look, add top cap rails to panels. They can be cut to length.
6. If your partition will make use of an existing wall, order one wall mounting kit for each panel you'll connect to the wall.

Wd.	Ht.		
(A) Wall Panels			
4 ft.	2 ft.	40645T61	$39.30
4 ft.	4 ft.	40645T62	54.19
8 ft.	2 ft.	40645T12	43.82
8 ft.	4 ft.	40645T14	64.58
(B) Hinged Doors			
3 ft.	8 ft.	40645T33	254.40
4 ft.	8 ft.	40645T34	278.00
(C) Hinged Double Doors			
6 ft.	8 ft.	40645T15	757.12
8 ft.	8 ft.	40645T16	829.74

Wd.	Ht.		
(D) Sliding Doors			
4 ft.	8 ft.	40645T44	$350.93
5 ft.	8 ft.	40645T45	382.02
6 ft.	8 ft.	40645T46	408.23
8 ft.	8 ft.	40645T48	588.34
(E) Post			
2"	8 ft.	40645T28	50.39
(F) Post Extensions			
2"	2 ft.	40645T22	14.63
2"	4 ft.	40645T24	23.41

(G) Wall Mounting Kits		
For 4 ft. High Wall Panels	40645T81	$7.86
For 8 ft. High Wall Panels	40645T91	19.65
(H) Transom Kits		
For 10 ft. High Partitions	40645T51	85.27
For 12 ft. High Partitions	40645T52	153.80
(J) Top Cap Rails		
For 4 ft. Wide Wall Panels	40645T17	23.58
For 8 ft. Wide Wall Panels	40645T18	47.16

Roller-Curtain Partitions



Clear-View Curtain

Curtains resist fire, water, oil, mildew, and most acids. Each partition section includes a vinyl curtain, a 16-ga. galvanized steel roller track, two-wheel nylon rollers with 1″ steel swivel hooks, and steel track connectors. Install track by suspending it from overhead supports with chain or threaded rod (not included). All are CSFM (California State Fire Marshal) approved.

Clear-View Curtains—Typically used for separating work areas such as wash bays, these curtains have a clear center section that allows you to see in as well as out. They have a weighted bottom hem plus hook and loop fasteners along the vertical edge of the curtains to allow easy access. Curtains are 14 mils thick. The top of the curtain is white and the bottom is yellow.

Semi-Clear Curtains—Use curtains to separate warm and cool-air areas and to create a dust barrier, while still allowing light to pass through. They are 13 mils thick. Color is off white.

Privacy Curtains—Curtains block visibility so they are often used to section off locker rooms, in-plant offices, and other restricted areas. They are 14 mils thick. Color is yellow.

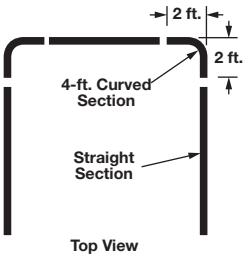

Top View

Ht.	Straight Sections 6-ft. Wide		Straight Sections 8-ft. Wide		Straight Sections 10-ft. Wide		Curved Sections 2-ft. Wide Each Side of Curve	
Clear View								
8 ft.	44095T32	$134.78	44095T33	$178.93	44095T34	$203.89	44095T1	$166.32
10 ft.	44095T35	150.65	44095T36	198.60	44095T37	235.11	44095T2	176.46
12 ft.	44095T11	153.25	44095T12	221.97	44095T13	260.61	44095T3	186.62
Semi Clear								
8 ft.	44095T24	134.78	44095T25	178.93	44095T26	203.89	44095T7	166.32
10 ft.	44095T27	150.65	44095T28	198.60	44095T29	235.11	44095T8	176.46
12 ft.	44095T41	153.25	44095T42	221.97	44095T43	260.61	44095T9	186.62
Privacy								
8 ft.	44095T14	134.78	44095T15	178.93	44095T16	203.89	44095T4	166.32
10 ft.	44095T17	150.65	44095T18	198.60	44095T19	235.11	44095T5	176.46
12 ft.	44095T21	153.25	44095T22	221.97	44095T23	260.61	44095T6	186.62

In-Plant Office Buildings



With One Window

Easy to assemble and relocate when necessary, these office buildings are just what you need to create private work space in your warehouse or manufacturing facility.

Each building has 3″ thick, R-11 insulated wall panels; 24-ga. steel floor track with screw-on vinyl base; aluminum posts with wiring access on one side; aluminum top caps and corner posts; 22-ga. corrugated steel roof; and a 24″×48″ noncombustible lay-in acoustical ceiling system. You'll also get a 36″ Wd.×84″ Ht.×1¾″ Thick. door that's made of 20-ga. steel and hung on an 18-ga. steel frame. The door has a 24″ Wd.×24″ Ht.×¼″ Thick. tempered glass window and comes furnished with a keyed lock and two keys (keyed differently). All doors swing out and are hinged on the left. Buildings include up to three (see below) factory-installed tempered glass windows that measure 48″ Wd.×36″ Ht.×¼″ Thick., which can be installed in any wall panel location. They also come with an electrical package that includes 24″×48″ recessed fluorescent light fixtures with acrylic lens cover (four 48″ long T8 bulbs required and not included; see page 725), 110 VAC outlet, wall switch, outlet boxes, conduit (wiring not included), and a circuit breaker panel (with breakers) that's rated at 100 amps with a 70-amp main. Buildings come with four walls but do not come with a floor. Wall panels meet ASTM E-84, Class A. Color is beige.

Optional Air Conditioner Cut-Out Kit—Contains one 12-ft. length of 3″ thick wall channel that you cut for an air conditioner opening.

Also Available: Office buildings in different sizes or with additional factory-installed glass windows. Please ask for 6704T777 and specify overall size of building, number of sides, and submit a drawing with the number and location of the additional windows, outlets, and light fixtures.

Overall Size, Wd.×Dp.×Ht.	No. of Windows	No. of Outlets	No. of Light Fixtures		
8′× 8′×8′	1	1	2	6704T87	$4,260.51
8′× 8′×8′	3	2	2	6704T65	4,561.84
8′×10′×8′	1	1	2	6704T88	4,738.09
8′×10′×8′	3	2	2	6704T69	5,090.80
10′×12′×8′	2	2	3	6704T89	5,708.96
10′×12′×8′	3	3	3	6704T93	5,672.61
12′×16′×8′	3	3	4	6704T94	6,695.29
12′×20′×8′	3	3	4	6704T95	7,427.13
Optional Air Conditioner Cut-Out Kit				6704T92	49.74

Clean Rooms



Create a contaminant-free environment for your critical work with these soft-wall clean rooms. All are rated Class 100,000 clean rooms because they come furnished with one motorized HEPA filter that is 99.99% efficient for particles as small as 0.3 microns—great for food and semiconductor applications. The filter operates on 120V AC, 60 Hz, 2.8 amps and is UL listed. To create a Class 10,000, Class 1,000, or Class 100 clean room, simply remove the ceiling panel(s) and add additional motorized HEPA filter modules (sold separately). *Note:* Use the chart to determine how many filters you will need to reach your desired rating.

Each clean room has an 11-ga. tubular steel, white frame; four clear vinyl walls that are 40-mil thick and overlap each other by 6″ for easy entry and exit; and two 120V AC recessed LED light fixtures. *Note:* There's a 6″ clearance between the bottom of the vinyl walls and the floor.

Optional strip door makes it easier for people with carts to enter and exit the clean room. Door has 80-mil thick clear vinyl strips and measures 48″ Wd.×90″ Ht.

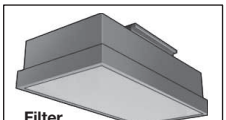

Filter Module

Number of Additional Motorized HEPA Filter Modules Required for Higher Clean Room Rating			
Part No.	**Class 10,000**	**Class 1,000**	**Class 100**
4160T31	1	2	3
4160T32	1	3	4
4160T33	2	4	5

Overall Size, Wd.×Dp.×Ht.		
Clean Rooms		
99″×99″×112″	4160T31	$4,670.40
99″×123″×112″	4160T32	5,070.00
99″×147″×112″	4160T33	5,310.00
Additional Motorized HEPA Filter Module		
23⅝″×47⅝″×13¼″	4160T51	857.14
Optional Strip Door	4160T81	424.85

Standard Workbenches



Fixed-Height Workbench

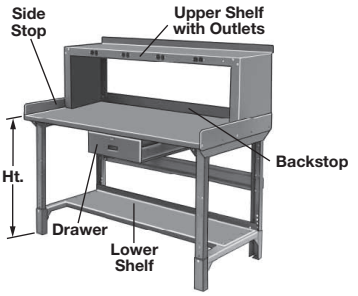

Adjustable-Height Workbench with Accessories

You select the workbench, and we'll supply the steel legs and steel support brace—then you add all the accessories you want. All legs have a foot plate with a 3/8" dia. mounting hole for floor mounting (fasteners not included) and knockouts in the front and back to accept duplex electrical outlets. Shipped unassembled.

Workbenches

Fixed-height workbenches are made of 14-ga. steel and have flared legs. Metal parts are gray.

Adjustable-height workbenches are made of 14-ga. steel and have legs that adjust in 1 1/2" increments. Height adjusts using rivets that tap into keyhole slots. Metal parts are gray.

Steel Top—Made of 12-ga. steel. Color is gray.

Composite Wood Over Steel Top—Composite wood is bonded to 12-ga. steel and is splinter-, warp-, and moisture resistant.

Composite Wood Top—Nonconductive as well as impact and chemical resistant. Tops can be sanded and refinished.

Maple Top—Nonconductive and impact resistant, all have a mineral-oil finish and can be sanded and refinished. Meets NSF/ANSI standards.

Plastic Laminate Top—Extra-smooth surface won't trap dirt or oil, making these tops easy to clean. They are nonconductive. Color is gray.

Static-Dissipative Plastic Laminate Top—All have a surface resistivity of 10^6 to 10^9 ohms/sq., are nonconductive, and are easy to clean. Come with grounding snaps. Color is beige.

			60" Wd. x 30" Dp.			72" Wd. x 30" Dp.			72" Wd. x 36" Dp.		
Top Material	Ht.	Top Thick.	Top Cap., lbs.			Top Cap., lbs.			Top Cap., lbs.		
Fixed-Height Workbenches											
Steel	33 1/2"	1 1/2"	2,500	9054T12	$201.65	3,000	9054T14	$222.94	3,600	9054T16	$250.55
Composite Wood Over Steel	33 3/4"	1 5/8"	2,500	9054T22	246.19	3,000	9054T24	257.56	3,600	9054T26	301.53
Maple	34"	1 3/4"	1,875	9054T82	295.58	2,250	9054T84	339.36	2,700	9054T86	388.29
Plastic Laminate	34"	1 5/8"	1,250	9054T702	216.13	1,500	9054T704	232.68	1,800	9054T706	262.33
Static-Dissipative Plastic Laminate	33 1/2"	1 1/4"	950	9054T608	256.29	1,150	9054T609	286.21	1,375	9054T701	331.85
Adjustable-Height Workbenches											
Steel	29 1/2"-37"	1 1/2"	2,500	4773T52	199.97	3,000	4773T54	219.90	3,600	4773T56	247.72
Composite Wood Over Steel	29 1/2"-37"	1 5/8"	2,500	4773T32	229.79	3,000	4773T34	255.59	3,600	4773T36	285.51
Composite Wood	29 3/4"-37 1/4"	1 3/4"	1,250	4773T402	206.59	1,500	4773T404	229.13	1,800	4773T406	276.36
Maple	29 3/4"-37 1/4"	1 3/4"	1,875	4773T82	278.05	2,250	4773T84	317.52	2,700	4773T86	353.32
Plastic Laminate	29 1/2"-37"	1 5/8"	1,250	4773T702	213.32	1,500	4773T704	243.38	1,800	4773T706	264.70
Static-Dissipative Plastic Laminate	29 1/4"-36 3/4"	1 1/4"	950	4773T901	259.22	1,150	4773T902	288.24	1,375	4773T903	333.33

Workbench Accessories

All accessories are 20- to 16-ga. steel.

Drawers—Accommodate a padlock (padlock not included; maximum shackle dia. is 3/8"). Drawer size is 15" Wd. x 18" Dp. x 8 1/4" Ht.

Backstop and Side Stops—Extend 3" above the workbench.

Lower Shelves—Each shelf is 14" deep.

Upper Shelves—Have a 1 1/2" backstop and are 12" Ht. x 10 1/2" Dp.

Upper Shelves with Outlets—Have a circuit breaker, power switch, 8-ft. power cord with three-prong plug, and four duplex outlets. They are 18" Ht. x 15" Dp.

	Cap., lbs.	For Workbench Size: 60" Wd. x 30" Dp.		For Workbench Size: 72" Wd. x 30" Dp.		For Workbench Size: 72" Wd. x 36" Dp.	
Drawers	70	9054T18	$63.40	9054T18	$63.40	9054T18	$63.40
Backstop and Side Stops	—	9054T52	36.68	9054T54	44.76	9054T56	48.22
Lower Shelves	1,000	9054T42	49.62	9054T44	57.78	9054T44	57.78
Upper Shelves	750	9054T62	64.34	9054T64	81.17	9054T64	81.17
Upper Shelves with Outlets	750	9054T92	256.30	9054T94	285.21	9054T94	285.21

Organizing Cases

An accordion-style organizer lets you access many tools at once, while removable full-length and half-width dividers allow customization. They have a name tag holder and a hasp for a padlock (not included; maximum shackle dia. is 9/32"). Made of plastic. Color is yellow.

Overall Size Lg.	Wd.	Ht.		
Standard				
19 3/4"	15 7/8"	8"	6564A11	$105.84
Mobile				
21 1/4"	15 7/8"	9 3/8"	6564A12	183.12



Standard



Mobile

Capacities listed are based on an evenly distributed load.

Adjustable-Height Workstations

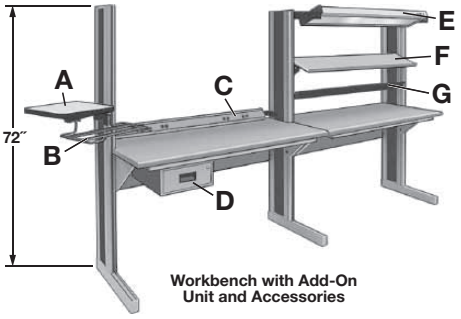

Workbench with Add-On Unit and Accessories

Create personalized work areas by adjusting the height and adding accessories. These workstations are often used for small-parts assembly. Top is gray. Uprights are blue and gray. Shipped unassembled.

Workstations

Workstations and add-on units have 20-ga. steel uprights that are 2″ Wd. × 12″ Dp. × 72″ Ht. with channels for mounting tops and accessories. Tops are 1¼″ thick plastic laminate. The static-dissipative top protects electronic components and has a surface resistivity of 10^6 to 10^9 ohms/sq.

Workstations consist of two uprights and a top.

Add-on units consist of one upright and a top.

Top	Wd.	Dp.	Ht.	Top Cap., lbs.	Workstations		Add-On Units	
Standard	60″	30″	21″-72″	500	47495T22	$999.00	47495T41	$668.00
Static Dissipative	60″	30″	21″-72″	500	47495T46	1,151.57	47495T47	831.42

Accessories

All accessories are 20- to 14-ga. steel, unless otherwise indicated.

(A) Computer monitor holder rotates 360° on a swing arm and has a 1¼″ thick plastic-laminate top.

(B) Computer keyboard holder is made of ⅜″ dia. wire and attaches to the bottom of the computer monitor holder (A).

(C) Outlet strip has three duplex outlets, an on/off switch, 15-amp circuit breaker, and 8-ft. power cord with three-prong plug. UL listed.

(D) Drawer comes with a lock and two keys.

(E) Light fixture adjusts in any direction and uses two 48″ fluorescent bulbs with medium bi-pin base (not included; see page 725). It comes with an on/off switch and 8-ft. power cord with three-prong plug. UL listed.

(F) Tiltable shelf tilts forward and backward 45°. It has a ⅝″ lip in the front and a plastic-laminate top.

(G) Bin-box rail is fully adjustable and accepts hanging bin boxes (see 4666T on page 1640 for bin boxes).

		Wd.	Dp.	Ht.	Cap., lbs.	Color		
A	Computer Monitor Holder	15″	15″	—	75	Gray	47495T44	$188.00
B	Computer Keyboard Holder	18″	9½″	—	5	Black	47495T45	45.00
C	Outlet Strip	52″	3″	3½″	—	Gray	47495T23	184.00
D	Drawer	14½″	20″	6½″	100	Gray	47495T31	180.00
E	Light Fixture	56″	11″	3″	—	Ivory	47495T25	298.00
F	Tiltable Shelf	57½″	12″	—	75	Gray	47495T24	120.00
G	Bin-Box Rail	57½″	—	2½″	—	Black	47495T27	66.00

Adjustable-Height Composite-Wood-Top and Laminate-Top Tables



With Two Optional Drawers

All components are made of 22-ga. steel. All have legs (with knockouts that accept duplex electrical outlets) that adjust in 1″ increments (leg bolts must be removed for positioning). They also have a 12″ deep shelf with a capacity of 150 lbs. Color is gray. Shipped unassembled.

Composite-wood top is brown. **Plastic-laminate top** is gray.

Optional drawer has a capacity of 35 lbs. Overall size is 12″ Wd. × 18″ Dp. × 4″ Ht. Each table can hold up to two drawers. Mounting hardware included.

			48″ Wd. × 24″ Dp.			60″ Wd. × 24″ Dp.		
Top Material	Top Thick.	Ht.	Top Cap., lbs.			Top Cap., lbs.		
Composite Wood	1″	29″-34″	1,600	9055T11	$105.08	2,000	9055T12	$129.39
Plastic Laminate	1¼″	29¼″-34¼″	1,200	9055T21	176.61	1,500	9055T22	212.83
Optional Drawer							9055T17	25.68

Heavy Duty Adjustable-Height Steel Folding Tables



Able to support up to 3,000 lbs., these tables offer the strength of a workbench with the convenience of a folding table. To fold the legs, remove the wing nut that secures the leg braces. All tables are made of 14-ga. steel with a 12-ga. steel top. Legs adjust in 2″ increments (leg bolts must be removed for positioning). Color is gray. Shipped assembled.

Wd.	Dp.	Ht.	Top Cap., lbs.		
72″	30″	28″-42″	3,000	1759T41	$440.80
72″	36″	28″-42″	3,000	1759T42	459.80
84″	36″	28″-42″	3,000	1759T43	494.00

Workbenches with Backstop and Side Stops

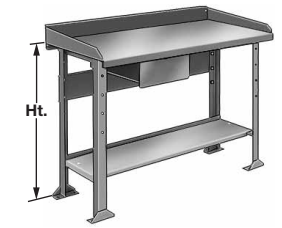

To keep your work from falling off the top, each workbench has a 3¾″ high backstop and side stops. Workbenches are 18-ga. steel with a 12-ga. steel top. They have four angle iron legs, except bench with 10,000-lb. capacity top, which has six. Each leg has a foot plate with two ½″ dia. mounting holes (fasteners not included). Workbenches have a 500-lb. capacity steel fixed lower shelf and a 100-lb. capacity steel drawer that accommodates a padlock (padlock not included; maximum shackle dia. is ⅜″). Drawer is 14″ Wd. × 22″ Dp. × 6″ Ht., except benches that are 24″ deep have a 12″ Wd. × 20″ Dp. × 5″ Ht. drawer. Color is green. Shipped unassembled.

Wd.	Dp.	Ht.	Top Cap., lbs.		
36″	24″	35″	5,000	4754T16	$458.57
48″	24″	35″	5,000	4754T23	486.04
48″	29″	35″	5,000	4754T36	522.32

Wd.	Dp.	Ht.	Top Cap., lbs.		
60″	29″	35″	8,000	4754T43	$542.73
72″	29″	35″	8,000	4754T63	611.25
96″	36″	35″	10,000	4754T83	929.28

Capacities listed are based on an evenly distributed load.

Heavy Duty Tables

All are fully welded and ready to use. Frames are gray.

Fixed-height tables are made of 12-ga. steel. All have foot plates with one 9/16″ dia. hole for floor mounting (fasteners not included). *Steel tops* are gray 12-ga. steel and are reinforced with angle iron. *Composite-wood-over-steel tops* reduce vibration and deaden sound from tools. Top is 1/4″ thick. Color is brown. *Tables with shelf* have a 500-lb. capacity shelf.

Mobile fixed-height tables are steel and come with four swivel casters with 5″ dia. polyurethane wheels and brakes. Made of 14-ga. steel with a 12-ga. steel top. *Tables with shelf* have a 1,000-lb. capacity shelf.

Adjustable-height tables have a 12-ga. steel top that's reinforced with angle iron. Legs adjust in 2″ increments (leg bolts must be removed for positioning). *Tables with shelf* have a 500-lb. capacity shelf.



Fixed Height with Steel Top and Shelf



Mobile Fixed Height with Steel Top without Shelf



Mobile Fixed Height with Steel Top and Shelf

Overall Size Wd.	Dp.	Top Cap., lbs.	Without Shelf		With Shelf	
Fixed-Height Tables with Steel Top—36″ High						
48″	24″	5,000	6682T41	$227.32	6682T81	$237.50
48″	30″	5,000	6682T42	245.11	6682T82	262.95
60″	30″	4,500	6682T46	264.64	6682T86	286.70
60″	36″	4,500	6682T43	291.79	6682T83	330.80
72″	36″	4,000	6682T44	313.33	6682T84	366.43
84″	36″	3,000	6682T45	371.52	6682T85	415.62
Fixed-Height Tables with Composite-Wood-Over-Steel Top—36″ High						
48″	24″	5,000	6682T61	263.20	6682T91	281.36
48″	30″	5,000	6682T62	283.16	6682T92	304.95
60″	36″	4,500	6682T63	346.70	6682T93	386.62
72″	36″	4,000	6682T64	381.20	6682T94	435.64
84″	36″	3,000	6682T65	444.71	6682T95	488.29
Mobile Fixed-Height Tables with Steel Top—34″ High						
36″	24″	1,000	9051T31	208.66	9051T21★	215.45
48″	30″	1,000	9051T32	256.16	9051T22★	276.52
60″	30″	1,000	9051T33	283.30	9051T23★	317.23
72″	30″	1,000	9051T41	317.23	9051T42★	356.25
Adjustable-Height Tables with Steel Top—27″-41″ High						
48″	24″	5,000	4528T11	283.27	4528T16	293.64
48″	30″	5,000	4528T12	302.27	4528T17	319.55
60″	36″	4,500	4528T13	348.91	4528T18	388.64
72″	36″	4,000	4528T14	376.55	4528T19	424.91
84″	36″	3,000	4528T15	430.09	4528T21	475.00

★ Overall table capacity is 1,000 lbs.

Extra Heavy Duty Tables with Shelf



Mobile with Shelf and Drawer



Adjustable Height with Shelf

Welded for strength and stability, these tables have 7-ga. steel tops that offer our highest top capacities. Made of 12- to 7-ga. steel with angle-iron legs. All have a 500-lb. capacity shelf and come fully assembled. Color is gray.

Tables are available with a drawer that is 30 1/2″ Wd. × 21″ Dp. × 7 1/2″ Ht. The drawer holds 250 lbs. and can accommodate a padlock (padlock not included; maximum shackle dia. is 1/2″).

Fixed-height tables have foot plates with one 5/8″ dia. mounting hole for mounting to the floor (fasteners not included).

Mobile fixed-height tables have two rigid and two swivel casters with 6″ dia. phenolic wheels and a floor lock.

Adjustable-height tables have legs that adjust in 1″ increments (leg bolts must be removed for positioning).

Overall Size Wd.	Dp.	Top Cap., lbs.	With Shelf		With Shelf and Drawer	
Fixed-Height Tables—34″ High						
36″	30″	10,000	44655T31	$411.67	44655T25	$596.28
48″	30″	10,000	44655T12	477.11	44655T26	658.94
60″	36″	10,000	44655T13	532.00	44655T27	694.23
72″	36″	10,000	44655T14	559.04	44655T28	741.73
84″	42″	10,000	44655T21	762.71	44655T29	944.52
Mobile Fixed-Height Tables—34″ High						
36″	30″	3,600■	5206T41	622.78	5206T55	833.89
48″	30″	3,600■	5206T42	688.22	5206T56	899.33
60″	36″	3,600■	5206T43	741.00	5206T57	931.00
72″	36″	3,600■	5206T44	760.00	5206T58	942.69
84″	42″	3,600■	5206T51	971.92	5206T59	1,154.62
Adjustable-Height Tables—28″-38″ High						
36″	30″	10,000	3877T11	475.00	3877T61	657.69
48″	30″	10,000	3877T12	531.63	3877T62	714.33
60″	36″	10,000	3877T13	595.91	3877T63	754.91
72″	36″	10,000	3877T14	640.82	3877T64	799.02
84″	42″	10,000	3877T15	817.68	3877T65	987.32

■ Overall table capacity.

Stainless-Steel-Top Tables



Stationary without Backstop



Mobile with Backstop

An economical alternative to all-stainless steel tables, these tables have a 16-ga. stainless steel top with 18-ga. galvanized steel legs and shelves. They have four legs, except 96″ wide models have six. The shelf adjusts in 2″ increments and has a capacity of 195 lbs., except the 96″ wide models have a capacity of 300 lbs. Shipped unassembled.

Stationary tables have leveling feet to compensate for uneven floors.

Mobile tables come with four swivel casters (two with brakes), except 96″ wide models have six swivel casters (two with brakes). All include 4″ dia. rubber wheels.

Tables are available with and without a 2 3/4″ high backstop.

Overall Size Wd.	Dp.	Ht.	Top Cap., lbs.	Without Backstop		With Backstop	
Stationary							
48″	30″	35″	650	4876T1	$380.65	4876T5	$429.29
60″	30″	35″	825	4876T2	425.83	4876T6	480.62
72″	30″	35″	975	4876T3	470.40	4876T7	531.11
96″	30″	35″	1,300	4876T4	615.08	4876T8	642.08
Mobile							
48″	30″	35″	400	6232T21	503.63	6232T25	504.09
60″	30″	35″	400	6232T22	553.98	6232T26	553.05
72″	30″	35″	400	6232T23	570.82	6232T27	571.93
96″	30″	35″	600	6232T24	764.81	6232T28	764.81

Capacities listed are based on an evenly distributed load.

Stainless Steel Tables



Stationary with Shelf


Stationary with 5″ High Backstop without Shelf



Mobile without Shelf


Mobile with 5″ High Backstop, Shelf, and Drawer

Offering good corrosion resistance, these tables are often used in corrosive environments and food service applications. Frames are 18-ga. stainless steel with a 16-ga. stainless steel top. They have four legs, except the 96″ wide models have six.

Assembled Tables—Come welded and ready to use.

Unassembled Tables—The connectors for bracing are made of die-cast aluminum.

Stationary tables have leveling feet to compensate for uneven floors.

Mobile tables come with four swivel casters with brakes with 5″ dia. wheels.

Adjustable-height tables have legs that adjust in 3″ increments (leg bolts must be removed for positioning) and leveling feet to compensate for uneven floors.

Overall Size Wd.	Dp.	Top Cap., lbs.	Without Shelf		With Shelf: Shelf Cap., lbs.		
Assembled Fixed-Height Tables—34″ High							
Stationary							
48″	30″	400	**4380T11**	$688.00	305	**4380T15**	$763.33
60″	30″	450	**4380T12**	731.81	345	**4380T16**	817.32
72″	30″	420	**4380T13**	815.29	320	**4380T17**	856.00
96″	30″	800	**4380T14**	996.56	615	**4380T18**	1,096.77
Stationary with 5″ High Backstop							
48″	30″	400	**4380T21**	689.24	305	**4380T35**★	934.09
60″	30″	450	**4380T22**	756.96	345	**4380T36**★	1,000.81
72″	30″	420	**4380T23**	877.90	320	**4380T37**★	1,055.18
96″	30″	800	**4380T24**	1,059.23	615	**4380T38**★	1,147.63
Mobile							
48″	30″	400	**3684T21**	799.17	305	**3684T25**	872.92
60″	30″	450	**3684T22**	841.67	345	**3684T26**	931.25
72″	30″	420	**3684T23**	929.17	320	**3684T27**	977.08
Mobile with 5″ High Backstop							
48″	30″	400	**3684T31**	808.33	305	**3684T45**★	1,047.92
60″	30″	450	**3684T32**	847.42	345	**3684T46**★	1,120.83
72″	30″	420	**3684T33**	962.50	320	**3684T47**★	1,172.92

★ Come with a 20″ Wd.×20″ Dp.×5″ Ht. 25-lb. capacity drawer.

Overall Size Wd.	Dp.	Top Cap., lbs.	Without Shelf		With Shelf: Shelf Cap., lbs.		
Assembled Adjustable-Height Tables—22″-34″ High							
Stationary							
48″	30″	650	**6015T11**	$665.83	195	**6015T21**	$732.51
60″	30″	825	**6015T12**	748.36	195	**6015T22**	823.32
72″	30″	975	**6015T13**	793.00	195	**6015T23**	852.86
96″	30″	1,300	**6015T14**	1,018.08	390	**6015T24**	1,071.68
Unassembled Fixed-Height Tables—36″ High							
Stationary							
48″	30″	550	**6223T61**	427.50	180	**6223T65**	570.60
60″	30″	650	**6223T62**	462.98	180	**6223T66**	609.57
72″	30″	675	**6223T63**	522.81	180	**6223T67**	679.04
96″	30″	1,300	**6223T64**	705.37	300	**6223T68**	882.66
Mobile							
48″	30″	550	**4122T71**	508.75	180	**4122T75**	642.75
60″	30″	650	**4122T72**	545.29	180	**4122T76**	698.96
72″	30″	675	**4122T73**	602.38	180	**4122T77**	785.92

Stainless Steel Tables with Wire Shelves

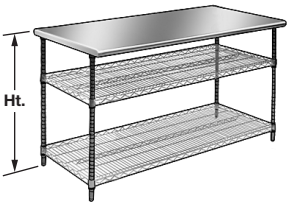

Table with Two Lower Shelves

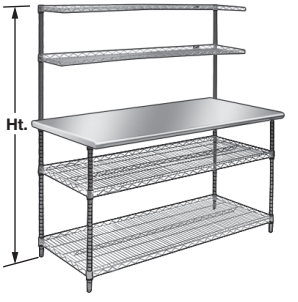

Table with Two Lower Shelves and Two Upper Shelves

In addition to providing a corrosion-resistant, solid work surface, these workbenches have wire shelves that minimize dust collection, allow good ventilation, and permit light penetration for stored items. They are often used in corrosive environments and food service applications. All components are 16-ga. stainless steel with a 16-ga. stainless steel top. Top is 34½″ high. Shelves adjust in 1″ increments and legs have leveling feet to compensate for uneven floors. Meet NSF/ANSI standards. Shipped unassembled.

Tables with upper shelves have a maximum upper shelf height of 28½″. Upper shelves are 12″ deep.

Overall Size Wd.	Dp.	*Capacity, lbs.* Top	Lower Shelf	Upper Shelf		
With Two Lower Shelves—34½″ High						
36″	30″	325	800	—	**4987T11**	$843.57
48″	30″	450	800	—	**4987T2**	1,015.50
60″	30″	550	600	—	**4987T3**	1,171.34
With Two Lower Shelves and Two Upper Shelves—63″ High						
36″	30″	325	800	50	**4987T17**	1,103.27
48″	30″	450	800	50	**4987T8**	1,295.03
60″	30″	550	600	50	**4987T9**	1,510.11

Food-Grade Maple-Top Tables



Not only good looking, these tables are nonconductive and impact resistant. Tables meet NSF/ANSI standards. They have a 1¾″ thick top that consists of solid pieces of maple laminated together and sanded to ensure durability. Tops have a clear mineral oil finish. Frame is 16-ga. galvanized steel. Legs have leveling feet to compensate for uneven floors. Shipped unassembled.

Overall Size Wd.	Dp.	Ht.	Top Cap., lbs.		
48″	30″	36″	800	**4777T71**	$498.62
60″	30″	36″	800	**4777T72**	566.76
72″	30″	36″	800	**4777T74**	623.46
72″	36″	36″	800	**4777T75**	732.69
96″	30″	36″	1,000	**4777T76**	821.53
96″	42″	36″	1,000	**4777T77**	979.55

Capacities listed are based on an evenly distributed load.

Workbenches with Drain



The sloped top, drainage hole and plug, and 1½-gal. drain pan contain spills when working with fluids. Lower shelf and top are made of 12-ga. steel; top has a 1½″ lip on all sides. Workbench has ¼″ angle iron legs. Each foot has four 5⁄16″ diameter, four 3⁄8″ diameter, and one 9⁄16″ diameter hole for mounting to the floor (fasteners not included). It also has a 22″ deep steel lower shelf (500-lb. capacity) and a 12½″ Wd. × 18½″ Dp. × 4¾″ Ht. drawer that has a capacity of 100 lbs. (includes a lock and two keys). Color is gray. Shipped assembled.

Wd.	Dp.	Ht.	Top Cap., lbs.		
60″	30″	34″	2,000	44945T57	$641.83

Wall-Mount Workbench-Style Shelving



This shelving offers the space-saving convenience of a workbench without using valuable floor space. These smooth, solid shelves are easy to clean. They are made of 16-ga., corrosion-resistant stainless steel and meet NSF/ANSI standards. They have 5⁄16″ dia. mounting holes (fasteners not included). Warning: Shelf capacity may be reduced due to wall material and fastener choice. Shipped assembled.

Wd.	Dp.	Ht.	Shelf Cap., lbs.		
36″	24″	18½″	200	48765T11	$254.62
48″	24″	18½″	200	48765T12	318.05
60″	24″	18½″	200	48765T13	372.68
72″	24″	18½″	200	48765T14	438.04

Workbenches with Cabinet-Style Bases

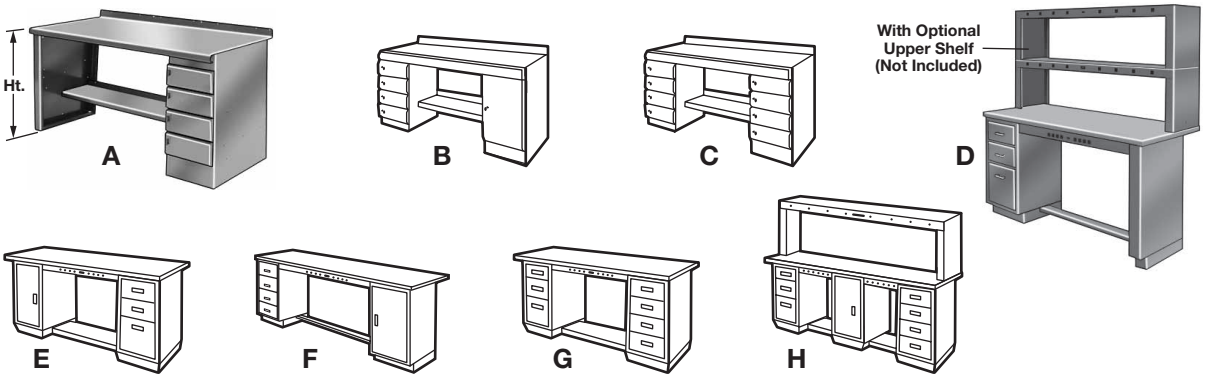

Workbenches are 24-ga. steel and have drawer and/or door bases that offer plenty of storage options for your tools and parts. Color is gray. Shipped unassembled.

(A-C) Workbenches with Backstop

Workbenches have a 3″ high backstop. Drawers have a 60-lb. capacity and are 15″ Wd. × 23½″ Dp. × 6″ Ht. The drawers (and door on Style B) accommodate a padlock (padlock not included; maximum shackle dia. is 9⁄32″).

Style A has four drawers, a lower shelf, and knockouts in the leg for duplex electrical outlets.

Style B has four drawers, a hinged door, and two shelves (one lower shelf and one interior shelf). Interior shelf has a capacity of 100 lbs.

Style C has eight drawers and a lower shelf.

	Top Cap., lbs.	12-ga. Steel Top Ht.			1¾″ Thick Ash Top Ht.		
72″ Wd. × 30″ Dp.							
A	1,500	34¼″	4765T33	$855.63	35¾″	4765T23	$1,213.08
B	1,500	34¼″	4765T35	1,040.55	35¾″	4765T25	1,315.00
C	1,500	34¼″	4765T36	1,340.14	35¾″	4765T26	1,567.39

(D-H) Workbenches with Electrical Outlets

Workbenches have eight electrical outlets (except Style H, which has 20). They also have a power switch, a circuit breaker, and a 9-ft. power cord with three-prong plug. Electrical rating is 15 amps, 120 volts AC, 60 Hz. All drawers have a 50-lb. capacity and are 15″ Wd. × 20½″ Dp. × 6½″ Ht. (except the three-drawer base on Styles D, E, G, and H has one drawer that is 15″ Wd. × 20½″ Dp. × 13½″ Ht.).

Styles E, F, and **H** have a hinged door and an interior shelf that adjusts on 2″ centers. Shelf capacity is 50 lbs.

Style H has an upper shelf with electrical outlets. Upper shelf capacity is 150 lbs.

	Top Cap., lbs.	Ht.	1⅝″ Thick Plastic-Laminate Top		1¾″ Thick Maple Top	
72″ Wd. × 30″ Dp.						
D	750	36¾″	4704T301	$866.67	4704T302	$989.59
E	1,000	36¾″	4704T105	969.16	4704T205	1,095.29
F	1,000	36¾″	4704T104	1,030.56	4704T204	1,159.86
G	1,000	36¾″	4704T102	1,211.33	4704T202	1,349.98
96″ Wd. × 30″ Dp.						
E	1,000	36¾″	4704T113	1,057.67	4704T213	1,237.50
F	1,000	36¾″	4704T112	1,097.48	4704T212	1,299.92
G	1,000	36¾″	4704T58	1,355.38	4704T59	1,520.64
H	1,500	36¾″	4704T121	1,765.94	4704T221	2,048.03

Optional Upper Shelves for Style D-H Workbenches with Electrical Outlets

These optional shelves provide eight extra outlets per shelf, a power switch, and a 9-ft. power cord with three-prong plug. Each shelf has a capacity of 150 lbs.

No. of Shelves	Ht.	Dp.	For 72″ Wide Workbenches		For 96″ Wide Workbenches	
1	18½″	15″	4704T5	$337.50	4704T6	$350.25
2	37″	15″	4704T8	663.27	4704T9	688.31

Capacities listed are based on an evenly distributed load.

Hand-Crank Adjustable-Height Tables



With Two Legs with Leveling Feet

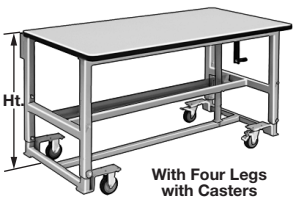

With Four Legs with Casters

Adjust these tables without clearing off the top or loosening leg bolts—turn the crank to position tables at a height that's most comfortable for you. Color is beige. Shipped assembled.

Tables with two legs with leveling feet have a 7-ga. steel frame and a plastic-laminate top.

Tables with four legs with casters have a welded 11-ga. steel frame. All come with two rigid and two swivel casters with brakes with 4″ dia. rubber wheels. They have a plastic-laminate top.

Top Thick.	Ht.	Top Cap., lbs.	Cap. While Adjusting Ht., lbs.	48″ Wd. × 30″ Dp.		60″ Wd. × 30″ Dp.		72″ Wd. × 30″ Dp.	
Tables with Two Legs with Leveling Feet									
1⅛″	30″-42″	1,200	500	4781T11	$933.21	4781T12	$1,024.48	4781T13	$1,148.66
Tables with Four Legs with Casters									
1⅛″	31″-43″	1,200	600	4781T51	1,274.08	4781T52	1,379.32	4781T53	1,495.98

Cabinet Workbenches

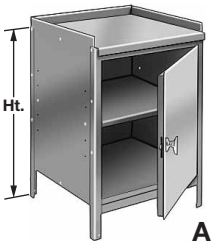

A


B&D


C


E


F


G

(A-D) Steel Workbenches—All have hinged doors, adjustable shelves, and a lock with two keys. Color is gray. *Styles A-C* are shipped unassembled; *Style D* is shipped assembled.

Workbenches without reversible top are made of 20-ga. steel. Both have a 16-ga. steel top with 2″ high backstop and side stops. Shelves adjust on 3″ centers.

Workbenches with reversible top have a top you can turn over so you can choose a work surface with or without 2″ high backstop, front stop, and side stops, unless otherwise indicated.

Style C is made of 24-ga. steel and has a 22-ga. steel top. Shelves adjust on 2″ centers.

Style D is made of 18-ga. steel and has a 14-ga. steel top. Shelf adjusts on 4″ centers. Does not have a front stop.

(E-G) Harsh Environment Stainless Steel Workbenches—All meet NSF/ANSI standards and are welded 18-ga. stainless steel. The top is 16-ga. stainless steel with a 4″ high backstop and one fixed shelf. The legs have leveling feet to compensate for uneven floors. Shipped assembled.

	Wd.	Dp.	Ht.	Top Cap., lbs.	No. of Doors	*Drawers* No.	Wd.	Dp.	Ht.	Cap., lbs.	*Shelves* No.	Cap., lbs.		
Steel Workbenches without Reversible Top														
A	24″	24″	32″	250	1	–	—	—	–	—	1	250	9045T16	$222.17
B	36″	24″	32″	125	2	–	—	—	–	—	1	250	9045T18	287.02
Steel Workbenches with Reversible Top														
C	21″	15½″	32″	125	1	–	—	—	–	—	3	125	9045T14	141.23
D	36″	24″	34″	1,000	2	–	—	—	–	—	1	200	4779T3	441.72
Harsh Environment Stainless Steel Workbenches														
E	36″	24″	35″	400	2	–	—	—	–	—	1	120	40545T31	1,660.67
F	36″	24″	35″	400	2	2	12″	20″	5″	65	1	120	40545T32	2,377.75
G	48″	24″	35″	500	1	3	20″	20″	5″	65	1	155	40545T34	3,323.09

Design-Your-Own Cabinet Workbenches



Workbench Shown with Drawers and Shelf

Start with the workbench then customize the interior by adding the drawers and shelves that best match your needs.

Workbench is made of welded 17-ga. steel with a 12-ga. steel top. It is divided into two compartments; each compartment has 15 notches on 1¾″ centers to hold any combination of drawers and shelves. Keep in mind that the combination you choose can't use more than 15 notches. To see how many notches each drawer and shelf requires, see table below.

Both cabinet doors have an interior storage pocket. For extra security, the workbench can be locked with a padlock (padlock not included; maximum shackle dia. is 1¹⁄₁₆″). It comes with two rigid and two swivel casters with brakes with 6″ dia. phenolic wheels. Color is beige. Shipped assembled.

Drawers and **shelf** are white.

	Wd.	Dp.	Ht.	Overall Cap., lbs.	No. of Adjustment Notches Used		
Workbench	46½″	25″	37½″	1,000	–	9978T27	$1,211.93
Drawer	16″	22″	1″	100	1	9978T2	144.63
Drawer	16″	22″	2½″	100	2	9978T3	154.15
Drawer	16″	22″	4½″	100	3	9978T4	164.71
Drawer	16″	22″	6″	100	4	9978T5	173.55
Shelf	17½″	21¾″	1″	100	1	9978T6	90.75

Capacities listed are based on an evenly distributed load.

Mobile Cabinet Workbenches

Make your move—these cabinet workbenches have casters so you can roll them where you need them.

(A) Plastic Workbench—You'll find this workbench is not only dent- and rust-resistant, but also sturdy. It has five drawers for tools and other small parts. It also has a locking bar that slides in front of the drawers and can be secured with a padlock (not included; maximum shackle dia. is 1/4″). Drawers are red. Comes with two rigid and two swivel casters with brakes with 4″ dia. plastic wheels. Shipped assembled.

(B&C) Steel Workbenches with Concealed Drawers—For added security, drawers are concealed behind doors that can be locked with a padlock (not included; maximum shackle dia. is 5/16″). Workbenches are made of 16-ga. steel with a 16-ga. steel top. Come with a fixed shelf and two rigid and two swivel casters with brakes with 4″ dia. rubber wheels. Shipped assembled.

(D-F) Steel Workbenches with Composite-Wood Top—Workbenches are made of 18-ga. steel and have a 3/4″ thick composite-wood top with 3″ high backstop and side stops. The doors have a locking handle and two keys; shelves are adjustable on 4″ centers. Come with two rigid and two swivel casters with 5″ dia. polyurethane wheels. Shipped assembled.

(G&H) Narrow-Width Steel Workbenches—At 24″ wide, these compact workbenches provide storage and a work surface even when space is limited. Both are made of welded 20-ga. steel. The top is 14-ga. steel with 3/4″ high backstop and side stops. Each drawer can be locked with a padlock (not included; maximum shackle dia. is 3/8″). Come with two rigid and two swivel casters with 5″ dia. polyurethane wheels. Shipped assembled.

Style G has a door with a locking handle and two keys.

Style H has a tray in the top drawer for storing small parts.

(J) Steel Workbench with Reversible Top—You can turn the top of this workbench over so you can choose a work surface with or without 2″ high backstop and side stops. Workbenches are made of 18-ga. steel with a 14-ga. steel top. Shelf adjusts on 4″ centers. The door has a built-in locking handle and two keys. Comes with two rigid casters and two swivel casters with brakes with 5″ dia. polyurethane wheels. Shipped assembled.

(K&L) Heavy Duty Steel Workbenches—Of all these mobile workbenches, these offer the highest load capacity. Both are made of 18-ga. welded steel. The top is 12-ga. steel with 2″ high backstop and side stops. The shelf is adjustable on 2″ centers; each door and drawer (where applicable) has a built-in lock and two keys per lock. Come with two rigid and two swivel casters with 5″ dia. polyurethane wheels. Shipped assembled.

Style L has three drawers. The top drawer includes a tray for storing small parts.

(M) Harsh Environment Stainless Steel Workbench—Protect against corrosion with this stainless steel cabinet workbench that meets NSF/ANSI standards. It is made of welded 18-ga. stainless steel. The top is 16-ga. stainless steel with a 4″ high backstop. Shelf is fixed. Comes with four swivel casters (two with brakes) with 4″ dia. rubber wheels. Shipped assembled.

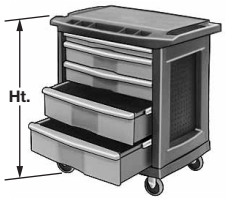

A


B


C


D


E


F


G


H


J


K


L


M

	Wd.	Dp.	Ht.	Overall Cap., lbs.	No. of Doors	Drawers No.	Drawers Wd.	Drawers Dp.	Drawers Ht.	Drawers Cap., lbs.	Shelves No.	Shelves Cap., lbs.	Color		
Plastic Workbench															
A	33″	20″	33 1/2″	250	–	1	22″	16 1/2″	2″	10	–	—			
						2	22″	16 1/2″	4″	20	–	—			
						2	22″	16 1/2″	6″	25	–	—	Black	44155T48	$407.58
Steel Workbenches with Concealed Drawers															
B	41″	25″	37 1/2″	800	2	2	14″	21 1/2″	5″	50	1	200	Beige	4686T11	1,243.85
C	41″	25″	37 1/2″	800	2	4	14″	21 1/2″	5″	50	1	200	Beige	4686T12	1,439.29
Steel Workbenches with Composite-Wood Top															
D	42″	24″	34″	800	2	–	—	—	—	—	2	150	Gray	9760T15	459.42
E	42″	24″	34″	800	1	1	18″	23″	4 1/2″	50	2	150	Gray	9760T12	483.65
F	42″	24″	34″	800	1	5	18″	23″	4 1/2″	50	1	150	Gray	9760T13	754.06
Narrow-Width Steel Workbenches															
G	24″	20″	34″	1,000	1	2	20″	19″	5″	100	–	—	Gray	4626T14	382.42
H	24″	20″	34″	1,000	–	4	20″	19″	5″	100	–	—	Gray	4626T27	480.32
Steel Workbench with Reversible Top															
J	36″	24″	34″	1,000	2	–	—	—	–	—	1	200	Gray	4779T5	461.72
Heavy Duty Steel Workbenches															
K	36″	24″	34″	1,400	2	–	—	—	–	—	1	600	Green	4762T19	660.56
L	36″	24″	34″	1,400	1	3	14″	22″	6″	75	1	600	Green	4762T12	910.00
Harsh Environment Stainless Steel Workbench															
M	36″	24″	35″	500	2	–	—	—	–	—	1	120	_____	4139T21	1,819.87

Capacities listed are based on an evenly distributed load.

Two-Wheel Cabinet Workbenches

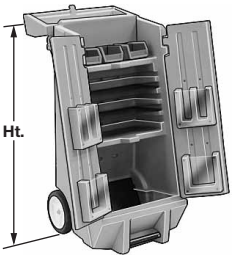

Tilt back and roll this workbench anywhere you need it. Workbench is made from rust- and solvent-resistant plastic. Open the lid to use as a 16″ Wd. × 7½″ Dp. × 3″ Ht. work surface. Inside the cabinet, you'll find three bin boxes, two 30-lb. capacity shelves that adjust on 2″ centers, and a bottom compartment for storing bulky items. Both cabinet doors have two interior storage pockets. You can lock the cabinet with a padlock (not included; maximum shackle dia. is ⅜″). Comes with two 8″ dia. rubber wheels. Color is gray. Shipped assembled.

Wd.	Dp.	Ht.	Overall Cap., lbs.		
20″	20″	40″	150	6376A68	$351.85

Large-Capacity Cabinet Workbenches











Ideal when you need to work with and store many items. Workbenches with doors have backstops and side stops to prevent work from falling off.

(A) Workbenches without drawer are made of 18-ga. steel with a 12-ga. steel top with 3″ high backstop and side stops that taper down to 1½″ high at the front of the workbench. The doors have a built-in lock with two keys. Shelf adjusts on 4″ centers. Shipped assembled.

(B) Workbench without drawer and **workbench with one drawer** are made of 18-ga. steel with a 12-ga. steel top with 3¾″ high backstop and side stops that taper down to 1½″ high at the front of the workbench. Doors have a built-in lock with two keys. Come with a fixed shelf. Each foot has a ½″ dia. mounting hole for mounting to the floor (fasteners not included). Shipped unassembled.

(C) Heavy duty workbenches with three drawers are made of 18-ga. steel with a 1¾″ thick maple top. All drawers and doors have a lock with two keys. The middle drawer includes a tray for holding small items. Both workbenches come with a fixed shelf and kick plate. Each side panel has two ½″ dia. mounting holes for mounting to the floor (fasteners not included). Shipped unassembled.

(D) Workbenches with 16 drawers are made of 20-ga. steel; 28″ deep unit has a 12-ga. steel top and 30″ deep unit has a 1¾″ thick hardwood top. Workbenches include four trays for holding small items. There is also a padlock hasp on each drawer (padlock not included; maximum shackle dia. is ⅜″). Shipped assembled.

(E) Harsh environment workbenches offer good corrosion resistance and meet NSF/ANSI standards. These welded workbenches are 16-ga. stainless steel with a 16-ga. stainless steel top. Both have tops with 6″ high backstops and leveling feet to compensate for uneven floors. Doors can be removed for cleaning. Shipped assembled.

	Wd.	Dp.	Ht.	Top Cap., lbs.	Door Type	Drawers Wd.	Drawers Dp.	Drawers Ht.	Drawers Cap., lbs.	Shelves No.	Shelves Cap., lbs.	Color		
Workbenches without Drawer														
A	60″	28″	34″	2,500	Sliding	—	—	–	—	1	500	Gray	4784T41	$690.90
A	72″	28″	34″	2,500	Sliding	—	—	–	—	1	500	Gray	4784T42	830.22
B	60″	29″	32¼″	4,000	Hinged	—	—	–	—	1	800	Green	4880T11	630.55
Workbench with One Drawer														
B	60″	29″	32¼″	4,000	Hinged	20″	20″	6″	75	1	800	Green	4880T12	727.56
Heavy Duty Workbenches with Three Drawers														
C	60″	30″	33¾″	10,000	Hinged	14″	22″	6″	50	1	800	Green	4879T11	1,399.12
C	72″	30″	33¾″	10,000	Hinged	20″	20″	6″	50	1	800	Green	4879T41	1,658.12
Workbenches with 16 Drawers														
D	72″	28″	34″	3,000	_____	14″	23½″	5″	100	–	___	Gray	4579T81	1,414.72
D	72″	30″	34″	3,000	_____	14″	23½″	5″	100	–	___	Gray	4579T82	1,592.54
Harsh Environment Workbenches														
E	60″	30″	34″	500	Sliding	—	____	–	___	–	___	____	6215T31	1,493.52
E	72″	30″	34″	500	Sliding	—	____	–	___	–	___	____	6215T34	1,627.92

Capacities listed are based on an evenly distributed load.

Mobile Large-Capacity Cabinet Workbenches

Ideal when you need to work with and store many items. All have casters and a handle to make maneuvering easy. Shipped assembled.

(A&B) Standard workbenches are made of 18-ga. welded steel with a 12-ga. steel top with 3″ high backstop and side stops. They also have a 12″ Wd. x 24″ Dp. exterior shelf (500-lb. capacity), two doors with lock and two keys, and one fixed interior shelf (1,000-lb. capacity). Come with two rigid and two swivel casters with 5″ dia. wheels. Color is gray.

Style B have four 100-lb. capacity concealed drawers. Top drawer includes a tray for storing small items.

(C&D) Heavy duty workbenches are made of 20-ga. welded steel and have a 12-ga. steel top. Workbenches have two doors (one on the front; one on the back) with a locking handle with two keys, one fixed interior shelf (800-lb. capacity), and 50-lb. capacity drawers. For added security, the drawers can be concealed behind a locking panel (includes two keys) that slides out of the way when not in use. Come with two rigid and two swivel casters with 8″ dia. wheels; a floor lock keeps workbenches in place. Color is gray with red drawers.

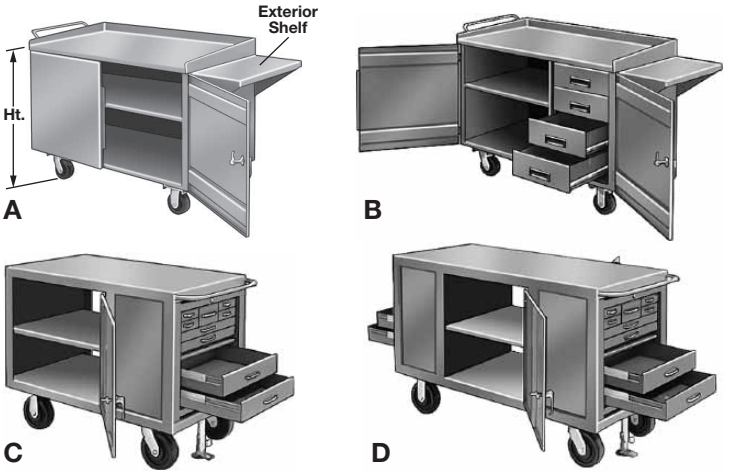

	Wd.	Dp.	Ht.	O'all Cap., lbs.	Drawers No.	Drawers Wd.	Drawers Dp.	Drawers Ht.		
Standard Workbenches with Phenolic Wheels										
A	64″	26″	34″	2,000	—	—	—	—	**4624T23**	$638.51
B	64″	26″	34″	2,000	4	14″	23½″	5″	**4624T43**	897.05
Standard Workbenches with Steel Wheels										
A	64″	26″	34″	2,000	—	—	—	—	**4624T22**	653.18
B	64″	26″	34″	2,000	4	14″	23½″	5″	**4624T42**	911.54

	Wd.	Dp.	Ht.	O'all Cap., lbs.	Drawers No.	Drawers Wd.	Drawers Dp.	Drawers Ht.		
Heavy Duty Workbenches with Phenolic Wheels										
C	53″	28″	38½″	4,000	4	6½″	16″	1¾″		
					1	6½″	16″	3½″		
					2	21½″	16″	1¾″		
					2	21½″	16″	3½″	**4973T53**	1,445.17
D	65″	28″	38½″	4,000	8	6½″	16″	1¾″		
					2	6½″	16″	3½″		
					4	21½″	16″	1¾″		
					4	21½″	16″	3½″	**4973T51**	2,008.63

About Designing Your Own Workbench

Create a customized workbench to fit your needs. For a complete workbench, choose a **top** (pages 1691-1692) and either **legs** (pages 1693-1694) or a **base** (page 1695).

Workbenches up to 72″ wide require two workbench legs. Workbenches 96″ wide and larger require at least three workbench legs.

Support braces add stability to your workbench. You may also want to add **drawers** (pages 1695-1696), **lower shelves** (page 1696), or a **backstop and side stops** (page 1696).

Note: Capacities listed for the workbench tops are for the tops only. Once you add legs or legs with casters to make a complete workbench, the capacity will change. The new capacity will be that of the component (**top, legs,** and/or **base**) with the lowest capacity.

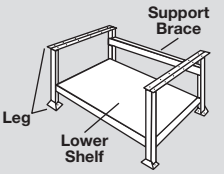

Steel Workbench Tops

Made of 12-ga. steel, these heavy duty tops come with a support brace for added stability. All are oil and stain resistant. They have a straight front edge. Fasteners for mounting legs included. Color is gray.

For use with our Standard Duty workbench legs on page 1693.

Overall Size Wd.	Dp.	Thick.	Cap., lbs.		
60″	30″	1½″	2,500	**9054T113**	$143.29
72″	30″	1½″	3,000	**9054T115**	175.36
72″	36″	1½″	3,600	**9054T116**	202.02

Straight



Stainless Steel Workbench Tops

Protect against chemicals and corrosion with these workbench tops. All have a sealed plastic laminate bottom, making them suitable for food-service use. They are oil and stain resistant. Tops are 16-ga. stainless steel with a radius front edge. Fasteners for mounting legs included. Meet NSF/ANSI standards.

Overall Size Wd.	Dp.	Thick.	Cap., lbs.	Without Backstop		With 6″ High Backstop	
48″	24″	0.063″	3,200	**5964T61**	$299.34	**5964T71**	$391.35
48″	30″	0.063″	4,000	**5964T62**	347.45	**5964T72**	446.45
60″	30″	0.063″	5,000	**5964T63**	404.60	**5964T73**	482.03
72″	30″	0.063″	6,000	**5964T64**	425.43	**5964T74**	535.47
96″	30″	0.063″	8,000	**5964T66**	545.07	**5964T76**	655.73

Radius



Cushioned-Rubber Workbench Mats

Prolong the life of your workbench with these 1/8″ thick rubber mats. Not only do they protect tools and parts by cushioning them when they fall, but they also reduce noise. They are slip-, oil-, and solvent resistant. Color is black.

Fits Top Size Wd.	Dp.		
48″	24″	**5510T11**	$60.39
48″	30″	**5510T21**	75.50
60″	30″	**5510T22**	92.93
72″	30″	**5510T23**	111.20
72″	36″	**5510T43**	135.85
96″	30″	**5510T24**	149.44

Capacities listed are based on an evenly distributed load.

Workbench Tops & Sawhorses

For information about designing your own workbench, see page 1691.

Maple Workbench Tops

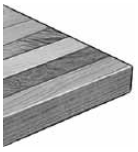

Straight

Radius

Solid pieces of wood are laminated together and sanded to ensure durability. All tops are nonconductive, impact resistant, and can be sanded and refinished. They have a mineral-oil finish (for mineral oil, see 3190K on page 2066). Fasteners for mounting legs included. Meet NSF/ANSI standards.

To Order: Please specify straight or radius front edge.

Wd.	Dp.	Cap., lbs.	1¾″ Thick		2¼″ Thick	
36″	24″	900	4882T1	$120.99	4882T4	$166.63
36″	30″	1,125	4882T2	141.90	4882T5	211.78
36″	36″	1,350	4882T3	166.53	4882T6	240.83
48″	24″	1,200	4882T11	167.57	4882T27	224.65
48″	30″	1,500	4882T12	188.46	4882T28	248.52
48″	36″	1,800	4882T13	229.74	4882T29	293.12
60″	24″	1,500	4882T14	188.13	4882T47	283.92
60″	30″	1,875	4882T15	216.28	4882T48	308.38
60″	36″	2,250	4882T16	266.21	4882T49	371.26
72″	24″	1,800	4882T17	229.97	4882T51	293.10
72″	30″	2,250	4882T18	254.95	4882T52	363.03
72″	36″	2,700	4882T19	289.01	4882T56	437.25
96″	24″	2,400	4882T21	320.25	4882T61	421.37
96″	30″	3,000	4882T22	394.65	4882T62	520.84
96″	36″	3,600	4882T23	456.29	4882T66	596.51
120″	24″	3,000	4882T24	406.39	4882T67	596.16
120″	30″	3,750	4882T25	509.79	4882T68	635.93
120″	36″	4,500	4882T26	608.25	4882T69	801.18

Oak Workbench Tops



Bullnose

Similar to maple tops, except these tops offer higher capacities and are more consistent in color. They're made of solid pieces of oak that are laminated together and sanded to ensure durability. Tops are nonconductive, impact resistant, and have a clear finish. They have a bullnose front edge. Fasteners for mounting legs included.

Wd.	Dp.	Thick.	Cap., lbs.		
60″	30″	1¾″	2,500	48885T31	$248.07
72″	30″	1¾″	3,000	48885T32	292.49
72″	36″	1¾″	3,600	48885T33	346.93

Composite Wood Workbench Tops



Radius

An economical alternative to wood tops, these tops resist stains, oil, and chemicals. They are nonconductive, impact resistant, and can be sanded and refinished. Tops have a clear-coated finish and a radius front edge. Fasteners for mounting legs included. Color is brown.

Wd.	Dp.	Thick.	Cap., lbs.		
48″	24″	1¾″	800	9064T32	$105.17
48″	30″	1¾″	1,000	9064T33	119.91
60″	30″	1¾″	1,250	9064T34	148.02
72″	30″	1¾″	1,500	9064T35	171.96
72″	36″	1¾″	1,800	9064T36	221.42
96″	30″	1¾″	2,000	9064T37	196.55

Chemical- and Scratch-Resistant Phenolic Workbench Tops



Radius

Excellent for use in laboratories, these nonconductive tops are highly resistant to chemicals, stains, scratching, and humidity. Made of solid phenolic resins. All have a radius front edge. Fasteners for mounting legs included. Color is black.

Wd.	Dp.	Thick.	Cap., lbs.		
48″	24″	1″	800	5084T21	$241.52
60″	24″	1″	1,000	5084T22	299.03
60″	30″	1″	1,250	5084T23	370.39
60″	36″	1″	1,500	5084T24	459.75
72″	30″	1″	1,500	5084T26	442.05
96″	30″	1″	2,000	5084T27	574.78

Laminate Workbench Tops

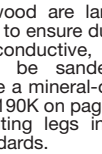

Straight

Bullnose

With their extra-smooth plastic-laminate surface, these tops won't trap dirt or oil, and are easy to clean. They're nonconductive and resist stains, oils, and diluted chemicals.

To Order: Please specify black, gray, or white.

Wd.	Dp.	Thick.	Cap., lbs.	Straight Edge		Bullnose Edge	
24″	24″	1⅝″	400	5169T101	$68.98	5169T701	$78.23
30″	24″	1⅝″	500	5169T102	79.28	5169T702	93.09
30″	30″	1⅝″	625	5169T103	88.64	5169T703	108.19
36″	24″	1⅝″	600	5169T104	89.90	5169T704	106.61
36″	30″	1⅝″	750	5169T105	103.33	5169T705	119.89
48″	24″	1⅝″	800	5169T106	99.28	5169T706	119.31
48″	32″	1⅝″	1,050	5169T107	131.99	5169T707	151.67
48″	36″	1⅝″	1,200	5169T108	137.09	5169T708	160.19
60″	24″	1⅝″	1,000	5169T109	119.37	5169T709	148.32
60″	30″	1⅝″	1,250	5169T401	140.72	5169T801	163.06
60″	32″	1⅝″	1,325	5169T402	158.53	5169T802	174.17
72″	30″	1⅝″	1,500	5169T403	164.33	5169T803	190.89
72″	32″	1⅝″	1,600	5169T404	183.67	5169T804	209.96
72″	36″	1⅝″	1,800	5169T405	191.77	5169T805	216.64
96″	30″	1⅝″	2,000	5169T406	210.88	5169T806	246.32
96″	36″	1⅝″	2,400	5169T407	243.29	5169T807	279.66

Static-Control Laminate Workbench Tops

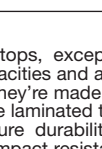

Straight

Bullnose

Protect circuit boards and other electronic components from electrostatic discharge (ESD). These tops come with grounding snaps to attach wrist straps (not included) and other static-control devices.

Tops are nonconductive; resist stains, oils, and diluted chemicals; and are easy to clean.

Straight Edge—**To Order:** Please specify color: beige or dark blue.

Bullnose Edge—Color is beige.

Wd.	Dp.	Thick.	Cap., lbs.	Straight Edge		Bullnose Edge	
60″	30″	1¼″	950	4582T111	$168.98	4582T21	$183.49
72″	30″	1¼″	1,150	4582T112	201.82	4582T22	233.32
72″	36″	1¼″	1,375	4582T113	248.53	4582T24	277.28
96″	30″	1¼″	1,525	4582T114	276.22	4582T26	321.26
96″	36″	1¼″	1,825	4582T115	351.16	4582T28	377.33

Mounting Fasteners for Workbench Tops

Use to mount nonmetallic workbench tops to legs and bases. Includes 50 zinc-plated Phillips pan-head screws (25 #14×¾″ and 25 #14×1½″) and 50 washers.

5118T33	Pkg.	$8.61

Folding Sawhorses

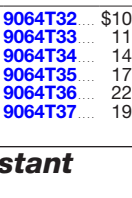

It's easy to store and transport these sawhorses—they fold to a compact 2″ Ht.×38″ Wd.×4″ Dp. Both are 14-ga. steel and have a convenient carrying handle. Color is orange. Shipped assembled.

Adjustable-height sawhorse allows five height adjustments in 4″ increments and can be set up on uneven surfaces. Note: As the adjusted height increases, weight capacity decreases.

	Ht.	Cap. per Sawhorse, lbs. at 25″ Ht.	at 40″ Ht.		
Fixed Height	25″	1,000	—	8055T29	$48.77
Adjustable Height	25″-40″	1,000	800	8055T31	67.61

Sawhorse Brackets

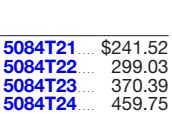

Make your own sawhorse with these brackets and five 2×4s, 2×6s, or 2×12s. The included wing nuts lock legs and rails into place. Made of plastic. Color is black.

	Cap. per Pair, lbs.		Pair
Brackets	500	8092T18	$17.91

Capacities listed are based on an evenly distributed load.

For information about designing your own workbench, see page 1691.

Standard Duty Workbench Legs



Fixed-Height Stationary



Fixed-Height Mobile



Adjustable-Height Stationary

All legs have knockouts on the front and back for adding duplex electrical outlets. They also have sixteen 5/16″ dia. holes for mounting tops (fasteners not included). Color is gray.

Fixed Height—Legs are 13-ga. steel and flared for extra stability.

Adjustable Height—Legs are made of 14-ga. steel and adjust in 1 1/2″ increments; simply remove and reposition leg bolts.

Stationary legs have a 3/8″ dia. hole per foot for securing to the floor (fasteners not included).

Mobile legs have two casters with 5″ dia. plastic wheels for maneuverability.

Support braces add stability and are 14-ga. steel.

Lower shelves are 16-ga. steel.

Legs

For Top Dp.		28″ High		32″ High	
Fixed-Height Stationary—Capacity per leg is 3,000 lbs.					
24″		4885T31	$35.12	4885T39	$39.67
30″		4885T32	39.17	4885T41	39.25
36″		4885T33	42.28	4885T42	42.55
		34 3/4″ High with Two Rigid Casters		**34 3/4″ High with Two Swivel Casters**	
Fixed-Height Mobile—Capacity per leg is 500 lbs.					
24″		4885T71	$41.76	4885T74	$45.31
30″		4885T72	41.76	4885T75	45.08
36″		4885T73	45.44	4885T76	49.59
		28″-35 1/2″ High			
Adjustable-Height Stationary—Capacity per leg is 2,000 lbs.					
30″		4915T62	$38.38	_____	_____
36″		4915T43	42.35	_____	_____

Support Braces

For Top Wd.		
48″	4885T45	$12.84
60″	4885T43	16.53
72″	4885T44	22.89

Lower Shelves

For Top Wd.	For Top Dp.	Cap., lbs.		
48″	24″, 30″, 36″	700	9054T89	$39.56
60″	24″, 30″, 36″	1,000	9054T42	49.62
72″	24″, 30″, 36″	1,000	9054T44	57.78

Heavy Duty Adjustable-Height Workbench Legs

Height is adjustable—loosen the leg bolts to slide legs to any height from 29 1/4″ to 35 1/4″. Legs are 14-ga. steel with one set of knockouts on the front and back for adding duplex electrical outlets. They have four 5/16″ dia. holes for mounting tops (fasteners not included). Each leg has adjustable feet to compensate for uneven floors. They also have two 3/8″ dia. holes and one 7/16″ dia. hole per foot plate for securing to the floor (fasteners not included). Color is gray.

Support braces add stability and are made of 18-ga. steel.

Lower shelves are made of 16-ga. steel.



Legs

For Top Dp.	Ht.	Cap. per Leg, lbs.		
28″-30″	29 1/4″-35 1/4″	3,000	9956T23	$63.60
34″-36″	29 1/4″-35 1/4″	3,000	9956T25	69.48

Support Braces

For Top Wd.		
48″	9956T55	$30.57
60″	9956T73	31.75
72″	9956T84	32.93

Lower Shelves

For Top Wd.	For Top Dp.	Cap., lbs.		
48″	28″, 36″	330	9956T93	$44.63
60″	28″, 36″	230	45725T66	53.22
72″	28″, 36″	230	45725T67	60.75

Extra Heavy Duty Workbench Legs

The all-welded angle iron legs support the highest capacities of all our workbench legs. They also have holes (see below for size and number) for mounting tops (fasteners not included). Color is green.

Adjustable Height—Adjust in 1″ increments by removing and repositioning leg bolts.

Stationary legs have two 1/2″ dia. holes per foot plate for securing to the floor (fasteners not included).

Mobile legs have two casters with 5″ dia. polyurethane wheels.

Support braces add stability and are 16-ga. steel.

Lower shelves are 12-ga. steel with a capacity of 1,000 lbs.



Stationary Leg



Mobile Leg

Legs

For Top Dp.	No. of Top Mounting Holes 1/2″ Dia.	No. of Top Mounting Holes 9/32″ Dia.	30″ High	32 1/4″ High	35″ High	
Fixed-Height Stationary—Capacity per leg is 6,000 lbs.						
24″	6	8	4767T11	4767T12	4767T13	$71.37
30″	10	8	4767T14	4767T15	4767T16	75.76
36″	10	8	4767T21	4767T22	4767T23	82.35
Fixed-Height Mobile with Two Rigid Casters— Capacity per leg is 700 lbs.						
24″	6	8	4767T31	4767T32	4767T33	160.61
30″	10	8	4767T34	4767T35	4767T36	165.81
36″	10	8	4767T41	4767T42	4767T43	171.14
Fixed-Height Mobile with Two Swivel Casters with Brakes— Capacity per leg is 700 lbs.						
24″	6	8	4767T81	4767T82	4767T83	196.21
30″	10	8	4767T84	4767T85	4767T86	200.11
36″	10	8	4767T91	4767T92	4767T93	207.75
				30″-36″ High	**36″-42″ High**	
Adjustable-Height Stationary—Capacity per leg is 6,000 lbs.						
24″	6	8	_____	5978T31	5978T35	$88.94
30″	10	8	_____	5978T32	5978T36	92.90
36″	10	8	_____	5978T34	5978T38	98.82

Support Braces

For Top Wd.			For Top Wd.		
48″	4767T27	$44.43	72″	4767T25	$50.78
60″	4767T24	47.61	96″	4767T29	63.96

Lower Shelves

For Top Wd.	For 24″ Deep Tops		For 30″ Deep Tops		For 36″ Deep Tops	
36″	4767T51	$43.77	4767T61	$45.48	4767T71	$59.74
48″	4767T52	47.75	4767T62	54.23	4767T72	64.08
60″	4767T53	68.30	4767T63	81.47	4767T73	99.74
72″	4767T54	90.56	4767T64	108.70	4767T74	131.89
96″	4767T55	150.33	4767T65	150.98	4767T75	168.16

Recessed-Style Workbench Legs

Specially designed to provide more leg room than other leg styles. All legs are 14-ga. steel and have leveling feet to compensate for uneven floors. They also have six 1/2″ dia. holes for mounting tops (fasteners included). Color is gray.

Adjustable-height leg adjusts in 1″ increments.

Support braces add stability and are 16-ga. steel.

Lower shelves are 16-ga. steel with a 50-lb. capacity.



Legs

For Top Dp.	Ht.	Cap. per Leg, lbs.		
Fixed Height				
30″-36″	30 1/4″	750	4186T71	$82.33
Adjustable Height				
30″-36″	28 1/4″-39 1/4″	750	5166T72	105.50

Support Braces

For Top Wd.		
48″	4186T81	$23.71
60″	4186T82	25.49
72″	4186T83	27.89

Lower Shelves

For Top Wd.	For Top Dp.		
48″	30″, 36″	5166T81	$50.99
60″	30″, 36″	5166T82	57.32
72″	30″, 36″	5166T83	64.15

Capacities listed are based on an evenly distributed load.

Harsh Environment Workbench Legs

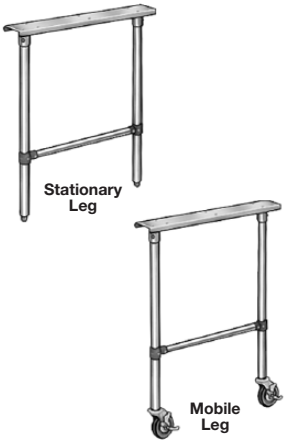

An excellent choice for clean rooms, food-processing plants, and chemical plants, these legs are made of corrosion-resistant 16-ga. stainless steel. The legs are 1⅝″ dia. and come with die cast aluminum connectors. The top mounting channel has ten 5/16″ dia. holes for mounting tops (fasteners included). Meet NSF/ANSI standards.

Stationary—Feet adjust to compensate for uneven floors.

Mobile—All come with swivel casters with a brake and 5″ dia. polyurethane wheels.

Support braces add stability and are made of 18-ga. stainless steel.

Lower shelves are 18-ga. stainless steel; capacity is 200 lbs.

Legs

For Top Dp.	Stationary Ht.	Stationary Cap. per Leg, lbs.			Mobile Ht.	Mobile Cap. per Leg, lbs.		
24″	35″	300	5979T21	$100.62	34¾″	150	4828T91	$141.42
30″	35″	300	5979T22	107.22	34¾″	150	4828T92	148.48
36″	35″	300	5979T23	113.78	34¾″	150	4828T93	158.48

Support Braces

For Top Wd.		
48″	5979T31	$27.95
60″	5979T32	32.40
72″	5979T33	38.62

Lower Shelves

For Top Wd.	For 24″ Deep Tops		For 30″ Deep Tops		For 36″ Deep Tops	
48″	5979T51	$116.14	5979T52	$133.94	5979T53	$176.16
60″	5979T61	157.89	5979T62	163.34	5979T63	224.29
72″	5979T71	191.48	5979T72	252.26	5979T73	308.54

Folding Table Legs

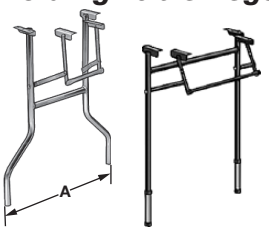

Table legs have plastic foot glides to protect your floors and twelve 1/4″ dia. holes for mounting tops (fasteners not included). Shipped assembled.

Fixed-height legs are made of 16-ga. zinc-plated steel tubing.

Adjustable-height legs are made of 18-ga. steel tubing. Push in a button and slide the leg inside the steel tube to adjust. They adjust in 1″ increments. Frames are black with chrome-plated feet.

Fixed Height

For Top Dp.	Ht.	(A)	Cap. per Leg, lbs.		
Curved-Leg Style					
30″-36″	29″	24″	125	2190T51	$24.46
36″-42″	29″	31″	125	2190T52	25.04
42″-48″	29″	37″	125	2190T53	26.38
Straight-Leg Style					
18″-20″	29″	14″	125	2190T61	23.62
24″-30″	29″	20″	125	2190T62	24.31

Adjustable Height

For Top Dp.	Ht.	(A)	Cap. per Leg, lbs. at 24½″ Ht.	Cap. per Leg, lbs. at 38½″ Ht.		
24″-30″	24½″-38½″	20″	125	50	3296T11	$29.00
36″-42″	24½″-38½″	30″	125	50	3296T12	32.03

Hydraulic Lift Kits for Workbenches

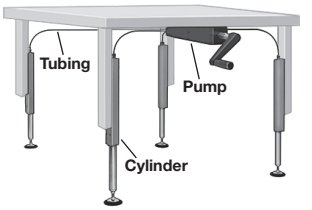

With Leveling Feet and Pump with Hand Crank (workbench not included)

Transform your fixed-height workbench into an adjustable-height work surface with one of these kits. All come with four aluminum hydraulic-lift cylinders, one hydraulic pump, and two lengths each of 60″ and 96″ tubing (hydraulic lines) to connect cylinders to the pump.

To install, attach each cylinder to your workbench legs with four 1/4″-20 fasteners (not included; length of fastener required depends on leg thickness). Then, mount the pump under the workbench top and connect cylinders to the pump with the included tubing.

Kits with hand crank have a retractable, folding hand crank. Pump has three 1/4″ dia. holes for mounting (fasteners not included).

Kits with electric motor allow you to adjust height with a push of a button. Pump and motor are attached to a plate with seven 1/4″ dia. holes for mounting to workbench (fasteners not included). Motor is 1/9 hp and operates on 110/115 volts AC, 50/60 Hz, single phase. Comes with a rocker switch with two 3/16″ dia. holes for mounting to your workbench (fasteners not included) and an 8-ft. power cord with three-prong plug.

Kits with leveling feet compensate for uneven floors.

Kits with casters have swivel casters with brake and 3″ dia. plastic wheels for mobility.

For Min. Leg Ht.	Ht. Added	Cap., lbs.	With Hand Crank		With Electric Motor	
With Leveling Feet						
13¼″	1⅝″-7⅝″	1,000	47105T11	$576.13	47105T21	$808.06
15¼″	1⅝″-9⅝″	1,000	47105T12	594.86	47105T22	851.13
19¼″	1⅝″-13⅝″	1,000	47105T13	651.07	47105T23	897.56
23¼″	1⅝″-17⅝″	1,000	47105T14	688.93	47105T24	899.74
With Casters						
13¼″	4⅞″-10⅞″	1,000	47105T51	644.59	47105T61	851.43
15¼″	4⅞″-12⅞″	1,000	47105T52	671.81	47105T62	922.09
19¼″	4⅞″-16⅞″	1,000	47105T53	708.46	47105T63	950.07
23¼″	4⅞″-20⅞″	1,000	47105T54	739.70	47105T64	968.69

Maintenance Kit—You'll get 36 feet of tubing, 10 nuts and ferrules, 16 ounces of hydraulic fluid, and an 8-oz. filler bottle with needle.

47105T48 $57.26

Single-Column Table Legs



All are made of 13-ga. steel tubing. Mobile models have casters, and all other models have leveling feet to compensate for uneven floors. Come with fasteners for attaching table tops. Color is black.

Mobile legs have swivel casters with brake and 2″ dia. plastic wheels.

Adjustable-height legs adjust by releasing a spring clip and sliding the leg inside the steel tube.

For Max. Top Size	Cap. per Leg, lbs.	Mounting Plate Size	Base Size		
Fixed Height—28″ High					
With Straight Base (4 required per top)—Shipped assembled					
84″ Wd.	75	4″ Sq.	—	4979T11	$4.56
With T-Base (2 required per top)—Shipped unassembled					
72″ Wd. × 24″ Dp.	150	10″ Sq.	18″	4979T21	104.50
72″ Wd. × 30″ Dp.	150	10″ Sq.	22″	4979T25	105.30
84″ Wd. × 36″ Dp.	150	10″ Sq.	26″	4979T31	106.12
With X-Base (1 required per top)—Shipped unassembled					
24″ Dia./18″ Sq.	300	10″ Sq.	18″ Sq.	6016T11	133.65
38″ Dia./27″ Sq.	300	10″ Sq.	30″ Sq.	6016T23	146.48
Mobile with X-Base (1 required per top)—Shipped unassembled					
24″ Dia./18″ Sq.	300	10″ Sq.	18″ Sq.	6016T12	166.05
38″ Dia./27″ Sq.	300	10″ Sq.	30″ Sq.	6016T24	178.88
Adjustable Height—25″-31″ High					
With Straight Base (4 required per top)—Shipped assembled					
84″ Wd.	75	4″ Sq.	—	5933T41	99.54
With T-Base (2 required per top)—Shipped unassembled					
72″ Wd. × 24″ Dp.	150	10″ Sq.	18″	5933T51	147.83
72″ Wd. × 30″ Dp.	150	10″ Sq.	22″	5933T55	148.50
84″ Wd. × 36″ Dp.	150	10″ Sq.	26″	5933T61	151.71

Capacities listed are based on an evenly distributed load.

For information about designing your own workbench, see page 1691.

Cabinet Workbench Bases

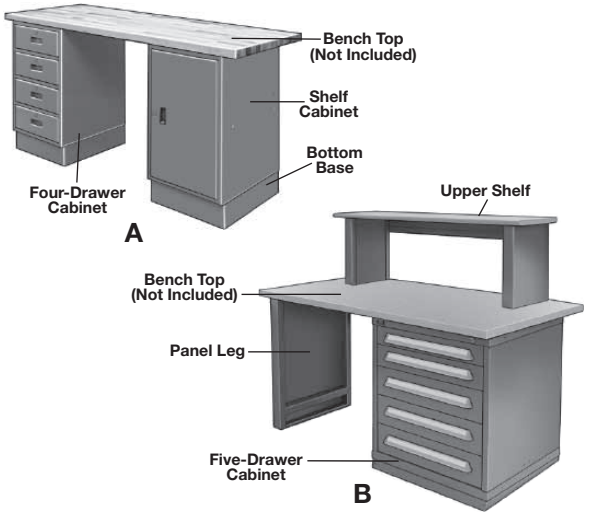

Create a workbench with the storage space you need by pairing bases with a workbench top (top and fasteners not included). For tops, see pages 1691-1692. Shipped unassembled.

(A) Standard

Cabinets and components are 20-ga. steel. They come with a 5″ high removable bottom base (removing the bottom base will lower the height to 27″). Each drawer and door has one knockout for adding an optional lock (not included; please ask for 48735T11 and specify keyed alike or keyed differently). Color is gray.

Drawer cabinets have 13″ Wd. × 19″ Dp. drawers.

Shelf cabinet has an interior shelf that adjusts on 3″ centers. The cabinet door can open to the right or left by turning the base over.

Wd.	Dp.	O'all Ht.	Drawers: Total No.	Drawers: Ht.		
Drawer Cabinet—O'all capacity is 1,000 lbs.; drawer cap. is 75 lbs.						
15¾″	20″	32″	3	5½″ (2), 12″	**9066T11**	$394.51
15¾″	20″	32″	4	5½″ (4)	**9066T12**	379.15
Shelf Cabinet—O'all capacity is 1,000 lbs.; shelf cap. is 75 lbs.						
15¾″	20″	32″	—	—	**9066T13**	196.99

(B) Heavy Duty

Store your heaviest tools and parts in these cabinet workbench bases. Cabinets and components are 20- to 18-ga. steel. Cabinets have a single cylinder lock with two keys that locks all drawers at once. Each drawer is 25″ Wd. × 25″ Dp.

Panel leg acts as a benchtop support when using only one cabinet base.

Upper shelves have a powder-coated steel top.

To Order: For all bases and components, please specify color: blue or gray.

Wd.	Dp.	Ht.	Drawers: No.	Drawers: Ht.		
Drawer Cabinet—O'all capacity is 1,600 lbs.; drawer cap. is 400 lbs.						
30″	29″	34″	4	2¼″, 3¾″, 5¼″, 12½″	**4795T65**	$1,021.28
Drawer Cabinet—O'all capacity is 2,000 lbs.; drawer cap. is 400 lbs.						
30″	29″	34″	5	3″, 3¾″, 5¼″(3)	**4795T66**	1,154.58
Panel Leg—O'all capacity is 400 lbs.						
3″	24½″	34″	—	—	**45045T23**	80.90
Upper Shelf—Shelf capacity is 270 lbs.						
60″	14″	18″	—	—	**45045T3**	95.44
Upper Shelf—Shelf capacity is 200 lbs.						
72″	14″	18″	—	—	**45045T4**	100.28

Low-Profile Organizing Drawers

All have two steel drawer slides and a plastic organizing tray. Furnished with four steel mounting brackets (mounting hardware included) for easy installation. Color is black.



Overall Size: Wd.	Dp.	Ht.	Cap., lbs.		
12¾″	13¾″	2¼″	75	**5165T11**	$29.77
12¾″	19¾″	2¼″	75	**5165T12**	35.99
22¼″	17¾″	2¼″	75	**5165T13**	41.24

Hand-Crank Adjustable-Height Workbench Bases

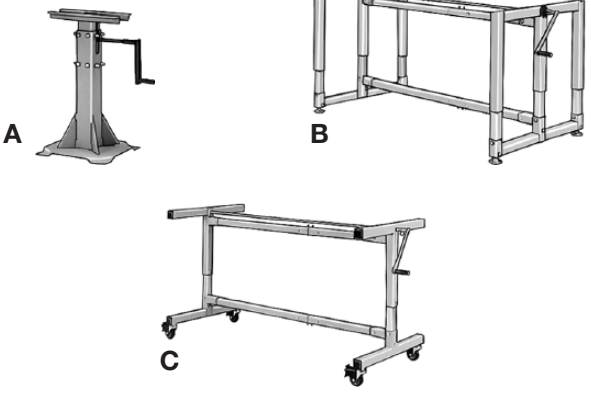

Adjust the height of your workbench without clearing off the top or loosening leg bolts. A hand crank makes these bases easier to adjust than our adjustable-height workbench legs. All hand cranks are retractable. Bases have six ⅜″ dia. holes for mounting tops (fasteners not included). Color is beige. Shipped assembled.

Style A is welded 7-ga. steel tubing. Includes a 16″ square mounting plate with four ⅜″ dia. holes for securing base to the floor (fasteners not included).

Style B are made of 11-ga. steel tubing and have leveling feet.

Style C come with four locking swivel casters with 4″ dia. polyurethane wheels. All are made of 7-ga. steel tubing.

For Top Size: Wd.	Dp.	Ht.	Cap. While Adjusting Ht., lbs.		
Stationary					
A	24″-36″	24″-30″	30″-42″	500	**3517T51**	$740.87
B	48″	30″	30″-42″	600	**3517T22**	944.26
B	60″	30″	30″-42″	600	**3517T23**	978.20
B	72″	30″	30″-42″	600	**3517T24**	1,018.69
Mobile						
C	48″	30″ or 36″	30″-42″	750	**3517T81**	945.75
C	60″	30″ or 36″	30″-42″	750	**3517T82**	1,040.00
C	72″	30″ or 36″	30″-42″	750	**3517T83**	1,119.08

Design-Your-Own Stackable Drawers for Workbenches

Stack these drawers underneath your workbench. You can stack drawers with different heights as long as they have the same width and depth. All have ball bearing drawer slides and come with hardware to mount them to each other and to your workbench. Color is gray.

Drawer is made of 22-ga. steel. It has one knockout for adding an optional lock (not included; please ask for 48735T11 and specify keyed alike or keyed differently).

Drawers with keyed lock are made of 18-ga. steel with steel drawer hangers. All come with a lock with two keys.

Two Stacked Drawers



Three Stacked Drawers with Keyed Lock



Drawer

Overall Size: Ht.	Wd.	Dp.	Cap., lbs.		
6″	17″	20″	50	**4811T61**	$77.15

Drawers with Keyed Lock

Overall Size: Ht.	Wd.	Cap., lbs.	16½″ Deep		23½″ Deep	
3¾″	15½″	75	**3330T51**	$108.22	**3330T61**	$134.85
5¾″	15½″	75	**3330T52**	110.43	**3330T62**	146.97
11¾″	15½″	75	**3330T53**	152.19	**3330T63**	183.73

Capacities listed are based on an evenly distributed load.

Workbench Drawers, Cabinets, Shelves & Stops

For information about designing your own workbench, see page 1691.

Drawers for Workbenches

For added storage, mount these drawers below your workbench top.

Plastic Drawers



Perfect for high-moisture areas, this rust-resistant drawer is made of plastic and has plastic glides. It has six 1/8″ dia. holes for mounting (fasteners not included). Color is beige.

Overall Size Wd.	Dp.	Ht.	Cap., lbs.		
17″	17″	4 3/4″	20	4614T32	$20.15

Harsh Environment Drawers



Our corrosion-resistant drawers are 22-ga. stainless steel with plastic slides. They have four 5/16″ dia. holes for mounting (fasteners not included). Meet NSF/ANSI standards.

Overall Size Wd.	Dp.	Ht.	Cap., lbs.		
16″	21 3/4″	5″	40	4405T88	$93.67
21″	21 1/2″	5″	40	4405T89	129.76

Steel Drawers



With Keyed Lock

All drawers have a tamperproof top. They are made of 18-ga. welded steel and have welded-on steel slides. Each drawer top has eight 9/32″ holes for mounting (fasteners included). Color is green.

Drawers with padlockable hasp accommodate a padlock (not included; max. shackle dia. of 3/8″).

Drawers with keyed lock have a tray for small items and a cylinder lock with two keys.

Overall Size Wd.	Dp.	Ht.	Cap., lbs.	With Padlockable Hasp		With Keyed Lock	
13 3/4″	20 1/4″	4″	100	4772T11	$120.52	4772T41	$173.48
13 3/4″	20 1/4″	5″	100	4772T12	122.72	4772T42	178.35
15 3/4″	22″	6″	100	4772T14	140.00	4772T44	195.39
19 3/4″	24″	6″	100	4772T15	157.04	4772T45	214.26
21 3/4″	20 1/2″	6″	100	4772T16	152.17	4772T46	208.17

Cabinets for Workbenches



One Door

Store larger items underneath your workbench. Made of 20-ga. welded steel, both have a 200-lb. capacity fixed shelf and a locking handle with two keys. They have four 7/16″ dia. holes for mounting, except the 36″ wide model has six (mounting hardware not included). Color is gray. Shipped assembled.

Overall Size Wd.	Dp.	Ht.	Overall Cap., lbs.	No. of Doors		
18″	19″	19″	400	1	4623T18	$136.82
36″	19″	19″	400	2	4623T19	224.56

Backstop and Side Stops for Workbenches

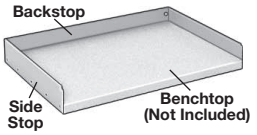

Prevent tools and parts from rolling off your workbench. Made of 16-ga. steel and measuring 3″ high, the backstop and side stops are sold as one complete unit. Mounting hardware included. Color is gray.

For Top Wd.	24″ Deep		30″ Deep		36″ Deep	
36″	5976T112	$30.04	5976T312	$33.76	5976T512	$35.63
48″	5976T122	38.66	5976T322	36.97	5976T522	39.78
60″	5976T132	42.09	5976T332	42.29	5976T532	39.47
72″	5976T142	44.80	5976T342	43.87	5976T542	45.07
96″	5976T152	54.72	5976T352	44.72	5976T552	45.72

Upper Shelves for Workbenches



Standard One Shelf



Standard Two Shelves



Adjustable Two Shelves



Adjustable Three Shelves

Standard shelves are 16-ga. steel with 2″ high backstops. Shipped assembled. To Order: Please specify color: beige or gray.

Models with two shelves have a lower shelf and two removable dividers to organize your work.

Adjustable shelves are made of 14-ga. steel with 1 3/4″ high backstops. All shelves can be positioned at any angle and can be reversed so the backstop is at the front to hold books and literature. Color is gray. Shipped unassembled.

Standard Shelves

For Top Wd.	Overall Size Dp.	Ht.	Shelf Cap., lbs.	One Shelf		Two Shelves	
36″	10 1/2″	12″	150	5971T11	$46.52	5971T21	$69.78
48″	10 1/2″	12″	150	5971T12	54.28	5971T22	77.54
60″	10 1/2″	12″	150	5971T13	65.91	5971T23	90.14
72″	10 1/2″	12″	150	5971T14	76.57	5971T24	96.92
96″	10 1/2″	12″	150	5971T15	103.71	5971T25	126.97

Adjustable Shelves

For Top Wd.	Overall Size Dp.	Ht.	Shelf Cap., lbs.	Two Shelves		Three Shelves	
60″	13 1/2″	24″	125	45065T61	$277.29		
60″	13 1/2″	36″	125	45065T62	289.24	45065T65	$384.62
72″	13 1/2″	24″	100	45065T63	295.84		
72″	13 1/2″	36″	100	45065T64	311.39	45065T66	419.39

Harsh Environment Upper Shelves for Workbenches



Two Shelves

Made of 16-ga. stainless steel for excellent corrosion resistance. Shelves have 1 1/2″ high backstops. Mounting hardware included. Shipped assembled. Meet NSF/ANSI standards.

For Top Wd.	Overall Size Dp.	Ht.	Shelf Cap., lbs.		
One Shelf					
48″	12″	18″	200	5983T21	$224.37
60″	12″	18″	250	5983T22	244.08
72″	12″	18″	300	5983T23	260.85
96″	12″	18″	400	5983T24	332.48
Two Shelves					
48″	12″	30″	200	5983T31	426.46
60″	12″	30″	250	5983T32	466.75
72″	12″	30″	300	5983T33	501.89
96″	12″	30″	400	5983T34	666.94

Capacities listed are based on an evenly distributed load.

Workbench Pegboards

Keep tools visible and organized above your workbench. Mount posts to the top of your workbench (there are four 3/8" dia. holes per footplate for mounting to the workbench; hardware included), connect panels to the posts, and add the accessories you need. Pegboard holes are 5/16" square and are on 1 1/2" centers. Panels are mounted with 7" of clearance above workbench. Made of 20-ga. steel. Color is gray.

Bin box rails are not compatible with 24" or 48" wide pegboards.

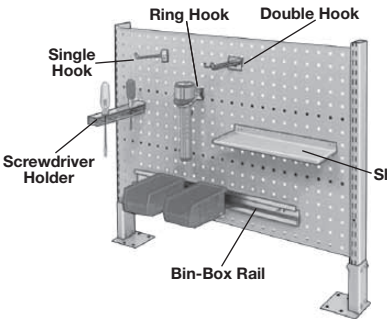

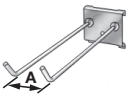

Double Hook



Ring Hook

Pegboards

Overall Size Wd.	Ht.	Panel Ht.	Panel Cap., lbs.	No. of Panels	No. of Posts		
24"	31"	24"	110	1	2	3202T11	$247.60
36"	31"	24"	110	1	2	3202T12	258.87
48"	31"	24"	110	2	3	3202T13	407.13
60"	31"	24"	110	2	3	3202T14	418.40
72"	31"	24"	110	2	3	3202T15	429.67

Pegboard Accessories

	Proj.	(A)	Cap., lbs.	Pkg. Qty.		Pkg.
Single Hook	3"	_	44	5	3202T21	$11.70
Single Hook	5 3/4"	_	22	5	3202T22	12.30
Double Hook	3 3/4"	1"	33	5	3202T23	18.28
Double Hook	5 3/4"	1"	33	5	3202T24	20.52
						Each
Ring Hook	3"	19/16"	44	_	3202T25	$5.58

	Proj.	(A)	Cap., lbs.		Each
Ring Hook	4 1/2"	3 1/8"	33	3202T27	$6.11
Screwdriver Holder	8 1/2"	★	30	3202T28	10.69
Bin-Box Rail (25" Wd.)	3/4"	___	11	3202T29	18.55
Shelf (14" Wd.)	4 3/4"	___	8	3202T31	15.75

★ Dimension (A) refers to the hole diameter; there are seven 1/4" dia. holes and seven 15/32" dia. holes.

Steel Tables

Style A have a reversible top, allowing you to have a work surface with or without a 2" high lip around the edge. They have 11-ga. steel frames and the tops are made of 16-ga. steel. Color is green. Shipped unassembled. *Mobile models* have swivel casters with brake and 2" dia. rubber wheels.

Styles B&C have an 11-ga. steel frame and a 12-ga. steel top. Color is gray. Shipped assembled. *Mobile models* have swivel casters with brake and 3" dia. rubber wheels.

Style C include a 13" Wd. × 15" Dp. × 5" Ht. 40-lb. capacity drawer.

Styles D&E have an 11-ga. steel frame and 12-ga. steel top. Color is gray. Shipped assembled. *Stationary models* have one 9/16" dia. hole per footplate for mounting to the floor (fasteners not included). *Mobile models* have swivel casters with brake and 3" dia. plastic wheels.

Style F have a welded 7-ga. steel frame, 12-ga. steel top, and shelf. Color is gray. Shipped assembled. *Stationary models* have a 9/16" dia. hole per footplate for mounting to the floor (fasteners not included). *Mobile models* have swivel casters with brake and 3" dia. plastic wheels.


A Stationary

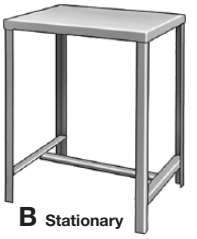
B Stationary


C Mobile

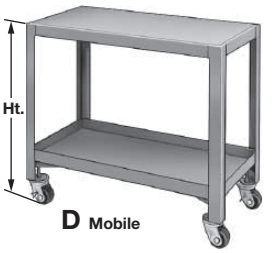

D Mobile

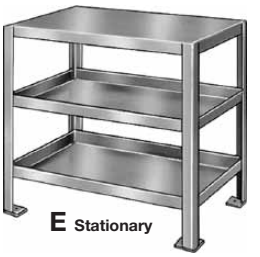
E Stationary

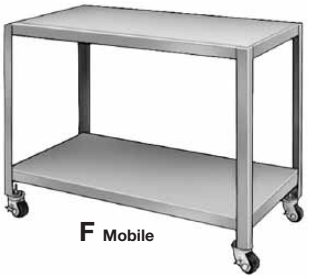
F Mobile

Overall Size Wd.	Dp.	Choose a Ht.	Stationary O'all Cap., lbs.			Mobile O'all Cap., lbs.		
Tables								
A	24"	18"	18", 24", 30", 36"	1,000	4791T61	$123.20	500	4791T81	$222.88
A	26"	22"	18", 24", 30", 36"	1,000	4791T62	131.60	500	4791T82	238.04
A	30"	24"	18", 24", 30", 36"	1,000	4791T63	136.08	500	4791T83	245.12
A	36"	24"	18", 24", 30", 36"	1,000	4791T64	142.80	500	4791T84	249.11
B	24"	18"	18", 24", 30", 36", 42"	2,000	46715T31	126.67	500	46715T61	190.09
B	36"	24"	18", 24", 30", 36", 42"	2,000	46715T32	151.03	500	46715T62	219.09
B	48"	24"	18", 24", 30", 36", 42"	2,000	46715T33	182.52	500	46715T63	257.12
Tables with Drawer								
C	24"	18"	18", 24", 30", 36", 42"	2,000	46715T71	225.87	500	46715T81	302.74
C	36"	24"	18", 24", 30", 36", 42"	2,000	46715T72	255.32	500	46715T82	332.06
C	48"	24"	18", 24", 30", 36", 42"	2,000	46715T73	293.50	500	46715T83	370.27
Tables with Shelf— Top and shelf capacities are 1,000 lbs.								
D	36"	18"	32"	2,000	5167T51	176.68	2,000	5167T21	250.03
D	36"	24"	32"	2,000	5167T53	188.36	2,000	5167T23	263.44
D	48"	24"	32"	2,000	5167T55	232.80	2,000	5167T25	311.12
D	60"	24"	32"	2,000	5167T57	276.16	2,000	5167T27	358.74
Tables with Two Shelves— Top capacity is 650 lbs. Shelf capacity is 665 lbs.								
E	36"	18"	32"	2,000	5167T52	234.49	2,000	5167T22	306.90
E	36"	24"	32"	2,000	5167T54	252.07	2,000	5167T24	329.61
Heavy Duty Steel Tables with Shelf— Top and shelf capacities are 1,500 lbs. for stationary models; 1,300 lbs. for mobile models.								
F	48"	24"	36"	3,000	5167T61	289.93	2,600	5167T41	367.95
F	48"	28"	36"	3,000	5167T64	302.87	2,600	5167T44	385.25
F	48"	34"	36"	3,000	5167T67	350.71	2,600	5167T47	427.33
F	72"	34"	36"	3,000	5167T69	512.29	2,600	5167T49	582.45

Capacities listed are based on an evenly distributed load.

Adjustable-Height Steel Tables

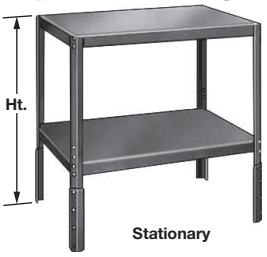

Stationary

Tables allow you to manually adjust height in 2″ increments within the range listed—to adjust, simply remove and reposition leg bolts. Made of 16-ga. steel with a 750-lb. capacity top and 750-lb. capacity shelf. Shelf adjusts in 4″ increments. Color is gray. Shipped unassembled. *Mobile* models have swivel casters with brake and 3″ dia. plastic wheels.

Overall Size Wd.	Dp.	Stationary: Choose a Ht.	Stationary: O'all Cap., lbs.			Mobile: Choose a Ht.	Mobile: O'all Cap., lbs.		
24″	18″	18″-24″, 30″-36″	1,500	4605T1	$86.65	22″-28″, 34″-40″	1,000	4605T31	$156.79
30″	24″	18″-24″, 30″-36″	1,500	4605T2	108.21	22″-28″, 34″-40″	1,000	4605T32	187.60
36″	24″	18″-24″, 30″-36″	1,500	4605T3	118.70	22″-28″, 34″-40″	1,000	4605T33	206.20
48″	24″	18″-24″, 30″-36″	1,500	4605T4	135.86	22″-28″, 34″-40″	1,000	4605T34	238.32

Maple- and Composite-Wood-Top Tables



Stationary with Maple Top


Stationary with Composite-Wood Top

Metal components are gray. Shipped assembled.

With Maple Top—Not only good looking, these tables are nonconductive and impact resistant. They have a 1¾″ thick maple top that has a clear-coated finish. Frame is 11-ga. steel.

Stationary models have leveling feet that allow you to adjust height.

Mobile models have swivel casters with brake and 3″ dia. rubber wheels.

With Composite-Wood Top—Reduce vibration and deaden sound from tools. All have a 1⅜″ thick composite-wood top with a clear-coated finish. Frame is 18-ga. steel.

Stationary models have one ⅜″ dia. hole per foot plate for mounting to the floor (fasteners not included).

Mobile models have four swivel casters (two with brake) with 4″ dia. rubber wheels.

With Composite-Wood Top with Shelf and Drawer—These tables are just like the composite-wood-top tables above, except they come with a 250-lb. capacity shelf and a 15″ Wd. × 20″ Dp. × 6″ Ht. drawer that has a capacity of 100 lbs.

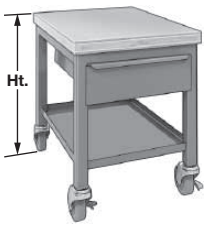

Mobile with Composite-Wood Top, Shelf, and Drawer

Overall Size Wd.	Dp.	Choose a Ht.	Stationary: O'all Cap., lbs.			Mobile: O'all Cap., lbs.		
With Maple Top								
24″	24″	★	1,000	9026T51	$268.04	1,000	2664T11	$295.18
36″	24″	★	1,000	9026T52	335.89	1,000	2664T12	363.04
48″	24″	★	1,000	9026T53	398.77	1,000	2664T13	430.89
With Composite-Wood Top								
18″	24″	24″, 30″, 36″	4,000	6403T11	234.55	1,000	6403T21	293.84
24″	36″	24″, 30″, 36″	4,000	6403T12	250.95	1,000	6403T22	307.69
With Composite-Wood Top, Shelf, and Drawer								
18″	24″	24″, 30″, 36″	4,000	6403T31	282.14	1,000	6403T41	358.93
24″	36″	24″, 30″, 36″	4,000	6403T32	354.31	1,000	6403T42	428.77

★ 32″ height for stationary models; 35″ height for mobile models.

Extra Heavy Duty Tables

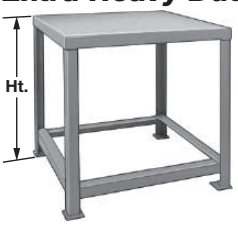

These tables have an all-welded construction and a 3/16″ thick angle iron-reinforced steel top. Legs are angle iron with a foot plate with one ⅝″ dia. mounting hole. Color is gray. Shipped assembled.

Overall Size Wd.	Dp.	Choose a Ht.	O'all Cap., lbs.		
30″	16″	24″, 30″, 36″	10,000	8020T1	$271.19
30″	22″	24″, 30″, 36″	10,000	8020T2	292.09
30″	28″	24″, 30″, 36″	10,000	8020T3	312.87
36″	30″	24″, 30″, 36″	10,000	8020T4	345.12
48″	30″	24″, 30″, 36″	10,000	8020T5	392.74

Narrow-Width Stainless Steel Tables

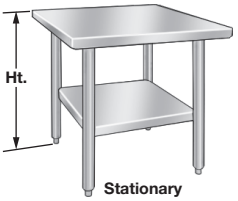

Stationary

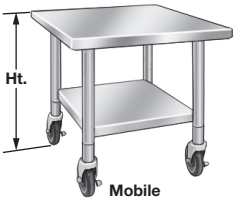

Mobile

Offering good corrosion resistance, these tables are often used in corrosive environments and food service applications. All tables have a welded 18-ga. stainless steel frame, 16-ga. stainless steel top, and shelf for added storage space. Tables meet NSF/ANSI standards. Shipped assembled.

Stationary models have leveling feet to compensate for uneven floors.

Mobile models have four swivel casters with brake and 5″ dia. polyurethane wheels.

Overall Size Wd.	Dp.	Top Cap., lbs.	Shelf Cap., lbs.	Stationary		Mobile	
24″ High Tables							
24″	24″	300	95	45795T42	$470.96	45795T72	$523.81
30″	24″	375	120	45795T43	499.92	45795T73	547.62
30″	30″	450	150	45795T44	523.81	45795T74	571.43
36″	30″	550	180	45795T45	555.56	45795T75	599.81
48″	30″	750	280	45795T47	614.29	45795T77	658.73
36″ High Tables							
24″	24″	300	95	45795T52	523.81	45795T82	576.19
30″	24″	375	120	45795T53	547.62	45795T83	601.59
30″	30″	450	150	45795T54	574.60	45795T84	630.16
36″	30″	550	180	45795T55	611.11	45795T85	660.32

Capacities listed are based on an evenly distributed load.

Ultra-Flat Extra Heavy Duty Tables

When precision is important, choose these tables that are ground to a flatness tolerance of 0.002″ per foot. They have an all-welded 3-ga. steel construction and the legs are steel angle iron with cross bracing for added strength. The bottom of each leg has two tapped holes (1/2″-13 and 5/8″-11) and one drilled hole (17/32″ dia.) for mounting to the floor (fasteners not included). Color is gray with an unpainted top. Shipped assembled.

To Order: Please specify height: 24″, 30″, 32″, 34″, or 36″.

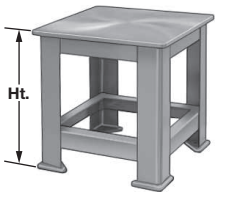

Overall Size Wd.	Dp.	O'all Cap., lbs.	Top Thick.		
24″	24″	35,000	3/4″	4769T42	$794.12
30″	24″	35,000	3/4″	4769T43	891.76
30″	30″	35,000	3/4″	4769T45	997.74
36″	24″	35,000	3/4″	4769T44	987.06
36″	30″	35,000	3/4″	4769T46	1,079.69
48″	30″	35,000	3/4″	4769T47	1,297.74
48″	36″	35,000	3/4″	4769T48	1,464.71
48″	48″	35,000	1″	4769T49	1,984.71
60″	30″	35,000	3/4″	4769T83	1,415.38
72″	30″	35,000	3/4″	4769T84	1,632.52

Vibration-Damping Marble-Top Tables

Also known as balance tables, these tables provide superior vibration control for sensitive equipment. They offer excellent resistance to impact, thermal shock, stains, and harsh chemicals. Both are made of 3″ thick nonporous, molded marble. They come with a black 2″ dia. cast iron cross brace that strengthens the legs. Color is white. Shipped unassembled.



Overall Size Wd.	Dp.	Ht.	O'all Cap., lbs.		
35″	24″	31″	1,000	4820T31	$1,278.01
35″	24″	36″	1,000	4820T32	1,353.19

Mobile Slope-Top Instrument Tables

The sloped top positions your multimeters, oscilloscopes, and other instruments at a convenient height and viewing angle. All surfaces are nonconductive, nonmarring, and heat resistant. Legs and frame are made of 18-ga. galvanized steel tubing. Each top has 1 1/4″ high side stops and an adjustable support arm with rubber bumpers to hold your instruments in place. All tables have a 75-lb. capacity removable lower shelf and four swivel casters with 3″ dia. rubber wheels. Shipped unassembled.

The top and shelf are either 3/4″ thick UV-coated birch plywood with a light woodgrain finish or 5/8″ thick light gray plastic laminate over particleboard. Birch plywood is slightly stronger than plastic laminate, but plastic laminate is easier to clean.

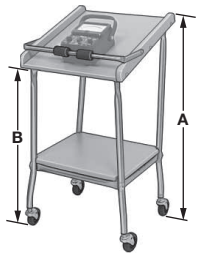

Top Size, Wd. × Dp.	Ht. (A)	Ht. (B)	O'all Cap., lbs.	Birch Plywood Top and Shelf		Plastic-Laminate Top and Shelf	
15 1/2″ × 19″	34″	28″	150	9031T14	$109.09	9031T16	$105.45
23″ × 19″	34″	28″	150	9031T15	127.27	9031T17	121.00

Laminate-Top Tables

All tables have a plastic-laminate top and a steel frame. Shipped unassembled.

Fixed-height tables have a 16-ga. chrome-plated frame. *Gray tops* have a gray frame. *Light brown woodgrain* and *dark brown woodgrain tops* have a black frame.

Fixed-height tables with shelf have an 18-ga. frame. The shelf has a 100-lb. capacity. *Gray* and *dark brown woodgrain tops* have a black frame. *Light brown woodgrain tops* have a brown frame.

Adjustable-height tables adjust in 1″ increments. They have a 14-ga. frame and leveling glides. *Gray tops* have a dark blue frame. *Light brown woodgrain tops* have a black frame.

Adjustable-height tables with modesty panel adjust in 1″ increments. They have an 18-ga. frame with chrome-plated steel feet and a black modesty panel for privacy (except tables with light brown woodgrain tops have a beige modesty panel). Legs have adjustable leveling glides.

To Order: Please specify top color: gray, light brown woodgrain, or dark brown woodgrain (unless noted).



Style	Overall Size Wd.	Dp.	Top Thick.	Top Cap., lbs.		
Fixed-Height Tables—29 1/2″ High						
A	40″	20″	1 1/4″	400	6124T1	$178.18
A	48″	30″	1 1/4″	400	6124T3	196.51
A	60″	20″	1 1/4″	400	6124T2	194.47
A	60″	30″	1 1/4″	400	6124T4	224.00
A	72″	36″	1 1/4″	400	6124T5	287.50
Fixed-Height Table—30″ High						
B	72″	30″	1 1/4″	300	5507T6★	371.99
Fixed-Height Tables with Shelf—30″ High						
C	24″	24″	3/4″	350	5112T21	143.18
C	30″	18″	3/4″	350	5112T22	145.83
C	30″	30″	3/4″	350	5112T23	148.58
C	48″	18″	3/4″	350	5112T24	150.00
Adjustable-Height Tables—24″-34″ High						
B	48″	24″	1 1/4″	300	5507T4★	287.13
B	60″	30″	1 1/4″	300	5507T5★	329.95
Adjustable-Height Tables with Modesty Panel—26″-30″ High						
D	36″	24″	1 1/4″	350	4718T11	212.37
D	48″	24″	1 1/4″	350	4718T12	242.31
D	48″	30″	1 1/4″	350	4718T15	302.31
D	60″	30″	1 1/4″	350	4718T13	323.08

★ Dark brown woodgrain top is not available.

Capacities listed are based on an evenly distributed load.

Laminate-Top Tables with Pedestal Base





All pedestals are steel with an iron base; the pedestal and base are both black and come with adjustable leveling feet to compensate for uneven floors. All tables have a plastic-laminate top. Shipped unassembled. **To Order:** Please specify top color: gray, light brown woodgrain, or dark brown woodgrain.

Overall Size Wd.	Dp.	Ht.	Top Thick.	Top Cap., lbs.	Base Size Wd.	Dp.		
Rectangular								
30″	30″	29″	1¼″	350	22″	22″	9610T11	$151.42
36″	36″	29″	1¼″	350	30″	30″	9610T12	208.51
Round								
30″ Dia.	—	29″	1¼″	350	22″	22″	9610T13	151.42
36″ Dia.	—	29″	1¼″	350	30″	30″	9610T14	208.51
42″ Dia.	—	29″	1¼″	350	30″	30″	9610T15	246.33
48″ Dia.	—	29″	1¼″	350	30″	30″	9610T16	258.69

Laminate-Top Folding Tables

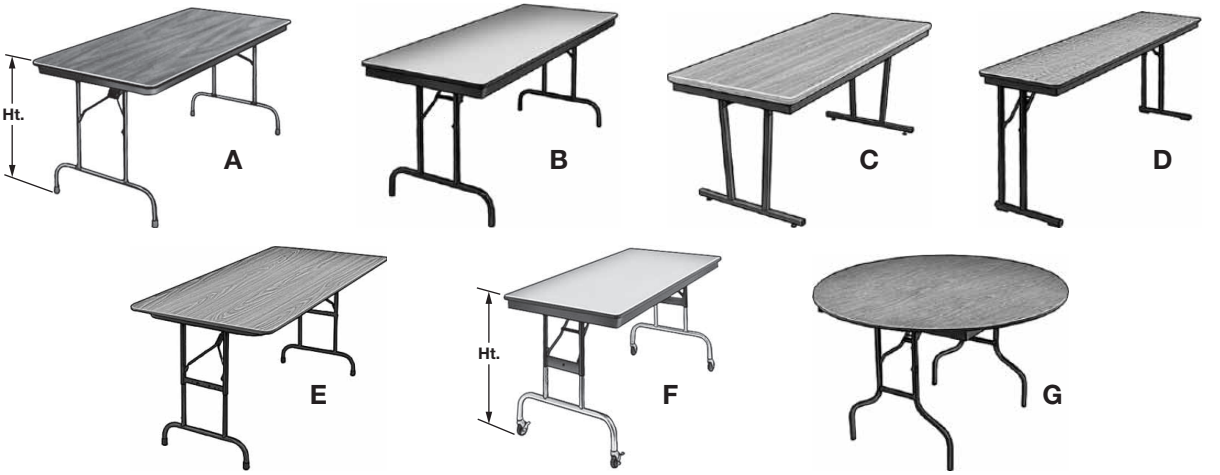

All have a plastic-laminate top, steel frame and steel legs with foot glides. Shipped assembled.

To Order: Please specify color from choices below (unless otherwise indicated).

- Gray top with black frame and legs.
- Light brown woodgrain top with brown frame and legs.
- Dark brown woodgrain top with black frame and legs.

Style A—Dark brown woodgrain tops have a brown frame and legs. Gray tops have a gray frame and legs.

Style C—Often used for conference rooms. The plastic feet adjust to compensate for uneven floors.

Style E—Adjust in 1″ increments. Dark brown woodgrain tops have a brown frame and legs. Gray tops have a gray frame and legs.

Style F—Tables roll where you need them and adjust in 1″ increments. All come with four swivel casters (two with brake) with 3″ dia. rubber wheels. The lower portion of the legs are chrome plated.

	Overall Size Wd.	Dp.	Ht.	Top Thick.	Top Cap., lbs.		
Fixed-Height Rectangular Tables							
A	48″	24″	29″	5⁄8″	250	4848T6	$126.67
A	60″	30″	29″	5⁄8″	250	4848T1	139.33
A	72″	18″	29″	5⁄8″	250	4848T7	141.81
A	72″	30″	29″	5⁄8″	250	4848T2	148.04
A	72″	36″	29″	5⁄8″	250	4848T4	159.31
A	96″	30″	29″	5⁄8″	250	4848T3	170.21
A	96″	36″	29″	5⁄8″	250	4848T5	187.67
B	60″	30″	30″	3⁄4″	700	5638T2	213.98
B	72″	30″	30″	3⁄4″	700	5638T3	221.73
B	72″	36″	30″	3⁄4″	700	5638T4	260.49
B	96″	30″	30″	3⁄4″	700	5638T5	267.47
B	96″	36″	30″	3⁄4″	700	5638T6	318.64
C	72″	30″	30″	1¼″	900	5524T1	300.27
C	96″	30″	30″	1¼″	900	5524T2	352.64
D	60″	18″	30″	3⁄4″	1,000	5168T5	330.15
D	60″	24″	30″	3⁄4″	1,000	5168T6	366.42

	Overall Size Wd.	Dp.	Ht.	Top Thick.	Top Cap., lbs.		
Fixed-Height Rectangular Tables (Cont.)							
D	72″	18″	30″	3⁄4″	1,000	5168T7	$338.03
D	72″	24″	30″	3⁄4″	1,000	5168T8	383.16
D	96″	24″	30″	3⁄4″	1,000	5168T9	396.88
Adjustable-Height Rectangular Tables							
E	60″	30″	22″-32″	5⁄8″	250	6171T1	170.89
E	72″	36″	22″-32″	5⁄8″	250	6171T4	200.70
E	96″	36″	22″-32″	5⁄8″	250	6171T5	220.55
Mobile Adjustable-Height Rectangular Tables							
F	60″	30″	23″-30″	3⁄4″	750	4934T22	316.60
F	72″	30″	23″-30″	3⁄4″	750	4934T24	327.15
F	96″	36″	23″-30″	3⁄4″	750	4934T26	411.16
Fixed-Height Round Tables							
G	48″ Dia.	—	29″	5⁄8″	1,000	4156T21	247.22
G	60″ Dia.	—	29″	5⁄8″	1,000	4156T23	322.67
G	72″ Dia.	—	29″	5⁄8″	1,000	4156T24	474.30

Heavy Duty Aluminum Folding Tables



Made entirely of aluminum, these tables resist corrosion and rust, and won't crack or warp after extended exposure to moisture, heat, and sunlight. They're also lighter than similarly sized tables, making them easy to transport and store. They have a 14-ga. frame, a 12-ga. top, and foot glides. Color is gray. Shipped assembled.

Overall Size Wd.	Dp.	Ht.	Top Thick.	Top Cap., lbs.		
60″	18″	29½″	0.081″	4,000	5234T11	$335.00
60″	30″	29½″	0.081″	4,000	5234T12	410.00
72″	30″	29½″	0.081″	4,000	5234T15	438.33
96″	30″	29½″	0.081″	4,000	5234T18	513.33

Capacities listed are based on an evenly distributed load.

Plastic-Top Folding Tables

Not only are these tables stain, impact, and chemical resistant, but they are also lightweight and easy to clean. The top is white; frame is black steel, except the easy-carry table has a brown frame.

Adjustable-Height Rectangular Tables—Adjust in 1″ increments.

Easy-Carry Rectangular Tables—Because of their built-in handle and lightweight frame, you can easily carry these tables with one hand.



Rectangular

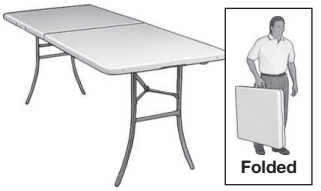

Easy-Carry Rectangular


Round

Overall Size Wd.	Dp.	Top Thick.	Top Cap., lbs.		
Fixed-Height Rectangular Tables—29″ High					
48″	24″	2½″	250	6167T21	$103.64
60″	30″	2½″	250	6167T35	124.94
72″	18″	2½″	250	6167T22	129.84
72″	30″	2½″	250	6167T51	135.03
96″	30″	2½″	250	6167T52	181.66
Adjustable-Height Rectangular Tables—22″-32″ High					
48″	24″	2½″	250	5576T21	155.45
72″	30″	2½″	250	5576T22	$196.91
96″	30″	2½″	250	5576T23	247.35
Easy-Carry Fixed-Height Rectangular Table—29″ High					
72″	30″	1¾″	300	6167T8	90.40
Fixed-Height Round Table—29″ High					
60″ Dia.	—	2½″	250	5589T51	288.80

Folding-Table Racks

Easily store and transport multiple folding tables. All are made of welded steel with a brown finish, except the support beams are wood. Come with four swivel casters with 4″ dia. rubber wheels. Shipped unassembled.

For Table Size	Overall Size Wd.	Dp.	Ht.		
For Rectangular Tables—Holds 10 to 12 tables.					
48″, 60″, and 72″ Wide	74″	31¼″	36¼″	4162T13	$300.80
96″ Wide	97½″	31¼″	36¼″	4162T14	331.76
For Round Tables—Holds 8 tables.					
60″ and 72″ Dia.	61″	31¼″	41¼″	4162T15	458.80


For Rectangular Tables


For Round Tables

Food-Service Tables


Laminate-Top Table


Mobile Laminate-Top Folding Table

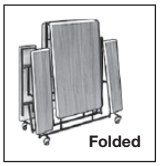


Wood- and Aluminum-Top Table


Plastic-Top Table

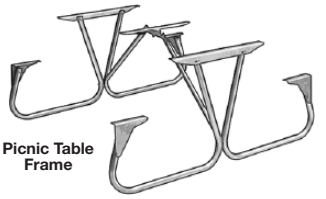
Picnic Table Frame

Shipped unassembled, except *mobile laminate-top folding tables* are shipped assembled.

Tables have a woodgrain plastic-laminate top. Frames are steel.

Laminate-top tables have dark brown tops with beige frames. All come with leveling feet to compensate for uneven floors.

Mobile laminate-top folding tables fold in half for easy storage. They roll on four swivel casters with 4″ dia. plastic wheels. They have light brown tops with black frames, All come with foot glides that provide stability when tables are open.

Wood-top tables have a brown stained pine top and galvanized steel frames.

Aluminum-top tables have corrosion-resistant aluminum tops and benches that make these tables lighter and easier to move than our other picnic tables. Frames are galvanized steel.

Plastic-top tables have brown tops and black plastic frames.

Overall Size Wd.	Dp.	Top Thick.	Top Size Wd.	Dp.	Bench Size Wd.	Dp.	Ht.	Folded Size Wd.	Dp.	Ht.		
Tables												
Laminate-Top Tables—29″ High												
72″	57″	¾″	72″	30″	72″	12″	18″	—	—	—	6126T21	$674.18
96″	57″	¾″	96″	30″	96″	12″	18″	—	—	—	6126T22	764.18
Mobile Laminate-Top Folding Tables—29″ High												
97″	56″	11/16″	97″	30″	41″	10″	17″	56″	38″	60″	6125T31	1,382.40
145″	56″	11/16″	145″	30″	63″	10″	17″	56″	39″	82″	6125T32	1,560.00
Picnic Tables												
Wood-Top Tables—30½″ High												
72″	60″	2″	72″	31″	72″	10″	19″	—	—	—	9814T12	515.72
96″	60″	2″	96″	31″	96″	10″	19″	—	—	—	9814T14	536.31
Aluminum-Top Tables—30½″ High												
72″	60″	2″	72″	31″	72″	10″	19″	—	—	—	9814T22	769.77
96″	60″	2″	96″	31″	96″	10″	19″	—	—	—	9814T24	880.24
Plastic-Top Tables—31½″ High												
72″	62″	1½″	72″	29″	72″	10″	19″	—	—	—	6738T129	833.34

Picnic Table Frames

Build a picnic table with your own wood top and benches. These frames can also be used as a replacement frame for our wood-top and aluminum-top picnic tables. Mounting hardware included.

Galvanized Steel Frame Only	9814T26	$335.32

Capacities listed are based on an evenly distributed load.

Stand-Up-Height Workstations

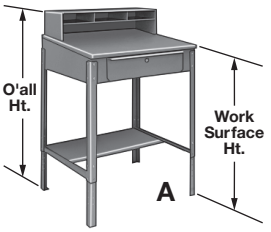



















(A-G) Stationary Workstations

All have a drawer directly below the writing surface.

Style A are gray.

Standard workstation has a 75-lb. capacity lower shelf and a drawer that includes a lock and two keys. Shipped unassembled.

Heavy duty workstation has a 130-lb. capacity lower shelf and a drawer that includes a lock and two keys. The work surface height can be lowered in 1″ increments to 36¾″. Shipped assembled.

Style B has three additional file drawers and a 75-lb. capacity lower shelf. One drawer is 13″ Wd.×20″ Dp.×5½″ Ht; the other two are 13″ Wd.×20″ Dp.×12″ Ht. All drawers have recessed drawer pulls and include a lock and two keys. Color is gray. Shipped assembled.

Style C Color is gray.

Standard workstation has a lower cabinet with an interior shelf that adjusts on 3″ centers. Drawer and cabinet door include a lock and two keys. It has a 32″ Wd.×28″ Dp.×28″ Ht. cabinet. Shelf capacity is 350 lbs. Shipped unassembled.

Heavy duty workstation has a lower cabinet with an interior shelf that adjusts on 4″ centers. Drawer and cabinet door include two locks and four keys. It has a 35″ Wd.×30″ Dp.×30″ Ht. cabinet. Shelf capacity is 130 lbs. Shipped assembled.

Style D has a top cabinet and lower shelf. Drawer and cabinet door have recessed drawer and door pulls; include locks with two keys. The cabinet is 31½″ Wd.×14″ Dp.×18″ Ht. and has a fixed 300-lb. capacity shelf. Color is beige. Shipped unassembled.

Style E has three additional 12″ Wd.×22½″ Dp.×9″ Ht. file drawers. All drawers have pull handles and include a lock and two keys. This workstation also has a 250-lb. capacity lower shelf. Color is gray. Shipped assembled.

Style F is fully welded and has a 950-lb. capacity lower shelf. Drawer has a padlock hasp (padlock not included; max. shackle dia. is 7/16″). Each leg has one ¾″ dia. mounting hole (fasteners not included). Color is gray. Shipped assembled.

Style G is fully welded and has a lower cabinet with a 2,250-lb. capacity interior shelf that adjusts on 2″ centers. The drawer and cabinet door both have a padlock hasp (padlock not included; max. shackle dia. is 7/16″ for the drawer and ½″ for the cabinet door). The cabinet is 36″ Wd.×28″ Dp.×36″ Ht. Legs have ¾″ dia. mounting holes. Color is gray. Shipped assembled.

(H-K) Mobile Workstations

Style H workstations have a lift-up top with an interior storage compartment; top includes a lock and two keys. Workstation also has a lower shelf and comes with four swivel casters (two with brake) that have 5″ dia. plastic wheels. Shipped assembled.

Standard workstation is gray. Shelf capacity is 100 lbs.

Harsh environment workstation is made of stainless steel and is good for corrosive and sanitary environments. Shelf capacity is 125 lbs. Meets NSF/ANSI standards.

Style J is fully welded and has two drawers and a cabinet. Drawers and cabinet door include locks and two keys. Cabinet is 23″ Wd.×20″ Dp.×20½″ Ht. and has a fixed shelf with a capacity of 50 lbs. A ½″ lip on the front of the writing surface keeps items from rolling off the desk. Comes with four swivel casters that have 3″ dia. rubber wheels. Color is gray. Shipped assembled.

Style K has a drawer and lower shelf. The drawer has a padlock hasp (padlock not included; max. shackle dia. is 7/16″). Shelf has a capacity of 950 lbs. Comes with four casters (two rigid; two swivel) that have 6″ dia. rubber wheels. Has a floor lock to keep workstation in place. Color is gray. Shipped assembled.

				Work Surface			Top Cap.,	Drawer			Cap.,		
	Wd.	Dp.	Ht.	Dp.	Ht.	Style	lbs.	Wd.	Dp.	Ht.	lbs.		
Stationary Workstations													
Standard Steel													
A	34½″	30″	53″	21″	43″	Sloped	200	24″	28″	3½″	150	**9912T32**	$221.88
B	39″	29″	55½″	19¾″	43¾″	Flat	200	20″	23″	5½″	100	**45915T66**	761.66
C	34½″	30″	53″	21″	43″	Sloped	200	24″	28″	3½″	150	**4780T19**	380.75
D	31½″	21″	72½″	15″	40″	Sloped	200	26″	17″	4″	150	**4838T24**	379.13
Heavy Duty Steel													
A	35″	30″	51¾″	22½″	42¾″	Sloped	400	20″	24″	5″	100	**9912T371**	401.90
C	35″	30″	50¼″	22½″	41¼″	Sloped	400	20″	24″	5″	100	**4780T31**	617.75
E	39″	28″	53½″	20″	42″	Flat	1,000	20″	23″	5″	100	**9762T39**	971.52
F	36″	28″	54″	17¾″	42″	Sloped	1,600	29″	20″	6″	225	**5662T72**	1,028.05
G	36″	28″	54″	17¾″	42″	Sloped	1,600	29″	20″	6″	225	**8213T71**	1,203.33
Mobile Workstations													
Standard Steel													
H	24″	22″	49″	13½″	42″	Sloped	25	—	—	—	—	**40795T72**	285.00
Harsh Environment Stainless Steel													
H	24″	22″	49″	13½″	42″	Sloped	25	—	—	—	—	**41045T62**	661.53
Heavy Duty Steel													
J	23″	20″	51″	14″	42″	Sloped	500	20¾″	19½″	6″	100	**40805T52**	478.24
K	36″	28″	54″	17¾″	42″	Sloped	1,900	29″	20″	6″	225	**5013T21**	1,250.82

Capacities listed are based on an evenly distributed load.

Portable Stand-Up-Height Workstations

Always have a surface to write on with this easy to carry workstation. The writing surface comes with a clear, acrylic document protector and two clips for holding papers. Writing surface and back panel are made of yellow plastic. The frame is made of steel with a black finish. Shipped unassembled.

Back panel document protector is clear acrylic.

Center tray is 20½″ Wd. × 9½″ Dp. × 4½″ Ht. and comes with a lock and two keys. Made of steel.

Side tray is 8″ Wd. × 7½″ Dp. Made of steel.

File holder has three 2″ wide sections. Made of steel.

Casters have 3″ dia. rubber wheels. All swivel and have a brake.



Workstation

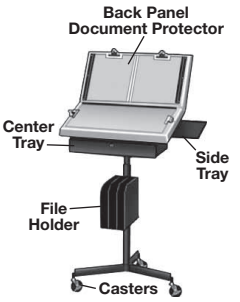

Shown with Accessories

	Overall Wd.	Work Surface Style	Work Surface Dp.	Ht.	O'all Cap., lbs.		
Workstation	26″	Sloped	13″	38″	20	5091T51	$329.83
Accessories							
Back Panel Document Protector						5091T69	39.85
Center Tray						5091T81	150.15
Side Tray						5091T62	47.27
File Holder						5091T66	102.19
Casters (Set of 3)						5091T67	32.99

Desks

In addition to a sturdy 25-ga. steel frame, these desks include drawers for storage. Desk tops are plastic laminate. A modesty panel provides privacy and leveling feet compensate for uneven floors. Shipped assembled.

To Order: Please specify color from the choices below, unless noted.

- Gray top with a gray base
- Light brown woodgrain top with a beige base
- Dark brown woodgrain top with a black base
- Dark brown woodgrain top with a beige base

Styles A&B—The legs are steel with a chrome-plated finish. The center drawer and the set of pedestal drawers each lock individually. Desks come with two keys per lock.

Style C—Each set of pedestal drawers locks individually with a lock and two keys. Desk comes with cutouts for routing cords.

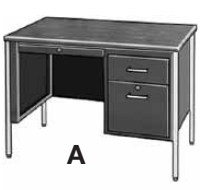

A

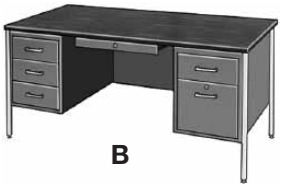

B

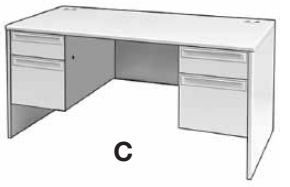

C

	Wd.	Dp.	Ht.	Top Thick.	Top Cap., lbs.	Drawers No.	Drawers Wd.	Drawers Dp.	Drawers Ht.		
A	40″	24″	29½″	1⅛″	400	1	19″	16½″	2″		
						1	12½″	19″	5½″		
						1	12½″	19″	11½″	8577T91	$369.41
B	60″	30″	29½″	1⅛″	600	1	19″	16½″	2″		
						4	12½″	19″	5½″		
						1	12½″	19″	11½″	8577T93	505.34
C	60″	30″	29½″	1⅛″	270	2	11″	19″	4½″		
						2	12″	27″	9½″	8215T42★	766.06

★Dark brown woodgrain top is not available.

Adjustable-Height Office Workstations

Mix and match components to create a workstation that can be reconfigured as your needs change. Desk height can be adjusted in 1″ increments. They include removable modesty panels for privacy (one on rectangular desks; two on corner desk). Tops are plastic laminate, and legs are chrome-plated steel. Shipped unassembled. **To Order:** Please specify top color: gray, light brown woodgrain, or dark brown woodgrain.

Corner desk connects two rectangular workstations. The two connecting sides are 30″ deep; angled front is 25″ wide.

Computer keyboard tray is 23″ Wd. × 12″ Dp. and is made of ¾″ thick plastic laminate. Mounting fasteners included. Color is black.

CPU holder adjusts from 5½″ to 9¼″ wide and 14¾″ to 20½″ high. Made of steel. Mounting fasteners included. Color is black.

Drawer cabinet is 15″ Wd. × 19½″ Dp. × 19½ Ht. It has two 100-lb. capacity drawers: 13″ Wd. × 16″ Dp. × 7″ Ht. and 13″ Wd. × 16″ Dp. × 12″ Ht. The drawer cabinet also comes with a lock and two keys. Made of steel. Mounting fasteners included. **To Order:** Please specify color: black or beige.

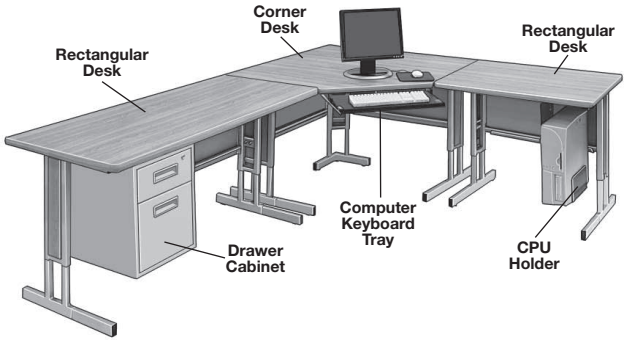

	Overall Size Wd.	Overall Size Dp.	Top Thick.	Top Cap., lbs.		
Rectangular Desks—24″-32″ High						
	36″	30″	1¼″	400	4316T41	$306.34
	48″	30″	1¼″	400	4316T42	321.54
	60″	30″	1¼″	400	4316T43	350.18
Corner Desk—24″-32″ High						
	48″	30″	1¼″	400	4316T44	513.29
Accessories						
Computer Keyboard Tray					4316T51	78.07
CPU Holder					4316T52	149.09
Drawer Cabinet					4316T53	338.55

Capacities listed are based on an evenly distributed load.

Wall-Mount Workstations

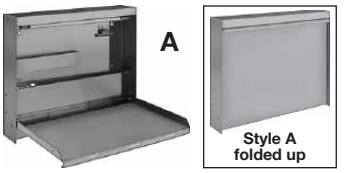





Now you can have a writing surface without sacrificing an inch of floor space. *Harsh environment workstations* are stainless steel for use in corrosive and sanitary environments.

Style A can be pulled down when needed, then folded up and out of the way. Workstations protrude 3⅜″ from the wall when folded. They have 1″ side stops, a spring clip for holding papers, and built-in pockets for storing forms, cards, and pencils. They have two 3⁄16″ dia. holes for wall mounting. Mounting fasteners included. Shipped assembled.

Standard workstation has an 18-ga. steel work surface. **To Order:** Please specify color: beige, gray, or white.

Harsh environment workstation has an 18-ga. stainless steel work surface.

Style B has a top that lifts to access a storage compartment. Top includes a lock for added security.

Standard workstation is 20-ga. steel and has two ½″ dia. holes on the back and one 9⁄32″ dia. hole in each brace for wall mounting (mounting fasteners not included). Lock comes with one key. Color is gray. Shipped unassembled.

Harsh environment workstation is 20-ga. stainless steel. There are two 3⁄16″ dia. holes in the back and two 9⁄32″ dia. holes in each brace for wall mounting (mounting fasteners not included). Lock comes with two keys. Shipped assembled.

Style C has a locking drawer below the work surface for storage. The drawer measures 24″ Wd. × 28″ Dp. × 3½″ Ht., has a capacity of 100 lbs., and comes with a lock and two keys. The work surface is 18-ga. steel. Mounting fasteners included. Color is gray. Shipped assembled.

Material	Wd.	Dp.	Ht.	Work Surface Dp.	Work Surface Style	Work Surface Cap., lbs.		
Standard								
A Steel	20″	15¼″	16⅜″	13½″	Flat	50	**4796T15**	$175.00
B Steel	24½″	23½″	11¾″	23½″	Sloped	100	**4894T26**	237.20
C Steel	34½″	30″	32″	22″	Sloped	200	**4808T15**	215.97
Harsh Environment								
A Stainless Steel	20″	15¼″	16⅜″	13½″	Flat	50	**4796T21**	413.18
B Stainless Steel	24″	23″	12½″	13½″	Sloped	150	**4014T47**	442.98

Adjustable-Height Sloped-Top Workstations



Drawing, drafting, and writing are more comfortable than ever—not only can you adjust the height, but you can also change the slope of the top from 0° to 40°. Workstations have a white plastic-laminate top. Frame is steel with adjustable leveling feet to compensate for uneven floors. They have a 42″ Wd. × 12″ Dp. fixed lower shelf and a modesty panel for privacy. Shipped unassembled. Note: Not rated for capacity.

To Order: Please specify frame color: black or white.

Wd.	Dp.	Ht.	Top Thick.		
48″	36″	29″-46″	¾″	**6103T6**	$443.20
60″	37½″	29″-46″	¾″	**6103T1**	490.77
72″	37½″	29″-46″	¾″	**6103T2**	511.40

Adjustable-Height Mobile Computer Workstations



Knob Adjustable



Bolt Adjustable



Air Adjustable

Work in a sitting or standing position—adjust the height on these units for your comfort. All have four swivel casters (two with brake). Shipped unassembled.

Knob-adjustable workstation has a platform that is angled and adjustable. Casters have 2″ dia. plastic wheels. Frame is black steel; monitor platform is black plastic laminate.

Bolt-adjustable workstation adjusts in 1″ increments to raise and lower the monitor platform. Includes a pull-out keyboard tray and a mouse platform that pulls out on either side of the keyboard tray. The CPU holder adjusts from 8″ to 10″ wide and can be used on the left or right side. Unit also has one fixed shelf and one adjustable shelf. Casters have 3″ dia. rubber wheels. Frame is gray steel and monitor platform is black plastic laminate.

Air-adjustable workstation has an air cylinder that raises and lowers monitor platform to the desired height. Monitor platform includes a cutout for routing cords. Casters have 2½″ dia. plastic wheels. Frame is black steel and monitor platform is brown woodgrain plastic laminate.

	Wd.	Dp.	Ht.	Monitor Platform Wd.	Monitor Platform Dp.	Keyboard Tray Wd.	Keyboard Tray Dp.		
Knob Adjustable	22½″	18″	27″-43″	24″	16″	____	__	**8583T57**	$137.42
Bolt Adjustable	30″	24″	27½″-52½″	30″	22″	22½″	12″	**8583T41**	310.21
Air Adjustable	27½″	22½″	28½″-45½″	27″	17½″	27″	9½″	**8583T64**	341.93

Capacities listed are based on an evenly distributed load.

Computer Workstations

Workstation with steel frame folds down to 5¼″ high for convenient storage. The height and angle of the keyboard tray adjusts in ¼″ increments. Top and keyboard tray have a ¾″ thick gray plastic-laminate top; frame is made of steel and has plastic feet. Shipped assembled.

Workstation with plastic frame is durable, scratch resistant, and easy to clean. It snaps together for easy assembly—no tools are needed. Color is gray. Shipped unassembled.





			Keyboard Tray			
Wd.	Dp.	Ht.	Wd.	Dp.		
Steel Frame						
47½″	30″	28¾″	20¾″	9½″	**6459T81**	$150.40
Plastic Frame						
42″	24½″	30″	—	—	**45015T475**	225.00

Cabinet-Style Computer Workstations

Protect your computer while working. The top compartment has a plastic window that shields your monitor while providing a clear view of the screen. A pull-out tray holds your keyboard. Workstations are made of 20-ga. steel, have louvered cutouts that provide ventilation to keep equipment cool, and have cut-outs for routing cords. Shipped assembled. **To Order:** Please specify color: beige, blue, or gray.

Tabletop workstation has one lock on the compartment door and one on the keyboard tray. Locks are keyed alike. Two keys are included.

Mobile workstation has one shelf in the lower compartment that adjusts in 2½″ increments to accommodate your CPU and printer. Each of the following components has one lock: top compartment door, keyboard tray, bottom compartment door, and rear access door. All locks are keyed alike. Two keys are included. Unit has four swivel casters (two with brake) with 4″ dia. rubber wheels.


Tabletop


Mobile

	Overall Size			Top Compartment	Bottom Compartment Inside			Window			Monitor Platform		Keyboard Tray			
	Wd.	Dp.	Ht.	Inside Ht.	Wd.	Dp.	Ht.	Wd.	Ht.	Thick.	Wd.	Dp.	Wd.	Dp.		
Tabletop	26″	24″	32″	23¼″	—	—	—	16¼″	15½″	⅛″	25¾″	20¼″	21¼″	8″	**49175T2**	$290.82
Mobile	26″	24″	62″	23¼″	25¾″	22¼″	23¾″	16¼″	15½″	⅛″	25¾″	20¼″	21¼″	8″	**49175T4**	433.85

Heavy Duty Stand-Up-Height Computer Workstations

Made of 12-ga. welded steel, these workstations protect your computer from the demands of tough warehouse and plant environments. A plastic window in the top compartment shields your monitor while providing a clear view of the screen. The monitor platform is perforated to keep equipment cool. The bottom compartment has two shelves that adjust on 2″ centers. To keep the air inside clean and circulating, workstations come with a fan/filter assembly that has a 3-ft. cord with two-prong plug. A pull-out tray holds your keyboard and can be secured with a padlock (not included; max. shackle dia. is 7⁄16″). Units come with a seven-outlet surge suppressor outlet strip that has a 6-ft. cord with three-prong plug. Doors have a locking handle that accepts a padlock (not included; max. shackle dia. is ½″). The top door is secured by a latch that can only be opened when the bottom doors are unlocked. Color is gray. Shipped assembled.

Stationary workstation has four 6″ high steel legs with one ¾″ dia. mounting hole per leg for mounting to the floor (mounting fasteners not included).

Mobile workstation has two swivel and two rigid casters with 6″ dia. rubber wheels. Also comes with a floor lock.


Stationary


Mobile

	Overall Size			Top Compartment	Bottom Compartment Inside			Window			Monitor Platform		Keyboard Tray			
	Wd.	Dp.	Ht.	Inside Ht.	Wd.	Dp.	Ht.	Wd.	Ht.	Thick.	Wd.	Dp.	Wd.	Dp.		
Stationary	26″	24″	72″	26½″	22″	22″	30½″	16″	20½″	¼″	25¾″	22″	18½″	13½″	**47815T51**	$1,541.94
Mobile	26″	24″	67¾″	20½″	22″	22″	25¾″	16″	14½″	¼″	25¾″	22″	18½″	13½″	**47815T71**	1,596.77

Dust-Resistant Stand-Up-Height Computer Workstations

Gasketed construction protects your computer from dirt, dust, and tampering. Each of the following components has one lock: keyboard tray, bottom compartment door, and rear access door. All locks are keyed alike. Two keys are included. The top compartment has a plastic window that shields your monitor while providing a clear view of the screen. A pull-out tray with handle holds your keyboard. The bottom compartment has a fan/filter assembly inside to clean the air and keep out contaminants; it has a 6-ft. cord with a two-prong plug. It also has a shelf that adjusts in 1″ increments, a door, and a back access panel for easy hookups. Unit has four swivel casters (two with brake) with 4″ dia. rubber wheels for easy mobility. Made of 20-ga. steel. Color is gray. Shipped assembled.



Overall Size			Top Compartment	Bottom Compartment Inside			Window			Monitor Platform		Keyboard Tray			
Wd.	Dp.	Ht.	Inside Ht.	Wd.	Dp.	Ht.	Wd.	Ht.	Thick.	Wd.	Dp.	Wd.	Dp.		
26″	24″	64″	23¼″	23¼″	22¼″	24¼″	16¼″	15½″	⅛″	25¾″	20¼″	21¼″	8″	**4652T55**	$656.83

Harsh Environment Computer Workstations


Tabletop


Mobile

Often used in corrosive and sanitary environments, these stainless steel workstations have an acrylic window (23″ Wd. × 16″ Ht. × 1/8″ Thick.) that shields your monitor while working. A pull-out tray (24 1/2″ Wd. × 20″ Dp.) holds your keyboard. Cutouts in the back not only provide routing for wires, but also ventilation to keep equipment cool. For added security, each of the following components has one lock (one key per lock): top compartment, keyboard tray, and the bottom compartment. Shipped assembled.

Tabletop workstation has a compartment with an inside size of 27 1/2″ high.

Mobile workstation moves on four swivel casters (two with brake) with 4″ dia. rubber wheels. The top compartment has an inside size of 20 3/4″ high. The bottom compartment has an inside size of 27 1/4″ Wd. × 23 3/4″ Dp. × 30 3/4″ Ht. and has one fixed shelf.

	Overall Size			Monitor Platform			
	Wd.	Dp.	Ht.	Wd.	Dp.		
Tabletop	27 1/2″	24″	34 1/2″	27 1/4″	22 3/4″	3212T8	$1,057.63
Mobile	27 1/2″	24″	65 3/4″	27 1/4″	22 3/4″	3212T9	1,834.65

Printer Tables


Low Profile


Adjustable

Tables have four swivel casters (two with brake) with 2″ dia. plastic wheels. Color is gray. Shipped unassembled.

Low Profile—At 13 1/2″ high this table fits underneath most desks and workbenches. It has a 16-ga. steel frame, a 7/8″ thick plastic-laminate top that holds up to 200 lbs., and a fixed wire shelf that holds up to 100 lbs.

Adjustable—Although this table is typically used with dot-matrix printers, the top bracket adjusts to accommodate almost any size printer. It has an 18-ga. steel frame and two fixed wire shelves. The top holds up to 100 lbs. Shelf capacity is not rated.

	Overall Size				
	Wd.	Dp.	Ht.		
Low Profile	19″	16″	13 1/2″	6261T1	$83.85
Adjustable	35″	29″	27″	4855T2	170.63

Computer Holders



This holder lets you hang your computer horizontally or vertically and adjusts to fit your CPU with the turn of the knob. Horizontal mount adjusts from 13 1/8″ to 25 3/4″ wide and 5 1/8″ to 10″ high. Vertical mount adjusts from 5 1/2″ to 17 3/4″ high. Color is black. Mounting hardware is included. Made of steel and shipped unassembled.

6231T1 ..... $84.70

Adjustable-Height Computer Workstations


Three Shelves

Adjust the height to create a versatile workstation for your computer and other electronic equipment. All consist of framing, adjustable shelves, and leveling feet. Shipped unassembled.

Workstation with three shelves has a 24″ Wd. × 16″ Dp. steel shelf and steel monitor platform, a 24″ Wd. × 30″ Dp. gray plastic laminate shelf, and a 18″ Wd. × 21″ Dp. steel freestanding floor shelf. Shelves and monitor platform adjust in 1″ increments, except the floor shelf. Unit also comes with a keyboard tray. Frame is steel.

Workstation with four shelves has one 24″ Wd. × 29 1/2″ Dp. fixed shelf, three 24 1/4″ Wd. × 20″ Dp. adjustable shelves that adjusts in 2″ increments, and a 24 1/4″ × 20″ Dp. fixed monitor platform. Shelves and platform are gray plastic laminate; frame is steel.

Optional casters include four swivel casters (two with brake) with 3″ dia. wheels.

	Overall Size			Overall Cap., lbs.	Shelf Cap., lbs.		
	Wd.	Dp.	Ht.				
Three Shelves							
	24″	35 1/2″	75″	800	300	8586T44	$1,297.06
Optional Rubber Casters						8586T71	167.77
Four Shelves							
	24 1/2″	29 1/2″	72 3/4″	600	250	7660T13	562.88
Optional Plastic Casters						7660T14	62.03

Seat Cushions


Round


Rectangular

These cushions have a strap on the bottom to hold them in place. They have foam padding for comfort and a black olefin fabric cover.

	Overall Size				
	Wd.	Dp.	Thick.		
Round	14″ Dia.	—	2″	4841T21	$34.92
Rectangular	17 1/2″	18″	2″	4841T23	44.58

Chair and Stool Back Supports



Cushion has foam padding for comfort and a washable fabric cover. It also has a 26 1/2″ long adjustable strap for holding the cushion in place.

	Overall Size				
	Wd.	Ht.	Thick.		
	13″	13″	4″	46925T21	$36.36

Chair and Stool Footrests


Plastic


Steel

Plastic footrest has three height positions with angle adjustment and a nonskid base to keep it in place. Color is gray.

Steel footrest adjusts in 1″ increments by lifting it upward and sliding it to the desired position. A turn of a knob adjusts the tilt. Platform also has slip-resistant rubber matting on the top surface. Frame is steel. Color is black.

	Overall Size		Platform Ht.		
	Wd.	Dp.			
Plastic	18″	14″	4 1/4″-6 3/4″	45035T37	$64.35
Steel	18″	12″	3″-16″	38945T33	144.73

Folding Chairs

All have nonmarring plastic glides on the legs.

(A) Steel Chair—To Order: Please specify color: beige, black, or blue.

(B&C) Steel Chairs with Padded Seat and Backrest—Seats and backrests have 1¼″ thick padding for comfort.

Style B has a vinyl seat and backrest for easy cleaning. **To Order:** Please specify color: beige (frame is beige), black (frame is black), or brown (frame is beige).

Style C has a fabric seat and backrest. **To Order:** Please specify color: beige (frame is beige), blue (frame is gray), or gray (frame is gray).

(D) Chair with Plastic Seat and Backrest—Seat and backrest are impact- and stain-resistant white plastic. Seat and backrest are 1¼″ thick. Frame is steel.


A


B


C


D

	Seat Ht.	Seat Size Wd.	Seat Size Dp.	Backrest Size Wd.	Backrest Size Ht.	Cap., lbs.		1-3	4-Up
A	16″	16″	16″	18″	7″	300	**4809T1**	$17.53	$15.75
B	17¾″	15¾″	16″	18¾″	8¾″	300	**4821T3**	27.80	25.04
C	17¾″	15¾″	16″	18¾″	8¾″	300	**5556T4**	28.76	25.91
D	18″	15¾″	16½″	18″	9″	250	**6624T5**	46.29	41.66

Folding-Chair Racks

Easily store and move multiple folding chairs at once. Racks are steel and roll on four swivel casters with 4″ dia. rubber wheels. Color is brown. Shipped unassembled.

For Max. No. of Chairs	Overall Size Wd.	Overall Size Dp.	Overall Size Ht.		
One Storage Level					
30	64″	21″	38½″	**9984T26**	$295.71
36	76″	21″	38½″	**9984T27**	301.52
48	100″	21″	38½″	**9984T28**	338.58
Two Storage Levels					
84	65″	31½″	73″	**5131T51**	594.08


One Storage Level


Two Storage Levels

Stackable Chairs

(A&B) Chairs with plastic seat and backrest are durable, scratch resistant, and easy to clean.

Style A seat and backrest are one-piece plastic. Frame is chrome-plated steel. Legs have plastic leveling glides. **To Order:** Please specify color: black, brown, gray, or blue.

Style B has the largest seat size of all the stackable chairs we offer. Seat and backrest are plastic and the frame is steel with nonmarring plastic glides. **To Order:** Please specify color: black or gray.

(C) Chair with vinyl seat and backrest is easy to clean and has padding to provide extra comfort. Frame is steel. Legs have nonmarring plastic glides. Color is black.


A


B


C

	Seat Ht.	Seat Size Wd.	Seat Size Dp.	Backrest Size Wd.	Backrest Size Ht.	Cap., lbs.		1-3	4-Up
Chairs with Plastic Seat and Backrest									
A	17½″	16″	14½″	14″	14½″	300	**9768T12**	$53.46	$48.12
B	17″	17½″	17¼″	17½″	16″	300	**5039T11**	59.10	53.19
Chairs with Vinyl Seat and Backrest									
C	18″	16″	15¾″	15″	16½″	300	**4622T13**	35.24	31.72

Chairs

Use these chairs in lobbies, waiting rooms, and for office visitors. All have a steel frame. Choose from easy-to-clean vinyl and fabric for the seat and backrest. Color is black.

Style B has plastic arms.

To Order: Please specify material: vinyl or fabric.


A


B

	Seat Ht.	Seat Size Wd.	Seat Size Dp.	Backrest Size Wd.	Backrest Size Ht.	Cap., lbs.		
A	18½″	18½″	18″	16½″	15″	250	**4676T1**	$157.78
B	18½″	18½″	18″	16½″	15″	250	**4676T3**	157.78

Adjustable-Height Chairs

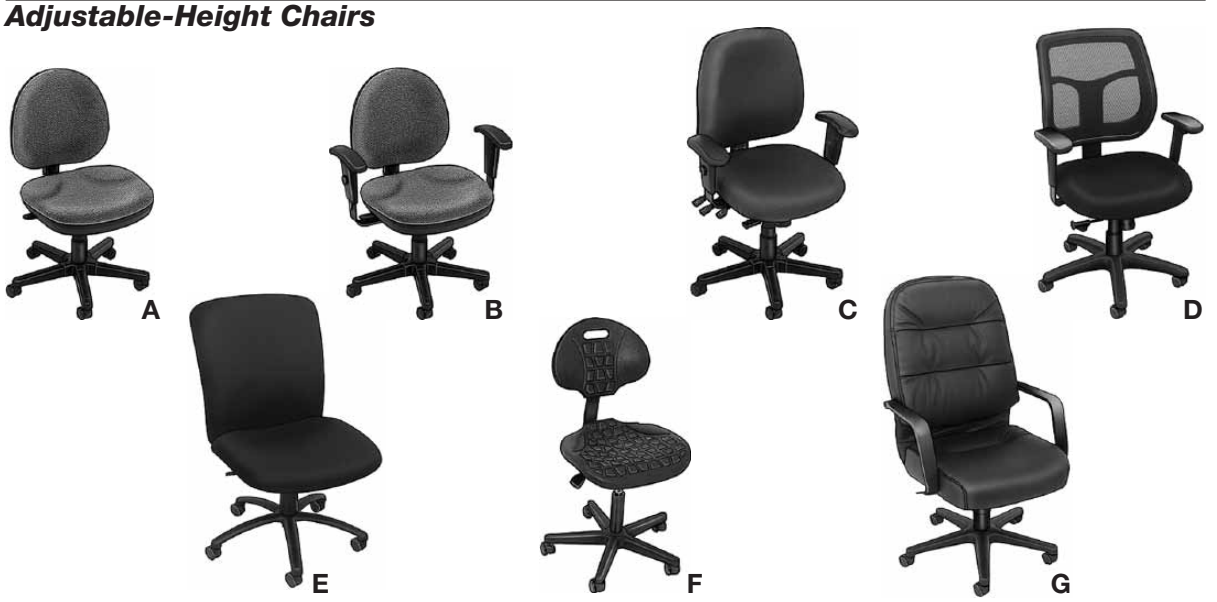

An adjustment lever allows you to raise and lower the seat. Base has swivel casters with 2″ dia. wheels for mobility.

(A&B) Standard Chairs—All have a height-adjustable fabric backrest, fabric seat, and a black steel base. Wheels are plastic. To Order: Please specify color: black, blue, or gray.

(C) Multi-Adjustable Chair—Fabric seat and backrest have angle adjustments so you can rock back and forth or lock in at a comfortable angle. The backrest reclines independently of the seat. It also has a tilt function, a height-adjustable backrest, and a horizontal and vertical arm adjustment. Base is black steel, and arms are polyurethane. Wheels are plastic. To Order: Please specify color: black, blue, or gray.

(D) Mesh-Back Multi-Adjustable Chair—Has a unique mesh backing for breathability. It has a tilt function, tilt lock, height-adjustable backrest, and horizontal and vertical arm adjustment. The backrest reclines with the seat. Seat and backrest are fabric. Arms are polyurethane. Wheels and base are plastic. Color is black.

(E) Big-and-Tall Chair—Our highest capacity chair, it also has a larger seat and back. The chair has a tilt function and black reinforced plastic base. Wheels are plastic. To Order: Please specify color: black, blue, or gray.

(F) Chair with Polyurethane Seat—Seat and backrest are made of polyurethane, which resists stains, grease, water, and chemicals. Backrest adjusts up, down, forward, and backward. Base is made of black plastic. Wheels are plastic. To Order: Please specify color: black, blue, or gray.

(G) Chair with Leather Seat—Made of leather, the seat is filled with memory foam that adapts to the contours of your body. The chair has a tilt function, tilt lock, and black plastic base. Arms are black polyurethane. Wheels are plastic. Color is black.

	Seat Ht.	Seat Size Wd.	Seat Size Dp.	Seat Size Thick.	Backrest Size Wd.	Backrest Size Ht.	Backrest Size Thick.	Cap., lbs.		
A	17½″-22½″	19½″	19″	3″	17½″	17″	3″	250	**7661T21**	$145.61
B	17½″-22½″	19½″	19″	3″	17½″	17″	3″	250	**7661T22**	198.18
C	18″-22″	20″	19″	3″	19″	20″	3″	250	**9463T1**	282.14
D	18″-21½″	20½″	19¼″	4″	19½″	20″	–	250	**7834T6**	290.00
E	19½″-23½″	22¼″	20¾″	3″	23″	23″	3″	500	**4836T2**	423.27
F	16″-21″	18½″	17″	1½″	16½″	12½″	1″	300	**3218T51**	199.66
G	16¾″-21¼″	22″	21″	3½″	22″	23½″	3½″	250	**6166T7**	374.27

Clean Room and Static-Control Adjustable-Height Chairs



Simply push the adjustment lever to easily raise and lower the seat. Base has five legs for added stability and five swivel casters with 2″ dia. wheels for mobility. To Order: Please specify color: black or blue.

(A) Clean Room Chair—These chairs meet Class 100 clean room requirements. They have a vinyl seat and backrest which are easy to clean. The backrest adjusts up, down, forward, and backward. Base is black plastic. Wheels are plastic.

(B) Static-Control Chair—Designed to reduce static, these chairs have a brass drag chain for grounding. It has a surface resistivity of 10^8 ohms/sq. Backrest is height adjustable, and the seat and backrest are fabric. Base is aluminum. Wheels are polyurethane.

	Seat Ht.	Seat Size Wd.	Seat Size Dp.	Seat Size Thick.	Backrest Size Wd.	Backrest Size Ht.	Backrest Size Thick.	Cap., lbs.		
A	17½″-22½″	20″	17″	2½″	17½″	19″	4″	300	**8752T61**	$352.64
B	17″-22″	18½″	16½″	3″	14½″	9½″	2″	350	**3809T9**	441.35

Low-Height Mobile Stools



Also known as creeper stools, these stools get you and your tools close to jobs that are low to the ground. All have swivel casters.

(A) Fixed-height stool has a padded black vinyl seat. Lower shelf is plastic. Base is steel. Color is black.

(B) Adjustable-height stool has a lever under the seat to adjust the height. Seat is padded plastic and swivels. Stool also has an 8″ Ht. × 2½″ Thick. backrest for extra comfort. Base and lower shelf are steel. Color is black.

	Seat Ht.	Seat Size Wd.	Seat Size Dp.	Seat Size Thick.	Cap., lbs.	Wheel Dia.		
A	15″	14¼″	7″	1¾″	360	2½″	**2585T12**	$55.18
B	17″-22″	18″	10″	2½″	480	3″	**4963T12**	145.00

Stools


A


B


C


D


E


F


G
Mobile

All stools have a fixed seat. Stools with backrest offer extra support.
Style A have steel glides and a steel base. Base is gray.
Styles B-E have an iron base. Base is green. *Style C* has four swivel casters with 2½″ dia. rubber wheels. *Styles D&E* have three legs and plastic leveling glides for stability on uneven surfaces.

Style F have steel glides, a steel backrest (unless noted) that adjusts up, down, forward, and backward, and a steel base. Base is gray.
Style G have a base that is made of iron. Base is green. Backrest is wood. *Mobile stools* have swivel casters with 2½″ dia. rubber wheels.

	Seat Ht.	Seat Size Dia.	Seat Size Thick.	Cap., lbs.		
Without Backrest						
Composite-Wood Seat						
A	18″	14″	1½″	300	4910T11	$42.76
A	24″	14″	1½″	300	4910T12	50.44
A	30″	14″	1½″	300	4910T13	57.57
Wood Seat						
B	24″	14″	1″	400	4902T14	81.10
B	26″	14″	1″	400	4902T15	83.03
B	28″	14″	1″	400	4902T16	94.69
B	30″	14″	1″	400	4902T17	100.34
Gray Padded Vinyl Seat						
A	18″	14″	2″	300	4910T31	54.95
A	24″	14″	2″	300	4910T32	60.53
A	30″	14″	2″	300	4910T33	61.90
Mobile with Wood Seat						
C	24″	14″	1″	400	5325T21	136.44
C	30″	14″	1″	400	5325T22	147.64
Three-Legged with Wood Seat						
D	12″	14″	1″	400	6049T51	80.95
E	24″	14″	1″	400	6049T52	123.08

	Seat Ht.	Seat Size Dia.	Seat Size Thick.	Cap., lbs.		
With Backrest						
Composite-Wood Seat						
F	18″	14″	1½″	300	5122T41	$58.45
F	24″	14″	1½″	300	5122T42	62.33
F	30″	14″	1½″	300	5122T43	75.14
Wood Seat						
G	24″	14″	1″	400	4904T24	119.13
G	26″	14″	1″	400	4904T25	121.16
G	28″	14″	1″	400	4904T26	128.29
G	30″	14″	1″	400	4904T27	130.33
Gray Padded Vinyl Seat						
F	18″	14″	2″	300	5122T61★	71.92
F	24″	14″	2″	300	5122T62★	75.14
F	30″	14″	2″	300	5122T63★	98.23
Mobile with Wood Seat						
G	24″	14″	1″	400	5325T71	168.51
G	30″	14″	1″	400	5325T72	179.71

★ Backrest has a padded vinyl insert.

Manually Adjustable Stools

(A) Steel Stools—Legs are bolt adjustable in 1″ increments and have leveling steel glides. Base and footrest are steel; color is gray.
(B) Iron Stools with Wood Seat—Legs are bolt adjustable in 1″ increments, and the seats are wood. Base and feet are iron; color is green.
(C) Easy-Carry Three-Legged Stools with Mesh Fabric Seat—Lightweight and collapsible, these stools can be carried anywhere the job takes you. They are stable on a variety of surfaces, including dirt. Base is made of heavy duty aluminum. Includes a drawstring storage bag.
(D) Steel Swivel Stools with Composite-Wood Seat—All have plastic glides and are knob adjustable. Base and footrest are steel; color is gray.
(E&F) Harsh Environment Stainless Steel Swivel Stools with Rubber Seat—Adjust the height of these stools by turning the seat. They are made of stainless steel for corrosion resistance. They resist stains, grease, water, and most chemicals. The middle of the seat has a nonslip black rubber pad. *Style E* have rubber glides. *Style F* have swivel casters with 2″ dia. rubber wheels.


A


B


C


D


E


F

Seat Ht.	Seat Size Dia.	Seat Size Thick.	Cap., lbs.		
(A) Steel Stools with Composite-Wood Seat					
19″-27″	14″	1½″	Not Rated	5120T51	$59.18
25″-33″	14″	1½″	Not Rated	5120T52	63.28
31″-39″	14″	1½″	Not Rated	5120T53	80.73
(A) Steel Stools with Padded Vinyl Seat					
19″-27″	14″	2″	Not Rated	5120T71	69.81
25″-33″	14″	2″	Not Rated	5120T72	73.20
31″-39″	14″	2″	Not Rated	5120T73	75.40
(B) Iron Stools with Wood Seat					
22″-28″	14″	1″	400	4906T15	95.71
26″-32″	14″	1″	400	4906T16	103.85
30″-36″	14″	1″	400	4906T17	106.91
(C) Easy-Carry Three-Legged Stools with Mesh Fabric Seat					
13″ and 22″	15″	—	490	9818T12	78.43
15″ and 26″	16″	—	550	9818T13	84.31
(D) Steel Swivel Stools with Composite-Wood Seat					
22″-27½″	14″	1¼″	310	4753T21	164.66
26¾″-32¼″	14″	1¼″	310	4753T31	177.80
(E) Harsh Environment Stainless Steel Swivel Stools with Rubber Seat					
19″-25″	14″	1″	350	4826T22	535.82
25″-31″	14″	1″	350	4826T23	558.21
(F) Mobile Harsh Environment Stainless Steel Swivel Stools with Rubber Seat					
21″-27″	14″	1″	350	4826T32	597.01
27″-33″	14″	1″	350	4826T33	619.40

Manually Adjustable Stools with Backrest



(A) Steel stools with composite-wood seat have legs that are bolt adjustable in 1″ increments and have steel leveling glides. Backrest adjusts up, down, forward, and backward. Base and footrest are steel; color is gray.

(B) Steel swivel stools with composite-wood seat are knob adjustable, have plastic glides, and have a steel backrest that is nonadjustable. Base and footrest are steel; color is gray.

(C) Steel stools with padded vinyl seat have steel leveling glides and a backrest that adjusts up, down, forward, and backward. Base and footrest are steel. Legs adjust in 1″ increments. Color is gray.

(D) Steel swivel stools with padded vinyl seat have steel leveling glides and a backrest surface that adjusts up, down, forward, and backward. Base and footrest are steel. Stool adjusts by turning the seat. **To Order:** Please specify seat color: gray (with gray frame) or red (with beige frame).

(E) Iron stools with wood seat have legs that are bolt adjustable in 1″ increments. Seat and backrest are wood. Backrest is nonadjustable. Base is iron, and footrest is steel; color is green.

(F) Steel swivel stools with wood seat have a locking pin assembly below the seat to adjust seat height; seat locks in place. Backrest is wood and adjusts up, down, forward, and backward. Base and footrest are steel; color is black. *Stationary stools* have nickel-plated steel glides. *Mobile stools* have swivel casters with 2″ dia. plastic wheels.

(G&H) Steel swivel stools with fabric seat and with vinyl seat are knob adjustable and the backrest is vinyl and adjusts up, down, forward, and backward. Base and footrest are steel. Fabric seat provides extra comfort; vinyl seat is easy to clean. *Stationary stools* have plastic glides. *Mobile stools* have five swivel casters with 2″ dia. rubber wheels. **To Order:** Please specify color: black (with black base) or gray (with gray base).

(J) Harsh environment stainless steel swivel stools with rubber seat adjust by turning the seat. Stools are made of stainless steel for corrosion resistance. The middle of the seat has a nonslip black rubber surface. *Stationary stool* has rubber glides. *Mobile stool* has four swivel casters with 2″ dia. rubber wheels.

Seat Size			Cap.,	Backrest Size			Stationary			Mobile			
Wd.	Dp.	Thick.	lbs.	Wd.	Ht.	Thick.	Seat Ht.			Seat Ht.			
(A) Steel Stools with Composite-Wood Seat													
14″ Dia.	—	1½″	Not Rated	11½″	6″	1/16″	19″-27″	**4913T14**	$75.84	—	—	—	
14″ Dia.	—	1½″	Not Rated	11½″	6″	1/16″	25″-33″	**4913T15**	84.37	—	—	—	
14″ Dia.	—	1½″	Not Rated	11½″	6″	1/16″	31″-39″	**4913T16**	99.31	—	—	—	
(B) Steel Swivel Stools with Composite-Wood Seat													
14″ Dia.	—	1¼″	310	12½″	6¼″	¼″	22″-27½″	**4803T15**	187.31	—	—	—	
14″ Dia.	—	1¼″	310	12½″	6¼″	¼″	26¾″-32¼″	**4803T16**	200.46	—	—	—	
(C) Steel Stools with Padded Vinyl Seat													
14″ Dia.	—	2″	Not Rated	11½″	6″	1¼″	19″-27″	**4913T34**	92.32	—	—	—	
14″ Dia.	—	2″	Not Rated	11½″	6″	1¼″	25″-33″	**4913T35**	95.72	—	—	—	
14″ Dia.	—	2″	Not Rated	11½″	6″	1¼″	31″-39″	**4913T36**	116.71	—	—	—	
(D) Steel Swivel Stools with Padded Vinyl Seat													
14″ Dia.	—	3¼″	Not Rated	11½″	6″	1¼″	24″-28″	**47995T1**	107.31	—	—	—	
(E) Iron Stools with Wood Seat													
14″ Dia.	—	1″	400	12″	6″	½″	22″-28″	**4908T35**	129.31	—	—	—	
14″ Dia.	—	1″	400	12″	6″	½″	26″-32″	**4908T36**	137.31	—	—	—	
14″ Dia.	—	1″	400	12″	6″	½″	30″-36″	**4908T37**	139.49	—	—	—	
(F) Steel Swivel Stools with Wood Seat													
15″	13¾″	¼″	300	14″	6″	¼″	16″-24″	**9057T17**	191.67	18½″-26½″	**9057T25**	$225.86	
15″	13¾″	¼″	300	14″	6″	¼″	20″-28″	**9057T18**	193.10	22½″-30½″	**9057T26**	220.69	
15″	13¾″	¼″	300	14″	6″	¼″	26″-34″	**9057T19**	208.62	28½″-36½″	**9057T27**	236.21	
(G) Steel Swivel Stools with Fabric Seat													
17″	16″	3″	310	15″	10″	1″	19″-27″	**6440T5**	298.10	21″-29″	**6440T7**	339.93	
17″	16″	3″	310	15″	10″	1″	25″-33″	**6440T6**	316.72	27″-35″	**6440T8**	359.26	
(H) Steel Swivel Stools with Vinyl Seat													
17″	16″	3″	310	15″	10″	1″	19″-27″	**4834T94**	290.34	21″-29″	**4834T95**	332.16	
17″	16″	3″	310	15″	10″	1″	25″-33″	**4834T5**	303.48	27″-35″	**4834T7**	345.31	
(J) Harsh Environment Stainless Steel Swivel Stools with Rubber Seat													
14″ Dia.	—	1″	350	10″	7″	3/32″	25″-31″	**4826T24**	670.15	27″-33″	**4826T34**	731.34	

Sit/Stand Stools



Relieve foot and leg strain when working in a standing position—these stools allow you to rest most of your weight on the seat as you work. Seats are made of black polyurethane.

Style A have a lever under the seat that raises and lowers the seat quickly and easily. Stools have plastic glides and a seat that swivels and tilts forward. *Stool with plastic base* is black. *Stool with aluminum base* meets standards for Class 10 clean rooms.

Style B has an angled base to get you close to your work. Base is made of steel. The seat is padded, swivels to the right and left, and tilts forward. Base is black and has antislip rubber glides.

	Base Material	Seat Ht.	Seat Size Wd.	Seat Size Dp.	Seat Size Thick.	Cap., lbs.	Base Size Wd.	Base Size Dp.		
A	Plastic	22″-32″	13¼″	9″	1¾″	300	27″ Dia.	—	**8219T51**	$148.15
A	Aluminum	22″-32″	13¼″	9″	1¾″	300	27″ Dia.	—	**8219T52**	177.96
B	Steel	22¾″-32¾″	14″	9″	2″	250	22″	18″	**8225T62**	261.19

Lever- and Foot-Operated Adjustable-Height Stools



A Stationary | **B&C** Stationary | **D** Stationary | **E** Mobile | **F** Mobile | **G** Stationary | **H&J** Mobile

All seats swivel.

(A) Steel Seat—All-steel construction is more durable and easier to clean than fabric. Color is gray. *Stationary stools* have plastic glides. *Mobile stools* have swivel casters with 2″ dia. polyurethane wheels.

(B) Fabric Seat and Backrest—A padded fabric seat and backrest offer more comfort than Style A. Footrest is height adjustable and chrome-plated steel. Base is plastic. Color is black. *Stationary stools* have plastic glides. *Mobile stools* have swivel casters with 2″ dia. polyurethane wheels. *Lever-adjustable stools* have a backrest that adjusts up, down, forward, and backward. *Lever adjustable stools with tilt control* allow you to angle seat and backrest forward and backward. Backrest also adjusts up and down. **To Order:** Please specify fabric color: black or gray.

(C) Vinyl Seat and Backrest—Seat and backrest have a padded vinyl surface that's easy to clean. Backrest adjusts up, down, forward, and backward. Footrest is height adjustable and chrome-plated steel. Base is plastic. Color is black. *Stationary stools* have plastic glides. *Mobile stools* have swivel casters with 2″ dia. polyurethane wheels.

(D-F) Polyurethane Seat—Stools have a durable polyurethane seat that resists stains, grease, water, and most chemicals. Base is steel, unless otherwise indicated. Color is black, unless otherwise indicated.

Style D has an aluminum base. *Stationary stools* have plastic glides. *Mobile stools* have swivel casters with 1″ dia. plastic wheels.

Style E has a removable divided storage tray with steel dividers to organize tools and supplies. Base and lower shelf are steel. It has swivel casters with 3″ dia. nylon wheels.

Style F offer hands-free height adjustment—footrest raises and lowers the seat. Base is aluminum with a painted black finish. *Stationary stools* have plastic glides. *Mobile stools* have swivel casters with 2″ dia. polyurethane wheels.

(G-J) Polyurethane Seat and Backrest—Stools have a seat and backrest made of polyurethane that resists stains, grease, water, and most chemicals. Base is steel, unless otherwise indicated. Color is black.

Style G have a plastic base and height-adjustable chrome-plated steel footrest. *Stationary stools* have plastic glides. *Mobile stools* have swivel casters with 2¼″ dia. plastic wheels. *Lever-adjustable stool* has a backrest that adjusts up, down, forward, and backward. *Lever adjustable stool with tilt control* tilts and has a backrest that adjusts up, down, and backward.

Style H has two steel footrests at different heights and a backrest that adjusts up, down, forward, and backward. *Stationary stools* have plastic glides. *Mobile stools* have swivel casters with 2″ dia. plastic wheels.

Style J has three steel footrests at different heights. Backrest tilts and adjusts up and down. *Stationary stools* have plastic glides. *Mobile stools* have swivel casters with 2″ dia. plastic wheels.

	Seat Size			Cap.,	Backrest Size			Stationary			Mobile		
	Wd.	Dp.	Thick.	lbs.	Wd.	Ht.	Thick.	Seat Ht.			Seat Ht.		
Steel Seat													
Lever Adjustable													
A	13″ Dia.	—	1¼″	350	—	—	—	18″-25″	4833T41	$205.76	18″-25″	4833T44	$216.98
A	13″ Dia.	—	1¼″	350	—	—	—	22″-29″	4833T42	211.81	22″-29″	4833T45	223.36
Fabric Seat and Backrest													
Lever Adjustable													
B	18″	17″	2¾″	300	16″	10″	2″	23″-33″	45025T61	178.62	24″-34″	45025T69	202.86
B	20″	18″	3″	300	17½″	19″	4″	24″-34″	45025T62	232.33	25″-35″	45025T72	247.17
Lever Adjustable with Tilt Control													
B	20″	18″	3″	300	17½″	19″	4″	24″-34″	45025T63	280.69	25″-35″	45025T73	295.17
Vinyl Seat and Backrest													
Lever Adjustable													
C	18″	17″	2¾″	300	16″	10″	2″	23″-33″	4517T211	178.62	24″-34″	4517T311	202.86
C	20″	18″	3″	300	17½″	19″	4″	24″-34″	4517T221	243.63	25″-35″	4517T331	251.51
Polyurethane Seat													
Lever Adjustable													
D	14″ Dia.	—	1⅛″	250	—	—	—	19″-27″	45735T8	197.42	20″-28″	45735T51	222.58
Lever Adjustable with Removable Divided Storage Tray													
E	13″ Dia.	—	1¼″	300	—	—	—				15½″-20½″	47185T37	162.33
Foot Operated													
F	15″ Dia.	—	1½″	300	—	—	—	17″-22″	5704T91	325.74	17″-22″	5704T81	332.88
F	15″ Dia.	—	1½″	300	—	—	—	21″-28½″	5704T92	336.73	21″-28½″	5704T82	344.10
Polyurethane Seat and Backrest													
Lever Adjustable													
G	18″	17″	1½″	250	17″	12″	1″	22½″-32½″	45745T311	271.85	22½″-32½″	45745T411	290.18
H	16″	16″	1½″	250	14″	8½″	1½″	17″-35″	45735T2	251.26	19″-37″	45735T52	262.08
J	18½″	16¾″	2″	250	14¾″	12″	1½″	17″-35″	45735T4	336.25	19″-37″	45735T53	368.00
Lever Adjustable with Tilt Control													
G	18″	17″	1½″	250	17″	12″	1″	23¼″-33¼″	45745T321	331.79	23¼″-33¼″	45745T421	350.07

Wall-Mount Stools

Mount this stool on a wall or piece of large equipment for a convenient, permanent place to sit. The leg has a rubber glide and contacts the floor when weight is applied for added stability. Use the lever to adjust the seat height. Comes with a steel mounting bracket with two holes that accept ½″-13 bolts (not included). Once mounted, the entire stool swings from one side of the mounting bracket to the other. Made of steel. Color is black.



Seat Ht.	Seat Size Dia.	Thick.	Cap., lbs.		
22¾″-28″	13″	1¼″	350	9056T18	$372.75

Clean Room and Static-Control Adjustable-Height Stools



A
Stationary



B
Mobile



C
Stationary



D
Mobile



E
Mobile



F
Stationary

Choose from stools that meet clean room requirements or are designed to reduce static. All seats swivel.

Style A—These stools have a chrome-plated, all steel construction that is durable and easy to clean. *Stationary stools* have plastic glides. *Mobile stools* have swivel casters with 2″ dia. polyurethane wheels. Color is gray.

Style B—Seat and backrest have a padded vinyl surface that is comfortable and easy to clean. Footrest is height adjustable and chrome-plated steel. Backrest adjusts up, down, forward, and backward. Base is plastic. Color is black. *Stationary stools* have plastic glides. *Mobile stools* have swivel casters with 2″ dia. polyurethane wheels.

Style C—Stools have a polyurethane seat and backrest that resists stains, grease, water, and chemicals. They have a chrome-plated steel footrest. Seat and backrest tilt and adjust up and down. Base is plastic. Color is black. *Stationary stools* have plastic glides. *Mobile stools* have swivel casters with 2″ dia. plastic wheels.

Style D—Seat and backrest have a padded vinyl surface that is comfortable and easy to clean. It has a chrome-plated steel footrest and a brass drag chain for grounding. Backrest adjusts up, down, forward, and backward. Color is black. *Stationary stools* have plastic glides. *Mobile stools* have swivel casters with 2″ dia. polyurethane wheels.

Style E—A padded fabric seat and backrest offer more comfort than unpadded stools. Footrest is height adjustable and chrome-plated steel. A brass drag chain acts as a ground. *Stationary stools* have plastic glides. *Mobile stools* have swivel casters with 2″ dia. polyurethane wheels. Base is aluminum. **To Order:** Please specify fabric color: black or gray.

Style F—Stools have a seat and backrest made of polyurethane to resist stains, grease, water, and chemicals. Base is aluminum. A brass drag chain acts as a ground. *Stationary stools* have plastic glides. *Mobile stools* have swivel casters with 2″ dia. plastic wheels.

Seat Size Wd.	Dp.	Thick.	Cap., lbs.	*Backrest Size* Wd.	Ht.	Thick.	Stationary Seat Ht.			Mobile Seat Ht.		
Clean Room												
(A) Steel Seat—Class 10 Clean Rooms												
13″ Dia.	—	1¼″	350	—	—	—	18″-25″	5092T61	$260.85	15″-19″	5092T64	$273.00
13″ Dia.	—	1¼″	350	—	—	—	22″-29″	5092T62	266.61	22″-29″	5092T65	290.41
(B) Vinyl Seat and Backrest—Class 100 Clean Rooms												
20″	17″	2½″	300	17½″	19″	4″	22½″-32½″	5080T711	318.62	23½″-33½″	5080T721	332.99
(C) Polyurethane Seat and Backrest—Class 10 Clean Rooms												
18½″	17″	1½″	300	16½″	12½″	1″	22″-32″	4988T13	267.43	23″-33″	4988T14	284.57
Static Control												
(D) Vinyl Seat and Backrest—10^6 ohms/sq.												
18½″	16½″	3″	350	14½″	9½″	2″	21″-28″	4835T62	515.25	21″-28″	4835T41	515.25
18½″	16½″	3″	350	14½″	9½″	2″	25″-32″	4835T63	522.00	25″-32″	4835T43	522.00
(E) Fabric Seat and Backrest—10^5 ohms/sq.												
18″	17″	2¾″	300	16″	10″	2½″	24″-34″	8621T31	293.77	25″-35″	8621T32	358.62
(F) Polyurethane Seat and Backrest—10^8 ohms/sq.												
18½″	17″	1½″	300	16½″	12½″	1″	22″-32″	4971T5	372.00	23″-33″	4971T6	433.71

Creepers

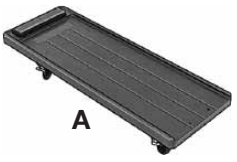

A

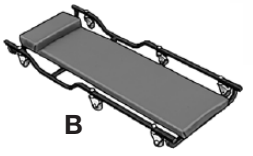

B



C



D



E

Work below low-clearance equipment. All have swivel casters and padded headrests to keep you comfortable.

(A) Standard—Made of polypropylene.

(B&C) Heavy Duty—A durable steel frame provides support while the vinyl covered composite-wood platform is padded for extra comfort.

Style C has a three-position adjustable headrest.

(D) Harsh Environment—Made of polyethylene, this creeper resists most solvents, grease, and fuel.

(E) Easy Roll—This creeper has large wheels to roll easily over cracks, extension cords, drains, and other obstacles. It is specially designed to cradle your body for support. Made of polypropylene.

	Overall Size Wd.	Dp.	Ht.	Floor Clearance	Cap., lbs.	Color	Wheel Material	Wheel Dia.		
A	15½″	36″	31½″	2″	360	Black	Polyolefin	2″	2661T22	$68.37
B	17″	40″	4″	¾″	570	Black	Polypropylene	2½″	2661T31	96.80
C	17″	40″	4″	1¼″	570	Red	Polyolefin	2½″	2661T57	108.25
D	17½″	38″	4″	¾″	300	Blue	Polyurethane	2″	2661T58	91.85
E	25½″	47″	6½″	1″	300	Red	Plastic	5″	2635T1	153.05

Equipment Seats



Replace worn-out seats on equipment such as forklifts. All seats are black and have foam padding. Overall capacity is 250 lbs. Seat frames are steel and have four 5/16" dia. threaded studs for mounting to your equipment. Seats come with a seat belt mounting bracket, unless noted.

Note: Seats are not intended for highway-use vehicles.

(A-G) Seats Designed for Specific Manufacturers' Equipment

Seats can also be used in other equipment that has the same center-to-center width mounting stud pattern. Seats adjust front to back.

Style B—Back cushion folds down onto the seat.

(H-P) Adjustable-Mount Seats

All seats have multiple center-to-center width mounting stud patterns for greater mounting flexibility. Seats adjust front to back.

Style H—Back cushion folds down onto the seat.

Style L—Seat is waterproof.

Style M—Seat has a fabric cover that stays cooler than vinyl. Seat is tear resistant. For indoor use.

Style N—Designed to isolate and reduce vibration with a trampoline-style sling instead of a hardboard metal pan under the seat.

Style P—A 1" high adjustable suspension creates a smoother ride. Has the same construction and vibration control features as Style N.

(Q) Seat with Suspension for Larger Equipment

This seat provides a comfortable ride for operators of larger equipment. Suspension is 9½" high and flexes to absorb shock and vibration. Height adjusts 3" in 1" increments. The angle of the seat back is adjustable, and seat adjusts front to back.

	Mounting Studs, Center-to-Center Wd. (X)	Dp. (Y)	O'all Size, Ht. x Wd. x Dp.	Seat Size, Wd. x Dp. x Thick.	Backrest Size, Ht. x Wd. x Thick.		Each
Seats Designed for Specific Manufacturers' Equipment							
Clark—*Vinyl Seat*							
A	8",15"-15¼"	11"	17" × 18¾" × 22"	18¾" × 15¼" × 4½"	11¼" × 17"	2½" **2680T16**	$121.41
B	13"	11"	17" × 18" × 22"	17½" × 15¼" × 4½"	11¼" × 17"	2½" **2680T41**★	99.74
C	13"	11"	22" × 19" × 23½"	19" × 15" × 2½"	22" × 19"	2½" **2680T71**♣	277.69
Caterpillar—*Vinyl Seat*							
D	14¼"	11"	18½" × 20" × 19¾"	20" × 17" × 4½"	13⅛" × 20"	2¼" **2680T91**★	186.13
E	12⅝"	11"	19½" × 24" × 21¼"	18" × 15" × 2½"	19½" × 15"	2" **2680T72**♥	330.85
Hyster—*Vinyl Seat*							
F	8", 9½", 11¼"	11"	19½" × 18" × 21¼"	18" × 16½" × 3"	19½" × 18"	2" **2680T83**♣	157.93
Yale—*Vinyl Seat*							
G	13½"	11"	18¼" × 19" × 22¾"	19" × 15" × 2½"	16¼" × 17"	2½" **2680T73**★	278.72
Adjustable-Mount Seats							
Vinyl Seat							
H	4"-15½"	11"	18⅞" × 21" × 20½"	17½" × 15¼" × 4¼"	11¼" × 17"	2½" **2680T45**	147.87
J	8", 9½", 10¹¹⁄₁₆"-11¼"	11"	18" × 18¾" × 20"	18¾" × 14½" × 4¼"	15" × 18¾"	2½" **2680T15**	111.67
K	8", 9½", 10¹¹⁄₁₆"-11¼"	11"	18¹⁄₁₆" × 19⅝" × 19¹¹⁄₁₆"	19⅝" × 14⅛" × 3"	16¹⁵⁄₁₆" × 18³⁄₁₆"	2½" **2680T12**★	155.31
L	8", 9½", 11¼"	11"	20¾" × 18" × 21¼"	18" × 16½" × 3"	18¼" × 18"	2" **2680T58**♣	163.54
Fabric Seat							
M	4", 8", 9½", 10¾", 11¼"	11"	17½" × 18¾" × 21"	18¾" × 14½" × 4¼"	17½" × 13"	2" **2680T84**♥	143.28
Vinyl Seat with Vibration Control							
N	8", 11", 14"	11"	25¹³⁄₁₆" × 18¾" × 25⅝"	18¾" × 19¾" × 3½"	22½" × 18⅝"	3" **2680T74**★	277.69
Vinyl Seat with Low-Profile Suspension							
P	9½", 10¹¹⁄₁₆"-11¼"	11"	28½"-29½" × 18¾" × 25⅝"	18¾" × 19¾" × 3½"	22½" × 18⅝"	3" **2680T76**★	372.91
Seat with Suspension for Larger Equipment							
Vinyl Seat							
Q	12"	11"	34"-37" × 18¾" × 23½"	18¼" × 18¼" × 3½"	22½" × 18⅝"	3" **2680T19**	507.03

★ Not furnished with a seat belt mounting bracket. For a seat belt mounting bar, see 3605T14 below.
♣ Furnished with a pre-threaded hole for seat belt attachment. Mounting bracket not required.
♥ Furnished with a pre-drilled hole for seat belt attachment. Secure attachment with a nut and bolt.

Seat Belts











Add a seat belt to your equipment seat for a safer ride. All are lap style, have a push-button release, and come with mounting fasteners (unless otherwise indicated) to secure the belt to your seat.

Standard—Buckle the belt and pull the strap to tighten.

Continuous—Also known as an endless belt, this belt wraps completely around your seat. Buckle the belt and pull the strap to tighten. No need for mounting hardware.

Retractable—Retracts automatically when buckled.

Retractable with Switch—Similar to the retractable belt above, but your vehicle won't operate unless the belt is buckled. Includes a standard automotive plug that you can cut off to expose two wire leads.

Seat Belt Mounting Bar—Allows equipment seats that do not have a seat belt mounting bracket to accept seat belts. It accommodates seats up to 21" wide and has two ½" dia. end holes and six ⅜"x1¼" slotted holes for 11", 13", or 14½" wide center-to-center mounting patterns. Made of steel. Mounting fasteners not included.

	Size, Lg. x Wd.		Each
Seat Belts			
Standard	25¼"-55" × 2"	**3605T11**	$25.44
Continuous	92" × 2"	**3605T8**	17.38
Retractable	15½"-67¼" × 2"	**3605T12**	38.29
Retractable with Switch	15½"-65" × 2"	**3605T13**	48.62
Accessories			
Seat Belt Mounting Bar	21¼" × 1¼"	**3605T14**	25.00

Benches

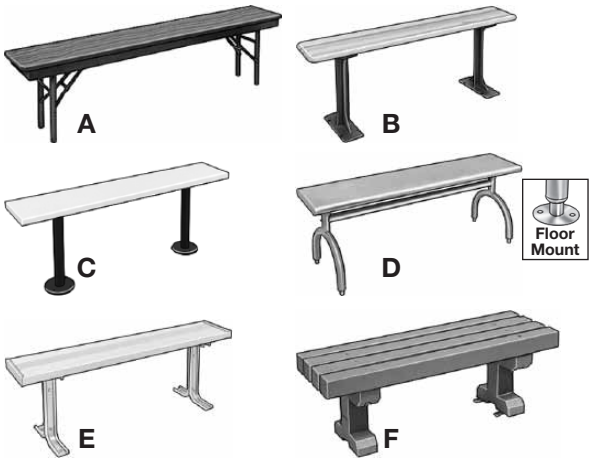

Benches are shipped unassembled, except Style A.

(A) Laminate-Top Folding Indoor Benches—The legs on these benches fold up and out of the way for easy transport and convenient storage. Legs have plastic glides. Base and legs are made of steel. Seat is plastic-laminate with a brown woodgrain finish.

(B) Heavy Duty Maple-Top Indoor Benches—These high capacity benches have sturdy iron legs with a 4″ Wd. × 10″ Dp. mounting plate. Each mounting plate has four slots that accept 3/8″ dia. bolts for floor mounting (fasteners not included). Legs have a green finish. Seat is clear-coated maple.

(C) Plastic Harsh Environment Indoor Benches—These benches resist chemicals, scratches, dents, and moisture. When properly installed, they help comply with ADA. Seat is white. Legs are made of black anodized aluminum and have a 6″ dia. flanged mounting plate with four holes per flange for floor mounting (fasteners included).

(D) Stainless Steel Indoor Benches—These corrosion-resistant benches are more dent- and scratch-resistant than aluminum. They meet standards for use in Class 100 clean rooms. Benches have legs that are curved for extra stability and leveling feet to compensate for uneven floors.

Floor-mount benches have a 3 1/2″ dia. mounting plate on each leg. Each plate has two 3/8″ dia. holes for floor mounting (fasteners not included).

(E) Aluminum Indoor/Outdoor Benches—These benches are durable and corrosion resistant. Each leg comes with rubber feet for free-standing applications and concrete anchors for floor mounting. Seat has a skid-resistant surface.

(F) Plastic Indoor/Outdoor Benches—Often used outdoors, these benches resist most chemicals, rot, splintering, and damage from UV rays. Each leg is black with two 1 1/2″ Wd. × 1 3/4″ Dp. stainless steel mounting plates with a 7/16″ dia. mounting hole (fasteners not included). **To Order:** Please specify seat color: brown or gray.

Seat Size Wd.	Seat Size Dp.	Seat Size Ht.	Cap., lbs.	Seat Thick.	No. of Legs		
Indoor Benches							
(A) Laminate Top Folding							
72″	12″	18″	750	3/4″	2	4853T31	$152.31
96″	12″	18″	1,000	3/4″	2	4853T32	165.46
(B) Heavy Duty Maple Top							
36″	9 1/2″	18″	600	1 1/4″	2	4854T13	217.24
48″	9 1/2″	18″	800	1 1/4″	2	4854T14	236.55
60″	9 1/2″	18″	1,000	1 1/4″	2	4854T15	255.86
72″	9 1/2″	18″	1,200	1 1/4″	2	4854T16	275.17
96″	9 1/2″	18″	1,600	1 1/4″	3	4854T18	352.41
120″	9 1/2″	18″	2,000	1 1/4″	3	4854T24	381.38
(C) Harsh Environment Plastic							
36″	9 1/2″	18 1/2″	400	1 1/2″	2	4776T324	441.56
48″	9 1/2″	18 1/2″	400	1 1/2″	2	4776T334	465.32
72″	9 1/2″	18 1/2″	800	1 1/2″	3	4776T354	699.07
(D) Freestanding Stainless Steel							
48″	12″	18″	400	1 1/2″	2	46375T24	669.01
72″	12″	18″	600	1 1/2″	2	46375T26	757.67
(D) Floor Mount Stainless Steel							
48″	12″	18″	400	1 1/2″	2	46375T44	830.22
72″	12″	18″	600	1 1/2″	2	46375T46	921.08
Indoor/Outdoor Benches							
(E) Aluminum							
48″	9 1/2″	17″	480	1 3/4″	2	2919T69	258.00
72″	9 1/2″	17″	720	1 3/4″	2	2919T71	282.00
96″	9 1/2″	17″	960	1 3/4″	2	2919T72	302.00
120″	9 1/2″	17″	1,200	1 3/4″	3	2919T73	388.45
(F) Plastic							
48″	17″	16 1/2″	500	4″	2	6732T52	309.10
72″	17″	16 1/2″	750	4″	3	6732T53	428.57

Benches with Backrest



These plastic benches resist most chemicals, rot, splintering, and damage from UV rays. They are freestanding. For outdoor use. Shipped unassembled. **To Order:** Please specify color: brown or gray.

Overall Size Wd.	Overall Size Dp.	Overall Size Ht.	Seat Size Wd.	Seat Size Dp.	Seat Size Ht.	Cap., lbs.		
48″	21 1/2″	31″	48″	12″	15 3/4″	500	6731T81	$312.97
72″	21 1/2″	31″	72″	12″	15 3/4″	750	6731T82	416.67

Design-Your-Own Maple-Top Benches

Use our individual components to make your own maple-top benches or repair the benches you already have.

Maple Bench Seats



Bench Seat with Two Pedestal Bench Legs (Sold Separately)

Made of 1 1/4″ thick maple that is clear coated for wear resistance. Fasteners not included. For indoor use.

Seat Size Wd.	Seat Size Dp.		
36″	9 1/2″	4911T41	$71.86
48″	9 1/2″	4911T42	96.04
60″	9 1/2″	4911T43	118.10
72″	9 1/2″	4911T44	141.58
96″	9 1/2″	4911T45	175.27
120″	9 1/2″	4911T46	223.13

Pedestal Bench Legs



Leg is 16 1/4″ high and has an 8 1/4″ dia. flange on the top and bottom. Each flange has three 3/8″ dia. mounting holes (fasteners included). Capacity per leg is 900 lbs. For indoor use. Made of steel. **To Order:** Please specify color: beige, blue, or gray.

Note: For benches up to 96″ wide, use two legs. For benches wider than 96″, use three legs.

9085T3 ..... $34.93

Folding Bench Legs

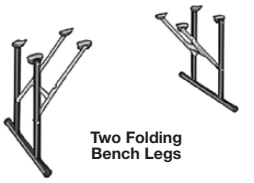

Two Folding Bench Legs

Legs fold flat against your bench for easy transport and storage. Each leg is 16 3/4″ high. There are eight 3/16″ dia. holes to mount leg to the bench seat (fasteners included). For indoor use. Capacity per leg is 250 lbs. Made of steel. Color is black.

Note: For benches up to 72″ wide, use two legs. For benches wider than 72″, use three legs.

4958T12 ..... $14.70

Basketball Equipment



Outdoor basketball set includes a backboard, mounting post, rim, and nylon net. Backboard is aluminum with a white finish. It's maintenance free and measures 35″ Ht. × 54″ Wd. Mounting post is one-piece, zinc-coated steel pipe that's 12 feet long with a 3-ft. extension at the top. Rim is steel with an orange finish.

Basketball court stencils allow you to create an official half court. Come with instructions, stencils, and paint roller. Masking tape and approximately 1 qt. of paint are required (tape and paint not included).

Outdoor Basketball Set	45425T12	$766.63
Basketball (Indoor/Outdoor)	45425T23	22.20
Basketball Court Stencils	45425T33	51.53

Vertical File Cabinets

All cabinets have a single lock that locks all drawers. Lock includes two keys. File drawers have high sides that accommodate hanging-file folders without the need for hanging-file frames.

(A) Standard cabinets are steel. Each drawer has a label holder and adjustable dividers. Shipped assembled. **To Order:** Please specify color: beige, black, or gray.

(B) Fire- and water-resistant cabinets protect important documents from fire. All meet UL Class 350 requirements to maintain an interior temperature of 350° F or less after being subjected to 1700° F for one hour. Each drawer has a label holder. Made of steel. Color is beige. Shipped assembled.

(C) Mobile cabinets have four casters (two rigid and two swivel) with 1¾″ dia. plastic wheels that are concealed under the cabinet. Made of steel. Shipped assembled. **To Order:** Please specify color: beige or black.

(D) Easy-access mobile cabinet has two slide back tops that allow partial or full access to all your files. Tops store conveniently on the sides of the cabinet when open. Cabinet has a removable 13⅝″ Wd. × 28¼″ Dp. × 11½″ Ht. lower wire shelf and four swivel casters with 3″ dia. plastic wheels. Made of steel. Color is gray. Shipped unassembled.

Optional front-to-back hanging-file frames (not shown) can be added to most vertical filing cabinets to support hanging-file folders. Frames adjust from 24″ to 27″ deep in ½″ increments. Made of steel. Shipped unassembled.


A&B


C


D

File Size	No. of Drawers	Drawer Size Wd.	Drawer Size Dp.	Drawer Size Ht.	Overall Size Wd.	Overall Size Dp.	Overall Size Ht.		
(A) Standard Cabinets									
Letter	2	12″	25½″	10¾″	15″	26½″	28½″	8970T52	$167.68
Letter	4	12″	25½″	10¾″	15″	26½″	52″	8970T53	236.33
Legal	2	15″	25½″	10¾″	18″	26½″	28½″	8970T54	204.00
Legal	4	15″	25½″	10¾″	18″	26½″	52″	8970T55	280.81
(B) Fire- and Water-Resistant Cabinets									
Letter, Legal	2	12″	15″	10¼″	18″	22½″	28″	4019T16	789.23
Letter, Legal	4	12″	15″	10¼″	18″	22½″	53″	4019T17	1,386.03
(C) Mobile Cabinets									
Letter	2	11¾″	17¾″	10½″	15″	20″	28″	4956T41	394.04
Letter	3★	11¾″	17¾″	4½″	15″	20″	28″	4956T42	347.69
(D) Easy-Access Mobile Cabinet									
Letter/Legal	_	12⅜″	27″	10″	14″	29⅛″	28⅜″	4959T23	214.22
Optional Front-to-Back Hanging-File Frames (Not Shown)									
Letter					11½″	24″-27″	9½″	5144T22	7.30
Legal					14½″	24″-27″	9½″	5144T24	8.14

★ Two drawers are the size listed in the table. The third drawer is 11¾″ Wd. × 17¾″ Dp. × 10½″ Ht.

Lateral File Cabinets

Wide instead of deep, these cabinets are often used in narrow aisles. Use them to hold both letter- and legal-size files. Store your files side-to-side with the included hanging-file frames or front-to-back with the optional front-to-back hanging-file frames (sold separately). Cabinets have a single lock that locks all drawers and comes with two keys. Leveling glides adjust to compensate for uneven floors. Made of steel. Shipped assembled.

Five-drawer cabinets have a top opening that has a retractable door and roll-out shelf for easy access to frequently used files. These cabinets also have a pull-out work surface.

To Order: Please specify color: beige, black, or gray.


5 Drawer

No. of Drawers	Drawer Size Wd.	Drawer Size Dp.	Drawer Size Ht.	O'all Size Wd.	O'all Size Dp.	O'all Size Ht.			
2	27¼″	15¼″	11″	30″	18″	28″	9084T31		$478.76
2	33¼″	15¼″	11″	36″	18″	28″	9084T35		486.02
3	33¼″	15¼″	11″	36″	18″	39½″	9084T36		604.09
3	39¼″	15¼″	11″	42″	18″	39½″	9084T41		644.33
4	33¼″	15¼″	11″	36″	18″	51½″	9084T37		741.15
4	39¼″	15¼″	11″	42″	18″	51½″	9084T42		788.18
5	33¼″	15¼″	11″	36″	18″	65″	9084T38		979.62
5	39¼″	15¼″	11″	42″	18″	65″	9084T43		1,039.78
Optional Front-to-Back Hanging-File Frames							9084T74	Pair	$7.36
Optional Divider							9084T75	Each	$3.62

Bookcases

To accommodate books, binders, and more, all of these steel bookcases have shelves that adjust on 2″ centers. Shipped assembled.

Mobile bookcases come with four swivel casters (two with brakes) with 5″ dia. plastic wheels.

To Order: Please specify color: beige, black, or gray.


Standard Bookcase with Three Shelves

No. of Shelves	Overall Size Wd.	Overall Size Dp.	Overall Size Ht.	Shelf Cap., lbs.		
Standard Bookcases						
1	34½″	13½″	28″	130	4609T1	$110.50
2	34½″	13½″	40″	130	4609T2	138.29
3	34½″	13½″	52″	130	4609T3	180.63
4	34½″	13½″	66″	130	4609T4	218.82
5	34½″	13½″	78″	130	4609T5	249.42
Mobile Bookcases						
3	36″	18″	61½″	150	9086T36	318.95
4	36″	18″	78½″	150	9086T38	371.24

Document File Cabinets & Safes

Flat-Document File Cabinets



Five-Drawer Cabinet with Optional Open Base



Eight-Drawer Cabinet with Optional Closed Base

Store blueprints, CAD drawings, maps, and other large flat documents in these steel cabinets. All have a front paper depressor to keep documents from curling. They have two handles and a label on each drawer. Shipped unassembled.

All cabinets are stackable. Only stack cabinets of the same size. **Cabinets with four and five drawers** can be stacked five high, except five drawer cabinets can only be stacked two high when using the optional open base. **Cabinets with eight drawers** can be stacked two high.

To Order: Please specify color: beige or gray.

Optional closed bases measure 6″ high. Made of steel.

Optional open bases offer convenient storage space. They're steel and raise the cabinets 20″ off the floor. Shipped unassembled.

Optional lock is for cabinets with five drawers. It includes one lock with two keys; this single lock will lock all drawers in the cabinet.

Drawer Size Wd.	Dp.	Ht.	Overall Size Wd.	Dp.	Ht.	Cabinets		Optional Closed Bases		Optional Open Bases	
Cabinets with Four Drawers											
37″	26″	2″	40½″	29½″	14″	4021T56	$495.46	4603T41	$157.99		
43″	32″	2″	46½″	35½″	14″	4021T57	577.70	4603T42	177.93		
Cabinets with Five Drawers											
43″	32″	2″	46½″	35½″	16½″	4603T4	969.76	4603T5	157.07	4603T22	$390.00
50″	38″	2″	53½″	41½″	16½″	4603T6	1,148.78	4603T7	197.07	4603T27	412.39
Optional Lock for Cabinets with Five Drawers										4603T36	58.20
Cabinets with Eight Drawers											
37″	26″	2″	40½″	29½″	25″	4603T1	895.35	4603T41	157.99		
43″	32″	2″	46½″	35½″	25″	4603T21	1,045.84	4603T42	177.93		

Rolled-Document File Cabinets and Racks



Stackable Cabinets Stacked Two High, 16 Compartments

Slotted openings make it easy to store blueprints, charts, and other rolled materials.

Stackable Cabinets

You can use these cabinets side-by-side as well as stacked up to four high. Cabinets are steel with composite wood shelving and dividers. They also have a hinged door and an index grid on the inside for easy document identification. Color is beige. Shipped assembled.

No. of Compartments	Compartment Size Wd.	Dp.	Ht.	Overall Size Wd.	Dp.	Ht.		
16	3¼″	37″	3¼″	15½″	38″	15½″	4607T31	$433.60
36	2¼″	37″	2¼″	15½″	38″	15½″	4607T32	448.51

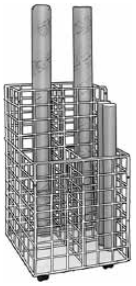

Mobile Steel Rack



Mobile Composite Wood Rack, 50 Compartments

Mobile Racks

The multi-tiered design allows you to store rolled documents of various sizes. Shipped unassembled.

Steel rack is constructed of steel rod with a white plastic coating; base is composite wood. Comes with four swivel casters with 1½″ dia. plastic wheels.

Composite wood racks have a plastic laminate finish. They come with four swivel casters with 2″ dia. plastic wheels. Color is beige.

No. of Compartments	Compartment Size Wd.	Dp.	Ht.	Overall Size Wd.	Dp.	Ht.		
Steel Rack								
4	8″	8″	17¾″-27¾″	16″	16½″	30½″	45845T11	$121.08
Composite Wood Racks								
20	2¾″	2¾″	11″-20½″	15″	13″	23″	4918T81	182.85
50	2¾″	2¾″	11″-25½″	30″	15½″	29″	4918T82	323.92

Safes



Standard Safe



Fire- and Water-Resistant Safe



Fire- and Water-Resistant Media Safe

Safeguard important documents and other valuables. Shipped assembled.

Standard safe is steel and has an electronic push-button lock with backup key. It also has a removable shelf and can be mounted to the floor (mounting fasteners included). Color is black.

Fire- and water-resistant safes are insulated, double-walled steel. These safes meet UL Class 350 requirements to maintain an interior temperature of 350°F or less after being subjected to 1700°F for two hours. All include an electronic push-button lock. Safes have one lockable drawer and come with two keys. Drawer is 3″ high and 1/4″ smaller than the interior width and depth of the safe. 6483T71 and 6483T72 have one shelf. 6483T73 has two shelves. All shelves adjust on 1/2″ centers. Color is white.

Fire- and water-resistant media safe protects media such as hard drives and CDs from fire and water damage. Made of insulated, double-walled plastic, this safe meets UL Class 125 requirements to maintain an interior temperature of 125°F or less after being subjected to 1700°F for one hour. Comes with a lock and two keys. Color is beige.

Overall Size Wd.	Dp.	Ht.	Usable Size Wd.	Dp.	Ht.		
Standard Safe							
15″	12″	12″	14¾″	11⅝″	10³⁄₁₆″	4932T11	$116.12
Fire- and Water-Resistant Safes							
20″	18½″	24″	14″	12″	18½″	6483T71	634.58
21″	20″	27″	15¼″	13½″	21¼″	6483T72	751.47
23½″	20″	32″	17½″	13½″	26¼″	6483T73	925.14
Fire- and Water-Resistant Media Safe							
12″	17½″	10½″	6¼″	8¾″	5¾″	6483T41	571.11

Hanging-Document Racks

Quickly access your blueprints, CAD drawings, and other large documents. Racks are steel. Color is beige. Shipped unassembled.

To create a hanging-document storage rack, order **brackets** and the number of **document clamps** you need (sold separately). Document clamps are required to hold your documents.

Wall-mount brackets save floor space by attaching directly to the wall (mounting fasteners included). Brackets extend from the wall, and the maximum document length depends on how high you mount the brackets.

Style A consists of two fixed brackets; mount them to accommodate a single document clamp width.

Style B has a swing-out bracket. You can use any combination of the document clamp widths (sold separately below).

Mobile brackets come with four swivel casters (two with brakes).

Style C has a fixed bracket and 2″ dia. plastic wheels. The bracket adjusts to accommodate a single document clamp width. Maximum document length is 50″.

Style D has a swing-out bracket and 3″ dia. wheels. The file stand has an adjustable depth and height. Maximum document length is 60″. You can use any combination of the document clamp widths (sold separately below).

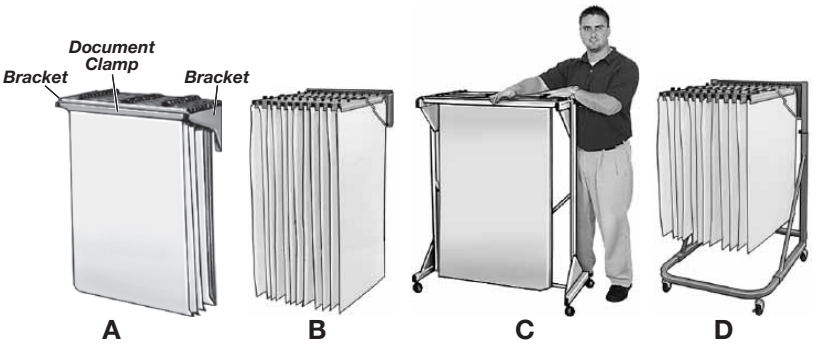

Hanging-Document Brackets

	Overall Size Wd.	Dp.	Ht.	For Use with Document Clamp Wd.	Max. No. of Document Clamps	Max. No. of Documents		
Wall Mount								
A	18″-42″	12″	8″	18″, 24″, 30″, 36″, 42″	12	1,200	4954T24	$49.04
B	24″	18″-42″	10″	18″, 24″, 30″, 36″, 42″	12	1,200	5140T34	212.20
Mobile								
C	26″-44″	20½″	51″	24″, 30″, 36″, 42″	18	1,800	46115T31	385.37
D	27″	27½″-37½″	43½″-61½″	18″, 24″, 30″, 36″, 42″	12	1,200	5140T35	481.71

Document Clamps

Made of aluminum, these clamps fit the brackets above to keep documents neat and organized.



Document Clamp Wd.		1-5	6-Up
18″	5140T13	$35.09	$29.82
24″	5140T16	39.25	33.36
30″	5140T17	43.69	37.14
36″	5140T18	$45.89	$39.00
42″	5140T19	48.86	41.53

Mail and Literature Organizers

Keep your mail and literature sorted and easy to access.

Countertop and Floor Organizers

Stackable Countertop Organizers with Steel Back—They can be stacked up to three high and come with fasteners for stacking. Also have a ½″ high front lip that serves as a label holder. Made entirely of steel. Color is tan. Shipped assembled.

Countertop and Floor Organizers with Fiberboard Back—Organizers have a shelf front that serves as a label holder. Made of steel with a fiberboard back. Shipped unassembled.

To Order: Please specify color: black or tan.


9 Compartment


72 Compartment

Compartments Total No.	Opening Size, Wd. × Dp. × Ht.	O'all Size, Wd. × Dp. × Ht.		
Stackable Countertop Organizers with Steel Back				
9	11″ × 11⅝″ × 3″	33 13/16″ × 11 11/16″ × 10 13/16″	5105T7	$80.07
12	11″ × 11⅝″ × 3″	33 13/16″ × 11 11/16″ × 14¼″	5105T8	105.65
15	11″ × 11⅝″ × 3″	33 13/16″ × 11 11/16″ × 17¾″	5105T9	123.05
Countertop Organizers with Fiberboard Back				
24	9″ × 12¼″ × 3″	37½″ × 12¾″ × 25¾″	5105T5	308.67
36	9″ × 12¼″ × 3″	37½″ × 12¾″ × 36½″	5105T2	379.14
Floor Organizers with Fiberboard Back				
60	9″ × 12¼″ × 3″	37½″ × 12¾″ × 60″	5105T6	594.08
72	9″ × 12¼″ × 3″	37½″ × 12¾″ × 71″	5105T3	665.96

Modular Stackable Organizer

Combine sorters, riser, and a table (all sold separately below) to design your own organizer. Since no fasteners are needed, changing your configuration is a breeze. Color is light gray. Shipped unassembled.

Sorter includes 20 removable compartment trays that measure 11″ wide and adjust in 7/8″ increments. Compartment trays have finger cut-outs, label holders, and form up to 25 compartments. Additional compartment trays are sold separately below. Sorter is made of steel, and compartment trays are made of gray plastic. *Note*: Sorter can stack up to three high when not using a riser and two high when using a riser.

Riser supports up to two sorters and comes with two openings for routing wires. Made of steel.

Table has a capacity of 500 lbs. and legs that adjust from 28″-36″ in 1″ increments. The shelf has a clearance of 14″ and 150-lb. capacity. Made of steel with a particleboard top with a light gray laminate surface.

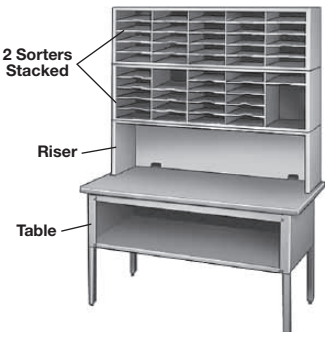

	O'all Size, Wd. × Dp. × Ht.		
Sorter	57½″ × 13″ × 14¼″	5151T13	$336.39
Riser	57½″ × 13″ × 14″	5151T12	192.42
Table	60″ × 30″ × 29⅛″-37⅛″	5151T11	725.00
Additional Compartment Trays for Sorter (5/Pkg.)		5151T14	44.30

Display Racks



A



B



C

Display and organize magazines, forms, and other papers. **To Order:** Where applicable, please specify color.

(A) Clear-View Plastic Wall-Mount Racks—Made of clear PET, these racks allow you to view contents from any angle. Mounting fasteners included. Shipped assembled.

(B) Steel Wall-Mount Racks—Come with two 3/8″ keyhole slots for wall mounting (mounting fasteners not included). All have contoured pockets to allow literature to lean forward to prevent paper curl, unless noted. Made of welded steel. Shipped assembled.

(C) Steel Revolving Floor Racks—These four-sided racks allow you to store large amounts of literature in one compact space. They provide the largest number of pockets and rotate 360° on a turntable so you can easily access rack contents. Pockets are contoured, allowing literature to lean forward to prevent paper curl. Made of steel. Shipped unassembled.

No. of Pockets	Pocket Size, Wd. × Dp. × Ht.	O'all Size, Wd. × Dp. × Ht.	Available Colors		
(A) Clear-View Plastic Wall-Mount Racks					
6	9 1/4″ × 1 3/4″ × 11 1/4″	30″ × 2″ × 24 1/2″	Clear	6048T93	$209.00
9	9 1/4″ × 1 3/4″ × 11 1/4″	30″ × 2″ × 36 1/2″	Clear	6048T94	284.80
12	9 1/4″ × 1 3/4″ × 11 1/4″	30″ × 2″ × 49″	Clear	6048T95	316.83
(B) Steel Wall-Mount Racks					
5	8 13/16″ × 3/4″ × 8 1/2″	9 3/4″ × 4 1/8″ × 20 1/4″	Dark Gray, Tan	4722T53	48.74
10	12 1/4″ × 5/16″ × 5 3/4″	13 1/4″ × 1 15/16″ × 26 1/4″	Dark Gray, Tan	4722T63★	59.87
11	8 13/16″ × 3/4″ × 8 1/2″	9 3/4″ × 4 1/8″ × 36″	Dark Gray, Tan	4722T52	71.40
11	12 1/4″ × 3/4″ × 8 3/8″	13 1/4″ × 4 1/8″ × 36″	Dark Gray, Tan	4722T61★	104.34
20	12 1/4″ × 3/4″ × 8 3/8″	13 1/4″ × 4 1/8″ × 58″	Dark Gray, Tan	4722T62★	149.92
23	8 13/16″ × 3/4″ × 8 1/2″	9 3/4″ × 4 1/8″ × 65 1/2″	Dark Gray, Tan	4722T51	99.65
(C) Steel Revolving Floor Racks					
44	8 13/16″ × 3/4″ × 8 1/2″	14 1/8″ × 14 1/8″ × 48 1/2″	Black, Dark Gray	4891T2	344.90
92	8 13/16″ × 3/4″ × 8 1/2″	14 1/8″ × 14 1/8″ × 68 3/8″	Black, Dark Gray	4891T3	475.96

★Pockets are straight.

Fabric Partitions

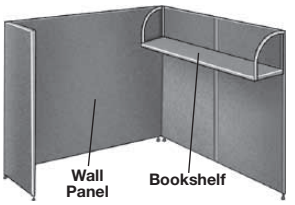

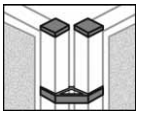

Corner Connector

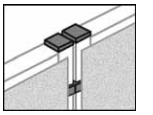

Straight Connector

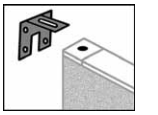

Wall Bracket



Freestanding Panel

All panels are 60″ Ht. × 1″ Thick. and have a welded-steel frame. Color is gray.

Wall Panels and Accessories—Create workspaces by connecting wall panels with connectors (sold separately). Partitions are easy to install, can be reconfigured as needs change, and have adjustable leveling feet. Wall panels must be supported every 6 to 8 feet with a wall bracket (sold separately) or with another wall panel set at 90°.

Wall brackets attach a wall panel to an existing wall. Two brackets are included: one for the panel top and one for the bottom. Each bracket has four 1/4″ dia. mounting holes (fasteners not included). *Bookshelves* hang anywhere on wall panels of the same width with the included shelf brackets. They are 14 1/2" Ht. × 13" Dp. and are steel with a gray finish.

To design your own panel system: 1. Make a rough drawing of the area you wish to partition, along with the overall measurements. 2. Determine the height, width, and number of panels you'll need. 3. Order the appropriate number and style of connectors you'll need to join the panels. To create a three-way connection, use two pairs of corner connectors; to create a four-way connection, use three pairs of corner connectors. 4. Order wall brackets when necessary. 5. Order bookshelves, if desired.

Freestanding Panels—With nothing to install, you can quickly set up temporary offices and meeting rooms. All have two gray T-leg bases.

Wall Panels and Accessories

Wd.		Each
Wall Panels		
24 1/2″	6438T12	$214.02
30 1/2″	6438T13	220.84
36 1/2″	6438T14	221.51
48 1/2″	6438T15	238.18
60 1/2″	6438T16	246.94

		Pair
Accessories		
Corner Connector	6438T31	$12.82
Straight Connector	6438T29	15.15
Wall Brackets	6438T34	34.87
		Each
Bookshelf—For 48 1/2″ Wall Panel Wd.	6438T35	$221.80
Bookshelf—For 60 1/2″ Wall Panel Wd.	6438T36	252.00

Freestanding Panels

Wd.		Each
24 1/2″	6438T62	$283.08
30 1/2″	6438T63	287.69
36 1/2″	6438T64	289.23
48 1/2″	6438T65	307.69
60 1/2″	6438T66	316.92

Coat Hangers



D



E



F

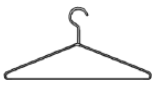

G



H



J



K

Material	Max. Hanger Bar Dia.		Each 1-24	Each 25-Up
Open-Hook Hangers				
D Hardwood	1 1/2″	9059T14	$1.47	$1.23
E Hardwood With Clips	1 1/2″	9059T24	3.97	3.34
F Black Plastic	1 1/2″	9059T17	6.20	5.22
G Chrome-Plated Steel	1 3/4″	9059T22	3.62	3.05

Material	Max. Hanger Bar Dia.		Each 1-24	Each 25-Up
Open-Hook Hangers (Cont.)				
H Type 302 Stainless Steel	1″	9059T23	$10.70	$9.01
Closed-Loop Hangers				
J Hardwood	1 1/2″	9059T19	1.91	1.61
K Chrome-Plated Steel	1 3/4″	9059T15	3.62	3.05

Wall-Mount Coat Racks

You won't have to give up valuable floor space to hang coats. These aluminum racks are corrosion resistant and come with mounting hardware. For hangers (not included), see page 1718. Shipped unassembled.



A

O'all Size, Wd. × Dp. × Ht.		Each
(A) Racks		
24″ × 15″ × 11 3/4″	4711T41	$103.92
36″ × 15″ × 11 3/4″	4711T42	103.22
48″ × 15″ × 11 3/4″	4711T43	120.30
60″ × 15″ × 11 3/4″	4711T44	162.25
72″ × 15″ × 11 3/4″	4711T45	161.40

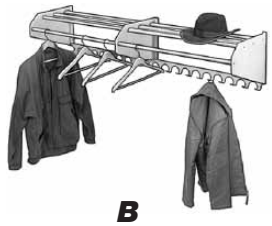

B

O'all Size, Wd. × Dp. × Ht.		Each
(B) Racks with Coat Hooks		
24″ × 15″ × 13 1/4″	4711T15	$126.85
36″ × 15″ × 13 1/4″	4711T16	143.71
48″ × 15″ × 13 1/4″	4711T17	180.91
60″ × 15″ × 13 1/4″	4711T18	235.64
72″ × 15″ × 13 1/4″	4711T32	245.79

Coat Racks

Space-Saver Coat Rack

This rack takes up very little floor space. It has four double hanging hooks, a 21″ dia. base, and four legs with adjustable nylon leveling feet to compensate for uneven floors. Overall height is 70″. Made of steel. To Order: Please specify color: chrome plated or black.

4708T21 ..... **Each** $85.01

Single- and Double-Sided Coat Racks

Place these racks anywhere to keep belongings neat and organized. For hangers (not included), see page 1718. Shipped unassembled.

Steel Racks— To Order: Please specify color: chrome plated or dark gray.

Stainless Steel Racks— Made of Type 304 stainless steel for excellent corrosion resistance, they're great for clean rooms.

Single-sided racks have a single hanger bar. ***Double-sided racks*** have three hanger bars for greater storage capacity.

Mobile racks have four swivel casters (two with brake) with 3″ dia. rubber wheels.



Space Saver



Stationary Single Sided



Mobile Double Sided with Optional Boot Shelf

O'all Size, Wd. × Dp.	O'all Ht.	Single Sided	Each	Double Sided	Each
Steel Racks					
Stationary					
36″ × 20″	65″	4977T12	$304.96	4977T41	$364.80
48″ × 20″	65″	4977T19	315.40	4977T42	390.46
60″ × 20″	65″	4977T8	351.50	4977T43	420.04
Mobile					
36″ × 20″	68″	4741T6	340.10	4741T81	399.96
48″ × 20″	68″	4741T7	350.56	4741T82	425.60
60″ × 20″	68″	4741T8	386.66	4741T83	463.60

O'all Size, Wd. × Dp.	O'all Ht.	Single Sided	Each	Double Sided	Each
Stainless Steel Racks					
Stationary					
36″ × 20″	65″	5047T1	$494.72	5047T5	$609.90
48″ × 20″	65″	5047T2	559.56	5047T6	660.12
60″ × 20″	65″	5047T3	620.36	5047T7	752.40
Mobile					
36″ × 20″	68″	5132T1	610.64	5132T5	683.94
48″ × 20″	68″	5132T2	659.04	5132T6	732.78
60″ × 20″	68″	5132T3	693.70	5132T7	840.26

Optional Boot Shelves— Simply place on coat-rack base—no mounting hardware needed. Made of steel with a black finish.

		Each
For 36″ Wide Racks	4977T91	$76.24
For 48″ Wide Racks	4977T92	91.68
For 60″ Wide Racks	4977T93	104.50

Bicycle Racks

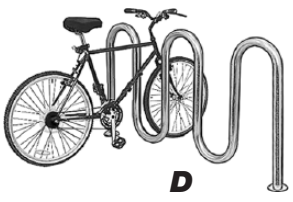

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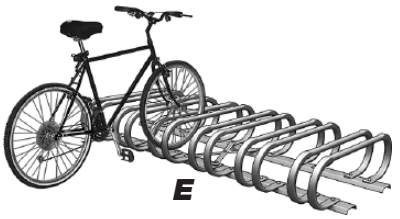

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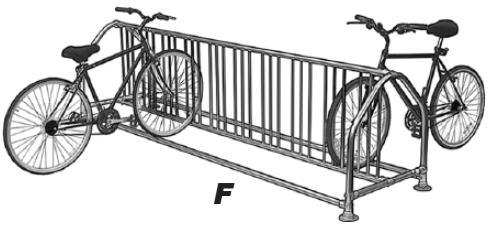

F

Our racks offer convenient parking and storage for bicycles. All accommodate bicycles on both sides of the rack. Racks mount to any flat surface.

(D) Contemporary Style— A continuous loop of steel pipe gives this rack a modern look. Each loop and each end holds one bicycle. Each leg has a 5″ dia. flange that has three 7/16″ dia. mounting holes. Mounting hardware not included. Color is light gray. Shipped assembled.

(E) Slotted Style— Rack has two galvanized steel bases and galvanized steel wheel slots. Each base has four 3/8″ dia. mounting holes. Mounting hardware not included. Shipped unassembled.

(F) Large Capacity— Made of galvanized steel. Each leg has a 4 11/16″ dia. malleable-iron flange with two 15/32″ dia. mounting holes. Mounting hardware not included. Shipped unassembled.

	O'all Size, Wd. × Dp. × Ht.	No. of Bicycles	Wheel Slot Wd.		Each
D	64 7/8″ × 2 3/8″ × 36″	7	9 5/8″	6263T25	$414.84
E	60″ × 25 7/8″ × 8 5/8″	6	2 1/4″	4793T81	342.69
F	121″ × 30″ × 33″	20	3 1/4″	9987T41	623.20

Vials

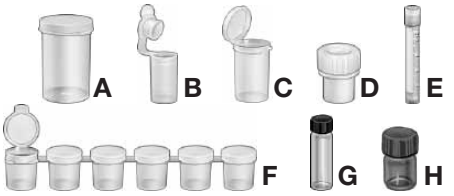

Sized for samples and small quantities.

Plastic Vials—*Style A* are polystyrene with a polyethylene (LDPE) snap-on cap. Maximum temperature is 158°F. *Styles B&C* are polypropylene with an attached flip-up cap. Not rated for temperature. *Style D* are thick-wall polyethylene (HDPE) for high durability. Cap is threaded. Maximum temperature is 248°F. *Style E* comes sterilized and withstands temperatures from –184° to 275°F. It is polypropylene with a threaded polyethylene (HDPE) cap. *Style F* are connected but can be cut apart. All are polypropylene with attached flip-up caps. Not rated for temperature.

Glass Vials—All are chemical resistant and have a threaded melamine cap with a PTFE seal. Not rated for temperature.

Capacity oz.	Capacity ml	Base Dia.	Ht.	Pkg. Qty.		Pkg.
Plastic Vials						
(A) Clear						
3/8	11	0.75″	1.90″	36	4611T22	$13.12
11/16	20	0.94″	1.99″	36	4611T32	14.47
7/8	25	1.06″	2.01″	36	4611T23	15.56
1 1/4	36	1.06″	3.25″	12	4611T33	6.86
1 5/8	48	1.25″	2.83″	12	4611T24	7.66
2	60	1.38″	2.46″	12	4611T34	8.17
2 5/16	69	1.56″	2.52″	12	4611T25	9.66
3 3/4	110	1.81″	2.99″	12	4611T31	13.38
5	147	1.88″	4.02″	12	4611T26	15.33
(B) Semi-Clear						
1/250	0.1	0.28″	0.54″	10	4574T11	5.50
1/16	2	0.50″	1.24″	10	4574T12	6.93
1/4	7.5	0.92″	1.09″	10	4574T13	7.22
1/3	9.5	0.67″	2.26″	10	4574T14	7.67
2/3	20	0.92″	2.37″	10	4574T15	8.65
1 1/2	44.3	1.41″	2.18″	10	4574T16	9.86
2 1/4	64.9	1.86″	1.88″	10	4574T18	9.49
3 1/4	95.8	1.60″	3.45″	10	4574T17	11.20
(C) Semi-Clear						
1/25	1.3	0.57″	0.74″	10	5274T61	4.35
1/10	3.3	0.99″	0.63″	10	5274T64	4.71
1/8	3.4	0.57″	1.78″	10	5274T62	5.48
1/6	5	0.57″	2.66″	10	5274T63	5.76
3/16	5.8	1.57″	0.44″	10	5274T681	6.27
1/4	7.5	0.99″	1.04″	10	5274T65	6.46
1/2	15	1.58″	0.73″	10	5274T691	6.58
2/3	20	0.99″	2.46″	10	5274T661	7.00
3/4	22	0.99″	2.92″	10	5274T67	7.33
1	30	1.57″	1.50″	10	5274T711	7.83
1 1/2	44.3	1.58″	1.85″	10	5274T72	7.95
1 7/8	55.3	2.03″	1.58″	5	5274T761	8.72
2 1/3	70.7	1.57″	2.99″	5	5274T73	8.55
2 3/8	71.1	2.52″	1.28″	5	5274T81	8.27
4 1/8	121.9	2.03″	3.19″	5	5274T77	9.62
(D) Thick-Wall Semi-Clear						
5/32	5	0.81″	1.38″	1	7940T51	4.04
11/32	10	0.81″	2.25″	1	7940T52	4.86

Capacity oz.	Capacity ml	Base Dia.	Ht.	Pkg. Qty.		Pkg.
Plastic Vials (Cont.)						
(D) Thick-Wall Semi-Clear (Cont.)						
1	30	1.38″	2.13″	1	7940T53	$5.62
2	60	1.38″	3.75″	1	7940T54	6.85
3	90	2.13″	2.63″	1	7940T55	8.59
6	180	2.13″	4.38″	1	7940T56	10.07
(E) Sterile Graduated Semi-Clear						
1/8	5	0.50″	3.50″	10	4465T51	15.63

Capacity oz.	Capacity ml	Base Dia.	Ht.	Lg.	No. of Vials		Each
(F) Connected Semi-Clear							
1/5	6.2	1.00″	1.03″	7 1/8″	6	4242T81	$1.53
5/32	5.2	1.00″	0.82″	9 1/2″	8	4242T82	1.60
1/6	5	1.00″	0.85″	10 5/8″	9	4242T83	1.70

Capacity oz.	Capacity ml	Base Dia.	Ht.	Pkg. Qty.		Pkg.
Glass Vials						
(G) Clear						
1/24	1.2	0.58″	0.87″	6	3773T51	$8.32
1/16	2	0.58″	1.00″	6	3773T52	8.49
1/16	2	0.47″	1.38″	6	4417T41	8.56
5/64	2.3	0.58″	1.02″	6	3773T53	9.04
9/64	4	0.51″	1.78″	6	4417T42	6.95
1/4	7.5	0.67″	2.38″	6	4417T43	7.66
3/8	11	0.75″	2.56″	6	4417T44	8.33
1/2	15	0.83″	2.75″	6	4417T45	9.29
43/64	20	1.11″	2.25″	6	4417T48	12.55
3/4	22	0.81″	3.34″	6	4417T46	12.77
3/4	22	1.08″	2.75″	6	4417T49	13.58
1 1/64	30	0.98″	3.75″	6	4417T47	13.98
(H) Semi-Clear Amber for Light-Sensitive Contents						
1/16	2	0.58″	1.00″	6	3773T62	9.20
1/16	2	0.47″	1.38″	6	4417T61	10.51
5/64	2.3	0.58″	1.02″	6	3773T63	10.19
9/64	4	0.51″	1.78″	6	4417T62	10.30
1/4	7.5	0.67″	2.38″	6	4417T63	11.64
1/2	15	0.83″	2.75″	6	4417T64	13.11

Test Tubes

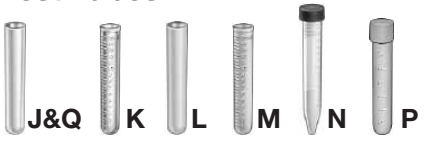

Clear plastic test tubes are polystyrene. Max. temp. is 158°F. *Style K* has 1 ml graduations.

Semi-clear plastic test tubes are polypropylene and have a max. temp. of 275°F, except *Style N* have a max. temp. of 248°F. *Style M* has 1 ml graduations. *Style N,* 1/2 oz. tube has 1/2 ml graduations. *Style N,* 15/8-oz. tube has 5 ml graduations. *Style P* has 2 ml graduations.

Glass test tubes are chemical resistant. Max. temp. is 950°F.

Caps are polyethylene and have a max. temp. of 176°F. Caps for plastic tubes are HDPE, except cap for 3/4 oz. Styles J and L as well as Styles K, M, and P are LDPE. Caps for glass tubes are LDPE.

Capacity oz.	Capacity ml	Dia.	Ht.	Pkg. Qty.	Test Tubes	Test Tubes Pkg.	Optional Caps	Optional Caps Pkg.
Plastic Test Tubes								
(J) Clear								
1/8	5	1/2″	3″	10	7012A44	$1.25	6946A16	$0.94
1/2	15	5/8″	4″	10	7012A45	1.88	6946A17	1.25
5/8	19	5/8″	5″	10	7012A46	2.19	6946A17	1.25
3/4	22	5/8″	6″	10	7012A47	4.06	6946A21	1.56
(K) Graduated Clear								
1/2	16	5/8″	4″	10	7012A48	1.88	6946A18	1.25
(L) Autoclavable Semi-Clear								
1/8	5	1/2″	3″	10	6946A11	1.25	6946A16	.94
1/2	15	5/8″	4″	10	6946A12	1.88	6946A17	1.25
5/8	19	5/8″	5″	10	6946A13	2.19	6946A17	1.25
3/4	22	5/8″	6″	10	6946A14	4.06	6946A21	1.56
(M) Graduated Autoclavable Semi-Clear								
1/2	15	5/8″	4″	10	6946A15	1.88	6946A18	1.25

Capacity oz.	Capacity ml	Dia.	Ht.	Pkg. Qty.	Test Tubes	Test Tubes Pkg.	Optional Caps	Optional Caps Pkg.
Plastic Test Tubes (Cont.)								
(N) Sterile Graduated Semi-Clear with Cap								
1/2	15	7/8″	4 3/4″	25	7979T33	$6.60	_____	___
1 5/8	50	1 1/4″	4 1/2″	25	7979T42	10.00	_____	___
(P) Graduated Semi-Clear with Choose-a-Color Cap								
To Order: Please specify blue, red, white, or yellow cap.								
1/2	12	5/8″	3 7/8″	10	8171T41	2.71	_____	___
Glass Test Tubes								
(Q) High-Temperature Autoclavable Clear								
1/8	5	1/2″	3″	10	2378T41	2.38	2378T45	$0.95
1/2	15	5/8″	4″	10	2378T42	3.57	2378T46	1.90
5/8	19	5/8″	5″	10	2378T43	4.29	2378T46	1.90
3/4	22	5/8″	6″	10	2378T44	4.76	2378T46	1.90

Test Tube Holders



Stabilize and sort your test tubes. These sturdy, autoclavable holders are opaque white polypropylene. Max. temp. is 266°F.

For Test Tube Dia.		Holds No. of Test Tubes	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.		
1/2″	12 mm/13 mm	42	2 3/4″	5″	4 1/8″	1484T5	$29.47
5/8″	16 mm/17 mm	30	2 3/4″	5″	4 1/8″	1484T6	30.35
3/4″	20 mm	20	2 3/4″	5″	4 1/8″	1484T7	31.83

Plastic Jars

A wide mouth makes jars easy to fill and empty. All have a threaded cap.

(1-3) Clear—*Style 1* are polystyrene with a polypropylene cap. Maximum temperature is 158°F. *Style 2* are PVC; cap is phenolic with a coated-paper seal. Maximum temperature is 176°F. *Style 3* are polycarbonate, and the cap is polypropylene with a Buna-N rubber seal. Maximum temperature is 225°F.

(4) Autoclavable Clear—All are polymethylpentene with a polypropylene cap. Maximum temperature is 275°F.

(5) Super-Clean Clear—This jar is virtually particle-free. It's made of PET with a polyethylene-lined polypropylene cap. Not rated for temperature.

(6&7) Semi-Clear—*Style 6* are polyethylene (LDPE) with a polypropylene cap. Maximum temperature is 176°F. *Style 7* are polyethylene (HDPE). Maximum temperature is 230°F. 42955T2 cap is polypropylene, 42955T4 cap is metal, and 4577T22 and 4577T23 caps are polyethylene (HDPE).

(8-10) Rigid Semi-Clear—These jars are polyethylene (HDPE) with a polypropylene cap. Maximum temperature is 248°F.

(11&12) Autoclavable Semi-Clear—All are polypropylene. *Style 11* have a maximum temperature of 249°F. *Style 12* have a maximum temperature of 275°F.

(13) Absorption-Resistant Semi-Clear—Jars are fluorinated polyethylene (HDPE) to resist absorption of contents. Cap is polypropylene. Maximum temperature is 248°F.

(14) Thick-Wall Autoclavable Semi-Clear—Rigid and durable, these jars are polypropylene. Cap has a mason-jar threaded rim with removable seal. Maximum temperature is 275°F.

(15) Write-On Semi-Clear—For identification of contents, these jars have two write-on label areas. Both are polyethylene (HDPE) with a polypropylene cap. Maximum temperature is 248°F.

(16) Tamper-Evident Semi-Clear—Jars have a sealing ring that separates when the cap is opened. Both are polyethylene (HDPE) with a polypropylene cap. Maximum temperature is 212°F.

(17) Opaque Amber for Light-Sensitive Contents—All are polyethylene (HDPE) with a polypropylene cap. Maximum temperature is 248°F.





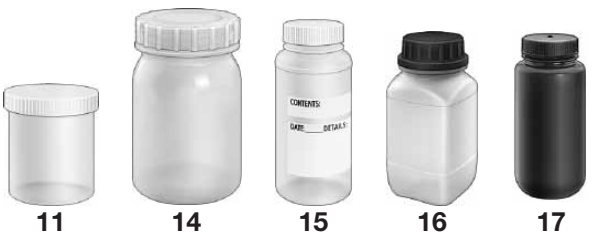

Capacity			Mouth OD	Base Dia.	Ht.		
Clear							
1	2 oz.	60 ml	2 1/8"	2 1/8"	1 7/8"	**4188T41**	$1.63
1	4 oz.	125 ml	2 3/4"	2 3/4"	2 3/8"	**4188T42**	2.05
1	6 oz.	180 ml	2 3/4"	2 3/4"	2 3/4"	**4188T43**	2.64
1	8 oz.	250 ml	3 1/2"	3 1/2"	2 5/8"	**4188T44**	3.89
1	16 oz.	500 ml	3 1/2"	3 1/2"	3 3/4"	**4188T45**	4.57
1	32 oz.	1,000 ml	4 3/4"	4 3/4"	3 7/8"	**4188T47**	9.71
2	1 1/2 oz.	50 ml	1"	1 1/2" sq.	2 3/8"	**43045T42**	3.11
2	3 oz.	100 ml	1 1/4"	1 7/8" sq.	2 7/8"	**43045T43**	3.95
2	6 oz.	200 ml	1 5/8"	2 3/8" sq.	3 3/4"	**43045T51**	5.32
2	10 oz.	300 ml	1 5/8"	2 5/8" sq.	3 3/4"	**43045T52**	7.86
2	16 oz.	500 ml	2 1/4"	3 1/8" sq.	4 1/4"	**43045T53**	8.60
2	32 oz.	1,000 ml	2 3/4"	3 3/4" sq.	5 3/4"	**43045T54**	11.04
2	64 oz.	2,000 ml	2 3/4"	4 5/8" sq.	7 1/2"	**43045T48**	19.43
3	1 oz.	30 ml	1 5/8"	2"	2 1/8"	**3999T1**	5.98
3	2 1/2 oz.	75 ml	1 5/8"	2"	3 1/8"	**3999T2**	6.19
3	5 oz.	150 ml	1 5/8"	2 7/8"	3"	**3999T3**	6.59
3	9 oz.	270 ml	1 5/8"	2 7/8"	4 1/4"	**3999T4**	7.20
3	16 oz.	500 ml	2 3/4"	3 5/8"	5 1/4"	**3999T5**	12.36
3	32 oz.	1,000 ml	2 3/4"	3 5/8"	8 5/8"	**3999T6**	13.33
3	64 oz.	2,000 ml	2 3/4"	5"	9 3/8"	**3999T7**	15.89
Autoclavable Clear							
4	4 oz.	125 ml	2 3/4"	2 1/2"	2 7/8"	**5761T713**	11.67
4	8 oz.	250 ml	2 3/4"	2 1/2"	4 5/8"	**5761T723**	13.56
4	16 oz.	500 ml	4 3/4"	4 3/8"	3 3/8"	**5761T733**	21.41
4	32 oz.	1,000 ml	4 3/4"	4 3/8"	5 7/8"	**5761T743**	25.47
Super-Clean Clear							
5	4 oz.	120 ml	1 1/2"	2"	3 5/8"	**4188T51**	4.53
Semi-Clear							
6	4 oz.	125 ml	1 1/2"	1 7/8"	4 3/8"	**5109T51**	4.04
6	8 oz.	250 ml	1 3/4"	2 1/4"	5 1/2"	**5109T52**	4.48
6	16 oz.	500 ml	2 1/8"	2 7/8"	6 3/4"	**5109T53**	4.92
6	32 oz.	1,000 ml	2 1/8"	3 1/2"	8 1/4"	**5109T54**	5.44
7	64 oz.	2,000 ml	4 3/4"	5 7/8"	6 1/4"	**42955T2**	4.91
7	1 gal.	4,000 ml	4 1/2"	6"	10"	**42955T4**	7.13
7	1 1/4 gal.	5,000 ml	4 3/4"	7 5/8"	9 1/4"	**4577T22**	70.83
7	2 1/2 gal.	10,000 ml	4 3/4"	9 1/8"	12 1/4"	**4577T23**	72.49
Rigid Semi-Clear							
8	1 oz.	30 ml	7/8"	1 1/4"	2 3/4"	**4280T31**	2.47
8	2 oz.	60 ml	1"	1 5/8"	3 1/4"	**4280T32**	2.54
8	4 oz.	125 ml	1 1/4"	2"	3 7/8"	**4280T33**	2.89
8	8 oz.	250 ml	1 3/8"	2 3/8"	5 5/8"	**4280T34**	4.47
8	16 oz.	500 ml	1 3/4"	3"	6 1/2"	**4280T35**	5.15
8	32 oz.	1,000 ml	2 1/8"	3 1/2"	8 1/4"	**4280T36**	7.36
8	48 oz.	1,500 ml	2 1/2"	3 5/8"	11 1/8"	**4280T37**	12.33
8	64 oz.	2,000 ml	2 1/8"	4 3/4"	9 5/8"	**4280T38**	14.59
9	2 oz.	60 ml	1 1/8"	1 1/2" sq.	3 1/8"	**4238T18**	2.53
9	6 oz.	175 ml	1 1/2"	2" sq.	4"	**4238T15**	4.04
Rigid Semi-Clear (Cont.)							
9	8 oz.	250 ml	1 5/8"	2 1/2" sq.	4 1/2"	**4238T17**	$5.46
9	16 oz.	500 ml	2 1/8"	3" sq.	5 1/2"	**4238T14**	7.75
9	32 oz.	1,000 ml	2 1/2"	3 3/4" sq.	7"	**4238T22**	11.56
10	4 oz.	125 ml	1 1/8"	2 3/8"×1 1/2"	4"	**4293T76**	2.56
10	8 oz.	250 ml	1 1/2"	3"×2"	4 5/8"	**4293T77**	3.73
10	16 oz.	500 ml	1 7/8"	3 7/8"×2 7/8"	5 3/4"	**4293T78**	5.79
10	32 oz.	1,000 ml	2 1/8"	5"×2 7/8"	7 1/8"	**4293T79**	12.55
10	64 oz.	2,000 ml	2 1/2"	6"×3 3/8"	9 1/2"	**4293T65**	22.22
Autoclavable Semi-Clear							
11	1 oz.	30 ml	1 5/8"	1 5/8"	1 5/8"	**42905T22**	1.77
11	2 oz.	60 ml	2 1/8"	2 1/8"	1 7/8"	**42905T23**	1.88
11	4 oz.	125 ml	2 3/4"	2 3/4"	2 3/8"	**42905T24**	3.02
11	8 oz.	250 ml	3 1/2"	3 1/2"	2 5/8"	**42905T25**	3.92
11	16 oz.	500 ml	3 1/2"	3 1/2"	3 3/4"	**42905T6**	5.90
11	32 oz.	1,000 ml	4 3/4"	4 3/4"	3 7/8"	**42905T7**	8.68
11	40 oz.	1,200 ml	4 3/4"	4 3/4"	5 1/8"	**42905T8**	11.19
12	1 oz.	30 ml	1 1/8"	1 1/4"	2 7/8"	**6702T71**	2.07
12	2 oz.	60 ml	1 1/4"	1 5/8"	3 1/4"	**6702T72**	2.24
12	4 oz.	125 ml	1 1/2"	2"	3 7/8"	**6702T73**	2.62
12	8 oz.	250 ml	1 3/4"	2 3/8"	5 5/8"	**6702T74**	4.07
12	16 oz.	500 ml	2 1/8"	3"	6 1/2"	**6702T75**	5.74
12	32 oz.	1,000 ml	2 1/2"	3 1/2"	8 1/4"	**6702T76**	8.68
12	64 oz.	2,000 ml	2 1/2"	4 3/4"	9 5/8"	**6702T77**	17.49
Absorption-Resistant Semi-Clear							
13	4 oz.	125 ml	1 1/2"	2"	3 7/8"	**41165T22**	4.66
13	8 oz.	250 ml	1 5/8"	2 3/8"	5 1/8"	**41165T24**	7.05
13	16 oz.	500 ml	2 1/8"	2 7/8"	6 5/8"	**41165T26**	9.74
13	32 oz.	1,000 ml	2 1/2"	3 5/8"	7 7/8"	**41165T28**	17.84
13	64 oz.	2,000 ml	3 7/8"	4 3/4"	9 5/8"	**41165T31**	45.20
Thick-Wall Autoclavable Semi-Clear							
14	16 oz.	500 ml	2 3/4"	3 1/4"	5 1/4"	**4322T1**	9.42
14	32 oz.	1,000 ml	2 3/4"	4"	7"	**4322T2**	13.73
14	64 oz.	2,000 ml	2 3/4"	5"	8 3/8"	**4322T4**	20.82
14	1 gal.	4,000 ml	2 3/4"	5 7/8"	11 1/4"	**4322T6**	33.61
14	2 gal.	8,000 ml	2 3/4"	7 1/2"	13 1/8"	**4322T7**	48.87
Write-On Semi-Clear							
15	16 oz.	500 ml	1 5/8"	2 7/8"	6 3/4"	**5082T8**	4.78
15	32 oz.	1,000 ml	1 5/8"	3 1/2"	8 1/4"	**5082T9**	5.98
Tamper-Evident Semi-Clear							
16	16 oz.	500 ml	1 5/8"	2 3/4" sq.	6 3/8"	**6497T1**	11.86
16	32 oz.	1,000 ml	1 5/8"	3" sq.	8 1/2"	**6497T2**	14.95
Opaque Amber for Light-Sensitive Contents							
17	2 oz.	60 ml	1 1/8"	1 1/2"	3 3/8"	**41055T22**	3.57
17	4 oz.	125 ml	1 1/2"	2"	3 7/8"	**41055T23**	4.14
17	8 oz.	250 ml	1 5/8"	2 3/8"	5 1/8"	**41055T24**	6.19
17	16 oz.	500 ml	2 1/8"	2 7/8"	6 5/8"	**41055T25**	8.09
17	32 oz.	1,000 ml	2 1/2"	3 5/8"	7 7/8"	**41055T26**	14.35

Glass Jars



A&B



C D



E F

Made from glass to resist chemical absorption. A wide mouth makes them easy to fill and empty. All come with a threaded cap.

Style A have a phenolic cap with a coated-paper liner.
Styles B, C&F have a phenolic cap with a PTFE seal.
Style D, also called mason jars, have a tin-plated cap that forms a vacuum seal.
Style E are slip, impact, and shatter resistant. Cap is melamine with a PTFE seal.

	Capacity oz.	Capacity ml	Mouth OD	Base Dia.	Ht.		Each
Economy Clear							
A	2	60	2 1/8"	2 1/8"	1 7/8"	4231T21	$2.83
A	4	125	2 1/4"	2 3/8"	2 5/8"	4231T22	2.68
A	6	180	2 1/2"	2 5/8"	3 1/8"	4231T72	4.86
A	8	250	2 3/4"	2 7/8"	3 1/2"	4231T23	4.19
A	16	500	3 1/2"	3 5/8"	3 3/4"	4231T24	5.57
A	32	1,000	3 1/2"	3 3/4"	6 5/8"	4231T25	6.30
A	64	1,920	3 1/4"	4 1/4"	8 1/2"	4231T26	12.38
Clear							
B	2	60	2 1/8"	2 1/8"	1 7/8"	4239T31	4.67
B	4	125	2 1/4"	2 3/8"	2 5/8"	4239T32	5.09
B	6	180	2 1/2"	2 5/8"	3 1/8"	4239T33	6.55
B	8	250	2 3/4"	2 7/8"	3 1/2"	4239T34	6.71
B	16	500	3 1/2"	3 5/8"	3 3/4"	4239T35	8.70
B	32	1,000	3 1/2"	3 3/4"	6 5/8"	4239T36	10.01
B	64	1,920	3 1/4"	4 1/4"	8 3/8"	4239T37	14.89
C	1	30	1"	1 1/4" sq.	2 3/4"	3801T71	2.66
C	2	60	1 1/8"	1 5/8" sq.	3 3/8"	3801T72	2.16

	Capacity oz.	Capacity ml	Mouth OD	Base Dia.	Ht.		Each
Clear (Cont.)							
C	4	125	1 1/4"	1 3/4" sq.	4 3/8"	3801T73	$2.60
C	8	250	1 5/8"	2 1/4" sq.	5 3/8"	3801T74	3.39
C	16	500	1 7/8"	2 3/4" sq.	6 1/2"	3801T75	5.27
Vacuum-Sealable Clear—Pkg. of 12							Pkg.
D	16	500	3 3/8"	3"	4 3/4"	3231T43	$15.08
D	32	1,000	3 3/8"	3 3/4"	6 1/2"	3231T44	16.07
Safety-Coated Clear							Each
E	8	250	2 3/4"	2 7/8"	3 1/2"	44715T41	$10.93
E	16	500	2 3/4"	3"	5 3/4"	44715T42	12.88
E	32	1,000	2 3/4"	3 3/4"	7"	44715T43	17.83
Semi-Clear Amber for Light-Sensitive Contents							
F	1	30	1 1/8"	1 1/2"	2 1/2"	41265T31	2.95
F	2	60	1 1/4"	1 3/4"	2 7/8"	41265T32	4.05
F	4	125	1 1/2"	2 1/8"	3 3/4"	41265T33	3.56
F	8	250	1 3/4"	2 5/8"	4 5/8"	41265T34	5.21
F	16	500	2 1/8"	3 1/8"	5 3/4"	41265T35	6.83
F	32	1,000	2 1/8"	3 7/8"	7"	41265T36	9.63

Plastic Bottles



G-L M N

A narrow mouth provides controlled pouring. All come with a threaded cap.
Style G are polyethylene (LDPE) with a polypropylene cap. Maximum temperature is 176° F.
Styles H, L, M&N are polyethylene (HDPE) with a polypropylene cap. Maximum temperature is 248° F.
Style L are fluorinated to prevent contents from being absorbed. *Style M* have two write-on label areas for identification of contents.
Style J have thick-walls for added durability. All are polyethylene (LDPE). Maximum temperature is 176° F.
Style K are autoclavable polypropylene. Maximum temperature is 275° F.

	Capacity		Mouth OD	Base Dia.	Ht.		
Semi-Clear							
G	1 oz.	30 ml	7/8"	1 1/4"	2 5/8"	4218T41	$1.31
G	2 oz.	60 ml	7/8"	1 5/8"	3 1/8"	4218T42	1.37
G	4 oz.	125 ml	1 1/8"	2"	4"	4218T43	1.85
G	8 oz.	250 ml	7/8"	2 3/8"	5 1/4"	4218T44	3.39
G	16 oz.	500 ml	1 1/8"	3"	6 1/2"	4218T45	3.40
G	32 oz.	1,000 ml	1 3/8"	3 5/8"	8 1/2"	4218T46	8.59
Rigid Semi-Clear							
H	1 oz.	30 ml	3/4"	1 3/8"	2 3/8"	3681T71	1.80
H	2 oz.	60 ml	3/4"	1 1/2"	3 3/8"	3681T72	1.94
H	4 oz.	125 ml	1"	2"	4"	3681T73	2.35
H	6 oz.	175 ml	1"	2 1/8"	4 7/8"	3681T74	3.35
H	8 oz.	250 ml	1"	2 3/8"	5 1/4"	3681T75	3.54
H	16 oz.	500 ml	1 1/8"	2 7/8"	6 5/8"	3681T76	4.77
H	32 oz.	1,000 ml	1 1/2"	3 5/8"	8 1/2"	3681T77	8.59
Thick-Wall Semi-Clear							
J	64 oz.	2,000 ml	1 1/2"	4 1/2"	11"	4216T1	24.67
J	1 gal.	4,000 ml	1 1/2"	6"	14"	4216T2	39.44
J	2 gal.	8,000 ml	2 1/8"	7 1/2"	16"	4216T3	64.04
Autoclavable Semi-Clear							
K	1 oz.	30 ml	3/4"	1 3/8"	2 3/8"	3219T51	2.31
K	2 oz.	60 ml	3/4"	1 1/2"	3 3/8"	3219T52	2.34

	Capacity		Mouth OD	Base Dia.	Ht.		
Autoclavable Semi-Clear (Cont.)							
K	4 oz.	125 ml	1"	2"	4"	3219T53	$3.21
K	8 oz.	250 ml	1"	2 3/8"	5 1/4"	3219T54	4.65
K	16 oz.	500 ml	1 1/8"	2 7/8"	6 5/8"	3219T55	6.88
K	32 oz.	1,000 ml	1 1/2"	3 5/8"	8 1/2"	3219T56	11.36
Absorption-Resistant Semi-Clear							
L	8 oz.	250 ml	1"	2 3/8"	5 1/4"	5262T61	4.92
L	16 oz.	500 ml	1 1/8"	2 7/8"	6 3/4"	5262T62	6.85
L	32 oz.	1,000 ml	1 1/2"	3 5/8"	8 1/2"	5262T63	12.27
L	64 oz.	2,000 ml	1 1/2"	4 3/4"	9 7/8"	5262T64	34.28
L	1 gal.	4,000 ml	1 1/2"	6"	13 1/8"	5262T65	51.97
Write-On Semi-Clear							
M	16 oz.	500 ml	3/4"	2 7/8"	6 3/4"	5082T6	3.94
M	32 oz.	1,000 ml	1 1/8"	3 1/2"	8 1/4"	5082T7	4.98
Opaque Amber for Light-Sensitive Contents							
N	1/2 oz.	15 ml	3/4"	1"	2 3/8"	41055T31	1.96
N	4 oz.	125 ml	1"	2"	4"	41055T34	3.35
N	8 oz.	250 ml	1"	2 3/8"	5 1/4"	41055T35	4.53
N	16 oz.	500 ml	1 1/8"	2 7/8"	6 5/8"	41055T36	6.66
N	32 oz.	1,000 ml	1 1/2"	3 5/8"	8 1/2"	41055T37	11.21

Easy-Grip Plastic Jars



P



Q

These grab-and-pour jars come with a threaded cap.

Opaque gray jar is polyethylene (HDPE) with an internal spout. Maximum temperature is 120° F.

Semi-clear jar is polyethylene (HDPE) with a polypropylene cap. Maximum temperature is 248° F.

Autoclavable semi-clear jar is polypropylene. Maximum temperature is 275° F.

	Capacity		Mouth OD	Base Size	Ht.		
Opaque Gray							
P	1 gal.	4,000 ml	6"	6 3/8" sq.	8"	6917T12	$10.91
Semi-Clear							
Q	1 gal.	4,000 ml	3 7/8"	5 5/8" sq.	11 1/2"	41135T3	32.27
Autoclavable Semi-Clear							
Q	1 gal.	4,000 ml	3 7/8"	5 5/8" sq.	11 1/2"	41135T2	35.97

Metal Bottles

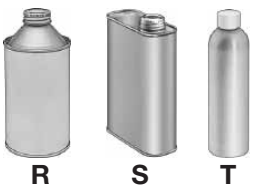

R S T

Sturdy metal construction makes these bottles a durable option for storing liquids. Each come with a threaded cap.

Styles R&S have a tin-plated steel cap with a coated-paper liner.

Style T are lighter in weight than steel. They have a polypropylene cap with a polyethylene foam liner.

	Capacity oz.	Capacity ml	Mouth OD	Base Dia.	Ht.		
Tin-Plated Steel							
R	12	360	7/8"	2 1/2"	5 5/8"	4084T69	$3.58
R	16	500	1"	2 5/8"	7 3/8"	4084T77	7.52
S	16	500	1"	1 3/4" x 3 7/8"	6 3/8"	4084T33	4.79
S	32	1,000	1 1/4"	2 3/8" x 4 5/8"	7 3/8"	4084T64	5.74
Lightweight Aluminum							
T	2	60	1"	1 3/8"	4 1/8"	6810T51	5.85
T	8	240	1"	2"	7 1/4"	6810T53	8.44

Glass Bottles

These bottles are glass to resist the absorption of contents. All bottles come with a threaded cap.

Styles 1&3 have a phenolic cap with PTFE seal.

Styles 2&4 are slip, impact, and shatter resistant. Cap is melamine with a PTFE seal.



1&2 3&4

Capacity oz.	Capacity ml	Mouth OD	Base Dia.	Ht.		
(1) Clear						
1	30	3/4"	1 1/4"	3 1/8"	5782T61	$1.40
2	60	3/4"	1 5/8"	3 5/8"	5782T62	1.54
4	125	7/8"	1 7/8"	4 1/2"	5782T63	1.81
8	250	1"	2 3/8"	5 3/8"	5782T64	2.43
16	500	1 1/8"	3"	6 5/8"	5782T65	2.84
32	1,000	1 1/4"	3 3/4"	8 1/8"	5782T66	4.00
(2) Safety-Coated Clear						
8	240	1"	2 3/8"	5 3/8"	44715T31	8.96
16	500	1 1/8"	3"	6 5/8"	44715T32	10.97
32	1,000	1 1/4"	3 3/4"	8 1/2"	44715T33	17.11
(3) Semi-Clear Amber for Light-Sensitive Contents						
2	60	3/4"	1 5/8"	3 5/8"	6120T81	2.31
4	125	7/8"	1 7/8"	4 3/8"	6120T82	2.60
8	250	1"	2 3/8"	5 3/8"	6120T83	3.76
16	500	1 1/8"	3"	6 5/8"	6120T84	4.61
32	1,000	1 1/4"	3 3/4"	8 1/8"	6120T85	6.21
(4) Safety-Coated Semi-Clear Amber for Light-Sensitive Contents						
16	500	1 1/8"	3"	6 5/8"	44715T35	12.09
32	1,000	1 1/4"	3 1/2"	8 5/8"	44715T36	17.38
84	2,500	2 3/4"	5 1/2"	9 3/8"	44715T52	36.57

Carboys



5 6 7 8



Flattened

9 10

Contain and dispense a large quantity of liquid with these carboys.

Style 5 have an indented grip on the back for easy pouring. All are polyethylene (HDPE) with a threaded cap. Maximum temperature is 230° F.

Styles 6&7 have a pouring spout that can be removed and stored internally. All are polyethylene (HDPE) with a threaded cap. *Style 6* is not rated for temperature. *Style 7* has a maximum temperature of 176° F.

Style 8 have a spigot to accommodate 1/2" to 5/8" ID tubing. They are thick-wall polyethylene (LDPE) with a maximum temperature of 176° F.

Style 9 is stackable up to three high. It's made of chemical-resistant polyethylene (HDPE) with a threaded polypropylene cap and faucet. Maximum temperature is 248° F.

Style 10 flatten for convenient storage. All are polyethylene (LDPE). Maximum temperature is 212° F.

Capacity gal.	Capacity L	Mouth OD	Base Size	Ht.		
(5) Opaque White						
2 1/2	10	2 1/2"	9 5/8" x 9 3/4"	7 1/4"	43005T2	$21.34
5	20	2 1/2"	9 5/8" x 9 3/4"	13 1/2"	43005T3	33.28
(6) Rigid Opaque Blue						
6	22.7	1 5/8"	13 7/8" x 6 5/8"	21 1/4"	48685T3	26.62
(7) Rigid Semi-Clear						
2 1/2	10	1 3/4"	10" x 7 1/4"	14"	48685T2	24.63
(8) Thick-Wall Opaque White						
1	3.8	1 1/2"	6" dia.	14"	4217T1	76.41
2	7.6	2 1/8"	7 1/2" dia.	16"	4217T2	100.95
6 1/2	24.6	3 1/2"	10 1/2" dia.	25"	4217T5	153.00
(9) Stackable Low-Profile Semi-Clear						
4	15	2 1/2"	14 1/2" sq.	8"	9884T15	180.29
(10) Collapsible Clear						
2 1/2	10	1 1/2"	9" sq.	9"	4414T2	13.79
5	20	2"	11 3/8" sq.	11 3/8"	4414T3	15.92

Plastic Shipping Bottles

Use these puncture-resistant bottles as inner packaging components for liquids. They are authorized for shipping hazardous materials per CFR Title 49, Section 173.27 (c) (2). Made of semi-clear polyethylene (HDPE) with a threaded polypropylene cap. Maximum temperature is 248° F.



Narrow Mouth

Capacity		Mouth OD	Base Dia.	Ht.		
Narrow Mouth						
1 oz.	30 ml	3/4"	1 3/8"	2 3/8"	42305T32	$2.12
2 oz.	60 ml	3/4"	1 1/2"	3 3/8"	42305T33	2.20
4 oz.	125 ml	1"	2"	4"	42305T34	2.77
8 oz.	250 ml	1"	2 3/8"	5 1/4"	42305T35	4.01
16 oz.	500 ml	1 1/8"	2 7/8"	6 3/4"	42305T36	5.68
32 oz.	1,000 ml	1 1/2"	3 5/8"	8 1/2"	42305T37	10.09
1 gal.	4,000 ml	1 1/2"	6"	13 1/8"	42305T38	43.15
Wide Mouth						
4 oz.	125 ml	1 1/2"	2"	3 7/8"	42305T44	3.97
8 oz.	250 ml	1 5/8"	2 1/2"	5 1/8"	42305T45	5.96
16 oz.	500 ml	2 1/8"	2 7/8"	6 5/8"	42305T46	8.27
32 oz.	1,000 ml	2 1/2"	3 5/8"	7 7/8"	42305T47	15.10

Jugs



11 12 13 14 15 16

Get a handle on storing, pouring, and transporting liquids. These jugs come with a threaded cap.

Styles 11&12 are polyethylene (HDPE). Cap is polypropylene with a foam seal. Maximum temperature is 180° F, except Style 11 with 1-gal. capacity is 137° F.

Style 13 is made of thick-wall polyethylene (LDPE) for durability and puncture resistance. Maximum temperature is 176° F.

Styles 14&15 have a phenolic cap with a PTFE seal.

Style 16 have a tin-plated steel cap with a coated-paper seal.

Capacity		Mouth OD	Base Size	Ht.		
(11) Opaque White Plastic						
16 oz.	480 ml	1 1/4"	4 1/8" x 1 3/4"	6"	46125T44	$3.12
32 oz.	960 ml	1 1/4"	4 7/8" x 2 1/8"	7 1/2"	46125T45	3.85
64 oz.	2,000 ml	1 1/2"	4 7/8" x 3 3/8"	9"	46125T46	5.23
1 gal.	4,000 ml	1 1/2"	7 1/8" x 4 3/4"	11 5/8"	46125T7	7.38
(12) Semi-Clear Plastic						
64 oz.	2,000 ml	1 1/2"	4 3/4" dia.	9 1/2"	4266T59	3.55
1 gal.	4,000 ml	1 1/2"	6 1/8" dia.	11 3/4"	4266T61	4.35
(13) Thick-Wall Semi-Clear Plastic						
1 gal.	4,000 ml	1 1/2"	6" dia.	13"	4223T1	53.02
(14) Clear Glass						
64 oz.	2,000 ml	1 1/2"	5" dia.	10 3/8"	3137T21	10.34
1 gal.	4,000 ml	1 1/2"	6 5/8" dia.	11 1/2"	3137T22	16.94
(15) Semi-Clear Amber Glass for Light-Sensitive Contents						
1 gal.	4,000 ml	1 1/2"	6 1/4" dia.	13 3/8"	3137T32	19.57
(16) Tin-Plated Steel						
64 oz.	2,000 ml	1 1/4"	5 1/8" x 3 1/2"	7 5/8"	4084T55	8.36
1 gal.	4,000 ml	1 3/4"	6 5/8" x 4 1/8"	9 1/2"	4084T56	10.44

Carboy Racks

Organize and dispense liquids with a vertical storage rack that holds up to four carboys (sold separately). Made of opaque gray plastic, racks measure 48" Ht. x 14" Wd. x 15 1/2" Dp. and support up to 200 lbs.

5-gallon carboy is semi-clear polyethylene (HDPE) and marked with 1-gal. graduations. It's rigid and has a molded carrying handle. The included faucet screws on at the base and a threaded, vented cap covers the fill port. Carboy measures 10" Ht. x 9 1/2" Wd. x 17" Dp. with a 3 1/4" mouth OD. It's not rated for temperature.



Rack with Four Optional Carboys

Rack	40125T11	$124.56
5-Gallon Carboy	40125T21	20.48

Graduated Bottles


A


B


C


D


E


F


G


H

Accurately measure and dispense liquids. Bottles come with a threaded cap.

Style A—Bottles are made of PETG and have a polyethylene (HDPE) cap. Maximum temperature is 158° F.

Style B—All are polyethylene (LDPE). The cap is polypropylene and has a perforated lip for attaching a tag. Max. temperature is 176° F.

Style C—Bottles are polyethylene (HDPE) with a polypropylene cap. Maximum temperature is 248° F.

Style D— All bottles are polyethylene (HDPE). The cap is polypropylene and has a perforated lip for attaching a tag. Max. temp. is 230° F.

Styles E&F—Caps have flip-open access. All are polypropylene. Maximum temperature is 160° F. *Style F* has a molded handle.

Style G—Bottles have a write-on label area. All bottles and caps are polypropylene. Max. temp. is 275° F.

Style H—Made of glass for chemical resistance and clarity. Cap is phenolic with a PTFE seal, the except 32-oz. bottle has a melamine cap.

	Capacity oz.	Capacity ml	Grad. Intervals oz.	Grad. Intervals ml	Mouth OD	Base Size	Ht.		
Plastic Graduated Bottles									
Clear									
A	4	125	—	25	1½″	2″ sq.	4¼″	4264T63	$10.26
A	16	500	—	50	1½″	2⅞″ sq.	7″	4264T65	16.76
A	32	1,000	—	50	1½″	3⅝″ sq.	8⅝″	4264T66	22.14
A	64	2,000	—	100	2⅛″	4½″ sq.	10⅝″	4264T67	42.14
Semi-Clear									
B	1½	50	—	10	1¼″	1½″ dia.	3½″	4577T41	2.12
B	3	100	—	20	1¼″	1⅞″ dia.	4″	4577T42	2.59
B	8	250	—	25	1¾″	2⅜″ dia.	5½″	4577T44	4.01
B	16	500	—	100	1¾″	3″ dia.	6⅝″	4577T46	4.98
B	32	1,000	—	100	2½″	3¾″ dia.	8⅛″	4577T48	9.10
B	64	2,000	—	100	2½″	4¾″ dia.	9¾″	4577T21	12.22
Rigid Semi-Clear									
C	1	30	—	10	¾″	1½″ sq.	2½″	4113T71	2.15
C	2	60	—	10	1″	1⅝″ sq.	3¼″	4113T72	2.20
C	4	125	—	25	1½″	2⅛″ sq.	4⅜″	4113T73	3.05
C	8	250	—	25	1½″	2⅜″ sq.	5¾″	4113T74	4.63
C	16	500	—	50	1½″	3″ sq.	7″	4113T75	6.20
C	32	1,000	—	50	1½″	3¾″ sq.	8⅝″	4113T76	11.89
D	3	100	—	20	1⅜″	1⅝″×1⅞″	3½″	41665T23	2.72
D	8	250	—	50	1⅜″	2¼″×2⅜″	4¼″	41665T24	3.12
D	16	500	—	100	1¾″	2¾″×3⅛″	5⅜″	41665T25	4.24

	Capacity oz.	Capacity ml	Grad. Intervals oz.	Grad. Intervals ml	Mouth OD	Base Size	Ht.		
Plastic Graduated Bottles (Cont.)									
Rigid Semi-Clear (Cont.)									
D	32	1,000	—	100	2¼″	3⅛″×4″	6⅞″	41665T26	$6.90
D	64	2,000	—	100	2¼″	4″×5¼″	8¼″	41665T27	12.55
Autoclavable Semi-Clear									
E	16	500	4	100	2¼″	3⅛″ sq.	5½″	4169T51	3.79
E	32	1,000	4	100	2¼″	3¼″ sq.	8⅞″	4169T52	4.44
E	64	2,000	8	200	2¼″	5″×3¾″	9¾″	4169T23	5.94
F	128	4,000	16	500	2¼″	7⅝″×4¾″	10¾″	4169T25	9.03
Write-On Autoclavable Semi-Clear									
G	2	60	¼	5	1″	1⅝″ dia.	3¼″	2801T51	3.50
G	4	125	½	10	1¼″	2″ dia.	3⅞″	2801T52	3.76
G	8	250	½	25	1⅜″	2⅜″ dia.	5⅝″	2801T53	5.29
G	16	500	1	50	1¾″	2⅞″ dia.	6½″	2801T54	6.13
G	32	1,000	2	50	2⅛″	3½″ dia.	8¼″	2801T55	7.35
Glass Graduated Bottles									
Clear									
H	1	30	⅛	5	1¼″	1¼″ dia.	2⅝″	42235T52	3.07
H	2	60	¼	5	1½″	1⅝″ dia.	3¼″	42235T53	2.78
H	4	125	¼	5	1⅞″	2″ dia.	4″	42235T54	4.13
H	8	250	¼	10	2¼″	2½″ dia.	5″	42235T55	5.12
H	16	500	½	25	2¾″	3″ dia.	5⅝″	42235T56	7.11
H	32	1,000	1	25	2¼″	3½″ sq.	7″	42235T57	10.37

Graduated Plastic Carboys


J


K


L


M&R


N


P


Q


S

Measure, store, and carry a large quantity of liquid.

Style J—Carboys are polyethylene (LDPE) with a polypropylene cap. Maximum temperature is 176° F.

Style K—Both are polyethylene (HDPE) with a polypropylene cap and a stainless steel handle. Maximum temperature is 248° F.

Style L—All are polyethylene (HDPE) with a polyethylene (LDPE) faucet. Maximum temperature is 176° F.

Style M—Carboys are polyethylene (HDPE) with a polypropylene cap and a stainless steel handle. Maximum temperature is 248° F.

Styles N&P—All are autoclavable polypropylene. Maximum temperature is 275° F.

Styles Q&R—Fluorinated to prevent contents from being absorbed, carboys are polyethylene (HDPE) with a polypropylene cap. Maximum temperature is 248° F. *Style R* have a stainless steel handle.

Style S—Made of heavy duty polyethylene (LDPE) for puncture resistance. Cap is polypropylene. Maximum temperature is 176° F.

	Capacity gal.	Capacity L	Grad. Intervals gal.	Grad. Intervals L	Mouth OD	Base Size	Ht.		
Semi-Clear									
J	2½	10	1	1	3¼″	9⅞″ dia.	15¼″	9093T33	$238.93
J	5	20	1	1	3¼″	11⅛″ dia.	20⅝″	9093T34	296.30
Rigid Semi-Clear									
K	2	9	¼	1	3⅞″	6″×8¾″	14⅛″	9884T13	91.27
K	5	20	¼	1	3⅞″	9″×12⅝″	15⅝″	9884T14	133.40
L	1¼	5	¼	1	1¾″	5½″×9⅝″	10″	4373T1	135.40
L	2½	10	½	2.5	1¾″	7¼″×10″	14″	4373T2	167.94
L	5	20	1	5	1¾″	9⅜″×11⅞″	16″	4373T3	196.69
M	2	9	1	1	3⅞″	10½″×6″	14⅛″	9884T11	143.93
M	5	20	1	1	3⅞″	14½″×9″	15⅝″	9884T12	180.02
Autoclavable Semi-Clear									
N	1¼	5	—	0.5	1¾″	7½″×7½″	10⅝″	3795T25	40.00
N	2½	10	—	1	3½″	9⅜″×9⅜″	14⅛″	3795T26	64.70

	Capacity gal.	Capacity L	Grad. Intervals gal.	Grad. Intervals L	Mouth OD	Base Size	Ht.		
Autoclavable Semi-Clear (Cont.)									
N	5	20	—	1	3½″	11⅞″×11⅞″	16½″	3795T27	$81.82
P	1¼	5	—	0.5	1¾″	7½″×7½″	10⅝″	3795T35	57.34
P	2½	10	—	1	3½″	9⅜″×9⅜″	14⅛″	3795T36	79.20
P	5	20	—	1	3½″	11⅞″×11⅞″	16½″	3795T37	95.02
Absorption-Resistant Semi-Clear									
Q	3	12	½	2	2⅛″	7⅞″×9¾″	14¾″	9091T44	99.57
Q	6¼	24	1	4	2⅛″	9⅝″×12⅝″	17¾″	9091T45	142.48
R	2¼	9	¼	1	3½″	8½″×5¾″	13½″	9091T54	219.39
R	5¼	20	¼	1	3½″	12½″×8⅝″	15″	9091T55	228.22
Thick-Wall Semi-Clear									
S	6½	25	¼	1	3¼″	11⅜″ dia.	23⅜″	4223T3	145.58
S	13	50	¼	1	3¼″	15″ dia.	26¾″	4223T4	261.00

Graduated Plastic Beakers

Style 1 can be poured from three angles. It's polypropylene and has a label area. Not rated for temp.
Styles 2&3 can be nested for convenient storage. All meet ISO/DIS 7056. *Style 2* are polymethylpentene. Maximum temperature is 293° F. *Style 3* are polypropylene. Maximum temperature is 275° F.
Styles 4&5 meet NSF/ANSI Standard 2 for food equipment and are polycarbonate. Maximum temperature is 212° F. Cannot be sold in Connecticut or Vermont.
Style 6 are polymethylpentene. Maximum temperature is 293° F.
Style 7 have an angled measuring surface that can be read from above while pouring. All are made of copolyester. Maximum temperature is 194° F.
Styles 8&9 are polypropylene. *Style 8* have graduations on three sides. Maximum temperature is 140° F. *Style 9* have a maximum temperature of 275° F, except 3,000-ml beaker is 248° F.


1


2


3


4


5


6


7


8


9

	Capacity	Grad. Intervals	Top Opening, Dia.	Ht.		
Beakers						
Clear						
1	32 oz./1,000 cc	½ oz./25 cc	4¼″	5½″	41435T4	$1.15
Autoclavable Clear						
2	50 ml	5 ml	1⅞″	2¼″	40765T22	5.23
2	100 ml	10 ml	2¼″	2⅞″	40765T32	6.38
2	250 ml	25 ml	3″	3⅝″	40765T42	10.76
2	600 ml	50 ml	4″	5″	40765T52	19.96
Autoclavable Semi-Clear						
3	30 ml	5 ml	1½″	2″	4440T61	3.49
3	50 ml	5 ml	1⅞″	2⅜″	4440T62	3.57
3	100 ml	10 ml	2¼″	3″	4440T63	4.30
3	250 ml	25 ml	3″	3¾″	4440T64	7.57
3	400 ml	50 ml	3½″	4½″	4440T68	10.06
3	600 ml	50 ml	4″	5″	4440T65	14.32
3	1,000 ml	50 ml	4⅞″	6″	4440T66	18.06
Beakers with Handles						
Clear						
4	8 oz./225 ml/1 cup	2 oz./25 ml/¼ cup	2¾″	3¼″	4187T51	7.38
5	16 oz./470 ml/2 cup	2 oz./50 ml/¼ cup	3½″	4⅞″	4187T52	12.66
5	32 oz./950 ml/4 cup	8 oz./200 ml/½ cup	4⅜″	5⅞″	4187T53	14.14
5	64 oz./1,750 ml/8 cup	8 oz./250 ml/1 cup	5½″	7⅜″	4187T54	19.24
5	4 qt./4 L	1 qt./1 L	6¾″	9½″	4187T55	20.88
Autoclavable Clear						
6	32 oz./1,000 ml	4 oz./100 ml	3⅞″	7 3/16″	40755T28	64.02
6	96 oz./3,000 ml	8 oz./200 ml	6⅜″	7⅝″	40755T29	75.29
Easy-to-Read Clear						
7	8 oz./250 ml/1 cup	1 oz./50 ml/¼ cup	3½″	3½″	3683T32	7.71
7	16 oz./500 ml/2 cup	1 oz./50 ml/¼ cup	4¼″	4¼″	3683T34	8.80
7	32 oz./1,000 ml/4 cup	1 oz./50 ml/¼ cup	5¾″	5¼″	3683T36	10.99
Autoclavable Semi-Clear						
8	4 oz./125 ml/½ cup	1 oz./25 ml/⅛ cup	3″×2″	2¼″	9896T9	.84
8	8 oz./250 ml/1 cup	1 oz./25 ml/¼ cup	4″×2½″	2⅞″	9896T7	.92
8	16 oz./500 ml/2 cup	1 oz./25 ml/¼ cup	5⅛″×2⅞″	4⅝″	9896T11	2.27
9	500 ml	25 ml/0.25 L	3⅝″	4½″	9896T1	7.20
9	1,000 ml	50 ml/0.25 L	4⅝″	5⅛″	9896T2	8.23
9	2,000 ml	50 ml/0.25 L	5¾″	6½″	9896T3	9.77
9	3,000 ml	100 ml/0.25 L	5¾″	10½″	9896T4	18.40
9	5,000 ml	250 ml/1 L	7½″	8⅞″	9896T5	38.19

Graduated Glass Beakers



These beakers resist chemical absorption. All have a thick, flared mouth and spout for controlled pouring. A write-on label allows you to identify contents.

Cap., ml	Grad. Intervals, ml	Top Opening, Dia.	Ht.		
50	10	1⅝″	2″	2766T51	$4.20
100	10	2″	2¾″	2766T52	4.37
250	25	2¾″	3⅜″	2766T53	4.65
600	50	3½″	4¾″	2766T54	6.28
1,000	50	4⅞″	5⅝″	2766T55	11.78
2,000	100	5⅛″	7½″	2766T56	23.38

Stainless Steel Beakers


10 11&12

Made of seamless 300 series stainless steel, these beakers are autoclavable.

ⓘ For additional specifications and pricing for graduated beakers with handle, go to mcmaster.com and search for 4343T8.

Cap., oz.	Top Opening, Dia.	Ht.		
(10) Beakers				
4	2⅛″	2⅝″	4352T2	$38.87
8	2½″	3¼″	4352T3	41.30
20	3⅜″	4⅝″	4352T4	47.57
40	4⅛″	6″	4352T5	59.49
67	4¾″	7⅛″	4352T6	86.87
101	5⅜″	8¼″	4352T7	103.26
135	6⅛″	8⅞″	4352T8	130.63
(11) Beakers with Handle				
64	5″	6⅝″	4325T1	80.42
96	6″	7″	4325T2	88.12
(12) Graduated Beakers with Handle—Available 1 pt. to 1 gal.				4343T8

More Bottles and Beakers


13 14 15 16 17 18

(13) Plastic Weighing Bottles—Reduce tare weight corrections with these thin, lightweight bottles.
(14) Conical Graduated Plastic Beakers—A wide-mouth makes these beakers easy to fill, and the sturdy base keeps them stable.
(15) Extreme-Duty PTFE Beakers—These beakers stand up to the most aggressive chemicals. Available in standard and heat-resistant.
(16) Thick-Wall Graduated Glass Beakers—The extra-thick walls and rim make these beakers highly durable.
(17) Thick-Wall Graduated Glass Bottles—These clear, sturdy bottles resist chemical absorption. Available in standard and vacuum/pressure.
(18) Glass Transfer Bottles—Draw and transfer liquid with these absorption-resistant, clear bottles. Available with bottom and top outlet.

ⓘ For additional specifications and pricing, go to mcmaster.com and search for the part number.

		Available Capacities	
Plastic			
13	Weighing Bottles	30 to 360 ml	8174T9
14	Conical Graduated Beakers	125 to 1,000 ml	2413T4
15	Extreme-Duty Beakers	50 to 1,000 ml	3974T1
Glass			
16	Thick-Wall Graduated Beakers	250 to 2,000 ml	2766T6
17	Thick-Wall Graduated Bottles	100 to 5,000 ml	4787T6
18	Transfer Bottles	1¼ gal.	8585T3

Graduated Plastic Flasks



Mixing solutions is no problem with these wide-base flasks. Made of semi-clear polymethylpentene with a semi-clear polypropylene cap. They're autoclavable and have a maximum temperature of 275° F.

Cap., ml	Grad. Intervals, ml	Mouth OD	Base Dia.	Ht.		
125	25	1¼″	2⅝″	4⅜″	4683T82	$19.27
250	25	1½″	3¼″	5⅜″	4683T83	24.53
500	50	1⅝″	4″	7″	4683T84	36.25
1,000	50	2⅛″	5⅛″	8¾″	4683T85	48.89

Plastic Flasks



Also known as volumetric flasks, these have a wide base and long neck for fast mixing. A single graduation indicates the fill capacity. Made of semi-clear polymethylpentene and come with a threaded polypropylene cap. They're autoclavable with a max. temperature of 356° F.

Cap., ml	Mouth OD	Base Dia.	Ht.		
100	⅝″	2⅜″	6⅞″	6107T21	$22.28
250	⅞″	3¼″	9″	6107T22	28.92
500	⅞″	4″	10⅝″	6107T23	33.67
1,000	1⅛″	4⅞″	12″	6107T24	40.34

Graduated Plastic Cylinders

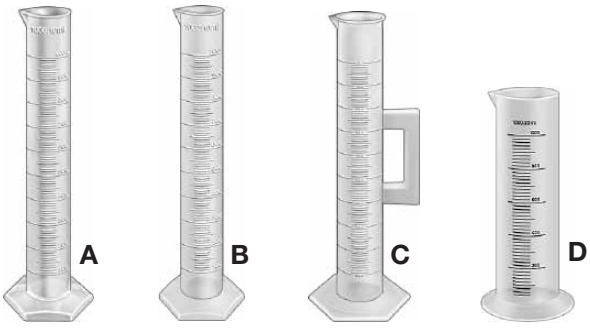

Measure and pour with precision. These autoclavable cylinders have a maximum temperature of 275° F. *Styles A&B* meet ISO 6706 standards and DIN 12680 TT, Class B tolerances.

(A) Clear cylinders are polymethylpentene.

(B) Semi-clear cylinders are polypropylene.

(C) Semi-clear cylinders with handle are made of polypropylene. Graduations can be read from the top down and from the bottom up.

(D) High-stability semi-clear cylinders have a wide, sturdy base, so they're less likely to tip over. All are polypropylene.

Cap., ml	Grad. Intervals, ml	Body Dia.	Ht.		
(A) Clear					
10	0.2	½″	5½″	4436T31	$7.56
25	0.5	¾″	6⅝″	4436T32	8.83
50	1.0	1″	7⅞″	4436T33	11.21
100	1.0	1¼″	9⅞″	4436T34	13.43
250	2.0	1⅝″	12⅜″	4436T35	16.59
500	5.0	2⅛″	14⅛″	4436T36	22.19
1,000	10.0	2⅝″	17¼″	4436T37	27.63
2,000	20.0	3¼″	21″	4436T38	60.58
(B) Semi-Clear					
10	0.2	½″	5½″	1475T9	5.00
25	0.5	⅞″	6⅝″	1475T11	6.02
50	1.0	1″	7⅞″	1475T12	6.28
100	1.0	1¼″	9⅞″	1475T13	7.93
250	2.0	1⅝″	12⅜″	1475T14	10.16
500	5.0	2⅛″	14⅛″	1475T15	13.97
1,000	10.0	2½″	17¼″	1475T16	19.04
2,000	20.0	3¼″	21″	1475T17	46.65
(C) Semi-Clear with Handle					
1,000	10.0	2½″	17¼″	1475T18	34.38
2,000	20.0	3½″	19¼″	1475T19	66.96
(D) High-Stability Semi-Clear					
100	2.0	1½″	6¼″	3944T21	13.17
250	5.0	2⅛″	7½″	3944T22	17.61
500	10.0	2⅝″	8½″	3944T23	22.78
1,000	20.0	3⅛″	11⅛″	3944T24	29.80
4,000	50.0	4¼″	23½″	3944T25	203.46

Pipettes



Transfer precise amounts of liquid. All pipettes are semi-clear polypropylene.

Bulb-style pipettes require two hands. Bulb is vinyl and 4″ long.

Pump-style pipettes can be used with one hand. Turn the thumbwheel to draw liquid into the pipette, and press the plunger for quick dispensing. Pump is polypropylene and 7¼″ long.

Cap., ml	Grad. Intervals, ml	Pipette Lg.	Bulb-Style		Pump-Style	
1	0.10	12″	41405T21	$19.25	41405T31	$40.96
2	0.10	12″	41405T22	21.14	41405T32	43.27
5	0.10	13″	41405T23	21.63	41405T33	45.84
10	0.10	13″	41405T24	23.38	41405T34	47.25

Micropipettes



Choose one of these fixed-volume micropipettes for speedy, routine dispensing jobs. They're made of lightweight polypropylene and come with one clear polypropylene disposable tip. Plunger tip is color-coded by capacity.

Micropipettes are approximately 5″ long, without the tip. 7015T41 tip is yellow and measures 2″ long. 7015T42 tip is blue and measures 2¾″ long.

Capacity ml	Capacity µL	Micropipettes	Each	Replacement Tips	Pkg. of 100
0.01	10	7015T31	$27.01	7015T41	$4.80
0.025	25	7015T32	27.01	7015T41	4.80
0.05	50	7015T33	27.01	7015T41	4.80
0.1	100	7015T34	27.01	7015T41	4.80
0.5	500	7015T35	27.01	7015T42	4.03
1	1,000	7015T36	27.01	7015T42	4.03

Burettes



More precise than pipettes, burettes have a stopcock that allows you to release exact amounts of liquid—either in drops or as a stream. They have 0.1 ml graduations. Burettes are made of clear glass with a semi-clear polyethylene reservoir. Opaque plastic base is removable.

Capacity, ml Reservoir	Capacity, ml Burette	Base Dia.	Ht.		
500	10	4¾″	18½″	7432T3	$238.20
1,000	10	5⅜″	18½″	7432T5	245.78

Petri Dishes

Clear Plastic Petri Dishes



Both come sterilized and are made of polystyrene. Maximum temperature is 198° F.

The dish *with vented cover* has ridges on the cover that raise it just above the dish, allowing additional air flow.

Dia.	Ht.		Pkg. of 10
With Cover			
2¼″	½″	3854T71	$10.78
With Vented Cover			
2¼″	½″	3854T72	10.81

Glass Petri Dishes with Cover



Glass dishes offer excellent chemical resistance. Edges are reinforced to prevent breakage. Maximum temperature is 482° F.

Dia.	Ht.		Each
3⅞″	¾″	5027T95	$8.56
6″	¾″	5027T96	17.95

Squeeze Bulb Droppers

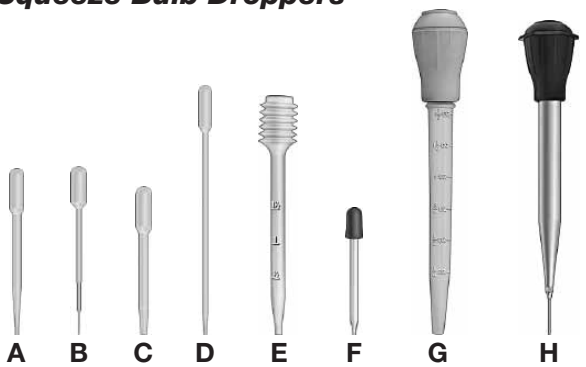

Compress and release the bulb on these droppers to draw liquid, then squeeze the bulb again to dispense.

(A-E) One-Piece Droppers—All are made of polyethylene (LDPE). *Style B* has a fine tip for dispensing thin liquids. *Style C* has a wide tip for thicker liquids.

(F-H) Two-Piece Droppers—Remove bulb to clean dropper. *Plastic* droppers have a polyethylene stem. *Styles G&H* are also called basters. *Style H* includes a stainless steel injector needle and a cleaning brush.

Style	Capacity	Lg.	Pkg. Qty.		Pkg.
One-Piece Droppers					
Plastic					
(A) General Purpose	7.0 ml	6 1/8"	10	7029T1	$2.92
(B) Fine-Tip	5.0 ml	5 3/4"	10	7029T2	2.92
(C) Wide-Tip	7.0 ml	5 1/8"	10	7029T6	2.92
(D) Extra-Long	6.0 ml	8 7/8"	10	7029T3	2.92
(E) Graduated at 0.5 ml	1.5 ml	5 1/4"	10	40865T91	4.17
(E) Graduated at 1 ml	5.0 ml	7 5/8"	10	40865T92	4.45
Two-Piece Droppers					
Plastic with Rubber Bulb					
(F) Eye Dropper	0.5 ml	3"	2	4168T11	6.54
(F) Eye Dropper	1.0 ml	4 1/2"	2	4168T12	7.03
Glass with Rubber Bulb					
(F) Eye Dropper	1.0 ml	4"	2	4168T22	6.60
Two-Piece High-Capacity Droppers					
Plastic with Rubber Bulb					Each
(G) Graduated at 1/4 oz.	1 1/2 oz.	11"	—	1990T23	$5.00
Stainless Steel with Rubber Bulb					
(H) Injector Tip	1 oz.	10 1/4"	—	1990T24	11.82

Eyedropper Bottles

When you need a drop at a time, use these glass eyedropper bottles. Each has a rubber squeeze bulb dropper attached to the cap. All caps are threaded.

Round bottles have a glass stem and a plastic cap.

Oval bottles are amber. They have a plastic stem and a phenolic cap.


Round Clear


Oval Semi-Clear Amber

Cap., oz.	Dia.	Ht.		
Round Eyedropper Bottles				
Clear				
1	1 1/4"	4"	1992T41	$3.17
2	1 5/8"	4 3/4"	1992T42	4.22
4	1 7/8"	5 3/8"	1992T43	5.18
Semi-Clear Amber for Light-Sensitive Contents				
4	1 7/8"	5 3/8"	1992T53	5.56
Oval Eyedropper Bottles				
Semi-Clear Amber for Light-Sensitive Contents				
1	1 1/2" x 1 1/8"	4"	1992T51	10.90
2	1 3/4" x 1 3/8"	4 3/4"	1992T52	11.84

Brush-Top Cans

Keep your brush where you need it. These tin-plated cans have a hog-hair bristle brush attached to the cap. Cans have a threaded cap with a sealing gasket to prevent leaks.


With Wood Handle

Cap., oz.	Dia.	Ht. with Handle		
With Wood Handle				
8	2 3/4"	6 1/8"	4300T3	$33.43
16	3 1/2"	7"	4300T5	35.27
32	5 1/8"	6 3/4"	4300T6	41.69
With Ring Handle				
8	2 3/4"	3 3/4"	4300T2	35.42

Dropper Squeeze Bottles


Semi-Clear


Semi-Clear with Colored Cap

Squeeze single drops from these polyethylene (LDPE) bottles. Cap is threaded and made of polypropylene.

Semi-clear bottles have a cap with an attached nozzle cover.

Semi-clear bottles with colored cap assortment make it possible to identify contents at a glance. Includes 25 bottles, five in each cap color: blue, green, red, yellow, and white.

Cap., oz.	Dia.	Ht.		
Semi-Clear				
4	2"	4 1/2"	5772T32	$7.19
8	2 3/8"	4 7/8"	5772T33	9.16
Semi-Clear with Colored Cap Assortment				
1/2	1"	3"	3158T42	47.28

Graduated Dropper Squeeze Bottles

The long, tapered nozzle lets you place drops accurately, even in hard-to-reach places. Both are made of polyethylene (LDPE). Cap is threaded and has an attached nozzle cover.



Cap., ml	Grad. Intervals, ml	Dia.	Ht.		
50	10	1 1/2"	5 1/4"	5525T3	$4.28
100	20	1 7/8"	5 7/8"	5525T4	4.99

Mini Applicator Bottle

When a little goes a long way, use this bottle for precise application. A textured applicator wand extends from inside the cap. Bottle is clear polypropylene with a polypropylene cap.



Cap., oz.	Applicator Material	Applicator Tip Dia.	Ht. with Cap	Pkg. Qty.		Pkg.
5/16	Polyester	3/16" to 1/8"	4 1/16"	6	1553T43	$8.87

More Flasks, Cylinders, and Pipettes



(J) Graduated Glass Flasks—The tapered shape of these flasks is designed for mixing. Available in standard, wide-mouth, and with screw cap.

(K) Glass Mixing Flasks—Combine liquids in these volumetric flasks.

(L) Glass Boiling Flasks—These flasks have a spherical body and uniform wall thickness for even heat distribution.

(M) Graduated Glass Cylinders—Measure liquids with precision in these sturdy, clear cylinders.

(N) Glass Pipettes—For quick identification, these pipettes have a color-coded band that indicates capacity.

(P) Pipette Pumps—Comfortably draw and dispense exact quantities with one hand.

For additional specifications and pricing, please go to mcmaster.com and search for the part number.

		Available Capacities, ml	
J	Graduated Glass Flasks	125 to 2,000	7263T1
K	Glass Mixing Flasks	25 to 1,000	6953T2
L	Glass Boiling Flasks	125 to 1,000	7399T4
M	Graduated Glass Cylinders	10 to 2,000	2164T4
N	Glass Pipettes	1 to 25	4928T6
P	Pipette Pumps	—	7318T5

Squeeze Bottles

Precision Needle-Tip Squeeze Bottles





Put a fine point on your most precise dispensing applications with these needle-tipped bottles. Bottles are polyethylene (LDPE) and have a threaded polypropylene cap. Needles are Type 304 stainless steel. They come with a protective needle cover, except those with a 3″ needle. Bottle height does not include the needle.

To Order: Please specify color: semi-clear for general purpose or opaque black for light-sensitive contents.

For Use With	Needle Gauge	Needle Lg.	1¼ oz. Oval 1¾″ Lg. x 7⁄8″ Wd. x 3″ Ht.		2 oz. Round 1½″ Dia. x 3⅜″ Ht.		4 oz. Round 1⅞″ Dia. x 4¼″ Ht.		8 oz. Round 2¼″ Dia. x 5⅜″ Ht.	
Water-thin liquids	27	1″	1902T111	$4.33	1902T341	$4.33	1902T122	$6.67	1902T191	$11.67
Thin liquids	25	1″	1902T112	4.33	1902T351	4.33	1902T123	6.67	1902T231	11.67
Thin liquids	25	3″	1902T113	9.50	1902T361	9.50	1902T124	11.83	1902T232	16.83
SAE 10 oil	23	1″	1902T114	4.33	1902T371	4.33	1902T125	6.67	1902T251	11.67
SAE 20 oil	20	1¼″	1902T115	4.33	1902T381	4.33	1902T126	6.67	1902T261	11.67
SAE 20 oil	20	3″	1902T118	9.50	1902T441	9.50	1902T129	11.83	1902T311	16.83
Thick liquids	18	1″	1902T116	4.33	1902T391	4.33	1902T127	6.67	1902T271	11.67
Thick liquids	18	3″	1902T119	9.50	1902T461	9.50	1902T131	11.83	1902T321	16.83
Very thick liquids	16	1″	1902T117	4.33	1902T401	4.33	1902T128	6.67	1902T301	11.67
Very thick liquids	16	3″	1902T121	9.50	1902T481	9.50	1902T181	11.83	1902T331	16.83

Squeeze Bottles

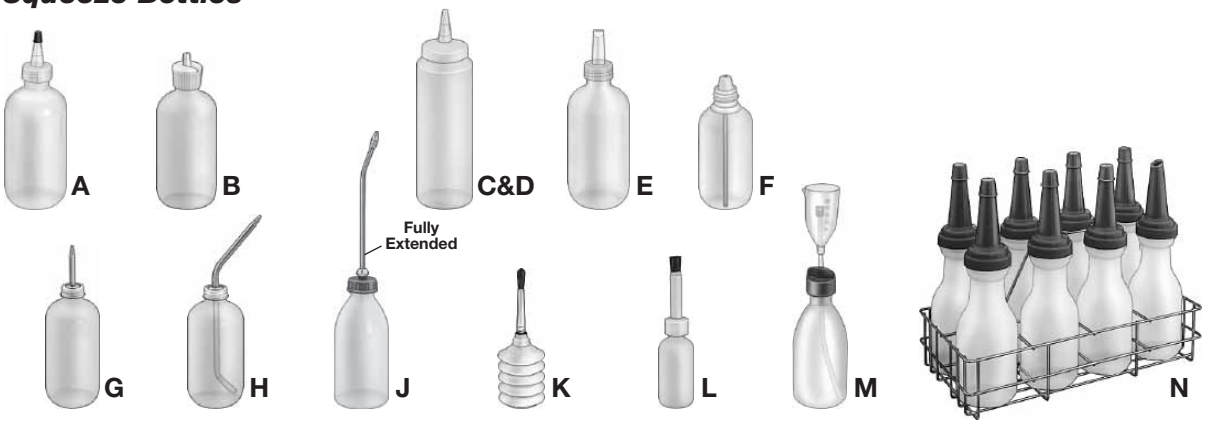

Choose from bottles with a variety of nozzles for your specific dispensing applications. All come with threaded caps. *Styles A-M* are made of soft, easy-to-squeeze polyethylene (LDPE). *Style N* is made of sturdy polyethylene (HDPE).

Style A are semi-clear and come with a nozzle cover.

Style B have a nozzle that flips up for dispensing and folds down for storage. All are semi-clear.

Style C is available in your choice of colors for quick identification of contents: semi-clear, opaque red, and opaque yellow.

Style D is antistatic with an average surface resistivity of 10^9-10^{10} ohms/sq. Color is see-through blue.

Style E have a rectangular nozzle with a 5⁄16″ wide opening. All are semi-clear and come with a nozzle cover.

Style F come with a tube that can be attached to stream liquid. Use without the tube to dispense one drop at a time. Bottles are semi-clear and include a nozzle cover. Not for inks.

Style G have a 1¾″ long aluminum nozzle. They are semi-clear and come with a threaded nozzle cover.

Style H have a 3¾″ long angled aluminum nozzle. Bottles are semi-clear. An internal tube and a threaded nozzle cover are included.

Style J nozzle extends for hard-to-reach applications and dispenses at any angle. Nozzle is brass and bottles are semi-clear.

Style K have a brush applicator attached to an external Type 304 stainless steel tube. Bottles are semi-clear.

Style L come with an attached brush applicator that's excellent for cleaning circuit boards. Bottles are semi-clear. Not for dyes or inks.

Style M dispense liquid into the attached cup when you squeeze the bottle. Cup is clear polymethylpentene with graduations every 5 ml (up to 25 ml). Bottles are semi-clear.

Style N is a set of eight semi-clear, thick-wall bottles. Each come with a nozzle cover. A steel wire holder is included. It has an attached handle and measures 18″ Lg. x 9″ Wd. x 4″ Ht.

	Cap., oz.	Dia.	Ht.	Pkg. Qty.		Pkg.
With Standard Nozzle						
A	1	1⅛″	3⅞″	3	4176T1	$3.77
A	2	1⅜″	4¼″	3	4176T8	4.28
A	4	1⅞″	5⅝″	3	4176T2	5.47
A	6	2⅛″	6⅜″	3	4176T3	7.18
A	8	2⅜″	6⅞″	3	4176T4	7.53
A	16	3⅛″	7⅝″	1	4176T6	3.48
B	1	1⅛″	3¼″	3	4034T42	5.34
B	2	1⅜″	3½″	3	4034T47	6.10
B	4	1⅞″	4½″	3	4034T46	6.21
B	8	2⅜″	5⅝″	3	4034T44	8.07
B	16	3⅛″	6½″	3	4034T45	10.60
Choose-a-Color with Standard Nozzle						
To Order: Please specify semi-clear, opaque red, or opaque yellow.						
C	8	2″	7¼″	1	4370T1	1.54
Antistatic with Standard Nozzle						
D	8	2″	7½″	1	4066T67	23.06
With Rectangular Nozzle						
E	4	1⅞″	5¾″	3	4397T1	5.44
E	6	2⅛″	6⅜″	3	4397T2	6.20
E	8	2⅜″	6⅞″	3	4397T3	6.33
E	16	3⅛″	7⅝″	3	4397T5	9.59
With Stream/Dropper Nozzle						
F	½	⅞″	3″	3	4578T22	11.41
F	1	1¼″	3⅜″	3	4578T23	12.86
F	2	1⅜″	3¾″	3	4578T24	15.38

	Cap., oz.	Dia.	Ht.		Each
With Precision Nozzle					
G	4	1¾″	6″	1044K2	$8.93
G	8	2¼″	7″	1044K3	9.70
G	16	3″	8¼″	1044K4	12.80
H	4	1¾″	7½″	1044K5	10.85
H	8	2¼″	8½″	1044K6	12.25
H	16	3″	9½″	1044K7	14.07
With Extendable Nozzle					
J	8	2¼″	8¼″-12¾″	1036K12	6.12
J	16	3″	10¼″-16½″	1036K13	6.64
With Nylon Brush Applicator					
K	1	1⅜″	4½″	2098T96	13.14
L	2	1⅜″	6½″	4254T41	13.02
With Soft Camel Hair Brush Applicator					
K	1	1⅜″	4½″	2098T97	13.14
With Static-Safe Horsehair Brush Applicator					
L	2	1⅜″	6½″	4254T42	13.02
With Precise-Volume Cup					
M	8	2⅜″	11⅛″	14925T1	15.58
M	16	2⅞″	12¾″	14925T2	16.92
M	32	3⅝″	13⅞″	14925T3	21.94
Set of 8 Bottles with Standard Nozzle and Holder					
N	32	4″	14″	4007T51	101.00
Repl. Style N Bottle				4007T81	3.48
Repl. Style N Nozzle and Cover				4007T71	3.92
Repl. Style N Wire Holder				4007T61	49.70

Squeeze Bottles with Angled Nozzle

Also known as wash bottles, these dispense liquid at a downward angle. Bottles are made of polyethylene (LDPE) and come with a threaded cap. For dispensing only; not recommended for storage.

(A&B) Bottles with choose-a-color cap make it possible to identify contents at a glance. Bottles are semi-clear.

(C&D) Contaminant-resistant bottles have a nozzle that's separate from the polypropylene fill cap to prevent any cross-contamination. *Style C* are semi-clear. *Style D* are opaque red.

(E) Extreme-duty bottles offer excellent chemical resistance and all are autoclavable. Made of clear FEP with a semi-clear ETFE cap.

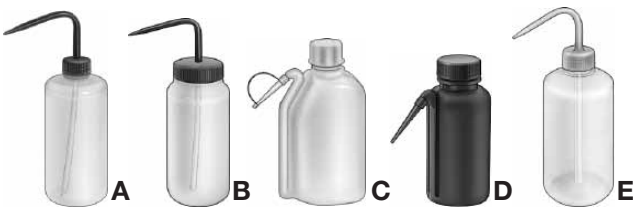

Cap., oz.	Dia.	Ht.	Available Cap Colors		
(A) Narrow Mouth with Choose-a-Color Cap					
4	1 7/8"	7 3/8"	Semi-Clear, Red	4527T1	$4.13
8	2 1/4"	8 1/2"	Semi-Clear, Blue, Green, Red, Yellow	4527T2	4.73
16	2 7/8"	9 1/4"	Semi-Clear, Blue, Green, Red, Yellow	4527T3	5.28
32	3 1/2"	10 3/4"	Semi-Clear, Blue, Green, Red, Yellow	4527T4	7.90
(B) Wide Mouth with Choose-a-Color Cap					
4	1 7/8"	7 3/8"	Semi-Clear, Red	4527T5	5.08
8	2 1/4"	8 1/2"	Semi-Clear, Blue, Green, Red, Yellow	4527T6	5.28
16	2 7/8"	9 1/4"	Semi-Clear, Blue, Green, Red, Yellow	4527T7	5.80
32	3 1/2"	10 3/4"	Semi-Clear, Blue, Green, Red, Yellow	4527T8	8.36
(C) Contaminant-Resistant					
8	3 1/2" x 2 3/8"	5 5/8"	Semi-Clear	4378T3	5.35
16	3 3/4" x 2 5/8"	7"	Semi-Clear	4378T4	6.15
(D) High-Visibility Contaminant-Resistant					
8	2 1/2"	5 3/8"	Red	4284T34	11.78
16	3"	6 7/8"	Red	4284T37	19.21
(E) Extreme Duty					
8	2 3/8"	7"	Semi-Clear	4285T62	172.68
16	2 7/8"	8 7/8"	Semi-Clear	4285T63	234.37

Labeled Squeeze Bottles with Angled Nozzle

Printed labels allow identification at a glance. Also known as wash bottles, these dispense liquid at a downward angle. All come with a threaded cap. For dispensing only; not recommended for storage.

(F&G) Choose-a-label bottles have printed content names and hazard alerts. Labels meet Globally Harmonized System (GHS) standards, except labels for soap, water, and write-on. Bottles are polyethylene (LDPE) with a polypropylene cap. All have a vent to prevent gas build up, unless noted. Bottles are semi-clear, except bottle labeled for bleach, which is opaque white and bottle labeled for toluene, which is opaque red. *Style G* has a nozzle that's separate from the fill cap to prevent cross-contamination.

(H) Absorption-resistant bottle is fluorinated to prevent contents from being absorbed. Made of semi-clear polyethylene (HDPE) with a polypropylene cap.

(J) Antistatic bottle has a surface resistivity of 10^{12} ohms/sq. Bottle is opaque yellow polyethylene (LDPE) with a polyethylene (HDPE) cap.



Cap., oz	Dia.	Ht.	Available Labels		
(F) Choose-a-Label					
8	2 3/8"	8 1/4"	Acetone, Ethanol, Isopropanol, Methanol, Write-On Label	14805T71	$9.59
16	2 7/8"	8 7/8"	Bleach, Ethyl Acetate, Machine Oil, MEK, Soap, Toluene, Water	40185T4★	13.78
16	3"	9"	Acetone, Ethanol, Isopropanol, Methanol, Write-On Label	14805T72	9.96
32	3 5/8"	10 7/8"	Acetone, Ethanol, Isopropanol, MEK, Write-On Label	40185T5■	20.75
(G) Contaminant-Resistant Choose-a-Label					
16	3"	6 7/8"	Acetone, Distilled Water, Ethyl Alcohol, Isopropanol, Methanol	2529T12	12.00
(H) Absorption-Resistant					
16	2 7/8"	9 1/2"	Solvent Wash Bottle	43555T12	16.37
(J) Antistatic					
8	2 3/8"	7 3/4"	Antistatic Symbol	1228T4	16.91

★Bottles labeled MEK, Soap, Toluene, or Water do not have a vent. ■Bottles labeled MEK and bottles with write-on label do not have a vent.

Push-to-Dispense Bottles

Safely dispense flammable liquids directly onto a work surface, cloth, or sponge. Turn the bottle upside down and press against the brass flange to dispense. Bottles are opaque red polyethylene (HDPE). All are FM approved. *32 oz. bottle* has a textured, molded grip.



Cap., oz.	Dia.	Ht.		
8	3 1/8"	5 1/2"	4321T4	$28.75
32	4"	10 1/2"	4321T3	33.28

Bottle Totes

Carry up to six 3 1/2" diameter bottles in this convenient tote. It's made of opaque gray polyethylene (HDPE) and measures 13 1/2" Wd. x 10" Dp. x 10 1/2" Ht., including the attached handle.



5569T12 $27.73

Drying Racks

Dry bottles, jars, and other containers without a mess. Water drips into the tray and drains through an attached tube. The rack includes 72 removable 4" pegs. Mount it on the wall with the included hardware. It measures 17" Wd. x 24" Ht. and is made of lightweight, opaque gray polystyrene.

Optional stand allows the rack to be set on a flat work surface. The stand measures 18 1/2" Wd. x 7" Dp. x 21" Ht. and is made of clear acrylic.

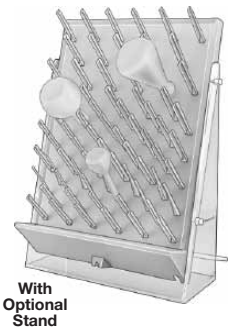

With Optional Stand

Wall-Mount Rack	6064T15	$289.92
Optional Stand	6064T32	103.26
Replacement Peg	6064T31	2.35

Push-Top Dispensers & Spray Bottles

Push-Top Dispensers



Moisten swabs, wipes, and cloths by pushing down on the fill dish. *Plastic dispensers* are corrosion-resistant polyethylene (HDPE).

Small-capacity dispensers have a stainless steel pump. *Style B* have a locking cap to prevent spills. *Style C* has a surface resistivity of 10^7-10^9 ohms/sq. *Style D* has a surface resistivity of 10^2-10^6 ohms/sq.

Large-capacity dispensers have a brass pump. Excess liquid drains into the dispenser through a mesh flame-arrester plate. FM approved.

Cap., oz.	Base Size	Dish Dia.	Ht.		
Small Capacity					
(A) Semi-Clear Plastic					
4	2″ sq.	1½″	3¼″	8998T44	$16.37
6	2″ sq.	1½″	4¼″	8998T43	17.82
8	2″ sq.	1½″	5″	8998T42	18.44
(B) Semi-Clear Plastic with Locking Cap					
4	2″ sq.	1½″	3⅛″	8998T17	38.68
6	2⅛″ sq.	1½″	4⅜″	8998T18	39.65
8	2⅛″ sq.	1½″	5⅛″	8998T19	40.77
(C) Static-Dissipative Opaque Blue Plastic					
6	2″ sq.	1½″	4¼″	8998T24	21.00
(D) Conductive Opaque Black Plastic					
6	2¼″ dia.	1½″	4⅛″	8998T21	31.10
(E) Semi-Clear Amber Glass for Light-Sensitive Contents					
4	2⅛″ dia.	1½″	4⅛″	8998T37	28.00

Cap., oz.	Base Size	Dish Dia.	Ht.		
Small Capacity (Cont.)					
(F) Tin					
4	2⅛″ dia.	1½″	3¾″	8998T39	$30.75
Large Capacity					
(G) Opaque Red Plastic					
32	5¼″ dia.	5¼″	9¾″	4487T76	50.44
64	6½″ dia.	5¼″	11″	4487T77	53.40
1 gal.	7¾″ dia.	5¼″	13″	4487T78	59.88
(H) Red Steel					
16	4⅞″ dia.	2¾″	5¼″	4301T4	43.21
32	7¼″ dia.	5″	5⅝″	4301T1	46.29
64	7¼″ dia.	5″	7⅜″	4301T2	46.91
1 gal.	7¼″ dia.	5″	10½″	4301T3	47.95

Spray Bottles



Pump to spray contents. Nozzle adjusts from mist to stream, except *Style L* is mist only. *Styles J-R* are semi-clear polyethylene. *Style S* is opaque silver with a window to view fill level. *Styles M-S* and 9864T53 are printed with graduations (oz. and ml) and dilution ratios.

(J) General Purpose Bottles—The tube on these bottles has a filter to prevent clogs, except 9864T51.

(K) Easy-Reach Bottle—This high-capacity bottle has a 36″ long hose for accessing tight spaces. Tube has a filter to prevent clogs.

(L) Misting Bottles—Both include a clear plastic pump cover.

(M) Choose-a-Label Bottles—Identify contents quickly with labels written in English and Spanish.

(N) Write-On Bottle—Has a printed checklist and write-on area.

(P) Any-Angle Bottles—The nozzle adjusts to spray at any angle—even upside down. Bottles have a checklist to identify contents.

(Q) Easy-to-Fill Bottles—Fill without a spill through the wide mouth on these bottles. *32-oz. bottle* has a high-output trigger sprayer.

(R&S) High-Output Bottles—Dispense up to three times more liquid per stroke. Both have a checklist and write-on area.

	Cap., oz.	Dia.	Ht.	Spray Head Material	Bottles Pkg. Qty.		Bottles Pkg.	Repl. Spray Heads Pkg. Qty.		Repl. Spray Heads Pkg.
General Purpose										
J	8	2⅜″	8″	Polypropylene, Polyethylene	6	9864T51	$12.13	6	9864T31	$7.08
J	16	2⅝″	11″	Polypropylene, Polyethylene	6	9864T52	12.86	6	9864T31	7.08
J	24	3¼″	10½″	Polypropylene, Polyethylene	6	9864T53	13.03	6	9864T31	7.08
J	32	3⅜″	12⅝″	Polypropylene, Polyethylene	6	9864T54	14.29	6	9864T34	6.96
Easy-Reach										
K	1 gal.	6″	15¼″	Polypropylene, Polyethylene	1	9864T15	6.06	1	9864T35	3.00
Misting										
L	8	2¼″	6¾″	Polypropylene	2	4171T14	12.69	1	4171T141	3.17
L	16	3″	7⅜″	Polypropylene	2	4171T16	15.36	1	4171T162	4.17
Choose-a-Label—To Order: Please specify label: All-Purpose Cleaner, Degreaser, Disinfectant, Glass Cleaner, or Metal Cleaner.										
M	24	3¼″	11¼″	Polypropylene, Polyethylene, Buna-N, Stainless Steel	6	40155T11	14.90	1	40155T55	1.28
Write-On										
N	24	3⅛″	10⅜″	Polypropylene, Stainless Steel, Foam Gasket	4	4372T28	9.35	4	4372T39	7.30
Any-Angle										
P	24	3⅛″	11⅜″	Polypropylene	3	3315T61	10.46	3	3315T71	4.54
P	32	3¼″	13″	Polypropylene	3	3315T62	12.34	3	3315T71	4.54
Easy-to-Fill										
Q	24	3⅜″	10⅝″	Polypropylene	3	2392T31	8.55	3	2392T41	4.72
Q	32	3⅜″	13″	Polypropylene	3	2392T32	14.78	3	2392T42	11.62
High-Output										
R	24	3¼″	11″	Polypropylene, Polyethylene, Buna-N, Stainless Steel	3	4398T1	11.27	3	4398T22	10.20
S	32	3⅝″	11⅞″	Polypropylene, Fluoroelastomer	1	4382T1	7.83	1	4382T2	4.31

Aerosol Sprayers



Fill the reservoir, attach the propellant cartridge, and spray—no extra equipment needed. Both sizes come with a threaded cap.

Sprayer with 6-oz. reservoir is for use with thin liquids such as varnish, oil, and paint. It sprays up to 16 oz. with the included propellant. Comes with a strainer. **Sprayer with 8-oz. reservoir** handles thicker liquids such as latex paint. It sprays up to 18 oz. with the included propellant. Includes three interchangeable spray tips.

Reservoir Cap., oz.	*Reservoir* Material	Grad. Intervals, oz.	Dia.	Ht.	Aerosol Sprayers		Replacement Propellants	
6	Clear Glass	½	1½″	10¼″	7780T1	$7.01	7780T2	$5.61
8	Semi-Clear Plastic	½	2½″	7¼″	7773T4	10.09	7773T5	5.84

Air Atomizing Sprayers

Spray thin liquids evenly without propellant. Fill the sprayer and pressurize with compressed air. Working pressure is 80 to 145 psi; max. pressure is 200 psi. **Repair kits** include replacement seals, packing, and nozzles.

Styles A&B—All come with eight mist nozzles and a pin stream nozzle. *Style A 16-oz. sprayer* is red.

Styles C&D—Nozzle adjusts from mist to a pin stream. *Style C* is red.

	Cap., oz.	Dia.	Ht.	Sprayers		Repair Kits	
For Water-Based Liquids							
Aluminum							
A	8	2 3/8"	8 1/4"	7054T41	$26.21	7054T24	$14.82
A	16	3"	9 1/4"	7054T8	31.21	7054T24	14.82
Nickel-Plated Aluminum							
B	16	3"	9 1/4"	7054T7	42.50	7054T24	14.82
For Oils and Solvents							
Steel							
C	32	4"	8 1/2"	7054T11	49.75	7054T17	28.00
For Water-Based Liquids, Oils, and Solvents							
Aluminum							
D	24	3 1/2"	10 3/4"	7054T992	63.24	7054T97	25.80
Repl. Valve for Styles A&B (Pkg. of 6)						7054T23	9.00


A&B


C


D

Hand Pump Sprayers

The spray nozzle adjusts from mist to stream.

Light duty sprayers are pressurized with a few pumps. They're semi-clear white polyethylene (HDPE) and have an on/off thumb control. *Style E* has a polypropylene nozzle and 4 oz. graduations. *Style F* has a polyethylene nozzle and 0.5 L and 1/2 pt. graduations.

Heavy duty sprayer has a semi-clear white polyethylene body, a brass nozzle, and a metal pump.

	Cap., oz.	Dia.	Ht.		
Light Duty					
E	48	4 1/8"	13"	6357T13	$11.43
F	68	5 5/8"	14 1/2"	43025T47	30.89
Heavy Duty					
G	32	4 3/4"	10 1/4"	9807T12	118.45


E


F


G

Compression Sprayers


H&J


K


L


M&N


P


Q


R

Use for spraying applications that require a large capacity and high output volume. Pump the handle to pressurize the tank, then squeeze the trigger on the attached wand to spray. Often used for degreasers, insecticides, disinfectants, cleaning solutions, and herbicides.

Note: The material of the parts can affect a sprayer's compatibility with a chemical or solution. Make sure that the tank, wand, and nozzle are suitable for your application.

Repair kits include replacement seals, gaskets, valves, and other commonly worn parts.

Styles H&J have a trigger that can be locked for continuous spray. Tank is semi-clear. Sprayers include a shoulder strap. *Style H* have a pressure release cap and a filter in the wand to prevent clogs. *Style J* have a built-in pressure relief valve. Offer good chemical resistance.

Style K has a comfortable backpack design with padded shoulder straps and a belt. A built-in filter prevents clogs. Color is opaque white.

Style L have a filter in the wand to prevent clogs, and the trigger locks for continuous spray. Color is blue.

Style M has a shoulder strap. Color is black.

Style N are corrosion resistant. They come with a shoulder strap.

Style P resist corrosion. They have a trigger that can be locked for continuous spray. *3-gal. sprayer* comes with a shoulder strap.

Style Q holds up to six gallons, and it's on wheels for convenient transportation. It has an extra-long hose, a handle, and two rubber tires. Tank is corrosion resistant.

Style R is triple-coated with epoxy for excellent chemical resistance. It can be used with harsh liquids such as acetone, naphtha, xylene, and toluene. This sprayer also resists corrosion, rust, and impact. The trigger can be locked for continuous spray. The hose is reinforced with braided nylon to prevent cracking and leaking. Includes two spray nozzles. Tank color is red.

	Cap., gal.	Spray Pattern	*Wand* Material	*Wand* Lg.	Nozzle Material	Hose Lg.	Fill Opening, Dia.	Sprayers		Repair Kits	
Compression Sprayers											
Polyethylene Tank											
H	1	Cone/Stream	Polypropylene	14"	Brass	50"	2"	7044T41	$41.52	7044T65	$11.55
H	2	Cone/Stream	Polypropylene	14"	Brass	50"	2"	7044T42	42.42	7044T65	11.55
H	3	Cone/Stream	Polypropylene	18"	Brass	50"	2"	7044T62	43.98	7044T65	11.55
J	2	Flat Fan/Cone/Stream	Polypropylene	18"	Brass	50"	2"	7095T42	53.27	7095T92	9.24
J	3	Flat Fan/Cone/Stream	Polypropylene	18"	Brass	50"	2"	7095T43	60.13	7095T92	9.24
K	4	Flat Fan	Brass	18"	Brass	48"	4 3/8"	7528T36	123.55	7528T37	16.17
Epoxy-Lined Galvanized Steel Tank											
L	1	Mist/Stream	Polyurethane	15"	Polypropylene	41"	2"	7558T41	38.88	7558T31	11.61
L	2	Mist/Stream	Polyurethane	15"	Polypropylene	41"	2"	7558T42	43.48	7558T31	11.61
L	3	Mist/Stream	Polyurethane	15"	Polypropylene	41"	2"	7558T43	50.31	7558T31	11.61
M	2 1/2	Flat Fan	Brass	18"	Brass	48"	4 5/8" x 3 3/4"	7103T81	119.96	7103T52	41.04
Stainless Steel Tank											
N	2 1/2	Flat Fan	Brass	18"	Brass	48"	4 5/8" x 3 3/4"	7103T82	161.77	7103T51	28.31
N	3 1/2	Flat Fan	Brass	18"	Brass	48"	4 5/8" x 3 3/4"	7103T84	179.22	7103T51	28.31
P	2	Flat Fan/Cone/Stream	Brass	12"	Polypropylene	40"	5 1/4"	7529T32	87.53	7529T12	11.82
P	3	Flat Fan/Cone/Stream	Brass	18"	Polypropylene	40"	5 1/4"	7529T22	111.12	7529T12	11.82
Q	6	Cone/Stream	Brass	18"	Brass	120"	4 1/2"	43895T38	511.89	43895T49	25.10
Extreme-Duty Compression Sprayers											
Epoxy-Lined Steel Tank											
R	3 1/2	Flat Fan	Brass	24"	Brass	48"	4 1/4"	5176T27	171.87	5176T31	43.02

Liquid Nitrogen Containers



Use these cryogenic containers to safely store, transport, and dispense liquid nitrogen. Also known as dewars, their welded, double-aluminum walls are vacuum insulated for maximum thermal protection.

Capacity gal.	Capacity L	Mouth OD	Base Dia.	Ht.		
With One Handle						
1 1/4	5	2 1/4"	8 7/8"	18 1/8"	8987T24	$763.85
2 1/2	10	2 1/4"	10 3/8"	21 1/2"	8987T26	799.24
With Two Handles						
5	20	2 1/4"	14 1/2"	24 3/4"	8987T32	1,045.38
8 1/2	32	2 1/2"	17"	24"	8987T33	1,220.45

Heavy-Duty Large-Capacity Graduated Dispensers

Often used with oil and other lubricating fluids, these sturdy plastic dispensers can handle even tough jobs. Choose from a variety of containers, lids, and accessories to design a system for your specific application. Containers and lids are made of thick-wall polyethylene (HDPE) that has been treated for static and UV resistance, and all are interchangeable. Lids and spouts have Buna-N rubber/neoprene seals to protect contents against contamination. Maximum temperature is 176° F. Not for use with fuels or solvents.

Containers



All are semi-clear and have a sturdy, molded grip handle.

Capacity qt.	Capacity L	Mouth OD	Dia.	Ht.	Grad. Intervals qt.	Grad. Intervals L		
2	2	4 7/8"	6 5/8"	8 3/4"	1/4	0.25	5199T51	$17.16
3	3	4 7/8"	6 3/4"	10 1/2"	1/4	0.25	5199T52	21.00
5	5	4 7/8"	7"	11"	1/2	0.5	5199T53	24.78
10	10	4 7/8"	9 3/4"	13 3/4"	1/2	0.5	5199T54	52.89

Lids and Accessories

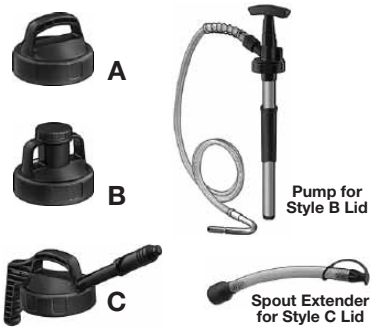

Lids are available in five colors. *Style B* has a threaded screw cap and can be used with a pump. *Style C* have a twist-open spout to protect contents against contamination.

To Order: Please specify lid color: black, blue, green, red, or yellow.

Spout Extenders—For use with Style C lids, these allow controlled pouring in hard-to-reach areas.

Pump—For use with Style B lid, this pump dispenses approximately 1 quart per 14 strokes. It has a curved 3/8" OD nozzle and 59" long hose.

Reducer Nozzle—Minimizes output by decreasing the pump nozzle OD from 3/8" to 1/4".

	Spout OD	Spout Lg.	Lids		Spout Extenders Lg.		
A	—	—	5199T59	$25.79	—	—	—
B	—	—	5199T58	29.74	—	—	—
C	1/4"	5"	5199T55	54.88	12 1/2"	5199T61	$20.19
C	3/8"	8"	5199T56	55.55	12 1/2"	5199T61	20.19
C	3/4"	5"	5199T57	67.84	10"	5199T62	29.23
Pump for Style B Lid—Does not fit 2-qt. container						5199T63	99.52
Reducer Nozzle for Pump						5199T64	4.64

Pitchers

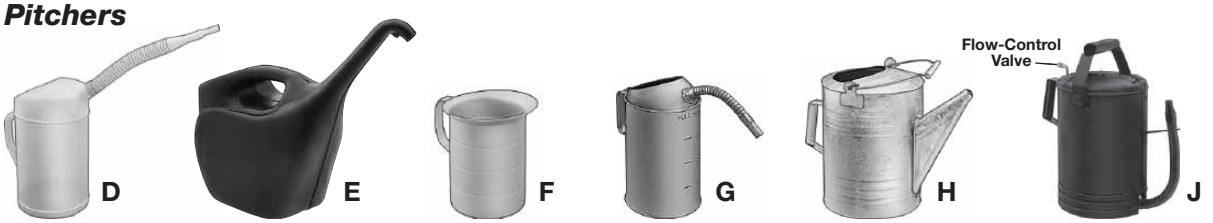

	Capacity	Ht.	Top Opening	Spout OD	Spout Lg.	Graduation Intervals qt.	Graduation Intervals L		
Polyethylene with Detachable/Flexible Spout—Semi-Clear									
D	32 oz.	10 3/4"	2 5/8" × 1 5/8"	3/8"	11"	1/4	0.25	9899T11	$10.43
D	64 oz.	12 1/2"	3 1/4" × 1 5/8"	3/8"	11"	1/2	0.5	9899T12	11.21
D	1 1/4 gal.	13 1/2"	5" × 2 1/2"	3/8"	13"	1	1	9899T15	17.26
Polyethylene Large Capacity—Black									
E	3 gal.	17 1/2"	4" dia.	7/8"	11"	—	—	4317T6	19.43
Lightweight Aluminum—Meet NSF/ANSI Standards									
F	8 oz.	3"	3" dia.	—	—	—	—	4346T5	16.78
F	16 oz.	4 1/8"	4 1/4" dia.	—	—	—	—	4346T1	26.37
F	32 oz.	5 3/8"	5" dia.	—	—	—	—	4346T2	30.21
F	64 oz.	7"	6 1/4" dia.	—	—	—	—	4346T3	36.40
F	1 gal.	9 1/4"	7 5/8" dia.	—	—	—	—	4346T4	44.14
Galvanized Steel with Flexible Spout									
G	32 oz.	6 1/2"	3" dia.	3/4"	7 1/2"	—	—	4364T1	20.27
G	64 oz.	9 3/4"	3 1/2" dia.	3/4"	7 1/2"	—	—	4364T2	22.81
G	1 gal.	11"	4 1/4" dia.	5/8"	7 1/4"	1	—	4364T3	25.48
Large Capacity Galvanized Steel									
H	3 gal.	12 3/4"	6" × 4 1/2"	7/8"	6"	—	—	4317T3	29.08
Steel with Flexible Spout and Flow-Control Valve—Black									
J	32 oz.	6"	3 1/4" × 2 1/2"	1/2"	14"	1	1	4340T41	59.67
J	64 oz.	8 1/2"	3 1/4" × 2 1/2"	1/2"	14"	1	1	4340T43	63.65
J	1 gal.	7 1/2"	5 1/8" × 4 1/2"	7/8"	14"	1	1	4340T45	65.67
J	1 1/4 gal.	8 1/2"	5 1/8" × 4 1/2"	7/8"	14"	1	1	4340T7	68.21
J	2 gal.	12 1/4"	5 1/4" × 4 1/2"	7/8"	14"	1	1	4340T9	71.62

Spoons


A


B


C

Cap., ml	Lg.	Max. Temp.	Pkg. Qty		Pkg.
(A) Polypropylene Autoclavable Spoons—White					
1	7″	275°F	3	41705T73	$5.40
2	7″	275°F	3	41705T74	5.56
5	7″	275°F	3	41705T75	5.80
15	7″	275°F	3	41705T76	6.36
(A) Set of Polypropylene Autoclavable Spoons—White					
1, 2, 5, 15	7″	275°F	4	41705T77	7.27

Cap., ml	Lg.		Each
(B) Type 304 Stainless Steel Combination Spoon/Spatulas			
1.7	5 7/8″	41705T83	$30.96
1.7	8 1/4″	41705T84	34.78
9	15 3/4″	41705T86	72.64
(C) Type 304 Stainless Steel Double-Sided Spoons			
2/0.5	5 7/8″	41705T41	32.34
2.8/0.8	7 1/8″	41705T42	36.38
5/1.6	8 1/4″	41705T43	41.87
8/5	11 7/8″	41705T45	47.59

Dippers


D


E


F


G


H


J

Cap., oz.	Top OD	Handle Lg.	Max. Temp.	Pkg. Qty.		Pkg.
(D) Polypropylene—Semi-Clear						
1/4	1″	5″	110°F	10	8999T41	$7.48
1	1 5/8″	4 3/8″	110°F	10	8999T42	10.81
2 3/8	1 7/8″	1 1/2″	110°F	10	8999T43	11.59
(E) Long-Reach Polyethylene (HDPE)—White						Each
1 3/4	1 1/2″	9″	248°F	—	8999T12	$12.36
3 3/8	2″	9″	248°F	—	8999T13	13.18
8 1/2	3 1/2″	9″	248°F	—	8999T14	15.84
20 1/4	4″	10″	248°F	—	8999T16	17.46
33 7/8	5 5/8″	12″	248°F	—	8999T17	41.00
(F) Extra-Long-Reach Polyethylene (HDPE)—White						
16 7/8	4″	36″	248°F	—	9000T12	44.26
16 7/8	4″	72″	248°F	—	9000T13	58.20
16 7/8	4″	144″	248°F	—	9000T14	104.25
33 7/8	5 3/8″	36″	248°F	—	9000T15	55.24
33 7/8	5 3/8″	72″	248°F	—	9000T16	67.44
33 7/8	5 3/8″	144″	248°F	—	9000T17	114.31

Cap., oz.	Top OD	Handle Lg.		Each
(G) Galvanized Steel				
56	6″	8″	4391T41	$15.57
(H) 300 Series Stainless Steel				
2	2 1/4″	9 7/8″	4394T2	11.93
6	3 5/8″	12 3/8″	4394T4	15.82
8	4″	12 5/8″	4394T5	17.97
12	4 3/8″	12 1/8″	4394T6	24.61
24	6″	18 1/8″	4394T7	38.87
72	8 1/8″	17″	4394T8	76.42
(J) Type 304 Stainless Steel				
1	2 1/4″	10 3/4″	4394T1	5.91
3	3″	10 7/8″	4394T3	7.86
4	3 1/4″	12 1/4″	4394T9	10.62

Rubber and Plastic Pails


K


L


With Optional Wall Bracket


M


N


P

With Optional Lid


Q


R

Cap., gal.	Top Opening	Ht.	Grad. Intervals	Max. Temp.		
(K) Crush-Resistant Rubber—Black						
2	10 3/4″ dia.	8 1/2″	———	160°F	4268T4	$7.60
3	12 1/2″ dia.	10 1/2″	———	160°F	4268T2	9.81
(L) Easy-Carry Rubber/Polyethylene—Black						
2	10 1/4″ × 11 3/4″	8 1/2″	1 qt.	160°F	3698T511	7.70
5	13 1/2″ × 14 1/2″	12 1/4″	1 qt.	160°F	3698T521	12.97
Optional Aluminum Wall Bracket for Style L					3698T59	9.45
(M) Rubber/Polyethylene with Molded Hook—Black						
1 1/4	9 1/2″ × 10 3/4″	5 1/2″	1/2 gal.	160°F	5614T8	7.09
4	15″ × 11 1/2″	14 1/2″	1/2 gal.	160°F	5614T9	10.73

Cap., gal.	Top Opening	Ht.	Grad. Intervals	Max. Temp.		
(N) Two-Compartment Polyethylene—Gray						
4 3/4	18″ × 14 1/2″	10″	1/2 qt.	150°F	43055T47	$26.10
(P) Food-Grade Polyethylene—White; Meets NSF/ANSI Standards						
5 1/2	13 1/8″ dia.	14″	1 qt.	212°F	4344T72	21.76
Optional Lid for Style P—Yellow					8993T66	7.38
(Q) Extra-Wide Polypropylene—Blue						
6	20″ × 10 1/2″	10 1/2″	1 gal.	175°F	5023T2	30.85
(R) Autoclavable Polypropylene—White						
2	8 3/4″ dia.	10 1/4″	1 qt.	275°F	4210T2	55.71
3 1/2	10 5/8″ dia.	12 3/8″	1 qt.	275°F	4210T4	72.74

Steel and Stainless Steel Pails


A&B


C&F


D&G


E

	Capacity	Top Opening, Dia.	Ht.	Gauge		
Economy Tin-Plated Steel						
A	2½ qt.	7¼″	5″	30	4288T1	$3.93
A	1¼ gal.	8½″	6½″	30	4288T2	4.40
Galvanized Steel						
B	2 qt.	6½″	5¾″	30	4260T14	4.04
B	1¼ gal.	8½″	7¾″	28	4260T12	7.83
B	2 gal.	10″	9″	28	4260T1	8.94
B	2½ gal.	11″	9¼″	28	4260T2	9.89
B	3 gal.	11¼″	10¼″	28	4260T3	10.59
B	3½ gal.	11½″	11″	28	4260T4	12.07
B	3¾ gal.	11½″	10¾″	28	4260T6	16.94
B	4¼ gal.	13½″	9″	28	4260T5	17.85
B	5½ gal.	13″	13″	28	4260T8	23.67

	Capacity	Top Opening, Dia.	Ht.	Gauge		
300 Series Stainless Steel—Meet NSF/ANSI Standards						
C	3¼ gal.	11⅝″	9¼″	22	4245T1	$65.33
C	3½ gal.	12″	10⅛″	18	4245T2	103.80
C	4 gal.	11¾″	11½″	22	4245T22	92.78
C	5¾ gal.	14⅞″	11⅞″	18	4245T3	185.33
D	3½ gal.	12″	10⅛″	16	4245T4	165.79
300 Series Stainless Steel with Lid—Meets NSF/ANSI Standards						
E	5 gal.	9⅛″	16¾″	22	4486T5	283.37
Corrosion-Resistant Type 304 Stainless Steel						
F	3¼ gal.	12¼″	10″	13	4245T5	141.92
F	5 gal.	14⅝″	11″	11	4245T6	195.00
Super-Corrosion-Resistant Type 316 Stainless Steel						
G	4 gal.	13⅛″	11¾″	13	4245T9	172.62

Pouring Pails


H&J


K


L


M


N


P

Cap., gal.	Top Opening	Ht.	Grad. Intervals	Max. Temp.		
(H) Crush-Resistant Rubber—Black						
3	12½″ dia.	10½″	½ gal.	160° F	4268T6	$10.46
4½	13¾″ dia.	12″	____	160° F	4268T3	13.62
(J) Nonsparking Crush-Resistant Rubber—Black						
3	12½″ dia.	10½″	½ gal.	160° F	4268T7	17.40
(K) Choose-a-Color Polyethylene with Wide Spout—						
To Order: Please specify color: gray, red, or white.						
2½	11¾″ dia.	10¼″	1 pt./½ qt.	175° F	4485T11	8.05
3½	13″ dia.	11¼″	1 pt./½ qt.	175° F	4485T12	11.74
(L) Polyethylene with Lid—Semi-Clear White						
3	11½″ dia.	11″	1 qt./1 gal.	130° F	4525T12	16.14

Cap., gal.	Top Opening	Ht.	Grad. Intervals	Max. Temp.		
(M) Heavy Duty Polyethylene—Semi-Clear White						
2½	12⅞″ dia.	9³⁄₁₆″	2 pt.	248° F	4286T1	$68.12
(M) Heavy Duty Polyethylene—White						
4	12½″ dia.	13″	____	176° F	4286T2	125.28
(N) Galvanized Steel with Wide Spout						
3½	17″×12¼″	11¼″	____	____	4310T21	21.29
(P) Corrosion-Resistant Type 304 Stainless Steel						
3¼	11″ dia.	9⅝″	____	____	4253T1	220.00
4	11½″ dia.	9⅞″	____	____	4253T2	227.14

Tubs


Q


R


S


T

	Cap., gal.	Top Opening	Ht.	Max. Temp.		
Crush-Resistant Rubber—Black						
Q	6½	17″ dia.	8½″	160° F	4164T3	$12.51
Q	15	26″ dia.	9½″	160° F	4164T6	23.37
Choose-a-Color Rubber/Polyethylene with Rope Handles—						
To Order: Please specify color: black, blue, or red.						
R	10	18″ dia.	14″	160° F	4003T6	13.23
R	17½	21¼″ dia.	16½″	160° F	4003T7	22.02

	Cap., gal.	Top Opening	Ht.	Max. Temp.		
Galvanized Steel with Steel Handles						
S	10½	20½″ dia.	10½″	____	4126T4	$31.12
S	17	27″ dia.	12″	____	4126T6	41.08
T	7½	24″ ×12¾″	7½″	____	4126T8	25.90
T	16¾	31¾″ ×16½″	10″	____	4126T9	37.02

Steel Cans with Press-Fit Lids


Round


Round with Label


Rectangular with White Finish

Cap., oz.	Base Size	Ht.	Pkg. Qty.		Pkg.
Round					
1	1 1/2" dia.	1"	12	4332T52	$11.83
2	2" dia.	1 3/8"	12	4332T24	14.13
2	2 3/8" dia.	3/4"	6	4332T21	8.08
3	2 3/4" dia.	7/8"	6	4332T22	8.64
4	2 3/8" dia.	1 3/4"	6	4332T53	8.65
8	4" dia.	1 1/8"	6	4332T23	14.05
16	4" dia.	2 1/4"	3	4332T27	10.02
Round with Label					
1/2	1 1/2" dia.	1/2"	12	4332T31	8.33
1	2" dia.	5/8"	12	4332T32	9.55
2	2" dia.	1 3/8"	12	4332T34	15.75
6	2 3/4" dia.	1 3/4"	6	4332T55	9.45
Rectangular					Each
40	7 7/8" x 4 1/2"	2 1/8"	—	5690T71	$5.61
81	8 1/8" x 6 1/4"	3"	—	5690T72	6.61
Rectangular and Square with White Finish					
16	5" x 3 5/8"	1 5/8"	—	5690T56	4.33
54	6 1/8" sq.	2 5/8"	—	5690T57	6.05

Pail Liners

Protect pails and clean up quickly with these lightweight, seamless plastic liners. Maximum temperature is 175° F.



For Pail Cap., gal.	Fits Outside Pail Ht.		Pkg.
For Plastic Pails			
Semirigid Polyethylene—Semi-Clear			
2	8 7/8"	9772T79	$1.68
3	9 7/8"	9772T81	3.14
3 1/2	10 3/8"	9772T82	3.21
5	13 1/2"	9772T83	3.29
5	14"	9772T84	3.41
Antistatic Semirigid Polyethylene—Semi-Clear Pink			
5	13"	9772T85	3.21
5	14 1/4"	9772T86	3.35
For Steel Pails			
Flexible Polyethylene—Semi-Clear			
5	13"	9772T72	2.72
Antistatic Flexible Polyethylene—Semi-Clear Pink			
5	13"	9772T76	3.18
Semirigid Polyethylene—Semi-Clear			
3 1/2	9 1/4"	9772T75	2.68
5	13"	9772T74	2.78
6	15"	9772T77	3.41
Semirigid Polypropylene—Semi-Clear			
5	13"	9772T78	5.39

Paint Cans with Lids


Plastic with Handle



Tin-Plated Steel without Handle



Tin-Plated Steel with Handle

Cap.	Base Dia.	Top Opening, Dia.	Ht.	Pkg. Qty.		Pkg.
Plastic Cans with Tin-Plated Steel Lid						
Without Handle—Black						
16 oz.	3 1/2"	2 1/2"	4 1/8"	12	4051T44	$40.08
32 oz.	4 1/4"	3 1/8"	5"	6	4051T45	23.46
With Handle—Black						
1 gal.	6 5/8"	5 1/2"	7 3/4"	1	4051T33	7.59
1 gal.	6 5/8"	5 1/2"	7 3/4"	34	4051T43	202.87
Tin-Plated Steel Cans						
Without Handle						
4 oz.	2 7/8"	1 3/4"	2"	12	4084T41	34.71
8 oz.	2 7/8"	2 1/8"	2 7/8"	12	4084T42	38.60
16 oz.	3 5/8"	2 1/2"	3 7/8"	12	4084T43	42.87
32 oz.	4 1/2"	3 1/4"	4 3/4"	6	4084T44	24.50
64 oz.	5 7/8"	4 7/8"	5 3/4"	2	4084T45	23.29
With Handle						
1 gal.	6 1/2"	5 1/2"	7 1/2"	2	4084T66	15.17
1 gal.	6 1/2"	5 1/2"	7 1/2"	34	4084T31	226.46
Lid-Securing Steel Clips for Plastic and Tin-Plated Steel Cans						
Fits 4-oz. and 8-oz. Cans				100	2035T1	20.13
Fits 16-oz. and 32-oz. Cans				100	2035T3	20.13
Fits 64-oz. and 1-gal. Cans				100	2035T2	20.13
Lid-Securing Plastic Rings for Tin-Plated Steel Cans						
Fits 8-oz. Cans				6	5099T5	5.18
Fits 16-oz. Cans				6	5099T6	5.36
Fits 32-oz. Cans				6	5099T7	6.27
Fits 1-gal. Cans				6	5099T8	7.45

Lid Openers







Quickly pry lids off plastic pails. *Style C* can also be used to open 1-gallon paint cans.

	Material	Opens Can Size	Pry Width	Lg.		Pkg.
A	Nylon	1-7 gal.	1 1/2"	8"	21605T33	$8.03
B	Aluminum	1-7 gal.	1 1/2"	8"	21605T34	13.84
C	Steel	5 gal.	1"	15 1/4"	21605T35	14.88
D	Steel	5 gal.	2 7/8"	13 5/8"	21605T36	30.60

Plastic Pails and Snap-Lock Lids

Ship nonhazardous materials in these pails with tight-fitting lids. They're made of polyethylene and have a maximum temperature of 140° F. All are nestable.

Round lids have a rubber gasket.

Lids with tear-tab have a tamper-evident sealing ring with tab.

Lids with spout and tear-tab have a telescoping spout in the lid for controlled pouring.


Round Pail with Tear-Tab Lid


Square Pail with Lid (Sold Separately)


Lid with Spout and Tear-Tab

Cap., gal.	Top Opening, Dia.	Outside Ht.	Pails with Tear-Tab Lid		Pails without Lid		Lids		Lids with Tear-Tab		Lids with Spout and Tear-Tab	
Round—To Order. Please specify color: blue, green, red, or white.												
1	7 3/8"	7 3/8"	4269T35	$3.84	4269T31	$2.76	_____	—	4269T11	$1.33	_____	—
2	9 3/4"	9 1/4"	4269T36	5.50	4269T32	4.13	_____	—	4269T12	1.31	4269T21	$2.13
3 1/2	11 7/8"	10 1/4"	4269T37	7.89	4269T33	5.84	_____	—	4269T13	2.03	4269T22	2.84
5	11 7/8"	14 3/4"	4269T38	9.88	4269T34	7.83	_____	—	4269T13	2.03	4269T22	2.84
Square—White												
2	10"	7 5/8"	_____	—	4269T63	6.55	4269T67	$4.59	4269T68	4.83	_____	—
3 1/4	10"	11 1/8"	_____	—	4269T73	7.04	4269T67	4.59	4269T68	4.83	_____	—
4	10"	13 1/4"	_____	—	4269T65	9.89	4269T67	4.59	4269T68	4.83	_____	—
5	10"	16 7/8"	_____	—	4269T74	10.75	4269T67	4.59	4269T68	4.83	_____	—

UN-Compliant Plastic Shipping Pails and Snap-Lock Lids



Choose-a-Color Pail with Lid (Sold Separately)



Choose-a-Color Lid with Spout

Safely ship hazardous materials with these sturdy polyethylene pails and tight-fitting lids. Pails and lids are sold separately. Lids have a rubber gasket. Pails have a steel bail handle with a plastic grip. All are nestable. Maximum temperature is 180° F. Note: For one-time shipping only.

Pails and lids **with protective coating** are fluorinated to prevent chemical absorption and permeation.

Cap., gal.	Top OD	Ht.	Specifications Met	Pails without Lid		Lids		Lids with Spout	
For Shipping Hazardous Solids and Liquids									
Choose-a-Color—To Order: Please specify black, blue, gray, green, red, or white.									
3½	11⅞"	10½"	UN1H2/Y1.5/30, UN1H2/Y30/S	3995T429	$11.93	3995T459	$5.31	3995T21	$5.87
5	11⅞"	14½"	UN1H2/Y1.5/30, UN1H2/Y43/S	3995T439	13.78	3995T459	5.31	3995T21	5.87
With Protective Coating—White									
3½	11⅞"	10½"	UN1H2/Y1.5/30, UN1H2/Y30/S	3995T27	26.29	3995T25	9.93	3995T26	9.42
5	11⅞"	13⅜"	UN1H2/Y1.5/30, UN1H2/Y43/S	3995T23	26.53	3995T25	9.93	3995T26	9.42
For Shipping Hazardous Solids									
Choose-a-Color—To Order: Please specify black, blue, gray, green, or white.									
6	11¾"	16"	UN1H2/Y43/S	3995T471	16.26	3995T459	5.31	3995T21	5.87
With Protective Coating—White									
6	11¾"	16"	UN1H2/Y43/S	3995T24	30.69	3995T25	9.93	3995T26	9.42

UN-Compliant Plastic Shipping Pails with Easy-Open Twist-Lock Lids



Open and close these white polyethylene shipping pails without any tools. Pails have a plastic bail handle. They come with a lid that has a neoprene gasket, except pails with choose-a-color lids, which do not have a gasket. Maximum temperature is 150° F.

Pails for Shipping Hazardous Solids—To open, squeeze the release and turn the lid.

Pails for Shipping Hazardous Liquids—To open, pull back the handle and use it to turn the lid.

Pails with drip-free pouring lip have a solid rim for a clean, controlled pour.

Cap., gal.	Top OD	Ht.	Specifications Met		
For Shipping Hazardous Solids					
With Drip-Free Pouring Lip					
½	7"	7⅜"	UN1H2/Y4/S	40015T61	$4.40
1	8⅞"	9⅛"	UN1H2/Y6/S	40015T62	5.02
2½	12⅛"	10⅛"	UN1H2/Y19/S	40015T44	9.88
3½	12⅝"	12⅛"	UN1H2/Y19/S	40015T41	14.84
5	12⅝"	16"	UN1H2/Y30/S	40015T42	16.49
6½	12⅝"	19⅜"	UN1H2/Y30/S	40015T43	19.51
With Choose-a-Color Lids and Drip-Free Pouring Lip—To Order: Please specify blue, red, or white lid.					
3½	11⅝"	11"	UN1H2/Y19/S	40015T33	14.80
5	11⅝"	14⅝"	UN1H2/Y25/S	40015T34	16.40

Cap., gal.	Top OD	Ht.	Specifications Met		
For Shipping Hazardous Solids (Cont.)					
With Large Capacity and Molded-In Handles					
12	16½"	21½"	UN1H2/Y53/S	40015T71	$43.41
For Shipping Hazardous Liquids					
With Drip-Free Pouring Lip					
5	12"	16¾"	UN1H2/Y1.5/30	40015T81	17.98
With Spout and Drip-Free Pouring Lip					
5	12"	16¾"	UN1H2/Y1.5/30	40015T82	18.52

UN-Compliant Plastic Shipping Pails with Small Mouth Opening



Round Pail with Flip-Up Handle



Rectangular Pail with Molded-In Handle

Also known as closed-head pails, these polyethylene shipping containers come with a threaded cap.

Standard pails have a maximum temperature of 150° F. **Chemical-resistant pails** prevent the absorption of harsh solvents, cleaning agents, and adhesives. Maximum temperature is 180° F.

Cap with tamper-evident seal has a security ring that separates when the cap is opened.

Cap., gal.	Mouth OD	Top Size	Ht.	Specifications Met	Available Colors		
Cap with ¾" NPT Female Knockout							
Standard Round Pail with Flip-Up Handle							
5	2¾"	11½" dia.	14⅞"	UN1H1/Y1.8/100	Blue, Semi-Clear	4135T11	$25.90
Standard Rectangular Pail with Molded-In Handle							
2½	2"	9⅛" × 7¾"	12¼"	UN3H1/Y1.2/100	Semi-Clear	4135T19	17.71
5	2⅜"	11½" × 10½"	14¼"	UN3H1/Y1.8/100	Blue, Semi-Clear	4135T23	28.16
Cap with Tamper-Evident Seal							
Standard Rectangular Pail with Molded-In Handle							
5	2⅜"	11½" × 10½"	14¼"	UN3H1/Y1.8/100	Semi-Clear	4135T63	29.42
Chemical-Resistant Rectangular Pail with Molded-In Handle							
1	1⅝"	7½" × 5¾"	9¼"	UN3H1/Y1.2/250	Opaque White, Semi-Clear	4135T75	8.18
2½	1⅝"	8¾" × 7¼"	12"	UN3H1/Y1.2/250	Opaque White, Semi-Clear	4135T76	13.10
5	2¾"	11⅛" × 10⅛"	15⅛"	UN3H1/Y1.8/100	Opaque White, Semi-Clear	4135T74	23.74

UN-Compliant Steel Shipping Pails



Open-Head with Lid



Closed-Head



Lid with Spout

The interior of these pails is coated with epoxy phenolic to prevent rust. Pails range from 24-gauge to 26-gauge; all lids are 24 gauge. Note: These pails meet UN specifications for shipping only if used with the lids listed below.

Open-head pails are nestable and have a steel bail handle with plastic grip. Lids have 16 closure tabs, also known as lugs.

Closed-head pail with small mouth opening has a screw cap, flip-up handle, and telescoping metal spout.

Cap., gal.	Top OD	Ht.	Specifications Met	Pails with Lid		Pails without Lid		Lids		Lids with Spout	
Open-Head—To Order: Please specify black or gray except for 4211T611, which is available in black only.											
3½	11¼"	9⅞"	UN1A2/Y1.9/100	4211T64	$23.29	4211T611	$17.98	4211T71	$6.33	4211T72	$7.66
5	11⅞"	13½"	UN1A2/Y2.0/100	4211T65	26.66	4211T62	21.72	4211T71	6.33	4211T72	7.66
6	11¾"	16"	UN1A2/Y1.9/100	_____	____	4211T63	22.10	4211T71	6.33	_____	____
Closed-Head with Small Mouth Opening—To Order: Please specify black or gray.											
5	11"	13⅝"	UN1A1/Y1.8/170	_____	____	4211T48	25.18	_____	____	_____	____

Closing Tools for Steel Pails

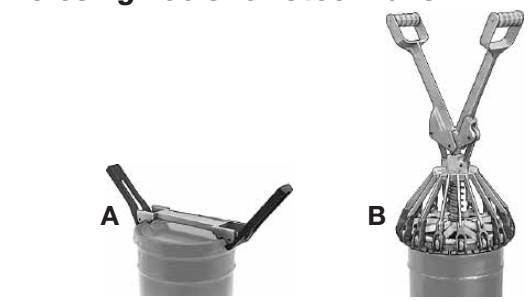

Seal lids on 5-gallon open-head steel pails with these manual closing tools. Note: Not for use in shipping applications.

Style A closes four lugs at a time. It's made of cast iron and aluminum. *Style B* closes 16 lugs at a time. It has a steel and aluminum body with wood handles.

	For Steel Lids		
A	20- to 28-ga.	**3987T1**	$175.00
B	26- to 28-ga.	**3987T3**	926.78

Swivel Seat for Pails



Turn your pail into a comfortable swivel seat with this plastic cover. Fits 5-, 6-, and 7-gallon open-head steel and plastic pails with an 11¾″ to 12¼″ top OD. Seat measures 12¼″ OD × 2¾″ Ht. It's green with a black rim.

5835T36 ..... $12.89

Dust Caps for Pails



Keep dust out of your pails with these elastic-rimmed, plastic dust caps.

Antistatic pink dust cap has a surface resistivity of 10^{11} ohms/sq.

For Pail Size/Shape	Clear	Pkg. of 5	Antistatic Pink	Pkg. of 5
1-gal. Round	**4104T11**	$10.97	_____	____
2-gal. Round	**4104T12**	11.33	_____	____
3½-, 5-, 6-gal. Round; 2- and 4-gal. Square	**4104T3**	11.44	**4104T6**	$11.64

Small Rectangular Plastic Tanks

The capacity range on these tanks ends where most other tanks begin. They're made of UV-resistant, semi-clear white polyethylene and have a vented, threaded fill cap. Maximum temperature is 120° F.

20-gallon tank has a ½″ female NPT drain fitting with cap.



16-Gal. Tank

Cap., gal.	Lg.	Wd.	Ht.	Wall Thick.	Fill Opening, Dia.	Grad. Intervals, gal.		
5	22″	9¼″	7⅛″	⅛″	5″	1	**4439T11**	$48.34
6	15″	12″	8″	⅛″	5″	1	**4439T12**	51.09
7	14″	9″	15″	¼″	5″	1	**4439T13**	55.17
16	21″	14″	14″	⅛″	5″	2	**4439T14**	66.38
20	15″	11″	31″	¼″	5″	1	**4439T15**	96.67

Low-Profile Rectangular Plastic Tanks

When you need liquid storage to keep a low profile, use these graduated tanks. They're made of UV-resistant, semi-clear white polyethylene. All come with a 1″ female NPT drain fitting with cap. Maximum temperature is 120° F. *50-gal. and 110-gal. tanks* have a hinged cap. *68-gallon tanks* has a vented, threaded cap.

Mounting bands are steel. They have a flange with ½″ dia. mounting holes on each end; fasteners not included.



68-Gal. Tank with Mounting Bands (sold separately)

Cap., gal.	Lg.	Wd.	Ht.	Wall Thick.	Fill Opening, Dia.	Grad. Intervals, gal.	Tanks	Each	Mounting Bands	Set of 2
50	43″	24″	15″	¼″	5″	5	**5152T41**	$184.43	**5152T51**	$36.42
68	42″	26″	17″	¼″	6″	5	**5152T42**	215.00	**5152T52**	41.48
110	48″	35″	19″	¼″	5″	10	**5152T43**	266.31	**5152T53**	48.50

Round Plastic Batch Cans

Put a lid on high-capacity storage with these plastic cans. Lightweight yet strong, they have a seamless construction and come with a loose-fitting cover. Cans are semi-clear white plastic.

Heavy Duty Polyethylene— Maximum temperature is 140° F.

Food-Grade Heavy Duty Polyethylene— Maximum temperature is 190° F. Meet NSF/ANSI standards.

High-Temperature Heavy Duty Polypropylene— Maximum temperature is 220° F.



Cap., gal.	Top OD	Ht.	Wall Thick.	Grads., gal./L		
Heavy Duty Polyethylene						
5	12⅜″	15⅛″	⅛″	0.5/2	**3678K11**	$75.24
7½	13¾″	18″	3/16″	0.5/2	**3678K62**	107.18
10	14¾″	20⅜″	3/16″	1.0/__	**3678K64**	106.59
15	15″	27⅝″	3/16″	1.0/5	**3678K12**	131.64
30	20″	29⅞″	3/16″	2.5/10	**3678K14**	197.58
55	23⅝″	36⅛″	¼″	2.5/10	**3678K18**	261.75
80	25½″	48″	¼″	5.0/20	**3678K65**	524.00
100	29⅞″	44¼″	¼″	5.0/25	**3678K21**	565.88
Food-Grade Heavy Duty Polyethylene						
33	19″	31½″	⅛″	_____	**3678K92**	134.18
45	19″	43″	⅛″	_____	**3678K93**	146.05
64	21¼″	50″	⅛″	_____	**3678K94**	175.09

Cap., gal.	Top OD	Ht.	Wall Thick.	Grads., gal./L		
Food-Grade Heavy Duty Polyethylene (Cont.)						
82	29¼″	35¼″	⅛″	_____	**3678K19**	$257.40
107	29¼″	44½″	⅛″	_____	**3678K22**	281.70
High-Temperature Heavy Duty Polypropylene						
5	12¼″	15¼″	3/16″	0.5/2	**4085K33**	133.20
7½	13¾″	17⅞″	3/16″	0.5/2	**4085K34**	163.21
10	14¾″	20½″	3/16″	1.0/__	**4085K35**	173.54
15	14¾″	27¾″	3/16″	1.0/5	**4085K36**	196.85
30	19⅜″	29¼″	3/16″	2.5/10	**4085K37**	275.09
55	23¾″	36⅜″	¼″	2.5/10	**4085K38**	362.29
80	25½″	48⅜″	5/16″	5.0/20	**4085K39**	748.67
100	29¾″	44¼″	5/16″	5.0/25	**4085K41**	907.99

Round Plastic Batch Cans with Faucet



Not only do these batch cans have a faucet for easy dispensing, but they also have a smooth, seamless construction. All are translucent white and include a loose-fitting cover.

Economy polyethylene batch cans have a polyethylene faucet that connects to the polypropylene fitting. The *20-* and *32-gal. models* have an EPDM gasket. Faucet has a 2″ OD. The *45-gal. model* has a faucet with a 3/4″ OD.

Polyethylene and ***heavy duty polyethylene batch cans*** have a polypropylene faucet that has two TFE O-rings and connects to a polyethylene outlet. Faucet has a 5/8″ OD.

Food-grade heavy duty polyethylene batch cans have a polyethylene faucet that connects to a PVC outlet. Faucet has a 3/4″ OD. Cans meet NSF/ANSI standards.

Cap., gal.	Top OD	O'all Ht.	Wall Thick.	Max. Temp.	Grads., gal./liters		Each
Economy Polyethylene							
20	15 3/4″	29 3/4″	3/16″	140° F	———	3678K27	$200.74
32	20 1/2″	25 3/4″	3/16″	140° F	———	3678K28	236.13
45	24″	31 1/2″	3/16″	140° F	———	3678K29	265.10
Polyethylene							
5	12 3/8″	15 1/8″	3/32″	140° F	0.5/ 2	3678K52	110.01
7 1/2	13 13/16″	18″	3/32″	140° F	0.5/ 2	3678K72	119.04
10	14 3/4″	20 3/8″	3/32″	140° F	1.0/—	3678K74	121.83
15	15″	27 5/8″	3/32″	140° F	1.0/ 5	3678K54	166.65
30	20″	29 7/8″	3/32″	140° F	2.5/10	3678K56	226.83
55	23 5/8″	36 1/8″	3/32″	140° F	2.5/10	3678K58	256.42
Heavy Duty Polyethylene							
5	12 3/8″	15 1/8″	1/8″	140° F	0.5/ 2	3678K71	118.38
7 1/2	13 13/16″	18″	3/16″	140° F	0.5/ 2	3678K73	140.24
10	14 3/4″	20 3/8″	3/16″	140° F	1.0/—	3678K75	142.87
15	15″	27 5/8″	3/16″	140° F	1.0/ 5	3678K76	161.79
30	20″	29 7/8″	3/16″	140° F	2.5/10	3678K77	238.61
55	23 5/8″	36 1/8″	1/4″	140° F	2.5/10	3678K78	317.91
Food-Grade Heavy Duty Polyethylene							
33	19 1/8″	33″	1/8″	150° F	———	3678K83	178.80
45	19 1/8″	43″	1/8″	150° F	———	3678K84	190.25
64	22″	52 1/4″	1/8″	150° F	———	3678K85	215.77
82	28 3/4″	35 1/4″	1/8″	150° F	———	3678K86	274.53

Liners for Round Plastic Batch Cans



If cleaning your batch cans is a nuisance, then make the chore easier by using these disposable, flexible liners. All are made of clear polyethylene and FDA-compliant resins. Can be used with the round plastic batch cans shown above and on the previous page.

For Can Cap., gal.	Liner Inside Dia.	Ht.	Max. Temp.	*4 mils Thick* Each		*8 mils Thick* Each	
5	11 1/2″	30″	190° F	8852K61	$2.18	8852K71	$3.47
7 1/2	13″	32″	190° F	8852K62	3.07	8852K72	4.02
10	14 1/2″	36″	190° F	8852K63	3.13	8852K73	4.11
15	14 3/4″	42″	190° F	8852K64	3.24	8852K74	4.44
30	19″	50″	190° F	8852K65	4.02	8852K75	4.73
55	22 1/2″	60″	190° F	8852K66	4.42	8852K76	6.93
80	24″	65″	190° F	8852K67	4.53	8852K77	7.00
100	29 1/2″	75″	190° F	8852K68	10.00	8852K78	12.62

Polyethylene Batch Cans with Handles



With Stainless Steel Handles and Optional Cover

Get a grip—handles make it easier to move batch cans. Cans are seamless polyethylene and meet FDA and USDA requirements. All are nestable as well as stackable when used with optional covers. Color is translucent white. Max. temperature is 120° F.

Optional covers are loose fitting.

Cap., gal.	Top OD	O'all Ht.	Wall Thick.	*Batch Cans* Each		*Optional Covers* Each	
With Molded-In Handles							
3	14 7/16″	7″	3/16″	9863T31	$71.54	9863T41	$44.42
10	17″	16″	3/16″	9863T32	86.26	9863T42	56.09
15	17″	21 3/4″	3/16″	9863T33	92.04	9863T42	56.09
With Type 316 Stainless Steel Handles							
20	19″	24″	1/4″	9863T12	169.85	9863T14	45.73

Rectangular Plastic Batch Cans



Without Faucet



With Faucet

Strong yet lightweight, these batch cans have a smooth, seamless construction. All include a loose-fitting cover and are translucent white, except heavy duty impact-resistant polyethylene, which are translucent yellow.

Choose a can ***with faucet*** for convenient dispensing. Faucet is polyethylene and has a 5/8″ OD.

Cap., gal.	O'all Top Size, Lg. × Wd.		O'all Ht.	Wall Thick.	Max. Temp.		Each
Polyethylene							
6	16 11/16″	× 12 11/16″	11 7/16″	5/32″	140° F	1255K62	$91.07
11	20 11/16″	× 14 3/4″	13 9/16″	5/32″	140° F	1255K64	127.49
30	26 3/16″	× 20 11/16″	19 9/16″	5/32″	140° F	1255K66	223.65
Polyethylene with Faucet							
5	13 1/8″	× 13 1/8″	10″	1/4″	176° F	4420K51	212.21
7 1/2	18 1/4″	× 13 1/4″	10″	1/4″	176° F	4420K52	232.68
10	19 3/4″	× 14 7/8″	10″	1/4″	176° F	4420K53	260.96
15	17 1/8″	× 13 7/8″	19″	1/4″	176° F	4420K54	305.49
20	22 3/4″	× 17 3/4″	14″	1/4″	176° F	4420K55	380.85
Heavy Duty Polyethylene							
2	10 1/8″	× 10 1/8″	9 1/8″	3/16″	140° F	3754K81	60.78
5	18 1/4″	× 12 1/4″	9 3/8″	3/16″	140° F	3754K71	113.27
7	15 3/8″	× 15 3/8″	13 7/8″	1/4″	140° F	3754K72	113.60
11	15″	× 15″	19 3/8″	1/4″	140° F	3754K73	172.50
12	21 1/4″	× 15 3/8″	13″	1/4″	140° F	3754K83	173.33
15	27 3/4″	× 16″	13 3/4″	1/4″	140° F	3754K74	181.58
18	21 1/2″	× 15 3/4″	19″	1/4″	140° F	3754K84	190.00
22	27 3/4″	× 15 7/8″	19 5/8″	1/4″	140° F	3754K75	199.74
27	34 3/8″	× 16 3/8″	20″	1/4″	140° F	3754K86	221.15
Heavy Duty Impact-Resistant Polyethylene							
30	34″	× 28 1/4″	12″	7/32″	140° F	3685K11	486.12
50	34″	× 28 1/4″	18 1/8″	7/32″	140° F	3685K12	633.97
50	52″	× 28 1/4″	12″	7/32″	140° F	3685K21	674.80
60	39 15/16″	× 22 1/2″	22″	3/16″	140° F	3685K41	598.68
70	34 1/8″	× 28 1/8″	24 1/8″	7/32″	140° F	3685K13	666.06
75	52″	× 28 1/4″	18 1/8″	7/32″	140° F	3685K22	728.27
85	34″	× 28 1/8″	30″	7/32″	140° F	3685K14	706.54
105	33 3/4″	× 27 7/8″	36″	7/32″	140° F	3685K15	883.02
105	52″	× 28 1/4″	24″	7/32″	140° F	3685K23	825.71
Heavy Duty High-Temperature Polypropylene							
2	10 11/16″	× 10 11/16″	9 5/16″	3/16″	220° F	3726K51	109.77
6	16 7/8″	× 12 13/16″	11 1/2″	1/4″	220° F	3726K53	132.16
7	14 11/16″	× 14 11/16″	14 7/16″	1/4″	220° F	3726K61	137.49
11	14 11/16″	× 14 11/16″	20 15/16″	1/4″	220° F	3726K62	211.91
11	20 7/8″	× 14 11/16″	13 11/16″	1/4″	220° F	3726K54	218.65
15	20 13/16″	× 14 7/8″	19 15/16″	1/4″	220° F	3726K55	265.10
15	26 13/16″	× 14 3/4″	13 3/8″	1/4″	220° F	3726K63	301.65
25	20 13/16″	× 20 13/16″	19 3/8″	1/4″	220° F	3726K56	376.34
30	27 1/16″	× 20 13/16″	19 11/16″	1/4″	220° F	3726K57	382.14
45	26 11/16″	× 20 11/16″	25 3/8″	1/4″	220° F	3726K64	481.87
60	39 3/8″	× 22 7/8″	22 1/8″	5/16″	220° F	3726K58	656.10

Mobile Polyethylene Batch Cans

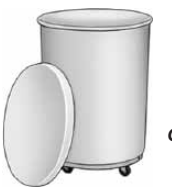

With Optional Cover

These batch cans are easy to move—all have swivel casters with 2″ dia. rubber wheels. Wall thickness is 3/16″. Color is translucent white. Max. temperature is 140° F.

Optional covers are loose fitting.

Cap., gal.	Top OD	O'all Ht.	No. of Casters	*Drums* Each		*Optional Covers* Each	
20	15 3/4″	32″	3	3767K14	$212.08	3767K17	$55.47
32	21 1/2″	28 13/16″	4	3767K15	248.10	3767K18	60.27
45	24″	34″	4	3767K16	284.63	3767K19	60.25

Rectangular Stainless Steel Batch Cans

All batch cans are made of 18-ga. stainless steel. ***Batch cans with drain*** have a 1″ NPT female drain centered on the bottom of the can. All *optional covers* are loose fitting.

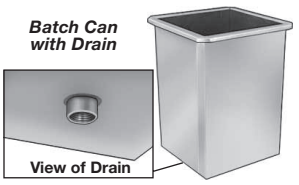



Cap., gal.	Top Size, Lg.×Wd.	O'all Ht.	Batch Cans	Each	Optional Covers	Each
Type 304 Stainless Steel						
1	9⅞″ × 7⅛″	7 1/16″	3763K106	$184.37	3763K38	$56.67
3½	13″ × 10″	10 9/16″	3763K107	240.80	3763K39	66.37
4	14¼″ × 14¼″	6⅛″	3763K101	271.41	3763K31	93.69
7	14¼″ × 14¼″	12⅛″	3763K111	350.26	3763K31	93.69
11	14¼″ × 14¼″	18⅛″	3763K211	408.46	3763K31	93.69
11	20¼″ × 14¼″	12⅛″	3763K121	412.73	3763K32	122.73
17	20¼″ × 14¼″	18⅛″	3763K221	495.21	3763K32	122.73
19	26¼″ × 17¼″	12⅛″	3763K131	513.60	3763K33	148.53
22	26¼″ × 20¼″	12⅛″	3763K151	522.71	3763K35	171.12
28	26¼″ × 17¼″	18⅛″	3763K231	597.97	3763K33	148.53
35	32¼″ × 17¼″	18⅛″	3763K241	626.12	3763K34	164.61
Type 304 Stainless Steel with Drain						
4	14¼″ × 14¼″	7⅛″	3763K102	279.61	3763K31	93.69
6	20¼″ × 14¼″	7⅛″	3763K202	290.50	3763K32	122.73
7	14¼″ × 14¼″	13⅛″	3763K112	358.34	3763K31	93.69
11	14¼″ × 14¼″	19⅛″	3763K212	416.14	3763K31	93.69
11	20¼″ × 14¼″	13⅛″	3763K122	421.00	3763K32	122.73
28	26¼″ × 17¼″	19⅛″	3763K232	593.89	3763K33	148.53
34	26¼″ × 20¼″	19⅛″	3763K252	599.00	3763K35	171.12
35	32¼″ × 17¼″	19⅛″	3763K242	621.83	3763K34	164.61

Cap., gal.	Top Size, Lg.×Wd.	O'all Ht.	Batch Cans	Each	Optional Covers	Each
Type 316 Stainless Steel						
¼	7½″ × 4⅝″	5⅞″	3676K61	$170.33	3676K81	$55.47
1	9⅞″ × 7⅛″	7 1/16″	3676K63	207.03	3676K83	64.57
1	11⅞″ × 7½″	5⅞″	3676K62	203.29	3676K82	70.63
1	13 1/16″ × 4⅜″	10 9/16″	3676K64	239.87	3676K84	61.53
3½	13 1/16″ × 10″	10 9/16″	3676K65	293.80	3676K85	79.73
3½	17⅞″ × 6⅜″	13 9/16″	3676K66	326.00	3676K86	76.70
5	12⅛″ × 12⅛″	14 1/16″	3676K67	349.87	3676K87	85.80
10	14⅛″ × 14⅛″	17 1/16″	3676K68	486.37	3676K88	97.93
20	18⅛″ × 18⅛″	19 1/16″	3676K69	661.50	3676K89	131.60
Type 316 Stainless Steel with Drain						
5	12⅛″ × 12⅛″	15 1/16″	3676K71	383.20	3676K87	85.80
10	14⅛″ × 14⅛″	18 1/16″	3676K72	512.44	3676K88	97.93
20	18⅛″ × 18⅛″	20 1/16″	3676K73	694.83	3676K89	131.60

Round Aluminum and Stainless Steel Batch Cans



A&D *With Optional Cover*



B *With Optional Cover*



C *With Optional Cover*



E



F



G

(A) Food-Grade Aluminum with Handles— All cans are seamless. Top edge is machined smooth and handles are riveted. Cans meet NSF/ANSI standards. *Optional covers* are loose fitting.

(B) Food-Grade 300 Series Stainless Steel— Cans are stackable when used with optional cover. They have a brushed bright finish. Cans meet NSF/ANSI standards. *Optional covers* are loose fitting.

(C) Food-Grade 300 Series Stainless Steel with Handles— Cans are stackable when used with optional cover. Brushed bright finish. Cans meet NSF/ANSI standards. *Optional covers* are loose fitting.

(D) Heavy Duty Type 304 Stainless Steel with Handles— Cans have a polished finish. *Optional covers* are snug and dust tight.

(E) Narrow-Mouth Type 304 Stainless Steel with Handles and Cover— Also known as milk cans, these have a 13-ga. bottom ring for extra support. Cover has a tight friction fit and comes with two 7/16″ dia. holes for attaching a tag. Satin finish.

(F) Type 316L Stainless Steel with Handles and Clamp-Down Cover— Clamps hold the cover down for a tight seal, and the cover also has a removable silicone rubber gasket. Polished finish.

(G) Type 316L Stainless Steel with Handles and Lock-Ring Cover— Cover has a locking ring for a tight seal and a removable silicone gasket. Cans are stackable when used with cover. Polished finish.

Cap., gal.	Top OD	O'all Ht.	Batch Cans Gauge	Each	Optional Covers Gauge	Each
(A) Food-Grade Aluminum with Handles						
2½	10″	8″	8 4177T61	$58.27	14 4177T71	$16.09
5	12 3/16″	11″	8 4177T64	85.33	14 4177T74	21.76
10	15½″	14¾″	8 4177T67	140.57	14 4177T77	30.42
15	17¾″	16¼″	8 4177T68	207.55	14 4177T78	41.62
(B) Food-Grade 300 Series Stainless Steel						
1¼ qt.	4⅛″	5¾″	24 4173T11	20.31	24 4173T21	11.60
2 qt.	4⅞″	6¾″	24 4173T12	24.00	24 4173T22	12.40
3½ qt.	6⅛″	7¼″	24 4173T13	28.11	24 4173T23	13.80
1 1/16	6½″	7⅝″	22 4173T14	30.31	24 4173T24	15.11
1½	7¼″	8⅝″	22 4173T15	40.00	24 4173T25	17.00
2 1/16	8″	9¾″	22 4173T16	47.80	24 4173T26	17.60
3	9″	10⅞″	22 4173T17	61.60	24 4173T27	20.91
(C) Food-Grade 300 Series Stainless Steel with Handles						
3	10⅜″	8⅞″	20 4173T82	112.09	24 4173T92	34.91
4	12¼″	9″	20 4173T83	135.53	24 4173T93	51.71
5	12¼″	11″	20 4173T84	139.71	24 4173T93	51.71
6	12¼″	13″	20 4173T85	149.89	24 4173T93	51.71
9½	13⅞″	15¾″	20 4173T86	199.60	22 4173T96	69.11
15	16″	18″	18 4182T37	371.50	24 4182T47	68.77

Cap., gal.	Top OD	O'all Ht.	Batch Cans Gauge	Each	Optional Covers Gauge	Each
(D) Heavy Duty Type 304 Stainless Steel with Handles						
5½	12″	11½″	18 4174T43	$647.95	18 4174T63	$268.91
10 13/16	14¼″	17½″	16 4174T44	683.33	18 4174T64	279.63
16	17″	17½″	16 4174T45	754.10	18 4174T65	302.52
21	17″	23½″	16 4174T46	823.63	18 4174T66	302.52
26	19¼″	23½″	16 4174T47	897.74	18 4174T67	345.41
32	21⅛″	23½″	16 4174T48	1,099.97	18 4174T68	369.75
(E) Narrow-Mouth Type 304 Stainless Steel with Handles and Cover						
5	7½″	19¾″	20 4078T3	215.25	—	—
10	7½″	23¾″	18 4078T2	242.08	—	—
(F) Type 316L Stainless Steel with Handles and Clamp-Down Cover						
1 3/32	7⅝″	7⅛″	23 41815T8	358.33	—	—
1 13/16	8 13/16″	8¼″	23 41815T9	431.43	—	—
2⅝	10″	9 7/16″	23 41815T2	487.33	—	—
5 5/16	12½″	11 13/16″	21 41815T3	610.61	—	—
9½	14 15/16″	14 3/16″	20 41815T4	863.85	—	—
15 15/16	17 13/16″	17¾″	20 41815T5	1,218.12	—	—
(G) Type 316L Stainless Steel with Handles and Lock-Ring Cover						
5 5/16	12½″	11 13/16″	21 41815T13	826.41	—	—
9½	14 15/16″	14 3/16″	20 41815T14	1,061.52	—	—

Steel Drums



Open Head with Nut-and-Bolt Closing Ring and Solid Cover



Open Head with Leverlock Closing Ring and Cover with Two Openings



Closed Head with Two Openings

All drums are UN-compliant for shipping and have a black finish. The covers, where applicable, are white. All covers for ***open-head drums*** come with EPDM gaskets. ***Covers with two openings*** and all ***closed-head drums*** have one 3/4" NPS and one 2" NPS opening with steel plugs. ***Corrosion-resistant drums*** have an epoxy phenolic lining on the inside of the drum.

Cap., gal.	Top OD	O'all Ht.	Body Ga.	Closing Ring Ga.	Specifications Met		Each
Open-Head Drums							
With Nut-and-Bolt Closing Ring and Solid Cover							
55	23 1/2"	34 3/4"	20	12	UN1A2/Y425/S; UN1A2/Y1.2/100	4115T68	$101.85
55	23 1/2"	34 3/4"	18	12	UN1A2/X400/S; UN1A2/Y1.5/150	4115T13	122.22
55	23 1/2"	34 3/4"	16	12	UN1A2/X430/S; UN1A2/Y1.5/175	4115T46	125.00
30	19 1/4"	29"	18	12	UN1A2/X235/S; UN1A2/Y1.5/150	4115T61	94.17
20	19 1/4"	21 1/2"	18	12	UN1A2/X220/S; UN1A2/Y1.5/150	4115T51	89.04
16	14 5/8"	27 1/8"	20	13	UN1A2/X200/S; UN1A2/Y1.5/150	4115T83	72.21
10	14 5/8"	18 7/8"	20	13	UN1A2/X120/S; UN1A2/Y1.8/150	4115T12	70.46
With Nut-and-Bolt Closing Ring and Cover with Two Openings							
55	23 1/2"	34 3/4"	20	12	UN1A2/Y425/S; UN1A2/Y1.2/100	4115T18	102.19
55	23 1/2"	34 3/4"	20	12	UN1A2/Y425/S; UN1A2/Y1.2/100	4115T24▲	109.82
30	19 1/4"	29"	18	12	UN1A2/X235/S; UN1A2/Y1.5/150	4115T22	93.53
With Leverlock Closing Ring and Solid Cover							
55	23 1/2"	34 3/4"	20	12	UN1A2/Y425/S; UN1A2/Y1.2/100	4115T28	112.74
30	19 1/4"	29"	18	12	UN1A2/X235/S; UN1A2/Y1.5/150	4115T29	94.55
20	19 1/4"	21 1/2"	18	12	UN1A2/X220/S; UN1A2/Y1.5/150	4115T34	88.36
16	14 5/8"	27 1/8"	20	13	UN1A2/Y200/S; UN1A2/Y1.5/150	4115T39	72.21
10	14 5/8"	18 7/8"	20	13	UN1A2/X120/S; UN1A2/Y1.5/150	4115T43	70.46
With Leverlock Closing Ring and Cover with Two Openings							
55	23 1/2"	34 3/4"	20	12	UN1A2/Y425/S; UN1A2/Y1.2/100	4115T44	110.96
30	19 1/4"	29"	18	12	UN1A2/X235/S; UN1A2/Y1.5/150	4115T45	95.26
Corrosion-Resistant Open-Head Drums							
With Nut-and-Bolt Closing Ring and Cover with Two Openings							
55	23 1/2"	34 3/4"	20	12	UN1A2/Y425/S; UN1A2/Y1.2/100	4115T49	118.92
30	19 1/4"	29"	18	12	UN1A2/X235/S; UN1A2/Y1.5/150	4115T53	111.21
With Leverlock Closing Ring and Solid Cover							
55	23 1/2"	34 3/4"	20	12	UN1A2/Y425/S; UN1A2/Y1.2/100	4115T54	120.91
30	19 1/4"	29"	18	12	UN1A2/X235/S; UN1A2/Y1.5/150	4115T55	100.43
Closed-Head Drums							
With Two Openings							
55	23"	35 1/4"	20	—	UN1A1/X1.6/300	4115T38	93.86
55	23"	35 1/4"	16	—	UN1A1/X1.8/300	4115T59	132.40
30	18 3/4"	29 1/2"	20	—	UN1A1/X1.8/300	4115T621	91.81
20	18 3/4"	21 3/4"	20	—	UN1A1/X1.2/300	4115T52	79.07
16	14 1/4"	27 1/4"	20	—	UN1A1/X1.4/250	4115T63	61.25
10	14 1/4"	19 1/4"	20	—	UN1A1/X1.4/250	4115T64	57.99
Corrosion-Resistant Closed-Head Drums							
With Two Openings							
55	23"	35 1/4"	16	—	UN1A1/X1.8/300	4115T66	138.16
30	18 3/4"	29 1/2"	20	—	UN1A1/X1.8/300	4115T671	93.57

▲Also includes one 2" NPT opening 4" from the bottom of the drum.

Replacement Parts

Cap., gal.	***STEEL COVERS WITH EPDM GASKET*** 18-Ga. Solid Cover	Each	16-Ga. Solid Cover	Each	18-Gauge with 3/4" and 2" NPS Openings	Each	EPDM Gaskets	Each	12-Ga. Steel Nut-and-Bolt Closing Rings	Each	13-Ga. Steel Leverlock Closing Rings	Each
55	4115T35	$27.00	4115T93	$31.55	4115T272	$28.69	4392T72	$11.60	4115T92	$14.00	4482T94	$22.80
30, 20	4115T27	25.50	4115T36	28.80	4115T75	28.00	4115T32	8.70	4115T82	11.84	4115T79	21.50
16, 10	4115T831	19.80	—	—	—	—	4115T832	4.30	4115T833●	12.20	4482T92	14.10

● 13-gauge steel.

Stainless Steel Drums



Open Head with Nut-and-Bolt Closing Ring and Solid Cover



Closed Head with Two Openings

All drums are UN-compliant for shipping. ***Open-head drums*** have covers with EPDM gaskets. ***Covers with two openings*** and all ***closed-head drums*** come with one 3/4" NPT and one 2" NPT opening with stainless steel plugs.

Cap., gal.	Top OD	O'all Ht.	Body Ga.	Closing Ring Ga.	Specifications Met		Each
Open-Head Drums with Steel Nut-and-Bolt Closing Ring							
Type 304 Stainless Steel with Solid Cover							
55	23"	36 3/4"	18	12	UN1A2/X440/S; UN1A2/Y1.5/150	4392T47	$757.26
55	23"	36 3/4"	16	12	UN1A2/X430/S; UN1A2/Y1.5/200	4392T36	835.87
30	18 3/4"	29"	18	12	UN1A2/X225/S; UN1A2/Y1.5/150	4392T35	594.14
20	18 3/4"	21 1/2"	18	12	UN1A2/X160/S; UN1A2/Y1.5/150	4392T54	532.94
16	14 5/8"	27 1/8"	20	13	UN1A2/X200/S; UN1A2/Y1.5/150	4392T69	424.42
10	14 5/8"	18 7/8"	20	13	UN1A2/X120/S; UN1A2/Y1.8/150	4392T64	381.42
8	14 1/4"	16"	20	13	UN1A2/X96/S; UN1A2/Y1.8/150	4392T65	350.24
Type 304 Stainless Steel with Cover with Two Openings							
55	23"	36 3/4"	16	12	UN1A2/X430/S; UN1A2/Y1.5/200	4392T48	947.22
30	18 3/4"	29"	18	12	UN1A2/X225/S; UN1A2/Y1.5/150	4392T49	646.37
Type 316 Stainless Steel with Cover with Two Openings							
55	23"	36 3/4"	16	12	UN1A2/X430/S; UN1A2/Y1.5/200	4392T58	1,120.87
30	18 3/4"	29"	18	12	UN1A2/X225/S; UN1A2/Y1.5/150	4392T59	805.86
Closed-Head Drums							
Type 304 Stainless Steel with Two Openings							
55	23 1/2"	36 3/4"	18	—	UN1A1/X1.8/300	4392T38	691.34
30	19 1/4"	29"	18	—	UN1A1/X1.2/300	4392T66	609.84
20	19 1/4"	21 1/2"	18	—	UN1A1/X1.2/300	4392T67	541.73
16	14 5/8"	27 1/8"	20	—	UN1A1/X1.2/250	4392T75	489.17
10	14 5/8"	18 7/8"	20	—	UN1A1/X1.4/250	4392T71	467.42
Type 316 Stainless Steel with Two Openings							
55	23 1/2"	36 3/4"	18	—	UN1A1/X1.8/300	4392T73	988.10
30	19 1/4"	29"	18	—	UN1A1/X1.2/300	4392T74	801.19

USDA-Compliant Stainless Steel Drums

In addition to being corrosion resistant, these drums have smooth, welded seams to prevent food and chemicals from collecting in crevices. The top rim is reinforced with a ½″ dia. rod and sealed.

Drums with Protective Bottom Ring— Bottom ring minimizes wear and tear on the bottom of the drum when sliding drum along the floor.

Optional covers are 16-gauge stainless steel and loose fitting.

Optional covers with leverlock closing ring are 16-gauge stainless steel and include an FDA-compliant sponge-rubber gasket.



Drum with Two Handles and Optional Cover with Leverlock Closing Ring



Drum with Protective Bottom Ring

Cap., gal.	Top OD	O'all Ht.	Drums Gauge	Drums Each	Optional Covers	Optional Covers Each	Optional Covers with Leverlock Closing Ring	Optional Covers with Leverlock Closing Ring Each
Drums with Two Handles								
Type 304 Stainless Steel								
58	25¼″	30″	16	4562T25	$849.95	4562T35	$284.90	4562T46	$399.87
49	23¼″	30″	16	4562T24	823.68	4562T34	269.25	4562T45	382.24
40	21¾″	30″	16	4562T23	802.83	4562T33	263.68	4562T42	366.62
33	19¼″	30″	16	4562T22	756.94	4562T32	255.40	4562T41	340.89
Type 316 Stainless Steel								
58	25¼″	30″	16	4562T51	983.90	4562T61	392.22	4562T71	525.60
Drums with Protective Bottom Ring								
Type 304 Stainless Steel								
55	23¼″	34″	14	4562T27	1,454.32	4562T34	269.25	4562T45	382.24
30	19¼″	30″	14	4562T26	1,305.72	4562T32	255.40	4562T41	340.89
Type 316 Stainless Steel								
55	23¼″	34″	14	4562T52	1,616.19	4562T62	381.35	4562T72	503.43

UN-Compliant Plastic Drums

Choose these UN-compliant drums for shipping hazardous materials. All are made of FDA-compliant resins, except the black closed-head drums. All drums have two openings with plastic plugs. Max. temperature is 158° F. **To Order:** Please specify color, where applicable.

Open-head drums come with a cover with steel leverlock closing ring or steel nut-and-bolt closing ring. Cover has a urethane gasket.

Closed-head drums with one or ***two handles*** are easy to move when empty.

Note: In hot-fill applications, allow contents to cool to ambient temperature before stacking.



Standard Open Head with Leverlock Closing Ring



Standard Closed Head



Closed Head with Two Handles

Cap., gal.	Top OD	O'all Ht.	Wall Thick.	Top Openings, Thread Size (Qty.)	Specifications Met	Available Colors	Each
Open-Head Drums							
Standard with Leverlock Closing Ring							
55	21″	36⅜″	3/16″	2″ NPT (2)	UN1H2/Y250/S, UN1H2/X200/S	Black, Blue, Translucent White, Yellow	43235T7 $103.79
30	19⁵/16″	29⅜″	⅛″	¾″ NPS (1), 2″ NPS (1)	UN1H2/Y180/S	Blue, Translucent White	43235T11 74.66
Standard with Nut-and-Bolt Closing Ring							
55	21″	36⅜″	3/16″	2″ NPT (2)	UN1H2/Y250/S, UN1H2/X200/S	Black, Blue, Translucent White, Yellow	43235T31 103.79
Nestable with Leverlock Closing Ring							
55	24″	39⁹/16″	3/16″	¾″ NPT (1), 2″ NPT (1)	UN1H2/Y250/S, UN1H2/X200/S	Black, Blue, Translucent White, Yellow	43235T23 109.89
30	21⅛″	28½″	3/16″	2″ NPT (2)	UN1H2/Y180/S, UN1H2/X120/S	Black, Blue, Translucent White, Yellow	43235T9 71.40
14	15″	26½″	3/16″	2″ NPT (1)	UN1H2/Y100/S, UN1H2/X65/S	Black, Blue, Translucent White, Yellow	43235T47 53.00
Nestable with Nut-and-Bolt Closing Ring							
55	24″	39⁹/16″	3/16″	¾″ NPT (1), 2″ NPT (1)	UN1H2/Y250/S, UN1H2/X200/S	Black, Blue, Translucent White, Yellow	43235T35 109.89
30	21⅛″	28½″	3/16″	2″ NPT (2)	UN1H2/Y180/S, UN1H2/X120/S	Black, Blue, Translucent White, Yellow	43235T34 71.40
14	15″	26½″	3/16″	2″ NPT (1)	UN1H2/Y100/S, UN1H2/X65/S	Black, Blue, Translucent White, Yellow	43235T48 53.00
Closed-Head Drums							
Standard							
55	23⁵/16″	34¹³/16″	⅛″	2″ NPS (1), 2″ BTR ★ (1)	UN1H1/Y1.9/150	Black, Blue, Translucent White	43235T5 79.33
30	19½″	29⅝″	⅛″	2″ NPS (1), 2″ BTR ★ (1)	UN1H1/Y1.9/150	Black, Blue, Translucent White	43235T8 66.69
With One Handle							
15	14⅜″	26⁵/16″	⅛″	¾″ NPS (1), 2″ NPT (1)	UN1H1/Y1.9/100	Translucent White	4119T8 36.50
With Two Handles							
15	16″	20⅝″	⅛″	2″ NPS (1), 2″ BTR ★ (1)	UN1H1/Y2.0/150	Black, Blue, Translucent White	4119T5 44.64
15	15⅝″	25½″	⅛″	2″ BTR ★ (1)	UN1H1/X1.9/320	Black	4119T2 49.70

★ BTR = Buttress thread.

Fiber Drums



Round All-Fiber Drum for Dry Materials



Square All-Fiber Drum for Dry Materials



Fiber Drum for Dry Materials with Galvanized Steel Rims



Fiber Drum for Liquid and Dry Materials with Galvanized Steel Rims

Our lightweight fiber drums are an economical choice for your storing and shipping needs. All are tan and not rated for temperature. All drums that meet UN specifications are UN-compliant for shipping.

32415T43 has a two-piece body with a separate lid. Good for fluorescent-bulb recycling, drum holds approximately 85 bulbs that are 1″ in diameter.

Fiber drums for liquid and dry materials with galvanized steel rims come with a 0.004″ thick polyethylene liner. The cover with leverlock closing ring comes with a urethane gasket and two openings (one ¾″ NPS and one 2″ NPS).

Cap., gal.	Cap., lbs.	Top Size	O'all Ht.	Specifications Met		Each
All-Fiber Drums for Dry Materials						
Round with Snug Fiber Cover						
55	400	21½″ dia.	35″	—	32415T35	$40.36
39	225	15½″ dia.	48″	—	32415T43	37.30
30	400	18½″ dia.	25¾″	—	32415T32	29.16
17½	225	15½″ dia.	21½″	—	32415T31	18.93
13	225	14″ dia.	19½″	—	32415T44	16.29
8	150	11¼″ dia.	19½″	—	32415T46	13.02
Square with Snug Fiber Cover						
55	400	22½″ sq.	29½″	—	32415T37	46.47
30	300	18″ sq.	23½″	—	32415T62	33.28
15	225	15½″ sq.	16½″	UN1G/Y75/S	32415T53	20.92
Fiber Drums for Dry Materials with Galvanized Steel Rims						
Round with Steel Cover with Leverlock Closing Ring						
55	300	22⅜″ dia.	35½″	—	4142T4	47.58
55	500	22⅜″ dia.	35½″	UN1G/Y235/S	4142T15	51.24
55	550	22⅜″ dia.	35½″	—	4142T6	57.76
47	400	22⅜″ dia.	31″	—	4142T7	44.39
41	300	20⅞″ dia.	31″	—	4142T8	42.17
30	225	19⅜″ dia.	27″	—	4142T3	34.78
20	225	16⅜″ dia.	25½″	—	4142T9	27.89
15	225	14⅞″ dia.	23½″	—	4142T12	26.37
Fiber Drums for Liquid and Dry Materials with Galvanized Steel Rims						
Round with White Polyethylene Cover with Leverlock Closing Ring						
55	600	22⅜″ dia.	38 1/16″	—	4142T2	79.47
30	600	19⅜″ dia.	28¾″	—	4142T1	66.00

Salvage/Overpack Drums



Steel Drum with Leverlock Closing Ring



Mobile Polyethylene Drum

Perfect not only for secondary containment, but also for temporarily storing and transporting leaking containers. All drums are UN-compliant for shipping.

Steel drums come with a rust-inhibitive coating. All are yellow with a red cover with EPDM gasket, unless noted. All come printed with "Salvage Drum."

Polyethylene drums are nestable. Drums and covers are yellow. Covers screw on and have a neoprene gasket. *Mobile drum* comes with two 6″ dia. polyolefin wheels and has a load capacity of 250 lbs.

Steel Drums

For Drum Size, gal.	Cap., gal.	Top OD	O'all Ht.	Inside Dia.	Inside Ht.	Gauge, Body/Ring	Specifications Met		Each
With Nut-and-Bolt Closing Ring									
85	110	31″	42½″	30″	41″	16/12	UN1A2/Y409/S	4482T23	$401.79
55	96	27″	42¾″	26″	41″	16/12	UN1A2/X440/S	4482T24	201.79
30 and 16	55	23″	36¾″	22½″	33″	16/12	UN1A2/X430/S; UN1A2/Y1.5/175	4482T16	131.47
15 and 8	30	18¾″	29″	18¼″	27½″	18/12	UN1A2/X235/S; UN1A2/Y1.5/150	4482T28	104.87
10 and 5	20	18¾″	21½″	18¼″	19¼″	18/12	UN1A2/X220/S; UN1A2/Y1.5/150	4482T29	87.14
5	10	14¼″	19¼″	14″	17″	20/13	UN1A2/X120/S; UN1A2/Y1.8/150	4482T47	75.30
1	8	14¼″	16″	14″	14″	20/13	UN1A2/X96/S; UN1A2/Y1.8/150	4482T31	68.87
With Leverlock Closing Ring									
55	85	27″	38⅞″	26″	37″	16/12	UN1A2/X440/S; UN1A2T/Y320/S	4482T61	187.50
55	85	27″	38⅞″	26″	37″	18/12	UN1A2/X440/S; UN1A2T/Y320/S	4482T82 ●	166.07
30 and 16	55	23″	36½″	22½″	33″	16/12	UN1A2/X430/S; UN1A2/Y1.4/175	4482T87	148.03
15 and 8	30	18¾″	28⅝″	18¼″	27½″	18/12	UN1A2/X235/S; UN1A2/Y1.5/150	4482T84	113.61
10 and 5	20	18¾″	21¼″	18¼″	19¼″	18/12	UN1A2/X220/S; UN1A2/Y1.5/150	4482T85	101.77
5	10	14¼″	18⅞″	14″	17″	20/13	UN1A2/X120/S; UN1A2/Y1.5/150	4482T86	77.97

Polyethylene Drums

For Drum Size, gal.	Cap., gal.	Top OD	O'all Ht.	Inside Dia. Top	Inside Dia. Bottom	Inside Ht.	Wall Thick.	Specifications Met		Each
Stationary										
55	105	31⅜″	45″	27⅛″	25″	42″	¼″	UN1H2/X295/S	4059T32	$259.31
55	95	31⅜″	41½″	27″	24¾″	37″	¼″	UN1H2/X227/S	4059T34	180.36
30	65	27¾″	37½″	23¾″	22″	34¼″	¼″	UN1H2/X200/S	4059T35	162.50
16	30	22¼″	30″	21½″	17″	28⅛″	⅛″	UN1H2/X100/S	9858T51	69.32
5	20	22⅜″	18⅞″	21 9/16″	17¼″	17⅜″	⅛″	UN1H2/X75/S	9858T53	53.23
Mobile										
55	95	31⅜″	47½″	27¼″	24¾″	38½″	¼″	UN1H2/X113/S	4059T31	234.82

● Cover is yellow.

Drum Locks



For Open Head



For Closed Head

Secure 30- and 55-gal. steel drums. Padlock required (maximum shackle dia. of 5/16″).

Bolt for Open-Head Drums— Replace the standard ⅝″-11 bolt on the drum closing ring and lock.

1900A42 ..... **Each** $72.30

Bar for Closed-Head Drums— Replace plugs on ¾″ and 2″ drum openings with plugs and Buna-N and polyethylene gaskets. Slide the bar through the hole in each plug and lock.

1900A41 ..... **Each** $77.16

Locking Drum Fill Caps



NPT Male

Prevent tampering with the contents of your tank while allowing access for filling. Padlock required (maximum shackle diameter of 5/16″). Made of cast iron. Not rated for temperature.

Pipe Size	O'all Ht.	Dia.		Each
2″ NPT Male	2½″	3 5/16″	4906K21	$21.98
2″ NPT Female	1⅝″	3¼″	4906K23	23.87
3″ NPT Female	2⅛″	5 1/16″	4906K27	53.84
4″ NPT Female	2¼″	5 15/16″	4906K29	71.96

Drum Vents

Prevent drum failure by using these vents to release pressure and vacuum buildup caused by draining liquids and sudden temperature changes. In case of fire, a flame arrester prevents flashback into the drum. FM approved.

(A) Automatic pressure and manual vacuum relief vents open when internal pressure reaches 5 psi. A knob on top of the vent allows manual vacuum relief. Vents end mount on horizontal drums.

(B-E) Automatic pressure and vacuum relief vents open when internal pressure or vacuum reaches 5 psi. Vents top mount on vertical drums. *Style D* has a removable cap so vent can be used as a fill opening. It also has a 6″ long flame arrester. *Style E* comes with two carbon filters. Each filter traps 99% of vapors.



Thread Size, male	Material: Vent	Material: Flame Arrester	Material: Gasket		Each
Automatic Pressure and Manual Vacuum Relief Vents					
A 2″ NPS	Brass	Brass	Buna-N	9851T12	$51.56
A 2″ NPS	Type 316 Stainless Steel	Type 304 Stain. Steel	Fluoroelastomer	9851T13	155.26
Automatic Pressure and Vacuum Relief Vents					
B 2″ NPT	Polyethylene	Zinc-Plated Steel	Buna-N	4488T67	42.37
B 2″ NPS	Polyethylene	Type 304 Stain. Steel	Buna-N	4488T68	74.72
C 2″ NPS	Brass	Brass	Buna-N	4458T1	88.89
D 2″ NPS	Brass	Brass	Buna-N	3988T15	98.99
E 2″ NPS	Brass	Brass	Buna-N	6152T73	195.10

Drum Liners



Why waste time cleaning drums? Simply use one of these liners and then dispose of it. All are made of FDA-compliant resins, except Styles J and K. All antistatic liners (Styles G, M, and Q) have a surface resistivity of 10^{11} ohms/sq. The conductive liners (Style K) have a surface resistivity of 10^{3} to 10^{5} ohms/sq.

For Drum Cap., gal.	Thick., mils	Dia.	Ht.	Max. Temp.		Each
Flexible, Seamed Liners—*Similar to plastic garbage bags*						
(F) Round-Bottom Polyethylene—*Translucent*						
85	8	44″	72″	175°F	9772T12	$7.42
55	4	22½″	56″	200°F	9772T38	4.57
55	4	22½″	40″	200°F	9772T31	3.58
55	8	22½″	56″	200°F	9772T39	8.14
55	8	22½″	40″	200°F	9772T32	6.74
55	10	22½″	56″	200°F	9772T29	8.13
55	10	22½″	40″	200°F	9772T33	7.72
30	4	19″	36″	200°F	9772T36	3.46
30	8	19″	36″	200°F	9772T37	4.92
15	4	16″	36″	200°F	9772T35	3.44
(G) Antistatic Round-Bottom Polyethylene—*Translucent pink*						
55	4	23 5/16″	56″	175°F	9772T46	6.20
55	8	23 5/16″	56″	175°F	9772T47	10.78
30	8	20″	36″	175°F	9772T45	7.33
16	4	14″	36″	175°F	9772T43	5.61
(H) High-Temperature Round-Bottom Polypropylene—*Translucent*						
55	4	22½″	40″	280°F	9772T48	17.34
(J) Chemical-Resistant Round-Bottom PVC—*Translucent*						
55	8	24″	52″-54″	150°F	9772T15	22.32
55	20	24″	52″-54″	150°F	9772T16	37.28
55	40	24″	38″-40″	150°F	9772T17	53.58
30	8	18″	52″-54″	150°F	9772T18	21.70
(K) Conductive Straight-Bottom Polyethylene—*Black*						
55	4	23¾″	60″	175°F	9772T25	11.69
30	4	18¾″	38″	175°F	9772T53	6.43
Rigid, Seamless Liners—*Conform to the sides of your drum*						
(L) Smooth-Wall Polyethylene—*Translucent*						
55	15	22½″	34¼″	175°F	9772T51	11.78
55	24	22½″	34¼″	175°F	9772T63	16.98
30	15	18 5/16″	28½″	175°F	9772T61	10.10
30	24	18 5/16″	28½″	175°F	9772T62	12.49
(M) Antistatic Smooth-Wall Polyethylene—*Translucent pink*						
55	15	22½″	34¼″	175°F	9772T28	13.86
30	15	18 5/16″	28½″	175°F	9772T27	11.78
(N) High-Temperature Smooth-Wall Polypropylene—*Translucent*						
55	15	22½″	34¼″	270°F	9772T34	18.59
(P) Pleated-Wall Polyethylene—*Translucent*						
55	15	22½″	33″-34½″	175°F	9772T13	10.29
(Q) Antistatic Pleated-Wall Polyethylene—*Translucent pink*						
55	15	22½″	33″-34½″	175°F	9772T23	13.92

Protective Drum Covers



For Open-Head Drums with Nut-and-Bolt Closing Ring | ***For Open-Head Drums without Closing Ring*** | ***For Closed-Head Drums***

You may not be able to save your drums from dings, but you can protect your drum lids and heads from damage with these drum covers.

Polyethylene covers are 40-mils thick. Max. temperature is 175° F.

Galvanized steel covers have a beaded rim. Made of 26-ga. steel.

For Drum Cap., gal.	Cover ID	Material	Color		Each
For Open-Head Drums with Nut-and-Bolt Closing Ring					
55	23⅜″	Polyethylene	Black	4503T12	$8.78
55	23⅜″	Polyethylene	Clear	4503T26♣	8.78
55	23½″	Polyethylene	Gray	4503T18	13.41
For Open-Head Drums without Closing Ring					
55	23⅜″	Polyethylene	Gray	4503T19	13.41
55	24½″	Galvanized Steel	———	4503T22	18.30
For Closed-Head Drums					
55	22¾″	Polyethylene	Black	4503T14	8.78
55	22¾″	Polyethylene	Clear	4503T25♣	8.78
55	22⅝″	Polyethylene	Gray	4503T16	13.41
55	23⅞″	Galvanized Steel	———	4503T21	17.15
30	18½″	Polyethylene	Gray	4503T15	12.15

♣ Made from FDA-compliant resins

Dust Caps for Drums



Polyethylene dust caps are made from FDA-compliant resins. *Antistatic polyethylene dust caps* have a surface resistivity of 10^{11} ohms/sq.

For Drum Cap., gal.	Thick., mils	Color	Max. Temp.	Pkg. Qty.		Per Pkg.
Polyethylene						
55	4	Clear	175°F	5	4104T5	$11.52
8-30	4	Clear	175°F	5	4104T4	12.15
Antistatic Polyethylene						
55	4	Pink	175°F	5	4104T8	11.89
8-30	4	Pink	175°F	5	4104T7	12.61
Chemical-Resistant PVC						
55	8	Clear	Not rated	1	4104T9	9.27
55	8	Translucent	Not rated	1	4104T2	9.41

Strainers for Drums and Pails



Keep unwanted particles out of your drums and pails. Strainers have a white polyethylene frame. Max. temperature is 180° F. Fine mesh (31×58) is nylon; coarse mesh (24×27) is polyester. Mesh thickness is 28 mils.

Fits	ID	OD	Ht.	Fine Mesh Each	Coarse Mesh	Coarse Mesh Each
55-gal. Drum	22⅜″	23½″	6″	2778T34 $13.29	2778T31	$13.41
5-gal. Pail	10 11/16″	11¾″	4″	2778T14 4.40	2778T11	4.67

Metal Drum Faucets



All of these faucets are primarily used on drums, but can also be used on tanks, carboys, and other containers. If your drum has a 2″ Buttress or Mauser thread, see page 1745 for drum thread adapters. If you would like to add a threaded outlet to your drum, see page 112 for through-wall fittings.

(C) Cast Iron Drum Faucet with 2″ Handle and 360° Adjustable Spigot— Has a locknut with a rubber gasket that allows you to position the faucet in any direction. Locknut and gasket also provides a tight seal, even on drums with oversized or damaged threads.

	Inlet	Outlet	Materials in Contact with Solution	Lockable	Max. Shackle Dia.		Each
Cast Iron Drum Faucets—2″ Handle							
A	3/4″ NPT male	1 1/16″ unthreaded	Cast Iron, Brass	Yes	5/16″	4580T2	$33.15
A	1 1/2″ NPT male	1 1/2″ unthreaded	Cast Iron, Brass	Yes	5/16″	4580T5	41.60
A	2″ NPT male	1 11/16″ unthreaded	Cast Iron, Brass	Yes	5/16″	4580T6	44.64
A	3″ NPT male	2 3/8″ unthreaded	Cast Iron, Brass	No	—	4580T7	118.65
Cast Iron Drum Faucets—4″ Handle							
B	2″ NPT male	1 11/16″ unthreaded	Cast Iron, Brass	Yes	5/16″	4580T11	75.81
B	3″ NPT male	2 3/8″ unthreaded	Cast Iron, Brass	No	—	4580T12	124.37
B	4″ NPT male	4″ unthreaded	Cast Iron, Brass	No	—	4580T8	242.23
Cast Iron Drum Faucet 360° Adjustable Spigot							
C	2″ NPT male	1 11/16″ unthreaded	Cast Iron, Brass	Yes	5/16″	4580T15	59.96
Brass Drum Faucets							
D	3/4″ NPT male	3/4″ NPSH★ male	Brass	Yes	7/16″	4450T4	51.40
D	3/4″ NPT male	3/4″ NPT female	Brass	Yes	7/16″	4450T1	44.80
Brass Drum Faucets with Ball Valve							
E	3/4″ NPT male	3/4″ NPT female	Brass, Chrome-Plated Brass, PTFE	Yes	9/32″	3975T4	40.97
E	1″ NPT male	1″ NPT female	Brass, Chrome-Plated Brass, PTFE	Yes	9/32″	3975T5	57.51
Aluminum Drum Faucets							
F	3/4″ NPT male	1 1/16″ unthreaded	Aluminum, Brass	Yes	5/16″	4435T11	47.02
F	2″ NPT male	1 11/16″ unthreaded	Aluminum, Brass	Yes	5/16″	4435T15	60.88

★ National Pipe Straight Hose.

Self-Closing Drum Faucets

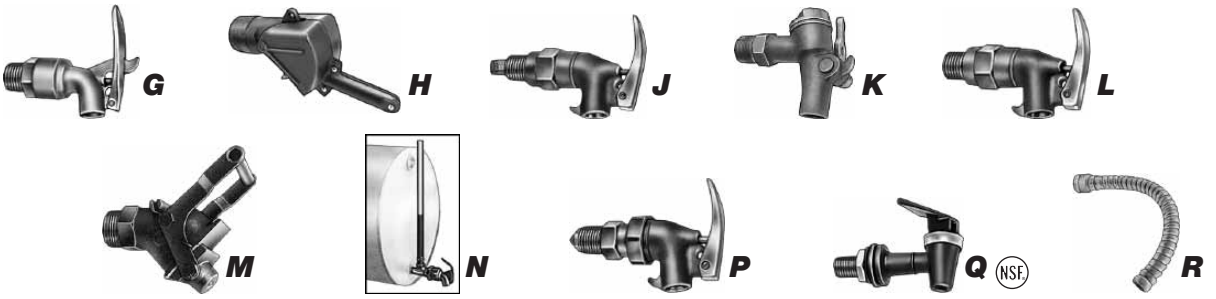

Simply push or pull the faucet handle to open, and then release to close—it's that quick and easy. These faucets are primarily used on drums, but can also be used on tanks, carboys, and other containers.

If your drum has a 2″ Buttress or Mauser thread, see page 1745 for drum thread adapters. If you would like to add a threaded outlet to your drum, see page 112 for through-wall fittings.

	Inlet, male	Outlet	Materials in Contact with Solution	Approvals	Flame Arrester	Lockable	Max. Shackle Dia.		Each
Die Cast Zinc Drum Faucets									
G	3/4″ NPT	3/4″ unthreaded	Zinc, Acetal	—	No	Yes	9/32″	9895T22	$15.96
G	3/4″ NPT	3/4″ unthreaded	Zinc, Acetal, Type 304 SS	—	Yes	Yes	9/32″	9895T21	28.55
Cast Iron Drum Faucets									
H	2″ NPT	1 11/16″ unthreaded	Cast Iron, Brass	—	No	Yes	5/16″	3981T11	122.52
Brass Drum Faucets									
J	3/4″ NPT	13/16″ female UNF●	Brass, PTFE, Nylon, Type 304 SS	FM	Yes	Yes	5/16″	9014T11	52.80
K	3/4″ NPT	3/4″ unthreaded	Brass, Buna-N, PTFE, Type 302 SS	UL Listed	No	Yes	3/8″	8988T11	70.39
Brass Drum Faucets for Viscous Fluids— *For fluids above 2000 SSU (approximately 30W oil).*									
L	3/4″ NPT	13/16″ female UNF●	Brass, PTFE, Nylon, Type 304 SS	FM	No	Yes	5/16″	40055T18	42.30
M	2″ NPT	1 5/8″ unthreaded	Brass, PTFE, Type 304 SS	FM	No	No	—	9004T1	178.05
Brass Drum Faucet with Liquid Level Gauge— *Max. temperature is 225°F.*									
N	3/4″ NPT	13/16″ unthreaded	Brass, Zinc-Plated Iron, Buna-N, Glass, Type 300 SS	—	No	Yes	9/32″	4338T1	128.43
Adjustable Brass Drum Faucet— *Outlet can be adjusted to a downward position.*									
P	3/4″ NPT	13/16″ female UNF●	Brass, PTFE, Type 304 SS	FM	Yes	Yes	5/16″	9014T13	53.86
Adjustable Type 316 Stainless Steel Drum Faucet— *After tightening, if necessary, the outlet can be adjusted to a downward position.*									
P	3/4″ NPT	13/16″ female UNF●	PTFE, Type 316 SS, Type 303 SS, Type 304 SS	FM	Yes	Yes	5/16″	9014T14	156.96
Black Polypropylene Faucet— *Primarily used on coffee pots. Max. temperature is 170°F.*									
Q	5/8″-18 UNF●	5/8″ unthreaded	Polypropylene, Silicone Rubber	NSF	No	No	—	9013T11	21.45
Optional Flexible Metal Extensions— *Screw into threaded outlets to prevent hazardous spills.*									
R	8″ Brass Extension for Styles J (9014T11), L (40055T18), and P (9014T13)							9014T12	16.59
R	6″ Stainless Steel Extension for Style P (9014T14)							9014T15	36.43

● Unified National Fine thread.

Polyethylene Drum Faucets



Primarily used on drums, these faucets can also be used on tanks, carboys, and other containers. All faucets are made of FDA-compliant resins, except Style C. Faucets are not lockable.

If your drum has a 2″ Buttress or Mauser thread, see this page for drum thread adapters. If you would like to add a threaded outlet to your drum, see page 112 for through-wall fittings.

	Inlet	Outlet	Materials in Contact with Solution	Max. Temp.		Each
Drum Faucets with Lever Handle						
A	3/4″ NPT male	5/8″ unthreaded	Polyethylene	140° F	4461T2	$2.32
B	2″ NPT male	1 7/8″ unthreaded	Polyethylene, EPDM Gasket	140° F	4461T1	19.56
Drum Faucets with 360° Swivel Spigot and Push/Pull Handle						
C	2″ NPS male	1 3/16″ unthreaded	Polyethylene, Fluoroelastomer O-Ring	140° F	4461T3	32.93
Drum Faucets with Knob Handle						
D	1/2″ NPT male	1/2″ unthreaded	Polyethylene, PTFE O-Ring	176° F	4462T1	60.00
D	3/4″ NPT male	1/2″ unthreaded	Polyethylene, PTFE O-Ring	176° F	4462T2	60.00
E	3/4″ NPT male	3/4″ GHT★ male	Polyethylene, PTFE O-Ring	176° F	4462T4	73.92
Vented Drum Faucet with Lever Handle—*For use with ventless drums.*						
F	3/4″ NPT male	3/4″ unthreaded	Polyethylene, Polypropylene, Rubber	180° F	9886T11	3.44

★ Garden hose thread.

Drum Plugs, Caps, and Gaskets

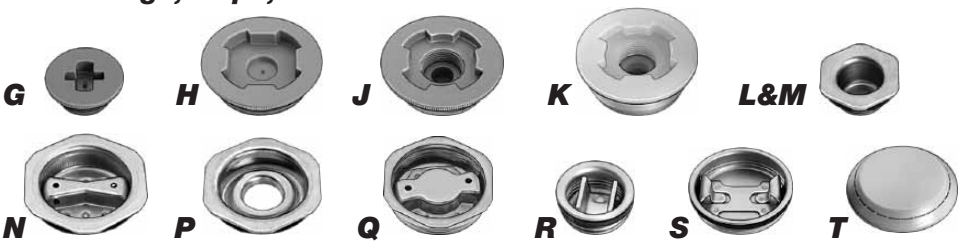

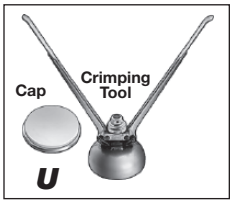

Drum Plugs

For installation and removal of these plugs, see drum-plug wrenches on page 2757.

Styles G-K are made of FDA-compliant resins and have a max. temperature of 125° F. Package quantity is 5. *Polypropylene plugs* are gray, unless noted. *Polyethylene plugs* are white.

	Thread Size, male	Features		Per Pkg.
Polypropylene				
G	3/4″ NPS		8983T41	$6.37
G	3/4″ NPS	Vent ♦	8983T35	10.97
H	2″ NPS		8983T42	13.10
H	2″ NPS	Vent ♦ and EPDM Gasket	8983T36♠	13.30
J	2″ NPS	3/4″ NPS Female Faucet Knockout	8983T43	13.45
K	2″ Buttress	3/4″ NPS Female Faucet Knockout	8983T37♠	12.91
Polyethylene				
G	3/4″ NPS		9030T61	6.63
G	3/4″ NPS	Vent ♦	9030T81	11.38
H	2″ NPS		9030T62	13.26
H	2″ NPS	Vent ♦ and EPDM Gasket	9030T82	15.79
J	2″ NPS	3/4″ NPS Female Faucet Knockout	9030T63	13.23
Polyethylene with EPDM Gasket				
K	2″ Buttress	3/4″ NPS Female Faucet Knockout	9030T64	13.26
Zinc-Plated Steel with Buna-N Gasket				Each
L	3/4″ NPS		8983T9	$2.01
M	3/4″ NPS	Vents at 0.5-4 psi for Pressure Relief	8983T55	2.71
M	3/4″ NPS	Vents at 0.5-4 psi for Vacuum Relief	8983T53	2.85
N	2″ NPS		8983T11	3.26
P	2″ NPS	3/4″ NPS Female Reducing Hole	8983T54	8.34
Q	2″ NPS	Vents at 13-15 psi for Pressure Relief	8983T13	15.63
Type 316 Stainless Steel with Buna-N Gasket				
R	3/4″ BSP♣		8983T16	13.20
S	2″ BSP♣		8983T17	18.43

♦ For pressure and vacuum relief. ♠ Color is white.
♣ British Standard Pipe thread.

Drum-Plug Caps

Designed to fit over drum plugs to provide dust protection as well as evidence of tampering. Caps have a breakaway seal and are for one-time use. Color is white.

(T) Snap-on polyethylene caps are simple to use—just apply them by hand.

(U) Crimp-on polyethylene caps with aluminum ring are applied with a crimping tool (sold separately below).

For Plug Style(s)	Plug Size	Max. Temp.	Pkg. Qty.		Per Pkg.
(T) Snap-On Polyethylene Caps					
L and M	3/4″	125° F	10	8983T26	$7.16
N, P, and Q	2″	125° F	10	8983T28	8.80
R	3/4″	125° F	10	8983T27	7.16
S	2″	125° F	10	8983T29	8.80
(U) Crimp-On Polyethylene Caps with Aluminum Ring					
G	3/4″	125° F	10	8983T31	7.16
H, J, and K	2″	125° F	10	8983T32	8.80
Crimping Tool for 8983T31				8983T44 Each	$504.17
Crimping Tool for 8983T32				8983T45 Each	$504.17

Drum-Plug Gaskets

	Max. Temp.	Pkg. Qty.		Per Pkg.
For 3/4″ Plugs				
Polyethylene	350° F	50	8983T25	$9.86
Buna-N	450° F	100	8983T24	10.09
EPDM	450° F	100	8983T51	12.00
For 2″ Plugs				
Polyethylene	350° F	50	8983T23	18.32
Buna-N	450° F	50	8983T34	11.18
EPDM	450° F	50	8983T52	11.17

Drum Opening Thread Adapters and Protectors

Adapters convert drum openings that have 2″ Buttress or Mauser threads to 2″ NPT. Include an EPDM O-ring. Made of FDA-compliant resins.

Protectors cover plastic threads to prevent damage.

	Max. Temp.		Each
Adapters			
Polypropylene 2″ Buttress Male Thread to 2″ NPT Female	155° F	2045T3	$24.23
Polyethylene 2″ Mauser Male Thread to 2″ NPT Female	125° F	2045T5	28.79
Protectors—*2″ NPT Male to 2″ NPT Female*			
Zinc-Plated Steel	275° F	2045T6	46.40
Type 316 Stainless Steel	275° F	2045T7	105.61


Buttress Thread Adapter


Mauser Thread Adapter


Thread Protector

Galvanized Steel Troughs



Round Trough

Durable and corrosion resistant, these troughs have a 3/4" NPT female brass drain with steel plug, unless noted. The 314-gal. trough also has a steel top brace. For water use only.

Cap., gal.	O'all Body Size, Lg. x Wd. ♣	O'all Top Size, Lg. x Wd.	O'all Ht.	Wall Thick.		Each
Oval						
38	44 1/4" x 20 3/8"	46" x 22 1/8"	11 1/2"	22 ga.	3745K18●	$119.24
62	60" x 24 1/8"	61 3/4" x 25 7/8"	11 1/2"	22 ga.	3745K19	150.93
131	60" x 24 1/8"	61 3/4" x 25 7/8"	23 1/8"	22 ga.	3745K12	170.27
195	72" x 30 3/8"	73 3/4" x 32 1/8"	23 1/8"	22 ga.	3745K14	211.02
314	96" x 36 1/4"	97 3/4" x 38"	23 1/8"	22 ga.	3745K17	320.00
Round						
48	36" Dia.	37 3/4" Dia.	11 1/2"	22 ga.	3756K11	151.98
101	36" Dia.	37 3/4" Dia.	23 1/8"	22 ga.	3756K21	158.56

♣ Represents dimensions just below top lip. ● Does not have a drain.

Polyethylene Troughs



A



B *With Optional Cover and Optional Mobile Base*

Polyethylene troughs are built tough so they won't rust, dent, or leak—even when frozen. All are nestable.

(A) Structural-foam troughs have a heavy-wall construction and a 1 1/4" NPT female plastic drain with plug. Max. temperature is 120° F. Color is black.

(B) FDA-compliant trough is ideal for contents where sanitation is important. Made of FDA-compliant resins and meets USDA requirements. Max. temperature is 155° F. Color is white. *Optional cover* is made of white polyethylene. *Optional mobile base* is made of a galvanized steel angle frame and has four 5" dia. phenolic swivel casters. Base adds 6 7/8" to trough height.

Cap., gal.	O'all Body Size, Lg. x Wd. ♣	O'all Top Size, Lg. x Wd.	O'all Ht.	Wall Thick.		Each
(A) Structural-Foam Troughs						
50	49 1/2" x 28 5/16"	52" x 31"	12"	1/4"	3673K49	$152.33
100	49 1/2" x 28 1/2"	53" x 31"	25"	1/4"	3673K52	128.25
150	55" x 36 1/8"	58" x 39"	25"	5/16"	3673K53	214.80
300	66 1/4" x 60 1/2"	69" x 63 1/4"	25"	5/16"	3673K54	339.22

♣ Represents dimensions just below top lip.

Cap., gal.	O'all Body Size, Lg. x Wd. ♣	O'all Top Size, Lg. x Wd.	O'all Ht.	Wall Thick.		Each
(B) FDA-Compliant Trough						
70	43" x 23"	46 5/8" x 26"	16 1/4"	5/32"	41255T61	$239.95
Optional Cover for Style B					41255T52	136.67
Optional Mobile Base for Style B					41255T62	434.30

Polyethylene Tanks



Vertical Tank

All tanks have graduations and a threaded fill cap. They are UV-stabilized for long-term outdoor service. Color is translucent white.

Vertical tanks are freestanding. All have a polypropylene female drain fitting with EPDM gasket (unless noted). Max. temperature is 140° F (unless noted).

Horizontal tanks with legs have molded legs so they can stand on their own. Max. temperature is 130° F. *Tanks with drain* have a polyethylene female drain fitting with fluoroelastomer gasket.

Vertical Tanks

Cap., gal.	O'all Dia.	O'all Ht.	Wall Thick.	Fill Opening Dia.	Graduation Intervals	With Drain: Drain Fitting		Each
70	23"	44"	3/16"	8"	10 gal.	3/4" NPT	3662K22★	$360.68
130	29"	51"	3/16"	8"	20 gal.	1 1/2" NPT	3662K18	487.90
165	31"	59"	3/16"	6"	5 gal.	1 1/2" NPT	3662K16▲	345.62
300	35"	82"	3/16"	18"	50 gal.	2" NPT	3662K27■	637.74
550	48"	75"	3/16"	18"	50 gal.	2" NPT	3662K11■	824.67

★ Gasket is Santoprene. ▲ Drain fitting is polyethylene. Max. temperature is 120° F.
■ Max. temperature is 130° F.



Horizontal Tank with Legs

Horizontal Tanks with Legs

Cap., gal.	O'all Dia.	O'all Lg.	O'all Ht.	Wall Thick.	Fill Opening Dia.	Graduation Intervals	Without Drain:	Each	With Drain: Drain Fitting		Each
30	23"	19 1/2"	25 13/16"	1/4"	4 1/2"	5 gal./19 L	3764K51	$267.90	1" NPT	3764K31	$397.12
60	23"	38 1/2"	25 13/16"	1/4"	4 1/2"	5 gal./19 L	3764K52	370.86	1" NPT	3764K32	496.94
125	30"	49 1/2"	34 9/16"	1/4"	7"	10 gal./38 L	3764K53	557.86	1" NPT	3764K33	667.14
230	38"	51 1/2"	42 1/2"	1/4"	7"	20 gal./76 L	3764K54	715.46	1" NPT	3764K34	823.68
300	38"	72 3/8"	42 1/2"	1/4"	7"	20 gal./76 L	3764K55	854.14	1" NPT	3764K35	963.40
525	47 13/16"	75"	52 3/8"	1/4"	7"	25 gal./95 L	3764K56	1,039.48	1" NPT	3764K36	1,188.22

Double-Wall Tanks with Forklift Entry



Tanks provide extra protection for products that require double-wall containment, such as diesel and waste oil, solvents, and antifreeze. The second wall forms a compartment that holds 120% of the primary compartment's storage capacity.

All tanks are steel and have a 2" NPT female fill opening. They also have a 2" NPT female opening for venting in the primary compartment and a 2" NPT female opening for leak detection in the secondary compartment. 3696K81 has two 2" NPT female openings for emergency venting in the primary and secondary compartments. 3696K83 has two 3" NPT female openings for emergency venting in the primary and secondary compartments. Runners on the bottom of the tank raise the bottom off the floor, allowing forklift entry. Meet UL 142 standards for above-ground storage. Color is white.

Cap., gal.	O'all Size, Lg. x Wd. x Ht.	Wall Thick.	Forklift Entry	Forklift Opening Size, Wd. x Ht.		Each
120	34" x 29" x 37 1/2"	12 ga.	2-Way	19" x 11 1/2"	3696K81	$2,125.00
240	55" x 34" x 37 1/2"	12 ga.	2-Way	40" x 11 1/2"	3696K83	2,675.00

Easy-Drain Cylindrical Tanks

Slopes aren't just for skiing—the cone-shaped bottom of these tanks is sloped to ensure easy and complete drainage.

(A) Polyethylene tanks with covers have a 19° bottom slope and seamless, heavy-wall construction with rounded corners. All tanks include a loose-fitting cover and PVC NPT female drain fitting with EPDM gasket. Max. temperature is 140° F. Color is translucent white.

Optional stands are steel with a black finish. Choose from styles with or without a mixer mount for attaching a mixer (not included). All stands allow a 14¼″ minimum clearance from bottom of drain to floor.

(B) Type 304 stainless steel tanks have a 10° bottom slope and come with three 2″ dia. Type 304 stainless steel pipe legs with adjustable feet.

Standard tanks have a smooth dull mill finish and come with a Type 304 stainless steel NPT female drain fitting.

Sanitary tanks have a brushed polished finish inside and out. Furnished with a sanitary, Type 304 stainless steel tri-clamp drain. (See pages 228-231 for fittings compatible with tri-clamp drains.)

Also Available: Hinged and unhinged loose-fitting covers for Style B stainless steel tanks. All covers are made of Type 304 stainless steel and have a smooth dull mill finish. Please ask for 3772K888 and specify tank part number as well as hinged or unhinged cover.



A *With Optional Stand with Mixer Mount*



B

(A) Polyethylene Tanks with Covers

Cap., gal.	O'all Body Dia.	O'all Top Dia.	O'all Ht.	Wall Thick.	Drain Fitting	Tanks	Each	Optional Stands w/out Mixer Mount	Each	Optional Stands with Mixer Mount	Each
5	11″	12″	15⅝″	3/16″	½″ NPT	3687K101	$111.83	3687K611	$256.67	3687K501	$346.43
10	15⅜″	16⅞″	20⅜″	3/16″	½″ NPT	3687K102	127.69	3687K612	272.13	3687K502	367.86
15	15⅝″	18⅜″	22¾″	3/16″	½″ NPT	3687K103	164.62	3687K612	272.13	3687K503	426.79
30	18¾″	21¾″	33¼″	¼″	½″ NPT	3687K111	190.77	3687K614	375.00	3687K511	482.14
55	23¼″	26⅛″	38⅜″	¼″	½″ NPT	3687K122	253.85	3687K616	443.33	3687K522	583.93
100	30½″	34″	41⅝″	5/16″	1″ NPT	3687K133	576.58	3687K617	565.00	3687K533	686.07
200	31⅛″	34⅝″	66⅜″	5/16″	1″ NPT	3687K155	692.17	3687K618	916.67	3687K555	1,045.00
250	43″	47″	54¾″	5/16″	1½″ NPT	3687K166	921.67	3687K619	986.80	3687K566	1,138.33

(B) Type 304 Stainless Steel Tanks

Cap., gal.	O'all Body Dia.	O'all Top Dia.	O'all Ht.	Wall Thick.	Standard Tanks: Drain Fitting		Each	Sanitary Tanks: Drain Fitting Tube OD		Each
30	18″	20″	45″	16 ga.	1″ NPT	3772K72	$1,804.31	1″	3772K62	$2,014.39
50	22¾″	24¾″	45″	16 ga.	1″ NPT	3772K73	2,100.54	1″	3772K63	2,232.14
80	30″	32″	45″	16 ga.	1″ NPT	3772K74	2,329.75	1″	3772K64	2,526.98

Tanks with Forklift Entry

When you need large storage containers that are easy to move with a forklift, choose these durable tanks.

Polyethylene horizontal tanks are seamless, UV-resistant, and made with FDA-compliant resins. All have been paired with a sturdy 12-ga. steel skid that has a black finish. All also have an EPDM gasket, threaded cap, and 25-gal. graduations (except 3664K22, which has 50-gal. graduations). Max. temperature is 140° F. Color is translucent white.

Round-bottom tanks have a 1½″ NPT female ball valve drain that's made of PVC. 3664K16 has an 8″ dia. fill opening and 3664K22 has a 6″ dia. fill opening.

Flat-bottom tanks are loaf-shaped for a low center of gravity and greater stability. They have a 6″ dia. fill opening and a 2″ NPT female drain opening that's made of PVC and polyethylene.

Steel vertical tanks meet UL 142 standards for above-ground storage, making them ideal for storing fuel and waste oil. All have two 3/16″ thick steel forklift channels, and they also have a 1½″ NPT female drain with steel plug. Color is red.

The *260-gal. capacity tank* has four 2″ NPT female openings and one 3″ NPT female opening.

The *500-gal. capacity tank* has nonslip steps and hand grips for easy access to the top of the tank. It has four 2″ NPT female openings and one 4″ NPT female opening.



Polyethylene Horizontal Flat-Bottom Tank



500-gal. Steel Vertical Tank

Cap., gal.	O'all Size, Lg. × Wd. × Ht.	Wall Thick.	Forklift Entry	Forklift Opening Size, Wd. × Ht.		Each
Polyethylene Horizontal Tanks— *Round Bottom*						
110	49″ × 34″ × 37″	3/16″	2-Way	11¼″ × 5″	3664K16	$958.36
500	81″ × 52″ × 57″	¼″	2-Way	14½″ × 4½″	3664K22	1,762.09
Polyethylene Horizontal Tanks— *Flat Bottom*						
210	50″ × 46″ × 40″	¼″	4-Way	8¾″ × 3″	3664K11	1,286.72
300	50″ × 46″ × 49″	¼″	4-Way	8¾″ × 3″	3664K12	1,573.09
500	50″ × 46″ × 79″	¼″	4-Way	8¾″ × 3″	3664K13	1,897.63
Steel Vertical Tanks						
260	36″ Dia. × 63″ Ht.	12 ga.	2-Way	5⅝″ × 2⅝″	3683K11	1,126.92
500	46″ Dia. × 75″ Ht.	10 ga.	2-Way	5⅝″ × 2⅝″	3683K13	1,779.89

UN-Compliant Tank with Forklift Entry

Also known as an intermediate bulk container (IBC), this tank meets UN31HA1/Y transportation specifications. It has the capacity of five 55-gal. tanks, yet uses up to 25% less floor space. Secured to a galvanized steel pallet, it is easy to maneuver with a forklift. Stacks two high when full and four high when empty.

The tank is made of FDA-compliant polyethylene and is protected by a rigid tubular steel cage. Tank comes with a 6″ top opening with threaded cap and TPE gasket, a 2″ NPS fill opening, and a drain outlet that has a 2″ NPS valve with dust cap. Max. temperature is 150° F. Color is translucent white.



Cap., gal.	O'all Size, Lg. × Wd. × Ht.	Wall Thick.	Forklift Entry	Forklift Opening Size, Wd. × Ht.		Each
275	48″ × 40″ × 46″	1/16″	4-Way	9″ × 2½″	3783K21	$406.73

Steel Elevated Tanks

An elevated bottom provides stability and a lifting lug on top makes it easy to transport these steel tanks. They are ideal for storing fuel and waste oil. All tanks have a threaded 4″ NPT female emergency vent fitting and three or five 2″ NPT female openings that include plastic plugs. Channels are made of ¼″ thick steel. All meet UL 142 standards for above-ground storage. Color is red.



Cap., gal.	O'all Size, Dia. × Lg. × Ht.	Wall Thick.	Opening Size (Qty.)		Each
150	38″ × 29″ × 41″	12 ga.	2″ NPT (3)	37415K55	$754.88
300	38″ × 60″ × 41″	12 ga.	2″ NPT (5)	37415K71	911.35
550	48″ × 72″ × 51″	12 ga.	2″ NPT (5)	37415K72	1,185.45

Spill-Control Containers

Drip Pans


A


B


C


D


E


F

Style B is filled with polypropylene sorbent to prevent liquids from splashing. It is not reusable.

Style C has removable grating for easy cleaning. Weight capacity is 40 lbs.

Styles E and ***F*** have a perforated metal tray to prevent contents from exposure to fire.

Cap., gal.	O'all Size, Lg. × Wd. × Ht.	Color		Each
(A) Polyethylene Drip Pans				
3½	36″ × 24″ × 1½″	Black	4206T1	$17.72
12	52¼″ × 16¼″ × 5″	Black	4206T3	58.19
24	52¼″ × 28¼″ × 5″	Black	4206T4	63.36
(B) Polyethylene Drip Pan with Sorbent				
1	10½″ × 10½″ × 3″	Yellow	42005T55	6.83
(C) Polyethylene Drip Pan with Grating				
21½	25″ × 21½″ × 3″	Yellow and black	40695T82	67.27
(D) Galvanized Steel Drip Pan				
2	25¾″ × 17¾″ × 1″	———	4524T15	6.86
(E) Steel Drip Pan with Perforated Metal Tray				
¼	13¾″ Dia. × 1¼″ Ht.	Red	4524T12	46.80
(F) FM-Approved Steel Drip Pan with Perforated Metal Tray				
1	9⅜″ Dia. × 4½″ Ht.	Red	4524T11	36.44

Drain Pans


G


H


J


K


L


M


N

(G&H) Polyethylene drain pans have a pouring spout and a handle. *Style G* has a drain with plug and a storage compartment where fluids drain for disposal at a later date. *Style H* has an antisplash lip.

(J&K) Mobile polyethylene drain pans can be moved wherever they are needed. *Style J* has a red polypropylene funnel that mounts on a telescoping tube. It includes four swivel casters with 2½″ dia. polyolefin wheels, a 1¾″ threaded pour spout with cap, and a handle. Shipped unassembled. *Style K* is great for big jobs. Fluid drains from this pan into the storage compartment for disposal at a later date. Has two 3″ dia. polyethylene wheels. Includes a drain with plug, 2 3/16″ dia. pouring spout, and handgrips.

(L&M) Galvanized steel drain pans come in two styles. *Style L* has a one-piece seamless construction. *Style M* has a pouring spout with an antisplash guard and handles.

(N) FM-approved steel drain pans have a detachable wide-mouth plated-steel funnel, a built-in flame arrester, a ¾″ threaded plug for emptying, and a bail handle.

	Cap., gal.	O'all Size, Dia. × Ht.	Color		Each
Polyethylene Drain Pans					
G	3¾	18″ × 6¾″	Black	40465T4	$14.78
H	5	18″ × 6¾″	Gray	40465T3	13.47
Mobile Polyethylene Drain Pans					
J	8	14¼″ × 36½″-74″	Yellow	4296T3	117.62
K	14½	39″ Lg. × 24⅛″ Wd. × 8⅞″ Ht.	Black	41855T73	104.87
Galvanized Steel Drain Pans					
L	3	16″ × 4″	———	4204T4	6.60
M	8	19½″ × 7½″	———	4204T3	31.08
FM-Approved Steel Drain Pans					
N	3	11⅝″ × 12¼″	Red	9887T13	81.09
N	5	11⅝″ × 16¾″	Red	9887T14	88.04

Spill-Control Containers


P


Q



R *2 Drum with Optional Cover*


S

(P) Polyethylene container for pails is perfect for small containers. Comes with removable grating for easy cleaning.

(Q) Polyethylene container for drums has an octagonal shape that provides greater spill control than same-size round containers.

(R) Large-capacity polyethylene containers have recessed rings to secure drums. They have bottoms with forklift entry except the 4-drum container, which has a flat bottom so it can be paired with a standard pallet for four-way forklift entry. "HAZARDOUS" is stenciled in black. Meets EPA 40 CFR 264.175.

(S) Large-capacity polyethylene container with removable bottom grating can be nested. Meets EPA 40 CFR 264.175.

No. of 55-gal. Drums	Spill Cap., gal.	Weight Cap., lbs.	O'all Size, Lg. × Wd. × Ht.	Color	Forklift Entry	Forklift Opening Size, Wd. × Ht.		Each
(P) Polyethylene Container for Pails								
♦ 15	Not Rated	32¾″ × 21 11/32″ × 8″	Gray	———	———		12635T1	$84.48
(Q) Polyethylene Container for Drums								
1	19½	500	34″ Dia. × 7¼″ Ht.	Yellow	———	———	40705T77	81.67
(R) Large-Capacity Polyethylene Container								
1	60½	900	30¼″ Dia. × 26″ Ht.	Orange	2-Way	8¼″ × 5¾″	39855T8	219.02
2	102	1,800	58″ × 30½″ × 22″	Orange	2-Way	9½″ × 5¾″	39855T2	327.38
4	174	3,600	50½″ × 50½″ × 17½″	Orange	———	———	39855T3	379.14
Optional Black Cover for 1-Drum Container							39855T9	132.28
Optional Black Cover for 2-Drum Container							39855T5	244.70
Optional Black Cover for 4-Drum Container							39855T6	309.63
(S) Large-Capacity Polyethylene Container with Removable Bottom Grating								
2	135	1,200	60″ × 33½″ × 25″	Yellow	2-Way	11″ × 3⅝″	12635T16	408.33

♦ Capacity shown is for three 5-gal. pails.

Mobile Spill-Control Containers and Cart

Easily move these containers wherever they are needed. All meet EPA 40 CFR 264.175, except Style A.

(A) Low-profile polyethylene container has a drain spout and four swivel casters with 3″ dia. polyolefin wheels. Color is yellow.

(B) Nestable polyethylene container includes a steel dolly that has four swivel casters with 3″ dia. polyolefin wheels. Drum container is yellow. Dolly is orange.

(C) Polyethylene cart has a drain plug for easy drainage, built-in tool tray, and removable top grating deck for easy cleaning. Comes with two locking swivel casters with 8″ dia. polyolefin wheels and two 10″ dia. polyolefin wheels. Cart is yellow with black deck.


A


B

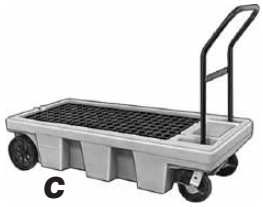
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No. of 55-gal. Drums	Spill Cap., gal.	Weight Cap., lbs.	O'all Size, Dia. × Ht.		Each
(A) Low-Profile Polyethylene Container					
1	11	500	34″ × 8 13/16″	6145T23	$147.20
Optional Steel T-Handle for Style A				6145T24	30.65
(B) Nestable Polyethylene Container					
1	66	600	32 1/2″ × 35″	40395T21	238.85
(C) Polyethylene Cart					
2	57	500	66 1/2″ Lg. × 29″ Wd. × 43 7/8″ Ht.■	31135T55	694.03

■ Height is 16″ without handle.

Flexible Spill-Control Pads

When you need an economical alternative to spill-control pallets, choose these reusable, chemical-resistant vinyl-coated polyester pads. Flexible sidewalls allow you to drive in and drop your drums directly onto the pad; walls spring back into shape. Pads fold for easy storage. The six-drum model meets EPA 40 CFR 264.175.

No. of 55-gal. Drums	Spill Cap., gal.	O'all Size, Lg. × Wd. × Ht.	Color		Each
1	7.5	24″ × 24″ × 3″	Yellow	2093T23	$84.00
2	15	24″ × 48″ × 3″	Yellow	2093T24	152.00
4	30	48″ × 48″ × 3″	Yellow	2093T25	216.00
6	45	48″ × 72″ × 3″	Yellow	2093T27	320.00

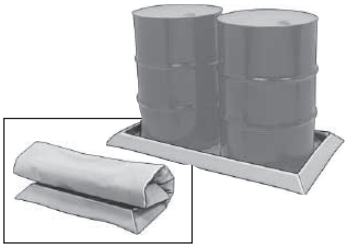

Spill-Control Pallets

All pallets have removable grating for easy cleaning. Grating is black, except Style G, which is gray. Pallets meet EPA 40 CFR 264.175, unless noted.

(D) Low-profile polyethylene pallets have an *optional ramp* that has a ribbed, nonskid surface. The weight capacity is 1,000 lbs. Color is black. *Optional pair of linking connectors* allows you to connect multiple pallets. Use two per side.

(E) Low-profile large-capacity polyethylene pallets with bladder have a pallet to capture overspills and small leaks while larger spills deploy a double layer polyethylene bladder. The bladder holds up to 55 gallons and is 66″ Lg. × 58″ Wd. when fully deployed. *Optional ramp* has a ribbed, nonskid surface. Weight capacity is 600 lbs. Color is yellow.

(F&G) Large-capacity polyethylene pallets with forklift entry are designed with large reservoirs to handle bigger spills. *Style G* has recessed rings for secure drum storage and a deck that can be removed with a forklift. Pallets are stackable and nestable.

(H&J) Low-profile steel and steel pallets with forklift entry are made of 12-ga. steel. *Optional ramps* have a ribbed, nonskid surface. Weight capacity is 1,500 lbs. Color is gray.


D *With Optional Ramp*

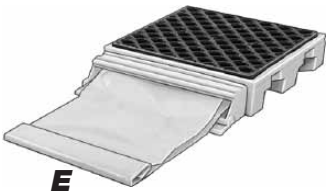
E


F


G


H


J

No. of 55-gal. Drums	Spill Cap., gal.	Weight Cap., lbs.	O'all Size, Lg. × Wd. × Ht.	Color	Forklift Entry	Forklift Opening Size, Wd. × Ht.		Each
Low-Profile Polyethylene Pallets								
D	2	22	2,000	28 1/2″ × 53″ × 6″	Yellow	—	—	14195T27★	$208.33
D	4	40	6,000	52 1/2″ × 53″ × 6″	Yellow	—	—	14195T28★	246.15
D	6	61	7,000	76 1/2″ × 53″ × 6″	Yellow	—	—	14195T29	333.33
D	8	77	8,000	100″ × 53 1/4″ × 6″	Yellow	—	—	14195T31	537.82
Optional Ramp for Style D								14195T32	176.92
									Per Pair
Optional Pair of Linking Connectors for Style D								14195T91	$74.55
Low-Profile Large-Capacity Polyethylene Pallets with Bladder									**Each**
E	1	66	1,500	25 7/8″ × 30 1/2″ × 5 3/4″	Yellow	—	—	5148T23	$292.37
E	2	77	3,000	52″ × 30 1/2″ × 5 3/4″	Yellow	—	—	5148T24	378.76
E	4	99	6,000	52″ × 56 5/8″ × 5 3/4″	Yellow	—	—	5148T25	505.02
Optional Ramp for Style E								5148T71	174.58
Large-Capacity Polyethylene Pallets with Forklift Entry									
F	1	62	800	40″ × 40″ × 12″	Yellow	2-Way	7″ × 4″	12635T81	255.10
F	2	66	3,000	29″ × 53″ × 16 1/2″	Orange	2-Way	10 3/4″ × 4″	12635T33	267.92
F	4	66	3,000	98″ × 25 1/4″ × 12″	Yellow	2-Way	9″ × 3″	12635T93	298.74
F	4	66	6,000	53″ × 53″ × 11 3/4″	Orange	4-Way	14 3/4″ × 4″	12635T36	350.84
G	4	85	6,500	51″ × 51″ × 17 1/2″	Burgundy	4-Way	7 1/2″ × 4″	12635T72	499.17
Low-Profile Steel Pallets									
H	2	33	3,000	26″ × 51″ × 6 1/2″	Gray	—	—	19805T5★	302.05
H	4	66	6,000	51″ × 51″ × 6 1/2″	Gray	—	—	19805T9	498.55
H	6	99	9,000	76 1/2″ × 51″ × 6 1/2″	Gray	—	—	19805T6	748.63
Optional Ramp for Style H								19805T13	201.75
Steel Pallets with Forklift Entry									
J	2	66	2,000	26″ × 51″ × 16″	Gray	4-Way	18″ × 4″	19805T1	412.48
J	4	66	4,000	51″ × 51″ × 10 1/2″	Gray	4-Way	35″ × 4″	19805T3	560.26
J	6	99	6,000	76 1/2″ × 51″ × 10 1/2″	Gray	4-Way	28″ × 4″	19805T7	829.83
Optional Ramp for 19805T3 and 19805T7								19805T12	287.44

★ Not EPA compliant.

Safety Cans

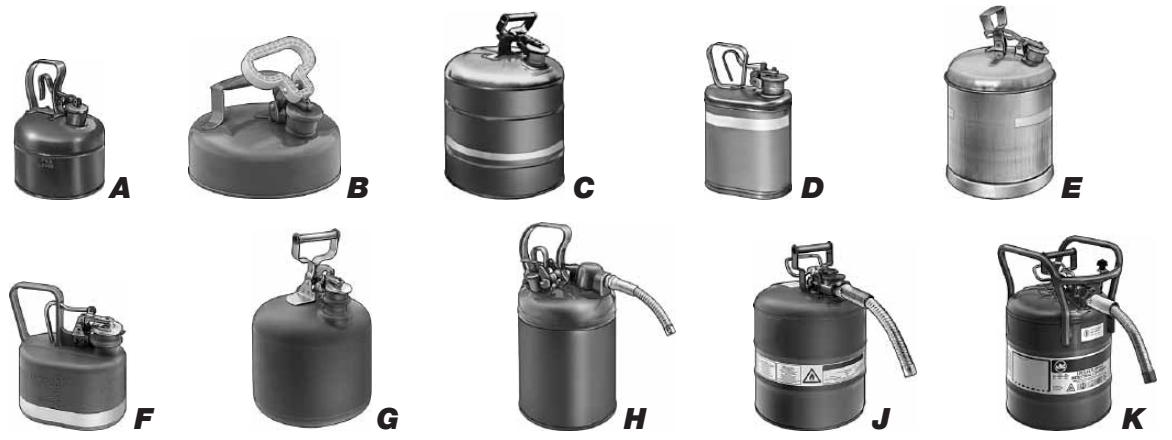

A safer choice than fuel cans for storing flammable liquids, solvents, and cleaning solutions. All have spring-loaded, self-closing lids; pressure-relief caps; and a flame arrester. ***Type I safety cans*** have a single opening for both filling and pouring. ***Type II safety cans*** have two openings—one for filling, one for pouring.

(A-C) Steel Type I Safety Cans

Cans are FM approved, UL and C-UL listed (unless noted), and meet OSHA and NFPA (National Fire Protection Association) Code 30 requirements. Optional pour spouts are sold separately.

To Order: Please specify color where necessary. Color indicates usage: red for gasoline, yellow for diesel, blue for kerosene, and green for other solvents.

	Cap.	*O'all Size* Dia.	Ht.	Spout OD	Available Colors		
A	1 pt.	4⅜″	6¾″	⅞″	Red	4290T11	$40.33
A	1 qt.	4⅜″	8¼″	⅞″	Red	4290T12	40.53
A	1 gal.	9″	12″	1¾″	Red, Yel, Blu, Grn	4290T5	41.30
B	½ gal.	9″	5¼″	1⅝″	Red, Yel, Blu, Grn	4290T37	41.78
C	2 gal.	9½″	13¾″	1⅝″	Red, Yel, Blu, Grn	4290T151	44.66
C	2½ gal.	11¾″	11½″	1⅝″	Red, Yel, Blu, Grn	4290T181	47.93
C	3 gal.	12″	14¼″	1¾″	Red, Yel, Blu, Grn	4290T51★	46.76
C	5 gal.	11¾″	16⅞″	1⅝″	Red, Yel, Blu, Grn	4290T171	53.79

Optional Pour Spouts for 1- to 5-Gal. Cap. Steel Safety Cans

Rigid Plastic (½″ OD×11¼″ Lg.)	4290T36	7.20
Flexible Metal (1″ OD×14″ Lg.)	4290T35	21.39

★Not C-UL Listed

(D&E) Stainless Steel Type I Safety Cans

Choose one of these corrosion-resistant, Type 316 stainless steel cans for liquids such as acetone, alcohol, ether, toluene, and xylene. Cans are FM approved and meet OSHA and NFPA (National Fire Protection Association) Code 30 requirements. ***Style E*** have a steel rim at the base for added support.

	Cap., gal.	O'all Size	Spout OD		
D	1	8″ Lg.×4¾″ Wd.×13″ Ht.	1½″	4291T19	$180.32
E	2½	11¼″ Dia.×9⅝″ Ht.	1½″	4291T21	324.20
E	5	11¼″ Dia.×15⅞″ Ht.	1½″	4291T22	342.55

(F&G) Plastic Type I Safety Cans

These lightweight cans won't rust, dent, or pit. Color is red. FM approved. ***Style G*** are UL listed.

	Cap., gal.	O'all Size	Spout OD		
F	½	7⅝″ Lg.×4⅝″ Wd.×9½″ Ht.	1⅝″	4479T21	$52.77
F	1	7⅝″ Lg.×4⅝″ Wd.×12¾″ Ht.	1⅝″	4479T22	60.58
G	2½	10¾″ Dia.×14¼″ Ht.	1⅝″	3994T18	101.81
G	5	12¾″ Dia.×16″ Ht.	1⅝″	3994T19	107.95

(H-K) Steel Type II Safety Cans

All have a built-in, flexible 9″ long spout, unless noted. ***Styles H&J*** are UL and C-UL listed. ***Styles J&K*** have a vacuum-release valve for controlled, glug-free pouring. ***Style K*** are D.O.T. (Department of Transportation) approved and have a steel roll bar that protects the spout, handle, and trigger during transport.

To Order: Please specify color where necessary. Color indicates usage: red for gasoline, yellow for diesel, blue for kerosene, and green for other solvents.

Cap., gal.	*O'all Size* Dia.	Ht.	Spout OD	Available Colors		
(H) Standard Cans						
1	9″	12″	¾″	Red, Yel, Blu, Grn	4290T52★	$74.47
2	9″	16¼″	¾″	Red, Yel, Blu, Grn	4290T221★	80.04
3	12″	15½″	¾″	Red, Yel, Blu, Grn	4290T231	84.46
5	12″	19½″	¾″	Red, Yel, Blu, Grn	4290T261	96.32
(J) Controlled-Flow Cans						
1	9½″	10½″	⅝″	Red, Yel, Blu, Grn	4290T31	92.88
2½	11¾″	12″	⅝″	Red, Yel, Blu, Grn	4290T53	96.90
5	11¾″	17½″	1″	Red, Yel, Blu, Grn	4290T38	112.00
(K) Transportable Controlled-Flow Cans						
2½	11¾″	12″	⅝″	Red	4290T56	188.07
5	11¾″	17½″	1″	Red	4290T57	196.00

★Has a 6″ long flexible spout.

Safety Cans with Faucet



Use for trouble-free dispensing of flammable liquids. All cans have a flame arrester, a self-closing ¾″ OD faucet, and a self-closing pressure-relief cap. FM approved. Meet OSHA and NFPA (National Fire Protection Association) Code 30 requirements.

Steel cans are for petroleum-based liquids. ***Type 316 stainless steel cans*** are for liquids such as acetone, alcohol, ether, toluene, and xylene. ***Plastic cans*** are for aggressive chemicals and corrosives.

Upright Cans

Steel and plastic cans have a brass faucet. Stainless steel cans have a Type 316 stainless steel faucet.

	Cap., gal.	*Can Size* Dia.	Ht.	Fill Spout OD	Color		
Steel	5	11¾″	16⅞″	1½″	Red	9890T11	$109.96
Stainless Steel	5	11¼″	15⅞″	1½″	—	9890T12	542.46
Plastic	5	13½″	17″	1½″	Red	9890T13	155.40

Easy-Tilt Cans

Tip cans down for controlled dispensing, then swing them back to their upright position. All have a steel cradle base (15¾″ Lg.×15¾″ Wd.×11¾″ Ht.), brass faucet, and pressure-relief cap with built-in vacuum breaker.

	Cap., gal.	*Can Size* Dia.	Ht.	Fill Spout OD	Color		
Steel	5	11¾″	15⅞″	1½″	Red	4510T11	$169.74
Plastic	5	13½″	17″	1½″	Red	4510T12	197.91

Safety Disposal Cans

Store leftover chemicals and solvents until they can be properly discarded.

For Nonflammable Liquids

Use this plastic can to store nonflammable acids and caustics. It has a 1 7/16" OD spout and a spring-loaded, self-closing cap. Can is translucent and graduated at quart, liter, and gallon intervals.



Cap., gal.	Overall Size Lg.	Wd.	Ht.	Color		
1	7 5/8"	4 5/8"	12 3/4"	White	8989T11	$54.16

For Flammable Liquids

The spring-loaded, self-closing cap on these cans automatically vents to relieve excess vapor pressure, and a flame arrester protects against outside ignition. All have a 3 3/4" OD spout, are FM approved, and meet OSHA and NFPA (National Fire Protection Association) Code 30 requirements.

Galvanized steel cans are for petroleum-based liquids. ***Type 316 stainless steel cans*** are for liquids such as acetone, alcohol, ether, toluene, and xylene. ***Plastic cans*** are for aggressive chemicals and corrosives.



Cap., gal.	Overall Size Dia.	Ht.	Color		
Galvanized Steel Cans					
2 1/2	11 1/4"	12"	Red	4103T21	$149.25
5	12 1/2"	18"	Red	4103T22	158.60
Type 316 Stainless Steel Cans					
2 1/2	11 1/4"	12"	____	4103T11	369.15
5	11 1/4"	18"	____	4103T12	399.33
Plastic Cans					
2	12"	14 3/4"	White	4103T27	122.08
3	12 1/2"	14 1/2"	Red	4103T23	169.50
5	12"	20"	White	4103T28	126.12
5	12 1/2"	18 1/2"	Red	4103T16	183.65

Fuel Cans



Carry and store fuel in sturdy cans. Color indicates usage. Spouts automatically close to prevent spills. Nozzle OD is 1 3/8".

Steel can is D.O.T. (Department of Transportation) approved.

Cap., gal.	Overall Size Lg.	Wd.	Ht.	Color		
Plastic Cans for Gasoline						
1	8"	5 15/16"	8 1/8"	Red	4224T81	$16.20
2	10"	7 1/8"	9 15/16"	Red	4224T82	20.21
5	15"	8 1/2"	14 3/4"	Red	4224T84	22.95
Plastic Cans for Diesel						
5	15"	8 1/2"	14 3/4"	Yellow	4224T83	22.95
Plastic Cans for Kerosene						
5	15"	8 1/2"	14 3/4"	Blue	4224T88	22.95
Steel Cans for Gasoline						
5	14"	6 3/4"	19"	Red	4303T61	66.08

Dispensing Stands for 5-Gallon Cans

To create a convenient dispensing station, pair this stand with your round, 5-gallon safety can (not included). Made of steel with a sturdy, adjustable safety lock, it can also hold other round containers up to 12 1/4" in diameter that weigh up to 75 lbs.

Overall size is 14" Lg. × 14 1/8" Wd. × 29 3/4" Ht. The stand folds for compact storage. Color is blue.

2704T14 ..... $85.06



Mobile Fuel Dispensers

Dispense fuel wherever you need it.

Style A has a gravity-fed flow rate of 2 gpm, a 1" OD nozzle, and a 10-ft. hose. Wheels are plastic. Meets UN specification UN3H1/Y/130.

Style B have a gravity-fed flow rate of 5 gpm, a 3/4" OD nozzle, and a 10-ft. hose. Wheels are pneumatic rubber. Meets UN specification UN3H1W and are D.O.T. (Department of Transportation) approved.

Style C are our highest capacity steel dispensers. All have a rotary hand pump that dispenses 4 gpm. They also have a 3.5-micron filter that strains out dirt and water, plus a valve to switch between filling and draining. A flame arrester protects against outside ignition. The pump hose is 7-ft. long and has a 3/4" OD and grounding wire. An 8-ft. grounding strap and clamp are also included. Wheels are rubber. FM approved.

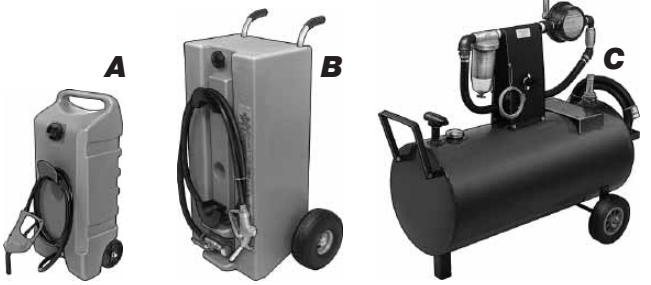

	Cap., gal.	Overall Size Lg.	Wd.	Ht.	Material	For Gasoline Color			For Diesel Color		
A	14	11"	16 1/2"	34"	Plastic	Red	40855T64	$140.10	____	____	____
B	28	22 1/2"	27 1/2"	41"	Plastic	Red	40855T77	539.79	Yellow	40855T89	$539.79
C	34	48"	16 1/2"	38 1/2"	Steel	Red	1341K33	1,487.04	Green	1341K35	1,530.79

Safety-Rated Steel Pail and Drum Funnels with Cover

Minimize spills while filling pails and drums. Funnels are FM-approved and have a flame arrester to protect against outside ignition. Connection is 2" NPT male. Color is red.

Pail funnel fits 5-gallon closed-head pails.

Drum funnels fit 30- and 55-gallon closed-head drums. Hinged cover automatically snaps shut at 165°F to extinguish flames. Padlock hasp on cover accommodates a 5/16" shackle dia. (padlock not included).

Self-closing drum funnel fits 30- and 55-gallon closed-head drums. Hinged cover automatically snaps shut at 165°F to extinguish flames. Padlock hasp on cover accommodates a 5/16" shackle dia. (padlock not included). It also includes a ball valve that reduces vapors and prevents spills if the drum tips over. A 3/4" drum vent provides automatic pressure relief.



Capacity	Top OD	Funnel Height	Flame Arrester Height	Material		
Pail Funnels						
1 qt	4 1/2"	4 1/2"	1"	Stainless Steel	4267T38	$76.48
Drum Funnels						
2 1/2 gal	10 3/4"	10"	6"	Brass	4267T39	198.66
2 1/2 gal	10 3/4"	10"	32"	Brass	4267T42	273.64
Self-Closing Drum Funnels						
2 1/2 gal	10 3/4"	10"	6"	Brass	46995T18	617.26

Plastic Funnels


A&B


C


D&E


F



G


H


J


K


L


M


N


P


Q


R

(A-D) Vapor-lock-resistant funnels have outside ribs to prevent vapor lock. *Styles A* and *C* are autoclavable.

(E) Microfunnels with hanging tab are autoclavable.

(F) Quick-drain funnels have internal ribs to quickly drain materials and are autoclavable.

(G) Weighing funnels can be used as funnels, scoops, and weighing dishes. They are also autoclavable.

(H) Large-capacity funnel has a 6 11/16-gal. capacity.

(J&K) Funnels with filter screen and hanging tab have a permanent 60×60 mesh brass screen. *Style K* has an extra-long spout.

(L) Funnel with flexible spout has a clear extendable spout and a molded-in hand grip.

(M) Funnel with offset spout has a removable tapered stem offset 8″, a handle, and a removable 27×27 mesh brass screen.

(N-Q) Funnels with dirt- and dust-resistant caps have a polypropylene cap for both the funnel and the spout. *Style N* has a hanging tab. *Style P* has a handle. *Style Q* has a flexible spout and a handle.

(R) Funnel for powders has a large spout that allows the flow of powders.

	Cap., oz.	Top OD	O'all Ht.	Spout OD	Spout Lg.	Color		Each
Economy Vapor-Lock-Resistant Funnels— *Polypropylene*								
A	2	2 11/16″	2 11/16″	3/8″	13/16″	Translucent	4383T1	$1.00
A	4	3 7/16″	3 3/4″	3/8″	7/8″	Translucent	4383T2	1.27
A	8	4 1/4″	4 11/16″	7/16″	1 1/2″	Translucent	4383T3	1.45
Economy Vapor-Lock-Resistant Funnels— *Polyethylene*								
B	16	5″	5 7/8″	1/2″	1 7/8″	Translucent	4383T4	2.41
B	32	6 1/2″	7″	5/8″	2″	Translucent	4383T5	3.88
B	64	8 1/8″	8″	3/4″	1 13/16″	Translucent	4383T6	5.41
Vapor-Lock-Resistant Funnels— *Polypropylene*								
C	1	2 1/8″	2 5/8″	9/16″	1 1/2″	Translucent	1479T2	9.53
C	3	3″	5″	7/16″	2 3/4″	Translucent	1479T3	12.27
C	6	4″	4 1/8″	3/4″	1 3/4″	Translucent	1479T4	14.09
C	16	6″	7″	3/4″	3 1/8″	Translucent	1479T5	16.27
C	27	7 1/4″	7 3/8″	1″	2 3/4″	Translucent	1479T6	18.11
C	128	10 1/2″	13 1/2″	1 3/8″	5 1/2″	Translucent	1479T7	46.20
Vapor-Lock-Resistant Funnels with Hanging Tab— *Polyethylene*								
D	8 1/2	4 3/8″	5 13/16″	1/2″	2 7/8″	Translucent	4360T3	17.81
D	26	6 5/8″	7 11/16″	5/8″	3″	Translucent	4360T4	26.94
D	124 1/2	10 1/2″	12 1/2″	15/16″	4 5/8″	Translucent	4360T5	77.62
Microfunnels with Hanging Tab— *Polypropylene*								
E	3/32	1 1/8″	1 3/8″	3/16″	5/8″	Translucent	1479T81	2.74
E	3/16	1 1/4″	1 5/8″	9/32″	3/4″	Translucent	1479T82	2.67
E	1/4	1 5/8″	2″	5/16″	15/16″	Translucent	1479T83	2.68
E	1/2	1 13/16″	2 5/16″	5/16″	1″	Translucent	1479T84	5.45
Quick-Drain Funnels— *Polymethylpentene*								
F	1	2 1/4″	7 3/4″	5/16″	6″	Clear	4005T2	5.39
F	2 1/2	3 1/8″	8 1/8″	5/16″	6″	Clear	4005T3	6.12
F	8	4 7/16″	7 9/16″	3/8″	4 1/4″	Clear	4005T5	7.98
F	20	6 3/16″	9 3/4″	5/8″	5 3/16″	Clear	4005T6	28.57
F	52	8 1/4″	12 1/4″	1″	6 5/16″	Clear	4005T7	38.34
Weighing Funnels— *Polypropylene*								
G	1/16	15/16″	1 11/16″	1/4″	3/8″	Translucent	6844A11	1.70
G	1/4	1 5/16″	2 7/16″	7/16″	1/2″	Translucent	6844A12	2.30
G	11/32	1 7/8″	3 1/2″	5/8″	3/4″	Translucent	6844A13	4.57
G	7/8	2 9/16″	4 1/2″	3/4″	7/8″	Translucent	6844A14	10.20
Large-Capacity Funnel— *Polyethylene*								
H	858	15″	15 1/2″	1 3/4″	5 1/2″	White	9022T24	92.43
Funnels with Filter Screen and Hanging Tab— *Polyethylene*								
J	64	7″	8 1/2″	1 1/16″	2 1/2″	Red	4144T3	3.98
J	192	9″	10 1/2″	1 3/8″	1 1/2″	Red	4144T4	7.00
K	16	4 3/4″	20″	5/8″	15″	Red	40775T47	5.84
Funnel with Flexible Spout— *Polyethylene*								
L	32	5 3/8″ × 6 5/16″	16″	1/2″	5″-11 1/2″	Blue	40495T1	3.29
Funnel with Offset Spout— *Polyethylene*								
M	48	6 1/2″	10 3/4″	3/4″	9″	Orange	4484T5	6.90
Funnels with Dirt- and Dust-Resistant Caps— *Polyethylene*								
N	16	3 3/8″	8 3/4″	9/16″	4″	Orange	40535T3	7.19
P	40	4 1/2″	13 1/2″	9/16″	6 5/8″	Blue	40535T4	7.09
Q	48	4 1/2″	14 1/4″	3/4″	7 1/4″	Yellow	40535T5	7.67
Funnel for Powders— *Polyethylene*								
R	25	5 9/16″	6 1/2″	1 3/4″	1 1/2″	White	9017T15	29.79

Disposable Paper Funnels



Includes a package of 50 funnels in a plastic bag. Color is white.

Cap., oz.	Top OD	O'all Ht.	Spout OD		Per Pkg.
10	3 3/4″	4 3/4″	1/2″	40785T5	$8.33

Metal Funnels

Galvanized steel funnels have a removable 50 x 50 mesh brass screen.

Quick-drain galvanized steel funnels have a fluted bottom that prevents swirling and increases drainage speed. Also has a removable 50 x 50 mesh brass screen.

Quick-drain galvanized steel funnels with spill-resistant rim have a fluted bottom that prevents swirling and increases drainage speed. Taller rim allows for faster pouring without spilling. Also has a removable 50 x 50 mesh brass screen.

Galvanized steel funnel with extra-long flexible spout has a 40 x 60 mesh brass screen.

Galvanized steel funnel with offset spout has a removable 50 x 50 mesh brass screen.

High-stability galvanized steel funnels have a taller rim that allows for faster pouring without spilling and a skirt to hold the funnel in place. Also come with a fluted bottom that prevents swirling and increases drainage speed, and a removable 50 x 50 mesh brass screen.

Corrosion-resistant Type 304 stainless steel funnels are rust-resistant and have a hanging ring.

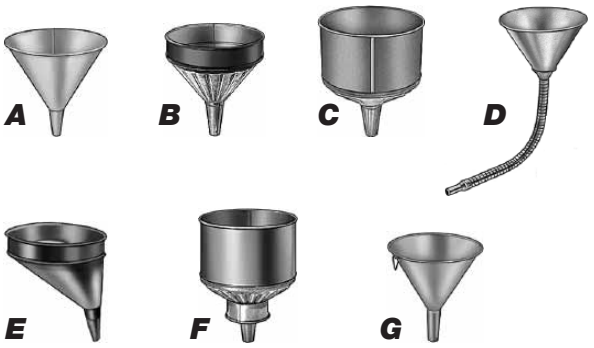

	Cap., oz.	Top OD	O'all Ht.	Spout OD	Spout Lg.	Ga.		Each
Economy Tin Funnels								
A	5	3 5/8"	4 1/2"	3/8"	1 15/16"	—	8996T12	$4.31
A	10	4 7/16"	5 1/4"	3/8"	1 15/16"	—	8996T13	4.91
A	24	5 3/4"	6"	1/2"	2 1/4"	—	8996T14	5.41
A	32	6 1/2"	6 7/8"	1/2"	2 1/2"	—	8996T15	6.53
A	56	7 7/8"	8 1/2"	3/4"	2 7/8"	—	8996T16	7.44
A	96	9 1/4"	9"	3/4"	2 7/8"	—	8996T17	8.27
Galvanized Steel Funnels								
A	32	6 3/8"	7 3/8"	9/16"	3 1/8"	30	4363T1	10.51
A	64	8 3/8"	7 3/4"	9/16"	3 1/8"	30	4363T2	11.48
A	128	12 3/8"	9 1/2"	1"	3 3/4"	30	4363T3	15.21
Quick-Drain Galvanized Steel Funnels								
B	96	8 1/2"	9 1/4"	9/16"	3 1/8"	30	39865T31	12.19
B	192	10 1/2"	10 1/2"	1 1/8"	3 3/4"	30	39865T32	14.61
B	288	12 1/2"	12"	1 1/8"	3 3/4"	30	39865T33	17.22
Quick-Drain Galvanized Steel Funnels with Spill-Resistant Rim								
C	256	9 5/8"	11 7/8"	1 1/8"	3 3/4"	30	4377T1	10.51
C	384	11 3/8"	12 1/8"	1 1/8"	3 3/4"	30	4377T2	12.17
Galvanized Steel Funnel with Extra-Long Flexible Spout								
D	32	6 3/8"	18 3/16"	1/2"	14"	30	41225T31	$9.29
Galvanized Steel Funnel with Offset Spout								
E	192	10 9/16"	11 5/8"	1"	3 3/4"	28	4376T1	20.73
High-Stability Galvanized Steel Funnels								
F	256	9 5/8"	11 7/8"	1 1/8"	3 3/4"	30	4377T3	13.19
F	384	11 3/8"	12 1/8"	1 1/8"	3 3/4"	30	4377T4	14.83
Corrosion-Resistant Type 304 Stainless Steel Funnels								
G	2 3/8	3"	3 3/4"	1/2"	1 1/2"	26	4359T1	44.82
G	6 3/8	4 1/8"	4 7/8"	1/2"	1 1/2"	26	4359T2	49.97
G	13	5 1/8"	5 5/8"	1/2"	1 1/2"	26	4359T3	56.15
G	22 1/4	6 1/4"	6 5/8"	1/2"	1 1/2"	26	4359T4	61.95
G	32	7"	8 3/8"	7/8"	2 5/8"	26	4359T5	72.25
G	64	8 3/8"	9 1/2"	7/8"	2 5/8"	26	4359T6	82.72

Polyethylene Pail and Drum Funnels


For Closed-Head Pails


For Closed-Head Drums


For Open-Head and Closed-Head Drums

Drain oil filters, cans, beakers, bottles and more without spills or tedious pouring. The sloped, scalloped surface channels hazardous liquids into the drain. Color is yellow.

Pail funnel for closed-head pails fits any closed-head pail. Also fits 12" dia. open-head pails.

Drum funnels for closed-head drums fit into 2" openings on any drum. *Drum funnel with Type 316 stainless steel screen* has a 14 x 14 mesh screen.

Drum funnels for open-head and closed-head drums fit over the rim of open-head drums or into 2" openings on closed-head drums. *Funnel with flame arrester* has an arrester that prevents flashback caused by sparks.

	Cap., gal.	O'all Ht.	OD	Funnels	Each	Optional Covers	Each
For Closed-Head Pails							
Funnel	1/2	2 3/4"	11"	40035T13	$43.33	40035T22	$35.38
For Closed-Head Drums							
Funnel	5 7/8	6"	18"	40035T16	34.56	40035T24	15.08
Funnel with Type 316 SS Screen	5 7/8	6"	18"	40035T14	39.06	40035T24	15.08
For Open-Head and Closed-Head Drums							
Funnel	4	5 1/2"	26"	40035T25	35.00	40035T27	38.33
Funnel with Flame Arrester	4	5 1/2"	26"	40035T26	191.67	40035T27	38.33

Large-Capacity Steel Drum Funnels

Hold up to 300 lbs. of oil-soaked parts in these large-capacity funnels, which mount on any 55-gal. drum. Spout feeds directly into a 2" drum opening. Drain pan has an angled bottom, a removable drain grid, and a valve to prevent overfilling the drum. Made of 16-ga. steel. Color is red.

Funnel ***with hinged cover*** can be closed manually in case of a fire.


With Open Top


With Hinged Cover

O'all Size, Lg. x Wd. x Ht.	With Open Top	Each	With Hinged Cover	Each
24" x 24" x 7 1/2"	40195T11	$303.70	40195T22	$405.56

Plastic Scoops

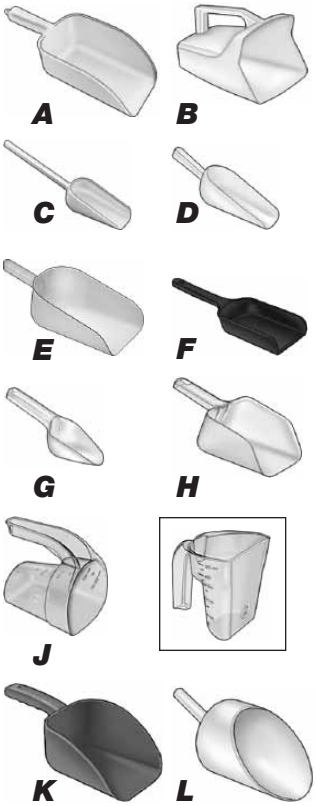

Styles B, D, E, F, K, and ***L*** are chemical resistant.
Styles B, G, H, and ***J*** meet NSF/ANSI standards.
Style C are individually sealed in a polyethylene bag and sterilized. Made from FDA-compliant resins.
Style J allow you to scoop and measure at the same time. Scoops have two flat sides so they can lay flat or stand on end. All come with 100 ml, ½ cup, and 4 oz. graduations (except 8750T4, which has 200 ml, 1 cup, and 8 oz. graduations.)
Style K come in a choice of colors. **To Order:** Please specify color.
Style L are thicker walled for heavy duty applications.

	Cap., oz.	Bowl Size Wd.	Bowl Size Lg.	Handle Lg.	Scoop Bottom	Hanging Eyelet	Available Colors		Each
Economy Polystyrene Scoops									
A	82	6¼″	10″	5¼″	Flat	Yes	Blue	4421T3	$4.51
A	82	6¼″	10″	5¼″	Flat	Yes	White	4421T2	4.53
Food-Grade Economy Polyethylene Scoop									
B	64	6⅛″	8¼″	6″	Flat	No	White	4418T1	8.28
Sterilized Polystyrene Scoops									
C	2	1⅝″	3″	5″	Flat	No	White	4107T3	1.39
C	4	2″	3 11/16″	5″	Flat	No	White	4107T5	1.82
C	8	2⅛″	5″	2½″	Round	No	White	4107T7	2.42
Autoclavable Polypropylene Scoops									
D	2.5	1½″	3½″	1⅞″	Round	No	Clear	4421T5	3.12
D	6.8	2″	5″	2½″	Round	No	Translucent	4421T4	3.21
E	37	4¾″	8″	4″	Flat	No	Translucent	4421T1	8.66
Polypropylene Scoop									
F	20	4⅜″	6⅞″	6½″	Flat	Yes	Black	4389T2	10.53
Food-Grade Clear Copolyester Scoops									
G	6	3¼″	5⅛″	4⅞″	Round	Yes	Clear	4421T6	7.69
H	32	4⅞″	6½″	5⅛″	Flat	Yes	Clear	4421T7	13.32
H	64	6″	8″	6″	Flat	Yes	Clear	4421T8	14.85
Food-Grade Clear Copolyester Scoops with Graduations									
J	16	4⅝″	5¼″	4¾″	Flat	Yes	Clear	8750T1	11.26
J	24	5⅛″	5 11/16″	5¾″	Flat	Yes	Clear	8750T2	13.30
J	32	5⅝″	6⅝″	6¼″	Flat	Yes	Clear	8750T3	14.72
J	64	7″	7⅜″	7″	Flat	Yes	Clear	8750T4	20.24
Choose-a-Color Autoclavable Polypropylene Scoops									
K	32	5″	7″	4½″	Flat	Yes	Blue, Green, Red, White, Yellow	4421T93	5.20
K	82	6½″	9¾″	5¼″	Flat	Yes	Blue, Green, Red, White, Yellow	4421T94	6.20
Heavy Duty Polyethylene Scoops									
L	64	5¾″	8″	5½″	Round	No	White	4425T2	38.71
L	128	7½″	10½″	6¾″	Round	No	White	4425T3	64.32

Metal Scoops

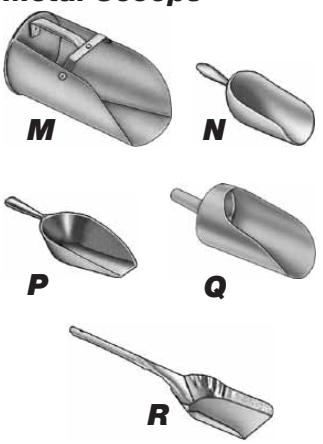

Style Q meets NSF/ANSI standards.

	Cap., oz.	Bowl Size Wd.	Bowl Size Lg.	Handle Lg.	Scoop Bottom	Hanging Eyelet		Each
Galvanized Steel Scoops								
M	96	6½″	8½″	4¾″	Flat	No	4408T2	$10.20
M	128	7″	11¼″	4¾″	Flat	No	4408T3	12.64
M	193	7″	12½″	4¾″	Flat	No	4408T4	13.64
Cast Aluminum Scoops								
N	4	2⅞″	5 3/16″	3½″	Round	No	4415T9	8.00
N	6	3⅛″	6 3/16″	3½″	Round	No	4415T11	9.55
N	8	3⅜″	5 3/16″	2⅝″	Round	No	4415T4	10.34
N	18	4⅜″	7 3/16″	3¼″	Round	No	4415T5	15.83
N	32	5⅜″	8 7/16″	4″	Round	No	4415T6	20.66
N	52	5⅞″	10 7/16″	4″	Round	No	4415T7	24.91
N	85	6¼″	11″	4″	Round	No	4415T82	26.58
P	4	3⅛″	5 3/16″	3″	Flat	No	4415T1	8.83
P	8	3⅞″	5 11/16″	3″	Flat	No	4415T2	10.42
P	12	4⅜″	6 7/16″	3″	Flat	No	4415T3	12.64
Food-Grade Type 304 Stainless Steel Scoops								
Q	8	2¾″	4″	4″	Round	No	9878T26	60.43
Q	16	3⅜″	5⅛″	4″	Round	No	9878T21	63.21
Q	32	4¼″	6⅝″	4″	Round	No	9878T22	72.17
Q	64	5″	8¼″	4″	Round	No	9878T23	74.32
Q	96	5¼″	9½″	4½″	Round	No	9878T16	86.32
Q	128	6¼″	8½″	4½″	Round	No	9878T24	98.40
Q	160	8″	10″	5″	Round	No	9878T18	103.41
Long-Handle Galvanized Steel Scoop								
R	8	4½″	7″	10″	Flat	Yes	4424T1	7.05

Polyethylene Cutting Boards

Boards have a textured, nonslip surface. They're nonabsorbent and will not chip, splinter, or crack. Meet NSF/ANSI standards.
Choose-a-color cutting boards are available in blue, beige, green, red, white, or yellow. Assign a different color cutting board to each task to prevent cross-contamination. **To Order:** Please specify color.
Stain-resistant cutting boards are formulated to protect against stains and odors for the life of the board. All meet EPA and FDA guidelines. Boards are white.

Size	CHOOSE-A-COLOR ½″ Thick	Each	CHOOSE-A-COLOR ¾″ Thick	Each	STAIN-RESISTANT ½″ Thick	Each
12″×12″	85865K21	$12.83	85865K31	$19.31	3354K811	$31.24
12″×18″	85865K22	19.20	85865K32	28.74	3354K821	45.10
15″×20″	85865K23	26.43	85865K33	39.69	3354K831	62.60
18″×24″	85865K24	38.31	85865K34	56.86	3354K841	81.36
24″×24″	85865K25	50.40	85865K35	75.66	3354K851	109.09

Utensils

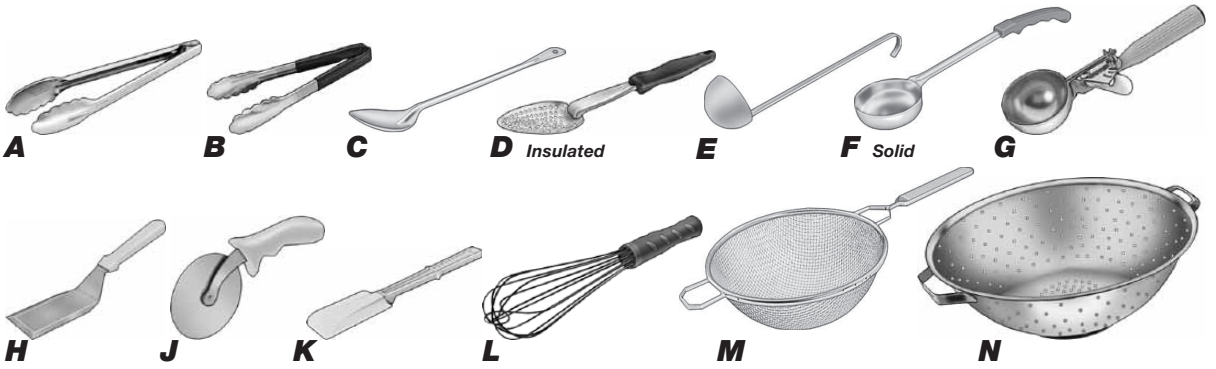

(K) Low-heat spatula resists heat up to 212° F, while the ***high-heat spatula*** resists heat up to 500° F.

		Meets NSF/ANSI Standards	Material	Size		
A	Tongs	No	Stainless Steel	12″ Long	7131T41	$4.46
B	Insulated Tongs	Yes	Stainless Steel; Plastic Handle	9½″ Long	7131T53	11.80
C	Solid Spoon	No	Stainless Steel	11″ Long	7131T42	3.56
C	Solid Spoon	No	Stainless Steel	18″ Long	7131T43	3.77
C	Insulated Solid Spoon	Yes	Stainless Steel; Plastic Handle	13 13/16″ Long	7131T25	12.60
D	Perforated Spoon	No	Stainless Steel	11″ Long	7131T44	3.56
D	Perforated Spoon	No	Stainless Steel	18″ Long	7131T45	3.90
D	Insulated Perforated Spoon	Yes	Stainless Steel; Plastic Handle	13 13/16″ Long	7131T26	12.78
E	Ladle—2 oz.	No	Stainless Steel	2¼″ Dia. Cup; 9⅞″ Long Handle	4394T2	11.93
E	Ladle—6 oz.	No	Stainless Steel	3⅝″ Dia. Cup; 12⅜″ Long Handle	4394T4	15.82
F	Solid Scoop—4 oz.	Yes	Stainless Steel; Plastic Handle	3¼″ Dia. Cup; 10″ Long Handle	7131T585	12.16
F	Perforated Scoop—4 oz.	Yes	Stainless Steel; Plastic Handle	3¼″ Dia. Cup; 10″ Long Handle	7131T586	12.16
G	Scoop w/Hand Release—4 oz.	Yes	Stainless Steel; Plastic Handle	2 13/16″ Dia. Cup; 6½″ Long Handle	7131T544	12.30
H	Utility Turner	No	Stainless Steel; Plastic Handle	5¼″ Sq. Blade; 11½″ Long	7131T48	3.91
J	Cutter	No	Stainless Steel; Plastic Handle	4″ Dia. Cutting Wheel; 9¾″ Long	7131T49	8.30
K	Low-Heat Spatula	Yes	Rubber; Plastic Handle	4¾″ × 2¾″ Blade; 14¾″ Long	7131T24	3.46
K	High-Heat Spatula	Yes	Silicone; Nylon Handle	4 5/16″ × 2¾″ Blade; 13½″ Long	7131T52	19.61
L	Mixing Whisk	Yes	Stainless Steel; Plastic Handle	12″ Long	7131T55	13.24
L	Mixing Whisk	Yes	Stainless Steel; Plastic Handle	18″ Long	7131T56	17.20
M	Strainer	No	Tin-Plated Steel; Wood Handle	6¼″ Dia. Bowl; 6″ Long Handle	7131T39	10.36
M	Strainer	No	Tin-Plated Carbon Steel; Wood Handle	10¼″ Dia. Bowl; 9″ Long Handle	7131T57	36.33
N	Colander—14 qt.	No	Stainless Steel	16¼″ Dia.	7131T38	34.69

Can Openers

(P-R) Manual Openers—*Style P* are large punch-style openers with a bottle opener. *Style Q* has vinyl-cushioned handles for a firm grip. *Style R* bolt to a table or workbench (mounting hardware included). To use, just crank the handle. Height is adjustable. Stainless steel opener meets NSF/ANSI standards.

(S) Electric Opener—This two-speed opener operates on 115 VAC, 60 Hz and draws 1.0 amp. Comes with a 6-ft. power cord with three-prong plug. UL listed.

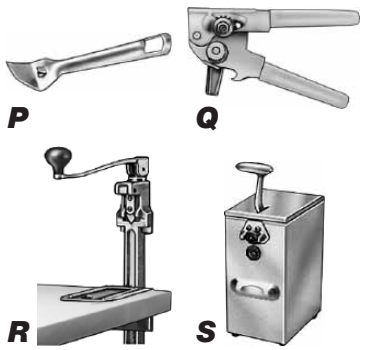

	Material	O'all Size		Each
Manual Openers				
Hand Held—*Maximum Can Height: Any*				
P	Nickel-Plated Steel	6¾″ Lg. × 1⅝″ Wd.	6118T4	$7.68
P	Stainless Steel	6⅞″ Lg. × 1⅝″ Wd.	6118T5	12.91
Q	Chrome-Plated Steel	7″ Lg. × 2¼″ Wd.	6118T1	8.06
Bench Mount—*Maximum Can Height: 11″*				
R	Cast Iron	9″ Lg. × 18½″ Ht.	6118T6	110.00
R	Stainless Steel	9″ Lg. × 20″ Ht.	6118T7	442.22
Electric Opener				
Bench Top—*Maximum Can Height: 6¾″*				
S	Stainless Steel	4½″ Wd. × 7″ Dp. × 12″ Ht.	6118T8	666.67

Stackable Trays



Use these durable trays to carry food and small parts. All have a rim to contain items and are dishwasher safe. Meet NSF/ANSI standards.

Economy polypropylene trays are lightweight and economical. **To Order:** Please specify color: light blue, light gray, or light peach.

Heavy duty fiberglass trays are impact, stain, odor, and scratch resistant. They also have a smooth finish. **To Order:** Please specify color: ivory, light blue, or light gray.

O'all Size, Wd. × Dp. × Ht.			Each	Pkg. Qty.	Per Pkg.
Economy Polypropylene Trays*—Max. temperature is 140° F.*					
16⅛″	× 11⅞″	× ½″	8475T7 $4.79	24	8475T21 $101.76
17¾″	× 13 13/16″	× ½″	8475T8 5.93	12	8475T22 62.16
Heavy Duty Fiberglass Trays*—Max. temperature is 160° F.*					
16 5/16″	× 12″	× 7/16″	9764T5 14.68	12	9764T53 154.44
18″	× 14″	× 9/16″	9764T6 17.53	12	9764T54 183.96
20¼″	× 15″	× ⅞″	9764T7 21.32	12	9764T55 223.68

Fry and Sauce Pans



Sauce Pan with Cover ***Fry Pan***

Made of aluminum, these pans and covers have a black, stay-cool silicone-rubber handle. They meet NSF/ANSI standards.

Fry pans have a non-stick coating for easy cleaning.

Top Dia.	O'all Ht.	Cap., qts.	Handle Lg.	*Pans*	Each	*Covers*	Each
Sauce Pans							
7¾″	4¼″	2¾	6¼″	4939T21	$29.34	4939T61	$14.68
9⅞″	5 9/16″	5½	7½″	4939T22	40.42	4939T62	17.82
Fry Pans							
8″	1 13/16″	—	6¼″	4249T11	27.64	4939T61	14.68
10″	2⅛″	—	7½″	4249T12	37.26	4249T52	18.10

Microwave Ovens


A


B


C

Cooking is fast and easy with these microwaves. All have an interior light and see-through door. They come with a power cord with three-prong plug and operate on 120 VAC, 60 Hz. UL listed.

(A) Economy Microwave Oven— This oven has 10 power levels, a digital display, a glass turntable that rotates food for even cooking, automatic defrost, and programmable controls that allow one-touch cooking. Comes with a 3-ft. power cord. The interior is made of steel, and the exterior is made of steel and plastic. Color is white.

(B&C) Commercial Microwave Ovens— Both models have bottom-feed heat distribution for uniform cooking. Come with a 4½-ft. power cord. Doors and interiors are made of stainless steel. Meet NSF/ANSI standards.

Style B has a dial timer that is clearly marked in 10-, 15-, and 30-second intervals to provide up to six minutes of cooking. Exterior is made of steel. Color is light gray.

Style C has 11 power levels, a digital display, and programmable controls for quick one-touch cooking. It also has automatic three-stage programming—you can program the oven to defrost food, begin cooking food at one level, and finish cooking food at another level. Exterior is made of stainless steel.

	O'all Size, Wd. × Dp. × Ht.	Inside Size, Wd. × Dp. × Ht.	Cap., cu. ft.	Amps		Each
Economy Microwave Oven						
A	21⅞″ × 16⅜″ × 12½″	14 11/16″ × 15⅝″ × 10¾″	1.4	13	4552T53	$207.09
Commercial Microwave Ovens						
B	20½″ × 16″ × 12⅛″	13⅞″ × 14⅝″ × 8⅛″	1.0	15	4438T75	322.66
C	20½″ × 16″ × 12⅛″	13⅞″ × 14⅝″ × 8⅛″	1.0	15	4438T76	551.25

Toasters


Four Slice

With their two wide slots, you'll find it's easy to brown your favorite breads and bagels. Toasters are commercial grade and made of chrome-plated steel. Come with a 6-ft. power cord with three-prong plug and operate on 120 VAC, 60 Hz. Meet NSF/ANSI standards and UL listed.

Slot Size, Lg. × Wd.	O'all Size, Wd. × Dp. × Ht.	Amps		Each
Two-Slice Toaster				
5½″ × 1⅜″	12″ × 7″ × 7½″	7.5	4933T12	$148.26
Four-Slice Toaster				
9¾″ × 1⅜″	17¼″ × 7″ × 7½″	12.5	4933T15	206.94

Mobile Food Warming Cabinet



Keep food warm during storage and transportation. You can set the temperature from 70° to 200° F. Cabinet is made of high-strength aluminum and has insulation in the top, sides, and doors. The doors have a magnetic latch and handle and can be reversed to open in the opposite direction.

Cabinet has 22 cu. ft. of work space. It has a 125-lb. capacity, and can hold up to 17 trays. Tray racks are spaced every 1½″ and are removable for easy cleaning. Cabinet has four swivel casters (two with brake) with 5″ dia. neoprene wheels. Includes a "power on" indicator light and 7½-ft. long power cord with three-prong plug. Operates on 120 VAC, 60 Hz, single phase and draws 16 amps. Meets NSF/ANSI standards. UL listed.

Tray is 18″ × 26″ with ⅛″ dia. perforations. Tray is made of aluminum.

O'all Size, Wd. × Dp. × Ht.	Inside Size, Wd. × Dp. × Ht.		Each
28″ × 30½″ × 74¾″	24¾″ × 26 3/16″ × 59½″	1346T75	$4,594.50
Perforated Tray		1346T34	46.66

Appliance Stand



Here's the perfect spot for your toaster, microwave, coffee maker, etc.—it even offers concealed storage space with a roll-out drawer and fixed shelf. Drawer has a 75-lb. capacity; shelf has a 125-lb. capacity. Door has a locking handle. Two keys are included. Stand is made of steel and has a particleboard top with a plastic-laminate surface. Color is gray. Shipped assembled.

O'all Size, Wd. × Dp. × Ht.	Drawer Size, Wd. × Dp. × Ht.		Each
36″ × 18″ × 31″	32″ × 15″ × 4″	9352T1	$366.32

Microwave Leak Detector



Find radiation leaks that occur from damage, misuse, or everyday wear and tear in microwave ovens. Detector has a digital display. It provides audible beeping and a red flashing light when radiation levels are detected above the prescribed U.S. minimum (5 milliwatts per square centimeter at a distance of 2″). Permanently calibrated. Operates on a 9V battery (included). Size is 6⅛″ Ht. × 2¼″ Wd. × 1½″ Dp.

1074T4 ..... **Each** $36.36

Insulated Beverage Dispensers/Coolers


5-Gallon Dispenser/Cooler with Optional Cup Dispenser and Cups

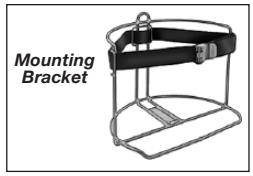
Mounting Bracket

Supply cool drinks wherever you need them. Dispensers/coolers are imprinted with "Drinking Water," have a push-button spigot, and have a pressure-fit lid. Made of rust-, chip-, and dent-resistant polyethylene. Color is safety yellow with a red lid.

Mounting bracket has weather-resistant, welded steel construction and a holding strap (mounting hardware not included).

Dispensers/Coolers

Cap., gal.	Handle Style	O'all Size, Dia. × Ht.		Each
2	Bail	11½″ × 14¾″	5616T11	$32.29
3	Bail	13½″ × 14″	5616T12	42.85
5	Side	14 5/16″ × 20⅜″	5616T13	49.47
10	Side	17¼″ × 23¼″	5616T14	76.19

Accessories

		Each
Mounting Bracket for 2-, 3-, and 5-gal. Sizes	5554T55	$73.24
Mounting Bracket for 10-gal. Size	5554T56	81.62
Cup Dispenser for 4-oz. Paper Cups	5554T53■	21.83
Cup Dispenser for 6-oz. Paper Cups	5554T64■	32.11
4-oz. Paper Cups—200/Pkg.	2713K31	**Per Pkg.** $4.80
6-oz. Paper Cups—200/Pkg.	52665T8	**Per Pkg.** $8.71

■ For 3-, 5-, and 10-gal. coolers only.

Water Bottles


D ***E***

Style D is clear and has a flip-up lid.

Style E is vacuum-insulated to keep beverages cold up to 12 hours. Comes with a rubber comfort grip and plastic flip-up lid.

Cap.	O'all Size, Dia. × Ht.		Each
(D) Polypropylene Water Bottle			
32 oz./946 ml	2¾″ × 10½″	4726T4	$8.00
(E) Stainless Steel Insulated Water Bottle			
18 oz./500 ml	2⅝″ × 10″	4726T7	20.77

Coffee, Tea, and Hot Chocolate

	Cups/ Packet or Bag	Packets or Bags/ Case		Per Case
Coffee				
Drip-Style Packets				
Regular	12	42	3586T4	$31.64
Decaffeinated	12	42	3586T5	35.24
Premium (Dark Roast)	12	20	3586T31	35.55
Percolator-Style Bag				
Regular (12 oz.)	76	1	3586T32	7.44
Tea Bags				
Regular Black	1	100	3586T16	5.14
Hot Chocolate Packets				
Regular	1	50	3586T14	15.96
Sugar Free	1	24	3586T45	10.00
				Each
Accessories				
Creamer (12 oz.)	—	—	3586T2	$2.27
Sugar (20 oz.)	—	—	3586T1	2.72

Coffee Makers

These coffee makers meet NSF/ANSI standards and are UL listed. All come with a 6-ft. power cord (unless noted) with a three-prong plug and operate on 120 VAC, 60 Hz.

(A&B) Fast-Brewing Drip-Style Coffee Makers— Get 12 cups of coffee in four to five minutes. These coffee makers have a top warming plate with separate on/off switch and a plastic brewing basket. Made of stainless steel. Both require paper filters (sold separately below).

Style B has a brass 1/4″ NPT male inline water connection to connect directly to a water source; coffee maker then fills automatically with water when you press the "brew" button. It comes with a 5-ft. power cord and includes a hot-water spout for tea or hot chocolate.

Decanters are made of glass and are sold separately below.

(C) Large-Capacity Percolator-Style Coffee Makers— The perfect choice when you need to make coffee for a crowd. Made of polished aluminum with plastic handles. No filters required.

Model 6159T15 has a coffee-level gauge and an on/off switch.



A&B
Shown with Decanter



C
6159T15

	Cap., Cups of Coffee	O'all Size, Wd. x Dp. x Ht.	Amps		Each
Fast-Brewing Drip-Style Coffee Maker					
A	12	8 3/4″ × 14″ × 16 7/8″	14.2	4739T11	$400.00
Inline Fast-Brewing Drip-Style Coffee Maker					
B	12	8 3/4″ × 16 7/8″ × 16 7/8″	14.2	4739T14	803.38
Large-Capacity Percolator-Style Coffee Makers					
C	36	11 7/8″ Dia. × 17 3/8″ Ht.	9.1	6159T16	102.96
C	100	14 1/2″ Dia. × 20 1/2″ Ht.	12.5	6159T15	177.21

Accessories

For Coffee Maker Style			Each
A&B	Regular Decanter (Black Handle)	4739T2	$9.78
A&B	Decaffeinated Decanter (Orange Handle)	4739T4	9.78
A&B	Paper Filters (1,000/Pkg.)	4739T3	**Per Pkg.** $19.93

Coffee Maker Cleaner

No more nightmares about what's lurking in your coffee maker, this cleaner gets inside for a complete cleaning. Cleaner comes in a filter-paper packet that cleans the brew basket, urn, sight glass, and spigot. Each packet cleans a 12-cup coffee maker. There are 24 packets per package. *Note:* Not for use with aluminum.

6199T1 ..... **Per Pkg.** $10.81

Electric Kettle

Not just a teapot—this kettle boils water faster than a microwave oven. It charges in a base that has a 3-ft. power cord with a three-prong plug; operates on 120 VAC, 60 Hz; and draws 12.5 amps. Kettle lifts freely from the base—no cords attached—making it easy to pour.



Cap.	O'all Size, Wd. x Dp. x Ht.		Each
56 oz.	9″ × 7 1/2″ × 10″	7325T1	$66.10

Gatorade Thirst Quenchers and Coolers

Quickly rehydrate your body; Gatorade replaces fluids, carbohydrates, and minerals when mixed with water. And now, thanks to the convenient 1-oz. packets, you can have Gatorade wherever you have bottled water; simply add these packets to your 20 fl. oz. water bottle.

Counting calories? ***G2*** has half the calories of regular Gatorade.



Mobile Stand with Cooler

Liquid Concentrate

To Order: Please specify flavor: fruit punch, lemon-lime, or orange.

Size	Makes	Case Qty.		Each 1-3	Each 4-Up
1 gal.	6 gal.	4	52665T9	$12.47	$11.22

Instant Powder

To Order: Please specify flavor: fruit punch, glacier freeze (citrus base), lemon-lime, orange, or riptide rush (berry base), unless noted. The 21-oz. size also has a variety pack, which includes eight each of fruit punch, lemon-lime, orange, and riptide rush.

Packet Size	Packet Makes	Case Qty.		Per Case
Gatorade				
8.5 oz.	1 gal.	40	52665T41★	$73.18
21 oz.	2 1/2 gal.	32	52665T2	138.56
51 oz.	6 gal.	14	52665T3	128.21

★ Glacier freeze is not available.

Instant Powder for Bottled Water

Add packet to any 20 fl. oz. water bottle.

Gatorade is available in three flavors. **To Order:** Please specify flavor: fruit punch, lemon-lime, or orange.

G2 is available in two flavors. **To Order:** Please specify flavor: fruit punch or grape.

Packet Size	Packet Makes	Case Qty.		Per Case
Gatorade				
1.23 oz.	20 oz.	8	52665T52	$4.68
G2				
0.52 oz.	20 oz.	8	52665T53	4.68

Coolers, Mobile Stand, and Cups

Coolers are polyethylene with insulation in the lid and base. Color is orange with a white screw-on lid.

Mobile stand is made of steel and has four swivel casters with 3″ dia. polyurethane wheels. Overall height is 39″.

Cooler Cap., gal.	O'all Size, Dia. x Ht.		Each
3	11 1/2″ × 16 1/4″	52665T5	$53.56
7 (Has Cup Dispenser)	15 3/8″ × 15 15/16″	52665T6	83.55
10 (Has Cup Dispenser)	15 7/8″ × 20 1/2″	52665T7	102.48
Mobile Stand for 3-, 7-, and 10-gal. Coolers		52665T43	529.17
6-oz. Paper Cups for Dispenser—200/Pkg.		52665T8	**Per Pkg.** $8.71

Beverage Dispensers

(D) Pitcher— Made of clear polycarbonate with a pour spout and lid. Meets NSF/ANSI standards.

(E) Insulated Pitcher— Durable white ABS plastic with foam-insulated walls. Press the thumb trigger to pour.

(F) Pump-Style Insulated Dispenser— Dispenser is made of brushed stainless steel with an unbreakable stainless steel liner and a black polypropylene lid. Pump the lever to pour.



D ***E*** ***F***

	Cap.	O'all Size, Dia. x Ht.		Each
D	64 oz.	5 1/2″ × 9 11/16″	4509T7	$20.95
E	33 oz.	5″ × 9 1/4″	4509T2	24.71
F	85 oz.	8″ × 13 3/4″	4509T3	73.17

Food Service Wrap

Furnished in a box with a cutter blade.

	Clear Plastic Wrap			Aluminum Foil		
Wd.	Ft./Roll		Each	Ft./Roll		Each
12″	1,000	6712T11	$14.53	500	9060K12	$50.24
18″	1,000	6712T12	19.24	500	9060K17	72.65

Flatware, Plates, Bowls, and Cups


Disposable


Reusable

Reusable plastic plates and ***bowls*** are virtually unbreakable and meet NSF/ANSI standards.

	Pkg. Qty.		Pkg.
Disposable			
Plastic Flatware—*White*			
Forks	100	**9769T21**	$8.10
Knives	100	**9769T22**	8.10
Teaspoons	100	**9769T23**	8.10
Soup Spoons	100	**9769T24**	8.95
Packaged Set▲	25	**9769T29**	11.73
Foam Plates—*White*			
9″ Dia.	125	**9769T52**	14.61
Plastic-Coated Paper Plates—*White with design*			
9″ Dia.	125	**9769T62**	22.64
Foam Bowls—*White*			
12 oz. (5⅞″ Dia.)	125	**9769T81**	9.19
Foam Hot/Cold Cups—*White with design*			
8 oz. (3⅛″ Dia. Rim)	100	**9769T31**	10.78
12 oz. (3⁷⁄₁₆″ Dia. Rim)	100	**9769T35**	15.21
16 oz.	50	**9769T36**	9.81
20 oz.	30	**9769T38**	7.27
Lid for 8-oz. Cup	100	**9769T37**	4.96
Lid for 12-, 16- and 20-oz. Cups	100	**9769T39**	5.70
Wax-Coated Paper Cold Cups—*White with design*			
9 oz. (3″ Dia. Rim)	100	**9769T41**	9.16
16 oz. (3½″ Dia. Rim)	50	**9769T772**	7.20
Lid for 9-oz. Cup	100	**9769T47**	6.09
Lid for 16-oz. Cup	125	**9769T775**	8.32
Reusable			
Stainless Steel Flatware			
Forks	12	**9748T11**	17.64
Knives	12	**9748T12**	33.30
Teaspoons	12	**9748T13**	12.60
Plastic Plates— To Order: *Please specify black or tan*			
9″ Dia.	12	**9724T81**	93.15
Plastic Bowls— To Order: *Please specify black or tan*			
15 oz. (5¼″ Dia.)	12	**9724T82**	67.84
Plastic Glassware—*Clear*			
9½ oz. (2¾″ Dia. Rim)	6	**9724T83**	8.92
16 oz. (3¼″ Dia. Rim)	6	**9724T84**	10.83

▲Set includes one fork, knife, teaspoon, and a napkin.

Napkin Dispensers and Napkins


A


B

All dispense from both sides and hold a maximum of 150 napkins (sold separately).

Napkin Dispensers

	O'all Size, Wd. × Dp. × Ht.	Material		Each
A	3¾″ × 4″ × 5½″	Stainless Steel	**4945T41**	$13.17
A	3¾″ × 4″ × 5½″	Steel w/Black Finish	**4945T3**	13.17
B	3⅞″ × 4¾″ × 7½″	Stainless Steel	**4945T23**	18.00
B	4″ × 4⅜″ × 7⅜″	Steel w/Black Finish	**4945T22**	27.88

Napkins

For Dispenser Style	Open Napkin Size	Pkg. Qty.		Pkg.
A	6″ × 12″	500	**4945T63**	$3.59
B	6″ × 13″	500	**4945T61**	3.71

Condiment Shakers and Dispensers


C


D


E


F


G

Our handy shakers and dispensers make it easy to add a little spice to your food.

Style C is made of glass with a stainless steel top.
Style D is made of glass with a stainless steel top.
Style E is polystyrene. Color is clear.
Style F is perfect for dispensing condiments, and is made of polyethylene. Color is semi-clear. Package quantity is 12.
Style G is made of paper. Color is white. Package quantity is 250.

	O'all Size, Wd. × Dp. × Ht.	Cap., oz.		Each
(C) Salt/Pepper Shaker	1½″ × 1½″ × 4″	2	**7581T11**	$2.50
(D) Sugar Dispenser	2¾″ Dia. × 5½″ Ht.	12	**7581T13**	3.36
(E) Sugar Packet Dispenser	2½″ × 3⁵⁄₁₆″ × 2″	—	**7581T15**	2.52
				Per Pkg.
(F) Squeeze Bottle	2″ Dia. × 7¼″ Ht.	8	**4370T11**	$1.54
(G) Condiment Cup	2″ Dia. × 1¼″ Ht.	2	**7581T22**	6.64

Flatware Containers


Tray


Stand with Cylinders

Made of easy-to-clean polyethylene. ***Tray*** has four compartments. Each compartment is 4″ wide. ***Stand with cylinders*** has six removable cylinders that are 3¾″ Dia. × 5⅝″ Ht.

	O'all Size, Wd. × Dp. × Ht.	Color		Each
Tray	21⅝″ × 11⅞″ × 3¾″	Gray	**9758T3**	$15.87
Stand with Cylinders	15⅛″ × 10¾″ × 11″	Gray	**9758T28**	67.84

Straws, Stir Sticks, Toothpicks, and Dispensers


Dispenser for Straws


Dispenser for Stir Sticks

Straws, stir sticks, and ***toothpicks*** (all sold separately) come packaged in disposable, self-dispensing boxes. *Toothpicks* are mint flavored.

Straw dispenser has a steel housing with vinyl-coated woodgrain oak finish. It dispenses wrapped straws that are 7½″ to 8¾″ long.

Stir stick dispenser is made of clear acrylic. It dispenses stir sticks up to 5½″ long with a turn of the knob.

Straws, Stir Sticks, and Toothpicks

	Lg.	Box Qty.		Per Box
Wrapped Plastic Straws	7¾″	500	**5506T41**	$5.26
Plastic Stir Sticks	5″	1,000	**5506T42**	6.34
Wrapped Wood Toothpicks	3″	1,000	**5506T43**	4.20

Dispensers

	O'all Size, Wd. × Dp. × Ht.	Cap.		Each
For Straws	9″ × 4″ × 7″	200 Straws	**5506T31**	$72.90
For Stir Sticks	6¼″ × 3¾″ × 5½″	150 Stir Sticks	**5506T32**	26.64

Cup Dispensers

All dispensers can be adjusted to accept paper, plastic, and/or foam cups (not included) with different brim diameters. Made of stainless steel.

Wall-mount dispensers allow you to load cups in the top and pull from the bottom. Mounting hardware included.

Countertop dispensers have nonskid plastic feet. Cups load in and pull out from one side. *Note:* Dispensers cannot be stacked.

Paper cups are wax-coated.



O'all Size, Wd.×Dp.×Ht.	Accepts Cup Brim Dia.	Max. Cup Capacity		Each
Wall-Mount Dispensers				
23⅛″ Ht.	2¾″-3⅜″	50	4513T2	$46.76
23⅛″ Ht.	3¼″-3⅞″	50	4513T3	50.38
Countertop Dispenser				
8″×24″×8″	2⅜″-5 1⁄16″	50	4513T5	197.90
9-oz. Paper Cups (3″ Dia. Brim)—100/Pkg.			9769T41	Per Pkg. $9.16
16-oz. Paper Cups (3½″ Dia. Brim)—50/Pkg.			9769T772	Per Pkg. $7.20

Cup Holders





Need an extra hand? Place your drink in one of these self-leveling holders. The rubberized swivel joint adjusts to any position or angle and provides vibration protection. Holder is 4″ high with a 3½″ dia. top that tapers to 3″ at the bottom. Bottom has a 1½″ hole for drainage. Holder is made of ABS plastic; mounting flanges and arm are made of aluminum with a black finish. Mounting hardware included for all except the screw mounting style, which has seven 7⁄32″ dia. holes.

Mounting Style	Mounting Feature	Mounting Flange Dia.		Each
Screw	Permanent Mount	2 7⁄16″	5338T1	$28.62
Magnetic	Most Metallic Surfaces	2 9⁄16″	5338T2	41.71
Suction	Smooth, Nonporous Surfaces	2 1⁄8″	5338T3	37.14
U-Bolt	For 1⁄4″ to 1 1⁄4″ dia. Pipes	—	5338T4	35.16

Reusable Ice Packs



Less messy than ice, these packs are durable, reusable, and keep contents colder longer than ice. Made of purified water, they are nonstaining and safe for food. Each pack consists of smaller cubes that can be cut apart and used individually. Each cube is 3″ Wd.×2″ Dp. Outer jacket is made of flexible polyethylene.

No. of Cubes	O'all Size, Wd.×Dp.		Each
18	12″× 9″	5404K1	$1.87
36	18″×12″	5404K2	2.84

Ice Chests

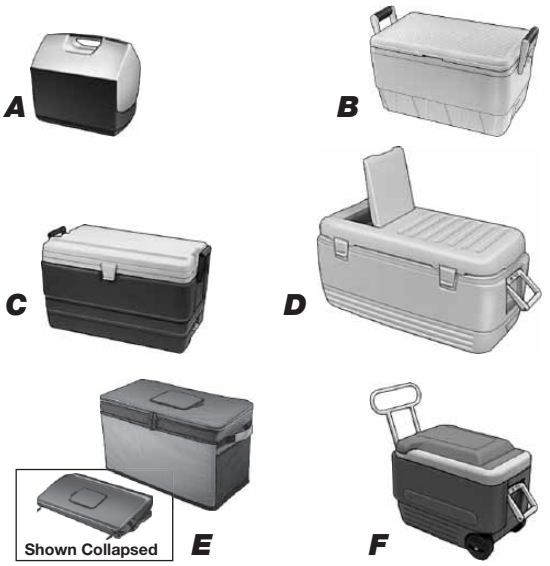

Made of plastic, these chests are insulated to keep contents cold.

Style A have a push-button lid that swings to either side and locks in the closed position to prevent spills.

Styles B-D have a hinged lid, lid latch (unless noted), swing-up side handles, and a drain plug (unless noted). *Style B* also has a lid strap. *Style D* also have a convenient hatch that allows access to the chest without opening the lid.

Style E allows compact storage; its collapsed size is 24″ Wd.× 12″ Dp.×3″ Ht. It has a soft, nylon fabric cover and a leakproof lining.

Style F has a domed lid, lid latch, and swing-up side handles. Also includes a pivoting handle and two 4⅝″ dia. polyethylene wheels.

	Cap., qts.	O'all Size, Wd.×Dp.×Ht.		Color of Body/Lid		Each
Portable Ice Chests						
A	7	11¾″ × 8 1⁄4″	×12″	Blue/White	4283T66	$18.83
A	16	15⅞″	×10 1⁄4″ ×14⅞″	Blue/White	4283T67	31.59
B	36	24 1⁄4″	×13⅝″	×13″	White/White	4283T69★ 58.64
C	25	20″	×11 1⁄4″	×13 1⁄8″	White/White	4283T68★ 46.41
C	52	25⅜″	×14¾″	×14⅜″	Red/White	4283T64● 48.33
C	72	29 1⁄2″	×16 1⁄2″	×16⅛″	White/White	4283T65 118.24
D	100	35 1⁄4″	×17⅜″	×16¾″	White/White	4283T71 120.83
D	150	41⅝″	×18¾″	×20 1⁄4″	White/White	4283T73 132.43
Portable/Collapsible Ice Chest						
E	50	24 7⁄16″	×12 3⁄16″	×14 15⁄16″	Green or Red/Gray	4283T32 36.99
Mobile Ice Chests						
F	40	22 15⁄16″	×13 1⁄2″	×17 1⁄2″	Dark Blue/Blue	44755T3 62.53

★Does not include drain plug. ●Does not include lid latch or drain plug.

Ice Makers

Always have ice when you need it but never more than you can store; all machines stop producing ice automatically when their bin is full. They operate on 115 VAC, 60 Hz. Styles J and L come with adjustable legs for uneven surfaces. All produce cubed ice except Style H, which produces crescent-shaped ice. All are UL listed except Style K.

Note: Regular maintenance is required so machines run efficiently. ***Liquid cleaner*** for Styles J-L keeps water lines clear and is sold separately below.

Styles H&J—Both include a power cord with three-prong plug.

Style H does not require a drain. The exterior is made of steel; color is white. The interior is polystyrene and has a removable, clear plastic storage bin. Comes with a compression fitting that accepts 1⁄4″ OD copper tubing for water inlet and a 5-ft. power cord.

Style J exterior is stainless steel with a black plastic door. The interior is polyethylene with a molded-in storage bin. Comes with a 3⁄4″ male GHT (garden hose thread) connection for water inlet and a 6-ft. power cord. A 36″ long drain hose is included. Requires a 5″ clearance for the top, sides, and back.

Styles K&L—These high-capacity machines have a stainless steel housing, molded-in polyethylene storage bin, and black plastic door. Come with a 3⁄8″ NPT female threaded water inlet connection. Meet NSF/ANSI standards.

Style K has a 6-ft. power cord, three-prong NEMA 5-15 plug (see page 820 for plug configurations), and 1⁄2″ NPT female threaded bin drain. It requires a 5″ clearance for the top, sides, and back.

Style L must be hardwired. It has a 3⁄4″ NPT female threaded bin drain and requires an 8″ clearance for the top and sides; 5″ clearance for the back.



	lbs. of Ice per 24 hrs.	Bin Cap., lbs.	O'all Size, Wd.×Dp.×Ht.			Amps		Each
H	25	25	14 15⁄16″	×20″	×27⅜″	2.5	4474T29	$1,384.34
J	65	30	19 11⁄16″	×22⅜″	×36″	4	4474T15	2,160.16
K	225	80	26″	×28″	×38½″	6	4474T13	2,597.29
L	420	290	30″	×34″	×59½″	13.2	4474T12	3,925.14
16-oz. Liquid Cleaner for Styles J-L							4474T52	21.67

Compact Refrigerators and Freezers



Combination Refrigerator/Freezer

We've got what you need to keep things cool. All models have a steel cabinet with white finish and plastic liners. They have a power cord with three-prong plug and operate on 115 VAC, 60 Hz.

Combination refrigerator/freezer has three adjustable shelves, three door shelves, and a dial control to select cool, cold, or coldest. Requires 2″ clearance for the top and sides as well as 5″ clearance for the back. Freezer has 0.4 cu. ft. of space and a manual defrost. Includes one ice cube tray and a 6-ft. power cord. CSA certified.

Critical application refrigerator and ***critical application freezers*** are equipped with an oversized fan motor to maintain critical temperatures. They also provide fast cooling times and quick temperature recovery after the door has been opened—excellent for science and laboratory applications. All are UL and C-UL listed.

Refrigerator has three shelves and a 5½-ft. power cord. Also has an exterior mounted control with temperature display. Monitor provides visual and audible alarms for over/under temperature and door ajar conditions.

Freezers have a manual defrost to maintain set temperature and protect contents. The *1.5 cu. ft. model* has a 7-ft. power cord and the *4.5 cu. ft. model* has an 5½-ft. power cord and one shelf.



Critical Application Refrigerator

Cap., cu. ft.	O'all Size, Wd. × Dp. × Ht.	Amps	Temp. Range, °F	Est. Yearly Energy Cost, $■		Each
Combination Refrigerator/Freezer						
4.4	20 11/16″ × 20 7/8″ × 32 11/16″	1.2	34° to 44°★	27.00	4551T33	$284.38
Critical Application Refrigerator						
5.6	23 7/8″ × 23 5/8″ × 33 7/8″	3.3	34° to 45°	Not Rated	6333T45	1,496.06
Critical Application Freezers						
1.5	14 7/8″ × 22 1/8″ × 24 1/4″	3.3	–4°	Not Rated	6333T42	965.64
4.5	23 7/8″ × 24″ × 34″	3.3	–13° to 10°	Not Rated	6333T43	1,372.65

■ The estimated yearly energy cost is based on $0.12 per kWh. For more information, visit www.ftc.gov/energy.
★ Temp. range for the refrigerator.

Dishwasher Racks

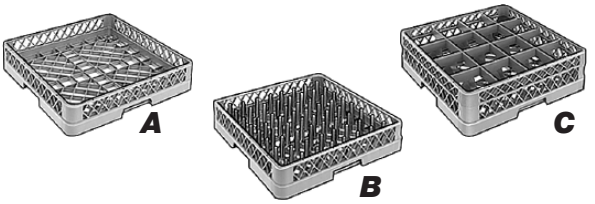

With their open design, these racks allow you to thoroughly wash and dry plates, trays, glasses, flatware, and even parts. They have handles on all four sides. Made of durable plastic with a double-wall construction to provide the chemical, impact, and heat resistance (up to 180° F) you need. Color is beige. Meet NSF/ANSI standards.

(A) Open rack is the choice for large or irregularly shaped items.

(B) Supporting rack has pegs to support large plates and trays. It also holds cups, glasses, and bowls.

(C) Compartment rack has 16 individual compartments to protect your glassware. Each compartment is 4 7/16″ square × 4 13/16″ high.

		O'all Size, Wd. × Dp. × Ht.		Each
A	Open Rack	19 3/4″ × 19 3/4″ × 4″	4948T61	$25.13
B	Supporting Rack	19 3/4″ × 19 3/4″ × 4″	4948T62	25.13
C	Compartment Rack	19 3/4″ × 19 3/4″ × 5 9/16″	4948T63	44.53

Plastic Cups



All cups can be nested. Styles D and E are great for small-batch mixing.

(D) Clear polypropylene Cups have a max. temperature of 225° F.

(E) Translucent polystyrene cup has a max. temperature of 200° F.

Optional lids for D and E cups are made of clear polyethylene. Max. temperature is 155° F.

(F) Translucent polypropylene cups with lid have a max. temperature of 176° F.

(G) Translucent polyethylene cups with lid have a max. temperature of 176° F.

			Cups		Optional Lids	
Cap., oz.	Top OD	O'all Ht.	Pkg. Qty.	Per Pkg.	Pkg. Qty.	Per Pkg.
(D) Clear Polypropylene Cups						
½	1 11/16″	5/8″	125	1865T31 $3.96	100	1865T73 $3.02
1	1 11/16″	1 5/16″	125	1865T33 4.43	100	1865T73 3.02
2½	2 3/8″	1 5/8″	125	1865T35 8.03	100	1865T72 3.71
(E) Translucent Polystyrene Cup						
1¼	1 11/16″	1 5/8″	250	1865T24 10.94	100	1865T73 3.02
(F) Translucent Polypropylene Cups with Lid						
8	3 1/8″	3 1/4″	25	41635T43 13.44	—	—
16	3 5/8″	3 5/8″	10	41635T44 7.50	—	—
32	4 1/2″	5 1/4″	10	41635T45 11.66	—	—
(G) Translucent Polyethylene Cups with Lid						
4	3 1/8″	1 1/2″	25	41635T42 13.02	—	—
68	5 7/8″	6 1/4″	5	41635T46 10.55	—	—

Flexible Silicone Bowls



Being flexible is easy with these silicone bowls—you can form a spout anywhere on the rim for easy pouring. Bowls have a textured exterior for a secure grip and interior graduations at half and full capacity. All can be nested. Max. temperature is 490° F. **To Order:** Please specify color: green, red, or white.

Cap., qts.	Top OD	O'all Ht.		Each
1	5½″	5⅛″	8982T2	$15.91
1½	6 11/16″	5⅜″	8982T3	19.89
2	7 7/8″	5½″	8982T4	22.72

Stainless Steel Cups and Bowls



Cups



Bowls

Made of 300 series stainless steel. All can be nested.

Cap.	Top OD	O'all Ht.		Each
Cups				
2½ oz.	2 7/16″	1½″	1811T43	$0.90
6 oz.	3″	2″	1811T41	5.72
14 oz.	5″	2½″	1811T42	7.88
Bowls				
¾ qts.	6½″	2½″	1811T17	6.65
1½ qts.	7⅞″	2⅞″	1811T16	9.64
4 qts.	10⅝″	4″	1811T18	16.69
8 qts.	13½″	4⅝″	1811T22	24.83
13 qts.	16¼″	5⅛″	1811T24	39.45
20 qts.	18⅞″	6″	1811T26	50.34

Snap-Together Plastic Storage Containers



Not only can container bottoms snap into lids for secure stacking, but lids also snap onto each other for convenient storage. Containers are made of clear plastic and are crack and stain resistant. Lids are made of gray plastic with a translucent gray window. All can be nested. Maximum temperature is 190° F. Containers meet NSF/ANSI standards.

Cap., qts.	Top Outside Size, Lg. × Wd. × Ht.		Each
½	5 1/16″ × 5 1/16″ × 3 3/8″	5238T22	$5.02
¾	7 1/8″ × 7 1/8″ × 2 1/2″	5238T33	7.24
1¼	7 1/8″ × 7 1/8″ × 3 9/16″	5238T44	8.78

Airtight Plastic Storage Containers

All containers are made from FDA-compliant resins. Not rated for temperature.

(A) Airtight containers have lids that snap closed to form an airtight seal and have a hand grip. Containers are made of clear polyethylene; lids are made of white polypropylene.

(B) Airtight and watertight containers have a silicone seal and lids that snap closed on all sides. Containers can be nested without lids and stacked when used with lids. Containers and lids are made of translucent polypropylene.

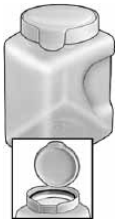

A



B

Cap., qts.	O'all Size, Lg. × Wd. × Ht.		Each
(A) Airtight Containers			
1	4¼″ × 3¾″ × 6¼″	6668A54	$6.86
2¾	5½″ × 4¾″ × 8½″	6668A56	8.00
3 15/16	5½″ × 4¾″ × 10¾″	6668A58	9.14
(B) Airtight and Watertight Containers			
5/16	4¼″ × 4¼″ × 2½″	6840A21	3.86
½	6¼″ × 4¼″ × 2¼″	6840A11	3.89
1⅛	8½″ × 6¼″ × 2½″	6840A12	5.33
1 13/16	6¼″ × 4¼″ × 6¾″	6840A13	7.74
2	10″ × 8½″ × 2¼″	6840A18	7.57
2 11/16	8½″ × 6¼″ × 4½″	6840A14	8.00
5¾	8½″ × 6¼″ × 9″	6840A15	10.71
10	10″ × 8½″ × 9″	6840A19	17.14

Clear Plastic Storage Containers

Containers and lids are polystyrene, and containers can be stacked when used with lids.

(C) Small containers with lid have a tight-fitting lid. Max. temperature is 140° F.

(D) Containers with lid have molded-in handles, except 4494T26, which does not have handles. All can be nested and have a tight-fitting lid. Max. temperature is 120° F.

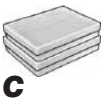

C



D

Top Outside Size, Lg. × Wd. × Ht.		Each
(C) Small Containers with Lid		
1 1/8″ × 1 1/8″ × 7/8″	9981T33	$0.96
2 1/8″ × 2 1/8″ × 7/8″	9981T34	1.84
5¾″ × 4 7/16″ × 1 1/4″	9981T37	2.11
(D) Containers with Lid		
5½″ × 5½″ × 4⅜″	4494T22	7.36
11″ × 5½″ × 4⅜″	4494T24	10.93
11″ × 11″ × 4⅜″	4494T26	19.84
12½″ × 6⅜″ × 3¾″	9981T26	4.17

Plastic Storage Containers and Snap-On Lids



E With Optional Lid



F With Optional Lid



G With Optional Lid



H With Optional Lid



J&K With Optional Lid

These containers are made of FDA-listed material, and they meet NSF/ANSI Standard 2 for food equipment, unless otherwise stated. *Copolyester* (Styles H&J) and *polycarbonate* (Style K) containers are crack and stain resistant.

(E) Round containers with graduations have handles and 1 qt. and 1 L graduations. Max. temperature is 212° F. *Optional lids* are made of yellow polyethylene.

(F) Rectangular containers have handles, a marking area for labeling with a grease pencil, and can be nested. Max. temperature is 150° F. *Optional lids* are made of white polyethylene.

(G) Square containers with graduations have 1 qt. and 1 L graduations and can be nested. Max. temperature is 170° F. *Optional lids* are made of translucent polypropylene. They do not meet NSF/ANSI Standard 2 for food equipment.

(H) Rectangular containers with graduations have handles and 1 qt. and 1 L graduations. Max. temperature is 212° F. Cannot be sold in CT, ME, or VT. *Optional lids* are made of translucent white polyethylene.

(J) Rectangular containers have handles, a marking area for labeling with a grease pencil, and can be nested. Max. temperature is 212° F. Cannot be sold in CT, ME, or VT. *Optional lids* are made of clear polycarbonate.

(K) Choose-a-color rectangular containers allow for better identification of contents and safer handling through color coding. All have handles and can be nested. Containers are clear with a color tint. Max. temperature is 212° F. **To Order:** Please specify color: blue, green, red, or yellow.

Cap., qts.	Top Outside Size, Lg. × Wd. × Ht.	Containers	Each	Optional Lids	Each
White Polyethylene					
(E) Round Containers with Graduations					
2	8½″ Dia. × 4″ Ht.	8993T54	$3.84	8993T64	$2.88
4	8½″ Dia. × 7¾″ Ht.	8993T55	5.49	8993T64	2.88
6	10″ Dia. × 7⅝″ Ht.	8993T56	6.82	8993T65	3.03
8	10″ Dia. × 10⅝″ Ht.	8993T57	7.76	8993T65	3.03
12	13⅛″ Dia. × 8⅛″ Ht.	8993T58	13.87	8993T66	7.38
18	13⅛″ Dia. × 11⅞″ Ht.	8993T59	17.51	8993T66	7.38
22	13⅛″ Dia. × 14″ Ht.	8993T63	17.97	8993T66	7.38
(F) Rectangular Containers					
8	18″ × 12″ × 3½″	4533T61	15.61	4533T25	11.30
14	18″ × 12″ × 6″	4533T62	19.31	4533T25	11.30
20	18″ × 12″ × 9″	4533T63	25.76	4533T25	11.30
20	26″ × 18″ × 3½″	4533T41	27.51	4533T23	19.31
34	26″ × 18″ × 6″	4533T42	34.31	4533T23	19.31
50	26″ × 18″ × 9″	4533T43	44.48	4533T23	19.31
66½	26″ × 18″ × 12″	4533T44	63.49	4533T23	19.31
86	26″ × 18″ × 15″	4533T45	66.11	4533T23	19.31
Translucent Polypropylene					
(G) Square Containers with Graduations					
2	6⅝″ × 6⅝″ × 4⅛″	8993T21	4.38	8993T26	1.64
4	6⅝″ × 6⅝″ × 8⅛″	8993T22	6.78	8993T26	1.64
6	8⅝″ × 8⅝″ × 6⅞″	8993T23	8.04	8993T27	2.91
8	8⅝″ × 8⅝″ × 9¼″	8993T24	9.82	8993T27	2.91

Cap., qts.	Top Outside Size, Lg. × Wd. × Ht.	Containers	Each	Optional Lids	Each
Clear Copolyester					
(H) Rectangular Containers with Graduations					
2	8¾″ × 8 5/16″ × 2 11/16″	8993T41	$8.89	8993T48	$5.91
4	8¾″ × 8 5/16″ × 4¾″	8993T42	12.96	8993T48	5.91
6	8¾″ × 8 5/16″ × 6 15/16″	8993T43	16.16	8993T48	5.91
8	8¾″ × 8 5/16″ × 8¾″	8993T44	18.38	8993T48	5.91
12	11 5/16″ × 10½″ × 7¾″	8993T45	28.20	8993T49	8.20
18	11 5/16″ × 10½″ × 11 15/16″	8993T46	34.24	8993T49	8.20
22	11 5/16″ × 10½″ × 14 7/16″	8993T47	38.13	8993T49	8.20
(J) Rectangular Containers					
8	18″ × 12″ × 3½″	4533T51	20.08	4533T24	12.40
14	18″ × 12″ × 6″	4533T52	25.38	4533T24	12.40
20	18″ × 12″ × 9″	4533T53	34.00	4533T24	12.40
20	26″ × 18″ × 3½″	4533T31	36.40	4533T21	24.30
34	26″ × 18″ × 6″	4533T32	47.00	4533T21	24.30
50	26″ × 18″ × 9″	4533T33	61.56	4533T21	24.30
66½	26″ × 18″ × 12″	4533T34	75.13	4533T21	24.30
86	26″ × 18″ × 15″	4533T35	88.90	4533T21	24.30
Clear Polycarbonate					
(K) Choose-a-Color Rectangular Containers					
14	18″ × 12″ × 6″	7537T12	34.35	7537T71	16.80
20	18″ × 12″ × 9″	7537T13	46.07	7537T71	16.80
34	26″ × 18″ × 6″	7537T42	64.22	7537T73	35.02
50	26″ × 18″ × 9″	7537T43	77.34	7537T73	35.02
66½	26″ × 18″ × 12″	7537T44	103.87	7537T73	35.02
86	26″ × 18″ × 15″	7537T45	119.14	7537T73	35.02

Fiberglass Pans



There's nothing delicate about these heavy duty fiberglass pans—they are corrosion resistant, and they won't dent or splinter. Max. temperature is 250° F. To Order: Please specify color, where applicable.
Food-grade pans meet NSF/ANSI standards.
Conductive pans have a surface resistivity of 10^5 ohms/sq.
Static-dissipative pans have a surface resistivity of 10^5 to 10^9 ohms/sq.
The lower the surface resistivity, the faster charges are dissipated so conductive pans dissipate charges faster than static-dissipative pans.

Top Outside Size, Lg. × Wd. × Ht.	Available Colors		Each
Nestable Pans			
(A) Low Height with Reinforced Rim			
20 5/8" × 16 5/8" × 1 1/2"	Gray, Green, White	41025T4	$39.29
24 1/4" × 20 1/4" × 1 1/2"	Gray, Green, White	41025T6	48.18
26" × 26" × 1 1/4"	Gray, Green, White	41025T8	50.23
30" × 20" × 2"	Gray, Green, White	41025T9	52.01
30" × 26" × 1 1/4"	Gray, Green, White	41025T13	58.13
36 1/2" × 17 1/2" × 1 5/8"	Gray, Green, White	41025T16	52.01
36 1/2" × 24 3/4" × 1 1/2"	Gray, Green, White	41025T23	71.74
47 5/8" × 23 7/8" × 2 1/4"	Gray, Green, White	41025T26	89.24
(A) Food Grade, Low Height with Reinforced Rim			
13 3/4" × 10 11/16" × 11/16"	Gray, Green, White	41025T1	17.22
16 3/8" × 12" × 11/16"	Gray, Green, White	41025T2	18.30
18" × 14" × 7/8"	Gray, Green, White	41025T3	20.74
24" × 12 5/8" × 11/16"	Gray, Green, White	41025T5	24.86
25 3/4" × 17 7/8" × 1 1/8"	Gray, Green, White	41025T7	31.10
(A) Conductive, Low Height			
13 3/4" × 10 5/8" × 11/16"	Black	26785T22	16.78
17 3/4" × 11 3/4" × 1"	Black	26785T24	22.36
20 3/8" × 15 1/8" × 1"	Black	26785T26	26.70
25 3/4" × 17 7/8" × 1 1/8"	Black	26785T34	26.15
(A) Static-Dissipative, Low Height with Reinforced Rim			
22 1/2" × 20" × 1"	Black	26785T28	45.38
24" × 12 5/8" × 3/4"	Black	26785T35	36.77
24 1/2" × 23" × 1"	Black	26785T32	55.90
27" × 21" × 1"	Black	26785T36	58.12
34 1/4" × 21 3/8" × 1"	Black	26785T37	72.05
(B) General Purpose			
11 3/4" × 8 3/4" × 4 1/8"	Gray, Green, White	4727T68	14.43
14 19/32" × 11 19/32" × 4 3/32"	Gray, Green, Red	4727T1	16.00
22" × 16 1/2" × 8 1/2"	Gray, Green, Red	4727T33	44.22
(B) Food Grade			
20 1/2" × 12" × 5"	Gray, Green, White	4727T69	22.59
21 1/4" × 15" × 5"	Gray, Green, White	4727T71	27.99
Stackable Pans			
(C) General Purpose			
16 1/2" × 11 3/8" × 4 5/8"	Gray, Green, White	4727T72	21.89
20 5/8" × 11 1/4" × 5 1/2"	Gray, Green, White	4727T73	28.71
33 1/8" × 15 5/8" × 8"	Gray, Green, White	4727T77	62.79
(C) Food Grade			
18 3/4" × 11 7/8" × 1 3/4"	Gray, Green, White	4727T66	17.14
22" × 12" × 1 1/4"	Gray, Green, White	4727T65	18.61
23 3/8" × 12" × 3 1/8"	Gray, Green, White	4727T74	22.59
23 3/8" × 12" × 6"	Gray, Green, White	4727T75	33.73
25 3/4" × 15 3/4" × 7 1/4"	Gray, Green, White	4727T76	48.78
30 3/8" × 15 7/8" × 2 3/4"	Gray, Green, White	4727T67	29.59
31 3/4" × 19 1/8" × 4 1/2"	Gray, Green, White	4727T78	47.55

Fiberglass Pans with Antiskid Surface



The molded-in rubber surface on these heavy duty, low-height pans provides excellent skid resistance to keep parts from sliding off the pan. They also meet NSF/ANSI standards and have a reinforced rim. All can be nested. Max. temperature is 212° F.

Top Outside Size, Lg. × Wd. × Ht.	Color		Each
13 13/16" × 10 5/8" × 13/16"	Black	6863T21	$19.19
18" × 14" × 13/16"	Black	6863T22	27.21
20 1/4" × 15" × 1 3/16"	Black	6863T31	29.70
25 3/4" × 18" × 1 3/16"	Black	6863T32	42.34

Clear Copolyester Pans



With Optional Cover

These pans are made of FDA-listed material and meet NSF/ANSI Standard 2 for food equipment. They're crack resistant and nestable. Max. temperature is 212° F. These products cannot be sold in Connecticut or Vermont.

Top Outside Size, Lg. × Wd. × Ht.	Pans	Each	Optional Covers	Each
12 13/16" × 6 7/8" × 2 1/2"	6686T63	$8.87	6686T53	$6.34
12 13/16" × 6 7/8" × 4"	6686T64	11.59	6686T53	6.34
12 13/16" × 6 7/8" × 6"	6686T65	13.13	6686T53	6.34
12 13/16" × 10 3/8" × 2 1/2"	6686T44	10.65	6686T52	8.62
12 13/16" × 10 3/8" × 4"	6686T45	12.89	6686T52	8.62
12 13/16" × 10 3/8" × 6"	6686T46	16.46	6686T52	8.62
20 13/16" × 6 3/8" × 2 1/2"	6686T61	16.46	6686T54	12.66
20 13/16" × 6 3/8" × 4"	6686T62	20.48	6686T54	12.66
20 13/16" × 12 13/16" × 2 1/2"	6686T41	19.78	6686T51	15.34
20 13/16" × 12 13/16" × 4"	6686T42	24.02	6686T51	15.34
20 13/16" × 12 13/16" × 6"	6686T43	28.43	6686T51	15.34

Stain- and Stick-Resistant Plastic Pans

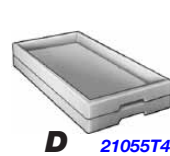

D *21055T48*



E *With Vented Bottom*



F



G *With Vented Bottom*

You're looking at the ultimate in impact, wear, chemical, corrosion, stain, and stick resistance. All pans are autoclavable and made of a blend of PTFE and polypropylene. They are made of FDA- and USDA-compliant resins and meet NSF/ANSI standards, unless noted. Max. temperature is 250° F.

(D) Stackable Pans

All have handholds.

Top Outside Size, Lg. × Wd. × Ht.	Color		Each
20" × 10" × 1 5/8"	White	21055T48★	$20.56
23 5/16" × 9 1/8" × 5 5/16"	White	21055T37	37.54

★ Does not meet NSF/ANSI standards.

(E) Stackable/Cross-Stackable Pans

All have locking corners that prevent shifting when stacked. Low sidewalls allow better airflow.

Top Outside Size, Lg. × Wd. × Ht.	Color	Solid Bottom	Each	Vented Bottom	Each
30 3/4" × 16 1/4" × 2 1/2"	White	21055T73	$32.34	21055T63	$32.34
30 3/4" × 16 1/4" × 4 1/8"	White	21055T72	42.42	21055T62	42.42

(F) Stackable/Cross-Stackable Pans

All are designed to stack securely without covers. When pans are stacked, covers can only be used on the top pan. Also have handholds.

Top Outside Size, Lg. × Wd. × Ht.	Pans Color	Pans	Each	Optional Covers Color	Optional Covers	Each
26" × 18" × 3 1/8"	◆	21055T11	$27.16	White	21055T21	$20.91
26" × 20" × 6 1/8"	◆	21055T12	56.94	White	21055T22	23.07

◆ To Order: Please specify dark blue or white pan.

(G) Nestable Pans

All have antiskid strips on the bottom for gripping conveyors. Also have handholds.

Top Outside Size, Lg. × Wd. × Ht.	Color	Solid Bottom	Each	Vented Bottom	Each
30" × 24 1/4" × 6"	Gray	21055T43★	$48.48	21055T44★	$48.48

★ Does not meet NSF/ANSI standards.

Vented Fiberglass Pans

All pans have ¼" dia. holes in the bottom and slots on the sides. Pans are corrosion resistant and are unaffected by detergents, mild acids, alkaline solutions, and cutting oils. They have handholds and can be stacked. Maximum temperature is 350° F.



Top Outside Size, Lg. x Wd. x Ht.	Color		Each
16½" x 11⅜" x 4⅝"	Gray	3488T41	$30.49
23⅜" x 12" x 4⅜"	Gray	3488T42	41.43

Plastic Pans

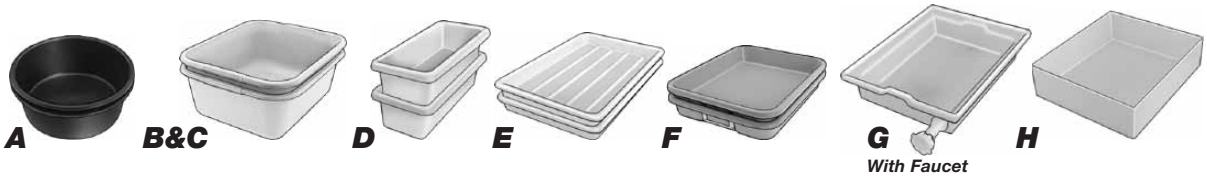

Top Outside Size, Lg. x Wd. x Ht.	Max. Temp.	Color		Each
Nestable				
Round Polyethylene				
A 11⅝" Dia. x 4⅛" Ht.	175° F	Black	4330T41	$6.38
A 17" Dia. x 4¼" Ht.	175° F	Black	4330T42	8.54
Rectangular Polypropylene				
B 14⁷⁄₁₆" x 12½" x 5⅝"	212° F	White	4197T8	5.22
Rectangular Polyethylene				
C 15¼" x 12½" x 7¹³⁄₁₆"	158° F	White	4197T9	11.54
USDA-Approved and FDA-Compliant Rectangular Polyethylene				
D 15" x 6½" x 4"	180° F	White	4141T7●	32.28
D 15" x 8½" x 4"	180° F	White	4141T1●	32.78
D 17¾" x 14" x 4"	180° F	White	4141T3●	42.57
E 28½" x 28" x 1⅛"	150° F	White	4570T15	41.29
Rectangular Polystyrene with Label Holder				
F 13" x 10½" x 2"	Not Rated	Tan	4515T11	13.70
F 13⅛" x 10½" x 4⅜"	Not Rated	Tan	4515T12	15.57
F 16" x 11¾" x 4⅜"	Not Rated	Tan	4515T14	18.99
F 16⅝" x 13⅛" x 3½"	Not Rated	Tan	4515T15	16.37
F 18" x 11½" x 4¼"	Not Rated	Tan	4515T16	19.17
F 19" x 13¾" x 4⅜"	Not Rated	Tan	4515T23	19.69

● Meet NSF/ANSI standards.

Top Outside Size, Lg. x Wd. x Ht.	Max. Temp.	Color		Each
Non-Nestable				
Rectangular Polyethylene				
G 18¾" x 14⅞" x 4¼"	171° F	White	3744K21	$87.21
G 25" x 21" x 4¾"	171° F	White	3744K23	108.41
G 26⅞" x 20¾" x 6⅞"	171° F	White	3744K26	147.05
G 28½" x 24½" x 4⅞"	171° F	White	3744K24	123.83
Rectangular Polyethylene with ½" OD Faucet Outlet				
G 18¾" x 14⅞" x 4¼"	171° F	White	3744K11	137.12
G 22⅞" x 19⅛" x 4"	171° F	White	3744K12	143.33
G 25" x 21" x 4¾"	171° F	White	3744K13	164.17
G 26⅞" x 20¾" x 6⅞"	171° F	White	3744K16	202.00
G 28½" x 24½" x 4⅞"	171° F	White	3744K14	180.62
USDA-Approved and FDA-Compliant Rectangular Polyethylene				
H 17½" x 15½" x 4"	180° F	White	4141T11●	40.07
H 20¾" x 16½" x 3"	180° F	White	4141T4●	41.09
H 23" x 19" x 4"	180° F	White	4141T5●	47.39
H 29¼" x 23¼" x 4"	180° F	White	4141T2●	64.57

Steel and Aluminum Pans

Pans can be nested, unless noted.

(J&K) Clear-coat steel pans have a nonstick surface.

(L) Rectangular galvanized steel pans are seamless.

(M) Aluminized-steel pans are strong, durable, corrosion resistant, and have a nonstick surface. All have a rod-reinforced rim.

(N-Q) Aluminum pans are corrosion resistant; have a smooth, bright finish; and are seamless.

Food-grade pans meet NSF/ANSI standards.



Top Outside Size, Lg. x Wd. x Ht.	Ga.		Each
(J) Round Clear-Coat Steel			
9½" Dia. x 2" Ht.	24	4729T21★	$7.43
(K) Rectangular Clear-Coat Steel			
9" x 5" x 2¾"	28	4729T13★	8.07
9½" x 9½" x 2¼"	28	4729T19★	9.00
15¼" x 10¼" x 1"	26	4729T23	10.00
17¼" x 12½" x 1"	26	4729T24	12.50
(L) Rectangular Galvanized Steel			
5⅝" x 3⅛" x 2¼"	19	5126T14	5.89
9½" x 4¼" x 3"	19	5126T15	7.56
11¼" x 5¾" x 3"	19	5126T16	9.34
18¼" x 11" x 5½"	19	5126T17	17.78

★ Cannot be nested.

Top Outside Size, Lg. x Wd. x Ht.	Ga.		Each
(M) Rectangular Aluminized-Steel			
9" x 5" x 2¾"	26	4729T41	$18.89
9½" x 9½" x 2¼"	26	4729T42	20.56
15½" x 10½" x 1¼"	26	4729T47	22.22
(N) Rectangular Aluminum with Handles			
18⁹⁄₁₆" x 12⁹⁄₁₆" x 2⅛"	14	4733T11★	59.36
(P) Food-Grade Rectangular Aluminum			
25¾" x 17¾" x 2¼"	12	4733T12	63.45
(Q) Food-Grade Rectangular Aluminum with Handles			
25¾" x 17¾" x 3⁹⁄₁₆"	12	4733T13	94.75



Fiberboard Pans

Perfect for handling lightweight materials, these pans have metal corner reinforcements for added strength. They're coated on the inside and outside to resist moisture, grease, and mild acids. All can be nested.



Top Outside Size, Lg. x Wd. x Ht.	Color		Each
5½" x 5" x 2¾"	Blue Exterior, Tan Interior	2198T1	$3.84
11½" x 5" x 2¾"	Blue Exterior, Tan Interior	2198T2	4.27
15¾" x 9½" x 4¼"	Blue Exterior, Tan Interior	2198T4	9.18

Aluminum Foil Pans

These economical pans can be nested. *Optional covers* are also made of aluminum foil.



Top Outside Size, Lg. x Wd. x Ht.	Pkg. Qty.	*Pans*	Per Pkg.	*Optional Covers*	Per Pkg.
12¾" x 6½" x 3⅜"	10	40265T13	$9.33	40265T33	$5.53
12¾" x 10⅜" x 2³⁄₁₆"	10	40265T12	9.77	40265T32	6.76
20¾" x 12¹³⁄₁₆" x 3⅜"	5	40265T11	11.52	40265T31	5.94

Stainless Steel Pans



All pans have an unpolished finish. Pans can be nested.

(A&B) 300 Series stainless steel pans are seamless and meet NSF/ANSI standards. *Style B* pans have 1/4" dia. perforations on the sides and bottom to allow drainage. *Optional covers* are stainless steel.

(C&D) Low-height Type 304 stainless steel pans have a seamless construction. *Style C* pans meet NSF/ANSI standards. *Style D* has three raised ribs on the pan surface to strengthen the tray.

(E) Type 316 stainless steel pans offer excellent resistance to corrosion and pitting. All have a welded construction.

Top Outside Size, Lg. × Wd. × Ht.	Pans Ga.	Pans Each	Optional Covers Ga.	Optional Covers Each
(A) 300 Series Stainless Steel				
6 7/8" × 4 1/4" × 2"	22	4191T13 $13.41	24	4191T31 $8.16
6 7/8" × 4 1/4" × 4"	22	4191T14 16.23	24	4191T31 8.16
6 7/8" × 6 1/4" × 2 1/2"	22	4191T15 12.52	24	4191T32 10.23
8 7/8" × 5" × 3"	22	4191T11 45.69	22	4191T33 27.24
10" × 6 1/2" × 2"	22	4191T1 36.38	22	4191T34 34.18
12 3/4" × 6 7/8" × 2 1/2"	22	4191T16 17.38	24	4191T36 21.52
12 3/4" × 6 7/8" × 4"	22	4191T17 25.46	24	4191T36 21.52
12 3/4" × 6 7/8" × 4"	20	4191T78 39.68	24	4191T36 21.52
12 3/4" × 6 7/8" × 6"	22	4191T18 36.17	24	4191T36 21.52
12 3/4" × 10 3/8" × 2 1/2"	22	4191T19 19.08	24	4191T37 23.03
12 3/4" × 10 3/8" × 4"	22	4191T21 26.69	24	4191T37 23.03
12 3/4" × 10 3/8" × 4"	20	4191T77 36.53	24	4191T37 23.03
12 3/4" × 10 3/8" × 6"	22	4191T22 38.17	24	4191T37 23.03
13 7/8" × 12 3/4" × 2 1/2"	22	4191T23 35.47	22	4191T38 34.95
13 7/8" × 12 3/4" × 4"	22	4191T24 52.61	22	4191T38 34.95
20 3/4" × 6 7/16" × 2 1/2"	22	4191T71 33.68	22	4191T74 24.69
20 3/4" × 6 7/16" × 4"	22	4191T72 $41.36	22	4191T74 $24.69
20 3/4" × 6 7/16" × 6"	22	4191T73 83.42	22	4191T74 24.69
20 3/4" × 12 3/4" × 1 1/4"	22	4191T7 28.90	24	4191T41 32.44
20 3/4" × 12 3/4" × 2 1/2"	22	4191T4 30.19	24	4191T41 32.44
20 3/4" × 12 3/4" × 4"	22	4191T5 40.49	24	4191T41 32.44
20 3/4" × 12 3/4" × 4"	20	4191T75 54.43	24	4191T41 32.44
20 3/4" × 12 3/4" × 6"	22	4191T81 70.51	24	4191T41 32.44
20 3/4" × 12 3/4" × 6"	20	4191T76 74.05	24	4191T41 32.44
21 3/4" × 13 3/4" × 8"	18	4191T9 190.65	—	—
(B) Perforated 300 Series Stainless Steel				
12 3/4" × 10 3/8" × 2 1/2"	22	40995T34 49.70	24	40995T36 29.46
12 3/4" × 10 3/8" × 4"	22	40995T35 63.73	24	40995T36 29.46
20 3/4" × 12 3/4" × 2 1/2"	22	40995T31 79.80	24	40995T37 60.58
20 3/4" × 12 3/4" × 4"	22	40995T32 98.59	24	40995T37 60.58
20 3/4" × 12 3/4" × 6"	22	40995T33 151.82	24	40995T37 60.58
(C) Low-Height Type 304 Stainless Steel				
10" × 6 1/2" × 3/4"	24	4189T7▲ 25.43	—	—
13 5/8" × 9 3/4" × 5/8"	22	4189T1 38.79	—	—
15 1/8" × 10 1/2" × 5/8"	22	4189T2 45.55	—	—
17 1/4" × 11 3/4" × 5/8"	22	4189T3 50.32	—	—
19" × 12 1/2" × 5/8"	22	4189T4 60.03	—	—
21 1/4" × 16 1/4" × 7/8"	20	4189T5 99.31	—	—
(D) Low-Height, USDA-Approved Type 304 Stainless Steel				
36" × 25" × 2"	18	4189T6 289.77	—	—
(E) Type 316 Stainless Steel				
15 3/4" × 12 3/4" × 3"	22	4143T11 144.60	—	—
21 3/4" × 17 3/4" × 3"	22	4143T12 182.15	—	—
23 3/4" × 19 3/4" × 3"	22	4143T13 190.38	—	—

▲ Made of 300 Series stainless steel.

Plastic Pan Liners



No need to clean your pans when you protect them with these liners. All are 1-mil thick and are safe for food contact. Max. temperature is 400° F.

For Pan Top Outside Size Lg. × Wd.	Ht.	Pkg. Qty.		Per Pkg.
12 3/4" × 6 7/8"	4" and 6"	25	9551T13	$9.18
12 3/4" × 10 3/8"	2 1/2"	25	9551T21	9.73
12 3/4" × 10 3/8"	4" and 6"	25	9551T22	10.96
20 3/4" × 6 3/8"	4"	25	9551T25	11.33
20 3/4" × 6 3/8"	6"	25	9551T26	12.92
20 3/4" × 12 3/4"	2 1/2" and 4"	10	9551T41	6.52
20 3/4" × 12 3/4"	6"	10	9551T42	9.23
20 3/4" × 12 3/4"	8"	10	9551T43	10.75

Autoclavable Polypropylene Pans



Round



Rectangular

Max. temperature is 275° F. Color is translucent white.

Top Outside Size, Lg. × Wd. × Ht.	Each
Round	
10 3/8" Dia. × 3 3/16"	26775T73 $81.21
20 3/8" Dia. × 4 3/16"	26775T93 139.71
Rectangular	
15 3/8" × 10 3/8" × 3 3/16"	26775T13 103.42
16 3/8" × 12 3/8" × 8 3/16"	26775T63 130.80
20 3/8" × 15 3/8" × 3 3/16"	26775T23 133.64
20 3/8" × 20 3/8" × 6 3/16"	26775T53 182.32
26 3/8" × 22 3/8" × 4 3/16"	26775T43 183.17

Keep-It-Cool Plastic Pans



Keeping your cool has never been easier. Simply freeze pan for eight hours prior to use—internal gel allows contents to remain below 40° F for eight hours. All pans meet NSF/ANSI standards and are autoclavable and made of ABS plastic. *Optional covers* are clear acrylic. Max. temperature is 212° F. **To Order:** Please specify color: white or black.

Top Outside Size, Lg. × Wd. × Ht.	Pans	Pans Each	Optional Covers	Optional Covers Each
6 7/8" × 6 1/4" × 6 3/8"	2762T11	$49.52	2762T81	$26.50
12 11/16" × 6 7/8" × 6"	2762T12	56.74	2762T82	26.50
12 3/4" × 10 3/8" × 6"	2762T13	100.75	2762T83	37.90
20 11/16" × 12 3/4" × 6 3/8"	2762T14	127.61	2762T84	48.08

HDPE Pans



HDPE pans, which are also known as photographic trays, can be nested. They have a pouring lip, except the 27 3/4" long pan does not. Max. temperature is 194° F. Color is white.

Top Outside Size, Lg. × Wd. × Ht.	Each
8 7/8" × 6 7/8" × 1 1/2"	4922T81 $8.68
13 1/4" × 11 1/4" × 1 7/8"	4922T82 16.64
15 5/8" × 13 3/8" × 2 1/2"	4922T83 26.40
17 1/4" × 14 3/8" × 2 1/4"	4922T84 27.85
21" × 17 1/2" × 3 1/8"	4922T85 44.14
24" × 20" × 3"	4922T86 56.07
27 3/4" × 23 1/2" × 3 1/4"	4922T87 91.90

Conductive Fiberglass Tray with Slotted Openings



With a surface resistivity of 10^5 ohms, this tray protects up to twenty-four 3" × 3" to 12" × 12" circuit boards from static electricity. Max. temperature is 250° F. Meets ANSI/ESD S20.20.

O'all Size, Lg. × Wd. × Ht.	Color		Each
15" × 9" × 5 1/8"	Black	4760T51	$29.00

Magnetic Stainless Steel Pans

Fully magnetized to hold tools and small parts, you can use these pans right side up, sideways, and even upside down. All pans are 25-ga. Type 430 stainless steel and are seamless. Magnets are covered with rubber to protect metal surfaces from scratches.



Rectangular

	Top Outside Size, Lg. × Wd. × Ht.	O'all Ht. with Magnets		Each
Polished Finish				
Round	6″ Dia. × 1 1/8″ Ht.	1 5/8″	4050T31	$10.22
Rectangular	9 1/2″ × 5 1/2″ × 1 1/8″	1 5/8″	4050T32	20.65
Rectangular	11 1/2″ × 11″ × 1 1/8″	1 5/8″	4050T33	36.65
Rectangular	14 1/4″ × 6 1/2″ × 1 1/8″	1 5/8″	4050T34	43.31
Red Finish				
Rectangular	9 1/2″ × 5 1/2″ × 1 1/8″	1 5/8″	4050T35	27.94

Compartmented Steel Pans

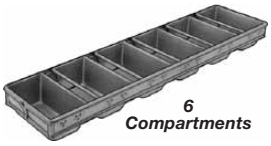

6 Compartments



12 Compartments

Individual compartments keep items from sliding. Pans are made of FDA-compliant materials and aluminized steel. The 12-compartment pan has a wire-reinforced rim for extra strength. Both styles have a seamless construction and can be nested.

No. of Compartments	Compartment Size, Lg. × Wd. × Ht.	Top Outside Size, Lg. × Wd. × Ht.	Ga.		Each
6	5 5/8″ × 3 1/8″ × 2 1/4″	25 7/8″ × 6″ × 2 1/4″	26	5335T11	$73.17
12	3 7/8″ × 2 1/2″ × 1 15/16″	19 1/2″ × 9 7/8″ × 1 15/16″	26	5335T12	57.14

Compartmented Plastic Pans

Individual compartments keep contents from shifting. ***Economy pans*** have a maximum temperature of 125° F. ***General purpose pans*** can be stacked and are not temperature rated. ***Conductive pans*** can be stacked and are furnished with removable dividers to create the number and size of compartments you need. Pans have a surface resistivity of 10^5 ohms/sq. Maximum temperature is 120° F.



Economy with Cover



Economy with 60 Compartments



General Purpose



Conductive

No. of Compartments	Compartment Size, Lg. × Wd. × Ht.	Top Outside Size, Lg. × Wd. × Ht.	Color		Each
Economy Pans					
PVC with Cover					
1	10 1/2″ × 6 1/2″ × 2″	11 7/8″ × 7 3/4″ × 2″	Clear	3758T51	$14.37
PVC					
25	1 3/4″ × 1 3/4″ × 3/4″	10 11/16″ × 10 11/16″ × 3/4″	Clear	3758T52	4.17
Polystyrene					
60	1 1/16″ × 1 1/16″ × 5/16″	13 13/16″ × 8 5/8″ × 5/16″	White	3758T53	2.17
72	1 1/8″ Dia. × 1/2″ Ht.	13 1/2″ × 12 1/4″ × 1/2″	White	3758T54	4.45
General Purpose Pans					
Polystyrene					
3	4 1/2″ × 3 1/8″ × 2 1/2″	10 1/2″ × 5 1/2″ × 2 1/2″	Tan	4897T81	11.09
8	4 1/4″ × 4″ × 3 1/4″	19″ × 9 1/2″ × 3 1/2″	Tan	4897T83	20.00
20	3 1/8″ × 2 5/8″ × 1 1/2″	17 1/2″ × 12 1/4″ × 1 1/2″	Tan	4897T82	14.44
Conductive Pans					
Polypropylene					
56	2 1/2″ × 1 1/4″ × 1 7/8″★	16 1/2″ × 10 7/8″ × 2 1/2″	Black	55165T64	26.52
96	1 1/4″ × 1 1/4″ × 1 7/8″★	16 1/2″ × 10 7/8″ × 2 1/2″	Black	55165T65	32.20

★ Minimum compartment size.

Easy-to-Assemble Cardboard Bin Boxes

All bin boxes can be assembled easily without the need for tape, glue, or fasteners and are made of corrugated cardboard. Shipped flat. *Note:* Not rated for capacity.

Standard bin boxes have a labeling area and an inventory-control chart on the side. Two notches on the back allow the bin box to catch the shelf above it and tilt out for easy access. All have a white exterior with a tan interior. *Optional dividers* fit side-to-side, are held in position by the tension of the bin box sidewalls, and can be positioned wherever needed. Color is tan.

Tall bin boxes have a labeling area. All have a white exterior with a tan interior.

Conductive boxes have a conductive coating. Surface resistivity is 10^4 ohms/sq. and meets MIL-81705C electrostatic decay requirements. Color is black.



Standard with Optional Divider

Bin Boxes: Top Outside Size, Wd. × Dp. × Ht.	Pkg. Qty.	Per Pkg. 1-4	Per Pkg. 5-Up	Optional Dividers (25/Pkg.)	Per Pkg.
Standard Bin Boxes					
2″ × 9″ × 4″	5	5073T57	$5.07	$4.55	5073T42	$10.40
2″ × 12″ × 4″	5	5073T12	5.23	4.69	5073T42	10.40
2″ × 18″ × 4″	5	5073T27	6.75	6.07	5073T42	10.40
3″ × 12″ × 4″	5	5073T29	5.41	4.84	5073T41	10.40
4″ × 9″ × 4″	5	5073T58	5.61	5.04	5073T43	11.61
4″ × 12″ × 4″	5	5073T11	5.75	5.13	5073T43	11.61
4″ × 18″ × 4″	5	5073T18	7.07	6.36	5073T43	11.61
4″ × 24″ × 4″	5	5073T54	10.19	9.16	5073T43	11.61
6″ × 9″ × 4″	5	5073T59	5.82	5.19	5073T44	11.61
6″ × 12″ × 4″	5	5073T14	5.93	5.31	5073T44	11.61
6″ × 18″ × 4″	5	5073T19	7.46	6.71	5073T44	11.61
6″ × 24″ × 4″	5	5073T55	11.72	10.54	5073T44	11.61
8″ × 12″ × 4″	5	5073T15	6.33	5.69	5073T45	11.61
8″ × 18″ × 4″	5	5073T21	7.96	7.16	5073T45	11.61
8″ × 24″ × 4″	5	5073T56	13.35	12.00	5073T45	11.61
10″ × 12″ × 4″	5	5073T61	6.67	6.00	5073T46	11.61
10″ × 18″ × 4″	5	5073T62	9.63	8.66	5073T46	11.61
12″ × 12″ × 4″	5	5073T63	8.71	7.83	5073T47	13.33
12″ × 18″ × 4″	5	5073T64	10.42	9.36	5073T47	13.33



Tall

Bin Boxes: Top Outside Size, Wd. × Dp. × Ht.	Each 1-24	Each 25-Up
Tall Bin Boxes		
7 3/4″ × 11 1/2″ × 8″	5075T12 $4.61	$4.14
7 3/4″ × 17 1/2″ × 10″	5075T13 7.77	6.98
9 3/4″ × 17 1/2″ × 10″	5075T14 10.15	9.13
11 3/4″ × 17 1/2″ × 10″	5075T17 10.90	9.81
11 3/4″ × 23 1/2″ × 12″	5075T18 12.21	10.99
15 3/4″ × 23 1/2″ × 12″	5075T19 13.71	12.34
Conductive Bin Boxes		
2″ × 12″ × 4 1/2″	4703T81 6.86	6.13
4″ × 12″ × 4 1/2″	4703T82 6.89	6.16
4″ × 18″ × 4 1/2″	4703T91 7.60	6.89
4″ × 24″ × 5″	4703T95 18.16	16.24
6″ × 12″ × 4 1/2″	4703T83 7.28	6.46
6″ × 18″ × 4 1/2″	4703T92 8.30	7.46
8″ × 12″ × 4 1/2″	4703T84 12.67	11.34
8″ × 18″ × 4 1/2″	4703T93 10.18	9.11
8″ × 24″ × 5 1/2″	4703T97 18.76	16.83
12″ × 12″ × 4 1/2″	4703T85 17.24	15.37
12″ × 18″ × 4 1/2″	4703T94 20.23	18.18
12″ × 24″ × 5 1/2″	4703T98 21.04	18.85



Conductive



Optional Bin Compartment

Optional Bin Compartments—Can be used in Standard and Tall Bin Boxes. Come in packages of 25.
2″ Wd. × 3 1/2″ Dp. × 4″ Ht. — 5073T52 **Per Pkg.** 1-3 $13.69 4-Up $12.30

Easy-to-Assemble Corrugated Plastic Bin Boxes



More durable than our cardboard bin boxes but just as easy to assemble (you don't need tape, glue, or fasteners). High back allows it to be tilted out from a shelf without falling out. Shipped flat. All have a 5-lb. capacity and are made of polypropylene. **To Order:** Please specify color: blue, red, or yellow.

Top Outside Size, Wd. x Dp. x Ht.		Each 1-24	Each 25-Up
2" x 11¾" x 4"	9761T52	$3.44	$3.08
2" x 17¾" x 4"	9761T61	4.86	4.37
4" x 11¾" x 4"	9761T54	4.72	4.24
4" x 17¾" x 4"	9761T63	5.84	5.26
6" x 11¾" x 4"	9761T56	$5.76	$5.17
6" x 17¾" x 4"	9761T65	7.08	6.36
8" x 11¾" x 4"	9761T58	7.06	6.34
8" x 17¾" x 4"	9761T67	9.24	8.30

Nestable Plastic Bin Boxes



Shown with Optional Dividers and Bin Compartment



Bin Box Shown Tilted Out from Shelf

Two notches on the back of the bin box allow it to be tilted out from the shelf without falling out. Bin boxes have a molded-in label holder. Made of polypropylene. **To Order:** Please specify color: blue, red, or yellow. *Optional dividers* fit side-to-side and are black. *Optional bin compartments* are white.

Also Available: Labels for all bin boxes except 4644T1. Please ask for 1515T32.

Top Outside Size, Wd. x Dp.	4" HIGH BIN BOXES: Bin Boxes Cap., lbs.		Each 1-11	Each 12-Up	4" HIGH BIN BOXES: Optional Dividers Pkg. Qty.		Per Pkg.
2¾" x 11⅝"	25	4644T1	$1.69	$1.52			
4⅛" x 11⅝"	25	4644T2	1.87	1.68	24	4644T21	$9.95
4⅛" x 17⅞"	25	4644T4	2.43	2.18	24	4644T21	9.95
4⅛" x 23⅝"	25	4644T53	4.97	4.47	24	4644T21	9.95
6⅝" x 11⅝"	25	4644T3	2.96	2.67	24	4644T22	11.11
6⅝" x 17⅞"	25	4644T5	3.53	3.17	24	4644T22	11.11
6⅝" x 23⅝"	25	4644T51	7.27	6.54	24	4644T22	11.11
8⅜" x 11⅝"	25	4644T6	3.13	2.81	12	4644T25	12.63
8⅜" x 17⅞"	25	4644T8	4.85	4.36	12	4644T25	12.63
8⅜" x 23⅝"	25	4644T52	8.72	7.84	12	4644T25	12.63
11⅛" x 11⅝"	25	4644T7	4.76	4.28	6	4644T26	9.10
11⅛" x 17⅞"	25	4644T9	7.98	7.18	6	4644T26	9.10
11⅛" x 23⅝"	25	4644T54	10.84	9.75	6	4644T26	9.10

Top Outside Size, Wd. x Dp.	6" HIGH BIN BOXES: Bin Boxes Cap., lbs.		Each 1-11	Each 12-Up	6" HIGH BIN BOXES: Optional Dividers	Each
30	4644T71	$3.51	$3.16	4644T23	$0.87	
40	4644T72	5.06	4.55	4644T23	.87	
50	4644T73	9.64	8.67	4644T23	.87	
30	4644T77	5.42	4.86	4644T24	.94	
40	4644T78	6.78	6.10	4644T24	.94	
50	4644T79	13.17	11.84	4644T24	.94	
30	4644T93	6.03	5.42	4644T27	2.20	
40	4644T94	9.03	8.11	4644T27	2.20	
50	4644T95	17.18	15.46	4644T27	2.20	
30	4644T96	9.26	8.33	4644T28	2.56	
40	4644T97	14.99	13.49	4644T28	2.56	
50	4644T98	20.27	18.24	4644T28	2.56	

Optional 2" Wd. x 3¼" Dp. x 3" Ht. Bin Compartment ..... 4644T91 Each $0.71
Optional 2¾" Wd. x 5" Dp. x 3" Ht. Bin Compartment ..... 4644T92 Each 1.08

Stackable Plastic Bin Boxes



A&C



B



D

(A&B) Stackable bin boxes have *optional dividers* that fit front-to-back, unless noted. All dividers are black, except those for the polyethylene bin boxes, which are white. **Also Available:** Labels for polyethylene bin boxes. Please ask for 4761T1.

(C&D) Bin boxes with handholds are polypropylene, unless noted. **To Order:** Please specify color: blue, red, or yellow, unless noted.

(A&B) Stackable Bin Boxes

Top Outside Size, Wd. x Dp. x Ht.	Bin Boxes Cap., lbs.		Each 1-11	Each 12-Up	Optional Dividers Each
(A) Polypropylene					
8¼" x 18" x 9"	60	28765T36	$17.46	$15.70	28765T55 $3.58
8¼" x 20½" x 7"	60	28765T43★	17.18	15.46	28765T53 2.04
8¼" x 23⅞" x 7"	100	42185T88	36.23	32.59	42185T24 8.35
8¼" x 23⅞" x 9"	100	42185T89	38.81	34.92	42185T25 8.55
11" x 20½" x 7"	75	28765T44★	24.48	22.03	28765T54 2.72
11" x 23⅞" x 7"	100	42185T91	40.38	36.34	42185T26 8.94
11" x 23⅞" x10"	100	42185T92	45.84	41.26	42185T27 9.82
16½" x 18" x11"	75	28765T35	26.42	23.77	28765T56 4.34
16½" x 23⅞" x11"	100	42185T94	49.81	44.82	42185T28 10.62
18¼" x 23⅞" x12"	100	42185T95	52.88	47.59	42185T29 11.23
(B) Polyethylene with Molded-In Label Holder					
12⁵⁄₁₆" x 19¹¹⁄₁₆" x 7⅞"	40	4761T12	19.96	17.96	4761T26 5.38
12⁵⁄₁₆" x 19¹¹⁄₁₆" x11⅞"	40	4761T13	25.36	22.82	4761T17 6.26
12½" x 20⅛" x 5¹³⁄₁₆"	40	4761T11	15.80	14.22	4761T16 4.92
18⅜" x 19¹¹⁄₁₆" x11⅞"	40	4761T14	34.30	30.87	4761T17 6.26
18⅝" x 28³⁄₁₆" x11⅞"	55	4761T15	59.90	53.91	——— ———

★ Color is beige. Includes one black side-to-side divider.

(C&D) Stackable Bin Boxes with Handholds

Top Outside Size, Wd. x Dp. x Ht.	Cap., lbs.		Each 1-11	Each 12-Up
(C) With Handhold in Back				
8¼" x 29⅞" x 7"	150	28765T71	$40.19	$36.17
11" x 29⅞" x 10"	150	28765T72	50.81	45.72
12⅜" x 20" x 6"	60	28765T61	14.55	13.09
12⅜" x 20" x 8"	60	28765T62	16.35	14.71
12⅜" x 20" x 12"	60	28765T63	19.43	17.48
16½" x 29⅞" x 11"	150	28765T74	55.17	49.65
16½" x 35⅞" x 17½"	175	28765T75	92.86	83.57
18¼" x 29⅞" x 12"	150	28765T76	58.62	52.75
18⅜" x 20" x 12"	150	28765T64	24.22	21.79
18⅜" x 29¼" x 12"	150	28765T65	33.94	30.53
19⅞" x 35⅞" x 17½"	175	28765T77	101.79	91.61
23⅞" x 35⅞" x 17½"	175	28765T78	110.80	99.71
(D) With Two Side Handholds				
10⅞" x 17½" x 12½"	75	28765T81●	18.48	16.64
16½" x 17½" x 12½"	75	28765T83●	18.18	16.37
19⅞" x 15¼" x 12⁷⁄₁₆"	100	42185T54●▲	19.95	17.95

● Available in blue, gray, or red. ▲ Made of polyethylene.

Nestable and Stackable Plastic Bin Boxes



E



F

(E) Nestable and stackable bin boxes are black. Made of polypropylene.

(F) Dual-access nestable and stackable bin boxes are nestable, stackable, and cross-stackable. Cross-stacking allows you to easily access contents when bin boxes are stacked. All have a molded-in label holder on both ends for easy content identification. Made of polypropylene. **To Order:** Please specify color: blue, red, or yellow. **Also Available:** Labels for bin boxes. Please ask for 1515T322.

Top Outside Size, Wd. x Dp. x Ht.	Cap., lbs.		Each 1-11	Each 12-Up
(E) Nestable and Stackable Bin Boxes				
6⅝" x 8⅞" x 5"	6	8361T91	$3.01	$2.70
6⅝" x 11⅞" x 5"	12	8361T92	3.75	3.36
6⅝" x 17⅞" x 7"	25	8361T73	6.33	5.69
8⅜" x 11⅞" x 5"	15	8361T94	5.82	5.23
8⅜" x 17⅞" x 7"	25	8361T95	7.18	6.45

Top Outside Size, Wd. x Dp. x Ht.	Cap., lbs.		Each 1-11	Each 12-Up
(F) Dual-Access Nestable and Stackable Bin Boxes				
6⅝" x 9½" x 5"	30	7063T71	$4.98	$4.47
6⅝" x 12½" x 5"	40	7063T72	5.38	4.85
6⅝" x 18½" x 7"	75	7063T75	9.35	8.42
8⅜" x 12½" x 5"	40	7063T73	6.40	5.75
8⅜" x 18½" x 7"	75	7063T76	11.32	10.18
9¼" x 14" x 6½"	60	7063T74	7.75	6.97

Hangable and Stackable Plastic Bin Boxes

A lip on the back allows bin boxes to hang from rails or louvered panels. (See page 1641 for rail bin-box holders and louvered panels.) All are made of FDA-compliant polypropylene, unless noted. *Optional dividers* fit front-to-back and are black. *Optional windows* fit on the front of the bin box and are clear.

To Order: For bin boxes, please specify color: blue, red, semi-clear, or yellow, unless noted.

Top Outside Size, Wd. × Dp. × Ht.	Bin Boxes Cap., lbs.		Each 1-11	Each 12-Up	Optional Dividers ♦	Pkg. of 6	Optional Windows ♦	Each
4 1/8" × 10 7/8" × 4"	30	4666T91▲	$3.04	$2.74	4666T113	$11.78		
5 1/2" × 10 7/8" × 5"	30	42185T44	6.63	5.95	42185T76	8.55	42185T34	$0.99
5 1/2" × 14 3/4" × 5"	50	4666T92▲	5.89	5.30	4666T114	16.17		
8 1/4" × 10 3/4" × 7"	40	42185T47	10.35	9.32	42185T77	13.57	42185T64	1.43
8 1/4" × 14 3/4" × 7"	60	42185T48■	9.97	8.98	42185T78	14.04	42185T64	1.43
8 1/4" × 18" × 9"	40	42185T96	17.75	15.97	42185T97	26.60	42185T98	3.80
11" × 10 7/8" × 5"	40	42185T46	9.52	8.57	42185T76	8.55	42185T63	1.63
11" × 16" × 8"	75	42185T51■	15.41	13.87	42185T81	24.45	42185T55	2.61
11" × 18" × 10"	40	42185T52	21.00	18.90	42185T82	27.27	42185T56	2.76
16 1/2" × 10 7/8" × 5"	60	4666T93▲	12.06	10.84	4666T44	8.54		
16 1/2" × 14 3/4" × 7"	40	42185T49	17.37	15.63	42185T78	14.04	42185T66	3.51
16 1/2" × 18" × 11"	40	42185T53	26.71	24.04	42185T59	27.09	42185T57	4.00
33" × 8 5/8" × 5"	80	4666T29■★	18.31	16.48	4666T43	6.24		

♦ Optional dividers and optional windows are not available for semi-clear bin boxes.
▲ Not FDA compliant. ■ Semi-clear bin boxes are not available. ★ Includes two dividers. Not FDA compliant.



Shown with Optional Divider and Window



Bin Boxes Shown Hanging on a Louvered Panel

Heavy Duty Plastic Bin Boxes

(A) Polystyrene stackable bin box has strong, thick walls and a raised tab on the back that catches the underside of a shelf when tilted. Bin box is waterproof and oil and chemical resistant. Not rated for capacity. Color is gray.

(B) Fiberglass nestable and stackable bin boxes provide high-strength storage and offer excellent chemical, solvent, and oil resistance. **To Order:** Please specify color: gray, green, or red.

(A) Polystyrene Stackable Bin Box

Top Outside Size, Wd. × Dp. × Ht.	Bin Box	Each 1-23	Each 24-Up	Optional Dividers Pkg. Qty.	Per Pkg.
5 9/16" × 11 5/8" × 4 5/8"	4758T51	$7.62	$6.83	4	4758T52 $5.29



A *Shown with Optional Divider*

(B) Fiberglass Nestable and Stackable Bin Boxes

Top Outside Size, Wd. × Dp. × Ht.	Cap., lbs.		Each	Pkg. Qty.	Per Pkg.
11 3/8" × 18 1/8" × 7 5/8"	500	9973T5	$30.76	10	9973T71 $276.80
11 3/8" × 24" × 7 7/8"	500	9973T6	36.79	10	9973T72 331.00
16 1/4" × 24" × 8"	500	9973T7	46.21	5	9973T73 207.95



B

Extra-Wide Divided Plastic Bin Boxes

You'll get six compartments in one with these divided bin boxes. All are nestable and stackable. Use 3/8" diameter dowel rods to stack; 12" deep bins require two rods and 18" deep bins require three. (See page 3695 for dowel rods.) Made of polypropylene. **To Order:** Please specify color: blue, red, or yellow.

Optional divider fits side-to-side and is black.

Top Outside Size, Wd. × Dp. × Ht.	Inside Compartment Size, Wd. × Dp.	Cap., lbs.		Each
33" × 12" × 5"	3 7/16" × 10 3/8"	60	8544T1	$22.72
33" × 18" × 5"	3 7/16" × 16 3/8"	60	8544T2	33.49
Optional Divider			8544T3	2.95



Static-Control Plastic Bin Boxes

Keep your components safe from static with these bin boxes. The antistatic bin boxes drain charges more slowly than the conductive bin boxes, which are used when static electricity needs to be drained more quickly.

Antistatic hangable and stackable bin boxes come with a lip on the back so you can hang them from a rail or louvered panel. (See page 1641 for static-control panels and racks.) All have a label holder and are made of polypropylene. Surface resistivity is 10^9 to 10^{12} ohms/sq. Color is blue. **Also Available:** Labels for bin boxes. Please ask for 1515T322.

Conductive hangable and stackable bin boxes have a lip on the back so you can hang them from a rail or louvered panel. (See page 1641 for static-control panels and racks.) Surface resistivity is 10^5 ohms/sq. Color is black. *Optional dividers* fit front-to-back and are black.

Conductive stackable bin boxes have molded-in label holders and a bar in front for stability (unless noted). Surface resistivity is 10^3 ohms/sq. Color is black. **Also Available:** Labels for bin boxes. Please ask for 4761T1.

Top Outside Size, Wd. × Dp. × Ht.	Cap., lbs.	Bin Boxes	Each	Optional Dividers	Each
Antistatic Hangable and Stackable Bin Boxes					
4" × 3 1/2" × 2"	10	4925T41	$6.02		
4" × 7" × 3"	25	4925T42	7.53		
5 13/16" × 9 1/2" × 5"	30	4925T44	18.31		
8 13/16" × 6 1/2" × 3"	30	4925T43	15.44		
Conductive Hangable and Stackable Bin Boxes					
4 1/8" × 5" × 3"	8	4589T63	4.79	4589T93	$2.19
4 1/8" × 7 3/8" × 3"	20	4589T65	6.19	4589T85	2.68
5 1/2" × 10 7/8" × 5"	30	4589T66	20.06	4589T86	4.32
8 1/4" × 10 3/4" × 7"	50	4589T67	28.73	4589T87	7.41
8 3/4" × 6 1/2" × 3"	30	4925T63	13.13		
11" × 18" × 10"	75	4589T68	84.69	4589T88	12.68
11 7/16" × 12 13/16" × 6"	40	4925T67	32.03		
16 1/2" × 18" × 11"	75	4589T69	124.26	4589T89	12.68
Conductive Stackable Bin Boxes					
7 7/8" × 13 13/16" × 5 13/16"	22	4589T73♣	15.19		
7 7/8" × 13 13/16" × 7 7/8"	22	4589T74	22.05		
12 1/2" × 20 1/8" × 7 7/8"	22	4589T76	38.61		

♣ Bin box does not have a bar in front for stability.



Antistatic Hangable and Stackable



Hangable Bin Boxes Shown on a Rack

Mobile Plastic Bin Boxes


A


B

(A) Mobile stackable plastic bin box has a bar in front that adds strength and acts as a handle. It has a molded-in label holder and four swivel casters with brakes with 3″ dia. polyurethane wheels. Stacks up to four high with casters in place. Made of polyethylene. **To Order:** Please specify color: blue, red, or yellow. **Also Available:** Labels for bin box. Please ask for 17895T115.

(B) Mobile plastic bin boxes with cover meet NSF/ANSI standards and are made of FDA-compliant resins. They have a sloped top, a clear polycarbonate cover that slides back for easy access to contents, and come with a 32-oz. scoop. All have four casters (two rigid and two swivel) with 3″ dia. rubber wheels. Made of polypropylene. Color is white.

Top Outside Size, Wd. × Dp. × Ht.	Cap., lbs.		Each
(A) Mobile Stackable Plastic Bin Box			
18 3/8″ × 29″ × 14 7/8″	300	7523T63	$119.54
(B) Mobile Plastic Bin Boxes with Cover			
13 1/8″ × 29 1/4″ × 28″	140	6175T91	280.53
15 1/2″ × 29 1/2″ × 28″	175	6175T93	295.16
18″ × 29 3/4″ × 28″	215	6175T94	299.51

Plastic Bin Boxes with Magnetic Base


Swivel Base


Fixed Base

Magnetic bases attach to any steel surface so you can position your bin box where you need it. Boxes are made of ABS plastic and have bottom drain holes to prevent dirt and moisture buildup. Both come with two removable front-to-back dividers. Color is black. *Note:* Not rated for capacity.

Top Outside Size, Wd. × Dp. × Ht.		Each
Bin Box with Swivel Base		
5 9/16″ × 4″ × 5 1/2″■	1275T66	$22.85
Bin Box with Fixed Base		
9 3/8″ × 7 9/16″ × 5 1/2″	1275T67	38.10

■ Height includes 2″ base.

Metal Bin Boxes


C


D


E

(C&D) Steel bin boxes have a closed-front design and a raised front and back to prevent accidental spills. Color is gray. *Optional dividers* fit side-to-side. Color is gray.

Style C have a label holder. **Also Available:** Labels for bin boxes. Please ask for 1512T133.

(E) Type 304 stainless steel bin boxes are perfect for corrosive environments. All have a satin finish and are stackable.

	Bin Boxes: Top Outside Size, Wd. × Dp. × Ht.	Cap., lbs.		Each	Optional Dividers	Each
Steel Bin Boxes						
C	5 5/8″ × 11″ × 3 1/8″	60	9980T14	$7.33	9980T44	$1.65
C	5 5/8″ × 17″ × 3 1/8″	60	9980T15	11.25	9980T44	1.65
D	5 5/8″ × 11″ × 5 3/8″	60	9980T11	12.14	9980T41	1.95
D	5 5/8″ × 17″ × 5 3/8″	60	9980T12	16.63	9980T41	1.95
D	8 3/8″ × 17″ × 5 3/8″	100	9980T18	19.19	9980T46	1.85
D	11 1/4″ × 17″ × 5 3/8″	100	9980T19	21.51	9980T47	2.55
Type 304 Stainless Steel Bin Boxes						
E	4 1/2″ × 8″ × 4 1/2″	300	6615T51	43.66		
E	5 1/2″ × 12″ × 4 1/2″	300	6615T52	49.62		
E	7 1/2″ × 15 1/2″ × 6″	300	6615T53	78.63		

Plastic Dispensing Bins



Keep bulk material dry and ready to use. Material empties quickly through a gravity-fed, wide-mouth opening—just pull the handle and a plastic flap opens for dispensing. Mounting screws and dispensing cup included. Made of polyethylene. *20-lb. capacity bin* is FDA compliant.

Top Outside Size, Wd. × Dp. × Ht.	Dispensing Opening, Wd. × Dp.	Cap., lbs.	Color		Each
13″ × 8 1/4″ × 18″	3″ × 3 1/2″	20	Tan	4020T67	$40.47
16″ × 10″ × 25″	4″ × 4 3/4″	40	Black	4020T68	54.76

Modular Steel Dispensing Bins

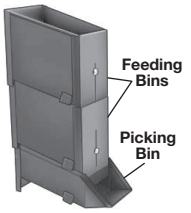

Team up feeding and picking bins with the same rear width to create a dispensing system that's just right for you. Color is green.

Feeding bins have an adjustable front panel and adjustment screw that allow you to control the amount of material that flows into the picking bin. Can be stacked up to two high.

Picking bins have a shallow-angle lip for easy access to parts and a sloped bottom that allows parts to flow forward.

Rear Wd.	Front Wd.	Dp.	Ht.		Each
Feeding Bins					
4 1/2″	3 1/2″	6″	5 1/4″	4520T71	$15.64
6 1/2″	5 1/2″	9 1/2″	8 1/2″	4520T72	23.70
11 1/2″	10 1/2″	9 1/2″	8 1/2″	4520T73	30.77
Picking Bins					
4 1/2″	3 1/4″	8″	2 1/2″	4520T61	12.93
6 1/2″	5″	12″	4″	4520T62	15.74
11 1/2″	10″	12″	4″	4520T63	28.28

Stackable Plastic Tote Boxes


Polypropylene


Polyethylene

Strong rims and handholds make stacking and carrying these tote boxes a breeze. All have solid sides and solid bottoms. *Optional covers* are recessed with a ridge around the top for easy stacking.

To Order: Please specify gray or red for polypropylene tote boxes and covers or gray or green for polyethylene tote boxes and covers.

Top Outside Size, Lg. × Wd. × Ht.	Cap., lbs.	Tote Boxes:	Each	Optional Covers:	Each
Polypropylene Tote Boxes— *Compatible with 48″ × 40″ Pallets*					
8″ × 6″ × 4 11/16″	55	4315T71	$6.75		
12″ × 8″ × 4 11/16″	55	4315T72	10.39		
12″ × 8″ × 6 11/16″	55	4315T73	12.02		
12″ × 8″ × 8 11/16″	55	4315T74	13.27		
16″ × 12″ × 4 13/16″	55	4315T1	9.91	4315T84	$7.59
16″ × 12″ × 8 11/16″	55	4315T2	19.69	4315T84	7.59
16″ × 16″ × 16 5/8″	55	4315T64	37.25	4315T67	12.60
24″ × 16″ × 6″	55	4315T76	22.71	4315T85	14.50
24″ × 16″ × 8 11/16″	55	4315T4	31.49	4315T85	14.50
24″ × 16″ × 9 1/2″	55	4315T77	32.55	4315T85	14.50
24″ × 16″ × 12 5/8″	55	4315T5	35.08	4315T85	14.50
24″ × 16″ × 16 5/8″	55	4315T6	39.59	4315T85	14.50
32″ × 24″ × 12 5/8″	55	4315T7	77.88		
Polyethylene Tote Boxes— *Compatible with 48″ × 45″ Pallets*					
12″ × 7 3/8″ × 5″	55	41195T26	8.65		
12″ × 15″ × 5″	55	41195T27	12.60	41195T76	8.94
12″ × 15″ × 7 1/2″	55	41195T28	13.37	41195T76	8.94
24″ × 15″ × 5″	55	41195T46	16.66	41195T78	12.36
24″ × 15″ × 7 1/2″	55	41195T47	18.87	41195T78	12.36
24″ × 22 3/8″ × 9 1/2″	55	41195T56	29.02		
24″ × 22 3/8″ × 14 1/2″	55	41195T57	34.78		
48″ × 22 3/8″ × 7 5/16″	44	41195T58	74.45		

Nestable Plastic Tote Boxes



(A) Rectangular polyethylene tote boxes have a recessed label area and a lip around the top that forms handholds. Color is gray.

(B) Rectangular polyethylene tote boxes with anti-jamming lugs are easy to separate when nested. Lip around the top provides handholds. Color is gray.

(C) Rectangular polyethylene tote boxes with snap-on lid have handholds. Color is blue.

(D) Rectangular polypropylene tote box has handholds and a molded-in label holder. Color is green. **Also Available:** Labels for boxes. Please ask for 1512T136.

Top Outside Size, Lg. × Wd. × Ht.	Cap., lbs.		Each
(A) Rectangular Polyethylene Tote Boxes			
10¾″ × 8⅛″ × 6″	—	4037T55	$18.39
16½″ × 10¾″ × 4″	—	4037T59	15.35
16½″ × 10¾″ × 8″	—	4037T56	20.95
21⅝″ × 16⅝″ × 6″	—	4037T61	26.29
21⅝″ × 16⅝″ × 10″	—	4037T57	33.93
25″ × 16″ × 8″	—	4037T63	35.00
34″ × 22″ × 8″	—	4037T62	50.84
(B) Rectangular Polyethylene Tote Boxes with Anti-Jamming Lugs			
22″ × 13¾″ × 11¾″	—	4037T51	37.20
26¼″ × 16¾″ × 12½″	—	4037T58	47.26
28″ × 18¾″ × 15″	—	4037T52	60.08
(C) Rectangular Polyethylene Tote Boxes with Snap-On Lid			
16″ × 10¾″ × 7″	—	4387T51	7.91
24″ × 16″ × 12½″	—	4387T54	18.30
24″ × 16″ × 16½″	—	4387T53	20.38
28½″ × 19⁹⁄₁₆″ × 16⅞″	—	4387T55	28.06
32¹¹⁄₁₆″ × 20⅛″ × 16¹¹⁄₁₆″	—	4387T56	35.74
(D) Rectangular Polypropylene Tote Box			
30⅝″ × 21⅛″ × 12½″	81	4294T41	49.63
Optional Lid for Style D		4294T42	$34.00

Collapsible Plastic Tote Boxes

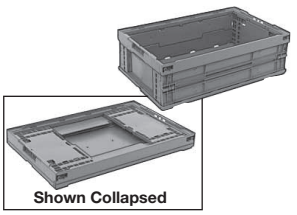

Save storage space with these collapsible tote boxes—they collapse to one-third their overall size. All are made of FDA-compliant resins and have handholds. They are stackable and compatible with 48″ × 45″ pallets. Made of polypropylene. Color is gray.

Top Outside Size, Lg. × Wd. × Ht.	Collapsed Ht.	Cap., lbs.		Each
15″ × 12″ × 7½″	2¾″	40	40985T41	$27.56
24″ × 15″ × 7½″	2¾″	40	40985T42	40.06
24″ × 15″ × 11″	2¾″	40	40985T43	44.36

Nestable and Stackable Tote Boxes

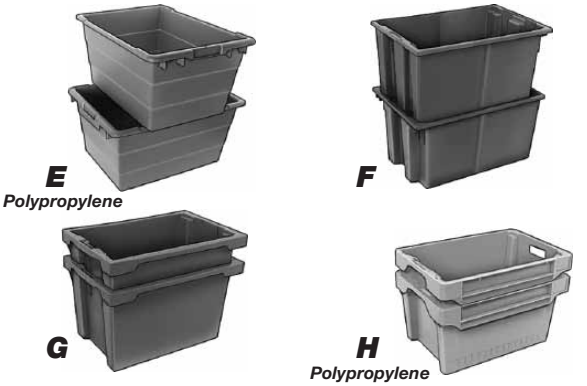

(E) Nestable and cross-stackable tote boxes go from nesting to stacking with a simple 90° turn. *Polypropylene* boxes are gray. *Polyethylene* boxes are made from FDA-compliant resins. Color is translucent white.

(F) FDA-compliant nestable and stackable tote boxes are made of FDA-compliant resins, have ribs under the top lip to prevent jamming when nested, and have handholds. *Optional lids* are made of polypropylene, unless noted. **To Order:** Please specify color for tote boxes and lids: blue, gray, or red, unless noted. *Note:* The red boxes are not FDA compliant.

(G) Nestable and stackable tote boxes compatible with 48″ × 40″ pallets are nestable in one direction and stackable when turned in the opposite direction. All have handholds. *Optional lids* are made of polypropylene. **To Order:** Please specify color: blue, red, or yellow.

(H) Nestable and stackable tote boxes with built-in label holder and compatible with 48″ × 40″ pallets are nestable in one direction and stackable when turned in the opposite direction. All have handholds. When paired with an *optional lid,* boxes can be used for shipping. *Polypropylene* boxes have a recessed bar code area.

To Order: Please specify color: blue, red, or yellow.

Also Available: Labels for boxes. For labels for polypropylene boxes, please ask for 1515T336. For labels for polyethylene box, please ask for 4311T12.

Top Outside Size, Lg. × Wd. × Ht.	Cap., lbs.	*Tote Boxes*	Each	*Optional Lids*	Each
(E) Nestable and Cross-Stackable Tote Boxes					
Polypropylene					
17¼″ × 11″ × 8″	60	5124T27	$6.26	—	—
17¼″ × 11″ × 12″	60	5124T28	8.29	—	—
23¾″ × 17¼″ × 8″	60	5124T33	13.81	—	—
23¾″ × 17¼″ × 12″	60	5124T35	15.71	—	—
Polyethylene					
25″ × 16½″ × 8″	—	5124T36	90.09	—	—
29¾″ × 19¾″ × 12″	—	5124T32	135.14	—	—
(F) FDA-Compliant Nestable and Stackable Tote Boxes					
Polypropylene					
18″ × 11″ × 6″	45	40365T1	9.08	40365T4	$5.95
19½″ × 13½″ × 8″	55	40365T7	14.86	40365T75	8.87
19½″ × 15½″ × 10″	65	40365T2	17.16	40365T5	8.01
Polyethylene					
19⅜″ × 12⅞″ × 12⅛″	70	4867T2	23.12	4867T43	10.81
19½″ × 15½″ × 13″	80	40365T15●	37.09	40365T17●★	14.09
20⅛″ × 13″ × 6¼″	70	4867T3	17.04	4867T44★	9.88
21″ × 17″ × 12″	70	4867T4	28.00	4867T45	11.73
23½″ × 15½″ × 12″	75	40365T8	22.53	40365T85	12.53
23½″ × 19½″ × 10″	100	40365T14●	39.95	40365T18●★	15.97
23½″ × 19½″ × 13″	90	40365T3	24.56	40365T6	11.60
24″ × 14⅛″ × 7⅞″	70	4867T6	23.42	4867T47	11.00
24″ × 20″ × 13″	70	4867T5	31.30	4867T46	15.04
26⅛″ × 18¾″ × 10½″	70	4867T7	34.29	4867T48	14.05
29½″ × 19½″ × 15″	100	40365T9	43.17	40365T95	17.94
29⅝″ × 22⅜″ × 6⅛″	70	4867T8	27.42	—	—
30⅛″ × 24″ × 15⅛″	70	4867T9	56.70	—	—
(G) Nestable and Stackable—Compatible with 48″ × 40″ Pallets					
Polypropylene					
21⅜″ × 12⅝″ × 6¾″	44	4311T1	17.82	—	—
23⅛″ × 14⅞″ × 7⅞″	22	4311T2	20.73	—	—
23¾″ × 15⅞″ × 13⅞″	66	4311T6	38.03	4311T9	13.97
(H) Nestable and Stackable Tote Boxes with Built-In Label Holder—Compatible with 48″ × 40″ Pallets					
Polypropylene					
23¾″ × 15⅞″ × 7⅞″	70	4367T1	27.02	4367T4	14.68
23¾″ × 15⅞″ × 11⅞″	70	4367T2	31.30	4367T4	14.68
23¾″ × 15⅞″ × 15⅞″	70	4367T3	42.95	4367T4	14.68
Polyethylene					
23¾″ × 15⅞″ × 9⅞″	44	4311T4	29.63	4311T8	13.05

● Available in gray only. ★ Made of polyethylene.

Heavy Duty Plastic Tote Boxes


A


B

(A) Food-grade nestable polyethylene tote boxes with snap-on lids are made of FDA-compliant resins, meet NSF/ANSI standards, have a reinforced bottom to withstand heavy use, and have handholds. **To Order:** Please specify color: gray or white.

(B) Chemical-resistant nestable and stackable fiberglass tote boxes will not dent, bend, splinter, or corrode. All resist most oils, chemicals, and solvents and have handholds. **To Order:** Please specify color: gray, green, red, or yellow, except 4445T57, which is available in gray or green.

Optional covers are gray.

Top Outside Size, Lg. × Wd. × Ht.	Cap., lbs.	Tote Boxes	Each	Optional Covers	Each
(A) Food-Grade Nestable Polyethylene Tote Boxes w/ Snap-On Lids					
27⅞″ × 17⅜″ × 10 11/16″	500	4636T77	$30.67	—	—
27⅞″ × 17⅜″ × 15⅛″	500	4636T78	37.14	—	—
(B) Chemical-Resistant Nestable and Stackable Fiberglass Tote Boxes					
17⅞″ × 10 13/16″ × 5″	500	4445T4	18.74	4445T412	$14.53
19 13/16″ × 12 13/16″ × 6″	500	4445T5	23.87	4445T512	15.64
20⅝″ × 13″ × 8″	500	4445T6	27.81	4445T612	21.80
24″ × 20″ × 12¾″	250	4445T57	59.56	—	—
24⅛″ × 11⅜″ × 9″	500	4445T63	31.67	4445T732	18.16
24 5/16″ × 14 13/16″ × 5⅛″	500	4445T9	30.87	4445T912	19.51
24 5/16″ × 14 13/16″ × 8″	500	4445T3	32.43	4445T912	19.51
25 5/16″ × 18⅛″ × 10⅛″	500	4445T7	43.02	4445T712	22.43
27½″ × 19⅞″ × 14⅛″	500	4445T65	57.30	4445T752	27.52
30⅝″ × 16⅞″ × 11⅛″	500	4445T8	56.96	4445T922	23.89
42½″ × 20⅛″ × 14⅛″	500	4445T85	79.17	4445T932	36.71

Plastic Tote Boxes with Hinged Lids



All boxes have lids that interlock and are attached to boxes with metal hinges. A ⅜″ dia. hole allows you to secure lids with a wire seal or cable tie (not included). All are nestable when lids are open, and are stackable when lids are closed. They have handholds and are made of FDA-compliant resins, except the red models. All are compatible with 48″ × 40″ pallets, unless noted; 21 13/16″ and 21 15/16″ long boxes are also compatible with 48″ × 45″ pallets.

To Order: Please specify color: blue, gray, red, or translucent, unless noted. Blue, gray, and red boxes are made of polyethylene. Translucent boxes are made of polypropylene.

Top Outside Size, Lg. × Wd. × Ht.	Cap., lbs.		Each
11 13/16″ × 9 13/16″ × 7 11/16″	70	4659T8★	$15.45
15 3/16″ × 10⅞″ × 9 11/16″	70	4659T7▲	18.25
19 11/16″ × 11 13/16″ × 7 5/16″	70	4659T9★	18.40
21 13/16″ × 15 3/16″ × 12⅞″	70	4659T2	24.70
21 15/16″ × 15 3/16″ × 9 5/16″	70	4659T1	21.90
22 5/16″ × 13″ × 12 13/16″	70	4659T15♣	22.70
23⅞″ × 19 5/8″ × 12 5/8″	70	4659T4	34.85
26⅞″ × 16⅞″ × 12⅛″	70	4659T3▲	30.15

★ Not available in red. ▲ Not compatible with 48″ × 40″ pallets.
♣ Not available in translucent.

File-Size Tote Boxes


Corrugated Cardboard with Lift-Off Lid


Polyethylene with Hinged Lid

Corrugated cardboard boxes have a large label area and have handholds. Shipped flat but can be assembled in seconds. Boxes and lids are white. *Boxes with folding lid* have a string-and-button closure.

Polyethylene box is water resistant and has handholds, a hinged lid, and removable folder rails for hanging files. Box is nestable. Color is blue.

File Style	Inside Size, Lg. × Wd. × Ht.	Cap., lbs.		Each 1-11	Each 12-Up
Corrugated Cardboard Boxes with Lift-Off Lid					
Letter/Legal	15″ × 12″ × 10″	35	5074T12	$4.04	$3.44
Letter	24″ × 12″ × 10″	50	5074T43	6.78	5.88
Legal	24″ × 15″ × 10″	60	5074T44	7.60	6.59
Corrugated Cardboard Boxes with Folding Lid					
Letter	24″ × 12″ × 10″	50	5074T14	8.62	7.58
Legal	24″ × 15″ × 10″	60	5074T15	9.38	7.85
Polyethylene Box with Hinged Lid					
Letter/Legal/ Hanging	20⅝″ × 16½″ × 11½″	70	45125T42	Each	$32.00

Vented Stackable Plastic Tote Boxes


With Optional Cover

These tote boxes have handholds and strong rims that make stacking and carrying a breeze. They have ¾″ × ¾″ mesh openings that allow ventilation as well as quick identification of contents. All are compatible with 48″ × 40″ pallets. Made of polypropylene. *Optional covers* have a ridge around the top for easy stacking. **To Order:** Please specify color for tote boxes and covers: gray or red.

Top Outside Size, Lg. × Wd. × Ht.	Vented Sides with Solid Bottom: Cap., lbs.		Each	Vented Sides with Vented Bottom: Cap., lbs.		Each	Optional Covers	Each
16″ × 12″ × 4 13/16″	55	4315T11■	$12.07	33	4315T91■	$15.31	4315T84	$7.59
16″ × 12″ × 8 11/16″	55	4315T12	20.37	33	4315T92	22.82	4315T84	7.59
24″ × 16″ × 8 11/16″	55	4315T14	29.44	33	4315T95	30.91	4315T85	14.50
24″ × 16″ × 12 5/8″	55	4315T15	32.39	33	4315T97	33.84	4315T85	14.50
24″ × 16″ × 16 5/8″	55	4315T16	37.09	33	4315T98	38.26	4315T85	14.50
32″ × 24″ × 12 5/8″	55	4315T17	72.61	—	—	—	—	—

■ Sides with handholds are solid.

Vented Nestable and Stackable Plastic Tote Boxes

(A) Standard tote boxes are FDA compliant. Vented sides and bottom allow easy draining. All are made of polyethylene and have handholds.

(B) Stain- and stick-resistant tote boxes are the ultimate in impact, wear, chemical, corrosion, stain, and stick resistance. All meet NSF/ANSI standards, are made of FDA-compliant resins, and have handholds. Sides and bottoms are vented. Made of a blend of PTFE and polypropylene.

(C) Heavy duty chemical-resistant tote boxes are made of reinforced fiberglass so they are lightweight and strong. They also resist most chemicals, solvents, and oils. All have handholds and are compatible with both 48″×40″ and 48″×45″ pallets. **To Order:** Please specify color.


A


B


C

Top Outside Size, Lg. × Wd. × Ht.	Cap., lbs.	Bottom Perforation Opening Size	Available Colors	Tote Boxes Each	Optional Covers Each
(A) Standard Tote Boxes					
23⅝″ × 15 11/16″ × 10 3/16″	40	½″ × ½″	Green	3642T22 $23.54	— —
28⅜″ × 22″ × 4¾″	30	⅞″ × ⅞″	Blue	3642T41 29.36	— —
28⅜″ × 22″ × 6¾″	30	⅞″ × ⅞″	Red	3642T42 32.85	— —
(B) Stain- and Stick-Resistant Tote Boxes					
24″ × 20″ × 8¼″	—	¼″ × 2⅛″	White	21055T31 56.62	— —
24″ × 20″ × 8¼″	—	¼″ × 2⅛″	Green	21055T32 56.62	— —
(C) Heavy Duty Chemical-Resistant Tote Boxes					
17⅞″ × 10⅝″ × 5″	150	⅜″ Dia.	Gray, Green	4117T11 31.50	4117T51 $14.60
20½″ × 12⅞″ × 8″	150	⅜″ Dia.	Gray, Green	4117T12 38.20	4117T52 17.95
25¼″ × 18″ × 10″	150	¼″ Dia.	Gray, Green	4117T13 68.40	4117T53 25.69

Create-Your-Own Compartmented Plastic Tote Boxes

Create a tote box with the perfect number of compartments—simply choose the box and number of dividers you need. The dividers fit into molded slots in the boxes and intersect so you can have compartments as small as 1⅛″ square.

(D) Polyethylene tote boxes have gray dividers; lids are clear. **To Order:** For boxes, please specify color: blue, gray, or red.

(E) Conductive polypropylene tote boxes provide protection from electrostatic fields when used with lid. Surface resistivity is a maximum 105 ohms/sq. Boxes, dividers, and lids are black.

Plastic label holders snap onto divider boxes. **Also Available:** Labels for bin boxes. Please ask for 17895T112 for 4″ Wd. × 13/16″ Ht. labels and 17895T118 for 5″ Wd. × 3″ Ht. labels.


D

Shown with Dividers and Snap-On Lid


E

Shown with Dividers

Top Outside Size, Lg. × Wd. × Ht.	Cap., lbs.	BOXES Each	DIVIDERS Ht.	DIVIDERS For Length Each	DIVIDERS For Width Each	SNAP-ON LIDS Each
(D) Polyethylene Tote Boxes						
Maximum Number of Dividers: 5 for Length and 7 for Width						
10 13/16″ × 8 5/16″ × 2½″	40	40355T51 $5.69	1⅞″	40355T68 $1.05	40355T65 $0.95	40355T92 $7.57
10 13/16″ × 8 5/16″ × 3½″	40	40355T52 5.86	2⅞″	40355T69 1.05	40355T66 .95	40355T92 7.57
10 13/16″ × 8 5/16″ × 5″	40	40355T53 6.10	4⅜″	40355T71 1.05	40355T67 .95	40355T92 7.57
Maximum Number of Dividers: 7 for Length and 11 for Width						
16½″ × 10⅞″ × 2½″	40	40355T54 7.24	1⅞″	40355T82 1.55	40355T68 1.05	40355T96 9.78
16½″ × 10⅞″ × 3½″	40	40355T55● 7.92	2⅞″	40355T83 2.05	40355T69 1.05	40355T96 9.78
16½″ × 10⅞″ × 5″	40	40355T56● 9.63	4⅜″	40355T84 2.08	40355T71 1.05	40355T96 9.78
16½″ × 10⅞″ × 6″	40	40355T57● 9.94	5⅜″	40355T85 2.40	40355T72 2.05	40355T96 9.78
16½″ × 10⅞″ × 8″	40	40355T59● 12.43	7⅜″	40355T86 2.62	40355T73 2.48	40355T96 9.78
Maximum Number of Dividers: 11 for Length and 15 for Width						
22⅜″ × 17⅜″ × 5″	40	40355T61 15.33	4⅜″	40355T87 2.42	40355T74 2.17	40355T97 19.05
22⅜″ × 17⅜″ × 6″	40	40355T62● 15.61	5⅜″	40355T88 2.90	40355T75 2.35	40355T97 19.05
22⅜″ × 17⅜″ × 8″	40	40355T63● 18.84	7⅜″	40355T89 3.40	40355T76 2.73	40355T97 19.05
22⅜″ × 17⅜″ × 12″	40	40355T64● 25.37	11 5/16″	40355T91 6.78	40355T77 6.58	40355T97 19.05
(E) Conductive Polypropylene Tote Boxes						
Maximum Number of Dividers: 5 for Length and 7 for Width						
10 13/16″ × 8 5/16″ × 5″	40	4893T11 13.49	4⅜″	4893T15 2.20	4893T14 1.78	4893T16 5.24
Maximum Number of Dividers: 7 for Length and 11 for Width						
16½″ × 10⅞″ × 6″	40	4893T13 19.29	5⅜″	4893T22 3.98	4893T21 3.38	4893T87 10.51
16½″ × 10⅞″ × 8″	40	4893T83 25.23	7⅜″	4893T92 5.22	4893T95 3.84	4893T87 10.51
Maximum Number of Dividers: 11 for Length and 15 for Width						
22⅜″ × 17⅜″ × 8″	40	4893T29 44.97	7⅜″	4893T47 6.13	4893T35 4.89	4893T88 17.93

Plastic Label Holders

For Box Ht.	Holder Size, Wd. × Ht.	Max. Label Size, Wd. × Ht.	Each
For Style D Boxes			
2½″ to 3½″	6½″ × 2¼″	5½″ × 1¼″	40355T98 $1.24
5″ to 12″	7¾″ × 4¼″	7½″ × 3½″	40355T95 1.50
For Style E Boxes			
5″ to 8″	7¾″ × 4¼″	7½″ × 3½″	4893T89 1.74

● Has ⅜″ dia. holes on both ends for a labeling tag, a flat surface on all sides for labels, and numbered divider slots.

Steel Tote Boxes

Boxes are stackable and include handholds.



Top Outside Size, Lg. × Wd. × Ht.	Cap., lbs.	Each
9″ × 6″ × 3½″	50	4736T51 $23.11
12″ × 8″ × 4″	60	4736T52 25.47
13½″ × 9″ × 4½″	70	4736T53 29.35

Tote Baskets & Large-Capacity Containers

Steel and Stainless Steel Tote Baskets


A


B


C

Not rated for capacity.

Top Outside Size♦, Lg. × Wd. × Ht.	Bottom Mesh Openings		Each
(A) Epoxy-Coated Steel Tote Baskets —Color is blue.			
11″ × 6″ × 3½″	¼″ × 3¼″	4244T1	$61.48
14″ × 11″ × 3½″	¼″ × 3¼″	4244T2	73.33
20″ × 11″ × 3½″	¼″ × 3¼″	4244T3	83.83
(B) Stackable Zinc-Plated Steel Tote Baskets with Handles			
16″ × 10″ × 4½″	½″ × 1″	4354T11	57.60
16″ × 10″ × 4½″	¼″ × ¾″	4354T12	70.60
21″ × 13¼″ × 6″	½″ × 1″	4354T13	80.20
21″ × 13¼″ × 6″	¼″ × ¾″	4354T14	82.30
24″ × 13¼″ × 6″	½″ × 1″	4354T16	87.90
(C) Stackable Type 304 Stainless Steel Tote Baskets with Handles			
16″ × 10″ × 4½″	½″ × 1″	20165T41	158.41
16″ × 10″ × 4½″	¼″ × ¾″	20165T42	198.64
21″ × 13¼″ × 6″	½″ × 1″	20165T43	218.95
21″ × 13¼″ × 6″	¼″ × ¾″	20165T44	257.41
24″ × 13¼″ × 6″	½″ × 1″	20165T45	261.65

♦ Not including handles.

Nestable Tote Baskets


D


E


F

(D) Plastic tote baskets with wire handles are made of polypropylene. **To Order:** Please specify color: blue or red.

(E) Steel tote baskets are white.

(F) Steel tote basket with steel handles has a black-painted finish. Handles have a PVC grip.

Top Outside Size♦, Lg. × Wd. × Ht.	Cap., lbs.	Bottom Mesh Openings		Each
(D) Plastic Tote Baskets with Wire Handles				
17″ × 12″ × 8″	75	⅜″ × 1″	4248T11	$7.44
18″ × 12¾″ × 9¾″	125	½″ × ½″	4248T51	12.37
(E) Steel Tote Baskets				
21″ × 17″ × 3¼″	—	1¼″ × 1¼″	42865T21	18.90
21″ × 17″ × 7⅛″	—	1¼″ × 1¼″	42865T22	22.60
21″ × 17″ × 11⅛″	—	1¼″ × 1¼″	42865T23	30.01
(F) Steel Tote Baskets with Steel Handles				
16½″ × 12¼″ × 7″	125	¼″ × ⅝″	4025T11	15.62

♦ Not including handles.

Collapsible Large-Capacity Containers


Container without Casters

Containers collapse to save valuable storage space. All are made of zinc-plated steel and have four-way forklift entry. *Containers without casters* can be stacked four high, except 32″ Lg. × 20″ Wd. containers, which can only stack three high. *Containers with casters* have two rigid and two swivel casters with 4″ dia. phenolic wheels, except for the 32″ Lg. × 20″ Wd. containers, which have 3½″ dia. phenolic wheels. *Note:* Do not stack containers without casters on containers with casters.

					Without Casters			*With Casters*			
O'all Size, Lg. × Wd.	Wire Thick.	Mesh Openings	Bottom Clearance	Ht.	Cap., lbs.		Each	Ht.	Cap., lbs.		Each
Containers with Half-Drop Door on One Length Side											
32″ × 20″	11 ga.	1⅛″ × 1⅛″	3⅞″	21″	1000	5066T64	$107.00	21⅛″	1000	5066T67	$212.10
32″ × 20″	11 ga.	½″ × ½″	3⅞″	21″	1000	5066T65	113.90	21⅛″	1000	5066T68	218.78
40″ × 32″	3 ga.	2″ × 2″	3⅞″	34″	4000	5066T31	172.14	35¾″	2800	5066T81	291.43
48″ × 40″	3 ga.	2″ × 2″	3⅞″	30″	4000	5066T56	202.24	31¾″	2800	5066T82	319.13
48″ × 40″	3 ga.	2″ × 2″	3⅞″	36″	4000	5066T32	234.40	37¾″	2800	5066T83	352.00
48″ × 40″	3 ga.	2″ × 2″	3⅞″	42″	4000	5066T72	245.18	43¾″	2800	5066T84	363.39
Containers with Half-Drop Door on One Width Side											
48″ × 40″	3 ga.	2″ × 2″	3⅞″	36″	4000	5066T26	242.93	37¾″	2800	5066T85	370.18

Large-Capacity Containers


G


H


J


K


L

O'all Size, Lg. × Wd. × Ht.	Cap., lbs. When Not Stacked	Cap., lbs. When Stacked	Max. Stacking Height	Wall Thick.	Bottom Clearance	Forklift Entry	Color	*Containers*	Each	*Optional Covers*	Each
(G) Polyethylene Containers with Cover— *Made of FDA-compliant resins and are nestable.*											
41″ × 28″ × 29″	500	430	3	3/16″	4″	2-Way	Blue	21065T44■	$235.49	—	—
42″ × 34″ × 42″	800	800	2	3/16″	4″	2-Way	Blue	21065T45■	284.91	—	—
51½″ × 22½″ × 19″	550	325	4	3/16″	4″	2-Way	Blue	42115T34	224.74	—	—
(H) UV-Stabilized Polyethylene Container— *Made of FDA-compliant resins and has a smooth interior.*											
48″ × 45″ × 24 13/16″	2000	2000	6	1¾″	3⅝″	4-Way	Blue	4508T61	319.57	45775T14★	$81.57
(J) Collapsible Polyethylene Containers— *Half-drop door on each length side. Have a ribbed exterior and a smooth interior, unless noted.*											
32″ × 30″ × 25″	2000	2000	6	1½″	2¼″	4-Way	Black	45775T15	279.23	45775T17	68.54
32″ × 30″ × 34″	2000	2000	6	1½″	2¼″	4-Way	Black	45775T16	302.08	45775T17	68.54
48″ × 40″ × 34″	2000	2000	6	1½″	3½″	4-Way	Black	45775T23	428.47	45775T13	90.52
48″ × 40″ × 39″	2000	2000	5	1½″	3½″	4-Way	Black	45775T26	439.63	45775T13	90.52
48″ × 45″ × 25″	2000	2000	6	1½″	3½″	4-Way	Black	45775T29♣	357.54	45775T14	81.57
48″ × 45″ × 34″	2000	2000	6	1½″	3½″	4-Way	Black	45775T33♣	366.94	45775T14	81.57
(K) Polyethylene Containers— *Made of FDA-compliant resins and are nestable and seamless. Cover required for stacking.*											
50″ × 42″ × 36″	2000	2000	2	¼″	4″	4-Way	White	3674K11	846.96	3674K16	239.75
50″ × 42″ × 45″	2000	2000	2	¼″	4″	4-Way	White	3674K13	882.29	3674K16	239.75
(L) Steel Containers											
35″ × 30″ × 28¼″	4000	4000	5	13 ga.	4″	4-Way	—	4546T16	270.48	—	—
42″ × 42″ × 22¼″	4000	4000	5	13 ga.	4″	4-Way	—	4546T13	342.78	—	—
42″ × 42″ × 28¼″	4000	4000	5	13 ga.	4″	4-Way	—	4546T17	360.67	—	—
48″ × 48″ × 28¼″	4000	4000	5	13 ga.	4″	4-Way	—	4546T18	398.74	—	—

■ Container has handles. ★ Color is black. Not FDA compliant. ♣ Has grated bottom.

Compartmented Plastic Boxes

With Fixed Compartments

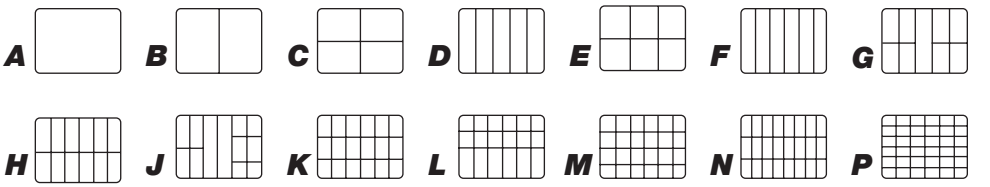


4629T16

Compartments No.	Lg.	Wd.	Overall Size Lg.	Wd.	Ht.		
Clear							
A	1	4 3/8"	2 5/8"	4 5/8"	2 7/8"	1 1/4"	4629T56 $2.54
A	1	6 3/4"	3 1/8"	7"	3 1/2"	1 3/8"	4629T57 4.15
A	1	8"	4"	8 1/4"	4 1/4"	1 1/2"	4629T52 5.15
A	1	10 1/2"	6 1/8"	10 3/4"	6 1/2"	1 7/8"	4629T53 9.68
A	1	12 3/4"	8 1/2"	13"	8 3/4"	2 3/8"	4629T35 15.60
D	5	1 1/4"	3 1/8"	7"	3 1/2"	1 3/8"	4629T38 4.02
E	6	1 3/8"	1 1/4"	4 5/8"	2 7/8"	1 1/4"	4629T39 2.54
F	6	1 1/4"	4"	8 1/4"	4 1/4"	1 1/2"	4629T15 5.15
F	6	1 5/8"	6 1/4"	10 3/4"	6 1/2"	1 7/8"	4629T19 9.68
F	6	2"	8 1/2"	13"	8 3/4"	2 3/8"	4629T2 15.60
G	9 (8)	1 1/4"	1 1/2"				
	(1)	1 1/8"	3 1/8"	7"	3 1/2"	1 3/8"	4629T14 4.02
H	12	1 1/4"	1 7/8"	8 1/4"	4 1/4"	1 1/2"	4629T37 5.15
H	12	1 5/8"	3"	10 3/4"	6 1/2"	1 7/8"	4629T17 9.68
H	12	2"	4 1/8"	13"	8 3/4"	2 3/8"	4629T21 15.60
J	12 (6)	1 1/4"	1 1/4"				
	(4)	1 1/4"	2"				
	(2)	1 1/4"	4"	8 1/4"	4 1/4"	1 1/2"	4629T16 5.15
K	18	1 1/4"	1 1/4"	8 1/4"	4 1/4"	1 1/2"	4629T36 5.15
K	18	1 3/4"	2"	10 3/4"	6 1/2"	1 7/8"	4629T18 9.68
L	18 (12)	2"	2"				
	(6)	2"	4 1/8"	13"	8 3/4"	2 3/8"	4629T22 15.60
M	24	2"	2"	13"	8 3/4"	2 3/8"	4629T23 15.60
P	36	1 1/2"	1"	9 7/8"	6 7/8"	1 3/4"	4629T34 10.63
See-Through Choose-a-Color							
To Order: *Please specify color: blue, green, or red.*							
P	36	1 1/2"	1"	9 7/8"	6 7/8"	1 3/4"	4629T1 15.41
Impact-Resistant Clear							
A	1	4 1/4"	2 5/8"	4 5/8"	2 7/8"	1 3/8"	4629T13 6.10
A	1	11 7/8"	5 7/8"	12 1/4"	6 1/4"	1 3/4"	4629T54 18.11
B	2	2 1/8"	2 5/8"	4 5/8"	2 7/8"	1 3/8"	4629T55 6.10
C	4	2 1/8"	1 1/4"	4 5/8"	2 7/8"	1 3/8"	4629T41 6.10
F	6	1 1/8"	4"	7 1/4"	4 1/4"	1 3/8"	4629T47 9.65
N	24	1 3/8"	1 7/8"	12 1/4"	6 1/4"	1 3/4"	4629T45 18.11
Ultra-Clear							
B	2	3 1/4"	3 1/4"	7"	3 1/2"	1 1/2"	8648T63 3.48
C	4	2 1/8"	1 1/4"	4 3/4"	2 7/8"	1 1/4"	8648T64 2.54
Low-Profile Translucent							
A	1	2 5/8"	2 5/8"	3"	3 1/8"	3/8"	4629T58 1.14
A	1	3 7/8"	3 7/8"	4 3/8"	4 1/4"	3/8"	4629T59 2.64
A	1	6 3/8"	6 3/8"	6 3/4"	7"	3/8"	4629T91 5.56
Chemical-Resistant Translucent							
A	1	15 1/4"	8 7/8"	15 1/2"	9 1/8"	3 1/4"	4629T48 8.58
C	4	2 1/8"	1 1/4"	4 5/8"	2 7/8"	1 1/4"	4629T49 2.10
D	5	1 1/4"	3 1/8"	7"	3 3/8"	1 3/8"	4629T72 2.87

Compartments No.	Lg.	Wd.	Overall Size Lg.	Wd.	Ht.		
Chemical-Resistant Translucent (Cont.)							
E	6	1 3/8"	1 1/4"	4 5/8"	2 7/8"	1 1/4"	4629T6 $2.10
F	6	1 1/4"	4"	8 1/4"	4 1/4"	1 3/8"	4629T73 4.02
F	6	1 5/8"	6 1/4"	10 3/4"	6 3/8"	1 3/4"	4629T74 6.67
F	6	2"	8 1/2"	13"	8 3/4"	2 3/8"	4629T75 9.94
G	9 (8)	1 1/4"	1 1/2"				
	(1)	1 1/8"	3 1/8"	7"	3 3/8"	1 3/8"	4629T76 2.87
H	12	1 5/8"	3"	10 3/4"	6 3/8"	1 3/4"	4629T78 6.67
J	12 (6)	1 1/4"	1 1/4"				
	(4)	1 1/4"	2"				
	(2)	1 1/4"	4"	8 1/4"	4 1/4"	1 3/8"	4629T77 4.02
K	18	1 1/4"	1 1/4"	8 1/4"	4 1/4"	1 3/8"	4629T79 4.02
K	18	1 3/4"	2"	10 3/4"	6 3/8"	1 3/4"	4629T81 6.67
M	24	2"	2"	13"	8 3/4"	2 3/8"	4629T82 9.94
Chemical-Resistant Solid Yellow							
D	5	1 1/4"	3 1/8"	7"	3 3/8"	1 3/8"	4629T83 2.92
E	6	1 3/8"	1 1/4"	4 5/8"	2 7/8"	1 1/4"	4629T84 2.15
F	6	1 1/4"	4"	8 1/4"	4 1/4"	1 3/8"	4629T25 4.12
F	6	1 5/8"	6 1/4"	10 3/4"	6 3/8"	1 3/4"	4629T29 6.79
F	6	2"	8 1/2"	13"	8 3/4"	2 3/8"	4629T3 10.14
G	9 (8)	1 1/4"	1 1/2"				
	(1)	1 1/8"	3 1/8"	7"	3 3/8"	1 3/8"	4629T85 2.92
H	12	1 5/8"	3"	10 3/4"	6 3/8"	1 3/4"	4629T28 6.79
H	12	2"	4 1/8"	13"	8 3/4"	2 3/8"	4629T31 10.14
J	12 (6)	1 1/4"	1 1/4"				
	(4)	1 1/4"	2"				
	(2)	1 1/4"	4"	8 1/4"	4 1/4"	1 3/8"	4629T86 4.12
K	18	1 1/4"	1 1/4"	8 1/4"	4 1/4"	1 3/8"	4629T87 4.12
K	18	1 3/4"	2"	10 3/4"	6 3/8"	1 3/4"	4629T27 6.79
L	18 (12)	2"	2"				
	(6)	2"	4 1/8"	13"	8 3/4"	2 3/8"	4629T32 10.14
M	24	2"	2"	13"	8 3/4"	2 3/8"	4629T33 10.14
Watertight Solid Black with Clear Lid							
A	1	4 3/8"	2 7/8"	5 7/8"	4"	2 1/8"	4629T88 21.22
A	1	6 1/2"	3 7/8"	7 1/2"	5"	2 1/8"	4629T92 31.32
Conductive Solid Black—*Surface resistivity is 10^2-10^6 ohms/sq.*							
A	1	3"	3"	3"	3"	1 1/4"	4715T69 3.66
A	1	4 1/4"	2 1/2"	4 3/8"	2 5/8"	1 1/8"	4715T71 3.90
A	1	8"	4 1/8"	8"	4 1/8"	1 1/4"	4715T61 6.22
E	6	1 3/8"	1 1/8"	4 3/8"	2 5/8"	1 1/8"	4715T74 3.90
H	12	1 1/4"	2"	8"	4 1/8"	1 1/4"	4715T64 6.22
Antistatic Solid Black—*Surface resistivity is 10^{10}-10^{11} ohms/sq.*							
A	1	10 1/2"	6 1/8"	10 3/4"	6 1/2"	1 7/8"	4715T81 23.35
A	1	12 3/4"	8 1/2"	13"	8 3/4"	2 3/8"	4715T83 40.03
K	18	1 3/4"	2"	10 3/4"	6 1/2"	1 7/8"	4715T82 26.54
M	24	2"	2"	13"	8 3/4"	2 3/8"	4715T84 41.27

With Adjustable Compartments

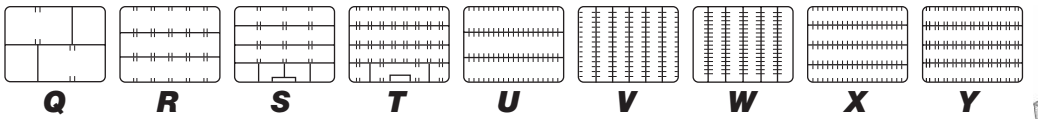


4629T62

Compartments No.	Lg.	Wd.	Overall Size Lg.	Wd.	Ht.		
Chemical-Resistant Translucent							
Q	4- 6.. (2)	1 1/4"	1 1/4"				
	(2)	3"	1 1/4"	4 5/8"	2 7/8"	1 3/8"	4629T63 $2.05
R	3-18	6 5/8"	1"	7"	3 5/8"	1 5/8"	4629T64 2.46
R	3-18	8 7/8"	1 3/8"	9 1/8"	4 3/8"	1 1/2"	4629T65 2.97
S	7-16.. (4)	3 3/4"	2 1/8"				
	(3)	15 1/4"	2 1/8"	15 1/2"	9 1/8"	3 1/4"	4629T66 10.22
T	4-24.. (3)	13 5/8"	2"				
	(1)	13 5/8"	1 5/8"	14"	8 1/2"	2"	4629T67 6.33
T	6-22.. (3)	15 1/4"	2"				
	(2)	3 1/4"	2"				
	(1)	8 1/2"	2"	15 1/2"	9 1/8"	1 5/8"	4629T68 8.58

Compartments No.	Lg.	Wd.	Overall Size Lg.	Wd.	Ht.		
Chemical-Resistant Translucent (Cont.)							
U	3- 9	6 5/8"	1"	6 7/8"	3 5/8"	1 1/2"	4629T89 $4.28
V	6-16	1 5/8"	6 1/8"	10 3/4"	6 3/8"	1 3/4"	4629T61 8.04
W	6-18	1 5/8"	6 1/4"	10 7/8"	6 7/8"	1 7/8"	4629T69 4.89
X	4-20	13 1/8"	2 1/8"	13 3/8"	9 1/8"	2 1/8"	4629T62 14.29
Translucent with Corrosion-Inhibiting Dividers							
S	7-16.. (3)	15 1/4"	2 1/4"				
	(2)	3 3/4"	2 1/4"				
	(2)	3 3/4"	1 5/8"	16 1/2"	9 3/4"	3 1/4"	8704T73 10.22
W	6-16	1 3/4"	6 5/8"	11"	7 1/4"	1 3/4"	8704T71 5.05
Y	4-19	13 3/4"	2"	14"	8 5/8"	2"	8704T72 7.30

Compartmented Plastic Boxes

Compartmented Plastic Boxes with Individual Lids

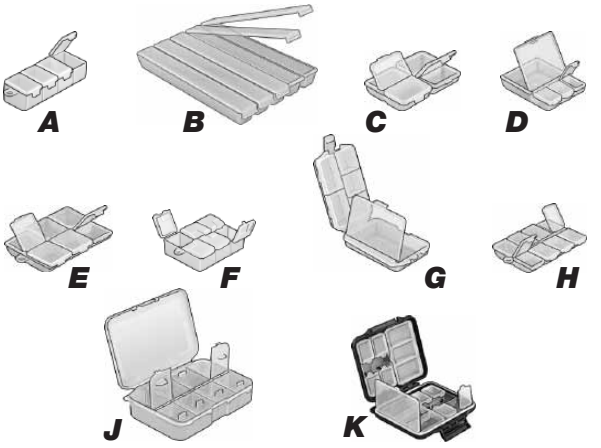

	Compartments No.	Lg.	Wd.	Overall Size Lg.	Wd.	Ht.		
Translucent White								
A	4	3/4″	1 1/8″	3 1/2″	1 1/4″	1″	**2673T41**	$3.43
B	5	27/8″	1/4″	3 1/8″	2 1/8″	3/8″	**2673T25**	1.16
B	5	4 1/8″	3/8″	4 1/4″	3″	1/2″	**2673T26**	1.72
C	4	1 3/4″	1 1/8″	3 1/2″	2 1/4″	3/4″	**2673T42**	4.14
D	4	(3) 1″	5/8″					
		(1) 2″	2 1/4″	3 1/2″	2 1/2″	3/4″	**2673T43**	4.17
E	6	7/8″	1/2″	3 1/4″	2 1/4″	1/2″	**2673T44**	4.29
F	6	7/8″	7/8″	2 7/8″	2 1/4″	1″	**2673T45**	3.28
G	6	(3) 1 3/8″	1″					
		(2) 1 5/8″	1″					
		(1) 3 1/4″	2″	3 1/2″	2 1/2″	1 1/4″	**2673T49**	5.50
H	8	5/8″	7/8″	3 1/4″	2 3/8″	1/2″	**2673T48**	4.29
J	8	1 1/4″	1 3/4″	5 1/2″	3 3/4″	1 1/4″	**2673T52**	19.00
Opaque Blue								
K	14	(8) 7/8″	3/4″					
		(6) 1 5/8″	7/8″	4″	3 3/4″	1 1/4″	**2673T51**	16.70

Static-Control Plastic Boxes with Foam



With Clear Lid

Don't let static buildup ruin sensitive parts. Boxes are black with a clear or black lid.
With Clear Lid—The box and foam have a surface resistivity of $<10^5$ ohms/sq.; the lid does not.
With Black Lid—The box, lid, and foam have a surface resistivity of $<10^5$ ohms/sq. Meet Mil. Spec. B-81705-C.

Compartments Lg.	Wd.	Overall Size Lg.	Wd.	Ht.	Foam Thick.	Pkg. Qty.	Pkg.	
With Clear Lid								
1 1/4″	1 1/4″	1 3/8″	1 3/8″	5/8″	1/4″	5	**5050T51**	$3.57
2 1/8″	1 5/8″	2 1/4″	1 3/4″	7/8″	1/4″	5	**5050T53**	5.30
3 1/2″	2 1/2″	3 5/8″	2 5/8″	7/8″	1/2″	5	**5050T55**	12.48
3 7/8″	1 7/8″	4″	2 1/8″	5/8″	1/4″	5	**5050T56**	10.52
With Black Lid								
1 5/8″	2 1/8″	1 3/4″	2 3/16″	7/8″	1/4″	5	**5050T61**	5.27
3 1/2″	2 1/2″	3 5/8″	2 5/8″	7/8″	1/2″	1	**5050T62**	3.45
4 5/8″	3 1/2″	4 3/4″	3 5/8″	1″	1/2″	1	**5050T63**	6.82
7″	5″	7 1/8″	5 1/8″	1 1/8″	1/2″	1	**5050T64**	15.20

Compartmented Boxes with Handle



Steel Box



Plastic Box with One Compartment



Plastic Box



Plastic Box with Compartments on Both Sides

Steel boxes have a plastic-lined lid and plastic lift-out bin cups. Color is blue.
Plastic boxes are opaque gray with semi-clear lids, unless noted. *Boxes with adjustable compartments* have dividers, so you can create the number and size of compartments you need. *Box with adjustable compartments on both sides* has nine fixed compartments on each side.

Compartments No.	Lg.	Wd.	Overall Size Lg.	Wd.	Ht.		
Steel Boxes with Bin Cups							
20	(16) 3 1/2″	2″					
	(4) 3 3/4″	3 1/2″	14 3/4″	12″	2 1/2″	**4907T46**	$117.96
23	(15) 3 1/2″	2″					
	(6) 3 3/4″	3 1/2″					
	(2) 7″	3 3/4″	18″	13 1/2″	2 1/2″	**4907T44**	139.85
35	3 1/2″	2″	18″	13 1/2″	2 1/2″	**4907T45**	155.82
40	(24) 3 1/2″	2″					
	(14) 3 3/4″	3 1/2″					
	(2) 7″	3 3/4″	23″	18″	2 1/2″	**4907T43**	193.05
Plastic Boxes with Fixed Compartments							
1	(1) 14 5/8″	10 3/4″	15 1/2″	11 3/4″	2 1/2″	**45865T22**	20.33
21	(20) 2 7/8″	3″					
	(1) 4″	13″	18 1/2″	13″	3″	**45865T19**	30.07
24	(20) 2 7/8″	3″					
	(4) 4″	3″	18 1/2″	13″	3″	**45865T31**	30.07

Compartments No.	Lg.	Wd.	Overall Size Lg.	Wd.	Ht.		
Plastic Boxes with Adjustable Compartments							
4 to 16	(4) 4″	3″	18 1/2″	13″	3″	**45865T18**	$30.07
6 to 18	(1) 4 1/2″	3 3/4″					
	(2) 4 1/4″	3 3/4″					
	(3) 13 1/8″	3 1/8″	14″	14 5/8″	3 1/2″	**45865T25**★	12.41
8 to 32	(8) 2 1/8″	2 15/16″	18 1/2″	13″	3″	**45865T32**	30.07
9 to 24	(1) 8 1/8″	2 1/8″					
	(1) 8 1/8″	1 1/2″					
	(2) 3 1/8″	2″					
	(2) 3 1/8″	2 1/8″					
	(3) 14 1/2″	2″	15 1/2″	11 3/4″	2 1/2″	**45865T21**	20.93
Plastic Box with Adjustable Compartments on Both Sides							
18 to 48	(2) 8 1/8″	2 1/8″					
	(2) 8 1/8″	1 1/2″					
	(4) 3 1/8″	2 1/8″					
	(6) 14 1/2″	2″					
	(4) 3 1/8″	2″	15 1/2″	11 3/4″	5″	**45865T23**	42.52

★ Box and lid are translucent white.

Protective Storage Cases

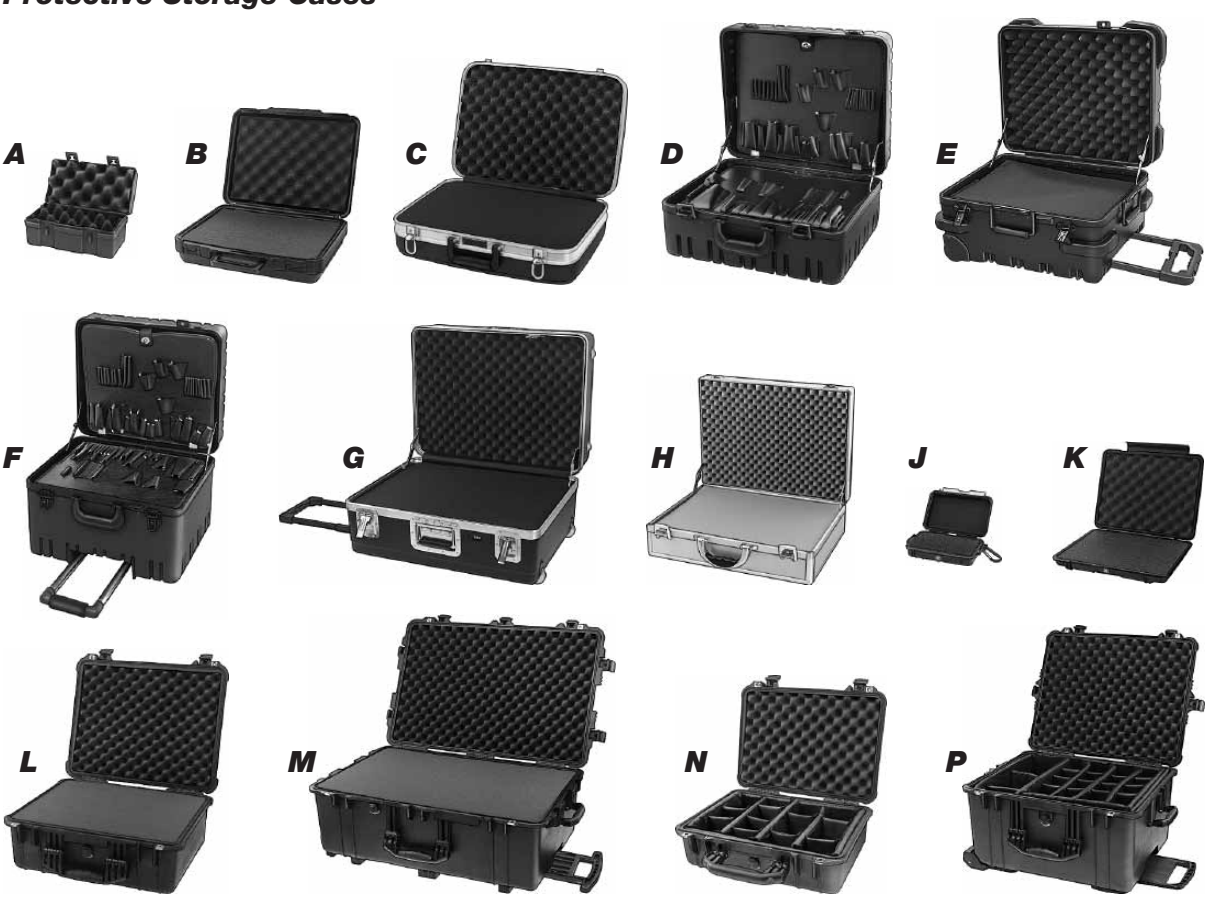

	Overall Size			Inside Size				
	Lg.	Wd.	Ht.	Lg.	Wd.	Ht.		
Plastic Cases								
Economy Stackable								
A	6 1/4"	4 1/8"	2 5/8"	6"	4"	2"	**6589A12**	$11.16
A	8 3/4"	4 3/4"	4 1/4"	8"	4"	4"	**6589A13**	17.25
A	8 3/4"	8 3/4"	4 1/4"	8 1/8"	8 1/8"	4"	**6589A14**	20.82
Economy								
B	10"	7 1/2"	2 3/4"	9 1/4"	6 3/8"	2 1/8"	**6589A21**	24.81
B	10"	7 1/2"	3 3/4"	9 1/4"	6 3/8"	3 3/8"	**6589A15**	28.74
B	13 1/2"	10"	3 3/4"	12 1/2"	8 3/4"	3 1/4"	**6589A22**	40.34
B	13 1/2"	10"	5 1/2"	12 1/2"	8 3/4"	4 7/8"	**6589A16**	48.77
B	15"	11"	5 1/2"	14"	9 7/8"	4 3/4"	**6589A17**	51.76
B	17"	12"	3 1/2"	15 7/8"	10 7/8"	3"	**6589A24**	53.94
B	17"	12"	5 1/2"	15 7/8"	10 7/8"	5"	**6589A25**	65.65
B	19"	14"	4 3/4"	18"	13"	4 1/2"	**6589A26**	69.87
B	19"	14"	6"	18"	13"	5 5/8"	**6589A27**	79.57
B	20"	16"	9"	18 7/8"	15"	8 1/2"	**6589A18**	125.66
B	27 1/2"	16"	7"	26"	14 1/2"	6 1/2"	**6589A28**	150.45
With Key Lock—*Include two keys.*								
C	12 1/2"	10"	5 1/8"	12"	8"	5"	**6369A11**	87.61
C	16 1/2"	12 3/4"	5 1/2"	16"	12"	5"	**6369A12**	98.25
C	19 1/4"	14 1/4"	7 3/4"	18"	13"	7"	**6369A15**	140.67
C	22 1/2"	16 1/2"	7 3/4"	22"	16"	7"	**6369A23**	217.75
C	24 1/2"	18 1/2"	7 3/4"	24"	18"	7"	**6369A24**	234.88
C	28 3/4"	20 3/4"	7 3/4"	28"	20"	7"	**6369A27**	270.58
D	19 1/4"	15 3/4"	10"	17 3/4"	14 1/4"	8"	**6192T37**	296.04
Rolling with Padlock Hasp—*5/16" max. shackle dia.*								
E	18 3/4"	15 1/2"	13 1/2"	17 3/4"	14 1/4"	12"	**6157T66**	368.65
E	19 1/2"	16"	12"	18"	15"	11"	**6157T65**	315.83
F	19"	15 1/2"	13"	17 3/4"	14 1/2"	12"	**6990T71**	390.91
Rolling with Combination Lock—*Meet ATA shipping standards.*								
G	25"	19 1/2"	13 3/4"	23 3/4"	17 3/4"	11"	**6157T73**	506.53
G	28 1/2"	21 1/2"	13 1/4"	27 1/2"	19 1/2"	11"	**6157T74**	546.94
G	33 1/4"	23"	13 3/4"	31 3/4"	22"	11"	**6157T75**	578.85
Aluminum Cases								
With Key Lock—*Include two keys.*								
H	14 1/2"	9 1/4"	4 1/2"	14 1/4"	9"	4 1/4"	**6590A61**	90.62
H	15 3/4"	10 3/4"	6 1/4"	15 1/8"	10"	5 3/4"	**6590A62**	106.16
H	18 3/4"	15"	5 3/4"	18"	13"	5"	**6590A63**	125.50

	Overall Size			Inside Size				
	Lg.	Wd.	Ht.	Lg.	Wd.	Ht.		
Aluminum Cases (Cont.)								
With Key Lock—*Include two keys. (Cont.)*								
H	18 3/4"	15"	8 3/4"	18"	13"	8"	**6590A65**	$142.84
H	21"	12 7/8"	6 1/4"	20 1/4"	12 3/8"	5 3/4"	**6590A66**	171.00
H	33"	19"	9 1/4"	32 3/4"	18 5/8"	9"	**6590A73**	329.17
Dust- and Watertight Plastic Cases								
Mini								
J	5 7/8"	4"	2 1/8"	4 3/8"	2 7/8"	1 5/8"	**6779T11**	22.97
J	7 1/2"	3 7/8"	2 1/2"	6 3/8"	2 5/8"	2"	**6779T12**	30.96
J	7 1/2"	5"	2 1/8"	6 1/2"	3 7/8"	1 3/4"	**6779T13**	32.88
Low Profile —*Fit iPads and tablets.*								
K	15 5/8"	12 3/8"	2 1/2"	14 1/4"	10 3/8"	2"	**6409A54**	105.05
K	17 1/8"	13 1/4"	2 5/8"	15 3/4"	11 1/8"	2"	**6409A55**	136.36
Mil. Spec. MIL-C-4150J With Key Lock—*Include two keys.*								
L	16 3/4"	13"	4 3/8"	15 5/8"	10 3/8"	3 3/4"	**6409A48**	161.59
Dust- and Watertight Plastic Cases with Padlock Hasp								
Standard—*3/8" max. shackle dia.*								
L	8 1/8"	6 5/8"	3 5/8"	7 1/4"	4 3/4"	3"	**6409A18**	39.45
L	9 1/8"	7 5/8"	4 3/8"	8 1/8"	5 5/8"	3 5/8"	**6409A51**	51.41
L	10 5/8"	9 3/4"	4 7/8"	9 1/4"	7 1/8"	4 1/8"	**6409A52**	71.18
L	10 5/8"	9 3/4"	6 7/8"	9 7/8"	7"	6 1/8"	**6409A53**	78.98
Mil. Spec. MIL-C-4150J—*3/8" max. shackle dia.*								
L	13 3/8"	11 5/8"	6"	11 3/4"	8 7/8"	5 1/8"	**6409A21**	127.23
L	18 1/2"	14"	7"	16 3/4"	11 1/8"	6 1/8"	**6409A31**	193.81
L	20 5/8"	16 7/8"	8 1/8"	18 3/8"	14"	7 5/8"	**6409A42**	213.93
L	24 1/4"	19 1/2"	8 3/4"	21 3/8"	16 1/2"	7 7/8"	**6409A35**	262.26
Rolling—*3/8" max. shackle dia.*								
M	22"	13 7/8"	9"	19 3/4"	11"	7 1/2"	**6409A38**	265.99
M	31 5/8"	23"	19 1/2"	28 1/8"	19 5/8"	17 5/8"	**6409A46**	526.94
M	33 1/2"	28 1/2"	18 1/4"	30"	25"	15"	**6409A47**	552.07
M	53"	16"	6 1/8"	50 1/2"	13 1/2"	5 1/4"	**6409A43**	379.31
Mil. Spec. MIL-C-4150J Rolling—*3/8" max. shackle dia.*								
M	24 3/4"	19 1/2"	13 7/8"	21 3/8"	16 3/8"	12 1/2"	**6409A39**	384.35
M	31 5/8"	20 1/2"	12 1/2"	28 1/2"	17 1/2"	10 5/8"	**6409A45**	398.00
M	38 1/8"	16"	6 1/8"	35 3/4"	13 1/2"	5 1/4"	**6409A65**	320.65
Mil. Spec. MIL-C-4150J with Adj. Dividers—*3/8" max. shackle dia.*								
N	18 1/2"	14"	7"	16 3/4"	11 1/8"	6 1/8"	**7145T21**	225.35
P	24 3/4"	19 1/2"	13 7/8"	21 3/8"	16 3/8"	12 1/2"	**7145T22**	550.07

Storage Boxes

Single Compartment Storage Boxes


A


B


C

Style A boxes that are 17½″ and 19″ long and Style C have a padlock hasp that will accommodate up to a 3/16″ shackle dia. padlock (not included).

	Overall Size Lg.	Wd.	Ht.	Color		
Plastic						
A	12⅛″	7¼″	4½″	Gray	6755A11	$10.18
A	12⅛″	7¼″	5½″	Gray	6755A16	12.62
A	14⅜″	8″	7″	Gray	6755A12	17.99
A	16⅜″	8⅝″	7″	Gray	6755A18	21.89
A	17½″	10¼″	8½″	Gray	6755A13	29.06
A	19″	11½″	10½″	Gray	6755A14	41.00
Steel						
B	6¼″	2½″	1″	Red	63785A11	11.69
B	6¼″	3 7/16″	1¼″	Red	63785A12	13.79
B	9″	3″	1½″	Red	63785A13	14.57
B	10″	4½″	1¾″	Red	63785A14	16.53
B	12″	4½″	2″	Red	63785A16	18.23
B	12″	5⅞″	2½″	Red	63785A15	21.96
B	14″	5⅞″	2½″	Red	63785A17	25.10
B	16″	5⅞″	2½″	Red	63785A19	29.21
B	18″	5⅞″	2½″	Red	63785A22	30.31
B	19″	5⅞″	2½″	Red	63785A23	31.93
C	19¾″	6″	4″	Red	6373A11	25.45

Rolling Plastic Storage Boxes


F

Box has a padlock hasp that will accommodate up to a ¼″ shackle diameter padlock (not included).

	Overall Size Lg.	Wd.	Ht.	Color		
F	23″	15½″	20″	Black	1589A38	$59.80

Storage Boxes with Cantilever Trays


D


E

Boxes have a hasp for a padlock (not included).

	Overall Size Lg.	Wd.	Ht.	No. of Trays	Max. Padlock Shackle Dia.	Color		
(D) Plastic								
	17½″	10¼″	8½″	2	3/16″	Gray	7328A68	$46.39
	18½″	10¾″	10⅜″	6	3/16″	Gray	7328A69	70.30
(E) Steel								
	19″	7″	7¼″	1	5/16″	Green	6575A9	37.02
	22⅛″	10″	12⅝″	4	5/16″	Brown	6570A3	168.62

Storage Boxes with Drawers


G


H

Drawers lock in place when the lid is closed. Boxes have a padlock hasp that will accommodate up to a 3/16″ shackle diameter padlock (not included).

	Overall Size Lg.	Wd.	Ht.	No. of Drawers	Color		
(G) Plastic with Steel Drawers							
	23″	10½″	13½″	3	Black	6133A6	$65.59
(H) Steel							
	20″	8½″	10¼″	2	Red	6562A27	54.40
	20″	8½″	11⅞″	3	Red	6562A28	65.84

Storage Boxes with Removable Tote Tray


J


K


L


M


N


P


Q


R


S

Boxes have a hasp for a padlock (not included), except the orange Style J box. ***Style Q*** protects contents from static charge.

	Overall Size Lg.	Wd.	Ht.	Max. Padlock Shackle Dia.	Color		
Plastic							
J	14½″	7½″	5¼″	3/16″	Gray	6576A16	$14.17
J	16⅜″	8⅝″	7″	——	Orange	6576A13	38.17
J	16⅝″	8¾″	7⅛″	3/16″	Gray	6576A11	25.36
J	20¼″	8⅞″	8⅜″	3/16″	Gray	6576A19	30.56
J	23″	10½″	11⅜″	3/16″	Gray	6576A21	47.52
K	19″	10″	9¼″	⅜″	Gray	63705A12	27.21
K	26″	9½″	10¾″	⅜″	Black	7335A1	56.65
L	20″	9¾″	12¾″	⅜″	Black	7341A12	45.63
M	26″	10½″	10″	¼″	Yellow	1203A45	36.26
N	27½″	13¾″	14″	3/16″	Gray	6576A31	68.35
Watertight Plastic							
P	15″	8″	10½″	3/16″	Orange	6576A41	$19.38
Antistatic Plastic— *Surface resistivity is 10^{10}-10^{11} ohms/sq.*							
Q	14½″	7½″	5¼″	3/16″	Black	63675A2	42.47
Steel							
R	20⅛″	8⅝″	9¾″	⅜″	Brown	6571A1	55.31
R	22″	8½″	9¾″	⅜″	Brown	6571A2	60.18
R	30″	8⅝″	9⅛″	⅜″	Red	6569A45	66.55
S	16″	7″	7½″	3/16″	Red	6587A24	24.25

Tote Trays





	Overall Size Lg.	Wd.	Ht.	Color		
Plastic						
Without Drawer	15½″	10½″	4½″	Gray	6602A11	$7.26
With Drawer	18½″	11″	6½″	Gray	6602A23	20.14
Steel						
Without Drawer	19⅝″	8⅛″	3⅝″	Red	7301A11	23.90

Steel Tote Trays for Pipe Nipples

Keep your pipe nipples organized with these handy totes. Trays have a 2″ high fold-down handle and will hold nipples ranging in length from ½″ to 6″.



Overall Size Lg.	Wd.	Ht.	Holds Pipe Nipples Size	Qty.		
10½″	7″	7″	½″	77	4598K11	$32.40
12½″	7″	7″	¾″	66	4598K12	34.46
14″	7⅞″	7⅞″	1″	50	4598K13	36.51
18″	7⅞″	7⅞″	1¼″	40	4598K14	39.17
19⅝″	6⅞″	6⅞″	1½″	30	4598K15	41.96
23⅞″	8⅝″	8⅝″	2″	27	4598K16	43.97

Organizers for 5-Gallon Buckets







Style A— Stack up to two of these bags inside your 5-gallon bucket.
Style B— Fits over your 5-gallon bucket to provide 16 pockets inside and 38 pockets outside.
Style C— 7796T3 can be stacked up to five high in your 5-gallon bucket; 7796T4 can be stacked up to three high.

	Overall Size Dia.	Ht.	Closing Style	Material	Color		
A	10″	6½″	Drawstring	Polyester	Brown/Green	46265T36	$14.90
B	13½″	12″	None	Polyester	Black	65965A68	14.21
C	10½″	2½″	None	Plastic	Gray	7796T3	4.35
C	10½″	4″	None	Plastic	Gray	7796T4	5.30

Organizing Bags



- Black nylon
- 9¾″×7½″×2½″

6189T33 ..... $62.08



- Black nylon
- 15″×11½″×4″

6189T32 ..... $115.88





- Black nylon
- 18″×14″×9″

63825A77 ..... $101.87



- Black and tan polyester
- 15″×10″×12″

7766T46 ..... $45.48



- Black and tan polyester
- 24″×11″×12″

6990A28 ..... $59.72



- Black and gray polyester
- 16½″×8¼″×10¼″

2588T25 ..... $34.69



- Black nylon
- 15″×7″×9″

6717A17 ..... $101.60



- Black polyester
- 18"×11½″×16"

8406T21 ..... $115.17

Bags



	Overall Size Lg.	Wd.	Ht.	Material	Color		
Bags with Zipper Closure							
A	7″	—	4″	Nylon	Black	6125A35	$7.28
A	7″	—	4″	Leather	Tan	6125A34	8.27
B	8″	—	6″	Polyester	Clear	7789A41	24.96
B	12 5/8″	—	8 3/4″	Polyester	Clear	7789A42	31.25
C	10″	—	6 1/4″	Canvas	White	6565A11	6.85
C	10 1/2″	—	6 1/2″	Leather	Tan	6630A41	11.56
C	12″	—	9″	Canvas	White	6565A15	10.63
D	12″	6″	6″	Nylon	Black	63845A72	25.84
E	11 7/8″	5 1/8″	9 7/8″	Polyester	Black/Gray	8511T17	14.48
F	16″	6″	12 1/2″	Polyester	Brown/Green	7126T63	38.92
G	18″	14″	10″	Nylon	Black	63825A75	48.83
H	19″	8″	14″	Polyester	Brown/Tan	6428A61	21.30
J	24″	7″	6″	Canvas	White	6429A66	44.33
J	24″	11″	12″	Polyester	Brown/Tan	6428A63	22.66

	Overall Size Lg.	Wd.	Ht.	Material	Color		
Bags with Hook-and-Loop Closure							
K	13″	4″	8″	Canvas	White	7342A69	$38.19
L	18″	6″	11″	Canvas	White	6400A79	58.52
Bags with Buckle Closure							
M	20″	6 1/4″	12″	Canvas	White	6591A4	58.98
Open-Top Bags							
N	16″	7″	9 1/4″	Canvas	White	6123A78	38.71
P	16″	7 1/2″	12″	Canvas	White	6619A41	35.14
P	16″	7 1/2″	12″	Canvas	Orange	6619A45	41.98
Q	24″	6″	16″	Canvas	White	6632A12	52.00
R	9″	9″	14″	Canvas	White	6596A1	40.49
R	12″	12″	13″	Canvas	White	6411A53	28.69
R	12″	12″	17″	Canvas	White	6596A2	74.87

Roll-Up Pouches with Pockets



Place tools in the pockets, and then roll the pouch for organized, compact storage. All are canvas.

	Overall Size Wd.	Ht.	No. of Pockets	Pocket Size Range Wd.	Ht.	Color		
Pouches with Double-Strap Closure								
S	7 3/4″	6 1/8″	8	1/2″ to 1″	2 1/4″ to 2 3/4″	Red	6390A41	$10.05
S	11 1/2″	11 1/8″	7	1 1/8″ to 1 5/8″	3 1/4″ to 6″	Red	6390A42	10.35
S	21 1/4″	14 1/2″	10	1″ to 3″	2 3/4″ to 8 1/4″	Red	6390A43	11.83
T	22″	22 1/2″	18	3/4″ to 3″	4″ to 8″	Black	6389A11	16.20
Pouches with Hook-and-Loop Closure								
S	14″	10″	11	1/2″ to 1 5/8″	3 3/4″ to 8″	White	6390A65	25.90

Belts and Suspenders



	For Waist Sizes	Wd.	Color		
Leather Work Belts					
U	29″ to 46″	1″	Beige	6627A11	$14.86
U	29″ to 46″	1 3/4″	Beige	6627A15	20.92
U	29″ to 46″	2″	Beige	6627A21	25.59
V	34″ to 38″	1 1/2″	Beige	6609A111	21.68
V	38″ to 48″	1 1/2″	Beige	6609A171	23.60
V	48″ to 52″	1 1/2″	Beige	6609A191	24.56
Cotton/Polyester Work Belts					
W	29″ to 46″	2 1/4″	Brown	6610A13	6.27
Nylon Work Belts					
X	30″ to 42″	2 1/4″	Black	7340A22	18.00
X	34″ to 46″	2 1/4″	Black	7340A32	18.00
X	36″ to 48″	2 1/4″	Black	7340A42	18.00
Polypropylene Suspenders					
Y	One Size	2″	Red	6776A54	9.82
Y	One Size	2″	Navy	6776A64	9.82

Belt Pouches and Aprons

Leather Pouches

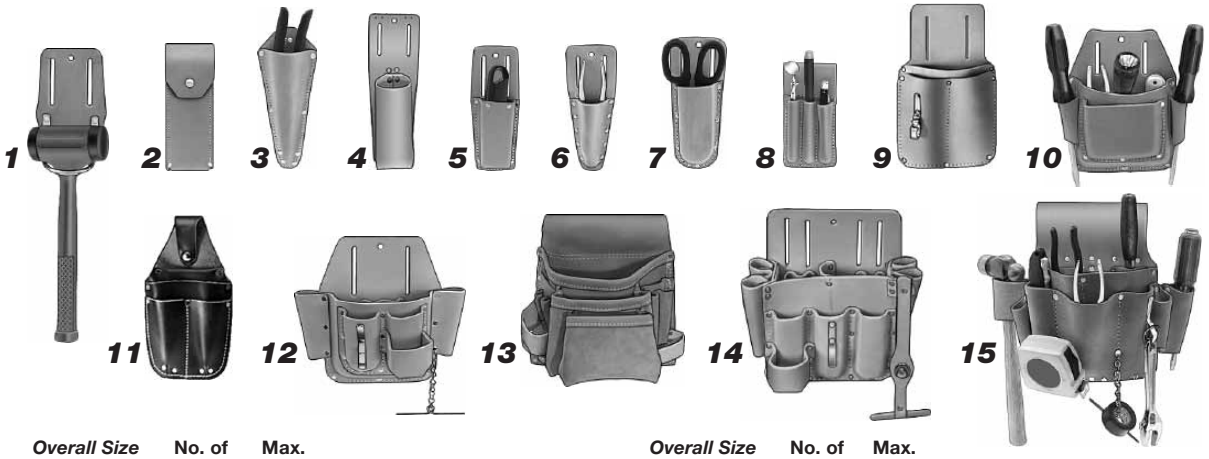

	Overall Size Wd.	Ht.	No. of Pockets	Max. Belt Wd.		
1	3¾″	5½″	—	2½″	6772A11	$3.92
2	3″	7½″	1	4″	6791A11	25.63
3	3″	6½″	1	2¾″	6662A11	7.37
3	4″	9¾″	1	2¾″	6662A12	9.15
3	4¾″	13″	1	2¾″	6662A13	11.46
4	3″	10″	1	2¾″	6628A14	9.51
5	3¼″	8½″	1	2¼″	63685A25	7.87
6	3″	8″	1	2¾″	6775A1	6.17
7	3½″	9″	1	2″	73405A78	9.93
8	3¼″	6¼″	3	1½″	6661A11	$6.87
9	6¼″	11¼″	3	2¾″	6599A5	11.02
10	8″	9″	4	2″	6787A11	16.90
11	6″	10″	4	2″	6658A12	32.87
12	9¾″	9½″	5	2¾″	6599A1	23.29
13	10½″	12″	9	2½″	67715A12	43.08
14	10″	10″	9	3″	6386A11	41.67
15	12½″	10½″	9	2¾″	6600A2	28.82

Fabric Pouches



	Overall Size Wd.	Ht.	No. of Pockets	Max. Belt Wd.	Material		
16	6″	8½″	1	2½″	Nylon	7329A21	$11.44
16	7½″	11″	1	2½″	Nylon	7329A22	13.74
16	9″	15¾″	1	3″	Nylon	7329A66	15.86
17	12″	8½″	1	4½″	Nylon	7329A26	21.26
18	6¼″	9″	4	3½″	Polyester	7337A64	$14.88
19	7¾″	14″	1	2¾″	Polyester	6171A42	11.89
20	11¼″	14½″	21	2¾″	Polyester	8307T36	41.29
21	10½″	11″	4	2″	Polyester	6185T73★	17.96

★ Includes a belt that fits waist size 26″- 52″.

Fabric Instrument and Meter Pouches—Clip to any size belt.

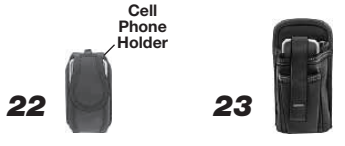

	Overall Size Wd.	Ht.	Inside Size Wd.	Ht.	Dp.	Material		
22	3⅛″	5¾″	2½″	5¼″	1″	Nylon	2739T44	$10.20
23	4″	8″	3″	6″	2″	Polyester	2739T98	12.58

Fabric Aprons





	O'all Size Wd.	Ht.	No. of Pockets	Waist Size	Material		
25	8″	8″	4	25″-50″	Black Nylon	6172A43	$45.45
26	24″	19½″	14	26″-52″	White Canvas	6778A11	9.95
27	22½″	9¾″	12	29″-46″	White Canvas	6779A11	8.47
27	23½″	9½″	14	27″-54″	Blue Nylon	73415A66	16.38

Leather Aprons



	Overall Size Wd.	Ht.	No. of Pockets	Waist Size		
24	23″	10½″	11	29″-48″	6612A14	$54.62

Sand Bags



Rectangular



Tubular

Polypropylene sand bags come in two shapes. *Rectangular* are UV treated for extended life and have built-in polypropylene ties. *Tubular* is laminated with polyethylene, and is oil, tear, puncture, and water resistant. Ties not included.

Burlap sand bag has built-in polypropylene ties.

Polyethylene sand bag is made of three layers of reinforced polyethylene. Bag is tear resistant and will withstand extreme outdoor heat for 3-5 years. Ties not included.

Note: Sand not included.

Wire ties are plastic coated and come on a 2,460-ft. spool so you can cut the length you need. Spool OD is 8½″ with a 1″ dia. center hole for mounting.

O'all Size, Wd. × Ht.	Cap., lbs.	Color	Pkg. Qty.		Per Pkg.
Rectangular					
Polypropylene					
14″ × 26″	40	Orange	25	4540T3	$9.68
14″ × 26″	40	Green	25	4540T4	9.68
15″ × 27″	40	White	25	4540T5	10.29
15″ × 27″	40	Green	25	4540T8	10.29
Burlap					
14″ × 26″	40	Brown	5	4540T7	8.32
Polyethylene					
15″ × 27″	50	Black	1	4540T11	5.78
Tubular					
Polypropylene					
11½″ × 41″	70	White	1	4540T12	1.42
Wire Ties				2048T315	Each $51.25

Breathable Canvas Bags



Canvas Bag

All have a drawstring with cord lock for quick, secure closure. Color is white.

Canvas Bags

O'all Size, Wd. × Ht.		Each
12″ × 18″	3985T11	$11.92
14″ × 24″	3985T12	12.37
16″ × 27″	65505A12	12.74
18″ × 27″	3985T13	14.43
28″ × 36″	3985T15	17.73
28″ × 38″	3985T16	18.13



Bag on Holder with Swivel Casters

Stay-Open Canvas Bag and Steel Holders

When paired with a steel holder (sold separately), this canvas bag will always stay open.

Steel holder with wood runners is 18″ Wd. × 12″ Dp. × 35″ Ht.

Steel holder with swivel casters has two swivel casters with 3″ dia. rubber wheels. It is 18″ Wd. × 12″ Dp. × 36″ Ht.

O'all Size, Wd. × Dp. × Ht.		Each
Bag		
19½″ × 12½″ × 37½″	1919T4	$66.57
Steel Holders		
With Wood Runners	1919T2	47.48
With Swivel Casters	1919T3	73.91

Ventilating Mesh Bags

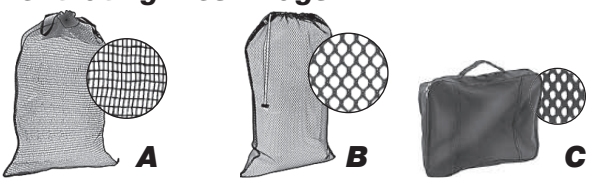

The mesh design allows air to circulate and resists rot.

O'all Size, Wd. × Ht.	Cap., lbs.	Color	Pkg. Qty.		Per Pkg.
(A) Polypropylene with Drawstring					
21″ × 31½″	50	Red	25	9883T53	$14.20
21″ × 31½″	50	White	25	9883T63	14.20
21″ × 31½″	50	Orange	25	9883T65	14.20
24″ × 36″	50	Green	10	9883T54	11.10
(B) Polyester with Drawstring and Cord Lock					
18″ × 30″	60	Blue	1	4133T42	19.38
24″ × 36″	60	Black	1	4133T43	26.88
(C) Polyester with Mesh Top and Zipper Closure					
18″ Lg. × 13″ Wd. × 3″ Ht.	—	Black	1	7216T23	17.78

Nylon Bags



Made of a tough yet lightweight fabric, these bags resist punctures, tears, and rot. They are also washable and breathable. All are coated with polyurethane and have a drawstring with cord lock.

O'all Size, Wd. × Ht.	Color		Each
14″ × 24″	Green	3767T21	$7.38
18″ × 27″	Blue	3767T22	10.12
24″ × 36″	Gray	3767T23	11.00
28″ × 38″	Black	3767T24	11.89

Heavy Duty Splash-Resistant Vinyl Bags



D



E



F

O'all Size, Wd. × Ht.	Cap., lbs.	Handle Location	Color		Each
Bag with Tie-String Closure					
D 14″ × 26¾″	50	None	Yellow	9879T1	$16.43
Bag with Zipper Closure					
E 16″ × 30″	50	Top and Bottom	Yellow	9879T2	21.55
Bags with Heavy Duty Zipper Closure					
E 16½″ × 26¾″	50	Top and Bottom	Orange	9879T3	32.95
F 13″ × 22½″	50	Side	Blue	9879T4	30.00

Water-Resistant Bags



Tall



Duffel

Also known as dry bags, they protect their contents in wet environments.

Tall bags have a translucent window to view contents and a roll-down closure with a plastic buckle.

Duffel bag has a waterproof zipper and a vinyl flap for extra protection. It has two top handles and two end handles.

O'all Size	Color		Each
Tall—*Urethane-coated nylon top and sides; reinforced urethane bottom.*			
8″ Dia. × 20″ Ht.	Blue	7808A71	$32.96
9″ Dia. × 20″ Ht.	Blue	7808A73	34.96
13″ Dia. × 25″ Ht.	Blue	7808A74	49.96
Duffel—*PVC*			
29″ Lg. × 17″ Wd. × 10″ Ht.	Black	7808A82	183.00

Jumbo Protective Bags



Large enough to cover furniture, machinery, and other equipment, these bags guard against dust, dirt, and moisture. All are made of 2-mil thick polyethylene and come with twist ties for closing the bags. Color is transparent yellow.

O'all Size, Wd. × Ht.	Pkg. Qty.		Per Pkg.
36″ × 60″	5	4079T51	$8.20
40″ × 72″	4	4079T52	8.20
45″ × 96″	3	4079T53	8.20
60″ × 108″	2	4079T54	8.20

Bulk Storage Bags



Also known as flexible intermediate bulk containers, these bags are an economical way to contain and ship a variety of dry materials. All are made of UV-resistant polypropylene and can be collapsed when not in use.

Bags have a 14″ × 18″ bottom outlet, as well as a duffel-style top opening that can be closed with included ties. They have four corner straps for convenient forklift lifting—no special equipment or pallets required. Max. load is 3,300 lbs.

O'all Size, Lg. × Wd. × Ht.	Cap., cu. ft.	Color		Each
35″ × 35″ × 35″	25	White	3791K13	$50.50
35″ × 35″ × 45″	32	White	3791K14	54.34
35″ × 35″ × 55″	39	White	3791K15	59.86
41″ × 41″ × 63″	62	White	3791K18	70.44
41″ × 41″ × 75″	73	White	3791K21	75.02

About Choosing the Proper Size Plastic Bags

Match the gallon capacity of your container to the gallon capacity listed in each bag presentation. If the exact capacity is not listed, choose a larger size. To determine the bag size for an unmarked container, calculate the bag circumference and height required (see below).

Round Containers

For bag circumference, multiply the container's diameter by 3.14.

For bag height, take the container's height, add ½ of its diameter, and then add 2″ for overhang.

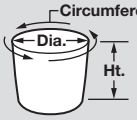

Square or Rectangular Containers

For bag circumference, add all four sides together.

For bag height, take the container's height, add ½ of its shortest width, and then add 2″ for overhang.

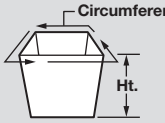

Multipurpose Plastic Bags

These bags are designed to resist tears and punctures by stretching around items with sharp edges. Twist ties are included.





Cap., gal.	Circum.	Ht.	Wd.	Bags: Pkg. Qty.	Bags: Black	Bags: Clear	Bags: Pkg.	Bags with Dispenser: Pkg. Qty.	Bags with Dispenser: Black	Bags with Dispenser: Clear	Bags with Dispenser: Pkg.
Medium Duty—0.8 to 1.2 mils											
4	34″	17″	17″	1,000	4166T161	4166T162	$43.89	250	4166T791	4166T792	$14.76
7	40″	22″	20″	1,000	4166T181	4166T182	73.52	250	4166T811	4166T812	23.73
8	42″	24″	21″	500	4166T191	4166T192	41.50	100	4166T821	4166T822	11.65
10	47″	27″	23½″	500	4166T221	4166T222	44.64	100	4166T202	4166T203	13.18
10	48″	24″	24″	500	4166T211	4166T212	46.39	100	4166T113	4166T114	16.29
11	46″	27″	23″	500	4166T304	4166T305	48.90	100	4166T841	4166T842	11.00
15	48″	32″	23″	500	4166T231	4166T232	59.25	100	4166T851	4166T852	14.25
16	44″	37″	22″	500	4166T241	4166T242	67.89	100	4166T861	4166T862	17.97
18	48″	40″	24″	500	4166T205	4166T206	99.12	100	4166T215	4166T12	20.76
20	59″	34″	29½″	300	4166T251	4166T252	59.46	100	4166T871	4166T872	27.02
22	49″	38″	24½″	200	4166T302	4166T303	35.31	100	4166T881	4166T882	20.56
23	54″	39″	27″	300	4166T311	4166T312	50.29	100	4166T891	4166T892	23.28
30	60″	40″	30″	200	4166T307	4166T216	43.56	100	4166T431	4166T13	25.41
32	68″	38″	34″	300	4166T361	4166T362	72.53	100	4166T911	4166T912	36.92
35	71″	45″	35½″	200	4166T218	4166T219	65.88	50	4166T554	4166T555	19.05
35	71½″	40″	35¾″	200	4166T391	4166T392	54.07	50	4166T225	4166T226	20.50
35	74″	43″	37″	200	4166T481	4166T482	60.75	50	4166T228	4166T229	22.76
40	78″	42½″	39″	200	4166T491	4166T492	62.75	50	4166T235	4166T236	23.75
55	72″	58″	36″	200	4166T545	4166T546	103.50	50	4166T548	4166T549	29.88
55	76″	60″	38″	100	4166T671	4166T672	39.32	50	4166T244	4166T245	27.15
56	88″	47″	44″	100	4166T591	4166T592	32.94	50	4166T238	4166T239	24.66
Heavy Duty—1.5 to 2 mils											
30	60″	37″	30″	250	4166T261	4166T262	62.75	50	4166T247	4166T248	18.33
33	66″	40″	33″	250	4166T381	4166T382	91.52	50	4166T582	4166T581	27.12
35	52″	48″	26″	100	4166T411	4166T412	33.55	50	4166T253	4166T254	20.63
35	81″	43″	40½″	200	4166T321	4166T322	82.47	50	4166T256	4166T257	28.71
40	84″	46″	42″	100	4166T454	4166T455	60.40	25	4166T265	4166T266	26.55
45	78″	48″	39″	100	4166T571	4166T572	58.75	30	4166T277	4166T278	25.75
45	80″	48″	40″	100	4166T461	4166T462	58.75	30	4166T259	4166T263	26.38
50	92″	50″	46″	100	4166T514	4166T515	59.51	50	4166T722	4166T721	34.90
55	72″	57″	36″	100	4166T268	4166T269	61.90	50	4166T561	4166T15	34.38
55	72″	58″	36″	100	4166T761	4166T762	65.43	30	4166T274	4166T275	28.68
56	85″	47″	42½″	100	4166T621	4166T622	63.37	30	4166T283	4166T284	27.46
56	85″	48″	42½″	100	4166T631	4166T632	65.25	30	4166T286	4166T287	28.00
56	88″	47″	44″	100	4166T611	4166T612	55.43	50	4166T732	4166T731	30.05
60	76″	60″	38″	100	4166T694	4166T695	83.06	30	4166T742	4166T741	26.67
65	108″	62″	54″	30	4166T771	4166T772	47.56	—	—	—	—
Extra-Heavy Duty—2.5 to 3 mils											
26	52″	43″	26″	100	4166T351	4166T352	49.20	25	4166T289	4166T293	19.20
30	60″	36″	30″	100	9387T121	9387T122	82.55	25	9387T111	9387T112	24.82
33	66″	39″	33″	100	9387T141	9387T142	97.75	25	9387T131	9387T132	28.97
35	81″	43″	40½″	100	4166T341	4166T342	90.42	25	4166T295	4166T296	28.41
45	80″	46″	40″	100	9387T161	9387T162	124.65	25	9387T151	9387T152	32.84
45	84″	46″	42″	100	4166T471	4166T472	100.41	25	4166T952	4166T951	29.22
55	72″	58″	36″	100	4166T781	4166T782	99.73	25	4166T972	4166T971	28.89
55	76″	60″	38″	50	4166T711	4166T712	58.89	20	4166T992	4166T991	27.56
56	85″	48″	42½″	100	4166T651	4166T652	110.28	20	4166T298	4166T299	26.91
56	88″	47″	44″	100	4166T661	4166T662	107.40	25	4166T982	4166T981	31.22
56	92″	50″	46″	100	4166T531	4166T532	118.81	25	4166T962	4166T961	34.78
65	116″	62″	58″	30	4166T941	4166T942	50.89	—	—	—	—
95	122″	66″	61″	30	4166T921	4166T922	57.11	—	—	—	—
95	126″	66″	63″	30	4166T931	4166T932	59.00	—	—	—	—

Choose-a-Color Plastic Bags

Identify contents by color with these tear-resistant bags. Twist ties are not included.

Cap., gal.	Circum.	Ht.	Wd.	Available Colors	Pkg. Qty.		Pkg.
Heavy Duty—1.5 to 2 mils							
18	48″	40″	24″	*Semi-Clear*: Blue, Green, Yellow; *Opaque*: Orange, Red, White	200	4038T22	$55.04
30	60″	40″	30″	*Semi-Clear*: Blue, Green, Yellow; *Opaque*: Orange, Red, White	100	4038T23	34.40
55	72″	57″	36″	*Semi-Clear*: Blue, Green, Yellow; *Opaque*: Orange, Red, White	50	4038T21	39.23
Extra-Heavy Duty—3 mils							
55	72″	57″	36″	*Semi-Clear*: Blue, Green, Yellow; *Opaque*: Orange, Red, White	50	4038T24	58.82

Plastic Bags & Liners

For information about choosing the proper size plastic bags, see page 1781.

Light Duty Plastic Bags

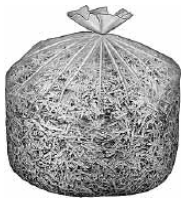

Collect paper and other light waste in these thin plastic bags that are designed for use in office environments. Bag thickness ranges from 0.2 to 0.8 mils. Twist ties are not included.

Cap., gal.	Circum.	Ht.	Wd.	Available Colors	Pkg. Qty.		Pkg.
4	34″	17″	17″	Black, Clear	2,000	45665T21	$32.83
7	40″	21″	20″	Black, Clear	1,500	45665T22	35.17
10	48″	24″	24″	Black, Clear	1,000	45665T23	27.46
15	48″	33″	24″	Black, Clear	1,000	45665T24	39.59
30	60″	37″	30″	Black, Clear	250	45665T33	43.56
33	66″	40″	33″	Black, Clear	200	45665T34	35.33
45	80″	48″	40″	Black, Clear	150	45665T35	38.46
55	72″	60″	36″	Black, Clear	150	45665T36	42.90
56	86″	48″	43″	Black, Clear	150	45665T37	40.95
56	92″	50″	46″	Black, Clear	200	45665T32	57.67
60	76″	60″	38″	Black, Clear	150	45665T38	44.84

Easy-Tie Plastic Bags



With Tie Flaps



With Drawstring

Cap., gal.	Circum.	Ht.	Wd.	Color	Pkg. Qty.		Pkg.
Light Duty with Tie Flaps—0.6 mils							
8	44″	24″	22″	White	130	4395T47	$14.46
13	47½″	28″	23¾″	White	100	4395T48	15.15
30	60″	33″	30″	Black	60	4395T49	16.74
33	65″	40″	32½″	Black	40	4395T55	18.17
Medium Duty with Drawstring—0.9 to 1.2 mils							
13	49″	27⅜″	24½″	White	200	4395T81	72.89
30	60″	32″	30″	Black	70	4395T42	33.39
30	61″	34″	30½″	Black	200	4395T82	91.09
33	67″	38″	33½″	Black	150	4395T83	97.89
45	78″	42″	39″	Black	50	4395T85	52.63
55	80″	44″	40″	Black	50	4395T86	54.40

Recycled Plastic Bags

These bags are made from at least 70% recycled plastic. Twist ties are included.

Cap., gal.	Circum.	Ht.	Wd.	Pkg. Qty.		Pkg.
Black Bags						
Medium Duty—1 mil						
10	48″	24″	24″	250	40925T37	$27.50
10	48″	24″	24″	500	40925T12	48.86
15	48″	32″	24″	250	40925T38	34.25
15	48″	32″	24″	500	40925T13	61.02
Heavy Duty—1.5 mils						
20	60″	37″	30″	100	40925T39	27.88
20	60″	37″	30″	250	40925T14	62.61
33	66″	40″	33″	100	40925T41	33.88
33	66″	40″	33″	250	40925T17	76.45
40	80″	48″	40″	100	40925T42	48.33
40	80″	48″	40″	250	40925T19	108.34
55	72″	58″	36″	100	40925T24	50.80
56	88″	47″	44″	100	40925T27	56.83
56	92″	50″	46″	100	40925T43	58.12
56	92″	50″	46″	200	40925T22	104.45
60	76″	60″	38″	100	40925T3	60.00
Extra-Heavy Duty—3 mils						
20	60″	37″	30″	100	40925T44	42.08
33	66″	40″	33″	100	40925T45	54.54
40	80″	48″	40″	100	40925T2	78.91
55	72″	58″	36″	100	40925T25	92.66
56	88″	47″	44″	100	40925T28	103.20
56	92″	50″	46″	100	40925T36	91.01
60	76″	60″	38″	50	40925T31	50.67
Blue Bags						
Medium Duty—1 mil						
15	48″	30″	24″	250	41485T11	42.27
30	60″	36″	30″	250	41485T12	61.70
Heavy Duty—1.5 mils						
13	48″	30″	24″	100	41485T16	21.25
30	60″	36″	30″	100	41485T17	29.90
33	66″	39″	33″	100	41485T18	41.88
40	80″	46″	40″	100	41485T19	53.50
55	76″	58″	38″	100	41485T15	61.25

Stick-On Hanging Bags



Free up space in your work area with these convenient, self-stick plastic bags. They have an adhesive top edge that sticks to flat, smooth surfaces. Both bags are 1 mil thick and hold up to 3 lbs.

Cap., gal.	Ht.	Wd.	Color	Pkg. Qty.		Pkg.
¼	10″	8″	White	50	7916T11	$18.89
1	16″	12″	White	50	7916T12	31.75

Rodent-Repellent Bags

Scented with mint to repel raccoons, rats, mice, and other rodents, these bags are EPA registered. They're 1 mil thick. Twist ties are not included.

33-gal. bag has a drawstring closure.

Cap., gal.	Circum.	Ht.	Wd.	Available Colors	Pkg. Qty.		Pkg.
33	66″	39″	33″	Black	40	6680T3	$19.00
45	80″	46″	40″	Black, Clear	100	6680T1	49.23
60	76″	58″	38″	Black, Clear	100	6680T2	57.33

Moisture-Resistant Paper Bags



Often used in landscaping applications, this bag stands up to damp waste. It's made of kraft paper coated with moisture-resistant adhesive. Color is brown.

Cap., gal.	Ht.	Wd.	Dp.	Pkg. Qty.		Pkg.
30	35″	16″	12″	5	39965T11	$4.16

Liners for Large-Volume Containers



Extend the life of your dumpster, dump truck, or container with these heavy duty, tear-resistant plastic liners. They're designed to contain leaks and provide quick cleanup. Each liner comes rolled.

Lg.	Ht.	Wd.	Color	4 mils		6 mils		8 mils	
22 ft.	8 ft.	8 ft.	Black	8224T3	$37.39	8224T2	$52.31	8224T1	$60.00
33 ft.	5½ ft.	8 ft.	Black	_____	____	8224T4	39.38	_____	____
33 ft.	8 ft.	8 ft.	Black	_____	____	8224T5	57.70	_____	____

For information about choosing the proper size plastic bag, see page 1781.

Large-Volume Bags



Light Duty (Shown as a Bun Rack Cover)



Heavy Duty (Shown as a Pallet Cover)



Extra-Heavy Duty (Shown as a Pallet Box Liner)

Cover, store, or dispose of extra-large items with these plastic bags. Bags are clear, except UV-resistant bags are black. Twist ties are not included.

Light duty bags are also known as bun rack covers. They fit racks up to 26″ Wd. × 20″ Dp.

Heavy duty and **extra-heavy duty** bags fit pallet loads up to 53″ Wd. × 43″ Dp.

UV-resistant bags protect contents outdoors for up to six months.

Ht.	Wd.	Dp.	Bags Each	Bags on a Roll Roll Qty.	Roll
Light Duty—0.6 mil					
80″	29″	23″		50 **1066T71**	$20.28
Heavy Duty—2 mils					
73″	55″	45″ **1066T21**	$3.77	30 **1066T31**	82.47
85″	55″	45″ **1066T22**	4.05	25 **1066T32**	75.89
97″	55″	45″ **1066T23**	4.20	20 **1066T33**	63.30
UV-Resistant Heavy Duty—2 mils					
73″	55″	45″		30 **1066T41**	93.38
85″	55″	45″		25 **1066T42**	84.30
Extra-Heavy Duty—3 mils					
73″	55″	45″ **1066T24**	5.56	20 **1066T34**	86.41
85″	55″	45″ **1066T25**	6.01	15 **1066T35**	72.10
97″	55″	45″ **1066T26**	6.59	15 **1066T36**	74.11
UV-Resistant Extra-Heavy Duty—3 mils					
73″	55″	45″		20 **1066T44**	97.72
85″	55″	45″		15 **1066T45**	81.52
97″	55″	45″		15 **1066T46**	83.72

Compactor Bags

Select one of these tear- and puncture-resistant plastic bags based on your compactor's cubic-foot chamber capacity. Compactor bags are approximately 3 mils thick. Twist ties are included.

Cap., cu. ft.	Circum.	Ht.	Wd.	Available Colors	Pkg. Qty.		Pkg.
3-6	52″	43″	26″	Black, Clear	100	**4203T1**	$51.32
6-8	60″	46″	30″	Black, Clear	100	**4203T2**	68.24
8-10	68″	45″	34″	Black, Clear	100	**4203T4**	73.87
10	100″	48″	50″	Black, Clear	50	**4203T5**	59.34

Extreme Duty Tear-Resistant Bags

Designed for construction clean up, these are the most durable bags we offer. They're tear resistant—not even a nail can rip them. Bags can hold up to 110 lbs. and are made of water-resistant woven plastic that's 7 mils thick.



Cap., gal.	Circum.	Ht.	Wd.	Color		Pkg. of 5
42	60″	49″	30″	White	**8221T1**	$14.21

Hazardous Waste Bags



Asbestos



Infectious Waste



Bench-Top Bag with Optional Stand

Specific warning labels and images on these bags identify the type of waste. Designed for hazardous disposal, they're tear, puncture, and leak resistant. Twist ties are included, except for bench-top infectious waste bags.

Asbestos bags read "Danger: Contains Asbestos Fibers. Avoid Creating Dust. Cancer and Lung Disease Hazard. Avoid Breathing Airborne Asbestos."

Infectious waste bags are printed with the OSHA-required biohazard graphic to quickly alert people to the contents.

Cap., gal.	Circum.	Ht.	Wd.	Color	Pkg. Qty.		Pkg.
Asbestos Bags—4 mils							
33	66″	40″	33″	Black	65	**40375T41**	$62.48
45	66″	50″	33″	Black	50	**40375T42**	60.09
55	76″	60″	38″	Black	40	**40375T43**	65.03
Infectious Waste Bags—2 to 3 mils							
30	60″	36″	30″	Red	75	**4053T41**	27.53
40	80″	48″	40″	Red	50	**4053T43**	33.26
55	72″	60″	36″	Red	50	**4053T52**	58.04
Bench-Top Infectious Waste Bag—0.7 mil							
0.5	—	11″	8½″	Red	100	**4053T56**	20.40
Stand for Bench-Top Bag						**4053T54**	Each $41.29

Water-Soluble Bags

These bags dissolve completely at a minimum temperature of 150° F. Often used in industrial laundry applications, they minimize contact with soiled fabrics. Seal with the included tie-tape closure.

Cap., gal.	Circum.	Ht.	Wd.	Color	Pkg. Qty.		Pkg.
Medium Duty—0.8 mil							
20	52″	33″	26″	Semi-Clear	100	**8237T13**	$55.98
40	72″	39″	36″	Semi-Clear	100	**8237T11**	89.23
Heavy Duty—1 mil							
20	52″	33″	26″	Semi-Clear	100	**8237T14**	62.82
40	72″	39″	36″	Semi-Clear	100	**8237T12**	102.62

Twist Ties

Bundle and close bags with these coated-wire ties.

Plastic-coated ties can be cut to length. They come on a 8½″ dia. spool with a 1″ dia. center hole.



Lg.	Wd.	Pkg. Qty.		Pkg.
Paper Coated				
6″	5/32″	2,000	**2065T2**	$12.35
12″	5/32″	1,000	**2065T5**	16.91
Plastic Coated				
2,460 ft.	5/32″	1	**2048T315**	51.25

Bag-Securing Rubber Bands

Keep bags from slipping into your waste or recycling container with these durable rubber bands.



Fits Container Gallon Size	Circum. Range	Rubber Band Size Lg.	Wd.		Pkg. of 5
10-30	46″-61″	8½″	¼″	**9561T1**	$2.43
31-55	64″-83″	12″	¼″	**9561T2**	4.23
35-95	88″-125″	34″	¼″	**9561T3**	6.28

Plastic Waste and Recycling Containers and Lids

Waste and Recycling Containers


A-C


Shown with Optional Dolly


D


E F


G-K


L-N P&Q

	Cap., gal.	Wd.	Dp.	Ht.	Circum.	Compatible Lid(s) Sold Below	Available Colors		
Waste Containers									
A	3	11¼″	8¼″	12¼″	39″	____	Beige, Black, Brown, Gray	**4089T6**	$5.05
B	7	14½″	10¼″	15″	49″	1	Beige, Black, Gray	**4089T1**	7.62
C	10	15¼″	11″	20″	53″	2	Beige, Black, Gray	**4089T2**	14.33
D	15	23¼″	11″	25″	68″	3, 10	Beige, Gray	**4080T9**	52.67
D	23	20″	11″	30″	62″	3, 10	Beige, Black, Brown, Gray	**4080T7**	67.68
E	11	16″ dia.	___	19″	50″	____	Beige, Gray	**4089T5**	12.80
E	22	15¾″ dia.	___	30¼″	50″	4, 5	Beige, Gray	**4080T5**	64.93
F	21	21″	11″	28″	64″	6	Beige, Gray	**4089T3**	89.84
G	23	16½″	15½″	31″	64″	7, 8, 9	Beige, Black, Brown, Gray	**4080T2**	73.92
H	25	16½″ sq.	___	26⅞″	66″	11, 12, 13	Beige, Brown, Gray	**4056T2**	42.90
H	32	16½″ sq.	___	31¾″	66″	11, 12, 13	Beige, Brown, Gray	**4056T3**	56.02
J	35	19½″ sq.	___	27¾″	78″	14	Beige, Gray	**4080T84**	111.08
J	50	19½″ sq.	___	34¼″	78″	14	Beige, Gray	**4080T88**	156.10
K	56	25½″	22¾″	31¼″	97″	15	Brown	**4052T11**	188.03
Fire-Resistant Waste Containers—Meet UL 242									
A	3½	11″	8″	12½″	38″	____	Beige, Black	**9866T1**	15.91
A	6¾	16″	8½″	14″	49″	____	Beige, Black, Brown	**9866T2**	25.87
Recycling Containers									
A	3¼	11½″	8¼″	12¼″	39″	____	Blue	**4063T41**	6.63
B	7	14½″	10¼″	15″	49″	1	Blue	**4063T42**	6.95
C	10	15¼″	11″	20″	53″	2	Blue	**4063T43**	13.63
D	23	20″	11″	30″	62″	3, 10	Blue	**4063T44**	62.48
F	21	21″	11″	28″	64″	6	Blue	**4063T92**	82.12
G	23	16½″	15½″	31″	64″	7, 8, 9	Blue, Green	**4063T11**	67.66
J	35	19½″ sq.	___	27¾″	78″	14	Blue	**4063T22**	110.22
J	50	19½″ sq.	___	34¼″	78″	14	Blue	**4063T52**	150.31
L	14	19½″	15½″	14½″	70″	____	Blue	**40025T25**	16.92
L	18	26″	16″	14¾″	84″	____	Blue, Green	**40025T12**	29.58
M	16	19″	16″	15½″	70″	16	Blue	**40025T17**	12.69
N	18	25¾″	16″	14½″	83″	17	Blue	**40025T18**	13.31
Stackable Recycling Containers									
P	6	11½″	15″	12½″	53″	____	Blue	**40025T15**	6.95
Q	12	20″	15″	12½″	70″	____	Blue	**40025T16**	10.63
Dolly for Style D (200-lb. capacity)								**4080T11**	72.04

Lids


1&2


3


4


5


6


7


8


9&10


11


12


13


14


15


16&17

	Compatible Container Sold Above	Ht.	Available Colors		
1	B	6″	Beige, Black	**4089T9**	$14.84
2	C	6″	Beige, Black	**4089T27**	15.60
3	D	5″	Beige, Black, Gray	**4080T8**	40.00
4	E	4″	Gray	**4080T97**	30.69
5	E	5″	Beige, Gray	**4080T6**	34.37
6	F	9½″	Black	**4089T35**	126.70
7	G	4″	Beige, Black, Gray	**4080T95**	34.59
8	G	3¼″	Blue, Green	**4063T12**	28.98
9	G	8″	Blue, Green	**4063T23**	28.98

	Compatible Container Sold Above	Ht.	Available Colors		
10	D	5½″	Blue, Green	**4063T15**	$40.92
11	H	7⅞″	Beige, Brown, Gray	**4056T5**	33.76
12	H	5¼″	Beige, Brown, Gray	**4056T7**	18.52
13	H	4¾″	Beige, Brown, Gray	**4056T8**	27.18
14	J	6¼″	Beige, Gray	**4080T83**	65.00
15	K	13″	Brown	**4052T43**	184.23
16	M	1¾″	Blue	**40025T19**	5.07
17	N	1¾″	Blue	**40025T27**	7.18

Easy-Grip Plastic Waste and Recycling Containers, Lids, Dollies, and Caddies

Waste and Recycling Containers

Built for durability, these heavy duty containers have a reinforced bottom.

Waste Containers—*Gray, white,* and *yellow* waste containers meet NSF/ANSI standards and are USDA compliant. *Blue* waste containers meet NSF/ANSI standards.


A


B


C

	Cap., gal.	Dia.	Ht.	Circum.	Compatible Lid(s) Sold Below	Available Colors		
Waste Containers								
A	10	15¾″	17¼″	49″	1	Gray, White	4011T1	$18.77
A	20	19½″	23″	61″	3, 9	Blue, Gray, White, Yellow	4011T2	30.68
A	32	22″	27¼″	69″	4, 6, 7, 8, 10, 11	Blue, Gray, Red, White, Yellow	4011T4	36.00
A	44	24″	31½″	75″	5, 12	Blue, Gray, Red, White, Yellow	4011T5	58.44
A	55	26½″	33″	83″	2, 13	Gray	4011T71	88.65
B	28	21½″ sq.	22½″	86″	14	Gray, White	4091T6	45.17
B	40	23½″ sq.	28¾″	94″	15	Gray, White	4091T5	63.75
C	80	32″	30″	100″	____	Orange	9853T36	132.69
C	115	35″	46″	110″	____	Orange	9853T39	142.31
Recycling Containers								
A	20	19½″	23″	62″	3, 9	Blue	4165T95	30.68
A	32	22″	27¼″	70″	4, 6, 7, 8, 10, 11	Blue, Green	4165T4	40.18
A	44	24″	31½″	76″	5, 12	Blue	4165T92	61.02
B	40	23½″ sq.	28¾″	94″	15	Blue	4165T72	63.75

Lids for Styles A and B—Gray, white, and yellow lids meet NSF/ANSI standards and are USDA compliant, unless noted.


1&2


3-5



6


7


8


9&10


11-13


14&15

	Fits Container Cap., gal.	Dia.	Ht.	Available Colors		
Lids for Style A Containers						
1	10	16″	1″	Gray, White	4011T6	$7.18
2	55	26¾″	2″	Gray	4011T72	29.67
3	20	20″	1¾″	Gray, White, Yellow	4011T7	8.60
4	32	22¼″	1¾″	Gray, Red, White, Yellow	4011T8	12.75
5	44	24½″	1½″	Black	4011T34	21.00
6	32	22¼″	1½″	White	4165T12■	7.91
7	32	22½″	5″	Gray	4011T26	43.63
8	32	23″	3½″	Blue	4165T31	15.35
9	20	23¼″	3¾″	White	4011T83★	64.51
10	32	25¾″	3¾″	White	4011T85★	77.57
11	32	22¾″	12¼″	Gray, Red	4011T13	89.05
12	44	24¾″	12¾″	Gray, Red	4011T36	92.90
13	55	27¼″	14½″	Gray, Red	4011T15	108.53
Lids for Style B Containers						
14	28	22″ sq.	2″	Gray, White	4091T75	14.50
15	40	24″ sq.	2″	Gray, White	4091T95	20.05

■ Does not meet NSF/ANSI standards and is not USDA compliant. ★ Not USDA compliant.

Dollies and Caddies for Styles A and B

Style 18 dolly holds two same-style 32- to 44-gallon Style A or B containers. For Style A, it also fits the 55-gallon container if used with a 32- or 44-gallon container.

Styles 19 and **20** caddies keep supplies organized and within reach. *Style 19* has a bag-securing rim.


16


17


18


19


20

	Style	Fits Container Cap., gal.	Cap., lbs.	Size	Color		
16	A	20, 32, 44, 55	250	18¼″ Dia. × 6¾″ Ht.	Black	4011T61	$58.24
17	B	28, 40	250	17¼″ Sq. × 6¼″ Ht.	Black	4091T71	73.47
18	A, B	Sizes Listed Above	200 per Side	45″ Wd. × 20¼″ Dp. × 8″ Ht.	Black	4011T29	152.23
19	A	44	____	32½″ Wd. × 26½″ Dp. × 6¾″ Ht.	Yellow	4011T39	69.63
20	A	32, 44	____	30″ Wd. × 20½″ Ht.	Yellow	4011T63	43.80

Heavy Duty Plastic Waste Containers

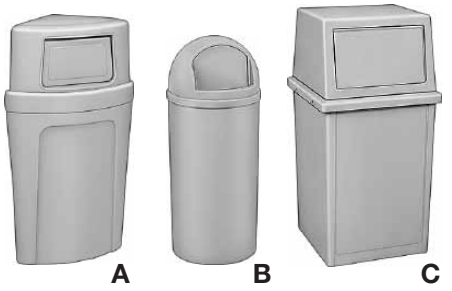

These dent-resistant containers come with a push-door lid. *Style C* has a hinged lid with two push doors.
Styles B and **C** are designed to extinguish internal fires and are FM approved.

	Cap., gal.	Wd.	Dp.	Ht.	Circum.	Available Colors		
Corner Fit								
A	21	21″	16″	39″	74″	Beige, Black, Brown, Gray	**4089T8**	$125.64
Fire Extinguishing								
B	15	15½″ dia.	—	36½″	48″	Beige, Black, Brown, White	**4106T1**	163.65
B	25	18″ dia.	—	42″	57″	Beige, Black, Brown, White	**4106T2**	213.22
C	35	20″ sq.	—	39½″	80″	Beige, Brown	**4106T3**	252.43
C	50	23¾″ sq.	—	40½″	95″	Beige, Brown	**4106T4**	268.55

Mobile Plastic Waste and Recycling Containers



Wheel away waste and recycling in these large-capacity containers. Made of seamless heavy duty plastic, they resist cracks, dents, and leaks.
Styles F-H work with automated collection systems. *Style G* is designed to secure confidential paper waste. It includes two keys.

	Cap., gal.	Wd.	Dp.	Ht.	Circum.	Cap., lbs.	Available Colors		
Waste Containers with Removable Lid									
D	32	20¾″	22¾″	35″	87″	60	Black	**4504T31**	$26.48
E	45	22″	24½″	39½″	93″	60	Green	**4504T45**	42.66
Waste Containers with Hinged Lid									
F	35	22¾″	22¼″	38¼″	90″	125	Blue, Gray, Green	**41415T71**	96.62
F	50	28½″	23½″	36½″	104″	175	Blue, Gray, Yellow	**4023T2**	131.49
F	65	26″	26½″	42¼″	105″	220	Blue, Gray, Green	**41415T72**	133.12
F	95	27½″	31½″	44¼″	118″	330	Blue, Gray, Green	**41415T73**	147.37
Waste Container with Lockable Hinged Lid and Paper Slot									
G	65	32¼″	25¼″	41¾″	115″	225	Gray	**4110T171**	291.11
Recycling Containers with Hinged Lid									
H	50	28½″	23½″	36½″	104″	175	Blue	**4349T21**	142.45
H	96	24″	35″	43″	118″	330	Blue	**4349T33**	156.35

Outdoor Waste and Recycling Containers



Style J includes a plastic liner and anchor kit.
Style M has a hooded lid to protect waste from wind, rain, and snow. The lid is hinged and flips open for quick waste removal. Container has a dent- and chip-resistant plastic frame with decorative stone panels. Plastic liner is included.

To Order: For Style M, please specify color for the frame and the stone panels; both are available in dark brown and light brown.

	Cap., gal.	Dia.	Ht.	Circum.	Available Colors		
Steel Waste Containers							
J	36	28″	44″	88″	Black, Green	**4016T5**	$718.20
K	48	23″	33″	72″	Black, Blue, Gray, Green	**4016T6**	169.03
Steel Recycling Container							
L	48	23″	33″	72″	Blue	**4016T7**	241.37
Plastic Waste Containers							
M	35	26″ sq.	40″	104″	Dark Brown, Light Brown	**41385T94**	813.27
M	50	26″ sq.	46½″	104″	Dark Brown, Light Brown	**41385T95**	908.56

Metal Waste and Recycling Containers


A


B


C


D


E


F


G


H&J


K


L


M
Steel


N
Stainless Steel


P


Q



R



S



T

Styles A&B have a raised bottom to insulate and protect floors from heat transfer. *Style B* won't mark walls or floors.

Styles C-F extinguish internal fires by restricting oxygen flow. *Styles E&F* won't mark walls or floors.

Styles G-K have a galvanized finish to protect against rust. They can be used outdoors. *Heavy duty* containers are twice as thick.

Styles L-Q won't mark walls or floors and come with a removable plastic liner. *Style L* has a noncorrosive base.

Style R comes with a white recycle decal.

Styles S&T come with four white decals: Plastic, Paper, Recyclables, and Cans/Bottles. They have a removable plastic liner and won't mark walls or floors.

	Cap., gal.	Dia.	Ht.	Circum.	Approvals	Available Colors		
Fire-Resistant Steel Waste Containers								
A	6½	13½″	14½″	42″	UL	Black, Gray	4028T2	$22.61
A	11	15¾″	18″	49″	_____	Black, Gray	4028T3	34.78
A	20	16″	29″	50″	_____	Gray	4032T13	48.23
B	7½	17″ Wd. × 8″ Dp.	15″	50″	UL	Black, Gray	4028T6	49.25
B	24	21″ Wd. × 11″ Dp.	30″	64″	_____	Black, Gray	4028T5	102.74
Fire-Extinguishing Steel Waste Containers								
C	6	12¼″	16¾″	38″	FM, UL	Gray	4388T6	59.21
C	15	15¼″	25¾″	47″	FM, UL	Gray	4388T3	94.00
C	30	20″	29¾″	62″	FM, UL	Gray	4388T4	132.36
D	20	16″	38½″	50″	FM, OSHA, UL	Gray	4032T513	154.75
E	13	13″ sq.	29″	52″	OSHA	Beige, White	9888T21	206.75
E	21	15″ sq.	38″	60″	OSHA	Beige, White	9888T22	218.41
E	36	19″ sq.	39″	76″	OSHA	Beige, White	9888T23	278.26
Fire-Extinguishing Stainless Steel Waste Containers								
F	36	19″ sq.	36¾″	76″	OSHA	_____	4031T6	558.40
Corrosion-Resistant Steel Waste Containers								
G	6	12¼″	12¾″	42″	_____	_____	4121T8	17.00
G	10	16″	15″	49½″	_____	_____	4121T9	20.40
H	20	17½″	23″	55″	_____	_____	4121T1	25.53
H	31	20½″	27″	64″	_____	_____	4121T3	31.96
Heavy Duty Corrosion-Resistant Steel Waste Containers								
J	32	21¼″	26¼″	67″	_____	_____	4068T6	151.05
K	32	21¼″	37¾″	67″	_____	_____	4068T2	287.85
Steel Waste Containers								
L	9	18″ Wd. × 9″ Dp.	32″	46″	_____	Black	4388T7	180.38
M	18	15″	30″	47¼″	_____	Black	4048T45	138.85
N	18	15″	31″	47¼″	_____	Black	4048T47	170.38
P	8	15¾″ Wd. × 8″ Dp.	30″	40½″	_____	Black	4048T43	199.74
Q	24	15¾″ sq.	30″	63″	_____	Black	4048T41	207.69
Stainless Steel Waste Containers								
M	18	15″	30″	47¼″	_____	_____	4048T46	223.08
N	18	15″	31″	47¼″	_____	_____	4048T48	315.38
Steel Recycling Containers								
R	20	16″	30″	51″	_____	Black, Blue	4048T37	86.82
S	8	15¾″ Wd. × 8″ Dp.	30″	40½″	_____	Black	4048T44	215.38
T	24	15¾″ sq.	30″	63″	_____	Black	4048T42	223.08

Step-Open Waste Containers


A


B


C


D


E


Steel F


G


H


J

Keep your hands free with these foot-operated waste containers. *Fire-extinguishing* containers restrict oxygen flow to extinguish internal fires.

Styles B, D, G, and **C** (24 gal.) have wheels. **Styles E-J** won't mark floors. *Style E* come with a removable steel liner. *Styles F-J* come with a removable plastic liner.

	Cap., gal.	Wd.	Dp.	Ht.	Circum.	Approvals	Available Colors		
Plastic									
A	13	19″	14″	27″	66″	—	Black, Gray	4334T4	$57.69
B	10½	10″	19″	25″	58″	—	Black, Gray, White	4334T8	42.59
Fire-Extinguishing Plastic									
C	4	14⅞″	9⅛″	15¾″	48″	FM	White	4334T31	120.22
C	13	18″	11½″	28⅜″	59″	FM	Beige, Red, White	4334T7	141.48
C	18	19¾″	12¼″	31⅝″	64″	FM	Beige, Red, White	4334T5	160.92
C	24	22½″	14″	32½″	73″	FM	Beige, Red, White	4334T6	230.27
Steel									
D	42	18″ sq.	—	30″	72″	—	Gray	4076T11	352.26
Fire-Extinguishing Steel									
E	3½	11″ dia.	—	17″	35″	FM, UL	Red, White	4041T13	92.02
E	5	11″ dia.	—	22″	35″	FM, UL	Red, White	4041T17	116.50
F	12	12″ sq.	—	23″	48″	FM, UL	White	4008T31	197.70
F	24	15″ sq.	—	30″	60″	FM, UL	Red, White	4008T12	294.28
F	40	19″ sq.	—	30″	76″	FM, UL	Red, White	4008T13	424.13
G	40	19″ sq.	—	30″	76″	FM, UL	White	4041T28	424.25
Stainless Steel									
H	9	13″ dia.	—	26″	40″	—	—	4008T14	81.82
J	13	20″	13″	25¾″	65¼″	—	—	4008T15	198.00
Fire-Extinguishing Stainless Steel									
F	7	12″ sq.	—	17″	48″	FM, UL	—	4008T78	328.12
F	12	12″ sq.	—	23″	48″	FM, UL	—	4008T21	356.93
F	24	15″ sq.	—	30″	60″	FM, UL	—	4008T22	483.51
F	40	19″ sq.	—	30″	76″	FM, UL	—	4008T23	750.54
Adhesive-Back Odor-Absorbing Pad								7992T11	8.14

Touch-Free Waste Containers



Open these waste containers with a wave of your hand. The motion-activated sensor lifts and lowers the lid automatically. Lid closes after six seconds. It requires three D batteries.

Cap., gal.	Wd.	Dp.	Ht.	Circum.	Color		
Plastic							
7	10½″	14½″	23¼″	50″	Beige	4499T1	$52.14
Stainless Steel							
11	10½″	14½″	27½″	50″	—	4499T2	101.11

Wall-Mount Waste Containers

Plastic container has molded-in hooks for holding a plastic bag. It includes a mounting bracket and fasteners. Container is ADA compliant when properly installed and FM approved.

Stainless steel containers come with a reusable vinyl liner, except the 2-gal. container. All have four 3/8" Wd. × 5/8" Lg. mounting slots.

Steel mesh containers can be used outdoors. Both have two 3/8" dia. mounting holes.

Style C has a hinged bag-securing rim and four 1/4" Wd. × 9/16" Lg. mounting slots.

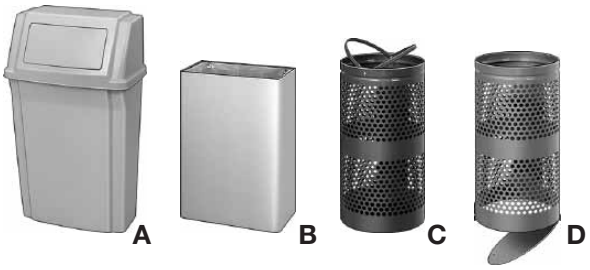

	Cap., gal.	Wd.	Dp.	Ht.	Circum.	Available Colors		
Fire-Resistant Plastic								
A	15	19 1/2"	12"	32 1/2"	63"	Beige, Brown	4571T88	$163.31
Stainless Steel								
B	2	10 1/2"	4 3/4"	9"	30 1/2"	_____	4566T81	53.32
B	7	14"	6 1/2"	17"	41"	_____	4566T82	104.73
B	12	15 1/4"	8"	23"	46 1/2"	_____	4566T85	129.08
B	17	15 3/4"	11 3/4"	22"	55"	_____	4566T84	175.56
Steel Mesh with Solid Bottom								
C	10	11 1/2" dia.	_____	23"	36"	Black, Green	4557T3	115.38
Steel Mesh with Hinged Bottom								
D	10	11 1/2" dia.	_____	23"	36"	Brown, Green	4557T1	153.85

Disposable Waste and Recycling Containers

Use these cardboard containers for temporary storage of waste and recycling. They ship flat and have a self-locking base for fast assembly.

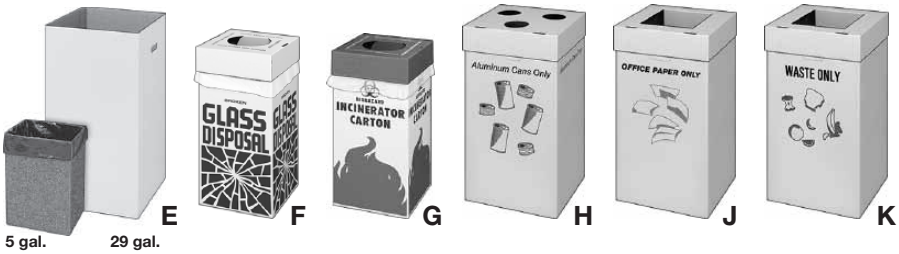

	Message	Cap., gal.	Size, sq.	Ht.	Circum.	Color		
Containers without Lid								
E	Blank	5	11" × 9"	16"	40"	Black	40005T45	$3.65
E	Blank	29	15"	30"	60"	White	40005T61	19.40
Containers with Message and Lid								
F	Glass Disposal	14	12"	27"	48"	White	40005T11	15.70
G	Biohazard Incinerator Carton	14	12"	27"	48"	White	40005T12	16.21
H	Aluminum Cans Only	29	15"	30"	60"	White	40005T52	25.02
J	Office Paper Only	29	15"	30"	60"	White	40005T53	25.02
K	Waste Only	29	15"	30"	60"	White	40005T51	25.02

Fold-Up Waste and Recycling Containers



Prop these 30-gal. vinyl bags on the steel stand (sold separately) for convenient disposal anywhere you need it. They can be folded flat and require little space for storage.

Bags measure 16" Wd. × 15" Dp. × 30" Ht. and have a 62" circumference.

	Available Colors	Drawstring Bags		Steel Stand	
L	Blue, Gray, Green, Red, White	40665T7	$26.65	40665T1	$29.69
M	Blue (with White Recycling Symbol)	40665T23	26.65	40665T1	29.69

Collapsible Waste Containers

Pop these containers open when you need them, then fold them down for compact storage when you don't. Made of vinyl, they're lightweight and portable.



Cap., gal.	Dia.	Ht.	Circum.	Color		
29	19"	24"	60"	Green	9424T3	$13.22
33	19"	32"	60"	Green	9424T5	14.11

Mini Swing-Top Waste Containers

This stainless steel container is designed for convenient benchtop waste disposal.



Cap., gal.	Dia.	Ht.	Circum.		
1/4	5"	7"	16"	4048T24	$16.00

Countertop Waste Chutes



Install these stainless steel chutes into a countertop or benchtop for access to concealed waste containers.

Fits Hole Dia.	Flange Dia.	Fits Countertop 1″ Thick		Fits Countertop 2″ Thick		Fits Countertop 3″ Thick	
6″	6¾″	4911K11	$41.77	4911K12	$51.25		
8″	8⅝″	4911K14	51.20	4911K15	64.90		
10″	10⅞″	6748T35	91.31			6748T36	$122.57
12″	12⅞″	6748T37	95.92			6748T38	180.73

Drum Lids


A


B


C



D


E



F


G


H

Convert your steel drum into a covered waste container.
Style A is FM approved when used with a steel drum.
Style C is fire extinguishing and FM approved when used with a steel drum. At 165° F, the fusible link melts to drop the cover and snuff out a fire. It comes with a nut and bolt strap assembly for fastening the cover to a drum.

Styles E&F include thumb screws for fastening the covers to drums. Both are FM approved when used with a steel drum.
Style F has two self-closing push doors.

	For Drum Size, gal.	Fits Drum OD	Ht.	Available Colors		
Aluminum						
A	30	19¼″	4¼″	—	44015T35	$54.79
A	55	23½″	6¼″	—	44015T34	77.72
Steel						
B	55	23½″	2″	—	4100T2	84.38
C	55	23½″	1¾″	Red	4573T42	132.61
D	55	23½″	11¼″	Green, White	9894T3	61.76
E	30	19¼″	10″	Brown, Green	9894T1	125.60
E	55	23½″	11½″	Green, Red	9894T2	150.17
F	55	23½″	11¼″	Gray, Green	9894T8	321.89
Corrosion-Resistant Steel						
G	32	21¼″	11½″	—	4096T5	135.25
G	55	23½″	11½″	—	4096T2	146.90
Plastic						
H	55	23½″	17½″	Blue, Gray, Red, Yellow	9881T3	80.72

Safety Containers for Oily Waste



J



K



L



M

For temporary storage of oil- and solvent-soaked towels and brushes, these containers protect flammable contents from potential fire sources. All containers are labeled “Empty Every Night.”

Step-open cans have a foot pedal for hands-free operation.
Styles L&M have a raised ventilated bottom to promote air circulation and heat dispersion.

	Cap., gal.	Dia.	Ht.	Approvals	Available Colors		
Step-Open Plastic							
J	6	13½″	16″	FM	Red, Yellow	40655T11	$55.77
J	10	18″	18″	FM	Red, Yellow	40655T12	66.23
J	14	18″	21″	FM	Red, Yellow	40655T13	71.45
Steel							
K	2	9¾″	9¼″	FM	Red, Yellow	4045T7	49.79
L	6	12″	16″	FM, UL	Red, Yellow	4070T51	55.20
L	10	14″	18¼″	FM, UL	Red, Yellow	4070T52	65.45
L	14	16″	20¼″	FM, UL	Red, Yellow	4070T53	76.17
L	21	18½″	23½″	FM, UL	Red, Yellow	4070T54	122.50
Step-Open Steel							
M	6	12″	16″	FM, UL	Red, Yellow	4070T61	57.67
M	10	14″	18¼″	FM, UL	Red, Yellow	4070T62	68.50
M	14	16″	20¼″	FM, UL	Red, Yellow	4070T63	82.80
M	21	18½″	23½″	FM, UL	Red, Yellow	4070T64	125.52

Safety Containers for Needles and Blades

Dispose of needles, razor blades, and other sharp objects with these puncture-resistant containers. Also known as sharps containers, they're for single use and must be disposed of properly. Not for landfill disposal.

Paperboard Pouches



Ht.	Wd.	Color		Pkg. of 5
13″	5½″	White	39955T62	$11.67
Optional Stand for Pouches			39955T63	Each 25.90

Plastic Containers


1 Quart


8 Gallon

The exterior of these rigid, leak-resistant plastic containers can be sterilized with steam.

Cap.	Ht.	Wd.	Dp.	Color		
1 qt.	6¼″	4½″	4¼″	Red	39955T41	$4.07
2.2 qt.	7¼″	6½″	4¾″	Red	39955T42	6.15
2 gal.	10″	10½″	7¼″	Red	39955T51	9.37
8 gal.	17¾″	15½″	11″	Red	39955T61	25.88

Wall-Mount Cigarette Disposal Containers

Rub out cigarettes on the screened window, and drop the butt inside to extinguish. It's made of stainless steel and has a hinged locking cover.

Container comes with a removable steel liner, mounting hardware, and a key; multiple containers open with the same key. It's ADA compliant when properly installed.



Ht.	Wd.	Dp.		
12½″	10″	3″	9647T11	$156.20

Ashtrays

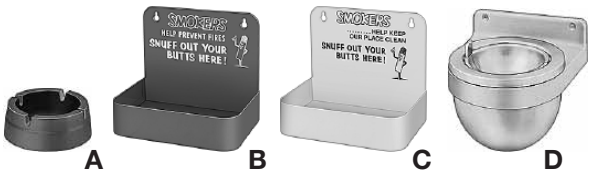

A B C D

Styles B&C have two ⅛″ dia. keyhole slots for mounting.

Style D has a lever-operated upper bowl that empties butts into a removable lower bowl. Fasteners are included.

		Ht.	Wd.	Dp.	Color		
A	Plastic	1¾″	4¾″ dia.	____	Black	4970T21	$2.78
B	Steel	6¾″	8″	5¼″	Red	4968T14	14.29
C	Steel	6¾″	8″	5¼″	Yellow	4968T16	14.29
D	Stainless Steel	9″	9½″	10″	____	4964T15	86.36

Cigarette Disposal Containers

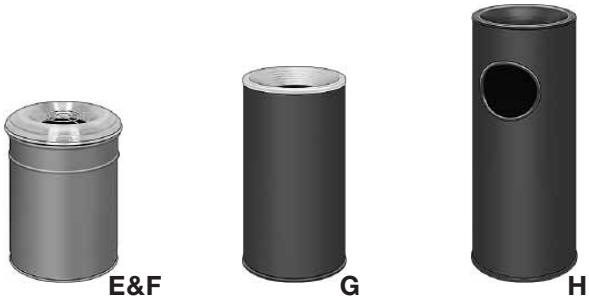
E&F G H

Use these containers for quick disposal of cigarette waste.

Styles E&F restrict oxygen flow to extinguish internal fires. They're both FM approved.

Style E holds 4½ gallons.

Style F holds 6 gallons.

Styles G&H have a removable top-mounted metal collection bowl.

Style H also has a 3½-gallon waste container with a removable plastic liner.

		Dia.	Ht.	Color		
E	Aluminum	12″	14¼″	Gray	5135T14	$64.43
F	Aluminum	12″	17¾″	Gray	5135T15	66.85
G	Steel	10″	20″	Black	5182T15	49.74
H	Steel for Cigarettes and Waste	10″	27″	Black	4599T32	113.07

Outdoor Cigarette Disposal Containers


K L M N

Keep outdoor smoking areas tidy with these weather-resistant containers. The narrow neck restricts oxygen flow to extinguish internal fires, while the broad base provides stability. Lift the top off the base to empty.

Styles K-M include a removable steel pail. *Styles K&M* are FM approved.

Style M has stainless steel latches to form a tight seal plus a chain that secures the top to the base. *Anchor kit* includes a ¼″ Dia. × 1″ Lg. steel lag screw and anchor for permanent placement.

		Base Dia.	Ht.	Available Colors		
K	Plastic	16½″	38½″	Beige, Black, Gray, Green	5171T6	$48.84
L	Plastic	12″ sq.	39½″	Beige, Black	5171T5	113.65
M	Steel	16″	38¾″	Black, Bronze	6683T2	167.44
N	Aluminum	12¾″	41″	Black, Silver	9343T8	184.77
Disposable Pail Liners for Style K (Pkg. of 10)					5171T1	25.17
Anchor Kit for Style M					6683T4	15.76

Sand for Cigarette Disposal Containers

	Size		
Black Sand	25 lbs. (2-gal. Pail)	4086T13	$43.87
White Sand	25 lbs. (2-gal. Pail)	4086T14	43.85
Sand Sifter	18″ Lg.	4086T27	30.00

Aerosol Can Recycling Systems

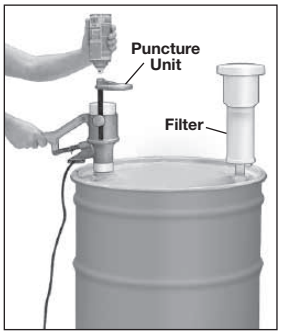

Turn any size aerosol can into nonhazardous, recyclable scrap metal with these drum-mounted systems. They safely puncture cans to relieve pressure and drain residual liquid into the drum.

To use, thread the puncturing unit onto the 2″ dia. opening of a 30- or 55-gallon drum (not included); then thread the filter with replaceable carbon cartridge onto a ¾″ opening in the drum. Insert the can and push the lever to puncture.

Puncture unit is cast iron and measures 18″ high. Systems come with safety goggles and a 6-ft. long anti-static wire with a ring terminal to ground the drum, as required by OSHA.

California compliant system also includes a drum cover, under-drum pan, automatic shut-off valve, and can counter.

	Standard		California Compliant	
Complete System	41275T51	$788.29	41275T61	$1,352.84
Filter with Carbon Cartridge	41275T52	183.10	41275T62	257.66
Carbon Cartridge	41275T53	84.83	41275T63	114.76
Gasket for Puncture Unit	41275T55	8.21	41275T55	8.21

Manual Trash Compactors



You don't need compressed air or an external power source to crush waste with this compactor. Pull the ratchet handle to reduce the contents of a 55-gallon drum to 25% of the original height. It's made of steel and has a 30″ long handle. Drum not included.

Ht.	Wd.	Dp.		
90″	29″	27″	40245T23	$992.33

Aluminum Can Crushers

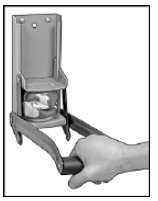

When collecting aluminum cans for recycling, this crusher lets you save the metal—not the air inside. This wall-mount crusher has a 12″ long lever-style handle with a comfortable foam grip. It's made of steel and mounting hardware is included.

Ht.	Wd.	Color		
8″	3¾″	Gray	4009T1	$10.91

Air-Powered Trash Compactors



With the pull of a lever, this powerful compactor reduces waste inside a 55-gallon drum to 25% of its original height in under one minute.

To operate, connect a compressed air source to the ¼ NPT female fitting. Crusher requires 8 cfm of air at 100 psi. It's made of steel and has a 46″ long handle with a two-handed safety lever. Drum not included.

Ht.	Wd.	Dp.		
76″	36″	27″	40585T12	$3,679.96

Air-Powered Pail, Can, and Filter Crushers

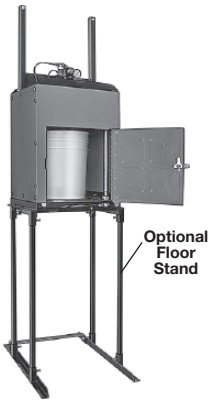

Reduce metal containers to 25% of their original height in under two minutes with this crusher. Made of steel, it works with unsealed quart, one-gallon, and five-gallon pails and cans, as well as oil filters. Not recommended for use with high-density polyethylene containers.

To operate, connect a compressed air source to the ¼ NPT male fitting. Crusher requires 9 cfm of air at 100 psi.

Chamber is 12″ Dia. × 15″ Ht. It has a recessed bottom with a drain outlet and hose.

	Ht.	Wd.	Dp.		
Crusher	44″	22″	21″	41145T51	$3,279.96
Optional Floor Stand	37″	22″	30″	41145T52	189.95

Drum Crushers/Compactors



When used as a crusher, this machine can force a 55-gallon drum down to 6″ high in under one minute. To compact waste within a 55-gallon drum, remove the drum-crushing plate and it will reduce the drum's contents to 20% of their original height. Chamber measures 38¾″ Ht. × 26½″ Wd. × 26¾″ Dp.

Made of steel, this crusher/compactor has a three-phase motor that must be hardwired. When operating on 208-230 volts AC, it draws 20 amps; when operating on 460 volts AC, it draws 10 amps. It also has a 15-gallon oil reservoir for AW-32 or ISO-32 hydraulic oil.

This unit has a keyed on/off switch and watertight, double locking handle. It also includes a drip pan that fits below the base to collect any liquid waste remaining in the drums. This unit meets OSHA and JIC (Joint Industrial Council) standards.

Ht.	Wd.	Dp.		
90″	37″	39″	44565T12	$8,290.50

Safety & Office Supplies

Protective Equipment

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Markers	1970
Stamps	1975
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Label Printers	2000

Office Supplies

Clocks & Timers	2007
Organizers & Document Holders	2012
Computer Accessories	2019
Reference Books	2024



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About Glove Sizing



To determine your glove size, wrap a tape measure around your palm. The number, in inches, corresponds to a unisex letter size as shown in the chart. Finger cot sizes are based on their respective glove size.

Size, inches	6	7	8	9	10	11	12
Size, letter	XS	S	M	L	XL	2XL	3XL



Glove length is measured from the tip of the middle finger to the end of the glove.

Thickness is measured in mils (1 mil = 0.001″). Thicker materials are more durable and will last longer; thinner materials offer better dexterity.

Inspect gloves prior to use for tears, cracks, pinholes, and deterioration.

Disposable Gloves

ⓘ For additional information about the chemical compatibility of these gloves, go to mcmaster.com and search for **5306TAC**.

Disposable Gloves



Chemical-Resistant Nitrile, Chemical-Resistant Neoprene, and Sure-Grip Latex



General Purpose PVC



Quick-Change Polyethylene

These single-use gloves prevent cross contamination and provide the dexterity needed for intricate work. They are ambidextrous. All are made from FDA-compliant materials for food contact. Boxes of gloves fit dispensers sold on page 1795, unless noted.

Powder-free gloves are good for applications where particulate contamination is a concern. **Lightly powdered** gloves are easy to pull on and off.

Chemical-Resistant Nitrile—Protect your hands from incidental chemical contact such as spills and splashes. These gloves are also a good alternative for those concerned about latex allergies.

Chemical-Resistant Neoprene—These durable gloves resist tears and chemical spills and splashes better than any other disposable glove we offer.

Sure-Grip Latex (Natural Rubber)—Designed for jobs that require tactile precision, these gloves have a tacky grip.

General Purpose PVC—These economical gloves are good for applications that require a moderate amount of dexterity and durability.

Quick-Change Polyethylene—Commonly used in food preparation, these loose-fitting gloves quickly slip on and off.

Thick., mils	Lg.	Color	Surface	Choose a Size	Box Qty.		Box 1-5	Box 6-Up
Powder Free								
Chemical-Resistant Nitrile								
3.5	9″	Black	Textured	XS-2XL	100	52555T19	$16.38	$14.76
4	9″	Blue	Smooth	XS-2XL	50	52555T17	12.05	10.71
4	9″	Green	Textured	S-XL	20	52555T64	5.20	4.62
4.5	9″	Black	Textured	XS-2XL	100	52555T42	18.06	16.27
4.5	9″	Blue	Textured	XS-XL	100	52555T44	18.08	16.29
4.5	12″	Blue	Textured	S-2XL	50	52555T22	16.56	14.92
5	9″	Blue	Textured	S-XL	100	52555T1	14.35	12.80
5	9″	Green	Smooth	S-XL	100	52555T5	16.16	14.54
5.5	9″	White	Textured	S-XL	100	52555T15	17.80	16.04
5.5	12″	Blue	Textured	S-3XL	50	52555T43♦	14.42	12.99
6	11″	Black	Textured	S-XL	50	52555T62	13.85	12.80
6	11″	Blue	Smooth	S-XL	50	52555T2★	19.43	17.27
6	12″	Green	Textured	S-XL	50	52555T6	13.10	11.91
8	9″	Blue	Smooth	S-XL	10	52555T66	4.00	3.56
8	9″	Blue	Smooth	S-XL	50	52555T67	13.90	12.64
Chemical-Resistant Neoprene								
6.5	9″	Green	Textured	XS-XL	100	8552T5	16.01	14.78
Sure-Grip Latex								
4.5	9″	Black	Textured	XS-XL	100	6072T83	19.01	17.24
6	9″	Beige	Textured	S-L	100	6072T35	13.11	11.83
6	9″	Beige	Textured	XL	90	6072T34	13.11	11.83
7	12″	Beige	Textured	S-XL	50	6072T1	16.67	15.12
13	12″	Blue	Textured	S-XL	50	6072T94	17.33	15.44
General Purpose PVC								
3.5	9″	Clear	Smooth	S-XL	100	5599T51	12.62	11.65
5	9½″	Beige	Smooth	S-XL	150	5599T15▲	13.46	12.50
Quick-Change Polyethylene								
1	10½″	Clear	Textured	S-L	500	9737T27■	19.16	16.49
1	18″	Clear	Smooth	L	250	9737T59	49.58	45.46
Lightly Powdered								
Chemical-Resistant Nitrile								
4	9″	Blue	Smooth	S-XL	100	52555T3	16.33	14.68
4	9″	Blue	Smooth	S-2XL	20	52555T63	4.95	4.40
4	9″	Blue	Smooth	XS-XL	50	52555T16	11.36	10.10
5	9″	Blue	Textured	S-XL	100	52555T4	15.58	13.97
5	9″	Green	Smooth	S-XL	100	52555T9	13.28	11.86
8	9″	Blue	Smooth	S-XL	10	52555T65	5.30	4.71
8	9″	Blue	Smooth	S-XL	50	52555T7	20.68	18.38
Sure-Grip Latex								
5	9″	Beige	Smooth	S-XL	100	6072T2	8.97	8.12
General Purpose PVC								
5	10″	Blue	Smooth	S-XL	100	5327T4	9.69	9.06
5	10″	White	Smooth	S-XL	100	5327T9	11.07	10.36
6.5	10″	Green	Smooth	S-XL	100	5327T6★	15.99	14.31

♦ 3XL gloves have a box quantity of 40.
▲ XL gloves have a box quantity of 130.
★ Order 52795T216 for a compatible clear plastic dispenser (10″×6 3/8″×3 3/4″; holds one box).
■ Dispenser box is not available.

ⓘ For additional information about the chemical compatibility of these gloves, go to mcmaster.com and search for **5306TAC**.

Antistatic Disposable Gloves



Minimize the buildup of electrostatic charge in environments where static-sensitive instruments are used. These powder-free nitrile gloves have a surface resistivity of 2.2×10^{11} ohms and protect against incidental chemical contact such as spills and splashes. They are ambidextrous. All are made from materials that comply with FDA regulations for food contact. Boxes of gloves fit dispensers sold separately below.

Material	Thick., mils	Lg.	Color	Surface	Choose a Size	Box Qty.		Box 1-5	Box 6-Up
Nitrile	4	9″	Black	Textured	S-XL	20	9328T8	$4.43	$3.92
Nitrile	4	9″	Black	Textured	S-XL	50	9328T7	9.79	8.68

Skin-Soothing Disposable Gloves



An interior coating of aloe helps prevent chapping. All gloves are ambidextrous. They are made from materials that comply with FDA regulations for food contact. Boxes of gloves fit dispensers sold separately below.

Nitrile gloves offer chemical splash protection and are a good alternative for those concerned about latex allergies. **Latex (natural rubber)** gloves have excellent grip and elasticity. **PVC** gloves are economical.

Material	Thick., mils	Lg.	Color	Surface	Choose a Size	Box Qty.		Box 1-5	Box 6-Up
Nitrile	6	9″	Green	Textured	XS-XL	100	9625T2	$22.71	$20.38
Nitrile	6	12″	Green	Textured	S-XL	50	9625T3	20.18	18.11
Latex	6	9″	Green	Textured	XS-L	100	9809T2	20.65	18.54
Latex	6	9″	Green	Textured	XL	90	9809T15	20.65	18.54
PVC	5	9″	Green	Smooth	XS-XL	100	9689T5	13.13	11.79

Wall-Mount Disposable-Glove Dispensers



One Box



Two Box



Three Box

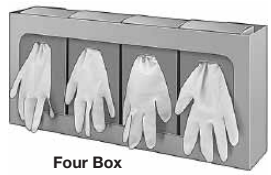

Four Box

Keep boxes of gloves within reach. These dispensers have two ½″ mounting slots (fasteners not included). All dispensers are 3¾″ deep. Gloves are sold separately.

Material	One Box 10″ Ht. × 5½″ Wd.		Two Box 10″ Ht. × 10½″ Wd.		Three Box 10″ Ht. × 15¾″ Wd.		Four Box 10″ Ht. × 22″ Wd.	
White Powder-Coated Steel	52795T112	$29.17	52795T117	$40.71	52795T125	$47.50	52795T128	$53.00
Type 304 Stainless Steel	52795T113	44.21	52795T118	57.72	52795T126	68.00	52795T129	93.00

Disposable Finger Cots

Handle small items when dexterity is essential and full hand coverage isn't needed. These cots cover your fingers without restricting hand movement.

Powder-free cots are good for applications where particulate contamination is a concern. **Lightly powdered cots** are easy to pull on and off.

Static-Control Nitrile—Protect sensitive components from the buildup of electrostatic charge. These cots are also a good choice if latex allergies are a concern. Cots are antistatic. 5516T3 has a surface resistivity of 5×10^9 ohms; 5516T2 has a surface resistivity of 1×10^9 ohms.

Finger Cot Dispenser—Keep cots clean and ready to use. The dispenser is white plastic with a clear lid. It can be set on a table and has two ⅛″ dia. holes for wall mounting (fasteners not included). Holds approximately 1,440 cots. Size is 13″ Ht. × 6″ Wd. × 8″ Dp.



Dispenser



Thick., mils	Color	Surface	Choose a Size	Pkg. Qty.		Pkg.
Powder Free						
Static-Control Nitrile						
3	White	Smooth	S-XL	144	5516T3	$12.05
3	White	Smooth	S-XL	720	5516T2	37.50
Lightly Powdered						
Latex						
3	White	Smooth	S-XL	144	5291T6	3.62
3	Beige	Textured	S-XL	1,440	5291T17	20.95
3	White	Smooth	S-XL	1,440	5291T16	25.45
9	White	Smooth	S-XL	144	5291T24	9.71
Finger Cot Dispenser					56045T11	74.66

Disposable Sleeves



Elastic at both ends secures these sleeves from the wrist to just past the elbow. One size fits all.

Polyethylene sleeves are economical. **Vinyl** sleeves provide protection against abrasion and chemical splashes.

Material	Thick., mils	Lg.	Color	Pkg. Qty.		Pkg.
Polyethylene	1	18″	Clear	100	52575T23	$14.32
Vinyl	4	18″	Clear	24	52575T25	11.73
Vinyl	8	18″	Clear	12	52575T17	8.80

Clean Room & Acid-Resistant Gloves

For information about gloves and sizing, see page 1794.

For additional information about the chemical compatibility of these gloves, go to mcmaster.com and search for **5306TAC**.

Clean Room Disposable Gloves


Standard Latex


Standard PVC


Heavyweight Nitrile


Neoprene/Latex/Nitrile Blend

Cleaned and bagged in environments with low levels of particulates, these powder-free, unlined gloves won't contaminate your work area. **Class 10** gloves are packaged in a clean room containing fewer than 10 particles larger than 0.5 microns per cubic foot. **Class 100** gloves are packaged in a clean room containing fewer than 100 particles larger than 0.5 microns per cubic foot.

Standard—These gloves are ambidextrous and conform to the hand. *Latex (natural rubber)* gloves are the most form fitting. *Nitrile* gloves protect your hands from incidental chemical contact such as spills and splashes. Nitrile is also a good choice if latex allergies are a concern. *PVC* gloves are economical.

Heavyweight—Thicker and more loose fitting than standard gloves, these are also abrasion and chemical resistant. *Nitrile* gloves have the best tactility and are a good choice for those concerned about latex allergies. *Neoprene/latex/nitrile blend* gloves have better splash protection than nitrile gloves against corrosive acids.

Class	Material	Thick., mils	Lg.	Color	Surface	Choose a Size		Pkg. of 50 Pairs
Standard								
10	Latex	5	12″	Beige	Textured	S-XL	**5995T4**	$33.82
10	Nitrile	5	12″	White	Textured	S-XL	**5995T5**	33.93
100	Latex	6	12″	Beige	Textured	S-2XL	**5995T9**	29.20
100	Nitrile	4	12″	White	Textured	S-XL	**5995T6**	32.24
100	PVC	5	12″	Clear	Smooth	S-XL	**5995T8**	15.80
Heavyweight								Pair
10	Nitrile	11	13″	Green	Textured	S-2XL	**5221T6**	$3.18
10	Neoprene/Latex/Nitrile Blend	20	14″	Beige	Textured	S-2XL	**5330T3**	3.14

Clean Room Disposable Finger Cots



Protect objects in your clean room from skin oil and other contaminants when dexterity is essential and full hand coverage is not needed. These latex (natural rubber) cots are washed to eliminate residue and were packaged in a clean room containing fewer than 100 particles larger than 0.5 microns per cubic foot.

Antistatic latex cots minimize the buildup of electrostatic charge to protect static-sensitive components. Surface resistivity is 10^{12} ohms.

Class	Thick., mils	Color	Surface	Choose a Size		Pkg. of 720
Latex						
100	3	Beige	Textured	S-XL	**5291T19**	$15.36
Antistatic Latex						
100	3	Pink	Textured	S-XL	**5540T55**	22.50
100	5	Pink	Textured	S-XL	**5540T65**	28.89

Acid-Resistant Gloves


Latex


Nitrile-Coated Latex

These latex (natural rubber) gloves stand up to most acids and alcohols. They also resist abrasion and offer good dexterity. *Food service* gloves are made from FDA-compliant materials. *Unlined* gloves offer the best dexterity. *Flocked* lined gloves are easy to take on and off. *Knit* lined gloves absorb perspiration.

Nitrile-coated latex gloves provide better abrasion and chemical resistance than latex gloves. They also resist fats and grease. Gloves have a green inner layer that shows through the coating as it wears off, making it easy to inspect for cracks, pinholes, and other signs of wear.

Thick., mils	Lg.	Color	Lining	Surface	For Food Service	Choose a Size		Pkg. of 6 Pairs 1-5	6-Up
Latex									
17	12″	Blue	Unlined	Textured	Yes	S-XL	**5306T87**	$6.98	$6.33
20	12″	Blue	Flocked	Textured	Yes	S-XL	**5306T17**	8.89	8.00
20	12″	Yellow	Flocked	Textured	No	S-XL	**5306T34**	8.89	8.00
								Pair 1-11	12-Up
21	12″	Orange	Flocked	Textured	Yes	S-XL	**5306T55**	$3.39	$3.16
29	13″	Orange	Flocked	Textured	No	S-XL	**5306T99**	3.51	3.30
40	12″	Blue	Knit	Textured	Yes	S-XL	**5306T83**	5.61	5.27
47	17″	Black	Unlined	Smooth	No	M-XL	**5306T5**	13.22	12.55
59	24″	Black	Unlined	Smooth	No	M-XL	**5306T9**	22.00	20.89
Nitrile-Coated Latex									
26	13″	Blue	Flocked	Textured	No	S-2XL	**14945T14**	2.50	2.35

For additional information about the chemical compatibility of these gloves, go to mcmaster.com and search for **5306TAC**.

Oil- and Acid-Resistant Gloves

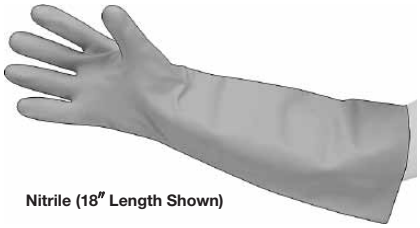
Nitrile (18″ Length Shown)


Neoprene (31″ Length Shown)


Double-Dipped Neoprene


Neoprene/Latex Blend


Neoprene-Coated Latex

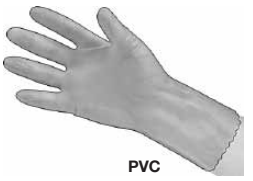
PVC

Protect your hands during maintenance and repair work where contact with both oils and acids is likely. These gloves are made from materials that comply with FDA regulations for food service, except PVC gloves. *Unlined* gloves have the best dexterity. *Knit lined* gloves absorb perspiration. *Flocked lined* gloves are easy to take on and off.

Nitrile—In addition to resisting most oils and acids, these gloves also withstand deterioration from petroleum products and solvents such as alcohol.

Neoprene—Thicker than nitrile gloves, these gloves last longer while providing the same level of protection against oils, acids, and solvents. 31″ long gloves have a ½″ dia. brass grommet on each sleeve that allows you to tie them across your shoulders.

Double-Dipped Neoprene—An extra coating provides more abrasion resistance than standard neoprene gloves. These gloves have a different color inner layer that shows through the coating as it wears off, making it easy to inspect for cracks, pinholes, and other signs of wear.

Neoprene/Latex Blend—Flexible and comfortable, these gloves are for lighter duty jobs than full neoprene.

Neoprene-Coated Latex (Natural Rubber)—A multi-layer construction provides better protection against tears and pinholes than most single-layer gloves. Suitable for light duty jobs, these gloves deteriorate faster than full neoprene gloves when exposed to oils and acids. 12″ and 14″ long gloves have a different color inner layer that shows through the coating as it wears off, making it easy to inspect for cracks, pinholes, and other signs of wear.

PVC—These gloves are the most economical and offer good dexterity. They have a curved finger design that follows the natural contour of the hand for added comfort. 31″ long gloves have a ½″ dia. plastic grommet on each sleeve that allows you to tie them across your shoulders.

Thick., mils	Lg.	Color	Lining	Surface	Choose a Size		Pair 1-11	Pair 12-Up
Nitrile								
9	12″	Blue	Unlined	Textured	S-2XL	5415T91	$1.91	$1.79
11	13″	Green	Unlined	Textured	S-2XL	5415T22	2.00	1.90
15	13″	Blue	Flocked	Textured	S-2XL	5415T27	2.40	2.22
15	13″	Green	Unlined	Textured	S-2XL	5415T31	2.19	2.06
15	13″	Green	Flocked	Textured	S-2XL	5415T36	2.19	2.04
18	13″	Green	Flocked	Textured	S-2XL	5415T45	2.25	2.09
22	15″	Green	Unlined	Textured	M-2XL	5415T23	6.85	6.48
22	18″	Green	Unlined	Textured	S-2XL	5415T46	8.18	7.67
Neoprene								
30	9″	Black	Knit	Smooth	XL	5309T6★	7.38	6.59
30	14″	Black	Knit	Smooth	XL	5309T4	12.32	11.00
30	14″	Black	Knit	Textured	XL	5310T7	11.37	10.24
30	18″	Black	Knit	Smooth	XL	5309T5	18.60	16.61
30	18″	Black	Knit	Textured	XL	5310T4	22.76	21.11
30	31″	Black	Knit	Smooth	XL	5597T56	55.02	50.02
Double-Dipped Neoprene								
40	12″	Black/Blue	Knit	Textured	XS-L	5409T7	6.57	6.19
40	14″	Black/Red	Unlined	Textured	L-2XL	5278T7	16.77	15.10
Neoprene/Latex Blend								
20	12″	Green	Flocked	Textured	M-XL	5283T6	2.47	2.34
28	12″	Orange	Flocked	Textured	S-XL	5283T41	3.64	3.26
Neoprene-Coated Latex								
22	12½″	Black	Flocked	Textured	XS-2XL	5278T15	3.80	3.58
28	12″	Blue/Yellow	Flocked	Textured	S-XL	5283T42	2.58	2.42
30	12½″	Black	Flocked	Textured	XS-2XL	5278T3	4.59	4.33
30	16″	Black	Flocked	Textured	XS-2XL	5278T2	8.17	7.62
40	14″	Black/Blue	Knit	Textured	M-2XL	5409T11	10.29	9.26
PVC								
10	10½″	Yellow	Unlined	Smooth	S-XL	52505T3	1.70	1.58
20	10½″	Yellow	Unlined	Smooth	L,XL	52505T4	2.56	2.40
25	31″	Black	Knit	Smooth	L	5597T55	28.31	25.17

★ Have a knit wrist.

Chemical-Resistant & Abrasive Blasting Gloves

For information about gloves and sizing, see page 1794.

For additional information about the chemical compatibility of these gloves, go to mcmaster.com and search for **5306TAC**.

Vapor- and Chemical-Resistant Butyl Gloves



More impermeable to gas and vapors than other gloves we carry, these butyl gloves resist esters, ketones (such as MEK and acetones), highly corrosive acids, and other hazardous substances. They are unlined and have a curved finger design that follows the natural contour of the hand for added comfort.

Thick., mils	Lg.	Color	Choose a Size	Smooth Surface	Pair	Textured Surface	Pair
13	11″	Black	S-2XL	5607T11	$20.48	5607T51	$25.43
16	11″	Black	S-2XL	5607T21	24.97	5607T61	30.30
17	14″	Black	M-2XL	5607T31	35.67	5607T71	43.53
32	14″	Black	M-2XL	5607T41	46.32	5607T81	57.70

Ultra-Thin Chemical-Resistant Gloves



Wear as a liner or over other gloves to protect against esters as well as aromatic, chlorinated, and oxygenated solvents (ketones and alcohols). Commonly used to handle spill cleanup, these silver-film gloves are made with multiple layers of polyethylene and EVOH (ethylene vinyl alcohol). They are ambidextrous and have a smooth surface.

Thick., mils	Lg.	Color	Choose a Size		Pair
2.7	15″	Silver	XS-2XL	6075T21	$6.78
2.7	29″	Silver	XL	6075T22	18.47

Solvent-Resistant PVA Gloves



Clean machinery, tools, and other equipment while protecting your hands from oil-based degreasing solvents. These gloves have a PVA coating that holds up against the ketones and alcohols commonly found in lacquer thinner. They are not designed for use with water-based or alkali-based degreasing products. Gloves have a smooth surface and a jersey lining.

Thick., mils	Lg.	Color	Size		Pair
40	12″	Red	XL	5258T21	$27.50
40	14″	Red	XL	5258T22	28.75
40	17″	Red	XL	5258T23	30.00

High-Strength Solvent-Resistant Fluoroelastomer Gloves



These fluoroelastomer gloves withstand hazardous substances such as water-based solvents, chlorinated solvents, and aromatics (toulene and xylene) better than other gloves we carry. They are commonly used during industrial maintenance and degreasing operations. Gloves are unlined and have a smooth surface.

Thick., mils	Lg.	Color	Choose a Size		Pair
12	12″	Black	S-2XL	5604T31	$76.00
20	12″	Black	M-XL	5604T41	82.50

Abrasive Blasting Gloves



The combination of neoprene and vinyl provides the protection you need when working in abrasive blasting cabinets. These gloves have a smooth surface and a cotton lining.

For Cabinet Hole Dia.	Thick., mils	Lg.	Color	Size		Pair
6″	30	24″	Black	L	55405T22	$25.28
7″	30	33″	Black	L	55405T23	37.02

Chemical- and Cut-Resistant Gloves



Often used on machine assembly jobs where protection against both chemicals and cuts is essential, these gloves are thin enough for precision work. They resist tearing and degradation from oil and grease. An extra layer of nitrile-coated foam in the palm adds comfort. Surface is textured. For more information about cut-resistance levels, see page 1804.

Cut-Resistance Level	Cuff Style	Material	Lg.	Color	Choose a Size		Pair
Level 2	Snug Fit	Nitrile	12″	Blue	S-2XL	7843T2	$7.32
Level 3	Open	Nitrile	12½″	Green	M-XL	7843T1	36.09

Chemical- and Temperature-Resistant Gloves



Protect your hands from chemicals when working near hot surfaces. Gloves are neoprene. A thermal lining withstands high levels of intermittent heat, and an outer coating acts as a barrier to chemicals and solvents.They are extra long for added arm protection and have an embossed texture on the fingers and palm for added grip. Gloves are washable and made from FDA-compliant materials for food contact.

Lg.	Max. Temp.	Color	Choose a Size		Pair 1-3	Pair 4-Up
17″	480°F	Black/Blue	M-XL	5399T11	$26.50	$24.46
26″	400°F	Black	M,XL	5399T33	36.65	33.98

For additional information about the chemical compatibility of these gloves, go to mcmaster.com and search for **5306TAC**.

Dry Box Gloves



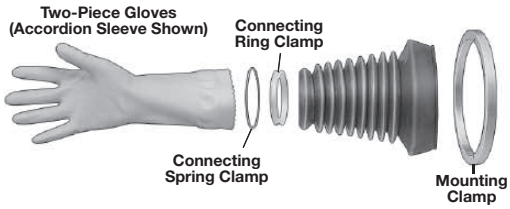

Use in a controlled dry box environment to safely handle hazardous substances or avoid contaminating sensitive materials. These gloves fit 8″ dia. dry box access holes. All have a smooth surface.

Latex (Natural Rubber)—Offer the most dexterity of the dry box gloves we carry. They have moderate chemical resistance.

Neoprene—Use these gloves for applications that require more chemical resistance and durability than latex gloves.

Nitrile—Have good resistance to punctures, solvents, oils, and greases.

Polyethylene—Able to stand up to ozone and many oxidizing chemicals, these gloves also have a high level of abrasion resistance.

Butyl—Choose these highly impermeable gloves when working with vapors and gases. They also withstand hazardous chemicals such as ketones (MEK and acetone) and esters. Gloves remain flexible in temperatures as low as –40° F.

Sleeve-to-dry-box-mounting clamp set includes four clamps with an 8″ ID and 1/8″ mounting holes. Use two clamps to secure each glove sleeve to the box; one for the inside of the access holes and one for the outside. Fasteners included.

One-Piece Gloves

These gloves have a seamless one-piece construction that provides maximum strength and integrity. Attach directly to a dry box using the sleeve-to-dry box mounting clamp set (sold separately).

Material	Lg.	Color	Choose a Size	15 mils Thick	Pair	30 mils Thick	Pair
Latex	32″	Tan	M-XL	5322T61	$136.36	—	—
Neoprene	32″	Black	L-3XL	5322T2	163.55	5322T3	$196.69
Nitrile	32″	Off-White	L	5322T11	227.27	—	—
Polyethylene	32″	White	L-2XL	5322T71	216.44	5322T72	340.51
Butyl	32″	Black	L-2XL	5322T81	239.82	5322T82	255.09
Sleeve-to-Dry Box Mounting Clamp Set						5322T91	354.41

Two-Piece Gloves

For applications that require frequent glove changes, the sleeves stay connected to the dry box so you can quickly change the size or type of glove being used. Attach gloves to sleeves using the included sleeve-to-glove connecting spring clamp and sleeve-to-glove connecting ring clamp. Attach sleeves to a dry box using the sleeve-to-dry box mounting clamp set (sold separately).

Material	Thick., mils: Sleeve	Thick., mils: Glove	Max. O'all Lg.	Sleeve Color	Choose a Size	Gloves and Sleeves: Glove Color			Repl. Gloves: Glove Color		
Straight											
Neoprene	15	18	32″	Black	S-2XL	Black	55955T1	$128.99	Black	55955T9	$11.63
Nitrile	15	15	32″	Off-White	M-2XL	Blue	55955T2	236.36	Off-White	55955T12	16.74
Accordion											
Latex	40	18	32″	Black	S-2XL	Orange	55955T3	205.36	Orange	55955T13	11.63
Nitrile	40	15	32″	Blue	M-2XL	White	55955T4	272.34	Off-White	55955T12	16.74
Repl. Sleeve-to-Glove Connecting Spring Clamp										55955T82	6.73
Repl. Sleeve-to-Glove Connecting Ring Clamp										55955T84	9.52
Sleeve-to-Dry Box Mounting Clamp Set										5322T91	354.41

Chemical-Resistant Sleeves

Protect your arm from oils and most acids with these coated sleeves. Elastic at both ends secures them from the wrist to just past the elbow.

Neoprene-coated nylon sleeves resist the most chemicals of the sleeves we carry.

SBR-coated polyester sleeves withstand corrosive materials such as hydrofluoric acid.

Nitrile-coated polyester sleeves are the best choice for handling petroleum-based substances such as gasoline and xylene. They have a nitrile coating on the inside and outside.



Material	Thick., mils	Lg.	Color		Pair
Neoprene-Coated Nylon	13	18″	Yellow	5564T16	$13.84
SBR-Coated Polyester	16	18″	Black	5564T11	14.28
Nitrile-Coated Polyester	16	18″	White	5564T13	16.34

Finger-Protection Tape

Wrap fingers to protect against cuts and abrasions without limiting dexterity. Tape is flexible and water resistant. It adheres to itself and will not stick to skin, hair, or clothing.

Cotton with Latex (Natural Rubber)—The open-mesh design allows the skin to breathe.

Latex-Free Vinyl—Choose this tape when latex allergies are a concern.



Cotton with Latex

Roll Size: Wd.	Roll Size: Lg.	Choose a Color	Rolls/ Pkg.		Pkg.
3/4″	10 yds.	Blue, Green, Tan, White	16	5545T1	$13.07
3/4″	30 yds.	Blue, Green, Tan, White	16	5545T3	27.87
1″	10 yds.	Blue, Green, Tan, White	12	5545T5	13.07
1″	30 yds.	Blue, Green, Tan, White	12	5545T9	27.87

Latex-Free Vinyl

Roll Size: Wd.	Roll Size: Lg.	Color		Roll
1/4″	5 yds.	Pink	9330T1	$2.89
1/2″	5 yds.	Pink	9330T2	2.90
3/4″	5 yds.	Pink	9330T3	4.29
1″	5 yds.	Pink	9330T4	5.94

Work Gloves & Glove Clips

For information about gloves and sizing, see page 1794.

Light Duty Work Gloves


Canvas Glove


Jersey Glove


Terry Cloth Glove


Open-Fingertip Knit Glove


Ultra-Lightweight Glove Liner

Comfortable and flexible, these gloves are a good choice for protecting your hands from scrapes and scratches.

Canvas gloves have strong seams for durability and a snug-fit cuff.

Jersey gloves are as soft and comfortable as a sweatshirt. They also have a snug-fit cuff, except heavyweight gloves have an open cuff.

Knit gloves and liners are as thin and breathable as a T-shirt and can be comfortably worn for long periods of time. They are ambidextrous and have a snug-fit cuff.

Terry cloth gloves are more abrasion resistant than other light duty work gloves. They have a snug-fit cuff.

Gloves

Material	Lg.	Color	Choose a Size		Pair 1-11	Pair 12-Up
Full Gloves—Lightweight						
Cotton Jersey	10½″	White	S,L	9725T3	$1.23	$1.07
Cotton Canvas	10″	Off-White	L	5321T1	1.46	1.27
Full Gloves—Midweight						
Cotton/Poly Knit	9¼″	White	XS,S,L	6078T5	.78	.68
Cotton/Poly Knit	9¼″	Gray	S,L	6078T4	.93	.81
Cotton Knit	9½″	Off-White	M,L	9729T2	.81	.72
Cotton Jersey	9½″	Brown	S,L	9725T2	1.37	1.20
Cotton Canvas	10″	Off-White	L	5321T2	1.71	1.50
Full Gloves—Heavyweight						
Cotton/Poly Knit	9½″	White	S-L	6078T6	$1.23	$1.07
Cotton/Poly Terry Cloth	11″	Off-White	L	5324T2	2.28	2.05
Cotton Jersey	9½″	Brown	L	9725T67	2.60	2.27
Cotton Canvas	10½″	Off-White	L	5321T3	2.00	1.75
Open-Fingertip Gloves—Midweight						
Cotton/Poly Knit	8″	Off-White	S-L	6078T7	1.43	1.25
Open-Fingertip Gloves—Heavyweight						
Cotton/Poly Knit	8½″	White	S,L	6078T8	1.63	1.40

Ultra-Lightweight Glove Liners

Style	Material	Lg.	Color	Size		Pkg. of 6 pairs 1-5	Pkg. of 6 pairs 6-Up
Open Fingertip	Cotton Knit	8½″	Beige	One Size	53335T11	$6.89	$6.03

Sure-Grip Light Duty Work Gloves


Grip Dot


Criss-Cross Grip

These gloves have a raised PVC texture for added grip. All have a snug-fit cuff.

Knit gloves are as breathable as a T-shirt and keep hands cool during periods of extended wear.

Jersey gloves are soft and comfortable as a sweatshirt.

Canvas gloves are the most durable.

	Coating	Lg.	Color, Glove/Grip	Choose a Size		Pair 1-11	Pair 12-Up
Grip Dot							
Cotton/Poly Knit	Palm/Back	9¼″	Off-White/Blue	S,L	9727T1	$1.04	$0.96
Cotton/Poly Jersey	Palm Only	10½″	Brown/Brown	M,L	9727T4	1.56	1.47
Cotton/Poly Canvas	Palm Only	9¾″	White/Black	S,L	9727T19	2.59	2.37
Criss-Cross Grip							
Acrylic/Poly Knit	Palm/Back	9½″	Orange/Clear	S-L	9727T7	2.00	1.88
Cotton/Poly Knit	Palm/Back	9¾″	White/Clear	S-L	9727T3	2.34	2.20

Repetitive-Motion Gloves



Reduce fatigue during jobs that require you to perform the same hand motions over and over. These nylon/spandex blend gloves retain body heat to stimulate circulation and keep muscles relaxed. They also have palm and wrist supports. Use alone or as liners. Gloves are ambidextrous and washable.

Cuff Style	Lg.	Color	Choose a Size		Pair 1-5	Pair 6-Up
Snug Fit	5½″	Orange	S-XL	9603T1	$10.66	$8.91

Glove Clips



Keep gloves close at hand with these clips. They have a safety break-away feature to prevent wearers from getting snagged by equipment. Clips are 4½″ Lg. × 1¼″ Wd. *Metal-detector-grade plastic* clips are designed for use in the food industry.

	Choose a Color		Each
Standard Plastic	Black, Blue, Green, Red, Yellow	57945T21	$5.36
Metal-Detector-Grade Plastic	Blue	57945T22	7.00

For information about gloves and sizing, see page 1794.

Sleeves

Keep your arms safe from scrapes and scratches. All sleeves are washable.

Cotton knit sleeves are comfortable and breathable. They are form fitting and have elastic at both ends.

Denim sleeves are more durable and abrasion resistant than other work sleeves. They are loose fitting and have elastic at both ends.

Terry cloth sleeves resist low levels of heat. They are form fitting and have elastic at one end and a snug-fit cuff at the other.



Denim

Sleeves

Material	Lg.	Color		Pair 1-11	Pair 12-Up
Cotton Knit	16″	Off-White	9661T51	$2.36	$2.02
Denim	18″	Blue	6071T2	5.89	5.49
Terry Cloth	12″	White	5957T45	6.94	6.10
Terry Cloth	18″	White	5957T47	9.39	8.75
Terry Cloth	24″	White	5957T49	11.83	11.02

Cut-to-Length Sleeves

These sleeves come on a 12-yard roll. The ends are not elasticized.

Material	Color		Roll 1-5	Roll 6-Up
Cotton Knit	Off-White	9661T32	$61.88	$56.25

Finger Cots



Cotton



Leather (Front/Side/Tip Coverage Shown)

Protect individual fingers without restricting hand movement.

Cotton cots offer better dexterity and tactility than leather cots. They have a snug fit and are washable.

Leather cots have better abrasion resistance than cotton cots. They have elastic backs, except full coverage cots are all leather.

Cotton

Coverage	Lg.	Color	Size	Pkg. Qty.		Pkg.
Full	2¼″	Off-White	One Size	20	9631T25	$9.44

Leather

Coverage	Choose a Size	Finger Cots	Pkg. of 10	Thumb Cots	Pkg. of 10
Front	S-L	5334T51	$10.25	5334T59	$10.25
Front/Side	S-L	5334T54	10.25	5334T76	12.75
Front/Side/Tip	S-L	5334T57	15.25	5334T62	12.75
Full	S-L	5334T67	20.25	5334T78	17.75

Coated Work Gloves

The coating on these gloves provides extra grip and protection without limiting dexterity. **Palm-coated** gloves have an uncoated back side that makes the gloves more comfortable and breathable. **Fully coated** gloves provide the same protection for the front and the back of the hand.

Polyurethane—Thin and lightweight**,** these gloves are good for assembly work, small parts handling, and other jobs where a sensitive touch and precise handling are essential.

Latex (Natural Rubber)—Have light abrasion resistance. *High-visibility* gloves have a yellow back side that makes them easy to spot.

Nitrile—More durable than latex gloves, these gloves are also chemical and oil resistant. They are a good alternative for those concerned about latex allergies.

Ultra-Flex Nitrile—Have the protective benefits of nitrile gloves with more dexterity and comfort. These gloves conform to the hand to decrease fatigue and are the most flexible coated work gloves we carry.

Sure-Grip Nitrile—Good for handling glass, slippery plastics, and oily machine parts, these gloves have a dotted palm for the most secure grip of our coated work gloves. They also have excellent abrasion resistance.

PVC (Polyvinyl Chloride)—These gloves are the economical choice for protection from oil and abrasive materials. They also provide light chemical and acid resistance.

PVC/Nitrile Blend—More chemical and abrasion resistant than PVC gloves, these gloves also stay flexible in low temperatures.



Palm-Coated with Snug-Fit Cuff



Palm-Coated with Open Cuff



Fully Coated with Snug-Fit Cuff



Fully Coated with Open Cuff

Cuff Style	Glove Material	Lg.	Color	Surface	Choose a Size		Pair 1-11	Pair 12-Up
Palm Coated								
Polyurethane								
Snug Fit	Nylon	9″	Black/Gray	Smooth	XS-2XL	8284T7	$3.62	$3.26
Snug Fit	Nylon	9″	Black/Blue	Textured	XS-2XL	8284T3	3.56	3.20
Snug Fit	Nylon	9″	White	Smooth	XS-XL	8284T5	5.91	5.32
Latex								
Snug Fit	Cotton/Poly	10″	Blue/Gray	Textured	XS-XL	9832T61	4.08	3.71
Latex—High Visibility								
Snug Fit	Acrylic	10½″	Blue/Yellow	Textured	S-XL	9832T65	7.58	6.89
Nitrile								
Snug Fit	Nylon	9½″	Blue	Textured	XS-2XL	9832T91	4.88	4.44
Snug Fit	Nylon	10″	Black/Purple	Textured	S-2XL	9832T71	6.20	5.63
Open Cuff	Cotton	10″	Dark Blue/Beige	Smooth	S-XL	91165T8	5.24	4.62
Ultra-Flex Nitrile								
Snug Fit	Nylon	9″	Black/Gray	Smooth	XS-2XL	9832T66	5.40	4.91
Snug Fit	Nylon	9″	Gray/White	Smooth	XS-XL	9832T63	5.40	4.91
Sure-Grip Nitrile								
Snug Fit	Nylon	8½″	Black/Gray	Dotted	XS-XL	91165T4	6.06	5.45
Fully Coated								
PVC								
Snug Fit	Cotton	10″	Black	Smooth	L	5319T12	2.17	1.90
Open Cuff	Cotton	12″	Black	Smooth	L	5319T13	2.74	2.40
Open Cuff	Cotton	14″	Black	Smooth	L	5319T18	3.26	2.85
PVC/Nitrile Blend								
Open Cuff	Cotton	14″	Green	Textured	L	5414T8	6.85	6.09
Nitrile								
Snug Fit	Cotton	10″	Dark Blue	Smooth	S-XL	91165T2	4.56	3.97
Open Cuff	Cotton	10″	Dark Blue	Textured	S-XL	91165T6	5.51	4.86
Sure-Grip Nitrile								
Snug Fit	Nylon	9″	Black/Gray	Dotted	XS-XL	91165T5	6.82	6.14

Work & Inspection Gloves

For information about gloves and sizing, see page 1794.

Leather Work Gloves


Leather Palm

Protect your hands from on-the-job hazards. *Double-palm* gloves have two layers of leather on the palm and index finger for added protection. *High-visibility cowhide* gloves have a fluorescent back and cuff and reflective tape on cuff and knuckles. *Goatskin* gloves are strong yet thin, providing good tactility for precision handling and delicate tasks. *Pigskin* gloves won't stiffen when wet. *Deerskin* gloves are soft and flexible.

Leather-palm gloves are lightweight and breathable. They have a canvas back, except open-fingertip pigskin gloves have a mesh back.

All-leather gloves offer better protection for the entire hand than leather palm gloves.

All-leather glove with sleeve has a 10″ long sleeve with a 2½″ wide nylon mesh strip for air circulation.


Open-Fingertip Pigskin


All Leather


All Leather with Sleeve

Cuff Style	Lg.	Color	Choose a Size		Pair 1-11	Pair 12-Up
Leather Palm						
Light Duty Cowhide						
Snug Fit	9⅜″	Gray/Green	Women's L	5320T4	$1.87	$1.68
Snug Fit	9¾″	Gray/Blue	L	5320T1	2.00	1.80
Open Cuff	10″	Gray	L	5320T51	3.26	2.96
Double-Palm Cowhide						
Open Cuff	10½″	Gray/Yellow	L	52835T41	5.00	4.73
Open Cuff	12″	Off-White/Green	L	52835T15	4.00	3.76
Heavy Duty Cowhide						
Open Cuff	10½″	Gray	S-XL	6077T7	5.26	4.94
High-Visibility Cowhide						
Open Cuff	10″	Off-White/Fluorescent Orange	S-2XL	9782T5	12.24	11.51
Open-Fingertip Pigskin						
Hook and Loop	5¾″	Black	S-XL	5305T97	11.00	9.71
All Leather						
Medium Duty Cowhide						
Open Cuff	10″	Gray	S-XL	5312T1	5.27	4.74
Open Cuff	10″	Off-White	S-XL	5312T5	8.26	7.51
Double-Palm Cowhide						
Open Cuff	9½″	Tan/White	S-XL	5312T2	12.00	10.91
Goatskin						
Open Cuff	10¼″	White	M-XL	9657T8	10.83	9.47
Pigskin						
Open Cuff	10″	Off-White	S-XL	5312T6	40.04	36.40
Deerskin						
Open Cuff	10″	Black	M-XL	9417T2	42.41	38.25
All Leather with Sleeve						
Cotton/Nylon Sleeve with Cowhide Glove						
_____	23″	Off-White	S-XL	9332T4	30.23	26.67

Inspection Gloves


Cotton

Keep fingerprints and other contaminants off of parts during inspections. All gloves are ambidextrous.

Cotton gloves are unhemmed.

Stretch-nylon gloves are more form fitting than cotton gloves. *Open-cuff* gloves are hemmed. *Snug-fit* gloves are unhemmed and washable.

Cuff Style	Lg.	Choose a Size	Pkg. Qty.		Pkg.
Lightweight Cotton					
Open Cuff	9″	Women's L,L	12 pr.	5452T1	$5.18
Open Cuff	14″	One Size	12 pr.	5452T4	8.02
Midweight Cotton					
Open Cuff	8½″	Women's L,L	12 pr.	5452T2	8.16
Heavyweight Cotton					
Open Cuff	8½″	Women's L,L	12 pr.	5452T3	12.93
Stretch Nylon—Low Lint					
Open Cuff	8¼″	XS,M,L	12 pr.	5443T22	8.65
Snug Fit	9¼″	One Size	5 pr.	53575T6	10.98

Static-Dissipative Gloves

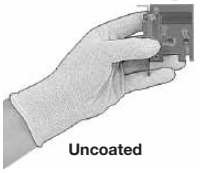
Uncoated

Avoid damaging static-sensitive electronic parts. All gloves have a snug-fit cuff.

Uncoated gloves are ambidextrous, breathable, and absorb perspiration during periods of extended wear. Surface resistivity is 10^6 ohms.

Palm-coated gloves have a nitrile coating that provides abrasion resistance and a secure grip. Surface resistivity is 10^9 ohms.

High-temperature palm-coated gloves (also known as wave solder gloves) have a nitrile coating that protects hands while soldering. Maximum temperature is 200° F. Surface resistivity is 10^8 ohms.

Material	Lg.	Color	Choose a Size		Pair
Uncoated					
Stretch Nylon	9″	Gray	S-L	53575T4	$3.42
Palm Coated					
Nylon Blend	9″	White/Gray	XS-XL	7838T11	9.48
High-Temperature Palm Coated					
Nylon	9″	Gray/Black	S-XL	7838T21	5.98

Touch-Screen Gloves


Dot-Grip Style

Operate touch-screen devices without removing your gloves. These gloves provide excellent dexterity and have a snug-fit cuff.

Palm-coated gloves have a polyurethane coating for abrasion resistance.

Dot-grip gloves have PVC dots for added grip.

Mechanic-style gloves are the most form fitting and flexible touch-screen work gloves. They have synthetic leather on the palm and fingers.

Material	Lg.	Color	Choose a Size		Pair
Palm Coated					
Poly Blend	9″	Gray	XS-2XL	7139T1	$1.73
Nylon	10″	Yellow/Gray	S-2XL	7139T2	1.82
Dot Grip					
Cotton/Poly	9″	Black	S,L	9549T1	8.54
Mechanic Style					
Nylon Blend	8½″	Black	M-XL	7424A1	27.17

For information about gloves and sizing, see page 1794.

High-Dexterity Work Gloves


Leather


Standard and Oil Resistant


Standard—Open Fingertip


Vented


Sure Grip


High Visibility


Abrasion Resistant—Open Fingertip


Impact Resistant (Back of Hand)


Flame Resistant

These flexible gloves combine abrasion resistance with a design that conforms to your hand. They have a spandex back, except flame-resistant gloves. All are 9″ long, except standard open fingertip gloves are 6½″ long. *Double-palm* gloves have two layers of leather or synthetic leather on the palm and index finger for added protection. *Padded palm* gloves have additional padding for impact resistance.

Leather—These natural leather gloves are supple and form fitting. *Medium duty cowhide* gloves balance durability and comfort. *Goatskin* gloves are strong yet thin, providing good tactility for precision handling. *Deerskin* gloves are the most flexible leather work gloves. *Heavy duty sheepskin* gloves are washable and reinforced with Kevlar for added durability.

Long-Life Synthetic Leather—Have better wear resistance than natural leather gloves. All are washable.

Vented gloves promote air circulation to keep hands dry. *Sure-grip* gloves have tacky silicone on the palms and fingers. *Oil-resistant* gloves have treated palms to withstand oil and water. *High-visibility* gloves have a reflective backing. A*brasion-resistant* gloves are reinforced with polyurethane for protection against scrapes and scratches. *Impact-resistant* gloves have knuckle guards on the back of the hand and foam padding on the front. Yellow gloves are high visibility. *Flame-resistant* gloves have two layers of Carbon X on the top of the hand and one layer on the palm to protect against radiant heat and flames.

	Cuff Style	Choose a Color	Choose a Size		Pair 1-3	Pair 4-Up
Leather						
Medium Duty						
Cowhide—Double Palm	Hook and Loop	Black/Gold	S-2XL	9204T1	$20.38	$18.93
Goatskin—Padded Palm	Hook and Loop	Black/White/Gold	S-2XL	9204T7	23.84	21.99
Deerskin—Double Palm	Hook and Loop	Blue/Gold	S-2XL	9204T5	29.61	27.50
Heavy Duty						
Sheepskin	Snug Fit	Black/Gold	S-2XL	6759T27	38.96	34.79
Long-Life Synthetic Leather						
Light Duty						
Standard	Snug Fit	Black	S-2XL	6759T26	14.50	12.94
Medium Duty						
Standard—Open Fingertip	Hook and Loop	Black	M-XL	6759T46	17.59	16.34
Standard	Hook and Loop	Black/Gray	S-2XL	6759T1	25.46	23.26
Standard	Hook and Loop	Black	Women's S-L	6759T18	22.04	20.30
Vented	Hook and Loop	White/Gray	S-2XL	6759T9	28.47	26.95
Sure Grip	Hook and Loop	Black/Gray	S-2XL	6759T5	31.11	29.56
Heavy Duty						
Oil Resistant	Hook and Loop	Black/Gray	S-2XL	6759T28	25.36	22.64
High Visibility	Hook and Loop	Green or Orange	S-2XL	6759T2	26.04	24.74
Abrasion Resistant—Open Fingertip	Hook and Loop	Black/Gray	S-2XL	6759T4	26.59	25.26
Abrasion Resistant	Hook and Loop	Black/Gray	S-2XL	6759T3	29.83	27.80
Impact Resistant—Double Palm	Hook and Loop	Gray	Women's S-L	6759T19	34.82	31.82
Impact Resistant—Double Palm	Hook and Loop	Black or Yellow	S-2XL	6759T96	41.72	39.48
Flame Resistant	Hook and Loop	Black	S-2XL	6759T17	76.36	69.78

Vibration-Damping Gloves

Minimize hand fatigue while operating rivet guns, jackhammers, and other power tools that produce high levels of vibration. All gloves have a spandex backing and cowhide leather palm, except full gloves have a goatskin palm.

Open-fingertip gloves have a snug-fit cuff and shock-absorbing gel padding. *Gloves/liners* can be used alone or as liners. They have padding in the palm, thumb, and index finger. *Gloves* are padded in the palm, all fingers, and thumb.

Full gloves have shock-absorbing gel padding padded in the palm, index finger, and lower thumb. They also have a hook-and-loop cuff.

Palm pads have rubber padding. *Fitted* pads conform to your hand and provide more coverage on the upper palm.


Open-Fingertip Glove/Liner


Open-Fingertip Glove


Full Glove


Palm Pad (Fitted)

	Lg.	Color	Choose a Size		Pair
Open-Fingertip Gloves					
Gloves/Liners	5½″	Gray/Black	One Size	5460T35	$14.87
Gloves	7″	Black/Blue	S-L	5460T66	34.55
Full Gloves					
Gloves	9″	Black	M-XL	4183T6	18.90
Palm Pads					
Standard	4″	Gray	One Size	5460T51	24.55
Fitted	5½″	Gray	One Size	5460T52	25.64

Cut-Resistant Gloves

For information about gloves and sizing, see page 1794.

About Cut-Resistant Gloves

Our cut-resistant gloves meet the ANSI/ISEA 105-2011 standard, which designates levels of cut resistance based on the force needed to cut through the material of the glove using a razor blade.

Cut Level	Common Applications	Downward Force of Blade
2	Packing boxes, assembling parts, and handling light material.	501 - 1,000 grams
3	Handling pallets and metal parts with burs.	1,001 - 1,500 grams
4	Working with sheet metal, glass, and other material with sharp edges.	1,501 - 3,500 grams
5	Using cutting blades and knives.	3,501 grams or greater

Cut-Resistant Gloves

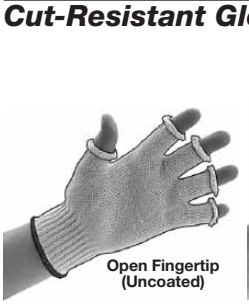
Open Fingertip (Uncoated)


Dot Grip


Palm Coated


Fully Coated


Sleeve with Glove

Protect your hands from cuts and scratches. Gloves have a snug-fit cuff, except fully coated gloves have an open cuff.

Kevlar gloves absorb moisture. **Dyneema** gloves are thinner, more breathable, and more form fitting than Kevlar gloves.

Latex-coated gloves are water resistant. *Nitrile-coated* gloves are oil resistant and have better abrasion resistance than other coated gloves. *Polyurethane-coated* gloves offer good tactility for precision handling and delicate tasks. *PVC-coated* gloves provide a good grip in wet, dry, and oily conditions.

Glove Style	Coating Material	Lg.	Color	Choose a Size		Kevlar Pair 1-11	Kevlar Pair 12-Up	Dyneema Pair 1-11	Dyneema Pair 12-Up
Open-Fingertip Gloves									
Level 2 Cut Resistance									
Uncoated	___	9″	Yellow	S,L	6086T75	$6.29	$5.66	___	___
Dot Grip	PVC	9″	Yellow	S-L	6086T8	6.84	6.12	___	___
Level 3 Cut Resistance									
Dot Grip	PVC	9″	Yellow	S-L	6086T9	10.30	9.23	___	___
Full Gloves									
Level 2 Cut Resistance									
Uncoated	___	9½″	Yellow	S-L	6086T23	5.60	5.04	___	___
Dot Grip	PVC	9½″	Yellow	S-L	6086T34	6.35	5.69	___	___
Criss-Cross Grip	PVC	9½″	Yellow	S-L	6086T47	6.35	5.69	___	___
Palm Coated	Latex	10″	Yellow/Blue	S-XL	53545T24	11.90	10.82	___	___
Palm Coated	Nitrile	9½″	Yellow/Black	XS-XL	53545T27	7.68	7.22	___	___
Palm Coated	Polyurethane	9″	Blue	XS-2XL	9465T5	___	___	$11.26	$10.24
Palm Coated	Polyurethane	9″	Gray	XS-2XL	9465T4	___	___	12.13	10.75
Fully Coated	Nitrile	11″	Rust	L,XL	53545T25	12.36	11.60	___	___
Fully Coated	PVC	14″	Yellow/Black	M-2XL	9465T98	___	___	26.10	23.73
Level 3 Cut Resistance									
Uncoated	___	9½″	Yellow	S-L	6086T25	9.09	8.18	___	___
Uncoated—Low Lint	___	9½″	Yellow	S-L	56125T3	8.85	8.02	___	___
Dot Grip	PVC	9½″	Yellow	S-L	6086T36	10.33	9.25	___	___
Palm Coated	Polyurethane	9″	Gray/Black	XS-2XL	9465T6	___	___	12.70	11.54
Palm Coated	Polyurethane	10″	Gray/Black	S-2XL	9465T7	___	___	15.50	14.10
Fully Coated	Nitrile	11″	Black	M-XL	53545T23	11.43	10.72	___	___
Level 4 Cut Resistance									
Uncoated	___	9½″	Green	XS-2XL	6086T42	13.49	12.14	___	___
Dot Grip	PVC	9½″	Yellow	S-XL	6086T31	12.11	10.90	___	___
Leather Palm	___	9½″	Green	M-2XL	6086T33	22.67	20.40	___	___
Palm Coated	Latex	10″	White/Blue	S-XL	9465T12	___	___	17.62	16.02
Palm Coated	Nitrile	9½″	Yellow/Blue	XS-XL	53545T28	17.98	15.94	___	___
Palm Coated	Polyurethane	10″	White/Gray	XS-2XL	9465T8	___	___	18.03	16.38
Level 5 Cut Resistance									
Uncoated	___	9½″	Yellow	S-L	6086T95	10.07	9.06	___	___
Dot Grip	PVC	9½″	Yellow	S-L	6086T96	10.42	9.38	___	___
Palm Coated	Nitrile	9″	Gray	XS-2XL	9465T9	___	___	26.51	24.10
Gloves with Sleeve									
Level 2 Cut Resistance									
Uncoated	___	18″	Yellow	M,L	59495T18	16.82	15.42	___	___
Uncoated	___	22″	Yellow	M,L	59495T26	19.91	18.25	___	___

Cut-Resistant Clean Room Gloves



Handle sharp objects when contamination is a concern. These polyurethane-coated Dyneema gloves are lint free and packaged in a clean room containing fewer than 100 particles larger than 0.5 microns per cubic foot. They have a snug-fit cuff.

Cut-Resistance Level	Clean Room Class	Color	Lg.	Choose a Size		Pair
Level 2	100	Gray	9½″	XS-2XL	6223A11	$15.87

For information about gloves and sizing, see page 1794. For information about cut-resistance levels, see page 1804.

Food Service Cut-Resistant Gloves

These gloves are commonly used in meat packing and other food service environments.

Fabric—Made of interwoven fabric and stainless steel fibers, these gloves offer cut protection without sacrificing dexterity. They are washable and have a snug-fit cuff. *Uncoated* gloves are made from materials that comply with FDA regulations for food contact. *Polyurethane-coated* gloves have a non-slip coating on the palm and fingers for added grip.

Type 304 Stainless Steel Mesh—Also known as chainmail gloves, these are made of interlinked corrosion-resistant stainless steel rings. Materials comply with FDA regulations for food contact. Gloves have an open cuff.



Polyurethane-Coated Fabric



Type 304 Stainless Steel Mesh

Note: Gloves are sold individually (order two for a pair).

Cut-Resistance Level	Lg.	Color	Hand	Choose a Size		Each
Uncoated Fabric						
Level 5	11″	White	Ambidextrous	XS-XL	5558T4	$20.09
Level 5	13″	White	Ambidextrous	XS-XL	5558T1	22.20
Polyurethane-Coated Fabric						
Level 5	11½″	Green	Left	XS-XL	5558T2	28.99
Level 5	11½″	Green	Right	XS-XL	5558T3	28.99
Type 304 Stainless Steel Mesh						
Level 5	12½″	Silver	Ambidextrous	XS-2XL	5355T81	138.18

Cut- and Impact-Resistant Gloves

Bumpers on the back of these mechanic-style gloves protect your hands from impact when working in confined spaces.

Palm-coated gloves have an abrasion-resistant polyurethane coating and allow good dexterity. **Flame-resistant** gloves meet NFPA 2112 for flame resistance. **Cold-resistant** gloves are insulated, waterproof, and windproof. **Dot-grip** gloves have raised silicone dots on the palm and fingers for a good grip even when handling slippery objects. **Oil-resistant** gloves provide good grip in oily applications.



Oil Resistant

Glove Style	Material	Cuff Style	Lg.	Color	Choose a Size		Pair
Level 2 Cut Resistance							
Palm Coated	Dyneema	Snug Fit	9″	Gray	M-XL	9452T1	$22.50
Flame Resistant	Goatskin Leather	Snug Fit	11″	Orange	M-2XL	9353T5	63.62
Level 3 Cut Resistance							
Cold Resistant	Synthetic Leather	Snug Fit	11″	Orange/Yellow	S-2XL	9353T7	50.84
Level 4 Cut Resistance							
Dot Grip	Synthetic Leather	Open Cuff	9″	Red/Yellow	S-2XL	9353T6	43.78
Level 5 Cut Resistance							
Oil Resistant	Poly Blend	Snug Fit	9″	Yellow	XS-XL	9452T2	47.73

Cut- and Puncture-Resistant Gloves

Reduce the risk of cuts and punctures when handling metal with burs and other pointed objects. These gloves are reinforced on the palms with lightweight puncture-resistant material.

Puncture-resistant gloves are washable. *Synthetic leather* gloves are mechanic style and provide a good grip. *Poly blend* gloves provide full hand and forearm protection. **Needlestick-resistant gloves** are palm coated to protect against punctures from objects such as needles and syringes. They are washable.



Needlestick Resistant

Cut-Resistance Level	Material	Cuff Style	Lg.	Color	Choose a Size		Pair
Puncture-Resistant Liners							
Level 3	Fabric	Snug Fit	9½″	White	S-XL	7845T55	$24.05
Level 4	Fabric	Snug Fit	9½″	White	S-XL	7845T56	44.36
Level 5	Fabric	Snug Fit	9½″	White	S-XL	7845T57	55.76
Puncture-Resistant Gloves							
Level 5	Synthetic Leather	Hook and Loop	9¼″	Black	S-XL	7845T2	59.33
Level 5	Poly Blend	Open Cuff	18″	Gray	M-XL	7845T3	192.10
Needlestick-Resistant Gloves							
Level 5	Poly Blend	Snug Fit	9½″	Orange/White	S-XL	7845T58	67.47

Cut-Resistant Sleeves

These lightweight sleeves protect your arms from cuts without restricting movement. All are washable.

Kevlar sleeves absorb moisture. For sleeves you can cut to length, choose the 13-yd. roll. **Dyneema** sleeves are thinner, more breathable, and more form fitting than Kevlar sleeves. **Spectra/Type 304 stainless steel** sleeves are the most durable cut-resistant sleeves. **Poly blend** sleeve is puncture resistant.

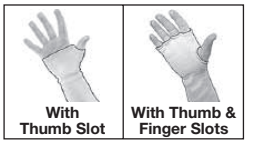

With Thumb Slot | With Thumb & Finger Slots



Cut-Resistance Level	Lg.	Color	Sleeves	Each	Sleeves with Thumb Slot	Each	Sleeves with Thumb and Finger Slots	Each
Cut-Resistant Sleeves								
Kevlar								
Level 2	13-yd. Roll	Yellow	5615T61	$68.90				
Level 4	10″	Yellow	5615T31	3.32	5615T41	$3.60	5615T51	$3.72
Level 4	14″	Yellow	5615T32	3.94	5615T42	4.22	5615T52	4.34
Level 4	18″	Yellow	5615T33	4.74	5615T43	4.94	5615T53	5.06
Dyneema								
Level 4	10″	Gray	7847T11	4.72				
Level 4	14″	Gray	7847T12	6.17				
Level 4	18″	Gray	7847T13	6.67				
Spectra/Type 304 Stainless Steel								
Level 4	10″	Gray	5617T52	22.89				
Level 4	22″	Gray	5617T53	34.34				
Cut- and Puncture-Resistant Sleeve								
Poly Blend								
Level 5	9″	Black			6222A13	41.76		

Cut-Resistant, Laser-Protection & Welding Gloves

For information about gloves and sizing, see page 1794.

Cut- and Temperature-Resistant Gloves


Heat Resistant

Protect your hands from cuts and intermittent exposure to extreme temperatures. For more information about cut-resistance levels, see page 1804.

Cold-resistant gloves remain flexible in low temperatures and have a thermal liner to keep hands warm.

Heat-resistant gloves have a wool liner for additional heat protection.

Cut-Resistance Level	Material	Max. Temp.	Cuff Style	Lg.	Color	Choose a Size		Pair
Cold Resistant								
Level 2	Nitrile-Coated Polyethylene	___	Snug Fit	10″	Gray/Black	L,XL	7623T31	$11.82
Heat Resistant								
Level 4	Kevlar	500° F	Snug Fit	12″	Yellow	L	7623T4	68.36

Laser-Protection Gloves



Guard your hands from accidental exposure to laser beams. These gloves have a laser radiation resistance of 4.7 W/cm^2 and meet EN 60825 for laser safety. They have a snug-fit cuff.

Material	Lg.	Coating	Color	Choose a Size		Pair
Dyneema	9″	Nitrile	Green/Black	S-XL	7381T1	$119.23

Welding Gloves and Pads


Comfort-Fit Cowhide Glove


Aluminized Welding Glove Pad (Shown With Glove)

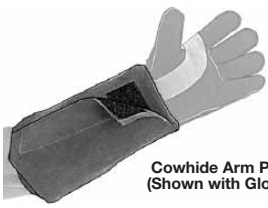
Cowhide Arm Pad (Shown with Glove)

Shield your hands and arms from welding sparks and spatter.

Gloves

These gloves have reinforced seams and fingertips to prevent burn-through. All have an open cuff.

Standard duty cowhide gloves are stitched with Kevlar threads for added strength.

Comfort-fit cowhide gloves have a soft lining. Gloves with wool lining also have an inner layer of Mylar between the wool and cowhide to protect the back of your hand from radiant heat.

Pigskin gloves remain flexible in wet and oily environments.

Elkskin gloves offer the best dexterity of the welding gloves we carry. They are insulated and remain supple even after repeated exposure to moisture and heat.

Material	Lining	Lg.	Choose a Color	Choose a Size		Pair
Light Duty Cowhide	Cotton	13″	Brown, Gray	L	5230T1	$8.65
Light Duty Cowhide	Cotton	18″	Brown	L	5230T3	16.11
Standard Duty Cowhide	Cotton/Foam	14″	Blue	S-XL	9698T2	12.10
Comfort-Fit Cowhide	Cotton	13″	Brown	S-XL	5363T3	16.11
Comfort-Fit Cowhide	Wool	13″	Brown	L	9745T8	19.80
Pigskin	Cotton/Foam	13″	Brown	S-XL	9287T2	19.79
Elkskin	Nomex	14″	Off-White	S-XL	5329T6	32.65

Pads

Aluminized welding glove pad fits over gloves for additional protection against sparks and spatter. It's made from highly heat reflective aluminized rayon and has two straps to hold it in place.

Cowhide arm pads allow you to rest your arm on a hot surface while welding. They have a hook-and-loop closure for a snug fit.

	Lg.	Wd.		Each
Aluminized Welding Glove Pad	7 1/2″	5 1/4″	5317T22	$6.46
Cowhide Arm Pad—Left	10″	6″	9698T5	21.60
Cowhide Arm Pad—Right	10″	6″	9698T7	21.60

TIG and MIG Welding Gloves


4″ Open Cuff

These gloves provide the heat resistance and dexterity needed for welding. **TIG welding** gloves are thinner and more flexible than MIG gloves. **MIG welding** gloves have better heat protection than TIG gloves.

Pigskin gloves won't stiffen when wet.

Cut-resistant pigskin gloves have Kevlar-lined palms and fingers for protection when handling sharp material. They are rated level 3 for cut resistance. For more information about cut-resistance levels, see page 1804.

Cowhide gloves provide a good balance of durability and dexterity.

Deerskin gloves are supple and more flexible than other welding gloves.

Sheepskin gloves are soft and have excellent dexterity.

Goatskin gloves are soft with good tactile sensitivity.

Material	Color	Choose a Size	2″ Open Cuff Lg.		2″ Open Cuff Pair	4″ Open Cuff Lg.		4″ Open Cuff Pair
TIG Welding								
Pigskin	Tan	S-XL	___	___	___	12″	5346T7	$17.53
Cowhide	Brown	S-L	11″	5346T9	$11.27	13″	5346T8	12.89
Deerskin	White	S-XL	10″	5346T5	11.00	12″	5346T4	12.33
Sheepskin	White	S-L	___	___	___	12″	5346T2	18.64
Goatskin	White	S-XL	10″	5346T3	18.00	12″	5346T6	19.33
Goatskin	White	S-L	11″	5346T1	18.64	___	___	___
MIG Welding								
Pigskin	Gold	S-XL	___	___	___	12″	5371T1	14.13
Cut-Resistant Pigskin	Tan	S-XL	___	___	___	12″	7298T11	22.80
Cowhide	White	S-XL	___	___	___	12″	5371T5	19.12
Deerskin	Gold	S-XL	___	___	___	12″	5371T3	17.88

Heat-Resistant Gloves

Designed for intermittent handling of hot pipes, engine parts, and castings, these gloves protect your hands from moderate heat and abrasion. Gloves are washable, except palm-coated acrylic and nitrile gloves.

Palm-coated acrylic gloves have good dexterity and a nitrile coating with embossed dots for a good grip.

Cotton gloves are soft and have reinforced knuckles for added protection.

Cotton terry cloth gloves are moisture absorbing and have an outer layer that dissipates heat.

Palm-coated cotton gloves have a nitrile coating that provides level 2 cut resistance and a good grip on oily surfaces. For more information about cut-resistance levels, see page 1804.

Nitrile gloves have a knitted interior for heat resistance. They also have a nitrile inner layer for oil and grease resistance.

Nomex gloves are breathable and cool down quickly after removal from a hot surface.


Palm-Coated Acrylic


Nomex

Max. Temp.	Cuff Style	Lg.	Color	Choose a Size		Pair
Palm-Coated Acrylic						
250°F	Snug Fit	10″	Yellow	S,L,2XL	7087T11	$3.91
Cotton						
Not Rated	Open Cuff	13″	White	L	5411T5	5.17
Cotton Terry Cloth						
250°F	Open Cuff	18½″	White	L	9155T42	9.92
325°F	Snug Fit	9½″	White	M	9155T51	3.70
450°F	Open Cuff	13″	Brown/White	XL	9155T26	17.68
Palm-Coated Cotton						
400°F	Open Cuff	10″	Gray	M-XL	56025T1	8.78
400°F	Open Cuff	14″	Gray	L,XL	56025T2	13.68
Nitrile						
480°F	Open Cuff	12½″	Black	L	9875T21	30.92
Nomex						
700°F	Snug Fit	11″	Beige	L	53385T1	52.84

Leather Heat-Resistant Gloves

Made of flexible leather, these gloves protect your hands in high-temperature applications.

Heavyweight gloves withstand longer exposure to heat than standard gloves with an extra layer of self-extinguishing fabric.

Extra-heavyweight gloves withstand even longer exposure to heat than heavyweight gloves with two layers of self-extinguishing fabric and an extra layer of wool.

Firefighter-style gloves are fire retardant and commonly used in firefighting and similar severe duty applications. They meet OSHA, CAL-OSHA, and NFPA requirements. All have a Nomex cuff. *Cowhide* gloves remain soft after repeated soakings. *Pigskin* gloves are more durable and abrasion resistant than cowhide.


Standard, Heavyweight, and Extra Heavyweight


Firefighter Style

Max. Temp.	Material	Cuff Style	Lining	Lg.	Color	Choose a Size		Pair
Standard								
500°F	Cowhide	Open Cuff	Wool	13″	Rust/Gray	XL	5331T1	$31.00
Heavyweight								
500°F	Cowhide	Open Cuff	Wool	13″	Rust/Gray	XL	5331T7	35.60
Extra Heavyweight								
500°F	Cowhide	Open Cuff	Wool	13″	Rust/Gray	XL	5331T5	35.00
Firefighter Style								
Not Rated	Cowhide	Snug Fit	Gore	13″	Blue	S-XL	5247T9	82.09
Not Rated	Pigskin	Snug Fit	Gore	13″	Tan/Blue	S-XL	5247T8	87.01

Extreme Heat-Resistant Gloves and Mitts

For protection against intermittent exposure to extreme heat during jobs such as metal forging and glass manufacturing, choose these gloves and mitts. They have a wool lining and open cuff. Size is large.

Kevlar Blend—These gloves and mitts have good dexterity. Color is yellow.

Zetex—Protect your hands from molten splashes. Color is white. *Finger cots* are one size.

PBI Kevlar Blend—Provide better abrasion resistance than the Kevlar blend. Color is gold.

Zetex Plus—These gloves and mitts have the best resistance to sparks and molten splashes. Color is tan.

Note: Holding heavy objects may decrease temperature rating.


Kevlar Blend Glove


Zetex Plus Mitt

Lg.	*1000° F* Kevlar Blend	Pair	*1000° F* Zetex	Pair	*1500° F* PBI Kevlar Blend	Pair	*1800° F* Zetex Plus	Pair	*2000° F* PBI Kevlar Blend	Pair
Gloves										
11″	9177T21	$42.80	9654T7	$43.00	5536T21	$68.50	6081T7	$61.41	5536T41	$114.17
14″	9177T22	46.80	9654T6	45.30	5536T22	82.00	6081T1	71.14	5536T42	142.00
18″	9177T23	56.20	9654T9	59.70	5536T23	91.67	6081T9	77.29	5536T43	156.17
23″	9177T24	67.80	9654T8	80.70	5536T24	108.17	———	———	5536T44	163.83
Mitts										
11″	9177T31	32.24	9654T41	34.50	5536T31	56.50	6081T42	53.02	5536T51	95.17
14″	9177T32	36.73	9654T5	39.90	5536T32	66.50	6081T4	59.07	5536T52	110.17
18″	———	———	———	———	5536T33	84.33	———	———	5536T53	127.00
Finger Cots										
Zetex (1000° F) Finger Cots—4″ Lg.									5619T57	Each $5.03

Flame-Resistant Carbon X Gloves and Sleeves

Made from the same material used in race car drivers' firesuits, these Carbon X gloves and sleeves won't ignite, burn, or melt when exposed to radiant heat and flames. They are lightweight, breathable, and moisture absorbing. All are ambidextrous.



Glove Style	Cuff Style	Lg.	Color	Size		Pair
Full Glove	Snug Fit	11″	Black	L/XL	8992T11	$25.30
Full Glove with Sleeve	———	20″	Black	L/XL	8992T21	38.20
Sleeve with Thumb Hole	———	18″	Black	———	5342T61	43.30

Heat-Resistant Sleeves & Cold-Resistant Gloves

For information about gloves and sizing, see page 1794.

Heat-Resistant Sleeves

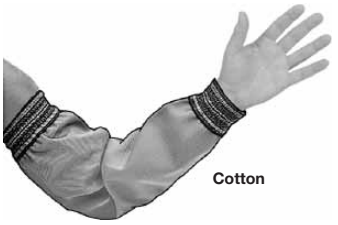

Cotton

Cotton sleeves are lightweight. They have elastic at both ends and are washable.

Leather sleeves are abrasion-resistant cowhide. All have wrist snaps; the 18″ and 23″ lengths also have arm straps.

Kevlar blend sleeves are heat and abrasion resistant. They withstand intermittent contact with surfaces up to 1000° F. All have wrist snaps; the 18″ and 23″ lengths also have arm straps.

Nomex sleeves resist heat up to 1300° F. They are designed for intermittent contact with hot surfaces.

		12″ Length		18″ Length		23″ Length	
Material	Color		Pair		Pair		Pair
Cotton	Green	5342T14	$7.20	5342T16	$8.90	5342T18	$9.90
Leather	Brown	5342T21	23.30	5342T22	26.00	5342T23	34.20
Kevlar Blend	Yellow	5342T33	21.30	5342T36	31.50	5342T39	44.00
Nomex	Off-White	—	—	—	—	5342T9	51.80

Cold-Resistant Gloves and Mitts



High-Visibility Pigskin



Water-Resistant PVC



Neoprene



Oil-Resistant PVC



Convertible Nylon Mitt

Gloves

Abrasion Resistant—A tough leather outer shell provides durability and protection against on-the-job hazards.

Cowhide gloves provide economical abrasion resistance.

Pigskin gloves won't stiffen in wet or oily environments.

Deerskin gloves have the best dexterity of the abrasion-resistant leather gloves.

Water Resistant—These gloves maintain a secure grip on wet surfaces.

Palm-coated nylon gloves have a nitrile coating that provides level 3 cut resistance. For more information about cut-resistance levels, see page 1804.

PVC gloves protect against acids and solvents.

Neoprene gloves withstand detergents and other cleaning agents.

Nylon gloves have a breathable, windproof membrane for superior cold resistance. They are form fitting and offer good dexterity.

Oil Resistant—These PVC gloves resist petroleum-based products.

Material	Cuff Style	Lining	Lg.	Color	Choose a Size		Pair
Abrasion-Resistant Leather Palm							
Cowhide—2-Layer	Open Cuff	Foam	10½″	Off-White	L	5320T65	$8.53
Pigskin	Open Cuff	Thinsulate	11″	Off-White	L	5320T8	10.11
Pigskin—4-Layer	Open Cuff	Polyester/Nylon	11″	Gold	L,XL	34025T11	13.91
Pigskin—High Visibility	Open Cuff	Polyester/Nylon	11″	Tan/Orange	M-XL	3694T2	19.82
Pigskin—High Visibility	Snug Fit	Polyester/Nylon	11″	Tan/Orange	M-XL	3694T1	20.04
Abrasion-Resistant All Leather							
Cowhide	Open Cuff	Fleece	10″	Tan	M-XL	5490T82	14.75
Deerskin	Open Cuff	Polyester/Nylon	11″	Black	M-XL	5490T47	27.30
Water Resistant							
Palm-Coated Nylon	Snug Fit	Acrylic	12″	Black	M-2XL	7173T11	6.56
PVC	Open Cuff	Acrylic	12″	Blue	L	5438T7	15.00
Neoprene	Hook and Loop	Foam	10″	Black	L,XL	5863T7	35.83
Nylon—Mechanic Style	Hook and Loop	Thinsulate	10″	Black	S-2XL	9167T11	57.73
Oil Resistant							
PVC	Open Cuff	Foam	12″	Orange	L	5438T9	8.98

Mitts

Convertible mitts can be worn as mitts or open-fingertip gloves.

Hand warmer pads can be placed inside gloves and mitts for ten hours of warmth.

Material	Cuff Style	Lining	Lg.	Color	Choose a Size		Pair
Nylon—Convertible	Snug Fit	Fleece	10″	Black	L,XL	1542A2	$23.86
Hand Warmer Pads—2″ x 3½″ (Pkg. of 2)					42295T21	1-5 $0.80	6-Up $0.73

Extreme Cold-Resistant Gloves



14″ Length

Keep your hands warm in temperatures as low as –250° F without sacrificing dexterity. These gloves are insulated with multiple layers of nylon and can be used to handle dry ice. They also have a breathable water-resistant liner. Color is blue.

Lg.	Cuff	Choose a Size		Pair
12″	Snug Fit	S-XL	5608T7	$114.35
14″	Open Cuff	S-XL	5608T1	122.51
18″	Open Cuff	S-XL	5608T8	152.47

Thermal Glove Liners



Wear under gloves to keep hands warm and dry while you work. Made from Dacron polyester fibers, these form-fitting liners seal in warm air and wick away moisture. They are ambidextrous and have a snug-fit cuff.

				Pair	
Lg.	Color	Size		1-11	12-Up
9½″	White	One Size	53415T4	$4.03	$3.80

Footwear Size Conversion Chart

Men's Whole	5		6		7		8		9		10		11		12		13		14		15	
Men's Half	5	5½	6	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12	12½	13	13½	14	14½	15	15½
Women's	7	7½	8	8½	9	9½	10	10½	11	11½	12	12½	13	13½	14	14½	15	15½	16	16½	17	17½

Work Shoes and Boots



General Purpose and Chemical-Resistant 6″ PVC



General Purpose 16″ PVC



General Purpose Leather



Chemical-Resistant Premium PVC/ Polyurethane



Heat Resistant



Cold Resistant

Before you step into your work area, make sure you have the right footwear. These shoes and boots come in whole sizes, unless noted. Order your normal shoes size, except order one size up for Insulated Leather Boots.

Safety toe styles meet ASTM F2413-11. Toe is steel, except insulated leather has a composite safety toe. *Steel shanks* provide additional support for demanding work such as ladder climbing. *Fiberglass shanks* and *composite midsoles* are similar in strength to steel but lighter in weight. *Steel midsoles* provide protection from punctures when working around glass, nails, and scrap metal.

General Purpose—The economical choice for keeping your feet dry in water and mud. *Rubber* is abrasion resistant. *Leather* is flexible. *PVC/Polyurethane* is more durable than PVC.

Chemical Resistant—*Premium PVC/Polyurethane* has better chemical resistance than PVC/polyurethane. *Neoprene rubber* holds up when exposed to petrochemicals, animal fats, and some acids.

Heat Resistant—Also known as firefighters' boots, these insulated rubber boots provide the heat protection and durability required by firefighters. The uppers are foam insulated. Boots meet OSHA 29 CFR 1910.136 and 1910.156. They are UL certified to NFPA 1971 standard for structural firefighting.

Cold Resistant—These insulated leather boots have waterproof rubber bottoms and multiple-layer insulation.

Ht.	Features	Color	Choose a Whole Shoe Size	Plain Toe	Pair	Safety Toe	Pair
General Purpose							
PVC							
6″	Steel Shank	Black	Men's 6-13			50615T42	$32.80
14″		White	Women's 5-10	5061T6	$26.22		
16″		Black	Men's 6-14	5311T5	19.16	5311T17	22.38
16″	Steel Shank	White	Men's 6-13	5311T7	26.22	5311T9	29.58
PVC/Polyurethane							
10″		Black	Women's 5-10			1468N2	43.46
Rubber							
16″	Steel Shank	Black	Men's 7-13			5266T3	60.00
Leather							
5½″	Fiberglass Shank	Black	Men's 7½-13★			9691T7	180.00
Chemical Resistant							
PVC/Polyurethane							
6″	Steel Shank	Black	Men's 6-13			52865T1	34.82
15″	Steel Shank	Black	Men's 5-15	5547T3	29.86	5547T5	33.14
16″	Steel Midsole	Black	Men's 6-15			56085T3	65.12
Premium PVC/Polyurethane							
16″	Steel Shank	Brown	Men's 6-15	5454T1	80.92	5454T2	84.22
Neoprene Rubber							
12″		Brown	Men's 5-13	52325T2	99.00	52325T4	108.50
16″		Brown	Men's 5-13	52325T6	107.00	52325T8	111.00
Heat Resistant							
Insulated Rubber—Protects to 500°F							
15″	Steel Shank	Black	Men's 5-15▲			9133T7	231.67
Cold Resistant							
Insulated Leather—Protects to –148°F							
13″	Composite Midsole	Black	Men's 7-15			1740T11	242.16

★ Available in ½ sizes, except 12½. ▲ Available in ½ sizes.

Waders

Keep dry when you're in deep water, mud, and sludge. All waders fit over socks. Lengths are approximate and measured from the bottom of the heel to the top of the wader. *Steel toe* style meets ASTM F2413-11 for impact and compression. *Steel shank* provides additional support for demanding work such as extensive ladder climbing. *Steel midsole* provides extra protection when working around glass, nails, and scrap metal. Meets ASTM F2413-11 and CSA Z195-09, Grade 1 for puncture resistance.

Hip Waders—Provide protection to mid-thigh. All have adjustable straps with snaps that loop through your belt for a secure fit.

Chest Waders—All have adjustable suspenders. *General purpose rubber* waders have insulated boots. *Insulated neoprene* waders have insulation throughout. Knees and seat are reinforced.

Material	Toe	Features	Color	Seam Lg. Inner	Seam Lg. Outer	Choose a Whole Shoe Size		Pair
Hip Waders								
General Purpose Rubber	Steel	Steel Shank	Black	30″	36″	Men's 7-14	5268T64	$99.24
Oil-Resistant PVC	Plain		Black	32″	35″	Men's 7-13	51955T11	89.00
Oil-Resistant PVC	Steel		Black	32″	35″	Men's 7-13	51955T22	92.32
Oil-Resistant PVC	Steel	Steel Midsole	Black	32″	35″	Men's 8-13	51955T44	124.50
Chest Waders								
General Purpose Rubber	Steel	Steel Midsole	Dk. Green	31″	52″	Men's 6-14	5268T81	164.56
Oil-Resistant PVC	Plain	Steel Shank	Black	32″	57″	Men's 7-13	51955T33	146.22
Oil-Resistant PVC	Steel	Steel Midsole	Black	32″	57″	Men's 8-13	51955T55	182.72
Insulated Neoprene	Plain		Brown	32″	49″	Men's 7-13	56035T7	178.01
Replacement Nylon Adjustable Suspenders (Brown) for Rubber Chest Waders							5268T62	19.58
PVC and Rubber Repair Kit							5268T32	13.00



Hip Waders

Overshoes


Pull-On Rubber


Buckle Closure Rubber


Pull-On PVC


Pull-On with Sure-Grip Soles


Snap Closure


Strap Closure

All overshoes have skid-resistant soles. **Buckle closure with high-traction treads** have a deep hex-tread sole. **Pull-on overshoes with sure-grip soles** are coated with an aluminum-oxide grit for increased traction in slick conditions.

All overshoes come in whole sizes. Order your normal shoe size unless wearing with large boots, then order one size up. **Strap-closure overshoes** need to be ordered two sizes up. For a size conversion chart, see page 1809.

Ht.	Color	Choose a Whole Shoe Size		Pair
General Purpose Rubber				
Pull-On				
3″	Black	Men's 7-14	53745T17	$20.40
Buckle Closure				
11″	Black	Men's 7-15	5629T447	54.55
14″	Black	Men's 7-15	5629T662	56.36
Buckle Closure with High-Traction Treads				
5″	Black	Men's 6-16	5629T333	54.29
Oil-Resistant PVC				
Pull-On				
4″	Black	Men's 6-15	5647T5	19.28
Pull-On with Sure-Grip Soles				
4″	Black	Men's 4-16	52905T9	62.64
Snap Closure				
10″	Black	Men's 6-15	5300T4	22.80
10″	Yellow	Men's 6-15	5300T6	22.80
17″	Black	Men's 6-15	53935T9	28.25
Strap Closure				
17″	Black	Men's 7-15	51995T35	33.50
17″	Yellow	Men's 7-15	51995T21	33.50

Protective Epoxy for Boots



Extend the life of your boots. Epoxy dries to an abrasion-resistant, flexible layer that permanently bonds to almost any surface. One applicator is enough to coat the toes on one pair of boots.

Choose a Color		Pair
Black, Brown, Tan	2344T5	$26.88

Boot and Glove Drying Racks


Boot Rack


Glove Rack

PVC-coated steel rack resists acids and solvents.

	Ht.	Wd.	Dp.	Epoxy-Coated Steel		PVC-Coated Steel	
Boot Rack	4½″	35¼″	10½″	1042T6	$36.65	1042T1	$39.81
Glove Rack	14″	22″	5¼″	1042T8	36.79	1042T2	42.48

Shin and Ankle Guards


Impact-Resistant Shin and Knee Guards


Welding Shin and Foot Guards


Welding Ankle and Foot Guards

Impact-resistant shin and knee guards have attached knee pads with a slip-resistant rubber cap. They secure with buckle closures.

Welding shin and foot guards protect from sparks and welding spatter. Also known as leggings, they're abrasion and tear resistant. A spring-tension frame keeps them securely in place.

Welding ankle and foot guards protect from sparks and welding spatter. Also known as spats, they have a snap-button closure and adjustable instep strap.

	Ht.	Color		Pair
Impact-Resistant Shin and Knee Guards				
Nylon with Foam Insert	17″	Black	5528T9	$27.91
Welding Shin and Foot Guards				
Kevlar	14″	Yellow	5528T1	67.79
Kevlar with Leather Foot	14″	Yellow	5528T3	67.79
Welding Ankle and Foot Guards				
Leather	10″	Gray	9680T2	28.04

Ice Grippers


Heavy Duty

Find your footing on icy surfaces. Grippers have steel studs and fit over your shoes and boots.

Standard Duty—The rubber harness stretches over shoes and boots. Grippers have four studs on the front and two on the heel.

Heavy Duty—17 studs on each gripper dig in and hold tight. They have adjustable hook-and-loop straps.

	Closure	Choose a Shoe Size		Pair
Standard Duty	Pull-On	Men's 7½-11	5440T8	$30.56
Heavy Duty	Hook and Loop	Men's 5-14½	5408T4	47.50
Repl. Studs for Heavy Duty (Pkg. of 50)			5408T21	7.69

Socks

Socks are crew length. **General purpose** are cotton and nylon. **Cold weather** are wool blend.

	Color	For Shoe Size	Pkg. Qty.		Pkg.
General Purpose	White	Men's 5-9	3 pairs	6588T61	$17.75
General Purpose	White	Men's 9-12	3 pairs	6588T71	17.75
Cold Weather	Charcoal	Men's 9-12	1 pair	6588T41	16.25

Shoe and Boot Laces

	Black	Pair	Brown	Pair	Brown/Yellow	Pair
27″ Cotton	5223T113	$1.54				
54″ Nylon	5223T772	1.80	5223T771	$1.80	5223T775	$1.80
72″ Nylon	5223T776	2.06	5223T774	2.06	5223T777	2.06
72″ Leather			5223T335	4.88		

Shoe and Boot Insoles

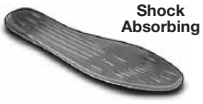
Shock Absorbing


Puncture Resistant

Add flexible comfort and protection to your shoes and boots.

Shock-absorbing insoles are polyurethane and have a treated top layer to reduce odors.

Puncture-resistant insoles are 0.02″ thick Type 301 stainless steel under a 1/16″ thick foam pad. Meet ASTM F2413.

To Order: For shock-absorbing insoles, please specify whole or half size. For puncture resistant insoles, please specify whole size.

	Choose a Shoe Size		Pair
Shock Absorbing	Women's 4½-12, Men's 5-15	5451T4	$27.45
Puncture Resistant	Men's 7-15	5208T1	29.90

Toe and Foot Guards


Light Duty Toe Guard


Light Duty Toe/Foot Guard


Heavy Duty Toe Guard


Heavy Duty Foot Guard


Heavy Duty Toe/Foot Guard


Heavy Duty Overshoe


Heavy Duty Overshoe for Work Boots

	Material	Protection Lg.	Protection Wd.	Choose a Shoe Size	Protectors	Pair	Repl. Straps	Pair
Light Duty								
Toe Guards (Women's)	Plastic	3 3/4"	4"	One Size	5282T21	$23.27	5282T19	$3.32
Toe Guards (Men's)	Plastic	3 1/4"	4 1/4"	One Size	5282T22	27.73	5282T19	3.32
Toe/Foot Guards	Plastic	5 1/2"	4 1/2"	One Size	5282T23	39.18	5282T19	3.32
Heavy Duty—Meet ASTM F2413-11; protect from blows up to 75 ft.-lbs.								
Toe Guards	Steel	3 5/8"	4 1/2"	One Size	5397T11	34.54	5397T12	6.00
Foot Guards	Aluminum	5 1/4"	5 3/4"	One Size	6090T71	32.11	6090T85	5.38
Toe/Foot Guards	Aluminum	7 1/2"	5 1/2"	One Size	5404T23	48.15	5404T15	6.23
Toe/Foot Guards	Aluminum	7 1/2"	6 1/2"	One Size	5404T43	62.34	5404T16	6.99
Overshoes with Toe Guards	Steel/Rubber	2 1/2"	3 1/2"	Men's 7-13	4606T21	33.28		
Overshoes with Toe Guards for Work Boots	Steel/Rubber	4"	4 1/2"	Men's 5-19	4606T23	54.48		

Knee Pads


General Purpose Foam Rubber


General Purpose Leather


Protective Cap and Impact Resistant


Hinged


Gel-Filled Easy Slide


Gel-Filled Nonslip

General Purpose—Ergonomically designed for a secure fit. *Foam rubber* pads offer some flexibility. Heavy duty pads have an added layer of rubber for longer life. *Leather* pads have a tough exterior and a rivet-reinforced inner layer of water-resistant felt.

Protective Cap—*Easy-slide plastic* allow movement with little resistance on hard surfaces. *Nonslip rubber* provides traction on wet surfaces. *Nonmarring rubber* won't mark or scuff surfaces. *Flame-resistant plastic* have a flame-retardant cotton lining.

Impact Resistant—The thick cap can take hard knocks from rocks and debris. The neoprene foam padding absorbs shock and a liner wicks away moisture.

Hinged—Provides protection without sacrificing mobility. These pads not only guard the knee cap but also protect above and below the knee. Pads have a hard plastic outer shell with nonskid strip and are cushioned with foam rubber.

Gel Filled—A gel center reduces fatigue during long jobs. *Easy-slide plastic* allow movement with little resistance on hard surfaces. *Nonslip nylon* provide traction on slippery surfaces.

	Padding Thick.		Pair
General Purpose			
Light Duty Foam Rubber	5/8"	9688T41	$12.02
Heavy Duty Foam Rubber	3/4"	9688T45	21.43
Abrasion-Resistant Leather	1/2"	7630T14	22.50
Protective Cap			
Easy-Slide Plastic	1/2"	52695T21	22.92
Nonslip Rubber	1/2"	52695T22	22.92
Nonmarring Rubber	1/2"	52695T23	22.92
Flame-Resistant Plastic	1/2"	52695T28	26.40
Impact Resistant			
Shock-Absorbing Rubber	1/2"	6232A11	35.42

	Padding Thick.		Pair
Hinged			
Nonslip/Nonmarring Plastic	1/2"	51975T21	$40.09
Repl. Nonskid Strips (Pkg. of 2)		51975T34	9.50
Repl. Straps (4) and Clips (4)		51975T33	18.62
Gel Filled			
Easy-Slide Plastic	1/2"	52695T31	34.50
Nonslip Nylon	1 1/4"	3004T11	47.79
Abrasion-Resistant Leather	1/2"	7630T23	47.70

Foam Kneeling Pads

The 36" Lg. x 18" Wd. pad is large enough to lie on for back support when working under vehicles or equipment.



Lg.	Wd.	Thick.		
21"	14"	1"	7756T11	$31.91
28"	16"	1"	7756T12	50.92
36"	18"	1"	7756T13	66.08

Elbow Pads

Covered with abrasion-resistant black nylon fabric, these foam-rubber pads have nonslip rubber caps and brass grommets. Secure with the hook-and-loop straps. One size fits most.



56285T83 Pair $30.20

Cut-Resistant Chaps

Protect your legs from injuries. Each leg has padded protection on the front and left side. Chaps have a zippered front pocket. Color is orange. Meet ASTM F1897-08 leg protection standards for chain saw users.

Lightweight chaps are made of nylon and have quick-release buckles.

Heavyweight chaps are made of Cordura nylon. They have three sets of leg straps with buckles.



Lg.	Lightweight		Heavyweight	
33"	5286T12	$99.43	5286T21	$129.09
36"	5286T13	99.43	5286T22	129.09

Sizing Guidelines for Disposable Clothing

This chart is a general guideline for sizing. Proper fit varies with individual body shape and underclothing.

Size	Height	Weight
S	5′0″-5′7″	90-125 lbs.
M	5′2″-5′7″	125-160 lbs.
L	5′5″-5′10″	140-200 lbs.
XL	5′7″-6′2″	150-220 lbs.
2XL	5′11″-6′4″	180-240 lbs.
3XL	6′2″-6′5″	230-280 lbs.
4XL	6′4″-6′8″	240-300 lbs.
5XL	6′7″-6′11″	260-330 lbs.

Disposable Clothing

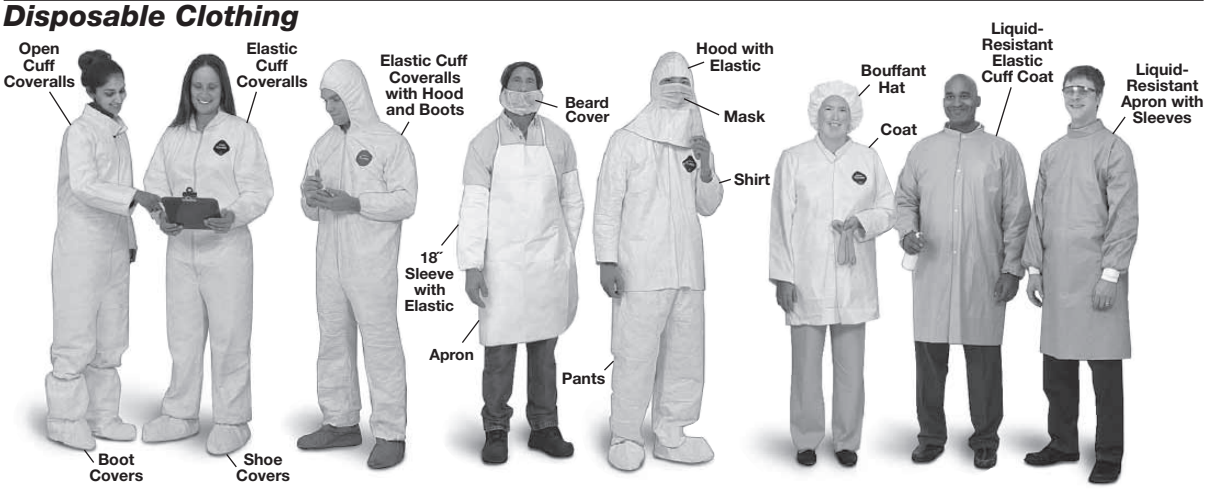

Dirt- and Dust-Resistant Clothing

Breathable to keep you cool and comfortable, this clothing protects against dirt and grime. Pants have an elastic waist. Shirt and coats have a snap front.

Abrasion-resistant Tyvek is made of heat- and pressure-bonded olefin fibers that form a barrier that's soft yet strong. Tyvek resists liquid splashes but is not recommended for continuous liquid exposure.

Tear-resistant Kleenguard has three layers of antistatic polypropylene for abrasion resistance and durability. It also protects from liquid splashes.

Light duty polypropylene offers economical protection in environments where abrasion resistance and liquid splashes are not a concern.

		Abrasion-Resistant Tyvek				Tear-Resistant Kleenguard				Light Duty Polypropylene			
	Color	Choose a Size	Pkg. Qty.		Each	Choose a Size	Pkg. Qty.		Each	Choose a Size	Pkg. Qty.		Each
Garments													
Open Cuff Coveralls	White	M-4XL		5231T31	$5.41	L-2XL		52245T58	$4.22	S-4XL		54525T5	$2.33
Elastic Cuff Coveralls	White	M-5XL		5231T35	6.67	M-2XL		52245T47	7.48	S-4XL		54525T7	2.51
Elastic Cuff Coveralls with Hood	White	M-3XL		5231T37	6.73	M-2XL		52245T52	7.89				
Elastic Cuff Coveralls w/ Hood and Boots	White	M-3XL		5231T39	8.65	L-2XL		52245T53	8.64				
Apron (28″×36″)	White	One Size		5584T19	1.70					One Size		5593T48	.77
Pants	White	M-3XL		5584T16	4.88	M-2XL		52245T54	3.03				
Shirt	White	M-3XL		5584T15	5.96	M-2XL		52245T55	3.87				
Coat	White	M-3XL		5584T12	6.50	M-5XL		52245T56	4.23				
Coat with Pockets	White	M-3XL		5584T13	6.57	M-2XL		52245T57	4.23	S-5XL		5593T11	2.36
Accessories			Pkg.				Pkg.				Pkg.		
Hood with Elastic	White	One Size	10	5583T12	$15.78	One Size	5	52245T61	$14.83	One Size	20	5357T6	$14.48
Bouffant Hat	White	One Size	10	5583T17	15.33	One Size	50	54165T74	19.69				
Earloop Mask	Light Blue									One Size	50	54435T31	7.00
Mask	Light Blue									One Size	50	54435T33	7.90
Beard Cover	White									One Size	100	5357T16	6.57
18″ Lg. Sleeve with Elastic Cuffs	White	One Size	10 pr.	5583T18	15.94	One Size	5 pr.	52245T59	12.58	One Size	20 pr.	5357T8	10.25
Shoe Covers	White	One Size	10 pr.	5583T22	15.34	One Size	10 pr.	54165T78	10.61				
Nonskid Shoe Covers	Gray	One Size	5 pr.	5583T24	9.58								
13″ Ht. Boot Covers	White					One Size	5 pr.	52245T62	16.92	One Size	20 pr.	5357T12	12.34
18″ Ht. Boot Covers	White	One Size	5 pr.	5583T26	12.40								
18″ Ht. Nonskid Boot Covers	Gray	One Size	5 pr.	5583T21	14.22								

Chemical-Resistant Clothing

Chemical-resistant Tychem QC clothing is polyethylene-coated for splash protection from inorganic acids and bases.

Ultra-chemical-resistant Tychem SL clothing is film-laminated and offers additional protection from concentrated acids and alkalies as well as most other chemicals.

		Chemical-Resistant Tychem QC			Ultra-Chemical-Resistant Tychem SL		
	Choose a Size	Color		Each	Color		Each
Garments							
Open Cuff Coveralls	M-4XL	Yellow	5224T2	$12.52	White	5969T71	$27.34
Elastic Cuff Coveralls	M-4XL	Yellow	5224T4	13.11	White	5969T73	33.01
Elastic Cuff Coveralls with Hood and Boots	M-4XL	Yellow	5224T9	16.61	White	5969T75	36.27
Accessories							
18″ Yellow Chemical-Resistant Polycoated Tychem QC Sleeves with Elastic Cuffs (Pkg. of 5 pairs)						54365T5	18.18

(Continued on following page)

Disposable Clothing *(Continued from previous page)*

Liquid-Resistant Clothing

Liquid- and dirt-resistant coated polypropylene clothing has a polyethylene coating for durability. It is nonlinting.

Breathable liquid- and dirt-resistant polypropylene clothing is vented in the back, so it only provides frontal protection.

Liquid- and tear-resistant poly blend clothing is made of a specially treated wood pulp and fabric blend to protect against blood and other bodily fluids. It offers some breathability.

	Liquid- and Dirt-Resistant Coated Polypropylene				Breathable Liquid- and Dirt-Resistant Polypropylene				Liquid- and Tear-Resistant Poly Blend			
	Color	Choose a Size		Each	Color	Choose a Size		Each	Color	Choose a Size		Each
Garments												
Open Cuff Coveralls	White	S-3XL	6642T2	$3.04	White	S-5XL	7771T1	$4.88				
Elastic Cuff Coveralls	White	S-3XL	6642T4	3.23					Light Blue	S-4XL	54395T2	$8.13
Elastic Cuff Coveralls with Hood	White	S-3XL	6642T6	3.36	White	S-4XL	7771T2	5.83				
Elastic Cuff Coveralls with Hood and Boots	White	S-3XL	6642T8	3.51								
Elastic Cuff Coat									Light Blue	S-4XL	54395T1	6.60
Apron with Sleeves									Light Blue	S-2XL	54395T3	6.67
Accessories												Pair
Shoe Covers									Light Blue	One Size	54395T4	$1.79

Flame-Resistant Clothing

Made of a self-extinguishing material that meets NFPA 701, this clothing is also breathable and resists tearing.

	Color	Choose a Size		Each
Open Cuff Coveralls	Light Blue	S-5XL	8371T11	$6.57
Elastic Cuff Coveralls	Light Blue	S-5XL	8371T12	7.13
Elastic Cuff Coveralls with Hood	Light Blue	S-5XL	8371T13	7.53
Elastic Cuff Coveralls with Hood and Boots	Light Blue	S-5XL	8371T14	8.04

Clean Room Clothing

Class 10 clothing is for use in a clean room containing fewer than 10 particles larger than 0.5 microns in each cubic foot of air space. *Class 100* clothing is for use in a clean room containing fewer than 100 particles larger than 0.5 microns in each cubic foot of air space. *Class 1000* clothing is for use in a clean room containing fewer than 1000 particles larger than 0.5 microns in each cubic foot of air space. Color is white for all.

Disposable Tyvek—Individually polybagged to meet clean room standards, this clothing provides light splash protection from nonhazardous liquids, plus it's breathable and low-linting. It meets Federal Standard 209E for airborne particle count levels. Coveralls have a zipper front and elastic wrists and ankles. Coat has a snap front with elastic wrists. Hood has side ties. Boot covers have a PVC sole, elastic tops, and ties at the ankles.

Washable Polyester—Provides acid and alkali splash protection that's launderable to meet clean room standards and must be laundered prior to first use. Coveralls have a zipper front, knit cuffs, and snap closures on the neck and ankles. Coat has a military collar with snap front and wrist closures. Hood comes with a detachable face cover.



	Choose a Size	Disposable Tyvek Class		Each	Washable Polyester Class		Each
Garments							
Elastic Cuff Coveralls	S-2XL	100	53075T3	$12.22			
Knit Cuff Coveralls	S-2XL				10	5019T32	$113.88
Coat	S-2XL	100	53075T5	11.50	1000	5019T21	40.38
Accessories							
Open Face Hood	One Size	100	53075T7	3.99			
Hood with Face Cover	S-XL				100	5019T28	32.88
18″ Ht. Boot Covers	One Size	100	53075T9	Pair $5.17			

Disposable Hats and Hairnets

Size	Choose a Color	Pkg. of 100	
Bouffant Hats—Polypropylene			
21″	Blue, Green, Red, White, Yellow	5357T1	$5.67
Hairnets—Polyester			
20″	Black, Brown, White	9101T14	15.45
24″	Black, Brown, White	9101T69	16.66


Bouffant Hat

Disposable Hoods

Also known as a painters' spray sock, this breathable cotton hood protects you from paint and dust.

Color	Pkg. of 6	
Off-White	52445T11	$8.74



Bulk Disposable-Clothing Dispensers


Single-Compartment Clear Plastic


Double-Compartment Clear Plastic


Corrosion-Resistant Stainless Steel

Ht.	Wd.	Dp.	Clear Plastic		Corrosion-Resistant Stainless Steel	
Single Compartment						
11″	12¼″	5¾″	7748T11	$128.40	7748T17	$296.00
17″	12¼″	5¾″	7748T19	136.67	7748T18	326.60
Double Compartment						
11″	12¼″	5¾″	7748T12	150.40		
17″	12¼″	5¾″	7748T15	158.96		
Triple Compartment						
11¼″	17½″	6″	7748T13	180.40		
17″	18¼″	5¾″	7748T16	206.40		

Liquid-Repellent Aprons & Disposable Overshoes

Liquid-Repellent Aprons



Disposable
Light Duty Polyethylene



Disposable
Clean Room Coat Style



Water
Resistant



Acid-Resistant
PVC Coated



Acid-Resistant
PVC



Acid-Resistant and
Oil-Resistant Coat Style

Disposable—Provide basic protection from liquid splashes. *Light duty polyethylene* is commonly used in food-preparation environments. Material complies with FDA regulations for food contact. *Standard polyolefin* resists chemicals and abrasion. *Clean room coat style polyolefin* are individually bagged to meet Class 100 clean room standards. They're chemical resistant and have elastic cuffs.

Water Resistant—Also handle mild acids.

Acid Resistant— *Acrylic/nitrile blend* won't crack in the cold and withstands lacquers and caustic chemicals. *PVC-coated polyester* provides longer life than PVC alone.

Oil Resistant—*Nitrile-coated cotton* and *polyester* also resist solvents and grease. *Neoprene-coated nylon* also resists alkalies and caustic chemicals; material complies with FDA regulations for food contact.

Flame Resistant—Made of flame retardant materials that comply with California Fire Marshal specifications F-121.2.

Cold Resistant—For applications involving exposure to extremely cold materials, such as cryogenic processes.

Wd.	Lg.	Thick., mils	Color	Pkg. Qty.		Pkg. 1-5	Pkg. 6-Up
Disposable							
Light Duty—Polyethylene							
28″	46″	1.5	White	25	9738T81	$9.11	$9.11
Light Duty—Textured Polyethylene							
28″	46″	1.25	White	100	9738T12	33.60	29.86
28″	46″	1.75	White	100	9738T82	44.29	39.37
						Each	
Standard—Polyolefin						1-5	6-Up
35″	45″	4	White	—	5975T21	$1.93	$1.72
35″	45″	6	White	—	5975T22	2.67	2.38
35″	45″	8	White	—	5975T23	4.14	3.70
Clean Room Coat Style—Polyolefin							
27″	45″	4	Blue	—	6228A11	8.18	7.27
28″	49″	4	Blue	—	6228A12	9.23	8.20

Wd.	Lg.	Thick., mils	Color		Each 1-5	Each 6-Up
Water Resistant						
Standard—Rubber-Coated Cotton Blend						
24″	36″	18	Black	5251T1	$16.38	$14.89
35″	45″	18	Black	5251T2	20.22	18.38
Acid Resistant						
Standard—Acrylic/Nitrile Blend						
33″	45″	19	Yellow	5248T3	20.67	18.98
Standard—PVC-Coated Polyester						
33″	45″	20	Yellow	5254T22	19.57	17.69
Reinforced Stomach—PVC						
33″	44″	18	Green	53445T72	6.95	6.04
33″	49″	18	Green	53445T76	7.38	6.41
Reinforced Stomach—PVC-Coated Polyester						
33″	45″	20	Yellow	5254T23	22.34	20.19

Wd.	Lg.	Thick., mils	Color		Each 1-5	Each 6-Up
Acid Resistant (Cont.)						
Reinforced Straps and Ties—PVC						
27″	42″	4	Clear	5250T12	$6.56	$5.90
27″	44″	20	Clear	5250T9	12.22	11.00
36″	48″	8	Clear	5250T4	9.44	8.50
36″	48″	12	Clear	5250T8	11.78	10.60
36″	48″	20	Clear	5250T17	14.78	13.30
Coat Style—PVC						
S	48″	8	Blue	50085T12	15.80	14.22
M	53″	8	Blue	50085T13	15.80	14.22
L	54″	8	Blue	50085T14	15.80	14.22
XL	54″	8	Blue	50085T15	15.80	14.22
2XL	54″	8	Blue	50085T16	15.80	14.22
Oil Resistant						
Standard—Nitrile-Coated Cotton Blend						
29″	35″	16	Black	5246T11	21.33	19.20
35″	45″	16	Black	5246T12	22.56	20.30
Reinforced Stomach—Nitrile-Coated Polyester						
35″	48″	23	Yellow	5553T1	42.81	38.53
Coat Style—Neoprene-Coated Nylon						
S	50″	12	Yellow	50075T12	96.38	87.62
M	50″	12	Yellow	50075T13	96.38	87.62
L	50″	12	Yellow	50075T14	96.38	87.62
XL	50″	12	Yellow	50075T15	96.38	87.62
Flame Resistant						
Standard—PVC-Coated Polyester						
35″	48″	18	Green	11395T43	20.70	19.03
Cold Resistant						
Heavy Duty—Nylon						
24″	36″	—	Blue	7753T11	171.38	155.80
24″	42″	—	Blue	7753T12	188.02	170.92
24″	48″	—	Blue	7753T13	204.63	186.03
24″	54″	—	Blue	7753T14	221.28	201.17

Disposable Overshoes



Latex

Latex overshoes resist acids, alcohol, and salts. They have a nonslip sole.

Polyethylene overshoes are commonly used in food-preparation environments. Material complies with FDA regulations for food contact.

Material	Ht.	Thick., mils	Color	Choose a Size		Pair 1-11	Pair 12-Up
Latex	12″	23	Yellow	Men's 7-16	52315T5	$8.38	$7.44
						Box of 50 1-5	Box of 50 6-Up
Polyethylene	18¼″	3	Clear	One Size	9670T3	$22.68	$20.32

Shop Aprons

Cotton-denim and **cotton duck** aprons are breathable and resist light abrasion. *Swing bib pocket* swings out from the bottom to prevent items from falling out when you bend over.

Extra abrasion-resistant leather is extremely durable.

Heat-resistant Kevlar protects against incidental contact with hot surfaces up to 600° F. It's also cut and abrasion resistant.

Flame-resistant carbonized fiber also provides abrasion and electrical resistance.

Cut- and puncture-resistant poly blend provides ANSI/ISEA Level 5 protection from cuts and punctures.



Cotton Denim



Cotton Duck Bib and Waist Pocket



Cotton Duck 16 Pocket



Cut- and Puncture-Resistant Poly Blend

Pocket Style	Wd.	Lg.	Color		1-5	6-Up
Cotton Denim						
Two-Compartment Bib Pocket	28″	36″	Blue	5256T7	$6.91	$6.13
Swing Bib and Waist Pocket	28″	36″	Blue	5256T8	7.45	6.60
Swing Bib and Waist Pocket	28″	42″	Blue	5257T4	9.88	8.59
Cotton Duck						
Bib and Waist Pocket	29″	39″	Beige	5256T3	8.89	7.89
Swing Bib and Waist Pocket	29″	39″	Beige	5257T3	11.12	9.67
16 Pocket	23″	20″	Gray	5256T23	24.91	22.46
Abrasion-Resistant Leather						
Bib Pocket	22″	36″	Gray	5265T22	31.05	28.55

Pocket Style	Wd.	Lg.	Color		1-5	6-Up
Extra Abrasion-Resistant Leather						
Bib Pocket	22″	36″	Tan	5265T12	$52.81	$48.55
Heat-Resistant Kevlar						
No Pocket	24″	39″	Yellow	9173T4	47.02	43.23
Flame-Resistant Carbonized Fiber						
No Pocket	24″	36″	Black	9543T11	67.82	61.15
Cut- and Puncture-Resistant Poly Blend						
No Pocket	20″	22″	Gray	9173T1	189.27	173.50
No Pocket	20″	30″	Gray	9173T2	207.53	190.23

Coveralls

These coveralls are roomy to fit over your work clothes.

When measuring chest size, measure around the fullest part of your chest. Take all measurements over any clothing you expect to wear under the garment.

Dirt and Dust Resistant—*Cotton/polyester blend* is more durable than cotton. Coveralls have brass buttons, seven pockets, and a brass two-way front zipper. *Cotton* is breathable to keep you cooler. Coveralls have brass buttons and seven pockets.

Static Control—Protects sensitive equipment from electrostatic discharge. The surface resistivity is 10^{10} ohms. Coveralls have a nylon front zipper, elastic waist, and seven pockets.

Flame Resistant—*Cotton* is sewn with Nomex threads and treated to provide basic flame resistance as well as good breathability. It meets NFPA 70E for electrical safety. Coveralls have a two-way brass front zipper and five pockets. They also have two hip slits and snap-closure cuffs. *Cotton/nylon blend* is soft yet wear resistant. It meets NFPA 70E for electrical safety. Coveralls have a hook-and-loop front closure and six pockets. *Nomex* provides excellent heat protection and will not ignite, melt, or burn. It meets NFPA 2112 for industrial personnel. Coveralls have a brass two-way front zipper, two hip slits, and six pockets.

To Order: For monogrammed coveralls, please specify block or script lettering. A maximum of 24 characters on two lines with 12 characters per line is embroidered in white (except white coveralls have a dark blue monogram). Personal names are over the left chest pocket; company names are over the right chest pocket.



Short-Sleeve Coveralls



Long-Sleeve Coveralls

Sleeve Type	Material	Choose a Color	Choose a Chest Size	Plain		Monogrammed	
Dirt and Dust Resistant							
Short	Cotton/Polyester Blend	Dark Blue	34″-56″ Regular; 40″-56″ Long	60725T73	$37.75	60725T84	$49.21
Long	Cotton/Polyester Blend	Blue, Dark Blue, Brown, Gray, White	34″-56″ Regular; 40″-56″ Long	10365T71	45.23	10365T92	54.23
Long	Cotton	Blue, Dark Blue, Green, White	36″-56″ Regular; 40″-56″ Long	5372T85	57.67	5372T11	66.42
Static Control							
Long	Polyester	Dark Blue	36″-58″ Regular; 40″-54″ Long	2373T18	74.62		
Flame Resistant							
Long	Cotton	Dark Blue	38″-56″ Regular; 40″-56″ Long	5442T6	120.00		
Long	Cotton/Nylon Blend	Dark Blue, Orange	40″-62″ Regular	5442T8	135.52		
Long	Nomex	Dark Blue, Orange	36″-48″ Regular; 36″-48″ Long	1051T6★	166.25		
Long	Nomex	Dark Blue, Orange	50″-54″ Regular; 50″-54″ Long	1051T7	199.50		

★ Orange coveralls with a 36″ chest size are only available in regular length.

Lab and Shop Clothing

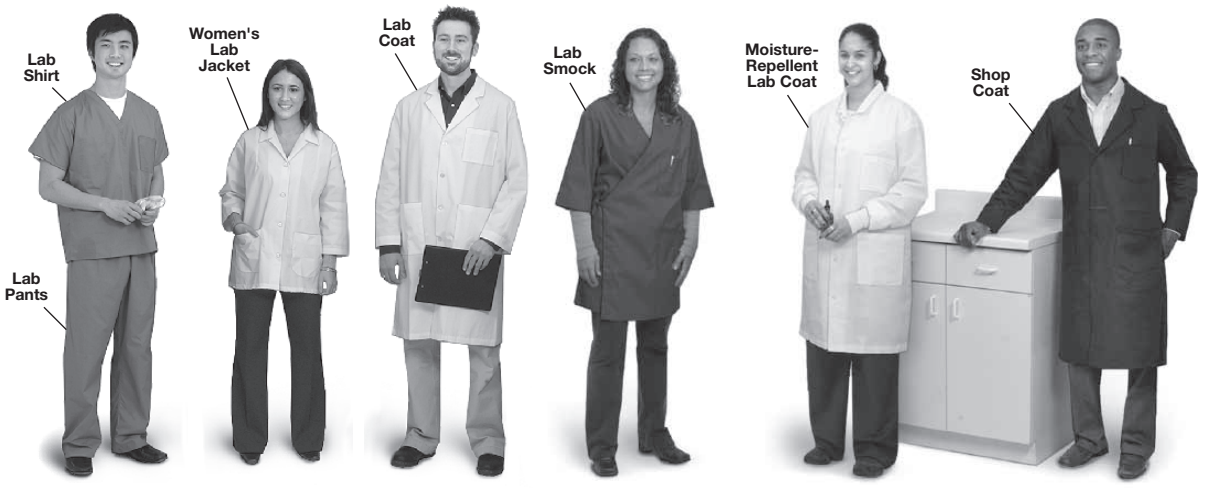

When measuring chest size, measure around the fullest part of your chest. Find your waist size by measuring just above the top of your hip bone. Take all measurements over clothing you expect to wear under the garment.

Lab Shirts and Pants

Just like the scrubs worn in hospitals, these reversible garments are soft and comfortable for all-day wear. They're made of 55% cotton and 45% polyester.

Shirts have one chest pocket.

Pants have a rear pocket and a drawstring waist.

	Choose a Color	Choose a Size		
Shirts				
Light Blue, Dark Blue, Green		30″-52″ Chest	2027T7	$14.22
Pants				
Light Blue, Dark Blue, Green		24″-46″ Waist	2027T8	14.89

Lab Jackets, Coats, and Smocks

Standard—Garments are a durable polyester/cotton blend. *Jackets* have a button front, finished cuffs, and two waist pockets. *Coats* have a clear-button front, three pockets, and hip slits. Women's coat also has an adjustable back belt. *Smock* has hip slits and three pockets.

Static Control—Protect sensitive equipment from electrostatic discharge. Garments are a polyester/cotton/nylon blend. The surface resistivity for unlaundered fabric is 10^6 ohms. They have front and wrist snaps you can attach to a grounding point. They also have three pockets.

Moisture Repellent—Commonly known as a barrier coat, it's made of 99% polyester with 1% carbon fiber. It has stainless steel snaps, knit-wrist cuffs, and three pockets.

Flame Resistant—This treated cotton coat is self-extinguishing and meets NFPA 70E for electrical safety. It has hip slits and four pockets.

	Choose a Color	Choose a Size		
Standard				
Women's Jacket	Light Blue, Dark Blue, White	10-28 Dress	5294T49	$20.71
Men's Jacket	Light Blue, Dark Blue, White	34″-54″ Chest	5294T6	24.44
Women's Coat	Dark Blue, White	8-20 Dress	5296T711	32.50
Men's Coat	White	32″-52″ Chest	5296T5	32.50
Smock	Dark Blue	34″-50″ Chest	5298T47	32.50
Static Control				
Jacket	Light Blue	34″-56″ Chest	53045T61	41.22
Coat	Light Blue	34″-56″ Chest	53045T63	48.44
Moisture Repellent				
Coat	White with Black Pinstripes	34″-56″ Chest	5472T3	48.89
Flame Resistant				
Coat	Dark Blue	38″-54″ Chest	2377T51	80.98

Shop Coats

Our durable shop coats are knee length with hip slits and four pockets.

Polyester/cotton coat has a concealed snap front.

Cotton coat is preshrunk and comfortable. It has a concealed button front.

	Color	Choose a Chest Size		
Polyester/Cotton Coat	Dark Blue	36″-56″	53355T71	$31.98
Cotton Coat	Dark Blue	34″-56″	5290T64	47.84

High-Visibility Vests and Hats



Safety vests are 24″ long with elastic side straps and front hook-and-loop closures. Vests are polyester. *Lime vests with reflective stripe* have 1⅜″ wide white stripes. *Orange vests with reflective stripe* have 1⅜″ wide reflective lime stripes.

Baseball cap is polyester with mesh sides and back and a cotton sweatband.

Wide-brim mesh hat with two-tone stripe has a 2″ wide reflective white stripe that's trimmed in orange.

	Choose a Color	Choose a Size		
Mesh Safety Vest	Lime, Orange	One Size	8325T11	$7.53
Mesh Safety Vest with Reflective Stripe	Lime, Orange	One Size	8325T55	15.87
Baseball Cap	Orange, Yellow	Adjustable	8324T32	10.63
Wide-Brim Mesh Hat with Two-Tone Stripe	Yellow	M-XL	8324T31	12.48

ANSI-Compliant High-Visibility Clothing


Single-Stripe Vest


Two-Tone Single-Stripe Vest


Dual-Stripe Vest


Breakaway Single-Stripe Vest (Class 3)


Long-Sleeve T-Shirt with Single Stripe


Hooded Sweatshirt with Single Stripe


Jacket with Single Stripe

All clothing is fluorescent with 2″ wide reflective stripes and meets ANSI/ISEA 107-2004. *Class 2* clothing meets visibility requirements for workers who are on or near roadways. *Class 3* clothing meets visibility requirements for workers in high-risk areas that need to be seen by traffic at a minimum distance of 1,280 ft. *Class E* pants meet Class 3 requirements when worn with an ANSI Class 3 vest, shirt, or jacket.

When measuring chest size, measure around the fullest part of your chest. Find your waist size by measuring just above the top of your hip bone. Take all measurements over clothing you expect to wear under the garment.

Safety Vests—Made of polyester, except flame-resistant vests are acrylic. *Breakaway* have hook-and-loop fasteners at the shoulders, sides, and front to tear away easily if caught on machinery. *Flame-resistant* meets ASTM F1506. *Two-tone* have orange-trimmed stripes. *Expandable* have adjustable side snaps that fit up to two sizes larger.

T-Shirts, Sweatshirts, Jackets, and Pants—Standard T-shirts and sweatshirts are cotton/polyester blend. *Moisture-wicking* clothing is polyester. *Flame-resistant* clothing is acrylic and meets ASTM F1506. *Jackets* are waterproof polyester. They have a removable fleece liner, hood, zipper and snap closures, and four pockets. *Pants* are polyester.

	S	M	L	XL	2XL	3XL	4XL	5XL	6XL
Chest/Waist	32″-34″	36″-38″	40″-42″	44″-46″	48″-50″	52″-54″	56″-58″	60″-62″	64″-66″

Safety Vests

	Hook and Loop				Zipper			
	Choose a Color	Choose a Size			Choose a Color	Choose a Size		
Class 2—Mesh								
Single Stripe	Lime, Orange	S-5XL	8324T66	$14.88	Yellow	M-6XL	8324T21	$22.33
Single Stripe—Breakaway	Yellow	S-6XL	8324T35	22.98				
Single Stripe—Flame Resistant	Yellow	M-5XL	8324T27	99.98				
Two-Tone Single Stripe	Yellow	M-6XL	8324T26	25.60	Yellow, Orange	S-5XL	8324T22	16.25
Two-Tone Single Stripe—Breakaway/Expandable	Yellow	M-4XL	8324T73	29.88				
Dual Stripe	Yellow, Orange	M-3XL	8324T15	18.90				
Dual Stripe—Flame Resistant	Yellow	M-5XL	8324T28	117.48				
Class 2—Fabric								
Single Stripe					Yellow	M-3XL	8324T11	19.84
Single Stripe—Breakaway	Yellow	M-7XL	8324T72	22.98				
Single Stripe—Flame Resistant	Yellow	M-5XL	8324T24	87.88				
Single Stripe—Flame Resistant/Breakaway	Yellow	M-5XL	8324T34	110.63				
Two-Tone Single Stripe	Yellow	M-3XL	8324T12	21.58				
Two-Tone Single Stripe—Expandable					Yellow	M-6XL	8324T19	25.60
Dual Stripe	Yellow	M-3XL	8324T13	21.00	Yellow, Orange	M-3XL	8324T14	22.78
Dual Stripe—Flame Resistant	Yellow	S-6XL	8324T25	104.38				
Class 3—Mesh								
Single Stripe	Lime	L-4XL	8324T71	22.25				
Single Stripe—Breakaway	Yellow	M-4XL	8324T63	22.50				
Two-Tone Single Stripe					Yellow	M-6XL	8324T45	28.88
Dual Stripe	Yellow	S-6XL	8324T61	30.62				
Class 3—Fabric								
Dual Stripe	Yellow	S-5XL	8324T59	30.63				

T-Shirts, Sweatshirts, Jackets, and Pants

	Choose a Color	Choose a Size		
Class 2				
Short Sleeve T-Shirt with Single Stripe—Moisture Wicking	Yellow	S-3XL	8324T17	$25.01
Short Sleeve T-Shirt with Single Stripe—Flame Resistant	Yellow	M-5XL	8324T38	98.12
Long Sleeve T-Shirt with Single Stripe—Moisture Wicking	Yellow	M-5XL	8324T39	37.38
Long Sleeve T-Shirt with Single Stripe—Flame Resistant	Yellow	M-5XL	8324T41	124.88
Crew Sweatshirt with Single Stripe	Yellow	M-5XL	8324T42	38.13
Hooded Sweatshirt with Single Stripe	Yellow	M-5XL	8324T43	47.38
Class 3				
Long Sleeve T-Shirt with Single Stripe	Lime	L-5XL	8324T68	33.13
Crew Sweatshirt with Single Stripe—Moisture Wicking	Yellow	S-6XL	8324T49	65.75
Hooded Sweatshirt with Single Stripe—Moisture Wicking	Orange	S-6XL	8324T53	72.38
Hooded Sweatshirt with Single Stripe—Flame Resistant	Yellow	M-3XL	8324T52	234.98
Jacket with Single Stripe	Yellow, Orange	S-6XL★	8324T56	99.74
Jacket with Two-Tone Single Stripe	Yellow	S-6XL★	8324T58	105.00
Class E				
Pants with Dual Stripe—Breathable	Yellow	S-5XL	8324T29	29.38

★ For proper fit, order one size larger than indicated in the chart above.

Electrical Protection Gloves & Blankets

Voltage Classifications

ASTM defines voltage classes for rubber insulating gloves, blankets, and sheeting. Before working with electrical equipment, make sure you have the right protection. First, identify the maximum voltage you will be exposed to. Then, match the voltage to one of the classes in the chart.

ASTM Class	00	0	1	2	3	4
AC Max. Use Volts	500	1,000	7,500	17,000	26,500	36,000

Electrical Protection Gloves

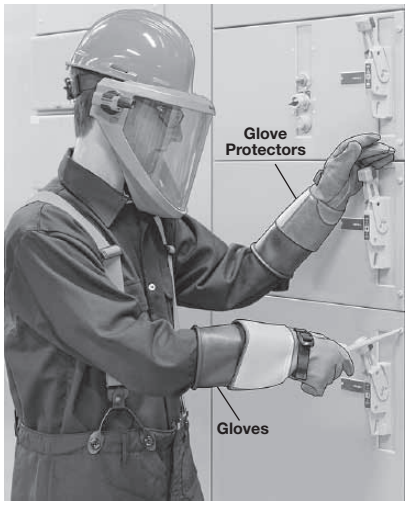

Gloves and Glove Protectors

Use when handling live electrical equipment. For glove sizing information, see page 1794.

Gloves are made of dielectric rubber. They're seamless and have rolled cuffs. All meet ASTM D120 and come tested and marked with the test date. You have one year from the test date to put gloves into service before they must be retested. Once in use, gloves should be tested every six months. Color is black. *Wear-indicating gloves* have a red or orange inner layer that shows through as the outer layer wears off, making it easy to inspect for cracks and pinholes.

Glove protectors are leather and must be worn over gloves for ASTM compliance when working with live electrical equipment. All have an open cuff. Protectors for Class 00 and 0 gloves are off white. Protectors for Class 1-4 gloves are red with orange cuffs.

			Gloves				*Glove Protectors*			
			Standard		Wear Indicating					
ASTM Class	Lg.	Choose a Size		Pair		Pair	Lg.	Choose a Size		Pair
00	11″	8-12	5333T41	$49.75			10″	8-12	13785T31	$37.70
00	14″	8-12	5333T42	65.80			13″	8-12	13785T12	53.70
0	11″	8-12	5333T79	64.35			10″	8-12	13785T11	37.70
0	14″	8-12	5333T81	75.30			13″	8-12	13785T12	53.70
1	14″	8-12	5333T82	137.97	5289T82	$162.16	13″	8-12	13785T13	58.60
2	14″	8-12	5333T83	173.41	5289T83	220.51	12″	8-12	13785T14	57.60
2	16″	8-12	5333T84★	195.93	5289T84	241.33	14″	8-12	13785T15	59.50
3	16″	8-12	5333T86	257.17	5289T86	333.47	13″	8-12	13785T13	58.60
3	18″	9-12			5289T87	339.56	15″	8-12	13785T18	60.10
4	18″	10-12	5333T88	387.48	5289T88	515.67	14″	8-12	13785T15	59.50

★ Not available in size 8.



Glove Bag


Glove Inspection Pump (Shown with Glove)

Glove Bags

Prevent damage to gloves in storage. Glove bags have a belt loop.

For	*O'all Size*				
Glove Lg.	Ht.	Wd.	Dp.		
11″-14″	15″	8″	4″	9645T11	$33.12
16″	18″	8″	4″	9645T13	38.23
18″	20″	8″	4″	9645T12	41.23

Accessories

Glove inspection pump makes it easy to check Class 1-4 gloves for cracks, pinholes, and other signs of wear. *Glove inspection pump adapter* lets you use the inspection pump with Class 0 and 00 gloves. *Glove powder* makes it easier to pull gloves on and off.

Glove Inspection Pump—for Class 1-4 Gloves	9690T11	$304.21
Glove Inspection Pump Adapter—Required for Class 0 and 00 Gloves	9690T22	120.00
Glove Powder (5-oz. bottle)	9557T1	11.23

Electrical Protection Blankets and Sheeting

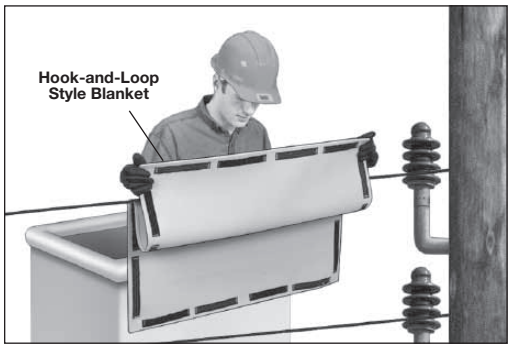

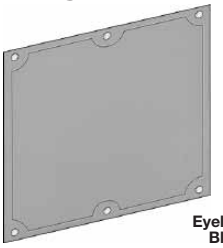
Eyelet-Style Blanket

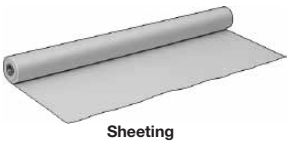
Sheeting


Clamping Pin

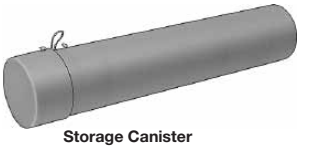
Storage Canister

Blankets

Wrap these rubber blankets around power lines and electrical equipment to protect against contact with high voltage. Blankets meet ASTM D1048 specifications and come tested and marked with the test date. They should be tested once a year. Class 0 blanket is 1/16″ thick; Class 2 and 4 blankets are 1/8″ thick.

Hook-and-loop style blanket attaches with hook-and-loop strips.

Eyelet style blankets have six 5/8″ dia. eyelets and can be tied down to secure in place.

ASTM Class	Style	Wd.	Lg.	Color		
0	Hook-and-Loop	36″	36″	Yellow	5571T14	$203.29
2	Eyelet	36″	36″	Black	5571T12	204.56
4	Eyelet	36″	36″	Orange	5571T15	179.60

Sheeting

Cover irregularly shaped electrical hazards with this yellow neoprene rubber sheeting. It's flame and oil resistant and can be cut with scissors or a utility knife. Meets ASTM F2320.

ASTM Class	Wd.	Thick.	Full Roll		Per Ft.
0	36″	1/32″	30 ft.	87195K33	$26.99

Accessories

Clamping pin holds blankets in place and accommodates diameters up to 5″. It's fiberglass-reinforced nylon. *Storage canister* is polyethylene and stores up to four 36″×36″ blankets.

Clamping Pin	5571T24	$20.33
Storage Canister	6129T3	105.60

Electrical Arc Flash Protection Clothing

These garments provide protection from electrical arc flashes and are flame resistant. Gloves are sold separately on page 1818. Face shield is sold separately on page 1842.

Category 0-2—Made of a soft cotton blend, these garments meet ASTM F1506 and NFPA 70E for Category 0-2 protection.

Shirt has a button front and two pockets.

Pants have a button waist and four pockets.

Coveralls have a zipper front and seven pockets.

Category 3-4—Made of an aramid blend, these garments meet ASTM F1506 and NFPA 70E for Category 3-4 protection.

Coat has a hook-and-loop front.

Bib overalls have a hook-and-loop strap on the pant leg.

Coveralls have hook-and-loop closures on the sleeve and ankles.

Hood includes a hard hat with adjustable headgear and a polycarbonate face shield with an antifog coating.

Optional fan for hood mounts on your arc flash hood and pumps air inside using a fan motor. Operates on four AA batteries (not included).



NFPA Category	Common Tasks
0	Operation of a circuit breaker with panel covers on or off up to 240 volts.
1	Voltage testing or live installation of a circuit breaker in a panel up to 240 volts.
2	Work on energized conductors and circuit parts up to 600 volts.
3	Outdoor disconnect switch operation between 1,000 and 38,000 volts.
4	Work on energized parts, including voltage testing, in switchgears between 1,000 and 38,000 volts.

Size	Chest	Waist
S	36″	31″
M	39″	34″
L	42″	37″

Size	Chest	Waist
XL	45″	40″
2XL	48″	44″
3XL	53″	48″

	Arc Rating, cal/cm²	Color	Choose a Size		
Category 0-2					
Shirt	9.4	Light Blue	S-3XL	1956T31	$73.50
Pants (32″ Inseam)	11	Dark Blue	28″-52″ Waist	1956T35	122.50
Coveralls	11	Dark Blue	S-3XL	1956T33	176.00
Category 3-4					
Coat (35″ Lg.)	42	Dark Blue	S-3XL	1956T41	203.00
Hood	46	Dark Blue	One Size	1956T46	215.83
Bib Overalls	42	Dark Blue	S-3XL	1956T42	208.83
Coveralls	42	Dark Blue	S-3XL	1956T43	361.67
Optional Fan for Hood				1956T44	281.17

Electrical Protection Footwear

Slip this dielectric rubber footwear right over your work shoes for protection from electrical hazards. It meets ASTM F2413-05 and is tested to 20,000 volts AC. A deep heel cavity and antiskid sole give you good grip on ladder rungs and stair edges. Color is yellow and black. For information about footwear sizing, see page 1809.



	Ht.	Choose a Size		Pair
Overshoes	5″	7-13 (half sizes, except 12½)	50065T5	$128.51
Boots	17″	7-15 (whole sizes)	50065T3	159.02

High-Voltage Switch Operating Sticks

Also known as hot sticks, use these lightweight, insulated sticks to operate high-voltage switches from a safe distance. All are rated for 100,000 volts and meet ASTM F711 for live-line maintenance.

Fixed-length sticks are 1¼″ dia. and made of fiberglass bonded to a closed-cell polyurethane foam core. They have a bronze head. *Hanger for fixed-length sticks* has a bronze hook with stainless steel clamp for attaching to 1¼″ and 1½″ dia. sticks.

Telescoping sticks extend to multiple lengths. They have a nickel-plated steel head that can be rotated 180°. Sticks are approximately 2″ dia. at the base and 1¼″ at the tip. They are fiberglass reinforced plastic; tip has a rigid, closed-cell polyurethane foam core.

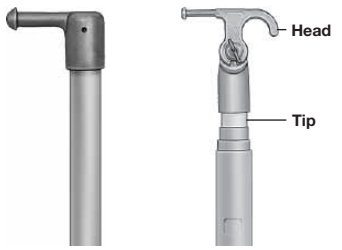

Fixed Length

O'all Lg.		
4 ft.	7541K41	$72.00
6 ft.	7541K42	102.00
8 ft.	7541K45	188.25
10 ft.	7541K47	210.75
12 ft.	7541K49	241.50
18 ft.	7541K54	352.50
24 ft.	7541K55	436.50

Telescoping

Max. O'all Lg.	Min. Lg.		
12 ft. 7 in.	58″	7541K31	$232.50
16 ft.	60″	7541K61	270.00
21 ft.	62″	7541K32	339.00
25 ft.	64″	7541K62	409.50
30 ft.	66″	7541K63	483.00
35 ft.	68″	7541K33	580.50
39 ft. 6 in.	69″	7541K34	669.00

Accessories and Replacement Parts

Hanger for Fixed-Length Sticks	7541K36	$18.00
Replacement Head for Telescoping Sticks	7541K38	14.62
Replacement Tip Section for Telescoping Sticks	7541K35	78.00

Welding Clothing

For welding gloves, see page 1806. For welding helmets and eyewear, see pages 1843-1845.

Sizing Guidelines for Welding and Heat-Resistant Clothing

The chart at right is a general guideline for sizing. Proper fit varies with individual body shape and underclothing.

	S	M	L	XL	2XL	3XL	4XL
Chest	36″-38″	40″-42″	44″-46″	48″-50″	52″-54″	56″-58″	60″-62″
Waist	30″-32″	34″-36″	38″-40″	42″-44″	46″-48″	50″-52″	54″-56″

Welding Clothing

Cotton



These breathable cotton garments keep you cool while providing protection from minor sparks and low heat. Clothing is chemically treated for flame resistance.

Sleeves secure with elastic at both ends.
Pants have a zipper-fly front, belt loops, and four pockets.

	Lg.	Color	Choose a Size		
Bib Apron	40″	Green	One Size	5588T2	$15.47
Split-Leg Bib Apron	48″	Green	One Size	5588T17	18.51
Sleeves (Pair)	18″	Green	One Size	5342T16	8.90
Cape Sleeves	11″	Green	M-2XL	51985T31	15.38
Cape-Sleeve Bib	20″	Green	One Size	51985T42	5.85
Pants	—	Green	28″-46″ (Waist) 28″-34″ (Inseam)	5367T81	35.27

	Lg.	Color	Choose a Size		
Jacket	30″	Green	S-4XL	5367T9	$18.93
Heavyweight Jacket	30″	Green	M-4XL	5367T22	30.62
Leather-Sleeve Jacket	30″	Blue/Gold	S-3XL	5730T41	55.53
Coat	50″	Green	S-2XL	5367T15	50.91
Coveralls	—	Green	S-3XL	11405T6	60.27

Leather



Protect against heat, flames, and welding sparks and spatter better than cotton clothing. These flexible leather garments also resist cuts and abrasion.
Split-leg bib apron has three adjustable straps on each leg.

Chaps have snaps on the legs and an adjustable waistband.
Sleeves have snap closures on the wrist and an adjustable strap on the upper arm.

	Lg.	Color	Choose a Size		
Waist Apron	24″	Brown	One Size	5239T22	$37.32
Bib Apron	36″	Brown	One Size	5239T23	49.76
Bib Apron	42″	Brown	One Size	5239T24	61.07
Split-Leg Bib Apron	48″	Brown	One Size	5239T48	49.58
Cape Sleeves	11″	Brown	S-3XL	5340T61	60.40
Cape-Sleeve Bib	19″	Brown	One Size	5340T41	17.13
Jacket	26″	Brown	S-2XL	5263T1	94.82
Jacket	30″	Brown	S-3XL	5263T2	101.78

	Lg.	Color	Choose a Size		
Heavyweight Jacket	30″	Gray	S-4XL	5263T6	$163.18
Chaps	39″	Brown	One Size	5263T45	55.27
Shin and Foot Guards (Pair)	14″	Brown	One Size	5263T16	52.64
Ankle and Foot Guards (Pair)	10″	Gray	One Size	9680T2	28.04
Sleeves (Pair)	18″	Brown	One Size	5342T22	26.00

For sizing guidelines, see page 1820. For additional heat-resistant gloves, see page 1807.

Caps and Beanies

Keep dirt and dust off your head with these cotton caps and beanies. All are hand washable.

Caps have a fabric sweatband. Cap sizes: S (6⅞), M (7¼), L (7½), or XL (7¾).

Beanies are flame resistant to protect against sparks and spatter. Beanie sizes: M (6⅞-7⅛), L (7¼-7½), or XL (7⅝-7¾).



Black Cap

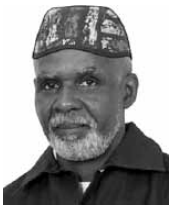

Camouflage Beanie

Color	Choose a Size		
Caps			
Black	S-XL	59745T3	$9.18
Camouflage	S-XL	59745T5	9.18
Dark Blue with White Polka Dots	S-XL	59745T1	9.18
Red with White Polka Dots	S-XL	59745T2	9.18
Red, White, and Blue—USA	S-XL	59745T6	9.18
Beanies			
Black	M-XL	59745T35	4.78
Camouflage	M-XL	59745T45	4.78
Red, White, and Blue—USA	M-XL	59745T55	4.78

Flame-Resistant Hoods

Protect your head from sparks and incidental contact with flames. All hoods are soft, washable, and one size fits all.

Nomex hood offers moderate durability and flame resistance. Meets Cal/OSHA and NFPA 1971 standards.

PBI hood has better wear resistance than other hoods. Meets Cal/OSHA and NFPA 1971 standards.

Carbon X hood provides the best flame resistance of the hoods we carry. Meets NFPA 70E.



Material	Color		
Nomex	White	52655T15	$33.30
PBI	Brown	52655T14	35.51
Carbon X	Black	52655T17	42.37

Cooling Vests

Keep cool and comfortable in hot conditions.

Lightweight vest has an absorbent interior and a water-resistant liner to help keep your clothes dry. Soak it in cold water before wearing, and the vest provides cooling through evaporation for hours.

Heavy duty vest is made of flame-resistant cotton and has adjustable shoulder and waist straps. Complete vest comes with two removable single-cell cooling packs. Cool the packs by placing them in a freezer for 20 minutes. Once frozen they maintain a temperature of 55°F for approximately 3½ hours. Vest and set of two cooling packs weigh 6½ lbs. Fits up to size large.



Lightweight Vest



Heavy Duty Vest

	Choose a Color	Choose a Size		
Lightweight				
Vest	Gray, Lime	M-3XL	5249T12	$51.67
Heavy Duty				
Complete Vest with Cooling Pack Set	Blue	One Size	5249T11	258.93
Replacement Vest	Blue	One Size	5249T18	169.71
Replacement Cooling Pack Set	____	_____	5249T15	212.90

Heat-Reflective Aluminized Clothing

Often used in steel mills, foundries, and glass plants, this aluminized clothing reflects radiant heat and protects against sparks and molten metal splashes. Garments have no pockets to trap hot particles and are oversized to fit over work clothes.

Apron has adjustable neck and waist straps.

Jacket, coat, and *coveralls* have snaps at the wrist and a flap front with snaps.

Pants have a snap fly and leather belt loops.

Hood with face shield uses an adjustable ratchet suspension to fit your head. There's enough room inside to wear glasses, goggles, or a respirator. The face shield is 7″×11″ clear polycarbonate.

Gloves are aluminized on the back of the cuff, hand, fingers, and thumb. All have a wool and cotton blend knit lining.

Boot covers have a flame-resistant cotton lining, polymer grip soles, and a zipper closure. They fit up to men's size 13.

General Purpose Rayon—Provides good radiant heat and moderate spark protection.

Abrasion-Resistant Kevlar Blend—Combines heat-resistant fibers with the excellent abrasion and cut resistance of Kevlar. Apron, jacket, coat, pants, and coveralls are Kevlar/fiberglass blend. Hood with face shield, gloves, and boot covers are Kevlar/Nomex blend.

Long-Life Carbon/Kevlar Blend—This heavyweight clothing lasts longer than Kevlar/Nomex blend clothing in comparable service.

High-Dexterity PBI Blend—Lighter weight than other aluminized clothing we carry, these garments offer good heat resistance without the bulk of Kevlar blend and carbon/Kevlar blend. They're also reinforced with Kevlar fibers for added strength.

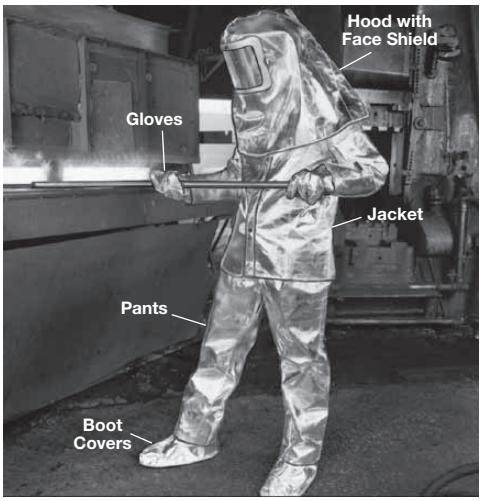

	Lg.	Choose a Size	General Purpose Rayon	Each	Abrasion-Resistant Kevlar Blend	Each	Long-Life Carbon/Kevlar Blend	Each	High-Dexterity PBI Blend	Each
Apron	39″	One Size	9109T4	$51.43	5383T8	$60.93	5519T7	$82.88	1037T5	$86.13
Jacket	30″	S-2XL	9109T7	184.72	5383T1	224.53	5519T4	311.82	1037T2	281.67
Coat	50″	S-2XL	9109T6	239.27	5383T3	282.76	5519T1	396.27	1037T9	381.67
Pants	32″ Inseam	S-2XL	9109T8	186.27	5383T2	253.85	5519T2	299.54	1037T3	324.00
Coveralls	32″ Inseam	S-2XL	9109T5	300.64	5383T6	338.86	5519T3	455.36	1037T4	471.61
Hood with Face Shield	22″	One Size	9109T1	223.17	5383T31	260.00	5519T8	344.18	1037T6	300.83
Replacement Face Shield									9109T12	39.15
				Pair		Pair		Pair		Pair
Gloves	14″	One Size	9109T3	$38.13	5383T5	$55.33	5519T5	$66.61	1037T7	$64.17
Boot Covers	12″	One Size	9109T9	140.48	5383T4	203.45	5519T9	247.80	1037T8	216.83

Sizing Guidelines for Rainwear

The chart below is a general guideline for sizing. Proper fit varies with individual body shape and underclothing.

	XS	S	M	L	XL	2XL	3XL	4XL	5XL	6XL
Chest	34″-35″	36″-38″	39″-41″	42″-44″	45″-47″	48″-49″	50″-51″	52″-54″	55″-57″	58″-60″
Waist	28″-29″	30″-32″	33″-35″	36″-38″	39″-41″	42″-43″	44″-45″	46″-47″	48″-50″	51″-53″

Rainwear

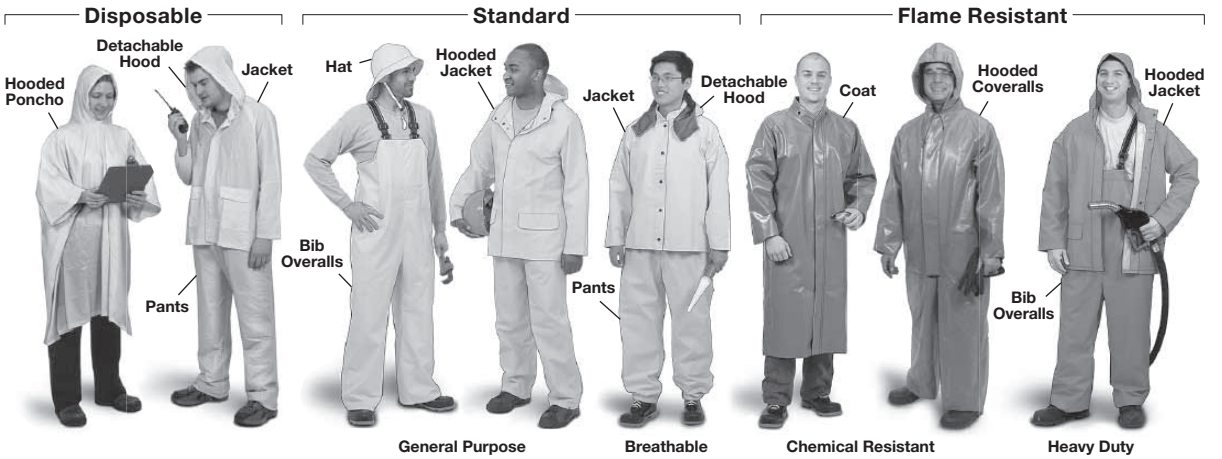

Disposable

Good for single-use applications, these lightweight PVC garments are the economical choice for working in wet environments. *Jackets* have a snap front and snaps on the collar for the detachable hood. *Pants* have an elastic waist and snaps on the ankles. *Bib overalls* have adjustable elastic suspenders and snaps on the ankles.

	Choose a Color	Choose a Size		
Hooded Poncho	Clear, Orange, Yellow	One Size	**52115T1**	$4.60
Suit—Jacket, Detachable Hood, and Pants	Yellow	M-2XL	**5380T2**	8.35
Suit—Jacket, Detachable Hood, and Bib Overalls	Yellow	M-2XL	**5380T3**	12.07

Standard

These sturdy garments resist tears and mildew for long-term use. They're also washable. *Hooded poncho* has snaps on each side. *Pants* have an elastic waist and snaps on the ankles. *Bib overalls* have adjustable elastic suspenders and an inner chest pocket with a zipper. *Jacket* has a snap front and wrists, plus collar snaps for the detachable hood. *Hooded jacket* has two front pockets and a snap front with a storm flap. *Hooded coat* has two front pockets and a two-way zipper front with a storm flap.

Breathable Gore-Tex/nylon clothing is lightweight and allows perspiration to evaporate.

	General Purpose PVC-Coated Polyester				Breathable Gore-Tex/Nylon			
	Choose a Color	Choose a Size			Choose a Color	Choose a Size		
Garments								
Hooded Poncho	Yellow	One Size	**53535T6**	$15.22				
Pants	Green, Yellow	S-4XL	**53535T62**	35.00	Blue, Yellow	S-2XL	**11975T33**	$241.15
Bib Overalls	Green, Yellow	XS-6XL	**53535T63**	44.00				
Jacket					Blue, Yellow	S-2XL	**11975T21**	251.04
Detachable Hood					Blue, Yellow	One Size	**11975T65**	67.39
Hooded Jacket	Green, Yellow	XS-6XL	**53535T61**	44.00				
Hooded Coat	Green, Yellow	S-4XL	**53535T64**	75.00				
Hat	Yellow	M-XL	**53535T65**	24.00				
Suits								
Hooded Jacket and Pants	Green, Yellow	S-4XL	**53535T67**	72.41				
Hooded Jacket and Bib Overalls	Green, Yellow	XS-4XL	**53535T66**	81.03				
Jacket, Detachable Hood, and Pants					Blue, Yellow	S-2XL	**11975T82**	534.50

Flame Resistant

In addition to being waterproof, these garments also stand up to oil and flames. They are mildew resistant and washable and meet ASTM D6413 for flame resistance. *Bib overalls* have adjustable elastic suspenders. *Jacket* and *coat* have a snap front with a storm flap, plus collar snaps for the detachable hood. *Hooded jacket* has a snap front with double storm flaps. *Hooded coveralls* have a snap front.

Chemical-resistant PVC-coated polyester clothing protects against incidental contact with acids, chemicals, and solvents. It meets ASTM F903 for resistance to penetration by liquids.

	Chemical-Resistant PVC-Coated Polyester				Heavy Duty PVC-Coated Polyester			
	Color	Choose a Size			Color	Choose a Size		
Garments								
Bib Overalls	Green	S-2XL	**5892T2**	$28.62	Orange	S-4XL	**5393T64**	$64.00
Jacket	Green	S-2XL	**5892T1**	31.83				
Hooded Jacket	Green	S-2XL	**5892T7**	36.03	Orange	S-4XL	**5393T62**	64.00
Coat	Green	S-2XL	**5892T9**	50.57				
Hooded Coveralls	Green	S-2XL	**5892T8**	77.18				
Detachable Hood	Green	One Size	**5892T19**	5.03				
Suits								
Hooded Jacket and Bib Overalls	Green	S-2XL	**5892T5**	64.65	Orange	S-4XL	**5393T66**	117.24
Jacket and Bib Overalls	Green	S-2XL	**5892T3**	60.45				

Umbrellas

Don't throw caution to the wind on a rainy day. These sturdy umbrellas have a wide double canopy and withstand gusts up to 55 mph.

Compact umbrella has a reinforced steel shaft. **Golf** umbrella has a strong yet lightweight fiberglass shaft.

Umbrella stand and wall-mount umbrella bag holder are aluminum with a satin finish. The stand has 12 slots and holds both compact and golf umbrellas. The bag holder has four 3/8" mounting holes (fasteners not included). Bags are sold separately.

	Open Dia.	Closed Lg.	Color		
Umbrellas					
Compact	37"	16"	Black	1006N02	$35.00
Golf	52"	39½"	Black	1006N01	49.00
Stands and Accessories					
Umbrella Stand—18"×12"×10"				1007N11	228.95
Wall-Mount Umbrella Bag Holder—6"×4"				1007N21	49.88
Umbrella Bags—31"×7" (Pkg. of 100)				1007N31	19.86



Compact Umbrella



Umbrella Stand (Shown with Golf Umbrella)



Wall-Mount Umbrella Bag Holder (Shown with Bags)

Life Preserver Rings and Flotation Vests



Work safely near water with these flotation aids. Vests have reflective tape panels, except heat-resistant vest. They are international safety orange, except high-visibility mesh-top vest is fluorescent green.

Life preserver ring is molded polyethylene to resist oils and common chemicals. A 10-ft long floating polypropylene rope is attached.

Standard vest has a nylon shell.

Adjustable vest has three-piece construction and straps that adjust for a sure fit. It has a PVC shell.

Mesh-top and **high-visibility mesh-top vests** keep you cool with a breathable mesh upper half. They have a nylon/polyester shell.

Flotation-collar vest provides extra protection by supporting the neck and head. It has a nylon shell and breathable mesh lining.

Heat-resistant vest has a tough fiberglass shell that resists high temperatures during marine welding and similar applications. It has a zipper front and moisture-wicking mesh lining.

Inflatable vest is lightweight and provides good mobility. It has a CO_2 cylinder that inflates the vest automatically when submerged in water. You can also inflate it manually. Vest has a nylon shell.

Rearm kit for inflatable vest includes a CO_2 cylinder and other replacement components.

	United States Coast Guard (USCG) Approved	Choose a Size		
Life Preserver Ring	Type IV	30" OD	5509T9	$88.50
Standard Vest	Type III	S/M (32"-40"), L/XL (42"-50"), 2XL (50"-52"), 3XL (54"-56")	5509T24	70.00
Adjustable Vest	Type V	One Size	5509T4	70.89
Mesh-Top Vest	Type III	M (40"-42"), L (44"-46"), XL (48"-50"), 2XL (50"-52")	5509T5	63.33
High-Visibility Mesh-Top Vest	Type III	S (36"-38"), M (40"-42"), L (44"-46"), XL (48"-50"), 2XL (50"-52"), 3XL (54"-56")	5509T26	163.78
Flotation-Collar Vest	Type III/V	One Size	5509T2	82.89
Heat-Resistant Vest	Type III	One Size	5509T34	107.78
Inflatable Vest	Type V	One Size	5509T7	210.56
Rearm Kit for Inflatable Vest			5509T35	41.58
Rescue Bag with 100-ft. of floating polypropylene rope			5509T36	69.22

Protective Base Layers

Wear under clothing for added comfort and protection. **Warm-weather** garments wick away moisture and are vented and UV resistant. **Cold-weather** garments are a fitted rib knit fabric that traps heat while allowing perspiration to escape. **Flame-resistant** garments won't burn or melt when exposed to radiant heat and flames. They also resist molten metal splashes. **Arc-flash resistant** garments meet ASTM F1506 for protection against electrical hazards. They have an arc rating of 12.2 cal/cm^2. **Cut-resistant** garments protect you from scratches and cuts when working around sharp-edged objects. For more information about cut-resistance levels, see page 1804.

	Material	Choose a Color	Choose a Size		
Warm Weather					
Short Sleeve Shirt	Polyester Blend	Black, Blue, White	S-2XL	1226N1	$18.33
Long Sleeve Shirt	Polyester Blend	Black, Blue, White	S-3XL	1226N2	33.33
Cold Weather					
Long Sleeve Shirt	Polypropylene	Black	S-4XL	1574N1	45.00
Pants	Polypropylene	Black	S-4XL	1574N2	40.00
Flame Resistant					
Long Sleeve Shirt	Carbon X	Dark Gray	S-4XL	1008N11	84.90
Pants	Carbon X	Dark Gray	S-4XL	1008N22	84.90
Arc Flash Resistant					
Long Sleeve Shirt	Polyamide Blend	Blue	S-4XL	1574N3	130.00
Pants	Polyamide Blend	Blue	S-4XL	1574N4	130.00
Cut Resistant					
Long Sleeve Shirt—Cut Level 2	Nylon	White	S-3XL	1779N11	133.92
Long Sleeve Shirt—Cut Level 3	Aramid Blend	Yellow	S-3XL	1779N13	192.33



Cold-Weather Shirt and Pants



Cut Resistant (Level 3)



Cold-Resistant Clothing

Sizing Guidelines for Cold-Resistant Clothing

The chart at right is a general guideline for sizing. Proper fit varies with individual body shape and underclothing.

	S	M	L	XL	2XL	3XL	4XL
Chest	34″-36″	38″-40″	42″-44″	46″-48″	50″-52″	54″-56″	58″-60″
Waist	28″-30″	32″-34″	36″-38″	40″-42″	44″-46″	_____	_____

Cold-Resistant Clothing

Comfort Fit — **Lightweight** — **Heavyweight** — **Abrasion Resistant**



Hooded Sweatshirt | **Jacket** | **Coveralls** | **Coat with Detachable Hood and Bib Overalls** | **Parka and Face Mask** | **Hooded Coveralls** | **Hooded Jacket and Bib Overalls** | **Coveralls**

Comfort-fit garments combine the comfort of a sweatshirt with the ruggedness of a jacket. They have a zipper front and knit bottom and cuffs.

Lightweight garments protect you from cold and windy weather while offering greater mobility than heavyweight nylon clothing. *Jacket* has a water-resistant outer shell, lining, fiberfill insulation, and a zipper front. *Coveralls* are lined and have fiberfill insulation and a snap front.

Heavyweight garments keep you warm in bitterly cold conditions. All have a water-resistant outer shell, fiberfill insulation, and are lined, except face mask has no insulation or lining. *Coat* and *parka* have snaps on the collar for the detachable hood. *Bib overalls* and *hooded coveralls* have a knee-to-ankle zipper with a storm flap on each leg. Bib overalls also have adjustable elastic suspenders. *Face mask* is stretchable thermal knit and covers the entire head and neck. It includes a detachable quilted face piece to protect the mouth.

Abrasion-resistant garments withstand scrapes and scratches. All have polyester insulation and a quilted lining. *Hooded jacket* has a zipper front and inside pocket. *Bib overalls* have adjustable elastic suspenders and a knee-to-ankle zipper with a storm flap on each leg. *Coveralls* have a zipper front and hip-to-ankle zipper with a snap storm flap on each leg.

	Material	Lg.	Choose a Color	Choose a Size		
Comfort Fit						
Hooded Sweatshirt—Regular	Cotton Blend	26″	Black, Dark Blue	M-2XL	53195T1	$55.00
Hooded Sweatshirt—Long	Cotton Blend	28″	Black, Dark Blue	M-2XL	53195T2	60.50
Lightweight						
Jacket	Nylon	28″	Black	S-2XL	5538T6	108.76
Coveralls	Nylon	___	Blue	S-2XL	5538T5	115.91
Heavyweight						
Coat	Nylon	33¾″	Dark Blue	S-3XL	5529T81	125.00
Parka	Nylon	37½″	Dark Blue	S-3XL	5529T85	108.75
Bib Overalls	Nylon	___	Dark Blue	S-3XL	5529T86	98.13
Hooded Coveralls	Nylon	___	Dark Blue	S-3XL	5529T87	187.50
Face Mask	Cotton Blend	___	Dark Blue	One Size	5529T522	12.50
Detachable Hood	Nylon	___	Dark Blue	One Size	5529T89	21.82
Abrasion Resistant						
Hooded Jacket	Cotton Duck	29″	Brown	M-3XL	53215T75	82.70
Bib Overalls	Cotton Duck	___	Brown	S-2XL	53215T22	115.56
Coveralls	Cotton Duck	___	Brown	M-4XL	53215T24	157.15

Hats and Earmuffs



Hat | **Face Mask** | **Earmuffs**

Cold-resistant garments are made from form-fitting knit fabric for protection against the elements.

Flame- and cold-resistant garments meet ASTM F2302 for protection against fire hazards. They're also abrasion resistant.

	Material	Color		
Cold Resistant				
Hat	Acrylic	Black	56305T221	$13.33
Face Mask	Acrylic	Black	56305T241	21.67
Earmuffs	Fleece	Black	2403T7	28.57
Flame and Cold Resistant				
Hat	Aramid Blend	Blue	56305T12	46.00
Face Mask	Aramid Blend	Blue	56305T11	49.98

Tethering Belts and Lanyards—Not for Use as Fall-Arrest Equipment

Keep workers away from areas of potential free fall by restricting travel to within a certain distance from an anchor point. A belt and lanyard must be used together.



Single-Ring Belt



Dual-Ring Belt



Lanyard

Belts

All belts have a steel buckle, steel D-rings, and polyester webbing.

Max. Cap., lbs.	Choose a Size		
Single Ring			
310	S (31″-39″), M (35″-43″), L (39″-47″), XL (42″-50″)	8062T333	$51.93
Dual Ring			
310	S (32″-40″), M (36″-44″), L (40″-48″), XL (44″-52″)	7920T54	57.89

Lanyards

Lanyards are made of polyester webbing and have steel snap hooks.

	Length	Max. Cap., lbs.	Snap Hook Opening Size		
Standard	6 ft.	310	5/8″	8227T34	$45.94
Adjustable	6 ft. to 10 ft.	310	5/8″	8227T44	53.36

Fall-Arrest Anchor Points with Winch

This system provides support when lowering workers into and retrieving them from tight spaces. Use the hand-operated winch to control lifting and lowering. The overall system height adjusts from 79″ to 100″. The mast arm extends from 12″ to 29″. Maximum capacity is 350 lbs. When used properly, the system helps you comply with ANSI Z359.1 and A10.32.

You supply a harness (see page 1827). The system is aluminum with a 65-ft. galvanized steel wire rope and a steel snap hook. It comes with an adjustable mast and a separate portable base. For fixed-base installation, use the *optional wall-mount* or *floor-mount base*—weld or bolt the base to a concrete or steel structure and insert the mast into the opening. The bases are stainless steel and have four 13/16″ mounting holes (fasteners not included).

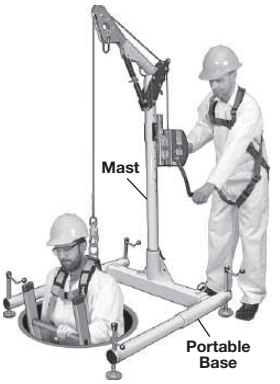



Wall-Mount Base



Floor-Mount Base

Fall-Arrest Anchor Point with Winch	8165T11	$5,665.16
Optional Wall-Mount Base	8165T13	905.26
Optional Floor-Mount Base	8165T12	972.47

Vertical Fall-Arrest Anchor Spans

Vertical fall-arrest anchor spans, also known as vertical lifelines, are commonly used when working around suspended scaffolding or beams. Attach the snap hook at one end of the rope to an overhead anchor point. You supply a harness (see page 1827) as well as a lanyard with rope grab (sold separately below). In the event of a fall, the rope grab stops you within inches. Maximum capacity is 310 lbs. When used properly, anchor spans meet ANSI Z359.1 and applicable OSHA standards.

Vertical fall-arrest anchor spans for ladders protect against falls while climbing ladders. They install on ladders that have a 1 1/4″ maximum rung dia. (mounting hardware included). These anchor spans have adjustable clamp brackets and secure permanently with an eyebolt on each end. You supply a harness and carabiner (both sold separately on page 1827) as well as a wire rope grab (sold separately below). In the event of a fall, the rope grab stops you within inches. Anchor spans accommodate up to four people at one time. Maximum capacity is 310 lbs. per person. When used properly, anchor spans meet ANSI A14.3.



Vertical Fall-Arrest Anchor Span

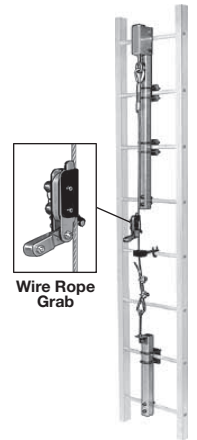

Vertical Fall-Arrest Anchor Span for Ladders

Vertical Fall-Arrest Anchor Spans		
50 ft. Polyester Rope	1004N1	$100.50
100 ft. Polyester Rope	1004N2	156.33
Required 3 ft. Polyester Webbing Lanyard with Rope Grab	1004N5	173.08
Vertical Fall-Arrest Anchor Spans for Ladders		
50 ft. Steel Wire Rope	8272T61	235.00
100 ft. Steel Wire Rope	8272T62	324.64
Required Wire Rope Grab	8272T73	150.00

Horizontal Fall-Arrest Anchor Spans

Also known as horizontal lifelines, these provide fall protection when overhead anchors aren't available. Attach the 60-ft. anchor span to an anchor point on both sides using the snap hooks, or use the included tie-off adapters for wrap-around anchoring. Anchor span and adapters are polyester webbing. Anchor spans include a built-in shock absorber. You supply a lanyard (see page 1826) and a harness (see page 1827). Up to two people can use the system at one time. Maximum capacity is 310 lbs. per person. When used properly, anchor spans meet applicable OSHA requirements.

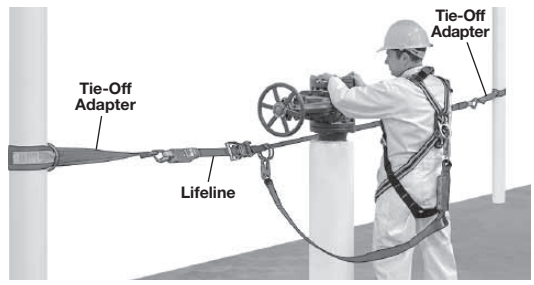

Horizontal Fall-Arrest Anchor Span	1004N6	$434.38

Fall-Arrest & Tool Lanyards

Quick-Stop Fall-Arrest Lanyards









Stop your fall within a few inches. These self retracting lanyards swivel to prevent tangling and provide excellent mobility. They must be used when you have less than 18½ ft. of fall clearance. A complete fall-arrest system requires a lanyard, a harness, and an anchor. When used properly, the system meets ANSI Z359.1 and applicable OSHA requirements.

Use the *shock-absorbing attachment* (sold separately) to increase the capacity of 310-lb. polyester webbing lanyards to 400 lbs.

Lanyards—*Single-leg* lanyards have a steel snap hook with a ¾″ opening and require a carabiner to connect to a harness. *Dual-leg* lanyard attaches to two anchors at once. It has two steel snap hooks with ¾″ openings.

Lanyards with Anchor Point—These lanyards form their own anchor point by attaching directly to a rated structure. *Hook-over single-leg* lanyard has a large snap hook that attaches directly to a rated structure such as a scaffold or pipe to create an anchor point. Snap hook opening is 2½″. *Wrap-around single-leg* lanyard loops around a rated structure such as an I-beam and then attaches to itself to create an anchor point. It has a steel snap hook at each end with a ¾″ opening.

			Lanyards				Lanyards with Anchor Point			
			Single Leg		Dual Leg		Hook-Over Single Leg		Wrap-Around Single Leg	
Lanyard Lg.	Max. Cap., lbs.	Housing Material								
Polyester Webbing										
6 ft.	400	Plastic	8091T71	$162.57	8091T72	$414.42	8091T73	$194.15		
7½ ft.	400	Plastic							8091T74	$244.38
9 ft.	310	Aluminum/Plastic	8091T31	200.55						
11 ft.	310	Plastic	8091T32	292.07						
Optional Shock-Absorbing Attachment for 310-lb. Capacity Webbing Lanyards									8091T8	71.98
Stainless Steel Wire Rope										
11 ft.	310	Aluminum/Stainless Steel	8091T75	894.71						
20 ft.	310	Aluminum/Plastic	8091T53	715.94						
30 ft.	310	Aluminum/Plastic	8091T65	1,033.71						
50 ft.	420	Aluminum/Stainless Steel	8091T57	1,829.47						

Shock-Absorbing Fall-Arrest Lanyards









These lanyards absorb the force from a fall better than quick-stop lanyards, but don't stop you as quickly. For adequate fall clearance, you must have at least 20 ft. of clearance. A complete fall-arrest system requires a lanyard, a harness, and an anchor. When used properly, the system meets applicable OSHA requirements. 310-lb. capacity lanyards also meet ANSI Z359.1, except steel lanyards meet ANSI Z359.13.

Polyester/elastomer lanyards expand and contract with your movements. **Steel** lanyards hold up in abrasive and high heat applications. **Kevlar** lanyards meet ASTM F887-05 when used with an arc flash resistant harness.

Lanyards—*Single-leg* lanyards have a steel snap hook at each end with a ¾″ opening. *Dual-leg* lanyards attach to two anchors at once. They have a steel snap hook at each end with a ¾″ opening.

Lanyards with Anchor Point—*Hook-over single-leg* lanyards have a large snap hook that attaches directly to a rated structure such as a scaffold or pipe to create an anchor point. They have one steel snap hook with a ¾″ opening and one steel snap hook with a 2½″ opening. *Wrap-around single-leg* lanyards loop around a rated structure such as an I-beam and then attach to themselves to create an anchor point. They have a steel snap hook at each end with a ¾″ opening.

			Lanyards				Lanyards with Anchor Point			
			Single Leg		Dual Leg		Hook-Over Single Leg		Wrap-Around Single Leg	
Lanyard Lg.	Max. Cap., lbs.	Length (After Fall)								
Nylon Webbing										
6 ft.	310	9½ ft.	8168T18	$93.03	8168T65	$129.12				
4 to 6 ft.	310	10½ ft.	8168T16	108.83	8168T51	172.10			8168T54	$122.36
Polyester Webbing										
6 ft.	310	9½ ft.					8168T71	$110.46	8168T74	127.00
6 ft.	420	9½ ft.	8053T7	75.25	1014N3	120.60				
Polyester/Elastomer Webbing										
6 ft.	310	10 ft.	8168T72	90.63	8168T11	161.92	8168T73	128.06	8168T12	130.65
Steel Wire Rope										
6 ft.	310	10 ft.	8263T6	165.15	8263T7	212.76	8263T9	183.22		
Kevlar Webbing										
6 ft.	310	10 ft.	1785T6	164.85	1785T8	265.45			1785T7	178.98

Tool Lanyards





Keep your equipment close and prevent accidental drops. Lanyards are nylon.

Connection	Max. Cap., lbs.	Lg.	Carabiner		
For Single Tool					
Carabiner with Elastic Loop	10	35″	Aluminum	1009N11	$8.67
Carabiner with Elastic Loop	15	30″	Stainless Steel	1009N91	18.36
Carabiner with Detachable Elastic Loop	5	35″	Aluminum	1009N31	9.67
Replacement Detachable Elastic Loop				1009N41	4.25
Dual Carabiner	10	35″	Aluminum	1009N21	10.66
For Two Tools					
Triple Carabiner	15	35″	Stainless Steel	1009N71	37.66
Hard-Hat Lanyard				1009N81	3.92

Fall-Arrest Harnesses

Harnesses have a D-ring on the back that attaches to a lanyard. A complete fall-arrest system requires a lanyard, a harness, and an anchor. When used properly, the system meets ANSI Z359 and applicable OSHA standards.

Polyester/elastomer harnesses expand and contract with your movements.

For Fall Arrest—*Heat-resistant* harness withstands temperatures up to 700° F. *Electrical arc flash resistant* harness has leather-insulated metal components and meets ASTM F887-05 when used with an arc flash resistant lanyard.

For Fall Arrest and Extracting—These harnesses have one additional D-ring on each shoulder to raise or lower workers.

For Fall Arrest and Positioning—These harnesses have one additional D-ring on each hip to provide a stable working position.

For Fall Arrest, Ladder Climbing, and Positioning—These harnesses have an additional D-ring on the chest for use with ladder-climbing systems (attach harness to the system using a carabiner). Another D-ring on each hip provides a stable working position.

Accessories—*Harness webbing ring* attaches to a harness to keep excess lanyard webbing out of the way. *Leg support strap* attaches to a harness and has a foot loop so workers can flex legs while suspended and prevent suspension trauma when hanging motionless. *18″ D-ring extension strap* has a snap hook on one end and a D-ring on the other to add length to the existing D-ring on a harness and make it easier to attach a fall-arrest lanyard. *Suspension seat* is for lifting workers into hard-to-access areas.



Pullover



Front Buckle



Zip Up



With Slide Thigh Buckle



With Traditional Thigh Buckle

Harness Style	Max. Cap., lbs.	Material	Choose a Waist Size	With Slide Thigh Buckle		With Traditional Thigh Buckle	
For Fall Arrest							
General Purpose							
Pullover	400	Polyester	One Size (32″-48″)	_____	_____	8169T68	$142.74
Front Buckle	400	Polyester	One Size (32″-48″)	7942T52	$125.45	7942T192	139.67
Front Buckle	400	Polyester/Elastomer	One Size (36″-52″)	8960T51	150.49	8960T53	156.88
Heat Resistant							
Front Buckle	160	Nomex	S (4′10″-5′10″, 100-160 lbs.)	8263T811★	167.50	_____	_____
Front Buckle	260	Nomex	M/L (5′-6′2″, 180-260 lbs.)	8263T812★	167.50	_____	_____
Front Buckle	320	Nomex	XL (5′2″-6′2″, 280-320 lbs.)	8263T813★	167.50	_____	_____
Electrical Arc Flash Resistant							
Front Buckle	400	Kevlar	One Size (32″-56″)	1785T1	319.26	_____	_____
For Fall Arrest and Extracting							
Front Buckle	400	Polyester	One Size (32″-48″)	7942T62	142.69	_____	_____
For Fall Arrest and Positioning							
Front Buckle	400	Polyester/Elastomer	One Size (36″-52″)	8960T52	164.65	8960T54	170.74
Zip Up	310	Polyester	M (34″-37″), L (38″-41″), XL (42″-49″)	8709T3	218.12	_____	_____
For Fall Arrest, Ladder Climbing, and Positioning							
Pullover	400	Polyester	One Size (32″-48″)	_____	_____	8179T25	133.05
Front Buckle	400	Polyester	One Size (32″-48″)	_____	_____	7942T382	167.65
Accessories							
Harness Webbing Ring—1″ Wd.x1/16″ Thick.						1003N1	5.60
Leg Support Strap (Max. Cap. 400 lbs.)						5695T5	25.84
18″ D-Ring Extension Strap (Max. Cap. 310 lbs.)						1003N2	30.15
Suspension Seat—16 1/2″ Wd.×5″ Dp. ×3/4″ Thick. (Max. Cap. 310 lbs.)						7936T31	227.50

★Size is determined by height and weight.

Fall-Arrest Anchor Points and Carabiners

Webbing boom strap attaches to the arm of a bucket truck. The strap has a cinching buckle for a snug, nonslip fit. **Nail-on anchor point** includes fasteners. **Bolt-on anchor point** has 9/16″ mounting holes (fasteners not included). **Push-in anchor point** is good for vertical and horizontal concrete applications. Install into a drilled 3/4″ dia. mounting hole. **Stationary I-beam anchor point** works with vertical and horizontal I-beams. **Steel glide-along I-beam anchor point** provides the best mobility with smooth wheel bearings.



Webbing and Wire Rope Wrap-Around Anchor Points



Nail-On Anchor Point



Bolt-On Anchor Point



Push-In Anchor Point



Steel Glide-Along I-Beam Anchor Point



Carabiner

Wrap-Around Anchor Points

	Fits Max. Dia.	Max. Cap., lbs.	Material		
Webbing	10″	310	Polyester	11005T12	$61.94
Webbing	22″	310	Polyester	11005T13	70.79
Webbing Boom Strap	42″	350	Polyester	11005T14	27.78
Wire Rope	22″	310	Steel	11005T16	53.07
Wire Rope	15″	310	Stainless Steel	11005T15	123.95

Anchor Points

	⌐ Fits I-Beam ¬ Flange Wd.	Thick.	Max. Cap., lbs.	Material		
Nail-On Anchor Point for Roofs	____	___	310	Steel	11005T17	$37.40
Bolt-On Anchor Point	____	___	310	Steel	11005T11	51.59
Push-In Anchor Point for Concrete	____	___	310	Stainless Steel	11005T18	167.50
Stationary I-Beam Anchor Point	4″-8″	5/8″	310	Steel	11005T22	164.38
Glide-Along I-Beam Anchor Point	4″-12″	1 1/2″	310	Aluminum	11005T21	239.89
Glide-Along I-Beam Anchor Point	3″-8″	11/16″	310	Steel	8091T43	440.29

Carabiners

Opening Size (A)	Max. Cap., lbs.	Material		
11/16″	3,600	Steel	8091T21	$54.16
1 3/16″	3,600	Steel	8091T22	103.29
2 3/16″	3,600	Steel	8091T23	98.27

Shower Stations

Connect to your facility's plumbing and use a mixing valve (sold separately on page 1829) to ensure water flows at a comfortable temperature. Stations include an identification sign. They meet ANSI Z358.1 when properly installed.

Showers



Wall Mount



Ceiling Mount



Floor Mount

All have a 10″ dia. shower head. The all stainless steel station has excellent chemical and corrosion resistance for use in harsh environments.

Wall- and ceiling-mount showers have a 1 NPT female supply connection.

Floor-mount showers have a 1¼ NPT female supply connection and a floor-mounting flange (fasteners not included).

Material					Floor Mount	
Pipe	Valve	Head	Wall Mount	Ceiling Mount	Mounting Hole Dia.	
Galvanized Steel	Chrome-Plated Brass	ABS	5201T12 $186.60	5201T11 $178.80	7/16″	5201T21 $399.40
304 Stainless Steel	316 Stainless Steel	304 Stainless Steel	54255T5 505.00	54255T7 466.35	5/8″	54255T9 1,355.74

Showers with Eye Wash



Open Bowl



Covered Bowl



Without Bowl



Optional Spray Hose

These floor-mount stations combine a shower with an eye wash for convenience. They have a 10″ dia. shower head and dual spray heads, unless noted. Bowl is 11½″ dia. Pipe connections are 1¼ NPT female, except stations with PVC components have female socket weld connections with a pipe size of 2. The stations without a bowl do not have drain connections and should be used in areas with a floor drain. Stations with eye and face coverage provide greater flow than stations with eye coverage.

PVC components withstand harsh acids and other caustic chemicals.

Stainless steel components have excellent chemical and corrosion resistance.

Optional spray hose allows you to rinse your eye, face, or any part of your body. It has a squeeze handle. Mounts with a ½ NPT male connection. Valve is chrome-plated brass.

Material				Mounting	Showers with Eye Wash		Showers with Eye/Face Wash	
Pipe	Valve	Bowl	Head	Hole Dia.				
Open Bowl								
Galvanized Steel	Chrome-Plated Brass	ABS	ABS	7/16″	5557T7	$650.00	55505T2	$690.77
PVC	PVC-Coated Brass	ABS	ABS	11/16″	5627T121	1,109.07	5627T123	1,135.00
304 Stainless Steel	316 Stainless Steel	304 Stainless Steel	304 Stainless Steel	5/8″	55525T2	1,787.26	55525T8★	1,829.52
Covered Bowl								
Galvanized Steel	Chrome-Plated Brass	304 Stainless Steel	ABS	7/16″	5557T16	895.20	55505T15	888.49
304 Stainless Steel	316 Stainless Steel	304 Stainless Steel	304 Stainless Steel	5/8″	55525T21	2,176.18	55525T81	2,228.36
Without Bowl								
Galvanized Steel	Chrome-Plated Brass	—	ABS	7/16″	5557T1	608.00	55505T9	644.23
Optional Spray Hose							5535T21	235.33

★Eye/Face Wash has four spray heads.

Freeze-Resistant Shower Stations with Eye Wash



Through-the-Wall Station



Heated Station

For use in cold environments, these stations connect to your facility's plumbing and drain automatically to prevent the pipes from freezing. They do not have a bowl. Shower head is 8″ dia. and made of ABS. Pipe is galvanized steel. All stations meet ANSI Z358.1 when properly installed.

Through-the-wall station is for use with walls up to 12¾″ thick. You can install the shower head and eye wash in an unheated area, but the valve must be installed indoors to keep water flowing at a comfortable temperature. Valve is chrome-plated bronze and pipe is galvanized steel. Shower has a 1¼ NPT female supply connection; eye wash has a ½ NPT female supply connection.

Heated floor-mount station can be fully exposed to the elements without freezing in temperatures as low as -50° F. Housed in a water- and dust-tight junction box with a pilot light, the thermostat keeps the water at a comfortable temperature. Thermostat has a temperature range of 60° to 70° F, operates on 120 volts AC, and has three wire leads for hardwiring. Junction box meets NEMA 4X for outdoor use and washdown environments. Valve and spray arms are chrome-plated brass. Station has 1 NPT male supply connections. Mounting flange has ½″ dia. mounting holes (fasteners not included).

Hazardous-location heated floor-mount station has the same specifications as the heated station and is also FM approved for Class I, Division 2, Groups B, C, and D hazardous locations.

Through-the-Wall Station	9120T58	$1,265.54
Heated Floor-Mount Station	9789T45	3,486.21
Hazardous-Location Heated Floor-Mount Station	9789T47	3,765.52

ANSI-Compliant Eye Wash Stations with Pipe Connection


Wall Mount with Open Bowl


Wall Mount with Covered Bowl


Floor Mount with Open Bowl (Shown with Spray Hose)


Sink Mount (Swing Left)


Sink Mount (Swing Down)


Hand Held (Wall Mount)


Hand Held (Wall Mount with Self-Retracting Hose)

Once connected to your facility's plumbing, these stations require very little maintenance to comply with ANSI standards. Use a mixing valve (sold separately) to ensure water flows at a comfortable temperature. All stations meet ANSI Z358.1 when properly installed. Bowls are 11¾″ dia. Stations with eye and face coverage provide greater flow than stations with eye coverage. Stations made of stainless steel withstand corrosive chemicals.

Wall Mount—All stations have a ½ NPT female supply connection and a flag handle to activate water flow. *Open bowl* and *covered bowl* stations have a 1¼ NPT female drain connection and mounting bracket with ⅜″ dia. holes; *without bowl* stations have a mounting bracket with 7⁄16″ dia. holes. Fasteners not included.

Floor Mount—Bolt in the floor-mount flange to use these free-standing stations. They have a ½ NPT female supply connection and a 1¼ NPT female drain connection. The mounting flange has 7⁄16″ dia. holes (fasteners not included).

Optional spray hose attaches to an eye wash station to rinse your eyes, face, or any part of your body.

Sink Mount—Mount these stations next to a sink—water flow is activated by swinging the unit 90° from the storage position. *Swing-left* and *swing-right* stations have a ½ NPT female supply connection. *Swing-down* station has a ½ NPT male supply connection.

Hand Held—The hose gives you longer reach than other eye wash stations. Direct the flow of water to rinse any part of your face or body. Valve and arms are chrome-plated brass. *Bench-mount* hose requires a 1⅜″ dia. cutout. *Wall-mount* styles have ¼″ dia. holes (fasteners not included).

Wall Mount

	Material					
Valve and Spray Arms	Bowl	Bracket	Eye Wash		Eye/Face Wash	
Open Bowl						
Chrome-Plated Brass	ABS	Aluminum	5535T11	$191.60	5549T11	$212.20
316 Stainless Steel	304 Stainless Steel	304 Stainless Steel	5535T23	731.36	5549T15	848.30
Covered Bowl						
Chrome-Plated Brass	304 Stainless Steel	Aluminum	5535T37	445.40	5549T16	461.20
304 Stainless Steel	304 Stainless Steel	304 Stainless Steel	5535T12	864.50	5549T51	934.17
Without Bowl						
Chrome-Plated Brass	—	Aluminum	5535T61	202.64	5549T41	207.64
Optional Spray Hose					5535T21	235.33

Floor Mount

	Material					
Pipe	Valve and Spray Arms	Bowl	Eye Wash		Eye/Face Wash	
Open Bowl						
Galvanized Steel	Chrome-Plated Brass	ABS	5568T7	$249.64	5559T23	$334.69
304 Stainless Steel	304 Stainless Steel	304 Stainless Steel	5568T6	1,027.27	5559T32	1,060.18
Covered Bowl						
Galvanized Steel	Chrome-Plated Brass	304 Stainless Steel	5568T13	497.74	5559T8	638.67
304 Stainless Steel	304 Stainless Steel	304 Stainless Steel	5568T33	1,210.73	5559T34	1,225.27
Optional Spray Hose					5535T21	235.33

Sink Mount

Activation	Valve and Spray Arm Material	Eye Wash	
Swing Left	Chrome-Plated Brass	9702T13	$258.91
Swing Right	Chrome-Plated Brass	9702T14	258.91
Swing Down	Chrome-Plated Brass	9702T15	407.45

Hand Held

	Handle Type	Hose Material	Hose Lg.	Hose Connection	Eye/Face Wash	
Bench Mount	Squeeze Trigger	PVC	8 ft.	⅜ NPT Male	5623T41	$296.20
Wall Mount	Squeeze Trigger	PVC	8 ft.	⅜ NPT Male	5623T31	290.20
Wall Mount with Self-Retracting Hose	Push Handle	Nylon	12 ft.	⅜ NPT Female	9721T121	304.80

Eye Wash Mixing Valves

Ensure water flows at a comfortable temperature. These bronze valves meet ANSI Z358.1 when used properly with a station. Outlet temperature range is 60° to 95°F. Connections are NPT female.

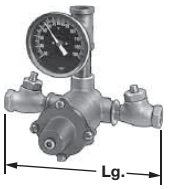

Pipe Size		Max. Inlet		Flow Rate,			
Inlet	Outlet	Pressure	Temp.	gpm	Lg.		
For Eye Wash Stations							
½	½	125 psi	180°F	1 to 12.3	7¾″	6208T14	$611.65
¾	1	125 psi	180°F	3 to 46.5	11 11⁄16″	6208T15	1,046.56
For Eye Wash and Shower Stations							
1¼	1½	125 psi	180°F	3 to 118	16″	6208T16	1,810.81

ANSI-Compliant Portable Eye Wash Stations

For jobs that require mobility, these stations deliver a continuous flow of water without plumbing. They meet ANSI Z358.1. Tank is 304 stainless steel and has a pressure relief valve. Eye wash unit has two spray heads and a valve. The 6-ft. PVC spray hose has a squeeze handle. To operate, fill the reservoir with water and add the included 8-oz. bottle of water additive. After filling with water, pressurize the unit to 80 psi.

Freeze-resistant station has a thermostat that keeps water at a comfortable 65°F in environments as cold as -20°F. Station operates on 120 volts AC and has a 9-ft. cord with plug.



	Change Cycle	Dia.	Ht.	Capacity		
Standard	6 mo.	16″	39″	15 gal.	5420T23	$1,034.00
Freeze Resistant	6 mo.	18″	40″	15 gal.	5420T24	1,844.69
Water Additive (8 oz.)					54285T29	12.67

ANSI-Compliant Stand-Alone Eye Wash Stations



Standard

No plumbing required—surface mount these eye washes wherever an ANSI-compliant station is needed. All meet ANSI Z358.1. Stations are green polyethylene.

Mix-your-own refills require water; pour the refill into the tank and then fill with water. Choose from an 8-oz. bottle of water additive or a 1.4-gal. bottle of saline concentrate.

Ready-to-use refills don't need mixing. Saline bottle for standard and freeze-resistant stations is 1 gal. (requires 16 to fill tank); saline cartridge for easy-maintenance station is 6.9 gal. (requires one).

Standard

This station comes with one 8-oz. bottle of water additive. It is 20½" Ht.×22" Wd.×20" Dp. Wall mount using the included bracket with ¼" dia. holes (fasteners not included).

Eye wash fluid container captures used eye wash fluid. Container is polyethylene. Size is 33" Ht.×17" Wd.×18" Dp.

Change Cycle	*Eye Wash Station*		*Mix-Your-Own Refills* Water Additive		Saline Concentrate		*Ready-to-Use Refill* Saline Bottle	
6 mo.	54285T16	$222.00	54285T29	$12.67	5388T47	$74.78	5388T59	$22.22
Replacement Wall Bracket							54285T31	27.70
Replacement Fill Cap							54285T33	47.38
Dust Cover							54285T32	68.98
Eye Wash Fluid Container (23½ gal. capacity)							5388T86	215.68



Easy Maintenance

Easy Maintenance

The easy-to-install saline cartridges used in these stations can go four times longer without being changed than the solution used in our other stations. A side window displays the cartridge's expiration date. Station is 32" Ht.×17" Wd.×13½" Dp. Set on a flat surface or wall mount using the included bracket with ¼" dia. holes (fasteners not included).

Change Cycle	*Eye Wash Station*		*Saline Cartridge*	
24 mo.	56265T21	$457.82	56265T22	$310.83
Dust Cover			56265T23	117.95



Freeze Resistant

Freeze Resistant

Plug this station in and the thermostat keeps eye wash solution at a comfortable temperature in environments as cold as -32° F. Operates on 120 volts AC and has a 4-ft. cord with a plug. Station is 24" Ht.×19¾" Wd.×19" Dp. Set on a flat surface or wall mount using the included bracket with ¼" dia. holes (fasteners not included).

Eye wash fluid container captures used eye wash fluid. Container is polyethylene. Size is 33" Ht.×17" Wd.×18" Dp.

Change Cycle	*Eye Wash Station*		*Mix-Your-Own Refills* Water Additive		Saline Concentrate		*Ready-to-Use Refill* Saline Bottle	
4 mo.	5388T85	$1,752.53	5388T95	$10.02	5388T47	$74.78	5388T59	$22.22
Replacement Pull Strap							5388T15	23.92
Eye Wash Fluid Container (23½ gal. capacity)							5388T86	215.68

Eye Wash and Shower Station Replacement Parts

Keep your emergency stations running with these replacement parts.

Bradley Replacement Parts: In addition to the parts shown below, we also offer Bradley replacement parts. Please ask for 5984T1 and specify the Bradley part number.

Eye Wash Station Replacement Parts

	For Guardian Stations Manufacturer Part No.		Each	For Haws Stations Manufacturer Part No.		Each	For Speakman Stations Manufacturer Part No.		Each
Spray Heads									
For Eye Wash	AP470-001	5557T68	$18.20	SP11FC	5590T13	$102.00	RPG38-0379	5603T53	$21.38
For Eye Wash	AP470-021	5557T73	26.20	SP11FC	5590T13	102.00	RPG38-0379	5603T53	21.38
For Eye Wash with Bowl Cover	AP470-001LDC	5559T85	20.22	SP65	5590T24	169.09	RPG38-0380	5603T54	22.32
For Eye Wash with Bowl Cover	AP470-021LDC	5559T74	29.11	SP65	5590T24	169.09	RPG38-0380	5603T54	22.32
Spray Head Aerators									
For Eye Wash							RPG05-1177	5603T64	17.93
On/Off Valves with Flag Handle—½ NPT female connections									
Chrome-Plated Brass	AP600-101H	5549T34	118.67	SP229	5590T19	174.55	SE-910	5603T59	146.72
316 Stainless Steel	AP620-101H	55505T22	207.17	SP232	5590T21	336.77	SE-910-SSBV	5603T73★	347.81
Bowls									
ABS	100-009ORG-R	5557T52	64.80	SP93	5590T22	98.40	RPG68-0072	5603T61	78.32
304 Stainless Steel	100-008R	5557T53	89.80	SP90	5590T23	150.00	RPG68-0043	5603T62	124.49
Chrome-Plated Brass Pipe Nipples—⅜ NPT male connections									
2¼" Lg.	BI136-02-04	5557T4	12.60						
Spray Head Dust Covers			Pkg. of 2			Pkg. of 2			
For Eye Wash	AP470-002ORG-R	5557T69	$7.20	9095	5590T11	$21.60	RPG07-0104	5603T71	3.29
			Pkg. of 2			Each			
For Eye Wash	AP470-022ORG-R	5557T74	$10.20	9091	5590T25	$22.80	RPG07-0104	5603T71	3.29
Polyurethane Filters for Spray Heads			Pkg. of 6						
1⅛" Dia.	470-004R	5557T54	$9.60						
1¾" Dia.	470-024R	9721T13	13.00						

★Made of 304 stainless steel.

Shower Station Replacement Parts

Connections	For Guardian Stations Manufacturer Part No.			For Haws Stations Manufacturer Part No.			For Speakman Stations Manufacturer Part No.		
Shower Heads—Guardian are 10" dia.; Haws are 10⅝" dia.; Speakman are 8" dia.									
ABS 1 NPT Female	AP450-032	5341T13■	$70.29	SP829	5590T15	$123.60	SE-810	5603T65	$116.28
304 Stainless Steel 1 NPT Female	AP450-048	5341T15	169.60	SP829SS	5590T16	269.93	SE-820	5603T66	302.67
Elbow Adapters—Connect shower head to pipe									
ABS 1 NPT Female× 1½ NPT Male	330-12-08	5341T41	32.44						
On/Off Valves									
Chrome-Plated Brass 1 NPT Female	AP600-335H	5557T51	122.80	SP260	5590T17	218.18	SE-911	5603T57	194.94

■ For 1 NPT female connection.

Supplemental Eye Wash Stations

Use these eye washes in addition to an ANSI-compliant station for areas that need immediate access to eye wash.

Wall-Mount Eye Wash Stations with Bottles

Mount these stations in a convenient location. They come with polyethylene squeeze bottles.

Stations with standard bottles have bottles that flood the eye with solution and come sealed with a tamper-evident tab. Stations include mounting fasteners.

Stations with directed-stream bottles have bottles with a built-in eye cup that concentrates the flow of solution over the eye. Ready-to-use saline solution is sold separately. Stations have 1/4" dia. mounting holes (fasteners not included).



Station with Standard Bottle


Standard Bottle


Directed-Stream Bottle

Bottle Capacity	No. of Bottles	Bottle Contents	Bottle Reusable	Overall Size Ht.	Overall Size Wd.	Eye Wash Stations		Replacement Bottles Contents	Replacement Bottles	
Stations with Standard Bottles										
16 oz.	1	Saline	No	14"	12 1/4"	10955T11	$23.30	Saline	10955T12	$12.05
32 oz.	1	Saline	No	14"	12 1/4"	10955T13	30.46	Saline	5345T45	14.98
32 oz.	2	Saline	No	12"	15"	5345T43	66.15	Saline	5345T45	14.98
Stations with Directed-Stream Bottles										
16 oz.	1	Empty	Yes	17 1/2"	15"	5531T14	46.56	Empty	5531T18	15.60
32 oz.	1	Empty	Yes	17 1/2"	15"	5531T16	50.45	Empty	5531T19	17.10
32 oz.	2	Empty	Yes	18"	14"	5531T17	61.49	Empty	5531T19	17.10
Ready-to-Use Saline Solution for Directed-Stream Bottles (1 gal.)									5388T59	22.22

Portable Eye Washes

Keep eye wash solution handy when you're on the go. This vinyl bag comes with 12 polyethylene squeezable standard bottles to flood the eye area with solution. It also has a carrying strap.



Bottle Capacity (No. of Bottles)	Bottle Contents	Bottle Reusable	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.		
1 oz. (6); 4 oz. (6)	Saline	No	9"	13"	4"	55255T11	$54.58
Replacement 1-oz. Bottle of Saline						55255T12	3.24
Replacement 4-oz. Bottle of Saline						55255T13	5.00

Wall-Mount Eye Wash Stations with Reservoir

The 1-gal. station includes a ready-to-use saline cartridge.

The 6-gal. station comes with saline concentrate. Use the concentrate or an 8-oz. bottle of water additive (sold separately) and then fill reservoir with water. Station includes a mounting bracket with 1/4" dia. holes (fasteners not included). *Eye wash fluid container* captures used eye wash fluid.


1-gal. Station



6-gal. Station

Wash Time	Change Cycle	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.		
1-gal. Station						
3 min.	6 mo.	20"	10 1/2"	14"	6210T21	$161.91
Ready-to-Use Saline Solution Cartridge Refill (1 gal.)					6210T26	41.32
Wire Storage Rack for Saline Cartridges—holds four cartridges					6210T27	48.88
Replacement Pull Strap					6210T29	21.97
6-gal. Station						
6 min.	6 mo.	22 1/2"	15 1/2"	13 1/2"	5388T65	247.93
Saline Solution Concentrate Refill (70 oz.)					5388T46	38.17
Water Additive (8 oz.)					5388T95	10.02
Eye Wash Fluid Container (23 1/2 gal. capacity)		33"	17"	18"	5388T86	215.68

Faucet-Mount Eye Wash Stations

Transform your sink into an eye wash station. Stations come ready to attach to your faucet. To install, remove the aerator and thread the eye wash onto the faucet. Adapters for different aerator sizes are included. An on/off valve allows the faucet to function normally after installation.


Low Profile

Gooseneck

For Faucet Style	Spray Arm Material		
Stations			
Low Profile	Chrome-Plated Brass	9792T42	$65.45
Gooseneck	Chrome-Plated Brass	9792T41	85.45
Replacement Parts			
Caps (Pkg. of 2)		9792T54	7.63
On/Off Knobs (Pkg. of 2)		9792T55	13.00
Outlet Head Assembly		9792T56	17.00
Flow Diverter with O-Rings		9792T53	28.10
Valve Stem Assembly		9792T51	32.75

Shower Station Test Kits, Privacy Curtains, and Inspection Tags

Shower station test kit includes a water diverter with rod and a 5-gal. catch bucket.

Privacy curtain is yellow polyester. It comes with a steel rod that assembles into a 52"×56" oval hoop. Hardware for mounting to a shower pipe is included.

Inspection tags are 3 1/8" Wd.×6 1/4" Ht. cardstock. They have a reinforced eyelet and a wire-tie for hanging.


Shower Test Kit


Privacy Curtain


Inspection Tag

Shower Station Test Kit	9791T36	$56.50
Shower Station Privacy Curtain	9790T69	288.33
Inspection Tags (Pkg. of 10)	11145T5	7.57

First-Aid Supplies

Bandages



Metal-detector-grade bandages have an aluminum lining that can be sensed by metal detectors. Good for use in food preparation areas.
Closure bandages are also known as butterfly bandages.

	Pkg. Qty.		Pkg.
Plastic			
3/4"×3"	100	54845T69	$4.89
3/4"×3"	1,500	54845T71	58.38
1"×3"	100	54845T23	5.53
1"×3"	1,500	54845T72	65.25
2"×3"	100	54845T38	16.89
Assorted Sizes	80	54845T79	4.42
Closure Bandages, 3/8"×1 3/4"	100	54845T76	9.75
Medicated Plastic			
3/4"×3"	30	54845T65	5.29
Assorted Sizes	20	54845T66	5.15
Waterproof Plastic			
1"×2 1/2"	30	54845T62	4.46
2"×3"	10	54845T63	5.15
Assorted Sizes	30	54845T64	5.15
Fabric			
3/4"×3"	100	54845T73	5.40
3/4"×3"	1,300	54845T74	58.00
1"×3"	100	54845T11	7.67
1"×3"	1,300	54845T75	69.56
1"×3 1/4"	20	54845T58	4.57
1 3/4"×4"	10	54845T59	4.57
2"×4"	50	54845T82	8.92
Assorted Sizes	20	54845T81	5.15
Fingertip Bandages	40	54845T141	6.68
Knuckle Bandages	100	54845T12	12.41
Foam			
1"×3"	30	54845T61	5.15
Metal-Detector-Grade			
1"×3"	100	54845T86	10.66
Fingertip Bandages	25	54845T88	9.97
Knuckle Bandages	40	54845T87	9.34
Liquid Bandage			
Brush-On Applicator, 1 oz. Bottle	1	54845T98	9.61
Blister Care			
Gel Strip, 2 5/8"×5/8"	8	54845T49	7.18
Gel Strip, 2 3/4"×1"	6	54845T47	7.18

Elastic Bandages



Secure with the self-adhering flap—no tape or clips required.

	Pkg. Qty.		Pkg.
2"×5 yds.	10	54845T121	$23.99
3"×5 yds.	10	54845T112	28.99

Gauze

	Pkg. Qty.		Pkg.
Pads			
2"×2"	100	54845T35	$12.41
3"×3"	100	54845T36	13.04
4"×4"	100	54845T37	20.30
Nonstick Pads			
2"×3"	100	54845T26	9.54
3"×4"	100	54845T39	12.20
Eye Pad			
2 1/8"×2 5/8"	50	54845T77	14.09
Rolls			
2"×4 yds.	12	54845T51	10.17
3 1/2"×2 yds. w/ 9"×5 1/2" Bloodstop Pad	1	54845T41	4.70

First-Aid Tape



To Order: For fabric tape, please specify blue, green, red, white, or yellow.

Waterproof, 1/2"×10 yds.	54845T45	$2.48
Waterproof, 1"×5 yds.	54845T68	2.54
Tri-Cut, 1/2", 5/8", and 7/8"×5 yds.	54845T33	4.15
Fabric Tape, 1"×15 yds.	54845T97	5.80

Antiseptic



	Pkg. Qty.		Pkg.
Isopropyl Alcohol 70% Wipes, 1 1/8"×2 5/8"	200	54845T29	$3.98
Isopropyl Alcohol 70% Wipes, 1 3/4"×3 1/4"	100	54845T25	5.83
Isopropyl Alcohol 70% Swabs	50	54845T281	15.83
Isopropyl Alcohol 70% 16 oz.	1	54845T42	2.44
Isopropyl Alcohol 70% 1 gal.	1	54845T43	19.27
Benzalkonium Chloride 0.13% Wipes, 5"×8"	100	54845T19	6.18
Benzalkonium Chloride Spray 0.10%, 2 oz.	1	54845T481	4.11
Iodine 1%, 16 oz.	1	54845T46	8.72
Iodine 10% Wipes, 1 1/2"×2 3/4"	100	54845T24	7.40
Hydrogen Peroxide 3%, 16 oz.	1	54845T44	1.64

Ointments, Burn Gels, and Sprays



	Pkg. Qty.		Pkg.
Generic Antibiotic Cream, Single-Use Packet	10	54845T91	$2.60
Neosporin Cream, Single-Use Packet	144	54845T21	64.31
Neosporin Cream, 1-oz. Tube	1	54845T32	13.22
Burn Pain Gel, Single-Use Packet	6	61585T25	6.25
Burn Pain Strip, 2"×6"	1	61585T23	5.27
Burn Pain Strip, 4"×4"	1	61585T24	6.26
Blood-Clotting Powder, Single-Use Packet	2	54845T571	9.16
Blood-Clotting Spray, 3 oz.	1	54845T561	9.07

Cold and Hot Therapy



Disposable Cold and Hot Packs—Squeeze to break the inner bag for instant activation.
Reusable Hot/Cold Pack—For cold, freeze for two hours. For heat, microwave for one minute or place in hot water for seven minutes.

	Pkg. Qty.		Pkg.
Disposable Packs			
Cold, 4 1/2"×7"	4	54695T63	$5.30
Cold, 5 1/2"×8"	1	54695T65	1.39
Hot, 6"×8"	4	56815T3	16.97
Reusable Pack			
Hot/Cold, 7 1/2"×10 1/4"	1	54695T73	3.00
Spray—For sprains and muscle pulls			
Cold, 4 oz.	1	54845T55	5.13

Additional Supplies



	Pkg. Qty.		Pkg.
Cotton Balls	130	54845T16	$6.80
3" Single-Tip Cotton Swabs	100	54845T17	2.75
6" Single-Tip Cotton Swabs	100	54845T78	2.35
3" Double-Tip Cotton Swabs	300	54845T94	3.11
Tongue Depressors, 3/4"×6"	100	54845T672	5.29
Tongue Depressors, 3/4"×6"	500	54845T85	12.38
Sterile Tongue Depressors, 3/4"×6"	100	54845T96	9.90
Disposable Oral Thermometers	100	54845T83	22.12
Eye Wash Cups	6	54845T54	3.42
Facial Tissues (2 ply)	100	54845T22	2.01
Stainless Steel Splinter Removers	10	54845T52	2.98
Eye Drops, 1/2-oz. Bottle	1	54845T53	2.62
Breath Alcohol Indicator (indicates alcohol concentration levels at or above 0.08%)	1	54845T923	10.91
Stainless Steel First-Aid Tweezers		54845T34 Each	$2.33
First-Aid Manual		54845T89 Each	$1.57

Packaged Medications



Generic Medications

	Pills per Packet	Packets per Box		Box
Heat-Stress Cramp Pills	2	50	54125T57	$7.50
Antacid Chewable Tablets	2	125	54125T26	10.92
Cold-Relief Pills	2	50	54125T21	6.73
Sinus Decongestant Pills	1	100	54125T22	7.38
Acetaminophen Pills (325 mg)	2	75	54125T52	7.66

Brand-Name Medications

	Pills per Packet	Packets per Box		Box
Bayer Aspirin Pills (325 mg)	2	25	54125T63	$8.63
Advil Pills (Ibuprofen, 200 mg)	2	50	54125T72	19.97
Aleve Pills (Naproxen Sodium, 220 mg)	1	50	54125T81	23.94
Extra-Strength Tylenol Pills (Acetaminophen, 500 mg)	2	50	54125T17	20.29
Alka-Seltzer Pills	2	6	54125T14	5.21
Pepto-Bismol Chewable Tablets	1	30	54125T15	8.32
Chloraseptic Lozenges	1	18	54125T78	6.13

Generic-Equivalent Medications

Pills per Packet	Packets per Box		Box
2	125	54125T19	$10.70
2	100	54125T51	14.62
1	50	54125T82	15.08
2	50	54125T53	8.34
2	18	54125T56	7.80
2	50	54125T55	12.97
—	—	—	—

Outdoor Skin Protection



Poison Ivy, Oak, and Sumac							
Single-Use Preventive Wipes (50/Box)	55645T28	Box	1-3	$38.95	4-Up	$34.94
Itch Cream, 4-oz. Bottle	55645T2	Each	1-3	6.18	4-Up	5.56
Sunscreen							
SPF 30 Cream, 4-oz. Bottle	55645T8	Each	1-3	6.92	4-Up	6.29
SPF 30 Lotion, Single-Use Packets (50/Box)	55645T55	Box	1-3	30.60	4-Up	27.54
Insect							
100% DEET Repellent Spray, 2-oz. Spray Bottle	55645T4	Each	1-3	7.33	4-Up	6.60
30% DEET Repellent Wipes, Single-Use Packets (50/Box)	55645T29	Box	1-3	38.95	4-Up	34.94
DEET-Free Repellent Bracelet (Lasts 120 hrs.)	54095T1	Each	1-3	4.40	4-Up	3.91
Insect Bite Cream, 1/2-oz. Tube	55645T5	Each	1-3	4.80	4-Up	4.36

First-Aid Kits



Wall-Mount Kit



Portable Case Kit for 25 or More People



Burn Care Kit



Trauma Kit

Wall Mount Kits

Kits come in a white powder-coated steel cabinet with a first-aid logo. Cabinets have 3/16″ dia. mounting holes (fasteners not included). Kits comply with ANSI Z308.1.

For Maximum No. of People	Overall Size Ht.	Wd.	Dp.	First-Aid Kits		Complete Refills	
Up to 100	15 3/4″	16 3/4″	5 3/8″	9501T11	$169.30	9501T21	$118.88
Up to 125	21 1/8″	15 1/8″	5 1/8″	9501T12	215.32	9501T22	132.17

Portable Kits

Case kits have a first-aid logo. Kits for 3 and 10 people have a water-resistant gasketed lid to keep contents dry. Kits for 25 and 50 people have 1/4″ dia. mounting holes (fasteners not included). Cases are made of white powder-coated steel.

Fanny pack kit has a belt that adjusts from 28″ to 44″.

For Maximum No. of People	Overall Size Ht.	Wd.	Dp.	First-Aid Kits		Complete Refills	
Case Kits							
3	5″	8″	2 1/2″	9643T13	$30.37	9643T23	$17.90
10	9 3/4″	14″	2 3/4″	9643T14	53.90	9643T24	42.23
25	7 3/4″	10 3/4″	2 1/2″	5533T12	28.74	5533T26	21.04
50	11 1/8″	10 3/4″	2 1/2″	5533T13	50.16	5533T27	33.20
Fanny Pack Kit							
5	4 1/2″	8 1/2″	3 1/4″	14485T18	Each		$34.73

Burn care kits include packets of burn gel and dressings treated with burn gel. Furnished in a white plastic case. Complies with ANSI Z308.1.

Trauma kit includes basic first aid supplies, a blanket to prevent shock, bloodstop compress dressings, a CPR mouth shield, and gauze and bandages. Comes with a red bag.

For Maximum No. of People	Overall Size Ht.	Wd.	Dp.	Kits		Complete Refills	
Burn Care Kit							
5	12″	16″	8″	61585T21	$58.13	—	—
Trauma Kit							
10	7″	12″	7″	9614T5	141.01	9614T6	$64.80

Water-Resistant First-Aid Kits



Kits have a white steel case with a gasketed lid to keep contents dry. Color-coded packaging allows you to organize and quickly find the supplies you need. Antiseptics are blue, bandages are yellow, burn treatment is red, protective equipment is orange, and miscellaneous items are green. Case has 1/8″ and 1/2″ dia. holes for wall mounting (fasteners not included).

Refills are also color coded.

Kits

For Maximum No. of People	Overall Size Ht.	Wd.	Dp.		
5	5″	8″	2 5/8″	5630T22	$42.18
8	6 3/4″	9 1/2″	2 5/8″	5630T23	59.94
12	9 1/2″	9 1/2″	2 5/8″	5630T24	84.41
18	9″	14″	2 5/8″	5630T25	105.96

Refills

	Pkg. Qty.		Pkg.		Pkg. Qty.		Pkg.
Adhesive Bandages, 1″×3″	16	9128T49	$1.56	Antiseptic Wipes	10	9128T26	$1.16
Adhesive Bandages, 2″×4″	6	9128T41	2.24	Iodine Wipes	10	9128T45	1.93
Arm Sling	1	9128T13	2.67	Sting-Relief Wipes	10	9128T46	2.33
Adhesive Knuckle Bandages	8	9128T51	1.80	Burn Pain Ointment Packets, 1/8 oz.	6	9128T27	4.93
Gauze Pad, 3″×3″	4	9128T42	1.89	Smelling Salts	10	9128T65	5.31
Gauze Pad, 24″×72″	1	9128T14	2.80	Eye Pads	4	9128T36	2.42
Gauze Roll, 2″×36″	4	9128T11	4.27	Eye Wash, 1 oz.	1	9128T47	4.20
Gauze Roll, 4″×36″	1	9128T12	2.44	Wire Mesh Splint	1	9128T52	4.69
Adhesive Tape, 1/2″×2 1/2 yd.	2	9128T43	1.87	Nitrile Gloves	4	9128T66	2.95
Cold Pack	1	9128T48	1.33	Tourniquet	1	9128T25	4.43

CPR Mouth Shields



The one-way valve on the mouth shield protects rescuer from victim's breath and fluids. Mouth shield is clear plastic and allows you to view victim's coloring and inspect for airway blockage. Not for use on children under 12.

Shield kit includes a shield, a pair of latex gloves, and four alcohol wipes.

Shield	55965T54	$9.43
Shield Kit	55965T55	11.69

First-Aid Cases



Steel

Take your supplies anywhere in one of these convenient carrying cases. All are white and have 3/8″ dia. mounting holes (fasteners not included). Cases with a gasketed lid are water resistant and keep contents dry.

Steel cases have a divider.

	Overall Size Ht.	Wd.	Dp.		
Plastic with Gasketed Lid	4 3/4″	8 1/2″	3 1/4″	41035T16	$3.28
Steel with Gasketed Lid	9 1/8″	6 3/8″	2 3/8″	41035T17	17.05
Steel	10 1/4″	14 3/4″	4 5/8″	41035T18	31.80

Bodily Fluid Cleanup Kit



Safely and effectively clean up infectious material and fluids in compliance with OSHA requirements.

Kit contains a barrier gown, one pair of goggles, one pair of vinyl gloves, one pair of shoe covers, a surgical-style mask, two antimicrobial towelettes, absorbent compound, a scoop, surface disinfectant, two paper towels, an incident report sheet, and a biohazard disposal bag. Furnished in a polypropylene carrying case with 3/8″ dia. mounting holes (fasteners not included).

Overall Size, Ht.×Wd.×Dp.		
7″×10″×3″	14935T21	$23.46

Wall-Mount Shelf Cabinets with Clear-View Door



One Door

Keep an eye on inventory without opening the doors. These wall-mount cabinets have a lock and two keys.

Cabinet with one door is made of steel with a white powder-coated finish and 3/8″ dia. keyholes for mounting (fasteners not included). It has three welded shelves, plus a pull-out shelf at the base that can be used as a work area.

Cabinet with two doors is made of steel with a beige painted finish and 1/4″ dia. keyholes for mounting. Fasteners are included.

	O'all Size Ht.	Wd.	Dp.		
One Door	27″	18″	8″	5573T1	$202.90
Two Doors	26″	30″	12″	14725T55	471.06

Pop-Up Shelters



With One Door



With Two Doors

Pop out the two tension frames and these shelters are ready to protect you from rain, snow, sun, and wind. The shelter fabric is urethane-coated polyester and is flame retardant to meet Canvas Products Association International CPAI-84. All have a zippered slit door, a netted window on the rear wall, a 10″ dia. vent port, and a built-in carrying case. Color is white with high-visibility green lower side walls.

Shelters with two doors also have a zippered roll-up door.

O'all Size Ht.	Wd.	Dp.	Shelters with One Door		Shelters with Two Doors	
6′8″	6′	6′	6214T11	$677.78	6214T21	$790.48
7′8″	8′	8′	6214T13	950.79	6214T23	1,058.73

Safety and First-Aid Posters

Posters are 20″ Ht.×24″ Wd. and made of 0.06″ thick polystyrene. Messages are red and black on a white background. All have 1/8″ dia. mounting holes (fasteners not included).







		Each	
		1-4	5-Up
Safe Lifting	55565T1	$20.64	$17.69
Emergency First Aid	55565T2	20.64	17.69
CPR	55565T3	20.64	17.69

Emergency Oxygen Cylinders with Mask



Disposable



Refillable

These compact cylinders are easy to transport. Complete units include a filled oxygen cylinder, 7 ft. of tubing, a face mask, and a pressure gauge. Cylinders deliver 6 liters per minute.

Refillable cylinder has two oxygen-supply settings. Furnished in a carrying bag with a shoulder strap.

Oxygen Supply	Complete Units		Replacement Cylinder		Replacement Mask	
Disposable Cylinder—3″ Dia.×13½″ Ht.						
15 min. @ 6 lpm	5275T3	$174.72	5275T2	$93.24	———	———
Refillable Cylinder—4⅜″ Dia.×14″ Ht.						
20 min. @ 12 lpm, 40 min. @ 6 lpm	5275T4	254.49	5275T6	143.48	5275T8	$10.42
7 ft. of Replacement Tubing for Refillable Cylinder			5275T9	2.00		

Fire Blankets

A highly visible storage case directs you to these blankets in an emergency. *Nomex* blanket is heat and chemical resistant.

Nylon case has a bright red vinyl coating.

Surface-mount steel case is 24 ga. with a red powder-coated finish. It's 9″ Dia.×19½″ Lg. and has ⅜″ holes for mounting (fasteners not included). Pull down lid to release blanket.



Blanket Material	*Blanket Size* Lg.	Wd.	Blanket and Case		Blanket Only	
Nylon Case						
Wool	80″	62″	6542T21	$63.14	6542T22	$30.30
Surface-Mount Steel Case						
Wool	84″	66″	6542T1	102.40	6542T7	41.28
Nomex	80″	60″	6542T4	140.97	6542T9	82.29
Surface-Mount Steel Case Only					6542T3	66.07

Fold-Away Beds



A 1¾″ thick foam mattress makes this bed a comfortable yet practical choice. Frame is steel. Overall size is 80″ Lg.×30″ Wd.×15″ Ht.; folded size is 40″ Lg.×31″ Wd.×5½″ Ht. Maximum weight capacity is 300 lbs.

Bed	9105T45	$98.77
Blanket, 60″×90″	9105T27	8.03
Pillow, 17″×23″	9105T29	14.90

Blood Pressure Monitors



Get precise readings of blood pressure and pulse rates. Monitor can store 60 readings each for up to four people. The cuff fits arm circumferences from 8⅝″ to 16½″. Operates on 120 volts AC power adapter (included) or four AA batteries (not included).

Overall Size Lg.	Wd.	Ht.		
5½″	4⅛″	2⅜″	5261T15	$90.83
AA Batteries (Pkg. of 4)			71455K53	2.94

Stretchers





Fold-up stretcher folds lengthwise and in half for easy storage. Good for moving injury victims a short distance. It has sturdy aluminum poles and a durable fabric cover. Overall size is 87″ Lg.×22″ Wd.×4½″ Ht. Maximum weight capacity is 350 lbs.

Fold-up stretcher kit includes a stretcher, a 62″×82″ wool-blend blanket, and a 54″×75″ vinyl sheet. Kit comes in a white steel storage cabinet. Cabinet is 47¾″ Ht.×8⅝″ Wd.×6½″ Dp. and has ¼″ dia. holes for wall mounting (fasteners not included).

Basket stretcher provides superior comfort and security for transporting injury victims extended distances. It has four restraining straps and an adjustable footrest. Stretcher is 80½″ Lg.×22½″ Wd.× 8″ Ht. and made of steel. Maximum weight capacity is 1,500 lbs.

Fold-Up Stretcher	5522T8	$219.00
Fold-Up Stretcher Kit	5522T3	445.00
Cabinet Only	5522T31	166.00
Basket Stretcher	5522T47	294.00

CamelBak Water Backpack



Stay hydrated while working outdoors or in other high-heat environments. These lightweight backpacks have an easy-to-fill reservoir with a delivery tube that supplies water to you.

Cleaning brush set includes a large brush for cleaning the reservoir and a small brush for cleaning the delivery tube.

50-oz. Capacity	6229T1	$49.30
70-oz. Capacity	6229T3	67.00
Cleaning Brush Set	6229T4	11.56

Back-Support Belts

Belts



Nylon



Elastic Polyester with Shoulder Straps

Belts with Lumbar Support



Polyester



Leather



Nylon w/ Shoulder Straps

Give your back the extra support it needs for lifting and other strenuous activities. Belts with *elastic* contain spandex, a breathable, lightweight material that stretches to conform to your shape. Belts *with shoulder straps* have reinforcements around the waist to retain the belt's shape and maintain comfort.

Warning: Not for fall protection.

To Order: Please specify size based on waist measurement (see chart). Also specify color where necessary.

Belts—*Elastic polyester belt with shoulder straps* has spandex tensioners. *Elastic nylon belt with shoulder straps* has polypropylene reinforcements.

Belts with Lumbar Support—All have a protective pad for lower-back support except the *elastic nylon belt with shoulder straps,* which has steel reinforcements. *Nylon belt with shoulder straps* has elastic tensioners. *Leather* belts are cushioned with a soft suede lining.

	XS	S	M	L	XL	XXL	3XL
53475T4	_____	28″-33″	31″-36″	34″-39″	38″-43″	43″-48″	_____
25025T27	_____	24″-33″	29″-38″	35″-44″	42″-52″	46″-56″	_____
53475T11, 52355T65	26″-29″	30″-33″	34″-37″	38″-41″	42″-45″	46″-49″	50″-53″
11155T3	_____	27″-32″	31″-36″	35″-40″	39″-44″	43″-48″	_____
11155T1	_____	24″-33″	29″-38″	35″-44″	42″-52″	46″-56″	_____
5587T2, 5587T6	_____	24″-30″	31″-37″	38″-44″	45″-51″	_____	_____

	Wd.	Closure Style	Available Colors		Each
Belts					
Nylon	4″	Quick-Tight Buckle	Black	53475T4	$21.00
Elastic Polyester with Shoulder Straps	5″	Hook and Loop	Black	25025T27	18.33
Elastic Nylon with Shoulder Straps	6″	Hook and Loop	Black	53475T11	45.27
Belts with Lumbar Support					
Polyester	4″	Hook and Loop	Black, Blue	11155T3	31.67
Nylon with Shoulder Straps	5″	Hook and Loop	Black	11155T1	30.44
Elastic Nylon with Shoulder Straps	6″	Hook and Loop	Black	52355T65	47.20
Leather	4″	Traditional Buckle	Black	5587T2	17.39
Leather	6″	Traditional Buckle	Black	5587T6	26.09

Wrist Supports



Open, Wrap-On



Thumb Strap, Slip-On



Molded

Limit wrist movement and maintain a safe, neutral position. All supports are ambidextrous.

Flexible supports are made of an elastic rayon/cotton blend fabric for a snug fit. Color is beige. *Thumb-strap* style positions and secures the wrist and hand. ***Wrap-on*** has a hook-and-loop closure.

To Order: Measure around the smallest part of your wrist and specify size (except for wrap-on open support): S (5½″-6½″), M (6¾″-7½″), L (7¾″-8½″).

Molded supports cradle your wrist to prevent and alleviate the symptoms of carpal tunnel syndrome. They're 5″ long foam with an aluminum core for rigidity. They have a 2″ wide elastic strap with hook-and-loop closure. One size fits all.

		Each 1-9	Each 10-Up
Flexible—*Slip-On*			
Open	52585T11	$3.85	$3.57
Thumb Strap	52585T22	8.15	7.57
Flexible—*Wrap-On*			
Open (one size fits all)	52585T14	5.00	4.64
Thumb Strap	52585T25	11.62	10.79
Molded			
Beige	8153T11	20.65	18.40
Black	8153T13	20.65	18.40

Elbow Supports



Prevent "tennis elbow" injuries caused by overflexing and straining forearm muscles. This adjustable black polyester support is 2″ wide and has a hook-and-loop closure. One size fits all.

52625T1 ..... **Each** 1-4 $7.17 5-Up $6.62

Ankle and Knee Supports



Ankle Support



Open Knee Support

Nylon-covered neoprene retains warmth and braces sore muscles to encourage healing.

Ankle supports are beige. Size is based on your shoe size.

Knee supports are black. For size, measure around your leg at the kneecap. *Open knee supports* limit pressure on the kneecap.

Ankle Supports

Size	Left	Each	Right	Each
XS (Women's 4-6)	53325T151	$23.55	53325T152	$23.55
S (Women's 7-9, Men's 7-8)	53325T153	23.55	53325T154	23.55
M (Women's 10-11, Men's 9-10)	53325T155	23.55	53325T156	23.55
L (Men's 11-12)	53325T157	23.55	53325T158	23.55
XL (Men's 13-14)	53325T159	23.55	53325T161	23.55

Knee Supports

Size		Each
Standard		
S (13¼″-14″)	53325T211	$10.45
M (14¼″-15″)	53325T212	10.45
L (15¼″-17″)	53325T213	10.45
XL (17¼″-18″)	53325T214	10.45
Open		
S (13¼″-14″)	53325T231	11.36
M (14¼″-15″)	53325T232	11.36
L (15¼″-17″)	53325T233	11.36
XL (17¼″-18″)	53325T234	11.36
Padded		
S (13¼″-14″)	53325T221	13.64
M (14¼″-15″)	53325T222	13.64
L (15¼″-17″)	53325T223	13.64
XL (17¼″-18″)	53325T224	13.64

About Safety Glasses

The following applies to all of our safety glasses, unless noted:

- Meet ANSI Z87.1-2003 high-impact standards
- Provide 99% or greater UV protection
- Lenses are polycarbonate

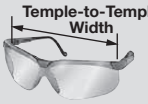

Wraparound Safety Glasses

Semi-mirrored lenses are clear with a slight mirror coating for varying light conditions.
Mirrored lenses reflect the most sunlight.

Regular Lenses

- Scratch-resistant lenses
- Adjustable arm length
- 5½″ temple-to-temple width
- Polycarbonate/ABS frame; nylon arms



Lens Color/Finish	Glasses: Black Frame	Glasses: Blue Frame		Repl. Lenses	
Clear	9741T411	9741T412	$7.69	9741T51	$5.10
Clear/Semi-Mirrored	9741T61	9741T62	9.55		
Clear/Mirrored	9741T431	9741T432	11.67	9741T53	8.56
Brown	9741T421	9741T422	8.21	9741T52	5.86

Oversized Lenses

- Scratch-resistant lenses
- Adjustable arm length
- 5¼″ temple-to-temple width
- Nylon frame and arms



Lens Color/Finish	Frame Color	Glasses		Repl. Lenses	
Clear	Black	2404T21	$7.38	2404T6	$4.64
Clear/Fog Free	Black	2404T31	8.14	2404T7	5.49
Clear/Semi-Mirrored	Black	2404T61	9.90	2404T65	6.98
Clear/Mirrored	Black	2404T41	9.90	2404T8	6.98

Wraparound Safety Glasses with Interchangeable Lenses

- Scratch-resistant lenses
- Adjustable arm length
- 5¼″ temple-to-temple width
- Polyurethane frame; nylon arms

Switch out lenses to change the look of your glasses. Lenses are interchangeable. The adjustable tilt at the hinges allows you to angle the glasses toward or away from the cheeks for a comfortable fit.



Lens Color/Finish	Frame Color	Glasses		Repl. Lenses	
Clear	Black	1696T63	$8.08		
Clear/Fog Free	Black	1696T64	8.83	1696T78	$5.44

Comfort-Fit Wraparound Safety Glasses

- Scratch-resistant lenses
- Adjustable arm length
- Temple-to-temple width: 5⅛″ for regular lenses; 5¼″ for oversized lenses
- Polycarbonate frame; nylon arms

A padded frame makes these glasses the ultimate in comfort. They are ventilated to increase airflow and reduce moisture buildup. The adjustable tilt at the hinges allows you to angle the glasses toward or away from the cheeks for a comfortable fit.

Semi-mirrored lenses are clear with a slight mirror coating for varying light conditions.

Mirrored lenses reflect the most sunlight.

Lens Color/Finish	Glasses: Black Frame	Glasses: Blue Frame		Repl. Lenses	
Regular Lenses					
Clear	9210T101	9210T103	$9.62	9210T71	$4.53
Clear/Fog Free	9210T601	9210T603	10.38	9210T76	5.35
Clear/Semi-Mirrored	9210T501	9210T503	11.60	9210T75	6.96
Clear/Mirrored	9210T401	9210T403	11.60	9210T74	6.96
Amber	9210T201	9210T203	10.60	9210T72	5.63
Brown	9210T301	9210T303	10.60	9210T73	5.63
Oversized Lenses					
Clear	3637T17		10.38	3637T44	5.21
Clear/Fog Free	3637T22		11.33	3637T46	6.21
Clear/Semi-Mirrored	3637T67		12.28	3637T68	7.58
Clear/Mirrored	3637T33		12.28	3637T64	7.58
Amber	3637T28		11.33	3637T52	6.30
Gray	3637T31		11.33	3637T57	6.30


Regular


Oversized

Wraparound Safety Glasses with Metal Frame

- Scratch-resistant lenses
- 5½″ temple-to-temple width
- Nickel alloy frame and arms



The metal frame provides durability while the padded nosepiece and rubber arm tips ensure these are comfortable to wear.

Semi-mirrored lenses are clear with a slight mirror coating for varying light conditions.

Lens Color/Finish		
Clear	5734T13	$8.33
Clear/Semi-Mirrored	5734T17	11.97
Gray	5734T15	10.94

Economy Wraparound Safety Glasses

- Scratch-resistant lenses
- 5¼″ temple-to-temple width
- Polycarbonate frame; nylon arms



Lens Color	Frame Color		
Clear	Clear	7475T42	$5.33
Brown	Clear	7475T72	6.41

Frameless Safety Glasses



- Scratch-resistant lenses
- 5″ temple-to-temple width
- Nickel alloy arms

The spring-hinged, padded rubber arms and padded nosepiece keep these glasses comfortably in place.

Lens Color/Finish		
Clear/Fog Free	7587T1	$13.65
Gray/Fog Free	7587T2	14.48
Light Blue/Fog Free	7587T3	16.36

Lighted Wraparound Safety Glasses



- Scratch-resistant lenses
- 5 1/8″ temple-to-temple width
- Nylon frame; polycarbonate arms

Temple-mounted LEDs provide hands-free lighting. These glasses operate on four included batteries.

Lens Color	Frame Color	Glasses		Repl. Battery	
Clear	Black	1426T37	$20.00	7701K11	$2.50

Magnifying Safety Glasses



Bottom Magnification
- Scratch-resistant lenses
- 5″ temple-to-temple width
- Polycarbonate frame and arms



Top/Bottom Magnification
- Scratch-resistant lenses
- 5″ temple-to-temple width
- Nylon frame and arms

Magnifying power is measured in diopters—each diopter increases the size of the object in view by 25%. For more information about magnification, see page 2320.

Magnification	Diopter	Frame Color	Clear Lenses		Gray Lenses	
Bottom Magnification						
Standard Lenses						
1.25X (125%)	1.0	Gray	2882T11	$13.85	2882T21	$14.17
1.38X (138%)	1.5	Gray	2882T13	13.85	2882T22	14.17
1.5X (150%)	2.0	Gray	2882T15	13.85	2882T23	14.17
1.63X (163%)	2.5	Gray	2882T17	13.85	2882T24	14.17
1.75X (175%)	3.0	Gray	2882T19	13.85	2882T25	14.17
Fog-Free Lenses						
1.38X (138%)	1.5	Gray	2882T31	15.36	2882T34	16.31
1.5X (150%)	2.0	Gray	2882T32	15.36	2882T35	16.31
1.63X (163%)	2.5	Gray	2882T33	15.36	2882T36	16.31
Top/Bottom Magnification						
Standard Lenses						
1.38X (138%)	1.5	Black	5116T11	19.42		
1.5X (150%)	2.0	Black	5116T12	19.42		
1.63X (163%)	2.5	Black	5116T13	19.42		

Traditional Safety Glasses



- Scratch-resistant lenses
- 5 1/2″ temple-to-temple width
- Nylon frame; polycarbonate arms
- Not rated for UV protection

Lens Color	Frame Color		
Clear	Dark Gray	10635T307	$6.65
Clear	Blue	10635T303	6.65
Clear	Red	10635T302	6.65

Nonconductive Wraparound Safety Glasses



- Scratch-resistant lenses
- 5 1/4″ temple-to-temple width
- Nylon frame and arms

With no metal parts to conduct electricity, these glasses reduce the potential for injury in case of accidental exposure to electric hazards. The padded rubber arm tips provide comfort and keep the glasses from slipping.

Lens Color/Finish	Frame Color		
Clear	Clear	7541T1	$2.64
Clear/Fog Free	Clear	7541T2	3.71
Gray	Gray	7541T3	2.64
Gray/Fog Free	Gray	7541T4	3.71

Wraparound Safety Glasses with Earplugs



- Scratch-resistant lenses
- 6″ temple-to-temple width
- Nylon frame and arms

Soft plastic earplugs with a noise reduction rating (NRR) of 25 dB add hearing protection to your safety glasses.

Lens Color	Frame Color			
Clear	Black	8289T11		$21.08
Gray	Black	8289T12		21.08
Replacement Earplugs		8289T4	Pair	$1.25

Stick-On Magnifiers for Safety Glasses



Use water to adhere these clear polyurethane magnifiers to the lens of your glasses. They are easy to reposition.

Magnifying power is measured in diopters—each diopter increases the size of the object in view by 25%. For more information about magnification, see page 2320.

Magnification	Diopter		Pkg. of 2
1.31X (131%)	1.25	53635T302	$16.00
1.38X (138%)	1.5	53635T303	16.00
1.44X (144%)	1.75	53635T304	16.00
1.5X (150%)	2.0	53635T305	16.00
1.63X (163%)	2.5	53635T307	16.00
1.75X (175%)	3.0	53635T309	16.00

Laser Safety Glasses



Standard



Eyeglass Fit



Impact Resistant

Standard and Eyeglass Fit
- Scratch-resistant lenses
- Temple-to-temple width: 5 1/4″ for standard; 5 5/8″ for eyeglass fit
- Nylon frame and arms
- Meet ANSI Z87.1-2003 basic-impact standards

Impact Resistant
- Scratch-resistant lenses
- Adjustable arm length
- 5 1/4″ temple-to-temple width
- Polycarbonate/TPE frame and arms
- Meet ANSI Z87.1-2003 high-impact standards

Increase safety when working with lasers. Glasses have clear lenses. Meet ANSI Z136.1-2007.

Eyeglass-fit glasses can be worn over your prescription eyeglasses.

For Laser Type	Visible Light	Wavelength, nm	Lens Material		
Standard—Gray frame					
CO_2	92%	10,600	Polycarbonate	5147T13	$39.67
CO_2, YAG	87%	1,064-10,600	Glass	5147T11★	197.99
Eyeglass Fit—Black frame					
CO_2	92%	10,600	Polycarbonate	5147T14	39.67
CO_2, YAG	87%	1,064-10,600	Glass	5147T12★	197.99
Impact Resistant—Black frame					
CO_2	89%	10,600	Polycarbonate	5147T16	41.71
CO_2, YAG	68%	1,064	Polycarbonate	5147T15	207.02

★Not rated for UV protection.

Panoramic Safety Glasses

- Scratch-resistant lenses
- Adjustable arm length
- Nylon frame and arms

Standard with adjustable tilt glasses have ratcheting hinges that allow you to angle the glasses toward or away from the cheeks for a comfortable fit.
Eyeglass-fit glasses can be worn over your prescription eyeglasses.


Standard


Standard with Adjustable Tilt


Eyeglass Fit

Lens Color/Finish	Temple-to-Temple Wd.	Glasses: Black Frame	Glasses: Blue Frame	Glasses: Red/White/Blue Frame		Repl. Lenses	
Standard							
Clear	5 1/8"	53395T12	—	—	$7.50	—	—
Clear/Fog Free	5 1/8"	53395T801	—	—	8.80	—	—
Gray	5 1/8"	53395T24	—	—	8.50	—	—
Standard with Adjustable Tilt							
Clear	5 1/2"	11105T16	—	11105T18	7.85	11105T5	$2.69
Clear/Fog Free	5 1/2"	11105T301	11105T302	11105T305	8.15	11105T723	3.60
Eyeglass Fit							
Clear	6"	55035T101	55035T102	55035T103	9.32	—	—
Clear/Fog Free	6"	55035T301	55035T302	55035T303	10.00	55035T92	5.50
Gray	6"	55035T501	—	—	10.25	—	—
Amber	6"	55035T701	—	—	10.25	55035T94	5.75

Aviator Safety Glasses

Nylon Frame and Arms—5" temple-to-temple width

Lens Color	Frame Color		
Clear	Black	58545T301	$4.10
Clear	Blue	58545T302	4.10
Gray	Black	58545T501	5.10


Nylon Frame and Arms

Nickel Alloy Frame and Brass Arms—6" temple-to-temple width

Lens Color	Frame Color		
Clear	Gold	5236T21	$6.80


Nickel Alloy Frame and Brass Arms

Economy Panoramic Safety Glasses


Solid


Ventilated

- Scratch-resistant lenses
- Adjustable arm length
- Polycarbonate frame and arms

Solid—5 1/4" temple-to-temple width

Glasses have an adjustable tilt with ratcheting hinges that allow you to angle the glasses toward or away from the cheeks for a comfortable fit.

Lens Color	Frame Color		
Clear	Black	54185T601	$2.60
Clear	Blue	54185T602	2.60
Clear	Red/White/Blue	54185T604	2.60

Ventilated—5 5/8" temple-to-temple width

The ventilated sides improve air circulation.
Eyeglass-fit safety glasses can be worn over prescription eyeglasses.

Lens Color/Finish	Frame Color		
Standard			
Clear	Clear	52755T7	$3.91
Clear/Fog Free	Clear	52755T1	4.51
Gray	Gray	52755T25	4.72
Amber	Amber	52755T26	4.72
Eyeglass Fit			
Clear	Clear	52755T9	5.23
Clear/Fog Free	Clear	52755T3	5.86

Eyeglass-Fit Visitors' Safety Glasses

- 6 1/4" temple-to-temple width
- Polycarbonate frame and arms



Distribute these disposable glasses to protect visitors. They can be worn over prescription eyeglasses.

Lens Color	Frame Color	Each		Pkg. of 100	
Clear	Clear	62065T32	$2.73	62065T39	$214.73

Wraparound Safety Sunglasses

These sunglasses have scratch-resistant polycarbonate lenses that provide 99.9% UV protection. Meet ANSI Z87.1-2003 high-impact standards. Frame and arms are nylon with rubber tips for comfort.
Mirrored lenses reflect the most sunlight.



Lens Color/Finish	Frame Color	Temple-to-Temple Wd.		
Gray	Black	5"	5087T2	$3.84
Clear/Mirrored	Black	5"	5087T3	4.67

Eyeglass Repair Kit

You'll get a screwdriver, a magnifier, two standard screws, and four metric screws all furnished in a vinyl pouch.



57485T2 ..... $2.17

Safety Goggles & Eyeglass Holders

Safety Goggles



- Polycarbonate lens; provides 99% UV protection
- Clear vinyl frame
- Adjustable elastic headband
- Meet ANSI Z87.1-2003 high-impact standards

Lens Color/Finish	Lens Wd.		
Clear	5¾″	10435T15	$2.35
Clear/Fog Free	5¾″	10435T16	3.31

Ventilated Safety Goggles



Standard

Standard
- Polycarbonate lens
- Not rated for UV protection
- Green vinyl frame
- Adjustable elastic headband
- Meet ANSI Z87.1-2003 high-impact standards

Comfort Fit
- Polycarbonate lens
- Provides 99% UV protection
- Black vinyl frame
- Adjustable elastic headband
- Meet ANSI Z87.1-2003 high-impact standards



Comfort Fit

Vents let air in while keeping dust particles out.
Comfort-fit goggles have a padded frame and foam lining.

Lens Color/Finish	Lens Wd.		
Standard			
Clear	6″	5405T11	$2.67
Clear/Fog Free	6″	5405T12	3.64
Comfort Fit			
Clear/Fog Free	5½″	55135T1	45.66

Splash-Protection Safety Goggles and Face Shields



Standard Goggles



Wraparound Goggles



Eyeglass-Fit Goggles



Comfort-Fit Goggles



Respirator-Fit Goggles (Respirator Not Included)



Face Shield with Goggles

- Clear, fog-free polycarbonate lens
- Provides 99% UV protection
- Vinyl frame
- Adjustable rubber headband
- Meet ANSI Z87.1-2003 high-impact standards

A ventilated design lets air in while keeping dust and liquids out.
Wraparound goggles extend your peripheral vision with an extra wide lens.
Eyeglass-fit goggles can be worn over your prescription eyeglasses.
Comfort-fit goggles have a padded frame and foam lining.
Respirator-fit goggles can be worn with a half-face respirator (sold separately on pages 1851-1852).
Face shield with goggles provides full-face protection from dust and liquids.

Lens Wd.	Frame Color	Goggles		Repl. Lens		Repl. Headband	
Standard Goggles							
6⅛″	Green	5422T2	$10.82				
Wraparound Goggles							
6½″	Clear	10455T1	9.45	10455T2	$6.58	10455T3	$2.21
Eyeglass-Fit Goggles							
6¾″	Brown	5422T75	10.80				
Comfort-Fit Goggles							
6⅛″	Green	5422T6	16.56				
Respirator-Fit Goggles							
6⅛″	Green	5422T23	11.00				
Face Shield with Goggles							
6⅛″	Green	5422T5	42.10				

Eyeglass Holders

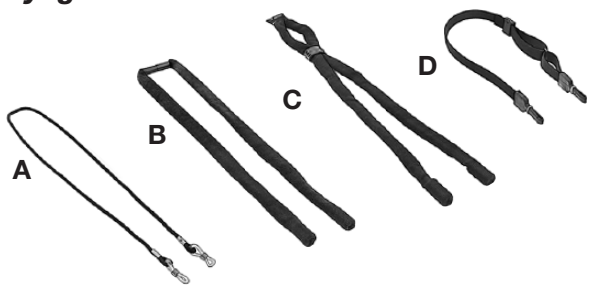

	Length	Material	Color		
Nonadjustable					
A	24″	Nylon	Black	9137T71	$0.65
A	24″	Nylon	Red	9137T72	.65
Nonadjustable with Breakaway Cord					
B	24″	Cotton	Black	9137T41	4.62
B	24″	Cotton	Blue	9137T42	4.62
B	24″	Cotton	Red	9137T45	4.62
B	24″	Cotton	Yellow	9137T43	4.62
Adjustable					
C	28″	Cotton	Black	9137T501	3.20
C	28″	Cotton	Blue	9137T502	3.20
C	28″	Cotton	Red	9137T503	3.20
D	13″	Polyester	Black	9137T11	2.50

Side Shields for Eyeglasses



Slide the arms of your glasses through these shields to get the side protection you need. They're made of flexible PVC and provide 100% UV protection. Meet ANSI Z87.1-2003 high-impact standards.

Color		Pair
Clear	2571T1	$3.67
Gray	2571T2	3.67
Green	2571T3	3.67

Eyewear Cases

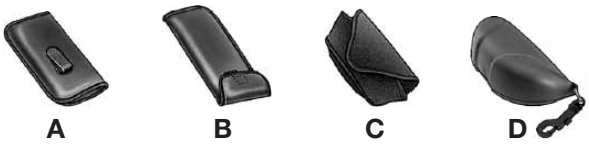

	Attachment Style	Closure Style	Material		
A	Pocket Clip	Open End	Black Plastic	5302T11	$2.77
B	Pocket Clip	Hook and Loop	Black Plastic	5302T12	3.67
C	Belt Loop	Hook and Loop	Black Plastic	5302T16	7.10
D	Snap Hook	Clip	Black Plastic	5302T17	8.38

Safety Eyewear Cabinets

These clear acrylic cabinets have two 1/2" dia. holes for wall mounting (fasteners not included).

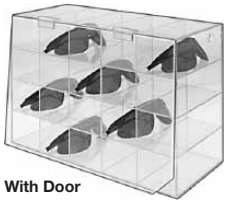
With Door

			Without Door		With Door	
Ht.	Wd.	Dp.		Dp.		
Cabinets for 20 Pairs of Glasses						
11 3/4"	15 1/2"	6 3/4"	11055T11	$111.98	6 7/8"	11055T24 $117.11
Cabinets for 12 Pairs of Goggles						
11 1/2"	15 1/2"	7 5/8"	11055T12	112.15	7 3/4"	11055T25 133.28

Trays and Dispensers for Safety Eyewear

Made of clear acrylic, these have two 3/16" dia. holes for wall mounting (fasteners not included).

Dispenser has a hinged flap.


Tray


Dispenser

	Overall Size				
	Ht.	Wd.	Dp.		
Tray	3"	9"	6"	10845T18	$42.67
Dispenser	17 1/4"	8"	4"	10845T23	88.98

Lens Cleaning Stations and Wipes

Silicone solutions provide better antifog properties.
Silicone-free solutions are for use in applications where silicone could cause contamination such as auto and paint facilities.

Disposable Stations

All include a pump bottle of antifog/antistatic solution and tissues. Stations are designed for wall mounting and don't include fasteners.

Cardboard stations have 5/8" dia. mounting holes.

Plastic stations have 1/2" dia. mounting holes and include tape with adhesive on both sides.

	Solution		Station Size				
Type	Cap., oz.	No. of Tissues	Ht.	Wd.	Dp.		
Cardboard Stations							
Silicone	16	1,520	10"	7 1/2"	5 1/4"	9106T31	$19.72
Silicone Free	16	1,520	10"	7 1/2"	5 1/4"	9106T32	19.72
Plastic Stations							
Silicone	8	760	11 1/2"	5 3/8"	3"	9106T501	13.32
Silicone Free	8	760	11 1/2"	5 3/8"	3"	9106T503	13.32


Cardboard


Plastic

Refillable Stations

Built to last, these sturdy steel stations have a drop-open front for easy refilling. All include a waste receptacle, 16-oz. pump bottle of antifog/antistatic solution, key lock, and tissues. Mounting fasteners are included.

Solution Type	No. of Tissues	Station Size Ht.	Wd.	Dp.		
Stations						
Silicone	1,520	17 1/2"	8 3/4"	3 1/2"	5609T331	$47.38
Silicone Free	1,520	17 1/2"	8 3/4"	3 1/2"	5609T332	47.38
Refills						
16 oz. Silicone Solution					5609T361	3.54
16 oz. Silicone-Free Solution					5609T362	3.54
1 gal. Silicone Solution					5609T351	20.98
1 gal. Silicone-Free Solution					5609T352	20.98
Box of 760 Tissues					5609T37	4.07
Replacement Pump Bottle Top					5609T39	1.90



Wipes

All wipes contain antifog/antistatic, silicone-free solution.

No. of Wipes		
Standard		
36	10895T36	$8.00
100	10895T21	8.59
For Extreme Humidity		
100	10895T22	9.71
Water Activated		
1,000	52465T7	23.61


36 Wipes



100 Wipes


1,000 Wipes

Face Shields



Face Shield



Face Shield with Chin Guard

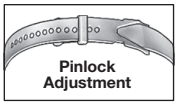



These face shields meet ANSI Z87.1-2003 high-impact standards when worn with safety glasses or goggles.
Pinlock adjustment consists of interlocking straps.
Ratchet adjustment has an easy-turn knob.
Polycarbonate lenses have greater impact resistance than acetate lenses. *Green* lenses reduce glare.

Color/Finish	Lens Material	Lens Ht.	Lens Wd.	Lens Thick.	Adjustment Style	Head Size	Face Shields		Repl. Lenses	
Face Shields										
Clear	Acetate	8″	12″	0.040″	Pinlock	6½-8	5481T28	$19.48	5481T32	$8.78
Clear	Acetate	8″	15½″	0.040″	Ratchet	6½-8	10335T31	24.41	10335T34	8.80
Clear	Acetate	8″	16″	0.040″	Pinlock	6½-8	5481T27	22.06	5481T31	11.52
Clear	Polycarbonate	8½″	15″	0.060″	Ratchet	6½-8	56505T59	20.39	56505T61	7.94
Clear/Fog Free	Acetate	8″	12″	0.040″	Ratchet	6½-8	5481T62	30.62	5481T56	12.01
Green	Acetate	8″	15½″	0.040″	Ratchet	6½-8	10335T37	24.41	10335T39	8.98
Face Shields with Chin Guard										
Clear	Acetate	6½″	19½″	0.040″	Ratchet	6½-8	5482T23	36.84	5482T25	13.11
Clear	Acetate	7″	16¾″	0.040″	Ratchet	6½-8	10495T51	29.34	10495T57	8.80
Clear/Fog Free	Acetate	6½″	19½″	0.040″	Ratchet	6½-8	5482T47	39.62	5482T39	14.85
Green	Acetate	6½″	19½″	0.040″	Ratchet	6½-8	5482T24	36.86	5482T26	13.11

Face Shields with Protective Coating



Face Shield



Face Shield with Chin Guard

The lens on these face shields is coated for an added level of protection. All have an 8″ Ht. × 14″ Wd. × 0.08″ Thick. polycarbonate lens that's oil resistant. They have a ratchet adjustment with an easy-turn knob to fit head sizes 6½ to 8. Meet ANSI Z87.1-2003 high-impact standards when worn with safety glasses or goggles.
Scratch-resistant face shields have a coating that extends the lens life.
Chemical-resistant face shields resist mild acids and most chemicals.
Heat-reflective face shields reflect radiant heat to keep your face cooler.

Lens Color/Finish	Face Shields		Repl. Lenses		Face Shields with Chin Guard		Repl. Lenses	
Scratch Resistant								
Clear	10865T1	$42.62	10865T2	$27.30	10865T3	$56.62	10865T4	$43.75
Clear/Fog Free	10865T9	64.71	10865T11	53.38	10865T12	78.71	10865T13	68.12
Chemical Resistant								
Clear	10865T43	42.62	10865T44	27.30	10865T62	56.62	10865T63	43.75
Clear/Fog Free	10865T23	64.71	10865T24	53.38	10865T75	78.71	10865T78	68.12
Heat Reflective								
Gold	10865T5	119.16	10865T6	104.53	10865T7	133.16	10865T8	119.31
Gold/Fog Free	10865T14	147.16	10865T15	136.98	10865T16	151.08	10865T17	139.42

Hard-Hat Mount Face Shields



Acetate and Polycarbonate



Steel Wire Mesh

Attach these to the brim of cap-style hard hats (not included; see page 1846) to provide full-face protection. Face shields meet ANSI Z87.1-2003 when worn with safety glasses or goggles (acetate and steel wire meet basic-impact standards; polycarbonate meet high-impact standards).
Steel wire mesh lens provides increased ventilation during high-heat jobs.
Nylon bracket is nonconductive.
Gasketed nylon bracket provides a seal between the lens and your hard hat.
Gold-anodized aluminum bracket provides heat and corrosion resistance.

Material	Lens Ht.	Lens Wd.	Lens Thick.	Nylon Bracket		Gasketed Nylon Bracket		Gold-Anodized Aluminum Bracket		Repl. Lenses	
Clear Acetate	8″	15″	0.040″	9630T11	$20.06	9630T15	$25.09	9630T14	$20.41	9630T12	$6.70
Clear Polycarbonate	8″	15″	0.040″	9630T23	20.91	9630T27	26.32	9630T26	21.64	9630T24	8.17
Steel Wire Mesh	8″	15″	0.040″	9630T35	34.34	9630T32	39.37	9630T38	34.69	9630T36	21.03

Face Shields for Electrical Work



Provide protection from low-level arc flash hazards when a full hood is not necessary. This face shield has an arc rating of 12 cal/cm². It has an 8″ Ht. × 14″ Wd. × 0.1″ Thick. green, fog-free polycarbonate lens with a scratch-resistant coating. Shield has a ratchet adjustment with an easy-turn knob to fit head sizes 6½ to 8. A chin guard and side shield offer added protection. Meets ASTM F-2178, NFPA 70E for Category 0-2 protection, and ANSI Z87.1-2003 high-impact standards when worn with safety glasses or goggles.

Face Shield	3942T47	$86.50

Hard Hats with Face Shield and Earmuffs



These hard hats give all-in-one head, face, and ear protection. Face shield has an 8″ Ht. × 15½″ Wd. × 0.040″ Thick. clear polycarbonate lens that meets ANSI Z87.1-1989. Hard hat is cap style and made of orange ABS plastic. Hard hats are Type 1, Class E, meaning they protect against blows to the top of the head only and are proof-tested at 20,000 volts. They meet ANSI Z89.1-1997. All have a ratchet suspension that adjusts with an easy-turn knob to fit head sizes 6 to 9. Earmuffs have a noise reduction rating (NRR) of 22 dB and meet ANSI S3.19-1974. Lift the face shield and earmuffs when not in use.

Optional steel wire mesh lens is 6¾″ Ht. × 12″ Wd. and meets ANSI Z87.1-1989.

Hard Hat with Face Shield and Earmuffs	5191T61	$45.00
Optional Steel Wire Mesh Lens	5191T63	8.26
Replacement Polycarbonate Lens	5191T62	4.29
Replacement Face Shield Bracket	5191T77	8.43
Replacement Earmuffs	5191T75	24.14

Air-Circulating Face Shields



A built-in, low-noise fan creates a constant flow of filtered air across your face for protection from wood dust particles. Meets ANSI Z87.1-2010 high-impact standards. Face shield has a 7″ Ht. × 12″ Wd. × 0.04″ Thick. clear polycarbonate lens and a ratchet adjustment with an easy-turn knob to fit head sizes 6⅜ to 7¾. It includes a lens cover, filter, rechargeable battery, 120V AC charger, and a carrying case.

		Each
Face Shield	7049T2	$447.81
Replacement Parts		
Lens	7049T42	32.57
Rechargeable Battery	7049T5	77.23
		Pkg.
Filters (2/Pkg.)	7049T43	$58.42
Lens Covers (10/Pkg.)	7049T41	36.85

Disposable Face Shields



Use these for light duty applications that don't require much impact resistance. Face shields have a clear acetate lens, stretch-to-fit rubber headband, and padded frame for comfort.

Note: Shields do not meet ANSI Z87.1-2003.

Lens Ht.	Lens Wd.	Lens Thick.		
7½″	12″	0.005″	56955T21	$4.71
9½″	11¾″	0.005″	56955T34	5.12

About Selecting Welding Shades

The guidelines below are for common welding applications and are based on American National Standards Institute/Accredited Standards Committee (ANSI/ASC) Z49.1-2005.

Arc Current, amps	Minimum Shade No.	Suggested Shade No.
Shielded Metal Arc Welding		
60 to 160	8	10
160 to 250	10	12
Gas Metal Arc Welding (MIG)		
60 to 160	10	11
160 to 250	10	12
Gas Tungsten Arc Welding (TIG)		
Less than 150	8	12
150 to 500	10	14
Torch Brazing		
_____	___	3 to 4

Arc Current, amps	Minimum Shade No.	Suggested Shade No.
Air Carbon Arc Cutting		
Less than 500	10	12
Plasma Arc Welding		
Less than 20	6	6 to 8
20-100	8	10
100-400	10	12
Plasma Arc Cutting		
Less than 300	8	9
300 to 400	9	12

Plate Thickness	Minimum Shade No.	Suggested Shade No.
Gas Welding		
Less than ⅛″	___	4 to 5
⅛″ to ½″	___	5 to 6
Greater than ½″	___	6 to 8
Oxygen Cutting		
Less than 1″	___	3 to 4
1″ to 6″	___	4 to 5
Greater than 6″	___	5 to 6

Welding Glasses

Protect your eyes during welding jobs. These glasses have green polycarbonate lenses and a brow guard for added protection. Meet ANSI Z87.1-2003 high-impact standards.

Comfort-fit wraparound glasses have a padded frame and nosepiece for added comfort. Frame and arms are black polycarbonate. Arm length is adjustable.

Panoramic and **eyeglass-fit panoramic** glasses have a black nylon frame and arms. Arm length is adjustable. *Eyeglass-fit* can be worn over your prescription eyeglasses.

Magnifying glasses have magnifiers at the bottom of the lenses, a black nylon frame and arms, and a padded nosepiece for comfort. For information about magnification, see page 2320.

Shade No.	Temple-to-Temple Wd.	Glasses		Repl. Lenses	
Standard					
Comfort-Fit Wraparound					
3	5½″	5803T12	$15.47	5803T22	$9.58
5	5½″	5803T13	16.78	5803T23	10.89
Comfort-Fit Wraparound—Oversized lenses					
3	5¼″	5803T31	15.25	5803T41	10.69
5	5¼″	5803T32	16.45	5803T42	12.07
Panoramic					
3	5⅜″	9313T4	14.22	9313T6	10.22
5	5⅜″	9313T5	15.58	9313T7	11.58
Eyeglass-Fit Panoramic					
3	6″	47515T24	16.36	47515T33	10.49
5	6″	47515T25	17.73	47515T38	11.85
Magnifying					
1.38X (138%) Magnification					
5	5½″	5783T1	20.84	_____	___
1.5X (150%) Magnification					
5	5½″	5783T2	20.84	_____	___
1.63X (163%) Magnification					
5	5½″	5783T3	20.84	_____	___

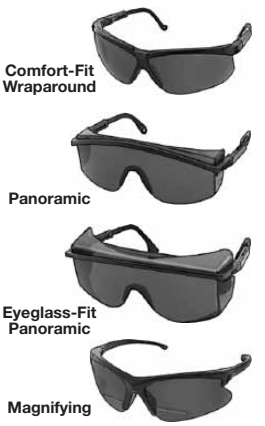

Welding Helmets



Style A with Fixed Lens



Style B with Flip-Up Lens





Style C with Fixed Lens



Style D with Fixed Lens



Style E with Flip-Up Lens

Helmets include a polycarbonate filter lens with an outer cover for protection from scratches and molten splashes (except for Style C, which does not have a cover). All have a ratchet adjustment with an easy-turn knob, except Style C has a pinlock adjustment.

Styles A-C—Lighter weight than fiberglass, these nylon helmets fit head sizes 6½ to 8. *Style B* helmets have an extended forehead that offers more overhead protection. *Style C* helmets can be quickly snapped on and off your slotted hard hat using the included hard-hat band.

Style D—Made of heat-resistant fiberglass, these helmets fit head sizes 6¾ to 8.

Style E—These leather helmets are flexible, so they're easy to maneuver in tight spots. They fit head sizes 6½ to 8.

	Helmet Material	Lens Ht.	Lens Wd.	Choose a Shade No.	Helmet Color	Helmet Wd.		
Helmets with Fixed Lens								
A	Nylon	2″	4¼″	9, 10, 11, 12	Black	9″	9653T31	$46.53
A	Nylon	4½″	5¼″	9, 10, 11, 12	Black	9″	9653T41	50.95
B	Nylon	2″	4¼″	9, 10, 11, 12	Black	8½″	56405T61	40.44
B	Nylon	4½″	5¼″	9, 10, 11, 12	Black	8½″	56405T63	47.81
B	Nylon	4½″	5¼″	9, 10, 11, 12	Red	8½″	56405T53	54.33
C	Nylon	2″	4¼″	10	Black	9½″	4116T29	37.36
C	Nylon	4½″	5¼″	10	Black	9½″	4116T44	43.85
D	Fiberglass	4½″	5¼″	10	Gray	9⅛″	5423T612	56.49
Helmets with Flip-Up Lens								
A	Nylon	2″	4¼″	9, 10, 11, 12	Black	9″	9653T21	57.92
B	Nylon	2″	4¼″	9, 10, 11, 12	Black	8½″	56405T62	49.96
B	Nylon	2″	4¼″	9, 10, 11, 12	Red	8½″	56405T45	55.84
B	Nylon	2″	4¼″	9, 10, 11, 12	Silver	8½″	56405T46	55.84
C	Nylon	2″	4¼″	10	Black	9½″	4116T32	52.40
D	Fiberglass	2″	4¼″	10	Gray	9″	5423T23	63.24
E	Leather	2″	4¼″	9	Brown	8″	5439T5	147.68
E	Leather	2″	4¼″	10	Brown	8″	5439T3	147.68
E	Leather	2″	4¼″	11	Brown	8″	5439T6	147.68
Replacement Parts								
Ratchet Adjustment for Style A and B Helmets							56405T924	22.49
Ratchet Adjustment for Style D Helmets							5423T92	18.23
Ratchet Adjustment for Style E Helmets							5439T35	17.33
Hard-Hat Band for Style C Helmets							4116T63	18.90

Auto-Darkening Welding Helmets



Helmet

The filter lens on these black nylon helmets automatically switches from light (Shade No. 3) to dark (see Shade Nos. in table below) the instant you start welding. The multiple-shade, polycarbonate lens allows you to change shade number with the press of a button. Helmets have a ratchet adjustment with an easy-turn knob to fit head sizes 6¼ to 8 as well as inner and outer filter lens covers. Operate on two 3-volt batteries (included).

Helmets with flip-up lens have the added benefit of a spring-mounted front panel. Flip the panel up to expose a viewing lens.



Helmet with Flip-Up Lens

Shade No.	1¾″ Ht. × 3¾″ Wd. Lens Helmet Wd.		Each	2⅛″ Ht. × 4¼″ Wd. Lens Helmet Wd.		Each
Helmet						
3, 5, 8, 9, 10, 11, 12, 13	9″	51885T26	$435.77	9″	5459T66	$568.47
Replacement Filter Lens	_	51885T781	377.33	_	5459T38	505.61
			Pkg.			Pkg.
Replacement Inner Filter Lens Covers (5/Pkg.)	_	51885T731	$12.16	_	_____	_____
Replacement Outer Filter Lens Covers (10/Pkg.)	_	51885T76	32.16	_	51885T76	$32.16
Helmet with Flip-Up Lens			Each			Each
3, 5, 8, 9, 10, 11, 12, 13	9″	51885T271	$535.80	10½″	5459T67	$637.58
Replacement Filter Lens	_	51885T781	377.33	____	5459T38	505.61
Replacement Viewing Lens	_	51885T751	19.00	____	51885T751	19.00
			Pkg.			Pkg.
Replacement Inner Filter Lens Covers (5/Pkg.)	_	51885T731	$12.16	____	_____	_____
Replacement Outer Filter Lens Covers (10/Pkg.)	_	51885T76	32.16	____	51885T76	$32.16
For All Helmets						
Replacement Ratchet Adjustment				51885T98	Each	$28.71

For information about selecting welding shades, see page 1843.

Welding Goggles

These goggles have a green polycarbonate lens and an adjustable elastic headband. Meet ANSI Z87.1-2003 high-impact standards.

Eyeglass-fit and **flip-up eyeglass-fit** goggles can be worn over prescription eyeglasses. The *flip-up* goggles allow you to flip the filter lens up to expose a viewing lens.



Standard



Eyeglass Fit



Flip-Up Eyeglass Fit

Shade No.	Lens Ht.	Lens Wd.		
Standard				
4	2″ Dia.	—	5444T5	$12.12
5	2″ Dia.	—	5444T2	12.12
6	2″ Dia.	—	5444T6	12.12
Eyeglass Fit				
5	2¾″	5¾″	11655T21	18.90

Shade No.	Lens Ht.	Lens Wd.		
Flip-Up Eyeglass Fit				
4	2″	4¼″	5469T3	$16.02
5	2″	4¼″	5469T4	16.02
6	2″	4¼″	5469T5	16.02
Repl. Elastic Headband (Pkg. of 12)			5465T1	16.48

Filter Lenses and Covers

Standard filter lenses are polycarbonate.

Heat-reflective filter lenses are gold-coated polycarbonate.

Auto-darkening filter lenses automatically switch from light (Shade No. 3) to dark (see Shade Nos. in table below) the instant you start welding. They operate on solar power, so there are no batteries to change. They are glass with an ABS frame. Meet ANSI Z87.1-2003 basic-impact standards. *Multiple-shade* lens allows you to change shade number without changing lenses. Flip a switch to select. The lens comes with mounting adapters that allow you to fit the lens into different size helmets.

Lens covers protect filter lenses from scratches and molten splashes. A gasket (sold separately) is required for a proper seal between a 2″ Ht. × 4¼″ Wd. filter lens and a lens cover on helmets with flip-up lenses.

Magnifiers are clear polycarbonate and fit behind most 2″ Ht. × 4¼″ Wd. filter lenses. *Magnifiers with mounting adapters* can be adapted to fit 4½″ Ht. × 5¼″ Wd. and 5¼″ Ht. × 4½″ Wd. filter lenses—just snap the magnifier into the size adapter you need.

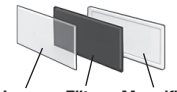

Filter Lenses

Single Shade

Lens Ht.	Lens Wd.	Shade No.	Standard	Each	Heat Reflective	Each
2″	4¼″	4	5424T34	$3.98	—	—
2″	4¼″	5	5424T35	3.98	—	—
2″	4¼″	6	5424T36	3.98	—	—
2″	4¼″	9	5424T38	3.98	9716T12	$14.34
2″	4¼″	10	5424T39	3.98	9716T14	14.34
2″	4¼″	11	5424T41	3.98	9716T16	14.34
2″	4¼″	12	5424T42	3.98	9716T18	14.34
4½″	5¼″	9	5424T61	10.28	9716T22	26.12
4½″	5¼″	10	5424T62	10.28	9716T24	26.12
4½″	5¼″	11	5424T63	10.28	9716T26	26.12
4½″	5¼″	12	5424T64	10.28	9716T28	26.12
			Pkg. of 2			
2″ Dia.	—	4	5424T71	$6.23	—	—
2″ Dia.	—	5	5424T72	6.23	—	—
2″ Dia.	—	6	5424T73	6.23	—	—

Auto-Darkening Single Shade

Lens Ht.	Lens Wd.	Shade No.		Each
2″	4¼″	3, 9	51885T341	$137.63
2″	4¼″	3, 10	51885T84	137.63
2″	4¼″	3, 11	51885T342	137.63
2″	4¼″	3, 12	51885T343	137.63
4½″	5¼″	3, 9	51885T351	143.24
4½″	5¼″	3, 10	51885T85	143.24
4½″	5¼″	3, 11	51885T352	143.24
4½″	5¼″	3, 12	51885T353	143.24
5¼″	4½″	3, 9	51885T361	149.34
5¼″	4½″	3, 10	51885T86	149.34
5¼″	4½″	3, 11	51885T362	149.34
5¼″	4½″	3, 12	51885T363	149.34

Auto-Darkening Multiple Shade

Shade No.	Lens Size, Ht. × Wd.		Each
3, 9 to 13	4½″ × 5¼″ and 5¼″ × 4½″	51885T37	$228.10

Lens Covers and Magnifiers

For Lens Ht.	For Lens Wd.	Glass Lens Covers Pkg. Qty.		Pkg.	Plastic Lens Covers Pkg. Qty.		Pkg.
2″	4¼″	12	5426T1	$19.71	12	5426T5	$13.58
4½″	5¼″	6	5426T23	20.07	6	5426T21	15.08
2″ Dia.	—	12	5426T24	21.74	2	5426T22	10.05
Gasket					5426T8	Each	$1.06

Magnification	Magnifiers	Each	Magnifiers with Mounting Adapters	Each
1.25X (125%)	9663T11	$8.76	9663T36	$10.60
1.38X (138%)	9663T12	8.76	9663T37	10.60
1.5X (150%)	9663T13	8.76	9663T38	10.60
1.63X (163%)	9663T14	8.76	9663T39	10.60

Welding Face Shields

For full-face protection while welding, select one of these shields. They have a ratchet adjustment with an easy-turn knob to fit head sizes 6½ to 8, except hand-held shield does not adjust. Meet ANSI Z87.1-2003 high-impact standards when worn with safety glasses or goggles, except hand-held shield meets basic-impact standards.

Flip-up face shield has a welding shade that lifts up to expose an 8″ Ht. × 12″ Wd. × 0.09″ Thick. clear polycarbonate viewing lens. Good for cutting and brazing jobs.

Hand-held face shield can be held up to your face for quick inspection of welding activity. It's lightweight with a handle and includes a lens cover.

Shade No.	Material	Lens Ht.	Lens Wd.	Thick.	Face Shields		Repl. Lenses	
Face Shields								
4	Propionate	8½″	15″	0.06″	13185T341	$28.95	13185T351	$17.13
5	Propionate	8½″	15″	0.06″	13185T342	28.95	13185T352	17.13
6	Propionate	8½″	15″	0.06″	13185T343	28.95	13185T353	17.13
Face Shields with Chin Guard								
5	Acetate	6½″	19½″	0.06″	13185T26	47.73	13185T27	22.85
9	Polycarbonate	8″	14″	0.1″	3513T4	108.62	—	—
11	Polycarbonate	8″	14″	0.1″	3513T6	108.62	—	—
Replacement Lens Cover for Polycarbonate Lenses							3513T8	22.72
Flip-Up Face Shield								
5	Polycarbonate	4½″	9″	0.07″	4263T44	58.47	4263T62▲	21.03
Replacement Clear Polycarbonate Viewing Lens							4263T57	18.47
Hand-Held Face Shield								
10	Polycarbonate	4½″	5¼″	0.08″	5470T23	39.37	—	—

▲ Flip-up shade only.



Face Shield



Face Shield with Chin Guard



Flip-Up Face Shield



Hand-Held Face Shield

Hard Hats

About Hard Hats

To provide head protection, hard hats have multipoint suspension systems that distribute the force of impact. This distribution increases with the number of suspension points.

Pinlock suspensions adjust with interlocking straps.

Ratchet suspensions adjust with an easy-turn knob.

The hard hats below meet impact and penetration resistance requirements of ANSI Z89.1-2003, unless noted.

Impact and Electrical Insulation Classifications:

Type 1 hard hats protect against blows to the top of the head only.

Type 2 hard hats deflect both top and off-center blows to the head.

Class C hard hats are not tested for electrical protection.

Class E hard hats are proof-tested at 20,000 volts.

Suspension Styles



Pinlock



Ratchet

Hard Hats



With Slots



With Slots and Logo



Ventilated



With Slots and Rain Trough



Heat-Resistant Polycarbonate

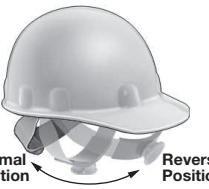

Reversible Suspension



Full-Brim Style

Adjust to fit head sizes 6½ to 8 except oversized hard hats, which fit sizes 7 to 8½ and hat with eight suspension points, which fits sizes 6¾ to 8. To Order: Please specify hard hat color: blue, green, high-visibility orange, orange, red, white, or yellow (unless noted).

Hats with slots accommodate face shields (see page 1842), welding helmets (see 4116T on page 1844), and earmuffs (see page 1849).

Hats with logo are white with one of the following logos on the front: U.S. flag (red, white, and blue); Visitor (red); or Safety First (green). To Order: Please specify logo.

Ventilated hats have slits on the top for increased air circulation.

Hats with rain trough have a rear brim gutter that channels water away from your neck.

Heat-resistant polycarbonate hats are made from a material similar to that used in firefighters' helmets.

Hat with reversible suspension lets you wear your hard hat backward without removing and reinstalling—just swing the suspension to the opposite side.

Full-Brim Style—A wide front-to-back brim provides added protection against sun, glare, splash, and rain.

Suspension Points	Type	Class	*Pinlock Adjustment* Hard Hats		*Pinlock Adjustment* Repl. Suspensions		*Ratchet Adjustment* Hard Hats		*Ratchet Adjustment* Repl. Suspensions	
Cap Style										
Polyethylene with Slots										
4	1	E	52645T43	$10.22	52645T561	$8.13	52645T47	$16.95	52645T641	$13.17
6	1	E	52645T51	12.19	52645T57	9.06	52645T27	15.89	52645T42	12.80
4	2	E	52645T76	27.01	52645T81	11.93	52645T77	33.35	52645T82	17.41
Oversized Polyethylene with Slots—To Order: Please specify color: blue, white, or yellow.										
4	1	E	52645T45	12.37	52645T562	8.13	52645T49	20.34	52645T642	13.17
Polyethylene with Slots and Logo—Hard hats are available in white only.										
4	1	E	54035T55	13.94	54035T95	6.16	54035T65	20.14	54035T85	11.38
Ventilated Polyethylene with Slots										
4	1	C	2130T1	12.28	5387T47	7.25	2130T2	18.33	5387T78	11.94
Polyethylene with Slots and Rain Trough										
4	1	E	5387T45	7.94	5387T47	7.25	5387T76	12.62	5387T78	11.94
Heat-Resistant Polycarbonate										
6	1	E	9131T23♦	50.67	9131T51	11.96	9131T63♦	57.37	9131T52	20.61
Polyethylene with Slots and Reversible Suspension										
8	1	E					7223T4	23.63	7223T5	16.29
Full-Brim Style										
Polyethylene										
6	1	E	5385T1	14.74	5385T61	11.33	5385T15	19.19	5385T62	18.28

♦ Not available in green or high-visibility orange.

Hard Hats with Face Shield



The fully retractable face shield provides protection against dust and spray and fits over prescription glasses. Face shield is 4¼″ Ht. × 10¾″ Wd. × 0.04″ Thick. and made of clear polycarbonate. Hard hats are ABS plastic and meet ANSI Z89.1-2003. They have ratchet suspension with sweat band and fit head sizes 6¾ to 7⅞.

Color	Suspension Points	Type	Class		
Blue	6	1	E	1984T17	$43.20
White	6	1	E	1984T15	43.20
Yellow	6	1	E	1984T16	43.20
Replacement Lens				1984T21	10.96
Replacement Suspension				1984T31	23.60

Bump Caps

Protect your head from minor bumps and scrapes. All have a pinlock suspension that adjusts with interlocking straps.
Note: Caps and face shield do not meet ANSI standards.

Traditional

All are polyethylene.
Cap fits head sizes 6½-7¾.
Cap with face shield attachment lets you add a lens (sold separately) to protect your face from spray and dust. It fits head sizes 6½ to 8¼.
Lens is 6″ Ht. × 15½″ Wd. × 0.040″ Thick. clear PETG.

Color	Bump Caps		Repl. Suspensions	
Cap				
Blue	9129T8	$6.10	9129T15	$4.55
Green	9129T7	6.10	9129T15	4.55
High-Visibility Orange	9129T9	6.10	9129T15	4.55
Orange	9129T3	6.10	9129T15	4.55
Red	9129T4	6.10	9129T15	4.55
White	9129T1	6.10	9129T15	4.55
Yellow	9129T2	6.10	9129T15	4.55
Cap with Face Shield Attachment				
Blue	9129T553	11.48	9129T31	5.18
White	9129T551	11.48	9129T31	5.18
Yellow	9129T552	11.48	9129T31	5.18
Lens			9129T56	5.22



Baseball Cap Style

Sportier than traditional bump caps, these have cooling vents and foam padding for added comfort. They are made of polyester with a polyethylene shell insert. Caps fit head sizes 7½ to 7¾.

Color		
Black	2759T38	$14.33
Dark Blue	2759T34	14.33



Sweatbands

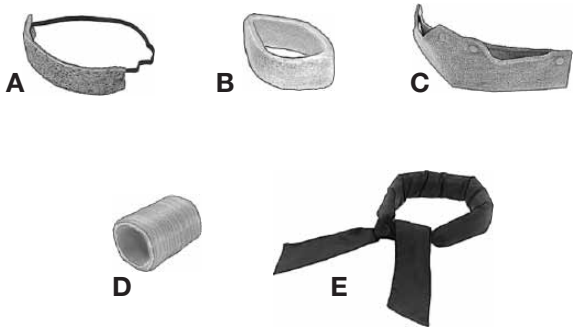

Cellulose bands have an additional absorbent layer for longer wear. Simply throw away after use.
Cotton terry bands absorb perspiration while providing maximum comfort. They're washable for reuse.

Elastic Headbands—Because they're not attached to your hat, you can position these bands where you want them.

Attachable Headband—Fastens securely to the suspension of your hard hat or welding helmet.

Bandanas with cooling crystals keep you cool all day—just soak in cold water for 20 minutes.

	Material	Color	Lg.	Pkg. Qty.		Pkg.
Headbands						
Elastic						
A	Cellulose	Blue	8″	25	5565T2★	$18.53
A	Cellulose	Blue	8″	100	5565T3	61.11
B	Cotton Terry	White	8″	1	5565T5	3.70
Attachable						
C	Cotton Terry	Beige	11″	1	5565T9	2.99
Wristbands						
Elastic						
D	Cotton Terry	Black	2¾″	2	5565T62	4.75
D	Cotton Terry	White	2¾″	2	5565T64	4.75

★ Individually bagged.

	Material	Color	Lg.		Each 1-5	Each 6-Up
Bandanas with Cooling Crystals						
E	Cotton	Navy	34″	7123T48	$2.57	$2.31
E	Cotton	Blue Denim	34″	7123T53	2.57	2.31
E	Cotton	Red	34″	7123T55	2.57	2.31

Hard-Hat Cooling Pad

Keep a cool head while you work. This reusable pad is cotton with water-absorbent cooling crystals. Simply soak in cold water for 20 minutes and then fasten to your hard-hat suspension with the hook-and-loop straps. Color is navy.

2564T13 Each 1-5 $4.43 6-Up $3.82



Hard-Hat Racks

Made of steel, these wire racks can be shaped to fit any hat.
Vehicle seat-back mount rack hooks over your seat.
Wall-mount rack has 3/16″ dia. mounting holes (fasteners not included).
Optional window-mount kit includes three suction cups to attach your wall-mount rack to a window.


Wall Mount

Rack Mounting Style		
Vehicle Seat-Back Mount	9701T15	$11.73
Wall Mount	9701T16	11.73
Optional Window Kit for Wall-Mount Rack	9701T17	8.00

Hard-Hat and Bump-Cap Decals

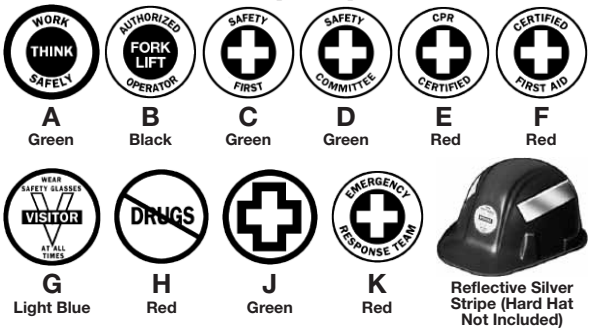

A Green · **B** Black · **C** Green · **D** Green · **E** Red · **F** Red
G Light Blue · **H** Red · **J** Green · **K** Red

Reflective Silver Stripe (Hard Hat Not Included)

For hard hats, see page 1846.
To Order: For 2″ dia. decals, please specify letter.

	Pkg. Qty.		Pkg. 1-9	Pkg. 10-Up
2″ Dia. Decal	4	53985T3	$3.06	$2.75
1¼″ × 5″ Reflective Silver Stripe	5	53985T8	5.08	4.62

Hard-Hat Liners and Windsocks

Liners



Head Coverage



5299T12

Head/Nape Coverage



Head/Nape/Collar Coverage

Add a layer of warmth to your hard hat. These liners fasten to the suspension of your hat and secure under your chin with hook-and-loop fasteners.

Quilted nylon has foam fill and a smooth outer layer that blocks wind.

Outer Layer	Inner Layer		Each 1-11	Each 12-Up
Head Coverage				
Navy Cotton Twill	Acrylic Fleece	9669T16	$5.82	$5.29
Blue Quilted Nylon	Polyester Fleece	5299T14	5.26	4.78
Head/Nape Coverage				
Navy Cotton Twill	Acrylic Fleece	9669T19	7.56	6.87
Navy Cotton Twill	Cotton/Polyester Sherpa Fleece	5299T12■	14.22	12.95
Navy Cotton Twill	Polyester Fleece w/Thinsulate Layer	7827T35	9.08	8.21
Head/Nape/Collar Coverage				
Blue Cotton Twill	Polyester Sherpa Fleece	9669T21★	9.70	8.82
Navy Cotton Twill	Polyester Fleece w/Thinsulate Layer	7827T34	15.13	13.69

■ Includes a removable face piece for extra warmth. ★Collar wraps around neck without fasteners.

Windsocks



Ear Coverage



Ear/Face/Neck Coverage

Easily stretch these form-fitting socks over hard hats to provide warmth and protection from the wind. All are knit polyester and flame resistant until washed.

Fits Hard Hat Style(s)	Color		Each 1-5	Each 6-Up
Ear Coverage				
Cap	Navy	9102T11	$4.40	$3.98
Cap	Red	9102T12	4.40	3.98
Full Brim	Red	9102T14	4.86	4.42
Ear/Face/Neck Coverage				
Cap and Full Brim	Navy	9102T17	6.88	6.17
Cap and Full Brim	Red	9102T18	6.88	6.17

Dust Hoods for Solid Particles



Cotton Twill



Canvas Duck

From the shoulders up, you're protected from dust irritation. Hoods should be worn in ventilated areas and in conjunction with protective eyewear.

The **canvas duck hood** is good for abrasive blasting and grinding jobs. It has an internal bump cap and mesh sides/back vents.

Hood Material	Lens Ht.	Lens Wd.	Lens Material		
Cotton Twill	3½″	5½″	Acetate	9676T5	$35.34
Canvas Duck	3″	5″	Acrylic with Wire Mesh Screen	5427T4	91.00
Replacement Lens for Canvas Duck Hood				5427T41	3.50

Earmuffs



A



B



C



D

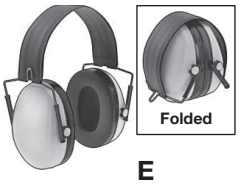

E



F

These earmuffs have an adjustable headband, plastic ear cups, and foam ear cushions. They should be worn in the position or positions that have a Noise Reduction Rating (NRR) listed in the table. For information about hearing protection, see page 1849.

Push-to-hear earmuffs allow you to hear conversation, announcements, and other sounds without taking off your earmuffs. Push the button to hear speech and other sounds for 30 seconds. Operate on one AA battery (not included).

	NRR, dB Over Head	NRR, dB Behind Head	NRR, dB Under Chin	Ear Cup Color	Earmuffs	Earmuffs Each	Repl. Cushions	Repl. Cushions Pair
Earmuffs—Spring-wire metal headband								
A	21	—	—	Beige	9205T1	$16.86	9205T4	$14.10
A	25	—	—	Yellow	9205T6	19.50	9205T12	13.57
A	27	—	—	Dark Green	9159T5	24.76	9159T7	13.83
A	30	—	—	Black	9206T2	30.29	9206T9	16.07
Behind-Head Earmuffs—Spring-wire metal headband								
B	—	29	—	Black	9206T6	30.29	9206T9	16.07
Three-Position Earmuffs—Plastic headband								
C	24	23	23	Red	54375T11	8.67	54375T51	4.61
D	25	26	25	Red	53425T21	30.16	—	—
D	27	25	25	Blue	54375T35	18.26	54375T45	10.30
D	29	27	27	Black	53295T66	25.83	53295T68	11.32
Fold-Up Earmuffs—Spring-wire metal headband								
E	21	—	—	Beige	9205T3	28.07	9205T4	14.10
Push-to-Hear Earmuffs—Padded metal headband								
F	26	—	—	Black	53285T9	54.36	9159T7	13.83

About Hearing Protection

Earmuffs and earplugs are rated by the Noise Reduction Rating (NRR) guidelines, which are enforced by OSHA. The NRR of a hearing protector indicates its noise reduction capabilities measured in decibels (dB). The higher the NRR, the greater the noise reduction capability. The protectors on this and the previous page are tested in accordance with ANSI S3.19-1974.

For sound level meters, see page 1854.
For more information about decibel levels, see page 1866.

Caution: Prolonged exposure at or above 85 dB requires the use of hearing protection. The actual amount of protection depends on proper size and fit, the position in which the protector is worn, as well as your specific work environment.

Choosing a Hearing Protector

OSHA recommends that you choose a hearing protector with an NRR value that is two times the difference between your existing and desired noise level.

For example, if your noise level is 93 dB and you want your exposure to be no higher than 80 dB, the difference is 13 dB. You should choose a protector with an NRR of 26 dB or higher.

Hard-Hat Mount Earmuffs

Snap these earmuffs on and off your slotted hard hat. Earmuffs should be worn over the head to offer proper protection and noise reduction. They have plastic ear cups, spring-wire arms, and foam ear cushions. Hard hat sold separately.

Polyethylene hard hat with slots has a six-point ratchet suspension. **To Order:** Please specify hard hat color: blue, green, high-visibility orange, orange, red, white, or yellow. For more hard hats, see page 1846.

NRR, dB	Ear Cup Color	Earmuffs	Pair	Repl. Cushions	Pair
23	Yellow	55095T13	$20.75	9205T12	$13.57
27	Black	55095T7	26.32	9206T9	16.07
Polyethylene Hard Hat with Slots (Type 1, Class E)				52645T27	15.89



Earplugs

These soft, pliable earplugs provide comfortable hearing protection. Choose from separate (unattached) pairs and corded (connected with a plastic cord, unless noted) pairs that can be worn around your neck when not in use.

Standard—All are made of foam.

Roll-up plugs roll for insertion into your ear and then expand to conform to the shape of your ear canal. *Ribbed bullet* plugs provide added grip that keeps plugs from backing out of your ear.

No-roll plugs slide right into your ear. *Pod* plugs have a flexible plastic grip that makes them easy to insert and remove without touching the actual plug.

Comfort-Fit—These washable plugs are made of soft plastic.

Metal-detector-grade earplugs have an enclosed ball bearing that can be sensed by metal detectors. Good for food preparation areas.

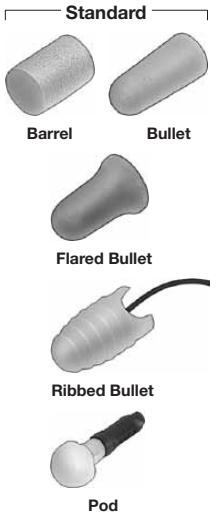

Standard

	NRR, dB	Color	Separate Pairs/ Pkg.		Separate Pkg.	Corded Pairs/ Pkg.		Corded Pkg.
Roll Up								
Barrel	29	Yellow	25	54315T18	$7.63	25	54315T27	$13.47
Barrel	29	Yellow	200	54315T11	35.25	200	54315T14	71.06
Barrel	31	Yellow	200	2975T36	48.52	200	2975T38	91.38
Bullet	33	Green	25	6207T53	8.54	25	6207T58	13.68
Bullet	33	Green	200	6207T57	37.09	100	6207T59	36.04
Flared Bullet	33	Orange	200	54725T32	33.21	100	54725T34	31.42
Ribbed Bullet	31	Yellow	—	—	—	200	3675T46	106.18
No Roll								
Barrel	29	Orange	200	8074T3	25.73	100	8074T5	26.00
Pod	28	Yellow	100	53965T3	39.85	100	53965T6	63.65

Comfort Fit

	NRR, dB	Color	Size	Separate Pair	Corded Pair
3-Ribbed Cone	25	Yellow	M	56135T2 $1.51	56135T3 $1.83
3-Ribbed Cone	27	Purple	M	56135T6 1.50	56135T7 2.10
Metal-Detector-Grade 3-Ribbed Cone	27	Blue	M	—	56135T8 2.50
4-Ribbed Cone	27	Green	S	—	56105T61★ 1.40
4-Ribbed Cone	27	Blue	M	54875T6 .97	54875T7 1.30
4-Ribbed Cone	27	Blue	M	—	56105T62★ 1.40

★Cord is detachable.



Earplugs with Headband

More rigid than a cord, the headband on these foam earplugs can be worn under the chin or behind the head. They form a seal over the entrance to your ear canal but don't rest inside so they're a good choice for frequent on/off use. All earplugs have a flexible plastic band and should be worn in the position or positions that have a Noise Reduction Rating (NRR) listed.

Pod and **flared cone** earplugs include one pair of replacement plugs.

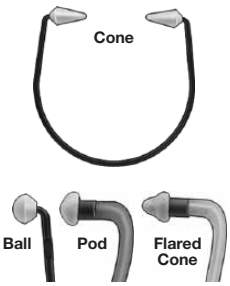

	NRR, dB Behind Head	NRR, dB Under Chin	Color	Earplugs	Pair	Replacement Plugs Pairs/ Pkg.	Replacement Plugs Pkg.
Cone	17	20	Yellow	54975T1	$8.37	5	54975T2 $39.42
Ball	—	17	Yellow	55245T8	5.49	5	55245T9 15.22
Pod	—	23	Orange	55085T3	5.11	1	55085T5 2.78
Flared Cone	—	25	Orange	53895T8	5.11	1	53895T9 2.78

Earplug Dispensers, Respirators & Dust Masks

Earplug Dispensers



Open-Top Dispenser



Hinged-Top Dispenser


Dispenser with Earplugs

Keep earplugs accessible with these plastic dispensers.

Dispensers have two 3/16″ mounting holes (fasteners not included). Fill with the plugs of your choice.

Dispenser with earplugs is sealed to keep plugs sanitary and is not refillable. It dispenses one pair at a time. Dispenser includes mounting hardware. Plugs are foam, roll-up bullet style with an NRR of 33 dB. Color is green. Meet ANSI S3.19-1974. For information about hearing protection, see page 1849.

Top Style	Earplug Capacity	Overall Size Ht.	Wd.	Dp.		
Dispensers						
Open	40 Pairs	3″	9″	6″	54925T45	$39.53
Hinged	200 Pairs	13″	12″	8″	54925T55	84.94
Dispenser with Earplugs						
Sealed	250 Pairs	9½″	6″	6″	5679T1	45.25

Respirators


A


B


C


D


E


F


G


H

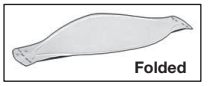
Folded

Respirators with a mesh shell hold their shape in heat and humidity.

Respirators with exhale valve reduce breathing resistance and hot air buildup.

Respirators with a comfort strap allow you to unbuckle the strap and let the mask hang loosely around your neck when not in use.

	Filters Out: Solid Particles	Organic Vapors	Acid Gases	Features	NIOSH Approval	Pkg. Qty.		Pkg.
N95—Filters 95% of solid particles. Not oil resistant.								
A	Yes	—	—	Adjustable Nosepiece	TC-84-0007	20	5450T42	$22.08
A	Yes	—	—	Adjustable Nosepiece	TC-84A-160	20	5450T52	17.85
B	Yes	—	—	Mesh Shell	TC-84A-0327	5	5450T24	10.02
B	Yes	—	—	Mesh Shell	TC-84A-0327	20	5450T12	21.49
C	Yes	—	—	Adjustable Nosepiece, Folds Flat	TC-84A-5668	20	7795T35	31.61
D	Yes	—	—	Mesh Shell, Exhale Valve	TC-84A-0328	5	5450T25	18.96
D	Yes	—	—	Mesh Shell, Exhale Valve	TC-84A-0328	10	5450T23	27.12
D	Yes	—	Yes	Mesh Shell, Exhale Valve	TC-84A-2006	10	5450T38	47.44
D	Yes	Yes	—	Mesh Shell, Exhale Valve	TC-84A-0883	10	5450T35	45.66
E	Yes	—	—	Adjustable Nosepiece, Face Seal, Exhale Valve	TC-84A-1299	10	5450T16	36.14
E	Yes	—	Yes	Adjustable Nosepiece, Exhale Valve	TC-84A-1299	10	5450T27	46.17
F	Yes	—	—	Comfort Strap, Mesh Shell	TC-84A-0013	15	5450T14	26.81
G	Yes	—	—	Comfort Strap, Mesh Shell, Exhale Valve	TC-84A-0120	10	5450T15	35.97
G	Yes	Yes	—	Comfort Strap, Mesh Shell, Exhale Valve	TC-84A-3002	4	5450T26	25.01
N99—Filters 99% of solid particles. Not oil resistant.								
D	Yes	—	—	Mesh Shell, Exhale Valve	TC-84A-1459	10	5450T65	40.98
N100—Filters 99.97% of solid particles. Not oil resistant.								
H	Yes	—	—	Adjustable Nosepiece, Face Seal, Exhale Valve	TC-84A-1298	1	5450T28	10.23
R95—Filters 95% of solid particles. Oil resistant for up to 8 hours.								
A	Yes	—	—	Adjustable Nosepiece	TC-84A-1350	20	5450T72	36.11
A	Yes	—	Yes	Adjustable Nosepiece	TC-84A-1350	20	5450T44	82.88
A	Yes	Yes	—	Adjustable Nosepiece	TC-84A-1350	20	5450T45	82.88
G	Yes	—	—	Comfort Strap, Mesh Shell, Exhale Valve	TC-84A-3331	10	5450T67	36.39
G	Yes	—	Yes	Comfort Strap, Mesh Shell, Exhale Valve	TC-84A-3174	10	5450T22	56.79
G	Yes	Yes	—	Comfort Strap, Mesh Shell, Exhale Valve	TC-84A-3321	10	5450T19	55.23
P95—Filters 95% of solid particles. Oil resistant for up to 8 hours.								
E	Yes	—	Yes	Adjustable Nosepiece, Exhale Valve	TC-84A-1166	10	5450T47	52.42
E	Yes	Yes	—	Adjustable Nosepiece, Exhale Valve	TC-84A-1166	10	5450T49	52.66
P100—Filters 99.97% of solid particles. Oil resistant for up to 40 hours.								
H	Yes	—	—	Adjustable Nosepiece, Face Seal, Exhale Valve	TC-84A-2561	1	5450T13	11.56

Dust Masks



Slip on this mask for protection from dust irritation. Mask has an adjustable metal nosepiece.

	Pkg. Qty.	Pkg.
55815T61	50	$7.93

Dust Mask Dispensers



Keep masks clean and ready to use in this acrylic dispenser. It stores approximately 40 masks. Dispenser is 12½″ Ht. x 6″ Wd. x 6″ Dp. and has 3/8″ dia. holes for wall mounting (fasteners not included).

11885T14 $66.93

Low-Profile Cartridge Respirators for Solid Particles



Designed to fit easily under welding helmets, this respirator has a large surface area, which minimizes breathing resistance. Separate intake and outflow channels keep exhaled air from saturating the filter, so air remains cool and dry. Fitted with an N99 filter, this respirator filters out 99% of solid particles. It is not oil resistant.

	NIOSH Approval		
Respirator	TC-84A-2460	53565T2	$14.84
Replacement N99 Filter (Pkg. of 2)		53565T5	8.25

Snug-Fit Respirators for Vapors and Gases



The cradle-suspension head support reduces slippage for a secure fit. Made of thermoplastic. **To Order:** Please specify size: small, medium, or large (unless noted).

R95 respirator resists oil exposure for up to 8 hours and filters out 95% of solid particles.

P100 respirator resists oil exposure for up to 40 hours and filters out 99.97% of solid particles.

	NIOSH Approval		
For Organic Vapors	TC-23C-1038	55865T31♣	$22.40
For Organic Vapors, Acid Gases	TC-23C-1042	55865T35♣	23.00
For Dust, Organic Vapors; With R95 Filter	TC-84A-4188	55865T71	30.58
For Organic Vapors, Ammonia, Methylamine, Acid Gases, Formaldehyde	TC-23C-1733	55865T11	28.38
For Dust, Organic Vapors, Ammonia, Methylamine, Acid Gases, Formaldehyde; With P100 Filter	TC-84A-0253	55865T52	36.45

♣ Not available in small.

Lightweight Cartridge Respirators



Half Facepiece

Made of lightweight silicone to reduce head and neck stress during periods of extended wear.

Half Face—To Order: Please specify size: small, medium, or large (unless noted).

Full Face—Respirators have five-strap headgear and a polycarbonate lens.

N95 respirators filter out 95% of solid particles. They are not oil resistant. *P100* respirators resist oil exposure for up to 40 hours and filter out 99.97% of solid particles.

	NIOSH Approval, Half/Full Face	Half-Face Respirators		Full-Face Respirators		Repl. Cartridges Pkg. Qty.		Pkg.
For Dust; With N95 Filter	TC-84A-1426/1419	5541T14♣	$36.58	5541T34	$146.38	—	—	—
For Organic Vapors	TC-23C-287/1782	5541T15♣	35.79	5541T35	150.35	6	5541T42	$43.24
For Dust, Organic Vapors; With N95 Filter	TC-84A-1427/1420	5541T16	41.84	5541T36	159.51	6	5541T42	43.24
For Organic Vapors, Acid Gases	TC-23C-0318/1784	5541T17♣	37.63	5541T37	150.35	6	5541T44	44.34
For Dust, Organic Vapors, Acid Gases; With P100 Filter	TC-84A-0443/0879	5541T18	47.00	5541T38	165.18	4	5541T45	58.88
For Ammonia, Methylamine	TC-23C-422/1785	5541T19♣	37.63	5541T39	157.89	6	5541T46	48.98

♣ Not available in small.



Full Facepiece

	Pkg. Qty.		Pkg.
Accessories			
Adhesive-Backed Lens Cover for Full-Face Respirators	25	5541T53	$47.04
Replacement N95 Filter	24	5541T47	37.48
Replacement Inhale Valve	6	5541T55	6.98
Replacement Exhale Valve	4	5541T54	20.36
Replacement Filter Cover for 5541T14, T34, T16, and T36	2	5541T56	6.03

Comfort-Fit Cartridge Respirators



For maximum comfort, these respirators have a facepiece made of ultrasoft silicone. They have a perspiration relief port in the facepiece to reduce moisture buildup and prevent slippage. **To Order:** Please specify size: small, medium, or large.

N95 respirator filters 95% of airborne particles. It is not oil resistant. Replacement cartridge also requires a replacement filter (sold separately). *P100* respirators resist oil exposure for up to 40 hours and filter out 99.97% of solid particles.

	NIOSH Approval	Respirators		Repl. Cartridges Pkg. Qty.		Pkg.	Repl. Filters Pkg. Qty.		Pkg.
For Dust; With P100 Filter	TC-84A-7529	54445T156	$44.37	—	—	—	2	54445T245	$10.64
For Organic Vapors	TC-23C-3082	54445T213	47.92	2	54445T229	$14.90	—	—	—
For Dust, Organic Vapors; With N95 Filter	TC-84A-7544	54445T183	63.02	2	54445T229	14.90	10	54445T189	13.64
For Dust, Organic Vapors; With P100 Filter	TC-84A-7531	54445T161	59.30	2	54445T168	28.56	—	—	—
For Organic Vapors, Acid Gases	TC-23C-3086	54445T251	48.15	2	54445T319	15.18	—	—	—
For Dust, Organic Vapors, Acid Gases; With P100 Filter	TC-84A-7535	54445T125	59.52	2	54445T169	28.82	—	—	—
For Ammonia, Methylamine	TC-23C-3088	54445T255	49.23	2	54445T239	16.48	—	—	—
Replacement Filter Cover for 54445T183 (Pkg. of 2)								54445T187	$4.48

Cartridge Respirators



Made of rubber. **To Order:** Please specify size: small, medium, or large.
N95 respirator filters 95% of airborne particles. It is not oil resistant. *P100* respirators resist oil exposure for up to 40 hours and filter out 99.97% of solid particles.

	NIOSH Approval	Respirators		Repl. Cartridges Pkg. Qty.			Repl. Filter Pkg. Qty.		
For Dust; With N95 Filter	TC-84A-0290	9100T16	$52.59	—	—	—	10	9100T11	$21.91
For Organic Vapors	TC-23C-0040	9100T54	58.05	10	9100T72	$88.50	—	—	—
For Dust, Organic Vapors; With P100 Filter	TC-84A-0162	9100T18	71.39	6	9100T21★	105.62	—	—	—
For Acid Gases, Organic Vapors	TC-23C-0047	9100T55	58.05	10	9100T73	85.65	—	—	—
For Acid Gases, Dust, Organic Vapors; With P100 Filter	TC-84A-0164	9100T17	71.39	6	9100T19★	105.62	—	—	—
Replacement Filter Cover for 9100T16								9100T53	$4.84

★Replacement cartridge includes P100 filter.

3M Respirator Cartridges and Filters

These cartridges and filters are for use with 3M respirators only.
N95 filter filters out 95% of solid particles. It is not oil resistant.
P95 filter resists oil exposure for up to 40 hours and filters out 95% of solid particles.
P100 filter resists oil exposure for up to 40 hours and filters out 99.97% of solid particles.

	3M Part No.	Pkg. Qty.		Pkg.
Cartridges				
For Organic Vapors	6001	2	5834T11	$12.46
For Organic Vapors; With P100 Filter	60921	2	5834T22	27.48
For Acid Gases	6002	2	5834T66	14.00
For Organic Vapors, Acid Gases	6003	2	5834T32	13.45
For Organic Vapors, Acid Gases; With P100 Filter	60923	2	5834T73	25.61
For Ammonia, Methylamine; With P100 Filter	60924	2	5834T45	28.61
For Multigases, Vapors	6006	2	5834T86	14.76
For Multigases, Vapors; With P100 Filter	60926	2	5834T55	26.85
Filters				
P95 Filter	2071	2	5834T63	5.12
P100 Filter	2091	2	5834T68	8.48
N95 Prefilter	5N11	10	5834T24	17.08
Accessories				
Filter Retainer	501	1	5834T17	2.52
Filter Adapter	502	1	5834T38	3.16

Respirator Accessories



Wipes



Hood



Fit Test Kit

Wipes quickly clear perspiration from your respirator. You'll get 100 individually wrapped 0.45% isopropyl alcohol pads.
52735T21 ..... Pkg. $16.50

Hood wraps around a full-face respirator to protect your head, face, and neck from dust, paint, and other chemicals. The elasticized face opening wraps around the respirator lens and underneath the cartridge, covering the user's head. Made of Tyvek.
1496T18 ..... $4.44

Fit test kit contains everything you need to perform up to 50 OSHA-approved qualitative fit tests on your respirators.
Note: Respirators must be equipped with an organic vapor cartridge.
52805T41 ..... $101.47

Respirator Storage Bags

Clear Polypropylene, 16″x14″	1440T4	$6.88
Black Nylon, 6″x7″	1440T6	10.25
Black Nylon, 6″x9″	1440T8	11.38

Supplied-Air Respirators

Respirators run on a supply of clean air from an air pump or plant air line, so there's low breathing resistance to minimize fatigue during extended periods of use. All respirators require 6-15 cfm of air.
Add extra hose to span up to 300 ft. To maintain NIOSH approval, respirators must be used with the hoses listed.
Respirators for air lines connect to in-plant breathable air lines. Air connection is a ¼ industrial shape quick-disconnect coupling (see page 326 for more information).
Respirators for air pumps connect to portable air pumps (sold separately on page 1853) and have a ½ industrial shape quick-disconnect coupling.

Chemical-Resistant Respirators



Made of chemical-resistant Tychem QC with a sewn-in 6″x16″ acetate lens, these hood respirators have both an outer bib and an inner bib that tucks into your clothing for splash protection. Furnished with a ratchet suspension that fits head sizes 6½ to 8, a breathing tube, an air hose, and a belt. Hood accommodates eye and ear protection. NIOSH approval is TC-19C-154 Type C.
Lens cover has an adhesive back.

	For Air Lines Hose Lg., ft.			For Air Pumps Hose Lg., ft.		
Respirator	25	9770T7	$217.25	50	9770T8	$283.53
Exten. Hose	25	5370T33	117.76	50	9770T13	197.01
Exten. Hose	50	5370T34	193.05	100	9770T14	320.38
Lens Cover (Pkg. of 5)					54515T26	$8.46
Replacement Hood					9770T9	43.01
Replacement Ratchet Suspension					9770T78	17.25

Abrasion-Resistant Respirators



Good for use around abrasive blasters and painters, these respirators are made of high-density materials that protect against rough airborne particles. The polyethylene helmet has an inner and outer 5″x14″ acetate lens. Attached to the helmet is a waist-length polyurethane-coated nylon cape and a tube assembly with a belt for securing breathing tube. Comes with disposable adhesive-backed outer lens cover and air hose. Respirators have a pinlock size adjustment with interlocking straps that fits head sizes 6½ to 8.
NIOSH approval is TC-19C-293 Type C and CE.
Helmet meets ANSI Z89.1-2003 Class C standards; inner lens meets ANSI Z87.1-1989 impact standards.

	For Air Lines Hose Lg., ft.			For Air Pumps Hose Lg., ft.		
Respirator	25	10615T11	$743.11	100	10615T12	$821.66
Exten. Hose	25	5370T33	117.76	50	9770T13	197.01
Exten. Hose	50	5370T34	193.05	100	9770T14	320.38
Replacement Parts						
Nylon Cape					10615T24	$142.87
Acetate Inner Lens					10615T21	2.72
Breathing Tube					10615T31	90.05
Inner Helmet Shell and Pinlock Suspension					10615T35	33.71
PETG Outer Lens (Pkg. of 10)					10615T29	6.87
Outer Lens Cover (Pkg. of 10)					10615T32	11.87

Cooling Tube for Air Line Respirators

Cool incoming air by as much as 30° F. Tube has a control valve for temperature adjustment and is for use with 9770T7 and 10615T11 only.
9770T75 ..... $223.48

Pumps for Supplied-Air Respirators



With Open Dripproof Motor



With Totally Enclosed Motor

Connect these oil-free portable pumps to your respirators for a continuous supply of low-pressure breathable air. Air connection is a 1/2" industrial shape quick-disconnect coupling (see page 326 for more information).

Maximum supply pressure is 15 psi. Maximum hose length allowed is 300 ft. Motor operates on 120V AC, 60 Hz and has an 8-ft. cord with three-prong plug.

Airflow @ 5 psi	Amps	Supplies No. of Respirators: Full Hood	Helmet	Half/Full Face		
With Open Dripproof Motor—3/4 hp						
10 cfm	10.8	1	or 1	or 2	56825T66	$1,123.36
With Totally Enclosed Motor—1 1/2 hp						
16 cfm	16	2	or 2	or 3	56825T67	2,135.17
Replacement Inlet Filter					56825T81	23.33
Replacement Outlet Filter Cartridge					56825T82	28.38

Supplied-Air Respirators with Hand-Held Air Pump

The portable pump on these respirators provides a continuous supply of clean air for one person. Respirators include a 50-ft. air hose and 25 clear, adhesive-backed disposable lens covers. Pump has an open dripproof, 3/4-hp motor that operates on 120V AC, 60 Hz and has an 8-ft. cord with three-prong plug. Add extra hose to span up to 300 ft. To maintain NIOSH approval, respirators must be used with the hoses listed.

Full-face respirator is silicone with a 10"×7" polycarbonate lens. NIOSH approval is TC-19C-322.

Chemical-resistant respirator has a Tychem QC hood with a 6"×16" acetate lens. Accommodates eye and ear protection. NIOSH approval is TC-19C-154.



Hood

Full Facepiece

	Airflow @ 5 psi		
Full-Face Respirator	10 cfm	54515T1	$1,304.94
Chemical-Resistant Respirator	10 cfm	54515T2	1,105.62
Accessories			
50 ft. Extension Hose		9770T13	197.01
100 ft. Extension Hose		9770T14	320.38
Repl. Polycarbonate Lens for 54515T1		54515T13	80.71
Repl. Lens Cover for 54515T1 (Pkg. of 5)		54515T25	8.88
Repl. Lens Cover for 54515T2 (Pkg. of 5)		54515T26	8.46

Portable Single-Gas Detectors

When these detectors sense high levels of dangerous gases, they alert you with a 95 dB audible alarm, warning light, and vibrating alarm. You can adjust the alarm trigger points to suit your environment. Belt clip included. Size is 3 1/2" Ht.×2" Wd.×1" Dp. Temperature range is -4° to 122° F, unless noted. For use in Class 1, Division 1, Groups A, B, C, and D and Class 2, Division 1, Group G locations. CSA certified.

A calibration check must be performed on the detector before each use to verify that it is working properly. The check for *oxygen* detectors can be performed with the press of a button. The calibration test for *carbon monoxide* and *hydrogen sulfide* detectors requires a regulator, tubing, and cylinder (sold separately).

Detectors without replaceable battery operate on one lithium battery and should be thrown away at the end of their two-year lifespan.

Detectors with replaceable battery operate on one lithium battery (included).



Detector

	Without Replaceable Battery				*With Replaceable Battery*			
Detects	Measuring Range	Detectors		Calibration Cylinders	Measuring Range	Detectors		Calibration Cylinders
Oxygen	0-25% Vol.	18995T81	$275.58		0-25% Vol.	18995T92	$454.30	
Carbon Monoxide	0-500 ppm	18995T83	275.58	18995T923 $246.07	0-2,000 ppm	18995T15★	375.00	18995T923 $246.07
Hydrogen Sulfide	0-100 ppm	18995T85	198.69	18995T924 226.00	0-200 ppm	18995T19★	425.00	18995T16 378.00
Calibration Regulator for Carbon Monoxide and Hydrogen Sulfide Detectors						18995T916		$226.00
Calibration Tubing for Carbon Monoxide and Hydrogen Sulfide Detectors						18995T935		13.82
Replacement Lithium Battery						7821K62		11.00

★Temperature range is 14° to 104° F.

Portable Multi-Gas Detectors

When this detector senses high levels of combustible gases (such as acetone, butane, hydrogen, methane, pentane, propane, and toluene), oxygen, carbon monoxide, and hydrogen sulfide, it alerts you with an audible alarm rated at 95 dB, warning light, and vibrating alarm. You can adjust the alarm trigger points to suit your environment. There is also a motion sensor that sounds an alarm if the user becomes disabled. Detector has an LCD and a rubberized housing. Size is 4 3/8" Ht.×3" Wd.×1 3/8" Dp. Operates on a rechargeable lithium ion battery (included). Temperature range is -4° to 122° F. ETL listed for Class 1, Division 1, Groups A, B, C, and D and Class 2, Division 1, Groups F and G locations. IP 67 rated.

A calibration check must be performed before each use to verify that the detector is working properly. The check requires a *regulator, tubing,* and *cylinder* (sold separately).

Detector with sampling probe allows you to test the air in a hazardous area before entering. Great for confined spaces. Probe includes a rechargeable lithium ion battery. Detector comes with 25 ft. of tubing.

Detects	Measuring Range
Combustible Gases	0-100% LEL ■
Oxygen	0-30% Vol.
Carbon Monoxide	0-1,999 ppm
Hydrogen Sulfide	0-200 ppm

■ LEL = lower explosive limit.



Standard Detector	18995T42	$901.33
Detector with Sampling Probe	18995T44	1,474.57
Replacement Probe	18995T28	425.00
Replacement 25-ft. Tubing	18995T26	73.67
Calibration Cylinder	18995T47	276.00
Calibration Regulator for Standard Detector	18995T35	328.17
Calibration Regulator for Detector with Probe	18995T916	226.00

Surface-Mount Multi-Gas Detectors

An audible alarm and warning light alert you to the presence of propane, methane, hydrogen, and carbon monoxide. Alarm sounds at 420 ppm for propane; 5,000 ppm for methane; 200 ppm for hydrogen; and 150 ppm for carbon monoxide. This detector has a relay for connection to auxiliary alarm systems. A programmable timer allows you to set whether the relay alarm is triggered immediately, or after 4 or 8 minutes of continuous gas exposure. The reset button suspends the alarm and restarts the cycle for 5 to 8 minutes in case of false alarm. Detector has a 6-ft. cord with a two-prong plug and a 120 volt AC adapter. Mounting fasteners are not included.

Also Available: Single-gas detectors. Please ask for 6631T4 and specify propane, methane, carbon monoxide, or hydrogen.



dB @ 10 ft.	Ht.	Wd.	Dp.	Temperature Range	Mounting Hole Dia.		
80	6 3/4"	3 1/4"	1 3/4"	-20° to 120° F	3/16"	6631T18	$322.22

Early-Warning Surface-Mount Hydrogen Detectors



This detector triggers a "caution" alert when a small amount of hydrogen is detected and a second "danger" alert if levels continue to rise. When hydrogen concentration reaches 1% by volume, a yellow warning light illuminates and the first relay closes to trigger a remote exhaust fan and/or alarm. When hydrogen reaches 2%, a red warning light illuminates, an alarm sounds, and the second relay closes to activate another remote exhaust fan and/or alarm. Relays are rated for 10 amps @ 240 volts AC. Detector operates on 120/240 volts AC and has a terminal box for hardwiring. It is 7″ Ht.×4¾″ Wd.×2½″ Dp. and has 3⁄16″ dia. holes for wall mounting (fasteners not included). Temperature range is 14° to 104°F.

Use the *optional remote* and *25-ft. cord* to keep an eye on the detector's alert status from a distance. Remote has an 80 dB buzzer and the same yellow and red warning lights as the detector. Has two 3⁄16″ dia. holes for wall mounting (fasteners not included).

Detector	71095K71	$618.18
Optional Remote with Buzzer	71095K24	161.54
25-ft. Cord for Optional Remote	5703T411	5.80

Stick-On Carbon Monoxide Indicators



Place this indicator anywhere you need to detect and warn about the presence of carbon monoxide. The circle in the center darkens when carbon monoxide is detected and returns to its normal color when exposed to fresh air. Trigger point is 100 ppm. Replace indicator every 90 days. An unopened indicator has a shelf life of 3 years. Indicator is 2¼″ square.

1085T85	$6.73

Carbon Dioxide Meters



Measure and display real-time indoor ventilation quality with this meter. It has an easy-to-read LCD that shows carbon dioxide (CO_2) levels and is accurate to ±50 ppm or ±5% of reading (up to 5,000 ppm), whichever is greater. It also measures the temperature between 32° and 122°F (0° to 50 C°). Monitor is 6¼″ Ht.×3″ Wd.×1½″ Dp. and operates on the included 120 volt AC adapter or four AA batteries (not included). Adapter has a 6-ft. cord with a two-prong plug. Meter comes calibrated but must be recalibrated every 12 months.

Calibration kit includes a calibration cylinder, calibration regulator, tubing assembly, and storage case.

	Measuring Range, ppm		
Carbon Dioxide Monitor	0-10,000 ppm	39035K69	$651.92
Calibration Kit		39035K83	386.01
AA Batteries (Pkg. of 4)		71455K53	2.94

Static Charge Detector



Locate and accurately measure static charges. This unit detects field potentials up to 30 kV at 1″; higher voltages may be measured at distances greater than 1″. A hold button freezes the digital display for recording measurements.

Detector is 4⅞″ Ht.×2⅞″ Wd.×1″ Dp., operates on one 9-volt battery (included), and comes with a carrying case. Temperature range is 50° to 104°F.

Detector	6605T63	$673.08
Replacement 9-Volt Battery	71455K56	2.75

Sound Level Testers and Monitors



40 to 130 dB Tester — 35 to 130 dB Tester



Monitor — Calibrator

All of these units have a selectable frequency weighting—an electronic filter that adjusts the way the tester measures sound. The A weighting is similar to the response of the human ear and is used by OSHA. The C weighting is suitable for measuring the sound level of machinery. Testers and monitor *with calibration certificate* include a certificate of calibration traceable to NIST that states the product has passed a test for accuracy.

Testers take readings of ambient sound levels. They have an easy-to-read LCD. *35 dB to 130 dB testers* meet ANSI S1.4-1983 and include a storage case.

Monitors continuously measure ambient sound levels. The display alerts you when levels either exceed or fall below your programmed thresholds. When operating the monitor with the included 120 volts AC adapter, four warning lights will also flash when a threshold is reached. Monitors have a time stamp and a microphone that rotates 180°. They can be surface mounted using the ½″ dia. hole (fastener not included) or propped up using the attached folding stand. Meet ANSI S1.4-1983.

Use the *calibrator* to calibrate the tester or monitor before each use or the monitor on a regular basis and verify that it is working properly. *Remote microphone cable* allows you to use the monitor's microphone up to 15 ft. from the display.

Range, dB	Accuracy, dB	Ht.	Wd.	Dp.	Batteries	Without Calibration Certificate		With Calibration Certificate	
Testers									
40-130 dB	±2.0 dB	9″	2¼″	1¾″	Four AAA (Included)	10235T72	$98.17	10235T73	$187.44
35-130 dB	±1.5 dB	9½″	3″	1″	One 9V (Included)	55935T39	289.64	55935T4	387.29
Monitors									
30-130 dB	±1.5 dB	8¾″	7″	1¼″	Eight AA (Not included)	6768T15	294.53	6768T16	392.63
Accessories									
Calibrator for Testers and Monitors								55935T46	341.37
Remote Microphone Cable for Monitor (15 ft.)								6768T37	43.63
AA Batteries (Pkg. of 4)								71455K53	2.94

Flame- and Heat-Resistant Pads



Silica Pad



Silica Pad with Magnetic Strip

Prevent heat and flame damage in small spaces—these pads are a good alternative to large blankets during localized, high-heat applications. They are for intermittent contact with flames and hot surfaces. Maximum temperature is 1800°F.

Silica cloth pad has two grommets for tacking pad to a wall.

Attach **pads with magnetic strip** to protect metal surfaces.

Material	Wd.	Lg.	Thick., mils	Weight, oz./sq. yd.	Color	Pads		Pads with Magnetic Strip	
Silica Cloth	8″	10″	54	36	Brown	2962K34	$14.28	2962K36	$19.25
Carbon Fiber	18″	18″	200	16	Black	2962K49	20.62	2962K51	21.00

Static-Control Curtains

The carbon fibers on one side of these curtains ground electrical charges to eliminate static. Curtains are clear vinyl, 12 mils thick, 14 oz./sq. yd., and have grommets on 8″ centers along the top. Maximum temperature is 120°F. Surface resistivity is 2×10^7 ohms. Meet NFPA (National Fire Protection Association) standards.

Ht., ft.	Wd., ft.		
5	6	52365T52	$78.36
5	8	52365T53	100.36
5	10	52365T54	123.23
6	6	52365T61	$100.36
6	8	52365T62	123.23
6	10	52365T63	134.00

Curtain Hooks (Pkg. of 10) 54895T44 $8.89

Custom Sizes—To Order: Please specify height and width.

52365T75 Per Sq. Ft. $3.46



Protective Curtains



Welding spatter-resistant cotton duck curtains are 30 mils thick, 15 oz./sq. yd. Max. temperature is 200°F. Curtains have grommets on 12″ centers along all sides. Color is green. Meet Canvas Products Association International CPAI-84.

Oil-resistant polyester curtains are vinyl coated to hold up against oil and alkalies. They're 14 mils thick, 13 oz./sq. yd. Max. temperature is 150°F. Curtains are washable and have grommets on 12″ centers across the top and 24″ centers along either side. California Fire Marshal approved. **To Order:** Please specify beige, black, blue, white, or yellow.

Note: The finished size of all curtains will be slightly smaller due to hemming.

Welding Spatter-Resistant Cotton Duck

Ht., ft.	Wd., ft.		
3	6	6725T11	$22.55
4	4	6725T12	20.05
4	6	6725T13	30.10
4	8	6725T14	40.10
5	6	6725T15	37.60
5	8	6725T16	49.58
5	10	6725T17	62.40
6	5	6725T54	37.60
6	6	6725T18	45.10
6	8	6725T21	64.45
6	10	6725T22	$69.93
8	6	6725T56	60.17
8	8	6725T23	74.65
8	10	6725T3	89.11
10	6	6725T9	69.93
10	10	6725T4	111.36
10	12	6725T5	133.64
12	16	6725T6	190.44
16	20	6725T2	321.86

Curtain Hooks (Pkg. of 10) 54895T44 $8.89

Custom Sizes—To Order: Please specify height and width.

6725T29 Per Sq. Ft. $1.21

Oil-Resistant Polyester

Ht., ft.	Wd., ft.		
5	6	55335T81	$34.75
6	6	55335T83	44.70
6	8	55335T5	47.67
6	10	55335T82	69.53
8	8	55335T6	63.55
8	10	55335T7	79.45
10	10	55335T8	$99.33
10	20	55335T1	198.60
10	24	55335T2	238.35
12	15	55335T3	178.72
12	24	55335T4	270.43

Curtain Hooks (Pkg. of 10) 54895T44 $8.89

Custom Sizes and Additional Colors—To Order: Please specify color (beige, black, blue, brown, gray, green, red, white, or yellow), height, and width.

55335T29 Per Sq. Ft. $0.99

See-Through Protective Curtains

Shield workers while allowing them to see and be seen. These curtains are 14 mils thick, 10 oz./sq. yd. Made of vinyl. Use around welding areas (except for clear), grinding booths, paint booths, and drafty doors. Maximum temperature is 120°F. Curtains have grommets on 8″ centers along the top and 16″ centers along either side. California Fire Marshal approved. Note: Finished size will be slightly smaller due to hemming.

To Order: Please specify clear, gold, green, dark green, or orange.



Ht., ft.	Wd., ft.		
4	5	54895T77	$23.09
4	6	54895T78	27.71
4	8	54895T79	36.96
4	10	54895T15	46.22
5	5	54895T81	28.87
5	6	54895T82	34.64
5	8	54895T83	46.19
5	10	54895T84	57.75
6	4	54895T22	27.72
6	6	54895T85	41.57
6	8	54895T86	51.95
6	10	54895T87	71.34
6	12	54895T88	85.59
6	15	54895T31	103.95
8	8	54895T33	73.91
8	10	54895T35	92.36
8	12	54895T37	110.89
8	15	54895T39	138.60
10	7	54895T17	80.89
10	10	54895T41	115.48
10	20	54895T42	231.01
12	12	54895T43	166.33

Curtain Hooks (Pkg. of 10) 54895T44 $8.89

Custom Sizes—To Order: Please specify color (clear, gold, green, dark green, or orange), height, and width.

54895T89 Per Sq. Ft. $1.17

Sample Pack—Includes a swatch of each curtain color.

54895T47 $8.17

See-Through Welding Strip Curtains

You can see and walk through these brown-colored strip curtains. They consist of 8″ wide vinyl strips that overlap 50% to filter UV light and protect against welding spatter. All are 80 mils thick. Maximum temperature is 150°F. California Fire Marshal approved. For clear vinyl strip doors (not for welding), see page 2878.

With Bolt-on Brackets—Mount to vertical and horizontal surfaces. Brackets can be suspended from overhead supports using a ½″ threaded stud (not included; see pages 3182-3188). Curtain is 72 oz./sq. yd.

With Hanging Brackets—Use this bracket with 2″ maximum dia. overhead rods (not included). Curtain is 98 oz./sq. yd.

Also Available: Custom sizes. Please ask for 55705T999 and specify height, width, and mounting style.



Bolt-On Bracket



Hanging Bracket



Ht., ft.	6-ft. Width		8-ft. Width		10-ft. Width		12-ft. Width		Replacement Strips	
With Bolt-On Brackets										
6	55705T111	$193.09	55705T112	$257.44	55705T113	$321.80	55705T114	$386.16	55705T251	$12.13
8	55705T121	240.33	55705T122	311.89	55705T123	400.56	55705T124	480.65	55705T252	16.17
10	55705T131	307.94	55705T132	383.43	55705T133	479.29	55705T134	575.14	55705T253	20.21
With Hanging Brackets										
6	55705T211	241.54	55705T212	298.17	55705T213	403.12	55705T214	477.37	55705T261	18.00
8	55705T221	304.87	55705T222	407.04	55705T223	510.62	55705T224	620.60	55705T262	24.47
10	55705T231	366.37	55705T232	470.88	55705T233	606.38	55705T234	712.21	55705T263	32.85

Replacement Hanging Bracket (three required per foot) 55705T271 $4.27

Protective Curtains & Blankets

Protective Curtain Rolls



Cut with scissors to create custom curtains—they have grommets and are ready to hang. The grommets are on 12″ centers along the top. All rolls except clear can be used in welding applications. Maximum temperature is 150° F. California Fire Marshal approved.

See-Through Vinyl—14 mils thick, 13 oz./sq. yd. To Order. Please specify blue, clear, gray, green, orange, or yellow.

Oil-Resistant Polyester—Material has a vinyl coating and is 13 mils thick, 14 oz./sq. yd. To Order. Please specify green or yellow.

	Roll Wd.	15-ft. Rolls		75-ft. Rolls	
See-Through Vinyl	64″	5685T47	$48.21	5685T53	$207.24
Oil-Resistant Polyester	61″	55345T68	53.48	55345T86	213.92
Curtain Hooks (Pkg. of 10)				54895T44	8.89

Carbon Fiber Blankets



Blankets are for intermittent contact with flames and hot surfaces. Intermittent maximum temperature is 1800° F. Material is 180 mils thick, 16 oz./sq. yd. Color is black.

Roll—Use a utility knife to cut to size.

Wd., ft.	Lg., ft.		
Blankets			
4	6	3925T21	$88.98
6	5	3925T22	110.94
8	6	3925T23	173.83
8	10	3925T24	289.50
10	10	3925T25	362.22
Roll			
4	50	3925T48	639.00

Custom Sizes—To Order. Please specify width and length.

3925T58	Per Sq. Ft.	$3.73

Flame- and Heat-Resistant Curtains and Blankets

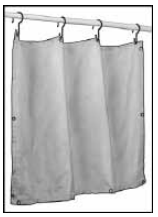

Used as a curtain



Used as a blanket

Provide a barrier in high-heat applications where severe molten splash occurs such as casting, smelting, and blast furnace operations. Curtains and blankets are for intermittent contact with flames and hot surfaces.

Note: Finished size will be slightly smaller due to hemming.

Fiberglass

Maximum temperature is 1000° F. Material has grommets on 24″ centers along all sides.

18 oz./sq. yd.—35 mils thick. Color is brown.

35 oz./sq. yd.—80 mils thick for extra protection from welding splash. Also useful for heat-treating applications such as wrapping hot metal parts to slow the cooling process. Color is white.

Ht., ft.	Wd., ft.	18 oz./sq. yd.		35 oz./sq. yd.	
3	8	6417T42	$40.40	6417T43	$62.58
4	5	6417T21	34.71	6417T1	52.02
4	6	6417T24	40.40	6417T5	62.58
5	8	6417T22	62.87	6417T2	97.28
5	10	6417T23	75.95	6417T3	118.31
6	6	6417T25	48.11	6417T6	80.20
6	8	6417T26	61.02	6417T7	104.88
6	10	6417T27	79.70	6417T8	150.40
8	8	6417T28	87.60	6417T13	153.10
8	10	6417T29	104.83	6417T14	199.01
10	10	6417T31	130.57	6417T15	214.00
12	12	6417T32	206.00	6417T16	351.43
Curtain Hooks (Pkg. of 10)				54895T44	8.89

Custom Sizes—To Order. Please specify height and width.

		Per Sq. Ft.
18 oz./sq. yd.	6417T9	$1.75
35 oz./sq. yd.	6417T4	2.55

Rolls—When grommets and hemming aren't necessary, use a utility knife to cut your own blankets. Material is 35 mils thick, 18 oz./sq. yd. Color is brown.

Wd.	Lg., ft.		
40″	150	6417T55	$390.13
60″	150	6417T56	518.61

Acrylic-Coated Fiberglass

An acrylic coating adds wear resistance. Maximum temperature is 600° F. Material is 35 mils thick, 24 oz./sq. yd., and has grommets on 12″ centers along the top. Color is gold.

Ht., ft.	Wd., ft.			Ht., ft.	Wd., ft.		
4	6	10545T36	$51.24	6	10	10545T39	$128.11
6	6	10545T21	76.87	8	8	10545T23	139.96
6	8	10545T22	102.49				
Curtain Hooks (Pkg. of 10)						54895T44	$8.89

Custom Sizes—To Order. Please specify height and width.

10545T28	Per Sq. Ft.	$2.17

Abrasion-Resistant Kevlar/Fiberglass Blend

Made with Kevlar to resist abrasion, scratches, tears, and punctures. A latex coating sheds slag. Maximum temperature is 1000° F. Material is 55 mils thick, 32 oz./sq. yd., and has grommets on 12″ centers along all sides. Color is black.

Ht., ft.	Wd., ft.			Ht., ft.	Wd., ft.		
4	4	6213T42	$110.35	6	8	6213T36	$305.77
4	6	6213T43	154.03	8	8	6213T37	413.85
4	8	6213T34	199.35	8	10	6213T38	487.42
6	6	6213T35	229.92	10	10	6213T39	589.33
Curtain Hooks (Pkg. of 10)						54895T44	$8.89

Custom Sizes—To Order. Please specify height and width.

6213T41	Per Sq. Ft.	$5.85

Heat-Reflective Fiberglass

The aluminum on one side of these curtains reflects radiant heat. It also protects against molten spatter and has a maximum temperature of 300° F. The brown-colored fiberglass side resists abrasion and has a maximum temperature of 1000° F. Material is 30 mils thick, 20 oz./sq. yd., and has grommets on 12″ centers along all sides. Meets MIL-C-20079H Type 1 Class 10 and MIL-1-24244.

Ht., ft.	Wd., ft.		
4	4	5640T31	$44.42
5	6	5640T32	79.38
6	4	5640T33	66.07
6	6	5640T34	90.31
6	8	5640T35	120.40
6	10	5640T36	141.87
8	10	5640T37	177.80
10	10	5640T38	222.26
Curtain Hooks (Pkg. of 10)		54895T44	$8.89

Custom Sizes—To Order. Please specify height and width.

5640T21	Per Sq. Ft.	$3.02

Chemical-Resistant Silica Cloth

Provide excellent chemical resistance with these silica cloth curtains. Maximum temperature is 1800° F. Material is 54 mils thick, 36 oz./sq. yd., and has grommets on 12″ centers along all sides. Color is brown. Meets MIL-1-20244B.

Ht., ft.	Wd., ft.			Ht., ft.	Wd., ft.		
2	2	5500T341	$46.92	6	6	5500T151	$210.85
4	4	5500T311	115.98	6	8	5500T161	281.15
4	6	5500T121	154.64				
Curtain Hooks (Pkg. of 10)						54895T44	$8.89

Custom Sizes—To Order. Please specify height and width.

5500T271	Per Sq. Ft.	$7.18

Protective Panels

Use individually or place multiple panels side-by-side. Attach a set of casters (sold separately) to platform legs for mobility.

Panels *with slip-on screen* are easy to install. They have a 1″ OD steel frame. All include two clips for connecting panels.

Panels *with tie-on screen* have a ¾″ square steel frame that reduces the slipping and twisting that can occur with round frames. Connect multiple panels using frame connectors (sold separately); one set required per connection.

Welding Spatter-Resistant Cotton Duck—Color is olive green. Meets Canvas Products Association International CPAI-84. *Slip-on screen* material is 30 mils thick, 16 oz./sq. yd. Max. temperature is 120° F. *Tie-on screen* material is 24 mils thick, 12 oz./sq. yd. Max. temperature is 300° F.

See-Through Vinyl—Screen material is 14 mils thick, 13 oz./sq. yd. Max. temperature is 150° F. California Fire Marshal approved. **To Order:** For *slip-on screens*, please specify gray or yellow. For *tie-on screens*, please specify gray, green, orange, or yellow.

Oil-Resistant Polyester—The blue vinyl coating on these panels withstands oil. Screen material is 14 mils thick, 14 oz./sq. yd. Max. temperature is 150° F. California Fire Marshal approved.

Flame- and Heat-Resistant Fiberglass—Panels are for intermittent contact with flames and hot surfaces. Screen material is 51 mils thick, 28 oz./sq. yd., and has a black acrylic coating. Max. temperature is 1000° F.

With Slip-On Screens

		Welding Spatter-Resistant Cotton Duck				*See-Through Vinyl*			
Ht., ft.	Wd., ft.	Complete Panels		Repl. Screens		Complete Panels		Repl. Screens	
4	5	54655T11	$136.56	54655T15	$52.82	54655T2	$130.99	54655T6	$34.88
5	5	54655T12	147.04	54655T16	63.39	54655T3	139.34	54655T7	41.85
5	6	54655T13	157.43	54655T17	66.55	54655T4	134.53	54655T8	48.82
6	6	54655T14	169.92	54655T18	77.64	54655T5	145.16	54655T9	56.96
Replacement Connector Clips (Set of 2)								54655T99	$2.12
Optional Casters (Set of 4)								54655T94	$25.53



Welding Spatter-Resistant Cotton Duck

With Tie-On Screens

		Welding Spatter-Resistant Cotton Duck				*See-Through Vinyl*			
Ht., ft.	Wd., ft.	Complete Panels		Repl. Screens		Complete Panels		Repl. Screens	
6	4	9145T14	$102.10	9145T414	$36.60	9145T4	$94.48	9145T68	$27.86
6	6	9145T15	117.40	9145T415	46.94	9145T5	110.38	9145T78	39.66
6	8	9145T16	141.45	9145T416	70.14	9145T6	136.18	9145T88	52.90
8	8	9145T27	164.42	9145T417	101.54	9145T7	158.45	9145T97	78.46

		Oil-Resistant Polyester				*Flame- and Heat-Resistant Fiberglass*			
Ht., ft.	Wd., ft.	Complete Panels		Repl. Screens		Complete Panels		Repl. Screens	
6	4	9145T34	$102.40	9145T47	$39.66	9145T84	$113.90	9145T94	$64.62
6	6	9145T35	116.07	9145T55	60.12	9145T85	147.03	9145T95	90.80
6	8	9145T36	136.52	9145T56	80.14	9145T86	178.52	9145T96	96.28
8	8	9145T37	156.90	9145T69	90.02	9145T87	224.02	9145T79	155.43
Frame Connectors (Set of 2)								9145T51	$20.02
Optional Casters (Set of 4)								9145T54	$20.32



See-Through Vinyl (Two Panels Shown)

Hinged Welding Panels

Shield workers and equipment from welding and grinding hazards—tie the welding spatter-resistant cotton duck screens to the frame and fold these hinged panels into the configuration you need. Add platform legs (sold separately) to position panels in a straight line. Platform legs include fasteners and can accommodate casters (sold separately). Use one set of casters per platform leg. Frame is 1″ OD steel. Screen material is 24 mils thick, 12 oz./sq. yd. Maximum temperature is 200° F. Color is olive green. Meets Canvas Products Association International CPAI-84.

Two Panels

Ht., ft.	Each Panel Wd., ft.	Complete Panels		Repl. Screens	
4	4	54385T11	$133.70	54385T21	$37.91
5	5	54385T12	199.36	54385T22	59.27
6	6	54385T13	243.58	54385T23	87.00
6	8	54385T14	303.96	54385T24	115.98
Optional Platform Legs (Set of 3)				54385T37	$34.05
Optional Casters (Set of 2)				54385T32	$14.75



Two Panels with Optional Platform Legs and Casters

Three Panels

	Panel Wd., ft.					
Ht., ft.	Center	End	Complete Panels		Repl. Screens	
4	4	2	15485T11	$188.82	15485T17	$37.89
4	4	4	15485T12	220.02	15485T18	56.93
5	4	3	15485T13	227.30	15485T19	59.27
5	6	3	15485T14	242.80	15485T21	71.27
5	5	5	15485T15	270.20	15485T22	93.62
6	6	6	15485T16	271.30	15485T23	115.40
Optional Platform Legs (Set of 4)					15485T26	$40.36
Optional Casters (Set of 2)					54385T32	$14.75

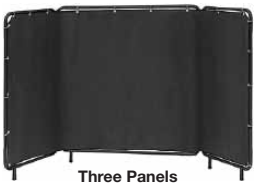

Three Panels

Easy-Carry Protective Panels

Lightweight and flexible enough to roll up and carry, these panels are wire reinforced so they stand on their own. They have a built-in handle and tie strap.

Welding spatter-resistant cotton duck panels provide spark and flash protection in welding, cutting, and brazing areas. Material is 30 mils thick, 16 oz./sq. yd. Max. temperature is 120° F. Color is olive green. Meets Canvas Products Association International CPAI-84.

Oil-resistant polyester panels have a vinyl coating that resists oils. Material is 15 mils thick, 11 oz./sq. yd. Max. temperature is 160° F. Color is yellow-and-black striped on the outside, solid yellow on the inside. California Fire Marshal approved.

Ht., ft.	Wd., ft.	Welding Spatter-Resistant Cotton Duck		Oil-Resistant Polyester	
3	4	5477T2	$64.91	5477T82	$64.54
4	6	5477T4	123.16	5477T84	134.06
5	6	5477T5	147.93	5477T85	143.81
6	9	5477T6	269.15	5477T86	251.91



Welding Spatter-Resistant Cotton Duck

Oil-Resistant Polyester

Protective Panels, Partitions & Umbrellas

Heavy Duty See-Through Protective Panels



One Panel

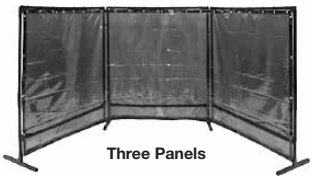

Three Panels

Designed for demanding environments, these panels have a single tie-on vinyl screen for gap-free coverage that also allows visibility through the material. All except clear can be used in welding applications. The frame is made of 1″ square steel that reduces the slipping and twisting that can occur with round frames. All have platform legs. Attach casters (sold separately) to the legs for mobility. Screen material is 14 mils thick, 10 oz./sq. yd. Maximum temperature is 120°F. California Fire Marshal approved.

To Order: Please specify clear, gold, green, or orange.

One Panel

Ht., ft.	Wd., ft.	Complete Panels		Replacement Screens	
4	5	5611T331	$91.10	54895T77	$23.09
5	6	5611T333	121.38	54895T82	34.64
6	4	5611T335	109.77	54895T22	27.72
6	6	5611T336	124.72	54895T85	41.57
6	8	5611T337	138.05	54895T86	51.95
6	10	5611T338	189.33	54895T87	71.34
Optional Casters (Set of 4)				5611T81	$25.12

Three Panels

Ht., ft.	Panel Wd., ft. Center	End	Complete Panels		Replacement Screens	
5	6	3	54585T14	$351.06	54585T54	$75.06
5	5	5	54585T15	333.24	54585T55	93.53
6	6	6	54585T16	385.40	54585T56	118.48
Optional Casters (Set of 10)					5611T83	$67.87

Welding Curtain Partitions



Freestanding



Build-Your-Own Suspended

Create enclosures with these partitions. A 30″ high gray-tinted window spans the entire partition for visibility. Curtains are gray vinyl that resists tears, fire, oil, mildew, and most acids. Material is 14 mils thick, 13 oz./sq. yd. Slide curtains to open and close. All have hook-and-loop closures along the vertical edge for joining sections. Maximum temperature is 150°F. California Fire Marshal approved.

Also Available: Freestanding partitions in other sizes and curtain materials, and build-your-own suspended partitions in other materials. Please ask for 5592T999 and specify partition style, size, and material.

Freestanding Partitions

Everything you need to build a four-sided curtain partition, including 7-ft. high curtains, a galvanized steel track, four columns, and four 1 ft.×1 ft. bases.

Enclosed Area		
6 ft.×8 ft.	5592T31	$788.42
8 ft.×8 ft.	5592T64	857.65
10 ft.×10 ft.	5592T33	943.53

Build-Your-Own Suspended Partitions

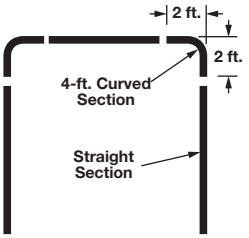

Combine straight and curved sections to build a hanging one- to four-sided curtain partition. Each section includes the curtain, its corresponding galvanized steel track, two-wheel nylon rollers, 1″ swivel hooks for hanging curtains, and mounting hardware. Curtains have grommets along the top and a weighted bottom hem. Install track by suspending it from overhead supports using chain or ⅜″ threaded rod (not included; see pages 3182-3188 for threaded rod). Each straight section is hung from two points (if curve is used independently, it is supported from three points).

To design a partition, determine height, overall length, and number of straight and curved sections needed.

Note: Curved sections add 2 ft. to the overall length and width.

Section	8 ft. High		10 ft. High		12 ft. High	
6 ft. Straight	5592T41	$125.43	5592T45	$138.13	5592T53	$150.86
8 ft. Straight	5592T42	160.34	5592T46	187.75	5592T54	205.37
10 ft. Straight	5592T43	197.68	5592T47	219.22	5592T55	240.74
4 ft. Curved	5592T44	147.62	5592T48	155.96	5592T56	165.16

Replacement Parts

Two-Wheel Nylon Roller with Hook for All Partitions	5592T96	$2.73
End Stop for All Partitions	5592T15	3.63
Right-Angle Connector for Freestanding Partitions	5592T72	47.37
Chain Splice Connector for Suspended Partitions	5592T71	$10.00
Threaded Rod Adapter for Suspended Partitions	5592T73	4.42
Wall-End Mount for Suspended Partitions	5592T74	10.13

Vehicle-Mount and In-Ground Umbrellas

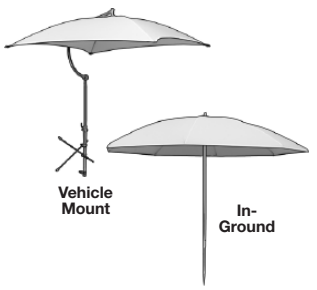

Canopy is yellow. Ribs are steel unless otherwise stated.

Vehicle Mount—The universal mounting bracket adapts to fit most equipment (fasteners included). Pole has a tilt hinge.

In-Ground—Has a pointed pole that's easy to push into the ground. Umbrellas with an aluminum pole have a tilt hinge. *Optional folding stand* lets you use in-ground umbrellas on hard surfaces.

Nonconductive umbrella has fiberglass ribs.

Welding umbrella has a 20 mil thick, 10 oz./sq. yd. canopy with a maximum temperature of 140°F. Meets Canvas Products Association International CPAI-84.

Pole Material	Ht.	Canopy Size		
Vehicle Mount—Canvas Canopy				
Steel	38″	54″ Sq.	5479T4	$119.90
In-Ground—Vinyl Canopy				
Wood	84″	78″ Dia.	5736T6	192.86
Aluminum	84″	54″ Sq.	5736T9	196.43
Aluminum	92″	84″ Dia.	5736T5	223.21
Optional Folding Stand			5736T8	202.86
Nonconductive In-Ground—Vinyl Canopy				
Wood	84″	78″ Dia.	5736T11	311.32
Welding In-Ground—Canvas Canopy				
Aluminum	84″	84″ Dia.	5736T2	90.36

About Mirror Materials

Glass mirrors are economical and easy to clean.

Plastic-coated glass mirrors are laminated to keep shards from falling out of the frame if the glass breaks.

Tempered glass mirrors are more impact resistant than plastic-coated glass mirrors, but are heavier. If broken, they shatter into small pebbles rather than sharp shards.

Acrylic mirrors are lightweight and more impact resistant than glass mirrors, but may scratch. If broken, the mirror will split into a few large pieces rather than small, sharp shards.

Steel and **zinc** mirrors will not break, shatter, or crack. They are chrome plated for corrosion resistance.

Stainless steel mirrors are stronger and more corrosion resistant than steel and zinc mirrors.

Safety Mirrors

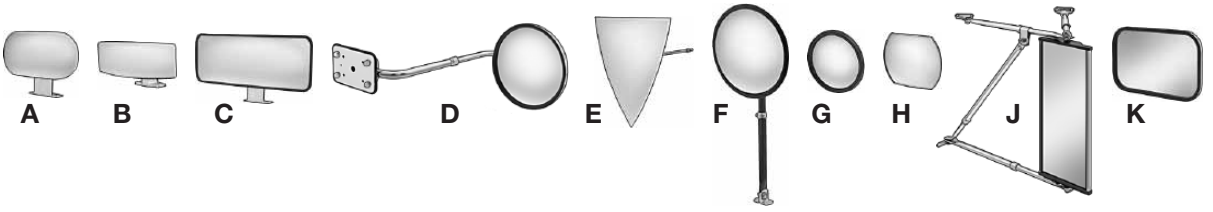

Convex mirrors provide a wide field of view for seeing around corners, down aisles, and over counters. **Flat** mirrors show objects to scale. All are suitable for outdoor use.

Styles A and *C* have two 1/4″ dia. mounting holes; *Style B* has four 3/16″ dia. mounting holes. Fasteners not included.

Style D includes mounting fasteners.

Style E mounts through a drilled hole and is secured with the included fasteners.

Style F includes mounting fasteners.

Style G includes a threaded ball stud and mounting fasteners, except 9208T46 has an adhesive back for surface mounting.

Style H has an adhesive back for surface mounting.

Style J is also known as a West Coast mirror. Mounting fasteners are included.

Style K has a 3/8″ threaded ball stud for use with the mounting brackets sold separately on this page.

		Mirror	Backing		
Convex					
A	3″×7″ with Tilting Arm	Chrome-Plated Zinc	Chrome-Plated Zinc	9186T22	$28.44
B	3″×7″ with Tilting Arm	Chrome-Plated Steel	Chrome-Plated Steel	9186T12	58.51
C	4″×12″ with Tilting Arm	Glass	Plastic	9186T35	36.62
D	8″ Dia. with 14″ Fixed Arm	Glass	Chrome-Plated Steel	9208T42	78.22
E	10″×10″ with 8″ Fixed Arm	304 Stainless Steel	304 Stainless Steel	9179T2	66.39
F	8″ Dia. with 15″ to 21″ Telescoping Arm	Glass	Enamel-Coated Steel	6089T1	22.58
F	8″ Dia. with 15″ to 21″ Telescoping Arm	Acrylic	Enamel-Coated Steel	6089T5	23.40
G	4″ Dia. with Fixed Arm	Glass	Foam	9208T46	2.45
G	5″ Dia. with Swivel Arm	Glass	Powder-Coated Steel	9208T22	10.82
G	6″ Dia. with Swivel Arm	Glass	Powder-Coated Steel	9208T24	11.85
H	4″×6″ with Fixed Arm	Glass	Foam	9208T53	4.58
Flat					
J	16″×6″ with 15″ to 22″ Telescoping Arm	Glass	Aluminum	6074T1	74.93
K	6″×9″ with Swivel Arm	Glass	Powder-Coated Steel	9208T13	12.60
K	6″×9″ with Swivel Arm	Glass	Chrome-Plated Steel	9208T15	15.55
K	8″×11″ with Swivel Arm	Glass	Powder-Coated Steel	9208T36	18.80
K	8″×11″ with Swivel Arm	Glass	Chrome-Plated Steel	9208T38	19.22
Replacement Mirror for Style J				6074T5	15.78

Mounting Brackets for Safety Mirrors

Attach your mirror to one of these brackets for mounting versatility indoors and out. Brackets are black powder-coated steel, except Style D has a chrome-plated finish.

Style A clamps onto a rod or tubing that's up to 3/4″ in diameter.

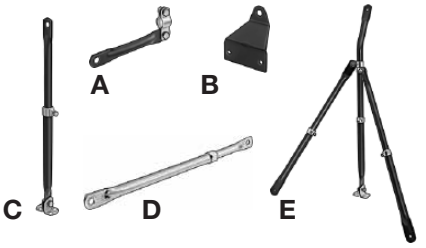

		Bracket Hole Dia.	Fits Mirror Stud Size		
A	Fixed Arm Clamp Mount	—	3/8″	6051T21	$4.80
B	Fixed Arm Screw Mount	1/4″	3/8″	6051T22	9.22
C	Telescoping Arm, 9″ to 15″	1/4″	5/16″	6051T23	20.95
D	Telescoping Arm, 14″ to 20″	5/16″	5/16″	6051T27	11.95
E	Tripod Telescoping Arm, 22″ to 28″	1/4″	3/8″	6051T24	33.67

Portable Convex Safety Mirrors

Position these mirrors wherever you need a wide field of view for improved safety and surveillance. **Styles A** and **C** have a flexible arm. **Style A** clip has a max. opening of 2 3/4″. **Style D** is suitable for outdoor use.

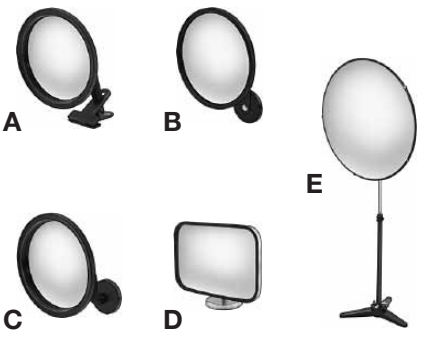

	Size	Mirror	Backing	Mounting Arm Lg.		
Clamp Base						
A	7″ Dia.	Acrylic	Plastic	—	66725T4	$32.50
Magnetic Base						
B	4″ Dia.	Glass	Aluminum	—	2511T3	44.86
B	6″ Dia.	Glass	Steel	—	2511T5	51.62
B	8″ Dia.	Glass	Steel	—	2511T4	57.50
B	12″ Dia.	Acrylic	Hardboard	—	2511T6	63.50
B	18″ Dia.	Acrylic	Hardboard	—	2511T7	75.75
C	7″ Dia.	Acrylic	Plastic	—	66725T6	46.67
D	6″×9″	Glass	Chrome-Plated Steel	—	2511T8	60.14
Freestanding Iron Base with Telescoping Arm						
E	18″ Dia.	Acrylic	Hardboard	37″ to 57″	10825T14	186.05
E	26″ Dia.	Acrylic	Hardboard	41″ to 61″	10825T22	220.93

Safety Mirrors

For information about mirror materials, see page 1859.

Convex Safety Mirrors

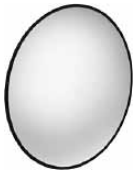

Circle



Oval

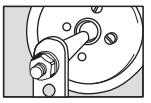

Back View

These convex mirrors provide a wide field of view for seeing around corners, down aisles, and over counters. The included threaded ball stud allows swiveling for easy adjustment.

Acrylic mirrors are lightweight and more impact resistant than glass mirrors. If broken, the mirror will split into a few large pieces rather than small, sharp shards.

Shatter-resistant glass mirrors resist scratching and are plastic coated to keep shards from falling out of the frame if the glass breaks.

304 stainless steel mirrors will not break, shatter, or crack upon impact.

Indoor—Hardboard back, unless noted.

Size	Acrylic		Glass		Shatter-Resistant Glass		Unbreakable 304 Stainless Steel	
Circle								
8″ Dia.			6066T1	$23.80				
12″ Dia.	6087T1★	$27.55			5999T41	$36.12		
13″ Dia.			6066T9	29.35				
14″ Dia.							7427T8	$158.76
18″ Dia.	6087T2★	35.95	6066T6	40.67	5999T42	57.88		
26″ Dia.	6087T3★	60.05	6066T2	66.94	5999T43	100.75	7427T11	296.60
30″ Dia.	6087T4★	79.95	6066T8	83.50	5999T44	128.12		
34″ Dia.							7427T12	356.72
36″ Dia.	6087T5★	97.84	6066T4	102.67	5999T45	171.38		
42″ Dia.							7427T53	464.88
48″ Dia.	6087T7	204.22						
Oval								
12″×18″	6059T51	62.20	6012T5	49.80	6006T24	126.00		
15″×24″			6012T61	67.18	6006T21	132.47		
16″×26″	6059T52	83.90						
20″×30″	6059T55	152.72	6012T52	91.52	6006T22	151.51		
20″×36″	6059T53	156.40						
24″×36″			6012T53	114.40	6006T23	191.53		
26″×36″	6059T56	180.31						

★Plastic back.

Outdoor

Size	Acrylic with Plastic Back		Acrylic with Steel Back		Acrylic with 304 Stainless Steel Back	
Circle						
8″ Dia.			9180T13	$25.02		
12″ Dia.	9180T24	$34.06	52395T33	40.23	52405T12	$91.43
13″ Dia.	10715T11	39.16				
18″ Dia.	10715T12	63.75	52395T34	64.64	52405T13	136.57
26″ Dia.	10715T13	85.40	52395T35	99.96	52405T14	201.97
30″ Dia.	10715T14	107.59	52395T36	132.71	52405T28	287.63
36″ Dia.	10715T15	157.90	52395T37	163.64	52405T29	372.87
48″ Dia.	10715T16	278.02			52405T31	603.75
Oval						
12″×18″	6059T61■	69.26				
16″×26″	6059T62■	108.00				
20″×30″	6059T65■	167.00				
20″×36″	6059T63■	207.30				
26″×36″	6059T66■	194.40				

■ Acrylic with hardboard back.

Size	Glass with Hardboard Back		Glass with Steel Back		Shatter-Resistant Glass with Hardboard Back		Unbreakable 304 Stainless Steel with 304 Stainless Steel Back	
Circle								
5″ Dia.			5866T32	$13.89				
8″ Dia.			5866T34	24.69				
12″ Dia.					5999T31	$51.25		
13″ Dia.	5866T22	$31.69						
14″ Dia.							7427T9	$215.90
18″ Dia.	5866T36	44.89			5999T32	76.25		
26″ Dia.	5866T61	66.58			5999T33	132.00	7427T31	363.70
30″ Dia.	5866T39	105.84			5999T34	162.00		
34″ Dia.							7427T32	472.20
36″ Dia.	5866T42	136.08			5999T35	207.12		
42″ Dia.							7427T57	584.40
Oval								
12″×18″	6003T31	65.30			6006T34	97.37		
15″×24″	6003T41	82.22			6006T31	143.40		
20″×30″	6003T42	107.84			6006T32	155.43		
24″×36″	6003T43	140.92			6006T33	235.30		

Shatter-Resistant Full-Dome Safety Mirrors for Drop Ceilings

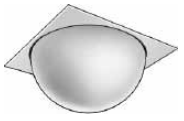

Replace a tile in your drop ceiling with one of these mirrors for an unobstructed overhead view of blind intersections and corners. They have a lightweight acrylic surface.

For Opening Size	Dia.		
2 ft.×2 ft.	22″	6057T41	$69.03
2 ft.×4 ft.	22″	6057T51	109.48

Domed Safety Mirrors

Mount these dome-shaped mirrors for an unobstructed overhead view of blind intersections and corners.

Acrylic mirrors resist breakage and will split into a few large pieces rather than small, sharp shards if shattered upon impact. Mounting chain and hooks included.

Acrylic mirrors with galvanized steel back have sealed edges to keep out moisture and debris. Mounting fasteners included.

Acrylic mirrors with foam back clip to the grid in a drop ceiling (drop ceiling clips included).

Scratch-resistant acrylic mirrors have a clear, hard coating that keeps them looking like new. D-ring clips included.

Chrome-plated steel mirrors will not break shatter, or crack. They have two 1/8" mounting holes (fasteners not included) for flush mounting.

Full Dome




Dia.	Acrylic		Acrylic with Galvanized Steel Back		Scratch-Resistant Acrylic with Plastic Back		Scratch-Resistant Acrylic with Galvanized Steel Back		Unbreakable Chrome-Plated Steel	
18"	6014T4	$59.45	6014T34	$108.44	52475T44	$111.16	52475T24	$146.69	6014T6	$222.24
24"									6014T63	327.98
26"	6014T5	88.31	6014T35	179.89	52475T45	185.58	52475T25	238.44		
30"	6014T7	113.31								
32"			6014T93	208.50	52475T59	246.57	52475T62	307.57		
36"	6014T9	140.00	6014T36	253.78	52475T12	320.42	52475T26	357.75		
48"	6014T1	206.45	6014T37	483.00	52475T14■	437.55	52475T27	526.71		

■ Has a wood back.

Half Dome




Dia.	Acrylic with Galvanized Steel Back		Acrylic with Foam Back		Scratch-Resistant Acrylic with Plastic Back		Scratch-Resistant Acrylic with Galvanized Steel Back		Unbreakable Chrome-Plated Steel	
9"									6014T51	$110.32
12"									6014T52	128.70
18"	6014T44	$57.89	6014T14	$41.18	52475T54	$68.39	52475T34	$81.06	6014T53	158.58
24"									6014T54	207.36
26"	6014T45	93.33	6014T15	60.82	52475T55	111.94	52475T35	126.21		
30"			6014T17	63.16						
32"	6014T92	115.00			52475T58	156.50	52475T61	179.85		
36"	6014T46	131.56	6014T19	87.67	52475T11	175.37	52475T36	198.94		
48"	6014T47	289.78	6014T2	112.87	52475T13■	301.97	52475T37	306.94		

■ Has a wood back.

Quarter Dome




Dia.	Acrylic with Foam Back		Scratch-Resistant Acrylic with Plastic Back	
18"	6014T81	$23.93	52475T86	$49.69
26"	6014T82	26.35	52475T87	75.39
30"	6014T83	35.35		
32"			52475T88	97.41
36"	6014T84	47.85	52475T89	123.79
48"	6014T85	63.16	52475T91■	201.88

■ Has a wood back.

Flat Safety Mirrors

These mirrors are flat and show objects to scale. They have a hardboard back (unless noted) and come with a threaded ball stud that allows swiveling for easy adjustment. Though mirrors are flat, they do not mount flush due to the stud and bracket. For mirrors that do mount flush, see lavatory mirrors on page 2034.

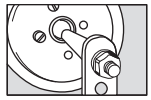
Back View

Circle



Dia.	Glass		Dia.	Tempered Glass	
Indoor			**Outdoor**		
13"	6000T31	$40.57	18"	6001T31	$76.60
18"	6000T32	63.94	26"	6001T32	141.93
26"	6000T33	98.03			

Rectangular



Size	Acrylic		Glass		Shatter-Resistant Glass		Unbreakable 430 Stainless Steel	
Indoor								
9"×18"			10595T52	$38.95				
10"×14"							6065T21	$47.62
12"×12"	6055T41	$47.56			9194T31	$48.77		
12"×16"	6055T42	55.32			9194T32	55.74	6065T23	57.31
14"×18"							6065T24	74.60
16"×24"	6055T43	88.54	10595T53	53.49	9194T33	79.86	6065T26	93.71
20"×30"							6065T27	152.17
24"×36"	6055T44	168.83	10595T54	122.73	9194T34	175.67		
Outdoor								
9"×18"			10595T12	44.53				
10"×14"							6065T1	49.00
12"×12"	6055T31	66.24			9194T21	55.12		
12"×16"	6055T32	76.46			9194T12	62.95	6065T4	59.00
14"×18"							6065T3	73.50
16"×24"	6055T33	113.68	10595T14	62.22	9194T14	89.19	6065T6	99.90
20"×30"							6065T7	207.50
24"×36"	6055T34	184.39	10595T16	146.59	9194T16	197.35		

Class A, B, and C Fire Extinguishers





Class A—Wood and Paper



Class B—Liquids and Gases



Class C—Electrical

Handle the three most common types of fire—those involving wood and paper, liquids and gases, and electrical equipment. The UL rating for Class A and B extinguishers includes a number; the higher the number, the greater the firefighting capability. All extinguishers come charged with extinguishing material and are rechargeable. They have a pressure gauge and a mounting bracket (fasteners not included). They have a safety pin to prevent accidental discharge. Cylinder is steel with a red finish. Please check local ordinances for inspection requirements (inspection tags sold separately on pages 1914-1915).

Wet chemical (Halotron) extinguishers don't leave a residue behind. Good for use around electrical equipment.

UL Rating	Capacity, lbs.	Discharge Time, sec.	Overall Size Dia.	Overall Size Ht.	Mounting Bracket Type	Mounting Bracket Hole Dia. (Qty.)	Extinguishers		Repl. Brackets	
Dry Chemical										
1-A, 10-B, C	2½	9	3⅜″	14¾″	Vehicle	7⁄32″ (4)	6487T72	$49.59	1031N36	$10.43
3-A, 40-B, C	5	14	4¼″	16⅜″	Surface	5⁄16″ (1)	6430T16	52.08	1031N29	2.00
3-A, 40-B, C	5	14	4¼″	16⅜″	Vehicle	7⁄32″ (4)	6430T14	58.15	1031N37	16.86
4-A, 80-B, C	10	22	5⅛″	21″	Surface	5⁄16″ (1)	6430T3	93.26	1031N31	2.40
10-A, 120-B, C	20	27	7½″	21¼″	Surface	5⁄16″ (1)	6430T72	147.81	1031N34	3.20
10-A, 160-B, C	30	32	7½″	27⅜″	Surface	5⁄16″ (1)	6430T82	289.93	1031N34	3.20
Wet Chemical (Halotron)										
1-A, 10-B, C	11	9	7″	17½″	Surface	5⁄16″ (1)	37015T35	382.80	1031N34	3.20
2-A, 10-B, C	15½	13	7″	17½″	Surface	5⁄16″ (1)	37015T36	467.54	1031N34	3.20

Class B and C Fire Extinguishers



Wet and Dry Chemical



Carbon Dioxide—5-lb. Capacity



Class B—Liquids and Gases



Class C—Electrical

Fight flammable liquid, gas, grease, and electrical fires. The UL rating for Class B extinguishers includes a number; the higher the number, the greater the firefighting capability. All extinguishers come charged with extinguishing material and are rechargeable. They have a mounting bracket (fasteners not included) and a safety pin to prevent accidental discharge. Please check local ordinances for inspection requirements (for inspection tags, see pages 1914-1915).

Dry chemical (Purple K) extinguishers are the most effective in fighting Class B fires and are commonly used in garages and fuel transfer areas. They have a pressure gauge. Cylinder is steel with a red finish. U.S. Coast Guard approved.

Wet chemical (Halotron) extinguishers don't leave a residue behind. Good for use around electrical equipment. They have a steel cylinder with a red finish.

Carbon dioxide extinguishers won't corrode electrical equipment and are a good alternative to Halotron extinguishers. They meet D.O.T. requirements and have an aluminum cylinder with a red finish. 5-lb. capacity extinguisher has a nozzle that connects to the cylinder through a rigid swivel tube. 10- and 15-lb. capacity extinguishers have the nozzle and cylinder connected by a flexible tube.

UL Rating	Capacity, lbs.	Discharge Time, sec.	Overall Size Dia.	Overall Size Ht.	Mounting Bracket Type	Mounting Bracket Hole Dia. (Qty.)	Extinguishers		Repl. Brackets	
Dry Chemical (Purple K)										
20-B,C	5	9	4¼″	16⅜″	Surface	5⁄16″ (1)	6404T11	$66.67	1031N29	$2.00
20-B,C	5	9	4¼″	16⅜″	Vehicle	7⁄32″ (4)	6404T12	69.06	1031N37	16.86
80-B,C	10	22	5⅛″	21″	Surface	5⁄16″ (1)	6404T13	95.20	1031N31	2.40
120-B,C	20	27	7½″	21¼″	Surface	5⁄16″ (1)	6404T14	147.86	1031N34	3.20
Wet Chemical (Halotron)										
2-B,C	2½	9	3⅜″	13⅜″	Surface	5⁄16″ (1)	37015T31	111.30	1031N29	2.00
5-B,C	5	9	4¼″	16⅜″	Surface	5⁄16″ (1)	37015T33	179.20	1031N29	2.00
Carbon Dioxide										
5-B,C	5	9	5¼″	17⅜″	Surface	5⁄16″ (1)	6426T22	150.10	1031N31	2.40
10-B,C	10	9	6⅞″	19¾″	Surface	5⁄16″ (1)	6426T23	223.80	1031N34	3.20
10-B,C	15	15	6⅞″	26⅜″	Surface	5⁄16″ (1)	6426T24	261.70	1031N34	3.20

Class A Fire Extinguishers





Class A—Wood and Paper

Douse fires from combustibles such as wood, paper, cloth, and rubber. Extinguisher comes empty. Fill it with water and pressurize using a compressed air or nitrogen source with a 100 psi capacity. It has a 5⁄16″-32 UNEF male Schrader fitting for pressurizing and a pressure gauge. It comes with a mounting bracket (fasteners not included) and a safety pin to prevent accidental discharge. Cylinder is stainless steel. Please check local ordinances for inspection requirements (for inspection tags, see pages 1914-1915).

UL Rating	Capacity, gal.	Discharge Time, sec.	Overall Size Dia.	Overall Size Ht.	Mounting Bracket Type	Mounting Bracket Hole Dia. (Qty.)	Extinguisher		Repl. Bracket	
2-A	2½	55	7″	24½″	Surface	7⁄32″ (2), 11⁄32″ (1)	6423T3	$143.50	6423T4	$1.22

Class D Fire Extinguishers





Class D—Combustible Metal

Smother flames from combustible-metal fires involving magnesium, sodium, potassium, uranium, and powdered aluminum. Extinguisher comes charged with dry-chemical extinguishing material and is rechargeable. It has a pressure gauge, a safety pin to prevent accidental discharge, and a mounting bracket with two 7⁄32″ dia. holes and one 11⁄32″ dia. hole (fasteners not included). Cylinder is yellow steel. Please check local ordinances for inspection requirements (for inspection tags, see pages 1914-1915).

UL Rating	Cap., lbs.	Discharge Time, sec.	O'all Size Dia.	O'all Size Ht.		
D	30	24	8″	35″	6435T23	$529.81
Replacement Bracket					1031N25	2.84

Class K Fire Extinguishers





Class K—Kitchen Fires

Suppress extremely hot reflashing fires involving combustible oil and grease. Extinguisher is charged with wet-chemical extinguishing material and is rechargeable. It has a pressure gauge and a safety pin to prevent accidental discharge. It comes with a mounting bracket with two 7⁄32″ dia. holes and one 5⁄16″ dia. hole (fasteners not included). Cylinder is stainless steel. UL listed. Please check local ordinances for inspection requirements (for inspection tags, see pages 1914-1915).

UL Rating	Cap., gal.	Discharge Time, sec.	O'all Size Dia.	O'all Size Ht.		
K	1⅗	55	7″	19½″	6708T41	$243.77
Replacement Bracket					6708T45	4.73

Fire Extinguisher Cabinets and Alarms

Control access to fire extinguishers and guard against theft and vandalism. Cabinets have a plastic window and an attached breaker bar. They come with cylinder locks that are keyed alike (all open with the same key) and two keys. Mounting fasteners are not included. Extinguishers are sold separately.

Fire extinguisher alarm sounds a buzzer when an extinguisher is removed from its storage position. Buzzer is 85 dB @ 10 ft. Attach the switch to a wall and the clip to an extinguisher. The switch is plastic and 3½″ Wd. × 1″ Dp. Requires one 9-volt battery (included).



Steel Cabinet

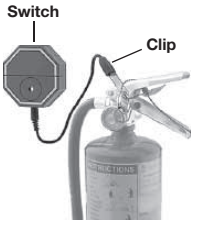

Fire Extinguisher Alarm

Inside Size Ht.	Wd.	Dp.	Mounting Hole Dia. (Qty.)	Choose a Color	Cabinets		Repl. Windows	
Steel								
19¾″	8½″	6¼″	3/16″ (4)	White	6471T31	$55.00	6471T34	$5.78
25¾″	9½″	6¼″	3/16″ (4)	White	6471T32	63.22	6471T35	8.11
29¾″	10½″	8¼″	3/16″ (4)	White	6471T33	79.11	6471T36	10.44
Plastic								
16¾″	6″	5⅜″	¼″ (4)	Red, White	6457T61	38.00	6457T11	9.56
26″	9″	8″	¼″ (4)	Red, White	6457T63	82.28	6457T13	16.83
Fire Extinguisher Alarm							1027N11	41.70

Fire Extinguisher Brackets

Keep your fire extinguisher secure and readily accessible. The bracket manufacturer must match your extinguisher.


Surface Mount


Vehicle Mount (Amerex)


I-Beam Mount

For Extinguisher Dia.	Max. Cap.	Amerex		Buckeye	
Surface Mount					
3″	2½ lbs.	1031N26	$4.44		
4¼″	5 lbs.	1031N28	3.80	1031N29	$2.00
5″	10 lbs.	1031N24	2.20	1031N31	2.40
7″	20 lbs.	1031N25	2.84		
7″	30 lbs.			1031N34	3.20
8″	20 lbs.			1031N35	3.92
8″	30 lbs.	1031N27	9.92		
Vehicle Mount					
3″	2½ lbs.	1031N11	11.71	1031N36	10.43
4¼″	5 lbs.	1031N12	14.29	1031N37	16.86
5″	10 lbs.	1031N13	58.44	1031N38	47.00
7″	20 lbs.	1031N14	63.11	1031N39	51.11
8″	30 lbs.	1031N15	75.00	1031N41	64.56
I-Beam Mount					
6″	—	1031N17	49.00		
8″	—	1031N18	50.43		
10″	—	1031N19	51.29		
12″	—	1031N21	52.43		

Fire Extinguisher Covers

Keep dust and dirt off your fire extinguishers. Covers are red-orange plastic.



For Extinguisher Cap.	O'all Size Dia.	Ht.		
5-10 lbs.	8″	18″	6472T13	$10.84
15-30 lbs.	10½″	27″	6472T12	15.45

Fire Extinguisher Stands

Set your extinguisher in this red plastic stand when mounting is not an option. Base is 21″ square.



For Extinguisher Dia.	Stand Ht.		
7″	34″	1492N1	$104.62

Fire Sprinkler Heads

Sprinkler Heads

These brass sprinkler heads must be installed and maintained according to National Fire Protection Association (NFPA) standards. Install using sprinkler-head wrenches (sold separately) or any hand wrench that fits the NPT size. UL listed and FM approved. At the maximum water pressure of 175 psi, ½ NPT male connection heads have a flow of 74 gallons per minute; ¾ NPT male connection heads have a flow of 105 gallons per minute.

Pendent-style sprinkler heads are designed to be suspended below support piping. They can be used with exposed piping or finished ceilings. **Upright-style** sprinkler heads are designed to be installed above support piping and can only be used with exposed piping.

Fusible-link sprinkler heads are triggered by a soft metal alloy that melts at the rated temperature. **Glass-bulb** and **quick-response glass-bulb** sprinkler heads are triggered when the liquid-filled bulb bursts at the rated temperature. Quick-response heads react up to five times faster than other sprinkler heads.


Pendent


Upright

To Order: Please specify pendent style or upright style.

Temperature Rating	Color Code	½ NPT Male Connection		¾ NPT Male Connection	
Fusible Link					
165°F	—	6410T12	$39.00	6410T24	$66.40
212°F	White	6410T14	39.00	6410T25	66.40
280°F	Blue	6410T16	39.00	6410T26	66.40
Glass Bulb					
155°F	Red	64575T21	26.43	64575T43	30.62
175°F	Yellow	64575T22	28.04	64575T44	32.23
200°F	Green	64575T24	26.43	64575T45	30.62

Temperature Rating	Color Code	½ NPT Male Connection		¾ NPT Male Connection	
Glass Bulb (Cont.)					
286°F	Blue	64575T25	$26.43	64575T46	$30.62
360°F	Purple	64575T27	32.55	64575T47	37.07
Quick-Response Glass Bulb					
155°F	Red	6422T11	38.65	6422T53	62.21
175°F	Yellow	6422T12	38.41	6422T55	62.21
200°F	Green	6422T13	38.65	6422T57	62.21
286°F	Blue	6422T14	38.65	6422T59	62.21

Accessories

Sprinkler head storage box holds 12 sprinkler heads. It is steel with a red finish.

Sprinkler head guards protect sprinkler heads from damage and tampering. They are steel with a red finish. Guards fit both pendent and upright sprinkler head styles.

Sprinkler head stopper prevents water from spraying without having to shut down the entire sprinkler system. To reach the sprinkler head, insert any ¾″ to 1″ dia. pole (not included) into the stopper base.


Head Guard


Sprinkler Head Stopper



Sprinkler Head Storage Box—14″ × 5″ × 4″	6646T28	$15.74
½ NPT Sprinkler Head Guard—4″ Dia. × 2½″ Ht.	6411T25	5.85
¾ NPT Sprinkler Head Guard—4″ Dia. × 2½″ Ht.	6411T36	5.85

Sprinkler Head Stopper	6468T16	$57.14
Wrench for Fusible-Link Heads	6410T52	66.40
Wrench for Glass-Bulb Heads	6410T62	74.46

Fire Sprinkler Heads & Fire Stops

Recessed Fire Sprinkler Heads

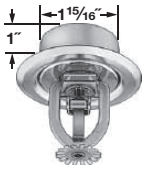

Use these sprinkler heads for low-profile fire safety. They are chrome-plated bronze and have a ½ NPT male connection. At the maximum water pressure of 175 psi, they have a flow of 74 gallons per minute. Install using required wrenches (sold separately). UL listed and FM approved.

Fusible-link sprinkler heads are triggered by a soft metal alloy that melts at the rated temperature.

Glass-bulb sprinkler heads are triggered when the liquid-filled bulb bursts at the rated temperature.

Temp. Rating	Color Code	Sprinkler Heads		Repl. Cover Plates	
Fusible Link					
165° F	____	63945T94	$57.24	63945T91	$8.56
212° F	White	63945T95	57.24	63945T91	8.56
Glass Bulb					
155° F	Red	63945T81	40.48	63945T91	8.56
175° F	Yellow	63945T83	42.10	63945T91	8.56
200° F	Green	63945T85	42.10	63945T91	8.56
Required Socket Wrench—Fusible Link		64575T88			59.60
Required Socket Wrench—Glass Bulb		64575T98			72.01

Concealed Fire Sprinkler Heads



An inconspicuous cover plate provides a clean look for sprinkler heads. When the plate's temperature rating is reached, it falls away to expose the brass pendent-style sprinkler head. The head itself has a liquid-filled glass bulb that bursts at the rated temperature to trigger the sprinkler. Heads have a ½ NPT male connection. At the maximum water pressure of 175 psi, they have a flow of 74 gallons per minute. Install using required wrench (sold separately). UL listed and FM approved.

Temp. Rating Head	Plate	Plate Color	Sprinkler Heads		Repl. Cover Plates	
155° F	139° F	Chrome	6496T311	$95.41	6496T211	$28.49
155° F	139° F	White	6496T312	95.41	6496T212	28.49
200° F	165° F	Chrome	6496T321	95.41	6496T221	28.49
200° F	165° F	White	6496T322	95.41	6496T222	28.49
Required Socket Wrench					6496T79	108.02

Fire Stops

Prevent fire and smoke from passing through holes in fire-resistant walls and floors. Expanding fire stops expand when heated to fill voids left by melting pipes or cables.

Caulk, Putty, and Cement

Paintable Caulk and **Expanding Paintable Caulk—**Seal small openings in fire-resistant walls and floors. Both have a 4-hour fire rating. Dispense cartridges using a caulk gun.

Watertight Caulk—Caulk forms a long-lasting, flexible, watertight seal. Use it to close small openings in fire-resistant walls and floors. Caulk has a 3-hour fire rating. Dispense cartridges using a caulk gun.

Expanding Putty—Hand-mold this putty to fill small openings in fire-resistant walls and floors. It expands when heated and forms an insulating char that fills gaps left by melted pipes. It has a 3-hour fire rating. The *pad* is commonly used to seal openings around electrical boxes.

Fire-Stop Cement—Good for sealing large openings in fire-resistant walls and floors. Mix this lightweight powder with water to create a thick paste that's easy to apply. One bag covers a 2 sq. ft., 3″ thick opening. The cement has a 3-hour fire rating. FM approved.

	UL Standard	Color		
Paintable Caulk—Apply at 40° to 90° F				
10.3-oz. Cartridge	1479, 2079, 723	Red	9339K21	$8.07
31-oz. Cartridge	1479, 2079, 723	Red	9339K22	23.05
Expanding Paintable Caulk—Apply at 40° to 120° F				
10.3-oz. Cartridge	1479, 2079, 723	Red	93465K11	11.08
30-oz. Cartridge	1479, 2079, 723	Red	93465K12	28.14
1-gal. Pail	1479, 2079, 723	Red	93465K13	92.34
Watertight Caulk—Apply at 40° to 110° F				
10.3-oz. Cartridge	1479	Red	93455K51	13.30
Watertight Caulk (Cont.)				
28.7-oz. Cartridge	1479, 2079	Red	93455K47	$34.10
2⅜-gal. Pail	1479, 2079	Red	93455K48	340.00
Expanding Putty—Apply at 40° to 120° F				
7″×7″×⅛″ Pad	1479, 263	Red	9340K22	5.16
10″×1½″×1½″ Stick	1479	Red	9340K23	19.98
Fire-Stop Cement—Apply at 40° to 90° F				
15½-lb. Bag	1479	Gray	93355K21	73.24

Strips and Collars



Wrap Strip



Expanding Pipe Collar

Wrap Strips—Tuck these wraparound strips into the gaps around pipes passing through fire-resistant walls and floors. Strips secure with an adhesive closing flap. They have a 3-hour fire rating and meet UL 1479. Color is red.

Expanding Pipe Collars—Slide these into the small gaps around pipes passing through fire-resistant walls and floors. Collars are aluminum and have a sealant that expands when heated to fill gaps left by melted pipes. Fasteners not included. They have a 3-hour fire rating and meet UL 1479.

For Pipe OD	Lg.	Wd.	Thick.		
Wrap Strips					
2″	8¼″	2½″	3/16″	1658N21	$8.79
3″	11½″	2½″	3/16″	1658N22	11.21
4″	14⅞″	2½″	3/16″	1658N23	18.15
Expanding Pipe Collars					
1½″	____	1½″	¼″	1886N1	14.55
2″	____	1½″	¼″	1886N2	15.80
3″	____	1½″	¼″	1886N3	21.23
4″	____	1½″	¼″	1886N4	31.02

Bags, Plugs, and Sheets

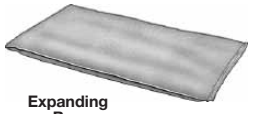

Expanding Bag



Expanding Foam Plug

Expanding Bags—Stack and fold these bags to fill large gaps in fire-resistant walls and floors. Bags are reconfigurable and expand when heated to fill gaps left by melted cables. They have a 3-hour fire rating and are FM approved. Color is white.

Expanding Foam Plugs—Squeeze plugs into small openings in fire-resistant walls and floors. They are reconfigurable and have a 2-hour fire rating. Color is red.

Expanding Cut-to-Size Sheets—Seal large openings in fire-resistant walls and floors while allowing built-up heat to escape. They expand when heated and form an insulating char that fills gaps left by melted cable. To install, drill holes and fasten with screws (not included). Sheets have a 4-hour fire rating. FM approved.

Lg.	Wd.	Thick.	UL Standard		
Expanding Bags					
7″	13½″	½″	1479	9359K61	$21.18
7″	13½″	¾″	1479	9359K62	24.04
7″	13½″	1½″	1479	9359K63	26.53
Expanding Foam Plugs					
2″ Dia.	____	3″	1479	1414N32	25.82
4″ Dia.	____	3″	1479	1414N34	35.90
Expanding Cut-to-Size Sheets					
16″	28″	5/16″	1479	1221N41	193.61
24″	36″	5/16″	1479	1221N42	319.88

Smoke Detector Guards



Protect your detectors from damage and tampering. Guard is white polyester-coated steel. Mount with the included fasteners. Size is 8¼″ Dia.×2¾″ Dp. UL listed.

66525T1 ..... $33.22

Smoke Detector Testers



Tester (Shown with Extension Arm)

This spray smoke simulates fire conditions to make sure your detectors are working. Tester comes in a 2½-oz. aerosol can that provides up to 300 tests. UL listed.

Extension arm and *add-ons* let you test out-of-reach smoke detectors. Up to five add-ons can be connected to the extension arm. Arms are aluminum.

Smoke Detector Tester	6638T21	$14.57
30″ Extension Arm	6638T31	178.57
50″ Extension Arm Add-On	6638T32	178.57

Fire Sprinkler Head Cover Plates


Two Piece


Adjustable-Depth Two Piece


One Piece

Also known as escutcheons, these cover plates give your sprinkler heads a clean look.

Two-piece cover plates snap around existing sprinkler heads without having to disassemble or drain the system.

Dp.	ID	OD	Fits Sprinkler Head		
Two Piece—Plastic					
5/8"	3/4"	3"	1/2 NPT	6425T1	$1.74
Two Piece—Chrome-Plated Steel					
1/4"	3/4"	3"	1/2 NPT	6425T3	1.82
1/4"	1"	3"	3/4 NPT	6425T4	1.82
Adjustable-Depth Two Piece—Chrome-Plated Steel					
1/4"-1 5/8"	3/4"	3 3/4"	1/2 NPT	6425T5	5.41
3/4"-1 7/8"	3/4"	3 3/4"	1/2 NPT	6425T6	5.41
2"-3"	3/4"	3 1/2"	1/2 NPT	6425T7	5.41
3"-4"	3/4"	4 1/2"	1/2 NPT	6425T8	7.03
One Piece—Chrome-Plated Steel					
2"-3"	3/4"	3 1/2"	1/2 NPT	6410T4	7.99

Smoke and Carbon Monoxide Detectors


Detector with Alarm


Detector with Alarm and Strobe Light with Vertical Message

Give an early warning about the presence of smoke with these detectors. Color is white.

Battery-powered smoke detector sounds an alarm when invisible smoke particles are detected. It has a test and hush button, and runs on a nonreplaceable lithium battery.

Battery-powered smoke and carbon monoxide detector alerts you with an audible alarm when visible smoke particles or carbon monoxide is detected. It has a test and hush button, and runs on a nonreplaceable lithium battery. UL 217 and UL 2034 listed.

Hardwired smoke detectors can be linked in tandem to warn occupants outside the vicinity; if one unit is activated, they're all activated. Link up to 12 units with an alarm or up to six units with an alarm and strobe light. These detectors signal when visible smoke particles are detected. They have a test switch on the face plate. They run on 120 volts AC and have a backup battery in case of power failure. UL listed.

Signal Type	dB @ 10 ft.	Overall Size Dia.	Dp.	Message Orientation		
Battery-Powered Smoke Detector						
Alarm	85	5 1/2"	1 1/2"		1032N12	$26.67
Battery-Powered Smoke and Carbon Monoxide Detector						
Alarm	85	5 1/4"	1 1/2"		1032N11	62.03
Hardwired Smoke Detectors						
Alarm	90	6 1/2"	2 5/8"		6668T13	103.62
Alarm, Strobe	90	5 3/4" Sq.	4 3/4"	Horizontal	6668T11	255.98
Alarm, Strobe	90	5 3/4" Sq.	4 3/4"	Vertical	6668T12	255.98

Fire Alarm Systems

Configure a hardwired system to monitor your facility for fire and alert workers of potential hazards. A complete system consists of a control panel connected to one or more heat detectors and/or fire alarm stations.

Control Panel



Connect and monitor your fire alarm system. Control panel comes with all the circuitry needed to power and monitor devices for up to five zones. These devices can include up to 30 smoke or carbon monoxide detectors as well as an unlimited number of heat detectors and fire alarm stations. Indicators show the status of each zone. The control panel has two relays for connecting alarms such as buzzers, bells, and lights (sold separately on pages 1867-1868,1870).

The control panel operates on 120 volts AC and requires two 12-volt batteries (not included) for operation; in case of power failure, it will use the batteries as a backup power source. Panel is red steel with a locking door. Size is 19 1/2" Ht. x 14 1/4" Wd. x 3 3/4" Dp. Meets NFPA 72. UL listed.

Fire Alarm Control Panel	6634T77	$513.97
12-Volt Rechargeable Battery (2 Required)	7448K39	26.19

Detectors


Heat (Indoor)


Heat (Outdoor)


Smoke and Heat

Signal the control panel about potential fire hazards. Color is white. UL listed. Heat and combination heat and smoke detectors are triggered when the temperature climbs above the temperature rating.

Heat detectors are FM approved. Indoor detectors have screw terminals. Outdoor detectors have wire leads.

Smoke and heat detector has an alarm that delivers 85 dB at 10 ft. Connects with screw terminals.

Carbon monoxide detector sends a signal to your control panel and sounds an alarm when carbon monoxide is detected. Multiple units can be linked in tandem so all detectors will sound when any one of them is triggered. Alarm delivers 85 dB at 10 ft. Connects with screw terminals. Detector is UL listed.

Temp. Rating	Amp Rating @ 120V AC	12-24V DC	O'all Size Dia.	Dp.		
Heat Detectors for Indoor Use						
135°F	3	1	5"	2"	6651T73	$18.98
194°F	3	1	5"	2"	6651T74	18.98
Heat Detectors for Outdoor Use						
135°F	5	1	2"	4 1/8"	6651T76	48.88
194°F	5	1	2"	4 1/8"	6651T77	48.88

Temp. Rating	Amp Rating @ 120V AC	12-24V DC	O'all Size Dia.	Dp.		
Smoke and Heat Detector for Indoor Use						
135°F	—	0.06	5 1/2"	2"	6634T23	$47.91
Carbon Monoxide Detector for Indoor Use						
—	—	0.04	4 1/2" Lg. x 3" Wd.	1 1/2"	1030N1	88.60

Fire Alarm Stations



Pull Handle

Install these stations throughout your facility for quick access in case of a fire. When activated, they send a signal to your control panel. All are UL listed.

Pull-handle station is iron with a red finish. **Lift-and-pull handle** station is red plastic. **Push-button** station helps comply with ADA standards when properly installed. Made of red plastic.

Overall Size Ht.	Wd.	Dp.	Stations		Repl. Acrylic Rods	
Pull Handle						
4 1/2"	3 1/4"	1"	6652T11	$36.53	6652T12	$1.72
Lift-and-Pull Handle						
5 1/4"	3 1/2"	1 3/8"	6652T21	67.47	6652T22	2.11
Push Button						
4 7/8"	3 1/4"	1 5/8"	6597T18	32.45	—	—

Optional Station Covers



Cover

Protect your fire alarm stations from damage. These plastic covers help comply with ADA standards when properly installed. They can be used outdoors. UL listed.

Cover with alarm sounds 85 dB @ 10 ft. when lifted. Operates with included battery.

Cover with spacer is extra deep for applications with an exposed back junction box and/or conduit.

Overall Size Ht.	Wd.	Dp.	Without Alarm		With Alarm	
Covers	8 1/8"	5 3/8"	2 5/8"	1105T52	$56.12	1105T51	$104.39
Covers with Spacer	8 1/8"	5 3/8"	4"	1105T54	71.84	1105T53	120.10

Buzzers

About Sound Levels

To choose an alarm or speaker that's loud enough, first determine the decibel (dB) rating of background noise. The table below lists some common examples and their average dB ratings. For sound meters, see page 1854.

Office	50 dB
Stockroom	60 dB
Loading Dock	70 dB
Freight Train	90 dB
Jackhammer	100 dB
Steel Mill	110 dB

Next, choose a device with a dB rating greater than the background noise level. Use the table below to determine how much louder a device will sound in your setting. For example, in a 60 dB stockroom, a bell with a 70 dB rating sounds twice as loud as the background noise, but a 63 dB bell is barely audible.

3 dB	Barely Louder than Background Noise
5 dB	Clearly Louder than Background Noise
10 dB	Twice as Loud as Background Noise
20 dB	Four Times as Loud as Background Noise
40 dB	Sixteen Times as Loud as Background Noise

Miniature Buzzers


A


B


C


D

Small in size and easy to mount, these buzzers produce a low-volume tone to alert workers in the immediate area. They are frequently used on machines and panels. Buzzers are plastic except Style H is steel. 5670T31 is UL recognized. Mounting hardware not included, unless noted.

Continuous Tone and Pulse Tone—Can be wired to trigger two alerts, each corresponding to a different warning. If the continuous and pulse tone are both triggered at the same time, only the continuous tone will sound.

Pulse Tone—Alternate on/off to draw greater attention than buzzers with continuous tone.

Styles A and **C** are also known as piezo buzzers. **Styles B, C**, and **D** increase volume as voltage increases. **Style D** has a flashing red light.

Panel Mount

	Volts	dB @ 10 ft.	Electrical Connection	O'all Size Dia.	O'all Size Dp.	For Panel Cutout Dia.	Mounting Holes Qty.	Mounting Holes Dia.		
Continuous Tone										
A	30-120V AC	71	Screw Terminals	1¾″	2⅜″	1⅛″	—	—	56965T26	$13.83
A	6-28V DC	78	Screw Terminals	1¾″	1¾″	1⅛″	—	—	56965T13	11.78
B	6-28V DC	53-71	Screw Terminals	1½″	1¾″	1⅛″	—	—	5822T45	38.10
C	5-28V DC	48-80	2 Wire Leads	1″	¾″	¾″	2	0.13″	5670T31	10.30
C	5-28V DC	62-84	2 Wire Leads	1½″	1″	1¼″	2	0.13″	5670T33	13.30
Continuous Tone and Pulse Tone										
C	5-28V DC	62-84	3 Wire Leads	1½″	1″	1¼″	2	0.13″	5670T35	16.90
Pulse Tone										
A	4-28V DC	60	Screw Terminals	1¾″	1¾″	1⅛″	—	—	56965T14	12.03
B	6-28V DC	53-71	Screw Terminals	1½″	1¾″	1⅛″	—	—	5822T47	69.82


E


F


G


H

Panel Mount with Flashing Lights

	Volts	Sound Pattern	dB @ 10 ft.	Electrical Connection	O'all Size Dia.	O'all Size Dp.	For Panel Cutout Dia.		
D	6-28V DC	Continuous	53-71	Screw Terminals	1½″	1¾″	1⅛″	5822T46	$40.18
D	6-28V DC	Pulse	53-71	Screw Terminals	1½″	1¾″	1⅛″	5822T48	71.90

Surface Mount

	Volts	dB @ 10 ft.	Electrical Connection	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.	Mounting Holes Qty.	Mounting Holes Dia.	Mounting Holes Thread Size		
Continuous Tone											
E	12V AC	65	Lug Terminals	1⅜″	1″	⅞″	1	—	6-32	56525T24★	$8.34
E	24V AC	65	Lug Terminals	1⅜″	1″	⅞″	1	—	6-32	56525T25★	8.34
E	120V AC	65	Lug Terminals	1⅜″	1″	⅞″	1	—	6-32	56525T26★	9.38
E	120V AC	76	Lug Terminals	2⅜″	1″	1⅛″	1	—	6-32	56525T22★	9.89
E	240V AC	65	Lug Terminals	1⅜″	1″	⅞″	1	—	6-32	56525T27★	9.60
E	240V AC	76	Lug Terminals	2⅜″	1″	1⅛″	1	—	6-32	56525T23★	10.23
F	3-15V DC	71	Two Wire Leads	1¾″	1⅛″	⅞″	2	0.14″	—	56965T12	5.00
G	9-15V DC	55	Two Wire Leads	1¼″	⅝″	⅝″	2	0.1″	—	56525T41	3.59
G	15-27V DC	55	Two Wire Leads	1¼″	⅝″	⅝″	2	0.1″	—	56525T42	3.76
H	24V AC	86	Two Wire Leads	2⅛″ Dia.	—	1¼″	1	—	8-32	5801T14	23.14
H	120V AC	86	Two Wire Leads	2⅛″ Dia.	—	1¼″	1	—	8-32	5801T15	23.14
H	12V DC	86	One Wire Lead	2⅛″ Dia.	—	1¼″	1	—	8-32	5801T13	23.14

★ Includes mounting hardware.

Surface-Mount Buzzers



Surface mount these epoxy-coated steel buzzers using an outlet box (sold separately). Buzzers have screw terminals and plug into a receptacle on the included mounting plate (fasteners included). They have a continuous tone. *24V AC* and *120V AC* buzzers are UL listed and FM approved.

Outlet box is steel and has ½ and ¾ knockouts.

Volts	dB @ 10 ft.	Amps	Dia.	Dp.		
24V AC	70	0.25	5⅛″	2¼″	56325T511	$148.08
120V AC	70	0.05	5⅛″	2¼″	56325T512	148.08
24V DC	62	0.15	5⅛″	2¼″	56325T53	156.52
Outlet Box					71695K54	2.00

Hazardous Location Buzzers



Buzzers are UL listed for use in environments where flammable gases and combustible dust may be present. They are UL listed for Class I, Div. 1 and 2, Groups B, C, and D; Class II, Div. 1 and 2, Groups E, F, and G; and Class III hazardous locations. They're rated NEMA 4X for corrosion resistance and washdown protection. Buzzers are zinc and measure 7⅝″ Ht. × 7⅜″ Wd. × 4¼″ Dp. They include two wall-mount brackets with two ⅜″ dia. mounting holes each (mounting hardware not included). All have three wire leads and a ¾ NPT female conduit opening. Use indoors or out.

Volts	dB @ 10 ft.	dB @ 100 ft.	Amps		
120V AC	97	83	0.13	5650T23	$836.19
24V DC	97	83	0.16	5650T32	983.74

For information about sound levels, see page 1866.

Buzzers

Buzzers are electric with a continuous sound pattern and adjustable volume. They are zinc, except Style D is plastic. All are UL listed.

Style A has screw terminal connections. Surface mount using an outlet box (sold separately). Fasteners are included.

Styles B&C meet NEMA 4X standards for corrosion resistance and washdown protection. *Style B* panel mounts in a 3¾″ Ht. × 2½″ Wd. cutout. Furnished with three wire leads. *Style C* has a built-in electrical box, screw terminal connections, and a ¾ NPT female conduit opening.

Style D has 32 tones. It has two wire leads. Surface mount using an outlet box (sold separately) and the included screws. California State Fire Marshal (CSFM) approved and C-UL listed. Suitable for outdoor use.

Outlet box for Style A is galvanized steel. It has ½ and ¾ knockouts. UL listed.

Indoor outlet box for Style D is steel with ½ and ¾ knockouts.

Outdoor outlet box for Style D is aluminum with ½ and ¾ NPT female conduit openings.


A


B


C


D

	Volts	dB @ 10 ft.	dB @ 100 ft.	Amps	Ht.	Wd.	Dp.		
Buzzers									
A	24V AC	78-101	62-81	0.63	5″	5″	2⅛″	3038T11	$105.86
A	120V AC	78-101	62-81	0.13	5″	5″	2⅛″	3038T14	105.86
A	24V DC	78-101	62-81	0.16	5″	5″	2⅛″	3038T12	152.98
Washdown Buzzers									
B	24V AC	78-101	62-81	0.63	4⅝″	4⅝″	1⅞″	3038T18	103.89
B	120V AC	78-101	62-81	0.13	4⅝″	4⅝″	1⅞″	3038T22	103.89
B	24V DC	78-101	62-81	0.16	4⅝″	4⅝″	1⅞″	3038T19	128.61
C	24V AC	78-101	62-81	0.63	4⅞″	4⅞″	3⅜″	3038T36	141.73
C	120V AC	78-101	62-81	0.13	4⅞″	4⅞″	3⅜″	3038T39	141.73
C	24V DC	78-101	62-81	0.16	4⅞″	4⅞″	3⅜″	3038T37	192.57
Multiple-Tone Buzzers									
D	24V AC/24V DC	0-88	0-72	0.22/0.07	4½″	4½″	3½″	5649T53	363.45
D	120V AC	0-88	0-72	0.04	4½″	4½″	3½″	5649T54	351.33
Indoor Outlet Box for Style A								71695K41	1.98
Indoor Outlet Box for Style D								53515T96	1.98
Outdoor Outlet Box for Style D								5649T513	34.76

Bells

The continuous rapid-fire ringing tone from these bells is distinctive, so it's sure to be heard. All are steel with two wire leads. Mounting hardware not included. UL and C-UL listed.

Indoor bells have a backplate with ¼″ dia. mounting holes for standard outlet box installation. *Indoor/outdoor bells* surface mount with the included outlet box that has a ½ NPT female conduit opening and two 5⁄16″ dia. mounting holes.

Bells with flashing light have a plastic lens and come with a bulb.

Bell guard fits over any of the bells listed. Made of zinc-plated steel, it is 17″ dia. and has four 5⁄16″ dia. mounting holes (fasteners not included).


Bell


Bell with Flashing Light


Bell Guard

	Amps	4¼″ Dia., 90 dB @ 10 ft.		6″ Dia., 92 dB @ 10 ft.		8″ Dia., 94 dB @ 10 ft.		10″ Dia., 96 dB @ 10 ft.	
Bells									
Indoor—AC Voltage									
12V AC	0.8	5684T11	$116.66	5684T19	$120.25	5684T28	$129.05	5684T35	$135.55
24V AC	0.35	5684T12	117.75	5684T21	124.84	5684T29	136.93	5684T36	141.93
120V AC	0.09	5684T13	118.30	5684T22	124.84	5684T31	131.64	5684T37	136.77
240V AC	0.05	5684T16	121.14	5684T24	132.39	5684T32	138.89	5684T38	142.57
Indoor—DC Voltage									
12V DC	0.45	5684T17	111.82	5684T25	127.45	5684T33	134.14	5684T39	139.86
24V DC	0.2	5684T18	117.20	5684T26	129.41	5684T34	134.14	5684T45	140.73
Indoor/Outdoor—AC Voltage									
24V AC	0.35	5658T71	148.30	5658T75	156.13	5658T79	159.31	5658T64	162.63
120V AC	0.09	5658T72	152.02	5658T76	155.44	5658T61	157.81	5658T65	164.14
Indoor/Outdoor—DC Voltage									
12V DC	0.45	5658T73	145.00	5658T77	158.78	5658T62	162.69	5658T66	171.27
24V DC	0.2	5658T74	147.10	5658T78	161.66	5658T63	163.46	5658T67	171.27
Bells with Flashing Light									
Indoor—AC Voltage									
24V AC (Amber Light)	0.4	5828T61	187.76	5828T65	193.06	5828T69	201.58	5828T74	206.08
24V AC (Red Light)	0.4	5828T62	187.76	5828T66	193.06	5828T71	201.58	5828T75	206.08
120V AC (Amber Light)	0.1	5828T51	167.00	5828T55	172.24	5828T59	184.02	5828T45	195.19
120V AC (Red Light)	0.1	5828T52	167.00	5828T56	172.24	5828T42	184.02	5828T46	195.19
Indoor/Outdoor—AC Voltage									
24V AC (Amber Light)	0.4	5828T63	208.14	5828T67	215.50	5828T72	222.12	5828T76	230.52
24V AC (Red Light)	0.4	5828T64	208.14	5828T68	215.50	5828T73	222.12	5828T77	230.52
120V AC (Amber Light)	0.1	5828T53	192.94	5828T57	200.23	5828T43	206.93	5828T47	215.79
120V AC (Red Light)	0.1	5828T54	192.94	5828T58	200.23	5828T44	206.93	5828T48	215.79
Replacement Bulbs and Accessories									
Replacement Bulb for 24V AC Bells with Flashing Light								5828T92	8.90
Replacement Bulb for 120V AC Bells with Flashing Light								5828T91	7.66
Bell Guard								5684T46	36.67

Vehicle Alert Bells

Just like the bells you hear at service stations, this bell rings when a vehicle drives over the attached hose. Bell is steel and comes complete with 50 ft. of ⅜″ ID black rubber hose and a 6-ft. power cord. It operates on 120 volts AC and draws 10 amps. The bell is 6″ dia. and can be mounted indoors and out using three ⅜″ dia. mounting holes (mounting fasteners not included).

Add extra hose to span up to 300 ft. Use a hose splicer to connect hose lengths. Use a hose anchor to secure the end of the hose.



Bell	63965T21	$143.13
50 ft. of ⅜″ ID Hose	63965T12	54.68
Hose Splicer	63965T14	2.08
Hose Anchor	63965T15	17.26

Hammer Top Bells



These make great doorbells when used with a push button. Bells are steel with screw terminal connections and are for indoor use. The 5¾″ high and 6⅞″ high bells have two 3/16″ dia. mounting holes. All other models have three ¼″ dia. mounting holes. Mounting hardware not included.

Transformer converts 120 volts AC to 8 or 24 volts AC. It has three wire leads.

Push button is 2⅜″ dia., made of brass, and includes mounting fasteners. For indoor use.

Bell Dia.	Volts	dB @ 10 ft.	dB @ 100 ft.	Amps	O'all Ht.		
2½″	6V DC/8V AC	78	58	1/1	5¾″	83125T59	$16.36
4″	24V AC	68	48	0.2	7⅜″	83125T73	65.67
4″	6V DC/8V AC	78	58	1/1	6⅞″	83125T61	21.97
6″	24V AC	74	54	0.2	10⅝″	83125T66	74.76
6″	6V DC/8V AC	74	54	0.8/1	10⅝″	83125T65	72.97
Transformer						83125T67	18.20
Push Button						83125T63	5.47

Call Bells



Made of steel. Size is 3″ Dia. × 2¼″ Ht.

82825T21 ..... $6.47

Whistles



Brass



Plastic

Nickel-Plated Brass	82845T32	$9.76
Black Plastic	82845T67	6.72
18″ Black Nylon Neck Strap	82845T34	1.45

Air Horns



Air Horn



Disposable Air Horn



Rechargeable Horn and Pump



Storage Cabinet

Sound these portable horns with the push of a button.

Air Horn—Has a disposable canister that can be replaced when the propellant is gone.

Disposable Air Horn—Toss this pocket-size horn when it runs out of air.

Rechargeable Air Horn—When this horn runs out of air, recharge it with the included pump.

Air Horn Storage Cabinet—Cabinet has a tamperproof safety-lock rod. It is 0.04″ thick yellow steel and measures 10¼″ Ht. × 5½″ Wd. × 4½″ Dp. Fasteners, a padlock, and two keys are included.

dB @ 10 ft.	dB @ 100 ft.	No. of Uses	Dia.	Lg.	Ht.		
Air Horn							
115	95	200	2¾″	4⅜″	7⅝″	5688T61	$17.46
Disposable Air Horn							
100	80	200	1⅜″	2⅝″	5⅜″	6879T48	10.71
Rechargeable Air Horn							
120	100	30	2″	6½″	9½″	56385T1	33.25
Air Horn Storage Cabinet						5688T63	63.06
Replacement Cover for Storage Cabinet						5688T56	45.45
Replacement Rod for Storage Cabinet						5688T55	1.01
Replacement Projector for Air Horn						5688T54	6.29
Replacement Propellant Canister for Air Horn						5688T62	12.51

Trumpet-Style Horns

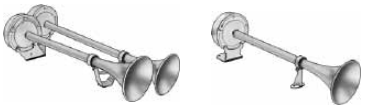

Electric (304 Stainless Steel)



Electric (Aluminum/Brass)



Air Powered

Electric

Electric horns produce a continuous signal; for a noncontinuous signal interrupt the voltage from the power supply. The *304 stainless steel* horns have excellent corrosion resistance. They are designed for intermittent use.

Aluminum/brass horns have ½ NPT female conduit openings and come with mounting brackets. Their maximum continuous cycle is 5 minutes on, 5 minutes off. 24-volt horn is FM approved. 120-volt horn is UL listed, CSA certified, and FM approved.

Volts	dB @ 10 ft.	dB @ 100 ft.	Amps	Material	No. of Wire Leads	Lg.	Wd.	Ht.	⌐ Mtg. Holes ¬ Qty.	Dia.		
Trumpet-Style												
120V AC	105	85	0.75	Aluminum/Brass	3	19¾″	8″	8″	2	⅜″	6391T22	$594.71
12V DC	108	87	4	304 Stainless Steel	2	16½″	4″	4¾″	4	¼″	8005T14	127.17
24V DC	108	87	2	304 Stainless Steel	2	16½″	4″	4¾″	4	¼″	8005T35	137.72
24V DC	106	86	3	Aluminum/Brass	2	19¾″	8″	8″	2	⅜″	6391T24	644.43
Dual Trumpet-Style												
12V DC	112	92	8	304 Stainless Steel	4	18½″	8″	5″	3	¼″	8005T22	248.62
24V DC	112	92	4	304 Stainless Steel	4	18½″	8″	5″	3	¼″	8005T47	261.41

Air Powered

Air-powered horns operate without electricity. They have NPT female conduit openings. To operate horns with manual valves (not included), see 4625K on page 490. For solenoid valves (not included), see 4635K on pages 474.

dB @ 10 ft.	dB @ 100 ft.	Material	Pipe Size	Air Consumption, cfs @ 100 psi	Operating Range, psi	Lg.	Wd.	Ht.	⌐ Mtg. Holes ¬ Qty.	Dia.		
Trumpet-Style												
120	100	Brass/Bronze	⅛	0.2	50-200	17⅛″	6¾″	6⅞″	2	5/16″	5826T51	$298.74
125	105	Brass/Bronze	¼	0.2	100-250	15½″	6¼″	7″	2	5/16″	5826T41	507.27
133	113	Aluminum	½	0.5	50-150	10⅛″	6¾″	8⅝″	4	9/16″	5826T71	1,235.98
Dual Trumpet-Style												
123	103	Brass/Bronze	⅛	0.3	50-200	22¾″	11⅝″	7¼″	4	5/16″	5826T61	516.13

Lift Truck Horns

Mount these horns on your lift truck and they'll announce your arrival—no need to shout.

Styles A and **B** produce a sound that's loud enough to be heard in industrial settings. They're made of steel, and have two screw terminal connections and two 0.25″ wide male quick-disconnect terminals. For indoor use. Color is black. UL listed.

Style C has a built-in compressor (similar to a car horn) and produces a louder sound than other lift truck horns. It's made of black ABS plastic and has two 0.25″ wide male quick-disconnect terminals. Compressor is made of zinc-plated steel. For indoor use.

Style D lasts longer than other horns because it doesn't have moving parts, which tend to wear out. It's made of black nylon and is water resistant. Horn has epoxy-sealed electronic components and two 0.25″ wide male quick-disconnect terminals. UL listed.

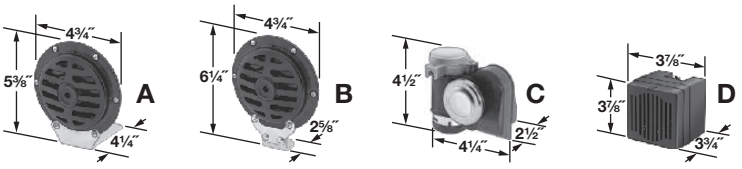

	Volts	dB @ 3 ft.	Amps		
Standard					
A	12V DC	115	4	2580T1	$35.98
A	24V DC	115	1.5	2580T3	37.25
B	12V DC	115	4	2580T2	38.02
B	24V DC	115	1.5	2580T4	39.25
B	36V DC/48V DC	115	1	2580T5	39.23
Extra Loud					
C	12V DC	118	14	2648T1	54.32
Long Life					
D	12 V DC-60 V DC	114	1.1	2662T1	68.11

Lift Truck Backup Alarms

Avoid accidents with these weather-resistant electronic alarms. They beep loudly and repeatedly when your truck moves in reverse. To install, wire the alarm between your battery and reverse lights. **Style E** alarms have screw terminal connections. **Style F** alarms have two wire leads. Alarms are resistant to vibration, dust, and moisture. Each has four 5/16″ wide mounting slots (mounting hardware not included). UL recognized.

All **single volume** alarms are made of glass-filled nylon. **Auto-adjust volume** model is made of glass-filled nylon. It detects the sound level around your vehicle and sets the alarm volume 5 dB above that level.

Backup alarm switch activates your alarm when you shift into reverse, so you can use the alarm on a vehicle without backup lights. Switch is made of zinc and operates on 12 to 80V DC at a maximum of 10 amps. Mounting bracket and hardware are included.

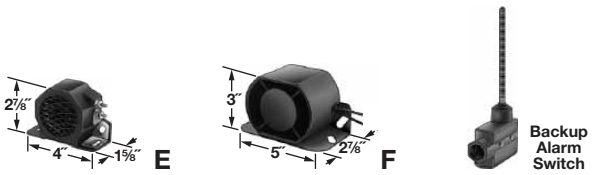

		dB @ 4 ft.	Amps		
E	12 VDC Single Volume	97	0.2	57585T12	$27.23
F	12-36 VDC Single Volume	107	0.4	56475T25	52.32
E	12-48 VDC Single Volume	97	0.1	57585T13	36.87
F	12-48 VDC Auto-Adjust Volume	82-102	0.2	5675T61	78.70
Backup Alarm Switch				56515T53	30.16

Lift Truck Motion Bells

Ditch switches and wires—just mount these bells directly to your vehicle's wheel hub. They're made of zinc-plated steel and can be used indoors and out.

Dual-direction bell sounds when the vehicle moves forward and in reverse. It has two 2″ Lg. × 1/2″ Wd. mounting slots (mounting hardware not included).

Single-direction bell sounds when the vehicle moves in forward or in reverse, depending on how you mount it. It can be mounted to 4, 8, and 12 lug hubs (mounting hardware included). **Hub adapter for single-direction bell** adapts 3, 5, 6, and 10 lug hubs for use with a single-direction bell.





Mounted to Wheel Hub

	dB @ 4 ft.	Dia.		
Dual-Direction Bell	80	6″	5646T14	$60.32
Single-Direction Bell	93	8″	5646T19	87.13
Hub Adapter for Single-Direction Bell			5646T18	17.25

Multiple-Tone Horns

Horn swivels 180° on its mounting base, so you can point it in any direction. It has four continuous tones and produces 107 to 111 dB @ 10 ft. and 86 to 90 dB @ 100 ft. Horn is plastic and measures 9″ Ht. × 12 1/8″ Wd. × 14 1/2″ Dp. It has screw terminal connections and operates on 24V DC, 120V AC, or 240V AC. It draws 0.6 amps @ 24V DC, 0.21 amps @ 120V AC, and 0.12 amps @ 240V AC. Surface mount to an outlet box (sold separately) using the included fasteners. UL and C-UL listed.

Indoor outlet box is galvanized steel and has 1/2 knockouts.

Outdoor outlet box is aluminum and has 1/2 and 3/4 NPT female conduit openings.



Horn	6476T41	$497.17
Indoor Outlet Box	71695K12	1.96
Outdoor Outlet Box	5649T513	34.76

Hazardous Location Multiple-Tone Horns

Horns are UL listed for indoor and outdoor use in Class I, Div. 2, Groups A, B, C, and D; Class II, Div. 2, Groups F and G; and Class III hazardous locations.

Horns produce 27 tones. They're made of zinc, and measure 13 3/4″ Ht. × 8″ Wd. × 8 3/4″ Dp. They have three wire leads and three 1/2 knockouts. Surface mount using four 3/16″ dia. mounting holes (fasteners not included).

Horns operate on any of the following voltages: 120V AC, 240V AC, 120V DC, and 240V DC. They draw 0.31 amps @ 120V AC, 0.20 amps @ 240V AC, 0.20 amps @ 120V DC, 0.10 amps @ 240V DC.

Horn with 4-tone programming lets you select up to four tones, each corresponding to a different warning. If multiple signals are triggered at once, only the highest priority signal will sound.



	dB @ 10 ft.	dB @ 100 ft.		
Horn with 1-Tone Programming	95-110	85-89	5823T41	$978.73
Horn with 4-Tone Programming	95-110	85-89	5823T42	1,287.22

Adjustable-Volume Multiple-Tone Horns



Horns can emit both continuous and pulse tones—pulse tones alternate on/off to draw greater attention than continuous tones. Horns produce 32 tones. Horns have an aluminum housing and measure 12 1/2″ Ht. x 8″ Wd. x 8 1/2″ Dp. They have screw terminal connections and a 1/2 NPT female conduit opening. Surface mount (no separate mounting box required) using the two 3/16″ dia. mounting holes (fasteners not included). They meet NEMA 3R for protection against rain, so they can be used outdoors. UL listed and California State Fire Marshal (CSFM) approved.

Volts	dB @ 10 ft.	dB @ 100 ft.	Amps		
120V AC	0-110	0-90	0.3	5682T67	$669.77
24V AC/24V DC	0-110	0-90	1.1	5682T65	669.77

Fire Alarms

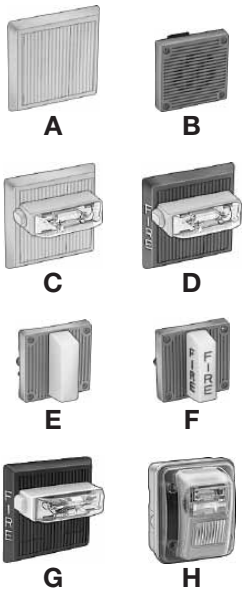

Alarms are UL listed and California State Fire Marshal (CSFM) approved. Surface mount using an outlet box (sold separately below for Styles A-G; included for Style H). Fasteners are included. Alarms are plastic and have screw terminal connections.

Fire Alarms—Have eight tones and are suitable for outdoor use.

Fire Alarms with Strobe Light—In addition to an audible signal, these alarms flash a high-intensity white strobe to draw attention during fire emergencies. *Style C* has a 15/75 candela strobe, *Styles D* and *G* have a 15/30/75/110 candela strobe, *Styles E* and *F* have a 15 candela strobe, and *Style H* has a 75 candela strobe. The strobe on *Styles G* and *H* helps comply with ADA standards for photosensitivity when properly installed. *Styles C-F* have eight alarm tones and *Styles G* and *H* have two alarm tones. *Styles C, D,* and G are for indoor use only.

Indoor Outlet Box for Styles A-G is steel and has 1/2 and 3/4 knockouts.

Outdoor Outlet Boxes for Style A are plastic and have 1/2 knockouts.

Outdoor Outlet Boxes for Styles B, E, and F are aluminum and have 1/2 NPT female threads.

Volts	dB @ 10 ft.	Amps	Ht.	Wd.	Dp.	Choose a Color		
Fire Alarms								
A 12/24V DC	76-94	0.18/0.11	5 1/8″	5 1/8″	2 1/8″	Red	59835T86	$28.27
A 12/24V DC	76-94	0.18/0.11	5 1/8″	5 1/8″	2 1/8″	White	59835T83	28.27
B 120V AC	75-88	0.05	4 1/8″	4 1/8″	2 1/8″	Gray	59835T15	32.17
B 120V AC	75-88	0.05	4 1/8″	4 1/8″	2 1/8″	Red	59835T12	32.17
Fire Alarms with Strobe Light								
C 12V DC	76-94	0.43	5 1/8″	5 1/8″	4 3/8″	White	59835T41	81.23
D 24V DC	76-94	0.33	5 1/8″	5 1/8″	4 3/8″	Red	59835T61	68.13
E 120V AC	73-85	0.05	4 1/8″	4 1/8″	3 1/2″	Gray	59835T19	66.44
F 120V AC	73-85	0.05	4 1/8″	4 1/8″	3 1/2″	Red	59835T17	66.44
G 24V DC	91	0.33	5 1/8″	5 1/8″	4 3/8″	Red, White	83005T2	67.92
H 24V DC	100	0.19	5 3/4″	4 3/4″	4 3/16″	Red, White	2684T3	82.34
Indoor Outlet Box for Styles A-G							71695K13	2.87
Red Outdoor Outlet Box for Style A							59835T511	14.70
White Outdoor Outlet Box for Style A							59835T512	14.70
Gray Outdoor Outlet Box for Styles B, E, and F							59835T36	15.00
Red Outdoor Outlet Box for Styles B, E, and F							59835T34	15.00

Fire Alarm Bells



These aluminum bells are bright red for visibility. They have screw terminal connections and surface mount using an outlet box (sold separately) with the included fasteners. Suitable for outdoor use. UL and C-UL listed and FM approved.

Indoor outlet box is galvanized steel and has 1/2 and 3/4 knockouts. *Outdoor outlet box* is aluminum and has 1/2 NPT female conduit openings. Color is red.

Bell guard is zinc-plated steel. It is 17″ dia. and has four 5/16″ dia. mounting holes (fasteners not included).

Dia.	Volts	dB @10 ft.	Amps		
6″	120V AC	86	0.12	49565T23	$67.20
10″	120V AC	88	0.12	49565T25	90.95
Indoor Outlet Box				71695K41	1.98
Outdoor Outlet Box				59835T34	15.00
Bell Guard				5684T46	36.67

Sirens



Siren with Strobe Light

All sirens have a plastic housing and screw terminal connections. Surface mount using included hardware or an outlet box (sold separately).

Siren delivers 100 dB @ 10 ft. and 81 dB @ 100 ft.

Siren with strobe light delivers 100 dB @ 10 ft. and 80 dB @ 100 ft. Lens is plastic. **To Order:** Please specify light color: amber, blue, red, or white.

Indoor outlet box is steel and has 1/2 and 3/4 knockouts.

Outdoor outlet box is aluminum. It has 1/2 NPT female conduit openings and two 15/8″ mounting holes (hardware not included).

Volts	Amps	Ht.	Wd.	Dp.		
Siren						
12V DC	0.56	5″	5 3/4″	4 3/8″	56725T44	$50.61
Siren with Strobe Light						
12V DC	0.67	7 3/32″	5 3/4″	4 3/8″	56725T52	78.60
Indoor Outlet Box					53515T96	1.98
Outdoor Outlet Box					53515T86	17.00

Multiple-Tone Sirens



Sirens can emit both continuous and pulse tones—pulse tones alternate on/off to draw greater attention than continuous tones. There are 32 tones to choose from and the decibel level can be set anywhere from 64 to 113 dB @ 10 ft. (55 to 89 dB @ 100 ft.).

Sirens are plastic with screw terminal connections and three 3/4 knockouts. Mount indoors and out using the included electrical box, which has four 1/4″ dia. mounting holes (hardware not included).

Volts	Amps	Dia.	Dp.		
120/240V AC	0.02/0.01	3 5/8″	2 7/8″	32145T682	$543.08
9-30V DC	0.06/0.03★	3 5/8″	2 7/8″	32145T681	543.08

★ Amps measured @ 12V DC and 24V DC.

For information about sound levels, see page 1866.

Motor-Driven Sirens



The built-in motor-driven fan in these sirens generates a shrill tone that's audible over long distances. Sirens can emit a continuous or pulse tone—pulse tones alternate on/off to draw greater attention than continuous tones. They produce 113 dB @ 10 ft. and 89 dB @ 100 ft. Sirens have a shock- and corrosion-resistant powder-coated aluminum housing, so they're approved for use on U.S. Navy ships. They are 8½" Dia. × 15⅜" Lg. Sirens have two wire leads and a ½ NPT female conduit opening (male threaded conduit fitting is included). Mount them indoors or out (no separate mounting box required). 120V AC/DC siren is UL listed.

	Amps		
120V AC/DC	2.5/2.5	6392T11	$553.72
240V AC/DC	1.7/1.7	6392T13	812.59

Recorded Voice Message Speakers



Speaker with Strobe

Record a 20-second message, such as evacuation instructions, that plays repeatedly when triggered. All speakers are white plastic and measure 6⅝" Ht. × 5⅛" Wd. × 3" Dp. Mount to a ceiling or wall using an outlet box (sold separately below). Mounting hardware is included. UL and C-UL listed.

Speakers with strobe have a 110 candela strobe.

	dB @ 10 ft.	Amps		
Speakers				
24V AC/DC	90	0.2	7621T11	$482.44
120V AC	90	0.1	7621T12	482.44
Speakers with Strobe				
24V AC/DC	90	0.2	7621T13	533.14
120V AC	90	0.1	7621T14	533.14
Indoor Outlet Box			71695K13	2.87
Outdoor Outlet Box			7219K26	14.14

Weatherproof Telephone Enclosures



Protect your telephones from water, dust, corrosion, and extreme weather with these glass-reinforced polyester enclosures. They're rated NEMA 4X for washdown and corrosion protection.

Inside, enclosures have a mounting plate for a wall telephone (telephone not included). Inside dimensions are 11½" Ht. × 7¾" Wd. × 8" Dp.; outside dimensions are 14⅝" Ht. × 10⅞" Wd. × 10½" Dp. Enclosures have four 7/16" dia. mounting holes (mounting hardware not included). Color is gray. For indoor and outdoor use.

Enclosure with locking door comes with a lock and key for added security.

Pole-mounting kit lets you mount the enclosure on 2½" to 15" dia. poles.

Enclosure	5680T21	$185.13
Enclosure with Locking Door	5680T27	229.87
Pole-Mounting Kit	5680T31	150.43

Voice and Sound Recorders



Record and store up to 4,175 hours with this pocket-sized recorder. It has a built-in 4 GB memory and displays a time and date stamp for each recording on its screen, plus it has five folders to help you stay organized. Size is 4½" Ht. × 1½" Wd. × ⅞" Dp. Operates on two AAA batteries (included).

8700T1	$63.93

Telephone Privacy Booth



Have a private conversation, protected by this booth. Made of 16-ga. steel, it has a perforated interior backed with a sound-absorbing material and accommodates a handset phone. Booth has a gray enamel finish. Mounting hardware included. For indoor use.

Ht.	Wd.	Dp.		
30"	28"	26"	4877T11	$733.34

Speaker Volume Controls



With Volume Knob



With Key Lock

Wire one of these controls between your speakers and amplifier to adjust the volume. Controls have 10 sound levels and an off position, and are compatible with 25-, 70-, and 100-volt systems. A stainless steel mounting plate and mounting hardware are included. **Controls with volume knob** are ETL and C-ETL listed. **Control with key lock** prevents tampering.

Watts	Ht.	Wd.	Dp.		
With Volume Knob					
25	4½"	2¾"	2¾"	59025T13	$27.98
50	4½"	2¾"	2¾"	59025T17	31.49
100	4½"	2¾"	3⅛"	59025T18	35.00
With Key Lock					
100	4½"	2¾"	2"	59025T48	69.79

Air- and Steam-Operated Long Distance Whistles



Without Valve



With Valve

The powerful tone from these whistles blasts over long distances—in every direction—and rises above background noise in loud environments. Whistles are brass and bronze. They operate at 50-200 psi; maximum input pressure is 200 psi @ 550° F. All have NPT female connections. Suitable for outdoor use.

Whistles without Valve—Apply air or steam pressure to produce a shrill tone and alert workers. Signal continues as long as pressure is applied.

Whistles with Valve—The quick-opening valve on these whistles allows manual operation—pull the valve while air or steam pressure is being applied to produce a shrill tone. The valve has a hole for attaching chain.

					Without Valve			*With Valve*			
Dia.	dB @ 10 ft.	dB @ 100 ft.	Pipe Size	Air Consumption, cfs @ 100 psi	Ht.			Ht.	For Air		For Steam
1"	126	96	¼	0.9	4½"	5671T21	$136.86	7"	5671T41	$247.46	5671T31 $247.46
1½"	118	88	⅜	1.4	9"	5671T22	218.64	12"	5671T42	333.90	5671T32 333.90
2"	116	86	½	3.7	11¼"	5671T23	327.12	15½"	5671T43	398.74	5671T33 398.74
3"	126	96	¾	4.6	13"	5671T25	368.33	17¾"	5671T45	520.00	5671T34 520.00
6"	136	106	1½	14	25"	5671T29	1,997.74	29¾"	5671T49	2,357.21	5671T36 2,357.21

Speakers

For information about sound levels, see page 1866.

Wall-Mount Speakers



Expect high-quality paging and background music from this speaker. It operates on 25/70 volts and has a knob to adjust volume. Speaker has a white epoxy-coated steel housing and grille. It has six 3/8" dia. and four 1/4" dia. mounting holes (mounting hardware not included). For indoor use.

Note: Each speaker has several wattage options—the higher the watts, the louder your speaker will be. If you're connecting several speakers to one amplifier, the total watts of all speakers should not exceed the maximum wattage of the amplifier.

Watts	Max. dB @ 10 ft.	Ht.	Wd.	Dp.		
0.3, 0.6, 1.3, 2.5, 5	91	11 3/8"	11 5/8"	5 3/8"	57615T33	$59.08

Vandal-Resistant Wall-Mount Speakers



Tamper-resistant pin-in-torx screws on the cover of this speaker prevent vandalism. Speaker operates on 25/70 volts and has a white epoxy-coated steel housing with four 1/4" dia. mounting holes (mounting hardware not included). Size is 11 5/8" Ht. × 11 5/8" Wd. × 4 1/8" Dp. Surface mount indoors and out. A screwdriver bit is included for pin-in-torx screws.

Note: Each speaker has several wattage options—the higher the watts, the louder your speaker will be. If you're connecting several speakers to one amplifier, the total watts of all speakers should not exceed the maximum wattage of the amplifier.

Watts	Max. dB @ 10 ft.		
1, 2, 4, 8, 16	111	7695T1	$161.22

Premium Wall-Mount Speakers



These speakers have the best sound quality of our wall-mount speakers. Both have a switch to select either 70 volt or 8 ohm operation. Housing is plastic. Mounting bracket has four 3/16" dia. mounting holes (fasteners not included).

Note: Each speaker has several wattage options—the higher the watts, the louder your speaker will be. If you're connecting several speakers to one amplifier, the total watts of all speakers should not exceed the maximum wattage of the amplifier.

					White		Black	
Watts	Max. dB @ 10 ft.	Ht.	Wd.	Dp.		Each		Each
1.3, 2.5, 5, 10, 20	91	10 1/4"	6 7/8"	6 3/4"	6489T4	$109.97	6489T3	$109.97
						Pair		Pair
1.3, 2.5, 5, 10, 20	91	10 1/4"	6 7/8"	6 3/4"	6489T5	$162.33	6489T6	$163.20

Hanging Speakers



For 360° sound projection, hang this speaker from a ceiling or I-beam. Speaker is white plastic and 9" Dia. × 20 1/2" Ht. It operates on 70 volts and comes with mounting hardware. For indoor and outdoor use.

Note: Each speaker has several wattage options—the higher the watts, the louder your speaker will be. If you're connecting several speakers to one amplifier, the total watts of all speakers should not exceed the maximum wattage of the amplifier.

Watts	Max. dB @ 10 ft.		
3, 6, 12, 25, 50	97	4304T3	$227.72

Ceiling-Mount Speakers



For clear public address announcements and background music, choose these speakers. They operate on 25/70 volts, except the 0.6- to 10.0-watt speaker operates on 70 volts. All are white and have an epoxy-coated finish. Speakers have a steel grille and include mounting hardware. For indoor use.

Note: Each speaker has several wattage options—the higher the watts, the louder your speaker will be. If you're connecting several speakers to one amplifier, the total watts of all speakers should not exceed the maximum wattage of the amplifier.

Watts	Max. dB @ 10 ft.	Volume Control	Dia.		
0.3, 0.6, 1.3, 2.5, 5	94	Adjustable	12 7/8"	56705T62	$43.78
0.3, 0.6, 1.3, 2.5, 5	94	Fixed	12 7/8"	56705T35	31.66
0.6, 1.3, 2.5, 5, 10	97	Fixed	12 7/8"	56705T37	45.70

Quick-Install Speakers

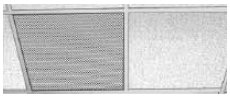

Ceiling Mount



Beam Mount

Here's a no-hassle solution to your sound system needs: these speakers easily install into ceiling tiles or mount onto beams. They're perfect for paging and background music. Both models operate on 25/70 volts and have a white epoxy-coated steel grille. For indoor use.

Ceiling-mount speaker takes the place of a standard 24" × 24" ceiling tile—no cutting or mounting hardware required.

Beam-mount speaker secures to a beam or girder using the two included C-clamps.

Note: Each speaker has several wattage options—the higher the watts, the louder your speaker will be. If you're connecting several speakers to one amplifier, the total watts of all speakers should not exceed the maximum wattage of the amplifier.

	Watts	Max. dB @ 10 ft.	Lg.	Wd.	Dp.		
Ceiling Mount	0.3, 0.6, 1.3, 2.5, 5	93	23 3/4"	23 3/4"	3 1/2"	6576T7	$77.79
Beam Mount	0.3, 0.5, 1, 2, 4	93	11 5/8"	11 5/8"	5 1/2"	6576T8	87.85

Horn-Shaped Speakers





The horn-shaped design focuses the sound projection toward listeners. Speakers are epoxy-coated aluminum. All include a mounting bracket with three 1/4" dia. mounting holes. Fasteners are not included.

Style A doesn't have a transformer, so it must be attached to an 8-ohm amplifier output. **Style B** operates on 25/70/100 volts. **Style C** operates on 25/70 volts.

Note: Each speaker has several wattage options—the higher the watts, the louder your speaker will be. If you're connecting several speakers to one amplifier, the total watts of all speakers should not exceed the maximum wattage of the amplifier.

	Watts	Max. dB @ 10 ft.	Ht.	Wd.	Dp.	Color		
A	15★	109	8"	6"	8"	Gray	5642T94	$48.57
B	1, 2, 3.8, 7.5, 15	110	8 3/4"	7 7/8"	9 3/8"	Gray	5642T96	131.53
B	2, 3.8, 7.5, 15, 30	115	11"	10"	10 1/2"	Gray	5642T31	148.68
C	1.8, 3.7, 7.5, 15, 30	111	9 5/8"	15 3/4"	12 1/8"	Beige	5642T88	196.36

★ Watts with an 8-ohm amplifier.

Adjustable-Volume Horn-Shaped Speakers



Volume controls allow you to manually adjust output based on background noise. The horn-shaped design focuses the sound projection toward listeners. Speakers have a standard 600-ohm input for telephone paging. They don't work directly with a telephone.

Speakers—Made of beige epoxy-coated aluminum, speakers come with a mounting bracket with three 3/16" dia. mounting holes (fasteners not included). They must be externally powered by a 24V DC power supply (sold separately below).

Power Supplies—Required to operate speakers. They convert 120V AC to 24V DC, include a 6-ft. cord, and are UL listed. The *0.6 amp* power supply has a two-prong plug; the *4 amp* power supply has a three-prong plug.

Note: The total amps drawn by your speaker must not exceed the power supply's amp rating.

Speakers

Watts	Amps	Max. dB @ 10 ft.	Ht.	Wd.	Dp.		
5	0.5	105	9 1/2"	9"	10"	56685T21	$139.31
15	1.4	108	9 1/2"	9"	10"	56685T22	144.57

Power Supplies

0.6 Amp Power Supply	56685T31	$57.38
4 Amp Power Supply	56685T32	234.07

Public Address System Amplifiers



Desktop and Rack Mount



Wall Mount

Power your 25- or 70-volt public address system with these amplifiers. They support background music and paging (music is automatically muted during paging) and have bass and treble controls. All include inputs for low-impedance microphones and 600-ohm telephone systems. Amplifiers operate on 120 volts AC.

Desktop amplifiers have a 5-ft. cord with a three-prong plug. They can be wall mounted using the wall-mount bracket (sold separately). Bracket has eight 3/8" Lg. x 3/16" Wd. mounting slots (mounting hardware not included).

Rack-mount amplifiers have a 6-ft. cord with a three-prong plug. They include a bracket that has four 7/16" Lg. x 1/4" Wd. mounting slots to fasten to a standard 19" electronics rack, as well as fasteners for attaching to the amplifier (but not the rack).

Wall-mount amplifier has a 6-ft. cord with a three-prong plug. It has four 3/8" dia. mounting holes (mounting hardware not included). UL and C-UL listed. CSA certified.

Watts	Amps	Ht.	Wd.	Dp.		
Desktop						
15	0.5	3 1/2"	8 7/16"	11"	8230T11	$203.70
30	1	3 1/2"	8 7/16"	11"	8230T12	236.30
Rack Mount						
60	1.25	3 1/2"	17"	13 1/2"	8230T63	385.18
125	2.5	3 1/2"	17"	13 1/2"	8230T64	447.86
Wall Mount						
100	2	8 3/8"	14 1/4"	3 5/8"	8230T111	648.91
Wall-Mount Bracket for Desktop Amplifiers					8230T13	24.00

Portable Public Address Systems



Corded System

Even with the built-in amplifier and speaker, these public address systems are light enough to carry from place to place—they weigh 4 lbs. (8 lbs. with batteries). They include a 50-watt amplifier, a 6" Ht. x 8" Wd. speaker, plus an input for a laptop or projector. Two interface cables (one for a laptop, one for a projector) and a carrying case with an adjustable shoulder strap are also included. Both systems operate on 10 D batteries or an AC adapter (sold separately below). Size is 11" Ht. x 13 1/2" Wd. x 4 1/2" Dp. UL and C-UL listed.

Corded system includes a microphone with a 15-ft. cord. **Wireless system** provides hands-free talking within 300 ft. It includes a wireless transmitter (requires one 9-volt battery, sold separately below) and two microphones: one headset model and one low-impedance lapel model.

AC adapter has a 7 1/2-ft. cord with a three-prong plug.

Corded System	5986T24	$467.81
Wireless System	5986T26	698.97
AC Adapter	5986T28	120.73
9-Volt Battery	71455K56	2.75
D Batteries (Pkg. of 6)	71455K55	7.32

Microphones, Plugs, and Cords

Microphones



Speak up and be heard with the help of these microphones. They're often used for paging, public address, and dispatching. Compatible with all amplifiers with a low-impedance input.

Hand-held plug-in model filters out wind, breathing, and other distracting sounds. It includes a swivel adapter for use with a stand, and has a 3-pin XLR male plug for connecting to a cord (sold separately below). Color is beige.

Hand-held hardwired model has a push-to-talk button and a 5-ft. cord with wire leads. It includes a mounting bracket with two 3/16" dia. mounting holes (fasteners not included). Color is black.

Freestanding hardwired model can lock "on" for hands-free operation. It has a 7-ft. cord with wire leads. Color is black and silver.

Microphone clip fits all microphones with 3/4" dia. and larger handles. It's made of black plastic and has a 5/8"-27 threaded female connection for mounting to a microphone stand.

Microphone stand extends from 35" to 63" high. Made of chrome-colored steel, it has a black 10" dia. base and a 5/8"-27 threaded male connection on top.

Hand-Held Plug-In	56785T111	$86.21
Hand-Held Hardwired	55295T125	109.09
Freestanding Hardwired	55295T225	218.18
Microphone Clip for Plug-In Microphone	55295T131	7.27
Microphone Stand for Plug-In Microphone	55295T132	78.75

Plugs

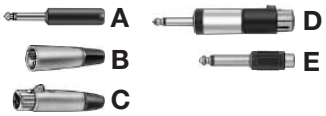

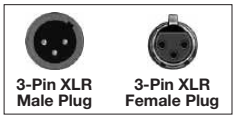

Style D allows low-impedance microphones to connect to high-impedance outputs.

Connections		
A 1/4" Male Plug	58075T31	$4.26
B 3-Pin XLR Male Plug	58075T33	5.48
C 3-Pin XLR Female Plug	58075T32	5.62
D 1/4" Plug to 3-Pin XLR Female Plug Adapter	58075T34	19.60
E 1/4" Plug to RCA Female Jack Adapter	58075T35	1.40

Cords

These 22 ga. cords have a 3-pin XLR female plug on one end and a 3-pin XLR male plug on the other end. Cords have a black PVC jacket.



6 ft.	6009T1	$15.27
12 ft.	6009T2	19.85
25 ft.	6009T3	30.58
50 ft.	6009T4	45.92

Megaphones



Handle Grip



Pistol Grip

Our voice-amplifying megaphones provide loud, clear communication even in noisy environments. They're weatherproof, so you can use them outdoors. All have an index finger push-to-talk trigger switch, a volume control knob, and a carrying strap. They're made of plastic. Color is blue and white except the pistol-grip megaphone with siren signal tone, which is gray and red. Batteries sold separately below.

Pistol-grip megaphones with a signal tone have a switch to activate the tone. **Pistol-grip megaphone with detachable microphone** has a shoulder strap.

Signal Tone	Watts	Range, yds.	Dia.	Lg.	Batteries Required		
Handle Grip							
None	2	200	6″	11″	6 AA	5645T11	$66.68
Pistol Grip							
None	5	300	7 1/2″	12 3/4″	8 AA	5645T12	95.19
Fog Horn	10	600	7″	14″	6 C	5645T13	133.36
Siren	16	266	9 1/8″	14 1/4″	8 C	5645T21	67.93
Pistol Grip with Detachable Microphone							
Fog Horn	20	1,000	9 1/2″	15″	8 C	5645T15	189.95
AA Batteries (Pkg. of 4)						71455K53	2.94
C Batteries (Pkg. of 6)						71455K54	6.49

All-Weather Intercoms



Bolstered by their sealed, heavy cast aluminum housing, these corrosion-resistant intercoms can handle extreme heat and cold. Rated NEMA 4X for corrosion resistance and washdowns. UL and C-UL listed for marine applications.

Stations have an amplifier, speaker, talk/listen toggle switch, and volume control knob. Connect multiple intercom stations using two-wire cable. All operate on 120 volts AC and draw 0.24 amps. Stations come with a 7-ft. power cord with a three-prong plug and a 7-ft. connection cable with wire leads. They have two 7/16″ dia. holes for wall mounting (fasteners not included). Size is 9 7/8″ Ht. × 6 3/4″ Wd. × 3 7/8″ Dp.

Intercom	5656T25	$659.45
Intercom with Call Button	5656T27	708.25

Build-Your-Own Low-Profile Railings



Flange



Support



90° Elbow



Domed End Cap



Coupling

Combine components to create a railing. They are sized to fit together and mount on floors and walls. All components are 304 stainless steel.

Rail has a material thickness of 1/16″. **Flange** and **support** come with mounting fasteners. **Coupling** includes adhesive and a mixing stick to connect two lengths of rail. When installed, the coupling is completely concealed by the rail.

	Dia.	Lg.	Ht.		
Rail	2″	8 ft.	—	1299A1	$77.54
Flange	4″ Base	1 1/4″	—	1299A2	49.46
Support	2 1/4″ Base	3 5/8″	4 5/8″	1299A3	41.34
90° Elbow	2″	2 1/8″	2 1/8″	1299A5	64.31
Domed End Cap	2″	1″	—	1299A4	30.00
Flat End Cap	2″	1/8″	—	1299A6	29.45
Coupling	2″	5″	—	1299A12	14.97

Intercoms



Master Station



Desktop Substation



Wall-Mount Substation



Ceiling-Mount Substation

Create your own internal communication system. Choose a master station and one or more substations, then connect your system using two-wire audio cable (for cable, see 8233T31 on page 847).

All components are steel. Mounting hardware is included. For indoor use, unless noted.

Master stations have a built-in microphone and a volume control knob. Designed for desktop use, they operate on 120 volts AC and draw 0.6 amps. Both have a 6-ft. cord with a three-prong plug. The *master station for up to five substations* allows you to contact a specific substation or all substations at once.

Substations with call button enable you to initiate communication. **Substation without call button** must be selected at the master station in order to communicate. Includes a volume control knob.

The *wall-mount substation* mounts flush into a wall. Use the *wall-mount enclosure* (sold separately) to mount the substation onto the surface of a wall.

	Watts	Ht.	Wd.	Dp.		
Master Stations						
For One Substation	—	3 1/8″	10 1/2″	8 3/4″	5743T32	$361.43
For Up to Five Substations	—	3 1/8″	10 1/2″	8 3/4″	5743T11	440.00
Substations with Call Button						
Desktop	2	2 7/8″	7 1/2″	8 3/4″	5743T15	198.85
Wall Mount	2	7 1/4″	4 3/4″	2″	5743T33★	114.23
Substation without Call Button						
Ceiling Mount	5	—	12 7/8″ Dia.	3″	5743T51	94.29
Accessories						
Wall-Mount Enclosure for 5743T33					5743T41★	36.67

★For indoor and outdoor use.

Wired Headset Radios



Over Head



Behind Head



Clip Adapter

Connect two headsets with an audio cable to transmit sound—your voice powers the radio's microphone.

Headsets have a metal headband, a microphone, and a 2 1/2-ft. cord. Ear cups are plastic with foam cushions. *Over-head* style has a noise reduction rating of 16 dB. *Behind-head* style can be worn under a hard hat. It has a noise reduction rating of 19 dB. For information about hearing protection, see page 1849.

Cables have a 1/4″ jack at each end. **Extension cables** have a 1/4″ jack at one end and a 1/4″ plug on the other.

Use a **clip adapter** to temporarily connect a radio to two wires rather than using a fixed wall plate jack system. It has a 1/4″ jack at one end and two alligator clips at the other.

Use a **wall plate jack** to create a fixed system between locations. Plug a radio into the jack and start talking. Any number of jacks may be wired together. For cable, see 8233T34 on page 847.

Headsets		
Over Head	9165T21	$334.38
Behind Head	9165T24	334.38
Cable and Accessories		
50-ft. Cable	9165T12	120.00
100-ft. Cable	9165T18	188.33
50-ft. Extension Cable	9165T13	120.00
100-ft. Extension Cable	9165T14	188.33
Clip Adapter	9165T61	68.31
Wall Plate Jack	9165T45	73.31

Radios



One-Watt Radio | 8-Channel Two-Watt Radio | Two-Watt VHF Radio | Four- and Five-Watt Radio

All of these radios operate on FCC designated business frequencies that require an FCC license. A frequency is the discrete setting on which a radio's transmission is carried; radios must operate on the same frequency to communicate with each other. Radios are narrowband capable.

Radios with multiple channels allow you to put different groups of users on an assigned frequency so they can operate within the same area without talking over each other. Change channels with the press of a button.

For better coverage and clearer transmissions, choose a radio with high wattage. UHF radios work best in and around steel and concrete structures. VHF radios work best in and around wood structures.

Radios have a black plastic housing. They come with a belt clip, a rechargeable lithium ion battery, and a charger that has a 6-ft. cord.

One-watt radios have an LCD for programming frequencies and codes. They come with a 3-hour charger. Size is 4 1/8″ Ht. × 2″ Wd. × 1 1/8″ Dp.

Two-watt radios have a voice scramble that allows you to input a privacy code—transmissions sound garbled to anyone listening without the same code. They come with a 4 1/2-hour charger. Size is 4 1/2″ Ht. × 2 1/8″ Wd. × 1 1/2″ Dp.

Four- and five-watt radios transmit with more watts than standard two-way radios. A 12-hour charger is included. Size is 4 1/2″ Ht. × 2 1/8″ Wd. × 1 1/2″ Dp. They meet MIL-STD 810 for resistance to shock, vibration, dust, and moisture.

Optional *six-unit desktop chargers* allow you to charge multiple radios at the same time.

Type	Frequencies No. of	No. of Channels		
One-Watt Radios				
UHF	56	1	1467T78	$184.29
UHF	56	4	1467T79	205.71
Two-Watt Radios				
UHF	89	2	1467T82	233.82
UHF	89	8	1467T83	272.06
VHF	27	8	1467T81	219.12
Four-Watt Radio				
UHF	89	10	1532T54	316.65
Five-Watt Radio				
VHF	27	10	1532T55	298.74
Accessories for One-Watt Radios				
Six-Unit 3-Hour Desktop Charger			1467T73	181.67
Replacement Battery			1467T74	38.71
Replacement Belt Clip			1467T76	15.38
Accessories for Two-Watt Radios				
Six-Unit 6.5-Hour Desktop Charger			1467T66	244.62
Leather Holster			1467T64	30.77
Replacement Battery			1467T65	60.00
Replacement Belt Clip			1467T67	18.46
Accessories for Four- and Five-Watt Radios				
Six-Unit 6.5-Hour Desktop Charger			1467T63	229.23
Leather Holster			1467T64	30.77
Replacement Battery			1532T53	93.50
Replacement Belt Clip			1467T77	15.15

Additional Accessories for All Models

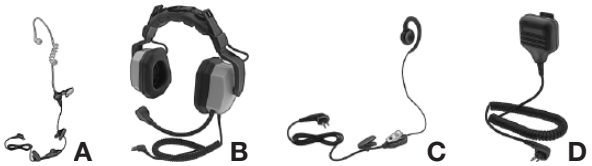

Radio headset has noise-canceling ear muffs and an adjustable-volume microphone for extremely loud environments. **Remote speaker/microphone** lets you use a radio without unclipping it from your belt.

A	Low-Profile Earbud with Push-to-Talk Button	1467T36	$58.33
B	Radio Headset with Microphone	1467T35	162.30
C	Earpiece with Inline Push-to-Talk Button	1467T57	33.33
D	Remote Speaker/Microphone	1467T26	58.33

Line-of-Sight Radios



Also known as a walkie talkie, this radio works best at short distances in areas with little to no obstructions. It operates on FRS (Family Radio Service) and GMRS (General Mobile Radio Service) frequencies and requires an FCC license, but won't work on FCC designated business frequencies and is not intended for commercial business use.

A frequency is the discrete setting on which a radio's transmission is carried; radios must operate on the same frequency to communicate with each other.

This radio has 22 channels. Channels allow you to put different groups of users on an assigned frequency so they can operate within the same area without talking over each other. Change channels with the press of a button.

Radio has a back-lit LCD, a battery life indicator, a plastic housing, and a removable swivel belt clip. It measures 6 1/4″ Ht. × 2 1/8″ Wd. × 1 1/8″ Dp. Power is 0.5 watt for FRS; 1 watt for GMRS. It runs on three AAA batteries (sold separately).

Optional *speaker/microphone* lets you use your radio without unclipping it from your belt. Optional *two-unit desktop charger* charges up to two radios and includes a charging adapter and two rechargeable NiMH battery packs.

A	Radio	5143T73	$55.67
B	Single-Ear Light Duty Headset	5143T32	17.74
C	Remote Speaker/Microphone	5143T29	37.29
D	Earbud with Inline Push-to-Talk Button	5143T41	18.61
E	Two-Unit Desktop Charger	5143T72	13.20
Replacement Belt Clip		5143T24	8.47
AAA Batteries (Pkg. of 4)		71455K62	2.82

CB Radios

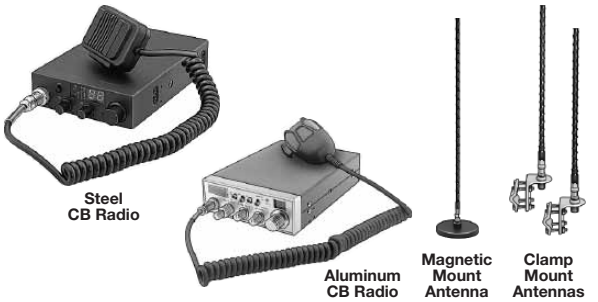

These four-way 40-channel CB radios use nonbusiness designated frequencies and do not require a FCC license. A frequency is the discrete setting on which a radio's transmission is carried; radios must operate on the same frequency to communicate with each other. Channels allow you to put different groups of users on an assigned frequency so they can operate within the same area without talking over each other. Change channels by dialing the knob.

CBs have an LED display and a squelch control feature that lets you filter out static when the radio isn't transmitting. They come with a microphone with a 2-ft. coiled cord (cord for steel radio extends to 6 ft.; cord for aluminum radio extends to 9 ft.). They operate on 12 volts DC.

Steel radio is 1 3/8″ Ht. × 4 1/2″ Wd. × 6 3/4″ Dp.

Aluminum radio has an RF (radio frequency) knob to adjust signal and reception, and a microphone knob to control amplification and volume. Size is 2 1/8″ Ht. × 6 1/4″ Wd. × 10 1/4″ Dp.

Mount an antenna on the outside of your vehicle for better reception. Antennas have a fiberglass rod. The clamp-mount antenna comes with mounting hardware.

Radios			
Steel		56695T37	$62.50
Aluminum		56695T56	87.42
Replacement Microphone		56695T76	21.43
Antennas			
36″ Magnetic Mount with 18-ft. Cable		56695T444	41.17
48″ Clamp Mount with 9-ft. Cable		56695T334 ★	56.86

★ Includes two antennas.

Desk and Wall Telephones


A


B


C


D


E


F

Here's the trusty, no-fuss solution to your communication needs. All of our phones are made of plastic and have volume control. They include a line cord for connecting the telephone base to the wall jack, except Styles C and D which don't require a cord.

Style E— Has three one-touch emergency buttons.

Style F— *8335T12* and *8335T25* have a hold button. *8335T37* has an answering system with 25 minutes of recording time.

To Order: Please specify color where necessary.

Also Available: Replacement handsets for Styles A-D. Please order 9169T8 and specify color.

	Speed Dial, Nos. Stored	Caller ID	Lg. × Wd. × Ht.	Color		Each
Desk Telephones						
A ... Single Line	—	No	8½″ × 8″ × 4¾″	Almond, Black, Red, White	9169T51	$50.73
B ... Single Line without Keypad	—	No	9″ × 8¼″ × 4¾″	Red	9169T11	72.04
Wall Telephones						
C ... Single Line	—	No	4″ × 5″ × 9″	Almond, Black, Red, White	9169T79	51.83
D ... Single Line without Keypad	—	No	5¼″ × 5½″ × 9½″	Red	9169T12	76.14
Desk/Wall Telephone						
E ... Single Line	10	No	9″ × 4½″ × 3½″	White	9169T613	16.58
Desk/Wall Telephones with Speakerphone						
F ... Single Line	39	Yes	8¾″ × 6¾″ × 3¾″	White	8335T12●	33.74
F ... Single Line with Answering System	10	Yes	10″ × 9″ × 3½″	White	8335T37	49.63
F ... Two Line	18	Yes	8″ × 8¼″ × 7¼″	Black	8335T25	78.97

● Requires four AA batteries.

Headphones for Mobile Devices


Earbuds


Over the Head

Listen to audio while reducing environmental noise to a safe level. Headphones have a 3.5 mm plug to fit your mobile devices. For information about NRR ratings, see page 1849.

Earbuds have a volume control that limits the output to 82 dB. Color is gray.

Over-the-head style are built for all-day comfort. Color is black.

	NRR, dB		Each
Earbuds	20, 29	3785T11	$43.22
Over the Head	25	3785T12	107.79

Cordless Telephone



You'll get portable convenience and reliable performance from this single-line cordless telephone. It is a DECT (Digital Enhanced Cordless Telecommunications) phone, and won't experience interference with any devices including wireless computer networks. Use up to 5 handsets with a single phone line. Frequency is 1.9 GHz.

Phone is powered by a rechargeable NiMH battery (included). Battery charger operates on 120 VAC, 60 Hz and has a 6-ft. cord with a two-prong plug. Includes caller ID, call waiting, speakerphone, volume control, and stores up to 50 phone numbers. Size is 5¼″ Lg. × 4½″ Wd. × 7″ Ht. Made of silver and black plastic.

		Each
Telephone	4077T7	$34.51
Replacement Battery	4077T72	15.60
Additional Handset	4077T71	25.07

Heavy Duty Plant Telephones


Indoor with Polyester Cord


Outdoor with Armored Cord

The glass-reinforced polyester surrounding these phones equips them to resist dirt, moisture, extreme temperatures, and corrosives. Phones have volume control, a sealed keypad, and a background noise-canceling device. All have four 0.28″ dia. mounting holes (mounting hardware not included).

Outdoor telephones are rated NEMA 3R for protection against falling liquids and light splashing.

Standard telephones are gray and UL listed. Choose from models with a 6-ft. retractable polyester cord and with a 15″ stainless steel armored cord. Armored cords have a pull strength three times greater than retractable polyester cords to deter vandalism.

Hazardous-location telephone is blue and meets UL and CSA specifications for Class I, Div. 2, Groups A, B, C, and D; Class II, Div. 2, Groups F and G; and Class III. It comes with a 6-ft. retractable polyester cord.

		With Polyester Cord		*With Stainless Steel Armored Cord*	
	Ht. × Wd. × Dp.		Each		Each
Standard Telephones					
Indoor	9½″ × 8″ × 6⅞″	5654T16	$458.64	5654T13	$468.00
Outdoor	13¼″ × 9⅜″ × 7⅜″	5654T49	645.84	5654T46	665.23
Repl. Stainless Steel Armored Cord w/Handset				5654T1	176.72
Hazardous-Location Telephone					
Outdoor	13¼″ × 9⅜″ × 7⅜″	5654T71	869.14		

Conference Telephone



Other speakerphones echo and cut out, but this unit provides free-flowing conversation with off-site colleagues. It receives and transmits signals simultaneously so calls never sound choppy.

Phone features three built-in microphones for 360° room coverage, built-in noise reduction circuitry, and volume control. It also has a jack for an external recording device (not included). The dial pad includes redial, mute, transfer, and hold buttons. Connects to any standard phone line. Size is 14½″ Lg. × 12¼″ Wd. × 2½″ Ht. Housing is black plastic.

5034T11 ..... **Each** $543.34

Call Boxes





Create a line of communication from a remote location such as a parking lot or security gate. Just press the button to automatically call a programmed number over a standard phone line. If the first programmed number is busy, the box calls a second number. Each box has its own phone number, so you can initiate calls to the call box using a regular touch-tone phone.

Boxes have an RJ-11 jack. They are made of stainless steel and have vandal-resistant screws to secure the faceplate to the box. Size is 9 15/16″ Ht. × 6 13/16″ Wd. × 2 7/8″ Dp. Mount indoors and out using four 1/4″ dia. mounting holes (screws not included). Temperature range is –4° to +149° F. Boxes have Braille and cast metal raised lettering to help comply with ADA requirements. CSA certified for outdoor use.

Emergency call box is marked with the word EMERGENCY in red lettering.

		Each
Emergency	56865T1	$634.27
To Call	56865T2	634.27

Background Noise-Canceling Devices



Even if you're calling from a noisy area, these devices ensure you'll be heard clearly. Just unscrew your current voice transmitter and replace it with one of these. Made of plastic.

Color		Each
Black	8400T3	$58.82
Ivory	8400T32	58.82
Beige	8400T34	58.82

Telephone Signal Relay



Connect this easy-to-use relay to your phone and a light (or other signaling device) and it flashes the light on and off when the phone rings. Relay plugs into a two-prong outlet and accepts a two-prong plug. It operates on 120 VAC, 50/60 Hz and draws 0.1 amps. It's made of ABS plastic and includes a 6-ft. phone cord. Color is white. UL listed.

Note: For use with single-line analog phones only.

58015T12 ..... **Each** $34.46

Handset Cord Tangle Preventers



Tangle Preventer



Tangle Preventer with Cord

Attach these tangle preventers to your handset and cord—they allow the handset to rotate freely so the cord won't get tangled. Made of PVC.

Color	Without Cord	Each	With 12-ft. Cord	Each	With 25-ft. Cord	Each
Black	59085T77	$6.16	59085T813	$11.35	59085T823	$12.63
Ivory	59085T76	6.16	59085T812	11.35	59085T822	12.63
White	59085T78	6.16	59085T811	11.35	59085T821	12.63

Telephone Handset Holders



Leave your hands free while you talk. Made of PVC, these adhesive-backed holders adjust for use on either shoulder and provide nonslip support for the handset.

Color		Each
Black	1731T34	$10.44
Ivory	1731T32	10.44
White	1731T33	10.44

Telephone Volume Amplifier



Don't let background noise drown out your conversation. This device allows you to increase and adjust the volume of your telephone receiver. It plugs into your telephone and handset and is compatible with both single and multi-line telephones. Operates on one 9-volt battery (included). Made of plastic. Color is white.

59635T18 ..... **Each** $31.68

Telephone Surge Suppressor



Protect your telephone, answering machine, and other phone equipment from transient voltage surges. This easy-to-install surge suppressor plugs into a three-prong outlet, and comes with one RJ-11 input jack and two RJ-11 output jacks. Made of plastic. Color is white. UL listed.

1716T5 ..... **Each** $14.22

Telephone Signals

Mount these signals up to 25 ft. away from your phone and they'll alert you when it rings. All have RJ-11 jacks. Use a straight-line telephone cord (sold separately on page 1879) to connect the signal to your phone. If you have a single wall jack, add a duplex adapter (sold separately). No other connections necessary, unless noted.

Note: For use with single-line analog phones only.

Bell— Produces 95 dB at 3 ft., but has volume control so you can adjust loudness. Bell can be hardwired to your telephone ringer signal. It has two 1/2″ knockouts. Made of aluminum mounted on an aluminum electrical box. For indoor and outdoor use. UL listed.

120 VAC Bell— Decibel level is 98 dB at 10 ft. Bell has a 6-ft. cord with a three-prong plug for connection with a 120 VAC, 60 Hz outlet. It has two 1/4″ dia. mounting holes (screws not included). Made of steel mounted on a die cast aluminum electrical box. For indoor use. UL listed.

Strobe Light— Has a strobe that flashes whenever someone calls. Strobe light can be hardwired to your telephone ringer signal. It's made of plastic. For indoor use. Mounting screws included. UL listed.

Multitone Signals— Each offers four tones: bell, horn, vibrating chime, and single chime. Choose a tone and program your signal accordingly. Signals can be hardwired to your telephone ringer signal. Both models have two 1/2″ knockouts and include mounting screws. Made of plastic. For indoor and outdoor use. UL listed.

Standard Multitone—Decibel levels are 100 dB at 3 ft. for the bell tone, 108 dB for the horn tone, and 96 dB for the vibrating and single chime tones.

Multitone with Strobe Light—Provides a signal you can see and hear. Signal has a 15 candela strobe. It must also be hardwired to a 115 VAC, 60 Hz power supply. Decibel levels are 104 dB at 3 ft. for the bell tone, 109 dB for the horn tone, and 94 dB for the vibrating and single chime tones.



Bell



120 VAC Bell



Strobe Light



Standard Multitone



Multitone with Strobe Light

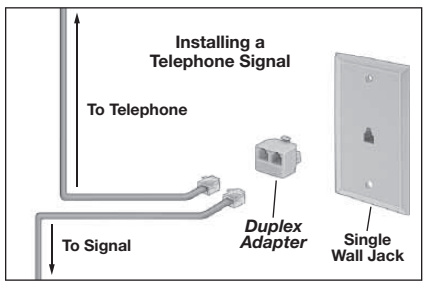

	Ht. × Wd. × Dp.		Each
Signals			
Bell	6″ Dia. × 4 1/4″	5963T681	$111.16
120 VAC Bell	6″ × 4 1/2″ × 4 3/4″	5963T683	234.40
Strobe Light	4 3/4″ × 2 1/2″ × 3 1/8″	5963T211	106.70
Standard Multitone	5 1/2″ × 4 1/8″ × 2 7/8″	5963T751	148.25
Multitone w/Strobe Light	5 1/2″ × 4 1/8″ × 4 3/8″	5963T761	232.76
Adapter			
Duplex Adapter		5963T37	1.28

Telephone Jacks and Connectors

RJ11 jacks and connectors are primarily used in single-line telephone networks and with fax machines. **RJ12/RJ25** and **RJ45** jacks and connectors are for multiline telephone networks and data networks. Jacks and connectors are ivory, unless noted.

Jacks

Jacks with a 110 punch-down electrical connection are quicker to install than jacks with a screw-down electrical connection. 110 punch-down style require a punch-down tool (sold separately).

Single wall-mount jacks with phone bracket connect and hold the telephone on a wall. **Corrosion-resistant jacks** have a gel seal that protects the plug and jack connection from humidity, water, chemicals, and dirt.









	No. of Wires	Electrical Connection	Single Wall-Mount Jacks	Each		Each	Double Wall-Mount Jacks	Each	Single Wall-Mount Jacks with Phone Bracket	Each
Standard										
RJ11	4	Screw Down	5681T654	$1.97	5681T32	$2.61	5681T68	$2.45	5681T66	$2.50
RJ12/RJ25	6	Screw Down	5681T651	2.09	—	—	5681T681	2.98	5681T661	3.51
RJ45	8	Screw Down	5681T653	3.42	—	—	—	—	—	—
Corrosion Resistant										
RJ11	4	Screw Down	1543T9	5.74	—	—	—	—	1543T8	6.00







	No. of Wires	Electrical Connection	Single Baseboard-Mount Jacks	Each	Double Baseboard-Mount Jacks	Each	Single Baseboard-Mount Jack with Spade Terminals	Each
Standard								
RJ11	4	Screw Down	5681T673	$1.97	5681T72	$3.17	5681T64	$2.92
RJ12/RJ25	6	110 Punch Down	5681T11	6.00	—	—	—	—
RJ12/RJ25	6	Screw Down	5681T671	2.58	5681T721	3.43	—	—
RJ45	8	110 Punch Down	5681T12	6.55	5681T14	7.21	—	—
RJ45	8	Screw Down	5681T672	3.50	—	—	—	—
Corrosion Resistant								
RJ11	4	Screw Down	1543T3	5.84	—	—	—	—
RJ12/RJ25	6	Screw Down	1543T5	6.76	—	—	—	—

Connectors







	No. of Wires	Single to Double Jack Adapters Pkg. Qty.		Pkg.	Single to Triple Jack Adapter	Each	Cord Couplers: For Voice Transmission Pkg. Qty.		Pkg.	For Voice and Data Transmission Pkg. Qty.		Pkg.
RJ11	4	5	5681T62	$6.00	5681T91	$3.32	5	5681T63	$7.00	5	5681T82★	$9.39
RJ12/RJ25	6	5	5681T621	8.70	—	—	5	5681T631	8.80	5	5681T84	10.63
RJ45	8	3	5681T89	12.98	—	—	5	5681T632	13.27	3	5681T86	10.71

★ Color is white.

Telephone Box Socket Wrenches



Also known as a can socket wrench, this tool opens telephone box fasteners and tightens nuts on binding posts. One end is a 3/8" hex socket; the other end is a 7/16" hex socket. It comes with an adapter for 5/16" and 5/32" hex sockets.

	36475T64	$27.17

Wiring Blocks for Telephone Networks



Keep telephone lines organized and accessible for maintenance with this 66 wiring block. Terminate up to 25 cable pairs. A punch-down tool (sold separately) is required. Wiring block is 10" Ht. x 3 3/8" Wd. x 1 1/4" Dp.

Wall-mounting bracket (sold separately) is required to secure the block to a vertical surface.

Wiring Block	2304T16	$20.69
Wall-Mounting Bracket	2304T17	1.97

Punch-Down Tools



Terminate and cut wire on 66 and 110 wiring blocks. The tool has reversible tips—one end punches down, the other punches down and cuts.

Tool	57205T2	$41.96
Replacement Tip for 66 Wiring Blocks	57205T22	10.27
Replacement Tip for 110 Wiring Blocks	57205T23	10.27

Telephone Cords, Cable, and Plugs

Telephone-to-Handset Cords



To Order: Please specify almond, beige, black, brown, red, or white.

Length Extended	Length Retracted	No. of Wires	Wire Ga.		
6 ft.	12″	4	32	5703T28	$2.43
12 ft.	22″	4	32	5703T61	3.61
25 ft.	44″	4	32	5703T21	4.78

Telephone-to-Wall Jack Cords



Cords with **RJ11 plugs** are primarily for single-line telephone networks and fax machines. Cords with **RJ12/RJ25 plugs** are for multiline telephone networks and data networks.

Lg., ft.	No. of Wires	Wire Ga.	Choose a Color		
RJ11 Plugs					
14	4	32	Beige, Black, Silver, White	5703T71	$3.08
25	4	32	Almond, Beige, Black, Silver, White	5703T41	4.22
RJ12/RJ25 Plugs					
7	6	32	Silver	5703T36	3.32
14	6	32	Silver	5703T711	4.20
25	6	32	Silver	5703T411	5.80

Telephone-to-Wall Jack Extension Cords



Lg., ft.	No. of Wires	Wire Ga.	Color		
RJ11 Jack and Plug					
25	4	32	Ivory	5703T95	$4.24

Cable

Make a telephone cord that's the exact length you need. Use an RJ11 plug or jack to terminate four-wire cable. Use an RJ12/RJ25 plug or jack to terminate six-wire cable.



For Telephone-to-Wall Jack



For Terminal Block-to-Wall Jack

No. of Wires	Wire Ga.	Lg., ft.	Choose a Color		
For Telephone-to-Wall Jack— Stranded Wire					
4	32	50	Silver	5703T33	$10.23
4	32	500	Silver	5703T91	73.37
6	32	50	Silver	5703T34	17.44
6	32	500	Silver	5703T911	106.56
For Terminal Block-to-Wall Jack— Solid Wire					
4	22	100	Beige	5703T82	18.33
4	22	500	Beige, Gray, White	5703T96	83.23

Plugs



Plugs are clear. **RJ11** plugs are primarily for single-line telephone networks and fax machines. Use **RJ12/RJ25** and **RJ45** plugs for multiline telephone networks and data networks.

	Wd.	No. of Wires		Pkg. of 25
For Telephone-to-Wall Jack Cable				
RJ11	3/8″	4	5681T28	$6.13
RJ12/RJ25	3/8″	6	5681T781	6.13
RJ45	15/32″	8	5681T752	10.35
For Terminal Block-to-Wall Jack Cable				
RJ11	3/8″	4	5681T43	8.26
RJ12/RJ25	3/8″	6	5681T44	8.75
RJ45	15/32″	8	5681T45	10.76
For Telephone-to-Handset Cords				
—	9/32″	4	5681T27	2.97

Heavy Duty Ethernet Switches



5 Ports

With a durable plastic housing, these Ethernet switches are made to withstand the demands of harsh environments. They are washdown- and temperature-resistant. They have M12 D-coded ports for secure screw-in connections that are vibration resistant. Rated IP67. Switches operate on 10-30 volts DC and have a four-pole male sensor connector. **Power cable** (sold separately) has a female plug and four wire leads.

Ethernet Ports No.	Ethernet Ports Type	Transmission Speed, Mbps	Temperature Range, °F		
5	M12 D-Coded	100	–40° to 165°	1157N4	$635.60
9	M12 D-Coded	100	–40° to 165°	1157N6	787.40
Power Cable				69355K62	40.32

Cellular Phone Signal Boosters

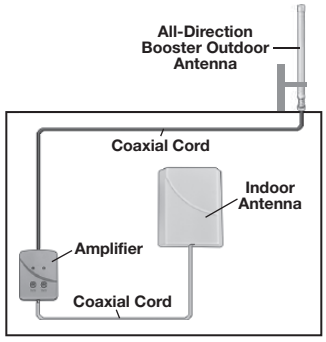



Focused-Direction Booster Outdoor Antenna

Amplify weak cellular signals, resulting in fewer dropped calls and faster download speeds. Boosters are compatible with all U.S. cellular networks.

You'll get everything you need: indoor and outdoor antennas, an amplifier, a power supply, two RG6 coaxial cords, and mounting hardware. The indoor antenna mounts to a wall or ceiling, and the outdoor antenna mounts to the roof or a wall. The amplifier is 6½″ Ht. × 4¼″ Wd. × 1¾″ Dp. The power supply for the amplifier operates on 120 volts AC and has a 10 ft. cord with a two-prong plug.

Focused-Direction Boosters— For the fastest data connection on 4G devices, choose the 3G/4G booster. Install the outdoor antenna so it's pointed at your nearest cell tower. Coaxial cords are 30 ft.

All-Direction Booster— The outdoor antenna can pick up a cellular signal from any direction. Coaxial cords are 20 ft. and 30 ft.

For Network System	Gain, dB		
Focused-Direction Boosters			
3G	65	8367T61	$469.33
3G/4G	65	8367T62	614.60
All-Direction Booster			
3G	65	8367T5	469.33
Replacement Parts			
Coaxial Cord—20 ft.		8367T66	10.14
Coaxial Cord—30 ft.		8367T67	13.78
Indoor Antenna for All Boosters		8367T63	89.76
All-Direction Booster Outdoor Antenna		8367T64	91.88
Focused-Direction Booster Outdoor Antenna		8367T68	91.54
Power Supply for 3G Network Systems		8367T65	23.86
Power Supply for 3G/4G Network Systems		8367T69	28.26

Ethernet Switches



Light Duty 5 Ports



High and Extreme Temperature 5 Ports

Expand your data network by connecting computers, printers, and servers to an Ethernet switch.

Light Duty— These switches operate on 120 volts AC and have a 5-ft. cord with a two-prong plug. Housing is metal. The eight-port 100 Mbps switch is UL listed.

High and **Extreme Temperature—** Keep your plant floor connected with switches that can handle higher temperatures than light-duty switches. Mount these switches on DIN rail. They operate on 10-32 volts DC and have three screw-clamp connections, unless noted. Housing is plastic, except the 16-port switch has a metal housing. C-UL listed.

Switches with a fiber-optic port accept multimode fiber-optic cords. For fiber-optic cords, see page 1886.

Ethernet Ports No.	Ethernet Ports Type	Fiber-Optic Ports No.	Fiber-Optic Ports Type	Transmission Speed, Mbps	Temperature Range, °F		
Light Duty							
5	RJ45	—	—	100	35° to 100°	3787T2	$30.43
5	RJ45	—	—	1,000	35° to 100°	3787T1	84.37
8	RJ45	—	—	100	35° to 100°	3787T4	61.65
8	RJ45	—	—	1,000	35° to 100°	3787T3	91.05
High Temperature							
5	RJ45	—	—	100	35° to 140°	8653T11	138.33
8	RJ45	—	—	100	35° to 140°	8653T13	207.69
Extreme Temperature							
5	RJ45	—	—	100	–40° to 155°	8653T12	165.00
8	RJ45	—	—	100	–40° to 155°	8653T17	275.38
16	RJ45	—	—	100	–40° to 155°	8653T15■	520.00
Extreme Temperature with Fiber-Optic Port							
4	RJ45	1	SC	100	–40° to 155°	8653T18	323.08
4	RJ45	1	ST	100	–40° to 155°	8653T19	321.54
8	RJ45	1	SC	100	–40° to 155°	8653T21	460.00

■ Operates on 18-32 volts DC and has five screw-clamp connections.

Ethernet Cords

Connect computers, printers, and Ethernet switches to your data network. These cords are backward compatible, so they work in networks that meet the same or a lower category. **Shielded** cords prevent electromagnetic interference (EMI).

RJ45 x RJ45



Lg., ft.	Transmission Speed, MHz	Wire Ga.	OD	Temperature Range, °F	Choose a Color		
Unshielded Category 5E							
1	350	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	9953K21	$2.77
3	350	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	9953K22	3.48
5	350	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	9953K24	4.22
7	350	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	9953K25	5.19
10	350	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	9953K63	6.41
14	350	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	9953K64	8.46
25	350	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	9953K69	12.17
35	350	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	9953K41	18.67
50	350	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	9953K28	21.67
Shielded Category 5E							
1	100	24	0.23″	15° to 140°	Blue, Gray, White	7734T9	6.89
3	100	24	0.23″	15° to 140°	Blue, Gray, White	7734T2	7.64
5	100	24	0.23″	15° to 140°	Blue, Gray, White	7734T7	9.09
7	100	24	0.23″	15° to 140°	Blue, Gray, White	7734T3	10.54
10	100	24	0.23″	15° to 140°	Blue, Gray, White	7734T4	12.67
15	100	24	0.23″	15° to 140°	Blue, Gray, White	7734T5	17.29
25	100	24	0.23″	15° to 140°	Blue, Gray, White	7734T6	26.07
50	100	24	0.23″	15° to 140°	Blue, Gray, White	7734T8	44.80
Unshielded Category 6							
1	500	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	4172T2	3.00
3	500	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	4172T3	4.38
5	500	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	4172T4	5.46
7	500	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	4172T5	6.30
10	500	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	4172T6	7.13
14	500	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	4172T7	9.10
25	500	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	4172T8	13.15
50	500	24	0.22″	35° to 140°	Black, Blue, Gray, Green, Red, White, Yellow	4172T9	23.56
Shielded Category 6A							
1	500	26	0.24″	0° to 140°	Blue	4172T28	4.42
3	500	26	0.24″	0° to 140°	Blue	4172T29	6.12
5	500	26	0.24″	0° to 140°	Blue	4172T37	8.33
7	500	26	0.24″	0° to 140°	Blue	4172T38	10.00
10	500	26	0.24″	0° to 140°	Blue	4172T39	12.77
14	500	26	0.24″	0° to 140°	Blue	4172T47	16.67
25	500	26	0.24″	0° to 140°	Blue	4172T48	23.89
50	500	26	0.24″	0° to 140°	Blue	4172T49	40.00
75	500	26	0.24″	0° to 140°	Blue	4172T57	57.80

M12 x M12



Shielded Category 5E



Shielded Category 6A

Lg., ft.	Transmission Speed, MHz	Wire Ga.	OD	Temperature Range, °F	Color		
Shielded Category 5E—D-Coded x D-Coded							
3	100	22	0.21″	–20° to 190°	Green	4172T11	$39.40
6	100	22	0.21″	–20° to 190°	Green	4172T12	41.00
16	100	22	0.21″	–20° to 190°	Green	4172T13	52.13
32	100	22	0.21″	–20° to 190°	Green	4172T14	70.70
Shielded Category 6A—X-Coded x X-Coded							
3	500	26	0.26″	–20° to 190°	Green	4172T15	61.53
6	500	26	0.26″	–20° to 190°	Green	4172T16	67.25
16	500	26	0.26″	–20° to 190°	Green	4172T17	84.20
32	500	26	0.26″	–20° to 190°	Green	4172T18	112.47

Continuous-Flex Ethernet Cords

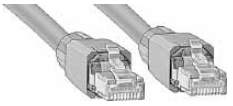

RJ45 x RJ45



M12 X-Coded x M12 X-Coded

A flexible jacket and thin-stranded wires allow these Ethernet cords to handle the challenges of continuous motion in automated applications such as robotics. Ethernet cords are backward compatible, so they work in networks that meet the same or a lower category. To prevent electromagnetic interference (EMI), these cords are shielded.

Lg., ft.	Transmission Speed, MHz	Wire Ga.	OD	Temperature Range, °F	Color		
RJ45 x RJ45							
Shielded Category 5E							
1	100	26	0.30″	–20° to 175°	Purple	8384T1	$76.89
3	100	26	0.30″	–20° to 175°	Purple	8384T2	83.69
5	100	26	0.30″	–20° to 175°	Purple	8384T3	90.47
7	100	26	0.30″	–20° to 175°	Purple	8384T4	97.27
10	100	26	0.30″	–20° to 175°	Purple	8384T5	107.45
15	100	26	0.30″	–20° to 175°	Purple	8384T6	124.42
25	100	26	0.30″	–20° to 175°	Purple	8384T7	153.27
50	100	26	0.30″	–20° to 175°	Purple	8384T8	224.54
Shielded Category 6							
3	500	26	0.39″	–30° to 155°	Purple	8384T11	195.40
6	500	26	0.39″	–30° to 155°	Purple	8384T12	244.14
12	500	26	0.39″	–30° to 155°	Purple	8384T13	341.62
25	500	26	0.39″	–30° to 155°	Purple	8384T14	513.33
Shielded Category 6A							
3	500	24	0.36″	–20° to 155°	Green	8329T31	77.05
6	500	24	0.36″	–20° to 155°	Green	8329T32	86.05
RJ45 x RJ45 (Cont.)							
Shielded Category 6A (Cont.)							
9	500	24	0.36″	–20° to 155°	Green	8329T33	$95.05
12	500	24	0.36″	–20° to 155°	Green	8329T34	104.05
15	500	24	0.36″	–20° to 155°	Green	8329T35	113.05
21	500	24	0.36″	–20° to 155°	Green	8329T36	131.05
30	500	24	0.36″	–20° to 155°	Green	8329T37	158.05
M12 X-Coded x M12 X-Coded							
Shielded Category 6A							
3	500	24	0.36″	–20° to 155°	Green	8329T41	99.45
6	500	24	0.36″	–20° to 155°	Green	8329T42	108.45
9	500	24	0.36″	–20° to 155°	Green	8329T43	117.45
12	500	24	0.36″	–20° to 155°	Green	8329T44	126.45
15	500	24	0.36″	–20° to 155°	Green	8329T45	135.45
21	500	24	0.36″	–20° to 155°	Green	8329T46	153.45
30	500	24	0.36″	–20° to 155°	Green	8329T47	180.45

Coaxial Cords

BNC connectors attach with a quarter turn. **SMA** and **F-type** connectors screw down. **RCA** and **S-video** connectors push in.





				BNC Male x BNC Male						*BNC Male x BNC Female*					
				50 Ohms			75 Ohms			50 Ohms			75 Ohms		
Application	Lg., ft.	No. of Wires	Wire Ga.	RG No.			RG No.			RG No.			RG No.		
Audio and Video	3	1	22	58/U	6641T51	$8.60	59/U	6641T11	$6.47	58/U	6641T31	$7.37	59/U	6641T43	$6.57
Audio and Video	6	1	22	58/U	6641T52	10.40	59/U	6641T12	7.33	58/U	6641T33	9.27	59/U	6641T45	8.20
Audio and Video	12	1	22	58/U	6641T53	14.30	59/U	6641T13	9.50	58/U	6641T35	14.20	59/U	6641T46	11.90
Audio and Video	25	1	22	58/U	6641T54	22.47	59/U	6641T14	13.53	58/U	6641T38	25.77	59/U	6641T47	17.77
Audio and Video	50	1	22	58/U	6641T55	38.17	59/U	6641T15	21.30	58/U	6641T41	40.70	59/U	6641T48	28.97





Application	Lg., ft.	RG No.	Resistance, ohms	No. of Wires	Wire Ga.	BNC Male x SMA Male		SMA Male x SMA Male	
Data	1	174/U	50	1	26	6641T81	$19.38	6641T66	$23.33
Data	2½	174/U	50	1	26	6641T82	20.02	6641T67	23.88
Data	5	174/U	50	1	26	6641T83	21.03	6641T68	24.81
Data	10	174/U	50	1	26	6641T84	23.05	6641T69	26.78







			BNC Male x RCA Male				*F-Type Male x F-Type Male*				*S-Video Male x S-Video Male*		
			Audio and Video				Video				Video		
Lg., ft.	Resistance, ohms	No. of Wires	RG No.	Wire Ga.			RG No.	Wire Ga.			Wire Ga.		
3	75	1	59/U	22	6641T22	$4.90	6/U	18	6641T25	$4.72	—	—	—
6	75	1	59/U	22	6641T23	7.03	6/U	18	6641T27	6.00	28	6641T85	$9.93
12	75	1	59/U	22	6641T24	9.40	6/U	18	6641T29	7.34	28	6641T86	13.73
25	75	1	59/U	22	6641T26	11.63	6/U	18	6641T37	18.47	28	6641T87	21.29
50	75	1	59/U	22	6641T28	20.77	6/U	18	6641T39	32.03	28	6641T88	36.09







		RCA Male x RCA Male											
		Audio and Video				Audio				Video			
Lg., ft.	Resistance, ohms	RG No.	No. of Wires	Wire Ga.		No. of Wires	Wire Ga.	Connector Colors		No. of Wires	Wire Ga.	Connector Colors	
3	75	59/U	1	22	6641T32	$2.43	2	30	Red, White	6641T16	$3.80	3	20	Blue, Green, Red	6641T95	$9.94
6	75	59/U	1	22	6641T34	3.33	2	30	Red, White	6641T17	4.74	3	20	Blue, Green, Red	6641T96	12.26
12	75	59/U	1	22	6641T36	6.40	2	30	Red, White	6641T18	6.18	3	20	Blue, Green, Red	6641T97	18.91
25	75	59/U	1	22	6641T42	9.60	2	30	Red, White	6641T19	11.90	3	20	Blue, Green, Red	6641T98	30.69
50	75	59/U	1	22	6641T44	18.30	2	30	Red, White	6641T21	19.88	3	20	Blue, Green, Red	6641T99	50.87





		RCA Male x RCA Male							
		Audio and Video—3 Wires				Audio and Video—5 Wires			
Lg., ft.	Resistance, ohms	Wire Ga.	Connector Colors			Wire Ga.	Connector Colors		
3	75	26	Red, White, Yellow	6641T61	$7.28	20	Blue, Green, Red (2), White	6641T89	$15.70
6	75	26	Red, White, Yellow	6641T62	9.63	20	Blue, Green, Red (2), White	6641T91	22.23
12	75	26	Red, White, Yellow	6641T63	13.53	20	Blue, Green, Red (2), White	6641T92	32.20
25	75	26	Red, White, Yellow	6641T64	21.34	20	Blue, Green, Red (2), White	6641T93	52.03
50	75	—	—	—	—	20	Blue, Green, Red (2), White	6641T94	87.38

Coaxial, Stereo & USB Cords

Continuous-Flex Coaxial Cords



With thin-stranded wires, these coaxial cords can withstand flexing in constant motion applications such as robotics. They have quarter-turn BNC male connectors on each end.

Lg., ft.	RG No.	Resistance, ohms	No. of Wires	Wire Ga.		
For Data						
3	58	50	1	20	1160N21	$121.55
6	58	50	1	20	1160N22	138.45
12	58	50	1	20	1160N23	172.25
25	58	50	1	20	1160N24	237.56
50	58	50	1	20	1160N25	356.60
For Video						
3	59	75	1	22	1160N31	123.70
6	59	75	1	22	1160N32	142.75
12	59	75	1	22	1160N33	180.85
25	59	75	1	22	1160N34	254.90
50	59	75	1	22	1160N35	388.77

Stereo Cords

All cords have 3.5 mm connectors. Resistance is 20 ohms.





Lg., ft.	Male × Male		Male × Female	
1½	8317T11	$2.88	8317T21	$2.88
3	8317T12	3.55	8317T22	3.55
6	8317T13	4.30	8317T23	4.30
12	8317T14	5.55	8317T24	5.55
25	8317T15	8.25	8317T25	8.25
50	8317T16	13.53	8317T26	13.53

Coupler



Female × Female — 8317T9 — $4.62

USB Cords

Move data between computers, printers, and mobile devices. Choose USB 3.0 for the fastest data rates. USB cords are backward compatible, so they work with cords and connectors that meet the same or a lower USB standard.

Locking Straight—Pinch the sides to insert the type A male plug, and it locks in place when you let go to prevent the cord from pulling out. The type B male plug does not lock.

Straight











Lg., ft.	A Male × A Male USB 2.0		A Male × A Male USB 3.0		A Male × A Female USB 2.0		A Male × B Male USB 2.0		A Male × Mini-B Male USB 2.0		A Male × Micro-B Male USB 3.0	
1½	4974T76	$12.02	4974T87	$17.07							4974T91	$19.87
3	4974T77	12.78	4974T88	18.29	4974T25	$3.92	4974T7	$3.92	4974T31	$4.46	4974T92	21.09
6	4974T78	14.29	4974T89	20.62	4974T26	5.02	4974T15	5.02	4974T32	5.19	4974T93	23.42
10	4974T79	15.80			4974T27	7.15	4974T16	7.15	4974T33	9.31	4974T94	25.84
13	4974T81	18.07										
15					4974T28	10.42	4974T17	10.42	4974T34	15.31	4974T95	30.60

Locking Straight





Lg., ft.	A Male × A Male USB 2.0		A Male × B Male USB 2.0	
1½	4974T96	$18.58	4974T71	$16.24
3	4974T97	19.33	4974T72	16.93
6	4974T98	20.71	4974T73	18.36
10	4974T99	22.13	4974T74	19.80
13	4974T37	23.58	4974T75	21.22

90° Elbow



Lg., ft.	A Male × B Male USB 2.0	
1½	4974T82	$10.36
3	4974T83	10.96
6	4974T84	12.16
10	4974T85	13.38
13	4974T86	14.58

Continuous-Flex USB Cords

Use this USB cord in automated applications such as robotics. Its thin-stranded wires and flexible jacket meet the challenge of continuous motion. USB cords are backward compatible, so they work with cords and connectors that meet the same or a lower USB standard.







Lg., ft.	A Male × A Male USB 2.0		A Male × B Male USB 2.0		A Male × A Female USB 2.0	
3	1156N11	$101.10	1156N15	$101.10	1156N19	$115.37
6	1156N12	127.40	1156N16	127.40	1156N21	141.67
12	1156N13	174.19	1156N17	174.19	1156N22	188.00
25	1156N14	271.35	1156N18	271.35	1156N23	284.52

USB Hubs



4 Ports

Add USB ports to your computer. These hubs include a USB cord with a type A male plug to connect to a computer. They can run off your computer's power or use the included 120 volts AC power adapter. USB hubs are backward compatible, so they work with cords and connectors that meet the same or a lower USB standard.

No. of Ports	USB Standard		
3	3.0	4974T5	$60.00
4	2.0	4974T35	37.50
7	2.0	4974T36	58.94

USB Extenders



Stay connected to a USB device up to 150 feet away. The transmitter has a USB 1.1 type A male plug, and the receiver has a USB 1.1 type A female port. Run an Ethernet cord from the transmitter to the receiver. See page 1880 for Ethernet cords.

8560T1 — $53.40

Washdown USB Cords

In washdown environments, run these cords to a USB device inside an enclosure. The cords are rated IP67. USB cords are backward compatible, so they work with cords and connectors that meet the same or a lower USB standard.

A Male×Panel-Mount A Female—Cords connect to your device inside an enclosure. Choose USB 3.0 for the fastest data rates. Panel cutout dia. for USB 2.0 cords is 13/16″; for USB 3.0 cords, it is 1 1/16″. **Closure cap** (sold separately) protects the female port and is required to maintain the IP67 rating when not in use.

A Male×B Male—The type A male plug connects to a panel-mount A female port on the outside of your enclosure for a complete IP67 sealed connection.





Lg., ft.	*A Male×Panel-Mount A Female* USB 2.0		USB 3.0		A Male×B Male USB 2.0	
½	—	—	8028T7	$26.05	—	—
1	—	—	8028T8	27.45	—	—
1½	8028T2	$25.84	—	—	—	—
2½	—	—	8028T9	32.11	—	—
6	8028T3	28.02	—	—	8028T1	$29.36

Female End Closure Cap for USB 2.0 Cords	8028T6	6.84
Female End Closure Cap for USB 3.0 Cords	8028T11	6.84

Crush-Resistant USB Cords

A tough armor makes these USB cords crush resistant. The metal jacket is more crush resistant than the plastic jacket. USB cords are backward compatible, so they work with cords and connectors that meet the same or a lower USB standard.





Lg., ft.	A Male×A Male USB 2.0		A Male×B Male USB 2.0	
Plastic Jacket				
1	1158N31	$17.82	1158N41	$17.82
3	1158N32	19.68	1158N42	19.68
6	1158N33	23.43	1158N43	23.43
9	1158N34	27.18	1158N44	27.18
13	1158N35	30.93	1158N45	30.93
Metal Jacket				
1	1158N11	23.62	1158N21	23.62
3	1158N12	27.62	1158N22	27.62
6	1158N13	35.59	1158N23	35.59
9	1158N14	43.57	1158N24	43.57
13	1158N15	51.55	1158N25	51.55

Mobile Device Cords

Charge or connect your mobile device. These cords are USB 2.0. They are backward compatible, so they work with cords and connectors that meet the same or a lower USB standard. All cords have male plugs on each end.









Lg., ft.	USB A× USB Micro-B		90° Elbow USB A× 90° Elbow USB Micro-B		USB A× Apple-Compatible 30-Pin		USB A× Apple-Compatible 8-Pin	
3	4974T41	$3.00	4974T21	$7.35	3752T52	$12.67	3752T481	$16.40
6	4974T42	3.62	4974T22	8.65	—	—	—	—
10	4974T43	5.62	4974T23	6.50	3752T53	33.53	3752T482	22.55
15	4974T18	10.00	4974T24	11.27	—	—	—	—

Chargers for Mobile Devices

Plug a USB cord into these chargers to use them with a mobile device. **Wall chargers** operate on 120 volts AC. **Vehicle charger** operates on 12 volts DC.







Wall Chargers				Vehicle Charger
One USB Port		Two USB Ports		One USB Port
3741T13	$19.73	3741T15	$35.26	3741T14 $23.21

Ready-to-Use Circuit Boards

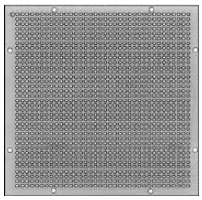

Also known as breadboards or protoboards, these boards have 0.042″ dia. holes spaced 0.100″ center-to-center so you can create a custom circuit board. Made of G-10/FR4 Garolite, they meet UL 94V0 for flame retardance. Boards are 0.062″ thick with a tolerance of 0.058″ to 0.066″. Color is yellow. Temperature range is 10° to 265° F.

Boards with **through-plated solder** have solder that goes through each hole and a solder pad on both sides. Also known as vias, through-plated holes allow you to make connections on both sides of the board.

Wd.	Lg.	Solder Pad OD	No. of Rows	No. of Columns		
Through-Plated Solder						
2″	3″	0.08″	19	30	1305N11	$6.96
4″	6″	0.08″	36	57	1305N13	11.94
One-Sided Solder						
4″	4″	0.08″	36	37	1305N12	7.60
One-Sided Solder—Numbered and Lettered Holes						
3″	3½″	0.08″	29	32	1305N14	5.96

DIN-Rail Mount Surge Suppressors

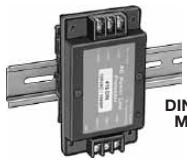

DIN-Rail Mount



Slim Design DIN-Rail Mount

Snap these suppressors onto a 35 mm DIN rail for quick installation. They have three screw terminal input/output connections and a plastic housing. UL recognized, CSA certified, and CE approved.

DIN-rail mount have an LED status indicator. Install in series. You can also surface mount them using the 3/16″ dia. holes. Temperature range is –40° to +158° F.

Slim design DIN-rail mount has a mechanical red fault indicator and remote alarm contacts. It does not have a maximum amp rating because it installs in parallel. Temperature range is –58° to +185° F.

VAC	Max. Amps	Ht.	Wd.	Dp.		
DIN-Rail Mount						
120	15	4.95″	2.85″	1.25″	7021K13	$201.09
120	23	4.95″	2.85″	1.25″	7021K14	265.09
240	23	4.95″	2.85″	1.25″	7021K15	276.18
Slim Design DIN-Rail Mount						
150	—	3.54″	0.71″	2.64″	4498T21	119.00

High-Definition (HDMI) Video Cords

Send high-definition signals to monitors, TVs, and projectors. Cords that are 33 ft. and longer have a built-in repeater that extends the signal to maintain digital quality. **Cords with Ethernet capability** are used with HDMI Ethernet Channel (HEC) devices. They allow an Ethernet-enabled device to share its connection with another device.

Standard Cords






Lg., ft.	HDMI Male × HDMI Male		HDMI Male × Micro-HDMI Male		HDMI Male × Mini-HDMI Male		HDMI Male × DVI-D Male	
1½					8357T62	$8.39		
3	8357T1	$15.02	8357T54	$10.62	8357T51	8.22	8357T5	$14.38
6	8357T2	16.33	8357T55	13.67	8357T52	9.87	8357T6	15.69
10	8357T3	18.96	8357T56	17.49	8357T53	11.93	8357T7	18.31
15	8357T4	28.11	8357T63	28.45			8357T8	27.44
33	8357T11	128.73						
39	8357T12	141.68						
49	8357T13	154.56						
66	8357T14	173.88						

High-Flex Cords with Ethernet Capability





Lg., ft.	HDMI Male × HDMI Male		HDMI Male × Micro-HDMI Male		HDMI Male × Mini-HDMI Male	
2½	8357T16	$16.79	8357T24	$16.79	8357T18	$16.79
8	8357T15	38.75	8357T19	38.75	8357T17	38.75

Abrasion-Resistant Cords with Ethernet Capability



Lg., ft.	HDMI Male × HDMI Male	
6	8357T57	$16.80
10	8357T58	20.16
15	8357T59	25.93
25	8357T61	35.40

Shielded Computer Cords

These computer cords are shielded to prevent electromagnetic interference (EMI). **RS-232** cords transmit data between a computer and a peripheral device, such as a modem. **Null modem** cords connect two like devices, such as a computer to a computer.








RS-232 Cords

Lg., ft.	DB9 Male × DB9 Male		DB9 Male × DB9 Female		DB15 Male × DB15 Male		DB15 Male × DB15 Female		DB25 Male × DB25 Male		DB25 Male × DB25 Female	
6	7925K11	$23.02	7925K12	$23.02					7925K61	$6.92	7925K63	$6.92
10	7925K21	26.04	7925K22	26.04	7925K81	$38.76	7925K82	$38.76	7925K62	9.56	7925K64	9.56





Lg., ft.	*Null Modem Cords* DB9 Female × DB9 Female		*Parallel Printer Cords* DB25 Male × Centronics 36 Male		*Serial Printer Cords* DB25 Male × DB25 Female	
6	7925K31	$4.80	7925K51	$6.92		
10	7925K32	5.52	7925K52	7.56	7925K59	$7.60

Video Monitor Cords

All cords have HD15 connectors to transmit video to monitors. **Video** cords work with resolutions up to 2048×1536. **Audio and video** cords include a 3.5 mm stereo plug on a 24″ cord. They work with resolutions up to 2048×1536. **Video splitter** sends the same video signal to two monitors with resolutions up to 1600×1200.






Video

Lg., ft.	Male × Male		Male × Female	
3	8041T11	$7.47	8041T21	$7.47
6	8041T12	9.60	8041T22	12.95
15	8041T13	16.47	8041T23	20.35
100	8041T14	72.53	8041T24	72.53

Audio and Video

Male × Male	
8041T51	$11.91
8041T52	14.04
8041T53	23.84
8041T54	100.92

Video Splitter

Lg., ft.	Male × Female	
1	8041T31	$11.71

Ethernet Cable

Connect your office Ethernet network. This Ethernet cable is backward compatible, so it works in networks that meet the same or a lower category. **Category 3** cable can also be used in place of telephone cable.

Shielded cable has foil shielding that prevents electromagnetic interference (EMI) to minimize signal distortion. There is an uninsulated ground wire that is not counted in the number of wires. **Double-shielded** cable has foil and braided shielding to provide more EMI protection than standard shielded cable, so it prevents more signal distortion.

Duct-rated cable, also known as plenum cable, has low-smoke insulation and can be used without conduit in duct work and above a drop ceiling. Meets NEC Article 800, Type CMP.

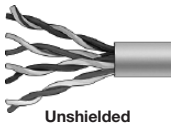
Unshielded

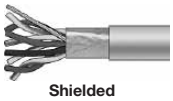
Shielded


Double Shielded

Industry Designation	Transmission Speed, MHz	Wire Ga.	No. of Wires	OD	Choose a Color	Lengths, ft.		Per Ft. 1-499	Per Ft. 500-Up
Unshielded									
Standard									
Category 3	16	24	8	0.16″	Gray	10, 25, 50, 100, 300, 500, 1,000	3447T2	$0.19	$0.15
Category 5E	350	24	8	0.21″	Blue, Gray, White, Yellow	10, 25, 50, 100, 300, 500, 1,000	7365K19	.39	.31
Category 6	350	23	8	0.22″	Black, Blue, Gray, Green, White, Yellow	10, 25, 50, 100, 500, 1,000	8245K31	.43	.35
Duct Rated									
Category 3	16	24	8	0.16″	Beige	10, 25, 50, 100, 300, 500, 1,000	3447T5	.26	.21
Category 5E	350	24	8	0.21″	Blue, White	10, 25, 50, 100, 300, 500, 1,000	7365K29	.76	.59
Category 6	250	23	8	0.23″	Black, Blue, Gray, Green, White, Yellow	10, 25, 50, 100, 500, 1,000	8245K41	.85	.69
Shielded									
Standard									
Category 5E	100	26	8	0.22″	White	10, 25, 50, 100, 200, 300, 500, 1,000	7734T47	.51	.45
Category 6	250	23	8	0.29″	Blue, Gray	10, 25, 50, 100, 300, 500, 1,000	4265T5	.61	.50
Duct Rated									
Category 6	250	23	8	0.29″	Gray	10, 25, 50, 100, 300, 500, 1,000	4265T3	1.89	1.53
Double Shielded									
Standard									
Category 6	250	26	8	0.27″	Yellow	10, 25, 50, 100, 300	4232T2	2.13	1.71

Shielded Continuous-Flex Ethernet Cable

Transmit data in automated applications with this category cable made to Ethernet standards for transmission speed and construction. Use it when continuous movement is required in robotics and cable carriers. It has braided shielding that prevents electromagnetic interference (EMI) to minimize signal distortion. This Ethernet cable is backward compatible, so it works in networks that meet the same or a lower category.

Category 5E cable is UL recognized and CSA certified.



	Transmission Speed, MHz	Wire Ga.	No. of Wires	OD	Color	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Category 5E	100	26	8	0.3″	Purple	10, 25, 50, 100, 150	4250T1	$4.91	$3.96
Category 6	500	26	8	0.39″	Purple	10, 25, 50, 100, 150	4250T2	22.96	18.53

Harsh Environment Ethernet Cable

When you need to run Ethernet cable in your plant, choose this durable UV light- and oil-resistant cable. It is backward compatible, so it works in networks that meet the same or a lower category.

Shielded cable has foil shielding that prevents electromagnetic interference (EMI) to minimize signal distortion.

Duct-rated cable, also known as plenum cable, has low-smoke insulation and can be used without conduit in duct work and above a drop ceiling. Meets NEC Article 800, Type CMP.

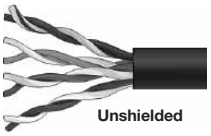
Unshielded


Shielded

Industry Designation	Transmission Speed, MHz	Wire Ga.	No. of Wires	OD	Color	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Unshielded									
Category 5E	350	24	8	0.23″	Black	10, 25, 50, 100, 300, 500	9284T3	$0.99	$0.79
Category 6	600	23	8	0.34″	Black	10, 25, 50, 100, 300, 500	9284T7	1.70	1.36
Shielded									
Category 5E	100	24	8	0.27″	Black	10, 25, 50, 100, 300, 500	9284T1	1.20	.98
Duct-Rated Unshielded									
Category 5E	350	24	8	0.19″	Black	10, 25, 50, 100, 300, 500	9284T5	2.85	2.28
Category 6	350	23	8	0.21″	Black	10, 25, 50, 100, 300, 500	9284T9	3.74	2.99

Industrial Communication-Standard Cable

Connect devices such as sensors, programmable logic controllers, and actuators to your automation network. Choose the communication standard that matches your existing network. Shielding prevents electromagnetic interference (EMI) to minimize signal distortion. *Foil and braid* shielding provides more EMI protection than foil or braid shielding alone.

Continuous-flex cable handles the rigorous flexing of automated applications such as robotics.



Communication Standard	Transmission Speed	Shield Type	Wire Ga. (No.)	OD	Color	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Devicenet	500 kbps	Foil and Braid	18 (2), 15 (2)	0.48″	Gray	10, 25, 50, 100, 250, 500	8097T1	$3.93	$3.15
Devicenet	500 kbps	Foil and Braid	24 (2), 22 (2)	0.28″	Gray	10, 25, 50, 100, 250, 500	8097T2	2.07	1.65
Continuous-Flex Devicenet	125 kbps	Foil and Braid	18 (2), 15 (2)	0.45″	Purple	10, 25, 50, 100, 250, 500	8097T3	8.98	7.31
Continuous-Flex Devicenet	125 kbps	Foil and Braid	24 (2), 22 (2)	0.3″	Purple	10, 25, 50, 100, 250, 500	8097T4	5.39	4.39
Foundation Fieldbus	31 kbps	Foil	18 (2)	0.28″	Orange	10, 25, 50, 100, 250, 500	8203T1	1.32	1.05
Modbus	35 Mbps	Foil and Braid	24 (2)	0.23″	Gray	10, 25, 50, 100, 250, 500	8128T1	1.62	1.30
Modbus	35 Mbps	Foil and Braid	24 (4)	0.34″	Gray	10, 25, 50, 100, 250, 500	8128T2	2.43	1.94
Profibus	12 Mbps	Foil and Braid	22 (2)	0.32″	Purple	10, 25, 50, 100, 250, 500	8463T1	2.06	1.63
Profinet Type B	100 Mbps	Foil and Braid	22 (4)	0.26″	Green	10, 25, 50, 100, 300	4232T1	1.17	.93
Continuous-Flex Profibus	12 Mbps	Braid	24 (2)	0.33″	Purple	10, 25, 50, 100, 250, 500	8463T2	4.09	3.27

Shielded Data and Communication Cable

Use this cable for complex data and signal transmission applications, including high-speed data transmission. There is an uninsulated ground wire that is not counted in the number of wires. Color is gray. Rated 300 volts AC. Meets NEC Article 725 and 800.

Standard



The foil shielding in this cable prevents electromagnetic interference (EMI) to minimize signal distortion. Use this in low-current circuits and communication and security systems, including intercoms and remote controls.

Wire Ga.	No. of Wires	OD	Capacitance, pF/ft.	Length, ft.		Per Ft. 1-99	Per Ft. 100-Up
24	6	0.21″	30	10, 25, 50, 100, 200, 500	75985K52	$0.42	$0.34
24	8	0.22″	30	10, 25, 50, 100, 500, 1,000	75985K54	.49	.39
24	10	0.25″	30	10, 20, 25, 50, 100, 500	75985K56	.69	.56
24	25	0.37″	30	10, 20, 25, 50, 100, 500	75985K58	1.56	1.25

Double Shielded



The foil and braided shielding in this cable provides more electromagnetic interference (EMI) protection, so it prevents more signal distortion than standard data and communication cable.

Wire Ga.	No. of Wires	OD	Capacitance, pF/ft.	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
24	4	0.23″	12.5	10, 25, 50, 100, 200, 500	75985K62	$0.48	$0.40
24	6	0.27″	12.5	10, 25, 50, 100, 500	75985K63	.63	.51
24	8	0.28″	12.5	10, 25, 50, 100, 500	75985K64	.77	.62
24	10	0.31″	12.5	10, 25, 50, 100, 500	75985K65	1.24	1.01
24	15	0.35″	12.5	10, 25, 50, 100, 500	75985K66	1.54	1.26
24	25	0.4″	12.5	10, 25, 50, 100, 500	75985K67	2.21	1.80

Twisted-Pair Double Shielded



Use near variable-frequency drive motors and other interference-producing equipment—this cable is made to prevent more electromagnetic interference (EMI) and signal distortion than standard double-shielded data and communication cable. Its twisted-pair construction reduces internal EMI; the foil and braided shielding reduces external EMI.

Wire Ga.	No. of Wires	OD	Capacitance, pF/ft.	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
24	4	0.27″	12.5	10, 25, 50, 100, 500	75985K72	$0.57	$0.47
24	6	0.28″	12.5	10, 25, 50, 100, 500	75985K73	.84	.70
24	10	0.33″	12.5	10, 25, 50, 100, 500	75985K74	.91	.76
24	25	0.48″	12.5	10, 25, 50, 100, 500	75985K76	2.43	2.02

Shielded Continuous-Flex Data Cable



For applications requiring continuous movement in your plant-floor network, such as controlling order pickers and cranes, use this cable. It has braided shielding that prevents electromagnetic interference (EMI) to minimize signal distortion. Rated 300 volts AC.

Continuous-flex cable for harsh environments has insulation that resists oil and UV light.

Wire Ga.	No. of Wires	OD	Color	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Continuous Flex							
24	4	0.22″	Gray	10, 25, 50, 100	2099T12	$2.32	$1.88
24	6	0.28″	Gray	10, 25, 50, 100	2099T13	3.10	2.53
24	8	0.31″	Gray	10, 25, 50, 100	2099T14	3.91	3.19
24	10	0.33″	Gray	10, 25, 50, 100	2099T15	4.51	3.67
24	12	0.37″	Gray	10, 25, 50, 100	2099T16	5.42	4.40
24	16	0.45″	Gray	10, 25, 50, 100	2099T17	6.31	5.13
24	20	0.51″	Gray	10, 25, 50, 100	2099T18	7.43	6.05
20	4	0.33″	Gray	10, 25, 50, 100	2099T22	2.61	2.12
20	6	0.35″	Gray	10, 25, 50, 100	2099T23	3.25	2.64
20	8	0.37″	Gray	10, 25, 50, 100	2099T24	4.51	3.67
20	10	0.43″	Gray	10, 25, 50, 100	2099T25	5.21	4.24
Continuous-Flex for Harsh Environments							
24	4	0.26″	Blue	10, 25, 50, 100	2099T32	3.48	2.83
24	6	0.32″	Blue	10, 25, 50, 100	2099T33	6.69	5.44
24	8	0.35″	Blue	10, 25, 50, 100	2099T34	6.04	4.92
22	16	0.49″	Blue	10, 25, 50, 100	2099T36	7.61	6.19
20	8	0.39″	Blue	10, 25, 50, 100	2099T37	9.21	7.49

Fiber-Optic Cords

In your fiber-optic network, use these cords to connect computers, servers, and Ethernet switches. They're rated OFNR (optical fiber nonconductive riser) so you can run them through the vertical shafts between floors.







Lg., ft.	LC×LC		SC×SC		ST×ST	
Single Mode—9 µm Core Dia.						
3	2087T11	$18.47	2087T51	$12.47	2087T61	$12.03
6	2087T12	18.92	2087T52	13.25	2087T62	12.62
10	2087T13	19.37	2087T53	13.63	2087T63	13.20
16	2087T14	20.33	2087T54	14.80	2087T64	14.37
23	2087T15	21.60	2087T55	15.77	2087T65	15.20
33	2087T16	22.73	2087T56	17.17	2087T66	18.30
Multimode OM4—50 µm Core Dia.						
3	2087T17	19.65	2087T18	15.27	2087T19	15.27
6	2087T27	21.35	2087T28	17.95	2087T29	17.95
10	2087T37	23.05	2087T38	20.42	2087T39	20.42
16	2087T47	26.40	2087T48	25.23	2087T49	25.23
23	2087T57	32.72	2087T58	30.47	2087T59	30.47
33	2087T67	36.47	2087T68	37.37	2087T69	37.37
Multimode OM1—62.5 µm Core Dia.						
3	2087T91	17.68	2087T71	14.25	2087T81	11.27
6	2087T92	18.43	2087T72	15.28	2087T82	11.98
10	2087T93	19.37	2087T73	16.32	2087T83	13.47
16	2087T94	19.75	2087T74	17.73	2087T84	14.95
23	2087T95	21.18	2087T75	20.18	2087T85	16.95
33	2087T96	24.65	2087T76	23.18	2087T86	19.92

Coaxial Connector Removal Tool



Even in hard-to-reach areas, unscrew BNC and F-type coaxial connectors. Tool is 8" long.

6287T35 ..... $24.73

F-Type Coaxial Splitters



3 Splits

Send the signal from one coaxial cord to multiple devices. All splitters have screw-on F-type connectors.

No. of Splits		
2	4229T17	$6.12
3	4229T18	8.58
4	4229T19	10.04
8	4229T21	19.09

Coaxial Cable

Transmit audio, video, and data signals. Shielding prevents electromagnetic interference (EMI) to minimize signal distortion. *Foil and braid* shielding provides more EMI protection than braid shielding.

Duct-rated cable, also known as plenum cable, has low-smoke insulation and can be used without conduit in duct work and above a drop ceiling. Meets NEC Article 725, Type CL2P and Article 800, Type CMP.



Foil and Braid Shield

RG No.	Resistance, ohms	Shield Type	Wire Ga.	OD	Color	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Standard									
RG-6/U	75	Foil and Braid	18	0.27″	Black	10, 25, 50, 100, 200, 300, 500	7032K5	$0.22	$0.18
RG-6/U Quad Shielded	75	Foil and Braid	18	0.3″	Black	25, 50, 100, 200, 500	7032K72	.29	.24
RG-58/U	50	Braid	20	0.2″	Black	10, 25, 50, 100, 200, 500	7032K11	.38	.32
RG-59/U	75	Braid	23	0.24″	Black	10, 25, 50, 100, 200, 250, 300, 500	7032K8	.35	.29
RG-62A/U	93	Braid	22	0.24″	Black	10, 25, 50, 100, 200, 500	7032K6	1.05	.87
RG-174/U	50	Braid	26	0.11″	Black	25, 50, 100, 200, 500	7032K93	.24	.20
Duct Rated									
RG-58/U	50	Foil and Braid	20	0.17″	Clear	10, 25, 50, 100, 200, 500	7032K35	1.44	1.23
RG-59/U	75	Braid	20	0.19″	Clear	10, 25, 50, 100, 200, 500	7032K32	2.46	2.05
RG-6/U	75	Foil and Braid	18	0.24″	Clear	10, 25, 50, 100, 200, 500	7032K31	3.12	2.60
RG-62A/U	93	Braid	22	0.19″	Clear	10, 25, 50, 100, 200, 500	7032K33	2.12	1.77

Coaxial Cable Connectors

Choose a connector that matches the RG number of your coaxial cable. **BNC** and **RCA** connectors are often used for audio and video transmission. **F-type** connectors are for video transmission. **SMA** connectors are often used for data transmission.

Crimp-on and **compression** connectors require a crimper (see page 1892) to attach to the cable. *Crimp-on* connectors attach with the included ferrule and create a hex-shaped connection. *Compression* connectors have a one-piece construction that provides the most secure connection.

BNC Connectors







RG No.	Resistance, ohms	Crimp-On 90° Elbow Male	Each	Crimp-On Female	Each	Screw-On Male	Each	Compression Male	Pkg. of 2
6	50			71115K33	$1.47				
6	75	71115K34	$1.41	71115K47	1.45				
6, 6 Duct Rated, 58, 59, 59 Duct Rated	50	71115K74	1.52						
6, 6 Duct Rated, 58, 59, 59 Duct Rated	75	71115K75	1.52						
6, 6 Quad Shield	75							71115K81	$8.28
6 Duct Rated	50	71115K28	1.52						
6 Duct Rated	75	71115K45	1.47						
58	50	71115K14	1.42	71115K29	1.47	71115K51	$1.47		
58 Duct Rated	50	71115K22	6.22						
59	75							71115K82	8.28
59, 62	50	71115K15	1.56	71115K32	1.47				
59, 62	75	71115K53	1.63	71115K46	1.45				
59 Duct Rated, 62 Duct Rated	50	71115K27	1.36			71115K52	1.52		
59 Duct Rated, 62 Duct Rated	75	71115K21	1.47						

F-Type Connectors





RG No.	Resistance, ohms	Crimp-On Male Pkg. of 10	Each	Screw-On Male Pkg. of 10	Each	Compression Female Pkg. of 4	Each
6	75	6024T12	$9.15	6024T15	$9.45		
6, 6 Quad Shield	75					6024T18	$6.74
6 Quad Shield	75	6024T13	10.72				
59	75	6024T11	9.15	6024T14	11.04	6024T17	6.74

RCA Connectors



RG No.	Resistance, ohms	Compression Male Pkg. of 4	Each
6, 6 Quad Shield	75	5432T11	$11.98
59	75	5432T12	11.98

SMA Connectors



RG No.	Resistance, ohms	Crimp-On Male	Each
58	50	5467T13	$4.81
174	50	5467T12	7.73

BNC Tees




Female × Male × Female Resistance, ohms		Each	Female × Female × Female Resistance, ohms		Each
50	71115K24	$2.93	75	71115K11	$3.14

BNC End Caps



Resistance, ohms	Male	Each
50	71115K26	$2.00
75	71115K36	7.42

Couplers








Resistance, ohms	BNC Female × BNC Female	Each	BNC Male × RCA Female	Each	F-Type Female × F-Type Female Pkg. of 10	Each	SMA Female × Reverse Polarity SMA Female	Each	SMA Male × SMA Male	Each	Reverse Polarity SMA Female × SMA Male	Each
50	71115K25	$1.69					5467T11	$15.98	5467T62	$9.05	5467T61	$9.58
75	71115K37	4.86	71115K12	$2.64	6024T16	$6.13						

Light Duty Data Plugs, Jacks, and Connectors

Crimp-On Plugs

To terminate these plugs, use a category cable crimper (see page 1892). Plugs are for solid and stranded wire. **Shielded** plugs prevent electromagnetic interference (EMI).




For Cable Category	No. of Wires	Pkg. Qty.	RJ45 Unshielded Plugs Color		Pkg	RJ45 Shielded Plugs Color		Pkg.
5E	8	10	Clear	68995K67	$8.10	Silver	8849T51	$14.40

Punch-Down Jacks

These jacks have a 110 punch-down connection; use a punch-down tool to terminate (see page 1878). All jacks can be snapped in to keystone style wall plates (see page 1889). **Unshielded** jacks are for solid wire. **Shielded** jacks are for stranded wire and prevent electromagnetic interference (EMI).




For Cable Category	No. of Wires	RJ45 Unshielded Jacks Choose a Color		Each	RJ45 Shielded Jacks Color		Each
3	8	Almond, White	3447T3	$4.40			
5E	8	Black, Blue, Gray, Ivory, White	1164N3	3.49	Silver	8849T46	$4.24
6	8	Black, Blue, Gray, Ivory, White	1164N4	5.73			

Cord Couplers

Unshielded couplers are beige. **Shielded** couplers prevent electromagnetic interference (EMI) and are silver.




For Cable Category	No. of Wires	RJ45 Unshielded Couplers	Each	RJ45 Shielded Couplers	Each
5E	8	3243T22	$6.37	3243T27	$8.29

Snap-On Plugs and Jacks

With color-coded wiring guides and snap-together installation, these plugs and jacks speed up cable termination. They can be used with solid and stranded wire.

Plugs are shielded to prevent electromagnetic interference (EMI).

Adjustable plugs allow you to change the angle based on your application; they can be assembled in angles from 45° to 315°. **Continuous-flex** plugs have a cord grip for a more secure connection in constant motion applications such as robotics.



RJ45 Unshielded Jacks

For Cable Category	No. of Wires	Choose a Color		Each
5E	8	Blue, White	1164N1	$3.98
6	8	Blue, White	1164N2	4.33






For Cable Category	No. of Wires	Color	RJ45 Shielded Plugs For Cable OD	Standard	Each	Adjustable	Each	Continuous Flex	Each	M12 X-Coded Shielded Plugs For Cable OD	Vibration Resistant	Each
5	4	Black	0.24″-0.27″					8849T52	$12.51			
5E	8	Gray	0.18″-0.31″					8849T53	34.89			
6A	8	Silver	0.22″-0.41″	1164N21	$12.39	1164N22	$16.11			0.2″-0.38″	1164N23	$46.93

Screw-In Washdown Plugs, Jacks, and Cords

Screw together the sealed plugs and jacks to create an IP67-rated connection that withstands washdown environments. Color is black.

RJ45 sealed plug × crimp-on connection requires a category cable crimper to terminate (see page 1892).

To install a sealed jack in a panel, a 1″ dia. cutout is required. **RJ45 sealed jack × RJ45 jack** is shielded to prevent electromagnetic interference (EMI). **RJ45 sealed jack × 110 punch-down connection** requires a punch-down tool to terminate (see page 1878). **Jack cover** maintains the IP67 rating when a sealed jack is not in use.



RJ45 Sealed Plug × Crimp-On Connection

For Cable Category	For Wire Type	For Cable OD		
5E	Solid	0.1″-0.26″	5697T52	$17.76
5E	Stranded	0.1″-0.26″	5697T51	12.69




For Cable Category	Lg., ft.	RJ45 Sealed Plug × RJ45 Plug Cords		RJ45 Sealed Plug × RJ45 Sealed Plug Cords	
5E	6.6	5697T19	$45.97	5697T13	$49.74
5E	16.4	5697T26	52.00	5697T17	56.10








For Cable Category	RJ45 Sealed Jack × RJ45 Jack		RJ45 Sealed Jack × RJ45 Sealed Jack		RJ45 Sealed Jack × RJ45 Plug (12″ Cord)		RJ45 Sealed Jack × 12″ Wire Lead		RJ45 Sealed Jack × 110 Punch-Down Connection		Jack Cover	
5E	5697T31	$29.78	5697T29	$50.72	5697T34	$31.91	5697T37	$20.93	5697T32	$29.86	5697T44	$8.60

Washdown Plugs and Jacks

Keep your data network connections protected in washdown environments. When used together, these plugs and jacks provide an IP67-rated connection. All components are shielded to prevent electromagnetic interference (EMI).

RJ45 plug × snap-on connection and **M12 D-coded plug × snap-on connection** have an insulation displacement connector and don't require a tool for termination.

RJ45 connectors are gray. **RJ45 jack × RJ45 plug** requires a 7/8" dia. cutout for panel installation. It has a cover to maintain the IP67 rating when a plug is not connected.

M12 D-coded connectors resist vibration better than RJ45 connectors. **M12 D-coded plug × snap-on connection** is silver. **M12 D-coded jacks × RJ45 jacks** require a 21/32" dia. cutout for panel installation. Color is silver.





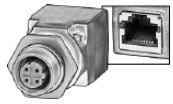

For Cable Category	RJ45 Plug × Snap-On Connection For Cable OD		RJ45 Jack × RJ45 Plug		M12 D-Coded Plug × Snap-On Connection For Cable OD		M12 D-Coded Jack × 90° RJ45 Jack		M12 D-Coded Jack × RJ45 Jack	
5E	0.26"-0.37"	8296T1 $37.42	8296T2	$43.27	0.18"-0.35"	8256T1 $36.31	8256T2	$39.64	8256T3	$39.64

Data Network Keystone Style Wall Plates and Connectors

Create various data connector configurations by choosing cord couplers to snap into the ports in these wall plates. **Single-device (1 gang)** wall plates are 4 1/2" Ht. × 2 3/4" Wd. Choose wall plates with angled ports to reduce cable strain. **Two-device (2 gang)** wall plates are 4 1/2" Ht. × 4 1/2" Wd.

BNC and **RCA** couplers are often used for audio and video transmission. **F-type** couplers are for video transmission.

Wall Plates



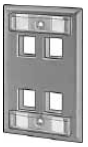




	Single Device (1 Gang) One Port		Two Ports		Four Ports		Six Ports		*Two Device (2 Gang)* Four Ports		Six Ports	
Plastic with Label Fields												
White	68985K73	$2.44	68985K51	$2.44	68985K61	$2.44	68985K71	$2.44			68985K11	$4.91
Almond	68985K74	2.44	68985K52	2.44	68985K62	2.44	68985K72	2.44			68985K12	4.91
Plastic with Label Fields and Angled Ports												
White			3888T11	3.58	3888T19	3.60						
Almond			3888T12	3.58	3888T21	3.60						
Stainless Steel												
Silver	3262T1	6.80	3262T2	6.80	3262T3	7.56	3262T4	7.56				
Stainless Steel with Label Fields												
Silver	3262T71	14.10	3262T72	14.10	3262T73	14.10	3262T74	14.10	3262T75	$19.60	3262T76	19.60

Snap-In Category Cord Couplers



For Cable Category	*RJ45 Couplers* White		Black	
5E	3243T2	$11.00	3243T1	$11.00
6	3243T7	13.63	3243T6	13.63

Snap-In Coaxial Cord Couplers





	BNC—75 ohms		RCA		F-Type	
White	3888T13	$3.70	3888T17	$3.38	3888T15	$1.81
Beige	3888T14	3.70	3888T18	3.38	3888T16	1.81

DIN-Rail Mount Patch Panels

Even when space is limited inside an enclosure, this panel lets you expand and reconfigure your data network. It comes with 12 RJ45 jacks and a punch-down tool to connect them to Category 6 cable. The panel can be surface mounted or DIN-rail mounted; it includes a DIN-rail mounting adapter.



Ht.	Wd.	Dp.		
5 1/2"	3 3/4"	5 3/8"	4163T52	$161.54

Easy-Install Insulation Displacement Couplers



Quickly join solid or stranded low-voltage cable, such as Category 5, 5E, and 6. Insert cable into the funnel-shaped entry and crimp—no stripping is required because the coupler will pierce the insulation. For use up to 30 volts. **Crimper** (sold separately) is required for installation.

Corrosion-resistant coupler has a gel to protect the connection from humidity, water, and dirt.

	No. of Wires (Wire Ga.) Min.	Max.		Pkg. of 100
Standard	2 (24)	3 (16)	8414K1	$8.86
Corrosion Resistant	2 (24)	3 (16)	8414K5	10.62
Crimper			8414K9	Each $6.25

Insulation Displacement Connectors

For connecting solid Category 5 and other solid low-voltage cable without stripping, use these connectors that pierce the cable insulation. All have a corrosion-resistant gel seal to protect the connection from humidity, water, and dirt. For use up to 30 volts. **Crimping pliers** (sold separately) are recommended.

Butt Splices—Use to combine wires with a pigtail connection.

Tap Splices—Create a tap and run connection to split a new connection off an existing wire.

No. of Wire Ports	Wire Ga.	Max. Insulation OD	Pkg. Qty		Pkg.
Butt Splices					
2	26-22	0.06"	25	7056K21	$7.38
2	26-19	0.08"	50	7056K23	7.36
3	26-19	0.06"	25	7056K22	13.00
3	26-19	0.08"	100	7056K24	14.65
Tap Splices					
2	26-19	0.08"	50	7056K25	8.12
Crimping Pliers				7056K31	Each $25.48


Butt Splice with 2 Wire Ports


Tap Splice


2-Wire Pigtail


Tap and Run

Washdown Through-Panel Data and Power Ports

Mount these ports to the outside of an enclosure to access a programmable logic controller or other networked device without opening the enclosure.

They are rated NEMA 4 and 12 for protection from dust, dirt, washdowns, and oil/coolant dripping. A clear cover keeps water out when not in use. Electrical connections for wiring the receptacles are on the back. 15-amp receptacles have quick-disconnect terminals. 20-amp receptacles have screw-clamp terminals. UL listed.

Jacks are RJ45 and are on the front and back for connecting Category 5E cords.







Circuit Breaker	Dp.	Amps @ 120V AC	Ht.	Wd.		
Jacks and Receptacles						
No	1⅝″	15	1¾″	4⁷⁄₁₆″	8223T1	$143.68
Yes	1⅝″	15	1¾″	5½″	8223T2	169.11
Jacks and GFCI Receptacles						
		20	3½″	5⅛″	8223T3	$169.11
		20	3½″	5⅛″	8223T4	187.89
GFCI Receptacles						
		20	3½″	5⅛″	8223T5	$124.89

Build-Your-Own Computer Connectors

By assembling your own computer connector, you can customize the wiring configuration. You'll get the housing, pins, and assembly hardware needed to build these connectors.

Crimp-on connectors are faster to assemble than solder connectors.

Crimper (sold separately) is required to install the pins. **Extraction tool** (sold separately) lets you remove the pins after crimping.

Shielded connectors prevent electromagnetic interference (EMI).

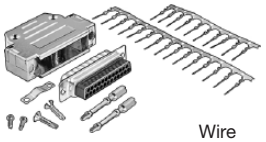

Gender	Wire Ga.	DB9		DB15		DB25		DB37		HD15	
Crimp-On											
Unshielded Male	28-24	94575T62	$4.98	94575T64	$5.15	94575T66	$5.73	94575T68	$6.73		
Unshielded Female	28-24	94575T61	5.00	94575T63	5.17	94575T65	5.81	94575T67	6.73		
Shielded Male	28-24	94575T14	7.08	94575T15	9.46	94575T16	10.33	94575T28	13.88		
Shielded Female	28-24	94575T17	7.08	94575T18	9.46	94575T19	10.33	94575T29	13.88		
Crimper										94575T55	$121.61
Extraction Tool for Crimp-On Connectors										94575T75	6.59
Solder											
Unshielded Male	30-20	2146T11	1.51	2146T13	1.66	2146T15	1.85	2146T17	2.60	2146T32	$2.02
Unshielded Female	30-20	2146T12	1.66	2146T14	1.74	2146T16	1.96	2146T18	2.70	2146T33	2.13
Shielded Male	30-20	2146T52	4.13	2146T54	5.74	2146T58	4.77	2146T61	8.85	2146T56	5.06
Shielded Female	30-20	2146T51	4.13	2146T53	5.74	2146T57	5.06	2146T59	8.85	2146T55	5.06

HDMI Adapters



HDMI Male × HDMI Male
7171K68 $10.44



HDMI Male × DVI-D Male
7171K66 $10.82



HDMI Male × HDMI Female
7171K62 $13.55



90° Bendable HDMI Male × HDMI Female
7171K18 $20.89



360° Swivel/90° Bendable HDMI Male × HDMI Female
7978T2 $19.06



HDMI Male × Micro-HDMI Female
7171K27 $9.55



HDMI Male × Mini-HDMI Female
7171K26 $9.55



HDMI Male × DVI-D Female
7171K67 $10.82



Micro-HDMI Male × HDMI Female
7171K2 $6.62



Micro-HDMI Male × HDMI Female (8″ Cord)
7171K4 $14.60



Mini-HDMI Male × HDMI Female
7171K1 $6.33



Mini-HDMI Male × HDMI Female (8″ Cord)
7171K3 $14.42



HDMI Female × HDMI Female
7171K63 $12.70



HDMI Female × USB Micro-B Male (6″ Cord)
7171K19 $23.75



HDMI Female × DVI-D Male
7171K64 $10.82

USB Adapters

All USB adapters are backward compatible, so they work with cords and connectors that meet the same or a lower USB standard. USB 3.0 adapters have the fastest data rates.

Adapters



USB A Male × USB A Male

USB Standard		
2.0	7171K76	$7.20
3.0	8761K13	12.25



USB A Male × USB Micro-B Male

USB Standard		
2.0	7171K17	$8.00
3.0		



USB A Male × USB Mini-B Female

USB Standard		
2.0	7171K23	$4.00
3.0		



USB A Male × USB A Female

USB Standard		
2.0	7171K16	$5.54
3.0	8761K11	12.25



USB Micro-B Male × USB A Female

USB Standard		
2.0	7171K24	$4.00
3.0		



USB Micro-B Male × USB B Female

USB Standard		
2.0	7171K79	$7.20
3.0		



USB Micro-B Male × USB Mini-B Female

USB Standard		
2.0	7171K25	$4.53
3.0		



USB Mini-B Male × USB A Female

USB Standard		
2.0	7171K22	$4.00
3.0		



USB A Female × USB A Female

USB Standard		
2.0	7171K77	$7.20
3.0	8761K12	12.25



USB A Female × USB B Female

USB Standard		
2.0	7171K75	$7.20
3.0		



USB A Female × USB Mini-B Female

USB Standard		
2.0	7171K21	$4.00



USB A Female × USB B Male

USB Standard		
2.0	7171K73	$7.20



USB A Female × 6-Pin Mini-DIN Male

USB Standard		
2.0	7171K13	$4.60



USB B Female × USB B Male

USB Standard		
2.0	7171K78	$7.20



USB B Female × USB B Female

USB Standard		
2.0	7171K74	$7.20

Adapter Cords



USB A Male × Parallel DB25 Female

USB Standard	Lg., ft.		
1.1	–		
2.0	6	8761K2	$17.50



USB A Male × Serial DB9 Male

Lg., ft.		
2	8761K1	$20.73
–		



USB A Male × HD15 Female

Lg., ft.		
–		
3	8761K3	$68.02

Computer Adapters



DB9 Male × DB9 Male (Compact Housing)

7171K44 ..... $4.42



DB25 Male × DB25 Male

7171K31 ..... $6.36



DB25 Female × DB25 Female

7171K34 ..... $6.36



DB25 Female × DB25 Female (Compact Housing)

7171K46 ..... $5.21



HD15 Male × HD15 Male

7171K12 ..... $6.72



HD15 Female × HD15 Female

7171K11 ..... $6.72



DB9 Male × DB25 Male

7171K15 ..... $5.95



DB9 Male × DB25 Female

7171K43 ..... $5.98



DB25 Male × DB9 Female

7171K42 ..... $5.85



DB25 Female × DB9 Female

7171K41 ..... $5.50



HD15 Male × HD15 Female

7171K14 ..... $5.60



5-Pin DIN Male × 6-Pin DIN Female

7171K48 ..... $4.49



6-Pin DIN Male × 5-Pin DIN Female

7171K47 ..... $3.92



DVI-D Female × HDMI Female

7171K65 ..... $10.82



360° Swivel/90° Bendable DVI-D Male × DVI-D Female

7978T1 ..... $19.06

Cable Strippers & Crimpers

Data Cable Strippers

Stripper for Coaxial Cable



For three-layer stripping, this stripper includes a replaceable blade cartridge, four V-blocks to accommodate a variety of cable outer diameters, and a hex wrench to adjust blade height.

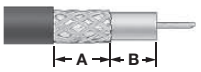

Strip Lengths

	For RG No.		
Stripper	178	7141K1	$67.85
Replacement Blades			
Strips 0.24″(A); 0.24″(B)		7141K2	34.82
Strips 0.33″(A); 0.11″(B)		7141K3	36.22

Confined-Space Stripper for Coaxial Cable



Choose this stripper for two-layer stripping of a short cable in a narrow space, such as in an outlet box. It includes a replaceable blade cartridge.

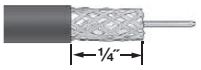

Strip Length

	For RG No.		
Stripper	6, 59	7141K11	$23.42
Replacement Blade		7141K22	6.25

Stripper for Coaxial and Category Cable



Switch out the four replaceable blade cartridges to cut and strip coaxial and category cable. The two coaxial cable stripping cartridges are for two-layer stripping. The coaxial cable cutting cartridge cuts down to the wire. The category cable cartridge strips the outer jacket of unshielded twisted-pair cable.

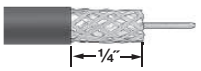

Strip Length

	For RG No.	For Cable Category		
Stripper	6, 7, 11, 59	3, 5, 5E, 6, 6A	7141K21	$34.33
Optional Blades				
For Stripping RG No.174			7141K27	6.25
For Cutting Category Cable			7141K24	6.25
Replacement Blades				
For Stripping RG No. 6, 59			7141K22	6.25
For Cutting RG No. 6, 59			7141K25	6.25
For Stripping RG No. 7, 11			7141K23	6.25
For Stripping Category Cable			7141K26	6.25

Category Cable Crimpers


Standard

These crimpers work with category cable with a maximum OD of 0.3″. **Heavy duty** crimper is ratchet style to ensure a secure crimp with less force.

	For Cable Category	For RJ No.		
Standard	3, 5, 5E, 6, 6A	11, 12, 25, 45	56675T12	$66.67
Heavy Duty	3, 5, 5E, 6, 6A	11, 12, 25, 45	56675T11	73.67

Easy-Install Category Cable Crimpers

Speed up category cable termination by getting wiring right the first time. Pull wires all the way through the plug face to verify proper wire alignment. Then use the crimper to cut and crimp wires in one step.

Crimper is ratchet style to ensure a secure crimp with less force. In addition to these RJ45 pull-through plugs, the crimper works with standard RJ11, RJ12/25, and RJ45 connectors.

RJ45 pull-through plugs are for solid or stranded wire. **Shielded** plugs prevent electromagnetic interference (EMI).

Crimper



For Cable Category	For Max. OD		
3, 5, 5E, 6	0.28″	56675T13	$89.98
Replacement Cutting Blades (Set of 4)		56675T4	7.90

RJ45 Pull-Through Plugs


Unshielded

For Cable Category	Pkg. Qty.		Pkg.
Unshielded			
3, 5, 5E	15	56675T44	$11.50
3, 5, 5E	50	56675T42	33.08
6	10	56675T43	10.28
6	50	56675T41	37.38
Shielded with Internal Ground			
3, 5, 5E, 6	10	56675T45	18.90
Shielded with External Ground			
5E, 6	10	56675T46	21.27

Coaxial Cable Crimpers


For BNC and SMA Connectors


Economy for BNC Connectors


For F-Type Connectors


Confined-Space for F-Type Connectors


Universal for BNC, F-Type, and RCA Connectors

Select the appropriate crimper by multiplying the outside diameter of your coaxial cable connector's ferrule by 0.87 and choosing the crimper with the closest matching cavity size. Ratchet-style crimpers ensure a secure crimp with less force.

For RG No.	Cavity Size	For Max. OD		
Crimpers for BNC Connectors—Ratchet Style				
6, 59, 8281	0.04″, 0.07″, 0.26″, 0.32″	0.24″	7424K51	$93.83
58, 59	0.04″, 0.05″, 0.21″, 0.24″	0.24″	7424K47	93.83
58, 59, 62, 174	0.04″, 0.07″, 0.1″, 0.18″, 0.21″, 0.26″	0.41″	7424K88	93.83
58 Duct Rated, 59 Duct Rated, 62 Duct Rated	0.04″, 0.07″, 0.19″, 0.21″	0.24″	7424K53	93.83
Economy Crimper for BNC Connectors—Plier Style				
58, 59, 62, 174	0.04″, 0.07″, 0.1″, 0.18″, 0.21″, 0.26″	0.24″	7424K89	31.38
Crimpers for F-Type Connectors—Ratchet Style				
6, 11, 59	0.36″, 0.47″	0.41″	7424K64	69.06
Confined-Space Crimper for F-Type Compression Connectors—Plier Style				
6, 7, 11, 59	0.44″, 0.56″	0.41″	7424K16	54.58
Crimpers for SMA Connectors—Ratchet Style				
58, 223	0.15″, 0.18″, 0.21″	0.12″	7424K14	93.83
174	0.04″, 0.07″, 0.1″, 0.13″, 0.18″	0.1″	7424K12	93.83
Universal Crimper for BNC, F-Type, and RCA Compression Connectors—Plier Style				
6, 11, 59		0.4″	7424K18	54.17

Tone Generators and Testers

Verify polarity, test for short circuits, check telephone line continuity, and trace cables. Tone generators and tester have LEDs to verify polarity. When testing for short circuits and line continuity and locating a cable, they emit an audible signal that can be heard with an amplifier (sold separately). They have red and black test leads with alligator clips. Tone generators require one 9-volt battery (sold separately). Multifunction tester requires two 9-volt batteries (sold separately).

Multifunction Tester—This tester checks resistance, capacitance, and circuit calibration, and it allows you to talk on a dead line.

Amplifiers—Used with a tone generator or tester, an amplifier lets you identify a cable without needing to make direct contact with a wire. The tone will get louder the closer you get to the correct cable. The amplifiers have a port for connecting a lineman's butt set. **Noise-filtering amplifier** blocks out power-line hum.

Cases are leather, except cases for tone generator with RJ45 plug and multifunction tester are nylon.











	Tone Generator with RJ11 Plug		Tone Generator with RJ45 Plug		Multifunction Tester with RJ11 Plug		Amplifier		Noise-Filtering Amplifier	
Testers	57175T1	$52.47	57175T9	$96.07	57175T6	$126.03	57175T5	$104.58	57175T8	$154.58
Cases	57175T15	11.67	57175T71	23.13	57175T71	23.13	57175T57	11.60	57175T57	11.60

Inline Telephone Line Testers

Test a telephone line without disconnecting it. For inline testing, it has two RJ11 jacks. Tester comes with a cord with RJ11 plugs.



9240T4 ..... $24.11

Pocket-Size Telephone Line Testers

In one- and two-line analog telephone networks, measure voltage and continuity and verify polarity. The tester has LEDs to show if there is sufficient current available for proper network operation. It can simulate an off-hook state. The tester has an RJ11 jack and a cord with RJ11 plugs.



2189T16 ..... $19.29

Lineman's Butt Sets

Diagnose telephone line problems with this butt set. Because it is DSL-compatible, you can use the butt set with digital as well as analog lines. It measures DC line voltage and current, and it can check for a dial tone.

The LCD shows number dialed, caller ID, and call waiting. The butt set has a cordset with two alligator clips and an RJ11 plug. A headset is included for hands-free operation. Batteries are included.



57595T35 ..... $247.15

Data Cable Identifiers

Trace unshielded data and telephone cables. Identifier has two alligator clips, an RJ11 plug, an RJ45 plug, and an F-type male coaxial connector. Attach the identifier to send a signal through the cable that is received by the removable handheld probe. As you get closer to the cable you're tracing, the probe's audio and visual signals get stronger. Batteries are included.



1780T3 ..... $73.98

Coaxial Cable Testers

Test for open and short circuits in a coaxial line. The included four F-type male coaxial remotes allow you to trace four coaxial lines simultaneously. Tester comes with a nonreplaceable battery.



7901T2 ..... $34.21

Data Cable Testing Adapters

Attach a testing device, such as a tone generator, to test data lines without interrupting service. The tester has two RJ45 jacks and comes with a cord with RJ45 plugs.



9240T2 ..... $24.97

Data Cable Testers

When you test for short, open, and miswired circuits in data cable, the LCD on these testers displays the result. They include an RJ11/12 jack, an RJ45 jack, and an F-type male coaxial connector. Trace cable with the built-in tone generator with selectable tones. Battery is included.

Tester with Length Meter—By measuring capacitance, this tester can determine the length of coaxial and Ethernet cable.



Tester	7662T12	$95.89
Tester with Length Meter	7662T13	158.06

Power, Telephone, and Data Service Poles

When a workstation is not near a wall, these poles bring overhead cables within reach. They are internally divided to accommodate power cables on one side and telephone and data cables on the other. For power there are two duplex receptacles. Add jacks (see page 1888) to the knockouts to connect telephone and data cables, or run the cables through the knockouts to your equipment.

Mount poles vertically in rooms with ceilings up to 10-ft. high—no floor drilling or carpet cutting necessary. They come with carpet/floor grippers, ceiling trim plates, feed fittings, and mounting hardware. UL listed.

Aluminum pole is silver. **Steel** pole is off-white.



	Ht.	Wd.	Dp.		
Aluminum	10′ 5″	2¼″	2⁵⁄₁₆″	72135K44	$270.00
Steel	10′ 5″	2¼″	2⁵⁄₁₆″	72135K42	184.68

Build-Your-Own Stack Lights



Design a stack light with your choice of light pattern and color. Start with a base, then add up to five modules total—twist and lock them together. All components meet NEMA 4X for protection from corrosion and washdowns. All have a plastic lens. UL listed.

Bases are plastic and have a screw terminal for wiring. Each base comes with a top cap. *Surface-mount base* is 12⅝″ high and has four ¼″ mounting holes (fasteners not included). *Pipe-mount base* is 13⅜″ high and has a female ¾ NPT connection.

Continuous, flashing, and **strobe light modules** are 2⅞″ Dia. × 2⅜″ Ht. A maximum of 5 modules can be placed on the base.

Sound modules emit a continuous or pulse tone that adjusts from 88 to 100 dB at 10 ft. They must be placed in the top position. Size is 2⅞″ Dia. × 2¾″ Ht.

LED bulbs last longer than incandescent bulbs and provide years of maintenance-free operation.

	Choose a Color	120V AC Amps			24V AC Amps		
Incandescent							
Surface-Mount Base		—	1528N58	$96.48	—	1528N58	$96.48
Pipe-Mount Base		—	1528N59	96.48	—	1528N59	96.48
Continuous Light Module	Amber, Blue, Green, Red, White, Yellow	0.58	1528N12	39.75	0.29	1528N13	34.45
Sound Module		0.04	1528N22	87.10	0.09	1528N23	87.10
Long-Life LED							
Surface-Mount Base		—	1528N58	96.48	—	1528N58	96.48
Pipe-Mount Base		—	1528N59	96.48	—	1528N59	96.48
Continuous Light Module	Amber, Blue, Green, Red, White, Yellow	0.03	1528N4	82.63	0.05	1528N5	68.12
Flashing Light Module	Amber, Blue, Green, Red, White, Yellow	0.03	1528N6	96.24	0.06	1528N7	87.71
Strobe Light Module	Amber, Blue, Green, Red, White, Yellow	0.01	1528N8	151.87	0.13	1528N9	142.93
Sound Module		0.04	1528N22	87.10	0.09	1528N23	87.10
Replacement Parts							
Incandescent Bulb		—	1528N18	6.70	—	1528N19	6.33

Stack Lights

Indicate the condition of a machine or process with these ready-to-use, continuous lights.

Pipe/Surface Mount—Incandescent Bulbs



Three Light

These lights have plastic lenses that snap in and out, so you can easily swap colors or change their position in the stack. They meet NEMA 4X for protection from corrosion and washdowns. Diameter is 2¼″. Surface mount using four screws (not included) or pipe mount using the ¾ NPT female connection. UL listed.

Use the **extension pipe** and **mounting flange** to make the light taller (both sold separately).

Use the **vertical-mount bracket** (sold separately) to mount the light to a vertical surface such as a wall. Fasteners are included.

	O'all Ht.	Amps	Color	120V AC		24V AC/DC	
Lights							
One Light	7¾″	0.20	Choose from Amber, Blue, Green, Red, White	8654T15	$75.73	—	—
One Light	7¾″	0.20	Choose from Amber, Blue, Green, Red	—	—	8654T41	$75.73
Three Light	12½″	0.60	Includes Amber/Blue/Green/Red/White	8654T16	155.78	8654T42	142.91
Five Light	18½″	1.00	Includes Amber/Blue/Green/Red/White	8654T17	208.40	8654T43	208.40
Replacement Parts							
Incandescent Bulb						8654T8	.70
Lens Assortment—Includes Amber/Blue/Green/Red/White						8654T71	51.85
Accessories							
31½″ Extension Pipe—¾ NPT Male Connections						8654T11	65.42
Mounting Flange—for use with 31½″ Extension Pipe						8654T12	23.42
Vertical-Mount Bracket						8654T1	26.82

Surface Mount—LED Bulbs



Three-Light Standard

Lights have LED bulbs for years of maintenance-free operation. They meet IP65 for protection from washdowns and are UL recognized. Diameter is 1¼″. Lights have six wire leads. Mount the M22 male thread on the bottom of the light through a hole and then secure using the included nut.

	Amps @ 24V AC/DC	Color	Compact O'all Ht.			Standard O'all Ht.		
One Light	0.04	Choose from Blue, Green, Red, White, Yellow	3⅝″	1577T41	$101.83	10½″	1577T31	$106.17
Two Light	0.07	Includes Green/Red	5″	1577T42	130.00	11⅞″	1577T32	135.42
Three Light	0.10	Includes Green/Red/Yellow	6⅜″	1577T43	163.58	13¼″	1577T33	170.08
Four Light	0.13	Includes Blue/Green/Red/Yellow	7¾″	1577T44	191.75	14⅝″	1577T34	198.25
Five Light	0.17	Includes Blue/Green/Red/White/Yellow	9⅛″	1577T45	229.67	16″	1577T35	237.25

Stack Lights with Buzzer



Three Light

Lights have LED bulbs for years of maintenance-free operation and can be wired as either continuous or flashing. The buzzer alerts workers when they're outside a direct line of sight. It sounds 90 dB at 10 ft. and has an adjustable volume control. Lenses and base are plastic. Diameter is 2⅜″. Lights meet IP54 for use in environments with splashing water. UL recognized.

Lights can be wall mounted with the included bracket and fasteners or pipe mounted with the included 11¾″ chrome-plated steel pipe with an M22 female connection. **120V AC** lights have twelve 39″ wire leads. **24V AC/DC** lights have ten 43″ wire leads.

	O'all Ht.	Amps	Color	120V AC		24V AC/DC	
One Light	17¼″	0.07	Red	18975T34	$210.69	18975T26	$166.98
Two Light	18¾″	0.09	Green/Red	18975T35	237.59	18975T27	196.12
Three Light	20½″	0.16	Green/Red/Yellow	18975T36	263.36	18975T28	220.78

Push-Button Stack Lights

Give a signal with the push of a button. These lights have a control box with a button for activating each of the three LED light modules. Lenses and housing are plastic.

Mount the light by bolting the included bracket with two 3/8″ dia. holes to a surface (fasteners not included) or clamping it over a surface up to 2″ wide such as an office partition or workstation. You can adjust the height of the light by using either the included 3″ or 12″ mounting poles.

Mount the control box using the included tape with adhesive on both sides. It connects to the light via a 4-ft. connecting cable and has a 6-ft. cord with a plug.



Dia.	O'all Ht.	Amps @ 120V AC	Color		
2″	5 1/2″	0.03	Amber/Green/Red	3258T25	$244.31

Electronic-Alert Stack Lights with Buzzer

Get notified about equipment issues even when you aren't around your machines. These lights connect to your computer via Ethernet, allowing you to set up email alerts when there is a problem with a machine, server, or conveyor. The four-tone buzzer can emit both continuous and pulse tones—pulse tones alternate on/off to draw greater attention than continuous tones. Volume adjusts from 60 to 70 dB at 10 ft. Lights have an LED bulb for years of maintenance-free operation. Base and lenses are plastic. Light has a 3-ft. cord with a two-prong plug.



Dia.	O'all Ht.	Amps @ 120V AC	Color		
2 3/8″	13 1/4″	0.07	Amber/Green/Red	1043N11	$857.00

Quick-Connect Stack Lights

The quick-connect four-pole M12 plug on these lights makes them easy to hook up and configure. All have continuous LED light modules.

Stack lights stand out when placed on top of a machine. Base and lens are plastic. They meet IP65 for protection from washdowns. Mount the M22 male thread on the bottom of the light through a hole and then secure using the included nut and sealing gasket.

3-in-1 compact stack light emits three colors from a single lens and can be mounted in tight spaces where a tower will not fit. Color is selectable. Base and lens are plastic. Surface mount using the included screws. Use the **DIN-rail-mount bracket** (sold separately) to mount the light at any angle on a DIN rail.



Three-Light Stack Light



3-in-1 Compact Stack Light



Four-Pole Plug

	Dia.	O'all Ht.	Amps @ 24V DC	Color		
Stack Lights						
One Light	1 1/4″	11 3/8″	0.02	Green	1044N13	$115.82
One Light	1 1/4″	11 3/8″	0.03	Amber	1044N12	115.82
One Light	1 1/4″	11 3/8″	0.03	Red	1044N11	115.82
Two Light	1 1/4″	12 3/4″	0.05	Green/Red	1044N14	147.73
Two Light	1 1/4″	12 3/4″	0.06	Amber/Red	1044N15	147.73
Three Light	1 1/4″	14 1/8″	0.09	Amber/Green/Red	1044N16	185.55
3-in-1 Compact Stack Light						
One Light	2″	4 3/8″	0.04	Amber/Green/Red	9984K1	117.16
Female Plug with 12-ft. Cable for 3-in-1 Compact Stack Light					6897K36	32.02
DIN-Rail-Mount Bracket—Plastic					9984K85	16.33

Compact Stack Lights

Mount these lights horizontally or vertically in places where a tower will not fit. The LED bulbs last longer than incandescent. Lenses and housing are plastic. All have 36″ wire leads. Two-light stacks have four 3/16″ mounting holes; three-light stacks have five (fasteners not included). They meet IP54 for use in environments with splashing water. UL recognized.



Three Light

				120/240V AC				24V AC/DC			
	Dia.	O'all Ht.	Color	No. of Wire Leads	Amps			No. of Wire Leads	Amps		
Two Light	2 3/4″	5 3/4″	Green/Red	12	0.14	82995T55	$373.75	10	0.04	82995T51	$348.83
Three Light	2 3/4″	7 3/8″	Green/Red/Yellow	12	0.21	82995T56	517.83	10	0.06	82995T52	482.08
Green Replacement Module										82995T721	105.08
Red Replacement Module										82995T711	92.08
Yellow Replacement Module										82995T712	92.08

3-in-1 Compact Stack Lights

Use these LED lights in tight spaces in place of a tower. They emit three flashing colors from a single lens. Color is selectable. Lenses and base are plastic. Rated NEMA 4X for protection from corrosion and washdowns. UL listed.

Lights—Surface mount using the included hardware or pipe mount using the 1/2 NPT female or 3/4 NPT male connection. All have four 18″ wire leads.

Lights with Buzzer—The buzzer alerts workers when they're outside a direct line of sight. Surface mount using the included hardware or pipe mount using the 3/4 NPT female connection. All have five 18″ wire leads.



Light



Light with Buzzer

				120V AC			24V DC		
Color	Dia.	O'all Ht.	dB @ 10 ft.	Amps			Amps		
Lights									
Amber/Blue/Red	3 1/4″	3 7/8″	—	0.10	5795T59	$367.20	0.15	5795T55	$367.20
Amber/Green/Red	3 1/4″	3 7/8″	—	0.10	5795T57	367.20	0.15	5795T53	367.20
Replacement Lens								1507T42	38.29
Lights with Buzzer									
Amber/Blue/Red	3″	7 3/4″	79	0.12	5795T61	412.53	0.12	5795T62	412.53
Amber/Green/Red	3″	7 3/4″	79	0.12	5795T63	412.53	0.12	5795T64	412.53

Signal Light Bars

Draw attention to vehicles with these lights. Base is steel, lens is plastic, and light is amber. Flashing lights have LED bulbs. **Surface-mount** lights include mounting fasteners and have two 30″ wire leads. **Magnetic-mount** lights have a 15-ft. cord with a 12-volt vehicle plug.



Revolving Light



Flashing Light

	Ht.	Wd.	Dp.	Amps	Surface Mount		Magnetic Mount	
Revolving Lights—Halogen Bulb								
12V DC	5 1/4″	23″	8 1/2″	10	57905T22	$151.31	57905T23	$189.46
Four-Flash Strobe Lights—Xenon Bulb								
12/24V DC	5 1/4″	23″	8 1/2″	1.5	57905T24	206.26	57905T25	240.62
Flashing Lights—LED								
12/24V DC	2 3/4″	17 1/4″	9 1/2″	1.4	57905T31	262.50	57905T32	288.75

Flashing Lights

About Relative Visibility of Signal Lights

Signal light visibility depends on a combination of light pattern and candlepower. When choosing a light pattern, think about where the light will be placed and how much attention you want it to draw.



Flashing—Commonly found on loading docks and railroad crossings, these lights are often used to notify workers of hazardous areas.



Revolving—More visible than flashing lights, these rotating lights are commonly found on hazards with moving parts, such as access gates.



Strobe—Intense bursts of light that reflect off surrounding objects make strobes the most visible. They're often used to call attention to hazards in motion, such as forklifts.

Candlepower (cp) indicates how bright a light appears at a distance. Common examples include a car's taillights (50 cp), traffic signals (600 cp), headlights (15,000 cp), high beams (50,000 cp), and police car searchlights (150,000 cp).

Surface-Mount Flashing Lights



Incandescent



Vibration Resistant



High Visibility and Long Life

The light pattern draws more attention to machine issues and work hazards than a continuous light. All lights meet NEMA 4X for outdoor use and washdown environments. Lenses are plastic.

Incandescent—*Surface-mount* lights include mounting fasteners. 120V AC light has two 15″ wire leads and is UL listed. 12V DC light has one 80″ wire lead. 24V and 36V DC lights have two 80″ wire leads. *Magnetic-mount with vehicle plug* light has a 15-ft. cord with a 12-volt vehicle plug.

Vibration-Resistant Incandescent—The pad below the base absorbs shock and vibration. All come with mounting fasteners. 120V AC light has two 15″ wire leads. 12V and 24V DC lights have two 30″ wire leads.

High Visibility Halogen—Surface mount with the included fasteners or use the ¾ NPT male connection for pipe mounting. All have 18″ wire leads.

Long-Life LED—These lights provide years of maintenance-free operation. Surface mount with the included fasteners or use the ¾ NPT male connection for pipe mounting. All have two 18″ wire leads.

	Dia.	Ht.	Amps	Candlepower	Choose a Color	Lights		Repl. Bulbs		Repl. Lenses	
Incandescent—304 Stainless Steel Base											
Surface Mount											
120V AC	5¾″	7¾″	0.2	70	Amber, Blue, Green, Red, White	5808T96	$70.76	1728K691	$21.38	5849T57	$17.97
12V DC	5¾″	7¾″	2.8	450	Amber, Blue, Green, Red, White	5808T92	58.79	14335T91	1.15	5849T57	17.97
24V DC	5¾″	7¾″	1.7	450	Amber, Blue, Green, Red, White	5808T94	70.76	5808T6	9.00	5849T57	17.97
36V DC	5¾″	7¾″	0.9	450	Amber, Blue, Green, Red, White	5808T95	70.76	5808T291	9.18	5849T57	17.97
Magnetic Mount with Vehicle Plug											
12V DC	5¾″	7¾″	2.8	450	Amber, Blue, Green, Red, White	5808T93	73.15	14335T91	1.15	5849T57	17.97
Vibration-Resistant Incandescent—Plastic Base											
Surface Mount											
120V AC	4½″	7″	0.2	70	Amber, Blue, Green, Red, White	5932T84	63.89	5846T96	9.18	5849T57	17.97
12V DC	4½″	7″	2.8	450	Amber, Blue, Green, Red, White	5932T51	63.89	1505K443	10.10	5849T57	17.97
24V DC	4½″	7″	1.7	450	Amber, Blue, Green, Red, White	5932T52	63.89	5808T6	9.00	5849T57	17.97
High-Visibility Halogen—Plastic Base											
Pipe Mount/Surface Mount											
120V AC	3¼″	3⅞″	0.2	879	Amber, Blue, Green, Red, White	1507T3	168.67	1507T45	30.72	1507T7	38.29
24V AC	3¼″	3⅞″	0.8	653	Amber, Blue, Green, Red, White	1507T2	168.67	1507T9	30.72	1507T7	38.29
24V DC	3¼″	3⅞″	0.8	653	Amber, Blue, Green, Red, White	1507T4	168.67	1507T9	30.72	1507T7	38.29
Long-Life LED—Plastic Base											
Pipe Mount/Surface Mount											
120V AC	3¼″	3⅞″	0.1	Not Rated	Amber, Blue, Green, Red	1507T5	188.50			1507T7	38.29
24V DC	3¼″	3⅞″	0.1	Not Rated	Amber, Blue, Green, Red	1507T6	188.50			1507T7	38.29

Flashing Lights with Buzzer



Lights have a pulsing buzzer that sounds 85 dB at 10 ft. The buzzer warns workers of hazards even when they're outside a direct line of sight. Suitable for outdoor use. Lenses are plastic; bases are aluminum. Lights have two 6″ wire leads. Size is 6″ Dia. × 7⅜″ Ht.

Surface mount (fasteners not included) or pipe mount using the ½ NPT female connection. Lights are UL listed, except 12V and 24V DC incandescent lights.

To Order Please specify lens color: amber, blue, green, red, or white.

	Amps	Candlepower	Lights		Repl. Bulbs	
Incandescent						
120V AC	0.29	2,374	5753T83	$317.40	5753T81	$12.37
12V DC	1	5,049	5753T71	317.40	5753T75	1.11
24V DC	1	5,049	5753T72	317.40	5753T87	1.46
LED						
120V AC	0.18	Not Rated	5753T15	384.74		
24V DC	0.3	Not Rated	5753T14	384.74		
Replacement Lens					5753T77	58.51

Solar-Powered Flashing Lights



Submersible

Place these LED lights in full sun and their batteries charge during daylight hours. Lights automatically switch on at dusk and off at dawn. They have a plastic lens and base and are suitable for outdoor use.

Portable lights have a magnetic base for quick positioning. They can be switched on or off with the press of a button. Includes four AA batteries.

Submersible light meets IP68. The lens has an integrated bird-deterrent spike. The base has four ½″ dia. mounting holes (fasteners not included). Includes a sealed battery.

Dia.	Ht.	Choose a Color		
Portable—Magnetic Mount				
4″	5″	Amber, Blue, Red	8470T3	$108.89
Submersible—Surface Mount				
5⅜″	5½″	Amber	8470T1	238.10
Replacement Sealed Battery for Submersible Light			8470T2	72.73

One-Way-View Flashing Lights



Side-Mount Oval



Back-Mount Round



Back-Mount Rectangle

Direct your signal with these lights; they flash in one direction. All have long-life LED bulbs, plastic lenses, and an aluminum frame. Suitable for outdoor use.

Flashing lights flash in a series of four flashes per cycle. They operate on 0.3 amps at 12-24 volts DC. Side-mount lights have two ¼″ dia. mounting holes; back mount lights have four ¼″ dia. mounting holes. Screws not included.

Flashing/continuous lights can switch between being continuous or flashing. They operate on 0.3 amps at 12-80 volts DC. Light has three 12″ wire leads. Mounting hardware not included.

				Side Mount			Back Mount	
Shape	Ht.	Dp.	Choose a Color	Wd.			Wd.	
Flashing								
Round	6″	2″	Amber, Red	6″	8772T1	$70.66	8″	8772T4 $73.43
Oval	6″	2″	Amber, Red	6″	8772T6	70.66	8″	8772T8 73.43
Flashing/Continuous								
Rectangle	2⅜″	1¼″	Amber, Blue, Green, Red, White	—			5½″	3072T1 112.07

For information about signal light visibility, see page 1896.

Revolving Lights

The circular pattern of these lights draws more attention to hazards than flashing lights. They are suitable for outdoor use, except long-life LED lights. Lenses are plastic.

Incandescent—*Surface-mount* lights include fasteners and have two 6″ wire leads. *Pipe-mount* light has a ½ NPT male connection and two 20″ wire leads. *Magnetic-mount* light has a 6-ft. cord with a plug. *Magnetic-mount with vehicle plug* light has a 10-ft. cord with a 12-volt vehicle plug.

Harsh Environment Incandescent—Designed for corrosive environments, these sturdy lights meet NEMA 4X for washdown environments. *Surface-mount* lights include mounting fasteners. 120V AC light has three 30″ wire leads. 12V and 24V DC lights have one 6.5-ft. wire lead. *Pipe-mount* light has a ½ NPT female connection and three 28″ wire leads. UL listed. *Magnetic-mount with vehicle plug* light has a 15-ft. cord with a 12-volt vehicle plug. *Surface-mount bracket* has a ½ NPT male connection and includes mounting fasteners.

High-Visibility Halogen—These bright lights meet NEMA 4X for washdown environments. *Surface-mount* lights include mounting fasteners and one 6.5-ft. wire lead. *Magnetic-mount with vehicle plug* lights have a 15-ft. cord with a 12-volt vehicle plug.

Long-Life LED—These lights provide years of maintenance-free operation. *Surface-mount* light includes fasteners and has two 12″ wire leads. *Magnetic-mount with vehicle plug* light has a 15-ft. cord with a 12-volt vehicle plug.



Incandescent



Harsh Environment Incandescent



Halogen



LED

	Dia.	Ht.	Amps	Candlepower	Choose a Color	Lights		Repl. Bulbs		Repl. Lenses	
Incandescent											
Surface Mount—Steel Base											
12V DC	6″	7⅝″	2.1	32	Amber, Blue, Green, Red, White	5928T62	$73.12	14335T97	$0.60	5928T5	$14.45
24V DC	6″	7⅝″	1.3	34	Amber, Blue, Green, Red, White	5928T63	73.12	1317T13	5.78	5928T5	14.45
36V DC	6″	7⅝″	1	50	Amber, Blue, Green, Red, White	5928T64	73.12	14335T89	13.70	5928T5	14.45
48V DC	6″	7⅝″	0.4	21	Amber, Blue, Green, Red, White	5928T65	73.12	1317T14	2.31	5928T5	14.45
Pipe Mount—Plastic Base											
120V AC	5⅛″	6½″	0.3	14	Amber, Blue, Green, Red, White	5928T66	75.35	11295T92	3.66	5928T5	14.45
Magnetic Mount—Plastic Base											
120V AC	5⅛″	6½″	0.3	50	Amber, Blue, Green, Red, White	5928T68	82.17	11295T92	3.66	5928T5	14.45
Magnetic Mount with Vehicle Plug—Steel Base											
12V DC	6″	7½″	2.2	14	Amber, Blue, Green, Red, White	5928T67	87.30	14335T97	.60	5928T5	14.45
Harsh Environment Incandescent											
Surface Mount—304 Stainless Steel Base											
120V AC	5¾″	7¾″	0.2	3,600	Amber, Blue, Green, Red, White	5846T53	89.87	5846T96	9.18	5846T19	15.73
12V DC	5¾″	7¾″	3	3,600	Amber, Blue, Green, Red, White	5846T51	85.11	14335T91	1.15	5846T19	15.73
24V DC	5¾″	7¾″	2.5	3,600	Amber, Blue, Green, Red, White	5846T52	89.87	5846T57	9.18	5846T19	15.73
Pipe Mount—Zinc Base											
120V AC	5⅛″	6¼″	0.4	2,100	Amber, Blue, Green, Red, White	5807T91	191.89	5807T16	23.62	5807T49	33.09
Magnetic Mount with Vehicle Plug—304 Stainless Steel Base											
12V DC	5¾″	7¾″	3	3,600	Amber, Blue, Green, Red, White	5846T54	96.62	14335T91	1.15	5846T19	15.73
Surface-Mount Bracket for Pipe-Mount Light										5853T21	92.89
High-Visibility Halogen											
Surface Mount—Aluminum Base											
12V DC	5½″	5¼″	4.5	65,000	Amber, Blue, Red	5809T46	80.34	5809T51	11.02	5809T83	16.57
24V DC	5½″	5¼″	2.8	65,000	Amber, Blue, Red	5809T48	85.11	5809T94	11.70	5809T83	16.57
Magnetic Mount with Vehicle Plug—Aluminum Base											
12V DC	5½″	5¼″	4.5	65,000	Amber, Blue, Red	5809T32	99.61	5809T51	11.02	5809T83	16.57
24V DC	5½″	5¼″	2.8	65,000	Amber, Blue, Red	5809T75	101.36	5809T94	11.70	5809T83	16.57
Long-Life LED											
Surface Mount—Plastic Base											
12-24V DC	5½″	4½″	1.6	7,000	Amber, Blue, Red, White	1046N1	136.50				
Magnetic Mount with Vehicle Plug—Plastic Base											
12-24V DC	5½″	4½″	1.6	7,000	Amber, Blue, Red, White	1046N2	147.00				

Battery-Operated Signal Lights



Pocket-Size Continuous/Flashing



Continuous/ Flashing/Revolving



Strobe (Freestanding)

Set these portable lights wherever you need a signal light—they don't need to be wired or plugged in. All have a plastic lens.

Pocket-Size Continuous/Flashing—Carry these LED lights around with you and place them wherever needed. They can switch between being continuous or flashing. They come with a belt clip and run on two AA batteries (not included).

Continuous/Flashing/Revolving—These LED lights can switch between continuous, flashing, or revolving which draws the most attention. They have a carrying strap and run on two D batteries (not included).

Strobe—These lights have a xenon bulb and run on two included 6-volt batteries. *Tripod* lights adjust from 42″ to 70″.

Mount Type	Dia.	Ht.	Choose a Color		
Pocket-Size Continuous/Flashing—Plastic Base					
Magnetic w/ Clip	3½″	1¾″	Amber, Blue, Green, Red, White	1045N1	$41.78
Continuous/Flashing/Revolving—Plastic Base					
Magnetic	4¼″	5½″	Amber, Red	1045N2	56.70
Magnetic	4¼″	5½″	Blue, Green, White	1045N3	56.70
Strobe—Rubber Base					
Freestanding	5½″	4½″	Amber, Blue, Red	5903T1	196.13
Tripod	5½″	4½″	Amber, Blue, Red	5903T2	271.92
Replacement Strobe Bulb				5947T95	15.41
Replacement Strobe Lens				5947T96	18.33

Revolving Lights with Bell

The revolving motion of the light makes these more visible than flashing lights. The bell alerts workers when they're outside a direct line of sight. Volume is 93 dB at 10 ft. Lights operate on 0.4 amps at 120 volts AC. Bulb is incandescent. Overall size is 6″ Wd. × 15½″ Ht. All have a plastic lens. Surface mount using the two ¼″ dia. holes (fasteners not included). UL listed.

Indoor light has a plastic base. **Outdoor** light has a zinc base.



To Order: For lights and replacement lenses, please specify amber, blue, or red.

	Candlepower	Lights		Repl. Bulbs	
Indoor	4,000	14425T18	$367.81	14425T66	$23.22
Outdoor	1,000	14425T19	574.42	5846T96	9.18
Replacement Lens for Indoor Light				14425T47	43.49
Replacement Lens for Outdoor Light				14425T26	58.61

Strobe Lights with Buzzer

Lights combine high-visibility strobes with a buzzer that warns workers of hazards even when they're outside a direct line of sight. Horn is rated 90 dB at 10 ft. Lens is plastic. Base is aluminum. Lights have three 8″ wire leads. Mounting fasteners are included. Suitable for outdoor use.



To Order: For lights and replacement lens, please specify amber, blue, red, or white.

			12V DC		24V DC	
Dia.	Ht.	Candlepower	Amps		Amps	
4″	4¼″	50	0.35	5910T61 $133.91	0.18	5910T62 $133.91
Replacement Bulb				57545T61 10.30		
Replacement Lens				57545T62 11.93		

Strobe Lights


Rectangle


Narrow Dome


Low-Profile Dome


Domed



Attract more attention with strobe lights than flashing or revolving lights. These emit short, intense bursts of light that reflect off surrounding objects. They have xenon bulbs. Lenses are plastic. Lights are designed for outdoor use. They meet NEMA 4X for protection from corrosion and washdowns, except pipe-mount low-profile lights.

Surface Mount

Rectangle lights have screw terminals and come with mounting fasteners. They meet IP66 and are UL listed.

Narrow-dome lights have two 1/4″ dia. mounting holes (fasteners not included). *120V AC* light has a 6-ft. cord with a two-prong plug. UL listed. *12-80V DC* light has two 12″ wire leads. UL recognized. *Pipe-mount bracket* comes with two U-bolts for wrapping around pipes.

Low-profile dome lights come with mounting fasteners. *120V* and *240V AC* lights have three 15″ wire leads. UL listed. *12-48V DC* light has two 30″ wire leads. Use the *pipe-mount adapter* (sold separately) to attach the base of the light to a 1/2 NPT male pipe.

Domed lights come with mounting fasteners. *120V AC* light has two 15″ wire leads. *12-24V DC* light has two 30″ wire leads.

	Dia.	Ht.	Amps	Candlepower	Choose a Color	Lights		Repl. Bulbs		Repl. Lenses	
Rectangle—Zinc Base											
120V AC	5 1/8″ × 2 3/8″	2 5/8″	0.06	30	Amber, Blue, Green, Red, White	7714T53	$85.04	7714T62	$23.77	7714T67	$11.87
12V DC	5 1/8″ × 2 3/8″	2 5/8″	0.18	30	Amber, Blue, Green, Red, White	7714T51	85.04	7714T62	23.77	7714T67	11.87
24V DC	5 1/8″ × 2 3/8″	2 5/8″	0.08	30	Amber, Blue, Green, Red, White	7714T52	85.04	7714T62	23.77	7714T67	11.87
Narrow Dome—Plastic Base											
120V AC	3″	5″	0.04	50	Amber, Blue, Green, Red, White	5899T27	81.41	5899T91	23.18	5899T89	17.81
12-80V DC	3″	5″	0.4	50	Amber, Blue, Green, Red, White	5899T26	78.68	5899T91	23.18	5899T89	17.81
Lens Guard										5899T92	44.33
Pipe-Mount Bracket (3″ max. pipe dia.)										5899T93	40.84
Low-Profile Dome—Rubber Base											
120V AC	5 3/4″	4 1/2″	0.2	150	Amber, Blue, Green, Red, White	5947T35	78.77	5947T95	15.41	5947T96	18.33
240V AC	5 3/4″	4 1/2″	0.1	150	Amber, Blue, Green, Red, White	5947T36	78.77	5947T95	15.41	5947T96	18.33
12-48V DC	5 3/4″	4 1/2″	0.5	250	Amber, Blue, Green, Red, White	5947T38	90.72	5947T95	15.41	5947T96	18.33
Pipe-Mount Adapter										5947T94	19.29
Domed—304 Stainless Steel Base											
120V AC	5 3/4″	7 3/4″	0.2	125	Amber, Blue, Green, Red, White	5849T53	191.78	5849T68	38.19	5849T57	17.97
12-24V DC	5 3/4″	7 3/4″	1.5	200	Amber, Blue, Green, Red, White	5849T52	189.14	5849T68	38.19	5849T57	17.97

Pipe Mount

Narrow-dome lights have two 12″ wire leads. They mount to a 1/2 NPT female pipe connection. *120V AC* light is UL listed. *12-80V DC* light is UL recognized.

Low-profile dome lights have two 10″ wire leads. They mount to a 1/2 NPT female pipe connection.

	Dia.	Ht.	Amps	Candlepower	Choose a Color	Lights		Repl. Bulbs		Repl. Lenses	
Narrow Dome—Plastic Base											
120V AC	3″	5″	0.04	50	Amber, Blue, Green, Red, White	5899T29	$81.40	5899T91	$23.18	5899T89	$17.81
12-80V DC	3″	5″	0.4	50	Amber, Blue, Green, Red, White	5899T28	85.09	5899T91	23.18	5899T89	17.81
Low-Profile Dome—Plastic Base											
120V AC	4″	2 3/4″	0.06	50	Amber, Blue, Red, White	57545T51	89.06	57545T61	10.30	57545T62	11.93
12V DC	4″	2 3/4″	0.35	50	Amber, Blue, Red, White	57545T52	89.06	57545T61	10.30	57545T62	11.93
24V DC	4″	2 3/4″	0.18	50	Amber, Blue, Red, White	57545T53	89.06	57545T61	10.30	57545T62	11.93

Magnetic-Mount with Vehicle Plug

Plug these into a standard 12-volt vehicle receptacle and mount using the magnetic base. **Narrow-dome** light has a 6-ft. cord and is UL recognized. **Low-profile dome** light has a 15-ft. cord.

	Dia.	Ht.	Amps	Candlepower	Choose a Color	Lights		Repl. Bulbs		Repl. Lenses	
Narrow Dome—Plastic Base											
12-80V DC	3″	5″	0.4	50	Amber, Blue, Green, Red, White	5899T46	$104.03	5899T91	$23.18	5899T89	$17.81
Low-Profile Dome—Rubber Base											
12-24V DC	5 3/4″	4 1/2″	0.3	250	Amber, Blue, Green, Red, White	5947T37	97.87	5947T95	15.41	5947T96	18.33

Strobe Lights for Light Bulb Sockets

	Dia.	Ht.	Amps	Candlepower	Choose a Color	Lights		Repl. Bulbs		Repl. Lenses	
Narrow Dome—Plastic Base											
120V AC	3″	5″	0.04	50	Amber, Blue, Green, Red, White	5899T47	$81.41	5899T91	$23.18	5899T89	$17.81

Multiple-Flash Strobe Lights



Easier to spot than other strobe lights, these lights emit bursts of multiple flashes per cycle. Lenses are plastic. All lights are suitable for outdoor use.

Double Flash—These lights meet NEMA 4X for washdown environments. They come with mounting fasteners. *120V AC* light has three 15″ wire leads. Base is 304 stainless steel. *12-24V DC* light has two 30″ wire leads. Base is 304 stainless steel. *12-48V DC* light has two 30″ wire leads. Base is rubber.

Six Flash—A series of six flashes per cycle makes these lights stand out. Base is plastic. **Surface-mount** lights include mounting fasteners. *120V AC* light has a 4-ft. power cord. UL listed. *12-48V DC* light has three 12″ wire leads. **Magnetic-mount** light has a 10-ft. cord and plugs into a standard 12-volt vehicle receptacle.

	Dia.	Ht.	Amps	Candlepower	Choose a Color	Lights		Repl. Bulbs		Repl. Lenses	
Double Flash											
Surface Mount											
120V AC	9″	9″	1	900	Amber, Blue, Green, Red, White	5848T71	$271.57	5849T68	$38.19	5947T965	$18.33
12-24V DC	9″	9″	3	1,200	Amber, Blue, Green, Red, White	5848T61	271.57	5849T68	38.19	5947T965	18.33
12-48V DC	5 3/4″	4 1/2″	0.75	300	Amber, Blue, Green, Red, White	5947T28	93.54	5947T95	15.41	5947T96	18.33
Six Flash											
Surface Mount											
120V AC	6 1/2″	4 1/2″	2	320	Amber, Blue, Red	3302T45	159.52	3302T36	15.94	3302T39	15.34
12-48V DC	6 1/2″	4 1/2″	1	320	Amber, Blue, Red	3302T54	114.99	3302T36	15.94	3302T39	15.34
Magnetic Mount with Vehicle Plug											
12-48V DC	6 1/2″	4 1/2″	1	320	Amber, Blue, Red	3302T52	137.44	3302T36	15.94	3302T39	15.34

Hazardous Location Signal Lights

These lights are UL listed for environments where fuels, solvents, acetylene, and other hazardous substances may be present. They meet NEMA 4X for protection from corrosion and washdowns. All have a plastic lens.

Flashing Lights—These have LED bulbs. They are UL listed for Class I, Div. 2, Groups A, B, C and D; Class II, Div. 2, Groups F and G; and Class III hazardous locations. Lights have two 18″ wire leads.

Strobe Lights—These have xenon bulbs. *Narrow-dome* lights are UL listed for Class I and II, Div. 2 hazardous locations. They have two 12″ wire leads. Pipe connection is ½ NPT female. *Domed* lights are UL listed for Class I, Div. 2, Groups C and D; Class II, Div. 2 Group G hazardous locations. They have two 15″ wire leads. Pipe connection is 1 NPT female.


Standard | Narrow Dome | Domed

	Dia.	Ht.	Amps	Candlepower	Choose a Color	Lights		Repl. Bulbs		Repl. Lenses	
Flashing Lights—Surface Mount											
Standard—Plastic Base											
120V AC	3¾″	4¾″	0.11	—	Amber, Blue, Green, Red, White	57925T23	$290.23				
24V DC	3¾″	4¾″	0.22	—	Amber, Blue, Green, Red, White	57925T24	290.23				
Strobe Lights—Pipe Mount											
Narrow Dome—Plastic Base											
120V AC	3″	5″	0.04	50	Amber, Blue, Green, Red, White	5899T86	245.49	5899T91	$23.18	5899T89	$17.81
12-80V DC	3″	5″	0.4	50	Amber, Blue, Green, Red, White	5899T88	237.19	5899T91	23.18	5899T89	17.81
Domed—Aluminum Base											
120V AC	4¾″	8½″	0.25	200	Amber, Blue, Red	57925T22	352.72	57925T18	40.91	5849T57	17.97
24V DC	4¾″	8½″	0.35	300	Amber, Blue, Red	57925T21	352.72	57925T18	40.91	5849T57	17.97

Traffic Lights

Regulate traffic flow. Lights are steel with glass lenses. Bulbs are halogen. Each unit is 8″ Wd.×12¼″ Dp. All have screw terminals for hardwiring and two ¾″ dia. knockouts on each end for conduit connection. Meet OSHA standards.

One-light style has either an amber or red lens. To Order: Please specify color.

Two-light style has a red top lens and green bottom lens.

Three-light style has a red top, an amber middle, and a green bottom lens.

Flashers (sold separately) allow lights to be wired as continuous or flashing in any combination.


Two Light

	Ht.	Amps @ 120V AC	Lights		Flashers	
One Light	8″	0.4	5733T77	$580.00	5733T48	$166.67
Two Light	16″	0.8	5733T75	620.00	5733T58	308.33
Three Light	24″	1.2	5733T76	864.62	5733T68	333.33
Amber Replacement Lens					5733T62	214.55
Green Replacement Lens					5733T63	96.08
Red Replacement Lens					5733T61	96.08
Replacement Bulb					14675K91	22.42

Aircraft Signal Lights

Mount these continuous lights to the top of towers to warn low-flying aircraft. They meet FAA L-810 requirements for obstruction lighting. Lens is red glass. Base is aluminum. Lights have a 1 NPT female pipe connection. They have screw terminals for hardwiring.


Two Light

Amps @ 120V AC	Lights		Repl. Bulbs		Repl. Lenses	
One Light—8″ Ht.×5½″ Wd.×5½″ Dp.						
1	10315T11	$159.32	10315T15	$7.66	10315T46	$35.91
Two Light—8″ Ht.×11½″ Wd.×5½″ Dp.						
2	10315T12	376.25	10315T15	7.66	10315T46	35.91

Radiation Signs

Identify radioactive areas in your workplace. Signs are yellow with a magenta symbol.

Adhesive-backed vinyl signs are 0.004″ thick.

Plastic signs are 0.125″ thick and have four 3/16″ dia. mounting holes (screws not included).

Aluminum signs are 0.04″ thick and have four 3/16″ dia. mounting holes (screws not included).



7″×10″ 5352T11
10″×14″ 5352T21







10″×7″	5352T31	5352T15	5352T17
14″×10″	5352T14	5352T16	5352T81

	Adhesive-Backed Vinyl		Plastic		Aluminum	
Wd.×Ht.	1-5	6-Up	1-5	6-Up	1-5	6-Up
7″×10″ and 10″×7″	$6.19	$5.33	$8.52	$7.35	$11.40	$10.16
10″×14″ and 14″×10″	8.96	7.73	12.72	10.97	17.06	15.22

Continuous Signal Lights


Two Light with Optional Guard

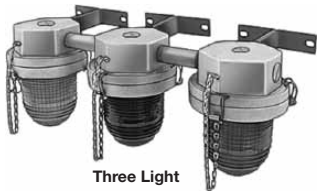
Three Light

These lights have a cast aluminum body and glass lenses that hold up in rugged indoor environments. They have an LED bulb for years of maintenance-free operation. They are suitable for use up to 120 volts AC and have screw terminals. Pipe mount with the ¾ NPT female connection. They help meet OSHA standards.

One-light style is 7⅜″ Ht.×5½″ Wd.×5½″ Dp.

Two-light style is 14¾″ Ht.×5½″ Wd.×8¼″ Dp. It comes with a mounting bracket with two 5/16″ dia. holes (fasteners not included).

Three-light style is 7⅜″ Ht.×18½″ Wd.×8¼″ Dp. Each light has a mounting bracket with two 5/16″ dia. holes (fasteners not included).

	Color		
One Light	Choose from Amber, Green, or Red	5714T41	$131.67
Two Light	Includes Green and Red	5714T42	338.33
Three Light	Includes Amber, Green, and Red	5714T43	746.15
Repl. Lens	Choose from Amber, Green, or Red	5714T73	48.28
Wire Lens Guard		5714T55	37.93

Glow-in-the-Dark Exit Lights

No electricity or batteries necessary. Expose these photoluminescent lights to ambient light to make them visible up to 50 ft. away, even in the dark. UL 924 listed.

Wall-mount lights are 13″ Wd.×8″ Ht.×1/16″ Dp. They include two adhesive-backed directional arrows, and have four 1/8″ mounting holes (screws not included).

Multimount lights are ready for wall mounting and include a bracket for ceiling mounting (screws included). *Multimount lights with steel frame* are 15″ Wd.×8″ Ht.×¼″ Dp. and have two snap-out directional arrows. *Multimount lights with aluminum frame* are 16″ Wd.×9″ Ht.×⅝″ Dp. and include two adhesive-backed directional arrows.



Wall Mount



Multimount

Frame	Letter Color		
Wall Mount—Viewable from One Side			
Yellow Plastic	Red	8347K7	$75.47
Yellow Plastic	Green	8347K71	75.47
Multimount—Viewable from One Side			
Red Steel	Green	8347K411	119.13
Black Steel	Green	8347K3	119.13
Aluminum	Red	8347K211	126.36
Aluminum	Green	8347K212	126.36
Multimount—Viewable from Both Sides			
Red Steel	Green	8347K811	158.07
Black Steel	Green	8347K5	158.07
Aluminum	Red	8347K611	191.82
Aluminum	Green	8347K612	191.82

Exit Lights

Illuminate the way out. Lights meet UL 924 and have corrosion-resistant housing. These products cannot be sold in California.

Plastic Housing



A

With Optional Wire Guard



B

Style A— Meet UL94V0 for flame resistance and are 2″ deep. They come with a bracket for wall, end, or ceiling mounting (screws not included), and are viewable from one or both sides. Housing is white. The *optional wire guard* is steel with a white polyester finish and comes with screws for mounting.

Style B— Rated NEMA 4X for washdown environments, these lights have a gray housing with a clear plastic cover plate. They measure 5″ deep, are one-sided, and include snap-out directional arrows. Furnished with four 1/4″ dia. mounting holes for wall mounting (screws not included).

Type	Letter Color	AC Powered with Emergency Backup Battery: Voltage	Watts	Wd.	Ht.			AC Powered: Voltage	Watts	Wd.	Ht.		
Lights													
A LED	Red	120/277	0.7	12″	8″	16755K45	$80.28	120/277	0.7	12″	8″	16755K43	$69.51
A LED	Green	120/277	0.7	12″	8″	16755K65	80.28	120/277	0.7	12″	8″	16755K63	69.51
B Washdown LED	Red	120/277	3.8	16″	12″	57425T3	307.62	120/277	2.7	16″	12″	57425T6	265.23
Replacement Parts and Accessories													
Backup Battery for Style A												16755K61	30.23
Backup Battery for Style B												57425T21	16.50
Optional Wire Guard for Style A												6358T17	38.32

Steel Housing



C&D

All of these lights have a durable steel housing, which is white. They measure 2″ deep and come with a bracket for wall, end, or ceiling mounting (screws not included).

Style C— Are viewable from one or both sides and include snap-out directional arrows. The *optional wire guard* for the LED lights is steel with a white polyester finish and includes screws for mounting.

Style D— Has a glass panel and is City of Chicago approved. The letters and arrows are viewable from one side. **To Order:** Please specify arrow direction: left, right, both, or none.

Type	Letter Color	AC Powered with Emergency Backup Battery: Voltage	Watts	Wd.	Ht.			AC Powered: Voltage	Watts	Wd.	Ht.		
Lights													
C LED	Red	120/277	1.7	12″	7″	8326K3	$124.62	120/277	1.7	12″	7″	8326K2	$95.77
C LED	Green	120/277	1.7	12″	7″	8326K901	124.62	120/277	1.7	12″	7″	8326K201	95.77
D LED with Glass Panel	Red	120/277	3	12″	9″	1540K211	195.52	120/277	3	12″	9″	1540K311	176.77
Replacement Parts and Accessories													
Backup Battery for Style C												8326K75	69.04
Backup Battery for Style D												1540K41	37.78
Optional Wire Guard for Style C												6358T17	38.32

Combination Exit and Emergency Lights

Locate exits, even during a power failure. Lights meet UL 924 and have a white housing with snap-out directional arrows. Exit lights have a battery for 1 1/2 hours of emergency lighting and operate on 120/277 volts AC.

Plastic Housing



E



F

Impact, scratch, and corrosion resistant, these signs have a plastic housing. They are viewable from one or both sides and can be mounted onto a wall, end, or ceiling. Mounting screws and bracket are included.

Style E has incandescent emergency lights.

Style F have LED emergency lights. They cannot be sold in California.

Type	Letter Color	Wd.	Ht.	Dp.	Exit Lights: Watts			Repl. Light Bulb for Emergency Lights: Watts			Repl. Battery	
E LED	Red	23″	10 1/4″	4 1/2″	1.7	8367K45	$84.44	6	8367K18	$0.58	7448K53	$11.89
F LED	Red	19 1/4″	9″	4 3/4″	4.3	8367K21	161.74	—	—	—	8367K28	50.60
F LED	Green	19 1/4″	9″	4 3/4″	4.3	8367K32	162.49	—	—	—	8367K28	50.60

Steel Housing



G

For extra durability, the housing has a powder-coated finish. Sign is viewable from one side and has a bracket for wall, end, and ceiling mounting (screws are not included). This product cannot be sold in California.

Type	Letter Color	Wd.	Ht.	Dp.	Exit Lights: Watts			Repl. Battery	
G LED	Red	12″	13″	2″	3.6	8367K71	$232.60	7448K34	$22.47

Exit and Directional Signs

Messages help you conform to OSHA 29 CFR 1910.37.
Adhesive-backed vinyl signs are 0.004″ thick.
Adhesive-backed glow-in-the-dark polyester signs are 0.02″ thick. They meet ASTM E2072/E2073 and DIN 67510-1 standards for photoluminescent safety markings.
Plastic and **aluminum** signs have 3/16″ dia. mounting holes (screws not included). Plastic are 0.06″ thick. Aluminum are 0.04″ thick.
To Order: Please specify material.

	Adhesive-Backed							
	Vinyl		Glow-in-the-Dark Polyester		Plastic		Aluminum	
Wd.×Ht.	1-5	6-Up	1-5	6-Up	1-5	6-Up	1-5	6-Up
7″×10″	$6.72	$5.64	$10.69	$9.00	$9.06	$7.61	$12.91	$9.90
14″× 3½″	6.72	5.64	9.34	7.87	9.06	7.61	11.74	9.00
14″×10″, 10″×14″	9.53	8.00	21.34	17.97	13.53	11.36	16.43	12.60

14″×10″

To Order: Please specify red letters on a white background or white letters on a red background.



62735T41★



62735T44



62735T43



62735T46



62735T83



62735T55



62735T52



62735T53



62735T58



62735T59



62735T71■



62735T72■

★Also available with green letters on a white background. ■Available with red letters on a white background only.

10″×14″



62735T75

Symbol is black on a white background. Message has white letters on a red background.

7″×10″



62735T85

Printed with red letters on a white background.

14″×3½″


62735T82

To Order: Please specify red arrow on a white background or white arrow on a red background.

Two-Way-View Exit Signs

Viewable from both sides, signs are made of aluminum, and have red letters on a white background. Overall size is 9″ Wd.×8″ Ht. All signs have a 1″ Wd.×8″ Ht. flange, which has two 3/16″ dia. mounting holes (screws not included).



6765T2



6765T21



6765T22



6765T23

Aluminum $22.50

6765T25

6765T26

6765T27

6765T28

Glow-in-the-Dark Aluminum $32.62

ADA-Compliant Exit Signs

Also known as Title 24 exit signs, these signs meet federal regulations for the visually impaired and comply with the Americans with Disabilities Act. They also conform to OSHA CFR 1910.37 and have Grade 2 Braille located below the wording. Signs are blue plastic with white letters. They are 6″ Wd. × 6″ Ht., and include mounting tape. *Optional frame* is blue plastic with two 1/8″ dia. mounting holes (screws not included). Frame also includes mounting tape.



62735T24

To view images of these signs, go to mcmaster.com and search for the part number.

Message	
Exit	62735T21
To Exit	62735T22
Exit Route	62735T23
Exit Stair Up	62735T24

Message	
Exit Stair Down	62735T25
Exit Ramp Up	62735T26
Exit Ramp Down	62735T27

Sign $43.18
Optional Frame ..... 62735T31 ..... $30.36

Smoking Control Signs

Symbols are red and black on a white background, except where noted. The 5″×7″ and 7″×10″ signs have white letters on a black background. The 14″×10″, 17″×7″, and 20″×14″ signs have white letters on a red background, except where noted.
Adhesive-backed vinyl signs are 0.004″ thick. **Plastic** and **steel** signs have four 3/16″ dia. mounting holes (screws not included). Plastic are 0.055″ thick. Steel are 0.019″ thick.
To Order: Please specify material.

	Adhesive-Backed Vinyl		Plastic		Steel	
Wd.×Ht.	1-5	6-Up	1-5	6-Up	1-5	6-Up
5″× 7″	$4.89	$4.12	$6.07	$5.12	___	___
7″×10″	5.85	4.94	7.89	6.66	___	___
14″×10″	9.33	8.00	11.78	9.94	$9.00	$7.59
17″× 7″	9.33	8.00	11.78	9.94	10.78	9.09
20″×14″	17.88	15.32	18.70	15.78	16.26	13.72















5″× 7″ ..... 83305T11 ..... 83305T12 ..... 83305T16 ..... 83305T13 ..... 83305T14 ..... 83305T15 ..... 83305T17▲
7″×10″ ..... 83305T21 ..... 83305T22 ..... 83305T26 ..... 83305T23 ..... 83305T24 ..... 83305T25 ..... 83305T27▲





17″×7″ ..... 5776T65 ..... 5776T66♦















14″×10″ ..... 5776T11 ..... 5776T17 ..... 5776T14 ..... 5776T25 ..... 5776T74 ..... 5776T41 ..... 5776T48
20″×14″ ..... 5776T12 ..... 5776T18 ..... 5776T15 ..... 5776T26 ..... 5776T38 ..... 5776T42 ..... 5776T49

▲Green and black symbols on a white background. ♦White letters on a black background; green and black symbols on a white background.

Accident Prevention Signs

Alert people to potential hazards in the workplace. Danger, Warning, and Caution headers meet OSHA requirements. All header colors meet ANSI Z535 specifications.

DANGER Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. Typically used in extreme conditions. Danger headers have white letters on a red background.

CAUTION Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. Caution headers are black and yellow.

WARNING Indicates a moderately hazardous situation that, if not avoided, may result in death or serious injury. Warning headers have black letters on an orange background.

NOTICE Indicates general instructions that are unrelated to bodily harm or safety. Notice headers have italicized white letters on a blue background.

Accident Prevention Signs

Adhesive-backed vinyl signs are 0.004″ thick.
Plastic signs are 0.055″ thick and have four 3/16″ dia. mounting holes (screws are not included).
Aluminum signs are 0.04″ thick and have four 3/16″ dia. mounting holes (screws are not included).
To Order: Please specify material.

	Adhesive-Backed Vinyl		Plastic		Aluminum	
Wd. × Ht.	1-5	6-Up	1-5	6-Up	1-5	6-Up
10″ × 7″	$6.61	$5.85	$9.35	$7.95	$10.19	$8.59
14″ × 10″ and 10″ × 14″	8.62	7.47	12.85	10.92	16.42	13.82
20″ × 14″ and 14″ × 20″	13.84	11.75	20.20	17.18	24.21	20.65

Personal Protection















10″ × 7″	8355T107	57095T38	57095T36	8355T101	57095T41	57095T43	5052T76
14″ × 10″	8355T108	57095T39	57095T37	8355T102	57095T42	57095T44	5052T77
20″ × 14″	8355T109	57095T81	57095T68	8355T103	57095T83	57095T85	5052T81

Personal Protection









Confined Space







10″ × 7″	57095T18	8355T64	57095T12	5052T78	8355T132	8355T127	8355T123
14″ × 10″	57095T19	8355T65	57095T13	5052T79	8355T133	8355T128	8355T124
20″ × 14″	57095T21	8355T38	57095T14	5052T54	8355T141	8355T106	8355T105

Electrical Hazards















10″ × 7″	8355T66	8355T68	8355T14	75025T21	75025T25	75025T11	57095T69
14″ × 10″	8355T67	8355T69	8355T15	75025T22	75025T26	75025T12	57095T77
20″ × 14″	8355T31	8355T32	8355T16	75025T23	75025T27	75025T13	57095T15

Electrical Hazards





Security and Admittance











10″ × 7″	8355T687	8355T11	8355T17	8355T21	8355T48	8355T73	8355T75
14″ × 10″	8355T693	8355T12	8355T18	8355T22	8355T49	8355T74	8355T76
20″ × 14″	8355T284	8355T13	8355T19	8355T23	8355T33	8355T34	8355T35

Security and Admittance















10″ × 7″	8355T86	8355T669	75025T31	75025T34	75025T37	57095T45	5052T63
14″ × 10″	8355T87	8355T671	75025T32	75025T35	75025T38	57095T46	5052T64
20″ × 14″	8355T36	8355T672	75025T33	75025T36	75025T39	57095T87	5052T55

Security and Admittance











10″ × 7″	5052T11	5052T15	5052T19	5052T51	5052T74	5052T23	5052T114
14″ × 10″	5052T12	5052T16	5052T21	5052T52	5052T75	5052T27	5052T115
20″ × 14″	5052T13	5052T17	5052T22	5052T53	5052T86	5052T28	5052T116

(Continued on following page)

Accident Prevention Signs *(Continued from previous page)*

To view images of signs on this page, go to mcmaster.com and search for the part number.

To Order Please specify sign material.

Wd. × Ht.	Adhesive-Backed Vinyl 1-5	Adhesive-Backed Vinyl 6-Up	Plastic 1-5	Plastic 6-Up	Aluminum 1-5	Aluminum 6-Up
10″ × 7″	$6.61	$5.85	$9.35	$7.95	$10.19	$8.59
14″ × 10″ and 10″ × 14″	8.62	7.47	12.85	10.92	16.42	13.82
20″ × 14″ and 14″ × 20″	13.84	11.75	20.20	17.18	24.21	20.65



Message	10″ × 7″	14″ × 10″	20″ × 14″
Hazardous Chemicals and Materials			
Danger Signs			
Acetylene	8355T121	8355T122	8355T223
Acid	8355T125	8355T126	8355T227
Battery Charging Area/ No Smoking	8355T614	8355T615	_____
Battery Storage Area/ No Smoking	8355T619	8355T621	_____
Chemical Storage	8355T129	8355T131	_____
Chlorine	8355T134	8355T135	_____
Combustible Liquids	8355T138	8355T139	_____
Compressed Air	8355T633	8355T634	_____
Compressed Gas	8355T638	8355T639	_____
Corrosive	8355T142	8355T143	_____
Diesel Fuel	8355T146	8355T147	_____
Flammable	8355T154	8355T155	_____
Flammable Liquids	8355T62	8355T63	_____
Gasoline	8355T158	8355T159	_____
Hazardous Chemicals	8355T162	8355T163	_____
Hazardous Material	8355T166	8355T167	_____
Hazardous Waste	8355T168	8355T169	_____
Hot	8355T71	8355T72	8355T341
Hydrogen	8355T663	8355T664	_____
Nitrogen	8355T657	8355T658	_____
Non-Potable Water/ Do Not Drink	8355T181	8355T182	_____
No Smoking	8355T79	8355T81	8355T95
No Smoking, Matches Or Open Lights	8355T82	8355T83	8355T96
Oil	8355T331	8355T332	_____
Oxygen	8355T84	8355T85	_____
Propane Gas	8355T191	8355T192	_____
Watch For Falling Material	8355T651	8355T652	_____
Warning Signs			
This Area Contains Chemicals Known To The State Of California To Cause Cancer	75025T61	75025T62	_____
Caution Signs			
Acid Be Careful	57095T27	57095T28	_____
Battery Charging Station/No Smoking Or Open Flames	57095T34	57095T82	_____
Hazardous Material	57095T23	57095T22	_____
Hot	57095T47	57095T48	_____
Notice Signs			
Do Not Dump Chemicals Down This Drain	5052T29	5052T31	_____
Keep All Cylinders Chained	5052T89	5052T84	_____
Spill Clean Up Kit	5052T131	5052T132	_____
Slip and Fall Prevention			
Danger Signs			
Fall Protection Required In This Area	8355T234	8355T235	8355T236
Caution Signs			
Fall Protection Required	57095T111	57095T112	_____
Not A Step	57095T97	57095T98	57095T89
Step Down	57095T3	57095T4	_____
Step Up	57095T5	57095T6	_____
Watch Your Step	57095T95	57095T96	_____
Slippery When Wet	57095T1	57095T2	57095T33
Use Handrail	57095T7	57095T8	_____
Vehicle and Shipping Dock			
Warning Signs			
Chock Wheels Before Loading And Unloading	_____	2260T22	2260T24
Caution Signs			
Go Slow Sound Signal	_____	2260T2	2260T3
Pedestrian Crossing	_____	2260T5	2260T6
Watch For Forklift Traffic	57095T93	57095T94	57095T31
Watch For Moving Vehicles	_____	2260T8	2260T9
Notice Signs			
No Vehicles Beyond This Point	_____	2260T51	2260T52
Wheels Must Be Chocked Before Loading Or Unloading	_____	2260T18	2260T19
Wheels Must Be Chocked Before Loading Or Unloading ★	_____	2260T36	2260T37

★ Wording is reversed so it can be read in a rearview mirror.

Message	10″ × 7″	14″ × 10″	20″ × 14″
Machine and Equipment Operation			
Danger Signs			
Crane Overhead	8355T172	8355T173	8355T261
Do Not Operate/Men Working On Repairs	8355T55	8355T56	8355T262
Do Not Watch Arc Welder At Work/The Light May Blind You	_____	8355T91■	8355T92▲
Keep Hands Clear	8355T176	8355T177	8355T263
Laser	8355T77	8355T78	8355T264
No Loose Clothing While Operating This Machinery	8355T681	8355T682	8355T277
This Machine Starts And Stops Automatically	8355T675	8355T676	8355T278
Caution Signs			
Do Not Operate Without Guards	57095T9	57095T11	57095T16
Only Authorized Personnel Permitted To Operate This Machine	57095T56	57095T57	57095T17
This Machine Starts And Stops Automatically	57095T61	57095T62	57095T29
Hot Work Permit Required In This Area	57095T127	57095T128	57095T129
Keep Gate Closed	57095T137	57095T138	57095T139
Signs Without Headers			
Emergency Shut-Off	5052T44	5052T45	5052T46
Emergency Stop	5052T47	5052T48	5052T49
Standard Crane Hand Signals	5052T41 ♦	5052T42■	5052T43▲
Pathway And Door Access			
Danger Signs			
Fire Regulations Demand That This Space Be Clear At All Times	_____	8355T93■	8355T94▲
Men Working Above	8355T178	8355T179	8355T271
Warning Signs			
Low Headroom	75025T42	75025T43	75025T44
Caution Signs			
Clearance _ Ft. _ In.	57095T75	57095T76	57095T141
Low Headroom	57095T52	57095T53	57095T142
Maximum Load _ Lbs.	57095T54	57095T55	57095T67
Open Door Slowly	57095T71	57095T72	57095T143
Stand Clear Of Door	57095T73	57095T74	57095T144
This Door Must Be Kept Closed	57095T58	57095T59	57095T145
Notice Signs			
Do Not Block This Door	5052T65	5052T66	5052T95
Keep This Area Clear	5052T69	5052T71	5052T96
Keep This Door Closed	5052T72	5052T73	5052T97
This Door To Remain Unlocked During Business Hours	5052T32	5052T33	5052T98
Machine and Equipment Lockout			
Danger Signs			
Use Lockout Before Working On Equipment	8355T88	8355T89	_____
Lock Out Equipment Before Entering	8355T257	8355T258	_____
Caution Signs			
Lockout For Safety	57095T49	57095T51	_____
Notice Signs			
In Accordance With OSHA Standard 1910.147	_____	_____	5052T56▲

■ Sign is 10″ Wd. × 14″ Ht. ▲ Sign is 14″ Wd. × 20″ Ht.
♦ Sign is 7″ Wd. × 10″ Ht.

English/Spanish

Accident prevention signs are available in bilingual English/Spanish versions in 10″ × 14″ and 14″ × 20″ sizes.

To Order Please ask for 4847T482 and specify corresponding English-language part number and sign material.



Accident Prevention Signs

For information about accident prevention signs, see page 1902.

Write-On Accident Prevention Signs

Signs have a blank area to write your own message. **Danger** header has white letters on a red background. **Warning** header has black letters on an orange background. **Caution** header has yellow letters on a black background. **Notice** header has white letters on a blue background. **Blank** sign is white.

Adhesive-backed vinyl signs are 0.004″ thick. *Plastic* and *aluminum* signs have four 3/16″ dia. mounting holes (screws not included). Plastic signs are 0.055″ thick. Aluminum signs are 0.04″ thick.

To Order: Please specify material.

Wd.×Ht.	Adhesive-Backed Vinyl 1-5	Adhesive-Backed Vinyl 6-Up	Plastic 1-5	Plastic 6-Up	Aluminum 1-5	Aluminum 6-Up
10″× 7″	$6.61	$5.85	$9.35	$7.95	$10.19	$8.59
14″×10″	8.62	7.47	12.85	10.92	16.42	13.82
20″×14″	13.84	11.75	20.20	17.18	24.21	20.65











10″× 7″	8355T42	75025T52	57095T25	5052T61	6427T71
14″×10″	8355T43	75025T53	57095T26	5052T62	6427T22
20″×14″	8355T41	75025T54	57095T24	5052T59	6427T54

Made-to-Order Accident Prevention Signs











Tailor a sign to meet your specific needs. Mounting screws not included. **Danger** header has white letters on a red background. **Warning** header has black letters on an orange background. **Caution** header has yellow letters on a black background. **Notice** header has white letters on a blue background. **Blank** sign is white.

Adhesive-backed vinyl signs are 0.004″ thick. *Plastic* and *aluminum* signs have four mounting holes (screws not included). Plastic signs are 0.055″-0.060″ thick. Aluminum signs are 0.04″ thick.

To Order: For all signs, please specify material, size, header (Danger, Warning, Caution, Notice, or blank), and message. For blank signs, please specify character color (black, blue, red, or orange). For English signs, ask for 60245T25, and for Spanish signs, ask for 60245T59. For bilingual signs, ask for 60245T47 and specify message in both English and Spanish. Note: Bilingual signs are not available in 10″×7″ and 7″×10″ sizes.

Wd.×Ht.	Adhesive-Backed Vinyl 1	Adhesive-Backed Vinyl 2-5	Adhesive-Backed Vinyl 6-Up	Plastic 1	Plastic 2-5	Plastic 6-Up	Aluminum 1	Aluminum 2-5	Aluminum 6-Up
10″× 7″ and 7″×10″	$40.11	$27.87	$19.51	$45.00	$33.32	$24.75	$49.95	$37.18	$28.37
14″×10″ and 10″×14″	42.91	29.70	23.60	51.16	36.33	28.14	54.50	41.05	32.46
20″×14″ and 14″×20″	67.18	47.04	36.95	80.99	58.57	44.54	84.07	65.89	53.67

Reflective and Magnetic Accident Prevention Signs











10″× 7″	5501T13	5501T14	5501T18	5501T17	5501T16
14″×10″	5501T24	5501T25	5501T29	5501T28	5501T27









10″× 7″	5501T21	5501T15	5501T19	5501T22
14″×10″	5501T32	5501T26	5501T31	5501T33

Danger headers have white letters on a red background. Messages are printed in black on a white background.

Reflective adhesive-backed polyester signs reflect light for added visibility and are 0.007″ thick.

Magnetic vinyl signs are 0.032″ thick.

To Order: Please specify material.

Wd.×Ht.	Reflective Adhesive-Backed Polyester	Magnetic Vinyl
10″× 7″	$19.00	$14.85
14″×10″	32.45	27.00

Illustrated Accident Prevention Signs

Signs measure 10″x12″. Symbols are red, letters are black, and background is white. **Danger** headers have white letters surrounded by red. **Notice** headers have white letters surrounded by blue.

Adhesive-backed vinyl signs are 0.004″ thick. *Plastic* signs are 0.035″ thick and have four 3/16″ dia. mounting holes (screws not included).

	1-5	6-Up
Adhesive-Backed Vinyl	$6.36	$5.39
Plastic	8.14	6.91

















Adhesive-Backed Vinyl	56855T123	56855T124	56855T122	56855T132	56855T111	56855T112	56855T113	56855T115
Plastic	57345T123	57345T124	57345T122	57345T132	57345T111	57345T112	57345T113	57345T115















Adhesive-Backed Vinyl	56855T125	56855T126	56855T128	56855T131	56855T129	56855T151	56855T152
Plastic	57345T125	57345T126	57345T128	57345T131	57345T129	57345T151	57345T152

Accident Prevention Labels

Quickly post safety reminders with these adhesive-backed vinyl labels.

Danger headers have white letters on a red background. Messages are black letters on a white background. **Caution** headers have yellow letters on a black background. Messages are black letters on a yellow background. **Notice** header has white letters on a blue background. Message has black letters on a white background.

To view images of these labels, go to mcmaster.com and search for the part number.

Wd. × Ht.	Pkg. of 5
5″ × 3½″	$12.12



7967T7

Message	
Danger	
480 Volts	7967T26
Area In Front Of This Electrical Panel Must Be Kept Clear For 36 Inches/OSHA-NEC Regulations	7967T27
Confined Space/Authorized Personnel Only	7967T29
Confined Space/Do Not Enter	7967T28
Confined Space/Enter By Permit Only	7967T31
Do Not Operate	7967T15
Ear Protection Required	7967T2
Electrical Hazard	7967T1
Eye Protection Required	7967T8
Flammable	7967T4
Flammable Material/Keep Fire Away (English/Spanish)	7967T36
High Voltage	7967T7
High Voltage (English/Spanish)	7967T35
Hot	7967T11
Keep Fingers Clear Of Pinch Point	7967T34
Keep Hands Clear	7967T13
Danger (Cont.)	
Laser Operation	7967T18
Lockout For Safety	7967T5
No Smoking	7967T16
This Equipment Starts And Stops Automatically	7967T19
Caution	
Ear Protection Required	7967T3
Eye Protection Required	7967T9
Eye Protection Required In This Area (English/Spanish)	7967T37
Hearing Protection Required In This Area (English/Spanish)	7967T38
Hot	7967T12
Keep Hands Clear	7967T14
Lockout For Safety	7967T6
No Smoking	7967T17
This Equipment Starts And Stops Automatically	7967T21
Use Static Grounding Devices	7967T33
Notice	
Authorized Personnel Only	7967T32

Illustrated Accident Prevention Labels

Peel and stick these flexible polyester labels where you need them.

Danger label headers have white letters on a red background. Symbols are black with a yellow triangle, except 5891T95, which is white with a blue background. Messages are in black letters on a white background. **Warning** label headers, symbols, and messages are black on an orange background. **Caution** labels have a header with a yellow background, black symbols, and black letters, except 5948T95, which has a white symbol on a blue background. **Notice** label header has white letters on a blue background. Symbol and message have black letters on a white background.

To Order: Please specify size.

Wd. × Ht.	Pkg. Qty.	Pkg.
1¾″ × 2½″	10	$9.33
3½″ × 5″	5	8.90



Danger 5891T92
Warning 5891T11
Caution 5948T83



Danger 5891T93
Warning 5891T12
Caution 5948T84



Danger 5891T98
Caution 5948T88



Danger 5891T94
Caution 5948T85



Danger 5891T99
Caution 5948T89



Caution 5948T91



Caution 5948T92



Caution 5948T93



Danger 5891T91
Caution 5948T94



Danger 5891T96
Caution 5948T96



Danger 5891T95
Caution 5948T95



Danger 5891T19



Danger 5891T18



Notice 5948T34

Conveyor Labels

Labels meet or exceed Conveyor Equipment Manufacturers Association standards. The symbols are black, and messages have white letters on a black background. Labels are made of adhesive-backed polyester.

Danger headers have white letters on a red background. **Warning** headers have black letters on an orange background.

To view images of these labels, go to mcmaster.com and search for the part number.

	Wd. × Ht.	Pkg. of 10
Vertical	3″ × 6″	$14.33
Horizontal	5″ × 2½″	9.97









Vertical	86075T72	86075T62	86075T42	86075T52
Horizontal	86075T71	86075T61	86075T41	86075T51

Fire Equipment Signs

Printed in red and white.

Adhesive-backed vinyl signs are 0.01″ thick. **Glow-in-the-dark adhesive-backed polyester** signs meet ASTM E2072/E2073 and DIN 67510-1 standards for photoluminescent safety markings. They are 0.008″ thick.

Plastic and **steel** signs have four 3/16″ dia. mounting holes (screws not included). Plastic are 0.055″ thick. Steel are 0.019″ thick.

To Order: Please specify part number and material.

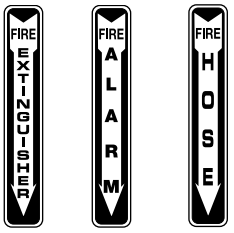



4″×18″	5758T51	5758T52	5758T54	
4″×24″	5758T2	5758T1	5758T3	
10″× 7″	5758T11			
14″×10″	5758T12			



5″× 7″	5758T8	———	5758T7	5758T9
10″×14″	5758T15	5758T5	———	———

	Adhesive-Backed							
	Vinyl		Glow-In-The-Dark Polyester		Plastic		Steel	
Wd.×Ht.	1-5	6-Up	1-5	6-Up	1-5	6-Up	1-5	6-Up
4″×18″	$3.15	$2.68	$12.27	$10.23	$7.36	$6.13	$9.60	$8.00
4″×24″	5.85	4.97	13.88	11.79	10.12	8.68	9.10	7.74
5″× 7″	3.20	2.72	10.31	8.77	6.83	5.86	4.30	3.66
10″× 7″	3.84	3.20	9.45	7.88	5.80	4.83	6.48	5.40
10″×14″	5.84	4.95	20.80	17.68	12.00	10.26	9.72	8.24
14″×10″	5.84	4.95	20.80	17.68	12.00	10.26	9.72	8.24

Two-Way View and Three-Way View Fire Equipment Signs

Identify your fire equipment from every angle by flange-mounting these red and white signs to a wall. They have two 3/16″ dia. mounting holes.

Plastic signs are 0.1″ thick. Mounting tape and screws included. **Steel** signs are 0.044″ thick. Screws not included.

Two-Way View

Images are on both sides of the panel.

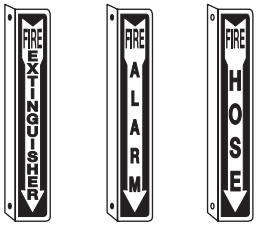

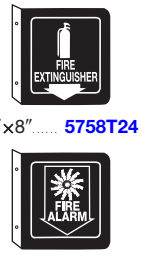

4″×18″	5758T46	———	———	8″×8″ 5758T29
4″×24″	5758T132	5758T131	5758T133	
8″×8″	5758T24			

Wd.×Ht.	Material	1-5	6-Up
4″×18″	Plastic	$29.35	$24.94
4″×24″	Steel	21.80	18.55
8″× 8″	Plastic	13.07	11.11

Three-Way View





Images are on one side of both flared panels. All are 6″ Ht. ×8″ Wd.×4″ Dp. and made of plastic.

5758T21 5758T27 **Each** 1-5 $13.50 6-Up $11.47

Sprinkler System Labels



Mark your sprinkler location with this adhesive-backed label. It has white letters on a red background and is made of 0.004″ thick vinyl. Size is 21″ Wd.×2 1/2″ Ht.

Package of 5 1049T27 1-4 $11.52 5-Up $10.63

Floor Signs

Portable yet sturdy, signs have the same message on both sides, are made of corrugated plastic, and measure 12″ Wd.×20″ Ht. Color is black and yellow.

English



A 58345T1 **B** 58345T2 **C** 58345T4 **D** 58345T7



E 58345T5 **F** 58345T6 **G** 58345T3

Each $12.86

English Reversible

Signs A-F are also available in reversible versions. The same message is printed on both sides of the sign, which can be folded over to display a second message.

Message Combination		
A and B	58345T21	$20.37
C and D	58345T32	20.37
E and F	58345T43	20.37

English/Spanish



58345T651 58345T652 58345T653 58345T654

Each $12.86

Heavy Duty Floor Signs

Signs stand the test of time, thanks to their steel construction. The same message is printed on both sides. Size is 14″ Wd.×20″ Ht. Danger headers have white letters on a red background. Messages and graphics are black on a white background.



5874T17 5874T23 5874T19

Each $49.39

Antislip Floor Signs

Don't overlook your floors. These signs have a pebbled nonskid surface and an adhesive backing that adheres to virtually any surface. Diameter is 17″.

Each 1-3 $24.71 4-Up $21.00

Black, Red, and White



8308T64


8308T58



8308T71

Red and White



8308T51



8308T11



8308T61

Black and Yellow



8308T55



8308T53



8308T59



8308T57



8308T52



8308T63



8308T72

Green and White



8308T54

360° View Floor Signs

Spread the word with these three-sided signs. Messages and graphics are black and printed on polyester fabric that is supported by spring-loaded steel legs.

All signs are 20″ wide at the base and 18″ high. They come with a 22″ Lg.×2″ Wd. storage tube that can be mounted to the wall.

11485T31 has a bilingual English/Spanish message.

Each 1-3 $39.96 4-Up $34.37



Yellow
11485T31



Orange
11485T34



Yellow
11485T41

Extra Tall 360° View Floor Signs



5967T1



5967T2



5967T3

Each panel is 15″ Wd.×32″ Ht. and displays the same message. Made of plastic, they fold flat for easy storage. Signs also have interlocking tabs so you can join them and use as a barricade. Caution headers have yellow letters on a black background. Messages have black letters on a yellow background.

Each $38.95

Multilingual Floor Signs

Communicate your warning with a multilingual message and an ANSI caution symbol. Cones are stackable and made of yellow plastic. Messages and illustrations are black.

Caution message is displayed in English, Spanish, and French. **Caution/Wet Floor** message is displayed in English and Spanish.





Ht.	Base Size, sq.	Caution	Caution/ Wet Floor	
26″	11″	5912T41	5912T42	$34.97
36″	12″	5912T43	5912T44	48.53

Security and Admittance Signs

Signs are black on white, except 18″ × 24″ signs, which are red on white. Mounting screws not included. To Order: Please specify part number and material.



12″×18″
5763T1



18″×12″
5763T2



20″×14″
5763T4



18″×24″
5763T3



20″×14″
5763T5



20″×14″
5763T7



20″×14″
5763T6

Wd.×Ht.	Mounting Holes Dia.	Qty.	
Reflective Aluminum			
12″×18″ and 18″×12″	3/8″	2	$24.57
18″×24″	3/8″	2	48.60
20″×14″	3/8″	4	33.57
Plastic			
12″×18″ and 18″×12″	3/8″	2	20.00
18″×24″	3/8″	2	28.33
20″×14″	3/8″	4	27.50
Steel			
12″×18″ and 18″×12″	3/8″	2	16.77
20″×14″	1/4″	4	21.63

Safety Scoreboard Signs

Inspire safe work habits with a visual record of accident-free days. Signs have white letters on a green background. Size is 20″ Wd.×28″ Ht. All have four 3/16″ dia. mounting holes (screws not included).

Dry erase signs are made of 0.04″ thick aluminum, and have a write-on panel for use with a dry erase marker. **Insert signs** are made of 0.04″ thick steel, and furnished with 20 numerical inserts (two each of numbers 0-9). Each holder holds up to four inserts.

Dry Erase Signs		
This Department	5917T21	$42.44
This Company	5917T22	42.44
Insert Signs		
This Department	5917T14	51.32
This Plant	5917T15	51.32
Extra Set of Numbers (one each of 0-9) for Insert Models	5917T18	$5.80



Dry Erase, This Company



Insert, This Plant

Housekeeping and Motivation Signs

10″×14″



Multicolored
56615T8



Multicolored
5728T29



Multicolored
5728T73



Multicolored
5728T54

Remind personnel to share the workspace responsibly. **Adhesive-backed vinyl** signs are 0.004″ thick. **Plastic** signs are 0.06″ thick and have four 3/16″ dia. mounting holes (screws not included). **Steel** signs are 0.04″ thick and have 1/4″ dia. mounting holes (screws not included).

To Order: Please specify part number and material.

Wd.×Ht.	Adhesive-Backed Vinyl	Plastic	Steel
10″×14″ and 14″×10″	$8.62	$11.78	$12.92
14″×20″ and 20″×14″	8.29	21.96	20.18

14″×10″



Top: White on Green
Bottom: Black on White
56615T61



Top: White on Green
Bottom: Black on White
56615T64



Top: White on Green
Bottom: Black on White
56615T63



Top: White on Green
Bottom: Black on White
56615T65



Top: White on Green
Bottom: Black on White
56615T66



Top: White on Green
Bottom: Black on White
56615T72



Top: White on Green
Bottom: Black on White
56615T73



Top: White on Green
Bottom: Black on White
56615T74



Top: White on Blue
Bottom: Black on White
5728T82



Black/Red on White
5728T85

14″×20″



Top: Green on Yellow
Bottom: Yellow on Green
5728T43



Black/Red on White
5728T45



Black on Yellow
56615T6

20″×14″



Black on White
5728T44



Black on White
5728T46

First-Aid Signs

Standard



7″×17″
5875T42



7″×17″
5875T44



7″×17″
5875T46



17″×7″ 5875T4



17″×7″ 5875T6

Signs are green and white, except AED sign, which is blue and red on a yellow background. **Adhesive-backed vinyl** signs are 0.004″ thick. **Plastic** signs are 0.06″ thick and have four 3/16″ dia. mounting holes (screws not included). **Steel** signs are 0.04″ thick, galvanized, and have four 1/4″ dia. mounting holes (screws not included).

To Order: Please specify part number and material.

Wd.×Ht.	Adhesive-Backed Vinyl 1-5	Adhesive-Backed Vinyl 6-Up	Plastic 1-5	Plastic 6-Up	Steel 1-5	Steel 6-Up
7″×17″ and 17″×7″	$5.70	$4.81	$11.78	$9.94	$11.04	$9.31
10″× 7″	3.84	3.25	8.52	7.22	8.68	7.36
10″×14″ and 14″×10″	6.95	5.91	15.14	11.78	15.38	11.96



10″× 7″ 5875T64
14″×10″ 5875T65



10″× 7″ 5875T51
14″×10″ 5875T56



10″× 7″ 5875T54
14″×10″ 5875T58



10″× 7″ 5875T71
14″×10″ 5875T72



10″×14″ 4892T31

Two-Way View and Three-Way View

Two-Way View



5875T117



5875T112



4892T78

Three-Way View



5875T118



5875T115



4892T76

For the best visibility in any hallway or building, choose these plastic signs that jut out from the wall. They have two 3/16″ dia. mounting holes (mounting tape and screws included). Signs are green and white, except AED signs, which are red on a white background. **Two-way-view** signs are 8″ Wd.×8″ Ht., and are printed on both sides of the panel. **Three-way-view** signs are 6″ Ht.×9″ Wd.×4″ Dp., and are printed on one side of both flared panels.

	1-5	6-Up
Two-Way View	$13.07	$11.20
Three-Way View	11.74	10.06

Door Signs

To view images of these signs, go to mcmaster.com and search for the part number.

Black Letters on White Background

These steel signs are 10″ Wd.×2½″ Ht. and have rounded ends and two 3/16″ dia. mounting holes (screws not included).



5766T13

Each $7.18

Message		Message	
Employees Only	5766T13	No Admittance	5766T22
Keep Closed	5766T18	Wash Your Hands Before Returning To Work	5766T28
Ladies	5766T19		
Men	5766T21		

White Letters on Blue Background

Signs are steel, 24″ Wd.×4″ Ht., and have four 1/4″ dia. mounting holes (screws not included).



5766T47

Each $12.68

Message		Message	
Employees Entrance	5766T31	Office	5766T45
No Admittance Except To Employees On Duty	5766T41	Receiving Dept.	5766T46
		Shipping Dept.	5766T47

Blue and White



5766T44



5766T53

Both are steel, 20″ Wd.×14″ Ht., and have four 1/4″ dia. mounting holes (screws not included). Fill in the blank receiving and shipping hours on 5766T53 with vinyl numbers up to 2″ high (see pages 1966-1967) or a permanent marker such as series 1661T on page 1972.

Each $22.10

Engraved Door Signs

Edges are beveled on these adhesive-backed plastic signs for a more polished look. Overall size is 8″ Wd.×2″ Ht. 6034T27 and 6034T29 are 2″ Wd.×8″ Ht.

To view images of these signs, go to mcmaster.com and search for the part number.

Each $12.38

White Letters on Black Background

Message	
Office	6034T51
Conference Room	6034T53
Engineering	6034T55
Maintenance	6034T57
Ring Bell For Service	6034T59
Storage Room	6034T61



6034T51

White Letters on Red Background

Message	
Entrance	6034T19
Exit	6034T18
No Admittance	6034T28
No Smoking	6034T17
Please Keep Door Closed	6034T37



6034T19

White on Black, Black on Gold, and Black on Silver

To Order: Please specify letter color and background color (white on black, black on gold, or black on silver).

Message	
Horizontal	
Restroom	6034T26
Men	6034T41
Women	6034T42
Employees Only	6034T43
Vertical	
Push	6034T27
Pull	6034T29



6034T26

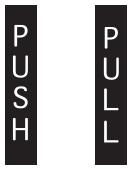

6034T27 6034T29

Two-Way-View Door and Aisle Signs

Organize your workplace by applying vinyl letters to these white plastic signs. All signs have a 2″ wide flange for mounting.

Adhesive-mount signs have a flange with adhesive backing.

For peel-and-stick characters, see pages 1966-1967.



(Characters Sold Separately)

Wd.×Ht.	Magnetic-Mount Signs		Adhesive-Mount Signs	
6″×8″	1510T3	$6.27	1510T7	$5.00
14″×8″	1510T4	9.72	1510T8	7.04

Made-to-Order Engraved Door Signs

Background Color	Letter Color
Black	White
Red	White
Walnut	White
Gold	Black
Silver	Black

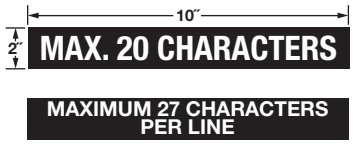

Signs are made of plastic.

To Order: Please specify background color, number of lines, and message. Note: If two lines are desired, specify line-one and line-two wording. A space counts as one character.

		1-5	6-Up
Plain Backed	5942T41	$19.83	$16.91
Adhesive Backed	5942T42	21.59	18.41

Dock Door and Aisle Signs

For high visibility both indoors and out, the black characters stand in contrast against a white background. All signs are made of aluminum. They have four 3/16″ dia. mounting holes (screws not included).

To Order: For the single-character sign, please specify individual character (0-9, A-Z). For two-character signs, please specify two characters (0-9, A-Z) in any combination.



2345T3 2345T4 2345T5 2345T9

Wd.×Ht.	Message		
10″×14″	Single Character	2345T3	$14.27
10″×14″	Two Character	2345T4	28.21

Wd.×Ht.	Message		
20″×14″	Two Character	2345T5	$35.90
20″×14″	Dock	2345T9	21.03

Arrow Signs

All are black and white and made of steel. Signs are 14″ Wd.×6½″ Ht. and have four 1/4″ dia. mounting holes (screws not included).

8319T52 and 8319T62 have a blank area for use with letters up to 2½″ high (see pages 1966-1967) or a permanent marker such as series 1661T on page 1972.

Each $15.17











Arrow Left	8319T16	8319T33	8319T44	8319T22	8319T52
Arrow Right	8319T11	8319T35	8319T42	8319T19	8319T62

ADA-Compliant Signs

Meet federal regulations for the visually impaired and comply with the Americans with Disabilities Act. All signs are plastic. They include tape and guidelines for mounting.

8″×8″ Signs

Signs have white symbols and letters. They also have Grade 2 Braille, except 8390T71. **To Order:** Please specify black, blue, or brown background.

Restroom signs require one of the corresponding 12″ signs below to meet ADA compliance standards in California.



8390T73



8390T78



8390T76



8390T75



8390T72



8390T74 ★



8390T79 ★



8390T77 ★


8390T71



8390T82

★ Also available in English/Spanish with black or blue background.

Each $25.00

Holders for 8″×8″ Signs


Optional Frame


Optional Flange-Mount Bracket

Optional Frame	8390T87	$25.76
Optional Flange-Mount Bracket	8390T88	46.30

12″ Signs

Signs have white symbols on a blue background. They require the matching 8″×8″ sign above to meet ADA compliance standards.


Restroom


Women


Men

Restroom (12″ Dia.)	8390T33	$51.19
Women (12″ Dia.)	8390T32	35.56
Men (12″×12″×12″)	8390T31	35.56

Restroom Signs


Single Sided



Two-Way View



Three-Way View

Single-sided signs are 6″ Ht.×6″ Wd.×0.04″ Thick. and made of aluminum. They have a white symbol on a brown background. Mounting tape is not included.

Two-way-view and **three-way-view signs** are 0.13″ thick plastic and have blue symbols and messages on a white background. Mounting tape and screws are included.

Two-way-view signs are 8″ Wd.×8″ Ht. and have images on both sides of the panel. Flange is 4″ wide.

Three-way-view signs are 6″ Ht.×9″ Wd.×4″ Dp. and have images on one side of both flared panels.

	Men	Women	
Single Sided	5850T13	5850T14	$5.29
Two-Way View	57295T442	57295T662	15.69
Three-Way View	57295T441	57295T661	14.09

Recycling Labels

Identify bins for recyclables. Labels are 8″ Wd.×2″ Ht. adhesive-backed vinyl. Color is black and green on a white background.



4055T41



4055T44



4055T43



4055T45

Package of 24 ..... $7.32

Liquid and Gas Storage Signs

Signs are made of adhesive-backed vinyl.

Container Storage



Signs are 24″ Wd.×6″ Ht. with a white background. Letter color is blue (except 5209T53, 5209T58, 5209T61, and 5209T62 are red).

Message		Message	
Anti-Freeze	5209T51	Hydraulic Oil	5209T57
Diesel	5209T52	Kerosene	5209T58
Flammable	5209T53	Motor Oil	5209T59
Fuel Oil	5209T54	Non-Flammable	5209T61
Gear Oil	5209T55	Unleaded Fuel	5209T62
Hydraulic Fluid	5209T56	Waste Oil	5209T63

Each $4.96

Gas Cylinder Storage

Signs are 10″ Wd.×7″ Ht. and have white letters. Background is blue for 5209T81, red for 5209T82, and green for 5209T83.



5209T81



5209T82



5209T83

Each $6.32

Hazardous Material Signs and Tags


NFPA Diamond Sign

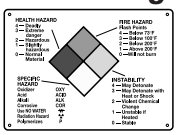
NFPA Sign



Color Stripe Sign

Provide appropriate code numbers for hazards. Color scheme is blue, red, white, and yellow.

Signs—Post the **NFPA (National Fire Protection Association) diamond** and write in the numbers or use adhesive-backed numbers. **NFPA** and **color stripe** signs explain the code numbers and colors.

Adhesive-backed vinyl signs are 0.004″ thick. *Fiberglass* signs are 0.1″ thick and have four 7/32″ dia. mounting holes (screws not included).

Tags—A clear polyester cover protects the surface of these tags. They include a 7″ long cable tie and a 3/8″ dia. grommet.

Wd.×Ht.	Material	Pkg.Qty.		Pkg.
Signs				
NFPA Diamond				
5″×5″	Adhesive-Backed Vinyl	5	14035T23	$13.26
10½″×10½″	Adhesive-Backed Vinyl	1	14035T25	5.20
11″×11″	Fiberglass	1	14035T22	20.98
NFPA				
14″×10″	Fiberglass	1	14035T16	24.98
Color Stripe				
14″×10″	Fiberglass	1	14035T18	24.98
Tags				
NFPA				
3″×5¾″	Vinyl	5	1290T73	7.43
Color Stripe				
3″×5¾″	Vinyl	5	1290T74	7.43

Hazardous Chemical/Gas Signs and Labels



All signs and labels are red and white. ***Signs*** are 10″ Wd.×8″ Ht.×0.055″ Thick. polyethylene. ***Labels*** are 4½″ Wd.×3½″ Ht. ×0.005″ Thick. adhesive-backed vinyl.

To Order: Please specify chemical/gas.

Chemical/Gas	Chemical/Gas	Chemical/Gas
Acetone	Diesel Fuel	Nitric Acid
Acetylene Gas	Gasoline	Nitrogen
Alcohol	Hydrochloric Acid	Oil
Anhydrous Ammonia	Isopropanol	Oxygen Gas
Argon Gas	Kerosene	Propane
Carbon Dioxide	Lacquer Thinner	Sodium Hypochlorite
Caustic Soda	Methyl Ethyl Ketone	Sulfuric Acid
Chlorine	Mineral Spirits	

Sign	5961T1	$6.04
Labels (Package of 5)	1297T4	10.44

Hazardous Material Storage Labels

Before storing hazardous materials, attach one of these adhesive-backed vinyl labels and write in your information.

The 4″×4″ label is white with a red background, the 6″×6″ label is red on a yellow background, and the 7½″×4″ label has colored tabs to indicate flammable (red), corrosive (yellow), irritant (blue), store (green), and process (orange).

Wd.×Ht.	Pkg. Qty.		Pkg. 1-4	Pkg. 5-Up
4″×4″ Hazardous Waste	3	5858T42	$9.65	$7.17
6″×6″ Hazardous Waste	5	5858T56	4.86	3.09
7½″×4″ Chemical	2	5858T44	13.37	9.34



4″×4″ Hazardous Waste Label



6″×6″ Hazardous Waste Label

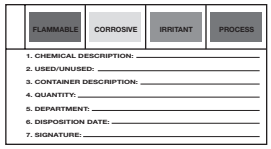

7½″×4″ Chemical Label

Write-On Hazardous Material Labels

Get the message across about hazardous materials in your workplace. All are made of adhesive-backed vinyl.

Labels

Write the appropriate code numbers on the labels with permanent markers, or use graphic labels (sold separately below) to convey information about personal protection. The color scheme is blue, red, white, and yellow.

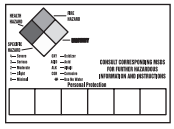

NFPA

Color Stripe

Wd.×Ht.	Pkg. Qty.		Pkg. 1-4	Pkg. 5-Up
NFPA (National Fire Protection Association)				
5″× 3″	10	5026T44	$10.02	$8.44
10″× 7″	5	5026T42	13.04	10.98
Color Stripe				
3″× 5″	5	5026T46	10.02	8.44
7″×10″	5	5026T45	15.12	12.74

Graphic Labels



Goggles | Face Shield | Respirator | Dust Mask | Apron



Gloves | Boots | No Smoking | Poison | Flammable | Corrosive

To Order: Please specify graphic label.

Wd.×Ht.	Graphic Labels per Card		Card 1-4	Card 5-Up
¾″× ¾″	36	5026T11	$4.33	$3.65
1½″×1½″	9	5026T22	4.33	3.65

Right-to-Understand Stations



English Station with Binder



English Station with Binder and Training Booklets

Give employees access to Safety Data Sheets (SDS) according to OSHA's Hazard Communication Standards.

Station with binder has a plastic board, binder rack, and SDS binder. Colors are red and white. Station is 19¼″ Ht.×13½″ Wd.×4¾″ Dp. and has four 3⁄16″ dia. mounting holes (screws not included).

Station with binder and training booklets comes with 10 booklets. Station is plastic with red letters on a white background. It is 23¼″ Ht.×27½″ Wd.×4¾″ Dp. and has four 3⁄16″ dia. mounting holes (screws not included). *English/Spanish* station comes with five booklets in English and five in Spanish.

	English		English/Spanish	
Station with Binder	9390T11	$112.86	9390T21	$112.86
Station with Binder and Training Booklets	9390T13	234.29	9390T23	234.29

Concealed Carry Signs

Communicate your policy regarding the possession and use of firearms on a work site. Colors are red and black with a white background.

Plastic and *aluminum* signs have four 3⁄16″ mounting holes (screws not included).



	6″×4″		10″×10″	
Adhesive-Backed Vinyl	1135N21	$5.28	1135N11	$8.96
Plastic	1135N23	6.56	1135N13	10.60
Aluminum	1135N25	9.90	1135N15	18.77

D.O.T. Vehicle Signs

Signs are vinyl and meet the Department of Transportation Hazardous Material (HM)-181 requirements (D.O.T. 49 CFR 172.519). Size is 10¾″×10¾″. *Adhesive-backed* signs are 0.004″ thick and flexible. *Rigid* signs are 0.02″ thick and fit in a sign holder (sold separately).

Holder for rigid signs is aluminum with one stainless steel clip. It has eight 3⁄16″ dia. mounting holes (screws not included).

Signs	
Adhesive-Backed	$2.00
Rigid	5.25
Holder for Rigid Signs 59125T75	$12.53

ⓘ To view additional D.O.T. vehicle signs, go to mcmaster.com and search for 59125T888.

White on Red



Black on Yellow



White on Green



Adhesive-Backed	59125T213	59125T222	59125T223	59125T832	59125T837	59125T226
Rigid	59125T313	59125T322	59125T323	59125T834	59125T839	59125T326

Red, Black & White



Black & White



Adhesive-Backed	59125T506	59125T507	59125T218	59125T235	59125T214	59125T221	59125T211
Rigid	59125T606	59125T526	59125T318	59125T335	59125T314	59125T321	59125T311

Globally Harmonized System (GHS) Labels



1197N111 1197N112 1197N113 1197N114 1197N115 1197N116 1197N117 1197N118 1197N119

Prevent health hazards resulting from exposure to chemicals using the UN system of classification. Labels are adhesive-backed vinyl with black symbols and a red frame on a white background.

Wd. × Ht.	Pkg. of 16
1″ × 1″	$9.91

Parking Signs

Make parking lot restrictions clear to drivers. For sign posts, see page 1914.

Reflective aluminum signs are 0.08″ thick. All have 3/8″ dia. mounting holes (screws not included). 12″×18″ signs have two mounting holes; 14″×7″ have six mounting holes; and 20″×14″ have four mounting holes.

Galvanized steel signs are 0.048″ thick. 12″×18″ signs have two 3/8″ dia. mounting holes; 14″×7″ and 20″×14″ have four 1/4″ dia. mounting holes.

Wd. × Ht.	Reflective Aluminum	Galvanized Steel
12″ × 18″	$29.48	$16.77
20″ × 14″	33.57	21.63
14″ × 7″	24.40	14.27

12″×18″ Red on White



Reflective Aluminum	3481T1	3481T18	3481T38	3481T12	3481T4	3481T7	3481T2
Galvanized Steel	5794T18	5794T112	5794T131	5794T19	5794T25	5794T22	5794T29

12″×18″ Red on White



Reflective Aluminum	3481T6	3481T3	3481T5	3481T16
Galvanized Steel	5794T21	5794T13	5794T134	5794T463

12″×18″ Black and Red on White



Reflective Aluminum	3481T19	3481T21	3481T22
Galvanized Steel	5794T113	5794T14	5794T15

12″×18″ Blue on White



Reflective Aluminum	3481T17
Galvanized Steel	5794T111

12″×18″ Black on White



Reflective Aluminum	3481T26	3481T25	3481T24	3481T14	3481T9	3481T8	3481T11	3481T13	3481T15
Galvanized Steel	5794T43	5794T42	5794T33	5794T138	5794T136	5794T135	5794T137	5794T462	5794T461

20″×14″ Black on Yellow



Reflective Aluminum	3481T27	3481T23	3481T33	3481T28	3481T29	3481T36	3481T37
Galvanized Steel	5794T57	5794T27	5794T76	5794T62	5794T66	5794T88	5794T96

20″×14″ Black on Yellow

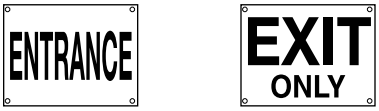

Reflective Aluminum	3481T31	3481T32
Galvanized Steel	5794T71	5794T73

14″×7″ Green on White



Reflective Aluminum	3481T34	3481T35
Galvanized Steel	5794T79	5794T81

Made-to-Order Parking and Traffic Control Signs



Create your own message on these aluminum signs, which have two 3/8″ dia. mounting holes (screws not included). For sign posts, see page 1914.

To Order: Please specify exact message and letter/background combination: black on white, red on white, white on blue, or white on red. **Reflective aluminum** signs are also available in black on yellow.

Wd. × Ht.	Aluminum	1-2	3-Up	Reflective Aluminum	1-2	3-Up
12″ × 18″	3654T2	$42.33	$39.37	3654T1	$54.62	$50.80
18″ × 12″	3654T4	42.33	39.37	3654T3	54.62	50.80
18″ × 24″	3654T6	60.11	56.52	3654T5	76.38	71.03
24″ × 18″	3654T8	60.11	56.52	3654T7	76.38	71.03
24″ × 24″	3654T11	73.44	68.30	3654T9	87.38	81.26

Handicapped Parking Signs

Signs have two 3/8" dia. mounting holes (screws not included). For sign posts, see page 1914.

Wd. x Ht.	Aluminum	Reflective Aluminum
12" x 6"	$16.80	$16.80
12" x 18"	27.40	29.48
18" x 24"	56.20	58.32

12" x 6" White on Blue







Aluminum	5939T41	5939T55	5939T57
Reflective Aluminum	1550T25	1550T29	1550T31

12" x 18" White on Blue











Aluminum	5939T35	5939T36	5939T38	5939T37	5939T39
Reflective Aluminum	1550T11	1550T12	1550T14	1550T13	1550T15

12" x 18" Green and Blue on White





Aluminum	5939T31	5939T32
Reflective Aluminum	1550T16	1550T17

18" x 24" White on Blue



5939T34
1550T28

Traffic Control Signs

All signs are made of reflective aluminum. Signs have two 3/8" dia. mounting holes (screws not included). For sign posts, see page 1914.

Wd. x Ht.	
10"x30"	$48.56
12"x18"	29.48
18"x24" and 24"x18"	56.36
24"x24"	64.60

Wd. x Ht.	
30" Dia.	$122.60
30"x30"	94.32
30"x30"x30"	63.00
36"x12"	56.36

Black on White













12"x18"	5940T65★	5940T69	5940T73	5940T74	5940T75	5940T76
18"x24"	5940T42★	5940T82	5940T83	5940T47	5940T46	

★ To Order: Please specify speed limit in increments of 5, beginning at 5 miles per hour (5, 10, 15, ...etc.).



24"x18"
5940T84



24"x18"
5940T85



36"x12"
5940T98



36"x12"
5940T97

Black on Yellow



10"x30"
5940T43



10"x30"
5940T45



12"x18"
5940T66



18"x24"
5940T78



24"x24"
5940T91



30"x30"
5940T96



30" Dia.
5940T77

Green and White



18"x24"
5940T49

Red and White



24"x24"
5940T89
30"x30"
5940T72



24"x24"
1675T41



24"x24"
1675T42



24"x24"
1675T43



24"x24"
1675T44



24"x24"
1675T45



24"x24"
1675T46

Red and White



12"x18"
5940T67
18"x24"
5940T81



24"x24"
5940T95



30"x30"x30"
5940T62

Black and Red on White



24"x24"
5940T92

24"x24"
5940T93

24"x24"
5940T94

24"x24"
5940T79

Hand-Held Traffic Control Signs



Guide foot as well as vehicle traffic. Made of reflective aluminum, signs are 18″×18″ and have a 9″ long plastic handle. They have a message on both sides—stop side is white on red and slow side is black on orange.

Stop/Stop	5940T55	$40.30
Stop/Slow	5940T54	40.30

Sign Posts


Sign Posts


Reflective Marker

You'll get unbeatable durability from these steel sign posts. Holes are 3/8″ dia. on 1″ centers. Posts are for use with signs up to 18″×24″. Choose **galvanized steel** for enhanced corrosion resistance.

Drive cap prevents damage to the top of the post during installation. *Reflective marker* converts the sign post into a warning device. Marker is black on yellow reflective aluminum and is 30″ Ht.×3″ Wd. Mount using the two 3/8″ dia. holes (screws not included). *6-lb. aluminum base* is 15″ in dia. with a bracket that fits into the U-channel of the sign post. Base has three 9/16″ holes for bolting down when used outdoors (screws not included). *70-lb. concrete base* is 18″ in dia. with a bracket that fits into the U-channel of the sign post.

Overall Ht.	Overall Wd.	Green Painted Steel		Galvanized Steel	
Sign Posts					
6 ft.	2 3/16″	5735T4	$27.29	5735T61	$36.67
7 ft.	2 3/16″	5735T36	30.44	5735T62	41.04
8 ft.	3 1/8″	5735T5	33.23	5735T63	54.85
10 ft.	3 1/8″	5735T2	41.48	5735T64	61.14
12 ft.	3 1/8″	5735T3	49.80	5735T65	69.62
Accessories					
Drive Cap (for 8-, 10-, and 12-ft. posts)		5735T7	$49.83		
Reflective Marker		1546T5	14.34		
6-lb. Aluminum Base with Bracket for Posts		5735T81	125.00		
70-lb. Concrete Base with Bracket for Posts		5735T82	110.53		
Replacement Bracket for Posts		5735T85	23.36		

Portable Sign Posts



Put your sign in a prominent place, then relocate it as you see fit. This indoor/outdoor post is steel with a black painted finish. It has a 14″ dia., 32-lb. cast iron base. Mount the post to the base with the included hex bolt. Overall height is 48″; post OD is 1 7/8″. For use with signs that are 18″ or 24″ high.

5788T11		$98.00

Sign Mounting Brackets



A pair of these brackets allows you to mount a sign to an existing 4″ to 12″ diameter pole. Bracket is galvanized steel; strap is stainless steel. For use with signs that have 3/8″ diameter mounting holes.

	Pair 1-5	Pair 6-Up
1307T21	$16.03	$14.25

Railroad Signs

Stop them in their railroad tracks. Signs are made of reflective white on blue powder-coated steel. They are printed on one side and have two 5/8″ dia. mounting holes (screws not included). **Optional bracket** is zinc-plated steel and attaches to a rail. It also has two 5/8″ dia. mounting holes (screws not included).



2280T31



2280T32



2280T34



Optional Bracket

15″ Wd.×12″ Ht. Railroad Sign		$20.30
Optional Bracket	2280T35	$23.83

Bounce-Back Sign Posts

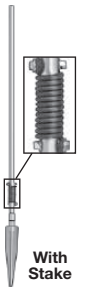
With Stake


With Bollard and Base

Reduce damage to signs, parking lot surfaces, and vehicles by installing these posts that rebound after contact. Made of steel, posts are 1 5/8″ OD with a spring at their base that offers 360° of flexibility. Mounting hardware and sign mounting brackets are included. **Posts with base** have a 9″ square base for mounting. **Posts with stake** are for driving into the ground.

Sign posts with bollard have a 52″ Ht.×7″ Wd. yellow plastic bollard with two reflective red bands for increased visibility.

Replacement sign mounting brackets are aluminum and allow you to mount signs up to 30″×30″ to the post (screws included). Use them in pairs.

	O'all Ht., ft.	With Base		With Stake	
Sign Post	6 1/2	5735T71	$206.33	5735T72	$206.33
Sign Post with Bollard	8 1/2	5735T91	322.21	5735T92	322.21
Replacement Sign Mounting Brackets (Pkg. of 2)		5735T79	$42.02		

Cardstock Accident Prevention Tags



5860T31



5860T13

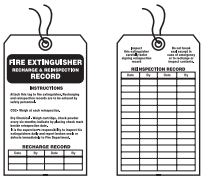
Front and Back of 5860T51

Alert workers of hazardous equipment the safe and professional way. Made of cardstock, these tags have one zinc grommet and two 6″ strings to attach to equipment. Each tag has space for a signature and date. Size is 7″ Ht.×4″ Wd. Use them to conform to OSHA 29 CFR 1910.145(f) and ANSI Z535. For blank cardstock tags, see page 1990.

Danger tags have headers with white letters surrounded by red with a black border. Messages have black letters on a white background.

Caution tags have headers with yellow letters on a black background. Messages have black letters on a yellow background.

Fire extinguisher inspection tag has a header with white letters on a red background. The rest of the tag is white with black letters.

To view images of these tags, go to mcmaster.com and search for the part number.

Package of 25 ... 1-3 $11.78 4-Up $10.02

Danger Tags

Message		Message	
Blank	5860T44	Hands Off/Do Not Operate	5860T32
Do Not Close Valve	5860T39	High Voltage	5860T43
Do Not Open Valve	5860T41	Out Of Order	5860T33
Do Not Operate	5860T31	Unsafe/Do Not Use	5860T35
Do Not Start This Machine	5860T37		

Caution Tags

Message		Message	
Blank	5860T13	Do Not Operate	5860T11
Defective/Do Not Use	5860T12		

Fire Extinguisher Inspection Tag

Message	
Fire Extinguisher Recharge and Reinspection Record	5860T51

Laminated Tags

Sealed in plastic, these tags stand up to the harshest environments. Write on them using permanent markers such as 1661T on page 1972. Tags are 3⅛″ Wd. × 5⅝″ Ht. with a ⅜″ dia. zinc grommet. Thickness is 0.025″. They help you conform to OSHA 29 CFR 1910.145(f) and ANSI Z535.2-1991. For blank cardstock tags, see page 1990.

Danger Tags—Headers have white letters surrounded by red with a black border. Messages have black letters on a white background (except 5775T72, which has white letters on a red background). *Lockout/tagout danger tags* also help you conform to OSHA 1910.147 for lockout/tagout applications.

Caution Tags—Headers have yellow letters on a black background. Messages have black letters on a yellow background.

Nylon Cable Ties—11″ long.

Nickel-Plated Steel Bead Chains—12″ long.

		Pkg. Qty.	Per Pkg.
Tags		10	$15.57
Nylon Cable Ties (100/Pkg.)	7130K15	Per Pkg.	$7.01
Nickel-Plated Steel Bead Chains (10/Pkg.)	5775T87	Per Pkg.	$8.25

Lockout/Tagout Danger Tags



5775T11



5775T38



5775T71



5775T37



5775T24



5775T32



5775T13



Back of Seven Preceding Tags



5775T72 Front & Back



5775T42 Front & Back

Lockout/Tagout Danger Tags



5775T54



Back of 5775T54



5775T74



Back of 5775T74



5775T61



Back of 5775T61



5775T49



Back of 5775T49



5775T43



Back of 5775T43

Lockout/Tagout Danger Tags



5775T73 Front & Back



5775T57



Back of 5775T57

English/Spanish Lockout/Tagout Danger Tags



5815T11



Back of 5815T11



5815T12



Back of 5815T12



5815T19



Back of 5815T19

Danger Tags



5775T21



5775T17



5775T16



5775T77



Back of Four Preceding Tags



5775T14



Back of 5775T14



5775T44



Back of 5775T44



5775T48



Back of 5775T48

Danger Tags

5775T75

5775T76

Back of 5775T75 & T76

English/Spanish Danger Tag

5815T15

Back of 5815T15

Caution Tags

5813T11

Back of 5813T11

5813T12

Back of 5813T12

5813T13

Back of 5813T13

Write-On Tags with See-Through Covers

Protect your message from wear—just peel back the clear plastic flap, write your message on the front of the tag, and then permanently cover it with the flap. Made of 0.015″ thick vinyl, these tags are 3 1/8″ Wd. × 5″ Ht. with a 3/8″ ID brass grommet and 6 3/4″ long nylon tie. Tags meet ANSI Z535.2-1991 and OSHA 29 CFR 1910.145(f).

For permanent markers, see 1661T on page 1972.

Danger tags have headers with white letters surrounded by red with a black border. Messages have black letters on a white background.

Valve No. tag has black letters on a blue, green, red, or yellow background. **To Order:** For valve tag, please specify background: blue, green, red, or yellow.

Danger Tags



5800T43



5800T47



Back of 5800T43 & 5800T47



5800T48

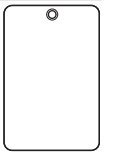

Back of 5800T48

Valve No. Tag



5800T2 Front & Back

Pkg. (10/Pkg.) 1-4 $16.25 5-Up $13.82

Lockout Maintenance Tags and Data Sheets



Front of Tag



Back of Tag

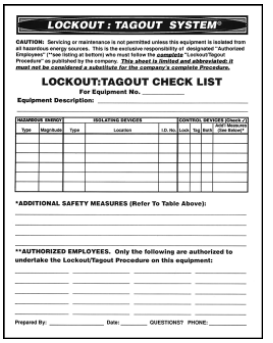

Data Checklist Sheet

Manage your lockout/tagout procedures. Made of white cardstock, tags and sheets have blue lettering and provide space to write information. Hole ID is 3/8″.

Tags are 0.027″ thick and display lockout information for a particular machine. Size is 2 7/8″ Wd. × 5 3/8″ Ht.

Data checklist sheets are 0.017″ thick and allow you to keep detailed lockout records. Size is 8 1/2″ Wd. × 11″ Ht.

Nylon cable ties are 11 1/4″ long.

	Pkg. Qty.		Pkg. 1-4	Pkg. 5-Up
Tags	10	8182T45	$3.69	$3.13
Data Checklist Sheets	5	8182T44	5.30	4.18
Nylon Cable Ties (100/Pkg.)		7130K15	Pkg.	$7.01

Shatter-Resistant Plastic Sign Holders



Your messages are too important to risk wear and tear. Made of clear acrylic with rubber for added flexibility, these sign holders are shatter resistant for long life. Insert materials from the sides. A mounting hanger is included.

Maximum Sign Size, Wd. × Ht.		
5″ × 7″	13325T41	$5.78
8 1/2″ × 11″	13325T42	7.92
11″ × 14″	13325T43	13.18
18″ × 24″	13325T44	29.08
22″ × 28″	13325T45	47.10
24″ × 36″	13325T46	72.30

Frame-Style Sign Holders



Sign Not Included

Give your signs authority and distinction in these sturdy, durable holders. A clear plastic cover protects certificates, licenses, and other documents. Simply slide in materials on one of the short sides.

Mount with screws or tape with adhesive on both sides (neither are included). **Aluminum** sign holders have six 1/8″ dia. mounting holes.

Maximum Sign Size, Wd. × Ht.	Aluminum		Oak	
9″ × 6″	5710T5	$26.49	5710T21	$28.83
11″ × 8 1/2″	5710T1	29.86	5710T22	34.96
17″ × 11″	5710T7	37.03	5710T23	44.28
23″ × 17″	5710T3	44.62	5710T24	49.39

Lockout Organizing Stations



12″ Wd. × 9″ Ht.



12″ Wd. × 19″ Ht.

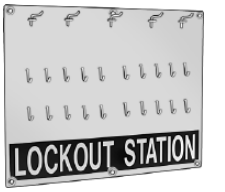

24″ Wd. × 19″ Ht.

Highly visible stations keep your locks, tags, and lockouts organized and ready for use. Stations are made of yellow plastic and mount with 3/8″ dia. screws (not included).

Wd.	Ht.	For Max. Number of Padlocks	Tags	Lockouts	No. of Mount. Holes		
12″	9″	4	25	—	4	8270T61	$21.40
12″	19″	10	25	3	4	8270T62	36.50
24″	19″	20	50	6	6	8270T63	53.00

Lockout Labels



5797T21



5797T23

Remind workers to use lockout devices with these self-adhesive vinyl labels. They're 0.004″ thick and have black letters on a yellow background. Size is 4 1/2″ Wd. × 2 1/4″ Ht.

Pkg. (10/Pkg.) 1-4 $9.79 5-Up $8.68

Parking-Permit Tags



Hang these 0.023″ thick plastic tags from your vehicle's rearview mirror. Printed on one side, tags have white lettering on a red background with a white border. A 1 1/2″ Wd. × 5/8″ Ht. writing area lets you number and label them as needed. Use permanent markers such as 1661T on page 1972. Overall size is 2 3/4″ Wd. × 4 3/4″ Ht. Package quantity is 5.

	Pkg. 1-4	Pkg. 5-Up
8587T34	$8.57	$7.29

Tabletop Sign Holders



Slant Back



Straight Back

Personnel and visitors may be missing out on important information. These clear acrylic stands are a quick and easy way to prominently display documents and signs on a table or countertop.

Slant-back stands are for one-sided viewing. Insert materials from the sides or bottom.

Straight-back stands allow viewing from both sides. Insert materials from the top or sides.

Maximum Sign Size, Wd. × Ht.	Slant Back		Straight Back	
5″ × 7″	13315T23	$3.62	13315T33	$4.47
8 1/2″ × 11″	13315T25	9.28	13315T35	13.12
11″ × 14″	13315T26	17.84	13315T36	20.98

Snap-Close Sign Holders

Snap open any side of the frame to insert a sign.

Plastic sign holders are black with steel-reinforced corners. They come with a mounting hanger.

Plastic covers are clear sheets that protect documents in the plastic sign holder.

Aluminum sign holders come with a clear plastic cover to protect documents. Mounting fasteners included.



Aluminum

Max. Sign Size Wd.	Ht.	O'all Size Wd.	Ht.	Thick.	Sign Holders		Covers	
Plastic								
8½″	11″	9¼″	11¾″	¼″	5898T55	$10.18	5898T65	$2.10
11″	14″	11¾″	14¾″	¼″	5898T56	13.85	5898T66	3.36
15″	20″	15¾″	20¾″	¾″	5898T57	19.65	5898T67	4.60
20″	24″	20¾″	24⅛″	¼″	5898T45	23.46	5898T68	10.02
24″	36″	24⅛″	36⅞″	¼″	5898T46	30.68	5898T69	11.05
30″	40″	30¾″	40¾″	¼″	5898T47	41.55	5898T71	16.54
Aluminum								
8½″	11″	10″	12½″	⅝″	5898T81	44.57		
11″	17″	12½″	18½″	⅝″	5898T82	52.81		
17″	22″	18½″	23½″	⅝″	5898T83	64.76		
22″	28″	23½″	29½″	⅝″	5898T84	77.76		
24″	36″	25½″	37½″	⅝″	5898T85	92.55		
28″	44″	29½″	45½″	⅝″	5898T86	108.83		

Tamper-Resistant Sign Holders

Lock the frame with the included Torx key to protect your signs from tampering. These holders have a black powder-coated steel frame. The display area is ⅛″ thick clear acrylic. Hinges are 304 stainless steel.

Mount holders to a wall using included fasteners. To mount to a pole, holders have four 1″ long slots for worm-drive hose clamps or steel banding (not included).



Max. Sign Size Wd.	Ht.	O'all Size Wd.	Ht.	Thick.		
8½″	11″	10¾″	13¾″	½″	1112T61	$87.75
11″	17″	13¼″	19¼″	½″	1112T71	95.50

Drop-In Sign Holders

Swap signs in and out quickly.

Wall-mount sign holders are clear acrylic. They have two ⅛″ dia. mounting holes (fasteners not included).

Freestanding sign holders have an aluminum frame and pedestal that adjusts from 26″ to 50″ high. Insert signs through the top opening. The frame comes with a clear plastic cover to protect documents.



Wall Mount (Sign Not Included)



Freestanding

Max. Sign Size Wd.	Ht.	Choose a Color		
Wall Mount				
10″	7″	Clear	1004T23	$12.84
14″	10″	Clear	1004T24	18.69
20″	14″	Clear	1004T25	39.07
Freestanding				
8½″	11″	Black, Silver	1063N2	87.16
11″	8½″	Black, Silver	1063N1	87.16

Glass-Mount Sign Holders

Display signs on glass surfaces. These clear acrylic holders have four transparent suction cups and are UV stable. Insert materials from the top and sides.

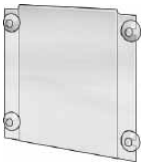

Max. Sign Size Wd.	Ht.		
8½″	11″	4946T82	$17.60
11″	14″	4946T83	28.40

Stand-Up Literature Holders

Keep your brochures organized and visible with these clear plastic holders.



Pocket Size Wd.	Ht.	Dp.	O'all Size Wd.	Ht.	Dp.		
4″	4¼″	1½″	4½″	7″	3″	8145T21	$5.40
6¼″	4¼″	1¾″	6¾″	7⅝″	3½″	8145T22	7.17
8⅝″	5″	1½″	9¼″	9⅝″	3¾″	8145T23	9.83

Message Boards

Present messages legibly and professionally. These boards have a black grooved surface for mounting characters and an aluminum frame. Boards come with a 327-piece assortment of ¾″ high white Gothic characters. Mount on a wall using the included mounting brackets (fasteners not included).

Enclosed boards control access to messages and guard against tampering. They have locking, shatter-resistant plastic windows that are keyed alike (all open with the same key). They include two keys per window. Inside depth is 1¼″.



Open



Enclosed with Two Windows

Wd.	Ht.	No. of Windows		
Open				
18″	24″	—	5889T22	$126.56
36″	24″	—	5889T25	191.82
Enclosed				
18″	24″	1	6142T61	250.56
24″	36″	1	6142T62	307.72
30″	36″	1	6142T63	332.98
48″	36″	2	5750T117	507.44

Message Board Characters

Replace characters and get additional letters, numbers, and symbols for your grooved-surface message boards. All characters are white plastic.

Gothic assortments include 324 pieces. *Helvetica assortments* include 300 pieces and come in a compartmented box. For a complete list of characters and quantities, please go to mcmaster.com.

To Order: For individual characters, please specify character (A-Z, 0-9, &, $, ¢, period, or comma).





Character Ht.	Assortments Gothic		Assortments Helvetica		Individual Characters Helvetica Pkg. of 10	
½″	5907T61	$26.63	5713T65	$66.92	5713T3	$8.12
¾″	5907T62	27.45	5713T66	67.75	5713T4	8.12
1″	5907T63	32.36	5713T67	71.82	5713T5	8.12
1½″	5907T64	34.71	5713T68	117.83	5713T19	9.48

Bulletin Boards & Electronic Message Boards

Bulletin Boards



Open

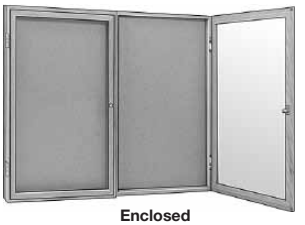

Enclosed with Two Windows

Post announcements, flyers, and other documents on these boards. They come with mounting brackets (fasteners not included, unless otherwise stated).

Open—*Easy-clean rubber boards* are good for dirty environments; they have a black and tan surface that can be easily cleaned with a wet cloth. The 60″ and wider boards include mounting fasteners.

Enclosed—Control access to messages and guard against tampering. These boards have locking, shatter-resistant plastic windows that are keyed alike (all open with the same key). They come with two keys per window. *Cork boards with oak frame* do not come with mounting brackets. *Outdoor plastic boards* have a tan plastic surface that lasts longer than cork when exposed to harsh conditions. Install under an awning or overhang for use outdoors.

Open

Wd.	Ht.	*Cork Boards* Aluminum Frame		*Cork Boards* Oak Frame		*Easy-Clean Rubber Boards* Aluminum Frame	
24″	18″	5664T1	$24.28	6092T21	$36.56	3507T1	$35.40
36″	24″	5664T2	30.25	6092T22	47.50	3507T2	65.16
46 1/2″	36″	5664T3	48.08	6092T23	66.55		
48″	36″					3507T3	101.02
60″	36″	5664T4	123.45	6092T24	134.95	3507T4	151.37
60″	48″	5664T9	131.26	6092T27	144.66	3507T5	158.62
72″	48″	5664T11	150.29	6092T25	154.83	3507T6	186.93
96″	48″	5664T8	195.44	6092T26	185.94	3507T7	230.57
120″	48″	5664T22	200.74	15275T58	258.16	3507T8	273.81
144″	48″	5664T23	222.71	15275T59	291.88	3507T9	321.01

Enclosed

Wd.	Ht.	No. of Windows	*Cork Boards* Aluminum Frame Inside Dp.			*Cork Boards* Oak Frame Inside Dp.			*Outdoor Plastic Boards* Aluminum Frame Inside Dp.		
18″	24″	1	7/8″	5709T14	$175.38	1 1/4″	5709T21	$181.60	7/8″	5709T523	$213.70
24″	36″	1	7/8″	5709T16	249.54	1 1/4″	5709T22	218.40	7/8″	5709T524	281.40
48″	36″	2	7/8″	5709T31	363.09	1 1/4″	5709T23	339.45	7/8″	5709T525	384.02
60″	36″	2	7/8″	5709T32	433.78	1 1/4″	5709T24	389.27	7/8″	5709T526	452.16
72″	36″	3	7/8″	5709T45	534.11	1 1/4″	5709T25	595.64	7/8″	5709T527	527.27
96″	48″	3	7/8″	5709T46	803.85	1 1/4″	5709T26	655.98	7/8″	5709T528	839.07

Dry Erase/Bulletin Boards

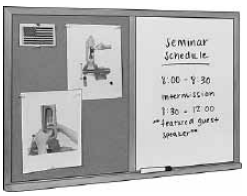

Half of each board is cork for posting bulletins; the other half is a dry erase writing surface. All have a tray for markers and erasers and come with mounting brackets (fasteners not included).

Wd.	Ht.	*Nonmagnetic* Oak Frame		*Magnetic* Aluminum Frame	
24″	18″	5950T33	$50.96	5950T49	$80.35
36″	24″	5950T51	62.04	5950T34	101.65
48″	36″	5950T52	103.74	5950T35	143.57
72″	36″	5950T53	152.53	5950T36	274.63

Push Pins and Thumb Tacks



Head Material	Pkg. Qty.		Pkg.
Push Pins			
Plastic (Assorted Colors)	100	57115T22	$4.73
Aluminum	100	57115T21	13.49
Thumb Tacks			
Nickel-Plated Steel	60	3518T1	2.53

Electronic Message Boards



One-Row Display



Two-Row Display



Keypad

Messages draw attention as they display, flash, or scroll on these bright dot-matrix message boards. They have animations and editing functions. The included wireless keypad lets you program messages up to 30 ft. away. Letters center automatically and can be displayed in uppercase or lowercase. Frame is black.

They operate on 120 volts AC. Temperature range is 32° to 120°F. Mounting brackets and fasteners are included.

The 24″ long board with a one-row display includes software and a 25-ft. data cable that lets you program messages through your PC.

Replacement keypads include batteries, except 5779T23 requires two AA batteries (sold separately).

Display Lg.	Max. No. of Char./Row	Character Ht.	No. of Message Colors	Wd.	Ht.	Dp.	Amps	Boards		Repl. Keypads	
One-Row Displays											
24″	13	2 1/8″	3	25 7/8″	3 7/8″	2″	0.4	5779T28	$307.02	5779T23	$54.00
46″	27	4″	8	49″	6 1/4″	4 1/4″	0.8	5779T76	879.08	5779T34	54.00
Two-Row Display											
24″	13	2 1/8″	3	28 1/4″	7 3/4″	5 1/2″	1.5	5779T42	1,476.00	5779T34	54.00
AA Batteries (Pkg. of 4)										71455K53	2.94

Portable Dry Erase Boards

For jobs that require mobility, these boards are easy to transport and set up. All have a white dry erase surface as well as marker and eraser holders.

Rolling Dry Erase/Bulletin Boards—These boards have a dry erase surface on one side and a cork surface on the other for posting bulletins. They have casters. Legs are oak.

Rolling Dry Erase Boards—You can write on both sides of these boards. They have casters with a locking brake. Legs are aluminum.

Adjustable-Height Dry Erase Board—The telescoping aluminum legs allow you to adjust the height.

Easy-Carry Adjustable-Height Dry Erase Board—Collapse the telescoping legs and fold the easel to convert this board into a carrying case for easy storage and transport. Legs are aluminum.

Easy-Carry Dry Erase Board—Use the built-in handles to move this lightweight board from room to room. You can lay it on a tabletop, mount it to a wall using pegs, or hang it from a cubicle divider with adjustable clamps (pegs and clamps sold separately). You can write on both sides.

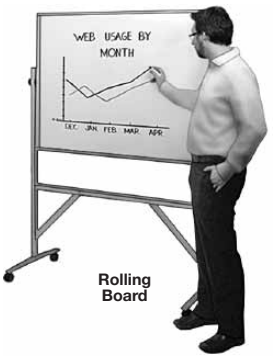

Rolling Board


Adjustable-Height Board


Easy-Carry Adjustable-Height Board


Easy-Carry Board


Cubicle Wall-Mount Clamps

Wd.	Ht.	O'all Ht.	Nonmagnetic		Magnetic	
Rolling Dry Erase/Bulletin Boards—Oak Frame						
48″	36″	60″	5854T11	$308.33		
72″	48″	72″	5854T12	410.75		
Rolling Dry Erase Boards—Aluminum Frame						
48″	36″	72¼″	57505T51	452.99	57505T53	$632.93
72″	48″	78¼″	57505T52	566.37	57505T54	862.72
Adjustable-Height Dry Erase Board—Aluminum Frame						
27″	36″	38″-69″	5960T48	141.47		
Easy-Carry Adjustable-Height Dry Erase Board—Plastic Frame						
36″	24″	26″-65″	5960T52	371.45		
Easy-Carry Dry Erase Board—Aluminum Frame						
22″	25″	—	1061N11	156.64		
Wall-Mount Pegs (Pkg. of 2)					1061N21	14.46
Cubicle Wall-Mount Clamps with 1½″-2½″ Opening (Pkg. of 2)					1061N22	46.62
Cubicle Wall-Mount Clamps with 2½″-3½″ Opening (Pkg. of 2)					1061N23	46.62

Chalkboards

These black chalkboards have a tray for chalk and erasers. They come with mounting brackets (fasteners not included).

Chalk assortment contains one stick each of brown, orange, purple, and white plus two each of blue, green, red, and yellow.

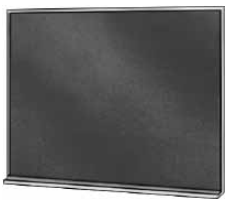

Wd.	Ht.	Aluminum Frame	
24″	18″	5906T36	$33.00
36″	24″	5906T37	53.25
48″	36″	5906T38	86.40
60″	36″	5906T39	152.12
72″	48″	5906T45	231.59
96″	48″	5906T43	228.11
Felt Eraser		5724T14	3.66
White Chalk (Pkg. of 144)		1648T7	8.69
Chalk Assortment (Pkg. of 12)		5924T12	5.98

Bulletin Bars


Friction Grip


Pin Up

To save space, use these bars instead of bulletin boards. Mount them with the included tape.

Friction Grip—Slide up to 15 stacked sheets of paper between the clear frame and backing of these bars. They are plastic.

Pin Up—Use push pins to attach documents to these bars. They are cork with an aluminum frame.

	Friction Grip			Pin Up		
Wd.	Ht.			Ht.		
12″	1⅛″	82905T42	$7.03	—	—	—
18″	1⅛″	82905T43	9.38	1″	8334T11	$12.52
24″	1⅛″	82905T44	11.08	1″	8334T12	16.11
36″	1⅛″	82905T45	14.06	1″	8334T13	18.02
48″	1⅛″	82905T46	18.75	1″	8334T14	20.59
60″	1⅛″	82905T47	23.45	—	—	—
72″	1⅛″	82905T48	33.23	—	—	—
96″	1⅛″	82905T49	44.45	—	—	—

Tripod Easels and Paper Pads

Write your message and then display it to capture attention. These easels have pad holders that adjust up or down to position pads of various heights, except the gray plastic easel has a fixed pad holder. *Gray plastic* and *aluminum* easels have telescoping legs that adjust for floor or tabletop use. Aluminum easels include a bar that allows you to hang pads from the top of the easel to use them as flip charts.


Aluminum Easel with Paper Pad (Sold Separately)

Tripod Easels

Material	Ht.		
Gray Plastic	37″-62″	13535T13	$35.48
Oak	64″	13535T15	53.47
Aluminum	35″-66″	5930T14	78.71
Aluminum	40″-73″	5930T18	122.45

Paper Pads

Plain-back paper pads each have 50 sheets. Size is 27″ Wd. × 34″ Ht.

Adhesive-back paper pads have sheets that peel off the pad and stick to most walls. Each pad has 30 sheets. Size is 25″ Wd. × 30″ Ht.

		Plain Back		Adhesive Back	
	Color	Pkg. of 2		Pkg. of 2	
Lined	Yellow	—	—	13425T105	$61.82
Blank	White	13425T102	$41.97	13425T45	63.36
1″ Grid	White	13425T101	41.97	13425T46	63.14

Marker Set for Paper Pads

These bullet-tip markers won't bleed through paper. Set includes eight markers (two black and one blue, brown, green, magenta, orange, and red).

8-Piece Set	9321T7	$9.91

Adhesive-Surface Bulletin Boards

No need for push pins—these boards have a long-lasting tacky surface that holds papers in place.

Boards are gray with an aluminum frame. They come with mounting brackets (fasteners not included).



Wd.	Ht.		
24″	18″	6723T11	$45.00
36″	24″	6723T12	75.60

Dry Erase Boards

Dry Erase Boards

With Tray



All boards have a tray for markers and erasers. Boards come with mounting brackets (fasteners not included).

Wd.	Ht.	Nonmagnetic Aluminum Frame		Nonmagnetic Oak Frame		Magnetic Aluminum Frame		Magnetic Oak Frame	
24″	18″	5767T11	$29.51	5767T91	$31.46	5767T51	$60.67	5767T17	$74.54
36″	24″	5767T12	42.62	5767T92	42.02	5767T71	105.58	5767T35	155.83
48″	36″	5767T13	65.32	5767T93	71.30	5767T72	230.27	5767T82	257.83
72″	48″	5767T14	157.08	5767T94	197.16	5767T73	385.00	5767T83	409.36
96″	48″	5767T16	227.91	5767T95	259.15	5767T74	448.28	5767T84	567.35
120″	48″	5767T37	274.59	5767T18	330.73	5767T76	560.76	5767T85	672.28

With Snap-On Clip

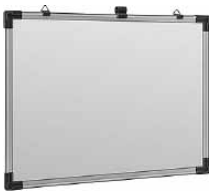

With no protruding tray, these boards mount flush against a surface. Mount with the included brackets (fasteners not included). All have a magnetic dry erase surface and a yellow plastic frame with a snap-on clip for markers.

Wd.	Ht.		
9″	6″	6583T6	$18.15
12″	9″	6583T7	21.05
24″	18″	6583T5	32.10
36″	24″	6583T8	51.60
48″	36″	6583T9	85.05
72″	48″	6583T11	210.87

Easy Graph with Tray



Draw neat and precise graphs using a 2″×2″ grid that's visible to anyone up close, but invisible to the audience. Boards have a magnetic surface, an aluminum frame, and a tray for markers and erasers. They come with mounting brackets (fasteners not included).

Wd.	Ht.		
24″	18″	3866T16	$54.00
36″	24″	3866T11	105.18
48″	36″	3866T12	161.22
48″	48″	3866T13	241.07
72″	48″	3866T14	317.67
96″	48″	3866T15	427.47

Dry Erase Sheets



Transform walls and other flat surfaces into a dry erase board with these flexible white sheets.

Dry Erase/Projection Sheets—The nonglare dry erase surface on these sheets doubles as a projection screen.

Cut-to-Length Dry Erase Sheets—Cut with scissors to create a custom-size sheet. Use adhesive (sold separately) to glue the sheet to your surface.

Wd.	Ht.			
Dry Erase Sheets—Magnetic				
11″	9″	4148T2		$5.45
24″	18″	4148T3		14.08
36″	24″	4148T5		23.71
Dry Erase/Projection Sheets—Adhesive Back				
50″	36″	1066N11		80.82
50″	48″	1066N12		107.76
60″	50″	1066N13		134.70
Cut-to-Length Dry Erase Sheets—Glue On				
Up to 100 ft.	48″	52265T41	Per Ft.	30.51
Vinyl Adhesive (1 qt.)		52265T43		10.78

Dry Erase Board Markers, Erasers, and Cleaners

Markers



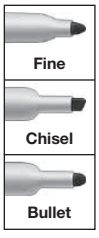

Assortments include one each in the colors listed below. **Low-odor marker kit** includes four fine-tip markers (black, blue, green, and red), eight chisel-tip markers (black, blue, brown, green, orange, purple, red, and yellow), an eraser, and 8 oz. of cleaner stored in a plastic case.

Tip Style	Tip Width	Choose a Color	Individual Colors Box of 12		Assortments Set	
Markers						
Fine	1/32″	Black, Blue, Green, Red	5929T61 ■	$15.56	5929T66	$6.43
Low-Odor Markers						
Fine—Retractable	1/16″	Black, Blue, Red	_____	____	5929T12	7.07
Chisel	1/8″	Black, Blue, Green, Red	5929T87	18.68	5929T97	6.64
Bullet	1/8″	Neon: Blue, Green, Orange, Pink, Yellow	_____	____	5929T13	10.40
Low-Odor Marker Kit						
Marker Kit					5929T95	30.56

■ Not available in green.

Erasers and Cleaners



Eraser with Marker Holder

Peel-away eraser has 16 disposable pads. When a pad becomes dirty, peel it away to expose a clean pad. **Eraser with marker holder** stores three dry erase markers (includes black, blue, and red). **Dry erase board conditioner** cleans and restores boards to their original write-on/wipe-off capability.

Peel-Away Eraser	5929T52	$12.86
Eraser with Marker Holder	5929T11	11.82
Disposable Towelettes (Canister of 70)	5929T56	10.36
Dry Erase Board Cleaner (17-oz. Pump Spray)	5929T51	12.46
Dry Erase Board Conditioner (8-oz. Bottle)	5929T53	16.62

Magnetic Dry Erase Planning Boards

Plan production assignments, job schedules, time allocation, and inventory. Boards have a magnetic dry erase surface and an aluminum frame. Mounting brackets and fasteners are included.

Boards with Grid

These boards have grid lines that form a 1″×2″ pattern. They come with 1″×2″ magnetic card holders and blue, green, orange, white, and yellow blank cards that fit within the grid. Write or type on the cards, slip them into the holders, and place them on the board. Magnetic date headers for months, numbers, and days of the week are included.



Wd.	Ht.	No. of Rows	No. of Columns	No. of Card Holders	No. of Cards		
24″	18″	17	11	75	500	83155T51	$134.10
36″	24″	23	17	100	500	83155T52	233.10
48″	36″	35	23	200	1,000	83155T53	395.10
72″	48″	47	35	300	2,000	83155T54	719.10
Repl. 1″×2″ Card Holders (Pkg. of 25)						83155T67	12.81
Repl. Chart Cards (Pkg. of 1,000)						83155T68	12.81

Boards with Rows

Only the rows are permanent on these boards, so you can customize the column width. Rows are spaced in 1″ increments. Boards come with one roll of removable black plastic chart tape for making columns; write-on magnetic strips; ½″ peel-and-stick black plastic letters and numbers; four dry erase markers in black, blue, green, and red; and a magnetic-back felt eraser.

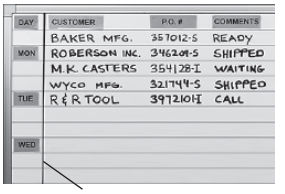

Chart tape for making your own columns

Wd.	Ht.	No. of Rows	No. of Magnetic Strips (Ht.×Wd.)	No. of Characters		
24″	18″	17	8 (⅞″×15″)	1,000	47825T17	$130.31
36″	24″	23	4 (⅞″×30″)	1,000	47825T18	242.81
48″	36″	35	8 (⅞″×30″)	3,000	47825T19	391.11
Repl. Black Chart Tape (3/32″×54 ft.)					47825T21	5.52
Repl. Blue Magnetic Strip (⅞″×30″)					47825T35	3.72
Repl. White Magnetic Strip (⅞″×30″)					47825T33	3.72

Calendar and Attendance Boards



30-Day Calendar Board

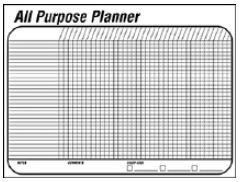

All-Purpose Planning Board



15-Employee Attendance Planning Board

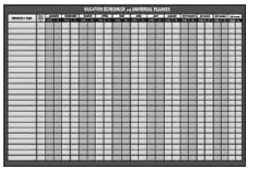

Vacation Planning Sheet

Dry Erase Boards—All have an aluminum frame. *Calendar boards* and *all-purpose planning boards* are nonmagnetic. They come with four dry eraser markers (one black, one blue, one red, and one green) and mounting brackets (fasteners not included). The all-purpose planning board has a grid with write-on column and row headers. *Attendance boards* are magnetic. Write names on the board and mark the status of each person with a black magnetic dot. They come with one dot for each employee, two dry erase markers (one black and one red), a magnetic-back felt eraser, and mounting brackets with fasteners.

Wet Erase Sheets—Write on these reversible sheets with a wet erase marker and wipe clean with a damp cloth. They come with one black wet erase marker.

Wet erase marker set has one black, blue, green, and red marker.

	Wd.	Ht.		
Dry Erase Boards				
30-Day Calendar Board	30″	24″	5715T51	$63.48
60-Day Calendar Board	30″	24″	5715T52	63.48
All-Purpose Planning Board	30″	24″	5715T56	86.30
15-Employee Attendance Board	24″	18″	5715T21	105.55
33-Employee Attendance Board	24″	36″	5715T22	171.00
Wet Erase Sheets				
30-Day/60-Day Calendar Sheet	36″	24″	5715T13	23.19
Vacation Planning Sheet	36″	24″	5715T91	23.44
Wet Erase Marker Set			5715T36	6.95

Chart-Making Components



Adhesive-Back Chart Tape

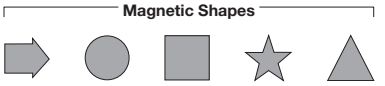

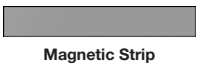

Magnetic Strip



Use this removable **adhesive-back chart tape** to make straight rows and columns on planning boards. **Magnetic strips** and **shapes** can be written on with a wet erase marker (sold separately) and wiped clean with a damp cloth. The set of **magnetic date headers** for numbers also includes two each of the letter H and the asterisk symbol.

Wd.	Lg.	Choose a Color		
Adhesive-Back Chart Tape				
1/16″	54 ft.	Black, Blue, Green, Red, White, Yellow	5897T13	$5.76
⅛″	27 ft.	Black, Blue, Green, Red, White, Yellow	5897T21	6.09
¼″	27 ft.	Black, Blue, Green, Red, White, Yellow	5897T22	7.11
Magnetic Strips				
½″	30″	Black, Blue, Green, Red, White, Yellow	5897T11	3.34
1″	30″	Black, Blue, Green, Red, White, Yellow	5897T12	5.03
2″	30″	Black, Blue, Green, Red, White, Yellow	5897T18■	9.31
3″	30″	Black, Blue, Green, Red, White, Yellow	5897T17	12.80
Magnetic Shapes (Pkg. of 20)				
¾″ Arrow		Black, Blue, Green, Red, White, Yellow	5897T15	8.94
¾″ Dot		Blue, Green, Red, White	5897T31	8.94
¾″ Square		Blue, Green, Red, White	5897T32	8.94
¾″ Star		Black, Blue, Green, Red, White, Yellow	5897T16	8.94
¾″ Triangle		Black, Blue, Green, Red, White, Yellow	5897T14	8.94
Magnetic Date Headers				
Days—Sunday through Saturday (1″×2″)			5897T42	8.85
Months—January through December (1″×2″)			5897T41	12.25
Numbers—1 through 31 (1″×1″)			5897T44	13.06
Black Wet Erase Marker (Box of 12)			5897T51	22.81

■ Also available in gray and orange.

T-Card Racks

Place color-coded T-cards (sold separately) in these racks to easily view schedules and plans at a glance. Racks are steel. Mounting brackets and fasteners are included.

T-cards are 3⅝″ Wd.×4¾″ Ht.

Wd.	Ht.	Card Capacity	No. of Columns		
15″	38″	200	4	8432T14	$152.73
19″	38″	250	5	8432T15	187.27
31″	38″	400	8	8432T16	298.74
T-Cards (Pkg. of 100)—Please specify blue, green, orange, pink, tan, white, or yellow				8432T2	5.69



T-Card

Flags & Flagpole Accessories

United States Flags





Indoor Flag Set

Proudly made—and raised—in the United States of America. These flags have embroidered stars and brass grommets, except 8 ft. × 12 ft. and larger flags have rust-resistant D-rings or thimbles.

Flags for outdoor use resist sunlight and water. *Heavy duty polyester* flags withstand the most demanding weather conditions, especially high winds. *Fade-resistant nylon* flags have better UV resistance than polyester flags and will fly in the slightest of breezes.

United States indoor flag set has a fringed nylon flag with embroidered stars, sewn stripes, and a pole sleeve. The set includes an 8-ft. long, 1¼″ dia. two-piece oak pole; a gold-tone 8-lb. stand; a 7″ high eagle ornament; and a gold cord with tassels.

Flag Size Ht.	Flag Size Wd.	For Flagpole Height (Above Ground)	For Outdoor Use — Heavy Duty Polyester		For Outdoor Use — Fade-Resistant Nylon		For Indoor Use — Cotton	
2 ft.	3 ft.	15 ft.			7535T12	$23.69	7536T12	29.62
3 ft.	5 ft.	20 ft.	13735T11	$37.60	7535T14	31.79	7536T14	42.69
4 ft.	6 ft.	25 ft.	13735T23	52.95	7535T16	43.55	7536T16	56.28
5 ft.	8 ft.	30 ft.	13735T35	80.66	7535T18	63.06	7536T18	88.97
5 ft.	9½ ft.	35 ft.			7535T22	72.88	7536T22	101.41
6 ft.	10 ft.	35 ft.	13735T47	115.61	7535T24	98.60	7536T24	132.69
8 ft.	12 ft.	40 ft.	13735T59	183.02	7535T26	152.88		
10 ft.	15 ft.	50 ft.	13735T63	286.72	7535T55	229.37		
12 ft.	18 ft.	60 ft.	13735T76	360.59	7535T63	318.32		
3 ft. × 5 ft. United States Indoor Flag Set							74945T1	180.94

State and Foreign Nation Flags



Choose from the 50 state flags, U.S. territorial flags, and foreign nation flags. All have official colors, are nylon with brass grommets, and are suitable for outdoor use.

Use the 3 ft. × 5 ft. flags on 20-ft. flagpoles, the 4 ft. × 6 ft. flags on 25-ft. flagpoles, and the 5 ft. × 8 ft. flags on 30-ft. flagpoles.

	3 ft. × 5 ft.		4 ft. × 6 ft.		5 ft. × 8 ft.	
Flags	7545T1	$33.96	7545T2	$53.41	7545T3	$75.82

ISO Registered Flags



Flags resist sunlight and water making them suitable for outdoor use. They are nylon with brass grommets.

Use the 3 ft. × 5 ft. flags on 20-ft. flagpoles and the 4 ft. × 6 ft. flags on 25-ft. flagpoles.

	3 ft. × 5 ft.		4 ft. × 6 ft.	
AS 9100C	9357T31	$66.51	9357T32	$98.19
ISO 13485:2003	9357T33	66.51	9357T34	98.19
ISO 14001	9357T25	42.24	9357T26	57.19
ISO-9001:2000	9357T21	42.30	9357T27	57.19
ISO-9001:2008	9357T24	42.33	9357T29	57.19
ISO/TS 16949	9357T22	43.30	9357T28	57.19
OHSAS 18001	9357T35	66.51	9357T36	98.19

Flagpoles



Raise your flag with confidence. Poles are tapered satin-finish aluminum. They come with a gold anodized aluminum ball ornament, a pulley to raise and lower the flag, polypropylene rope, and a 9″ aluminum rope cleat. Poles are shipped in two or three pieces, unless noted

Standard flagpoles have two snap hooks. The 38½-ft. high flagpole has a revolving pulley.

Heavy duty flagpoles have a revolving pulley and swivel snap hooks with covers that allow them to move with the wind and resist strong gusts.

For Max. Flag Ht.	For Max. Flag Wd.	Height Above Ground	O'all Ht.	Bottom Dia.	Ball Dia.		
Standard Flagpoles—Withstand gusts up to 50 mph.							
3 ft.	5 ft.	20 ft.	22 ft.	3″	3″	7525T21	$503.62
4 ft.	6 ft.	25 ft.	27 ft.	3″	3″	7525T12▲	473.40
5 ft.	8 ft.	30 ft.	33 ft.	4″	4″	7525T13	775.80
6 ft.	10 ft.	35 ft.	38½ ft.	5″	5″	7525T14	1,211.40
Heavy Duty Flagpoles—Withstand gusts up to 120 mph.							
3 ft.	5 ft.	20 ft.	23 ft.	5″	5″	7170T3▲	1,107.69
4 ft.	6 ft.	25 ft.	27 ft.	6″	6″	7170T4▲	1,410.58
5 ft.	8 ft.	30 ft.	33 ft.	6″	6″	7170T5	1,713.46
6 ft.	10 ft.	35 ft.	38½ ft.	7″	8″	7170T6	2,168.00
8 ft.	12 ft.	40 ft.	44 ft.	8″	8″	7170T7	2,377.50

▲Shipped in one piece.

Armed Forces Flags



Marines



Navy



POW/MIA

Indoors or out, these nylon flags stand the test of time. All have brass grommets. Use the 3 ft. × 5 ft. flags on 20-ft. flagpoles and the 4 ft. × 6 ft. flag on 25-ft. flagpoles.

Ht.	Wd.	Choose a Message		
3 ft.	5 ft.	Air Force, Army, Coast Guard, Marines, Navy, POW/MIA	83205T1	$44.75
4 ft.	6 ft.	POW/MIA	83205T32	50.25

Flagpole Accessories

Gold Anodized Aluminum Ball Ornaments



Ball Dia.	Thread		
2″	½″-13	7534T3	$14.62
3″	½″-13	7534T4	18.84
4″	½″-13	7534T5	27.47
5″	½″-13	7534T6	35.83
6″	½″-13	7534T7	46.72
8″	½″-13	7534T8	71.61

Aluminum Base Collars (0.060″ Thick)



Outside Dia.	Choose a Pole Bottom Dia.		
12″	3″, 4″, 5″, 5½″, 6″	7525T27	$29.25
16″	7″, 8″	7525T28	39.20

Pulleys, Rope Cleats, Cleat Covers, and Snap Hooks

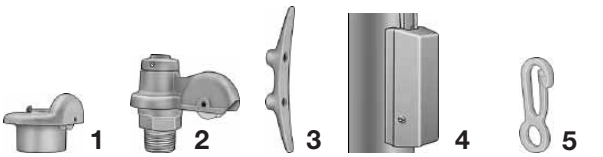

Pulleys have ½″-13 threads for an ornament. *Aluminum pulley* fits ¼″ dia. rope and flagpoles with a 3″ bottom dia. *Revolving aluminum pulley* fits 5/16″ dia. rope and flagpoles with a 5″ to 8″ bottom dia. It has a 1¼ NPT male connection.

1	Aluminum Pulley	7534T11	$30.21
2	Revolving Aluminum Pulley	7534T12	77.26
3	9″ Long Aluminum Rope Cleat with Screws	7534T24	16.50
4	Cleat Cover for 3″ to 3½″ Bottom Dia. Poles	7534T31	111.00
4	Cleat Cover for 4″ to 12″ Bottom Dia. Poles	7534T32	111.00
5	2¾″ Long Nylon Snap Hook	7534T26	.99
5	3⅛″ Long Bronze Swivel Snap Hook	7534T25	6.24

Aluminum Brackets for 1″ Dia. Wall-Mount Flagpoles



Adjustable

Angle		
45°	7534T15	$9.90
Adjustable	7534T16	13.41

Solid Floor Marking Tape

Outline hazardous areas, fire lanes, safety equipment, and other designated zones throughout your facility. Tape is 0.006″ thick.



Tape

General purpose tape is PVC and can be used outdoors. **3M 471** tape is vinyl.

Wd.	Choose a Color	General Purpose 108-ft. Lg.		General Purpose 180-ft. Lg.		3M 471 15-ft. Lg.		3M 471 108-ft. Lg.	
1/4″	Black, Blue, Green, Orange, Red, White, Yellow	—	—	—	—	6047T38	$3.84	6047T29	$11.81
1/2″	Black, Blue, Green, Orange, Red, White, Yellow	6031T893	$2.23	6029T93	$2.88	6047T51	6.70	6047T31	16.20
3/4″	Black, Blue, Green, Orange, Red, White, Yellow	6031T894	3.19	6029T94	4.32	6047T52	8.62	6047T32	19.51
1″	Black, Blue, Green, Orange, Red, White, Yellow	6031T896	4.48	6029T95	5.72	6047T53	9.16	6047T33	24.93
2″	Black, Blue, Green, Orange, Red, White, Yellow	6031T897	8.97	6029T96	11.44	6047T55	18.36	6047T34	47.86
3″	Black, Blue, Green, Orange, Red, White, Yellow	6031T898	13.46	6029T97	17.16	6047T56	27.52	6047T35	70.87
4″	Black, Blue, Green, Orange, Red, White, Yellow	6031T899	17.12	6029T98	22.88	6047T57	36.70	—	—
4″	Black, Red, White, Yellow	—	—	—	—	—	—	6047T36	94.50

Easy-to-Tear Tape

Tear a strip of tape off the perforated roll for easy, uniform installation. Tape is vinyl.

Wd.	Strip Lg.	Choose a Color	3M 471 30-ft. Lg.	
2″	12″	Black, Blue, Green, Orange, Red, White, Yellow	6047T58	$50.48
2″	24″	Black, Blue, Green, Orange, Red, White, Yellow	6047T61	50.48

Fluorescent Tape

Make your markings stand out with this fluorescent tape. It is polyester-coated paper.

Wd.	Choose a Color	30-ft. Lg.	
1″	Green, Orange, Red, Yellow	3215T2	$5.24
2″	Green, Orange, Red, Yellow	3215T71	10.48
3″	Green, Orange, Red, Yellow	3215T8	15.72
4″	Green, Orange, Red, Yellow	3215T9	20.96

Long-Life Floor Marking Tape

Thicker than other floor marking tape, this tape withstands abrasion in high-traffic areas. It's 0.034″ thick and is made of PVC.



Solid



Striped

Wd.	Solid Choose a Color	Solid 10-ft. Lg.		Solid 50-ft. Lg.		Striped Color	Striped 10-ft. Lg.	
2″	Blue, Green, Orange, Red, White, Yellow	6094T1	$14.42	6094T8	$64.90	Black/Yellow	6094T16	$18.20
3″	Blue, Green, Orange, Red, White, Yellow	6094T2	17.33	6094T9	78.00	Black/Yellow	6094T17	20.40
4″	Blue, Green, Orange, Red, White, Yellow	6094T3	20.24	6094T15	91.12	Black/Yellow	6094T18	22.73
6″	Blue, Green, Orange, Red, White, Yellow	6094T4	23.60	6094T11	106.20	Black/Yellow	6094T19	29.58
12″	Blue, Green, Orange, Red, White, Yellow	6094T5	45.44	6094T12	204.52	Black/Yellow	6094T21	56.80
24″	Blue, Green, Orange, Red, White, Yellow	6094T6	84.20	6094T13	344.44	Black/Yellow	6094T22	105.31
34″	Blue, Green, Orange, Red, White, Yellow	6094T7	118.29	6094T14	483.87	Black/Yellow	6094T23	147.84

Striped and Checkered Floor Marking Tape

Draw greater attention to safety zones and hazards than with solid floor marking tape. Tape is PVC, except striped 3M 471 tape is vinyl.

Striped tape is 0.006″ thick. **Conformable striped** tape stretches and conforms to uneven surfaces. It is 0.007″ thick. **Checkered** tape is 0.005″ thick.



Striped



Checkered

To Order: Please specify color from the following combinations (unless noted): black/white, black/yellow, green/white, magenta/yellow, or red/white.

Wd.	54-ft. Lg.		108-ft. Lg.	
Striped—General Purpose				
3/4″	6052T73	$3.00	6052T75	$5.36
1″	6052T74	3.96	6052T78	7.12
2″	6052T41	7.92	6052T43	11.12
3″	6052T42	11.88	6052T44	16.69
4″	6052T26	15.84	6052T29	22.25
Striped—3M 471				
2″	—	—	6047T41★	66.36
3″	—	—	6047T42★	99.55

Wd.	54-ft. Lg.		108-ft. Lg.	
Conformable Striped				
2″	59975T54■	$4.51	59975T51	$8.08
3″	59975T55■	6.77	59975T52	12.12
4″	59975T56■	9.03	59975T53	16.16
Checkered				
2″	59965T71	11.68	59965T72	21.60
3″	59965T73	17.52	59965T74	32.40
4″	59965T75	23.36	59965T76	43.20

★Available in black/white and black/yellow only. ■ Not available in magenta/yellow.

Floor Marking Tape with Message

Stick safety messages and reminders right where they're needed. Message is black. Tape is 0.005″ thick, 3″ wide vinyl. It can be used outdoors.



Message	Yellow Background 54-ft. Lg.		Red Background 54-ft. Lg.	
Arc Flash Boundary	—	—	2799T44	$16.27
Authorized Personnel Only	2799T19	$16.27	—	—
Caution	2799T11	16.27	—	—
Caution Do Not Enter	2799T12	16.27	—	—
Caution Forklift Traffic	2799T42	16.27	—	—
Caution Hard Hat Area	2799T15	16.27	—	—
Caution Hearing Protection Required	2799T43	16.27	—	—
Caution Safety Glasses Required	2799T41	16.27	—	—

Message	Yellow Background 54-ft. Lg.		Red Background 54-ft. Lg.	
Caution Slippery When Wet	2799T39	$16.27	—	—
Caution Watch Your Step	2799T13	16.27	—	—
Danger	2799T16	16.27	2799T36	$16.27
Danger High Voltage	2799T18	16.27	2799T38	16.27
Danger Keep Out	2799T17	16.27	2799T37	16.27
Emergency Exit	—	—	2799T46	16.27
Fire Aisle Keep Clear	—	—	2799T45	16.27
Restricted Area	2799T21	16.27	—	—

Floor & Pavement Marking Tape

Reflective Floor Marking Tape


Solid


Striped


Solid Strip

Call attention to hazards in low-light conditions. Tape can be used outdoors.

Solid and **striped** tape is 0.012″ thick. Solid tape is polyester and striped tape is vinyl. They are embedded with glass beads and aluminum. Meets Fed. Spec. LS-300 Class 1.

Solid strips come in measured lengths for easy, peel-and-stick installation. They are 0.008″ thick polyester.

Wd.	Choose a Color	15-ft. Lg.		30-ft. Lg.	
Solid					
1″	Blue, Green, Orange, Red, White, Yellow	5997T81	$6.92	5997T82	$12.37
2″	Blue, Green, Orange, Red, White, Yellow	5997T83	12.80	5997T84	25.19
3″	Blue, Green, Orange, Red, White, Yellow	5997T85	22.36	5997T86	36.37
4″	Blue, Green, Orange, Red, White, Yellow	5997T87	25.68	5997T88	48.41
Striped					
1″	Black/White, Black/Yellow, Red/White	9195T64	12.08	9195T41	17.88
2″	Black/White, Black/Yellow, Red/White	9195T71	21.20	9195T42	27.15
3″	Black/White, Black/Yellow, Red/White	9195T76	29.32	9195T43	38.68
4″	Black/White, Black/Yellow, Red/White	9195T82	32.60	9195T89	50.57
Solid Strips				Pkg. of 5	
2″×9″	Red, Yellow			1702T72	$13.43

Glow-in-the-Dark Floor Marking Tape


Striped


Arrow

Identify safety zones and hazards in the dark for up to six hours. Tape is 0.01″ thick polyester. Suitable for outdoor use.

Arrow tape has fluorescent green arrows repeated on a black background.

Wd.	Choose a Color	15-ft. Lg.		30-ft. Lg.	
Solid					
1″	Fluorescent Green	6082T7	$11.13	6082T2	$17.77
2″	Fluorescent Green	6082T8	19.70	6082T4	30.74
3″	Fluorescent Green	6082T9	23.31	6082T5	44.26
Striped					
1″	Black/Fluorescent Green, Red/Fluorescent Green	5994T51	10.94	5994T54	17.90
2″	Black/Fluorescent Green, Red/Fluorescent Green	5994T52	19.40	5994T55	33.28
3″	Black/Fluorescent Green, Red/Fluorescent Green	5994T53	26.65	5994T56	45.55
Arrow					
2″	Black/Fluorescent Green	37965T42	21.28	37965T34	44.89
3″	Black/Fluorescent Green	37965T48	31.95	37965T37	67.38

Pavement Marking Tape

Make parking spaces and traffic lanes. This tape conforms to rough surfaces such as concrete and asphalt. It's made of aluminum and is 0.02″ thick. The reflective silica sand coating helps it stand out in low-light conditions. Meets ASTM D4592.

Removable tape easily pulls up when it's no longer needed.

Wd.	Choose a Color	3-ft. Lg.		9-ft. Lg.		30-ft. Lg.		150-ft. Lg.	
Permanent									
4″	White, Yellow	37835T8	$2.69	37835T9	$5.63	37835T2	$21.52	37835T3	$76.24
4″	Black							37835T17	76.24
Removable									
4″	White, Yellow	37835T7	4.33	37835T6	11.70	37835T5	31.00	37835T4	150.00

Clean Room Striped Floor Marking Tape



Designate areas in your clean room with this tape. Each roll is individually bagged in a Class 100 clean room. It is 0.009″ thick vinyl.

Wd.	Choose a Color	54-ft. Lg.	
2″	Black/Yellow, Green/White, Red/White	4012T4	$22.04
3″	Black/Yellow, Green/White, Red/White	4012T7	33.13

Floor Marking Tape Applicators



Apply tape neatly and efficiently. Applicators are steel. They work with tape on pages 1923 and 1924.

Applicator **for straight and curved lines** has rear stabilizing wheels that adjust to either side for runs along walls and pallet racks.

For Tape Width	For Max. Roll OD	For Roll ID		
For Straight Lines				
¾″-4″	12″	3″	6032T3	$140.88
For Straight and Curved Lines				
2″-3⅝″	6½″	3″	6032T6	303.28

Peel-and-Stick Floor Marking Shapes


General Purpose Arrow


Dot


Long-Life Arrow


Corner


Strip


Tee


Cross


Footprints

General Purpose

Use these arrows and dots to direct traffic indoors and out. *Arrows* and *dots* are 0.005″ thick. *Reflective dots* are 0.025″ thick. All are vinyl.

Size	Pkg. Qty.		Pkg.
Arrows—Please specify blue, green, red, white, or yellow			
2″×2″	100	5993T41	$6.32
3″×3″	100	5993T42	9.68
4″×4″	100	5993T43	15.16
5″×5″	50	5993T45	13.48
Dots—Please specify blue, green, red, white, or yellow			
2″ Dia.	100	6058T24	5.24
2″ Dia.	500	6058T21	27.76
3″ Dia.	100	6058T28	9.52
3″ Dia.	500	6058T22	42.64
4″ Dia.	100	6058T33	14.30
4″ Dia.	500	6058T23	61.63
Reflective Dots—Please specify blue, fluorescent orange, fluorescent red, orange, red, white, or yellow			
1″ Dia.	64	6042T9	7.07
1⅞″ Dia.	16	6042T19	7.07
2½″ Dia.	9	6042T29	7.07
3¼″ Dia.	5	6042T39	7.07

Long Life

This 0.034″ thick PVC tape resists abrasion in high-traffic areas.

Size	Choose a Color		Each
Arrow			
2″×10″	Blue, Green, Orange, Red, White, Yellow	1067N91	$2.89
Corner			
2″×6″×6″	Blue, Green, Orange, Red, White, Yellow	1067N51	2.20
Strips			
3″×12″	Blue, Green, Orange, Red, White, Yellow	1067N31	4.39
4″×12″	Blue, Green, Orange, Red, White, Yellow	1067N41	7.25
Tee			
2″×6″×6″	Blue, Green, Orange, Red, White, Yellow	1067N61	2.75
Cross			
2″×6″×6″	Blue, Green, Orange, Red, White, Yellow	1067N71	2.75
Dots			Pkg. of 10
2″ Dia.	Blue, Green, Orange, Red, White, Yellow	1067N1	$7.25
3½″ Dia.	Blue, Green, Orange, Red, White, Yellow	1067N21	15.60
Footprints (5 left and 5 right)			
3″×9″	Blue, Green, Orange, Red, White, Yellow	1067N81	24.55

Aerosol Marking Paint and Dispensers


Paint


Hand-Held Dispenser


Rolling Dispenser with Distance Counter

Paint

Hold in an inverted position to spray, except overhead marking paint must be sprayed upright. Application temperature range is 50° to 80° F, except high-visibility turf marking and road marking paint have an application temperature range of 65° to 80° F.

Temporary marking chalk disappears in approximately 15 days when exposed to water, traffic, or abrasion.

Temporary marking paint fades in approximately 30 days when exposed to sunlight and traffic. Paint is acrylic-based. Apply **sealer** (sold separately) over temporary chalk or paint for up to 30 days of added protection.

Permanent marking paint is solvent based.

Unlike other marking paint, **permanent overhead marking paint** sprays in the upright position and dries fast, so it won't drip when applied overhead. It is water based.

Permanent turf marking paint is water based and will not harm grass or other plant life.

Permanent high-visibility turf marking paint lays on thicker than other turf marking paint, making cleaner, bolder lines. It is water based and will not harm grass or other plant life.

Spray **road marking paint** from the can for quick road marking with no need for brushes, rollers, or stripers. Good for marking traffic lanes, parking lots, and factory floors, it withstands abrasion in high-traffic areas. It is solvent based.

Size	Coverage (2″ Stripe)	Choose a Color		
Temporary				
Marking Chalk				
15 oz.	350 ft.	Blue, Green, Orange, Red, White, Yellow	5956T41	$5.69
Marking Paint				
15 oz.	350 ft.	*Fluorescent:* Orange, Red	5956T42	6.31
Sealer for Temporary Marking Chalk and Paint			5956T43	5.11
Permanent				
Marking Paint				
17 oz.	550 ft.	Blue, Red, White, Yellow; *Fluorescent:* Green, Orange, Pink, Red-Orange	6018T7	5.43
Overhead Marking Paint				
17 oz.	330 ft.	*Fluorescent:* Green, Orange, Red	6063T61	5.40
Turf Marking Paint				
13 oz.	300 ft.	Blue, Red, White, Yellow; *Fluorescent:* Green, Orange, Pink, Red-Orange	6018T53	4.80
17 oz.	500 ft.	Blue, Red, White, Yellow; *Fluorescent:* Green, Orange, Pink, Red-Orange	6018T67	5.43
High-Visibility Turf Marking Paint				
18 oz.	140 ft.	Blue, Red, White, Yellow, Fluorescent Orange	9192T4	8.89
Road Marking Paint				
18 oz.	70 ft.	Black, Blue, Green, Orange, Red, White, Yellow	9192T1	7.29


Large-Job Dispenser

Dispensers

Pull the pistol-grip trigger on these dispensers to release a line of paint. Use the **hand-held dispenser** for freehand marking. **Rolling dispensers** have one wheel and are 34″ high. The **rolling dispenser with distance counter** measures distance up to five digits. It has two wheels for added stability. Height is 37″. The **large-job dispenser** handles jobs such as striping a field or factory floor. It has four wheels, a windscreen, and storage for 12 aerosol cans. Height is 33″.

	Stripe Width		
Hand-Held Dispenser	1½″	5990T41	$25.58
Rolling Dispenser	1″-1½″	1584T2	25.96
Rolling Dispenser	2″-4″	36495T5	32.38
Rolling Dispenser with Distance Counter	1″	5990T51	89.00
Large-Job Dispenser	2″-4″	36495T81	97.10

Road Marking Paint



Good for marking traffic lanes, parking lots, and factory floors, this paint withstands abrasion in high-traffic areas.

Latex paint cleans up easily with water.

Alkyd-based paint and **chlorinated rubber-based paint** last longer than latex paint in high-traffic areas. Paint and thinner cannot be sold in California or Utah. *Chlorinated rubber-based paint* forms a thicker coating than alkyd-based paint for better wear and weather resistance.

Apply **sealer** (sold separately) over paint for added protection. Sealer cannot be sold in California or Utah.

	Latex			*Alkyd Based*				*Chlorinated Rubber Based*			
Color	1 gal.		5 gal.		1 gal.		5 gal.		1 gal.		5 gal.	
Yellow	5996T21	$33.60	5996T34	$99.77	6033T11	$46.11	6033T28	$180.76	10785T16	$48.27	10785T25	$176.82
White	5996T22	33.36	5996T35	99.77	6033T12	45.40	6033T29	177.78	10785T14	49.29	10785T21	177.90
Handicap Blue	5996T43	40.00	5996T47	118.60	6033T45	45.51	6033T47	179.07				
Black	5996T44	40.07	5996T48	122.42					10785T18	47.27	10785T27	171.74
Red	5996T45	48.11	5996T49	155.45	6033T52	52.11	6033T53	203.33				
5-gal. Water-Based Sealer											6033T31	210.93
5-gal. Thinner for Alkyd-Based and Chlorinated Rubber-Based Paint											10785T49	128.37

Road Marking Paint Stripers



Pump the handle on the tank lid to build pressure for even striping. Striper has a 304 stainless steel tank with a 4 gallon capacity that covers approximately 200 ft. per gallon. It works with all types of paint and allows striping next to curbs and walls.

Optional spray-wand attachment comes with 10 ft. of hose, two spray tips, and a 24″ brass extension wand.

	Stripe Width		
Striper	4″	6030T22	$674.25
Optional Spray-Wand Attachment		6030T1	102.74
Repair Kit		6030T4	34.06

Reflectors & Equipment Markers

Marking Reflectors

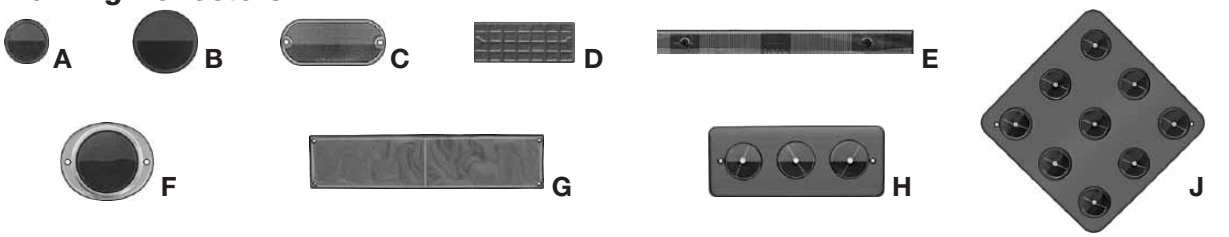

Reflectors are plastic; Styles F, H, and J have a metal housing. Styles D-F meet SAE standards. Style E also meets Federal Motor Vehicle Safety Standard 108. Styles H and J meet MUTCD standards.

	Overall Size Ht.	Wd.	Mount Type	Mtg. Holes Dia.	Qty.	Choose a Color	Pkg. Qty.		Pkg.
A	1¼″ Dia.	—	Adhesive Back	—	—	Amber, Red, White	25	5953T2	$10.29
B	3¼″ Dia.	—	Nail On	¼″	1	Amber, Blue, Green, Red, White	1	5953T1	2.71
B	3¼″ Dia.	—	Adhesive Back	—	—	Amber, Blue, Red, White	2	5953T24	2.37
C	1¾″	4⅜″	Adhesive Back	—	—	Amber, Blue, Red	2	5953T62	2.62
C	1⅞″	4⅜″	Nail On	3/16″	2	Red	2	5953T361	2.52
D	1¾″	4½″	Adhesive Back	—	—	Amber, Red, White	1	5953T13	1.53
E	1″	12″	Adhesive Back/Nail On	3/16″	2	Red, White	1	5953T29	4.08
F	3 13/16″	4½″	Nail On	¼″	2	Amber, Red	1	5953T75	1.97
G	4″	18″	Nail On	¼″	4	Yellow	1	93965T81	45.24
H	6″	15″	Nail On	⅜″	2	Amber, Red	1	5953T8	21.70
J	18″	18″	Nail On	⅜″	2	Amber, Red	1	5953T5	52.26

Two-Way-View Marking Reflectors

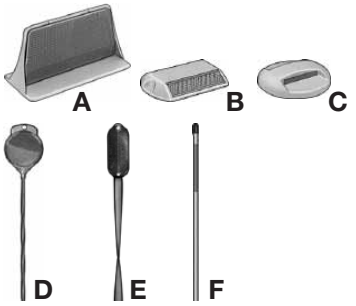

Reflectors are visible from both sides for areas where traffic moves in two directions. The reflectors are plastic except posts are metal for Styles D and E. Styles B and F meet ASTM standards.
Two-part epoxy includes one gallon of each part. Color is gray. Reaches full strength after 3½ hours.

	Overall Size Ht.	Wd.	Dp.	Reflector Size Ht.	Wd.	Mount Type	Choose a Color		
A	3″	5¼″	2½″	3″	5¼″	Very High Bond Tape	White, Yellow	5953T21	$9.69
B	1 1/16″	4 9/16″	3¼″	1 1/16″	3⅛″	Two-Part Epoxy	White, Yellow	37895T11	3.86
C	¾″	4″ Dia.	—	¼″	3″	Two-Part Epoxy	White, Yellow	37895T1	9.90
D	36″	3¼″	—	—	3¼″ Dia.	In Ground	Amber, Blue, Red	5879T65	3.30
E	48″	1¾″	—	4⅜″	1¾″	In Ground	Blue, Red	5879T72	8.73
F	48″	⅜″ Dia.	—	6″	—	In Ground	Blue, Green, Orange, Red	5879T4	5.48
Very High Bond Tape (Pkg. of 5 Strips)								7170A39	15.98
Two-Part Epoxy								37895T62	211.03

Two-Way-View Bounce-Back Marking Reflectors

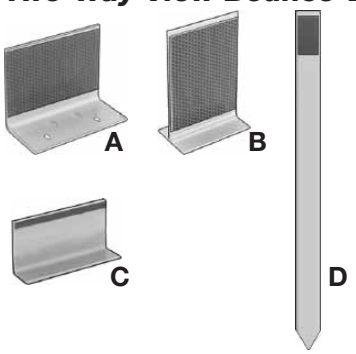

These flexible reflectors return to the upright position after contact. They are visible from both sides for areas where traffic moves in two directions. All reflectors are plastic with a plastic housing or post. Style C meets D.O.T. standards. Style D meets ASTM standards.
Use a post driver to install Style D.

	Overall Size Ht.	Wd.	Dp.	Reflector Size Ht.	Wd.	Mount Type	Mtg. Holes Dia.	Qty.	Choose a Color		
A	3½″	4¼″	2″	3″	4¼″	Nail On	¼″	2	White, Yellow	5953T22	$9.01
B	4⅜″	3″	2″	4″	3″	Very High Bond Tape	—	—	White, Yellow	5953T23	11.50
C	2″	4″	1⅛″	¼″	4″	Adhesive Back	—	—	White, Yellow	37895T12	1.24
D	66″	3¾″	—	6″	3⅛″	In Ground	—	—	Yellow	5943T25	23.32
D	72″	3¾″	—	6″	3⅛″	In Ground	—	—	Yellow	5943T26	25.60
D	84″	3¾″	—	6″	3⅛″	In Ground	—	—	Yellow	5943T27	28.74
Very High Bond Tape (Pkg. of 5 Strips)										7170A39	15.98
Post Driver for 66″ and 72″ high Style D										5943T92	155.38
Post Driver for 84″ high Style D										5943T91	212.31

Equipment Markers

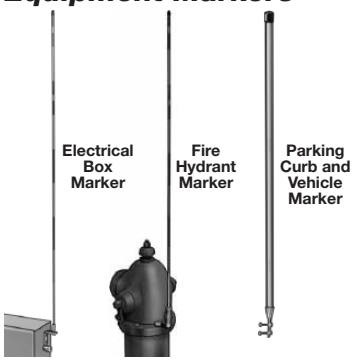

Mark equipment at risk of being hit by vehicles. Mounting fasteners are included.
Electrical box markers are orange fiberglass with 6″ reflective white bands.
Fire hydrant markers are white fiberglass with 6″ reflective red and white bands.
Parking curb and vehicle markers are solid orange nylon.

Ht.	Dia.		
Electrical Box Markers			
60″	⅜″	11255T41	$26.40
84″	⅜″	11255T42	33.72
Fire Hydrant Markers			
60″	⅜″	11255T31	33.72
84″	⅜″	11255T32	38.37
Parking Curb and Vehicle Markers			
36″	¾″	6509T12	21.58
48″	¾″	6509T13	29.73

Safety Flares



Burn Time	Color	Specifications Met	Pkg. Qty.		Pkg.
15 min.	Red	UL Listed	3	5821T51	$7.38
15 min.	Red	UL Listed	24	5821T42	57.38

Warning Triangle Kits



Triangle, Lightsticks, Reflective Vest, and Pouch

Keep a well-equipped kit handy to stay visible during a vehicle emergency. All kits meet Federal Motor Vehicle Safety Standard No. 125.

Includes		
Triangles and Bases (3), Plastic Case (1)	5966T14	$34.71
Triangle and Base (1), Reflective Vest (1), Lightsticks (2), Pouch (1)	83115T11	38.62
Triangles and Bases (3), Lightsticks (3), Fire Extinguisher (1), Hold-Down Strap with Mounting Bracket (1), Metal Case (1)	83115T26	162.88
Replacement Warning Triangle	5966T16	13.18

Reflective Vehicle Marking Tape



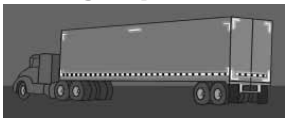

Also known as conspicuity tape, this tape draws attention to vehicles. It has alternating reflective red and white stripes. Tape withstands power washing. Meets D.O.T. and NHSTA requirements.

Lg., ft.	Wd.	Thick.	Material		
1½	2″	7 mils	Polyester	15835T58	$1.83
25	2″	7 mils	Polyester	15835T59	36.60
50	2″	7 mils	Polyester	15835T61	63.15
150	2″	14 mils	Vinyl	15835T71	104.50

Kit—Includes four 12″ Lg. × 2″ Wd. strips of white tape, 31 strips of 18″ Lg. × 2″ red and white striped tape, and an application squeegee.

15835T62 ..... $67.87

Safety Flags



Message



Solid



Checkered

Alert drivers and personnel to potential hazards.

Message flag has a wire loop for hanging. It is orange vinyl with white lettering on one side.

Solid flag is orange. 18″ flag is vinyl and 24″ flag is nylon.

Checkered flag is also known as an airport flag. It's orange and white nylon.

Pattern	Ht.	Wd.	Rod Dia.	Rod Ht.		
Message	18″	18″	—	—	5859T26	$8.44
Solid	18″	18″	¾″	36″	5888T1	4.80
Solid	24″	24″	¾″	36″	5888T2	5.30
Checkered	36″	36″	15⁄16″	52″	58725T321	33.76

Slow-Moving-Vehicle Signs



Signify a slow-moving vehicle. These reflective placards are orange and red. Meet ASAE S276.5.

Vinyl placard is adhesive backed.

Aluminum placard has two ¼″ dia. mounting holes (fasteners not included).

	Ht.	Wd.		
Vinyl	14″	16″	59005T12	$17.12
Aluminum	14″	16″	59005T11	21.98

Roll-Up Traffic Safety Signs and Folding Stand



Sign and Folding Stand (Sold Separately)

Post these portable signs to alert drivers to temporary construction zones and then roll them up when not in use. Signs are orange and black vinyl with a message on one side. All are 36″ square. For freestanding use, mount your sign to a folding stand.

Folding stand is 14″ high and made of powder-coated steel. Use the *optional stand extension* to raise the sign an additional 12″.

Optional tote bag lets you store and carry your sign. Bag is black canvas and 6 ft. Lg. × 9½″ Wd.

Construction Ahead Sign	7646T11	$59.48
Men Working Sign	7646T13	59.48
Road Work Ahead Sign	7646T14	59.48
Folding Stand	7646T32	175.90
Optional Stand Extension	7646T41	24.40
Optional Tote Bag	7646T39	22.03

Vehicle Banners



Alert other drivers about the size of your vehicle or load. Banners are nylon with black lettering on a yellow background. They have rope ties at each corner.

Oversize Load/Wide Load banner has a message on both sides and has 5-ft. rope ties.

Wide Load banner has a message on one side and has 4-ft. rope ties.

Message	Lg., ft.	Ht.		
Oversize Load/Wide Load	6	18″	59005T23	$26.39
Wide Load	8	18″	59005T21	23.48

Pennants



Pennants with Message

Pennants are vinyl. **To Order:** Please specify orange, red, yellow, alternating black and yellow, or multicolor (blue/white/red/yellow/green/orange), unless noted.

Pennants for OSHA marking are required for marking above-ground construction to meet OSHA requirements. Made of polypropylene. **To Order:** Please specify red, yellow, or alternating red and yellow.

Pennants with message are vinyl with black lettering. **To Order:** Please specify red (message repeats Danger) or yellow (message changes from pennant to pennant: Be Careful/Safety Always/Danger Keep Out/Safety First/Danger Ahead).

Pennants Qty.	Lg.	Wd.	Cord Lg., ft.	Cord Breaking Strength, lbs.		
Pennants						
36	12″	9″	60	100	59925T34	$7.06
60	12″	9″	100	100	59925T62★	12.52
Pennants for OSHA Marking						
42	18″	12″	105	500	59925T37	14.36
Pennants with Message						
38	12″	9″	60	100	59925T4	9.25

★ Not available in alternating black and yellow.

Barrier Tape, Traffic Posts & Traffic Cones

Barrier Tape



Striped



Message Tape with Dispenser Handle (Sold Separately)



Dispenser Box



Tape Clip

Tape is nonadhesive and can be used indoors and outdoors. All rolls are 3″ wide. 200-ft. polyethylene tape has an ID of 1½″. All other lengths have a 3″ ID. *Dispenser handle* and *box* are for use with 3″ wide rolls with a 3″ ID and a maximum 8″ OD. Dispenser handle measures 8¾″ Lg. × 6″ Ht. Dispenser box measures 12″ Ht. × 8½″ Wd. × 4½″ Dp. Both are polyethylene.

	0.003″ Thick Polyethylene						*0.005″ Thick Polypropylene*	
	200′ Lg. × 3″ Wd.		500′ Lg. × 3″ Wd.		1,000′ Lg. × 3″ Wd.		200′ Lg. × 3″ Wd.	
Solid Color								
Red	8287T52	$5.83	38615T55	$11.57	6041T69	$17.83	15865T421	$13.31
Yellow	8287T51	5.83	38615T54	11.57	6041T68	17.83	15865T419	13.31
Striped								
Black/Yellow	8287T28	5.83	38615T21	11.57	6041T28	17.83	15865T428	13.31
With Caution Message—Yellow tape with black lettering								
Caution	8287T29	5.83	38615T14	11.57	6041T29	17.83	15865T411	13.31
Construction Area	8287T33	5.83	38615T19	11.57	6041T32	17.83	15865T413	13.31
Cuidado	8287T25	5.83	38615T15	11.57	6041T25	17.83	15865T425	13.31
Do Not Enter	8287T32	5.83	38615T17	11.57	6041T31	17.83	15865T412	13.31
Men Working	8287T24	5.83	38615T22	11.57	6041T39	17.83	15865T414	13.31
Men Working Overhead	8287T34	5.83	38615T25	11.57	6041T33	17.83	15865T415	13.31
No Parking	8287T35	5.83	38615T26	11.57	6041T36	17.83	15865T416	13.31
Wet Paint	8287T38	5.83	38615T33	11.57	6041T45	17.83	15865T418	13.31
With Danger Message—Red tape with black lettering								
Danger	8287T26	5.83	38615T16	11.57	6041T26	17.83	15865T426	13.31
Do Not Enter	8287T36	5.83	38615T28	11.57	6041T38	17.83	15865T417	13.31
Peligro	8287T27	5.83	38615T18	11.57	6041T27	17.83	15865T427	13.31
Dispenser Handle							6041T93	6.82
Dispenser Box							6041T92	25.30
Tape Clips (Pkg. of 5)							6041T91	5.27

Reusable Barrier Tape



Striped

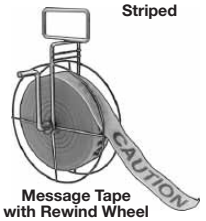

Message Tape with Rewind Wheel (Sold Separately)

This nonadhesive barrier tape has a long-lasting woven construction. Roll ID is 3″ for cotton tape and 1½″ for polypropylene tape. The polypropylene tape is suitable for outdoor use.

Rewind wheel can hold up to 200 ft. of 2″ wide tape. Maximum roll ID is 9″. Made of steel.

	0.012″ Thick Cotton				*0.030″ Thick Polypropylene*	
	200′ Lg. × 2″ Wd.		200′ Lg. × 3″ Wd.		200′ Lg. × 2″ Wd.	
Solid Color						
Red					6073T11	$11.81
Yellow					6073T14	11.81
Striped						
Black/Yellow					6073T12	11.81
Message—Lettering is black						
Red with Danger	6073T42	$23.12	6073T44	$29.80	6073T18	28.67
Yellow with Caution	6073T41	23.12	6073T43	29.80	6073T16	28.67
Rewind Wheel					6073T21	47.31

Traffic Posts

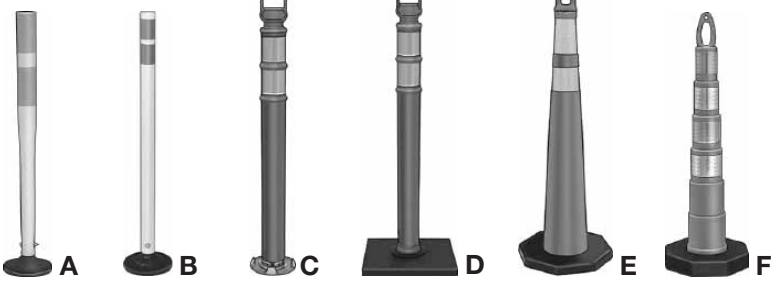

Styles A and **B** are polypropylene with a flexible black rubber base and return to the upright position after contact. Mount with epoxy adhesive or an adhesive mounting pad (sold separately). They meet MUTCD standards.

Style C bolts into the ground. Post is polyethylene with an aluminum base. It has four ¾″ dia. mounting holes (fasteners not included). Meets NCHRP-350 crash testing standards.

Styles D, E, and **F** are freestanding with weighted black rubber bases. Made of polyethylene. They meet NCHRP-350 crash testing standards. Style F also meets MUTCD standards.

	O'all Ht.	*Posts* Dia.	Color	*Bases* Wt., lbs.	Wd.	Lg.	*Reflective Bands* Qty.	Ht.	Color	Traffic Posts		Replacement Posts		Replacement Bases	
A	42″	3″ Wd.	White	2.5	8″ Dia.	—	2	6″	Yellow	5943T52	$42.98	—	—	—	—
B	42″	2¼″	White	2.5	8″ Dia.	—	2	3″	Yellow	5943T53	44.70	—	—	—	—
C	45″	4″	Orange	3	8″ Dia.	—	2	4″	Silver	5935T55	34.19	5935T81	$23.86	5935T11	$25.55
D	45″	4″	Orange	10	16″	18″	2	3″	Silver	5935T34	35.75	5935T67	23.67	5935T69	18.10
E	46¼″	7¾″	Orange	10	20¼″	20¼″	2	4″, 6″	White	6011T21	51.40	6011T61	35.84	6011T71	15.56
E	46¼″	7¾″	Orange	16	20¼″	20¼″	2	4″, 6″	White	6011T31	56.40	6011T61	35.84	6011T72	20.56
F	49¼″	7¾″	Orange	16	20¼″	20¼″	4	4″	Orange/White	6011T13	51.29	6011T62	30.73	6011T72	20.56
Adhesive Mounting Pad for Styles A and B														5943T54	8.04

Collapsible Traffic Cones



28″ High Cone



Collapsed

Cones are orange with reflective bands. Bases and tips are polypropylene.

16″ high cone is nylon/polyester fabric with two 1″ high reflective yellow bands.

28″ high cone is nylon fabric with one 4″ high and one 6″ high reflective silver band. Meets MUTCD standards.

Ht. Extended	Collapsed	Base Size, sq.		
16″	2″	9½″	5955T1	$15.09
28″	4″	14″	5955T2	29.58

Traffic Cones



Cone with Reflective Band



Cone with Caution Message

Cones are made of flexible PVC. They meet MUTCD standards.
Cones with Reflective Bands—*18″ high* cones have one 6″ high white band. The *28″* and *36″ high* cones have one 4″ high and one 6″ high white band.

Ht.	Orange Base Size, sq.		1-9	10-Up	Fluorescent Green Base Size, sq.		1-9	10-Up
Cones								
6″	6″	5901T7	$6.28	$5.57				
12″	8½″	5901T4	8.08	7.16	9¼″	5901T11	$8.08	$7.16
18″	11½″	5901T5	8.92	8.23	11″	5901T12	8.92	8.23
28″	15¼″	5901T6	17.39	15.65	14½″	5901T13	17.39	15.65
36″	15¼″	5901T36	23.48	21.18	14½″	5901T14	23.48	21.18
Cones with Reflective Bands								
18″	11½″	5901T81	14.11	12.70	11″	5901T27	14.11	12.70
28″	15¼″	5901T82	25.00	22.50	14½″	5901T28	25.00	22.50
36″	15¼″	5901T83	30.01	27.00	14½″	5901T29	30.01	27.00
Cones with Caution Message—Lettering is black								
18″	11½″	5901T21	10.00	9.02	11″	5901T15	10.00	9.02
28″	15¼″	5901T31	19.20	17.22	14½″	5901T16	19.20	17.22
36″	15¼″	5901T38	25.52	22.89	14½″	5901T17	25.52	22.89
Cones with Danger Message—Lettering is black								
18″	11½″	5901T22	10.00	9.02	11″	5901T18	10.00	9.02
28″	15¼″	5901T32	19.20	17.22	14½″	5901T19	19.20	17.22
36″	15¼″	5901T37	25.52	22.89	14½″	5901T23	25.52	22.89
Cones with No Parking Message—Lettering is black								
18″	11½″	5901T71	10.00	9.02	11″	5901T24	10.00	9.02
28″	15¼″	5901T72	19.20	17.22	14½″	5901T25	19.20	17.22
36″	15¼″	5901T73	25.52	22.89	14½″	5901T26	25.52	22.89

Cone-Mount Barricades

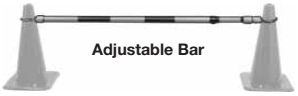



Mount these barricades to 28″ and 36″ high traffic cones. For cones, see 5901T above.
Adjustable bar barricades are 1⅜″ dia. ABS with a 3⅜″ dia. mounting ring on each end. **To Order:** Please specify reflective black/reflective yellow stripes or reflective orange/reflective white stripes.
Retractable-belt barricade requires one belt and one receiver (sold separately). Belts are 2″ wide polyester and come in a polyethylene housing. The belt receiver is PVC. **To Order:** For belt, please specify solid orange with orange housing or black/yellow stripes with yellow housing. For belt receiver, please specify orange or yellow.

	Lg.		
Adjustable Bar Barricade			
3′4″ to 6′7″		92735T21	$29.87
6′0″ to 10′6″		92735T24	43.87
Retractable Belt Barricade			
13 ft.		92735T27	66.79
Retractable-Belt Receiver		92735T32	39.66

Traffic-Directing Flashlights



Light the way for vehicles; the entire plastic cone illuminates for excellent visibility. Flashlight has amber, blue, green, and red filters, and can switch between continuous and flashing pattern. Body is plastic for outdoor use. Requires two D batteries. Meets MIL-F-3747 MX-993/U Type IV, Style 1.

Bulb Type	Dia.	Lg.	Flashlight		Repl. Bulb	
Incandescent	2″	15″	10695T71	$18.30	8394T23	$0.83

Marking Cones



5″ High Cone



18″ High Cone

Use these cones for quick material identification, inventory control, and pallet staging.
5″ high cones are polypropylene with a 10″ dia. base.
18″ high cones are polyethylene with a 12″ square base.

Choose a Color	Cones		Cones with Magnet	
5″ High				
Black, Blue, Green, Orange, Red, White, Yellow	55175T2	$3.97	55175T1	$5.36
18″ High				
Blue, Fluorescent Green, Green, Orange, Red, White, Yellow	38645T11	12.93		

Barrel Barricades



Barricades are orange polyethylene with four 4″ high orange and white reflective bands. The barricade with prismatic bands is high visibility for use in heavy traffic and low-light areas. All meet NCHRP-350 crash testing standards.

Dia.	Ht.	Band Construction		
18″	40″	Glass Bead	6039T91	$52.49
18″	40″	Prismatic	6039T92	72.07
Optional 25-lb. Rubber Base			6039T98	35.70

Barricade Lights



Standard



360° View

Lights can flash or burn continuously. They require two 6-volt batteries (sold separately below). All have a 7″ Wd.×3″ Dp. polypropylene base. Mounting fasteners are included.
Lights with a photocell only burn when it's dark, prolonging battery life.
LED bulbs last longer than incandescent bulbs.
To Order: Please specify lens color: amber, blue, or red.

	Lens Ht.	Lens Dia.	Without Photocell		With Photocell	
Standard						
Incandescent	7″	—	5981T121	$25.51	5981T122	$25.51
LED	7″	—	5981T123	47.36	5981T124	47.36
360° View						
Incandescent	6″	5″	5837T131	42.22	5837T132	42.22
LED	3″	5″	5837T133	61.84	5837T134	61.84
Repl. Incandescent Bulbs (Pkg. of 10)					1505K76	7.48
6V Battery (Two Required)					7690K13	3.29

Water-Fill Barricades



With Optional LED Light

You can fill these with water for added stability and drain when not in use for easy transport. Barricades connect side by side. Made of orange polyethylene. Meet NCHRP-350 crash testing standards.
LED light fits into the top of the barricades. Light has a 5″ Dia.×3″ Ht. red lens, a polypropylene base, and requires two 6-volt batteries (not included). Comes with mounting hardware.

Lg., ft.	Wd.	Ht.	Weight, lbs. Empty	Weight, lbs. Full (Approx.)	Fill Hole Dia.		
6	12″	18″	38	330	4″	3783T49	$215.00
6	18″	32″	75	900	4″	3783T47	455.00
LED Light						5837T84	61.84

Panel Barricades



One Reflective Panel



Two Reflective Panels with Light

The panels on both sides of these barricades have 4″ wide reflective orange and white stripes. All are made of white polyethylene. Two-panel barricades meet NCHRP-350 crash testing standards and are available with or without an incandescent flashing light. Light has a 7″ dia. amber lens and includes two 6-volt batteries.

O'all Size Ht.	O'all Size Wd.	Panels Qty.	Panels Ht.	Without Light		With Light	
36″	13″	1	24″	5790T13	$65.27		
45″	25″	2	8″, 12″	5790T21	107.51	5790T56	$137.84

Rail Barricades



Supports with One Rail



Supports with Two Rails

To create a complete barrier, team a pair of supports with one or two rails.

Supports—Are 36″ high and made of white polypropylene. They come in packages of two. For increased visibility, add a standard barricade light (sold separately on page 1929).

37855T11		Per Pair	$58.28

Rails—Are white PVC with 6″ wide orange and white reflective stripes.

Wd., ft.	Ht.		
4	10″	37855T21	$62.57
6	10″	37855T31	77.05
8	10″	37855T41	95.90
12	10″	37855T51	138.06

Blind Corner Warning Lights

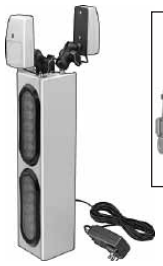



When motion is detected from both directions at a two-way corner, these red LED lights flash to alert personnel and prevent collisions. Lights operate on 120 volts AC and have a 25-ft. cord with a two-prong plug. They have a yellow powder-coated steel body with plastic lenses and are suitable for outdoor use. UL listed.

Mount to a surface (fasteners included) or use a *remote sensor cable* (sold separately) to mount the motion sensor up to 20 feet away from the unit for a more advanced warning.

No. of Sensors	Maximum Sensing Distance, ft.		
2	35	1214N1	$621.21
Remote Sensor Cable		1214N11	61.67

Folding Guards



Three-Panel Barrier



Add-On Panel

Restrict access to an area of your facility. When not in use, the panels of this guard fold for easy transport and storage. Use an add-on panel to create a longer length. Made of 1 3/16″ thick yellow polyethylene. Helps meet OSHA 19.23(e)(1) requirements.

	Panel Ht.	Panel Wd.	O'all Wd.		
Three-Panel Barrier	31 3/8″	39 3/8″	118″	5434T82	$233.33
Add-On Panel	31 3/8″	39 3/8″	—	5434T84	82.29

Folding Railings



Create a temporary barrier around hazards such as open manholes. Railing is 42″ high and covers a 32″ square area. It has a 1″ dia. steel frame with yellow powder-coated finish. When not in use, it folds for easy transport and compact storage.

5900T14		$279.50

Speed Bumps



Plastic Screw In



Portable



Rubber Screw In



Striped Rubber Screw In

Plastic screw-in speed bump is yellow. Hardware for installing on asphalt and concrete is included.

Rubber screw-in speed bumps are black rubber. Striped version is black and yellow. Hardware for installing on asphalt is included.

Portable speed bump is yellow plastic with a rubber textured bottom that firmly grips the road surface. Comes with a canvas carrying bag.

Material	Lg., ft.	Wd.	Ht.	Speed Bumps		Repl. Hardware	
Plastic Screw In	6	10″	2″	57955T11	$94.90	46985T87	$8.67
Rubber Screw In	6	12″	2 5/8″	2806T72	155.44	46985T81	15.56
Striped Rubber Screw In	6	12″	2 5/8″	2806T74	173.22	46985T81	15.56
Portable Plastic/Rubber	10	8 3/4″	1 3/4″	57955T21	712.89		
Hardware to Install Rubber Speed Bump on Concrete				2806T85	13.33		

Parking Curbs



Plastic



Rubber

Plastic curb comes with hardware for installing on asphalt and concrete. To Order: Please specify blue, gray, or yellow.

Rubber curb is black with reflective yellow bands for increased visibility. It comes with hardware for installing on asphalt; hardware for concrete sold separately.

Material	Lg., ft.	Wd.	Ht.	Curbs		Repl. Hardware	
Plastic	6	6″	4″	46985T21	$65.74	46985T89	$8.89
Rubber	4	6″	4 1/2″	46985T32	45.67	46985T81	15.56
Rubber	6	6″	4 1/4″	46985T31	72.50	46985T81	15.56
Hardware to Install Rubber Curb on Concrete				46985T83	15.55		

Chain Barriers

You can use these lightweight, weather-resistant barriers indoors and outdoors. Mix and match posts and chain to create a barrier that suits your needs. Posts, chain, sign holders, ball tops, and bases are polyethylene. Hook connectors, S-hooks, connecting chain links, and magnetic mount rings are acetal.

Barrier Kits

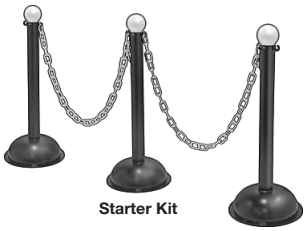

Starter Kit

Posts have a removable top. Fill the base with sand or pea gravel for added stability.

Starter kit includes three 41″ Ht. × 3″ Dia. black posts with 16″ dia. base, two lengths of 6′9″ long yellow chain, and three hook connectors.

Add-on kit includes one of each component in the starter kit.

Starter Kit	9197T12	$145.62
Add-On Kit	9197T13	50.57

Posts

All posts have a removable top. Fill the base with sand or pea gravel for added stability.

Round posts are 3″ dia. and have a hook connector at the top of the post to attach chain on either side. **To Order:** For solid posts, please specify black, orange, red, white, or yellow. For striped posts, please specify black/yellow, magenta/yellow, or orange/silver.

Square post is 5″ square and has four 3/8″ dia. mounting holes in the base for permanent installation. Pass chain through the hole in the top. Color is yellow.



Striped Round Post

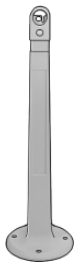

Square Post

	Ht.	Base Dia.		
Round Solid Post	41″	16″	9197T28	$70.67
Round Striped Post	41″	16″	9197T142	76.49
Square Solid Post	48″	14″	9197T11	107.21

Accessories and Replacement Parts for Round Posts

Sign holder replaces the ball top of a 3″ dia. post and provides a slot for a sign up to 1/16″ thick.

	Choose a Color		
Sign Holder	Black, Orange, Red, White, Yellow	9197T23	$10.31
Repl. Ball Top	Black, Orange, Red, White, Yellow	9197T24	6.32
Repl. Hook Connector	Black, Orange, Red, White, Yellow	9197T18	2.89
Repl. Base	Black, Orange, Red, White, Yellow	9197T25	38.31



Sign Holder



Ball Top



Hook Connector



Base

Chain and Magnetic-Mount Rings

Striped chain alternates color every two feet.

To connect two lengths of chain, use an *S-hook* or *connecting chain link*. Connecting links split in half and snap back together.

Instead of a post, use a *magnetic mount ring* to hang chain between metal surfaces. Inside link size is 2″ Lg. × 0.844″ Wd. Link dia. is 7/16″. Trade size 8. Color is black.

To Order: For solid color chain, connecting links, and S-hooks, please specify black, blue, green, orange, red, white, or yellow. For striped chain, please specify black/white, black/yellow, magenta/yellow, or red/white.



Chain



S-Hook



Connecting Chain Link



Magnetic Mount Ring

Inside Link Size Lg.	Inside Link Size Wd.	Link Dia.	Trade Size	Length, ft.	Chain	Per Ft.	S-Hooks	Pkg. of 10	Connecting Chain Links	Pkg. of 10
Solid										
1/2″	3/16″	1/8″	—	10, 25, 50, 100, 200, 500	8953T9	$0.76	8953T75	$3.00	8953T65	$3.06
3/4″	3/8″	5/32″	4	10, 25, 50, 100, 200, 500	8953T8	.87	8953T76	3.94	8953T66	3.94
1 1/16″	3/8″	3/16″	6	10, 25, 50, 100, 200, 500	8953T1	.96	8953T77	4.60	8953T67	4.60
1 3/8″	11/16″	1/4″	8	10, 25, 50, 100, 200, 500	8953T6	1.18	8953T78	5.52	8953T68	5.52
2 1/16″	7/8″	3/8″	10	10, 25, 50, 100, 200	8953T3	1.65	8953T79	9.41	8953T69	9.39
2 11/16″	1 1/8″	1/2″	12	10, 25, 50, 100, 200	8953T33	3.51	8953T15	24.93	8953T14	24.93
Striped										
1 3/8″	11/16″	1/4″	8	50, 100	8953T4	1.83	8953T78	5.52	8953T68	5.52
Magnetic-Mount Ring									8953T169	19.61

Rack- and Magnetic-Mount Retractable Belt Barriers

Belts are 2″ wide polyester. Housing is black aluminum.

Rack-mount barriers attach to upright rack shelving to block off aisles. When the belt is extended, a connecting clip on the end secures it to the shelving holes or you can wrap the belt around a post and hook the clip to the belt. Rack shelving must have holes on 1 1/2″ centers.

Hook-on barriers hang from rack holes for temporary installation. **Bolt-in** barriers secure permanently to rack holes with a nut and bolt (fasteners included).

Magnetic-mount barriers have a magnetic housing and belt end to attach between metal surfaces—no mounting hardware required.



Hook On



Bolt In



Magnetic

	Rack-Mount				*Magnetic-Mount*		
	Hook On	Bolt In					
Choose a Belt Color	18-ft. Belt Lg.		18-ft. Belt Lg.	24-ft. Belt Lg.		7-ft. Belt Lg.	13-ft. Belt Lg.
Solid							
Black, Blue, Green, Red, Yellow	96705T811 $79.06		96705T812★ $81.48	$129.07	60145T821■	$91.67	$115.00
Striped							
Black/Yellow	96705T16 79.06		96705T813 81.48	129.07	60145T822	91.67	115.00
Message							
Yellow with Caution—Please Do Not Enter	96705T71 112.40		96705T814 114.88	161.34	60145T823	108.33	146.67
Yellow with Please Do Not Enter—Temporarily Closed	96705T19 112.40		96705T815 114.88	161.34	60145T824	108.33	146.67

★24-ft. length only available with yellow belt. ■Not available with green belt.

Warning: Chain is not load rated. Do not use for overhead lifting, towing, or similar applications.

Retractable Belt Barriers

Wall-Mount Retractable Belt Barriers



7½-ft. Belt



15- and 24-ft. Belt



50-ft. Belt

Belts are 2″ wide polyester with black housing that bolts to a wall. The 7½-ft. belt has a steel housing, 15- and 24-ft. belts have a PVC housing, and the 50-ft. belt has an aluminum housing. Fasteners and a wall receptacle are included, except 50-ft. belts do not include fasteners. The PVC housing is suitable for outdoor use.

Choose a Belt Color		7½ ft.	15 ft.	24 ft.	50 ft.
Solid					
Black, Blue, Red, Yellow	60145T831	$76.31	$94.08	$175.24	$337.71
Striped					
Black/Yellow, Red/White	60145T832	76.31	94.08	175.24	369.86

Freestanding Retractable Belt Barriers



Standard Barrier



All-Weather Barrier

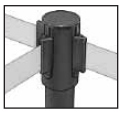

Three Connection Points



Sign Holder

To make a complete unit, team one or more belt barriers with a wall receptacle or receiver post. Barriers have a 2″ wide polyester belt with black polyamide housing, unless noted. Belts with a message have black lettering. *Sign holders* are plastic and hold 8½″ Wd.×11″ Ht. signs. *Receiver posts* are connection points only and have no belt.

Standard Barriers

Barriers have a 2″ Dia.×38″ Ht. steel post. Posts are available in black with a plastic-covered iron base or reflective silver with a metal-covered iron base. Bases have a 14″ dia. and weigh 6 lbs. All barriers have three connection points for forming a four-way barrier. *Receiver posts* are the same color and material as corresponding barrier post.

		Belt Barrier				
			7½-ft.	13-ft.		
Choose a Belt Color	Post Color		Belt Lg.	Belt Lg.	Receiver Post	
Solid						
Black, Blue, Red, Yellow	Black	60145T811	$174.92	$239.75	60145T37	$161.63
Black, Blue, Red, Yellow	Reflective Silver	60145T812★	189.97	257.88	60145T38	179.68
Striped						
Black/Yellow, Red/White	Black	60145T813	192.97	239.75	60145T37	161.63
Black/Yellow, Red/White	Reflective Silver	60145T814	210.96	257.88	60145T38	179.68
Sign Holder					60145T68	65.10

★ Housing is yellow for 13-ft. long red and yellow belts.

All-Weather Barriers and High-Visibility Barriers

All-weather barriers have 2½″ Dia.×38″ Ht. yellow plastic posts. They have three connection points for forming a four-way barrier. They have a 19″ dia. rubber base that weighs 2 lbs. Suitable for outdoor use.

High-visibility barriers have a 2″ Dia.×38″ Ht. yellow steel post, except the barriers with a 30-ft. belt have a 2½″ Dia.×40″ Ht. yellow aluminum post. Steel posts have three connection points and aluminum posts have one. All have a 14″ dia. iron base that weighs 6 lbs., except barrier with a 30-ft. belt has a base that weighs 30 lbs. 7½- and 13-ft. barriers have a polystyrene-covered base; 30-ft. barriers have an ABS-covered base. 7½- and 13-ft. belt lengths have a polyamide housing; 30-ft. lengths have a polycarbonate housing.

Receiver posts are 2″ Dia.×38″ Ht. and have four connecting points. Housing is black polyamide. The PVC post is suitable for outdoor use.

	7½-ft. Belt Lg.		13-ft. Belt Lg.		30-ft. Belt Lg.	
All-Weather Barrier—Solid Belt						
Black	60145T982	$137.99	60145T171	$157.74		
Yellow	60145T981	137.99	60145T172	157.74		
All-Weather Barrier—Striped Belt						
Black/Yellow	60145T983	137.99	60145T173	157.74		
All-Weather Barrier—Message Belt						
Yellow with Caution—Do Not Enter	60145T991	162.71	60145T174	203.39		
Yellow with Danger—Keep Out	60145T994	162.71	60145T175	203.39		
High-Visibility Barrier—Solid Belt						
Yellow	60145T961	176.10	60145T137	243.43		
High-Visibility Barrier—Striped Belt						
Black/Yellow	60145T962	176.10	60145T138	243.43	60145T267	$354.00
High-Visibility Barrier—Message Belt						
Yellow with Caution—Do Not Enter	60145T971	196.27	60145T139	285.76	60145T268	354.00
Yellow with Danger—Keep Out	60145T974	196.27	60145T207	285.76		
Accessories						
Yellow Steel Receiver Post with Iron Base for High-Visibility Barriers					60145T218	175.62
Yellow PVC Receiver Post with Rubber Base for All-Weather Barriers					60145T36	127.89
Sign Holder					60145T68	65.10

Replacement Belt Cassettes for Retractable Belt Barriers

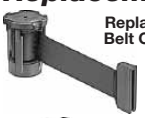

Replacement Belt Cassette



Lavi Replacement Wall Receptacle



Tensator Replacement Wall Receptacle



Slide-On Belt End

Belts are 2″ wide polyester. Belts with message have black lettering. Wall receptacles provide a bolt-in end point for your belt barrier. Fasteners are included.

	Lavi Belt Cassettes			Tensator Belt Cassettes		
		7-ft.	13-ft.		7½-ft.	13-ft.
Choose a Belt Color		Belt Lg.	Belt Lg.		Belt Lg.	Belt Lg.
Solid						
Black, Blue, Red, Yellow	60145T941	$49.17	$82.50	60145T942	$71.05	$118.42
Striped						
Black/Yellow	60145T943	49.17	82.50	60145T944	71.05	118.42
Red/White				60145T947	71.05	118.42
Message						
Yellow with Caution—Do Not Enter				60145T945	87.37	175.79
Yellow with Danger—Keep Out				60145T946	87.37	175.79
Replacement Black Aluminum Wall Receptacle for Lavi Belt Cassettes				60145T681		4.17
Replacement Black Zinc Wall Receptacle for Tensator Belt Cassettes				60145T85		11.32

Belt Ends

All components are made by Tensator. **Break away** belt end removes quickly under tension, allowing for a fast exit in emergency situations. **Universal connecting clip** is steel.

Material	Break Away		Magnetic		Slide On	
Black Polyamide	60145T472	$15.79	60145T474	$15.79	60145T473	$10.53
Universal Connecting Clip					60145T471	8.42

Retractable Gates

Gates collapse for easy transport and storage. To join multiple gates, slip the handle of one gate into the end post of another. Made of powder-coated aluminum and steel.

Gates with casters have 2″ dia. swivel casters. To Order: Please specify black/yellow or black/fluorescent yellow.

Locking bar keeps barrier from being folded up so it stays extended. It is steel and measures 12¾″ Lg. × 1½″ Wd. × ¼″ Thick.

Wall-mount brackets allow you to permanently attach gates to a wall. Brackets are 3″ Lg. × 1½″ Wd. and have two 1″ Lg. × ⅜″ Wd. mounting slots.

Replacement caster sets come with a set of four or six casters attached to the legs. To Order: Please specify gate part number and post color: yellow or fluorescent yellow.



Gate with Casters

Ht.	Wd.	No. of Posts	No. of Casters		
Gates					
37″	17″ - 11′4″	2	—	5428T41	$336.76
37″	20″ - 15′2″	3	—	5428T45	425.24
48½″	17″ - 11′4″	2	—	5428T43	369.38
Gates with Casters					
39″	17″ - 11′4″	2	4	5428T42	359.67
39″	20″ - 15′2″	3	6	5428T46	453.05
50½″	17″ - 11′4″	2	4	5428T44	392.51
Locking Bar				5428T11	37.68
Wall-Mount Bracket				5428T12	25.05
Replacement Caster Sets				5428T13	85.31

Railing Barriers

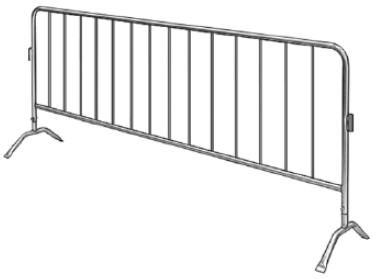

A hook on each end lets you join multiple barriers to create the length and configuration you need. Rails are 1¼″ dia.

304 stainless steel barriers offer excellent corrosion resistance.

Ht.	Lg.	Material		
40″	8′5″	Zinc-Plated Steel	38275T23	$96.75
40″	8′5″	Yellow Powder-Coated Steel	38275T33	117.57
40″	8′5″	304 Stainless Steel	38275T34	266.28

Metal Twisted-Wire Fencing

Also known as chicken wire and poultry netting, this fencing is a flexible alternative to metal welded-wire fencing. Made of galvanized steel. Wire diameter is 0.035″.

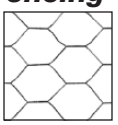

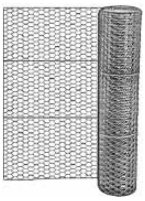

	1″ Opening Ht.			2″ Opening Ht.		
Ht.	Opening Wd.			Opening Wd.		
25-ft. Lg.						
2 ft.	1½″	9234T11	$11.81	—	—	—
3 ft.	1½″	9234T12	18.81	—	—	—
4 ft.	1½″	9234T13	25.25	—	—	—
50-ft. Lg.						
1½ ft.	17/16″	9234T52	28.03	—	—	—
2 ft.	17/16″	9234T53	36.97	3⅛″	9234T73	$21.94
3 ft.	17/16″	9234T55	51.01	3⅛″	9234T75	29.80
4 ft.	17/16″	9234T56	62.76	3⅛″	9234T76	35.32
5 ft.	17/16″	9234T57	73.15	3⅛″	9234T77	41.26
6 ft.	17/16″	9234T58	82.20	3⅛″	9234T78	47.67

Metal Welded-Wire Fencing

With wire strands welded at each intersection, this fencing has a rigid, sturdy construction.

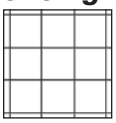

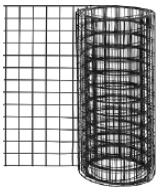

Ht.	Opening Ht.	Opening Wd.	25-ft. Lg.		50-ft. Lg.		100-ft. Lg.	
Zinc-Plated Steel								
0.063″ Wire Dia.								
2 ft.	1″	1″	9214T11	$37.81	9214T32	$48.55	9214T23	$91.42
3 ft.	1″	1″	9214T12	51.48	9214T33	67.12	9214T25	131.65
4 ft.	1″	1″	9214T13	69.42	9214T34	97.10	9214T28	182.85
5 ft.	1″	1″	9214T14	77.31	9214T35	109.24	9214T31	205.34
0.080″ Wire Dia.								
2 ft.	2″	1″	9214T15	38.63	9214T42	49.63	9214T46	93.77
3 ft.	2″	1″	9214T16	52.44	9214T43	69.16	9214T48	132.95
4 ft.	2″	1″	9214T17	71.71	9214T44	99.38	9214T51	189.07
5 ft.	2″	1″	9214T18	81.31	9214T45	113.27	9214T53	216.72
6 ft.	2″	1″	9214T19	104.28	9214T47	157.90	9214T55	296.23
Black PVC-Coated Zinc-Plated Steel								
0.063″ Wire Dia.								
2 ft.	1″	1″	9259T11	74.04	9259T31	110.82	9259T47	194.67
3 ft.	1″	1″	9259T12	84.91	9259T32	132.80	9259T48	230.84
4 ft.	1″	1″	9259T13	113.15	9259T33	177.07	9259T49	307.78
0.080″ Wire Dia.								
2 ft.	2″	2″	9259T14	76.86	9259T41	131.38	9259T56	198.57
3 ft.	2″	2″	9259T15	97.55	9259T42	154.22	9259T57	268.07
4 ft.	2″	2″	9259T16	127.55	9259T43	205.07	9259T58	356.52

Plastic Fencing

Use this lightweight fencing to temporarily limit access to areas of your facility.

Ht.	Pattern	Opening Ht.	Opening Wd.	Material Thick.	Choose a Color	25-ft. Lg.		50-ft. Lg.		100-ft. Lg.	
Flexible Polyethylene											
4 ft.	Diamond	1½″	1½″	0.075″	Green, Orange	59895T73★	$28.56	59895T77	$48.82	59895T78	$85.25
4 ft.	Oval	1¾″	4″	0.003″	Green, Orange	60105T59	23.67	60105T61	31.25	60105T62■	40.66
4 ft.	Rectangle	1¼″	1½″	0.032″	Black, Green, Orange, White, Yellow	60105T68	28.56	60105T69	44.42	60105T71▲	72.77
5 ft.	Rectangle	1¾″	2¼″	0.060″	Black, Green, Orange, White, Yellow	59895T76	43.91	59895T5	71.30	—	—
6 ft.	Rectangle	1¾″	2¼″	0.055″	Black, Green, Orange, White, Yellow	59895T74	61.43	59895T7	107.41	59895T79♣	212.87
Flexible Polypropylene											
4 ft.	Square	⅜″	⅜″	0.100″	Green, Orange	—	—	60215T1	108.36	60215T3	190.48
Rigid Polyethylene											
4 ft.	Diamond	1¼″	1¼″	0.121″	Black, Green, Orange, White, Yellow	59895T72	34.68	59895T1	61.76	59895T75	108.10



Diamond



Oval

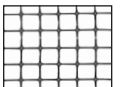

Rectangle and Square

★ Opening Ht. is 1¼″. Opening Wd. is 1¼″. ■ Opening Ht. is 2″. ▲ Not available in white. ♣ Only available in orange.

Chain Link Fencing

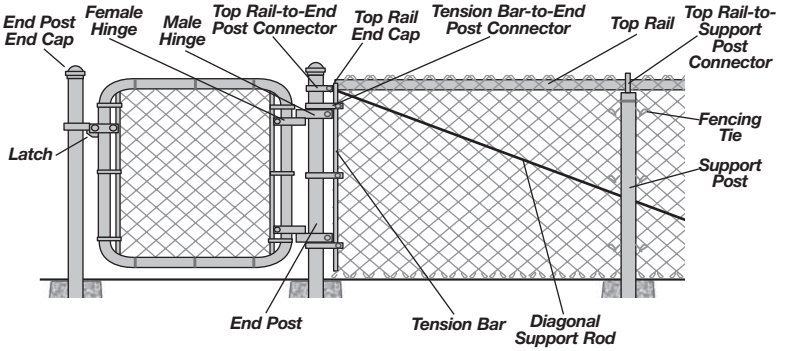

Erect a complete fence or repair an existing fence with these components. Components are galvanized steel except fencing ties, end caps, and top rail to support post connectors are aluminum.

Fencing

Ht.	Wire Dia.	Opening Ht.	Opening Wd.		
25-ft. Length					
4 ft.	0.113″	2 3/8″	2 3/8″	5991T15	$79.44
6 ft.	0.148″	2″	2″	5991T99	138.53
8 ft.	0.148″	2″	2″	5991T21	216.12
50-ft. Length					
4 ft.	0.113″	2 3/8″	2 3/8″	5991T28	142.00
6 ft.	0.148″	2″	2″	5991T96	271.40
8 ft.	0.148″	2″	2″	5991T57	412.77

Ties

Wire Dia.	Pkg. Qty.		Pkg.
0.114″	100	5991T45	$15.45

Posts and Tension Bars

For Fence Ht.	Posts Dia.	Posts Ht.			Tension Bars	
End Post						
4 ft.	1 7/8″	6 1/2 ft.	5991T12	$20.41	5991T35	$2.42
6 ft.	2 3/8″	8 1/2 ft.	5991T24	33.15	5991T36	3.69
8 ft.	2 7/8″	11 ft.	5991T51	89.40	5991T37	7.17
Support Post						
4 ft.	1 5/8″	6 1/2 ft.	5991T11	22.32		
6 ft.	1 7/8″	8 1/2 ft.	5991T23	36.79		
8 ft.	2 3/8″	11 ft.	5991T49	60.74		

Top Rails

Dia.		
10 1/2-ft. Length		
1 3/8″	5991T22	$27.60
1 5/8″	5991T55	31.69
21-ft. Length		
1 3/8″	5991T13	54.56
1 5/8″	5991T25	59.35

Connectors and Fasteners


Tension Bar to End Post Connector


Top Rail to End Post Connector


Top Rail to Support Post Connector

For Post Dia.	For Rail Dia.	Connectors Each		Fasteners Pkg. of 100	
Tension Bar to End Post Connectors					
1 7/8″	—	5991T19	$0.66	5991T44	$15.70
2 3/8″	—	5991T64	0.80	5991T44	15.70
2 7/8″	—	5991T68	1.18	5991T44	15.70
Top Rail to End Post Connectors					
1 7/8″	—	5991T592	0.64	5991T44	15.70
2 3/8″	—	5991T65	0.91	5991T44	15.70
2 7/8″	—	5991T72	2.32	5991T44	15.70
Top Rail to Support Post Connectors					
1 5/8″	1 3/8″	5991T18	1.19		
1 7/8″	1 5/8″	5991T58	2.03		
2 3/8″	1 5/8″	5991T62	3.01		

Diagonal Support Rod

Lg.		
11 ft.	5991T46	$11.33

Gates

Ht.	Lg.	Frame Dia.		
4 ft.	4 ft.	1 3/8″	5991T73	$105.80
6 ft.	4 ft.	1 3/8″	5991T74	136.46
8 ft.	4 ft.	1 5/8″	5991T75	286.20

Gate Hinges



Female Hinge

For Gate Frame Dia.		
1 3/8″	5991T76	$1.45
1 5/8″	5991T692	2.18



Male Hinge

For Post Dia.		
1 7/8″	5991T694	$2.39
2 3/8″	5991T695	2.47
2 7/8″	5991T696	4.34

Latches



For Post Dia.	For Gate Frame Dia.		
1 7/8″	1 3/8″	5991T1	$6.38
2 3/8″	1 3/8″	5991T2	6.06
2 7/8″	1 5/8″	5991T79	12.84

End Caps



End Post Caps

For Post Dia.		
1 7/8″	5991T71	$1.18
2 3/8″	5991T61	1.20
2 7/8″	5991T66	2.04



Top Rail End Caps

For Rail Dia.		
1 3/8″	5991T14	$0.72
1 5/8″	5991T26	1.72

Barbed Wire Supports



Each support holds three wires.

For Post Dia.		
For End Posts		
2 3/8″	5991T564	$10.43
2 7/8″	5991T568	15.40
For Support Posts		
1 7/8″	5991T562	5.30

Floor-Mount Flanges



For Post Dia.	Mtg. Holes Dia.	Mtg. Holes Qty.		
1 7/8″	11/16″	4	5991T101	$32.46
2 3/8″	11/16″	4	5991T102	34.72
2 7/8″	11/16″	4	5991T103	40.63

Installation Tools

Fencing stretcher pulls a tension bar toward a post and holds it in place for easy tie-off.

Diagonal Support Rod Tightener	5991T47	$2.26
Fence-Stretching Pull Chain	5864T74	15.22
Fencing Stretcher	5864T75	24.44
Wire Gripper	5864T72	14.92

Chain Link Fence Panels

Stand panels up to create enclosures without sinking posts into the ground. Panels have 1⅜″ dia. galvanized steel posts and rails with 0.113″ dia. chain link fencing that has 2⅜″ openings. Connecting clamps for joining panels are included.

Panel with gate includes a 3-ft. wide latching gate.

Optional support post with cross base attaches between two panels for added stability. Post is 68″ high; cross base is 22″ long. Includes connecting clamps.



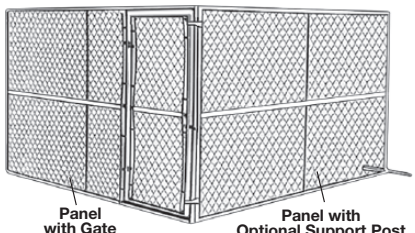


Connecting Clamp

Ht., ft.	Lg., ft.	Panel		Panel with Gate	
6	10	5977T1	$145.21	5977T3	$225.71
Optional Support Post with Cross Base				5977T5	34.11
Replacement Connecting Clamps (Pkg. of 2)				5977T6	2.98

Metal Mesh Fencing

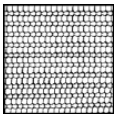

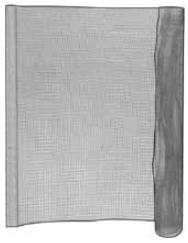

Made of finely knit corrosion-resistant mesh, this highly pliable fencing is often used to secure insulation blankets, covers, and jackets. Made of 304 stainless steel.

Mesh size refers to the number of openings per square inch.

Ht.	Mesh Size	Wire Dia.	Max. Continuous Lg.		Per Ft.
1½ ft.	9×7	0.011″	150 ft.	9235T71	$3.48
2½ ft.	9×7	0.011″	125 ft.	9235T72	7.25
3½ ft.	9×7	0.011″	150 ft.	9235T73	7.25

Barbed Wire


Two Barbs


Four Barbs

Made of galvanized steel wire.

No. of Barbs	Barb Spacing	Wire Dia.	Lg., ft.		Pkg.
2	5″	0.099″	1,320	5989T1	$82.83
4	5″	0.099″	1,320	5989T3	92.12

Fence Posts

U-shaped posts have hooks running from the top of the post to the anchor plate to secure fencing. Posts are green powder-coated steel.

T-shaped posts include fasteners to attach fencing to the post. Posts are green enamel-coated steel. *Optional caps* slip over the top of the post for a smooth top edge. Caps are white plastic.

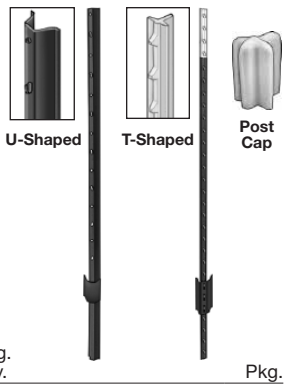

Ht., ft.	Wd.	Pkg. Qty.		Pkg.
U-Shaped Posts				
5	2″	5	6004T42	$32.69
6	2″	5	6004T44	39.23
7	2″	5	6004T47	45.77
8	2″	5	6004T48	57.69
T-Shaped Posts				
5	1¼″	5	6004T11	33.65
6	1¼″	5	6004T13	39.90
7	1¼″	5	6004T16	46.63
8	1¼″	5	6004T19	53.37
Optional Caps for T-shaped Posts		(Pkg. of 25)	6004T49	13.75

Wood Drift Fencing

A popular choice for controlling sand and snow drifts. Fencing consists of 1½″ Wd. × ⅜″ Thick. wood slats spaced every 2¼″. Color is red.



Ht., ft.	Lg., ft.		
4	25	6005T2	$37.95
4	50	6005T1	66.85

Privacy Strips and Screens

Strips and screens are made of polyethylene.

Privacy Strips

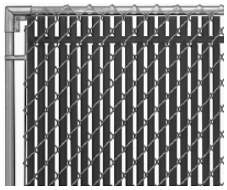

Privacy strips slide in vertically and reduce visibility by 75%. Strips are 1⅛″ wide.

Ht., ft.	Strip Width	For Fence Lg., ft.	Choose a Color		Pkg. of 82
4	1⅛″	10	Black, Green, Red, White	3159T41	$62.39
6	1⅛″	10	Black, Green, Red, White	3159T43	83.93
8	1⅛″	10	Black, Green, Red, White	3159T45	111.87

Privacy Screens



Privacy screens have grommets to tie the screen to a fence (ties not included). Screens reduce visibility by 85%.

Ht., ft.	Choose a Color	4-ft. Lg.		10-ft. Lg.		25-ft. Lg.	
4	Black, Green	3159T31	$22.27	3159T51	$36.82	3159T11	$70.98
6	Black, Green	3159T32	24.44	3159T52	38.25	3159T12	74.40
8	Black, Green	3159T33	28.41	3159T53	42.86	3159T13	81.82

Fence Post Drivers and Pullers

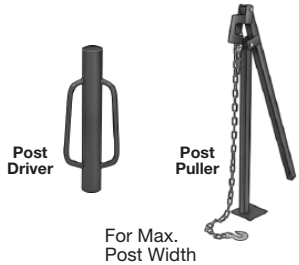

	For Max. Post Width		
Fence Post Driver	2½″	6220T24	$58.74
Fence Post Puller	12″	6220T41	107.73

Safety Gates

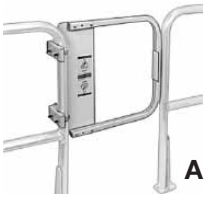
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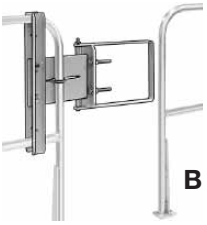
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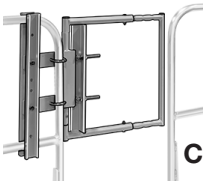
C


D

No need to shut these gates behind you—springs automatically do it for you. Gates can be mounted on railings and walls to swing open to the left or right. Connecting fasteners are included except for Style D. All help meet OSHA 1910.23(a) requirements.

Style A&B gates mount to round railings up to 2″ dia. or 2″ square railings. The arm for Style A is 1¼″ Wd. × 1¼″ Dp. The arm for Style B is 1½″ Wd. × ¼″ Dp. Both have a slot with bolt for adjusting the arm to fit the opening. Gates can swing 180° in one direction. *Style A* gate arm is 22¼″ high. *Style B* gates have a low-profile 12″ high arm.

Style C gates adjust in 2″ increments to fit a wide range of openings. They mount to round rails up to 2″ dia. or square rails up to 2½″ Wd. × 2¼″ Dp., unless noted. The gate arm is 1¼″ Dia. × 21⅝″ Ht., unless noted, and has a removable pin for adjusting to fit the opening. Gates swing 90° in one direction.

Style D gate adjusts to fit a wide range of openings and has adjustable tension. It mounts to round railings up to 2″ dia. or 2″ square railings. The arm is 1⁵⁄₁₆″ dia. and has a set screw to adjust the gate to fit the opening. Has two ⁷⁄₁₆″ dia. mounting holes. Gate swings 120° in one direction.

Galvanized steel gates provide very good corrosion resistance.

Powder-coated steel gates offer some corrosion resistance and high visibility. Styles A-C are yellow; Style D is red.

Stainless steel gates provide excellent corrosion resistance.

For Opening Size	Galvanized Steel		Powder-Coated Steel		316 Stainless Steel		Replacement Springs	
Style A Gates								
16¾″-20½″	4073K19	$175.94	4073K11	$181.70	4073K37	$396.28	4073K46	$11.66
19¾″-23½″	4073K21	179.52	4073K12	186.69	4073K38	405.66	4073K46	11.66
22¾″-26½″	4073K22	183.16	4073K13	189.27	4073K39	413.86	4073K46	11.66
25¾″-29½″	4073K23	186.86	4073K14	193.14	4073K41	422.07	4073K46	11.66
28¾″-32½″	4073K24	190.62	4073K15	197.08	4073K42	430.28	4073K46	11.66
31¾″-35½″	4073K25	194.45	4073K16	204.59	4073K43	438.48	4073K46	11.66
34¾″-38½″	4073K26	198.33	4073K17	208.77	4073K44	446.69	4073K46	11.66
38¾″-42½″	4073K27	231.82	4073K18	235.38	4073K45	542.83	4073K46	11.66
Style B Gates								
17″-18½″	8228T23	228.40	8228T43	276.92	8228T44	650.75	8228T888	40.00
19″-21½″	8228T1	231.25	8228T3	279.07	8228T45	655.64	8228T888	40.00
22″-24½″	8228T11	245.67	8228T31	293.75	8228T46	660.61	8228T888	40.00
25″-27½″	8228T12	247.62	8228T32	296.06	8228T47	665.65	8228T888	40.00
28″-30½″	8228T14	249.60	8228T34	298.41	8228T48	670.77	8228T888	40.00
31″-33½″	8228T16	251.61	8228T36	299.98	8228T49	675.97	8228T889	40.00
34″-36½″	8228T18	253.66	8228T38	303.23	8228T51	681.25	8228T889	40.00
37″-39½″	8228T21	255.74	8228T41	305.69	8228T52	686.61	8228T889	40.00
Style C Gates								
16″-26″	8109T21	236.37	8109T31	269.54	8109T12★	564.65	8109T44	22.88
24″-40″	8109T22	247.12	8109T32	283.04	8109T13★	606.71	8109T44	22.88
40″-48″	8109T41■	322.58	8109T42■	256.65	8109T43★■	785.55	8109T44	22.88
Style D Gate								
22½″-36″			8109T11	169.51			8109T888	18.90

★ Made of 304 stainless steel. ■ Fits square rails up to 2″ wide. Gate arm is 22″ high.

Soft-Close Safety Gates



A hydraulic arm with adjustable tension allows this gate to close smoothly. It can be mounted on railings and walls to swing open 90° to the left or right. Arm is 2″ Ht. × ¾″ Wd. red powder-coated steel. A set screw adjusts the arm to fit the opening. It has two ⁷⁄₁₆″ dia. mounting holes. Helps meet OSHA 1910.23(a) requirements.

For Opening Size		
15″ to 31″	8147T81	$242.16

Parking Gates



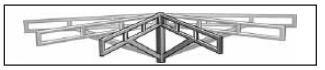

Slide these gates over steel guard posts to control access to parking lots and dock doors. They fit 5½″-6″ dia. guard posts that are a minimum of 42″ high. All are yellow powder-coated steel. They swing in two directions.

Lg., ft.	Ht.	Material Thick.		
5	42″	⅛″	5946T1	$619.40
6	42″	⅛″	5946T2	639.87
7	42″	⅛″	5946T3	675.54
8	42″	⅛″	5946T4	713.04
9	42″	⅛″	5946T5	741.55
10	42″	⅛″	5946T6	787.69

Parking Gate Arms

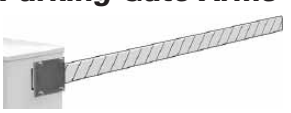

Replace the arm of a motor-powered parking gate. Arms are wood with black and white stripes.

Lg., ft.	Ht.	Thick.		
8	4″	1″	7104T41	$70.80
10	4″	1″	7104T42	84.00
12	4″	1″	7104T43	92.40

Mezzanine Gates


Pivoting from Loading to Unloading Position


Loading Position


Unloading Position

Keep personnel safe when transferring material between areas with different floor heights. Gate is made of 1½″ square yellow powder-coated tubular steel. Top rail is 42″ high, midrails are 21″ high, and toeboards are 4″ high. It has sixteen ⁷⁄₁₆″ dia. mounting holes. Helps meet OSHA 1910.12(e) requirements.

Overall Size			Usable Loading Area				
Ht.	Wd.	Dp.	Ht.	Wd.	Dp.		
79¾″	69½″	79¼″	76″	56″	74″	8244T72	$966.25

Build-Your-Own Railings

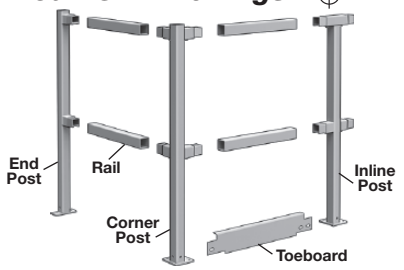

Modular mix-and-match components allow flexible railing configurations. All components are yellow enamel-coated steel.

Rails can be cut to length. The assembled length refers to the total installed length of the rail with posts on each side. Rails are 2″ Wd. × 2″ Dp. Connecting fasteners are included.

Posts are 2″ square with a 42″ high top rail and 21″ high midrail. Mounting fasteners are included.

Toeboards are 4″ high. Connecting fasteners are included.

Rails

Lg.	Assembled Lg.		
1′6″	2′2″	59985T23	$23.07
3′6″	4′2″	59985T22	30.78
7′6″	8′2″	59985T21	41.97

Posts

Style		
End	59985T12	$80.77
Inline	59985T11	82.69
Corner	59985T13	125.03

Toeboards

For Assembled Lg.		
2′2″	59985T33	$30.76
4′2″	59985T32	32.70
8′2″	59985T31	63.46

Slip-On Railings

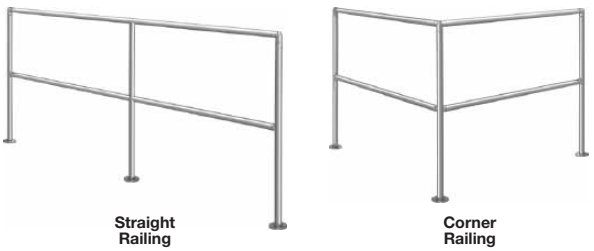

Slip these posts and rails together for a complete railing—no fittings required. Use an add-on railing to create a longer length.

All railings are satin 304 stainless steel. They come unassembled so you can cut them to length as needed. Top rail is 42″ high and midrail is 22″ high. Rail is 1½″ dia. Each post has four 7/16″ dia. mounting holes.

	Lg.	Post Qty.		
Straight Railing	8′0″	3	1405N11	$502.62
Straight Add-On Railing	4′0″	1	1405N12	189.25
Corner Railing	4′0″ × 4′0″	3	1405N13	502.62

Roof Hatch Railings

Provide a place to grip when passing through a roof hatch.

Railing includes vertical and side rails that mount to an existing roof hatch. Made of gray powder-coated steel. Mounting fasteners are included.



For Max. Hatch Wd.	Ht.		
36″	37½″	1385N71	$398.74

Safety Railings





Connect rails and posts with included slip-on fittings to quickly assemble a railing. Use an add-on railing to create a longer length. Use additional fittings to create custom configurations. All railings come unassembled so you can cut them to length as needed. They have 7/16″ dia. mounting holes (fasteners not included). They help meet OSHA 1910.23(a) requirements.

Railings are 1⅞″ diameter yellow powder-coated steel. All railings have a 42″ high top rail and a 21″ high midrail.

Toeboards are 4″ high yellow powder-coated aluminum. Connecting fasteners are included.

Fittings are black powder-coated aluminum. They have a 3/16″ set screw hex.

Railings

	Lg.	Post Qty.		
Straight	4′0″	2	5062T21	$236.36
Straight	6′0″	2	5062T22	309.09
Straight	8′0″	2	5062T17	345.45
Straight Add-On	4′0″	1	5062T18	187.73
Straight Add-On	6′0″	1	5062T23	245.45
Straight Add-On	8′0″	1	5062T34	327.27
Corner	4′0″ × 4′0″	3	5062T16	362.71

Toeboards

Lg.		
4′0″	5062T24	$60.51
6′0″	5062T25	73.75
8′0″	5062T26	81.31

Additional Fittings

90° Elbow	5062T41	$27.99
Three-Way 90° Elbow with Through Hole	5062T42	20.10
Tee	5062T43	17.83
Cross	5062T44	20.02
Round Base Flange	5062T45	21.38
Square Base Flange	5062T46	26.19

Skylight Guards

Place these guards over a skylight to protect against falls. Guards are yellow powder-coated steel. They help meet OSHA 1910.23(a)(4), 1910.23(e)(8), and 1926.501(b)(4) requirements.



Inside Size				
Lg.	Wd.	Ht.		
29″	29″	19″	1607N21	$564.00
36″	36″	23″	1607N22	614.00
48″	48″	24″	1607N23	747.00

Door-Track Guards

Keep your overhead-door track from being damaged by forklifts and other vehicles. Guards are ¼″ thick yellow powder-coated steel.

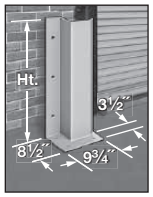

Ht.	Mtg. Hole Dia.	Mtg. Hole Qty.		Pair
24″	7/16″	6	5780T2	$184.94
36″	7/16″	7	5780T3	203.42
48″	7/16″	7	5780T4	234.24

Quick-Install Safety Railings

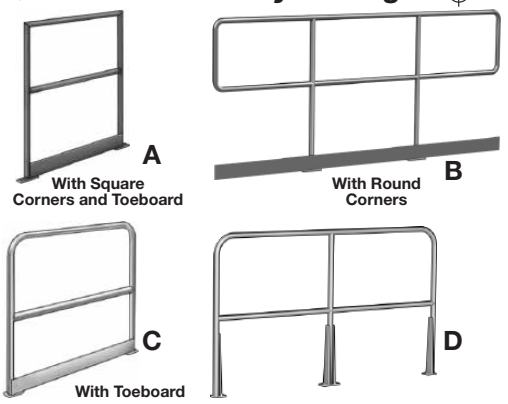

No assembly required with these one-piece railings. All rails are 1½" dia. with a 42¾" high top rail. Toeboards are 4" high. Mounting hole dia. is 9/16" (fasteners not included). All rails help meet OSHA 1926.1052(c)(5) requirements.

Aluminum railings offer some corrosion resistance.

Choose a Corner Shape	Lg.	Mtg. Hole Qty.	Without Toeboard		With Toeboard	
Steel with Two Posts						
A Round, Square	3'1½"	4	38255T1	$229.09	38255T2	$287.27
A Round, Square	5'1½"	4	38255T3	358.18	38255T71	427.27
B Round, Square	8'1½"	4	38255T5	483.87	38255T4	588.71
B Round, Square	10'1½"	4	38255T7	616.13	38255T6	720.97
Aluminum with Two Posts						
C Round	2'0"	2	3355T12	274.02	3355T26	309.15
C Round	3'0"	2	3355T13	289.28	3355T27	323.09
C Round	4'0"	2	3355T14	301.22	3355T28	330.73
C Round	5'0"	2	3355T15	312.92	3355T29	364.00
Aluminum with Three Posts						
D Round	6'0"	4	3355T16	398.41	3355T31	446.67
D Round	7'0"	4	3355T17	409.54	3355T32	463.98
D Round	8'0"	4	3355T18	421.86	3355T33	481.24

No-Drill Railings

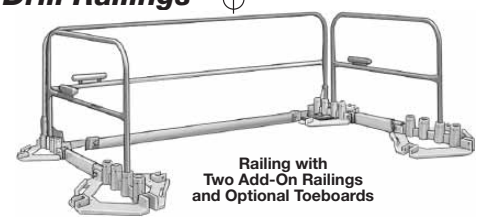

Weighted bases allow you to install these yellow powder-coated railings without drilling holes. Top rail is 42" high and midrail is 20" high. Rails are 1⅝" dia. Railings include one rail, two bases, and two connecting pins. Railings can pivot in 45° increments. Add-on railings come with one rail, one base, and two connecting pins. When properly installed, railings meet OSHA 1910.23(c) and 1926.502(b) requirements when making a U-shape. *Optional toeboards* are 4" high. *Optional nonskid pad* protects the work surface from scuffs and scratches.

Lg.	Railings		Add-On Railings	
5'0"	3294T11	$586.00	3294T41	$365.89
7'6"	3294T12	603.00	3294T42	373.23
10'0"	3294T13	618.00	3294T43	384.76
Optional Toeboard for 5'0" Long Railings			3294T15	123.71
Optional Toeboard for 7'6" and 10'0" Long Railings			3294T16	148.42
Optional Nonskid Pad			3294T81	6.00

Low-Profile Guardrails



These guardrails sit low to the ground to protect racks and equipment without restricting access. Rails are ¼" thick yellow powder-coated steel. Diameter is 4½". Each rail has three 1" dia. mounting holes (fasteners not included).

Ht.	3'0" Lg.		3'6" Lg.		4'0" Lg.	
5"	57895T151	$140.00	57895T152	$149.00	57895T153	$159.00

Bounce-Back Guardrails and Guard Posts



During light collisions, guardrails and guard posts tilt up to 20° to absorb impact and minimize damage to a vehicle. All are yellow powder-coated steel. Mounting fasteners are included. Posts have a closed top.

	Ht.	Lg.	Dia.	Material Thick.		
Guard Post	42"	—	3"	7/32"	1514N21	$252.36
Guard Post	42"	—	4"	¼"	1514N22	381.29
Guardrail	28"	3'0"	4"	11/32"	1361N21	1,030.93

Build-Your-Own No-Drill Railings

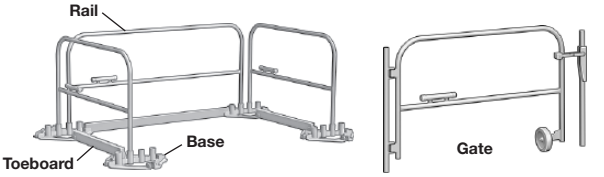

Combine bases, rails, gates, and toeboards to create a barrier customized to your needs.

Base is weighted to allow installation without drilling holes. It accepts four rails.

Rails are yellow powder-coated steel. Top rail is 42" high and midrail is 20" high. Rail is 1⅝" diameter. Rails can pivot in 45° increments. When properly installed, rails meet OSHA 1910.23(c) and 1926.502(b) requirements when making a U-shape.

Gate can be mounted on the left or right to swing 135° in one direction. Latch post, pivot post, wheel, and two connecting pins are included.

Toeboards are 4" high. Made of zinc-plated steel. Include two connecting pins.

Nonskid pads are rubber to protect the work surface from scuffs and scratches.

Use rail-to-base connecting pins to secure the railings to the bases.

	Lg.		
Base	—	3294T61	$227.50
Rail	5'0"	3294T51	134.19
Rail	7'6"	3294T52	141.53
Rail	10'0"	3294T53	153.06
Gate	5'0"	3294T14	908.00
Toeboard for 5'0" Length Rail		3294T15	123.71
Toeboard for 7'6" to 10'0" Length Rail		3294T16	148.42
Nonskid Pad		3294T81	6.00
Rail-to-Base Connecting Pin		3294T71	2.17
Replacement Toeboard-to-Base Connecting Pin		3294T72	5.42

Guardrails

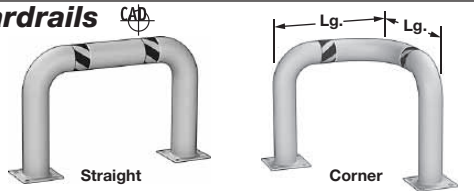

Guardrails are 4½" Dia. × ⅛" Thick. yellow powder-coated steel pipe. They have eight 1¼" Lg. × 7/8" Wd. mounting holes (fasteners not included).

Ht.	Lg.		
Straight			
9"	3'0"	57895T21	$160.77
9"	4'0"	57895T22	175.86
16"	3'0"	57895T23	171.93
16"	4'0"	57895T24	195.35
24"	3'0"	57895T25	167.15
24"	4'0"	57895T26	199.75
36"	3'0"	57895T34	212.16
36"	4'0"	57895T35	228.42
Anchor Bolt		99795A116	7.68

Ht.	Lg.		
Straight (Cont.)			
42"	3'0"	57895T27	$202.20
42"	4'0"	57895T28	230.49
Corner			
24"	2'0"	57895T29	295.03
24"	2'6"	57895T31	312.18
36"	2'0"	57895T32	319.56
36"	2'6"	57895T33	353.49

Guard Posts

Closed-top guard posts have a welded top. Guard posts with an eyelet have a welded eye for attaching chain.

Open-top guard posts allow you to pour in cement for added strength. The 24″ to 42″ high posts include an end cap. *In-ground posts* are 84″ high with a 42″ burial depth for an installed height of 42″.

Posts are yellow powder-coated steel with a 3″ high striped black band, except 57895T76 and 57895T77 are 304 stainless steel, which offers excellent corrosion resistance.



Ht.	Dia.	Material Thick.	Mtg. Holes Size	Mtg. Holes Qty.		
Closed Top						
24″	4″	5/16″	5/8″ Dia.	2	57895T76	$141.67
24″	6 1/2″	9/32″	3/4″ Dia.	4	57895T123	143.45
32″	4″	5/16″	5/8″ Dia.	2	57895T77	150.00
36″	6 1/2″	9/32″	3/4″ Dia.	4	57895T124	167.71
42″	6 1/2″	9/32″	3/4″ Dia.	4	57895T125	191.86
Closed Top with 1 1/4″ ID Eyelet						
24″	6 1/2″	9/32″	3/4″ Dia.	4	57895T114	150.80
36″	6 1/2″	9/32″	3/4″ Dia.	4	57895T115	176.79
42″	6 1/2″	9/32″	3/4″ Dia.	4	57895T116	199.12
Open Top						
24″	4 1/2″	1/8″	1 1/4″ × 7/8″	4	57895T51	74.47
24″	5 1/2″	1/8″	1 1/4″ × 7/8″	4	57895T52	89.10
36″	4 1/2″	1/8″	1 1/4″ × 7/8″	4	57895T46	99.84
36″	5 1/2″	1/8″	1 1/4″ × 7/8″	4	57895T48	112.14
42″	4 1/2″	1/8″	1 1/4″ × 7/8″	4	57895T47	113.56
42″	5 1/2″	1/8″	1 1/4″ × 7/8″	4	57895T49	130.45
Open Top In-Ground Mount						
84″	5 1/2″	3/16″	—	—	57895T129	205.98
84″	6 1/2″	3/16″	—	—	57895T131	216.46
84″	8 1/2″	3/16″	—	—	57895T132	281.73
4 1/2″ Dia. Replacement Plastic Cap					57895T96	5.82
5 1/2″ Dia. Replacement Plastic Cap					57895T98	12.70

Column Guards

A two-piece design lets you wrap these guards around a column (connecting fasteners included). All are yellow polyethylene.



Fits Column Size	Guard Ht.	Guard OD		
4″ Sq.	42″	13″	5937T52	$157.44
6″ Sq.	24″	24″	5937T11	162.82
6″ Sq.	42″	24″	5937T1	269.91
6″ Sq.	42″	14″	5937T54	273.69
8″ Sq.	24″	24″	5937T12	162.82
8″ Sq.	42″	24″	5937T2	269.91
10″ Sq.	24″	24″	5937T13	162.82
10″ Sq.	42″	24″	5937T3	269.91
12″ Sq.	24″	24″	5937T14	162.82
12″ Sq.	42″	24″	5937T5	269.91
14″ Sq.	42″	33″	5937T7	447.32
16″ Sq.	42″	33″	5937T55	447.32
18″ Sq.	42″	38″	5937T56	603.50
9″ Round	42″	24″	5937T4	269.91

Stackable Guardrails

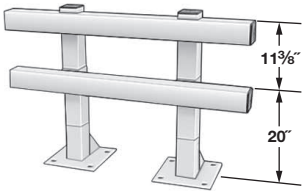

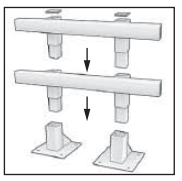

Start with two bases and then stack rails to the desired height. One rail with bases attached is 20″ high. Each additional rail adds 11 3/8″ of height. Rails and bases are yellow painted steel.

Base has a 4″ Sq. × 8 5/8″ Ht. tube for inserting the guardrails and four 13/16″ dia. mounting holes (fasteners not included).

Rails are made of 5/32″ thick tubing with black plastic caps.

Base (Two Required)	6097T54	$59.56
4′0″ Long Rail	6097T51	150.05
6′0″ Long Rail	6097T52	186.71
8′0″ Long Rail	6097T53	227.95
Replacement Cap	6097T21	5.26

Guard Post Covers

Slip these covers over any guard post. They can be cut to desired height. All are made of polyethylene.

Covers with reflective bands have two 3/4″ reflective bands.

To Order: Please specify red with white bands, yellow with red bands, or yellow with white bands.

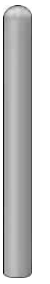
Post Cover


Post Cover with Reflective Bands

Ht.	For Guard Post Dia.	Material Thick.		
Post Covers				
48″	3″ to 4 1/2″	1/16″	57895T81	$32.18
48″	4 1/2″ to 6 1/2″	1/16″	57895T83	39.00
54 1/2″	4″ to 4 1/2″	1/4″	57895T71	78.57
55″	5″ to 5 9/16″	1/4″	57895T72	78.57
55″	6″ to 6 5/8″	1/4″	57895T73	81.05
64″	2″ to 4 1/2″	1/8″	57895T61	34.17
Post Covers with Reflective Bands				
52″	2″ to 4 1/2″	1/8″	57895T59	36.84
60″	4 1/2″ to 6 5/8″	1/8″	57895T57	46.18
72″	4 1/2″ to 6 5/8″	1/8″	57895T62	41.67
72″	7″ to 8 1/2″	1/8″	57895T63	75.00

Maintenance-Free Guard Posts

This solid polyethylene guard post resists oil and chemicals and won't rot from outdoor exposure. Post is 33″ Ht. × 6″ Sq. and has an 8 1/2″ square base with four mounting holes (fasteners are included). Color is yellow.



37845T11	$98.59	

Highway-Style Guardrails

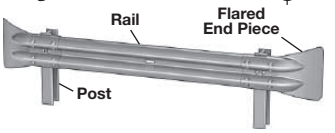

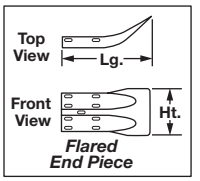

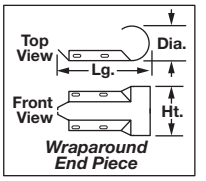

These are the same guardrails you see along roadways.

Drive posts into the ground and then attach rails and end pieces to create a barrier. All components are 1/8″ thick galvanized steel. Connecting fasteners are included.

Rails

Lg.	Ht.		
13′6 1/2″	12 1/4″	9181T1	$134.91

Posts

Ht.	Wd.	Dp.		
48″	4″	6″	9181T24	$62.22
60″	4″	6″	9181T25	71.11
72″	4″	6″	9181T26	80.56

End Pieces

Lg.	Ht.	Dia.		
Flared				
2′3 1/2″	19″	—	9181T3	$52.00
Wraparound				
2′0″	16″	4″	9181T12	54.40
2′0″	16 1/4″	12″	9181T4	54.40
Corner				
2′7″	16″	—	9181T34	92.00

Build-Your-Own Guardrails





Gate (Shown with Posts and Mounting Plate Covers)

Combine rails, posts, and gates to make a custom guardrail system. All components are yellow powder-coated steel. Posts are 1/4″ thick; rails are 1/8″ thick. Both styles of rail can be used with both styles of post.

Posts come with connecting fasteners. Posts for two-rib components have 8″ square mounting plates. Posts for three-rib components have 10″ square mounting plates.

Bolt-in rails attach directly to the posts (fasteners not included). Three-rib rails have six 1″ Lg. × 5/8″ Wd. mounting holes. Two-rib rails have four 15/16″ Lg. × 9/16″ Wd. mounting holes.

Slide-in rails come with brackets that attach to the posts. Rails slide in and out of brackets for easy removal.

Gates have a spring closure mechanism and can be mounted on the left or right to swing open 90° in one direction. Two-rib gates have 10 1/4″ Lg. × 2 5/8″ Wd. mounting plates. Three-rib gates have 15″ Lg. × 3 1/2″ Wd. mounting plates.

Mounting plate covers are 2 3/8″ thick and include fasteners.

Posts

Ht.	Wd.	Dp.	No. of Rails Accepted	Inline		Corner	
For Two-Rib Components							
12″	3″	3″	1	60075T17	$99.74	60075T18	$104.42
42″	3″	3″	3	60075T19	145.70	60075T25	149.53
For Three-Rib Components							
18″	4″	4″	1	60075T12	108.75	60075T11	108.75
42″	4″	4″	2	60075T14	148.96	60075T13	148.96

Rails

Lg.	Assembled Lg.★	Ht.	Bolt In		Slide In	
Two Rib						
1′9″	2′3″	9 3/4″	60075T32	$70.00	60075T43	$112.78
2′9″	3′3″	9 3/4″	60075T33	80.23	60075T44	122.56
3′9″	4′3″	9 3/4″	60075T34	90.35	60075T45	132.22
4′9″	5′3″	9 3/4″	60075T35	99.74	60075T46	141.89
5′9″	6′3″	9 3/4″	60075T36	110.70	60075T47	151.67
6′9″	7′3″	9 3/4″	60075T37	120.47	60075T48	161.11
7′9″	8′3″	9 3/4″	60075T38	130.23	60075T49	170.44
8′9″	9′3″	9 3/4″	60075T39	139.88	60075T51	179.56
9′9″	10′3″	9 3/4″	60075T41	149.42	60075T52	188.64
Three Rib						
1′8″	2′4″	14 1/2″	60075T26	87.46	60075T63	129.69
2′8″	3′4″	14 1/2″	60075T27	98.12	60075T65	141.98
3′8″	4′4″	14 1/2″	60075T24	110.42	60075T69	150.73
4′8″	5′4″	14 1/2″	60075T28	119.17	60075T66	159.58
5′8″	6′4″	14 1/2″	60075T23	127.92	60075T67	169.96
6′8″	7′4″	14 1/2″	60075T29	145.62	60075T68	180.62
7′8″	8′4″	14 1/2″	60075T22	152.50	60075T64	192.92
8′8″	9′4″	14 1/2″	60075T31	159.58	60075T71	199.74
9′8″	10′4″	14 1/2″	60075T21	168.44	60075T61	208.33

★ Total installed length with posts on each side.

Gates

Lg.	Assembled Lg.★	Ht.	Bolt In	
Two Rib				
3′10″	4′4″	41 5/8″	60075T91	$541.27
Three Rib				
3′9″	4′5″	41 7/8″	60075T92	594.73

★ Total installed length with posts on each side.

Accessories

Cover for 10″ Sq. Mounting Plate	60075T93	$46.73
Replacement Post Cap for 3″ Sq. Post	60075T15	9.30
Replacement Post Cap for 4″ Sq. Post	60075T82	11.54
Pair of Replacement Rail Brackets for Two-Rib Slide-In Rails	60075T16	41.40
Pair of Replacement Rail Brackets for Three-Rib Slide-In Rails	60075T84	61.54
Yellow Touch-Up Paint (12-oz. aerosol)	60075T53	10.00

Machine-Mount T-Slotted Framing Machine Guards

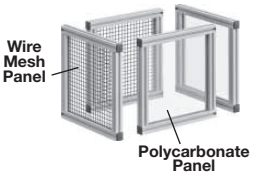

Compact in size, these guards can be mounted directly to a machine or workbench. Panels are framed in 1″ square PVC-coated aluminum T-slotted extrusions to provide multiple points of attachment for other components. T-slots are 0.26″ wide. Fasteners not included.

Wire mesh panels are 0.0625″ dia. steel mesh with 1/2″ square openings. To Order: Please specify black or yellow.

Polycarbonate panels are clear and 3/16″ thick.

Ht.	Wd.	Wire Mesh		Polycarbonate	
1′0″	1′0″	5748T41	$96.80	5748T51	$100.33
1′0″	2′0″	5748T42	108.15	5748T52	116.02
1′0″	3′0″	5748T43	119.49	5748T53	131.69
1′9″	1′0″	5748T44	105.71	5748T54	113.98
1′9″	2′0″	5748T45	120.55	5748T55	138.25
1′9″	3′0″	5748T46	131.88	5748T56	153.93

Chip Guards


Flexible-Arm Magnetic Mount


Swing-Arm Bolt-In Mount


Swing-Arm Magnetic Mount/ Bolt-In


Bolt-In Mount


Clamp-On Mount

Mount near a machine to deflect flying chips away from the immediate area. Panels are 1/8″ thick clear polycarbonate, unless noted.

Flexible-arm guards have arms that bend and twist in any direction. Clamp-on guards have a 2″ maximum clamp opening. Bolt-in guards have two 1/4″ dia. mounting holes (fasteners are included).

Swing-arm guards swing in and out as needed and can be locked in any vertical position. They have steel arms and 1/4″ dia. mounting holes, unless noted.

Flexible-Arm Guards

Panel Ht.	Panel Wd.	Guards: 12″ Extended Arm Lg.		Guards: 18″ Extended Arm Lg.		Repl. Panels	
Magnetic Mount							
6″	6″	4362A31	$40.55	4362A35	$43.18	4362A48	$16.73
8″	8″	4362A32	45.19	4362A36	47.55	4362A49	22.09
10″	10″	4362A33	49.82	4362A37	51.82	4362A51	28.45
12″	12″	4362A34	52.22	4362A38	54.63	4362A52	32.73
Clamp-On Mount							
6″	6″	4362A39	51.96	4362A44	54.35	4362A48	16.73
8″	8″	4362A41	57.50	4362A45	59.89	4362A49	22.09
10″	10″	4362A42	62.39	4362A46	65.43	4362A51	28.45
12″	12″	4362A43	65.76	4362A47	68.59	4362A52	32.73
Bolt-In Mount							
6″	6″	4362A11	44.22	4362A15	46.74	4362A48	16.73
8″	8″	4362A12	49.57	4362A16	52.39	4362A49	22.09
10″	10″	4362A13	55.38	4362A17	57.50	4362A51	28.45
12″	12″	4362A14	58.15	4362A18	60.65	4362A52	32.73

Swing-Arm Guards

Panel Ht.	Panel Wd.	Arm Lg.	Guards		Repl. Panels	
Bolt-In Mount						
9″	14″	20″	4392A16	$179.01	4392A24	$57.75
9″	14″	31″	4392A17	188.10	4392A24	57.75
Magnetic Mount/Bolt-In						
5″	9″	14 1/2″	4585A21★	106.67	4585A22	27.03
Clamp Kit for Swing-Arm Chip Guards					4392A18	17.32

★ Has PVC arm and 3/16″ thick panel.

Machine Guards

Combine posts, panels, and doors to create a barrier around equipment. All components come with connecting fasteners.

Panels and doors are 6′6¾″ high.

Wire mesh panels and doors have black powder-coated steel mesh with 1⅞″ openings, except sliding mesh doors have a 1″ opening. Wire diameter is 0.165″.

Solid polycarbonate panels and doors are 3⁄16″ thick.

When standing on the side of the door that swings away from you, left-hand doors open to the left; right-hand doors open to the right.

Hinged doors have a slide-bolt latch.

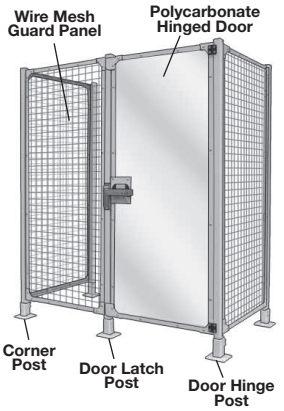

Guard Panels and Doors

Wd.	Assembled Wd.★	Choose a Mounting Orientation	Wire Mesh		Polycarbonate	
Panels						
0′9⅞″	1′1⅞″		5987T51	$76.19	5987T11	$83.51
1′9⅝″	2′1⅝″		5987T52	88.72	5987T12	125.78
2′9½″	3′1½″		5987T53	108.01	5987T13	157.99
3′9¼″	4′1¼″		5987T54	127.46	5987T14	194.66
4′9⅛″	5′1⅛″		5987T55	143.61	5987T15	222.55
Hinged Door						
2′9″	3′1″	Left Hand, Right Hand	5987T17	237.18	5987T19	308.74
Sliding Door						
3′9¼″	8′1½″	Left Hand, Right Hand	5987T18	663.00	5987T21	804.92

★ Total installed width when mounted with posts on each side.

Posts

Made of 1⁄8″ thick yellow powder-coated steel.

	Ht.		
End	7′1½″	5987T61	$62.55
Inline	7′1½″	5987T62	67.00
Corner	7′1½″	5987T63	61.34
Door Hinge	7′1½″	5987T64	76.35
Door Latch	7′1½″	5987T67	77.81

Hinged Chip Guards


Guard with Screen Panels

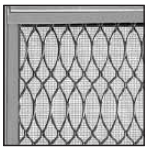
Reinforced Screen Panel

Protect personnel and equipment from flying chips with these portable chip guards. These guards consist of three 79¾″ Ht.×29¼″ Wd. panels. Overall width is 87¾″.

Guards with a screen protect against larger chips and allow air to pass through. The reinforced screen panels have a grille that provides more impact resistance than the screen alone. Guards with solid panels provide the most protection.

Panel Material	Thick.	Screen Ht.		
With Screen Panels				
Aluminum	1⁄32″	33″	5356T16	$398.67
Aluminum	1⁄32″	35½″	5356T12	402.75
With Reinforced Screen Panels				
Aluminum	1⁄32″	33″	5356T18	434.71
Aluminum	1⁄32″	35½″	5356T14	446.96
With Solid Panels				
Acrylic	1⁄8″	—	5356T31	620.36
Aluminum	1⁄32″	—	5356T24	463.02

T-Slotted Framing Machine Guards

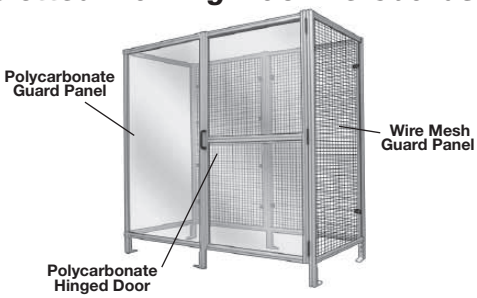

Framed in 1½″ square aluminum T-slotted extrusions, these customizable machine guards provide multiple points of attachment for other components and structures. T-slot width is 0.320″. All components have a 6″ floor clearance. Connecting fasteners are included.

Panels include two posts. Choose from 1⁄4″ thick polycarbonate panels and PVC-coated steel mesh panels with 1″ square openings and 0.0781″ dia. wire mesh.

Doors have a slide-bolt latch. They can be mounted to swing open to the left or right.

Panels

Overall Wd.	Choose a Color	6-ft. Ht.		7-ft. Ht.	
Wire Mesh					
1′6″	Black, Yellow	7435T19	$241.43	7435T24	$258.57
2′0″	Black, Yellow	7435T21	256.70	7435T25	274.28
2′6″	Black, Yellow	7435T22	271.97	7435T26	289.99
3′0″	Black, Yellow	7435T23	287.24	7435T27	305.70
3′6″	Black, Yellow	7435T61	313.93	7435T63	333.00
4′0″	Black, Yellow	7435T62	329.66	7435T64	348.53
Polycarbonate					
1′6″	Clear	7435T37	268.80	7435T42	303.53
2′0″	Clear	7435T38	303.09	7435T43	339.37
2′6″	Clear	7435T39	337.37	7435T44	374.94
3′0″	Clear	7435T41	371.52	7435T45	410.51
4′0″	Clear	7435T623	409.69	7435T643	454.20
3′6″	Clear	7435T614	448.23	7435T633	490.41

Hinged Doors

Wd.	Choose a Color	5′6″ Ht.		6′6″ Ht.	
Wire Mesh					
3′0″	Black, Yellow	7435T86	$372.28	7435T88	$387.51
4′0″	Black, Yellow	7435T87	396.97	7435T89	417.90
Polycarbonate					
3′0″	Clear	7435T95	460.20	7435T97	477.56
4′0″	Clear	7435T96	499.97	7435T98	546.05

Quick-Access Machine Guards

These panels lift on and off their posts in seconds, so you can protect machinery while providing access for maintenance. All components are yellow polyurethane-coated steel. Floor clearance when assembled is 12″.

Panels permanently secure to the posts with the included self-tapping screws. They have a 0.125″ dia. wire mesh with 1½″ square openings.

Post is 6″ Ht.×2½″ Wd.×1⁄16″ Thick. Use as center or corner post. Mounting fasteners are included.

Door can be mounted to swing open to the left or right and can be locked with a padlock (maximum 3⁄8″ shackle dia.). Connecting fasteners are included.

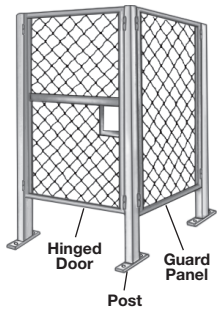

Ht.	Wd.	Assembled Wd.★		
Panel				
5′0″	0′9½″	1′2½″	45695T51	$55.36
5′0″	1′9½″	2′2½″	45695T52	60.33
5′0″	2′9½″	3′2½″	45695T53	85.08
5′0″	3′9½″	4′2½″	45695T54	107.74
5′0″	4′9½″	5′2½″	45695T55	128.57
5′0″	5′9½″	6′2½″	45695T56	150.26
5′0″	6′9½″	7′2½″	45695T57	167.24
5′0″	7′9½″	8′2½″	45695T58	177.68
5′0″	9′9½″	10′2½″	45695T59	201.75
Post				
6′0″	2½″	—	45695T87	69.33
Hinged Door				
5′0″	3′9½″	4′2½″	45695T89	213.04

★ Total installed width with posts on each side.

Aluminum T-Slotted Framing





Solid



Hollow

If you can design it, you can build it with this versatile "create anything" framing. Use it to make machine guards and frames, carts, workstations, enclosures, and more.

Extrusions have continuous T-slots along the length to provide attachment points for other components, making structures easy to assemble and reconfigure. Use fasteners to connect components.

Hollow extrusions are lighter weight and more economical than solid extrusions.

Clear Anodized Aluminum Extrusions



Single Profile

Extrusion Size, sq.	Style	T-Slot Wd.	Lengths 1 ft.	2 ft.	3 ft.	4 ft.	5 ft.	6 ft.	8 ft.	10 ft.	Cut to Length Per Inch	
Inch												
1″	Solid	0.255″	47065T101	$6.49	$8.35	$11.53	$14.20	$17.75	$19.79	$26.38	$31.59	47065T801 $0.57
1½″	Hollow	0.32″	47065T102	7.76	15.04	21.78	26.90	33.33	39.31	51.36	61.94	47065T808 .67
1½″	Solid	0.32″	47065T103	11.45	20.21	26.08	30.33	37.37	42.58	61.31	70.07	47065T802 1.00
Metric												
20 mm	Solid	5.0 mm	5537T101	4.67	7.83	10.07	13.09	15.60	17.19	21.58	26.44	5537T911 .40
30 mm	Hollow	8.0 mm	5537T97	5.84	9.47	13.09	16.73	20.36	23.98	31.24	38.49	5537T919 .51
40 mm	Solid	8.0 mm	5537T102	11.09	19.93	28.82	35.40	43.00	51.03	66.33	82.10	5537T913 .96
45 mm	Hollow	10.0 mm	5537T103	8.44	14.03	19.98	25.80	30.50	35.96	48.22	59.02	5537T915 .72



Double Profile

Extrusion Size, Wd. × Ht.	Style	T-Slot Wd.	Lengths 1 ft.	2 ft.	3 ft.	4 ft.	6 ft.	8 ft.	10 ft.	Cut to Length Per Inch	
Inch											
1″ × 2″	Solid	0.255″	47065T107	$9.13	$12.85	$18.03	$22.98	$33.95	$44.64	$52.11	47065T803 $0.81
1½″ × 3″	Hollow	0.32″	47065T108	13.89	26.10	37.57	48.12	67.30	92.08	110.45	47065T809 1.22
1½″ × 3″	Solid	0.32″	47065T109	18.75	27.92	40.50	50.25	72.51	97.42	117.85	47065T804 1.60
Metric											
20 mm × 40 mm	Solid	5.1 mm	5537T111	6.42	11.23	14.42	18.29	26.10	32.85	38.10	5537T912 .57
30 mm × 60 mm	Hollow	8.0 mm	5537T98	9.69	17.16	24.62	32.09	47.02	61.96	76.89	5537T921 .85
40 mm × 80 mm	Solid	8.1 mm	5537T112	18.11	34.28	50.82	59.98	88.57	118.31	143.90	5537T914 1.57
45 mm × 90 mm	Hollow	10.0 mm	5537T113	16.42	24.16	35.78	46.45	71.67	90.00	109.92	5537T916 1.43

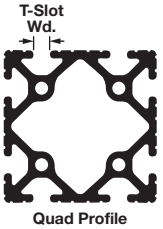

Quad Profile

Extrusion Size, sq.	Style	T-Slot Wd.	Lengths 4 ft.	6 ft.	8 ft.	10 ft.	Cut to Length Per Inch	
Inch								
2″	Solid	0.255″	47065T501	$40.52	$59.37	$78.22	$97.06	47065T805 $0.88
3″	Hollow	0.32″	47065T506	85.87	126.91	167.96	209.00	47065T811 1.81
3″	Solid	0.32″	47065T502	102.78	152.38	201.98	251.58	47065T806 2.16
Metric								
60 mm	Hollow	8.0 mm	5537T99	44.89	66.22	87.56	108.89	5537T922 .94
80 mm	Solid	8.1 mm	5537T95	99.67	147.62	195.56	243.51	5537T917 2.11
90 mm	Hollow	10.0 mm	5537T96	106.82	158.33	209.87	261.38	5537T918 2.27



Single Corner Profile



Single Inline Profile

Extrusion Size, sq.	Style	T-Slot Wd.	Choose a Profile	Lengths 2 ft.	4 ft.	6 ft.	8 ft.	Cut to Length Per Inch	
Inch									
1″	Solid	0.255″	Corner, Inline	47065T551	$8.35	$14.20	$19.79	$26.38	47065T392 $0.36
1½″	Hollow	0.32″	Corner, Inline	47065T552	13.98	25.15	36.82	48.15	47065T394 .62
Metric									
20 mm	Solid	5.1 mm	Corner, Inline	5537T903	7.83	13.09	17.19	21.58	5537T821 .34
30 mm	Hollow	8.0 mm	Corner, Inline	5537T94	9.91	17.62	25.31	33.02	5537T923 .44
40 mm	Solid	8.1 mm	Corner, Inline	5537T905	19.96	34.90	51.03	66.33	5537T824 .86
45 mm	Hollow	10.0 mm	Corner, Inline	5537T906	14.03	25.80	37.48	48.22	5537T827 .60

Black Anodized Aluminum Extrusions



Single Profile

Extrusion Size, sq.	Style	T-Slot Wd.	Lengths 2 ft.	4 ft.	6 ft.	8 ft.	10 ft.	Cut to Length Per Inch	
Inch									
1″	Solid	0.255″	47065T503	$12.28	$21.87	$31.45	$41.04	$50.63	47065T807 $0.53
1½″	Hollow	0.32″	47065T507	19.47	37.76	52.20	66.64	82.20	47065T812 .84
Metric									
20 mm	Solid	5.1 mm	5537T514	8.13	15.33	21.62	27.89	34.64	5537T926 .37
30 mm	Hollow	8.0 mm	5537T511	10.78	19.44	28.04	36.64	45.16	5537T933 .54
40 mm	Solid	8.1 mm	5537T507	22.78	43.22	63.73	84.22	104.56	5537T928 .97
45 mm	Hollow	10.0 mm	5537T509	17.31	32.64	47.31	61.98	77.22	5537T931 .74

Yellow Powder-Coated Aluminum Extrusions



Single Profile

Extrusion Size, sq.	Style	T-Slot Wd.	Lengths 2 ft.	4 ft.	6 ft.	8 ft.	10 ft.	Cut to Length Per Inch	
Inch									
1″	Solid	0.255″	47065T504	$18.13	$30.86	$43.59	$55.89	$69.16	— —
1½″	Hollow	0.32″	47065T508	26.97	51.09	72.20	93.31	116.42	47065T813 $1.14
Metric									
20 mm	Solid	5.1 mm	5537T506	13.69	26.44	38.29	50.11	62.00	5537T927 .61
30 mm	Hollow	8.0 mm	5537T513	17.47	32.78	47.93	63.09	77.76	5537T934 .77
40 mm	Solid	8.1 mm	5537T508	28.78	55.53	82.33	109.11	135.67	5537T929 1.25
45 mm	Hollow	10.0 mm	5537T512	24.42	46.64	68.31	89.98	110.89	5537T932 1.07

(Continued on following page)

Aluminum T-Slotted Framing *(Continued from previous page)*

Brackets and Braces

Connect extrusions without machining with these screw-on brackets and braces (fasteners included). They are aluminum, except brace ends are zinc.

Brace ends allow you to make a brace of any length—you supply the connecting extrusion between the brace ends.









For Single Profile Extrusions

For Extrusion Ht.	Brackets Lg.			Extended Brackets Lg.			Braces Lg.			Brace Ends Pkg. of 2	
Inch											
1″	1″	47065T236	$5.79	2″	47065T239	$5.85	1″	47065T216	$5.51	47065T331	$18.00
1½″	1½″	47065T845	6.41	3″	47065T241	6.96	2″	5537T51	7.98	47065T332	21.83
Metric											
20 mm	¾″	5537T935	5.82	1⅝″	5537T441	7.90	1″	5537T81	5.39	5537T471	15.21
30 mm	1⅛″	5537T936	6.09	2⅜″	5537T345	8.40	—	—	—	5537T472	19.88
40 mm	1⅝″	5537T937	6.38	3⅛″	5537T347	8.73	2″	5537T51	7.98	5537T473	21.83
45 mm	1¾″	5537T938	6.51	3½″	5537T349	8.85	2¼″	5537T196	8.28	5537T474	23.13









For Double/Quad Profile Extrusions

For Extrusion Ht.	Brackets Lg.			Extended Brackets Lg.			Braces Lg.			Brace Ends Pkg. of 2	
Inch											
2″	1″	47065T237	$8.47	2″	47065T253	$8.79	2⅝″	47065T218	$19.51	47065T335	$32.40
3″	1½″	47065T238	10.06	3″	47065T254	11.79	4³⁄₁₆″	5537T194	19.91	47065T337	39.29
Metric											
40 mm	¾″	5537T939	8.42	1⅝″	5537T442	10.58	2″	5537T197	18.59	5537T481	27.38
60 mm	1⅛″	5537T941	8.96	2⅜″	5537T443	12.06	—	—	—	5537T482	35.77
80 mm	1⅝″	5537T942	9.31	3⅛″	5537T445	15.29	4⅛″	5537T195	19.91	5537T483	39.29
90 mm	1¾″	5537T943	9.44	3½″	5537T446	16.00	4¾″	5537T199	21.24	5537T484	41.63

Heavy Duty Braces for Single Profile Extrusions

For Extrusion Ht.	6″ Lg.		12″ Lg.		18″ Lg.		24″ Lg.	
Inch								
1″	47065T186	$15.67	47065T188	$17.15	47065T701	$18.67	47065T703	$22.02
1½″	47065T12	17.86	47065T27	22.14	47065T702	23.45	47065T704	25.48
Metric								
20 mm	5537T2	16.53	5537T368	17.88	5537T601	21.07	5537T602	23.18
30 mm	5537T603	18.73	5537T604	21.73	5537T605	24.89	5537T606	28.36
40 mm	5537T201	19.66	5537T37	24.27	5537T608	29.00	5537T609	33.80
45 mm	5537T202	20.28	5537T372	24.62	5537T611	29.27	5537T612	35.00



Heavy Duty Braces for Double/Quad Profile Extrusions

For Extrusion Ht.	6″ Lg.		12″ Lg.		18″ Lg.		24″ Lg.	
Inch								
2″	47065T187	$16.85	47065T189	$18.49	47065T705	$19.84	47065T707	$24.75
3″	47065T28	22.94	47065T25	29.70	47065T706	31.36	47065T708	33.96
Metric								
40 mm	5537T203	19.91	5537T369	21.17	5537T613	24.60	5537T614	27.15
60 mm	5537T607	23.27	5537T615	27.36	5537T616	31.62	5537T617	36.27
80 mm	5537T204	25.64	5537T371	31.14	5537T618	39.07	5537T619	45.91
90 mm	5537T205	26.02	5537T373	32.42	5537T621	39.55	5537T622	46.53

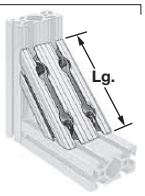

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Aluminum T-Slotted Framing *(Continued from previous page)*

Clear Anodized Aluminum Plates and Tees

Connect extrusions without machining with these screw-on plates and tees (fasteners included).

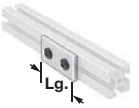

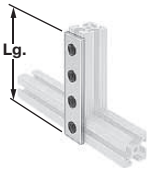

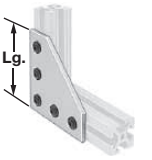

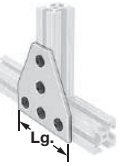

For Single Profile Extrusions

For Extrusion Ht.	Plates Lg.			Extended Plates Lg.			90° Plates Lg.			Tees Lg.		
Inch												
1″	2″	47065T255	$6.75	4″	47065T259	$6.74	3″	47065T267	$8.47	3″	47065T278	$8.83
1½″	3″	47065T256	7.10	6″	47065T261	7.40	4½″	47065T271	9.74	4½″	47065T279	10.18
Metric												
20 mm	1½″	5537T944	6.87	3″	5537T948	9.49	2⅜″	5537T962	10.18	2¼″	5537T971	12.24
30 mm	2¼″	5537T945	7.73	4⅝″	5537T949	10.13	3½″	5537T963	12.11	3⅜″	5537T972	15.42
40 mm	3″	5537T946	7.82	6⅛″	5537T951	10.49	4⅝″	5537T964	14.27	4⅝″	5537T973	15.67
45 mm	3⅜″	5537T947	7.93	6⅞″	5537T952	10.96	5¼″	5537T965	14.78	5⅛″	5537T974	16.18



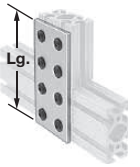

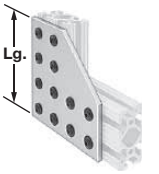

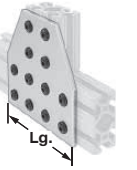

For Double/Quad Profile Extrusions

For Extrusion Ht.	Plates Lg.			Extended Plates Lg.			90° Plates Lg.			Tees Lg.		
Inch												
2″	2″	47065T257	$10.06	4″	47065T262	$10.29	4″	47065T274	$16.41	4″	47065T281	$23.84
3″	3″	47065T258	10.82	6″	47065T264	12.00	6″	47065T277	19.51	6″	47065T282	28.38
Metric												
40 mm	1½″	5537T953	9.38	3″	5537T957	15.33	3⅛″	5537T966	23.13	3⅛″	5537T975	21.38
60 mm	2¼″	5537T954	9.87	4⅝″	5537T958	16.64	4⅝″	5537T967	25.89	4⅝″	5537T976	25.51
80 mm	3″	5537T955	10.04	6⅛″	5537T959	17.42	6¼″	5537T968	26.33	6⅛″	5537T977	28.42
90 mm	3⅜″	5537T956	10.18	6⅞″	5537T961	17.73	7″	5537T969	27.11	6⅞″	5537T978	29.22

Black Aluminum Brackets, Tees, and Plates for Single Profile Extrusions

Connect extrusions without machining with these screw-on components (fasteners included).







For Extrusion Ht.	Brackets Lg.			Extended Brackets Lg.			Tees Lg.		
Inch—Anodized									
1″	1″	47065T831	$5.60	2″	47065T311	$9.73	3″	47065T315	$12.74
1½″	1½″	47065T833	6.27	3″	47065T312	11.89	4½″	47065T316	16.92
Metric—Powder Coated									
20 mm	¾″	5537T231	6.04	1⅝″	5537T344	8.21	2¼″	5537T282	12.58
30 mm	1⅛″	5537T232	6.31	2⅜″	5537T346	8.65	3⅜″	5537T283	15.78
40 mm	1⅝″	5537T233	6.60	3⅛″	5537T348	9.04	4⅝″	5537T284	16.09
45 mm	1¾″	5537T234	6.73	3½″	5537T351	9.17	5⅛″	5537T285	16.56



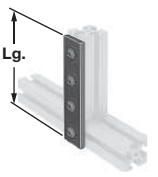

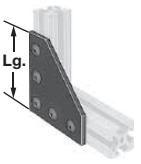

For Extrusion Ht.	Plates Lg.			Extended Plates Lg.			90° Plates Lg.		
Inch—Anodized									
1″	2″	47065T832	$6.36	4″	47065T313	$10.54	3″	47065T317	$13.38
1½″	3″	47065T834	6.84	6″	47065T314	12.29	4½″	47065T318	15.95
Metric—Powder Coated									
20 mm	1½″	5537T253	7.20	3″	5537T258	9.82	2⅜″	5537T266	10.53
30 mm	2¼″	5537T254	8.07	4⅝″	5537T259	10.44	3½″	5537T267	12.11
40 mm	3″	5537T255	8.16	6⅛″	5537T261	10.82	4⅝″	5537T279	14.62
45 mm	3⅜″	5537T256	8.27	6⅞″	5537T265	11.51	5¼″	5537T281	15.11

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Aluminum T-Slotted Framing *(Continued from previous page)*

Easy-Install Connectors

No machining required—these connectors fit flush inside T-slots. Straight and T-shaped connectors are zinc-plated steel. L-shaped connectors are zinc.







For Extrusion Ht.	Straight Thread Size			L-Shaped Thread Size			T-Shaped Thread Size		
Inch									
1″	—	—	—	M5	5537T315	$2.50	—	—	—
1½″	M5	5537T294	$6.30	M6	5537T316	3.56	M8	47065T339	$10.55
Metric									
20 mm	—	—	—	—	—	—	M4	5537T326	6.96
30 mm	M5	5537T313	5.56	M6	5537T316	3.56	M6	5537T327	7.92
40 mm	M5	5537T294	6.30	M6	5537T316	3.56	—	—	—
45 mm	M6	5537T278	7.50	M8	5537T323	4.10	M8	5537T328	9.12

Connectors

Concealed connectors require one tapped hole to insert and one drilled access hole to tighten. They are zinc-plated steel.

Adjustable connectors allow positioning anywhere along the extrusion. One counterbored hole is required. They are zinc.

End-to-end connectors require two counterbored holes. They are zinc.

External connectors require tapped holes. They are aluminum.











For Extrusion Ht.	Concealed Thread Size			Adjustable Thread Size			End-to-End Thread Size			External Thread Size			Three-Way External Thread Size		
Inch															
1″	¼″	47065T155	$1.79	10-32	47065T153	$3.39	M6	47065T235	$5.66	¼″	47065T242	$6.83	¼″	47065T244	$9.86
1½″	5/16″	47065T156	1.91	5/16″	47065T154	3.89	M8	5537T274	6.36	M8	47065T243	7.84	M8	47065T245	10.78
Metric															
20 mm	M5	5537T63	1.43	M4	5537T64	3.12	M4	5537T273	5.52	M5	5537T286	6.60	M5	5537T289	9.55
30 mm	—	—	—	M6	5537T861	3.23	—	—	—	M8	5537T863	8.15	M8	5537T864	10.04
40 mm	M8	5537T33	2.20	M8	5537T34	3.29	M8	5537T274	6.36	M8	5537T287	8.47	M8	5537T291	11.18
45 mm	M10	5537T277	2.23	M8	5537T276	3.98	M8	5537T275	7.24	M12	5537T288	9.64	M12	5537T292	11.73

Pivots and Hinges

Provide smooth, consistent motion at the junction between two extrusions. Fasteners included.

Inline and **perpendicular pivots** are aluminum. **Locking pivots** can be used inline or perpendicular and have a locking handle. They are zinc, except pivots for 20 mm high single profile extrusions and 2″ and 60 mm high double/quad profile extrusions are aluminum.

Inch hinges are aluminum. **Metric hinges** are nylon, except the hinges for 40 mm and 45 mm high extrusions are black powder-coated zinc. **Heavy duty hinges** are aluminum.







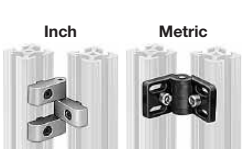



For Extrusion Ht.	For Single Profile Extrusions: Inline Pivots Lg.			Perpendicular Pivots Lg.			Locking Pivots			Hinges			Heavy Duty Hinges		
Inch															
1″	3″	47065T191	$16.33	3″	47065T194	$17.22	47065T221	$18.98		47065T161	$18.91		47065T951	$20.57	
1½″	4½″	47065T13	18.43	4½″	47065T14	18.43	47065T225	23.72		47065T96	20.94		47065T382	22.60	
Metric															
20 mm	2⅜″	5537T219	17.73	2⅜″	5537T219	17.73	5537T82	18.74		5537T85	4.76		5537T859	12.46	
30 mm	3⅝″	5537T865	20.17	3⅝″	5537T865	20.17	5537T855	25.75		5537T858	7.04		5537T847	12.86	
40 mm	4¾″	5537T221	21.07	4¾″	5537T221	21.07	5537T52	27.19		5537T55	16.58		5537T848	19.37	
45 mm	5½″	5537T222	21.70	5½″	5537T222	21.70	5537T235	31.81		5537T332	17.10		5537T849	20.14	

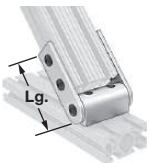





For Extrusion Ht.	For Double/Quad Profile Extrusions: Inline Pivots Lg.			Perpendicular Pivots Lg.			Locking Pivots		
Inch									
2″	3″	47065T192	$22.25	3″	47065T192	$22.25	47065T381	$40.47	
3″	4½″	47065T193	23.82	4½″	47065T193	23.82	47065T227	73.02	
Metric									
40 mm	2⅜″	5537T223	23.39	2⅜″	5537T223	23.39	5537T856	37.87	
60 mm	3⅝″	5537T866	26.94	3⅝″	5537T866	26.94	5537T857	42.98	
80 mm	4¾″	5537T224	28.25	4¾″	5537T224	28.25	5537T53	60.49	
90 mm	5½″	5537T225	46.29	5½″	5537T225	46.29	5537T238	67.35	

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Aluminum T-Slotted Framing *(Continued from previous page)*

End-Feed Fasteners



Slide these fasteners into the end of the extrusion to attach components. Fasteners consist of a screw and nut. Tighten screw with a hex key (not included). Zinc-plated steel fasteners are black.

Dual fasteners have two fastening points for quick assembly.






For Extrusion Ht.	Thread Size	*Standard* Zinc-Plated Steel	Pkg. of 4	*Standard* 304 Stainless Steel	Pkg. of 4	*Compact* Zinc-Plated Steel	Pkg. of 4	*Dual* Zinc-Plated Steel	Pkg. of 4
Inch									
1″ (Single), 2″ (Double/Quad)	1/4″-20	47065T142	$2.30	———	———	47065T139	$1.85	47065T147	$4.29
1½″ (Single), 3″ (Double/Quad)	5/16″-18	47065T97	2.71	47065T145♦	$4.51	47065T215	2.38	47065T149	6.76
Metric									
20 mm (Single), 40 mm (Double/Quad)	M5	5537T454	2.55	5537T457	4.27	5537T161	1.99	5537T464	4.51
30 mm (Single), 60 mm (Double/Quad)	M6	5537T867	2.87	5537T527	4.70	5537T868	2.46	5537T869	5.24
40 mm (Single), 80 mm (Double/Quad)	M8	5537T455	3.09	5537T458	5.05	5537T162	2.49	5537T465	7.26
45 mm (Single), 90 mm (Double/Quad)	M8	5537T456	3.33	5537T459	5.41	5537T163	2.71	5537T466	8.04

♦ Made of 302 stainless steel.

Drop-In Fasteners



Place these fasteners directly into the extrusion to attach components—no need to disassemble your structure. Fasteners consist of a screw and nut. All are zinc-plated steel.

Rubber-handle fasteners can be tightened with a hex key (not included). Color is black.

Spring-loaded ball fasteners hold nut in place. Tighten with a hex key (not included).

Double-spring tab fasteners align the nut flush with the T-slot opening. Tighten with a hex key (not included).

Fasteners **with stud** twist into place for quick attachment of inside braces and other accessories. They can be used for grounding anodized extrusions. Tighten with a socket wrench.






For Extrusion Ht.	Thread Size	Rubber Handle	Each	Spring-Loaded Ball	Each	Double-Spring Tab	Each	With Stud	Each
Inch									
1″ (Single), 2″ (Double/Quad)	1/4″-20	47065T151	$2.27	47065T226	$1.12	47065T383	$1.40	47065T233	$1.52
1½″ (Single), 3″ (Double/Quad)	5/16″-18	47065T152	2.48	47065T327	1.21	47065T229	1.46	47065T234	1.58
Metric									
20 mm (Single), 40 mm (Double/Quad)	M5	5537T246	2.15	5537T75	1.33	———	———	———	———
30 mm (Single), 60 mm (Double/Quad)	M6	5537T248	2.62	5537T41	1.40	5537T541	1.49	5537T268	1.62
40 mm (Single), 80 mm (Double/Quad)	M6	5537T248	2.62	5537T41	1.40	5537T262	1.49	5537T268	1.62
40 mm (Single), 80 mm (Double/Quad)	M8	5537T249	2.62	5537T42	1.40	5537T263	1.49	5537T269	1.62
45 mm (Single), 90 mm (Double/Quad)	M8	5537T251	2.67	5537T42	1.40	5537T264	1.52	5537T271	1.76

Tube Holders for Single Profile Extrusions

Attach tubes to a structure using these holders (1″ OD tubing sold separately). All are aluminum.

Standard holders tighten with a hex key (not included).





For Extrusion Ht.	Standard		Standard with Handle		Tube-to-Tube with Handle	
1″	47065T205	$34.10	47065T206	$36.12	47065T24	$63.47
1½″	47065T37	35.24	47065T41	37.27	47065T24	63.47
1″ OD (¾″ ID) Aluminum Tubing—4-ft. Length					47065T208	66.50

Tube Holders for Double/Quad Profile Extrusions

Attach tubes to a structure using these holders (1″ OD tubing sold separately). All are aluminum. Holders tighten with a hex key (not included), except tube-to-tube holders tighten with a handle.






For Extrusion Ht.	Standard		Inline		Offset		Tube-to-Tube with Handle	
2″	47065T207	$51.91	47065T88	$38.39	47065T89	$35.23	47065T24	$63.47
3″	47065T44	53.70	47065T835	56.81	47065T836	62.07	47065T24	63.47
1″ OD (¾″ ID) Aluminum Tubing—4-ft. Length							47065T208	66.50

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Aluminum T-Slotted Framing *(Continued from previous page)*

Mounting Plates, Holders, and Brackets

All include mounting fasteners.

Mounting plates have flat head screws and room to drill your own mounting holes. They are aluminum.

Sensor holders accept photo eyes, laser sensors, and light sensing switches. They are black nylon.

Monitor mounting brackets are compatible with 75 mm and 100 mm VESA mounting hole patterns. They can swivel and pivot. Brackets are plastic.

Bin box holders allow you to hang any storage bin with a lip on an extrusion. They are aluminum.







For Extrusion Ht.	Rectangular Mounting Plates Lg.	Wd.	Thick.			Square Mounting Plates Lg.	Wd.	Thick.			Sensor Holders For Sensor Dia.		
Inch													
1″	1″	2″	3/16″	47065T851	$11.16	2″	2″	3/16″	47065T852	$11.32	12 mm	5537T352	$3.44
1 1/2″	1 1/2″	3″	1/4″	47065T853	12.14	3″	3″	1/4″	47065T854	12.56			
Metric													
30 mm	1 1/8″	2 3/8″	1/8″	5537T367	13.19	2 3/8″	2 3/8″	1/8″	5537T386	13.59	12 mm	5537T341	3.44
40 mm	1 5/8″	3 1/8″	1/4″	5537T381	13.58	3 1/8″	3 1/8″	1/4″	5537T382	14.09	12 mm	5537T341	3.44
45 mm	1 3/4″	3 1/2″	1/4″	5537T383	14.05	3 1/2″	3 1/2″	1/4″	5537T384	15.09	12 mm	5537T342	3.44





For Extrusion Ht.	Monitor Mounting Brackets		Bin Box Holders 6″ Lg.		Bin Box Holders 12″ Lg.	
Inch						
1″			47065T8	$7.08	47065T9	$8.47
1 1/2″	47065T915	$112.56	47065T8	7.08	47065T9	8.47
Metric						
40 mm	47065T915	112.56	5537T521	7.72	5537T522	9.25

Floor-Mounting Brackets, Plates, and Feet

Floor-mounting brackets are aluminum, except adjustable-height bracket is zinc. Fasteners included for attaching to an extrusion.

Threaded end caps accept leveling feet and casters. They are zinc with a black powder coating. Fasteners included.

Swivel leveling mounts swivel 15°. One tapped hole is required. They are zinc-plated steel with a nonskid rubber pad.

Swivel casters swivel 360° and have a brake. One tapped hole is required, unless noted. *Inch* casters have rubber wheels. *Metric* casters have plastic wheels.







For Extrusion Ht.	Mounting Hole Dia.	Floor-Mounting Brackets Lg.	Single		Double/Quad		Adjustable-Height Floor-Mounting Brackets Lg.	Single	
Inch									
1″ (Single), 2″ (Double/Quad)	3/8″	5″	47065T841	$12.00	47065T842	$15.27			
1 1/2″ (Single), 3″ (Double/Quad)	1/2″	5″	47065T843	14.60	47065T844	17.15	4 3/4″	47065T387	$24.94
Metric									
20 mm (Single), 40 mm (Double/Quad)	3/8″	51/2″	5537T411	10.54	5537T421	16.31			
30 mm (Single), 60 mm (Double/Quad)	3/8″	51/2″	5537T412	11.42	5537T422	16.65	4 3/4″	5537T295	20.77
40 mm (Single), 80 mm (Double/Quad)	1/2″	51/2″	5537T413	12.85	5537T423	17.25	6 1/4″	5537T296	21.54
45 mm (Single), 90 mm (Double/Quad)	1/2″	51/2″	5537T414	14.21	5537T424	19.42	6 1/4″	5537T297	21.54









For Extrusion Ht.	Thread Size	Threaded End Caps Double		Threaded End Caps Quad		Swivel Leveling Mounts Cap., lbs.	Swivel Leveling Mounts Single		Swivel Casters Cap., lbs.	Swivel Casters Single	
Inch											
1″ (Single), 2″ (Double/Quad)	1/4″-20	47065T296	$10.54	47065T384	$14.07	750	6111K82	$5.95	70	47065T83★	$15.98
1 1/2″ (Single), 3″ (Double/Quad)	3/8″-16	47065T249	11.12	47065T385	16.26	2,800	6111K83	7.56	125	2834T34	10.65
Metric											
20 mm (Single), 40 mm (Double/Quad)	M6	5537T392	10.20			515	6301K78	5.36	60	5537T314	11.80
30 mm (Single), 60 mm (Double/Quad)	M8	5537T542	11.54	5537T543	16.40	750	6301K79	5.95	85	5537T317	13.16
40 mm (Single), 80 mm (Double/Quad)	M8	5537T299	13.40	5537T544	18.29	750	6301K79	5.95	85	5537T317	13.16
45 mm (Single), 90 mm (Double/Quad)	M12	5537T301	15.32	5537T545	23.63	3,740	6301K82	11.10	110	5537T318	25.18

★ This product is for use with double or quad framing. Requires two tapped holes.

(Continued on following page)

Aluminum T-Slotted Framing *(Continued from previous page)*

Panels, Panel Holders, and Door Hardware

Wire mesh panels have a 1/8″ wire dia. and 1″ × 1″ openings.
Solid panels are 1/4″ thick, except perforated aluminum panels are 1/8″ thick with 3/8″ dia. openings.
Panel holders are aluminum and include fasteners, except twist-in solid panel holders are black nylon and don't require fasteners.
Sliding tracks for solid panels consist of a top and bottom track that accept up to three 1/4″ thick panels, except the track for 1″ wide extrusions accepts two panels.
Lift-off solid panel hangers can be easily repositioned. They are black powder-coated zinc.
Panel gaskets hold 1/4″ thick panels in place. They are black rubber.
Roller wheels are black nylon and include fasteners.
Sliding door glides rotate 360°. They are UHMW. Fasteners included.
Panel hinges accept panels up to 1/4″ thick. They are black plastic and include fasteners.
Magnetic latches accept panels up to 3/16″ thick. Fasteners included. *Inch* latches are aluminum. *Metric* latches are black nylon.
Slide-bolt latches include fasteners. *Inch* latches are aluminum. *Metric* latches are zinc.
Handles are black plastic and include fasteners.

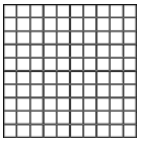
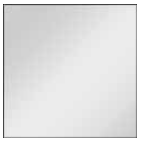
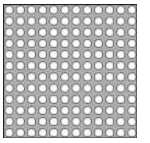

Panel Size	PVC-Coated Wire Mesh Panels Black		PVC-Coated Wire Mesh Panels Yellow		Clear Solid Panels Acrylic		Clear Solid Panels Polycarbonate		Perforated Aluminum Solid Panels	
2 ft. × 2 ft.	47065T287	$13.67	47065T292	$23.53	8560K224	$38.64	8574K55	$47.30	47065T901	$69.08
2 ft. × 4 ft.	47065T288	27.35	47065T293	35.71	8560K226	65.78	8574K23	79.89	47065T902	133.00
4 ft. × 4 ft.	47065T289	54.70	47065T294	59.53	8560K227	118.14	8574K85	147.08	47065T903	262.58
4 ft. × 8 ft.	47065T291	88.55	47065T295	97.43	8560K228	196.94	8574K75	266.31	47065T904	518.28






For Extrusion Ht.	Wire Mesh Panel Holders		Solid Panel Holders		Twist-In Solid Panel Holders Max. Panel Thick.			Sliding Tracks for Solid Panels Lg.		
Inch										
1″	47065T197	$5.68	47065T195	$4.95	1/4″	47065T251	$2.35	48″	47065T166	$23.88
1 1/2″	47065T198	6.68	47065T196	5.66	3/8″	47065T252	2.39	48″	47065T78	28.75
Metric										
20 mm	5537T305	5.87	5537T308	4.88	1/4″	5537T87	2.31	—	—	—
30 mm	5537T841	7.50	5537T842	6.10	1/4″	5537T843	2.44	—	—	—
40 mm	5537T306	7.82	5537T309	6.34	3/16″	5537T57	2.54	48″	5537T321	31.20
45 mm	5537T307	8.20	5537T311	6.71	3/16″	5537T312	2.79	—	—	—


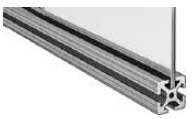



For Extrusion Ht.	Lift-Off Solid Panel Hangers		Panel Gaskets Lg.			Roller Wheels		Sliding Door Glides	
Inch									
1″	5537T845	$9.56	—	—	—	47065T204	$15.76	47065T3	$2.89
1 1/2″	5537T415	8.64	78 3/4″	5537T871	$8.68	47065T63	26.90	47065T75	4.01
Metric									
20 mm	—	—	—	—	—	5537T353	9.80	—	—
30 mm	5537T845	9.56	78 3/4″	5537T871	8.68	5537T354	10.05	—	—
40 mm	5537T416	8.64	78 3/4″	5537T871	8.68	5537T354	10.05	—	—
45 mm	5537T416	8.64	78 3/4″	5537T872	12.90	5537T355	10.32	—	—






For Extrusion Ht.	Panel Hinges		Magnetic Latches		Slide-Bolt Latches		Handles	
Inch								
1″	47065T162	$9.15	47065T165	$7.26	47065T57	$20.95	47065T164	$6.40
1 1/2″	47065T163	14.59	47065T165	7.26	47065T57	20.95	47065T54	7.52
Metric								
20 mm	5537T838	5.81	5537T86	8.28	5537T337	19.58	5537T84	7.72
30 mm	5537T839	11.79	5537T417	8.28	5537T418	19.58	5537T419	7.72
40 mm	5537T324	14.62	5537T56	9.20	5537T393	21.21	5537T54	8.38
45 mm	5537T325	14.98	5537T229	9.41	5537T394	21.66	5537T54	8.38

(Continued on following page)

Aluminum T-Slotted Framing *(Continued from previous page)*

Plastic Caps and Covers

End caps are black.
UHMW strips are slippery, abrasion-resistant inserts that allow you to create smooth motion along a T-slot.

T-slot covers conceal wires and keep dust out of the T-slot. They can be cut with scissors. *Black* covers can be turned over to hold a panel.







For Extrusion Ht.	Single End Caps		Double End Caps		Quad End Caps	
Inch						
1″	47065T91	$1.20	2″ 47065T92	$1.50		
1½″	47065T87	1.50	3″ 47065T16	1.80		
Metric						
20 mm	5537T14	.98	40 mm 5537T19	1.27	60 mm 5537T831	$1.80
40 mm	5537T24	1.73	80 mm 5537T29	2.34	80 mm 5537T832	2.85
45 mm	5537T302	1.86	90 mm 5537T303	2.40	90 mm 5537T833	3.25





For Extrusion Ht.	UHMW Strips 3 ft.		UHMW Strips 6 ft.		T-Slot Covers 6 ft. Choose a Color	
Inch						
1″			47065T5	$48.89	Black, Gray, Yellow 47065T93	$4.15
1½″	47065T837	$23.71	47065T839	45.21	Black, Gray, Yellow 47065T4	4.27
Metric						
20 mm					Black 5537T15	3.90
30 mm					Black, Gray, Yellow 5537T319	4.30
40 mm	5537T523	23.84	5537T526	45.49	Black, Gray, Yellow 5537T319	4.30
45 mm					Black, Gray, Yellow 5537T322	4.37

Cable Holders

Cable tie holders are black nylon and accept ties up to 3⁄8″ Wd. x 1⁄16″ Thick.
Cable holders allow you to attach cable or tube without using cable ties. They are black nylon.
Brush strips cover door gaps and keep out air currents and dust. They are black plastic with 3⁄8″ bristles.









For Extrusion Ht.	Cable Tie Holders		Single Channel Cable Holders		Dual Channel Cable Holders		Brush Strips Lg.	
Inch								
1″	47065T268	$0.72	47065T386	$3.00	47065T389	$3.83		
1½″	47065T217	1.79	47065T388	3.00	47065T6	4.50	39⅜″ 47065T911	$15.97
Metric								
20 mm	5537T356	.69	5537T834	3.00	5537T851	3.83		
30 mm			5537T835	3.00	5537T852	3.83		
40 mm	47065T219	1.79	5537T836	3.00	5537T853	3.83	39⅜″ 47065T911	15.97
45 mm	5537T357	1.88	5537T837	3.00	5537T854	3.83		

Tool Holders and Hangers

Magnetic holders, **two-hook holders**, and **round holders** include mounting fasteners.
Hook-and-loop holders have an adhesive surface for holding lightweight objects.











For Extrusion Ht.	Magnetic Holders		Two-Hook Holders		Hook-and-Loop Holders		Round Holders		Hangers	
Inch										
1″							47065T247	$14.95	47065T203	$8.68
1½″	47065T913	$56.12	47065T914	$14.31	47065T2	$0.82	47065T273	15.81	47065T22	11.16
Metric										
20 mm							5537T226	14.68	5537T362	3.70
30 mm							5537T226	14.68	5537T363	4.33
40 mm	47065T913	56.12	47065T914	14.31	47065T2	.82	47065T273	15.81	5537T363	4.33
45 mm							47065T273	15.81	5537T364	4.55

Strut Channel

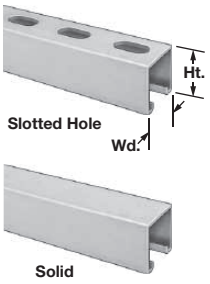

Channel is 1⅝" Ht. × 1⅝" Wd.

Slotted Hole—Holes are 1⅛" Lg. × 9/16" Wd. on 2" centers, except fiberglass are 1" Lg. × ⅜" Wd. The first hole is 7/16" from the end, except for primed steel first hole is ½" from the end.

Zinc-plated steel channel offers good corrosion resistance.

Primed steel channel, also known as galvannealed steel, is weldable and ready to be painted.

Galvanized steel channel offers better corrosion resistance than zinc-plated steel and can be used outdoors.

Aluminum channel is corrosion resistant and about half the weight of steel.

304 stainless steel channel offers better corrosion resistance than zinc-plated steel and galvanized steel.

316 stainless steel channel provides maximum corrosion resistance.

Fiberglass channel is nonconductive, corrosion resistant, and about half the weight of aluminum. Temperature range is –30° to 200° F.

6′8″ long channel is for use with beams spaced 6 ft. apart. The length allows 4″ on each end to attach the channel to the beam.

To Order: For choose-a-color steel, please specify black, red, white, or yellow.

Material	Thick.		1 ft.	1½ ft.	2 ft.	3 ft.	4 ft.	5 ft.	6 ft.	6′8″	8 ft.	10 ft.
Slotted Hole												
Zinc-Plated Steel	0.11″	3310T57	$4.33	$6.50	$8.66	$12.99	$17.32	$20.57	$23.38	$25.98	$31.18	$36.80
Primed Steel	0.11″	3310T58	8.18	12.27	16.36	24.54	32.72	35.17	39.26	44.17	52.35	63.80
Green Powder-Coated Steel	0.10″	3310T59	4.33	6.50	8.66	12.99	17.32	20.57	23.38	25.98	31.18	36.80
Choose-a-Color Steel	0.10″	3310T62	4.80	7.20	9.60	14.40	19.20	22.80	25.92	28.80	34.56	40.80
Galvanized Steel	0.11″	3310T64	6.41	9.62	12.82	19.23	25.64	30.45	34.61	38.46	46.15	54.48
Aluminum	0.08″	3230T26	5.43	8.14	10.86	16.29	21.72	25.79	29.32	32.58	39.10	46.16
304 Stainless Steel	0.11″	33085T78	12.53	18.79	25.06	37.59	50.12	59.52	67.66	75.18	90.22	106.50
316 Stainless Steel	0.11″	33085T79	16.52	24.78	33.04	49.56	66.08	78.47	89.21	99.12	118.94	140.42
Fiberglass	0.16″	3261T27	10.19	15.29	20.38	30.57	40.76	48.40	55.03	61.14	73.37	91.71
Solid												
Zinc-Plated Steel	0.11″	3310T65	4.66	6.99	9.32	13.98	18.64	22.14	25.16	27.96	33.55	39.61
Primed Steel	0.11″	3310T66	8.23	12.35	16.46	24.69	32.92	39.09	44.44	49.38	59.26	69.95
Green Powder-Coated Steel	0.10″	3310T67	4.66	6.99	9.32	13.97	18.63	22.12	25.15	27.94	33.54	39.59
Choose-a-Color Steel	0.10″	3310T68	4.74	7.11	6.60	14.22	18.96	22.52	25.60	28.44	34.13	40.29
Galvanized Steel	0.11″	3310T69	6.90	10.35	13.80	20.70	27.60	32.77	37.26	41.40	49.68	58.65
Aluminum	0.08″	3230T27	5.64	8.46	11.28	16.92	22.56	26.79	30.46	33.84	40.61	47.94
304 Stainless Steel	0.11″	33085T88	13.70	20.55	27.40	41.10	54.80	65.08	73.98	82.20	98.64	116.45
316 Stainless Steel	0.11″	33085T89	17.68	26.52	35.36	53.04	70.72	83.98	95.47	106.08	127.30	150.28
Fiberglass	0.16″	3261T28	8.27	12.40	16.54	24.81	33.08	39.28	44.66	49.62	59.54	70.30

Low-Profile Strut Channel

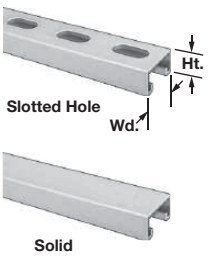

These channels fit in tight spaces but are the same width as regular strut channel, so they fit many of the same connectors. Channel is 13/16" Ht. × 1⅝" Wd.

Slotted Hole—Holes are 1⅛" Lg. × 9/16" Wd. The first hole is 7/16" from the end, except primed steel is ½".

Zinc-plated steel channel offers good corrosion resistance.

Primed steel channel, also known as galvannealed steel, is weldable and ready to be painted.

Galvanized steel channel offers better corrosion resistance than zinc-plated steel and can be used outdoors.

Aluminum channel is corrosion resistant and about half the weight of steel.

304 stainless steel channel offers better corrosion resistance than zinc-plated steel and galvanized steel.

316 stainless steel channel provides maximum corrosion resistance.

6′8″ long channel is for use with beams spaced 6 ft. apart. The length allows 4″ on each end to attach the channel to the beam.

To Order: For choose-a-color steel, please specify black, red, white, or yellow.

Material	Thick.		1 ft.	1½ ft.	2 ft.	3 ft.	4 ft.	5 ft.	6 ft.	6′8″	8 ft.	10 ft.
Slotted Hole												
Zinc-Plated Steel	0.08″	3310T513	$3.30	$4.95	$6.60	$9.90	$13.20	$15.67	$17.82	$19.80	$23.76	$28.05
Primed Steel	0.08″	3310T514	6.74	10.11	13.48	20.22	26.96	28.98	32.35	36.40	43.14	52.57
Green Powder-Coated Steel	0.07″	3310T515	3.11	4.66	6.22	9.33	12.44	14.77	16.79	18.66	22.39	26.43
Choose-a-Color Steel	0.07″	3310T516	3.30	4.95	6.60	9.90	13.20	15.67	17.82	19.80	23.76	28.05
Aluminum	0.06″	3230T36	3.57	5.35	7.14	10.71	14.28	16.96	19.28	21.42	25.70	30.34
Galvanized Steel	0.08″	3310T517	5.20	7.80	10.40	15.60	20.80	24.70	28.08	31.20	37.44	44.20
304 Stainless Steel	0.08″	33085T93	10.70	16.05	21.40	32.10	42.80	50.82	57.78	64.20	77.04	90.95
316 Stainless Steel	0.08″	33085T94	12.73	19.09	25.46	38.19	50.92	60.47	68.74	76.38	91.66	108.20
Solid												
Zinc-Plated Steel	0.08″	3310T523	3.57	5.35	7.14	10.71	14.28	16.96	19.28	21.42	25.70	30.34
Primed Steel	0.08″	3310T524	6.74	10.11	13.48	20.22	26.96	28.98	32.35	36.40	43.14	52.57
Green Powder-Coated Steel	0.07″	3310T525	3.57	5.35	7.14	10.71	14.28	16.96	19.28	21.42	25.70	30.34
Choose-a-Color Steel	0.07″	3310T526	3.50	5.25	7.00	10.50	14.00	16.62	18.90	21.00	25.20	29.75
Aluminum	0.06″	3230T37	3.71	5.56	7.42	11.13	14.84	17.62	20.03	22.26	26.71	31.54
Galvanized Steel	0.08″	3310T527	5.29	7.94	10.58	15.87	21.16	25.13	28.57	31.74	38.09	44.97
304 Stainless Steel	0.08″	33085T95	11.06	16.59	22.12	33.18	44.24	52.54	59.72	66.36	79.63	94.01
316 Stainless Steel	0.08″	33085T96	13.44	20.16	26.88	40.32	53.76	63.84	72.58	80.64	96.77	114.24

Extra-Low-Profile Strut Channel

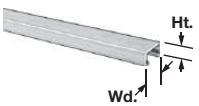

Run cables and tubing alongside machines and small fixtures with channel that is ¼ the height and ½ the width of regular strut channel. Channel is 13/32" Ht. × 13/16" Wd.

Zinc-plated steel channel offers good corrosion resistance.

Material	Thick.		1 ft.	1½ ft.	2 ft.	3 ft.	4 ft.	5 ft.	10 ft.
Zinc-Plated Steel	0.04″	1259N21	$4.58	$6.30	$7.15	$9.73	$12.30	$14.88	$27.75
Green Powder-Coated Steel	0.04″	1259N22	4.58	6.30	7.15	9.73	12.30	14.88	27.75

Stacked Strut Channel

Slotted Hole—Holes are 1⅛" Lg. × 9/16" Wd. on 2" centers, except fiberglass holes are 1" Lg. × ⅜" Wd. The first hole is 7/16" from the end.
Zinc-plated steel channel offers good corrosion resistance.
Galvanized steel channel offers better corrosion resistance than zinc-plated steel and can be used outdoors.
Aluminum channel is corrosion resistant and about half the weight of steel.
304 stainless steel channel offers better corrosion resistance than zinc-plated steel and galvanized steel.
Fiberglass channel is nonconductive, corrosion resistant, and half the weight of aluminum. Temp. range is –30° to 200°F.
To Order: For choose-a-color steel, please specify black, red, white, or yellow.

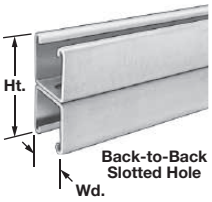

Material	Thick.		1 ft.	1½ ft.	2 ft.	3 ft.	4 ft.	5 ft.	10 ft.
Back-to-Back									
Slotted Hole—1⅝" Ht. × 1⅝" Wd.									
Zinc-Plated Steel	0.08"	3208T172	$5.30	$7.95	$10.60	$15.90	$21.20	$25.18	$45.05
Green Powder-Coated Steel	0.08"	3208T181	5.30	7.95	10.60	15.90	21.20	25.18	45.05
Choose-a-Color Steel	0.08"	3208T311	6.32	9.48	12.64	18.96	25.28	30.02	53.72
Aluminum	0.08"	3208T189	9.31	13.96	18.62	27.93	37.24	44.22	79.14
Galvanized Steel	0.08"	3208T198	11.85	17.77	23.70	35.55	47.40	56.29	100.72
304 Stainless Steel	0.08"	3291T4	18.67	28.01	37.34	56.01	74.68	88.68	158.70
Slotted Hole—3¼" Ht. × 1⅝" Wd.									
Zinc-Plated Steel	0.11"	3208T6	7.48	11.22	14.96	22.44	29.92	35.53	63.58
Green Powder-Coated Steel	0.11"	3208T7	7.48	11.22	14.96	22.44	29.92	35.53	63.58
Choose-a-Color Steel	0.11"	3208T293	7.63	11.45	15.26	22.89	30.52	36.24	64.86
Aluminum	0.11"	3208T16	12.09	18.13	24.18	36.27	48.36	57.43	102.77
Galvanized Steel	0.11"	3208T18	14.08	21.12	28.16	42.24	56.32	66.88	119.68
304 Stainless Steel	0.08"	3291T2	25.64	38.46	51.28	76.92	102.56	121.79	217.94
Fiberglass	0.13"	3208T118	19.74	29.61	39.48	59.22	78.96	93.76	167.79
Solid—1⅝" Ht. × 1⅝" Wd.									
Zinc-Plated Steel	0.08"	3208T217	5.84	8.76	11.68	17.52	23.36	27.74	49.64
Green Powder-Coated Steel	0.08"	3208T223	5.84	8.76	11.68	17.52	23.36	27.74	49.64
Choose-a-Color Steel	0.08"	3208T318	6.85	10.27	13.70	20.55	27.40	32.54	58.22
Aluminum	0.08"	3208T277★	10.55	15.83	21.10	31.65	42.20	50.11	89.68
Galvanized Steel	0.08"	3208T285	9.46	14.19	18.92	28.38	37.84	44.94	80.41
304 Stainless Steel	0.08"	3291T5	25.96	38.94	51.92	77.88	103.84	123.31	220.66
Solid—3¼" Ht. × 1⅝" Wd.									
Zinc-Plated Steel	0.11"	3208T127	7.46	11.19	14.92	22.38	29.84	35.44	63.41
Green Powder-Coated Steel	0.11"	3208T136	7.46	11.19	14.92	22.38	29.84	35.44	63.41
Choose-a-Color Steel	0.11"	3208T309	8.03	12.04	16.06	24.09	32.12	38.14	68.25
Aluminum	0.11"	3208T145■	13.38	20.07	26.76	40.14	53.52	63.56	113.73
Galvanized Steel	0.11"	3208T154	13.26	19.89	26.52	39.78	53.04	62.98	112.71
304 Stainless Steel	0.11"	3291T3	28.28	42.42	56.56	84.84	113.12	134.33	240.38
Fiberglass	0.13"	3208T163	19.96	29.94	39.92	59.88	79.84	94.81	169.66
Side-to-Side									
Slotted Hole—1⅝" Ht. × 3¼" Wd.									
Zinc-Plated Steel	0.11"	3611T1	12.92	19.38	25.84	38.76	51.68	61.37	109.82
Green Powder-Coated Steel	0.11"	3611T2	12.92	19.38	25.84	38.76	51.68	61.37	109.82
Black Powder-Coated Steel	0.11"	3611T3	16.81	25.21	33.62	50.43	67.24	79.85	142.88
Aluminum	0.11"	3611T4	21.80	32.70	43.60	65.40	87.20	103.55	185.30
304 Stainless Steel	0.11"	3611T5	41.67	62.51	83.34	125.01	166.68	197.93	354.19
Solid—1⅝" Ht. × 3¼" Wd.									
Zinc-Plated Steel	0.11"	3611T6	8.89	13.34	17.78	26.67	35.56	42.23	75.56
Green Powder-Coated Steel	0.11"	3611T7	8.89	13.34	17.78	26.67	35.56	42.23	75.56
Black Powder-Coated Steel	0.11"	3611T8	11.17	16.75	22.34	33.51	44.68	53.06	94.94
Aluminum	0.11"	3611T9■	14.69	22.04	29.38	44.07	58.76	69.78	124.86
304 Stainless Steel	0.11"	3611T19	23.86	35.79	47.72	71.58	95.44	113.33	202.81

★ 5 ft. and 10 ft. lengths are 0.06" thick. ■ 5 ft. and 10 ft. lengths are 0.08" thick.

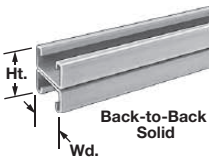

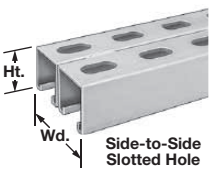

High-Strength Strut Channel

Added height makes these channels stronger than regular strut channel.
Slotted Hole—Holes are 1⅛" Lg. × 9/16" Wd. on 2" centers. The first hole is 7/16" from the end.
Zinc-plated steel channel offers good corrosion resistance.
Galvanized steel channel offers better corrosion resistance than zinc-plated steel and can be used outdoors.
Aluminum channel is corrosion resistant and about half the weight of steel.
To Order: For choose-a-color steel, please specify black, red, white, or yellow.

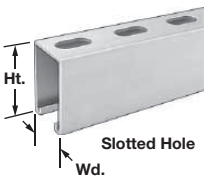

Material	Thick.		1 ft.	1½ ft.	2 ft.	3 ft.	4 ft.	5 ft.	10 ft.
Slotted Hole—2 7/16" Ht. × 1⅝" Wd.									
Zinc-Plated Steel	0.1"	3548T211	$6.65	$9.98	$13.30	$19.95	$26.60	$31.59	$56.53
Green Powder-Coated Steel	0.1"	3548T212	6.65	9.98	13.30	19.95	26.60	31.59	56.53
Choose-a-Color Steel	0.1"	3548T213	6.64	9.96	13.28	19.92	26.56	33.20	56.44
Aluminum	0.1"	3548T214	7.11	10.67	14.22	21.33	28.44	33.77	60.44
Galvanized Steel	0.1"	3548T215	7.34	11.01	14.68	22.02	29.36	34.87	62.39
Slotted Hole—3¼" Ht. × 1⅝" Wd.									
Zinc-Plated Steel	0.1"	3563T171	7.96	11.94	15.92	23.88	31.84	37.81	67.66
Green Powder-Coated Steel	0.1"	3563T172	7.96	11.94	15.92	23.88	31.84	37.81	67.66
Choose-a-Color Steel	0.1"	3563T173	8.50	12.75	17.00	25.50	34.00	40.38	72.25
Aluminum	0.1"	3563T174	8.57	12.86	17.14	25.71	34.28	40.71	72.84
Galvanized Steel	0.1"	3563T175	9.88	14.82	19.76	29.64	39.52	46.93	83.98
Solid—2 7/16" Ht. × 1⅝" Wd.									
Zinc-Plated Steel	0.1"	3548T221	7.12	10.68	14.24	21.36	28.48	33.82	60.52
Green Powder-Coated Steel	0.1"	3548T222	7.12	10.68	14.24	21.36	28.48	33.82	60.52
Choose-a-Color Steel	0.1"	3548T223	7.32	10.98	14.64	21.96	29.28	34.77	62.22
Aluminum	0.1"	3548T224	6.44	9.66	12.88	19.32	25.76	30.59	54.74
Galvanized Steel	0.1"	3548T225	7.64	11.46	15.28	22.92	30.56	36.29	64.94
Solid—3¼" Ht. × 1⅝" Wd.									
Zinc-Plated Steel	0.1"	3563T181	8.89	13.34	17.78	26.67	35.56	42.23	75.56
Green Powder-Coated Steel	0.1"	3563T182	8.89	13.34	17.78	26.67	35.56	42.23	75.56
Choose-a-Color Steel	0.1"	3563T183	8.93	13.39	17.86	26.79	35.72	42.42	75.91
Aluminum	0.1"	3563T184	8.85	13.27	17.70	26.55	35.40	42.04	75.22
Galvanized Steel	0.1"	3563T185	10.83	16.25	21.66	32.49	43.32	51.44	92.06

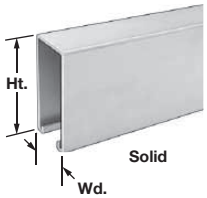

Curved Strut Channel



Top/Bottom Opening



Inside Opening



Outside Opening

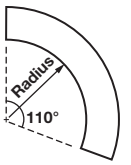

This channel lets you create continuous runs without corners. It is zinc-plated steel and 1⅝" Ht.×1⅝" Wd.×0.11" Thick.

Top/bottom opening channel can be suspended for use in light duty conveying and other trolley applications.

Opening Location	Radius, ft.	6-ft. Lg.
Top/Bottom	3	3147T1 $95.05
Inside	3	3147T2 79.21
Outside	3	3147T3 79.21

Strut Channel with Finished Ends



These short lengths of strut channel with welded ends provide an attractive way to mount clamps and other strut channel accessories to machines and surfaces. Channel is 1⅝" Ht.×1⅝" Wd.×0.11" Thick.

Material	3" Lg.	6" Lg.
Galvanized Steel	1266N11 $12.46	1266N12 $14.91

Strut Channel Wall Mounts

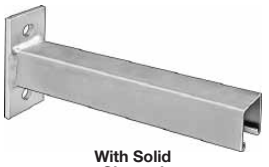

With Solid Channel

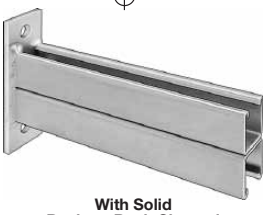

With Solid Back-to-Back Channel

Mounts with solid channel have a ¼" thick mounting plate with two 9/16" dia. mounting holes spaced on 3" centers.

Mounts with solid back-to-back channel have ⅜" thick mounting plates with two 9/16" dia. mounting holes spaced on 4⅝" centers.

Zinc-plated steel mounts offer good corrosion resistance.

Powder-coated steel mounts are green.

Galvanized steel mounts offer better corrosion resistance than zinc-plated steel and can be used outdoors.

304 stainless steel mounts offer better corrosion resistance than zinc-plated steel and galvanized steel.

316 stainless steel mounts provide maximum corrosion resistance.

To Order: For choose-a-color steel, specify black, red, white, or yellow.

Material	6" Lg.	1-ft. Lg.	1½-ft. Lg.	2-ft. Lg.	2½-ft. Lg.	3-ft. Lg.
With Solid Channel—1⅝" Ht.×1⅝" Wd.						
Zinc-Plated Steel	3188T31 $8.33	3188T32 $10.00	3188T33 $11.66	3188T34 $13.33	3188T127 $19.99	3188T135 $22.49
Powder-Coated Steel	3188T21 8.33	3188T22 10.00	3188T23 11.66	3188T24 13.33	3188T129 19.99	3188T137 22.49
Choose-a-Color Steel	3188T183 8.75	3188T18 10.50	3188T122 12.25	3188T125 14.00	3188T131 21.00	3188T138 23.62
Galvanized Steel	3188T184 14.50	3188T119 17.40	3188T123 20.30	3188T126 23.20	3188T132 34.80	3188T139 39.15
304 Stainless Steel	3188T41 19.48	3188T42 23.38	3188T43 27.27	3188T44 31.17	3188T133 46.75	3188T141 52.60
316 Stainless Steel	3188T51 30.99	3188T52 37.19	3188T53 43.39	3188T54 49.58	3188T134 74.38	3188T142 83.67
With Solid Back-to-Back Channel—3¼" Ht.×1⅝" Wd.						
Zinc-Plated Steel	— —	3188T35 20.64	3188T36 25.59	3188T37 28.90	3188T38 35.09	3188T39 38.18
Powder-Coated Steel	— —	3188T25 20.64	3188T26 25.59	3188T27 28.90	3188T28 35.09	3188T29 38.18
Choose-a-Color Steel	— —	3188T194 27.93	3188T197 34.63	3188T211 39.10	3188T214 47.48	3188T217 51.67
Galvanized Steel	— —	3188T195 31.38	3188T198 43.93	3188T212 53.35	3188T215 62.76	3188T218 78.45
304 Stainless Steel	— —	3188T45 49.50	3188T46 61.38	3188T47 69.30	3188T48 84.15	3188T49 91.58
316 Stainless Steel	— —	3188T55 67.98	3188T56 84.30	3188T57 95.17	3188T58 115.57	3188T59 125.76

Strut Channel Floor Mounts



Single Channel Straight Post



Stacked Channel Angled Post



Plastic Single Channel Post

Attach these mounts to the floor to support upright 1⅝" Ht.×1⅝" Wd. strut channel. Mounting holes are on 4¼" centers, unless noted. Mounting bolts are not included. Note: Base height does not include plate thickness.

Steel and **stainless steel** mounts with 4"×6" plates have two ¾" dia. mounting holes. Mounts with 6"×6" plates have four ¾" dia. mounting holes.

Zinc-plated steel mounts offer good corrosion resistance.

Galvanized steel mounts offer better corrosion resistance than zinc-plated steel and can be used outdoors.

304 stainless steel mounts offer better corrosion resistance than zinc-plated steel and galvanized steel.

316 stainless steel mounts provide maximum corrosion resistance.

Plastic mounts are compatible with fiberglass strut channel. They have four ⅝" dia. mounting holes. Temperature range is –40° to 140° F. Color is gray.

To Order: For choose-a-color steel, please specify black, red, white, or yellow.

			For Single Channel				*For Stacked Channel*	
			Straight Post		Angled Post	Straight Post	Angled Post
Material	Ht.	Plate Thick.	4"×6" Plate ★	6"×6" Plate	6"×6" Plate	6"×6" Plate	6"×6" Plate
Zinc-Plated Steel	3¾"	¼"	33145T53 $13.97	33145T32 $17.46	33145T19 $17.46	33145T28 $19.64	33145T44 $19.64
Green Powder-Coated Steel	3¾"	¼"	33145T51 13.97	33145T31 17.46	33145T21 17.46	33145T29 19.64	33145T45 19.64
Choose-a-Color Steel	3¾"	¼"	33145T11 18.23	33145T16 20.26	33145T22 20.26	33145T36 21.15	33145T46 21.15
Galvanized Steel	3¾"	¼"	33145T13 17.54	33145T18 21.92	33145T24 21.92	33145T38 22.99	33145T48 22.99
304 Stainless Steel	3¾"	¼"	33145T54 57.64	33145T33 73.90	33145T25 73.90	33145T39 77.41	33145T49 77.41
316 Stainless Steel	3¾"	¼"	33145T14 79.62	33145T34 99.53	33145T26 99.53	33145T42 105.97	33145T55 105.97
Plastic	3"	3/16"	— — — —	33145T41■ 28.93	— — — —	33145T43▲ 38.84	— — — —

★ Mounting holes are on 4" centers. ■ Plate is 5"×5"; mounting holes are on 3¾" centers.
▲ Plate is 6⅝"×5"; mounting holes are on 5⅜" and 3¾" centers.

Telescoping Strut Channel

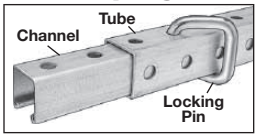


Channel


Tube

Slide the strut channel into the tube to create the length you need and secure with a locking pin (sold separately). Holes are 9/16" dia. on 1 7/8" centers. The first hole is 5/8" from the end. Channels and tubes are steel.

Channel is 1 5/8" Ht. × 1 5/8" Wd. × 0.11" Thick.

Tube is 1 7/8" Ht. × 1 7/8" Wd. × 0.11" Thick.

Zinc-plated channel offers good corrosion resistance.

	Channels		Tubes	
Finish	5 ft.	10 ft.	5 ft.	10 ft.
Zinc-Plated	3138T6 $21.16	$40.20	3138T3 $52.53	$99.81
Green Powder-Coated	3138T4 21.16	40.20	3138T1 52.53	99.82
Black Powder-Coated	3138T5 25.73	48.88	3138T2 90.85	172.62
Locking Pin			3138T71	14.28

Strut Channel Trolleys


A
With One Hole


B


C
With Three Holes

Suspend from strut channel to create a conveyor.

Style A trolleys have a horizontal plate with holes for hanging threaded rod and eyebolts. They have 5/16" dia. mounting holes spaced on 1" centers.

Style B trolley has a horizontal plate with a 3/4" dia. eyebolt and two 9/16" Lg. × 5/16" Wd. slotted holes spaced on 1" centers for hanging threaded rod.

Style C trolleys have a vertical plate with 9/16" dia. holes for attaching hooks and shackles. Trolleys with three mounting holes have holes spaced on 15/16" centers.

Zinc-plated steel trolleys offer good corrosion resistance.

304 stainless steel trolleys offer better corrosion resistance than zinc-plated steel.

	Cap., lbs.	Lg.	Wd.	Ht.	Clearance	No. of Holes	No. of Wheels		
Zinc-Plated Steel—For 1 5/8" High Strut Channel									
A	50	1 1/4"	7/16"	1 11/16"	3/16"	1	2	3626T14	$10.61
A	100	3 1/8"	7/16"	1 3/4"	1/4"	3	4	3626T15	19.37
B	100	3 1/8"	7/16"	4 3/16"	1/4"	2	4	3626T16	25.80
C	150	1 1/4"	1/4"	3 7/16"	1 15/16"	1	2	3626T12	11.69
C	300	3 1/2"	1/4"	3 5/16"	1 15/16"	3	4	3626T11	26.70
304 Stainless Steel—For 1 5/8", 2 7/16", 3 1/4" High Strut Channel									
C	300	1 1/4"	1/4"	3 5/16"	1 15/16"	1	2	3626T22	72.01
C	600	3 1/2"	1/4"	3 1/2"	2 1/8"	3	4	3626T23	116.74

Strut Channel Feet

Provide a stable, nonscratch bottom for structures with strut channel legs. Foot fits 1 5/8" Ht. × 1 5/8" Wd. strut channel. It is black rubber with a steel insert.



Dia.	Thick.	Cap., lbs.		
3"	1/2"	200	1261N1	$8.75

Strut Mount Hangers

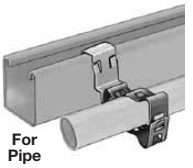
For Pipe

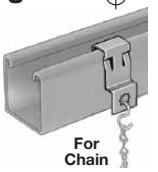
For Chain


For Threaded Rod

Slip these hangers onto the lip of top-opening strut channel to attach chain, wire rope, pipe, or threaded rod. Hangers are steel and fit all 1 5/8" wide strut channel.

For Suspending	Cap., lbs.		
3/8" ID Pipe	20	3217T14	$1.95
1/2"-3/4" ID Pipe	20	3217T16	2.10
Chain (1/4" Dia. Hole)	150	3217T11	.82
1/4"-20 Threaded Rod	150	3217T17	1.79
3/8"-16 Threaded Rod	150	3217T18	1.88

Strut Channel Trolley Brackets





Brackets mount on the outside of 1 5/8" Ht. × 1 5/8" Wd. strut channel so you can hang channel without disrupting trolley movement. They are zinc-plated steel. They have a 9/16" dia. top mounting hole and 7/16" dia. side mounting holes.

Hanging bracket can be used with straight or curved strut channel.

Hanging/connecting bracket can be used with straight strut channel. It is longer than the hanging bracket so it can join lengths of strut.

Bracket Type	Cap., lbs.	Lg.	Wd.	Ht.		
Hanging	1,200	1 5/8"	1"	3 3/4"	3626T41	$6.19
Hanging/Connecting	2,500	3 1/2"	1"	3 3/4"	3626T42	9.44

Strut Channel Caps and Plugs


Open Cap

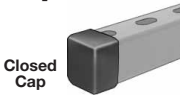
Closed Cap


Plug

Cover rough ends of 1 5/8" wide strut channel.

Zinc-plated steel plugs offer good corrosion resistance.

304 stainless steel plugs offer better corrosion resistance than zinc-plated steel.

To Order: For choose-a-color plastic, please specify black, red, white, or yellow.

For Channel Ht.	For Channel Type	Material		
Open Caps				
13/16"	Single	Choose-a-Color Plastic	3312T55	$0.50
1 5/8"	Single	Choose-a-Color Plastic	3312T56	.64
1 5/8"	Stacked	Choose-a-Color Plastic	3312T59	.74
2 7/16"	Single	Choose-a-Color Plastic	3312T57	1.04
3 1/4"	Single	Choose-a-Color Plastic	3312T58	1.10
3 1/4"	Stacked	Choose-a-Color Plastic	3312T61	1.29
Closed Caps				
13/16"	Single	Choose-a-Color Plastic	3312T62	.97
1 5/8"	Single	Choose-a-Color Plastic	3312T63	1.12
3 1/4"	Single, Stacked	Choose-a-Color Plastic	3312T65	1.38
Plugs				
13/16"	Single	Zinc-Plated Steel	3312T81	.83
13/16"	Single	304 Stainless Steel	3312T83	2.80
1 5/8"	Single	Zinc-Plated Steel	3312T82	.90
1 5/8"	Single	304 Stainless Steel	3312T84	3.20

Strut Channel Covers

Create a four-sided raceway for cables or give a more finished look to your strut channel structure. Covers fit 1 5/8" wide strut channel.



Zinc-plated steel covers offer good corrosion resistance.

Aluminum covers are corrosion resistant and about half the weight of steel.

304 stainless steel covers offer better corrosion resistance than zinc-plated steel.

To Order: For choose-a-color steel, please specify black, red, white, or yellow.

Material	5-ft. Lg.		10-ft. Lg.	
Green Plastic	3204T11	$4.25	3204T71	$8.07
Black Plastic	3204T12	4.25	3204T72	8.07
White Plastic	3204T15	4.38	3204T16	8.32
Zinc-Plated Steel	3204T83	5.27	3204T74	10.01
Green Powder-Coated Steel	3204T81	$6.76	3204T73	$12.84
Choose-a-Color Steel	3204T17	7.57	3204T18	14.38
Aluminum	3204T84	6.35	3204T77	12.06
304 Stainless Steel	3204T85	12.55	3204T75	23.84

Strut Channel Nuts

Zinc-plated steel nuts offer good corrosion resistance.
304 stainless steel nuts offer better corrosion resistance than zinc-plated steel.
316 stainless steel nuts provide maximum corrosion resistance.

Standard Nuts




Serrated grooves securely grip the lip of the channel.

Thread Size	Zinc-Plated Steel Pkg. Qty.		Zinc-Plated Steel Pkg.	316 Stainless Steel Pkg. Qty.		316 Stainless Steel Pkg.
For 13/32" Ht. x 13/16" Wd. Channel						
8-32	10	3259T1 ★	$4.88	—	—	—
10-24	10	3259T2 ★	4.88	—	—	—
10-32	10	3259T3 ★	4.88	—	—	—
1/4"-20	10	3259T4 ★	4.88	—	—	—
For 13/16" Ht. x 1 5/8" Wd. Channel						
10-24	5	3259T42	4.12	1	3259T113	$3.39
1/4"-20	5	3259T31	4.63	1	3259T45	5.08
5/16"-18	5	3259T43	5.29	1	3259T86	5.41
3/8"-16	5	3259T32	6.04	1	3259T612	3.72
5/8"-11	5	3259T112	6.41	—	—	—
1/2"-13	5	3259T41	6.08	1	3259T48	5.88
M6 x 1	5	3259T33	6.48	1	3259T613	3.68
M8 x 1.25	5	3259T34	4.85	1	3259T614	2.77
M10 x 1.5	5	3259T35	5.59	1	3259T615	4.17
M12 x 1.75	5	3259T127	6.53	1	3259T616	4.33
For 1 5/8"-3 1/4" Ht. x 1 5/8" Wd. Channel						
10-24	5	3259T42	4.12	1	3259T113	3.39
1/4"-20	5	3259T31	4.63	1	3259T45	5.08
5/16"-18	5	3259T43	5.29	1	3259T86	5.41
3/8"-16	5	3259T32	6.04	1	3259T612	3.72
5/8"-11	5	3259T85	7.23	1	3259T82	8.69
1/2"-13	5	3259T44	6.71	1	3259T48	5.88
M6 x 1	5	3259T33	6.48	1	3259T613	3.68
M8 x 1.25	5	3259T34	4.85	1	3259T614	2.77
M10 x 1.5	5	3259T35	5.59	1	3259T615	4.17
M12 x 1.75	5	3259T36	5.90	1	3259T616	4.33

★ Made of plain steel.

Nuts with Wings




Serrated grooves securely grip the lip of the channel and wings make them easy to position once installed. Nuts are zinc-plated steel; wings are plastic. Temperature range is –20° to 170° F.

Thread Size	Pkg. Qty.		Pkg.
For 13/16" Ht. x 1 5/8" Wd. Channel			
1/4"-20	5	3259T116	$8.24
3/8"-16	5	3259T117	10.87
1/2"-13	5	3259T119	13.63
For 1 5/8", 2 7/16", and 3 1/4" Ht. x 1 5/8" Wd. Channel			
1/4"-20	5	3259T116	8.24
3/8"-16	5	3259T117	10.87
1/2"-13	5	3259T118	13.63

Tab-Lock Nuts — For 13/16"-3 1/4" Ht. x 1 5/8" Wd. Channel




A tab fits tightly against the lip of the channel to keep these nuts from slipping. Nuts are steel; tabs are plastic.

Thread Size		Each
1/4"-20	2233K11	$0.98
3/8"-16	2233K12	1.00
1/2"-13	2233K13	1.10

Clamping Nuts — For 13/16"-3 1/4" Ht. x 1 5/8" Wd. Channel




Connect two slotted-hole or round-hole channels to create stacked channel. Use two nuts for lengths less than one foot; add one nut for each additional foot. Nuts are zinc-plated steel.

Min. Hole Size Wd.	Lg.		Each
9/16"	7/8"	2233K19	$2.00

Square Nuts — For 13/16"-3 1/4" Ht. x 1 5/8" Wd. Channel




Also known as insert nuts, these convert slotted holes to threaded round holes and keep hardware centered in the slot. Nuts are zinc-plated steel.

Thread Size		Each
1/4"-20	2233K15	$1.23
3/8"-16	2233K16	1.30
1/2"-13	2233K17	1.41
5/8"-11	2233K18	1.90

Twist-Lock Nuts — For 13/16"-3 1/4" Ht. x 1 5/8" Wd. Channel




Insert this nut into the open side of strut channel and twist to secure. A built-in washer enables one-handed installation. Use with a hex nut to connect threaded rod. Nuts are zinc-plated steel.

Thread Size		Each
1/4"-20	3260T11	$1.93
3/8"-16	3260T12	1.99
1/2"-13	3260T13	2.03

Push Nuts — For 1 5/8"-3 1/4" Ht. x 1 5/8" Wd. Channel




Push this nut into place rather than threading it onto a fastener. To install, push a threaded fastener into the nut in the direction of the arrow. For finer adjustment, spin the nut. Nut is zinc-plated steel.

Thread Size		Each
3/8"-16	3259T72	$6.63

Rod-Stabilizing Nuts — For 1 5/8"-3 1/4" Ht. x 1 5/8" Wd. Channel




Keep a rod securely centered against the bottom of your strut channel. Nut is zinc-plated steel.

For Rod Dia.		Each
3/8"-5/8"	3259T91	$8.06

Slot Nuts — For 13/16"-3 1/4" Ht. x 1 5/8" Wd. Channel




When you don't have access to the open side of strut channel, slip this nut through a slotted hole and turn it 90° to secure it in the channel. Nut is zinc-plated steel.

Thread Size		Each
3/8"-16	2233K14	$0.79

Strut Channel Shelf Brackets



A tab on the end of these brackets fits inside the strut channel for extra stability. Brackets fit 1 5/8" wide strut channel. They are 1/4" thick and have 9/16" dia. mounting holes.
Zinc-plated steel brackets offer good corrosion resistance.
Galvanized steel brackets offer better corrosion resistance than zinc-plated steel and can be used outdoors.
304 stainless steel brackets offer better corrosion resistance than zinc-plated steel and galvanized steel.

Material	8 1/2" Lg. Ht.			10 1/2" Lg. Ht.			12 1/2" Lg. Ht.			14 1/2" Lg. Ht.			16 1/2" Lg. Ht.		
Zinc-Plated Steel	4"	3200T53	$10.26	4"	3200T63	$10.77	6"	3200T73	$11.80	6"	3200T83	$12.31	6"	3200T91	$15.90
Green Powder-Coated Steel	4"	3200T51	11.58	4"	3200T61	12.16	6"	3200T71	13.32	6"	3200T81	13.90	6"	3200T92	17.95
Black Powder-Coated Steel	4"	3200T52	11.71	4"	3200T62	12.30	6"	3200T72	13.47	6"	3200T82	14.05	6"	3200T93	18.15
Galvanized Steel	4"	3200T85	16.45	4"	3200T86	17.27	6"	3200T87	18.92	6"	3200T88	19.72	6"	3200T89	25.50
304 Stainless Steel	4"	3200T54	34.62	4"	3200T64	36.35	6"	3200T74	39.81	6"	3200T84	41.54	6"	3200T94	60.58

Strut Channel Nuts with Springs

A spring plus serrated grooves that grip the lip of the channel provide a more secure hold than standard strut channel nuts.

Zinc-plated steel nuts offer good corrosion resistance.

316 stainless steel nuts provide maximum corrosion resistance.

Nuts with Springs

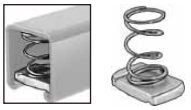

Thread Size	Zinc-Plated Steel Pkg. Qty.		Pkg.	316 Stainless Steel Pkg. Qty.		Pkg.
For 13/32" Ht. x 13/16" Wd. Channel						
8-32	10	3259T5	$6.88	—	—	—
10-24	10	3259T6	6.88	—	—	—
10-32	10	3259T7	6.88	—	—	—
1/4"-20	10	3259T8	6.88	—	—	—
For 13/16" Ht. x 1 5/8" Wd. Channel						
10-24	5	3259T55	6.80	1	3259T831	$3.60
1/4"-20	5	3259T17	7.56	1	3259T26	7.05
5/16"-18	5	3259T61	7.04	1	3259T712	7.25
3/8"-16	5	3259T18	5.79	1	3259T27	7.28
5/8"-11	5	3259T886	13.52	—	—	—
1/2"-13	5	3259T19	7.10	1	3259T28	8.85
M6 x 1	5	3259T129	7.56	1	3259T811	3.70
M8 x 1.25	5	3259T131	9.07	1	3259T812	3.63
M10 x 1.5	5	3259T132	9.66	1	3259T813	4.33
M12 x 1.75	5	3259T133	10.12	1	3259T814	4.47
For 1 5/8" Ht. x 1 5/8" Wd. Channel						
10-24	5	3259T11	7.53	1	3259T83	5.92
1/4"-20	5	3259T12	5.95	1	3259T23	6.67
5/16"-18	5	3259T13	6.68	1	3259T62	7.10
3/8"-16	5	3259T14	6.77	1	3259T24	7.22
5/8"-11	5	3259T16	10.15	1	3259T84	9.24
1/2"-13	5	3259T15	7.52	1	3259T25	7.41
M6 x 1	5	3259T51	5.43	1	3259T211	4.97
M8 x 1.25	5	3259T52	6.03	1	3259T212	5.29
M10 x 1.5	5	3259T53	6.51	1	3259T213	6.60
M12 x 1.75	5	3259T54	8.34	1	3259T214	3.47
For 2 7/16" and 3 1/4" Ht. x 1 5/8" Wd. Channel						
10-24	5	3259T101	10.04	1	3259T832	3.80
1/4"-20	5	3259T102	9.54	1	3259T512	7.79
5/16"-18	5	3259T103	9.37	1	3259T513	8.69
3/8"-16	5	3259T104	11.41	1	3259T514	10.27
5/8"-11	5	3259T106	10.67	1	3259T516	8.90
1/2"-13	5	3259T105	11.42	1	3259T515	10.95
M6 x 1	5	3259T107	14.35	1	3259T821	3.90
M8 x 1.25	5	3259T108	16.97	1	3259T822	3.90
M10 x 1.5	5	3259T109	18.36	1	3259T823	4.57
M12 x 1.75	5	3259T111	20.83	1	3259T824	5.00

Nuts with Springs and Studs

There's no need for additional fasteners with these nuts. Nuts are zinc-plated steel. They fit 1 5/8" Ht. x 1 5/8" Wd. strut channel.

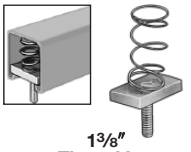

Thread Size	7/8" Thread Lg.		1 1/8" Thread Lg.		1 3/8" Thread Lg.	
1/4"-20	3580T11	$4.70	3580T12	$4.79	3580T13	$4.89
5/16"-18	3580T21	5.32	3580T22	5.43	3580T23	5.53
3/8"-16	3580T31	5.55	3580T32	5.66	3580T33	5.77
1/2"-13	3580T41	7.10	3580T42	7.24	3580T43	7.38

Strut Channel Washers

Washers fit strut channel that is 1 5/8" wide and 13/16" to 3 1/4" high, unless otherwise stated.

Zinc-plated steel washers offer good corrosion resistance.

Galvanized steel washers offer better corrosion resistance than zinc-plated steel and can be used outdoors.

304 stainless steel washers offer better corrosion resistance than zinc-plated steel.

316 stainless steel washers provide maximum corrosion resistance.

Standard Washers

Use with hex nuts to connect threaded rod (not included).

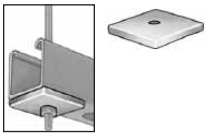

For Rod Dia.	Zinc-Plated Steel		304 Stainless Steel	
1/4"	3133T11	$0.64	3133T28	$3.05
5/16"	3133T21	.75	3133T25	3.02
3/8"	3133T12	.77	3133T14	3.23
1/2"	3133T13	.84	3133T15	3.33
5/8"	3133T22	1.04	3133T26	3.41
3/4"	3133T23	1.11	3133T27	3.53
7/8"	3133T24	1.48	3133T29	4.05

Centering Washers

Keep hardware centered in the strut channel slot. Washer is zinc-plated steel. Use with hex nuts to connect threaded rod (not included).

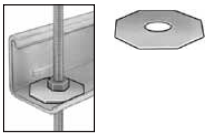

For Rod Dia.		
1/4"	3260T21	$0.22
3/8"	3260T22	.23

No-Spin Washers

Notches on these washers grip the channel to keep them in place. Use with hex nuts to connect threaded rod (not included).

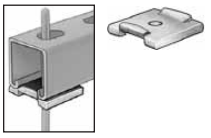

For Rod Dia.	Zinc-Plated Steel		304 Stainless Steel	
5/16"	3585T11	$0.73	—	—
3/8"	3585T12	.76	3585T14	$3.66
1/2"	3585T13	.78	3585T15	3.75

Hinged Washers

Quickly attach these washers by twisting them closed at any point along a threaded rod.

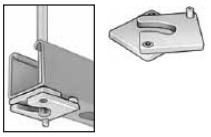

Thread Size	Zinc-Plated Steel		316 Stainless Steel	
1/4"-20	3260T14	$2.47	—	—
3/8"-16	3260T15	2.54	3260T18	$42.38
1/2"-13	3260T16	2.84	3260T19	43.44

Sit-on-Top Washers

Add hardware to strut channel without having to hold the washer in place or reach inside the channel. Use with hex nuts to connect threaded rod (not included).

To Order: For choose-a-color steel, please specify black, red, white, or yellow.

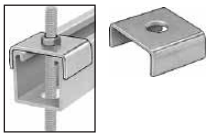

For Rod Dia.	Zinc-Plated Steel		Galvanized Steel		Choose-a-Color Steel	
1/4"	1273N17	$1.98	1273N16	$3.95	1273N1	$2.48
3/8"	1273N27	1.98	1273N26	3.95	1273N2	2.48
1/2"	1273N37	1.98	1273N36	3.95	1273N3	2.48

Strut Channel Casters

Add mobility to structures built with strut channel. Casters have swivel bearings. Made of zinc-plated steel with a 2" high plastic stem that easily slides into 1 5/8" Ht. x 1 5/8" Wd. strut channel. The wheel is black rubber. Durometer is 70A.



	Wheel Dia.	Wheel Wd.	Mount Ht.	Cap., lbs.		
Without Brake	3"	1 1/4"	4 3/8"	150	2356T11	$19.17
With Brake	3"	1 1/4"	4 3/8"	150	2356T14	20.38

Strut Channel Hinges

Hinges have a 0° to 180° range, but can achieve a maximum angle of 270° if strut channel is cut at a 45° angle. They fit 1 5/8" wide strut, are 1/4" thick, and have 9/16" dia mounting holes.

Zinc-plated steel hinges offer good corrosion resistance.

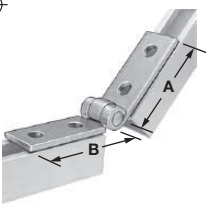

Material	(A)	(B)		
Zinc-Plated Steel	4"	4"	3505T12	$13.81
Green Powder-Coated Steel	4"	4"	3505T11	15.11

Strut Channel Connectors CAD

Connectors fit 1⅝" wide strut channel. Fasteners not included.

Steel and **stainless steel** connectors are ¼" thick with 9/16" dia. holes.

Zinc-plated steel connectors offer good corrosion resistance.

Galvanized steel connectors offer better corrosion resistance than zinc-plated steel and can be used outdoors.

Powder-coated steel connectors are green.

304 stainless steel connectors offer better corrosion resistance than zinc-plated steel and galvanized steel.

Fiberglass connectors are nonconductive, lighter weight than steel, and corrosion resistant. They are ⅜" thick with 7/16" dia. holes. Temperature range is -30° to 200°F. **Plastic** connectors are ⅜" thick with 7/16" dia. holes, except 33125T111 and 33125T119 have 9/16" dia. holes. Temp. range is -40° to 140°F.

To Order: For choose-a-color steel connectors, please specify black, red, white, or yellow.

Straight

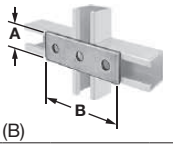

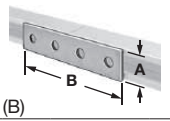

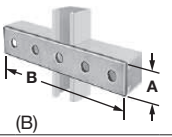

Material	(A)	(B)			(A)	(B)			(A)	(B)		
Zinc-Plated Steel	1⅝"	5⅜"	33125T72	$1.72	1⅝"	7¼"	33125T126	$1.78	1⅝"	9⅛"	33125T891	$8.75
Powder-Coated Steel	1⅝"	5⅜"	33125T71	1.78	1⅝"	7¼"	33125T127	2.42	—	—	—	—
Choose-a-Color Steel	1⅝"	5⅜"	33125T164	3.57	1⅝"	7¼"	33125T162	2.75	—	—	—	—
Galvanized Steel	1⅝"	5⅜"	33125T165	3.98	1⅝"	7¼"	33125T163	3.56	—	—	—	—
304 Stainless Steel	1⅝"	5⅜"	33125T74	7.13	1⅝"	7¼"	33125T128	8.64	1⅝"	9⅛"	33125T892	16.50
Fiberglass	1⅝"	4⅞"	33125T115	5.87	1⅝"	6½"	33125T114	7.74	—	—	—	—

Cross

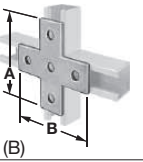

Material	(A)	(B)		
Zinc-Plated Steel	5⅜"	5⅜"	33125T82	$5.17
Powder-Coated Steel	5⅜"	5⅜"	33125T81	5.82
Choose-a-Color Steel	5⅜"	5⅜"	33125T166	9.73
Galvanized Steel	5⅜"	5⅜"	33125T167	9.89
304 Stainless Steel	5⅜"	5⅜"	33125T76	35.22
Fiberglass	4⅞"	4⅞"	33125T116	16.35

Elbow

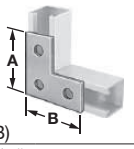

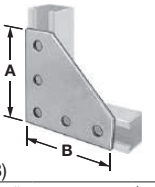

Material	(A)	(B)			(A)	(B)		
Zinc-Plated Steel	3½"	3½"	33125T136	$2.08	5⅜"	5⅜"	33125T22	$7.52
Powder-Coated Steel	3½"	3½"	33125T137	2.73	5⅜"	5⅜"	33125T21	6.80
Choose-a-Color Steel	3½"	3½"	33125T175	2.99	5⅜"	5⅜"	33125T171	13.07
Galvanized Steel	3½"	3½"	33125T176	3.39	5⅜"	5⅜"	33125T172	11.18
304 Stainless Steel	3½"	3½"	33125T138	10.44	5⅜"	5⅜"	33125T83	40.44
Fiberglass	3¼"	3¼"	33125T121	10.13	4⅞"	4⅞"	33125T118	15.00

Tee

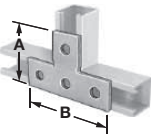

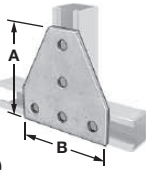

Material	(A)	(B)			(A)	(B)		
Zinc-Plated Steel	3½"	5⅜"	33125T133	$3.21	5⅜"	5⅜"	33125T92	$6.99
Powder-Coated Steel	3½"	5⅜"	33125T134	3.90	5⅜"	5⅜"	33125T91	6.50
Choose-a-Color Steel	3½"	5⅜"	33125T177	4.88	5⅜"	5⅜"	33125T168	12.14
Galvanized Steel	3½"	5⅜"	33125T178	5.04	5⅜"	5⅜"	33125T169	12.05
304 Stainless Steel	3½"	5⅜"	33125T135	15.57	5⅜"	5⅜"	33125T78	35.11
Fiberglass	3¼"	4⅞"	33125T122	11.65	4⅞"	4⅞"	33125T117	13.10

90° Angle





Material	(A)	(B)			(A)	(B)		
Zinc-Plated Steel	2¼"	1⅝"	33125T32	$1.44	4⅛"	3½"	33125T34	$2.31
Powder-Coated Steel	2¼"	1⅝"	33125T31	2.00	4⅛"	3½"	33125T33	2.89
Choose-a-Color Steel	2¼"	1⅝"	33125T143	3.11	4⅛"	3½"	33125T145	5.19
Galvanized Steel	2¼"	1⅝"	33125T144	2.98	4⅛"	3½"	33125T146	4.85
304 Stainless Steel	2"	1⅞"	33125T11	5.63	3⅞"	3¾"	33125T12	9.88
Fiberglass	—	—	—	—	4"	4"	33125T112	15.97
Plastic	1⅞"	1⅞"	33125T111	10.25	—	—	—	—

Any Angle

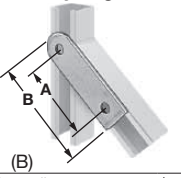

Material	(A)	(B)		
Zinc-Plated Steel	3¾"	5¼"	33125T129	$2.62
Powder-Coated Steel	3⅝"	5¼"	33125T131	3.20
Choose-a-Color Steel	3⅝"	5¼"	33125T179	3.99
Galvanized Steel	3¾"	5¼"	33125T181	4.84
304 Stainless Steel	3¾"	5¼"	33125T132	16.37
Fiberglass	3⅝"	5¼"	33125T123	8.24

30° Outside Angle

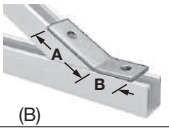

Material	(A)	(B)		
Zinc-Plated Steel	3¼"	2 1/16"	33125T44	$2.41
Powder-Coated Steel	3¼"	2 1/16"	33125T39	3.59
Choose-a-Color Steel	3¼"	2⅛"	33125T159	5.01
Galvanized Steel	3½"	2⅛"	33125T161	4.83
304 Stainless Steel	3¼"	2⅛"	33125T48	12.95
Fiberglass	—	—	—	—

45° Outside Angle

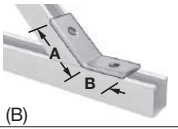

Material	(A)	(B)		
Zinc-Plated Steel	3"	2 5/16"	33125T45	$2.58
Powder-Coated Steel	3"	2 5/16"	33125T28	3.59
Choose-a-Color Steel	3¼"	2⅛"	33125T154	4.56
Galvanized Steel	3½"	2⅛"	33125T155	3.88
304 Stainless Steel	3¼"	2⅛"	33125T35	12.95
Fiberglass	3"	2 5/16"	33125T113	27.81

60° Outside Angle

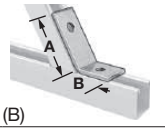

Material	(A)	(B)		
Zinc-Plated Steel	3⅜"	1⅞"	33125T46	$2.19
Powder-Coated Steel	3⅜"	1⅞"	33125T19	3.59
Choose-a-Color Steel	3¼"	2⅛"	33125T149	4.66
Galvanized Steel	3½"	2⅛"	33125T151	4.83
304 Stainless Steel	3¼"	2⅛"	33125T24	12.95
Fiberglass	—	—	—	—

30° Inside Angle

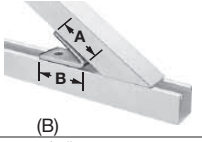

Material	(A)	(B)		
Zinc-Plated Steel	3½"	2½"	33125T41	$2.86
Powder-Coated Steel	3½"	2½"	33125T156	2.52
Choose-a-Color Steel	3½"	2½"	33125T157	3.36
Galvanized Steel	3½"	2½"	33125T158	4.18
304 Stainless Steel	3½"	2½"	33125T38	22.51

45° Inside Angle

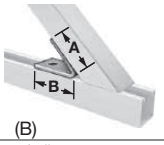

Material	(A)	(B)		
Zinc-Plated Steel	3⅛"	2½"	33125T42	$2.26
Powder-Coated Steel	3⅛"	2½"	33125T25	3.59
Choose-a-Color Steel	3½"	2½"	33125T152	4.32
Galvanized Steel	3½"	2½"	33125T153	3.92
304 Stainless Steel	3½"	2½"	33125T27	22.51

60° Inside Angle



Material	(A)	(B)		
Zinc-Plated Steel	3 3/16"	2½"	33125T43	$2.73
Powder-Coated Steel	3 3/16"	2½"	33125T16	3.86
Choose-a-Color Steel	3½"	2½"	33125T147	4.75
Galvanized Steel	3½"	2½"	33125T148	4.46
304 Stainless Steel	3½"	2½"	33125T18	22.51

(Continued on following page)

Strut Channel Connectors *(Continued from previous page)*

90° Angle with Tabs—Connectors have tabs on the ends to keep them centered on the channel.

90° Angle with Stud—Connectors have a stud on the side to attach another length of strut or other items.

Adjustable Angle—Includes a base and a wraparound connector.

Position strut channel to the angle you need, then bolt the pieces together.

Powder-coated steel connectors are green.

To Order: For choose-a-color steel connectors, please specify: black, red, white, or yellow.



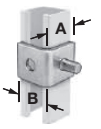

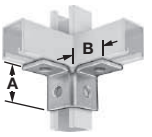

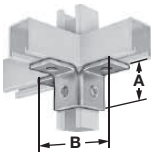

Material	90° Angle with Tabs (A)	(B)			90° Angle with Stud (A)	(B)			Double 90° Angle (A)	(B)			Triple 90° Angle (A)	(B)		
Zinc-Plated Steel	2 1/8"	2 1/8"	33125T711	$2.93	1 7/8"	1 7/8"	33125T86	$26.06	1 5/8"	1 5/8"	33125T731	$6.53	2"	5 7/16"	33125T741	$11.28
Powder-Coated Steel	2 1/8"	2 1/8"	33125T713	4.55	1 7/8"	1 7/8"	33125T89	26.85	1 5/8"	1 5/8"	33125T733	8.63	2"	5 7/16"	33125T743	11.63
Choose-a-Color Steel	2 1/8"	2 1/8"	33125T714	5.90	—	—	—	—	1 5/8"	1 5/8"	33125T734	9.70	2"	5 7/16"	33125T744	12.10
Galvanized Steel	2 1/8"	2 1/8"	33125T712	4.40	—	—	—	—	1 5/8"	1 5/8"	33125T732	8.05	2"	5 7/16"	33125T742	12.95
304 Stainless Steel	—	—	—	—	—	—	—	—	2"	1 5/8"	33125T811	24.38	2"	5 7/16"	33125T812	27.13

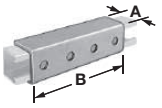

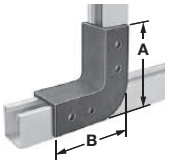

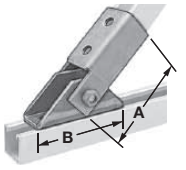

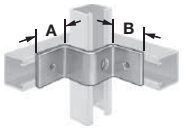

Material	Wraparound Straight (A)	(B)			Wraparound 90° Angle (A)	(B)			Adjustable Angle (A)	(B)			W-Shape (A)	(B)		
Zinc-Plated Steel	1 5/8"	7 1/4"	33125T139	$7.94	—	—	—	—	5 3/8"	5 3/8"	33125T821	$25.63	1 7/8"	1 7/8"	33125T861	$7.58
Powder-Coated Steel	1 5/8"	7 1/4"	33125T141	8.70	—	—	—	—	—	—	—	—	—	—	—	—
Choose-a-Color Steel	1 5/8"	7 1/4"	33125T173	9.67	—	—	—	—	—	—	—	—	—	—	—	—
Galvanized Steel	1 5/8"	7 1/4"	33125T174	12.00	—	—	—	—	—	—	—	—	—	—	—	—
304 Stainless Steel	1 5/8"	7 1/4"	33125T142	30.28	—	—	—	—	5 3/8"	5 3/8"	33125T822	71.75	—	—	—	—
Plastic	1 7/8"	7 1/4"	33125T119	16.35	4 7/8"	4 7/8"	33125T73	$14.54	—	—	—	—	—	—	—	—

Material	(B)	For 13/16" Ht. Channel (A)			For 1 5/8" Ht. Channel (A)			For 2 7/16" Ht. Channel (A)			For 3 1/4" Ht. Channel (A)		
U-Shape													
Zinc-Plated Steel	5 3/8"	1"	33125T64	$2.80	1 7/8"	33125T65	$3.36	2 3/4"	33125T68	$5.60	3 1/2"	33125T66	$5.30
Powder-Coated Steel	5 3/8"	1"	33125T61	3.44	1 7/8"	33125T62	4.06	2 3/4"	33125T67	6.21	3 1/2"	33125T63	6.49
Choose-a-Color Steel	5 3/8"	1 1/16"	33125T191	4.98	1 7/8"	33125T193	5.43	2 11/16"	33125T195	9.56	3 1/2"	33125T197	9.04
Galvanized Steel	5 3/8"	1 1/8"	33125T192	5.15	1 7/8"	33125T194	5.36	2 3/4"	33125T196	9.73	3 1/2"	33125T198	9.83
304 Stainless Steel	5 3/8"	1 1/16"	33125T881	22.51	1 7/8"	33125T882	25.12	2 11/16"	33125T883	29.63	3 1/2"	33125T884	32.88
Plastic	5 7/16"	—	—	—	1 7/8"	33125T125	9.34	—	—	—	—	—	—
Z-Shape													
Zinc-Plated Steel	3 1/2"	1 1/8"	33125T53★	2.80	2 1/8"	33125T54	3.32	2 3/4"	33125T55★	3.84	3 1/2"	33125T56	3.81
Powder-Coated Steel	3 1/2"	1 1/8"	33125T51★	2.74	1 7/8"	33125T52	4.59	2 3/4"	33125T57★	5.14	3 1/2"	33125T58	4.98
Choose-a-Color Steel	3 1/2"	1 1/16"	33125T182	4.06	1 7/8"	33125T184	5.26	2 11/16"	33125T186	6.01	3 1/2"	33125T188	4.97
Galvanized Steel	3 3/4"	1 1/8"	33125T183	4.25	1 7/8"	33125T185	5.22	2 3/4"	33125T187	6.24	3 1/2"	33125T189	5.25
304 Stainless Steel	3 1/2"	1 1/16"	33125T851	19.93	1 7/8"	33125T852	16.71	2 11/16"	33125T853	20.00	3 1/2"	33125T854	20.63
Plastic	3 1/2"	—	—	—	1 7/8"	33125T124	8.49	—	—	—	—	—	—

★ (B) is 3 3/4".

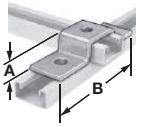

U-Shape

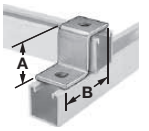

Z-Shape

Push-In Strut Channel Connectors

Push these connectors into strut channel and tighten the fasteners to secure. Connectors are 1/8" thick steel (unless noted) and fit 1 5/8" wide steel and stainless steel strut channel. Mounting holes are 7/8" from the end.

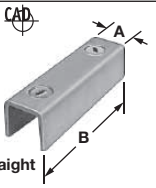

Straight

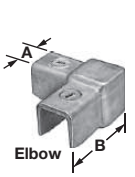

Elbow

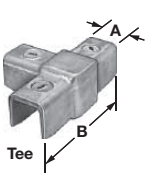

Tee

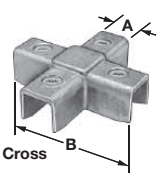

Cross

Shape	(A)	For 13/16" Ht. Channel (B)			For 1 5/8" Ht. Channel (B)		
Straight	1 3/8"	4 1/2"	33135T31	$21.86	4 1/2"	33135T32	$14.12
Elbow	1 3/8"	2 5/16"	33135T37	33.55	3 1/4"	33135T38▲	27.98

Shape	(A)	For 13/16" Ht. Channel (B)			For 1 5/8" Ht. Channel (B)		
Tee	1 3/8"	4 1/2"	33135T33	$44.12	4 7/8"	33135T34▲	$28.48
Cross	1 3/8"	4 1/2"	33135T35	49.11	4 7/8"	33135T36▲	48.31

▲ Made of 1/16" thick aluminum.

Strut Channel Braces

Add additional support to corners on strut channel. Braces fit 1 5/8" wide strut channel, are 1/4" thick, and have 9/16" dia. mounting holes.

Zinc-plated steel braces offer good corrosion resistance.

Galvanized steel braces offer better corrosion resistance than zinc-plated steel and can be used outdoors.

304 stainless steel braces offer better corrosion resistance than zinc-plated steel and galvanized steel.

To Order: For choose-a-color steel, please specify black, red, white, or yellow.

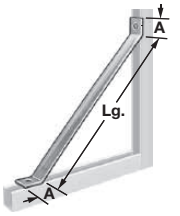

Material	(A)	8" Lg.		12" Lg.		16" Lg.		16 5/8" Lg.		24" Lg.	
Zinc-Plated Steel	1 5/8"	3574T21	$7.63	3574T31	$9.13	—	—	3574T12	$7.36	3574T41	$12.98
Green Powder-Coated Steel	1 5/8"	3574T23	9.88	3574T33	10.45	—	—	3574T11	8.84	3574T43	13.33
Choose-a-Color Steel	1 5/8"	—	—	—	—	—	—	3574T15	9.92	—	—
Galvanized Steel	1 5/8"	3574T22	10.35	3574T32	11.58	3574T16	$13.61	—	—	3574T42	16.90
304 Stainless Steel	1 5/8"	—	—	—	—	3574T14	26.11	—	—	—	—

Aluminum Bolt-Together Framing

Lightweight but strong—bolt these aluminum tubes together without drilling or welding.

Tubes


Standard


Flanged

Tubes are 1½″ square, 0.125″ thick anodized aluminum with bolt holes on all four sides.

Flanged tubes let you mount accessories such as panels, bins, and conveyor stops. Flange is 1½″ high and runs the length of the tube.

Lg.	Standard		Flanged	
2 ft.	8809T71	$12.67	8809T73	$16.06
4 ft.	8809T11	24.44	8809T12	29.82
6 ft.	8809T21	33.47	8809T22	42.45
8 ft.	8809T31	$43.83	8809T32	$55.65
10 ft.	8809T72	54.22	8809T74	68.84

Connectors, Plates, Tees, Brackets, and Accessories

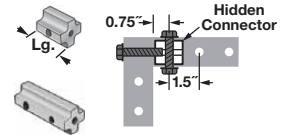

Hidden Connectors



Plate

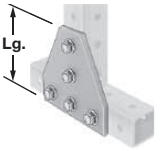

Tee



Bracket



Floor-Mounting Bracket


End Cap


Leveling Foot


Swivel Caster

Connectors, **plates**, **tees**, and **brackets** are aluminum and include fasteners. The plates, tees, and brackets are anodized.

Hidden and *extended hidden connectors* fit inside the tube for a clean look. Use extended hidden connector for tube that has been cut and no longer has the standard 0.75″ distance between the end of the tube and the center of the first hole.

End cap is black plastic.

Leveling foot is nickel-plated steel.

Swivel caster swivels 360° and has a brake. It's nickel-plated steel with a black rubber wheel.

	Lg.		
Hidden Connector	1 7/16″	8809T51	$4.07
Extended Hidden Connector	2 15/16″	8809T52	7.98
Plate	3″	8809T61	6.67
Tee	4½″	8809T63	12.94
Bracket	1½″	8809T62	5.19
Floor-Mounting Bracket	5″	8809T64	14.79

	Cap., lbs.	Size		
End Cap	—	1½″ Sq.	8809T41	$1.16
Leveling Foot	2,500	1¼″ Dia.	6111K48★	5.79
Swivel Caster	90	2½″ Dia.	2834T64★	9.01

★ Requires an extended hidden connector to mount to the end of the tube.

Heavy Duty Steel Bolt-Together Framing

Stronger and more durable than aluminum framing, these steel tubes can be assembled without drilling or welding.

Tubes




Curved Fastener

Tubes are 0.105″ thick with bolt holes on all four sides. Connect multiple tubes with plates, tees, and brackets or slide one length of tube into the next larger size and bolt together using curved fasteners or locking pins. Select fasteners and locking pins based on the larger size tube in the connection.

Steel tubes are lightly oiled and can be painted. **Galvanized steel** tubes offer good corrosion resistance.

Curved fasteners are zinc-plated steel. Each package includes 10 bolts, 10 nuts, and 10 washers. **Locking pins** are zinc-plated steel. Use for quick adjustments.

	Steel Tubes					Galvanized Steel Tubes					Curved Fasteners		Locking Pins	
Size, sq.		4 ft.	6 ft.	8 ft.	12 ft.		4 ft.	6 ft.	8 ft.	12 ft.				
1½″	4931T147	$21.93	$32.22	$38.43	$53.92	4931T158	$27.41	$41.79	$48.04	$67.52	—	—	4931T109	$5.78
1¾″	4931T148	23.32	33.69	41.74	61.25	4931T159	29.16	51.83	52.18	79.37	4931T228	$11.84	4931T109	5.78
2″	4931T149	27.54	40.28	49.21	67.96	4931T161	34.43	52.73	61.52	85.07	4931T229	12.04	4931T111	6.02
2¼″	4931T151	28.68	41.36	51.36	75.20	4931T162	35.85	59.03	64.20	94.00	4931T231	12.26	4931T111	6.02
2½″	4931T152	30.93	44.65	56.43	83.00	4931T163	38.66	59.37	70.54	103.75	4931T232	12.48	4931T111	6.02

Telescoping Tube Sets



You'll get two 4-, 6-, or 8-ft. nested tubes with a locking pin for quick adjustments. Tubes are 0.105″ thick galvanized steel with bolt holes on all four sides.

Outer Tube Size, sq.	Inner Tube Size, sq.		4 ft.	6 ft.	8 ft.
1¾″	1½″	4931T511	$59.44	$86.60	$103.42
2″	1¾″	4931T521	67.93	98.91	116.90
2¼″	2″	4931T531	$74.24	$97.54	$128.26
2½″	2¼″	4931T541	76.26	111.70	133.76

Plates, Tees, Brackets, and Floor-Mounting Base

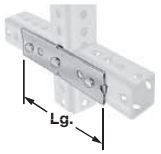

Plate

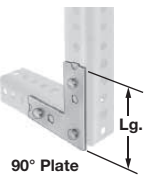

90° Plate

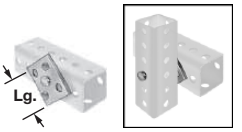

Crossover Plate

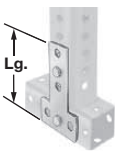

Tee



Bracket

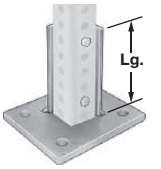

Floor-Mounting Base

Plates, **tees**, and **brackets** are zinc-plated steel. Use to connect same-size tube (fasteners sold separately).

Floor-mounting base is galvanized steel. It fits 1¾″ to 2½″ square tube. Concrete anchor (sold separately) works with ½″-13 bolts.

Fasteners connect plates, tees, and brackets to tube. Each package includes 10 bolts, 10 nuts, 10 metal washers, and 10 plastic washers.

	Lg.		
Plate	8″	4931T222	$6.88
90° Plate	4¾″	4931T221	8.32
Crossover Plate	2¼″	4931T226	4.78
Tee	5¼″	4931T219	5.92
Bracket	2″	4931T223	3.92
Floor-Mounting Base	6″	4931T224	67.20
Concrete Anchor for Floor-Mounting Base		4931T225	4.72

For Tube Size, sq.		Pkg.
Fasteners for Plates, Tees, and Brackets		
1½″	4931T333	$2.62
1¾″	4931T334	2.70
2″	4931T335	3.15
2¼″	4931T336	3.36
2½″	4931T337	3.46

Solid Tube Framing

Create strong structures by welding these tubes together or drilling and securing with fasteners (not included). Tubes can be telescoped by sliding one length of tube into the next larger size. Round tubes and 1″ and smaller square tubes are 0.08″ thick; 1¾″ and larger square tubes are 0.105″ thick.

Steel tubes are lightly oiled and can be painted.
Galvanized steel tubes offer good corrosion resistance.
304 stainless steel tubes provide the best corrosion resistance.
Aluminum tubes are lightweight yet strong.





Size, sq.		Square 2 ft.	4 ft.	6 ft.	8 ft.	12 ft.	Dia.		Round 2 ft.	4 ft.	6 ft.	8 ft.
Steel												
¾″	1471T51	$4.80	$9.58	$14.38	$19.18	—	¾″	1471T62	$3.65	$7.30	$10.95	$14.60
1″	1471T53	6.78	13.53	20.32	27.07	—	1″	1471T64	4.63	9.27	13.90	18.55
1¾″	4931T143	—	21.57	31.68	39.49	$58.25	—	—	—	—	—	—
2″	4931T144	—	23.12	33.47	43.64	64.37	—	—	—	—	—	—
2¼″	4931T145	—	24.88	36.60	47.28	69.78	—	—	—	—	—	—
2½″	4931T146	—	27.56	39.03	53.66	73.75	—	—	—	—	—	—
Galvanized Steel												
1¾″	4931T154	—	26.96	39.60	49.36	72.81	—	—	—	—	—	—
2″	4931T155	—	28.89	41.86	54.56	80.47	—	—	—	—	—	—
2¼″	4931T156	—	31.09	45.76	59.10	87.22	—	—	—	—	—	—
2½″	4931T157	—	34.45	48.79	62.67	92.19	—	—	—	—	—	—
304 Stainless Steel												
¾″	1471T17	11.65	23.30	34.97	46.62	—	¾″	1471T35	12.08	21.12	33.75	41.63
1″	1471T18	11.75	23.52	35.27	47.38	—	1″	1471T36	13.28	25.36	37.56	49.64
Aluminum												
¾″	1471T73	8.53	17.07	25.60	34.13	—	¾″	1471T83	7.70	15.40	23.10	30.80
1″	1471T74	10.77	21.53	32.30	43.07	—	1″	1471T84	9.73	19.47	29.20	38.93

Flat and Angle Bolt-Together Framing

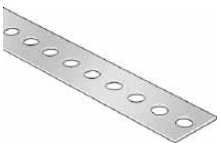

Flat

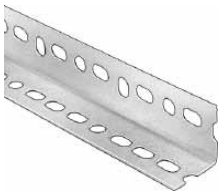

Zinc-Plated Steel and 304 Stainless Steel Angles

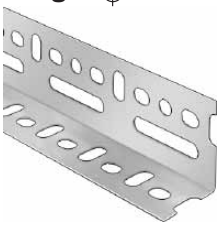

Galvanized Steel Angle



Green Powder-Coated Steel Angle



Two Corner Plates Shown with Three Angles



Cutter

Use a variety of slots and holes to bolt this framing together to create structures of any size and shape. Mounting hardware is sold separately.
Zinc-plated steel framing offers good corrosion resistance.
Galvanized steel framing has better corrosion resistance than zinc-plated steel framing.
Green powder-coated steel framing offers strength and some corrosion resistance.
304 stainless steel framing offers the best corrosion resistance.
Fasteners include 5/16″×¾″ bolts with nuts and washers to join components.
Corner plate provides added strength and rigidity. It is 6″×6″, 0.08″ thick galvanized steel.
Cutter makes it easy for one person to cut flats and angles. Overall length is 38″.

Size	Thick.		1 ft.	3 ft.	4 ft.	5 ft.	6 ft.	8 ft.
Flats								
Zinc-Plated Steel								
1⅜″	0.080″	4664T12	$2.05	$5.51	$7.37	$9.10	$11.06	$15.98
304 Stainless Steel								
1⅜″	0.080″	3414T11	5.12	13.91	18.43	22.95	27.66	40.93
Angles								
Zinc-Plated Steel								
1½″×1½″	0.074″	4664T18	2.26	6.12	8.05	10.10	11.91	16.32
Galvanized Steel								
2⅛″×1¾″	0.075″	4664T19	2.70	7.18	9.40	11.86	13.94	18.58
3″×1¾″	0.105″	4664T21	2.81	8.60	11.22	14.02	17.31	22.43
Green Powder-Coated Steel								
1⅝″×1⅝″	0.074″	4664T24	—	—	8.73	—	12.02	—
2⅜″×1⅝″	0.074″	4664T25	—	—	10.64	—	14.89	—
3 3/16″×1⅝″	0.104″	4664T26	—	—	15.84	—	22.86	—
304 Stainless Steel								
1½″×1½″	0.074″	3414T12	13.30	36.28	48.37	60.47	72.56	96.74
Mounting Hardware and Accessories								
Zinc-Plated Steel Fasteners (Pkg. of 50)		4664T61	$7.42					
18-8 Stainless Steel Fasteners (Pkg. of 10)		3414T93	6.96					
Corner Plate		4664T22	2.60					
Cutter		3713A11	345.16					

Galvanized Iron and Aluminum Slip-On Rail Fittings

Make custom railings, guard rails, storage racks, shelving, and framing with ease. Slip rail fittings over the appropriate size pipe and tighten the included set screws for a secure fit.

Pipe



Pipe is Schedule 40.
Galvanized steel pipe has very good corrosion resistance.
Aluminum pipe is lightweight with very good corrosion resistance.
Yellow-painted aluminum pipe is lightweight and offers high visibility.

Pipe Size	Actual Dia.	Wall Thick.		2 ft.	3 ft.	4 ft.	5 ft.	6 ft.	7 ft.	8 ft.	9 ft.	10 ft.
Galvanized Steel												
3/4	1″	0.113″	4936T101	$10.53	$15.80	$21.07	$26.34	$31.61	$36.88	$42.15	$47.42	$52.69
1	1 1/4″	0.133″	4936T102	14.98	22.47	29.96	37.45	44.94	52.43	59.92	67.41	74.90
1 1/4	1 5/8″	0.140″	4936T103	18.36	27.54	36.72	45.90	55.08	64.26	73.44	82.62	91.80
1 1/2	1 7/8″	0.145″	4936T104	21.69	32.53	43.37	54.21	65.05	75.89	86.73	97.57	108.41
2	2 3/8″	0.154″	4936T105	27.35	41.03	54.71	68.39	82.07	95.75	109.43	123.11	136.79
Aluminum												
3/4	1″	0.113″	4699T27	7.37	11.06	14.75	18.44	22.13	25.82	29.51	33.20	36.89
1	1 1/4″	0.133″	4699T28	10.64	15.96	21.28	26.60	31.92	37.24	42.56	47.88	53.20
1 1/4	1 5/8″	0.140″	4699T29	14.82	22.23	29.64	37.05	44.46	51.87	59.28	66.69	74.10
1 1/2	1 7/8″	0.145″	4699T31	17.16	25.74	34.32	42.90	51.48	60.06	68.64	77.22	85.80
2	2 3/8″	0.154″	4699T32	22.62	33.93	45.24	56.55	67.86	79.17	90.48	101.79	113.10
Yellow-Painted Aluminum												
3/4	1″	0.113″	4699T33	9.01	13.52	18.03	22.54	27.05	31.56	36.07	40.58	45.09
1	1 1/4″	0.133″	4699T34	13.18	19.77	26.36	32.95	39.54	46.13	52.72	59.31	65.90
1 1/4	1 5/8″	0.140″	4699T35	18.05	27.08	36.11	45.14	54.17	63.20	72.23	81.26	90.29
1 1/2	1 7/8″	0.145″	4699T36	20.76	31.16	41.56	51.96	62.36	72.76	83.16	93.56	103.96
2	2 3/8″	0.154″	4699T37	27.51	41.27	55.03	68.79	82.55	96.31	110.07	123.83	137.59

Fittings

Fittings are strong and corrosion resistant. They come with recessed set screws that lock the pipe into the fitting.

Add-on and **clamp-on** fittings can be added or removed from existing structures without having to disassemble the entire structure.

Galvanized iron fittings are malleable iron and conform to ASTM A47.

Aluminum fittings can be used with any metal, including steel, without causing corrosion.








Fits Pipe Size	Fits Actual Dia.	90° Elbows		3-Way 90° Elbows		3-Way 90° Elbows with Through Hole		Adjustable-Angle Elbows		Adjustable-Angle Elbows with Through Hole		Couplings Lg.	
Galvanized Iron													
3/4	1″	4936T178	$10.02	4936T179	$13.58	4936T174	$10.70			4936T176	$22.96	3″	4936T193 $9.52
1	1 1/4″	4936T17	10.58	4936T27	14.58	4936T31	11.24			4936T41	25.56	3 1/2″	4936T14 10.09
1 1/4	1 5/8″	4936T18	14.71	4936T28	21.07	4936T32	16.53			4936T42	32.11	4″	4936T15 13.36
1 1/2	1 7/8″	4936T19	18.71	4936T29	26.13	4936T33	18.76	4936T921	$31.76	4936T435	33.11	4″	4936T16 15.29
2	2 3/8″	4936T76	27.39	4936T202	36.30	4936T79	33.68			4936T207	54.89	4 7/8″	4936T75 20.74
Aluminum													
3/4	1″	4698T31	8.13	4698T111	11.18	4698T36	8.83	4698T82	15.30	4698T73	17.70	2 1/2″	4698T214 7.38
1	1 1/4″	4698T32	9.56	4698T112	11.89	4698T37	9.33	4698T83	19.20	4698T74	21.00	3 1/2″	4698T217 8.53
1 1/4	1 5/8″	4698T33	11.14	4698T113	15.22	4698T38	11.31	4698T84	19.57	4698T75	26.21	3 1/2″	4698T11 9.56
1 1/2	1 7/8″	4698T34	14.44	4698T114	16.43	4698T39	12.97	4698T85	23.98	4698T76	27.27	3 1/2″	4698T12 12.06
2	2 3/8″	4698T183	21.02	4698T184	29.39	4698T41	27.13			4698T222	43.63	4 1/16″	4698T188 17.50



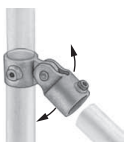





Fits Pipe Size	Fits Actual Dia.	Tees		Tees with Through Hole		Adjustable-Angle Tees with Through Hole		Add-On Tees		Clamp-On Tees		45° Angle Tees with Through Hole	
Galvanized Iron													
3/4	1″	4936T172	$13.08	4936T171	$7.24	4936T173	$15.83			4936T175	$21.04	4936T312	$11.36
1	1 1/4″	4936T34	13.29	4936T11	8.42	4936T54	16.53			4936T21	20.89	4936T314	13.27
1 1/4	1 5/8″	4936T35	21.09	4936T12	11.87	4936T55	20.13	4936T214	$21.87	4936T22	24.80	4936T316	19.11
1 1/2	1 7/8″	4936T36	23.24	4936T13	14.71	4936T56	22.87	4936T215	24.96	4936T23	29.00	4936T318	22.78
2	2 3/8″	4936T84	32.98	4936T74	25.93	4936T99	44.37			4936T77	35.96		
Aluminum													
3/4	1″	4698T91	8.59	4698T14	6.19	4698T96	14.11	4698T115	16.72				
1	1 1/4″	4698T92	11.02	4698T15	7.28	4698T97	14.70						
1 1/4	1 5/8″	4698T93	13.08	4698T16	8.67	4698T98	17.32	4698T116	22.22	4698T129	20.74	4698T127	15.95
1 1/2	1 7/8″	4698T94	15.92	4698T17	11.14	4698T99	19.03	4698T119	26.09	4698T141	24.99	4698T128	19.19
2	2 3/8″	4698T219	25.86	4698T109	32.38	4698T221	34.85						

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Galvanized Iron and Aluminum Slip-On Rail Fittings *(Continued from previous page)*

Fittings (Cont.)



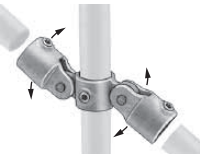



Fits Pipe Size	Fits Actual Dia.	Swivel Tees with Through Hole		Crosses with Through Hole		Adjustable-Angle Crosses with Through Hole		5-Way Crosses with Through Hole		6-Way Crosses with Through Hole	
Galvanized Iron											
3/4	1"	—	—	4936T181	$11.56	4936T183	$30.77	4936T177	$14.30	4936T219	$21.86
1	1 1/4"	4936T236	$14.78	4936T37	13.18	4936T57	31.55	4936T94	16.16	4936T221	24.49
1 1/4	1 5/8"	4936T237	20.62	4936T38	16.16	4936T58	36.13	4936T95	23.49	4936T225	34.98
1 1/2	1 7/8"	4936T238	23.38	4936T39	20.53	4936T59	40.56	4936T96	25.36	4936T226	40.91
2	2 3/8"	—	—	4936T85	32.00	4936T119	74.93	4936T97	52.33	4936T227	57.54
Aluminum											
3/4	1"	4698T159	11.87	4698T19	9.15	4698T86	20.89	4698T135	11.30	4698T142	18.87
1	1 1/4"	4698T167	12.41	4698T21	10.06	4698T87	25.33	4698T136	11.69	4698T143	20.52
1 1/4	1 5/8"	4698T168	16.82	4698T22	12.31	4698T88	28.38	4698T137	17.06	4698T144	25.34
1 1/2	1 7/8"	4698T169	19.14	4698T23	13.39	4698T89	29.78	4698T138	17.58	4698T145	31.32
2	2 3/8"	4698T175	28.83	4698T194	24.04	4698T24	43.72	—	—	—	—









Fits Pipe Size	Fits Actual Dia.	Crossovers with Through Hole		Crossovers with Two Through Holes		Add-On Crossovers with Through Hole		Wraparound Crossovers	
Galvanized Iron									
3/4	1"	—	—	4936T189	$10.67	—	—	4936T191	$7.62
1	1 1/4"	—	—	4936T47	10.96	—	—	4936T24	8.42
1 1/4	1 5/8"	4936T149	$22.11	4936T48	15.42	4936T216	$24.38	4936T25	11.56
1 1/2	1 7/8"	—	—	4936T49	18.27	4936T217	27.91	4936T26	15.44
2	2 3/8"	—	—	4936T89	28.37	—	—	4936T78	25.72
Aluminum									
3/4	1"	4698T63	13.51	4698T42	10.73	—	—	—	—
1	1 1/4"	4698T64	17.97	4698T43	13.54	4698T124	23.49	—	—
1 1/4	1 5/8"	4698T65	18.59	4698T44	14.97	4698T125	24.84	—	—
1 1/2	1 7/8"	4698T66	20.51	4698T45	17.27	4698T126	28.59	—	—
2	2 3/8"	4698T226	30.94	—	—	—	—	—	—

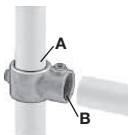

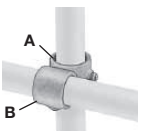




Fits Pipe Size	Fits Actual Dia.	(A) Fits Pipe Size	(A) Fits Actual Dia.	(B) Fits Pipe Size	(B) Fits Actual Dia.	Reducing Tees with Through Hole		Reducing Crossovers with Two Through Holes	
Galvanized Iron									
1	1 1/4"	3/4	1"	3/4	1"	4936T721	$11.09	4936T863	$12.40
1 1/4	1 5/8"	1	1 1/4"	1	1 1/4"	4936T727	14.80	4936T869	16.89
1 1/2	1 7/8"	1 1/4	1 5/8"	1 1/4	1 5/8"	4936T734	15.56	4936T878	19.80
2	2 3/8"	1 1/2	1 7/8"	1 1/2	1 7/8"	4936T738	26.09	4936T882	33.36
Aluminum									
1	1 1/4"	3/4	1"	3/4	1"	—	—	4698T101	14.33
1 1/4	1 5/8"	1	1 1/4"	1	1 1/4"	—	—	4698T102	16.95
1 1/2	1 7/8"	1 1/4	1 5/8"	1 1/4	1 5/8"	—	—	4698T103	19.05
2	2 3/8"	1 1/2	1 7/8"	1 1/2	1 7/8"	—	—	4698T104	27.74

Fits Pipe Size	Fits Actual Dia.	Collars		Panel Connectors with Through Hole Mtg. Hole Dia.	
Galvanized Iron					
3/4	1"	4936T195	$5.49	3/8"	4936T184 $7.43
1	1 1/4"	4936T134	6.40	3/8"	4936T115 7.76
1 1/4	1 5/8"	4936T135	7.64	3/8"	4936T116 9.58
1 1/2	1 7/8"	4936T136	7.64	3/8"	4936T117 9.82
2	2 3/8"	—	—	3/8"	4936T118 17.74
Aluminum					
3/4	1"	—	—	1/4"	4698T151 6.32
1	1 1/4"	—	—	1/4"	4698T152 7.27
1 1/4	1 5/8"	4698T107	6.41	7/16"	4698T153 7.72
1 1/2	1 7/8"	4698T108	6.78	7/16"	4698T154 8.22
2	2 3/8"	—	—	1/4"	4698T161 15.35

Set Screws and End Caps




Fits Pipe Size	Fits Actual Dia.	Replacement Set Screws: For Galv. Iron Fittings — Hex Size	Pkg. Qty.		Pkg.	For Aluminum Fittings — Hex Size	Pkg. Qty.		Pkg.	End Caps: Aluminum	Each	Galvanized Iron	Each	Gray Polypropylene	Each
3/4	1"	1/4"	10	4936T918	$14.00	5/32"	50	90289A575	$8.37	4698T171	$1.70	4936T197	$1.44	4936T196	$1.51
1	1 1/4"	1/4"	10	4936T918	14.00	3/16"	25	90289A618	11.82	4698T172	2.14	4936T137	2.62	4936T141	1.82
1 1/4	1 5/8"	5/16"	10	4936T919	14.00	3/16"	25	90289A618	11.82	4698T173	2.76	4936T138	4.76	4936T142	2.04
1 1/2	1 7/8"	5/16"	10	4936T919	14.00	3/16"	25	90289A618	11.82	4698T174	3.27	4936T139	5.11	4936T143	2.11
2	2 3/8"	5/16"	10	4936T919	14.00	3/16"	25	90289A618	11.82	4698T191	4.18	4936T411	7.52	4936T144	2.11

(Continued on following page)

Galvanized Iron and Aluminum Slip-On Rail Fittings *(Continued from previous page)*

Flanges and Rail Supports

Flanges and supports are strong and corrosion resistant. They come with recessed set screws that lock the pipe into the fitting.
Galvanized iron flanges and supports are malleable iron and conform to ASTM A47.
Aluminum flanges and supports can be used with any metal, including steel, without causing corrosion.





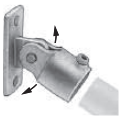

Fits Pipe Size	Fits Actual Dia.	Flange Base Dia.	Flange O'all Ht.			Heavy Duty Flange Base Dia.	Heavy Duty Flange O'all Ht.			Adjustable-Angle Flange Base Size	Adjustable-Angle Flange O'all Ht.		
Galvanized Iron													
3/4	1"	3 1/8"	1 5/8"	4936T186	$8.69	5 1/8"	2 1/2"	4936T228	$25.93	4 3/8" x 2"	3 3/4"	4936T188	$19.28
1	1 1/4"	3 5/8"	1 7/8"	4936T67	9.29	5 1/2"	2 1/2"	4936T416	26.73	4 3/8" x 2"	3 3/4"	4936T64	19.91
1 1/4	1 5/8"	4"	2"	4936T68	13.07	5 7/8"	2 1/2"	4936T418	35.40	4 3/8" x 2"	4 1/8"	4936T65	21.98
1 1/2	1 7/8"	4 1/2"	2 5/16"	4936T69	16.91	6 1/8"	2 1/2"	4936T419	38.09	4 3/8" x 2"	4 3/8"	4936T66	24.04
2	2 3/8"	5"	2 1/2"	4936T122	23.22	—	—	—	—	4 3/8" x 2"	4 5/8"	4936T121	37.78
Aluminum													
3/4	1"	2 1/2"	1 3/4"	4698T52	9.18	2 1/2"	1 3/4"	4698T25	8.93	2 7/8" Dia.	3 1/8"	4698T77	13.60
1	1 1/4"	3"	2 1/8"	4698T53	12.55	3"	2 1/8"	4698T26	11.25	2 7/8" Dia.	3 1/8"	4698T78	13.87
1 1/4	1 5/8"	3 1/2"	2 1/2"	4698T54	14.68	4 1/2"	2 1/8"	4698T146	12.88	3 3/8" Dia.	3 3/4"	4698T79	15.52
1 1/2	1 7/8"	3 3/4"	2 5/8"	4698T55	16.43	4 1/2"	2 3/8"	4698T147	14.28	3 3/8" Dia.	4 1/8"	4698T81	19.19







Fits Pipe Size	Fits Actual Dia.	Narrow Heavy Duty Flange Base Size	Narrow Heavy Duty Flange O'all Ht.			Heavy Duty Flange with Through Hole Base Size	Heavy Duty Flange with Through Hole O'all Ht.			Heavy Duty Flange with Toeboard Plate Base Size	Heavy Duty Flange with Toeboard Plate O'all Ht.		
Galvanized Iron													
3/4	1"	4 5/8" x 2 1/2"	3"	4936T187	$15.80	—	—	—	—	—	—	—	—
1	1 1/4"	5 1/8" x 3"	3 1/2"	4936T71	16.18	—	—	—	—	5 1/8" x 3"	3 1/2"	4936T248	$45.05
1 1/4	1 5/8"	5 1/2" x 3"	3 1/2"	4936T72	18.73	—	—	—	—	5 3/4" x 3 1/8"	3 5/8"	4936T232	50.44
1 1/2	1 7/8"	6 1/8" x 3 3/8"	3 1/2"	4936T73	24.62	—	—	—	—	6 3/8" x 3 5/8"	3 5/8"	4936T233	56.35
2	2 3/8"	6 1/2" x 4"	5"	4936T123	29.83	—	—	—	—	—	—	—	—
Aluminum													
3/4	1"	—	—	—	—	3 1/2" x 1 7/8"	1 3/4"	4698T1	$8.39	—	—	—	—
1	1 1/4"	5 1/8" x 3"	3 5/8"	4698T133	18.68	3 1/2" x 2 3/8"	1 7/8"	4698T2	9.92	—	—	—	—
1 1/4	1 5/8"	5 3/4" x 2 1/2"	2 1/4"	4698T155	14.40	4 1/8" x 3"	2 1/8"	4698T3	11.58	5 3/4" x 3 1/8"	3 1/8"	4698T157	21.68
1 1/2	1 7/8"	6" x 2 3/4"	3"	4698T156	15.58	4 3/8" x 3 1/8"	2 1/2"	4698T4	13.56	6 3/8" x 3 5/8"	3 1/8"	4698T158	29.72
2	2 3/8"	—	—	—	—	5" x 3 3/4"	2 7/8"	4698T185	19.21	—	—	—	—







Fits Pipe Size	Fits Actual Dia.	Rail Support with Through Hole Base Size	Rail Support with Through Hole O'all Ht.			Side-Mount Flange Base Size	Side-Mount Flange O'all Ht.			Offset Side-Mount Flange Base Size	Offset Side-Mount Flange O'all Ht.		
Galvanized Iron													
3/4	1"	3" x 1 7/8"	2 7/8"	4936T194	$10.28	—	—	—	—	—	—	—	—
1	1 1/4"	3 1/2" x 1 5/8"	3 1/4"	4936T131	10.80	3 3/4" x 4 1/8"	2"	4936T601	$20.45	5 3/8" x 1 3/4"	3 1/4"	4936T91	$27.20
1 1/4	1 5/8"	4" x 1 3/4"	3 5/8"	4936T132	15.62	4 1/4" x 4 3/8"	2 1/4"	4936T701	28.20	5 1/2" x 2"	3 3/4"	4936T92	35.44
1 1/2	1 7/8"	4 1/4" x 2 1/8"	4"	4936T133	19.53	4 3/8" x 4 5/8"	2 1/2"	4936T801	31.24	5 7/8" x 2 1/4"	4"	4936T93	43.13
Aluminum													
3/4	1"	—	—	—	—	3 1/4" x 3 1/4"	1 7/8"	4698T213	9.98	—	—	—	—
1	1 1/4"	—	—	—	—	3 7/8" x 3 3/4"	2 1/8"	4698T6	13.46	3 7/8" x 2"	4 1/8"	4698T72	18.62
1 1/4	1 5/8"	5 1/2" x 4"	2 13/16"	4698T165	24.71	3 7/8" x 4 1/4"	2 1/2"	4698T7	12.97	4 3/8" x 2"	5 1/2"	4698T95	25.41
1 1/2	1 7/8"	5 1/2" x 4 1/2"	2 3/4"	4698T166	25.57	4 1/2" x 4 1/2"	2 3/4"	4698T8	15.63	4" x 4"	4"	4698T105	31.68
2	2 3/8"	6" x 5"	3 3/8"	4698T225	26.18	—	—	—	—	—	—	—	—

316 Stainless Steel Slip-On Framing Fittings

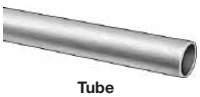
Tube


90° Elbow


3-Way 90° Elbow


Tee


4-Way Tee

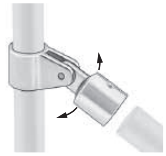
Adjustable-Angle Tee


Cross


Rail Support


Rail End


Rectangular Flange


Round Flange

This framing provides the best corrosion resistance. To assemble, slip fittings over the tube and tighten the included set screws, except rail support and rail end, which do not have set screws. Tees, cross, rail support, and flanges have a through hole.

Tube—6-ft. Lg. × 1″ Dia.	6040T81	$75.53
90° Elbow	6040T52	13.82
3-Way 90° Elbow	6040T53	19.25
Tee	6040T51	13.12
4-Way Tee	6040T62	21.02
Adjustable-Angle Tee	6040T65	15.50
Cross	6040T63	$21.02
Rail Support—1 1/8″ Lg. × 1 5/8″ Wd. × 1 7/8″ Ht.	6040T59	11.62
Rail End—1 1/8″ Lg. × 1 3/4″ Wd. × 2 1/4″ Ht.	6040T58	12.50
Rectangular Flange—3 1/4″ Lg. × 1 7/8″ Wd. × 1 3/4″ Ht.	6040T57	14.10
Round Flange—2 3/4″ Dia. × 1 3/4″ Ht.	6040T56	14.38

Plastic Slip-On Framing Fittings

Build lightweight yet strong and corrosion-resistant structures with these plastic fittings. To assemble, join the pipe and fittings with PVC cement (not included, see page 3466) for a permanent bond or drill and connect with fasteners (not included).

Pipe



Lg.	Pipe Size	Actual Dia.	Wall Thick.	Black		Yellow	
5 ft.	1 1/4	1 5/8″	0.14″	4824T76	$9.50	4824T87	$11.30
10 ft.	1 1/4	1 5/8″	0.14″	4824T75	19.00	4824T86	22.60

Fittings and Accessories—Color is black.


90° Elbow


3-Way 90° Elbow


135° Elbow


Tee


Tee with Through Hole


4-Way Tee


Cross


5-Way Cross


Coupling


End Cap


Caster Insert Cap


Table Cap

Caster insert cap fits 7/16″ dia. stem size. **Table cap** has three 3/16″ dia. holes for mounting to the underside of a table (fasteners not included).

90° Elbow	4824T88	$1.76
3-Way 90° Elbow	4824T94	2.62
135° Elbow	4824T93	2.32
Tee	4824T89	2.18
Tee with Through Hole	4824T92	2.70
4-Way Tee	4824T95	3.16
Cross	4824T97	$3.40
5-Way Cross	4824T96	4.76
Coupling	4824T91	2.04
End Cap	4824T98	1.06
Caster Insert Cap	4824T99	1.34
Table Cap	4824T13	1.30

Aluminum Flush-Fit Framing Fittings

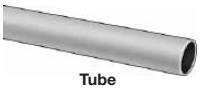
Tube


90° Elbow


3-Way 90° Elbow


135° Elbow


Tee


4-Way Tee


Cross


Coupling


Side-Mount Flange


Rectangular Flange


Round Flange

Flush connections between tubes and fittings give your structures a clean look. To assemble, slide the tube over a fitting and tighten the included set screw—the fitting will grip the tube from the inside.

Tube—4-ft. Lg. × 40 mm Dia.	9577T11	$39.52
Tube—6-ft. Lg. × 40 mm Dia.	9577T45	72.38
Tube—8-ft. Lg. × 40 mm Dia.	9577T12	78.49
90° Elbow	9577T23	36.32
3-Way 90° Elbow	9577T24	41.64
135° Elbow	9577T43	39.97
Tee	9577T21	42.96
4-Way Tee	9577T22	$54.57
Cross	9577T25	55.11
Coupling	9577T26	33.70
Side-Mount Flange	9577T44	41.45
Rectangular Flange—3 15/16″ Lg. × 2 3/16″ Wd. × 3 5/16″ Ht.	9577T42	34.16
Round Flange—3 15/16″ Dia. × 3 5/16″ Ht.	9577T41	37.83

Steel Clamp-On Framing Fittings

Add on to an existing structure without having to disassemble it—these fittings come in two pieces to clasp over tubes. Clamp fittings onto the tube and tighten the included cap screw and nut. For permanent connections and added strength, fittings have a 5⁄32″ hole to drill in an additional screw (not included).

Tubes



Zinc-plated steel tube offers good corrosion resistance.
Plastic-coated steel tube increases durability and allows you to color code your structures.

		Zinc-Plated Steel			Plastic-Coated Steel			
Lg.	Dia.	Thick.			Thick.	Choose a Color		
4 ft.	1″	0.065″	2534T11	$6.98	0.043″	Black, Blue, White, Yellow	2534T13	$8.44
6 ft.	1″	0.065″	2534T73	10.80	0.043″	Black, Blue, White, Yellow	2534T85	12.90
8 ft.	1″	0.065″	2534T12	13.98	0.043″	Black, Blue, White, Yellow	2534T14	16.22

Fittings and Accessories


3-Way 90° Elbow


Tee


Open Tee


45° Tee


Rotational Tee

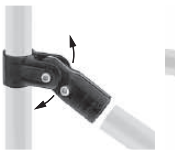
Adjustable-Angle Tee


Cross


5-Way Cross


6-Way Cross


Crossover


Parallel


Panel Connector


Round Base Flange


Monitor Mount

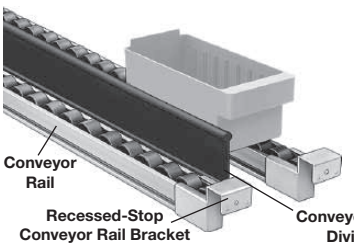


Flow-Through Conveyor Rail Bracket


End Cap


Leveling Foot


Swivel Stem Caster


Swivel Plate Caster

Fittings are steel, unless otherwise stated. All have a through hole.
Rotational tee has plastic bushings that allow the tube to rotate inside the fitting—good for swing door applications.
Panel connector holds a panel up to 1⁄2″ thick.
Conveyor rail mounting brackets are zinc-plated steel. Use *flow-through bracket* on the loading side of your application and the *recessed-stop bracket* on the picking side of your application.

Conveyor rails are aluminum with black polypropylene wheels. They slide directly into the conveyor rail mounting brackets.
Conveyor lane dividers are black nylon.
End caps are black plastic.
Leveling foot includes mounting hardware.
Swivel casters have a hard rubber wheel and a brake. Mounting hardware is included. *Stem caster* wheel is red; *plate caster* wheel is blue.

3-Way 90° Elbow	2534T24	$5.20
Tee	2534T21	3.00
Open Tee	2534T22	3.72
45° Tee	2534T84	4.64
Rotational Tee	2534T23	4.46
Adjustable-Angle Tee	2534T33	5.78
Cross	2534T25	4.48
5-Way Cross	2534T26	7.72
6-Way Cross	2534T27	11.06
Crossover	2534T28	2.78
Parallel	2534T31	3.92
Panel Connector	2534T34	2.72
Round Base Flange	2534T82	8.60
Monitor Mount	2534T83	60.50

	Cap., lbs.	Dia.		
Flow-Through Conveyor Rail Mounting Bracket	—	—	2534T41	$4.48
Recessed-Stop Conveyor Rail Mounting Bracket	—	—	2534T43	4.84
4-ft. Conveyor Rail	225	—	2534T51	20.20
6-ft. Conveyor Rail	200	—	2534T52	32.96
8-ft. Conveyor Rail	175	—	2534T53	43.68
4-ft. Conveyor Lane Divider	—	—	2534T78	13.50
6-ft. Conveyor Lane Divider	—	—	2534T79	21.80
8-ft. Conveyor Lane Divider	—	—	2534T81	26.40
End Cap (Pkg. of 10)	—	1 1⁄8″	2534T15	4.46
Leveling Foot	200	3 1⁄8″	2534T61	12.42
Swivel Stem Caster	150	3″	2534T71	25.90
Swivel Plate Caster	350	4″	2534T72	42.94

Heavy Duty Aluminum Clamp-On Framing Fittings

Make strong, stable structures capable of holding heavy loads without having to machine and weld. To assemble, place tube inside fitting and tighten with the included cap screws.

Tubes



		4-ft. Lg.		6-ft. Lg.		8-ft. Lg.	
Dia.	Thick.						
1⁄2″	0.065″	9578T15	$50.90	—	—	—	—
3⁄4″	0.065″	9578T16	52.15	—	—	—	—
1″	0.125″	9578T51	64.34	9578T89	$79.55	9578T85	$94.69
1 1⁄4″	0.125″	9578T52	65.76	9578T91	81.66	9578T86	120.98
1 1⁄2″	0.125″	9578T53	70.00	9578T92	90.41	9578T87	120.54
2″	0.125″	9578T54	76.30	9578T93	97.05	9578T88	129.39

(Continued on following page)

Heavy Duty Aluminum Clamp-On Framing Fittings *(Continued from previous page)*

Fittings and Flanges

Mounting fasteners not included. **Add-on flanges** can be added or removed without having to disassemble the entire structure.



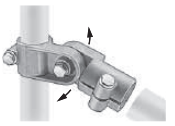


Fits Tube Dia.	90° Elbows		Tees with Through Hole		Adjustable-Angle Tees with Through Hole		Crossovers with Two Through Holes	
½″	—	—	9578T17	$30.48	9578T19	$41.49	9578T26	$32.48
¾″	—	—	9578T18	31.59	9578T25	43.15	9578T27	34.75
1″	—	—	9578T11	35.11	9578T41	58.00	9578T21	41.12
1¼″	9578T81	$67.58	9578T12	37.41	9578T42	60.18	9578T22	42.70
1½″	—	—	9578T13	53.63	9578T43	76.76	9578T23	59.00
2″	9578T83	112.00	9578T14	66.16	9578T44	81.87	9578T24	66.16




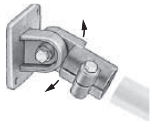

Fits Tube Dia.	Square Flanges with Through Hole: Base Size, sq.	O'all Ht.			Rectangular Flanges with Through Hole: Base Size	O'all Ht.			Add-On Flanges with Through Hole: Base Size, sq.	O'all Ht.			Adjustable-Angle Flanges: Base Size	O'all Ht.		
½″	1⅝″	1½″	9578T28	$28.29	1½″×2″	1¾″	9578T31	$28.61	—	—	—	—	1½″×2″	2½″	9578T35	$52.88
¾″	1⅝″	1½″	9578T29	30.39	1½″×2″	1¾″	9578T32	29.71	—	—	—	—	1½″×2″	2½″	9578T36	54.87
1″	2⅜″	2″	9578T61	33.42	2¼″×3⅛″	2½″	9578T66	33.35	3″	2⅛″	9578T71	$42.91	3″×3″	4¼″	9578T76	59.07
1¼″	2⅜″	2″	9578T62	34.07	2¼″×3⅛″	2½″	9578T67	34.61	3″	2⅛″	9578T72	43.72	3″×3″	4¼″	9578T77	60.18
1½″	3⅝″	2¾″	9578T63	50.06	3⅛″×4⅛″	3½″	9578T68	51.84	4″	2¾″	9578T73	55.42	4″×4″	5¾″	9578T78	76.76
2″	4⅛″	3⅜″	9578T64	55.42	3⅝″×5″	3⅞″	9578T69	55.42	—	—	—	—	5″×5″	6⅝″	9578T79	83.39

Friction-Grip Framing Fittings

No need for fasteners—friction holds this framing together. To assemble, press fittings and accessories into the tube and hammer with a rubber mallet.

Tubes

Tubes are 1″ square, 0.05″ thick aluminum.
Flanged tubes let you attach panels and other items. Flange is 0.1″ Thick. × ⅝″ Ht. and runs the full length of the tube.
Slotted tubes let you attach panels and other items up to ¼″ thick. Slots are 0.05″ Thick. × ¼″ Ht. and run the full length of the tube.









Lg.	Standard		Flanged: Single		Flanged: Double		Flanged: Double Corner		Slotted: Single		Slotted: Double		Slotted: Double Corner	
4 ft.	47045T51	$14.17	47045T52	$15.13	47045T53	$15.13	47045T54	$15.13	47045T55	$15.13	47045T57	$15.13	47045T58	$15.13
8 ft.	47045T48	27.58	47045T42	29.92	47045T43	29.92	47045T44	29.92	47045T45	29.92	47045T47	29.92	47045T46	29.92

Fittings and Accessories


90° Elbow


3-Way 90° Elbow


Tee


4-Way Tee


Cross


5-Way Cross


Flange


Hinge


Door Handle


End Cap


Leveling Foot


Swivel Caster

Fittings and accessories are black plastic, unless otherwise stated.
Cross and **5-way cross** have a welded steel core.
Flange is steel with ¼″ dia. mounting holes (fasteners not included).

Hinge and **door handle** include fasteners.
Leveling foot and **swivel caster** fit directly into the end of the tube. Caster is zinc-plated steel with a gray rubber wheel and a brake.

90° Elbow	47045T81	$5.50
3-Way 90° Elbow	47045T82	5.75
Tee	47045T83	5.75
4-Way Tee	47045T84	6.62
Cross	47045T86	6.62
5-Way Cross	47045T85	6.88

	Cap., lbs.	Size		
Flange	—	3″ Sq. × 4″ Ht.	47045T66	$12.73
Hinge	—	1¾″ Lg. × 1½″ Wd.	47045T36	26.36
Door Handle	—	5⅞″ Lg.	47045T35	15.45
End Cap	—	1″ Sq.	47045T56	1.25
Leveling Foot	400	1½″ Dia.	47045T67	10.30
Swivel Caster	165	4″ Dia.	47045T75	28.18

About Character Width

The width of a character is typically one-half its height. Narrower characters, such as 1 or A will be less, while M or W will be more.

Peel-and-Stick Characters

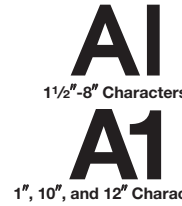



Characters with Background



Pocket Book

For long-lasting use inside and out, characters are adhesive-back vinyl.

Characters—*Individual characters* are 0-9, A-Z, $, ¢, period, comma, and dash. *Number sets* include 10 each of 0-9. *Letter sets* include 10 each of A-Z. *Number and letter sets* include six each of E; five each of A,I,R,S, and 1; four each of L,O,P,T; three each of F,G,H,M,N,U,W, and the number 0; two each of B,C,D,K,V,Y, 2-9, $, and ¢; and one each of J,Q,X,Z. All letters are uppercase.

Characters with Background—*Individual characters* are 0-9, A-Z, and dash. *Number sets* include 0-9. *Letter sets* include A-Z. All letters are uppercase.

To Order: For individual characters, please specify character.

Characters

Character Ht.	Available Character Colors	Individual Characters Pkg. Qty.		Pkg.	Sets Number		Letter		Number and Letter	
1"	Black, Blue, Orange, Red, White, Yellow	10	5752T141	$3.97	5752T642	$37.42	5752T84	$96.14	5752T151	$38.08
1½"	Black, Blue, Orange, Red, White, Yellow	10	5752T142	4.29	5752T643	38.67	5752T847	96.27	5752T152	41.25
2"	Black, Blue, Orange, Red, White, Yellow	10	5752T143	4.64	5752T644	43.27	5752T854	109.07	5752T153	44.66
3"	Black, Blue, Orange, Red, White, Yellow	10	5752T144	6.80	5752T645	65.66	5752T861	167.75	5752T154	66.96
4"	Black, Blue, Orange, Red, White, Yellow	10	5752T145	10.49	5752T646	99.68	5752T868	224.15	5752T155	102.18
5"	Black, Blue, Orange, Red, White, Yellow	5	5752T146	7.47	5752T647	130.90	5752T875	340.36	5752T156	133.46
6"	Black, Blue, Orange, Red, White, Yellow	5	5752T491	9.74	5752T648	177.98	5752T882	463.37	5752T157	184.21
8"	Black	1	5752T192	3.98	5752T583	252.91	5752T89	664.16	5752T795	257.52
10"	Black	1	5752T193	5.14	5752T589	373.55	5752T897	1,214.36	5752T796	376.15
12"	Black	1	5752T194	6.20	5752T595	484.67	5752T905	1,450.68	5752T797	476.76

Characters with Background

Character Ht.	Color Character	Color Background	O'all Size Ht.	O'all Size Wd.	Individual Characters Pkg. Qty.		Pkg.	Sets Qty. Each Char.	Number		Letter	
5/8"	Black	Yellow	3/4"	9/16"	32	5838T4	$1.60	32	5838T542	$12.90	5838T541	$34.67
1"	Black	Yellow	1½"	7/8"	10	5838T1	1.60	10	5838T514	13.33	5838T513	34.67
2"	Black	Yellow	2¼"	7/8"	10	5838T2	2.00	10	5838T526	16.67	5838T525	43.33
3"	Black	Yellow	3½"	1½"	6	5838T3	3.20	6	5838T538	25.00	5838T537	68.60
4"	Black	Yellow	5"	1¾"	5	5838T6	4.04	5	5838T571	31.29	5838T569	80.60
6"	Black	Yellow	9"	5"	1	5838T7	4.04	1	5838T583	32.13	5838T572	80.60

Pocket Books—Hold 360 5/8" high black characters on ½"×¾" yellow labels. *Number set* includes 60 zeros and 30 each of 1-9 and dash. *Number and letter set* includes 27 zeros; 15 each of 1-9; 12 each of A-E; nine each of dash and I; and six each of F-H and J-Z.

Pocket Books		
Number Set	5838T32	$9.80
Number and Letter Set	5838T31	9.80

Reflective Peel-and-Stick Characters



With Background

Characters reflect light—even in dark environments. They are uppercase, have an adhesive back, and can be used outdoors.

Characters are vinyl. *Individual characters* are 0-9, A-Z, $, ¢, period, comma, and dash. *Number sets* include 10 each of 0-9. *Letter sets* include 10 each of A-Z. *Number and letter sets* include six each of E; five each of A,I,R,S, and 1; four each of L,O,P,T; three each of F,G,H,M,N,U,W, and the number 0; two each of B,C,D,K,V,Y, 2-9, $, and ¢; and one each of J,Q,X,Z.

Characters with background are vinyl cloth. *Individual characters* are 0-9 and A-Z. *Number sets* include 50 each of 0 and 1; and 25 each of 2-9. *Letter sets* include 22 each of A,E,I,O; 20 each of L,N,R,S,T; 10 each of B,C,D,F,G,H,J,K,M,P,U,W,Y; and five each of Q,V,X,Z.

To Order: For individual characters, please specify character.

Characters

Character Ht.	Available Character Colors	Individual Characters Pkg. Qty.		Pkg.	Sets Number		Letter		Number and Letter	
1½"	Black, Blue, Red, White	5	12365T923	$4.50	12365T5	$64.94	12365T1	$172.22	12365T933	$82.00
2"	Black, Blue, Red, White	5	12365T924	5.20	12365T6	75.10	12365T2	199.14	12365T934	95.78
3"	Black, Blue, Red, White	5	12365T925	8.05	12365T7	115.70	12365T3	306.86	12365T935	144.64
4"	Black, Blue, Red, White	5	12365T926	9.57	12365T8	139.32	12365T4	369.48	12365T936	166.81

Characters with Background

Character Ht.	Color Character	Color Background	O'all Size Ht.	O'all Size Wd.	Individual Characters Pkg. Qty.		Pkg.	Sets Number		Letter	
1½"	Yellow	Black	1 7/8"	1 3/8"	25	5973T3	$13.19	5973T1	$133.12	5973T2	$149.38
2½"	Yellow	Black	2 7/8"	1¾"	25	5973T13	16.18	5973T11	161.90	5973T12	183.78
3¾"	Yellow	Black	4 5/16"	2 7/8"	10	5973T65	13.89	5973T21	313.64	5973T22	328.57

Weather-Resistant Peel-and-Stick Characters



Made of a durable polyester-laminated vinyl, these adhesive-back uppercase characters hold up in moisture, rain, and other wet conditions. *Number sets* include 0-9. *Letter sets* include A-Z.

To Order: For individual characters, please specify character (0-9, A-Z).

Character Ht.	Character Color	Available Background Colors	O'all Size Ht.	O'all Size Wd.	Individual Characters Pkg. Qty.		Pkg.	Sets Number Qty. Each 0-9		Letter Qty. Each A-Z	
1"	Black	Clear, White, Yellow	1½"	7/8"	50	14985T14	$7.41	10	14985T52	$15.50	14985T55	$35.88
2"	Black	Clear, White, Yellow	2¼"	7/8"	50	14985T26	11.21	10	14985T62	23.12	14985T65	54.65
3"	Black	Clear, White, Yellow	3½"	1½"	24	14985T38	13.45	6	14985T72	35.29	14985T75	76.75
4"	Black	Clear, White, Yellow	5"	1¾"	20	14985T47	14.79	5	14985T12	38.17	14985T15	84.38
5"	Black	Clear, White, Yellow	6"	3"	12	14985T63	16.37	3	14985T22	42.06	14985T25	92.88
6"	Black	Clear, White, Yellow	7"	4"	4	14985T77	17.93	1	14985T32	46.32	1	14985T35	102.13

Glow-in-the-Dark Peel-and-Stick Characters

These photoluminescent characters store energy from exposure to light so they glow when in the dark. Characters are polyester, uppercase, and have an adhesive back.

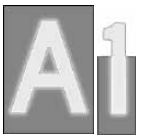

To Order: Please specify character (0-9, A-Z).

Character Ht.		Pkg. of 10
1″	4864T71	$7.96
2″	4864T72	9.56
3″	4864T73	14.80
4″	4864T74	17.98

Peel-and-Stick Sequential Number Sets

Keep items in order with these consecutively numbered sets. They come already aligned on a sheet that peels away to ensure even spacing. Numbers are adhesive-back vinyl and can be used outdoors. They do not have a background.



To Order: Please specify number series: 00-09, 10-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80-89, or 90-99.

Character Ht.	Available Character Colors		Set
1″	Black, Blue, Orange, Red, White, Yellow	8770T1	$12.80
1½″	Black, Blue, Orange, Red, White, Yellow	8770T2	14.40
2″	Black, Blue, Orange, Red, White, Yellow	8770T3	17.60

Easy-Align Peel-and-Stick Characters

Use the alignment notches to position characters, then peel off the liner for evenly spaced characters with no background. Characters are black and uppercase. They're made of adhesive-back vinyl and can be used outdoors.

Individual characters come in a package of 10.

Punctuation sets include 80 periods, 40 each of commas and dashes, and ten each of < and >.

Number and letter sets include 20 each of A,E,I,L,N,O,R,S,T, and 0-9; 10 each of all other letters; 40 periods; 20 each of commas and dashes; and five each of $, &, < and >.



To Order: For individual characters, please specify character.

Character Ht.	Individual Characters	Pkg.	Punctuation Sets	Pkg.	Number and Letter Sets	Set
1″	16015T21	$6.23	16015T921	$6.23	16015T52	$286.96
2″	16015T22	6.78	16015T922	6.78	16015T53	306.64
3″	16015T23	8.80	16015T923	8.80	16015T54	392.24
4″	16015T24	11.80	16015T924	11.80	16015T55	534.97

Made-to-Order Peel-and-Stick Messages

Tell us what you want to say and we'll create an adhesive-back message for you. They come already aligned on a sheet that peels away to ensure even spacing. Messages are vinyl and can be used outdoors. Characters are uppercase and do not have a background.

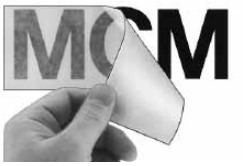

To Order: Please specify message, character height, and color: black, blue, orange, red, white, or yellow. Spaces do not count towards number of characters.

No. of Characters		Character Ht. 1″	1½″	2″	3″	4″	5″	6″
1-5	8216T1	$4.00	$4.50	$5.50	$6.88	$7.63	$9.75	$12.88
6-10	8216T2	8.00	9.00	11.00	13.75	15.25	19.50	25.75
11-15	8216T3	12.00	13.50	16.50	20.63	22.88	29.25	38.63
16-20	8216T4	16.00	18.00	22.00	27.50	30.50	39.00	51.50
21-25	8216T5	20.00	22.50	27.50	34.38	38.13	48.75	64.38

Peel-and-Stick Character Sets

Contrasting background colors make these characters pop. Characters with a white background are vinyl. Characters with a black background are polyester. All are adhesive back and uppercase. *Number sets* include 0-9. *Letter sets* include A-Z, and one each of period, comma, and dash (unless noted). *Sequential number set* includes 0-100, one star, and two arrows.

Note: Overall width of narrower characters such as I and 1 may be less than noted in the table.





Character Ht.	O'all Size Ht.	Wd.	Character Type	Char./ Set		
Black Characters on White Background						
5/16″	3/8″	3/8″	Numbers/Letters	99	5699T15	$1.44
1/2″	3/4″	3/4″	Sequential Numbers	105	5699T91	3.28
13/16″	1″	9/16″	Numbers/Letters	124	5699T11	3.28
1¾″	2″	1 1/16″	Numbers	39	5699T13★	3.20
1¾″	2″	1 1/16″	Letters	77	5699T12▲	4.80
3″	3¼″	1⅝″	Numbers	26	5699T5	3.24
3″	3¼″	1⅝″	Letters	65	5699T4♣	4.80

Character Ht.	*O'all Size* Ht.	Wd.	Character Type	Char./ Set		
Black Characters on Reflective White Background						
13/16″	1″	9/16″	Numbers/Letters	108	5699T61	$5.29
1¾″	2″	1″	Numbers	30	5699T62	4.46
3″	3¼″	1½″	Numbers	24	5699T63	6.94
Gold Characters on Black Background						
⅞″	1″	⅝″	Numbers/Letters	107	5699T1	3.32
1¾″	2″	1½″	Numbers	36	5699T3	3.32
1¾″	2″	1½″	Letters	73	5699T2♥	5.20
3″	3¼″	1⅝″	Numbers	26	5699T9	5.64

★Includes one colon, one dollar ($) symbol, and two each of dash and period. ▲Includes three each of dash, comma, and period.
♣ Includes one ampersand (&) and two each of dash, comma, and period. ♥ Includes six each of comma, period, and hyphen; four each of tilde.

Magnetic Characters

Characters—*Individual characters* are 0-9, A-Z, $, ¢, period, comma, and dash. *Number sets* include 5 each of 0-9. *Letter sets* include 5 each of A-Z. *Number and letter sets* include six each of E; five each of A,I,R,S, and 1; four each of L,O,P,T; three each of F,G,H,M,N,U,W, and the number 0; two each of B,C,D,K,V,Y, 2-9, $, and ¢; and one each of J,Q,X,Z. Characters are uppercase.

Characters with background are 0-9 and A-Z. Characters are uppercase.





To Order: For individual characters, please specify character.

Characters

Character Ht.	Available Character Colors	Individual Characters Pkg. Qty.		Pkg.	Sets Number		Letter		Number and Letter	
2″	Black, Blue, Green, Red, Yellow	5	15295T41	$4.70	15295T1	$46.98	15295T6	$122.14	15295T46	$104.50
3″	Black, Blue, Green, Red, Yellow	5	15295T42	9.07	15295T4	90.50	15295T7	235.30	15295T47	199.52
4″	Black, Blue, Green, Red, Yellow	5	15295T43	10.88	15295T5	108.82	15295T11	282.92	15295T48	237.80

Characters with Background

Character Ht.	Character Color	Available Background Colors	*O'all Size* Ht.	Wd.	Pkg. Qty.		Pkg.
2″	Black	White, Yellow	2¼″	1½″	5	1594T11	$7.64
3″	Black	White, Yellow	3¼″	1¾″	5	1594T12	13.96
4″	Black	White, Yellow	4½″	3¼″	5	1594T13	16.05
6″	Black	White, Yellow	6½″	5″	4	1594T14	14.96

Weather-Resistant Characters



Plastic

Characters are uppercase and made for outdoor use.

Plastic characters attach with adhesive (sold separately). The 12″ high characters also have mounting clips with ¼″ dia. holes (fasteners not included).

Aluminum characters come with mounting screws.

Also Available: Other sizes of aluminum characters. Please ask for 57385T999 and specify height, color, and character.

To Order: Please specify character (0-9, A-Z).

Character Ht.	Thick.	Available Character Colors		
Plastic				
4″	5/8″	Black, Blue, White	5755T14	$15.77
6″	3/4″	Black, Blue, Red, White, Yellow	5755T11	19.47
8″	7/8″	Black, Blue, Orange, Red, White	5755T12	25.36
12″	1½″	Black, Blue, Red, White	5755T13	39.38
3.7 oz. Tube of Adhesive for Plastic Characters			86805T47▲	6.36
Aluminum				
6″	½″	Black, Blue, Red, White	57385T15	33.81
8″	5/8″	Black, Blue, Red, White	57385T33	53.00

▲ This product is compliant under all state VOC rules in effect on November 1, 2010, except in California.

Stencil Board Character Sets



Oilboard

Stencil boards can be used repeatedly to create messages of your choice. Stencils are 0.015″ thick and letters are uppercase.

Oilboard—*Number and letter sets* include two each of A,E,O,N,R,S; and one each of remaining letters, 0-9, $, ¢, &, and period.

Polyester—Longer lasting than oilboard. *Number sets* include one each of 0-9, $, and ¢; and two spacers. *Letter sets* include one each of A-Z and comma; and two spacers.

Note: Stencil width varies with character width.

Oilboard

Character Ht.	*O'all Stencil Size* Ht.	Wd.	Number and Letter Sets	
1″	2″	1½″	2630T11	$3.56
2″	3″	2¼″	2630T13	3.83
3″	4″	3″	2630T15	5.28
4″	5″	3⅜″	2630T17	7.44
5″	6″	4″	2630T19	8.89
6″	7″	4¾″	2630T22	10.56
8″	10″	7″	2630T23	18.70
9″	10⅞″	8″	2630T24	22.22
10″	12″	9″	2630T25	25.73
12″	14″	10″	2630T26	36.21

Polyester

Character Ht.	*O'all Stencil Size* Ht.	Wd.	*Sets* Number		Letter	
1″	4″	1¼″	8627T12	$16.10	8627T11	$39.58
2″	6″	2″	8627T22	17.67	8627T21	43.22
3″	7″	3″	8627T32	18.72	8627T31	45.95
4″	8″	3¾″	8627T42	20.30	8627T41	49.60
5″	9″	4½″	8627T52	22.92	8627T51	55.96
6″	10″	5½″	8627T62	25.72	8627T61	62.79

Light Duty Metal Characters



Aluminum

Thin, flexible metal allows for use on flat or curved surfaces, such as utility poles. Characters are uppercase and have a polished finish (unless noted). They come with mounting nails and can be used outdoors.

To Order: Please specify character (0-9, A-Z).

Character Ht.	Thick.	Brass		Aluminum	
1½″	0.016″	1549T17	$5.26	1549T22	$2.10
2″	0.016″	1549T18	6.58	1549T23	2.27
3″	0.016″	1549T19	8.16	1549T24	2.67
4″	0.032″	1549T68♦	10.00	1549T76■	9.29
6″	0.032″	_____	____	1549T53■	12.86

♦ Available in numbers only. Thickness is 0.016″. ■ Dull finish.

Message and Symbol PVC Stencils



Message



Handicap Symbol



No Parking Symbol

	Character/ Symbol Ht.	*O'all Stencil Size* Ht.	Wd.	Thick.		
Message						
NO SMOKING	2″	6″	20″	0.015″	1526T15	$9.27
CAUTION	2½″	6″	20″	0.015″	1526T13	9.27
KEEP AISLE CLEAR	3″	7″	36″	0.015″	1526T33	28.52
NO PARKING	12″	18″	75″	0.015″	1526T16	43.65
RESERVED	12″	18″	70″	0.015″	1526T18	43.65
VISITORS	12″	18″	70″	0.015″	1526T87	43.65
FIRE LANE	12″	18″	70″	0.015″	1526T22	43.65
ENTRANCE	12″	18″	70″	0.015″	1526T74	43.65
Symbol						
Handicap	15½″	19½″	19½″	0.015″	1911T31	25.57
Handicap	43″	51″	46″	0.015″	1911T28	40.76
No Parking	15½″	19½″	19½″	0.015″	1911T33	25.57
No Smoking	15½″	19½″	19½″	0.015″	1911T34	25.57
Straight Arrow	37″	39″	46″	0.015″	1526T58	43.65
Curved Arrow	43″	46″	45½″	0.015″	1526T63	43.65

Quick-Align PVC Stencil Sets



Characters interlock for easy application and even spacing. Stencils are 0.016″ thick and can be shaped to hug curved surfaces. All letters are uppercase. *92-piece sets* include four each of A,E,R,S and spacers; and two each of remaining letters, 0-9, $, &, period, and dash. *138-piece sets* include six each of A,E,R,S and spacers; and three each of remaining letters, 0-9, $, &, period, and dash.

Character Ht.	*O'all Stencil Size* Ht.	Wd.	*Number and Letter Sets* 92 Piece		138 Piece	
1″	2¼″	1¼″	15755T71	$14.19	15755T91	$19.64
2″	3⅛″	2¼″	15755T74	14.91	15755T92	19.32
3″	4⅛″	3¼″	15755T77	17.34	15755T93	23.44
4″	5¼″	3″	15755T78	35.09	15755T94	48.47
6″	7¼″	4¾″	15755T79	40.86	15755T96	56.45

Quick-Align Slide-Together Brass Stencil Sets



Adjoin characters side-by-side for rigid, easy-to-maneuver messages that outlast plastic stencils. Letters are uppercase. *Number sets* include one each of 1-9, period, and dash; and two each of 0 and wide spacers. *Letter sets* include one each of A-Z, comma, dash, &, apostrophe, and wide spacer; and two periods (unless noted). *Number and letter sets* include one each of Q, comma, dash, and apostrophe; four each of E; three each of A,I,N,O,S, numbers 0 and 1, period, and thin spacers; and two each of remaining letters, 2-9, &, and wide spacers.

To Order: For individual characters, please specify character (0-9, A-Z, &, period, comma, dash, thin or wide spacer).

Character Ht.	Stencil Thick.	Individual Characters		*Sets* Number		Letter		Number and Letter	
½″	0.012″	1533T61	$0.83	1624T11	$6.48	1623T11	$17.48	1625T61	$42.14
¾″	0.012″	1533T78	.94	1624T12	6.91	1623T12	18.50	1625T62	44.73
1″	0.012″	1533T37	.97	1624T13	7.56	1623T13	21.50	1625T63	49.73
1½″	0.012″	1533T63	1.34	1624T14	9.77	1623T14	26.45	1625T64	60.62
2″	0.012″	1533T38	1.69	1624T15	12.25	1623T15	33.17	1625T65	74.50
2½″	0.012″	1533T73	1.86	1624T16	14.84	1623T16	39.15	1625T66	89.29
3″	0.012″	1533T44	2.14	1624T17	19.60	1623T17	52.50	1625T67	120.23
4″	0.012″	1533T48	3.60	1624T18	29.04	1623T18	78.83	1625T68	176.14
5″	0.012″	1533T55	4.46	1624T19	35.78	1623T19	98.88	1625T69	230.98
6″	0.012″	1533T59	5.63	1624T21	43.94	1623T21	118.32	1625T7	261.16
8″	0.012″	1533T22	23.41	1624T22	155.68	1623T22★	539.76	_____	____
10″	0.012″	1533T23	33.02	1624T23	247.70	1623T23★	690.56	_____	____
12″	0.012″	1533T24	42.27	1624T24	285.65	1623T24★	789.25	_____	____

★ Includes a thin spacer instead of an apostrophe.

Stencil Ink and Stencil Ink Removers

Aerosol Ink

Comes in a 12 oz. spray can and works on porous and nonporous surfaces. Dries in 15-20 minutes. Meets MIL-A-A-208B.

Available Colors		
For Porous and Nonporous Surfaces		
Black, Blue, Green, Orange, Red, White, Yellow	1641T31	$6.88

Ink

Porous Surface Ink—Apply with a brush or roller to boxes, fabrics, and paper. Ink dries instantly and can be used with stamp pads.

Porous and Nonporous Surface Ink—Apply with a roller. Ink dries in 2 minutes and can be used with stamp pads.

Available Colors	Quart		Gallon	
For Porous Surfaces				
Black	1638T11	$22.29	1638T12	$86.32
For Porous and Nonporous Surfaces				
Black	1639T31	21.60	1639T35	81.86
Blue, Green, Red, White, Yellow	1639T13	25.60	1639T14	90.00

Ink Remover

Removes excess ink from applicators and rubber stamps after use.

1-qt. Can	8626T12	$22.58

Made-to-Order Message Stencils

Have the exact message you need made into a stencil to use as often as you like. Stencils are crafted from oilboard.



To Order: Please specify message and character height.

No. of Characters		Character Ht. ½″	1″	2″	3″	4″	6″
1-5	8298T1	$6.22	$7.40	$9.29	$10.53	$12.18	$17.00
6-10	8298T2	10.80	13.09	16.80	19.24	22.40	31.56
11-15	8298T3	15.29	18.67	24.22	27.84	32.47	45.98
16-20	8298T4	19.67	24.13	31.44	36.24	42.40	60.20
21-25	8298T5	23.91	29.44	38.51	44.47	52.07	74.22
More than 25 characters	8298T999						

Stencil Ink Roller Kits

An ultra-absorbent sponge roller allows you to make multiple stencil imprints with a single inking. Kit includes a 4″×7″ tray and foam rubber ink pad that works with porous and nonporous ink (sold separately, see 1639T on this page).



	1½″ Roller		3″ Roller	
Kit	1636T6	$26.92	1636T7	$26.92
Replacement Roller with Handle	1636T85	20.55	1636T97	20.55
Replacement Roller Wheel	1636T8	9.67	1636T9	11.31
Replacement Ink Pad and Tray			1636T55	10.43

Stencil Ink Brushes

Long hog-hair bristles ensure smooth, uniform application of stencil ink. Use with any stencil ink.



Dia.	Bristle Lg.		
1″	1⅜″	7817T3	$12.52
1¼″	1½″	7817T4	14.56
1½″	1⅝″	7817T5	15.96

Manual Stencil Cutters

Use these manual feed machines to cut precise, consistent stencils from blank stencil board. Produces characters 0-9, A-Z, &, period, comma, dash, apostrophe, and slash. Cutters are 20″ Lg.×14″ Wd.×13″ Ht. They come with an ink applicator, black ink cartridge, and 25 stencil board sheets (6½″ Ht.×20″ Wd.×0.015″ Thick.). Meets Fed. Spec. GG-S-747.



Also Available: Replacement punch and die sets. Please ask for 1993T21 and specify character and character height.

Character Ht.	Characters per Ft.	Max. No. Print Lines		
¼″	48	6	1993T15	$2,107.39
½″	22	6	1993T16	2,086.27
¾″	15	4	1993T17	2,086.27
1″	15	4	1993T18	2,086.27

Stencil Boards

Feed these sheets into your stencil cutter to create reusable stencils that resist ink absorption. Boards are flexible so they work on curved surfaces. For use with both manual and electronic cutting machines.

Adhesive-back polyethylene board has a slight tack that lasts for multiple uses, even on surfaces such as pipes.

Oilboard

			Small Pack Pkg. Qty.		Pkg.	Large Pack Pkg. Qty.		Pkg.
Ht.	Wd.	Thick.						
5″	20″	0.015″	25	1994T31	$10.40	350	1994T32	$86.36
6″	20″	0.015″	25	1994T19	14.44	300	1994T16	86.36
6½″	20″	0.015″	25	1994T17	14.44	250	1994T14	86.36
6½″	24″	0.015″	25	1994T28	14.06	250	1994T29	86.36
7″	20″	0.015″	25	1994T15	14.06	250	1994T12	86.36
7″	24″	0.015″	25	1994T26	14.44	250	1994T27	86.36
11″	36″	0.015″	10	1994T24	13.00	200	1994T25	128.65
24″	36″	0.015″	10	1994T13	13.00	100	1994T11	128.65

Adhesive-Back Polyethylene

Ht.	Wd.	Thick.	Pkg. Qty.		Pkg.
5″	20″	0.008″	25	8701T21	$13.89
6″	20″	0.008″	10	8701T22	7.33
6½″	20″	0.008″	10	8701T23	7.91
6½″	24″	0.008″	10	8701T24	9.53
7″	20″	0.008″	10	8701T25	8.56
7″	24″	0.008″	10	8701T26	10.22
11″	36″	0.008″	5	8701T27	12.11
24″	36″	0.008″	3	8701T28	14.88

Corrugated Carton Masking Ink

Spray on cardboard boxes and corrugated shipping cartons to cover existing marks. Ink is tan, weather resistant, and dries in 15-20 minutes.



12-oz. Can	1996T14	$6.89

Self-Inking Stencil Ink Rollers

These neoprene rollers hold 4 oz. of ink in the handle so you don't need an ink pad or tray. Both have a 3″ wide roller wheel. Use to mark porous and nonporous surfaces.



Cartridge Fed

Refillable—Works with stencil ink for porous and nonporous surfaces (sold separately, see 1639T on this page).

Cartridge Fed—Comes with one black ink cartridge. Ink dries in 2 minutes.

To Order: For replacement ink cartridges, please specify black, blue, green, orange, red, white, or yellow.

	Ink Rollers		Repl. Roller Wheels	
Refillable	8630T33	$60.91	15305T13	$12.18
Cartridge Fed	15305T11	52.83	15305T13	12.18
Replacement Cartridge-Fed Roller Head			15305T12	48.64
Replacement Ink Cartridges			15305T68	6.46

Self-Inking Stencil Ink Brushes

The handle is a cartridge that dispenses ink into the brush with the push of a button. The hog-hair bristles can be used with any stencil ink and work well on rough, porous surfaces. Holds 2.5 oz. of ink (sold separately, see 1639T on this page).



Dia.	Bristle Lg.		
1½″	1½″	1635T5	$47.74
Replacement Brush Tip		1635T6	19.06

Electronic Stencil Cutters

More versatile than a manual cutter, this machine uses the included software to produce hundreds of fonts and symbols in a wide range of sizes (⅛″ and up). You can also import .dxf vector files from your computer. Cuts oilboard, polyester, vinyl, and polyethylene up to 29″ long.

Comes with a stand, two 60° blades, two adhesive-backed polyethylene rolls (100 ft. long), ten 24″×36″ sheets of oilboard, and a self-inking stencil ink roller with black ink. Replacement rolls are 100 ft. long.



Stencil Cutter	7350T1	$4,378.62
Oilboard Rolls (Pkg. of 2)	7350T2	159.00
Adhesive-Backed Polyethylene Rolls (Pkg. of 2)	7350T3	267.97

Paint Markers

For information about paint, see page 2154.

About Paint and Ink Markers

Paint markers work well even on dirty, rusty, wet, and oily surfaces. They leave textured marks you can feel with your hand.
Ink markers work best on a clean, dry surface. Marks dry faster than paint and are smooth to the touch.
Both paint and ink markers are permanent.

Ultra Fine (≤0.5 mm) | Extra Fine (0.6-0.8 mm) | Fine (0.9-1.2 mm) | Medium (1.3-2.4 mm) | Bold (2.5-4.5 mm) | Broad (>4.5 mm)

Paint Markers



Write on metal, plastic, rubber, wood, and paper with these oil-based paint markers. Marking temperature range is –20° to 150°F.
Fine Tip—Paint dries in 25-35 seconds.
Medium Tip—Can also be used on glass, concrete, leather, and vinyl. Paint dries in 25-35 seconds.
Bold Tip—Paint dries in 1-2 minutes.
Bold/Broad Tip—Tip is reversible for a bold or broad mark. Paint dries in 1 minute.
Marker sets include one each of available colors listed.

Tip	Stroke Width	Available Colors	Markers	Each	Repl. Tips Pkg. Qty.		Pkg.
Individual Markers							
Fine	1 mm	Black, Blue, Gold, Green, Orange, Purple, Red, Silver, White, Yellow	14295T15	$3.56	2	14295T17	$1.84
Medium	1.9 mm	Black, Blue, Light Blue, Gold, Green, Orange, Pink, Purple, Red, Silver, White, Yellow	1597T2	4.07	10	1597T6	4.17
Medium (with Screw-On Cap and Clip)	1.9 mm	Black, Blue, Green, Orange, Red, Silver, White, Yellow	1597T7	4.42	10	1468T47	4.08
Bold	4 mm	Black, Blue, Light Blue, Brown, Gold, Green, Orange, Purple, Red, Silver, White, Yellow	16625T27	4.09	12	16625T51	9.33
Bold/Broad	3 mm/5 mm	Black, Blue, Green, Red, White, Yellow	16625T41	3.55	12	16625T42	6.56
Marker Sets							
Bold	4 mm	Black, Red, Silver, White, Yellow	16625T28	20.17	12	16625T51	9.33
Bold/Broad	3 mm/5 mm	Black, Green, Red, White, Yellow	16625T37	13.55	12	16625T42	6.56

Fade-Resistant Paint Markers



These rich colors won't fade in sunlight or exposure to weather. Use on glass, metal, plastic, and wood. Marking temperature range is 35° to 130°F. Paint is water-based and dries in 60 seconds. Tip is reversible for a bold or broad mark.
Marker set includes one each of black, blue, orange, red, white, and yellow.
Adhesive-backed holder functions as a cap and keeps your marker easily accessible and in one place.

To Order: For individual markers, please specify black, blue, gold, gray, green, orange, pink, purple, red, silver, white, or yellow.

Tip	Stroke Width	Markers		Marker Set	
Bold/Broad	3 mm/5 mm	5040T11	$2.65	5040T32	$15.64
Adhesive-Backed Marker Holder				5040T12	Each $8.78

Wet-Environment Paint Markers



Use on wet metal, plastic, rubber, concrete, wood, glass—and even underwater. Markers have a stainless steel ball tip and oil-based paint that is fade and chip resistant. Marking temperature range is –20° to 150°F. Paint dries in 25-35 minutes.
Large capacity markers have twice the volume.

Tip	Stroke Width	Available Colors		
Standard				
Fine	1.2 mm	Black, Red, White, Yellow	16105T18	$4.73
Medium	2.4 mm	Black, Blue, Green, Orange, Red, White, Yellow	16105T29	4.73
Bold	3.2 mm	White, Yellow	16105T3	4.73
Large Capacity				
Medium	2.4 mm	Black, Blue, Green, Orange, Red, White, Yellow	16105T58	6.02
Bold	3.2 mm	White, Yellow	16105T6	6.02

High-Purity Paint Markers



Used in nuclear facilities, the paint in these markers is low in chlorides and halogens so it won't degrade or contaminate marking surfaces. Use on metal, glass, and plastic. Paint is oil-based, except black, which is alcohol-based. Marking temperature range is –20° to 150°F. Dries in 3-4 minutes.

Tip	Stroke Width	Available Colors		
Fine	1.2 mm	Black, White, Yellow	2802T2	$7.20
Bold	3.2 mm	Black, White, Yellow	2802T8	7.20

High-Visibility Paint Markers



Make marks that stand out, especially on dark surfaces. Use on metal, glass, plastic, and paper. Paint is oil-based and permanent.
For gold and silver colors, marking temperature is not rated. Paint dries in 15 seconds. For fluorescent colors, marking temperature is –50° to 150°F. Paint dries in 60-90 seconds.

Tip	Stroke Width	Available Colors		
Fine	1.2 mm	Gold, Silver	8667T3	$3.04
Bold	2.8 mm	Silver	8667T16	3.70
Bold	3.2 mm	Fluorescent: Green, Orange, Pink, Yellow	4375T22	4.64

Glow-in-the-Dark Paint Markers



Paint stores energy from exposure to light to create luminescent marks you can see in the dark. Works on porous and nonporous surfaces and has a stroke width of 13 mm. Marking temperature range is 15° to 245°F. Dries in 5-10 minutes.

4194T1 ..... $16.88

High-Temperature Paint Markers



Paint holds up in extreme heat—up to 800°F. Use on nonporous surfaces. Marking temperature range is –20° to 150°F. Marker has a stainless steel ball tip. Paint is oil-based and dries in 25-35 minutes.

Tip	Stroke Width	Available Colors		
Medium	2.4 mm	White, Yellow	2862T61	$6.42

Removable-Mark Paint Markers



Writing comes off with water or a mild detergent. Use on glass, metal, plastic, and other nonporous surfaces. Marking temperature range is 0° to 150°F. Paint is alcohol-based and dries in 30-60 seconds.

To Order: Please specify black, blue, green, red, white, or yellow.

Tip	Stroke Width	Remove With		
Bold	3.2 mm	Water	7162T22	$6.06
Bold	3.2 mm	Detergent	7162T11	6.06

Squeeze-On Paint Markers

You control the flow of these paint markers with how hard you squeeze or press down. Use on metal, rubber, glass, and wood.

Abrasion Resistant—Uses polyurethane-based paint that stands up to scrapes and chipping. Comes in a 2-oz. metal tube with a stainless steel ball tip. Marking temperature range is –40° to 180°F.

Fast Dry—Uses oil-based paint that can also be used on plastic, paper, ceramic, and leather. Comes as a pen. Marking temperature range is –50° to 150°F.

Marker sets include one each of available colors listed.

Also Available: Replacement tips for fast-dry markers. Please ask for 9356T888 and specify metal or felt tip.



Bold Ball Tip

Tip	Stroke Width	Available Colors	Dry Time	Markers		Marker Sets	
Abrasion Resistant							
Medium Ball	2 mm	Black, Blue, Green, Orange, Red, White, Yellow	3-5 min.	1671T5	$5.89	1671T18	$36.40
Bold Ball	3.2 mm	Black, Blue, Green, Orange, Red, White, Yellow	3-5 min.	1671T6	5.89	1671T28	36.40
Broad Ball	4.8 mm	Black, Blue, Green, Orange, Red, White, Yellow	3-5 min.	1671T7	5.89	1671T38	36.40
Fast Dry							
Medium Metal	1.4 mm	Black, Blue, Gold, Green, Red, Silver, White, Yellow, Fluorescent: Orange, Red, Yellow	1 min.	9356T1	3.24		
Medium Felt	2.3 mm	Black, Blue, Gold, Green, Red, Silver, White, Yellow	1 min.	9356T22	2.79		

Wide Mark Paint Markers

Draw large marks that are easy to see from a distance. Use on glass, metal, plastic, wood, and paper. Paint is acrylic based. Marking temperature range is 0° to 150°F. Paint dries in 1-3 minutes.



Tip	Stroke Width	Available Colors		
Broad	12.7 mm	Black, Blue, Orange, Red, White, Yellow	15375T4	$8.47

Fabric Paint Markers

Write on cotton, wool, synthetic blends, and other fabrics with a pigment-based paint that won't come off in laundering. Ball tip is made of stainless steel. Marking temperature range is –20° to 150°F. Paint dries in 2 minutes. **Large capacity** has twice the volume.



Tip	Stroke Width	Available Colors		
Standard				
Fine	1.2 mm	Black, White, Yellow	2792T6	$4.48
Large Capacity				
Medium	2.4 mm	Black, Orange, Red, White, Yellow	2792T2	5.68

Paint Markers for Recessed Characters

Make engraved and stamped characters more noticeable. Rub the marker over the recessed surface and wipe off excess paint while still wet. The oil- and wax-based lacquer paint completely fills crevices and dries with a luster. Marking temperature range is –50° to 150°F. Paint meets Fed. Spec. TT-F-325a and MIL-STD 171. Dries in 24 hours.



Tip	Stroke Width	Available Colors		
Broad	9.5 mm	Black, Red, White, Yellow	2018T3	$2.51

No-Drip Paint Markers

These solid sticks of paint allow for drip-free marking. Paint is oil- and wax-based (unless otherwise stated).

General marking works on metal, glass, plastic, rubber, and paper. Use *Model B* on wet, oily, rusty, and dirty surfaces. *Model F* is fluorescent and writes on oily and wet materials. *Model FD* has quick-dry resin-based paint.

Rough surface can be used on concrete, forgings, and castings. Paint is weather and fade resistant.

Primer resistant shows through oil- and solvent-based primer coatings. Use on metal.

Hot metal dries immediately when applied to heated metal and won't smear, char, discolor, or peel. Paint is resin based.

Heat treating and annealing holds up through heating and cooling processes. Use on welds, ingots, castings, and forgings.


With Holder

Model	Dia.	Marking Temp. Range	Available Colors	Dry Time	Markers		Holders	
General Marking								
B	17 mm	–50° to 150°F	Black, Blue, Brown, Green, Orange, Pink, Purple, Red, White, Yellow	24 hrs.	1660T21	$1.21	1660T53	$16.93
F	17 mm	–50° to 150°F	Fluorescent: Blue, Green, Orange, Red, Yellow	16 hrs.	1660T87	2.07	1660T53	16.93
FD	17 mm	–50° to 150°F	Black, Red, White, Yellow	5 min.	1660T36	5.96	1660T53	16.93
Rough Surface								
BE	17 mm	–50° to 150°F	Black, Red, White, Yellow	16 hrs.	1660T75	1.80	1660T53	16.93
Primer Resistant								
BL	17 mm	–50° to 150°F	Blue	16 hrs.	1660T93	5.47	1660T53	16.93
Hot Metal								
H	9.5 mm	225° to 1100°F	Black, Blue, Red, White, Yellow	Instant	1660T44	1.80	1660T54	2.93
HT	9.5 mm	400° to 1600°F	Black, Blue, Red, White, Yellow	Instant	1660T65	1.77	1660T54	2.93
Heat Treating and Annealing								
M	17 mm	–50° to 1600°F	Black, Red, White, Yellow	24 hrs.	1660T17	2.83	1660T53	16.93
M-10	17 mm	–50° to 1800°F	White	16 hrs.	1660T79	2.78	1660T53	16.93

Long-Life No-Drip Paint Markers

A barrel and stay-tight cap keep these solid sticks of paint from drying out. Use on metal, plastic, rubber, wood, and paper. Marking temperature range is 15° to 390°F. Paint is alcohol based and dries in 5-10 minutes.



Dia.	Available Colors		
10 mm	Black, Red, White, Yellow	1762T37	$3.75
13 mm	Black, Blue, Green, Orange, Purple, Red, White, Yellow, Fluorescent: Orange, Red, Yellow	1762T26	4.82

High-Purity No-Drip Paint Markers

These no-mess paint sticks are low in chlorides and halogens so they won't corrode metal and contaminate surfaces in controlled environments, such as nuclear plants and oil and gas refineries. Markers have a twist-feed tube. Marking temperature range is –40° to 210°F. Paint dries in 5 minutes.



Dia.	Available Colors		
13 mm	Black, Red, White, Yellow	5179T11	$6.43

Ink & Paint Markers

For information about markers, see page 1970.

Ink Markers

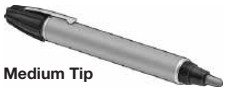





Medium Tip—Use on glass, metal, plastic, paper, and wood. Marking temperature range is –20° to 150°F.

Broad Tip—Use on stone, leather, wood, metal, plastic, and cardboard. Marking temperature is not rated.

Broad Tip (No Bleed)—Write on paper, leather, wood, and other surfaces without bleeding through. Marking temperature is not rated.

Tip	Stroke Width	Available Colors	Markers Pkg. Qty.	Markers	Markers Pkg.	Repl. Tips Pkg. Qty.	Repl. Tips	Repl. Tips Pkg.
Medium	1.4 mm	Black, Red	1	1468T6	$3.29	10	1468T45	$4.08
Broad	7 mm	Black, Blue, Red	1	1662T4	2.19	—	—	—
Broad (No Bleed)	7 mm	Black, Blue, Green, Red	12	16335T63	9.60	—	—	—

Firm-Tip Ink Markers



Create sharp marks on metal, glass, plastic, wood, fabric, and paper. Marking temperature range is 5° to 140°F.

Dual Tip—Gives you versatility with two different tip widths on a single marker.

Application Specific—*High-temperature marker* stands up to 500°F heat. *Long-life marker* has a larger barrel with extra ink capacity. *Fabric marker* can be used on natural and synthetic fabric. *Metallic ink marker* is highly visible, especially on dark surfaces. *Retractable markers* click open and closed. *Heavy duty marker* works on wet and oily surfaces and has a strong chisel-shaped tip that lasts twice as long as other marker tips. A rubber grip and textured cap make it easier to use when wearing gloves and the oval barrel won't roll off work surfaces.

Marker Sets include one each of black, blue, green, and red, unless otherwise stated.

Tip	Application	Stroke Width	Available Colors	Markers Pkg. Qty.	Markers	Markers Pkg.	Marker Sets	Marker Sets
Standard								
Ultra Fine	—	0.5 mm	Black, Blue, Green, Red	12	1661T61	$14.25	1661T52★	$5.86
Fine	—	1 mm	Black, Blue, Green, Red	12	1661T11	13.73	1661T58★	5.86
Dual Tip								
Ultra Fine/Fine	—	0.5 mm/1 mm	Black, Blue, Red	1	1661T38	2.32	1661T54	7.80
Fine/Broad	—	1 mm/5 mm	Black	1	1661T393	2.40	1661T55♦	6.65
Application Specific								
Fine	High Temperature	1 mm	Black	12	1661T31	13.31	—	—
Fine	Long-Life	1 mm	Black, Blue, Red	1	1661T27	1.78	1661T53	6.69
Fine	Fabric	1 mm	Black	2	1661T35	3.35	—	—
Fine	Metallic Ink	1 mm	Silver	2	1661T47	3.36	—	—
Fine	Retractable	1 mm	Black, Blue, Red	1	1661T42	2.40	—	—
Broad	Heavy Duty	5 mm	Black	1	1661T452	2.60	—	—

★Marker set includes two black and one each of blue, green, and red.

♦ Marker set includes one each of black, blue, and red.

Highlighting Ink Markers



These fluorescent color marks won't bleed through paper. Marking temperature range is 5° to 140°F.

Marker set includes one each of available colors listed.

Tip	Stroke Width	Available Colors		
Individual Markers				
Standard				
Bold	3.5 mm	Blue, Green, Orange, Pink, Purple, Yellow	3772T1	$1.99
Retractable				
Bold	2.5 mm	Blue, Green, Orange, Pink, Yellow	3772T2	1.80
Marker Set				
Standard				
Bold	3.5 mm	Blue, Green, Orange, Pink, Yellow	3772T7	10.17

Fast-Dry High-Temperature Paint Markers



Marks resist temperatures up to 2000°F for black and blue paint, up to 1800°F for green paint, up to 1550°F for white paint, and up to 800°F for yellow paint. Use on metal, ceramic, and glass. Marking temperature range is –20° to 150°F. Paint dries in under a minute.

To Order: Please specify black, blue, green, white, or yellow.

Tip	Stroke Width	Markers	Markers Each	Repl. Tips	Repl. Tips Pkg. of 10
Medium	1.9 mm	16305T41	$5.73	1468T47	$4.08

Removable-Mark Ink Markers



Write on metal surfaces and then wipe away marks. These markers have a medium tip. Marking temperature range is –20° to 150°F.

Stroke Width	Available Colors	Markers	Markers Each	Repl. Tips	Repl. Tips Pkg. of 10
Water Removable					
1.4 mm	Blue, Red	8580T34	$4.52	1468T45	$4.08
1.9 mm	White, Yellow	8580T35	4.52	1468T47	4.08
Detergent Removable					
1.4 mm	Black, Blue, Green, Red	8580T41	4.31	1468T45	4.08
1.9 mm	White, Yellow	8580T42	4.31	1468T47	4.08

High-Purity Ink Markers



Typically used in nuclear facilities and highly controlled environments, these markers won't corrode or contaminate metal surfaces because they are low in chlorides and halogens. Use on metal and glass. Marking temperature range is –20° to 150°F.

To Order: Please specify black, red, or white. Medium tip is also available in blue or yellow.

Tip	Stroke Width	Markers	Markers Each	Repl. Tips	Repl. Tips Pkg. of 10
Fine	0.9 mm	5941T3	$5.99	1468T42	$4.08
Medium	1.9 mm	5941T4	6.51	1468T47	4.08

Wet-Environment Ink Markers

Write on damp surfaces and in wet conditions without smearing. These markers work on metal, plastic, glass, and linen. Marking temperature range is 35° to 100° F.



Tip	Stroke Width	Available Colors		
Medium	1.5 mm	Black, Blue, Red	6618T1	$3.07

Degreaser-Resistant Ink Markers

Marks remain intact when exposed to degreasing solvents such as mineral spirits, mineral oil, gasoline, and most alcohols. Use on smooth surfaces such as metal and plastic. Marking temperature range is –20° to 150° F.



To Order: Please specify black, blue, green, red, white, or yellow.

Tip	Stroke Width	Markers	Each	Repl. Tips	Pkg. of 10
Medium	1.9 mm	15415T62	$3.73	1468T47	$4.08

Dry-Out-Resistant Ink Markers

You can leave the cap off of these markers for up to two weeks without them drying out. Use on metal, rubber, glass, porcelain, and paper. Marking temperature range is 35° to 100° F.



Tip	Stroke Width	Available Colors		
Medium	2 mm	Black, Blue, Green, Red	5905T1	$2.20
Broad	5 mm	Black, Blue, Green, Red	5905T2	2.20

Leakproof Ink Markers

An aluminum valve eliminates the risk of seepage caused by the expansion and contraction of a marker due to extreme temperature fluctuations. Works on most surfaces. Marking temperature is not rated.



Tip	Stroke Width	Available Colors		
Medium	1.6 mm	Black, Blue, Red	8411T1	$4.80

Extra-Wide Ink Markers

Make bold lines you can see from far away. Markers have an oversized barrel and tip for maximum ink capacity and coverage. Works on rough, wet, and oily surfaces. Marking temperature is not rated.



Tip	Stroke Width	Available Colors		
Broad	15 mm	Black, Blue, Red	1662T6	$4.93

Precision Needle-Point Ink Markers

The thin inch-long nib allows you to make clear marks in small and confined spaces. Use on metal, glass, and plastic. Marking temperature range is 35° to 220° F.

Erasable—Flake off or brush away marks to remove.



Stroke Width	Available Colors		
Erasable			
0.8 mm	Blue, Green, Orange, Red, Violet, Yellow	2410T7	$11.60
Permanent			
0.8 mm	Black, Blue, Green, Orange, Red, Silver, Violet, White, Yellow	2410T3	11.60

Food-Grade Ink Markers

These NSF-registered markers are safe for direct contact with food, storage containers, and processing equipment. Use on glass, metal, plastic, rubber, cardboard, and shrink wrap. Marking temperature range is –20° to 150° F. Marks withstand temperatures up to 475° F.



Tip	Stroke Width	Available Colors		
Bold	2.7 mm	Black, Blue, Green, White, Yellow	5594T1	$4.38

Metal-Detector-Grade Ink Markers

Commonly used in food processing facilities, these broad-tip markers are made of a plastic that can be detected with a metal-sensing device. Use on metal, glass, cardboard, paper, and wood. Marking temperature range is 33° to 100° F.



Ink Type	Stroke Width	Available Colors		
Permanent	5 mm	Black, Blue, Green, Red	4348T11	$7.20
Highlighter	5 mm	Blue, Orange, Pink, Yellow	4348T12	7.20

Clean Room Ink Markers

Pens are sterilized and double bagged to meet requirements for use in Aseptic ISO 5 and other clean production environments. They have black ink that is water and fade resistant. Use on glass, metal, plastic, wood, and paper. Marking temperature range is 5° to 140° F.



Tip	Stroke Width		Pkg. of 4
Fine (Capped)	1 mm	6507T2	$29.74
Fine (Retractable)	1 mm	6507T1	53.74

UV-Visible Ink Markers

Often used for quality control and theft detection, the ink in these markers is invisible under normal conditions but fluorescent in ultraviolet light. Use on metal, glass, rubber, paper, and plastic. Marking temperature range is –20° to 150° F.



Tip	Stroke Width	Markers	Each	Repl. Tips	Pkg. of 10
Fine	1.1 mm	8592T75	$4.72	1468T53	$4.08

Ink Dot Markers

Large easy-to-see marks are easy to apply—even on moving objects such as boxes on a conveyor. A sponge tip allows you to make 24 mm dots on most surfaces. The squeeze bottle barrel holds 3 oz. of ink. Marking temperature range is 35° to 95° F.



To Order: Please specify blue, green, magenta, orange, purple, or red.

94925T14 ..... $1.96

Refillable Ink Markers

Load this marker with a color of your choice and fill up again when the ink runs out. You can change color by swapping out the ink and tip. Marking temperature range is 35° to 100° F.

Marker barrel holds ½ oz. of ink (sold separately) and comes with one 6.35 mm dia. tip.



To Order: For ink, please specify black, blue, green, orange, pink, red, white, or yellow.

	Marker	Repl. Tips (Pkg. of 4) 4.75 mm		6.35 mm	
Marker Barrel	1644T1	$33.69	1644T3	$15.62	1644T4	$12.50
Ink (16-oz. Bottle)					1673T8	23.33

Crayons, Soapstone & Chalk

Water-Resistant Grease Pencils


Pull String


Mechanical

Also known as China markers, these wax-based pencils make marks that won't wash off with water but can be wiped off with a dry cloth. Use on glass, plastic, film, and rubber. Marking temperature is not rated.

Available Colors	Grease Pencils Pkg. of 12		Refills Pkg. of 72	
Pull String				
Black, Blue, Green, Red, White, Yellow	1514T3	$8.90	—	—
Mechanical				
Black, Red	86585T1	14.49	86585T2	$8.71

Crayons


With Optional Aluminum Holder

Writing doesn't smear or bleed and can be removed by wiping or sanding.
General Purpose—Use on most surfaces.
Rubber Marking—Use on wet and cold rubber.
Weather Resistant—Also known as lumber crayons, these work well on rough surfaces such as lumber, metal, and concrete.
Fluorescent Weather Resistant—Same as our standard weather-resistant crayons, only fluorescent for added visibility.
Heat and Weather Resistant—Also referred to as lumber crayons, these are graphite based so they won't melt. Use on lumber, concrete, and even hot metal.

Crayon	Available Colors	Dia.	Lg.	Marking Temp. Range		Pkg. of 12
General Purpose	Black, Blue, Red	9/16"	5"	40° to 212° F	1654T3	$5.61
Rubber Marking	Red, White, Yellow	1/2"	4 5/8"	–20° to 130° F	1654T5	11.05
Weather Resistant	Black, Blue, Green, Orange, Purple, Red, White, Yellow	1/2"	4 5/8"	–50° to 150° F	1654T2	12.71
Fluorescent Weather Resistant	Orange, Pink, Red, Yellow	1/2"	4 5/8"	–50° to 150° F	1654T68	20.82
Heat and Weather Resistant	Black	1/2"	4 1/2"	–50° to 1100° F	1654T71	12.40
Optional Aluminum Holder					8613T21 Each	$15.50

Soapstone


Round with Optional Holder

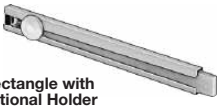
Rectangle with Optional Holder

Soapstone draws temporary marks on metal surfaces for welding applications. Marking temperature is not rated.
Optional holders are aluminum for the round soapstone and stainless steel for the rectangular soapstone.
Sets include five pieces of soapstone and one holder.

Shape	Lg.	Wd.	Ht.	Soapstone Pkg. Qty.		Pkg.	Optional Holders		Sets	
Round	5"	1/4" dia.	—	50	1652T1	$7.31	1652T22	$2.71	1652T33	$4.89
Square	5"	1/4"	1/4"	50	1652T2	7.31	—	—	—	—
Square	5"	1/2"	1/2"	144	1652T6	58.04	—	—	—	—
Rectangle	5"	1/2"	3/16"	50	1652T3	6.52	1652T24	3.31	1652T35	5.12
Rectangle	5"	1 1/4"	3/16"	144	1652T7	59.62	—	—	—	—

Metal Layout Markers




Standard


Mechanical Pencil

Write on oily, wet, and rusty metal surfaces in welding, metal layout, and metal fabrication applications. These paint marks won't rub off like soapstone. Marking temperature range is –20° to 150° F.
Standard comes with a steel holder and four refills. Size is 6 1/4" Lg. x 1 1/8" Wd.

Color	Markers Each	Refills Pkg. Qty.		Pkg.
Standard				
Red	5877T7 $8.08	25	5877T9	$11.95
Silver	5877T3 8.08	25	5877T5	11.95
Pencil				
Red	5877T2 1.40	—	—	—
Silver	5877T4 1.40	—	—	—
Mechanical Pencil				
Silver	5877T6 16.70	6	5877T8	12.03
Replacement Steel Holder for Standard Markers			5877T14 Each	$5.06

Chalk


Tapered Board Chalk


Heavy Duty Chalk with Optional Holder

For use on various surfaces including concrete, stone, metal, cardboard, and paper.
Multi-colored board chalk includes 12 sticks: two each of blue, green, red, and yellow; and one each of brown, orange, violet, and white.

Available Colors	Dia.	Lg.	Pkg. Qty.		Pkg.
Dustless Board Chalk					
White, Yellow	3/8"	3 1/4"	12	1648T9	$1.06
Multi-Colored Board Chalk					
Assorted	7/16"	2 7/8"	12	5924T12	5.98
Tapered Board Chalk					
White	7/16"	3 1/4"	144	1648T7	8.69
Heavy Duty Chalk					
Blue, Red, White, Yellow	1"	4"	72	1648T8	14.18
Jumbo Chalk					
Blue, Red, White, Yellow	1 1/2"	6"	24	1648T21	12.25
Optional Holder for Heavy Duty Chalk				8613T34 Each	$2.10

Reflective Chalk



This high-visibility chalk fluoresces when light shines on it, even in dark environments. For use in night-time photography. Chalk is yellow. Size is 3/4" Dia. x 4" Lg.

3281T1 (Pkg. of 3) $33.66

Antistatic Ink Pens



Minimize the buildup of electrostatic charge. This black retractable ball point pen has a surface resistivity of 10^9 ohms. It meets ANSI ESD S20.20 requirements.

1683A11 $4.00

Ink Pens


Standard Ball Point


Standard Felt Tip


Standard Roller Ball


Four-Color


All Angle/All Weather


Metal-Detector Grade

All-angle/all-weather pens are pressurized to write at any angle, on wet surfaces, and in extreme cold.

Metal-detector-grade pens are made of plastic that can be detected by a metal-sensing device.

To Order: Please specify medium or fine tip (unless noted).

	Available Colors	Pkg. Qty.		Pkg.
Standard				
Ball Point	Black, Blue, Red	12	16805T4	$1.65
Retractable Ball Point	Black, Blue	12	16805T3	12.69
Felt Tip	Black, Blue, Red	12	16805T1▲	14.18
Roller Ball	Black, Blue, Red	12	16805T8	12.20
Gel				
Retractable	Black, Blue, Red	1	16805T7	1.60
Four-Color				
Retractable Ball Point	Black, Blue, Green, Red	1	16805T11▲	3.82
All Angle/All Weather				
Retractable Ball Point	Black, Blue	1	16805T5♣	2.38
Metal-Detector Grade				
Retractable Ball Point	Black, Blue, Green, Red	1	5476T11♣	6.50
Retractable Roller Ball	Black, Blue	1	5476T12♣	7.50

▲Available in fine tip only. ♣Available in medium tip only.

Pencils

Standard Pencils


#2 Pencil with Eraser


Carpenters' Pencil

		Pkg. of 12
#2 Pencil with Eraser	1653T22	$3.66
Red-Colored Pencil with Eraser	1653T88	4.51
Carpenters' Pencil	1653T44	8.73
White Hand-Held Vinyl Eraser	13225T23	3.10

Illustrators' Pencils

Provides a smoother stroke with less effort than regular pencils.

Sharpener has separate cutting edges for the pencil's lead and wood to shave a finer, sharper point.



	Pencils Pkg. of 12		Eraser Refills Pkg. of 10
Illustrators' Pencil	1653T17	$27.25	1653T53 $3.25
Sharpener	1653T61	Each	$9.88

Mechanical Pencils

Self-advancing pencil looks like a standard #2 pencil, but has a 0.7 mm lead that advances on its own without clicking.


Self Advancing


Standard

To Order: For standard pencils and lead refills, please specify 0.5 mm or 0.7 mm lead size.

	Pkg. Qty.		Pkg.
Self Advancing	2	8656T51	$3.28
Standard	1	8656T4	1.36
Lead Refills (Pkg. of 12)		8656T25	.92

Security-Chain Ink Pens

Pens stay where you need them with an adhesive-backed base and 24″ chain. They have a medium ball point tip and black ink.

Replacement pens snap onto the existing chain.

	Pens with Base and Chain		Repl. Pens	
Standard	14255T11	$3.43	14255T15	$1.86
Upright	14255T22	7.51	14255T25	2.71


Standard


Upright

Numbering and Lettering Rubber Stamps

Rotate the individual bands to select characters. For stamp pads and ink, see pages 1976 and 1977.

Optional wall-mount rack holds up to 12 stamps. Mounting screws are included.

Numbering Stamps

Each band has 0-9 and a space.

Also Available: Other character heights and number ranges. Please ask for 1235T74 and specify character height and number of bands. For replacement bands, please ask for 1235T999 and specify character height.



Char. Ht.	5 Bands		6 Bands		7 Bands		8 Bands		10 Bands		12 Bands	
1/8″	1235T21	$11.98	1235T22	$13.35	1235T23	$17.30	1235T765	$22.10	1235T781	$28.91	1235T791	$39.83
3/16″	1235T41	13.84	1235T42	16.33	1235T43	22.17	1235T767	23.54	1235T783	31.69	1235T787	42.59
1/4″	1235T51	38.86	1235T52	40.08	1235T53	44.53	1235T768	45.59	1235T784	51.51	1235T788	63.59
5/16″	1235T61	51.55	1235T62	53.02	1235T63	64.17	1235T769	65.37	1235T785	79.49	1235T795	94.07
1/2″	1235T71	71.71	1235T72	72.35	1235T73	86.44	1235T771	94.51	1235T786	125.85		
Optional Wall-Mount Rack											16245T12	9.98

Numbering and Lettering Stamps

Each band has 0-9, A-Z, a dash, and a space.

Also Available: Other number ranges. Please ask for 13455T86 and specify character height and number of bands.



Char. Ht.	5 Bands		6 Bands		8 Bands		10 Bands		12 Bands	
1/8″	13455T22	$113.80	13455T32	$126.27	13455T52	$128.81	13455T62	$159.93	13455T72	$178.84
3/16″	13455T23	174.66	13455T33	190.36	13455T53	214.77	13455T63	223.69	13455T73	245.48
1/4″	13455T24	217.00	13455T34	236.83	13455T54	267.52	13455T64	307.98	13455T74	364.98
5/16″	13455T25	238.63	13455T35	240.68	13455T55	289.21	13455T65	341.66	13455T75	439.22
Optional Wall-Mount Rack									16245T12	9.98

Self-Inking Numbering Rubber Stamps





Stamps pick up fresh ink with every impression so they are convenient for fast-paced, repetitive stamping. Each band has 0-9, a dash, and a space. Ink pad is removable.

Ink (sold separately) is water-based and permanent. Use on porous surfaces such as cardboard and paper.

Stamps

Character Ht.	6 Bands		8 Bands		10 Bands	
1/8″	1575T11	$53.92	1575T82	$63.73	1575T93	$69.72
3/16″	1575T12	63.15	1575T83	71.38	1575T94	87.08
1/4″	1575T13	154.74	1575T84	183.08	1575T95	209.84
5/16″	1575T14	173.12	1575T85	203.94	1575T96	244.28

Ink

Available Colors	Size		
Black, Blue, Green, Purple, Red	0.9-oz. Bottle	1575T61	$2.62

Self-Inking Miniature Inspection Rubber Stamps



Mark inspected items with a pocket-size stamp that makes 1,000 imprints before needing more ink. These stamps have a built-in pad with alcohol-based permanent ink. Use on nonporous surfaces such as metal and plastic.

Also Available: Other imprints and ink colors. Please ask for 1119T81 for 1/4″ dia. or 1119T83 for 3/8″ dia. and specify desired imprint. For ink, specify blue, green, red, or ultraviolet.

To Order: Please specify black or white ink.

Number Stamps



Available Numbers	Face Dia. 1/4″		Face Dia. 3/8″	
01, 02, 03, 04, 05, 06, 07, 08, 09, 10	1119T41	$43.39	1119T45	$46.17

Message Stamps





Message	Face Dia. 1/4″		Face Dia. 3/8″	
OK	1119T36	$43.37	1119T53	$46.15
PASS	1119T38	43.37	1119T55	46.15
FAIL	1119T42	43.37	1119T57	46.15
Star Symbol	1119T44	43.37	1119T59	46.15
INSP	1119T22	43.37	—	—
INSPECTED OK	—	—	1119T37	46.15
TEST	1119T24	43.37	—	—
TESTED OK	—	—	1119T39	46.15
QA	1119T26	43.37	—	—
PASSED OK	—	—	1119T51	46.15

Ink Refills

Size	Color		
0.5-oz. Bottle	Black	1119T32	$17.10
0.5-oz. Bottle	White	1119T33	16.44

Self-Inking Rubber Message Stamps



The self-contained ink pad doesn't dry out, so you get more impressions. Stamps have oil-based permanent ink for use on paper and other porous materials. Stamp face is 1/2″ x 1 5/8″.

Also Available: Custom messages. Please ask for 17075T21 and specify message (max. 4 lines with 22 characters each) and ink color.

Available Messages







Red Ink		Blue Ink	
Completed	16125T327★	Approved	16125T325
Confidential	16125T312	Completed	16125T311
Copy	16125T439	Copy	16125T313
Draft	16125T447	Entered	16125T324
Faxed	16125T328★	Original	16125T433
File Copy	16125T314	Paid	16125T317
Fragile	16125T423	Received	16125T321
Past Due	16125T318	Void	16125T322
Posted	16125T319		
Received	16125T424★		
Revised	16125T434★		
Rush	16125T326		

★ Stamped message includes space to write in initials, time, or date.

Stamp $12.21

Ink Refills

Available Colors	Size		
Black, Blue, Green, Purple, Red	10-ml Bottle	16125T41	$5.32

Self-Inking Consecutive-Numbering Stamps





Stamps automatically advance to the next number or you can set them to move ahead after the 2nd, 3rd, 4th, 6th, or 12th impression. They have steel bands and a built-in removable ink pad with black oil-based permanent ink. Each band has 0-9. Use on porous surfaces.

Character Ht.			
3/16″	6 Bands	8417T74	$119.40
Black Ink Refill (1-oz. Bottle)		8417T891	8.53

Self-Inking Rubber Date Stamps



JAN 05 2013
1/8″

The built-in removable stamp pad automatically inks your selected date between impressions.

Ink (sold separately) is water-based and permanent. Use on cardboard, paper, and other porous surfaces.

Stamps

Character Ht.		
1/8″	4697T3	$46.40
5/32″	4697T5	49.88
3/16″	4697T7	60.12

Ink

Available Colors	Size		
Black, Blue, Green, Purple, Red	0.9-oz. Bottle	1575T61	$2.62

Self-Inking Rubber Date Stamps with Message



Stamp the date in red ink and a selected message in blue ink at the same time. The built-in, removable dual-color ink pad allows you to stamp two colors at once. Ink is water-based and permanent. Use on porous surfaces such as paper.

RECEIVED
JAN 05 2013

Included Messages

ATTENTION	RECEIVED
FAXED	SHIPPED
INSPECTED	TESTED
POSTED	BY _ _ _ _ _

Character Ht.	Imprint Area Ht.	Wd.	Stamp		Repl. Ink Pad	
5/32″	1 1/4″	2″	8590T15	$64.64	8590T17	$7.01

Solvent-Resistant Epoxy Stamp Ink



Mix the packet contents for a specially formulated ink that withstands solvents and abrasion. Use with epoxy rubber stamps on nonporous surfaces. Combine packets on glass slides or metal (not for use with stamp pads). Meets CID A-A-56032D Type 1, 2, and 3 (formerly MIL-I-43553b).

Thinner allows you to achieve your desired ink consistency.

Ink cleaner removes fresh and partially dried ink from stamps and printing machinery. Ink is permanent once fully dried.

Available Colors

Black, White	85985T5	$23.18
Thinner (2-oz. Bottle)	85985T53	18.66
Ink Cleaner (16-oz. Bottle)	85985T54	24.95

Ink for Plastics and Stainless Steel

These specially formulated inks adhere to tricky surfaces. Ink comes in a 2-oz. bottle.

Ink for plastics can be used on a variety of nonporous materials including treated shrink wrap. Ink is solvent-based and permanent. Dries in 10-15 seconds.

Ink for stainless steel works even when the surface is wet or oily. Suitable for use with stamp pads and stencils. Ink is permanent and resists petroleum solvents. Dries in 75-105 seconds.

Thinner allows you to achieve your desired consistency.

Available Colors	Inks		Thinners	
For Plastic				
Black, White	8905T1	$25.44	8905T9	$11.62
For Stainless Steel				
Black, White	5628T1	22.95	5628T9	11.62

Self-Inking Changeable-Message Rubber Stamps



ABC 123
1/8″

Press in characters to create your message. Stamp accepts characters of varying heights and has a built-in pad that works with porous and nonporous inks.

Character sets (sold separately) have six each of E; five each of A, C, I, L, N, O, R, S, and T; four each of B, D, F, G, H, P, period, and comma; three each of M, U, W, Y, 0, 1, and hyphen; two each of J, K, Q, V, X, Z, 2-9, and apostrophe; and one each of $ and &.

Stamp

Imprint Area Ht.	Imprint Area Wd.	Stamp		Repl. Ink Pad	
7/8″	2 3/8″	8761T13	$54.60	8761T15	$5.04

Character Sets

Character Ht.	Characters per Line	Max. No. of Lines		
1/8″	18	3	8761T4	$20.60
1/4″	13	2	8761T5	21.80
1/2″	10	1	8761T6	51.80

Build-a-Message Rubber Stamp Sets

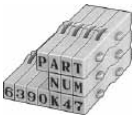

AB12
1/8″

Snap individual characters together to create messages that read horizontally, vertically, or on multiple lines. The compact size allows you to print in small areas and tight spots.

Character Sets—Come in a compartmented box. *Number sets* have one each of 1-9, period, comma, $, and #; and two each of zero and hyphen. *Letter sets* have one each of A-Z, comma, period, colon, apostrophe, hyphen, parentheses, forward slash (/), &, and arrow.

Character Ht.	O'all Size Ht.	O'all Size Wd.	Number Sets		Letter Sets	
1/8″	2 3/8″	5/16″	8474T2	$17.00	8474T3	$23.95
3/16″	2 3/8″	3/8″	8474T4	18.00	8474T5	26.00
5/16″	2 3/8″	1/2″	8474T6	31.90	8474T7	54.55

Make-Your-Own Rubber Stamp Kits



Build your own stamps from scratch. Kits include upper- and lowercase letters A-Z; numbers 0-9; a stamp pad with black water-based, permanent ink for porous surfaces; tweezers; and three different shaped holders (rectangular, round, and oval). Rectangular holders accommodate up to five lines of characters. Characters come in storage trays.

For a complete listing of kit characters, go to mcmaster.com and search for **8604TAC**.

Character Ht.	No. of Characters		
1/8″, 3/16″	559	8604T16	$40.00

Stamp Pads

Foam Stamp Pads

Ink is water-based and permanent. Use to mark porous and nonporous surfaces.

Available Colors	Ht.	Wd.		
Black, Blue, Red, Uninked	2 3/4″	4 1/4″	13335T4	$3.28
Black, Blue, Red, Uninked	3 1/4″	6 1/4″	13335T5	4.88

Felt Stamp Pads and Ink Refills



Felt pads have a longer life than foam pads and can handle solvent-based inks.

Ultraviolet ink is alcohol-based and washable. Use on nonporous surfaces. *Colored ink* is solvent-based and permanent. It can be used to mark surfaces such as paper, fabric, metal, and plastic.

Available Colors	Ht.	Wd.		
Stamp Pads				
Uninked	2 1/2″	3 3/4″	13335T28	$20.66
Uninked	2 7/8″	4 1/2″	13335T38	25.17
Ultraviolet	2 1/2″	3 3/4″	13335T29	28.05
Black, Blue, Green, Purple, Red, White, Yellow	2 1/2″	3 3/4″	13335T2	28.65
Ink Refills (2-oz. Bottle)				
Ultraviolet			13335T39	10.28
Black, Blue, Green, Purple, Red, White, Yellow			13335T7	10.28

Self-Inking Made-To-Order Rubber Stamps

These tailor-made, finished stamps say exactly what you want. Stamps have an ink pad and replacement ink pad built in so they are always ready for the next impression. Ink is water-based and permanent. Use on porous surfaces.

Also Available: Other imprint area sizes. Please ask for 15365T999 and specify desired imprint area, message, and ink color.

To Order: Please specify message (characters can be upper- or lowercase) and line breaks. Character height is based on available space. Also specify black, blue, or red ink.

Min. Char. Ht.	Imprint Area Ht.	Imprint Area Wd.	Characters per Line	Max. No. of Lines		
1/16″	1 1/8″	2 3/8″	42	6	16085T41	$61.63
1/16″	1 1/2″	2 3/8″	41	8	16085T42	81.09

Conveyor-Mount Self-Inking Stamps



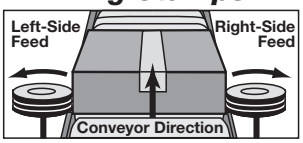

Horizontal Mount

Provide continuous, hands-free marking of boxes, cartons, and other paper items with a message of your choice. Lock the rubber characters into the stamp wheel to create messages (accommodates characters of varying heights). Maximum length of each line is 17″. Includes an ink cartridge with black alcohol-based, permanent ink for porous surfaces. Stamp attaches horizontally or vertically with four 9/32″ dia. mounting holes (fasteners not included).

Character Sets—*Number sets* have four each of 0-9; two each of period, dash, and forward slash (/); and one each of comma, $, and ¢. *Number and letter sets* have six each of E; five each of A, C, I, L, N, O, R, S, and T; four each of B, D, F, G, H, P, and period; three each of M, U, W, Y, 0, 1; two each of J, K, Q, V, X, Z, 2, 3, 4, 5, 6, 7, 8, 9, comma, and space; and one each of $ and &.

To choose left- or right-side feed, face your carton as it moves away from you on the conveyor for correct orientation (see illustration).

Stamps

Imprint Ht.	O'all Size Lg.	O'all Size Ht.	O'all Size Wd.	Stamps		Repl. Ink Cartridges	
Left-Side Feed							
1″	14″	13″	8″	14415T51	$708.33	14415T63	$31.14
3″	14″	15″	8″	14415T52	860.66	14415T65	87.55
Right-Side Feed							
1″	14″	13″	8″	14415T53	708.33	14415T63	31.14
3″	14″	15″	8″	14415T54	860.66	14415T65	87.55

Character Sets

Char. Ht.	Char. per Line	Max. No. of Lines For 1″ Stamp	Max. No. of Lines For 3″ Stamp	Number and Letter Sets		Number Sets	
1/4″	68	3	9	14415T75	$48.40	14415T45	$26.44
1/2″	51	2	5	14415T76	85.26	14415T46	41.25
3/4″	47	1	3	14415T77	116.60	14415T47	41.53

Roll-On Self-Inking Rubber Stamps



With Ink Roll Cartridge

Mark messages up to 9″ long on shipping cartons, kraft bags, and other porous surfaces with this portable wheel stamp. To make a message, press characters into the 2 7/8″ dia. wheel (accepts characters of varying heights).

Ink roll cartridges (sold separately) have oil-based permanent ink.

Character Sets—*Number sets* have eight each of 0-9; and two each of period, comma, dash, forward slash (/), $, and ¢. *Letter sets* have four each of uppercase A-Z; and two each of period, comma, dash, forward slash (/), and &.

Stamp

42815T31	$189.29

Ink Roll Cartridges

Black	42815T321	$14.79	Green	42815T324	$17.60
Blue	42815T323	17.60	Red	42815T322	17.60

Character Sets

Char. Ht.	Char. per Line	Max. No. of Lines	Number Sets		Letter Sets	
1/2″	27	3	42815T36	$33.45	42815T35	$43.05
3/4″	18	2	42815T38	44.58	42815T37	51.83
1″	9	1	42815T41	75.16	42815T39	95.33

About Character Height

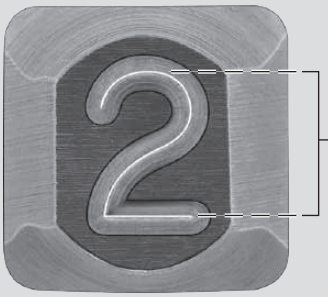

When you look at the face of a stamp, you'll notice the character is raised. The distance between the upper and lower raised ridges is known as the *character height*. This height is used to measure stamp size. If a stamp does not have a size marking on the shank, measure the character height to order the correct size.

The actual impression a stamp makes is larger than its character height and varies depending upon how hard you strike the stamp, the hardness of the material, and wear.

Steel Stamps





AB12
1/4" Character Ht.

Make your mark on metal. Stamps are designed for continuous use on materials with a Rockwell hardness up to C30 for *standard duty* and *heavy duty stamps*; and up to C50 for *extra-heavy duty stamps*, which have a thicker shank to handle more demanding jobs. All characters are uppercase.

Sets come in a compartmented case. *Number sets* contain 0-9 (6 doubles as 9). *Letter sets* contain A-Z; standard duty and heavy duty stamps also have an ampersand (&). *Number and letter sets* contain 0-9 (6 doubles as 9), A-Z, and an ampersand (&).

To Order: For individual characters, please specify number (0-9) or letter (A-Z); for standard duty and heavy duty stamps, you can also specify period, dash, or ampersand (&).

Character Ht.	Shank Size, sq.	Shank Lg.	Individual Characters		Sets: Number		Sets: Letter		Sets: Number and Letter	
Standard										
1/16"	1/4"	2 3/8"	1558T54	$2.02	1558T13	$15.24	1558T33	$45.76	1558T101	$60.85
3/32"	1/4"	2 3/8"	1558T61	2.02	1558T15	15.24	1558T35	45.76	1558T102	60.85
1/8"	1/4"	2 3/8"	1558T64	2.02	1558T16	15.24	1558T36	45.76	1558T103	60.85
5/32"	5/16"	2 7/16"	1558T67	2.63	1558T17	19.07	1558T37	62.88	1558T104	78.10
3/16"	5/16"	2 3/8"	1558T71	2.63	1558T18	19.07	1558T38	62.88	1558T105	78.10
1/4"	3/8"	2 5/8"	1558T77	3.16	1558T21	22.76	1558T41	69.91	1558T106	92.98
5/16"	1/2"	2 3/4"	1558T79	3.70	1558T22	29.34	1558T42	89.95	1558T107	120.45
3/8"	1/2"	2 7/8"	1558T84	4.44	1558T23	34.02	1558T43	102.07	1558T108	132.47
1/2"	5/8"	3"	1558T91	5.90	1558T25	49.82	1558T45	149.47	1558T109	197.68
Heavy Duty										
1/32"	1/4"	2 3/8"	1556T51	3.77	1556T29	22.45	1556T11	66.23	1556T201	84.79
3/64"	1/4"	2 3/8"	1556T52	4.20	1556T31	24.49	1556T12	74.81	1556T202	94.96
1/16"	5/16"	2 1/2"	1556T61	3.00	1556T33	17.49	1556T14	51.23	1556T203	65.63
3/32"	5/16"	2 1/2"	1556T65	3.00	1556T35	17.49	1556T16	51.23	1556T204	65.63
1/8"	5/16"	2 1/2"	1556T71	3.00	1556T37	17.49	1556T18	51.23	1556T205	65.63
5/32"	3/8"	2 3/4"	1556T74	3.28	1556T38	19.69	1556T19	58.22	1556T206	73.75
3/16"	3/8"	2 3/4"	1556T76	3.66	1556T39	20.91	1556T21	61.70	1556T207	78.13
1/4"	7/16"	3"	1556T8	3.69	1556T42	23.73	1556T23	71.12	1556T208	90.63
5/16"	9/16"	3 1/8"	1556T85	4.59	1556T43	29.44	1556T24	88.80	1556T209	112.67
3/8"	9/16"	3 1/8"	1556T89	5.47	1556T44	34.27	1556T25	102.55	1556T211	129.26
1/2"	3/4"	3 3/4"	1556T94	8.39	1556T46	55.12	1556T27	160.02	1556T212	214.84
5/8"	3/4"	3 3/4"	1556T97	12.86	1556T47	111.91	1556T28	347.90	1556T213	430.42
3/4"	7/8"	3 3/4"	1556T101	19.10	1556T121	156.42	1556T111	469.22	1556T214	606.96
1"	1 1/4"	4 1/2"	1556T103	64.91	1556T123	584.23	1556T113	1,752.58	1556T215	2,267.18
Extra Heavy Duty										
1/8"	1/2"	3 1/2"	8965T4	8.93	8965T12	53.33	8965T34	158.17		
3/16"	9/16"	3 1/2"	8965T5	10.83	8965T15	64.65	8965T37	194.04		
1/4"	5/8"	3 1/2"	8965T6	13.05	8965T18	78.16	8965T39	233.77		
3/8"	3/4"	3 1/2"	8965T3	22.92	8965T11	167.29	8965T33	484.08		

Stainless Steel Stamps



AB12
1/4" Character Ht.

These stamps are corrosion-resistant so they won't rust and flake with exposure to moisture and chemicals. They are made from 440C stainless steel and can be sanitized in an autoclave. For continuous use on materials with a Rockwell hardness up to C50.

Sets come in a compartmented case. *Number sets* contain 0-9 (6 doubles as 9). *Letter sets* contain A-Z and an ampersand (&).

To Order: For individual characters, please specify number (0-9), letter (A-Z), dash, period, @, or ampersand (&).

Character Ht.	Shank Size, sq.	Shank Lg.	Individual Characters		Sets: Number		Sets: Letter	
1/8"	1/2"	3"	3770T11	$13.60	3770T41	$122.30	3770T51	$366.90
1/4"	1/2"	3"	3770T21	15.20	3770T42	136.60	3770T52	409.80
3/8"	1/2"	3"	3770T31	17.90	3770T43	161.00	3770T53	483.00

For information about character height, see page 1978.

Gentle-Mark Steel Stamps

The rounded faces on these stamps put less stress on surfaces and minimize fractures that can weaken or damage metal. All characters are uppercase.

Solid-face stamps are for continuous use on materials with a Rockwell hardness up to C30. Meet ANSI specification IN45, 2.2A39.

Dotted-face stamps produce even lower stress impressions than solid-face stamps. For continuous use on materials with a Rockwell hardness up to C30 for 1/8" and 1/2" character heights; and up to C50 for 3/16"- 3/8" character heights. Meet Nuclear American Society of Mechanical Engineers Code Section 3, Div. 1, Paragraph NA-3766.6 (2).

Sets come in a compartmented case. *Number sets* contain 0-9 (6 doubles as 9). *Letter sets* contain A-Z and an ampersand (&). *Number and letter sets* contain 0-9 (6 doubles as 9), A-Z, and an ampersand (&).



AB12

1/4" Character Ht.

To Order: For individual characters, please specify number (0-9), letter (A-Z), or ampersand (&).

Character Ht.	Shank Size, sq.	Shank Lg.	Individual Characters		Sets: Number		Sets: Letter		Sets: Number and Letter	
Solid Face										
1/16"	5/16"	2 1/2"	1634T31	$3.91	1634T11	$28.15	1634T21	$82.73	1634T4	$105.88
3/32"	5/16"	2 3/4"	1634T41	3.91	1634T12	28.15	1634T22	82.73	1634T42	105.88
1/8"	3/8"	2 3/4"	1634T51	3.98	1634T13	28.54	1634T23	84.49	1634T43	107.70
3/16"	7/16"	2 3/4"	1634T61	4.73	1634T14	33.91	1634T24	97.46	1634T44	125.02
1/4"	1/2"	3"	1634T81	5.91	1634T15	42.75	1634T25	128.27	1634T45	164.57
3/8"	5/8"	3"	1634T91	8.96	1634T16	64.96	1634T26	194.98		
1/2"	3/4"	4"	1634T101	15.66	1634T17	113.38	1634T27	340.17		
Dotted Face										
1/8"	3/8"	2 3/4"	1551T21	6.02	1551T22	43.52	1551T23	125.15	1551T31	160.22
3/16"	3/8"	2 3/4"	1551T64	10.11	1551T71	70.21	1551T83	204.95	1551T32	259.42
1/4"	7/16"	3"	1551T65	12.81	1551T72	87.78	1551T84	259.84	1551T33	333.42
3/8"	9/16"	3 1/8"	1551T67	19.42	1551T74	134.21	1551T86	402.63	1551T34	509.80
1/2"	3/4"	4"	1551T68	24.69	1551T75	176.53	1551T87	516.68		



AB12

1/4" Character Ht.

Reverse-Face Embossing Steel Stamps

Create raised lettering similar to a license plate with these reverse-face stamps. Impressions are made on the backside of metals for an embossed character on the front. Works well on casting molds and in high temperature applications where the lacquer used with recessed characters would melt. For continuous use on materials with a Rockwell hardness up to C30. All characters are uppercase.

Sets come in a compartmented case. *Number sets* contain 0-9 (6 doubles as 9). *Letter sets* contain A-Z and an ampersand (&). *Number and letter sets* contain 0-9 (6 doubles as 9), A-Z, and an ampersand (&).

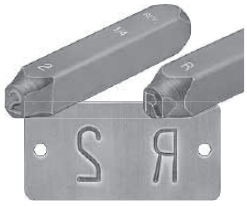

Back of Plate



Front of Plate

To Order: For individual characters, please specify number (0-9), letter (A-Z), or ampersand (&).

Character Ht.	Shank Size, sq.	Shank Lg.	Individual Characters		Sets: Number		Sets: Letter		Sets: Number and Letter	
1/16"	5/16"	2 1/2"	1559T41	$2.96	1559T11	$21.07	1559T24	$62.05	1559T103	$78.56
3/32"	5/16"	2 3/4"	1559T45	2.28	1559T12	21.07	1559T25	62.05	1559T104	78.56
1/8"	3/8"	2 3/4"	1559T51	2.96	1559T13	21.07	1559T26	62.05	1559T105	78.56
5/32"	7/16"	2 3/4"	1559T56	3.37	1559T14	25.93	1559T27	71.02	1559T106	89.92
3/16"	7/16"	2 3/4"	1559T61	3.43	1559T15	24.83	1559T28	72.31	1559T107	91.69
1/4"	1/2"	3"	1559T71	4.14	1559T16	29.44	1559T29	88.46	1559T108	112.34
3/8"	5/8"	3 1/8"	1559T81	7.47	1559T18	52.98	1559T32	158.96	1559T111	201.80
1/2"	3/4"	4"	1559T91	13.90	1559T19	97.13	1559T34	292.84	1559T112	367.20

High-Visibility Steel Stamps

When you want characters to stand out, use a stamp with a border. For continuous use on materials with a Rockwell hardness up to C30. All characters are uppercase.

Letter sets contain A-Z and come in a compartmented case.

Also Available: Other border shapes and sizes. Please ask for 1612T999 and specify hexagon, oval, or square, border size, character, and character height.





1/4" Circle Border

3/8" Triangle Border

To Order: Please specify circle or triangle border. For individual characters, also specify number (0-99) or letter (A-Z). For number sets, also specify the number range: 0-10, 11-20, 21-30, 31-40, 41-50, 51-60, 61-70, 71-80, 81-90, or 91-99.

Border Size	Character Ht.	Shank Size, sq.	Shank Lg.	Individual Characters		Sets: Number		Sets: Letter	
1/4"	1/8"	1/2"	3"	1612T22	$14.47	1612T14	$134.74	1612T32	$351.09
3/8"	3/16"	5/8"	3"	1612T23	25.64	1612T15	194.95	1612T33	540.25

Made-to-Order Steel Stamps

Design messages and logos to say exactly what you want. For continuous use on materials with a Rockwell hardness up to C30. Shank length is 3 1/2". All characters are uppercase.

Also Available: Stamps with more than two lines of characters; reverse-face embossing stamps; and stamps with your own logo. Please ask for 1560T999 and specify characters, character height, number of lines, and standard or reverse face. If ordering a logo, please provide an illustration.

To Order: Please specify characters and character height. Spaces do not count toward the number of characters per line.

Characters Per Line		Character Ht.: 1/16"	3/32"	1/8"	5/32"	3/16"	1/4"
One Line							
2	1560T2	$43.53	$40.46	$41.92	$43.89	$46.91	$57.49
3	1560T3	51.80	48.42	52.02	52.98	55.62	68.42
4	1560T4	59.31	55.29	58.80	59.89	63.09	82.35
5	1560T5	66.13	61.36	65.22	66.51	74.45	93.42
6	1560T6	74.55	69.95	73.76	75.11	82.05	99.75
7	1560T7	85.00	80.87	84.33	94.29	99.27	117.33
Two Lines							
2	1560T8	61.54	57.69	59.62	63.46	67.31	82.98
3	1560T9	73.47	69.39	74.47	75.51	79.59	97.83

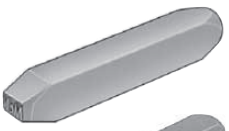

One Line

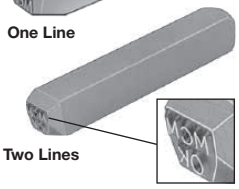

Two Lines

Inspection Symbol Steel Stamps



Symbol N2

Mark metals with unique characters for traceability, quality control, and inspection. For continuous use on materials with a Rockwell hardness up to C30.

Also Available: Other symbols and sizes. Please ask for 1574T999 and specify symbol and character height.

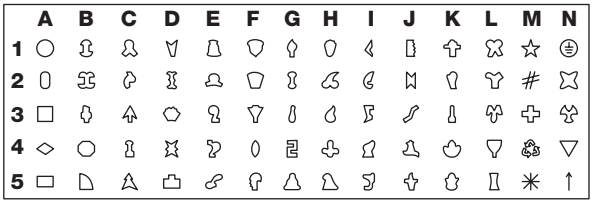

To Order: Please specify the corresponding letter and number for the symbol on the chart.

Character Ht.	Shank Size, sq.	Shank Lg.		
1/8″	5/16″	2 1/2″	1574T11	$9.76
3/16″	3/8″	2 7/8″	1574T21	10.55
1/4″	1/2″	3″	1574T31	11.64
5/16″	1/2″	3″	1574T41	$17.49
3/8″	5/8″	3″	1574T51	19.00

Two-Digit Steel Stamps



Mark double-digit numbers with a single stamp. For intermittent use on materials with a Rockwell hardness up to C50.

Sets include 10 consecutively-numbered stamps and come in a compartmented box.

To Order: For individual stamps, please specify number (00-99). For sets, please specify a number range: 00-09, 10-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80-89, or 90-99.

Character Ht.	Shank Size, sq.	Shank Lg.	Individual Stamps		Sets	
1/8″	3/8″	2 3/4″	8768T22	$16.93	8768T14	$135.02
1/4″	9/16″	3″	8768T35	23.86	8768T17	191.05

Steel Stamp Holders



Ensure a firm grip on your stamp and keep your fingers away from stray blows. An adjustable ball lock secures the stamp in the holder.

Hammer has a 24-oz. steel head with 1 7/32″ dia. face and a reinforced rubber handle to absorb shock and reduce fatigue. Overall length is 14″.

Fits Shank Size, sq.	Fits Shank Dia.	Lg.		
1/8″-5/8″	3/16″-3/4″	5 1/2″	86805T77	$22.14
3/16″-13/16″	1/4″-1″	9″	86805T81	31.19
Hammer			5518A12	44.22

Key and Key Tag Marking Steel Stamps



Put a common message on metal keys, plates, and tags. Marking surface size must be at least 3/16″ Ht. × 1/2″ Wd. For continuous use on materials with a Rockwell hardness up to C30. All characters are uppercase.

Message	No. of Lines	Shank Size, sq.	Shank Lg.		
Do Not Duplicate	Two	1/2″	2 7/8″	1786T13	$30.24
Do Not Copy	One	1/2″	2 7/8″	1786T15	30.24
Master	One	1/2″	2 7/8″	1786T14	30.24

Rotating Wheel Steel Stamps

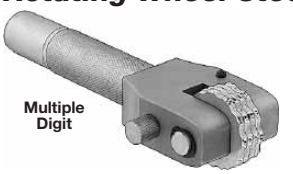

These all-in-one stamps provide an entire number set in the convenience of one handheld stamp. Rotate the wheel to change the character.

Single-digit stamps include 0-9, a dash, and an uppercase X on the wheel. For continuous use on materials with a Rockwell hardness up to C30.

Multiple-digit stamps include 0-9 and a space on each wheel. For continuous use on materials with a Rockwell hardness of up to C35.

No. of Digits	Character Ht.	*Overall Size* Lg.	Wd.		
Single Digit					
1	3/16″	3 7/16″	9/16″	1567T151	$139.29
1	1/4″	4 1/4″	7/8″	1567T161	188.70
Multiple Digit					
4	1/8″	6″	1 3/4″	15995T12	684.72
5	1/8″	6″	1 3/4″	15995T14	759.72
6	1/8″	6″	1 3/4″	15995T15	815.27
7	1/8″	6″	1 3/4″	15995T19	931.94

Self-Aligning Stamping Presses



AB12 3/32″ Ht. AB12 1/8″ Ht.

AB12 3/16″ Ht.

Create evenly spaced character impressions on keys, tags, plates, and other metal parts. Spin the dial to select a character and press the lever to stamp. Makes one character impression at a time and advances the marking material automatically. The character dial includes 0-9, uppercase A-Z, lowercase c, period, dash, apostrophe, forward slash (/), and ampersand (&).

For use on materials up to 5 3/4″ Wd. × 8″ Dp. × 1/8″ thick, with a Rockwell hardness up to C30. For blank plates and tags, see pages 1986 and 1987.

Imprint area is 4 3/8″ Wd. × 5 3/8″ Dp. Presses include one spacing rack for proper character alignment.

Optional universal key holder secures any type of flat key.

			Replacement Parts		
Character Ht.	Presses		Dials		Spacing Racks	
3/32″	1595T51	$2,115.82	1595T52	$696.00	1595T53	$122.67
1/8″	1595T17	2,115.82	1595T18	696.00	1595T19	122.67
3/16″	1595T24	2,115.82	1595T25	696.00	1595T26	122.67
Optional Universal Key Holder					1595T81	404.00

For information about character height, see page 1978.

Quick-Change Build-a-Message Steel Type Stamps

These characters can be easily configured and placed in a holder to stamp messages of your choosing on metal plates and parts. *Number sets* contain 0-9. *Letter sets* contain A-Z.

Characters (sold separately) are uppercase. If ordering replacement or additional type, make sure the overall character height and notch height match that of characters you already have.

Blanks must be inserted to fill unused spaces for the holders to work properly.



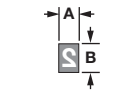

Type Dimensions

Standard

Holders are 5 1/4″ long and have a spring pin that securely locks the characters in place for proper alignment. For use on materials with a Rockwell hardness up to C28. Comes with a hex key for tightening characters into the holder.

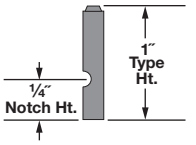



To Order: For individual characters, please specify number (0-9), letter (A-Z), period, forward slash (/), or dash. For holders, please specify type capacity.

Char. Ht.	Type Dimensions (A)	(B)	Individual Characters		Blanks		Sets: Number		Sets: Letter		Holders: Available Type Capacities		
1/16″	3/32″	1/4″	1570T16	$6.98	1570T22	$2.51	1570T712	$69.71	1570T612	$181.22	16	1570T31	$176.85
1/8″	1/8″	1/4″	1570T18	7.77	1570T24	2.56	1570T713	77.67	1570T613	201.91	8, 12, 15	1570T12	183.64
3/16″	3/16″	1/4″	1570T19	8.35	1570T25	2.64	1570T714	83.65	1570T614	217.44	10, 15	1570T15	194.15
1/4″	1/4″	3/8″	1570T5	9.58	1570T8	3.65	1570T715	96.24	1570T615	250.25	8, 12	1570T17	188.71
3/8″	3/8″	1/2″	1570T6	16.86	1570T9	7.78	1570T716	160.62	1570T616	417.64	6	1570T3	216.05
1/2″	1/2″	5/8″	1570T7	28.55	1570T11	11.18	1570T717	285.44	1570T617	742.09	6	1570T4	308.27

Pocket Size

Holders are 4 1/2″ Lg. × 1 1/4″ Wd. and have a retaining pin to keep the characters firmly in place. The shank is plastic coated for shock absorption. For use on materials with a Rockwell hardness up to C35. Holders come in a leather pouch.

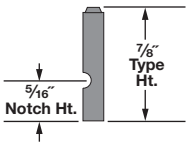



To Order: For individual characters, please specify number (0-9) or letter (A-Z).

Char. Ht.	Type Dimensions (A)	(B)	Individual Characters		Blanks		Sets: Number		Sets: Letter		Holders: Type Capacity		
1/16″	1/16″	1/4″	1571T73	$12.87	1571T83	$8.00	1571T32	$110.29	1571T31	$267.63	12	1571T15	$196.92
3/32″	3/32″	1/4″	1571T74	12.95	1571T84	7.92	1571T42	111.25	1571T41	272.24	8	1571T15	196.92
1/8″	1/8″	1/4″	1571T75	13.19	1571T85	8.24	1571T52	113.02	1571T51	284.80	6	1571T15	196.92
5/32″	5/32″	1/4″	1571T76	13.32	1571T86	8.46	1571T62	118.77	1571T61	286.74	4	1571T15■	196.92

■ Requires 1/8″ blank.

Build-a-Message Steel Type Stamp Sets

Everything you need to make your own messages in one convenient, compartmented case. All sets include a hex key for tightening characters into the holder. For holders to work properly, you must fill unused spaces with blanks.



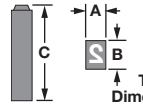

Type Dimensions

Sets with Standard Duty Holder

For use on materials with a Rockwell hardness up to C38. *Number and letter sets* contain a holder and 0-9, A-Z, period, forward slash (/), dash, ampersand (&), and blanks.



To Order: For individual characters, please specify number (0-9), letter (A-Z), period, forward slash (/), dash, ampersand (&), or blank.

Char. Ht.	Type Dimensions (A)	(B)	(C)	Holder: Type Capacity	Lg.	Wd.	Number and Letter Sets: No. of Pieces			Individual Characters		Replacement Holders	
1/16″	1/16″	1/4″	7/8″	18	3 7/8″	1 3/4″	112	8642T34	$347.74	8642T4	$10.72	8642T81	$85.75
3/32″	3/32″	1/4″	7/8″	12	3 7/8″	1 3/4″	112	8642T36	357.24	8642T5	10.80	8642T81	85.75
1/8″	1/8″	1/4″	7/8″	9	3 7/8″	1 3/4″	112	8642T37	359.72	8642T6	10.88	8642T81	85.75
3/16″	3/16″	1/4″	7/8″	8	3 7/8″	2 1/4″	106	8642T39	421.94	8642T7	12.38	8642T82	85.75
1/4″	1/4″	3/8″	3/4″	6	4 3/8″	2 5/8″	106	8642T83	659.72	8642T86	15.33	8642T85	215.71

Sets with Heavy Duty Holder

Because these holders are larger, they can absorb more hammer force and produce sharper character impressions. For use on materials with a Rockwell hardness up to C30. *Number and letter sets* contain a holder and 0-9, A-Z, period, forward slash (/), dash, comma, ampersand (&), and blanks.



To Order: For individual characters, please specify number (0-9), letter (A-Z), period, forward slash (/), dash, comma, ampersand (&), or blank.

Char. Ht.	Type Dimensions (A)	(B)	(C)	Holder: Type Capacity	Lg.	Wd.	Number and Letter Sets: No. of Pieces			Individual Characters		Replacement Holders	
1/16″	1/16″	1/4″	7/8″	24	6″	2″	106	8899T21	$362.90	8899T4	$4.36	8899T3	$163.64
3/32″	3/32″	1/4″	7/8″	16	6″	2″	106	8899T22	368.85	8899T5	4.53	8899T3	163.64
1/8″	1/8″	1/4″	7/8″	12	6″	2″	106	8899T23	375.00	8899T6	4.71	8899T3	163.64
3/16″	3/16″	1/4″	7/8″	8	6″	2″	106	8899T24	434.52	8899T7	5.40	8899T3	163.64

Character Punches & Etchers

Character Punches

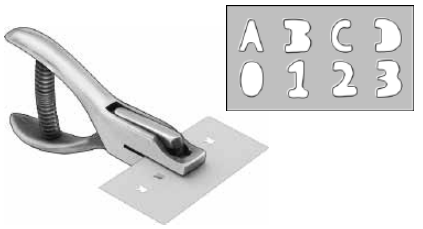

Punch holes, letters, or numbers through copier paper, laminated cardstock, and business cards up to 1/32″ thick.

Also Available: Three- and four-character punches with a 1 1/8″ reach. Please ask for 8645T999 and specify characters and 1/8″ or 3/16″ character height.

To Order: Please specify character height for hole punches or character(s) (0-9, A-Z) for character punches.

	Available Character Hts.	1″ Reach		2″ Reach	
Hole	1/8″, 3/16″, 1/4″ dia.	8645T9	$40.01	8645T11	$46.67
One Letter or Number	1/8″	8645T15	54.17	8645T21	64.58
One Letter or Number	3/16″	8645T17	47.50	8645T31	58.33
Two Letters or Numbers	3/16″	_____	____	8645T51	104.17
One Number and One Letter	3/16″	_____	____	8645T71	104.17

Metal Etching Pens



Contains an acid solution that flows like ink and allows you to write on the surface of heavy metals such as copper, nickel, stainless steel, brass, iron, tin, and lead. Marks are black, smudgeproof, and permanent.

1683T6 ..... $17.74

Electrochemical Etcher Kits



Deluxe Kit

Permanently mark metal with a handwritten message, design, or logo. Draw directly on the stencils and add electrolyte fluid to transfer your message to the marking surface. A placement grid allows for precise alignment. Makes impressions 0.0001″ to 0.003″ deep.

All kits operate on 115 volts AC and include a grounding plate and 6-ft. cord with two-prong plug. Etchers have AC voltage for dark marks and a DC voltage adapter for clear and frosted marks. Not for use on anodized aluminum.

Standard Kit

- Hand marker rated 2 amps @ 10 volts AC (1)
- DC voltage adapter clip (1)
- Stencils (10 small)
- Electrolyte (one 2-oz. bottle for general purpose)
- Neutralizing cleaner (one pack of cleaning powder mix)

8597T14 ..... $84.16

Deluxe Kit

- Hand marker rated 2 amps @ 10 volts AC (1)
- DC voltage adapter clip (1)
- Stencils (200 small, 25 medium, and 25 large)
- Grids (one medium and one large)
- Pads (10 small, five medium, and five large)
- Electrolyte (three 8-oz. bottles, one each for general purpose, stainless steel, and brass/copper/bronze; two 4-oz. bottles, one each for aluminum and black oxide)
- Neutralizing cleaner (one 8-oz. bottle of cleaner and two packs of cleaning powder mix)
- Plastic carrying case

8597T11 ..... $232.59

Deluxe Kit with Two Hand Markers

- Hand marker rated 2 amps @ 10 volts AC (1)
- Hand marker rated 10 amps @ 15 volts AC (1)
- DC voltage adapter clips (2)
- Stencils (200 small and 25 large)
- Grids (one small and one large)
- Pads (two small and five large)
- Electrolyte (two 8-oz. bottles, one each for general purpose and stainless steel; three 4-oz. bottles, one each for aluminum, black oxide, and brass/copper/bronze)
- Neutralizing cleaner (one 8-oz. bottle of cleaner and two packs of cleaning powder mix)
- Plastic carrying case

8597T43 ..... $359.95

Replacement Materials

	Small				Medium				Large			
	Ht.	Wd.	Pkg. Qty.	Pkg.	Ht.	Wd.	Pkg. Qty.	Pkg.	Ht.	Wd.	Pkg. Qty.	Pkg.
Stencils	2 1/4″	3″	100	8597T45 $13.04	3 1/2″	4″	50	8597T56 $11.05	4″	4 1/2″	50	8597T67 $13.01
Grids	7/8″	1 3/4″	3	8597T37 10.85	2 1/4″	2 1/2″	1	8597T41★ 30.49	2 1/4″	4″	1	8597T25★ 32.67
Pads	1 3/4″	2 1/4″	10	8597T36 10.85	2 1/4″	4″	10	8597T34 10.85	4″	4 1/4″	10	8597T28 11.95

★ Also includes five pads and 25 stencils.

Electrolyte for General Purpose Use, 16 oz.	8597T16	$11.95	
Electrolyte for Use on Stainless Steel, 16 oz.	8597T21	11.95	
Electrolyte for Use on Brass/Copper/Bronze, 16 oz.	8597T22	11.95	
Electrolyte for Use on Aluminum, 8 oz.	8597T23	10.85	
Electrolyte for Use on Black Oxide, 8 oz.	8597T24	$8.67	
Neutralizing Cleaner, 16 oz. Liquid	8597T18	10.85	
Neutralizing Cleaner, Powder Mix (to make 16 oz.)	8597T39	7.58	

Stencil Kits for Etching



Use your computer to print out images, copy, or logos and transfer them onto stencils with the UV exposure unit. The stencils are vinyl and can be used to etch metal and glass.

Operates on 115 volts AC and includes a 6-ft. cord with two-prong plug. Exposure unit is 12″ Ht. × 6″ Wd. × 5″ Dp.

- Ultraviolet exposure unit with 120 watt/365 Nm UV bulb (1)
- Digital timer (battery not included)
- Stencils (10 large)
- Aluminum exposure tray (1)
- Plastic developing tray (1)
- Stencil developer (one 16-oz. bottle)
- Developer sponges (4)
- Printer transfer sheets (three each for inkjet printers and laser printers)

Stencil Kit	2807T17	$185.40	
Required Battery (LR44) for Timer	7604K74	1.44	

Replacement Materials

	Wd.	Ht.	Pkg. Qty.	Pkg.	Wd.	Ht.	Pkg. Qty.	Pkg.
Small Stencils	2″	2 1/2″	10	2807T63■ $13.64	8 1/2″	11″	10	2807T68 $10.85
Medium Stencils	4″	4″	5	2807T65■ 17.40	8 1/2″	11″	10	2807T69 10.85
Large Stencils	5″	6″	5	2807T67■ 32.67	Stencil Developer (16-oz. bottle)			2807T61 Each $10.85

■ Stencil size listed is the maximum etching area.

Electric Etchers

Control the depth and width of metal etching marks with the turn of a knob. Etchers include a 120 volt AC transformer with 6-ft. cord and three-prong plug, grounding cord with clips, and a pen cord. Welding goggles are recommended for use with these machines (see page 1845).

Standard etchers come with a 42″ pen cord, a fine tungsten tip, a regular tungsten tip, a heavy duty tungsten tip, and a copper tip.

Heavy duty etcher is capable of etching heavy scale and rusted metal. It comes with a 60″ pen cord, a fine tungsten tip, a regular tungsten tip, a heavy duty tungsten tip, a heavy duty copper tip, and a copper tip.

Tungsten tips resist wear better than *copper tips*. *Heavy duty tungsten tips* have a larger diameter for etching wider marks. *Heavy duty copper tips* can be used for precision etching.



Electric Etchers

	Watts	Max. Output, volts	Heat Levels	Overall Size Ht.	Wd.	Dp.	Etchers		Repl. Pen Cords	
Standard	1,500	2.7	12	8″	6″	8″	1605T3	$666.67	1605T36	$136.00
Standard	1,500	2.7	15	8″	6″	8″	1605T1	798.87	1605T37	136.00
Heavy Duty	2,500	4.3	30	10″	8″	10″	1605T11	1,198.81	1605T39	160.00



Replacement Parts

Fine Tungsten Tip	1605T71	$38.20	Heavy Duty Copper Tip	1605T18	$57.30
Tungsten Tip	1605T51	38.20	Copper Tip	1605T41	28.60
Heavy Duty Tungsten Tip	1605T61	41.40	Cork Handle	1605T45	24.00

Electric Engravers

These adjustable-speed engravers make marks on metal, glass, plastic, wood, hard rubber, stone, and ceramic. *Carbide tips* are used for general purpose etching while *diamond tips* work well on extra-hard materials such as stone and ceramic. Maximum speed is 7,200 strokes per minute.

Economy engravers operate on 115 volts AC and have a 5-ft. cord with two-prong plug. Use the knob on the side to adjust speed. UL listed.

Pen-style engraver operates on 110 volts AC and has a 6 1/2-ft. cord with two-prong plug. Use the screw on the top to adjust speed. Also comes with one steel tip for engraving plastic.

Thumb-wheel control engravers operate on 120 volts AC and have a 7-ft. cord with three-prong plug. Use the wheel on the side to adjust speed.



	Amp Draw	Wt., lbs.	Engravers: With Carbide Tip		Engravers: With Carbide and Diamond Tips		Replacement Tips: Carbide		Replacement Tips: Diamond	
Economy	0.2	0.8	1613T1	$25.44	1613T2	$46.78	1613T3	$7.51	1613T4	$23.79
Pen Style	0.1	0.65	———	———	1864T22	79.80	1864T24	5.63	1864T25	21.25
Thumb-Wheel Control	1	0.9	1670T5	88.90	1670T19	121.98	1670T3	12.18	1670T4	25.47
Replacement Steel Tip for Pen-Style Engraver									1864T23	3.00

Air-Powered Engravers

Connect these pen-like engravers to a compressed air line and use to write on metal, glass, stone, ceramic, plastic, wood, and hard rubber. All engravers have a hose and carbide tip for general purpose engraving. Air consumption is 1.1 cfm at 90 psi.

Engravers

Adjustable speed allows you to modify the airflow so you can select the power to best suit your application.



	Max. Strokes/ Minute	Hose Inlet, NPT	Hose ID	Hose Lg.	Wt., lbs.	Engravers		Replacement Carbide Tips	
Standard	30,000	1/4″ Female	1/8″	6 ft.	0.3	1602T11	$299.84	1602T12	$54.52
Adjustable Speed	13,500	1/4″ Male	3/16″	8 ft.	0.3	1564T62	349.13	1564T68	32.68

Adjustable-Speed Engraver Kit and Replacement Parts

Kit includes one adjustable-speed engraver, an anvil holder, and four interchangeable tips: three steel tips (flat chisel, angled chisel, blank chisel) and one carbide tip. Also comes with an 8-ft. air hose, air filter assembly, and a carrying case.

Replacement tips and parts are for the adjustable-speed engraver only. *Flat chisel* works well for scaling and deburring. *Angled chisel* is used for cleaning weld beads. *Blank chisel* can be ground to a shape that suits your application. *Carbide tip* is for writing or marking.

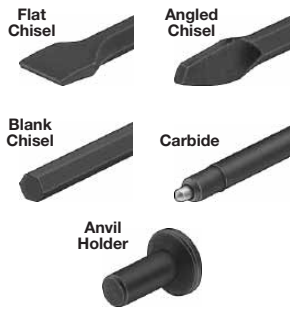



Adjustable-Speed Engraver Kit	1564T63	$457.67
Flat Chisel Tip	1564T65▲	66.40
Angled Chisel Tip	1564T66▲	57.18
Blank Chisel Tip	1564T74▲	33.73
Carbide Tip	1564T68	32.68
Anvil Holder	1564T64	15.32
8-ft. Air Hose	1564T69	32.38
Air Filter Assembly	1564T72	34.90

▲Requires anvil holder 1564T64 for operation.

Engravers & Branding Irons

Tracing Engravers

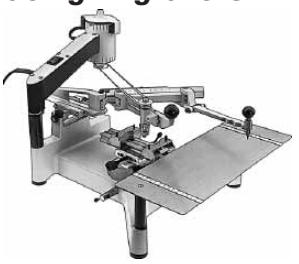

Also known as a pantograph, this adjustable engraver allows you to quickly make precise marks of varying sizes on plates and other objects. One end of the engraving arm traces the characters of your selected message while the other end engraves them into your surface. Creates enlarged, reduced, and one-to-one character sizes. The rotating cutter spindle allows for detailed work and smooth lines. Writes on plastic and metal. Operates on 120 volts AC and has a 4-ft. cord with three-prong plug.

Engraver comes with two carbide cutters, a diamond cutter (0.02″ tip), wrench, jigs, and sample material. The diamond cutter is for use on metal. The carbide cutters rout plastic so the core color is revealed.

It also comes with a brass number and letter set that can be used to create 25 different character heights. Includes 0-9, A-Z, 30 spacers, and a punctuation set of &, period, comma, dash, apostrophe, quotation marks, colon, and semicolon.

Number and letter set includes the characters listed above.

Engraver

Max. Engraving Area Ht.	Wd.	*Platform Dimensions* Ht.	Wd.	Max. Material Thick.	Engraved Character Ht. Range	Carbide Cutter Tip Sizes Included		
5¼″	Any Width	6″	16″	1¾″	1⁄7″ to ½″	0.02″, 0.03″	86175T41	$3,180.88

Replacement Cutters

	Available Tip Sizes		
Carbide Cutter for Plastic	0.02″, 0.03″, 0.06″	86175T42 ♣	$27.71
Carbide Cutter for Soft Metal	0.03″, 0.06″	86175T43	27.71
Diamond Cutter	0.02″	86175T44	39.80

♣ Do not use with phenolic.

Replacement Characters

	Engraved Character Ht. Range		
Number and Letter Set	1⁄7″ to ½″	86175T79	$374.86

Plastic Legend Plates

Engrave these plates and slip them over control-board buttons to clearly identify their function and mark system components. Plates are 0.063″ thick and meant for indoor use. They have a satin finish and straight edges.

To Order: Please specify black with white core, red with white core, or white with black core.









Hole Dia.	1⅜″ x 1⅝″	1¾″ x 1⅞″	1¾″ x 2″	1¾″ x 2″	1¾″ x 2″	1¾″ x 2″	1 13⁄16″ Sq.	Pkg. of 10
7⁄8″ (22 mm)	15325T63	15325T64						$11.95
1 3⁄16″ (30 mm)				15325T51	15325T57	15325T53	15325T52	11.95
1 7⁄32″ (31 mm)			15325T54		15325T55	15325T56		11.95

Branding Irons

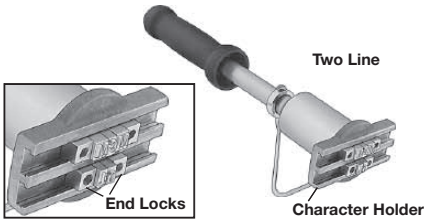

Quickly and uniformly brand your message in wood, leather, and rubber. Marks set in 2 to 6 seconds (allow 15 minutes for the iron to heat up). Irons have a steel housing and stainless steel shaft, ceramic heating element, and built-in stand. They operate on 120 volts AC and have a 4½-ft. cord with three-prong plug. *Optional temperature regulator* allows you to adjust the temperature between brands.

The maximum character capacity per line is eighteen 3⁄16″, twelve ¼″, nine 3⁄8″, five ½″, four ¾″, or three 1″ high characters. Each line has two movable end locks that hold characters in place so you can vary the number of characters in your message. All letters are uppercase.

Individual characters are 0-9, A-Z, &, period, comma, and dash. *Number sets* include one each of 0-9. *Letter sets* include one each of A-Z and a spacer (unless noted).

Also Available: Made-to-order branding irons. Please ask for 1581T999 and specify character height, characters, and/or logo design.

Branding Irons and Replacement Parts

For Character Ht.	Branding Irons		Repl. Character Holders		Repl. End Locks	
Single Line						
3⁄16″, ¼″, 3⁄8″, ½″	1581T47	$346.71	1581T25	$125.85	1581T151	$9.38
¾″, 1″	1581T57	346.71	1581T26	125.85	1581T155	9.38
Two Line						
3⁄16″, ¼″, 3⁄8″, ½″	1581T28	368.31	1581T27	146.53	1581T151	9.38
Optional Temperature Regulator					1581T11	81.89
Replacement Ceramic Fiber Insulation (Pkg. of 2)					1581T114	6.92
Replacement Heating Element					1581T112	128.74

Characters

AB12

Actual Size ¼″

To Order: For individual characters, please specify character. Spacers are required to fill unused spaces in your message.

Available Character Heights	Individual Characters		Spacers		Sets: Number		Sets: Letter	
3⁄16″, ¼″, 3⁄8″	1581T75	$9.38	1581T253	$9.38	1581T67	$85.69	1581T66 ♠	$220.89
½″, ¾″	1581T73	14.22	1581T251	9.38	1581T65	128.11	1581T64	311.47
1″	1581T61	17.15	1581T149	9.38	1581T63	155.38	1581T62	404.00

♠ Does not include a spacer.

Color-Contrasting Engraving Plates

Removing the surface layer of these engraving plates reveals a contrasting core color that makes messages stand out. Plates are 0.063″ thick and can be used for fine-line engraving. Plastic plates have a matte finish and aluminum plates have a satin finish. All have beveled edges (unless noted). For made-to-order engraved plates, see page 1909.

UV-resistant plastic plates work with rotary and laser engravers. Can be used outdoors.

Aluminum plates are more durable than plastic. They are nonconductive and have an anodized finish.



Plate Size Ht.	Wd.	Plastic Pkg. Qty.		Pkg.	UV-Resistant Plastic Pkg. Qty.		Pkg.	Aluminum Pkg. Qty.		Pkg.
Standard										
1″	3″	25	85915T25	$12.31	10	7778T31	$7.08	10	3817T311	$9.87
1″	6″	10	85915T26	6.93	5	7778T32	6.44	5	3817T321	9.34
1″	8″	10	85915T38	11.55	_	_____	____	_	_____	____
1″	10″	10	85915T27	13.27	5	7778T33	11.02	1	3817T331	2.60
1″	24″	5	85915T48	15.47	1	7778T34	4.27	1	3817T341	6.93
1½″	8″	10	85915T39	15.52	_	_____	____	_	_____	____
2″	4″	10	85915T29	8.65	5	7778T35	8.17	1	3817T351	2.08
2″	8″	5	85915T23	10.36	1	7778T36	2.89	1	3817T361	5.07
2″	10″	5	85915T54	11.45	1	7778T37	3.82	1	3817T371	5.43
2″	24″	1	85915T31	4.04	1	7778T39	9.12	1	3817T391	14.92
3″	6″	5	85915T62	9.86	1	7778T38	4.20	1	3817T381	5.39
3″	12″	1	85915T33	3.40	1	7778T41	6.86	1	3817T411	14.07
4″	10″	1	85915T34	3.66	1	7778T42	8.67	1	3817T421	12.55
5″	10″	1	85915T35	4.80	1	7778T43	10.83	1	3817T431	15.61
10″	10″	1	85915T36	9.33	1	7778T44	23.53	1	3817T441	31.02
10″	18″	1	85915T37	12.36	1	7778T45	44.58	1	3817T451	46.76
12″	24″	1	85915T22 ♦	13.63	1	7778T46	30.38	1	3817T461 ♦	39.72
24″	48″	1	85915T21 ♦	49.02	1	7778T47 ♦	84.46	_	_____	____
Adhesive Back										
1″	3″	25	4071T11	13.74	10	7778T11	8.45	10	3817T111	11.80
1″	6″	10	4071T14	9.89	5	7778T12	7.62	5	3817T121	11.16
2″	4″	10	4071T16	9.91	5	7778T13	9.39	1	3817T131	2.62
2″	8″	5	4071T19	10.04	1	7778T14	3.48	1	3817T141	6.12
2″	10″	5	4071T22	11.55	1	7778T15	4.60	1	3817T151	6.63
3″	6″	5	4071T25	10.67	1	7778T16	4.72	1	3817T161	6.52
12″	24″	1	4071T27 ♦	16.67	1	7778T17	21.70	1	3817T171 ♦	41.78
24″	48″	1	4071T38 ♦	64.28	1	7778T18 ♦	112.13	_	_____	____

♦ Straight edges.

Available Colors

Surface	Core
Plastic and UV-Resistant Plastic	
Black	White
Blue	White
Dark Walnut ★	White
Green	White
Red	White
White	Black
Yellow	Black
Aluminum	
Black	Silver

★ Standard plastic only.

Holders for Engraved Plates

Holders are aluminum and accommodate 0.063″ thick plates.

Wall Mount—Have two ⅛″ dia. mounting holes spaced 6″ center-to-center (fasteners not included).

Desk Stand—*Single-line holders* have a 1″ wide base. *Two-line holders* have a 2 3/16″ wide base.

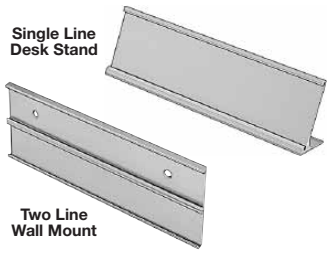

First Line Ht.	Wd.	Second Line Ht.	Wd.	Available Colors	Wall Mount		Desk Stand	
Single Line								
2″	8″	____	_	Gold, Silver	8629T11	$3.36	8629T21	$5.43
2″	10″	____	_	Gold, Silver	8629T12	3.81	8629T22	6.15
Two Line								
1″	8″	1″	8″	Gold, Silver	8629T15	4.63	_____	____
2″	8″	1½″	8″	Gold, Silver	_____	____	8629T25	13.76

Metal Embossing Plates

Embossing produces raised characters similar to a license plate. This can be useful in washdown applications where engraved or stamped impressions may fill with water or wear away.

Blank Plates

Shape	Ht.	Wd.	Thick.	Mounting Holes Dia.	Mounting Holes Ctr.-to-Ctr.	Aluminum Pkg. of 10		Galvanized Steel Pkg. of 10	
Rectangle	2″	4½″	0.008″ (35 ga.)	3/16″	3¾″	8625T16	$6.58	_____	____
Rectangle	2½″	5½″	0.008″ (35 ga.)	3/16″	4¾″	8625T17	9.98	8625T13	$10.10
Rectangle	3″	5½″	0.008″ (35 ga.)	3/16″	4¾″	8625T18	11.74	8625T14	11.98
Rectangle	3″	7″	0.008″ (35 ga.)	3/16″	6¼″	8625T19	13.44	_____	____


Rectangle

Made-to-Order Plates

Plates can be tailored to your particular needs. Plates are 24 ga./0.020″ thick.

Also Available: Other sizes and shapes. Please ask for 1569T999 and specify characters, plate size, shape, hole locations, and aluminum or brass.



Rounded Rectangle

To Order: Please specify characters and character height (choose from ¼″ and ½″). For sequential number plates, also specify number sequence.

Shape	Ht.	Wd.	Max. No. of Characters	Max. No. of Lines	Mounting Holes Dia.	Mounting Holes Ctr.-to-Ctr.	Aluminum	Each 1-199	Each 200-Up	Brass	Each 1-199	Each 200-Up
Identically Lettered												
Rounded Rectangle	¾″	2½″	5	1	⅛″	2⅛″	1569T62	$9.78	$6.42	1569T85	$10.78	$7.25
Rounded Rectangle	1″	3″	7	1	⅛″	2⅛″	1569T63	9.78	6.42	1569T86	10.78	7.25
Rectangle	1½″	3″	6	2	⅛″	2⅝″	1569T66	9.78	6.42	1569T9	10.78	7.25
Sequential Number												
Rounded Rectangle	¾″	2½″	5	1	⅛″	2⅛″	1569T7	9.78	6.24	1569T93	10.78	6.98
Rounded Rectangle	1″	3″	7	1	⅛″	2⅛″	1569T71	9.78	6.24	1569T94	10.78	6.98
Rectangle	1½″	3″	6	2	⅛″	2⅝″	1569T74	9.78	6.24	1569T97	10.78	6.98
Sequential Number with Heading												
Rounded Rectangle	¾″	2½″	5	1	⅛″	2⅛″	1569T77	9.78	6.32	1569T53	10.78	7.02
Rounded Rectangle	1″	3″	7	1	⅛″	2⅛″	1569T78	9.78	6.32	1569T54	10.78	7.02
Rectangle	1½″	3″	6	2	⅛″	2⅝″	1569T82	9.78	6.32	1569T57	10.78	7.02

Metal Engraving and Stamping Plates

Plates have two 1/8″ dia. holes for fastening with finishing nails or screws. Aluminum and brass plates are 18 ga./0.040″ thick, except gold anodized aluminum and where noted plates are 20 ga./0.032″ thick. Stainless steel plates are 20 ga./0.037″ thick. Maximum temperature is 600° F for anodized aluminum; 1400° F for aluminum; 1800° F for brass; and 2000° F for stainless steel.

Blank Plates


Rounded


Rectangle


Notched


Oval

Shape	Ht.	Wd.	Holes, Center-to-Center	Aluminum Pkg. Qty.	Aluminum	Aluminum Pkg.	Brass Pkg. Qty.	Brass	Brass Pkg.	Type 304 Stainless Steel Pkg. Qty.	Type 304 Stainless Steel	Type 304 Stainless Steel Pkg.	Type 316 Stainless Steel Pkg. Qty.	Type 316 Stainless Steel	Type 316 Stainless Steel Pkg.
Rounded	5/8″	1 15/16″	1 5/8″	50	1632T12	$11.74	25	1632T11	$9.12	25	1632T13	$11.78	25	1632T96	$16.91
Rounded	5/8″	2 13/16″	2 3/8″	25	1632T14★	7.62	25	1632T15★	13.37	10	1632T16	8.28	10	1632T97	7.13
Rounded	3/4″	3 1/8″	2 3/4″	25	1632T17★	7.82	10	1632T18★	8.65	10	1632T19	9.63	10	1632T98	12.53
Rounded	1″	2 1/8″	1 13/16″	25	1632T81	8.13	10	1632T82	8.56	10	1632T83	9.46	10	1632T99	11.20
Rectangle	1/2″	1 5/16″	1″	50	1632T34	11.65	25	1632T35	8.85	25	1632T36	11.00	10	1632T44	10.35
Rectangle	5/8″	2 1/2″	2 1/4″	50	1632T86	13.33	25	1632T87	13.11	10	1632T88	7.81	10	1632T69	8.26
Rectangle	3/4″	1 3/4″	1 1/2″	50	1632T37	14.08	25	1632T38	13.35	25	1632T39	14.71	25	1632T68	18.33
Rectangle	1″	2″	1 11/16″	50	1632T22	12.27	25	1632T21	13.49	10	1632T23	7.94	10	1632T67	9.28
Rectangle	1″	2 1/2″	2 1/4″	25	1632T24	12.46	10	1632T25	11.37	10	1632T26	12.29	10	1632T66	11.95
Rectangle	1″	3″	2 1/2″	25	1632T27	13.25	10	1632T28	12.45	10	1632T29	13.56	10	1632T65	13.86
Rectangle	1 1/2″	3″	2 5/8″	25	1632T32	9.19	10	1632T31	10.76	10	1632T33	12.54	10	1632T64	18.60
Rectangle	2″	4″	3 5/8″	3	1632T71	5.56	3	1632T72	10.69	3	1632T73	9.56	3	1632T59	16.06
Rectangle	2″	6″	5 5/8″	1	1632T89	6.05	1	1632T92	10.58	1	1632T94	8.04	1	1632T46	13.66
Rectangle	2″	8″	7 5/8″	1	1632T91	6.49	1	1632T93	12.14	1	1632T95	8.75	1	1632T47	14.85
Rectangle	3″	5″	4 5/8″	3	1632T75	6.85	3	1632T76	14.10	3	1632T77	12.27	1	1632T58	10.65
Notched	1 7/16″	3 1/16″	2 9/16″	25	1632T42	9.21	10	1632T41	10.42	10	1632T43	12.00	10	1632T57	17.65
Oval	3/4″	1 3/8″	1 1/16″	50	1632T54	8.81	25	1632T55	8.44	25	1632T56	10.62	25	1632T48	18.88
Oval	1″	1 7/8″	1 1/2″	50	1632T62	13.03	25	1632T61	12.06	10	1632T63	7.04	10	1632T45	12.55
Oval	1 3/16″	2 1/16″	1 3/4″	25	1632T52	7.36	10	1632T51	7.81	10	1632T53	7.67	10	1632T49	10.80

★ 20 ga./0.032″ thick.

Choose-a-Color Blank Plates



Shape	Ht.	Wd.	Holes, Center-to-Center	Available Colors	Anodized Aluminum Pkg. Qty.	Anodized Aluminum	Anodized Aluminum Pkg.
Rectangle	3/4″	1 3/4″	1 1/2″	Black, Blue, Gold, Green, Orange, Red, Yellow	5	6320T17	$9.02
Rectangle	1″	2″	1 11/16″	Black, Blue, Gold, Green, Orange, Red, Yellow	5	6320T18	9.51
Rectangle	1″	3″	2 1/2″	Black, Blue, Gold, Green, Orange, Red, Yellow	5	6320T7	9.67
Rectangle	1 1/2″	3″	2 5/8″	Black, Blue, Gold, Green, Orange, Red, Yellow	5	6320T19	12.00
Rectangle	2″	4″	3 5/8″	Black, Blue, Gold, Green, Orange, Red, Yellow	5	6320T31	14.57
Rectangle	3″	5″	4 5/8″	Black, Blue, Gold, Green, Orange, Red, Yellow	5	6320T9	15.88

Sequential Number Plates



Assign numbers in sequence to machinery, storage areas, and completed work. Numbers are stamped and filled with black enamel.

Shape	Ht.	Wd.	Holes, Center-to-Center	Available Number Ranges	Aluminum	Aluminum	Brass	Brass	Type 304 Stainless Steel	Type 304 Stainless Steel
Rounded	5/8″	1 15/16″	1 5/8″	001-010	1090T24	$12.62	1090T32	$14.47	1090T41	$24.82
Rounded	5/8″	1 15/16″	1 5/8″	001-025, 026-050, 051-075, 076-100	1090T21	28.68	1090T31	35.56	1090T46	56.04
Rounded	1″	2 1/8″	1 13/16″	001-010	1090T3	13.31	1090T1	17.94	1090T55	28.31
Rounded	1″	2 1/8″	1 13/16″	001-025, 026-050, 051-075, 076-100	1090T61	28.58	1090T15	40.58	1090T51	64.78

Made-to-Order Plates



Message with Sequential Numbers

Characters are filled with black enamel and range in height from 3/32″ to 1/2″ (the largest possible size will be used). Three lines maximum.

Identical Characters—Choose a message or number(s).
Sequential Numbers—Choose a number series.
Message with Sequential Numbers—Choose a message and number series.

Also Available: Type 316 stainless steel and anodized aluminum. Please ask for 1576T999 and specify material, shape, size, characters and/or number sequence, and color (for anodized aluminum only): black, blue, gold, green, orange, red, or yellow.

Shape	Ht.	Wd.	Holes, Center-to-Center	Aluminum	Aluminum 1-49	Aluminum 50-Up	Brass	Brass 1-49	Brass 50-Up	Type 304 Stainless Steel	Type 304 Stainless Steel 1-49	Type 304 Stainless Steel 50-Up
Identical Characters—To Order: Please specify characters.												
Rectangle	5/8″	2 1/2″	2 1/4″	1576T126	$6.37	$2.02	1576T226	$7.34	$2.78	1576T326	$8.00	$2.92
Notched	1 7/16″	3 1/16″	2 3/4″	1576T127	6.83	2.34	1576T227	7.88	3.50	1576T327	8.71	3.65
Oval	1″	1 7/8″	1 1/2″	1576T129	6.52	2.08	1576T229	7.52	2.65	1576T329	8.22	2.76
Oval	1 3/16″	2 1/16″	1 3/4″	1576T128	6.67	2.12	1576T228	7.70	2.91	1576T328	8.46	3.01
Sequential Numbers—To Order: Please specify number sequence.												
Rectangle	5/8″	2 1/2″	2 1/4″	1576T121	6.34	1.86	1576T221	7.29	2.33	1576T321	7.93	2.51
Notched	1 7/16″	3 1/16″	2 3/4″	1576T122	6.76	2.18	1576T222	7.83	2.82	1576T322	8.62	3.00
Oval	1″	1 7/8″	1 1/2″	1576T124	6.47	1.89	1576T224	7.45	2.39	1576T324	8.15	2.56
Oval	1 3/16″	2 1/16″	1 3/4″	1576T123	6.61	1.94	1576T223	7.64	2.45	1576T323	8.39	2.75
Message with Sequential Numbers—To Order: Please specify characters and number sequence.												
Rectangle	5/8″	2 1/2″	2 1/4″	1576T131	6.42	2.82	1576T231	7.40	3.50	1576T331	8.07	3.95
Notched	1 7/16″	3 1/16″	2 3/4″	1576T132	6.88	3.09	1576T232	7.95	4.46	1576T332	8.80	4.50
Oval	1″	1 7/8″	1 1/2″	1576T134	6.56	2.82	1576T234	7.58	3.52	1576T334	8.30	3.98
Oval	1 3/16″	2 1/16″	1 3/4″	1576T133	6.71	2.95	1576T233	7.76	3.70	1576T333	8.55	4.21

Metal Engraving and Stamping Tags

All tags have a 3/16″ dia. hole for hanging or fastening. Aluminum and brass tags are 18 ga./0.040″ thick, except gold anodized aluminum tags are 20 ga./0.032″ thick. Stainless steel tags are 20 ga./0.037″ thick. Maximum temperature is 600° F for anodized aluminum; 1400° F for aluminum; 1800° F for brass; and 2000° F for stainless steel.

Blank Tags













		Aluminum			Brass			Type 304 Stainless Steel			Type 316 Stainless Steel		
Shape	Size	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
Round	1″	50	1540T32	$6.25	50	1540T13	$11.15	50	1540T48	$12.15	25	1540T68	$10.41
Round	1¼″	50	1540T33	8.08	50	1540T14	15.45	25	1540T49	10.62	25	1540T54	17.48
Round	1⅜″	50	1540T34	9.06	25	1540T15	10.22	25	1540T5	12.92	25	1540T55	18.43
Round	1½″	50	1540T35	9.06	25	1540T16	13.23	25	1540T51	13.92	10	1540T69	14.24
Round	2″	50	1540T64	12.52	10	1540T47	8.94	10	1540T52	10.52	10	1540T56	13.20
Round with Ear	1″	50	1540T25	10.10	25	1540T26	9.75	25	1540T27	13.56	10	1540T87	11.57
Round with Ear	1¼″	25	1540T23	7.27	25	1540T22	14.01	10	1540T24	8.08	10	1540T57	9.78
Diamond	1¼″	50	1540T72	8.67	25	1540T71	10.87	25	1540T73	12.15	10	1540T88	10.35
Hexagon	1¼″	50	1540T75	8.56	25	1540T74	9.77	25	1540T76	10.85	10	1540T89	10.82
Octagon	1⅛″	50	1540T37	8.71	25	1540T18	10.22	25	1540T62	11.67	25	1540T59	18.03
Octagon	1¼″	50	1540T38	8.71	25	1540T19	10.22	25	1540T53	11.67	25	1540T58	18.90
Octagon	1½″	50	1540T39	9.58	25	1540T21	14.56	25	1540T63	14.83	10	1540T91	14.53
Square	1″	50	1540T77	8.54	50	1540T78	16.34	25	1540T79	10.73	25	1540T65	16.23
Square	1¼″	50	1540T36	8.71	25	1540T17	9.77	25	1540T61	12.15	10	1540T92	10.35
Square	1½″	25	1540T81	6.65	25	1540T82	13.08	10	1540T83	8.06	10	1540T66	10.06
Square	2″	25	1540T84	8.71	10	1540T85	10.00	10	1540T86	11.65	10	1540T67	16.91

Choose-a-Color Blank Tags



			Anodized Aluminum		
Shape	Size	Available Colors	Pkg. Qty.		Pkg.
Round	1″	Black, Blue, Gold, Green, Orange, Red, Yellow	5	6320T11	$8.42
Round	1½″	Black, Blue, Gold, Green, Orange, Red, Yellow	5	6320T2	8.10
Round	2″	Black, Blue, Gold, Green, Orange, Red, Yellow	5	6320T12	15.43
Round	3″	Black, Blue, Gold, Green, Orange, Red, Yellow	1	6320T13	5.69
Square	1″	Black, Blue, Gold, Green, Orange, Red, Yellow	5	6320T14	7.53
Square	1¼″	Black, Blue, Gold, Green, Orange, Red, Yellow	5	6320T15	8.64
Square	1½″	Black, Blue, Gold, Green, Orange, Red, Yellow	5	6320T4	8.10
Square	2″	Black, Blue, Gold, Green, Orange, Red, Yellow	5	6320T16	14.74

Sequential Number Tags

Assign numbers in sequence to machinery, storage areas, and completed work. Numbers are stamped and filled with black enamel.



			Aluminum		Brass		Type 304 Stainless Steel	
Shape	Size	Available Number Ranges						
Round	1″	001-010	—	—	1542T4	$9.76	—	—
Round	1″	001-025, 026-050, 051-075, 076-100	—	—	1542T211	24.40	—	—
Round	1¼″	001-010	1542T23	$8.46	1542T79	13.07	1542T77	$17.83
Round	1¼″	001-025, 026-050, 051-075, 076-100	1542T111	18.51	1542T311	27.52	1542T511	40.89
Round	1½″	001-010	—	—	1542T73	13.28	1542T43	21.24
Round	1½″	001-025, 026-050, 051-075, 076-100	—	—	1542T411	30.41	1542T611	48.58

Made-to-Order Tags

Characters are filled with black enamel and range in height from 3/32″ to 1/2″ (the largest possible size will be used). Three lines maximum.

Identical Characters—Choose a message or number(s).
Sequential Numbers—Choose a number series.
Message with Sequential Numbers—Choose a message and number series.

Also Available: Type 316 stainless steel and anodized aluminum. Please ask for 1538T999 and specify material, shape, size, characters and/or number sequence, and color (for anodized aluminum only): black, blue, gold, green, orange, red, or yellow.



Message with Sequential Numbers

		Aluminum			Brass			Type 304 Stainless Steel		
Shape	Available Sizes		1-49	50-Up		1-49	50-Up		1-49	50-Up
Identical Characters—To Order: Please specify characters.										
Round	1″, 1¼″, 1½″, 2″	1538T51	$5.75	$2.36	1538T55	$6.64	$2.94	1538T58	$7.21	$3.06
Octagon	1¼″, 1½″	1538T52	5.75	2.36	1538T56	6.64	2.94	1538T59	7.21	3.06
Square	1¼″, 1½″	1538T53	5.75	2.36	1538T57	6.64	2.94	1538T62	7.21	3.06
Oval	1″ × 17/16″	1538T344	5.75	2.36	1538T148	6.64	2.94	1538T248	7.21	3.06
Sequential Numbers—To Order: Please specify number sequence.										
Round	1″, 1¼″, 1½″, 2″	1538T63	5.68	2.15	1538T66	6.55	2.70	1538T69	7.10	2.78
Octagon	1¼″, 1½″	1538T64	5.68	2.15	1538T67	6.55	2.70	1538T71	7.10	2.78
Square	1¼″, 1½″	1538T65	5.68	2.15	1538T68	6.55	2.70	1538T72	7.10	2.78
Oval	1″ × 17/16″	1538T332	5.68	2.15	1538T134	6.55	2.70	1538T234	7.10	2.78
Message with Sequential Numbers—To Order: Please specify characters and number sequence.										
Round	1″, 1¼″, 1½″, 2″	1538T73	5.83	3.09	1538T76	6.74	3.69	1538T79	7.33	3.55
Octagon	1¼″, 1½″	1538T74	5.83	3.09	1538T77	6.74	3.69	1538T81	7.33	3.55
Square	1¼″, 1½″	1538T75	5.83	3.09	1538T78	6.74	3.69	1538T82	7.33	3.55
Oval	1″ × 17/16″	1538T356	5.83	3.09	1538T163	6.74	3.69	1538T263	7.33	3.55

Metal Tie-Down Plates



With holes at all four corners, you can fasten these plates horizontally and vertically. Secure with cable ties (see pages 1566-1570). Aluminum plates are 18 ga./0.040″ thick; and stainless steel plates are 20 ga./0.037″ thick. Maximum temperature is 1400° F for aluminum; and 2000° F for stainless steel.

			Aluminum			Type 304 Stainless Steel		
Ht.	Wd.	Hole Dia.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
1″	2″	1/8″	10	5392T11	$8.91	5	5392T21	$11.80
1 1/2″	3″	1/8″	10	5392T12	14.02	3	5392T22	9.84
2″	3″	1/8″	5	5392T13	8.91	3	5392T23	12.13

Easy-Hang Metal Engraving and Stamping Tags



Also known as miners' checks, these tags have a large hole for easy hanging. Aluminum tags are 16 ga./0.050″ thick; brass tags are 18 ga./0.040″ thick; and stainless steel tags are 18 ga./0.050″ thick. Maximum temperature is 1400° F for aluminum; 1800° F for brass; and 2000° F for stainless steel.

Material	Size	Hole Dia.	Pkg. Qty.		Pkg.
Aluminum	1 3/8″	3/8″	25	1541T26	$7.39
Brass	1 3/8″	3/8″	25	1541T13	14.65
Type 304 Stainless Steel	1 3/8″	3/8″	10	1541T45	7.57

Write-On Tear-Resistant Plastic Tags

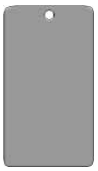

Without Wire Tie

Tags are made of a durable vinyl that is almost impossible to tear. They are 0.010″ thick and have a 3/16″ dia. brass eyelet. For use with permanent marker.

To Order: Please specify orange, red, silver, white, or yellow.

			Without Wire Tie		With 6″ Wire Tie	
Ht.	Wd.	Pkg. Qty.		Pkg.		Pkg.
2 3/4″	1 3/8″	25	1771T14	$6.67	1771T4	$8.86
3 1/4″	1 5/8″	25	1771T17	8.43	1771T2	10.71
3 3/4″	1 7/8″	25	1771T11	9.86	1771T5	12.37
4 1/4″	2 1/8″	25	1771T15	11.13	1771T6	13.68
4 3/4″	2 3/8″	25	1771T16	12.12	1771T7	14.76
5 1/4″	2 5/8″	25	1771T12	13.38	1771T8	14.88
5 3/4″	2 7/8″	25	1771T18	13.73	1771T1	14.94
6 1/4″	3 1/8″	10	1771T13	7.31	1771T9	8.43
7 1/4″	3 5/8″	10	1771T19	8.87	1771T3	10.38

Write-On Self-Laminating Plastic Tags



Write your message with permanent marker, or insert a printed message, then seal the adhesive laminate layer. Tags are 0.010″ thick PVC and have a brass eyelet. They have one hole (unless noted).

To Order: Please specify blue, green, orange, red, white, or yellow.

Ht.	Wd.	Hole Dia.		Pkg. of 10
3 1/4″	1 3/4″	1/4″	5778T11	$5.80
4 1/4″	2 1/4″	1/4″	5778T12	7.60
5 1/2″	3 1/4″	1/4″	5778T13	9.60
6″	3 1/2″	1/4″	5778T14■	13.80

■ Has four holes.

Write-On Lockable Plastic Tags



1 5/8″ × 3/4″ | 4″ × 2 1/2″

Wrap the notched loop around an object and slip the barbed end through the opening to secure. Tags are 0.010″ thick vinyl with a 1/4″ dia. hole that allows them to be hung upside down as well. For use with pen or permanent marker. 6″ loops have three barbs for size adjustment.

Writing Area Ht.	Wd.	Loop Lg.	Available Colors	Pkg. Qty.		Pkg.
1 5/8″	3/4″	1 9/16″	Blue, Orange, Red, White, Yellow	100	16175T7	$4.75
4″	2 1/2″	6″	Blue, Orange, Red, White, Yellow	25	16175T8	10.00

Write-On Plastic Tie-Down Plates



Use these flexible plates to label wire and cable bundles. They have a smudgeproof matte finish that you can write on with permanent marker. Plates are tan and 0.035″ thick. Fasten with cable ties (see pages 1566-1570).

Ht.	Wd.	Hole Dia.		Pkg. of 50
3/4″	1 1/2″	0.20″	7577K11	$6.95
3/4″	2 1/2″	0.20″	7577K12	7.97

Corrosion-Resistant Stainless Steel Tags



These Type 430 stainless steel tags are a good choice for harsh environments where corrosion is a concern. Tags are 35 ga./0.008″ thick. Maximum temperature is 1500° F.

Ht.	Wd.	Hole Dia.		Pkg. of 5
4 1/2″	2″	1/4″	5687T11	$6.09
5 1/2″	3″	1/4″	5687T12	7.47

Choose-a-Color Steel Tags



Often used for color coding and identification, you can engrave, stamp, or write messages on these tags. They have a matte finish and are 32 ga./0.008″ thick. Tags have one hole (unless noted). Maximum temperature is 500° F.

Ht.	Wd.	Hole Dia.	Available Colors	Pkg. Qty.		Pkg.
4 1/2″	7/8″	1/4″	Blue, Red, White, Yellow	50	1517T8★	$16.43
4 1/2″	2″	1/4″	White, Yellow	50	1517T71★	14.70
5 1/2″	3″	1/4″	Blue, Red, White, Yellow	25	1517T3	12.33
6 1/2″	3″	1/4″	Blue, Red, White, Yellow	10	1517T4	7.81
7 1/2″	3″	1/4″	Blue, Red, White, Yellow	10	1517T5	8.40

★ Has two holes (3 1/4″ center-to-center).

Plastic Tags

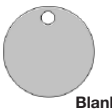

Blank

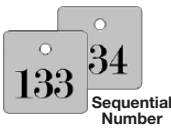

Sequential Number



Message with Sequential Numbers

All tags are 0.06″ thick.

Blank Tags

To Order: Please specify black, green, red, or white.

Shape	Size	Hole Dia.		Pkg. of 10
Round	7/8″	1/8″	1579T21	$7.55
Round	1 1/8″	1/8″	1579T32	7.75
Round	1 1/4″	1/8″	1579T43	7.85
Square	1 1/8″	1/8″	1579T54	7.75
Octagon	1 1/8″	1/8″	1579T65	7.75

Sequential Number Tags

To Order: Please specify color (black, green, or red tags with white characters or white tags with black characters) and number sequence for sets of 10 (1-10, 11-20, etc., up to 91-100) or for sets of 100 (1-100, 101-200, etc., up to 401-500).

Shape	Size	Hole Dia.		Set of 10		Set of 100
Round	1 1/8″	1/8″	1616T317	$7.71	1616T17	$64.17
Square	1 1/8″	1/8″	1616T421	7.71	1616T121	64.17
Octagon	1 1/8″	1/8″	1616T536	7.71	1616T131	64.17

Made-to-Order Tags

To Order: Please specify numbers, color (black, green, or red tags with white characters or white tags with black characters), and where necessary, number sequence and message. Minimum order is 100.

Shape	Size	Hole Dia.		Each 100-299	Each 300-Up
Identical Numbers					
Square	1 1/8″	1/8″	1616T93	$0.68	$0.62
Octagon	1 1/8″	1/8″	1616T94	.68	.62
Message with Sequential Numbers					
Round	1 1/8″	1/8″	1616T23	1.02	.92
Round	1 1/4″	1/8″	1616T25	1.02	.92
Square	1 1/8″	1/8″	1616T83	.92	.84
Octagon	1 1/8″	1/8″	1616T84	.92	.84

Dry-Erase Plastic Tags

A dry cloth wipes away writing so you always have a clean slate for your message. Tags are 0.023″ thick with a 5½″ long loop.



Ht.	Wd.	Available Colors	Pkg. Qty.		Pkg.
7″	4″	Blue, Green, Orange, Red, Yellow	5	1583T41	$13.57

Erasable Mark Plastic Tags

Pencil marks easily erase from these tags, but won't wash away or rub off accidentally. Tags are made of a laminated plastic that holds up to moisture, mild acids, and chemicals. They have a metal eyelet and are tear resistant. Round tags are 0.037″ thick; rectangle tags are 0.025″ thick.





To Order: Please specify blue, green, orange, pink, red, white, or yellow.

Shape	Ht.	Wd.	Hole Dia.	Pkg. Qty.		Pkg.
Round	1½″ Dia.	—	¼″	10	8176T36	$9.03
Round	2″ Dia.	—	¼″	10	8176T15	10.90
Rectangle	4″	2″	¼″	10	8176T76	9.18
Rectangle	5⅝″	3⅛″	⅜″	10	8176T26	13.59
Rectangle	6½″	3½″	¼″	5	8176T56	9.18

Numbered Tear-Off Tags

The perforated lower stub has the same number as the top portion so they can be matched.

Cardstock tags have RETAIN THIS CHECK printed on the lower stub in black ink. Both halves are numbered in red ink. Tags are 5¼″ Ht. × 2⅝″ Wd. × 0.010″ Thick. manila cardstock with a 3⁄16″ dia. fiber-reinforced eyelet and 6″ string tie.

Polypropylene tags are weather resistant, so they hold up in harsh conditions. Both halves are numbered in black ink. Tags are 3¼″ Ht. × 1⅝″ Wd. × 0.010″ Thick. with a ⅜″ dia. metal eyelet and 6″ wire tie.



Cardstock

Number Sequence	Pkg. Qty.	Cardstock	Pkg.	Polypropylene	Pkg.
000-099	100	1794T16	$11.00	—	—
000-249	250	1794T17	26.05	—	—
000-499	500	1794T11	46.53	1794T13	$64.76
500-999	500	1794T12	46.53	1794T14	64.76

Circular Cardstock Tags

Small enough to fit in tight spaces, these tags have a metal rim that prevents warping. They are 0.015″ thick and have a 3⁄16″ dia. hole. *Assorted color tags* include green, red, white, and yellow.



With Split Ring

Tags with ¾″ Dia. Split Ring

Size	White	Pkg. of 50	Assorted Colors	Pkg. of 25
1¼″	1781T11	$9.30	1781T23	$6.70

Tags with 5″ String Tie

Size	White	Pkg. of 50	Available Colors: Blue, Green, Red, or Yellow	Pkg. of 50
1 9⁄16″	1781T19	$8.23	1482T11	$10.13
2¼″	1781T22	12.21	1482T12	15.09

Sequential Number Plastic Security Tags

These tags can be permanently fastened to keys and other objects when you use the included riveting tool to lock the link. All tags are octagonal and 0.063″ thick. Blue and red tags are stamped with white sequential numbers. Orange and yellow tags are stamped with black sequential numbers.



Size	Hole Dia.	Available Colors	Number Ranges 1-100		101-200	
1¼″	¼″	Blue, Orange, Red, Yellow	1599T17	$77.65	1599T35	$77.65

Label Insert Key Tags

Write on the lined paper insert and close the transparent polypropylene cover to protect your key label. They come in assorted colors for easy distinction. Tag colors are blue, green, magenta, orange, purple, red, white, and yellow. Tags are 1⅛″ Ht. × 2¼″ Wd. × 0.25″ Thick. and have a ⅞″ dia. split ring.



Holder with 8 Tags

Holder with eight tags comes with adhesive backing, two mounting screws, and one each of the colors listed above. Holder size is 2½″ Ht. × 10½″ Wd. × ½″ Dp.

Holder with Eight Tags	15445T44	$7.38
Key Tags (Pkg. of 25)	15445T42	15.93

Easy-Hang Tags

Tags have a ⅞″ dia. hole for quick, easy hanging or fastening. They are 3½″ Ht. × 2⅛″ Wd. × 0.125″ Thick. *Identical* and *sequential number tags* are stamped on both sides with large white numbers.



Also Available: Nylon tags with letters or with letters and numbers. Please ask for 8616T23 and specify characters (maximum of four) and tag color (black, blue, or red).

Blank Tags

Material	Available Colors		Pkg. of 10
Nylon	Black, Blue, Green, Red, White, Yellow	8616T71	$13.78
Rubber	White, Yellow	8616T8	13.77

Identical Number Nylon Tags

To Order: Please specify number.

No. of Digits	Available Colors		Each 1-49	Each 50-Up
1-3	Black, Blue, Red	8616T21	$2.17	$1.86
4	Black, Blue, Red	8616T22	2.38	2.02

Sequential Number Nylon Tags

Number Range	Available Colors		Set
1-50	Black, Blue, Green, Red	8616T3	$84.78
1-100	Black, Blue, Green, Red	8616T4	169.57
1-500	Black, Blue, Green, Red	8616T5	709.09

Key Tags



Blank Shamrock



Blank Oval



Sequential Number Square Slotted

Identify and organize your keys. Tags are 0.063″ thick plastic with a snap hook that holds up to three standard keys.

Shamrock tags are white with a ¼″ dia. hole. *Sequential number tags* have black characters.

Oval tags are red with a ¼″ dia. hole. *Sequential number tags* have white characters.

Square slotted tags are white with a 3⁄16″ × ¾″ slit for hanging. *Sequential number tags* have black characters.

Also Available: Square slotted sequential number tags with 20 consecutive numbers. Please ask for 1333A35 and specify starting number (largest number cannot exceed 9999).

Blank Tags

Shape	Ht.	Wd.		Pkg. of 20
Shamrock	1¼″	1¼″	1333A1	$3.92
Oval	1⅜″	1⅛″	1333A21	5.23
Square Slotted	1½″	1½″	1333A31	6.78

Identical Number Tags

Shape	Ht.	Wd.	Available Numbers		Each
Shamrock	1¼″	1¼″	001 to 050	1333A26	$0.49
Oval	1⅜″	1⅛″	001 to 020	1333A25	.38

Sequential Number Tags

Shape	Ht.	Wd.	Available Number Ranges 001-040	Set	001-100, 101-200, or 201-300	Set
Shamrock	1¼″	1¼″	1333A17	$10.58	1333A55	$26.46
Oval	1⅜″	1⅛″	1333A15	14.92	1333A75	37.31
Square Slotted	1½″	1½″	1333A361	16.00	1333A65	38.11

Blank Tags

For tag ties and holders, see pages 1992-1993.

Cardstock Tags


Without Wire Tie


With Wire Tie

Use these blank tags for handwritten messages and to color code. Tags are 0.013″ thick and have a fiber-reinforced eyelet. Tags *in a dispenser box* stay clean and organized until you're ready to tear them off the perforated roll.

Also Available: Other tag sizes and thicknesses, and made-to-order tags. For manila, please ask for 1547T999 and specify tag size, thickness, and where necessary, message and/or design. For standard colors, please ask for 1776T999 and for fluorescent colors, please ask for 8579T999. Specify tag size, thickness, color, and where necessary, message and/or design.

Ht.	Wd.	Standard Industry No.	Manila Eyelet Dia.	Manila Pkg. Qty.		Manila Pkg.	Available Standard Colors: Blue, Gray, Green, Orange, Pink, Purple, Red, White, or Yellow Eyelet Dia.	Pkg. Qty.		Pkg.	Available Fluorescent Colors: Green, Orange, Pink, Red, or Yellow Eyelet Dia.	Pkg. Qty.		Pkg.
Without Wire Tie—Loose Tags														
2 3/4″	1 3/8″	#1	3/16″	500	1547T31	$8.36	9/32″	500	1776T4	$15.32	9/32″	100	8579T21	$3.25
3 1/4″	1 5/8″	#2	3/16″	500	1547T37	10.37	9/32″	250	1776T61	8.49	9/32″	100	8579T23	3.86
3 3/4″	1 7/8″	#3	3/16″	500	1547T12	13.20	9/32″	250	1776T17	9.50	9/32″	100	8579T25	4.45
4 1/4″	2 1/8″	#4	3/16″	500	1547T13	15.35	9/32″	250	1776T93	10.74	9/32″	100	8579T27	5.14
4 3/4″	2 3/8″	#5	3/16″	250	1547T15	9.77	9/32″	250	1776T87	12.17	9/32″	100	8579T61	5.92
5 1/4″	2 5/8″	#6	3/16″	250	1547T14	10.94	9/32″	250	1776T2	14.13	9/32″	100	8579T65	7.02
5 3/4″	2 7/8″	#7	3/16″	250	1547T19	12.65	9/32″	100	1776T71	7.17	9/32″	100	8579T29	7.76
6 1/4″	3 1/8″	#8	3/16″	250	1547T16	14.47	9/32″	100	1776T5	7.54	9/32″	100	8579T62	8.18
7 1/4″	3 5/8″	#10	3/16″	100	1547T68	10.23	3/16″	100	1776T83	12.81	9/32″	100	8579T31	12.70
8″	4″	#12	3/16″	100	1547T69	12.31	—	—	—	—	—	—	—	—
Without Wire Tie—Perforated Roll in a Dispenser Box														
3 3/4″	1 7/8″	#3	3/16″	500	5669T11	20.38	—	—	—	—	—	—	—	—
4 3/4″	2 3/8″	#5	3/16″	250	5669T12	19.16	—	—	—	—	—	—	—	—
6 1/4″	3 1/8″	#8	3/16″	250	5669T13	22.07	—	—	—	—	—	—	—	—
With 6″ Wire Tie—Loose Tags														
2 3/4″	1 3/8″	#1	3/16″	100	1547T21	6.32	9/32″	100	1776T62	6.95	9/32″	100	8579T72	8.97
3 1/4″	1 5/8″	#2	3/16″	100	1547T27	6.67	9/32″	100	1776T68	7.32	9/32″	100	8579T74	9.50
3 3/4″	1 7/8″	#3	3/16″	100	1547T22	7.21	9/32″	100	1776T63	7.61	9/32″	100	8579T76	10.12
4 1/4″	2 1/8″	#4	3/16″	100	1547T23	7.29	9/32″	100	1776T64	8.58	9/32″	100	8579T78	10.76
4 3/4″	2 3/8″	#5	3/16″	100	1547T45	7.55	9/32″	100	1776T65	9.02	9/32″	100	8579T43	10.87
5 1/4″	2 5/8″	#6	3/16″	100	1547T44	7.98	9/32″	100	1776T66	9.56	9/32″	100	8579T56	11.69
5 3/4″	2 7/8″	#7	3/16″	100	1547T29	8.77	9/32″	100	1776T79	11.14	9/32″	100	8579T82	13.31
6 1/4″	3 1/8″	#8	3/16″	100	1547T26	9.56	9/32″	100	1776T67	11.69	9/32″	100	8579T64	13.65
7 1/4″	3 5/8″	#10	3/16″	100	1547T76	13.84	3/16″	100	1776T91	14.35	9/32″	100	8579T84	14.92
8″	4″	#12	3/16″	50	1547T77	8.98	—	—	—	—	—	—	—	—

Cardstock Tags with Elastic Ties



The 2 1/2″ elastic tie stretches up to 5″ to slip easily over objects. Tags are blank and 0.013″ thick with a fiber-reinforced eyelet.

To Order: Please specify blue, green, manila, red, white, or yellow.

Ht.	Wd.	Standard Industry No.	Eyelet Dia.	Pkg. Qty.		Pkg.
2 3/4″	1 3/8″	#1	3/16″	250	3986T1	$12.07
3 1/4″	1 5/8″	#2	3/16″	250	3986T2	12.93
3 3/4″	1 7/8″	#3	3/16″	250	3986T3	13.76
4 1/4″	2 1/8″	#4	3/16″	250	3986T4	14.65
4 3/4″	2 3/8″	#5	3/16″	100	3986T5	7.46
5 1/4″	2 5/8″	#6	3/16″	100	3986T6	8.44
5 3/4″	2 7/8″	#7	3/16″	100	3986T7	9.28
6 1/4″	3 1/8″	#8	3/16″	100	3986T8	10.07

Cardstock Tags with String Ties



Tags are blank and have a 1/8″ dia. hole with 4″ string tie. They are 0.012″ thick for white and 0.013″ thick for colors.

Ht.	Wd.	White Pkg.	White Pkg. of 100	Available Colors: Blue, Green, Red, or Yellow Pkg.	Pkg. of 100
1 1/4″	7/8″	16005T15	$2.56	1709T11	$3.00
1 1/2″	15/16″	16005T31	2.35	1709T21	3.54
1 3/4″	1 1/8″	16005T12	2.80	1709T12★	3.54
1 7/8″	1 1/4″	16005T32	2.69	1709T23	3.65
2 3/16″	1 7/16″	16005T33	2.78	1709T24	3.77
2 7/8″	1 3/4″	16005T23	3.52	1709T13	4.37
3 1/4″	2″	16005T14	3.88	1709T14	4.97

★ Also available in fluorescent colors: green, orange, pink, red, or yellow.

Tear- and Chemical-Resistant Tyvek Tags


Without Wire Tie


With Wire Tie

These Tyvek tags can withstand frequent handling and applications involving mild acids and alkalies. They are 0.008″ thick and have a metal eyelet.

Ht.	Wd.	Standard Industry No.	Eyelet Dia.	White Pkg. Qty.		White Pkg.	Available Colors: Blue, Green, Orange, Red, or Yellow Pkg. Qty.		Pkg.
Without Wire Tie									
2 3/4″	1 3/8″	#1	1/4″	100	15765T26	$6.60	100	15765T42	$15.28
3 1/4″	1 5/8″	#2	1/4″	100	15765T11	7.11	50	15765T31	9.28
3 3/4″	1 7/8″	#3	1/4″	100	15765T27	8.77	100	15765T43	15.67
4 1/4″	2 1/8″	#4	1/4″	100	15765T13	10.05	50	15765T32	9.01
4 3/4″	2 3/8″	#5	1/4″	100	15765T15	10.53	50	15765T33	10.05
5 1/4″	2 5/8″	#6	1/4″	100	15765T14	11.63	50	15765T34	11.65
5 3/4″	2 7/8″	#7	1/4″	50	15765T28	6.78	50	15765T44	12.54
6 1/4″	3 1/8″	#8	1/4″	50	15765T17	7.25	50	15765T35	12.81
7 1/4″	3 5/8″	#10	3/16″	50	15765T29	11.25	50	15765T45	14.55
With 6″ Wire Tie									
2 3/4″	1 3/8″	#1	1/4″	100	15765T61	10.35	100	15765T46	16.47
3 1/4″	1 5/8″	#2	1/4″	100	15765T21	10.57	50	15765T36	10.53
3 3/4″	1 7/8″	#3	1/4″	100	15765T62	11.88	50	15765T47	9.96
4 1/4″	2 1/8″	#4	1/4″	100	15765T22	13.27	50	15765T37	12.17
4 3/4″	2 3/8″	#5	1/4″	50	15765T23	7.91	50	15765T38	12.41
5 1/4″	2 5/8″	#6	1/4″	50	15765T24	7.15	50	15765T39	13.59
5 3/4″	2 7/8″	#7	1/4″	50	15765T63	4.81	50	15765T48	13.20
6 1/4″	3 1/8″	#8	1/4″	50	15765T25	9.06	50	15765T41	14.31
7 1/4″	3 5/8″	#10	3/16″	50	15765T64	13.75	50	15765T49	14.75

Weather-Resistant Laminated Cardstock Tags

These cardstock tags are covered with aluminum laminate so they can be used outdoors. Write on either side of the tag with pen, pencil, or a sharp object to create impressions that are visible, even if the ink wears away. Tags are 0.020″ thick with a 3/16″ dia. hole.


Round


Octagon

Ht.	Wd.	Without Wire Tie: Pkg. Qty.	Plain Hole	Pkg.	Aluminum Eyelet	Pkg.	With 6″ Wire Tie: Pkg. Qty.	Plain Hole	Pkg.	Aluminum Eyelet	Pkg.
Round											
1 1/2″ Dia.	—	25	1738T13	$8.50	—	—	—	—	—	—	—
Octagon											
1 1/4″	1 1/4″	25	1738T16	8.50	—	—	—	—	—	—	—
Rectangle											
2 3/4″	1 3/8″	25	1692T54	5.67	1692T56	$8.74	25	1692T55	$10.19	1692T57	$13.07
3″	3/4″	25	1692T24	5.34	1692T26	7.86	25	1692T25	8.50	1692T27	11.62
3 1/8″	1 3/8″	25	1692T14	6.56	1692T16	9.53	25	1692T15	10.33	1692T17	13.40
4″	2″	25	1692T34	8.25	1692T36	10.84	25	1692T35	11.57	1692T37	14.33
4 1/4″	2 1/8″	25	1692T64	8.17	1692T66	11.15	25	1692T65	12.86	1692T67	14.67
4 3/4″	2 3/8″	25	1692T74	9.68	1692T76	12.78	25	1692T75	13.60	1692T77	14.91
5″	3″	25	1692T44	12.38	1692T46	14.03	10	1692T45	9.14	1692T47	10.69
5 3/4″	2 7/8″	10	1692T94	6.45	1692T96	7.35	10	1692T95	6.25	1692T97	6.55
6 1/4″	3 1/8″	25	1692T84	14.85	1692T86	14.75	10	1692T85	9.39	1692T87	12.10


Rectangle with 6″ Wire Tie

Numbered Inventory Cardstock Tags

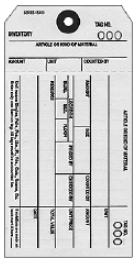
(Front) Tear-Off

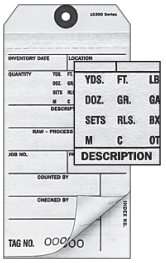

(Front) Duplicate and Triplicate


(Back) All

Tags are numbered so you can match the detachable stubs or copies with the original to keep track of inventory. Tags are 6 1/4″ Ht. × 3 1/8″ Wd. manila cardstock with a 3/16″ dia. fiber-reinforced eyelet. All have black printing on both sides. Tear-off tags are 0.010″ thick. Duplicate and triplicate tags are 0.008″ thick.

Tear-off tags have a perforated stub that matches the top portion.
Duplicate tags have a top sheet that makes a duplicate copy.
Triplicate tags have an additional sheet for a third copy.

Also Available: Green or orange tear-off tags in a package of 1,000. For green, ask for 8659T881 and specify number sequence. For orange, ask for 8659T882 and specify number sequence.

Available Starting Numbers	Pkg. Qty.		Pkg.
Tear-Off			
000, 250, 500, 750	250	8659T42	$15.40
000, 1000, 2000, etc., up to 9000	1,000	8659T28	65.68
Duplicate			
000, 100, 200, 300, 400	100	86055T333	14.85
000, 500, 1000, etc., up to 14500	500	86055T888	63.64
Triplicate			
000, 100, 200, 300, 400	100	86055T444	15.24
000, 500, 1000, etc., up to 14500	500	86055T777	75.21

Numbered Create-a-Copy Cardstock Tags



When you write on the white top sheet, two additional copies with the same number are created—one on the pink middle bond sheet and another on the manila cardstock backing. Numbers are red on the top sheet and blue on the two copies. Tags are 6 1/4″ Ht. × 3 1/8″ Wd. × 0.008″ Thick. with a 3/16″ dia. fiber-reinforced eyelet.

Available Starting Numbers	Pkg. Qty.		Pkg.
000, 100, 200, 300, 400, 500	100	1103T222	$15.24
000, 500, 1000, etc., up to 9500	500	1103T777	81.61

Color-Coded Tear-Off Cardstock Tags



Tags have perforated green, yellow, and red sections that can be torn off to visually indicate when the status of an item or project changes. Tags are 5 3/4″ Ht. × 2 7/8″ Wd. × 0.016″ Thick. with a 3/16″ dia. metal eyelet.

1626T7 (Pkg. of 50) $14.93

5S Red Tags



Sort and flag items for removal or disposal with these highly visible red tags. Tags have black printing on both sides and can be filled out with pen. They are 6″ Ht. × 3 1/4″ Wd. × 0.015″ Thick. PVC with a 1/4″ dia. metal eyelet.

8570T11 (Pkg. of 10) $7.80

Material Management Cardstock Tags

You can immediately identify the message on these tags used to mark equipment and track work in progress. Tags are 2 3/8″ Ht. × 4 3/4″ Wd. × 0.010″ Thick. with a 3/16″ dia. fiber-reinforced eyelet. All have black printing on one side. *Style C tags* are sequentially numbered (000 to 099 for 15405T49; and 000 to 999 for 15405T52).

Style	Heading	Tag Color	Pkg. of 100		Pkg. of 1,000	
Standard Colors						
A	ACCEPTED	Blue	15405T46	$7.87	15405T47	$59.30
B	REJECTED	Red	15405T48	7.85	15405T51	59.28
C	REPAIRABLE or REWORK	Green	15405T49	7.87	15405T52	59.28
D	SCRAP	Yellow	15405T61	7.84	15405T64	59.27
D	RETURN TO STOCK	Yellow	15405T67	7.84	15405T72	59.27
D	SAMPLE	White	15405T76	7.84	15405T79	59.27
D	RETURNED GOODS	White	15405T82	7.84	15405T85	59.27
D	INSPECTED	Green	15405T88	7.84	15405T11	59.27
D	TESTED	Green	15405T14	7.84	15405T17	59.27
Fluorescent Colors						
D	DEFECTIVE DO NOT USE	Red	15405T21	7.86	15405T22	59.27
D	HOLD	Yellow	15405T23	7.86	15405T24	59.27
D	OK TO USE	Green	15405T25	7.86	15405T26	59.27
D	REPAIR	Yellow	15405T27	7.86	15405T28	59.27

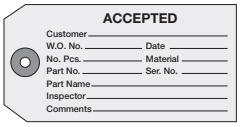

Style A

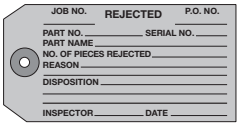

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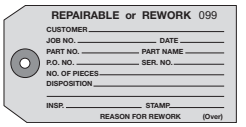

Style C

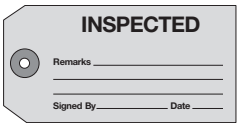

Style D

Weather-Resistant Inspection and Maintenance Tags



Aluminum-Laminated Cardstock



Adhesive-Back Aluminum



Plastic-Laminated Cardstock

Keep maintenance records near equipment, indoors and out. Tags have space for dates, initials, and notes.

Aluminum-laminated cardstock tags can be marked with a ball point pen to create permanent impressions. The front and back have printing, except the tag with the INSPECTED heading has a blank back. All are 0.020″ thick.

Plastic-laminated cardstock tags resist moisture, oil, mild acids, and chemicals. Pencil marks are erasable. The front and back of the tags have printing. All are 0.025″ thick and have a metal eyelet. These tags help you conform to OSHA 29 CFR 1910.145(f) and ANSI Z535.2-1991, except tags with EQUIPMENT INSPECTION and SAFETY EQUIPMENT INSPECTION headings.

Heading	Ht.	Wd.	Eyelet Dia.	Color: Lettering	Color: Background	Pkg. Qty.		Pkg.
Aluminum-Laminated Cardstock								
INSPECTED	4″	2″	3/16″	Black	Silver	25	15455T11	$11.46
INSPECTION RECORD	5″	3″	3/16″	Black	Silver	10	15455T13	13.51
MAINTENANCE RECORD	5″	3″	3/16″	Black	Silver	10	15455T16	13.51
SAFETY RECORD	5″	3″	3/16″	Black	Silver	10	15455T15	13.51
SERVICE RECORD	5″	3″	3/16″	Black	Silver	10	15455T14	13.51
Adhesive-Back Aluminum								
INSPECTION/TEST RECORD	4 1/4″	3″	—	Black	Silver	10	15455T17	13.38
SERVICE DATE	4 1/4″	3″	—	Black	Silver	10	15455T19	13.38
SERVICE RECORD	4 1/4″	3″	—	Black	Silver	10	15455T18	13.38
Plastic-Laminated Cardstock								
ELECTRICAL REPAIRS REQUIRED	5 5/8″	3 1/8″	3/8″	Black	Orange	10	5862T11	15.57
EQUIPMENT INSPECTION	5 5/8″	3 1/8″	3/8″	Black	White	10	15455T22	13.59
FIRE EXTINGUISHER RECHARGE & REINSPECTION RECORD	5 5/8″	3 1/8″	3/8″	Black/Red	White	10	8286T14	15.57
MECHANICAL REPAIRS REQUIRED	5 5/8″	3 1/8″	3/8″	Black	Yellow	10	5862T12	15.57
PIPEFITTING REPAIRS REQUIRED	5 5/8″	3 1/8″	3/8″	Black	White	10	5862T13	15.57
SAFETY EQUIPMENT INSPECTION	5 5/8″	3 1/8″	3/8″	Green	White	10	15455T21	13.59

Cylinder Tags





Indicate whether cylinders are full or empty. Tags are plastic-laminated cardstock and have white lettering on the front and back. They are 0.025″ thick and have a metal eyelet. These tags help you conform to OSHA 29 CFR 1910.145(f) and ANSI Z535.2-1991.

Heading	Ht.	Wd.	Eyelet Dia.	Color		Pkg. of 10
Full Cylinder	5 5/8″	3 1/8″	3/8″	Green	5862T15	$15.57
Empty Cylinder	5 5/8″	3 1/8″	3/8″	Red	5862T14	15.57

Tag Ties


String


Wire

Material	Lg.	Pkg. Qty.		Pkg.
String				
Polished Cotton	12″	1,000	2010T17	$12.41
No-Slip Waxed Cotton	13″	100	2010T18	12.30
Elastic	9″	100	2010T19	5.25
Wire (0.018″ Dia.)				
Galvanized Steel	7 1/2″	1,000	2010T14	8.17
Galvanized Steel	12″	1,000	2010T13	13.35
Galvanized Steel	18″	500	2010T15	9.25
Type 304 Stainless Steel	7 1/2″	100	2010T21	6.03
Type 304 Stainless Steel	12″	100	2010T22	7.22
Type 304 Stainless Steel	18″	100	2010T23	9.98

Tag-Fastener Guns




Fastener


Hook

Secure tags to woven material. Gun is plastic with a steel needle and a needle guard.

Optional heavy duty needle is for thick materials such as canvas and leather. It's made of nickel-plated steel.

Tag-Fastener Gun	86005T42	$18.82
Plastic Fasteners—Available Lengths: 1/2″, 1″, 2″, 3″ (Pkg. of 2,500)	86005T78	6.10
Plastic Hooks—2″ Long (Pkg. of 1,000)	86005T51	4.20
Replacement Needles (Pkg. of 4)	86005T47	11.60
Optional Heavy Duty Needle (Sold Individually)	86005T55	3.75

Tag and Key Holders

Ties, Chains, and Coils

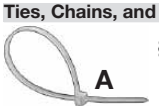
A


B


C


D

Lg.	Wd.	Available Colors/Finish	Pkg. Qty.		Pkg.
(A) Cable Ties—Nylon					
5 1/2″	0.14″	White	100	86805T63	$4.31
8 1/2″	0.14″	White	100	86805T64	5.48
11″	0.18″	White	100	86805T65	7.01
(B) Bead Ties—Nylon					
5″	3/32″	White	100	86805T61	6.41
10 1/2″	1/8″	White	50	86805T62	8.43
(C) Bead Chains—Steel					
4 1/2″	1/8″	Brass Plated, Nickel Plated	100	8612T21	9.04
6″	1/8″	Brass Plated, Nickel Plated	100	8612T22	11.81
(D) Wrist Coil with 7/8″ Split Ring—Polyurethane					
2″-12″	0.12″	Black, Blue, Red	5	5765T11	13.63

Rings and Clips


E


F


G


H


J


K

ID	Wire Dia.	End Style	Pkg. Qty.		Pkg.
(E) Split Rings—Zinc-Plated Steel					
0.43″	0.05″	—	100	86805T32	$12.29
0.46″	0.06″	—	100	86805T33	14.95
0.53″	0.06″	—	50	86805T34	9.16
0.60″	0.06″	—	50	86805T35	11.09
0.80″	0.07″	—	50	86805T36	11.67
0.93″	0.07″	—	50	86805T37	12.64
1.06″	0.08″	—	50	86805T38	15.10
1.16″	0.09″	—	25	86805T39	10.49
1.40″	0.11″	—	10	86805T41	7.25
2.02″	0.11″	—	10	86805T42	7.98
(F) Easy-On/Easy-Off Tang End Ring—Nickel-Plated Steel					
1″	0.06″	—	100	14375T9	10.67
(G) Lift-Open/Snap-Shut Rings—Nickel-Plated Steel					
3/4″	0.09″	—	50	8596T35	8.01
1″	0.11″	—	50	8596T36	8.45
1 1/2″	0.12″	—	50	8596T38	10.20
2″	0.12″	—	50	8596T39	14.23
2 1/2″	0.13″	—	25	8596T25	13.40
3″	0.17″	—	10	8596T23	6.43
(H) Diamond Rings—Galvanized Steel					
15/16″ × 9/16″	0.05″	Blunt	100	1600T62	3.41
15/16″ × 9/16″	0.05″	Sharp	100	1600T63	3.41
(J) Double-Loop Tag Clip—Steel					
5/8″, 1 1/8″	0.08″	—	100	6833T1	15.56
(K) Stay-Put Spring-Close Ring—Type 302 Stainless Steel					
1 1/2″	0.05″	—	50	5931T1	8.50

Secure-Close Tag and Key Holders

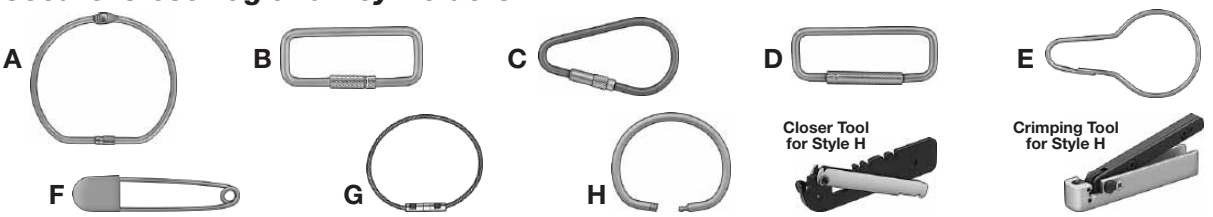

(A-C) Thread Lock

ID	Wire Dia.		Each
(A) Oblong—Nickel-Plated Steel			
3 1/2"	0.17"	8614T5	$5.48
4 1/4"	0.17"	8614T1	6.23
4 3/4"	0.19"	8614T2	6.94
6"	0.19"	8614T3	7.60
6 3/4"	0.21"	8614T4	8.66
11 1/2"	0.19"	8614T7	9.88

Size	Wire Dia.	Available Colors		Pkg. of 10
(B) Rectangle—Nickel-Plated Steel				
1/2" x 1 11/16"	0.12"		1545T7	$9.50
(C) Choose-a-Color Oval—Anodized Aluminum				
2" x 1"	0.13"	Blue, Green, Purple, Red, Silver	2059T15	13.91

(D-F) Spring Lock

Size	Wire Dia.	Pkg. Qty.		Pkg.
(D) Rectangle—Nickel-Plated Steel				
1/2" x 1 3/4"	0.11"	25	1545T1	$12.81
(E) Oval—Zinc-Plated Steel				
1 3/8" x 2 1/2"	0.08"	100	86805T85	9.73

Lg.	Wire Dia.	Pkg. Qty.		Pkg.
(F) Safety Pins—Type 304 Stainless Steel				
3 1/4"	0.10"	10	1233T11	$14.64
4 1/4"	0.14"	10	1233T12	13.70
5"	0.14"	10	1233T13	14.47

(G-H) Twist and Crimp

(G) Twist Locks—For reusable applications, locks twist open and closed. To permanently close, crimp the locking clasp with pliers. Twist locks are 5" long when opened. *Assorted* colors package includes one each of black, blue, green, purple, and red.

Size	Wire Dia.	Available Colors		Pkg. of 5
(G) Twist Locks—Stainless Steel				
1 1/4" x 1 11/16"	1/16"		12625A25	$10.25
(G) Choose-a-Color Twist Locks—Nylon-Coated Steel				
1 1/4" x 1 5/8"	3/32"	Black, Blue, Red, Assorted	12625A26	11.10

(H) Security Crimp Rings—Create a tamper-evident seal when locked. After the seal is broken, the ring cannot be reused. For the cleanest closure, use the closer and crimping tools (sold separately).

ID	Wire Dia.	Rings Each	Closer Tool Each	Crimping Tool Each
(H) Security Crimp Rings—Type 303 Stainless Steel				
1"	0.16"	81425T41 $6.80	81425T47 $53.49	81425T46 $119.79
1 5/8"	0.16"	81425T42 7.37	81425T47 53.49	81425T46 119.79
2"	0.16"	81425T43 8.09	81425T47 53.49	81425T46 119.79
3"	0.16"	81425T44 9.14	81425T47 53.49	81425T46 119.79
4"	0.16"	81425T45 10.29	81425T47 53.49	81425T46 119.79

Choose-a-Color Vinyl Tape

Tape



Identify shelving, equipment, and material at a glance with this adhesive-back vinyl tape.

General purpose tape is 0.003" thick. Core is 3" dia.

Reflective tape is 0.006" thick. Core is 3" dia.

High-temperature tape is autoclavable and has a maximum temperature of 240° F. Tape is 0.006" thick. Core is 1" dia.

To Order: Please specify black, blue, green, orange, red, white, or yellow (unless noted).

Wd.	General Purpose 30-ft. Roll		Reflective 30-ft. Roll		High Temperature 20-ft. Roll	
1/8"	8581T47	$10.76	8581T52	$15.74	6866T1	$18.18
1/4"	8581T34	11.02	8581T41 ★	16.30	6866T2	18.18
3/8"	8581T48	11.35	8581T53	16.71	6866T3	20.00
1/2"	8581T35	11.62	8581T42 ★	17.08		
3/4"	8581T49	11.90				
1"	8581T36	12.24				
1 1/2"	8581T51	12.96				
2"	8581T37	13.55				
4"	8581T38 ■	15.76				

★ Not available in black. ■ Roll is 15-ft. long.

Assortment and Refills



Includes individual dispensers with blue, green, orange, pink, purple, and yellow tape. Tape is 0.003" thick vinyl.

To Order: For *refills*, please specify beige, blue, gray, green, orange, pink, purple, red, teal, white, or yellow.

Wd.	Assortment Lg.			Tape Refills Lg.		
1/4"	3 ft.	4839T12	$52.92	10 ft.	4839T21	$14.00

Washers with Tag Hole



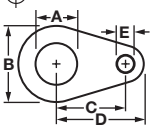

Attach a chain, wire, cord, or tag (not included) to the small offset hole in these handy washers. Made from C1008-C1010 steel, they have a minimum Rockwell hardness of B90.

Screw Size	(A)	(B)	(C)	(D)	(E)	Pkg. Qty.		Pkg.
No. 10	0.22"	0.33"	0.47"	0.57"	0.11"	10	96995A110	$11.70
No. 12	0.23"	0.5"	0.66"	0.8"	0.11"	10	96995A120	11.84
No. 12	0.28"	0.41"	0.5"	0.6"	0.11"	10	96995A130	11.98
1/4"	0.34"	0.51"	0.63"	0.75"	0.14"	10	96995A140	12.40
1/4"	0.34"	0.56"	0.81"	0.95"	0.14"	10	96995A150	16.20
5/16"	0.38"	0.64"	0.47"	0.71"	0.2"	10	96995A160	16.24
9/16"	0.64"	1"	0.7"	0.95"	0.13"	10	96995A170	16.07
9/16"	0.65"	0.91"	0.98"	1.13"	0.13"	10	96995A180	19.36
1"	1.15"	1.56"	1.03"	1.15"	0.13"	5	96995A190	18.52

Choose-a-Color Arrow Labels

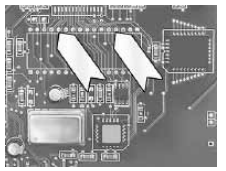

Use adhesive-back arrows to mark key areas on equipment and documents. **Paper** labels are 0.006" thick. **Vinyl** labels are 0.005" thick.

To Order: For *paper* labels, please specify blue, green, orange, red, white, yellow, fluorescent green, fluorescent pink, fluorescent red, or fluorescent yellow. For *vinyl* labels, please specify black, blue, green, red, or yellow.

Wd.	Lg.	Paper Roll of 1,000		Vinyl Roll of 1,000	
1/8"	3/16"	16295T11	$3.96	16295T19	$4.30
3/16"	1/4"	16295T13	4.12	16295T21	4.47
1/4"	3/8"	16295T15	4.47	16295T22	4.90
5/16"	3/4"	16295T17	5.42	16295T23	6.05

Choose-a-Color Labels

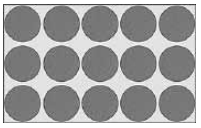
Removable


Permanent

Use color to identify equipment, material, and documents. All of these labels have an adhesive back.

Removable and **permanent** labels are paper.

Temperature-resistant permanent labels are vinyl and have a temperature range of –320° to 176°F.

Round

Dia.	Thick.	Label Qty.	Available Colors		Pkg.
Removable					
1/2"	0.007"	800	Light Blue, Fluorescent: Green, Red, Yellow	15395T3	$5.54
3/4"	0.007"	1,000	Light Blue, Green, Red, Yellow, Fluorescent: Green, Red, Yellow	15395T21	4.79
1 1/4"	0.007"	400	Light Blue, Fluorescent: Green, Red, Yellow	15395T41	7.79
Permanent					
1/4"	0.007"	450	Dark Blue, Light Blue, Green, Orange, Red, White, Yellow	15395T68	3.22
					Roll
1/2"	0.003"	100	Dark Blue, Light Blue, Green, Red, White, Fluorescent: Orange, Yellow	15395T67	$4.97
3/4"	0.003"	100	Dark Blue, Light Blue, Green, Red, White, Fluorescent: Orange, Yellow	15395T66	5.24
1"	0.003"	100	Dark Blue, Light Blue, Green, Red, White, Fluorescent: Orange, Yellow	15395T65	6.41
1 1/2"	0.003"	100	Dark Blue, Light Blue, Green, Red, White, Fluorescent: Orange, Yellow	15395T64	7.70
2"	0.003"	100	Dark Blue, Light Blue, Green, Red, White, Fluorescent: Orange, Yellow	15395T63	9.32
3"	0.003"	100	Dark Blue, Light Blue, Green, Red, White, Fluorescent: Orange, Yellow	15395T62	12.00
4"	0.003"	100	Dark Blue, Light Blue, Green, Red, White, Fluorescent: Orange, Yellow	15395T61	13.43
Temperature-Resistant Permanent					
3/8"	0.005"	1,000	Blue, Green, Red, Yellow	6806T1	27.27
1/2"	0.005"	1,000	Blue, Green, Red, Yellow	6806T2	27.27

Rectangular

Ht.	Wd.	Thick.	Label Qty.	Available Colors		Roll
Permanent						
2"	3"	0.003"	500	Black, Dark Blue, Light Blue, Green, Purple, Red, White, Yellow, Fluorescent: Green, Orange, Pink, Red	6169T3	$13.50
3"	5"	0.003"	500	Black, Dark Blue, Light Blue, Green, Purple, Red, White, Yellow, Fluorescent: Green, Orange, Pink, Red	6169T2	21.60
3"	10"	0.003"	250	Black, Dark Blue, Light Blue, Green, Purple, Red, White, Yellow, Fluorescent: Green, Orange, Pink, Red	6169T4	21.60
4"	6"	0.003"	500	Black, Dark Blue, Light Blue, Green, Purple, Red, White, Yellow, Fluorescent: Green, Orange, Pink, Red	6169T1	29.00

Choose-a-Color Inventory Dot Labels





Keep track of inventory with these adhesive-back paper dots. They are 0.003" thick.

Label Colors

No.	Message	Background	Day	Message	Background
0, 9	White	Blue	MON	Black	Yellow
1, 10	Black	Light Green	TUE	Black	Pink
2, 11	White	Black	WED	Black	Orange
3, 12	Black	Red	THU	Black	Light Green
4, 13	Black	Pink	FRI	Black	Red
5, 14	Black	Yellow	SAT	Black	Blue
6, 15	Black	Orange	SUN	Black	White
7	White	Green			
8	White	Orange			

To Order Please specify number or day from the table above.

		Roll of 100
2" Dia. Numbers	4643T75	$11.70
3" Dia. Numbers	4643T76	14.46
2" Dia. Days of the Week	6717T88	11.70

Repositionable Labels



If placed incorrectly on a paper surface, you can immediately reposition these write-on labels without tearing them or leaving residue. Labels are 0.007" thick adhesive-back paper. Color is white.

Ht.	Wd.	Labels/ Sheet	Labels/ Pkg.		Pkg.
1/2"	1 3/4"	21	840	15905T82	$4.37
1"	3"	6	250	15905T83	4.37
1 1/2"	3"	4	160	15905T84	4.37
2"	4"	3	120	15905T85	4.37
3"	5"	1	40	15905T86	4.37

Self-Laminating Labels



Protect your message from moisture and abrasion. Write on the adhesive-back paper label with a pen or pencil, then seal the clear polyester cover. Labels are 0.004" thick.

		White		Yellow	
Ht.	Wd.	Pkg. of 10		Pkg. of 10	
1 3/4"	3 1/4"	8689T51	$9.00	8689T62	$9.00
3 1/4"	5 1/2"	8689T73	9.38	8689T84	9.38

Dry-Erase Magnetic Labels



Change your message and its location without using a new label. These magnetic labels have a vinyl surface that you can write on with dry erase markers.

Labels are magnetic on one side. They are 0.02" thick.

Reversible labels are magnetic on both sides, and each side is a different color to communicate inventory status and changes. They are 0.03" thick.

Ht.	Wd.	Available Colors	Pkg. Qty.		Pkg.
Labels					
2"	6"	White	12	1078T4	$8.93
3"	8"	White	12	1078T7	14.07
Reversible Labels					
1"	1"	Green/Red, White/Red	5	5398T11	2.67
1"	2"	Green/Red, White/Red	5	5398T12	4.00
2"	2"	Green/Red, White/Red	5	5398T13	6.67
2"	4"	Green/Red, White/Red	5	5398T15	12.00
3"	5"	Green/Red, White/Red	1	5398T17	4.27

Labels for Hot, Cold, or Wet Surfaces

These adhesive-back polyolefin labels hold up in harsh environments. Color is white. **Sheets** are 8½″×11″ and can be used with a laser printer. **Rolls** have a 2″ dia. core.

Wet Surfaces—These labels adhere to wet or frozen plastic, glass, metal, and paperboard. Temperature range is –40° to 212° F.

Hot or Cold Surfaces—These labels withstand temperatures from –320° to 302° F. Apply to plastic, glass, and metal.

			Sheets			Rolls		
Ht.	Wd.	Thick.	Labels/ Pkg.		Pkg.	Labels/ Roll		Roll
Wet Surfaces								
¾″	1½″	0.003″	300	6804T2	$15.69	1,000	6804T1	$38.18
Hot or Cold Surfaces								
¾″	1½″	0.004″	—	—	—	1,000	6827T1	32.73
2″	3″	0.008″	60	6827T2	14.75	—	—	—

Laser and Inkjet Printer Labels

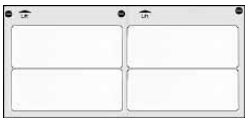

All of these adhesive-back labels are compatible with laser and inkjet printers. Supplied on 8½″×11″ sheets.

Clear labels are 0.002″ thick polyester. **White labels** are 0.004″ thick paper.

		Clear			White		
Ht.	Wd.	Labels/ Pkg.		Pkg.	Labels/ Pkg.		Pkg.
½″	1¾″	800	8102T34	$10.99	800	8102T21	$7.24
1″	2⅝″	300	8102T35	10.99	300	8102T23	7.24
1″	4″	200	8102T36	10.99	200	8102T25	7.24
2″	4″	100	8102T37	10.99	100	8102T27	7.24
3⅓″	4″	60	8102T38	10.99	60	8102T29	7.24
8½″	11″	10	8102T39	10.99	25	8102T32	12.70

Clean Room Labels

Cleaned and double-bagged in a Class 10 clean room, these adhesive-back labels are for use with clean room pens (see page 1973) and thermal-transfer printers. They are 0.004″ thick white polypropylene. Roll is supplied on a 3″ dia core.

Ht.	Wd.		Roll of 100
Removable			
1½″	1½″	5744T12	$10.07
Permanent			
2″	3″	5744T13	18.52
2″	4″	5744T14	21.05

Made-to-Order Identification Labels



Identify equipment and material with your personalized message. These labels can be customized with letters and numbered identically or in sequence. They are 0.003″ thick polyester with an adhesive back. Labels are silver with black lettering.

To Order: Please specify letters and/or numbers desired. The maximum number of characters per line for 15695T36 is 15 and for 15695T37 is 23. Minimum order is 50.

Ht.	Wd.		50-299	300-499	500-Up
¾″	1½″	15695T36	$2.23	$1.96	$1.56
1″	2½″	15695T37	2.52	2.21	1.76

Quick-Release Label Holders



Remove labels without scraping sticky residue. Holders have an adhesive back to adhere to metal, cardboard, and plastic surfaces. Apply any adhesive-back label to the holder; the label will easily peel away when you want to remove it. Holders are white.

Indoor holders are 0.003″ thick.

Outdoor holders are 0.004″ thick.

		Indoor			Outdoor		
Ht.	Wd.		1-9	10-Up		1-9	10-Up
3″	5″	5844T15	$1.43	$1.20	5844T12	$3.10	$2.71
4½″	6½″	5844T16	2.50	2.08	5844T13	5.43	4.51
6″	8″	5844T17	4.24	3.55	5844T14	9.22	7.71

Thermal-Transfer Printer Labels



Use these paper labels with a thermal-transfer printer for smudgeproof results. They have an adhesive back and are 0.003″ thick. Color is white. Labels are supplied on a roll with a 3″ dia. core and a 7½″ OD. Roll is perforated. Note: Labels work only with printers that have a ribbon.

		Labels/		Roll	
Ht.	Wd.	Roll		1-3	4-Up
3″	4″	1,950	1525T16	$23.04	$20.10
3½″	8″	750	1525T21	18.06	15.76
4″	4″	1,500	1525T36	23.97	20.92
4″	6″	1,000	1525T22	19.48	17.00
4″	6½″	900	1525T35	22.37	19.52

Pin-Feed Printer Labels



Labels are 0.004″ thick adhesive-back paper. They are supplied on perforated sheets. Color is white.

Ht.	Wd.	Pkg. Qty.	Labels Across		Pkg.
15/16″	3½″	5,000	1	8589T31	$21.14
1 7/16″	4″	5,000	1	8589T32	37.25
2 15/16″	5″	2,500	1	8589T37	63.43

RFID Labels

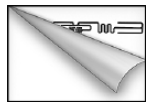

Keep track of shipments—use an RFID printer to encode these adhesive-back paper labels. The encoded information can be detected when scanned up to 15 ft. away. Color is white. Roll is supplied on a 3″ dia. core. Labels meet EPC 1 Gen. 2 standard.

For Use With	Ht.	Wd.		Roll of 50
Sato Printers	6″	4″	6449T1	$14.70
Zebra Printers	6″	4″	6449T2	16.34

Consecutively Numbered Tear-Off Labels



Labels are numbered 001 to 500 with black numbers on a color background. They're 0.009″ thick plastic with an adhesive back.

Ht.	Wd.	Available Colors		
¾″	1″	Blue, White, Yellow	1530T25	$16.79

"Made in USA" Labels



These red and blue adhesive-back labels are 0.004″ thick. **Circle** has a ¾″ diameter. **Oval** is 1″ × 1½″. **Square** is 2″ × 2″.

Shape	Pkg. Qty.		Pkg.
Aluminum Foil			
Circle	50	17105T51	$3.94
Oval	50	17105T42	3.94
Paper			
Square	500	17105T52	12.38



Write-On Property-Identification Labels



Write your company name and address or ID number on these adhesive-back labels to mark equipment. Labels are 0.002″ thick.

General purpose and **consecutively numbered** labels are vinyl-coated aluminum.

Tamper-evident labels leave visual evidence when removed. They're made of vinyl.

Ht.	Wd.	Color	Number Range	Pkg. Qty.		Pkg.
General Purpose						
¾″	1½″	Black/Silver	—	30	15195T51	$13.25
Tamper Evident						
¾″	1½″	Black/White	—	10	53955T112	7.13
¾″	1½″	Red/White	—	10	53955T111	7.13
Consecutively Numbered						
¾″	1½″	Black/Silver	1-50	50	15195T52	35.18
¾″	1½″	Black/Silver	51-100	50	15195T53	35.18

Material Management Labels



Label without Cover



Label with Cover

Organize material with a printed message. All of these adhesive-back labels have space for you to write additional information.

Vinyl Labels—Supplied on cards. *Vinyl labels with cover* have a clear laminate polyester cover to protect your information from weather and tampering.

Tear-Resistant Tyvek Labels—These labels are water and tear resistant.

Available Messages	Color, Header/Body
ACCEPTED	Green/White
BIN NO.	Green/White
Blank	White
CALIBRATED	Black/White
CERTIFICATION	Black/White
DUE FOR INSPECTION	Orange/White
HOLD	Red/White
HOLD FOR INSPECTION	Blue/White

Available Messages	Color, Header/Body
INSPECTED	Black/White
INVENTORY	Black/White
MAINTENANCE	Black/White
PROPERTY TAG	Black/White
REJECTED	Red/White
REPAIRED BY	Orange/White
RETURN TO VENDOR	Orange/White
RE-WORK	Black/Yellow

Available Messages	Color, Header/Body
SAFETY CHECKED	Green/White
SCRAPPED	Orange/White
SERIAL NO.	Black/White
STOCK NO.	Green/White
TESTED	Green/White
TOOL NO.	Blue/White

To Order: Please specify message from table above.

	Ht.	Wd.	Thick.	No. of Labels		Pkg.
Without Cover						
Vinyl—Card	5/8″	1 1/2″	0.004″	140	5886T17	$9.58
Tear-Resistant Tyvek—Disposable Dispenser	5/8″	1 1/2″	0.006″	100	5839T39	10.12
Tear-Resistant Tyvek—Book	5/8″	1 1/2″	0.008″	240	5886T68	21.43
With Cover						
Vinyl—Card	5/8″	1 1/2″	0.005″	70	5886T52	11.60

Label Dispensers


Manual Wall Mount


Manual Desktop


Electric Desktop

Improve labeling speed and keep labels neat and organized until you're ready to apply them. Dispensers are steel.

Manual label dispensers are for use with rolls of labels. Roll capacity varies; the total width cannot exceed the max label width. *Wall-mount* dispensers have four 3/8″ dia. mounting holes (fasteners not included).

Electric label dispensers have photo-eye activation and automatically advance labels and peel off the backing. All are for use with both roll and fan-fold labels. They have a single roll capacity. Dispensers operate on 120 volts AC and have a 6-ft. cord with three-prong plug.

Core adapters allow the manual wall-mount dispensers to hold rolls with a 3″ dia. core.

Style	Max. Label Wd.	Max. Roll Dia.	Accepts Core Dia.	*O'all Size* Ht.	Wd.	Dp.	Color		
Manual									
Wall Mount	4 1/2″	6 1/2″	1″	8 5/8″	4 7/8″	4 1/2″	Tan	85925T64	$63.64
Wall Mount	8 1/2″	6 1/2″	1″	8 5/8″	8 7/8″	4 1/2″	Tan	85925T66	76.36
Desktop	4″	5 1/2″	1″, 3″	5 5/8″	4 3/8″	8 1/2″	Black	85925T57	65.00
Electric									
Desktop	2 1/2″	9″	1″, 3″	8″	8″	8″	Black	85925T39	414.00
Desktop	4 1/2″	9″	1″, 3″	8″	10″	10″	Black	85925T41	563.28
Desktop	6″	9″	1″, 3″	8″	12″	10″	Black	85925T42	629.66
Core Adapters for Manual Wall-Mount Dispensers (Set of 2)								85925T92	4.00

Bar Code Scanners


Long-Range Laser Scanner with Holder


Close-Range CCD Scanner


Read-All 2D Scanner


Wireless Long-Range 1D Scanner


Holder for Read-All 2D Scanner

Capture data and automatically input it into any Windows application without additional software. All scanners have built-in decoders that read the most common bar codes.

Wired scanners include a 6-ft. cable and connections for USB ports, except *read-all 2D* scanner has a 7-ft. cable.

Long-Range Laser—Has a longer range than CCD and 2D scanners and delivers good results when reading bar codes on rounded surfaces. It can also decode and transmit global trade item numbers (GTINs). Includes a holder with a gooseneck that provides positioning options.

Close-Range CCD (Charge Coupled Device)—Because this scanner requires close contact with bar codes, it blocks out light that can interfere with scanning. This makes it better for use in natural light and brightly lit areas than other types of scanners.

Read-All 2D—Reads 1D and 2D bar codes, even those on computer and mobile phone displays. This type of scanner can read lower-quality bar codes than laser and CCD scanners.

Long-Range 1D Wireless—Reads bar codes wirelessly, even those on computer and mobile phone displays. Scanner has a rechargeable battery and comes with a Bluetooth charging base.

Scanner Type	Max. Scan Distance		
Wired			
Long-Range Laser	17″	1735T11	$159.45
Close-Range CCD	1″	1735T4	99.42
Read-All 2D	28″	1735T16	304.49
Wireless			
Long-Range 1D	31″	1735T12	463.15
Replacement Holder for Long-Range Laser Scanner		1735T14	45.36
Optional Holder for Read-All 2D Scanner		1735T26	45.68

Permanent-Mount Metal Label Holders

Holders have two 5/64″ dia. mounting holes (fasteners not included). **Labels** are white cardstock. **Protectors** are clear polyester and slide over the labels.


Side Feed


Side Feed with Label and Protector


Top Feed

Ht.	Wd.	Gold-Lacquered Steel Holders Pkg. Qty.		Gold-Lacquered Steel Holders Pkg.	Brushed Aluminum Holders Pkg. Qty.		Brushed Aluminum Holders Pkg.	Labels Pkg. Qty.		Labels Pkg.	Protectors Pkg. Qty.		Protectors Pkg.
Side Feed													
1/2″	2 1/16″	10	1512T11	$10.62	10	8676T41	$14.64	10	1512T111	$3.03	10	1528T321	$6.06
1/2″	3 1/16″	10	1512T12	11.18	5	8676T42	9.20	10	1512T112	3.03	10	1528T322	6.06
1/2″	4 5/16″	10	1512T13	12.14	5	8676T43	9.20	10	1512T113	3.11	10	1528T323	6.23
9/16″	2 13/16″	10	1512T14	12.14	5	8676T44	9.20	10	1512T114	3.11	10	1528T324	6.23
11/16″	2 1/2″	10	1512T15	12.15	5	8676T45	9.20	10	1512T115	3.11	10	1528T325	6.41
11/16″	4 3/16″	10	1512T16	11.81	5	8676T46	9.20	10	1512T116	3.11	10	1528T326	6.41
13/16″	3 13/16″	10	1512T18	12.14	5	8676T48	9.20	10	1512T118	3.21	10	1528T328	6.61
1 1/16″	3 13/16″	10	1512T25	12.14	5	8676T54	9.20	10	1512T124	3.30	10	1528T334	6.23
1 9/16″	3 7/16″	10	1512T28	12.14	5	8676T56	9.20	10	1512T126	3.30	10	1528T336	6.81
2 1/16″	4 15/16″	5	1512T32	6.09	5	8676T58	9.23	10	1512T135	3.11	5	1528T338	2.63
3 1/16″	5 7/16″	5	1512T33	10.60	5	8676T59	14.72	5	1512T129	1.57	5	1528T352	3.11
Top Feed													
1″	2 1/2″	10	1511T16	14.72	5	1588T51	11.43	10	1512T131	3.11	10	1528T361	6.23
1 7/16″	3 1/16″	10	1511T19	14.00	5	1588T69	11.43	10	1512T133	3.11	10	1528T365	6.23
2″	4 9/16″	5	1511T23	7.36	5	1588T34	12.63	10	1512T135	3.11	5	1528T338	2.63
2 1/2″	3 7/8″	5	1511T24	7.36	5	1588T21	12.63	5	1512T136	1.57	5	1528T374	3.11
3″	5 1/16″	5	1511T25	10.90	3	1588T22	9.77	5	1512T129	1.57	5	1528T352	3.11
4″	6 1/16″	5	1511T26	13.44	3	1588T57	12.31	5	1512T137	2.34	5	1528T71	4.69
8 1/2″	11 1/16″	1	1511T29	6.31	1	1588T25	10.08	5	1512T141	4.69	5	1528T51	13.29

Adhesive-Back Plastic Label Holders

Holders are gray plastic with an adhesive back for mounting. **Labels** are white cardstock; they are supplied on perforated sheets for use with laser printers. Six 6″ labels are required to fill 36″ holders.


Holder with Label

Ht.	3″ Holders Pkg. Qty.		3″ Holders Pkg.	3″ Labels Pkg. Qty.		3″ Labels Pkg.	6″ Holders Pkg. Qty.		6″ Holders Pkg.	6″ Labels Pkg. Qty.		6″ Labels Pkg.	36″ Holders Each	
3/8″	10	1515T21	$1.90	100	1515T314	$3.42	10	1515T34	$3.17	100	1515T315	$4.12	1515T1	$1.56
1/2″	10	1515T28	2.10	100	1515T316	3.75	10	1515T35	3.58	100	1515T317	4.58	1515T2	1.83
3/4″	10	1515T29	2.52	100	1515T318	4.03	10	1515T36	4.42	100	1515T319	5.40	1515T3	2.49
7/8″	10	1515T33	2.70	100	1515T32	4.38	10	1515T37	4.80	100	1515T321	5.70	1515T4	2.89
1″	10	1515T45	3.02	100	1515T322	4.55	10	1515T38	5.45	100	1515T323	6.20	1515T5	3.00
1 1/4″	10	1515T81	3.68	320	1515T334	12.50	10	1515T82	6.70	100	1515T326	7.05	1515T83	3.77
1 1/2″	10	1515T46	4.28	240	1515T335	12.50	10	1515T39	7.95	100	1515T324	7.75	1515T6	4.57
2″	10	1515T47	5.55	200	1515T336	12.50	10	1515T41	10.48	100	1515T325	9.55	1515T7	6.11
3″	10	1515T43	7.80	120	1515T337	12.50	—	—	—	—	—	—	—	—

Magnetic Label Holders

Made of flexible rubber, these magnetic holders mount on steel surfaces. **Holders** are black. **Labels** are white cardstock; they are supplied on perforated sheets for use with laser printers.


Holder with Label

Ht.	Wd.	Holders Pkg. Qty.		Holders Pkg.	Labels Pkg. Qty.		Labels Pkg.
1″	3″	5	17895T11	$1.97	100	17895T111	$2.58
1″	4″	5	17895T12	2.63	100	17895T112	3.22
1″	6″	5	17895T13	2.84	100	17895T113	4.60
1 7/8″	3″	5	17895T15	2.86	100	17895T114	4.67
1 7/8″	4″	5	17895T16	3.29	100	17895T115	5.53
1 7/8″	6″	5	17895T17	4.61	100	17895T116	8.00

■ Two labels are required to fill 12″ holder.

Ht.	Wd.	Holders Pkg. Qty.		Holders Pkg.	Labels Pkg. Qty.		Labels Pkg.
3 1/4″	5″	5	17895T21	$5.92	25	17895T118	$2.96
3 1/4″	6″	5	17895T22	6.58	25	17895T119	3.33
3 1/4″	12″	3	17895T25	7.89	25	17895T119■	3.33

Cut-to-Size Magnetic Label Holders

1″ Ht. (25-ft. Roll)	17895T41	30.26
1 7/8″ Ht. (25-ft. Roll)	17895T42	46.05
3″ Ht. (25-ft. Roll)	17895T45	65.79

Cut-to-Size Adhesive-Back Label Holders

Cut these clear PVC holders to the width you need. They protect labels from dust and dirt and have an adhesive back for mounting.

Labels are white cardstock; they are supplied on perforated sheets, except 3/4″ high labels come pre-cut.



Ht.	Holders 36″ Wd. Each	Holders 48″ Wd. Each	Labels Pkg. Qty.	Labels Pkg.
3/4″	1562T2 $7.03	1562T22 $9.10	30	1562T38 $5.09
1″	1562T3 7.40	1562T23 9.47	12	1562T39 5.43
1 1/4″	1562T4 7.65	1562T24 9.75	12	1562T41 6.29
2″	1562T6 9.65	1562T26 12.30	12	1562T45 7.14

See-Through Protective Label Holders

Slide labels into these clear PVC holders for protection from rips, dust, and dirt. They have a matte finish to reduce glare. All come with white cardstock labels that are on perforated sheets for use with laser printers.


Magnetic Back

Ht.	Wd.	Holders Pkg. Qty.	Holders Adhesive Back	Holders Adhesive Back Pkg.	Holders Magnetic Back	Holders Magnetic Back Pkg.	Repl. Labels Pkg. Qty.	Repl. Labels	Repl. Labels Pkg.
1/2″	6″	6	15355T81	$5.51	15355T85	$7.12	104	15355T89	$7.04
1″	3″	12	15355T64	7.91	15355T62	9.26	100	15355T95	5.90
1″	6″	6	15355T13	9.64	15355T15	10.36	100	15355T92	7.72
1 1/2″	6″	6	15355T11	10.68	15355T41	11.44	102	15355T47	10.18
2″	6″	4	15355T14	9.28	15355T88	10.62	100	15355T93	12.21
2 1/2″	6″	4	15355T12	10.24	15355T66	11.48	100	15355T94	14.88

Label Holders & Document Protectors

Snap-On Label Holders for Wire Shelving

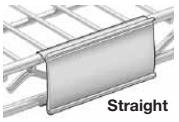
Straight

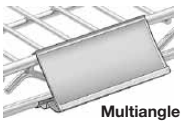
Multiangle

Snap holders onto wire shelving that has a 1¼″ face. They fit Eagle, Intermetro, and Nexel wire shelving. Made of clear PVC, holders protect labels from dust and dirt and are compatible with bar code scanners. Furnished with white cardstock labels that are on perforated sheets for use with laser printers.

Multiangle holders can be used straight or angled up or down to assist reading from above or below.

			Holders			Repl. Labels		
Orientation	Ht.	Wd.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
Straight	15⁄16″	3″	12	1679T33	$11.39	200	1679T51	$4.58
Straight	15⁄16″	6″	6	1679T34	10.87	104	1679T42	6.49
Multiangle	1¼″	3″	10	1679T21	14.46	200	1679T51	4.58

Label, Tag, and Card Holders

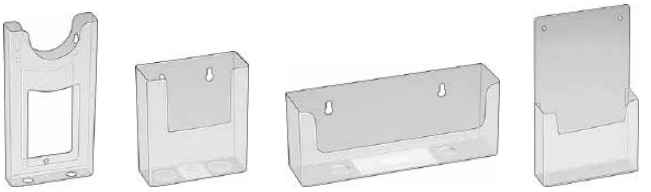
A B C D

Store cards, pens, labels, and tags in these clear plastic mountable holders.

Styles A-C—Mount using the two ⅜″ dia. mounting holes (screws not included) or the included tape.

Style D—Mount using the included screws, magnetic strips, or adhesive pads.

	Ht.	Wd.	Dp.	Holds Material		
A	7¼″	3⅝″	⅞″	Up to 3½″ Wd.	4648T61	$4.62
B	5″	4⅜″	1⅝″	Up to 4¼″ Wd.	4648T62	6.43
C	3½″	8⅞″	2″	Up to 8¾″ Wd.	4648T63	11.41
D	7½″	4½″	1½″	Up to 4⅜″ Wd.	1259T3	18.36

Label Holders for Bin Boxes



Place these clear PVC holders in the front slots of bin boxes. They fit most manufacturers' standard bin slots and are compatible with bar code scanners. Holders come with white cardstock labels that are on perforated sheets for use with laser printers.

		Holders			Repl. Labels		
Ht.	Wd.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
13⁄16″	3″	25	6890T11	$13.28	216	6890T17	$5.61
1″	3″	25	6890T13	13.80	200	6890T19	5.61
1¾″	4″	25	6890T15	15.38	120	6890T21	5.61

Easy-Scan Label Holders



Because they have a matte finish to reduce glare, these holders make it easier for scanners to read bar codes. They are clear plastic and have an opening on the side for a label. All come with white cardstock labels that are on perforated sheets for use with laser printers.

		Holders					*Repl. Labels*		
			Adhesive Back		Magnetic Back				
Ht.	Wd.	Pkg. Qty.		Pkg.		Pkg.	Pkg. Qty.		Pkg.
3″	5″	10	9696T1	$7.53	9696T2	$10.49	52	9696T5	$11.25
3½″	2″	10	9696T7	7.05	9696T8	10.16	100	9696T12	6.40
4″	6″	10	9696T3	9.07	9696T4	13.31	50	9696T6	14.47
7″	5″	5	9696T9	7.87	9696T11	9.25	50	9696T13	15.26

Rigid Document Protectors



These clear protectors are made of rigid PVC, so they're durable enough for long-term display. All have an opening at the top to insert your document. To mount, use tape with adhesive on both sides (not included).

Max. Document Size		Pkg.		
Ht.	Wd.	Qty.		
6″	4″	25	14995T16	$13.74
9″	6″	10	14995T17	11.74
11″	8½″	5	14995T18	12.67
17″	11″	1	14995T19	3.19
24″	18″	1	14995T22	9.31
36″	24″	1	14995T24	14.26
43″	29″	1	14995T25	19.86

Hang-Up Tag Holders



Made of clear vinyl, holders keep tags clean and safe from abrasion. They have a 5⁄16″ dia. metal eyelet at the top for hanging.

Ht.	Wd.	For Standard Industry No.		Pkg. of 10
4″	1¾″	#2	1715T11	$9.22
4¾″	3″	#6	1715T12	10.89
5½″	3″	#7	1715T13	11.56
6¼″	3⅜″	#8	1715T14	12.00
7⅜″	3⅜″	#9	1715T15	13.07
7½″	4″	#10	1715T16	14.27

Right-Angle Document Holders




Adhesive Back


Clip

Display your message at a right angle on shelving with limited mounting space. These small plastic holders flex to absorb bumps and have teeth to grip documents up to 0.1″ thick. They come with 11″×8½″ yellow cardstock labels for use with laser printers.

Adhesive-back holders are 3″ Ht.×1″ Wd. with a 1″ wide adhesive strip. **Clip** holders snap into assembly holes on pallet racks. They are 3″ Ht.×⅞″ Wd.

	Max. Document Size		Holders		Repl. Labels	
	Ht.	Wd.		Pkg. of 5		Pkg. of 10
Adhesive Back	11″	8½″	5757T12	$15.08	5757T13	$14.56
Clip	11″	8½″	5757T11	15.08	5757T13	14.56

Right-Angle Document Protectors



Increase the visibility of your message—protectors mount at a right angle to a wall or storage rack. They are rigid white plastic with a clear vinyl sleeve to hold your document (two-way view protectors have two sleeves). The sleeve opens at the top. All have a 1″ wide adhesive strip.

Max. Document Size					
Ht.	Wd.	One-Way View		Two-Way View	
4″	6″	4837T45	$5.72	4837T47	$7.70
12″	9″	4837T91	11.18	4837T93	16.45

Document Protectors

These clear protectors have a 1/4" dia. hole at the top for hanging.
Light Duty—Made of polyethylene, these protectors have a press-to-close top.
Medium Duty—Twice as thick as light duty protectors, these are made of vinyl and have nonrip seams.


Light Duty


Medium Duty

Max. Document Size Ht.	Wd.	Light Duty Pkg. Qty.		Pkg.	Medium Duty Pkg. Qty.		Pkg.
6"	4"	50	1257T1	$4.27	25	8395T32	$14.99
8"	5"	50	1257T2	5.82	15	8395T6	10.53
9"	6"	50	1257T3	6.42	15	8395T7	13.26
11"	8 1/2"	50	1257T4	9.44	10	8395T8	9.98
12"	9"	50	1257T8	11.22	10	8395T9	11.29
14"	11"	25	1257T9	7.18	—	—	—
15"	12"	25	1257T11	8.20	—	—	—
18"	15"	25	1257T12	11.65	—	—	—

Heavy Duty Document Protectors

These durable protectors have taped and stitched edges to withstand the wear and tear of frequent use. All have a 1/4" dia. metal eyelet at the top for hanging.
Both Sides Clear—Have clear, heavy duty vinyl on the front and back.
One Side Clear—Have a clear, heavy duty vinyl front and black rigid backing.

To Order: For *choose-a-color edges*, please specify edge color: blue, green, orange, pink, red, or yellow.


Both Sides Clear


One Side Clear

Max. Document Size Ht.	Wd.	Both Sides Clear — Black Edges Pkg. Qty.		Pkg.	Both Sides Clear — Choose-a-Color Edges Pkg. Qty.		Pkg.	One Side Clear — Black Edges Pkg. Qty.		Pkg.
6"	4"	5	1258T22	$6.78	5	1258T1	$6.78	10	1258T32	$13.75
8"	5"	5	1258T23	8.33	5	1258T2	8.33	10	1258T13	15.41
9"	6"	5	1258T41	8.56	5	1258T3	8.56	15	1258T43	17.90
11"	8 1/2"	5	1258T28	11.11	5	1258T4	11.11	10	1258T44	12.77
12"	9"	5	1258T29	11.44	5	1258T5	11.44	10	1258T45	12.44
14"	11"	5	1258T42	12.34	5	1258T6	12.89	5	1258T46	12.93
15"	12"	5	1258T51	12.89	5	1258T8	12.89	—	—	—
17"	11"	—	—	—	5	1258T7	13.19	—	—	—
18"	15"	1	1258T55	3.30	1	1258T9	3.30	—	—	—

Adhesive-Back Document Protectors

An adhesive backing lets you mount these protectors on any clean, dry surface. They are clear vinyl.



Max. Document Size Ht.	Wd.	Pkg. Qty.		Pkg.
3 1/2"	2"	20	8603T81	$11.06
3 1/2"	2"	50	8603T8	23.49
6"	4"	15	8603T13	23.00
8"	5"	15	8603T9	14.28
11"	8 1/2"	10	8603T21	13.33
12"	9"	10	8603T22	13.79

Expandable Document Protectors

Protect sets of documents or thick instruction manuals. Clear on both sides, this protector is made of vinyl with stitched edges for durability. It has a hook-and-loop flap closure and a 1/4" dia. metal eyelet for hanging.



Max. Document Size Ht.	Wd.	Thick.	Max. No. of Sheets		Pkg.
12"	9"	1"	150	5764T11	$3.37

Quick-Hang Document Protectors

Wrap the strap of these protectors around an object with a maximum 1" dia., and two magnets come together to secure the loop. Protectors are clear vinyl and are compatible with bar code scanners.



Max. Document Size Ht.	Wd.		Pkg.
8 1/2"	5 1/2"	6886T1	$2.55
9"	6"	6886T4	2.74
11"	8 1/2"	6886T2	4.11
11 3/8"	6 3/8"	6886T3	2.42
12"	9"	6886T5	5.23

Magnetic Document Protectors

The magnetic strips stick to steel surfaces and make these protectors easy to reposition. Protectors are clear vinyl and have nonrip seams for durability. The 5"-12" high protectors also have a 3/16" dia. hole at the top for hanging.



Max. Document Size Ht.	Wd.	Pkg. Qty.		Pkg.
4"	2"	5	14115T14	$8.66
5"	3"	5	14115T17	8.88
6"	4"	5	14115T19	10.52
8"	5"	5	14115T25	11.79
9"	4"	5	14115T22	11.51
9"	6"	5	14115T28	12.83
12"	9"	3	14115T33	9.48

Laminating Document Protectors

Peel off the backing on the adhesive plastic laminate and apply it directly to a document for permanent wear and water resistance. Protectors with a matte finish reduce glare.
Sheets and **rolls** can be applied to one or both sides of your document.
Pouches protect both sides of your document and are thicker than sheets and rolls for added rigidity. *4"×2 3/4"* pouches have loops, so they're great for luggage tags. *11"×8 1/2"* pouches are suitable for signs and notices.


Sheet

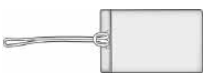
4"×2 3/4" Pouch

Max. Document Size Ht.	Wd.	Finish	Thick.	Pkg. Qty.		Pkg.
Sheets						
12"	9"	Clear	0.002"	15	1270T31	$12.18
12"	9"	Clear	0.003"	15	1270T35	15.71
12"	9"	Clear Matte	0.002"	15	1270T33	18.71
Pouches						
4"	2 3/4"	Clear	0.016"	10	5845T23	8.80
11"	8 1/2"	Clear	0.012"	2	5845T25	9.85
Rolls						Roll
24"	25'	Clear	0.002"	—	1270T46	$77.30
24"	25'	Clear	0.003"	—	1270T48	64.63
24"	25'	Clear Matte	0.002"	—	1270T47	78.25

Dymo Label Printers

Print labels with upper- and lowercase characters that read horizontally, vertically, and on multiple lines. Printers have a two-line LCD and memory that stores up to nine labels. They use D1 series label tape and operate on a rechargeable battery (wall adapter included).

Label Printers



Handheld



Bench Top

Handheld—Prints one line of characters on 1/4″ wide label tape and two lines on 3/8″ and 1/2″ wide label tape. Maximum character height is 1/3″. The printer comes with 1/2″ wide label tape (black characters/white background).

Bench Top—Prints one line of characters on 1/4″ wide label tape and two lines on 3/8″, 1/2″, and 3/4″ wide label tape. Maximum character height is 9/16″. The printer comes with 3/4″ wide label tape (black characters/white background).

	For Label Tape Wd.	Overall Size Lg.	Wd.	Ht.		
Handheld	1/4″-1/2″	8 1/8″	4 1/4″	1 13/16″	86085T38	$69.65
Bench Top	1/4″-3/4″	6″	7 3/4″	2 3/4″	15385T67	98.47

D1 Series Label Tape

This label tape is 0.005″ thick adhesive-back polyester and comes in a 23-ft roll. It has a temperature range of –40° to 190° F.

Tape Wd.	Choose a Color, Message/Background		
1/4″	Black/Clear, Black/White	15385T5	$20.00
3/8″	Black/Clear, Black/White, Blue/White	15385T7	20.45
1/2″	Black/Blue, Black/Clear, Black/Green, Black/Red, Black/White, Black/Yellow, Blue/White, Red/Clear, Red/White, White/Black, White/Clear	15385T8	20.68
3/4″	Black/Clear, Black/White, Black/Yellow, Red/White, White/Black	15385T9	27.95

K-Sun Label, Bar Code, and Heat-Shrink Tubing Printers

Use a single machine to print labels, bar codes, and heat-shrink tubing. Printers have an automatic label tape cutter and adjustable margins. They work with all K-Sun label tape and heat-shrink tubing.

Label Printers



Stand Alone



PC/Mac Compatible

Stand Alone—Produces six bar code formats and has a four-line display. Maximum character height is 2/3″. The printer comes with 1/2″ wide general purpose label tape (black characters/white background). It operates on the included six AA batteries or the wall adapter.

PC/Mac Compatible—Use with your computer to design labels, import Excel data, and save files for repeat printing. The included software package contains more than 1,000 characters and symbols and 15 bar code formats. Maximum character height is 2/3″. The printer comes with 1″ wide label tape (black characters/white background), a USB cord, and a wall adapter.

	For Label Tape Wd.	For Heat-Shrink Tubing Wd.	Overall Size Lg.	Wd.	Ht.	Printers		Repl. Adapters	
Stand Alone	1/6″-1″	1/8″-1/2″	9 1/4″	7″	3 1/4″	4512T16	$282.50	4512T17	$49.97
PC/Mac Compatible	1/6″-1″	1/8″-1/2″	5 3/4″	2″	4 1/4″	6687T1	199.17	6687T3	49.97

General Purpose Label Tape

Label tape works with any K-Sun label printer. It is 0.006″ thick adhesive-back polyester and comes in a 26-ft. roll. Temperature range is –80° to 300° F.

Tape Wd.	Choose a Color, Message/Background		
1/4″	Black/Blue, Black/Clear, Black/Green, Black/Red, Black/White, Black/Yellow, White/Black	16225T71	$22.67
3/8″	Black/Blue, Black/Clear, Black/Green, Black/Red, Black/White, Black/Yellow, White/Black	16225T72	22.67
1/2″	Black/Blue, Black/Clear, Black/Green, Black/Orange, Black/Red, Black/White, Black/Yellow, White/Black, White/Blue, White/Clear, White/Green, White/Red	16225T73	22.67
3/4″	Black/Blue, Black/Clear, Black/Green, Black/Orange, Black/Red, Black/White, Black/Yellow, White/Black, White/Blue, White/Clear, White/Green, White/Red	16225T74	27.02
1″	Black/Blue, Black/Clear, Black/Green, Black/Orange, Black/Red, Black/White, Black/Yellow, White/Black, White/Blue, White/Clear, White/Green, White/Red	16225T75	27.02

Specialty Label Tape

For use with any K-Sun label printer, tape is 0.006″ thick adhesive-back polyester. Temperature range is –40° to 300° F, except glow-in-the-dark tape has a maximum temperature of 120° F.

Type	Lg.	Choose a Tape Wd.	Choose a Color, Message/Background		
Fluorescent	16 ft.	3/4″	Black/Green, Black/Orange, Black/Pink, Black/Red, Black/Yellow	16225T12	$30.96
Glow-in-the-Dark	4 ft. 11 in.	1/2″, 3/4″, 1″	Black/Glow-in-the-Dark	16225T14	39.90
Reflective	4 ft. 9 in.	1″	Black/White, Black/Yellow	16225T13	39.90
Self-Laminating	26 ft.	1″	Black/White	16225T152	31.90
Silver Matte	16 ft. 4 in.	3/8″, 1/2″, 3/4″, 1″	Black/Silver	16225T11	24.86

Heat-Shrink Tubing

Made of polyolefin, tubing comes in an 8-ft. roll. Use with any K-Sun heat-shrink tubing printer. Maximum temperature is 255° F.

Tubing Wd.	Tubing Thick.	Choose a Color, Message/Background		
1/8″	0.017″	Black/White, Black/Yellow	4512T11	$31.90
3/16″	0.012″	Black/Blue, Black/Green, Black/Red, Black/White, Black/Yellow, White/Black	4512T14	31.90
1/4″	0.016″	Black/White, Black/Yellow	4512T12	34.90
3/8″	0.028″	Black/White	4512T15	40.90
1/2″	0.011″	Black/Red, Black/White, Black/Yellow, White/Black	4512T13	40.90

Additional Label Tape and Heat-Shrink Tubing

Dymo Rhino Label Tape and Heat-Shrink Tubing

Use with all Dymo Rhino series printers. **Label tape** is 0.007″ thick vinyl. It's UV resistant for outdoor use. Temperature range is –40° to 140° F. **Heat-shrink tubing** is 0.02″ thick polyolefin and has a maximum temperature of 255° F.

Tape/Tubing Wd.	Choose a Color, Message/Background		
Label Tape—18-ft. roll			
3/8″	Black/White, White/Black	6936T11	$20.45
1/2″	Black/Gray, Black/Orange, Black/White, Black/Yellow, White/Black, White/Blue, White/Green, White/Red	6936T21	20.68
3/4″	Black/Gray, Black/Orange, Black/White, Black/Yellow, White/Black, White/Blue, White/Green, White/Red	6936T31	25.45
1″	Black/Gray, Black/Orange, Black/White, Black/Yellow, White/Black, White/Blue, White/Green, White/Red	6936T41	28.66
Heat-Shrink Tubing—5-ft. roll			
1/4″	Black/White, Black/Yellow	6948T11	46.45
3/8″	Black/White, Black/Yellow	6948T12	50.05
1/2″	Black/White, Black/Yellow	6948T13	53.61
3/4″	Black/White, Black/Yellow	6948T14	57.18
1″	Black/White, Black/Yellow	6948T15	76.82

Brother Label Tape

Label tape is 0.006″ thick polyester. Temperature range is –20° to 390° F, except M tape is not rated.

Tape Wd.	Color, Message/Background	Brother Model	Pkg. Qty.		Pkg.
M Tape—26-ft. roll					
1/2″	Black/Clear	M131	1	6785T59	$13.99
1/2″	Black/White	M231	1	6785T19	12.68
TC Laminated Tape—25-ft. roll					
3/8″	Black/White	TC20Z1	1	6785T11	24.82
3/8″	White/Black	TC34Z	2	6785T13	49.64
3/8″	White/Clear	TC14Z1	1	6785T15	24.82
1/2″	Black/Clear	TC10	2	6785T12	41.09
1/2″	Black/White	TC20	2	6785T14	41.09
1/2″	Black/Yellow	TC7001	1	6785T16	20.54
TX Tape—49-ft. roll					
1″	Black/White	TX2511	1	6785T61	47.69
TZE Laminated Tape—26-ft. roll					
1/4″	Black/Clear	TZE111	1	6785T21	16.26
1/4″	Black/White	TZE211	1	6785T23	16.26
3/8″	Black/Clear	TZE121	1	6785T22	18.20
3/8″	Black/White	TZE221	1	6785T24	18.20
3/8″	Black/White	TZES221	1	6785T56	19.06
1/2″	Black/Clear	TZE131	1	6785T31	23.12

Tape Wd.	Color, Message/Background	Brother Model	Pkg. Qty.		Pkg.
TZE Laminated Tape—26-ft. roll (Cont.)					
1/2″	Black/White	TZE231	1	6785T33	$23.12
1/2″	Black/White	TZEFX231	1	6785T52	21.00
1/2″	Black/White	TZES231	1	6785T51	20.80
1/2″	Black/Yellow	TZE631	1	6785T39	23.12
1/2″	Red/White	TZE232	1	6785T35	23.12
1/2″	White/Black	TZE335	1	6785T37	23.12
3/4″	Black/Clear	TZE141	1	6785T32	23.54
3/4″	Black/White	TZE241	1	6785T34	23.54
3/4″	Black/White	TZES241	1	6785T53	24.26
3/4″	Black/Yellow	TZE641	1	6785T36	23.54
3/4″	White/Black	TZE345	1	6785T58	25.52
1″	Black/Clear	TZE151	1	6785T41	27.68
1″	Black/White	TZE251	1	6785T43	27.68
1″	Black/White	TZEFX251	1	6785T57	27.96
1″	Black/White	TZES251	1	6785T54	28.30
1″	Black/Yellow	TZE651	1	6785T45	27.68
1 1/2″	Black/White	TZES261	1	6785T55	40.10

Kroy Model 650 Label Tape and Heat-Shrink Tubing

Use with the Kroy 650 printer. **Label tape** is 0.003″ thick polyester and has a temperature range of –40° to 200° F. **Heat-shrink tubing** is 0.02″ thick polyolefin with a maximum temperature of 275° F.

Tape Wd.	Choose a Color, Message/Background		
Label Tape—50-ft. roll			
1/2″	Black/Clear, Black/White, Black/Yellow	16065T7	$46.74

Tubing Wd.	Choose a Color, Message/Background		
Heat-Shrink Tubing—8-ft. 4-in. roll			
1/8″	Black/White, Black/Yellow	16065T3	$41.94
3/16″	Black/White, Black/Yellow	16065T4	43.14
1/4″	Black/White, Black/Yellow	16065T9	44.34

Embossing Label Printers

Light Duty for Vinyl Tape—Embosses characters A-Z, 0-9, period, $, and £, and comes with one roll of black tape. **Vinyl tape** is adhesive back and has a maximum temperature of 158° F. Characters are white.

Heavy Duty for Metal Tape—Embosses characters A-Z, 2-9 (letters O and I double as 0 and 1), period, and dash. It comes with one roll of plain-back aluminum tape and one roll of plain-back stainless steel tape. **Aluminum tape** has a maximum temperature of 482° F. **Stainless steel tape** has a maximum temperature of 2370° F.



Light Duty for Vinyl Tape

To Order: For adhesive-back vinyl tape, please specify color: black, blue, or red.

	For Label Tape Wd.	*Label Printers*		*Adhesive-Back Label Tape* Vinyl 9 1/2-ft. Roll		*Adhesive-Back Label Tape* Aluminum 12-ft. Roll		*Plain-Back Label Tape* Aluminum 16-ft. Roll		*Plain-Back Label Tape* Stainless Steel 21-ft. Roll	
Light Duty for Vinyl Tape	3/8″	1617T5	$36.33	1524T24	$2.67						
Heavy Duty for Metal Tape	1/2″	1598T53	225.76			1598T61	$8.38	1598T41	$4.33	1598T62	$7.09

Quick-Apply Label Printer/Applicator Guns

Also known as pricing guns, these printer guns come with one roll of white labels and a black ink roller.

Single-Line Printer Gun—Prints up to six characters across. Characters include: 0-9 (one band has 10 and 12), period, /, $, ¢, +, FOR, TAX, and EA.

Double-Line Printer Gun—Prints up to eight characters on each line. Characters include: 0-9 (one band has 10, 11, and 12), period, /, $, ¢, +, FOR, +TX, TX, and EA.

Double-Line Alphanumeric Printer Gun—Prints up to 10 characters on each line. Top line has A-Z, 0-9, £, dash, and period; bottom line has 0-9, period, /, $, ¢, and FOR.

Replacement labels are 0.007″ thick paper and have a temperature range of –65° to 160° F. They come with a black ink roller.



Single- and Double-Line Gun

To Order: For replacement labels, please specify color: white or red.

	Printer Guns Character Ht. Upper Line	Lower Line			Repl. Labels Ht.	Wd.	Labels Per Roll	Rolls Per Pkg.		Pkg.	Repl. Ink Rollers Pkg. Qty.		Pkg.
Single-Line	1/8″		1633T8	$72.92	1/2″	3/4″	1,000	16	1633T11	$32.70	5	1633T5	$11.20
Double-Line	5/32″	5/32″	1633T9	77.59	5/8″	3/4″	750	16	1633T13	28.67	5	1633T7	11.20
Double-Line Alphanumeric	1/8″	11/64″	1633T25	216.67	5/8″	1″	1,000	12	1633T33	33.20	1	1633T26	2.20

About Selecting Pipe Markers

Our pipe markers meet ANSI/ASME 13.1, which requires that markers have a flow-direction arrow, identify contents with a message, and indicate hazard classifications with a specific background color.

The ANSI/ASME background color designations are:
Toxic and Corrosive Fluids—Orange
Flammable Fluids—Yellow
Low-Hazard Gas—Blue
Potable, Cooling, Boiler Feed, and Other Water—Green
Fire-Quenching Fluids—Red

To select a pipe marker for new installations, choose the message from the table below that corresponds to the contents of your pipe. For messages with multiple background color options, choose the color that best identifies the hazardous properties of the contents according to the ANSI/ASME background color designations.

To replace a pipe marker for existing installations, choose the message and background color from the table below that matches your existing pipe marker.

If you don't see the message you need, pipe markers with other messages are available.

Markers with orange and yellow backgrounds have a black message. Markers with blue, green, and red backgrounds have a white message.

Message	Choose a Background Color
Acid	Orange, Yellow
Air	Blue, Green
Air Return	Blue
Air Supply	Blue
Ammonia	Yellow
Argon	Blue, Green, Orange
Blank (no message)	Blue, Green, Orange, Red, Yellow
Carbon Dioxide	Orange, Yellow
Caustic	Orange, Yellow
Chilled Water	Green
Chilled Water Return	Green
Chilled Water Supply	Green
Chlorine	Yellow
City Water	Green
Cold Water	Green
Cold Water Return	Green
Cold Water Supply	Green
Compressed Air	Blue
Compressed Air 80 PSI	Blue
Compressed Air 120 PSI	Blue
Condensate	Orange, Yellow
Condensate Return	Orange, Yellow
Condenser Water	Green
Condenser Water Return	Green
Condenser Water Supply	Green
Coolant	Green, Yellow
Coolant Return	Green, Yellow
Coolant Supply	Green, Yellow
Cooling Water	Green
Cooling Water Return	Green
Cooling Water Supply	Green
Deionized Water	Green
Domestic Cold Water	Green
Domestic Hot Water	Green, Yellow
Domestic Hot Water Return	Green, Yellow
Domestic Hot Water Supply	Green, Yellow
Drain	Green, Orange, Yellow
Endo Gas	Yellow
Exhaust	Blue, Yellow
Filtered Water	Green
Fire Protection Water	Red
Fire Sprinkler Water	Red
Fuel Oil	Yellow
Gas	Yellow
Glycol	Green, Orange, Yellow
Glycol Return	Orange, Yellow
Glycol Supply	Orange, Yellow
Grease	Orange, Yellow
Heating Water Return	Yellow
Heating Water Supply	Yellow
Helium	Green, Yellow

Message	Choose a Background Color
Hi Press Condensate	Orange, Yellow
Hi Press Steam	Green, Yellow
Hot Oil	Yellow
Hot Oil Return	Yellow
Hot Oil Supply	Yellow
Hot Water	Green, Yellow
Hot Water Return	Green, Yellow
Hot Water Supply	Green, Yellow
Hydraulic Oil	Yellow
Hydrogen	Orange, Yellow
Instrument Air	Blue, Green
Lo Press Condensate	Orange, Yellow
Lo Press Steam	Green, Yellow
Medical Air	Blue, Yellow
Natural Gas	Yellow
Nitrogen	Blue, Green, Orange
Nitrous Oxide	Blue, Orange
Nonpotable Water	Green, Yellow
Outside Air	Blue
Oxygen	Green, Orange, Yellow
Plant Air	Blue
Potable Water	Green
Potable Cold Water	Green
Potable Hot Water	Green, Yellow
Process Water	Green, Yellow
Propane Gas	Yellow
Raw Water	Green
Return	Green, Orange, Yellow
Roof Drain	Green
Sanitary Drain	Green
Sanitary Sewer	Green
Sanitary Vent	Blue
Soft Water	Green
Sprinkler	Red
Sprinkler Fire	Red
Sprinkler Water	Red
Steam	Green, Yellow
Steam Return	Green, Yellow
Steam Supply	Green, Yellow
Storm Drain	Green
Supply	Green, Orange, Yellow
Tempered Water	Green, Yellow
Tower Water	Green
Tower Water Return	Green
Tower Water Supply	Green
Treated Water	Green
Vacuum	Green, Yellow
Vent	Green, Orange, Yellow
Waste	Orange, Yellow
Waste Water	Yellow
Water	Green, Orange, Yellow

Wrap-Around Pipe Markers

Attach to pipes for clear identification of contents. All pipe markers have a flow-direction arrow.

To Order: Please specify message (or blank) and background color from the chart on page 2002. Markers with a blank message can be written on with a permanent marker. For *other messages*, please specify pipe OD, message, and background color: blue, green, orange, red, or yellow.

Standard

Their coiled construction lets these markers snap around pipes and stay in place without adhesive. They are 0.02″ thick vinyl and have a temperature range of –40° to 160° F. For pipe sizes 6″ and larger, markers come with nylon ties for securing.



Fits Pipe OD	Marker Lg.	Character Ht.		
1/2″-1″	8″	1/2″	5774T91	$3.71
1 1/8″-2 1/4″	8″	3/4″	5774T92	4.89
2 3/8″-3 1/4″	12″	1 1/4″	5774T93	9.00
3 3/8″-4 1/2″	12″	1 1/4″	5774T94	9.38
4 5/8″-5 7/8″	12″	1 1/4″	5774T96	20.33
6″-7 7/8″	12″	1 1/4″	5774T97	20.33
8″-10″	24″	2 1/2″	5774T98	28.95
10 1/8″ and Up	32″	3 1/2″	5774T99	41.43
Other Messages			5774T2	

Washdown

These fade-resistant markers withstand detergents used in high-pressure cleaning. To apply, wrap the marker around your pipe and seal in place with the adhesive strip. Markers are 0.007″ thick polyester and have a temperature range of –40° to 250° F.



Fits Pipe OD	Marker Lg.	Character Ht.		
1/2″-1″	8″	1/2″	6698T1	$9.25
1 1/8″-2 1/4″	8″	3/4″	6698T2	10.50
2 1/2″-4 3/4″	12″	1 1/4″	6698T3	17.25
5″-7 7/8″	12″	1 1/4″	6698T4	20.95
Other Messages			6698T11	

Corrosion Resistant

These markers are heat, chemical, and corrosion resistant. They consist of an adhesive-back, polyester message on a stainless steel backing. Use the included stainless steel straps and brackets to affix the marker to the pipe. Markers are 0.06″ thick and have a temperature range of –40° to 350° F.



Fits Pipe OD	Marker Lg.	Character Ht.		
5″-7 7/8″	18 1/2″	1 1/4″	6662T11	$38.53
8″ and Up	36″	3 1/2″	6662T12	77.49
Other Messages			6662T51	

Adhesive-Back Pipe Markers

Apply directly onto clean, dry pipes. Use **markers without a flow-direction arrow** in conjunction with a flow-direction arrow (sold separately) to comply with ANSI/ASME standards.

Standard— Markers are 0.003″ thick vinyl and have a temperature range of –40° to 170° F, unless noted.

Reflective— These markers are easier to see in low-light conditions than standard markers. They are 0.007″ thick vinyl and have a temperature range of –70° to 160° F.



To Order: Please specify message (or blank) and background color from the chart on page 2002. Markers with a blank message can be written on with a permanent marker. For *other messages*, please specify pipe OD, message, and background color: blue, green, orange, red, or yellow.

		Without Flow-Direction Arrow					With Flow-Direction Arrow				
		Marker					Marker				
Fits Pipe OD	Character Ht.	Ht.	Wd.	Pkg. Qty.		Pkg.	Ht.	Wd.	Pkg. Qty.		Pkg.
Standard											
Less than 1″	1/4″	—	—	—	—	—	3″	3″	5	6694T6	$4.08
3/4″-2″	3/4″	2″	8″	10	5774T86	$10.18	1″	8″	10	16855T45■	4.40
2 1/4″-7 7/8″	1 1/4″	2 1/4″	13″	5	5774T51	10.86	2″	12″	10	16855T46■	6.43
8″-10″	2 1/2″	4″	24″	1	5774T52	3.97	—	—	—	—	—
10 1/8″ and Up	3 1/2″	4″	32″	1	5774T49	6.62	—	—	—	—	—
Other Messages					9498T11						
Reflective											
3/4″-2″	3/4″	—	—	—	—	—	1″	8″	10	7009T1	10.00
2 1/4″-7 7/8″	1 1/4″	—	—	—	—	—	2″	12″	10	7009T3	14.55

■ Thickness is 0.005″. Temperature range is 32° to 140° F.

Adhesive-Back Flow-Direction Arrows

Apply to pipes to indicate the direction of flow. Arrows are 0.004″ thick vinyl and have a temperature range of –40° to 175° F.

Arrow Markers

Choose a Color, Arrow/Background	1 1/8″ Ht. x 7″ Wd. Pkg. of 20		2 1/4″ Ht. x 7″ Wd. Pkg. of 10	
Black/Yellow, White/Blue, White/Green, White/Red	16055T23	$11.79	16055T26	$13.20



Arrow Marking Tape

Choose a Color, Arrow/Background	Wd.	10-Yd. Roll		18-Yd. Roll		30-Yd. Roll	
Black/Yellow, White/Blue, White/Green, White/Red	2″	16055T17	$11.25	16055T55	$19.79	16055T81	$30.89



Corrosion-Resistant Pipe Tags

These blank tags have a high level of wear resistance. Engrave or write on them with a marker, then permanently affix tags to pipes using lock ties and the lock-tie tool (required for fastening). Pipe tags and lock ties are made of Type 304 stainless steel. Pipe tags are 0.015″ thick. Lock ties are 0.015″ thick and 1/4″ wide.



Tags		
3/4″ x 2″ Tags (Pkg. of 10)	8647T41	$9.85
1 1/2″ x 2 1/2″ Tags (Pkg. of 10)	8647T42	13.66
Lock Ties		
10″ Lock Ties—for up to 2″ dia. pipe (Pkg. of 5)	8647T43	9.33
16 1/2″ Lock Ties—for up to 4″ dia. pipe (Pkg. of 5)	8647T44	10.88
Lock-Tie Tool	8647T48	340.85

Wire & Electrical Markers

Wrap-On Wire Markers



These adhesive-back markers wrap onto themselves to accommodate wires of various thicknesses. Markers are oil- and water-resistant. They have continuously printed black characters on a white background, except NEMA colors are blank.

Individual Characters



Markers are 0.007″ thick vinyl cloth and 1½″ long. The width varies depending on character.

Choose a Character	Marker Qty.		Pkg.
0-100, A-Z, -, +	360	24795T1♣	$13.16
1L1, 1L2, 1L3, 2L1, 2L2, 2L3, 3L1, 3L2, 3L3, 1T1, 1T2, 1T3, 2T1, 2T2, 2T3, 3T1, 3T2, 3T3	250	24795T83	13.16

♣ Character 100 has a package quantity of 250.

Character Sets



Markers are 0.007″ thick vinyl cloth and 1½″ long. The width varies depending on character.

Character Range	Qty. Each Character	Marker Qty.		Pkg.
1-33	10	330	24795T41	$13.16
34-66	10	330	24795T52	13.16
67-99	10	330	24795T63	13.16
A-Z	20 (A-J); 10 (K-Z)	360	24795T74	13.16

Marker Books

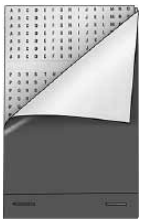

Keep a broad selection of wire markers handy with these pocket-size books. Markers are tear resistant and ¼″×1¼″. *NEMA colors* include black, blue, brown, gray, green, orange, purple, red, white, and yellow. **Tyvek** markers are 0.006″ thick. **Vinyl-coated cloth** markers are 0.012″ thick.

Style	Characters (Qty.)	Tyvek		Vinyl-Coated Cloth	
Numeric	0-9 (45 each)	5945T81	$17.95	5945T71	$30.00
Numeric	1-45 (10 each)	5945T83	15.00	5945T73	21.03
Numeric	46-90 (10 each)	5945T84	15.00	5945T74	21.03
Alphanumeric	0-15, A-Z, -, /, + (10 each)	5945T82	15.00	5945T72	21.03
Telecom	1-3, A-C (45 each); L1, L2, L3, T1, T2, T3 (30 each)	5945T86	15.00	5945T76	23.19
Electrical	AC, Blank, DC, GND, NEG, NEUT, POS, SPARE, -, + (45 each)	5945T87	15.00	5945T77	23.19
NEMA Colors	Blank (45 each color)	5945T85	15.00	5945T75	23.43

Marker Dispensers

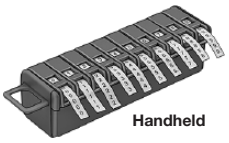

Handheld

These plastic dispensers hold 10 rolls of marker tape and come with a marker roll set.

Handheld—Compact enough to carry around, these dispensers are 5″ Lg.×1½″ Wd.×1½″ Ht. (length includes handle). Markers are 0.0075″ thick Tyvek and come cut to ¼″×1¼″ on rolls of 76.

Bench Top—Cut markers to the length you want with the steel blade attachment. Dispenser is 8″ Lg.×3″ Wd.×1⅜″ Ht. Markers are 0.012″ thick vinyl-coated cloth and come on ¼″×96″ rolls.

White marker roll sets include 10 rolls of numbers (0-9). **NEMA colors marker roll set** includes 10 rolls of NEMA colors (black, blue, brown, gray, green, orange, purple, red, white, and yellow).

To Order: For white individual marker rolls, please specify character (0-9, A-Z). For NEMA colors individual marker rolls, please specify color (black, blue, brown, gray, green, orange, purple, red, white, and yellow).

	Dispensers		Repl. Individual Marker Rolls		Repl. Marker Roll Sets	
Handheld						
White	8235T24	$30.15	_____	___	8235T26	$20.32
NEMA Colors	8235T25	30.15	_____	___	8235T27	20.32
Bench Top						
White	8664T12	33.49	8664T74	$3.23	8664T762	30.84

Electrical Equipment Markers



Indicate voltage and identify power lines, conduit, fuse boxes, switches, and electrical equipment with these adhesive-back vinyl markers.

To Order: Please specify message from those listed below. For *other messages*, please specify size and message.

Messages			
110 Volts	460 Volts	Power	+30 Volts
115 Volts	480 Volts	Lighting	+36 Volts
120 Volts	575 Volts	+0.75 Volts	+48 Volts
120/208 Volts	600 Volts	+1.0 Volts	+96 Volts
208 Volts	4160 Volts	+1.5 Volts	–5 Volts
220 Volts	___ Volts	+1.8 Volts	–12 Volts
230 Volts	AC	+2.5 Volts	–15 Volts
240 Volts	DC	+3.3 Volts	–24 Volts
277 Volts	50 Hz	+5 Volts	–28 Volts
277 to 480 Volts	60 Hz	+12 Volts	–30 Volts
277/480 Volts	Single Phase	+15 Volts	–36 Volts
380 Volts	Three Phase	+24 Volts	–48 Volts
440 Volts	Circuit #	+28 Volts	–96 Volts

Wd.	Ht.	Thick.	Marker. Qty.		Pkg.
Standard—Black Message/Orange Background					
2¼″	½″	0.004″	90	5894T333	$14.35
4½″	1⅛″	0.004″	20	5894T222	12.74
9″	2¼″	0.004″	5	5894T111	12.10
Other Messages				5894T55	
Reflective—Black Message/Yellow Background					
1⅞″	1⅜″	0.007″	10	4740T77	8.54
2⅞″	1¾″	0.007″	10	4740T66	11.11
4⅞″	2⅞″	0.007″	5	4740T55	13.22
Other Messages				4740T54	

Write-and-Wrap Wire Markers



Book



Roll with Dispenser

Write your own message on these blank markers, then wrap them around wires or cables. Each marker has a clear plastic cover that wraps around the message to protect it. Markers are 0.004″ thick adhesive-back vinyl.

Books are 3″×6″. **Rolls with dispensers** are plastic and 4″ Lg.×1⅜″ Wd.×2¼″ Ht. They are not refillable.

Writing Area Ht.	*Writing Area* Wd.	*Marker* Ht.	*Marker* Wd.	Marker Qty.		
Books						
1″	¾″	1″	3″	60	8668T32	$15.47
1″	1″	1″	6″	30	8668T31	15.62
Rolls with Dispensers						
¾″	5⁄16″	¾″	1¼″	300	8668T12	20.29
¾″	½″	¾″	17⁄8″	150	8668T13	20.29
¾″	¾″	¾″	3″	90	8668T11	19.77

Snap-On Wire Markers



Push these white plastic markers off the flared end of the holder and snap them onto your wire. They can be applied over terminated wires. Characters are black.

Individual Characters

To Order: Please specify 0-9, A-Z, +, or –.

For Wire Ga.	For OD	Marker Qty.		Pkg.
26-24	0.040″-0.055″	120	31475T67	$16.33
22-20	0.055″-0.071″	120	31475T78	16.33
18	0.075″-0.104″	120	31475T84	16.33
16-14	0.102″-0.138″	120	31475T89	16.33
14-12	0.128″-0.177″	120	31475T95	16.33

Character Sets

To Order: Please specify wire gauge: 26-24, 22-20, 18, 16-14, or 14-12.

Characters	Qty. Each Character		Pkg.
0-9	30	31475T1	$41.73
A-Z	30	31475T2	103.08

Corrosion-Resistant Cable Markers



These Type 316 stainless steel markers withstand chemicals, heat, and corrosion. To create a complete marker, thread individual stamped characters over the carrier (sold separately). Attach markers to cables using ties and the installation tool, which cuts and secures ties.

To Order: For individual characters, please choose from: 0-9, A-Z, +, –, =, /, ., :, or blank.

		Pkg.
6-Character Carriers—3⁄8″×17⁄8″ (Pkg. of 10)	6462T15	$5.97
17-Character Carriers—3⁄8″×41⁄4″ (Pkg. of 10)	6462T17	8.59
Individual Characters (Pkg. of 50)	6462T11	7.71
8″ Lg. Ties (Pkg. of 20)	6462T22	10.08
113⁄4″ Lg. Ties (Pkg. of 20)	6462T24	12.00
201⁄2″ Lg. Ties (Pkg. of 20)	6462T26	13.87
Installation Tool	6462T31	233.93

Slip-On Wire Markers



Slip these PVC markers off the holder and onto unterminated wires. Gray, orange, white, and yellow markers have black characters. Black, blue, brown, green, purple, and red markers have white characters.

NEMA color markers correspond to the following international color code for numbering: black (0), brown (1), red (2), orange (3), yellow (4), green (5), blue (6), purple (7), gray (8), and white (9).

Individual Characters

Choose only the characters you need on holders or strips. You'll receive 10 holders or strips with 25 markers on each. Strips can be used to refill holders; holders can be used to refill dispensers.

To Order: Please specify white or yellow and the character (0-9, A-Z, +, –, /, or ⏚).

	Marker Qty.	For 16-9 Wire Ga. (0.051″-0.118″)	Pkg.	For 10-4 Wire Ga. (0.098″-0.196″)	Pkg.
Strips	250	12405T74	$10.61	12405T84	$11.34
Holders	250	12405T28	14.81	12405T38	14.96

Character Sets

Choose a range of characters. Sets come with 10 holders, each containing 25 identical characters. Use alone or to refill dispenser.

To Order: For white or yellow marker sets, please specify color.

Characters	Qty. Each Character	For 16-9 Wire Ga. (0.051″-0.118″)		For 10-4 Wire Ga. (0.098″-0.196 ″)	
White or Yellow Markers					
0-9	25	12405T61	$15.52	12405T51	$15.81
A-J	25	12405T62	15.52	12405T52	15.81
K-T	25	12405T63	15.52	12405T53	15.81
U-Z, +, –, /, ⏚	25	12405T64	15.52	12405T54	15.81
NEMA Color Markers					
0-9	25	12405T6	17.24	12405T5	17.82

Dispensers with Character Sets

Store up to 20 holders, each with 25 identical characters. Dispensers have a belt-loop hook and come with 20 holders (two sets of 0-9).

To Order: For white or yellow marker sets, please specify color.

Characters	Qty. Each Character	For 16-9 Wire Ga. (0.051″-0.118″)		For 10-4 Wire Ga. (0.098″-0.196″)	
White or Yellow Markers					
0-9	50	12405T2	$45.61	12405T1	$46.32
NEMA Color Markers					
0-9	50	12405T4	53.07	12405T3	53.90

Document Laminators

Protect important documents. All laminators have temperature controls and are UL listed.

Light Duty—Quickly handles small laminating jobs. It has a 5-ft cord with two-prong plug.

Heavy Duty—For frequent use and high-volume jobs, choose these laminators. They have an 8-ft cord with three-prong plug.

Heavy Duty Laminator Kits—Include 200 27⁄8″×53⁄8″ tags (20 each of blank and nine different safety messages), 100 tag pouches, three laminating carriers, five 81⁄2″×14″ and two 81⁄2″×11″ signs with safety messages, five lockout/tagout forms, and 20 laminating pouches.

Pouches are acid-free photo-safe polyester.

Slot punch makes a 9⁄64″×1⁄2″ slot in a laminated card or tag.



Light Duty



Heavy Duty

Laminators

Style	For Max. Laminate Wd.	For Max. Laminated Thick.	Overall Size Ht.	Wd.	Dp.	Laminators		Laminator Kits	
Light Duty	9″	0.010″	43⁄4″	141⁄2″	61⁄2″	38575T61	$126.05		
Heavy Duty	91⁄2″	0.020″	51⁄2″	131⁄2″	9″	5868T84	390.20	5868T86	$469.51
Heavy Duty	12″	0.020″	41⁄2″	16″	8″	5868T18	498.00	5868T19	579.30

Laminating Pouches and Accessories

Document Type	Lg.	Wd.	Laminated Thick.	Pkg. Qty.		Pkg.
For Light and Heavy Duty Laminators						
Index Card	51⁄2″	31⁄2″	0.010″	25	5868T21	$12.68
Letter	111⁄2″	9″	0.006″	10	5868T23	6.62
Letter	111⁄2″	9″	0.010″	10	5868T24	13.06
Letter, Adhesive-Back	111⁄2″	9″	0.010″	5	5868T25	8.24
Letter, Hang-Up	12″	9″	0.010″	5	5868T26	8.24
Legal	141⁄2″	9″	0.006″	10	5868T49	8.37
Legal	141⁄2″	9″	0.010″	5	5868T38	8.48
Legal, Adhesive-Back	141⁄2″	9″	0.010″	5	5868T63	11.51
3-Hole Looseleaf	113⁄8″	91⁄2″	0.006″	10	5868T48	7.85
3-Hole Looseleaf	113⁄8″	91⁄2″	0.010″	5	5868T31	7.94
Chart	15″	12″	0.006″	10	5868T39	10.98
Oversize Chart	18″	12″	0.006″	5	5868T41	7.63
Oversize Chart	18″	12″	0.010″	5	5868T42	14.15

Document Type	Lg.	Wd.	Laminated Thick.	Pkg. Qty.		Pkg.
For Heavy Duty Laminators Only						
Credit Card	33⁄8″	21⁄8″	0.014″	25	5868T61	$7.00
Business Card	33⁄4″	21⁄4″	0.014″	25	5868T12	8.17
ID Card	31⁄4″	25⁄16″	0.014″	25	5868T47	7.00
Luggage Tag with Strap Slot	41⁄4″	21⁄2″	0.014″	25	5868T14	7.89
Luggage Tag without Strap Slot	41⁄4″	21⁄2″	0.014″	25	5868T13	7.89
Government ID Card	37⁄8″	25⁄8″	0.014″	25	5868T62	8.72
ID Tag	55⁄8″	31⁄8″	0.020″	10	5868T77	5.29
ID Tag with Matte Finish	55⁄8″	31⁄8″	0.020″	10	5868T78	5.62
Index Card	51⁄2″	31⁄2″	0.014″	25	5868T22	12.00
Letter	111⁄2″	9″	0.020″	5	5868T71	13.22
Legal	141⁄2″	9″	0.020″	5	5868T72	14.42
Accessories						
Leather Luggage Strap for 5868T14 (Pkg. of 50)					5868T87	11.77
Slot Punch					1742T6	55.56

Laminators, Badges & Badge Holders

Heat-Free Laminators



You won't have to wait for these manual laminators to warm up—they don't need heat, electricity, or batteries. Turn the handle, guide your document through, then use the cutting blade to trim. The laminator comes with a 15-ft. roll of adhesive laminate. Laminate is clear polypropylene and 0.002″ thick per side.

Max. Laminated Wd.	Overall Size Wd.	Ht.	Dp.		
8½″	14″	7″	6″	1062T1	$70.00
Replacement Laminate (60-ft. Roll)				1062T5	32.63

Large-Document Laminators



Laminate banners and large signs. The laminator is UL approved and has a 6-ft. cord with three-prong plug. All laminates are clear polyester and 0.0015″ thick per side.

Max. Laminated Wd.	Overall Size Wd.	Ht.	Dp.		
27″	34″	13″	14″	1403T37	$1,436.25
18″ Wd. Laminate (500-ft. Roll)				1403T41	40.31
25″ Wd. Laminate (500-ft. Roll)				1403T42	54.44
27″ Wd. Laminate (500-ft. Roll)				1403T43	61.07

Badges and Badge Printers

Write-On and Printable Badges



2226T13



2226T15 (Expired)



6935T12 (Shown With Clip)



Thermal-Transfer Printer

Time-expiring visitor badges reveal a red message when they expire. *24-hr. badge* shows "VOID" and *12-hr. badge* shows a "STOP" sign.

Thermal-transfer label and badge printer works with your PC or Mac and uses direct thermal printing technology that doesn't require ink, toner, or ribbons. It comes with software, 100 labels, a USB cord, and a wall adapter. This product cannot be sold in Hawaii.

Write-On Badges		
Plain-Back Blank 2⅛″×3⅜″ Inserts for Badge Holders (Pkg. of 40)	2226T14	$3.80
Adhesive-Back 2¼″×3½″ Visitor Badges (Pkg. of 100)	2226T13	4.00
24-Hr. Time-Expiring Adhesive-Back 2″×3″ Visitor Badges (Pkg. of 24)	2226T15	11.50
Printable Badges—For use with thermal-transfer printers		
Plain-Back Blank 2½″×4¼″ Badges for use with Clips (Roll of 250)	6935T12	22.70
Adhesive-Back Blank 2¼″×4″ Badges (Roll of 250)	6935T13	22.70
12-Hr. Time-Expiring Adhesive-Back Blank 2¼″×4″ Badges (Roll of 250)	6935T14	43.28
Thermal-Transfer Label and Badge Printer (5″×5″×7″)	6935T11	106.67

Engravable Plastic Badge



Attachment	Ht.	Wd.	Core Color	Surface Color		Each
Safety Pin	1″	3″	Black	Gold	8043T11	$2.23

Badge Holders and Lanyards



Plastic Badge Holders

	Color	Max. Badge Size	Choose a Style	Pkg. Qty.		Pkg.
1 Clip	Clear	2⅜″×3⅜″	Horizontal, Vertical	10	86795T3	$5.38
2 Strap/Chain Holes	Clear	2⅜″×3⅜″	Horizontal, Vertical	10	86795T2	4.50
3 Sealable with Strap/Chain Holes	Clear	2⅝″×3⅞″	Horizontal, Vertical	5	86795T5	3.62
4 Magnetic Flap with Thumb Notch	Black	2⅜″×3⅜″	Vertical	5	86795T41	10.07
5 Arm Band	Clear	3⅜″×2⅜″	Horizontal, Vertical	1	86795T14	4.90
5 Reflective Arm Band	Orange	3⅜″×2⅜″	Vertical	1	86795T95	5.62
6 Pouch with 34″ Neck Cord	Black	3″×4″	Horizontal	1	86795T93	4.50
7 RFID Shielding with 30″ Neck Cord	Black	3¼″×2″	Vertical	1	86795T15	17.50

Retractable-Cord Badge Holders

	Choose a Color		Each
8 Slide-On Holder with 36″ Cord and Vinyl Strap	Black, Blue	86795T33	$7.67
8 Clip-On Holder with 34″ Twist-Free Cord and Vinyl Strap	Black, Blue, White	86795T76	1.70
9 Clip-On Holder with 34″ Twist-Free Cord and Plastic Clamp	Black	86795T774	1.90

Lanyards

	Choose a Color	Pkg. Qty.		Pkg.
10 30″ Metal Bead Neck Chain		10	86795T28	$4.78
11 30″ Elastic Neck Cord with Barbs	Black, White	10	86795T29	5.24
12 27″ Vinyl Break-Away Neck Cord	White	10	86795T27	7.93
13 34″ Polyester Break-Away Neck Cord	Red	5	92555A100	4.83
14 36″ Polyester Neck Cord with Swivel Hook	Black, Blue, Green, Red	5	86795T81	4.96
14 Reflective 36″ Polyester Neck Cord with Swivel Hook	Red and Silver	1	86795T92	2.20

Clips and Clamps

	Pkg. Qty.		Pkg.
15 Permanent-Close Vinyl Strap with Metal Clip	5	86795T46	$4.23
15 Vinyl Strap with Metal Clip	10	86795T25	3.00
16 Plastic Clip	10	86795T24	2.85
17 Metal Clip with Card Clamp	10	86795T45	$7.00
18 Plastic Card Clamp	1	86795T91	.78
19 Two-Piece Magnetic Clip	1	86795T6	1.49

Clocks


A


B


C


D

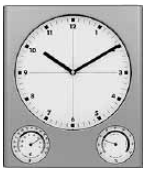
E

These clocks have a white dial, except Style B has a black dial.

Battery Operated

Clocks require one AA battery (not included for Styles A–D).
Outdoor clock with thermometer and humidity indicator has a temperature range of –30° to 130° F. Humidity range is 0% to 100%.
NIST certified clock with thermometer and humidity indicator comes with a certificate of calibration traceable to NIST. Temperature range is –34° to 116° F. Humidity range is 8% to 92%.

	O'all Dia.	Material: Case	Material: Lens	Choose a Case Color		
Standard						
A	7 3/8"	Plastic	Plastic	Black, Gray	8412T6	$18.72
A	9 1/4"	Plastic	Plastic	Black, White	8412T4	20.22
A	12 3/4"	Plastic	Plastic	White	8412T802	28.32
A	13 3/4"	Plastic	Plastic	Black	8412T801	22.40
A	16 1/2"	Plastic	Plastic	Black	8412T501	54.84
B	10 3/8"	Plastic	Plastic	Black	12005T103	30.42
B	13 1/4"	Plastic	Plastic	Black	12005T201	30.42
Standard Outdoor						
A	12 3/4"	Plastic	Plastic	Black, White	8418T15	28.09
Heavy Duty						
A	13 1/4"	Metal	Glass	Black	1393T141	$66.02
A	16 1/4"	Metal	Glass	Black	1393T81	117.90
C	16"	Wood	Glass	Brown	14865T8	107.83
Outdoor with Thermometer and Humidity Indicator						
D	18"	Metal	Glass	Black	8418T16	59.18
NIST Certified with Thermometer and Humidity Indicator						
E	11"×12 1/2"	Plastic	Glass	Gray	2186T77	77.91

Plug In

All have a 5-ft. cord.

	O'all Dia.	Material: Case	Material: Lens	Choose a Case Color		
Standard						
A	9 1/4"	Plastic	Plastic	Black, Beige	1291T1	$32.02
A	12 3/4"	Plastic	Plastic	Black, Beige	1291T2	39.09
Heavy Duty						
A	19"	Metal	Glass	Black	8466T13	$170.54

Auto-Adjust and Synchronized Clocks

You won't have to change these clocks each spring and fall for daylight saving time.
Auto-adjust clocks use an internal calendar to automatically adjust for daylight saving time. *Battery-operated* clock runs on three AA batteries (not included). *Plug-in* clocks have a 5-ft. cord.
Auto-adjust atomic clocks update daily via a radio signal from the NIST atomic clock. For use within the continental United States. They work best if used in facilities that do not have strong electronic interference. Place on a perimeter wall of your building facing the signal direction. Clocks run on one AA battery (not included).
Synchronized WiFi clocks link wirelessly to your network. Clocks run on six AA batteries (included).
Synchronized power-over-ethernet clocks receive power and time updates from your network. Use a CAT5 or faster ethernet cable to connect the clock to your power-over-ethernet switch or to a power converter (sold separately). The converter has a 5-ft. cord with plug.


Dial



Digital

Dial

O'all Dia.	Material: Case	Material: Lens	Case Color		
Auto Adjust—Battery Operated					
14 1/4"	Plastic	Glass	Black	5771T18	$24.44
Auto Adjust—Plug In					
13 1/4"	Metal	Glass	Black	8466T82	85.36
16 1/4"	Metal	Glass	Black	8466T11	116.57
Auto-Adjust Atomic—Battery Operated					
9 1/4"	Plastic	Plastic	Black	6769T31	39.07
12 3/4"	Plastic	Plastic	Black	6769T32	48.43
16 1/2"	Plastic	Plastic	Black	6769T37	53.65
Synchronized WiFi—Battery Operated					
13 1/4"	Plastic	Plastic	Black	1102N21	$189.93
13 1/4"	Metal	Glass	Black	1102N22	224.21
Synchronized Power-Over-Ethernet					
12"	Metal	Plastic	Silver	1091N11	288.25
15"	Metal	Plastic	Silver	1091N12	316.58
Power Converter for Power-Over-Ethernet Clocks				1091N14	63.25

Digital

Clock has red numerals.

Digit Ht.	O'all Size: Ht.	O'all Size: Wd.	O'all Size: Dp.	Case: Material	Case: Color	Clock		Power Converter	
Synchronized Power-Over-Ethernet									
2 1/2"	4 1/8"	14 1/8"	2 1/4"	Metal	Black	1091N13	$466.58	1091N14	$63.25

12/24-Hour Clocks

Read time in 12- and 24-hour formats.
Battery-operated clocks run on one AA battery (not included). **Plug-in** clocks have a 5-ft. cord.



O'all Dia.	Material: Case	Material: Lens	Case Color	Battery Operated		Plug In	
9"	Plastic	Plastic	Black	1211T921	$24.19	9454T141	$34.17
13"	Plastic	Plastic	Black	1211T11	28.06	9454T161	36.25
13"	Plastic	Plastic	Gray	1211T113	28.06		

Safety-Message Clocks



Eye-catching red messages remind employees to follow safety practices and policies.
Battery-operated clocks run on one AA battery (not included).
Plug-in clocks have a 5-ft. cord.

O'all Dia.	Material: Case	Material: Lens	Case Color	Choose a Message	Battery Operated		Plug In	
Standard								
12¾″	Plastic	Plastic	Black	Think Safety, Safety First	———	———	13245T2	$48.58
13¾″	Plastic	Plastic	Black	Think Safety, Safety First, No Smoking	12645T1	$29.27	———	———
Heavy Duty								
13¼″	Metal	Glass	Black	Think Safety, Safety First	1310T1	73.49	1202T3■	92.06
16¼″	Metal	Glass	Black	Think Safety, Safety First	1310T4	117.90	1202T1■	125.90
19″	Metal	Plastic	Black	Think Safety, Safety First	12875T6	156.58	13135T7	173.25

■ Clock automatically adjusts for daylight saving time.

Two-Way-View Clocks



With back-to-back dials you can see the time from two directions. Clock automatically adjusts for daylight saving time. It must be hardwired.

O'all Dia.	Material: Case	Material: Lens	Case Color		
13¼″	Plastic	Plastic	Black	8462T574	$215.11

Clock Guards

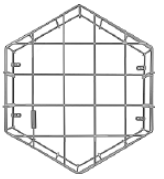

Protect your clock from damage with these steel guards. They have four ¼″ dia. mounting holes (fasteners not included).

Fits Max. Clock Dia.	O'all Size: Ht.	Wd.	Dp.		
12″	15½″	15½″	4¾″	12745T2	$54.63
15″	19½″	19½″	4¾″	12745T5	62.87
18″	22¼″	22¼″	4¾″	12745T8	68.43

Digital Clocks


A


B


C


D


E

All clocks display 12- or 24-hour time (unless noted). Battery-operated clocks have black numerals; plug-in clocks have red numerals and a 5-ft. cord, except Style D have a 6-ft. cord. Batteries are included (unless noted).
Plug-in with long-life battery backup clock has a battery that lasts up to 7 years.

	Digit Ht.	O'all Size: Ht.	Wd.	Dp.	Case Material	Case Color	Battery (Qty.)		
Desktop with Alarm									
A Battery Operated	½″	3″	2½″	1½″	Plastic	Black	AA (1)	6095T37	$25.68
B Plug In with Battery Backup	1¾″	4″	7¼″	2″	Plastic	Silver	9 volt (1)★	6095T25▲	21.43
Wall Mount									
C Battery Operated	2¼″	9″	8¼″	¾″	Plastic	Black	AAA (4)	7455T4	58.37
D Plug In	2¼″	3½″	8½″	3½″	Plastic, Aluminum	Black	———	9456T14▲	112.20
D Plug In	4″	6″	12″	3½″	Plastic, Aluminum	Black	———	9456T24	188.70
E Plug In with Long-Life Battery Backup	4″	8″	15¾″	2⅞″	Aluminum	Black	Lithium (1)	9456T33	443.52

★ Battery not included. ▲Displays 12-hour time.

Scheduling Timers


Timer


Bell


Horn

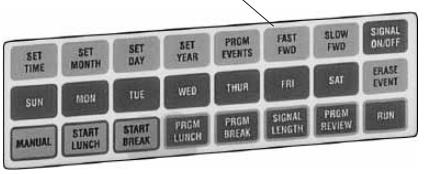

Program timer to trigger an audible signal for events throughout the week. It has a keypad for scheduling events and adjusting the signal duration from one to 99 seconds. Keypad has a user-defined security code to restrict access. Clock displays 12- or 24-hour time. Timer must be hardwired and has a 6-volt battery backup (included). You can link up to 32 bells and horns to a timer at once.

Timer can be wall mounted or set on a desktop. It is 5 5/16″ Ht. × 9½″ Wd. × 3 5/16″ Dp. black metal. Operates on 1.2 amps @ 120 volts AC. UL listed. CSA certified.

Bell and horn can be used outdoors. They come with mounting hardware. **Bell** sounds 86 dB @ 10 ft. It operates on 0.085 amps @ 120 volts AC. **Horn** sounds 95 dB @ 10 ft. It operates on 0.16 amps @ 120 volts AC.

	Max. No. of Events	Digit Ht.	No. of Digits	Battery Backup Life		
Timer	1,440/week	1″	6	7 days	9579T22	$455.91
6″ Dia. Bell					9579T32	73.92
4″ Sq. Horn					9579T34	60.90
Replacement 6-Volt Battery					9579T35	52.50

About Stopwatch Timing Functions

1. Single-event timing records one event.
2. Countdown timing indicates the time remaining before an event is scheduled to occur.
3. Lap timing displays the elapsed time, from start to finish, of several separate events. *Lap memory* indicates how many previous laps the stopwatch can recall.
4. Split timing records the combined time of events. Press button once to display the elapsed time for the first event. Press again to display the combined elapsed time of the first and second events.

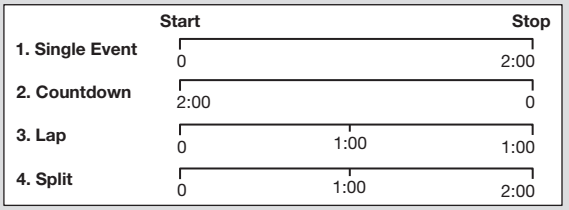

Stopwatches

Pause timing with the press of a button. Stopwatches have a plastic lens and an inset dial that measures total time.
Stopwatch with NIST certificate comes with a certificate of calibration traceable to NIST.



Max. Time	Accuracy	Case Material		
Standard				
30 min.	±1.5 sec./hr.	Chrome-Plated Metal	1303T12	$78.44
60 min.	±1.5 sec./hr.	Black Plastic	1303T11	176.42
With NIST Certificate				
30 min.	±1.5 sec./hr.	Chrome-Plated Metal	9548T11	238.21

Digital Stopwatches

Time events with a high level of accuracy. These stopwatches are water resistant, can pause timing with the press of a button (unless noted), and include a lanyard. Case and lens are plastic. Case color is black (unless noted). Batteries included.
Optional aluminum clipboard has a clamp to hold the stopwatch and a clip to hold paper.
Backlit stopwatch allows you to time events in low-light conditions.
Stopwatches with NIST certificate come with a certificate of calibration traceable to NIST. *Split timing* stopwatches meet ISO 17025 standards.



			Stopwatch				Stopwatch with Alarm			
Timing Functions	Clock	Accuracy	Max. Time	Lap Memory			Max. Time	Lap Memory		
Standard										
Split Timing	Yes	±0.4 sec./hr.	—	—	—	—	24 hr.	—	2100T27	$16.88
Lap and Split Timing	No	±0.04 sec./hr.	10 hr.	—	1314T15▲	$26.68	—	—	—	—
Countdown, Lap, and Split Timing	No	±0.04 sec./hr.	10 hr.	7	1234T5	36.12	10 hr.	—	8434T13	24.57
Countdown, Lap, and Split Timing	Yes	±0.02 sec./hr.	—	—	—	—	20 hr.	500	8434T11★	41.23
Backlit										
Lap Timing	Yes	±0.125 sec./hr.	—	—	—	—	24 hr.	—	2504T12♦	47.26
With NIST Certificate										
Split Timing	Yes	±0.04 sec./hr.	—	—	—	—	24 hr.	—	6327T77	35.05
Split Timing	Yes	±0.4 sec./hr.	—	—	—	—	24 hr.	—	6327T44■	22.50
Lap and Split Timing	No	±0.02 sec./hr.	30 hr.	16	1314T19▲	47.29	—	—	—	—
Optional 9″×12½″ Aluminum Clipboard for 1314T15 and 1314T19									12495T8	26.73

▲ Does not have a pause button. ★ Case is gray. ♦ Case is clear. ■ Case is yellow.

Combination Wristwatch/Weather Monitors

Monitor your environment when working outdoors; this wristwatch not only displays time and date but also temperature, barometric pressure, and altitude. Temperature range is 14° to 140° F/–10° to 60° C. Other functions include a countdown timer that can be set to 3, 5, 10, 15, or 45 minutes; the ability to pause timing functions; and a digital compass. Watch has a gray plastic case and black rubber band with a buckle closure. Battery included.



		Stopwatch				
Face Dia.	Clock	Timing Functions	Max. Time	Lap Memory		
1⅛″	12/24 hr.	Countdown, Lap, and Split Timing	100 hrs.	100	8431T61	$81.63

Timers

All have black numerals and markings. Case is plastic.
Styles A and **B** are spring wound and count down to an alarm. **Style C** runs on a battery (included), counts up, and has a second hand.


A


B


C

	Max. Time	Resolution	Max. Alarm Duration	*O'all Size* Ht.	Wd.	Dp.	Battery (Qty.)	Case Color		
A	60 min.	1 Min.	1 sec.	3¾″	3¾″	2″	—	White	8451T11	$8.00
B	30 min.	1 Min.	1 sec.	3½″	3″	2½″	—	Black	1300T2	56.23
B	60 min.	1 Min.	1 sec.	3½″	3″	2½″	—	Black	1300T3	56.23
C	60 min.	1 Sec.	No Alarm	6¾″	5¼″	3¾″	AA (1)	White	8441T26	194.82

Timers & Time Cards

Digital Timers


A


B


C


D


E


F


G

Timers count down and sound an alarm when time runs out. Styles B and E-G can be set to count up. They have a pause button and memory recall function, unless noted. Case is plastic. Batteries included.

Pocket timers have a magnetic back and built-in stand, except Style A does not have a built-in stand. *Style E* has a clock.

Pocket timer with NIST certificate comes with a certificate of calibration traceable to NIST.

Desktop timer has a clock.

	Max. Time	Resolution	Max. Alarm Duration	*O'all Size* Ht.	Wd.	Dp.	Battery (Qty.)	Case Color		
Pocket Timers										
A	100 min.	1 sec.	30 sec.	3½″	1¾″	½″	1.5 volt (1)	White	**12315T25**	$13.68
B	100 min.	1 sec.	1 min.	2¼″	2½″	½″	1.5 volt (1)	Blue	**8456T12** ■	19.26
C	100 min.	1 sec.	1 min.	2½″	2¾″	½″	1.5 volt (1)	White	**12475T37**	16.98
D	24 hrs.	1 min.	1 min.	2⅜″	2⅜″	½″	1.5 volt (1)	Blue	**12175T15**	15.60
E	24 hrs.	1 sec.	1 min.	2½″	2½″	½″	1.5 volt (1)	White	**12595T9**	28.29
F	9,999 min.	1 min.	Continuous	2″	3″	⅝″	AAA (2)	Red	**3879T42**	17.50
Pocket Timer with NIST Certificate										
F	9,999 min.	1 min.	Continuous	2″	3″	⅝″	AAA (2)	Red	**3879T43**	41.67
Desktop Timer										
G	10 hrs.	1/100 sec.	Continuous	4½″	7¼″	3″	C (1)	Gray	**1223T8** ■	55.11

■ Does not have a memory recall function.

Multi-Event Digital Timers


H


J


K


L



M


N

Time several events together or separately. Set timers to count down to an alarm, count up, and display time of day, except Style L does not display time. All have a pause button and memory recall function. Case is plastic. *Battery-operated* timers come with batteries.

Pocket timers with NIST certificate come with a certificate of calibration traceable to NIST. They have a magnetic back and built-in stand. *Style K* displays two events simultaneously. *Style L* has an extra loud (100 dB) alarm.

Desktop timer can perform three simultaneous countdowns.

Desktop timer with NIST certificate comes with a certificate of calibration traceable to NIST. It displays three events simultaneously as well as the date.

	No. of Events	Max. Time	Resolution	Max. Alarm Duration	*O'all Size* Ht.	Wd.	Dp.	Battery (Qty.)	Case Color		
Pocket Timers—Battery Operated											
H	4	100 hrs.	1 sec.	1 min.	2½″	2¾″	½″	1.5 volt (1)	White	**12525T2**	$26.08
J	6	100 hrs.	1 sec.	1 min.	2⅜″	2¾″	⅝″	1.5 volt (1)	White	**9608T11**	25.58
Pocket Timers with NIST Certificate—Battery Operated											
K	2	24 hrs.	1 sec.	1 min.	2⅛″	2¾″	⅞″	1.5 volt (1)	Black	**6099T77**	32.86
L	2	100 hrs.	1 sec.	1 min.	3″	3½″	⅝″	AAA (2)	White	**3516T46**	33.24
Desktop Timer—Plug In											
M	8	100 hrs.	1 sec.	1 min./Continuous	4¼″	6½″	3½″	_____	Beige	**12585T8**	181.42
Desktop Timer with NIST Certificate—Battery Operated											
N	3	100 hrs.	1 sec.	1 min./Continuous	3″	3¼″	1″	AAA (1)	Beige	**1399T15**	54.44

Time Cards

Card Type	Compatible with Time Clocks	Pkg. Qty.		Pkg.
Microder	Amano MJR 7000/8000/8500	200	**12125T9**	$11.73
C3000	Acroprint ATR 200; Amano 6500/6700/6800/6900 and CP 3000; Lathem 1100	250	**12465T8**	15.00
10-800292	Acroprint 125/150/ES700/ES900; Amano 3700/3800/4100/4200/5300/5400 and PIX 10/21; Lathem 2100/2200/4000; Pyramid PPTI 1000; PTI 3500	250	**8790T11**	13.75
1900L	Acroprint 125/150/ES700/ES900; Amano 3700/3800/4100/4200/5300/5400 and PIX 10/21; Lathem 2100/2200/4000; Pyramid PPTI 1000; PTI 3500	250	**8790T13**	13.75
1900L-2	Acroprint 125/150/ES700/ES900; Amano 3700/3800/4100/4200/5300/5400 and PIX 10/21; Lathem 2100/2200/4000; Pyramid PPTI 1000; PTI 3500	250	**8790T25**	13.75
K1400	Acroprint 125/150/ES700/ES900; Amano 3700/3800/4100/4200/5300/5400 and PIX 10/21; Lathem 2100/2200/4000; Pyramid PPTI 1000; PTI 3500	250	**8790T12**	13.12
L61	Acroprint 125/150/ES700/ES900; Amano 3700/3800/4100/4200/5300/5400 and PIX 10/21; Lathem 2100/2200/4000; Pyramid PPTI 1000; PTI 3500	250	**12735T9**	11.66

Time Clocks and Cards

Time Clocks

Print the month, date, hour, and minute on your time cards. Time clocks print in blue ink. Housing is green plastic and locks to prevent tampering (two keys included). Mount with included hardware. Clocks have a 6-ft. cord with plug. UL listed. Time cards are sold separately.

Push-to-Print—Insert a card and push the lever to print.

Auto Print—Place a card into the front of this clock and it prints automatically.



Push-to-Print

	Ht.	Wd.	Dp.	Time Clocks		Repl. Ink Ribbon		Pkg. of 2 Repl. Keys	
Push-to-Print	10″	8″	6″	9185T101	$360.45	9185T23	$17.12	9185T24	$15.00
Auto Print	9″	8″	6″	8444T11	377.42	9185T23	17.12	9185T24	15.00

Time Cards

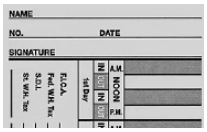

AM/PM

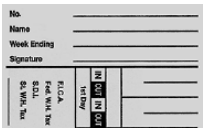

Military

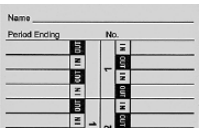

Semimonthly

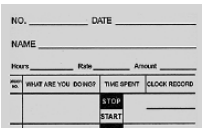

Job Cost

	Ht.	Wd.	Pkg. of 250	
AM/PM	9″	3½″	8444T52	$12.76
Military	9″	3½″	8444T51	12.76

	Ht.	Wd.	Pkg. of 250	
Semimonthly	9″	3½″	8444T53	$12.76
Job Cost	9″	3½″	8444T54	12.76

Time Clocks with Message Stamp and Cards

Stamp your time cards with messages such as PAID and VOID as well as time information. These clocks print combinations of year, month, date, 12- or 24-hour time, and minutes. Ink is black. Insert paper into the front and clocks print automatically. The display shows time and date. Clocks auto-adjust for daylight saving time. Housing is plastic and locks to prevent tampering (one key included). Time cards are sold separately.

Selectable message clock prints 10 messages: RCV'D, SENT, FAX'D, VOID, PAID, CFM'D, APR'D, CMPL'D, ORIGN, and FILE. It has a 5-ft. cord with plug and a lithium battery backup (included). Housing is black. UL listed.

Create-your-own message clock lets you enter your own message up to 21 characters. Display includes day of the week. It has a 6-ft. cord with plug and a NiCad battery backup (included). Housing is beige and gray. UL listed and CSA certified.



Selectable Message



Create-Your-Own Message

	Ht.	Wd.	Dp.		
Selectable Message	6″	6¼″	6⅞″	12735T32	$318.87
Create-Your-Own-Message	6⅞″	5⅞″	6″	12735T34	469.46
Repl. Ink Ribbon				12735T38	15.52
Time Cards (Pkg. of 250)				12735T9	11.66
Repl. Keys for Selectable Message Clock (Pkg. of 2)				12735T7	5.66
Repl. Keys for Create-Your-Own-Message (Pkg. of 2)				12465T9	5.88

Total-the-Hours Time Clocks and Cards

This clock saves you time at the end of a pay period by automatically totalling each employee's hours on their time cards. You can also print a summary of the active time cards with totals for each card in regular and overtime hours. Clock prints in black and red ink. Time cards are sold separately.

Insert cards through the top and the clock prints automatically. It can be set for weekly, biweekly, semimonthly, or monthly pay periods for up to 100 employees. The display shows time, date, and day of the week. Clock auto-adjusts for daylight saving time. Housing is blue and silver plastic and mounts with included hardware. Clock has a 4-ft. cord with plug. UL listed.



	Ht.	Wd.	Dp.		
Time Clock	9½″	7³⁄₁₆″	5½″	6838T41	$534.48
Replacement Ink Ribbon				6838T43	20.56
Time Cards (Pkg. of 100)				6838T42	15.00
Replacement Keys (Pkg. of 2)				6838T45	13.33

Finger-Scan Time Clocks

Scan employee fingerprints to register attendance. Time clock can be set for weekly, biweekly, semimonthly, and monthly pay periods as well as overtime for up to 125 employees. Upload data to your PC using the included software and 5-ft. USB cable or use your CAT5 ethernet cable. Clock is compatible with common payroll software such as QuickBooks and ADP.

The backlit display shows time and date when idle and employee name, in/out status, and total pay period hours after each successful scan. Housing is gray plastic. Clock has a 6-ft. cord with plug. UL listed.



	Ht.	Wd.	Dp.		
Time Clock	6″	8″	2″	8008T4	$491.04

Proximity-Touch Time Clocks

Record attendance with the touch of a badge or key fob. Time clock can be set for weekly, biweekly, semimonthly, and monthly pay periods as well as overtime for up to 50 employees. The included software lets you generate and edit reports. Upload data to your PC using a CAT5 ethernet cable. Clock is compatible with common payroll software such as QuickBooks and ADP. It comes with 15 badges. UL listed.

The display shows time, date, and day of the week. Housing is black plastic. Mount with included hardware. Clock is powered over ethernet and has a battery backup. You can link multiple time clocks on the same network.



	Ht.	Wd.	Dp.		
Time Clock	5¾″	5″	2″	1116N11	$399.98
Badges (Pkg. of 15)				1116N12	54.88
Key Fobs (Pkg. of 5)				1116N13	33.60

Time and Date Stamps

Record the time and date on invoices, freight bills, legal papers, and other time-sensitive documents. Stamp automatically prints year, month, date, hour, and minute when forms are inserted. Precision type-wheels can be adjusted to penetrate multiple copies. Ink is purple.

Stamp has a corrosion-resistant housing and a digital display. It has a 6-ft. cord with plug. UL and C-UL listed.



	Ht.	Wd.	Dp.		
Time and Date Stamp	7¾″	5″	10¼″	8389T16	$637.08
Replacement Ink Ribbon				8389T17	22.86

File Holders

Time Card and Badge Holders



2-Column Time Card Holder

Display time cards and badges for quick identification. Holders are steel, except the 1-column adjustable-width time card holder is gray plastic. Mounting fasteners not included, unless noted.

No. of Columns	No. of Pockets	Fits Card Size Ht.	Fits Card Size Wd.	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.	Mounting Hole Dia.		
Time Card Holders									
1	25	6″	4 3/8″	30 1/4″	5″	2″	3/8″ (2)	6062T7	$59.24
1	25	7″	4 3/8″	30 1/4″	5″	2″	3/8″ (2)	6062T9	58.49
1	25	9″	4″	37″	4 3/4″	1 7/8″	1/4″ (1)	6062T5★	46.16
2	24	7″	6″	30″	13 5/8″	2″	5/16″ (4)	1252T3	63.46
3	54	6″	4″	30″	13 5/8″	2″	5/16″ (4)	1252T4	71.00
Adjustable-Width Time Card Holders									
1	25	2 1/4″-10″	2 1/2″-5″	31″	2 1/4″-5″	2 1/2″	3/16″ (4)	12705T571★	37.38
1-3	24-72	6 1/4″	4 1/4″, 6 3/8″, 12 3/4″	40 1/4″	13 1/2″	2″	3/8″ (2)	6062T4	118.59
Time Badge Holder									
2	40	2 1/8″	3 3/8″	23 1/8″	8 1/8″	1/2″	7/16″ (2)	6062T63	66.47

★ Fasteners included

File Holders



Single Pocket



4-Pocket with Ledge and Optional Hanger Brackets



7-Pocket

Single Pocket—*Standard* holders include mounting fasteners.

Multi Pocket—*3-pocket* holder comes with mounting fasteners; all others have 3/8″ dia. mounting holes (fasteners not included). *4-pocket* holder has a ledge for storing office supplies. *7-pocket* holder is open on both sides to fit documents of various widths.

Optional Hanger Brackets for Multi-Pocket Holders—Hang holders from the top of doors and partition walls. *Brackets for plastic file holders* fit doors and walls up to 2 1/2″ thick. *Brackets for metal file holders* fit doors and walls up to 3 3/4″ thick.

Single Pocket

Material	Pocket Ht.	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.	Choose a Color		
Standard							
Plastic	6″	6 1/2″	14 1/2″	3″	Clear, Gray	1254T2	$12.29
Plastic	6″	6 1/2″	17 1/2″	3″	Clear, Gray	1254T3	14.76
Steel	7″	7 1/4″	14 1/2″	2 1/2″	Beige, Black	12255T21	21.10
Steel	8″	8 1/4″	17 1/4″	2 1/2″	Beige, Black	12255T31	26.06
Stainless Steel	7 1/4″	7 1/4″	14 1/2″	2 1/2″		1277T41	53.67
Magnetic Mount							
Plastic	7″	7″	13″	4″	Clear, Gray	1254T4	18.62

Multi Pocket

	Material	Pocket Ht.	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.	Choose a Color		
3-Pocket	Plastic	7″	14″	13″	4″	Clear, Gray	1254T5	$23.81
4-Pocket with Ledge	Steel	6 3/4″	19 3/4″	13 1/2″	2″	Black	12565T51	82.29
7-Pocket	Steel	6 3/4″	21 5/8″	13 3/8″	2″	Tan	12565T26	77.45
9-Pocket	Steel	6 3/4″	40″	13 1/2″	2″	Tan	12565T47	108.24

Optional Hanger Brackets for Multi-Pocket Holders

		Pkg. of 2
Clear Brackets for Plastic File Holders	1254T71	$12.16
Black Brackets for Plastic File Holders	1254T72	12.16
Brackets for Metal File Holders	12565T52	26.71

Wire File Holders

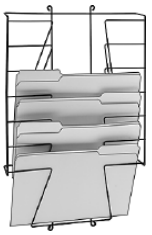

The open wire design prevents dirt and dust buildup. Holders are steel, have seven pockets, and include mounting fasteners. Color is black.

Pocket Ht.	O'all Size Ht.	O'all Size Wd.	O'all Size Dp.		
7″	23 1/4″	13″	2 1/2″	8467T12	$13.50
9 1/2″	28″	17 1/2″	2 3/4″	8467T14	17.75

Copy and Book Stands



Copy Stand



Book Stand

	Ht.	Wd.	Dp.		
Copy Stand	11 1/4″	10 1/8″	7 3/8″	13985T7	$19.75
Book Stand	5 1/2″	11″	7″	2699T4	17.50

Wall Clips and File Holders for Cubicles



Wall Clip



Three-Pocket File Holder

Slide these needle-backed clips and holders in and out of fabric cubicle walls without damage.

Wall clips hold notes, messages, and memos. *Small* clip holds up to 40 pages. *Large* clip holds up to 60 pages.

Three-pocket file holder accommodates three letter-size file folders.

	Ht.	Wd.	Color	Pkg. Qty.		Pkg.
Small Wall Clips	15/16″	15/16″	White	4	1659T52	$4.56
Large Wall Clips	1 7/8″	15/16″	White	10	1659T53	12.70
Three-Pocket File Holder	12 3/4″	12″	Clear	3	1659T55	22.00

Heavy Duty Document Holders


Mounting Frame with 10 Sheet Protectors


Desk Stand (Shown with 1 Mounting Frame)


Extension Arm

Choose a complete holder or build your own by selecting a mounting frame and adding sheet protectors. Frames can be used separately as well as with a desk stand or extension arm.

Mounting frame includes hardware to secure to a wall. *Sheet protectors* fit documents up to 8½″×11″. They are clear plastic with reinforced colored edges.

Complete Holders

Sheet protectors come in assorted colors.

Mounting Frame with 10 Sheet Protectors	**8396T41**	$72.54
Magnetic Mounting Frame with 10 Sheet Protectors	**8396T42**	75.70
Desk Stand with 3 Mounting Frames and 30 Sheet Protectors	**8396T43**	187.30

Build-Your-Own Holders

All are steel. *Extension arm* clamps to a desk or shelf.

	Capacity		
Mounting Frame	10 Sheet Protectors	**8396T45**	$26.86
Magnetic Mounting Frame	10 Sheet Protectors	**8396T48**	37.94
Desk Stand	3 Frames	**8396T61**	22.23
Extension Arm	2 Frames	**8396T92**	151.62

Sheet Protectors and Index Tabs

High-capacity sheet protector has a single reinforced protector attached to four additional clear plastic sleeves and holds up to ten sheets.

Index tabs are plastic and clip onto sheet protectors.

	Choose a Color		Each
Sheet Protector	Black, Blue, Brown, Green, Red, Yellow	**8396T8**	$4.67
High-Capacity Sheet Protector	Blue	**8396T9**	14.07
Sheet Protector with Index Tabs	Assorted, Black, Blue, Brown, Green, Red, Yellow	**8396T4**	Pkg. of 10 $52.20
Index Tabs	Clear	**8396T2**	4.30

Organizers


Stackable Plastic Tray


6-Tier Tray


5-Slot File Holder


Tray/File Holder


Pencil/File Holder


Multi-Shelf Organizer with 3 Shelf Dividers

Stackable Plastic Trays

Ht.	Wd.	Dp.	Color		
2¾″	13¼″	9″	Black	**9448T241**	$3.83
2¾″	16¼″	9″	Black	**9448T361**	7.28

Steel Organizers

Multi-shelf organizers have removable dividers on the top shelf.

	Ht.	Wd.	Dp.	Color		
Trays						
4 Tiers	9¼″	12″	8¾″	Black	**4608T241**	$38.71
6 Tiers	14¾″	12″	8¾″	Black	**4608T261**	41.00
File Holders						
5 Slots	7¼″	11″	10¾″	Black	**9449T51**	49.05
8 Slots	7¼″	15¾″	10¾″	Black	**9449T52**	73.83
Tray/File Holder						
3 Tiers/3 Slots	8⅛″	15″	11″	Black	**9385T13**	44.02
Pencil/File Holder						
3 Slots	4⅞″	6½″	3⅝″	Black	**9449T53**	20.74
Multi-Shelf Organizers						
3 Shelf Dividers	18⅜″	47¼″	9½″	Black	**4851T601**	172.99

Steel Bookends

Both have a nonslip base.

Ht.	Wd.	Dp.	Choose a Color		Pkg. of 2
5″	4¾″	5¼″	Black, Gray, Tan	**12235T12**	$5.12
9″	6″	8¼″	Black, Gray, Tan	**12235T11**	8.34

Machine-Mount Document Holders

Place your documents right where you're working. This holder mounts to machines, equipment, and walls (fasteners included). It has a three-ring binder that holds up to 20 sheet protectors (two included). Holder is black plastic. Sheet protectors are clear nonglare vinyl and hold two documents each.



Ring Size	Max. Document Size	*O'all Size* Ht.	Wd.	Dp.	Holder		Additional Sheet Protector	
1½″	8½″×11″	15½″	24½″	2″	**8387T5**	$45.64	**8387T7**	$7.92

Expandable Document Stands

Display reference books, catalogs, and other literature. Start with a base and select the binding (sold separately).

Bases—*Desktop* bases are steel. *Floor stand* base adjusts from 26″ to 44″ high. It holds two 13″ Lg.× 26″ Wd. panels: the lower panel supports books and the upper panel has two clips to hold paper. Panels are yellow plastic. Legs are black-painted steel.

Bindings—Connect to a base with the included slide hook. Bindings are steel and for use with three-hole punched sheets. *Three-ring bindings* allow better viewing of thick documents. *Three-post bindings* lock into place when snapped together.

Dividers—These are 9″×11″ five-hole punched black plastic sheets with reinforced white index tabs.

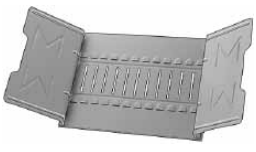
Desktop Base


Floor Stand Base


Three-Ring Binding


Three-Post Binding

Bases

Total Binding Capacity		
Desktop		
6″	**8433T112**	$51.95
12″	**8433T122**	67.16
18″	**8433T132**	95.82
Floor Stand		
12″	**8433T17**	378.28

Bindings

	1″ Capacity		2″ Capacity	
Three Ring	**8433T43**	$9.09	**8433T44**	$13.52
Three Post	**8433T54**	9.00	**8433T55**	14.63

Dividers

	Pkg. of 5	
Dividers with Reinforced Index Tabs	**8433T28**	$17.35

Clipboards



Hardboard with Top Clip





Top Clip with Side-Flip Cover and Paper Pad

Wd.	Lg.	Sized For	Sheet Capacity	Color		
Hardboard						
Top Clip						
6″	9½″	____	½″	Brown	1268T1	$1.90
7″	11″	____	1″	Brown	1268T2	2.04
9″	12½″	Letter	¾″	Brown	1268T3	2.00
9″	15½″	Legal	¾″	Brown	1268T4	2.09
15″	20″	____	1″	Brown	1268T6	5.57
Replacement Clip for 1268T1					1268T63	1.46
Replacement Clip for 1268T2, T3, T4, T6					1268T67	1.89
Low-Profile Side Clips						
14½″	18″	____	1″	Brown	1268T81	11.37
19″	19″	____	1″	Brown	1268T82	11.97
26″	23″	____	1″	Brown	1268T83	13.14
Plastic						
Top Clip						
9″	13¼″	Letter	1″	Blue	12415T13	6.07
9″	13¼″	Letter	1″	Red	12415T11	6.07
9″	13¼″	Letter	1″	Yellow	12415T12	6.07
Top Clip with Side-Flip Cover and Paper Pad						
9″	12½″	Letter	¼″	Black	14185T214	8.82
Plastic for Clean Room						
Low-Profile Top Clip						
9″	13″	Letter	¾″	White	12415T15	44.18
Aluminum						
Top Clip						
9″	13¼″	Letter	1″	____	1269T3	10.31
9″	15¼″	Legal	1″	____	1269T4	11.71
Low-Profile Top Clip						
9″	12¾″	Letter	½″	____	12415T8	13.26
9″	14¾″	Legal	½″	____	12415T9	15.06
Low-Profile Top Clip with Flip-Down Cover						
9″	12½″	Letter	⅜″	____	1645T24	26.40
304 Stainless Steel						
Low-Profile Top Clip						
9″	12″	Letter	¼″	____	1269T7	28.25

Clipboards for Top-Punched Sheets



Also known as archboards, these clipboards have two lever-release steel rings to hold top-punched sheets. They're made of brown hardboard.

Wd.	Lg.	Rings Cap.	Rings Ctr.-to-Ctr.		
9″	12½″	2″	2¾″	1266T2	$5.26
9″	15½″	2″	2¾″	1266T3	6.00

3-Ring Binders and Inserts



Plastic Binder with Clear Sleeve Cover



Paper Dividers with Index Tabs

Organize and protect documents up to 8½″×11″.

Plastic Binders

All have an inner pocket on each side. *Clear-sleeve cover* binders have a clear sleeve on the front, back, and spine.

Ring Size	Plain Cover Choose a Color			Clear Sleeve Cover Choose a Color		
Round Ring						
1″	Black, Blue	12795T11	$3.83	Black, White	12795T16	$3.95
2″	Black, Blue	12795T12	6.52	White	12795T171	6.71
3″	Black	12795T131	8.36	Black, White	12795T18	9.92
D-Ring						
1″	____	____	____	Black, White	12795T42	5.92
2″	Black	12795T261	7.80	Black, White	12795T45	7.44
3″	Black	12795T271	12.61	Black, White	12795T46	11.94
4″	Black	12795T281	14.69	Black, White	12795T47	15.70
Secure-Close D-Ring						
1″	Black, Blue	12795T31	8.03	Black	12795T541	7.54
2″	Black, Blue	12795T32	8.25	Black, White	12795T55	10.08
3″	Black, Blue	12795T33	11.81	Black, White	12795T56	12.64
4″	Black, Blue	12795T34	12.54	Black, White	12795T57	13.42
5″	Black	12795T351	21.35	Black, White	12795T58	21.98

Aluminum Round-Ring Binders

Ring Size		
1″	12795T75	$25.58
2″	12795T76	27.56

Binder Inserts

All are punched for three-ring binders. *Paper dividers* are tan. *Plastic dividers* come in assorted colors. All protectors are clear. *Side-load protectors* include a black filler sheet.

	Pkg. Qty.		Pkg.
Dividers			
Paper with Colored Index Tabs	5	8666T3	$1.85
Plastic with Index Tabs	5	8666T7	4.38
Sheet Protectors			
Side Load	50	8666T15	9.44
Top Load	50	8666T21	9.36
Nonglare Top Load	50	8666T25	9.36
Business Card Protector			
20 Card Capacity per Sheet	10	8666T42	3.04
3½″×5″ Photo Protector			
Eight Photo Capacity per Sheet	50	8666T56	14.04

Storage Clipboards



Flip Up with Shallow Storage



Flip Up with Two-Compartment Deep Storage



Flip Up with Deep Storage and Calculator (Plastic)



Side Flip with Shallow Storage



Side Flip with Deep Storage

	Material	Storage Dp.	Wd.	Lg.	Dp.		
Letter—Flip Up							
Shallow Storage	Aluminum	⅜″	9″	12″	1″	1645T14	$36.07
Deep Storage	Aluminum	1½″	9″	14¼″	2¾″	1645T11	35.70
Two-Compartment Deep Storage	Aluminum	1½″	9″	14″	2¼″	1645T23	32.16
Deep Storage with Calculator	Plastic	½″	10″	16″	2½″	3122T16	18.20
Deep Storage with Calculator	Aluminum	1½″	9″	14½″	2 13/16″	1645T27	52.77
Letter—Side Flip							
Shallow Storage	Aluminum	⅜″	9″	12¼″	1″	1645T17	37.66
Deep Storage	Plastic	1″	10″	13½″	2″	3122T15	17.20
Legal—Side Flip							
Shallow Storage	Aluminum	⅜″	9″	14″	1″	1645T25	43.09

Desk Pads

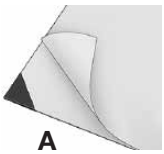
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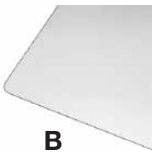
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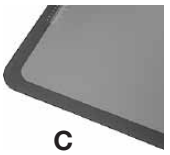
C

Style A includes 50 plain tear-off sheets of white paper.

	Material	Wd.	Lg.		
A	Gray Cardboard	17″	22″	**13445T13**	$20.23
B	Black Vinyl	17″	24″	**13445T11**	41.67
B	Transparent Nonglare Plastic	19″	24″	**13445T15**	31.36
C	Black Rubber with Plastic Cover	19″	24″	**13445T14**	40.47

Suggestion Boxes



Plastic (Shown with Suggestion Box Label)


Steel Wall Mount


Steel Desktop

Plastic box has a see-through sliding panel on the back for retrieving forms. Mount using the two 1/4″ holes (fasteners not included). Color is white.

Steel boxes have a lock (two keys included). Color is gray. *Wall-mount* box comes with mounting fasteners.

Labels are 5″×3″ and have an adhesive back. Message is black on a white background.

Suggestion forms are 8 1/2″×11″ and numbered consecutively.

	Opening Wd.	Dp.	*O'all Size* Ht.	Wd.	Dp.		
Plastic							
Wall Mount	5″	1/2″	11″	8 1/2″	4 1/2″	**5711T55**	$22.00
Steel							
Wall Mount	9″	1/4″	7″	9 3/4″	3″	**5711T16**	49.11
Desktop	11 1/2″	1/4″	11″	12 1/2″	10″	**5711T12**	61.58
Labels and Suggestion Forms							
"Mailbox" Label						**5711T76**	1.66
"Suggestion Box" Label						**5711T75**	2.00
Suggestion Forms (Pkg. of 50)						**5711T33**	17.22

Security Boxes

Also known as a cash box, this steel box has a lock (two keys included) and carrying handle. Color is gray.



Ht.	Wd.	Dp.		
4 5/8″	10″	8 1/2″	**6583A8**	$43.96

Steel Bulldog Clips


Clip


Clip with Magnet

Clip Wd.	Jaw Opening	Pkg. Qty.		Pkg.
Standard				
1″	1/4″	36	**8465T19**	$8.62
1 1/4″	3/8″	36	**8465T21**	9.72
2″	3/4″	36	**8465T22**	20.52
2 1/2″	1 1/4″	12	**8465T25**	9.60
3″	1 1/2″	12	**8465T23**	15.84
With Magnet				
1 1/4″	3/4″	24	**1320T15**	16.11
2″	1″	12	**1320T17**	11.18

Clipboard-Style Steel Clips

This low-profile clip has three holes for mounting: one 1/4″ dia. and two 1/8″ dia. (fasteners not included).



Lg.	Wd.	Jaw Opening		Pkg. of 5
4 3/4″	1 3/8″	1″	**1095T5**	$13.03

Card Files


Business Card Binder


Covered Contact Card File


Rotary Contact Card File


Top-Opening Index Card File


Two-Drawer Index Card File

Business Card Binders

Card Cap.	Wd.	Lg.		
48	4 5/8″	5 1/8″	**20425T21**	$9.51
96	4 1/2″	10 1/8″	**20425T23**	15.24

Contact Card Files

These files come with 2 1/4″×4″ cards and alphabetical tabs.

	Card Cap.	Ht.	Wd.	Dp.		
Open	500	4 3/4″	3″	9 1/2″	**1229T421**	$23.80
Covered	500	4 1/4″	6″	9 1/2″	**1229T511**	32.86
Rotary	500	5 1/2″	7″	6 3/4″	**1229T11**	37.88
Replacement Blank Cards (Pkg. of 100)					**1229T25**	3.08
Replacement Alphabetical Tabs (Pkg. of 24)					**1229T33**	3.06

Index Card Files

For Card Size	Card Cap.	Ht.	Wd.	Dp.		
Top Opening						
3″×5″	900	4″	5 1/2″	8 1/2″	**4601T221**	$30.52
5″×8″	900	6″	8 1/2″	8 1/2″	**4601T261**	40.88
Two Drawer						
3″×5″	3,000	5 1/4″	12 3/4″	16″	**4627T16**	95.36
5″×8″	3,000	7 1/4″	18 3/4″	16″	**4627T18**	137.47

Index Cards

Card Size	Index Cards Pkg. Qty.		Pkg.	Index Cards with A-Z Tabs Pkg. Qty.		Pkg.
3″×5″	100	**13045T41**	$0.91	25	**8658T61**	$5.20
4″×6″	100	**13045T42**	1.74	25	**8658T62**	7.02
5″×8″	100	**13045T43**	2.88	25	**8658T63**	10.91

Paper Clips and Holders





	Lg.		Pkg. of 100
Regular	1 1/4″	**12765T41**	$0.83
Jumbo	1 15/16″	**12765T42**	1.42
Clip Holder		**12765T51** Each	$1.72

Binder Clips



Clip Wd.	Jaw Opening	Steel Pkg. of 12		Stainless Steel Each	
1/2″	1/4″	**12755T71**	$0.73		
3/4″	5/16″	**12755T72**	.83	**12755T81**	$2.86
1 1/4″	9/16″	**12755T73**	1.78	**12755T82**	3.68
2″	1″	**12755T74**	4.36	**12755T83**	5.32

Magnetic Paper Grippers

Quickly post papers and notes. Grippers hold up to five sheets of paper between two vinyl-covered magnets. They have an adhesive back.



Color	Lg.	Wd.		
Blue	4″	1″	**38895T224**	$7.78
White	4″	1″	**38895T221**	7.78

Rubber Bands



Size No.	Lg.	Wd.	Color	Approx. Pkg. Qty.		Pkg.
Latex (Natural Rubber)						
10	1¼″	1/16″	Tan	5,300	12205T51	$9.90
12	1¾″	1/16″	Tan	3,850	12205T73	9.90
14	2″	1/16″	Tan	3,380	12205T52	9.90
16	2½″	1/16″	Tan	2,675	12205T74	9.90
18	3″	1/16″	Tan	2,205	12205T75	9.90
19	3½″	1/16″	Tan	1,890	12205T53	9.90
30	2″	1/8″	Tan	1,770	12205T76	9.90
31	2½″	1/8″	Tan	1,330	12205T77	9.90
32	3″	1/8″	Tan	1,100	12205T54	9.90
33	3½″	1/8″	Tan	970	12205T78	9.90
64	3½″	1/4″	Tan	490	12205T55	9.90
73	3″	3/8″	Tan	360	12205T79	9.90
74	3½″	3/8″	Tan	320	12205T81	9.90
82	2½″	1/2″	Tan	320	12205T82	9.90
84	3½″	1/2″	Tan	240	12205T83	9.90
105	5″	5/8″	Tan	95	12205T84	9.90
107	7″	5/8″	Tan	60	12205T85	9.90
117A	7″	1/16″	Tan	600	12205T86	9.90
117B	7″	1/8″	Tan	300	12205T87	9.90
117B	7″	1/8″	Red	180	12205T67	7.85
142	8½″	1/8″	Red	120	12205T68	7.85
Latex Free (Synthetic Rubber)						
19	3½″	1/16″	Orange	1,440	12205T92	10.47
33	3½″	1/8″	Orange	720	12205T94	10.47
64	3½″	1/4″	Orange	380	12205T96	10.47
117B	7″	1/8″	Orange	250	12205T98	10.47

Paper Hole Punches


1 Hole


2 Hole


3 Hole


Adjustable 3 Hole Heavy Duty

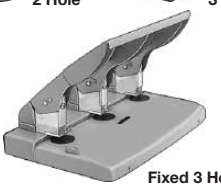
Fixed 3 Hole Heavy Duty

Hole Spacing	Sheet Cap.	Hole Dia.	Color		
1 Hole					
———	10	1/8″	Chrome	12885T35	$5.13
———	10	1/4″	Chrome	12885T21	3.60
1 Hole with Cushion Grip					
———	5	1/4″	Chrome	12885T22	8.00
2 Hole					
Fixed	30	1/4″	Black	12805T35	8.22
3 Hole					
Adjustable	12	1/4″	Black	1232T24	8.93
3 Hole Heavy Duty					
Adjustable	40	1/4″	Black	12775T48	37.51
Fixed	75	1/4″	Gray	12775T84	115.69

Wood Clothespins



Lg.	Wd.	Pkg. of 50	
3 3/16″	1/4″	12275T53	$8.32

Light Duty Plastic Swivel Clips


Clip with Adhesive Back


Clips with Swivel Connection

	O'all Lg.	Clip Wd.	Jaw Open.		
Clip with Adhesive Back	2 1/4″	7/8″	5/16″	5109A4	$1.40
Clips with Swivel Connection	3 1/2″	7/8″	3/8″	5109A5	1.77

Staplers


Standard


Compact


Easy Grip


Extra-Long Reach


Light Touch

	Sheet Cap.	Max. Reach		
Standard	20	4″	1242T71	$10.84
Compact	20	2 1/4″	1242T55	9.85
Easy Grip	25	3 1/2″	1242T65	16.95
Extra-Long Reach	20	12″	1242T47	26.11
Light Touch	25	4 1/4″	1179T2	32.13
Staples (Pkg. of 5,000)			1242T6	1.18

High-Capacity Staplers

Staplers



Sheet Cap.	Max. Reach	For Staple Lg.		
130	2 3/8″	1/4″–5/8″	1725T7	$34.27
215	2″	1/4″–15/16″	1725T9	69.78

Staples

Sheet Cap.	Lg.		Pkg. of 1,000
25	1/4″	1725T29	$3.54
55	3/8″	1725T31	5.47
85	1/2″	1725T33	4.76
130	5/8″	1725T35	4.98
165	13/16″	1725T39	9.75
215	15/16″	1725T37	10.92

Automatic Staplers



Breeze through large stapling jobs with these electric staplers. They have an adjustable paper guide and LED alignment light. They have a 6-ft. cord with plug. Staples sold separately below.

Sheet Cap.	Max. Reach	Staplers		Staples Pkg. Qty.	Staples	Pkg.
45	3/4″	8401T1	$115.26	3,750	8401T2	$5.36
70	1 3/8″	8401T3	440.36	2,500	8401T4	5.68

Staple Removers


Pinch Style


Lever Style

Pinch Style	12245T21	$1.55
Lever Style	12245T41	12.09

Rubber Fingertips



Size	Dia.		Pkg. of 12
12	11/16″	12815T13	$2.97
13	3/4″	12815T14	2.97
14	7/8″	12815T15	2.97

Pencil Sharpeners



Hand Held | Hand Crank | Battery Operated | Plug In

Hand-crank sharpener comes with mounting fasteners. *Battery-operated* sharpener requires four AA batteries (not included). *Plug-in* sharpeners have a 3-ft. cord.

	Case Material	Color		
Hand Held	Brass	Brass	**1225T18**	$5.09
Hand Crank	Steel	Silver	**1225T14**	21.57
Battery Operated	Plastic	Black	**8502T6**	16.09
Plug In	Plastic	Black	**8393T23**	55.64
Plug In	Plastic	Putty	**8393T13**	55.64

Fax Machines

Send up to 15 letter- or legal-sized sheets at a time. This fax machine has caller ID, a 100-number speed dial memory, and functions as a copier. Storage tray holds 250 sheets. Color is black. This product cannot be sold in Pennsylvania or Vermont due to electronic waste regulations.



	Ht.	Wd.	Dp.		
Fax Machine	8½″	14″	10″	**10675T71**	$183.11
Replacement Toner Cartridge				**10675T12**	47.41

Typewriters

View and edit your work in the 16-character display before printing. This typewriter has a dictionary and correction system that alerts you to spelling errors and allows you to delete words with a single keystroke. Housing is gray plastic. The typewriter has a 5-ft. cord with plug.



	Ht.	Wd.	Dp.		
Typewriter	5½″	15″	16½″	**2547T25**	$248.36
Replacement Ribbon				**2547T26**	7.31
Replacement Correction Tape (Pkg. of 2)				**2547T27**	7.31

Paper Shredders



Manual Feed (Intermittent Duty) | Manual Feed (Continuous Duty) | Auto Feed

Shred documents, credit cards, and CDs into confetti-size pieces. Maximum sheet width is 9″. Shredders have a 5-ft. cord with plug. Color is black.

Manual Feed—*Continuous duty* shredder handles high-volume jobs without a cool-down period. It automatically lubricates the cutters with synthetic oil (sold separately) for years of maintenance-free operation.

Auto Feed—Place up to 300 sheets in the self-locking drawer and it will shred documents while left unattended.

Max. Sheets per Pass	Max. Cont. Run Time	Cool Down Time	Bin Cap., gal.	Ht.	Wd.	Dp.		
Manual Feed—Intermittent Duty								
10	4 min.	40 min.	5	15″	14″	9″	**9998T71**	$132.20
16	20 min.	10 min.	8	22″	13″	17″	**9998T75**	381.92
Manual Feed—Continuous Duty								
20	____	____	30	41″	27″	26″	**9998T76**	1,842.86
Auto Feed—Intermittent Duty								
300	30 min.	30 min.	16	36″	17″	27″	**9998T77**	1,142.11
Shredder Oil (16-oz. bottle)							**9998T64**	18.00

Erasers



Rubber

	Color	Pkg. Qty.		Pkg.
Rubber	Pink	12	**13225T21**	$6.36
Vinyl	White	3	**13225T23**	3.10

Battery-Operated Erasers

Eraser runs on two AAA batteries (not included). It comes with eight ¾″ long eraser sticks.



Eraser	**8662T51**	$14.33
Repl. Eraser Sticks (Pkg. of 30)	**8662T52**	3.25

Copier Paper

All-weather paper has a special coating that repels water.

Clean room paper is for use in Class 100 and higher clean rooms.



Size	Sheets per Pkg.		Pkg.
Standard—20-lb. Bond			
8½″×11″	500	**12905T31**	$6.85
8½″×14″	500	**12905T32**	10.31
11″×17″	500	**12905T33**	14.10
All Weather—20-lb. Bond			
8½″×11″	50	**4602T34**	14.72
Clean Room—22.5-lb. Bond			
8½″×11″	100	**7842T43**	15.32

Paper Pads and Notebooks

Paper Pads



Size	Sheets per Pad	Pads per Pkg.	Choose a Color		Pkg.
Ruled—Perforated Top					
8½″×11″	50	12	White, Yellow	**12945T21**	$15.80
8½″×14″	50	12	White, Yellow	**12945T31**	21.74
Ruled—Gum-End Top					
8½″×11″	50	12	White, Yellow	**12945T41**	25.04
¼″ Grid—Gum-End Top					
8½″×11″	50	1	White	**2898T51**	4.15

Spiral Notebooks



All-weather notebooks have a plastic cover and paper with a special coating that repels water. Write on them using a pencil or an all-weather pen (sold separately).

Chemical-, tear-, and water-resistant notebooks retain all printed information even in environments with corrosive chemicals and high-pressure washdowns.

Clean room notebooks are for use in Class 100 and higher clean rooms.

Size	Style	Binding	Sheets		
All Weather					
4″×6″	Ruled	Top	50	**4602T31**	$6.82
4⅝″×7″	Ruled	Side	32	**4602T32**	7.43
8½″×11″	Ruled	Side	42	**4602T33**	17.58
Black All-Weather Pen				**16805T511**	2.38
Chemical, Tear, and Water Resistant					
3″×5″	Ruled	Top	100	**1117N11**	8.50
4″×6″	Ruled	Top	100	**1117N12**	12.75
8½″×11″	¼″ Grid	Top	50	**1117N13**	12.75
Clean Room					
3″×5″	Ruled	Top	50	**7842T39**	9.86
5½″×8½″	Ruled	Side	50	**7842T37**	12.66
8½″×11″	Ruled	Side	50	**7842T33**	15.32
8½″×11″	¼″ Grid	Side	50	**7842T35**	15.32

Folders


Manila


Hanging


Expandable

Manila

	Ht.	Wd.		Pkg. of 100
Letter	9½″	11¾″	13025T11	$19.60
Legal	9½″	14¾″	13025T12	24.48

Hanging

All are green with plastic tabs and blank inserts. **Reinforced** folders have plastic strips at the top and bottom.

	Ht.	Wd.	Standard	Pkg. of 25	Reinforced	Pkg. of 25
1″ Capacity						
Letter	9⅜″	11¾″	14015T31	$14.28	14015T12	$19.42
Legal	9⅜″	14¾″	14015T45	17.10	14015T24	22.80
2″ Capacity						
Letter	9⅜″	11¾″	—	—	14015T14	30.50
Legal	9⅜″	14¾″	—	—	14015T26	35.34
Repl. Plastic Tabs and Inserts (Pkg. of 25)			14015T65			4.58

Expandable

These black plastic folders have 13 pockets, two clear business card pouches, and blank colored index tabs.

	Ht.	Wd.		
Letter	9½″	13″	84685T13	$10.93
Legal	10¼″	15¼″	84685T11	12.74

Transparent Drafting Paper

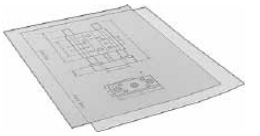

Standard—16-lb. Vellum

Size	Plain	Pkg. of 10	⅛″ Grid	Pkg. of 10
8½″×11″	13095T31	$7.18	13095T411	$8.44
11″×17″	13095T32	9.66	13095T421	11.00
18″×24″	13095T34	17.92	13095T441	21.35
24″×36″	13095T35	36.26	13095T451	42.84

Laser Printable—29-lb. Vellum

Size		Pkg. of 50
8½″×11″	13095T55	$14.04

Printable Magnetic-Back Paper



Print on this magnetic-back paper using an inkjet printer and then cut to size with scissors. Paper is not for use in laser printers or photocopiers.

Size		Pkg. of 5
8½″×11″	3922K4	$8.37

Post-It Notes



		Yellow				Assorted Fluorescent Colors			
Ht.	Wd.	Sheets per Pad	Pads per Pkg.		Pkg.	Sheets per Pad	Pads per Pkg.		Pkg.
Plain									
1¾″	1¾″	—	—	—	—	90	8	13645T75	$6.53
2″	1½″	100	12	13645T41	$7.59	—	—	—	—
3″	3″	100	12	13645T42	14.12	90	12	13645T71	18.34
5″	3″	100	12	13645T43	21.42	—	—	—	—
Ruled									
3″	3″	100	6	13645T63	7.91	—	—	—	—
4″	4″	300	1	13645T64	5.68	90	6	13645T73	14.21
6″	4″	100	1	13645T61	2.58	90	3	13645T74	9.85
8″	5″	50	2	13645T62	4.18	45	4	13645T72	9.44

Advanced-Function Calculators


Business


Trades


Scientific
Graphing Statistics

All have memory and include batteries.

Business—*Profit manager* calculator solves cost-sell-margin equations. Enter any two variables to get the third.

Trades—*Metric converter* calculator performs English to metric conversions (and vice versa), including length, area, and volume. *Metric converter with fractions* and *metric converter plus with fractions* calculators convert linear, square, and cubic figures from English to metric (and vice versa). The *metric converter plus with fractions* calculator provides an additional 400 conversion combinations. *Construction* calculator performs functions for rafters, stairs, and material estimation. *Electrical code* calculator contains the National Electrical Code tables and formulas.

Scientific—*Statistics* and *statistics with linear regression* calculators perform trigonometric functions, logarithms, roots, powers, reciprocals, and standard deviations. *Graphing statistics* calculator combines advanced graphing and data analysis with calculus as well as statistical and financial functions.

Style	No. of Digits	Lg.	Wd.	Power	Calculators		Replacement Batteries	
Business								
Profit Manager	10	4¾″	2¾″	Solar/Battery	13625T15	$19.13	7604K51	$1.48
Trades								
Metric Converter	10	4¾″	2¾″	Solar/Battery	8471T22	19.40	7604K51	1.48
Metric Converter with Fractions	7	5⅝″	3″	Battery	8471T24	41.40	7604K74	1.44
Metric Converter Plus with Fractions	7	5¾″	3″	Battery	8471T75	45.54	7701K32	1.57
Construction	7	5¾″	3″	Battery	8471T26	66.45	7604K74	1.44
Electrical Code	8	5⅝″	3″	Battery	8471T61	85.45	7701K32	1.57
Scientific								
Statistics	10	6″	3″	Solar/Battery	8392T2	24.89	7604K74	1.44
Statistics with Linear Regression	16	6⅞″	3¼″	Solar/Battery	8392T9	37.90	7701K34	1.92
Graphing Statistics	16	7¼″	3¼″	Battery	8392T11	129.27	—	—

Calculators


Flat Face


Angled Face

All are solar powered with a battery backup.

	No. of Digits	Lg.	Wd.	Calculators		Replacement Batteries	
Flat Face	8	4 1/8"	2 1/2"	1751T31	$5.82	7604K51	$1.48
Flat Face	10	4 1/2"	2 3/4"	1751T41	7.51	7701K34	1.92
Angled Face	8	4 5/8"	3 3/8"	1751T35	11.31	7701K34	1.92

Printing Calculators

Record your calculations and print receipts. Calculator has a 6-ft. cord with plug. It comes with a roll of printer paper.



	No. of Digits	Ht.	Wd.	Dp.		
Calculator	12	3"	9"	13"	1364T53	$66.58
Replacement Black and Red Ink Ribbon					1364T28	4.91
Replacement Printer Paper Roll					1364T16	1.32

Computer Keyboards

These desktop keyboards are compatible with PCs. They are black, except foldable keyboard is blue.

Standard keyboard is sealed to resist liquid spills. *Foldable* keyboard is flexible plastic and resists dust and water. *Wireless set* includes a water-resistant keyboard, a mouse, and a USB receiver. *Washdown* keyboard has a rubber keypad and polycarbonate case so it's corrosion resistant and waterproof. Meets NEMA 4X. It is also compatible with Macs.


Standard Keyboard




Foldable Keyboard


Washdown Keyboard

	Connection	Wd.	Dp.		
Standard	USB	18"	5 3/4"	13555T4	$20.43
Foldable	USB and PS/2	19 1/4"	5 1/4"	5416T3	33.82
Wireless Set	USB	17 3/4"	10"	13555T16	81.67
Washdown	USB	14 7/8"	5 7/8"	13555T15	355.71

Computer Mice, Mouse Pads, and Wrist Rests

Computer Mice


Washdown


Wireless Optical

Mice are black, except washdown mouse is silver and black.

Corded mice are PC compatible. *Washdown* mouse is corrosion resistant, waterproof, and has a 304 stainless steel case. Meets NEMA 4X.

Wireless mice work with PCs and Macs. Batteries included. *Optical* mouse comes with a USB receiver. *Laser* mouse is more precise than the optical mouse and works on reflective surfaces.

	Connection	Ht.	Wd.	Dp.		
Corded						
Optical	USB	2"	3 5/8"	5 1/2"	11985T8	$19.72
Washdown	Serial	1"	4 1/4"	5"	11985T1	281.29
Wireless						
Optical	USB	1 5/8"	2 5/8"	4 1/4"	11985T13	29.17
Laser	Bluetooth	1 5/8"	2 5/8"	4 1/4"	11985T14	58.33

Mouse Pads



Color	Wd.	Dp.		
Blue	9 1/4"	7 3/4"	13405T802	$4.25
Gray	9 1/4"	7 3/4"	13405T803	4.25
Red	9 1/4"	7 3/4"	13405T801	4.25

Wrist Rest



Color	Ht.	Wd.	Dp.		
Black	15/16"	19 5/16"	2 5/16"	13015T103	$14.02

Computer Keyboard Trays


Fixed Height


Fixed Height with Monitor Stand


Adjustable Height


Adjustable Height, Tilt, and Swivel

Trays have a padded wrist rest, except plastic fixed-height tray does not have a wrist rest. Mounting hardware included.

Style	Tray Material	Ht.	Wd.	Dp.		
Keyboard Tray						
Fixed Height	Plastic	1 3/8"	20 1/2"	12"	13085T22	$27.69
Fixed Height	Steel	3 1/8"	25 1/2"	16 1/8"	13085T65	95.67
Keyboard and Mouse Tray						
Fixed Height with Monitor Stand	Plastic	3 1/4"	30 5/8"	13 3/4"	13085T21	86.86
Adjustable Height	Steel	5"	33 1/8"	16"	13085T66	161.39
Adjustable Height, Tilt, and Swivel	Wood	3/4"	28"	12 1/2"	13085T67	244.65

Steel Computer Stands


Stackable (Two Shown)


Wide

	Cap., lbs.	Ht.	Wd.	Dp.	Color		
Stackable	75	2″	11 7/8″	11 7/8″	Gray	14265T4	$29.12
Wide	50	3 3/4″	23 1/8″	10″	Gray	14265T6	52.41

CDs, DVDs, and Flash Drives

CDs and DVDs



	Recording Cap.	Recording Time		Pkg. of 10
CD-R (Recordable)	700 MB	80 min.	12075T72	$7.27
DVD-R (Recordable)	4.7 GB	120 min.	12075T85	4.84

USB Flash Drives—PC/Mac Compatible



8 GB	12075T6	$8.48
16 GB	12075T7	9.69
32 GB	12075T8	15.51
64 GB	12075T9	27.88

SD/Micro SD Memory Cards and 56-in-1 Memory Card Reader


SD/Micro SD Memory Card


Memory Card Reader

These are the fastest class of SD cards. They are micro sized for using in mobile devices and come with an adapter for using in traditional SD size applications like laptops. *Memory card reader* reads from and writes to 56 types of digital media memory cards. It's PC- and Mac-compatible and has a USB connection.

8 GB SD/Micro SD Memory Card	12075T28	$6.91
16 GB SD/Micro SD Memory Card	12075T29	7.45
32 GB SD/Micro SD Memory Card	12075T27	12.46
56-in-1 Memory Card Reader	12075T82	16.96

CD and DVD Storage Cases


Plastic Case


Nylon Wallet

Clear Plastic Case (Pkg. of 20)	15285T83	$7.09
Black Nylon 72-Disc Wallet	15285T72	27.14

Inkjet Printer Cartridges



Remanufactured cartridges have been refilled with ink.

Tricolor cartridges are cyan, magenta, and yellow.

	Color	New		Remanufactured	
HP15 (C6615DN)	Black	14835T43	$48.92	14835T58	$14.26
HP45 (51645A)	Black	14835T91	53.65	14835T65	22.73
HP56 (C6656AN)	Black	14835T96	35.45	14835T95	10.41
HP23 (C1823D)	Tricolor	14835T79	64.09	14835T75	18.55
HP57 (C6657AN)	Tricolor	14835T59	56.80	14835T49	21.65
HP78 (C6578DN)	Tricolor	14835T74	53.40	14835T78	30.00

Precise-Fit Keyboard Protectors



Protect your keyboard from dust and spills without hindering your typing. These protectors conform to the keys and have adhesive-back edges.

Compatible Keyboards		
Dell RT7D00, SK8100, RT7D20	1733T48	$17.57
Dell SK8115, RT8D50, L100	1733T46	17.57
Hewlett Packard KB9970, C4735-60101	1733T65	17.57
Keytronics EO3601QL-C	1733T68	17.57
Other Keyboards (Please specify manufacturer and model number.)	1733T55	17.57

Computer Equipment Covers



Slip these flexible covers over your computer equipment for protection from dust.

Adjustable keyboard cover has elasticized edges to fit a range of sizes.

Fits	Ht.	Wd.	Dp.		
Keyboard					
Medium	2″	19″	8 1/2″	13595T25	$10.40
Large	2″	21″	9″	13595T8	10.40
Adjustable	2″	20″	10″	1733T97	7.20
CRT Monitor					
13″-15″	14″	15 3/4″	17″	13595T12	15.80
16″-17″	16″	17″	19″	13595T9	16.80
19″-22″	19″	20″	22″	13595T7	21.20
Flat Screen Monitor					
19″	12 1/2″	17 1/4″	3 1/4″	13595T13	22.38
21″-22″	13 3/4″	20″	2 3/4″	13595T14	22.38
Printer					
Small	7″	18″	15 1/2″	13595T5	13.80
Medium	11″	18″	20″	13595T4	15.40
Large	7 3/4″	27″	20 1/2″	13595T11	18.20
CPU/Tower					
Short	15″	9″	19″	13595T18	13.80
Tall	27″	9″	19″	13595T19	20.60

Screen Protectors and Privacy Filters

For Desktop and Laptop Computers


Protector


Privacy Filter

Protectors cling to screen surface to protect it from dust, smudges, and scratches. They are plastic film and can be cut to size.

Privacy filters darken the screen when viewed from the side, so on-screen images are only visible to the user. Filters are tinted plastic.

Fits Screen (Diagonal)	Protectors		Privacy Filters	
12″	_____	____	2918T21	$51.66
14″	_____	____	2918T22	54.82
15″	2955T63	$32.12	2918T23	56.78
17″	2955T64	34.63	2918T24	80.08
19″	_____	____	2918T25	89.82

Screen Protectors for Mobile Devices



Apply to your mobile device screen to protect it from smudges and scratches. Protectors are plastic film and can be trimmed to fit your device.

Fits	Ht.	Wd.		
Apple iPhone 5/5C/5S Smartphones	4 3/4″	2 1/4″	4199T22	$16.24
Apple iPad Air Tablet	9 1/4″	7″	4199T21	25.20
Other Tablets (Pkg. of 2)	9 1/2″	6 7/8″	4199T15	24.78

Protective Cases for Apple iPad and iPhone Mobile Devices

Safeguard your Apple devices from damage. Color is black, except hard case for iPad Mini tablets is gray.

Soft case has a padded hand strap for holding your tablet while you work. It attaches with corner loops and comes with a shoulder strap.

Hard cases protect your device from dirt, water, and accidental drops. All have a built-in screen protector. *Cases with cover/stand* have a removable solid cover that doubles as a stand.


Soft Case


Hard Case with Stand


Hard Case with Cover/Stand


Hard Case for iPhone

For Use With	Style		
Soft Case			
iPad Tablets	Easy Grip with Hand Strap	3800T22	$36.54
Hard Cases			
iPad 2, 3rd, and 4th Generation Tablets	With Stand	3800T21	55.60
iPad 2, 3rd, and 4th Generation Tablets	With Cover/Stand	3800T25	69.83
iPhone 5/5S Smartphones	With Belt Clip	3800T28	38.79
iPhone 5C Smartphones	With Belt Clip	3800T29	41.20
iPhone 6/6S Smartphones	With Belt Clip	3800T31	38.49
iPhone 6/6S Plus Smartphones	With Belt Clip	3800T32	52.59

Electronic Equipment Cleaners

Computer screen cleaning pads come in twin packs containing one moistened pad and one drying pad.

Any-angle air duster sprays a burst of dry air at any angle, even upside down.


Computer Screen Cleaning Pad


Any-Angle Air Duster

Computer Screen Cleaning Pads (Pkg. of 14)	6219T11	$7.33
CD/DVD Cleaning Pads (Pkg. of 12)	70745T11	3.98
Laser Lens Cleaning Disc	62225T15	12.27
Any-Angle Air Duster (8-oz. Can)	7437K35	13.65

Projection Screens

All are flame retardant and mildew resistant.

Wall/ceiling screens have two mounting rings (fasteners not included).

Tripod screens have foldable steel legs.

Telescoping presentation pointer extends from 5″ to 24½″ long.


Wall/Ceiling


Tripod

Screen Size Ht.	Wd.	Wall/Ceiling		Tripod	
50″	50″	6204T49	$105.00		
60″	60″	6204T51	118.50	6204T41	$190.50
70″	70″	6204T52	126.00	6204T42	201.00
96″	96″	6204T24	265.50		
Telescoping Presentation Pointer				5190T14	7.75
Transparency Film—8½″ x 11″ Sheets (Pkg. of 50)				6037T6	52.97

Laser Pointers

Produce a brilliant laser dot to enhance your presentations. Batteries included.

Dot laser/pen/stylus pointer converts to a ball point pen and a stylus with a twist of the body.



	Max. Distance	Laser Color		
Standard	1,500 ft.	Red	1513T23	$33.33
Long Range	3,000 ft.	Red	1513T52	59.52
Ultra Long Range	6,000 ft.	Green	1513T53	93.75
Multifunction	1,500 ft. dot/300 ft. arrow/45 ft. underline	Red	1513T21	47.02
Dot Laser/Pen/Stylus	1,500 ft.	Red	1513T25	30.00

Lecterns

Lecterns are oak laminate, except rolling adjustable-height lectern is cherry laminate. Shipped unassembled.

Adjustable-height lectern has a telescoping steel stand.

Rolling adjustable-height lectern has a telescoping steel stand, casters, and a slide-out laptop shelf.

Fixed-height lectern has an interior shelf.

Fixed-height lectern with sound system has one hand-held and one clip-on microphone, four built-in speakers, an amplifier, and volume and tone controls. It has a 6-ft. cord with plug.


Adjustable Height


Rolling Adjustable Height


Fixed Height


Fixed Height with Sound System

	O'all Ht.	*Top Surface* Lg.	Wd.		
Adjustable Height	30″-44″	16″	20″	52215T36	$92.55
Rolling Adjustable Height	39″-49″	13″	19″	52215T24	189.18
Fixed Height	46″	16″	23″	52215T11	256.80
Fixed Height with Sound System	46″	17″	22″	52215T23	574.89

Lead Holders and Pointers



Lead Holder



Lead Pointer

Hold and sharpen 2 mm lead. Holders have a knurled grip and a button to advance the lead.

Metal barrel lead holder has a rotating lead indicator for HB, F, H, 2H, 3H, and 4H lead. *Lead pointer* makes blunt and sharp points.

To Order: For lead, please specify grade (listed from softest to hardest): 6B, 5B, 4B, 3B, 2B, B, HB (equivalent to No. 2 regular lead), F, H, 2H, 3H, or 4H.

Plastic Barrel Lead Holder	8380T1	$9.82
Metal Barrel Lead Holder	8380T5	13.69
Lead (Pkg. of 12)	8380T9	18.04
Lead Pointer	8398T11	11.48

Plastic Triangles



30° × 60°

Triangles have raised edges.

Size	Choose a Color		
30°×60°			
8″	Clear, Gray, Fluorescent Orange	1212T21	$2.88
10″	Clear, Gray, Fluorescent Orange	1212T23	3.43
45°×45°			
8″	Clear, Gray, Fluorescent Orange	1212T25	3.43
10″	Clear, Gray, Fluorescent Orange	1212T27	4.50

Plastic Adjustable Protractor/Triangles

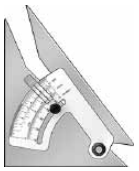

Triple Scale

A protractor and triangle in one, these tools let you quickly set any angle from 0° to 90° in ½° increments.

Triple scales also measure slope and rise.

Size		
Single Scales		
8″	1214T13	$34.69
10″	1214T15	37.50
Triple Scales		
8″	1214T24	37.27
10″	1214T26	44.44

Plastic Architects' and Engineers' Rules



Bevel Flat



Triangular

Scale/Graduations			
12″ Bevel Flat			
Architects'	1/8″, 1/4″, 3/8″, 1/2″, 3/4″, 1″, 1 1/2″, 3″	1216T11	$17.38
Engineers'	10, 30, 40, 50	1216T2	17.38
12″ Triangular			
Architects'	3/32″, 1/8″, 3/16″, 1/4″, 3/8″, 1/2″, 3/4″, 1″, 1 1/2″, 3″, 16″	1216T5	12.70
Engineers'	10, 20, 30, 40, 50, 60	1216T6	12.70

Plastic Rolling Parallel Rules



This tool functions as a rule, compass, protractor, and template. It has a straight scale graduated to 1/16″ and 1 mm as well as a rolling scale graduated to 1/32″ and 1 mm.

Lg.	Max. Circle Dia.		
12″	24″	1245T7	$10.00

Technical Pens



Create precise drawings with this pen. It has a stainless steel point, white plastic shell, and reservoir cartridge.

Ink is waterproof and dries quickly.

Cleaning kit includes pressure bulb and 2 oz. of cleaning solution.

To Order: Please specify line width (trade/metric): 3×0/.25 mm, 00/.30 mm, 0/.35 mm, 1/.50 mm, 2/.60 mm, 3/.80 mm, or 4/1.20 mm.

Technical Pen	13285T5	$26.28
Black Ink (3/4-oz. Bottle)	13285T2	5.58
Cleaning Kit	13285T3	21.74
Replacement Cleaning Solution (2-oz. Jar)	13285T4	4.73

Plastic Protractors





Dia.	180°		360°	
6″	1215T2	$3.52	1215T4	$5.68
8″	1215T3	4.91	1215T5	7.68

Flexible Curves



These vinyl-covered curves have a minimum radius of 1″.

Graduated curves have one side with graduations to 1/16″ and one side with graduations to 1 mm.

Lg.	Standard		Graduated	
12″	8416T32	$8.03	8416T11	$11.01
24″	—	—	8416T14	21.71
30″	8416T35	14.57	—	—

Plastic French Curves

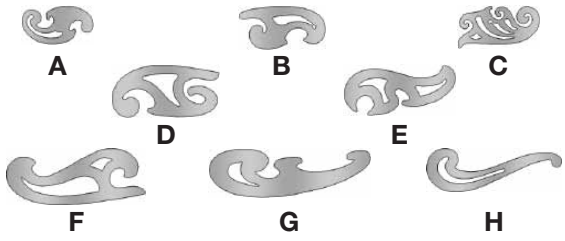

Set	Set Includes		
4 Piece	A, B, G, H	1382T5	$18.79
8 Piece	A, B, C, D, E, F, G, H	1382T6	33.81

T-Squares

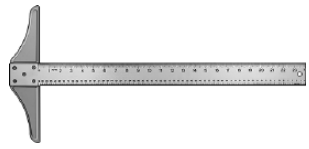

Blade is aluminum.

Plastic head T-square has graduations to 1/16″ and 0.5 cm. Head is not graduated.

Aluminum head T-square has graduations to 1/8″ on the blade and head.

	Blade Size		*Head Size*			
Head Material	Lg.	Wd.	Lg.	Wd.		
Plastic	24″	1 1/2″	12 3/4″	3 1/4″	8464T1	$18.49
Aluminum	48″	2″	22″	1 1/2″	9444T11	18.02

Light Boxes

Illuminate your drafting work and view transparencies, slides, and X-rays. Light boxes have a plastic surface and stainless steel frame. They come with LED bulbs and have a 6-ft. cord with plug.



Lighted Surface Lg.	Lighted Surface Wd.	Overall Size Lg.	Overall Size Wd.	Overall Size Ht.		
11″	9″	12″	10″	3″	1203T31	$68.67
17″	10″	18 3/8″	11″	3″	1203T32	160.16
17″	15″	18 3/8″	16″	3″	1203T33	296.51
23″	17″	24 3/8″	18″	3″	1203T34	448.27
35″	23″	36″	24 3/8″	3″	1203T35	550.52

Plastic Drafting Templates

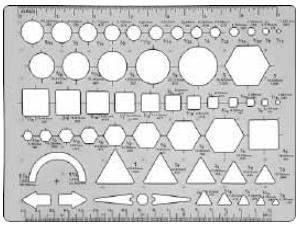

General Purpose

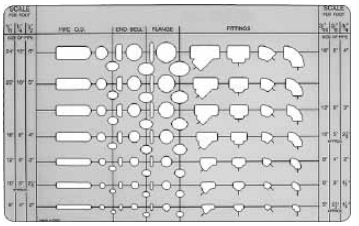

Pipe Fitting

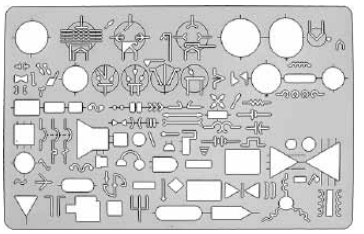

Electrical/Electronic

To view images of these templates, go to mcmaster.com and search for the part number.

Shapes

	Inch Size Range	Inch No. of Shapes			Metric Size Range	Metric No. of Shapes		
Circles	1/16″–1 3/8″	39	1244T41	$9.46	2–34 mm	41	1244T42	$11.10
Large Circles	1 1/4″–3 1/2″	13	1244T44	13.25	25–85 mm	13	1244T45	13.25
Circle Master	1/16″–3″	44	1244T47	12.91	2–48 mm	46	1244T48	13.25
Squares	1/16″–1 1/2″	42	1244T53	11.10	2–34 mm	41	1244T54	11.10
Triangles and Diamonds	3/32″–1″	33	1244T75	11.10	3–30 mm	41	1244T76	14.40
General Purpose (Circles, Squares, Triangles, Hexagons, and Arrows)	1/16″–1 1/2″	56	1244T11	13.25				
Ellipses (20°, 30°, 40°, and 50° Projections)	1/4″–1 1/2″	61	1244T22	14.40				
Isometric Ellipses (25°, 35°, 45°, and 60° Projections)	1/4″–1 1/2″	60	1244T26	14.40				

Specialty Drafting Shapes

	Description		
Flow	For pipe and plumbing layout: gas, oil, water, and chemical	1218T11	$13.12
Pipe Fitting	Symbols for pipe OD, end bell, flange, and fittings	1218T12	15.00
Sheet-Metal Conduit	Cross sections for heating and air conditioning	1218T13	21.88
Heating and Air Conditioning	Symbols conform to ASA Z32.2.3 and 32.2.4	1218T14	16.50
Electrical/Electronic	Symbols, contacts, switches, terminals, etc. Conform to ANSI Y32.2 (Set of 3)	1218T15	47.49
Flowcharting	Computer flow symbols conform to ANSI X3.5 and ISO 1028	1218T17	12.32
Arrowheads	Fraction and metric sizes for directional use	1218T18	9.62
House and Plumbing	House plan and plumbing fixtures	1218T21	10.28

Drafting Accessories



Dusting Brush



Dry Cleaning Pad

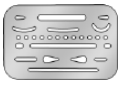

Erasing Shield

	Lg.	Wd.		
Dusting Brush	14″	3/8″	7348T14	$7.32
Dry Cleaning Pad	3 1/8″	2 3/8″	13295T66	7.60
Erasing Shield	3 5/8″	2 3/8″	13295T69	2.52

Portable Drafting Boards

These boards have a white laminate surface with a mounted sliding parallel rule.



Lg.	Wd.		
24″	18″	1204T9	$101.28
36″	24″	1204T2	133.33
42″	30″	1204T3	160.83

Drafting Board Covers

Protect your boards with these vinyl covers. Cut to size and adhere with tape. Color is green on one side and white on the other.

Lg.	Wd.		
42″	31″	1384T5	$47.66
48″	36″	1384T6	59.57
60″	37 1/2″	1384T8	74.04
72″	37 1/2″	1384T9	85.11

Plastic Number and Letter Templates

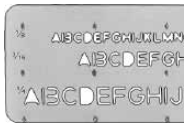

Modern Light



Helvetica

All include letters A-Z and numbers 0-9 in 1/8″, 3/16″, and 1/4″ heights.

Font	Lg.	Wd.		
Modern Light	9 1/2″	2″	1299T1	$12.91
Modern Bold	12″	2 1/2″	1299T2	12.91
Helvetica	9 1/2″	2″	1299T5	12.91
Helvetica Medium	12″	2 1/2″	1299T6	12.91

Disposable Plotter Pens

Pens have a stainless steel tip and contain waterproof ink.



Line Width	Choose a Color		
Universal			
Extra Fine (0.25 mm)	Black, Green, Red	13525T41	$21.78
Fine (0.35 mm)	Black, Blue, Green, Red	13525T42	21.78
Medium (0.5 mm)	Black	13525T431	21.78
Broad (0.7 mm)	Black	13525T441	21.78
Hewlett Packard (75XX)			
Extra Fine (0.25 mm)	Black, Green, Red	13525T21	21.78
Fine (0.35 mm)	Black, Blue, Green, Red	13525T22	21.78
Medium (0.5 mm)	Black, Blue	13525T23	21.78
Broad (0.7 mm)	Black	13525T241	21.78

Reference Books

Title		
Machine Reference		
Machinery's Handbook, Toolbox Edition	5214T27	$104.83
Machinery's Handbook, Large Print Edition	5214T51	124.79
Machinery's Handbook (CD-ROM Only)	5214T58	104.83
Machinery's Handbook Guide	5214T26	19.95
Machine Shop Practice (2-Volume Set)	5214T33	69.90
Standard Handbook of Machine Design	5214T47	163.84
Mechanical Reference		
Marks' Standard Handbook for Mechanical Engineers	5213T4	240.68
Technical Reference		
Blueprint Reading Basics	1682T36	34.95
Technical Shop Mathematics	5212T45	54.86
Technical Reference Handbook	5212T43	62.40
Engineering Formulas	5212T31	37.74
Pocket Reference	5212T21	12.70
Interpretation of Geometric Dimensioning and Tolerancing	5212T16	39.95
Electrical Reference		
American Electrician's Handbook	1868T12	106.21
Electrical Safety in the Workplace	1868T74	99.29
Standard Handbook for Electrical Engineers	1868T23	235.03
Electrician's Troubleshooting and Testing Pocket Guide	1868T45	32.94
National Electrical Code		
National Electrical Code	2612T31	101.33
National Electrical Code Handbook	2612T35	98.18
Industrial Engineering and Plant Maintenance		
Maintenance Engineering Handbook	2573T74	176.27
Millwrights and Mechanics Guide	2573T63	59.85
Industrial Maintenance (Includes CD-ROM)	2573T44	123.04
Lubrication for Industry	2573T26	44.88
Managing Factory Maintenance	2573T29	52.86
Stationary Engineering	2485T86	178.95
Steam Plant Operation	2485T88	123.16
AutoCAD Pocket Reference	2573T28	24.95
CNC Programming Handbook	2573T27	79.95

Title		
Heating, Ventilation, and Air Conditioning		
HVAC Testing, Adjusting, and Balancing Field Manual	2519T76	$96.23
Modern Refrigeration and Air Conditioning	2519T79	119.80
Hydraulics, Pneumatics, and Pumps		
Industrial Hydraulic Technology	2549T19	52.00
Hydraulic Maintenance Technology	2549T21	41.59
Industrial Pneumatic Technology	2549T18	43.33
Fluid Power Circuits and Controls: Fundamentals and Applications	2549T17	180.87
Pump Handbook	2549T16	184.44
Tool and Die Machining and Metalworking		
Machinery and Metalworking Handbook	2628T18	128.81
Die Design Fundamentals	2628T29	49.87
Jig and Fixture Design Manual	2628T25	54.86
Trades and Construction		
Carpentry (Includes CD-ROM)	5219T52	152.14
Dust Collection Basics	5219T65	5.89
Modern Welding	5219T55	115.81
Sheet Metal	5219T56	89.85
Rigging Handbook: The Complete Illustrated Field Reference	5219T18	16.33
Pipefitters Handbook	5219T24	29.90
Piping Handbook	5219T17	187.57
Instrumentation and Process Control		
Process/Industrial Instruments and Controls Handbook	2574T48	182.00
Motor Controls		
Electrical Motor Controls for Integrated Systems (Includes DVD-ROM)	2599T93	169.72
Occupational Safety and Health		
OSHA Law Handbook	5192T31	101.85
Materials		
Materials Handbook	2651T55	134.46
Metallurgy (Includes CD-ROM)	2651T57	128.54
Fastening		
Inch Fastener Standards	1999T31	472.60
Nut Torque Tightening Guide	90662A050	7.18
Dictionary		
Webster's New World College Dictionary	9392T61	25.02

Conversion Charts

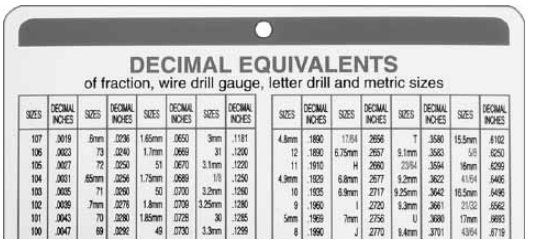

Style 1

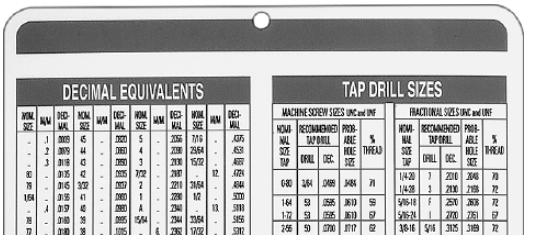

Style 2

These charts provide decimal equivalents of fractions, wire gauge drill sizes, letter drill sizes, and metric sizes. All are plastic.

	Ht.	Wd.		
Style 1				
Pocket Size	6″	3⅜″	3233T11	$2.32
Wall Mount	13″	8½″	3233T15	3.60

Style 2 charts also provide a tap drill chart and a pipe tap drill chart.

	Ht.	Wd.		
Style 2				
Pocket Size	6″	3⅜″	3233T12	$2.32
Wall Mount	13″	8½″	3233T16	3.60

Maps



These full-color relief wall maps have a write-on laminate surface.

	Ht.	Wd.		
United States	32″	50″	7669T21	$16.67
World	32″	50″	7669T23	16.67

Visitor Log Books



Keep a record of visitors with this red leather hard cover book. Pages have five columns: date, name, address, time, and remarks.

Size	No. of Entries	No. of Pages		
9½″ × 12½″	3,400	208	1113N1	$133.09

Plumbing & Janitorial

Plumbing

Lavatory Partitions	2026
Toilets	2029
Soap & Soap Dispensers	2038
Drinking Fountains	2042
Faucets	2044
Sinks	2050
Drain Cleaners	2057
Expansion Plugs	2062

Janitorial

Cleaners	2066
Brushes & Wipes	2073
Brooms & Mops	2079
Spill-Control Sorbents	2088
Vacuums & Accessories	2092
Dust Collectors	2101
Pressure Washers	2103

Building & Grounds

Garden Hose & Accessories	2106
Spray Nozzles	2110
Mats	2117
Grating	2130
Stair Treads	2134
Shovels & Landscaping Equipment	2136
Roof Repair	2141
Pest Control	2143
Wall & Ceiling Repair	2145
Tarps	2147
Concrete & Asphalt Repair	2151
Paint & Coatings	2154
Paint Brushes & Sprayers	2162
Step Stands & Ladders	2168
Scaffolds	2182
Work Platforms	2187

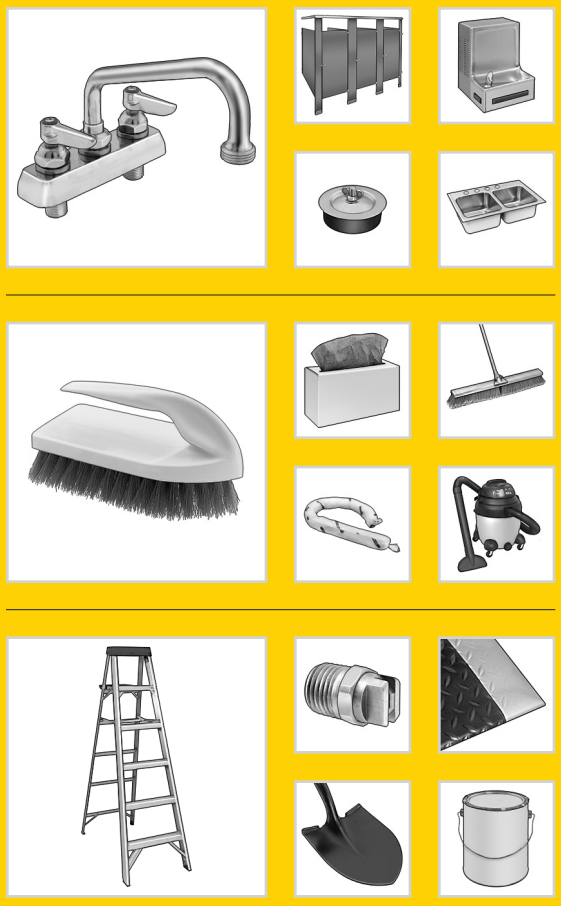

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Toilet Partition Components

1 Hardware Package Attach Panel to Wall and Column; Headrail to Column and Wall

2 Hardware Package Attach Panel to Wall and Column

3 Hardware Package Attach Column to Wall; Headrail to Wall

4 Hardware Package Attach Panel to Column (Inline)

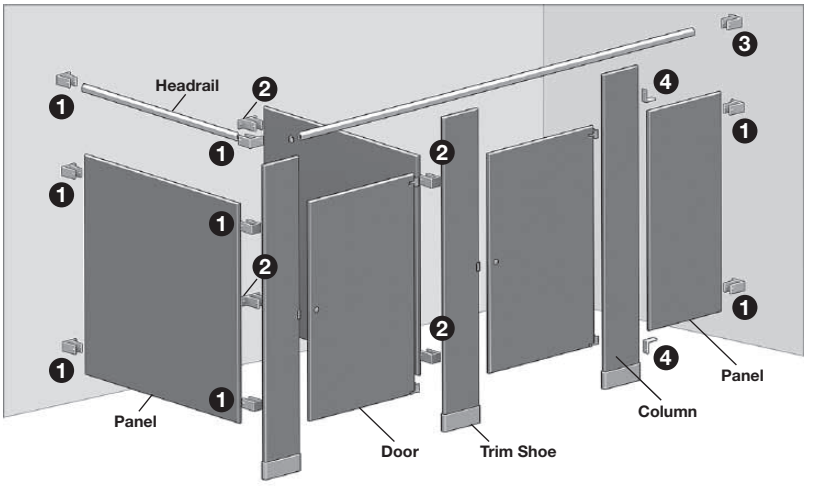

Partition Components

Design your own partitions, add to your existing partition, or replace individual components and hardware. Hardware is included with doors; all other components require installation hardware (sold separately below). To account for the hardware, the doors and panels are slightly smaller than the width listed.

Doors come with a latch, coat hook, and installation hardware. *ADA doors* are ADA compliant when properly installed. Meet ANSI 117.1.

Columns come with stainless steel trim shoes and an anchor kit to attach the column to the floor.

Painted Steel and **Stainless Steel Components—**Have a honeycomb core. *Steel* are the industry standard; *stainless steel* are corrosion resistant.

Plastic Laminate Components—Use in low-humidity environments. They have a particleboard core.

Solid Plastic Components—Our most durable and damage-resistant components. Suitable for harsh environments and washdown areas.

To view available colors, go to mcmaster.com and search a part number from the table below. For the best match, order a color sample pack. Please ask for 3621K777 and specify painted steel, plastic laminate, or solid plastic.

Wd.	Painted Steel Almond, Gray, Light Gray, Tan, or White		Stainless Steel Brushed Finish		Plastic Laminate Almond, Beige, Blue, Gray, or White		Solid Plastic Cream, Dark Blue, Gray, Tan, or White	
Doors—58″ Ht. × 1″ Thick. (except Solid Plastic are 55″ Ht. × 1″ Thick.)								
24″	3621K14	$143.31	3075K14	$393.89	3769K14	$139.35	1648K12	$196.42
26″	3621K15	147.45	3075K15	407.96	3769K15	144.83	1648K13	205.93
34″ (ADA)	3621K16	172.39	3075K16	465.14	3769K16	175.56	1648K14	269.72
36″ (ADA)	3621K17	176.51	3075K17	487.65	3769K17	181.04	1648K15	282.88
Panels—58″ Ht. × 1″ Thick. (except Solid Plastic are 55″ Ht. × 1″ Thick.)								
24″	3621K11	93.42	3075K12	346.04	3769K11	109.79	1648K11	222.63
48″	3621K18	150.58	3075K18	527.51	3769K18	199.27	1648K21	411.75
55″	3621K19	155.77	3075K19	545.11	3769K19	210.78	1648K22	431.33
58″	3621K21	159.91	3075K21	552.62	3769K21	218.65	1648K23	450.88
60″	3621K22	164.07	3075K22	564.16	3769K22	224.29	1648K24	462.05
70″	3621K23	182.76	3075K23	621.71	3769K23	250.22	1648K25	529.14
Columns—82″ Ht. × 1¼″ Thick. (except Solid Plastic are 82″ Ht. × 1″ Thick.)								
3″	3621K44	56.57	3075K24	105.93	3769K24	60.08	1648K31	62.59
4″	3621K45	58.67	3075K25	117.45	3769K25	69.67	1648K32	73.00
5″	3621K46	60.77	3075K26	128.95	3769K26	79.95	1648K33	83.43
6″	3621K47	64.96	3075K27	140.46	3769K27	87.91	1648K34	93.88
7″	3621K48	69.16	3075K28	151.96	3769K28	93.55	1648K35	104.32
8″	3621K49	73.36	3075K29	163.50	3769K29	97.41	1648K36	114.73
10″	3621K51	81.71	3075K31	186.52	3769K31	108.48	1648K37	135.61
12″	3621K52	90.11	3075K32	209.54	3769K32	119.55	1648K38	156.43
18″	3621K53	115.25	3075K33	278.62	3769K33	152.77	1648K39	219.04
22″	3621K61	132.00	3075K41	301.75	3769K41	174.91	1648K41	260.75
24″	3621K54	140.38	3075K34	313.16	3769K34	185.98	1648K42	281.62
Aluminum Headrails—Can be cut to size; have a clear anodized finish								
62″	38015K61	25.80	38015K61	25.80	38015K61	25.80		
75″	38015K62	30.95	38015K62	30.95	38015K62	30.95	1019K51	19.42
98″	38015K63	41.27	38015K63	41.27	38015K63	41.27		
120″	38015K64	41.47	38015K64	41.47	38015K64	41.47	1019K52	30.95

Installation Hardware and Accessories

Hardware is chrome-plated zinc, unless noted. Fasteners are included and require a Torx T27 tamper-resistant screwdriver (see 83335A65 on page 2819).

Pkg.	For Painted Steel and Stainless Steel		For Plastic Laminate		For Solid Plastic	
Installation Hardware Packages for Panels and Columns—Includes all brackets and fasteners needed for assembly						
1 Attach Panel to Wall and Column; Headrail to Column and Wall	3621K73	$17.06	3769K63	$27.31	1648K73♦	$56.26
2 Attach Panel to Wall and Column	3621K2	15.63	3769K2	14.34	1648K72♦	58.78
3 Attach Column to Wall; Headrail to Wall	3621K71	12.02	3769K61	13.64	1648K71♦	39.52
4 Attach Panel to Column (inline)	3621K991	4.22	3769K994	5.18	1648K84■	52.68
Replacement Hardware for Doors, Columns, and Headrails						
Standard Door Hardware (includes latch, hinges, and coat hook)	3621K5	$32.19	3769K5	$35.34	1648K82	$47.00
ADA Door Hardware (includes latch, hinges, coat hook, and pull handle)	3621K78	39.61	3769K78	42.70	1648K81	52.34
Door Pull Handle	3621K85	3.70	3621K79♦	6.63	3621K79♦	6.63
Stainless Steel Trim Shoe—To Order: Please specify column width from 3″ to 24″	3621K82		3769K85		1648K86	

♦ Hardware is aluminum. ■ Hardware is stainless steel.

Toilet and Urinal Partitions

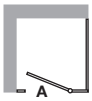

Corner Partition

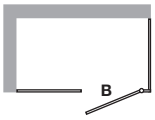

ADA-Compliant Corner Partition

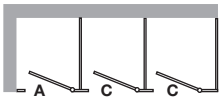

Corner (A) with two Add-On (C) Partitions

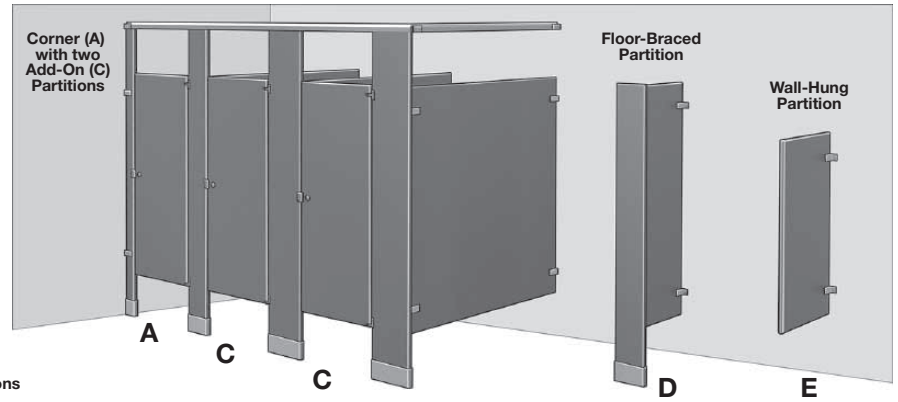

Partitions include all components and hardware necessary for assembly and installation. Hardware is chrome-plated zinc, except Solid Plastic partition hardware is aluminum. Fasteners are included and require a Torx T27 tamper-resistant screwdriver (see 83335A65 on page 2819). To account for the hardware, the doors and panels are slightly smaller than the width listed.

ADA-compliant toilet partitions are ADA compliant when properly installed. Meet ANSI 117.1.

Painted Steel and **Stainless Steel Partitions—**Have a honeycomb core. *Steel* are the industry standard; *stainless steel* are corrosion resistant.

Plastic Laminate Partitions—Use in low-humidity environments. They have a particleboard core.

Solid Plastic Partitions—Our most durable and damage-resistant components. Suitable for harsh environments and washdown areas.

To view available colors, go to mcmaster.com and search for the part number from the table below. For the best match, order a color sample pack. Please ask for 3621K777 and specify painted steel, plastic laminate, or solid plastic.

Ht.	Wd.	Dp.	Painted Steel Almond, Gray, Light Gray, Tan, or White		Stainless Steel Brushed Finish		Plastic Laminate Almond, Beige, Blue, Gray, or White		Solid Plastic Cream, Dark Blue, Gray, Tan, or White	
For Toilets										
(A) Corner Partitions—Door is 24″ wide										
84″	37″	60″	3049K85	$473.24	3578K11	$1,231.79	3804K11	$625.71	1648K1	$903.95
(B) ADA-Compliant Corner Partitions—Door is 36″ wide										
84″	62″	60″	3049K87	573.16	3578K13	1,480.14	3804K13	737.91	1648K3	1,119.07
(C) Add-On Partitions—Door is 24″ wide										
84″	36″	60″	3049K89	412.48	3578K21	1,159.49	3804K16	471.07	1648K89	829.65
For Urinals										
(D) Floor-Braced Partitions—Panel is 58″ high, except Solid Plastic is 55″ high										
70″	7″	24″	3018K4	214.28	3372K4	586.13	3954K4	228.88	1019K21	330.48
70″	7″	36″	3018K5	241.65	3372K5	670.53	3954K5	265.68	1019K22	411.09
(E) Wall-Hung Partitions										
42″	1″	18″	3018K91	95.12	3372K1	286.04	3954K1	96.56	1019K11	142.87
42″	1″	24″	3018K92	99.74	3372K2	299.57	3954K2	109.67	1019K12	173.78
42″	1″	30″	3018K93	107.69	3372K3	342.29	3954K3	122.79	1019K13	204.65
Replacement Hardware Packages for Urinals										
For Floor-Braced Partitions			3018K9	13.83	3018K9	13.83	3954K9	15.29	1019K44	57.63
For Wall-Hung Partitions			3018K98	12.98	3018K98	12.98	3954K8	15.92	1019K43	34.57

Hinges for Partitions

The weight of your door returns these hinges to the closed position. Each pair includes a top and bottom hinge. Mounting hardware is included.

Mortise-Mount Hinges

Often used as replacement hinges for our Painted Steel, Stainless Steel, and Plastic Laminate doors (sold above and on previous page), the pins on these hinges fit into cutouts (mortises) in doors.

Hinges are reversible for right- and left-hand doors. They're made of chrome-plated zinc with a 110° range of motion.



For Plastic Partitions

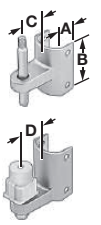

For Steel Partitions

For Partition Material	For Door Thick.	For Partition Thick.	(A)	(B)	(C)	(D)		Pair
Plastic	7/8″	1 1/4″	1″	2 1/4″	1 1/4″	1 1/4″	15345A12	$30.52
Plastic	1″	1 1/4″	1″	2 1/4″	1 1/4″	1 1/4″	15345A13	38.98
Steel	1″	1 1/4″	11/16″	2 3/16″	1 1/8″	1 11/16″	15345A25	39.10

Surface-Mount Hinges

Often used as replacement hinges for our Solid Plastic doors (sold above and on previous page), these hinges mount directly onto your door.

Choose a right-hand hinge if the hinge is on the right (from the push side of the door); choose a left-hand hinge if it is on the left. The range of motion is 180°.



Right Hand



Left Hand

For Door Thick.	For Partition Thick.	Leaf Ht.	Wd.	Right Hand	Left Hand	Pair
Chrome-Plated Brass						
1″	1″	2 7/8″	3″	12125A274	12125A244	$82.72
1″	1 1/4″	2 7/8″	3″	12125A272	12125A242	91.37
Stainless Steel						
1″	1″	2 7/8″	3 5/16″	12125A334	12125A314	76.10
1″	1 1/4″	2 7/8″	3 5/16″	12125A332	12125A312	77.17

Brackets for Partitions

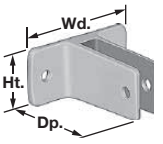

1


2

Mounting screws are included.

	Max. Panel Thick.	Ht.	Wd.	Dp.	Chrome-Plated Zinc		Stainless Steel	
1	1″	1½″	4″	2½″	1755A32	$8.77	1755A72	$24.74
1	1¼″	1½″	4″	2½″	1755A34	15.78	1755A73	25.79
2	1″	1½″	2⅝″	2½″	1755A42	11.61	1755A75	21.71
2	1¼″	1½″	2¾″	2½″	1755A44	10.31	1755A76	22.32

Latches for Partitions

Door Slide Bolts

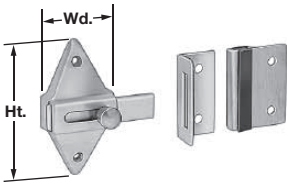

Reversible for right- and left-hand mounting, all latches include a bolt and strike. Mounting screws are included.

Ht.	Wd.	Chrome-Plated Zinc		Stainless Steel	
4″	2″	12815A13	$25.53	12815A14	$58.02
4½″	1⅞″	12815A15	30.71	12815A16	62.86

Door Latches


3

Strike for Styles 3-5


4

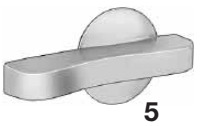
5

Designed to fit 1″ thick partition doors with a 1¼″ dia. hole, these concealed latches snap together—no mounting fasteners required. Reversible for right- and left-hand mounting, all latches include a bolt and strike. They're made of chrome-plated zinc.

Latches *for steel and stainless steel doors* have an angled bolt.

Latches *for plastic doors* have a straight bolt.

Styles 4&5 are ADA compliant when properly installed. They also meet ANSI A117.1.

	For Steel and Stainless Steel Doors		For Plastic Laminate and Solid Plastic Doors	
3	3478A21	$17.05	3478A22	$16.06
4	3478A23	19.46	3478A24	18.81
5	3478A25	16.84	3478A26	16.62

Toilet Mounting Bolts



Connect your toilet bowl to the floor or to the tank. Bolts come with washers and hex nuts.

	Thread Size	Lg.		
Bowl to Floor				
Brass	¼″-20	2¼″	2765K1	$1.52
Brass	⅝″-18	2¼″	2765K2	1.86
Plastic	⅝″-18	2½″	2765K6	1.25
Bowl to Tank				
Brass	⅝″-18	3″	2765K5	2.56

Toilet Tank-to-Bowl Gaskets



Create a tight seal between your toilet tank and bowl with these sponge-rubber gaskets.

Fits Tanks	OD	Thick.		
American Standard	3½″	1⅛″	27915K83	$2.03
Gerber/Crane	3¼″	1⅛″	27915K85	2.50
All Others	3⅜″	½″	27915K81	1.45

Toilet Tank Repair Parts

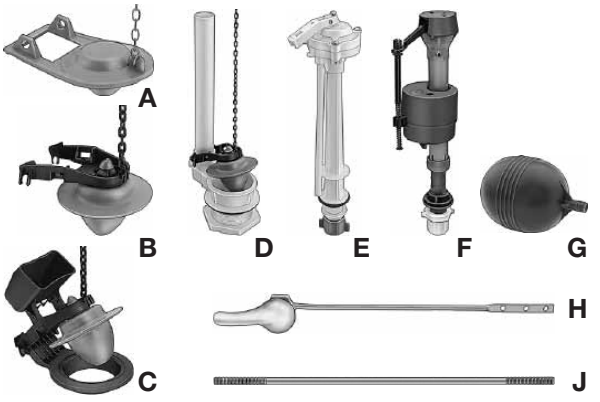

A	Flapper	2360K11	$4.32
B	Flapper with Frame	2769K14	4.23
C	Flapper with Frame and Drain Seat	2795K51	7.64
D	Flush-Valve Assembly	2739K18	5.79
E	Adjustable 10″ to 14″ Fill Valve	2740K12	11.01
F	Adjustable 9″ to 14″ Fill Valve	2740K13	10.31
G	Plastic Float	2753K4	3.89
G	Copper Float	2753K2	8.28
H	8″ Lever Arm	2752K1	4.98
J	8″ Brass Float Rod	2754K1	3.29
J	10″ Brass Float Rod	2754K3	3.73
J	12″ Brass Float Rod	2754K4	4.50

Pressurized-Tank Repair Parts

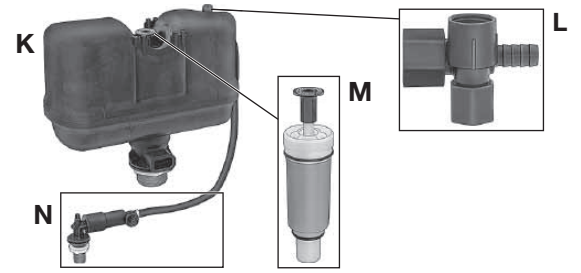

Complete Tank Kits

Fits Tank Manufacturer

Replacement for Sloan Flushmate 500/501/501-A/501-B			
K	American Standard, Crane, Gerber, Kohler, Mansfield, Universal Rundle	2621K12	$157.30
Replacement for Sloan Flushmate 503			
K	American Standard, Crane, Gerber (except 28-385), Kohler (except K4404), Mansfield, Universal Rundle	2621K312	130.07

Components

(L) Upper supply kit connects the main line to the lower supply kit. It comes with an air inducer, vacuum breaker, and clamp.

(M) Flush valve cartridge activates the flushing mechanism.

(N) Lower supply kit feeds water into the tank. It comes with a hose supply shank, pressure regulator, and relief valve.

L	Upper Supply Kit	2621K82	$7.87
M	Flush Valve Cartridge	2621K81	29.32
N	Lower Supply Kit	2621K85	43.03

Toilet Mounting Flanges


Steel


Plastic with Extension

Steel flange is ⅛″ thick with six ⅝″ dia. mounting holes (fasteners not included). It also has slots for ¼″ or ⅝″ toilet bolts (sold separately on this page).

Plastic flanges with extension slide inside a 4″ cast iron or Schedule 40 plastic pipe. Tighten the included bolts to expand the compression joint, which allows up to 3″ of adjustment.

Steel Flange	29045K59	$6.43
Plastic Flange with Extension	29045K62	25.92
Heavy Duty Plastic Flange with Extension	29045K64	37.37

Toilet Seats

Made of plastic, these toilet seats come with rubber bumpers and stainless steel mounting hardware. They mount on 5½″ centers.

Heavy duty seats are treated to inhibit the growth of stain- and odor-causing bacteria on the surface of the seat.

Style C adds 3″ height to a toilet seat to make it ADA compliant. It can be used with any closed-front, elongated toilet seat.

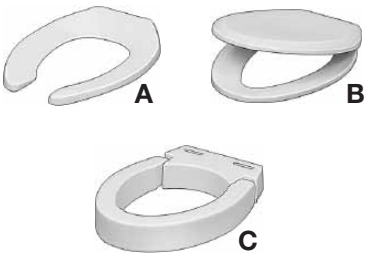

	Lg.	Wd.	Standard Choose a Color			Heavy Duty Choose a Color		
For Elongated Bowls								
A	18½″	14⅜″	White, Black	2733K4	$28.63	White, Black	3033K3	$42.26
B	18½″	14″	White, Black	2733K5	37.44	White	3033K37	53.70
C	20¼″	14¾″	White	2248K24	77.21	—	—	—
For Round Bowls								
A	16⅛″	14¼″	White, Black	2733K2	27.75	—	—	—
B	17″	14⅜″	White, Black	2733K3	32.43	—	—	—

Toilets

These efficient toilets help you conserve water. They use 1.3 gallons (4.9 liters) of water per flush, unless noted. They're made of white porcelain and have elongated bowls. Installation distance is measured from the wall or floor to the centerline of your waste pipe. *ADA toilets* are ADA compliant when properly installed.

Floor-mount toilets have two ½″ × ⅞″ mounting slots; **wall-mount** toilet has four ⅞″ dia. mounting holes. Mounting bolts are not included.

Tankless—Flush valve is not included. Top inlet connection is 1½ NPT male.

Gravity Tank—Both come with a fill valve, float, and flapper.

Pressurized Tank—For a more powerful flush, these toilets have a pressurized tank to increase water pressure.



Tankless Floor Mount



Tankless Wall Mount


Gravity Tank


Pressurized Tank

	Installation Distance (A)	Ht.	Wd.	Dp.		
Tankless						
Floor Mount						
Standard	10″	14¼″	14½″	28¾″	2919K71	$137.82
ADA	10″	17″	15⅝″	28¾″	2919K72	161.00
Wall Mount						
ADA	7⅛″	17″	15¾″	26″	2938K61	136.80
Gravity Tank						
Floor Mount						
Standard	12″	29″	19¾″	29¾″	2634K81	172.48
ADA	12″	31″	19¾″	31¾″	2634K82	216.65
Pressurized Tank						
Floor Mount						
Standard	12″	28″	19″	31″	29115K91■	382.34
ADA	12″	30¾″	19″	31″	29115K92■	408.34

■ Uses 1.0 gallon (3.8 liters) of water per flush.

Urinals

These urinals come with a wall hanger. All require a 1½″ dia. P-trap (not included). Models with **back drain** are ADA compliant when properly installed.


With Bottom Drain

Ht.	Wd.	Dp.	Drain Location	Connection Inlet	Connection Outlet	Water Consumption, per flush		
19½″	13⅝″	13¼″	Bottom	¾ NPSM Male	1½ NPSM Male	0.5 gal. (1.9 L)	2642K75♥	$119.21
24⅜″	13⅜″	14½″	Back	¾ NPSM Male	2 NPSM Female	0.125 gal. (0.5 L)	2642K76	212.15
26⅜″	18⅝″	14¾″	Back	¾ NPSM Male	2 NPSM Female	0.5 gal. (1.9 L)	2642K77♥	232.69
Optional Rubber Floor Mats—22″ Lg. × 18″ Wd.							2642K98	9.69

♥ Cannot be sold in California.

Toilet and Urinal Sealing Rings



	For Outlet Pipe Size	Thick.		
For Floor-Mount Toilets				
Wax	3 and 4	¾″	2793K31	$2.83
Wax with Flange	3 and 4	¾″	2793K51	3.05
Wax with Flange	3 and 4	1″	2793K63	4.27
For Floor-Mount and Wall-Mount Toilets				
Sponge Rubber	3 and 4	¾″	2793K81	5.05
Plastic	4	3/16″	2793K13	6.76
For Wall-Mount Toilets				
Rubber with Adhesive	4	¾″	2793K82	17.64
For Wall-Mount Urinals				
Wax	2	1″	2793K75	2.05

Tankless Toilet and Urinal Inlet Connectors



Connect wall-mount toilet tanks and urinals to the flush valve. Also known as spuds, they're made of brass and come with a locknut, washer, and gasket.

For Toilet/Urinal Inlet (A)	Fits Pipe Size, NPT (B)		
For Toilets			
1¼″	1¼	2759K1	$11.73
1½″	1½	2759K2	13.82
2″	1¼	2759K4	17.20
2″	1½	2759K5	17.76
2″	2	2759K3	19.96
For Urinals			
1″	¾	2787K12	6.50
1½″	1½	2787K11	6.67

Sloan Flush-Valve Repair Parts

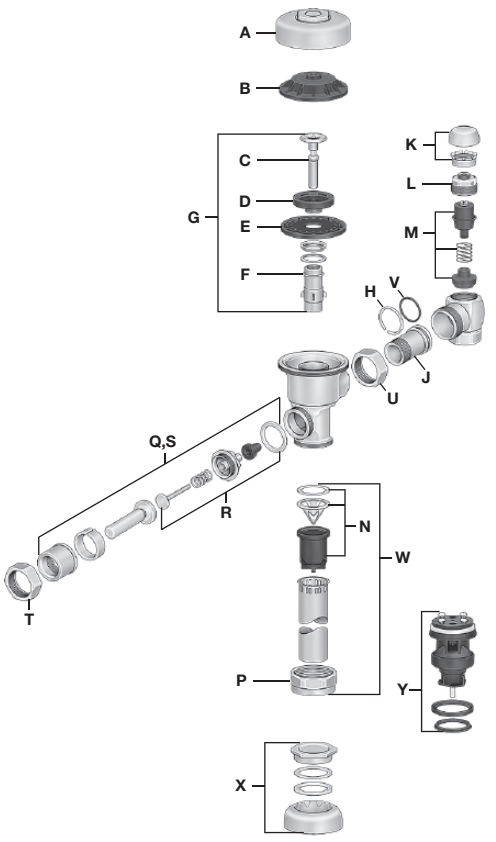

Master Repair Kits

These contain G, N, R, and V.

Style	gpf	Sloan Part No.		
For Manual Regal Flush Valves				
Toilet	1.6	R-1004-A	**2899K23**	$29.90
Toilet	3.5	R-1003-A	**2899K22**	24.35
Toilet	4.5	R-1001-A	**2899K21**	24.35
Urinal	0.5	R-1011-A	**2899K26**	28.52
Urinal	1.0	R-1005-A	**2899K25**	29.90
Urinal	1.5	R-1002-A	**2899K24**	24.35
For Manual Royal Flush Valves				
Toilet	1.6	A-1101-A	**1235K11**	42.65
Toilet	3.5	A-1102-A	**1235K12**	42.65
Urinal	0.5	A-1106-A	**1235K15**	52.88
Urinal	1.0	A-1107-A	**1235K13**	42.65
Urinal	1.5	A-1108-A	**1235K14**	42.65

		Sloan Part No.		
For Manual Royal and Regal Flush Valves				
A	Outside Cover	A-72	**2790K56**	$26.31
B	Inside Cover	A-71	**2790K57**	8.43
C	Toilet Relief Valve (White)	A-19-AC	**2790K54**	6.65
C	Toilet/Urinal Relief Valve (Green)	A-19-ALC	**2790K98**	6.65
C	Urinal Relief Valve (Black)	A-19-AU	**2790K55**	6.65
D	Molded Disc	A-15-A	**2790K51**	5.65
F	Toilet Guide Assembly—Please specify gpf (Sloan part no.): 1.6 (A-151-A), 3.5 (A-152-A), or 4.5 (A-163-A)		**2790K1**	
F	Urinal Guide Assembly—Please specify gpf (Sloan part no.): 1.0 (A-155-A) or 1.5 (A-163-A)		**2790K2**	
For Manual Royal Flush Valves				
G	Toilet Diaphragm Kit 1.28 gpf (Blue)	A-1045-A	**2655K31**	34.55
G	Toilet Diaphragm Kit 1.6 gpf (Green)	A-1041-A	**2655K32**	34.55
G	Toilet Diaphragm Kit 3.5 gpf (White)	A-1038-A	**2655K33**	34.55
G	Urinal Diaphragm Kit 0.5 gpf (Green)	A-1043-A	**2655K34**	34.55
G	Urinal Diaphragm Kit 1 gpf (Green)	A-1042-A	**2655K35**	34.55
G	Urinal Diaphragm Kit 1.5 gpf (Black)	A-1037-A	**2655K36**	34.55
For Manual Regal Flush Valves				
E	Diaphragm	A-156-A	**2790K52**	6.65
G	Toilet Diaphragm Kit 1.6 gpf (Green)	A-41-A	**2655K17**	25.91
G	Toilet Diaphragm Kit 3.5 gpf (White)	A-38-A	**2655K11**	18.54
G	Toilet Diaphragm Kit 4.5 gpf (White)	A-36-A	**2655K13**	18.54
G	Urinal Diaphragm Kit 0.5 gpf (Green)	A-43-A	**2655K21**	24.72
G	Urinal Diaphragm Kit 1 gpf (Green)	A-42-A	**2655K19**	25.91
G	Urinal Diaphragm Kit 1.5 gpf (Black)	A-37-A	**2655K15**	18.54
R	Handle Repair Kit	B-50-A	**2790K62**	4.07
S	Standard Handle Kit	B-32-A	**2790K61**	15.75
For Automatic Optima Plus and G2 Optima Plus Flush Valves				
G	Toilet Diaphragm Kit 1.28 gpf	EBV-1024-A	**2796K41**	35.62
G	Toilet Diaphragm Kit 1.6, 3.5, and 4.5 gpf	EBV-1020-A	**2796K31**	44.53
G	Urinal Diaphragm Kit 0.5 gpf	EBV-1023-A	**2796K39**	35.62
G	Urinal Diaphragm Kit 1 and 1.5 gpf	EBV-1022-A	**2796K53**	44.53
G	Urinal Diaphragm Kit 3.5 gpf	EBV-1020-A	**2796K31**	44.53
For Manual Royal, Regal, and Naval; Automatic Optima Plus and G2 Optima Plus Flush Valves				
H	Locking Ring	H-552	**2790K23**	.82
J	Adjustable Tailpiece with Ring and O-Ring	H-551-A	**2790K24**■	16.66
K	3/4″ Vandal-Resistant Stop Cap	H-1009-A	**3816K51**▲	11.97
K	1″ Vandal-Resistant Stop Cap	H-1010-A	**3816K52**▲	11.97
L	1″ Stop Cap	H-622	**2790K75**	10.00
M	3/4″ Control Stop Kit	H-543-A	**2830K72**	12.21
M	1″ Control Stop Kit	H-541-A	**2830K73**	12.21
N	Vacuum Breaker Kit	V-551-A	**2760K15**	3.51
P	1½″ Coupling Assembly	F-2-AT	**2790K64**	8.90
U	Locking Coupling	H-550	**2790K22**	7.22
V	Control Stop O-Ring	H-553	**2790K99**	1.41
W	Toilet Vacuum Breakers and Pipe—Pipe size is 1½. Please specify length (Sloan part no.): 3″ (V-500-A), 9″ (V-500-AA), or 24½″ (V-500-AA)		**2760K1**	
W	Urinal Vacuum Breakers and Pipe—Sloan part no. is V-500-AA. Please specify pipe size: 3/4 or 1¼		**2760K2**	
X	Spud Coupling Assembly—Please specify pipe size (Sloan part no.): 3/4 (F-5-AW), 1¼ (F-5-AU), or 1½ (F-5-AT)		**2790K8**▲	
For Manual Royal, Regal, and Naval Flush Valves				
Q	ADA Handle Kit	B-73-A	**2790K68**	20.92
T	Handle Nut	A-6	**2790K21**	6.79
For Manual Naval Flush Valves				
Y	Toilet Piston Kit	CN-1002-A	**2790K65**	46.20
Y	Urinal Piston Kit	CN-1003-A	**2790K66**	46.20

■ Not for use in Naval flush valves. ▲ Not for use in Regal flush valves.

Zurn Flush-Valve Repair Parts

		Zurn Part No.		
For Manual Zurn Aquaflush and AquaVantage Flush Valves				
A	Outside Cover	P6000-LL-CP	**9975T11**	$25.25
B	Inside Cover	P6000-L	**9975T12**	3.25
C	Toilet Relief Valve	P6000-EC13	**9975T13**	5.25
C	Urinal Relief Valve	P6000-EU13	**9975T14**	5.25
D	Retainer Disc	P6000-E14	**9975T15**♣	6.00
E	Diaphragm	P6000-ER15	**9975T16**♣	5.25
F	Guide Assembly	P6000-EG	**9975T17**♣	1.75
H	Snap Ring	P6000-C30	**9975T48**	.70
J	Tailpiece	P6000-J1	**9975T49**	18.12
K	1″ Vandal-Resistant Stop Cap	P6000-VC	**9975T22**	12.62
L	1″ Stop Cap	P6000-C34-CP	**9975T33**	12.25
M	3/4″ Control Stop Kit	PS6003-D-SD	**9975T23**	14.62
M	1″ Control Stop Kit	P6000-D-SD	**9975T24**	6.75
N	Vacuum Breaker Kit	P6000-B	**9975T18**	2.88
P	3/4″ Vacuum Breaker Tube Nut	P6000-AA-CP	**9975T45**	9.50
Q	ADA Handle Kit	P6000-M-ADA	**9975T28**	22.88
R	Handle Repair Kit	P6000-MK	**9975T29**	4.00
T	Handle Nut	P6000-M1-CP	**9975T46**	6.25
U	Locking Nut	P6000-C32-CP	**9975T47**	6.43

♣ Not for use in AquaVantage flush valves.

		Zurn Part No.		
For Manual Zurn Aquaflush and AquaVantage Flush Valves (Cont.)				
V	Tailpiece O-Ring	P6000-C31	**9975T43**	$0.75
X	3/4″ Coupling Assembly	P6003-H	**9975T25**	16.75
X	1½″ Coupling Assembly	P6000-H	**9975T26**	16.75
Vacuum Breakers and Pipe for Toilet Valves				
W	1½ Pipe Size ×8½″ Lg.	P6000-A-AA-CP	**9975T31**	26.75
W	1½ Pipe Size ×24″ Lg.	P6000-3-A-AA-CP	**9975T32**	56.58
Vacuum Breakers and Pipe for Urinal Valves				
W	3/4 Pipe Size ×8½″ Lg.	P6003-A-AA-CP	**9975T41**	26.75
W	1¼ Pipe Size ×8½″ Lg.	P6001-A-AA-CP	**9975T42**	30.75

Zurn Diaphragm Kits and Master Repair Kits

To Order For toilets, please specify 1.28, 1.6, 3.5, or 4.5 gpf. For urinals, please specify 0.5, 1.0, or 1.5 gpf.

For Manual Zurn Aquaflush Flush Valves			
G	Diaphragm Kit	**9975T5**	16.25
—	Master Repair Kit (Contains C, D, F, R, and V)	**9975T7**	26.27
For Manual Zurn AquaVantage Flush Valves			
G	Diaphragm Kit	**9975T6**	34.64
—	Master Repair Kit (Contains G, N, R, and V)	**9975T8**	46.00

American Standard Flush-Valve Repair Parts

		Mfr. No.		
For Manual Flush Valves				
A	Cap Seal	M962921-0070A	**8239T41**	$0.79
B	Cup Seal	M962938-0070A	**8239T46**	3.89
C	Toilet Piston Assembly		**8239T53**★	
C	Urinal Piston Assembly		**8239T55**★	
D	Handle Assembly	M962918-0020A	**8239T36**	28.04
E	Vacuum Breaker Repair Kit	M964402-0070A	**8239T42**	4.63
For Selectronic Flush Valves				
F	Toilet Cover with Sensor Assembly		**8239T52**★	
F	Urinal Cover with Sensor Assembly		**8239T56**★	
G	Toilet Sensor Assembly		**8239T54**★	
G	Urinal Sensor Assembly		**8239T57**★	
H	Battery	A923654-0070A	**7821K65**	10.15
J	Bonnet Nut	A906680-0070A	**8239T11**	14.01
K	Solenoid Valve Assembly	M964302-0070A	**8239T27**	44.37
L	Toilet Piston Assembly	M964551-0070A	**8239T26**	13.23
L	Urinal Piston Assembly	M964801-0070A	**8239T35**	24.14
M	Manual Flush-Valve Button	M950354-0020A	**8239T34**	16.35
For Manual and Selectronic Flush Valves				
N	Adjustable Tailpiece	M964945-0020A	**8239T48**	17.13
P	Toilet Sweat Adapter	M962926-0070A	**8239T43**	2.34
Q	Toilet Inlet Pipe Assembly	A955057-0020A	**8239T19**	24.91
R	¾ Pipe Size Urinal Supply Stop	M955058-0020A	**8239T25**	73.34
R	1 Pipe Size Toilet/Urinal Supply Stop	A955056-0020A	**8239T18**	89.68
S	¾ Pipe Size Supply Stop Cap	M924347-0020A	**8239T47**	3.89
T	9″ Toilet Vacuum Breaker Assembly	M964411-0020A	**8239T17**	38.92
T	27″ Toilet Vacuum Breaker Assembly	A955068-0020A	**8239T32**	101.98
U	¾ Pipe Size Urinal Vacuum Breaker Assembly	M964412-0020A	**8239T23**	38.92
U	1¼ Pipe Size Urinal Vacuum Breaker Assembly	M955062-0020A	**8239T49**	42.82
V	¾″ Urinal Spud Coupling Assembly	M952262-0020A	**8239T22**	18.67
V	1¼″ Urinal Spud Coupling Assembly	M952208-0020A	**8239T21**	18.60
V	1½″ Toilet Spud Coupling Assembly	M952269-0020A	**8239T24**	23.35

★ **To Order:** For toilets, please specify 1.28 or 1.6 gpf; for urinals, please specify 0.5 or 1.0 gpf.

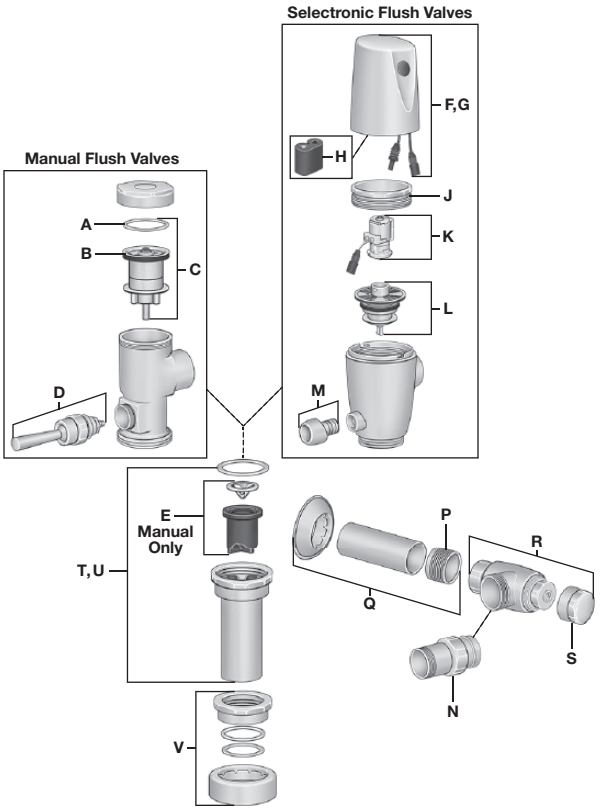

Sloan and American Standard Flush Valves

Choose a valve with the same consumption rate or gpf (gallons per flush) as your toilet or urinal. All have a vacuum breaker to prevent water from backing up into the main line and a control stop to allow repairs without shutting off the water supply. Installation hardware is included. Valves meet ASSE 1037. They're ADA compliant when properly installed and CSA certified.

Automatic flush valves have a motion sensor for touch-free operation and a manual override button. They come with batteries and a low battery indicator.

Sloan valves have a rubber diaphragm assembly. **American Standard** have a piston assembly.

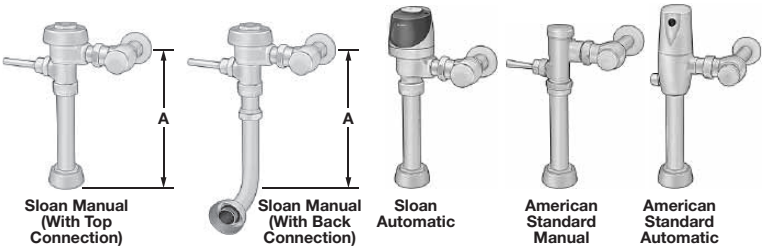

gpf	Connections: Toilet/Urinal, Compression	Connections: Inlet, NPT female	Install Dist. (A)	Mfr. No.		
Toilet Flush Valves						
Sloan Manual Royal Valves						
1.28	1½″ OD Top	1	11½″	111-1.28	**2757K14**	$148.36
1.28	1½″ OD Back	1	11½″	120-1.28	**2757K15**	161.38
1.6	1½″ OD Top	1	11½″	111-1.6	**2757K11**	148.36
1.6	1½″ OD Back	1	11½″	120-1.6	**2757K12**	161.38
3.5	1½″ OD Top	1	11½″	110	**3085K13**	148.36
3.5	1½″ OD Back	1	11½″	120	**3085K14**	161.38
Sloan Automatic G2 Optima Plus Valves						
1.28	1½″ OD Top	1	11½″	8111-1.28	**2956K22**	446.84
1.6	1½″ OD Top	1	11½″	8111	**2956K23**	446.84
3.5	1½″ OD Top	1	11½″	8110	**2786K24**	439.75
American Standard Manual Valves						
1.28	1½″ OD Top	1	11½″	6047121.002	**9904T23**	154.29
1.6	1½″ OD Top	1	11½″	6047161.002	**9904T21**	154.29
American Standard Automatic Selectronic Valves						
1.28	1½″ OD Top	1	11½″	6065121.002	**9904T13**	424.62
1.6	1½″ OD Top	1	11½″	6065161.002	**9904T11**	424.62
Extra-Clearance Toilet Flush Valves						
Sloan Manual Royal Valves						
1.28	1½″ OD Top	1	27″	116-1.28	**2757K16**	161.69
1.6	1½″ OD Top	1	27″	116-1.6	**2757K13**	161.69
3.5	1½″ OD Top	1	27″	116	**3085K16**	161.69
American Standard Manual Valves						
1.28	1½″ OD Top	1	27″	6047122.002	**9904T24**	168.57
1.6	1½″ OD Top	1	27″	6047162.002	**9904T22**	168.57

gpf	Connections: Toilet/Urinal, Compression	Connections: Inlet, NPT female	Install Dist. (A)	Mfr. No.		
Urinal Flush Valves						
Sloan Manual Royal Valves						
0.125	¾″ OD Top	¾	11½″	186-0.125	**2816K61**	$148.36
0.5	¾″ OD Top	¾	11½″	186-0.5	**2816K62**	148.36
1	¾″ OD Top	¾	11½″	186-1.0	**2816K63**	148.36
1	1¼″ OD Top	1	11½″	180-1.0	**2816K64**	148.36
1.5	¾″ OD Top	¾	11½″	186	**2831K11**	148.36
1.5	1¼″ OD Top	1	11½″	180-1.5	**2831K15**	148.36
Sloan Automatic G2 Optima Plus Valves						
0.5	¾″ OD Top	¾	11½″	8186-0.5	**2838K69**	446.84
1	¾″ OD Top	¾	11½″	8186-1.0	**2838K71**	446.84
1	1¼″ OD Top	1	11½″	8180-1.0	**2838K72**	446.84
1.5	¾″ OD Top	¾	11½″	8186	**2917K73**	439.75
1.5	1¼″ OD Top	1	11½″	8180-1.5	**2917K74**	439.75
Sloan Automatic ECOS Valves						
0.125	¾″ OD Top	¾	11½″	8186-0.125	**2838K81**	425.58
American Standard Manual Valves						
0.5	¾″ OD Top	¾	11½″	6045051.002	**9904T27**	154.29
1	¾″ OD Top	¾	11½″	6045101.002	**9904T25**	154.29
1	1¼″ OD Top	1	11½″	6045601.002	**9904T26**	154.29
American Standard Automatic Selectronic Valves						
0.5	¾″ OD Top	¾	11½″	6063051.002	**9904T15**	424.62
1	¾″ OD Top	¾	11½″	6063101.002	**9904T14**	424.62

Adjustable-Metering Urinal Flush Valves

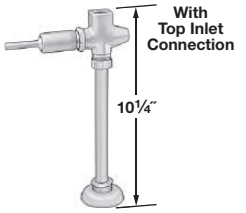

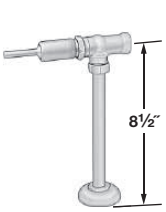

Set the water flow rate for these valves by adjusting the metering cartridge. Recommended for use with hard water, they're made of chrome-plated brass. Valves are ADA compliant when properly installed and meet ANSI A117.1.

	Connections		
Urinal, Compression	Inlet, NPT Female		
¾″ OD Top	½ Top	**3016K12**	$160.72
¾″ OD Top	½ Side	**3016K14**	167.78

Sloan Manual-to-Automatic Flush-Valve Converters



Turn your manual Sloan Royal or Regal flush valve into one that's touch-free with this sensor-activated converter. There's also a manual override button.

Select a valve with the same gallons per flush as your toilet or urinal. Converters come with a handle cap, gasket, installation wrench, screwdriver, and batteries. They're ADA compliant when properly installed and meet ANSI 117.1. UL listed and CSA certified.

Gallons per Flush	Sloan No.		
For Toilet Flush Valves			
1.28	RESS-C	**2834K54**	$341.89
1.6, 3.5, 4.5	RESS-C	**2834K51**	341.89
For Urinal Flush Valves			
0.5	RESS-U	**2834K53**	341.89
1, 1.5	RESS-U	**2834K52**	341.89

Handle-Mount Manual-to-Automatic Flush-Valve Converters



Slips-Over Handle



Replaces Handle

For touch-free flushing on your urinal or tankless toilet, attach these converters to your hand-operated Sloan and Zurn flush valve. They're activated by a motion sensor but also have a manual override option. They come with a wrench, a hex key, and batteries.

Tilt-down adapter adjusts 3747K21 for use with extra-clearance flush valves, angling the sensor down to detect users and prevent unintended flushes. Includes a gasket washer, adapter, push rod, and two sleeves.

	Ht.	Wd.	Dp.		
Slips-Over Handle	3¼″	4⅞″	3⅝″	**3747K31**	$214.06
Replaces Handle	3¼″	4½″	2¾″	**3747K21**	214.06
Tilt-Down Adapter for 3747K21				**3747K23**	23.27

Shower Stalls



Stainless Steel

Install these freestanding shower stalls anywhere you have a water connection. They have a center drain, a shower arm and head, plastic curtain with hooks, and built-in soap dish. Shipped unassembled.

Plastic stall has a 2″ quick-connect drain with strainer, a two-handle (hot/cold) valve, and a plastic handrail for support. Color is white.

Stainless steel stall offers the most corrosion resistance. Walls are 18 gauge; floor is 14 gauge. It has a 2″ slip-nut compression drain connection and a single-handle valve.

	Flow Rate, gpm	Ht.	Wd.	Dp.		
Plastic	2.5 @ 80 psi	75⅜″	32⅝″	32⅝″	**2791K51**	$279.00
Stainless Steel	1.5 @ 80 psi	78″	32″	32″	**3203K11**	2,285.50

Shower Drains and Stoppers



Shower Drain



Stopper

Shower Drains—Quickly install these drains into your shower—no caulk required. They fit over PVC and cast iron Schedule 40 size 2 pipe. Drains come with a nut, a ribbed rubber gasket, and a stainless steel strainer.

Stopper—Prevent clogs from ever forming. Push the top of this stopper 3 to 5 times to plunge and cut trapped material. Installation hardware is included, and no tools are required.

	Dia.	Ht.		
Shower Drains				
Plastic	4¼″	2″	**2160K6**	$10.38
Brass	4¼″	2″	**2160K8**	39.38
Stopper				
Plastic	2″	2″	**2160K17**	35.65

Stainless Steel Grab Bars





Floor-to-Wall
Right-Hand Mount



Floor-to-Wall
Left-Hand Mount

Provide safety and support for users with limited mobility. Made of 18-gauge stainless steel, bars come with 3″ dia. mounting flanges and hardware. ADA compliant when properly installed. Meet ANSI A117.1.

Toilet partition and **straight** bars extend 1½″ from the wall.

Floor-to-wall bars extend 30″ from the wall and are 33″ high.

	Smooth				*Textured*			
Lg.	1¼″ Dia.		1½″ Dia.		1¼″ Dia.		1½″ Dia.	
Toilet Partition Grab Bars								
48″	**2823K27**	$48.08	**3031K21**	$53.98	**30325K61**	$67.69	**30325K31**	$72.40
Straight Grab Bars								
12″	**2823K32**	21.13	**3031K11**	23.78	**30325K63**	30.98	**30325K33**	33.05
16″	**2823K33**	22.33	**3031K12**	25.58	**30325K64**	32.08	**30325K34**	35.30
18″	**2823K34**	23.42	**3031K13**	26.51	**30325K65**	34.40	**30325K35**	36.48
24″	**2823K35**	25.62	**3031K14**	29.13	**30325K66**	37.75	**30325K36**	40.40
36″	**2823K47**	27.96	**3031K27**	33.35	**30325K67**	39.07	**30325K37**	42.33
42″	**2823K48**	30.19	**3031K28**	35.02	**30325K68**	41.87	**30325K38**	46.04
48″	**2823K49**	32.48	**3031K29**	37.83	**30325K69**	45.31	**30325K39**	49.82
Floor-to-Wall Grab Bars								
Right-Hand Mount			**3031K41**	92.10			**30325K87**	112.80
Left-Hand Mount			**3031K43**	92.10			**30325K89**	112.80

Shower Heads


Basic


On/Off


Concentrated


Adjustable

For quick adjustment, the heads swivel on a ball joint. They're made of chrome-plated brass, except 3020K12 is chrome-plated brass and plastic. Connection is ½ NPT female.

Adjustable—Change the spray from a solid stream to a wide fan spray pattern.

Spray Style	Flow Rate @ 80 psi, gpm/lpm	Head Dia.		
Basic	2/7.6	2⅝″	3020K12	$16.32
On/Off	1.8/6.8	1″	3024K11★	13.96
Concentrated	2/7.6	1⅛″	2960K81	31.36
Adjustable	2.5/9.5	1½″	2697K7	37.56
Adjustable	2.5/9.5	2¼″	2697K2	67.33

★ This product cannot be sold in California.

Shower Head Pipes

Made of chrome-plated brass. Inlet and outlet connections are ½ NPT male.

Optional trim plate is chrome-plated zinc and 2¼″ diameter.


With Optional Trim Plate

Lg.		
6″	2706K41	$9.81
8″	2706K11	12.01
10″	2706K81	16.19
Optional Trim Plate	2706K91	.95

Utility Showers

The valve on this shower is made of chrome-plated metal and the riser pipe is zinc-plated metal. The shower head is chrome-plated plastic. Hot and cold water connections are ½ NPT female and mount on 3″ centers. Cannot be sold in California.

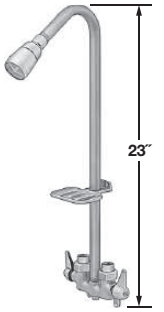

Flow Rate @ 80 psi, gpm/lpm		
2.5/9.5	2696K23	$57.86

Shower Valves

Maintain a precise water temperature and pressure with this scald-resistant valve. Valve is made of brass and measures 11⅜″ Ht. × 10¼″ Wd. Inlet and outlet connections are ½ NPT female. Meets ASSE 1016 T/P. Trim plate and handle are made of chrome-plated metal and measure 6½″ diameter. ADA compliant when properly installed.



4683K71		$149.48

Shower Curtains and Accessories

Shower Curtains

Curtains have metal grommets for durability. They're opaque white, except semi-clear vinyl.

Nylon and *coated polyester* curtains have weights in the bottom hems for added support.

Fiberglass curtains are flame resistant.

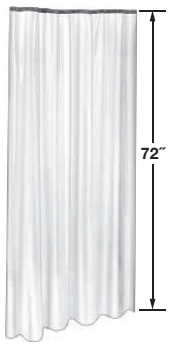

	36″ Wd. with 7 Grommets		48″ Wd. with 9 Grommets		72″ Wd. with 12 Grommets		108″ Wd. with 19 Grommets	
Standard								
Semi-Clear Vinyl	3029K1	$10.73	3029K5	$12.83	3029K2	$17.00	3029K4	$23.02
Vinyl	3638K1	10.73	3638K2	12.83	3638K3	17.00	3638K5	23.02
Nylon	3030K5	14.73	3030K1	20.98	3030K2	25.06	3030K4	37.17
Heavy Duty								
Cotton Canvas	3028K1	14.42	3028K5	19.06	3028K2	26.80	3028K7	39.52
Cotton/Polyester	2636K1	18.48	2636K4	22.80	2636K2	29.92	2636K3	42.76
Coated Polyester	2637K11	21.66	2637K13	28.50	2637K15	34.20	2637K18	49.74
Fiberglass	2501K41	28.66	2501K44	38.50	2501K42	47.70	2501K43	71.92

Shower Curtain Rods

Rods are 1″ diameter.

Stainless steel rods have 3¼″ dia. flanged ends and three 13⁄64″ dia. mounting holes.

Chrome-plated brass rods have 2¼″ dia. flanged ends and come with mounting hardware.



	Rods								Replacement Flanges (Set of 2)	
	36″ Lg.		48″ Lg.		60″ Lg.		72″ Lg.			
Stainless Steel	3021K11	$22.33	3021K13	$25.62	3021K14	$31.31	3021K16	$35.12	3021K18	$7.65
Chrome-Plated Brass	2707K1	35.85	2707K3	39.62	2707K4	62.26	2707K6	77.36	2707K8	10.13

Shower Curtain Hooks—All fit 1″ dia. rods.

	Pkg. Qty.		Pkg.
Zinc-Plated Steel	100	2708K3	$9.73
Brass-Plated Steel	10	2708K6	5.02
Stainless Steel	10	2708K9	13.69
Nickel-Plated Brass with Rollers	5	2708K8	12.07
Aluminum with Rollers	5	2708K7	10.43


Steel


Brass with Rollers


Aluminum with Rollers

Mirrors


Frameless


With Frame


With Frame and Shelf


ADA-Compliant Tapered Tilt


ADA-Compliant Adjustable Tilt

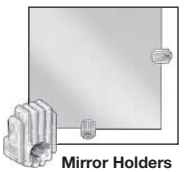
Mirror Holders

Glass Mirrors

These sturdy glass mirrors offer a crisp, clear reflection. They measure 1/4″ thick.

Frameless mirrors come with mounting hardware.

Mirrors with frame have 3/16″ dia. mounting holes, except 2869K have 1/4″ dia. mounting holes. Frame is metal. *ADA-compliant tapered tilt* mirrors are 4″ deep at the top and slope to 1″ deep at the bottom. *Adjustable tilt* mirrors can be angled downward. They mount from a hinged bracket and tilt up to 6″ from the wall.

Ht.	Wd.	Frameless		With Frame		With Frame and 5″ Dp. Shelf		ADA-Compliant Tapered Tilt with Frame		ADA-Compliant Adjustable Tilt with Frame	
18″	12″	2875K23	$26.75	2869K1	$69.75						
22″	16″	2875K25	38.17	2869K3	76.02	2877K3	$81.72				
24″	16″									2799K51	$97.98
24″	18″	2875K12	43.03	2869K4	78.13	2877K4	87.26			2799K53	100.92
24″	48″	2875K45	120.73	2869K33	150.39	2877K9	170.17				
30″	16″							2799K21	$143.88		
30″	18″	2875K41	51.46	2869K31	86.00	2877K6	96.02				
30″	24″	2875K7	75.83	2869K5	91.10	2877K7	101.55				
36″	18″							2799K23	185.65		
36″	24″	2875K22	79.38	2869K32	93.55	2877K5	115.82				

Damage-Resistant Plastic Mirrors

Use a fine-point drill or sharp blade to create mounting holes; apply masking tape to the entry point to minimize delamination. Mirrors are 1/8″ thick, except heavy duty and scratch-resistant mirrors are 1/4″ thick.

Acrylic scratch-resistant mirrors have hooks for wall mounting. Frame is metal.

Polycarbonate mirrors are shatter resistant.

		Acrylic								*Polycarbonate*			
Ht.	Wd.	Frameless		Heavy Duty Frameless		Adhesive-Backed Frameless		Scratch-Resistant with Frame		Frameless		Heavy Duty Frameless	
12″	12″	3052K19	$18.54	3052K29	$20.25	8344T51	$15.28	8541T63	$71.75	2912K21	$25.38	2912K41	$34.45
18″	12″	3052K11	19.84	3052K21	25.50					2912K22	40.10	2912K42	49.84
24″	18″	3052K12	39.52	3052K22	49.75	8344T52	43.86	8541T64	107.50	2912K23	80.22	2912K43	98.98
30″	24″	3052K13	50.88	3052K23	82.84					2912K24	133.14	2912K44	149.13
36″	24″	3052K15	55.75	3052K25	88.07	8344T53	89.00	8541T65	199.25	2912K26	136.79	2912K46	157.46
48″	36″	3052K14	123.75	3052K24	193.73					2912K25	266.59	2912K45	374.60

Damage-Resistant Metal Mirrors

Aluminum mirrors are almost as reflective as glass. They're 1/2″ thick and have 3/16″ dia. mounting holes. Frame is metal.

Stainless steel mirrors are the most durable mirrors we offer. *Frameless* mirrors are 5/16″ thick and have 7/32″ dia. mounting holes. Mirrors *with frame* are 1/4″ thick and have 9/32″ dia. mounting holes. Frame is metal.

		Aluminum		*Stainless Steel*		
Ht.	Wd.	Scratch-Resistant with Frame		Frameless		With Frame	
18″	14″			2989K42	$62.26	3036K12	$96.62
20″	16″			2989K43	70.46	3036K13	101.24
24″	18″	2808T14	$104.55	2989K44	86.16	3036K14	108.49
30″	24″	2808T16	149.09	2989K46	118.86	3036K16	150.19
36″	24″	2808T18	169.00	2989K48	140.74	3036K18	181.01
60″	24″			2989K51	240.10	3036K21	333.97

Clear Plastic Mirror Holders

Mount frameless mirrors to the wall with these clear plastic holders. *Holders without fasteners* require No. 6 screws.

	Pkg. Qty.	For 1/8″ Thick. Mirrors	Pkg.	For 1/4″ Thick. Mirrors	Pkg.
Holders with Fasteners	6	2800K45	$2.13	2800K46	$2.33
Holders without Fasteners	100	2800K51	12.38	2800K52	13.03

Lavatory Fixtures

Mount these hooks, towel bars, and soap dishes with No. 10 screws, unless noted.

Clothes Hooks

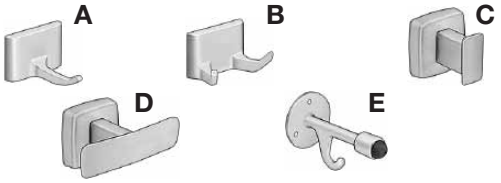

	Ht.	Wd.	Dp.	Material		
A	1 1/2″	2 1/8″	2 1/8″	Chrome-Plated Zinc	2864K1★	$5.03
B	1 1/2″	2 1/4″	1 1/2″	Chrome-Plated Zinc	2864K3★	5.60
C	2″	2″	2″	Stainless Steel	2376K78	7.67
D	2″	4″	2″	Stainless Steel	2376K79	8.95
E	2 1/2″	2″	3 3/4″	Chrome-Plated Brass	1776A4	46.28

★ Mounting hardware is included.

Square Towel Bars



Wd.	Dp.	Material		
18″	3 1/4″	Chrome-Plated Steel	2868K26	$12.05
18″	3 1/4″	Stainless Steel	2376K63	22.91
24″	3 1/4″	Chrome-Plated Steel	2868K27	13.93
24″	3 1/4″	Stainless Steel	2376K64	24.47
36″	3 1/4″	Chrome-Plated Steel	2868K29	16.43

Soap Dishes with Drain Holes



Wd.	Dp.	Material		
4″	3 1/4″	Chrome-Plated Zinc	2867K14★	$5.22
4 1/4″	4″	Stainless Steel	2376K51	10.97

★ Mounting hardware is included.

Stainless Steel Lavatory Shelves

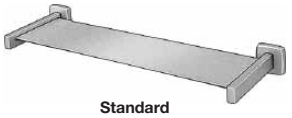
Standard


Heavy Duty


Heavy Duty with Backsplash

Lg.	Dp.		
Standard—Requires No. 10 screws for mounting			
18″	6⅛″	2376K6	$38.56
24″	6⅛″	2376K7	40.98
Heavy Duty—Mounting hardware included			
16″	5″	3026K21	43.05
18″	5″	3026K22	48.00
24″	5″	3026K23	55.43
36″	5″	3026K24	65.20
Heavy Duty (Cont.)			
48″	5″	3026K25	$77.85
Heavy Duty with 4″ Backsplash—Mounting hardware included			
16″	5″	3026K41	55.78
18″	5″	3026K42	61.20
24″	5″	3026K43	69.55
36″	5″	3026K44	84.05
48″	5″	3026K45	100.68

Toilet Paper

Dia.	Wd.	Lg.	No. of Ply	Core Size	Rolls/ Case		Case
Standard—Perforated rolls							
4″	4″	180 ft.	2	1½″	20	2669K23	$27.59
4″	4″	170 ft.	2	1½″	60	2669K24	75.87
Jumbo—Nonperforated rolls							
9″	4″	1,000 ft.	2	3¼″	4	29035K69	31.03
12″	4″	4,000 ft.	1	3¼″	6	2809K25	78.00

Tissues and Dispensers





Tissues (Box of 100)	54845T22	$2.01
Steel Wall-Mount Dispenser (Mounting screws included)	2193K11	15.64

Toilet Paper Dispensers


A


Key-Locking Spindle for Style A


B


Two Roll C


D


E


F


G


H

Mounting hardware included for *Styles D, F, G,* and *H*. **Style A** require mounting hardware. *Chrome-plated zinc* dispenser requires No. 8 screws; *stainless steel* dispenser requires No. 10 screws. **Styles B** and **C** have ¼″ dia. slotted holes. **Style E** have ¼″ dia. holes.

	No. of Rolls	Fits Roll Dia.	Material	Ht.	Wd.	Dp.	Dispensers		Replacement Spindles	
Standard										
A	1	5″	Chrome-Plated Zinc	1½″	8″	3⅛″	2863K12	$9.41	2863K42	$2.47
A	1	5½″	Stainless Steel	2″	7¾″	3⅞″	2863K41	18.88	2863K42	2.47
Optional Key-Locking Spindle									3095K11	7.49
Flow Control										
B	1	6″	Aluminum	1¾″	6½″	4″	2761K84	13.33	2761K88	6.40
Flow Control and Key Locking										
C	1	6″	Aluminum	1½″	6½″	4⅞″	2880K52	19.85	2880K57	6.50
C	2	6″	Aluminum	1½″	12½″	4⅞″	2880K51	28.23	2880K57	6.50
Key Locking										
D	3	4½″	Plastic	16⅞″	5⅛″	5⅝″	30825K33	72.11	_____	___
E	2	4½″	Stainless Steel	10⅜″	5⅝″	5¼″	2826K52	84.92	2826K2	6.13
E	3	4½″	Stainless Steel	15⅜″	5⅝″	5¼″	2862K22	139.40	2826K2	6.13
Key Locking for Jumbo Rolls										
F	1	12″	Plastic	14⅜″	16½″	4⅞″	2809K21	31.73	_____	___
G	2	9″	Plastic	11¾″	20½″	5⅜″	29035K71	30.80	_____	___
H	2	10″	Stainless Steel	11⅜″	20⅞″	5⅜″	29035K74	155.73	29035K75	6.30

Toilet Seat Covers and Dispensers

Easy-pull seat covers are folded. They're shipped in a package that includes four boxes of 250 covers each.

Push-tab seat covers are unfolded. They're shipped in a package that includes eight boxes of 125 covers. *Painted steel* dispensers are white.


Easy Pull


Push Tab

	Ht.	Wd.	Dp.	Dispensers		Seat Covers Pkg. of 1,000	
Easy Pull—Has 3/16″ dia. mounting holes							
Stainless Steel	11″	16″	2″	2825K51	$31.29	2825K71	$14.91
Push Tab—Mounting hardware included							
Painted Steel	13″	17″	2″	2736K14	32.73	2736K11	14.77
Stainless Steel	13″	17″	2″	2736K18	58.18	2736K11	14.77

Diaper-Changing Stations

Pull this plastic changing station open with one hand. It has a dispenser for liners (sold separately) and is ADA compliant when properly installed. Mounting hardware is included.



Ht.	Wd.	Dp.	Capacity, lbs.		
22¼″	35¼″	3¾″	50	2756K31	$310.13
Disposable Paper Liners (Pkg. of 500)				2756K22	51.31

Sanitary Napkin Containers and Liners



A


B


C


D


E

Style A have two self-closing push doors for placement between stalls. They come with a reusable plastic liner.
Style B has a hinged lid and base. It has 1/8″ dia. slotted mounting holes.
Style C has a hinged lid and a reusable plastic liner. Mounting fasteners included.
Style D has a hinged lid and 3/16″ dia. slotted mounting holes.
Style E come with adhesive strips for mounting.
Disposable liners are made of waxed paper, except for 28935K11, which is made of plastic.

	Material	Ht.	Wd.	Dp.	Containers Each		Disposable Liners Color	Pkg. Qty.		Pkg.
Napkin Containers										
A	White Painted Steel	11 3/4″	9″	9″	28935K2	$32.49	Red	250	28935K11	$10.48
A	Stainless Steel	11 3/4″	9″	9″	28935K7	48.33	Red	250	28935K11	10.48
Wall-Mount Napkin Containers										
B	White Painted Steel	10 1/2″	7 1/2″	4″	2861K1	26.62	Brown	100	2861K12	7.88
C	White Plastic	10 3/4″	12 1/2″	5 1/4″	2866K51	59.83	Brown	250	2866K52	18.06
D	Stainless Steel	9 3/4″	7 3/4″	4″	3027K12	44.78	Brown	100	2861K12	7.88
Wall-Mount Liner Dispensers										
E	White Painted Steel	10″	4 1/2″	2 1/8″	2820K51	15.04	White	250	2820K56	12.02
E	Stainless Steel	10″	4 1/2″	2 1/8″	2820K61	28.82	White	250	2820K56	12.02

Sanitary Napkin and Tampon Dispensers



Made of white painted steel, this dispenser has separate keys for the cabinet and coin compartments. Items are dispensed for one quarter; coins are rejected when the dispenser is empty.
Dispenser is 31 1/4″ Ht. × 10 3/4″ Wd. × 5 1/2″ Dp. It has 1/4″ dia. slotted mounting holes. It's ADA compliant when properly installed.

	Capacity Sanitary Napkins	Tampons		
Dispenser	17	26	2521K14	$247.74
Sanitary Napkins (Case of 250)			26865K51	81.59
Tampons (Case of 500)			26865K25	94.88

Hair Dryers

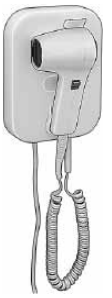

Nested in a wall-mount cradle, these two-speed hair dryers have a white plastic housing.
Both dryers operate on 120 volts AC, draw 12.8 amps, and have an appliance leakage circuit interrupter (ALCI). Dryers are ADA compliant when properly installed. Mounting hardware is included.
Plug-in dryer shuts off automatically when returned to the holder. It has a 24″ coiled cord that stretches to 55″ and a 31″ power cord with two-prong plug.
Hardwire dryer has a 10″ coiled cord that stretches to 8 feet.

	Ht.	Wd.	Dp.		
Plug In	8″	4″	3″	2804K43	$51.00
Hardwire	8″	4″	4″	2804K42	48.82

Wash Cloths and Towels



All are made of white terrycloth.

	Lg.	Wd.	Pkg. Qty.		Pkg.
Wash Cloths	12″	12″	10	2576K36	$11.76
Hand Towels	16″	30″	4	2576K35	14.33
Bath Towels	27″	50″	3	2576K33	22.13

Touch-Free Hand Dryers


Standard


Fast Dry White Plastic and Stainless Steel


Fast Dry White-Painted Steel

Reduce paper waste in your lavatory by installing one of these motion sensor-activated hand dryers. Designed to be hardwired, they have a circuit breaker with overload protection that resets automatically. Dryers are ADA compliant when properly installed and meet ANSI 117.1. UL and C-UL listed.
Standard models have 1/4″ dia. mounting holes.
Fast-dry models remove water from hands in 10 to 15 seconds—twice as fast as standard dryers. *White plastic* and *stainless steel* dryers have 5/16″ dia. mounting holes. *White painted steel* dryers have 1/4″ dia. mounting holes.

Material	AC Voltage	Amps	Ht.	Wd.	Dp.		
Standard							
White Plastic	120	12	9 3/8″	10 1/8″	5 5/8″	3019K64	$181.67
White Painted Steel	120-240	11.5	9 3/8″	10 1/8″	5 5/8″	2537K52	274.19
Stainless Steel	120-240	12.5	9 3/8″	10 1/8″	5 5/8″	2526K83	370.97
Fast Dry							
White Plastic	120	12.5	12 5/8″	11 3/4″	6 5/8″	3284K36	438.77
White Painted Steel	120-240	12.5	9 3/8″	10 1/8″	5 5/8″	3284K38	416.67
Stainless Steel	120	12.5	12 5/8″	11 3/4″	6 5/8″	3284K37	537.85

Paper Towels


A


B


C


D


E


F

Paper Towel Rolls

	Ply	Roll Wd.	Roll Dia.	Roll Lg.	Sheet Wd.	Sheet Lg.	Sheets per Roll	Core ID	Choose a Color	Rolls per Case		Case
Perforated Rolls												
A Household	1	11″	4¾″	90′	11″	8¾″	130	1½″	White	20	**4501T24**	$48.13
A Heavy Duty	1	10″	5¼″	120′	10″	11¼″	130	1½″	Blue	12	**9125T17**	174.80
Nonperforated Rolls												
B Standard	1	8″	5¼″	350′	—	—	—	2″	Tan, White	12	**30005K3**	45.98
B Standard	1	8″	5½″	400′	—	—	—	1½″	Tan, White	12	**30005K4**	47.33
B Standard	1	8″	7¾″	800′	—	—	—	2″	Tan, White	6	**30005K5**	54.90
Center-Pull Rolls												
C Standard	2	9″	7¾″	590′	9″	11¾″	600	2⅞″	White	6	**2278K15**	73.90
C Jumbo	2	9″	11¼″	870′	9″	13″	800	3⅛″	White	2	**2278K29**	63.04

Folded Paper Towels

	Ply	Folded Sheet Wd.	Folded Sheet Lg.	Open Sheet Wd.	Open Sheet Lg.	Sheets per Pack	Color	Packs per Case		Case
D Single Fold	1	9¼″	5½″	9¼″	10¼″	250	White	16	**2679K15**	$68.88
E Multifold	1	9¼″	3¼″	9¼″	9½″	250	White	16	**2679K13**	61.88
F C-Fold	1	10¼″	3½″	10¼″	13¼″	200	White	12	**2679K23**	47.20

Paper Towel Dispensers

Dispensers for Perforated Paper Towel Rolls

Designed for 11″ wide paper towel rolls with a 6″ maximum diameter.

Wall-mount dispenser is white-painted steel and has ¼″ × ¾″ mounting slots. **Bench-top** dispenser is stainless steel.


Wall Mount


Bench Top

	Ht.	Wd.	Dp.		
Wall Mount	3″	13¼″	4¾″	**4501T2**	$16.20
Bench Top	13¾″	7″ dia.	—	**4501T4**	20.00

Dispensers for Nonperforated Paper Towel Rolls


Crank Handle


Push Bar


Touch Free

Dispensers have a key-locking cover and come with mounting hardware. They accommodate 8″ wide paper towel rolls with an 8″ maximum diameter, unless noted.

Crank-handle dispenser also fits 8½″, 9″, and 9½″ wide rolls.

Push-bar dispensers have a two-roll capacity. ADA compliant when properly installed.

Touch-free dispenser releases a towel when motion is detected; sheet length is adjustable. Requires four D batteries. ADA compliant when properly installed.

Ht.	Wd.	Dp.	Material		
Crank Handle					
11⅞″	11¾″	8⅝″	White Painted Steel	**37095K64**	$53.31
Push Bar					
15¾″	10½″	8¾″	White Plastic	**3633K48**	58.44
15¾″	10½″	8¾″	Dark Gray Plastic	**3633K47**	58.44
Touch Free					
15″	11¼″	9¼″	Dark Gray Plastic	**3500K13**	114.83
D Batteries (Pkg. of 6)				**71455K55**	7.32

Dispensers for Center-Pull Paper Towel Rolls

These center-pull dispensers release one towel at a time. Made of plastic, both have a key-locking cover and come with mounting hardware. They're ADA compliant when properly installed.


Standard


Jumbo

	Ht.	Wd.	Dp.	Color		
Standard	14⅜″	9⅜″	9″	Black	**2278K19**	$28.49
Jumbo	17⅝″	12⅞″	11⅞″	Black/Red	**2278K21**	34.88

Dispensers for Folded Paper Towels


Single Fold


Multifold / C-Fold

All have a key-locking cover. Mounting fasteners are included, except for *stainless steel* dispensers *(single-fold* dispenser requires No. 8 screws; *multifold/C-fold* dispenser requires No. 10 screws).

Single-fold dispensers hold 400 single-fold towels.

Multifold/C-fold dispensers hold 525 multifold towels or 400 C-fold towels.

	Single-Fold Dispensers Ht.	Wd.	Dp.			Multifold / C-Fold Dispensers Ht.	Wd.	Dp.		
White Painted Steel										
	7½″	12⅞″	6½″	**3009K3**	$31.30	15⅜″	11¼″	4″	**3012K1**	$33.65
Chrome-Plated Steel										
	7½″	12⅞″	6½″	**3009K4**	40.56	15⅜″	11¼″	4″	**3012K2**	52.74
Stainless Steel										
	7½″	12¼″	6″	**3009K5**	100.65	14″	10¾″	4″	**3012K4**	52.32

Combo Waste Containers/Dispensers for Multifold Paper Towels

Offer paper towels and a place to discard them with these stainless steel wall-mount dispensers with an attached waste container.

They hold 800 multifold paper towels; the waste container is removable and holds 12 gallons. There's a separate key-locking cover on the dispenser and waste container.

Both units have 7/32″ dia. mounting holes. They're ADA compliant when properly installed and meet ANSI 117.1.

Recessed model requires a wall opening that measures 54¾″ Ht. × 16″ Wd. × 4″ Dp.


Recessed

	Ht.	Wd.	Dp.		
Recessed	56″	17¼″	4⅛″	**2688K32**	$294.79
Surface Mount	56¼″	17½″	8¼″	**2688K42**	450.10

Nail Brush



Scrub out the dirt trapped under your nails. This brush has plastic bristles and a wood handle. It's 4 3/8" long.

7247T3		$1.96

Bar Soap



	Bar Size, oz.	Pkg. Qty.		Pkg.
Ivory	4	4	7385T14	$4.44
Safeguard	4	4	73845T29	4.43
Lava	5.75	2	7379T63	3.58

Purell Hand Sanitizers

Hand sanitizer works without water or rinsing, killing 99.99% of common germs and bacteria. It's alcohol based and dries instantly.

4-oz. Liquid Flip Top Bottle	64235T31	$2.96
12-oz. Liquid Pump Bottle	64235T33	7.57
18-oz. Foam Pump Bottle	64235T11	23.28
Package of 40 Wipes—Individually Wrapped	6195T22	7.74
Pail of 175 Wipes	6195T21	9.93

Powdered Soap and Dispensers



1-lb. Container



Oval Dispenser



Rectangular Dispenser

Powdered soap is noncaking and lathers quickly to remove grease and grime. It's made with Borax.

Dispensers are stainless steel and have a key-locking cover. Mounting fasteners are included.

Powdered Soap		
1-lb. Container	6371T65	$6.85
5-lb. Box	6371T64	13.53
Dispensers		
32-oz. Cap. Oval (7 1/8" Ht. x 4 1/2" Wd. x 4 5/8" Dp.)	27825K32	29.20
32-oz. Cap. Rectangular (8 1/8" Ht. x 4 7/8" Wd. x 2 7/8" Dp.)	27825K42	42.53

Waterless Soap and Dispensers



14-oz. Container



4.5-lb. Container with Optional Dispenser

Wipe away dirt, grease, and tar with this moisturizing gel soap—no need for water. Soap has a floral scent.

Soap with scrubbing grit removes embedded grime, dried putty, and adhesives.

Dispenser for 4.5-lb. containers mounts to the wall (fasteners included). It's made of black plastic and is 8 11/16" Dp.

Soap		
14-oz. Container	7478T41	$4.12
4.5-lb. Container	7478T42	16.38
Soap with Scrubbing Grit		
14-oz. Container	7070T41	4.38
4.5-lb. Container	7070T42	19.50
Dispenser		
For 4.5-lb. Containers	7070T14	18.50

Lotion, Liquid, and Gel Soap



Squeeze Bottle



1-gal. Pump Bottle with Optional Wall-Mount Bracket



Flat Top Bottle (63275T8) with Optional Pump Dispenser



Flat Top Bottle (7113T15) with Optional Pump Dispenser



Pour Bottle

Keep hands clean throughout the workplace.

Heavy duty with scrubbing grit cuts through the toughest dirt, tar, sealants, and water- and oil-soluble cutting fluids.

Paint- and resin-removing soap offers an alternative to thinners and solvents. It removes urethane- and oil-based paint, varnish, and lacquer.

Heavy-metal removing soap reduces the risk of contamination by scrubbing away lead, nickel, cadmium, cobalt, mercury, zinc, copper, and silver.

Wall-mount brackets for 1-gal. pump bottles come with fasteners. They are 6" Ht. x 9" Wd. x 6" Dp.

Pump dispenser for 63275T8 is 17" Ht. x 7" Wd. x 6 3/4" Dp.

Pump dispenser for 7113T15 is 17 1/4" Ht. x 4" Wd. x 9 1/2" Dp.

Lotion Soap		
Standard—Citrus-Orange Scent		
14-oz. Squeeze Bottle	71235T72	$4.40
1/2-gal. Pump Bottle	71235T74	14.78
1-gal. Pump Bottle	71235T73	24.18
Wall-Mount Bracket for 71235T73	71275T71	28.95
Standard with Scrubbing Grit—Citrus-Orange Scent		
14-oz. Squeeze Bottle	63275T22	4.87
1/2-gal. Pump Bottle	63275T54	15.51
1-gal. Pump Bottle	63275T33	24.98
1-gal. Flat Top Bottle	63275T8	21.74
Wall-Mount Bracket for 63275T33	71275T71	28.95
Pump Dispenser for 63275T8	71275T4	37.62
Antimicrobial—Floral Scent		
1-gal. Pour Bottle	7113T21	12.76
1-gal. Flat Top Bottle	7113T15	13.67
Pump Dispenser for 7113T15	71275T62	56.34
Antibacterial with Moisturizer		
12-oz. Pump Bottle	6330T85	5.90
1-gal. Pour Bottle	6330T76	20.84
Heavy Duty with Scrubbing Grit		
14-oz. Squeeze Bottle	7026T11	6.43
1/2-gal. Pump Bottle	7026T12	19.91
Paint-and Resin-Removing		
5-oz. Squeeze Tube	69875T11	6.95
22-oz. Squeeze Bottle	69875T13	23.34
Liquid Soap		
Standard—Floral Scent		
1-gal. Pour Bottle	7376T12	11.07
5-gal. Pail	7376T14	48.02
Heavy-Metal Removing		
8-oz. Squeeze Bottle	7724T24	4.62
32-oz. Pour Bottle	7724T25	9.50
1-gal. Pour Bottle	7724T26	23.51
Gel Soap		
Standard with Scrubbing Grit—Cherry Scent		
10-oz. Squeeze Bottle	63275T41	5.80
1-gal. Pump Bottle	63275T42	30.46
Wall-Mount Bracket for 63275T42	71275T71	28.95

Antibacterial Foam Soap



Pump Bottle



Pour Bottle

Offering more hand washes than liquid soap, this foam soap produces an instant lather that resists the growth of bacteria.

Pump bottles are filled with orange citrus-scented soap.

Pour bottle is used to refill the pump bottles. It's filled with floral-scented soap.

7.5-oz. Pump Bottle	4681T23	$4.78
18-oz. Pump Bottle	4681T22	11.37
1-gal. Pour Bottle	4681T19	23.34

Soap Dispensers

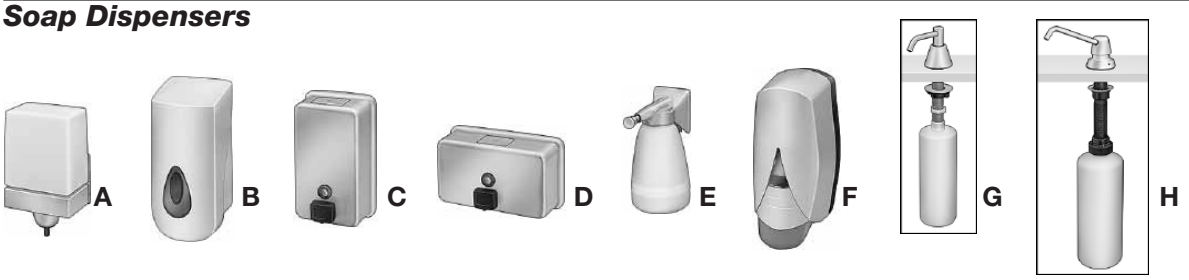

Save counter space in your lavatory with these dispensers. They're ADA compliant when properly installed, except Style H. Mounting hardware is included.

(A-F) Wall Mount

Styles B, C, D and **F** have a key-locking cover.

	Cap., oz.	Material	Ht.	Wd.	Dp.		
For Lotion and Liquid Soap							
A	24	Plastic	7 5/8"	4"	4 1/8"	2886K41	$19.22
B	30	Plastic	9 3/4"	4 1/2"	4 1/2"	70365T6	38.19
B	68	Plastic	12 1/8"	5 1/2"	5 3/4"	70365T4	68.60
C	40	Stainless Steel	8 1/8"	4 3/4"	4"	2777K1	50.82
D	40	Stainless Steel	4 3/4"	8 1/8"	4"	2777K3	50.82
For Liquid Soap							
E	16	Brass/Plastic	6 1/2"	3 3/8"	5 1/8"	2950K61	25.08
E	32	Brass/Plastic	9"	3 3/8"	5 1/8"	2950K62	27.45
For Foam Soap							
F	34	Plastic	10 1/4"	4 1/2"	4 1/2"	70365T11	32.78

(G&H) Deck Mount

The stainless steel spout on these dispensers attaches to a plastic reservoir concealed beneath the counter. All have a key-locking reservoir.

	Cap., oz.	Material	Spout Lg.	Spout Ht.	Countertop Max. Thick.	Countertop Hole Dia.	Reservoir Dia.	Reservoir Ht.		
For Lotion and Liquid Soap										
G	20	Plastic	4"	2 3/4"	3 1/2"	7/8"	2 3/4"	7 1/2"	2773K1	$41.02
H	34	Plastic	4"	3"	4"	1"	3 5/16"	14 5/8"	2528K15	43.77
H	34	Plastic	6"	3 7/8"	4"	1"	3 5/16"	9 9/16"	2528K24	51.11

Touch-Free Soap Dispensers

Place your hands beneath these sensor-activated dispensers to release a single squirt of soap. They're ADA compliant when properly installed. Mounting hardware is included.

Wall-mount dispensers have a key-locking cover that shuts off power when opened.

Dispenser *for lotion and liquid soap* requires three C batteries; dispenser *for foam soap* requires four C batteries and has a low-battery indicator.

Deck-mount dispenser comes with a bottle of soap and four D batteries. A light indicates when the battery and soap levels are low.

Soap refills come with a pump and delivery tube. Each bottle provides approximately 1,000 hand washes.



Wall Mount for Lotion and Liquid Soap



Wall Mount for Foam Soap



Deck Mount

Wall Mount

	Cap., oz.	Material	Ht.	Wd.	Dp.		
For Lotion and Liquid Soap							
	27	Plastic	10 1/2"	4 1/2"	4 1/2"	8961T14	$69.98
For Foam Soap							
	33	Plastic	10 3/4"	5"	4"	8961T15	62.27
C Batteries (Pkg. of 6)						71455K54	6.49

Deck Mount

	Cap., oz.	Material	Spout Lg.	Spout Ht.	Countertop Max. Thick.	Countertop Hole Dia.	Reservoir Dia.	Reservoir Ht.		
For Lotion Soap										
	27	Plastic	5 1/2"	4"	2"	1"	3 1/4"	6 5/8"	8429K11	$124.56
Moisturizing Lotion Soap Refill—27-oz. bottle									8429K21	10.13
Antibacterial Lotion Soap Refill—27-oz. bottle									8429K22	9.79

Replacement Soap Dispenser Valves

Valves are made of chrome-plated brass.

Gravity-flow valves for reservoirs work with gravity-fed soap systems with a central reservoir tank.

Connection	Lg.		
Pump Valve for Dispensers			
3/4"-27 UNS Male	4 1/4"	2777K8	$17.28
Gravity-Flow Valves for Reservoirs			
3/8 NPT Female	3 1/2"	2783K24	36.09
3/8 NPT Male	3 1/2"	2783K26	33.73



Pump Valve



Gravity-Flow Valve with Female Connection



Gravity-Flow Valve with Male Connection

Soap Cartridges & Dispensers

Gojo Soap, Sanitizer, and Moisturizer Cartridges and Dispensers

Drop one of these filled cartridges into the corresponding dispenser (sold separately) for convenient, no-mess dispensing.

Dispensers come with foam tape for wall mounting. They're ADA compliant when properly installed.











	800 ml/27 oz.			2,000 ml/67 oz.			2,000 ml/67 oz.			5,000 ml/169 oz.		
		Each	Pkg. of 12		Each	Pkg. of 4		Each	Pkg. of 4		Each	Pkg. of 2
Soap and Sanitizer Cartridges												
Lotion Soap	7143T115	$9.76	$105.48	71755T125	$17.98	$64.72						
Antibacterial Lotion Soap	7143T295	9.79	105.72	71755T135	19.36	69.68	71755T495	$14.65	$52.72	7532T875	$29.85	$53.62
Shower Lotion Soap	7143T185	9.46	102.12	71755T145	19.13	68.84	71755T485	17.94	64.60	7532T835	37.75	67.82
Food Industry Sanitizing Soap	7143T195	10.44	112.80	71755T155	20.11	72.40	71755T395	25.09	90.32	7532T825	51.13	91.84
Hand Sanitizer	7143T325	12.62	136.32	71755T165	26.78	96.40						
Soap with Scrubbing Grit Cartridges												
Orange Lotion Soap							71755T675	22.25	80.08	7532T855	45.34	81.46
Green Citrus Lotion Soap	7143T275	11.88	128.28				71755T475	26.53	95.52	7532T815	54.07	97.14
Cherry Gel Soap							71755T115	27.51	99.04	7532T115	56.07	100.72
Heavy Duty Lotion Soap							7667T215	27.76	99.96	7667T225	55.53	99.96
Extra-Heavy Duty Lotion Soap							71755T755	27.28	98.20	7532T935	55.59	99.88
Dispensers	7143T66★	19.83		71755T31	16.00		71755T212	19.64		7532T51	21.00	
Hand Moisturizer Cartridge—500 ml/17 oz.								7143T79	1-5 $16.36		6-Up $14.73	

★ **To Order:** Please specify black or white.

Gojo Foam Soap Cartridges and Dispensers

Foam soap produces an instant lather and offers more hand washes per ounce than liquid soap. Drop one of these filled cartridges into the corresponding dispenser (sold separately) for convenient, no-mess dispensing.

Dispensers have a key-locking cover and come with foam tape for wall mounting. They're ADA compliant when properly installed. The *1,200-ml dispensers* are touch free and include batteries.











	1,200 ml/40 oz.		1,250 ml/42 oz.		1,250 ml/42 oz.		2,000 ml/67 oz.	
Cartridges								
Standard	4681T21	$32.93	4681T16	$23.27	4681T25	$22.28	4681T31	$34.55
Antibacterial	4681T24	36.23	4681T17	25.61	4681T26	24.52	4681T32	38.02
Food Industry Sanitizing			4681T18	35.83			4681T54	49.70
Dispensers	4681T35	17.86	4681T34	26.79	4681T36	10.71	4681T41	26.79

Kimberly-Clark Cartridges and Dispensers

Pair one of these filled cartridges with the dispenser (sold separately) for convenient, no-mess dispensing.

Dispensers come with a mounting bracket and tape for wall mounting. They're ADA compliant when properly installed.



Cartridge

	1,000 ml/33 oz.		
		1-5	6-Up
Cartridges			
Lotion Soap	8882T32	$9.58	$8.62
Antibacterial Liquid Soap	8882T33	10.32	9.29
Hand Sanitizer	8882T34	17.45	15.70
Dispenser	8882T39	6.67	

Stoko Cartridges and Dispensers

Insert a filled cartridge into the dispenser (sold separately) for convenient, no-mess dispensing.

Dispensers come with foam tape and mounting hardware. They're ADA compliant when properly installed.



Cartridge



	2,000 ml/67 oz.		
		1-5	6-Up
Cartridges			
Heavy Duty Lotion Soap with Scrubbing Grit	6596T32	$26.12	$23.51
Extra-Heavy Duty Lotion Soap with Scrubbing Grit	6596T33	29.87	26.89
Extra-Heavy Duty Cherry Lotion Soap with Scrubbing Grit	6596T31	30.55	27.50
Dispenser	6596T34	9.95	

Purell Hand Sanitizer Cartridges and Dispensers

Insert these filled cartridges into the dispenser (sold separately) for convenient, no-mess dispensing.

Dispensers are plastic and have a key-locking cover. They come with foam tape for wall mounting and are ADA compliant when properly installed. *10 3/4″ high touch-free* dispenser includes batteries. *10 1/2″ high touch-free* dispenser requires three C batteries (not included).



	Cartridge		Touch Free		Touch Free	
	1,200 ml/40 oz.		1,200 ml/40 oz.		1,200 ml/40 oz.	
Cartridges						
Liquid	64235T19	$22.17	64235T13	$23.89	64235T16	$24.94
Foam	64235T18	37.89	64235T12	52.22	64235T15	51.82
Dispensers	64235T21	9.78	64235T14	16.30	64235T46	27.26

Protective Hand Cream and Foam

For quick clean up, apply this cream or foam to your hands before working with oil-based chemicals, solvents, dyes, and paint.



Cream—3.4-oz. Tube	7413T34	$9.11
Foam—17.5-oz. Aerosol	7413T19	18.19

Moisturizers

Protect your hands against dry skin. Made with aloe and vitamin E, this creamy moisturizer absorbs quickly without a greasy residue.



5-oz. Tube	7149T41	$4.38
16-oz. Pump Bottle	7149T42	13.72

Self-Closing Water Supply Valves

Waste no water with this chrome-plated brass valve. Turn the handle to start the flow of water; release the handle and the valve shuts off. Inlet and outlet connections are 1/2 NPS female. Valve meets NSF/ANSI Standard 61 for use with drinking (potable) water.

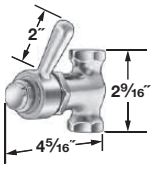

2854K38 ..... $69.52

Drinking Fountain Replacement Parts

	Mfr. Number		
Elkay/Halsey-Taylor			
Thermostat	31513C	30045K99	$22.70
Inline Strainer	55996C	30045K76	14.40
Regulator Assembly	60290C	30045K77	37.14
Regulator Kit for Push-Button Activated Water Coolers	98731C	30045K31	33.14
Regulator Kit for Push-Bar Activated Water Coolers	98732C	30045K32	33.14
Push-Button and Regulator Assembly Kit	98536C	30045K33	42.64
Elkay			
Filter Cartridge	51299C	28745K93 ★	80.91
Oasis/Sunroc			
Drinking Nozzle Handle	013429	2992K15	9.40
Activation Cartridge	029967-005	30045K81	32.36
Stem Assembly	013059-005	2992K21	36.88
Thermostat	027040-039	2992K17	29.34
Nozzle Assembly	030029-005	2992K18	29.17
Drinking Nozzle Assembly	030774-006	29025K1	124.38

★ This product cannot be sold in Iowa.

Citrus Orange Hand Wipes



Package | Pail | Box

With these citrus-scented disposable towels on hand, you can wash up quickly without soap or water. Wipes remove tough grease and grime without drying out your skin.

Package of 60	1418T31	$13.77
Pail of 72	1418T25	18.38
Pail of 130	1418T32	31.11
Pail of 225	1418T53	44.31
Box of 80—Individually Wrapped	1418T29	34.79

Antistatic Moisturizers

Prevent static buildup and improve contact with grounding devices such as wrist and heel straps. Made with aloe and vitamins A and E, it conditions your skin without a greasy residue.



Pump Bottle

8-oz. Pump Bottle	7382T2	$8.43
1-gal. Flat Top Bottle	7382T3	68.82
Pump Dispenser for Flat Top Bottle	4249K32	3.55

Paper Cups and Dispensers



Adjustable-Diameter Dispensers

Keep cups conveniently close to your water supply with this stainless steel wall-mount dispenser. The cut-out window reveals when a refill is needed. Mounting hardware is included.

For Cup Diameter	Dispenser Height		
2″-2 3/4″	15 3/4″	2936K32	$18.84
2 5/8″-3 1/8″	17 1/4″	2936K31	22.23

Coated Paper Cups



Cup | V-Cup

	Cup Dia.	Cap., oz.	Pkg. Qty.		Pkg.
Cup	2 1/2″	5	100	2713K33	$7.11
V-Cup	2 7/8″	4 1/2	200	2713K31	4.80

Drinking Fountain Nozzles

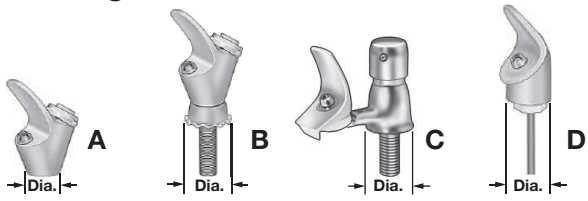

Also known as bubblers, these nozzles meet NSF/ANSI Standard 61 for use with drinking (potable) water.

Styles A-C have a push-button valve with flow regulator. They're made of chrome-plated brass.

Style B nozzle has a 4″ long connection shank.

Style C has a flexible, beige plastic mouth guard to protect against injuries. It comes with a 2″ long connection shank and is ADA compliant when properly installed.

Style D comes with a 1/4″ copper tube for connection to your water supply. It's made of chrome-plated plastic and has a flexible, beige plastic mouth guard to protect against injuries.

	Inlet Connection	Dia.	Nozzles		Replacement Flow Regulators	
A	3/8 NPS Female	1 3/4″	2852K23	$61.22	2852K154	$22.27
B	3/8 NPS Male	1 3/4″	2852K21	86.08	2852K154	22.27
C	1/2 NPS Male	2″	28805K44	162.71	30045K31	33.14
D	3/8 NPS Male	1 5/8″	28805K42	33.72		

Refrigerated Drinking Fountains


A


B


C


D


E


F


G


H


J

Cool down with these refrigerated hydration stations. They have a heavy duty stainless steel basin and flexible plastic drinking nozzle, except Style J nozzle is chrome-plated brass.

Fountains operate on 120 volts AC and have a cord with plug. Factory set at 50° F, temperature is adjustable. Water inlet connection is an unthreaded 3/8″ OD copper tube; drain outlet connection is 1 1/4″ OD.

All fountains meet NSF/ANSI Standard 61 for use with drinking (potable) water and are CSA certified. They're also UL and C-UL listed, except Style E is certified to UL 399.

Fountains **with filter** reduce the lead and chlorine content from drinking water. Change the filter cartridge every 1,500 gallons.

Wall-mount fountains (Styles A-E) come with mounting brackets; see table for fasteners required. *Style E* has a sensor-activated filtered water station for filling glasses and bottles. Top panel indicates filter status.

Extreme duty fountain (Style J) is designed for humid and high-temperature environments. Housing is stainless steel and the internal components are coated for corrosion resistance.

	Cap., gph	Ht.	Wd.	Dp.	Amps	Mounting Hole Dia. (No.)	Cabinet Material		
Wall-Mount Drinking Fountains									
Standard									
A	3	15″	15 3/4″	13″	2	3/8″ (5)	Tan Painted Steel	3000K73	$560.61
A	7.6	29 1/2″	18″	14 1/2″	4	5/16″ (6)	Gray Painted Steel	2873K21	658.58
A	13.5	29 1/2″	18″	14 1/2″	7.2	5/16″ (6)	Gray Painted Steel	2873K22	682.71
Standard with Filter									
A	4	29 1/2″	18″	14 1/2″	3.3	5/16″ (6)	Gray Painted Steel	28745K34 ★	763.91
Replacement Filter Cartridge for Standard Drinking Fountain								28745K93 ★	80.91
Low Profile									
B	7.8	37″	18″	9 1/2″	4	1/4″ (2), 5/16″ (6)	Stainless Steel	2741K55	725.71
ADA Compliant									
C	8	18 7/8″	18 3/8″	19″	4	9/32″ (6), 7/16″ (3)	Gray Painted Steel	7145K13	497.74
C	8	18 7/8″	18 3/8″	19″	4	9/32″ (6), 7/16″ (3)	Stainless Steel	7145K15	548.33
D	7.6	23 7/8″	18″	18 3/4″	4	5/16″ (6), 1/4″ (2)	Gray Painted Steel	2999K91	684.04
D	7.6	23 7/8″	18″	18 3/4″	4	5/16″ (6), 1/4″ (2)	Stainless Steel	2999K92	793.80
ADA Compliant with Filter and Touch-Free Glass/Bottle Filler									
E	8	39 1/16″	18″	19″	4.2	1/4″ (6), 9/32″ (9), 7/16″ (3), 7/16″ × 3/4″ (6)	Gray Painted Steel	7145K16 ★	1,120.00
Freestanding Drinking Fountains									
Compact									
F	3	38 7/8″	12″	12″	2.5	_____	Tan Painted Steel	2742K81	566.67
F	5	38 7/8″	12″	12″	2.5	_____	Tan Painted Steel	2841K31	608.33
F	9.8	38 7/8″	12″	12″	5.8	_____	Tan Painted Steel	2841K33	614.55
Compact with Filter									
F	3	38 7/8″	12″	12″	2.5	_____	Tan Painted Steel	27005K65 ★	544.72
F	9.8	38 7/8″	12″	12″	5.8	_____	Tan Painted Steel	27005K71 ★	764.88
Replacement Filter Cartridge for Compact Drinking Fountains								28745K93 ★	80.91
Foot Operated									
G	4	41 1/2″	18″	14 1/2″	2.5	_____	Gray Painted Steel	2872K17	629.00
G	7.6	41 1/2″	18″	14 1/2″	4	_____	Gray Painted Steel	2872K11	699.03
G	13.5	41 1/2″	18″	14 1/2″	7.2	_____	Gray Painted Steel	2872K12	819.31
G	19.5	41 1/2″	18″	14 1/2″	7.2	_____	Gray Painted Steel	2872K13	864.74
Foot Operated with Glass/Bottle Filler									
H	7.6	41 1/2″	18″	14 1/2″	4	_____	Gray Painted Steel	2872K19	720.46
Extreme Duty									
J	16	41 3/8″	18″	14 1/2″	6.5	_____	Stainless Steel	29025K42	1,592.86

★ This product cannot be sold in Iowa.

Nonrefrigerated Drinking Fountains

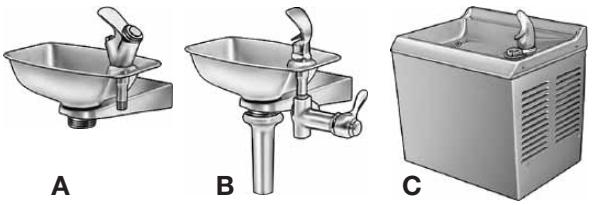

Connect to a water source and these fountains are ready to flow. For cold water, attach a remote water chiller (sold below). Fountains meet NSF/ANSI Standard 61 for use with drinking (potable) water.

Styles A and **B** are stainless steel with a chrome-plated brass drinking nozzle. Basin measures 3″ Ht. × 10″ Wd. × 6″ Dp.

Style B has a 1¼″ Dia. × 4″ Lg. tailpiece.

Style C mounts to the wall with an included bracket. It has a stainless steel basin, a gray painted steel cabinet, and a flexible plastic drinking nozzle. It measures 15″ Ht. × 15¾″ Wd. × 13″ Dp. The mounting bracket has five ⅜″ dia. mounting holes.

	Connections: Inlet	Outlet		
A	Indoor/Outdoor	⅜ NPT Male	1½″ OD	**2789K75** $254.10
B	Indoor/Outdoor	⅜ NPT Female	1¼″ OD	**2789K74** 390.16
C	Indoor	⅜″ OD	1¼″ OD	**2789K76** 401.64

Glass and Bottle Fillers

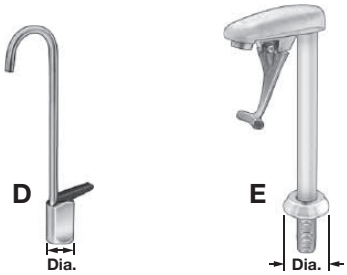

Get your fill with these high-clearance spouts that easily attach to a water source. They're chrome-plated brass with a plastic push lever, and they shut off instantly when the lever is released. Meet NSF/ANSI Standard 61 for use with drinking (potable) water.

Style D is for use with cold and hot water.

Style E is for use with cold water.

	Inlet Connection	Dia.	Ht.	
D	⅜ NPS Female	1¼″	9⅝″	**2942K56** $53.48
E	½ NPT Male	2″	9 5/16″	**2853K4** 108.77

Water Chillers

When you need your nonrefrigerated drinking fountains to chill, attach one of these heavy duty chillers and they'll provide cold water. You can also install a glass filler or drinking fountain nozzle directly to the unit.

Made of galvanized steel for corrosion resistance, chillers are factory set at 50° F but can be adjusted.

Chillers operate on 120 volts AC and have connections for hard-wiring. For proper ventilation, allow 6″ clearance in front of the unit and 3″ behind the unit (unless noted). They're UL listed and meet NSF/ANSI Standard 61 for use with drinking (potable) water.


1.5-Gallon Capacity


9.6-Gallon Capacity

Cap., gph	No. of Fountains/ Fillers Served	Lg.	Wd.	Ht.	Connections: Inlet Tube OD	Outlet Tube OD	Motor hp	Amps		
1.5	1	17″	7″	14″	¼″	¼″	1/18	1.7	**3521K25**	$442.86
2.5	1	13½″	10½″	15¾″	¼″	¼″	1/20	2.1	**3521K27**	457.14
9.6	2	19½″	7⅞″	22″	⅜″	⅜″	¼	5.8	**3521K32**	771.43
19	3	23″	10¼″	25¾″	⅜″	⅜″	½	9.2	**3521K36**	1,497.97
29.5	3	33¼″	13¾″	16″	⅜″	⅜″	¾	14	**3521K33** ★	1,607.14

★ Requires 6″ of clearance in the front as well as the back.

Water Dispensers

Provide drinking water wherever it's needed. These beige plastic dispensers operate on 120 volts AC and include a cord with plug. For proper ventilation, allow 4″ on each side and 6″ behind the dispenser. They're UL listed and C-UL listed and meet NSF/ANSI standards for use with drinking (potable) water.

Bottled-water dispensers do not require a plumbing hookup. The reservoir detaches for quick cleaning. Bottle sold separately.

Inline-water dispensers draw directly from your water supply. They include a ¼″ OD plastic inlet connection.

Water Temperature Options	Cap., gph	Ht.	Wd.	Dp.	Amps	Bottled-Water Dispensers		Inline-Water Dispensers	
Room Temp./Cold	1	38¾″	13⅛″	13⅛″	1.2	**2839K31**	$295.56	**28025K3**	$395.83
Hot/Cold	1	38¾″	13⅛″	13⅛″	5.1	**2839K33**	403.33	**28025K5**	491.99
Empty Water Bottle—5-Gallon Capacity								**3001K21**	23.47
Caps for Water Bottles (Pkg. of 50)								**3001K25**	14.30
Spout Seal								**28025K74**	2.63
Replacement Spout—White Lever								**28025K71**	13.89
Replacement Spout—Blue Lever								**28025K72**	13.89
Replacement Spout—Red Lever								**28025K73**	18.31


Bottled-Water Dispenser


Inline-Water Dispenser


Repl. Spout

Lavatory Faucets


A



B


C


D

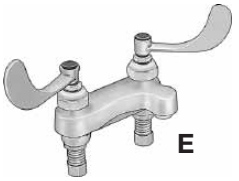
E


F


G

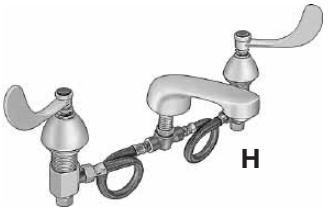
H

Made of chrome-plated metal, all faucets have a fixed spout with an aerator. They meet NSF/ANSI Standard 61 for use with drinking (potable) water. They cannot be sold in California, unless noted. ADA compliant when properly installed, except Styles C and F.

Style A includes a 1/4 NPT male adapter.
Style F mounts through walls (up to 3/4″ thick) and onto sinks requiring a back-mounted faucet.

	For Water Temperature	Inlet Connection Size	Inlet Connection Ctr.-to-Ctr.	Flow, gpm/lpm	Spout Lg.	Faucets Mounting Holes			Faucets with Pop-Up Drain Mounting Holes			Repl. Cartridges Hot	Repl. Cartridges Cold	
A	Hot	1/2 NPS Male	—	1.5/5.7	4 1/8″	1	2933K51■	$83.82	—	—	—	2346K46	—	$35.57
A	Cold	1/2 NPS Male	—	2.2/8.3	4 1/8″	1	2933K42	53.59	—	—	—	—	2346K46	35.57
B	Hot/Cold	1/2 NPT Male	4″	2.2/8.3	4 3/8″	2	2932K1	91.45	—	—	—	2932K5	2932K5	41.65
B	Hot/Cold	3/8″ Tube★	4″	2.2/8.3	4 3/8″	2	2932K2	87.41	3	2932K3	$96.87	2932K5	2932K5	41.65
C	Hot/Cold	1/2 NPT Male	4″	1.2/4.5	4 3/4″	2	3045K71■	79.00	3	3045K72■	114.79	2976K23	2976K23	11.31
D	Hot/Cold	1/2 NPS Male	4″	2.2/8.3	3 3/4″	2	2930K13	76.62	3	2930K11	108.17	2930K22	2930K21	27.00
E	Hot/Cold	1/2 NPS Male	4″	2.2/8.3	3 3/4″	2	2930K17	94.09	3	2930K15	133.77	2930K22	2930K21	27.00
F	Hot/Cold	1/2 NPS Male	4″-6″	1.5/5.7	2 1/4″	3	3057K41	112.71	3	3057K42	142.11	3057K51	3057K52	20.20
G	Hot/Cold	1/2 NPS Male	6″-24″	2.2/8.3	5″	3	2931K14	170.40	3	2931K16	189.15	2930K22	2930K22	27.00
H	Hot/Cold	1/2 NPS Male	6″-24″	2.2/8.3	5″	3	2931K18	215.35	3	2931K21	286.49	2930K22	2930K21	27.00

■ This product can be sold in California. ★ Connects to 3/8″ compression fittings.

Automatic Shut-Off Lavatory Faucets


J


K


L


M

Prevent wasted water with these faucets that shut off when the handle is released. Made of chrome-plated brass, all have a fixed spout with an aerator.
Delayed shut-off faucets dispense water for 10 to 30 seconds after pressing the push-top handle.
Styles J&K include a 1/4 NPT male adapter.
Style L faucet has a mixing valve to dispense water at a consistent temperature.

	For Water Temperature	Inlet Connection Size	Inlet Connection Ctr.-to-Ctr.	Mounting Holes	Flow, gpm/lpm	Spout Lg.	Faucets		Replacement Cartridges	
Immediate Shut-Off										
J	Hot	1/2 NPS Male	—	1	1.2/4.5	4 1/8″	2935K51	$117.76	2945K22	$74.04
J	Cold	1/2 NPS Male	—	1	1.2/4.5	4 1/8″	2935K52	117.76	2945K11	67.00
Delayed Shut-Off										
K	Hot or Cold	1/2 NPS Male	—	1	1.2/4.5	4 1/8″	3010K41	112.73	3010K51	69.65
L	Hot/Cold with Mixing Valve	1/2 NPS Male	4″	1	1.2/4.5	4 1/8″	3010K42	147.27	3010K51	69.65
M	Hot/Cold	1/2 NPS Male	4″	2	1.2/4.5	3 3/4″	2928K32	203.64	3010K51	69.65

Touch-Free Lavatory Faucets


N

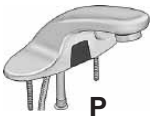
P


Q

Place your hands under these faucets to start the flow of water. They're chrome-plated brass and have a fixed spout with an aerator. Faucets are ADA compliant when properly installed. UL listed.
Battery-operated faucets will run approximately two years on four AA batteries (included). *Style N* comes with a 6 3/16″ oval trim plate.
Plug-in faucet comes with a 120/24 volt AC transformer with power cord and plug.

	Inlet Connection	Mounting Holes No.	Mounting Holes Ctr.-to-Ctr.	Flow, gpm/lpm	Spout Lg.	Faucets		Replacement Valve Control Modules		Replacement Solenoid Valve Assembly	
Battery Operated											
N	3/8″ Compression	1	—	0.5/1.9	4 1/2″	2582K13	$429.98	2582K31	$128.10	2582K54	$121.11
P	3/8″ Compression	3	2″	0.5/1.9	4 1/2″	2582K11	476.39	2582K31	128.10	2582K54	121.11
Plug-In											
Q	3/8″ Compression	1	—	0.5/1.9	5 1/8″	2582K22	459.36	—	—	2582K53	77.17

High-Flow Faucets

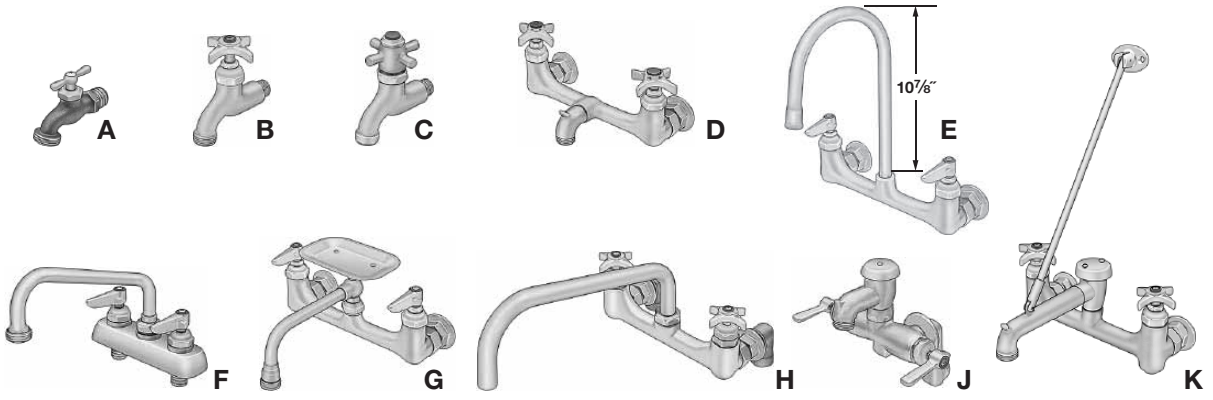

Fill sinks and buckets fast with these high-output, service-sink faucets. They are made of plated brass. Faucets with threaded spouts can be connected to a garden hose.

Faucets *with backflow prevention* keep liquid from flowing back into your water supply.

Styles E-J are ADA compliant when properly installed.

	For Water Temperature	*Inlet Connection* Size	Ctr.-to-Ctr.	Mounting Holes	Flow, gpm	Spout Lg.	Faucets		*Replacement Cartridges* Hot	Cold	
Faucets											
A	Hot or Cold	½ NPT Male	—	1	7	3⅝″	2947K4	$9.90	—	—	—
A	Hot or Cold	¾ NPT Male	—	1	7	3⅝″	2947K5	11.00	—	—	—
B	Cold	½ NPT Male	—	1	5.4	3⅞″	2947K6	60.23	—	2346K46	$35.57
D	Hot/Cold	½ NPT Female	7¾″-8¼″	2	14	2″	2961K21	111.66	2961K4	2961K4	39.08
E	Hot/Cold	½ NPT Female	7¾″-8¼″	2	23.5	5½″	2346K28	147.49	2346K46	2346K44	35.57
Faucets with Automatic Shut-Off											
C	Hot	½ NPT Male	—	1	4.8	3⅞″	2945K1	74.77	2945K22	—	74.04
C	Cold	½ NPT Male	—	1	4.8	3⅞″	2945K2	74.77	—	2945K11	67.00
Faucets with Swivel Spout											
F	Hot/Cold	½ NPT Male	4″	2	12	8″	29015K6	85.37	29015K68	29015K69	27.47
G	Hot/Cold	½ NPT Female	8″	2	14	6″	2944K16	161.61	2633K48	2633K47	36.90
G	Hot/Cold	½ NPT Male	8″	2	14	6″	2944K18	169.94	2633K48	2633K47	36.90
H	Hot/Cold	¾ NPT Female	7¾″-8¼″	2	37.5	12″	2730K51	327.67	2730K72	2730K72	60.01
H	Hot/Cold	¾ NPT Female	7¾″-8¼″	2	37.5	18″	2730K55	335.00	2730K72	2730K72	60.01
Faucets with Backflow Prevention											
J	Hot/Cold	½ NPT Female	3″-8⅜″	2	7.5	2⅜″	3081K45	203.30	3081K51	3081K52	25.65
K	Hot/Cold	½ NPT Female	7¾″-8¼″	2	14	6½″	2961K32	128.85	2961K4	2961K4	39.08

Top-Inlet Faucets

Often used with laundry sinks, this brass faucet has a swivel spout that's threaded to connect a garden hose. ADA compliant when properly installed.



Inlet Connection Size	Ctr.-to-Ctr.	Flow, gpm	Spout Lg.	Faucet		*Replacement Cartridges* Hot	Cold	
½ NPSF (Dryseal) Female	3½″	6.7	6″	2951K31	$70.27	2951K38	2951K39	$11.16

Wide-Reach Faucets

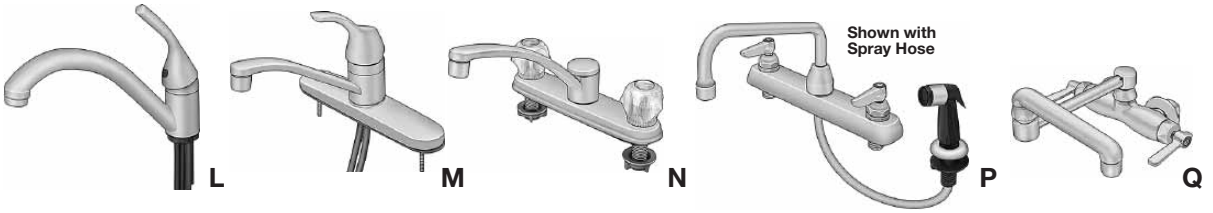

With spouts that swivel 180°, these faucets span double-bowl sinks. They're chrome-plated brass and have aerators. Faucets are compliant with regulations for drinking (potable) water, except Style P. They're also ADA compliant when properly installed, except Style N.

Style M has mounting studs on 8″ centers.

Style Q spout is jointed to access triple-bowl sinks.

	Inlet Connection Size	Ctr.-to-Ctr.	Flow, gpm/lpm	Spout Lg.	Faucets Mount. Holes			Faucets with Spray Hose Mount. Holes		*Replacement Cartridges* Hot	Cold	
L	⅜″ Compression	—	1.5/5.7	8¾″	1	2198K21	$116.91	2	2198K31	$147.19	2198K43	2198K43	$43.47
M	⅜″ Compression	—	1.5/5.7	8¼″	3	2941K11	84.37	4	2941K12	98.44	2941K38	2941K38	20.48
N	½ NPT Male	8″	1.5/5.7	9¼″	3	2976K11	78.38	4	2976K12	108.13	2976K23	2976K23	11.31
P	½ NPT Male	8″	1.5/5.7	8″	2	2959K21	117.88	4	2959K22	180.38	2959K151	2959K152	29.97
Q	½ NPT Female	3″-8⅜″	2.2/8.3	13″	2	2924K14	291.47	—	—	—	3081K51	3081K52	25.65
Q	½ NPT Female	3″-8⅜″	2.2/8.3	18″	2	2924K19	305.67	—	—	—	3081K51	3081K52	25.65

High-Clearance Faucets

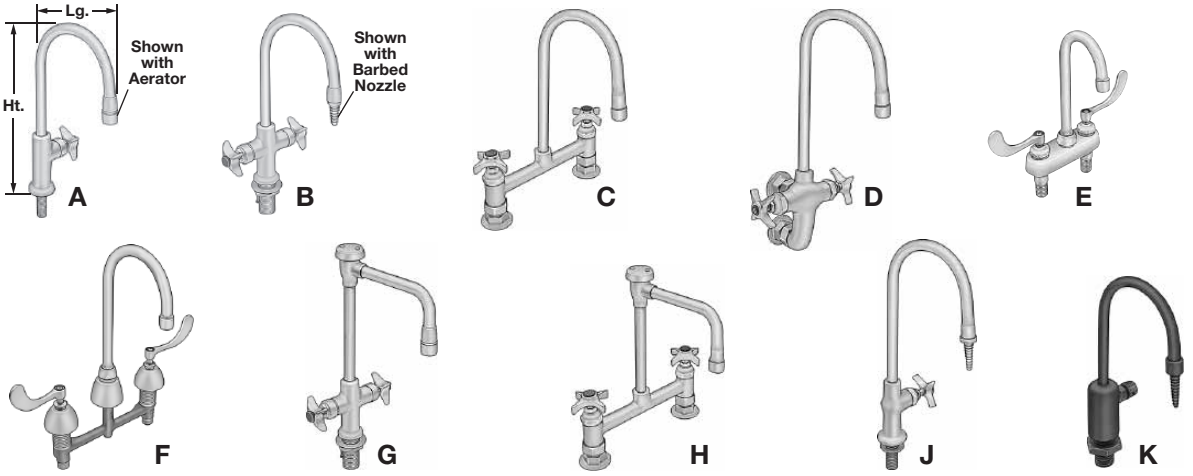

The tall, narrow spout on these gooseneck faucets provides more space for filling bottles, beakers, flasks, and other laboratory accessories. They are made of chrome-plated brass, except Style K are PVC.

Faucets *with barbed nozzle* accept hose with a 1/4″ to 1/2″ hose ID.

Faucets *with backflow prevention* keep liquid from flowing back into your water supply.

Style A are for cold water only.

Styles E&F are ADA compliant when properly installed and can be installed to not swivel.

Style J comes with a 1/4 NPT male adapter.

Style K can also be used with deionized and demineralized water.

	Inlet Connection		Mount.	*Spout*		Faucets with Aerator			Faucets with Barbed Nozzle			*Replacement Cartridges*		
	Size	Ctr.-to-Ctr.	Holes	Ht.	Lg.	Flow, gpm			Flow, gpm			Hot	Cold	
Faucets														
A	1/4 NPT Male	—	1	12 1/4″	6″	2.5	2952K25	$93.70	2.5	2952K26	$91.98	—	2952K42	$23.87
B	3/8″ Compression	—	1	12 1/4″	6″	3	2952K5	152.38	3	2952K14	150.68	2952K42	2952K42	23.87
C	1/2 NPT Female	7 3/4″ - 8 1/4″	2	13 1/2″	5 5/8″	2.2	2403K63	209.44	3.8	2403K64	217.69	2346K46	2346K46	35.57
D	1/2 NPT Female	2 3/4″ - 3 1/4″	2	15 1/2″	5 1/2″	2.2	2957K1	177.75	3.8	2957K3	185.86	2346K46	2346K46	35.57
Faucets with Swivel Spout														
A	1/4 NPT Male	—	1	12 1/4″	6″	2.5	2952K1	98.95	2.5	2952K2	97.23	—	2952K42	23.87
B	3/8″ Compression	—	1	12 1/4″	6″	3	2952K13	152.38	3	2952K6	150.68	2952K42	2952K42	23.87
D	1/2 NPT Female	2 3/4″ - 3 1/4″	2	16 1/4″	5 3/4″	2.2	2957K2	185.27	3.8	2957K4	225.20	2346K46	2346K46	35.57
E	1/2 NPS Male	4″	2	9 5/8″	3 1/2″	2.2	3050K41	189.03	—	—	—	3081K51	3081K52	25.65
F	1/2 NPS Male	8″	3	11 5/8″	5 1/4″	2.2	3104K68	229.61	—	—	—	3104K61	3104K62	26.08
Faucets with Backflow Prevention														
G	3/8″ Compression	—	1	13″	6″	3	2952K7	203.13	3	2952K8	201.75	2952K42	2952K42	23.87
H	1/2 NPT Female	7 3/4″ - 8 1/4″	2	12″	5 1/2″	2.2	2403K65	261.23	3.8	2403K66	260.98	2346K46	2346K46	35.57
Faucets for Distilled Water														
J	1/2 NPT Male	—	1	14 1/8″	5 5/8″	—	—	—	3.8	2842K51	153.95	2346K46	2346K46	35.57
K	3/8 NPT Female	—	1	13 7/8″	6 1/4″	—	—	—	3.8	2859K12	275.40	2859K14	2859K14	46.61
Faucets with Automatic Shut-Off for Distilled Water														
K	3/8 NPT Female	—	1	13 7/8″	6 1/4″	—	—	—	3.8	2859K13	318.26	2859K15	2859K15	150.59

Washdown Sprayers

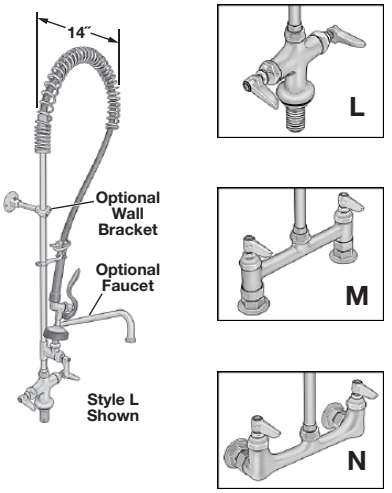

Pulling the trigger on these flexible sprayers shoots a concentrated jet of water to blast away dirt and grease. Often used for industrial parts washing and food service applications, they're made of chrome-plated brass and come with a 44″ long flexible hose with a stainless steel cover and a mixing faucet. Sprayers are compliant with regulations for use with drinking (potable) water.

Optional wall bracket extends 6″ and is made of chrome-plated brass. Fasteners included.

Optional faucets are chrome-plated brass. Top connection is 3/8 NPT female; bottom connection is 3/8 NPT male.

Replacement hose with spray head has a 1/2 NPT male inlet connection.

	Inlet Connection		Mount.	Flow,			
	Size	Ctr.-to-Ctr.	Holes	gpm	Ht.		
Washdown Sprayers							
L	5/8″ Compression	—	1	1.42	46 5/8″	2963K1	$299.67
M	1/2 NPT Female	8″	2	1.42	41 3/4″	2963K2	335.33
N	1/2 NPT Female	8″	2	1.42	34 3/8″	2963K3	319.33
Accessories and Replacement Parts							
Optional Wall Bracket						2686K23	37.60
Optional Faucet with 12″ Long Spout						3065K12	84.68
Optional Faucet with 18″ Long Spout						3065K13	89.43
Replacement Hose						2686K15	55.80
Replacement Spray Head						2686K17	63.07
Replacement Hose with Spray Head						2686K13	118.67
Spray Head Maintenance Kit						2686K21	17.43

Faucet Cartridges and Repair Kits



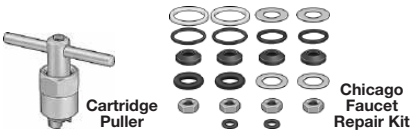

Extend the life of your faucet by replacing commonly worn parts. Cartridges are also known as stems.

Faucet repair kits include O-rings and other parts for specified faucets. *Chicago Faucet* kit works with Quaturn cartridges; *Delta* kit works with Series 100-400 single-handle faucets.

For Manufacturer	Model No.	Lg.	For Water Temperature		
Cartridges					
American Standard	50729-07	4 5/16"	Hot/Cold	2633K111	$19.06
American Standard	72951-17	1 3/4"	Cold	2633K102	10.17
American Standard	72950-17	1 3/4"	Hot	2633K113	10.17
American Standard	994053-0070A	2 1/4"	Hot	2633K216	25.00
American Standard	994053-0070ALH	2 1/4"	Cold	2633K217	25.00
Central Brass	SU-353-C	1 1/4"	Cold	2633K118	9.57
Central Brass	SU-353-H	1 1/4"	Hot	2633K119	9.57
Chicago Faucet	1-99	2 3/16"	Cold	2633K5	21.00
Chicago Faucet	1-100	2 3/16"	Hot	2633K6	21.00
Chicago Faucet	377-XKLH	3"	Cold	2633K218	43.38
Chicago Faucet	377-XKRH	3"	Hot	2633K219	43.38
Delta	RP1745	1 5/16"	Hot/Cold	2633K125	5.88
Delta	RP1740	1 15/16"	Hot/Cold	9342T21	12.17
Delta	RP24096	2"	Hot/Cold	9342T22	19.32
Kohler	22917	2 1/2"	Cold	2633K137	13.12
Kohler	22932	2 1/2"	Hot	2633K138	13.12
Kohler	77005-RP	2 1/4"	Cold	2633K221	27.50
Kohler	77006-RP	2 1/4"	Hot	2633K222	27.50
Moen	1222	4 1/8"	Hot/Cold	9342T5	43.80
Moen	1224	2 9/16"	Hot/Cold	2976K23	11.31
Moen	1225	4 1/4"	Hot/Cold	2941K9	21.73
T & S Brass	002713-40	2 13/16"	Cold	2633K47	36.90
T & S Brass	002714-40	2 13/16"	Hot	2633K48	36.90
Cartridge Puller for Moen 1200, 1222, and 1225				2941K8	39.13
Faucet Repair Kits					
Chicago Faucet	1277DAB	———	Hot/Cold	2500K24	16.29
Delta	RP3614	———	Hot/Cold	2633K224	3.75

Faucet Aerators

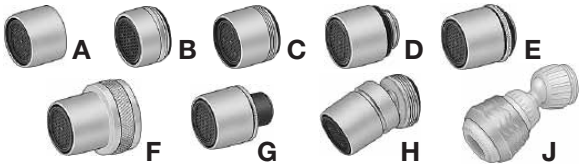

Aerators are compliant with regulations for drinking (potable) water. Aerators with 2.2 gpm flow rate cannot be sold in California. Made of chrome-plated brass, except Style J is plastic. **Style G** has three different size rubber sleeves that expand to fit the faucet.

Also Available: Aerators with 1.2 gpm flow rate in connection type and size marked with a ★. Please ask for 2675K81 and specify connection type and size.

	Connection			
Type	Size			
2.2 gpm Flow Rate				
A Standard	55/64"-27 Female	2675K42	$2.52
A Standard	3/4"-27 Female	2675K48★	2.88
B Standard	15/16"-27 Male	2675K44	2.52
B Standard	13/16"-27 Male	2675K52★	2.88
C Dual Thread	55/64"-27 Female; 15/16"-27 Male	2675K38	2.68
D Pipe Connection	3/8 NPS Male	2675K34★	5.44
E For Chicago Faucet	13/16"-24 Female	2675K32	5.57
E For Chicago Faucet	11/16"-27 Male	2675K33★	6.77
F Hose Connection	3/4 GHT Female	2675K36★	6.63
G Universal Adapter		2675K31★	7.03
H Dual Thread Swivel	55/64"-27 Female; 15/16"-27 Male	2675K39★	8.07
J Swivel Sprayer	55/64"-27 Female	2755K13★	5.31
1.5 gpm Flow Rate			
A Standard	55/64"-27 Female	2675K72	2.52
B Standard	15/16"-27 Male	2675K71	2.52
C Dual Thread	55/64"-27 Female; 15/16"-27 Male	2675K64	2.68
E For Chicago Faucet	13/16"-24 Female	2675K73	5.78
0.5 gpm Flow Rate			
A Standard	55/64"-27 Female	2675K68	3.07
B Standard	15/16"-27 Male	2675K66	3.07
C Dual Thread	55/64"-27 Female; 15/16"-27 Male	2675K94	3.20

Automatic Shut-Off Faucet Rods

For tap water with the tap of your hand, thread these stainless steel rods onto your faucet spout. Water flows when the rod is pushed and stops when it's released. Connection size is 55/64"-27 female or 15/16"-27 male (with included adapter). ADA compliant when properly installed.



For Faucet Style	Rod Length		
Standard	3 1/4"	2252K2	$34.39
High Clearance	5"	2252K3	35.41

Faucet Washers and O-Rings

SBR rubber washers have a temperature range of –30° to 200°F.

PTFE washers absorb less water so they're more durable than SBR washers. Temperature range is –100° to 500°F.

Washer assortments include the individual washer sizes listed below. *PTFE assortment* also contains sizes 000 (15/32" OD) and 3/8" M (21/32" OD).

O-ring assortment includes 12 of the most popular O-ring sizes. Temperature range is –30° to 250°F.

		SBR			*PTFE*		
Trade Size	OD	Pkg. Qty.	Flat	Beveled	Pkg.	Pkg. Qty.	Flat	Pkg.
Washers								
1/4" S (00)	1/2"	100	2801K11	2801K24	$13.88	25	2807K11	$9.86
1/4" M (0)	17/32"	100	2801K12	2801K25	13.88	25	2807K12	10.00
1/4" R	9/16"	100	2801K13	2801K26	13.88	25	2807K14	11.57
1/4" L	19/32"	100	2801K14	2801K27	13.88	25	2807K15	12.85
3/8" R	5/8"	100	2801K15	2801K28	15.01	25	2807K16	13.77
3/8" L	11/16"	50	2801K17	2801K31	9.74	10	2807K18	7.24
1/2" R	3/4"	50	2801K22	2801K23	9.82	10	2807K19	7.38
Washer and O-Ring Assortments								
SBR Beveled Washers (200-Piece Set)				2801K62	$34.58			
SBR Flat Washers (200-Piece Set)				2801K61	34.58			
PTFE Flat Washers (240-Piece Set)				2807K21	104.54			
Buna-N O-Rings (200-Piece Set)				9486K63	9.25			

Faucet Handles

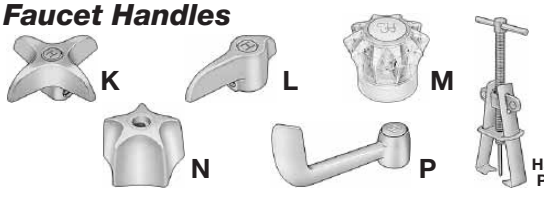

Designed to fit most cartridges, handles come in a pair with one labeled hot and one labeled cold, except Style N are not labeled. **Style P** are ADA compliant when properly installed.

Handle puller removes cross, lever, and canopy-style handles (Styles K, L&N). It's made of steel.

	Material		Per Pair
K	Chrome-Plated Metal	2910K1	$8.75
L	Chrome-Plated Metal	2910K2	9.38
M	Clear Plastic	2910K4	14.12
N	Chrome-Plated Metal	2910K3	14.75
P	Chrome-Plated Metal	2910K5	29.00
Handle Puller		2818K31	Each $10.68

Four-Way Valve Keys

Open and close stopcocks, sillcocks, and other valves when handles are removed. Made of plated steel, key fits 1/4", 9/32", 5/16", and 11/32" valves.



2661K51 $7.62

Faucet Accessories & Fittings

Extendable Faucet Sprayers



For water where you need it, this plastic sprayer has a 48″ long flexible hose. Connection is ⅛ NPT male and includes an adapter for ⅛ NPT female and ¼ NPT female.

Sprayer	2895K22	$15.52
Replacement Spray Head	2895K14	10.18

Faucet Spouts

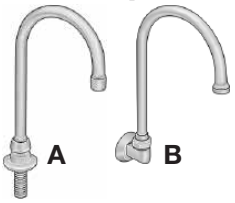

Made of chrome-plated brass, these spouts swivel and have aerators. They are compliant with regulations for drinking (potable) water.

Style A can also be installed to not swivel.

	Inlet Connection	Flow, gpm		
A	½ NPT Male	2.2	3046K26	$77.19
B	⅜ NPT Female	10.7	3046K37	59.19

Hands-Free Flow Control Valves

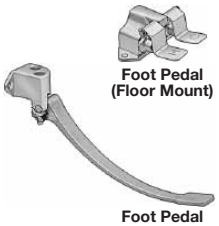



You don't need a free hand to make faucets flow. Press these chrome-plated brass valves with your foot or knee for water; release them to stop the flow. They have ½ NPT female inlet and outlet connections and are compliant with regulations for drinking (potable) water. Mounting hardware is included.

Single-pedal valves control either hot or cold water.

Double-pedal valves have separate controls for hot and cold water; press both to mix temperatures. Inlet connections are on 2½″ centers.

Valve repair kit includes valve stems, springs, washers, packing stems, and other parts required to rebuild these valves.

Mount Type	Pedal Lg.	Single Pedal		Double Pedal	
Foot Pedal					
Floor	3″	2683K3	$120.45	2683K1	$179.22
Wall	11½″	2685K1	166.08	2685K3	229.95
Knee Pedal					
Surface	6¾″	—	—	2683K21	193.32
Valve Repair Kit				2683K9	15.33
Valve Replacement Cartridge (Hot/Cold)				2683K7	25.77

Water Supply Tubes



Connect water supply shut-off valves to faucets and toilet tanks. Also known as riser tubes, they have a ⅜″ OD.

Tubes **for faucets** are compliant with regulations for drinking (potable) water.

Material	Lg.	For Faucets		For Toilet Tanks	
Plastic	11½″	27015K71	$2.96	27015K75	$3.07
Plastic	19½″	27015K72	3.13	27015K76	3.18
Chrome-Plated Copper	11½″	2392K21	7.99	2392K41	7.34
Chrome-Plated Copper	19½″	2392K22	11.37	2392K42	12.17

Flex-Head Adjustable Wrenches



Also known as basin wrenches, the pivoting head and spring-close jaws let you work in tight spaces where it's difficult to adjust the jaws of a traditional adjustable wrench. The head pivots 180° for use on the left or right.

Standard wrench is cadmium-plated steel.

Adjustable-length wrench has a telescoping handle for additional length. Wrench is steel with a black finish on the jaws.

	Jaw Capacity	O'all Lg.		
Standard	⅜″-¾″	11″	2813K12	$11.43
Adjustable Length	⅜″-¾″	9″-16″	3064K11	26.23

Faucet-Mount Water Filters



Tap into great-tasting water by screwing this filter onto your faucet. It filters out sediment, chlorine, and other particles that cause unpleasant tastes and odors. The cartridge included lasts approximately two months or 200 gallons of water. Filter has 55/64″-27 female threads and comes with two adapters (13/16″-27 male; 15/16″-27 male). Compliant with regulations for drinking (potable) water. Note: Not recommended for hot water.

Water Filter	2518K12	$25.60
Replacement Filter Cartridge	2518K21	17.27

Water Overflow Buzzers

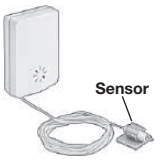

When water contacts the sensor, it triggers a buzzer to alert personnel to a leak or overflow hazard. Volume is 83 dB @ 10 ft. Frequently used to monitor sinks, pipe lines, tubs, and sump pumps.

Mount the alarm box with the included hook-and-loop tape. A 5-ft. long flexible wire connects the sensor to the alarm. Requires 3 AAA batteries.

1377T63		$24.59

Service Fittings for Air, Gas, and Water

Fittings are made of chrome-plated brass.

Hose Cocks, Valves, and Nozzles—⅜ NPT Male Inlet

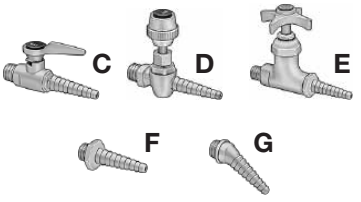

Hose cock and **needle valve** come with three interchangeable, color-coded identification buttons: orange for air, blue for gas, and yellow for vacuum.

		Lg.	Ht.	Maximum Pressure, psi	Accepts Hose ID		
C	Hose Cock for Air and Gas	3⅞″	1⅞″	125★	¼″-⅜″	2359K11	$30.97
D	Needle Valve for Air and Gas	3⅞″	3⅜″	125■	¼″-⅜″	2359K31	37.47
E	Valve for Cold Water	5⅜″	3½″	125	¼″-½″	2359K22	63.66
F	Hose Nozzle for Water—Straight	2½″	1″	125	¼″-½″	2359K71	14.50
G	Hose Nozzle for Air and Water—30° Angle	2⅜″	1½″	—	¼″-½″	2359K72	14.26

★125 psi for air, 0.5 psi for gas, and 30″ Hg for vacuum. ■125 psi for air and gas. Not rated for vacuum.

Flanges and Turrets—⅜ NPT Female Inlet and Outlet

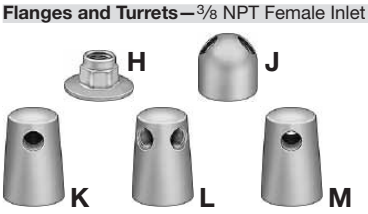

Provide a connection for hose cocks, needle valves, and nozzles by attaching these flanges and turrets to your supply pipe. **Turrets** are 2″ high from base to centerline of outlet.

		Dia.	Ht.		
H	Single Flange	2″	1⅛″	2359K94	$17.52
J	Double Flange	1⅞″	1¾″	2359K98	20.15
K	Turret—One Outlet	2″	3″	2359K61	25.84
L	Turret—Two Outlets at 90°	2″	3″	2359K62	24.14
M	Turret—Two Outlets at 180°	2″	3″	2359K63	27.16

Water Supply Hose with Fittings



Hook up faucets and other appliances to a water supply with these flexible hoses. Fittings are plated brass, except toilet tank ballcock hose fittings are plastic. Hose has a maximum temperature of 140° F.

Faucet and **ice maker** hoses are compliant with regulations for drinking (potable) water.

Dishwasher hose includes a 90° elbow adapter with a 3⁄8″ male compression connection.

For Faucets, Toilets, and Water Heaters

Female Connections			12″ Lg.	20″ Lg.
Faucet Hose—PVC				
1⁄2 NPS	3⁄8″ Compression	26335K2	$3.36	$4.03
1⁄2 NPS	1⁄2 NPS	26335K1	3.54	4.25
1⁄2 NPT	1⁄2″ Compression	26335K31	7.30	—
Faucet Hose—Stainless Steel				
3⁄8″ Compression	3⁄8″ Compression	2857K111	2.76	2.96
3⁄8″ Compression	3⁄8″ OD Copper Tube	2857K211	3.35	5.18
1⁄2 NPT	3⁄8″ Compression	2857K311	2.16	2.51
1⁄2 NPT	1⁄2 NPT	2857K411	2.80	3.00
1⁄2 NPT	1⁄2″ Compression	2857K511	3.50	3.94
Toilet Tank Hose—PVC				
7⁄8 Ballcock	3⁄8″ Compression	26335K7	2.98	3.58
7⁄8 Ballcock	1⁄2 NPS	26335K6	3.83	4.60
Toilet Tank Hose—Stainless Steel				
7⁄8 Ballcock	3⁄8″ Compression	2857K611	2.15	2.55
7⁄8 Ballcock	1⁄2 NPT	2857K711	2.82	2.98
7⁄8 Ballcock	1⁄2″ Compression	2857K811★	3.25	4.30
Water Heater Hose—Stainless Steel				
3⁄4 NPT	3⁄4 NPT	2857K911■	9.05	11.72

For Washing Machines, Dishwashers, and Ice Makers

Female Connections			48″ Lg.	60″ Lg.
Washing Machine Hose—Stainless Steel				
3⁄4 GHT	3⁄4 GHT	2857K861	$8.78	$10.64
Dishwasher Hose—Stainless Steel				
3⁄8″ Compression	3⁄8″ Compression	2857K361	13.21	14.86
1⁄2 NPT	3⁄8″ Compression	2857K371	8.76	10.41
Ice Maker Hose—Stainless Steel				
1⁄4″ Compression	1⁄4″ Compression	2857K381	9.55	13.60

★ Ballcock fitting is plated brass. ■ Lengths available are 12″ and 24″.

Plumbers' Putty

Size		
10.3-oz. Caulk-Gun Cartridge	3008K13	$3.72
14-oz. Container	3008K11	2.60
5-lb. Container	3008K51	12.12

Floor, Wall, and Ceiling Plates



Plastic



Metal

Add a finishing touch to the area around protruding pipes with these corrosion-resistant plates, which are also known as escutcheons.

Plastic plates twist open to fit around pipe.

Metal plates hinge open and close tightly around pipe.

Fits Pipe Size	ID	OD	White		Chrome Plated	
Plastic						
3⁄8	0.61″	2.57″	3040K9	$0.82	3040K8	$1.40
1⁄2	0.83″	2.79″	3040K21	.82	3040K11	1.40
3⁄4	1.04″	3″	3040K22	.93	3040K12	1.50
1	1.3″	3.21″	3040K23	1.17	3040K13	1.63
1 1⁄4	1.64″	3.58″	3040K24	1.18	3040K14	2.50
1 1⁄2	1.9″	3.9″	3040K25	1.23	3040K15	2.67
2	2.38″	4.45″	3040K26	1.30	3040K16	2.70
3	3.54″	5.93″	3040K27	3.07	3040K17	6.07
4	4.58″	6.94″	3040K29	3.30	3040K19	6.49
Metal						
3⁄8	0.82″	2.39″	—	—	4567K11	3.07
1⁄2	1″	2.75″	—	—	4567K12	3.17
3⁄4	1.19″	2.88″	—	—	4567K13	3.30
1	1.5″	3.38″	—	—	4567K14	3.90
1 1⁄4	1.87″	3.71″	—	—	4567K15	3.36
1 1⁄2	2″	3.75″	—	—	4567K16	4.35
2	2.5″	4.5″	—	—	4567K17	6.45
3	3.72″	5.89″	—	—	4567K18	6.13
4	4.54″	7.23″	—	—	4567K19	8.14

Water Hammer Eliminators



Standard Pressure



High Pressure

Prevent knocking noises from water pipes with these eliminators. Install them close to the shut-off valve at any angle. Maximum temperature is 200° F.

Standard Pressure eliminator is compliant with regulations for drinking (potable) water.

Inlet Connection	Max. Pressure, psi	Dia.	Ht.		
Standard Pressure—Black Plastic					
1⁄2 NPT Male	150	3 3⁄8″	4 1⁄2″	2635K31	$37.50
High Pressure—Copper					
1⁄2 NPT Male	350	1 3⁄8″	6 1⁄2″	2522K14	16.60
3⁄4 NPT Male	350	1 3⁄8″	8 3⁄4″	2522K16	19.60

Water Supply Shut-Off Valves and Tools



Standard Valves with NPT Female Inlet



Standard Valves with Compression Inlet



1⁄4-Turn Valves with Push-to-Connect Inlet

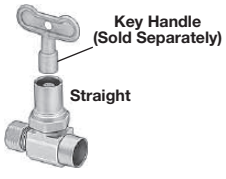

Vandal-Resistant Valve with Solder Inlet

Also known as water supply stops, these valves shut off water to faucets, toilets, and fountains. Body is made of plated brass. Valves are compliant with regulations for drinking (potable) water.

1⁄4-turn valves are often used in tight areas. Water stops with a 1⁄4 turn of the handle.

Vandal-resistant valves have a removable key handle to prevent unauthorized use. Key handles are sold separately; made of plated brass.

Wrench turns valve handles without over-torquing. It's often used for corroded and hard-to-reach valves. Made of plastic.

Compression-sleeve puller removes stuck and corroded sleeves. Screw it into the compression nut; turn the handle to quickly dislodge the sleeve. Made of steel.

Connections: Inlet	Outlet		90°	Straight
Standard Valves				
3⁄8 NPT Female	3⁄8 NPT Female	2664K51	—	$11.95
3⁄8 NPT Female	3⁄8″ Compression	2664K2	$8.33	9.47
1⁄2 NPT Female	3⁄8″ Compression	2664K3	8.33	8.98
1⁄2 NPT Female	1⁄2 NPT Female	2664K52	—	18.33
1⁄2″ Compression	3⁄8″ Compression	2664K5	9.07	9.64
1⁄2″ Compression	1⁄2″ Compression	2664K6	9.64	11.58
1⁄2″ Solder	3⁄8″ Compression	2664K35	8.84	—
1⁄4-Turn Valves				
1⁄2 NPT Female	3⁄8″ Compression	9123T52	12.22	—
1⁄2″ Compression	3⁄8″ Compression	9123T53	13.35	—
1⁄2″ Compression	1⁄2″ Compression	9123T54	14.06	—
1⁄2″ Push-to-Connect	1⁄4″ Compression	9123T21	13.36	—
1⁄2″ Push-to-Connect	3⁄8″ Compression	9123T1	13.36	13.69

Connections: Inlet	Outlet		90°	Straight
1⁄4-Turn Valves (Cont.)				
1⁄2″ Push-to-Connect	3⁄8″ Push-to-Connect	9123T2	$13.36	$13.69
Vandal-Resistant Valves				
3⁄8 NPT Female	3⁄8 NPT Female	2354K26	—	15.12
3⁄8 NPT Female	3⁄8″ Compression	2354K28	—	12.57
1⁄2 NPT Female	3⁄8″ Compression	2354K48	—	11.87
1⁄2 NPT Female	1⁄2 NPT Female	2354K27	—	20.17
1⁄2″ Compression	3⁄8″ Compression	2354K39	—	12.75
1⁄2″ Compression	1⁄2″ Compression	2354K31	—	14.30
1⁄2″ Solder	3⁄8″ Compression	2354K29	—	13.02
Key Handle for Vandal-Resistant Valves		2354K98		2.89
Shut-Off Valve Tools				
Wrench		2409K3		10.65
Compression-Sleeve Puller		2409K5		17.35

Lavatory Sinks





Porcelain sink has an overflow hole and a bracket with seven 9/16″ dia. mounting holes. It meets ANSI 112 and is ADA compliant when properly installed. Color is white.

Stainless steel sinks have seamless, welded construction. They come with a chrome-plated brass strainer and tailpiece (1¼″ dia.; 4″ long).

The 15″ long sink has a bracket with four 5/16″ dia. mounting holes.

The 22″ long sink is ADA compliant when properly installed. Mounting brackets and fasteners are included.

Overall Size Lg.	Wd.	Ht.	*Inner Bowl Size* Lg.	Wd.	Dp.	Backsplash Ht.	Drain Opening Dia.	*Faucet Inlet Holes* Dia.	Ctr.-to-Ctr.		
Porcelain											
18¾″	21″	10¼″	10¾″	16″	8¼″	3″	1¼″	1¼″	4″	**2724K42**	$109.12
Stainless Steel											
15″	18″	7″	14½″	9½″	6″	3″	1½″	1¼″	4″	**3059K21**	695.98
22″	18″	8″	12″	14″	5″	3″	1½″	1¼″	4″	**3059K23**	570.77

Wall-Mount Service Sinks

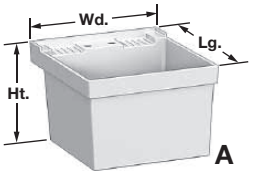

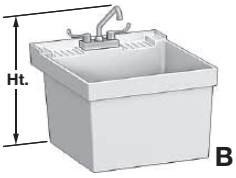

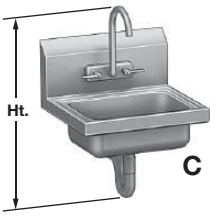

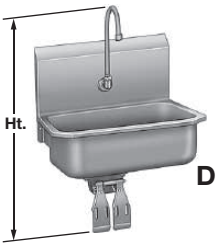



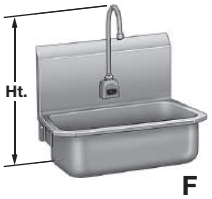

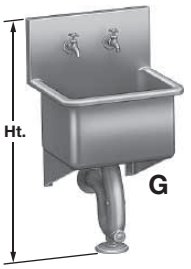

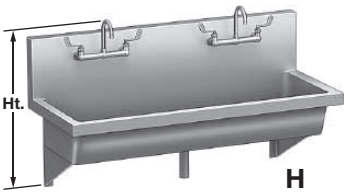

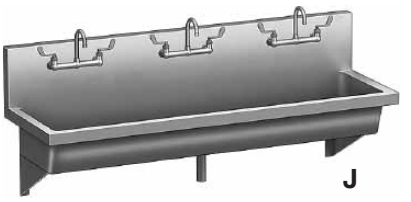

Keep floor space clear in work areas with these service sinks.

Plastic—These lightweight sinks have a 1½″ dia. strainer. They include a 5″ long tailpiece, wall hanger, and fasteners.

Style A has faucet holes on 4″ centers. **Style B** has a chrome-plated brass faucet with a swivel spout.

Stainless Steel—For use in food service applications, these sinks have rounded corners that are easy to clean and resist buildup. They come with a strainer.

Style C have a chrome-plated bronze faucet with swivel spout. They have a 1½″ dia. P-trap and a 4″ long tailpiece. Sinks include a mounting bracket with fasteners.

Styles D-F allow you to control water flow without touching the faucet. Faucets are chrome-plated brass. Strainer has a 1½″ dia. slip-joint connection. Sinks have a mounting bracket with ¼″ dia. mounting holes.

Styles D&E have knee pedals for hands-free operation. The faucet spout swivels. Sinks can also be used outdoors. *Sensor-operated faucet kit* converts your knee-operated sink to a swivel touch-free faucet. It has a 9½ ft. power cord with plug and operates on 120 volts AC. For indoor use. UL listed.

Style F have a touch-free faucet with sensors that adjust to detect hands from 6″ to 30″ away. They have a 9½ ft. power cord with plug and operate on 120 volts AC. For indoor use. UL listed.

Heavy Duty Stainless Steel—Sinks have chrome-plated brass faucets and come with a strainer, wall hanger, and mounting brackets. Wall hanger has ¼″ dia. mounting holes; brackets have 7/16″ dia. mounting holes.

Style G include a P-trap with cleanout plug; it has a 3 NPT female outlet connection.

Styles H&J have faucets with spouts that can be installed as fixed or swivel. They include a tailpiece (1½″ dia.; 4″ long).

Overall Size Lg.	Wd.	Ht.	*Inner Bowl Size* Lg.	Wd.	Dp.	Backsplash Ht.	Drain Opening Dia.	*Faucet* Inlet Connections	Flow, gpm		
Plastic											
A 23⅞″	20″	14⅜″	19⅝″	19½″	13″	___	1¾″	___	___	**2782K1**	$92.45
B 23⅞″	20″	21⅜″	19⅝″	19½″	13″	___	1¾″	½ NPT Male	2.1	**2782K2**	170.85
Stainless Steel—Meet NSF/ANSI Standard 2 for Food Equipment											
C 15¼″	17″	25⅛″	10″	13¾″	5½″	8⅛″	1⅞″	½ NPT Male	2.2	**2719K12**	475.38
C 22″	24¾″	27¼″	16″	20″	6¼″	8⅛″	1⅞″	½ NPT Male	2.2	**2719K13**	706.15
D 18″	19″	27¾″	14″	17″	7″	9½″	2″	½ NPT Male	2.0	**2771K23**	654.50
D 20″	21″	30¾″	16″	19″	10″	9½″	2″	½ NPT Male	2.0	**2771K25**	704.62
E 18″	19″	27¾″	14″	17″	7″	9½″	2″	½ NPT Male	2.0	**23665K32**	760.36
F 18″	19″	21″	14″	17″	7″	9½″	2″	⅜″ Compression	2.0	**28645K11**	1,002.00
F 20″	21″	24″	16″	19″	10″	9½″	2″	⅜″ Compression	2.0	**28645K13**	1,090.10
Heavy Duty Stainless Steel											
G 17½″	21″	39¾″	14″	18″	12″	12″	3½″	½ NPT Female	2.5	**2927K1**	1,087.86
G 19½″	25″	39¾″	16″	22″	12″	12″	3½″	½ NPT Female	2.5	**2927K2**	1,155.00
H 20″	48″	33¾″	16½″	45″	8″	10″	3½″	½ NPT Female	2.2	**2856K32**	2,314.29
J 20″	60″	33¾″	16½″	57″	8″	10″	3½″	½ NPT Female	2.2	**2856K34**	2,649.14

Accessories and Replacement Parts		
Sensor-Operated Faucet Kit for Styles D and E	**28645K15**	560.44
Valve Repair Kit for Styles D and E	**2771K61**	36.12
Replacement Knee Valve for Styles D and E	**2771K63**	142.07
Replacement Mixing/Check Valve for Style F	**2771K43**	41.34

Freestanding Service Sinks



Shown without Faucet **A**

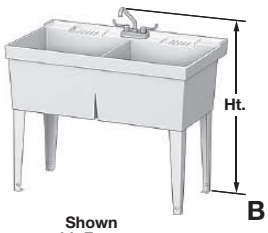

Shown with Faucet **B**


C


D


E&G


F



H


J


K

These high-capacity sinks stand up to tough applications. Sinks that meet NSF/ANSI standards have rounded corners that are easy to clean and resist buildup.

Sinks with Faucets—The faucets are chrome-plated brass and have a swivel spout.

Styles A&B bowls are lightweight plastic. Legs have a 1/4″ dia. hole for floor mounting and come with leveling feet that adjust up to 1″. They have a strainer and tailpiece (1 1/2″ dia.). *Style A* tailpiece is 5″ long; *Style B* tailpiece is 7″ long.

Style C have a strainer with a 2 NPT male connection.

Style D has a 1 NPT female threaded side opening with removable plug for external draining. For bottom draining, it includes a strainer and tailpiece (1 1/2″ dia.; 4″ long) with slip-joint connection. Legs are removable and have four swivel casters with brakes.

Styles E-G have seamless bowls. *Optional drain board* is an angled shelf that mounts to either side of the sink.

Styles H&J have foot pedals for hands-free operation. They come with a strainer with 1 1/2″ dia. slip-joint connection. They can be used outdoors. *Sensor-operated faucet kit* converts your foot-operated sink to a swivel touch-free faucet. They have a 9 1/2 ft. power cord and operate on 120 volts AC. UL listed. For indoor use.

Style K includes a strainer with a 1 1/2 NPS male connection.

Sinks

	Overall Size			*Inner Bowl Size*			Backsplash	Drain	*Faucet Holes*			
	Lg.	Wd.	Ht.	Lg.	Wd.	Dp.	Ht.	Opening Dia.	Dia.	Ctr.-to-Ctr.		
Plastic with Steel Legs												
A	23 7/8″	20″	33 3/4″	19 5/8″	19 1/2″	13″	—	1 3/4″	1″	4″	**2782K3**	$92.45
B	24″	40″	33 3/4″	18 5/8″	18 7/8″	12 1/2″	—	1 3/4″	1 1/4″	4″ and 8″	**2915K13**	229.09
Stainless Steel with Iron Legs												
C	21″	26″	33″	18 3/4″	24″	13 1/2″	—	2″	—	—	**3738K51**	348.81
C	21″	32″	33″	18 3/4″	30″	13 1/2″	—	2″	—	—	**3738K53**	372.32
C	21″	40″	33″	18 3/4″	38″	13 1/2″	—	2″	—	—	**3738K55**	378.84
C	21″	52″	33″	18 3/4″	50″	13 1/2″	—	2″	—	—	**3738K57**	398.58
C	21″	64″	33″	18 3/4″	62″	13 1/2″	—	2″	—	—	**3738K59**	483.26
Stainless Steel												
C	21″	26″	33″	18 3/4″	24″	13 1/2″	—	2″	—	—	**3738K52**	441.90
C	21″	32″	33″	18 3/4″	30″	13 1/2″	—	2″	—	—	**3738K54**	465.41
C	21″	40″	33″	18 3/4″	38″	13 1/2″	—	2″	—	—	**3738K56**	471.93
C	21″	52″	33″	18 3/4″	50″	13 1/2″	—	2″	—	—	**3738K58**	491.67
C	21″	64″	33″	18 3/4″	62″	13 1/2″	—	2″	—	—	**3738K61**	576.35
D	18″	36″	32″	17 3/4″	35 3/4″	14″	—	1 1/4″	—	—	**3784K55**	754.55
E	27″	27″	48″	24″	24″	12″	12″	3 1/2″	1 1/4″	8″	**2991K11**	1,410.67
E	27″	39″	48″	24″	36″	12″	12″	3 1/2″	1 1/4″	8″	**2991K13**	1,564.46
F	27″	51″	48″	24″	24″	12″	12″	3 1/2″	1 1/4″	8″	**2991K33**	2,252.50
F	27″	63″	48″	24″	30″	12″	12″	3 1/2″	1 1/4″	8″	**2991K35**	2,563.50
Optional Drain Board for Styles E and F (24″ Wd. x 24″ Lg.)											**2991K17**	515.00
Stainless Steel—Meet NSF/ANSI Standard 2 for Food Equipment												
G	27 1/2″	27″	44″	24″	24″	14″	8″	3 1/2″	1 1/2″	8″	**2511K11**	1,582.29
G	27 1/2″	39″	44″	24″	36″	14″	8″	3 1/2″	1 1/2″	8″	**2511K21**	1,823.43

Sinks with Faucet

	Overall Size			*Inner Bowl Size*			Backsplash	Drain	*Faucet*			
	Lg.	Wd.	Ht.	Lg.	Wd.	Dp.	Ht.	Opening Dia.	Inlet Connection	Flow, gpm		
Plastic with Steel Legs												
A	23 7/8″	20″	40 3/4″	19 5/8″	19 1/2″	13″	—	1 3/4″	1/2 NPT Male	2.1	**2782K4**	$170.85
B	24″	40″	40 3/4″	18 5/8″	18 7/8″	12 1/2″	—	1 3/4″	1/2 NPT Male	2.1	**2915K11**	307.53
Stainless Steel—Meet NSF/ANSI Standard 2 for Food Equipment												
H	18″	19″	46″	14″	17″	7″	9 1/2″	2″	1/2 NPT Male	2.0	**2771K18**	722.12
H	20″	21″	46″	16″	19″	10″	9 1/2″	2″	1/2 NPT Male	2.0	**2771K19**	760.00
J	18″	19″	46″	14″	17″	7″	9 1/2″	2″	1/2 NPT Male	2.0	**23665K31**	809.82
K	23″	58″	38 7/8″	15″	11″	11″	4 7/8″	3 1/2″	1/2 NPS Male	2.2	**2646K16**	1,613.85
Accessories and Replacement Parts for Styles H and J												
Sensor-Operated Faucet Kit											**28645K15**	560.44
Valve Repair Kit											**2771K61**	36.12
Replacement Foot Valve											**2771K62**	142.07
Replacement Faucet											**2771K42**	61.62

Extreme-Duty Freestanding Processing Sinks

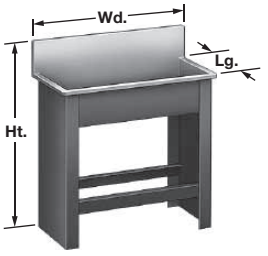

The most corrosion resistant sinks we offer, these have a 316 stainless steel bowl that's undercoated to prevent condensation. Designed for use with corrosive chemicals and photography processing applications, they have a corner drain and strainer with a 1½ NPT male connection. The base is black vinyl-coated steel and has leveling feet that can be adjusted up to 1½".

Overall Size Lg.	Wd.	Ht.	Inner Bowl Size Lg.	Wd.	Dp.	Backsplash Ht.	Drain Opening Dia.		
20"	39"	46"	17"	36"	9"	8"	1½"	2836K72	$1,236.11
27"	51"	46"	24"	48"	5"	8"	1½"	2836K73	1,312.50

Floor Service Sinks

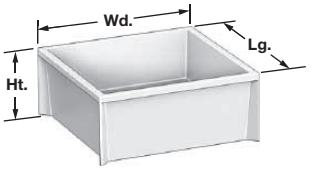

Empty heavy buckets of liquid directly into these low-profile, floor-mounted sinks. Install by sliding over 3" pipe. Connection is made water tight with included seal. They're made of seamless fiberglass and come with a strainer.

Overall Size Lg.	Wd.	Ht.	Inner Bowl Size Lg.	Wd.	Dp.	Drain Opening Dia.		
24"	24"	10"	22"	22"	9½"	3"	2180K1	$217.43
24"	36"	10"	22"	34"	9½"	3"	2180K3	234.15

Drop-In Sinks

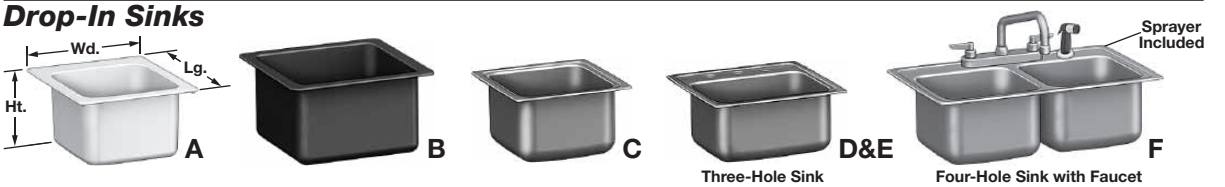

Install these sinks into a counter. They have seamless rounded corners for quick cleaning. Installation hardware included, except Style B.

High-Impact Fiberglass—These white stain-resistant sinks have a back ledge that can be drilled for a faucet. The 22" long sink comes with a 1½" dia. strainer with a slip-joint connection. Stopper included.

Chemical-Resistant Plastic—Made of black polyethylene, these sinks have a strainer and 3½" long tailpiece with a 1½ NPT male connection. Stopper included. To install, apply sealant (not included) to rim and drop into your counter.

Stainless Steel—These sinks offer the best corrosion, acid, and chemical resistance. They're undercoated to reduce condensation.

Sinks with faucet have a chrome-plated metal faucet with swivel spout and are compliant with regulations for drinking (potable) water. *Style D* has a flow rate of 2.2 gpm. It also has ½ NPS male connections and comes with a strainer and tailpiece (1½" dia.; 4" long). *Styles E&F* have a flow rate of 1.5 gpm. They also have ½ NPT male connections.

Four-hole sinks come with a sprayer.

	Overall Size Lg.	Wd.	Ht.	Inner Bowl Size Lg.	Wd.	Dp.	Counter Cutout Lg.	Wd.	Drain Opening Dia.	Faucet Holes No.	Dia.	Ctr.-to-Ctr.	Sinks	Sinks with Faucet Faucet Ht.		
High-Impact Fiberglass																
A	20"	17"	10"	15"	14"	9½"	18½"	15½"	3½"	—	—	—	2716K61	$73.75	—	—
A	22"	25"	13¾"	15¾"	21⅜"	13¼"	21"	24"	1½"	—	—	—	2716K51	84.33	—	—
Chemical-Resistant Plastic																
B	14½"	14½"	8¼"	12"	12"	8"	12½"	12½"	1½"	—	—	—	3071K12	139.96	—	—
B	18½"	18½"	8¼"	16"	16"	8"	16½"	16½"	1½"	—	—	—	3071K18	226.06	—	—
B	23½"	20½"	10¼"	21"	18"	10"	21½"	18½"	1½"	—	—	—	3071K25	241.06	—	—
B	25½"	20½"	12¼"	23"	18"	12"	23½"	18½"	1½"	—	—	—	3071K27	265.51	—	—
B	27½"	17½"	10¼"	25"	15"	10"	25½"	15½"	1½"	—	—	—	3071K32	280.33	—	—
Stainless Steel																
C	13"	13"	7⅝"	10"	10"	7½"	12⅜"	12⅜"	3½"	—	—	—	23605K12	283.96	—	—
C	15"	15"	7⅝"	12"	12"	7½"	14⅜"	14⅜"	3½"	—	—	—	3078K11	299.59	—	—
C	18"	19"	7⅝"	13½"	16"	7½"	17⅜"	18⅜"	3½"	—	—	—	23605K72	322.34	—	—
C	19½"	25"	7⅝"	15¾"	21"	7½"	18⅞"	24⅜"	3½"	—	—	—	3078K15	401.38	—	—
C	19½"	25"	10⅛"	15¾"	21"	10"	18⅞"	24⅜"	3½"	—	—	—	23605K46	414.64	—	—
D	15"	15"	6⅛"	10"	12"	6"	14⅜"	14⅜"	2"	2	1¼"	4"	3080K41	159.77	7⅝"	3080K11 $247.25
E	16"	17"	7⅝"	10"	14"	7½"	15⅜"	16⅜"	3½"	3	1½"	4"	23605K54	380.27	6½"	3640K7 436.43
E	18"	19"	7⅝"	11½"	16"	7½"	17⅜"	18⅜"	3½"	3	1½"	4"	3076K11	315.88	6½"	3640K1 423.56
E	19"	19½"	10⅛"	13½"	16"	10"	18⅜"	18⅞"	3½"	3	1½"	4"	3079K31	397.63	6½"	3640K4 504.57
E	19½"	22"	7⅝"	14"	18"	7½"	18⅞"	21⅜"	3½"	4	1½"	4"	3076K31	376.60	7⅜"	3640K21 528.01
E	22"	17"	10⅛"	16"	13½"	10"	21⅜"	16⅜"	3½"	3	1½"	4"	3079K21	368.10	6½"	3640K3 479.05
E	22"	19½"	7⅝"	16"	16"	7½"	21⅜"	18⅞"	3½"	3	1½"	4"	3076K21	380.48	6½"	3640K2 464.10
E	22"	25"	10⅛"	15¾"	21"	10"	21⅜"	24⅜"	3½"	3	1½"	4"	3079K41	442.33	6½"	3640K5 557.38
E	22"	25"	12⅛"	15¾"	21"	12"	21⅜"	24⅜"	3½"	3	1½"	4"	3079K51	494.09	6½"	3640K6 613.62
E	22"	33"	10⅛"	16"	28"	10"	21⅜"	32⅜"	3½"	3	1½"	4"	23605K65	665.33	6½"	3640K11 754.21
F	18"	29"	7⅝"	12"	12"	7½"	17⅜"	28⅜"	3½"	4	1½"	4"	3076K51	539.47	7⅜"	3640K23 668.08
F	22"	33"	10⅛"	16"	13½"	10"	21⅜"	32⅜"	3½"	3	1½"	4"	3079K13	654.07	6½"	3640K12 772.18

Miniature Drop-In Sinks

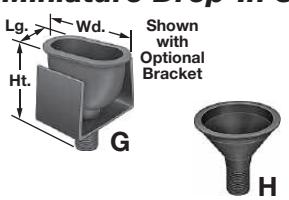

Dispose of small quantities of liquids with these one-piece polyethylene sinks. Also known as cup sinks, they have a strainer and tailpiece with a 1½ NPT male connection. Color is black.

Optional mounting bracket stabilizes Style G sinks dropped into 1" to 1¼" thick countertops.

	Overall Size Lg.	Wd.	Ht.	Inner Bowl Size Lg.	Wd.	Dp.	Counter Cutout Lg.	Wd.		
G	3⅞"	7"	8½"	2⅞"	5⅞"	4⅜"	3⅜"	6½"	2690K51	$39.27
G	4⅜"	10½"	8½"	3⅜"	9⅜"	5½"	3⅞"	10"	2690K52	61.04
H	—	6⅝" Dia.	6¾"	—	5½" Dia.	4"	—	6⅛" Dia.	2690K56	41.22
Optional Mounting Bracket for Style G									2690K55	15.88

Wash Fountains



You won't have to wait to wash up with these deep-bowl, multi-user fountains. They're chemical and corrosion resistant and have a liquid soap dispenser, except Style C which has a bar soap holder.

Top-venting fountains include a drain trap. For images of connection location, please go to mcmaster.com and search for the part number.

Plastic—These fountains have ½ NPT female inlets and a 2 NPT male drain outlet. They're beige and have ½″ dia. holes for floor mounting.

Style A come with a support bracket for the spray head; it has 9/32″ dia. holes.

Stainless Steel—These fountains have ½ NPT male flexible hose inlets. Pedestals are black, vinyl-coated galvanized steel. They have ½″ dia. holes for floor mounting.

Styles C&D have a 1½″ unthreaded drain outlet. They also have four ½″ dia. holes for optional wall mounting.

Style E have a 2″ unthreaded drain outlet.

Touch-free fountains operate at 24 volts AC (from 120 volts AC) with a step-down transformer that draws 3 amps. Sensor and transformer are UL listed.

Mount Style	*Connection Location* Inlet	Drain	Venting	No. of Users	Rim Ht.	Wd.	Projection from Wall	Bowl Dp.	Flow, gpm	Foot Operated		Touch Free	
Plastic—Unassembled													
A Floor/Wall	Wall	Wall	Floor/Wall	3	29¼″	36″	25¾″	9″	1.25	**2984K241**	$3,027.77		
A Floor/Wall	Wall	Wall	Floor/Wall	4	29¼″	54″	35¼″	9″	3	**2984K121**	3,672.33		
B Floor	Floor	Floor	Floor Drain	5	29¼″	36″ Dia.	—	9″	2	**2985K151**	3,281.78		
B Floor	Top	Floor	Top	5	29¼″	36″ Dia.	—	9″	2	**2985K152**	3,281.78		
Stainless Steel—Assembled													
C Floor/Wall	Wall	Wall	Floor/Wall	2	34″	27½″	17¼″	4½″	0.5	**2629K27**	1,897.24	**29805K51**	$2,141.38
D Floor/Wall	Wall	Wall	Floor/Wall	3	34″	38″	32″	4½″	0.5	**2629K37**	3,071.81	**29805K53**	3,591.68
D Floor/Wall	Wall	Wall	Floor/Wall	4	34″	38″	32″	4½″	0.5	**2629K47**	3,236.98	**29805K54**	3,705.63
E Floor	Floor	Floor	Floor Drain	8	34″	54″ Dia.	—	4½″	0.5	**2629K541**	4,061.61	**29805K561**	4,857.62
E Floor	Top	Floor	Top	8	34″	54″ Dia.	—	4½″	0.5	**2629K542**	4,061.61	**29805K562**	4,857.62

Bradley and Acorn Wash Fountain Repair Parts

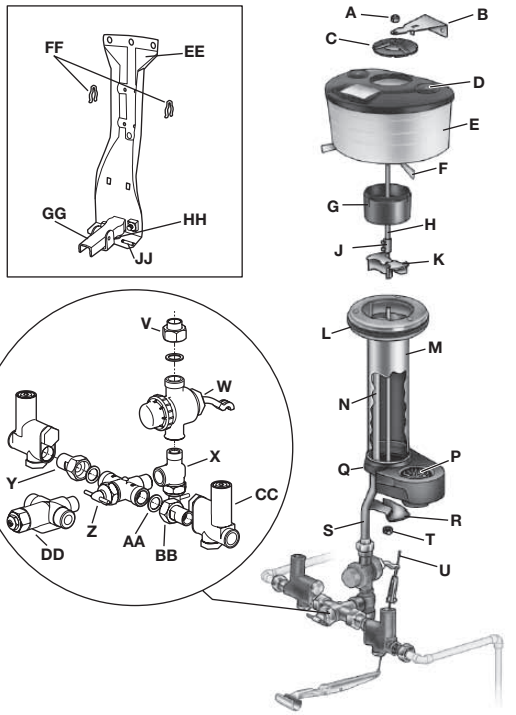

	Mfr. Part No.		
Bradley			
A Locking Cap Nut	S66-002	**2402K107**	$16.24
B Bracket for 36″ Plastic; S.S. Bowl	140-196	**2402K76**	124.14
C Soap Dispenser Cover–Type A	107-099	**2402K2**	34.76
D Soap Filler Cap	S10-004	**2402K65**	21.62
E Soap Dispensers	S52-070A, S52-071, S52-074A, S52-075, ★	**2402K13**	
F Powdered Soap Valve	S09-010A	**2402K46**	43.55
G Soap Dispenser Tube Spacer	113-155A	**2402K88**	19.56
H Upper Tie Rod	176-010	**2402K33**	6.41
J Locking Coupling Nut	S66-001	**2402K37**	15.12
K Upper Tie Bar	159-009A	**2402K26**	12.62
L Circular Spray Head	S05-054	**2402K83**	370.55
L Semicircular Spray Head	S05-054B	**2402K84**	370.55
M Support Tubes	S57-005, S57-006, ★	**2402K15**	
N Lower Tie Rods	176-008, 176-008A, ★	**2402K92**	
P Strainer	173-002	**2402K32**	7.24
Q Tube Gasket for Stain. Steel Bowl	125-008	**2402K44**	16.86
Q Tube Gasket for Plastic Bowl	125-011	**2402K43**	16.86
R Lower Tie Bar	159-009	**2402K105**	11.28
S Supply Pipes	113-122A, 113-123A, 113-125A, 113-124A, 113-245, ★	**2402K16**	
T Locking Hex Nut	S66-003	**2402K106**	9.31
U Operating Rod	S14-007	**2402K53**	46.66
V Foot Valve Tailpiece	129-009	**2402K89**	12.84
W Foot Valve	S07-066	**2402K58**	301.14
X Volume Control Valve	S02-045	**2402K51**	77.48
Y Tailpiece (Unplated)	129-007	**2402K47**	19.45
Z Manual Mixing Valve	S01-038S	**2402K52**	179.69
AA Tailpiece Washer (Fiber)	124-001AF	**2402K109**	4.45
BB Tailpiece Nut	110-005	**2402K108**	16.66
CC Stop/Strainer/Check Valve	S60-003S	**2402K49**	247.45
DD Thermostatic Mixing Valve	S01-525S	**2402K45**	166.03
EE Pedestal Leg	193-002	**2402K1**	56.07
FF Hair Pin Cotters for Foot Lever	166-004	**2402K31**	2.28
GG Foot Lever for 54″ Models	143-025	**2402K73**	32.28
GG Foot Lever for 36″ Models	143-027	**2402K72**	28.14
HH Foot Lever Spring	135-001W	**2402K74**	6.84
JJ Pivot Pin for Foot Lever	152-026	**2402K87**	5.88
— Grommet for Circular Spray Head	124-020C	**2402K68**	33.31
— Grommet for Semicircular Spray Head	124-020D	**2402K67**	31.24
— Neoprene Top Washer	125-001DE	**2402K24**	3.93
— Neoprene Bottom Washer	125-001DF	**2402K25**	3.31
— Diaphragm for Foot Valve	125-001Y	**2402K86**	8.28
— Liquid Soap Valve	S09-007S	**2402K57**	45.72
— Stop/Strainer/Check Valve Repair Kit	S45-050	**2402K79**	32.48
— Spray Head Repair Kit	S45-051	**2402K56**	19.76

	Mfr. Part No.		
Bradley (Cont.)			
Manual Mixing Valve Repair Kit	S45-197	**2402K82**	$26.28
Volume Control Valve Repair Kit	S45-198	**2402K81**	22.45
Foot Valve Repair Kit (Blue Cover)	S65-230	**2402K212**	111.52
Foot Valve Repair Kit (White Cover)	S65-001A	**2402K222**	111.52
Cartridge Repair Kit	S65-084	**2402K35**	119.59
Other Bradley Replacement Parts	★	**2402K5**	
Acorn			
Acorn Replacement Parts	★	**9144T5**	

★ Please specify manufacturer part number.

Storage Cabinets with Sink and Faucet



Single Bowl with Right/Left Countertop

Convenient for kitchens and breakrooms, these white-painted steel sink cabinets have a plastic laminate countertop. Sink is stainless steel with a chrome-plated brass swivel faucet (½ NPT male connections; 1.5 gpm flow rate). Inner bowl is 15¼″ Lg. × 21½″ Wd. × 6″ Dp. Sinks have a 3½″ dia. drain with a P-trap, strainer, and 4″ long chrome-plated brass tailpipe. Countertop has a tan limestone pattern and a 5″ backsplash. Shipped unassembled.

Sinks **with spray hose** require a hole for the spray hose. To drill, use a 1″ dia. hole saw.

Bowl Style	*Overall Size* Lg.	Wd.	Ht.	Doors	Drawers	Shelves	Countertop Position	With Sink		With Sink and Spray Hose	
Single	25″	42″	41″	2	1	–	Right	2737K311	$701.79	2737K313	$768.07
Single	25″	42″	41″	2	1	–	Left	2737K312	701.79	2737K314	768.07
Single	25″	54″	41″	3	2	1	Right/Left	2737K21	773.27	2737K24	815.20
Double	25″	60″	41″	4	2	2	Right/Left	2737K41	857.04	2737K44	925.66

Lavatory Sink Drains

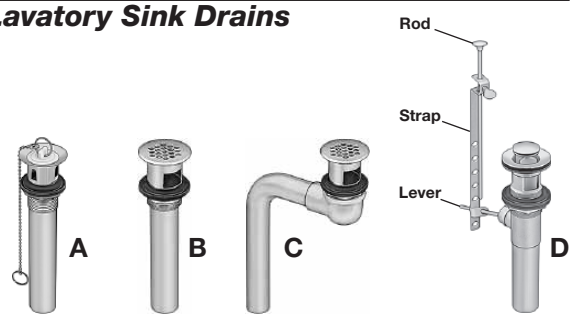

Made of chrome-plated brass, these drains have an overflow cutout.
Style C offers additional clearance under the sink.
Style D opens and closes with the included rod, strap, and lever. Strap is 8⅜″ Lg. × ½″ Wd. and made of zinc.

	Fits Sink Opening Dia.	Top Dia.	*Tailpiece* Dia.	Lg.		
Drains with Rubber Stopper and Pull Chain						
A	1¼″-1⅜″	2″	1¼″	5″	2662K1	$11.70
A	1¼″-1⅜″	2″	1¼″	8″	2662K3	13.21
A	1¼″-1⅜″	2″	1¼″	12″	2662K4	17.05
Drains with Strainer						
B	1⅝″	2¼″	1¼″	6″	2347K63	17.05
C	1⅝″	2¼″	1¼″	8¾″	2347K64	36.90
Pop-Up Drain						
D	1¼″-1½″	2⅛″	1¼″	6″	2404K53	15.72
Replacement Strap for Pop-Up Drain					2404K55	4.09

Rubber Sink Stoppers



Fits Drain Dia.		
1″-1⅜″	2810K53	$1.32
1½″-2″	2810K54	1.84

Plastic Sink Drains with Stopper



Often used for lab sinks, this chemical- and corrosion-resistant drain has a strainer and stopper. Color is black.

Fits Sink Opening Dia.	Top Dia.	Drain Ht.	Drain		Replacement Stopper	
1½″	3⅜″	3¾″	2701K61	$36.04	2701K65	$6.07

Stainless Steel Sink Drains

Drains with Basket Strainers

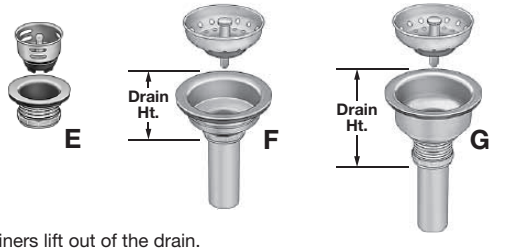

Strainers lift out of the drain.
Styles F&G have a chrome-plated brass tailpiece.
Style G has extended threads for use with thick sinks.

	Fits Sink Opening Dia.	Top Dia.	Drain Ht.	Drains		Replacement Strainers	
Drain							
E	2″-2½″	2¾″	1⅝″	2650K51	$8.93	2650K52	$3.84
Drains with Tailpiece—Tailpiece is 1½″ Dia. × 4″ Lg.							
F	3½″-4″	4½″	2½″	2672K13	16.97	2672K15	4.20
G	3½″-4″	4½″	3⅜″	2659K51	27.13	____	____

Drains with Perforated Strainers

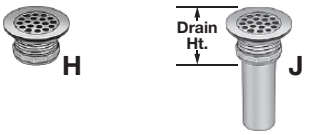

The perforated plate on these drains snaps into the opening; plates can be popped out for use with a rubber stopper. Drains come with a rubber stopper, except drains for 3½″-4″ dia. sinks.

	Fits Sink Opening Dia.	Top Dia.	Drain Ht.	Tailpiece Lg.		
Drains						
H	2″-2½″	2¾″	1⅜″	–	2674K31	$5.14
H	3½″-4″	4¼″	1⅞″	–	2673K6	7.55
Drains with 1¼″ Dia. Tailpiece						
J	2″-2½″	2¾″	1⅜″	4″	2674K21	9.80
J	2″-2½″	2¾″	1⅜″	6″	2674K22	10.35
J	2″-2½″	2¾″	1⅜″	8″	2674K23	11.28
J	2″-2½″	2¾″	1⅜″	12″	2674K24	12.30
Drains with 1½″ Dia. Tailpiece						
J	2″-2½″	2¾″	1⅜″	4″	2674K5	9.25
J	2″-2½″	2¾″	1⅜″	6″	2674K6	10.00
J	2″-2½″	2¾″	1⅜″	8″	2674K7	11.28
J	2″-2½″	2¾″	1⅜″	12″	2674K8	12.95
J	3½″-4″	4¼″	1⅞″	4″	2673K1	13.21

Stainless Steel Lever-Control Sink Drains

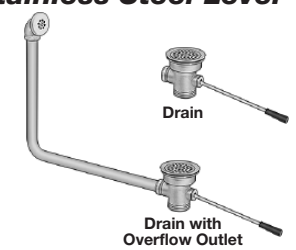

Plug and drain your service sink by moving a lever beneath the bowl. Lift lever to plug; push down to drain. Flange and strainer are stainless steel; body is plated brass.
Drains with overflow outlet accommodate most sinks. Use a hacksaw to trim the overflow outlet pipe to size.

Fits Sink Opening Dia.	Top Dia.	Drain Ht.	Pipe Connection, NPS Male	Drains		Drains with Overflow Outlet	
3″	4″	4½″	1½	2907K41	$86.67	2907K51	$116.03
3″	4″	4½″	2	2907K43	88.40	2907K53	124.10
3½″	4½″	4½″	1½	2907K42	70.98	2907K52	94.78
3½″	4½″	4½″	2	2907K44	70.98	2907K54	96.05

Tailpieces

Use these flanged tailpieces to connect a sink drain to a P-trap or S-trap.



Lg.	White Plastic 1½″ Dia.		Chrome-Plated Brass 1¼″ Dia.		Chrome-Plated Brass 1½″ Dia.		Stainless Steel 1½″ Dia.	
4″	8924T63	$0.91	2668K11	$3.97	2668K15	$5.10	2648K44	$3.50
6″	8924T64	1.14	2668K12	5.18	2668K16	6.33	2648K46	6.62
8″	8924T61	1.37	2668K13	5.75	2668K17	8.56	———	———
12″	8924T62	1.71	2668K14	6.43	2668K18	9.39	2648K52	12.03

Dual-Connection Drain Outlets

Connect two drains to a single 1½″ dia. outlet. They come with slip-joint nuts and washers to connect to tailpieces.

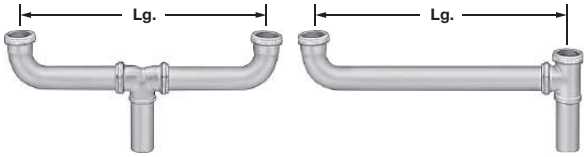

Lg.	Center Outlet		Lg.	End Outlet	
White Plastic					
16″	28555K31	$5.77	16″	28555K33	$6.35
Chrome-Plated Brass					
15½″	2677K7	45.02	16″	2677K11	32.84
25″	2677K9	61.28	25″	2677K13	65.74

Extension Tubing for Drain Traps


Slip-Joint Connection


NPT Male Threads


Unthreaded

OD	Lg.	Material		
Slip-Joint Connection on One End				
1¼″	12″	White Plastic	2965K52	$2.89
1½″	12″	White Plastic	2965K53	3.16
NPT Male Threads on One End				
1¼″	6″	Chrome-Plated Brass	2965K51	6.03
Unthreaded				
1¼″	36″	Chrome-Plated Brass	2665K34	54.79
1½″	36″	Chrome-Plated Brass	2665K35	63.88
2″	36″	Chrome-Plated Brass	2665K36	71.87

Drain-Trap Fittings

Use these fittings to connect tailpieces, P-traps, S-traps, and extension tubing to sink drains.

Slip-Joint Nuts




Pipe Connection Size, NPS Female	For Pipe OD	White Plastic with Plastic Washer		Chrome-Plated Brass with Rubber Washer	
1¼	1¼″	25945K61	$0.61	2666K33	$2.39
1½	1¼″	———	———	2666K34	2.70
1½	1½″	25945K62	.64	2666K35	2.88
2	2″	———	———	2666K36	3.76

Replacement Washers for Slip-Joint Nuts




For Pipe OD	Plastic	Pkg. of 100	Rubber	Pkg. of 100
1¼″	2610K61	$9.74	2610K64	$11.50
1½″	2610K62	10.56	2610K65	11.25
Adapts 1¼″ to 1½″	2610K63	14.50	2610K66	17.75

Pipe-to-Tubing Compression Connectors




Pipe Connection Size, NPT	For Tube Dia.	Male		Female	
1¼	1¼″	2667K1	$6.47	2667K2	$6.68
1½	1¼″	2667K3	6.67	2667K4	6.90
1½	1½″	2667K7	6.79	2667K8	7.08

Drain Traps

Traps come with slip-joint nuts and washers. **White plastic** traps come with a washer that adapts connections to 1¼″ dia.

P-Traps and S-Traps


Shown with Clean-Out Plug

P-Trap with Outlet Elbow


P-Trap

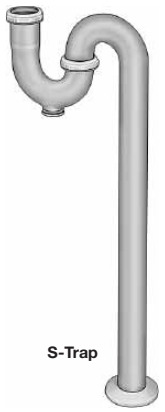
S-Trap

Traps swivel and adjust vertically for convenient installation.
P-traps are for wall connections; **S-traps** are for floor connections.
P-traps *with outlet elbow* have NPT female threads, except 2964K3 has NPS threads.

Dia.	P-Traps with Outlet Elbow		P-Traps		S-Traps	
White Plastic						
1½″	———	———	27055K83	$2.70	27055K82	$7.21
Chrome-Plated Brass						
1¼″	2964K1	$19.04	2965K22	17.50	2967K33	40.07
1½″	2964K3	22.61	2965K26	20.64	2967K37	51.80
Chrome-Plated Brass with Clean-Out Plug						
1¼″	———	———	2965K24	22.14	2967K35	51.87
1½″	2964K9	56.00	2965K27	25.07	2967K36	66.85

J-Bends

Use these J-bends as replacement parts for P-traps and S-traps.




Dia.	NPT Female/ Slip Joint Connections		Slip Joint Connections	
Chrome-Plated Brass				
1¼″	2965K43	$8.47	2965K41	$11.38
1½″	2965K44	12.15	2965K42	13.07

Adjustable-Riser Drain Traps

The riser on this P-trap adjusts vertically up to 5½″. Often used with lab sinks, it's made of chemical-resistant plastic. Trap comes with a 1½″ dia. drain with strainer (top diameter is 3⅜″).

The tailpiece has 1½ NPS male threads and can accommodate sinks up to 2¼″ thick. The trap also has a 1½ NPT male outlet elbow. Meets ASTM F1412-92 for chemical resistance.



2978K14 ..... $94.53

Adjustable-Neck Drain Traps



Adjustable J-bend connects drains that are horizontally offset up to 2½″ or vertically offset up to 3½″. Made of white plastic, it comes with a wall tube, slip-joint nuts, and washers for 1¼″ and 1½″ dia. drains.

3097K5		$9.31

Easy-to-Clean Drain Traps



Loosen the knobs on this J-bend to clean it out without removing it from your pipe system. Made of clear plastic, it has a removable screen that traps objects while allowing water to flow.

It comes with slip-joint nuts and washers for 1¼″ and 1½″ dia. drains.

2972K53		$9.55

Sink Drain Wrenches



Install and repair various sink drain traps and fittings with one tool. Made of zinc-plated steel, it works on 6-, 8-, and 12-sided drain nuts. Overall length is 8¾″.

2377K4		$11.89

Sink Drain and Toilet Inlet Connector Wrenches



Adjustable from 1″ to 4″ in diameter, this wrench installs and removes standard and pop-up sink drains, overflow outlets, and toilet inlet connectors (spuds). It's steel with a black-oxide finish.

2811K14		$33.50

Porcelain Repair



Keep the surface of your porcelain fixtures looking like new. Filler and glazes are white.

Filler repairs large chips and cracks. Sand and finish with glaze (sold separately).

Glaze touches up small chips and scratches.

	Size		
Filler	2 oz.	7824T11	$10.90
Glaze for American Standard Fixtures	½ oz.	7824T21	10.90
Glaze for Kohler Fixtures	½ oz.	7824T22	10.90
Glaze for Appliances	½ oz.	7824T23	10.90

Sink Drains with Collection Traps





Stop clogs and blockages before they happen with these plastic traps. Often used in laboratory applications, they have removable collection pots.

Traps fit standard 1½″ dia. sink openings; top diameter is 3⅜″. The tailpiece accommodates sinks up to 2¼″ thick. Stopper is included.

Standard trap withstands frost, boiling water, and detergents. Outlet has a 1½″ dia. slip-joint connection. Trap includes an adapter tube with an unthreaded male outlet for use as an extension to another slip-joint connection.

Large capacity trap has a semi-clear catch pot, so you can see when it needs to be emptied. Outlet has 1½ NPT male threads. Meets ASTM F1412-92 for chemical resistance.

	Overall Size			
Capacity	Ht.	Dia.		
Standard				
8 oz.	10⅝″	3⅜″	2981K1	$96.02
Large Capacity				
1 gal.	11¾″	7½″	2694K51	250.67
2 gal.	17″	7½″	2694K52	261.79

ADA-Compliant Pipe Insulation



To reduce the risk of burns from touching the hot pipes under your sink, install this molded, flexible pipe insulation. Made of white ⅛″ thick vinyl, it wraps around 1¼″ and 1½″ dia. P-traps and two 90° water-supply stop valves (⅜″ and ½″ inlets). It's treated to inhibit the growth of stain- and odor-causing bacteria on the surface of the insulation. ADA compliant when properly installed.

Optional cover for offset pipe insulates a 5″ offset drain on a wheelchair accessible sink.

Pipe Insulation	23685K72	$45.03
Optional Cover for Offset Pipe	23685K73	13.90

Garbage Disposals



Pulverize and eliminate food waste in your sink with these corrosion-resistant disposals. They have stainless steel grinding blades, a removable splash guard, cushioned mounting ring, reset button, and 3-ft. cord. Disposals mount below sinks with a 3½″ dia. drain opening. Motor operates on 120 volts AC and is insulated to reduce noise.

		Overall Size			
hp	Amps	Ht.	Dia.		
½	4.5	13½″	7⅝″	2955K42	$143.59
¾	6.0	14½″	8½″	2955K43	207.36

Grease Traps


Steel


Plastic

Often used in restaurants, these corrosion-resistant grease interceptors remove and retain grease from waste water to prevent blockages inside the plumbing system.

Steel traps have a slip-resistant cover and lift handle. They have unthreaded connections; for no-hub pipe couplings, please see page 105.

Plastic traps offer more corrosion resistance than steel traps. They have NPT female connections. Maximum temperature is 212°F.

Pipe Size	Flow, gpm	Grease Capacity, lbs.	*Overall Size* Lg.	Wd.	Ht.		
Steel							
3	20	40	24⅛″	17¼″	15″	1236N22	$396.50
3	25	50	26⅛″	19⅞″	17″	1236N23	441.00
Plastic							
2	20	40	29″	19½″	14″	1236N21	494.92
3	25	50	32½″	19½″	17″	1236N24	669.75

Liquid and Granular Drain Cleaners

Organic waste digesters keep clogs from forming. They contain concentrated bacteria to break down waste buildup in drains, grease traps, and sewage systems.

Drain openers remove clogs by dissolving grease and other organic matter causing the blockage. They're made with sodium hydroxide and have no odor. *Liquid* opener can be poured directly into standing water. *Granular* openers activate in hot water.

Organic Waste Digesters		
Size		
Liquid		
1 qt.	9425T52	$14.28
1 gal.	9425T53	53.12
Granular		
1 lb.	63785T11	13.62
25 lb.	63785T12	272.40

Drain Openers		
Size		
Liquid		
1 qt.	7387T15	$7.14
Granular		
1 lb.	73065T41	10.08
2 lb.	73065T42	19.06
6 lb.	73065T43	54.17

Plungers



For Use On	Bottom Dia.	Handle Lg.		
Rubber Plungers with Wood Handle				
A Toilet	6″	19″	2608K1	$5.26
B Toilet	3″	21″	2643K1	9.69
Bellows-Style Plastic Plungers with Plastic Handle				
C Sink/Tub/Floor Drain	4 7/8″	7″	2436K7	4.89
C Sink/Tub/Floor Drain	6″	12 1/2″	2436K8	8.42
D 1.6-gal. Toilet	1 1/2″	12 1/2″	2436K5	8.42
E Sink/Toilet	3 1/4″	12 1/2″	2436K6	8.42
Heavy Duty Rubber Plunger with Plastic Handle				
F Toilet/Drain	4 1/4″	24″	2609K1	16.85

Toilet Augers





Bulb Head



Drop Head

To prevent damage to your toilet, these augers have a plastic shield joining the steel rod and cable. **Standard drop head** auger has a jointed connection to maneuver through bends in pipe.

Head Style	Cable Size Dia.	Cable Size Lg., ft.		
Standard				
Bulb	15/32″	3	2593K31	$37.07
Drop	15/32″	3	2593K32	44.61
Extendable				
Bulb	15/32″	3 to 6	2845K11	60.80

Flat-Rod Drain Cleaners

Push these kink-resistant spring wire rods through floor drains to remove blockages. Rods and storage frame are made of steel; the head is zinc and aluminum; and the handle is aluminum. Not for use with sink or toilet drains.





For Pipe ID	Rod Size Wd.	Rod Size Thick.	50-ft. Rod Lg.		100-ft. Rod Lg.	
1 1/2″-3″	1/2″	1/16″	2594K81	$45.40	2594K91	$77.37
2″-4″	3/4″	1/16″	2594K83	66.85	2594K93	99.18
4″-6″	3/4″	1/8″	2594K85	118.63	2594K95	192.85
Replacement Handle					2594K76	6.85

Hand-Pump Drain Cleaners



Blast away blockages in pipes up to 200 ft. away. Pressurize the cylinder; insert head into your drain; and pull the trigger. To pressurize, pump the handle or use an air compressor with a 1/4 NPT female connection. Cleaners come with five drain adapters (1 1/4″ to 4″ dia.).

Standard cleaners have a 4″ dia. rubber cone and a 10″ rubber extension hose.

Deluxe cleaner has a 6″ dia. rubber cone, 4-ft. rubber hose, and four drain-opening plugs (1 1/2″ to 4″ dia. range). It also includes a check valve; adapters for water connection; and a 22″ extension hose.

Maintenance kit contains O-rings, washers, and other commonly worn parts.

Drain-opening plug set includes 1 1/2″, 2″, 3″, and 4″ diameter plugs.

Standard Cleaner	2624K11	$285.10
Standard Cleaner with Carrying Case	2624K12	346.82
Deluxe Cleaner with Carrying Case	2624K13	480.46
Replacement Pressure Gauge	2624K38	27.02
Maintenance Kit	2624K32	28.53
Drain-Opening Plug Set	2624K31	59.18

Gas-Powered Drain Cleaners



For use in drains, garbage disposals, toilets, and urinals, this drain cleaner uses a pressurized cartridge of compressed gas to power through clogs. It's plastic and has a 4″ diameter base adapter. Includes four cartridges. Each cartridge is for one application.

Drain Cleaner	27405K37	$39.46
Refill Cartridges (Pkg. of 4)	27405K38	9.50

Water-Powered Drain Cleaners

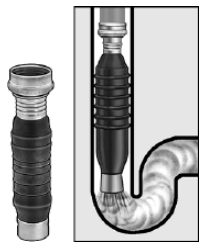

Semirigid



Flexible

Flush out clogs with your garden hose. These drain cleaners attach to a hose and expand to form a seal while the water pressure dislodges the blockage. They have a 3/4 GHT female connection.

Semirigid cleaners have a ribbed rubber cylinder to grip the inside of your pipe.

Semirigid drain cleaner kit includes three drain cleaners to fit 1″ to 6″ pipe IDs, a crossbar drain adapter, a 10-ft. hose with 3/4 GHT male and female connectors, a 3/4 GHT faucet adapter, and a carrying case.

Flexible cleaners have a bag-style cylinder that can move through pipe curves and elbows. They come with a backflow preventer, except the cleaner for 4″ to 6″ pipe ID has a 3/8 NPT male nozzle that can be capped to convert the cleaner to a plug (max. pressure is 40 psi; cap sold separately).

Hose has 3/4 GHT male and female connectors and a faucet adapter.

Faucet adapter allows your faucet to accept a 3/4 GHT female connector.

For Pipe ID	Pressure Range, psi	Deflated Lg.		
Semirigid Drain Cleaners				
1″-2″	30-80	4 3/4″	2425K71	$14.20
1 1/2″-3″	30-80	6 1/2″	2425K72	14.93
3″-6″	30-80	11″	2425K73	31.71
6″-10″	35-150	16″	2425K75	178.44
Semirigid Drain Cleaner Kit			2425K76	71.60
Flexible Drain Cleaners				
1 3/8″-1 1/2″	30-100	8 3/4″	2623K21	45.10
1 1/2″-2 1/2″	30-100	9 1/4″	2623K22	53.70
2 1/2″-3″	30-100	13″	2623K33	75.71
3″-4″	30-100	14 3/4″	2623K44	81.85
4″-6″	30-100	20 1/4″	2623K5	124.85
Plastic Cap for 2623K5			4880K801	1.27
Accessories for Semirigid and Flexible Drain Cleaners				
Hose (10-ft. Length)			2425K65	13.88
Faucet Adapter			2425K54	4.86

Pipe-Cleaning Pigs



Apply air or water pressure to feed these pigs through your pipes and scrape away buildup. Pigs are made of heavy duty foam to squeeze through 90° pipe elbows and tight diameter changes. They have an elastomer coating for added resistance.

For Pipe ID	Pressure Range, psi: To Start Pig	To Keep Pig Moving		
1½″	100-200	40-100	2601K31	$38.84
2″	100-200	40-100	2601K32	39.91
3″	100-150	35-85	2601K35	45.00
4″	75-125	30-80	2601K38	47.73

Hand-Held Drum-Style Drain Cleaners

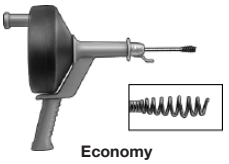

Economy

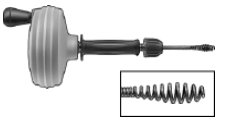

Standard



Add-a-Drill (Shown with Crank)

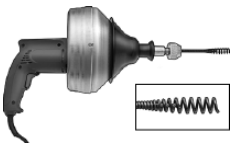

Drill-Included

Economy cleaners have a quick-release cable lock to hold cable in place. The drum and knob are plastic. Do not use with toilets.

Standard cleaner has a high-impact plastic drum that offers rust and heat resistance.

Add-a-drill cleaners can be operated with any ⅜″ or ½″ drill; for optimal performance, use at 350 rpm. Drum is plastic and includes a hand crank.

Drill-included cleaners have a variable-speed drill that operates on 120 volts AC up to 500 rpm. They're UL listed and have a power cord with two-prong plug.

2541K71 has a reversible motor, flexible and standard arrow heads, a 1¼″ side cutter blade, a ⅜″ drop-head bulb, a bulb auger, and a carrying case. For 1¼″ to 2″ pipe IDs, it comes with a 50-ft. cable (¼″ dia.); for 2″ to 3″ pipe IDs, it comes with a 35-ft. cable (⅜″ dia.). *Drop-head adapter* has a jointed connection to maneuver through bends in pipe.

For Pipe ID	Cable: Dia.	Lg., ft.	O'all Size: Ht.	Wd.	Dp.		
Manual							
Economy							
¾″-2″	¼″	15	11″	12″	7″	2513K41	$25.68
¾″-2″	¼″	25	11″	12″	7″	2513K51	28.54
Standard							
¾″-1½″	5/16″	25	18″	8⅛″	8⅛″	2422K2	103.85
Drill-Powered							
Add-a-Drill							
1¼″-2″	¼″	25	19″	9″	9″	2620K11	121.80
2″-3″	⅜″	35	19″	9″	9″	2620K14	153.92
Drill-Included							
1¼″-2″	¼″	25	20″	12″	12″	2530K53	242.59
1¼″-3″	¼″	50					
	⅜″	35	25″	12″	11″	2541K71	484.50
Replacement Standard Arrow Head for 2541K71						2541K23	6.72
⅜″ Drop Head Adapter for 2541K71						2541K54	12.04

Replacement Cable for Hand-Held Drum-Style Drain Cleaners





Cable: Dia.	Lg., ft.	For Pipe ID	Corkscrew Head		Drop-Head Bulb	
¼″	15	1¼″-2″	2586K1	$29.56	2586K51	$36.69
¼″	25	1¼″-2″	2586K2	41.25	2586K52	47.58
¼″	50	1¼″-2″	2586K4	78.26	2586K53	82.04
5/16″	25	1½″-2″	2586K22	50.55	2586K54	56.24
5/16″	50	1½″-2″	2586K23	93.90	2586K55	96.60
⅜″	25	2″-3″	2586K32	59.67	2586K56	70.44
⅜″	35	2″-3″	2586K33	81.15	2586K57	91.93

Electric Sectional-Cable Drain Cleaners



Add cable as you need it to power through difficult drain blockages. This cleaner has a 400 rpm, ⅙ hp motor that operates on 120 volts AC and includes a ground fault circuit interrupter and a power cord with three-prong plug. It comes with a straight auger, bulb auger, 1⅜″ U-cutter, spade cutter, cable carrier, and protective leather glove.

For Pipe ID	Cable: Dia.	Lg., ft.	Qty.	O'all Size: Ht.	Wd.	Dp.		
1¼″-3″	5/8″	7½	6	17½″	13″	12″	2508K11	$1,267.01
Additional Sectional Cable—5/8″ Dia. x 7½ ft. Lg.							2508K21	32.42
Replacement Straight Auger							2508K31	17.19
Replacement Bulb Auger							2508K32	16.65
Replacement Spade Cutter							2508K33	18.01

Electric Drum-Style Drain Cleaners





Snake out deep drain blockages with these continuous-cable drain cleaners. They have an air-powered on/off foot switch, a ground fault circuit interrupter, and a forward/reverse control. Cleaners have a 165 rpm, ⅓ hp motor (unless otherwise stated) that operates on 120 volts AC and comes with a power cord and three-prong plug. Handle can be folded for compact storage, except 2540K63 handle is removable. Protective gloves included.

Manual feed cleaners have a removable drum for quick access to the cable. They come with a cutter set that includes a 2″ side cutter, a 1½″ U-cutter, an arrow head, and a bulb auger. They measure 38″ Ht. x 16″ Wd. x 20″ Dp.

Note: 2563K14 is not for use with tree roots in 4″ ID pipes.

Automatic feed cleaners are self-feeding to quickly move cable through pipes.

2536K64 comes with a cutter set that includes a 13″ flexible leader; an arrow head; a 1½″ U-cutter; 2″, 3″, and 4″ side cutters; a 3″ rotary saw blade; and a retrieving tool. Cleaner measures 41″ Ht. x 17″ Wd. x 27″ Dp.

Note: Not for use with tree roots in 4″ ID pipes.

2540K63 comes with a ½ hp motor; two 100-ft. cables (½″ dia. cable for 2″ to 3″ pipe IDs; ¾″ dia. cable for 4″ to 10″ pipe IDs); a cutter set that includes 13″ and 26″ flexible leaders; an arrow head; a spear head; 2″, 3″, and 4″ two-piece side cutters; 1½″ and 2″ U-cutters; a 3″ saw blade; a 4″ rotary saw blade; a retrieving tool; and a tool box. Cleaner measures 41″ Ht. x 22″ Wd. x 26″ Dp.

For Pipe ID	Cable: Dia.	Lg., ft.	Drain Cleaners		Replacement Cutter Sets	
Manual Feed						
2″-3″	⅜″	75	2563K12	$628.19	2563K16	$34.66
3″-4″	½″	75	2563K14	689.53	2563K16	34.66
Automatic Feed						
3″-4″	½″	100	2536K64	1,392.70	2536K66	88.65
2″-10″	½″	100				
	¾″	100	2540K63	2,468.63	2540K71	178.77
Replacement Foot Switch					2536K81	25.34

Replacement Cable and Heads for Electric Drum-Style Drain Cleaners

Replacement Cable



General Pipe Cable

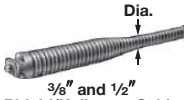

3/8″ and 1/2″ Ridgid/Kollmann Cable



5/8″ and 3/4″ Ridgid/Kollmann Cable

Connect one end of cable to a head; connect the other end to your drain cleaner. Cables connect to cable of the same size, except 3/8″ and 1/2″ dia. Ridgid/Kollmann cable.

Cable Lg.	General Pipe		Ridgid/Kollmann	
3/8″ Dia. Cable				
25 ft.	2631K12	$60.85	—	—
50 ft.	2631K13	104.71	9942K31	$120.57
75 ft.	2631K45	153.50	9942K32	166.53
100 ft.	2631K14	191.95	9942K33	208.45
1/2″ Dia. Cable				
50 ft.	2631K17	140.34	9942K34	161.44
75 ft.	2631K41	205.15	9942K35	222.61
100 ft.	2631K18	282.02	9942K36★	257.88
5/8″ Dia. Cable				
50 ft.	2631K52	162.36	9942K38	183.41
75 ft.	2631K53	232.34	9942K72	264.63
100 ft.	2631K24	297.54	9942K39	335.42
3/4″ Dia. Cable				
100 ft.	2631K28	370.49	9942K43	424.86

★Length is 90 ft.

Replacement Heads



General Pipe Arrow Head for 3/8″ and 1/2″ Cable



General Pipe Arrow Head for 5/8″ and 3/4″ Cable



Ridgid/Kollmann Arrow Head for 3/8″ and 1/2″ Cable



Bulb Auger



Corkscrew



General Pipe 3″ U-Cutter



Ridgid/Kollmann 3″ U-Cutter



Chopper

Head Style	General Pipe For Pipe ID			Ridgid/Kollmann For Pipe ID		
For 3/8″ Dia. Cable						
Arrow Head	1 1/2″-4″	2631K61	$5.69	3/4″-3″	9942K11	$16.63
Bulb Auger	1 1/2″-4″	2631K64	7.73	1 1/2″-4″	9942K14	15.22
Corkscrew	2″-4″	2631K65	9.02	2″-4″	9942K17	15.87
1 1/2″ U-Cutter	1 1/2″-4″	2631K67	13.69	1 1/2″-3″	9942K21▲	13.50
2″ U-Cutter	2″-4″	2631K68	16.06	—	—	—
1 1/2″ Chopper	1 1/2″-3″	2631K62	27.15	—	—	—
For 1/2″ Dia. Cable						
Arrow Head	1 1/2″-4″	2631K61	5.69	2″-4″	9942K12	21.82
Bulb Auger	1 1/2″-4″	2631K64	7.73	—	—	—
Corkscrew	2″-4″	2631K65	9.02	2″-4″	9942K18	23.78
1 1/2″ U-Cutter	1 1/2″-4″	2631K67	13.69	2″-4″	9942K22	34.76
2″ U-Cutter	2″-4″	2631K68	16.06	—	—	—
Flexible Leader	3″-4″	2631K73	21.53	—	—	—
1 1/2″ Chopper	1 1/2″-3″	2631K62	27.15	—	—	—
For 5/8″ and 3/4″ Dia. Cable						
Arrow Head	3″-10″	2631K63	10.99	3″-6″	9942K13	20.15
Bulb Auger	—	—	—	3″-8″	9942K16	28.22
Corkscrew	3″-10″	2631K66	19.72	3″-10″	9942K19	32.59
2″ U-Cutter	2″-4″	2631K68	16.06	3″-6″	9942K23	21.26
3″ U-Cutter	3″-10″	2631K69	17.92	3 1/2″-8″	9942K24	23.78
4″ U-Cutter	3″-10″	2631K71	19.83	4 1/2″-10″	9942K25	27.16
2 1/2″ Chopper	3″-4″	2631K75	54.74	—	—	—

▲1″ U-Cutter

Tube Scrapers and Handles

Break down tube buildup.

Coiled Flat Wire—Remove soft and hard deposits without scratching.

Flat Wire—For hard, heavy deposits.

Spiral Blade—These self-sharpening scrapers use spring tension to exert pressure and remove soft and hard deposits without scratching your tubes.

Round Wire—Our most durable scrapers for hard, heavy deposits.

T-handles are 60″ long and made of steel. For more handles and styles, please see page 2702.



Coiled Flat Wire



Flat Wire



Spiral Blade



Round Wire



T-Handle

Scraper Dia.	Lg.	Overall Lg.	Tube Scrapers		T-Handles	
Coiled Flat Wire—1/8 NPT Male Connection						
3/4″	4 1/2″	7 1/2″	7085T37	$15.81	7215T31	$42.56
7/8″	4 1/2″	7 1/2″	7085T38	15.97	7215T31	42.56
1″	4 1/2″	7 1/2″	7085T39	16.20	7215T31	42.56
1 1/8″	4 1/2″	7 1/2″	7085T41	16.20	7215T31	42.56
1 1/4″	4 1/2″	7 1/2″	7085T42	16.54	7215T31	42.56
1 3/8″	4 1/2″	7 1/2″	7085T43	16.54	7215T31	42.56
Coiled Flat Wire—1/4 NPT Male Connection						
1 3/4″	4 1/2″	7 1/2″	7085T46	17.66	7215T71	42.56
Flat Wire—1/4 NPT Male Connection						
3/4″	4 1/2″	7 1/2″	7085T11	18.73	7215T71	42.56
7/8″	4 1/2″	7 1/2″	7085T12	18.73	7215T71	42.56
1″	4 1/2″	7 1/2″	7085T13	18.73	7215T71	42.56
1 1/8″	4 1/2″	7 1/2″	7085T14	19.01	7215T71	42.56
1 1/4″	4 1/2″	7 1/2″	7085T15	19.01	7215T71	42.56
1 3/8″	4 1/2″	7 1/2″	7085T16	19.01	7215T71	42.56
1 3/4″	4 1/2″	7 1/2″	7085T19	19.12	7215T71	42.56
Spiral Blade—1/4 NPT Female Connection						
1 1/2″	3 3/4″	7″	3653K14	35.66	7215T12	42.56
1 3/4″	3 3/4″	7″	3653K15	37.01	7215T12	42.56
2″	3 3/4″	7″	3653K16	39.15	7215T12	42.56
2 1/2″	4 3/4″	7″	3653K18	43.76	7215T12	42.56
Spiral Blade—1/2 NPT Female Connection						
2 3/4″	6″	9″	3653K19	46.35	7215T41	42.56
3 1/4″	6 1/2″	9″	3653K22	43.05	7215T41	42.56
Round Wire—5/8″-11 Male Connection						
1 1/2″	5 1/2″	9″	7111T13	41.29	7215T21	47.96
1 3/4″	5 1/2″	9″	7111T14	42.08	7215T21	47.96
2″	5 1/2″	9″	7111T15	42.41	7215T21	47.96
3″	5 1/2″	9″	7111T19	44.66	7215T21	47.96

Tube Plugs for Condensers and Heat Exchangers

Plug leaky tubes in condensers and heat exchangers with these two-piece brass ring and pin sets. Insert ring into the tube, and hammer the pin into the ring for a secure seal.

Note: If you do not know the tube OD or gauge, measure the tube ID and select the closest ring OD.



For Tube Size OD	Ga.	Ring OD			For Tube Size OD	Ga.	Ring OD		
1/2″	20	0.43″	3507K115	$13.78	5/8″	16	0.50″	3507K522	$14.20
1/2″	19	0.41″	3507K114	13.78	5/8″	15	0.49″	3507K711	14.20
1/2″	18	0.40″	3507K111	13.78	5/8″	14	0.46″	3507K713	14.20
1/2″	17	0.39″	3507K113	13.78	3/4″	18	0.66″	3507K551	14.20
1/2″	16	0.37″	3507K112	13.78	3/4″	17	0.64″	3507K558	14.20
5/8″	20	0.57″	3507K525	14.20	3/4″	16	0.63″	3507K552	14.20
5/8″	19	0.55″	3507K524	14.20	3/4″	15	0.61″	3507K557	14.20
5/8″	18	0.53″	3507K521	14.20	3/4″	14	0.59″	3507K556	14.20
5/8″	17	0.51″	3507K523	14.20	3/4″	13	0.57″	3507K525	14.20

Tube Expanders for Condensers, Heat Exchangers, and Boilers

Designed for building and maintaining equipment with tubes that pass through perforated metal sheets, these expanders have rollers and tapered noses to ensure uniform tube tightness. They have a 3/8″ square drive recommended for use with torque-controlled power tools.

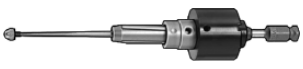

For Tube Size OD	Ga.	Fits Min. Tube ID	Max. Tube Expansion Dia.	Max. Tube Sheet Thick.		
1/2″	18	0.392″	0.447″	1 1/2″	3628K13	$325.50
5/8″	16	0.485″	0.550″	1 1/2″	3628K16	325.50
5/8″	18	0.517″	0.582″	1 1/2″	3628K57	325.50
3/4″	15	0.596″	0.661″	1 1/2″	3628K63	325.50
3/4″	17-18	0.619″	0.699″	1 1/2″	3628K64	325.50
7/8″	14	0.685″	0.774″	2 1/4″	3628K65	383.83
1″	14	0.810″	0.909″	2 1/4″	3628K66	383.83

Tube Cleaners & Test Pumps

Electric Tube Cleaners

Force out tough tube blockages with these powered cleaners. Pair the **tube cleaner** with a **flexible shaft**; then attach a **scraper** or **brush** to the shaft. Water flows past the shaft to flush out loosened deposits.

Tube Cleaner

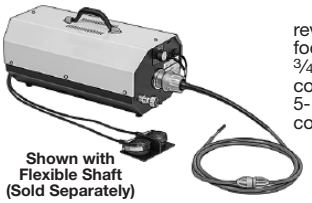

Shown with Flexible Shaft (Sold Separately)

Cleaner has a variable-speed, reversible motor with an on/off foot switch. The water inlet has a ¾ GHT connection. To power, connect an extension cord (NEMA 5-15) into the receptacle. For power cords, see page 828.

AC Voltage	hp	rpm		
120	½	0 - 1,800	3627K13	$1,673.10

Flexible Shafts

For Tube ID	Thread Size	12-ft. Length		25-ft. Length	
¼" - ⅜"	8 - 32 Female	3627K57♣	$191.93	3627K37♣	$237.09
7/16" - ½"	¼" - 28 Female	3627K53	208.87	3627K33	265.33
9/16" - 1"	¼" - 28 Female	3627K52	227.32	3627K35	296.36

♣ Not for use with the scrapers shown below; includes adapters to connect brushes with 8 - 32 and 12 - 24 female threads.

Brushes



Match the brush diameter to your tube ID.

Nylon and **Brass**—Remove soft deposits in copper and brass tubes. *Nylon* brushes are blue.

Stainless Steel—Remove soft and light scale deposits in carbon steel and stainless steel tubes.

Brush Dia.	Thread Size		Nylon	Brass	Stainless Steel
¼"	8 - 32 Female	3627K72	$5.42	$7.34	$7.80
5/16"	8 - 32 Female	3627K73	5.42	7.34	7.80
⅜"	12 - 24 Female	3627K74	5.42	7.34	7.80
7/16"	¼" - 28 Male	3627K75	5.42	7.34	7.80
½"	¼" - 28 Male	3627K76	5.42	7.34	7.80
9/16"	¼" - 28 Male	3627K77	5.42	7.34	7.80
⅝"	¼" - 28 Male	3627K78	5.42	7.34	7.80
11/16"	¼" - 28 Male	3627K79	5.42	7.34	7.80
¾"	¼" - 28 Male	3627K81	5.42	7.34	7.80
13/16"	¼" - 28 Male	3627K82	5.42	7.34	7.80
⅞"	¼" - 28 Male	3627K83	5.42	7.34	7.80
15/16"	¼" - 28 Male	3627K84	5.42	7.34	7.80
1"	¼" - 28 Male	3627K85	5.42	7.34	7.80

Scrapers



Remove light to medium deposits in carbon steel, stainless steel, copper, and brass tubes.

For Tube ID	Thread Size	Scraper Lg.	O'all Lg.		
½" - 9/16"	¼" - 28 Male	3 1/16"	4½"	3627K44	$22.64
⅝" - 1"	¼" - 28 Male	3 7/16"	4⅞"	3627K45	22.64

Hydrostatic Test Pumps



Bench Mount



Freestanding



Bench Top



Channel Mounted

Lift and lower the jack-style handle on these pumps to generate the pressure needed for testing fluid pressure in valves, hose, sprinkler lines, pipes, boilers, condensers, heat exchangers, pressure vessels, and other pumps. Perform pressure tests with water, unless otherwise stated.

Bench Mount—Has 7/16" dia. mounting holes to anchor pump to your bench.

Freestanding—No water connection is needed with these pumps. They have a reservoir that stores fluid for testing. Both have a pressure gauge. 9108T2 reservoir holds 1.2 gallons of fluid; 9108T3 reservoir holds 3.2 gallons. Pumps can be used with water and hydraulic oil.

Bench Top—The baseplate on this pump provides leverage and stability while testing. It comes with a pressure gauge and carrying case.

Channel Mounted—Attached to a channel base for improved leverage, this lightweight pump can be used with water and hydraulic oil. Stroke length is adjustable.

Max. psi Generated	Overall Size Lg.	Wd.	Ht.	Handle Lg.	Hydraulic Hose Lg.	Water Connection Size (Female) Inlet	Outlet	Stroke Lg.	Body Material		
Bench Mount											
750	12½"	6"	13"	26"	—	¾ NPT	¾ NPT	4"	Cast Iron	4229K1	$497.74
2,000	12½"	6"	13½"	28¼"	—	¾ NPT	¾ NPT	4"	Bronze	4229K5	913.11
Freestanding											
363	17⅜"	7⅞"	9½"	14"	48"	—	½ NPT	2½"	Galvanized Steel	9108T2	324.45
860	28½"	6⅝"	10¼"	22"	48"	—	½ NPT	2½"	Galvanized Steel	9108T3	528.33
Bench Top											
1,000	18"	7"	9"	14"	—	¾ GHT	¼ NPT	2"	Aluminum	8084K1	650.21
Channel Mounted											
6,000	24"	9"	13½"	24"	48"	¾ GHT	¼ NPT	4", 2"	Cast Bronze	4160K16	655.35

Electric Hydrostatic Test Pumps



Freestanding



Frame Mount

To test pressure quickly, let a motor do the pumping. These electric pumps are for pressure tests with water and include a pressure gauge, pressure-regulator bypass, ball valve, and unloader valve. The totally enclosed fan cooled (TEFC) motor is capacitor start and operates on 120 volts AC. Pumps include a power cord with three-prong plug.

Freestanding—Compact, lightweight, and designed for convenient transportation.

Frame Mount—Protected by a metal cage with rubber feet. Pump includes a 10-ft. hose for high-pressure applications.

	Max. psi Generated	hp	Amps	Overall Size Lg.	Wd.	Ht.	Water Connection Size Inlet (Female)	Outlet (Male)	Max. Flow, gpm	Body Material		
Freestanding	300	½	8.8	14"	10"	12"	¾ GHT	¼ NPT	4	Aluminum	43405K16	$868.66
Frame Mount	500	1	13.6	16"	22"	18"	¾ GHT	½ NPT	3	Cast Iron	4247K33	1,495.04
Frame Mount	1,000	1	13.6	16"	22"	18"	¾ GHT	½ NPT	1	Brass/Aluminum	4276K65	1,636.25

Air-Powered Hydrostatic Test Pumps

These pumps come with a regulator that shuts off the pump when the desired air pressure is met and restarts it when the pressure drops. Designed for use with water and hydraulic oil, they have two pressure gauges and a 3/8 NPT female air inlet. Pumps operate on up to 100 psi of air pressure, except 10,000 psi models operate on up to 82 psi. Body is stainless steel; frames are metal.

Bench-top pumps have removable roll bars.

Optional connection hoses have a 3/8 male NPT connection; they also come with a 3/8 NPT quick-disconnect set. Hose for 4,800 max. psi has a temperature range of –40° to 212°F; hose for 10,000 max. psi has a temperature range of –40° to 120°F.


Bench Top


Frame Mount


Frame Mount with Wheels

	Overall Size Lg.	Wd.	Ht.	Water Connection Size (Female) Inlet	Outlet	Choose a Generated Pressure, psi		
Bench Top	23″	12″	12″	3/4 GHT	3/8 NPT	1,000; 3,000; 6,000; 10,000	41455K8	$2,247.54
Frame Mount	15″	15″	15″	3/4 GHT	3/8 NPT	1,000; 3,000; 6,000; 10,000	41465K7	2,875.43
Frame Mount with Wheels	15″	15″	36″	3/8 NPT	3/8 NPT	1,000; 3,000; 6,000; 10,000	41485K9	3,564.08
Optional Connection Hose for 4,800 Max. psi (10-ft. Lg.)							41455K91	247.50
Optional Connection Hose for 10,000 Max. psi (10-ft. Lg.)							41455K92	262.50

Twist-to-Connect High-Pressure Test Fittings

Tighten these threaded fittings with your hands for a secure connection in testing, filling, flushing, venting, and plugging applications—no tools, tape, or sealant required. Air, gas, or hydraulic pressure pushes the seal against the threads, making them excellent for vacuum and pressure testing of hydraulic and air-powered systems. They have a stainless steel body and polyurethane seals, so fittings are compatible with most petroleum-based fluids. Temperature range is –65° to 212°F.

Connectors have a bypass that allows you to add media.






Thread Size, NPT	Max. psi	Male Connectors		Male Swivel Connectors		Female Connectors		Male Plugs	
1/8	5,000	2438K21	$61.25	2438K31	$95.00	2438K71	$67.50	2438K11	$43.75
1/4	5,000	2438K22	67.50	2438K32	98.75	2438K72	67.50	2438K12	51.25
3/8	4,000	2438K23	76.25	2438K33	105.18	2438K73	98.75	2438K13	52.50
1/2	4,000	2438K24	86.25	2438K34	126.45	2438K74	118.18	2438K14	78.75
3/4	4,000	2438K25	164.27	2438K35	253.75	2438K75	203.27	2438K15	164.27
1	4,000	2438K26	184.36	2438K36	433.33	2438K81	439.83	2438K16	184.36

Cleanout Plugs

Close off your drain cleanout pipe with these threaded plugs. They fit NPT threaded cleanout fittings, except 9359T29 fits UNC threaded fittings.

Note: If you do not know your pipe size, measure the OD of your existing cleanout plug or the ID of your cleanout fitting and match to the value listed below.


Recessed


Raised

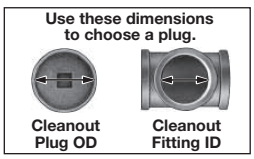

For Pipe Size	Cleanout Plug OD/ Fitting ID	Brass Recessed		Brass Raised		Black ABS Recessed	
1 1/2	1 7/8″	2400K52	$7.67	2400K72	$7.67	9359T21	$2.00
2	2 23/64″	2400K53	9.91	2400K73	7.67	9359T22	1.76
2 1/2	2 27/32″	2400K54	12.99	2400K74	10.87	9359T23	2.40
3	3 15/32″	2400K55	13.27	2400K75	11.99	9359T24	2.65
3 1/2	3 31/32″	2400K56	13.94	2400K76	16.98	9359T25	3.79
4	4 15/32″	2400K57	18.67	2400K77	19.72	9359T26	4.84
4 1/2	4 31/32″	2400K58	23.29	2400K78	24.40	9359T27	5.15
5	5 17/32″	2400K59	27.97	2400K79	30.32	—	—
5 1/2	6″	2400K61	48.42	2400K81	39.23	9359T28	10.22
6	6 19/32″	2400K62	49.33	2400K82	63.13	9359T29	12.26
Wrench for Recessed Plugs						2400K1	24.95

Clamp-Tight End Caps for Pipe

Seal pipe ends with these rubber caps. They come with a stainless steel band that clamps over the outside wall of your pipe and tightens with a screwdriver. Caps are not rated for temperature or air pressure.



For Pipe Size	For Actual Pipe OD Min.	Max.	Max. Back Pressure: Water, ft. of head	Overall Ht.		
1 1/2	1.78″	1.90″	30	1 1/2″	2394K11	$4.40
2	2.25″	2.38″	30	1 1/2″	2394K12	4.89
3	3.34″	3.50″	23	1 1/2″	2394K13	6.27
4	4.31″	4.50″	16	1 1/2″	2394K14	7.07
6	6.30″	6.62″	10	1 1/2″	2394K16	13.57
8	8.38″	8.62″	7	1 1/2″	2394K17	21.92

Cleanout/Expansion Plugs

Whether you're closing off a pipe or testing pressure, this plug provides the lasting closure of a cleanout plug and the temporary seal of an expansion plug. Plug is threaded plastic and has a thick rubber sealing ring. Temperature range is 32° to 212°F.



For Pipe Size	For Actual Pipe ID Min.	Max.	Max. Back Pressure Air, psi	Water, ft. of head	Overall Ht.		
1 1/2	1.61″	1.71″	21	50	2″	25655K71	$4.35
2	2.07″	2.16″	21	50	2″	25655K72	4.80
3	3.07″	3.16″	21	50	2″	25655K73	6.30
4	4.03″	4.12″	21	50	2″	25655K74	9.47
6	6.07″	6.16″	13	30	2″	25655K75	15.15

Expansion Plugs

About Expansion Plugs

Test your systems for leaks by inserting an expansion plug into a pipe or tube for a tight seal before applying pressure.

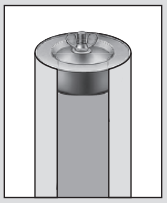

Standard (End-of-Pipe Use)

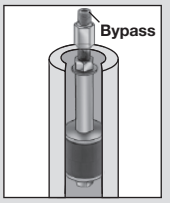

For Inside-Pipe Use (Shown with Bypass)

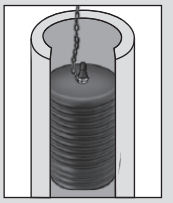

Inflatable

Most expansion plugs have a top and bottom plate that, when tightened, squeeze against an expanding center ring to create a seal against the inside of the pipe. They work best with perfectly round pipes.

Standard plugs are designed to cap and seal pipes at the opening.

Plugs **for inside-pipe use** create a seal deeper within the pipe.

Inflatable plugs compensate for pipe that is not perfectly round. Fill the plug with air or water to create a secure, inside-pipe seal up to 24″ in diameter.

Plugs **with bypass** have an access tube that allows you to add media and relieve back pressure in the pipeline.

If you do not know your pipe size, select a plug based on the actual pipe or tube ID. For information about pipe size, please see pages 2-3.

Maximum back pressure is the amount of pressure a plug can withstand without moving. *Water, feet of head* refers to the pressure resulting from the height of the water above the plug.

Wing Nut Expansion Plugs

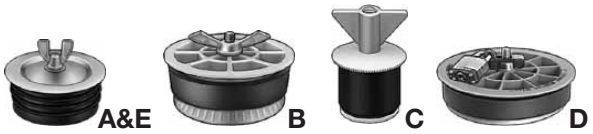

Twist the wing nut on these plugs to expand the seal and close off pipes.

(A-C) Zinc-plated steel and **plastic** plugs have a rubber seal.

(D) Lockable plastic plugs have a nitrile seal and a 5⁄16″ max. shackle diameter.

(E) Stainless steel plugs have a neoprene seal, unless noted.

For Pipe Size	For Actual Pipe ID Min.	Max.	Maximum Back Pressure Air, psi	Water, ft. of head	Overall Ht.		
(A) Zinc-Plated Steel—Temperature range is –20° to 125°F							
1 1⁄2	1.44″	1.65″	2	5	2 9⁄16″	2613K21	$2.30
2	1.96″	2.25″	2	5	2 5⁄8″	2613K23	2.50
3	2.86″	3.25″	2	5	2 11⁄16″	2613K25	4.07
4	3.78″	4.50″	2	5	3 1⁄4″	2613K27	5.07
5	4.62″	5.30″	1	2	3 9⁄16″	2613K29	9.52
6	5.62″	6.40″	1	2	3 3⁄16″	2613K31	11.13
(B) Plastic—Temperature range is –20° to 125°F							
1 1⁄2	1.48″	1.65″	17	40	1 3⁄4″	2645K41	4.93
2	1.90″	2.17″	17	40	1 7⁄8″	2645K42	5.66
3	2.80″	3.10″	17	40	2 1⁄2″	2645K43	7.57
4	3.80″	4.06″	17	40	2 1⁄2″	2645K44	9.32
6	5.77″	6.08″	17	40	3 3⁄4″	2645K45	22.73
8	7.70″	8.03″	17	40	3 3⁄4″	2645K48	43.06
(C) Plastic—Temperature range is –40° to 180°F							
1⁄2	0.49″	0.60″	100	230	2 3⁄8″	2439K41	8.79
3⁄4	0.74″	0.90″	100	230	2 1⁄2″	2439K42	9.02
1	0.98″	1.20″	100	230	2 1⁄2″	2439K43	9.64
1 1⁄4	1.23″	1.45″	50	115	2 1⁄2″	2439K64	13.14
1 1⁄2	1.48″	1.75″	50	115	2 1⁄2″	2439K65	14.08
(D) Lockable Plastic—Temperature range is –20° to 125°F							
1-1 1⁄4	1.00″	1.38″	6	15	2 1⁄2″	24395K69	18.64
2	1.90″	2.31″	6	15	2 1⁄2″	24395K73	20.67
3	2.80″	3.10″	6	15	2 5⁄8″	24395K71	22.56
4	3.80″	4.38″	6	15	3″	24395K75	23.85
6	5.77″	6.08″	6	15	4″	24395K77	48.64
(E) Stainless Steel—Temperature range is 0° to 175°F							
1⁄2	0.48″	0.55″	10	24	1 11⁄16″	2613K61	13.11
5⁄8	0.57″	0.67″	10	24	1 11⁄16″	2613K62	13.38
3⁄4	0.72″	0.80″	10	24	1 11⁄16″	2613K63	13.62
7⁄8	0.82″	0.92″	10	24	1 11⁄16″	2613K64	13.79
1	0.94″	1.05″	5	12	2 7⁄16″	2613K65	13.92
1 1⁄4	1.21″	1.36″	5	12	2 1⁄16″	2613K66	14.28
1 1⁄2	1.44″	1.65″	2	5	2 9⁄16″	2613K51 ★	12.70
1 3⁄4	1.70″	1.80″	5	12	2 7⁄16″	2613K67	14.74
2	1.96″	2.25″	2	5	2 5⁄8″	2613K52 ★	13.93
2 1⁄4	2.22″	2.35″	5	12	2 15⁄16″	2613K68	24.19
2 1⁄2	2.44″	2.60″	5	12	2 13⁄16″	2613K69	24.40
2 3⁄4	2.63″	2.85″	5	12	2 13⁄16″	2613K71	24.58
3	2.86″	3.25″	2	5	2 11⁄16″	2613K53 ★	22.42
3 1⁄4	3.13″	3.35″	5	12	2 15⁄16″	2613K72	26.25
3 1⁄2	3.44″	3.60″	5	12	2 15⁄16″	2613K73	26.62
3 3⁄4	3.69″	3.85″	5	12	2 15⁄16″	2613K74	30.58
4	3.78″	4.30″	2	5	3 1⁄4″	2613K54 ★	24.74
5	4.62″	5.30″	1	2	3 9⁄16″	2613K55 ★	39.04
6	5.62″	6.40″	1	2	3 3⁄16″	2613K56 ★	43.44

★ Seal material is nitrile.

Wing Nut Expansion Plugs for Tubing



Designed for metal and rigid plastic tubing, these zinc-plated steel plugs have a neoprene seal. Temperature range is 0° to 150°F.

For Tube OD	For Actual Tube ID Min.	Max.	Maximum Back Pressure Air, psi	Water, ft. of head	Overall Ht.		
1⁄4″	0.18″	0.19″	100	230	1 3⁄8″	2552K51	$8.74
3⁄8″	0.27″	0.31″	100	230	1 3⁄4″	2552K52	9.60
1⁄2″	0.39″	0.43″	100	230	1 7⁄8″	2552K53	9.93
5⁄8″	0.52″	0.54″	100	230	2 1⁄8″	2552K54	11.89
3⁄4″	0.64″	0.74″	100	230	2 1⁄2″	2552K55	12.33
7⁄8″	0.74″	0.99″	100	230	3 7⁄8″	2552K56	17.97
1 1⁄8″	0.99″	1.24″	100	230	3 7⁄8″	2552K57	20.12

Wing Nut Expansion Plugs for Inside-Pipe Use



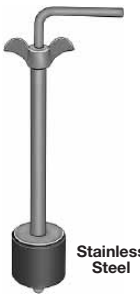

Insert these plugs deep within your pipe to seal it off from the inside. Seals are rubber. Temperature range is 0° to 125°F.

For Pipe Size	For Actual Pipe ID Min.	Max.	Maximum Back Pressure Air, psi	Water, ft. of head	Overall Ht.		
Plastic							
4	3.80″	4.06″	17	40	2 1⁄2″	2645K51	$9.32
6	5.77″	6.08″	17	40	3 3⁄4″	2645K52	22.73
8	7.70″	8.03″	17	40	3 3⁄4″	2645K46	43.06
Stainless Steel with Extended Brass Stem							
1⁄2	0.50″	0.60″	17	40	11″	2988A41	17.00
3⁄4	0.75″	0.86″	17	40	11″	2988A42	17.00
1	0.82″	0.93″	17	40	11″	2988A43	18.50
1 1⁄4	1.15″	1.35″	17	40	11″	2988A44	18.50
1 1⁄2	1.40″	1.65″	17	40	11″	2988A45	19.00
1 1⁄2	1.40″	1.65″	17	40	17″	2988A51	20.00
2	1.80″	2.15″	17	40	11″	2988A46	22.00
2	1.80″	2.15″	17	40	17″	2988A52	20.00
2 1⁄2	2.35″	2.55″	17	40	11″	2988A47	22.50
2 1⁄2	2.35″	2.55″	17	40	17″	2988A53	24.00
3	2.95″	3.15″	17	40	11″	2988A48	45.00
4	3.95″	4.04″	17	40	11″	2988A49	59.00

T-Handle Expansion Plugs

Twist the easy-grip crossbar on these plugs to expand the neoprene seal. Temperature range is –40° to 250° F.



For Pipe Size	For Actual Pipe ID Min.	Max.	Maximum Back Pressure Air, psi	Water, ft. of head	Overall Ht.	Zinc-Plated Steel Top Plate with Brass Handle		Stainless Steel with Stainless Steel Handle	
1/2	0.48″	0.55″	10	24	1 11/16″	2527K11★	$17.40	2908K11	$24.60
5/8	0.57″	0.67″	10	24	1 7/8″	2527K12★	16.32	2908K12	23.06
3/4	0.72″	0.80″	10	24	1 15/16″	2527K13★	16.82	2908K13	25.64
7/8	0.82″	0.92″	10	24	1 15/16″	2527K14★	17.14	2908K14	26.09
1	0.94″	1.05″	5	12	2 5/8″	2527K15	16.72	2908K15	27.04
1 1/8	1.06″	1.22″	5	12	2 1/2″	2527K31	17.30	2908K16	27.98
1 1/4	1.21″	1.36″	5	12	2 11/16″	2527K16	17.46	2908K17	28.45
1 3/8	1.32″	1.47″	5	12	2 5/8″	2527K32	17.62	2908K18	28.62
1 1/2	1.44″	1.55″	5	12	2 3/4″	2527K17	17.18	2908K19	29.02
1 5/8	1.55″	1.72″	5	12	2 5/8″	2527K33	17.94	2908K21	29.32
1 3/4	1.70″	1.80″	5	12	2 11/16″	2527K18	18.02	2908K22	29.47
1 7/8	1.81″	1.97″	5	12	2 9/16″	2527K34	18.10	2908K23	29.83
2	1.93″	2.10″	5	12	2 5/8″	2527K19	18.18	2908K24	35.55
2 1/4	2.22″	2.35″	5	12	3 3/4″	2527K21	31.80	2908K25	39.68
2 1/2	2.44″	2.60″	5	12	3 11/16″	2527K22	32.08	2908K26	35.87
2 3/4	2.63″	2.85″	5	12	3 3/4″	2527K23	32.76	2908K27	36.00
3	2.92″	3.10″	5	12	3 5/8″	2527K24	33.94	2908K28	38.02
3 1/4	3.13″	3.35″	5	12	3 11/16″	2527K25	34.24	2908K29	39.06
3 1/2	3.44″	3.60″	5	12	3 3/4″	2527K26	37.32	2908K31	40.42
3 3/4	3.69″	3.85″	5	12	3 3/4″	2527K27	38.12	2908K32	41.14
4	3.97″	4.10″	5	12	3 11/16″	2527K28	37.96	2908K33	40.14

★ Stainless steel top plate with a brass handle.

Quick-Snap Expansion Plugs

Sealing pipes is a snap with these plugs. Turn the cam handle to expand the neoprene seal; snap the handle down to close off your pipe. Temperature range is –40° to 250° F.



For Pipe Size	For Actual Pipe ID Min.	Max.	Maximum Back Pressure Air, psi	Water, ft. of head	Overall Ht.	Zinc-Plated Steel with Brass Handle		Stainless Steel with Brass Handle		Stainless Steel with Stainless Steel Handle	
3/8	0.38″	0.42″	10	24	1 3/8″			2598K21	$5.89	9191T31	$11.26
7/16	0.41″	0.48″	10	24	1 3/8″			2598K22	6.62	9191T32	11.34
1/2	0.47″	0.55″	10	24	1 3/8″			2598K23	6.00	9191T33	11.45
9/16	0.55″	0.61″	10	24	1 3/8″			2598K24	6.04	9191T34	11.55
5/8	0.62″	0.67″	10	24	1 3/8″			2598K25	6.02	9191T35	11.51
11/16	0.66″	0.73″	10	24	1 3/8″			2598K26	6.18	9191T36	11.74
3/4	0.72″	0.80″	10	24	1 3/8″			2598K27	6.11	9191T37	11.66
13/16	0.79″	0.86″	10	24	1 3/8″			2598K28	6.22	9191T38	11.85
7/8	0.85″	0.92″	10	24	1 3/8″			2598K29	6.27	9191T39	11.81
31/32	0.91″	1.01″	10	24	1 7/16″			2598K31	6.24	9191T42	11.83
1	0.97″	1.05″	5	12	2 3/8″	2598K32	$21.42			9191T43	29.28
1 1/8	1.05″	1.17″	5	12	2 3/8″	2598K51	21.62			9191T44	29.54
1 1/4	1.19″	1.30″	5	12	2 3/8″	2598K44	21.82			9191T45	29.80
1 3/8	1.30″	1.42″	5	12	2 3/8″	2598K52	22.22			9191T46	30.06
1 1/2	1.38″	1.55″	5	12	2 3/8″	2598K33	21.96			9191T47	30.34
1 5/8	1.53″	1.67″	5	12	2 5/8″	2598K53	22.60			9191T48	30.80
1 3/4	1.63″	1.80″	5	12	2 5/16″	2598K46	22.68			9191T49	30.56
1 7/8	1.75″	1.92″	5	12	2 5/16″	2598K54	23.20			9191T51	31.08
2	1.95″	2.05″	5	12	2 3/16″	2598K34	22.96			9191T52	30.76
2 1/8	2.06″	2.17″	5	12	2 5/16″	2598K55	27.74			9191T53	35.48
2 1/4	2.25″	2.30″	5	12	2 5/16″	2598K47	28.14			9191T54	35.34
2 3/8	2.31″	2.42″	5	12	2 5/16″	2598K56	28.84			9191T55	38.04
2 1/2	2.47″	2.55″	5	12	2 5/16″	2598K35	28.58			9191T56	35.52
2 5/8	2.53″	2.72″	5	12	2 3/8″	2598K57	30.16			9191T57	36.82
2 3/4	2.69″	2.85″	5	12	2 5/16″	2598K48	29.59			9191T58	60.76
2 7/8	2.86″	2.97″	5	12	2 1/4″	2598K58	29.98			9191T59	42.64
3	2.94″	3.10″	5	12	2 1/4″	2598K36	31.50			9191T61	43.60
3 1/2	3.38″	3.60″	5	12	2 5/16″	2598K37	65.35			9191T63	70.15
4	3.94″	4.10″	5	12	2 5/16″	2598K38	37.84			9191T64	69.63

Eyebolt Expansion Plugs

An eyebolt allows you to tether or hang these plugs for convenient storage. Made of zinc-plated steel with a neoprene seal, they have a temperature range of –20° to 225° F.

For Pipe Size	For Actual Pipe ID Min.	Max.	Maximum Back Pressure Air, psi	Water, ft. of head	Overall Ht.		
1/2	0.51″	0.60″	35	80	4″	2565K21	$35.38
3/4	0.71″	0.80″	35	80	4″	2565K22	38.21
1	0.91″	1.10″	35	80	4″	2565K23	43.87
1 1/4	1.11″	1.30″	15	34	6″	2565K24	45.28
1 1/2	1.31″	1.70″	15	34	6″	2565K25	49.53
2	1.71″	2.10″	15	34	6″	2565K26	53.77
2 1/2	2.11″	2.73″	15	34	7 1/2″	2565K27	96.05
3	2.74″	3.25″	15	34	7 1/2″	2565K28	117.11



For Pipe Size 1/2 to 1 1/2



For Pipe Size 2 to 3

Expansion Plugs

For information about expansion plugs, see page 2062.

Hex Nut Expansion Plugs


Zinc-Plated Steel


Stainless Steel (For Pipe Size 3/16 to 9/16)


Stainless Steel (For Pipe Size 5/8 to 4)

Tighten the nut on these plugs to expand the neoprene seal and close off pipes.

For Pipe Size	For Actual Pipe ID Min.	Max.	Maximum Back Pressure Air, psi	Water, ft. of head	Overall Ht.		
Zinc-Plated Steel—Temperature range is –20° to 225°F							
3/4	0.73″	0.82″	100	230	2″	2554K71	$24.00
1	0.93″	1.05″	100	230	2 1/4″	2554K72	29.08
1 1/4	1.13″	1.38″	100	230	2 1/4″	2554K73	33.00
1 1/2	1.33″	1.61″	100	230	2 1/2″	2554K74	38.27
2	1.73″	2.07″	75	173	2 1/2″	2554K75	41.33
3	2.73″	3.07″	50	115	3 1/2″	2554K76	99.87
Stainless Steel—Temperature range is –40° to 250°F							
3/16	0.18″	0.22″	10	24	1 1/8″	2599K21	7.78
1/4	0.22″	0.27″	10	24	1 1/8″	2599K23	6.96
5/16	0.29″	0.36″	10	24	1 1/16″	2599K26	6.87
3/8	0.36″	0.39″	10	24	13/16″	2599K29	7.09
7/16	0.41″	0.48″	10	24	1 1/4″	2599K27	6.87
1/2	0.47″	0.55″	10	24	1 1/4″	2599K28	6.86
9/16	0.55″	0.61″	10	24	1 3/4″	2599K31	6.96
5/8	0.57″	0.67″	10	24	1 11/16″	2599K41	13.38

For Pipe Size	For Actual Pipe ID Min.	Max.	Maximum Back Pressure Air, psi	Water, ft. of head	Overall Ht.		
Stainless Steel (Cont.)							
3/4	0.72″	0.80″	10	24	1 11/16″	2599K42	$13.62
7/8	0.82″	0.92″	10	24	1 11/16″	2599K43	13.79
1	0.94″	1.05″	5	12	2 1/16″	2599K44	13.92
1 1/4	1.21″	1.36″	5	12	2 7/16″	2599K45	14.28
1 1/2	1.44″	1.55″	5	12	2 1/16″	2599K46	14.66
1 3/4	1.70″	1.80″	5	12	2 7/16″	2599K47	14.74
2	1.93″	2.00″	5	12	2 5/16″	2599K48	15.11
2 1/4	2.22″	2.35″	5	12	2 15/16″	2599K49	24.19
2 1/2	2.44″	2.60″	5	12	2 13/16″	2599K51	24.40
2 3/4	2.63″	2.85″	5	12	2 13/16″	2599K52	24.58
3	2.92″	3.20″	5	12	3 1/16″	2599K53	25.15
3 1/4	3.13″	3.35″	5	12	3 3/16″	2599K54	26.25
3 1/2	3.44″	3.60″	5	12	3 1/16″	2599K55	26.62
3 3/4	3.69″	3.85″	5	12	3 1/16″	2599K56	30.58
4	3.97″	4.10″	5	12	3 3/16″	2599K57	33.42

Expansion Plugs with Bypass



Use the bypass tube on these plugs to add air, water, and other fluid in your pipeline or to relieve pressure while testing. Seals are rubber, except stainless steel seals are neoprene.

(A-C) Aluminum, steel, and **cast iron** plugs come with a metal bypass cap. *Style C* is not rated for air pressure.

(D) Plastic plugs come with a nylon bypass cap.

(E) Stainless steel plugs have a vented, barbed bypass tube connection that accepts tubing for attaching your air supply.

For Pipe Size	For Actual Pipe ID Min.	Max.	Maximum Back Pressure Air, psi	Water, ft. of head	Overall Ht.	Bypass Connection, male		
(A) Aluminum—Temperature range is –20° to 170°F								
1 1/2	1.53″	2.25″	125	288	8 1/4″	3/8 NPS	2602K21	$15.96
2	1.79″	2.38″	125	288	8 1/4″	3/8 NPS	2602K22	18.81
3	2.77″	3.25″	125	288	8 1/4″	3/8 NPS	2602K24	20.02
4	3.85″	4.25″	35	81	8 1/4″	1/2 NPS	2602K25	22.24
(B) Steel—Temperature range is 32° to 212°F								
6	5.80″	6.50″	20	46	12″	1/2 NPS	2602K16	103.20
(C) Cast Iron—Temperature range is 30° to 150°F								
1/2	0.47″	0.50″	—	46	4 1/4″	1/16 NPT	2644K15	18.82
3/4	0.72″	0.75″	—	46	5 1/8″	1/8 NPT	2644K16	21.68
1	0.97″	1.00″	—	46	5″	1/4 NPT	2644K18	23.27
2	1.75″	2.00″	—	34	10 3/8″	1/2 NPT	2644K21	18.82
3	2.75″	3.00″	—	34	10 1/2″	1/2 NPT	2644K22	24.45
4	3.63″	4.00″	—	23	10 1/8″	1/2 NPT	2644K23	32.95
5	4.50″	5.00″	—	23	12 5/8″	1/2 NPT	2644K24	50.60
6	5.50″	6.00″	—	23	12 1/2″	1/2 NPT	2644K25	35.67
8	7.50″	8.00″	—	4	14 3/4″	1/2 NPT	2644K26	68.60
10	9.50″	10.00″	—	4	14 7/8″	1/2 NPT	2644K31	99.20
12	11.50″	12.00″	—	4	14 5/8″	1 NPT	2644K32	174.96
(D) Plastic—Temperature range is –40° to 180°F								
1/2	0.49″	0.60″	100	231	2 15/16″	1/8 NPT	2566K11	21.07
3/4	0.74″	0.90″	100	231	2 15/16″	1/8 NPT	2566K12	21.98
1	0.98″	1.20″	100	231	2 15/16″	1/8 NPT	2566K13	22.61
1 1/4	1.23″	1.45″	50	115	2 15/16″	1/8 NPT	2566K14	25.06
1 1/2	1.42″	1.93″	50	115	4 1/2″	1/2 NPT	2566K35	23.17
2	1.93″	2.36″	40	92	4 1/2″	1/2 NPT	2566K36	25.13
2 1/2	2.40″	2.76″	30	69	4 1/2″	1/2 NPT	2566K37	26.53
3	2.87″	3.31″	15	34	4 1/2″	1/2 NPT	2566K38	27.16
4	3.54″	4.25″	15	34	4 1/2″	1/2 NPT	2566K39	29.75
5	4.72″	5.37″	12	27	4 1/2″	1/2 NPT	2566K41	41.24
6	5.50″	6.29″	10	23	4 1/2″	1/2 NPT	2566K42	42.64
(E) Stainless Steel—Temperature range is –40° to 250°F								
1/2	0.48″	0.55″	10	24	3 1/2″	For 1/4″ ID Tube	2516K31	73.71
5/8	0.57″	0.67″	10	24	3 1/2″	For 1/4″ ID Tube	2516K32	72.18
3/4	0.72″	0.80″	10	24	3 1/2″	For 1/4″ ID Tube	2516K33	72.47
7/8	0.82″	0.92″	10	24	3 1/2″	For 1/4″ ID Tube	2516K34	75.35
1	0.94″	1.05″	10	24	4″	For 1/4″ ID Tube	2516K35	75.16
1 1/8	1.06″	1.22″	5	12	4″	For 1/4″ ID Tube	2516K36	75.16
1 1/4	1.21″	1.36″	5	12	4″	For 1/4″ ID Tube	2516K37	75.16
1 3/8	1.32″	1.47″	5	12	4″	For 1/4″ ID Tube	2516K38	75.93
1 1/2	1.44″	1.55″	5	12	4″	For 1/4″ ID Tube	2516K39	73.40
1 3/4	1.70″	1.80″	5	12	4″	For 1/4″ ID Tube	2516K42	76.80
2	1.93″	2.10″	5	12	4″	For 1/4″ ID Tube	2516K44	77.58

For information about expansion plugs, see page 2062.

Expansion Plugs with Bypass for Inside-Pipe Use



Plug your pipe from the inside. Insert these expansion plugs deep into your pipe, and then tighten the nut on the stem. Use the 1/8 NPT male bypass tube to add air, water, and fluid or relieve back pressure. Temperature range is –20° to 225° F.

For Pipe Size	For Actual Pipe ID Min.	Max.	Maximum Back Pressure Air, psi	Water, ft. of head	Overall Ht.		
1/2	0.62″	0.64″	250	576	4 3/8″	2564K31	$113.75
3/4	0.81″	0.82″	175	403	4 3/8″	2564K32	120.00
1	1.03″	1.05″	175	403	6 3/8″	2564K33	127.50
1 1/4	1.37″	1.39″	175	403	6 3/8″	2564K34	142.50
1 1/2	1.58″	1.61″	75	173	6 3/8″	2564K35	158.75
2	2.03″	2.07″	75	173	6 3/8″	2564K36	199.85
3	3.03″	3.13″	50	115	4 3/8″	2564K48 ★	256.15

★ Bypass connection is 1/4 NPT male.

Hand Pumps for Air-Inflatable Plugs

Fill your air-inflatable plugs with this lightweight hand pump. It's rated to 160 psi and comes with a 2″ dia. pressure gauge, 26″ long rubber hose, and quick-disconnect coupling that fits Schrader and Presta valves.

Extension hoses are rubber and come with a tire thread inflation valve.

20-ft. extension hose has hooks for a secure connection to plugs with eyebolts.



Hand Pump



Extension Hose

Hand Pump	61505A22	$32.40
3-ft. Extension Hose	61505A23	16.17
5-ft. Extension Hose	61505A24	22.76
10-ft. Extension Hose	61505A25	29.33
20-ft. Extension Hose with Hooks	61505A31	151.56

Air-Inflatable Plugs

Conform to wide and out-of-round pipes with these inflatable rubber plugs. Also known as pneumatic plugs, they're designed for temporary seals since they can lose pressure over time. Inflate with a hand pump (sold separately above); an air compressor may overinflate the plug and cause damage. They come with zinc-plated steel hardware for retrieval. Temperature range is –20° to 125° F.

For Pipe Size	For Actual Pipe ID Min.	Max.	Deflated Dia.	Lg.	Maximum Back Pressure Air, psi	Water, ft. of head	Required Inflation Pressure, psi	Bypass, NPT female		
Without Bypass										
With Chain and Retrieval Ring										
3/4 - 1 1/4	0.75″	1.3″	0.73″	3.75″	17	40	45	____	3058K11	$28.18
1 1/4 - 1 1/2	1.17″	1.75″	1.1″	5.5″	13	30	40	____	3058K2	31.31
2	1.9″	2.25″	1.77″	2.84″	13	30	40	____	3058K3	33.65
2 1/2	2.34″	2.75″	2.3″	4.5″	13	30	35	____	3058K1	38.38
3	2.77″	3.25″	2.64″	5.25″	13	30	35	____	3058K4	36.33
4	3.41″	4.25″	3.25″	6.5″	13	30	30	____	3058K5	42.11
5	4.6″	5.25″	4.5″	7.75″	13	30	30	____	3058K13	79.08
6	5.44″	6.25″	5.25″	9″	13	30	30	____	3058K6	94.82
With Eyebolt to Attach Cable or Rope										
8	7″	8.25″	6.75″	10.25″	17	40	25	____	3058K7	170.88
10	9″	10.25″	8.75″	11.75″	17	40	25	____	3058K8	262.91
12	10.5″	12.25″	10.25″	13.75″	17	40	25	____	3058K9	333.42
12 - 18	10.75″	18.25″	10.5″	24″	11	25	25	____	3058K12	754.39
With Bypass										
With Chain and Retrieval Ring										
1 1/2	1.49″	1.88″	1.4″	3.8″	22	50	40	1/8 ♦	2580K23	126.52
2	1.88″	2.25″	1.75″	6″	22	50	40	1/8	2580K25	134.28
3	2.62″	3.25″	2.5″	8″	22	50	40	3/4	2580K27	141.29
12 - 24	11.25″	24″	11″	40″	13	30	30	2 ♦	2580K313	1,296.92
With Eyebolt to Attach Cable or Rope										
4	3.25″	4.25″	3.13″	8″	22	50	40	3/4	2580K21	145.93
6	4.5″	6.25″	4.5″	7″	13	30	35	1 1/2	2580K11	172.32
8	7″	8.25″	6.75″	10″	13	30	35	3	2580K12	219.00
10	9″	10.25″	8.75″	11.75″	13	30	35	3	2580K13	285.64
12	10.5″	12.25″	10.25″	13.75″	13	30	35	3	2580K14	403.63
16	14″	16″	13.75″	19.75″	13	30	35	3	2580K29	605.18

♦ Bypass is NPT male.



Without Bypass, With Chain



With Bypass and Eyebolt

Air- and Water-Inflatable Plugs

Penetrate tight pipe junctures with the most flexible expansion plugs we offer. Made of rubber, they have brass fittings and a tire thread inflation valve. Temperature range is 32° to 95° F.

To inflate with air, use a hand pump (sold separately above). To inflate with water, attach a water supply hose to the 3/4 GHT connection. Whether you fill with air or water, a pressure relief valve will prevent overexpanding.

Plugs—These come with a strap handle, except plugs *for pipe size 10 to 24* have a ring to attach your own retrieval rope or chain. Plugs *for pipe size 10 to 24* have an air gauge and 4-ft. hose.

Plugs for Y-Joints—These extra-long plugs allow you to seal off two pipes at the same time. They have two separate inflation chambers to release back pressure gradually and prevent splash back as water clears the drain line. They come with a strap handle and 4-ft. hose.





Plug

For Pipe Size	For Actual Pipe ID Min.	Max.	Deflated Dia.	Lg.	Maximum Back Pressure Air, psi	Water, ft. of head	Required Inflation Pressure, psi		
Plugs									
1 1/4 - 2	1.25″	2.00″	1.06″	7.63″	13	30	52	2437K51	$27.42
3 - 4	2.75″	4.25″	2.67″	9″	13	30	54	2437K53	32.39
4 - 6	3.75″	6.25″	3.5″	11″	13	30	33	2437K57	43.96
5 - 8	4.75″	8.25″	4.5″	14.5″	13	30	39	2437K55	154.25
10 - 12	9.75″	12.25″	6.88″	20″	11	25	32	2437K58	292.31
14 - 16	13.75″	16.25″	8.25″	22″	11	25	16	2437K59	597.74
18 - 24	17.75″	24.25″	12.75″	29″	17	40	17	2437K61	1,031.67
Plugs for Y-Joints									
2 - 3	2″	3.10″	1.75″	19.5″	13	30	62	2437K52	68.58
3 - 4	2.75″	4.25″	2.5″	23.5″	13	30	62	2437K54	79.87
5 - 6	4.75″	6.25″	4.5″	30″	13	30	53	2437K56	174.33





Plug for Y-Joints

Industrial Chemicals & Specialty Cleaners

Industrial Chemicals

All items are technical (industrial) grade, unless otherwise indicated as fuel grade or food grade.

Liquid Chemicals—Cans are steel; bottles and pails are plastic. Box has a plastic bag inside.

	Size		
Acetone—99.5%	1-qt. Can	3190K16	$17.36
	1-gal. Can	3190K21	31.48
	5-gal. Can	3190K22	127.13
Denatured Ethyl Alcohol—99%	1-qt. Can	3190K94 ♦	16.96
	1-gal. Can	3190K93 ♦	36.05
	5-gal. Can	3190K95 ♦	112.28
Ethylene Glycol—99%	1-qt. Bottle	3190K236 ♦	18.47
	1-gal. Bottle	3190K245 ♦	38.24
	5-gal. Pail	3190K246 ♦	146.69
Glycerin—99%	1-pt. Bottle	3190K816	8.02
	1-gal. Bottle	3190K711	43.18
	5-gal. Pail	3190K293	168.86
Hexane—99.8%	1-gal. Can	3190K902 ♦	23.15
Isopropyl Alcohol—99%	1-pt. Can	3190K809 ♦	11.74
	1-qt. Can	3190K811 ♦	16.74
	1-gal. Can	3190K812 ♦	40.55
	5-gal. Can	3190K822 ♦	127.02
Kerosene (Fuel Grade)	1-qt. Can	3190K481 ♦	6.48
Methanol—99%	1-qt. Can	3190K322 ♦	13.12
	1-gal. Can	3190K323 ♦	21.20
	5-gal. Can	3190K324 ♦	58.06
Methyl Ethyl Ketone (MEK)—99.5%	1-qt. Can	3190K429 ♦	14.54
	1-gal. Can	3190K431 ♦	47.57
Mineral Oil, Light Viscosity—100%	1-pt. Bottle	3190K291	13.09
	1-gal. Bottle	3190K628	47.30
	5-gal. Pail	3190K629	157.32
Mineral Oil, Heavy Viscosity—100%	1-pt. Bottle	3190K292	$13.03
	1-gal. Bottle	3190K631	46.11
	5-gal. Pail	3190K632	181.47
Mineral Seal Oil—100%	1-pt. Can	3190K281 ♦	9.91
	1-gal. Can	3190K282 ♦	39.86
Mineral Spirits—100%	1-qt. Can	3190K751 ♦	5.76
	1-gal. Can	3190K752 ♦	16.44
	5-gal. Can	3190K753 ♦	78.82
Naphtha—99%	1-qt. Can	3190K11 ♦	6.52
	1-gal. Can	3190K12 ♦	19.08
Propylene Glycol—99.8%	1-gal. Bottle	3190K391 ♦	42.24
	5-gal. Pail	3190K491 ♦	156.69
Sodium Silicate—40%	1-gal. Bottle	3190K251	15.46
	5-gal. Pail	3190K261	69.92
Toluene—100%	1-qt. Can	3190K653 ♦	14.23
Water, Deionized—100%	1-qt. Bottle	3190K729	2.51
	1-gal. Bottle	3190K731	4.51
	5-gal. Pail	3190K741	23.23
Water, Distilled—100%	1-gal. Bottle	3190K901	5.33
	5-gal. Pail	3190K908	24.96
White Vinegar—5% Acidity (Food Grade)	1-gal. Bottle	3190K104	6.25
	5-gal. Box	3190K105	30.00
Xylene	1-qt. Can	3190K289 ♦	6.68
	1-gal. Can	3190K343 ♦	23.30
	5-gal. Can	3190K344 ♦	114.68

♦ This product cannot be sold in California or Utah.

Dry Chemicals—Items packaged in a box or drum include a plastic liner. Pails and bottles are plastic.

	Size		
Aluminum Sulfate Crystal	25-lb. Pail	3190K831	$37.05
Bentonite	25-lb. Pail	3190K204	50.93
	50-lb. Pail	3190K205	86.39
Boric Acid, Fine Granular	5-lb. Pail	3190K319	16.97
Calcium Chloride	25-lb. Pail	3190K36	39.93
	50-lb. Pail	3190K38	64.16
Calcium Silicate	25-lb. Pail	3190K771	257.42
	50-lb. Pail	3190K772	420.00
Charcoal, Granular (Activated Carbon)	1-lb. Pail	3190K288	24.13
	5-lb. Pail	3190K522	58.82
	25-lb. Drum	3190K523	246.73
Citric Acid, Granular	5-lb. Pail	3190K624	37.87
	25-lb. Pail	3190K625	161.47
Copper Sulfate Crystal (Pentahydrate)	5-lb. Box	3190K284	36.30
	25-lb. Pail	3190K441	146.85
Hydrated Lime	25-lb. Pail	3190K507	53.89
	50-lb. Pail	3190K508	87.31
Hydrous Magnesium Silicate (White Talc)	25-lb. Pail	3190K179	28.10
	50-lb. Drum	3190K181	46.12
Magnesium Silicate Pigment (Superfine White Talc)	25-lb. Drum	3190K177	$54.06
	50-lb. Drum	3190K178	87.38
Magnesium Sulfate (Epsom Salt)	5-lb. Pail	3190K833	15.26
	25-lb. Pail	3190K834	49.74
Pumice, Fine Powder	5-lb. Pail	3190K846	16.14
	25-lb. Pail	3190K847	42.50
Rosin, Powder	8-oz. Bottle	3190K98	40.24
Sodium Bicarbonate Powder (Bicarbonate of Soda; Baking Soda)	5-lb. Pail	3190K285	22.92
	25-lb. Pail	3190K341	52.12
	50-lb. Pail	3190K286	74.57
	100-lb. Drum	3190K351	140.39
Sodium Borate, Powder (Borax)	5-lb. Pail	3190K851	12.79
	25-lb. Pail	3190K852	42.33
Sodium Carbonate, Granular (Soda Ash)	10-lb. Box	3190K459	19.63
	25-lb. Pail	3190K461	42.89
	100-lb. Drum	3190K471	88.51
Sodium Chloride Crystal	50-lb. Pail	3190K857	44.62
Sulfur (Commercial Flour)	25-lb. Pail	3190K67	72.93
	50-lb. Pail	3190K61	136.94

No-Residue Sensitive Equipment Cleaners



Standard 4-lb. Powder

Ideal for cleaning healthcare, lab, and electronic equipment, these water-based cleaners rinse away without leaving a residue. Suitable for manual and ultrasonic cleaning on hard, nonporous surfaces.

Low Foaming—Formulated to rinse and drain easily in tank and piping systems, as well as for use in spray cleaning equipment such as PC board washers. Perfect for cleaning printed circuit boards and electronic parts.

Standard		
32-oz. Liquid	70555T83	$19.39
1-gal. Liquid	70555T84	66.76
4-lb. Powder	70555T81	34.69
Low Foaming		
1-gal. Liquid	70555T91	100.69

Credit Card Reader Cleaner

Remove dirt, magnetic oxides, and other contaminants from credit card readers with these one-time-use cards.

98615T14	1-24	$1.24	25-Up	$0.75

Industrial Chemical Wet Wipes

Get convenient, one-step cleaning with these saturated wipes. Wipes are 100% acetone.

Wipe Size	Wipes/Pkg.		Pkg.
6″×9″	100	7813T32	$31.31

Industrial Chemical Wet Swabs



Solution releases directly from swab. Package quantity is 10.

Small capacity swabs have a polyurethane foam tip that is 9/16″ Dia.×1 1/16″ Lg. Overall length is 4 1/8″.

Large capacity swabs have a polyurethane foam tip that is 5/8″ Dia.×1 1/4″ Lg. Overall length is 5 13/16″.

	Small Capacity 1.4 mL		*Large Capacity 4.0 mL*	
		Pkg.		Pkg.
Denatured Ethyl Alcohol—99%	1249T44	$7.47	1249T48	$14.07
Isopropyl Alcohol—91%	1249T54	6.73	1249T58	14.35
Water, Deionized	_____	___	1249T78	10.39

Multipurpose Cleaners

All-Purpose Cleaners

All cleaners are water based and can be used on most surfaces.
Mint Scented—Great for washrooms, this thick cleaner deodorizes and removes soap scum and mineral deposits. This product cannot be sold in California.

32-oz. Mint Scented	6734T1	$4.75
1-gal. Lemon Scented	7389T14	11.95
5-gal. Lemon Scented	7389T15	46.02
1-gal. Unscented	6351T83	11.95
5-gal. Unscented	6351T84	46.02

Foaming Multipurpose Cleaners

Water-based foam clings to vertical surfaces for maximum cleaning and deodorizing action. For use on hard, nonporous surfaces.
32-oz. Trigger Spray—Quickly and effectively removes soap scum, rust, and other discolorations from acid-resistant surfaces.

		1-11	12-Up
19-oz. (net wt.) Aerosol	6315T61	$5.39	$4.81
32-oz. Trigger Spray	6587T3	7.12	6.36

Bleach

Bottle is 121 oz. For use on hard, nonporous surfaces.

63645T22	1-2	$7.34	3-Up	$6.56

Ammonia

Also known as aqua ammonia, it consists of a water-based 4% ammonium hydroxide solution. For use on hard, nonporous surfaces. Comes in 1-gal. container. *Note:* Not for use on metal surfaces.

63735T53	1-3	$6.63	4-Up	$5.93

Rust-Stain Remover

Apply this powder to a wet or damp surface, lightly scrub, and rinse away ugly rust stains. For use on most surfaces. Comes in 22-oz. bottle.

7544T51	1-11	$6.05	12-Up	$5.44

Mold and Mildew Stain Remover

Clinging gel eliminates mold stains and can be used on most surfaces, including grout, concrete, and brick. Comes in 32-oz. trigger spray bottle.

7989T5	1-11	$7.92	12-Up	$7.15

Glass Cleaners

Quickly clean hard, nonporous surfaces such as glass and mirrors with this water-based cleaner.
Concentrate—32 ounces makes 5 gallons of cleaning solution.
Wipes—Supplied in a pop-up dispenser, wipes are 6″ × 10½″.



		Each	Pkg. Qty.	
Ready-to-Use				
19-oz. (net wt.) Aerosol	7390T232	$4.06	12	$43.68
32-oz. Trigger Spray	7390T122	4.47	12	48.24
1 gal.	7390T442	9.10	4	32.76
Concentrate				
32 oz.	7390T45	8.05	—	—
1 gal.	7390T462	15.96	4	57.40

		1-5	6-Up
Wipes (90/Pkg.)	7390T51	$9.71	$8.70

Scouring Cleanser

Power out tough stains from hard, nonporous surfaces. *Powder* is abrasive. *Cream* is mildly abrasive and water based.

		Each	Pkg. Qty.	
21-oz. Powder	7419T301	$2.24	24	$48.24
32-oz. Cream	7419T5	5.51	—	—

Descaler/Delimer

Remove lime and hard-water stains with this nonfoaming, water-based cleaner. Can be used on most surfaces, including metal and plastic. Comes in 1-gal. container.

98045T35	1-5	$14.57	6-Up	$12.86

Scale Removers

Liquid			***Powder***		
1 gal.	3385K14	$26.84	10 lb.	3677K1	$54.36
5 gal.	3385K16	90.80	50 lb.	3677K2	246.26

Disinfectants

For use on hard, nonporous surfaces.

Lysol Disinfectant Spray

Original scent. Comes in 19-oz. (net wt.) aerosol can.

71155T34	1-11	$9.81	12-Up	$8.76

Lemon-Scented Cleaner/Disinfectant/Deodorizer

Effective against dirt, grease, and oils, this water-based cleaner also kills bacteria and controls odors. Comes in 1-gal. bottle.

7406T6	1-3	$13.30	4-Up	$11.97

Foaming Cleaner/Disinfectant/Deodorizer

Water-based formula clings to surfaces, killing germs and controlling the growth of mold and mildew. Comes in 17-oz. (net wt.) aerosol can.

7450T25	1-11	$5.29	12-Up	$4.76

Fast-Acting and Long-Lasting Disinfectant

This safe and odorless formula kills germs in as little as 30 seconds and provides 24-hour residual protection.

32-oz. Trigger Spray	6543T5	$14.96
1 gal.	6543T6	37.15

Clean Room Disinfectant

Made of sterile denatured ethanol. Containers are double bagged and can be used in Class 100 clean rooms.

16-oz. Trigger Spray	1121N22	$19.84
1 gal.	1121N23	102.16

Simple Green d Pro 3 Cleaner/Disinfectant

Clean and disinfect with this water-based formula.

		Each	Pkg. Qty.	
1 gal.	7345T111	$20.05	6	$108.00
5 gal.	7345T12	87.13	—	—

Disinfectant Wipes

Wipes are 7″ × 8″. They are packaged in a pop-up dispenser.

		1-11	12-Up
Wipes (35/Pkg.)	7198K12	$6.08	$5.42

Static Neutralizers and Cleaners

All are water based.

Static Neutralizer—Prevents dust and dirt buildup caused by static charges while protecting electronic equipment from damage. Neutralizer is nonstaining and for use on most surfaces such as carpet, fabric, plastic, glass, and floors.

Antistatic Cleaner—Wards off static buildup by leaving an antistatic agent behind when you clean. This cleaner removes oils, grease, and dirt. Safe on plastics and other hard, nonporous surfaces.

Static Neutralizer		
32-oz. Trigger Spray	7090T37	$10.64
1 gal.	7090T38	25.16
Antistatic Cleaner		
32-oz. Trigger Spray	98265T72	16.47
1-gal.	98265T73	37.34

Cleaners and Degreasers

These products are compliant under all state VOC rules in effect on October 1, 2009, unless otherwise stated.

Multipurpose Cleaner/Degreaser

Safe for most surfaces, it's water based and includes a rust inhibitor.

		Each	Pkg. Qty.	
28-oz. Trigger Spray	34645K833	$12.55	12	$134.76
1 gal.	34645K853	38.74	4	139.20
5 gal.	34645K87	151.80	—	—

Citrus-Based Cleaner/Degreasers

Cleaners/degreasers are formulated with orange citrus solvents and are solvent based, except aerosol and wipes, which are water based. For use on most surfaces, unless otherwise indicated.

Aerosol is for use on hard, nonporous surfaces.

Wipes cut through oil and grease. Each wipe measures 10½″×12¼″ and one side is slightly abrasive. For use on hard, nonporous surfaces.

		Each	Pkg. Qty.	
19-oz. (net wt.) Aerosol	74135T612	$6.16	12	$66.12
32-oz. Trigger Spray	7429T252	13.53	12	146.16
1 gal.	7429T222	39.49	4	142.16
5 gal.	7429T23	155.42	—	—
55 gal.	7429T24	1,198.26	—	—
Wipes (30/Pkg.)	70265T61	12.85	—	—

Citrus-Based Cleaner/Degreasers with Hydrogen Peroxide

Our most powerful water-based cleaner combines the natural cleaning ability of orange oil with the strength of hydrogen peroxide. Can be used on most surfaces. Cannot be sold in California.

Wipes are supplied in a center-pull dispenser and measure 7″×9″.

		Each	Pkg. Qty.	
32-oz. Trigger Spray	6691T101	$9.68	6	$51.90
1 gal.	6691T201	35.47	4	127.12
Wipes (35/Pkg.)	6691T5	14.78	—	—

Foaming Citrus-Scented Cleaner/Degreaser

Water-based foam clings to vertical surfaces for maximum cleaning and deodorizing action. For use on hard, nonporous surfaces. Comes in 16-oz. (net wt.) aerosol can. *Note:* Not for use on drywall or latex-painted surfaces.

3259K84	1-11	$9.73	12-Up	$8.71

Steam Cleaner and Pressure-Washer Cleaner/Degreaser

Cut quickly through grease, oil, and heavy dirt. Cleaner is water based and has built-in corrosion inhibitors. Rinses clean without leaving a residue. For use on hard, nonporous surfaces.

5 gal.	3219K21			$77.37
55 gal.	3219K23			588.14

Fast Dry Cleaner/Degreaser

Heavy duty formula evaporates fast with minimal residue and is solvent based. For use on hard, nonporous surfaces.

		Each	Pkg. Qty.	
14-oz. (net wt.) Aerosol	3223K501	$13.12	12	$140.88
1 gal.	3223K6	63.80	—	—

Simple Green Cleaner/Degreasers



24 oz. *1 gal.*

Simple Green is translucent green with a sassafras fragrance.

Simple Green Crystal is clear and fragrance-free. *Wipes* are supplied in a pop-up dispenser; 75 wipes per dispenser. Each wipe measures 10″×12″ and one side is slightly abrasive.

Note: Not for use on wood, glass, or mirrors.

	Simple Green			***Simple Green Crystal***		
		Each	Pkg. Qty.		Each	Pkg. Qty.
24 oz.■	7428T114	$5.52	12 $59.52	7360T112	$7.05	12 $75.60
1 gal.	7428T124	14.13	6 76.26	7360T128	17.98	6 96.54
5 gal.	7428T13	63.71	— —	7360T13	74.96	— —
15 gal.	7428T14	179.60	— —	7360T14	214.46	— —
55 gal.	7428T15	533.52	— —	7360T15	635.08	— —
Wipes	—	—	— —	7360T172	15.55	6 78.72

■ Trigger spray.

Soybean-Based Cleaner/Degreaser

Soybean-based cleaner leaves a rust-preventing coating. Safe for most surfaces. Cleaner comes in 1-gal. container.

7403T2	1-5	$28.55	6-Up	$25.67

Microbial Grease Digester

Microbes consume and destroy grease and oil. Water based. For use on hard, nonporous surfaces.

32-oz. Trigger Spray	6530T3	$14.90
1 gal.	6530T5	27.90

Trisodium Phosphate Cleaner

Also known as TSP, this heavy duty, powdered cleaner/degreaser removes heavy soils, dirt, and grease from almost all surfaces.

1 lb.	4604T528	$5.31
5 lb.	4604T529	22.54
25 lb.	4604T531	79.80
100 lb.	4604T554	199.74

Brake Cleaner

This solvent-based cleaner removes brake fluid, grease, and oil. Dries fast without leaving a residue. Works best on hard, nonporous surfaces.

		Each	Pkg. Qty.	
14-oz. (net wt.) Aerosol	3131K104	$4.50	12	$48.00
1 gal.	3131K2	33.48	—	—

Carburetor Cleaner

Solvent-based formula removes dirt, gum, and varnish deposits that build up on carburetors, heat valves, and automatic chokes. Comes in 14-oz. (net wt.) aerosol can. *Note:* Use on metal surfaces only.

8139T5	1-11	$7.42	12-Up	$6.66

Graffiti Removers

Removers are for use on most surfaces. These products are compliant under all state VOC rules in effect on October 1, 2008.

Aerosol is solvent based and clings to vertical surfaces for maximum penetration. *Note:* May remove paint and varnish from the original surface.

Trigger spray is water based. *Note:* May remove latex paint from the original surface. **To Order:** Please specify pen, ink, and marker remover or spray paint remover.

Wipes are nonscratching and solvent based for wiping away graffiti in one step without damaging the original surface. Wipes come are supplied in a center-pull dispenser and measure 10½″×12¼″.

		Each	Pkg. Qty.	
13-oz. (net wt.) Aerosol	6360T213	$7.38	12	$79.56
22-oz. Trigger Spray	6360T24	9.78	—	—
Wipes (30/Pkg.)	6360T27	15.01	—	—

Metal and Plastic Polishes and Cleaners

All-Surface Polishes/Cleaners/Protectants



Clean, polish, and protect aluminum, brass, copper, chrome, stainless steel, fiberglass, and acrylic with these polishes. They remove oxidation, tarnish, and surface rust without scratching or dulling.

Solvent-based creams not for use on painted surfaces.

Solvent-Based Creams		
4-oz. Tube	70995T7	$7.59
1.15-lb. Can	70995T9	32.41
Water-Based Paste		
16-oz. Can	7398T24	22.82

Metal Polishing/Cleaning Wipes

Avoid messy polishing creams and liquids with these moistened wipes. Nonscratching and solvent based, these wipes clean and polish aluminum, brass, copper, chrome, bronze, silver, stainless steel, and acrylic. Wipes measure 8″×11″.

		1-11	12-Up
Wipes (18/Pkg.)	6852T1	$11.83	$10.57

Metal Polish Wadding

Treated cotton wadding cloth is solvent based, nonscratching, and cleans and shines all metals. Comes in a 5-oz. can.

63325T42	1-11	$6.69	12-Up	$6.00

Aluminum Brightener/Cleaner

Quickly brighten and clean dull aluminum finishes with this foaming, water-based product. Good for any acid-resistant surface. Product can be sprayed or mopped and requires no scrubbing. Comes in a 1-gal. container.

7986T1	1-3	$22.76	4-Up	$20.32

Vinyl, Leather, and Rubber Protectant

This silicone-based protectant prevents UV damage and cracking, repels dirt and grime, restores, and provides long-term protection for vinyl, leather, and rubber. Comes in 32-oz. trigger spray bottle.

6531T2	1-11	$10.82	12-Up	$9.70

Stainless Steel Polishes/Cleaners

Citrus-based polish/cleaner contains d-limonene to preserve the high luster of stainless steel. It forms a finish that resists dirt, oil, and water spots. Water based.

Foaming polish/cleaner clings to vertical surfaces for maximum penetration and is water based.

Polishing wipes clean, polish, and brighten. They also prevent water marks and corrosion. Wipes are solvent based, supplied in a center-pull dispenser, and measure 9¾″×10½″.

Heavy duty cleaners fully restore the corrosion resistance of stainless steel. Powerful, acid-based products remove rust, stains, slag, scale, and tarnish.

Sterile clean room polish/cleaner is for use in Class 100 clean rooms and leaves a residue-free finish.

		Each	Pkg. Qty.	
Citrus-Based Polish/Cleaner				
18-oz. (net wt.) Aerosol	6781T501	$7.43	12	$79.68
Foaming Polish/Cleaner				
16-oz. (net wt.) Aerosol	7203T112	6.73	12	72.60
Polishing Wipes (30/Pkg.)	6878T311	14.23	6	76.44
Heavy Duty Cleaners				
1-gal. Liquid	3373K11	105.00	—	—
1-gal. Paste	3373K21	161.00	—	—
Sterile Clean Room Polish/Cleaner				
8-oz. (net wt.) Aerosol	7456T1	26.99	—	—

Plastic Polish/Cleaner/Restorer

Make plastics such as acrylic and fiberglass look new again with these water-based products.

Polish/cleaner cleans, shines, and protects plastics without scratching. Also repels dust and eliminates static. Comes in a pump spray bottle. Not for use on plastics that have an anti-glare coating.

Scratch removers come in a squeeze bottle. *Fine scratch remover* removes fine scratches, haziness, and abrasions from all plastic surfaces. *Heavy scratch remover* repairs deep scratches and abrasions. Requires fine scratch remover for final finishing. Not for use on coated plastics, polycarbonate, or eyeglass lenses.

		1-23	24-Up
8-oz. Polish/Cleaner	6335T91	$5.46	$4.90
8-oz. Fine Scratch Remover	6335T92	7.95	7.13
8-oz. Heavy Scratch Remover	6335T93	9.44	8.47

Paint Polishing and Refinishing System

Ideal for cars, machines, and equipment, this three-part system makes faded, painted metal surfaces look like new.

First, apply the ***rubbing compound*** to remove minor scratches, imperfections, and oxidation. Then use the ***glaze*** to eliminate any swirl marks made by the rubbing compound (glaze can be used with all paint colors). Finally, apply a clear coat of ***wax*** for a durable, protective, high-gloss finish.

		1-11	12-Up
32-oz. Rubbing Compound	95805T11	$35.51	$31.75
32-oz. Glaze	95805T32	49.62	44.37
32-oz. Liquid Wax	95805T51	28.32	25.33

Floor Strippers, Finishes, and Cleaners

For use on hard, nonporous surfaces, unless otherwise indicated.

Floor Finish Stripper

Quickly strip multiple layers of acrylic and urethane floor finish. Formula is water based.

1 gal.	7093T22	$15.01
5 gal.	7093T26	62.61

Baseboard Stripper

Clings to baseboards and wall tile to remove soil and wax buildup. Stripper is water based and does not leave a residue. Not for use on painted surfaces. Comes in 16-oz. (net wt.) aerosol can.

32975K9	1-11	$5.43	12-Up	$4.98

Acrylic Floor Finish and Finish/Sealer

These tough finishes have excellent detergent resistance. They are water based and dry to a clear, hard, high gloss film. Recommended for vinyl, linoleum, terrazzo, and sealed wood surfaces. Coverage is up to 2,000 sq. ft. per gallon.

Finish/sealer provides one-step finishing and sealing. It can be used on concrete and dries to a slightly thicker coating.

	Finish		***Finish/Sealer***	
1 gal.	7108T11	$25.51	7108T21	$25.00
5 gal.	7108T12	119.12	7108T22	111.27
55 gal.	7108T13	1,095.18	7108T23	1,025.68

Lemon-Scented Floor Cleaner

The water-based, neutral pH cleaner won't dull or damage your floor's finish. No rinsing required.

		Each	Pkg. Qty.	
1 gal.	6625T501	$12.60	4	$45.36
5 gal.	6625T7	42.14	—	—

Buffing Spray

Remove scuffs and restore your floor's high gloss acrylic finish with this water-based buffing spray. Can also be used with high-speed equipment such as burnishers.

32-oz. Trigger Spray	3704T71	$5.52
1 gal.	3704T72	15.68

Floor Mastic/Adhesive Remover

This soybean-based adhesive remover is safe, easy to use, and virtually odorless. Remover evaporates slowly, allowing it to work for up to 24 hours. Coverage is up to 200 sq. ft. per gallon.

32 oz.	7663T11	$16.75
1 gal.	7663T2	43.14

Adhesive and Silicone Removers

Removers are solvent based, except silicone remover, which is water based. These products are compliant under all state VOC rules in effect on October 1, 2009.

Adhesive, Tape, and Gum Remover—Works on oil-based residue on all hard surfaces, painted surfaces, vinyl, carpet, and fabric.

Citrus-Based Adhesive, Label, and Gum Remover—Utilizes the power of citrus to remove stickers, labels, tape residue, and gum from metal, plastic, cement, and wood. Also known as Goo Gone, it even works on carpets, upholstery, and painted surfaces. For oil- and solvent-based residue.

Silicone Remover—Removes silicone, foam sealants, caulk, wet or dry latex-based foams, and construction adhesives. Safe for use on plastics, fiberglass, and most metals.

		Each	Pkg. Qty.	
Adhesive, Tape, and Gum Remover				
11-oz. (net wt.) Aerosol	74025T813	$8.55	6	$46.02
22-oz. Trigger Spray	74025T823	12.68	6	68.34
Citrus-Based Adhesive, Label, and Gum Remover				
8-oz. Bottle	7984T111	5.08	12	54.24
32-oz. Bottle	7984T131	9.77	6	52.20
1-gal. Bottle	7984T151	39.60	4	142.16
Silicone Remover				
16-oz. Trigger Spray	8460T9	9.10	—	—

Dishwashing Liquid and Powder

All are phosphorus free and compliant under all state VOC rules in effect on October 1, 2008.

Size		Each	Pkg. Qty.	
Manual Dishwashing Liquid—*Lemon Scented*				
32 oz.	98365T892	$6.37	12	$68.16
1 gal.	98365T912	16.38	4	59.20
Automatic Dishwashing Powder				
1.4-oz. Packet	98365T93	—	50	17.32

Oven Cleaner

Water-based cleaner clings to surfaces to dissolve baked-on grease and food deposits. For use on hard, nonporous surfaces such as ovens and grills. This product is compliant under all state VOC rules in effect on October 1, 2008. Comes in 18-oz. (net wt.) aerosol can.

7141T41	1-11	$5.78	12-Up	$5.21

Asphalt Remover

Easily remove asphalt, top coatings, and sealers from tools and equipment with this soybean-based cleaner. Rinses easily with water. For use on hard, nonporous surfaces. These products are compliant under all state VOC rules in effect on October 1, 2008.

32-oz. Trigger Spray	6474T5	$17.95
1 gal.	6474T6	47.94

Lemon-Scented Furniture Polish

This water-based polish cleans furniture surfaces, repels dust, and fills in fine scratches. For use on hard, nonporous surfaces. This product is compliant under all state VOC rules in effect on October 1, 2008. Comes in 17-oz. (net wt.) aerosol can.

7275T32	1-11	$5.50	12-Up	$4.93

Liquid Laundry Detergent

Use 3-4 oz. for 50 lbs. of laundry. Comes in a 1-gal. bottle. This product is compliant under all state VOC rules in effect on October 1, 2008.

7738T1	1-3	$21.61	4-Up	$19.29

Toilet Bowl and Urinal Deodorizers and Neutralizers

These products are compliant under all state VOC rules in effect on October 1, 2008.

Automatic Toilet Bowl Cleaner



Clean and deodorize with every flush with this in-tank, water-based cleaner; bluing agent is released with every flush. Comes in a 9-oz. container that lasts for approximately 2,000 flushes.

7072T11	1-11	$2.97	12-Up	$2.68

Toilet Bowl and Urinal Cleaners

Keep toilet bowls and urinals free of rust, lime, and uric acid buildup with these deodorizing cleaners. For use on hard, nonporous surfaces.

Standard Cleaner—Water-based cleaner contains citric acid and cedar oil.

Heavy Duty Cleaner—Contains 24% hydrochloric acid to handle your toughest jobs. Cleaner is water based and has a wintergreen scent. *Note:* Use on acid-resistant surfaces only.

		Each	Pkg. Qty.	
Standard Cleaner				
24 oz.	98575T89	$5.93	—	—
1 gal.	98575T92	19.32	—	—
Heavy Duty Cleaner				
32 oz.	7518T112	3.94	12	$42.36

Toilet and Urinal Odor-Neutralizing Drip System



Mount the plastic dispenser above your toilet or urinal and let the continuous, controlled flow of odor neutralizer keep them smelling fresh.

Dispenser includes a dispenser bottle, 4 ft. of 3⁄8″ dia. plastic tubing, wicking to control flow of neutralizer, and mounting hardware. It measures 12″ Ht. × 4 1⁄2″ Wd. × 3 1⁄2″ Dp. Color is white.

Liquid (sold separately) is water based and provides one year of odor control. Comes with 13 replacement wicks. **To Order:** Please specify fragrance: cherry, citrus-mint, or orange.

		1-3	4-Up
Dispenser	70525T56	$26.97	$23.98
Liquid	70525T55	35.71	32.14
Repl. Dispenser Bottle	70525T61	3.27	2.91

Toilet Bowl Odor-Control Blocks



Deodorizer Block

Hang over toilet rim to keep toilets fresh for an average of 30 days.

Deodorizer block has a cherry fragrance.

Cleaner/deodorizer block releases detergent when water flows through it and has a floral fragrance.

	Lg. × Wd.	Pkg. Qty.		Pkg.
Deodorizer Block	3 1⁄4″ × 3″	6	7560T14	$12.96
Cleaner/Deodorizer Block	3 3⁄4″ × 2 3⁄4″	12	7560T16	31.82

Urinal Odor-Control Blocks and Tablets

Deodorizer block lasts up to 30 days. Has an evergreen fragrance.

Odor-neutralizing tablets contain enzymes designed to eliminate odor and keep your drain lines flowing freely. Tablets are odorless. Use one per week or two per week in high traffic areas and automatic flush systems.

	Dia. × Ht.	Pkg. Qty.		Pkg.
Deodorizer Block	2 3⁄4″ × 1⁄2″	12	7411T12	$15.10
Odor-Neutralizing Tablet	1 1⁄2″ × 1⁄2″	24	70285T61	13.93
Odor-Neutralizing Tablet	1 1⁄2″ × 1⁄2″	100	70285T62	45.27

Urinal Screens



A ***B*** ***C***

Prevent debris from getting into your plumbing.

Style A is blue vinyl and is the largest size screen we offer; each screen comes with two removal tools.

Style B is blue vinyl with a built-in deodorizing floral fragrance that lasts an average of 30 days.

Style C is clear plastic. It has an integral spice-scented odor-neutralizing block that releases detergent when water flows through it. Freshens an average of 30 days.

		Lg. × Wd.		Each	Pkg. Qty.	
A	Standard	11 3⁄8″ × 10 3⁄4″	2767K301	$5.35	10	$47.90
B	Deodorizer	8″ × 7 1⁄2″	3055K123	1.89	12	20.04
C	Odor Neutralizing	7″ × 7″	3055K143	3.94	12	42.12

Deodorizers and Neutralizers

These products are compliant under all state VOC rules in effect on October 1, 2008.

Deodorizers



Clinging Deodorizer Gel— Clings to horizontal and vertical surfaces to freshen air in small areas for 24 to 36 hours. Gel evaporates over that period of time. Comes in 8-oz. pump spray bottle.

To Order: Please specify fragrance: apple or fresh.

6414T1	1-17	$7.25	18-Up	$6.44



Tabletop Wick Deodorizer— Simply remove the cap and pull up the wick to freshen areas with this solvent-based deodorizer. The 1.5-oz. bottle freshens 150-300 sq. feet and lasts up to 45 days; the 4-oz. bottle freshens 400-800 sq. ft. and lasts up to 90 days.

To Order: Please specify fragrance: cherry (except for the 4-oz. bottle), citrus, or fruit.

		1-11	12-Up
1.5 oz.	63315T51	$2.63	$2.34
4 oz.	63315T61	4.96	4.43

Wall-Mount Wick Deodorizer— Open the top of the fragrance cartridge and place in the dispenser. Provides 600 sq. ft. of coverage.

Dispenser is 7″ Ht.×3″ Wd.×2¾″ Dp. and is made of white plastic. Includes a strip that indicates when the fragrance cartridge needs to be replaced. Mounting hardware is also included. *Fragrance cartridge* (sold separately) lasts up to 60 days. **To Order:** Please specify fragrance: citrus, fresh, or floral.

Dispenser	6398T51	$4.88
Fragrance Cartridge	6398T41	12.45

Stick-Up Deodorizer



Simply stick this 2⅝″ dia. deodorizer in a small, confined area such as a bathroom or closet and have fresh smelling air for up to four weeks. Deodorizer has a plastic case with a self-adhesive back and has a citrus fragrance.

71005T73	1-11	$3.48	12-Up	$3.09

Spray Odor Neutralizers

Don't just mask odors, destroy them at their source.

Pump spray is available in two fragrances. **To Order:** Please specify fragrance: citrus or orange.

Aerosol is a solvent-based spray that is effective for hours. **To Order:** Please specify fragrance: apple or cinnamon.

7-oz. Pump Spray	62885T1	$8.76
10-oz. (net wt.) Aerosol	6131T6	6.55

Odor-Neutralizing Sponge



Just remove the lid to start absorbing and eliminating odors with this paste-like sponge. Sponge has a slight soap fragrance that quickly dissipates.

Coverage, sq. ft.	Life Span, weeks		
½ lb. 200-300	4-6	65215T1	$6.30
1 lb. 200-300	12	65215T2	11.40
4 lbs. 2,400	16-24	65215T3	35.50

Powered Deodorizers and Neutralizers

These products are compliant under all state VOC rules in effect on October 1, 2008.

Tabletop Fan-Flow Deodorizer



Effectively deodorizes areas from 150-200 sq. ft.

Dispenser is 3¾″ Ht.×4½″ Wd.×3″ Dp. and is made of white plastic.

Each ***fragrance cartridge*** (sold separately) has an apple fragrance and includes one D-cell battery. Cartridge and battery last up to 30 days.

Dispenser	6388T1	$23.61
Fragrance Cartridge	6388T31	8.69

Light-Activated Wall-Mount Fan-Flow Deodorizer



This wall-mounted deodorizer runs when the room light is on. Made of plastic, it operates on two D-cell batteries (not included). Color is white.

Dispenser provides 400-500 sq. ft. of coverage and is 9⅝″ Ht.×3⅜″ Wd.×3¾″ Dp. Mounting hardware included.

Fragrance cartridge (sold separately) lasts approximately 30 days. **To Order:** Please specify fragrance: apple, cinnamon, or citrus.

Dispenser	7194T3	$41.51
Fragrance Cartridge	7194T5	5.96

Automatic Wall-Mount Aerosol Neutralizer for Small Rooms



Automatically neutralize odor with a periodic, fine aerosol mist.

Dispenser is programmable and recommended for areas up to 300 sq. ft. It is made of white plastic and requires four AA batteries (not included). Fragrance can be released at 7½, 15, or 30 minute intervals. Also includes LED low-battery and low-cartridge indicators. Mounting hardware included.

Fragrance cartridge (sold separately) lasts up to 45 days. **To Order:** Please specify fragrance: cinnamon, citrus, or mango.

Size, Ht.×Wd.×Dp.	Dispenser		Fragrance Cartridge 1-11	12-Up
7½″ × 3¼″ × 3″	6363T1	$50.09	6363T2 $8.08	$7.24

Automatic Wall-Mount Aerosol Neutralizer for Larger Rooms



A periodic, fine aerosol mist automatically neutralizes odor.

Dispenser is programmable and recommended for areas up to 600 sq. ft. It is made of white plastic, and requires two AA batteries (not included). Fragrance can be released at 1 to 59 minute intervals. Also has start/stop settings and LED low-battery and low-cartridge indicators. Mounting hardware included.

Fragrance cartridge (sold separately) lasts up to 30 days. **To Order:** Please specify fragrance: cherry, citrus, floral, or mango.

Size, Ht.×Wd.×Dp.	Dispenser		Fragrance Cartridge 1-11	12-Up
8¼″ × 3½″ × 3½″	6363T44	$65.58	6363T65 $7.50	$6.72

Carpet and Upholstery Cleaners and Neutralizers

These products are compliant under all state VOC rules in effect on October 1, 2008, unless otherwise stated.

Carpet and Upholstery Stain Remover— This water-based cleaner and deodorizer lifts stains on contact without leaving a soapy residue. Cannot be sold in California.

Odor-Neutralizing Carpet and Fabric Spray— Eliminate odors from carpet and fabric with this water-based spray; has a fresh fragrance. Cannot be sold in California.

3M Scotchgard Aerosol Protectors— Repel spills and block stains without changing the look of your rugs, carpeting, fabric, or upholstery. Protector is solvent based.

Carpet and Upholstery Stain Remover		
16 oz.	7106T1	$8.80
32 oz.	7106T2	12.26
Odor-Neutralizing Carpet and Fabric Spray		
32 oz. Trigger Spray	6512T21	15.23
3M Scotchgard Fabric and Upholstery Protector		
10-oz. (net wt.) Aerosol	71315K11	10.30

Sponges and Scouring Pads

Choose-a-Color Sponges

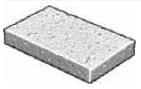

Reduce the possibility of cross contamination by designating a different color sponge for specific jobs or locations in your facility. To Order: Please specify color: blue, green, pink, or yellow.

Size	Sponges/ Pkg.		Pkg. 1-11	Pkg. 12-Up
3½″×6″×1″	6	7356T1	$10.97	$9.85
4¼″×6″×1½″	3	7356T21	12.77	11.46
4¼″×7″×2″	3	7356T31	18.86	16.92

Mildew-Resistant Sponges



Always soft, pliable, and absorbent, these sponges won't dry out or mildew. Color is yellow.

Size	Sponges/ Pkg.		Pkg. 1-11	Pkg. 12-Up
3½″×6″×1″	6	7309T1	$5.27	$4.71
4¼″×6″×1½″	6	7309T2	7.45	6.68
4¼″×7″×1½″	6	7309T3	10.50	9.44

Lint-Free Sponge



This completely lint-free sponge can hold up to 10 times more liquid than standard sponges. It resists mildew, grease, oil, detergents, and most solvents. Color is white. Each sponge is individually wrapped.

Size		Each 1-5	Each 6-Up
3″×6¾″×1⅜″	7271T32	$10.53	$9.45

Natural Sponges



Nature's original sponge has excellent water absorption. Sponges are sized when wet. Color is tan.

Approx. Dia.		Each 1-11	Each 12-Up
7″	7362T16	$15.14	$13.49
8″	7362T15	20.14	17.95
9″	7362T14	24.05	21.45

Eraser Sponge



No need for special cleaners—just add water and these sponges are ready to remove ground-in dirt from walls, doors, floors, and more. Clean with simple rubbing action. Sponges are reusable; rinse after each use and let air dry. Color is white.

Size	Sponges/ Pkg.		Pkg. 1-6	Pkg. 7-Up
2⅜″×4 11/16″×1″	6	9361T11	$7.32	$6.57

Scratch-Free Scouring Block



Aggressive cleaning without scratching, this scouring block is made of a chemical-resistant foam block with a 10″ long wood handle. Color is yellow.

Size		Each 1-23	Each 24-Up
2″×3″×4″	7278T11	$3.23	$2.94

Mesh Scrubbing and Scouring Sponge



Covered in durable mesh, this foam sponge scrubs and scours without scratching. Mesh is white and sponge is blue.

Size	Sponges/ Pkg.		Pkg. 1-5	Pkg. 6-Up
5½″×3¼″×1″	6	73055T25	$7.71	$6.92

Scouring Sponges



Double Faced

Combine the aggressive cleaning action of a scouring pad with the absorbency of a sponge.

Single-faced sponges consist of a scouring pad on one side and a sponge on the other. *Light-abrasion* sponges have a yellow, nonscratching pad with a beige sponge. *Medium-abrasion* sponges have a white pad with a yellow sponge. *Heavy-abrasion* sponges have a green pad with a yellow sponge.

Double-faced sponge has a yellow foam sponge between a light-abrasive, nonscratching, white scouring pad on one side and a heavy-abrasive, green pad on the other.

Abrasion	Size		Small Pkg. Qty.	Small Pkg.	Large Pkg. Qty.	Large Pkg.
Single-Faced Sponges						
Light	3″×5″×1¾″	7288T11	5	$6.82	—	—
Medium	3½″×6″×⅞″	7288T12	5	9.37	—	—
Heavy	3½″×6″×⅞″	7288T135	5	9.79	40	$69.60
Double-Faced Sponge						
Light/Heavy	3″×5″×1″	7272T115	2	1.91	48	41.28

Scouring Pads



Scrub away heavy grease and grime. *Light-abrasion* pads are white. *Medium-* and *heavy-abrasion* pads are green.

Abrasion	Size	Pads/ Pkg.		Pkg. 1-5	Pkg. 6-Up
Light	6″×9″×⅜″	10	6377T6	$4.95	$4.45
Medium	6″×9″×¼″	10	6377T12	4.99	4.45
Heavy	6″×9″×⅜″	10	6377T14	7.48	6.72

Scouring Pads with Choose-a-Color Holders



Hand Held

With 59″ Swivel Handle

Easily scrub any area with these pads. Pads attach to the holder and measure 4½″×10″×13/16″. *Scrubber with swivel handle* has a 360° swivel handle socket with threaded 59″ fiberglass handle. To Order: Please specify pad abrasion (light, medium, or heavy) and holder color (blue, green, red, white, or yellow).

		Each
Complete Scrubbers (Pad and Holder)		
Hand Held	71025T21	$27.23
With 59″ Swivel Handle	71025T22	59.77
Replacement Parts		
Pad	71025T43	2.62
Hand-Held Pad Holder	71025T26	25.15
59″ Swivel Handle and Pad Holder	71025T27	57.67

Steel Wool Soap Pad



Get heavy scrubbing action with these soap-saturated scouring pads. Color is gray and pink.

Size	Pads/ Pkg.		Pkg. 1-11	Pkg. 12-Up
3½″×3¾″×½″	10	7078T14	$6.89	$6.03

Metal Scouring Scrubbers



Metal scrubbers are flexible and corrosion resistant for your toughest cleaning jobs. Scrubbers are 4½″ Dia.×2¼″ Thick.

Abrasion	Material	Scrubbers/ Pkg.		Pkg. 1-11	Pkg. 12-Up
Light	Brass	6	7361T11	$17.37	$15.53
Heavy	Stainless Steel	6	7361T13	7.26	6.49

Pipe Brush



With Optional Pole

Uniquely shaped brush wraps around overhead pipes and other curved surfaces to remove dust and dirt. Bristles are a soft horsehair and medium-firm, chemical-resistant plastic combination. Brush length is 11″; overall length is 16″.

For extended reach, simply attach one of the optional telescoping poles. The *2- to 4-ft.* model is aluminum, and the *6- to 11-ft.* model has a fiberglass outer handle and an adjustable aluminum inner extension pole.

Brush	73115T1	$23.90
2- to 4-ft. Telescoping Pole	73115T2	30.09
6- to 11-ft. Telescoping Pole	7743T63	32.23

High-Temperature Scrub Brushes

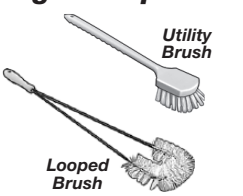

Utility Brush

Looped Brush

Bristles are smooth, medium-firm, friction-resistant PFA and withstand temperatures up to 500°F. *Looped brush* has a twisted metal stem with a plastic handle; *utility brush* has a plastic block and handle.

	Brush Size	Bristle Lg.	O'all Lg.		
Looped Brush	4¼″×5″	1″	24″	9209T4	$61.65
Utility Brush	4″ ×4″	1½″	20″	9209T6	99.21

Scrub Brushes



Our most economical scrub brushes. Block material is plastic, unless noted. ***Styles 3, 6, 7,*** and ***9*** have a scraper on one end. You can hold ***Style 9*** in your hand or attach the optional fiberglass handle.

	Brush Size	Bristle Lg.	O'all Lg.	Bristle Firmness		Each	Pkg. Qty.	
Scratch-Resistant Brass Bristles								
1	3/4" x 2 7/8"	9/16"	3 1/4"	Med.	71605T365■	$2.67	12	$28.80
Chemical- and Temperature-Resistant Natural Bristles								
1	1" x 4 1/4"	3/4"	5"	Med.	71605T375■	2.95	12	31.56
2	2 1/2" x 9"	1 1/8"	9"	Stiff	7198T105■	4.77	12	51.72
Chemical-Resistant Plastic Bristles								
2	2 1/2" x 8 3/4"	1"	8 3/4"	Stiff	7175T145	3.13	12	32.04
3	2" x 9"	1 1/4"	9 1/2"	Stiff	7175T16	4.40		
4	2 3/8" x 5 1/2"	1"	6"	Med.	7293T115	2.87	12	29.40
5	5" x 5"	2"	20"	Med.	7177T2	8.95		
6	3 1/2" x 3"	1 1/2"	11"	Stiff	7177T4	7.45		
7	4" x 5"	2"	19"	Stiff	7177T5	9.58		
Chemical- and Temperature-Resistant Plastic Bristles								
8	3 3/4" x 4"	5/8"	9 1/2"	Med.	71605T12	15.50		
9	1/2" x 8"	1"	9"	Stiff	6906T1	7.25		
Optional 48" Handle for Style 9					6906T2	13.32		
Durable Natural Bristles								
5	3 1/2" x 4 1/2"	2"	8 1/2"	Stiff	7205T1■	5.86		
5	3 1/2" x 4 1/2"	2"	20"	Stiff	7205T2■	8.35		
Durable Plastic Bristles								
5	4 1/4" x 4 3/4"	1 5/8"	9 1/4"	Stiff	7178T145	6.15	12	65.76

■ Block material is wood.

Flexible Hygienic Scrub Brush

Handy brush curls around countertop edges and pipes for thorough cleaning. It has chemical-resistant plastic bristles fused to a gray plastic block. Bristles are medium firm.



Brush Size	Bristle Lg.	O'all Lg.		1-11	12-Up
3 1/4" x 8 1/2"	1 1/8"	9"	15235T11	$11.61	$10.30

Mini Hygienic Scrub Brushes



Brushes are good for cleaning small, narrow areas. They have chemical-resistant plastic bristles that are medium firm. Handle is colored plastic. **To Order:** For double handle, please specify handle color: blue, red, or yellow.

Brush Style	Brush Size	Bristle Lg.	O'all Lg.		1-11	12-Up
Single	1/4" x 1/2"	1/2"	3 1/4"	7243T214	$2.50	$2.14
Double	1/4" x 3/4" ♠	3/8"	7 3/4"	7243T22	2.62	2.35

♠ Brush on opposite end is 1/4" dia.

Narrow-Width Hygienic Scrub Brush



This extra-slim, extra-long brush gets at hard-to-clean places such as fan blades, conveyor surfaces, and equipment coils. It has soft, chemical- and temperature-resistant plastic bristles and a white plastic handle.

To Order: Please specify bristle color: blue, red, white, or yellow.

Brush Size	Bristle Lg.	O'all Lg.		1-11	12-Up
1" x 9 1/2"	2 1/4"	24"	6623T5	$7.60	$6.76

Hygienic Scrub Brushes



Curb bacterial cross-contamination by designating different brush colors for specific jobs or areas of your facility. Brushes have chemical- and temperature-resistant plastic bristles and a plastic block, unless noted. **To Order:** Please specify bristle color: blue, red, white, or yellow, unless noted.

	Brush Size	Bristle/ Brush Lg.	O'all Lg.	Bristle Firmness		
Choose-a-Color Bristles (Blocks are white)						
10	2" x 5 1/4"	1 1/2"	6"	Stiff	63935T11★	$8.20
11	2" x 6 3/4"	1"	7 1/2"	Stiff	63935T31★	5.29
12	2" x 5 1/2"	1"	6"	Stiff	63935T32★	5.04
13	4" x 4 3/4"	1 3/4"	20"	Stiff	63935T15	11.32
14	1 1/2" Dia.	7"	16"	Stiff	63935T18♥	6.64
15	1 1/2" Dia.	7 1/2"	15"	Stiff	63935T35	9.21
15	2 1/2" Dia.	7 1/2"	15"	Stiff	63935T24	10.60
16	1 1/2" Dia.	7 1/2"	15"	Stiff	63935T23	9.67
16	3" Dia.	7 1/2"	15"	Stiff	63935T36	11.38
17	2 3/4" Dia.	4"	12"	Stiff	63935T16	9.30
17	3 1/4" Dia.	6 1/2"	16"	Stiff	63935T17	11.21
18	2 1/4", 4" Dia.	3", 4"	19"	Stiff	63935T25♣	37.08
19	5 1/2" x 9 1/2"	1 3/4"	42"	Stiff	63935T13▲	35.04
20	5" Dia.	1 1/2"	30"	Soft	70505T23●	42.57
21	4" x 6 1/2"	1 1/2"	13 1/2"	Stiff	70505T22	24.98
21	4" x 6 1/2"	2"	13 1/2"	Soft	70505T13	26.49
22	3" x 4"	1 5/8"	8 1/2"	Stiff	70505T24★	8.20
22	3" x 4"	1 5/8"	20"	Stiff	70505T25★	9.70
23	3 1/4" x 4"	1 5/8"	9"	Stiff	70505T26★	14.49
23	3 1/4" x 4"	1 5/8"	20"	Stiff	70505T27★	16.14
Repl. 60" Fiberglass Handle for Style 19					63935T28	12.91
Choose-a-Color Bristles (Blocks match bristle color)						
24	3" x 4 1/2"	1 5/8"	10"	Stiff	63935T41	13.27
24	1 1/2" x 3 1/2"	7/8"	10 1/4"	Stiff	63935T52	6.70
25	5" Dia.	1 1/2"	5"	Stiff	63935T43	17.89
26	1" x 3 1/2"	1"	11 1/2"	Stiff	63935T51	4.09
27	1 3/4" x 4 1/4"	11/16"	4 5/8"	Stiff	63935T27	8.21
28	3" x 8"	1 5/16"	8"	Stiff	63935T42	14.78
29	4 3/4" x 10"	1 1/4"	10"	Stiff	70505T12	24.44
30	3" x 4 1/2"	1 5/16"	16"	Stiff	63935T26	15.00

★ Chemical-resistant plastic bristles only. ♥ Handle is galvanized wire.
♣ Double-ended brush; smaller end has a 1 1/2"-2 1/4" dia. brush size.
▲ Not available in yellow. ● Handle is aluminum.

Scrub Brushes with Long-Reach Handles

Standard



Also known as deck brushes, these are our most economical long-handled scrub brushes. Brushes have one tapered handle hole and one threaded hole. They are 2 7/8" x 10" and include a 60" tapered wood handle, except the durable natural-bristles brush is 2 1/2" x 10" and includes a 60" threaded wood handle. All have approximately 2" long bristles. Bristles are stiff. Block is wood.

Durable Natural Bristles	7199T75	$16.22
Chemical- and Temperature-Resistant Natural Bristles	7199T74	15.95
Chemical-Resistant Plastic Bristles	7199T76	15.45

Multi Angle



With Squeegee

The only brush you need to scrub floors and clean under counters and equipment. Bristles remain on the floor whether you're standing or bending. Both come with a plastic block, chemical-resistant plastic bristles, and a 60" threaded wood handle.

Brush Size	Bristle Lg.	Bristle Firmness		
Without Squeegee				
4 1/2" x 10"	2"	Stiff	7242T83	$17.75
With Squeegee				
4" x 10"	2"	Stiff	7242T85	20.32

Corner



Cone-shaped bristles make this brush ideal for reaching into corners and crevices. It has chemical-resistant plastic bristles and a 60" wood handle (with threaded metal tip). Length without handle is 12"; block is plastic.

Brush Dia.	Bristle Lg.	Bristle Firmness		
2 1/4"	1 1/2"	Soft	72215T21	$17.86

Heavy Duty Swivel Block



Tackle any tough cleaning job with this scrub brush. Bristles are highly durable plastic enhanced with abrasive grit for aggressive cleaning. Block is plastic and swivels 360°. Comes with a 60" threaded wood handle.

Brush Size	Bristle Lg.	Bristle Firmness		
3 3/4" x 8"	3/4"	Stiff	7426T59	$47.22

Choose-a-Color with Swivel Head



With a round brush face and 180° swivel head, this brush hugs curved surfaces. It has chemical- and temperature-resistant plastic bristles and a 42" fiberglass handle. Block material is plastic.

To Order: Please specify bristle color: blue, green, red, white, or yellow.

Brush Size	Bristle Lg.	Bristle Firmness		
7 1/2" Dia.	2"	Medium	6706T81	$43.34

Floor Drain



Scrub the gunk out of floor drains and mop sinks. Brush has nonabsorbent, chemical-resistant plastic bristles for deep cleaning action. Also has a 36" plastic handle imprinted with the words "Use for floor drain only."

Brush Size	Bristle Firmness		
4" Dia. x 5 3/4" Lg.	Stiff	70375T5	$27.68

Baseboard

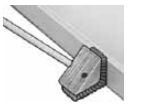

Triangular block keeps bristles snug against baseboards for thorough cleaning. The stiff, chemical-resistant, plastic bristles are set in a 3" Wd. x 4 1/2" Ht. wood block that has two threaded handle holes. Bristle length is 1". Includes a 54" threaded wood handle.

74435T21 ... $38.48

Hygienic Scrub Brushes with Long-Reach Handles

General Purpose





Also known as deck brushes, these brushes are made from FDA-compliant materials and include a 51" fiberglass handle. Bristles are chemical- and temperature-resistant plastic; block is plastic. Color is white.

Swivel block has angled bristles for easy cleaning in hard-to-reach areas.

Block Style	Brush Size	Bristle Lg.	Bristle Firmness		
Fixed	2 1/2" x 11"	1"	Stiff	71135T51	$51.74
Swivel	3" x 8"	1 1/2"	Soft	71135T61	79.69
Replacement Handle				71135T91	26.69

Choose-a-Color





Assign a different color brush to each task to prevent cross-contamination. Brushes have matching block, bristles, and handle color. All bristles are medium firm and made of chemical- and temperature-resistant plastic. Block is plastic. Both include a 51" fiberglass handle. **To Order:** Please specify color: blue, green, red, white, or yellow.

Multi angle allows bristles to remain on the floor whether you're standing or bending.

	Brush Size	Bristle Lg.		
Standard	2" x 16"	2"	8469T2	$74.21
Multi Angle	5" x 10"	1 1/2"	8469T1	60.50
Replacement Handle			8469T81	26.69

Cylindrical Choose-a-Color



Clean inside pipes and other objects. Bristles are stiff, chemical- and temperature-resistant plastic in a plastic block. Brushes include a 59" fiberglass handle. **To Order:** For brushes and handles, please specify color: blue, green, red, white, or yellow.

Brush Dia.	Brush Lg.			Brush Dia.	Brush Lg.		
2"	5 3/4"	98035T21	$51.13	3 1/2"	6 1/4"	98035T24	$53.45
2 1/2"	6"	98035T22	52.46	4"	6 1/2"	98035T25	54.20
3"	6"	98035T23	52.60	Repl. Handle		70485T1	35.53

Window- and Vehicle-Washing Scrub Brushes

These soft-bristle brushes are durable enough to remove dirt and grime, yet gentle enough so they won't scratch most surfaces.

Soft Scrub Brushes



Plastic Bristles— Bristles are soft plastic to provide a soft washing surface. Block is plastic and has one threaded handle hole.

Natural Bristles— Good for highly polished surfaces. Bristles are chemical and temperature resistant. Hardwood brush block has a wrap-around bumper to protect surfaces and two handle holes: one tapered and one threaded.

Bristle Material	Brush Size	Bristle Lg.	Handle Lg.		1-11	12-Up
Plastic	2 1/2" x 8"	2 1/2"	60"	7452T33	$22.98	$20.57
Plastic	2 1/2" x 10"	2 1/2"	60"	7452T34	25.08	22.45
Natural	2 7/8" x 12"	2 1/2"	54"	7452T35	30.94	27.70

Flow-Through Fountain Brushes



Telescoping Handle

Water flows through these brushes for one-step scrubbing and washdown. All have a 3/4" female garden hose (GHT) connection, a plastic block, an aluminum handle, and a bumper guard on the block to protect surfaces.

Telescoping Handle— Bristles are natural and resist chemicals and temperatures.

Telescoping Handle with Flow Control Valve— You can use the flow control valve to vary or shut off water flow. Bristles are soft plastic to provide a soft washing surface. Handle has a foam covering.

Bristle Material	Brush Size	Bristle Lg.	Handle Lg.		
Telescoping Handle					
Natural	4" x 10 1/2"	2 1/2"	3-5 ft.	6381T18	$40.72
Replacement Natural Brush				6381T12	16.33
Telescoping Handle with Flow Control Valve					
Plastic	3 1/2" x 10"	2 1/2"	3 1/2-6 ft.	6140T41	52.00
Plastic	3 1/2" x 10"	2 1/2"	4 1/2-8 ft.	6140T42	59.48
Plastic	3 1/2" x 10"	2 1/2"	6 1/2-12 ft.	6140T43	70.52
Replacement Plastic Brush				6140T44	14.17

Laboratory Brushes

Brushes with Foam Bristles

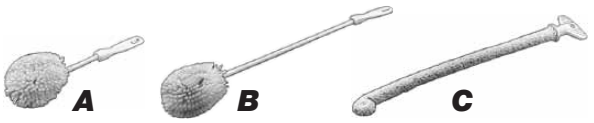

Soft, nonabsorbent, thick, chemical-resistant plastic foam bristles clean without scratching, chipping, or marring glass and plastic surfaces. ***Styles A*** and ***B*** have rigid, vinyl-covered galvanized steel brush stems. ***Style C*** bends to fit a variety of openings.

	Brush Dia.	Brush Lg.	O'all Lg.		1-11	12-Up
A	3″	3″	10″	**4912T31**	$6.00	$5.33
B	3″	3″	18″	**4912T32**	6.88	6.11
C	1″	14″	16″	**4912T33**	7.50	6.67

Hygenic Brushes with Plastic Bristles

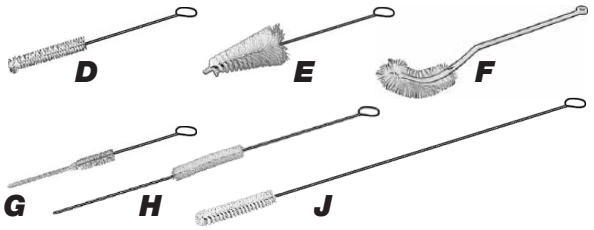

Brushes feature nonabsorbent, nonabrasive, and chemical- and temperature-resistant plastic bristles that can be sterilized. They have corrosion-resistant stainless steel stems and looped wire handles (unless noted). All bristles are medium firm.

	Brush Dia.	Brush Lg.	O'all Lg.		Each	Pkg. Qty.	
D	1/2″	3″	8″	**9756T225**	$2.42	12	$25.80
D	3/4″	3 1/2″	9″	**9756T235**	3.24	12	34.68
D	1 3/8″	4″	11 1/2″	**9756T245**	3.95	12	42.24
D	2″	5″	11″	**9756T25**	6.02	—	—
D	2″	5″	13″	**9756T26**	6.35	—	—
D	2 3/8″	6″	20″	**9756T27**	9.53	—	—
E	1/4″-1/2″	3″	7″	**9756T215**	2.35	12	25.20
E	3/8″-1 1/2″	3 1/2″	9″	**9756T115**	3.15	12	33.60
E	3/4″-1 1/2″	4 1/2″	12″	**9756T13**	5.27	—	—
E	1″-1 3/4″	3″	9″	**9756T12**	4.52	—	—
F	1 1/2″	4″	14″	**9756T32** ★	7.52	—	—
F	1 3/8″	3 1/2″	12″	**9756T31** ★	6.73	—	—
F	1 3/4″	5″	17″	**9756T33** ★	8.45	—	—
G	3/16″-3/4″	7 1/2″	17″	**9756T435**	5.14	12	54.96
H	1/2″	3″	24″	**9756T48**	3.43	—	—
J	1/2″	3 1/4″	30″	**9756T515**	4.68	12	50.04
J	3/4″	3 5/8″	36″	**9756T525**	4.81	12	51.36
J	1 1/4″	5 1/4″	36″	**9756T535**	5.31	12	56.76

★ Handle is plastic.

Hygienic Tube Brushes



Perfect for cleaning long lengths of tubing, these brushes can also be sterilized. Bristles are chemical- and temperature-resistant plastic; stems are corrosion-resistant stainless steel with plastic handles.

Standard Brushes— Have white handles.

Choose-a-Color Brushes— All have colored handles and matching bristles. **To Order:** Please specify color: blue, green, red, white, or yellow.

Brush Dia.	Brush Lg.	O'all Lg.	Bristle Firmness		
Standard					
1″	6″	36″	Stiff	**70615T31**	$23.64
1″	6 1/4″	60″	Stiff	**70615T34**	29.55
2″	6″	36″	Soft	**70615T32**	23.64
2″	6 1/4″	60″	Soft	**70615T35**	29.55
3″	6″	36″	Soft	**70615T33**	23.64
3″	6 1/4″	60″	Soft	**70615T36**	29.55
Choose-a-Color					
3/8″	5 5/8″	19 5/8″	Stiff	**70615T41**	6.67
3/4″	5 7/8″	19 5/8″	Stiff	**70615T42**	7.04
1 5/8″	5 7/8″	19 5/8″	Stiff	**70615T43**	7.71
2″	5 7/8″	19 5/8″	Soft	**70615T44**	8.40
2 3/8″	6″	19 5/8″	Soft	**70615T45**	8.69

Bottle Brushes



Designed for washing bottlenecks and irregularly shaped bottles. Bristles are chemical- and temperature-resistant plastic and have medium firmness; handles are plastic.

	Brush Dia.	Brush Lg.	O'all Lg.		Each	Pkg. Qty.	
With Tapered Head							
K	2″-2 1/2″	4 1/2″	12″	**72405T725**	$16.68	12	$177.84
K	2 3/4″-3 1/4″	6 1/2″	16″	**72405T735**	11.21	12	121.08
K	2 3/4″-3 3/8″	7″	24″	**72405T741**	36.67	—	—
With Twisted Wire Stem							
L	2 1/2″	12″	17″	**72405T751**	17.65	—	—
M	2 1/2″	22″	28″	**72405T761**	51.23	—	—

Flexible Micro-Brushes

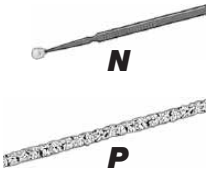

(N) Precision Brushes— Soft plastic bristled tip is nonlinting, and the plastic handle bends to any angle. Overall length is 3 1/4″.

(P) Pipe Cleaners— These fully bristled brushes are ideal for cleaning small pin holes and screw holes. Center stem is flexible wire. Overall length is 6″.

Cotton with plastic has plastic bristles to clean and scrape.

	Bristle Material	Brush Dia.	Brush Lg.	Pkg. Qty.		1-11	12-Up
N	Plastic	1/8″	1/8″	25	**6393T2**	$11.35	$10.22
P	Cotton	5/32″	6″	100	**7549T4**	3.06	2.74
P	Cotton w/Plastic	5/32″	6″	60	**7549T6**	3.00	2.69

Drill-Operated Brush and Pad





Let your drill do the scrubbing and scouring for you. Brush and scouring pad attach to any drill with a 3/8″ chuck.

Hygienic Brush— Brush has 1″ long, chemical-resistant plastic bristles fused to a plastic block. **To Order:** Please specify bristle firmness: soft (white), medium (yellow), or stiff (red).

Scouring Pad— Use this nylon pad for more aggressive scrubbing and cleaning. Requires a pad holder (sold separately below). **To Order:** Please specify abrasion: light (white), medium (red), or heavy (black).

Pad Holder— Has a plastic block.

	Dia.		1-11	12-Up
Hygienic Brush	5″	**14455T1**	$15.88	$14.09
Scouring Pad	6″	**14455T4**	6.62	5.88
Pad Holder (required for pads)	—	**14455T31**	11.86	10.60

Specialty Cleaning Brushes

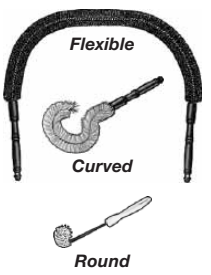

Not like your ordinary brushes, these take on special cleaning tasks. Handle and bristles are made of chemical-resistant plastic; stem is galvanized steel.

Flexible— Slips around pipes and faucets. Bristles are medium firm.

Curved— Fits inside curved-neck tanks, vessels, and bottles. Bristles are medium firm.

Round— Reaches deep into recessed areas such as sliding door and window tracks. Bristles are stiff.

Brush Style	Brush Dia.	Brush Lg.	O'all Lg.		1-11	12-Up
Flexible	2″	28″	48″	**7415T2**	$11.43	$10.00
Curved	1 3/4″	8″	18″	**7415T1**	7.14	6.25
Round	1/2″	2″	8 1/2″	**7415T3**	5.71	5.00

Toilet Bowl Brushes

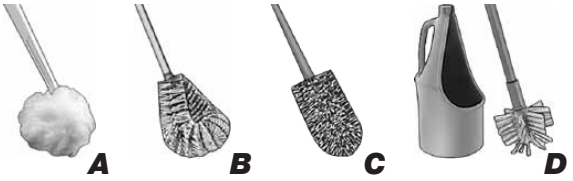

Style A—This economical brush has soft, chemical-resistant plastic fiber bristles and a plastic handle. Brush size is 5¾″ Dia.

Style B—Has stiff, chemical-resistant plastic bristles in a twisted wire frame that angles to reach under bowl rims. Brush size is 6″ Wd. × 4½″ Lg. Handle is plastic.

Style C—Has stiff, chemical- and temperature-resistant plastic bristles attached with stainless steel wire to a wood handle. Brush size is 3½″ Dia. × 6½″ Lg.

Style D—Releases cleaner/deodorizer embedded in brush head each time brush is used. Cleaner/deodorizer lasts for approximately 1,500 uses. Includes caddy for convenient storage. Bristles are stiff, chemical-resistant plastic. Brush size is 4⅞″ Dia. × 3½″ Lg.

Style	O'all Lg.		
A.. Mop	13½″	13585T51	$1.97
B.. Angled Brush	21″	7212T16	4.69
C.. Straight Brush	24″	7209T4	17.40
D.. Cleaner/Deodorizer Brush	21½″	7212T18	18.34
Repl. Cleaner/Deodorizer Brush Head		7212T19	13.78

Swabs

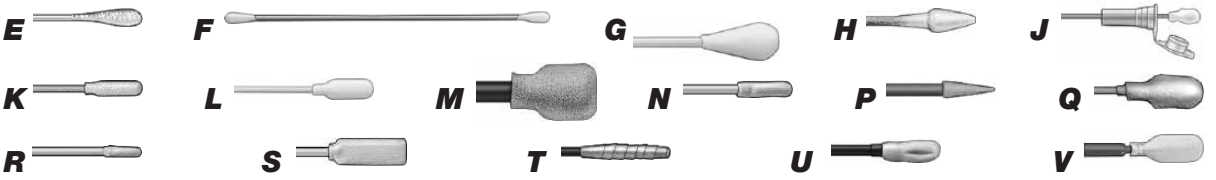

Cotton—Offer excellent absorption. *Low-lint* swabs resist tearing. *Sterile with protective cap* allows you to protect collected samples.

Polyurethane Foam—Shred and lint resistant. *Antistatic* swabs dissipate static electricity. *Clean room* swabs are adhesive and lint free and are suitable for Class 1000 clean rooms. They have excellent particle entrapment and the best solvent-holding ability of any swab.

Polyurethane Foam Over Cotton—Combine the strengths of cotton and polyurethane foam. *Chemical-resistant* swabs withstand most cleaning chemicals and solutions.

Polyester—Generate less lint than cotton or foam swabs, making them perfect for sensitive equipment. All are soft, nonscratching, and have excellent chemical resistance. *Clean room* swabs are our cleanest swabs. They are adhesive and lint free and are suitable for use in Class 100 clean rooms.

Microfiber—Offer effective particle entrapment and are chemical resistant.

Rayon—Highly absorbent and lint free.

Tip Dia.	Tip Lg.	O'all Lg.		Small Pkg. Qty.		Large Pkg. Qty.	
Cotton Swabs							
Wood Handle							
E 1/8″	½″	6″	7074T305	100	$2.49	1,000	$21.40
E 3/16″	5/8″	3″	7074T105	100	2.25	1,000	19.30
E 3/16″	5/8″	6″	7074T115	100	2.35	1,000	20.20
E 7/32″	11/16″	3″	7074T205	100	2.50	500	10.45
E 7/32″	11/16″	6″	7074T155	100	2.90	500	12.46
Plastic Handle							
E 3/16″	11/16″	3″	7074T33	100	3.20	____	____
E 3/16″	11/16″	6″	7074T405	100	4.19	1,000	35.91
E 1/4″	11/16″	3″	7074T355	50	2.75	250	11.79
E 1/4″	11/16″	6″	7074T365	100	4.28	500	18.21
Low Lint—*Wood Handle*							
E 1/8″	7/16″	6″	7074T625	100	2.52	1,000	21.66
E 5/32″	5/8″	3″	7074T615	100	2.44	1,000	20.93
E 3/16″	5/8″	3″	7074T635	100	2.66	1,000	22.57
E 3/16″	5/8″	6″	7074T645	100	2.80	1,000	24.06
Sterile—*Wood Handle*							
E 3/16″	5/8″	6″	7074T67★	200	16.07	____	____
Tips on Each End—*Wood Handle*							
F 3/16″	5/8″	6″	7074T125	100	3.85	500	16.50
Tips on Each End—*Plastic Handle*							
F 3/16″	11/16″	6″	7074T135	100	4.75	500	20.28
Large Diameter with Long Handle—*Paper Handle*							
G 1/2″	1⅛″	8″	7074T975	50	15.13	500	130.30
Tapered Tip—*Wood Handle*							
H 1/8″-1/16″	½″	3″	71035T515	100	2.68	1,000	22.93
H 1/8″-1/16″	½″	6″	71035T535	100	2.79	1,000	24.00
Tapered Tip Tips on Each End—*Wood Handle*							
H 1/8″-1/16″	½″	6″	71035T545	100	3.38	1,000	29.00
H 3/16″-3/32″ ♥	5/8″	6″	71035T555	100	4.30	500	18.45
Low-Lint Tapered Tip—*Wood Handle*							
H 1/8″-1/16″	½″	3″	71035T315	100	2.78	1,000	23.80
H 1/8″-1/16″	½″	6″	71035T325	100	2.96	1,000	25.30
Low-Lint Tapered Tip Tips on Each End—*Paper Handle*							
H 3/32″■	11/32″	3″	71035T61	25	2.16	____	____
H 3/16″■	7/16″	3¼″	71035T62	25	2.32	____	____
Sterile with Protective Cap—*Wood Handle*							
J 3/16″	5/8″	6″	7074T68▲	50	36.44	____	____
Polyurethane Foam Swabs							
Wood Handle							
K 5/32″	15/32″	3″	7074T88	50	10.98	____	____
K 3/16″	11/16″	6″	7074T705	50	12.67	1,000	217.00

Tip Dia.	Tip Lg.	O'all Lg.		Small Pkg. Qty.		Large Pkg. Qty.	
Polyurethane Foam Swabs							
Plastic Handle							
K 3/16″	5/8″	6″	7074T6	50	$12.05	____	____
K 1/4″	7/8″	6″	7074T53	50	19.35	____	____
L 3/8″	1″	6″	7074T515	50	14.50	1,000	$248.60
M 11/16″	7/8″	5″	7074T525	50	21.43	1,000	367.40
Antistatic—*Plastic Handle*							
M 11/16″	1″	5″	7074T23	50	27.24	____	____
Clean Room—*Plastic Handle*							
N 1/8″	13/32″	2 13/16″	6111T205	500	54.54	2,500	231.55
Clean Room Tapered Tip—*Plastic Handle*							
P 1/8″-1/32″	13/32″	3 3/16″	6111T305	500	61.79	2,500	262.30
Polyurethane Foam Over Cotton Swabs							
Wood Handle							
K 1/4″	13/16″	6″	7074T55	50	12.66	____	____
Q 3/8″	1″	6″	7074T565	50	13.76	1,000	231.40
Antistatic—*Wood Handle*							
L 3/8″	13/16″	6″	7074T215	50	15.99	1,000	286.87
Antistatic—*Plastic Handle*							
N 5/32″	5/8″	6″	7074T22	50	23.49	____	____
Chemical Resistant—*Wood Handle*							
Q 3/8″	13/16″	6″	7074T475	50	22.97	1,000	393.80
Chemical Resistant—*Plastic Handle*							
Q 3/8″	15/16″	6″	7074T48	50	22.29	____	____
Polyester Swabs							
Plastic Handle							
N 3/32″	13/32″	3″	7074T84	100	35.33	____	____
N 3/16″	25/32″	6″	7074T82	100	53.10	____	____
R 1/8″	19/32″	3″	7074T81	100	36.33	____	____
S 3/8″	1″	6″	7074T83	50	43.38	____	____
Clean Room—*Plastic Handle*							
T 5/32″	25/32″	2 13/16″	63105T1	100	56.63	____	____
U 1/4″	13/32″	6 5/16″	63105T325	25	16.81	375	213.60
Microfiber Swabs							
Polypropylene Handle							
N 1/8″	3/8″	2¾″	7074T92	100	30.83	____	____
V 1/4″	21/32″	6″	7074T93	100	64.17	____	____
Rayon Swabs with Long Handle							
Paper Handle							
G 1/2″	1″	8″	7074T24	100	27.83	____	____
Plastic Handle							
G 1/2″	1″	16″	7074T25	100	35.11	____	____

★ Wrapped in pairs; 100 pairs/pkg. ♥ Tapered-tip size shown in table; second tip is nontapered (3/16″ Dia.). ■ Tip tapers to a point.
▲ Each swab wrapped individually.

Paper Towels and Dispenser

Soft and absorbent, these are our most economical wipes. Rolls are perforated every 8¾″. Color is white.

Wall-mount dispenser is made of steel with a white finish.


With Wall-Mount Dispenser

Size	No. of Sheets	Rolls/ Pkg.		Pkg.
Roll	11″×90′	20	4501T24	$48.13
Wall-Mount Dispenser			4501T2 Each	$16.20

Light Duty Wipes

Great for single-use applications.

General Purpose

These paper-based wipes are stronger and more absorbent than paper towels. Color is white, unless noted.

Absorbent—Denser paper material for greater strength and absorption.

Textured—More abrasive than standard wipes for extra cleaning power.

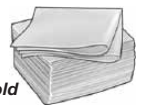
¼ Fold

Size	No. of Wipes		Each	Pkg. Qty.	
Standard					
¼ Fold	12″×13½″	50	7036T169	$5.98	16 $83.20
Absorbent					
¼ Fold	12″×13½″	50	7036T129	7.69	18 120.42
Textured					
Pop-Up Box	9⅛″×16¹³⁄₁₆″	88	7036T16 ●	15.70	— —

● Color is brown.

Nylon-Reinforced Paper

These nylon-reinforced wipes are stronger, more tear resistant, and provide better scrubbing power than paper towels. Color is white.

Size	No. of Wipes		Each 1-7	8-Up
Pop-Up Box	9½″×16½″	175	98075T51	$10.39	$9.53

Super Absorbent

These paper-based wipes are stronger than paper towels and excellent for drying; all maintain their strength when wet. Color is white.

Size	No. of Wipes		Each 1-11	12-Up
Pop-Up Box	12″×23″	45	6362T15	$18.13	$16.15

Nonscratching Tissue Paper

Also known as Kimwipes, these low-lint wipes are soft, gentle, and absorbent. Ideal for delicate cleaning tasks. Color is white.

Ply	Size	No. of Wipes		Each	Pkg. Qty.	
One	4⅜″×8⅜″	280	7367T389	$3.98	60	$212.40
One	14¹¹⁄₁₆″×16⅝″	140	7367T439	11.29	15	150.75
Two	14¹¹⁄₁₆″×16⅝″	90	7367T419	15.38	15	205.50
Three	11¹³⁄₁₆″×11¹³⁄₁₆″	119	7367T569	12.02	15	160.65

Roll Dispenser

Easily store and unroll just the amount of wipes you need—works with all the wipe rolls we carry. Dispenser measures 33″ Ht.×16¾″ Wd.×18½″ Dp. and is made of steel. Color is black.

9852T12 ..... $39.38


Roll not Included

Chamois

Dry, polish, and clean without streaking or smearing.

Natural—Made of oil-tanned sheepskin. Sizes are approximate. Color is tan.

Synthetic—This nylon-reinforced cloth outlasts natural chamois, yet absorbs just as well. Color is yellow.

Size			
Natural	3 sq. ft.	7359T12	$15.70
Natural	4½ sq. ft.	7359T16	23.40
Synthetic	27″×17″	7286T1	10.10

Heavy Duty Wipes

All are low linting.

General Purpose

An economical alternative to cloth, these paper-based wipes are as strong and durable as cloth, plus soft as tissue. They resist solvents and are nonscratching. They can be washed up to five times. Color is blue. *Roll* is perforated.


Pop-Up Box *Bucket*

Size	No. of Wipes		Each	Pkg. Qty.	
¼ Fold	12″×13³⁄₁₆″	50	70585T116	$8.28	18 $133.92
Pop-Up Box	9″×16½″	100	70585T216	17.66	8 126.88
Pop-Up Box	12″×16½″	250	70585T4	57.36	— —
Crumpled	14⅜″×13″	250	70585T3	54.30	— —
Roll	12½″×13⅜″	475	70585T7	78.98	— —

Same as the cloth-like wipes above, except bucket wipes come in a center-pull dispenser that is crush resistant and easy to carry. Color is white.

Size	No. of Wipes		Each
Bucket	10″×13″	220	70585T5	$28.45
Refill Wipes	10″×13″	220	70585T6	23.81

Oil and Solvent

Soak up oils and solvents with these 100% polypropylene wipes. Color is blue. *Roll* is perforated.

Size	No. of Wipes		Each	Pkg. Qty.	
¼ Fold	12″×12½″	66	6383T25	$16.33	— —
Pop-Up Box	8¾″×16¾″	100	6383T469	31.62	5 $140.90
Roll	9⅝″×13⅜″	717	6383T37	132.55	— —

Microfiber Cleaning Wipes

You can wash and reuse these wipes more than 300 times. They clean without the use of chemicals and polishes. Wipes are virtually lint free.

Cleaning—Draws grease and oil deep into the fibers so it cleans without streaking or spreading dirt. Use damp for best results. Color is blue.

Polishing—Super soft suede-like cloth polishes surfaces without scratching and removes fine dirt. Color is white.

Size		Each 1-11	12-Up
Cleaning	16″×16″	7716T1	$3.49	$3.13
Polishing	16″×16″	7716T3	3.68	3.31

Mini Wipes and Cleaning Rods

Also known as cleaning patches, these mini wipes can be used alone or with cleaning rods (sold separately).

Mini Wipes—Made of white cotton. *Textured wipes* are abrasive for more aggressive cleaning.


Mini Wipe with Cleaning Rod

Cleaning Rods—Perfect for cleaning inside small or narrow openings. Simply fold a mini wipe through the tip on the end of the rod. All have a looped tip and plastic handle.

Mini Wipes

Size	No. of Wipes		Each 1-23	24-Up
Standard				
1½″×1½″	200	7492T1	$5.70	$5.07
2½″×2½″	125	7492T2	5.25	4.67
Textured				
3″×3″	80	7492T3	5.50	4.89

Cleaning Rods

O'all Lg.	FOR HOLE OPENING SIZE (DIA.) ¼″ to ⅜″ Stainless Steel Rod		⅜″ to 1¹⁄₂″ Aluminum Rod	
15″	7492T31	$23.94	—	—
27″	7492T32	25.85	7492T42	$25.85
39″	7492T33	27.35	7492T43	27.35

Clean Room Wipes

Eliminate impurities in clean room areas. All wipes are white and suitable for use in Class 100 clean rooms, unless otherwise indicated.

Wet wipes come in a resealable pouch. All are moistened with a 6% isopropyl alcohol/94% deionized water mixture.

Standard

Our most cost-effective clean room wipes combine the strength of polyester with the absorbency of cellulose.

Size	No. of Wipes		Each	Pkg. Qty.	
Dry Wipes					
4″×4″	300	7089T31	$11.93	—	—
9″×9″	100	7089T129	13.19	24	$281.28
12″×12″	100	7089T139	23.70	24	505.44
Wet Wipes					
9″×9″	75	6616T139	24.97	12	268.08
Sterile Dry Wipes					
12″×12″	20	6558T11	15.19	—	—

Super Absorbent

More absorbent than any other clean room wipe, these 100% rayon, low-linting dry wipes absorb eight times their own weight. Wipes are heat resistant and have low static discharge. Color is off-white.

Size	No. of Wipes		Each 1-29	Each 30-Up
10″×10″	100	6209T1	$19.23	$17.24

Chemical Resistant

These chemical-resistant polypropylene dry wipes won't break down in the presence of most solvents and acids.

Size	No. of Wipes		Each
12″×12″	100	6369T31	$37.80

Heavy Duty

Our most durable clean room wipes, these dry wipes are made of polyester. *Ultra soft wipes* are ideal for cleaning sensitive surfaces, such as optical equipment and fiber optics. *Ultra durable wipes* are tear resistant.

Size	No. of Wipes		Each	Pkg. Qty.	
Ultra Soft—*Class 100 Clean Room*					
4″×4″	300	98465T615	$25.70	4	$91.92
9″×9″	150	98465T625	41.42	2	74.54
Ultra Durable—*Class 10 Clean Room*					
9″×9″	150	98465T53	45.17	—	—
12″×12″	75	98465T54	57.50	—	—

Cheesecloth

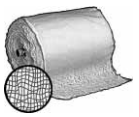

Cheesecloth

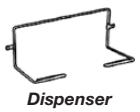

Dispenser

Loosely woven from 100% purified cotton, this silicone-free cloth is low linting and won't scratch.

Sheet rolls are individual sheets rolled together.

Unbleached—Perfect for cleaning up particles, this three-ply, off-white cloth is woven to be softer, less abrasive, and lower linting than bleached cloth.

Bleached—Four-ply weave means there's more cloth for better straining, filtering, and polishing than unbleached cloth. Color is white.

Dispenser—Mount to wall or bench for easy dispensing of sheet rolls. Made of steel with a white finish and is 11⅜″ Wd.×6½″ Dp.×5″ Ht. Has two ⅛″ dia. mounting holes (mounting fasteners not included).

	Sheet Size	No. of Sheets		
Sheet Rolls				
Unbleached	9½″×20″	100	7340T22	$20.54
Bleached	9″×24″	128	7340T12	37.67
Dispenser for Sheet Rolls			7340T35	7.40
Continuous Roll				
Bleached	3 ft.×15 ft.	1	7340T17	2.69

Cloth Rags



Rag size is random and ranges from approximately 12″×12″ to 18″×18″. Rags have been washed, except for the new colored T-shirt, new white terry cloth, and new white diaper cloth rags. The *huck towels* have been washed and sanitized.

To Order: Please specify 5-, 25-, or 50-lb. carton.

	Approx. Rags/lb.		5-lb. Carton	25-lb. Carton	50-lb. Carton
Corduroy—*Durable.*					
Colored	6-10	7366T29	$6.68	$30.72	$53.43
Denim—*100% cotton blue jean material. Excellent for oil and grease.*					
Colored	6-10	7366T14	4.64	21.35	37.13
T-Shirt—*Soft, cotton-blend material.*					
New Colored	7-12	7366T27	9.41	43.29	75.29
New White	10-12	7366T28■	15.63	71.88	125.01
Flannel—*Highly absorbent cotton-blend material.*					
Colored	7-10	7366T34	8.13	37.40	65.05
Terry Cloth—*Medium soft texture and absorbent cotton material.*					
Colored	6- 8	7366T13	11.05	50.81	88.37
New White	10-12	7366T19	23.90	109.93	191.18
Huck Towels—*Very strong and absorbent 100% cotton.*					
Colored	7- 8	7366T35■	22.80	104.90	182.43
Diaper Cloth—*Very absorbent, soft, cotton blend; sewn on all sides. Good for polishing.*					
New White	4- 5	7366T33■	31.39	144.40	251.13
Sweatshirt—*Use for polishing.*					
New White	8-10	7366T32	14.05	64.64	112.41

■ Low-linting rags.

Exact Sized Cloth Rags

No more wondering if your rag will be too large or small. These quality-consistent, new T-shirt cloth rags are always the same size. All are soft, absorbent 100% cotton. Color is white.

Size	No. of Rags		Each	Pkg. Qty.	
14″×18″	10	7857T115	$4.38	14	$54.46
14″×18″	30	7857T125	12.69	8	90.24
14″×18″	60	7857T135	24.21	4	86.76

Cloth Shop Towels

Woven from 100% cotton and hemmed for extra strength. All towels are washable, reusable, and absorbent. Color is red.

Size	Pkg. Qty.		Pkg. 1-19	Pkg. 20-Up
13″×14″	12	63485T94	$6.21	$5.56

Forklift-Mount Push Brooms

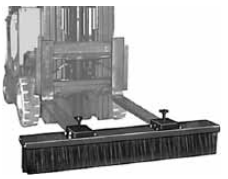

Efficiently sweep large areas such as parking lots and factory floors. Broom has black, chemical-resistant, plastic bristles attached to a plastic base. Frame is red aluminum with black steel mounting brackets. Broom attaches to forklift (mounting hardware included). Fork openings are 5¹⁄₁₆″ Wd.×1½″ Ht. on 18¼″ centers.

Broom Wd.	Bristle Lg.	O'all Dp.	Complete Brooms	Each	Replacement Bristle Kits	Kit
48″	8″	9″	7531T5	$526.31	7531T7	$160.54
60″	8″	9″	7531T6	572.01	7531T8	222.21

Towel Wringer



Easily squeeze liquid out of towels, rags, and wipes with this zinc-plated steel wringer. Rollers have a rubber coating and adjust to open up to ½″. Mounts on a 25- to 55-gal. drum and includes a drainboard to direct liquid into your container. Overall size (excluding handle and top adjustment pressure screw) is 11¼″ Ht.×14⅜″ Wd. Handle length is 10½″.

7135T16 ..... $154.41

About Brooms

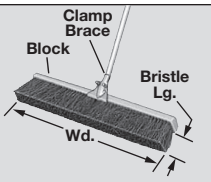

Smooth-surface brooms sweep away fine to medium dust and dirt on nonporous surfaces such as tile, wood, linoleum, and smooth concrete.

Semi-smooth-surface brooms handle heavier debris on surfaces such as sidewalks and driveways.

Rough-surface brooms move heavy, wet, and hard-to-move debris on asphalt and rough concrete such as street pavement.

Push Brooms

All brooms include a 60″ long handle. Those 24″ and wider include a clamp-style brace for handle support, unless noted.

Smooth-Surface Push Brooms



Brooms have a threaded handle.

Plastic Bristles—Come in two styles. *Standard* have a wood handle, wood block, and blue bristles. *Chemical-resistant* have a black, plastic-coated steel handle with an aluminum tip, plastic block, and gray bristles.

Horsehair Bristles—All bristles are soft for fine sweeping. They have a wood handle, wood block, and black bristles.

Broom Wd.	Plastic Bristles: Bristle Lg.			Horsehair Bristles: Bristle Lg.		
With Standard Bristles						
14″	2¾″	7313T14	$17.43	3″	7167T2	$26.13
16″	2¾″	7313T13	19.18	3″	7167T6	27.70
18″	2¾″	7313T16	19.66	3″	7167T4	29.44
24″	2¾″	7313T17	25.34	3″	7167T5	38.29
30″	2¾″	7313T18	36.58	3″	7167T7	48.54
36″	2¾″	7313T19	42.97	3″	7167T8	65.24
With Chemical-Resistant Bristles						
18″	3″	7502T21	26.06	—	—	—
24″	3″	7502T22★	28.93	—	—	—

★ Does not include a clamp-style brace.

Semi-Smooth-Surface Push Brooms



Brooms have a threaded wood handle, a wood block, and black bristles.

Natural Bristles—Resist solvents and heat.

Blended Bristles—All are made of blended soft horsehair and plastic bristles. The 14″ through 24″ wide brooms also have a natural bristle center to dislodge heavier dirt.

Broom Wd.	Natural Bristles: Bristle Lg.			Blended Bristles: Bristle Lg.		
14″	—	—	—	2¾″	7168T2	$22.98
16″	—	—	—	2¾″	7168T3	25.11
18″	—	—	—	2¾″	7168T4	25.69
24″	3″	7169T15	$32.94	2¾″	7168T5	29.54
30″	3″	7169T16	40.18	2¾″	7168T6	43.26
36″	3″	7169T17	50.62	2¾″	7168T7	48.46

Rough-Surface Push Brooms



All have a wood handle and a wood block.

Natural Bristles—Color is reddish brown.

Plastic Bristles—Resist solvents, acids, and chemicals. *Standard bristles* are blue. *Long bristles* are black.

Brooms *with standard bristles*, also known as garage brooms, sweep heavy soils and debris. All have a threaded handle.

Brooms *with long bristles* are also known as street brooms. These stand up to the heaviest debris and move large, bulky trash. Handle is tapered.

Broom *with heavy duty long bristles* is the same as the long-bristled brooms above, except it has stiffer and thicker bristles.

Broom Wd.	Natural Bristles: Bristle Lg.			Plastic Bristles: Bristle Lg.		
With Standard Bristles						
18″	4″	7172T62	$19.78	2⅞″	7174T14	$23.62
24″	4″	7172T63★	22.72	2⅞″	7174T15	27.36
30″	4″	7172T64	29.42	2⅞″	7174T16	35.36
36″	4″	7172T65★	31.50	2⅞″	7174T17	37.55
With Long Bristles						
16″	6¼″	7179T4	18.80	—	—	—
18″	6¼″	7179T41	19.94	6″	7152T45	25.77
24″	6¼″	7179T42★	24.91	6″	7152T46★	29.32
With Heavy Duty Long Bristles						
16″	6¼″	7155T16	22.15	—	—	—

★ Does not include a clamp-style brace.

Adjustable-Angle Push Brooms



Reach tight and confined areas—simply adjust the handle to the angle you need. Handle attaches to a steel swivel socket, and the angle is secured with a threaded bolt. Brooms have a 59″ long, two-piece steel and wood handle. Block is plastic with a steel back. Bristles are made of chemical-resistant plastic.

Semi-Smooth Surface—Bristles are black.

Rough Surface—Bristles are brown.

Broom Wd.	Semi-Smooth Surface: Bristle Lg.			Rough Surface: Bristle Lg.		
14″	3″	72085T41	$33.89	3⅜″	70695T61	$35.35
18″	3″	72085T42	38.06	3⅜″	70695T62	39.18
24″	3″	72085T43	42.44	3⅜″	70695T63	43.69
Replacement Handle					72085T5	15.22

Dura-Block Push Brooms



A durable, rust-resistant steel strip locks in bristles without the added weight of wood and plastic blocks. All brooms have a 60″ long black steel handle with a bolt and wing nut connector. Bristles are made of chemical-resistant plastic.

Smooth-Surface—Bristles are maroon.

Semi-Smooth Surface—Bristles are brown.

Rough Surface—Bristles are black.

Broom Wd.	Bristle Lg.	Smooth Surface	Semi-Smooth Surface	Rough Surface	
18″	3″	7357T221	7352T221	7339T11	$20.82
24″	3″	7357T222	7352T222	7339T12	23.10
30″	3″	7357T223	7352T223	7339T13	34.46
36″	3″	7357T224	7352T224	7339T14	37.42
Repl. Handle for 18″ and 24″ Brooms				7357T17	10.05
Repl. Handle for 30″ and 36″ Brooms				7357T18	14.63

Twist-Resistant Handle Push Brooms



A zinc-plated steel, clamp-style brace locks the handle into the wood block, preventing damage from unnecessary handle twisting. All have a 60″ long wood handle. Bristles are made of chemical-resistant plastic. Bristle color is orange, except *semi-smooth-surface* bristles, which are orange and black.

Broom Wd.	Bristle Lg.	Smooth Surface	Semi-Smooth Surface	Rough Surface	
18″	3″	6378T442	6378T413	6378T418	$29.02
24″	3″	6378T443	6378T414	6378T419	33.19
30″	3″	6378T444	6378T415	6378T422	37.75
36″	3″	6378T445	6378T416	6378T421	44.03
Replacement Handle (Without Brace)				6378T31	6.09
Replacement Anchor Brace				6378T32	4.60

Multisurface Twist-Resistant Handle Push Brooms



Effective on all floor surfaces, these brooms have rough-surface bristles in the front for heavy and wet debris, and smooth-surface bristles in back for finer debris. Bristles are made of chemical-resistant plastic. Front bristles are black; rear bristles are blue. Brooms have a 60″ long wood handle with a clamp-style brace for added support. Block is made of wood.

Broom Wd.	Bristle Lg.		
18″	2″-2¼″	7736T11	$26.07
24″	2″-2¼″	7736T12	31.39
36″	2″-2¼″	7736T13	42.55
Replacement Handle (Without Brace)		6378T31	6.09
Replacement Anchor Brace		6378T32	4.60

Heavy Duty Push Brooms



An all-steel handle welded to a steel brace and mounted on a wood block makes these our most durable push brooms. Handle is 58″ long and black. Bristles are natural.

Semi-Smooth Surface— Bristles are chemical and temperature resistant. Color is black.

Rough Surface— Bristles are extra stiff. Color is brown.

Broom Wd.	Semi-Smooth Surface Bristle Lg.		Rough Surface Bristle Lg.	
18″	3″	7723T11 $59.40	4″	7723T21 $48.40
24″	3″	7723T12 64.01	4″	7723T22 52.56
30″	3″	7723T13 73.93	4″	7723T23 65.81
36″	3″	7723T14 82.48	4″	7723T24 71.58
Replacement Handle		7723T1 30.33		

Choose-a-Color Hygienic Block Push Brooms



Assign specific bristle colors to particular tasks or areas. Bristles are fused to the block so contaminants have nowhere to hide. Block and bristles are chemical-resistant plastic. Block is white.

All handles are threaded. Choose a 60″ wood handle or a white, hygienic, telescoping, fiberglass handle.

To Order: Please specify bristle color: blue, red, or white.

Broom Wd.	Bristle Lg.	Handle Lg.	Smooth and Semi-Smooth Surface		Rough Surface	
With Wood Handle						
18″	2¾″	60″	7504T1	$41.59	7504T3	$39.70
24″	2¾″	60″	7504T2	46.07	7504T4	44.15
With Telescoping Fiberglass Handle						
18″	2¾″	34″-62″	7504T5	60.35	7504T7	58.47
24″	2¾″	34″-62″	7504T6	64.83	7504T8	62.91
Replacement Wood Handle			7504T11	9.93		
Replacement Telescoping Fiberglass Handle			7505T13	28.00		

Corn Brooms



Miniature ***Full Size***

Due to their durability, natural corn brooms are a favorite.

Miniature— All are 100% corn. *Light duty* broom, also known as a toy broom, has a red, 24″ long wood handle. *Heavy duty* broom, also known as a lobby broom, has longer bristles and a 30″ long wood handle.

Full Size— *Standard duty* broom is a corn and synthetic fiber blend with a 42″ long wood handle. *Heavy duty* broom is 100% corn with a 42″ long wood handle.

	Broom Wd.	Bristle Lg.	O'all Lg.		
Miniature					
Light Duty	7″	10″	32″	7067T11	$6.47
Heavy Duty	7½″	11″	39″	7067T12	7.03
Full Size					
Standard Duty	10″	14″	54″	7146T3	10.66
Heavy Duty	13″	18″	57″	7146T2	17.87

Heavy Duty Brooms



Broom



Scraper

Strong and secure—bristles are housed in a steel cap and held with a wire band, making these brooms ideal for sweeping heavy debris. Bristles are plastic and resist most acids, oil, and chemicals. Handle is wood, 39½″ long, and has a protective steel sleeve at its base.

Broom with scraper, also known as a railroad track broom, has a steel scraper on one end for removing snow, ice, and caked-on debris.

	Broom Wd.	Bristle Lg.	O'all Lg.		
Broom	9″	8″	51¾″	7151T11	$19.69
Broom with Scraper	9″	8″	55¾″	7147T4	28.44

Steel-Wire Push Broom



Our best broom for dislodging heavy accumulations on rough, irregular surfaces such as concrete, stone, and brick. Broom has a tapered wood handle, a wood block with one handle hole, and flat steel wire bristles.

Broom Wd.	Bristle Lg.	Handle Lg.		
16″	5″	60″	7156T73	$51.37

Angle Brooms



Dual Angle



Extra Wide



Choose-a-Color

Perfect for accessing corners. All handles are threaded.

Dual Angle— Both brooms have two threaded holes in the block that let you select the best sweeping angle for your job. Block is black plastic. All bristles are plastic and resist acids, solvents, and chemicals. *Smooth-surface* bristles are designed for fine sweeping. Handles are black; bristles are blue. *Semi-smooth-surface* handles and bristles are black.

Extra Wide— Our widest angle broom. Handle is red steel. Block is black plastic. Bristles are black chemical-resistant plastic and are designed for fine sweeping. Can also be used on semi-smooth surfaces.

Choose-a-Color with Hygienic Block— Assign specific bristle colors to different tasks and areas. Bristles are fused to the white block, giving contaminants nowhere to hide. Block and bristles are made of chemical-resistant plastic, and they won't absorb liquids or odors. They are also unaffected by detergents and solvents.

Choose an economical wood handle or a white, hygienic, telescoping, fiberglass handle.

To Order: Please specify bristle color: blue, red, or white.

Handle Type	Broom Wd.	Bristle Lg.	Handle Lg.	Smooth Surface		Semi-Smooth Surface	
Miniature Dual Angle							
Plastic-Coated Steel	7½″	4″	30″	7634T11	$6.91	7634T12★	$6.91
Full Size Dual Angle							
Plastic-Coated Steel	9″	7″	48″	7634T21	16.48	7634T22	16.48
Extra Wide							
Steel	15″	6″	48″	4030T8	16.11	_____	____
Choose-a-Color with Hygienic Block							
Wood	10″	6″	48″	7393T3	29.08	7393T4	29.08
Fiberglass	10″	6″	34″-62″	7393T1	48.02	7393T2	48.02
Replacement Wood Handle						7393T6	7.83
Replacement Telescoping Fiberglass Handle						7393T5	31.51

★ Bristle length is 5″.

Sweeping Compounds



Sprinkle these dust-absorbing compounds over floors before sweeping.

Oil Based— Contains wood fiber with oil and sand. Use on wood, concrete, and metal floors. Color is red.

Water Based— Contains wood fiber with water and sand. Use on unfinished concrete and wood floors. Color is tan.

Wax Based— Contains wood fiber and wax. Use on resilient floors such as rubber and cork tile, as well as on fine finishes such as linoleum and waxed floors. Color is red.

	50-lb. Carton		100-lb. Carton		300-lb. Drum	
Oil Based	7264T11	$22.87	7264T13	$37.39	7264T14	$98.96
Water Based	63635T61	22.15	63635T62	34.84	63635T64	90.14
Wax Based	7264T15	28.30	_____	____	_____	____

Handles

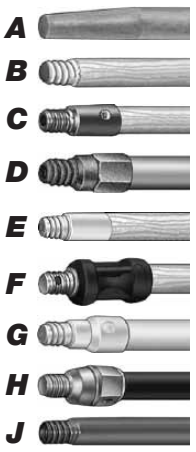

(C) Wood with Metal Tip— Tip is cast zinc to strengthen threads.

(D) Wood with Abrasive-Coated Metal Tip— Tip is coated with aluminum oxide to lock handle tightly into your broom's block.

(E) Wood with Metal Tip and Foam Grip— Tip is cast zinc to strengthen threads while the foam grip adds comfort.

(F) Wood with Flexible Metal Tip— An adapter between the aluminum tip and handle flexes when an object is struck to prevent handle from breaking.

(G) Fiberglass with Flexible Plastic Tip— Tip is plastic and absorbs shock to extend the life of the handle. Handle is white.

(H) Plastic-Coated Steel— Tip is die cast aluminum. Handle is black.

(J) Steel— This is our strongest handle. Handle is green.

	Handle Material	O'all Lg.	Handle Dia.		1-11	12-Up
Tapered Handles						
A	Wood	54″	1 1/8″	7349T14	$7.53	$6.64
A	Wood	60″	1 1/8″	7349T15	7.89	6.99
Threaded Handles						
B	Wood	14″	15/16″	7255T14	1.76	1.56
B	Wood	54″	15/16″	7255T1	5.56	4.91
B	Wood	60″	15/16″	7255T2	5.98	5.29
B	Wood	72″	1 1/8″	7255T3	6.91	6.11
C	Wood	60″	15/16″	7255T4	7.43	6.56
C	Wood	60″	1 1/8″	7255T61	9.85	8.69
D	Wood	60″	15/16″	7255T87	12.34	10.91
E	Wood with Foam Grip	60″	15/16″	7255T5	11.58	10.24
F	Wood	58″	15/16″	7255T54	12.99	11.08
G	Fiberglass	60″	1″	7255T16	13.52	11.98
H	Plastic-Coated Steel	60″	15/16″	7255T89	5.69	5.03
J	Steel	60″	15/16″	7255T88	8.84	7.82

Handle Adapters


Threaded-to-Tapered


Aluminum Threaded


Nylon Threaded

Don't waste your money on a new handle—convert or replace your handle tips.

Threaded-to-Tapered Tip— Convert your threaded handle to a tapered handle by screwing on this tip.

Threaded Tips— Convert tapered handles to threaded handles or replace damaged threads by sawing off the old tip and attaching a converter. Use on any 15/16″ dia. handle. *Aluminum* model clamps tight with screw (included). *Nylon* model has internal ribs that grip the handle.

Adapter Style	Material		1-11	12-Up
Threaded-to-Tapered Tip	Black Plastic	7555T76	$3.97	$3.53
Threaded Tip	Aluminum	7555T77	4.88	4.33
Threaded Tip	White Nylon	7555T78	2.84	2.53

Handle Braces

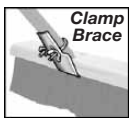

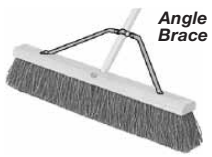

Strengthen your push broom handles and prevent damage with these braces.

Clamp Brace— Brace is aluminum and locks the handle to the block with the included U-bolt. Works with all blocks.

Angle Brace— Brace is made of steel and has legs that screw onto the block and clamp around the handle for extra stability and durability (mounting hardware included). Center-to-center leg spread is 16 1/4″.

		1-11	12-Up
Clamp Brace	7182T8	$4.34	$3.76
Angle Brace	7182T9	4.54	4.03

Dust Pans

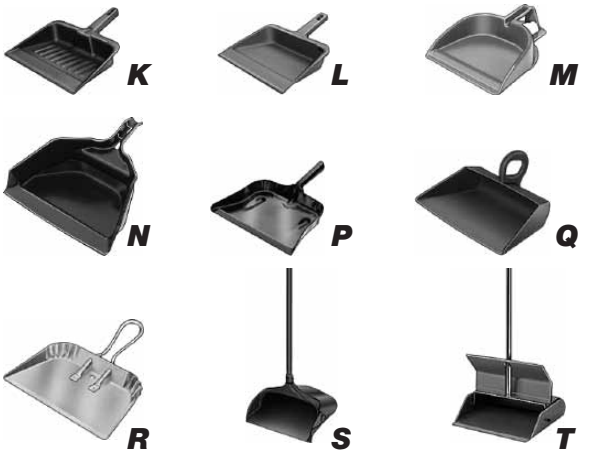

(K) Economy Plastic— Handle has a hole for hanging. Color is black.

(L) Choose-a-Color Hygienic— Avoid cross-contamination by using different colored dust pans for specific areas. Handle has a hole for hanging. **To Order:** Please specify color: blue, red, or white.

(M) Foot Controlled— Step on the convenient foothold to keep this dust pan in place without bending over. For easy storage, pan snaps onto a 7/8″ or 15/16″ dia. broom handle. Color is blue.

(N) Large Capacity— Our largest plastic dust pan scoops up all the dirt you can push its way. Color is black.

(P) Economy Steel— Handle has a hole for hanging. Color is black.

(Q) Wet and Dry— Thin, tapered edge forms a seal to pick up anything from liquids to sawdust. Includes a hoop for hanging and has a painted, corrosion-resistant finish.

(R) Big Grip— Pan is lightweight, corrosion resistant, and has a large looped handle.

(S) No Spill— To prevent spills, enclosed pan snaps into upright position when lifted. Rear wheels won't scratch floors. Color is black.

(T) Self Closing— Lid opens automatically when you place these pans on the floor and shuts when lifted. *Steel* pan has a tan finish.

	Pan Material	Wd.	Dp.	Ht.	Handle Lg.		
K	Plastic	12 1/4″	8 1/4″	2 5/8″	———	7250T13	$6.23
L	Plastic	12 1/4″	12″	2 1/2″	———	7256T1	10.28
M	Plastic	13″	16″	4″	———	72015T46	4.73
N	Plastic	14″	8 1/2″	4 1/4″	———	72805T81	6.68
P	Steel	12 3/4″	7 1/2″	2″	———	7252T4	8.74
Q	Steel	14″	10″	3 1/2″	———	7257T11	19.01
R	Aluminum	16″	10″	2 1/2″	———	63235T25	18.50
S	Plastic	12 3/4″	11 1/4″	5″	28″ Plastic	7395T11	25.98
T	Steel	12″	10″	3″	28″ Steel	7253T3	52.00
T	Stain. Steel	12″	10″	3″	28″ Steel	7253T13	86.46

Tacky-Surface Dust Roller

Pick up fine dust and dirt particles with the tacky surface and then peel it away to expose a clean surface. Handle is threaded for use with an extension handle. Both the roller and the refills are 9″ wide and have 20 peel-away layers.



		Roller with Handle		Refill		
Wd.	Lg.				1-3	4-Up
9 1/4″	12 1/2″	72305T67	$41.36	72305T68	$23.87	$21.22

Spray Duster

Blast away dirt, dust, and lint with high-pressure bursts of compressed gas. Duster has a reusable valve with a tapered-tip nozzle for precision positioning that screws onto the CO_2 cylinder. Cylinder is steel and disposable. It has a capacity of approximately 725 one-second bursts.



2.6-oz. Duster	8431K13	1-11	$69.67	12-Up	$59.71
Replacement CO_2 Cylinder	8431K22	1-23	15.44	24-Up	13.11

Dust Brushes

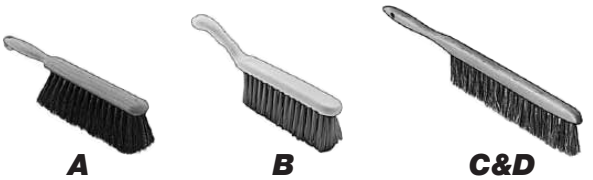

(A) Dust Brushes— Handle and block are black plastic, unless noted.

(B) Choose-a-Color Hygienic Dust Brushes— Reduce the possibility of cross-contamination by designating colors to certain areas of your facility. Handle and block are white plastic. Bristles are fused to the block to seal out dirt and bacteria.

(C&D) Narrow-Width Dust Brushes— Clean tight areas that other dust brushes can't reach. Brushes have a wood handle and block, unless noted.

Brush Lg.	Bristle Lg.	Block Wd.	O'all Lg.	Bristle Firmness	Bristle Color		
(A) Dust Brushes							
Fine-Sweeping Horsehair Bristles							
9″	3″	1¾″	14⅜″	Soft	Black	7159T13	$17.29
Chemical-Resistant Natural Bristles							
8″	2½″	1¾″	13¼″	Medium	Black	7160T12	8.05
Chemical-Resistant Plastic Bristles							
8″	2½″	1¾″	13¼″	Stiff	Black	7158T14	8.94
Fine-Sweeping Chemical-Resistant Plastic Bristles							
8″	2½″	1¾″	13¼″	Soft	Gray	7351T14	6.97
8″	2½″	1¾″	13¼″	Soft	Orange	7351T16	6.97
Blended Horsehair/Plastic Bristles							
8″	2½″	1¾″	13¼″	Soft	Black	7159T14★	13.17
(B) Choose-a-Color Hygienic Dust Brushes							
Chemical-Resistant and Hygienic Plastic Bristles							
7¾″	2¼″	1⅝″	14″	Stiff	Red	7260T11	11.00
7¾″	2¼″	1⅝″	14″	Stiff	White	7260T12	11.00
7¾″	2¼″	1⅝″	14″	Stiff	Blue	7260T13	11.00
(C) Narrow-Width Dust Brush							
Fine-Sweeping Horsehair Bristles							
8″	2″	⅜″	14″	Medium	Black	7348T14	7.32
(D) Long-Reach Narrow-Width Dust Brushes							
Blended Horsehair/Plastic Bristles							
9″	2″	½″	24″	Soft	Black	7208T2★	6.69
Fine-Sweeping High-Durability Plastic Bristles							
8″	1¾″	½″	36″	Soft	Black	7208T1	10.80

★ Has a beige plastic handle and block.

Dusters



These dusters are washable and have a plastic handle.

(E&F) Lambswool Dusters— Dusters polish while they dust. Color is beige. *Style F* has an adjustable head to reach the most inaccessible areas.

(G) Microfiber Duster— Has a flexible head that can be bent. Color is green.

(H) Disposable Dust Sleeves— Slip over both lambswool and microfiber dusters to prolong their life while attracting and holding dust. They are 7″ Wd.×18″ Lg. Color is yellow.

Handle Style	Duster Lg.	O'all Lg.		
Lambswool Dusters				
E ... Fixed	12″	28″	7493T14	$6.88
E ... Telescoping	10″	30″-42″	7493T11	12.66
F ... Flexible/Telescoping	12″	33″-58″	7493T13	12.11
Microfiber Duster				
G ... Fixed	13″	20″	9963T21	7.38
Optional Telescoping Pole for Style G	—	24″-60″	9963T22	8.29
Accessories				
H ... Disposable Dust Sleeves (Pkg. of 50)			7493T37	33.97

Whisk Brooms



Plastic— Flexible, narrow, chemical-resistant bristles fit easily into tight spaces. Handle is white plastic; bristles are blue.

Corn— Stiffer than plastic bristles.

Heavy Duty Natural— Has the stiffest bristles. Handle is wood; bristles are black.

Bristle Material	Broom Wd.	Bristle Lg.	O'all Lg.		
Plastic	3″	2⅛″	6½″	7380T11	$1.50
Corn	7″	10½″	12″	7148T1	5.51
Heavy Duty Natural	4″	6″	9½″	7148T3	8.68

Compact Dust Mops

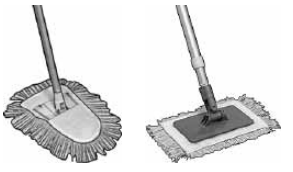

Designed for use in hard-to-reach places such as corners and under equipment. Mop heads are made of washable, off-white cotton.

Standard— Also known as a wedge mop, it has a 54″ long wood handle.

Telescoping— Handle is aluminum and extends from 49″ to 96″.

	Frame Size	O'all Mop Size	***Complete Mops***		***Mop Head Refill***	
Standard	4″ ×8½″	10″×15″	7319T3	$15.10	7319T4	$4.93
Telescoping	3⅝″ ×7″	5″× 7″	7513T27	40.78	7513T11	5.53

Dust Mitt



Replace your old rags and cloths with this secure-fitting glove that's perfect for dusting rounded surfaces. Specially treated layers of washable, blue microfiber attract and hold dust like a magnet. Size is 7″ Wd.×9″ Lg.

7713T11 ..... $11.58

Dust Cloths

These mineral-oil treated cloths pick up dust and leave a polished finish that protects with no waxy buildup. Just stretch cloths to capture and retain dust particles. Color is orange.

Size	Pkg. Qty.		Pkg. 1-4	Pkg. 5-Up
24″×24″	20	7124T13	$12.17	$10.85

Mini Dust and Dirt Brushes



Ideal for confined areas. Handles are wood.

Whisk Style— Handle is 4¾″ long. Bristles are ⅞″ wide.

Toothbrush Style— Handle is 6″ long. Bristles are 1½″ wide.

Plastic bristles are durable and temperature resistant. Bristles are black. *Horsehair* bristles are soft for fine cleaning. Bristles are black. *Steel* bristles are the most aggressive, and *brass* bristles are the softest metal. *Stainless steel* bristles are corrosion resistant.

	Whisk Style			***Toothbrush Style***	
Bristle Material	Bristle Lg.			Bristle Lg.	
Plastic	½″	63285T11	$2.20	9⁄16″	70305T51	$2.63
Horsehair	½″	63285T12	2.32	9⁄16″	70305T52	2.71
Steel	½″	63285T15	2.34	5⁄8″	70305T55	2.91
Brass	½″	63285T13	2.58	9⁄16″	70305T53	3.00
Stainless Steel	½″	63285T14	2.60	½″	70305T54	3.14

Dust Mops

Keep your floors sparkling with these dust- and dirt-removing mops. Backing is tightly secured to the frame with two or more tie straps, yet still allows for easy mop changes.

Cotton Mop Heads— The industry standard and our most economical. Color is off-white. *Washable refills* are 4-ply cotton with excellent dust retention and will withstand multiple launderings. *Disposable refills* are cotton with a dust mop treatment that stops dust and debris from scattering during shakeout.

Nylon Mop Heads— Act as a dust magnet, picking up and holding dust without using a dust mop treatment. Nylon is extremely durable and won't lint or fray, even after multiple launderings. Color is blue.

Complete Mops— Include a steel frame, a 54″ long swivel wood handle, and a washable mop head. Mops with 48″, 60″, and 72″ wide frames have brace bars for added strength.

Also Available: Replacement mop frames. Please ask for 7305T65 and specify depth (3¼″ or 5″) and width (18″ to 72″ in sizes below).

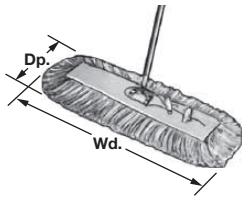

Dust Mops and Refills

Wd.	3¼″ Dp. COTTON Complete Mops		3¼″ Dp. COTTON Washable Mop Head Refill		5″ Dp. COTTON Complete Mops		5″ Dp. COTTON Washable Mop Head Refill		5″ Dp. COTTON Disposable Mop Head Refill		5″ Dp. NYLON Complete Mops		5″ Dp. NYLON Washable Mop Head Refill	
18″	7321T14	$27.22	7321T26	$11.78	7305T15	$28.92	7305T25	$12.05	7305T35	$7.35	7310T15	$32.64	7310T25	$14.76
24″	7321T15	31.50	7321T27	14.35	7305T16	30.96	7305T26	15.81	7305T36	8.30	7310T16	35.28	7310T26	16.92
30″	7321T16	33.10	7321T28	16.11	7305T17	34.02	7305T27	17.38	7305T37	9.32	7310T17	38.06	7310T27	19.65
36″	7321T17	35.08	7321T29	17.78	7305T18	36.34	7305T28	19.27	7305T38	9.81	7310T48	42.80	7310T28	23.84
48″	7321T19	54.32	7321T32	23.73	7305T19	50.98	7305T29	25.68	7305T39	15.38	7310T19	59.20	7310T29	29.46
60″	7321T22	59.10	7321T34	28.30	7305T21	56.52	7305T31	30.97	7305T41	18.49	7310T21	66.24	7310T31	35.00
72″	7321T23	65.54	7321T35	32.46	7305T22	66.28	7305T32	34.65	7305T42	22.51	7310T22	76.82	7310T32	39.97

Replacement Mop Handles

	Wood		Fiberglass	
54″ Lg. Handle	7321T41	$11.36	7321T71	$15.62
60″ Lg. Handle	7321T42	12.62	7321T72	16.54



Microfiber Dust Mop Heads

Convert your standard dust mop into a highly absorbent microfiber dust mop. Mop heads work with any standard wire mop frame up to 5″ deep. Simply slide over your existing mop frame. Mop heads are blue, hold dust and dirt without a dust mop treatment, and can be washed and reused up to 300 times.



Wd.		
18″	8522T32	$10.13
24″	8522T33	13.27
36″	8522T34	19.91
48″	8522T36	24.31
60″	8522T37	33.40

Dust Mop Treatment

Maximize your dust mop's cleaning power with this dust- and dirt-grabbing treatment. It's water-based and stops dust and debris from scattering during shakeout.

The ***1-gal. liquid*** is UL listed for slip resistance.

		Each	Pkg. Qty.	
18-oz. (net wt.) Aerosol	7418T221	$7.78	12	$83.64
1-gal. Liquid	7418T111	15.78	6	85.20

Bucketless Microfiber Wet Mop

A built-in 52-oz. plastic reservoir dispenses cleaning solution directly onto the mop head. Mop head is made of blue washable microfiber, and it attaches to the frame with hook and loop backing. Frame is plastic and has a 57½″ long aluminum handle.



Wd.	Dp.	Complete Mop		Mop Head Refill 1-9	Mop Head Refill 10-Up
21″	5½″	8523T16	$197.30	8523T26	$6.70	$5.92

Floor-Finish Applicators

The perfect touch for applying wax, varnish, oils, and sealers to floors. Applicators include a washable lambswool pad held securely by two wood blocks. Both have a 54″ long coated steel handle with a threaded nylon tip.



Size, Wd. × Dp.	Applicators		Refill Pad 1-11	Refill Pad 12-Up
10″ × 5 9/16″	7322T1	$13.58	7322T3	$4.84	$4.08
16″ × 5 9/16″	7322T2	17.78	7322T4	7.54	6.36

Quick-Change Cotton Dust/Damp Mops

Use one mop to satisfy your dust- and damp-mopping needs. Hook and loop backing on the plastic frame makes for easy mop head changeout.

Mop head has 4-ply, off-white cotton loops that won't fray or lint and will withstand multiple launderings. Handle is 54″ long wood and swivels.



Size, Wd. × Dp.	Complete Mops		Mop Head Refill	
18″ × 6½″	6913T11	$40.54	6913T21	$11.41
24″ × 6½″	6913T12	43.24	6913T22	13.41
36″ × 6½″	6913T13	54.10	6913T23	18.03

Wall Washer Mop

Clean high, hard-to-reach areas. This mop has a 60″ long aluminum handle and a plastic pivoting head. Includes two washable, off-white cotton pads. Use with both sideward- and downward-pressure mop wringers.



Pad Size, Lg. × Wd.	Wall Washer		Repl. Cotton Pad 1-11	Repl. Cotton Pad 12-Up
9″ × 5″	20045T11	$75.26	20045T22	$19.53	$15.29

Clean Room Wall Washer Mop

This one-time use, abrasion-resistant foam mop head is disposable. Handle is anodized aluminum; frame is stainless steel. (Handle and frame sold separately.) Mop head is white and measures 12¾″ × 4¼″. Handle telescopes from 50″ to 86″.



	Pkg. Qty.	Pkg.
Mop Head Only	4	5548T11	$43.08
Mop Handle and Frame	5548T31	Each	$146.74

Ready-to-Use Mop Heads with Handle

Also known as deck mops, these mops come with a wood handle already attached. Mop head is off-white, 4-ply cotton with cut ends.



Approx. Weight	Approx. Lg. × Dia.	Handle Lg.		1-5	6-Up
12 oz.	14″ × 2½″	48″	7386T21	$5.46	$4.90
16 oz.	15″ × 3″	48″	7386T22	6.92	6.22
20 oz.	17″ × 3¼″	54″	7386T23	9.34	8.41
24 oz.	19″ × 3½″	54″	7386T24	10.64	9.58
32 oz.	21″ × 3½″	60″	7386T25	12.70	11.43

Wet Mops



About Wet Mops

***Ply*—**The number of yarn threads twisted together to make a single strand in a mop head. The greater the ply, the more durable the mop.

***Weight*—**Sometimes referred to as a mop's size, this is the actual weight of the dry mop head. The heavier the mop head, the more liquid it can hold.

***Headband*—**Located at the top of the mop head, this strip of fabric holds the mop strands together and is used to attach the mop head to the handle.

***Tailband*—**Located at the bottom of the mop head, this strip of fabric secures the mop head strands to prevent them from tangling and allows the strands to lay flat for wide, even mop coverage.

Wet Mop Heads

The economical choice for wet-mop heads. They can't be laundered; just toss them out when worn.

Cotton Cut-End Mop Heads

Our most popular cut-end mop heads, these are off-white and offer good absorption. Headband is 1¼″ deep. Handle sold separately; see styles A-C on page 2085.

Approx. Weight	Approx. Lg. × Wd.		Each ♦	Approx. Lg. × Wd.		Each ♦
	4 Ply			**8 Ply**		
12 oz.	14″×5½″	7317T16	$3.23	14″×5½″	7317T11	$3.51
16 oz.	16″×5½″	7317T17	4.25	16″×5½″	7317T12	4.64
20 oz.	18″×6″	7317T18	5.12	18″×6″	7317T13	5.65
24 oz.	20″×6″	7317T19	6.03	20″×6″	7317T14	6.67
32 oz.	22″×6½″	7317T21	8.00	22″×6½″	7317T15	8.83
	16 Ply			**32 Ply**		
12 oz.	14″×5½″	7317T31	$3.82	14″×5½″	7317T34	$4.61
16 oz.	16″×5½″	7317T22	5.08	16″×5½″	7317T25	6.02
20 oz.	18″×6″	7317T35	6.10	18″×6″	7317T38	7.49
24 oz.	20″×6″	7317T23	7.39	20″×6″	7317T26	8.82
32 oz.	22″×6½″	7317T24	9.59	22″×6½″	7317T27	11.70

♦ Prices are approximately 10% lower when you purchase 12 or more.

Rough-Surface Cotton-Blend Mop Heads



Without Tailband

The strongest and most shed-resistant mop heads we carry. All are white and work well on rough flooring such as stone and concrete. Made of a blend of cotton and synthetic tubular strands. Headband is 1¼″ deep. Handle sold separately; see styles A-C on page 2085.

Approx. Weight	Approx. Lg. × Wd.		1-11	12-Up
Cut End without Tailband				
16–20 oz.	19½″×6½″	6505T33	$9.99	$8.89
24–32 oz.	21½″×6½″	6505T34	11.17	9.95
Looped End with Tailband				
16–20 oz.	19½″×6½″	6505T37	12.85	11.44
24–32 oz.	21½″×6½″	6505T38	14.52	12.92

Highly Absorbent Rayon Cut-End Mop Heads

These mop heads absorb more liquid and dry faster than cotton mop heads. They are white, 8 ply, low linting, and are excellent for applying floor finishes and disinfectants. Headband is 1¼″ deep. Handle sold separately; see styles A-C on page 2085.

Approx. Weight	Approx. Lg. × Wd.		1-11	12-Up
16 oz.	14″×6½″	6329T32	$4.84	$4.36
20 oz.	16″×6½″	6329T37	5.82	5.24
24 oz.	18″×6½″	6329T34	6.82	6.14
32 oz.	20″×6½″	6329T36	8.89	8.00

Highly Absorbent Rayon Cut-End Mop Heads w/Scrub Pad



Mop heads are white, 8 ply, and come with a 6″×4½″ nylon/polyester scrub pad at the base of the headband for more difficult cleaning jobs. Headband is 1¼″ deep. Handle sold separately; see styles A-C on page 2085.

Approx. Weight	Approx. Lg. × Wd.		1-11	12-Up
16 oz.	15½″×6″	6386T16	$7.59	$6.82
20 oz.	17″ ×6″	6386T13	8.91	8.01
24 oz.	18½″×6″	6386T14	10.20	9.16
32 oz.	21″ ×6″	6386T17	12.93	11.62

Durable Cotton-Blend Cut-End Mop Heads

A blend of cotton and synthetic yarns makes these off-white, 4-ply mop heads more absorbent than standard cotton. Headband is 1½″ deep. Handle sold separately; see styles A-C on page 2085.

Approx. Weight	Approx. Lg. × Wd.		1-11	12-Up
16 oz.	16″×7″	7407T11	$6.39	$5.79
20 oz.	17″×7″	7407T12	7.53	6.81
24 oz.	19″×7¼″	7407T13	8.71	7.88
32 oz.	22″×7½″	7407T14	11.24	10.17

Wet Mop Heads with Threaded Handle Holder



"Closed" ends form small circles to avoid fraying and offer more durability. Mops are 4 ply. Handle sold separately; for additional threaded handles, see 7255T on page 2081.

***Cotton*—**Color is off-white.

***Synthetic*—**More durable and absorb more than cotton. Color is white.

Approx. Weight	Cotton Lg. × Wd.		Each ♦	Synthetic Lg. × Wd.		Each ♦
20 oz.	18½″×7¼″	64035T52	$8.05	19″ ×7¼″	64035T55	$8.26
24 oz.	20½″×7½″	64035T53	8.89	21″ ×7½″	64035T56	9.42
28 oz.	21″ ×7¾″	64035T54	9.87	21½″×7¾″	64035T57	10.18
60″ Threaded Wood Handle					7255T4	Each 7.43

♦ Prices are approximately 10% lower when you purchase 12 or more.

Washable Wet Mop Heads

All mop heads have a tailband and come with looped ends—no cut ends to fray or unravel. They are lower linting than cut-end mop heads and can be laundered and reused.

Choose-a-Color Cotton-Blend Mop Heads



Assign different colored mops to different areas to eliminate cross contamination. Made of a 4-ply blend of cotton and synthetic material for durability. They have a 5″ deep headband. Handle sold separately; see style D on page 2085. **To Order:** Where necessary, please specify color: blue or green.

Approx. Weight	Approx. Lg. × Wd.		*Off-White* Each ♦		*Choose-a-Color* Each ♦	
11 oz.	17″ ×6¼″	7458T11	$7.82	7458T25	$9.01
17 oz.	19½″ ×6¼″	7458T12	9.98	7458T26	11.58
22 oz.	21½″ ×6¼″	7458T13	11.68	7458T27	14.62
26 oz.	22″ ×6¼″	7458T14	15.15	7458T28	18.76

♦ Prices are approximately 10% lower when you purchase 12 or more.

Clean Room Polyester Mop Head

You can use this mop head in Class 1 clean rooms. Mop head is white, weighs 16 oz., measures 15¼″ Lg.×7½″ Wd., and has tubular strands. Headband is 3″ deep. Handle sold separately; see style E on page 2085.

63695T71 ..... 1-11 $29.13 12-Up $24.97

Choose-a-Color Microfiber Mop Heads



Assign different colored mops to different jobs and areas to help eliminate cross contamination. These microfiber mop heads provide excellent liquid and dirt pick-up, dry floors faster, and are washable. Headband is 3½″ deep. Handle sold separately; see style B on page 2085. **To Order:** Please specify blue, green, red, or yellow.

Approx. Weight	Approx. Lg. × Dia.		1-4	5-Up
11 oz.	14″×6″	3636T11	$16.16	$14.52
16 oz.	14″×6″	3636T12	21.88	19.65

High-Performance Cotton-Blend Mop Heads

These white, 4-ply mop heads are made of a blend of cotton and synthetic material to withstand heavy use. Headband is 5″ deep. Handle sold separately; see style D on page 2085.

Approx. Weight	Approx. Lg. × Wd.		1-5	6-Up
16 oz.	14″×6″	8199T44	$15.71	$13.85
23 oz.	17″×6″	8199T45	18.73	16.51
29 oz.	17″×6″	8199T46	23.04	20.31

Wet-Mop Handles

(A) Spring Head with Clamp—Lift the easy-opening spring latch, insert the mop head, and snap the latch down.
(B) Swing-Away Bar—Loosen the nut, swing the bar away, insert the mop head, swing the bar back into place, and retighten the nut.
(C) Adjustable Bar—Loosen the nut, slide the center bar up, insert mop head between the bar and the handle end, and retighten the nut.
(D) Clamp Jaw—Plastic jaws clamp down on wide headbands for a secure hold. Turn the adjustment sleeve to loosen the jaws, insert the mop's headband between the jaws, and retighten the sleeve.
(E) Snap Bar—Unhook the bar, insert the mop head, then swing the bar back and snap it in place.

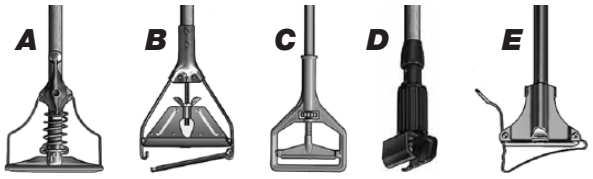

Plated Steel Head *Plastic Head*

	Style	Handle Material	Head Material	O'all Wd.	O'all Lg.	Handle Dia.		
A	Spring Head with Clamp	Wood	Plated Steel	7″	54″	1 1/8″	**7323T1**	$5.63
B	Swing-Away Bar	Wood	Plated Steel	7 1/4″	60″	1 1/8″	**7323T4**	8.67
B	Swing-Away Bar	Vinyl-Coated Steel	Plated Steel	7″	62″	1″	**7228T87**	12.78
B	Swing-Away Bar	Vinyl-Coated Steel	Plated Steel	7″	68″	1″	**7228T88**	13.91
B	Swing-Away Bar	Fiberglass	Plastic	7 5/8″	64″	1″	**7408T12**	19.89
C	Adjustable Bar	Vinyl-Coated Steel	Plated Steel	7″	62 1/2″	1 1/8″	**7441T3**	16.52
C	Adjustable Bar	Fiberglass	Plastic	7 5/8″	64″	1″	**7408T11**	18.38
D	Clamp Jaw	Vinyl-Coated Steel	Plastic	3″	60″	15/16″	**7228T86**	12.83
D	Clamp Jaw	Fiberglass	Plastic	3 1/2″	60″	1″	**7408T13**	19.55
E	Snap Bar	Stainless Steel	Stainless Steel	5 3/4″	60″	1″	**6190T48**	153.30

Plastic Mop Buckets and Wringers

Bucket/Wringer Combinations and ***Buckets—***All buckets have a handle, pour spout, measuring graduations, a universal "Caution" warning on the outside wall, and casters with nonmarring wheels. **To Order:** Where necessary, please specify color: blue or yellow.
Easy-empty styles let you drain water from the bottom of the bucket. The 35-qt. bucket has a self-draining spigot and a sediment screen to trap dirt. The 44-qt. bucket has a foot-operated lever.
Wringers—*Sideward-pressure wringer* has a side-mounted handle that moves an inner wringer plate forward against the wet mop. *Downward-pressure wringer* has an off-center-mounted handle that moves two wringer plates downward against the mop to squeeze out more water than the sideward-pressure wringer. **To Order:** Please specify color with capacity: blue (26 or 35 qt.) or yellow (26, 35, or 44 qt.).


35-qt. Standard Bucket/Wringer Combination *44-qt. Easy-Empty Bucket/Wringer Combination* *Sideward-Pressure Wringer* *Downward-Pressure Wringer*

Bucket Style	Cap., qt.	Inside Bucket Size, Wd. × Lg. × Ht.	Available Colors	Bucket/Wringer Combinations: Wringer Style	For Mop Weight			Bucket Only	
Standard	26	12 1/8″ × 15 11/16″ × 8 3/8″	Blue, Yellow	Sideward	12-32 oz.	**9837T7**	$73.18	**6348T26**	$42.90
Standard	35	12 1/8″ × 17 1/2″ × 10 15/16″	Blue, Yellow	Downward	16-32 oz.	**9837T8**	110.06	**6348T36**	49.75
Easy Empty	35	12 1/8″ × 17 1/2″ × 10 15/16″	Yellow	Sideward	12-32 oz.	**27035T4**	111.46		
Easy Empty	44	15″ × 22″ × 14 1/4″	Yellow	Sideward	12-32 oz.	**27035T2**	190.93		
Sideward-Pressure Wringer for 12-32 oz. Mops								**7037T1**	69.04
Downward-Pressure Wringer for 16-32 oz. Mops								**7037T6**	82.74

Galvanized Steel and Stainless Steel Mop Buckets and Wringers

The heavy duty favorites. *Galvanized steel* models resist corrosion, while *stainless steel* models provide maximum corrosion resistance.
Buckets—All have a handle, measuring graduations, and casters.
Wringers—*Sideward-pressure wringer* has a side-mounted handle that moves an inner wringer plate forward to wring out the mop. *Downward-pressure wringers* have a center-mounted handle that moves two inner wringer plates downward to wring out more water than sideward-pressure wringers. Use *galvanized steel wringers* with galvanized steel buckets, and use the *stainless steel wringer* with the stainless steel bucket.

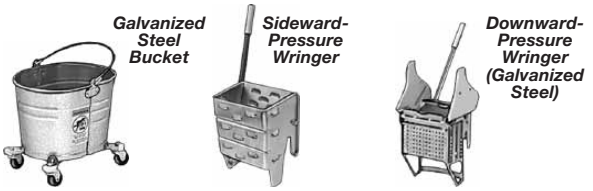
Galvanized Steel Bucket *Sideward-Pressure Wringer* *Downward-Pressure Wringer (Galvanized Steel)*

Buckets

Material	Cap., qt.	Inside Size, Wd. × Lg. × Ht.		
Galvanized Steel	26	12″ × 16 1/2″ × 10 3/4″	**7306T16**	$101.64
Galvanized Steel	35	12″ × 17 1/2″ × 14″	**7306T17**	121.90
Stainless Steel	20	12 1/8″ Dia. × 13 1/2″ Ht.	**7331T16**	311.17

Wringers

Style	Material	For Mop Weight		
Sideward	Galvanized Steel	12-32 oz.	**7303T26**	$80.60
Downward	Galvanized Steel	16-24 oz.	**70255T42**	130.53
Downward	Galvanized Steel	24-36 oz.	**70255T43**	159.96
Downward	Stainless Steel	16-24 oz.	**3622T72**	321.50

Self-Wringing Sponge Mops

Simply pull on the lever handle to squeeze out excess dirt and water from the mop head.

Polyurethane Sponge Mops—Good resistance to cleaning solutions. Sponge remains soft whether wet or dry. A single wringer on each side of the mop head forces out water. Mops with stainless steel handles are autoclavable.

PVA (Polyvinyl Alcohol) Sponge Mops—Both are lint free, highly absorbent, and have high chemical resistance. Soft when wet, but hard when dry. Two wringers on each side of the mop head squeeze out more water than polyurethane sponge mops.

Mop Head, Wd. × Dp.	Complete Sponge Mops: Handle Lg.			Repl. Sponge: 1-11	12-Up
Polyurethane Sponge Mops with Galvanized Steel Handles					
10″ × 3 1/4″	48″	**7332T2**	$33.12	**7332T5** $10.23	$9.19
14″ × 3 1/4″	48″	**7332T3**	49.61	**7332T6** 12.42	11.18
Polyurethane Sponge Mops with Stainless Steel Handles					
10″ × 3 1/4″	48″	**7332T11**	150.83	**7332T13** 15.06	13.44
14″ × 3 1/4″	48″	**7332T12**	158.31	**7332T14** 18.30	16.34
PVA Sponge Mops with Telescopic Aluminum Handles					
11″ × 2 3/8″	39″-52″	**7332T46**	32.01	**7332T48** 11.48	10.19
16″ × 2 3/8″	39″-52″	**7332T47**	38.41	**7332T49** 12.77	11.31


Polyurethane

Economy Floor Squeegees



These light duty squeegees have a single-ply, black SBR/neoprene blade and a 60″ long tapered wood handle.

Blade Wd. × Ht.		
18″ × 1½″	7344T22	$16.28
24″ × 1½″	7344T23	17.89

Floor Squeegees

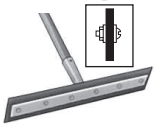

Straight Blade, Single-Ply, Double-Sided



Straight Blade, Single-Ply w/Scraper



Curved Blade, Triple-Ply

Frames are steel and include a 60″ long tapered wood handle.
Curved Blade— Collect more liquid within the width of the blade.
Double-sided blades double the service life.
Neoprene resists oil, grease, and chemicals. Blade is black.
Nonmarking rubber is safe for light-colored floors. Blade is gray.

Blade Wd. × Ht.	with Straight Blade		with Curved Blade		Repl. Blade	
Single-Ply Blades for Smooth Surfaces						
Double-Sided Neoprene Blades						
18″ × 3¼″	9829T11	$28.86	9830T21	$34.80	9829T5	$11.67
24″ × 3¼″	9829T12	34.25	9830T22	38.00	9829T6	13.31
30″ × 3¼″	9829T13	39.37	9830T23	42.86	9829T7	17.00
36″ × 3¼″	9829T14	45.90	9830T24	48.82	9829T8	19.64
Neoprene Blades with Scraper						
18″ × 2¼″	7343T22	20.70	—	—	7343T17	6.18
24″ × 2¼″	7343T23	25.00	—	—	7343T18	7.96
30″ × 2¼″	7343T24	27.91	—	—	7343T19	9.43
36″ × 2¼″	7343T25	30.51	—	—	7343T21	11.70
Nonmarking Rubber Blades						
18″ × 2″	7342T21	27.50	7342T31	30.86	7342T41	7.16
24″ × 2″	7342T22	30.67	7342T32	32.80	7342T42	9.18
30″ × 2″	7342T23	32.56	7342T33	36.66	7342T43	11.52
36″ × 2″	7342T24	38.38	7342T34	39.20	7342T44	13.68
Triple-Ply Blades for Uneven Surfaces						
Neoprene Blades						
18″ × 2″	9844T71	32.53	9844T75	39.82	9844T83	15.95
24″ × 2″	9844T72	37.17	9844T76	42.35	9844T84	20.77
30″ × 2″	9844T73	42.34	9844T77	44.47	9844T85	26.33
36″ × 2″	9844T74	46.47	9844T78	49.88	9844T86	31.23
Nonmarking Rubber Blades						
18″ × 2″	7417T11	29.52	7417T15	35.61	7417T51	11.88
24″ × 2″	7417T12	33.44	7417T16	37.92	7417T52	15.23
30″ × 2″	7417T13	38.00	7417T17	42.63	7417T53	19.49
36″ × 2″	7417T14	42.05	7417T18	45.79	7417T54	22.63

Spark-Resistant Floor Squeegees



Straight

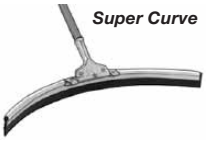

Super Curve

Spark-resistant aluminum frames allow you to safely move volatile liquids. Blades are black and resist oil, gasoline, and most chemicals. All come with a 60″ long tapered wood handle.

Squeegees ***with straight blade*** have a single-ply, neoprene blade.

Squeegee ***with super-curve blade*** has a rubber blade. Curved blade collects more liquid within the width of the blade, and the handle flips for pushing or pulling.

Blade Wd. × Ht.	Squeegees		Repl. Blade	
With Straight Blade				
18″ × 2″	7337T51	$25.10	7337T61	$6.30
24″ × 2″	7337T52	26.44	7337T62	8.39
36″ × 2″	7337T54	34.12	7337T64	12.08
With Super-Curve Blade				
30″ × 2⅛″	7068T24	44.00	7068T37	12.65

Combination Sweeper/Squeegee



Made of one-piece molded rubber, this sweeper/squeegee is 12″ wide and has 1″ long bristles. Blade and bristles are blue. Includes a 48″ long steel handle.

Sweeper/Squeegee 8814T5 $18.11

Fast-Dry Floor Squeegees

Blades are double foam-rubber, making them ideal for uneven surfaces and for moving more liquid so floors dry quickly. All blades are black, unless otherwise indicated. Neoprene resists oil, grease, and chemicals.

Standard

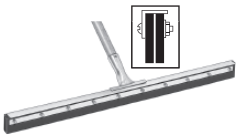

All have a galvanized steel frame. Choose a 60″ long tapered wood handle or 54″ long aluminum handle.
Rubber with neoprene blade is red.

Blade Material	Blade Wd. × Ht.	with Wood Handle		with Aluminum Handle	
Rubber	30″ × 2″	7482T21	$41.12	7482T24	$51.07
Rubber w/Neoprene	30″ × 2″	7482T22	43.40	7482T25	72.36
Replacement Aluminum Handle				7482T13	19.70

Hygienic with Choose-a-Color Brush



The FDA-compliant, white plastic frame resists chemicals and has 1″ long plastic bristles for scrubbing. Handle is 60″ long white fiberglass. **To Order:** Please specify bristle color: black, red, or yellow.

Blade Material	Blade Wd. × Ht.		
Neoprene	22″ × 1⅝″	9183T42	$67.84
Repl. Fiberglass Handle		9183T43	25.72

Hygienic with Scraper and Choose-a-Color Frame



Scraper edge removes tough debris. All have colored frames and matching 59″ long fiberglass handles. **To Order:** Please specify color: blue, red, white, or yellow.

Blade Material	Blade Wd. × Ht.	Squeegees		Repl. Blade	
Rubber	16″ × 1½″	70485T5	$52.44	70485T31	$10.68
Rubber	20″ × 1½″	70485T6	54.90	70485T32	13.14
Rubber	24″ × 1½″	70485T7	56.11	70485T33	15.27
Rubber	28″ × 1½″	70485T8	58.23	70485T34	17.51
Replacement Fiberglass Handle				70485T1	35.53

Food-Grade Floor Squeegees

Made of FDA-compliant materials.

Standard



Perfect for use in food service applications and hospitals. Frames are stainless steel. Blades are nonmarking, single ply, and made of white nitrile rubber. Include a 60″ long threaded, white, fiberglass handle.

Blade Wd. × Ht.	Squeegees		Repl. Blade	
18″ × 2″	7047T11	$53.78	7047T21	$9.97
24″ × 2″	7047T12	58.78	7047T22	12.53
30″ × 2″	7047T13	69.16	7047T23	15.18
36″ × 2″	7047T14	75.55	7047T24	17.75

Choose-a-Color Ultra Hygienic with Scraper



One-piece design keeps food from sticking between the blade and frame. Frame is made of reinforced plastic with a single-ply rubber blade and molded-in scraper/splash guard. All have a 51″ long fiberglass handle. Frame, handle, and blade are the same color. **To Order:** Please specify color: blue, green, red, white, or yellow.

Blade Wd. × Ht.		Blade Wd. × Ht.	
16″ × 3½″	8481T1 $60.15	24″ × 3½″	8481T3 $65.87
20″ × 3½″	8481T2 62.39	28″ × 3½″	8481T4 69.36

Chemical-Resistant Floor Squeegees



Twin white PVC blades resist oils, greases, and solvents. The second blade doubles the life of the squeegee and acts as a splash guard. All have a fiberglass handle that extends from 37″ to 64¾″ long.

Blade Wd. × Ht.			
18″ × 1″	7505T41	$53.24	
24″ × 1″	7505T42	57.07	
30″ × 1″	7505T43	62.20	
Replacement Handle	7505T13	28.00	

Window Squeegees

Use these metal-frame squeegees alone or with tapered handles (sold separately on this page).

Steel Frame— Have double-ply blades (one flexible blade that stays in constant contact with the surface and one cushion blade for support). Frame is zinc-plated steel. Squeegees ***with standard blade*** have two red rubber blades. Squeegees ***with chemical-resistant blade*** resist ink, oils, coolants, and most solvents. The wiping blade is neoprene and is supported by a cushioned vinyl blade. Both blades are white.

Stainless Steel Frame— Blade is single ply and made of flexible black rubber. Frame is corrosion-resistant stainless steel. *Replacement blades* include a stainless steel channel.



Steel Frame

Blade Wd.	Blade Ht.	STEEL FRAME WITH STANDARD BLADE Squeegees		STEEL FRAME WITH STANDARD BLADE Repl. Blade	
6″	1″	7334T31	$5.53	7334T38	$2.13
8″	1″	7334T32	5.83	7334T39	2.58
10″	1″	7334T33	6.53	7334T41	2.97
12″	1″	7334T34	7.22	7334T42	3.38
14″	1″	7334T35	8.01	7334T43	3.85
18″	1″	7334T37	9.45	7334T45	4.62
22″	—	—	—	—	—

Blade Ht.	STEEL FRAME WITH CHEMICAL-RESISTANT BLADE Squeegees		STEEL FRAME WITH CHEMICAL-RESISTANT BLADE Repl. Blade	
1¼″	7333T61	$10.50	7333T68	$3.42
1¼″	7333T62	11.34	7333T69	4.06
1¼″	7333T63	12.15	7333T71	4.72
1¼″	7333T64	12.75	7333T72	5.12
1¼″	7333T65	14.10	7333T73	5.79
1¼″	7333T67	16.08	7333T75	6.75
—	—	—	—	—

Blade Ht.	STAINLESS STEEL FRAME Squeegees		STAINLESS STEEL FRAME Repl. Blade	
¾″	3590T81	$13.15	3590T71	$6.47
¾″	3590T62	15.35	3590T72	6.97
¾″	3590T63	15.70	3590T73	7.69
¾″	3590T64	16.14	3590T74	8.28
¾″	3590T65	16.43	3590T75	9.00
¾″	3590T67	18.11	3590T77	10.70
¾″	3590T68	19.61	3590T78	12.20

Food-Grade Window Squeegees

Debris can't hide in these hygienic, channel-free squeegees. All blades are tapered.

Squeegees without handle are low-profile, lightweight, nonscratching, and dishwasher safe. Blade is single-ply, white PVC. Gripping portion is blue, 1¼″ high, and plastic.

Choose-a-color squeegee with handle helps avoid cross contamination between areas. Blade is single-ply rubber and has a splash guard. Handle is 6½″ long and plastic. Blade and handle are the same color. **To Order:** Please specify color: blue, green, red, white, or yellow.



Without Handle



With Handle

Blade Wd. × Ht.		
Squeegees without Handle		
8″ × 5⁄8″	3598T11	$3.80
12″ × 5⁄8″	3598T12	4.97
18″ × 5⁄8″	3598T13	7.08
Choose-a-Color Squeegee with Handle		
10″ × 1⅛″	5279T1	17.69

Conformable-Blade Window Squeegee

Wipe irregular and rounded surfaces. This squeegee has a nonscratching, silicone blade. Blade is clear and is 11″ wide.



4137T51 ..... $15.61

Combination Sponge/Squeegee

Clean with the sponge and then wipe dry with the attached squeegee. One side has a sponge with nylon mesh; the other has a soft, black rubber squeegee with a zinc-plated steel frame. Blades are single ply.

Telescoping aluminum handle locks at the desired length.



With Wood Handle

Blade Wd. × Ht.	Sponge Wd. × Ht. × Thick.	Handle Lg.		
With Wood Handle				
8″ × 1″	7¾″ × 1½″ × 1¼″	16″	6385T15	$5.75
8″ × 1″	7¾″ × 1½″ × 1¼″	24″	6385T16	6.35
10″ × 1″	9⅞″ × 1¼″ × 1″	16″	6385T25	5.90
10″ × 1″	9⅞″ × 1¼″ × 1″	24″	6385T26	6.40
With Telescoping Aluminum Handle				
10″ × 1″	9⅞″ × 1¼″ × 1″	4′ to 7′	7508T35	17.60
Replacement Sponge/Squeegee				
10″ × 1″	9⅞″ × 1¼″ × 1″	—	7508T36♦	4.33

♦ Price is 15% lower when purchased in full-package quantities of 12.

Windshield Wipers



A ***B***

(A) Hand-operated wiper has a 2½″ chrome-plated brass handle that you move from side to side to operate. The stainless steel wiper arm adjusts from 7½″ to 12″ and has an 11″ long rubber blade. Use on flat surfaces only, indoors and outdoors. Mounting hardware included.

(B) Motorized kits include a 5⁄8″ Dia. × 2½″ Lg. motor shaft. Motor operates at 12 volts, 5 amps; motor housing is water-resistant plastic. The stainless steel wiper arm adjusts from 10″ to 14″ and has a 14″ long rubber blade with plastic holder. Use on flat and curved surfaces, indoors and outdoors.

	Wipers		Repl. Blade	
(A) Hand-Operated Wiper				
With 360° Sweep	6515T21	$51.08	6515T81	$18.06
(B) Motorized Kits				
With 80° Sweep	6515T24	157.95	6515T83	20.56
With 110° Sweep	6515T25	158.80	6515T83	20.56

Quick-Change Adjustable Window Squeegees

A quick-release thumb lever allows you to move the channel off-center. All have a single-ply, black rubber blade. Frame is brass. Squeegees also can be used with tapered handles (sold separately on this page). *Replacement blades* include a brass channel.



Blade Wd. × Ht.	Squeegees		Repl. Blade	
6″ × ¾″	7335T41	$19.91	7335T46	$6.25
12″ × ¾″	7335T43	24.27	7335T48	9.71
18″ × ¾″	7335T44	27.07	7335T49	12.49

Window Washers

All can be used with tapered handles (sold separately on this page). Frame and handle are green plastic, unless noted.

Standard washers have a soft white pad that is 2½″ high.



Standard



With Scrubbing Pad

Washers with scrubbing pad have a soft white pad on one side and a textured, nonabrasive, green strip on the other side for tough cleaning. Pad is 2½″ high.

Blade Wd. × Ht.	Handle Lg.	Complete Washers		Replacement Pad 1-9	Replacement Pad 10-Up
Standard Washers					
14″ × 2″	4¾″	7481T42★	$14.57	7481T44 $9.20	$8.14
18″ × 2½″	5″	7481T43	20.89	7481T45 10.93	9.67
Washers with Scrubbing Pad					
14″ × 2½″	5″	7402T11	26.71	7402T21 19.95	17.65
18″ × 2½″	5″	7402T12	29.05	7402T22 23.02	20.37

★ Handle is black.

Tapered Handles

Wood handles have a lacquered finish.

Telescoping handles have a fiberglass outer handle, aluminum inner sliding tube, and a plastic tapered adapter.



Wood



Telescoping

Lg.	Dia.		
Wood Handles			
14″	15⁄16″	7349T16	$2.86
54″	1⅛″	7349T14	7.53
60″	1⅛″	7349T15	7.89
Telescoping Handles			
2′-4′	1 1⁄16″	58905T81	23.34
4′-8′	1 1⁄16″	58905T82	30.62

Lg.	Dia.		
Telescoping Handles (Cont.)			
6′-12′	1 1⁄16″	58905T87	$38.63
6′-18′	1¼″	58905T85	70.65
8′-15′	1 1⁄16″	58905T84	51.97
8′-23′	1¼″	58905T86	77.10

About Sorbents

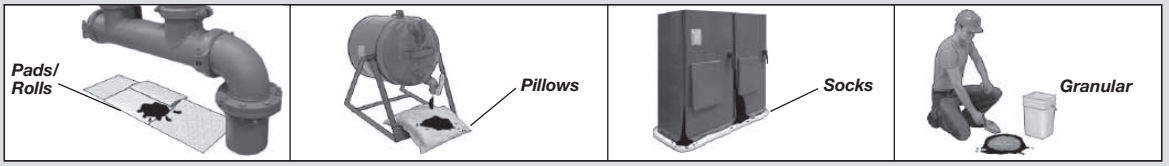

As their name implies, sorbents absorb spilled liquids and keep them from spreading. Depending on the type of spill, you can choose from two categories of sorbents: oil only and universal.

Oil-only sorbents absorb oils, fuels, and any other petroleum-based product. They repel water, making them effective on both land and water.

Universal sorbents absorb oils, chemicals, coolants, and water. Recommended for land spills only.

Sorbents come in different shapes for different uses.

Pads— Pads absorb small spills and can be used to wipe off equipment.

Rolls— Rolls allow you to choose the amount you need. Some have perforations, while others can be cut to length. Perfect for large floor spills and leaks around equipment.

Pillows— Thicker than pads, pillows soak up more liquid. Ideal for positioning under drips and in corners.

Socks— A narrow diameter and long length let you wrap them around irregular surfaces, corners, and machines.

Granular— Simply pour or sprinkle sorbent onto the spill, work it into the spill with a broom, and let it absorb. Then pick up the soaked sorbent.

Sorbents

Sorbents handle all your general absorption needs. All are polypropylene.

Perforated— Perforations make it easy to tear off what you need. Pads are perforated up the center and rolls are perforated every 12″ and up the center.

Oil-Only Sorbents

Size	Absorption Cap., gal./unit		Each	Pkg. Qty.	
Standard					
Pad 32″ Wd. × 32″ Lg.	1	7516T181	$4.44	25	$99.75
Pad 32″ Wd. × 39″ Lg.	1.4	7516T481	5.29	25	118.00
Roll 16″ Wd. × 150′ Lg.	30	7516T51	85.05	—	—
Roll 38″ Wd. × 100′ Lg.	50	7516T26	108.91	—	—
Pillow 8″ Wd. × 16″ Lg.	3.5	7516T351	14.96	10	134.30
Pillow 16″ Wd. × 20″ Lg.	4.5	7516T161	18.86	10	168.50
Sock 3″ Dia. × 48″ Lg.	1	7516T381	5.05	12	54.36
Sock 3″ Dia. × 84″ Lg.	1.9	7516T291	11.43	7	71.75
Sock 3″ Dia. × 24′ Lg.	6	7516T421	30.32	2	54.38
Sock★ 5″ Dia. × 120″ Lg.	8	7516T233	29.66	4	106.36
Perforated					
Pad 16″ Wd. × 18″ Lg.	0.2	7516T471	1.29	50	48.00
Pad 16″ Wd. × 18″ Lg.	0.3	7516T171	2.11	50	80.00
Roll 16″ Wd. × 150′ Lg.	25	7516T52	75.80	—	—
Roll 16″ Wd. × 150′ Lg.	30	7516T53	92.40	—	—
Roll 32″ Wd. × 150′ Lg.	50	7516T24	121.78	—	—
Roll 32″ Wd. × 150′ Lg.	60	7516T21	139.79	—	—

★ Has clips to link multiple socks together.

Universal Sorbents

Note: Not for use with aggressive liquids, such as hydrochloric acid.

Size	Absorption Cap., gal./unit		Each	Pkg. Qty.	
Standard					
Pad 32″ Wd. × 32″ Lg.	0.8	7193T111	$4.87	25	$109.50
Pillow 18″ Wd. × 18″ Lg.	1.3	7193T171	11.35	10	103.20
Sock 3″ Dia. × 48″ Lg.	1	7193T651	6.06	12	65.04
Sock 3″ Dia. × 84″ Lg.	1.7	7193T671	11.89	7	74.34
Sock 3″ Dia. × 120″ Lg.	2.8	7193T681	13.42	6	73.20
Perforated					
Pad 16″ Wd. × 18″ Lg.	0.3	7193T131	1.04	50	39.50
Pad 16″ Wd. × 18″ Lg.	0.3	7193T831	1.20	50	45.00
Roll 16″ Wd. × 150′ Lg.	22	7193T14	82.81	—	—
Roll 16″ Wd. × 150′ Lg.	25	7193T84	107.86	—	—
Roll 32″ Wd. × 150′ Lg.	40	7193T15	130.81	—	—
Roll 32″ Wd. × 150′ Lg.	52	7193T88	157.44	—	—

Multi-Shape Polypropylene Sorbents

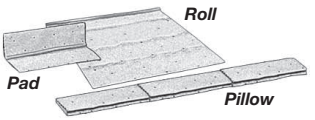



No need to stock several sorbent sizes—these unfold for use as a pad, roll, or pillow. Sorbents are approximately 5″ Wd. × 50′ Lg. when folded (20″ wide unfolded) and are perforated every 16″. Supplied in a dispenser box.

Color	Absorption Cap., gal.		1-2	3-Up
Oil Only White	10	29595T11	$43.03	$38.55
Oil and Water Only Gray	10	29595T22	44.86	39.88
Universal Yellow	10	29595T33	59.07	53.34

Camouflage Universal Polypropylene Sorbents



The camouflage top layer masks ugly spills and draws moisture to the gray bottom layer. These universal sorbents are durable and abrasion resistant. Pad is perforated up the center, the 15″ Wd. × 150′ Lg. roll is perforated every 12″ and up the center, and the 30″ Wd. × 150′ Lg. roll is perforated every 15″ and up the center.

Size	Absorption Cap., gal./unit		Each	Pkg. Qty.	
Pad 15″ Wd. × 19″ Lg.	0.3	7628T311	$1.58	50	$59.50
Roll 15″ Wd. × 150′ Lg.	28	7628T32	82.18	—	—
Roll 30″ Wd. × 150′ Lg.	57	7628T34	148.48	—	—

Recycled Universal Sorbents

Made from recycled newsprint and cellulose, these sorbents are more absorbent than polypropylene sorbents. They are also Class A fire retardant. Color is gray.

Size	Absorption Cap., gal./unit		Each	Pkg. Qty.	
Pad 15″ Wd. × 19″ Lg.	0.2	7186T311	$1.34	50	$50.50
Pad 15″ Wd. × 19″ Lg.	0.4	7186T381	1.53	50	57.50
Roll 14″ Wd. × 150′ Lg.	27	7186T32	70.64	—	—
Roll 14″ Wd. × 150′ Lg.	30	7186T41	93.10	—	—
Roll 28″ Wd. × 150′ Lg.	53	7186T42	122.81	—	—

Pads and rolls have a reinforced top for durability. Pads are perforated up the center. Rolls are perforated every 15″ and up the center.

Note: Not for use with aggressive liquids, such as hydrochloric acid.

Size	Absorption Cap., gal./unit		Each	Pkg. Qty.	
Roll 28″ Wd. × 150′ Lg.	62	7186T37	$154.50	—	—
Sock 3″ Dia. × 48″ Lg.	1	7186T341	4.50	12	$48.60
Sock 3″ Dia. × 96″ Lg.	2	7186T351	9.24	6	49.86
Sock 3″ Dia. × 144″ Lg.	3	7186T391	13.57	4	48.64

Specialty Sorbents

Corn-Cob Universal Sorbent Sock

This extremely flexible, universal sock molds easily around corners and conforms to uneven surfaces to soak up spills. Color is gray.
Note: Not for use with aggressive liquids, such as hydrochloric acid.

Size	Absorption Cap., gal.		1-39	40-Up
3″ Dia. × 42″ Lg.	0.5	7201T11	$2.29	$2.06

Polypropylene Universal Sorbent Drip Pan

Place this sorbent-filled pan under any drip to collect water, oil, coolants, and other nonaggressive liquids. Pan is polyethylene and comes with a cover to prevent liquids from splashing. Color is yellow.

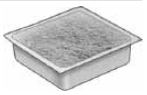

Size	Absorption Cap., gal.		1-11	12-Up
10½″ Lg. × 10½″ Wd. × 3″ Ht.	1	42005T55	$6.83	$6.14

Drum-Top Polypropylene Sorbent Pads

Place on 55-gallon drum tops to eliminate messy leaks and drips. Pads are 22″ dia. and have two perforated bung hole cutouts. ***Oil-only*** pads are white; ***universal*** pads are gray.



	Absorption Cap., gal.		1-24	25-Up
Oil Only	0.3	43955T12	$3.33	$2.90
Universal	0.3	43955T13	3.38	2.97

Spill-Control Sorbent Kits



11-Gallon Absorption-Capacity Kit



Mercury Kit

Everything you need when a spill occurs, even bags for disposal.

5-Gallon Absorption-Capacity Kit

Packed in a plastic bag. Includes:
- (10) 15″ × 19″ pads
- (2) 3″ × 48″ socks
- (1) Pair nitrile gloves
- (1) Disposal bag

Oil Only	71305T12	$37.33
Universal	71305T15	38.83

11-Gallon Absorption-Capacity Kit

Packed in a 20-gallon plastic drum with a resealable lid. *Note:* Not for use with hydrofluoric acid. Includes:
- (5) 15″ × 19″ pads
- (6) 4″ × 48″ socks
- (7) 10″ × 10″ pillows
- (3) Disposable bags
- (2) 1¾-lb. cartons of granular sorbent

Universal	71305T14	$177.31

38-Gallon Absorption-Capacity Kit

Packed in a 55-gallon plastic drum with a resealable lid. Includes:
- (50) 15″ × 19″ pads
- (4) 3″ × 144″ socks
- (8) 18″ × 18″ pillows
- (1) Pair nitrile gloves
- (5) Disposal bags
- (1) Pair goggles
- (1) Emergency response handbook

Oil Only	71305T13	$363.58
Universal	71305T16	378.13

Battery Acid Spill Kit

Packed in a plastic case. Includes:
- (10) 12″ × 12″ pads
- (1) Plastic scoop and scraper
- (1) Pair nitrile gloves
- (1) Disposal bag
- (1) Pair goggles
- (1) 1-oz. solidifier
- (1) Apron
- (2) 1-qt. liquid acid neutralizer
- (1) Trigger sprayer

71305T21	$77.43

Mercury Kit

Prevent toxic vapor contamination by properly cleaning up mercury spills. Packed in a corrugated box. Includes:
- (1) 250 ml cleaning solution
- (1) Mercury aspirator
- (1) 250 ml vapor-reducing spray
- (1) Pair goggles
- (1) Pair safety gloves
- (2) Hazardous waste bags
- (1) Disposal container

71435T68	$150.00

Harsh-Chemical Universal Sorbents

Pick up virtually any spill, even fuming acids and strong oxidizers. These universal sorbents have a polypropylene covering. Color is white.
Note: Not for use with hydrofluoric acid.

Size	Absorption Cap., gal./unit		Each	Pkg. Qty.	Pkg.
Pillow 4″ Wd. × 11″ Lg.	0.1	6314T651	$1.47	40	$52.40
Pillow 8″ Wd. × 18″ Lg.	0.2	6314T631	3.65	12	39.24
Pillow 18″ Wd. × 24″ Lg.	1	6314T611	6.36	20	113.60
Sock 3″ Dia. × 48″ Lg.	1	6314T641	3.48	20	62.20

Work Surface Leak-Resistant Universal Sorbent Pads

These pads combine a paper surface with a coated underside to protect work surfaces from stains and harsh chemicals. They measure 19¼″ Wd. × 23⅝″ Lg. Color is white.
High-Capacity Pads—Offer twice the absorbency of standard pads.

	Standard Pads			*High-Capacity Pads*		
Pkg. Qty.	Absorption Cap., gal./pkg.		Pkg.	Absorption Cap., gal./pkg.		Pkg.
10	5/16	41205T25	$21.89	5/8	41205T27	$24.14
50	1½	41205T22	83.30	3	41205T24	95.29

Granular Universal Sorbents

General Purpose

Sorbents are low-dust clay that reduces slipping and won't break down, cake, or mat under heavy traffic. They are nonflammable and absorb oil, grease, and water.
20-lb. Pail—Specially formulated, smaller granules offer higher absorbency per container.



	Absorption Cap., gal.		1-9	10-Up
20-lb. Pail	4	7266T1	$11.34	$10.16
50-lb. Bag	4	7266T2	10.71	9.60

Easy-Clean

Made of a blended compound, these reusable sorbents completely encapsulate most liquids for easy cleanup. Color is gray. Not rated for absorption capacity. *Note:* Not for use with hydrofluoric acid.
Sifting screen separates the used, encapsulated sorbent from the unused sorbent so there's no wasted product.

10-lb. Bucket	62895T11	$17.70
40-lb. Bag	62895T13	20.90
65-lb. Pail	62895T15	107.61
Sifting Screen	62895T34	7.18

Slip-Resistant

This dust-free, powder-like blend of minerals provides traction on slippery surfaces. Sorbents are nonflammable and absorb water, oil, solvents, and most chemicals. Color is gray. *Note:* Not for use with hydrofluoric acid.

	Absorption Cap., gal./unit		Each	Pkg. Qty.	Pkg.
2½-lb. Carton	0.3	6311T713	$2.23	12	$23.04
25-lb. Box	3	6311T73	18.27	—	—
40-lb. Box	5	6311T78	32.42	—	—

Highly Absorbent

This corn-cob sorbent quickly absorbs more cutting oils, grease, water, and similar liquids than other granular sorbents. Color is brown.
Note: Not for use with aggressive liquids, such as hydrochloric acid.

	Absorption Cap., gal.		1-9	10-Up
40-lb. Bag	8.5	63655T76	$15.14	$13.10

Multipurpose Vermiculite

These lightweight sorbents do more than just absorb and hold water, oil, and solvents. You can also use them as insulation, filling, chemical packaging, or packing material for fragile items. Both resist heat and fire and are supplied in a 4-cu. ft. bag. Color is brown. *Grade #3* is similar in size to a grain of rice; *grade #4* is similar to a grain of sand.

Grade	Texture	Absorption Cap., gal.		1-9	10-Up
#3	Medium	19	63415T64	$25.58	$22.69
#4	Fine	23	63415T74	20.17	17.88

Acid and Base Spill Neutralizers

Now cleaning up acids—even battery acids—and bases is safer. Just place these neutralizers on the spill, and they will change color when the neutralization is complete.

Liquid *for acids* is purple; liquid *for bases* is red.

Powder neutralizers are concentrated and neutralize approximately twice as much as liquid neutralizers. Powder *for acids* is white; powder *for bases* is purple.

Pad is pink and should not be exposed to water. *Note:* Not for use with hydrofluoric acid.

	Size	For Acids	Each	For Bases	Each
Liquid	32 oz.	4235T12	$12.42	4235T21	$12.88
Liquid	1 gal.	4235T13	37.27	4235T22	39.12
Powder	2 lbs.	4235T14	14.56	4235T23	14.88
Powder	10 lbs.	4235T15	51.94	4235T24	83.44
			Pkg.		
Pad (5/Pkg.)	11″ × 12″	4235T16	$12.50		

Sewer Drain Grate Guard



Catch oil, sediment, and other pollutants with this durable polypropylene guard. Simply remove the grate, place guard over the opening, and put grate back in place. Guard has filter strips to absorb incoming pollutants and can hold up to 1 3/8 gal. of oil. Overall size is 48″ Lg. × 36″ Wd. × 18″ Dp. Can be used with grates up to 44″ Lg. × 32″ Wd.

8261T25 ..... $58.93

Spill-Control Drain Plugs, Covers, and Dike



Drain Plug

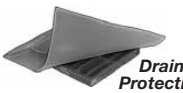

Drain Protective Cover



Dike with Optional Connector

Prevent spills from spreading or going down your drain with these flexible polyurethane spill-control products. They resist oil, water, and most chemicals, and are nonabsorbent, washable, and reusable.

Drain Plugs

All have a zinc-plated steel eyebolt, making it easy to insert and remove the plug. Color is yellow.

For Drain	Plug Ht.	O'all Ht.		
2″ Dia.	4 1/4″	5″	2014K22	$46.82
3″ Dia.	4 1/2″	5 1/4″	2014K23	55.44
4″ Dia.	4 7/8″	5 5/8″	2014K21	70.00

Drain Protective Covers

Keep spills from going down floor drains, grates, and manholes. Covers are 1/8″ thick and are reversible. Color is red.

Size		
12″ Dia.	4205T91	$51.82
18″ × 18″	4205T92	85.45
24″ × 24″	4205T93	118.18
36″ × 36″	4205T94	243.64
48″ × 48″	4205T95	372.73

Dike

Create a barrier to stop spills from spreading. Dike bends to form almost any shape you need. You can cut it, or use the optional connectors (sold separately below) to create longer lengths. Size is 10′ Lg. × 4″ Wd. × 2 1/4″ Ht. Color is orange.

Dike	4287T21	$471.43
Optional Connector	4287T22	37.07

Magnetic Floor Sweepers

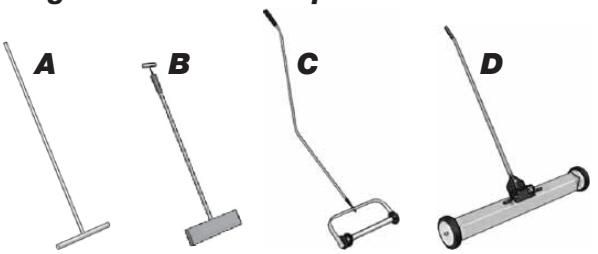

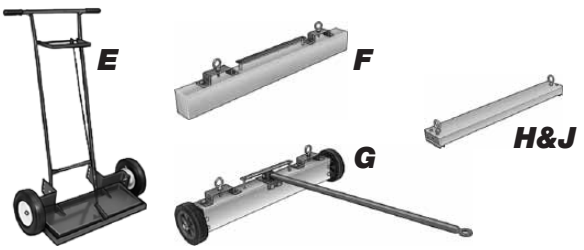

Keep shop floors, parking lots, and other surfaces free of metal debris. All have an aluminum housing, unless otherwise indicated.

A ***Hand-Held Sweepers—*** Compact sweepers slip into places mobile sweepers can't. To clean, wipe debris off with a rag or gloved hand. Housing is stainless steel. Handle is 40″ long.

B ***Self-Cleaning Hand-Held Sweepers—*** Pull release on top to clean sweeper without touching the debris. Handle is 31″ long.

C ***Low-Profile Mobile Sweepers—*** These lightweight sweepers are easy to maneuver and have an offset handle to reduce bending and reaching, making them ideal for tight areas under machinery and work stations. Wheels are 2 5/8″ dia. and made of rubber. To clean, slide rubber ring (included) along tube. Handle is 46″ long.

D&E ***Self-Cleaning Mobile Sweepers—*** Quick-release feature lets you clean sweepers without touching the debris.

Style D has a pull-handle release and 7″ dia. rubber wheels. Handle is 43″ long. *Style E* have a lever release near the handgrip so you don't have to bend and 10″ dia. cushioned rubber wheels. Housing is stainless steel and steel. Handle is 42″ long.

F-J Sweep larger areas by attaching these sweepers to your forklift or vehicle with a chain (chain sold separately on page 1465).

(F) Self-Cleaning Forklift-Mounted Sweeper— To attach, simply slide forks into sweeper's fork pockets and tighten the 1 1/4″ ID eyebolts. Fork openings are 5″ Wd. × 1 1/8″ Ht. on 30″ centers. For easy cleaning, lift the top hand lever to release debris.

(G) Self-Cleaning Tow-Behind Sweepers— Attach to vehicles with the 1 3/16″ ID tow ring at the handle end. Maximum towing speed is 3 to 8 mph. All have 8″ dia. cushioned rubber wheels, a 46″ long removable handle, and 1 1/8″ ID eyebolts. To clean, simply lift the top hand lever to release the debris.

(H&J) Vehicle-Mounted Sweepers— Bottom-mounted plastic wear bars protect the sweeper bottom. Also come with 1 1/8″ ID eyebolts. Pick up operating speed should not exceed 10 mph. To clean *Style H*, wipe off debris with a rag or gloved hand. To clean *Style J*, press the toe plate to release the debris.

	O'all Base Size, Wd. × Ht. × Dp.	Max. Pickup Ht. from Floor	Approx. Pull, lbs.		
Hand-Held Sweepers					
A	6″ Wd. × 1″ Dia.	1″	5	7329T16	$75.64
A	12″ Wd. × 1″ Dia.	1″	5	7329T18	108.62
Self-Cleaning Hand-Held Sweepers					
B	11″ × 3″ × 1 1/2″	2″	20	7329T31	93.02
B	20″ × 3″ × 1 1/2″	2″	30	7329T32	117.50
Low-Profile Mobile Sweepers					
C	11 3/8″ Wd. × 1 1/8″ Dia.	1″	20	7284T11	85.37
C	16 1/4″ Wd. × 1 1/8″ Dia.	1″	35	7284T12	102.44
C	21 1/8″ Wd. × 1 1/8″ Dia.	1″	36	7284T13	127.48
C	26″ Wd. × 1 1/8″ Dia.	1″	39	7284T14	142.28
C	35 3/4″ Wd. × 1 1/8″ Dia.	1″	41	7284T15	169.59
Self-Cleaning Mobile Sweepers					
D	42″ × 4″ × 3″	1 1/2″	60	62255T36	253.33
E	32 1/4″ × 5 1/2″ × 16 3/16″	2 1/2″	75	7496T11	614.63
E	44 1/4″ × 5 1/2″ × 16 3/16″	2 1/2″	75	7496T12	657.02
Self-Cleaning Forklift-Mounted Sweeper					
F	48″ × 5″ × 4″	5″	250	7240T83	498.33
Self-Cleaning Tow-Behind Sweepers					
G	43″ × 5″ × 4″	5″	225	6322T71	603.75
G	55″ × 5″ × 4″	5″	250	6322T72	680.00
G	67″ × 5″ × 4″	5″	300	6322T73	733.33
G	79″ × 5″ × 4″	5″	350	6322T74	796.67
G	91″ × 5″ × 4″	5″	400	6322T75	933.33
Vehicle-Mounted Sweepers					
H	36″ × 2″ × 5″	5″	200	6322T51	240.00
H	48″ × 2″ × 5″	5″	275	6322T52	324.59
H	60″ × 2″ × 5″	5″	325	6322T53	398.74
H	72″ × 2″ × 5″	5″	400	6322T54	483.33
H	84″ × 2″ × 5″	5″	450	6322T55	558.33
Self-Cleaning Vehicle-Mounted Sweepers					
J	36″ × 2″ × 5″	4″	175	6322T91	341.67
J	48″ × 2″ × 5″	4″	250	6322T92	426.23
J	60″ × 2″ × 5″	4″	310	6322T93	516.67
J	72″ × 2″ × 5″	4″	375	6322T94	591.67
J	84″ × 2″ × 5″	4″	425	6322T95	675.00

Floor and Baseboard Cleaning Machines

Floor Cleaning Machines

Make your floors look like new again. These machines have triggers on their handles to ensure safe operation—machine stops when the triggers are released. All have nonmarking wrap-around bumpers and 50-ft. power cords with three-prong plugs. Operate on 115 VAC, 60 Hz.

Note: Machines do not include brushes, pads, or pad holders (unless otherwise indicated), which are all sold separately on this page.



General Purpose— Scrub, strip, and buff floors. Great for wet and dry applications on hard floors and carpet. Have a plastic apron, a steel motor housing, and two 5″ dia. polyurethane wheels. Handle is steel, 38″ long, and can be adjusted to different angles for comfort. 7279T62 comes with pad holder. Optional *4-gal. solution tank* is plastic.



High-Speed Burnisher— Polishes hard floors to a high-gloss finish. It has a plastic apron, a steel motor housing, two 5″ dia. polyurethane transport wheels, and two 5″ dia. polyurethane operating wheels. Handle is steel and is 38″ long. Also includes a flexible pad holder that conforms to uneven floors.

Note: Burnisher can only be used with pads, not with brushes.

Base Dia.	rpm	Amps	hp		
General Purpose					
17″	175	15	1½	7279T62	$808.25
17″	175/300	15	1½	7279T63	1,264.63
20″	175/300	15	1½	7279T64	1,294.08
Optional 4-gal. Solution Tank				7279T65	255.60
High-Speed Burnisher					
20″	1,500	15	1½	7424T3	1,319.95

Mini Floor/Baseboard Cleaning Machine

This compact cleaner gets into tight spots, such as corners and behind toilets. It can also be used to clean baseboards and stairs.

Includes a 6″ dia. pad holder with plastic block, a 6″ dia. baseboard brush that has durable plastic bristles coated with an abrasive grit for aggressive cleaning, and a 6″ power cord with three-prong plug. Housing is cast aluminum. Handle is 42″ long and plastic. Motor operates on 115 VAC, 60 Hz.



Optional floor pad is 6½″ dia. **To Order:** Please specify pad style: stripping, buffing, or polishing.

Optional floor brush is 8″ dia. and has soft bristles.

	Base Dia.	rpm	Amps	hp		
Mini Cleaning Machine	6″	765	1.7	⅛	73905T41	$525.00
Optional Floor Pad					73905T5	4.68
Optional Floor Brush					73905T47	131.79

Pads and Pad Holders for Floor Cleaning Machines





Pads strip, scrub, and buff floors. They are 1″ thick, and both sides are usable. *Note:* A pad holder is required when using a pad. Not for use with larger machines. For brushes for floor scrubbers and sweepers, see Floor Sweeper and Scrubber Brushes on page 2092.

General Purpose Pads— For use on hard surfaces and for machines operating at 175-350 rpm except white pads, which can be used up to 3,000 rpm.

To Order: Please specify pad color from choices below:

- Black—For aggressive wet stripping of finish and sealer.
- Blue—For moderate wet scrubbing.
- Brown—Use for wet or dry stripping.
- Green—Use wet for heavy duty scrubbing to remove dirt and scuff marks.
- Red—Use wet or dry to buff, restore shine, and remove scuff marks.
- White—For polishing clean floors to a high-gloss finish. Use on dry or lightly misted floors.

High-Speed Burnishing Pad— For polishing hard or soft surfaces to a high-gloss finish. For machines operating at 1,000-3,000 rpm. Color is off-white.

Pad Holders— Also called pad drivers, these hold pads in place with ½″ plastic bristles. Holders are plastic and are 1″ thick at the center and taper to ¾″ thick at the outer edge. They have a 17/16″ riser block, 5″ center hole, and a clutch plate that attaches to most machines.

Also Available: Pad holders with other clutch plates. Please ask for 7561T999 and specify machine make, model, and base diameter.

Pads and Pad Holders

For Machine Base Dia.	Pad Dia.	Pads Each 1-4	Pads Each 5-Up	Pad Holders ♦ Holder Dia.	Pad Holders ♦ Each
General Purpose Pads					
13″	13″	7312T1 $3.30	$2.94	12″ 7561T12	$43.93
14″	14″	7312T2 3.74	3.34	13″ 7561T13	45.77
15″	15″	7312T3 4.12	3.67	14″ 7561T14	59.72
16″	16″	7312T4 4.51	4.02	15″ 7561T15	62.80
17″	17″	7312T5 4.94	4.44	16″ 7561T16	63.16
18″	18″	7312T6 5.25	4.63	17″ 7561T17	73.79
19″	19″	7312T7 5.79	5.16	18″ 7561T18	75.09
20″	20″	7312T8 5.70	5.12	19″ 7561T19	82.24
High-Speed Burnishing Pad					
20″	20″	7312T89 6.23	5.58	19″ 7561T19	82.24

♦ Choose a pad holder that is 1″ smaller than your machine base diameter.

Pad Centering Device

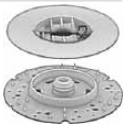

This plastic 6⅛″ dia. device has two halves with spikes to sandwich the cleaning pad and keep it from slipping off center. Bottom half has stainless steel clips to keep it in place. Mounts to any pad holder (hardware included).

7022T1 ..... $20.04

Brushes for Floor and Carpet Cleaning Machines



Significantly more durable than pads, brushes are the perfect choice if your floor is uneven or contains grout lines. All have a plastic block, 5″ center hole, and universal clutch plate that attaches to most floor machines. All brushes can be used on hard surfaces. *Note:* Not for use with larger machines. For brushes for floor scrubbers and sweepers, see Floor Sweeper and Scrubber Brushes on page 2092.

Steel Wire— For stripping and scrubbing concrete. Bristles are 19/16″ long.

Natural Fiber— Perfect for heavy duty scrubbing. Bristles are 1¾″ long.

Plastic— Economical yet durable, this brush is good for general scrubbing. Bristles are 1¾″ long.

Nylon— More flexible and will last longer than plastic. Can also be used on carpet. Bristles are 1¾″ long. Brushes for 15″ dia. machines and larger have holes for use with solution tanks. *Note:* Before using on carpet, break in brush by briefly running machine over a rough, dry surface.

Nylon with Aggressive Grit— This nylon brush is very aggressive and contains silicone carbide. It strips finishes from tile and linoleum and is excellent for heavy buildups. For wet applications only. Bristles are 1½″ long.

Also Available: Brushes with other clutch plates and base diameters and in different materials. Please ask for 7258T999 and specify machine make, model, base diameter, and brush material.

Brush Block Dia.	For Machine Base Dia.	Steel Wire		Natural Fiber		Plastic		Nylon		Nylon with Aggressive Grit	
11″	13″	7258T52	$48.48	7258T12	$46.02	7258T23	$51.59	7258T43	$81.71	7258T63	$147.61
12″	14″	7258T53	54.41	7258T13	46.45	7258T24	55.58	7258T44	88.87	7258T64	175.04
13″	15″	7258T54	60.67	7258T14	49.73	7258T25	60.60	7258T45	106.32	7258T65	189.20
14″	16″	7258T55	79.44	7258T15	60.95	7258T26	67.60	7258T46	115.09	7258T66	220.83
15″	17″	7258T56	77.82	7258T16	62.34	7258T27	79.62	7258T47	136.50	7258T67	239.82
16″	18″	7258T57	88.86	7258T17	67.87	7258T28	82.79	7258T48	145.89	7258T68	259.85
17″	19″	7258T58	98.12	7258T18	71.58	7258T29	89.63	7258T49	163.92	7258T69	289.90
18″	20″	7258T59	108.63	7258T19	72.71	7258T41	99.74	7258T5	183.93	7258T7	314.93

Carpet and Upholstery Cleaner



This cleaner sprays cleaning solution onto carpet and upholstery and then recovers the dirty solution into a removable 1½-gal. recovery tank. Cleaner is made of reinforced plastic with two rigid rear wheels and two swivel front casters.

Comes with a 1¼″ Dia. × 10-ft. Lg. plastic hose, 56″ wand, floor tool, and a 15-ft. power cord with three-prong plug. Also includes a carrying handle. Operates on 100/120 VAC, 50/60 Hz.

Solution Tank Cap.	Ht. × Wd. × Dp.	hp	Amps		
1½ gal.	17″ × 15″ × 21″	1½	10	7066T6	$737.54
Optional Cleaning Solution (1 gal.)				7066T21	21.08

Floor Sweeper and Scrubber Brushes





Scrubber Brush



Sweeper Brush

We offer different sweeper and scrubber brushes for your floor-cleaning machine. **To Order:** Please ask for 7114T888 and specify manufacturer (such as Tennant, American Lincoln, Power Boss, etc.), machine or brush model number, type of brush (scrubber or sweeper), and bristle material.

Vacuum Accessories

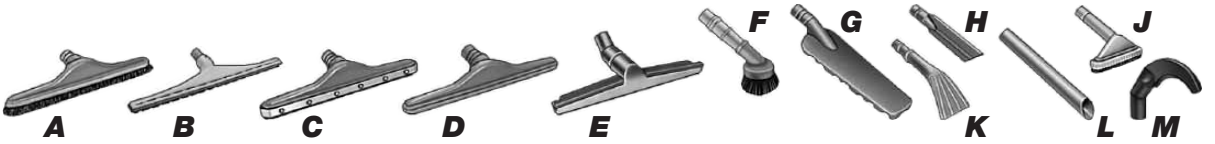

Use with 1½″ dia. or 2″ dia. vacuum hose or compatible extension wand (sold separately), unless noted. Accessories are plastic or aluminum, unless noted. Plastic accessories are economical and lightweight. Aluminum accessories are more durable and withstand heavier use. For compatible wand, match the number in the "Use with Wand No. Below" column to the wand number listed under "Extension Wands."

Tool Style	Size	Use with Wand No. Below		
1½″ Dia. Plastic Accessories				
A Brush	14″ Wd. × 2¼″ Dp.	(1)	63815T23	$28.59
B Brush	20″ Wd. × 1¾″ Dp.	(1)	63815T16	41.41
C Squeegee	14″ Wd. × 1½″ Dp.	(1)	63815T25	35.08
C Squeegee	20″ Wd. × 1½″ Dp.	(1)	63815T21	88.65
D Carpet	14″ Wd. × 1¾″ Dp.	(1)	63815T24	22.43
F Round Brush	2¾″ Dia.	(1)	63815T72	16.84
G Cleaning Paddle	14″ Wd. × 4½″ Dp.	(1)	63815T71	28.59
H Crevice	11″ Lg.	♦	63815T26	6.62
H Crevice	17″ Lg.	♦	63815T42	11.41
J Upholstery	5″ Wd. × ¾″ Dp.	(1)	63815T74	12.93
K Utility Nozzle	4½″ Wd. × 9⁄16″ Dp.	♦	63815T75	7.00
M Pipe Cleaning	1″ to 4″ OD	(3)	63815T11	38.59
M Pipe Cleaning	4″ to 8″ OD	(3)	63815T12	50.63
1½″ Dia. Aluminum Accessories				
A Brush	14″ Wd. × 2″ Dp.	(1)	63815T61	46.00
C Squeegee	14″ Wd. × 2¼″ Dp.	(1)	63815T62	51.65
D Carpet	14″ Wd. × 2¼″ Dp.	(1)	63815T63	51.65
E Brush/Squeegee	18″ Wd. × 2¼″ Dp.	(1)	63815T76	116.66
F Round Brush	3″ Dia.	(1)	63815T53	33.43

Tool Style	Size	Use with Wand No. Below		
1½″ Dia. Aluminum Accessories (Cont.)				
F Round Brush	4⅛″ Dia.	(1)	63815T77	$45.97
H Crevice	11″ Lg.	♦	63815T54	14.46
H Crevice	24″ Lg.	♦	63815T78	26.37
J Upholstery	6¾″ Wd. × 1¼″ Dp.	(1)	63815T56	21.68
K Utility Nozzle	6″ Wd. × 1½″ Dp.	♦	63815T19	38.17
L Pickup/Blower	18″ Lg.	♦	63815T55	19.79
M Overhead Pipe	1″ to 3″ OD	(1)	63815T57	103.22
M Overhead Pipe	4″ to 6″ OD	(1)	63815T58	122.16
2″ Dia. Aluminum Accessories				
A Brush	22″ Wd. × 1¾″ Dp.	(2)	63815T17	242.14
C Squeegee	22″ Wd. × 1¼″ Dp.	(2)	63815T79	266.43
E Brush/Squeegee	20″ Wd. × 3½″ Dp.	■	63815T68	246.27
F Round Brush	3¼″ Dia.	▲	63815T22	58.17
F Round Brush	4″ Dia.	●	63815T36	99.68
H Crevice	15″ Lg.	♦	63815T66	29.29
H Crevice	24″ Lg.	♦	63815T18★	29.82
J Upholstery	6″ Wd. × 1¼″ Dp.	♦	63815T32	96.52
L Pickup/Blower	18″ Lg.	♦	63815T67	36.16

♦ Connects to vacuum hose only. ■ Includes a 45″ curved steel extension wand. ▲ Includes a 13½″ steel extension wand.
● Includes a 15″ steel extension wand. ★ Steel.

Extension Wands

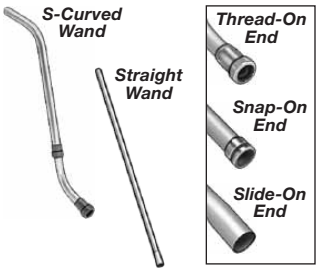

Use with the compatible vacuum accessories above. All wands, except for wands with slide-on ends, allow accessories to swivel once they are attached.

Thread-on end has a threaded opening that screws onto the accessory.

Snap-on end has a grooved end to snap on the accessory.

Slide-on end slides onto the tool for a tight friction fit.

Wand No.	Size	Wand End	Material	Lg.		
S-Curved Wands						
(1)	1½″ Dia.	Thread On	Aluminum	54″	63815T52	$47.35
(1)	1½″ Dia.	Thread On	Plastic	54″	63815T39	37.00
(1)	1½″ Dia.	Thread On	Steel	54″	63815T43	45.05
(1)	1½″ Dia.	Thread On	Aluminum	42″-59″	63815T15	60.91
(2)	2″ Dia.	Snap On	Aluminum	56″	63815T86	110.18
Straight Wands						
(1)	1½″ Dia.	Thread On	Aluminum	54″	63815T49	46.99
(3)	1½″ Dia.	Slide On	Aluminum	54″	63815T51	32.21
(4)	2″ Dia.	Slide On	Aluminum	54″	63815T65	74.64

Connectors and Reducers



Connectors and reducers are made of steel.

Hose connectors connect two hoses with the same diameter to extend hose.

Y connectors connect two hoses to vacuum inlet or hose end.

Hose reducer connects 2″ dia. hose to 1½″ dia. hose so you can use 1½″ dia. accessories.

Dia.	Lg.		
Hose Connectors			
1½″	5″	63815T64	$8.53
2″	8″	63815T69	17.99
Y Connectors			
1½″	13½″	63815T31	110.77
2″	13½″	63815T41	120.31
2″ × 1½″ ♣	13½″	63815T85	121.43
Hose Reducer			
2″ × 1½″	4⅝″	63815T38	18.63

♣ Connects two 1½″ dia. hoses to a 2″ dia. inlet or hose end.

Shop-Vac® Vacuum Accessories



You can use the Shop-Vac® accessories listed below with other vacuums that have hoses with the same diameter.

		Shop-Vac Part No.	
1¼" Dia. Plastic Accessories			
A	10" Floor Nozzle	906-21	7494T32 $13.32
B	10" Swivel Floor Nozzle	906-03	7494T63 15.54
C	10" Rug Attachment for 7494T63	906-06	7494T65 11.64
C	10" Squeegee Attachment for 7494T63	906-05	7494T73 13.04
C	10" Brush Attachment for 7494T63	906-04	7494T64 11.64
D	10¾" Dual Surface Nozzle	906-12	7494T12 42.54
E	5¼" Utility Nozzle	906-19	7494T57 6.82
F	4¾" Claw Utility Nozzle	919-61	7494T11 16.41
G	7½" Crevice Tool	906-16	7494T66 6.68
H	42" Three-Piece Extension Wand	906-14	7494T62 15.54
J	1¾" Dia. Brush	906-15	7494T84 8.83
K	Reducer (2½" Dia. to 1¼" Dia.)	906-85	7494T86 7.59
L	6¾" Universal Tool Adapter	906-87	6931T14 13.46
1½" Dia. Plastic Accessories			
B	14" Swivel Floor Nozzle	906-54	7494T25 24.44
C	14" Squeegee Attachment for 7494T25	906-55	7494T26 23.34
C	14" Brush Attachment for 7494T25	906-56	7494T27 23.34
G	9" Crevice Tool	906-45	7494T41 13.83

		Shop-Vac Part No.	
1½" Dia. Plastic Accessories (Cont.)			
J	2" Dia. Brush	906-44	7494T42 $20.12
1½" Dia. Die Cast Aluminum Alloy Accessories			
B	14" Floor Nozzle	903-15	7494T44 56.85
J	2¼" Dia. Brush	905-38	7494T46 44.98
N	6" Utility Nozzle	901-74	7494T47 39.18
1½" Dia. Steel Accessories			
C	14" Squeegee Attachment for 7494T44	903-16	7494T45 35.07
G	15" Crevice Tool	901-76	7494T43 20.09
2½" Dia. Plastic Accessories			
A	14" Floor Nozzle with Brush	906-77	7494T71 16.61
E	8" Utility Nozzle	906-75	7494T69 11.64
G	11" Crevice Tool	906-78	7494T72 11.51
H	40" Two-Piece Extension Wand	906-84	7494T68 18.02
K	Reducer (2½" Dia. to 1¼" Dia.)	906-85	7494T86 7.59
M	3" Dia. Brush	906-79	7494T85 14.74
P	7" Blower Nozzle	906-74	7494T79 9.63
Q	10" Blower Nozzle	906-83	7494T77 10.59
R	Hose Coupling (Joins two 2½" Dia. Hoses)	904-28	7494T74 8.19

Vacuum Hose

Dia. × Lg.	Mfr. Part No.		
Shop-Vac® Plastic Vacuum Hose			
Hose with Cuffs			
1¼" × 8 ft.	905-12	7494T13	$26.65
1¼" × 18 ft.	903-24	7494T54	69.12
2½" × 8 ft.	905-03	7494T81	27.63
2½" × 10 ft.	901-34	7494T59	34.05
Crush-Resistant Hose with Cuffs			
1¼" × 7 ft.	905-01	7494T61	42.56
1½" × 12 ft.	905-66	7494T55	74.80
1½" × 18 ft.	903-25	7494T14	82.46
1½" × 25 ft.	905-13	7494T56	110.88
Retractable Hose with Cuffs (Retracts from 12 ft. to 3 ft.)			
1¼" × 12 ft.	905-71	7494T82	61.61
1½" × 12 ft.	905-73	7494T83	72.73
2½" × 12 ft.	905-72	7494T87	77.93



Shop-Vac® Vacuum Hose



Retractable Shop-Vac® Vacuum Hose

Dia. × Lg.	Mfr. Part No.		
Ridgid Plastic Vacuum Hose with Cuffs			
1⅞" × 7 ft.	VT1720	8716T41	$19.65
2½" × 7 ft.	VT2520	8716T42	37.51

Vacuum Bags and Filters

Shop-Vac® vacuum bags and filters can be used with Dayton brand wet/dry vacuums.

HEPA filters virtually eliminate exhaust dust. They are 99.97% efficient for particles 0.3 microns and larger.



Collection Bag



Dry Pickup Filter



Cartridge Filter



Foam Sleeve

	Fits Tank Size, gal.	Mfr. Part No.	Pkg. Qty.		Pkg.
Shop-Vac® Vacuum Bags and Filters					
Collection Bags for Dry-Only Pickup					
Standard	1½	906-67	3	6679T16	$6.69
Standard	2	906-68	3	6679T26	7.54
Standard	3	906-69	3	6679T18	8.18
Standard	5, 6, 8	906-61	3	6679T62	8.89
Standard	10, 12, 14	906-62	3	6679T51	12.12
Standard	15-22	906-63	3	6679T53	13.49
Standard	25	919-45	3	6679T54	13.49
High Efficiency	4	919-64	2	6679T19	10.93
High Efficiency	5, 6, 8	906-71	2	6679T64	13.06
High Efficiency	10, 12, 14	906-72	2	6679T65	17.69
High Efficiency	15-22	906-73	2	6679T67	17.87
High Efficiency	25	919-46	2	6679T68	17.65
Filters for Dry-Only Pickup					
Cartridge Pre-Filter	5 and up	903-49	5	6679T23	7.76
Cloth w/Mounting Ring	All	901-07	3	6679T48	5.20
					Each
Cloth w/Elastic Band	All	901-15	—	6679T12	$8.49
Cloth w/Mounting Ring	All	901-13	—	6679T61	10.89
Cartridge Filters for Wet/Dry Pickup					
Standard	1½ to 5	903-98	—	6679T28	11.69
Standard	5 and up	903-04	—	6679T25	14.55
Fine Dust	1½ to 5	903-97	—	6679T24	14.83
Fine Dust	5 and up	903-50	—	6679T27	21.71
Long-Life Fine Dust	5 and up	903-90	—	6679T22	32.57
HEPA	5 and up	903-40	—	6679T17	39.27
Long-Life HEPA	5 and up	903-80	—	6679T21	60.87

	Fits Tank Size, gal.	Mfr. Part No.	Pkg. Qty.		Each
Shop-Vac® Foam Sleeves for Wet Pickup					
Foam Sleeve	1	905-25	—	6679T69	$3.31
Foam Sleeve	1½ to 5	905-26	—	6679T29	4.02
Foam Sleeve	5 and up	905-85	—	6679T11	5.09
Ridgid Vacuum Filters					
					Pkg.
Disposable Filter Bag	4, 4½	VF3501	2	14125T21	$14.31
Disposable Filter Bag	12, 14, 16	VF3502	2	14125T22	22.83
					Each
Fine Dust Cartridge	4, 4½	VF3500	—	14125T23	$19.30
Standard Cartridge	6 and up	VF4000RT	—	14125T24	19.40
Fine Dust Cartridge	6 and up	VF5000RT	—	14125T25	27.10
HEPA Cartridge	6 and up	VF6000	—	14125T9	37.26
Sears Craftsman Vacuum Filters (with red stripe)					
Fine Dust Cartridge	6 and up	9-17907	—	14125T51	20.75
HEPA Cartridge	6 and up	9-17912	—	14125T9	37.26
Nortech Vacuum Filters					
Cloth Filter w/Gasket	8	N8221	—	7498T18	46.13
Cloth Filter w/Gasket	15, 20	N6022	—	7498T61	54.38
Cloth Pre-Filter Bag	30, 55	N635B	—	6352T28	30.52
Standard Cartridge	30, 55	N635	—	6352T26	51.90
HEPA Cartridge	15, 20	N612H	—	7498T51	356.08
HEPA Cartridge	30, 55	N635H	—	6352T81	356.08

Vacuum Accessories

Accessories for Hard-to-Reach Areas



Miniature Accessory Kit



Low-Profile Crevice Tool

Miniature accessory kit fits 1¼″ dia. hose. It includes a hose adapter, round brush, oval brush, crevice tool, straight extension, and curved extension. All accessories are plastic.

70075T11 ..... $19.54

Low-profile crevice tool is 25″ long × 5⁄8″ thick for fitting under equipment. The tool fits 1¼″ dia. hose and is plastic.

70075T12 ..... $17.86

Pickup Kits



Standard Dry Pickup Kit

Both kits attach to 1½″ dia. hose. All accessories are plastic, except the handles and wands are chrome-plated steel. Both include square dust brush, crevice tool, carpet/hard floor tool, and upholstery tool.

Standard dry pickup kit also comes with a 19¼″ extension wand and a telescoping wand that adjusts from 24¾″ to 38½″.

4178T21 ..... $52.98

Wet/dry pickup kit also includes a two-piece 52½″ wand and a floor squeegee.

4178T41 ..... $81.82

Floor and Carpet Sweeper



This galvanized steel and plastic sweeper has a bumper to protect walls and furniture. Base is 2½″ Ht. × 9¾″ Wd. × 11¼″ Dp.

Includes a 40″ steel handle, brushes for fine to heavy debris, and dual dirt collection pans. Capacity is 36.8 cu. in.

7038T46 ..... $86.36

Upright and Canister Vacuum Bags, Filters, and Belts

Vacuum Bags

	Replaces Mfr. Part No.	Pkg. Qty.		Pkg.
Bissell				
Upright 1, 4 & 7	30861	3	**2136T11**	$3.31
Dirt Devil/Royal				
Upright U	3-920750-001	3	**2136T67**	4.17
Eureka				
Canister MM	60432A	3	**2136T47**	4.37
Upright AA	58623	3	**2136T45**	3.57
Upright F & G	57695A-12	3	**2136T46**	3.10
Upright RR	61115B	3	**2136T12**	4.86
Upright U	57802A	10	**2136T48**	9.57
Hoover				
Upright A	4010001A	3	**2136T54**	4.17
Upright Y & Z	43655-109, 4010100Z	3	**2136T55**	3.70
Kenmore				
Canister C	5055, 50557, 50558	3	**2136T57**	5.00
Upright 5068	54322	3	**2136T13**	4.17
Panasonic				
Upright U, U3 & U6	MC-115PT	3	**2136T62**	3.34

Vacuum Filters

	Replaces Mfr. Part No.		Each
Bissell			
Upright 7, 9 & 16 HEPA	32076	**2136T21**	$7.74
Upright 8 & 14 HEPA	3091	**2136T22**	9.64
Dirt Devil			
Upright F1 HEPA	3JC0280000	**2136T23**	20.36
Upright F2 HEPA	3SFA11500X	**2136T24**	2.26
Hoover			
Upright Fold Away	40130050	**2136T29**	8.02
Upright Twin Chamber System	40140201	**2136T33**	23.00

Vacuum Belts

	Replaces Mfr. Part No.		Each
Upright Bissell 7, 9, 10, 12, 14 & 16	32074	**20105T42**	$2.26
Upright Dirt Devil 4 & 5	3720310001	**20105T43**	2.26
Upright Eureka RD	52100B	**20105T44**	2.26
Upright Eureka U	54312C	**20105T45**	2.26
Upright Hoover 160/Dirt Devil 22	40201160	**20105T52**	2.26
Upright Hoover 190	40201190	**20105T51**	3.08

Magnets for Upright Vacuums



Prevent metal objects from entering your upright vacuum and causing damage. Magnets mount easily to the front of your vacuum (screws included).

Magnet Wd.	Fits Vacuum Wd.		
11½″	12″	**8207T52**	$16.22
16½″	17″	**8207T53**	19.67

Hand-Held Cordless Vacuums



Wet/Dry Pickup



Heavy Duty Dry Pickup

The ultimate in mobility, these plastic vacuums have an easy-to-empty dust cup and a 120 VAC, 60 Hz battery charger. UL listed. Cannot be sold in California or Oregon.

Note: Not rated for hp.

Wet/dry pickup vacuum runs for 10 minutes on a 16-hour charge. Battery charger has a 6-ft. power cord with two-prong plug and draws 130 mA. A wall-mount bracket and a squeegee tool are also included.

Heavy duty dry pickup vacuum has an 8-position pivoting nozzle and a crevice tool. Runs up to 30 minutes on a 24-hour charge. Battery charger has a 5½-ft. power cord with two-prong plug. *Note:* Charger not rated for amps.

	Cap., oz.	Ht. × Wd. × Dp.		
Wet/Dry Pickup	23	7½″ × 5″ × 13⅞″	**7045T47**	$51.98
Heavy Duty Dry Pickup	16	5½″ × 5½″ × 16″	**7045T56**	78.45

Central-Vacuum-System Accessories

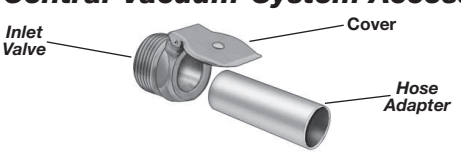

Use these accessories to hook your 1½″ dia. or 2″ dia. hose to your central vacuum system.

Inlet valves have a 2″ NPT male connection and self-closing cover. Both are made of cast zinc with a zinc-plated steel cover. For more information about NPT pipe size and threads, see pages 2-3.

Note: Hose adapter (sold separately) is required to connect a hose to this valve.

Hose adapters are made of zinc-plated steel.

	1½″ Dia.		2″ Dia.	
Inlet Valve	**4935K152**	$22.22	**4935K154**	$25.74
Hose Adapter	**6841T2**	5.90	**6841T5**	10.45

Upright Vacuum Cleaners

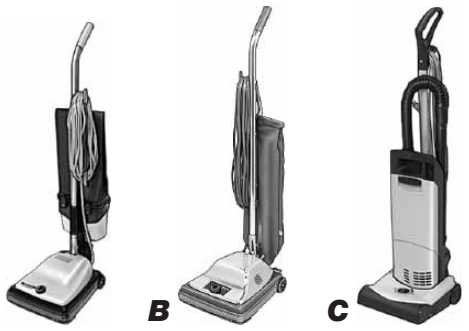

(A) Light duty vacuum cleans a 12″ wide path. Base is plastic with a vinyl bumper. Handle is chrome-plated steel and 44″ long. Has a reusable plastic dirt collection cup—no replacement bags needed. Also has a 30-ft. power cord with three-prong plug and four wheels. Vacuum operates on 120 VAC, 50/60 Hz. UL listed.

(B) Heavy duty vacuum has a plastic base and bumper and cleans a 12″ wide path. Handle is chrome-plated steel and 37″ long. Includes a 50-ft. power cord with three-prong plug and four wheels. Vacuum operates on 120 VAC, 60 Hz. UL listed.

Attachment kit (sold separately) is for use with Styles A and B. It includes: 1¼″ Dia. × 6-ft. Lg. vinyl hose with adapter, two 19″ extension wands, round dusting brush, crevice tool, and upholstery tool.

(C) Fine-filtration vacuum has a HEPA filter that is 99.97% efficient at 0.3 microns. Vacuum cleans a 12″ wide path. Housing is plastic. Handle is aluminum with a plastic grip and adjusts from 45″ to 48″. Includes a built-in 1″ Dia. × 3-ft. Lg. plastic hose, 25″ wand, crevice tool, upholstery tool, a 40-ft. power cord with three-prong plug, and two wheels. Vacuum operates on 120 VAC, 60 Hz. UL listed.

Cap., gal.	Base Size, Ht. × Wd. × Dp.	hp	Amps		Each
(A) Light Duty Vacuum					
0.5	3″ × 15¼″ × 21½″	—	5	7166T42	$187.95
Attachment Kit				7166T15	34.70
Replacement Belts (2/Pkg.)				7166T22 Pkg.	$3.78
(B) Heavy Duty Vacuum					
2.37	6½″ × 13″ × 13″	—	7	7166T46	267.50
Attachment Kit				7166T15	34.70
Replacement Belts (2/Pkg.)				7166T48 Pkg.	$3.02
Replacement Inner Collection Bags (5/Pkg.)				7166T47 Pkg.	$10.00
(C) Fine-Filtration Vacuum					
1.32	4½″ × 12″ × 12¾″	1.4	9	7098T1	465.88
Replacement Intake Filter				7098T14	15.82
Replacement HEPA Filter				7098T15	31.62
Replacement Belts (2/Pkg.)				7098T12 Pkg.	$31.37
Replacement Collection Bags (10/Pkg.)				7098T13 Pkg.	$30.55

Air-Powered Hand-Held Vacuums

These hand-held vacuums make it easy to clean workstations, machinery, and much more. Air inlet connection is ¼″ NPT female.

Wet/Dry Vacuum

Switch from dry to wet pickup by replacing the collection bag with the optional discharge hose (sold separately). Vacuum body is aluminum. Comes with utility nozzle, swivel brush, and reusable collection bag with zipper opening for easy emptying.

Note: Vacuum accepts 1¼″ dia. accessories.



Inlet Air, cfm @ psi	Cap., qt.	Lg. × Ht. (without bag)		
29 @ 100	1	9″ × 7½″	7276T7	$103.51
Replacement Reusable Collection Bag			7276T21	26.08
Optional Discharge Hose (1¼″ Dia. × 7-ft. Lg.)			7276T5	20.98

Nook-n-Cranny Vacuum for Dry Pickup

The flexible 1 5/16″ Dia. × 16″ Lg. steel hose gives you access to blind holes in tanks, bins, and barrels. Hose stays put in any position. Vacuum has an aluminum body and reusable collection bag with zipper opening for easy emptying.



Inlet Air, cfm @ psi	Cap., qt.	Lg. × Ht. (without bag and nozzle)		
29 @ 100	1	6″ × 7¼″	7491T2	$135.32
Replacement Reusable Collection Bag			7276T21	26.08

Vacuum/Blowguns for Dry Pickup

Use these units as either a vacuum or a blowgun—just change the airflow direction to switch functions. Ideal for cleaning up dirt, dust, metal chips, glass, and more. Made of plastic, each has a 1¼″ dia. nozzle. Vacuuming requires the use of the reusable collection bag with clamp or the discharge hose (both sold separately).

Vacuum/blowgun with blowout tube simultaneously dislodges and vacuums debris such as metal chips.

Attachment kit comes with a brush nozzle, upholstery nozzle with brush attachment, two 19″ extension tubes, and a crevice tool.



Vacuum/Blowgun with Blowout Tube

Inlet Air, cfm @ psi	Cap., cu. ft.	Lg. × Ht		
Vacuum/Blowgun				
14 @ 85	0.7	6″ × 5¼″	70195T62	$99.20
Vacuum/Blowgun with Blowout Tube				
14 @ 85	0.7	8⅝″ × 5¼″	70195T63	139.19
Accessories				
Attachment Kit			70195T64	31.06
Reusable Collection Bag with Clamp			70195T65	39.64
Discharge Hose (1¼″ Dia. × 10-ft. Lg.)			70195T66	51.88

Hand-Held Vacuum/Blowers

Vacuum/blowers include a shoulder strap and are UL listed. Styles D and F include a micro tool kit consisting of an adapter, 6⅜″ flexible extension wand, dust brush, and crevice tool.

(D) Light duty vacuum/blower gets into narrow openings. Made of steel. Includes a 1¼″ Dia. × 19″ Lg. plastic hose, mini blower nozzle, round brush, crevice tool, and a 12-ft. power cord with three-prong plug. Operates on 110 VAC, 60 Hz.

(E) Standard duty vacuum/blower tackles larger jobs than Style D. Made of plastic. Includes a 1¼″ Dia. × 6-ft. Lg. plastic hose, 20″ extension wand, utility nozzle, reducer to attach accessories directly to unit, round brush, crevice tool, and 35-ft. power cord with three-prong plug. Operates on 120 VAC, 60 Hz.

(F) Fine-filtration vacuum/blower is 99.97% efficient at 0.3 microns and is more powerful than the above units. It is made of steel and can pick up printing toner. Its two-speed motor provides low power for cleaning intricate areas and maximum power for heavy duty cleanups. Comes with a 1¼″ Dia. × 6-ft. Lg. plastic hose, two 20″ extension wands, two tapered nozzles, dust brush, crevice tool, utility tool, and 12-ft. power cord with three-prong plug. Also includes a permanent cloth bag. Operates on 115 VAC, 60 Hz.

Shown with Optional Nylon Carrying Case



Cap., qt.	Ht. × Wd. × Dp.	hp	Amps		Each
Vacuum/Blowers					
D 0.50	4″ × 4″ × 16″	0.5	1.73	6364T66	$113.43
E 1	8″ × 7¼″ × 14½″	1.5	6.8	6310T14	139.58
F 1	7″ Dia. × 17½″ Lg.	1.7	7.25	9848T521	291.66

Replacement Bags and Accessories			
Collection Bags for Style D (5/Pkg.)	6364T68	Pkg.	$6.10
Collection Bags for Style E (5/Pkg.)	6310T16	Pkg.	$15.37
Filter Kit for Style F (1 Filter, 2 Collection Bags)	9848T56	Each	$23.21
Optional Nylon Carrying Case for Style F	9848T61	Each	$76.50

Fine-Filtration Canister Vacuum



When you need a vacuum with a greater capacity than hand-held vacuums, choose this canister vacuum that has a HEPA filter that is 99.97% efficient at 0.3 microns. Vacuum is made of plastic. Includes two HEPA collection bags, HEPA filter, 1¼″ Dia. × 6-ft. Lg. plastic hose, telescoping wand (24″ to 36″), round brush, upholstery nozzle, crevice nozzle, floor brush, carpet brush, built-in carrying handle, a 20-ft. retractable power cord with two-prong plug, two rear wheels, and one front swivel caster. Operates on 120 VAC, 60 Hz.

Cap., qt.	Ht. × Wd. × Dp.	hp	Amps		Each
6	12″ × 8½″ × 18″	1	12	63115T33	$169.23
Replacement HEPA Filter				63115T34	16.56
Replacement HEPA Collection Bags (10/Pkg.)				63115T35 Pkg.	$28.41

No-Mess Static-Control Vacuums



A&B



C

No need to worry about touching dirty filters—the filters in these vacuums are self-contained in a canister, eliminating messy changes. Simply pull the canister out and replace with a new one. Vacuums are grounded and ESD- (electrostatic discharge) safe, meaning they can be used around sensitive electronic equipment. All have a 1¼″ dia. retractable thermoplastic rubber hose, 16″ wand, crevice tool, crevice tool brush, and a 10-ft. power cord with three-prong plug. Operate on 110 VAC, 50/60 Hz.

(A&B) Hand-Held Vacuums

Both include a retractable hose (stretches from 2½ ft. to 6 ft.) and a molded plastic case.

Style A also comes with a round dust brush and a standard filter that is 99.865% efficient at 5 microns. The optional HEPA filter is 99.97% efficient at 0.3 microns.

Style B has a standard filter that is 99.865% efficient at 0.3 microns. Optional HEPA filter is 99.97% efficient at 0.3 microns. Optional ULPA filter is 99.99% efficient at 0.12 microns. UL listed.

Cap.	Ht. × Wd. × Dp.	hp	Amps		Each
(A) Fine-Filtration Vacuum					
1 qt.	6½″ × 7½″ × 12¼″	0.5	5.5	9808T25	$170.00
Replacement Standard Filter (2/Pkg.)				9808T26 Pkg.	$32.66
Optional HEPA Filter (2/Pkg.)				9808T27 Pkg.	$55.24
(B) Extra-Fine-Filtration Vacuum					
1 gal.	9 5/16″ × 7 3/8″ × 19¼″	1	3.9	9808T63	269.70
Replacement Standard Filter				9808T62	17.76
Optional HEPA Filter				9808T41	41.10
Optional ULPA Filter				9808T31	91.34

(C) Mobile Large-Capacity Vacuum

It has a plastic drum with four swivel casters. Includes a retractable hose (stretches from 3½ ft. to 10 ft.). Standard filter is 94.756% efficient at 0.5 microns. The optional HEPA filter is 99.97% efficient at 0.3 microns.

Cap.	Ht. × Dia.	hp	Amps		
(C) Mobile Large-Capacity Vacuum					
5 gal.	26¾″ × 14″	1	3.9	9808T94	$581.30
Replacement Standard Filter				9808T46	86.46
Optional HEPA Filter				9808T47	96.83

Air-Powered Mini-Tank Wet/Dry Vacuum



Experience air-powered suction in a compact design. Tank is steel. Comes with a liquid overflow shut-off valve for wet pickup and a 1½″ Dia. × 20-ft. Lg. vinyl hose. Air inlet connection is ¾″ NPT female.

Inlet Air, cfm @ psi	Cap., gal.	Ht. × Dia.		
20 @ 100	8	22″ × 14⅝″	6433T91	$1,149.57
Repl. Cartridge Filter			6433T85	74.48
Repl. Hose (1½″ Dia. × 20-ft. Lg.)			6433T86	80.58

Backpack Vacuums



Vacuum



Fine-Filtration Vacuum

Stop dragging a vacuum around. Get the ultimate in cleaning maneuverability with these lightweight vacuums you wear on your back. All have a plastic housing and padded harness.

Vacuum and Vacuum/Blower

Both include a 1½″ Dia. × 4½-ft. Lg. plastic hose, extension wand, floor nozzle, round dust brush, crevice tool, and a 50-ft. power cord with three-prong plug. Operate on 120 VAC, 60 Hz.

Note: Not rated for hp.

Vacuum also includes an upholstery nozzle. Vacuum/blower easily converts to a blower and provides more power than the vacuum. It includes a blower nozzle.

Cap., qt.	Ht. × Dia.	Amps		Each
Vacuum				
6	22″ × 6½″	9.9	98005T51	$495.94
Repl. Cloth Filter Bag			98005T813	30.76
Repl. Collection Bags (10/Pkg.)			98005T811 Pkg.	$19.02
Vacuum/Blower				
10	26½″ × 9″	9.9	98005T52	505.14
Repl. Cloth Filter Bag			98005T814	38.33
Repl. Collection Bags (10/Pkg.)			98005T812 Pkg.	$23.13

Fine-Filtration Vacuum

Has a HEPA filter that is 99.99% efficient at 0.3 microns. Vacuum comes with a 1¼″ Dia. × 6-ft. Lg. plastic hose, telescoping wand (24″ to 37½″), floor nozzle, round dust brush, crevice tool, and a 50-ft. power cord with three-prong plug. Operates on 120 VAC, 60 Hz. ETL listed.

Cap., qt.	Ht. × Dia.	hp	Amps		Each
7.2	23″ × 9½″	1.75	9.5	7543T53	$895.26
Replacement HEPA Filter				7543T57	127.86
Replacement Collection Bags (5/Pkg.)				7543T55 Pkg.	$29.84

Mini-Tank Wet/Dry Vacuums



Perfect for small jobs. Tank and motor housing are plastic. Both vacuums have a liquid overflow shut-off valve. Also come with a 1¼″ Dia. × 4-ft. Lg. plastic hose, utility nozzle, crevice tool, tool holder, wall bracket (mounting hardware included), and a 6-ft. power cord with three-prong plug. Operate on 120 VAC, 60 Hz. UL listed.

Note: Vacuums accept any 1¼″ dia. accessory, but they only accept the hose below.

Cap., gal.	Ht. × Wd. × Dp.	hp	Amps		Each
1	9½″ × 8″ × 9½″	1	6	9801T2	$45.83
2½	14″ × 9″ × 11¼″	2.5	8	9801T5	53.34
Replacement Accessories					
Foam Filter Sleeve for 9801T2				6679T69	3.31
Foam Filter Sleeve for 9801T5				6679T11	5.09
Hose (1¼″ Dia. × 4-ft.)				9801T6	12.15
Cloth Filter w/Mounting Ring for 9801T5 (3/Pkg.)				6679T48 Pkg.	$5.20
Collection Bags for 9801T2 (3/Pkg.)				6679T16 Pkg.	$6.69

Cordless Mini-Tank Wet/Dry Vacuum



Get the power of an electric wet/dry vacuum without the hassle of a cord. Vacuum is battery powered and runs up to 30 minutes on a full 60-minute charge (battery and charger sold separately). Also operates on 120 VAC using the included 5-ft. power cord with two-prong plug. Tank and motor housing are plastic. Vacuum has a HEPA wet/dry filter that is 99.99% efficient at 1 micron. Also includes a 1¼″ Dia. × 5-ft. Lg. heavy duty plastic hose, utility nozzle, and crevice tool.

Note: Not rated for hp.

Cap., gal.	Ht. × Wd. × Dp.		
2	13″ × 12¼″ × 17¼″	7439T51	$145.71
18-Volt Battery		29835A13	97.20
Battery Charger		29835A631	81.82
Replacement Hose (1¼″ Dia. × 5-ft. Lg.)		7439T55	17.59
Replacement HEPA Wet/Dry Filter		7439T56	35.93

Wall-Mount Wet/Dry Vacuum



Keep your vacuum out of the way, yet close at hand. Tank and motor housing are plastic. Vacuum comes with a liquid overflow shut-off valve. Also includes a 1½″ Dia. × 18-ft. Lg. plastic hose, two 20″ wands, an adapter, claw utility nozzle, nozzle with brush and squeegee, dusting brush, crevice tool, and an 18-ft. power cord with three-prong plug. Also has a wall-mount bracket with mounting hardware. Operates on 120 VAC, 60 Hz. UL listed.

Cap., gal.	Ht. × Wd. × Dp.	hp	Amps			
5	23″ × 13″ × 8″	5	9	6306T12		$119.27
Replacement Cartridge Filter				6679T24		14.83

Wet/Dry Vacuums



6 Gallon with Plastic Tank

The economical choice for larger jobs. Motor housing is plastic, and all vacuums have a liquid overflow shut-off valve. Also have four swivel casters. Operate on 120 VAC, 60 Hz.

***Vacuum with Plastic Tank with 1¼″ Dia. Accessories*—**Has an 8-ft. plastic hose, two 20″ extension wands, combination floor nozzle for wet/dry pickup, crevice tool, collection bag, and a 12-ft. power cord with three-prong plug.

***Vacuums with Plastic Tank with 1½″ Dia. Accessories*—**Vacuums have a 12-ft plastic hose, two 20″ extension wands, a floor nozzle with squeegee and brush, utility nozzle, crevice tool, tool holder, and an 18-ft. power cord with three-prong plug.

***Vacuum with Plastic Tank with 2½″ Dia. Accessories*—**Has an 8-ft. plastic hose, two 20″ extension wands, a floor nozzle with squeegee and brush, crevice tool, tool holder, and a 12-ft. power cord with three-prong plug.

***Vacuums with Stainless Steel Tank with 1¼″ and 2½″ Dia. Accessories*—**They include these 1¼″ dia. accessories: 7-ft. plastic hose, two 20″ extension wands, floor nozzle with squeegee and brush, utility nozzle, round brush, and crevice tool. They also include these 2½″ dia. accessories: 6-ft. plastic hose, two 20″ extension wands, and a utility nozzle. Both vacuums have an 18-ft. power cord with three-prong plug.

Cap., gal.	Ht. × Wd. × Dp.	hp	Amps			Each
With Plastic Tank and 1¼″ Dia. Accessories						
6	22″ × 15½″ × 15½″	3.0	8.4	63205T24		$84.60
Repl. Cartridge Filter				6679T27		21.71
Repl. Hose (1¼″ Dia. × 7-ft. Lg.)				7494T61		42.56
Repl. Collection Bags (2/Pkg.)				6679T64	Pkg.	$13.06
With Plastic Tank and 1½″ Dia. Accessories						
10	28″ × 17½″ × 17½″	4.0	9.6	63205T37		142.24
22	33″ × 19″ × 19″	6.5	12.0	63205T63		212.73
Repl. Cartridge Filter				6679T27		21.71
Repl. Hose (1½″ Dia. × 12-ft. Lg.)				7494T39		29.08
Repl. Collection Bags for 63205T37 (2/Pkg.)				6679T65	Pkg.	$17.69
Repl. Collection Bags for 63205T63 (2/Pkg.)				6679T67	Pkg.	$17.87
With Plastic Tank and 2½″ Dia. Accessories						
20	29″ × 18″ × 18″	6.5	12.0	63205T61		212.13
Repl. Cartridge Filter				6679T25		14.55
Repl. Hose (2½″ Dia. × 8-ft. Lg.)				7494T81		27.63
With Stainless Steel Tank and 1¼″ and 2½″ Dia. Accessories						
6	24″ × 13″ × 13″	4.5	9.0	70215T31		189.39
10	27″ × 17½″ × 17¼″	4.5	9.0	70215T32		224.62
Repl. Foam Filter Sleeve				6679T11		5.09
Repl. Cartridge Filter				6679T25		14.55
Repl. Hose (1¼″ Dia. × 7-ft. Lg.)				7494T61		42.56
Repl. Hose (2½″ Dia. × 8-ft. Lg.)				7494T81		27.63

No-Filter-Change Wet/Dry Vacuum



Switch from wet to dry pickup without stopping to change the filter. You can even clean the filter without removing the vacuum lid—just shake the cleaning rod to dislodge dirt from filter.

Tank and motor housing are plastic, and tank has a drain. Vacuum has a liquid overflow shut-off valve. Also comes with a 1½″ Dia. × 12-ft. Lg. plastic hose, two 19″ extension wands, floor nozzle with brush, crevice tool, tool tray, two washable filters, a 15-ft. power cord with three-prong plug, and four swivel casters. Operates on 120 VAC, 60 Hz.

Cap., gal.	Ht. × Wd. × Dp.	hp	Amps			Each
16	27″ × 20″ × 20″	2.5	11.5	7034T11		$379.96
Hose Coupler (Connects Two Hoses)				7034T19		9.46
Replacement Hose (1½″ Dia. × 12-ft. Lg.)				7034T18		65.33
Replacement Filters (2/Pkg.)				7034T15	Pkg.	$56.17
Replacement Collection Bags (2/Pkg.)				7034T17	Pkg.	$29.79

Whisper Quiet Wet/Dry Vacuums



8 Gallon

Quiet enough for office areas, yet powerful enough for demanding jobs. Tank and motor housing are plastic, and all vacuums have a liquid overflow shut-off sensor. Vacuums also have a 1⅜″ Dia. × 13-ft. Lg. plastic hose, two 20″ extension wands, carpet/floor nozzle with squeegee, utility nozzle, brush, crevice tool, 16-ft. power cord with three-prong plug, and four swivel casters. Operate on 120 VAC, 60 Hz.

A coupling is also included so you can attach the vacuum hose to a power tool's dust port. Vacuum housing has a power outlet that accepts a power tool with a three-prong plug. An automatic on/off switch allows the vacuum to turn on when you turn your power tool on. Use with tools and accessories up to 6 amps.

Vacuums ***with HEPA filter*** come with a HEPA filter that is 99.97% efficient at 0.3 microns.

Vacuums

hp	Amps	With Standard Filter		With HEPA Filter	
6-Gallon Capacity*—18½″ Ht. × 23″ Wd. × 15¾″ Dp.***					
2.5	9	70355T76	$423.43	70355T86	$513.94
8-Gallon Capacity*—21¾″ Ht. × 23″ Wd. × 15¾″ Dp.***					
2.5	9	70355T75	454.17	70355T85	551.47

Replacement Accessories

	For 6-gal. Cap.	Each	For 8-gal. Cap.	Each
Standard Filter	70355T771	$81.07	70355T771	$81.07
HEPA Filter	70355T851	128.00	70355T851	128.00
		Pkg.		Pkg.
Collection Bags (5/Pkg.)	70355T842	$37.24	70355T843	$47.71
Hose (1⅜″ Dia. × 13-ft. Lg.)	70355T871	Each	$87.47	

Wet/Dry Vacuums with Corrosion-Resistant Tank



20 Gallon

Tanks provide superior corrosion resistance. Vacuums have a liquid overflow shut-off valve. Operate on 120 VAC, 60 Hz. UL listed.

***Vacuum with 1¼″ Dia. Accessories*—**Tank and motor housing are plastic. Comes with an 8-ft. plastic hose, two 20″ extension wands, a floor nozzle for wet/dry pickup, floor/carpet selector nozzle, utility nozzle, round brush, crevice tool, and power cord. It has four swivel casters.

***Vacuums with 1½″ Dia. Accessories*—**Tank is stainless steel and motor housing is plastic. Vacuums have two-stage motors to allow easier pickup of heavy and wet debris. Come with a 12-ft. plastic hose, two 25″ extension wands, a floor nozzle (with rug, brush, and squeegee inserts), utility nozzle, round brush, crevice tool, and power cord. They have two rear wheels and two front swivel casters.

Cap., gal.	Ht. × Wd. × Dp.	hp	Amps			Each
Vacuum with 1¼″ Dia. Accessories						
8	26″ × 20″ × 22″	6.5	9.7	7081T11		$213.62
Repl. Cartridge Filter				6679T25		14.55
Repl. Hose (1¼″ Dia. × 8-ft. Lg.)				7494T13		26.65
Repl. Collection Bags (2/Pkg.)				6679T64	Pkg.	$13.06
Vacuums with 1½″ Dia. Accessories						
10	36½″ × 19″ × 24½″	3	11	6389T26		661.41
20	38½″ × 21″ × 25¾″	3	11	6389T28		791.04
Repl. Foam Filter Sleeve				6679T11		5.09
Repl. Cartridge Filter				6679T21		60.87
Repl. Hose (1½″ Dia. × 12-ft. Lg.)				7494T55		74.80
						Pkg.
Repl. Collection Bags for 10-gal. Vacuum (2/Pkg.)				6679T65		$17.69
Repl. Collection Bags for 20-gal. Vacuum (2/Pkg.)				6679T67		17.87

Heavy-Suction Wet/Dry Vacuums


12 Gallon

The two-stage motor in these vacuums allows easier pickup of heavy and wet debris. Tank and motor housing are plastic, and tank has a drain. Vacuums have a liquid overflow shut-off valve. They also have a tool caddy and a 35-ft. power cord with three-prong plug. Operate on 120 VAC, 60 Hz.

Both come with 1¼″ dia. accessories: 7-ft. plastic hose, two 20″ extension wands, floor nozzle with squeegee and brush, utility nozzle, round brush, and crevice tool. They also include 2½″ dia. accessories: 6-ft. plastic hose, two 20″ extension wands, and a utility nozzle.

12-gal. vacuum has four swivel casters.

16-gal. vacuum has two rear wheels, two front swivel casters, and a steel push handle. Overall height with handle is 43″.

Cap., gal.	Ht. × Wd. × Dp.	hp	Amps		Each
12	24″ × 15½″ × 19½″	2.5	9.5	7487T21	$333.31
16	29″ × 18¾″ × 25″	2.5	9.5	7487T22	373.47
Replacement Accessories					
Foam Filter Sleeve				6679T11	5.09
Pleated Cartridge Filter				6679T22	32.57
Hose (1¼″ Dia. × 7-ft. Lg.)				7494T61	42.56
Hose (2½″ Dia. × 8-ft. Lg.)				7494T81	27.63
Collection Bags (2/Pkg.) for 7487T21				6679T65 Pkg.	$17.69
Collection Bags (2/Pkg.) for 7487T22				6679T67 Pkg.	$17.87

Wet/Dry Vacuum with Detachable Blower


Blower

To convert this vacuum into a handheld blower, just remove the motor housing and add the included 2½″ Dia. × 20″ Lg. plastic blower. Tank and motor housing are plastic, and tank has a drain. Vacuum also has a liquid overflow shut-off valve.

Includes a 1¼″ Dia. × 7-ft. Lg. plastic hose, three 14″ extension wands, blower nozzle, floor nozzle, tool holder, 18-ft. power cord with three-prong plug, and four swivel casters. Operates on 120 VAC, 60 Hz. UL listed.

Cap., gal.	Ht. × Wd. × Dp.	hp	Amps		
12	25″ × 22″ × 23″	4.5	9.5	63305T36	$150.37
Replacement Foam Filter Sleeve				6679T11	5.09
Replacement Pleated Cartridge Filter				6679T25	14.55

Air-Powered Heavy-Suction Wet/Dry Vacuums


15 Gallon

Pick up the heaviest debris with these continuous-duty vacuums—they have the highest suction power of any wet/dry vacuums we offer. All have an aluminum venturi head. They include two 24″ extension wands, floor nozzle, crevice tool, filter, a 20-ft. rubber air supply hose with universal couplings, and a wheeled steel dolly. Tank is steel, unless noted.

Note: Liquid overflow shut-off valve (sold separately below) is recommended for wet pickup.

15-Gallon and ***20-Gallon Capacity*—**Both vacuums have a 1½″ Dia. × 20-ft. Lg. plastic hose, ½″ ID air supply hose, two rear wheels, and two front swivel casters.

30-Gallon and ***55-Gallon Capacity*—**Have a 2″ Dia. × 20-ft. Lg. plastic hose (unless noted), ¾″ ID air supply hose, and four swivel casters.

***Accessories*—**The *filter bag* extends filter life. The *HEPA filter* is 99.97% efficient at 0.3 microns. The *extra-silent muffler* reduces vacuum noise without reducing performance.

Vacuums

Inlet Air, cfm @ psi	Ht. × Dia.	Hose Dia.		
15-Gallon Capacity				
20 @ 100	37″ × 16″	1½″	7498T11	$1,199.66
20-Gallon Capacity				
20 @ 100	37″ × 16″	1½″	7498T22■	1,515.98
30-Gallon Capacity				
47 @ 100	40″ × 19″	1½″	7498T13●	1,224.00
68 @ 100	40″ × 19″	2″	7498T14	1,311.78
55-Gallon Capacity				
68 @ 100	45″ × 23″	2″	7498T16	1,346.70

■ Stainless steel tank with drain.
● Vacuum has a 1½″ Dia. × 20-ft. Lg. plastic hose.

Accessories

	For 15- & 20-gal. Cap.		For 30- & 55-gal. Cap.	
Liquid Overflow Shut-Off Valve	7498T32	$188.93	6352T41	$60.02
Filter Bag	—	—	6352T28	30.52
HEPA Filter	7498T51	356.08	6352T81	356.08
Extra-Silent Muffler	6352T83	419.03	6352T83	419.03
Repl. Filter	7498T61	54.38	6352T26	51.90
Repl. Silencer Foam Insert	6352T29	22.38	6352T29	22.38
Repl. Vacuum Hose (1½″ Dia. × 20-ft. Lg.)			7498T1	67.15
Repl. Vacuum Hose (2″ Dia. × 20-ft. Lg.)			7498T2	96.65

Extra-Fine-Filtration Wet/Dry Vacuums


15 Gallon

A multistage filtration system ensures that virtually all the particles you vacuum stay contained in the vacuum tank. Vacuums have an ULPA filter that is 99.99% efficient at 0.12 microns. Tank and motor housing are plastic. Vacuums have a liquid overflow shut-off valve.

Both have a 1½″ Dia. × 10-ft. Lg. plastic hose, one 4½-ft. extension wand, carpet/floor nozzle, utility nozzle, squeegee nozzle, floor brush, round brush, crevice tool, and a 50-ft. power cord with three-prong plug. They have two rear tires and two front swivel casters. Operate on 115 VAC, 60 Hz.

Vacuums

Cap., gal.	Ht. × Wd. × Dp.	hp	Amps		
6	38½″ × 17″ × 15″	1.25	7.1	6297T55	$1,169.35
15	49″ × 10″ × 23″	2.3	11.3	6297T53	1,527.42

Replacement Accessories

	For 6-Gal. Cap. Pkg. Qty.	Pkg.	For 15-Gal. Cap. Pkg. Qty.	Pkg.
Paper Filter Protectors	10	6297T49 $42.54	12	6297T37 $50.19
Plastic Collection Bags	12	6297T45 31.64	12	6297T46 65.45
Cloth Filter	1	63395T38 105.82	1	6297T38 126.55
Impact Filters	6	63395T39 31.20	6	63395T39 31.20
ULPA Filter for Both Vacuums			6297T39 Each	$296.79
Hose (1½″ Dia. × 10-ft. Lg.)			74805T91 Each	$139.20

Clean Room Fine-Filtration Dry-Pickup Vacuums

HEPA Dry-Pickup Vacuum



A micro filter protects the HEPA filter, which is 99.97% efficient at 0.3 microns. Can be used in Class 100 clean rooms. Vacuum is 16″ Ht. × 12″ Wd. × 14″ Dp. Tank is aluminum, and motor housing is plastic.

Vacuum comes with a 1¼″ Dia. × 6½-ft. Lg. plastic hose, two 22″ extension wands, carpet/floor nozzle, upholstery nozzle, round brush, crevice tool, 30-ft. power cord with three-prong plug, two rear wheels, and a front swivel caster. Operates on 120 VAC, 60 Hz. UL listed.

Cap., gal.	hp	Amps		Each
3¼	1.5	9	6373T72	$1,645.05
Replacement Accessories				
Micro Filter			6373T71	186.58
Cotton Filter			6373T74	126.57
HEPA Filter Cartridge			6373T73	342.45
Hose (1¼″ Dia. × 6½-ft. Lg.)			6373T81	105.12
				Pkg.
Collection Bags (5/Pkg.)			6373T77	$31.09

Economy ULPA Dry-Pickup Vacuum



More efficient than a HEPA filter, the ULPA filter in this vacuum is 99.99% efficient at 0.12 microns. Can be used in Class 10 clean rooms. Vacuum is 22″ Ht × 16″ Wd. × 16″ Dp. Tank and motor housing are plastic.

Comes with a 1¼″ Dia. × 8-ft. Lg. plastic hose, telescoping extension wand (23″ to 38″), floor nozzle, upholstery nozzle, round brush, crevice tool, 33-ft. power cord with two-prong plug, and four swivel casters. Operates on 120 VAC, 60 Hz.

Cap., gal.	hp	Amps		Each
4	1	8.3	7007T3	$796.67
Replacement Accessories				
Cloth Filter			7007T32	76.24
ULPA Filter			7007T33	226.42
Hose (1¼″ Dia. × 8-ft. Lg.)			7007T34	68.85
				Pkg.
Collection Bags (5/Pkg.)			7007T31	$16.55

Fine-Filtration Dry-Pickup Vacuum



Clean confidently using this HEPA-filter vacuum—the filter is 99.97% efficient at 0.3 microns. Tank and motor housing are plastic. Vacuum has a 1¼″ Dia.×8-ft. Lg. plastic hose, two 39″ extension wands, carpet/floor nozzle, round brush, crevice tool, and a 40-ft. power cord with three-prong plug. Operates on 115 VAC, 50/60 Hz.

Optional filter bag adds an extra stage of filtration and extends the life of the HEPA filter.

Cap., gal.	Ht.×Wd.×Dp.	hp	Amps		Each
4	24½″×16½″×16¾″	1.25	8	63455T62	$654.55
Optional Filter Bag				63455T64	103.64
Replacement HEPA Filter				63455T65	224.00
Replacement Hose (1¼″ Dia.×8-ft. Lg.)				63395T41	75.27
Replacement Impact Filters (6/Pkg.)				63455T36	Pkg. $25.09
Replacement Collection Bags (10/Pkg.)				63395T37	Pkg. $40.36

Continuous-Duty Dry-Pickup Vacuum



This vacuum can run 24 hours a day, 7 days a week. Made of cast aluminum with a steel base for stability. Vacuum comes with a 1½″ Dia.×15-ft. Lg. static-control urethane hose, 60″ extension wand, floor nozzle, utility nozzle with brush insert, crevice tool, dust collection bucket, and 15-ft. power cord with three-prong plug. Operates on 115 VAC, 50/60 Hz.

Cap., gal.	Ht.×Wd.×Dp.	hp	Amps		Each
4	28″×18″×24″	1	12	6295T71	$2,895.56
Replacement Filter				6295T91	82.50
Replacement Hose (1½″ Dia.×15-ft. Lg.)				9020T63	126.73

Indoor/Outdoor Dry-Pickup Vacuum



Made of stainless steel, this tank is corrosion resistant so it can be used both indoors and outdoors. Vacuum has two motors that operate on 110-120 VAC, 60 Hz with a recommended 20-amp circuit (must be hardwired). Mount using the four ¾″ dia. bolt holes on the base. Comes with a 2″ Dia.×15-ft. Lg. plastic hose with swivel cuff, and claw nozzle. ETL listed.

Cap., gal.	Dia.×Ht.	hp	Amps		
8	19″×54½″	1.6	16	7388T11	$1,361.01
Repl. Filter (1/Motor Required)				7388T12	22.98
Repl. Reusable Collection Bag				7388T13	49.52
Repl. Hose (2″ Dia.×15-ft. Lg.)				7388T14	38.29

Wet-Pickup Vacuums with Automatic Pump-Out

No need to manually empty the water from these vacuum tanks—these vacuums pump the water out for you.

Economy Wet/Dry-Pickup Automatic Pump-Out Vacuums



20 Gallon

Vacuums can pick up and pump out water at a rate of 6 gpm. Motor housing is plastic. Both vacuums have a tool holder, collection bag, and an 18-ft. power cord with three-prong plug. Also have a liquid overflow shut-off valve, standard ¾″ garden hose thread (GHT) male connection for attaching a drainage hose, and drain for manual emptying. Operate on 120 VAC, 60 Hz. UL listed.

Note: For dry pickup, remove the pump unit.

Both come with 1¼″ dia. accessories: 8-ft. plastic hose, two 20″ extension wands, and combination floor nozzle for wet/dry pickup. They also include 2½″ dia. accessories: 6-ft. plastic hose, two 20″ extension wands, combination floor nozzle for wet/dry pickup, utility nozzle, and crevice tool.

Stainless Steel Tank—Vacuum has two rear wheels and two front swivel casters.

Plastic Tank—Vacuum has four swivel casters.

Cap., gal.	Ht.×Wd.×Dp.	hp	Amps		Each
Stainless Steel Tank					
14	36″ ×18″×21″	6.5	12	7924T5	$347.86
Plastic Tank					
20	36½″×24″×26″	6.5	12	7924T3	256.49
Replacement Accessories					
Foam Filter Sleeve				6679T11	5.09
Cartridge Filter				6679T25	14.55
					Pkg.
Collection Bags for 14-gal. Tank (2/Pkg.)				6679T65	$17.69
Collection Bags for 20-gal. Tank (2/Pkg.)				6679T67	17.87

High-Volume Wet-Pickup Automatic Pump-Out Vacuum



Pick up large amounts of water quickly. This vacuum suctions up to 53 gpm and its pump discharges up to 80 gpm—perfect for flood applications. Vacuum has a stainless steel tank, two front swivel casters, and two rigid rear wheels. Also has a liquid overflow shut-off valve.

Note: For wet pickup only.

Includes a 1½″ Dia.×13-ft. Lg. plastic suction hose, a 1½″ Dia.×25-ft. Lg. discharge hose, two 20″ extension wands, 15″ curved wand, squeegee nozzle, and a 25-ft. power cord with three-prong GFCI plug. Discharge connection is a 1½″ quick-disconnect coupling. Operates on 110-120 VAC, 60 Hz.

Cap., gal.	Ht.×Wd.×Dp.	hp	Amps		
19	38″×23″×24″	1.6	12	71065T68	$3,164.46
Repl. Suction Hose (1½″ Dia.×13-ft. Lg.)				71065T72	123.95
Repl. Discharge Hose (1½″ Dia.×25-ft. Lg.)				71065T71	204.61

Extra-Fine-Filtration Dry-Pickup Vacuums



6 Gallon

The ULPA filter in these vacuums is 99.999% efficient at 0.12 microns. Vacuums include a 48″ extension wand, carpet/floor nozzle, utility nozzle, round brush, crevice tool, and 50-ft. power cord with three-prong plug. Operate on 115 VAC, 60 Hz.

6-gal. vacuum has a 1¼″ Dia.×8-ft. Lg. plastic hose and four swivel casters. Tank and motor housing are plastic. UL listed.

15-gal. vacuum has a 1½″ Dia.×10-ft. Lg. plastic hose, two rigid rear wheels, and two front swivel casters. Tank is steel; motor housing is plastic.

Vacuums

Cap., gal.	Ht.×Wd.×Dp.	hp	Amps		
6	27″×15″×14″	1.25	7.9	63395T34	$926.32
15	35″×21″×23″	2.3	11.3	6297T51	1,330.65

Replacement Accessories

	Pkg. Qty.	For 6-gal. Cap.	Pkg.	For 15-gal. Cap.	Pkg.
Collection Bags	10	63395T37	$40.36	6297T14	$65.45
Filter Protectors	10	6297T49	42.54	6297T37★	50.19
Cloth Filter	1	63395T38	105.82	6297T38	126.55
Impact Filters	6	63395T39	31.20	63395T39	31.20

ULPA Filter for Both Vacuums	6297T39	Each	$296.79
Hose for 6-gal. Vacuum (1¼″ Dia.×8-ft. Lg.)	63395T41	Each	$75.27
Hose for 15-gal. Vacuum (1½″ Dia.×10-ft. Lg.)	74805T91	Each	$139.20

★ Package quantity is 12.

Drum-Top Vacuums

Economy Wet/Dry Vacuum



This economical vacuum attaches to an open-head 55-gallon drum (sold separately on page 1740; minimum 24-ga. drum required). Vacuum has a plastic housing and a liquid overflow shut-off valve. Includes a 1½″ Dia.×12-ft. Lg. plastic hose, claw nozzle, and a 35-ft. power cord with three-prong plug. Operates on 120 VAC, 60 Hz.

Dia.×Ht.	hp	Amps		
24″×18″	3	11	6305T41	$411.19
Repl. Lid Gasket			6305T81	15.01
Repl. Cartridge Filter			6679T22	32.57
Repl. Hose (1½″ Dia.×12-ft. Lg.)			7494T55	74.80
Repl. Nozzle			7494T11	16.41

Heavy Duty Vacuums



An indicator light tells you when the filters are losing efficiency and should be cleaned or replaced. Vacuums attach to an open-head 55-gallon drum (sold separately on page 1740; minimum 18-ga. drum required). Both have a steel housing. Come with a 1½″ Dia.×10-ft. Lg. plastic hose, 53″ extension wand, crevice tool, and 50-ft. power cord with three-prong plug. Operates on 115/120 VAC, 50/60 Hz.

Also Available: Replacement parts. Please ask for 74805T888 and specify part.

Heavy duty wet/dry vacuum has a squeegee tool and a liquid overflow shut-off valve.

Heavy duty fine-filtration dry-pickup vacuum has a HEPA filter that is 99.97% efficient at 0.3 microns. Includes a round brush, upholstery nozzle, and floor brush.

Dia.×Ht.	hp	Amps		Each
Heavy Duty Wet/Dry Vacuum				
24″×20″	2.3	11	74805T82	$1,301.02
Heavy Duty Fine-Filtration Dry-Pickup Vacuum				
24″×20″	2.3	10	74805T84	1,952.46
Replacement Accessories (for both vacuums)				
Lid Gasket for Motor Head			74805T36	26.18
Filter			74805T41	76.04
Hose (1½″ Dia.×10-ft. Lg.)			74805T91	139.20
Replacement Accessories (for 74805T84 only)				
HEPA Filter			74805T23	463.20
Pre-Filters (6/Pkg.)			74805T22	Pkg. $68.40
Filter Protectors (12/Pkg.)			74805T21	Pkg. $55.20

Air-Powered Drum-Top Vacuums

Mini Wet-Pickup Vacuum



Our smallest drum-top vacuum is great for cleaning up minor liquid spills—just attach it to a 5-gallon pail (sold separately). This continuous-duty vacuum has a steel housing. Also has a liquid overflow shut-off valve. Air inlet connection is ⅜″ NPT female. Comes with a 1¼″ Dia.×6½-ft. Lg. plastic vacuum hose, round suction nozzle, and crevice tool.

Inlet Air, cfm @ psi	Dia.×Ht.		
12.7 @ 85	12″×15″	63605T27	$326.02
5-gallon Steel Pail		4211T652	26.66
Repl. Lid Gasket		63605T51	78.00
Repl. Vacuum Hose (1¼″ Dia.×6½-ft. Lg.)		63605T61	134.55

Heavy-Suction Wet/Dry Vacuums



Single Head

These have the most suction power of any drum-top vacuum we offer—great for picking up heavy debris. Attach these continuous-duty vacuums to an open-head 30- or 55-gallon drum (sold separately on page 1740; minimum 22-ga. drum required). Vacuum housing is steel. Air inlet connection is a ¾″ universal coupling. Vacuums come with a 48″ extension wand, nozzle, and crevice tool.

Optional liquid overflow shut-off valve is recommended for wet pickup.

Optional filter bag extends the life of the cartridge filter.

Optional HEPA cartridge filter is 99.97% efficient at 0.3 microns.

Optional extra-silent muffler reduces vacuum noise without reducing vacuum performance.

Inlet Air, cfm @ psi	*20″ Dia.×6″ Ht. Vacuum for 30-gal. Drum*		*24″ Dia.×6″ Ht. Vacuum for 55-gal. Drum*	
Single Head—1½″ Dia.×20-ft. Lg. Vacuum Hose				
47 @ 100	6352T91	$899.88	6352T92	$911.23
Single Head—2″ Dia.×20-ft. Lg. Vacuum Hose				
68 @ 100	6352T93	977.64	6352T94	1,005.22
Double Head—2″ Dia.×20-ft. Lg. Vacuum Hose				
110 @ 100	———	———	6352T95●	1,670.10
Accessories				
Optional Liquid Overflow Shut-Off Valve			6352T41	60.02
Optional Filter Bag			6352T28	30.52
Optional HEPA Cartridge Filter			6352T81	356.08
Optional Extra-Silent Muffler			6352T83	419.03
Replacement Lid Gasket for 30-gallon Drum			6352T73	18.32
Replacement Lid Gasket for 55-gallon Drum			6352T77	22.38
Replacement Cartridge Filter			6352T26	51.90
Replacement 1½″ Dia.×20-ft. Lg. Hose			7498T1	67.15
Replacement 2″ Dia.×20-ft. Lg. Hose			7498T2	96.65
Replacement Silencer Foam Insert			6352T29	22.38

● 25″ dia.

Dry-Pickup Vacuum for Chips and Powders



Pick up wet or dry chips, powders, and other light particles that create problems in other vacuums. This continuous-duty vacuum attaches to an open-head 55-gallon drum (sold separately on page 1740; minimum 16-ga. drum required). Housing is aluminum. Air inlet connection is ⅜″ NPT female.

Furnished with a 1½″ Dia.×10-ft. Lg. plastic vacuum hose, 24½″ extension wand, two 19″ extension wands, crevice tool, round brush, squeegee nozzle, and utility nozzle. The filter is external and measures 10″ Dia.×22″ Ht.

Inlet Air, cfm @ psi	Dia.×Ht.		
40 @ 80	23⅝″×4½″	7789T11	$677.78
Replacement Filter		7789T21	66.52
Replacement Vacuum Hose (1½″ Dia.×10-ft. Lg.)		7789T22	66.52

Wet-Pickup Sump Type Vacuums

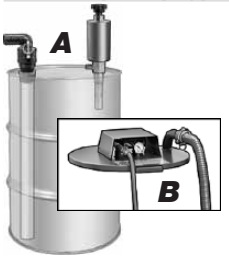

Remove coolant, sludge, slurries, and metal chips from sumps and other liquid reservoirs with these wet-pickup continuous-duty vacuums. All have a liquid overflow shut-off valve.

(A) Bung-Hole Wet-Pickup and Pump-Out— Mount in the two openings of a 55-gallon drum with cover (sold separately on page 1740; minimum 16-ga. drum required). Vacuum pumps both in and out at 30 gpm; simply turn the knob to change mode from filling to emptying. Housing is stainless steel. Air inlet connection is ¼″ NPT male. Vacuum comes with a 1½″ Dia.×10-ft. Lg. plastic vacuum hose, 18″ extension wand, and 90° quick-disconnect elbow.

(B) Standard Wet-Pickup — Mounts to an open-head 55-gallon drum (sold separately on page 1740; minimum 16-ga. drum required). Pumps in at 40 gpm. Housing is steel. Air inlet connection is ½″ NPT male. Comes with a 1½″ Dia.×10-ft. Lg. plastic vacuum hose, utility nozzle, round flexible nozzle, round crevice tool, and a 20-ft. oil-resistant rubber air-supply hose.

Inlet Air, cfm @ psi	Dia.×Ht.		
(A) Bung-Hole Wet-Pickup and Pump-Out Vacuum			
19 @ 80	3″×11⅜″	9798T56	$501.33
Replacement Vacuum Hose (1½″ Dia.×10-ft. Lg.)		7789T22	66.52
(B) Standard Wet-Pickup Vacuum			
23 @ 100	24″× 9″	7290T4	1,356.92
Replacement Vacuum Hose (1½″ Dia.×10-ft. Lg.)		7290T7	149.15
Replacement Lid Gasket		7290T6	32.04

Heavy Duty Mobile 55-Gallon Collection Drum for Drum-Top Vacuums



Works with open-head 55-gallon drum-top vacuums that have a minimum diameter of 23½″ (not compatible with 6305T41 or 7789T11 drum-top vacuums sold separately above). Made of 12-ga. steel, drum has a valve for draining liquid, an 8″×10″ bottom door for removing debris, and 7″ Wd.×2½″ Ht. forklift pockets that are 19½″ center-to-center. Four casters (two rigid and two swivel) provide mobility. For more 55-gallon open-head steel drums, see page 1740.

Ht.×Wd.×Dp.		
46″×27″×31″	7119T5	$1,085.53

Mobile Single-Stage Dust Collectors

Here's a great combination of simple operation and effective performance in one flexible system designed for wood dust collection. The base has wheels, so you can move the unit around the shop for connection to different systems. All wood dust particles collect in cotton/polyester filter bags (included) that are 95% efficient for wood dust particles 25 microns and larger. Collectors are 15- to 24-ga. steel. Motors are totally-enclosed, fan-cooled (TEFC).

696 cfm collector has a two-bag system and includes a 3-ft. cord with three-prong plug.

1,400 cfm collectors have a two-bag system and include an adapter to connect to multiple runs of duct, allowing you to easily use one collector for several pieces of equipment. 2168K56 includes a 6-ft. cord with three-prong plug. 2168K32 has four 6-ft. wire leads for hardwiring.

2,431 cfm collector has a four-bag system and includes an adapter to connect to multiple runs of duct, allowing you to easily use one collector for several pieces of equipment. Comes with four 3-ft. wire leads for hardwiring.

Also Available: Additional replacement parts. Please ask for 2168K888 and specify the McMaster-Carr part number of the dust collector and the replacement part needed.

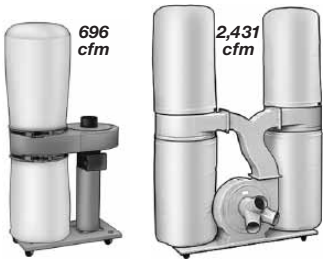

cfm @ 0″ SP	hp	VAC, 60 Hz	Ph.	Amps	Inlet Dia. Single	Inlet Dia. w/Adapter	Bag Volume, cu. ft.	Filter Area★, sq. ft.	O'all Size, Ht. × Wd. × Dp.	dB @ 3 ft.	Collectors	Each	Repl. Filter Bags	Per Set
696	1	110	1	14	4″	—	2.5	14	69″ × 33″ × 16″	55-65	2168K25	$302.68	2168K23	$99.74
1,400	2	110	1	15	5″	2 × 4″	7.4	18	70″ × 34″ × 18″	65-70	2168K56	464.41	2168K51	97.33
1,400	2	220/440	3	5.6/2.8	5″	2 × 4″	7.4	18	70″ × 34″ × 18″	65-70	2168K32	476.79	2168K51	97.33
2,431	3	220/440	3	6/5	6″	3 × 4″	10.5	52	79″ × 57″ × 22″	70-80	2168K41	688.51	2168K43	207.96

★ Filter area is the number of square feet of fabric area of an inflated filter bag.

Drum-Mount Two-Stage Dust Collectors

Often called cyclone dust collectors, these powerful units mount on drums for two-stage dust collection (drums not included; use steel drums sold separately on page 1740). In the first stage, larger particles fall into the drum. In the second stage, smaller particles go into the filter bag. Since the larger particles don't pass through the blower, there is less wear on the blower and filter bag. Blowers have a 14-ga. steel housing and a cast aluminum blower wheel. Inlet hose is 5 feet long. *Note:* Not for use with combustible metal dust, including aluminum, magnesium, and titanium. All motors are totally-enclosed, fan-cooled (TEFC). 115 VAC units have an 8-ft. cord with three-prong plug, unless noted. 230/460 VAC units have nine wire leads.

450 cfm collectors come with a cotton filter bag that is 99% efficient for particles 10 microns and larger. ***700 cfm*** and ***1,100 cfm collectors*** come with a polyester filter bag that is 99% efficient for particles 5 microns and larger. ***1,300 cfm collector*** uses the 2133K16 Large-Capacity Dust Bag Kit (sold separately).

Optional ***wheeled dollies*** (sold separately) provide easy movement from job-to-job.

Also Available: Drum-Mount Two-Stage Dust Collectors with a three-phase hazardous location motor. Operate on 230/460 VAC, 60 Hz. Please ask for 2114K66 and specify horsepower.


Dust Collector with Optional Wheeled Dolly (Drum Not Included)

Dust Collectors

cfm @ 0″ SP	hp	Inlet Dia.	Filter Area★, sq. ft.	Fits Drum gal.	Fits Drum Dia.	dB @ 5 ft.	115 VAC, 60 Hz Single-Phase Collectors Amps		Each	230/460 VAC, 60 Hz Three-Phase Collectors Amps		Each	Replacement Filter Bags Each
450	½	4″	12½	30◢	19½″-20½″	78	7	2114K7	$720.31	2/1	2114K74	$667.19	2114K9 $69.81
700	1	6″	18	55	23″-24″	83	11.8	2114K1	865.19	2.8/1.4	2114K75	978.12	2114K4 126.42
1,100	2	6″	18	55	23″-24″	85	23/11.5	2114K2■	985.94	4.9/2.5	2114K76	997.74	2114K4 126.42
1,300	3	6″	—	55	23″-24″	84	—	—	—	7.2/3.6	2114K78	975.76	— —

Wheeled Dolly for use with 2114K7, K74 ... 2114K8 Each $169.23

Wheeled Dolly for use with 2114K1, K2, K75, K76 ... 2114K3 Each $183.33

★ Filter area is the number of square feet of fabric area of an inflated filter bag. ◢ Also compatible with most 20/24-gal. drums.

■ Operates on 115/230 VAC, 60 Hz and has nine wire leads for hardwiring.

Large-Capacity Filter Bag Kits

These polyester fabric bags are 99% efficient for particles 5 microns and larger. Furnished with a mounting kit that includes 5 feet of 6″ diameter hose to attach the bag to the dust collector outlet. 450 cfm dust collectors require the adapter kit (sold separately).

Drum-mount bag kits attach to a 55-gal. drum (not included). They're supported by a hook at the top of the bag; the bottom of the bag tightens around the top of the drum with a belt and quick-release buckle for easy emptying.

Ceiling-mount bag kit includes a suspension ring and hooks. Bag empties from a zipper at bottom.


Drum-Mount Filter Bag Kit


Ceiling-Mount Filter Bag Kit

Mount Type	Bag Size, Dia. × Ht.	Filter Area★, sq. ft.	Kits	Each	Repl. Filter Bags	Each
Drum	2 ft. × 6 ft.	45	2133K16	$269.09	2133K26	$201.82
Drum	4 ft. × 6 ft.	100	2133K18	685.45	2133K28	630.91
Ceiling	2 ft. × 6 ft.	48	2133K12	415.01	2133K22	263.64

Adapter Kit to attach Large-Capacity Filter Bags (for 450 cfm Dust Collectors) ... 2133K41 Each $114.04

★ Filter area is the number of square feet of fabric area of an inflated filter bag.

High-Volume Two-Stage Dust Collector

Move large quantities of air and dust through long runs of pipe at higher static pressures than the Drum-Mount Two-Stage Dust Collectors on this page. Also known as a cyclone dust collector, this powerful unit separates most waste material in the airflow and deposits it into a dust storage barrel (sold separately). Because less dust passes through the blower, there is less wear on it. Collector is made of airtight, welded 16-ga. steel with steel braces and supports. Motor is totally-enclosed, fan-cooled (TEFC) and has nine 6″ wire leads for hardwiring. Motor and fan assemblies are easily detached for maintenance. If you wish to recycle the air, an optional ***filter assembly*** should be used to collect fine particles not separated by the collector. It has an attached drum to eliminate extra handling of waste material. Filter bags are made of polyester and are 99% efficient for particles 5 microns and larger.


Collector with Optional Filter Assembly

cfm @ 5″ SP	hp	VAC, 60 Hz	Ph.	Amps	Inlet Dia.	Filter Area★, sq. ft.	Size ♦, Ht. × Wd. × Dp.	dB @ 10 ft.		
1,830	5	208/240/480	3	13/12/6	9″	108	143″ × 36″ × 36″	82	2119K31	$4,512.38

Accessories

55-gal. Dust Storage Barrel (with removable cover) ... 4115T68 Each $101.85

Filter Assembly ... 2119K24 Each $2,191.50

Replacement Filter Bags for Filter Assembly (two bags required) ... 2119K74 Each $107.21

★ Filter area is the number of square feet of fabric area of an inflated filter bag. ♦ Does not include filter assembly.

Fine-Filtration Cartridge Dust Collectors



Maximize dust collection. The cartridges in these collectors are 99.99% efficient for particles 0.5 microns and larger—great for picking up fine dust such as graphite and talc. Cartridges are cleaned automatically each time the dust collector shuts off and are enclosed to minimize contamination from particles that pass through the collector. The 550 cfm and 1,243 cfm collectors are made of 16-ga. steel; 3,000 cfm collector is 14-ga. steel. All have a three-phase, totally-enclosed, fan-cooled (TEFC) motor with nine 6″ wire leads for hardwiring. Operate on 208-230/460 VAC, 60 Hz. Units have three inlet adapters for connection to multiple machines.

An automatic shaker mechanism cleans the filter media and drops particles into a drawer for easy collection and disposal. The shaker motor is 1/8-hp, single phase, and operates on 115 VAC, 60 Hz, 3.5 amps.

cfm	SP	hp	Amps	Inlet Dia.	Filter Area, sq. ft.	Ht. × Wd. × Dp.	dB @ 3 ft.	Collectors	Each	Replacement Filter Cartridges	Each
550	4.45″	1	4.6/4.2/2.1	4″	65	52¼″ × 24¾″ × 30¾″	71	21125K62	$4,147.50	21125K81	$440.16
1,243	4.80″	3	10.6/9.6/4.8	6″	135	62¼″ × 24¾″ × 30¾″	74	21125K63	5,784.26	21125K82	569.08
3,000	5.20″	7½	24.2/22/11	10″	354	75¼″ × 51⅜″ × 33″	83	21125K66	11,388.29	21125K83▲	645.47

▲ Two required.

Dust Collector Duct System

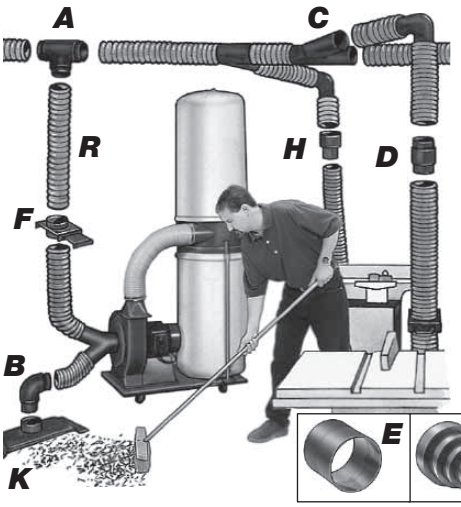

We've got everything you need to put together a system to collect sawdust, chips, shavings, and granular material from wood-working operations. The system shown features our Single-Stage Dust Collector (2168K56 sold separately on page 2101); however, the components of this system are compatible with all of our dust collectors.

All components are sold separately—order the parts you need to create a custom system. For hose clamps, see 5415K on page 302. For maximum safety and to avoid a dangerous buildup of static electricity, you must use the ***grounding kit*** (sold separately).

If you need more information on designing and installing a dust collection system, order our book "Dust Collection Basics" (sold separately).

(E) Quick-Disconnect Duct Fitting— Use in place of a hose clamp. Attach to the end of a 4″ dia. hose and then press on to any dust hood for a quick and easy friction fit.

(G) Universal Duct Reducer— This adapter has seven outside dia. step sizes: 1″, 2″, 2½″, 3″, 4″, 5″, and 6″. Cut away unneeded steps with a hacksaw.

(J) Duct Reducer with Mounting Flange— Fits over a 3″ dia. hole and is angled upward for easy connection between the machine and a shop vacuum. Has four ¼″ dia. mounting holes (fasteners not included).

(Q) Adjustable Nozzle with Steel Stand— Position the nozzle exactly where you need it. Ideal for use with table saws, lathes, drill presses, and portable power tools. Nozzle is cast aluminum, rotates 360°, and can be angled 180° in any position between straight up and straight down. Stand adjusts from 24″ to 43½″ high.

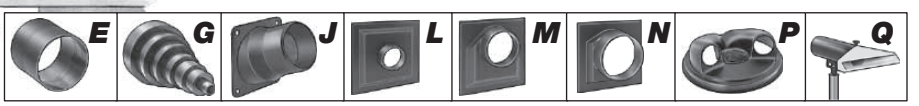

	3″ Diameter Each	4″ Diameter Each
Duct Fittings— *Made of ABS Plastic*		
A ... T-Fitting	2221K41 ... $7.16	2221K42 ... $11.47
B ... 90° Elbow	2221K61 ... 6.61	2221K62 ... 9.57
C ... Y-Fitting	2221K51 ... 9.00	2221K52 ... 11.73
D ... Splice Connector	2221K71 ... 4.78	2221K72 ... 7.61
E ... Quick Disconnect	____ ... ____	2221K44 ... 9.25
F ... Blast Gate	2221K91 ... 5.95	2221K92 ... 7.47
	5″ Diameter Each	**6″ Diameter Each**
F ... Blast Gate	2221K97 ... $11.83	2221K98 ... $14.83
Duct Reducers— *Made of ABS Plastic*		
G ... Universal Reducer	____ ... ____	2221K45■ ... 17.25
	3″ Diameter Each	**4″ Diameter Each**
H ... Reduces to 2″ Dia.	2221K31 ... $4.37	____ ... ____
H ... Reduces to 2½″ Dia.	2221K34 ... 3.90	2221K33 ... $4.61
H ... Reduces to 3″ Dia.	____ ... ____	2221K32 ... 4.70
J ... Reduces to 2½″ Dia. with Mounting Flange	2221K46 ... 10.00	____ ... ____
Floor Sweep— *Made of ABS Plastic*		
K ... 24″ Lg. × 7″ Wd. × 3½″ Ht.	____ ... ____	2221K21 ... 12.50

■ Has the following outside dia. step sizes: 1″, 2″, 2½″, 3″, 4″, 5″, 6″.

	3″ Diameter Each	4″ Diameter Each
Dust Hoods— *Made of ABS Plastic*		
L ... 12¼″ Sq. × 2½″ Dp.	____ ... ____	2221K11 ... $11.59
L ... 14 1/16″ Sq. × 2½″ Dp.	____ ... ____	2221K12 ... 10.00
M ... 8¼″ Sq. × 2½″ Dp.	____ ... ____	2221K13 ... 7.50
M ... 10¼″ Ht. × 8 7/16″ Wd. × 2½″ Dp.	____ ... ____	2221K14 ... 9.07
N ... 6¼″ Sq. × 2½″ Dp.	____ ... ____	2221K15 ... 5.93
Cyclone Separator Lid— *Made of ABS Plastic*		
P ... Fits 30-gal. Steel Garbage Can	____ ... ____	2221K35 ... 46.69
Adjustable Nozzle with Steel Stand		
Q ... 1⅛″ Ht. Nozzle × 12½″ Wd.	____ ... ____	2221K43 ... 130.00
	Black	**Clear**
Hose— *Made of High-Density Polyethylene (HDPE)*		
R ... 2″ Dia. × 10 ft. Lg.	2221K81 ... $15.12	2221K17 ... $18.29
R ... 2½″ Dia. × 10 ft. Lg.	2221K86 ... 16.44	2221K96 ... 20.58
R ... 3″ Dia. × 10 ft. Lg.	2221K82 ... 18.69	2221K18 ... 23.69
R ... 3″ Dia. × 20 ft. Lg.	2221K83 ... 29.56	2221K93 ... 41.81
R ... 4″ Dia. × 10 ft. Lg.	2221K84 ... 25.91	2221K94 ... 31.05
R ... 4″ Dia. × 20 ft. Lg.	2221K85 ... 49.33	2221K95 ... 60.34
Grounding Kit	2221K36	Each ... $23.21
"Dust Collection Basics" Book	5219T65	Each ... $5.89

Dust Collector Filter Bags and Cartridges



Band Top Filter Bag



Filter Cartridge, Open on Both Ends

Need to replace your dust collector's bag or cartridge? Just match the specs to one that we have here.

Filter bags are polyester. Choose from unfinished top (also known as a raw top) or a Type 301 stainless steel band top. ***Filter cartridges*** are offered open on both ends, or open on one end and closed on the other. The closed end has a ½″ dia. mounting hole (hardware not included).

Filter Bags

Dia.	Unfinished Top Lg.	Each	Band Top Lg.	Each
4 5/8″	100″ ... 3636K11	$13.86	____ ... ____	____
4 5/8″	120″ ... 3636K15	14.79	____ ... ____	____
5 7/8″	102″ ... 3636K17	15.03	100″ ... 3636K24	$18.55
5 7/8″	120″ ... 3636K22	18.14	120″ ... 3636K28	19.38

Filter Cartridges

Dia.	Lg.	Open Both Ends Each	Open/Closed End Each
Cellulose/Synthetic Blend Filter Media			
12 3/4″	26″ ... 3636K55	$88.53	3636K49 ... $88.53

Pressure Washers

Turn ordinary garden-hose water into pressurized water to power away dirt and grime. All pressure washers have the following:

- High-pressure wire-reinforced rubber hose
- ¾″ garden hose thread (GHT) connection
- Thermal relief valve to protect pump from overheating
- Adjustable pressure (psi), unless otherwise indicated
- Low-pressure soap injector

Electric Pressure Washers

The choice for indoor use, these pressure washers are quieter than gasoline-powered models. All have a 3-ft. wand with trigger gun. They also have a power cord with three-prong plug and ground fault circuit interrupter (GFCI), unless noted.

(A&B) Carry Style—A built-in handle makes these pressure washers easy to carry. They include a high/low pressure nozzle with 0° to 60° adjustable spray angle. CSA certified.

Style A is light duty. It has a rust-, corrosion-, and impact-resistant plastic housing.

Style B is heavy duty. It has a steel mounting plate with rubber feet.

(C) Cart Style—This self-contained pressure washer is made of rust-, corrosion-, and impact-resistant plastic to protect the pump and motor. Cart has two wheels to provide mobility plus convenient storage areas for hoses and a 1-gal. soap container (not included). Comes with a high/low pressure nozzle with 0° to 60° adjustable spray angle.

(D) Wall-Mount Style—To save valuable floor space and provide a permanent location for cleaning in your plant, mount these stainless steel pressure washers on a wall. They require 31″ Ht.×28″ Wd.×22″ Dp. of space and come with brackets with eight ½″ dia. mounting holes (fasteners not included). Ideal for food-processing plants.

Both pressure washers include 0°, 15°, 25°, and 40° spray angle high-pressure nozzles and a low-pressure soap nozzle. All nozzles are quick-disconnect.

Also Available: Replacement parts. Please ask for part number listed below and specify nozzle, pressure washer hose, trigger gun, wand, valve repair kit, or seal repair kit.

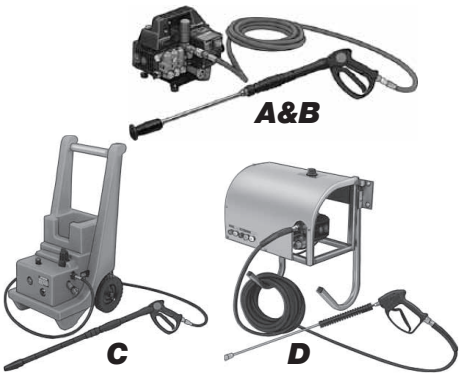

Max. Continuous Usage, hrs.	Max. psi	gpm	hp	Max. Inlet Water Temp.	O'all Size, Ht.×Wd.×Dp.	Volts @ 60 Hz	Amps	Power Cord Lg.	Pressure Hose Lg.	Siphon Hose Lg.	Pressure Washers Each	Replacement Parts
(A) Light Duty Carry Style												
4	1,400	1.5	1.5	100°F	10″ ×11″ ×14″	120 VAC	13.5	35 ft.	25 ft.	4 ft.	**3114K71** $502.75	**3114K96**
(B) Heavy Duty Carry Style												
8	1,500	2	2	125°F	14″ ×11½″×20″	120 VAC	17	35 ft.	25 ft.	4 ft.	**3114K73** 964.94	**3114K97**
(C) Cart Style												
4	1,000	2	1.5	140°F	36″ ×16″ ×21″	120 VAC	15	35 ft.	25 ft.	4 ft.	**3375K54** 1,012.56	**3375K11**
(D) Wall-Mount Style												
8	1,000	2.2	1.5	160°F	31″ ×23″ ×16″	120 VAC	15	35 ft.	50 ft.	10 ft.	**3279K64** 1,648.33	**3279K27**
8	2,000	4	5	160°F	30″ ×28″ ×22″	208/230 VAC	15	10 ft.	50 ft.	10 ft.	**3279K67**★ 2,631.67	**3279K28**

★ Pressure washer has a three-phase motor. Plug sold separately, see pages 816-822.

Gasoline-Powered Pressure Washers

With more cleaning power than our electric washers and no power cord to tie you down, these washers are perfect for heavy duty outdoor jobs. All have a Honda engine with pull-cord starter, 3-ft. wand with trigger gun, low-pressure soap nozzle, heavy duty steel frame, and two pneumatic wheels.

2,500-psi Model—Has fixed pressure and 15° and 25° spray angle high-pressure quick-disconnect nozzles.

2,700-psi Model—Has fixed pressure and 0°, 15°, 25°, and 40° spray angle high-pressure quick-disconnect nozzles.

3,500-psi Model—Has 0°, 15°, 25°, and 40° spray angle high-pressure quick-disconnect nozzles. Also has a steel roll cage for extra protection.

Also Available: Replacement parts. Please ask for part number listed below and specify nozzle, pressure washer hose, trigger gun, wand, valve repair kit, or seal repair kit.



Max. Continuous Usage, hrs.	Max. psi	gpm	hp	Max. Inlet Water Temp.	O'all Size, Ht.×Wd.×Dp.	Gas Tank Cap., gal.	Pressure Hose Lg.	Siphon Hose Lg.	Pressure Washers Each	Replacement Parts
2	2,500	2.3	5	125°F	24½″×21″×37″	0.5	25 ft.	4 ft.	**3209K3** $678.57	**3209K41**
8	2,700	2.5	6.5	140°F	24″ ×21″×35″	0.82	50 ft.	6 ft.	**3138K21** 1,285.00	**3138K44**
8	3,500	3.7	13	140°F	30″ ×26″×42″	1.7	50 ft.	6 ft.	**3138K26** 2,425.09	**3138K48**

Hot-Water Pressure Washers

Great for sanitizing jobs, all of these washers have a burner system that heats water up to 180°F to blast away your toughest grease, oil, dirt, and grime. The burner system has a corrosion-resistant, plastic fuel tank that uses fuel oil, #2 diesel fuel, or kerosene. An on/off heater switch lets you switch between hot and cold water. Washers come with a 3-ft. wand with trigger gun, one low-pressure soap nozzle, and 0°, 15°, 25°, and 40° spray angle high-pressure quick-disconnect nozzles. All have a heavy duty steel frame. For use in well-ventilated areas.

(E) Electric-Powered/Fuel-Heated—These pressure washers run quieter than gas models. Both include a 36-ft. long power cord with three-prong plug and ground fault circuit interrupter (GFCI), and four pneumatic wheels.

(F) Gasoline-Powered/Fuel-Heated—This pressure washer doesn't require an outlet, so it's easier to move around. A Honda engine with pull-cord starter supplies power to the pump and runs the burner system that heats the water. Includes an adjustable thermostat for applications that require lower-temperature hot water, an hour meter for preventative maintenance, a 1.4-gal. capacity gas tank for the engine, a low-oil shut-off feature, and four pneumatic wheels.

Also Available: Replacement parts. Please ask for part number listed below and specify nozzle, pressure washer hose, trigger gun, wand, or seal repair kit.

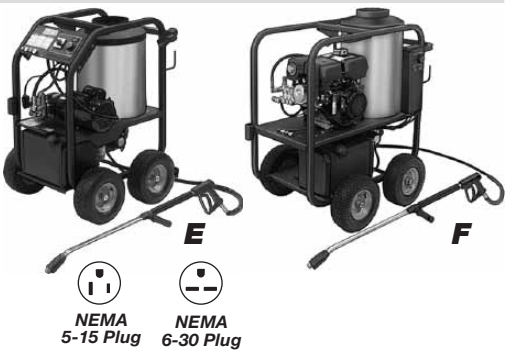

Max. Continuous Usage, hrs.	Max. psi	gpm	hp	Max. Inlet Water Temp.	O'all Size, Ht.×Wd.×Dp.	Fuel Tank Cap., gal.	Volts @ 60 Hz	Amps	NEMA Plug Style	Pressure Hose Lg.	Siphon Hose Lg.	Pressure Washers Each	Replacement Parts
(E) Electric-Powered/Fuel-Heated													
8	1,000	2	1.5	180°F	44″×27″×39″	6	120 VAC	15	5-15	50 ft.	6 ft.	**3801K65** $3,291.69	**3801K56**
8	2,000	3.5	5.0	180°F	44″×27″×39″	6	230 VAC	22	6-30	50 ft.	6 ft.	**3801K67** 3,796.22	**3801K56**
(F) Gasoline-Powered/Fuel-Heated													
8	3,000	2.6	9.0	140°F	44″×28″×46″	6	———	—	———	50 ft.	6 ft.	**32025K28** 4,610.48	**32025K71**

Steam Cleaner and Pressure-Washer Cleaner/Degreaser

Cuts quickly through grease, oil, and heavy dirt on hard, nonporous surfaces, then rinses clean without leaving a residue. Cleaner is water based and has built-in corrosion inhibitors.

		Each
5 gal.	3219K21	$77.37
55 gal.	3219K23	588.14

Pressure-Washer Replacement Hose

Hose is made of wire-reinforced rubber and has plated-steel fittings with 3/8" NPT thread connections (rigid male on one end; swivel male on the other end). Hose diameter is 3/8".

Standard hose is black. ***Nonmarring*** hose is blue.

Hose Lg.	Max. Pressure	Max. Temp.	*Standard*	Each	*Nonmarring*	Each
30 ft.	3,000 psi	200° F	53115K61	$109.00	53115K81	$97.32
50 ft.	3,000 psi	200° F	53115K62	170.80	53115K82	181.45
100 ft.	3,000 psi	200° F	53115K63	266.30	53115K83	263.44

Pressure-Washer Extension Wand



To clean hard-to-reach areas, attach this wand to your pressure washer, extend it to your desired height, and lock it in place. Wand has a 3/8" female quick-disconnect connection to fit most pressure washers and a 1/4" female quick-disconnect nozzle connection. It is made of aluminum and has a fiberglass handle with trigger spray gun. Maximum pressure rating is 3,000 psi. For nozzle (not included), see 31905K on page 2114.

Retracted Lg.	Extended Lg.	Each
6 ft.	18 ft.	32075K84 $163.83

Water Broom



Attach this broom to a garden hose to sweep away dirt and dust—its brass water jets turn your hose water into pressurized water for quick, easy cleaning. Also has a brass ball valve with shut-off lever, two swivel casters, and a 3/4" garden hose thread (GHT) female connection. Broom is 36" wide with a 48" handle. Maximum temperature is 100° F. Made of steel.

Max. Flow	Max. Pressure	Each
3 gpm	180 psi	7041T11 $249.79

Steam Cleaning Systems

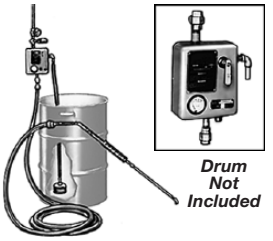

Connect these systems to existing 60- to 125-psi steam lines to remove dirt, grease, and heavy oils from most surfaces in your plant. No electrical connections required—connect to a 3/4" NPT female steam outlet with a maximum steam temperature of 350° F and siphon detergent from a drum (not included).

Both steam cleaning systems have an 8 1/2" Ht. × 7" Wd. × 3 1/2" Dp. steel control panel with pressure gauge. Use the control panel to regulate the steam/detergent mixture and change the temperature and velocity of the solution being discharged. Discharge capacity is 2 to 3.2 gpm.

Systems come with a steam gun with 45" steel wand and swivel handle, two spray nozzles, a 1/2" dia. wire-reinforced rubber steam hose, and a 5-ft. detergent siphon hose. *Note:* The steam gun must be within inches of your surface for effective cleaning.

		Each
Steam Cleaning System with 25-ft. Hose	3157K2	$1,608.39
Steam Cleaning System with 50-ft. Hose	3157K4	1,729.95

Steam Guns for Inline Steam Systems



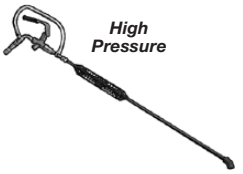

Standard Pressure— Guns have a 3-ft. stainless steel wand with plastic trigger handle, a brass nozzle with 40° flat spray angle, a 1/2" dia. wire-reinforced rubber steam hose, two hose clamps, and two barbed hose fittings.

High Pressure— The choice for heavy duty cleaning, these guns have a 3-ft. steel wand with zinc-plated steel lever handle, stainless steel valve, a 45° angled nozzle holder (nozzle not included; sold separately), and 1/2" NPT female inlet connections.

	Max. Pressure	Max. Temp.		Each
Standard Pressure				
With 25-ft. Hose	250 psi	320° F	35195K42	$664.27
With 50-ft. Hose	250 psi	320° F	35195K44	818.82
High Pressure				
With Rigid Handle	1,500 psi	450° F	9450T55	560.00
With Swivel Handle	1,500 psi	450° F	9450T56	823.33
Nozzle for High-Pressure Guns			9450T57 **Each**	$101.82

High-Pressure Wash Guns





Add one of these guns to your pressure washer or high-pressure spray system. All guns have a front trigger, impact-resistant nylon housing, high-pressure 25° angle spray nozzle, and a trigger guard that protects the trigger from damage.

(A-C) Wash Guns with Front Inlet Connection— All guns have a trigger lock that prevents accidental discharge. *Styles A* and *B* have an internal brass valve body. *Style C* has an internal stainless steel valve body for added durability and corrosion resistance.

(D&E) Wash Guns with Rear Inlet Connection— Have an internal brass valve body. *Style E* has a brass swivel inlet connector for easier gun handling and to prevent hose from kinking.

Maintenance Kits— Include replacements for parts prone to wear.

Optional Extensions— Get into those hard-to-reach areas with these 18" and 36" long extensions. Extensions are nickel-plated steel and include a 25° angle spray nozzle.

Optional Swivel Inlet Connectors— Provide easier gun handling and prevent hose from kinking. Connectors are brass.

Replacement Spray Nozzles— For use with wash guns. Nozzles will not fit optional extensions.

Wash Guns and Maintenance Kits

	Max. Flow	Max. Pressure	Max. Temp.	Connections Inlet	Connections Outlet	*Wash Guns*	Each	*Maintenance Kits*	Each
A	5 gpm	1,500 psi	200° F	1/4" NPT Female	11/16"-16 UN■ Male	3364K71	$59.43	3364K75	$19.64
B	6 gpm	2,500 psi	300° F	3/8" NPT Female	11/16"-16 UN■ Male	3364K72	79.20	3364K76	37.31
C	6 gpm	2,500 psi	300° F	3/8" NPT Female	11/16"-16 UN■ Male	3602K84	208.27	3602K85	41.07
D	10 gpm	1,500 psi	300° F	3/8" NPT Female	1/4" NPT Female	34075K7	72.58	34075K12	28.28
E	10 gpm	4,000 psi	300° F	3/8" NPT Female	1/4" NPT Female	34075K8	238.18	34075K29	25.49

■ Unified National pipe thread.

Optional Accessories and Replacement Parts

For Gun			Each
A, B, C	Optional 18" Lg. Extension	3364K77	$46.75
A, B, C	Optional 36" Lg. Extension	3364K78	55.57
D, E	Optional 18" Lg. Extension	34075K3	48.66
D, E	Optional 36" Lg. Extension	34075K4	59.14

For Gun			Each
A	Optional Swivel Inlet Connector	3364K89	$35.53
B, C, D	Optional Swivel Inlet Connector	3364K91	62.19
A, B, C	Replacement Spray Nozzle	3364K85♦	18.79
D, E	Replacement Spray Nozzle	3234K6♣	8.73

♦ To Order: Please specify spray angle: 0°, 15°, or 25°. ♣ To Order: Pipe size is 1/4". Please specify spray angle: 0°, 15°, 25°, 40°, or 65°.

High-Flow Wash Guns

Use these wash guns for washdown, rinsing, and general cleanup. *Note:* These guns should not be connected to steam lines.

Swivel inlet connector provides easier gun handling and prevents hose from kinking.

Bronze body wash guns are the economical choice. *Aluminum body* wash guns are lightweight and durable. *Stainless steel body* wash guns are corrosion resistant and more durable than bronze and aluminum.

(A) Miniature— Half the weight of Style B models, these smaller guns have a rubber cover that protects you from exposure to high water temperatures and minimizes damage to the gun if dropped. Both have a 3/4″ ID barbed hose inlet connection.

(B) Standard— Have the same rubber cover design as the miniature guns. All have a 3/4″ ID barbed hose inlet connection, except the *25 gpm bronze* models, which have a 1/2″ NPT female inlet connection.

(C) Adjustable Flow— Change out the spray cap to switch the water flow. Trigger adjusts the spray from a solid stream to a broad cone. All have a rear trigger and a rubber cover to protect you from exposure to high water temperatures. Guns come with a 3/4″ garden hose thread (GHT) female swivel inlet connector with a ring to hold the trigger in place for continuous spraying. If connector is not used, inlet connection is 1/2″ NPT female.

(D) Insulated with Trigger Guard— Insulated handle keeps your hand cool, even when spraying hot solutions. Guns have a trigger guard to protect trigger from damage. Trigger changes the spray from solid stream to broad cone and can be locked into place. The *15.5 gpm* model has a 3/8″ NPT female connection. The *21 gpm* model has a 1/2″ NPT female connection and a safety sleeve to cover hot, exposed fittings.

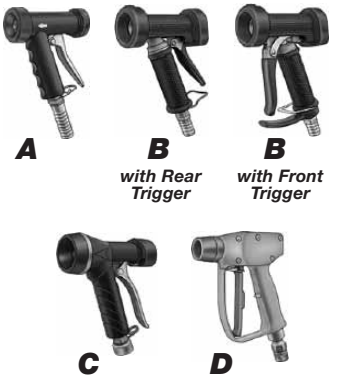

Maintenance Kits— Have replacements for parts that are prone to wear.

Gun Body Material	Max. Flow	Max. Pressure	Max. Temp.	Trigger Style	Swivel Inlet Connector (Material)	Wash Guns	Each	Maintenance Kits	Each
(A) Miniature									
Bronze	8.1 gpm	150 psi	200° F	Rear	Yes (Stainless Steel, Brass)	3673T11	$64.13	3673T14	$21.25
Stainless Steel	8.1 gpm	150 psi	200° F	Rear	Yes (Stainless Steel)	3673T12	106.69	3673T15	36.06
(B) Standard									
Bronze	12.5 gpm	150 psi	200° F	Rear	Yes (Stainless Steel, Brass)	6451T57	101.26	6451T59	24.55
Bronze	25 gpm	200 psi	200° F	Rear	Yes (Bronze)	6451T81	115.64	6451T93	36.38
Bronze	25 gpm	200 psi	200° F	Front	Yes (Bronze)	6451T82	120.00	6451T94	55.23
Aluminum	12.5 gpm	150 psi	200° F	Rear	Yes (Stainless Steel, Brass)	33505K67	109.13	6451T59	24.55
Stainless Steel	7 gpm	200 psi	180° F	Rear	No	3346K82	181.87	3346K91	45.52
Stainless Steel	7 gpm	200 psi	180° F	Front	No	3346K62	181.87	3346K92	28.84
Stainless Steel	12.5 gpm	150 psi	200° F	Rear	Yes (Stainless Steel)	33455K71	196.47	33455K78	42.08
Stainless Steel	15 gpm	200 psi	180° F	Rear	No	3346K84	187.16	3346K91	45.52
Stainless Steel	15 gpm	200 psi	180° F	Front	No	3346K64	187.16	3346K92	28.84
Stainless Steel	24 gpm	200 psi	200° F	Rear	No	3346K76	156.84	3346K95	45.08
Stainless Steel	24 gpm	200 psi	200° F	Front	No	3346K66	156.84	3346K96	34.23
(C) Adjustable Flow									
Aluminum	10 or 16 gpm	150 psi	200° F	Rear	Yes (Brass)	3589K43	195.50	3589K48	65.30
Aluminum	10, 16, or 22 gpm	150 psi	200° F	Rear	Yes (Brass)	3589K522	235.28	3589K48	65.30
Brass	10 or 16 gpm	150 psi	200° F	Rear	Yes (Brass)	3589K42	195.50	3589K48	65.30
Brass	10, 16, or 22 gpm	150 psi	200° F	Rear	Yes (Brass)	3589K521	235.28	3589K48	65.30
(D) Insulated with Trigger Guard									
Plastic	15.5 gpm	750 psi	180° F	Front	Yes (Stainless Steel)	31855K41	182.05	31855K48	30.77
Plastic	21 gpm	300 psi	180° F	Front	Yes (Stainless Steel)	31855K21	182.05	31855K47	21.15

Extended Reach Wash Guns with Trigger Guard

Access hard-to-reach areas with the brass extension. Guns have a trigger guard to protect trigger from damage. *Nylon body* wash guns are impact resistant and have a 1/4″ NPT female inlet connection. *Aluminum body* wash guns are lightweight and durable. They have a 1/4″ National Pipe Straight (NPS) thread male inlet connection.



Maintenance Kits— Have replacements for parts that are prone to wear.

Gun Body Material	Max. Flow	Max. Pressure	Max. Temp.	Trigger Style	Wash Guns	Each	Maintenance Kits	Each
Nylon with 18″ Extension	5 gpm	250 psi	200° F	Front	3237K65	$102.86	———	———
Nylon with 24″ Extension	5 gpm	250 psi	200° F	Front	3237K66	109.03	———	———
Aluminum with 18″ Extension	5 gpm	250 psi	200° F	Front	3237K55	106.13	3237K57	$21.39
Aluminum with 24″ Extension	5 gpm	250 psi	200° F	Front	3237K56	112.52	3237K57	21.39

Economy Wash Gun with Trigger Guard

Gun has a trigger lock to prevent accidental discharge, a trigger guard to protect trigger from damage, and a 25° angle spray nozzle. Has a 1/4″ NPT female inlet connection and an 11/16″-16 Unified National (UN) pipe thread male outlet connection.



Maintenance Kits— Have replacements for parts that are prone to wear.

Gun Body Material	Max. Flow	Max. Pressure	Max. Temp.	Trigger Style	Wash Gun	Each	Maintenance Kits	Each
Plastic	5 gpm	150 psi	120° F	Front	6835T11	$58.70	6835T12	$18.01

Air- and Water-Powered Wash Guns

The powerful combination of air and water creates a high-velocity, atomized spray. These guns also can be used to siphon. All have a 1/4″ NPT female air inlet and 3/4″ garden hose thread (GHT) female connections.

Standard— Air and water controls adjust individually. Gun is brass and has a rubber body that flexes for flow control.

Extended Reach— The 12″ stainless steel nozzle gets to hard-to-reach places. Guns have a cast aluminum head assembly, an insulated handle, and a shut-off valve that lets you control water flow.

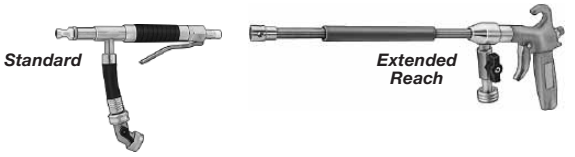

	Inlet Air, cfm @ psi	Max. Flow	Pressure Range	Max. Temp.		Each
Standard	12 @ 60	4 gpm	35-175 psi	200° F	5448K16	$143.80
Extended Reach	15 @ 100	0.36 gpm	0-120 psi	150° F	3306K86	137.43
Replacement 8-ft. Siphon Hose					5448K33	23.38

Wash Guns & Garden Hose Nozzles

Air-Powered Siphon Wash Guns

Guns can be used to clean as well as apply chemicals and solvents.

Squeeze-Grip Wash Guns



Squeeze the handle to spray. All have a rubber grip, and you can remove the 8-ft. siphon hose to operate in air-only mode. **To Order:** Please specify 1/4", 3/8", or 1/2" NPT female air inlet connection.

Styles A and ***B*** are made of nickel-plated brass with an oil-resistant rubber siphon hose. *Style A* has a straight extension. *Style B* has an angled extension.

Style C delivers more solvent than the other siphon wash guns. It is made of brass and has a heavy duty reinforced rubber siphon hose.

Inlet Air, cfm @ psi	Nozzle Lg.	Max. Flow	Pressure Range	Max. Temp.		Each
With Brass Nozzle						
A	11 @ 80	6 1/4"	0.16 gpm	35-175 psi	140° F	**5447K11**	$86.31
B	11 @ 80	9 5/8"	0.16 gpm	35-175 psi	140° F	**5447K12**	99.74
C	16 @ 80	2 1/4"	0.50 gpm	35-175 psi	140° F	**5447K13**	106.44
With Stainless Steel Nozzle						
A	11 @ 80	6 1/4"	0.16 gpm	35-175 psi	140° F	**5447K14**	103.06
B	11 @ 80	9 5/8"	0.16 gpm	35-175 psi	140° F	**5447K15**	117.62

Trigger-Grip Wash Gun



Pull the trigger to blast away dirt or to spray insecticides and coatings. Comes with a 12" brass and aluminum extension nozzle, 6-ft. plastic siphon hose, and 1/4" NPT female air inlet connection. Gun is aluminum. *Note:* Do not use in air-only mode.

Inlet Air, cfm @ psi	Max. Flow	Max. Pressure	Max. Temp.		Each
9 @ 100	0.26 gpm	150 psi	♣	**31125K61**	$66.43

♣ For cold water use. Not temperature rated.

Wash/Foam Guns with Dispenser



Wash Gun

Connect these guns to your garden hose and automatically dispense solution without dragging around a siphon hose. The nozzle has a 3/4" garden hose thread (GHT) female connection and insulated handle. Use the attachment to adjust the spray pattern from mist to solid stream. Both have a brass mixing head and 1-qt. plastic bottle.

Wash Gun— The rinse lever allows you to instantly change from using the wash solution to rinsing with clean water. Set to mix 2 oz. of cleaner per gallon of water.

Foam Gun— Creates a thick foam. Gun mixes up to 12 oz. of foaming chemicals per gallon of water.

	Max. Flow	Pressure Range	Max. Temp.		Each
Wash Gun	3 gpm	40-90 psi	160° F	**3154K11**	$51.64
Foam Gun	1.5 gpm	40-90 psi	160° F	**3239K12**	67.02

Underwater Vacuum



Easily remove muck, debris, and sediment (even small pebbles and leaves) from underwater surfaces. This vacuum uses water pressure from your garden hose (not included) to create suction for vacuuming. Debris enters through the handle and exits through the discharge hose.

Vacuum has a 3/4" garden hose thread (GHT) female connection and requires a minimum pressure of 50 psi. Comes with a 1 1/4" Dia. × 10 ft. Lg. plastic discharge hose, 36"-72" long aluminum telescoping handle, on/off switch, brush, and hose adapter to connect additional discharge hose.

		Each
Vacuum	**7153T11**	$127.08
Repl. Discharge Hose	**7153T12**	16.67

Garden Hose Nozzles

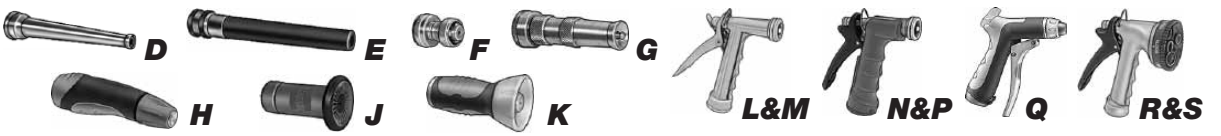

All nozzles have 3/4" garden hose thread (GHT) female connections and include washers.

(D&E) Continuous-Flow Nozzles

These nozzles provide a constant, fixed stream of water.

D Full Force— Made of brass. Use if a shut-off valve isn't needed.

Nozzle Lg.	Max. Flow	Max. Pressure	Max. Temp.		Each
2"	4.5 gpm	100 psi	195° F	**7678T1**	$3.41
6"	4.5 gpm	100 psi	195° F	**7678T2**	16.13

E Water Saver— Squeeze the nozzle end to start water flow; release the nozzle to stop flow. Neoprene nozzles are chemical resistant.

Standard-flow nozzles provide full water flow.

Jet-flow nozzles offer a concentrated stream while using less water.

Nozzle Lg.	Max. Flow	Max. Pressure	Max. Temp.	Nozzle Material		Each
Standard Flow						
8 7/8"	6.5 gpm	125 psi	150° F	Rubber	**3880T21**	$30.24
8 7/8"	7 gpm	125 psi	150° F	Neoprene	**3880T24**	39.44
Jet Flow						
8 7/8"	4.5 gpm	80 psi	150° F	Rubber	**3880T22**	31.63
8 7/8"	5 gpm	125 psi	150° F	Neoprene	**3880T25**	43.47

(F-K) Adjustable-Flow Nozzles

Twist the barrel to adjust spray pattern from mist to full stream.

F Mini— Solid brass body with integrated rubber washer.

G Standard— Have a solid brass body that's rugged and reliable.

H Insulated— Has a die cast zinc body with a brass tip and an insulated thermoplastic rubber cover.

J&K With Protective Guard— *Style J* has a plastic body and a protective plastic guard at the nozzle end. *Style K* has a plastic body with a zinc coupling and an insulated rubber handle. It also has a protective rubber guard at the nozzle end.

	Nozzle Lg.	Max. Flow	Max. Pressure	Max. Temp.		Each
F	1 3/4"	5.5 gpm	400 psi	175° F	**7261T12**	$10.56
G	4"	12 gpm	150 psi	200° F	**7484T1**	10.60
G	6"	12 gpm	150 psi	200° F	**7484T5**	21.71
H	6 3/8"	10 gpm	200 psi	100° F	**7484T8**	10.12
J	4 3/4"	8 gpm	100 psi	♣	**7641T34**	11.56
K	5"	10 gpm	60 psi	♣	**7641T44**	11.78

♣ For cold water use. Not temperature rated.

(L-S) Lever-Activated Nozzles

The squeeze lever controls both the flow and the spray pattern, unless otherwise indicated. All have a locking clip to hold nozzle open for continuous spraying.

L Economy— Body is die cast zinc. Has a 3/4" garden hose thread (GHT) male connection at the spray end for attaching hose-end accessories.

M Marine Grade— Specially designed for use around salt water, this nozzle has an impact-resistant plastic body and a stainless steel internal spring for corrosion resistance. Has a 3/4" garden hose thread (GHT) male connection at the spray end for attaching hose-end accessories.

N&P Insulated— Grip is insulated to protect your hands from extreme water temperatures. Body is die cast zinc. Has a 3/4" garden hose thread (GHT) male connection at the spray end for attaching hose-end accessories.

Style N has a plastic molded contour grip.

Style P has a cushioned vinyl molded contour grip. It includes a protective thread cover. Water flow is controlled by the lever; spray pattern is controlled by the brass nozzle.

Q Insulated with Adjustable Spray Pattern— Simply twist the spray head to adjust the spray pattern. Body is plastic, and tip is aluminum. Nozzle has a metal coupling and an insulated nylon handle.

R&S Dial Select— Turn the dial to select a spray pattern. Both nozzles have a five-position dial with seven spray patterns: shower, jet, cone, mist, stream, full, and flood. Body is die cast zinc.

Style S has a cushioned vinyl grip to protect hands from extreme water temperatures.

	Max. Flow	Max. Pressure	Max. Temp.		Each
L	8.8 gpm	100 psi	140° F	**7445T12**	$4.76
M	7 gpm	60 psi	100° F	**7488T17**	5.60
N	8.8 gpm	100 psi	140° F	**7239T11**	8.70
P	6 gpm	120 psi	160° F	**7433T53**	11.09
Q	4 gpm	60 psi	100° F	**7557T71**	6.36
R	8.8 gpm	100 psi	100° F	**7447T11**	12.65
S	8.8 gpm	100 psi	150° F	**7447T12**	13.78

Garden Hose



Hose has a smooth interior and threaded fittings on each end (one male and one female). Fittings are brass, unless noted, and include a washer. They have 3/4″ garden hose threads (GHT) except the 1″ ID hose, which has 1″ National Pipe Straight Hose (NPSH) threads. Suitable for outdoor use.

Economical Hose—Made of lightweight, nonmarring PVC. Color is green.

Flexible Hose—Blends the flexibility of PVC with the durability and abrasion resistance of rubber. It is lightweight and nonmarring. Color is green, unless noted.

Weather-Resistant Hose—Offering excellent UV and ozone resistance, this EPDM rubber hose is a good fit for outdoor applications. Color is black.

Continuous-Flow Hose—Designed to ensure water keeps flowing even if the hose kinks. Hose is PVC and has brass-plated aluminum threaded fittings on each end. Color is black with a yellow stripe.

Abrasion-Resistant Lightweight Hose—Lighter than rubber and more flexible than PVC, this polyurethane hose stands up to the wear and tear of daily use. Color is brown.

Hose for Hot Water—When your process requires hot water, reach for this rubber hose. Color is red.

Hose ID	Hose Lg.	Max. psi @ 72° F	Max. Temp.		
Economical Hose					
5/8″	5 ft.	90	110° F	7454T11	$9.64
5/8″	10 ft.	90	110° F	7454T12	12.00
5/8″	25 ft.	90	110° F	7454T15	12.33
5/8″	50 ft.	90	110° F	7454T16	19.23
5/8″	75 ft.	90	110° F	7454T17	27.25
5/8″	100 ft.	90	110° F	7454T18	37.09
3/4″	5 ft.	90	110° F	7454T13	12.46
3/4″	10 ft.	90	110° F	7454T19	16.99
3/4″	25 ft.	90	110° F	7454T21	30.64
3/4″	50 ft.	90	110° F	7454T22	37.88
3/4″	75 ft.	90	110° F	7454T23	66.32
3/4″	100 ft.	90	110° F	7454T24	82.92
Flexible Hose					
5/8″	5 ft.	125	110° F	7110T18	11.14
5/8″	10 ft.	125	110° F	7110T19	15.26
5/8″	50 ft.	100	120° F	7110T24	28.58
5/8″	75 ft.	100	120° F	7110T25	39.57
5/8″	100 ft.	100	120° F	7110T26	50.52
3/4″	5 ft.	125	110° F	7110T29	13.73
3/4″	10 ft.	125	110° F	7110T31	19.55
3/4″	25 ft.	100	100° F	7110T14★	19.60
3/4″	50 ft.	100	100° F	7110T16★	45.73
3/4″	75 ft.	100	100° F	7110T17★	56.40
3/4″	100 ft.	100	100° F	7110T15★	71.17
Weather-Resistant Hose					
5/8″	5 ft.	125	160° F	7453T3	12.36
5/8″	10 ft.	125	160° F	7453T4	17.45
5/8″	25 ft.	125	160° F	7453T14■	22.87
Weather-Resistant Hose (Cont.)					
5/8″	50 ft.	125	160° F	7453T15■	$35.62
5/8″	75 ft.	125	160° F	7453T19■	54.29
5/8″	100 ft.	125	160° F	7453T2■	78.34
3/4″	5 ft.	125	160° F	7453T12	13.89
3/4″	10 ft.	125	160° F	7453T13	19.72
3/4″	25 ft.	150	160° F	7453T17	28.28
3/4″	50 ft.	150	160° F	7453T18	51.38
3/4″	75 ft.	150	160° F	7453T21	71.81
3/4″	100 ft.	150	160° F	7453T22	91.81
1″	50 ft.	150	190° F	72195T36	122.32
Continuous-Flow Hose					
5/8″	50 ft.	125	100° F	6758T11	37.36
5/8″	75 ft.	125	100° F	6758T13	50.77
5/8″	100 ft.	125	100° F	6758T15	65.49
Abrasion-Resistant Lightweight Hose					
1/2″	50 ft.	100	110° F	6345T11	92.72
1/2″	75 ft.	100	110° F	6345T21	109.20
5/8″	50 ft.	100	110° F	6345T12	128.87
5/8″	75 ft.	100	110° F	6345T22	143.53
Hose for Hot Water					
5/8″	5 ft.	125	180° F	6285T24	14.61
5/8″	10 ft.	125	180° F	6285T25	21.38
5/8″	25 ft.	167	180° F	6285T26	26.10
5/8″	50 ft.	167	180° F	6285T27	38.20
3/4″	5 ft.	125	180° F	6285T28	16.00
3/4″	10 ft.	125	180° F	6285T29	23.30
3/4″	25 ft.	125	180° F	6285T33	45.20
3/4″	50 ft.	125	200° F	6285T31■	60.04

★Color is red. ■ Has anodized aluminum threaded fittings.

Retracting Garden Hose



Let go of this hose and it retracts back to its original coiled form. Hose is polyurethane with a smooth interior and threaded fittings on each end (one male and one female). Fittings are nickel-plated brass and have 3/4″ garden hose threads (GHT). Female fitting includes a washer. Hose coil is 4 1/8″ dia. Color is yellow.

Hose ID	Extended Hose Lg.	Retracted Hose Lg.	Max. psi @ 72° F	Max. Temp.		
3/8″	25 ft.	15″	135	165° F	7118T4	$61.20
3/8″	50 ft.	30″	135	165° F	7118T6	93.47

Manual-Winding Reels with Garden Hose



Turn the hand crank to rewind the hose. Reel is enclosed to protect your hose when it's not in use. The included nozzle cannot be used with other reels or hose.

Hose is lightweight, nonmarring PVC. It is orange and has a smooth interior. Hose has a plastic male outlet nozzle and a 60″ inlet hose. Inlet hose has a plastic female fitting with 3/4″ garden hose threads (GHT) and a washer. Not rated for temperature.

Reel is black ABS and has a carrying handle. Wall-mount bracket has three 5/32″ dia. mounting holes (fasteners not included).

Reel Ht.	Reel Wd.	Reel Dp.	Hose ID	Hose Lg.	Max. psi @ 72° F		
14″	13 1/4″	4″	1/2″	50 ft.	75	7671T1	$59.56

Automatic-Winding Reels with Garden Hose



Pull the hose out slowly and it catches so you only unwind the length you need. Give it a quick tug and the hose rewinds. Reel is enclosed to protect your hose when it's not in use.

Hose is lightweight, nonmarring PVC. It is white and has a smooth interior. Hose outlet has a zinc-plated brass male threaded fitting. Inlet hose is 60″ and has a brass female easy-install threaded fitting. Fittings have 3/4″ garden hose threads (GHT). The *easy-install female threaded fitting* swivels 360° until tightened and has a washer. Temperature range is 40° to 140° F.

Reel is gray polypropylene and has a carrying handle. The wall-mount bracket allows the reel to swivel and has four 9/32″ dia. mounting holes (fasteners not included).

Reel Ht.	Reel Wd.	Reel Dp.	Hose ID	Hose Lg.	Max. psi @ 72° F		
18 1/2″	11″	19 1/2″	5/8″	50 ft.	140	7138T12	$180.82

Garden Hose Holders & Fittings

For faucets with garden hose threads, see page 490.

Garden Hose Holders and Reels

(A-C) Garden Hose Holders


A


B


C

Drape your hose over these holders to keep it out of your way. Hose capacity is based on 5/8″ ID hose (not included).

(A) Wall-Mount Steel Holder—An economical choice. Has two 1/2″ dia. mounting holes (fasteners not included). Color is green.

(B) Wall-Mount Heavy Duty Stainless Steel Holder—Made of stainless steel for corrosion resistance. Has two 5/16″ dia. mounting holes (fasteners included).

(C) Wall-Mount High-Capacity Stainless Steel Holder—As corrosion resistant as Style B, but this model holds more hose and can tilt and swivel for easier hose removal. Has two 5/16″ dia. mounting holes (fasteners included).

	Ht. × Wd. × Dp.	Hose Cap.		
A	8 1/4″ × 9 1/4″ × 8″	100 ft.	53325K35	$6.60
B	8 1/2″ × 8″ × 8″	150 ft.	53325K33	33.37
C	13″ × 5″ × 5″	200 ft.	53325K36	71.46

(D-G) Garden Hose Reels


D


E&F


G

Wind your garden hose around these reels to keep it neat and organized. Reels include a faucet-connection hose that has a 3/4″ GHT connector with washer to attach directly to your water source.

(D) Wall-Mount Plastic Reel—This reel includes a hose guide, storage tray, mounting fasteners, and a 36″ long, 5/8″ ID faucet-connection hose. Hose winds perpendicular to the wall. Color is dark brown.

(E) Wall-Mount Steel Reel—Reel comes with a 60″ long, 5/8″ ID faucet-connection hose. Hose winds perpendicular to the wall. Reel has eight 1/2″ dia. mounting holes (fasteners not included). Color is tan.

(F) Wall-Mount Stainless Steel Reel—The same as the wall-mount steel reel, but more corrosion resistant.

(G) Mobile Steel Reel—Take your garden hose wherever you need it—this reel has four pneumatic tires for mobility. Includes 60″ long, 5/8″ ID faucet-connection hose. Color is tan.

	Ht.	Wd.	Dp.	For Hose Lg.		
D	19″	22 1/2″	20 1/2″	175 ft.	63165T37	$54.36
E	18″	17 1/2″	16 1/2″	200 ft.	7079T18	109.52
F	18″	17 1/2″	16 1/2″	200 ft.	7079T28	227.27
G	34 3/4″	24″	32 1/4″	300 ft.	75225T31	186.76

Garden Hose/Faucet Fittings

Garden Hose Shut-Off Valves



Save trips to the faucet to shut off the water by attaching these fittings to the end of your garden hose. Valves have 3/4″ garden hose thread (GHT) connections on each end (one male and one female) and include washers.

Material	Max. Pressure	Max. Temp.		
Plastic	60 psi	100° F	7082T24	$2.54
Zinc	125 psi	♣	7082T14	3.18
Brass	60 psi	100° F	7082T34	7.40

♣ For cold water use. Not temperature rated.

Garden Hose Multi-Faucet Fittings with Shut-Off Valves


Two-Outlet Brass Fitting

Convert one faucet into two or four convenient outlets. Each outlet has individually operated shut-off valves.

Fittings have 3/4″ garden hose thread (GHT) male and female connections. Washers are included.

Material	Max. Pressure	Max. Temp.		
Two Outlets				
Plastic	60 psi	100° F	6308T12	$3.26
Zinc	60 psi	100° F	6308T13	5.17
Brass	60 psi	100° F	7459T11	10.79
Four Outlets				
Brass	60 psi	100° F	7459T21	22.71

Garden Hose Savers


Flexible Connector


Gooseneck Swivel

Connect these fittings between your hose and faucet to extend the life of your garden hose and eliminate kinks. Connections are 3/4″ garden hose thread (GHT) on each end (one male and one female). Washers are included.

Flexible Connector—Has a reinforced-vinyl connector hose, brass ends with a female plastic coupling, and a flexible steel outer liner.

Gooseneck Swivel—Has a solid brass fitting that swivels 360° to prevent the hose from kinking at the faucet. Fitting has a shut-off valve.

	Lg.		
Flexible Connector	6 1/4″	6221T11	$7.43
Gooseneck Swivel	3″	73935T74	8.89

Quick-Disconnect Garden Hose Couplings


Brass


Plastic

Couplings consist of a quick-disconnect male plug and a quick-disconnect female socket. They have 3/4″ GHT threads.

Open-flow couplings do not have a shut-off valve to stop the flow when the coupling is disconnected.

Single-shut-off style couplings have a valve in the socket, but not the plug. *Single-shut-off style plastic coupling* includes an extra male plug.

Brass couplings have good corrosion resistance. **Plastic** couplings are lightweight and economical.

Open-Flow Brass Coupling	71095T9	$10.72
Single-Shut-Off Style Brass Coupling	71095T11	10.59
Single-Shut-Off Style Plastic Coupling	7470T25	5.25

Garden Hose End Caps


End Cap

End Cap with Chain

These caps have 3/4″ GHT female connections. Both caps include a washer.

End cap is brass.

End cap with chain is zinc and includes a 12″ chain with 1/4″ dia. mounting hole (fastener not included).

End Cap (2/Pkg.)	63745T92	$3.98
End Cap with Chain	63745T94	4.27

Garden Hose Fitting Washers


Washer with Screen

Washers are rubber and fit any 1/2″, 5/8″, or 3/4″ ID garden hose that has a 3/4″ thread size.

	OD	ID	Thick.	Pkg. Qty.		Pkg.
Washer	1″	5/8″	1/8″	10	62215T78	$1.37
Washer with Screen	1″	9/16″	1/8″	3	62215T88	1.80

Barbed Garden Hose Fittings with Threaded End

Also known as hose menders, these can be used to replace damaged or worn hose fittings. Cut off the current fitting and secure a new, compatible fitting to the hose. All have 3/4" garden hose threads (GHT). The screw-on clamp fittings and gripper fittings include a washer.

Screw-On Clamp Fittings

Fittings have an internal barb. Clamp to your hose and tighten with included screws. They provide a more secure hold than clamp fittings. **Nylon** fittings are lightweight with excellent impact and abrasion resistance. **Zinc** fittings have good corrosion resistance.


Male Female

	For 1/2" Hose		For 5/8"-3/4" Hose	
Nylon				
Male	6222T23	$1.80	6222T13	$1.80
Female	6222T24	2.20	6222T14	2.00
Zinc				
Male			6222T33	6.55
Female			6222T34	7.37

Clamp Fittings

Barbed shanks grip the hose; use worm-drive hose clamps to secure the hose to the fitting. Made of brass. The male/female set includes one male and one female coupling.


Male Female

	For 1/2" ID Hose		For 5/8" ID Hose		For 3/4" ID Hose	
Male	7461T54	$4.15	7461T55	$4.07	7461T56	$3.51
Female	7461T44	5.21	7461T45	4.94	7461T46	6.16
Male/Female Set	7461T72	6.87	7461T73	6.60	7461T74	6.86

	Pkg. Qty.	Pkg.	
Hose Clamps for 1/2" ID Hose	10	5416K11	$9.55
Hose Clamps for 5/8" and 3/4" ID Hose	10	5416K33	9.55

Gripper Fittings

Crimp the steel gripping tabs to your hose with pliers. Made of brass.


Male Female

	For 1/2" ID Hose		For 5/8" ID Hose		For 3/4" ID Hose	
Male	7462T21	$3.97	7462T22	$3.97	7462T23	$3.97
Female	7462T31	4.33	7462T32	4.33	7462T33	4.33

Barbed Garden Hose Connectors


Screw-On Clamp Gripper Barbed

Also known as hose menders and splicers, these fittings can be used to repair damaged hose. Cut out the damaged section of hose and join the two remaining pieces by securing them to each end of the fitting.

Screw-On Clamp Connectors—Connectors have an internal barb. Clamp to your hose end and tighten with the included screws. They provide a more secure hold than gripper connectors.

Gripper Connectors—Crimp the steel gripping tabs to your hose with pliers.

Barbed Connectors—Barbed shanks grip the hose while hose clamps (required and sold separately) secure the hose to the connector. **Hose clamps** are worm-drive style and made of 301 stainless steel.

Material	For Hose ID	Pkg. Qty.		Each
Screw-On Clamp Connectors				
Nylon	5/8"-3/4"		6375T24	$2.71
Zinc	5/8"-3/4"		6375T28	10.18
Gripper Connectors				
Brass	5/8"		7463T22	4.45
Brass	3/4"		7463T23	5.00
Barbed Connectors				Pkg.
Brass	1/2"	5	91355K85	$10.40
Brass	5/8"	5	91355K86	11.90
Brass	3/4"	2	91355K87	7.38

	Pkg. Qty.	Pkg.	
Hose Clamps for 1/2" ID Hose	10	5416K11	$9.55
Hose Clamps for 5/8" and 3/4" ID Hose	10	5416K33	9.55

Garden Hose Fittings with Threaded Ends

All have 3/4" garden hose threads (GHT). Female hose ends include rubber seals.

Garden Hose-to-Garden Hose Connectors

Fittings are brass for good corrosion resistance.


Male Female

GHT	Max. Temp.	Pkg. Qty.		Pkg.
Male	195°F	2	72105T89	$9.31
Female	195°F	2	72105T88	10.75
Male/Female	195°F	1	72105T87	8.49

Threaded Garden Hose-to-Threaded Pipe Adapters


A B C D E F

Fittings that swivel until tightened are easy to install.

Brass fittings have good corrosion resistance and are softer and easier to thread than stainless steel fittings.

Stainless steel fittings have very good corrosion resistance.

	GHT	Pipe Size, NPT	Max. Temp.	Pkg. Qty.		Pkg.
Brass						
A	Female	1/8 Female	195°F	1	73605T64	$5.21
A	Female	1/4 Female	195°F	1	73605T65	5.43
A	Female	3/8 Female	195°F	1	73605T66	5.27
A	Female	1/2 Female	195°F	1	73605T82	5.38
A	Female	3/4 Female	195°F	1	73605T83	6.08
B	Female	3/8 Male	195°F	1	73605T67	4.22
B	Female	1/2 Male	195°F	1	73605T84	4.04
B	Female	3/4 Male	195°F	1	73605T49	4.12
C	Male	1/4 Female	195°F	2	73605T59	8.55
C	Male	3/8 Female	195°F	2	73605T61	9.11
C	Male	1/2 Female	195°F	2	73605T74	9.84
C	Male	3/4 Female	195°F	1	73605T93	4.46
D	Male	3/8 Male	195°F	2	73605T56	10.96
D	Male	1/2 Male	195°F	1	73605T87	3.26
D	Male	3/4 Male	195°F	1	73605T51	3.41
D	Male	1 Male	195°F	2	73605T98	14.68
Stainless Steel						
A	Female	1/2 Female	195°F	1	6224T11	26.71
A	Female	3/4 Female	195°F	1	6224T12	26.71
B	Female	1/2 Male	195°F	1	6224T13	26.71
B	Female	3/4 Male	195°F	1	6224T19	26.97
C	Male	1/2 Female	195°F	1	6224T15	14.81
C	Male	3/4 Female	195°F	1	6224T16	26.06
D	Male	1/2 Male	195°F	1	6224T17	19.29
D	Male	3/4 Male	195°F	1	6224T18	20.86
Brass—Swivels Until Tightened						
E	Female	1/2 Female	195°F	2	70815T43	8.33
E	Female	3/4 Female	195°F	2	70815T44	10.28
F	Female	1/4 Male	195°F	2	70815T41	8.43
F	Female	3/8 Male	195°F	2	70815T42	9.06
F	Female	1/2 Male	195°F	2	70815T45	8.17
F	Female	3/4 Male	195°F	2	70815T47	11.32
Stainless Steel—Swivels Until Tightened						
E	Female	1/2 Female	195°F	1	7476T51	39.95
E	Female	3/4 Female	195°F	1	7476T52	42.56
F	Female	1/2 Male	195°F	1	7476T53	44.94
F	Female	3/4 Male	195°F	1	7476T54	49.10

Threaded Garden Hose-to-Tube Adapters

Join hose to tube. Barbed shanks grip the tube; use worm-drive hose clamps (sold separately) to secure the tube to the fitting. Female fittings swivel until tightened for easy installation.


Male Female

For Tube ID	Max. Temp.	Male Pkg. Qty.	Male	Male Pkg.	Female Pkg. Qty.	Female	Female Pkg.
Brass							
3/8"	195°F	4	70705T71	$16.06	2	70705T73	$8.87
1/2"	195°F	4	70705T81	16.33	2	70705T63	9.29
5/8"	195°F	2	70705T82	9.05	2	70705T64	11.70
3/4"	195°F	2	70705T83	9.41	2	70705T65	13.57
1"	195°F	1	70705T72	10.29	1	70705T74	8.64
Stainless Steel							
1/2"	195°F	1	7712T84	31.44	1	7712T87	48.81
5/8"	195°F	1	7712T85	31.44	1	7712T88	53.29
3/4"	195°F	1	7712T86	32.86	1	7712T89	53.29

	Pkg. Qty.	Pkg.	
Hose Clamps for 3/8" Tube ID	10	5321K14	$7.20
Hose Clamps for 1/2" Tube ID	10	5416K11	9.55
Hose Clamps for 5/8" and 3/4" Tube ID	10	5416K33	9.55
Hose Clamps for 1" Tube ID	10	5416K14	9.72

Spray Nozzles

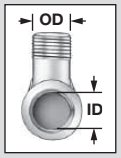

Please Read Before Ordering: Pipe size is the accepted industry designation, not the actual size. To determine pipe size, measure the inside diameter (ID) or outside diameter (OD), as shown at left. Then, round up to the closest fitting ID or OD listed in the chart and select the corresponding pipe size. For example, if your fitting ID or OD measures 1 3/16", the next highest ID or OD in the chart is 1 3/8", and its corresponding pipe size is 1".

Fitting ID or OD	3/8"	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	1 7/8"	2 3/8"
Pipe Size	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"

About Spray Nozzles

Spray nozzles are used for jobs such as cleaning, cooling, rinsing, controlling dust, applying coatings, humidification, pressure washing, and air drying. Use the chart at the top of the page to determine the proper pipe size.

Brass offers good corrosion resistance. ***Copper-nickel*** is more corrosion and rust resistant than brass. ***Stainless steel*** has better corrosion, abrasion, and chemical resistance than brass. It also has good internal abrasion resistance. ***PVC*** offers very good corrosion and chemical resistance. ***PVDF*** offers excellent chemical and corrosion resistance. ***PFA*** and ***PTFE*** are chemical resistant and the most corrosion-resistant materials we offer.

Spray Patterns



Flat | *Full Cone* | *Hollow Cone* | *Square* | *Solid Stream*

Spray Angles

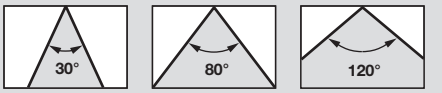

Flat Spray Nozzles

All nozzles produce a flat, thin spray pattern. Good for washing parts and jobs that involve products moving on a conveyor.

Flat Spray Nozzles



Flat



Great for general cleaning, washing asphalt and concrete, air drying, etching, foam control, and applying coatings. Maximum pressure is 1,000 psi. All have an NPT male connection.

Brass nozzles have a maximum temperature of 450° F. ***Type 303 stainless steel nozzles*** have a maximum temperature of 800° F.

To Order: For all nozzles, please specify spray angle: 30°, 50°, 65°, 80°, or 120°.

Pipe Size	Flow Rate, gpm 20 psi	40 psi	100 psi	1,000 psi	Orifice Dia.	O'all Wd. (Hex Size)	O'all Lg.	Brass	Each 1-9	Each 10-Up	Stainless Steel	Each 1-9	Each 10-Up
1/8"	0.3	0.5	0.7	2.5	0.05"	7/16"	7/8"	3404K73	$4.81	$4.30	3404K78	$11.95	$10.68
1/8"	0.5	0.8	1.2	4.0	0.07"	7/16"	7/8"	3404K11	4.81	4.30	3404K26	11.95	10.68
1/8"	0.7	1.0	1.5	5.0	0.08"	7/16"	7/8"	3404K74	4.81	4.30	3404K79	11.95	10.68
1/8"	1.4	2.0	3.1	10.0	0.10"	7/16"	7/8"	3404K12	4.81	4.30	3404K27	11.95	10.68
1/8"	2.1	3.0	4.7	15.0	0.14"	7/16"	7/8"	3404K13	4.81	4.30	3404K28	11.95	10.68
1/4"	0.3	0.5	0.7	2.5	0.05"	9/16"	1 1/16"	3404K75	5.14	4.63	3404K64	12.63	11.29
1/4"	1.0	1.5	2.3	7.5	0.09"	9/16"	1 1/16"	3404K14	5.14	4.63	3404K29	12.63	11.29
1/4"	2.1	3.0	4.7	15.0	0.14"	9/16"	1 1/16"	3404K15	5.14	4.63	3404K34	12.63	11.29
1/4"	2.8	4.0	6.3	20.0	0.15"	9/16"	1 1/16"	3404K16	5.14	4.63	3404K35	12.63	11.29
1/4"	3.5	5.0	7.9	25.0	0.17"	9/16"	1 1/16"	3404K17	5.14	4.63	3404K36	12.63	11.29
3/8"	2.8	4.0	6.3	20.0	0.15"	11/16"	1 1/4"	3404K18	5.19	4.62	3404K37	17.25	15.50
3/8"	4.9	7.0	11.1	35.0	0.20"	11/16"	1 1/4"	3404K19	5.19	4.62	3404K38	17.25	15.50
3/8"	7.0	10.0	15.8	50.0	0.25"	11/16"	1 1/4"	3404K76	5.19	4.62	3404K65	17.25	15.50
1/2"	4.2	6.0	9.4	30.0	0.18"	7/8"	1 1/2"	3404K77	6.91	6.20	3404K66	22.71	20.39
1/2"	5.6	8.0	12.6	40.0	0.21"	7/8"	1 1/2"	3404K43	6.91	6.20	3404K54	22.71	20.39
1/2"	7.0	10.0	15.8	50.0	0.25"	7/8"	1 1/2"	3404K24	6.91	6.20	3404K39	22.71	20.39
1/2"	8.4	12.0	19.0	60.0	0.26"	7/8"	1 1/2"	3404K44	6.91	6.20	3404K55	22.71	20.39
1/2"	10.6	15.0	23.7	75.0	0.29"	7/8"	1 1/2"	3404K45	6.91	6.20	3404K56	22.71	20.39
1/2"	14.1	20.0	31.6	100.0	0.34"	7/8"	1 1/2"	3404K46	6.91	6.20	3404K57	22.71	20.39
3/4"	21.2	30.0	47.4	150.0	0.42"	1 1/8"	1 3/4"	3404K47	16.46	14.71	3404K58	56.83	50.83
3/4"	28.3	40.0	63.2	200.0	0.50"	1 1/8"	1 3/4"	3404K25	16.46	14.71	3404K42	56.83	50.83
1"	28.3	40.0	63.2	200.0	0.50"	1 3/8"	2 3/16"	3404K48	33.69	30.31	3404K59	116.72	104.15
1"	53.0	75.0	119.0	375.0	0.68"	1 3/8"	2 3/16"	3404K49	33.69	30.31	3404K67	116.72	104.15

Wide-Angle Deflected Flat Spray Nozzles



Flat





An extra-wide spray angle is deflected 75°, producing a low-impact spray for maximum coverage. The angle makes these nozzles a good choice for rinsing and cooling jobs as well as for foam control and applying coatings. Maximum pressure is 60 psi. All have an NPT male connection.

Brass nozzles have a maximum temperature of 800° F. ***Type 303 stainless steel nozzles*** have a maximum temperature of 1400° F.

Pipe Size	Flow Rate, gpm 20 psi	40 psi	60 psi	Spray Angle	Orifice Dia.	O'all Wd. (Hex Size)	O'all Lg.	Brass	Each 1-9	Each 10-Up	Stainless Steel	Each 1-9	Each 10-Up
1/8"	0.1	0.1	0.1	120°	0.02"	7/16"	9/16"	30995K31	$4.66	$4.19	30995K21	$19.54	$17.59
1/8"	0.1	0.2	0.2	148°	0.03"	7/16"	13/16"	30995K32	4.66	4.19	30995K22	19.54	17.59
1/8"	0.7	1.0	1.2	132°	0.07"	7/16"	15/16"	30995K1	5.27	4.72	30995K11	20.67	18.45
1/8"	1.4	2.0	2.4	150°	0.11"	7/16"	15/16"	30995K3	5.27	4.72	30995K13	20.67	18.45
1/4"	2.1	3.0	3.7	144°	0.12"	9/16"	1 5/16"	30995K5	7.00	6.24	30995K15	25.05	22.39
1/4"	2.8	4.0	4.9	144°	0.15"	9/16"	1 5/16"	30995K7	7.00	6.24	30995K17	25.05	22.39
3/8"	4.2	6.0	7.3	138°	0.18"	11/16"	1 1/2"	30995K9	8.29	7.42	30995K19	29.33	26.37
3/8"	5.7	8.0	9.8	136°	0.20"	11/16"	1 1/2"	30995K33	8.29	7.42	30995K23	29.33	26.37
3/8"	6.4	9.0	11.0	144°	0.22"	11/16"	1 1/2"	30995K34	8.29	7.42	30995K24	29.33	26.37
1/2"	7.1	10.0	12.2	141°	0.24"	7/8"	1 11/16"	30995K35	9.07	8.11	30995K25	34.61	30.90
1/2"	9.9	14.0	17.1	130°	0.29"	7/8"	2"	30995K36	9.07	8.11	30995K26	34.61	30.90
3/4"	17.0	24.0	29.0	135°	0.37"	1 1/16"	2 3/8"	30995K37	14.57	12.99	30995K27	54.08	48.20
3/4"	25.0	36.0	44.0	136°	0.46"	1 1/2"	2 5/8"	30995K38	24.35	21.70	30995K28	88.83	79.82

(Continued on following page)

Flat Spray Nozzles *(Continued from previous page)*

High-Impact Deflected Flat Spray Nozzles

Spray is deflected off the face of the nozzle at a narrow angle to create the highest impact of all our flat spray nozzles. Use them for foam control and for washing vehicles, gravel, asphalt, and concrete. Spray angle is 50°. Maximum pressure is 500 psi. All have an NPT male connection.

Brass nozzles have a maximum temperature of 450° F. ***Type 303 stainless steel nozzles*** have a maximum temperature of 800° F.


Flat



Pipe Size	Flow Rate, gpm 20 psi	40 psi	100 psi	500 psi	Deflection Angle	Orifice Dia.	O'all Wd. (Hex Size)	O'all Lg.	Brass Each ♦	Stainless Steel Each ♦
1/4"	0.7	1.0	1.5	3.5	55°	0.07"	7/8"	2"	32535K21 $13.54	32535K51 $37.14
1/4"	1.4	2.0	3.1	7.0	45°	0.10"	7/8"	2"	32535K22 13.54	32535K52 37.14
1/4"	2.8	4.0	6.3	14.1	45°	0.15"	7/8"	2"	32535K24 13.54	32535K54 37.14
3/8"	4.2	6.0	9.4	21.2	35°	0.18"	1 1/8"	3"	32535K31 15.17	32535K61 43.14
3/8"	5.6	8.0	12.6	28.1	35°	0.20"	1 1/8"	3"	32535K33 15.17	32535K63 43.14
3/8"	7.1	10.0	15.8	35.3	40°	0.23"	1 1/8"	3"	32535K35 15.17	32535K65 43.14
1/2"	11.3	16.0	25.2	56.5	40°	0.31"	1 3/8"	4 1/2"	32535K43 33.76	32535K73 85.47

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Food-Grade Chemical- and Corrosion-Resistant Plastic Flat Spray Nozzles

Not only do these nozzles offer excellent abrasion, chemical, and corrosion resistance, they are also made of FDA-compliant PVDF for use in many food applications. All nozzles are good for washing asphalt and concrete as well as for foam control and applying coatings. Spray angle is 80°. Maximum pressure is 150 psi. Maximum temperature is 200° F. All nozzles have an NPT male connection.


Flat



Pipe Size	Flow Rate, gpm 20 psi	40 psi	100 psi	150 psi	Orifice Dia.	O'all Wd. (Hex Size)	O'all Lg.	Each 1-9	Each 10-Up
1/8"	0.1	0.2	0.3	0.4	0.03"	9/16"	7/8"	34845K29 $8.61	$7.73
1/8"	0.3	0.5	0.7	1.0	0.05"	9/16"	7/8"	34845K31 8.60	7.71
1/8"	0.6	0.9	1.5	1.9	0.08"	9/16"	7/8"	34845K32 8.61	7.72
1/4"	0.4	0.5	0.9	1.1	0.06"	9/16"	7/8"	34845K34 8.96	8.04
1/4"	0.5	0.7	1.2	1.5	0.07"	9/16"	7/8"	34845K41 8.94	8.03
1/4"	1.0	1.4	2.3	2.9	0.10"	9/16"	7/8"	34845K43 8.94	8.03
1/4"	2.1	3.1	4.9	6.0	0.15"	9/16"	7/8"	34845K45 8.95	8.04
1/4"	3.5	4.9	7.8	9.6	0.19"	9/16"	7/8"	34845K46 8.95	8.04

Maximum Chemical- and Corrosion-Resistant Plastic Flat Spray Nozzles

Caustics, organic solvents, acids, and ultrapure liquids (such as deionized water) are no problem for these nozzles. They are clog resistant and are good for washing asphalt and concrete as well as for applying coatings. Choose one that projects spray from the side or straight out. Made of PFA. Maximum pressure is 40 psi. Maximum temperature is 75° F. All nozzles have an NPT male connection.


Flat


Side Spray

Pipe Size	Flow Rate, gpm 5 psi	20 psi	40 psi	Orifice Dia.	Spray Direction	Spray Angle	O'all Wd. (Hex Size)	O'all Lg.	Each ♦
1/8"	0.1	0.1	0.2	0.03"	Side–65°●	140°	5/8"	7/8"	32815K51 $21.64
1/8"	0.1	0.3	0.5	0.02"	Side–68°●	177°	5/8"	1"	32815K53 26.28
1/8"	0.1	0.1	0.1	0.05"	Straight	16°	5/8"	5/8"	32815K61 21.17
1/8"	0.1	0.2	0.3	0.02"	Straight	43°	5/8"	5/8"	32815K52 21.17
1/4"-28■	0.1	0.1	0.1	0.04"	Straight	79°	5/16"	1"	32815K71 21.17
1/4"-28■	0.1	0.3	0.4	0.06"	Straight	104°	5/16"	9/16"	32815K73 21.17

♦ Prices are 10% lower when you buy in quantities of 10 or more.
● Deflection angle.
■ Connection is 1/4"-28 UNF straight thread.

Quick-Change No-Drip Brass Flat Spray Nozzles

These multipiece nozzles make it quick and easy to remove and replace spray tips. Good for washing asphalt and concrete as well as for foam control and applying coatings.

Each nozzle consists of a nozzle body, cap, ball check valve, and spray tip. Simply unscrew the cap to clean or replace the spray tip. The ball check valve eliminates dripping when nozzle has been turned off and has a filter with a strainer (100×100 mesh strainer for 1/8" pipe size; 50×50 mesh strainer for 1/4" pipe size). Maximum pressure is 500 psi. Maximum temperature is 500° F. All nozzles have an NPT male connection. **To Order:** Please specify spray angle: 40°, 80°, or 110°.


Flat



Pipe Size	Flow Rate, gpm 20 psi	40 psi	100 psi	500 psi	Orifice Dia.	O'all Wd. (Hex Size)	O'all Lg.	Nozzles Each ♦	Replacement Tips Each ♦
1/8"	0.1	0.1	0.1	0.3	0.02"	13/16"	1 5/8"	4846T11 $36.39	4846T21 $6.20
1/8"	0.1	0.1	0.2	0.5	0.03"	13/16"	1 5/8"	4846T12 36.36	4846T22 6.19
1/4"	0.2	0.3	0.4	1.1	0.04"	13/16"	1 11/16"	4846T13 36.36	4846T23 6.19
1/4"	0.3	0.5	0.7	1.8	0.05"	13/16"	1 11/16"	4846T15 36.36	4846T25 6.19

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Quick-Mount Swivel Flat Spray Nozzles

Just drill a 9/16" hole anywhere along a pipe and snap on these nozzles. They make it quick and easy to remove and replace spray tips. Made of reinforced plastic, all have a 300 Series stainless steel clamp that grips the pipe and an EPDM rubber gasket that prevents leaks. All nozzles are good for foam control. Nozzles swivel 52° for directional spraying. Spray angle is 65°, unless noted. Maximum pressure is 100 psi. Maximum temperature is 175° F.

With Quick-Change Tips— These nozzles have replaceable tips (simply give them a 1/4 turn to remove) that maintain spray pattern alignment. All tips have two O-rings to prevent leaks.


Flat

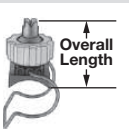

Standard

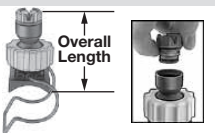

w/Quick-Change Tips

To Order: For all nozzles, please specify pipe size from those available below.

Available Pipe Sizes	Flow Rate, gpm 20 psi	40 psi	100 psi	Orifice Dia.	O'all Dia.	STANDARD O'all Lg.	STANDARD Nozzles Each ♦	WITH QUICK-CHANGE TIPS O'all Lg.	WITH QUICK-CHANGE TIPS Nozzles Each ♦	WITH QUICK-CHANGE TIPS Replacement Tips Each ♦
1", 1 1/4"	0.7	1.0	1.5	0.07"	1 13/16"	2 1/2"	32925K71♣ $7.77	3"	6312K11♣ $14.06	6312K51♣ $6.85
1", 1 1/4"	1.4	2.0	3.2	0.10"	1 13/16"	2 1/2"	32925K72 7.77	3"	6312K12 14.06	6312K52 6.85
1", 1 1/4", 1 1/2"	2.1	3.0	4.7	0.12"	1 13/16"	2 1/2"	32925K73 7.77	3"	6312K13 14.06	6312K53 6.85
1", 1 1/4", 1 1/2"	2.8	4.0	6.3	0.14"	1 13/16"	2 1/2"	32925K74 7.77	3"	6312K14 14.06	6312K54 6.85
1", 1 1/4", 1 1/2"	3.5	5.0	7.9	0.16"	1 13/16"	2 1/2"	32925K75 7.77	3"	6312K15 14.06	6312K55 6.85
1 1/4", 1 1/2", 2"	4.9	7.0	11.1	0.19"	1 13/16"	2 1/2"	32925K77 7.77	3"	6312K16 14.06	6312K56 6.85

♦ Prices are 10% lower when you buy in quantities of 10 or more. ♣ Spray angle is 80°.

Full Cone, Hollow Cone, and Square-Pattern Spray Nozzles

An excellent choice for cooling as well as dust- and foam-control applications. ***Full cone*** and ***square-pattern spray nozzles*** provide a uniform distribution of droplets. ***Hollow cone spray nozzles*** produce a fine, more atomized droplet.

Full Cone Spray Nozzles



Full Cone

The full cone spray pattern and low flow rates of these nozzles make them good for distributing fluids, cooling, washing, and rinsing. Maximum pressure is 400 psi. ***Brass nozzles*** have a maximum temperature of 450° F. ***Type 303 stainless steel nozzles*** have a maximum temperature of 800° F.

To Order: For all nozzles, please specify spray angle (60°, 90°, or 120°) and NPT connection (male or female).



Male



Female

Pipe Size	Flow Rate, gpm 20 psi	40 psi	100 psi	400 psi	Orifice Dia.	Male O'all Wd. (Hex Size)	Male O'all Lg.	Female O'all Wd. (Hex Size)	Female O'all Lg.	Brass	Each ♦	Stainless Steel	Each ♦
1/8"	0.1	0.2	0.3	0.7	0.04"	7/16"	7/8"	9/16"	1 1/8"	32885K11	$10.11	32885K51	$31.11
1/8"	0.3	0.5	0.7	1.4	0.05"	7/16"	7/8"	9/16"	1 1/8"	32885K12	10.11	32885K52	31.11
1/8"	0.5	0.7	1.1	2.2	0.07"	7/16"	7/8"	9/16"	1 1/8"	32885K13	10.11	32885K53	31.11
1/4"	0.7	1.0	1.5	2.9	0.08"	9/16"	1 1/16"	11/16"	1 3/8"	32885K14	10.84	32885K54	33.80
1/4"	1.0	1.5	2.3	4.4	0.10"	9/16"	1 1/16"	11/16"	1 3/8"	32885K15	10.84	32885K55	33.80
3/8"	1.4	2.0	3.0	5.9	0.12"	11/16"	1 1/4"	7/8"	1 1/2"	32885K16	13.86	32885K56	39.41
3/8"	2.1	3.0	4.6	8.8	0.15"	11/16"	1 1/4"	7/8"	1 1/2"	32885K17	13.86	32885K57	39.41
3/8"	2.8	4.0	6.1	11.8	0.18"	11/16"	1 1/4"	7/8"	1 1/2"	32885K18	13.86	32885K58	39.41
1/2"	3.6	5.0	7.6	14.8	0.20"	7/8"	1 1/2"	1 1/8"	2"	32885K19	16.09	32885K59	44.58
1/2"	4.3	6.0	9.2	17.7	0.21"	7/8"	1 1/2"	1 1/8"	2"	32885K21	16.09	32885K61	44.58
1/2"	5.0	7.0	10.8	20.7	0.22"	7/8"	1 1/2"	1 1/8"	2"	32885K22	16.09	32885K62	44.58
3/4"	5.7	8.0	12.3	23.6	0.23"	1 1/8"	1 3/4"	1 3/8"	2 1/8"	32885K23	33.75	32885K63	81.11
3/4"	8.6	12.0	18.5	35.4	0.31"	1 1/8"	1 3/4"	1 3/8"	2 1/8"	32885K25	33.75	32885K65	81.11
1"	10.8	15.0	23.1	44.3	0.32"	1 3/8"	2 3/16"	1 5/8"	2 3/8"	32885K26	42.44	32885K66	98.34
1"	14.4	20.0	30.8	59.0	0.37"	1 3/8"	2 3/16"	1 5/8"	2 3/8"	32885K27	42.44	32885K67	98.34

♦ Prices are 10% lower when you buy in quantities of 10 or more.

High-Volume Clog-Resistant Full Cone and Hollow Cone Spray Nozzles



Full Cone

With a unique spiral design, these nozzles produce higher flow rates and have a fine, atomized spray. They're great for dust control, cooling, and humidification applications. Connection is NPT male. ***Brass nozzles*** have a maximum pressure of 400 psi. Maximum temperature is 450° F. ***Type 316 stainless steel nozzles*** have a maximum pressure of 400 psi. Maximum temperature is 800° F. ***PTFE nozzles*** have a maximum pressure of 60 psi. Maximum temperature is 300° F.

To Order: Please specify spray angle: 60°, 90°, or 120° for full cone; 50° or 120° for hollow cone.



Hollow Cone



Pipe Size	Flow Rate, gpm 20 psi	40 psi	100 psi ▲	400 psi ▲	Orifice Dia.	O'all Wd. (Hex Size)	O'all Lg. ♠	Brass	Each ♦	Stainless Steel	Each ♦	PTFE	Each ♦
Full Cone													
1/4"	0.9	1.4	2.2	4.4	0.09"	9/16"	1 7/8"	3282K161	$14.29	3282K316	$59.63	3282K971	$24.96
1/4"	1.8	2.6	4.1	8.2	0.13"	9/16"	1 7/8"	3282K54	14.29	3282K49	59.63	3282K58	24.96
1/4"	2.8	4.0	6.3	12.6	0.16"	9/16"	1 7/8"	3282K171	14.29	3282K416	59.63	3282K221	24.96
3/8"	4.2	6.0	9.4	19.0	0.19"	11/16"	1 7/8"	3282K55	18.19	3282K84	65.79	3282K59	27.66
3/8"	5.7	8.1	12.8	25.6	0.22"	11/16"	1 7/8"	3282K181	18.19	3282K516	65.79	3282K311	27.66
3/8"	7.5	10.6	16.8	33.5	0.25"	11/16"	1 7/8"	3282K56	18.19	3282K85	65.79	3282K19	27.66
3/8"	11.7	16.5	26.1	52.2	0.31"	11/16"	1 7/8"	3282K57	18.19	3282K86	65.79	3282K39	27.66
1/2"	17.0	24.1	38.1	76.2	0.38"	7/8"	2 1/2"	3282K981	21.27	3282K616	65.79	3282K411	31.32
1/2"	23.3	33.0	52.2	104.0	0.44"	7/8"	2 1/2"	3282K991	21.27	3282K716	65.79	3282K511	31.32
3/4"	29.7	42.0	66.4	133.0	0.50"	1 1/8"	2 3/4"	3282K69	37.51	3282K94	98.89	3282K96	72.79
1"	47.4	67.0	106.0	212.0	0.63"	1 3/8"	3 5/8"	3282K97	57.08	3282K98	125.47	3282K99	93.21
1"	67.2	95.0	150.0	300.0	0.75"	1 3/8"	3 5/8"	3282K114	57.08	3282K115	125.47	3282K116	93.21
Hollow Cone													
1/4"	0.9	1.4	2.2	4.4	0.09"	9/16"	1 7/8"	3282K111	10.18	3282K611	55.08	3282K87	21.65
1/4"	1.8	2.6	4.1	8.2	0.13"	9/16"	1 7/8"	3282K21	10.18	3282K29	55.08	3282K25	21.65
1/4"	2.8	4.0	6.3	12.6	0.16"	9/16"	1 7/8"	3282K121	10.18	3282K711	55.08	3282K88	21.65
3/8"	7.5	10.6	16.8	33.5	0.25"	11/16"	1 7/8"	3282K23	13.61	3282K52	64.05	3282K27	23.77
1/2"	17.0	24.1	38.1	76.2	0.38"	7/8"	2 1/2"	3282K141	16.37	3282K911	64.05	3282K941	27.69
1/2"	23.3	33.0	52.2	104.0	0.44"	7/8"	2 1/2"	3282K151	16.37	3282K216	64.05	3282K961	27.69
3/4"	29.7	42.0	66.4	133.0	0.50"	1 1/8"	2 3/4"	3282K124	32.99	3282K125	111.52	3282K126	74.14

▲ Ratings are for brass and stainless steel only. ♠ Nozzles with a 60° spray angle may be up to 3/4" longer than the length listed.
♦ Prices are 10% lower when you buy in quantities of 10 or more.

Food-Grade Chemical- and Corrosion-Resistant Full Cone Plastic Spray Nozzles



Full Cone

In addition to offering excellent abrasion, chemical, and corrosion resistance, the nozzle material is FDA compliant for use in many food applications. Made of PVDF. Maximum pressure is 150 psi. Maximum temperature is 200° F. Connection is NPT male.

To Order: Please specify spray angle: 90° or 120°.



Pipe Size	Flow Rate, gpm 10 psi	40 psi	100 psi	150 psi	Orifice Dia.	O'all Wd. (Hex Size)	O'all Lg.		Each 1-9	Each 10-Up
1/8"	0.1	0.3	0.4	0.5	0.04"	9/16"	7/8"	4814T81	$15.93	$14.34
1/8"	0.3	0.6	0.8	1.0	0.05"	9/16"	7/8"	4814T82	15.93	14.34
1/8"	0.5	0.9	1.3	1.6	0.07"	9/16"	7/8"	4814T83	15.93	14.34
1/4"	0.6	1.2	1.7	2.0	0.08"	9/16"	7/8"	4814T84	17.58	15.66
3/8"	1.3	2.4	3.4	4.0	0.14"	11/16"	1 3/16"	4814T85	19.23	17.13
3/8"	2.1	3.7	5.4	6.3	0.16"	11/16"	1 3/16"	4814T87	19.23	17.13

Square-Pattern Spray Nozzles



Square Pattern

The large square coverage area makes these nozzles ideal for chemical processing as well as for cooling applications. Maximum pressure is 150 psi. Connection is NPT male. ***Brass nozzles*** have a maximum temperature of 800° F. ***Type 303 stainless steel nozzles*** have a maximum temperature of 1400° F.



Pipe Size	Flow Rate, gpm 20 psi	40 psi	100 psi	150 psi	Orifice Dia.	Spray Angle	O'all Wd. (Hex Size)	O'all Lg.	Brass	Each ♦	Stainless Steel	Each ♦
1/8"	0.5	0.7	1.1	1.3	0.05"	55°	7/16"	13/16"	33925K51	$10.48	33925K61	$29.61
1/8"	0.6	0.9	1.5	1.8	0.06"	65°	7/16"	13/16"	33925K74	10.48	33925K94	29.61
1/8"	0.8	1.2	1.9	2.3	0.08"	65°	7/16"	13/16"	33925K52	10.48	33925K62	29.61
1/4"	1.4	2.0	3.2	3.9	0.09"	67°	9/16"	15/16"	33925K75	12.76	33925K95	31.20
1/4"	1.7	2.4	3.8	4.6	0.09"	76°	9/16"	15/16"	33925K53	11.53	33925K63	29.64
1/4"	1.9	2.8	4.4	5.4	0.09"	85°	9/16"	15/16"	33925K76	11.53	33925K96	31.20
3/8"	2.5	3.6	5.7	7.0	0.10"	75°	11/16"	1 1/16"	33925K54	13.69	33925K64	36.37
1/2"	4.1	5.8	9.2	11.2	0.14"	75°	7/8"	1 1/4"	33925K77	16.62	33925K97	43.61
1/2"	5.1	7.2	11.4	13.9	0.14"	85°	7/8"	1 1/4"	33925K55	16.62	33925K65	43.61

♦ Prices are 10% lower when you buy in quantities of 10 or more.

For information about spray nozzles and pipe size, see page 2110.

Right-Angle Full Cone and Hollow Cone Spray Nozzles

Made of brass, these nozzles project their spray at a right angle from their threaded connection. Excellent for cooling as well as dust- and foam-control applications. Maximum pressure is 100 psi. Maximum temperature is 450° F. Connection is NPT male.

Full cone provide a uniform distribution of droplets. Spray angle is 90°. ***Hollow cone*** produce a fine atomized droplet. Spray angle is 70°.







Pipe Size	Flow Rate, gpm 20 psi	40 psi	100 psi	Orifice Dia.	O'all Wd.	O'all Lg.		Each ♦
Full Cone								
1/4"	0.3	0.5	0.7	0.07"	13/16"	15/16"	31975K12	$42.74
1/4"	0.5	0.7	1.2	0.09"	13/16"	15/16"	31975K14	42.74
Hollow Cone								
1/8"	0.1	0.1	0.1	0.05"	5/8"	1 1/8"	3405K49	9.43
1/8"	0.2	0.4	0.6	0.09"	5/8"	1 1/8"	3405K33	9.43

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Pipe Size	Flow Rate, gpm 20 psi	40 psi	100 psi	Orifice Dia.	O'all Wd.	O'all Lg.		Each ♦
Hollow Cone (Cont.)								
1/8"	0.7	1.0	1.5	0.13"	5/8"	1 1/8"	3405K35	$9.43
1/4"	0.1	0.2	0.3	0.06"	13/16"	15/16"	3405K72	9.91
1/4"	0.4	0.6	0.9	0.11"	13/16"	15/16"	3405K37	9.91
1/4"	0.7	1.0	1.5	0.14"	13/16"	15/16"	3405K38	9.91

Quick-Mount Swivel Full Cone Spray Nozzles with Quick-Change Tips

Just drill a 9/16" hole anywhere along a pipe and snap on these nozzles. They make it quick and easy to remove and replace spray tips while maintaining spray pattern alignment. Made of reinforced plastic, all have a Series 300 stainless steel clamp that grips the pipe and an EPDM rubber gasket that prevents leaks. Nozzles swivel 52° for directional spraying and have replaceable tips (simply give them a 1/4 turn to remove). The tips also have two O-rings to prevent leaks. Excellent for cooling as well as dust- and foam-control applications, these nozzles provide a uniform distribution of droplets. Maximum pressure is 100 psi. Maximum temperature is 175° F.



To Order: For all nozzles, please specify pipe size from those available below.





Available Pipe Sizes	Flow Rate, gpm 20 psi	40 psi	100 psi	Spray Angle	Orifice Dia.	O'all Wd.	O'all Lg.	Nozzles	Each ♦	Replacement Tips	Each ♦
1", 1 1/4"	0.1	0.2	0.3	55°	0.03"	1 13/16"	3"	6312K21	$17.54	6312K61	$11.01
1", 1 1/4"	0.4	0.6	0.9	53°	0.05"	1 13/16"	3"	6312K22	17.54	6312K62	11.01
1", 1 1/4", 1 1/2"	0.7	1.0	1.5	75°	0.06"	1 13/16"	3"	6312K23	17.54	6312K63	11.01
1", 1 1/4"	0.4	0.5	0.8	105°	0.05"	1 13/16"	3"	6312K31	17.80	6312K71	11.25
1", 1 1/4", 1 1/2"	2.8	4.0	6.3	120°	0.10"	1 13/16"	3"	6312K34	17.80	6312K74	11.25

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Solid Stream Spray Nozzles

The precise, concentrated, high-velocity spray pattern of these nozzles reaches longer distances than our other spray patterns. Use them to handle tough cleaning and paper trimming applications. Spray angle is 0°. Maximum pressure is 100 psi. Maximum temperature is 200° F. Connection is NPT male.

Type 303 stainless steel nozzles offer better corrosion, abrasion, and chemical resistance than brass.





Pipe Size	Flow Rate, gpm 10 psi	40 psi	100 psi	Orifice Dia.	O'all Wd. (Hex Size)	O'all Lg.	Brass	Each ♦	Stainless Steel	Each ♦
1/4"	0.2	0.5	0.78	0.05"	9/16"	7/8"	7611T41	$19.63	7611T51	$23.44
1/4"	0.4	0.9	1.54	0.07"	9/16"	7/8"	7611T42	19.63	7611T52	21.53
1/4"	0.7	1.5	2.45	0.09"	9/16"	7/8"	7611T43	19.63	7611T53	21.53
1/4"	0.9	1.9	3.09	0.10"	9/16"	7/8"	7611T44	19.63	7611T54	23.44
1/4"	1.5	3.1	4.90	0.13"	9/16"	7/8"	7611T45	19.63	7611T55	23.44
1/4"	2.4	4.9	7.85	0.16"	9/16"	7/8"	7611T46	19.63	7611T56	23.44

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Swivel Fittings for Spray Nozzles

Want your spray nozzle to swivel 360° and tilt on a 45° range? Simply attach it to one of these swivel fittings. All fittings have an NPT female outlet for connecting your nozzle and an NPT male inlet for attaching to your piping system. Both the inlet and outlet are the same size. Maximum pressure is 300 psi.



Brass nozzles have a maximum temperature of 800° F.

Type 303 stainless steel nozzles have a maximum temperature of 1400° F.

Pipe Size	O'all Wd. (Hex Size)	O'all Lg.	Brass	Each ♦	Stainless Steel	Each ♦
1/8"	15/16"	1 3/8"	34615K71	$16.16	34615K75	$38.30
1/4"	1 1/8"	1 5/8"	34615K72	22.10	34615K76	46.39
3/8"	1 3/8"	1 13/16"	34615K73	23.31	34615K77	48.05
1/2"	1 11/16"	2 3/16"	34615K74	40.80	34615K78	79.07

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Quick-Mount Fittings for Spray Nozzles

No need for threaded pipe connections—just drill a 9/32" hole in your pipe, connect one of these fittings, and then thread your nozzle into the fitting. Made of Type 303 stainless steel with zinc-plated steel clamps and bolts. Also has a Buna-N gasket for a leakproof seal. Maximum pressure is 250 psi. Maximum temperature is 180° F.



Fits Pipe Size	O'all Lg.	1/8" NPT Female Outlet Connection Size Each 1-9	10-Up	1/4" NPT Female Outlet Connection Size Each 1-9	10-Up
1/2"	2 1/4"	3351K531 $28.49	$25.60	3351K561 $28.49	$25.60
3/4"	2 1/4"	3351K541 28.49	25.60	3351K571 28.49	25.60
1"	2 1/4"	3351K551 28.50	25.60	3351K581 28.50	25.60

Stainless Steel Spray Manifolds



24" Spray Manifold with Two Nozzle Positions

Build your spray system by adding your own nozzles to these nozzle-ready spray manifolds. They accept stainless steel or brass nozzles. Maximum pressure is 2,500 psi. Maximum temperature is 200°F.

Manifolds for 1/8" NPT male nozzles are made of 1/2" OD Type 316 stainless steel tubing. Use 1/2" OD Type 316 stainless steel compression tube fittings to connect an inlet pipe to the manifold tubing and to cap the ends (fittings not included, see 5182K on pages 184-186).

Manifolds for 1/4" NPT male nozzles are made of 5/8" OD Type 316 stainless steel tubing. Use 5/8" OD Type 316 stainless steel compression tube fittings to connect an inlet pipe to the manifold tubing and to cap the ends (fittings not included, see 5182K on pages 184-186).

No. of Nozzle Positions	Nozzle Spacing, ctr.-to-ctr.	Manifolds for 1/8" NPT Male Nozzles	Each	Manifolds for 1/4" NPT Male Nozzles	Each
24" Tubing Length					
2	7.5"	2491K21	$187.76	2491K51	$222.68
4	4.3"	2491K22	277.55	2491K52	322.00
6	3.0"	2491K23	365.31	2491K53	438.78
8	2.3"	2491K24	426.92	2491K54	541.41
48" Tubing Length					
2	15.1"	2491K31	210.20	2491K61	258.33
4	9.1"	2491K32	297.96	2491K62	368.75
6	6.5"	2491K33	385.71	2491K63	481.25
8	5.0"	2491K34	431.48	2491K64	546.15

Misting and Fogging Nozzles

Providing the smallest atomized spray droplets of all of our spray nozzles, these nozzles are recommended for cooling, moistening, and humidifying applications. They're also a good choice for applying coatings and controlling dust.

Standard and No-Drip Misting Nozzles

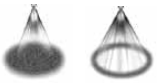

Full Cone | Hollow Cone

These economical misting nozzles have a strainer. Maximum pressure is 500 psi. Maximum temperature is 180° F.

Standard— All nozzles are easy to clean. Strainer has a brass body with stainless steel 120 × 120 mesh. Spray angle is 80° for full cone spray nozzles; 160° for hollow cone spray nozzles. Connection is NPT male.

No-Drip— A built-in check valve eliminates dripping once nozzle is turned off. Check valve closes at 45 psi. Spray angle is 70°. Base is brass and includes a 31-40 micron bronze filter. Connection is NPT female.



Standard



Full Cone | No Drip

Pipe Size	Flow Rate, gph: 40 psi	100 psi	500 psi	Orifice Dia.	O'all Wd. (Hex Size)	O'all Lg.	Brass	Each ♦	Copper-Nickel	Each ♦	Stainless Steel	Each ♦
Standard Full Cone												
1/8"	0.63	1.00	2.24	0.01"	7/16"	1 1/8"	3178K61	$7.20	3178K81	$12.30	3178K41	$8.77
1/8"	1.26	2.00	4.47	0.01"	7/16"	1 1/8"	3178K62	7.20	3178K82	12.30	3178K42	8.77
1/8"	1.90	3.00	6.71	0.02"	7/16"	1 1/8"	3178K63	7.20	3178K83	12.30	3178K43	8.77
1/8"	2.53	4.00	8.94	0.02"	7/16"	1 1/8"	3178K74	8.29	3178K84	15.27	3178K44	10.58
1/8"	3.16	5.00	11.18	0.02"	7/16"	1 1/8"	3178K75	8.29	3178K85	15.27	3178K45	10.58
1/8"	6.32	10.00	22.36	0.03"	7/16"	1 1/8"	3178K76	8.57	3178K86	15.82	3178K46	10.94
1/8"	9.49	15.00	33.54	0.04"	7/16"	1 1/8"	3178K77	8.57	3178K87	15.82	3178K47	10.94
Standard Hollow Cone												
1/8"	3.16	5.00	11.18	0.03"	7/16"	1 1/8"	3178K64	12.18	3178K94	21.35	3178K51	16.00
1/8"	4.43	7.00	15.65	0.04"	7/16"	1 1/8"	3178K65	12.18	3178K95	21.35	3178K52	16.00
1/8"	6.96	11.00	24.60	0.07"	7/16"	1 1/8"	3178K66	12.18	3178K96	21.35	3178K53	16.00
1/8"	9.49	15.00	33.54	0.08"	7/16"	1 1/8"	3178K67	12.18	3178K97	21.35	3178K54	16.00
No-Drip Full Cone												
1/8"	___	0.75●	1.33	0.01"	3/4"	2"	_____	___	_____	___	32215K11	14.54
1/4"	___	0.75●	1.33	0.01"	3/4"	2"	_____	___	_____	___	32215K12	14.54

♦ Prices are 10% lower when you buy in quantities of 10 or more. ● Minimum of 160 psi is required.

High-Volume Clog-Resistant Misting Nozzles

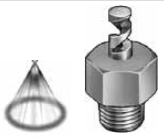

Hollow Cone

With a unique spiral tip, these nozzles produce higher flow rates than our other misting nozzles, making them ideal for washing applications. All nozzles are made of brass and produce a hollow cone spray pattern. Spray angle is 90°. Maximum pressure is 100 psi. Maximum temperature is 450° F. Connection is NPT male.

Flow Rate, gph: 10 psi	40 psi	100 psi	Orifice Dia.	O'all Wd. (Hex Size)	1/8" Pipe Size: O'all Lg.	Each ♦	1/4" Pipe Size: O'all Lg.	Each ♦
8.4	16.8	26.4	0.04"	9/16"	1 1/8"	33685K111 $27.03	1 5/16"	33685K112 $27.03
16.2	31.8	50.4	0.05"	9/16"	1 1/8"	33685K311 27.03	1 5/16"	33685K312 27.03
22.8	45.0	71.4	0.06"	9/16"	1 1/8"	33685K411 27.03	1 5/16"	33685K412 27.03
73.2	145.8	230.4	0.12"	9/16"	1 1/8"	33685K611 27.03	1 5/16"	33685K612 27.03

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Fogging Nozzles



Full Cone

You'll get the smallest, most atomized spray droplets with these nozzles. All are made of brass and produce a full cone spray pattern. Spray angle is 90°. Maximum pressure is 3,000 psi. Maximum temperature is 450° F. Connection is NPT male.

Flow Rate, gph: 40 psi	100 psi	1,000 psi	3,000 psi	Orifice Dia.	1/8" Pipe Size: O'all Wd. (Hex Size)	O'all Lg.	Each ♦	1/4" Pipe Size: O'all Wd. (Hex Size)	O'all Lg.	Each ♦
1.02	1.62	5.1	8.8	0.01"	7/16"	3/4"	4759T11 $53.24	9/16"	15/16"	4759T21 $53.24
2.22	3.54	11.1	19.2	0.01"	7/16"	3/4"	4759T12 33.30	9/16"	15/16"	4759T22 33.30
4.02	6.60	20.1	34.8	0.02"	7/16"	3/4"	4759T13 28.55	9/16"	15/16"	4759T23 28.55
7.80	12.60	39.0	67.8	0.02"	7/16"	3/4"	4759T14 28.55	9/16"	15/16"	4759T24 28.55
16.80	26.40	84.0	145.8	0.04"	7/16"	3/4"	4759T15 28.55	9/16"	15/16"	4759T25 28.55

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Ultra-Fine Air-Powered Misting and Fogging Nozzles



Hollow Cone | Full Cone

To create an ultra-fine spray, these nozzles mix compressed air from 70 to 100 psi and pressurized liquids up to 20 psi. All nozzles are made of brass and have a knob to control the flow rate. They have a 5-micron air filter and a bronze 40 × 40 mesh liquid strainer. Maximum temperature is 200° F. Both air and liquid connections are 1/4" NPT female.

Humidifying— Great for mist coating, evaporative cooling, moisturizing, and spray drying.

Fogging— For moisturizing, coating, evaporative cooling, and dust suppression.

Atomizing— For washing and applying lubricants.

Nozzle Style	Spray Pattern	Flow Rate, gph	Spray Angle	Orifice Dia.	O'all Wd.	O'all Lg.		Each
Humidifying	Hollow Cone	6-15	103°–147°	0.03"	2 5/16"	4 3/4"	3117K27	$328.83
Fogging	Full Cone	6-30	10°– 21°	0.04"	2 5/16"	4 3/4"	3117K21	304.26
Atomizing	Full Cone	6-30	10°– 21°	0.08"	2 5/16"	4 3/4"	3117K24	304.26

Quick-Disconnect High-Pressure Spray Nozzles

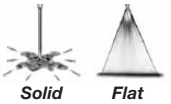

Solid Stream | Flat

To quickly change spray angles, remove the nozzle and snap on a new one. All have a 1/4" connection and are for use primarily with pressure washers. The 0° spray angle produces a solid stream spray pattern; all other angles produce a flat spray pattern. Not rated for maximum temperature.

Liquid Nozzles— Made of Type 416 stainless steel with color-coded nylon guards for easy identification. Maximum pressure is 4,000 psi. **To Order:** Please specify spray angle: 0° (red), 15° (yellow), 25° (green), or 40° (white).



Soap Nozzle— Made of brass with a black nylon cover. Maximum pressure is 500 psi. **To Order:** Please specify spray angle: 25° or 65°.

Liquid Nozzles

Flow Rate, gpm: 300 psi	1,000 psi	2,000 psi	3,000 psi	4,000 psi	Orifice Dia.	O'all Wd.	O'all Lg.		Each: 1-9	10-Up
0.8	1.5	2.1	2.6	3.0	0.04"	15/16"	1 3/16"	31905K11	$9.29	$8.30
1.1	2.0	2.8	3.5	4.0	0.05"	15/16"	1 3/16"	31905K13	9.29	8.30
1.4	2.5	3.5	4.3	5.0	0.05"	15/16"	1 3/16"	31905K15	9.29	8.30
1.6	3.0	4.2	5.2	6.0	0.06"	15/16"	1 3/16"	31905K17	9.29	8.30
1.9	3.5	4.9	6.1	7.0	0.06"	15/16"	1 3/16"	31905K26	9.29	8.30
2.2	4.0	5.7	6.9	8.0	0.07"	15/16"	1 3/16"	31905K22	9.29	8.30
2.7	5.0	7.1	8.7	10.0	0.07"	15/16"	1 3/16"	31905K24	9.29	8.30
3.3	6.0	8.5	10.4	12.0	0.08"	15/16"	1 3/16"	31905K29	9.29	8.30

Soap Nozzle

Flow Rate, gpm: 5 psi	20 psi	40 psi	100 psi	500 psi	Orifice Dia.	O'all Wd.	O'all Lg.		Each: 1-9	10-Up
1.4	2.8	4.0	6.3	14.2	0.15"	15/16"	1 3/16"	31905K51	$6.55	$5.86

High-Pressure Spray Nozzles

Use primarily with your pressure washers. A 0° spray angle produces a solid stream spray pattern; all other angles produce a flat spray pattern.

Standard High-Pressure Spray Nozzles

Good for cleaning parts as well as for washing vehicles. Made of Type 416 stainless steel. Maximum pressure is 4,000 psi. Maximum temperature is 1250° F. Connection is NPT male.

All nozzles with a 1/8" pipe size have an overall width (hex size) of 1/2", except those with a 0° spray angle, which have an overall width (hex size) of 9/16".

All nozzles with a 1/4" pipe size have an overall width (hex size) of 9/16".

To Order: Please specify spray angle: 0°, 15°, 25°, 40°, or 65° (unless noted). Where applicable, please specify pipe size: 1/8" or 1/4".

Available Pipe Sizes	Flow Rate, gpm 300 psi	1,000 psi	2,000 psi	3,000 psi	4,000 psi	Orifice Dia.	O'all Lg.		Each 1-9	Each 10-Up
1/8", 1/4"	0.55	1.0	1.4	1.7	2.0	0.03"	7/8"	3234K1★	$8.73	$7.77
1/8", 1/4"	0.82	1.5	2.1	2.6	3.0	0.04"	7/8"	3234K13★	8.73	7.77
1/8", 1/4"	1.10	2.0	2.8	3.5	4.0	0.05"	7/8"	3234K2	8.73	7.77
1/8", 1/4"	1.40	2.5	3.5	4.3	5.0	0.05"	7/8"	3234K24	8.73	7.77
1/8", 1/4"	1.60	3.0	4.2	5.2	6.0	0.06"	7/8"	3234K3	8.73	7.77
1/8", 1/4"	1.90	3.5	4.9	6.1	7.0	0.06"	7/8"	3234K4	8.73	7.77
1/8", 1/4"	2.20	4.0	5.7	6.9	8.0	0.07"	7/8"	3234K5	8.73	7.77
1/8", 1/4"	2.50	4.5	6.4	7.8	9.0	0.07"	7/8"	3234K57	8.73	7.77
1/8", 1/4"	2.70	5.0	7.1	8.7	10.0	0.07"	7/8"	3234K6	8.73	7.77
1/4"	3.30	6.0	8.5	10.4	12.0	0.08"	1 1/16"	3234K7	8.71	7.75
1/4"	4.10	7.5	10.6	13.0	15.0	0.09"	1 1/16"	3234K8	8.71	7.75
1/4"	5.50	10.0	14.1	17.3	20.0	0.11"	1 1/16"	3234K9	8.71	7.75
1/4"	8.20	15.0	21.0	26.0	30.0	0.13"	1 1/16"	3234K96	8.71	7.75
1/4"	11.00	20.0	28.0	35.0	40.0	0.15"	1 1/16"	3234K97★	8.71	7.75
1/4"	13.70	25.0	35.0	43.0	50.0	0.17"	1 1/16"	3234K99★	8.71	7.75

★ A 65° spray angle is not available.







Adjustable Spray Angle High-Pressure Spray Nozzles

No need to juggle different spray-angle nozzles. Simply turn the cover to adjust the spray angle from 0° to 80°. All nozzles have a brass body with a Type 416 stainless steel insert and a black nylon cover. Maximum pressure is 3,000 psi. Max. temperature is 300° F. Connection is NPT female.

To Order: Please specify pipe size: 1/8" or 1/4".

Flow Rate, gpm 300 psi	1,000 psi	2,000 psi	3,000 psi	Orifice Dia.	Hex Size	O'all Wd.	O'all Lg.		Each 1-9	Each 10-Up
0.55	1.0	1.4	1.7	0.03"	7/8"	1 3/16"	1 7/8"	3480K21	$35.20	$31.64
0.82	1.5	2.1	2.6	0.04"	7/8"	1 3/16"	1 7/8"	3480K47	35.20	31.64
1.10	2.0	2.8	3.5	0.05"	7/8"	1 3/16"	1 7/8"	3480K22	35.20	31.64
1.40	2.5	3.5	4.3	0.05"	7/8"	1 3/16"	1 7/8"	3480K48	35.20	31.64
1.60	3.0	4.2	5.2	0.06"	7/8"	1 3/16"	1 7/8"	3480K23	35.20	31.64
1.90	3.5	4.9	6.1	0.06"	7/8"	1 3/16"	1 7/8"	3480K24	35.20	31.64
2.20	4.0	5.7	6.9	0.07"	7/8"	1 3/16"	1 7/8"	3480K25	35.20	31.64
2.70	5.0	7.1	8.7	0.07"	7/8"	1 3/16"	1 7/8"	3480K26	35.20	31.64







Adjustable Flow and Spray Angle High-Pressure Spray Nozzles

Push the nozzle out for higher pressures and pull it back for lower pressures. Turn the cover to adjust the spray angle from 0° to 25° or 75°. Nozzles are brass; covers are black plastic. Overall width is 1 3/4". Overall length is 4 1/2". Maximum pressure is 4,050 psi. Maximum temperature is 195° F. Connection is 1/4" female BSPP (British Standard Parallel Pipe).

Flow Rate, gpm 500 psi	1,000 psi	2,500 psi	4,050 psi	Orifice Dia.		Each
0.88	1.25	1.98	2.5	0.04"	32005K41	$23.30
1.06	1.50	2.37	3.0	0.04"	32005K43	23.30
1.41	2.00	3.16	4.0	0.05"	32005K45	23.30
2.47	3.50	5.53	7.0	0.07"	32005K47	23.30







Rotating High-Pressure Solid Stream Spray Nozzles

The superior cleaning ability of a solid stream has been combined with rotating spray action for excellent coverage. Nozzle is brass; cover is black plastic. Overall width is 1 1/2". Overall length is 3 7/8". Maximum pressure is 3,500 psi. Maximum temperature is 200° F. Connection is 1/4" female BSPP (British Standard Parallel Pipe).

Flow Rate, gpm 500 psi	1,000 psi	2,000 psi	3,500 psi	Orifice Dia.		Each
1.52	2.15	3.05	4.02	0.04"	33235K11	$92.24
1.72	2.43	3.44	4.55	0.05"	33235K12	92.24
2.06	2.92	4.12	5.46	0.06"	33235K13	92.24





Bottle-, Drum-, and Tank-Washing Nozzles



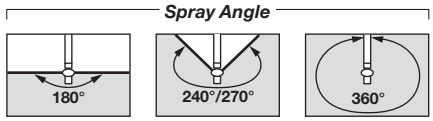

A&B ***Stationary Nozzles*—** Multiple spray streams provide cost-effective rinsing and cleaning.

***Style A*—** Use with bottles and drums. Maximum pressure is 400 psi. Maximum temperature is 450° F. Connection is NPT male.

***Style B*—** These ball-shaped nozzles provide a wider spray angle for better coverage. Use with drums. Maximum pressure is 150 psi. Maximum temperature is 400° F. Connection is NPT female.

C-F ***Rotating Nozzles*—** Multiple spray streams combine with rotating spray action for superior cleaning power.

***Style C*—** Use with bottles and drums. Maximum pressure is 70 psi. Maximum temperature is 250° F. Connection is NPT male.

***Style D*—** Made of FDA-compliant PVDF for food applications. Use with drums. Maximum pressure is 70 psi. Maximum temperature is 190° F. Connection is female BSPP (British Standard Pipe Parallel).

***Style E*—** Maximum corrosion resistance with minimum weight. Made of PTFE. Use with large-diameter tanks. Maximum pressure is 90 psi. Max. temperature is 200° F. Connection is NPT female.

***Style F*—** Use with tanks. Maximum pressure is 80 psi. Maximum temperature is 250° F. Connection is NPT female.

Pipe Size	Max. Tank Dia.	Flow Rate, gpm 20 psi	40 psi	60 psi	400 psi	Spray Angle	Orifice Dia.	O'all Wd.	O'all Lg.		Each
Stationary											
(A) Brass Nozzles for Small-Diameter Openings											
3/8"	2.5 ft.	4.2	6.0	7.3	19.0	180°	0.19"	3/4"	2 15/16"	4728T31	$74.83
3/8"	5 ft.	7.5	10.6	13.0	33.5	180°	0.25"	3/4"	2 15/16"	4728T32	74.83
3/8"	7 ft.	11.7	16.5	20.2	52.2	180°	0.31"	3/4"	2 15/16"	4728T33	74.83
(B) Brass Nozzles											
1/2"	5-10 ft.	4.0	5.6	6.8	—	240°	0.03"	1 5/16"	1 13/16"	32225K11	83.88
1/2"	5-10 ft.	12.1	17.2	21.1	—	240°	0.06"	1 5/16"	1 13/16"	32225K21	83.88
(B) Type 303 Stainless Steel Nozzles											
1/2"	5-10 ft.	4.0	5.6	6.8	—	240°	0.03"	1 5/16"	1 13/16"	32225K31	131.60
1/2"	5-10 ft.	12.1	17.2	21.1	—	240°	0.06"	1 5/16"	1 13/16"	32225K41	131.60
Rotating											
(C) Type 316 Stainless Steel Nozzle for Small-Diameter Openings											
3/8"	3-5 ft.	4.6	6.5	8.0	—	360°	0.03"	13/16"	2"	7064T1	186.22
(D) Plastic Drum-Washing Nozzle											
1/2"	3-5 ft.	4.5	6.3	7.8	—	360°	0.03"	1 3/16"	3"	71445T84	49.62
(E) Plastic Tank-Washing Nozzles											
3/4"	18 ft.	32.0	45.0	55.0	—	180°	0.03"	2"	3"	3377K52	249.44
3/4"	18 ft.	32.0	45.0	55.0	—	360°	0.18"	2"	3"	3377K72	256.26
1"	18 ft.	49.0	70.0	85.0	—	180°	0.28"	3"	4"	3377K54	374.31
1"	18 ft.	49.0	70.0	85.0	—	360°	0.21"	3"	4"	3377K74	383.47
(F) Type 316 Stainless Steel Tank-Washing Nozzles											
3/4"	15 ft.	11.0	15.0	19.0	—	270°	0.14"	2 1/4"	4 1/16"	3180K3	267.00
3/4"	15 ft.	32.0	45.0	55.0	—	360°	0.28"	2 1/4"	4 1/16"	3180K2	286.87

Floor Sweeper



Sweep dust and dirt from your facility with this push-type floor sweeper. Rotary side brush sweeps dirt and dust from walls and corners into the path of the wide main brush. (Sweeping width is 26″.) Main brush then deposits the dirt into the sweeper's 9-gal. plastic hopper.

Base is 15⅜″ Ht. × 31″ Wd. × 40½″ Dp. Frame is steel and brushes are nylon. Sweeper includes two side wheels, one center swivel caster, and height-adjustment knobs. Handle is steel, 36″ long, and folds for easy storage.

7425T15 ..... $695.26

Washer and Dryer

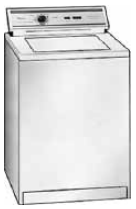

Washer



Dryer

Washer—This top-loading washer has five cycle selections, a single-speed motor, and a safety mechanism that locks the lid at the start of a cycle. The tub is porcelain for rust and corrosion resistance. Self-leveling rear legs and a drain are included. Cabinet is galvanized steel with a white finish. Cord is 5½ feet long with a three-prong plug. UL listed and CSA certified. Estimated yearly energy cost is $16.00 when used with an electric water heater, and $10.00 when used with a natural gas water heater. Your energy cost depends on your utility rates and use. The estimated cost is based on eight washloads a week and 10.65 cents per kWh for electricity and $1.218 per therm for natural gas. For more information, visit www.ftc.gov/energy.

Electric Dryer—This front-loading dryer has three cycle selections (heavy duty, normal, and delicates), an overload protector, and a steel drum. Cabinet is galvanized steel with a white finish. Cord is 4 feet long with a three-prong plug. UL listed.

Cap., cu. ft.	O'all Size, Ht. × Wd. × Dp.	Motor, hp	VAC@ 60 Hz	Amps		
Washer						
2.9	40⅞″ × 27″ × 25½″	⅓	120	8	**2407K34**	$797.50
Electric Dryer						
7.4	42″ × 27″ × 29¼″	⅓	240/208	23.33	**2407K43**	592.23

Magnetic Stud Finders



Economy Magnetic Finder



Standard Electronic Finder

Locate studs before starting your project. For use on most surfaces including drywall, plywood, paneling, and concrete.

Economy Magnetic Finder—Includes a rotating vial for horizontal and vertical alignment. No batteries required.

Electronic Finders—Measure changes in wall density to locate studs. An audible signal sounds when a stud is located. Both use one 9V battery (sold separately).

Standard model has four LEDs that also signal stud location. *Multipurpose model* has an LCD scanner that also locates metal pipes, conduit, rebar, and unshielded "hot" wires. It can also locate ½″ dia. rebar in concrete up to 3″ deep.

	Max. Wall Depth Scanned	O'all Size, Ht. × Wd. × Dp.		
Economy Magnetic	½″	3¼″ × 1⅛″ × ½″	**1009T11**	$6.89
Standard Electronic	¾″	5⁹⁄₁₆″ × 2⁵⁄₁₆″ × 1³⁄₁₆″	**8524T11**	13.44
Multipurpose Electronic	1½″	7¼″ × 3¼″ × 1⁷⁄₁₆″	**8524T13**	54.32
9V Battery for Electronic Models			**71455K56**	2.75

Catch Basin Cleaner



Remove sludge and debris from your basins and sewers. Made of 18-ga. steel, cleaner has holes on all sides to drain liquid. It also has a ¾″ NPT female connection for attaching an iron pipe handle (not included).

Cleaner—6″ Ht. × 6″ Wd. × 8⅜″ Dp. **2585K3** $27.48

Tree- and Lumber-Marking Spray Paint

Solvent-based aerosol paint provides bright visual identification at a distance, yet will not soak into wood. One can covers 56 sq. ft. at 1 mil thick. Application temp. is 30° to 100°F. Furnished in a 12-oz. net wt. can. **To Order:** Please specify color: nonfluorescent light blue, orange, or yellow; fluorescent pink or red.

58495T71 ..... 1-11 $4.66 12-Up $4.16

Ground Probing Rods



Before you dig, use these rods to locate sewer and water mains, drain tile, and other underground installations.

Steel rod has a ½″ diameter shaft. Handle is 15¾″ long and has vinyl grips.

Fiberglass rods are excellent for areas where electrical components are buried. They have a ⅝″ diameter shaft with a nonreplaceable 1⅝″ pointed steel tip. Handles are 13¼″ long and have polyethylene end caps.

	Steel		Fiberglass	
4-ft. Rod	**1070T25**	$27.00	**1070T21**	$31.79
5-ft. Rod	———	———	**1070T22**	33.20

Metal Detectors

Compact



This hand-held detector finds metallic objects through most nonmetallic construction materials (including concrete) up to 6″ deep. An LCD display and audible signal pinpoint both the location and the depth of your target. Made of water-resistant polystyrene, detector is only 9″ Lg. × 4″ Wd. × 2″ Ht. Operates on one 9V battery (included).

Detector **1379T66** $174.26

Deep Reach



Speaker sound and needle movement alert you when buried ferrous and nonferrous metal objects are present in soil, asphalt, and concrete. Detector has a submersible, 8″ dia., ABS plastic search coil that resists false readings from wet foliage, wet pavement, and mineralized soil. It can locate a manhole cover buried approximately 3 feet deep. Handle adjusts from 38″ to 50″ long. Battery check system and two 9-volt batteries are included.

Stereo headphones screen noisy distractions.

Hard-shell carrying case provides protection during storage and transport.

Detector	**1166T1**	$664.62
Stereo Headphones	**1166T2**	83.64
Hard-Shell Carrying Case	**1166T4**	156.92

Digital Moisture Detectors

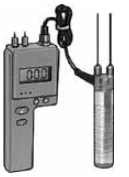

With 3¼″ Insulated Pins

Check the moisture content of wood and other building materials. Detector uses two ⁵⁄₁₆″ noninsulated integral electrode pins that are mounted directly to the meter (two replacement pins are also included). For deeper penetration, two 3¼″ insulated electrode pins attach to the meter with a 3-ft. cord (pins and cord included).

Detector has three scales. The wood scale measures moisture from 6% to 40% in lumber, studs, and flooring. A comparative reference scale reads from 0 to 100 and is used in nonwood materials such as concrete, insulation, and roofing. The gypsum scale measures moisture from 0.2% to 50% in sheetrock (drywall). Detector also accumulates up to 100 readings and gives you an average. Operates on one 9V battery (included).

Detector—8″ Lg. × 3″ Wd. × 1⅝″ Ht.	**1094T19**	**Each**	$538.42
Repl. 3¼″ Insulated Pins	**1094T16**	**Each**	$22.53
Repl. ⁵⁄₁₆″ Noninsulated Pins (Pkg. of 4)	**1094T15**	**Pkg.**	$11.23

Underground Cable and Pipe Warning Tape



To prevent damage, bury this tape above piping and cable to warn excavators. The tape combines a continuous CAUTION message with one of the messages below.

Polyethylene tape is highly visible. ***Aluminum*** tape can be located using nonferrous metal detectors.

	POLYETHYLENE, 6″ WD. × .003″ THICK.			***ALUMINUM, 2″ WD. × .005″ THICK.***		
Message	**Tape Color**	***300-ft. Roll***	***1,000-ft. Roll***	**Tape Color**	***250-ft. Roll***	***1,000-ft. Roll***
Electrical Line Buried Below	Red	**8288T31** $14.66	**8288T14** $37.20	Red	**60005T35** $9.88	**60005T13** $28.41
Gas Line Buried Below	Yellow	**8288T27** 14.66	**8288T12** 37.20	Yellow	**60005T29** 9.88	**60005T11** 28.41
Water Line Buried Below	Yellow	**8288T37** 14.66	**8288T19** 37.20	Blue	**60005T31** 9.88	**60005T12** 28.41
Telephone Line Buried Below	Yellow	**8288T34** 14.66	**8288T15** 37.20	Orange	**60005T37** 9.88	**60005T14** 28.41
Buried Sewer Line Below	Yellow	**8288T24** 14.66	**8288T11** 37.20	Green	**60005T39** 9.88	**60005T15** 28.41

Scraping Mats

Small polypropylene loops create an excellent scraping surface and keep dirt and mud away from your shoes. Mats have black edging on all four sides and are easy to clean. Backing is vinyl. Color is dark gray. For indoor and outdoor use.

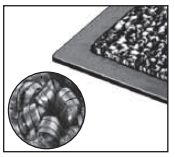

Wd. × Lg.	Thick.		
24″ × 36″	5/16″	6832T292	$15.46
36″ × 48″	5/16″	6832T213	30.94
36″ × 60″	5/16″	6832T223	38.67
36″ × 72″	5/16″	6832T233	46.40
36″ × 96″	5/16″	6832T295	61.87
36″ × 120″	5/16″	6832T298	77.33
48″ × 72″	5/16″	6832T243	61.87
48″ × 96″	5/16″	6832T253	82.49

Ultra-Scraping Steel Mats

Easily scrape off stubborn mud, dirt, and snow. These rugged, rust-resistant mats are made of 3/8″ high, flat galvanized steel strips that are crimped with steel rods for durability. Mats have a 1″ × 1″ mesh pattern and roll up for easy floor cleaning. For indoor and outdoor use.

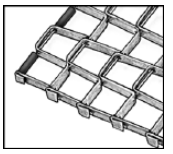

Wd. × Lg.	Thick.		
18″ × 30″	3/8″	6875T12	$54.00
22″ × 36″	3/8″	6875T13	79.20
24″ × 42″	3/8″	6875T14	100.80
24″ × 96″	3/8″	6875T31	230.40
30″ × 48″	3/8″	6875T15	124.29
36″ × 48″	3/8″	6875T22	$130.50
36″ × 60″	3/8″	6875T17	163.12
36″ × 72″	3/8″	6875T18	195.75
48″ × 72″	3/8″	6875T33	261.00
48″ × 96″	3/8″	6875T34	348.00

Shoe and Boot Brush/Scrapers

Remove tough material from your shoes and boots. This combination brush/scraper has two brushes with stiff polypropylene bristles that form a V-shaped cleaning surface.

For stubborn material, simply flip up the brushes to reveal a steel scraper bar. Frame is chrome-plated steel with four 11/32″ dia. holes for floor mounting (fasteners not included). Overall size is 16 1/2″ Lg. × 14 3/4″ Wd. × 7″ Ht.



Flipped Down



Flipped Up

Brush	6255T14	$62.71
Repl. Brush (two required)	6255T15	14.74

High-Traffic Scraping Mats

These durable mats withstand heavy indoor and outdoor use.

Rubber Mats— Elevated edges on all four sides hold dirt and moisture away from shoes and keep floors clean. The edges are tapered to prevent tripping. Mats are slip resistant and flexible, even in cold and wet weather. Color is black.

Finger mats have flat-topped rubber bristles to scrape and brush dirt away. *Raised-surface mats* have oblong, molded rubber projections to scrape dirt away.

Nylon Mats— A nylon fiber surface scrapes dirt and moisture from shoes while the rubber backing provides durability. Mats have edging on all four sides. Color is black.

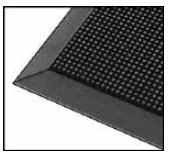

Rubber Finger Mat



Rubber Raised Surface

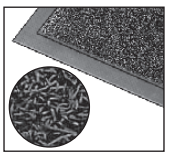

Nylon Fiber

Wd. × Lg.	Thick.		
Rubber Finger Mats			
24″ × 32″	5/8″	6997T1	$35.08
28″ × 46″	5/8″	6997T3	51.18
36″ × 60″	5/8″	6997T6	75.07
36″ × 72″	5/8″	6997T4	90.09
Rubber Raised-Surface Mats			
36″ × 60″	1/4″	7347T11	49.68
36″ × 120″	1/4″	7347T12	99.40
48″ × 72″	1/4″	7347T13	82.58

Wd. × Lg.	Thick.		
Nylon Fiber Mats			
24″ × 35″	3/8″	4798T31	$56.42
35″ × 47″	3/8″	4798T32	104.73
35″ × 59″	3/8″	4798T33	138.13
35″ × 69″	3/8″	4798T34	158.24
35″ × 118″	3/8″	4798T35	263.72
45″ × 69″	3/8″	4798T36	209.73
45″ × 95″	3/8″	4798T37	282.18
45″ × 118″	3/8″	4798T38	351.59

Scraping and Drying Mats

Keep your floors clean and dry. The surface of these mats scrapes your shoes and absorbs moisture. Mats have a vinyl backing and black edging on all four sides. For indoor use.

Ribbed and Multidirection Ribbed Mats— The ribbed polypropylene surface aggressively scrapes shoes and absorbs moisture, while the channels trap dust, moisture, and dirt. Mats are quick drying and easy to clean. **To Order:** Please specify blue, brown, or dark gray.

Ribbed mats have a straight rib design that runs from one end of the mat to the other. *Multidirection ribbed mats* have a zig-zag rib design for scraping in multiple directions.

Dual-Surface Mats— A two-in-one surface cleans and dries shoes. Mats have polypropylene loop for scraping and olefin for quick-drying. **To Order:** Please specify blue or dark gray.

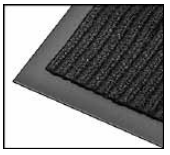

Ribbed

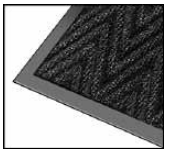

Multidirection Ribbed

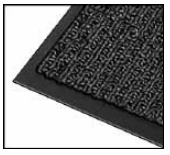

Dual Surface

Standard Size Mats

Wd. × Lg.	Ribbed Thick.	Ribbed	Each	Multidirection Ribbed Thick.	Multidirection Ribbed	Each	Dual Surface Thick.	Dual Surface	Each
24″ × 36″	3/8″	6957T16	$12.53	3/8″	62315T69	$14.40	5/16″	6803T41	$15.47
36″ × 48″	3/8″	6957T1	25.07	3/8″	62315T71	28.80	5/16″	6803T42	30.93
36″ × 60″	3/8″	6957T2	31.33	3/8″	62315T72	36.00	5/16″	6803T43	38.67
36″ × 72″	3/8″	6957T3	37.60	3/8″	62315T73	43.20	5/16″	6803T44	46.40
36″ × 96″	3/8″	6957T17	49.74	3/8″	62315T78	57.60	5/16″	6803T37	61.87
36″ × 120″	3/8″	6957T18	62.67	3/8″	62315T79	72.00	5/16″	6803T38	77.33
48″ × 72″	3/8″	6957T4	49.74	3/8″	62315T74	57.60	5/16″	6803T45	61.87
48″ × 96″	3/8″	6957T5	66.84	3/8″	62315T75	76.80	5/16″	6803T46	82.49

Custom Length Mats

Wd.	Full Roll	Ribbed Thick.	Ribbed	Per Ft.	Multidirection Ribbed Thick.	Multidirection Ribbed	Per Ft.	Dual Surface Thick.	Dual Surface	Per Ft.
36″	60 ft.	3/8″	6957T26	$7.83	3/8″	62315T46	$9.00	5/16″	6803T66	$9.67
48″	60 ft.	3/8″	6957T27	10.44	3/8″	62315T47	12.00	5/16″	6803T67	12.89
72″	60 ft.	3/8″	6957T28	14.10	3/8″	62315T48	16.20	—	—	—

High-Traffic Scraping and Drying Mats

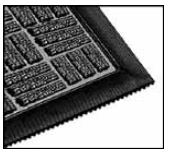

Dry floors are safer floors. These durable, rubber-backed mats hold up to 1½ gallons of water per square yard and have elevated rubber edges on all four sides to contain moisture. Plus they have polypropylene-topped rubber ribs to scrape and provide traction. Grippers on the back prevent movement. For indoor use.

To Order: Please specify blue or dark gray.

Wd. × Lg.	Thick.		
24″ × 36″	11/32″	6808T11	$33.48
36″ × 48″	11/32″	6808T13	66.96
36″ × 60″	11/32″	6808T15	83.70
36″ × 10 ft.	11/32″	6808T17	167.40
48″ × 72″	11/32″	6808T19	117.12
48″ × 10 ft.	11/32″	6808T21	195.20

Scraping and Drying Coco Mats

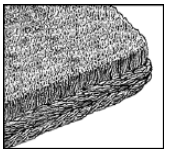

A traditional favorite, these mats are made of coconut husk fibers that clean grit from your shoes and absorb moisture. The fibers retain a bristle-like stiffness and are uniformly cut. There's a border on all sides. Color is natural tan. For indoor and outdoor use.

Wd. × Lg.	Thick.			Wd. × Lg.	Thick.		
14″ × 24″	1¾″	6883T11	$12.28	26″ × 42″	1¾″	6883T17	$39.36
16″ × 27″	1¾″	6883T12	15.91	30″ × 48″	1¾″	6883T19	49.57
18″ × 30″	1¾″	6883T13	19.20	36″ × 48″	1¾″	6883T21	61.97
22″ × 36″	1¾″	6883T15	28.56	36″ × 60″	1¾″	6883T22	77.77
24″ × 39″	1¾″	6883T16	33.94	36″ × 72″	1¾″	6883T23	93.30

Drying Mats

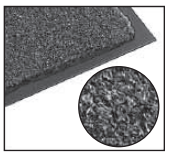

Olefin

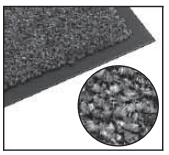

Nylon

Topped with carpet, these mats provide excellent moisture absorption while reducing the amount of dirt being tracked into your facility. They work well in conjunction with scraping mats. All have a vinyl backing and black edging on all four sides. For indoor use.

To Order: Please specify brown, dark gray, or red/black (more red than black).

***Quick-Drying Olefin Mats*—**Compared to nylon, olefin mats dry faster.

***Wear-Resistant Nylon Mats*—**Resist crushing for better wear resistance than olefin mats as well as better water absorption.

Sample Packs—Include small swatches of each color available.

		Each
Quick-Drying Olefin	6845T99	$1.25
Wear-Resistant Nylon	6998T99	1.25

Standard Size Mats

	Quick-Drying Olefin			Wear-Resistant Nylon		
Wd. × Lg.	Thick.		Each	Thick.		Each
24″ × 36″	3/8″	6845T81	$13.20	1/4″	6998T21	$21.61
36″ × 48″	3/8″	6845T71	26.40	1/4″	6998T31	39.69
36″ × 60″	3/8″	6845T72	33.00	1/4″	6998T36	49.63
36″ × 72″	3/8″	6845T83	39.60	1/4″	6998T45	58.37
36″ × 96″	3/8″	6845T84	52.80	1/4″	6998T48	79.36
36″ × 10 ft.	3/8″	6845T85	66.00	1/4″	6998T75	99.19
36″ × 12 ft.	3/8″	6845T86	79.20	1/4″	6998T77	119.03
48″ × 72″	3/8″	6845T73	52.80	1/4″	6998T56	77.81
48″ × 96″	3/8″	6845T74	70.40	1/4″	6998T63	103.68
48″ × 12 ft.	3/8″	6845T87	105.60	1/4″	6998T98	155.52

Custom Length Mats

		Quick-Drying Olefin			Wear-Resistant Nylon		
Full Roll	Wd.	Thick.		Per Ft.	Thick.		Per Ft.
60 ft.	36″	3/8″	6845T411	$8.25	1/4″	6998T511	$12.40
60 ft.	48″	3/8″	6845T421	11.00	1/4″	6998T521	16.20

Three-In-One Entrance Mats

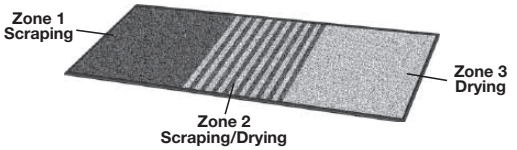

Get three zones of cleaning power in one convenient mat. Zone one is for aggressive scraping, zone two alternates stripes of scraping and drying, and zone three is for drying. Mats are polypropylene with a vinyl backing. For indoor use.

To Order: Please specify black, brown, or dark gray.

Wd. × Lg.	Thick.			Wd. × Lg.	Thick.		
36″ × 10 ft.	3/8″	6951T1	$149.42	48″ × 10 ft.	3/8″	6951T3	$199.23
36″ × 12 ft.	3/8″	6951T2	179.31	48″ × 12 ft.	3/8″	6951T4	239.08

Edging for Vinyl-Backed Mats



Give your mats a finished look. Edging is vinyl and 1″ wide and can be used with vinyl-backed mats from 1/4″ to 3/8″ thick. Color is black. For indoor and outdoor use.

Complete kit includes a 25-ft. long piece of edging, a 4-oz. brush-top can of adhesive, and an application roller. For additional adhesive, see 7507A on page 3459.

		Per Ft.
Edging	68005T46	$1.15
Complete Kit	68005T43	Each $50.99

Sticky-Surface Mats



Dirt, dust, and other contaminants from shoes and wheels stick to the tacky surface instead of getting tracked into your facility. Ideal for contamination control.

Peel-Off Disposable Sticky-Surface Frameless Mats

Always have a clean mat. When the top sheet gets dirty, pull the numbered corner tab to remove it and expose the next clean sheet. Made up of layers of adhesive-coated polyethylene sheets with an adhesive backing. Apply to any clean, dry surface. For indoor use.

To Order: Please specify blue, light gray, or white.

	30-Layer Mats			60-Layer Mats		
Wd. × Lg.	Thick.		Each★	Thick.		Each★
18″ × 36″	0.05″	6896T61	$26.47	0.09″	6896T65	$48.84
18″ × 45″	0.05″	6896T62	32.93	0.09″	6896T66	61.31
25″ × 45″	0.05″	6896T63	45.81	0.09″	6896T67	85.37
36″ × 45″	0.05″	6896T68	67.12	0.09″	6896T71	120.77
36″ × 60″	0.05″	6896T69	87.10	0.09″	6896T72	138.12

★ Prices are 10% less when you order in quantities of 4.

Peel-Off Disposable Sticky-Surface Framed Mats

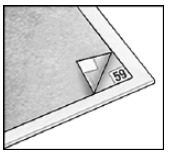

A one-piece, washable polystyrene frame holds one blended polyolefin multilayer mat. Frame has a nonskid backing for use on any clean, dry surface. When the top sheet gets dirty, pull the numbered corner tab to remove it and expose the next clean sheet. For indoor use.

The *25½″ Wd. × 31½″ Lg. frame* comes in two colors. **To Order:** Please specify white frame with white mat or black frame with light gray mat.

The *36″ Wd. × 46″ Lg. frame* is black with a light gray mat.

Frame Size, Wd. × Lg.	O'all Thick.	No. of Mat Layers	Framed Mats		Refill Mats	
25½″ × 31½″	0.24″	60	34975T3	$94.12	34975T5 ●	$65.85
36″ × 46″	0.21″	30	34975T6	157.61	34975T7	65.73

● **To Order:** Please specify mat color: white or light gray.

Reusable Sticky-Surface Mats

Never run out of clean mats. When these sticky mats get dirty, use the cleaner (sold below) to restore the surface's original dirt- and dust-grabbing characteristics. Made of cut- and scratch-resistant cushioned vinyl, mats are not affected by heat, cold, or humidity. They have an adhesive backing to keep them in place. For indoor use. Color is blue.

Wd. × Lg.	Thick.		
24″ × 24″	1/8″	6233T24	$120.19
24″ × 48″	1/8″	6233T25	216.35
Cleaner—1-qt. Container		6233T27	34.44

V-Rib Antislip Traction Mats

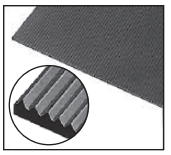

Get slip resistance and dirt scraping with lengthwise-running ribs. Color is black. For indoor use.

***Vinyl Mats*—**Resist grease and chemicals.

***Rubber Mats*—**More durable with greater slip and abrasion resistance than vinyl. Remain flexible at low temperatures.

Standard Size Mats

Wd. x Lg.	VINYL 1/8" Thick Each	RUBBER 1/8" Thick Each	RUBBER 1/4" Thick Each
24" x 48"	6895T711 $18.66	6897T511 $39.46	6973T711 $111.80
24" x 60"	6895T712 23.35	6897T641 49.31	— —
24" x 72"	— —	— —	6973T728 167.72
24" x 96"	6895T714 37.34	6897T512 78.96	6973T712 223.54
24" x 10 ft.	6895T715 46.66	6897T643 98.57	6973T853 268.77
24" x 12 ft.	6895T716 56.01	6897T513 118.40	— —
24" x 20 ft.	6895T717 93.37	6897T514 197.32	— —
24" x 30 ft.	6895T721 140.04	6897T644 295.76	— —
24" x 50 ft.	6895T724 233.39	6897T515 492.97	— —
36" x 48"	6895T718 28.00	6897T516 54.84	6973T716 148.37
36" x 60"	6895T719 34.98	6897T645 68.60	— —
36" x 72"	— —	— —	6973T729 215.96
36" x 96"	6895T722 56.01	6897T517 109.74	6973T717 296.65
36" x 10 ft.	6895T723 70.01	6897T647 137.26	6973T857 359.87
36" x 12 ft.	6895T735 84.03	6897T518 164.62	— —
36" x 20 ft.	6895T725 140.02	6897T519 275.23	— —
36" x 30 ft.	6895T732 210.04	6897T648 411.75	— —
36" x 50 ft.	6895T734 350.13	6897T521 685.88	— —
48" x 48"	6895T726 34.24	6897T522 75.57	— —
48" x 96"	6895T729 68.61	6897T523 151.14	— —
48" x 10 ft.	6895T731 85.54	6897T652 189.20	— —
48" x 20 ft.	6895T733 171.13	6897T525 377.83	— —
48" x 50 ft.	6895T728 427.78	6897T526 944.49	— —
72" x 72"	— —	6897T654 180.21	— —
72" x 96"	— —	6897T655 240.25	— —

Custom Length Mats

Wd.	Thick.	VINYL Full Roll	VINYL Per Ft.	RUBBER Full Roll	RUBBER Per Ft.
24"	1/8"	105 ft. 6895T11	$6.50	150 ft. 6897T11	$11.07
24"	1/4"	— —	— —	75 ft. 6973T12	30.92
36"	1/8"	105 ft. 6895T12	9.73	150 ft. 6897T13	15.40
36"	1/4"	— —	— —	75 ft. 6973T13	40.33
48"	1/8"	105 ft. 6895T15	13.01	150 ft. 6897T15	21.34
48"	1/4"	— —	— —	75 ft. 6973T14	50.70
72"	1/8"	— —	— —	75 ft. 6897T17	33.85
72"	1/4"	— —	— —	36 ft. 6973T15	81.57

Diamond-Tread Antislip Traction Mats



With Borders

The diamond-tread pattern provides multi-directional slip resistance. Mats are vinyl to resist grease and chemicals. For indoor use.

To Order: Please specify black or light gray.

Mats with borders have yellow borders on the two length edges to define safe traffic areas.

Standard Size Mats

Wd. x Lg.	Thick.	Without Borders Each	With Borders Each
24" x 48"	5/32"	6815T23 $36.54	6815T33 $44.44
24" x 96"	5/32"	6815T24 73.04	6815T34 88.97
24" x 12 ft.	5/32"	6815T25 104.52	6815T35 133.45
24" x 20 ft.	5/32"	6815T26 174.18	6815T36 218.75
24" x 50 ft.	5/32"	6815T27 435.38	6815T37 546.82
36" x 48"	5/32"	6815T65 55.36	6815T61 68.49
36" x 96"	5/32"	6815T66 110.72	6815T62 136.94
36" x 10 ft.	5/32"	6815T41 133.06	6815T42 168.74
36" x 12 ft.	5/32"	6815T67 166.08	6815T63 197.49
36" x 20 ft.	5/32"	6815T68 264.39	6815T64 325.36
48" x 48"	5/32"	6815T85 73.04	6815T81 88.85
48" x 96"	5/32"	6815T86 146.06	6815T82 177.95
48" x 10 ft.	5/32"	6815T43 177.15	6815T44 222.32
48" x 12 ft.	5/32"	6815T87 209.00	6815T83 266.95
48" x 20 ft.	5/32"	6815T88 348.28	6815T84 437.50

Custom Length Mats

Wd.	Thick.	Full Roll	Without Borders Per Ft.	With Borders Per Ft.
24"	5/32"	75 ft.	6815T8 $10.89	6815T9 $13.68
36"	5/32"	75 ft.	6815T11 16.52	6815T14 20.32
48"	5/32"	75 ft.	6815T12 21.77	6815T15 27.35

Round- and Flat-Rib Antislip Traction Mats

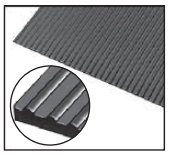

Vinyl Round Rib

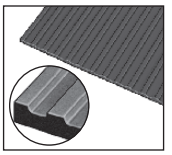

Rubber Flat Rib

Round- and flat-rib mats are easier to clean than V-rib mats, yet still give you sure footing while scraping dirt off your shoes. Ribs run lengthwise. For indoor and outdoor use. Color is black.

***Vinyl Round-Rib Mats*—**Resist grease and chemicals.

***Rubber Flat-Rib Mats*—**More durable with greater slip and abrasion resistance than the vinyl mats. They absorb shock, resist impact, and remain flexible at low temperatures.

Standard Size Mats

Wd. x Lg.	Thick.	Vinyl Round Rib Each	Rubber Flat Rib Each
24" x 48"	1/8"	6252T611 $18.66	6972T61 $26.73
24" x 72"	1/8"	6252T631 28.00	6972T51 40.12
24" x 96"	1/8"	6252T641 37.34	6972T62 53.56
24" x 10 ft.	1/8"	6252T651 46.66	6972T52 66.90
24" x 20 ft.	1/8"	6252T671 93.37	6972T64 133.85
36" x 48"	1/8"	6252T681 28.00	6972T65 34.26
36" x 72"	1/8"	6252T711 42.02	6972T53 51.56
36" x 96"	1/8"	6252T721 56.01	6972T66 68.54
36" x 10 ft.	1/8"	6252T731 70.01	6972T54 85.68
36" x 20 ft.	1/8"	6252T751 139.82	6972T68 171.42

Custom Length Mats

Wd.	Thick.	Vinyl Round Rib Full Roll	Vinyl Round Rib Per Ft.	Rubber Flat Rib Full Roll	Rubber Flat Rib Per Ft.
24"	1/8"	105 ft. 6252T15	$5.85	120 ft. 6972T3	$8.36
36"	1/8"	105 ft. 6252T16	8.74	120 ft. 6972T1	10.70
48"	1/8"	105 ft. 6252T22	11.61	— —	—

High-Traffic Traction Mats



Smooth

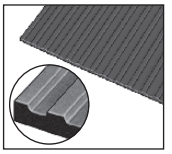

Flat Rib

Nylon reinforcement gives these rubber mats exceptional strength and durability. Plus, they remain flexible at low temperatures. For indoor use. Color is black.

***Smooth Mats*—**Resist damage from spikes, cleats, and even fork-lift traffic. They're easier to clean than flat-rib mats. Use where high traction is not essential.

***Flat-Rib Mats*—**Get abrasion and slip resistance. Mats resist punctures and impact and absorb shock. Ribs run lengthwise.

Standard Size Mats

Wd. x Lg.	Smooth Thick.	Smooth Each	Flat Rib Thick.	Flat Rib Each
24" x 48"	1/8"	6821T711 $27.72	1/4"	6974T71 $52.33
24" x 72"	1/8"	6821T712 41.64	1/4"	6974T68 78.45
24" x 96"	1/8"	6821T713 55.50	1/4"	6974T72 104.56
24" x 10 ft.	1/8"	6821T714 69.38	1/4"	6974T69 130.80
36" x 48"	1/4"	6821T811 77.35	1/4"	6974T75 68.33
36" x 72"	1/4"	6821T812 117.62	1/4"	6974T81 102.48
36" x 96"	1/4"	6821T813 154.71	1/4"	6974T76 136.72
36" x 10 ft.	1/4"	6821T814 193.37	1/4"	6974T82 170.80
48" x 48"	3/16"	6821T821 95.62	—	— — —
48" x 72"	3/16"	6821T822 143.44	—	— — —
48" x 96"	3/16"	6821T823 191.24	—	— — —
48" x 10 ft.	3/16"	6821T824 239.04	—	— — —

Custom Length Mats

Wd.	Thick.	Smooth Full Roll	Smooth Per Ft.	Flat Rib Full Roll	Flat Rib Per Ft.
24"	1/8"	22 ft. 6821T68	$8.63	— —	— —
24"	1/4"	— —	— —	48 ft. 6974T3	$16.35
36"	1/4"	22 ft. 6821T64	24.10	48 ft. 6974T4	21.93
48"	3/16"	22 ft. 6821T66	29.90	— —	— —

Textured-Surface Antislip Traction Mats

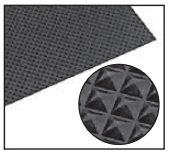

Vinyl Pyramid Top

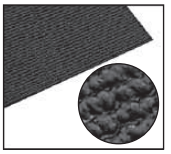

Rubber Pebbled Top

Get multidirectional slip resistance and traction. Color is black.

Vinyl Pyramid-Top Mats— Tiny pyramid-shaped projections scrape dirt off your shoes. Mats resist grease and chemicals. For indoor use.

Rubber Pebbled-Top Mats— More durable with greater abrasion resistance than vinyl mats and remain flexible at low temperatures. For indoor and outdoor use.

Standard Size Mats

	Vinyl Pyramid Top			*Rubber Pebbled Top*		
Wd. × Lg.	Thick.		Each	Thick.		Each
36″ × 48″	1/8″	6962T41	$51.89	3/32″	6968T61	$24.76
36″ × 60″	1/8″	6962T42	64.86	3/32″	6968T62	30.94
36″ × 72″	1/8″	6962T43	77.84	3/32″	6968T63	37.16
36″ × 96″	—	—	—	3/32″	6968T64	49.50
36″ × 10 ft.	1/8″	6962T44	129.71	3/32″	6968T65	61.93
36″ × 12 ft.	—	—	—	3/32″	6968T66	74.31
36″ × 20 ft.	—	—	—	3/32″	6968T67	123.80
48″ × 60″	1/8″	6962T52	85.63	—	—	—
48″ × 72″	1/8″	6962T53	102.71	—	—	—
48″ × 10 ft.	1/8″	6962T54	171.14	—	—	—

Custom Length Mats

Wd.	Thick.	Full Roll		Per Ft.
Vinyl Pyramid Top				
36″	1/8″	105 ft.	6962T11	$13.79
48″	1/8″	105 ft.	6962T13	18.21
Rubber Pebbled Top				
36″	3/32″	108 ft.	6968T11	8.53

Raised-Disc Antislip Traction Mats and Floor Tiles

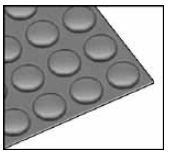

The raised-disc surface provides traction and is easy to clean. For indoor use. **To Order:** Please specify black or light gray.

Vinyl Mats— Resist grease and chemicals.

Rubber Floor Tile— More durable with greater slip and abrasion resistance than vinyl mats. Plus, tile remains flexible at low temperatures. Install with the adhesive sold separately. *Adhesive* is a two-part solvent-free epoxy. Application time, after mixing, is 40 to 50 minutes. Fully dry in 72 hours. One gallon covers approximately 125-150 sq. ft.

Standard Size Vinyl Mats

Wd. × Lg.	Thick.	Disc Dia.		Each
36″ × 48″	3/32″	3/4″	70035T61	$61.44
36″ × 96″	3/32″	3/4″	70035T62	122.30
48″ × 48″	3/32″	3/4″	70035T63	81.43
48″ × 96″	3/32″	3/4″	70035T64	162.85

Custom Length Vinyl Mats

Wd.	Thick.	Disc Dia.	Full Roll		Per Ft.
36″	3/32″	3/4″	50 ft.	70035T81	$19.11
48″	3/32″	3/4″	50 ft.	70035T82	25.46

Rubber Floor Tile

Wd. × Lg.	Thick.	Disc Dia.		Each
24″ × 24″	5/32″	1 1/4″	6292T28	$37.67
Adhesive (1 gallon)			6292T61	103.07

Bath Mats



Suction cups keep this PVC mat in place in wet environments. Color is white.

Wd. × Lg.	Thick.		
21″ × 21″	7/16″	7008T25	$9.40

Clear Mats for Carpets and Floors

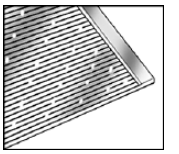

General Purpose for Carpets

Protect your carpets and floors from dirt and wear. Plus, these vinyl mats provide good traction. For indoor use.

Mats for Carpets— A gripper bottom holds them in place. *General purpose mats* have a ribbed pattern. *High-traffic mat* has a textured pattern.

Mat for Floors— Has a ribbed pattern.

Wd.	Thick.	Full Roll		Per Ft.
Mats for Carpets— *General Purpose*				
27″	0.05″	80 ft.	6839T4	$4.45
36″	0.05″	60 ft.	6839T12	9.12
48″	0.05″	60 ft.	6839T13	11.79
Mat for Carpets— *High Traffic*				
48″	0.12″	50 ft.	6839T55	19.22
Mat for Floors				
27″	0.04″	100 ft.	62405T171	3.03

Temporary Carpet and Floor Protectors



Film with Optional Applicator

Cover your carpets and floors during painting and remodeling work. Protectors withstand high traffic. For indoor use.

Adhesive-Backed Polyethylene Film

Made of tear-resistant polyethylene film, these protectors have a pressure-sensitive adhesive backing. The adhesive keeps the protectors in place, but does not permanently bond to the floor. You can leave them in place for up to 30 days without harming floors or carpets. *Optional applicators* (sold separately below) reduce installation time; applicators only work with 200-ft. and 500-ft. long protectors.

Protectors for Carpets— Not for use on wool or other natural fiber carpets. Color is clear.

Protectors for Floors— Great for linoleum and ceramic tile. Not for use on hardwood floors. Color is a green tint.

	For Carpets			*For Floors*		
Wd. × Lg.	Thick.		Roll	Thick.		Roll
21″ × 35 ft.	2.5 mils	70005T61	$11.54	3 mils	70005T57	$11.58
24″ × 200 ft.	2.5 mils	70005T62	52.02	3 mils	70005T65	50.50
30″ × 200 ft.	2.5 mils	70005T24	84.88	—	—	—
36″ × 200 ft.	2.5 mils	70005T47	94.35	3 mils	70005T68	91.58
36″ × 500 ft.	2.5 mils	70005T48	195.04	3 mils	70005T66	189.35
48″ × 200 ft.	2.5 mils	70005T32	151.48	—	—	—
48″ × 500 ft.	2.5 mils	70005T64	260.04	3 mils	70005T67	252.48
Applicator for 24″, 30″, and 36″ wide Rolls		70005T73	$156.14			
Applicator for 36″ and 48″ wide Rolls		70005T74	243.86			

Paper Floor Protector

Similar to heavy kraft paper, this temporary floor protector is made of recycled paper and offers moisture resistance. Keep in place with masking tape. For use on most floors. Color is tan. Size is 35″ Wd. × 166 ft. Lg. × 8 mils Thick.

2848T12 ..... **Roll** $12.11

Nonskid Matting Tape and Underlay

Bunching, creeping, and sliding mats and rugs can be as dangerous as they are annoying. Keep them in place with this tape or underlay. Both can be cut to size with scissors. For indoor use.

Tape

Mesh-lined tape has an odorless, pressure-sensitive adhesive on both sides. For carpets and floors. Color is off-white.

Wd. × Lg.		Roll
2 1/2″ × 25 ft.	76375A76	$12.43
6″ × 25 ft.	76375A61	21.38

Underlay

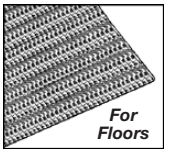

For Floors

Underlay for Carpet— Made of an adhesive-coated polyester fabric, this underlay is reusable. Color is off-white.

Underlay for Floors— Made of plant-based plastic which resists odor, bacteria, mold, and mildew. It contains no adhesives. Color is off-white.

Fits Mat/ Rug Size	*For Carpet*			*For Floors*		
	Thick.		Each	Thick.		Each
24″ × 48″	0.06″	69275T54	$6.37	0.09″	69275T24	$5.37
48″ × 72″	0.06″	69275T55	17.60	0.09″	69275T25	13.43

Antifatigue Sponge Mats

Thousands of tiny air bubbles embedded inside the mats create a soft, comfortable cushion. Mats are vinyl and resist grease, oil, and chemicals, but should be cleaned immediately after spills. They have tapered edges on all four sides, unless noted. Color is black. For indoor use.

***Smooth Mats*—** Have an easy-to-clean surface. Use where high traction is not essential.

***Ribbed Mats*—** For scraping and moderate traction.

***Textured Mats*—** Have good traction. **To Order:** Please specify with or without yellow borders on the two length sides.

***Diamond-Tread Mats*—** Have a multidirectional surface pattern for the best traction. **To Order:** Please specify with or without yellow borders on the two length sides.

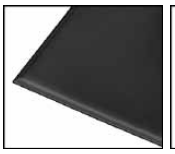

Smooth

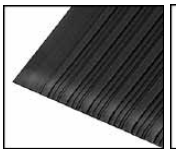

Ribbed



Textured without Borders



Diamond Tread with Borders

Standard Size Mats

Wd. × Lg.	SMOOTH 1/4" Thick	Each	SMOOTH 3/8" Thick	Each	RIBBED 1/4" Thick	Each	RIBBED 3/8" Thick	Each	TEXTURED 3/8" Thick	Each	DIAMOND TREAD 1/2" Thick	Each
24" × 36"	6915T441	$11.03	6915T551	$14.07	6240T27	$11.85	6240T71	$19.80	77935T21	$17.95	74465T11	$14.04
24" × 72"	6915T121	22.08	6915T131	28.51	6240T161	25.67	6240T171	39.67	77935T22	36.60	74465T12	28.08
24" × 96"	6915T141	29.44	6915T151	38.02	6240T212	34.16	6240T231	52.78	77935T23	48.80	74465T19	37.44
24" × 20 ft.	6915T251	73.60	6915T761	93.80	6240T261	85.44	6240T491	131.98	77935T24	120.61	74465T17	84.36
24" × 30 ft.	6915T261	110.40	6915T771	142.50	6240T281	128.19	6240T511	198.01	77935T25	180.92	74465T34	126.54
27" × 36"	6915T421	12.28	6915T531	14.88	6240T351	13.20	6240T521	22.55	—	—	—	—
27" × 60"	6915T431	20.49	6915T541	23.86	6240T361	22.00	6240T29	37.60	—	—	—	—
36" × 48"	6915T211	22.58	6915T212	27.10	6240T68	23.70	6240T471	36.37	77935T28	35.12	74465T14	28.08
36" × 60"	6915T451	28.20	6915T561	33.90	6240T69	29.65	6240T73	45.48	77935T29	43.93	74465T15	35.10
36" × 72"	6915T161	33.88	6915T171	40.66	6240T241	38.46	6240T251	54.55	77935T34	52.68	74465T16	42.12
36" × 96"	6915T271	45.12	6915T781	54.24	6240T371	51.29	6240T531	72.79	77935T61	76.00	74465T23	56.16
36" × 12 ft.	6915T461	67.68	6915T571	81.36	6240T381	76.94	6240T541	109.32	77935T62	105.44	74465T18	84.24
36" × 20 ft.	6915T281	112.80	6915T791	135.60	6240T391	128.31	6240T551	181.73	77935T63	175.60	74465T29	126.54
36" × 30 ft.	6915T291	167.84	6915T811	203.40	6240T411	192.48	6240T561	272.66	77935T64	261.82	74465T39	189.82
48" × 96"	6915T691	58.08	6915T821	69.82	6240T431	70.96	6240T581	95.05	77935T66	80.93	74465T35	68.45
48" × 12 ft.	6915T711	87.12	6915T831	104.73	6240T441	106.68	6240T591	142.48	77935T67	121.44	74465T36	102.11
48" × 20 ft.	6915T721	145.25	6915T841	174.55	6240T451	177.44	6240T611	238.30	77935T68	202.40	74465T37	161.45
48" × 30 ft.	6915T731	217.80	6915T851	261.90	6240T461	265.85	6240T671	356.40	77935T69	298.74	74465T38	242.18

Custom Length Mats

Wd.	Full Roll	SMOOTH 1/4" Thick	Per Ft.	SMOOTH 3/8" Thick	Per Ft.	RIBBED 1/4" Thick	Per Ft.	RIBBED 3/8" Thick	Per Ft.	TEXTURED 3/8" Thick	Per Ft.	DIAMOND TREAD 1/2" Thick	Per Ft.
24"	60 ft.	6915T471★	$4.59	6915T961	$5.86	7018T12★	$5.13	7018T811	$8.23	77935T811	$8.23	74465T911	$4.86
36"	60 ft.	6915T481★	7.04	6915T971	8.47	7018T13★	7.71	7018T821	11.34	77935T821	11.86	74465T921	7.30
48"	60 ft.	6915T491★	9.04	6915T981	10.88	7018T14★	10.66	7018T831	14.84	77935T831	13.66	74465T931	9.21
72"	60 ft.	6915T521★	11.55	6915T991★	13.88	7018T15★	13.00	7018T841	18.81	77935T841	17.94	—	—

★ Has tapered edges on the two length sides.

Super-Soft Antifatigue Sponge Mats

Thicker than other antifatigue sponge mats for extra cushioning and comfort. Thousands of tiny air bubbles embedded in mats create a soft cushion. Mats are vinyl and resist grease, oil, and chemicals, but should be cleaned immediately after spills. They have tapered edges on all four sides. For indoor use. **To Order:** Please specify black or light gray.

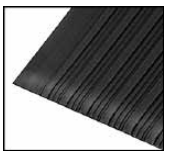

Ribbed



Textured

***Ribbed Mats*—** For traction and scraping.

***Textured Mats*—** For traction.

Standard Size Mats

Wd. × Lg.	Thick.	Ribbed Each	Textured Each
24" × 36"	5/8"	68085T51 $27.32	69265T11 $28.10
24" × 96"	5/8"	68085T72 72.83	69265T13 74.94
36" × 60"	5/8"	68085T73 69.41	69265T14 71.15
36" × 96"	5/8"	68085T74 111.06	69265T15 113.81
36" × 144"	5/8"	68085T75 166.59	69265T16 170.72

Custom Length Mats

Wd.	Thick.	Full Roll	Ribbed Per Ft.	Textured Per Ft.
24"	5/8"	60 ft.	68085T41 $11.35	69265T51 $11.71
36"	5/8"	60 ft.	68085T42 17.35	69265T52 17.67
48"	5/8"	60 ft.	68085T43 21.00	69265T53 21.53

Ultra-Soft Antifatigue Sponge Mats

Our thickest antifatigue sponge mats provide the most comfort. Mats are ribbed vinyl for traction. They resist chemicals, but should be cleaned immediately after spills. All four edges are tapered. Color is gray. For indoor use.

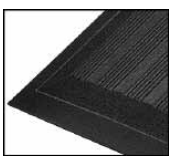

Wd. × Lg.	Thick.		
30" × 36"	1 1/4"	6914T35	$101.85
36" × 48"	1 1/4"	6914T36	158.21

Wear-Resistant Coated Antifatigue Sponge Mats



Textured without Borders



Diamond Tread with Borders

Mats have a protective coating for extra wear, abrasion, and chemical resistance while thousands of tiny embedded air bubbles create a soft, comfortable cushion. Mats are vinyl and have tapered edges on all four sides. Color is black. For indoor use. **To Order:** Please specify with or without yellow borders on the two length sides.

***Textured Mats*—** Have good traction.

***Diamond-Tread Mats*—** Have a multidirectional surface pattern for the best traction.

Standard Size Mats

Wd. × Lg.	Textured Thick.	Each	Diamond Tread Thick.	Each
24" × 36"	3/8"	6262T28 $31.15	1/2"	7512T21 $18.38
24" × 72"	3/8"	6262T15 62.33	1/2"	7512T22 36.75
24" × 96"	3/8"	6262T29 83.05	1/2"	7512T51 49.00
36" × 48"	3/8"	6262T31 71.80	1/2"	7512T24 35.28
36" × 60"	3/8"	6262T32 89.82	1/2"	7512T25 44.10
36" × 72"	3/8"	6262T33 107.63	1/2"	7512T26 52.92
36" × 96"	3/8"	6262T34 143.61	1/2"	7512T52 70.56
36" × 144"	3/8"	6262T35 215.46	1/2"	7512T28 105.84
48" × 72"	3/8"	6262T36 143.61	1/2"	7512T53 70.56
48" × 96"	3/8"	6262T37 191.39	1/2"	7512T54 94.08

Custom Length Mats

Wd.	Full Roll	Textured Thick.	Per Ft.	Diamond Tread Thick.	Per Ft.
24"	60 ft.	3/8"	6262T4 $12.95	1/2"	7512T1 $7.00
36"	60 ft.	3/8"	6262T5 22.17	1/2"	7512T2 10.01
48"	60 ft.	3/8"	6262T6 29.61	1/2"	7512T3 13.36

Wear-Resistant Antifatigue Sponge Mats

Durable and cushioned, mats are made of nitrile rubber, which doesn't absorb liquids so they're ideal in wet environments. They have a textured surface for traction and tapered edges on all four sides. For indoor use.

Standard Mats

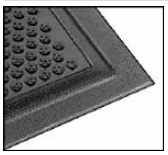

Without Borders

A cushioned sponge is sealed between hard top and bottom layers of nitrile rubber for cushioned comfort and wear resistance. Resist oil, grease, and chemicals. Color is black.

Mats with borders have yellow and black striped borders on the two length sides for safety and visibility.

Wd. × Lg.	Thick.	*Without Borders*		*With Borders*	
22¾″ × 34¼″	½″	4875T1	$62.38	4875T4	$68.94
34¼″ × 59″	½″	4875T2	155.88	4875T5	182.73

Super-Soft Mats



Thicker and softer than the standard mats, these resist acids, chemicals, and bleach. They also stand up to steam and high-pressure cleaning. **To Order:** Please specify black or light gray.

Wd. × Lg.	Thick.		Wd. × Lg.	Thick.	
20″ × 24″	¾″	7050T1 $46.00	30″ × 36″	¾″	7050T7 $89.50
20″ × 33″	¾″	7050T2 62.72	36″ × 36″	¾″	7050T8 108.29
22″ × 48″	¾″	7050T3 93.50	36″ × 42″	¾″	7050T9 126.22
22″ × 72″	¾″	7050T4 169.25	36″ × 60″	¾″	7050T11 179.00
24″ × 36″	¾″	7050T5 72.50	40″ × 48″	¾″	7050T12 170.00
24″ × 42″	¾″	7050T6 85.26	42″ × 72″	¾″	7050T13 233.00

Ribbed Wear-Resistant Antifatigue Sponge Mats

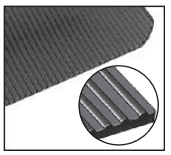

The ribbed top gives traction and a durable surface for scraping while the sponge backing provides soft cushioning. The round rib makes mats easy to clean. Made of vinyl, they resist chemicals. They have tapered edges on all four sides, and the ribs run lengthwise. Color is black. For indoor use.

7/8″ thick mats have more cushioning and comfort.

Standard Size Mats

Wd. × Lg.		Each
1/2″ Thick		
24″ × 36″	6234T43	$41.46
36″ × 48″	6234T44	85.57
36″ × 60″	6234T45	106.94
36″ × 10 ft.	6234T47	214.12
48″ × 96″	6234T48	228.39
48″ × 12 ft.	6234T49	326.95
7/8″ Thick		
24″ × 36″	6787T51	50.45
36″ × 48″	6787T52	101.42
36″ × 60″	6787T53	126.98
36″ × 10 ft.	6787T54	253.56
48″ × 96″	6787T55	283.26
48″ × 12 ft.	6787T56	424.88

Custom Length Mats

Wd.	Full Roll		Per Ft.
1/2″ Thick			
24″	75 ft.	6234T71	$17.26
36″	75 ft.	6234T72	26.76
48″	75 ft.	6234T73	34.01
7/8″ Thick			
24″	75 ft.	6787T21	21.00
36″	75 ft.	6787T22	31.50
48″	75 ft.	6787T23	44.21

Diamond-Tread Wear-Resistant Antifatigue Sponge Mats

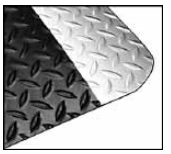

Uncoated with Solid Borders

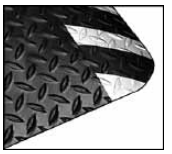

Uncoated with Striped Borders

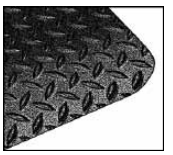

Grit Coated without Borders

The comfort of an antifatigue sponge mat is combined with a durable top layer of vinyl that protects the sponge from wear. Mats also have a diamond-tread surface pattern for excellent traction. Resist grease, oil, and chemicals. Mats have tapered edges on all four sides. Color is black. For indoor use.

Mats with borders have borders on the two length sides for safety and visibility. **To Order:** Please specify border color: solid yellow or yellow and black striped.

Grit-Coated Mats— An abrasive coating is added to the surface for even better traction and durability.

Standard Size Mats

Wd. × Lg.	*UNCOATED 9/16″ Thick* Each		*UNCOATED 15/16″ Thick* Each		*GRIT COATED 9/16″ Thick* Each	
Without Borders						
24″ × 36″	6999T411	$47.02	6912T111	$63.20	6999T11	$66.45
36″ × 60″	6999T421	114.14	6912T121	144.38	6999T12	154.15
36″ × 10 ft.	6999T491	228.25	6912T131	288.77	6999T13	307.43
With Borders						
24″ × 36″	6999T75	55.88	6912T21	68.98		
36″ × 60″	6999T76	135.44	6912T22	159.14		
36″ × 10 ft.	6999T87	270.81	6912T23	320.16		

Custom Length Mats

Wd.	Full Roll	*UNCOATED 9/16″ Thick* Per Ft.		*UNCOATED 15/16″ Thick* Per Ft.		*GRIT COATED 9/16″ Thick* Per Ft.	
Without Borders							
24″	75 ft.	6999T311	$19.81	6912T911	$26.72	6999T711	$28.26
36″	75 ft.	6999T321	28.70	6912T921	36.35	6999T721	38.87
48″	75 ft.	6999T331	38.27	6912T931	48.47	6999T731	52.00
60″	75 ft.	6999T341	51.11	6912T941	64.31	6999T741	69.88
72″	75 ft.	6999T351	58.40	6912T951	73.88	6999T251	83.75
With Borders							
24″	75 ft.	6999T611	23.47	6912T811	29.49		
36″	75 ft.	6999T621	33.88	6912T821	40.12		
48″	75 ft.	6999T631	45.84	6912T831	53.49		
60″	75 ft.	6999T641	58.89	6912T841	67.83		
72″	75 ft.	6999T651	67.73	6912T851	92.00		

Welding-Safe Wear-Resistant Antifatigue Sponge Mats

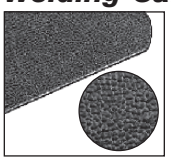

Designed to repel sparks and hot metal shards, mats are perfect in welding applications. Plus, the textured top layer of rubber offers good traction and durability, while the sponge backing cushions your feet. Mats have tapered edges on all four sides. Color is black. For indoor use.

Standard Size Mats

Wd. × Lg.	Thick.		Each
24″ × 36″	9/16″	7906T11	$59.26
36″ × 60″	9/16″	7906T21	145.06

Custom Length Mats

Wd.	Thick.	Full Roll		Per Ft.
36″	9/16″	75 ft.	7906T61	$36.15

Smooth Wear-Resistant Antifatigue Sponge Mats

The wear-resistant vinyl or rubber tops create a durable and easy-to-clean surface while the inner sponge reduces fatigue. Use where high traction is not essential. Mats have tapered edges on all four sides. For indoor use.

Vinyl Mats— Resist grease, oil, and chemicals. **To Order:** Please specify black or dark gray.

Marbled Rubber and Marbled Vinyl Mats— The mat surface has a marbled pattern. *Rubber mats* are more durable and abrasion resistant than vinyl. *Vinyl mats* are thicker for extra cushioning and comfort; and they resist grease, oil, and chemicals. **To Order:** Please specify pattern color. For rubber choose black or light gray. For vinyl choose black, dark gray, or light gray.

Reinforced-Rubber Mats— For exceptional strength and durability, the mat surface is reinforced with nylon. Mats resist damage from spikes, cleats, and blades—they even withstand forklift traffic. Excellent for use in high traffic areas. Color is black.



Vinyl



Marbled Rubber and Marbled Vinyl



Reinforced Rubber

Standard Size Mats

Wd. × Lg.	Vinyl Thick.		Vinyl Each	Marbled Rubber Thick.		Marbled Rubber Each	Marbled Vinyl Thick.		Marbled Vinyl Each	Reinforced Rubber Thick.		Reinforced Rubber Each
24″ × 36″	1/2″	76945T31	$37.12	1/2″	6965T13	$49.47	7/8″	6316T41	$52.14	3/4″	67985T21	$108.69
24″ × 72″	1/2″	76945T14	74.22	1/2″	6965T34	98.94	7/8″	6316T42	105.00	3/4″	67985T22	217.39
36″ × 48″	1/2″	76945T15	74.23	1/2″	6965T14	98.94	7/8″	6316T43	105.00	3/4″	67985T23	217.42
36″ × 60″	1/2″	76945T32	86.44	1/2″	6965T15	123.67	7/8″	6316T44	131.25	3/4″	67985T41	265.22
36″ × 72″	1/2″	76945T16	103.75	1/2″	6965T17	148.34	7/8″	6316T11	157.50	3/4″	67985T42	318.24
36″ × 10 ft.	1/2″	76945T17	172.93	1/2″	6965T36	247.35	7/8″	6316T45	262.50	3/4″	67985T24	530.37
36″ × 12 ft.	1/2″	76945T33	207.38	1/2″	6965T18	296.68	7/8″	6316T12	315.00	3/4″	67985T25	636.55
48″ × 60″	1/2″	76945T18	138.20	1/2″	6965T37	167.11	7/8″	6316T46	175.00	3/4″	67985T26	309.42
48″ × 72″	1/2″	76945T19	159.36	1/2″	6965T19	199.74	7/8″	6316T13	210.00	3/4″	67985T61	371.32

Custom Length Mats

Wd.	Vinyl Thick.	Full Roll Lg.		Vinyl Per Ft.	Marbled Rubber Thick.	Full Roll Lg.		Marbled Rubber Per Ft.	Marbled Vinyl Thick.	Full Roll Lg.		Marbled Vinyl Per Ft.	Reinforced Rubber Thick.	Full Roll Lg.		Reinforced Rubber Per Ft.
24″	1/2″	60 ft.	76945T211	$14.85	1/2″	75 ft.	6965T511	$19.15	7/8″	60 ft.	6316T711	$21.67	3/4″	22 ft.	67985T112	$45.70
36″	1/2″	60 ft.	76945T221	20.77	1/2″	75 ft.	6965T521	28.89	7/8″	60 ft.	6316T721	32.75	3/4″	22 ft.	67985T121	66.74
48″	1/2″	60 ft.	76945T231	33.19	1/2″	75 ft.	6965T531	39.06	7/8″	60 ft.	6316T731	43.75	3/4″	22 ft.	67985T131	78.06

High-Traffic Recycled Rubber Antifatigue Mats

Made of recycled tires bonded with polyurethane for a strong, yet cushioned surface. Mats are also impact resistant. Color is black. For indoor use.

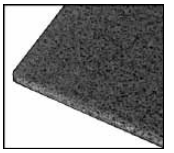

Standard Size Mats

Wd. × Lg.	Thick.		Each	Wd. × Lg.	Thick.		Each
24″ × 48″	3/8″	62425T61	$50.36	36″ × 10 ft.	3/8″	62425T74	$120.98
24″ × 72″	3/8″	62425T62	64.10	36″ × 12 ft.	3/8″	62425T75	140.34
24″ × 96″	3/8″	62425T63	77.80	36″ × 20 ft.	3/8″	62425T76	229.50
24″ × 10 ft.	3/8″	62425T64	91.54	48″ × 48″	3/8″	62425T81	76.80
24″ × 12 ft.	3/8″	62425T65	105.26	48″ × 72″	3/8″	62425T82	102.30
24″ × 20 ft.	3/8″	62425T66	170.58	48″ × 96″	3/8″	62425T83	127.76
36″ × 48″	3/8″	62425T71	63.00	48″ × 10 ft.	3/8″	62425T84	153.26
36″ × 72″	3/8″	62425T72	82.32	48″ × 12 ft.	3/8″	62425T85	178.74
36″ × 96″	3/8″	62425T73	101.66	48″ × 20 ft.	3/8″	62425T86	294.04

Custom Length Mats

Wd.	Thick.	Full Roll		Per Ft.	Wd.	Thick.	Full Roll		Per Ft.
24″	3/8″	100 ft.	62425T51	$12.05	48″	3/8″	100 ft.	62425T53	$17.94
36″	3/8″	100 ft.	62425T52	15.02					

Dome-Top Antifatigue Mats

Soft, yet durable solid rubber domes on both sides of these mats form a cushioned surface to prevent fatigue. Mat edges are tapered on all four sides, unless noted. Color is black. For indoor use.

Wd. × Lg.	Thick.		
24″ × 36″	3/8″	7005T2	$36.46
30″ × 30″	3/8″	7005T21♠	39.27
30″ × 60″	3/8″	7005T3	73.82
30″ × 10 ft.	3/8″	7005T4	154.52
30″ × 20 ft.	3/8″	7005T5	323.05

♠ Tapered edges on three sides.



Extended-Life Antifatigue Mats

Designed to endure years of continuous use, these polyurethane mats are the ultimate in durability and comfort. Plus, unlike rubber and vinyl, polyurethane mats won't lose their elasticity. They resist chemicals and have tapered edges on all four sides. For indoor use.

Sponge Mats— A cushioning sponge is sealed between top and bottom layers of durable polyurethane. Plus, a textured surface provides slip resistance. Color is black.

Solid Mats— Made from solid polyurethane with firm, yet cushioned domes. Color is dark gray. Rated for use in Class 100 clean rooms.

Wd. × Lg.	Thick.		
Sponge Mats			
24″ × 36″	5/8″	7542T31	$102.52
36″ × 60″	5/8″	7542T32	255.96
Solid Mats			
24″ × 36″	5/8″	68865T11	135.51
24″ × 48″	5/8″	68865T13	180.68
24″ × 72″	5/8″	68865T15	271.02
36″ × 48″	5/8″	68865T19	271.02
36″ × 60″	5/8″	68865T21	338.77
36″ × 96″	5/8″	68865T23	542.04



Sponge



Solid

Textured Antifatigue Mats


Interlocking End


Interlocking Center


Individual

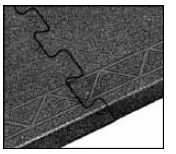

A waffle-shaped backing cushions your feet and absorbs shock while a textured surface provides traction. Color is black. For indoor and outdoor use. *Grease- and chemical-resistant mats* resist oil, grease, chemicals, and acids.

Interlocking Mats— Have integrated connectors to link multiple mats together. Connect two end sections or combine end sections with one or more center sections to create the length you need. All exposed edges are tapered.

Individual Mats— All edges are tapered. *Note:* Not compatible with interlocking mats.

Wd. × Lg.	Thick.	*Interlocking End Mats*	*Interlocking Center Mats*	*Individual Mats*	
Textured Mats					
28″ × 36″	½″	6892T31	6892T32	6892T36	$39.50
36″ × 24″	½″	6892T33	6892T34	—	39.50
Grease- and Chemical-Resistant Textured Mats					
28″ × 36″	½″	6892T41	6892T42	6892T45	46.36
36″ × 24″	½″	6892T43	6892T44	—	46.36

Interlocking Drainage Floor Tiles

Create a custom floor layout by interlocking tiles in any direction. Arrange them to fit around corners and machinery—just trim to size with a utility knife. Tiles are cushioned vinyl for comfort and have an open-grid design to drain liquids. They resist grease, oil, and chemicals. For indoor and outdoor use. *Optional tapered edging* prevents tripping.

Flexible Tiles

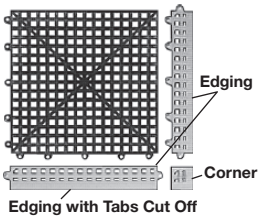

Flexible tiles easily roll up and out of the way for cleaning the floor underneath. Drainage openings are ⅜″ × ⅜″.

Optional tapered edging has male tabs and female slots for installation along any side of the tile. Cut off tabs on the edging when installing on the male edge of the tile.

To Order: For tiles and edging, please specify black, blue, dark gray, or yellow.

	Size	Thick.		1-49	50-Up
Tiles	12″ × 12″	9/16″	6813T1	$5.89	$5.00

	Size		
Optional Tapered Edging	12″ × 2″	6813T2★	$3.43
Optional Tapered Corner	2″ × 2″	6813T3	1.34

★ Fits both the male and female edges of the tile.

Rigid Tiles

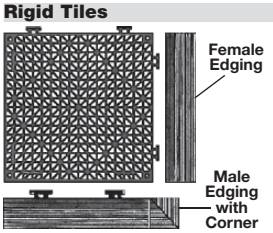

Rigid tile is more durable than flexible tile, withstanding heavy loads and rough use. Tiles have 7/16″ × 7/16″ × 9/16″ triangular drainage openings. Color is black. *Grit-coated tile* has an abrasive coating for additional traction.

Tiles have two sides with male tabs and two sides with female slots. *Optional male tapered edging* fits in the female slots. *Optional female tapered edging* fits on the male tabs.

Tiles	Size	Thick.		1-35	36-Up
Uncoated	12″ × 12″	¾″	69025T12	$10.17	$8.64
Grit Coated	12″ × 12″	¾″	69025T32	15.78	13.41

Optional Tapered Edging	Size	*Black*		*Yellow*	
Male	12″ × 2½″	69025T16	$6.21	69025T22	$8.62
Male with Corner	14″ × 2½″	69025T26	7.81	69025T27	9.98
Female	12″ × 2½″	69025T18	6.21	69025T24	8.62
Female with Corner	14″ × 2½″	69025T28	7.81	69025T29	9.98

Diamond-Tread Interlocking Antifatigue Mats



Create the mat size you need. Mats have integrated connectors to join them in any direction. Cut connectors off for a finished look. Both are rubber with a diamond-tread surface for exceptional traction. Color is black. For indoor and outdoor use.

General Purpose Mat— For dry areas.

Grease-Resistant Mat— Stands up to occasional contact with grease and chemicals.

	Size	Thick.		
General Purpose Mat	36″ × 36″	½″	8018T13	$69.65
Grease-Resistant Mat	36″ × 36″	½″	8018T14	99.36

High-Traffic Interlocking Antifatigue Tiles

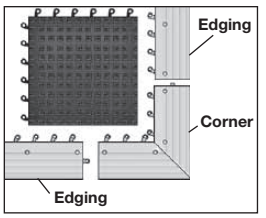

Get a custom floor layout that withstands heavy use and cart traffic. Tiles interlock with each other in any direction—simply add or remove tiles as needed. They're cushioned for comfort and have a textured surface for good traction. Plus, these vinyl tiles resist grease, oil, and chemicals. Color is black. For indoor use.

Grit-coated tile has an abrasive coating for increased traction and durability.

Optional Tapered Edging— Prevents tripping and has four ¾″ dia. mounting holes (fasteners not included) for permanent installation. Color is yellow.

	Size	Thick.		Each	Pkg. Qty.	
Tiles						
Uncoated	18″ × 18″	⅞″	4541T811	$25.44	10	$228.10
Grit Coated	18″ × 18″	⅞″	4541T821	41.67	10	373.60
Optional Tapered Edging						
Edging	18″ × 6″	⅞″	4541T831	10.07	10	90.30
Corner	15″ × 6″	⅞″	4541T841	29.65	4	106.28

Food-Grade Flexible Drainage Mats

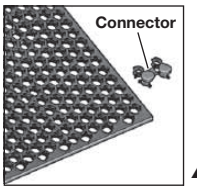

A

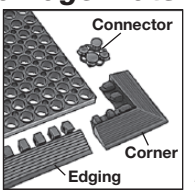

B

Mats resist mildew and bacteria making them perfect in food applications. Plus they're flexible, cushioned rubber for comfort and can easily roll up and out of the way for cleaning underneath. Mats meet NSF/ANSI standards. For indoor use. *Style A* has ¾″ dia. drainage holes. *Style B* has ⅞″ dia. holes. *Optional connectors* (sold individually) join two or more mats. Use one connector every 12″.

Grease-Resistant Mats— For occasional contact with grease. Color is brown.

Greaseproof Mats— For constant contact with grease and oil. Color is red.

Wd. × Lg.	Thick.	*Grease Resistant*		*Greaseproof*	
(A) Standard Mats					
36″ × 24″	½″	6684T21	$44.49	6842T31	$57.28
36″ × 36″	½″	6684T22	66.75	6842T32	85.92
36″ × 48″	½″	6684T23	89.01	6842T33	114.55
36″ × 72″	½″	6684T24	133.50	6842T34	171.87
(B) Heavy Duty Mats					
19½″ × 39″	⅞″	6158T12	66.65	6865T19	91.11
29¼″ × 39″	⅞″	6158T22	93.91	6865T29	117.89
39″ × 39″	⅞″	6158T32	120.41	6865T39	149.72
39″ × 58½″	⅞″	6158T42	164.28	6865T58	207.33
Optional Connectors for (A) Standard Mats					
For 36″ wide sides		6684T43	1.92	6842T43	2.09
For 24″, 36″, 48″, 72″ long sides		6684T44	1.92	6842T53	2.09
Accessories for (B) Heavy Duty Mats					
Optional Connector		6158T51	2.15	6865T71	2.28
39″-Long Tapered Edging		6158T61	14.02	6865T72	17.12
58½″-Long Tapered Edging		6158T62	23.71	6865T73	26.12
Tapered Corner		6158T63	12.32	6865T74	12.45

Modular Rigid Drainage Mats

Design a custom floor layout. Rigid and lightweight, these corrosion-resistant polyethylene mats also resist acids, salt, gasoline, solvents, and chemicals. Drainage openings are 2½″×1¾″ to let liquid, dirt, and small debris pass through. Cut to size with a circular saw or handsaw. Color is black.

Optional tapered edging minimizes tripping. Attaches with connectors (sold separately) and can be cut to size with a handsaw. The *60″ wide tapered edging* includes tapered corners.

Connectors join flooring and edging. Use at least two for 24″ and 48″ edges; four for 96″ edges.

Rubber feet keep flooring in place. Use 15 rubber feet with 6273T41; 25 with 6273T21.

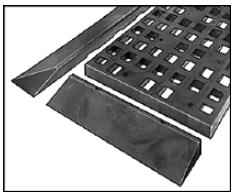

With Tapered Edging

Wd. × Lg.	Thick.		
24″×48″	1¾″	6273T41	$76.28
24″×96″	1¾″	6273T21	143.02
24″×6″ Optional Tapered Edging (for Wd. side)		6273T42	29.29
60″×6″ Optional Tapered Edging (for Lg. side)		6273T39	57.21
Connectors (Set of 4)		6273T43	7.59
Rubber Feet (Set of 5)		6273T44	3.92

Antislip Drainage Mats

Pyramid-shaped projections provide multidirectional traction, while 1⅞″×½″ slotted openings permit drainage. Mats are vinyl and resist grease, oil, and chemicals. The cushioned backing reduces fatigue. Color is black. For indoor use.

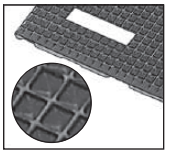

Standard Size Mats

Wd. × Lg.	Thick.		Each
24″× 36″	7/16″	6918T23	$38.06
24″× 72″	7/16″	6918T25	76.12
36″× 48″	7/16″	6918T34	76.12
36″× 72″	7/16″	6918T36	114.18
36″×120″	7/16″	6918T38	190.30

Custom Length Mats

Wd.	Thick.	Full Roll		Per Ft.
24″	7/16″	30 ft.	6918T81	$15.86
36″	7/16″	30 ft.	6918T82	23.78

Reversible Antislip Drainage Mats

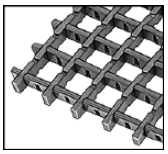

Vinyl

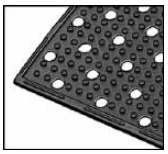

Rubber

Raised projections on the front and back provide sure footing and a secure grip on the floor. Color is black.

Vinyl Mats—Have 7/8″×7/8″ drainage openings. Mats resist grease, oil, and chemicals. For indoor and outdoor use.

Rubber Mats—Have ½″ dia. drainage holes. They're more durable with greater abrasion resistance than vinyl and remain flexible at low temperatures. For indoor use.

Standard Size Mats

	Vinyl			Rubber		
Wd. × Lg.	Thick.		Each	Thick.		Each
24″× 36″	—	—	—	3/8″	62345T11	$36.92
24″× 48″	½″	6889T509	$114.94	—	—	—
24″× 60″	½″	6889T511	143.68	—	—	—
24″×120″	½″	6889T521	287.36	—	—	—
36″× 48″	½″	6889T523	172.41	3/8″	62345T22	68.33
36″× 72″	½″	6889T525	258.62	—	—	—
36″× 96″	½″	6889T531	344.83	3/8″	62345T33	136.89

Custom Length Mats

		Vinyl			Rubber		
Wd.	Thick.	Full Roll		Per Ft.	Thick.	Full Roll	Per Ft.
24″	½″	50 ft.	6889T81	$35.71	3/8″	30 ft. 62345T91	$14.34
36″	½″	50 ft.	6889T82	53.57	3/8″	32 ft. 62345T92	19.91

Antislip Drainage Mats with Yellow Safety Borders

For safety and visibility, mats have a high-traction surface and tapered yellow safety borders on three edges. The fourth edge can be fitted flush against machinery. Mats are made of heavy duty cushioned vinyl that withstands heavy loads and resists grease, oil, and chemicals. Drainage holes are 5/8″ dia. Color is black with 6″ wide yellow borders. For indoor use.

Grit-coated mats have an abrasive coating for exceptional traction.

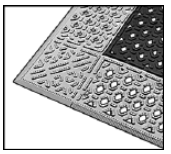

Wd. × Lg.	Thick.	Uncoated Mats		Grit-Coated Mats	
30″× 36″	7/8″	6884T11	$56.87	6884T81	$59.89
30″× 48″	7/8″	6884T13	73.36	6884T82	77.64
30″× 60″	7/8″	6884T15	80.98	6884T83	98.02
30″× 72″	7/8″	6884T17	94.17	6884T84	110.98
30″× 96″	7/8″	6884T18	117.60	6884T85	148.20
42″× 72″	7/8″	6884T21	124.67	6884T86	153.80
42″× 96″	7/8″	6884T23	154.25	6884T87	190.93
42″×120″	7/8″	6884T25	190.64	6884T88	239.41

Cushioned Drainage Mats

A cushioned surface comfortably supports your feet while ¼″×1″ drainage openings keep them dry. Made of vinyl, these mats resist grease, oil, and chemicals. For indoor and outdoor use.



Air-Cushioned

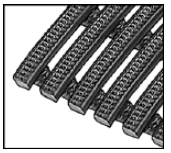

Antislip Cushioned

Air-Cushioned Mats—Hollow tubes form a flexible, cushioned surface. Bottom tubes are black. **To Order:** Please specify surface tube color: black or light gray.

Antislip Cushioned Mats—Have solid tubes with a grooved surface for sure footing. Bottom tubes are black. **To Order:** Please specify surface tube color: black, blue, or red.

			Air-Cushioned Mats		Antislip Cushioned Mats	
Wd.	Thick.	Full Roll		Per Ft.		Per Ft.
24″	½″	40 ft.	6904T2	$11.79	6278T11	$19.10
36″	½″	40 ft.	6904T3	17.49	6278T19	28.05
48″	½″	40 ft.	6904T4	23.29	6278T14	37.40

Heavy Duty Reinforced Drainage Mats

For added strength and durability, mats are rubber reinforced with nylon fibers. They're also abrasion resistant and remain flexible at low temperatures. Surface has squeegee-like ridges that provide traction while scraping dirt and liquids off shoes. Bottom is dimpled for air flow under the mat to prevent mildew. Drainage slots are 4½″×½″. Color is black. For indoor and outdoor use.

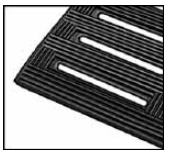

Standard Size Mats

Wd. × Lg.	Thick.		Each	Wd. × Lg.	Thick.		Each
24″×36″	½″	6894T21	$54.85	36″×48″	½″	6894T31	$103.32
24″×72″	½″	6894T22	111.37	36″×72″	½″	6894T33	155.58
24″×96″	½″	6894T23	146.26	48″×72″	½″	6894T41	206.92

Custom Length Mats

Wd.	Thick.	Full Roll		Per Ft.
24″	½″	22 ft.	6894T81	$22.75
36″	½″	22 ft.	6894T82	32.08
48″	½″	22 ft.	6894T83	41.22

Reversible Rubber-Tire Drainage Mats

Made from recycled rubber tires reinforced with nylon fibers and woven together with galvanized wire rods, mats are strong enough to handle harsh environments. They're also abrasion resistant and remain flexible at low temperatures. Roll up easily. Openings between rubber links are approximately ½″ wide for drainage. Color is black. For indoor and outdoor use.



Wd. × Lg.	Thick.			Wd. × Lg.	Thick.		
24″×36″	5/8″	6874T34	$47.80	36″×60″	5/8″	6874T39	$119.40
24″×48″	5/8″	6874T35	63.60	36″×72″	5/8″	6874T41	143.20
24″×72″	5/8″	6874T37	95.40	36″×96″	5/8″	6874T44	199.74
30″×60″	5/8″	6874T38	99.40	36″×10 ft.	5/8″	6874T45	250.43
36″×48″	5/8″	6874T43	95.15	36″×12 ft.	5/8″	6874T46	301.75

Flexible Grease-Resistant and Greaseproof Drainage Mats


A&B

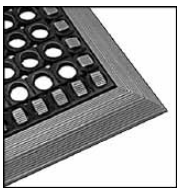
C

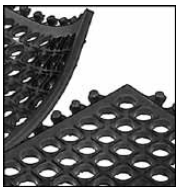
D


E

Get the benefits of a drainage mat combined with a comfortable, cushioned surface. Mats are flexible rubber so they roll up for access to clean the floor underneath. Color is black. Use *grease-resistant mats* for occasional contact with grease; use *greaseproof mats* where grease and oil are constantly present.

***(A) Grease-Resistant Mats*—** Have 1″ dia. drainage holes and tapered edges. For indoor and outdoor use.

***(B) Heavy Duty Grease-Resistant Mats*—** Thicker than our other grease-resistant mats for added durability. All have 7/8″ dia. drainage holes. For indoor and outdoor use. Optional connector lets you join two or more mats. Use two for 18″ wide sides, three for 24″ wide sids, and four for 36″ wide sides. Optional tapered edging prevents tripping; it's 2″ wide and can be cut to size. Color is yellow.

***(C) Heavy Duty Grease-Resistant Mats with Colored Border*—** Have 1 1/8″ dia. drainage holes. For indoor use. Mats with three-sided border have a tapered border along three edges. Fourth edge is not tapered so it can fit flush against machinery. Mats with four-sided border have a tapered border on all four edges. **To Order:** Please specify border color: orange or yellow.

***(D) Grease-Resistant and Greaseproof Interlocking Mats*—** Have built-in connectors to link multiple mats together in any direction. Connectors can easily be cut off for a finished look. Mats have 7/8″ dia. drainage holes. For indoor and outdoor use.

***(E) Nitrile Rubber Greaseproof Mats*—** They're treated to protect the mat against odors and degradation. They also resist oil and cutting fluid and are safe for welding applications. All have 3/4″ dia. drainage holes and tapered edges. For indoor and outdoor use.

(A) Grease-Resistant Mats

Wd. × Lg.	Thick.		Each
36″ × 60″	1/2″	6823T5	$84.09
36″ × 10 ft.	1/2″	6823T1	190.96
36″ × 20 ft.	1/2″	6823T2	394.68

(B) Heavy Duty Grease-Resistant Mats

Wd. × Lg.	Thick.		Each
18″ × 24″	7/8″	6851T11	$35.96
18″ × 48″	7/8″	6851T12	69.71
24″ × 36″	7/8″	6851T13	69.71
36″ × 48″	7/8″	6851T14	109.72
36″ × 60″	7/8″	6851T15	137.15
Optional Connector		6851T33	7.26
Optional Tapered Edging		6851T41	Per Ft. $4.61

(C) Heavy Duty Grease-Resistant Mats with Colored Border

Wd. × Lg.	Thick	Each	Wd. × Lg.	Thick	Each
Three-Sided Border			*Four-Sided Border*		
26″ × 40″	7/8″	64605T11 $84.15	28″ × 40″	7/8″	6989T14 $88.07
38″ × 40″	7/8″	64605T22 131.85	40″ × 40″	7/8″	6989T16 136.15
38″ × 64″	7/8″	64605T33 160.36	40″ × 64″	7/8″	6989T18 173.65
38″ × 124″	7/8″	64605T44 312.06	40″ × 124″	7/8″	6989T21 330.62

(D) Grease-Resistant and Greaseproof Interlocking Mats

Wd. × Lg.	Thick.	Grease Resistant Each	Greaseproof Each
36″ × 36″	1/2″	7603T29 $62.68	7603T32 $89.43

(E) Nitrile Rubber Greaseproof Mats

Wd. × Lg.	Thick.	Each
23″ × 34″	3/8″	4534T41 $49.39
34″ × 56″	3/8″	4534T42 111.29
34″ × 109″	3/8″	4534T43 222.61
42″ × 68″	3/8″	4534T44 177.95

Clear Chair Mats



Chair Mat with Lip

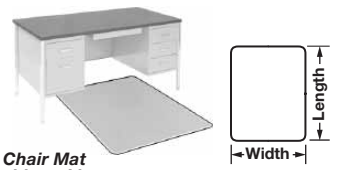

Chair Mat without Lip

Protect your carpets and floors from the wear of constant foot traffic and chair casters. Mats are vinyl with a slip-resistant textured surface. Color is clear. For indoor use.

***Mats for Carpets*—** Have a gripper backing to keep them firmly in place. *Antistatic mats* dissipate static electricity.

***Mats for Hard Floors*—** Have a smooth backing.

O'all Size, Wd. × Lg.	Lip Size, Wd. × Lg.	For Carpets Up to 3/8″ Thick: Mat Thick.		For Carpets Up to 3/4″ Thick: Mat Thick.		Antistatic For Carpets Up to 3/8″ Thick: Mat Thick.		For Hard Floors: Mat Thick.	
Chair Mats with Lip									
36″ × 48″	20″ × 10″	0.11″	68645T71 $51.56	0.13″	6840T17 $62.65			0.09″	6814T71 $52.23
45″ × 53″	25″ × 12″	0.11″	68645T72 56.85	0.13″	6840T18 68.57	0.11″	60705T52 $135.84	0.09″	6814T72 64.96
46″ × 60″	25″ × 12″	0.11″	68645T73 79.53	0.13″	6840T19 86.06			0.09″	6814T73 71.26
Chair Mats without Lip									
45″ × 53″	—	0.11″	68645T75 81.14	0.13″	6840T16 89.51			0.09″	6814T78 74.58
46″ × 60″	—	0.11″	68645T76 82.17	0.13″	6840T13 91.12	0.11″	60705T54 171.55	0.09″	6814T75 84.43

Foot-Warming Mats


Rubber Mat

Keep feet warm in cold, drafty rooms. Mats can be used on any dry surface, even carpet. All have a 6-ft. power cord with two-prong plug. For indoor use.

***Rubber Mats*—** Made of flexible, corrugated rubber and thermostatically controlled to maintain a constant temperature. Color is black.

***Carpet Mat*—** Made of polyester with a carpet top and a felt-padded bottom. Mat includes a high/low heat switch with 8-ft. cord. Color is light gray. UL and C-UL listed.

Wd. × Lg.	Thick.	VAC	Hz	Amps	
Rubber Mats					
14″ × 21″	3/8″	120	50/60	0.75	6280T12 $71.86
16″ × 36″	3/8″	120	50/60	1.13	6280T13 101.48
Carpet Mat					
18″ × 19″	1/2″	115	60	0.4/0.6	6280T14 81.78

About Static Control Mats

Static electricity discharge (also known as electrostatic discharge or ESD) is one of the most common causes of electrical equipment damage and malfunction. Walking on a static control mat drains the electrical charge from you before it causes problems. Some static control mats require ground cords for best performance (see individual presentations).

For additional static control products, see page 977.

Effectiveness in Draining a Static Charge

The three types of static control mats are classified by their surface resistivity range (see chart). Expressed in ohms, surface resistivity measures how much a mat resists draining a static charge. The lower the surface resistivity (the lower the resistance), the faster and more effectively the mats drain the electrical charge.

Type of Mat	Draining Rate	Surface Resistivity
Antistatic	Slowest	10^9-10^{11} ohms
Static Draining	↓	10^6-10^9 ohms
Conductive	Fastest	10^3-10^6 ohms

Antistatic Antifatigue Sponge Mats



Get static control and comfort. Mats have a surface resistivity of 10^9 ohms for draining static electricity without a ground cord. Plus they're made of cushioned vinyl sponge to reduce fatigue. A textured surface provides traction. Mats resist stains and chemicals, but should be cleaned immediately after spills. Have tapered edges on all four sides. For indoor use.

To Order: Please specify black, brown, or light gray.

Standard Size Mats

Wd. x Lg.	Thick.		Each
24″ x 36″	3/8″	6930T21	$29.49
36″ x 48″	3/8″	6930T22	61.37
36″ x 60″	3/8″	6930T23	76.90
36″ x 72″	3/8″	6930T24	92.06
36″ x 96″	3/8″	6930T11	122.74
36″ x 10 ft.	3/8″	6930T25	153.80
36″ x 12 ft.	3/8″	6930T12	184.11
36″ x 30 ft.	3/8″	6930T26	460.29
48″ x 60″	3/8″	6930T13	94.21
48″ x 72″	3/8″	6930T41	113.05
48″ x 96″	3/8″	6930T42	150.66
48″ x 10 ft.	3/8″	6930T14	188.42

Custom Length Mats

Wd.	Thick.	Full Roll		Per Ft.
36″	3/8″	60 ft.	6930T51	$18.00
48″	3/8″	60 ft.	6930T52	22.21

Conductive Antifatigue Mats

With surface resistivity of 10^6 ohms, these mats offer the fastest, most effective draining of static electricity. All require a ground cord (sold separately) that plugs directly into the grounding snap located on one corner of each mat. Color is black. For indoor use.

Wear-Resistant Antifatigue Sponge Mats



Mats have a hard layer of diamond-tread vinyl to provide excellent traction and durability, along with a vinyl sponge backing to reduce fatigue. They have tapered edges on all four sides.

Wd. x Lg.	Thick.		
18″ x 36″	9/16″	69065T2	$79.38
24″ x 36″	9/16″	69065T4	94.57
36″ x 48″	9/16″	69065T6	185.43
36″ x 60″	9/16″	69065T8	231.79
36″ x 72″	9/16″	69065T9	278.22
36″ x 10 ft.	9/16″	69065T11	463.69
36″ x 30 ft.	9/16″	69065T14	1,289.89
15-ft. Ground Cord		69065T21	12.99

Interlocking Antifatigue Mats



A diamond-tread surface gives this rubber mat excellent traction. It has interlocking connectors to link multiple mats together for any size or shape you need. You can cut connectors off with a utility knife for a finished look.

Wd. x Lg.	Thick.		
36″ x 36″	1/2″	7585T25	$82.79
15-ft. Ground Cord		69065T21	12.99

Static-Draining Mats

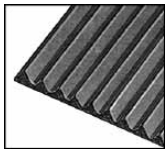

V-Rib

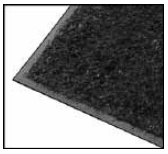

Carpet Top

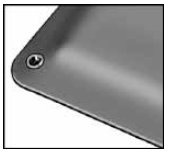

Wear-Resistant Antifatigue Sponge

***V-Rib Mats*—** Have a surface resistivity of 10^8-10^9 ohms for good static draining without a ground cord. Plus, the V-ribs provide more traction than the carpet-top and wear-resistant mats. Mats are vinyl and resist grease, oil, and chemicals. Color is light gray. For indoor and outdoor use.

***Carpet-Top Mats*—** With a surface resistivity of 10^7-10^8 ohms, they provide better static control than the V-rib mats and still don't need a ground cord. They have a nylon carpet top that removes dirt and moisture from your shoes and a rubber backing that keeps mats in place. Mats also have tapered edges on all four sides. Color is black. For indoor use.

***Wear-Resistant Antifatigue Sponge Mats*—** Have a surface resistivity of 10^7 ohms and require a ground cord (sold separately). Cord plugs directly into the grounding snap located on one corner of each mat. The top and bottom of these mats are smooth, hard vinyl for durability, with a vinyl sponge center for cushioning. They have tapered edges on all four sides. Color is dark gray. For indoor use.

Standard Size Mats

Wd. x Lg.	Thick.		Each
V-Rib Mats			
36″ x 48″	1/8″	68165T61	$56.39
36″ x 72″	1/8″	68165T62	84.59
36″ x 10 ft.	1/8″	68165T63	140.98
48″ x 60″	1/8″	68165T64	93.43
48″ x 10 ft.	1/8″	68165T65	186.86
Carpet-Top Mats			
24″ x 35″	3/8″	6848T212	29.98
35″ x 47″	3/8″	6848T213	59.95
35″ x 59″	3/8″	6848T223	78.55
35″ x 69″	3/8″	6848T233	89.90
35″ x 118″	3/8″	6848T235	149.90
45″ x 69″	3/8″	6848T243	119.90
45″ x 95″	3/8″	6848T253	159.92
Wear-Resistant Antifatigue Sponge Mats			
18″ x 36″	1/2″	8531T1	85.94
24″ x 36″	1/2″	8531T3	100.72
36″ x 48″	1/2″	8531T5	204.67
36″ x 60″	1/2″	8531T7	238.59
36″ x 72″	1/2″	8531T8	322.33
36″ x 10 ft.	1/2″	8531T9	537.23
36″ x 30 ft.	1/2″	8531T11	1,611.67
48″ x 72″	1/2″	8531T12	429.79
48″ x 96″	1/2″	8531T14	573.04
15-ft. Ground Cord		69065T21	12.99

Custom Length Mats

Wd.	Thick.	Full Roll		Per Ft.
V-Rib Mats				
36″	1/8″	60 ft.	68165T67	$17.84
48″	1/8″	60 ft.	68165T68	23.48
Carpet-Top Mats				
35″	3/8″	40 ft.	6848T51	19.16
45″	3/8″	40 ft.	6848T52	24.87

Switchboard Mats

Tested to withstand the stated dielectric test voltage, mats protect workers from electrical shock when working around high-voltage equipment.

Mil. Spec. Vinyl Switchboard Mats



Diamond Tread

Mats meet Mil. Spec. DTL-15562G. Made of vinyl, they're UV resistant and also resist grease, oil, and chemicals. Mats have a textured backing to prevent skidding. For indoor and outdoor use.

Smooth, Type II mat is easy to clean. It's for use where high traction is not crucial. Color is black.

Diamond tread, Type III mat has a diamond-tread surface for excellent traction. Color is light gray.

Wd.	Maximum Recommended Use Voltage	Mil. Dielectric Test Voltage	Full Roll		Per Ft.
Smooth, Type II (1/8" Thick.)					
36"	3,000	30,000	75 ft.	6825T11	$14.13
Diamond Tread, Type III (3/16" Thick.)					
36"	3,000	30,000	75 ft.	6873T72	34.79

V-Rib Rubber Switchboard Mats

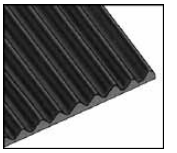

Meet ASTM D178. Class 1 mats are a rubber/thermoplastic blend; Class 2 mats are rubber. Both have a V-rib surface for dirt scraping and slip resistance. Color is black. For indoor use.

Wd.	Max. Recom'd Use Voltage	ASTM Dielectric Test Voltage	Full Roll		Per Ft.
Type I, Class 1 (3/16" Thick.)					
24"	7,500	20,000	75 ft.	6893T11	$17.28
30"	7,500	20,000	75 ft.	6893T12	18.97
36"	7,500	20,000	75 ft.	6893T13	20.97
Type I, Class 2 (1/4" Thick.)					
24"	17,000	30,000	75 ft.	6893T35	23.83
30"	17,000	30,000	75 ft.	6893T36	24.65
36"	17,000	30,000	75 ft.	6893T37	27.09
48"	17,000	30,000	75 ft.	6893T38	47.67

Antislip Tape

Abrasive Antislip Tape



Roll



Disc



Strip with Conformable Backing

Tape has an adhesive back. For indoor and outdoor use.

Abrasive Antislip—Tape has a high-traction surface. You can walk on it immediately after installation. *Strips, squares, and discs* are sold in packages of 10, unless noted. **To Order:** For Choose-a-Color, please specify clear, light gray, red, or yellow.

Extreme-Traction Abrasive Antislip—Has an extra-coarse surface for excellent traction. Great for muddy and greasy areas and also for occasional contact with water. You can walk on tape immediately after installation. Color is black.

Abrasive Antislip with Conformable Backing—An aluminum backing conforms to corners and uneven surfaces, making tape perfect for ladder rungs and diamond tread plates. After installation, wait one hour before walking on this tape. Color is black.

		ABRASIVE ANTISLIP			
		Black		***Choose-a-Color***	
Wd.	Lg.		Each		Each
Rolls					
3/4"	60 ft.	6970T64	$9.84	6970T22	$13.60
1"	60 ft.	6970T63	13.24	6970T23	18.20
2"	30 ft.	6970T13	13.22	6970T331	18.03
2"	60 ft.	6970T65	26.08	6970T24	36.43
4"	30 ft.	6970T151	26.40	6970T191	36.07
4"	60 ft.	6970T51	50.30	6970T25	65.19
6"	30 ft.	6970T142	35.67	6970T261	43.43
6"	60 ft.	6970T53	70.79	6970T26	93.66
12"	15 ft.	6970T201	37.21	6970T11	44.69
18"	15 ft.	6970T171	55.81	6970T12	67.09
24"	15 ft.	6970T183	74.44	6970T14	89.34
36"	15 ft.	6970T161	207.99	—	—
48"	15 ft.	6970T121	266.00	—	—
Strips			Pkg.		Pkg.
3/4"	24"	6970T35	$4.00	6970T54	$5.50
6"	24"	6970T34♣	17.11	6970T39♣	24.91
Squares					
5 1/2"	5 1/2"	6970T36	6.87	6970T66	9.20
Discs					
5 1/2" Dia.	—	6970T37	6.87	6970T68	9.20

♣Sold in packages of 5.

		Extreme-Traction Abrasive Antislip		***Abrasive Antislip with Conformable Backing***		
Wd.	Lg.		Each	Lg.		Each
Rolls						
1"	60 ft.	7781T11	$15.37	—	—	—
2"	30 ft.	7781T12	15.35	15 ft.	6244T51	$23.26
4"	30 ft.	7781T13	33.70	15 ft.	6244T52	46.52
6"	30 ft.	7781T14	50.57	15 ft.	6244T53	69.78
12"	15 ft.	7781T15	50.57	15 ft.	6244T54	133.98
18"	15 ft.	7781T16	68.87	—	—	—
24"	15 ft.	7781T17	91.87	—	—	—
Strips						
1"	24"	7781T34	.92	—	—	—
6"	24"	7781T35	3.94	24"	6244T22	7.90
Squares						
5 1/2"	5 1/2"	7781T36	.90	—	—	—

High-Visibility Abrasive Antislip Tape



Black/Yellow Striped Roll



Black Strip with Single Yellow Stripe



Black/Yellow Striped Strip with Caution Message

Make stairs, ramps, and walkways safer with this eye-catching, high-traction tape. It has an adhesive backing and can be walked on immediately after installation. For indoor and outdoor use.

Glow-in-the-dark rolls glow a solid yellow-green color; they do not have a stripe. Recharge by exposing to light; tape provides up to six hours of illumination in total darkness.

		Black/Yellow Striped		***Glow-in-the-Dark***	
Wd.	Lg.		Each		Each
Rolls					
3/4"	60 ft.	68205T42	$16.13	6970T461	$18.36
1"	60 ft.	68205T43	21.53	6970T462	25.21
2"	30 ft.	68205T441	26.08	6970T712	25.06
4"	30 ft.	68205T451	48.23	6970T762	50.25
6"	30 ft.	68205T461	72.27	6970T792	75.25
12"	30 ft.	68205T471	144.58	6970T842	150.50

Strips—6" Wd. x 24" Lg.		Each
Black with Single Yellow Stripe	6108T31	$5.51
Black with Single Glow-in-the-Dark Stripe	6108T41	5.51
Black/Yellow Striped with Caution Message	68205T68	5.80
Black/Yellow Striped with Watch Your Step Message	68205T69	5.80

Nonabrasive Antislip Tape



Roll



Strip with Multidirectional Pattern

Provides traction while being easier on your shoes. Tape has an adhesive back. It can be walked on immediately after installation. For indoor and outdoor use. ***Strips*** have an extra-durable rubber surface. ***Patterned strips*** are not for use on concrete. Sold in packages of 2.

		Black		***Light Gray***	
Wd.	Lg.		Each		Each
Rolls					
2"	15 ft.	6243T721	$21.78	6243T722	$21.78
4"	15 ft.	6243T731	43.56	6243T732	43.56
6"	15 ft.	6243T741	65.34	6243T742	65.34
12"	15 ft.	6243T751	130.68	6243T752	130.68
24"	15 ft.	6243T761	261.36	6243T762	261.36
Strips					
6"	24"	6243T471	7.76	—	—
Strips with Multidirectional Pattern			Pkg.		
6"	12"	6289T2	$13.38	—	—
Strips with Raised-Disc Pattern					
6"	12"	6289T1	13.38	—	—

Antislip Floor Coatings

Antislip coatings contain grit and also are designed to last longer than antislip tape. These coatings meet OSHA standards and ASTM requirements for durability, slip resistance, and impact resistance. Also, they help comply with ADA when properly applied. Use indoors and outdoors on concrete, wood, and metal.

Ready-to-Use Antislip Floor Coatings

Aerosol Epoxy— Can also be used on fiberglass. Good for areas with pedestrian traffic. Not tested for compliance with OSHA and ASTM standards. This epoxy is compliant under all state VOC rules in effect on September 1, 2011.

One-Part Epoxy— Offers greater durability and slip resistance than aerosol epoxy. It requires no mixing and is good for areas with pedestrian traffic. Apply over a primer, using the phenolic roller cover (sold separately). This epoxy is compliant under all state VOC rules in effect on September 1, 2011.

Water-Based Acrylic— Has low VOCs and quick and easy cleanup. Great for pedestrian traffic. Apply with a roller over a primer. This acrylic is compliant under all state VOC rules in effect on September 1, 2011.

High-Traction Two-Part Antislip Floor Coatings

Heavy Duty Epoxy— Perfect for heavy vehicular traffic areas. They must be mixed before use. Apply with a roller. Epoxy is compliant under all state VOC rules in effect on September 1, 2011, except in the Los Angeles area.

Low-Odor Chemical-Resistant Epoxy— Has zero VOCs and a low-odor formula yet can withstand pedestrian, cart, and hand-truck traffic. Apply with a roller. Primer is not required. This epoxy is compliant under all state VOC rules in effect on September 1, 2011.

Extreme-Traction Two-Part Antislip Floor Coatings

Provide the highest traction and impact resistance. Apply with a roller over a primer. Not tested for compliance with OSHA, ASTM, and ADA standards. Epoxy is compliant under all state VOC rules in effect on September 1, 2011, except in the Los Angeles area.

Mil. Spec. Standard Epoxy— Meets MIL-PRF 24667C Types 2 and 4, Composition G.

Mil. Spec Heavy Duty Epoxy— Provides even more wear and impact resistance. Meets MIL-PRF 24667C Types 1 and 2, Composition G.

Two-Part Epoxy Primers

These do not contain grit. They must be mixed before use. Epoxies are compliant under all state VOC rules in effect on September 1, 2011, except in the Los Angeles area.

Size	Dry Time: To the Touch	Dry Time: Overall	Coverage, sq. ft.	Application Temperature Range	Application Time After Mixing	Max. Temp.		
Ready-to-Use Antislip Floor Coatings— To Order: *Please specify black, dark gray, or yellow, unless noted.*								
Aerosol Epoxy — 12 oz.	20 mins.	24 hrs.	15	50° to 90°F	—	250°F	63825T74★	$18.32
One-Part Epoxy — 1 gal.	12 hrs.	3 days	50	50° to 120°F	—	160°F	63045T36	89.66
Water-Based Acrylic — 1 gal.	4 hrs.	24 hrs.	70	50° to 130°F	—	160°F	6135T37	66.81
High-Traction Two-Part Antislip Floor Coatings— To Order: *Please specify black, dark gray, red, or yellow.*								
Heavy Duty Epoxy — 1 gal.	12 hrs.	3 days	40	50° to 130°F	4 hrs.	160°F	7887T21	112.42
Heavy Duty Epoxy — 5 gal.	12 hrs.	3 days	200	50° to 130°F	4 hrs.	160°F	7887T22	424.52
Low-Odor Chemical-Resistant Epoxy — ½ gal.	12 hrs.	48 hrs.	25	50° to 100°F	45 mins.	300°F	6454T31	55.73
Low-Odor Chemical-Resistant Epoxy — 1 gal.	12 hrs.	48 hrs.	50	50° to 100°F	45 mins.	300°F	6454T32	93.61
Extreme-Traction Two-Part Antislip Floor Coatings— *Color is dark gray.*								
Mil. Spec. Standard Epoxy — 1 gal.	24 hrs.	4 days	25	40° to 100°F	8 hrs.	160°F	6506T51	126.50
Mil. Spec. Standard Epoxy — 5 gal.	24 hrs.	4 days	125	40° to 100°F	8 hrs.	160°F	6506T53	459.50
Mil. Spec. Heavy Duty Epoxy — 5 gal.	24 hrs.	4 days	125	40° to 100°F	4 hrs.	160°F	6506T55	636.50
Two-Part Epoxy Primers								
Water-Based for Nonmetallic Surfaces (Clear) — 1 gal.	6 hrs.	24 hrs.	300	55° to 90°F	2 hrs.	160°F	6198T34	131.82
Corrosion Inhibiting for Metallic Surfaces (Gray) — 1 gal.	1 hr.	12 hrs.	270	40° to 100°F	4 hrs.	160°F	6506T67	90.40
Roller Covers								
9″ Lg. Phenolic Roller Cover for Epoxy Antislip Floor Coatings							6439T73	1.86

★ Also available in clear and red.

Antislip Floor Plates and Drainage Floor Plates

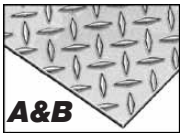

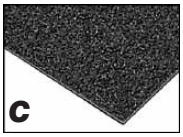



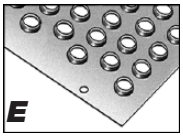

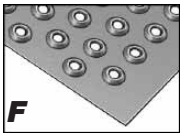



Add slip resistance to floors, ramps, stairs, and dock areas.

(A-D) Antislip Floor Plates

(A) Adhesive-Backed Diamond-Tread Aluminum Plates— Quick and easy to install; peel off the backing and stick plates on smooth, clean surfaces. They have a raised diamond-tread pattern for slip resistance that's easy on your hands, knees, and shoes.

(B) Diamond-Tread Aluminum Plates— Have a raised diamond-tread pattern for slip resistance that's easy on your hands, knees, and shoes.

(C) Abrasive Steel Plates— A unique grit-like metal coating provides a long-lasting, aggressive slip-resistant surface. Color is black.

(D) Abrasive Plastic Plates— Virtually maintenance free, these corrosion- and UV-resistant plates have an embedded abrasive-grit coating on both sides for slip resistance. They can be cut to size using a circular saw with carbide-tipped blade. Color is black.

(E-G) Antislip Drainage Floor Plates

(E) Galvanized Steel Plates— Excellent traction at an economical price. Drainage holes are 5/16″ dia. Plates have 1/8″ dia. mounting holes (fasteners not included).

(F) Carbon Steel Plates— Have 1/8″ dia. drainage buttonholes for traction without rough edges.

(G) Ultra-Antislip Serrated Galvanized Steel Plates— Serrated diamond-shaped openings provide superior traction while allowing liquids to drain and debris to pass through. Openings are 1 7/8″ × 11/16″.

Wd. × Lg.	Thick.		
Antislip Floor Plates			
(A) Adhesive-Backed Diamond-Tread Alum.			
24″ × 24″	1/16″	4917T11	$48.33
24″ × 48″	1/16″	4917T21	81.67
48″ × 48″	1/16″	4917T31	146.67
(B) Diamond-Tread Aluminum			
48″ × 48″	1/8″	6245T19	370.92
48″ × 48″	1/4″	6245T41	549.22
48″ × 96″	1/8″	6245T22	710.58
48″ × 96″	1/4″	6245T42	992.22
48″ × 12 ft.	1/8″	6245T23	876.87
(C) Abrasive Steel			
24″ × 24″	1/4″	4374T51	106.67
24″ × 48″	1/4″	4374T52	213.33
48″ × 48″	1/4″	4374T53	426.67
48″ × 96″	1/4″	4374T54	880.00

Wd. × Lg.	Thick.		
Antislip Floor Plates (Cont.)			
(D) Abrasive Plastic			
24″ × 60″	3/8″	4456T5	$199.74
30″ × 48″	3/8″	4456T6	199.74
48″ × 60″	3/8″	4456T7	402.75
Antislip Drainage Floor Plates			
(E) Galvanized Steel			
6″ × 12″	18 ga.	6979T11	3.31
12″ × 36″	18 ga.	6979T41	31.85
12″ × 48″	18 ga.	6979T42	36.99
(F) Carbon Steel			
36″ × 60″	16 ga.	6860T11	185.40
36″ × 60″	12 ga.	6860T13	243.93
36″ × 10 ft.	16 ga.	6860T24	271.21
36″ × 10 ft.	12 ga.	6860T32	363.43

Wd. × Lg.	Thick.		
Antislip Drainage Floor Plates (Cont.)			
(G) Ultra-Antislip Serrated Galvanized Steel			
8 9/16″ × 60″	14 ga.	6908T512	$54.66
8 9/16″ × 60″	12 ga.	6908T612	60.81
10 7/8″ × 60″	14 ga.	6908T513	59.13
10 7/8″ × 60″	12 ga.	6908T613	65.28
10 7/8″ × 10 ft.	14 ga.	6908T113	113.47
24 3/4″ × 60″	14 ga.	6908T516	88.14
24 3/4″ × 60″	12 ga.	6908T616	105.00
24 3/4″ × 10 ft.	14 ga.	6908T116	170.68
24 3/4″ × 10 ft.	12 ga.	6908T316	204.40
24 3/4″ × 12 ft.	14 ga.	6908T216	204.82
24 3/4″ × 12 ft.	12 ga.	6908T416	245.29

Metal Plank Grating

Ideal for platforms, stair treads, ramps, and decks. For indoor and outdoor use.
To Order: Please specify length from those listed.

Antislip Plank Grating

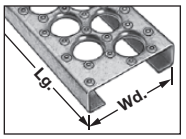

Raised projections provide traction, while 1⅜" dia. drainage holes let light and liquid pass through and prevent debris buildup. The surface is not serrated so it's easier on your hands, knees, and shoes. Cut to size with a band saw, hack saw, circular saw, or shears.

Wd.	Ht.	Gauge	2-, 3-, 4-, 6-, and 8-ft. Lengths	Per Ft.	10- and 12-ft. Lengths	Per Ft.
Galvanized Steel						
5"	1½"	13	64935T22	$11.22	64935T81	$9.00
5"	2"	13	64935T23	11.78	64935T82	9.45
7"	1½"	13	64935T24	12.80	64935T83	10.31
7"	2"	13	64935T25	13.44	64935T84	10.82
10"	1½"	13	64935T26	15.68	64935T85	12.60
10"	2"	13	64935T27	16.47	64935T86	13.24
12"	1½"	13	64935T42	17.20	64935T87	13.84
12"	2"	13	64935T43	18.06	64935T88	14.53
18"	1½"	13	64935T44	23.01	64935T89	17.49
18"	2"	13	64935T45	24.16	64935T91	19.41

Wd.	Ht.	Gauge	2-, 3-, 4-, 6-, and 8-ft. Lengths	Per Ft.	10- and 12-ft. Lengths	Per Ft.
Aluminum						
5"	2"	8	8618T52	$21.94	8618T53	$17.55
7"	2"	8	8618T54	24.28	8618T55	19.42
10"	2"	8	8618T56	28.66	8618T57	22.93
12"	2"	8	8618T64	32.00	8618T65	25.60
18"	2"	8	8618T67	42.06	8618T68	33.65

Ultra-Antislip Serrated Plank Grating

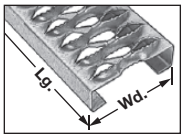

Serrated diamond-shaped openings provide superior traction. Openings are 1⅞" × 11⁄16" to let light and liquids pass through and prevent debris buildup. Cut to size with a band saw.

Wd.	Ht.	Gauge	2-, 3-, 4-, 5-, 6-, and 8-ft. Lengths	Per Ft.	10- and 12-ft. Lengths	Per Ft.
Galvanized Steel						
4¾"	1½"	14	6855T11	$9.45	6855T71	$7.56
4¾"	1½"	12	6855T12	11.06	6855T72	8.85
4¾"	2"	14	6855T13	10.08	6855T73	8.06
4¾"	2"	12	6855T6	11.49	6855T74	9.19
7"	1½"	14	6855T4	10.79	6855T75	8.63
7"	1½"	12	6855T27	12.88	6855T76	10.30
7"	2"	14	6855T7	11.28	6855T77	9.02
7"	2"	12	6855T29	14.02	6855T78	11.22
7"	3"	12	6855T98	16.00	6855T99	12.80
9½"	1½"	14	6855T39	11.13	6855T79	8.90
9½"	1½"	12	6855T43	14.43	6855T81	11.54
9½"	2"	14	6855T44	11.74	6855T82	9.39
9½"	2"	12	6855T45	15.76	6855T83	12.61
9½"	3"	12	6855T1	17.44	6855T2	13.95
11¾"	1½"	14	6855T5	13.26	6855T84	10.61
11¾"	1½"	12	6855T9	16.90	6855T85	13.52
11¾"	2"	14	6855T53	14.35	6855T86	11.48
11¾"	2"	12	6855T54	17.71	6855T87	14.17
11¾"	3"	12	6855T55	19.53	6855T88	15.62

Wd.	Ht.	Gauge	2-, 3-, 4-, 5-, 6-, and 8-ft. Lengths	Per Ft.	10- and 12-ft. Lengths	Per Ft.
Galvanized Steel (Cont.)						
18¾"	1½"	14	6855T56	$16.98	6855T89	$13.58
18¾"	1½"	12	6855T57	23.31	6855T91	18.65
18¾"	2"	14	6855T58	18.83	6855T92	15.06
18¾"	2"	12	6855T59	24.13	6855T93	19.30
18¾"	3"	12	6855T64	25.08	6855T94	20.06
24"	2"	14	6855T65	23.01	6855T95	18.41
24"	2"	12	6855T66	28.74	6855T96	22.99
24"	3"	12	6855T67	29.18	6855T97	23.34
Aluminum						
4¾"	2"	10	6246T27	26.69	6246T33	21.35
7"	2"	10	6246T31	28.59	6246T34	22.87
9½"	2"	10	6246T28	33.94	6246T36	27.15
11¾"	2"	10	6246T29	53.77	6246T37	43.02
18¾"	2"	10	6246T32	65.83	6246T38	52.66
Type 304 Stainless Steel						
4¾"	2"	16	6247T15	47.09	6247T19	37.67
7"	2"	16	6247T16	53.83	6247T21	43.06
9½"	2"	16	6247T17	60.68	6247T22	50.53
11¾"	2"	16	6247T18	64.89	6247T24	54.26

Ultra-Antislip Serrated Walkway Plank Grating

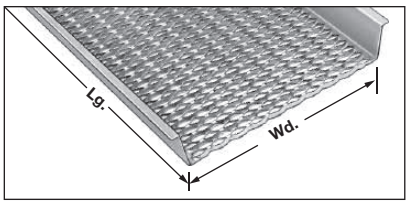

Diamond-shaped openings provide excellent traction while edge guards prevent tools and parts from falling over the side. Grating is galvanized steel and can be cut with a cutting torch, circular saw, or reciprocating saw. The diamond-shaped openings are 1⅞" × 11⁄16" for *24" wide* grating, 3⅞" × 1¼" for *30"* and *36" wide* grating. All meet OSHA requirement 1910.23 for elevated walkways. For indoor and outdoor use.
To Order: Please specify length from those listed.

Wd.	Ht.	Gauge	2-, 3-, 4-, 5-, 6-, 8-ft. Lengths	Per Ft.	10-, 12-ft. Lengths	Per Ft.
24"	4½"	12	6286T61	$34.31	6286T71	$27.45
30"	5"	10	6286T62	62.12	6286T72	49.70
36"	5"	10	6286T63	70.87	6286T73	56.70

Plank Grating Fasteners

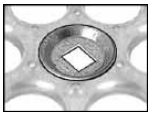
A


B

Secure plank grating to your support structure. Installation requires a hole in your support structure, as well as a square-neck carriage screw (sold separately, see pages 3178-3179).
(A) Antislip Plank Grating Anchor— Made of galvanized steel, this fits into the 1⅜" dia. drainage holes of our Antislip Plank Grating. Requires a ½" dia. screw.
(B) Ultra-Antislip Serrated Plank Grating Anchor— Designed to fit our Ultra-Antislip Serrated Plank Grating. 7012T5 is galvanized steel and fits grating with an 1⅞" × 11⁄16" diamond-shaped opening. Requires a 5⁄16" dia. screw. 7012T6 is Type 304 stainless steel and fits grating with a 3⅞" × 1¼" diamond-shaped opening. Requires a ⅜" dia. screw.

	Grating Height	Pkg. Qty.	Pkg.	
A	Any	10	7012T23	$7.69
B	Any	20	7012T5	14.94
B	5"	1	7012T6	5.53

Metal Bar Grating

Able to support heavier loads than plank grating, bar grating is good for trenches, mezzanines, walkways, work platforms, and floors. This grating has an open design that allows air, light, and debris to flow through. Cross bars hold the bearing bars in place; they are spaced 4″ apart center-to-center. Bearing bars provide uniform weight distribution. Fasteners are required for installation (not included, see page 2133).

Grating *with narrow openings* provides a higher load bearing surface and reduces the chance of something falling through. *Serrated* grating provides better traction.

Black-Finish Steel Bar Grating—Great for dry, noncorrosive areas. For indoor use only.

Galvanized Steel Bar Grating—Corrosion resistant. For indoor and outdoor use.

Stainless Steel Bar Grating—Better corrosion resistance than galvanized steel. Has a matte finish. For indoor and outdoor use.

Aluminum Bar Grating—Lightweight and rustproof, it's also nonmagnetic and nonsparking. For indoor and outdoor use. *Note:* 4-ft. wide grating is reinforced with banding.

To Order: Please specify length from those listed.

To Order: For custom sizes, please specify width and length. Steel and stainless steel bar grating has a max. width of 3 ft. and a max. length of 24 ft. Aluminum bar grating has a max. width of 6 ft. and a max. length of 24 ft. *Note:* All grating less than 17″ long and aluminum grating greater than 3-ft. wide is reinforced with banding.

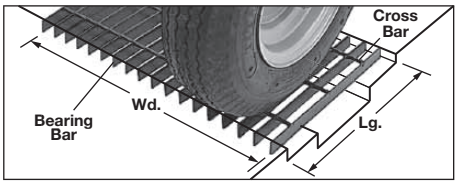

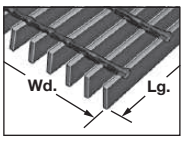

Smooth Steel

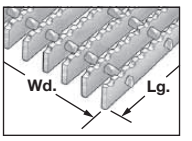

Serrated Aluminum

Steel and Stainless Steel Bar Grating

Bearing Bar Ht.	Bearing Bar Wd.	Bearing Bar Spacing, Ctr.-to-Ctr.	Available in 2-, 3-, 4-, 6-, 8-, and 10-ft. Lengths: 1-Ft. Width	Per Ft.	2-Ft. Width	Per Ft.	3-Ft. Width	Per Ft.	Custom Widths and Lengths	Per Sq. Ft.
Smooth Black-Finish Steel										
3/4″	1/8″	13/16″	6849T34	$12.27	6849T43	$24.54	6849T46	$36.81	6849T11	$14.72
1″	1/8″	13/16″	6849T35	12.87	6849T36	25.75	6849T47	38.61	6849T13	15.44
1″	3/16″	13/16″	6849T87	16.90	6849T52	33.79	6849T81	50.70	6849T14	20.28
1″	1/4″	13/16″	6857T19	20.63	6857T22	41.25	6857T23	61.88	6857T31	24.76
1 1/4″	3/16″	13/16″	6849T22	18.25	6849T54	35.77	6849T97	54.75	6849T16	21.90
1 1/2″	3/16″	13/16″	6849T24	18.42	6849T39	36.83	6849T98	55.26	6849T18	22.10
1 1/2″	1/4″	13/16″	6857T27	27.11	6857T52	44.22	6857T24	66.33	6857T33	32.53
Smooth Black-Finish Steel with Narrow Openings										
1″	3/16″	15/16″	6849T57	19.93	6849T66	39.86	6849T74	59.79	6849T63	23.92
1 1/4″	3/16″	15/16″	6849T58	23.00	6849T681	46.00	6849T76	69.00	6849T65	27.60
1 1/2″	3/16″	15/16″	6849T59	25.34	6849T691	50.67	6849T78	76.02	6849T67	30.41
Serrated Black-Finish Steel										
1″	1/8″	13/16″	6867T13	12.72	6867T36	25.44	6867T49	38.16	6867T11	15.26
1″	3/16″	13/16″	6867T17	17.25	6867T38	34.50	6867T51	51.75	6867T12	20.70
1 1/4″	3/16″	13/16″	6867T18	19.40	6867T39	38.80	6867T52	58.20	6867T14	23.28
1 1/2″	3/16″	13/16″	6867T19	22.42	6867T43	44.84	6867T53	67.26	6867T15	26.90
Smooth Galvanized Steel										
3/4″	1/8″	13/16″	6849T361	13.42	6849T373	26.83	6849T384	40.26	6849T23	16.10
1″	1/8″	13/16″	6849T362	14.61	6849T374	29.21	6849T385	43.83	6849T25	17.53
1″	3/16″	13/16″	6849T363	18.47	6849T375	36.94	6849T386	55.41	6849T26	22.16
1″	1/4″	13/16″	6857T121	29.90	6857T125	59.81	6857T129	75.56	6857T41	35.88
1 1/4″	3/16″	13/16″	6849T364	19.31	6849T376	38.62	6849T387	57.93	6849T28	23.17
1 1/2″	3/16″	13/16″	6849T365	21.82	6849T377	43.63	6849T388	65.46	6849T31	24.74
1 1/2″	1/4″	13/16″	6857T122	33.07	6857T126	66.15	6857T131	99.22	6857T43	39.68
Smooth Galvanized Steel with Narrow Openings										
1″	3/16″	15/16″	6849T441	29.42	6849T447	58.83	6849T454	88.27	6849T75	32.08
1 1/4″	3/16″	15/16″	6849T442	33.25	6849T448	66.50	6849T455	99.75	6849T77	36.20
1 1/2″	3/16″	15/16″	6849T443	38.16	6849T449	76.30	6849T456	114.47	6849T79	41.54
Serrated Galvanized Steel										
1″	1/8″	13/16″	6867T58	14.36	6867T67	28.72	6867T76	43.08	6867T21	17.23
1″	3/16″	13/16″	6867T59	19.18	6867T68	38.36	6867T77	57.54	6867T22	23.02
1 1/4″	3/16″	13/16″	6867T61	22.74	6867T69	45.48	6867T78	68.22	6867T24	27.29
1 1/2″	3/16″	13/16″	6867T62	26.50	6867T71	53.00	6867T79	79.50	6867T25	31.80
Smooth Stainless Steel										
1″	3/16″	13/16″	5870T11	71.98	5870T14	125.97	5870T17	188.95	5870T21	86.38
1 1/4″	3/16″	13/16″	5870T12	80.85	5870T15	141.51	5870T18	212.28	5870T22	97.02
1 1/2″	3/16″	13/16″	5870T13	88.97	5870T16	155.70	5870T19	233.53	5870T23	106.76
Serrated Stainless Steel										
1″	3/16″	13/16″	4234T71	73.42	4234T74	128.48	4234T77	192.71	4234T81	88.10
1 1/4″	3/16″	13/16″	4234T72	82.22	4234T75	143.89	4234T78	215.84	4234T82	98.66
1 1/2″	3/16″	13/16″	4234T73	90.26	4234T76	157.96	4234T79	236.93	4234T83	108.31

Aluminum Bar Grating

Bearing Bar Ht.	Bearing Bar Wd.	Bearing Bar Spacing, Ctr.-to-Ctr.	Available in 2-, 3-, 4-, 8-, and 10-ft. Lengths: 2-Ft. Width	Per Ft.	3-Ft. Width	Per Ft.	4-Ft. Width	Per Ft.	Custom Widths and Lengths	Per Sq. Ft.
Smooth										
1″	1/8″	13/16″	6498T17	$29.89	6498T37	$43.85	6498T51	$65.26	6498T21	$35.87
1″	3/16″	13/16″	6498T18	37.05	6498T38	54.63	6498T52	81.68	6498T22	44.46
1 1/4″	1/8″	13/16″	6498T19	33.43	6498T39	49.29	6498T53	73.26	6498T23	40.12
1 1/4″	3/16″	13/16″	6498T27	43.12	6498T41	63.74	6498T54	93.82	6498T24	51.74
1 1/2″	1/8″	13/16″	6498T28	37.05	6498T42	54.63	6498T55	81.68	6498T25	44.46
1 1/2″	3/16″	13/16″	6498T29	49.16	6498T43	72.84	6498T56	105.89	6498T26	58.99
Serrated										
1″	1/8″	13/16″	6250T51	30.18	6250T64	44.30	6250T77	66.88	6250T16	36.22
1″	3/16″	13/16″	6250T52	37.86	6250T65	54.00	6250T78	83.30	6250T11	45.43
1 1/4″	1/8″	13/16″	6250T53	33.10	6250T66	48.78	6250T79	74.95	6250T12	39.72
1 1/4″	3/16″	13/16″	6250T54	43.93	6250T67	64.95	6250T81	95.44	6250T13	52.72
1 1/2″	1/8″	13/16″	6250T55	37.86	6250T68	55.89	6250T82	83.30	6250T14	45.43
1 1/2″	3/16″	13/16″	6250T56	45.24	6250T69	74.05	6250T83	107.58	6250T15	54.29

Grit-Top Corrosion-Resistant Fiberglass Grating

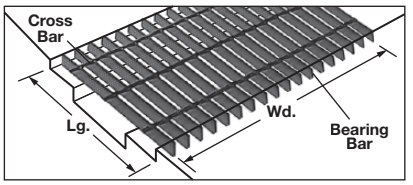

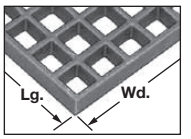

A&B

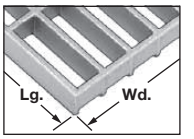

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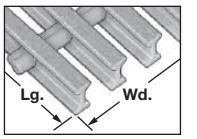

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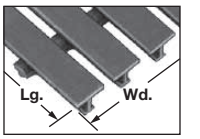

E

In addition to corrosion resistance, get better traction than our Steel, Stainless Steel, and Aluminum Bar Grating. This fiberglass grating has an abrasive grit surface and is lightweight, nonconductive, and nonmagnetic. Use it on trenches, walkways, catwalks, work platforms, ramps, and floors in washdown areas. To cut, use a circular saw with diamond-tipped blade. Cut ends need to be sealed with an epoxy sealer (sold separately). For fasteners, see page 2133. For indoor and outdoor use.

(A&B) Maximum Corrosion-Resistant Grating

Layers of resin and fiberglass strands are molded to form this grating—this construction provides maximum corrosion resistance and excellent impact resistance. It has an abrasive grit surface for added traction.

(A) Standard grating is green.

(B) Food-grade grating is formulated to protect against odors, stains, and degradation. Color is light gray. USDA accepted.

Also Available: Custom sizes; please ask for 6919T888 (Style A) or 7075T888 (Style B) and specify opening size (from the available choices listed in the table), height, width, and length.

Ht.	Opening Size	Half Sheet Wd.	Half Sheet Lg.		Each	Full Sheet Wd.	Full Sheet Lg.		Each
(A) Standard									
1″	1″ ×4″	3′11″	4′	6919T73	$289.13	8′	4′	6919T74	$502.75
1″	1″ ×4″	4′11″	3′	6919T71	263.04	10′	3′	6919T72	457.56
1″	1½″ ×1½″	3′	4′10″	6919T23	252.17	3′	10′	6919T13	439.00
1″	1½″ ×1½″	4′	3′10″	6919T24	269.57	4′	8′	6919T14	468.38
1½″	1½″ ×1½″	3′	4′10″	6919T66	341.30	3′	10′	6919T56	595.15
1½″	1½″ ×1½″	4′	3′10″	6919T67	361.96	4′	8′	6919T57	629.15
1½″	1½″ ×1½″	4′	5′10″	6919T68	510.87	4′	12′	6919T58	890.40
2″	2″ ×2″	4′	5′10″	6919T69	572.83	4′	12′	6919T59	997.06
(B) Food Grade									
1″	1″ ×4″	3′11″	4′	7075T83	346.74	8′	4′	7075T84	603.75
1″	1″ ×4″	4′11″	3′	7075T81	323.91	10′	3′	7075T82	564.08
1″	1½″ ×1½″	3′	4′10″	7075T85	310.87	3′	10′	7075T86	541.44
1″	1½″ ×1½″	4′	3′10″	7075T87	332.61	4′	8′	7075T88	578.56
1½″	1½″ ×1½″	3′	4′10″	7075T89	380.43	3′	10′	7075T91	578.04
1½″	1½″ ×1½″	4′	3′10″	7075T92	406.52	4′	8′	7075T93	617.93
1½″	1½″ ×1½″	4′	5′10″	7075T94	583.33	4′	12′	7075T95	925.29
2″	2″ ×2″	4′	5′10″	7075T96	566.36	4′	12′	7075T97	1,030.40
Epoxy Sealer (12.5-oz. aerosol can)								6253T98 Each	$26.11

(C-E) High Load Bearing Bar Grating

Grating is made from a higher percentage of fiberglass strands to handle heavy loads while spanning greater distances than the Maximum Corrosion-Resistant Grating. Bearing bars provide uniform weight distribution. Cross bars hold the bearing bars in place. **To Order:** Please specify length from those listed.

(C) Standard grating has a one-piece molded design. Color is light gray.

(D) High-strength grating has exceptional strength. It has bearing bars that are held in place with cross bars every 6″ to form a bonded interlocking assembly. Color is yellow.

(E) Narrow-opening grating has a smaller gap between bearing bars to prevent items from falling through, as well as to make it easier for carts to roll across. It has bearing bars that are held in place with cross bars every 6″ to form a bonded interlocking assembly. Grating, except 66035T57, T58, and T59, helps comply with ADA when properly installed. Color is dark gray, except 66035T57, T58, and T59 are yellow.

Also Available: Custom lengths; please ask for 6780T888 (Style C), 6228T888 (Style D), or 66035T888 (Style E) and specify bearing bar height, grating length, and grating width.

Bearing Bar Ht.	Bearing Bar Wd.	Bearing Bar Spacing, Ctr.-to-Ctr.	Available Lengths, ft.	2-Ft. Width	Per Ft.	3-Ft. Width	Per Ft.	4-Ft. Width	Per Ft.
(C) Standard									
1½″	¼″	1½″	3, 4, 6	6780T11	$29.63	6780T12	$48.15	6780T13	$55.48
(D) High Strength									
1″	19/32″	1½″	3, 4, 5, 6, 8, 10	6228T41	32.42	6228T42	52.67	6228T43	64.82
1½″	19/32″	1½″	3, 4, 5, 6, 8, 10	6228T44	37.04	6228T45	55.53	6228T46	74.18
(E) Narrow Opening									
1″	1½″	2″	3, 4, 5, 6, 8, 10	66035T51	35.08	66035T52	52.63	66035T53	70.16
1½″	1½″	2″	3, 4, 5, 6, 8, 10	66035T54	38.46	66035T55	57.79	66035T56	76.90
2″	1″	2″	3, 4, 5, 6, 8, 10	66035T57	39.95	66035T58	59.96	66035T59	79.88
Epoxy Sealer (12.5-oz. aerosol can)								6253T98 Each	$26.11

Solid Surface Grit-Top Corrosion-Resistant Fiberglass Grating

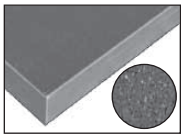

When open-surface grating won't do, choose this solid-surface grating—it is ideal for areas with wheel traffic and anywhere you would not want small items and debris to fall through. Grating has a grit-embedded top surface that provides good traction. It is nonconductive and nonmagnetic. To cut, use a circular saw with a diamond-tipped blade; cut ends need to be sealed with an epoxy sealer (sold separately). Color is green. For indoor and outdoor use.

Installation requires drilling through the grating as well as your structural support; fasteners are included.

Also Available: Custom sizes; please ask for 4638T999 and specify height, width, and length.

Ht.	Half Sheet Wd.	Half Sheet Lg.		Each	Full Sheet Wd.	Full Sheet Lg.		Each
1⅛″	3 ft.	5 ft.	4638T11	$477.91	3 ft.	10 ft.	4638T41	$923.97
1⅛″	4 ft.	4 ft.	4638T12	493.45	4 ft.	8 ft.	4638T42	954.00
1⅝″	3 ft.	5 ft.	4638T13	503.50	3 ft.	10 ft.	4638T43	973.43
1⅝″	4 ft.	4 ft.	4638T14	530.00	4 ft.	8 ft.	4638T44	1,024.67
1⅝″	4 ft.	6 ft.	4638T15	755.71	4 ft.	12 ft.	4638T45	1,461.03
2⅛″	4 ft.	6 ft.	4638T16	801.40	4 ft.	12 ft.	4638T46	1,549.37
Epoxy Sealer (12.5-oz. aerosol can)							6253T98	26.11

Bar Grating Fasteners


1


2


3


4


5

Secure bar grating, such as our Steel, Stainless Steel, and Aluminum Bar Grating on page 2131, to your support structure.

(1) Swivel-Lock Fasteners— Just tighten the bolt and the fastener swivels into place for easy installation, adjustment, and removal. Bottom flange is cast iron.

(2) Flat-Head J-Bolt Fasteners— A J-bolt wraps around the bearing bar and a plate secures the bearing bar to the support structure.

(3) Saddle Clip Fasteners— Bridge two bearing bars. Fasteners require a hole in the support structure as well as a threaded stud and hex nut (see pages 3182-3204 and pages 3206-3218). Overall height of the saddle plate is 1/2". Mounting slot is 3/8" × 9/32".

(4) C-Clip Fasteners— These fasteners hook onto the support structure and are connected by a bolt to the plate on top of the grating. They tighten from above the grating for easy installation.

(5) Grating Connector— Use a connector to tie two sheets of bar grating together. It lessens trip hazards by holding edges of sheets together as you walk on them.

To Order: For Styles 4 and 5, please specify bearing bar height in 1/4" increments from 1" to 2".

	Material	Fits Bearing Bar Ht.	Fits Bearing Bar Wd.	Fits Bearing Bar Spacing, Ctr.-to-Ctr.	Fits Support Structure Thick.	Bolt Included	Pkg. Qty.		Pkg.
1	Galvanized Steel	1"-2 1/8"	1/8"-1/4"	1 1/16"-1 1/2"	1/8"-3/4"	Yes	1	**62285T61**	$8.79
1	Galvanized Steel	2"-3"	1/8"-1/4"	1 1/16"-1 1/2"	1/8"-3/4"	Yes	1	**62285T62**	11.62
1	Type 304 Stainless Steel	1 3/4"	1/8"-1/4"	5/8"-1 3/8"	1/8"-3/4"	Yes	1	**62285T63**	14.68
2	Galvanized Steel	3/4"-2 1/4"	1/8"-3/8"	———	■	Yes	1	**6268T31**	4.65
2	Galvanized Steel	2 1/2"-3 1/4"	1/8"-3/8"	———	■	Yes	1	**6268T35**	4.80
3	Galvanized Steel	Any	Up to 5/16"	1 3/16"	Any	No	25	**6268T26**	9.60
3	Type 304 Stainless Steel	Any	Up to 5/16"	1 3/16"	Any	No	10	**6268T41**	11.51
4	Galvanized Steel	1"-2"	Up to 1/4"	1 3/16"	1/4"-3/4"	Yes	1	**6268T55**	3.07
4	Type 316 Stainless Steel	1"-2"	Up to 1/4"	1 3/16"	1/4"-3/4"	Yes	1	**6268T56**	6.52
5	Galvanized Steel	1"-2"	Up to 1/4"	1 3/16"	———	Yes	1	**6268T61**	9.37

■ To calculate the maximum thickness, take the J-bolt length (2 1/2" for 6268T31; 3 1/2" for 6268T35) and then subtract the bearing bar height. You must also subtract 1/4" for the nut clearance.

Fiberglass Grating Fasteners

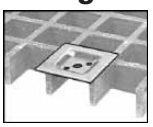
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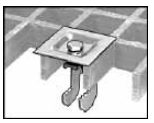
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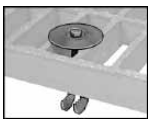
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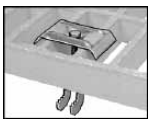
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11


12

Made of Type 316 stainless steel, these fasteners are specifically designed for use with the Grit-Top Corrosion-Resistant Fiberglass Grating and the Solid Surface Grit-Top Corrosion-Resistant Fiberglass Grating on page 2132.

(6) Standard Fastener— Requires a hole in the support structure and secures to the structure with a 1/4"-20 hex head cap screw (not included, see page 3161).

(7) Saddle Clip Fasteners— Bridge two bearing bars and require a hole in the support structure. Overall height of the saddle plate is 1/2".

(8-11) Fasteners with C-Clip and Bolt— Hook onto the support structure and are connected by a bolt to the plate on top of the grating. They tighten from above the grating for easy installation.

To Order: For Styles 8-11, please specify grating height, except for 7010T52.

(12) Solid-Surface Grating Fastener— Requires a hole in the support structure as well as in the grating top (mounting hardware included).

	Fits Grating/ Bearing Bar Ht.	Fits Grating Opening Size	Fits Support Structure Thick.		
For Grating A&B					
6	Depends on fastener lg.	1 1/2" × 1 1/2"	Any	**7010T21**	$2.85
7	1"	1" × 4"	1/2"	**7010T22**	6.46
7	1"	1 1/2" max. ctr.-to-ctr. between bearing bars	1/2"	**7010T71**	3.48
7	1 1/2"	1 1/2" max. ctr.-to-ctr. between bearing bars	1/2"	**7010T72**	4.25
7	2"	2" max. ctr.-to-ctr. between bearing bars	1/2"	**7010T73**	7.12
8	1", 1 1/2"	1 1/2" × 1 1/2"	1/4"-3/4"	**7010T41**	8.71
8	2"	2" × 2"	1/4"-3/4"	**7010T52**	9.53
For Bar Grating C&D					
9	1", 1 1/2"	1" × 2", 1" × 4", 1" × 6"	1/4"-3/4"	**7010T63**	6.53
10	1", 1 1/2"	2 1/4" from left edge to right edge of bearing bars	1/4"-3/4"	**7010T74**	8.40
For Bar Grating D					
7	1", 1 1/2"	1 1/2" max. ctr.-to-ctr. between bearing bars	1/2"	**7010T23**	7.40
For Bar Grating E					
11	1", 1 1/2", 2"	2 1/4" max. ctr.-to-ctr. between bearing bars	1/4"-3/4"	**7010T85**	9.72
For Solid Surface Grit-Top Grating					
12	1 1/8"	———	1/2"	**7010T91**	6.86
12	1 5/8"	———	1/2"	**7010T92**	7.14
12	2 1/8"	———	1/2"	**7010T93**	8.70

Elevated Steel Flooring

Create an elevated floor system. The floor panels lift out for easy access to wiring, telephone lines, and piping—great for computer rooms. Measuring 24" × 24" × 1" Thick., floor panels have a wooden core encased in galvanized steel with a marbled gray and white laminated surface. Uniform load rating is 250 lbs. per sq. ft. (Uniform load rating is the maximum evenly distributed load the floor can support.) Clean with a broom, vacuum, or damp mop only (do not use cleaning agents or wet mopping).

Pedestals adjust 3/4" up or down to accommodate uneven floors. They have a 4" square base plate with steel lugs to provide stability and support a corner of up to four panels. Secure pedestal to floors with the two 1/4" dia. mounting holes (mounting hardware not included).

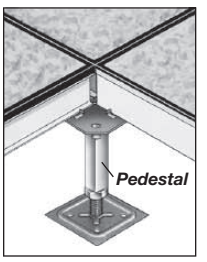

Floor Panel with 1/16" Laminate	**68025T61**	$42.87
Floor Panel with 1/8" Laminate	**68025T62**	48.38
Pedestal (For 8" Floor Ht.)	**68025T66**	9.38
Pedestal (For 12" Floor Ht.)	**68025T65**	10.09

Stair Treads

Plank-Grading Style

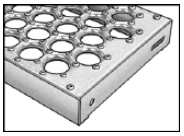

Antislip

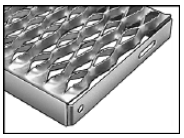

Ultra-Antislip Serrated

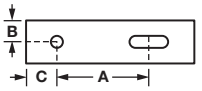

Mounting Dimensions

Made of galvanized steel for corrosion resistance, these are the most economical stair treads we offer. Treads have two mounting holes on each depth side; one 7/16″ round and one 7/16″ x 1 3/4″ slotted. For indoor and outdoor use.

Antislip Surface— Small projections are combined with large, 1 3/8″ dia. drainage holes for a high-traction surface.

Ultra-Antislip Serrated Surface— Serrated openings provide superior traction while allowing drainage.

Tread Size Lg.	Dp.	Ht.	Material Thick.	Mounting Dimensions (A)	(B)	(C)	Plain Finish		Yellow Finish	
Antislip Surface										
24″	10″	2″	13 ga.	7″	1″	1 1/8″	70135T61	$30.32	70135T71	$41.21
24″	12″	2″	13 ga.	9″	1″	1 1/8″	70135T81	33.81	70135T72	44.01
30″	10″	2″	13 ga.	7″	1″	1 1/8″	70135T62	36.55	70135T73	46.75
36″	10″	2″	13 ga.	7″	1″	1 1/8″	70135T63	38.06	70135T74	48.95
36″	12″	2″	13 ga.	9″	1″	1 1/8″	70135T83	43.71	70135T75	59.60
48″	12″	2″	13 ga.	9″	1″	1 1/8″	70135T84	48.39	70135T76	62.43
Ultra-Antislip Serrated Surface										
18″	7″	1 1/2″	14 ga.	3 3/8″	3/4″	27/32″	6869T341	30.41	6869T21	32.50
18″	9 1/2″	1 1/2″	14 ga.	5 7/8″	3/4″	27/32″	6869T541	37.11	6869T22	39.38
18″	11 3/4″	1 1/2″	14 ga.	8 1/8″	3/4″	27/32″	6869T741	40.83	6869T23	43.77
24″	7″	1 1/2″	14 ga.	3 3/8″	3/4″	27/32″	6869T351	35.79	6869T24	38.21
24″	9 1/2″	1 1/2″	14 ga.	5 7/8″	3/4″	27/32″	6869T551	38.23	6869T25	41.42
24″	11 3/4″	1 1/2″	14 ga.	8 1/8″	3/4″	27/32″	6869T751	43.65	6869T26	46.75
30″	7″	1 1/2″	14 ga.	3 3/8″	3/4″	27/32″	6869T361	41.11	6869T27	44.55
30″	9 1/2″	1 1/2″	14 ga.	5 7/8″	3/4″	27/32″	6869T561	45.79	6869T28	47.83
30″	11 3/4″	1 1/2″	14 ga.	8 1/8″	3/4″	27/32″	6869T761	52.88	6869T29	54.58
36″	7″	1 1/2″	14 ga.	3 3/8″	3/4″	27/32″	6869T371	43.37	6869T31	45.78
36″	9 1/2″	1 1/2″	14 ga.	5 7/8″	3/4″	27/32″	6869T571	47.64	6869T32	49.35
36″	11 3/4″	1 1/2″	14 ga.	8 1/8″	3/4″	27/32″	6869T771	53.70	6869T33	57.25
36″	9 1/2″	2″	14 ga.	5 7/8″	1″	27/32″	6869T841	53.77		
36″	11 3/4″	2″	14 ga.	8 1/8″	1″	27/32″	6869T861	60.06		
48″	9 1/2″	2″	14 ga.	5 7/8″	1″	27/32″	6869T591	60.76	6869T34	62.08
48″	11 3/4″	2″	14 ga.	8 1/8″	1″	27/32″	6869T791	67.22	6869T35	69.42

Heavy Duty Bar-Grating Style



Smooth-Surface High-Strength Steel

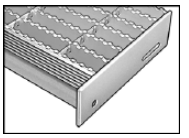

Ultra-Antislip-Surface Lightweight Aluminum



Corrosion-Resistant Stainless Steel

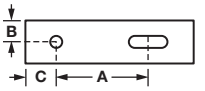

Mounting Dimensions

Choose these stair treads for durability. The *ultra-antislip surface* is serrated to provide superior traction.

High-Strength Steel— An open bar-grid pattern prevents debris from accumulating and a diamond-tread nosing provides traction. *Black-finish treads* have two mounting holes on each depth side; one 7/16″ round and one 7/16″ x 17/16″ slotted. They are for indoor use in dry, noncorrosive areas. *Galvanized treads* have two mounting holes on each depth side; one 7/16″ round and one 7/16″ x 7/8″ slotted. They offer better corrosion resistance than black-finish treads and are for indoor and outdoor use.

Lightweight Aluminum— Have better corrosion resistance than the galvanized steel treads. Plus, they're nonsparking and nonmagnetic. All have a ribbed nosing for traction. Treads have two mounting holes on each depth side; one 7/16″ round and one 7/16″ x 17/16″ slotted. For indoor and outdoor use.

Corrosion-Resistant Stainless Steel— Made of Type 304 stainless steel, these treads have better corrosion resistance than the steel or aluminum treads. They have a matte finish and a gritted nose for traction. Treads have two mounting holes on each depth side; one 7/16″ round and one 7/16″ x 17/16″ slotted. For indoor and outdoor use.

Tread Size Lg.	Dp.	Ht.	Bearing Bar Ht.	Material Thick.	Mounting Dimensions (A)	(B)	(C)	SMOOTH SURFACE Black Finish		SMOOTH SURFACE Galvanized		ULTRA-ANTISLIP SURFACE Black Finish		ULTRA-ANTISLIP SURFACE Galvanized	
High-Strength Steel															
24″	8 9/16″	2 1/2″	1″	3/16″	4 1/2″	1 3/4″	1 1/8″	67905T21	$32.81	67905T51	$46.84	6856T11	$33.96	6856T31	$48.26
24″	9 3/4″	2 1/2″	1″	3/16″	7″	1 3/4″	1 1/8″	67905T22	36.01	67905T52	52.70	6856T12	37.16	6856T32	52.95
30″	8 9/16″	2 1/2″	1″	3/16″	4 1/2″	1 3/4″	1 1/8″	67905T23	38.34	67905T53	55.30	6856T13	39.96	6856T33	57.30
30″	9 3/4″	2 1/2″	1″	3/16″	7″	1 3/4″	1 1/8″	67905T24	41.75	67905T54	60.45	6856T14	43.38	6856T34	62.45
30″	10 15/16″	2 1/2″	1″	3/16″	7″	1 3/4″	1 1/8″	67905T25	44.33	67905T55	61.30	6856T15	45.95	6856T35	66.80
36″	9 3/4″	2 1/2″	1 1/4″	3/16″	7″	1 3/4″	1 1/8″	67905T26	49.74	67905T56	74.43	6856T16	52.53	6856T36	77.42
36″	10 15/16″	2 1/2″	1 1/4″	3/16″	7″	1 3/4″	1 1/8″	67905T27	53.62	67905T57	80.35	6856T17	56.08	6856T37	83.38
42″	10 15/16″	2 1/2″	1 1/4″	3/16″	7″	1 3/4″	1 1/8″	67905T29	58.82	67905T59	88.33	6856T19	61.97	6856T39	92.17
48″	10 15/16″	2 1/2″	1 1/4″	3/16″	7″	1 3/4″	1 1/8″	67905T74	63.98	67905T62	96.18	6856T72	68.23	6856T42	101.50
Lightweight Aluminum								Plain Finish				Plain Finish			
18″	8 9/16″	3″	1 1/4″	3/16″	4 1/2″	2 1/4″	1 1/8″	4342T71	$55.87			69105T82	$56.47		
24″	7 3/8″	3″	1 1/4″	3/16″	4 1/2″	2 1/4″	1 1/8″	4342T72	60.58			69105T83	62.40		
24″	8 9/16″	3″	1 1/4″	3/16″	4 1/2″	2 1/4″	1 1/8″	4342T73	63.21			69105T84	64.36		
30″	8 9/16″	3″	1 1/4″	3/16″	4 1/2″	2 1/4″	1 1/8″	4342T74	69.52			69105T86	71.90		
Corrosion-Resistant Stainless Steel								Plain Finish							
36″	9 3/4″	2 1/2″	1 1/4″	3/16″	7″	1 3/4″	1 1/8″	5820T3	$206.67						
36″	10 15/16″	2 1/2″	1 1/4″	3/16″	7″	1 3/4″	1 1/8″	5820T2	233.33						
36″	12 1/8″	2 1/2″	1 1/4″	3/16″	7″	1 3/4″	1 1/8″	5820T1	255.00						
36″	12 1/8″	2 1/2″	1″	3/16″	7″	1 3/4″	1 1/8″	5820T4	216.67						

Lightweight Corrosion-Resistant Bar-Grating Style

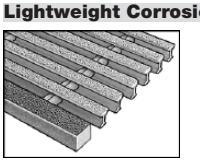

These lightweight fiberglass treads are corrosion resistant, nonconductive, and nonmagnetic. They're yellow with gray nosing and have a grit-impregnated surface for traction. They do not have mounting holes. Cut treads with a circular saw using a diamond-grit blade and seal the cut end with an epoxy sealer (sold separately). For indoor and outdoor use.

Tread Dp.	Bearing Bar Ht.	Material Thick.	24″ Lg.		30″ Lg.		36″ Lg.	
10 1/2″	1″	1/8″	6128T51	$77.11	6128T52	$81.62	6128T53	$84.82
10 1/2″	1 1/2″	1/8″	6128T55	84.82	6128T56	89.16	6128T57	92.65
Grating Fastener							7010T23	7.40
Epoxy Sealer (12.5-oz. aerosol can)							6253T98	26.11

About Stair Tread Covers and Nosing

Stair tread covers and nosing not only protect worn stairs, they also provide a slip-resistant surface.

Covers protect the entire stair surface. On worn stairs, they provide a new stair surface. ***Nosing*** protects the front portion of the stair.

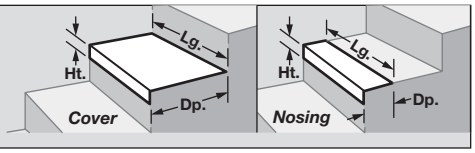

Stair Tread Covers

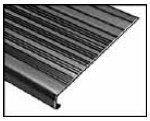
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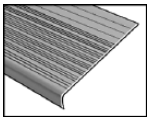
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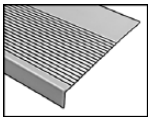
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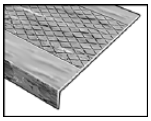
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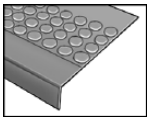
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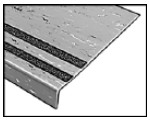
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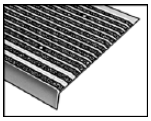
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(A&B) Oil- and Chemical-Resistant Vinyl Covers— Fit square-nose concrete and wood stairs. To install, use stair tread adhesive sold separately. For indoor use.

(C-F) High-Traffic Rubber Covers— Fit square-nose concrete and wood stairs. To install, use stair tread adhesive sold separately. *Style F* comes with two 1″ wide abrasive strips for added traction. For indoor use.

(G) Corrosion-Resistant Aluminum Covers with Grit— A grit top gives these covers excellent traction in high-traffic areas. The color in the table below refers to grit. Covers have 1/4″ dia. countersunk mounting holes. To install, use construction adhesive sold separately on page 3455, or screw in place; see pg. 3353 for concrete screws or see 90031A on page 3020 for #10 wood screws. For indoor and outdoor use.

(H) Corrosion-Resistant Plastic Covers with Grit— Made of fiberglass reinforced plastic (FRP) for superior corrosion resistance in harsh environments. Cover has a yellow glow-in-the-dark nose for high visibility. To install use construction adhesive sold separately on page 3463, then drill and screw in place; see pages 3002 and 3049-3050 for stainless steel truss-head screws. For indoor and outdoor use.

Stair tread adhesive for Styles A-F covers 125-150 sq. ft./gal. Color is white. For indoor use.

To Order: For all stair tread covers, please specify color and length from the available choices listed in the table.

Dp.	Ht.	Thick.	Available Colors		36″ Lg.	42″ Lg.	48″ Lg.	54″ Lg.	60″ Lg.	72″ Lg.
Oil- and Chemical-Resistant Vinyl										
A	9 5/8″	7/8″	1/8″	Black, Brown	6843T11	$16.88	$19.68	$22.50	_____	_____	$33.08
B	12″	1 1/4″	3/16″	Black, Brown, Lt. Gray	6864T12	30.45	35.35	40.44	$45.51	$50.59	59.39
High-Traffic Rubber										
C	12 1/4″	1 9/16″	1/8″	Black, Brown, Lt. Gray	6929T29	41.79	48.71	55.65	62.65	69.62	83.50
D	13″	1 7/8″	1/4″	Black, Marbled Brown, Marbled Lt. Gray	6910T13	61.80	72.10	82.40	92.70	103.00	123.60
E	12″	2″	7/32″	Black, Brown, Lt. Gray	6291T15	61.72	72.01	82.30	92.58	102.87	123.45
F	13″	1 5/8″	3/16″	Black, Marbled Brown, Marbled Lt. Gray	6249T17	60.24	70.28	80.32	90.36	100.40	120.48
Corrosion-Resistant Aluminum with Grit										
G	8 7/8″	1 1/8″	9/32″	Black, Black with Yellow, Lt. Gray	6847T12	67.60	78.86	90.13	101.39	112.66	135.19
G	10 7/8″	1 1/8″	9/32″	Black, Black with Yellow, Lt. Gray	6847T13	90.64	105.74	120.85	135.96	151.06	181.28
Corrosion-Resistant Plastic with Grit										
H	12″	1 1/2″	1/8″	Dark Gray with Yellow	6127T59	68.14	79.50	90.83	102.19	113.77	136.30
Stair Tread Adhesive for Styles A-F (1 gal. can)										62695T82	47.80

Stair Tread Nosing

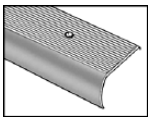
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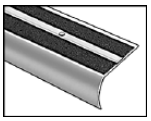
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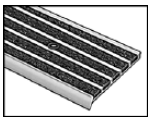
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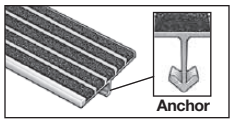

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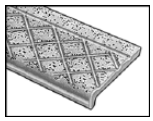
N

(J&K) Aluminum Nosing— An etched and anodized finish provides a slip-resistant surface. Simple to install, just screw nosing into place. For wood stairs, use #4 wood screws (see 90031A on page 3020). For indoor and outdoor use.

Style J has a ribbed surface. *Style K* has two abrasive strips for added traction.

(L&M) Aluminum Nosing with Grit— Five channels embedded with grit provide excellent traction and slip resistance. For indoor and outdoor use.

Style L can be installed in fresh concrete as well as on existing stairs. It has 1/4″ dia. countersunk holes for concrete screws (see page 3353). *Style M* has an integral anchor for installation in fresh concrete; no fasteners required.

(N) Cast Aluminum and Cast Iron Nosing with Grit— Embedded with abrasive grit for traction, this durable nosing can handle heavy traffic and rough environments. Ideal for concrete-filled, steel framed stairs. Mounting hardware included.

Cast aluminum is for indoor and outdoor use. *Cast iron* is for indoor use.

Nosing epoxy compound is for use between nosing and front edge of a stair to prevent cracks. Covers 75 lin. ft./qt. For indoor and outdoor use.

To Order: Please specify length.

Dp.	Ht.	Thick.		36″ Lg.	42″ Lg.	48″ Lg.	60″ Lg.	72″ Lg.	144″ Lg.
Aluminum									
J	2 1/2″	1 1/2″	1/8″	6282T23	$14.25	$16.62	$19.00	$23.73	$28.04	$56.95
K	3″	1 1/16″	3/32″	6282T24	32.91	38.32	43.81	55.94	67.13	107.62
Aluminum with Grit— **To Order:** *Please specify grit color: black or yellow.*									
L	2 7/8″	1/4″	1/4″	6846T14	31.86	37.17	42.48	53.10	63.72	127.44
M	2 7/8″	1/4″	1/4″	7745T59	27.31	31.85	36.40	45.51	54.60	109.20
Cast Aluminum with Black Grit									
N	2 11/16″	3/8″	5/16″	6952T11	40.21	46.92	53.61	67.00	80.40	_____
N	3 11/16″	3/8″	5/16″	6952T12	51.84	60.45	69.10	86.38	103.65	_____
Cast Iron with Black Grit									
N	2 11/16″	3/8″	5/16″	6861T16	47.56	55.52	63.42	79.25	95.10	_____
N	3 11/16″	3/8″	5/16″	6861T17	60.62	70.70	80.80	101.00	121.20	_____
Nosing Epoxy Compound for Styles J-N (1 qt. can)								62695T86	41.75	

Shovels and Spades











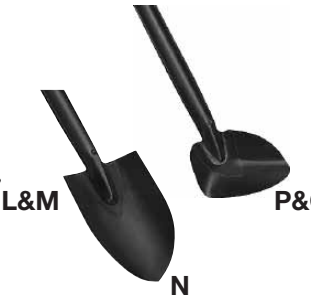



You can dig it, scoop it, edge it, and clear it.
Styles B&D have a closed-back blade to prevent buildup.
Styles F-H are made of lightweight plastic. *Styles G&H* are made of FDA-compliant materials and are designed for use in food-processing applications. *Style H* has an angled handle to reduce back strain.

Blade Wd.	Blade Ht.	Handle Style	Handle Material	Handle Lg.		
Scooping Shovels						
(A) Steel Blade						
9″	11½″	D	Wood	31¼″	6218A29	$36.42
9″	11½″	Straight	Steel	44″	6070A21	49.07
9″	11½″	Straight	Wood	48″	6218A33	31.22
9⅞″	11½″	D	Fiberglass	27″	6251A21	33.62
9⅞″	11½″	Straight	Fiberglass	48″	6251A22	33.62
11½″	14½″	D	Wood	40″	6348A14	31.65
11½″	14½″	Straight	Wood	46″	6348A15	28.46
(B) Heavy Duty Steel Blade						
8½″	12″	D	Wood	30″	6225A12	63.72
8½″	12″	Straight	Wood	48″	6225A13	63.21
(C) Heavy Duty Ribbed Steel Blade						
13¼″	14½″	Straight	Wood	48″	6208A12	38.11
13½″	14½″	D	Wood	30″	6208A11	46.53
(D) Corrosion-Resistant Type 304 Stainless Steel Blade						
9¾″	13″	D	Stainless Steel	27″	6020A12	180.69
(E) Aluminum Blade						
10″	15″	D	Wood	30″	6206A15	65.90
10″	15″	Straight	Wood	48″	6206A16	65.90
11″	14″	Straight	Wood	48″	6280A45	40.24
(F) Nonsparking Polypropylene Blade—Green						
10½″	14″	D	Polypropylene	24½″	6214A13	48.45
(G) Choose-a-Color Nonsparking Polypropylene Blade— To Order Please specify blue, red, white, or yellow.						
11″	14″	D	Polypropylene	24″	6254A3	45.00
14″	17″	D	Polypropylene	25″	6254A4	47.80
(H) Ergonomic with Nonsparking Polypropylene Blade—White						
10¼″	11″	D	Polypropylene	39″	6357A1	62.76
13½″	12½″	D	Polypropylene	38½″	6357A2	66.47
Digging Shovels						
(J) Steel Blade						
9″	11½″	Straight	Fiberglass	48″	6229A61	47.88
10¾″	11½″	D	Wood	31¼″	6229A52	32.44

Style K has a closed-back blade to prevent buildup.
Styles L&M work best for digging ditches, trenches, and other deep, narrow openings.
Styles P&Q are designed for quick removal of debris and soil.
Style S has a closed-back blade to prevent buildup.

Blade Wd.	Blade Ht.	Handle Style	Handle Material	Handle Lg.		
Digging Shovels (Cont.)						
(J) Steel Blade (Cont.)						
10¾″	11½″	Straight	Steel	44″	6070A23	$43.63
10¾″	11½″	Straight	Wood	48″	6229A55	28.06
(K) Heavy Duty Steel Blade						
10¾″	11½″	Straight	Wood	48″	6229A65	47.50
(L) Narrow-Width Curved Steel Blade						
3″	11½″	Straight	Wood	48″	6291A13	25.35
5″	11½″	Straight	Wood	48″	6291A11	28.10
(M) Narrow-Width Straight Steel Blade						
4¾″	16″	Straight	Fiberglass	48″	6277A43	42.01
6″	16½″	D	Wood	31¼″	6220A15	49.94
Extra-Long Handle Digging Shovels and Spoons						
(N) Digging Shovels with Steel Blade						
9¼″	12¼″	Straight	Wood	86″	6219A2	123.22
9¼″	12¼″	Straight	Wood	110″	6219A4	137.24
9¼″	12¼″	Straight	Wood	134″	6219A6	150.94
(P) Small Spoons with Steel Blade						
9¾″	8¾″	Straight	Wood	86″	6219A1	123.22
9¾″	8¾″	Straight	Wood	110″	6219A3	137.24
9¾″	8¾″	Straight	Wood	134″	6219A5	150.94
(Q) Large Spoons with Steel Blade						
9½″	10½″	Straight	Wood	86″	6219A7	123.22
9½″	10½″	Straight	Wood	110″	6219A8	137.24
9½″	10½″	Straight	Wood	134″	6219A9	150.94
Edging Spades						
(R) Steel Blade						
6⅞″	11″	Straight	Steel	48″	6070A22	56.96
7½″	11½″	D	Fiberglass	27″	6276A41	38.61
7½″	11½″	Straight	Fiberglass	48″	6276A42	38.61
(S) Corrosion-Resistant Type 304 Stainless Steel Blade						
7⅝″	11″	D	Stainless Steel	28″	6020A11	173.24

Deep-Blade Scoops







Move or disperse a large volume of material quickly with these sturdy, high-capacity scoops.
Style U has a closed-back blade to prevent buildup.
Style Z is also called a sifting scoop. It's lightweight and has ¾″ mesh openings.

Blade Wd.	Blade Ht.	Handle Style	Handle Material	Handle Lg.		
(T) Smooth Steel Blade						
11″	15″	Straight	Fiberglass	48″	6227A11	$51.49
12½″	16″	D	Wood	31¼″	6211A11	46.76
15″	19″	Straight	Wood	48″	6210A16	73.88
(U) Smooth Corrosion-Resistant Type 304 Stainless Steel Blade						
12¾″	15½″	D	Stainless Steel	26″	6252A16	175.89
(V) Ribbed Steel Blade						
14″	17″	D	Wood	31″	6210A11	61.51
15″	19″	D	Wood	31″	6210A15	70.40
(W) Ribbed Aluminum Blade						
14½″	17¾″	D	Fiberglass	27″	6269A13	61.64
15″	19″	D	Wood	30″	6269A15	60.73

Blade Wd.	Blade Ht.	Handle Style	Handle Material	Handle Lg.		
(W) Ribbed Aluminum Blade (Cont.)						
15″	20″	D	Wood	30″	6269A17	$61.30
15″	21½″	Straight	Wood	46″	6269A45	69.00
15¼″	19¾″	D	Fiberglass	27″	6269A19	65.27
(X) Ribbed ABS Plastic Blade—Black						
15″	19″	D	Wood	30″	6287A21	34.87
15″	19″	Straight	Wood	48″	6287A23	30.94
(Y) Ribbed Economy Polyethylene Blade—Red						
10⅞″	12½″	D	Wood	24½″	6318A11	21.84
13⅞″	16½″	D	Wood	29¼″	6319A11	29.88
(Z) Galvanized Steel Mesh Sifting Blade						
14″	14″	D	Aluminum	42″	6327A11	55.68

Mini and Collapsible Shovels

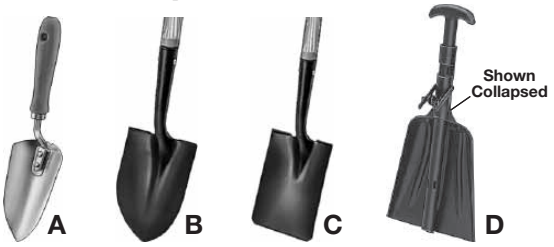

When space is tight, grab one of these compact shovels. **Style D** handle extends for use and collapses for storage.

	Blade		Handle					
	Wd.	Ht.	Style	Material	Lg.	O'all Lg.		
Mini Digging Shovels with Steel Blade								
A	3½″	6″	Straight	Wood	6″	13″	**6192A8**	$10.38
B	6″	8″	D	Wood	17″	27½″	**6192A6**	17.14
Mini Scooping Shovel with Steel Blade								
C	6″	8″	D	Wood	17″	27½″	**6192A4**	17.13
Collapsible Scooping Shovel with Gray ABS Plastic Blade								
D	10″	12″	T	ABS	24″	36″	**3602A3**	29.36

Picks and Mattocks

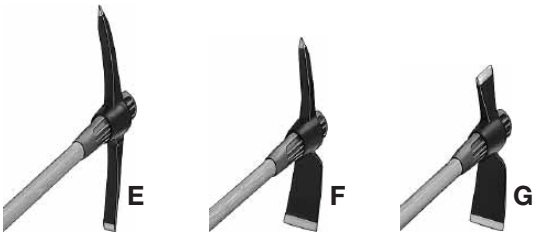

The forged steel blades on these tools will break up rocky soil and cut through tree roots. Each comes with a slip-on, straight wood handle.

		Overall Blade Lg.	Picks and Mattocks		Replacement Handles	
E	Pick	25″	**6274A22**	$55.19	**62715A28**	$21.05
E	Large Pick	30″	**6258A22**	98.18	**62715A18**	14.46
F	Pick/Mattock	19″	**6282A3**	50.97	**62715A28**	21.05
G	Mattock	15¾″	**6221A12**	61.19	**62715A28**	21.05

Forks and Hooks

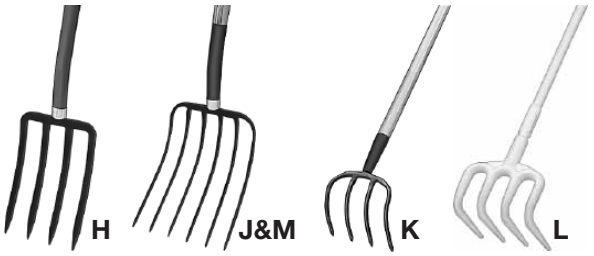

Styles L&M are made of FDA-compliant materials and designed for use in food-processing applications.

	Tines		Handle				
No.	Lg.	Wd.	Style	Material	Lg.		
With Steel Tines							
(H) Digging Fork							
4	11½″	8″	D	Wood	34″	**6363A12**	$47.35
(J) Bulk-Material Forks							
4	12½″	9″	Straight	Wood	48″	**6231A1**	36.85
5	12½″	10″	Straight	Wood	54″	**6231A5**	45.00
6	12½″	10″	Straight	Wood	48″	**6231A7**	48.89
8	13½″	13″	D	Wood	30″	**6236A3**	86.36
10	13½″	15″	D	Wood	30″	**6234A2**	91.47
(K) Cultivating/Refuse Hooks							
4	5″	5″	Straight	Wood	54″	**6246A13**	30.46
4	6½″	7″	Straight	Wood	60″	**6246A12**	45.00
4	9″	9″	Straight	Wood	60″	**6246A11**	55.24
With Food-Grade White Polypropylene Tines							
(L) Hook							
4	12″	7½″	Straight	Fiberglass	51″	**4506T41**	66.20
(M) Fork							
5	10½″	10½″	D	Polypropylene	38½″	**4506T42**	98.19

Hole Diggers

Post hole diggers cut through soil to create a smooth, round hole. Pierce the ground with the curved, steel blade. Separate the handles to lift out the soil.

Digging bar is made of steel. One end has a flat, round platform for tamping; the other end has a straight-edged blade for digging.



	Blade		Handle			
	Wd.	Ht.	Material	Lg., ft.		
Post Hole Diggers						
	6¼″	9″	Fiberglass	4	**6257A12**	$65.41
	6¼″	9″	Wood	4	**6257A7**	46.43
	6¼″	9″	Wood	6	**6257A8**	78.14
	6¼″	9″	Wood	8	**6257A9**	88.53
Digging Bar						
	2½″	8″	Steel	5	**6295A11**	42.81

Tampers

Pack down soil, sand, and asphalt. Base is steel. Both have a straight handle.



Handle		Base		
Material	Lg.	Size		
Wood	43″	10″×10″	**6301A2**	$51.67
Steel	44″	10″×10″	**6263A22**	64.34

Replacement Wood Handles

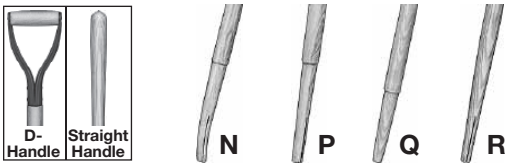

	Lg.	Tip		
D-Handles				
N	30″	Curved	**6309A14**	$14.69
P	30″	Straight	**6315A11**	14.81
Straight Handles				
N	48″	Curved	**6312A11**	13.62
Q	48″	Straight	**6316A15**	12.05
R	48″	Straight	**6312A14**	12.19

Rakes

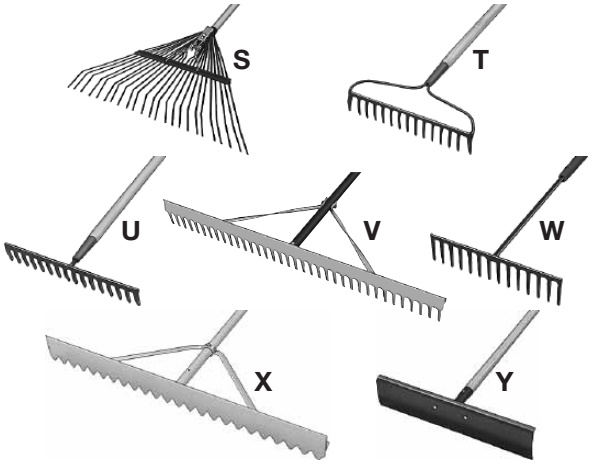

		Tines			Handle			
		Material	Wd.	Ht.	Material	Lg.		
S	Leaf	Steel	9″	15¾″	Steel	48″	**7142T16**	$16.26
S	Leaf	Steel	22″	15″	Wood	48″	**7142T14**	22.32
T	Landscape	Steel	16″	3″	Wood	60″	**7500T2**	33.17
U	Landscape	Steel	16¾″	4⅜″	Wood	60″	**7500T4**	58.22
V	Landscape	Alum.	24″	4¼″	Alum.	66″	**7058T1**	51.17
V	Landscape	Alum.	36″	4¼″	Alum.	66″	**7058T3**	59.73
V	Landscape	Alum.	48″	4¼″	Alum.	66″	**7058T5**	68.25
W	Asphalt	Steel	16″	4″	Wood	60″	**6245A1**	86.99
X	Asphalt	Alum.	36″	3⅞″	Alum.	82″	**6323A19**	64.02
Y	Concrete	Steel	20″	4″	Wood	60″	**6324A21**	30.36

Hoes

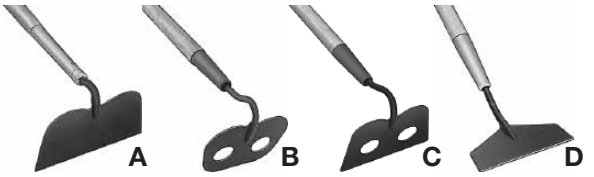

All have a steel blade and straight wood handle.

	Style	Blade Wd.	Blade Ht.	Handle Lg.		
A	Standard	10″	6″	60″	**6267A5**	$60.57
B	Mixing/Flow-Through	6⅝″	4½″	18″	**6267A3**	30.98
C	Mixing/Flow-Through	7″	4¼″	60″	**6267A4**	42.29
C	Mixing/Flow-Through	10″	6″	60″	**6267A6**	55.14
D	Scraper	7″	4″	60″	**6268A11**	46.98

Broadcast Spreaders





Evenly distribute ice-melting products and other small particles with these spreaders. They can also be used with fertilizer, except Styles J and L.

(E) Hand-held spreader has a hand-crank design.

(F-K) Push spreaders have a steel frame and pneumatic tires. *Style J* comes with a clear plastic hopper cover.

Optional clear vinyl hopper cover for Style H keeps contents dry. *Optional deflector kit for Style H* limits the spread pattern to 22″.

(L) Vehicle-mount spreader attaches to a 1¼″ or 2″ hitch receiver. For hitch receivers, see page 1346. It has a 12-volt motor with cigarette plug adapter.

	Cap., lbs.	For Use With	Spread Pattern, ft.		
Hand-Held Spreader with Plastic Hopper					
E	6	Ice Melt	6 to 12	**7032T6**	$13.11
Push Spreaders with Plastic Hopper					
F	40	Ice Melt	5 to 12	**7032T14**	75.64
G	75	Ice Melt	8 to 10	**7032T17**	83.33
H	80	Ice Melt	8 to 12	**7032T35**	127.68
J	100	Ice Melt, Rock Salt	3 to 20	**7032T46**	292.62
Push Spreader with Stainless Steel Hopper					
K	40	Ice Melt	4 to 12	**7032T15**	256.14
Vehicle-Mount Spreader with Plastic Hopper					
L	330	Ice Melt, Rock Salt	12 to 14	**7032T58**	631.67
Optional Clear Vinyl Hopper Cover for Style H				**7032T36**	26.42
Optional Deflector Kit for Style H				**7032T38**	75.59

Ice and Snow Melters

Rock salt melts ice and snow in temperatures above 25° F. Made of sodium chloride.

Ice melt inhibits refreezing and will not harm vegetation. Made of calcium, magnesium, potassium, and sodium chlorides, it melts ice and snow in temperatures as low as –12° F.

Rock Salt (50-lb. Bag)	**6235A65**	$11.69
Ice Melt (50-lb. Box)	**6320A12**	18.18
Ice Melt (100-lb. Box)	**6320A14**	34.58

Snow Shovels and Pushers

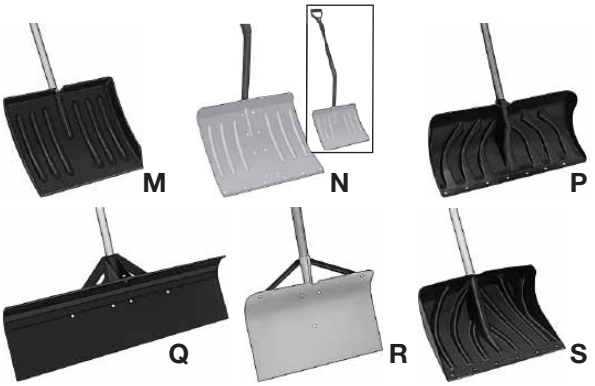

Whether you need to dig through a snow drift or clear a sidewalk, these durable shovels and pushers can handle the job.

Style M—All have a wood handle. *Steel blade* has a nonstick coating. *Aluminum blade* has a steel wear strip.

Style N—Ergonomic steel handle is angled to reduce back strain. Blade has a steel wear strip.

Style P—For added strength, the blade on this pusher is ribbed and has a steel wear strip. *Plastic blade* has a fiberglass handle. *Aluminum blade* has a nonstick coating. Handle is wood.

Styles Q&R—The blade and handle on these pushers are reinforced for added durability. *Style Q* handle is fiberglass. *Style R* blade has a nonstick coating. Handle is wood.

Style S—Sized to lift snow and deep enough to push it. Blade has a galvanized steel wear strip. Handle is fiberglass.

	Material	Blade Wd.	Blade Ht.	Handle Style	Handle Lg.		
Snow Shovels							
M	Plastic	18″	15″	D	36″	**6306A21**	$21.47
M	Steel	18″	15″	D	36″	**6350A17**	23.37
M	Aluminum	18″	15″	D	36″	**6349A14**	28.42
N	Aluminum	18″	15″	D	42½″	**6364A12**	32.49
Snow Pushers							
P	Plastic	24″	12″	D	45″	**6302A13**	28.65
P	Aluminum	24″	12″	Straight	48″	**6352A18**	31.00
Q	Plastic	36″	12″	D	48″	**6302A14**	66.64
R	Steel	18″	12″	D	42″	**6331A35**	37.07
R	Steel	24″	12″	Straight	48″	**6331A36**	40.44
R	Steel	30″	12″	Straight	48″	**6331A37**	46.69
Combination Snow Shovel/Pusher							
S	Plastic	20″	13″	D	38″	**6185A2**	29.91

Roof Snow Rakes



Remove snow from your rooftop with your feet planted safely on the ground. This rake has a sturdy, reinforced blade and a three-piece handle that snaps together and locks in seconds. It's made of lightweight aluminum. When assembled, rake is 16 feet long. Blade measures 24″ Wd. × 4⅝″ Ht. Handle diameter is 1⅛″.

Rake	**6293A4**	$51.35
Opt. 4-ft. Extension Handle	**6293A21**	15.46

Ice and Snow Scraper/Brushes



	Lg.	Brush Wd.	Blade Wd.		
Standard	21″	7″	4″	**70425T67**	$3.56
Telescoping	30″ to 48″	8″	4″	**70425T68**	11.97

Glass and Window De-Icer

Spray this aerosol de-icer directly onto glass to remove frost, snow, and ice. It also works on frozen locks and doors.

		1-11	12-Up
De-Icer (12-oz. net wt. can)	**6189A11**	$5.92	$5.38

Landscaping Equipment

Hedge Trimmers

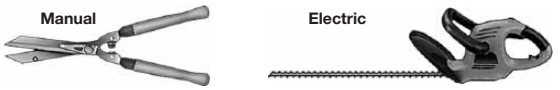

Electric—Trimmer operates on 120 volts AC @ 60 Hz and has a standard two-prong plug. UL listed.

	Overall Lg.	Blade Lg.		
Manual	21″	9″	9803T12	$24.44
Electric	34″	22″	7202T34	66.86

Cordless Weed and Grass Trimmers

Cut loose on unruly grass and weeds with this cordless trimmer. Cutting path is 13″ wide.

Trimmer line spool feeds automatically for continuous cutting—no bumping or spool adjustment necessary. Trimmer line is 0.065″ diameter.

The trimmer adjusts from 47″ to 55″ long, and it quickly converts to an edger. Powered by a 40-volt lithium ion battery (included) with charger. UL listed.



Cordless Trimmer	7474T32	$196.14
Replacement Cutting Line (30-ft. Spool)	7474T38	8.27
Replacement Battery (40-Volt Lithium Ion)	7474T33	110.77

Weed and Grass Trimmer Line

Line Dia.	Color	Spool Lg., ft.		
0.065″	Blue	300	6792T11	$9.90
0.08″	Green	200	6792T12	9.90
0.095″	Orange	285	6792T13	14.54
0.105″	Red	235	6792T14	14.76

Pruners, Loppers, and Saws

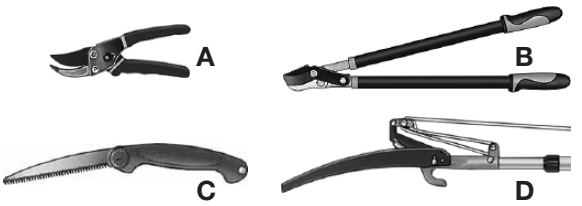

(D) Telescoping lopper/saws are extendable. The curved lopper blade snips smaller limbs, while the saw blade cuts through larger ones.

		O'all Lg.	Blade Lg.		
A	Pruner	8⅝″	2¼″	9805T15	$15.31
B	Lopper	28″	6½″	7507T17	31.82
C	Folding Saw	16″	7″	9857T9	15.65
D	Telescoping Lopper/Saw	7 to 14 ft.	15″	9857T11	58.19

Hand-Held Blower/Vacuums

Models include a vacuum kit with bag. Made of plastic.

Electric—Produces an air flow up to 250 mph. The 12-amp motor operates on 120 volts AC @ 60 Hz. Has a two-prong plug. CSA listed.

Battery Operated—This cordless blower produces an air flow up to 120 mph. Includes a 40-volt lithium ion battery. UL listed.



Electric	6300T9	$99.15
Battery Operated	6300T34	169.99
Repl. Battery for 6300T34	7474T33	110.77

Erosion Control Fence

Prevent sediment and top soil from washing away while water flows through. Fabric is made of black plastic. It has wood posts at 8-ft. intervals; posts measure 48″ high. Fabric roll measures 3 ft. Ht. × 100 ft. Lg.



66955T45 ..... $35.35

Weed Control Landscape Fabric

Block weed growth with this breathable, black polyethylene fabric. *Anchoring stakes* measure 4½″ long.

Roll Width, ft.	50-ft. Roll		100-ft. Roll	
3	63255T2	$19.98	63255T3	$37.17
4	63255T4	26.78	63255T5	49.88
6	63255T6	40.50	63255T7	75.35
Plastic Anchoring Stakes (Pkg. of 10)			63255T23	3.02

Ground Markers

All markers are weather resistant.

(E) Tape is nonadhesive and measures 1 3/16″ wide. Choose from nonfluorescent and fluorescent colors. *Nonfluorescent tape* is polyethylene; rolls are 300-ft. long. *Fluorescent tape* is PVC; rolls are 150-ft. long.

(F) Wood marking stakes are made of oak and measure 36″ Lg. × 1⅝″ Wd. × ¾″ Thick.

(G) Standard flags are 4″ × 5″ PVC on steel stakes that measure 30″ long.

(H) Bounce-back flags have flexible 6″ long plastic bristles that won't flatten if stepped on or run over. Secure with *steel nails* (sold below).

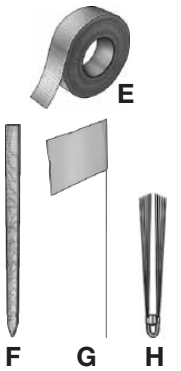

To Order: For tape and flags, please specify color: nonfluorescent blue, green, orange, red, white, or yellow; fluorescent pink, orange, or red (except bounce-back flags are not available in fluorescent red).

E Tape	56605T26	1-11	$1.75	12-Up	$1.57
F Wood Marking Stakes (Pkg. of 10)	5660T3				9.67
G Standard Flags (Pkg. of 100)	57015T4				10.73
H Bounce-Back Flags (Pkg. of 25)	2592T8				4.39
Steel Nails for Bounce-Back Flags (Pkg. of 55)	2592T9				7.65

Landscape Edging

This sturdy, black plastic barrier stands 4¾″ high and has a rounded top edge with a 1″ diameter. Each 20-foot roll comes with four 9″ × 1″ steel anchoring stakes and one connector.

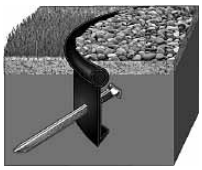

63495T81 ..... $17.39

Ground-Marking Spray Paint

Spray Paint—Nonpermanent, water-based aerosol paint sprays upside-down. Each can is 17 oz. net wt. and covers up to 1,200 linear feet at 1″ wide. The application temperature is 50° to 80° F.

Dispenser—Pull the trigger on this wheeled dispenser to release a line of paint from 1″ to 1½″ wide. Made of plastic and steel, it measures 34″ long.



To Order: Please specify color: white or yellow; fluorescent blue, green, orange, pink, red, or red/orange.

Spray Paint	1584T1	1-11	$5.03	12-Up	$4.48
Dispenser	1584T2				25.96

Vegetation Killers

Eliminate vegetation within one to two weeks. Soil can be reseeded one week after treatment. *Concentrate* makes up to 21 gallons.

	Size		
Ready-to-Use Spray	32-oz. Bottle	75575T14	$7.54
Concentrate	32-oz. Bottle	75575T19	43.82

Spray Heads for Underground Sprinkler Systems

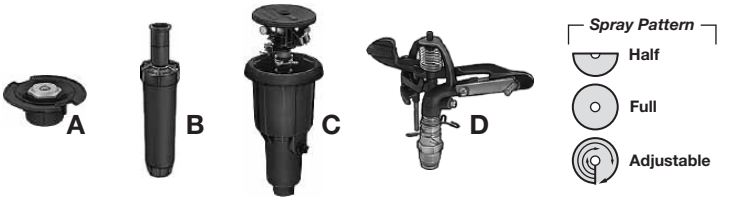

Connect these spray heads to the riser of your underground sprinkler system.

Styles A&B—Use for a continuous spray. *Style B* pop up when the water flow begins and retract when it ends.

Styles C&D—These have an arm that strikes the stream of water for a rotating, pulsed spray. *Style C* pops up when the water flow begins and retracts when it ends. *Style D* remain above ground and are typically mounted to a riser pipe.

	Spray Head	Spray Pattern	Spray Radius, ft.	Material	Pressure, psi	Flow Rate, gpm	Pipe Connection, NPT	Body Ht.	Extended Head Ht.		
Continuous Spray											
A	Flush	Half	12-15	Plastic	15-30	1.6-2.2	½ Female	1⅛″	—	7466T25	$2.59
A	Flush	Full	12-15	Plastic	15-30	3.2-4.0	½ Female	1⅛″	—	7466T24	2.59
B	Flush/Pop-Up	Half	11-15	Plastic	15-30	1.3-1.8	½ Female	6″	4″	7466T32	3.80
B	Flush/Pop-Up	Adjustable	11-15	Plastic	15-30	0.6-3.7	½ Female	6″	4″	7466T34	4.14
Impulse Spray											
C	Flush/Pop-Up	Adjustable	22-45	Plastic	25-50	1.5-8.4	¾ Female	9″	3½″	63725T87	31.81
D	Standard	Adjustable	20-41	Brass	25-50	3.4-5.0	½ Male	4⅜″	—	7559T16	23.22
D	Standard	Adjustable	49-77	Brass	35-100	7.8-44.0	1 Male	8½″	—	7559T18	79.78

Sprinkler Timers

Program these timers to water throughout the day. Housing is made of plastic.

Garden Hose Timers



Timer can be set to water every 6 hours, 12 hours, 24 hours, or up to 7 days—from 1 minute to 4 hours per cycle. It comes with one male and one female ¾″ garden hose thread fitting for programmed and manual use. Timer measures 6⅝″ Wd.×3″ Dp.×10¼″ Ht. and requires two AA batteries (sold separately).

Timer	70965K8	$42.87
AA Batteries (Pkg. of 2)	7745K55	6.25

Multizone Timers for Sprinkler Systems



Water six different zones up to four times a day, with cycles from 1 minute to 4 hours. Timer measures 8″ Wd.×3¾″ Dp.×6¼″ Ht. It operates on 110 volts AC. Includes a 5-ft. power cord with two-prong plug, quick-connect terminals, and two ⅞″ diameter unthreaded conduit entry connections on the bottom. Mount indoors or outdoors (fasteners included). ETL listed.

Timer	76675T34	$87.60

Sprinklers



Attach to a standard garden hose, and sprinklers are ready to water.

		Max. Coverage		
E	Oscillating	56×63 ft.	70145T6	$35.89
F	Impulse	86 ft. dia.	63225T37	26.54
G	Impulse	86 ft. dia.	63225T38	14.96

Flexible Downspout Extensions



To keep water away from the foundation of your building, connect these plastic extensions to your downspout. They fit 3″ and 4″ wide downspouts and adjust from 22″ to 55″ long. Extensions can also be joined for a longer run.

Brown	68125T23	$12.81
White	68125T21	12.81

Gutters

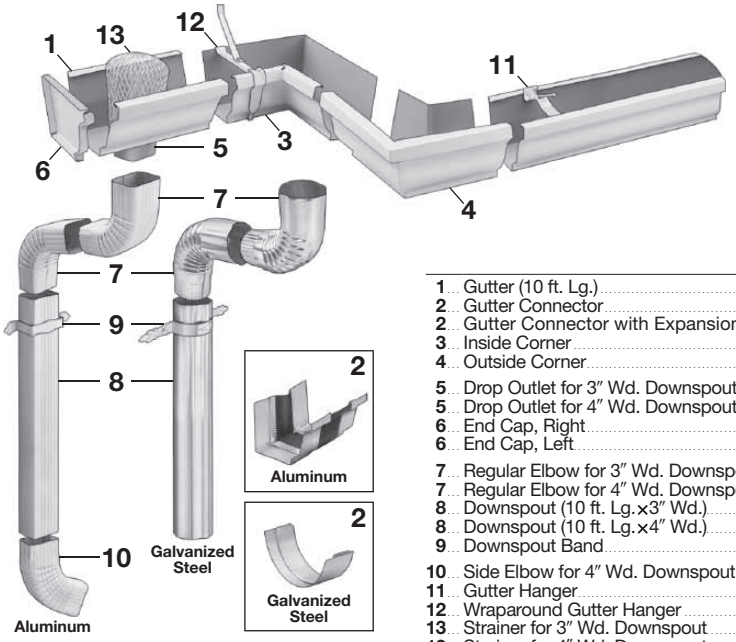

Aluminum—Gutters and components are lightweight, white-painted aluminum (unless noted). Gutters measure 6″ wide and are for use with 4″ components. Downspouts and elbows are rectangular.

Galvanized Steel—Gutters and components are rust-resistant, unpainted galvanized steel. Gutters are 5″ wide half-round and are used with 3″ or 4″ components. Downspouts and elbows are round.

		Aluminum		Galvanized Steel	
1	Gutter (10 ft. Lg.)	62415T44	$31.82	6938T12	$40.91
2	Gutter Connector	—	—	6938T13	8.18
2	Gutter Connector with Expansion Joint	62415T11★	57.25	—	—
3	Inside Corner	62415T27	21.40	6938T17	41.32
4	Outside Corner	62415T26	21.40	6938T16	41.32
5	Drop Outlet for 3″ Wd. Downspout	—	—	6938T41	9.78
5	Drop Outlet for 4″ Wd. Downspout	62415T28★	1.42	6938T42	18.03
6	End Cap, Right	62415T29	1.20	6938T23	3.94
6	End Cap, Left	62415T31	1.20	6938T23	3.94
7	Regular Elbow for 3″ Wd. Downspout	—	—	6938T24	5.06
7	Regular Elbow for 4″ Wd. Downspout	62415T32	2.45	6938T25	7.89
8	Downspout (10 ft. Lg.×3″ Wd.)	—	—	6938T26	32.77
8	Downspout (10 ft. Lg.×4″ Wd.)	62415T33	18.74	6938T27	41.46
9	Downspout Band	62415T34	.85	6938T28	4.26
10	Side Elbow for 4″ Wd. Downspout	62415T35	2.98	—	—
11	Gutter Hanger	62415T36★	1.25	—	—
12	Wraparound Gutter Hanger	62415T37	10.73	6938T32	7.73
13	Strainer for 3″ Wd. Downspout	—	—	6938T34	3.26
13	Strainer for 4″ Wd. Downspout	62415T52★	4.03	6938T35	3.90

★ Unpainted aluminum.

Roof Repair Patching Compounds

Repair holes and seal gaps in roofing and gutters with these durable, water-resistant patching compounds. Cartridges fit standard caulk guns; patch in cans should be applied with a trowel.

Plastic—Patch has a petroleum-asphalt base. One gallon covers 12 sq. ft. at 1/8″ thick. Meets ASTM D4586.

Acrylic—This water-based patch is for use on metal, aluminum, concrete, and foam roofs. It can also be applied with a brush or roller. One gallon covers 25 sq. ft. at 1/16″ thick.

Heavy Duty—This neoprene rubber patch is the most flexible and watertight roof patch we offer. Developed for use on flashing, chimneys, and other high-stress areas, it's highly vibration resistant. One gallon covers 8 sq. ft. at 1/4″ thick.

	Size	Adheres to Surface		
Plastic—Black				
Cartridge	10.3 oz.	Dry	7746T1	$5.35
Can	1 gal.	Wet/Dry	7746T3	18.55
Can	4.7 gal.	Wet/Dry	7746T4	87.73
Acrylic—White				
Can	1 gal.	Dry	76405T16	40.42
Heavy Duty Rubber—Black				
Cartridge	10.1 oz.	Wet/Dry	7568T51	6.38
Can	1 gal.	Wet/Dry	7568T53■	38.51

■ This product cannot be sold in the Los Angeles area.

Adhesive-Backed Roof Repair Rolls

Roll out a fast fix for leaky roofs and gutters with these peel-and-stick rolls—no additional coatings are required. Rolls work on clean, smooth, dry surfaces including wood, metal, masonry, and asphalt roofs. Backing is rubberized asphalt adhesive. Roll can be cut to size.

Use *aerosol primer* for optimal adhesion. One can covers 35 sq. ft.



Width	Thick.	Lg.	Reflective Aluminum		White-Coated Aluminum	
4″	3/64″	33 1/2 ft	9640T1	$15.55	9640T4	$16.84
6″	3/64″	33 1/2 ft	9640T2	23.34	9640T5	25.26
36″	3/64″	33 1/2 ft	9640T3	127.16	9640T6	137.94
Aerosol Primer (17 oz. net wt.)					9640T11	10.45

Roof Shingle Removers

With the right leverage, prying old shingles off the roof is no problem. This remover has a notched blade for scraping and a reinforced pivot point for lifting. Blade is steel and measures 6 7/8″ Wd. × 10 1/2″ Ht. Handle is wood and measures 48″ long.



6321A12 ..... $44.00

Roof Coatings

Restore and reinforce your roof by filling cracks and forming a water-resistant seal.

Reinforced Roof Coatings

Use these petroleum-asphalt-based coatings on metal, composition, built-up, and other roof types. They're reinforced with fiber for durability. Not VOC compliant in California.

Black coating can also be used to protect foundation walls. One gallon covers 25 sq. ft. at 1/16″ thick. Coating meets ASTM D4479. Apply to a dry surface with a brush.

Reflective coating cuts cooling costs by reflecting the sun's rays. Made of aluminum, one gallon covers 50 sq. ft. at 1/32″ thick. Coating meets ASTM D2824, Type 3. Apply to a dry surface with a sprayer or brush.

	Size	Black Coating		Reflective Coating	
Can	1 gal.	7747T28	$16.54	7747T29	$33.00
Can	4.7 gal.	7747T31	78.24	7747T32	151.14

Heavy Duty Flexible Roof Primers and Coatings

Reflect up to 90% of the sun's rays with this flexible, water-based primer and coating. They provide long-lasting protection for metal, concrete, and foam roofs. Apply to a dry surface with a roller or brush. One gallon covers 80 sq. ft.

Gray primer extends the life of the coating. It's recommended for use on bare rubberized and aged asphalt roofs.

	Size	Gray Primer		White Coating	
Can	0.9 gal.	7687T3	$49.78	7687T75	$49.17
Can	4.7 gal.	7687T4	186.28	7687T85	186.27

Temporary Roof Leak Sealants

Seal roof cracks in minutes in standing water and rain. Sealant is a gray powder that forms a thick gel when poured directly into water, making a temporary patch to repair cracks up to 1″ wide in any flat roof. One 25-lb. pail covers 40 sq. ft. at 1/2″ thick.

Pail (25 lbs.) ..... 7635T15 ..... $38.74

Roof Repair Mesh Fabric

Reinforce hot- and cold-applied asphalt patches and coatings with this flexible fabric.

Asphalt-coated fiberglass fabric meets ASTM D1668-86, Type 1.

Fabric Material	Color	Wd.	Lg.		
Polyester	White	4″	50 ft.	76405T28	$9.79
Asphalt-Coated Fiberglass	Black	6″	150 ft.	7574T1	13.69
Asphalt-Coated Fiberglass	Black	36″	150 ft.	7574T4	78.88

Roof Coating Brushes

Designed for applying roof patches and coatings, this heavy duty brush has 4 1/8″ long tampico fiber bristles securely attached to a 6 1/4″ × 1 3/4″ wood block. Handle is wood and measures 54″ long.



7233T3 ..... $18.18

Roof Flashing for Pipes


A


B

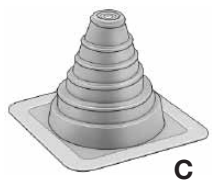
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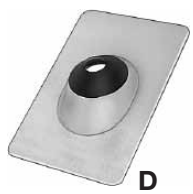
D

Prevent leaks before they start. Flashing allows pipes that penetrate your roof to expand, contract, and vibrate without disturbing the watertight seal. *Styles A, C,* and *D* are for a single pipe; *Style B* fits four pipes.

(A-C) Cut-to-Fit Flashing—Slice the rubber cap to fit a range of pipe sizes. Base is flexible aluminum. Stainless steel clamps required for installation are included. Temperature range is –60° to 270° F.

(D) Slide-Over Flashing—Use this flashing on plumbing vent pipes and two-walled, air-insulated vent pipes (also known as Type B roof vents). It has a rubber collar and a galvanized steel base. Maximum temperature is 180° F.

	Pipe OD Range	Flange Size Lg.	Wd.	Ht.		
Cut-to-Fit						
For Single-Ply and Built-Up Roofs						
A	2″-6″	14″ dia.	—	8″	7503T1	$95.94
B	(2) 3/8″-1″; (2) 1″-2″	14″ dia.	—	6 1/2″	7503T2	95.94
For Corrugated-Metal Roofs						
C	1/4″-4″	7 5/8″	7 5/8″	5 1/2″	7503T3	35.21
C	4″-7″	12 1/4″	12 1/4″	4″	7503T4	44.32
C	7″-13″	18 1/4″	18 1/4″	6 1/4″	7503T5	108.74

	Pipe OD Range	Flange Size Lg.	Wd.	Ht.		
Slide-Over						
For 40° Pitched Shingle Roofs						
D	1 1/4″-1 1/2″	12 1/2″	9″	2 1/4″	2390K41	$7.97
D	2″	12 1/2″	9″	2 1/4″	2390K42	8.42
D	3″	14 1/2″	11″	2 1/4″	2390K43	9.18
D	4″	15″	12″	3 1/4″	2390K44	11.89

Flat-Roof Drains


Unthreaded PVC


Threaded Cast Iron

Unthreaded PVC—These lightweight PVC drains have a UV-resistant body and a corrosion-resistant, cast-aluminum dome. Each comes with a rubber connector to attach the drain to a pipe. Installation kit is also included.

Threaded Cast Iron—These heavy duty drains have a flanged collar to secure flashing and roofing material without puncturing. Connections are NPT female.

For Pipe Size	Drains		Replacement Domes: Cast Aluminum		Replacement Domes: Polyethylene		Replacement Domes: Cast Iron	
Unthreaded PVC—White								
3	7868K11	$189.29	7868K21	$49.37	7868K22	$22.35		
4	7868K12	192.00	7868K21	49.37	7868K22	22.35		
Threaded Cast Iron—Brown								
3	2418K2	369.69					2418K21	$98.84
4	2418K3	369.69					2418K21	98.84

Floor Drains

Lightweight Plastic



The most economical floor drains we offer, these have a plastic housing and stainless steel strainer. Connect drain inside Schedule 40 drain, waste, or vent pipe with plastic primer and cement. For plastic-pipe cements, see page 3466. Capacity is 300 lbs.

Ht.	Connection ID	Connection OD	Grate Dia.	White PVC		Black ABS	
Fits inside pipe size 3							
1¾″	2″	3″	4⅜″	23715K11	$6.08	23715K21	$6.08
Fits inside pipe size 4							
2¼″	3″	4″	4⅜″	23715K31	8.83	23715K41	8.83

Cast Iron


Two-Piece Threaded


Two-Piece Unthreaded


Hinged

Drains *with inside caulk connection* fit over a drainage pipe. Attach with lead caulk (see 9031K on page 3827).

Two-Piece—Clamp these drains together with included screws. *Drains with threaded connection* have NPT female threads that connect drains to drainage pipe. Grate surface is 2″ above flange. *Drains with unthreaded connection* require a pipe coupling (not included). Both have an adjustable-height, threaded drain grate. For pipe couplings, see page 105. Choose 6820K23 for pipe size 3; 6820K24 for pipe size 4. *Drains with inside caulk connection* have a grate surface that is 2″ above the flange.

Hinged—Lift open for cleaning.

For Pipe Size	Ht. Below Flange	Flange Size	Grate Dia.	Cap., lbs.		
Two Piece						
With Threaded Connection						
3	3″	12⅝″ dia.	8⅛″	5,000	2411K43	$318.28
4	3″	12⅝″ dia.	8⅛″	5,000	2411K44	318.28
With Unthreaded Connection						
3	3⅝″	9¼″ dia.	5″	2,000	2411K61	260.94
4	3⅝″	9¼″ dia.	5″	2,000	2411K62	260.94
With Inside Caulk Connection						
3	4½″	12⅝″ dia.	8⅛″	5,000	2411K33	275.53
4	4½″	12⅝″ dia.	8⅛″	5,000	2411K34	275.53
Hinged						
With Inside Caulk Connection						
2	5½″	10″ sq.	7½″	1,500	2383K71	149.56
3	5½″	10″ sq.	7½″	1,500	2383K73	197.22
4	5½″	10″ sq.	7½″	1,500	2383K75	340.15

Adjustable Plastic Floor Hole Covers



Install this versatile cover for holes that measure 3″ to 12″ in diameter. It's made of polypropylene and measures 15″ Dia. × ⅜″ Thick. Capacity is 2,900 lbs. over a 6″ hole; 1,300 lbs. over a 12″ hole. Installation hardware is included. Color is orange.

2009T1 ..... $8.81

Drain Grates

Lightweight Nylon—For Roof Drains


Raised


Domed

Designed for use on the roof, both grates are weather and UV resistant. Mounting fasteners are included. Not rated for capacity. Color is black.

	Lg.	Wd.	Ht.		
Raised	9″	9″	4¾″	2412K37	$23.92
Domed	9″	9″	4⅜″	2412K31	26.58

Cast Iron—For Floor Drains


Light Duty


Heavy Duty

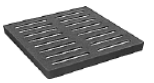
Heavy Duty

Light duty grates provide firm support in areas where there is light pedestrian traffic.

Heavy duty grates are made of cast iron, so they're strong enough to handle a high volume of traffic on pavement, sidewalks, and plant floors.

Base Size	Thick.	Cap., lbs.		
Light Duty Round—Black				
2⅞″ dia.	⅜″	Not Rated	2413K5	$5.74
3⅞″ dia.	⅜″	Not Rated	2413K1	6.18
5″ dia.	⅜″	Not Rated	2413K2	9.05
5⅞″ dia.	⅜″	Not Rated	2413K3	14.62
8″ dia.	½″	Not Rated	2413K4	31.25
10″ dia.	⅝″	Not Rated	2413K6	58.80
12⅛″ dia.	¾″	Not Rated	2413K7	91.14
Heavy Duty Round—Rust				
5¾″ dia.	1½″	19,800	2462K11	86.96
8″ dia.	2″	19,800	2462K12	45.65
Heavy Duty Rectangular—Rust				
12″ sq.	1″	5,200	2467K17	108.70
12″ × 24″	1¾″	19,500	2467K32	198.97
14″ × 24″	2″	33,160	2467K33	169.57

Adjustable Type 430 Stainless Steel—For Floor Drains



These grates adjust to fit a range of hole diameters with the included screw clips. Capacity is 300 lbs.

Dia.	Thick.	Fits Hole Diameters		
7¼″	1/16″	3¼″ to 6¾″	2128K21	$22.95
9¼″	⅛″	5¼″ to 8¾″	2128K31	45.44

Drain Cleanout Hole Covers


Floor Cover

Wall covers are made of Type 430 stainless steel. They come with a behind-the-wall bar and a 6″ long screw. Facing is smooth.

Floor covers are made of nickel. Secure with a 1½″ long bolt (included). Capacity is 2,400 lbs.

Dia.	Thick.			Dia.	Thick.		
Wall Covers				**Floor Covers**			
3″	1/32″	2043K21	$9.11	5⅛″	3/16″	2043K42	$57.81
4″	1/32″	2043K22	9.65	6⅛″	¼″	2043K45	80.98
5″	1/32″	2043K23	13.52	8⅜″	¼″	2043K46	107.01
6″	1/32″	2043K24	15.17				
8″	1/32″	2043K25	18.48				

Floor Drain Backflow Preventers



Put an end to water damage from backed-up sewers. All backflow preventers have a rubber collar, rubber float, and metal parts. To install, place a preventer into your floor drain pipe and tighten the screws—the rubber collar will expand for proper fit. When water backs up, the rubber float will rise to seal off the drain. When water recedes, the float will drop for normal drainage.

For Pipe Size		
2	2495K12	$16.62
3	2495K13	16.77
4	2495K14	17.95

Insect Control

Ant Bait Stations and Crawling Insect Glue Traps

Both are designed for indoor use.

Ant Bait Station—Wipe out large colonies of ants when a few take bait back to the rest.

Crawling Insect Glue Trap—Peel the liner to expose the glue, and these traps are ready to use.


Ant Bait Station


Crawling Insect Glue Trap

	Ht.	Wd.	Dp.	Pkg. Qty.		Pkg.
Ant Bait Station	½″	2¼″	2¼″	6	67705T49	$5.26
Crawling Insect Glue Trap	2¼″	4″	3″	4	98285T35	2.74

Sticky Fly Paper and Fly Swatters

Catch flying insects with these sticky traps.

Ribbons—Suspend these ribbons from a ceiling or ledge. They're sticky on both sides.

Sheets—Line windows and other flat surfaces with these clear sheets. They're sticky on one side with an adhesive strip on the other side.

Ribbons (Pkg. of 4)	9239T33	1-11	$1.95	12-Up	$1.73
Sheets (Pkg. of 4)	7912T57	1-23	5.00	24-Up	4.38
Fly Swatter	1359T83	1-11	1.23	12-Up	1.01

Yellow Jacket Traps

Take the sting out of eliminating yellow jackets with this baited, disposable trap. Hang from the eyelet or set on a flat surface. Trap is plastic and measures 3¾″ Dia. × 8″ Ht.



9683T14	1-11	$5.89	12-Up	$5.29	

Insecticide Sprays

Crawling Insects—Residual coating continues to kill for weeks.

Wasps and Hornets—Hit your target from up to 20 feet away.

	Net Wt., oz.		Each	Pkg. Qty.	Pkg.
Crawling Insects	17.5	9826T2	$7.86	12	$85.68
Flying Insects	11.75	9826T3	8.17	12	86.88
Wasps and Hornets	12	9825T3	6.76	12	73.68

Insect Foggers

Clear a large area of insects with these powerful foggers.

Indoor Disposable—Each can of this aerosol fogger is effective up to 625 square feet. No separate equipment required. One package includes three 1.5-oz. net weight cans.

Outdoor Reusable—To power, attach fogger to a propane fuel cylinder and fill with insecticide (both sold separately). Tank holds 40 oz. and insecticide covers 1,000 cubic feet per 1.5 oz. Fogger measures 14″ Lg. × 6½″ Wd. × 10½″ Ht.


Indoor Disposable


Outdoor Reusable with Propane Fuel Cylinder

Foggers					
Indoor Disposable (Pkg. of 3)	9788T12				$11.46
Outdoor Reusable (Sold Individually)	6328T54				83.32
Accessories for Outdoor Reusable Fogger					
Propane Fuel Cylinder (14.1 oz.)	8003A14				7.97
Insecticide (32 oz.)	9821T41	1-5	$11.27	6-Up	$10.13
Insecticide (64 oz.)	9821T42	1-5	19.34	6-Up	17.38

Ultra-Quiet Lighted Bug Glue Traps



Use this quiet, indoor trap to lure and kill flying insects with two 25-watt, shatter-resistant, UV light bulbs next to two sticky glue boards. Housing is white painted steel. Trap operates on 115/120 volts AC @ 60 Hz and has a 6-ft. power cord with three-prong plug. Mounting fasteners are included. UL listed. *Replacement bulb* is 25 watts.

Coverage, sq. ft.	Mount Style	Ht.	Wd.	Dp.	No. of Bulbs	Glue Traps		Replacement Bulb	
1,800	Wall	10″	19″	6″	2	98195T51	$264.41	6995T43	$14.57
Replacement Sticky Board—Bottom (4″ × 17″)								98195T75	2.56
Replacement Sticky Board—Back (9″ × 16″)								98195T77	5.01

Bug Zappers


Indoor Aluminum and Steel Wall Mount


Indoor Aluminum Hook Mount


Indoor Steel Corner Mount


Indoor Stainless Steel Hook Mount


Outdoor Polycarbonate Hook Mount

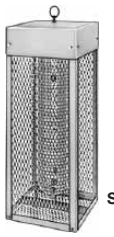
Outdoor Stainless Steel Hook Mount

Flying insects will never know what hit them. Attracted by the bright UV light bulbs, bugs receive a lethal shock when they come into contact with the electrified metal grid. Operating on 110-120 volts AC @ 60 Hz, each has a cord with three-prong plug. UL listed.

Indoor bug zappers include a bug collection tray. *Lightweight aluminum* and *heavy duty white-painted steel* bug zappers have shatter-resistant bulbs.

Coverage, sq. ft.	Mount Style	Ht.	Wd.	Dp.	Cord Lg., ft.	No. of Bulbs	Watts	Bug Zappers		Replacement Bulb	
Indoor											
Lightweight Aluminum—Wall-mount models have ½″ × ¾″ mounting slots.											
2,500	Wall	57″	14″	5½″	6	2	40	6995T51	$504.17	6995T42	$20.91
2,500	Hook	14″	26″	5½″	6	2	25	6995T52	383.33	6995T43★	14.57
3,500	Wall	30″	19″	5¾″	6	4	25	6995T53	404.84	6995T43★	14.57
3,500	Hook	16½″	55″	5″	6	2	40	6995T54	533.33	6995T42	20.91
Heavy Duty White-Painted Steel—Has ½″ × ¾″ mounting slots.											
1,800	Wall	26″	15″	5″	6	2	25	6995T55	290.32	6995T43★	14.57
2,500	Corner	57″	14″	5½″	6	2	40	6995T56	323.65	6995T42	20.91
Corrosion-Resistant Type 304 Stainless Steel—Wall-mount model has 3/16″ diameter mounting slots.											
1,000	Wall	31¼″	13¼″	6½″	6	2	40	9820T11	514.46	9820T36	49.25
2,000	Hook	11½″	31″	12″	6	2	40	9820T12	545.74	9820T36	49.25
Outdoor											
Economy Black Polycarbonate											
1,000	Hook	16½″	9¾″	9¾″	1	1	40	6994T41	64.54	6994T45	22.22
1,600	Hook	18½″	11″	11″	1	2	40	6994T42	91.38	6994T43	21.99
Corrosion-Resistant Type 304 Stainless Steel											
6,000	Hook	29″	11½″	11½″	6	2	40	9820T33	478.88	9820T36	49.25

★Bulb is 25 watts.

Mouse and Rat Control

Mouse and Rat Bait Stations



Made of plastic, stations have a semi-clear lid to check the poison. Both are for indoor and outdoor use.

Mouse station is refillable and includes eight 1-oz. blocks of poison. It measures 1½″ Ht. × 4″ Wd. × 4½″ Dp.

Mouse Station	9802T21	1-7	$9.13	8-Up	$8.22



Mouse/rat station is disposable. It has one 4-oz. poison block sealed inside. It's 3″ Ht. × 5⅜″ Wd. × 7½″ Dp.

Mouse/Rat Station	9802T22	1-3	$11.74	4-Up	$10.56

Mouse and Rat Traps



Spring Loaded—These classic, wood-based traps require bait, except *scented mouse* trap has an aroma to attract mice. For indoor and outdoor use.

		1-11	12-Up
Mouse Trap (Pkg. of 2)	7552T44	$1.70	$1.49
Scented Mouse Trap (Pkg. of 2)	7552T66	1.80	1.57
Rat Trap (Pkg. of 1)	7552T2	2.62	2.29



For Mouse

Glue Traps—Peel the liner to expose the glue, and these traps are ready to use. For indoor use.

Mouse Trap (Pkg. of 2)	75365T46	1-17	$2.41	18-Up	$2.11
Rat Trap (Pkg. of 2)	75365T48	1-11	6.65	12-Up	5.76

Multicatch Mouse Traps



Bait these traps once and catch up to 30 mice. Lid is hinged, offering access for releasing and discarding. It's made of galvanized steel and measures 2″ Ht. × 6″ Wd. × 10″ Dp. For indoor use.

	9836T1	$16.71

Mouse and Rat Zappers



Rat Zapper

The fastest, most hands-off way to kill mice and rats. Just add bait and these zappers electrocute pests instantly upon entry. For indoor use.

Mouse Zapper—Up to 100 kills per pkg. of batteries. Zapper is 1¾″ Ht. × 3¼″ Wd. × 6¼″ Dp. Requires four AA alkaline batteries (sold separately).

Rat Zapper—Up to 50 kills per pkg. of batteries. Zapper is 4¾″ Ht. × 4¼″ Wd. × 9¼″ Dp. Requires four C alkaline batteries (sold separately).

Mouse Zapper	7499T61	$28.04
Rat Zapper	7499T31	66.48
AA Batteries (Pkg. of 4)	71455K53	2.94
C Batteries (Pkg. of 6)	71455K54	6.49

Animal Catch-and-Release Traps



A&B

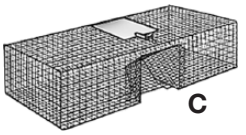

C

Lightweight, portable traps safely capture a variety of animals. A spring-loaded door allows animals to enter but not leave until you release them. Traps are made of galvanized steel wire mesh with 1″ × 1″ openings. For indoor and outdoor use.

	Use For	Ht.	Wd.	Dp.		
A	Rats, Squirrels	7″	7″	17″	7128T16	$32.27
B	Rabbits, Skunks	7″	7″	24″	9819T13	46.60
B	Cats, Raccoons	12″	10″	32″	9819T14	65.08
B	Large Raccoons, Small Dogs	15″	15″	42″	9819T15	110.73
C	Pigeons	9″	37″	19″	71265T61	59.25

Rodent Repellents

Ward off mice, rats, squirrels, voles, shrews, and chipmunks with granules made from predator urine. Shake lightly over areas in need of protection, and pests will instinctively avoid the perceived threat. For outdoor use.

9541T1		$15.98

Bird Control

Roosting Prevention Pastes

Apply this clear, sticky paste to keep birds from roosting. It's weather-resistant and nonpoisonous. Use on roof edges, window sills, gutters, and ledges. One ounce of paste will produce a ¼″ line that's 1 ft. long. Apply with a standard caulk gun (not included).

10-oz. Cartridge	7127T2	1-11	$12.51	12-Up	$11.11

Roosting Prevention Spikes

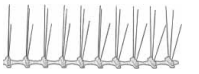

To keep birds from landing, nail, screw, or glue these flexible strips on straight and curved surfaces. Both have a hard plastic base.

Plastic spikes have snap-off notches every 5″. They're clear and have ten ¼″ dia. mounting holes (fasteners not included).

Stainless steel spikes can be cut with a hack saw. They have thirty-two ¼″ dia. mounting holes (fasteners not included).

	Base Wd.	Ht.	Top Wd.	Strip Lg.	Pkg. Qty.		Pkg. 1-3	Pkg. 4-Up
Plastic	1½″	4¾″	7″	24″	2	6200T51	$18.60	$15.69
Stain. Steel	2″	4½″	5″	24″	4	6200T47	46.51	39.22

Roosting Prevention Arms

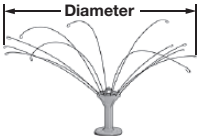

Made of flexible stainless steel wire, these arms have a 5″ high gray plastic base. Mounting plates and fasteners are included.

Dia., ft.		
2	6200T32	$38.00
4	6200T44	42.00
8	6200T68	46.00

Electric Repellent Strips



Let birds know they're not welcome with a mild, pulsing shock from this electrified system. All components are sold separately. Fasteners are not included.

Connect one or more flexible plastic shock strips to the solar power supply. Use wire and connector crimps to link the solar power supply to strips in a remote location.

Flexible plastic shock strips are 1⅞″ wide and have ⅛″ dia. mounting holes. **Connector crimps** are required to attach the wire to a strip and to join consecutive strip lengths. They're nickel-coated copper. **Solar power supply** should be placed in direct sunlight. The box measures 10½″ Ht. × 6¾″ Wd. × 7″ Dp. and has three 3/16″ dia. mounting holes.

Flexible Plastic Shock Strip (50-ft. Roll)	6200T21	$140.00
Flexible Plastic Shock Strip (100-ft. Roll)	6200T22	270.97
Connecting Wire (50-ft. Roll)	6200T23	93.33
Connecting Wire (100-ft. Roll)	6200T24	188.33
Connector Crimps (Pkg. of 100)	6200T25	38.18
Solar Power Supply	6200T26	206.15

Plastic Netting

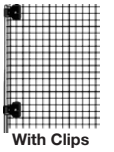

With Clips

This lightweight, sturdy barrier can be cut with scissors and attached with staples, glue, or fastening clips (sold separately). It's black and UV resistant.

Standard—Roll is 17-ft. wide. Mesh is ⅝″ × ¾″.

Heavy Duty—Roll is 14-ft. wide. Mesh is ½″ sq.

Fastening Clips—Use one clip every 1 to 3 feet. Each has two mounting holes: 3/16″ and 5/16″ (fasteners not included).

Length, ft.	Standard		Heavy Duty	
10	9428T425	$28.00	9428T436	$41.56
25	9428T424	45.56	9428T438	77.22
50	9428T423	77.00	9428T439	140.44
100	9428T421	119.44	9428T431	275.33
250	9428T422	294.67	9428T432	680.44
500	9428T426	562.56	9428T433	1,339.33
Fastening Clips (Pkg. of 25)	9428T44			11.15

Wall Patching Compounds

Apply with a trowel or putty knife. Color is white.
Spackling compound is ready to use.
Plaster of Paris needs to be mixed with water.

Spackling Compound (½-pt. Tub)	7632T33	$2.20
Spackling Compound (1-qt. Tub)	7632T44	5.18
Plaster of Paris (8-lb. Tub)	7577T23	8.69

Drywall Joint Tape and Compounds

Hide seams and smooth out corners. Both tape styles require joint compound for finishing. Color is white.
Paper tape bonds with joint compound.
Fiberglass mesh tape is self-adhesive and can also be used to repair damaged walls.
Joint compound is ready to use. One tub covers 40 to 50 sq. ft.

	Wd.	Lg., ft.		
Paper Tape Roll	2″	250	76585A51	$3.60
Fiberglass Mesh Tape Roll	1⅞″	50	76585A66	3.25
Fiberglass Mesh Tape Roll	1⅞″	300	76585A67	8.18
Joint Compound (12-lb. Tub)			7609T23	8.15

Textured Wall and Ceiling Patch Sprays

Cover stains, patches, and chips in textured walls and ceilings. These patch aerosol sprays are water based. Application temperature is 68° to 72° F. For indoor use only. Color is off-white.
Drywall patch spray has an adjustable nozzle that varies the dense, orange-peel-like texture from light to heavy.
Ceiling patch spray has a popcorn-like texture.

Spray Type	Dry Time: Touch	Dry Time: Overall	Net Wt., oz.	Coverage, sq. ft.		
Drywall	30 min.	30 min.	10	50	72945T3	$10.74
Ceiling	60 min.	24 hrs.	14	4	72945T4	13.82

Self-Adhesive Drywall Patches



Made of fiberglass-reinforced aluminum, patches are suitable for drywall and plaster. Peel the backing, stick in place, cover with spackling compound, sand, and paint.
Assortment includes three patches—two that measure 4″×4″ and one that measures 6″×6″.

4″×4″ Patch	76185T32	$2.43
6″×6″ Patch	76185T36	2.82
Assortment	76185T38	6.87

Drywall and Wall-Covering Tools

		Work Surface: Size	Work Surface: Material		
Drywall Tools					
A	Joint Knife	6″ Wd.×4½″ Lg.	Steel	7609T4	$10.09
B	Taping Knife	6″ Wd.×3″ Lg.	Steel	7609T11	9.28
B	Taping Knife	8″ Wd.×3″ Lg.	Steel	7609T12	9.93
B	Taping Knife	10″ Wd.×3″ Lg.	Steel	7609T13	10.82
C	Finishing Trowel	4½″ Wd.×11″ Lg.	Steel	7609T1	8.43
D	Corner Trowel	4″ Wd.×5″ Lg.	Stain. Steel	7609T14	12.99
E	Hawk	13″ Wd.×13″ Lg.	Aluminum	7609T15	20.26
F	Mud Pan	3⅜″ Ht.×14″ Wd.×4½″ Dp.	Plastic	7609T21	3.60
G	Mud Masher	5⅝″ Wd.×5″ Lg.	Steel	7609T17	15.27
H	Circle Cutter	Up to 16″ Dia.	Steel	7609T18	13.57
Wall-Covering Tools					
J	Paste Brush	6″ Wd.×3½″ Lg.	Natural Fiber	62395T45	6.75
K	Smoothing Brush	12″ Wd.×2″ Lg.	Natural Fiber	62395T88	6.67
L	Seam Roller	1½″ Wd.	Plastic	62395T69	9.06

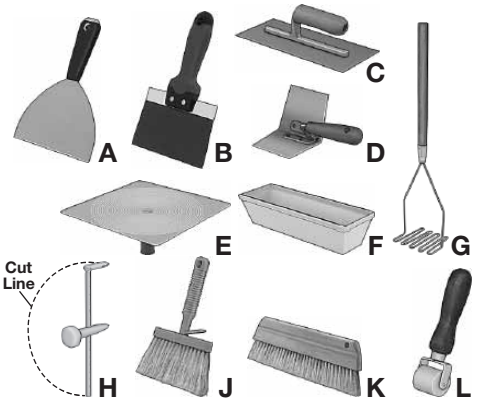

Indoor Fiberglass-Laminate Wall Panels

Cover wallboard, masonry, and studs with these durable, washable, and mildew-resistant panels. They're 0.090″ thick with a pebbled texture and can be cut with a fine-tooth carbide-tipped power saw. To install, use a trowelable construction-grade adhesive, nylon drive rivets, or a combination of the two (sold separately). Temperature range of panels is –40° to 150° F, and they're Class C fire rated.
Connectors and **finishing strip** are 8 ft. long and made of polypropylene.

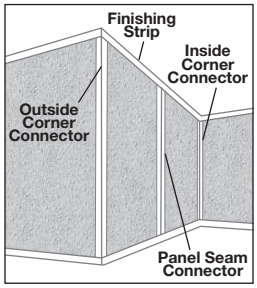

To Order: For panel, connectors, finishing strip, and nylon drive rivets, please specify almond or white.

Panel (4 ft.×8 ft.)	62445T71	$59.03
Panel Seam Connector	62445T72	3.69
Inside Corner Connector	62445T73	3.53
Outside Corner Connector	62445T74	3.88
Finishing Strip	62445T75	3.13
¾″ Nylon Drive Rivets (Pkg. of 50)	62445T76	11.01
Adhesive (1-gal. can; covers 60-90 sq. ft.)	7534A28	23.48

Steel Studs and Bases

Use a stud with a base to create non-load-bearing interior partitions and wall framing. Both are made of 25-gauge, corrosion-resistant galvanized steel.
Stud has knockouts approximately 12″ from each end to accommodate conduit and pipe.
Base aligns and anchors stud to floors and ceilings.



	Wd.	Lg., ft.		1-9	10-Up
Stud	3⅝″	10	77095T42	$9.37	$7.96
Base	3⅝″	10	77095T43	9.04	7.68

Indoor/Outdoor Polycarbonate Wall and Roof Panels





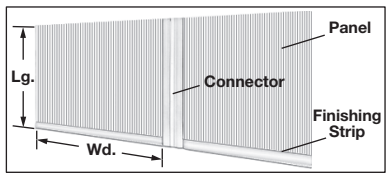

Virtually unbreakable, these polycarbonate panels are impact, heat, chemical, and weather resistant. To cut panels to size, use a circular saw with a fine-tooth blade. **Connectors** join two panels side by side. **Finishing strips** keep the top and bottom ends clear of dirt and dust.
Flat panels consist of two polycarbonate layers; the top layer is UV-resistant. They're ¼″ thick. Roofing applications require a minimum 5° slope. Temperature range is –40° to 250° F. Color is clear. Panels meet UL-723 for flammability and have an ASTM flame spread rating of 5. *Connectors* and *finishing strips* are made of polycarbonate.
Corrugated panels are 1/16″ thick with 1¼″ high corrugations. Temperature range is –50° to 260° F. Color is white. Panels have an FM flame spread rating of 6. *Connectors* are a Type 304 stainless steel screw with grommet, nut, and neoprene washer. Use one connector for every foot of panel length. *Finishing strips* are polyethylene foam.

To Order: For corrugated finishing strips, please specify top or bottom end.

Lg.	Wd.	Panels		Connectors		Finishing Strips	
Flat							
12″	24″	84825K81	$5.96	84825K51	$2.60	84825K31	$2.51
24″	24″	84825K83	11.21	84825K52	5.21	84825K31	2.51
24″	36″	84825K85	16.49	84825K52	5.21	84825K32	3.75
36″	48″	84825K87	30.38	84825K53	7.81	84825K33	5.00
48″	48″	84825K89	38.77	84825K54	10.42	84825K33	5.00
Corrugated							
48″	38″	85795K227	43.25	85795K1	.85	85795K5	2.66
72″	38″	85795K224	64.87	85795K1	.85	85795K5	2.66
96″	38″	85795K226	86.49	85795K1	.85	85795K5	2.66

Ceiling Tiles and Suspension Framing

Create a new drop ceiling that allows access to pipes and wiring, expand your existing ceiling, or replace old tiles. For indoor use. Color is white, unless otherwise stated.

Ceiling Tiles

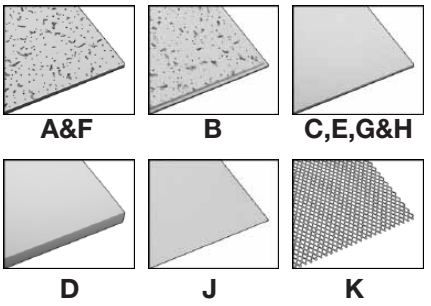

Tiles have a Class A fire rating. They meet ASTM E84 surface burning characteristics with a flame spread rating of 25 or less.

Standard—*Style B* are indented on all four edges so the installed tile face extends below the support framing.

Sound Absorbing—*Style C* are black on one side and white on the other. *Style D* are thick, lightweight tiles encased in vinyl for a smooth, easy-to-clean surface. *Style E* reflect up to 90% of light striking their surface to brighten your space.

Specialty—*Style F* are constructed for use in UL fire-rated ceiling assemblies. *Style G* are for use in clean rooms up to Class 100. Constructed for use in various UL fire-rated ceiling assemblies, they also resist humidity. *Style H* are washable for food-processing areas. *Style J* offer high humidity resistance for food-processing areas. They're washable and resist mold and mildew. *Style K* are durable, perforated metal that offers 70% open area for lighting and sprinklers. Color is silver.

Optional Sound Barrier Panels—Set on top of ceiling tiles to prevent sound penetration. Panels are melamine foam with a vinyl center and measure 5/8" thick.

		Material	Thick.	2 ft. × 2 ft. Tiles Case Qty.		Case	2 ft. × 4 ft. Tiles Case Qty.		Case
Standard									
A	Economy	Mineral Fiber	5/8"	16	62545T42	$61.70	12	62545T44	$90.62
B	Recessed Edge	Mineral Fiber	5/8"	16	62545T37	86.14	10	62545T38	107.68
Sound Absorbing									
C	Reversible	Melamine Foam	5/8"	8	9216T1	91.37	5	9216T2	98.24
D	Washdown	Melamine Foam	2"	2	9216T6	105.88	2	9216T8	176.47
E	Light Reflecting	Mineral Fiber	3/4"	12	6671T29	152.89	6	6671T31	150.11
Specialty									
F	Enhanced Fire-Resistance	Mineral Fiber	5/8"	16	62545T25	94.34	6	62545T26	66.72
G	Clean Rooms	Mineral Fiber	5/8"	12	7384T81	200.89	8	7384T83	246.69
H	Food Processing	Drywall with Vinyl Face	1/2"	2	7653T48	14.60	2	7653T49	28.38
J	High-Humidity Food Processing	Fiberglass/Plastic	1/8"	1	62545T53	13.00	1	62545T54	26.02
K	Long-Life Metal Mesh	Galvanized Steel	1/16"	3	9216T61	111.76	3	9216T62	223.53
Optional Sound Barrier Panels—2 ft. × 2 ft. (Pkg. of 2)								9216T73	101.96

Suspension Framing for Ceiling Tiles

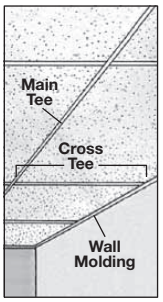

Use these components to design your own frame to support ceiling tiles. For indoor use. Color is white. *Main* and *cross tees* snap together. *Wall molding* secures the frame you've made to the wall. *Hanger rods* suspend and secure your frame to the ceiling. *Hold-down clips* prevent ceiling tiles from fluttering in entryways.

Steel—Main and cross tees are approved for use in UL fire-rated ceiling assemblies. The wall molding and hanger rod aren't required to be fire rated and won't reduce the overall fire protection of the ceiling system.

Corrosion-Resistant Aluminum—These components withstand higher humidity than the steel components.

	Wd.	Steel Lg.			Corrosion-Resistant Aluminum Lg.		
Main Tee	15/16"	12 ft.	62765T31	$12.87	12 ft.	8014T51	$24.00
Cross Tee	15/16"	2 ft.	62765T33	2.25	2 ft.	8014T53	4.00
Cross Tee	15/16"	4 ft.	62765T32	4.24	4 ft.	8014T52	8.01
Wall Molding	7/8"	12 ft.	62765T34	7.88	10 ft.	8014T54	12.42
Hanger Rods—Made of 12 gauge steel; 12 ft. long (Pkg. of 10)						62765T65	11.04
Hold-Down Ceiling Tile Clips—Made of galvanized steel; fit 1/16" to 5/8" thick tiles (Pkg. of 10)						62765T81	7.36

Ceiling Tile Spray Paint

Restore existing water- and smoke-stained ceiling tiles to their original appearance. This water-based paint comes in an aerosol can. One can covers 12 sq. ft. Application temperature is 50° to 90° F; maximum temperature is 250° F. For indoor use only. Finish is flat.

New white provides a bright, new-tile look. *Old white* matches older, aged white tiles.

Color	Net Wt., oz.	Dry Time Touch	Dry Time Overall		1-11	12-Up
New White	16	15 min.	1 hr.	9556T11	$9.20	$8.26
Old White	16	15 min.	1 hr.	9556T12	9.20	8.26

Suspended Ceiling Drainage Tiles

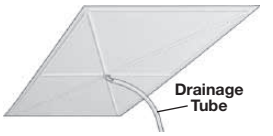

Get overhead leaks under control with these white plastic drainage tiles. They temporarily replace existing tiles to trap and divert up to 1/2 quart of liquid per minute. Tiles measure 1/16" thick. Mounting clips for the tile and tube are included. Each comes with 25 feet of tubing.

2 ft. × 2 ft. Tile	7575T4	$157.50
2 ft. × 4 ft. Tile	7575T6	176.25

Suspended Ceiling Hangers

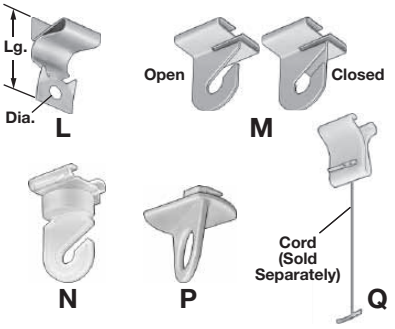

Slide these reusable hangers onto your ceiling tile framing to suspend signs, cords, and cable.

Style L mounts items flush with the wall. **Style M** has a two-piece design that can form a closed or open hook. **Style N** hook swivels 360°. **Style P** twists to lock in place. **Style Q** is designed for suspending lightweight signs when used with hanging cord (sold separately). Cord is thin, white polyester and has metal barbs at both ends.

	Fits Framing Width	Material	Finish	Lg.	Dia.	Pkg. Qty.		Pkg.
L	7/8", 15/16"	Steel	Zinc Plated	1 7/8"	1/4"	6	12295A41	$6.75
M	15/16"	Aluminum	White	1 1/2"	1/4"	6	12295A44	11.05
N	15/16"	Plastic	Semi-Clear	2 1/8"	1/4"	6	1374A23	6.79
P	15/16"	Plastic	White	2"	7/8"	10	12295A51	5.85
Q	15/16"	Plastic	White	3/4"	1/8"	10	12295A62	3.80
6" Long Cord for Style Q						10	12295A63	3.53
12" Long Cord for Style Q						10	12295A64	3.83

Breathable Water-Resistant Canvas Tarps

Prevent condensation buildup with these canvas tarps. They're double-stitched, have reinforced corners for durability, and will stay flexible in low temperatures. Grommets are brass and spaced 2 feet apart.

Medium duty tarps are 20 mils thick with 3/8" ID grommets; *heavy duty tarps* are 30 mils thick with 1/2" ID grommets.

Flame-resistant tarps meet California Fire Marshal requirements and will not support combustion.

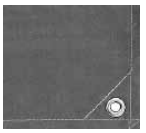

	General Purpose						Flame Resistant			
	Medium Duty			Heavy Duty			Medium Duty		Heavy Duty	
Size	Brown	Green	White	Each	Olive Green	Each	Olive Green	Each	Olive Green	Each
Rectangular										
3′×3′	7882T312	7882T315	7882T111	$9.23	7882T213	$9.69	7902T287	$9.93	7902T211	$13.20
3′×6′	7882T321	7882T322	7882T112	14.90	7882T211	18.33	7902T264	17.20	7902T221	19.80
4′×4′	7882T331	7882T121	7882T113	11.55	7882T129	16.26	7902T111	13.04	7902T141	17.60
4′×6′	7882T341	7882T342	7882T114	18.20	7882T219	24.39	7902T312	19.59	7902T182	26.40
4′×8′	7882T351	7882T171	7882T115	21.78	7882T172	32.52	7902T161	26.10	7902T162	35.20
4′×12′	7882T361	7882T362	7882T116	32.41	7882T222	48.78	7902T336	39.14	7902T184	52.80
5′×5′	7882T611	7882T122	7882T117	16.28	7882T131	25.41	7902T112	20.39	7902T142	27.50
6′×6′	7882T631	7882T123	7882T118	23.42	7882T132	36.59	7902T113	29.35	7902T143	39.60
6′×8′	7882T651	7882T124	7882T119	31.24	7882T133	48.78	7902T114	39.15	7902T144	52.80
6′×10′	7882T671	7882T42	7882T134	39.05	7882T83	60.98	7902T115	51.47	7902T145	66.00
8′×8′	7882T781	7882T911	7882T135	41.66	7882T913	65.05	7902T911	52.21	7902T913	70.40
8′×10′	7882T951	7882T914	7882T136	52.07	7882T916	81.31	7902T914	65.23	7902T916	88.00
8′×12′	7882T961	7882T44	7882T137	62.47	7882T84	97.57	7902T116	78.30	7902T146	105.60
8′×16′	7882T971	7882T173	7882T138	83.31	7882T174	130.09	7902T163	104.37	7902T164	140.80
8′×20′	7882T411	7882T412	7882T139	104.18	7882T311	162.61	7902T423	128.39	7902T197	176.00
10′×10′	7882T431	7882T432	7882T141	65.08	7882T313	101.63	7902T471	81.55	7902T213	110.00
10′×12′	7882T451	7882T46	7882T142	78.10	7882T85	121.96	7902T117	97.86	7902T147	132.00
10′×20′	7882T471	7882T472	7882T143	130.16	7882T314	203.27	7902T506	163.11	7902T421	220.00
12′×12′	7882T491	7882T492	7882T144	93.72	7882T318	146.35	7902T514	117.45	7902T385	158.40
12′×16′	7882T521	7882T48	7882T145	120.22	7882T86	190.30	7902T118	156.54	7902T148	211.20
12′×24′	7882T541	7882T917	7882T146	180.03	7882T919	285.45	7902T917	234.87	7902T919	316.80
14′×20′	7882T721	7882T51	7882T147	175.03	7882T87	277.52	7902T119	228.34	7902T149	308.00
16′×16′	7882T741	7882T53	7882T148	160.03	7882T88	253.73	7902T121	208.80	7902T151	281.60
16′×24′	7882T761	7882T55	7882T149	240.03	7882T89	380.60	7902T122	313.16	7902T152	422.40
20′×20′	7882T941	7882T57	7882T151	241.54	7882T91	386.21	7902T123	326.26	7902T153	440.00
20′×30′	7882T561	7882T59	7882T152	363.34	7882T92	579.31	7902T124	489.23	7902T154	660.00
24′×36′	7882T581	7882T62	7882T153	519.35	7882T93	823.14	7902T125	704.54	7902T155	950.40
				Per Sq. Ft.		Per Sq. Ft.		Per Sq. Ft.		Per Sq. Ft.
Other Sizes	7878T413	7878T412	7878T414	$0.76	7878T43	$1.17	7877T1	$0.99	7877T3	$1.27
Round				Each		Each		Each		Each
4′ dia.	7882T158	7882T154	7882T163	$11.55	7882T177	$16.25	7902T611	$15.90	7902T615	$21.08
6′ dia.	7882T159	7882T155	7882T164	23.42	7882T178	33.93	7902T612	32.78	7902T616	44.44
10′ dia.	7882T161	7882T156	7882T165	74.95	7882T179	80.00	7902T613	95.92	7902T617	119.12
16′ dia.	7882T162	7882T157	7882T166	159.56	7882T181	249.64	7902T614	299.32	7902T618	301.14

Waterproof Tear-Resistant Polyethylene Tarps

Keep covered items dry with these durable, UV-resistant tarps. They have heat-sealed seams to prevent tearing and rope-reinforced hems, except clear tarps. Grommets are spaced 2 feet apart, except choose-a-color tarps have grommets spaced 3 feet apart.

Choose-a-color tarps have 1/2" ID aluminum grommets.

Flame-resistant tarps meet California Fire Marshal requirements and will not support combustion. They have reinforced corners and 1/2" ID aluminum grommets. Color is white.

Reflective tarps are black on one side for UV resistance and silver on the other side for reflectivity. *Medium duty* have 1/2" ID aluminum grommets. *Heavy duty* have 3/8" ID brass grommets.

Clear tarps keep covered items visible. All are seamless and have 3/8" ID brass grommets.

To Order: For *choose-a-color tarps*, please specify blue, brown, or green.

Size		Each
Choose-a-Color—5 mils thick		
4′4″×6′6″	7770T12	$3.38
5′6″×7′6″	7770T31	4.64
7′4″×9′6″	7770T35	7.73
7′6″×14′6″	7770T36	11.60
8′4″×11′6″	7770T37	10.44
9′4″×11′6″	7770T51	11.60
11′4″×15′6″	7770T52	18.56
11′4″×19′6″	7770T54	23.20
11′4″×24′6″	7770T55	29.00
14′2″×19′8″	7770T61	29.00
14′2″×29′4″	7770T62	43.50
15′2″×19′6″	7770T68	30.93
17′2″×23′6″	7770T64	41.76
19′×19′6″	7770T65	38.67
19′×24′6″	7770T67	48.33
19′×29′6″	7770T69	58.00
19′×39′6″	7770T72	77.33
23′×35′4″	7770T74	83.52
28′10″×39′6″	7770T81	115.90
28′10″×49′6″	7770T82	144.81
38′6″×39′4″	7770T83	154.47
38′6″×59′6″	7770T84	231.52
Flame Resistant—7.5 mils thick		
9′5″×19′2″	7375T11	60.80
9′8″×11′8″	7375T51	36.48
14′2″×19′5″	7375T21	91.20
19′2″×29′6″	7375T41	178.82
20′×21′	7375T31	114.00

Size		Each
Medium Duty Reflective—11 mils thick		
6′×8′	4454T11	$9.44
8′×10′	4454T21	15.74
10′×12′	4454T31	23.62
10′×20′	4454T41	39.35
12′×16′	4454T51	37.79
12′×20′	4454T61	47.24
12′×25′	4454T71	59.03
15′×30′	4454T81	88.56
16′×20′	4454T91	62.97
20′×20′	4454T12	78.71
20′×30′	4454T13	104.37
25′×33′	4454T14	143.50
30′×40′	4454T15	208.74
30′×60′	4454T32	313.10
40′×40′	4454T16	278.33
Heavy Duty Reflective—12 mils thick		
4′×4′	87995T11	9.56
6′×6′	87995T32	12.00
6′×8′	87995T41	15.92
8′×10′	87995T56	26.48
8′×16′	87995T57	42.40
10′×12′	87995T42	39.74
10′×20′	87995T43	61.14
12′×15′	87995T44	52.74
12′×20′	87995T45	73.36
12′×24′	87995T46	88.02
14′×14′	87995T38	64.18
16′×20′	87995T47	97.80

Size		Each
Heavy Duty Reflective—12 mils thick (Cont.)		
20′×20′	87995T48	$117.16
20′×30′	87995T49	175.72
20′×40′	87995T61	243.11
24′×24′	87995T51	168.70
24′×30′	87995T52	210.88
30′×30′	87995T53	268.86
40′×40′	87995T54	426.02
50′×50′	87995T55	610.17
Other Sizes	87995T1	Per Sq. Ft. $0.40
Medium Duty Clear—4 mils thick		Each
6′×8′	7885T53	$9.68
9′×12′	7885T23	21.83
10′×12′	7885T56	24.25
12′×16′	7885T57	38.68
16′×16′	7885T24	51.61
16′×24′	7885T25	77.51
24′×24′	7885T26	116.28
28′×32′	7885T27	181.07
Heavy Duty Clear—6 mils thick		
6′×8′	7885T83	14.55
9′×12′	7885T28	34.91
10′×12′	7885T86	38.74
12′×16′	7885T87	61.88
16′×16′	7885T88	83.80
16′×24′	7885T89	125.72
24′×24′	7885T29	188.52
28′×32′	7885T93	253.41
Other Sizes	7885T33	Per Sq. Ft. $0.40

Puncture-Resistant Tarps

The most puncture-, abrasion-, and tear-resistant tarps we offer. Made of vinyl-coated polyester, they're water and UV resistant, and they remain flexible in extremely low temperatures.

20 mil-thick tarps meet MIL-C-20696. They have 3/8" ID brass grommets spaced 2 feet apart.

23 mil-thick tarps have 1/2" ID brass grommets spaced 2 feet apart.

To Order: For *20 mil-thick tarps*, please specify black, blue, green or tan. For *23 mil-thick tarps*, please specify black, blue, or green.

Size	20 mils Thick	Each	23 mils Thick	Each
3'×6'	78925T38	$32.97	8010T21	$31.20
4'×4'	78925T39	24.06	8010T22	26.00
6'×6'	78925T53	39.21	8010T38	36.73
6'×8'	78925T41	48.21	8010T23	50.94
6'×10'	78925T42	60.28	8010T24	63.67
8'×10'	78925T37	92.28	8010T25	87.58
10'×10'	78925T43	98.38	8010T31	106.12
10'×12'	78925T44	118.90	8010T32	127.35
12'×15'	78925T45	171.18	8010T33	191.02
12'×24'	78925T46	275.94	8010T34	288.00
14'×20'	78925T47	256.48	8010T39	280.00
14'×25'	78925T48	320.62	8010T35	350.00
16'×20'	78925T49	291.87	8010T36	320.00
20'×25'	78925T55	465.45	8010T41	454.55
20'×30'	78925T52	543.94	8010T37	567.27
		Per Sq. Ft.		Per Sq. Ft.
Other Sizes	78925T95	$1.12	8010T75	$1.21

Flame-Resistant Tarps

For protection that won't combust in the face of flames, choose these tarps that are California Fire Marshal approved and meet MIL-C-43006B. Made of durable vinyl-laminated polyester, they're water, UV, and tear resistant. They won't break down when exposed to chlorine, and they remain flexible in extremely low temperatures. Each side has 3/8" ID brass grommets spaced 2 feet apart. All tarps are 15 mils thick.

To Order: Please specify black, blue, green or tan.

Size		Each	Size		Each
3'×6'	7886T51	$28.95	12'×24'	7886T66	$194.98
4'×4'	7886T52	20.66	14'×20'	7886T67	189.54
6'×6'	7886T73	28.89	14'×25'	7886T74	236.96
6'×8'	7886T61	38.43	16'×20'	7886T69	216.63
6'×10'	7886T62	48.02	20'×25'	7886T75	339.23
8'×10'	7886T53	74.43	20'×30'	7886T72	406.19
10'×10'	7886T63	77.38			Per Sq. Ft.
10'×12'	7886T64	86.22	Other Sizes	7886T91	$0.86
12'×15'	7886T65	129.31			

Ultra Heat- and Flame-Resistant Tarps



The most heat- and temperature-resistant tarps we offer. Made of thick, heat-stabilized carbon fiber, they resist flames and molten metal splatter. Each side has 3/8" ID brass grommets spaced 2 feet apart. Tarps are black and 150 mils thick.

Size		Each
5'×5'	4983T1	$199.56
6'×8'	4983T2	402.78
8'×10'	4983T3	597.18
10'×12'	4983T4	798.22
		Per Sq. Ft.
Other Sizes	4983T5	$7.85

Breathable Tarps with Magnets



Keep moisture, dust, and dirt out while allowing air to circulate. These specially treated cotton tarps are also rust resistant. A magnet sewn into each corner keeps them in place on your equipment. Tarps do not have grommets. All are light gray and 10 mils thick.

Size		Each
27"×36"	9325T1	$17.81
36"×56"	9325T2	24.00
56"×72"	9325T3	41.34
72"×112"	9325T4	53.44

Chemical-Resistant Tarps

These coated-nylon tarps withstand gasoline, methanol, sodium chloride, ammonium sulfate, petroleum, and lubricating oils. They're also UV resistant. Each side has 3/8" ID brass grommets spaced 2 feet apart. Tarps are black and 20 mils thick.

Synthetic rubber-coated tarps are more chemical and abrasion resistant than neoprene-coated tarps. Formerly known as Hypalon, the coating on these tarps is highly flexible and dust resistant.

Size	Neoprene Coated	Each	Synthetic Rubber Coated	Each
3'×3'	94935T47	$25.64	94935T35	$51.06
3'×6'	94935T48	51.29	94935T36	101.98
4'×4'	94935T49	45.58	94935T37	90.65
4'×6'	94935T51	68.40	94935T38	135.97
6'×8'	94935T11	142.89	94935T39	248.06
6'×10'	94935T12	178.61	94935T41	308.71
8'×10'	94935T13	238.16	94935T42	429.12
9'×12'	94935T14	271.05	94935T43	584.85
9'×16'	94935T15	401.58	94935T44	842.63
12'×15'	94935T16	493.31	94935T45	946.89
		Per Sq. Ft.		Per Sq. Ft.
Other Sizes	94935T1	$3.24	94935T46	$6.28

Box-Shaped Tarps

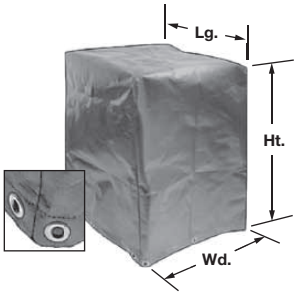

Designed to provide a snug fit while protecting machinery and other objects. All have 3/8" ID brass grommets on the corners and center bottom edges.

Polyethylene tarps are water resistant, and they won't rot or tear. They are black on one side for UV resistance and silver on the other for reflectivity. They're 12 mils thick.

Vinyl-coated polyester tarps offer high tear strength and are abrasion resistant. They're waterproof and remain flexible in extremely low temperatures. They're 20 mils thick.

To Order: For *vinyl-coated polyester tarps*, please specify black, blue, green, or yellow.

Lg.×Wd.×Ht.	Polyethylene	Each	Vinyl-Coated Polyester	Each
18"×18"×24"	8033T2	$14.45	8033T34	$43.65
24"×24"×24"	8033T25	17.65	8033T21	45.93
24"×24"×36"	8033T3	20.16	8033T46	57.69
24"×36"×36"	8033T33	22.94	8033T22	59.67
24"×48"×24"	8033T37	28.24	8033T23	73.44
36"×36"×36"	8033T4	32.45	8033T62	111.26
36"×48"×36"	8033T42	47.65	8033T24	123.93
36"×48"×48"	8033T48	60.00	8033T29	156.05
48"×48"×36"	8033T5	54.47	8033T57	126.26
48"×48"×60"	8033T52	80.04	8033T26	187.24
60"×60"×36"	8033T6	65.05	8033T82	157.62
		Per Sq. Ft.		Per Sq. Ft.
Other Sizes	8033T9	$1.07	8033T98	$3.06

Heavy Duty Tarps with D-Rings



When you need to keep the tension high, the steel D-rings on these durable tarps allow a tight hold. Made of vinyl-coated polyester, they're abrasion, puncture, and tear resistant. They're also moisture and UV resistant and remain flexible in extremely low temperatures. Tarps have two rows of equally spaced 1" Ht.× 1" Wd. D-rings sewn along the length. Each edge also has 3/8" ID brass grommets spaced 2 feet apart. Tarps are black and 20 mils thick. Meet MIL-C-20696.

Lg.×Wd.	(A) D-Ring Distance From the Edge		Each
12'×8'	Sewn on edge	7776T811	$109.70
20'×12'	2'	7776T121	234.64
20'×14'	3'	7776T111	265.70
25'×12'	2'	7776T321	293.30
25'×14'	3'	7776T311	332.09
			Per Sq. Ft.
Other Sizes		7776T99	$1.25

Breathable Waterproof Tarps

Let air in while keeping water out. Stronger than canvas, these silicone-coated polyester tarps are UV, abrasion, and tear resistant. They have 7/16" ID brass grommets spaced 2 feet apart. Tarps are green and measure 28 mils thick.

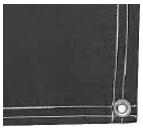

Size		Each	Size		Each
3'×6'	2467T1	$24.25	8'×10'	2467T5	$72.16
4'×4'	2467T2	17.64	8'×12'	2467T6	84.67
4'×8'	2467T3	35.27	10'×12'	2467T7	105.84
6'×8'	2467T4	50.51	10'×20'	2467T8	176.40
Other Sizes (Per Sq. Ft.)				2467T9	$1.22

Insulated Tarps

These thick, tear-resistant tarps protect against hot and cold temperature changes. The waterproof, reinforced polyethylene outer cover encases a 1/2" thick polyurethane foam core. They're black on one side for UV resistance and silver on the other side for reflectivity. Each side has 7/16" ID brass grommets spaced 2 feet apart.



Size		Each	Size		Each
3'×25'	3422T1	$102.24	12'×16'	3422T4	$261.71
6'×25'	3422T2	204.47	12'×25'	3422T5	408.93
10'×12'	3422T3	163.56	14'×20'	3422T6	381.67
Other Sizes (Per Sq. Ft.)				3422T7	$1.56

Ventilating Mesh Tarps

For maximum airflow, these tarps have you covered. Use for truck and flatbed covers, shade, cargo netting, and wind screens. All have a 2" wide reinforced hem.

Polyethylene—Mesh openings are 1/16"×1/16". Each side has 1/2" ID brass grommets spaced approximately 2 feet apart. Shade rating is 60%. Hem is polypropylene. Color is black.

Polyester—Stronger and more UV resistant than polyethylene. Mesh openings are 1/4"×1/4". Each side has 3/8" ID brass grommets spaced approximately 2 feet apart. Shade rating is 40%. Tarps are white with a black polypropylene hem.

Vinyl-Coated Polyester—Coating resists deterioration. Mesh openings are 1/16"×1/16". Each side has 3/8" ID brass grommets spaced approximately 2 feet apart. Shade rating is 55%.

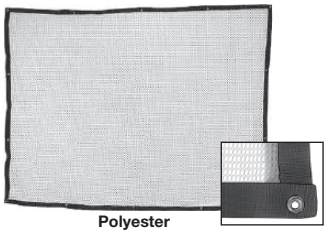

Polyester

To Order: For *vinyl-coated polyester tarps*, please specify black, blue, red, or white.

Size			Size			Size		
Polyethylene			**Polyester**			**Vinyl-Coated Polyester**		
5'8"×7'8"	4463T21	$20.47	3'×6'	7871T22	$16.15	3'×6'	7871T65	$16.90
7'8"×9'8"	4463T31	34.11	4'×4'	7871T27	11.88	6'×8'	7871T66	37.63
9'8"×11'8"	4463T41	51.16	4'×8'	7871T29	25.45	8'×10'	7871T67	65.60
9'8"×15'8"	4463T51	68.21	6'×8'	7871T51	33.15	10'×12'	7871T68	96.48
9'8"×17'8"	4463T61	76.74	8'×10'	7871T33	54.28	10'×16'	7871T69	121.55
11'8"×15'8"	4463T22	81.84	8'×12'	7871T52	66.28	10'×20'	7871T71	141.85
11'8"×25'8"	4463T52	133.00	10'×12'	7871T53	95.24	12'×16'	7871T72	151.93
13'8"×15'8"	4463T72	95.50	10'×16'	7871T54	109.97	12'×24'	7871T73	209.02
15'6"×23'8"	4463T82	163.71	10'×20'	7871T55	138.08	20'×20'	7871T74	276.92

Corrosion-Inhibiting Water-Resistant Tarps

Protect equipment against condensation buildup and corrosion with these treated, lightweight tarps. Made of breathable polyester-lined polyethylene, they're UV and rot resistant, as well as heat shrinkable. Tarps are beige and measure 18 mils thick.

Five-Sided with Drawstring—Cover equipment and pull the drawstring-style closure for a snug fit. Rope is sewn into the hem along the perimeter of the base. A 1" fabric loop provides a tie-off point.

Six-Sided with Zipper—Fully encase equipment on all sides and secure with a zipper.

Flat with Sewn-In Fabric Loops—Secure these tarps by using the 1" long fabric loops sewn along all four sides.



With Drawstring



With Zipper



With Sewn-In Fabric Loops

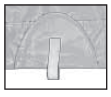

Lg.×Wd.×Ht.			Lg.×Wd.		
Five-Sided with Drawstring			**Flat with Sewn-In Fabric Loops**		
2'×3'×3'	5659T13	$45.54	6'×6'	5659T1	$48.00
3'×4'×3'	5659T14	57.96	6'×8'	5659T2	53.73
4'×4'×3'	5659T15	68.32	8'×10'	5659T3	74.72
5'×5'×3'	5659T16	71.93	8'×12'	5659T4	86.62
Six-Sided with Zipper			10'×12'	5659T5	97.16
2'×3'×3'	5659T8	60.04	12'×12'	5659T6	108.80
3'×4'×3'	5659T9	76.60	12'×16'	5659T7	131.44
4'×4'×3'	5659T11	91.08			
5'×5'×3'	5659T12	120.44			

High-Visibility Tarps

Make sure covered equipment gets noticed. Tarps are bright yellow and orange with a 2" contrasting border along each edge. Made of urethane-coated polyester, they're water, UV, abrasion, and tear resistant. Tarps are 20 mils thick, and each side has 7/16" ID brass grommets spaced 2 feet apart.

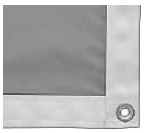

Size	Yellow with Orange Border	Each	Orange with Yellow Border	Each
3'×6'	6096T1	$27.08	6096T11	$27.08
4'×8'	6096T2	48.11	6096T12	48.11
6'×8'	6096T3	72.16	6096T13	72.16
8'×10'	6096T4	120.27	6096T14	120.27
8'×12'	6096T5	144.33	6096T15	144.33
10'×12'	6096T6	180.42	6096T16	180.42
12'×16'	6096T7	292.71	6096T17	292.71
12'×24'	6096T8	411.42	6096T18	411.42
14'×20'	6096T9	382.80	6096T19	382.80
Other Sizes (Per Sq. Ft.)	6096T21	1.66	6096T22	1.66

Debris Collection Tarps

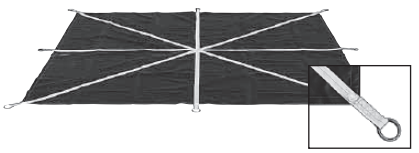

Pile debris on one of these heavy duty tarps for convenient removal. Also called roofers tear-off tarps, they are made of durable vinyl-coated polyester with sewn-on strips of cargo webbing for support. Steel O-rings at the end of each strip allow secure lifting when attached to a clevis hook (not included). Tarps are also waterproof and puncture resistant. They're black with yellow webbing and measure 40 mils thick. Not rated for capacity.

Size			Size		
7'×7'	7150T1	$156.30	12'×12'	7150T4	$381.63
8'×8'	7150T2	202.87	15'×15'	7150T5	549.55
10'×10'	7150T3	277.83	20'×20'	7150T6	976.98

Tarps & Tarp Accessories

Leak Drainage Tarps



Ceiling Leak Drainage Tarp



Pipe Leak Drainage Tarp

Protect work areas and equipment from overhead leaks with these rot- and chemical-resistant tarps. To drain, connect the threaded drain spout to any ¾ female garden hose (GHT) fitting.

Ceiling Leak Drainage Tarps

For convenient hanging, these tarps have 1″×1″ steel D-rings sewn into each corner. 12′×12′ and larger tarps also have D-rings at the center of each side. **Polyethylene tarps** are silver on the side that faces the ceiling, and the exposed side is black. **Flame-resistant tarps** meet California Fire Marshal requirements. *Vinyl-coated polyester tarps* remain flexible in extremely low temperatures. Color is semi-clear white. *PVC tarps* are clear to allow visibility.

Size	Polyethylene	Each	Flame-Resistant Vinyl-Coated Polyester	Each	Flame-Resistant Clear PVC	Each
3′×3′	6942T48	$30.79	6942T37	$37.98	6942T15	$53.04
4′×4′	6942T51	39.25	6942T39	45.93	6942T16	66.22
5′×5′	6942T61	43.23	6942T71	50.36	6942T17	72.70
6′×6′	6942T11	53.85	6942T13	68.11	6942T18	103.72
7′×7′	6942T62	60.38	6942T72	74.20	6942T19	120.72
8′×8′	6942T12	65.42	6942T14	88.91	6942T21	148.18
10′×10′	6942T63	72.87	6942T73	106.82	6942T22	174.12
12′×12′	6942T64	99.38	6942T74	129.96	6942T23	208.20
15′×15′	6942T65	131.18	6942T75	200.55	6942T24	305.18
20′×20′	6942T66	209.33	6942T76	351.76	6942T25	515.24

Pipe Leak Drainage Tarps

Capture leaks by hanging this tarp beneath a problem pipe. It has ⅜″ ID brass grommets spaced approximately 14″ apart. Includes four bungee cords with hooks. Color is yellow.

Size	Vinyl-Coated Polyester	
18″ Dia.×18″ Lg.	6942T81	$86.13

Tarp Accessories

All are made of plastic. For bungee cords, see page 1564. For rope, see pages 1453-1457. For metal grommets, see pages 3869 and 3870.

Tarp Fasteners



Grommets— Add these to your canvas and synthetic tarps. Place tarp between grommet halves and tap with a hammer for permanent installation. Opening size is ½″ ID. Color is black.



Light Duty Tie-Down Buttons—Secure lightweight synthetic tarps with these reusable, nonpiercing fittings. The opening size is 1″ ID. Color is white.



Heavy Duty Tie-Down Buttons—Secure canvas and synthetic tarps. Buttons are reusable, nonpiercing, and can even be used to join tarps. Maximum opening size is 2¾″. Color is white.

Grommets (Pkg. of 4)	78905T91	$3.10
Light Duty Tie-Down Buttons (Pkg. of 10)	9565T7	4.76
Heavy Duty Tie-Down Buttons (Pkg. of 2)	9565T4	10.35

Tarp Protectors

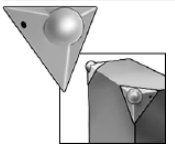

Slip over sharp corners and then cover with your tarp. Protectors are 8″ long on each side. Color is yellow.

Pkg. of 4	7830T76	$13.44

Tarp Vents

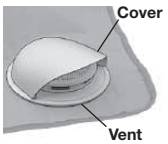

Prevent the build up of mildew, odors, and heat with this vent. Designed for use with canvas tarps, it measures 4″ Dia.× 2″ Ht. and comes with a snap-on cover. To install, cut a hole in the tarp and snap the vent into place.

	8274T2	$9.77

Telescoping Wall-Support Poles



Use these poles with tarps, drop cloths, and plastic sheeting up to 8 mils thick to create a sturdy, temporary wall to control dust and debris. Made of heavy duty aluminum, the pole has a rubber foot and a plastic, spring-loaded head plate with a nonskid pad to protect your ceiling. Head plate measures 5¾″×2¾″. Pole adjusts from 4′9″ to 12′ long.

Optional Dust Seal—These 4-ft. long aluminum bars have a foam edge that presses tightly to the ceiling. Install by replacing the head plate from the support pole (sold separately) with the dust seal.

Optional Doorway Zipper Kit—Kit includes two 7-ft. long, adhesive-back zippers and a knife to cut sheeting. Use one zipper for a narrow opening; use both to create a larger, roll-up entryway.

Support Pole with Head Plate	7926T11	$78.81
Optional Dust Seal	7926T35	33.20
Optional Doorway Zipper Kit	7926T38	21.15

Steel Ground Anchors



O'all Lg.	Blade Dia.	Rod Dia.	Eye ID		Each	Pkg. Qty.	
15″	3″	½″	1″	6300A5	$3.28	12	$35.16
30″	3″	½″	1″	6300A6	5.26	12	56.40
48″	4″	⅝″	1½″	6300A7	8.76	8	62.64
48″	6″	¾″	1½″	6300A8	10.06	8	71.84

Tarp Repair Tape and Kits

Repair Tape for Polyethylene Tarps

This polyethylene tape is waterproof and for indoor and outdoor use. It can also be used to join tarps.

To Order: Please specify black, blue, brown, clear, green, silver, or white.

Lg.	Wd.	Thick.		Roll
35′	2″	9.5 mils	77485A31	$5.21

Repair Kits for Vinyl-Laminated and Vinyl-Coated Tarps

Kits include one 2′7″×2′7″ tarp patch and an 8-oz. brush-top can of adhesive.

To Order: Please specify tarp patch color: black (only for vinyl-coated patches), blue, green, red, white, or yellow.

For Vinyl-Laminated Tarps (13 oz./sq. yd.)	3661T2	$24.90
For Vinyl-Coated Tarps (18 oz./sq. yd.)	3661T4	25.60
For Vinyl-Coated Tarps (22 oz./sq. yd.)	3661T6	27.06

Water-Repellent Restorer

Apply with a sprayer to all types of fabric. Begins to dry in 4 hours; fully dry in 72 hours. One qt. covers 375 sq. ft. One gal. covers 1,500 sq. ft.

1 qt. with Trigger Sprayer	78915T34	$27.42
1 gal.	78915T38	75.32

Steel Ground Stakes



Lg.	Dia.		
12″	⅝″	6400T1	$6.87
18″	⅝″	6400T2	7.55
24″	⅝″	6400T3	8.45

Concrete and Masonry Tools



		Size, Lg. × Wd.		
Concrete Tools				
A	Bull Float without Handle	48″ × 8″	78065T11	$93.37
B	Finishing Broom without Handle	36″ × 3¼″ Ht.	79055T19	68.11
C	Aluminum Handle for A & B	1¾″ Dia. × 72″ Lg.	78065T12 ♦	25.42
D	Long-Reach Finishing Trowel without Handle	36″ × 5″	7607T21	33.38
E	Wood Handle for D	1″ Dia. × 54″ Lg.	7607T23	32.75
F	Magnesium Float	16″ × 3″	7619T16	18.63
F	Wood Float	12″ × 5″	7619T14	8.61
G	Finishing Trowel	12″ × 4″	7607T1	25.25
G	Finishing Trowel	16″ × 4″	7607T3	29.69
H	Groover (Cuts ½″ Dp.)	5¾″ × 2½″	7597T1	7.87
J	Edger (⅜″ Radius)	5⅞″ × 3″	7618T1	8.76
Masonry Tools				
K	Brick Jointer for ½″ & ⅝″ Joints	10½″ Lg.	75825T9	4.60
L	Brick Trowel	11″ × 4¾″	7605T4	21.16
M	Pointing Trowel	5″ × 2½″	7604T1	15.97
N	Tuck-Pointing Trowel	6¾″ × ½″	7608T3	9.70
P	Margin Trowel	5″ × 2″	7606T1	9.93
Q	Mason's Water Brush	6½″ × 4″	8133T57	8.92

♦ One end is male and the other end is female to connect handles for longer reach.

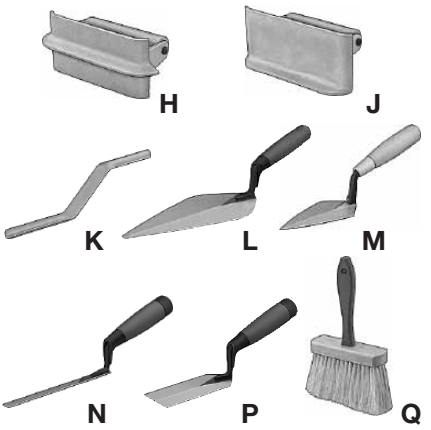

Concrete Curing Vibrators

Improve the strength of your concrete mix by eliminating trapped air. This lightweight, portable vibrator consolidates the mix. It operates on 115 volts AC, 1-phase at 10,500 vibrations per minute. The vibrator has a flexible shaft, a sturdy plastic frame, and a 14″ long power cord with two-prong plug. UL and C-UL listed.



Shaft Lg.	Head Size	Motor hp	Amps		
7 ft.	1″ Sq.	3	15	7693T18	$1,111.75

Crack-Filler Applicators

Fill cracks without a mess. The U-shaped cavity on this squeegee can hold and distribute crack filler into cracks up to 2″ wide. It has a steel frame and a 60″ long wood handle. The head measures 3″ Wd. × 9½″ Dp. and has a 5/16″ thick rubber blade.



Applicator	8032T4	$78.85
Replacement Blade	8032T5	32.31

Sealant and Floor-Coating Applicators



(R&S) Sealant Applicators

Apply concrete and asphalt sealants as well as floor coatings. Both applicators have a squeegee.

Style R is a roller applicator. The roller has a plastic frame.

Style S is a brush applicator. It has plastic bristles secured to a wood frame. It can also be used to apply roof coatings.

	Roller/Brush Size	Handle Material	Handle Lg.		
R	18″ Wd. × 2½″ Dia.	Steel	48″	63175T43	$23.52
S	18″ Wd. × 2″ Ht.	Wood	60″	7414T14	18.22

(T) Floor-Coating Applicators

Applicators have an aluminum frame and a reversible neoprene blade with 3/16″ notches on both sides for twice the wear.

Blade, Wd. × Ht.	Handle Material	Handle Lg.	Applicators		Repl. Blades	
16″ × 2″	Aluminum	66″	8479T1	$42.05	8479T5	$5.76
24″ × 2″	Aluminum	66″	8479T2	45.94	8479T6	7.97

Concrete Mixing Boxes

With a durable one-piece construction, these polyethylene boxes have no seams or welds to crack and leak.



Cap., gal.	Lg.	Wd.	Ht.		
9	26″	20″	6″	7578T52	$7.60
23	36″	24″	8″	7578T54	17.50

Concrete Form-Board Stakes

These steel stakes provide a firm anchor for form boards. The 3/16″ dia. nailing holes spiral up the stake on 1″ centers.

Stake Puller—For ¾″ and ⅞″ dia. stakes. Made of steel.

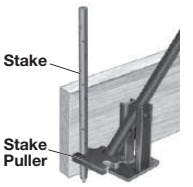

Lg.	Dia.		
18″	¾″	9415T16	$3.70
24″	¾″	9415T17	4.80
30″	¾″	9415T4	6.08
Stake Puller		9415T51	104.14

Wood Touch-Up and Repair

Wood Touch-Up Markers

Use these felt-tip markers to touch-up nicks and scratches on wood. They have a 3/16″ stroke width and dry in seconds. For indoor use.

Available Colors		
Dark Maple, Dark Walnut, Light Oak, Red Mahogany	2022T6	$3.75

Wood Repair Fillers

Fill cracks and holes up to ⅛″ thick. Press these fillers in place with a putty knife or gloved fingers; let dry for one to two hours; and then sand, saw, drill, paint, stain, or varnish. Color is natural wood.

Solvent Based—Ready to use.

Epoxy Based—Twist or cut off filler from the roll and activate by kneading. Application time, after kneading, is 15-25 minutes.

Solvent Based—For indoor use		
4-oz. Can	7590T1	$3.03
16-oz. Can	7590T2	6.34
Epoxy Based—For indoor and outdoor use		
⅞″ Dia. × 7″ Lg. Roll	70835T7	8.83

Epoxy Wood Restorers

Fix damaged wood or build up and replace missing wood. This two-part, nonshrinking, putty-like restorer fills any size hole. When dry, it can be sawed, planed, drilled, sanded, and painted. Mix and apply with a knife or trowel. Restorer resists chemicals and can be used on concrete, metal, fiberglass, and glass. Application time after mixing is 20 minutes; fully dry in 3 hours. For indoor and outdoor use. Color is tan.

12-oz. Container	6257T3	$29.06

Concrete Surface Preparers

Concrete Cleaner and Surface Preparers

Prepare concrete floors for coatings and patching compounds. Pour this solution on your floor and scrub with a stiff-bristle brush or broom. This solution removes dirt and leaves a rough etched finish for strong coating adhesion. Application temp. is 60° to 100°F. Coverage is 400 sq. ft. per gallon. For indoor and outdoor use. Color is pink.

1-gal. Jug	94315T6	$34.96

Concrete Bonding Epoxy

Bond new concrete to existing concrete with this two-part epoxy. First, apply epoxy with a brush, roller, or sprayer. Then, pour new concrete over the wet epoxy to ensure absorption and a strong bond. Application temp. is 50° to 100°F. Application time, after mixing, is 30 to 45 minutes. Fully hardens in 8 to 12 hours. Coverage is 150 sq. ft. per 3/4 gallon. For indoor and outdoor use. Color is amber.

3/4-gal. Can	9432T57	$62.71

Concrete Crack Repair

Ready-to-Use Pourable Crack Fillers



Pour this filler into cracks up to 1/2" Wd. x 1/4" Dp. Application temp. is 50° to 90°F. Fully hardens in 24 to 48 hours. A 1-qt. bottle fills 35 ft. of a 1/2" Wd. x 1/4" Dp. crack. For indoor and outdoor use. Color is gray.

1-qt. Bottle	75855T45	$11.16

Flexible Crack Filler Cartridges

These fillers flex as concrete expands and contracts with temperature changes. Use a standard caulk gun (see page 3484) to apply filler into cracks. Each comes in a 10.1-oz. cartridge. Application temp. is 40° to 90°F. Fillers fully harden in 7 days. For indoor and outdoor use. Color is gray.

Polyurethane filler allows for more joint movement than acrylic filler. **Acrylic** filler is textured to blend in easily and cleans up with water.

	For Crack Width	Coverage		
Polyurethane	Up to 1"	24 ft. @ 1/4" Dp.	1589T3	$8.96
Acrylic	Up to 3/8"	50 ft. @ 3/16" Dp.	7650T11	3.21

Epoxy Deep-Crack-Repair Cartridges

Apply with a standard caulk gun (see page 3484). Application temp. is 50° to 90°F. Fully hardens in 24 hours. Color is light amber.

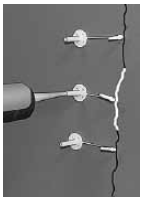

Vertical- and Overhead-Crack Repair Kit

Floor and Sidewalk Repair Cartridges— Repair 4" to 6" deep cracks. Also use on wood, fiberglass, and metal surfaces. Epoxy is shrink, impact, and chemical resistant. It is furnished in a 10-oz. cartridge. Application time, after opening, is 15 minutes at 77°F.

Vertical- and Overhead-Crack Repair Kit— Repair cracks up to 10" deep. Kit includes 34 oz. of a two-part epoxy crack sealer, two epoxy cartridges, and seven injection ports. To use, secure the ports to the crack with the sealer and spread sealer over the entire crack. Allow sealer 24 hours to cure. Use epoxy to fill the rest of the void. Application time for sealer, after mixing, is 40 minutes.

For Crack Width	Coverage		
Floor and Sidewalk Repair Cartridges			
Up to 1/16"	24 lin. ft. @ 4" Dp.	76005T84	$24.56
Up to 1/8"	12 lin. ft. @ 4" Dp.	76005T83	24.98
Up to 1/4"	6 lin. ft. @ 4" Dp.	76005T85	25.84
Vertical- and Overhead-Crack Repair Kit			
Up to 1/8"	4 lin. ft. @ 10" Dp.	75095T11	70.91

Concrete Epoxy Repair Putty and Paste

Repair indoor and outdoor concrete surfaces. Color is gray.

Putty

Use this putty to patch virtually any size crack or hole in concrete floors, stairs, and walls. Also use it to anchor bolts. Application temp. is 40° to 110° F. Application time, after kneading, is 2 minutes. Fully hardens in 1 hour. Once hardened, it can be drilled, tapped, sanded, and painted. Coverage is 4 cu. in. per roll.

7/8" Dia. x 7" Lg. Roll	75895T1	$9.17

Paste

This nonsagging, easy-to-spread paste bonds to horizontal, vertical, and overhead concrete surfaces. Also use it on metal, wood, brick, and fiberglass. It resists oil, grease, water, alkalies, and chemicals. Apply this two-part epoxy with a putty knife or trowel. Application temp. is 60° to 90°F. Application time, after mixing, is 1 hour. Fully hardens in 4 hours. Coverage is 231 cu. in. per gallon.

Size		
1/2-gal. Jar	6230T1	$76.54
2-gal. Jar	6230T2	203.65

Concrete and Cement Mixes

To use, add water and mix. For indoor and outdoor use. Color is gray.

Sand, Concrete, and Mortar Mixes

Application temp. is 40° to 90°F for all mixes.

Sand and **fast-set sand** consist of cement and sand. Use these mixes when thickness will be less than 2". *Sand* is ready for foot traffic in 24 hours. *Fast-set* is ready for foot traffic in 4 hours.

Concrete and **fast-set concrete** consist of cement, sand, and gravel. Use when thickness will be more than 2". *Concrete* is ready for foot traffic in 24 hours. *Fast-set* is ready for foot traffic in 8 hours.

Mortar consists of fine sand and masonry cement. Use for brick, block, and stone laying and for repairing masonry. Fully hardens in 24 hours.

Mix Type	Size	Coverage		
Sand	40-lb. Bag	3.6 sq. ft. @ 1" Dp.	76805T82	$8.02
Fast-Set Sand	10-lb. Pail	1 sq. ft. @ 1" Dp.	76805T81	11.48
Concrete	40-lb. Bag	1.8 sq. ft. @ 2" Dp.	76805T83	6.97
Fast-Set Concrete	50-lb. Bag	2 sq. ft. @ 2" Dp.	76805T93	10.07
Mortar	40-lb. Bag	20 Bricks	76805T84	8.02

Leak-Stopping Hydraulic Cement Mixes



Stop leaks even as water is running through. Apply with a trowel. Application temp. is 40° to 95°F. The cement begins to harden in 5 minutes; fully hardens in 2 hours. You can fill 2 1/2 ft. of a 3/4" Wd. x 3/4" Dp. crack with 1 lb. of mix.

10-lb. Pail	7685T31	$23.55

Anchoring and Patching Cement Mixes

Use this nonshrinking cement to anchor bolts, railings, and posts as well as to patch floors, stairs, and walls. It bonds firmly to surrounding concrete. Pour or trowel in place. Application temp. is 25° to 100°F. It begins to harden in 15 minutes; fully hardens in 1 hour. When used outdoors, apply a sealer for best results. A 50-lb. pail yields approx. 1/2 cu. ft. of cement.

Size			Size		
5-lb. Box	7569T92	$8.68	50-lb. Pail	7569T94	$70.03
10-lb. Pail	7569T97	17.34	125-lb. Drum	7569T96	165.89
25-lb. Box	7569T93	35.06			

Concrete Repair Patch

Patch holes and build up worn/uneven spots in concrete. All are for indoor and outdoor use.

Epoxy Concrete Repair Patch Cartridges

Inject this two-part epoxy into cracks and holes in horizontal, vertical, and overhead surfaces. It even works underwater. Application requires a heavy duty caulk gun with a 26:1 ratio (sold separately below). Cartridge comes with a mixing nozzle. Application temp. is 35° to 110°F. Application time, after mixing, is 8 min. Hardens in 2 hrs. A 9-oz. cartridge fills 10 ft. of a 3/4" Wd. x 1/2" Dp. crack. Color is gray.

Size		
9-oz. Cartridge	7579T21	$23.02
Heavy Duty Caulk Gun	7579T22	32.27
Replacement Mixing Nozzle	7579T23	4.66

Epoxy Concrete Repair Patch

This three-part epoxy patch resists oil, gas, water, chemicals, and impact. When mixed, the *10-lb. pails* produce 1 gallon of patch and cover 4.5 sq. ft. at 1/4" thick; *50-lb. pails* produce 4 gallons of patch and cover 20 sq. ft. at 1/4" thick. All fully harden in 72 hours.

Standard— Application temp. is 50° to 100°F. Application time, after mixing, is 30 to 45 minutes. Ready for foot traffic in 8 to 12 hours.

Low Temperature— Application temp. is 34° to 90°F. Application time, after mixing, is 30 minutes at temperatures below 50°; 5 minutes at temperatures above 75°F. Ready for foot traffic in 8-12 hours.

To Order: Please specify beige, gray, or red.

Patch Type	10-lb. Pails		50-lb. Pails	
Standard	7579T12	$49.07	7579T13	$94.53
Low Temperature	7579T34	54.28	7579T45	100.91

Quick-Set Epoxy Concrete Repair Patch

Ready for traffic (including forklifts) in just 2 hours, this tough three-part epoxy patch resists chemicals, impact, and steel wheels.

Standard— Application temp. is 50° to 90°F; hardening time is longer when applied below 70°F. Application time, after mixing, is 5 to 15 min.

Freezer— Use on freezer and indoor cold storage floors. Application temp. is –20° to 40°F. Application time, after mixing, is 10 to 20 minutes. Color is beige.

To Order: For standard patch, please specify beige, black, gray, or red.

Patch Type	Size	Coverage @ 1/8" Thick		
Standard	2-gal. Pail	10 sq. ft.	7689T49	$68.00
Standard	5-gal. Pail	30 sq. ft.	7689T51	130.20
Freezer	2-gal. Pail	15 sq. ft.	75795T3	107.35

Super-Fast-Set Polyurethane Concrete Repair Patch

This two-part epoxy fully hardens in 10 minutes at 70°F, 3 hours at –20°F. Use it in heavy traffic areas (including forklifts). Application temp. is –50° to 100°F. Application time, after mixing, is 5 to 10 minutes. Coverage is 80 lin. ft. of 1/2" Wd. x 1/2" Dp. cracks. Color is gray.

1/2-gal. Pail	7570T11	$285.61

Concrete Epoxy Joint Sealants

This sealant not only reinforces joints in concrete but also protects joint and saw-cut edges from chipping. It's a two-part, self-leveling, semi-rigid sealant that is made from a shrink- and corrosion-resistant epoxy. To use, mix the two components together, pour into joint, and allow sealant to settle. Application time, after mixing, is 1 hour. Sealant begins to harden in 6 to 8 hours; fully hardens in 24 hours. Coverage is 200 linear ft. per gallon for a 1/8" Wd. x 3/4" Dp. joint. For indoor and outdoor use. Color is gray.

Standard—Application temp. is 50° to 100° F.

Low Temperature—Application temp. is 34° to 100° F.

Sealant Type	1-gal. Cans		2-gal. Cans	
Standard	75735T4	$68.45	75735T6	$130.15
Low Temperature	75735T7	77.98	75735T8	142.88

Concrete Sealers

Reduce maintenance by protecting concrete from mild chemicals, salts, soaps, and detergents with this water-based coating. Apply with a brush, roller, or sprayer. For indoor and outdoor use. Color is clear.

1-gal. Can—Use on concrete that's at least 30 days old. Application temperature is 50° to 90° F. Dries to the touch in 1 hour; fully dries in 3 days. Coverage is 150 to 500 sq. ft. per gallon.

5-gal. Pail—Can be used on freshly finished concrete. Application temperature is 40° to 90° F. Dries to the touch in 2 to 3 hours; fully dries in 12 hours. Coverage is 300 sq. ft. per gallon.

Size		
1-gal. Can	7572T71	$39.38
5-gal. Pail	7572T49	145.78

Concrete Floor Resurfacers



Give new life to damaged and worn concrete floors. These resurfacers also fill minor depressions and cracks. For indoor and outdoor use.

Latex—Add water, mix, and spread using a trowel. Application temp. is 40° to 90° F. Ready for foot traffic in 3 to 4 hours. Fully hardens in 12 to 24 hours.

Epoxy—This three-part epoxy can handle heavy traffic. Apply with a trowel. Application temp. is 50° to 100° F. Application time, after mixing, is 30 to 45 minutes. Ready for foot traffic in 8 hours. Fully hardens in 48 to 72 hours.

Heavy Duty Epoxy—Not only can this three-part epoxy stand up to severe abrasion, wear, and impact, it also withstands heavy steel-wheel traffic and heavy blows without cracking. Apply with a trowel. Application temp. is 50° to 90° F. Application time, after mixing, is 30 minutes. Ready for foot traffic in 12 hours. Fully hardens in 12 to 24 hours.

Acid- and Chemical-Resistant Epoxy—Choose this three-part epoxy for corrosive environments. It stands up to acid and chemical spills, and it withstands steel-wheel traffic and heavy impact. Apply with a trowel. Application temp. is a minimum of 50° F. Application time, after mixing, is 15 to 20 minutes at 70° F. Ready for foot traffic in 12 hours. Fully hardens in 12 to 24 hours at 70° F.

Size	Coverage @ 1/8" Thick	Available Colors		
Latex				
10-lb. Pail	10 sq. ft.	Gray	7576T5	$15.71
40-lb. Pail	40 sq. ft.	Gray	7576T6	36.06
Epoxy				
2-gal. Pail	10 sq. ft.	Gray, Red	94275T61	54.49
5-gal. Pail	50 sq. ft.	Gray, Red	94275T5	113.04
Heavy Duty Epoxy				
2-gal. Pail	10 sq. ft.	Gray, Red	9426T17	84.63
5-gal. Pail	50 sq. ft.	Gray, Red	9426T18	198.50
Acid- and Chemical-Resistant Epoxy				
2-gal. Pail	10 sq. ft.	Gray, Red	2775T2	91.79
5-gal. Pail	50 sq. ft.	Gray, Red	2775T21	214.99

Concrete Floor Coatings

These stain-resistant, high-gloss finishes not only look good, but also protect your floors from moisture, chemicals, foot traffic, and hand carts. Be sure to repair cracks and holes prior to application.

Ready-to-Use Acrylic—This low-odor, water-based coating requires no mixing. Apply with a brush or roller. Application temp. is 60° to 90° F. It's ready for foot traffic in 8 hours; fully hardens in 18 hours. For indoor and outdoor use.

Water-Based Epoxy—More durable than the ready-to-use acrylic, this two-part epoxy is a low-odor coating. Apply with a brush, roller, or sprayer. Application temp. is 50° to 90° F. Application time, after mixing, is 2 hours. It's ready for foot traffic in 24 hours; fully hardens in 72 hours. For indoor use only.

Heavy Duty Epoxy—Durable enough to handle forklift traffic, this two-part epoxy goes on thick and contains no solvents. Apply with a brush, roller, or sprayer. Application temp. is 50° to 100° F. Application time, after mixing, is 20 to 30 minutes. It's ready for foot traffic in 24 hours; fully hardens in 72 to 96 hours. Allow 7 days for forklift traffic. For indoor and outdoor use.

High-Performance Polyurea—Our best coating succeeds where others have failed. It's a two-part coating that offers fast dry times; excellent chemical, abrasion, and UV resistance; and low hardening temps. Apply with a roller, sprayer, or squeegee. Application temp. is 35° to 135° F. Application time, after mixing, is 30 minutes. It's ready for foot traffic in 6 hours; fully hardens in 48 hours. For indoor and outdoor use.

Size	Coverage	Available Colors		
Ready-to-Use Acrylic				
1-gal. Can	345 sq. ft. @ 2 mils	Gray	2177T11	$61.10
Water-Based Epoxy				
1-gal. Can	225 sq. ft. @ 3 1/2 mils	Clear, Gray	7844T7	86.37
Heavy Duty Epoxy				
3/4-gal. Can	130 sq. ft. @ 10 mils	Clear, Gray	7682T25	82.89
High-Performance Polyurea				
2-gal. Can	150 sq. ft. @ 5 mils	Clear, Gray	2747T2	310.88

Asphalt Repair

All are ready to use—no mixing required. Color is black.

Asphalt Crack Fillers

Liquid—Comes in an easy-to-pour 1-gal. jug for filling cracks up to 1/2" wide. Application temp. is 50° to 90° F. Ready for traffic in 2 to 5 days.

Flexible Rope—This rope filler is 1/2" dia. The 30-ft. length comes in a clamshell package; the 125-ft. length in a 2-gal. pail. Cut the length you need, pack it in the crack, and heat with a propane torch (see pgs. 3438-3439 for torches). It's self-leveling and fills cracks from 1/4" to 1" wide. Application temp. is a minimum of 32° F. Ready for traffic in 20 minutes.

Filler Type	Coverage, lin. ft.		
Liquid	160 (1/4" Wd. x 1/2" Dp. Cracks)	7686T32	$15.80
Flexible Rope	30 (1/2" Wd. x 1/2" Dp. Cracks)	7686T36	17.10
Flexible Rope	125 (1/2" Wd. x 1/2" Dp. Cracks)	7686T38	65.44

Asphalt Hole Patch

Apply this patch to dry, wet, and even water-filled holes and then compress with a tamper or shovel. It's immediately ready for traffic. Application temp. is –20° to 140° F.

Size	Coverage @ 1" Thick		
5-gal. Pail	6.2 sq. ft.	9412T61	$24.81
55-gal. Drum	70 sq. ft.	9412T62	208.42

Asphalt Sealers

Protect and revitalize your asphalt surfaces with this tar-free emulsion that forms a weather- and water-resistant seal. Apply with a brush or squeegee. Application temp. is 70° to 90° F. Ready for traffic in 24 hours. A 5-gal. pail covers 350 to 450 sq. ft.

Sealer with filler has grit for traction and filling hairline cracks.

	Size		
Sealer	5-gal. Pail	75775T21	$23.63
Sealer with Filler	5-gal. Pail	75775T23	25.00

Tile Grout Repair

Tile Grout—Suitable for indoor floor and wall tiles. To use, mix with water and apply with a rubber grout float (sold separately). This grout dries in 2 to 3 hours. Coverage is 16 sq. ft. per lb. Color is white.

Grout Float—Use this tool to smooth and spread grout between tiles. Float has a 5/8" thick rubber pad with aluminum backing and plastic handle.

Grout Sealer—Spray this water-based sealer on grout to form a barrier against dirt, water, mildew, and discoloration.

Grout Whitener—Restore discolored grout with this bleach-based coating. Apply with a sponge.



Grout Float

	Size		
Tile Grout	5-lb. Tub	77105T64	$11.97
Grout Float	9" Lg. x 4" Wd.	9067T35	10.35
Grout Sealer	22-oz. Trigger Spray	7219T22	6.56
Grout Whitener	32-oz. Bottle	7134T13	8.21

About Paint and Protective Coatings

Use the table below to select a paint or coating based on the properties most important to your application. ● Excellent ◓ Good ○ Poor

Paint		Fade Resistance	Abrasion Resistance	Fast Drying	Adhesion	Low Odor
	**Water Based (Page 2156)—**Also called latex paint, these clean up with soap and water.	●	◓	●	◓	●
	Solvent Based (Pages 2155–2157)—Also called oil or alkyd paint, these clean up with solvent-based thinners and removers.	◓	●	◓	●	○

Protective Coatings		Fade Resistance	Abrasion Resistance	Corrosion Resistance	Chemical Resistance	Moisture Resistance
	**Polyurethane (Page 2158)—**Many of these coatings are ready to use without mixing. They're often used in outdoor applications on dumpsters, hoppers, and structural steel.	●	●	◓	●	◓
	**Rubber (Page 2158)—**Waterproof and insulate surfaces with these durable coatings. They can be used to create tool grips, seal leaks, and reduce vibration.	◓	●	◓	◓	●
	**Epoxy (Page 2159)—**Often a two-part mix, these thick coatings can be used in high-humidity environments. Apply on pipes, storage tanks, and equipment that is immersed in water.	○	●	●	●	●
	**Stainless Steel and Galvanizing (Pages 2159–2160)—**These permanent coatings bond to the surface for long-term protection against rust and corrosion. Use on bare metal, machinery, tools, and dies.	●	○	●	●	◓
	**Peel Away Coatings and Corrosion-Inhibiting Films (Pages 2160–2161)—**Remove these temporary coatings after use. They're for short- and long-term protection of metal during shipping and storage.	—	◓	●	◓	●

Surface Preparation and Clean Up

For proper adhesion, make sure that all surfaces are completely free of moisture, grease, dirt, and rust before applying paint or coating. For rust, paint, and coating removers, see pages 2160-2161.

Primers—For optimal adhesion, use these undercoats to extend the life of paint and coatings. Primers are listed with corresponding paint and coatings; for additional primers, see page 2157.

Thinners—Use to dilute thick paint or for clean-up. For paint thinners, see page 2156.

Touch-Up Paint Pens



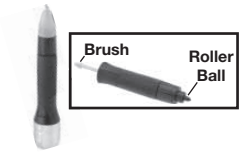

Roller-Ball/Brush Pen



Fillable Brush Pen Set

Corrosion-Inhibiting Felt-Tip Pen—Seal out moisture on scratched painted metal. Paint is water based.

Roller-Ball/Brush Pen—This touch-up paint applicator has both a roller-ball pen and a tapered brush tip for precision application on painted metal. Paint is solvent based.

Fillable Brush Pen Set—Fill these pens with water-based paint for a tidy touch-up. Use the included syringe to fill the pen. Then snap on the brush tip and twist to lock it in place. Pens are reusable.

	Cap., oz.	Colors		
Corrosion-Inhibiting Felt-Tip Pen	1/8	Clear	9959T21	$8.83
Roller-Ball/Brush Pen	1/2	Flat Black	9959T52	12.97
Roller-Ball/Brush Pen	1/2	Gloss Black	9959T41	12.97
Fillable Brush Pen Set (2 Pens with Syringe)	1/8	—	9959T2	10.38

Aerosol Clear Protective Coatings

Add a tough, long-lasting protective coating to your surfaces. All are solvent based.

Acrylic Coatings—These flexible coatings protect against rust and corrosion. Use on metal, paper, and wood surfaces.

Shellac—Use this coating to seal, finish, and protect brass, ceramic, copper, glass, metal, tile, and wood. It has a slight yellow tint.

Lacquers for Nonferrous Metals—Protect brass, bronze, copper, and silver from moisture, chemicals, oxidation, and abrasion. The outdoor coating provides UV resistance.

Lacquers for Wood—Apply these wear-resistant coatings to wood. They protect surfaces from scuffs, water, and oil damage.

	For Use	Finish	Size, net wt.	Dry Time Touch	Dry Time Overall	Max. Temp.		1-11	12-Up
Acrylic Coating	Outdoor	Flat	12 oz.	5 min.	24 hrs.	150° F	7850T5	$5.70	$5.12
Acrylic Coating	Outdoor	Gloss	12 oz.	5 min.	24 hrs.	150° F	7850T4	5.70	5.12
Acrylic Coating with UV Inhibitors	Outdoor	Gloss	11 oz.	15 min.	24 hrs.	120° F	7850T8	7.58	6.81
Shellac	Indoor	Semi-Gloss	12 oz.	15 min.	1 hr.	160° F	7655T1	11.40	10.22
Lacquer for Nonferrous Metals	Indoor	Gloss	12 oz.	5 min.	8 hrs.	150° F	76885T73	14.02	11.67
Lacquer for Nonferrous Metals	Outdoor	Gloss	12 oz.	5 min.	8 hrs.	160° F	76885T75	15.02	12.50
Lacquer for Wood	Indoor	Flat	12 oz.	15 min.	4 hrs.	250° F	20035T56	10.83	9.95
Lacquer for Wood	Indoor	Gloss	12 oz.	15 min.	4 hrs.	250° F	20035T57	10.83	9.95

Aerosol Paint

Grab one of these convenient spray paints or primers and you're ready to coat—no brushes or rollers required. Use indoors and outdoors on metal, wood, concrete, and masonry, unless otherwise stated. Paint and primers are solvent based, except fluorescent paint is water based. Comparable to Rust-Oleum or Krylon.

Standard

Any Angle—Can is designed to spray at any angle without clogging, even upside down.

Any Angle with Twist-to-Spray Cap—Attached locking cap eliminates accidental spraying when opening, transporting, and storing. Primer is required when used on concrete and masonry.

Low Odor—Formulated for use in enclosed spaces, it can also be used on plaster.

Direct-to-Metal Rust-Stopper

Hard Shell—Stop rust from starting and prevent existing rust from spreading. Do not use on galvanized steel or aluminum.

Fast Dry—Keep dust and debris from damaging your drying surface. This corrosion-resistant paint dries fast, ensuring a quality finish. It can also be used on ceramic, glass, and plaster. Do not use on galvanized steel or aluminum.

High Performance—This durable paint forms a barrier to seal out moisture, preventing future rust from starting. It has a hammered finish, textured to hide surface flaws. Apply directly to firm, rusty surfaces. Primer is required when used on galvanized steel and aluminum.

Specialty

Direct-to-Plastic—Spray onto plastic surfaces (including PVC, hard vinyl, resin, and fiberglass) without sanding or priming.

Chalkboard—Creates a washable surface that can be used as a chalkboard. It can also be used on glass and plastic; do not use on concrete or masonry. For indoor use.

Rough-Textured Finish—Stone-like finish hides surface blemishes.

Fluorescent—Use these paints for high visibility. Primer is required for use on wood.

Reflective—Make items visible under emergency lighting and in the dark with this paint. Excellent for signs and emergency equipment. Paint is clear so it won't obscure the color of your item. It can also be used on plastic.

Glare Reducing—Put a temporary dull finish on plastic, glass, and other glossy surfaces. Wipe to remove. For indoor use.

Glow-in-the-Dark—Illuminate emergency exit routes, ramps, and doors in case of power outages. Requires a minimum 2-hour exposure to light. Both colors glow luminescent green. For indoor use.

Metallic Finish—Highlight machinery, piping systems, and equipment. Outdoor exposure can result in accelerated weathering.

Equipment, **Material Handling**, **High-Temperature Engine, and Furniture and Storage**—Match the manufacturers' equipment colors. *Equipment* paint is for use on metal and wood. *High-temperature engine* paint has an intermittent maximum temperature of 500° F. *Furniture and storage* paint is for use on metal.

To Order: Please specify finish and color.

	Size, net wt.	Dry Time: Touch	Dry Time: Overall		1-5	6-Up
Standard						
Any Angle—*Flat:* Aluminum, Black, White; *Gloss:* Black, Dark Gray, Light Gray, White; *Gloss (Safety):* Blue, Green, Orange, Red, Yellow						
Paint	12 oz.	12 min.	24 hrs.	7719T11	$5.54	$4.97
Primer (Gray)	12 oz.	12 min.	24 hrs.	7719T16	5.54	4.97
Any Angle with Twist-to-Spray Cap—*Flat:* Black; *Semi-Gloss:* Aluminum; *Gloss:* Black, Blue, Dark Gray, Light Gray, Red, White, Yellow						
Paint	12 oz.	50 min.	3 hrs.	78025T11	9.21	8.24
Primer (Gray)	12 oz.	40 min.	1 hr.	78025T12	9.21	8.24
Low Odor—*Flat:* Black, White; *Satin:* Dark Gray; *Gloss:* Black, Clear, White; *Gloss (Safety):* Blue, Green, Orange, Red, Yellow						
Paint	12 oz.	20 min.	3 hrs.	75035T41	5.49	4.93
Primer (Gray)	12 oz.	20 min.	3 hrs.	75035T44	5.49	4.93
Direct-to-Metal Rust-Stopper						
Hard Shell—*Flat:* Black, White; *Semi-Gloss:* Black; *Gloss:* Aluminum, Black, Deep Blue, Brown, Dark Gray, Light Gray, Dark Green, Bright Red, Tan, White; *Gloss (Safety):* Blue, Green, Orange, Purple, Red, Yellow						
Paint	15 oz.	20 min.	24 hrs.	7891T3	7.35	6.60
Primer (Gray)	15 oz.	20 min.	24 hrs.	7891T22	7.35	6.60
Primer (Red)	15 oz.	20 min.	24 hrs.	7891T21	7.35	6.60
Fast Dry—*Gloss:* Black, Blue, Gray, Green, Orange, Red, White, Yellow						
Paint	12 oz.	8 min.	30 min.	77025T84	6.30	5.68
Primer (Gray)	12 oz.	8 min.	30 min.	77025T85	6.30	5.68
High Performance—*Gloss:* Black, Dark Blue, Light Blue, Bronze, Gold, Gray, Dark Green, Red						
Paint	12 oz.	15 min.	1 hr.	77025T74	9.65	8.85
Specialty						
Direct-to-Plastic—*Gloss:* Black, Royal Blue, Green, Orange, Red, Tan, White, Yellow						
Paint	12 oz.	1 hr.	7 hrs.	7975T74	5.98	5.38
Chalkboard—*Flat:* Black						
Paint	11 oz.	20 min.	24 hrs.	7704T162	5.95	5.36
Rough-Textured Finish—*Flat:* Black, Dark Green, White						
Paint	12 oz.	15 min.	48 hrs.	7739T6	8.00	7.15
Fluorescent—*Flat:* Light Blue, Light Green, Orange, Red, Yellow						
Paint	12 oz.	15 min.	4 hrs.	7833T2	6.22	5.60
Primer (White)	12 oz.	5 min.	30 min.	7833T4	6.22	5.60
Reflective—*Satin:* Clear						
Paint	10 oz.	3 hrs.	24 hrs.	8116T81	8.08	7.10
Glare Reducing—*Flat:* Clear						
Paint	11 oz.	15 min.	24 hrs.	7972T7	7.60	6.79
Glow-in-the-Dark—*Flat:* Green, Yellow						
Paint	15 oz.	30 min.	24 hrs.	9157T11	31.22	27.96
Metallic Finish—*Gloss:* Aluminum, Brass, Gold, Silver, Stainless Steel						
Paint	11 oz.	15 min.	2 hrs.	7596T4	6.94	6.23
Primer (Gray)	12 oz.	15 min.	1 hr.	7659T4	5.55	5.00
Equipment—*Gloss:* International Harvester Red, John Deere Green, John Deere Yellow, New Caterpillar Yellow, Old Caterpillar Yellow, School Bus Yellow						
Paint	12 oz.	15 min.	1 hr.	7659T3	5.55	5.00
Primer (Gray)	12 oz.	15 min.	1 hr.	7659T4	5.55	5.00
Material Handling—Crown Bright Beige, Crown Dark Gray, Crown Medium Gray, Hyster Yellow, Raymond Red/Orange, Yale Gold						
Paint	12 oz.	15 min.	24 hrs.	7659T6	13.90	12.64
High-Temperature Engine—*Gloss:* Ford Blue, Ford Dark Blue, Ford Gray, Ford Green, Ford Red, GM Blue, Universal Black, Universal Gold						
Paint	12 oz.	30 min.	1 hr.	7614T9	7.80	7.09
Furniture and Storage—*Gloss:* Interlake Green, Interlake Orange						
Paint	16 oz.	20 min.	24 hrs.	7659T7	22.80	20.73

Aerosol Can Trigger Adapter

Ready, aim, spray. For accurate paint control without finger fatigue, snap this adapter onto your aerosol can. It's reusable and made of plastic.



Adapter	7699T11	$4.87

Aerosol Paint Storage Cabinet



Keep cans organized and secured in these steel cabinets. For quick access, they have slide-out shelves with built-in holders that fit cans up to 2¾″ Dia. × 9″ Ht. Cabinet is steel and has a key-locking handle. Welded and shipped assembled. Color is gray.

Overall Size Wd.	Ht.	Dp.	Cans Per Cabinet		
18″	26″	18″	24	4975T11	$179.91

Paint Thinners

These thinners are often used for cleanup and to thin paint for spray applications.

Solvent-based thinners are for use with oil- and solvent-based paint.

Water-based thinners are for use with water-based paint.

		1 qt.	1 gal.
Solvent-Based Thinners			
Pure Gum Turpentine	7760T9 ♦	$8.26	$25.97
Odorless General Purpose	7741T21 ♦	____	19.84
Low Odor General Purpose	7741T71	____	18.42
Mineral Spirits	3190K752 ♦		16.44
Toluene/Xylene Substitute	7741T72	____	23.95
Water-Based Thinners			
General Purpose	7741T1	4.94	10.62

♦ This product cannot be sold in California or Utah.

Paint

Enhance, renew, and protect surfaces with this liquid paint. It's for indoor and outdoor use and can be applied with a brush, roller, or sprayer on concrete, masonry, steel, and wood, unless otherwise stated. Comparable to Rust-Oleum.

Standard

General Purpose—Resists weather and mild chemicals. Water based. *Paint* and *primers* cannot be sold in the Los Angeles area.

Low Odor—This zero-VOC paint is for use in enclosed occupied areas such as hospitals, schools, and offices. Water based. *Gray primer* is for use on non-metal surfaces.

No-Mess Ceiling—Eliminate paint splatter clean-up. Drops dry to a powder as they fall from ceilings 10 ft. and higher. Paint can also be used on drywall and plaster. Primer required for iron, steel, and wood. Water based and for indoor use.

Direct-to-Metal Rust-Stopper

General Purpose—Stop rust from starting and prevent existing rust from spreading. Paint is water based and resists weather and mild chemicals. Requires a primer when used on abrasive-blasted steel and aluminum. *Paint* and *primer* cannot be sold in the Los Angeles area.

Low VOC—For use on steel only, this paint resists weather, salt spray, mild chemicals, and abrasion. Not for use on galvanized steel. Solvent based.

Fast Dry—Keep dust and debris from damaging your drying surface with this quick-drying paint. Water based.

Hammered Finish—Prevent corrosion and hide surface flaws with the textured surface of this paint. For use on metal only; do not use on galvanized steel or aluminum. Solvent based.

Specialty

Magnetic and **Magnetic Chalkboard**—Create a magnetic surface with these paints. They can also be used on plastic, glass, and ceramic. Not for use on masonry. Both are water based.

Magnetic is an undercoat to be covered with water-based paint.

Magnetic chalkboard dries with a flat black finish and works as a chalkboard. For indoor use only. Do not apply with a sprayer.

EMI/RFI Shielding—Protect electronics from electromagnetic interference (EMI) and radio frequency interference (RFI). Adheres to most plastics and concrete; do not use on masonry, steel or wood. Apply with an HVLP sprayer. Water based.

Conductive and **Static Dissipative**—Reduce the buildup of static electricity with these durable, low-odor paints. They can also be used on ceramic and tile. Both are water based.

Conductive has a surface resistivity of 10^3 to 10^5 ohms sq.

Static dissipative has a surface resistivity of 10^6 to 10^{11} ohms sq.

To Order Please specify finish and color.

	Size, net wt.	Dry Time Touch	Dry Time Overall	Coverage, sq. ft.	Maximum Temperature		
Standard							
General Purpose—*Gloss:* Black, Blue, Light Blue, Gray, Green, Orange, Red, White, Yellow							
Paint	1 gal.	2 hrs.	4 hrs.	150	200°F	7855T2	$44.09
Primer (Gray)	1 gal.	2 hrs.	4 hrs.	250	200°F	7855T72	38.75
Primer (Red)	1 gal.	2 hrs.	4 hrs.	250	200°F	7855T71	38.75
Low Odor—*Satin:* Black, White; *Gloss:* Black, Blue, Gray, Red, White, Yellow							
Paint	1 gal.	30 min.	4 hrs.	240	200°F	7709T1	61.53
Primer (Gray)	1 gal.	30 min.	2 hrs.	320	200°F	7709T31	32.23
No-Mess Ceiling—*Flat:* White							
Paint	5 gal.	30 min.	4 hrs.	675	120°F	77015T21	109.31
Primer (White)	1 gal.	45 min.	1 hr.	400	200°F	7897T2	27.97
Direct-to-Metal Rust-Stopper							
General Purpose—*Flat:* Black; *Gloss:* Black, Dark Green, Silver-Gray, White; *Gloss (Safety):* Blue, Orange, Red, Yellow							
Paint	1 gal.	2 hrs.	4 hrs.	160	200°F	4639T7	49.39
Primer (Gray)	1 gal.	2 hrs.	4 hrs.	225	200°F	4639T8	47.15
Low VOC—*Flat:* Black; *Gloss:* Black, Gray, Dark Green, Tan, White; *Gloss (Safety):* Blue, Red, Yellow							
Paint	1 gal.	6 hrs.	24 hrs.	240	200°F	7709T2	62.05
Fast Dry—*Flat:* Black; *Gloss:* Black, Dark Gray, Light Gray, White; *Gloss (Safety):* Blue, Green, Orange, Red, Yellow							
Paint	1 gal.	30 min.	4 hrs.	135	95°F	7907T1	46.17
Primer (Gray)	1 gal.	30 min.	4 hrs.	135	95°F	7907T3	32.32
Hammered Finish—*Gloss:* Black, Dark Blue, Light Blue, Bronze, Gold, Gray, Green, Red, Silver							
Paint	1 qt.	90 min.	4 hrs.	50	Not Rated	77025T11	19.98
Specialty							
Magnetic—*Flat:* Gray							
Undercoat	1 qt.	30 min.	1 hr.	25	400°F	8885T11	33.98
Magnetic Chalkboard—*Flat:* Black							
Paint	1 qt.	30 min.	1 hr.	25	400°F	8885T21	52.17
EMI/RFI Shielding—*Flat:* Light Tan							
Paint	1 qt.	20 min.	24 hrs.	120	200°F	77075T37	426.33
Conductive—*Flat:* Black							
Paint	1 gal.	4 hrs.	24 hrs.	200	240°F	7823T4	181.82
Static Dissipative—*Flat:* Gray, Red, White, Yellow							
Paint	1 gal.	4 hrs.	24 hrs.	200	240°F	7823T2	181.82

Powder Coatings

More durable and scratch resistant than liquid paint. Apply directly to unpainted metal and heat-cure in an oven for a smooth, baked-on finish. Maximum temperature is 350°F.

Size, net wt.	Dry Time	Coverage, sq. ft.	Choose a Color: Satin	Semi-Gloss	Gloss		
8 oz.	25 min.	10	Black	Black	Black, Dark Blue, Dark Green, Orange, White	6356T11	$13.44

High-Temperature Paint

High-Temperature for Metallic Surfaces—Stop corrosion on carbon steel and stainless steel exposed to high temperatures. This heat-resistant, silicone-resin paint can be used on firm rusty surfaces such as smokestacks, incinerators, heaters, and heat exchangers. All paint is solvent based and for indoor and outdoor use.

Aerosol Paint—Spray on, and then increase the temperature two to three times (450° to 650°F), allowing surface to cool between firings. Primer is not required; scrape rusty areas clean.

Paint—Apply with a brush, roller, or sprayer and allow surface to air dry before heating. For best results, use a primer with colors except aluminum, which cannot be used with the primer.

Primer—Prevent further corrosion on surfaces with tightly-adhered rust. Primer can be applied with a brush, roller, or sprayer.

Ultra-High-Temperature for Nonmetallic Surfaces—This ceramic-filled paint is for use on ceramic and other nonmetallic heat-resistant surfaces in heaters, furnaces, and ovens. Apply with a brush or sprayer. Allow surface to air dry before heating. Paint is water based and for indoor and outdoor use.

	Size, net wt.	Dry Time: Touch	Dry Time: Overall	Coverage, sq. ft.	Max. Temp.	Available Colors		Each	Pkg. Qty.	
High Temperature for Metallic Surfaces										
Aerosol Paint	11 oz.	30 min.	2 hrs.	20	1200°F	*Flat:* Aluminum, Black, Gray, White	7832T1	$8.59	6	$46.44
Paint	1 gal.	2 hrs.	24 hrs.	545	1000°F	*Flat:* Black, Cream, Light Gray, White	7702T6	209.00	—	—
Primer	1 gal.	2 hrs.	24 hrs.	815	1200°F	Black, Gray	7702T16	272.21	—	—
Ultra-High Temperature for Nonmetallic Surfaces										
Paint	1 qt.	20 min.	3 hrs.	110	2500°F	*Flat:* Black	7820T1	99.27	—	—

Heavy Duty Acid-Resistant Coatings

Protect surfaces against chemical fumes and splashes. This solvent-based phenolic coating resists acids, alkalies, and inorganic salts. It's highly durable and offers excellent adhesion. For indoor and outdoor use on concrete, metal, and wood.

	Size, net wt.	Dry Time: Touch	Dry Time: Overall	Coverage, sq. ft.	Max. Temp.	Color		
Aerosol	11 oz.	6 hrs.	7 days	25	200°F	*Semi-Gloss:* Dark Brown	7610T5	$30.42

Primers

Extend the life of your paint and coatings with these primers. They can be used with both solvent- and water-based topcoats and are for indoor and outdoor use, unless otherwise stated.

Aerosol

Stain Blocker—Cover stains from smoke, water, and ink and prevent them from bleeding through your topcoat. For use on concrete, drywall, tile, and wood. Solvent based.

Filler—This primer provides a smooth, rust-resistant basecoat that fills surface cracks and is sandable. Use on fiberglass, metal, and wood. It's solvent based and should only be used with solvent-based topcoats. Use gray for light-color topcoats; red for medium-color topcoats; and black for dark topcoats.

Plastic Surface—Excellent adhesion to plastic. Solvent based.

Corrosion Inhibiting—Forms a rust-resistant basecoat that stands up to marine exposure and salt spray. For use on metal, including aluminum and galvanized steel. Solvent based.

Heavy Duty—Both parts of this durable epoxy primer are contained within the can, which mixes and activates the primer when sprayed. For use on all bare metal and previously coated surfaces. Solvent based.

Liquid

Stain Blocker—Cover stains from smoke, water, and ink; prevent them from bleeding through your topcoat; and seal out odors. Use on aluminum, brick, concrete, drywall, PVC, tile, and wood. Apply with a brush, roller, or sprayer. Solvent based. For indoor use.

Porous-Surface Filler—Also known as block filler, this primer fills in cracks and smoothes out surface irregularities. Apply on cinder block, concrete block, and masonry with a brush, roller, or sprayer. Filler is water based.

Low Odor—This zero-VOC primer covers stains on drywall, plaster, and wood. Apply with a brush, roller, or sprayer. Water based.

Bare Steel—For long-term corrosion protection on uncoated steel. Apply with a brush or sprayer. Water based. Use gray primer for light-colored topcoats; use red for dark topcoats. Use with water-based topcoats only.

	Size, net wt.	Dry Time: Touch	Dry Time: Overall	Max. Temp.	Available Colors		Each	Pkg. Qty.	
Aerosol									
Stain Blocker	12 oz.	10 min.	2 hrs.	250°F	White	77525T41	$5.86	12	$63.00
Filler	11 oz.	10 min.	1 hr.	200°F	Black, Gray, Red	7929T1	7.35	6	39.24
Plastic Surface	12 oz.	30 min.	1 hr.	200°F	White	7937T6	5.37	—	—
Corrosion Inhibiting	12 oz.	10 min.	48 hrs.	350°F	Green, Yellow	77525T13	8.61	6	45.84
Heavy Duty	13 oz.	15 min.	2 hrs.	212°F	Beige, Gray	77525T12	30.64	—	—
Liquid									
Stain Blocker	1 gal.	20 min.	45 min.	200°F	White	7897T8	48.33	—	—
Porous-Surface Filler	1 gal.	1 hr.	4 hrs.	150°F	White	7943T14	14.02	—	—
Low Odor	1 gal.	45 min.	1 hr.	200°F	White	7897T2	27.97	—	—
Bare Steel	1 gal.	30 min.	4 hrs.	Not Rated	Gray, Red	4850T6	32.32	—	—

Tool Blackeners

An alternative to purchasing black-oxide tools, these kits create a flat, black protective finish on metal to resist corrosion and reduce glare. Dip or swab tool at room temperature. Blackeners are water based and have a maximum temperature of 250°F. For indoor use.

For Ferrous Metals—Use on iron and steel (not stainless).

For Nonferrous Metals—Use on aluminum, brass, and copper.

For Ferrous Metals		
Kits—Include blackener, cleaner, and sealer		
Liquid (Covers 25 to 35 sq. ft.)	3435K21	$102.39
Gel (Covers 15 to 25 sq. ft.)	3435K15	99.55
Replacement Components—1-pint bottle		
Liquid Blackener	3435K53	39.57
Gel Blackener	3435K16	30.21
Cleaner	3435K81	20.79
Sealer	3435K96	28.35
For Nonferrous Metals		
Kit—Includes blackener and sealer		
Liquid (Covers 25 to 35 sq. ft.)	3435K12	127.76
Replacement Components—1-quart bottle		
Liquid Blackener	3435K52	69.07
Sealer	3435K82	57.94



Polyurethane Coatings

These solvent-based coatings resist moisture, corrosion, and abrasion better than paint and have excellent color retention. They're for indoor and outdoor use and can be applied with a brush, roller, or sprayer (unless otherwise stated).

Aerosol—Spray this oil-resistant coating onto metal, paper, and wood surfaces.

General Purpose—For use on metal only, this coating is excellent for frequently cleaned surfaces. Not for use on stainless steel. *Primer* cannot be sold in the Los Angeles area.

Direct-to-Metal—This two-part coating can also be used on concrete, but not stainless steel. Application time after mixing is 2½ hrs.

High Humidity—*Choose-a-color* and *clear coatings* resist yellowing and chalking on metal and primed concrete. Use with *primer* to prepare lightly cleaned rusted steel and aluminum surfaces.

Black tar coating provides chemical and corrosion resistance on grit-blasted concrete and primed steel in immersion, underground, and waste-water treatment applications. Not UV resistant. Use with *primer for black tar coating* to prepare steel surfaces.

Thinner cannot be sold in California or Utah.

Super Abrasion-Resistant—Brush onto concrete, fiberglass, metal, rubber, and wood. Designed for hoppers, chutes, and pumps, one application of this two-part coating forms a 50-mil thick protective layer. Application time after mixing is 45 min. Not for outdoor use. Do not apply with a roller or sprayer.

To Order: Please specify finish and color.

	Size, net wt.	Dry Time: Touch	Dry Time: Overall	Coverage, sq. ft.	Max. Temp.		
Aerosol—*Gloss:* Clear							
Coating	11 oz.	30 min.	24 hrs.	20	—	7961T5	$5.13
General Purpose—*Gloss:* Black, Dark Gray, Light Gray, White; *Gloss (Safety):* Blue, Green, Orange, Red, Yellow							
Coating	1 gal.	2 hrs.	5 hrs.	560	300° F	7925T5♣	102.91
Primer (Gray)	1 gal.	2 hrs.	9 hrs.	260	275° F	7925T4	87.52
Direct-to-Metal—*Gloss:* Black, Clear, Gray, Orange, Red, White, Yellow							
Coating	1 gal.	2.5 hrs.	8 hrs.	230	200° F	70325T21	128.88
Thinner	1 gal.	—	—	—	—	7965T71	120.26
High Humidity—*Semi-Gloss:* Black, Blue, Light Gray, Red, White, Yellow							
Choose-a-Color Coating	1 gal.	1.5 hrs.	8 hrs.	250	250° F	7615T21	110.22
Clear Gloss Coating	1 gal.	5 hrs.	6 hrs.	465	250° F	7615T47	170.22
Primer (Silver)	1 gal.	30 min.	4 hrs.	510	250° F	7615T31	76.17
Black Tar Coating	1 gal.	2 hrs.	6 hrs.	145	150° F	7615T48	89.16
Primer for Black Tar Coating (Green)	1 gal.	30 min.	4 hrs.	200	250° F	7615T32	124.20
Thinner	1 gal.	—	—	—	—	7615T25	30.88
Super Abrasion-Resistant—*Gloss:* Black							
Coating	1 lb.	24 hrs.	24 hrs.	3	180° F	9582T23	87.00
Primer for Metal Surfaces (Blue)	4 oz.	30 min.	30 min.	10	170° F	9582T24	24.59
Primer for Nonmetal Surfaces (Red-Orange)	4 oz.	30 min.	30 min.	10	195° F	9582T25	24.60

♣ Dark gray, light gray, white, blue, and green colors are not VOC compliant in California and Utah. Black, orange, red, and yellow colors are not VOC compliant in the Los Angeles area.

Rubber Coatings



Multipurpose

Protect surfaces with these slip-resistant, flexible coatings. They protect against moisture and can be used indoors and outdoors on metal and wood.

Multipurpose—Dip, brush, or spray these solvent-based coatings to insulate, create grips, and color-code components. They resist chemicals, salt, and extreme temperatures and can also be used on fabric, plastic, rope, and wire. Comparable to Plasti-Dip. *Topcoat* gives rubber-coated surfaces a glossy finish. *Thinner* cannot be sold in California or Utah. *Primer* is required for use on metal.

Fast-Dry Multipurpose—With the same properties as multipurpose, this coating has a shorter dry time and can also be used on fiberglass and rubber.

Leak Stopper—Stop leaks and deaden sound with this petroleum-asphalt based coating. It resists rust, salt, and acids. Not VOC compliant in CT, DE, MD, ME, NJ, NY, PA, RI, UT, the D.C. area, Northern Virginia, or the Los Angeles area.

Chemical-Resistant Extreme Temperature—Resist oils, acids, and UV light in temperatures from –40° to 400° F with this solvent-based coating. Also for use on ceramic, fabric, and rubber.

Water-Repellent Extreme Temperature—This silicone-rubber coating resists chemicals, blocks UV light, encapsulates lead paint, and withstands temperatures from –30° to 320° F. Apply with a brush, roller, or sprayer. It can also be used on fiberglass.

Thermal-Insulating Waterproof—Reflect up to 85% of the sun's heat with this low-odor, water-based elastomeric coating. Two coats provides the protection of 3″ to 6″ of polyurethane foam. Coating can also be used on concrete, fiberglass, masonry, roof shingles, and tile. Apply with a brush, roller or sprayer. Not for use on surfaces containing silicone.

	Size, net wt.	Dry Time: Touch	Dry Time: Overall	Coverage, sq. ft.	Max. Temp.	Available Colors		
Multipurpose								
Aerosol	11 oz.	40 min.	24 hrs.	6	200° F	*Semi-Gloss:* Black, Clear, Red, White	9560T4■	$8.57
Coating	14½ oz.	40 min.	24 hrs.	5	200° F	*Semi-Gloss:* Black, Blue, Red, Yellow	9560T7	10.20
Topcoat (Aerosol)	11 oz.	40 min.	24 hrs.	6	200° F	*Gloss:* Clear	9560T2■	11.30
Thinner (Naphtha)	1 qt.	—	—	—	—	—	3190K11	6.52
Thinner (Naphtha)	1 gal.	—	—	—	—	—	3190K12	19.08
Primer (Aerosol)	11 oz.	40 min.	1 hr.	10	200° F	Clear	9560T82	12.43
Fast-Dry Multipurpose								
Coating	1 gal.	20 min.	4 hrs.	150	200° F	*Gloss:* Black, Blue, Red, Yellow	9560T45	119.43
Leak Stopper								
Aerosol	18 oz.	10 min.	6 hrs.	12	300° F	*Flat:* Black	9695T15★	8.05
Chemical-Resistant Extreme Temperature								
Aerosol	12 oz.	5 min.	48 hrs.	5	400° F	*Semi-Gloss:* Black	7270T2	66.67
Water-Repellent Extreme Temperature								
Coating	1 gal.	1 hrs.	24 hrs.	100	320° F	*Semi-Gloss:* Light Gray, White	7825T2	146.97
Thermal-Insulating Waterproof								
Coating	1 gal.	2 hrs.	24 hrs.	100	375° F	*Flat:* White	7873T4	46.84

■ Prices are 10% lower when you order full package quantities of 6. ★ Prices are 10% lower when you order in full package quantities of 12.

Epoxy Coatings

Thicker than polyurethane and paint, these coatings offer high moisture resistance. They also protect against abrasion and chemicals, except the porcelain finish. Coatings are solvent based and can be applied with a brush, roller, or sprayer (unless otherwise stated). They have two parts that must be mixed, and are for indoor and outdoor use, except aerosol and porcelain finish do not require mixing and are for indoor use only. Coatings may chalk with exposure to sunlight.

To Order: Please specify finish and color.

Aerosol—Spray this stain-resistant coating directly onto drywall, metal, plaster, and sealed wood.

General Purpose—Apply this durable coating to concrete, wood, and metal (except aluminum and galvanized steel). *Primer* contains 61% zinc for corrosion resistance.

Direct-to-Metal Rust-Stopper—Use this self-priming, corrosion-resistant coating on metal, concrete, and masonry. Comparable to Rust-Oleum. Not VOC compliant in the Los Angeles area.

Low Odor—For enclosed, high-traffic spaces, use this water-based coating on aluminum, concrete, steel, painted surfaces, and primed rusted metal. Comparable to Rust-Oleum.

Low Temperature—Apply in temperatures as low as 20° F. This coating has high corrosion resistance. It can also withstand immersion into salt water and fresh water; not for use with drinking water. Use on aluminum, concrete, galvanized steel, steel, and iron. Not for use on stainless steel. Maximum temperature is 100° F when immersed in water.

Severe Environment—Also known as coal tar epoxy, this coating is our most resistant to abrasion, chemicals, and corrosion on concrete and steel. It can be immersed in salt water and fresh water; not for use with drinking water. Maximum temperature is 120° F when immersed in water. Comparable to Rust-Oleum. This product cannot be sold in California or Utah.

Underwater—Use and apply this Kevlar-reinforced, solvent-free coating below the water line. It bonds to damp or submerged steel and concrete in salt water and fresh water, offering excellent corrosion and impact resistance. Apply with a brush, mitt, or spatula. Not for use with drinking water.

Low-Friction Ceramic—Brush on this ceramic-based coating to protect and repair heat exchangers, condensers, valves, and pumps. It creates a smooth, corrosion-resistant surface on aluminum, carbon steel, iron, and stainless steel.

Porcelain Finish—Refinish porcelain sinks, tubs, and tile and give a high-gloss finish to laminates. Coating should be applied with a brush. This coating is not chemical or abrasion resistant.

	Size, net wt.	Application Time After Mixing	Dry Time Touch	Dry Time Overall	Coverage, sq. ft.	Thickness, mils	Max. Temp.		
Aerosol—*Gloss:* Black, White									
Coating	12 oz.	—	20 min.	48 hrs.	6	0.5	150° F	7633T4	$7.76
General Purpose—*Gloss:* Dark Gray, Green, Light Blue, Red, White; *Gloss (Safety):* Yellow									
Coating	½ gal.	2 hrs.	4 hrs.	48 hrs.	80	10	250° F	7829T1	41.12
Coating	1 gal.	2 hrs.	4 hrs.	48 hrs.	160	10	250° F	7829T3	63.85
Primer (Gray)	1 gal.	2 hrs.	4 hrs.	48 hrs.	250	10	250° F	7829T12	128.05
Direct-to-Metal Rust-Stopper—*Gloss:* Aluminum, Black, Blue, Dark Gray, Red, White; *Gloss (Safety):* Yellow									
Coating	2 gal.	2.5 hrs.	8 hrs.	16 hrs.	220	5	300° F	7903T1	157.66
Thinner	1 gal.	—	—	—	—	—	—	7903T59	33.83
Low Odor—*Gloss:* Black, Gray, White; *Gloss (Safety):* Blue, Red, Yellow									
Coating	1 gal.	2 hrs.	30 min.	3 hrs.	340	8.4	250° F	7892T3	88.77
Primer (White)	1 gal.	2 hrs.	30 min.	2 hrs.	300	7.4	250° F	7892T5	80.73
Low Temperature—*Semi-Gloss:* Light Gray, White									
Coating	2 gal.	1 hr.	2 hrs.	4.5 hrs.	440	3	200° F	7965T7	149.86
Thinner	1 gal.	—	—	—	—	—	—	7965T71	120.26
Severe Environment—*Semi-Gloss:* Black									
Coating	1¼ gal.	3 hrs.	4 hrs.	18 hrs.	100	8	350° F	7953T12	75.19
Thinner	1 gal.	—	—	—	—	—	—	7903T59	33.83
Underwater—*Gloss:* White									
Coating	2 gal.	40 min.	3 hrs.	14 hrs.	100	30	225° F	7617T7	348.33
Low-Friction Ceramic—*Gloss:* Dark Gray									
Coating	2 lbs.	30 min.	1 hr.	6 hrs.	10	20	200° F	9775T4	145.76
Porcelain Finish—*Gloss:* White									
Coating	26 oz.	—	2 hrs.	72 hrs.	45	2	250° F	9532T35	38.35

Stainless Steel Coatings

With Type 316L stainless steel flakes for durability, these coatings provide superior corrosion resistance. Apply with a brush, roller, or sprayer. Comparable to Steel-It.

Heavy Duty Polyurethane—For metal and other nonporous surfaces that need to withstand high-pressure washdowns, use these solvent-based coatings. They resist abrasion and chemicals. For indoor and outdoor use.

Epoxy—This two-part coating is solvent based and resists chemicals and other solvents. Application time after mixing is 6 hours. For indoor use on metal and other nonporous surfaces.

Fast-Dry Low Odor—Protect concrete, masonry, and metal with this water-based, UV-resistant coating. For indoor and outdoor use. It can also be used on primed wood (indoors only).

High Temperature—Use these self-priming, solvent-based coatings for boilers, stacks, piping, and similar indoor applications. After the coating has completely dried, the surface requires heating at 400° F for 30 minutes. All are chemical resistant.

	Size, net wt.	Dry Time Touch	Dry Time Overall	Coverage, sq. ft.	Max. Temp.	Color		
Heavy Duty Polyurethane								
Aerosol	14 oz.	2 hrs.	36 hrs.	—	200° F	*Satin*: Metallic Silver	7703T65★	$25.14
Coating	1 qt.	2 hrs.	36 hrs.	35	200° F	*Satin*: Metallic Silver	7703T67	62.00
Coating	1 gal.	2 hrs.	36 hrs.	150	200° F	*Satin*: Metallic Silver	7703T66■	226.00
Primer	1 qt.	1 hr.	12 hrs.	50	200° F	Red	7703T71	57.14
Primer	1 gal.	1 hr.	12 hrs.	200	200° F	Red	7703T72■	199.74
Epoxy								
Coating	2 qt.	4 hrs.	36 hrs.	180	250° F	*Satin*: Metallic Silver	7904T1	146.00
Primer	2 qt.	3 hrs.	12 hrs.	190	250° F	Red	7904T2	134.00
Fast-Dry Low Odor								
Coating	1 qt.	45 min.	1 hr.	60	400° F	*Satin*: Metallic Silver	7949T41	44.87
Coating	1 gal.	45 min.	1 hr.	250	400° F	*Satin*: Metallic Silver	7949T43	143.29
Primer	1 qt.	30 min.	2 hrs.	65	400° F	Light Gray	7949T45	31.82
Primer	1 gal.	30 min.	2 hrs.	260	400° F	Light Gray	7949T47	105.80
High Temperature								
Aerosol	7 oz.	1 hr.	24 hrs.	—	1200° F	*Satin*: Metallic Silver	7721T37★	18.17
Coating	1 qt.	1 hr.	24 hrs.	25	1200° F	*Satin*: Metallic Silver	7721T35	80.00
Coating	1 gal.	1 hr.	24 hrs.	100	1200° F	*Satin*: Metallic Silver	7721T38■	280.00

★Prices are 10% lower when you order full package quantities of 12. ■This product cannot be sold in the Los Angeles area.

Galvanizing Coatings for Rust Prevention

Keep iron and steel free of rust and corrosion. These zinc-rich, solvent-based coatings offer the protection of hot-dip galvanizing. Designed for outdoor use, these coatings can also be used indoors in well-ventilated areas. Brush, roll, spray, or dip to apply.

Cold Galvanizing—Coatings contain 93% pure zinc and meet MIL-P-21035.

High-Temperature Cold Galvanizing—Withstand temperatures up to 750°F with this coating. It contains 99% pure zinc and meets MIL-P-21035.

Bright Galvanizing—Protect and restore the shiny gray finish of hot-dip galvanizing or use as a topcoat for cold-galvanizing coatings. Both contain 65% pure zinc.

Chrome Galvanizing—Preserve or refresh the reflective finish of hot-dip galvanizing on chrome or use as a topcoat for cold-galvanizing coatings. This spray-on coating contains 10% pure zinc.

	Size, net wt.	Dry Time: Touch	Dry Time: Overall	Coverage, sq. ft.	Max. Temp.	Color		Each	Pkg. Qty.	
Cold Galvanizing										
Aerosol	13 oz.	15 min.	24 hrs.	20	150°F	*Metallic*: Gray	7725T312	$11.54	12	$124.32
Coating	½ pt.	20 min.	48 hrs.	50	150°F	*Metallic*: Gray	7725T13	18.64	—	—
Coating	1 qt.	20 min.	48 hrs.	215	150°F	*Metallic*: Gray	7725T142	47.61	4	171.16
Coating	1 gal.	20 min.	72 hrs.	500	150°F	*Metallic*: Gray	7725T16	190.44	—	—
High-Temperature Cold Galvanizing										
Aerosol	14 oz.	5 min.	24 hrs.	50	750°F	*Flat*: Light Gray	7725T4	17.36	—	—
Bright Galvanizing										
Aerosol	13 oz.	15 min.	24 hrs.	10	150°F	*Metallic*: Gray	7725T712	13.88	12	148.08
Coating	1 qt.	15 min.	72 hrs.	80	350°F	*Metallic*: Gray	7725T8	47.96	—	—
Chrome Galvanizing										
Aerosol	12 oz.	10 min.	24 hrs.	15	150°F	*Metallic*: Chrome	7725T112	8.45	12	91.08

Peel-Away Protective Coatings

Protect tools, dies, and other parts during shipping and storage with these durable, removable coatings.

Reusable Coatings



Use these coatings on metal. They're abrasion, moisture, and corrosion resistant (unless otherwise stated). For indoor use, except *long-term storage* can also be used outdoors. To apply, heat coating and dip the object. Coating dries in 2 minutes and can be melted again for repeat use.

General Purpose—After peeling, these mineral oil-based coatings leave a greasy film for continued corrosion protection.

Heavy Duty—The most durable peel-away coating we offer, this oil-based coating is highly abrasion resistant.

Flexible—Absorb shock with this soft and pliable oil/rubber-based coating. Not recommended for long-term protection against corrosion.

Long-Term Storage—These resin-based coatings won't dry out, even when stored over a long time. They do not contain solvents.

Color	Coverage for 1 lb., sq. in. @ Thickness		1 lb.	5 lbs.	10 lbs.
General Purpose					
Amber	500 @ 100 mils	7762T72	$7.64	$36.21	$68.76
Clear	500 @ 100 mils	7762T73	7.92	37.62	71.28
Heavy Duty					
Clear	500 @ 100 mils	7762T74	8.78	41.70	79.02
Flexible					
Clear	500 @ 100 mils	7762T75	5.34	25.36	48.06
Long-Term Storage					
Clear	500 @ 62.5 mils	7762T77	4.14	19.66	37.26
Clear	500 @ 62.5 mils	7762T76★	6.30	29.93	56.70

★ Meets MIL-P-23242B.

Disposable Coatings



Prevent rust, abrasion, and moisture penetration with one of these temporary coatings.

Aerosol—Spray this solvent-based coating onto nonporous, indoor surfaces such as anodized aluminum and unpainted metal. Often used on castings, dies, glass, and mirrors. Maximum temperature is 150°F; apply between 70°F and 90°F. Color is light gray.

Liquid—This clear, water-based coating has almost no odor and cleans up with water. Brush, roll, or spray it onto aluminum, asphalt, ceramic, concrete, glass, hard plastic, wood, and steel. Maximum temperature is 150°F; apply between 40°F and 100°F. It's for indoor and outdoor use but not recommended for surfaces in direct sunlight.

	Size, net wt.	Dry Time: Touch	Dry Time: Overall	Coverage, sq. ft. @ Thickness		
Aerosol						
	12 oz.	30 sec.	10 min.	10 sq. ft. @ 1 mil	9505T14	$7.87
Liquid						
	1 gal.	30 min.	8 hrs.	250 sq. ft. @ 3 mil	7888T42	43.06

Enclosed-Area Corrosion Inhibitors



Foam



Plastic Cup

Keep metal components in electrical enclosures, tool boxes, and cabinets free from corrosion for up to two years with these adhesive-backed inhibitors. They emit a vapor that coats metal components and stops moisture from causing corrosion.

Foam is for tight spots. It has a maximum temperature of 180°F. Meets MIL-PRF-81705D.

Plastic cup has a slow-release membrane and won't break apart. Maximum temperature is 185°F. Meets MIL-I-22110C.

Style	Size	Area Protected, cu. ft.		
Foam	3″ Lg. x 1¼″ Wd. x ¼″ Ht.	1	78125T24	$3.52
Plastic Cup	2¼″ Dia. x 1¼″ Ht.	11	78125T26	14.37

Paint and Coating Removers

Prepare surfaces for refinishing with these fast-acting removers. They cut through paint and other coatings on concrete, glass, masonry, metal, and wood (unless otherwise stated). Comparable to Goof-Off.

General Purpose Removers—Strip paint, varnish, and urethane with these solvent-based removers.

Aerosol remover will also take off shellac and lacquer.

Liquid removers can penetrate several layers with one application. They also work on epoxy and marine coatings. Apply with a brush or roller.

Low-Odor Removers—Apply these soybean-based removers with a brush or sprayer to take off paint, varnish, urethane, and epoxy coatings. Not for use on plastic, rubber, or drywall.

Heavy Duty Kits—For tough jobs, apply the thick, high-strength paste from these kits and cover with the included absorbing paper. Peel the paper from the surface and dispose.

Kit for paint removes up to 30 layers of water- and solvent-based paint per application. Apply with a trowel (included) or sprayer. After stripping, apply a neutralizer (included) so new paint isn't affected. Will not remove epoxy, polyurethane, or baked coatings; do not use on aluminum, glass, or wood. Water based.

Kit for coatings removes up to 10 layers of epoxy, polyurethane, and marine coatings per application. Apply with a brush, roller, or sprayer. Solvent based.

Powder-Coating Removers—Use this low-odor, solvent-based remover on powder-coated metals and plastics (except silicone).

	Size, net wt.	Coverage, sq. ft.		Each	Pkg. Qty.	
General Purpose Removers						
Aerosol	15 oz.	20	7764T212	$7.05	12	$76.08
Liquid	1 qt.	25	7735T6	11.04	—	—
Liquid	1 gal.	100	7735T5	31.67	—	—
Low-Odor Removers						
Gel	1 qt.	30 to 50	7688T1	26.34	—	—
Gel	1 gal.	130 to 200	7688T2	81.54	—	—
Heavy Duty Kit for Paint						
Paste	1¼ gal.	25	77925T21	57.33	—	—
Heavy Duty Kit for Coatings						
Paste	1 gal.	40	77925T41	111.09	—	—
Powder-Coating Removers						
Liquid	1 qt.	25	6346T4	42.43	—	—
Liquid	1 gal.	100	6346T5	121.13	—	—

Removable Rust- and Corrosion-Inhibiting Films

For long-lasting protection against rust and corrosion, these films can be sprayed, dipped, or brushed onto surfaces and then removed.

Aerosol



All aerosol films are amber.

General Purpose—Designed for tool and die storage, this solvent-based coating forms a greasy, elastic film that won't harden or crack. Remove with mineral spirits or a solvent-based cleaner.

High Temperature—This petroleum-based coating leaves a tacky film. Remove with a degreaser. Not for outdoor use.

Heavy Duty—Spray on this petroleum-based coating for a waxy film that resists high humidity. Remove with mineral spirits. It meets MIL-C-16173, Grade 4.

Heavy Duty LPS #3—This oil-based coating produces a self-healing, waxy film that dries slightly tacky. Remove with mineral spirits or a degreaser. Coating meets MIL-C-16173D, Grade 2. It is not VOC compliant in the Los Angeles area.

Size, net wt.	Coverage, sq. ft.	Protection: Indoors	Protection: Outdoors	Max. Temp.		Each ♦
General Purpose						
11 oz.	20	24 mo.	12 mo.	110° F	10245K52	$7.41
High Temperature						
11 oz.	170	24 mo.	____	250° F	10505K17	12.67
Heavy Duty						
10 oz.	75	24 mo.	24 mo.	175° F	10505K31	13.62
Heavy Duty LPS #3						
11 oz.	32	24 mo.	6 mo.	175° F	1370K34	19.88

♦ Prices are 10% lower when you order in full case quantities of 12.

Liquid



Food Grade—This petroleum-based coating is USDA H1 approved for incidental food contact. It forms a tacky film. Remove with an alkaline cleaner. Color is clear.

Low Odor and **Heavy Duty Low Odor—**These water-based coatings can be removed with an alkaline cleaner.

Low-odor coating forms a waxy film similar to lube oil, so parts can remain coated for assembly. Color is amber.

Heavy duty low-odor coating forms a hard, waxy film and meets MIL-C-16173, Grade 1. Color is amber.

Heavy Duty LPS #3—This oil-based coating produces a self-healing, waxy film that dries slightly tacky. Remove with mineral spirits or a degreaser. Color is amber. This coating meets MIL-C-16173D, Grade 2. It's not VOC compliant in the Los Angeles area.

Size, net wt.	Coverage, sq. ft.	Protection: Indoors	Protection: Outdoors	Max. Temp.		
Food Grade						
1 gal.	____	12 mo.	3 mo.	180° F	10455K12	$26.30
Low Odor						
1 gal.	650	24 mo.	12 mo.	160° F	9555T68	33.78
Heavy Duty Low Odor						
1 gal.	650	60 mo.	36 mo.	180° F	9555T58	33.78
5 gal.	3,250	60 mo.	36 mo.	180° F	9555T59	104.66
Heavy Duty LPS #3						
1 gal.	320	24 mo.	6 mo.	175° F	1370K782	66.95

Painting Mitts

When painting poles, railings, pipes, and fences, this lightweight mitt comes in handy. It's made of a soft, washable polyester. Nap is 7/8" thick. Each mitt comes with two plastic liners.



Painting Mitt	9525T14	$5.23
Liners (Box of 500)	9737T273	19.16

Rust Removers



Rid surfaces of rust with these removers, inhibitors, and converters.

Naval Jelly Rust Remover—This acid-based jelly is for use on iron and steel. Apply with a brush or sprayer, leave it on for 5 to 10 minutes, and then rinse with water. Not for use on aluminum, chrome, or marble.

Noncorrosive Rust Remover/Inhibitors—Dip iron, steel, and stainless steel into these water-based liquids. To use as a remover, rinse after immersing; to use as an inhibitor, immerse again and allow liquid to dry on the item. Not for use on aluminum, brass, or copper.

Nonflammable Rust Remover/Inhibitors—Dip, brush, or spray these water-based liquids onto aluminum, chrome, iron, and steel to dissolve rust and prevent it from returning. Wipe off excess and allow to dry.

Rust Converter/Inhibitors—Convert rust into a layer of protection that prevents new rust from forming. These also act as a primer and can be painted.

Aerosol can be used on all metal. It's solvent based and turns treated surfaces black.

Liquid is for use on steel, aluminum, cast iron, and galvanized metal. It's water based and can be applied with a brush, roller, or sprayer.

	Size, net wt.	Coverage		
Naval Jelly Rust Remover				
Gel	16 oz.	75 sq. ft.	7732T22	$7.49
Noncorrosive Rust Remover/Inhibitors				
Liquid	1 qt.	75 lbs. of steel	7645T43	10.38
Liquid	1 gal.	300 lbs. of steel	7645T44	25.11
Nonflammable Rust Remover/Inhibitors				
Liquid	8 oz.	12 sq. ft.	72115T31	6.45
Liquid	1 qt.	50 sq. ft.	72115T33	12.66
Liquid	1 gal.	200 sq. ft.	72115T11	41.23
Liquid	5 gal.	1,000 sq. ft.	72115T12	139.68
Rust Converter/Inhibitors				
Aerosol	10 1/4 oz.	12 to 14 sq. ft.	7792T11	8.42
Liquid	8 oz.	12 to 15 sq. ft.	7705T51	19.95
Liquid	1 qt.	50 to 62 sq. ft.	7705T52	40.62
Liquid	1 gal.	200 to 250 sq. ft.	7705T53	123.36

Tack Cloths

Before you paint, wipe the surface with one of these sticky cloths to remove dust, lint, dirt, and other loose particles.

Cloths are 18"×36". **Roll** measures 36"×150 yds. and comes folded to 4-ply with a 9" width.

Cloths (Pkg. of 12)	9507T12	$14.57
Roll	9507T15	126.14

Paint Pads



Standard



Edger



Corner



Touch-Up

Use these nylon pads to spread paint evenly across flat surfaces, along edges, and in corners. Holders are plastic and have an adjustable swivel handle with 3/4" threads for use with extension poles, except touch-up pad. For extension handles, see page 2165.

	Pad Size: Lg.	Pad Size: Wd.	Paint Pads with Holders	Each ♦	Replacement Pads: Pkg. Qty.	Replacement Pads	Pkg.
Standard	3 3/4"	7"	9942T1	$7.58	1	9942T2	$4.68
Edger	3 1/2"	4 3/4"	9942T4	5.30	2	9942T3	2.76
Corner	3 1/2"	4 3/4"	9942T7	4.72	2	9942T3	2.76
Touch-Up	2 1/4"	1 3/4"	9942T5	3.00	3	9942T6	1.98

♦ Prices are 10% lower when you order in full case quantities of 10.

About Paint Brush Bristles

Natural bristles are best for oil- and solvent-based paint and coatings. They're made of animal hair (typically hog).
Synthetic bristles are best for water-based paint and coatings. They're made of nylon, polyester, or polyolefin.

Paint Brushes



Brushes have black bristles, unless otherwise stated.
Professional brushes hold more paint than the other brushes.

Wd.	Bristle Lg.	Bristle Thick.	Overall Lg.	Pkg. Qty.		Each ♦
Plastic Handle—Natural Bristles						
1″	2″	3/8″	8″	12	9521T21	$3.32
1 1/2″	2″	1/2″	8″	12	9521T22	4.15
2″	2″	1/2″	8 1/2″	12	9521T23	5.06
2 1/2″	2 1/4″	1/2″	8 3/4″	12	9521T25	6.68
3″	2 1/4″	1/2″	8 3/4″	12	9521T24	8.34
3″	2 1/2″	3/4″	9 1/2″	12	9521T26	10.56
4″	2 1/2″	3/4″	9 3/4″	12	9521T27	13.55
Plastic Handle—Synthetic Bristles						
1″	2″	3/8″	8″	24	9526T11	1.93
1 1/2″	2″	1/2″	8 1/4″	24	9526T12	2.18
2″	2″	1/2″	8 7/8″	12	9526T13	2.78
2 1/2″	2 1/4″	1/2″	10″	12	9526T15	3.44
3″	2 1/4″	1/2″	10 1/4″	12	9526T19	4.17
3″	2 1/2″	3/4″	10 1/4″	12	9526T17	5.11
4″	3 1/2″	7/8″	10 1/4″	6	9526T21	6.11
Wood Handle—Natural Bristles						
1″	2 1/4″	1/2″	8 7/8″	12	7799T1★	3.30
2″	2 3/4″	5/8″	9 7/8″	12	7799T3★	4.69
3″	3″	3/4″	10 1/2″	12	7799T5★	7.29
4″	3″	3/4″	10 3/8″	6	7799T7★	10.31
Wood Handle—Synthetic Bristles						
1″	2 1/4″	1/2″	9 1/4″	12	7811T1	4.06
1 1/2″	2 1/2″	1/2″	8 7/8″	12	7811T2	5.03
2″	2 3/4″	5/8″	9 1/2″	12	7811T3	6.10
3″	3 1/4″	3/4″	10 1/8″	12	7811T7	9.80
4″	3 3/4″	7/8″	10 1/2″	6	7811T5	11.09
Professional with Wood Handle—Natural Bristles						
2″	3″	1/2″	11 3/4″	6	7800T33	12.48
3″	3 3/8″	7/8″	10 7/8″	6	7800T35	21.32
4″	3 7/8″	7/8″	11 1/2″	6	7800T37	29.14
Professional with Wood Handle—Synthetic Bristles						
2″	2 5/8″	1/2″	10″	6	7858T41■	13.15
3″	3 1/8″	5/8″	11″	6	7858T43■	19.75
4″	3 5/8″	5/8″	11 5/8″	6	7858T45■	25.98

★Bristles are white. ■Bristles are brown.

Smooth-Finish Paint Brushes



These brushes have black, PTFE-coated bristles for a smooth stroke and fast clean-up. Handle is wood.

Wd.	Bristle Lg.	Bristle Thick.	Overall Lg.	Pkg. Qty.		Each ♦
1 1/2″	2 1/2″	1/2″	11 1/4″	6	8495T22	$9.08
2″	2 1/2″	1/2″	11 5/8″	6	8495T24	10.63
2 1/2″	3″	5/8″	12″	6	8495T26	12.15
3″	3″	5/8″	12 1/2″	4	8495T28	15.20

Easy-Grip Mini-Handle Paint Brushes



For comfort and control in tight spaces, these brushes have a short, flexible, rubber-coated plastic handle that won't slip. Bristles are tan.

Wd.	Bristle Lg.	Bristle Thick.	Overall Lg.	Pkg. Qty.		Each ♦
Natural Bristles						
2″	2 1/2″	1/2″	6 1/4″	12	7086T11	$6.53
Synthetic Bristles						
2″	2 1/4″	1/2″	6 1/4″	12	7086T12	6.58

Foam Applicators



For quick touch-ups, use these lightweight, disposable dark gray foam applicators. Handle is wood. Not for use with shellacs or lacquers.

Wd.	Bristle Lg.	Bristle Thick.	Overall Lg.	Pkg. Qty.		Pkg.
1″	2″	1/2″	6″	12	7754T41	$6.22
2″	2 1/2″	1/2″	6 1/2″	12	7754T42	8.44
3″	2 1/2″	1/2″	6 3/4″	12	7754T43	10.22
4″	2 1/2″	1/2″	6 3/4″	12	7754T44	12.89

Long-Handle Sash Paint Brushes



General Purpose and Professional



Angled General Purpose

Extend your reach with these brushes. All have long, thin, wood handles with tapered bristles for control while edging. *Natural bristles* are black. *Synthetic bristles* are brown. **Angled general purpose** brushes are for painting trim and straight, vertical edges. **Professional** brushes hold more paint than general purpose.

Wd.	Bristle Lg.	Bristle Thick.	Overall Lg.	Pkg. Qty.		Each ♦
General Purpose—Natural Bristles						
1″	2 1/8″	1/2″	10″	12	4921T11	$7.43
1 1/2″	2 1/2″	1/2″	10 3/4″	12	4921T12	8.89
2″	2 3/4″	1/2″	11 1/2″	12	4921T13	12.40
2 1/2″	3″	5/8″	12″	12	4921T14	17.02
3″	3 1/4″	3/4″	12 1/4″	12	4921T15	20.32
General Purpose—Synthetic Bristles						
1″	2 1/2″	1/2″	10 1/2″	12	5104T52	7.12
1 1/2″	2 3/4″	1/2″	11″	12	5104T53	8.37
2″	3″	1/2″	11 1/2″	12	5104T54	11.88
2 1/2″	3″	5/8″	12″	12	5104T55	15.58
3″	3 1/4″	3/4″	12 1/4″	12	5104T56	18.91
Angled General Purpose—Natural Bristles						
1″	2 1/2″	1/2″	10 1/2″	12	7807T1	7.02
1 1/2″	2 1/2″	1/2″	11 1/4″	12	7807T2	9.22
2″	2 3/4″	1/2″	11 3/4″	12	7807T3	12.17
2 1/2″	3″	5/8″	12 1/2″	12	7807T4	16.39
3″	3 1/4″	3/4″	12 1/2″	12	7807T5	21.53
Angled General Purpose—Synthetic Bristles						
1″	2 1/4″	1/2″	10 1/4″	12	76105T21	6.62
1 1/2″	2 1/2″	1/2″	11 1/4″	12	76105T22	8.00
2″	2 3/4″	1/2″	11 3/4″	12	76105T23	10.88
2 1/2″	3″	5/8″	12 1/4″	12	76105T24	14.18
3″	3 1/4″	3/4″	12 1/2″	12	76105T25	17.00
Professional—Natural Bristles						
2 1/2″	2 7/8″	5/8″	12 1/4″	6	7808T4	16.05
3″	3 3/8″	3/4″	12 3/8″	6	7808T5	23.07
Professional—Synthetic Bristles						
2″	2 3/4″	1/2″	11 3/4″	6	77045T44	15.72
2 1/2″	3″	5/8″	12 3/8″	6	77045T45	18.29
3″	3 1/4″	5/8″	12 1/2″	6	77045T46	20.66

Chip Brushes



Brush away loose paint, rust, and metal with these short-bristle brushes.

Wd.	Bristle Lg.	Bristle Thick.	Overall Lg.	Pkg. Qty.		Each ♦
Wood Handle—Natural Bristles						
1/2″	1 1/2″	1/4″	7″	36	7737T32	$0.79
1″	1 1/2″	1/4″	7 1/4″	36	7737T11	1.07
1 1/2″	1 1/2″	1/4″	7 1/2″	36	7737T12	1.21
2″	1 1/2″	1/4″	8″	24	7737T13	1.46
2 1/2″	1 1/2″	3/8″	8″	12	7737T14	1.93
3″	1 1/2″	3/8″	8 1/4″	12	7737T15	2.29
4″	2″	3/4″	9″	12	7737T16	3.76
Plastic Handle—Natural Bristles						
1/2″	1 3/8″	1/4″	7″	36	7798T1	.64
1″	1 5/8″	1/4″	7 1/4″	36	7798T2	.89
1 1/2″	1 5/8″	1/4″	7 1/2″	36	7798T3	1.11
2″	1 5/8″	1/4″	7 1/2″	24	7798T4	1.29
2 1/2″	1 5/8″	3/8″	8″	12	7798T5	1.71
3″	1 5/8″	3/8″	8″	12	7798T6	2.18
Plastic Handle—Synthetic Bristles						
1/2″	1 3/4″	1/4″	7 5/8″	36	78015T51	.76
1″	1 3/4″	1/4″	7 5/8″	36	78015T52	1.16
1 1/2″	1 3/4″	1/4″	7 3/4″	36	78015T53	1.32
2″	1 3/4″	1/4″	8″	36	78015T54	1.36
2 1/2″	1 3/4″	1/4″	8″	12	78015T55	1.64
3″	1 3/4″	1/4″	8 3/4″	12	78015T56	1.96
4″	2 3/4″	3/4″	10″	12	78015T57	3.20

♦ ***Prices are 10% lower when you order full package quantities.***

Long-Handle Paint Brushes



Get a handle on detail work and edging, even in tight spots. The slender handles and tapered natural bristles offer added control. Bristles are black. **Flat-tip** brushes have a wood handle; **dome-tip** brushes have a plastic handle.

Wd.	Bristle Lg.	Bristle Thick.	O'all Lg.	Pkg. Qty.		Each ♦
Flat Tip						
1/2"	1 3/4"	1/2"	8 1/2"	12	7806T1	$3.38
3/4"	2"	3/4"	9 7/8"	12	7806T2	4.42
7/8"	2 1/4"	7/8"	10 1/8"	12	7806T3	5.50
1"	2 1/4"	1"	11"	12	7806T4	6.69
1 1/8"	2 1/2"	1 1/8"	11 1/2"	12	7806T5	11.77
Dome Tip						
5/8"	2"	3/4"	9 1/2"	12	7805T1	10.39
3/4"	2 1/4"	3/4"	10"	12	7805T2	12.50
7/8"	2 1/4"	1"	10 1/4"	12	7805T3	13.74
1"	2 1/2"	1"	10 3/4"	12	7805T4	15.58

Extended-Reach Paint Brushes



Don't give up on hard-to-reach areas. Also called radiator brushes, these have extra-thin handles and angled bristles to paint behind and around challenging fixtures. They have black bristles and a wood handle.

Wd.	Bristle Lg.	Bristle Thick.	Handle Lg.	Pkg. Qty.		Each ♦
Standard Handle—Natural Bristles						
2"	2 1/2"	1/2"	14"	12	7729T12	$11.56
3"	2 3/4"	3/4"	15"	12	7729T14	16.44
Standard Handle—Synthetic Bristles						
2"	2 1/2"	1/2"	14"	12	7729T22	12.53
3"	3"	3/4"	15"	12	7729T24	17.59
Extra-Long Handle—Natural Bristles						
3"	3 1/2"	3/4"	29 1/2"	12	7729T32	30.47
Extra-Long Handle—Synthetic Bristles						
3"	3 1/2"	3/4"	29 1/2"	12	7729T34	30.04

Brushes for Thick Coatings

Apply epoxies, urethanes, and other thick coatings with the stiff natural bristles on these brushes. Both have a plastic handle.



Wd.	Bristle Lg.	Bristle Thick.	O'all Lg.	Pkg. Qty.		Each ♦
1 1/2"	1/2"	1/4"	6 1/2"	12	9221T21	$2.50
1 1/2"	1"	1/2"	7 1/4"	12	9221T22	4.03

Hygienic Brushes



Also known as pastry brushes, these have synthetic bristles and a one-piece plastic handle to minimize buildup.

Wd.	Bristle Lg.	Bristle Thick.	O'all Lg.	Available Bristle Colors	Pkg. Qty.		Each ♦
Flat Tip							
1 1/2"	2"	1/4"	7"	White	12	9283T212	$8.71
2"	2"	1/4"	7 1/2"	White	12	9283T222	9.30
3"	2"	1/4"	8 1/4"	Blue, White	12	9283T23	10.48
4"	2 1/4"	1/4"	8 1/2"	Blue, White	12	9283T24	12.11
Round Tip							
1"	2"	—	10"	White	12	9283T112	10.76

Detail Paint Brushes

For ultimate precision, these artist brushes are the smallest we sell. Handle is wood, except Style 4 has a plastic handle.

Flat-Tip Bristle Brushes

Wd.	Bristle Lg.	Bristle Thick.	O'all Lg.	Pkg. Qty.		Each ♦	
(1) Brown Camel Hair Bristles							 1
1/8"	1/2"	1/16"	7"	12	7816T5	$1.40	
1/4"	9/16"	1/8"	7"	12	7816T1	1.59	
3/8"	11/16"	3/8"	7"	12	7816T2	1.97	
1/2"	3/4"	1/2"	7"	12	7816T3	2.52	
(2) Soft, Gold Synthetic Bristles							 2
5/32"	5/16"	3/32"	7"	6	7664T1	1.62	
3/16"	3/8"	7/64"	7 1/8"	6	7664T2	2.03	
1/4"	1/2"	1/8"	7 1/4"	6	7664T3	2.14	
5/16"	5/8"	1/8"	7 1/2"	6	7664T4	2.34	
3/8"	11/16"	5/32"	7 5/8"	6	7664T5	2.79	
(3) Black Natural Bristles							 3
1/4"	13/16"	5/32"	12"	12	7809T1	2.42	
3/8"	7/8"	3/16"	12"	12	7809T7	3.00	
1/2"	1"	1/4"	12 1/4"	12	7809T2	3.76	
3/4"	1 5/16"	5/16"	13"	12	7809T3	5.76	
1"	1 1/2"	3/8"	13"	12	7809T4	6.69	
						Pkg.	
(4) Short Handle with Brown Pony Hair Bristles							 4
1/8"	3/8"	1/8"	3 3/8"	25	9602T95	$7.07	

Fan-Tip Bristle Brushes

Wd.	Bristle Lg.	Bristle Thick.	O'all Lg.	Size	Pkg. Qty.		Each ♦	
(5) White Natural Bristles								 5
7/8"	1/2"	1/16"	7 3/8"	#1	12	7816T6	$3.49	
1"	9/16"	1/16"	7 1/2"	#2	12	7816T7	3.60	
1 1/8"	5/8"	1/8"	7 5/8"	#3	12	7816T8	3.91	
1 3/8"	3/4"	1/8"	7 5/8"	#4	12	7816T9	4.63	
1 7/8"	7/8"	1/8"	8"	#6	12	7816T14	5.77	

Round-Tip Bristle Brushes

Dia.	Bristle Lg.	O'all Lg.	Size	Pkg. Qty.		Each ♦	
(6) Soft, White Synthetic Bristles							 6
5/64"	5/16"	7 1/2"	#0	12	7652T11	$1.86	
3/32"	3/8"	7 1/2"	#1	12	7652T12	2.00	
3/32"	7/16"	7 1/2"	#2	12	7652T13	2.07	
1/8"	9/16"	7 1/2"	#4	12	7652T14	2.48	
3/16"	11/16"	7 1/2"	#6	12	7652T15	3.21	
7/32"	7/8"	7 1/2"	#8	12	7652T16	4.52	
1/4"	15/16"	7 1/2"	#10	12	7652T17	5.62	
(7) Super Soft, Red Sable Bristles							 7
1/16"	15/64"	7 1/2"	#00	12	7861T59	2.12	
5/64"	9/32"	7 1/2"	#0	12	7861T52	2.19	
5/64"	5/16"	7 1/2"	#1	12	7861T53	2.27	
3/32"	3/8"	7 1/2"	#2	12	7861T54	2.35	
7/64"	7/16"	7 1/2"	#3	12	7861T55	2.38	
1/8"	1/2"	7 1/2"	#4	12	7861T56	2.54	
9/64"	9/16"	7 1/2"	#5	12	7861T57	2.73	
5/32"	21/32"	7 1/2"	#6	12	7861T58	2.92	
(8) White Natural Bristles							 8
3/32"	1/2"	11 5/16"	#0	12	7810T7	1.62	
1/8"	11/16"	11 9/16"	#1	12	7810T1	1.93	
5/32"	3/4"	11 3/4"	#2	12	7810T2	2.10	
3/16"	7/8"	12 3/32"	#3	12	7810T3	2.28	
7/32"	1"	12 5/16"	#4	12	7810T4	2.76	
9/32"	11/16"	12 1/2"	#5	12	7810T5	3.10	
5/16"	11/8"	12 11/16"	#6	12	7810T6	3.55	
(9) Stiff, White Natural Bristles for Stenciling							 9
3/16"	1/2"	5 1/2"	#1	12	7254T1	1.73	
7/32"	9/16"	5 3/4"	#2	12	7254T2	1.97	
9/32"	11/16"	6"	#4	12	7254T3	2.31	
3/8"	7/8"	6 1/2"	#6	12	7254T4	2.76	
7/16"	15/16"	6 1/2"	#8	12	7254T5	3.39	

Paint Brush and Roller-Cover Cleaners



Pump the handle to spin paint off your brush or roller cover. Cleaner holds brushes with handles up to 6" wide and 1/2" thick and roller covers up to 18" long. Made of stainless steel, it's 15" long.

9065T11 ..... $21.94

♦ ***Prices are 10% lower when you order full package quantities.***

Roller Covers and Frames

Roller Covers



All covers are 1½″ diameter and have a solvent-resistant plastic core.

Shed Resistant—Use these rollers to produce a clean finish.

Fast Apply—The fabric nap on these covers has a nonstick PTFE coating for quick, smooth application and speedy clean-up.

Foam—Not for use with shellacs or lacquers. 95535T94 has slits to better conform to uneven surfaces.

For Epoxies and Adhesives—Give thick coatings a textured finish with this short-nap cover.

Cover Lg.	Nap	For Surface	Pkg. Qty.		Each ♦
General Purpose					
7″	½″	Semi-smooth	12	9542T63	$3.72
9″	1″	Semi-rough	6	9542T55	5.80
9″	1¼″	Rough	12	9542T56	8.24
18″	½″	Semi-smooth	6	7875T14	8.97
Shed Resistant					
4″	3/16″	Smooth	24	7755T2	1.96
4″	⅜″	Semi-smooth	24	7755T1	2.31
4″	½″	Semi-smooth	24	7755T41	2.58
9″	3/16″	Smooth	12	7755T3	4.46
9″	¼″	Smooth	12	9542T51	5.85
9″	⅜″	Semi-smooth	12	7755T4	4.93
9″	½″	Semi-smooth	12	7755T5	5.12
9″	¾″	Semi-rough	12	7755T43	5.55
18″	3/16″	Smooth	6	7755T6	11.26
18″	⅜″	Semi-smooth	6	7755T7	11.64
Fast Apply					
9″	⅜″	Semi-smooth	24	9542T65	5.44
9″	½″	Semi-smooth	15	9542T66	6.16
9″	¾″	Semi-rough	8	9542T67	6.48
Foam					
9″	3/16″	Smooth	6	95535T93	4.47
9″	9/16″	Semi-rough	6	95535T94	6.62
For Epoxies and Adhesives					
9″	¼″	Smooth	12	9151T31	4.09

Roller Frames



Standard



No-Slip Telescoping



Extra Long



Spatter Resistant with Cover

Frames have a plastic handle, except no-slip telescoping handle is rubber. Each has a ¾″ threaded hole for an extension handle (sold separately on page 2165).

No-Slip—Keep covers secured with the gripping tabs on these frames. *No-slip telescoping* handle extends from 18″ to 34″.

Extra Long—Handle sold separately.

Spatter Resistant with Cover—This frame has a no-mess shield and includes a roller cover (1½″ dia. with ⅜″ nap).

For Roller Cover Lg.	Handle Lg.	Pkg. Qty.		Each ♦
Standard				
4″	12″	12	7744T3	$2.34
7″	15″	12	7812T23	5.76
9″	14″	12	7812T21	5.21
No-Slip				
4″	14″	6	7023T7	6.15
9″	12¾″	3	7023T1	8.11
No-Slip Telescoping				
9″	18″-34″	10	7812T28	17.42
Extra Long				
18″	—	18	7812T25	21.06
Spatter Resistant with Cover				
9″	7″	15	9542T41	8.91

Miniature Paint Rollers



Touch-Up



Trayless



Long Reach



Adjustable

When painting a tight spot, these rollers cover spaces where standard-size rollers won't fit. Rollers (except touch up) have a ¾″ threaded hole for an extension handle (sold separately on page 2165). All have plastic handles.

Touch-Up—For quick jobs without the clean-up, this roller comes with a small plastic tray. Cover is ¾″ Dia. × 3″ Lg. Handle is 5½″ long. For smooth and semi-smooth surfaces.

Trayless—Small enough to slip into a 1-gal. paint can, this roller needs no tray. Cover is 4″ long. Handle is 16″ long. For semi-smooth surfaces.

Long Reach—Apply paint in hard-to-reach areas with the longest mini-roller we offer. Cover is 6½″ long. Handle is 24″ long. For semi-smooth surfaces.

Adjustable—Designed to cover odd-shaped spaces, this roller has a frame that tilts to switch angles. Cover is 6″ long. Handle is 14″ long (10½″ to pivot point). For semi-smooth to rough surfaces.

	Paint Rollers			Repl. Covers		
	Pkg. Qty.		Each ♦	Pkg. Qty.		Pkg.
Touch-Up	6	77845T84	$4.68	2	77845T85	$2.96
Trayless	10	94915T45	6.68	2	94915T46	4.81
Long Reach	6	7751T6	7.91	1	7751T8	4.83
Adjustable	12	7913T21	9.13	1	7913T22	2.50

Paint Rollers for Round Surfaces



Small Diameter



Large Diameter

Use these rollers for well-rounded coverage when painting columns, cylinders, pipes, and other curved surfaces. Both have a ¾″ threaded hole for an extension handle (sold separately on page 2165).

Small-diameter roller conforms to round surfaces up to 2½″ diameter. It has a steel frame and an 11¾″ long plastic handle. Not for use with shellacs or lacquers.

Large-diameter roller is flexible to bend around curved surfaces. The cover is 7″ long with ¾″ polyester nap. It has an aluminum frame and a 12″ long wood handle.

	Paint Rollers		Repl. Cover	
Small Diameter	10355T35	$5.48		
Large Diameter	7814T12	26.84	7814T14	$17.23

Paint Strainers



Cone



Bag

Remove lumps, flakes, dust, and other impurities from paint and coatings before application.

Cone strainer is nylon mesh and has a 6″ dia. top.

Bag strainers are polyester mesh and have an elastic top that fits over your container.

	Pkg. Qty.		Pkg.
Cone (1 qt.)	4	95495T38	$1.26
Bag (1 gal.)	2	95495T42	2.89
Bag (5 gal.)	2	95495T45	3.53

♦ ***Prices are 10% lower when you order in full package quantities.***

Paint Trays, Liners, Pails, and Grids

Roller Trays and Plastic Liners


4″ Tray


9″ Tray


9″ Bucket

Cap.	Material	Roller Trays Pkg. Qty.		Each ♦	Plastic Liners Pkg. Qty.		Each ♦
4″ Tray							
8 oz.	Plastic	48	7818T7	$1.42	—	—	—
9″ Trays							
1 qt.	Metal	24	7818T15	5.53	144	7818T16	$0.78
2 qt.	Plastic	12	7818T13	4.61	50	7818T18	1.27
2 qt.	Metal	10	7818T12	6.17	50	7818T23	1.60
3 qt.	Plastic	12	7818T14	6.28	50	7818T24	1.44
9″ Nonstick Surface/Easy-Clean Tray							
2 qt.	Metal	8	7818T38	8.48	—	—	—
9″ Bucket							
4 gal.	Plastic	6	7818T4	13.64	—	—	—
18″ Tray							
1 gal.	Plastic	10	7818T37	12.05	—	—	—

♦ Prices are 10% lower when you order full package quantities.

Paint Pails

Cap.	Material	Each		Pkg. Qty.	Pkg.
8 oz.	Paper	—	—	50	77505T21	$7.14
2½ qt.	Paper	77505T23	$2.69	50	77505T33	120.50
5 qt.	Paper	77505T22	3.60	50	77505T32	161.50
5 qt.	Plastic	77505T24	4.09	24	77505T34	88.08
5 qt.	Steel	77505T25	6.44	24	77505T35	138.00

Paint Can Grids

Use these metal grids to remove excess paint from your roller when painting directly from a can or pail.



For Can Size	For Roller Cover Lg.		Each
1 gal.	4″	7893T15	$2.87
5 gal.	9″	7893T14	2.66

Drop Cloths

Protect floors and minimize tracking. For temporary carpet and floor protectors, see page 2120.

Canvas drop cloths absorb spills and spatter.

Nonskid fabric drop cloths have a plastic backing.

Size	Pkg. Qty.		Each ♦
Canvas—Beige			
4′ x 15′	12	7884T19	$16.80
5′ x 5′	12	7884T17	11.73
9′ x 12′	6	7884T25	24.89
12′ x 15′	6	7884T26	41.64
14′ x 16′	4	7884T27	51.73
20′ x 20′	2	7884T28	93.70

Size	Pkg. Qty.		Each ♦
Plastic—Clear			
9′ x 12′	12	3546T62	$5.51
12′ x 15′	6	3546T69	8.88
Nonskid Fabric—Gray			
40″ x 12′	10	8362T31	18.55
			Each
40″ x 100′	1	8362T32	$99.11

♦ Prices are 10% lower when you order full package quantities.

Replacement Parts for Binks Air-Powered Paint Sprayers


Needle


Air Cap


Fluid Nozzle

Binks Part No.	For Sprayer Model		
Needles			
563A	2001	7220T23	$33.83
565	2001	7220T24	33.83
665	95	7220T26	36.17
Air Caps			
63PB	2001, 95	7220T13	88.27
66SD	2001, 95	7220T14	88.27
Fluid Nozzle			
66SS	2001, 95	7220T19	80.17
Repair Kits—Include springs, gaskets, air valves, and seals			
54-3605/54-3577	Mach 1, 95	7220T27	35.12
54-4278/54-4367	Mach 1SL	7220T28	42.93
6-229	2001	7220T29	17.03
54-3577	95	7220T31	35.10

Telescoping Extension Handles


Twist Lock


Quick Adjust

Add length to your roller with these adjustable, aluminum extension handles. Handles are 1¼″ diameter and have a ¾″ threaded end. Outer handle is fiberglass with a ribbed grip.

Quick-adjust handles have a push-button lock.

Lg., ft.	Twist Lock		Quick Adjust	
2 to 4	78005T41	$21.50	77305T62	$31.66
3 to 5	—	—	77305T63	36.11
4 to 7	78005T42	27.58	77305T64	42.68
6 to 11	78005T43	35.16	77305T65	52.95
6 to 18	78005T44	60.16	—	—
8 to 15	78005T45	49.74	77305T66	63.68

Easy-Pour Paint Can Lids

Get a controlled, no-drip pour every time. Snap this plastic lid onto a 1-gal. can. The spout collapses for storage. Color is red.



8047T3 ..... $4.69

Air Brush Kits


Basic-Control Multi Air Brush Kit


Easy-Adjust Single Air Brush Kit

Basic-Control Kits—Both have a single-action trigger that controls airflow. You must adjust the nozzle to control paint flow.

Single air brush with compressed air can includes one siphon-feed air brush with medium spray head for 1/32″-2½″ thick lines, a 4-ft. air hose, and three ¾-oz. glass jars. It can also be used with an air compressor adapter; requires 0.25 cfm of air @ 30 psi.

Multi air brush with air compressor connection includes two siphon-feed air brushes for medium and thick lines, and a gravity-feed flow pencil for thin lines. Medium brush makes 1/16″-1½″ thick lines; heavy brush makes 1″-2″ thick lines. The brushes require 0.6 cfm of air @ 20 psi. The gravity-feed flow pencil makes 1/32″ thick lines, has a 1-oz. aluminum cup, and does not require an air source. Kit includes two plastic jars (3 oz.) and a 6-ft. air hose with ¼″ NPT female connection.

Easy-Adjust Kit—*Single air brush with air compressor connection* has a convenient dual-action trigger that controls both airflow and paint flow. It includes one siphon-feed air brush with two spray heads: medium for 1/32″-2½″ thick lines; heavy for 1/16″- 3″ thick lines. Kit also includes a 5-ft. air hose with ¼″ NPSM female fitting and three jars (¼, ¾, 2 oz.). Requires 0.25 cfm of air @ 30 psi. Air brush can also be used with aerosol can adapter and compressed air can.

Also Available: Replacement parts not listed below. Please ask for 9546T88 and specify part required.

Basic-Control Kits		
Single Air Brush with Compressed Air Can	9546T13	$76.88
Multi Air Brush with Air Compressor Connection	7856T79	122.18
Easy-Adjust Kit		
Single Air Brush with Air Compressor Connection	9546T11	115.81
Replacement Parts and Accessories		
Medium Spray Head for 9546T13	9546T152	24.97
Fine Spray Head for 9546T11	9546T151	24.97
Medium Spray Head for 9546T11	9546T154	24.97
Heavy Spray Head for 9546T11	9546T153	24.97
Air Compressor Adapter for 9546T13	9546T52	4.77
Air Can Adapter for 9546T11	9546T12	20.77
Compressed Air Can for 9546T13; 9546T11	9546T73	14.29
Glass Siphon Jar Set (¾ oz., 2 oz.) for 9546T13; 9546T11	9546T17	7.03
Glass Siphon Jar (3 oz.) for 7856T79	7856T75	6.64
Water-Based Air Brush Paint—1-oz. Bottles		
Black	7867T51	3.95
Blue	7867T56	3.95
Green	7867T55	3.95
Red	7867T53	3.95
White	7867T52	3.95
Yellow	7867T54	3.95

Air-Powered Paint Sprayers


A


B-D&F


E


G

For fast, uniform paint application, connect one of these sprayers to your air compressor. The air inlet connection is 1/4" NPS male; fluid inlet connection is 3/8" NPS male, unless noted. All have an adjustable spray pattern, except Style A has a nonadjustable tip. *Styles A-F* are conventional sprayers. For hoses, see page 294.

Choose a sprayer based on the thickness of the paint or coating you plan to spray: *thin* includes stains, dyes, and solvents; *medium* includes paint and lacquers; *thick* includes urethanes and epoxies.

Light Duty—These economical siphon-feed spray guns use suction to draw liquid out of a reservoir cup. Nozzles are black-oxide steel. *Style A* is excellent for mold-release agents; it's nylon with brass fluid passages. *Style B* provides a finer finish than Style A; it's aluminum with stainless steel fluid passages.

Heavy Duty—Change from siphon to pressure feed for thick paint and coatings. Sprayers can handle high-volume projects and still provide a fine finish. Body is aluminum and fluid passages and nozzle are stainless steel, except Style C has a black-oxide steel nozzle. *Style D* can be used with road-marking paint. *Style E* can be used with adhesives.

High Volume/Low Pressure (HVLP)—Produce less overspray than conventional sprayers, wasting less paint. Made of aluminum with stainless steel nozzle and fluid passages.

Repair kits include commonly worn parts.

Also Available: Replacement parts for Styles D-G. Please specify part required and ask for 7841T88 for *Styles D* and *E*; 77745T66 for *Style F*; and 77745T77 for *Style G.*

For Paint/Coating	Style	cfm @ psi	Tip Size	Cup Size	Paint Sprayers		Repair Kits	
Light Duty								
A Thin	Siphon	15.0 @ 40	0.25"■	____	**5451K22**★	$69.63	____	____
B Thin to Medium	Siphon	7.0 @ 40	0.07"	32 oz.	**7896T3**	62.97	**7896T51**	$24.95
Heavy Duty								
C Thin to Thick	Siphon/Pressure	4.3 @ 40	0.05"	32 oz.	**7872T16**	55.54	____	____
D Thin to Thick	Siphon/Pressure	7.9 @ 30	0.07"	32 oz.	**9531T6**	314.41	**7220T29**	17.03
E Thin to Thick	Siphon/Pressure	9.5 @ 30	0.07"	____	**7841T1**	262.70	**7220T29**	17.03
High Volume/Low Pressure (HVLP)								
F Thin to Thick	Siphon	11.2 @ 30	0.09"	32 oz.	**77745T71**	526.54	**77745T63**	56.36
G Thin to Medium	Gravity	14.4 @ 29	0.06"	23 oz.	**9383T9**♦	526.54	**77745T63**	56.36

■ Orifice size; does not use a tip. ★ Fluid connection is 3/8" barbed. ♦ Includes a 3M adapter.

Cups for Air-Powered Paint Sprayers

Aluminum Cups


Siphon


Gravity

Siphon cup has a locking cap with gasket.

For Sprayer Style	Cap.	Connection		
Siphon	32 oz.	3/8" NPSM female	**7911T14**	$67.74
Gravity	23 oz.	3/8" NPSM male	**77745T811**	67.83
Gravity	23 oz.	5/8"-11 UNC male	**77745T814**	68.97
Replacement Gasket for Siphon Cup			**7911T24**	4.13

See-Through Plastic Cups



A connector, cup, and liner are required and sold separately.

For Sprayer Style	Connection		
Connectors			
Siphon	3/8" NPSM female	**7911T37**	$24.73
Gravity	For 3M adapter	**7911T35**	12.02
Cups and Disposable Liners			
9-oz. Cups (Pkg. of 2)		**7911T31**	16.90
9-oz. Liners (Pkg. of 32)		**7911T33**	48.58
24-oz. Cups (Pkg. of 2)		**7911T32**	16.94
24-oz. Liners (Pkg. of 32)		**7911T34**	59.58
Optional Funnels (Pkg. of 24)		**7911T38**	10.18

Pressurized Paint Tanks for Air-Powered Paint Sprayers

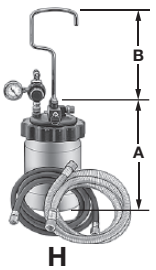

H


J


K


L


M&N

Attach one of these large-capacity tanks to your paint sprayer for high-volume application of paint and coatings. Each tank has a pressure regulator with gauge, a safety relief valve, and a cover with gasket.

Styles H-L include air and fluid hoses. *Styles M* and *N* do not include air and fluid hoses. The hose set sold below is compatible with all tank styles.

Easy-cleanup tanks are PTFE coated inside and out. *Tank with agitator* has a 1/2 hp motor to keep thick coatings mixed.

Also Available: Replacement parts. For *Styles H, K,* and *L,* please ask for 7853T5 and specify part required. For *Styles J, M,* and *N*, please ask for 9590T5 and specify part required.

Material	Cap.	Max. psi	Ht. (A)	Handle Lg. (B)	Hose Lg., ft.	Pressurized Tanks		Plastic Tank Liners Pkg. Qty.		Pkg.	Replacement Cover Gaskets	
General Purpose												
H Aluminum	2 qt.	50	10"	10"	6	**7853T4**	$333.30	_	____	____	**7853T42**	$6.32
J Stainless Steel	2.5 gal.	50	13"	8"	15	**1380T3**	307.14	3	**7853T77**	$8.13	**7853T32**	12.00
Easy Cleanup												
K Coated Steel	2.5 gal.	50	10 1/2"	8"	10	**7853T14**	205.43	3	**7853T17**	14.55	**7853T25**	9.52
K Coated Steel	5 gal.	50	24"	8"	10	**7853T24**	356.15	5	**7853T33**	13.90	**7853T25**	9.52
Easy Cleanup with Agitator												
L Coated Steel	2.5 gal.	50	12"	8"	10	**7853T34**	793.78	3	**7853T17**	14.55	**7853T25**	9.52
ASME Certified												
M Zinc-Plated Steel	2.8 gal.	80	10 1/2"	10"	—	**7819T26**	538.16	1	**7819T32**	5.90	**7819T36**	34.01
N Stainless Steel	2.8 gal.	110	14"	7"	—	**7819T27**	1,327.08	1	**7819T32**	5.90	**7819T34**	56.54
Hose Set—25-ft. air hose (1/4" NPS female) and 25-ft. fluid hose (3/8" NPS female)											**7819T14**	186.67

Electric Paint Sprayers


A


B


C


D

These portable, airless sprayers apply paint and coatings faster than air-powered sprayers. They have a suction tube that draws paint from a container and include a fluid hose, except Style D does not require a hose. All operate on 120 volts AC and have a cord with three-prong plug.

Choose a sprayer based on the thickness of the paint or coating you plan to spray: *thin* includes stains and dyes; *medium* includes paint.

(A) Light Duty—This convenient sprayer can be used two ways: with the included 1½-qt. plastic cup or with the 5-ft. fluid hose and 1½-gal. backpack. It has three speeds and a low-paint indicator. Spray tip has two fixed openings. Liners are sold separately below.

(B) Medium Duty—This sprayer includes a 50-ft. fluid hose and has plastic wheels.

(C) Heavy Duty—Choose this durable sprayer for high-volume applications. Its wear-resistant motor automatically adjusts to changes in pressure. The spray tip has a guard and is reversible for quick cleaning. Sprayer comes with a 50-ft. fluid hose.

(D) High Volume/Low Pressure (HVLP)—This efficient hand-held sprayer produces low overspray, so it wastes less paint than other sprayers. It has an adjustable spray pattern and comes with an attached 1½-qt. plastic cup.

Repair kits include commonly worn parts.

Replacement tips come in various sizes for *Styles B* and *C*. Choose small tips for thin coatings; large tips for medium coatings and faster spray speeds. **To Order:** Please specify tip size. For *Style B*, choose 0.011″, 0.013″, 0.015″, or 0.017″. For *Style C*, choose 0.017″, 0.019″, 0.021″, or 0.023″.

Also Available: Replacement parts. For *Style B*, please ask for 78505T87 and specify part required. For *Style C*, please ask for 74485T34 and specify part required.

For Paint/ Coating	Paint Output, gpm	Tip Size Incl.	Tip Size Max.	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	hp	Amps	Sprayers		Repair Kits		Replacement Tips	
Light Duty														
A Thin to Medium	0.13	—	—	12″	7½″	10½″	—	3	**9461T1**	$163.93	—	—	—	—
Medium Duty														
B Thin to Medium	0.34	0.015″	0.017″	37¼″	17¼″	20″	¾	8	**78505T11**	673.08	—	—	**78505T93**	$38.18
Heavy Duty														
C Thin to Medium	0.54	0.017″	0.023″	18½″	13½″	16¼″	1	12	**74485T31**	1,795.00	**74485T32**	$75.82	**74485T33**	40.00
High Volume/Low Pressure (HVLP)														
D Thin	0.085	0.07″	0.07″	11½″	11¾″	6″	—	3	**7180T64**	108.33	—	—	—	—
Plastic Backpack Liners for Style A (Pkg. of 5)													**9461T6**	$4.58

Spray Booths

Contain overspray and discharge fumes with these galvanized steel spray booths. Not for use with hazardous, flammable, or explosive materials.

Bench Top

Use this portable spray booth for small projects. It has an exhaust motor, a 4″ duct connection, and two 8″×17″ filters (one polyester; one carbon). The exhaust motor operates on 120 volts AC and draws 0.43 amps; air flow is 235 cfm. It has a cord with three-prong plug.



	Overall Size Wd.	Dp.	Ht.	No. of Filters		
Spray Booth	22″	20″	18″	2	**9559T51**	$326.27
Replacement Polyester Filter					**9559T52**	2.95
Replacement Carbon Filter					**9559T53**	7.50

Full Size

Booths have a three-phase exhaust motor that must be hardwired; it operates on 208-230/460 volts AC and is UL listed. Both booths come with 20″×20″ polyester filters that meet UL 900 for flame retardance, filter frames, and a filter-change indicator. Booths ship unassembled. Both conform to OSHA and NFPA regulations.

36″ wide booth has a ⅓ hp motor that operates on 230 volts AC and draws 1.5 amps. The air flow is 1,200 cfm. Exhaust fan duct diameter is 12″.

60″ wide booth includes four 32-watt, 48″ fluorescent bulbs. It has a ½ hp motor that operates on 230 volts AC and draws 2.4 amps. The air flow is 2,000 cfm. Exhaust fan duct diameter is 18″.

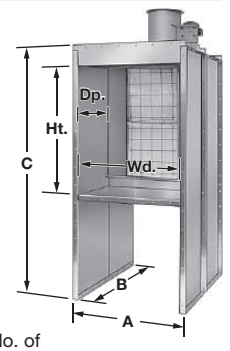

Work Area Wd.	Dp.	Ht.	Overall Size (A)	(B)	(C)	No. of Filters		
36″	24″	48″	40″	50″	86″	2	**7866T83**	$1,971.43
60″	36″	48″	64″	62″	86″	6	**7866T84**	2,574.29

Spray-Booth Accessories

Filters

Fiberglass—These filters provide moderate efficiency. *20″ wide filters* are 2″ thick; *24″* and *48″ wide filters* are 2½″ thick.

Fiberglass with Backing—Thicker than standard fiberglass filters, these have a layer of polyester for added efficiency. They're 3½″ thick.

Expanded Paper—More efficient than fiberglass filters, these are made of layered paper. All are ½″ thick.

Polyester—The most efficient filter we offer, these are moisture resistant and ⅝″ thick.

Wd. × Lg.	Pkg. Qty.	Pkg.	
Fiberglass			
20″×20″	25	**78435T38**	$26.23
20″×25″	25	**78435T39**	30.91
24″×200′	1	**78435T21**	129.52
48″×200′	1	**78435T22**	222.27
Fiberglass with Backing			
20″×20″	20	**5486T11**	34.12
20″×25″	20	**5486T12**	42.35
24″×200′	1	**5486T21**	192.00

Wd. × Lg.	Pkg. Qty.	Pkg.	
Expanded Paper			
20″×20″	25	**78435T48**	$27.23
20″×25″	25	**78435T49**	31.56
45″×40′	1	**78435T53**	48.52
Polyester			
20″×20″	25	**21715K14**	43.96
20″×25″	25	**21715K15**	53.15
20″×90′	1	**21715K42**	72.39
45″×90′	1	**21715K43**	162.93
72″×90′	1	**21715K46**	258.04

Peel-Away Coatings

Spray, brush, or roll on this removable, water-based coating that dries within one hour. It's low odor, for indoor use, and meets OSHA requirements. 5-gal. pail covers 2,215 sq. ft.

	Clear		White	
5-gal. Pail	**7874T68**	$180.88	**7874T94**	$209.91

Masking Paper

This absorbent white paper is 10 mils thick. Meets ASTM D4433-84 for flame resistance and OSHA requirements.

Roll Width	100-ft. Rolls		300-ft. Rolls	
36″	**95005T44**	$51.70	**95005T64**	$98.64
42″	**95005T45**	57.29	**95005T65**	114.73
60″	**95005T46**	69.34	**95005T66**	155.30

Step Stools


1

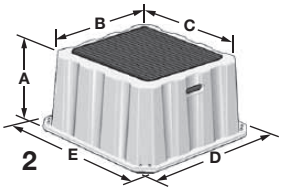

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5


6 *80135T46*


7

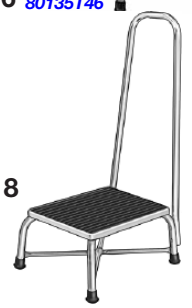
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9

Get a secure and stable step up. All stools have nonskid rubber feet and slip-resistant tops.

Style 1 has a 10¾″ Ht. × 16″ Lg. storage space, a removable 1 7/16″ Ht. × 16″ Lg. three-compartment tray, an extension cord holder, and a recessed handle that folds flat when not in use. Top surface has a diamond pattern. Color is gray.

Style 2 is stackable. Top surface is urethane and vinyl. Color is yellow.

Style 3 has an abrasive top surface.

Style 4 has a serrated top surface. Meets OSHA requirements.

Style 5 has three spring-loaded swivel casters. Top surface is grooved. Meets OSHA requirements.

Style 6 have cross bracing. 80135T46 has a perforated top surface; *T48* has a vinyl top surface. Both meet OSHA requirements.

Style 7 moves on spring-loaded swivel casters. Top surface is ribbed vinyl. Some assembly is required. **To Order:** Please specify color: beige, black, blue, gray, or red.

Style 8 has cross bracing and a handrail for extra stability. Overall height with handrail is 36″. Top surface is rubber. Some assembly required.

Style 9 are corrosion resistant. They have a reinforced platform. Top surface is vinyl.

	Cap., lbs.	Ht. (A)	Top Wd. (B)	Top Dp. (C)	Base Wd. (D)	Base Dp. (E)		
Plastic								
1	300	13 1/4″	18 1/4″	12 3/8″	18 1/2″	12 1/2″	**46865T11**	$39.57
2	350	15″	19″	21″	23 1/2″	25″	**8040T61**	90.31
Aluminum								
3	300	12″	18″	12″	23″	17″	**8024T76**	158.82
4	500	10″	28 1/8″	11 3/4″	30 3/8″	16″	**8255T12**	114.42
Aluminum with Retractable Casters								
5	300	9″	16″	15″	20″	20″	**5804T51**	133.16
Steel								
6	350	10 1/2″	16″	14″	18 1/2″	16 1/2″	**80135T46**	67.33
6	350	10 1/2″	16″	14″	18 1/2″	16 1/2″	**80135T48**	71.14
Steel with Retractable Casters								
7	350	14″	11″ Dia.	—	16″ Dia.	—	**8124T61**	79.58
Heavy Duty Steel with Handrail								
8	600	9″	17 1/4″	12 1/4″	19 1/2″	15″	**80135T27**	134.94
Type 304 Stainless Steel								
9	400	7 3/4″	18″	12″	17 3/4″	13 1/4″	**7927T61**	252.17
9	400	7 3/4″	30″	12″	30 1/4″	13 1/4″	**7927T63**	300.87

Step Stands

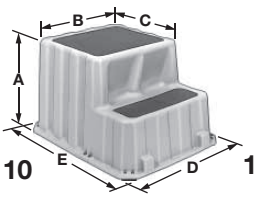

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11&12

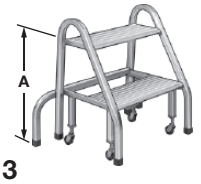

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14&16


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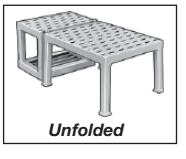


17


18

Stands have nonskid rubber or vinyl feet. *Styles 11-17* meet OSHA requirements.

Style 10 are durable, yellow polyethylene with a nonskid base. *Two-step stand* has urethane-coated steps and a 20″ Wd. × 5″ Dp. lower step. *Three-step stand* has abrasive strips on the steps and a 18¾″ Wd. × 8¾″ Dp. middle step and a 19 7/8″ Wd. × 8¾″ Dp. lower step.

Styles 11 and ***12*** have 3″ deep ribbed aluminum lower steps and molded plastic top steps. *Style 11* is orange and meets ANSI A14.5 Type 1A. Style 12 meets ANSI A14.2 Type 1A.

Style 13 has four spring-loaded swivel casters. Steps have a grooved surface. Lower step is 16″ Wd. × 7 1/2″ Dp. Includes an optional outrigger for added stability (assembly required).

Style 14 have serrated steps. Lower steps are 9 1/2″ deep. *8255T16* requires some assembly.

Style 15 has a hinged top step so it can be folded down to create a 12″ Ht. × 19″ Wd. × 32¾″ Dp. one-step stand. Steps are serrated. Color is yellow.

Styles 16 and ***17*** have serrated steps. Lower steps are 9 1/2″ deep. *8126T5* and *T2* require some assembly. *Style 17* has four spring-loaded swivel casters.

Style 18 is corrosion-resistant stainless steel with vinyl steps. Lower step is 18″ Wd. × 11 1/2″ Dp. Does not meet OSHA requirements.

Note: Number of steps listed in table includes top step.

	Cap., lbs.	Steps	Top Step Ht. (A)	Top Step Wd. (B)	Top Step Dp. (C)	Base Wd. (D)	Base Dp. (E)		
Plastic									
10	350	2	20″	21″	19″	26″	32 1/2″	**8040T64**	$145.93
10	500	3	28 1/4″	17 1/2″	11 1/2″	21″	34″	**8040T25**	184.99
Fiberglass with Plastic Top									
11	300	3	24″	12 3/8″	5 5/8″	17 1/4″	19 1/2″	**8157T11**	73.90
Aluminum with Plastic Top									
12	300	3	24″	12 3/8″	6″	17″	19″	**8120T24**	44.04
Aluminum with Retractable Casters									
13	300	2	19″	16″	7 1/2″	26″	16″	**5804T53**	158.52
Extra-Heavy Duty Aluminum									
14	500	2	20″	20 1/4″	9 1/2″	22 1/2″	22″	**8255T15**	175.36
14	500	3	30″	22 1/2″	9 1/2″	25 3/4″	33″	**8255T16**	273.71
14	500	3	30″	30 3/8″	9 1/2″	32 5/8″	32″	**8255T21**	332.68
Extra-Heavy Duty Aluminum Bifold									
15	600	2	24″	16 1/2″	10 5/8″	19″	20 3/4″	**8255T45**	578.46
Extra-Heavy Duty Steel									
16	500	2	20″	20 1/4″	9 1/2″	22 5/8″	23″	**8126T3**	147.42
16	500	3	30″	22 1/2″	9 1/2″	25 3/4″	33″	**8126T5**	283.32
16	500	3	30″	28 1/2″	9 1/2″	31 3/8″	33″	**8126T2**	337.70
Extra-Heavy Duty Steel with Retractable Casters									
17	500	2	20″	20 1/4″	9 1/2″	22 5/8″	23″	**8126T4**	290.76
Type 304 Stainless Steel									
18	400	2	15 5/8″	18″	11 1/2″	18″	25″	**7927T67**	564.81

Step Stands with Handrails



Handrails give these step stands extra stability. They also have slip-resistant tops and rubber feet.

Steel-Frame Step Stands— Have polypropylene steps. Lower steps are 15″ Wd. × 8″ Dp. Fold for storage. Meet OSHA requirements.

Deep-Step Steel-Frame Step Stand— Has rubber covered steps. Lower step is 17¼″ Wd. × 12¼″ Dp. Some assembly required.

Steel-Frame Step Stands with Casters— Two rigid casters on the front provide easy mobility. Stands have perforated steps. Lower steps are 16″ Wd. × 7″ Dp. Fold for storage. Meet OSHA requirements; 9754T77 does not meet CAL-OSHA requirements and is not available in California.

Aluminum-Frame Step Stands with Casters— Two tilt-to-roll casters on the back allow you to roll stands anywhere. Stands have rubber treads on the steps and plastic feet. Lower steps are 14″ Wd. × 9″ Dp. Fold for storage. *Three-* and *four-step stands* have a tool tray mounted on the handrail. Meet OSHA requirements.

Note: Number of steps listed in table includes top step.

Cap., lbs.	Steps	Top Step Ht. (A)	Top Step Wd. (B)	Top Step Dp. (C)	Base Wd. (D)	Base Dp. (E)	O'all Ht. (F)		
Steel Frame—*ANSI A14.2 Type II*									
225	2	20¼″	15″	9½″	18½″	20¾″	34⅛″	**8254T41**	$48.45
225	3	28″	15″	9½″	18½″	25⅝″	42⅞″	**8254T42**	64.82
Deep-Step Steel Frame									
350	2	17¼″	17¼″	12¼″	17¾″	27″	43″	**4336T51**	200.33
Steel Frame with Casters—*ANSI A14.2 Type 1A*									
300	2	20″	16″	10″	21″	20″	44″	**9754T75**	230.00
300	3	30″	16″	10″	21″	27″	54″	**9754T76**	249.02
300	4	40″	16″	10″	21″	34″	64″	**9754T77**	269.23
Aluminum Frame with Casters—*ANSI A14.2 Type 1A*									
300	2	18″	14″	9″	21″	21¾″	33½″	**8131T67**	123.33
300	3	26½″	14″	9″	22″	33″	50½″	**8131T64**	146.67
300	4	35″	14″	9″	22″	46″	59″	**8131T65**	180.00

Two-Side Access Step Stands

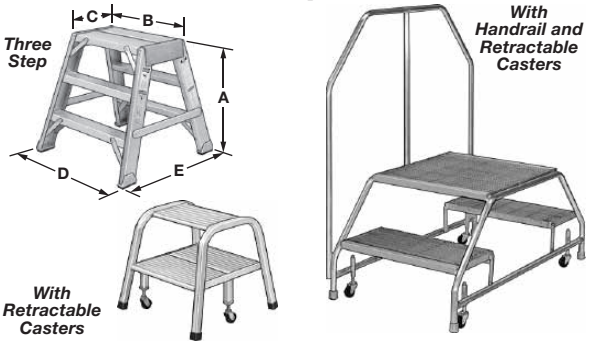

Climb up either side of these nonfolding aluminum step stands. All have slip-resistant tops and rubber feet.

Step Stands— Have ribbed steps. Lower steps are 3″ deep.

Step Stand with Retractable Casters— Moves on three spring-loaded swivel casters. Steps have a grooved surface. Lower step is 15″ deep.

Step Stands with Handrail and Retractable Casters— A handrail provides extra stability while four spring-loaded swivel casters let you roll the stand. Overall height with handrail is 50″. Lower step is 10⅞″ deep.

Note: Number of steps listed in table includes top step.

Cap., lbs.	Steps	Top Step Ht. (A)	Top Step Wd. (B)	Top Step Dp. (C)	Base Wd. (D)	Base Dp. (E)		
Step Stands—*ANSI A14.2 Type 1A*								
300	2	15¼″	18″	10¾″	21⅞″	20¼″	**8076T21**	$138.78
300	3	23″	18″	10¾″	23⅜″	25¼″	**8076T22**	184.16
300	4	30½″	18″	10¾″	25″	30⅛″	**8076T23**	215.09
Step Stand with Retractable Casters—*ANSI A14.2 Type 1A*								
300	2	15″	12″	7½″	17″	18″	**5804T52**	109.67
Step Stands with Handrail and Retractable Casters								
500	2	20″	24″	24″	27⅛″	45½″	**8561T1**	517.13
500	2	20″	24″	39½″	27⅛″	61⅛″	**8561T2**	597.74

Rolling Stairs with Handrails

Rugged enough for a warehouse, yet light enough to easily roll where needed. Stairs are polyethylene with 34″ high steel handrails and two rigid tilt-to-roll casters on the back. Steps have nonskid abrasive strips. The lowest step is 21½″ Wd. × 8½″ Dp. and the middle steps are 17½″ Wd. × 8½″ Dp. Color is yellow.

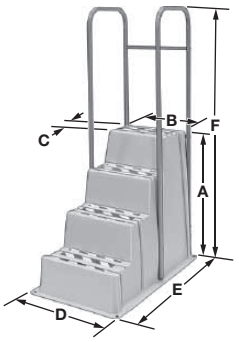

Cap., lbs.	Steps	Top Step Ht. (A)	Top Step Wd. (B)	Top Step Dp. (C)	Base Wd. (D)	Base Dp. (E)	O'all Ht. (F)		
500	4	39½″	18″	11½″	27½″	46″	73½″	**1898T28**	$486.02

Deep-Step Low-Height Step Ladders

These step ladders have ribbed aluminum lower steps that are about twice the depth of other step ladders so they're more comfortable for prolonged standing. Top step is molded plastic with a slip-resistant diamond tread. Fold for storage. Meet OSHA requirements. *Step ladders with handrail and casters* have a handrail and two tilt-to-roll casters on the rear legs to easily move the ladder. ***Fiberglass ladders*** have orange nonconductive fiberglass rails. ***Aluminum ladders*** have aluminum rails.

Note: Number of steps listed in table includes top step.

Cap., lbs.	Steps	Top Step Ht. (A)	Top Step Wd. (B)	Top Step Dp. (C)	Base Wd. (D)	Base Dp. (E)	Step Ladders without Handrail and Casters		Step Ladders with Handrail and Casters Ht. (F)	
Fiberglass										
300	1	13″	14″	9¼″	15″	15⅝″	**79945T61**	$146.22	—	—
300	2	23″	14″	9¼″	17¾″	20⅝″	**79945T62**	178.15	52¼″	**79945T72** $210.72
300	3	34⅜″	14″	9¼″	19¾″	26½″	**79945T63**	216.24	63⅝″	**79945T73** 248.81
300	4	45¾″	14″	9¼″	21¾″	32⅜″	**79945T64**	250.65	75″	**79945T74** 283.81
Aluminum										
300	1	13″	14″	9¼″	15″	15⅝″	**8122T11**	95.19	—	—
300	2	23″	14″	9¼″	17¾″	20⅝″	**8122T12**	125.94	52¼″	**8122T22** 159.09
300	3	34⅜″	14″	9¼″	19¾″	26½″	**8122T13**	155.44	63⅝″	**8122T23** 188.56
300	4	45¾″	14″	9¼″	21¾″	32⅜″	**8122T14**	181.97	75″	**8122T24** 215.05

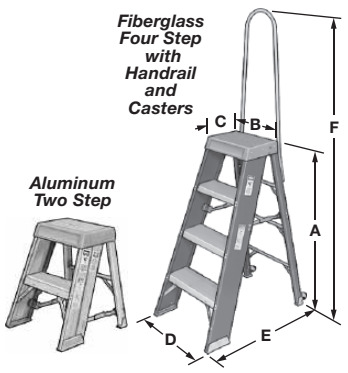

Fiberglass Step Ladders

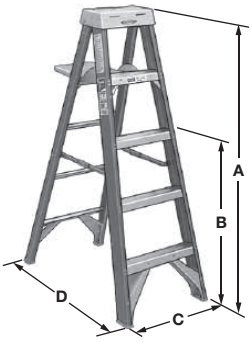

Standard Ladder with Shelf



Big Foot Ladder without Shelf

Rails are nonconductive fiberglass. Ladders fold for storage and have slots in the top to hold your tools. Meet OSHA requirements. ***Big foot ladders*** provide firmer footing than standard ladders on open flooring such as grating.

300-lb. Capacity Step Ladders— Rails are orange. Steps are ribbed aluminum; top is molded plastic.

375-lb. Capacity Step Ladders— Rails are yellow. Steps and top are ribbed aluminum.

500-lb. Capacity Step Ladders— Rails are yellow. Steps and top are aluminum.

Optional Black Pail Shelf— Attaches to all 300- and 375-lb. capacity ladders without a shelf. Hardware is included.

O'all Ht. (A)	Max. Climbing Ht. (B)	Base Wd. (C)	Base Dp. (D)	STANDARD LADDERS Without Shelf		STANDARD LADDERS With Shelf		BIG FOOT LADDERS Without Shelf	
300-lb. Capacity—*ANSI A14.5 Type 1A*									
3′	1′	18 1/8″	23 1/8″	8136T38	$85.13	8136T17	$106.07	8057T71	$111.08
4′	1′11″	19 7/8″	29″	8136T31	97.23	8136T12	113.84	8057T72	129.65
5′	2′10″	21 5/8″	35 1/8″	8136T32	109.95	8136T22	129.64	8057T73	140.90
6′	3′10″	23 3/8″	41 1/4″	8136T33	115.69	8136T13	138.58	8057T74	160.56
7′	4′9″	25 1/8″	47 1/2″	8136T34	147.93	8136T23	172.85	8057T75	186.56
8′	5′9″	26 7/8″	53 5/8″	8136T35	155.94	8136T14	190.50	8057T76	203.91
10′	7′8″	30 3/8″	65 7/8″	8136T36	231.55	8136T15	257.30	8057T77	282.38
12′	9′7″	33 7/8″	78 1/4″	8136T37	289.57	8136T16	311.34	8057T78	347.82
375-lb. Capacity—*ANSI A14.5 Type 1AA*									
3′	1′	19 3/4″	23 1/2″	8141T11	103.27	8141T21	115.01	8144T11	132.74
4′	1′11″	21 1/2″	29 3/4″	8141T12	118.95	8141T22	144.35	8144T12	153.60
5′	2′10″	23 1/4″	35 7/8″	8141T13	139.32	8141T23	161.41	8144T13	173.47
6′	3′10″	25″	42″	8141T14	156.20	8141T24	168.20	8144T14	190.07
8′	5′9″	28 1/2″	54 3/4″	8141T15	204.95	8141T25	224.43	8144T15	246.25
10′	7′8″	32″	66 5/8″	8141T16	282.53	8141T26	292.15	8144T16	311.16
12′	9′7″	35 1/2″	79″	8141T17	342.83	8141T27	352.59	8144T17	392.54
Optional Black Pail Shelf								8112T31	$14.98
500-lb. Capacity									
4′	1′11″	22″	31″	7706T31	540.63				
6′	3′10″	25″	42″	7706T32	621.11				
8′	5′9″	28″	55″	7706T33	754.21				
10′	7′7″	31″	66″	7706T34	927.10				
12′	9′6″	34″	79″	7706T35	1,111.32				

Aluminum Step Ladders

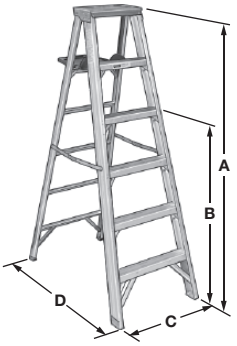

Light and easy to carry, these ladders have a black plastic shelf and slots on the top to hold your tools. Steps are ribbed for slip resistance. Fold for storage. Meet OSHA requirements.

300-lb. Capacity Step Ladders— 3-ft. to 10-ft. ladders have a plastic top; 14-ft. and 16-ft. ladders have an aluminum top.

375-lb. Capacity Step Ladders— Top is aluminum.

O'all Ht. (A)	Max. Climbing Ht. (B)	Base Wd. (C)	Base Dp. (D)		
300-lb. Capacity—*ANSI A14.2 Type 1A*					
3′	1′	17 3/4″	23 3/8″	8114T1	$79.52
4′	1′11″	19 1/2″	29 1/2″	8114T2	93.11
5′	2′10″	21 1/4″	35 3/4″	8114T3	107.34
6′	3′10″	23″	41 7/8″	8114T4	116.97
8′	5′9″	26 1/2″	54 1/4″	8114T5	165.09
10′	7′8″	30″	66 1/2″	8114T9	217.56
14′	11′6″	38 5/8″	91 3/4″	8112T8	457.60
16′	13′5″	42 1/8″	104″	8112T9	583.96
375-lb. Capacity—*ANSI A14.2 Type 1AA*					
4′	1′11″	21 1/4″	30 1/8″	8112T2	148.41
6′	3′10″	24 3/4″	42 1/2″	8112T4	186.41
8′	5′9″	28 1/4″	54 3/4″	8112T5	241.92
10′	7′8″	31 3/4″	67″	8112T6	305.63
12′	9′7″	35 1/4″	79 3/8″	8112T7	376.18

Wood Step Ladders

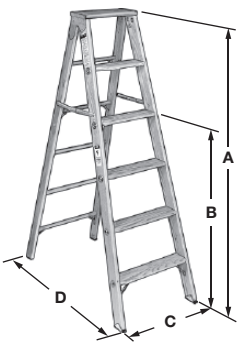

Ladders are solid pine with zinc-plated hardware for corrosion resistance. Steps are grooved and reinforced with a steel rod for strength. Fold for storage. Meet OSHA requirements.

O'all Ht. (A)	Max. Climbing Ht. (B)	Base Wd. (C)	Base Dp. (D)		
300-lb. Capacity—*ANSI A14.1 Type 1A*					
3′	10 1/4″	17 1/4″	25 1/2″	7968T21	$116.70
4′	1′9″	18 3/4″	32 3/4″	7968T22	126.98
5′	2′8″	20″	40″	7968T23	148.78
6′	3′7″	21 1/2″	46 1/4″	7968T24	163.08
8′	5′6″	24″	58 3/4″	7968T26	206.46
10′	7′4″	26 1/2″	72 1/2″	7968T27	257.49

Two-Side Access Step Ladders

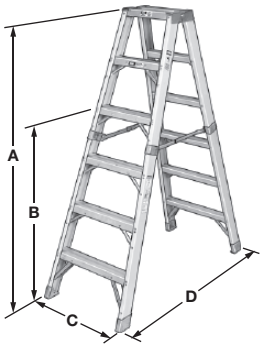

With steps on both sides you can climb from either side or have one person on each side. Steps and top are ribbed aluminum. Ladders fold for storage. Meet OSHA requirements.

Fiberglass Step Ladders— Rails are nonconductive fiberglass. Ladders have orange rails, except the 300-lb. capacity, 7-ft. high ladder has yellow rails.

Aluminum Step Ladders— Rails are aluminum.

O'all Ht. (A)	Max. Climbing Ht. (B)	Base Wd. (C)	Base Dp. (D)		
Fiberglass					
300-lb. Capacity per Side—ANSI A14.5 Type 1A					
4′	2′0″	19 7/8″	36 1/8″	8089T31	$152.85
5′	3′0″	21 5/8″	43 1/8″	8089T32	178.22
6′	4′0″	23 3/8″	50 1/8″	8089T33	207.39
7′	4′9″	23 3/4″	60 1/2″	8089T34	232.22
8′	6′0″	26 7/8″	64 1/8″	8089T35	272.90
10′	8′0″	30 3/8″	78 1/8″	8089T36	343.40
12′	10′0″	33 7/8″	92 1/8″	8089T37	401.01
375-lb. Capacity per Side—ANSI A14.5 Type 1AA					
4′	1′11″	19 5/8″	37 1/2″	8164T12	167.33
5′	2′10″	21 1/8″	44 7/8″	8164T22	192.75
6′	3′9″	22 5/8″	52 3/8″	8164T14	222.40
7′	4′9″	24 1/8″	59 3/4″	8164T23	254.33
8′	5′8″	25 5/8″	67 1/8″	8164T16	291.29
10′	7′7″	28 5/8″	82″	8164T17	364.28
12′	9′6″	31 5/8″	96 3/4″	8164T18	426.36
14′	11′5″	34 5/8″	112″	8164T24	572.72
16′	13′4″	37 5/8″	127″	8164T25	661.09
Aluminum					
300-lb. Capacity per Side—ANSI A14.2 Type 1A					
4′	1′11″	20″	37 5/8″	7957T12	112.36
5′	2′10″	21 1/2″	45″	7957T13	135.43
6′	3′9″	23″	52 3/8″	7957T14	157.31
8′	5′8″	26″	67 1/4″	7957T16	202.51
10′	7′7″	29″	82″	7957T17	275.83
12′	9′6″	31″	98″	7957T18	320.31
14′	11′5″	34″	112″	7957T19	425.15

Platform Step Ladders

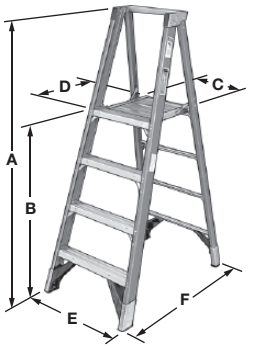

Perfect for prolonged standing, these ladders have a large ribbed aluminum platform that's more comfortable than a step. Steps are also ribbed aluminum. Ladders fold for storage. Meet OSHA requirements.

Fiberglass Step Ladders— Rails are orange nonconductive fiberglass, except rails on the 375-lb. capacity, 12- and 14-ft. high ladders are yellow.

Aluminum Step Ladders— Rails are aluminum.

O'all Ht. (A)	Platform Ht. (B)	Platform Wd. (C)	Platform Dp. (D)	Base Wd. (E)	Base Dp. (F)		
Fiberglass							
300-lb. Capacity—ANSI A14.5 Type 1A							
4′	2′	14 5/8″	15″	23 3/8″	29 3/4″	8119T18	$151.55
5′	3′	15″	17″	23 3/8″	34 1/4″	8119T11	161.16
6′	4′	14 5/8″	15″	26 7/8″	42″	8119T12	185.27
7′	5′	15″	17″	26 1/4″	45 3/4″	8119T13	203.82
8′	6′	14 5/8″	15″	30 3/8″	54 3/4″	8119T14	232.85
10′	8′	14 5/8″	15″	33 7/8″	66 5/8″	8119T15	333.87
12′	10′	14 5/8″	15″	37 3/8″	79″	8119T16	373.69
14′	12′	15″	17″	36 7/8″	86 5/8″	8119T17	453.01
375-lb. Capacity—ANSI A14.5 Type 1AA							
5′	3′	15″	17″	23 3/8″	34 1/4″	8895T31	177.97
6′	4′	14 5/8″	15″	27″	42″	8895T14	211.20
7′	5′	15″	17″	26 3/8″	45 3/4″	8895T32	228.49
8′	6′	14 5/8″	15″	30 1/2″	54 3/8″	8895T16	277.33
10′	8′	14 5/8″	15″	34″	66 5/8″	8895T18	352.17
12′	10′	15″	17″	33 3/8″	75 1/2″	8895T21	398.45
14′	12′	15″	17″	36 1/4″	87 1/2″	8895T22	497.11
Aluminum							
300-lb. Capacity—ANSI A14.2 Type 1A							
4′	2′	12 5/8″	18″	21 1/4″	30″	7928T71	121.30
5′	3′	12 5/8″	18″	23″	36 1/4″	7928T72	135.03
12′	10′	12 5/8″	15″	35 1/4″	79 3/8″	8105T9	426.88
14′	12′	12 5/8″	15″	38 3/4″	91 3/4″	8105T6	561.28
16′	14′	12 5/8″	15″	42 1/4″	104″	8105T7	642.15
375-lb. Capacity—ANSI A14.2 Type 1AA							
6′	4′	12 5/8″	15″	24 3/4″	42 1/8″	8105T2	201.81
8′	6′	12 5/8″	15″	28 1/4″	54 3/4″	8105T3	260.74
10′	8′	12 5/8″	15″	31 3/4″	79 1/2″	8105T4	342.22

Two-Side Access Platform Step Ladders

Two-side access lets you climb on either side or have one person on each side. Platform and steps are ribbed aluminum. Ladders fold for storage. Meet OSHA requirements.

Ladders with casters have four spring-loaded swivel casters.

Fiberglass Step Ladders—*250-lb. capacity per side* have blue nonconductive fiberglass rails; *300-lb. capacity per side* have orange nonconductive fiberglass rails.

Aluminum Step Ladders— Rails are aluminum.

O'all Ht. (A)	Platform Ht. (B)	Platform Wd. (C)	Platform Dp. (D)	Base Wd. (E)	Base Dp. (F)	Step Ladders without Casters		Step Ladders with Casters	
Fiberglass									
250-lb. Capacity per Side—ANSI A14.5 Type 1									
4′	2′	12 3/4″	22″	20″	36 1/2″	80285T51	$203.97	80285T57	$282.52
5′	3′	12 3/4″	22″	21 1/2″	48 3/4″	80285T52	225.42	80285T58	304.89
300-lb. Capacity per Side—ANSI A14.5 Type 1A									
6′	4′	12 3/4″	22″	25 1/4″	50″	80285T21	283.05	80285T31	344.70
8′	6′	12 3/4″	22″	28 3/4″	64″	80285T22	353.40	80285T32	413.40
10′	8′	12 3/4″	22″	32 1/4″	78 1/4″	80285T23	415.32	80285T33	484.37
12′	10′	12 3/4″	22″	35 3/4″	92 1/4″	80285T65	461.32	80285T66	563.52
Aluminum									
300-lb. Capacity per Side—ANSI A14.2 Type 1A									
6′	4′	12 3/4″	22″	24 3/4″	50 1/2″	79905T33	241.66	79905T39	319.61
8′	6′	12 3/4″	22″	28 1/4″	65 1/4″	79905T34	283.01	79905T41	366.15
10′	8′	12 3/4″	22″	31 3/4″	81 1/2″	79905T35	382.81	79905T42	466.45
12′	10′	12 3/4″	22″	34 1/4″	96″	79905T36	442.18	79905T43	533.17

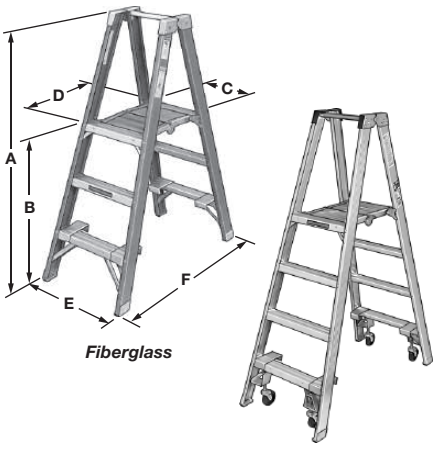

Fiberglass

Aluminum with Casters

Ladder Shoes

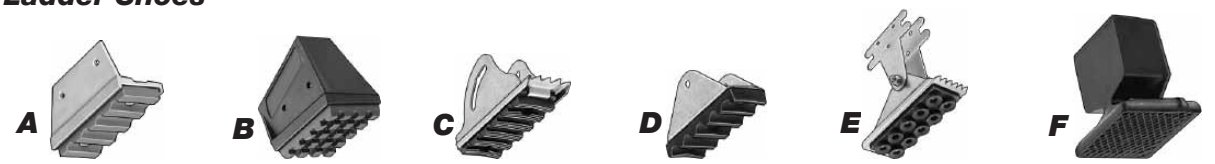

All include mounting hardware where needed. ***Shoes for step ladders*** include four shoes per set; ***shoes for straight and extension ladders*** include two shoes per set. Style D shoes for the back rail fit 2⅜″ deep rails. **Also Available:** More shoes for fiberglass and aluminum ladders. Please ask for 7717T888 and specify ladder manufacturer's model/series number.

Shoes for Fiberglass and Aluminum Ladders

	Mfr.	Mfr. No.	For Fiberglass Ladders Set	For Aluminum Ladders Set
For Step Ladders				
A	Werner	21-7	7717T21 $35.58	7717T21 $35.58
A	Werner	21-8	7717T22 29.33	— —
A	Werner	21-10	7717T23 20.35	7717T23 20.35
B	Louisville	PK136A	7717T37 34.33	7717T37 34.33
For Straight and Extension Ladders				
C	Werner	26-2	— —	7717T25 38.56
C	Werner	26-5	7717T27 40.18	7717T27 40.18

Shoes for Wood Ladders

	Fits Rail Size Wd.	Dp.	Set
For Step Ladders			
D	⅞″	3½″	8186T12 $8.49
D	1⅛″	3½″	8186T16 8.49
For Straight and Extension Ladders			
D	⅞″	3¼″	8232T12 9.61
D	1″	3¼″	8232T14 9.61
D	1⅛″	3¼″	8232T16 9.61
D	1⅜″	3″	8016T1 12.22
E	1⅜″	3″	8013T1 36.44
F	1⅜″	2¾″	8012T18 19.48

Ladder Levelers and Stabilizers

Ladder Levelers



Keep your ladder level even when the surface isn't. Leveler adjusts one side of most Type I, IA, and IAA fiberglass and aluminum extension ladders by up to 10″. A foot lock allows for hands-free operation. Leveler is aluminum and has a heavy duty swivel ladder shoe.

7948T65 ..... **Each** $123.62

Rolling Roof Hooks



Roll your ladder to a roof's peak. Then flip the ladder over and the steel hooks hold it in place. Use with straight and extension ladders with round and D-rungs.

8204T73 ..... **Pair** $78.80

Ladder Cable Hooks



Attach these hooks to keep your ladder stable on cable and wire rope. Hooks are aluminum and work with extension and straight ladders.

For Aluminum Ladders... 80205T75 **Pair** $59.42
For Fiberglass Ladders... 80205T77 **Pair** 43.55

Ladder Safety Tie-Off



Secure your ladder to any diameter pole to keep it stable. Made of nylon, tie-off is 23 ft. long and has buckles to tighten it securely to the pole and your ladder. Use with straight and extension ladders up to 40 ft. high.

2209T71 ..... **Each** $75.86

Ladder Accessories

Ladder Standoffs

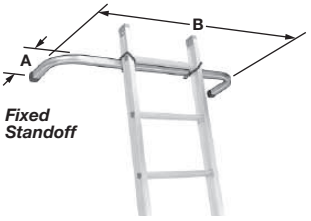

Secure straight and extension ladders at a comfortable distance from the supporting surface. Made of aluminum, standoffs have protective tips to prevent scuffs and scrapes. For use on flat surfaces.

Adjustable standoff adjusts in 2″ increments.

	Standoff Distance (A)	Span (B)	Each
Fixed Standoff	12″	48″	7970T63 $33.82
Adjustable Standoff	13″ to 25″	48″	7970T64 60.83

Ladder Rail Caps



Protect supporting surfaces from damage with these PVC caps. Use with straight and extension ladders. Fit rail ends approximately 3″ to 3¼″ × 1″ to 1¼″.

80195T6 ..... **Pair** $11.47

Ladder Dolly



Easily roll ladders anywhere. Dolly secures temporarily through a rung of most aluminum and fiberglass extension ladders up to 40 ft. Can be used on rugged terrain. Wheels are polypropylene.

7740T59 ..... **Each** $121.43

Sectional Fiberglass Ladders

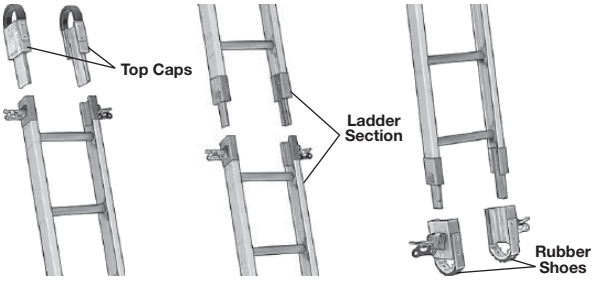

Add or remove sections to make a ladder up to 18 ft. high. Each ladder section is 6 ft. high and you can join up to three sections. Insert the bottom rails into the top rails and secure them with the included tension clamps. Quick assembly and disassembly makes the ladders easier to transport and store than other straight ladders. Rungs are round, ribbed aluminum; rails are yellow nonconductive fiberglass. Meet OSHA requirements.

Note: Two top caps and two shoes are required to complete each ladder.

Ht.	Base Wd.	
250-lb. Capacity—*ANSI A14.5 Type 1*		
6′ Section	12″	7951T35 $152.07
Top Cap (Two Required)		7951T31 31.17
Rubber Shoe (Two Required)		7951T32 31.58

Ladders

Always ready for use without unfolding or adjusting, these straight ladders meet OSHA requirements.

Fiberglass Ladders— Have nonconductive fiberglass rails. *300-lb. capacity* ladders have orange rails and flat, ribbed aluminum rungs. *375-lb. capacity* ladders have yellow rails and round, ribbed aluminum rungs.

Aluminum Ladders— Have aluminum rails and flat, ribbed aluminum rungs.

Wood Ladders— Have wood rails and round steel-reinforced wood rungs.

Fiberglass Ladders with Flared Base— All have a wider base for increased stability. Rails are red nonconductive fiberglass. Rungs are flat, ribbed aluminum.



Aluminum ***Fiberglass with Flared Base***

O'all Ht.	Base Wd.		
Fiberglass			
300-lb. Capacity— *ANSI A14.5 Type 1A*			
8′	19″	**8011T72**	$145.35
10′	19″	**8011T73**	175.47
12′	19″	**8011T74**	193.86
14′	19″	**8011T75**	221.46
16′	19″	**8011T76**	257.70
20′	19″	**8011T78**	316.76
375-lb. Capacity— *ANSI A14.5 Type 1AA*			
8′	19″	**7742T51**	188.17
10′	19″	**7742T52**	221.25
12′	19″	**7742T53**	259.75
14′	19″	**7742T54**	278.78
16′	19″	**7742T55**	317.04
Aluminum			
300-lb. Capacity— *ANSI A14.2 Type 1A*			
8′	18 1/8″	**8007T21**	124.08
10′	18 1/8″	**8007T22**	136.05
12′	18 1/8″	**8007T23**	164.51
14′	18 1/8″	**8007T24**	209.67
16′	18 1/8″	**8007T25**	258.78
18′	18 1/8″	**8007T26**	294.58

O'all Ht.	Base Wd.		
Aluminum (Cont.)			
300-lb. Capacity— *ANSI A14.2 Type 1A (Cont.)*			
20′	18 1/8″	**8007T27**	$357.30
24′	20 5/8″	**8007T8**	469.34
Wood			
300-lb. Capacity— *ANSI A14.1 Type 1A*			
6′	15 3/4″	**8167T21**	149.02
8′	15 3/4″	**8167T22**	204.56
10′	15 3/4″	**8167T23**	263.41
12′	15 3/4″	**8167T24**	332.89
14′	15 3/4″	**8167T25**	380.87
16′	15 3/4″	**8167T26**	443.56
20′	15 3/4″	**8167T28**	839.16
Fiberglass with Flared Base			
300-lb. Capacity— *ANSI A14.5 Type 1A*			
8′	23″	**8000T34**	278.00
10′	23″	**8000T36**	324.00
12′	25 1/2″	**8000T38**	370.00
14′	25 1/2″	**8000T42**	416.00
16′	25 1/2″	**8000T44**	459.24
18′	25 1/2″	**8000T46**	508.00
20′	28 1/2″	**8000T48**	596.00

Narrow-Width Ladders



Fiberglass



Aluminum

Ideal for getting in and out of tight, narrow places, these ladders are also known as manhole ladders. Rungs are round, ribbed aluminum. Meet OSHA requirements.

Fiberglass Ladders— Ladders have 3-ft. long plastic rail sleeves at the top to prevent damage to rails. They also have plastic hoop ends to easily pull ladder up. Rails are yellow nonconductive fiberglass.

Aluminum Ladders— Have aluminum rails.

O'all Ht.	Base Wd.		
Fiberglass			
375-lb. Capacity— *ANSI A14.5 Type 1AA*			
8′	12 3/8″	**7540T41**	$187.29
10′	12 3/8″	**7540T43**	214.02
12′	12 3/8″	**7540T45**	244.14
14′	12 3/8″	**7540T47**	265.73
16′	12 3/8″	**7540T49**	314.88
Aluminum			
300-lb. Capacity— *ANSI A14.2 Type 1A*			
6′	12″	**5458T41**	117.30
8′	12″	**5458T42**	156.67
10′	12″	**5458T43**	195.83
12′	12″	**5458T44**	234.61
14′	12″	**5458T45**	274.17
16′	12″	**5458T46**	310.74
20′	12″	**5458T47**	388.43

Ladders with Rubber Bumpers

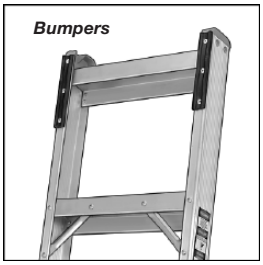



Aluminum

Also known as shelf ladders, these have rubber bumpers that extend 6″ down from the top of the rails to protect surfaces from scrapes and damage. Rungs are flat, ribbed aluminum. Meet OSHA requirements.

Fiberglass Ladders— Rails are orange nonconductive fiberglass.

Aluminum Ladders— Rails are aluminum.

O'all Ht.	Base Wd.		
Fiberglass			
300-lb. Capacity— *ANSI A14.5 Type 1A*			
4′	15 1/4″	**7987T11**	$84.83
5′	15 1/4″	**7987T12**	102.80
6′	15 1/4″	**7987T13**	114.31
7′	15 1/4″	**7987T14**	135.21
8′	15 1/4″	**7987T15**	149.50
10′	15 1/4″	**7987T17**	182.43
12′	15 1/4″	**7987T18**	216.90
Aluminum			
300-lb. Capacity— *ANSI A14.2 Type 1A*			
4′	15 1/4″	**8129T11**	75.56
5′	15 1/4″	**8129T12**	88.65
6′	15 1/4″	**8129T13**	101.38
7′	15 1/4″	**8129T14**	120.63
8′	15 1/4″	**8129T15**	135.16
10′	15 1/4″	**8129T17**	152.05
12′	15 1/4″	**8129T18**	179.08

Fiberglass Extension Ladders



Adjust these ladders to the height you need. They have two equal-length, movable sections and spring-loaded locks to keep the raised section securely in place after adjustment. Ladders have yellow nonconductive fiberglass rails, except the 300-lb. capacity ladders with aluminum rungs which are orange. Meet OSHA requirements.

Fiberglass rungs are yellow, round, and ribbed.
Aluminum rungs are flat and ribbed.

O'all Ht.	Max. Extended Ht.	Base Wd.		
With Fiberglass Rungs				
300-lb. Capacity—*ANSI A14.5 Type 1A*				
16′	13′	18⅜″	**8086T11**	$498.92
20′	17′	18⅜″	**8086T12**	621.24
24′	21′	18⅜″	**8086T13**	746.83
28′	25′	18⅜″	**8086T14**	871.52
32′	29′	18⅜″	**8086T16**	996.23
With Aluminum Rungs				
300-lb. Capacity—*ANSI A14.5 Type 1A*				
16′	13′	19″	**8269T12**	248.08
20′	17′	19″	**8269T14**	282.85
24′	21′	19″	**8269T16**	326.95
28′	25′	19″	**8269T18**	402.27
32′	29′	19″	**8269T24**	477.55
36′	32′	19″	**8269T26**	553.98
40′	35′	19″	**8269T28**	651.93
375-lb. Capacity—*ANSI A14.5 Type 1AA*				
16′	13′	19″	**8574T12**	306.60
20′	17′	19″	**8574T14**	363.08
24′	21′	19″	**8574T16**	445.04
28′	25′	19″	**8574T18**	491.88
32′	29′	19″	**8574T21**	615.65

Aluminum Extension Ladders



Lighter in weight than fiberglass extension ladders, aluminum ladders are easier to carry. Ladders have two equal-length, movable sections that adjust to create the ladder height you need. Spring-loaded locks keep the raised section securely in place after adjustment. All have flat, ribbed rungs. Meet OSHA requirements.

O'all Ht.	Max. Extended Ht.	Base Wd.		
300-lb. Capacity—*ANSI A14.2 Type 1A*				
16′	13′	18⅛″	**7954T41**	$231.48
20′	17′	18⅛″	**7954T42**	259.20
24′	21′	18⅛″	**7954T43**	313.10
28′	25′	18⅛″	**7954T44**	366.65
32′	29′	18⅛″	**7954T45**	448.95
36′	32′	18⅛″	**7954T46**	570.68
40′	35′	18⅛″	**7954T47**	644.92

Telescoping Extension Ladders



Get multiple heights in one ladder. Ladders extend and lock in 1-ft. increments to give you the exact height you need. To close the ladder, pinch tabs on the second rung to release the locking mechanism and then slide each section down one by one. When closed, these aluminum ladders are smaller and easier to carry and store than ordinary extension ladders.

Rungs are grooved and have a stainless steel spring-loaded pin that automatically locks ladder in place. Nonskid feet and top bumpers protect against scratches.

Extended Ht.	Closed Ht.	Base Wd.		
250-lb. Capacity—*ANSI A14.2 Type 1*				
10′6″	2′6″	18″	**8148T7**	$257.25
300-lb. Capacity—*ANSI A14.2 Type 1A*				
12′6″	2′8″	18″	**8148T9**	352.20

Aluminum Multifunction Ladders







Plank not included.



Plank not included.

Get multiple ladders in one. Locking hinges let these ladders adjust into a step ladder, a straight ladder, a stairwell ladder, or a scaffold. Use with 2″ Thick. × 12″ Wd. planks (not included) when in scaffold position. Ladders have rectangular, ribbed rungs. Meet OSHA requirements.

Overall Height: Step Ladder	Straight Ladder	Scaffold	Base Wd.		
300-lb. Capacity—*ANSI A14.2 Type 1A*					
6′	12′	3′	24¾″	**8152T11**	$237.17
8′	16′	4′	28⅝″	**8152T12**	279.25

Telescoping Multifunction Ladders

375-lb. capacity ladder pictured.







Easily configure these ladders into a step ladder, a straight ladder, a stairwell ladder, or two scaffolding stands. Ladders consist of a straight inner ladder and a flared-base outer ladder, connected with hinge locks. When used as scaffolding stands, use with 12″ wide planks placed at 3 ft. from the ladder base. When used as scaffolding stands, fiberglass ladders require brackets, sold separately. Meet OSHA requirements.

Fiberglass Ladders—Have black nonconductive fiberglass rails and ribbed aluminum rungs. All include two wheels for mobility.

Aluminum Ladders—Have aluminum rails and ribbed aluminum rungs. *300-lb. capacity* ladder includes two wheels for mobility.

Overall Height: Step Ladder	Straight Ladder	Scaffold	Base Wd.		Each
300-lb. Capacity Fiberglass—*ANSI A14.5 Type 1A*					
4′- 7′	9′-15′	Up to 4′	29″	**8034T72**	$505.71
5′- 9′	11′-19′	Up to 5′	29″	**8034T73**	735.71
300-lb. Capacity Aluminum—*ANSI A14.2 Type 1A*					
6′-11′	13′-23′	Up to 6′	31″	**8034T59**	427.14
375-lb. Capacity Fiberglass—*ANSI A14.5 Type 1AA*					
3′- 5′	7′-11′	Up to 3′	29″	**8034T61**	406.96
375-lb. Capacity Aluminum—*ANSI A14.2 Type 1AA*					
3′- 5′	6′-10′	Up to 3′	24″	**8034T74**	324.29
4′- 7′	8′-14′	Up to 4′	24″	**8034T57**	354.29
5′- 9′	10′-18′	Up to 5′	27″	**8034T58**	387.14
Brackets for Fiberglass Ladders				**8034T81** **Pair**	$20.00

Steel Hook-Top Sectional Ladders

Ladders consist of multiple 3-ft. sections that slide apart for use. Pull the cord and slide sections back together for easy carrying and storage. Ladders must be fully extended for use.

All are tubular steel with a gray finish. They have flat, perforated rungs. Ladders hang from two 6¾″ deep hooks at the top. Standoffs on each section provide 3⅜″ of toe room. Capacity is 250 lbs.



Extended Height	No. of Sections	Base Wd.		
6′	2	14¾″	8192T61■	$467.59
9′	3	14¾″	8192T62	683.08
12′	4	14¾″	8192T63	915.52
15′	5	14¾″	8192T64	1,113.00

■ Due to shorter length, ladder does not have a retrieval cord.

Steel Hook-Top Ladders

Double side rails give these hanging ladders stability and 3⅜″ of toe room. Ladders are tubular steel with a gray finish. A 5¼″ deep hook along the top holds ladders in place. Rungs are flat and perforated. Capacity is 300 lbs. Meet OSHA requirements.

Optional swivel safety shoes are recommended when using ladders on floors. Mounting hardware is included.



Shown with Optional Safety Shoes

O'all Ht.	Base Wd.		Each
7′	14¾″	8100T31	$306.59
10′	14¾″	8100T32	462.00
12′	14¾″	8100T33	518.00
15′	14¾″	8100T34	598.02
Optional Swivel Safety Shoes		8100T41 Pair	$177.23

Aluminum Hook-Top Ladders

These ladders have two 8″ deep hooks at the top to hold them in place; hooks fold inward for storage. They have aluminum channel rails and ribbed, round rungs. Aluminum offset brackets provide 2½″ of toe room at the top and 6¾″ of toe room at the bottom. Capacity is 500 lbs. Meet OSHA requirements.

Optional swivel safety shoes are recommended when using ladders on floors. Mounting hardware is included.



Shown with Optional Safety Shoes

O'all Ht.	Base Wd.		Each
6′	18½″	7955T36	$290.33
10′	18½″	7955T38	405.42
12′	18½″	7955T42	475.53
14′	18½″	7955T44	533.68
20′	18½″	7955T51	722.35
Optional Swivel Safety Shoes		7955T53 Pair	$41.17

Nylon Rope Ladders with Wood Rungs

Attach one of these ladders to a fixed object and drop it into a tank, manhole, pit, or temporary work area. They're lightweight so you can easily carry them anywhere.

Ladders consist of ⅝″ diameter nylon rope connected to 15″ wide hardwood oval rungs. The ladder top has either two 3″ ID loop ends or two 1″ ID×5¾″ Ht. locking snap hooks. Overall width is 15″. Capacity is 300 lbs.



Ladder with Loop Ends



Ladder with Snap Hooks

Lg.	With Loop Ends		With Snap Hooks	
10′	8195T51	$126.36	8195T91	$162.42
12′	8195T52	148.25	8195T92	186.11
15′	8195T53	181.09	8195T93	221.66
20′	8195T54	227.36	8195T94	280.90
25′	8195T55	290.53	8195T95	331.76
30′	8195T56	345.27	8195T96	399.33
40′	8195T57	454.71	8195T97	517.87
50′	8195T58	564.16	8195T98	636.37

Dual-Rung Chain Ladders

Tough and portable, ladders have steps made of two rungs with a space between and ¾″ Thick.× 3″ ID rings on the top and bottom. Overall step depth is 4⅞″. Ladders are made with nonkinking, lock-link chain. Capacity is 500 lbs.

Steel Ladders— Rungs are zinc-plated steel; chains and fittings are galvanized steel. Overall width is 15½″.

Aluminum Ladders— Rungs, chains, and fittings are aluminum. Overall width is 19¼″.



Lg.	Steel		Aluminum	
15′	7999T322	$1,197.74	7999T11	$1,441.70
20′	7999T321	1,597.74	7999T1	2,106.24
25′	7999T323	1,875.00	7999T13	2,632.80
40′	7999T326	2,998.59	7999T4	3,942.03

Emergency Escape Permanent-Mount Chain Ladders

In case of emergency, have your escape ladder ready. Ladders bolt to the floor near a window and store inside the included 13″ Wd.×7″ Dp.×12″ Ht. metal box. They are made of steel with galvanized double-loop chain, standoffs, and round rungs. Standoffs provide 4⅜″ of toe room. Overall width is 14″. Mounting hardware is included. Capacity is 250 lbs.

Note: For emergency use only.



Lg.	Building Stories		
15′	2	8067T1	$123.33
25′	3	8067T2	141.67
35′	4	8067T3	165.00

Unassembled Fiberglass Rolling Platform Ladders

Mobility is combined with the nonconductive, noncorrosive benefits of fiberglass. Ladders have a yellow fiberglass platform and side rails, 1″ OD steel handrails and bracing bars, ribbed aluminum steps, and a steel base. Platform has a nonskid coating and a 4″ high toeboard on three sides. Handrails are coated with a nonconductive plastic.

Ladder with six steps has two locking swivel casters in front and two rigid casters in back; all other ladders have two locking swivel casters in front, two rigid casters in the center, and two rigid casters in back. Assembly required. Capacity is 300 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

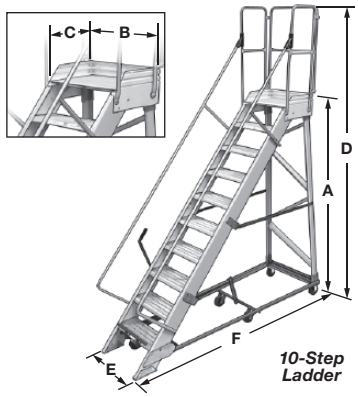

10-Step Ladder

Platform Ht. (A)	Platform Wd. (B)	Platform Dp. (C)	Steps Including Platform	Overall Ht. (D)	Overall Wd. (E)	Overall Dp. (F)		
4′9½″	24″	17″	6	8′4″	33″	72″	80785T12	$2,147.57
6′4½″	24″	17″	8	9′11″	33″	89″	80785T14	2,785.15
7′11½″	24″	17″	10	11′6″	33″	107″	80785T26★	2,997.90
9′6½″	24″	17″	12	13′	37″	124″	80785T28★	3,194.25

★ Supplied with an outrigger to comply with CAL-OSHA. Overall width with outrigger is 42″.

Steel Rolling Platform Ladders with Perforated Steps

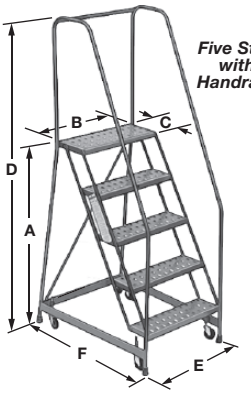


Perforated

Platform and steps are perforated for good slip resistance. Ladders have a gray finish. Ladders *with spring-loaded retractable casters* include four swivel casters; *step-lock* ladders include two swivel and two rigid casters. Capacity is 450 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

To Order: For replacement retractable casters, please specify platform width and number of steps.

Platform Ht. (A)	Platform Wd. (B)	Platform Dp. (C)	Steps Including Platform	Overall Ht. (D)	Overall Wd. (E)	Overall Dp. (F)		
With Handrails								
With Spring-Loaded Retractable Casters*—*Assembled								
1′8″	24″	9½″	2	3′8″	27″	19″	8039T37	$173.95
2′6″	24″	9½″	3	4′6″	29″	27″	8039T38	211.47
3′4″	24″	9½″	4	5′10″	29″	33″	8039T39	240.29
4′2″	24″	9½″	5	7′10″	29″	40″	8039T41	331.43
4′2″	30″	9½″	5	7′10″	33″	40″	8039T42	432.15
5′	24″	9½″	6	8′8″	29″	47″	8039T43	367.22
5′	30″	9½″	6	8′8″	33″	47″	8039T44	472.69
5′10″	24″	9½″	7	9′6″	29″	54″	8039T45	402.75
Replacement Retractable Casters (Set of Four)							80105T32	56.47
Step-Lock with Casters*—*Assembled								
6′8″	24″	9½″	8	10′4″	33″	56″	8039T47	544.98
7′6″	24″	9½″	9	11′2″	33″	63″	8039T49	644.98
Replacement Casters (Set of Four)							80105T11	69.51
Step-Lock with Casters*—*Unassembled								
8′4″	24″	9½″	10	11′	33″	69″	8039T52■	676.83
10′	24″	9½″	12	13′7″	33″	82″	8039T56■	802.84
11′8″	30″	9½″	14	14′9″	39″	94″	8039T62■	1,197.06
13′4″	30″	9½″	16	16′5″	41″	113″	8039T66■	1,421.46
Replacement Casters (Set of Four)							80105T11	69.51
Without Handrails								
With Spring-Loaded Retractable Casters*—*Assembled								
1′8″	16″	9½″	2	1′8″	21″	19″	8039T31	116.32
1′8″	24″	9½″	2	1′8″	27″	19″	8039T32	143.00
2′6″	16″	9½″	3	2′6″	21″	27″	8039T33	138.05
2′6″	24″	9½″	3	2′6″	29″	27″	8039T34	191.35
3′4″	16″	9½″	4	3′4″	21″	36″	8039T35★	199.40
3′4″	24″	9½″	4	3′4″	29″	36″	8039T36★	221.55
Replacement Retractable Casters (Set of Four)							80105T32	56.47

■ Does not meet CAL-OSHA requirements. For ladders available in California, order 8039T1 and specify platform height.
★ Does not meet CAL-OSHA requirements. Not available in California.

Steel Rolling Platform Ladders with Expanded Metal Steps

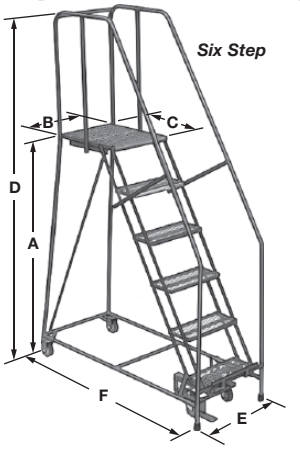

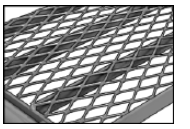
Expanded Metal

An expanded metal platform and steps provide good slip resistance and an open-grid design for drainage. Ladders have a gray finish. Ladders *with spring-loaded retractable casters* include four swivel casters; *step-lock* ladders include two swivel and two rigid casters. Capacity is 450 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

Platform Ht. (A)	Platform Wd. (B)	Platform Dp. (C)	Steps Including Platform	Overall Ht. (D)	Overall Wd. (E)	Overall Dp. (F)		
With Spring-Loaded Retractable Casters*—*Assembled								
1′8″	24″	20″	2	4′2″	26″	29″	8188T44	$234.10
2′6″	16″	10″	3	5′	20″	26″	8188T83	192.26
2′6″	24″	20″	3	5′	30″	36″	8188T45	256.17
3′4″	24″	20″	4	5′10″	30″	41″	8188T46	298.04
3′4″	24″	30″	4	5′10″	30″	51″	8188T24	342.53
Replacement Retractable Caster							80105T72	19.84
Step-Lock with Casters*—*Assembled								
4′2″	16″	10″	5	7′8″	20″	40″	8188T87	370.60
4′2″	24″	20″	5	7′8″	30″	50″	8188T14	419.25
4′2″	24″	30″	5	7′8″	30″	60″	8188T15	468.93
5′	16″	20″	6	8′6″	24″	56″	8188T31	511.45
5′	24″	20″	6	8′6″	30″	56″	8188T33	546.18
5′	24″	30″	6	8′6″	30″	66″	8188T34	597.74
5′10″	16″	20″	7	9′4″	24″	63″	8188T35	529.33
5′10″	24″	20″	7	9′4″	30″	63″	8188T37	589.65
5′10″	24″	30″	7	9′4″	30″	73″	8188T38	637.24
6′8″	24″	20″	8	10′2″	32″	68″	8188T52	697.74
6′8″	24″	30″	8	10′2″	32″	78″	8188T53	777.65
7′6″	24″	20″	9	11′	32″	75″	8188T56	737.43
7′6″	24″	30″	9	11′	32″	85″	8188T57	822.41
Replacement Swivel Caster							80105T63	16.16
Replacement Wheel for Rigid Caster							80105T62	22.39
Step-Lock with Casters*—*Unassembled								
8′4″	24″	20″	10	10′10″	32″	84″	8188T92♣	867.48
8′4″	24″	30″	10	10′10″	32″	92″	8188T93♣	971.89
10′	24″	20″	12	13′6″	32″	98″	8188T94♣	1,084.83
10′	24″	30″	12	13′6″	32″	108″	8188T95♣	1,145.13
Replacement Swivel Caster							80105T63	16.16
Replacement Wheel for Rigid Caster							80105T62	22.39

♣ Does not meet CAL-OSHA requirements. For ladders available in California, order 8188T1 and specify platform height and depth.

Steel Rolling Platform Ladders with Rubber-Covered Steps

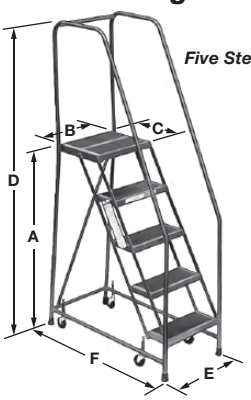

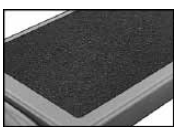
Rubber Covered

Get comfort and slip resistance with rubber-covered platform and steps. Ladders have a gray finish. Ladders *with spring-loaded retractable casters* include four swivel casters; *step-lock* ladders include two swivel and two rigid casters. Capacity is 450 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

To Order: For replacement retractable casters, please specify platform width and number of steps.

Platform Ht. (A)	Platform Wd. (B)	Platform Dp. (C)	Steps Including Platform	Overall Ht. (D)	Overall Wd. (E)	Overall Dp. (F)		
With Spring-Loaded Retractable Casters*—*Assembled								
1′8″	24″	14″	2	3′8″	27″	24″	8103T43	$194.81
2′6″	16″	14″	3	4′6″	21″	31″	8103T47	215.83
2′6″	24″	14″	3	4′6″	29″	31″	8103T49	227.53
3′4″	16″	14″	4	5′10″	21″	40″	8103T53	257.22
3′4″	24″	14″	4	5′10″	29″	40″	8103T55	303.67
4′2″	17″	14″	5	7′10″	21″	47″	8103T58	351.09
4′2″	24″	14″	5	7′10″	29″	47″	8103T61	408.93
Repl. Retractable Casters (Set of Four)							80105T32	56.47
Step-Lock with Casters*—*Assembled								
5′	17″	14″	6	8′8″	23″	53″	8103T64	383.57
5′	24″	14″	6	8′8″	29″	53″	8103T66	454.76
5′10″	17″	14″	7	9′6″	23″	55″	8103T69	438.95
5′10″	24″	14″	7	9′6″	29″	55″	8103T72	498.69
6′8″	24″	14″	8	10′4″	32″	60″	8103T73	641.16
Repl. Casters (Set of Four)							80105T11	69.51
Step-Lock with Casters*—*Unassembled								
8′4″	24″	14″	10	11′	33″	76″	8103T77▲	797.74
10′	24″	14″	12	13′	33″	89″	8103T79▲	937.53
Repl. Casters (Set of Four)							80105T11	69.51

▲ Does not meet CAL-OSHA requirements. For ladders available in California, order 8103T83 and specify platform height.

Steel Rolling Platform Ladders with Serrated Steps

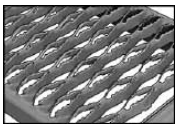

Serrated

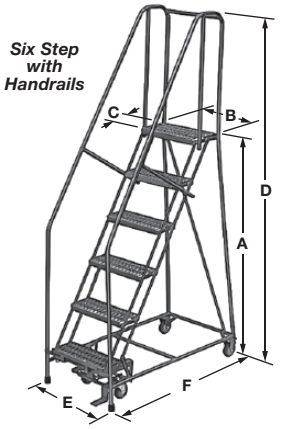

For maximum slip resistance, the platform and steps are serrated. Ladders have a gray finish. Ladders *with spring-loaded retractable casters* include four swivel casters; *step-lock* ladders lock in place and include two swivel and two rigid casters.

Shipped assembled. Capacity is 450 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

Platform Ht. (A)	Wd. (B)	Dp. (C)	Steps Including Platform	Overall Ht. (D)	Wd. (E)	Dp. (F)		
With Handrails								
With Spring-Loaded Retractable Casters								
1′8″	16″	10″	2	4′2″	18″	18″	8106T81	$178.51
1′8″	24″	10″	2	4′2″	26″	18″	8106T82	199.74
2′6″	16″	10″	3	5′	20″	26″	8106T83	229.67
2′6″	24″	10″	3	5′	30″	26″	8106T84	255.98
2′6″	24″	20″	3	5′	30″	36″	8106T318	363.24
2′6″	24″	30″	3	5′	30″	46″	8106T35	412.33
3′4″	16″	10″	4	5′10″	20″	31″	8106T85	266.09
3′4″	24″	10″	4	5′10″	30″	31″	8106T86	328.84
3′4″	24″	20″	4	5′10″	30″	41″	8106T319	422.66
3′4″	24″	30″	4	5′10″	30″	51″	8106T36	475.05
Replacement Retractable Caster							80105T72	19.84
Step-Lock with Casters								
4′2″	16″	10″	5	7′8″	20″	40″	8106T587	390.05
4′2″	24″	10″	5	7′8″	30″	40″	8106T588	511.47
4′2″	24″	20″	5	7′8″	30″	50″	8106T321	558.02
4′2″	24″	30″	5	7′8″	30″	60″	8106T537	598.49
5′	16″	10″	6	8′6″	24″	46″	8106T22	497.31
5′	24″	10″	6	8′6″	30″	46″	8106T23	560.05
5′	24″	20″	6	8′6″	30″	56″	8106T412	649.09
5′	24″	30″	6	8′6″	30″	66″	8106T38	786.69
5′10″	16″	10″	7	9′4″	24″	53″	8106T24	547.91
5′10″	24″	10″	7	9′4″	30″	53″	8106T25	612.65
5′10″	24″	20″	7	9′4″	30″	63″	8106T413	712.84
5′10″	24″	30″	7	9′4″	30″	73″	8106T39	838.31
6′8″	16″	10″	8	9′2″	24″	58″	8106T49★	647.05
6′8″	24″	10″	8	10′2″	32″	58″	8106T26	744.20
6′8″	24″	20″	8	10′2″	32″	68″	8106T414	888.89
6′8″	24″	30″	8	10′2″	32″	78″	8106T311	913.18
7′6″	16″	10″	9	10′	24″	65″	8106T71★	680.23
7′6″	24″	10″	9	11′	32″	65″	8106T27	786.63
7′6″	24″	20″	9	11′	32″	75″	8106T415	937.75
7′6″	24″	30″	9	11′	32″	85″	8106T312	991.58
8′4″	24″	10″	10	10′10″	32″	72″	8106T28◆	791.76
8′4″	30″	10″	10	10′10″	32″	72″	8106T78◆	989.15
9′2″	24″	10″	11	11′8″	32″	78″	8106T29◆	842.35
9′2″	30″	10″	11	11′8″	32″	78″	8106T79◆	1,053.38
Replacement Swivel Caster							80105T63	16.16
Replacement Wheel for Rigid Caster							80105T62	22.39
Without Handrails								
With Spring-Loaded Retractable Casters								
1′	24″	10″	1	1′	26″	16″	8106T62	148.73
1′8″	16″	10″	2	1′8″	18″	18″	8106T63	156.82
1′8″	24″	10″	2	1′8″	26″	18″	8106T64	177.05
1′8″	24″	20″	2	1′8″	26″	28″	8106T313	288.36
2′6″	16″	10″	3	2′6″	20″	26″	8106T65	197.29
2′6″	24″	10″	3	2′6″	30″	26″	8106T66	228.97
2′6″	24″	20″	3	2′6″	30″	36″	8106T314	336.93
2′6″	24″	30″	3	2′6″	30″	46″	8106T32	392.09
3′4″	24″	20″	4	3′4″	30″	41″	8106T315★	377.40
Replacement Retractable Caster							80105T72	19.84

★ Does not meet CAL-OSHA requirements. Not available in California.
◆ Does not meet CAL-OSHA requirements. For ladders available in California, order 8106T4 and specify platform height and width.

Tight-Turning Steel Rolling Platform Ladders

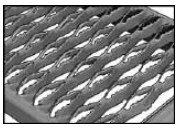

Serrated

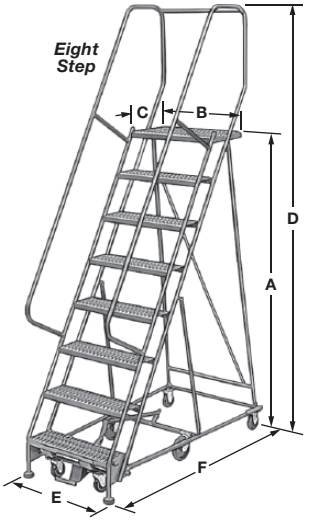

Two rigid casters in the center allow these ladders to easily turn in narrow aisles and tight spaces. Ladders also have two swivel casters and two rigid casters. All ladders lock in place.

Ladders have a gray finish. Platform and steps are serrated for maximum slip resistance. Shipped unassembled. Capacity is 450 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

Platform Ht. (A)	Wd. (B)	Dp. (C)	Steps Including Platform	Overall Ht. (D)	Wd. (E)	Dp. (F)		
6′8″	24″	14″	8	10′2″	32″	68″	81925T31	$655.58
8′4″	24″	14″	10	11′2″	32″	82″	81925T32♥	772.54
10′	24″	14″	12	12′10″	32″	96″	81925T33♥	868.59
11′8″	30″	14″	14	15′6″	40″	108″	81925T34♥	973.75

♥ Does not meet CAL-OSHA requirements. For ladders available in California, order 81925T38 and specify platform height.

Steel Rolling Platform Ladders with Shelves

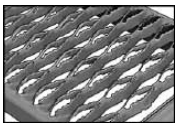

Serrated

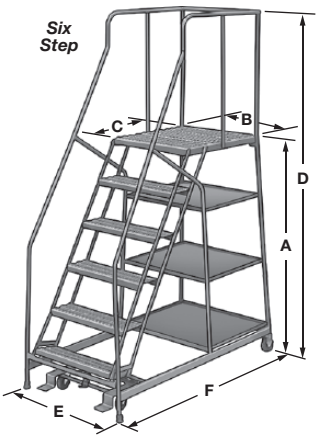

Picking and putting away material just got easier. Ladders have three 20″×24″ shelves with raised edges that each hold 70 lbs. All lock in place and have two swivel and two rigid casters.

Ladders have a gray finish. Platform and steps are serrated for maximum slip resistance. Shipped assembled. Capacity is 450 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

Platform Ht. (A)	Wd. (B)	Dp. (C)	Steps Including Platform	Overall Ht. (D)	Wd. (E)	Dp. (F)		
5′	24″	28½″	6	8′8″	32″	62″	8118T91	$766.92
5′10″	24″	19″	7	9′6″	32″	60″	8118T92	813.20
6′8″	24″	19″	8	10′4″	32″	65″	8118T93	907.03
7′6″	24″	19″	9	11′2″	32″	72″	8118T94	946.02
8′4″	24″	19″	10	10′10″	32″	78″	8118T95◢	987.75
9′2″	24″	19″	11	11′8″	32″	84″	8118T96◢	1,027.41
Replacement Casters (Set of Four)							80105T29	69.51

◢ Does not meet CAL-OSHA requirements. For ladders available in California, order 8118T7 and specify platform height.

Extra-Rugged Steel Rolling Platform Ladders

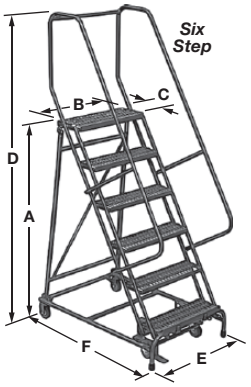


Serrated

Heavy duty tubing and extra bracing in the base and back make these ladders tough enough to handle harsh environments. Platform and steps are serrated for maximum slip resistance. Ladders have a gray finish. All lock in place and have two swivel and two rigid casters. Capacity is 450 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

80055T21 has a 4″ high toeboard on three sides of the platform.

Platform Ht. (A)	Platform Wd. (B)	Platform Dp. (C)	Steps Including Platform	Overall Ht. (D)	Overall Wd. (E)	Overall Dp. (F)		
Assembled								
5′	24″	10″	6	8′6″	30″	46″	80055T12	$580.15
6′8″	24″	10″	8	10′2″	32″	58″	80055T14	730.42
8′4″	24″	10″	10	10′10″	32″	72″	80055T16■	785.15
Unassembled								
10′	24″	20″	12	13′6″	32″	98″	80055T18■	1,209.63
11′8″	24″	20″	14	15′2″	42″	121″	80055T21■	1,434.83
Replacement Swivel Caster							80105T63	16.16
Replacement Wheel for Rigid Caster							80105T62	22.39

■ Does not meet CAL-OSHA requirements. For ladders available in California, order 80055T37 and specify platform height.

Folding Steel Rolling Platform Ladders


Serrated

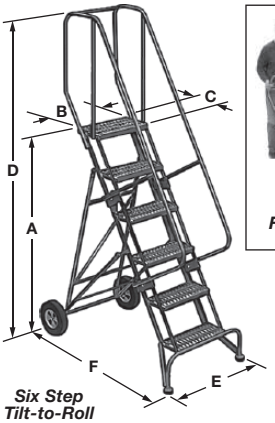

Six Step Tilt-to-Roll


Folded

Fold these ladders for easy transport and compact storage. When ready to use, unfold and secure with two bolts and hex nuts (ladders with 14 or more steps have four bolts and hex nuts). They have large rugged wheels on the rear for rolling. Ladders with five to seven steps are tilt-to-roll; those with eight or more steps lock in place and have two swivel and two rigid casters. All have a gray finish. Platform and steps are serrated for maximum slip resistance. Capacity is 450 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California. Shipped assembled.

Platform Ht. (A)	Platform Wd. (B)	Platform Dp. (C)	Steps Including Platform	Overall Ht. (D)	Overall Wd. (E)	Overall Dp. (F)		
4′2″	16″	10″	5	7′8″	30″	46″	8172T32	$409.95
4′2″	16″	20″	5	7′8″	30″	56″	8172T33	552.78
5′	16″	10″	6	8′6″	30″	53″	8172T34	454.48
5′	16″	20″	6	8′6″	30″	63″	8172T35	586.18
5′10″	16″	10″	7	9′4″	30″	58″	8172T36	502.70
5′10″	16″	20″	7	9′4″	30″	68″	8172T37	636.27
6′8″	16″	10″	8	10′2″	30″	65″	8172T38	560.22
6′8″	16″	20″	8	10′2″	30″	75″	8172T39	680.78
7′6″	16″	10″	9	11′	30″	72″	8172T72	619.57
7′6″	16″	20″	9	11′	30″	82″	8172T73	723.45
8′4″	16″	10″	10	10′10″	30″	78″	8172T78▲	780.02
8′4″	16″	20″	10	10′10″	30″	88″	8172T79▲	861.63
9′2″	16″	10″	11	11′8″	30″	86″	8172T81▲	824.53
9′2″	16″	20″	11	11′8″	30″	96″	8172T82▲	897.74
10′	16″	10″	12	13′6″	30″	92″	8172T83▲	878.33
10′	16″	20″	12	13′6″	30″	102″	8172T84▲	1,006.33
11′8″	16″	10″	14	15′2″	40″	106″	8172T85▲	1,209.47
13′4″	16″	20″	16	16′10″	40″	129″	8172T86▲	1,455.23
Replacement Wheel							8172T91	51.39

▲ Does not meet CAL-OSHA requirements. For ladders available in California, order 8172T89 and specify platform height and depth.

Unassembled Steel Rolling Platform Ladders

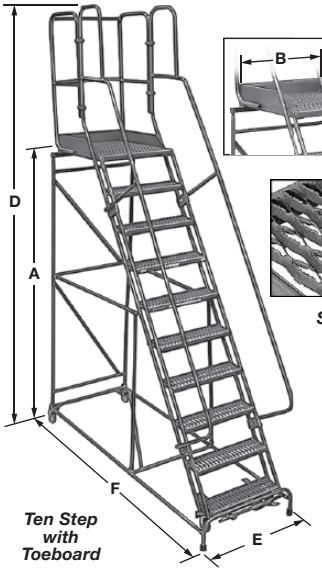

Ten Step with Toeboard

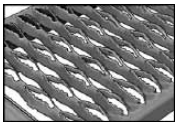
Serrated

Ladders are shipped unassembled to save on freight costs. Platform and steps are serrated for maximum slip resistance. Ladders have a gray finish. All lock in place and have two swivel and two rigid casters. Capacity is 450 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

Platforms with toeboard have a 4″ high toeboard on three sides.

Platform Ht. (A)	Platform Wd. (B)	Platform Dp. (C)	Steps Including Platform	Overall Ht. (D)	Overall Wd. (E)	Overall Dp. (F)		
Platforms with Toeboard								
5′10″	24″	30″	7	9′4″	32″	73″	8229T1	$951.37
6′8″	24″	30″	8	10′2″	32″	78″	8229T11	992.13
7′6″	24″	30″	9	11′	32″	85″	8229T12	1,063.32
8′4″	24″	30″	10	11′10″	32″	92″	8229T13♦	1,181.19
9′2″	24″	30″	11	12′8″	32″	98″	8229T14♦	1,260.97
10′	24″	30″	12	13′6″	32″	108″	8229T15♦	1,339.73
10′10″	24″	30″	13	14′4″	42″	115″	8229T17♦	1,397.74
11′8″	24″	30″	14	15′2″	42″	121″	8229T16♦	1,570.04
12′6″	30″	30″	15	16′	42″	125″	8229T37♦	1,822.52
13′4″	30″	30″	16	16′10″	42″	134″	8229T18♦	1,965.08
14′2″	30″	30″	17	17′8″	48″	138″	8229T38♦	2,097.74
15′10″	30″	30″	19	19′4″	48″	154″	8229T39♦	2,386.68
Platforms without Toeboard								
8′4″	24″	10″	10	10′10″	32″	72″	8229T76♦	713.65
10′	24″	10″	12	13′6″	32″	88″	8229T71♦	818.20
Replacement Caster and Wheel								
Swivel Caster							80105T63	16.16
Wheel for Rigid Caster							80105T62	22.39

♦ Does not meet CAL-OSHA requirements. For ladders available in California, order 8229T75 and specify platform height and depth.

Gradual-Incline Steel Rolling Platform Ladders

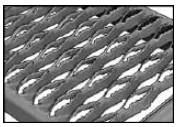

Serrated

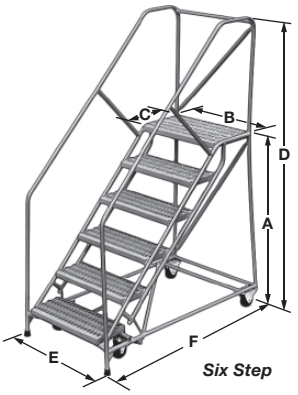

Six Step

A gradual 50° incline makes these ladders easier to climb than standard ladders and allows for a forward descent. All ladders have a gray finish. Platform and steps are serrated for maximum slip resistance. Capacity is 450 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

Ladders *with spring-loaded retractable casters* have four swivel casters. *Step-lock ladders* have two swivel and two rigid casters.

Platform Ht. (A)	Platform Wd. (B)	Platform Dp. (C)	Steps Including Platform	Overall Ht. (D)	Overall Wd. (E)	Overall Dp. (F)		
Assembled								
With Spring-Loaded Retractable Casters								
2′6″	24″	14″	3	4′6″	28″	34″	8191T21	$295.40
2′6″	30″	14″	3	4′6″	34″	34″	8191T22	336.14
3′4″	24″	14″	4	5′10″	28″	44″	8191T23	389.62
3′4″	30″	14″	4	5′10″	34″	44″	8191T24	485.12
Replacement Retractable Casters (Set of Four)							80105T87	56.47
Step-Lock with Casters								
4′2″	24″	14″	5	7′8″	29″	54″	8191T25	491.05
4′2″	30″	14″	5	7′8″	35″	54″	8191T26	585.09
5′	24″	14″	6	8′6″	30″	63″	8191T27	632.38
5′	30″	14″	6	8′6″	36″	63″	8191T28	720.69
Replacement Casters (Set of Four)							80105T11	69.51
Unassembled								
Step-Lock with Casters								
5′	24″	14″	6	8′6″	32″	68″	80815T41	598.08
5′10″	24″	14″	7	9′4″	32″	76″	80815T42	679.43
6′8″	24″	14″	8	10′2″	32″	90″	80815T43	717.80
8′4″	24″	14″	10	11′2″	32″	103″	80815T44♣	803.59
10′	24″	14″	12	12′10″	32″	121″	80815T45♣	881.44
Replacement Swivel Caster							80815T71	14.60
Replacement Wheels for Rigid Casters (Set of Two)							80815T72	16.88

♣ Does not meet CAL-OSHA requirements. For ladders available in California, order 80815T33 and specify platform height.

Steel Rolling Ladders with Extra-Large Platform

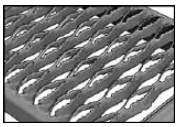

Serrated

With an oversized platform two people can easily work side by side. Plus, ladders have a high load capacity to handle extra boxes and tools. They also have a 50° incline for an easy forward descent.

Ladders have a gray finish. Platform and steps are serrated for maximum slip resistance. All lock in place and have two swivel and two rigid casters. Shipped assembled. Capacity is 800 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

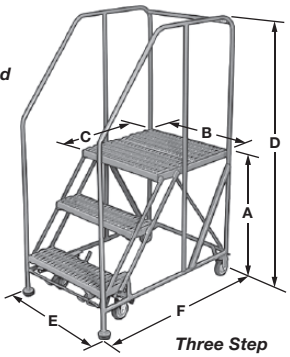

Three Step

Platform Ht. (A)	Platform Wd. (B)	Platform Dp. (C)	Steps Including Platform	Overall Ht. (D)	Overall Wd. (E)	Overall Dp. (F)		
2′6″	24″	24″	3	5′	28″	43″	8175T62	$526.20
2′6″	24″	36″	3	5′	28″	55″	8175T66	573.65
2′6″	24″	48″	3	5′	28″	66″	8175T71	633.66
2′6″	36″	24″	3	5′	40″	43″	8175T63	584.13
2′6″	36″	36″	3	5′	40″	55″	8175T67	653.64
2′6″	36″	48″	3	5′	40″	66″	8175T72	775.22
3′4″	24″	24″	4	5′10″	28″	51″	8175T64	553.89
3′4″	24″	36″	4	5′10″	28″	63″	8175T68	633.60
3′4″	24″	48″	4	5′10″	28″	75″	8175T73	704.45
3′4″	36″	24″	4	5′10″	40″	51″	8175T65	654.38
3′4″	36″	36″	4	5′10″	40″	63″	8175T69	727.13
3′4″	36″	48″	4	5′10″	40″	75″	8175T74	872.74
4′2″	24″	24″	5	7′8″	28″	58″	8175T26	708.46
4′2″	24″	36″	5	7′8″	28″	70″	8175T15	785.40
4′2″	24″	48″	5	7′8″	28″	82″	8175T33	823.66
4′2″	36″	24″	5	7′8″	40″	58″	8175T27	790.57
4′2″	36″	36″	5	7′8″	40″	70″	8175T16	869.40
4′2″	36″	48″	5	7′8″	40″	82″	8175T34	1,002.11
5′	24″	24″	6	8′6″	28″	67″	8175T52	929.34
5′	24″	36″	6	8′6″	28″	78″	8175T53	980.54
5′	24″	48″	6	8′6″	28″	90″	8175T54	1,176.44
5′	36″	24″	6	8′6″	40″	67″	8175T81	1,138.06
5′	36″	36″	6	8′6″	40″	78″	8175T82	1,247.14
5′	36″	48″	6	8′6″	40″	90″	8175T83	1,310.05
5′10″	24″	24″	7	9′4″	28″	75″	8175T91	1,054.15
5′10″	24″	36″	7	9′4″	28″	87″	8175T92	1,102.87
5′10″	24″	48″	7	9′4″	28″	99″	8175T93	1,251.27
5′10″	36″	24″	7	9′4″	40″	75″	8175T101	1,245.44
5′10″	36″	36″	7	9′4″	40″	87″	8175T102	1,354.14
5′10″	36″	48″	7	9′4″	40″	99″	8175T103	1,450.04
Replacement Swivel Caster							80105T63	16.16
Replacement Wheel for Rigid Caster							80105T62	22.39

Two-Side Access Steel Rolling Platform Ladders

Climb on either side; two people can use the oversized platform simultaneously. Finish is gray. Platform and steps are serrated for maximum slip resistance. All lock in place and have four swivel casters. Shipped assembled except the handrails require assembly. Capacity is 800 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

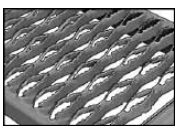

Serrated

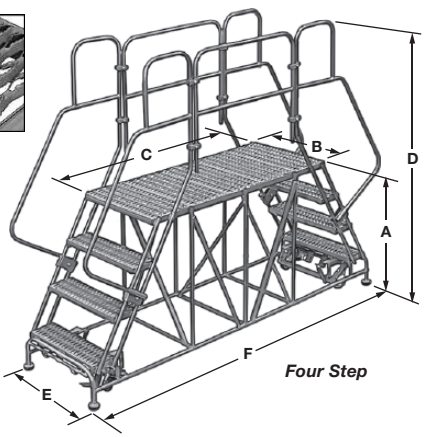

Four Step

Platform Ht. (A)	Platform Wd. (B)	Platform Dp. (C)	Steps Including Platform	Overall Ht. (D)	Overall Wd. (E)	Overall Dp. (F)		
3′4″	24″	48″	4	6′4″	28″	87″	8185T11	$1,052.34
3′4″	24″	60″	4	6′4″	28″	99″	8185T19	1,110.57
3′4″	36″	60″	4	6′4″	40″	99″	8185T21	1,344.99
4′2″	24″	48″	5	7′8″	28″	99″	8185T13	1,297.74
4′2″	36″	72″	5	7′8″	40″	123″	8185T32	1,738.59
5′	24″	48″	6	8′6″	28″	111″	8185T15	1,422.65
5′	36″	72″	6	8′6″	40″	135″	8185T34	1,897.74
5′10″	24″	48″	7	9′4″	28″	123″	8185T17	1,528.25
5′10″	36″	72″	7	9′4″	40″	147″	8185T36	2,038.40
Replacement Swivel Caster							80105T63	16.16

Tilt-to-Roll Platform Ladders

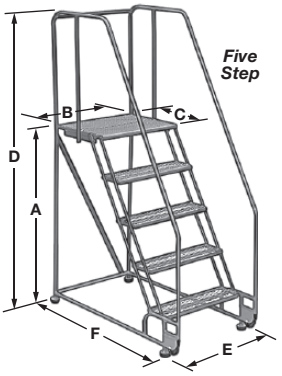

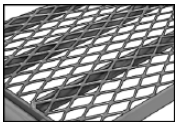

Expanded Metal



Serrated

Tilt and roll these ladders to where you need them. When tilted, ladders roll on two wheels. When stationary, four rubber pads keep ladders in place. Shipped assembled. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

Expanded metal steps provide good slip resistance and are more comfortable than serrated steps. *Serrated steps* are more slip resistant than expanded metal.

Steel Ladders— Capacity is 450 lbs. **To Order:** Please specify color: gray or safety yellow.

Aluminum Ladders— Lighter weight than steel or stainless steel. Capacity is 350 lbs.

Stainless Steel Ladders— Made of corrosion-resistant Type 304 stainless steel with a matte finish. Capacity is 450 lbs.

Platform Ht. (A)	Wd. (B)	Dp. (C)	Steps Including Platform	Overall Ht. (D)	Wd. (E)	Dp. (F)		
Steel with Expanded Metal Platform and Steps								
1′8″	24″	10″	2	4′2″	28″	24″	14155T11	$172.45
1′8″	24″	20″	2	4′2″	28″	34″	14155T15	288.45
2′6″	24″	10″	3	5′	28″	30″	14155T12	205.46
2′6″	24″	20″	3	5′	28″	41″	14155T16	312.57
3′4″	24″	10″	4	5′10″	28″	37″	14155T13	239.09
3′4″	24″	20″	4	5′10″	28″	47″	14155T17	355.70
4′2″	24″	20″	5	7′8″	28″	54″	14155T18	468.48
Steel with Serrated Platform and Steps								
1′8″	24″	10″	2	4′2″	28″	24″	14155T21	236.50
1′8″	24″	20″	2	4′2″	28″	34″	14155T25	344.10
2′6″	24″	10″	3	5′	28″	30″	14155T22	268.03
2′6″	24″	20″	3	5′	28″	41″	14155T26	377.48
3′4″	24″	10″	4	5′10″	28″	37″	14155T23	312.57
3′4″	24″	20″	4	5′10″	28″	47″	14155T27	429.76
4′2″	24″	20″	5	7′8″	28″	54″	14155T28	557.90
Aluminum with Serrated Platform and Steps								
2′6″	24″	10″	3	5′	28″	30″	79965T32	611.54
2′6″	24″	20″	3	5′	28″	40″	79965T36	741.06
3′4″	24″	10″	4	5′10″	28″	37″	79965T33	720.83
3′4″	24″	20″	4	5′10″	28″	46″	79965T37	852.43
4′2″	24″	20″	5	7′8″	28″	54″	79965T38	1,069.13
Stainless Steel with Expanded Metal Platform and Steps								
2′6″	24″	10″	3	5′	28″	30″	8250T42	843.61
2′6″	24″	20″	3	5′	28″	40″	8250T46	1,130.76
3′4″	24″	10″	4	5′10″	28″	37″	8250T43	1,026.85
3′4″	24″	20″	4	5′10″	28″	46″	8250T47	1,297.74
4′2″	24″	20″	5	7′8″	28″	54″	8250T48	1,464.83

Straddle Base Tilt-to-Roll Steel Platform Ladders

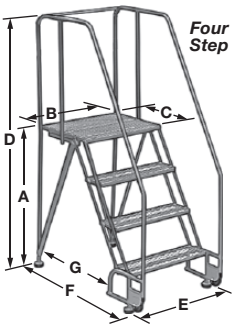

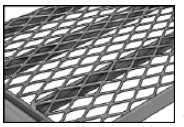

Expanded Metal

Get close to your work even when pipes or other objects are in the way. With no horizontal braces, these ladders can straddle obstructions. Tilt ladders to roll on two wheels. When stationary, four rubber pads keep ladders in place.

Ladders have a gray finish. Platform and steps are expanded metal for good slip resistance. Shipped assembled. Capacity is 350 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

Platform Ht. (A)	Wd. (B)	Dp. (C)	Steps Including Platform	Overall Ht. (D)	Wd. (E)	Dp. (F)	(G)	
2′6″	24″	20″	3	5′	28″	41″	24½″	79885T11 $351.41
3′4″	24″	20″	4	5′10″	28″	47″	31″	79885T12 405.54
4′2″	24″	20″	5	7′8″	28″	54″	36″	79885T13 525.64
5′	24″	20″	6	8′6″	28″	60″	46½″	79885T14 593.09

All-Stainless Steel Rolling Platform Ladders

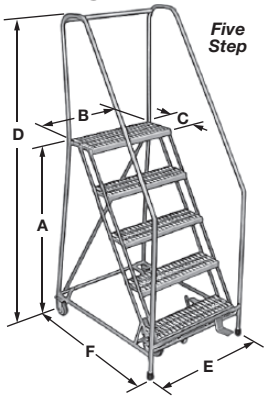

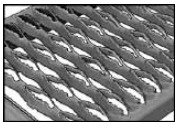

Serrated

Made entirely of corrosion-resistant Type 304 stainless steel, these ladders withstand repeated washdowns, making them perfect for use in food-service applications. Ladders have a matte finish. Platform and steps are serrated for maximum slip resistance. Ladders lock in place and have two swivel and two rigid casters. Capacity is 450 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

Platform Ht. (A)	Wd. (B)	Dp. (C)	Steps Including Platform	Overall Ht. (D)	Wd. (E)	Dp. (F)		
Assembled								
4′2″	24″	10″	5	7′8″	30″	40″	80575T65	$1,977.01
5′10″	24″	10″	7	9′4″	30″	53″	80575T66	2,573.07
8′4″	24″	10″	10	10′10″	32″	72″	80575T68■	3,668.60
Unassembled								
10′	24″	10″	12	13′6″	32″	88″	80575T69■	4,075.62

■ Does not meet CAL-OSHA requirements. For ladders available in California, order 80575T7 and specify platform height.

Trailer-Unloading Steel Rolling Platform Ladders

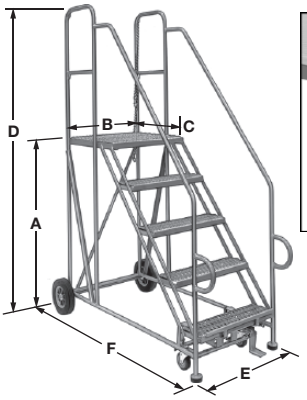



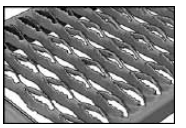

Serrated

With a walk-through platform, you can easily unload and load trailers. Plus, a gradual 50° incline makes this ladder easier to climb than standard ladders and allows for a forward descent. Ladder locks in place and has two swivel and two rigid casters. It also has a removable chain across the back of the platform.

Platform and steps are serrated for maximum slip resistance. Finish is gray. Shipped assembled. Capacity is 800 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

Platform Ht. (A)	Wd. (B)	Dp. (C)	Steps Including Platform	Overall Ht. (D)	Wd. (E)	Dp. (F)		
4′2″	24″	24″	5	7′8″	33″	63″	8569T1	$875.50

Aluminum Rolling Platform Ladders

Easily roll these lightweight, corrosion-resistant ladders where you need them. All have four spring-loaded retractable swivel casters. Shipped assembled. Capacity is 350 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

Ribbed— Platform and steps are grooved for some slip resistance and are more comfortable than serrated steps.

Serrated— Platform and steps provide maximum slip resistance.

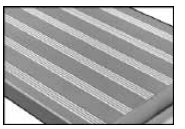

Ribbed

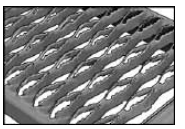

Serrated

Platform Ht. (A)	Wd. (B)	Dp. (C)	Steps Including Platform	Overall Ht. (D)	Wd. (E)	Dp. (F)	Ribbed Platform and Steps		Serrated Platform and Steps	
With Handrails										
1′8″	16″	14″	2	4′2″	20″	23″	_____	_____	8125T49	$295.87
1′8″	24″	14″	2	4′2″	26″	23″	_____	_____	8125T51	342.23
2′6″	16″	14″	3	5′	22″	29″	7993T42	$433.33	8125T52	384.90
2′6″	24″	14″	3	5′	30″	29″	7993T43	504.49	8125T53	418.30
3′4″	16″	14″	4	5′10″	22″	36″	7993T44	511.79	8125T54	451.68
3′4″	24″	14″	4	5′10″	30″	36″	7993T45	599.38	8125T55	514.75
4′2″	16″	14″	5	7′8″	22″	43″	7993T46	619.97	8125T45	579.68
4′2″	24″	14″	5	7′8″	30″	43″	7993T47	724.77	8125T56	654.46
5′	16″	14″	6	8′6″	24″	50″	7993T48	698.67	8125T57	682.18
5′	24″	14″	6	8′6″	30″	50″	7993T49	822.14	8125T46	776.78
5′10″	24″	14″	7	9′4″	30″	57″	7993T52	1,033.31	8125T47	1,020.47
6′8″	24″	14″	8	10′2″	30″	63″	7993T53	1,166.31	8125T48	1,152.23
Without Handrails										
1′8″	16″	14″	2	1′8″	18″	23″	7993T31	296.49	8125T42	258.77
2′6″	16″	14″	3	2′6″	22″	29″	7993T35	405.97	8125T43	338.53
3′4″	16″	14″	4	3′4″	22″	36″	7993T37★	482.59	8125T44★	423.87
Replacement Retractable Caster									80105T72	19.84

★ Does not meet CAL-OSHA requirements. Not available in California.

Five Step with Handrail

Four Step without Handrail

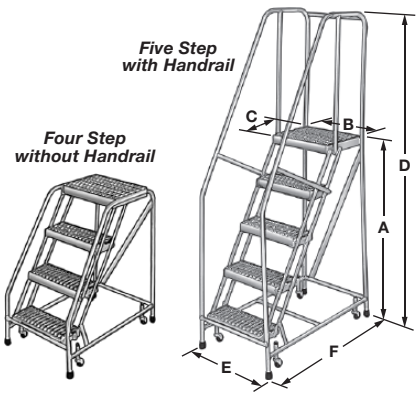

Steel Rolling Platform Ladders with Cup Shoes

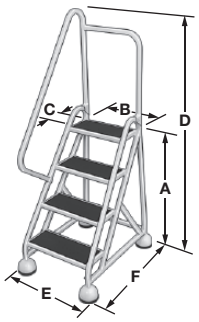

Four Step with Handrail on Left



Four Step with Double Handrails

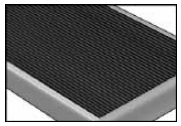

Vinyl Covered



Three Step without Handrails

Cup shoes rest on the floor for stability; four spring-loaded retractable swivel casters let you roll ladders anywhere. Ladders have a gray finish. Platform and steps are vinyl covered for good slip resistance and comfort. Shipped assembled except the handrails require assembly. Capacity is 450 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

Also Available: Replacement casters, please specify 8181T7 and the McMaster-Carr part number of your ladder.

Platform Ht. (A)	Wd. (B)	Dp. (C)	Steps Including Platform	Overall Ht. (D)	Wd. (E)	Dp. (F)		
With Handrail on the Left Side								
3′	16″	8″	4	5′6″	25″	34″	8181T441★	$494.67
3′9″	16″	8″	5	6′3″	26″	40″	8181T451★	574.17
With Handrail on the Right Side								
3′9″	16″	8″	5	6′3″	26″	40″	8181T461★	574.17
With Double Handrails								
2′3″	16″	14″	3	4′9″	24″	32″	8181T611	505.27
3′	16″	14″	4	5′6″	25″	39″	8181T621	556.51
3′9″	16″	14″	5	6′3″	26″	46″	8181T631	623.63
4′6″	16″	14″	6	8′	27″	53″	8181T641	773.79
Without Handrails								
1′6″	16″	8″	2	1′11″	22″	20″	8181T411	327.84
2′3″	16″	8″	3	2′8″	24″	27″	8181T421	374.38
2′3″	16″	14″	3	2′8″	24″	32″	8181T571	449.25
Replacement Parts								
Rubber Rings for Cup Shoes (Set of Four)							8181T91	17.02

★ Does not meet CAL-OSHA requirements. Not available in California.

Heavy Duty Aluminum Rolling Platform Ladders



Ribbed

Get the light weight of aluminum with a high load capacity. Platform has a nonskid surface and steps are ribbed for slip resistance. Ladders lock in place and have one swivel caster in front and two rigid casters in back. Shipped unassembled.

Capacity is 500 lbs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

Four Step

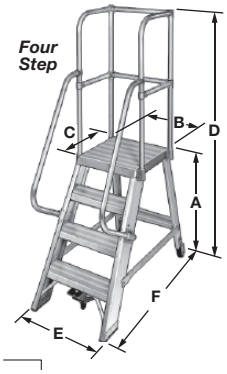

Platform Ht. (A)	Wd. (B)	Dp. (C)	Steps Including Platform	Overall Ht. (D)	Wd. (E)	Dp. (F)		
3′0″	20″	20″	4	6′6″	24″	43″	8159T14	$895.89
3′9″	20″	20″	5	7′3″	25″	49″	8159T16	956.06
4′6″	20″	20″	6	8′	26″	55″	8159T31	1,047.69
5′3″	20″	20″	7	8′9″	27″	61″	8159T32	1,115.38
6′0″	20″	20″	8	9′6″	28″	67″	8159T18	1,190.77
6′9″	20″	20″	9	10′3″	29″	73″	8159T21	1,261.54
7′6″	20″	20″	10	11′	30″	79″	8159T33	1,332.31
9′0″	20″	20″	12	12′6″	32″	91″	8159T23▲	1,751.06
9′9″	20″	20″	13	13′3″	33″	97″	8159T35▲	1,831.16
12′0″	20″	20″	16	15′6″	36″	115″	8159T27▲	2,087.90

▲ Does not meet CAL-OSHA requirements. For ladders available in California, order 8159T55 and specify platform height.

Accessories and Replacement Parts for Rolling Platform Ladders

Slip-Resistant Handrail Tape— Sticks to ladder handrails for a solid grip. Made of self-adhesive textured vinyl blend. Roll is 2″ Wd.×8′ Lg.

5484T79 ..... $13.94



Replacement Rubber Pad— Provides slip resistance. Pad is 2½″ dia. and has a ⅜″ Dia.×1″ Lg. mounting bolt that threads into a ladder's front legs.

79975T88 ..... $7.46



Replacement Rubber Tips— A washer in these tips extends wear. Fit 1″ OD tubing.

79975T99 (Pkg. of 4) $5.95



Steel Fold-Away Mobile Work Platforms





Folded

Height adjusts in 12″ increments for multiple uses. Lock work platform in place by tightening the back brace's bolts. Then fold it up for convenient and portable storage. Work platform has a yellow finish and comes with two 10″ wide steel planks that have a non-slip surface. Has four locking swivel casters. Capacity is 400 lbs.

Note: Before erecting work platform, check federal, state, and local codes.

Platform Ht. Min.	Platform Ht. Max.	O'all Extended Lg.	O'all Extended Wd.	O'all Extended Ht.	O'all Folded Lg.	O'all Folded Wd.	O'all Folded Ht.		
12″	48″	48″	24″	51″	4″	24″	51″	8064T52	$330.24

Ladder Scaffolding Supports



Also known as ladder jacks, these supports convert two extension or straight ladders into a scaffold. Use on ladders with round or D-rungs. Supports attach to three rungs and accept planks up to 18″ wide. Eight adjustment notches let you choose the angle. Capacity is 500 lbs. per pair.

Note: Ladders and planks must have a minimum 250-lb. capacity.

8162T24	Pair	$217.10

Steel Telescoping Mobile Work Platforms

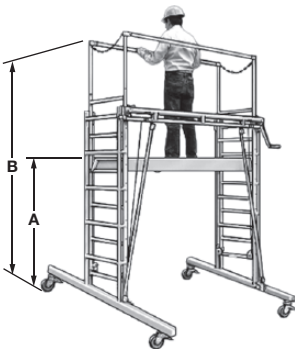

Work at the height you need. Use the winch to manually adjust the platform height in 6″ increments. Spring-loaded pins lock it in place. Tools are not needed for assembly.

The frame is steel with a yellow finish and has built-in outriggers that extend the base from 31½″ wide to 72″ wide. Work platform is 6′4½″ long overall and rolls on four locking swivel casters. Plank is 5′8″ Lg.×19″ Wd. and has a perforated surface with 4″ high toeboards. Guardrails are 43″ high with midrails and safety chains. Capacity is 550 lbs. Meet ANSI and OSHA requirements.

Optional Add-On Height Section— Adjusts in 6″ increments to increase the platform height from 12′6″ to 17′6″.

Note: Before erecting work platforms, check federal, state, and local codes.

Platform Height (A) Min.	Platform Height (A) Max.	O'all Height (B) Min.	O'all Height (B) Max.		
2′	11′	9′10¼″	14′8″	8004T11	$3,137.23
Optional Add-On Height Section				8004T12	747.45

Aluminum Extension Planks

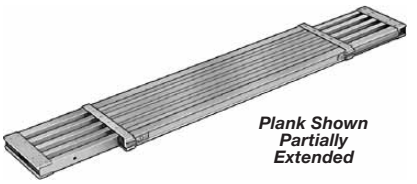

Plank Shown Partially Extended

Ideal for use with ladder jacks, trestle ladders, and walkways, adjust the length of these planks in 12″ increments. Made of aluminum with a ribbed surface for slip resistance. They have a spring-set lock to secure plank when extended. Automatic stops prevent overextending, and end flanges maintain rigidity. Capacity is 250 lbs.

Min. Lg.	Max. Lg.	Ht.	Wd.		
6′	9′	2″	14″	7947T41	$221.17
8′	13′	2″	14″	7947T42	249.56
10′	17′	2″	14″	7947T43	364.23

Steel Adjustable End-Frame Scaffolds

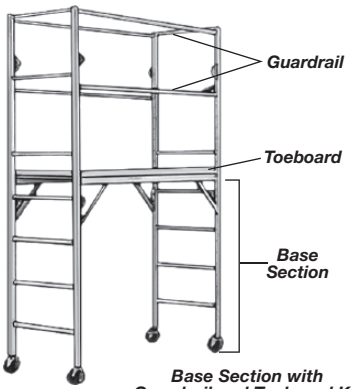

Base Section with Guardrail and Toeboard Kit

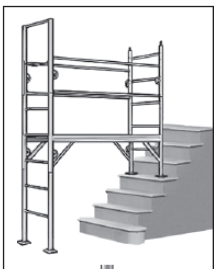

Base Plate

Even if your surface isn't level, your scaffold can be. The end frames adjust independently so each side can be a different height. Scaffolds are steel with a yellow finish and have spring-loaded pins to change the height in 4″ increments. Meet ANSI A10.8 and OSHA requirements.

Base Sections— Base sections include a 28½″ wide plywood plank. Positioning guides hold the plank within the frame. Maximum plank height is 6′4″. Sections roll on four locking swivel casters; install base plates (sold separately) when used on stairs. Capacity is 1,000 lbs.; add-on height sections decrease capacity.

Add-On Height Sections— One add-on plus a base section has a capacity of 850 lbs.; two add-ons plus a base section has a capacity of 700 lbs. Do not stack more than two add-ons per base section. ***Guardrail/toeboard kits*** are required by OSHA when add-on height sections are used. Kits include 40″ high guardrails and 4″ high toeboards. ***Outriggers*** are required by OSHA when add-on height sections are used. They extend the base by 20″ per side. Come with four additional locking swivel casters.

Base Plate— When scaffold is used on stairs, casters should be replaced with 4⅝″×4⅝″ base plates (sold individually).

Note: Before erecting scaffolds, check federal, state, and local codes.

		Base Sections			Add-On Height Sections			Guardrail/Toeboard Kits		
Plank Lg.	Base Wd.	O'all Ht.			Add'l Ht.			Add'l Ht.		
6′	29½″	78″	8069T12	$535.88	72″	8069T17	$473.59	40″	8069T14	$282.43
8′	29½″	78″	8069T19	602.07	72″	8069T21	515.62	40″	8069T22	308.21

Outriggers (Set of Four)	8069T18	365.44
Base Plate (for use on stairs)	8069T31	20.95
Replacement Caster	8069T25	46.65

Steel Scaffolds

These scaffolds will securely get you up to your job. Each scaffold requires three planks (sold separately). Capacity is 75 lbs. per sq. ft. of plank area when used with the planks shown below. Meet ANSI A10.8 and OSHA requirements.

5′ Wd. × 5′9″ Ht. scaffolds include two end frames, two cross braces, one bottom diagonal brace, and four locking swivel casters.

5′ Wd. × 10′10″ Ht. scaffolds include four end frames, four cross braces, one bottom diagonal brace, and four locking swivel casters. They also include guardrail posts, guardrail/midrails, top and midside rails, and 4″ high toeboards.

Note: Before erecting scaffolds, check federal, state, and local codes.

Scaffolds

Lg.	5′ Wd. × 5′9″ Ht.		5′ Wd. × 10′10″ Ht.	
7′	8187T71	$547.80	8187T84	$1,345.59
10′	8187T72	607.03	8187T85	1,411.76

Planks

Lg.	Material	Wd.	Side Rail Ht.		
7′	Aluminum	19 1/16″	3″	8180T24	$196.75
7′	Plywood	19 1/16″	3 1/2″	8180T14	176.75
10′	Aluminum	19 1/16″	4″	8180T25	308.32
10′	Plywood	19 1/16″	4 1/2″	8180T15	266.70

Components

Cross Brace for 7′ Scaffold	8187T64	$33.98
Cross Brace for 10′ Scaffold	8187T65	41.91
Bottom Diagonal Brace for 7′ Scaffold	8187T96	62.50
Bottom Diagonal Brace for 10′ Scaffold	8187T98	71.91
End Frame	8187T15	123.15
Toggle Pin	8187T46	1.76
Coupling Pin	8187T77	2.92
Spring Clip	8187T78	1.46
Locking Swivel Caster	8187T56	55.74
Optional 5″ × 5″ Base Plate	8187T48	20.28
Optional Adjusting Screw	8187T49	47.22

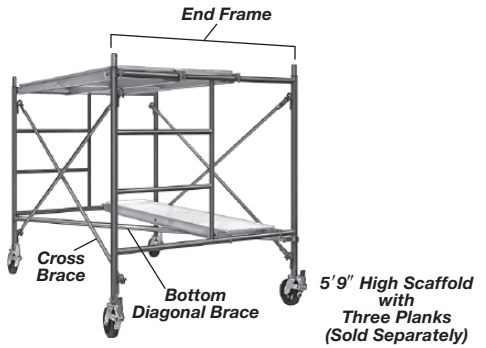



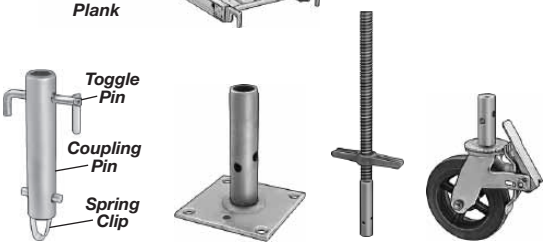

Planks for Steel Scaffolds

Hooks with a 2″ opening at each end secure planks to end frames. Rungs on the underside are for use as hand grips. Capacity is 75 lbs. per sq. ft. of plank area. Meet ANSI A10.8 and OSHA requirements.

Aluminum planks have a perforated surface for slip resistance and to reduce debris buildup. End hooks are offset to allow for continuous planking on large scaffolds.

Plywood planks have a 1/2″ thick plywood deck with an aluminum frame.

Lg. (A)▲	Wd. (B)	Side Rail Ht. (C)		
Aluminum				
7′	19 1/16″	3″	8180T24	$196.75
8′	19 1/16″	4″	8180T23	245.46
10′	19 1/16″	4″	8180T25	308.32
Plywood				
7′	19 1/16″	3 1/2″	8180T14	176.75
8′	19 1/16″	4 1/2″	8180T13	192.42
10′	19 1/16″	4 1/2″	8180T15	266.70

▲Measured from center-to-center of plank hooks.

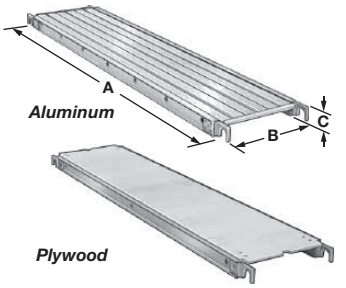

Aluminum Scaffolds

Reach the height you need with these lightweight, corrosion-resistant scaffolds. All hardware is included. Each plank is rated at 25 lbs. per sq. ft.; the maximum scaffold capacity is 500 lbs. Meet ANSI A10.8 and OSHA requirements.

Base Sections— Consist of two end frames with threaded adjustable legs, horizontal and diagonal braces, and one plywood plank with aluminum I-beam side rails. Sections fold for storage and roll on four locking swivel casters.

Add-On Height Sections— Stack on base sections for additional height. They do not fold. You can stack up to two add-on sections on each base section. *Guardrails, toeboards,* and *outriggers* are required by OSHA when add-on sections are used. ***Guardrail kits*** include a 42″ high guardrail with midrail. ***Toeboard kits*** provide a 4″ high toeboard on all four sides. ***Adjustable outrigger*** fits both scaffold base sections listed. Legs have swivel shoes and adjust from 12″ to 66″ to extend the overall base width for stability.

Note: Before erecting scaffolds or adding additional sections, check federal, state, and local codes.

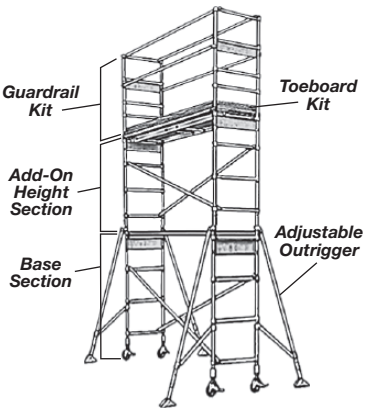

		Base Sections			Add-On Height Sections			Guardrail Kits			
Plank Lg.	Base Wd.	O'all Ht.			Additional Ht.			Additional Ht.			Toeboard Kits
6′	29″	6′6″-7′6″	8079T17	$1,337.07	5′5″	8079T24	$526.78	3′5″	8079T34	$497.12	8079T44 $151.25
8′	29″	6′6″-7′6″	8079T18	1,416.88	5′6″	8079T25	591.80	3′5″	8079T35	563.49	8079T45 176.52
Adjustable Outrigger											8037T41 $210.05

Aluminum Stages, Guardrails, and Toeboards

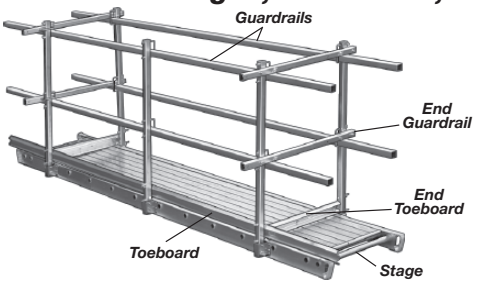

Create catwalks, bridges, gangways, and mezzanines by combining these stages, guardrails, and toeboards. They also work well between trestles, ladder jacks, and ladder scaffolding supports. All hardware is included. Meet ANSI A10.8 and OSHA requirements.

Stages— Have heavy duty aluminum construction and a slip-resistant surface for sure footing. Vinyl caps on the ends eliminate sharp edges and act as hand grips when moving the stages.

Guardrails and ***Toeboards—*** Mount to either side of the stage. Guardrails are made of aluminum tubing and come with midrails and vertical posts. You can mount them so the upper rails are 38″ to 42″ above the stage surface. Toeboards are 3½″ high and clamp to guardrail posts.

Note: Before erecting stages and guardrails, check federal, state, and local codes.

Stages

Lg.	Ht.	Two Person (500 lb. Capacity) 14″ Wide		20″ Wide		24″ Wide		28″ Wide		Three Person (750 lb. Capacity) 28″ Wide	
8′	4″	7962T63	$218.10	7962T41	$258.52	7962T51	$311.73	7962T31	$347.54	8265T11	$433.76
12′	4″	7962T65	288.32	7962T42	361.54	7962T52	382.87	7962T32	488.18	8265T12	613.34
16′	5″	7962T67	415.49	7962T43	545.71	7962T53	562.62	7962T33	673.86	8265T14	795.59
20′	6″	7962T73	713.75	7962T44	761.02	7962T54	770.27	7962T34	926.99	8265T16★	1,016.45
24′	6″	7962T75	804.12	7962T45	925.98	7962T55	928.36	7962T35	1,121.54	8265T17	1,264.07

★ Stage height is 5″.

Guardrails and Toeboards

For Stage Lg.	Guardrails		Toeboards	
8′	8266T81	$178.13	8266T21	$42.03
12′	8266T82	266.70	8266T22	62.23
16′	8266T13	298.53	8266T23	83.37
20′	8266T83	363.21	8266T24	104.10
24′	8266T15	500.42	8266T25	143.66

End Guardrails and Toeboards

For Both Ends of		
14″ Wide Stages	8266T26	$241.12
20″, 24″, 28″ Wide Stages	8266T27	274.25

Forklift Cages





Transform your forklift into an elevated work platform. A chain secures the cage to the mast of your forklift and a backguard protects you from moving parts. Cages are made of steel. Meet ANSI B56.1.

(A) Cage with Chain Gate and Casters— Has two chains on the front that form the gate and four swivel casters for mobility. Cage has an 84″ high backguard to meet CAL-OSHA requirements and a platform with antiskid strips for slip resistance. Includes 42″ high steel tubing guardrails with midrails, 4″ high toeboards, and a tool tray. Cage has a yellow finish. Shipped unassembled (fasteners included).

(B) Cages with Swing Gate— Gate opens inward and outward. Platforms have a diamond plate surface for slip resistance. Cages have a 66″ high backguard. Include 42″ high steel tubing guardrails with midrails, 4″ high toeboards, and a fork lock to secure cage. They also have two attachment points for fall restraints. Cages have a gray finish. Shipped assembled. For cages with an 84″ high backguard that meets CAL-OSHA requirements, order 7952T64 and specify platform width and depth. *Optional swivel casters* (sold individually) can be added for mobility.

Cap., lbs.	Platform Wd.	Platform Dp.	Fork Centers	Fork Openings Wd.	Fork Openings Ht.	Cages		Optional Tool Trays		Optional Fluorescent Bulb Caddies	
(A) Cage with Chain Gate and Casters											
850	48″	40″	30″	5¾″	27⁄8″	7990T38	$760.48	———	———	———	———
(B) Cages with Swing Gate											
1,000	36″	36″	26″	7½″	3¾″	7952T61	538.14	7952T35	$37.46	7952T41	$40.11
1,000	36″	48″	26″	7½″	3¾″	7952T62	635.06	7952T35	37.46	7952T41	40.11
1,000	48″	48″	30″	7½″	3¾″	7952T63	704.90	7952T36	37.46	7952T41	40.11
Optional Swivel Caster for Style B										80105T63	16.16

Extra Heavy Duty Steel Rolling Platform Ladders

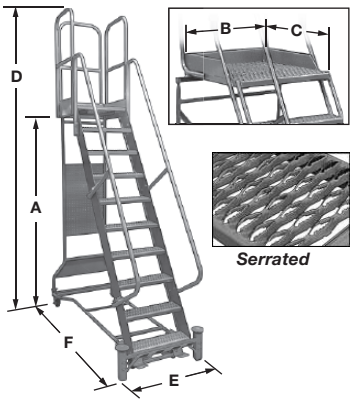

With a 1,000-lb. capacity and storage supports on the base, these ladders can store tools and supplies as well as support personnel. They have a built-in pegboard on the back and 4″ high toeboards on three sides. The front legs adjust to level the ladder on your work surface and lock to keep it in place. Ladders have two swivel and two rigid casters. Platform and stairs are serrated for maximum slip resistance. Ladders are gray with yellow handrails, guardrails, and front legs. Meet ANSI A14.7 and OSHA; meet CAL-OSHA if sold in California.

Platform Ht. (A)	Platform Wd. (B)	Platform Dp. (C)	Steps Including Platform	Overall Ht. (D)	Overall Wd. (E)	Overall Dp. (F)		
4′2″	24″	24″	5	7′8″	37″	56″	1871N1	$1,863.33
5′	24″	24″	6	8′6″	37″	62″	1871N2	1,950.00
6′8″	24″	24″	8	10′2″	37″	74″	1871N3	2,118.33
8′4″	24″	24″	10	11′10″	37″	86″	1871N4	2,313.33
10′	24″	24″	12	13′6″	42″	98″	1871N5	2,486.67
Replacement Swivel Casters (Set of Two)							1871N6	80.67
Replacement Rigid Casters (Set of Two)							1871N7	64.00

Mini Fold-Up Steps



1&2

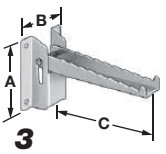

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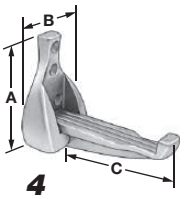

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Flip these steps down when you need them and fold them up out of the way when you don't. Fasteners not included. *Note:* Steps are not rated for capacity.

(1) Chrome-plated brass step has two 7/32″ dia. mounting holes spaced 3 5/8″ center-to-center.

(2) Type 316 stainless steel step has two 5/16″ dia. mounting holes spaced 3 5/8″ center-to-center.

(3) Side-step Type 304 stainless steel step has four 3/16″ dia. mounting holes. Center-to-center distance is 1 3/4″ side-to-side and 2 5/8″ top-to-bottom.

(4) Side-step cast aluminum step has four 1/4″ dia. mounting holes. The two side-to-side are 3/4″ center-to-center; the two top-to-bottom are 1″ center-to-center.

Step Size Wd.	Step Size Dp.	Ht. (A)	Wd. (B)	Projection (C)		
(1) Chrome-Plated Brass						
3 1/4″	2″	4 5/16″	1 13/16″	3 7/16″	**7963T32**	$28.25
(2) Type 316 Stainless Steel						
3 3/8″	2″	4 3/8″	1 7/8″	3 7/16″	**7963T34**	39.27
(3) Side-Step Type 304 Stainless Steel						
4 1/4″	1″	3 3/8″	2 3/8″	5 5/8″	**7963T36**	20.62
(4) Side-Step Cast Aluminum						
5″	1 5/16″	4 3/4″	3 1/8″	6 1/4″	**7963T35**	26.28

Steel Fold-Up Steps

There when you need a step; then fold it up out of the way when you don't. Step is steel with a serrated surface for slip resistance. Finish is gray. Has two 7/16″ diameter mounting holes (fasteners not included). Capacity is 350 lbs.

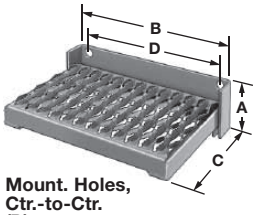

Step Size Ht.	Step Size Wd.	Step Size Dp.	Overall Ht. (A)	Overall Wd. (B)	Overall Dp. (C)	Mount. Holes, Ctr.-to-Ctr. (D)		
2″	14 1/4″	9 1/2″	4″	15 1/4″	10 1/8″	13″	**8035T52**	$99.22

Aluminum Wall-Mount Steps

Stop dragging a step ladder to the same place again and again. Permanently mount these steps where you need them. Steps are corrosion-resistant aluminum with a serrated surface for slip resistance. They have four 3/4″ diameter mounting holes (fasteners not included). Capacity is 300 lbs.

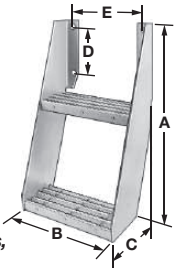

Step Size Wd.	Step Size Dp.	Overall Ht. (A)	Overall Wd. (B)	Overall Dp. (C)	Mount. Holes, Ctr.-to-Ctr. (D)	Mount. Holes, Ctr.-to-Ctr. (E)		
12″	4 7/8″	23″	12 5/16″	9 11/16″	6 1/4″	9 13/16″	**79925T36**	$176.59
18″	4 7/8″	23″	18 1/2″	9 11/16″	6 1/4″	16″	**79925T38**	187.68

Antislip Step Bars

Ideal for use as ladder rungs, these step bars have a serrated surface for slip resistance. Cut bars to size with a metal-cutting saw; maximum cut length is 24″.

Bars up to 18″ long have a 540-lb. capacity; bars 18″ to 24″ have a 250-lb. capacity. All step bar lengths must be welded at each end with welds able to support the rated capacity.

Step Size Ht.	Step Size Dp.	17″ Length		7-ft. Length		20-ft. Length	
Steel							
1 1/4″	1 1/16″	**6926T1**	$22.96	**6926T14**	$92.09	**6926T3**	$173.96
1 1/4″	1 7/8″	**6926T2**	23.59	**6926T9**	99.74	**6926T4**	191.80
Type 304 Stainless Steel							
1 1/4″	1 1/16″	**6926T15**	44.11	**6926T7**	192.29	———	———
Aluminum							
1 1/2″	2″	**6926T11**	39.03	**6926T12**	167.45	**6926T13**	285.80

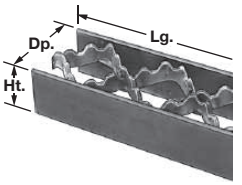

Telescoping Ladder Support Posts

Add safety and convenience to your wall and tank ladders. Posts are 1 1/2″ square, extend 42″ above the ladder top, and lock in place to guide you and provide stability. A release lever lets you lower the post when it's not in use. Posts fit 3/4″ to 1 1/4″ diameter rungs on ladders with up to 14″ center-to-center rung spacing. They mount to the top two rungs (hardware included).



Safety Yellow Steel	**8135T31**	$362.05
Hot-Dipped Galvanized Steel	**8135T32**	497.05
Aluminum	**8135T33**	472.50
Type 304 Stainless Steel	**8135T34**	1,121.63

Antislip Ladder Rung Covers

Weld these covers to the rungs of your wall and tank ladders for excellent slip resistance. Covers are galvanized steel with an aluminum oxide grit surface. Fit square and round rungs. Can be cut with a hand grinder or miter saw using a masonry blade.



For Rung Dp./Dia.	16″ Length		4-ft. Length		10-ft. Length	
3/4″	**8115T91**	$19.09	**8115T96**	$41.11	**8115T94**	$96.11
1″	**8115T92**	21.65	**8115T97**	47.89	**8115T95**	112.96

Wall-Mount Walk-Through Steel Dock Ladders

Our highest capacity dock ladders—they're made of steel pipe with a yellow finish. Walk-through is 18″ wide, and the handrails have 4 1/2″ long vinyl handgrips. Rungs have a smooth surface. Ladders are offset 8″ for toe clearance.

They mount to the wall with brackets. Brackets have one 3/8″ dia. mounting hole (fasteners not included). Ladders with 2′2″ to 4′2″ top rung height have four mounting brackets; 5′2″ to 8′2″ height to top rung have six mounting brackets; and 9′2″ height to top rung have eight mounting brackets. Capacity is 500 lbs. Meet OSHA requirements.

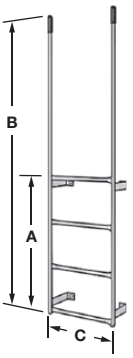

Top Rung Ht. (A)	O'all Ht. (B)	O'all Wd. (C)		
2′2″	5′8″	20″	**8248T11**	$127.83
3′2″	6′8″	20″	**8248T12**	164.04
4′2″	7′8″	20″	**8248T13**	195.98
5′2″	8′8″	20″	**8248T14**	221.56
6′2″	9′8″	20″	**8248T15**	253.50
7′2″	10′8″	20″	**8248T16**	289.71
8′2″	11′8″	20″	**8248T17**	314.38
9′2″	12′8″	20″	**8248T18**	372.21

Wall-Mount Side-Step Steel Dock Ladders

Ladders have serrated rungs for slip resistance and four smooth rungs at the top for hand grips. Ladders are offset 6″ for toe clearance. They mount to the wall with welded-on brackets. Brackets have one 3/8″ dia. mounting hole (fasteners not included). Ladders with a maximum climbing height of 1′5″ to 4′5″ have four mounting brackets; all others have six brackets. Color is gray. Capacity is 300 lbs. Meet OSHA requirements.

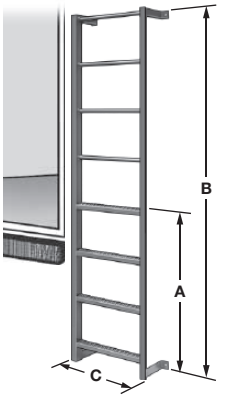

Max. Climbing Ht. (A)	O'all Ht. (B)	O'all Wd. (C)		
1′5″	5′6″	23 1/2″	**8177T11**	$169.85
2′5″	6′6″	23 1/2″	**8177T12**	182.78
3′5″	7′6″	23 1/2″	**8177T13**	206.78
4′5″	8′6″	23 1/2″	**8177T14**	221.55
5′5″	9′6″	23 1/2″	**8177T15**	245.55
6′5″	10′6″	23 1/2″	**8177T16**	258.48
7′5″	11′6″	23 1/2″	**8177T17**	282.48
8′5″	12′6″	23 1/2″	**8177T18**	302.78
9′5″	13′6″	23 1/2″	**8177T19**	328.33

Dock-Mount Walk-Through Ladders

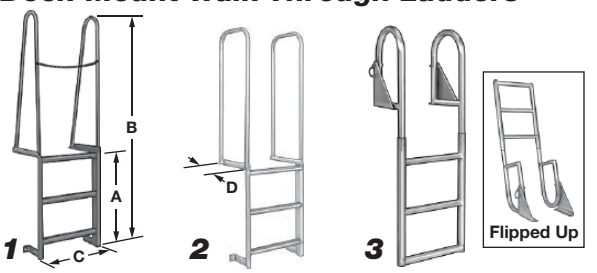

(1) Steel Ladders— Have serrated rungs for maximum slip resistance and are offset 6″ for toe clearance. Walk-through is 19″ wide. Ladders have welded-on mounting brackets; the two at the top have two 3⁄8″ dia. mounting holes and the two at the bottom have one 3⁄8″ dia. mounting hole (fasteners not included). Capacity is 300 lbs. Meet OSHA requirements. Optional safety chain stretches across ladder to deter access.

(2) Aluminum Ladders— Have serrated rungs for maximum slip resistance and are offset 6″ for toe clearance. Walk-through is 19″ wide. All have welded-on mounting brackets with two 3⁄8″ dia. mounting holes (fasteners not included). Ladders up to 5′6″ height to top rung have four mounting brackets; all others have six mounting brackets. Capacity is 300 lbs. Meet OSHA requirements.

(3) Flip-Up Aluminum Ladders— Flip up or down in seconds and easily secure with a retainer pin (included). They have ribbed rungs for slip resistance. Walk-through is 15 1⁄4″ wide. Ladders have two mounting brackets each with two 1⁄2″ dia. mounting holes (fasteners not included). Capacity is 400 lbs.

Top Rung Ht. (A)	O'all Ht. (B)	O'all Wd. (C)	Dp. (D)		
(1) Steel					
2′6″	6′	24″	16″	8190T12	$196.72
3′6″	7′	24″	16″	8190T13	217.72
4′6″	8′	24″	16″	8190T14	242.55
5′6″	9′	24″	16″	8190T15	257.84
6′6″	10′	24″	16″	8190T16	267.40
7′6″	11′	24″	16″	8190T17	292.22
8′6″	12′	24″	16″	8190T18	313.22
9′6″	13′	24″	16″	8190T19	349.59
Optional Safety Chain for Steel Ladders				8190T51	54.38
(2) Aluminum					
2′6″	6′	24″	16″	79435T61	382.50
3′6″	7′	24″	16″	79435T71	417.50
4′6″	8′	24″	16″	79435T81	455.00
5′6″	9′	24″	16″	79435T82	507.50
6′6″	10′	24″	16″	79435T83	542.50
7′6″	11′	24″	16″	79435T84	577.50
8′6″	12′	24″	16″	79435T85	612.50
9′6″	13′	24″	16″	79435T86	647.50
(3) Flip-Up Aluminum					
2′1″	5′	18 3⁄4″	14″	7295T11	230.51
3′1″	6′	18 3⁄4″	14″	7295T12	256.71
4′1″	7′	18 3⁄4″	14″	7295T13	282.90

Offset-Rung Wall-Mount Steel Ladders

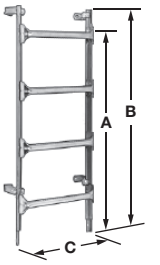

Rungs are offset and when used with the included mounting brackets you get 7″ of toe clearance to meet OSHA requirements. Made of galvanized steel, these ladders have dimpled rungs for slip resistance.

Mounting brackets have one 13⁄32″×3⁄4″ slotted hole (fasteners not included). The 4-ft. ladder has four mounting brackets; all others have six mounting brackets. Ladders have built-in connectors so they can be connected to each other to create the ladder height you need. Capacity is 250 lbs.

Note: The first rung of the ladder cannot be more than 12″ from the floor.

Top Rung Ht. (A)	O'all Ht. (B)	O'all Wd. (C)		
3′6″	4′	19 3⁄8″	7983T73	$80.93
4′6″	5′	19 3⁄8″	7983T74	103.18
7′6″	8′	19 3⁄8″	7983T75	145.84

Versatile-Mount Steel Ladders

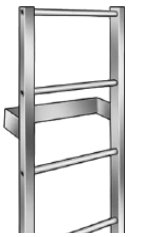

Ladder with Mounting Bracket

Mount these galvanized steel ladders to walls, tanks, and pipes or connect multiple ladders for more height. They have knurled rungs for slip resistance. Ladders can be mounted or connected to another ladder with a mounting bracket (sold separately). Capacity is 300 lbs. Meet ANSI A14.3.

Mounting bracket provides 7″ for toe clearance to meet OSHA requirements. It must be drilled to the desired bolt hole size for mounting to a surface (fasteners not included) so you can adapt it to your needs. For instance, use U-bolts (not included) to connect ladder to pipes. Hardware is included to mount the bracket to the ladder. Bracket is galvanized steel. Each ladder requires two brackets (one for the top and one for the bottom). If connecting multiple ladders, one mounting bracket is required for each additional ladder section.

Top Rung Ht.	O'all Ht.	O'all Wd.		
7′6″	8′	19 1⁄4″	8142T63	$202.59
9′6″	10′	19 1⁄4″	8142T64	239.77
Mounting Bracket			8073T5	54.16

Wall-Mount Ladders



With Walk-Through Extension

Metal ladders have welded construction; fiberglass are constructed of high-strength fiberglass. All have wall-mounting brackets that offset the ladder 7″ for toe clearance and two floor-mounting brackets. Mounting brackets have one 7⁄16″ dia. hole (fasteners not included). The first rung is 9″ off the floor. Meet OSHA requirements.

Steel and ***Type 304 Stainless Steel Ladders—*** Have serrated rungs for slip resistance. The 8- and 10-ft. ladders come with two wall-mounting brackets; all others come with four. Steel ladders have a gray finish. Capacity is 350 lbs. *Ladders with walk-through extension* have a 21″ wide walk-through with handrails that extend 42″.

Aluminum Ladders— Have serrated rungs for slip resistance. The 8-ft. ladder comes with two wall-mounting brackets; the 10- and 12-ft. come with four; and the 14- and 16-ft. come with six. Capacity is 350 lbs. *Ladders with walk-through extension* have a 21″ wide walk-through with handrails that extend 42″.

Fiberglass Ladders— Have rungs embedded with grit for slip resistance. The 8-, 10-, and 12-ft. ladders come with four wall-mounting brackets; all others come with six. Color is yellow. Capacity is 500 lbs. *Ladders with walk-through extension* have an 18″ wide walk-through with handrails that extend 42″.

Top Rung Ht. (A)	O'all Ht.	Steel O'all Wd.			Type 304 Stainless Steel O'all Wd.			Aluminum O'all Wd.			Fiberglass O'all Wd.		
Without Extension													
7′9″	8′	16 3⁄4″	7981T11	$306.91	16 3⁄4″	80015T51	$769.68	17″	79135T21	$419.61	22″	4326T71	$566.42
9′9″	10′	16 3⁄4″	7981T12	350.07	16 3⁄4″	80015T52	932.73	17″	79135T22	493.93	22″	4326T72	681.97
11′9″	12′	16 3⁄4″	7981T21	405.23	16 3⁄4″	80015T61	1,122.14	17″	79135T23	577.86	22″	4326T73	797.53
13′9″	14′	16 3⁄4″	7981T13	453.18	16 3⁄4″	80015T53	1,282.80	17″	79135T24	654.59	22″	4326T74	913.08
15′9″	16′	16 3⁄4″	7981T14	498.73	16 3⁄4″	80015T54	1,445.84	17″	79135T25	728.91	22″	4326T75	1,028.64
With Walk-Through Extension													
7′9″	11′3″	21 3⁄4″	7981T41	383.64	21 3⁄4″	80015T55	1,004.66	22″	79135T31	529.91	22″	4326T76	665.72
9′9″	13′3″	21 3⁄4″	7981T42	426.80	21 3⁄4″	80015T56	1,167.70	22″	79135T32	604.23	22″	4326T77	781.28
11′9″	15′3″	21 3⁄4″	7981T51	481.95	21 3⁄4″	80015T62	1,354.73	22″	79135T33	688.16	22″	4326T78	896.83
13′9″	17′3″	21 3⁄4″	7981T43	529.91	21 3⁄4″	80015T57	1,517.77	22″	79135T34	764.89	22″	4326T79	1,012.39
15′9″	19′3″	21 3⁄4″	7981T44	575.45	21 3⁄4″	80015T58	1,678.41	22″	79135T35	839.20	22″	4326T81	1,127.94

Steel Ladders with Welded-On Cage

A cage is already welded to these ladders for quick assembly. Plus, ladders come in sections no longer than 7 feet for easy handling. Bolt ladder sections together end-to-end (fasteners included). Cages start 7 feet above the bottom of the ladder and extend beyond the top rung by 42″. Walk-through is 24″ wide and has a 42″ high handrail. Inside dimensions of the cage are 30″ Wd.×27″ Dp.; the flared bottom is 36½″ Wd.×30″ Dp.

Ladders have ribbed rungs and a gray finish. They also include welded-on mounting brackets with one 9/16″ dia. hole (fasteners not included). Mounting brackets offset the ladder 7″ for toe clearance. Capacity is 300 lbs. Meet ANSI A14.3 and OSHA requirements.

Optional security cover prevents unauthorized access to ladders. Can be welded or bolted on (holes must be drilled) to open from either side (fasteners not included). Cover is made of steel with a gray finish and is 6′ Ht.×19½″ Wd.×6½″ Dp. The hasp accepts a padlock (not included) with a 3/8″ or smaller shackle diameter.

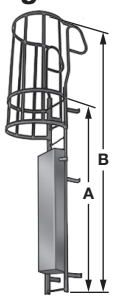

With Optional Security Cover

Top Rung Ht. (A)	O'all Ht. with Cage (B)	Ladder Wd.		
12′1½″	15′7½″	20″	80265T21	$1,050.83
16′1½″	19′7½″	20″	80265T25	1,438.80
20′1½″	23′7½″	20″	80265T29	1,724.15
24′1½″	27′7½″	20″	80265T34	2,097.74
27′1½″	30′7½″	20″	80265T37	2,260.42
Optional Security Cover			79745T36	392.19

Steel Modular Cages

Create the cage you need. OSHA requires a ladder cage when ladder heights are greater than 20 feet from the floor to the top rung. Meet ANSI A14.3 and OSHA requirements.

Each section is fully welded and mounts to the side rails of stationary ladders (not to walls or other cages) that have an overall width of 16″ to 20″. Inside dimensions for the top section and mid/top sections are 30″ Wd.×30″ Dp.; the flared bottom section is 38″×34″ with a 38″ Wd.×38″ Dp. base. All sections have a gray finish and attach with included clamps that accommodate side rails 2″ wide or less. OSHA requires cages to start between 7 and 8 feet from the ground.

Top section is required for walk-through applications and should extend 42″ above the top rung. ***Mid/top sections*** extend the length of the cage, or can act as a top section for hatch opening use. ***Bottom section*** flares out for entry and exit.

Note: At least one top or mid/top section and one flared bottom section are required for a complete assembly.

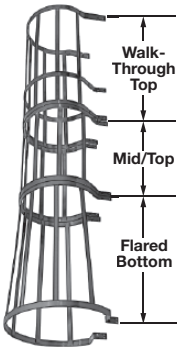

5′ Top Section for Walk-Through	8271T11	$248.20
2′ Mid/Top Section	8271T14	191.44
3′ Mid/Top Section	8271T16	199.74
4′ Mid/Top Section	8271T18	215.92
7′ Mid/Top Section	8271T12	340.58
4′ Flared Bottom Section	8271T21	220.38

Fold-and-Carry Work Platforms

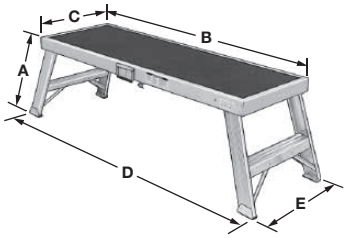

Take your platform anywhere. Folding legs and a carrying handle make this lightweight platform easy to transport. Legs fold up and under the platform and lock in place with safety clips. Frame is aluminum; deck is plywood with a slip-resistant coating. One 2⅛″ Dp. step at each end lets you climb up from either side. Shipped assembled.

		Top		Base			
Cap., lbs.	Ht. (A)	Wd. (B)	Dp. (C)	Wd. (D)	Dp. (E)		
500	21″	60¼″	22¾″	69″	22½″	81635T47	$374.74

Steel Ladders

Ladders with Cage

Made of galvanized steel, these ladders include a cage for added safety. Cage is unassembled (assembly hardware, connecting kit, and mounting brackets are included) for flexibility in mounting and lower freight costs.

Cages start between 7 and 8 feet from the ground and extend beyond the highest rung by 42″ with a walk-through exit. Inside dimensions of cage are 27″ Wd.×28½″ Dp.; flared bottom is 35″ Wd.×32½″ Dp. Ladders resist corrosion and weather. They have knurled rungs. Capacity is 300 lbs. Meet ANSI A14.3 and OSHA requirements. OSHA requires a cage when the distance from the floor to the top rung is more than 20 feet.

Optional security cover prevents unauthorized access. It covers five rungs and is secured by two hooks at the top and a U-clamp at the bottom. It is galvanized steel and is 5′6″ Ht.×19½″ Wd.×2″ Dp. Hasp accepts a padlock (not included) with a 3/8″ or smaller shackle diameter.

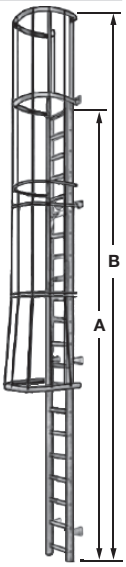

Top Rung Ht. (A)	O'all Ladder Ht.	O'all Ht. with Cage (B)	Ladder Wd.		
10′6″	11′	14′1″	19¼″	8140T68	$831.65
11′6″	12′	15′1″	19¼″	8140T59	852.63
12′6″	13′	16′1″	19¼″	8140T69	887.54
13′6″	14′	17′1″	19¼″	8140T52	878.95
14′6″	15′	18′1″	19¼″	8140T67	1,036.06
15′6″	16′	19′1″	19¼″	8140T53	1,044.21
16′6″	17′	20′1″	19¼″	8140T71	1,097.74
17′6″	18′	21′1″	19¼″	8140T54	1,141.05
18′6″	19′	22′1″	19¼″	8140T55	1,212.63
20′6″	21′	24′1″	19¼″	8140T66	1,408.72
22′6″	23′	26′1″	19¼″	8140T56	1,437.91
24′6″	25′	28′1″	19¼″	8140T72	1,549.19
26′6″	27′	30′1″	19¼″	8140T57	1,619.48
28′6″	29′	32′1″	19¼″	8140T58	1,709.49
29′6″	30′	33′1″	19¼″	8140T86	1,823.97
Optional Security Cover				8140T78	153.75

Ladders without Cage

Connect different sized ladders for the perfect height. Use the connecting kit (sold separately) to connect ladders with no drilling required. Mount to the wall with the mounting bracket kit (sold separately). Ladders are galvanized steel to resist corrosion and weathering. They have knurled rungs. Capacity is 300 lbs. Meet ANSI A14.3 and OSHA requirements. OSHA requires a cage when the distance from the floor to the top rung is more than 20 feet.

Connecting kit includes splice plates and fasteners. Order one connecting kit for each additional ladder section.

Mounting bracket kit comes with wall-mounting brackets that offset the ladder 7″ for toe clearance (fasteners for mounting the brackets to the ladder are included). The brackets have two 13/32″×¾″ slots for mounting to the wall (fasteners not included). Two kits are recommended for 4- to 8-ft. ladders; three kits are recommended for the 10-ft. ladder.

Optional walk-through extension is 24″ wide with handrails that extend 42″.

Top Rung Ht. (A)	O'all Ht.	O'all Wd.		
3′6″	4′	19¼″	8142T61	$116.38
4′6″	5′	19¼″	8142T62	133.92
7′6″	8′	19¼″	8142T63	202.59
9′6″	10′	19¼″	8142T64	239.77
Connecting Kit			8142T67	19.34
Mounting Bracket Kit			8142T66	19.34
Optional Walk-Through Extension			8142T68	114.29

Fixed-Height Fiberglass Work Platforms

Nonconductive and noncorrosive, these lightweight fiberglass platforms cushion your movements to ease strain on your feet, legs, and back. Top has a slip-resistant grit surface. Platforms have rubber feet and are easy to clean and move. Capacity is 750 lbs.



Ht.	24″×24″		24″×36″	
4″	81845T12	$253.95	81845T22	$294.37
6″	81845T13	268.51	81845T23	314.82
8″	81845T14	289.33	81845T24	335.23
10″	81845T15	295.35	81845T25	357.73

Adjustable-Height Steel Work Platforms

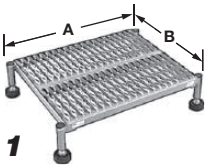

1

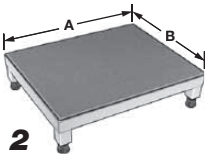

2

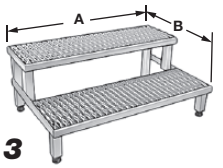

3



4

Adjustable leg screws raise and lower platform height.

(1) One-Step Platforms with Serrated Surface— Legs have 2½″ dia. rubber pads and are on the outside of the platform. Have a gray finish. Capacity is 800 lbs. Meet OSHA requirements.

(2) One-Step Platforms with Matting Surface— A vinyl sponge matting covers the solid surface of the platform to provide comfort and reduce fatigue. Legs have rubber tips. All have a safety-yellow finish and blue matting. Capacity is 500 lbs.

(3&4) Two-Step Platforms with Serrated Surface— Gain more height with these two-step platforms.

Style 3 has a bottom step that adjusts from 6″ to 8¼″ when the overall height is adjusted, making the space between the floor and the first step greater than the space between the two steps. Steps are 12″ deep. Legs have rubber tips. Platforms have a safety yellow finish. Capacity is 500 lbs.

Style 4 allows you to maintain equal rise between steps when overall height is adjusted. Therefore, the distance between the floor and the first step is always the same as the distance between the first step and the second step to meet OSHA requirements. Bottom step is 19″ deep; top step is 12″ deep. Platforms have a gray finish. Capacity is 800 lbs.

(1&2) One-Step Platforms

	Wd. (A)	Dp. (B)	6″ to 9″ O'all Ht.		10″ to 15″ O'all Ht.	
1	27¾″	19″	8127T11	$236.22	8127T31	$245.31
1	27¾″	24″	8127T12	240.78	8127T41	252.12
1	39¾″	19″	8127T13	249.86	8127T32	261.22
1	39¾″	24″	8127T22	258.94	8127T42	265.76
1	51¾″	19″	8127T14	272.57	8127T33	288.47
1	51¾″	24″	8127T15	283.94	8127T43	295.29
1	75¾″	27¾″	8127T16	406.59	8127T45	422.49

	Wd. (A)	Dp. (B)	5″ to 8″ O'all Ht.		9″ to 14″ O'all Ht.	
2	24″	19″	8341T11	$174.07	8341T31	$202.78
2	24″	24″	8341T12	190.74	8341T41	214.81
2	36″	19″	8341T13	212.96	8341T32	226.85
2	36″	24″	8341T22	233.33	8341T42	244.44
2	48″	19″	8341T14	247.22	8341T33	255.56
2	48″	24″	8341T15	272.22	8341T43	279.63
2	72″	24″	8341T16	381.48	8341T45	394.44

(3&4) Two-Step Platforms

	Wd. (A)	Dp. (B)	13″ to 15¼″ O'all Ht.	
3	24″	24″	8143T11	$253.37
3	36″	24″	8143T12	268.24
3	48″	24″	8143T13	292.66

	Wd. (A)	Dp. (B)	13″ to 21″ O'all Ht.	
4	26″	23″ to 31″	8610T51	$284.99
4	38″	23″ to 31″	8610T52	336.94
4	50″	23″ to 31″	8610T53	518.33

Adjustable-Height Multi-Step Steel Work Platforms

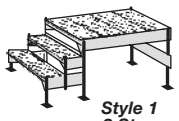
Style 1
3 Step

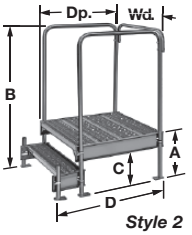

Style 2

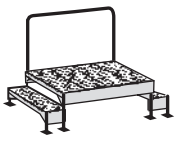
Style 3


Style 4


Style 5

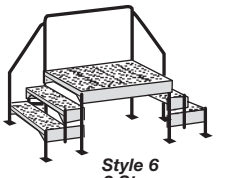
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3 Step

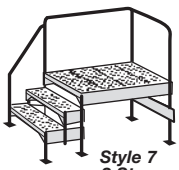
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3 Step

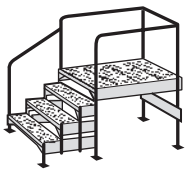
Style 8


Style 9

Get easy access to elevated areas. Plus, a large platform allows plenty of space for working. Platform and steps are serrated for maximum slip resistance and to allow dirt and debris to fall through. Steps are 36″ Wd. ×9½″ Dp. and adjust for equal vertical spacing. Legs and handrails are made of 1¼″ dia. tubing. Platforms have a gray finish. Shipped unassembled. Capacity is 500 lbs. Meet OSHA requirements.

Styles 3, 4, 6, and *7* have side handrails that mount on either side.

Also Available: Other platform sizes. Please ask for 8031T999 and specify style number, platform size, and platform height.

Style	Max. Platform Ht. (A)	Height with Handrails (B)	Clearance Ht. (C)	Steps Including Platform	36″ Wd. ×39″ Dp. Platforms O'all Depth with Steps (D)		36″ Wd. ×77″ Dp. Platforms O'all Depth with Steps (D)	
1	1′9″	—	1′3¼″	2	4′	8031T8 $476.33	7′2″	8031T18 $802.80
1	2′9″	—	2′3¼″	3	4′9″	8031T9 620.33	7′11″	8031T19 1,004.70
2	1′9″	5′	1′3¼″	2	4′	8031T13 581.57	7′2″	8031T23 1,061.60
3	1′9″	5′	1′3¼″	2	4′9″	8031T14 640.65	7′11″	8031T24 1,034.39
4	1′9″	5′	1′3¼″	2	4′	8031T12 548.43	7′2″	8031T52 941.12
5	2′3″	5′6″	1′9¼″	3	4′9″	8031T21 795.73	7′11″	8031T11 1,280.06
5	2′9″	6′	2′3¼″	3	4′9″	8031T22 801.27	7′11″	8031T62 1,315.24
6	2′9″	6′	2′3¼″	3	6′3″	8031T31 940.67	9′5″	8031T61 1,420.73
6	3′9″	7′	3′3¼″	4	7′9″	8031T32 1,206.22	10′11″	8031T63 1,724.92
7	2′3″	5′6″	1′9¼″	3	4′9″	8031T41 738.50	7′11″	8031T68 1,148.19
7	2′9″	6′	2′3¼″	3	4′9″	8031T42 760.65	7′11″	8031T65 1,241.38
7	3′9″	7′	3′3¼″	4	5′6″	8031T43 891.73	8′8″	8031T44 1,262.48
8	3′3″	6′6″	2′9¼″	4	5′6″	8031T51 906.18	8′8″	8031T67 1,471.65
8	3′9″	7′	3′3¼″	4	5′6″	8031T58 919.16	8′8″	8031T53 1,488.60
9	2′9″	6′	2′3¼″	3	6′3″	8031T54 1,097.74	9′5″	8031T64 1,598.32

Modular Stackable Work Platforms

Stack platforms vertically and connect them horizontally to create various sizes and configurations. No tools required. Made of chemical-resistant, high-density black polyethylene. Platforms and antifatigue mats have an open-grid design that allows liquids to drain and debris to fall through.

Base platforms are 2⅞″ high and have rubber feet to keep them stable. To connect multiple platforms side-by-side or end-to-end, use two horizontal connectors (sold separately) on each joining side.

Additional height platforms are 2⅝″ high. You can stack up to five additional height platforms on top of a base platform for a total height of 16″. Additional height platforms come with vertical connectors—four for the 3- and 5½-ft. long platforms; eight for the 8-ft. long platforms.

Antifatigue mats enhance comfort and safety. Made of rubber, they fit snugly on top of the platform and stay in place with the included lock plugs. *Black mats* are ½″ thick. *Black mats with yellow border* are ⅞″ thick and comply with OSHA 29 CFR.



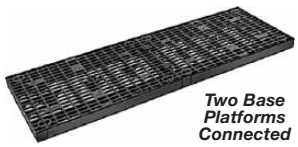

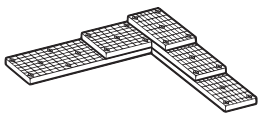

Lg.	Wd.	Rated Cap., lbs.	Base Platforms		Additional Height Platforms		ANTIFATIGUE MATS Black		ANTIFATIGUE MATS Black with Yellow Border	
3′	2′	250	81905T91	$51.69	81905T92	$51.69	81905T31	$61.73	81905T51	$131.48
5½′	2′	350	81905T93	96.05	81905T94	96.05	81905T32	131.03	81905T52	246.27
8′	2′	500	81905T95	111.55	81905T96	111.55	81905T33	179.71	81905T53	326.18
8′	3′	750	81905T97	144.07	81905T98	144.07	81905T34	235.37	81905T54	409.63

Horizontal Connectors for Base Platforms (Pkg. of Four)	81905T82	6.48
Replacement Rubber Foot for Base Platforms	81905T79	2.81
Replacement Vertical Connector for Additional Height Platforms	81905T81	3.33
Replacement Lock Plugs for Antifatigue Mats (Set of Four)	81905T39	6.25

Build-Your-Own Work Platforms

Configure the work platform you need. All work platforms should be secured to a supporting surface. Meet OSHA requirements.

First, determine how high your work platform needs to be and choose the stairs that accommodate that height. Then, choose a platform based on the desired length. Next, choose platform supports that correspond to the height of your stairs—each end of the platform must be supported by one end support (or stairs for aluminum). Finally, choose handrails for the stairs and platform.

Aluminum—Lightweight and corrosion resistant, they're made of aluminum and assemble with included stainless steel fasteners. Capacity is 50 lbs. per sq. ft. ***Stairs*** are 28½″ wide and have a 45° climbing angle. Steps are 27″ Wd.×9½″ Dp. and are serrated for slip resistance. All units have one 9⁄16″ dia. hole on each side for securing to the floor (fasteners not included). ***Stair handrails*** are 32″ high. ***Platforms*** are drilled for assembly and perforated for slip resistance. ***Platform handrails*** are 42″ high and have 5″ high built-in toeboards. ***Platform supports*** are required to support each end of a platform when not using stairs. They have one 9⁄16″ dia. hole in each leg for securing to the floor (fasteners not included). 120″ length platform requires one additional support for the middle. ***T- and L-adapter*** attaches one platform to the side of another platform to create a "T" or "L" shape. ***Stair adapter*** connects the stairs to the platform when using a handrail on only one side of the stairs.

Fiberglass—Nonconductive with better corrosion resistance than aluminum, they're made of fiberglass and assemble with included stainless steel fasteners. Capacity is 60 lbs. per sq. ft. ***Stairs*** are 30″ wide and have a 45° climbing angle. Steps are 25¾″ Wd.×10½″ Dp. and have a grit surface for slip resistance. All units have one 9⁄16″ dia. hole on each side for securing to the floor (fasteners not included). ***Stair handrails*** are 32″ high. ***Platforms*** are drilled for assembly and perforated for slip resistance. ***Platform handrails*** are 42″ high and have 4″ high built-in toeboards. ***Platform supports*** are required to support each end of a platform. They have one 9⁄16″ dia. hole in each leg for securing to the floor (fasteners not included). 120″ length platform requires one additional support for the middle.

Note: Before erecting platforms, check federal, state, and local codes.



Stairs and Stair Handrails

Platform Ht.	Steps	ALUMINUM Clearance Ht.	Stairs	Each	Stair Handrails	Each	FIBERGLASS Clearance Ht.	Stairs	Each	Stair Handrails	Each
18″	1	12″	4929T41	$198.48	4929T61	$138.27	11″	6339T21	$396.60	6339T31	$249.21
27″	2	21″	4929T42	306.09	4929T62	156.00	20″	6339T22	546.80	6339T32	364.62
36″	3	30″	4929T43	393.55	4929T63	165.45	29″	6339T23	711.39	6339T33	465.60
45″	4	39″	4929T44	481.00	4929T64	173.73	38″	6339T24	890.40	6339T34	476.36
54″	5	48″	4929T45	566.09	4929T65	211.55	47″	6339T25	1,040.57	6339T35	569.73
63″	6	57″	4929T46	661.82	4929T66	250.55	56″	6339T26	1,190.73	6339T36	651.44
72″	7	66″	4929T47	750.45	4929T67	283.64	65″	6339T27	1,340.90	6339T72	733.14
81″	8	75″	4929T48	836.73	4929T68	317.91	74″	6339T28	1,497.74	6339T81	826.52

Platforms and Platform Handrails

Lg.	Wd.	ALUMINUM Platforms	Each	Platform Handrails	Each	FIBERGLASS Platforms	Each	Platform Handrails	Each
30″	30″	4929T71	$455.00	4929T81	$198.48	6339T41	$623.81	6339T44	$234.13
60″	30″	4929T72	722.09	4929T82	234.00	6339T42	1,007.49	6339T45	357.40
120″	30″	4929T73	1,196.00	4929T82★	234.00	6339T43	1,444.45	6339T46	714.81

★ Need two handrails for 120″ Lg. platform.

Platform Supports

For Platform Ht.	Aluminum	Each	Fiberglass	Each
18″	4929T51	$191.45	6339T89	$119.45
27″	4929T52	226.91	6339T82	135.19
36″	4929T53	242.27	6339T83	163.55
45″	4929T54	283.64	6339T84	179.29
54″	4929T55	397.09	6339T85	243.24
63″	4929T56	423.09	6339T86	278.88
72″	4929T57	449.09	6339T87	301.75
81″	4929T58	475.09	6339T88	327.14

Adapters

	Aluminum	Each
T- and L-Adapter	4929T92	$89.82
Stair Adapter	4929T91	42.55

SAMPLE CONFIGURATIONS

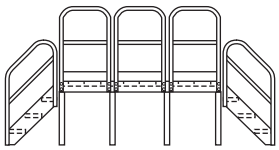

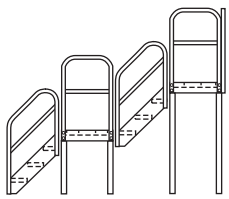

Crossover Bridges

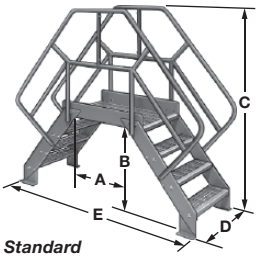

Standard


Space Saver

Easily walk over conveyors, machines, and pipes. Bridges have 24 1/8″ wide steps and 42″ high handrails. Platforms have a 4″ high toeboard on each side. Legs each have one 5/8″ dia. hole for floor mounting (fasteners not included). Shipped unassembled. Capacity is 500 lbs. To calculate the platform height add 2″ to the clearance height (B). *Steel bridges* are gray.

Standard Crossover Bridges— Have a 50° climbing angle and 7″ deep steps. Meet OSHA requirements.

Space-Saver Crossover Bridges— Have a steeper stairway than standard crossover bridges, so they don't extend as far. Climbing angle is 70° and steps are 4 7/8″ deep.

Note: Before erecting crossover bridges, check federal, state, and local codes.

To Order: Please specify serrated or diamond plate steps and platforms. *Serrated* offer excellent slip resistance and an open-grid design that allows dirt and liquids to fall through. *Diamond-plate* also provide slip resistance, but do not allow anything to fall through.

Clearance Lg. (A)	Ht. (B)	O'all Ht. (C)	O'all Wd. (D)	Steps★	O'all Lg. (E)	Steel		Aluminum	
STANDARD CROSSOVER BRIDGES									
						37 1/2″ Dp. x 24 1/8″ Wd. Platform			
24 7/8″	2′6″	6′2″	28 5/8″	4	7′2″	8198T1	$1,240.50	8198T5	$1,550.62
24 7/8″	3′2″	6′10″	28 5/8″	5	8′3″	8198T2	1,405.28	8198T6	1,756.60
24 7/8″	3′10″	7′6″	28 5/8″	6	9′5″	8198T3	1,574.24	8198T7	1,967.80
24 7/8″	4′6″	8′2″	28 5/8″	7	10′6″	8198T4	1,631.04	8198T8	2,038.80
						49 1/4″ Dp. x 24 1/8″ Wd. Platform			
36 5/8″	2′6″	6′2″	28 5/8″	4	8′2″	8198T11	1,458.57	8198T15	1,823.21
36 5/8″	3′2″	6′10″	28 5/8″	5	9′3″	8198T12	1,633.64	8198T16	2,042.05
36 5/8″	3′10″	7′6″	28 5/8″	6	10′5″	8198T13	1,837.72	8198T17	2,297.15
36 5/8″	4′6″	8′2″	28 5/8″	7	11′6″	8198T14	2,136.34	8198T18	2,670.42

O'all Lg. (E)	Steel		Aluminum	
SPACE-SAVER CROSSOVER BRIDGES				
	33″ Dp. x 24 1/8″ Wd. Platform			
4′7″	79865T1	$1,149.10	79865T5	$1,436.37
5′1″	79865T2	1,198.19	79865T6	1,497.74
5′7″	79865T3	1,331.90	79865T7	1,664.88
6′1″	79865T4	1,424.82	79865T8	1,781.02
	44 3/4″ Dp. x 24 1/8″ Wd. Platform			
5′7″	79865T71	1,358.19	79865T81	1,697.74
6′1″	79865T72	1,422.94	79865T82	1,778.68
6′6″	79865T73	1,518.30	79865T83	1,897.88
7′0″	79865T74	1,590.03	79865T84	1,987.54

★ On each side including platform.

Steel Adjustable-Height Stairways

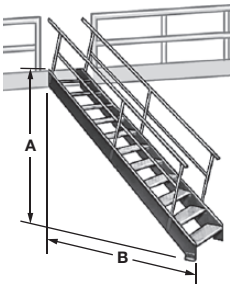

Adjustable mounting brackets allow these stairways to accommodate slight differences in landing heights. Mount from 36° to 42°.

Stairways are galvanized steel with 33 1/2″ high steel handrails. Handrails have a safety-yellow finish. Steps are 8 3/4″ deep and perforated for slip resistance. Stairways include two floor mounting brackets, each with two 1/2″ dia. holes. They also include two landing mounting brackets, each with four 11/32″ dia. holes, two 11/32″ x 3/4″ slots, and two 11/32″ x 1/2″ slots (fasteners not included).

Shipped unassembled. Meet OSHA requirements for fixed stairways.

Note: Before erecting stairways, check federal, state, and local codes.

Landing Ht. (A) Min.	Max.	Dp. (B) Min.	Max.	O'all Wd.	No. of Steps		
30″ Wide Steps							
3′0″	3′5″	3′0″	3′4″	33″	4	8234T12	$711.38
3′6″	4′0″	3′9″	4′2″	33″	5	8234T14	836.21
4′1″	4′8″	4′5″	5′0″	33″	6	8234T16	883.43
4′9″	5′4″	5′2″	5′9″	33″	7	8234T19	988.36
5′5″	5′11″	5′11″	6′6″	33″	8	8234T21	1,092.09
6′0″	6′6″	6′8″	7′4″	33″	9	8234T22	1,145.32
6′7″	7′3″	7′5″	8′1″	33″	10	8234T23	1,208.73
7′4″	8′2″	8′2″	8′9″	33″	11	8234T27	1,474.23
8′3″	8′9″	8′10″	9′4″	33″	12	8234T26	1,652.79
8′10″	10′2″	10′4″	11′5″	33″	14	8234T28	2,237.86
36″ Wide Steps							
3′0″	3′5″	3′0″	3′4″	39″	4	8234T51	758.09
3′6″	4′0″	3′9″	4′2″	39″	5	8234T52	872.81
4′9″	5′4″	5′2″	5′9″	39″	7	8234T53	1,032.84
7′4″	8′2″	8′2″	8′9″	39″	11	8234T47	1,595.91
8′10″	10′2″	10′4″	11′5″	39″	14	8234T48	2,268.61

Offset-Step Space-Saver Stairways



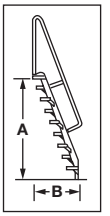

Taking up only as much space as a ladder, these stairways have a 68° climbing angle and offset steps for a comfortable forward descent.

Stairways are steel with a safety-yellow finish. Steps are 9″ Wd. x 10 1/2″ Dp. and are perforated for slip resistance. Handrails are 42″ high. Stairways have one floor mounting plate and one landing mounting plate; each has one 9/16″ dia. hole and one 9/16″ x 1″ slot (fasteners not included). Shipped assembled, except handrails (fasteners included). Meet OSHA requirement 1910.24 for offset steps.

Note: Before erecting stairways, check federal, state, and local codes.

Also Available: Landing heights (dimension A) up to 20 feet. Please ask for 7946T9 and specify height.

Landing Ht. (A)	Dp. (B)	O'all Wd.	No. of Steps		
4′	26″	23″	6	7946T91	$1,066.12
5′	31″	23″	7	7946T92	1,260.16
6′	36″	23″	9	7946T93	1,454.20
7′	40″	23″	10	7946T94	1,648.24
8′	45″	23″	12	7946T95	1,828.22
9′	50″	23″	13	7946T96	2,036.32
10′	55″	23″	15	7946T97	2,230.36
11′	60″	23″	16	7946T98	2,352.03
12′	65″	23″	18	7946T99	2,540.28
13′	70″	23″	19	7946T11	2,688.40
14′	74″	23″	20	7946T12	2,873.88

Steel Space-Saver Stairways



Get access to pits, trenches, wells, and other tight spaces. Also known as ship's ladders, these galvanized steel stairways have a 75° climbing angle to fit in spaces others won't. Steps are perforated for slip resistance. The top step is 24″ Wd. x 11 7/8″ Dp.; lower steps are 24″ Wd. x 7 1/4″ Dp. Handrails are steel with a safety-yellow finish and extend 42″ beyond the top landing for a walk-through exit. Stairways have two floor mounting brackets, each with four 13/32″ dia. holes; also have two landing mounting brackets, each with one 13/32″ dia. hole (fasteners not included). Shipped unassembled. Meet OSHA requirements for fixed ladders.

Note: Before erecting stairways, check federal, state, and local codes.

Landing Ht. (A) Min.	Max.	Dp. (B)	O'all Wd.	No. of Steps		
3′8″	4′7 1/2″	23″	29″	4	8058T21	$426.67
4′7 1/2″	5′7″	26″	29″	5	8058T22	488.07
5′7″	6′6″	29″	29″	6	8058T23	551.55
8′6″	9′5″	38″	29″	9	8058T26	795.49
10′5″	11′5″	44″	29″	11	8058T28	931.05

Lubricating, Measuring & Inspecting

Lubricating

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About Lubricants, Grease, and Oil

	Features/Applications	Pages
Multipurpose Lubricants	Easy to apply, these lubricants penetrate tight spots that grease and oil can't reach. Use them to free and lubricate moving parts and equipment.	2192-2194
Coating Lubricants	Select Petroleum Jelly to protect metal parts and equipment surfaces, O-Ring Lubricants to reduce friction between mating parts, and Mold-Release Lubricants to protect and free molded parts.	2195-2196
Antiseize Lubricants	A combination of solid lubricants, grease, and anticorrosion additives, these lubricants prevent the sticking or jamming as well as corrosion that can occur in metal-to-metal contact.	2196-2198
Grease	Compared to penetrating lubricants and oil, grease adheres better and lasts longer so you don't have to apply it as often. Additives such as PTFE and molybdenum disulfide improve performance.	2198-2203
Oil	Oil is typically used where it can be circulated through a piece of equipment or machinery. Choose oil when spraying or splashing are contained, as in a gearbox or engine compartment.	2202-2208

Lubricants

LPS, CRC 3-36, Sprayon Rust Breaker Penetrant, 3-in-1, and ***Starrett M1*** are NSF registered H2 for applications with no possibility of food contact. ***Aerosols*** have a male stem except for Dow Corning Molykote Silicone 557 and Loctite Silicone, which have a female stem.

WD-40 (–10° to +200°F)

Size		Each	Pkg. Qty.	
3-oz. Aerosol	1347K413	$2.92	12	$31.32
8-oz. Flip-Up Straw Aerosol	1347K483	5.90	12	63.72
11-oz. Flip-Up Straw Aerosol	1347K365	6.55	12	70.44
12-oz. Flip-Up Straw Aerosol	1347K384	6.92	12	74.28
16-oz. Aerosol	1347K375	6.77	12	72.72
18-oz. Big-Blast Aerosol	1347K394	7.58	12	81.48
20-oz. Spray Trigger Nonaerosol	1347K433	11.00	12	118.20
1-gal. Container	1347K323	23.83	4	85.36
5-gal. Container	1347K33	101.28	—	—
55-gal. Drum	1347K34	1,044.39	—	—
Empty 16-oz. Spray Bottle	1347K313	3.65	4	13.08

LPS (–50° to +300°F)

***#1 Greaseless*—**Meet MIL-C-23411A.
***#2 Industrial Strength*—**Meet MIL-C-16173D, Grade 3, Class I and MIL-C-81309D, Type III.

Size		Each	Pkg. Qty.	
#1 Greaseless				
11-oz. Aerosol	1200K214	$11.07	12	$123.00
20-oz. Spray Pump	1200K222	20.73	12	219.48
1-gal. Container	1200K713	51.68	4	191.40
5-gal. Container	1200K23	232.56	—	—
55-gal. Drum	1200K24	2,022.65	—	—
#2 Industrial Strength				
11-oz. Aerosol	1200K334	10.98	12	121.92
20-oz. Spray Pump	1200K342	22.84	12	241.92
1-gal. Container	1200K732	51.33	4	185.88
5-gal. Container	1200K74	230.98	—	—

CRC 3-36

Size		Each	Pkg. Qty.	
For Metals *(–50° to +250°F)*				
5-oz. Aerosol	1420K123	$5.09	12	$57.00
11-oz. Aerosol	1420K146	5.85	12	65.52
1-gal. Container	1420K162	35.36	4	132.00
5-gal. Container	1420K18	150.28	—	—
For Plastics *(Max. temperature is to +250°F)*				
11-oz. Aerosol	1420K152	6.99	12	78.36
Ultra-Lite Dry Film *(–40° to +300°F)*				
11-oz. Aerosol	1420K312	7.88	12	88.32
1-gal. Container	1420K332	49.13	4	183.40
5-gal. Container	1420K35	208.80	—	—

Sprayon Rust Breaker Penetrant (–20° to +550°F)

Size		Each	Pkg. Qty.	
10-oz. Aerosol	10615K233	$7.62	12	$82.32
14-oz. Spray Pump	10615K242	11.64	12	125.76
1-gal. Container	10615K252	50.38	4	183.20

3-in-1 (–25° to +300°F)

Size		Each	Pkg. Qty.	
3-oz. Squirt Spout	1271K103	$2.72	24	$59.28
8-oz. Squirt Spout	1271K604	4.52	12	49.32

Liquid Wrench L1 (0° to +320°F)

Size		Each	Pkg. Qty.	
4-oz. Squirt Spout	1233K212	$3.83	12	$40.80
11-oz. Aerosol	1233K225	6.42	12	68.52
16-oz. Squirt Spout	1233K233	9.00	12	96.00
1-gal. Container	1233K242	24.61	4	93.08
5-gal. Container	1233K25	160.88	—	—

Dow Corning Molykote Silicone 557 (–40° to +110°F)

Size		Each	Pkg. Qty.	
11-oz. Aerosol	1254K122	$26.04	12	$283.68

Loctite Silicone (–58° to +400°F)

Size		Each	Pkg. Qty.	
5.3-oz. Tube	10255K633	$17.10	12	$183.96
13-oz. Aerosol	10255K652	7.33	12	78.84

Starrett M1 (–40° to +120°F)

Size		Each	Pkg. Qty.	
12-oz. Aerosol	1007K214	$11.33	12	$121.56
1-gal. Container	1007K122	63.19	4	224.16

Break-Free CLP (–65° to +400°F)

Size		Each	Pkg. Qty.	
4-oz. Squeeze Bottle	1172K842	$7.36	10	$64.80
12-oz. Aerosol	1172K853	13.46	12	142.32
16-oz. Spray Pump	1172K862	23.08	10	203.40
1-gal. Container	1172K872	105.05	4	370.32

Wipes (20/Box) **1172K91** **Box** 1-5 $6.73 6-Up $5.94

Boeshield T-9 (–30° to +300°F)

Meet MIL-C-16173D.

Size		Each	Pkg. Qty.	
4-oz. Aerosol	10215K232	$9.28	12	$99.48
12-oz. Aerosol	10215K252	18.33	12	196.56
1-gal. Container	10215K752	128.57	4	459.56

Kroil (Not rated for temperature.)

Size		Each	Pkg. Qty.	
16-oz. Aerosol	1463K132	$21.00	12	$230.40
8-oz. Container	1463K112	10.94	24	240.00

Lubricants with PTFE

The PTFE nonstick coating reduces friction as it lubricates. The pen-like ***micro-drop tubes*** allow precise application. Aerosols have a male stem, except for dry film, which has a female stem. These products are compliant under all state VOC rules in effect on October 1, 2010.

Size		Each	Pkg. Qty.	
Tri-Flow *(–60° to +475°F)*				
0.25-oz. Micro-Drop Tube	1202K412	$2.20	50	$99.00
2-oz. Squeeze Bottle	1202K433	3.78	12	40.92
12-oz. Aerosol	1202K214	13.84	12	149.88
18-oz. Spray Bottle	1202K395	20.11	6	108.84
1-gal. Container	1202K452	80.41	2	146.46
Empty 18-oz. Spray Bottle for Tri-Flow	1202K48	5.43	—	—
Slick 50 One Lube *(–30° to +180°F)*				
12-oz. Aerosol	11785K113	6.09	12	65.76
LPS Magnum *(–50° to +450°F)*				
11-oz. Aerosol	1200K512	11.80	12	131.04
5-gal. Container	1200K53	503.80	—	—

Tri-Flow, LPS Magnum, and ***DuPont Lubricants*** (except for DuPont Teflon® dry-film lubricant) are NSF registered H2 for applications with no possibility of food contact.

Dry film quickly evaporates, leaving a dry coating that won't attract dirt.

Size		Each	Pkg. Qty.	
DuPont Teflon® Multi-Use Lubricant *(–20° to +250°F)*				
4-oz. Squeeze Bottle	8710T212	$5.49	6	$29.46
DuPont Teflon® Multi-Use Lubricant *(–30° to +300°F)*				
14-oz. Aerosol	8710T132	10.00	6	53.70
DuPont Teflon® Silicone Lubricant *(–40° to +400°F)*				
14-oz. Aerosol	8710T222	8.82	6	47.34
DuPont Teflon® Dry-Film Lubricant *(–100° to +480°F)*				
14-oz. Aerosol	8710T442	8.98	6	48.18
Dry Film *(–40° to +572°F)*				
10-oz. Aerosol	1130K154	6.94	12	74.40
Standard *(–60° to +500°F)*				
0.5-oz. Micro-Drop Tube	1076K16	7.52	—	—

Biodegradable Lubricants

These lubricants boast a natural lubricity that outperforms petroleum-based oils. Use them anywhere you need a thin, protective film. Temperature range is –22° to +295°F. The aerosol has a female stem.

These products are compliant under all state VOC rules in effect on October 1, 2010.

Size		Each	Pkg. Qty.	
11-oz. Aerosol	1475K412	$15.71	12	$168.48
1-gal. Container	1475K432	42.87	4	154.64
5-gal. Container	1475K45	184.34	—	—

Graphite Lubricants

Made with graphite, these lubricants are capable of conducting heat and electricity. ***Dry film*** quickly evaporates, leaving a dry coating that won't attract dirt. These products are compliant under all state VOC rules in effect on October 1, 2010.

Dry Film— Aerosol has a male stem.

High-Temperature Dry Film— NSF registered H2 for applications with no possibility of food contact. Aerosol stem is female.

Brush-On Dry Film— This extremely durable lubricant resists moisture. Apply with a brush.

Sprayable Dry Film— Thin enough to be applied with a spray gun, this lubricant can cover a large area quickly. For HVLP spray guns, see 77745T and 9383T on page 2166.

No-Drip Stick— No drips or spills. Just apply to a hot surface and let it melt. Size is 2″ Dia. × 10″ Lg.

Powdered— Small particles fit into hard-to-reach spots. Use dry or mixed with oil or grease, unless noted.

Flaked— Large particles conduct more heat and electricity than powders. Use dry or mixed with oil or grease.

Size		Each	Pkg. Qty.	
Dry Film *(–20° to +175°F)*				
3.4-oz. Squeeze Bottle	13725K112	$3.29	12	$35.76
3-oz. Aerosol	13725K122	3.97	12	43.08
High-Temperature Dry Film *(–40° to +850°F)*				
10-oz. Aerosol	1289K174	6.34	12	67.92
Brush-On Dry Film *(–75° to +450°F)*				
32-oz. Container	1289K142	21.48	6	117.96
1-gal. Container	1289K162	56.30	4	207.88
Sprayable Dry Film *(–75° to +450°F)*				
1-gal. Container	1289K222	55.08	4	203.36
No-Drip Stick *(+400° to +850°F)*				
1.3-lb.	3735K14	36.62	—	—
Powdered *(–300° to +700°F)*				
0.21-oz. Tube	1291K512♠	2.02	48	87.84
1-lb. Container	1285K114	13.85	12	151.08
5-lb. Container	1285K252	66.14	4	240.52
50-lb. Drum	1285K13	195.50	—	—
Flaked *(–300° to +700°F)*				
1-lb. Container	1290K102	16.14	12	176.04
5-lb. Container	1290K303	66.14	4	240.52

♠ Temperature range is –75° to +700°F. Use dry.

Food-Grade Lubricants

Choose these lubricants for food-processing and food-handling applications. They're NSF registered H1 (except for 3M, which complies with FDA specification 21 CFR 178.3570) for applications with incidental food contact. The aerosols have a male stem except for dry-film lubricant, which has a female stem. These products are compliant under all state VOC rules in effect on October 1, 2010.

Silicone Lubricants— These lubricants retain their consistency and thickness to reduce friction as they lubricate. ***3M*** is also moisture resistant and can be used as an effective mold release.

Lubricants with PTFE— The PTFE nonstick coating reduces friction as it lubricates. ***Dry film*** quickly evaporates, leaving a dry coating that won't attract dirt.

Equipment Wipe-Down Lubricants— Great for lubricating equipment between processes, these lubricants resist rust and corrosion without solvent odors.

Biodegradable Lubricants— These lubricants boast a natural lubricity that outperforms petroleum-based oils.

Size		Each	Pkg. Qty.	
Lubricants				
Sprayon *(+20° to +450°F)*				
10-oz. Aerosol	1155K123	$7.87	12	$84.96
Silicone Lubricants				
3M *(–28° to +350°F)*				
13.4-oz. Aerosol	31155K364	15.03	12	162.12
LPS *(–40° to +392°F)*				
13-oz. Aerosol	13805K533	12.12	12	130.32
5-gal. Container	13805K54	272.35	—	—
Standard *(–58° to +392°F)*				
11-oz. Aerosol	1408K344	8.76	12	94.56
Lubricants with PTFE				
Dry Film Standard *(–40° to +500°F)*				
11-oz. Aerosol	1155K242	9.43	12	101.76
Standard *(–45° to +450°F)*				
0.25-oz. Micro-Drop Tube	1155K312	3.73	12	40.68
4-oz. Squeeze Bottle	1155K332	5.09	6	27.48
1-gal. Container	1155K352	67.25	4	242.08
Equipment Wipe-Down Lubricants				
Standard *(0° to +370°F)*				
1-gal. Container	8740T332	23.38	6	126.24
Biodegradable Lubricants				
Vegetable Oil Standard *(0° to +280°F)*				
11-oz. Aerosol	1485K242	12.92	12	141.00

Moisture-Free Lanolin Lubricant

Pure Grade AAA lanolin, this clean, odorless, moisture-free lubricant stops rust. Use it to coat gauges and heat-treated parts, which are prone to rusting. It's also good for lubricating while tapping metals and plastics, and can even be used as an antiseize.

This product is compliant under all state VOC rules in effect on October 1, 2010. *Note:* Not rated for temperature.

Size		Each	Pkg. Qty.	
2-oz. Tube	10135K112	$7.69	12	$83.64

Extreme-Pressure Moly Lubricants

Containing moly (molybdenum disulfide), these lubricants are formulated to handle your high pressure applications. These products are compliant under all state VOC rules in effect on October 1, 2010.

Dri Slide—A combination of moly and graphite, these lubricants dry to a gray film that resists rust and corrosion. They repel dirt and dust, and won't harm steel, paint, or plastic. Aerosols have a male stem.

Dow Corning Molykote D-321 R—This moly and graphite lubricant dries to a dark gray film that won't attract dirt. Use on tools, gears, taps, drills, and splines. Aerosol stem is female.

Dow Corning Molykote Z Moly-Powder—Rub this dry lubricant on metal surfaces to prevent corrosion, galling, and seizing. Color is black. Meets MIL-M-7866.

Dry Film—Quickly evaporates, leaving a dark gray coating that won't attract dirt. Use it on slides and hinges, and as a thread lubricant. Aerosol stem is female.

Marine Grade—Reduce the effects of water and salt spray with these water-resistant lubricants. They form a black shield that prevents corrosion, galling, and heat freeze on open gears, open spur gears, marine transmission gears, and other exposed metal parts. Aerosol has a male stem.

Size	Max. psi		Each	Pkg. Qty.	
Dri Slide *(–20° to +750°F)*					
4-oz. Squeeze Bottle	100,000	1163K252	$9.38	12	$102.36
5.25-oz. Aerosol	100,000	1163K123	10.74	12	115.20
8-oz. Aerosol	100,000	1163K182	14.96	12	162.24
32-oz. Container	100,000	1163K322	25.45	12	278.76
1-gal. Container	100,000	1163K443	92.74	4	338.68
Dow Corning Molykote D-321 R *(–290° to +840°F)*					
11-oz. Aerosol	50,000	1254K144	45.91	12	503.04
Dow Corning Molykote Z Moly-Powder *(-375° to +750°F)*					
10-oz. Squeeze Bottle	500,000	4328T622	98.57	24	2,147.28
Dry Film *(–100° to +650°F)*					
8.25-oz. Aerosol	4,000	1436K313	8.37	12	91.80
Marine Grade *(–300° to +750°F)*					
12-oz. Aerosol	300,000	10625K152	23.08	12	251.16
1-lb. Can	300,000	10625K112	19.90	12	210.48

Extreme-Temperature Ceramic Lubricants

In applications where graphite and molybdenum disulfide can't take the heat, choose these ceramic lubricants, which withstand a maximum temperature of 1562° F in oxidizing environments and 3272° F in vacuum environments. Made of white, high-purity boron nitride crystals, they also form an electrical insulating barrier and are effective as a mold release agent. Aerosol has a male stem. 1-gal. container is water based. These products are compliant under all state VOC rules in effect on October 1, 2010.

Size		Each	Pkg. Qty.	
13-oz. Aerosol	10515K352	$34.94	12	$382.32
1-gal. Container	10515K68	111.72	—	—

Nonstaining Powder Lubricant

This mica lubricant leaves behind a thin, stain-free white coating that is barely visible compared to other lubricants such as graphite and molybdenum disulfide. Use it on metal, plastic, rubber, and wood surfaces. Temperature range is 32° to 1100° F.

Size		
0.21-oz. Tube	1667K32	$3.00

Open Gear, Wire Rope, and Cable Lubricant

Guard against rust and displace moisture with this black molybdenum disulfide lubricant. It penetrates the pores of metal surfaces and adheres under high speeds. Stem is female. Temp. range is 14° to 240° F. This product is compliant under all state VOC rules in effect on October 1, 2010, except in California.

Size		Each	Pkg. Qty.	
12-oz. Aerosol	1073K742	$10.34	12	$112.08

Chain Lubricants

Protect your chains and moving metal parts, such as assembly lines, to avoid costly downtime. Aerosols have a male stem, unless noted.

Dow Corning Molykote C-40—Lubricates in high-temperature applications, including oven chains. This low-viscosity fluid evaporates to leave a dry, black graphite film. Apply at temperatures up to 250° F. NSF registered H2 for applications with no possibility of food contact.

DuPont Teflon® Lubricant with Moly—Use on chain-driven vehicles. Goes on wet to penetrate, then dries to a white fluoropolymer wax film. It contains molybdenum disulfide, provides rust and corrosion protection, repels dirt, and is safe for use with O-rings.

Standard—This amber-colored, oil-like film repels dirt. 1- and 5-gal. containers are not VOC compliant in California.

With Moly—Reduce stress of startups with this lubricant, that contains molybdenum disulfide. It also provides protection against corrosion. Color is dark gray. This product is not VOC compliant in California.

Water Resistant—Highly viscous, these lubricants cling to wet surfaces and displace water for excellent rust and corrosion protection. Color is amber. NSF registered H2 for applications with no possibility of food contact. Aerosol is not VOC compliant in California.

For Ovens—Formulated with heat-resistant graphite, these lubricants protect oven-chain pins and bushings from baking heat. Use in kilns, bakery ovens, and industrial ovens. Color is gray/black. NSF registered H2 for applications with no possibility of food contact. *Oil Based*—Apply at temperatures up to 140° F. This product is not VOC compliant in California. *Water Based*—No need to cool down the oven, this lubricant contains no combustible oils so it can be applied at temperatures up to 450° F.

Food Grade—These lubricants contain additives that resist oxidation. NSF registered H1 for applications with incidental food contact. 6159K752 and K772 are amber; 2923K272 and K29 are white.

Water-Resistant Food Grade—Highly viscous, this lubricant clings to wet surfaces and displaces water for excellent rust and corrosion protection. Color is amber. NSF registered H1 and FDA compliant with specification 21 CFR 178.3570 for applications with incidental food contact. This product is not VOC compliant in California.

Direct-Contact Food Grade—NSF registered H3 for direct food-contact applications. Color is clear.

Extra-Thick Food Grade—Formulated extra thick to stay on the chain longer even as it moves, this amber-colored lubricant contains additives that resist oxidation. NSF registered H1 for applications with incidental food contact.

Size		Each	Pkg. Qty.	
Dow Corning Molykote C-40 *(+350° to +1000°F)*				
32-oz. Bottle	4328T462▲	$64.07	4	$232.64
DuPont Teflon® Lubricant With Moly *(–30° to +300°F)*				
14-oz. Aerosol	8710T452	10.43	6	55.98
Standard *(–10° to +260°F)*				
17-oz. Aerosol	6159K115	18.91	12	191.40
1-gal. Container	6159K412	59.62	4	216.28
5-gal. Container	6159K61	260.00	—	—
With Moly *(–20° to +300°F)*				
12-oz. Aerosol	1451K703	7.40	12	79.92
Water-Resistant *(0° to +400°F)*				
12.25-oz. Aerosol	1579K203■	11.20	12	112.80
1-gal. Container	1579K402	50.25	4	180.20
For Ovens, Oil-Based *(–75° to +450°F)*				
5-gal. Container	1443K2	179.80	—	—
For Ovens, Water-Based *(–75° to +450°F)*				
1-gal. Container	1443K302	$37.69	4	$135.49
5-gal. Container	1443K4	166.69	—	—
Food Grade *(–15° to +410°F)*				
11-oz. Aerosol	6159K752▲★	12.42	12	130.44
32-oz. Container	6159K772★	9.50	12	101.76
1-gal. Container	2923K272	36.96	4	135.12
5-gal. Container	2923K29	137.07	—	—
Water-Resistant Food Grade *(0° to +150°F)*				
11-oz. Aerosol	1579K602	10.79	12	108.72
Direct-Contact Food Grade *(+20° to +280°F)*				
4-oz. Squeeze Bottle	9983T202	3.61	6	19.26
16-oz. Squeeze Bottle	9983T302	7.99	12	85.20
32-oz. Container	9983T402	14.42	12	153.84
1-gal. Container	9983T502	61.35	4	220.84
Extra-Thick Food Grade *(–15° to +464°F)*				
5-gal. Container	2923K34	217.05	—	—

▲Has a female stem. ■Temperature range is 0° to +150° F. ★Temperature range is +10° to +150° F.

Control Cable Lubricating Kit

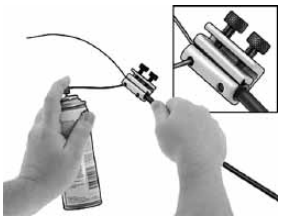

Lubricate your 3/16" to 3/8" dia. shrouded control cables without removing them. This kit includes 6.25-oz. of lubricant and a unique tool that displaces moisture to clean and lubricate in seconds.

To use, attach tool to either end of your cable and then tighten it around the cable. Insert the aerosol extension tube into the tool and spray. Temperature range is –20° to +250°F. This product is compliant under all state VOC rules in effect on October 1, 2010.

Lubricating Kit	1437K1	$24.24
Replacement 6.25-oz. Aerosol	1437K3	8.22

Woodworking Lubricants

The absence of silicone ensures that these lubricants won't stain or affect the paint or finishes you apply to wood. Both are 10.75-oz. aerosol with a female stem. These products are compliant under all state VOC rules in effect on October 1, 2010.

Blade and Bit Lubricant— Reduces cutting friction and resin buildup on saw blades, drill bits, and knives. Temperature range is –67° to +440°F.

Table- and Tool-Surface Lubricant— Reduces sliding friction on metal, laminate, and plastic surfaces. Temperature range is –40° to +135°F.

		1-11	12-Up
Blade and Bit	11615K33	$22.37	$18.96
Table and Tool Surface	11615K77	18.69	15.84

O-Ring Lubricants

Apply directly to O-rings to prevent drying and cracking, which will extend O-ring service life. These products are compliant under all state VOC rules in effect on October 1, 2010.

Dow Corning Molykote 55— For use on most rubbers. Not recommended for use on silicone rubber, polycarbonate, or ABS thermoplastic.

Food Grade— Compatible with most O-rings and seals. NSF registered H1 for applications with incidental food contact.

Barium Based— Use with silicone rubber O-rings and seals in open systems.

Silicone— Use with virtually any rubber polymer including Buna-N and neoprene.

Size		Each	Pkg. Qty.	
Dow Corning Molykote 55 *(–85° to +350°F)*				
5.3-oz. Tube	1325K542	$28.76	12	$313.32
8-lb. Container	1325K58	452.28	—	—
Food Grade *(–40° to +350°F)*				
4-oz. Tube	9463K412	6.76	12	71.04
Barium Based *(0° to +300°F)*				
4-oz. Tube	9463K232	19.00	24	398.88
Silicone *(–65° to +400°F)*				
2-oz. Tube	9463K332	23.71	12	249.00

Dow Corning Molykote Assembly Lubricants

Choose these lubricants to reduce torque on metal parts, such as threaded fasteners, during assembly work. They also reduce friction while breaking in new or rebuilt equipment, such as gears and bearings. These products are compliant under all state VOC rules in effect on October 1, 2010, except for aerosol which cannot be sold in California.

Dow Corning Molykote G-n— Mineral oil and molybdenum disulfide are blended with white solid lubricants. Color is dark gray. Aerosol has a female stem.

Dow Corning Molykote D— Mineral oil is blended with white solid lubricants. Color is white, which provides a clean appearance where thin-film applications are not possible.

Size		Each	Pkg. Qty.	
Dow Corning Molykote G-n *(0° to +750°F)*				
2.8-oz. Tube	1204K332	$11.46	12	$124.80
11-oz. Aerosol	1204K132	31.88	12	347.28
1-lb. Container	1204K362	49.69	6	541.20
Dow Corning Molykote D *(–15° to +480°F)*				
1-lb. Container	4328T372	51.27	6	279.24

Wire and Cable Pulling Lubricants

Get a smooth, consistent pull while decreasing the chance of damage to your insulation. These products are compliant under all state VOC rules in effect on October 1, 2010. They are also UL listed.

Standard— Good for most surfaces except composite rubber, these lubricants are easy to clean up. They're specially formulated to reduce tension in high-stress electrical and communications applications.

With PTFE— The superior lubricity of PTFE handles the most difficult pull.

Size		Each	Pkg. Qty.	
Standard *(28° to 180°F)*				
32-oz. Squeeze Bottle	7431K362	$8.29	12	$88.44
1-gal. Container	7431K372	19.71	4	70.08
With PTFE *(30° to 190°F)*				
32-oz. Squeeze Bottle	7431K412	10.45	12	111.48
1-gal. Container	7431K422	22.66	4	80.56

Leather Lubricant and Conditioners

These products are compliant under all state VOC rules in effect on October 1, 2010.

Lubricant— Also known as castor oil, this nondrying oil lubricates and preserves leather.

Conditioners— Also known as neatsfoot oil, these oils recondition, waterproof, and preserve leather.

Size		Each	Pkg. Qty.	
Lubricant *(0° to 200°F)*				
1-gal. Container	1025K111	$36.28	6	$195.00
Conditioners *(Not rated for temperature)*				
32-oz. Bottle	1022K11	12.96	—	—
1-gal. Container	1022K12	47.30	—	—

Petroleum Jelly

Nondrying and nonhardening, these lubricants won't dissolve in water. Use them to coat and protect your metal surfaces. Not rated for temperature. These products are compliant under all state VOC rules in effect on October 1, 2010.

Standard— Color is white.

Technical Grade— Meets military specification VV-P-236. Color is amber.

Size		Each	Pkg. Qty.	
Standard				
1-lb. Container	1215K124	$10.18	12	$103.68
7-lb. Container	1215K32	42.76	—	—
35-lb. Container	1215K33	162.88	—	—
Technical Grade				
1-lb. Container	1215K412	13.67	12	69.60
7-lb. Container	1215K42	76.00	—	—
35-lb. Container	1215K43	340.00	—	—

Mold Maintenance Products

Cleaner— Spray this cleaner on all types of metal molds to eliminate moisture, dirt, oils, and release agents. Stem is male.

Silicone Remover— Simply mix with water to clear all traces of silicone from molded parts.

Polish— Removes oxidation, stains, and residual materials, leaving a high luster on tooling surfaces.

Size		Each	Pkg. Qty	
Cleaner *(0° to 400°F)*				
16-oz. Aerosol	3311K152	$6.22	12	$67.20
Silicone Remover *(0° to 200°F)*				
16-oz. Container	3311K61	13.76	—	—
Polish *(40° to 120°F)*				
3-oz. Tube	15535K211	9.80	12	106.92
1-lb. Container	15535K22	24.96	—	—
5-lb. Container	15535K23	89.74	—	—

Mold-Release Lubricants

Apply these lubricants prior to molding to facilitate removal. Aerosols have a male stem, unless noted. These products are compliant under all state VOC rules in effect on October 1, 2010.

***Dow Corning Molykote 316*—**Suitable for use on metal food and beverage equipment, this lubricant is FDA compliant with specification 21 CFR 175.300 for applications with incidental food contact. Stem is female.

***Dow Corning Molykote 7*—**An excellent release agent for plastic and metal surfaces, these lubricants also work well as a mold break-in treatment. Meet NSF/ANSI Standard 51 for use in food processing equipment and Standard 61 for use in drinking (potable) water applications. FDA compliant with specification 21 CFR 175.300 for applications with incidental food contact.

***Multipurpose*—**Use these water-based lubricants on acrylic, cellulose, ABS resin, polystyrene, rubber, melamine, and metal.

***For Urethane and Styrene*—**This lubricant protects ultra-sensitive materials such as urethane and styrene from chemicals.

***For Rubber*—**This hydrocarbon-based lubricant forms a semipermanent bond with molds so you can apply it less frequently. It's suitable for all types of elastomers (synthetic rubbers) including EPDM, nitrile, and neoprene. Stem is female.

***Dry Film with Moly*—**Containing moly (molybdenum disulfide), this lubricant provides excellent rust protection. It quickly evaporates, leaving a dry coating that won't attract dirt.

***Food Grade*—**For all plastic molding operations, including injection and compression molding. FDA compliant with specification 21 CFR 121.101 for applications with incidental food contact.

Size		Each	Pkg. Qty.	
Dow Corning Molykote 316 *(–40° to +390°F)*				
10-oz. Aerosol	4328T572	$15.00	12	$163.32
Dow Corning Molykote 7 *(–40° to +400°F)*				
5.3-oz. Tube	1344K222	16.79	12	182.88
8-lb. Container	1344K28	307.12	—	—
Multipurpose *(+34° to +500°F)*				
16-oz. Spray Bottle	2343K372	13.92	12	151.56
1-gal. Container	2343K412	52.38	4	184.68
For Urethane and Styrene *(–40° to +550°F)*				
12-oz. Aerosol	1409K343	12.02	12	129.60
For Rubber *(+40° to +500°F)*				
10-oz. Aerosol	1409K292	12.34	12	136.56
Dry Film with Moly *(0° to +650°F)*				
11-oz. Aerosol	1409K662	12.51	12	135.60
Food Grade *(0° to +600°F)*				
12-oz. Aerosol	1409K323	10.99	12	119.76

Paintable Mold-Release Lubricants

Post-finishing painting is possible when you use these lubricants. Apply prior to molding to facilitate removal and protect mold surface. Aerosols have a male stem, unless noted. These products are compliant under all state VOC rules in effect on October 1, 2010.

***Honey Wax*—**This carnauba wax compound lets you release a mold several times before it needs to be reapplied. To apply, spread an even layer on the surface using the included sponge applicator or a clean cloth. Commonly used in the fiberglass industry.

***For Epoxy*—**Synthetic and wax-based, this lubricant works well for epoxy, polyester, and phenolic molds.

***For Thermosets*—**Release thermoset parts quickly and easily with this wax-based lubricant. Stem is female.

***Dry Powder Zinc Stearate*—**Resists dust, making it good for thermoplastic parts.

***Dry Film with PTFE*—**This PTFE lubricant won't transfer to finished parts and gives multiple releases per application. Suitable for most resins, elastomers (synthetic rubbers), urethane, and styrene.

***Silicone*—**This nonstick lubricant is compatible with plastic, rubber, wax, moldable resins, and elastomers (synthetic rubbers).

***Soybean Fluid*—**Also known as lecithin, this clear soybean fluid quickly and cleanly releases thermoplastic parts. NSF registered H2 for applications with no possibility of food contact.

***Food Grade*—**These hydrocarbon-based lubricants comply with FDA specification 21 CFR 184.1400 (c) for incidental food contact. *With Lubricant for Ejector Pin* acts as a mold release agent and reduces friction in ejector pins and other moving parts. Complies with FDA specification 21 CFR 178.357 for incidental food contact.

Size		Each	Pkg. Qty.	
Honey Wax *(+40° to +170°F)*				
14-oz. Container	2386K782	$19.28	12	$208.20
For Epoxy *(+35° to +450°F)*				
14-oz. Aerosol	1409K672	6.30	12	68.64
For Thermosets *(+40° to +400°F)*				
11-oz. Aerosol	1409K442	6.27	12	69.36
Dry Powder Zinc Stearate *(–40° to +450°F)*				
12-oz. Aerosol	1409K383	11.23	12	121.80
Dry Film with PTFE *(–50° to +575°F)*				
12-oz. Aerosol	1409K423	12.06	12	130.80
Silicone *(–40° to +550°F)*				
12-oz. Aerosol	1409K332	11.09	12	119.52
Soybean Fluid *(–40° to +350°F)*				
12-oz. Aerosol	1409K582	10.26	12	111.24
Food Grade *(+40° to +250°F)*				
12-oz. Aerosol	1409K512	7.53	12	82.08
Food Grade with Lubricant for Ejector Pin *(+40° to +400°F)*				
12-oz. Aerosol	1409K522	7.14	12	78.96

Aerosol Spray Extensions

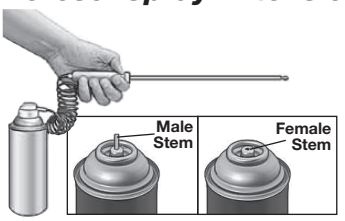

Extend the reach of your aerosol can by popping off the spray button and snapping on this extension. Both consist of a 16″ long steel probe with brass tip attached to a 24″ long nylon recoil hose. Compatible with all of the aerosol lubricants we offer.

For Aerosols with Male Stem	1428K1	$10.23
For Aerosols with Female Stem	1428K2	10.23

Water-Resistant Antiseize Lubricants

High-moisture environments are no problem for these mineral oil-based antiseize lubricants, which also provide corrosion protection. These products are compliant under all state VOC rules in effect on October 1, 2010.

***Food Grade*—**NSF registered H1 for applications with incidental food contact. Meets MIL-A-907E.

***For Aluminum*—**Formulated to meet military specification CID-A-A-59313, these lubricants are especially effective on aluminum.

Size	Color		Each	Pkg. Qty.	
Food Grade *(–10° to +2300°F)*					
1-lb. Brush-Top Can	White	9438K102	$23.57	6	$126.54
For Aluminum *(–65° to +788°F)*					
8-oz. Brush-Top Can	Gray	10105K412	15.37	12	165.24
1-lb. Container	Gray	10105K432	24.37	12	261.96

Antiseize Lubricants

Made of copper, graphite, and other additives, pick these lubricants for your general-purpose antiseize applications. These products are compliant under all state VOC rules in effect on October 1, 2010.

***Bostik Never-Seez*—**Protects parts in high-pressure and corrosive environments. Meet MIL-A-907.

***Dow Corning Molykote 1000*—**Resists corrosion and won't dry out.

***Standard*—**Meet MIL-A-907E. *Aerosol* has a female stem. *Stick* allows no-mess application and measures 1⅜″ Dia.×4¾″ Lg.

***Marine Grade*—**Prevent corrosion in harsh marine environments. Meet MIL-PRF-907E.

Also Available: Loctite® antiseize lubricants. Please ask for 1821A48 and specify trade name: 37229, 37230, 51001, 51002, 51004, 51005, 51006, 51007, 51008, 51009, 51011, 51102, 51115, 51116, 51117, 51144, 51147, 51152, 51246, 51277, 51299, 51572, 76764, 76775, 77124, 77164, 77175, 80206, or 80209.

Size	Color		Each	Pkg. Qty.	
Bostik Never-Seez *(–297° to +1800°F)*					
8-oz. Brush-Top Can	Silver	1820K232	$16.02	12	$174.72
Dow Corning Molykote 1000 *(–20° to +1202°F)*					
1-lb. Brush-Top Can	Brown	1352K612	29.27	10	265.70
Standard *(–65° to +2000°F)*					
4-oz. Brush-Top Can	Copper	1367K912	10.52	24	228.00
8-oz. Brush-Top Can	Copper	1367K112	14.71	12	159.48
12-oz. Aerosol	Copper	1367K213	24.17	12	264.24
Cartridge for Grease Gun (16 oz.)	Copper	1367K512	22.22	12	240.84
1-lb. Brush-Top Can	Copper	1367K813	22.22	12	240.84
2-lb. Container	Copper	1367K712	44.55	6	241.44
10-lb. Container	Copper	1367K313	165.71	4	593.08
2.25-oz. Stick	Copper	1984K112●	11.89	24	246.48
Marine Grade *(–65° to +2000°F)*					
8-oz. Brush-Top Can	Silver	10045K232	11.06	12	118.92
1-lb. Brush-Top Can	Silver	10045K252	17.99	12	193.44

●Temperature range is –50° to +1800°F.

Corrosion-Resistant Antiseize Lubricants

Aluminum lubricants contain aluminum and graphite for good corrosion resistance.

Loctite— Meet MIL-PRF-907E. *Aerosol* has a female stem. This product cannot be sold in California.

Standard— Also contain copper. Meet MIL-A-907E. NSF registered H2 for applications with no possibility of food contact.

Stainless steel lubricants contain stainless steel, graphite, and aluminum for use in extremely corrosive environments.

Bostik Never-Seez— Meet MIL-A-907E.

Bostik Never-Seez Nuclear Grade— Specially formulated to meet the purity and performance requirements of the nuclear industry. Meets MIL-A-907.

Size	Color		Each	Pkg. Qty.	
Aluminum					
Loctite *(–65° to +1600°F)*					
8-oz. Brush-Top Can	Silver	1287K512	$16.62	12	$178.80
12-oz. Aerosol	Silver	1287K612	16.83	12	181.08
Standard *(–65° to +2000°F)*					
0.04-oz. Packet	Silver	1288K192	1.54	250	350.00
1-oz. Tube	Silver	1288K122	7.54	25	170.25
8-oz. Brush-Top Can	Silver	1288K132	16.15	12	175.08
Cartridge for Grease Gun (16 oz.)	Silver	1288K972	22.51	12	243.96
1-lb. Brush-Top Can	Silver	1288K112	25.68	12	278.28
2.5-lb. Can	Silver	1288K172	48.70	6	263.94
Stainless Steel					
Bostik Never-Seez *(–297° to +2200°F)*					
8-oz. Brush-Top Can	Silver	1820K102	20.43	12	220.08
1-lb. Brush-Top Can	Silver	1820K302	35.39	12	377.52
Bostik Never-Seez Nuclear Grade *(–297° to +2200°F)*					
1-lb. Can	Silver	1820K522	67.19	12	732.96

High-Temperature Antiseize Lubricants

Able to withstand temperatures from –350° to +2987°F, these are the highest temperature antiseize lubricants we offer. All are made of a pure metallic lead powder combined with a petroleum lubricant. Great for sealing as well as high-pressure applications. These products are compliant under all state VOC rules in effect on October 1, 2010.

Size	Color		Each	Pkg. Qty.	
2.75-oz.Tube	Dk. Gray	1280K412	$9.33	12	$100.80
1-lb. Brush-Top Can	Dk. Gray	1280K422	28.00	12	302.40
5-lb. Container	Dk. Gray	1280K432	103.33	2	186.00

Extreme-Pressure Moly Antiseize Lubricants

Formulated to take on your extreme-pressure applications, these lubricants contain moly (molybdenum disulfide). These products are compliant under all state VOC rules in effect on October 1, 2010.

Bostik Never-Seez Blue Moly— Also contain corrosion inhibitors to handle harsh environments.

Standard— Also contain graphite. Meet MIL-M-7866C.

For Stainless Steel— Meets MIL-PRF-83483.

Marine Grade— Prevent corrosion in wet environments—even under water.

Size	Color		Each	Pkg. Qty.	
Bostik Never-Seez Blue Moly *(–150° to +1500°F)*					
8-oz. Brush-Top Can	Blue	1820K622	$28.57	12	$311.64
1-lb. Brush-Top Can	Blue	1820K632	49.79	12	543.12
Standard *(–65° to +650°F)*					
3-oz. Tube	Black	1279K312	14.82	10	133.90
10-oz. Brush-Top Can	Black	1279K322	24.46	12	270.24
Cartridge for Grease Gun (16 oz.)	Black	1279K352	30.68	12	322.08
1-lb. Container	Black	1279K332	31.48	12	344.16
For Stainless Steel *(–20° to +748°F)*					
1-lb. Container	Gray	10105K212	53.46	12	597.36
Marine Grade *(0° to +750°F)*					
8-oz. Container	Gray	9456K602	34.84	12	387.12
1-lb. Container	Gray	9456K702	60.46	12	671.76
2-lb. Container	Gray	9456K802	117.40	6	652.20

Copper-Free Antiseize Lubricants

Copper can act as a catalyst in some chemical reactions—that's why we offer copper-free lubricants, which contain nickel, aluminum, and graphite. The presence of nickel makes these lubricants excellent for applications where dissimilar metals such as brass and steel are used together. These products are compliant under all state VOC rules in effect on October 1, 2010.

Standard— NSF registered H2 for applications with no possibility of food contact. Aerosol has a female stem. Meet MIL-A-907E.

Bostik Never-Seez Pure Nickel— Meet MIL-A-907.

Premium— Exceptionally smooth and easy to spread, this lubricant has finer nickel particles to fill and protect even the smallest imperfections in your metals. Meet MIL-A-907E.

Bostik Never-Seez Nuclear Grade— Specially formulated to meet the purity and performance requirements of the nuclear industry. Furnished with certified test reports. Meet MIL-A-907.

Nuclear Grade— Specially formulated to meet the purity and performance requirements of the nuclear industry. Furnished with certified test reports. NSF registered H2 for applications with no possibility of food contact. Meet MIL-PRF-907E.

Size	Color		Each	Pkg. Qty.	
Standard *(–65° to +2600°F)*					
4-oz. Brush-Top Can	Silver	1028K632	$14.10	24	$303.60
8-oz. Brush-Top Can	Silver	1028K652	23.34	12	251.28
12-oz. Aerosol	Silver	1028K862	30.31	12	326.40
1-lb. Brush-Top Can	Silver	1028K662	39.64	12	426.84
2-lb. Container	Silver	1028K672	67.28	6	358.86
8-lb. Container	Silver	1028K682	220.01	4	782.24
Bostik Never-Seez Pure Nickel *(–297° to +2400°F)*					
8-oz. Brush-Top Can	Silver	1820K322	26.10	12	284.76
1-lb. Brush-Top Can	Silver	1820K332	43.83	12	478.20
Premium *(–65° to +2600°F)*					
0.25-oz. Tube	Silver	10295K29	5.74	—	—
8-oz. Brush-Top Can	Silver	10295K31	31.84	—	—
Cartridge for Grease Gun (16-oz.	Silver	10295K332	51.47	12	554.28
1-lb. Brush-Top Can	Silver	10295K352	51.47	12	554.28
Bostik Never-Seez Nuclear Grade *(–297° to +2400°F)*					
8-oz. Brush-Top Can	Silver	1820K422	51.98	12	567.00
1-lb. Can	Silver	1820K432	81.73	12	891.60
Nuclear Grade *(–65° to +2600°F)*					
4-oz. Brush-Top Can	Silver	1027K332	27.92	12	309.36
8-oz. Brush-Top Can	Silver	1027K312	43.66	12	469.68
1-lb. Brush-Top Can	Silver	1027K322	65.56	12	705.36

Metal-Free Antiseize Lubricants

Free of metal particles, these lubricants prevent galling in stainless steel and other sensitive alloys. These products are compliant under all state VOC rules in effect on October 1, 2010.

Dow Corning Molykote P37— Consists of molybdenum disulfide, zirconium, and graphite.

Standard— Made of graphite blended with high-temperature lubricating solids, extreme-pressure additives, and corrosion preventatives. Meet MIL-PRF-907E.

Graphite/Petrolatum— Made with graphite and petrolatum, this lubricant meets MIL-T-5544.

Loctite Food Grade— These nonstaining lubricants work particularly well on stainless steel parts. NSF registered H1 for applications with incidental food contact.

Food Grade with PTFE— These nonstaining lubricants contain nonstick PTFE as well as corrosion inhibitors. They work particularly well on stainless steel parts. NSF registered H1 for applications with incidental food contact.

Size	Color		Each	Pkg. Qty.	
Dow Corning Molykote P37 *(–22° to +2550°F)*					
1-lb. Brush-Top Can	Black	1352K512	$74.99	10	$680.70
Standard *(–297° to +2400°F)*					
8-oz. Brush-Top Can	Black	1084K112	16.46	12	172.32
1-lb. Brush-Top Can	Black	1084K122	26.71	12	279.60
Graphite/Petrolatum *(–65° to +840°F)*					
1-lb. Container	Black	10105K282	20.43	12	217.20
Loctite Food Grade *(–20° to +750°F)*					
8-oz. Brush-Top Can	White	1287K312	21.08	12	226.80
2-lb. Can	White	1287K332	60.69	12	652.92
Food Grade with PTFE *(–65° to +250°F)*					
8-oz. Brush-Top Can	White	1404K212	21.43	12	230.52
Cartridge for Grease Gun (14 oz.)	White	1404K222	25.50	12	277.32
14-oz. Container	White	1404K242	24.65	12	268.92
2-lb. Container	White	1404K252	56.40	6	306.66
7-lb. Container	White	1404K262	152.89	4	559.16
High-Temperature Food Grade with PTFE *(–35° to +1800°F)*					
9-oz. Brush-Top Can	White	1718T2	25.02	—	—

Antiseize Lubricants & Grease

For information about lubricants, grease, and oil, see page 2192.

Antiseize Lubricating Tapes

Allowing easy, no-mess assembly and disassembly, these lubricants won't run or rub off your threaded connections—just wrap tape tightly around threads. Size is ½" Wd. x 50 ft. Lg. These products are compliant under all state VOC rules in effect on October 1, 2010.

Copper— Made of copper and PTFE. Not recommended for stainless steel.

Nickel— Made of nickel and PTFE. Excellent for metals, especially stainless steel and aluminum. Color is silver.

Temperature Range			Roll 1-4	Roll 5-Up
Copper	–450° to +2200° F	2290K1	$10.30	$9.25
Nickel	–450° to +2400° F	2290K2	15.43	13.86

Clean-Hands Antiseize Dispenser



Neatly, quickly, and efficiently apply antiseize to parts with this trigger-gun dispenser. It threads directly to the top of most 8-oz. and 1-lb. brush-top antiseize lubricant cans. Dispenser is made of steel and comes furnished with a brush tip.

1800K8 ..... $51.42

About Grease

There are several reasons to use grease as a lubricant: It adheres better than oil; it tends not to leak or run; and it can be formulated for conditions such as high temperatures, extreme pressure, and varying loads and speeds. It also resists moisture to prevent corrosion.

Grease Components— Grease is a semisolid made of base oil, thickener, and additives.

Base oils do the lubricating. Petroleum oil is the most economical. Synthetic oil (nonpetroleum) lasts longer and can generally withstand higher temperatures. Semisynthetic oil (a blend of petroleum and synthetic) balances lower cost with longer-lasting performance.

Thickeners are solid particles that hold the base oil in place. The chart below is a guide for comparing the relative properties of the most common thickeners.

Thickener	Heat Resistance	Moisture Resistance	Oxidation Resistance★
Aluminum	Fair	Good	Excellent
Calcium Sulfonate	Good	Excellent	Excellent
Carbon Black	Excellent	Fair	Good
Clay	Excellent	Fair	Good
Elastomer	Excellent	Good	Good
Lithium	Good	Good	Fair
High-Performance Lithium	Excellent	Excellent	Fair
PTFE	Good	Good	Good
Silica	Excellent	Excellent	Good
Silicone	Excellent	Excellent	Good
Sodium	Excellent	Poor	Poor

★ Oxidation of lubricants can produce sludge, varnish, gum, and acid.

Grease Consistency— The NLGI (National Lubricating Grease Institute) rates grease by its consistency on a numeric scale. The most common NLGI number is 2. Lower numbers are softer and flow better, while higher numbers are firmer, tend to stay in place, and are a good choice when leakage is a concern.

The table below compares the most common NLGI grades with household products that have similar consistencies.

NLGI No.	Consistency Comparison
0	Brown Mustard
1	Tomato Paste
2	Peanut Butter
3	Vegetable Shortening

Lithium-Thickened Grease

These multipurpose lubricants offer good heat and moisture resistance. These products are compliant under all state VOC rules in effect on October 1, 2010.

Mobilux EP 111— Made of oil and molybdenum disulfide, these black greases are wear resistant and suitable for high-speed rotating couplings as well as low-speed open gears and plain bearings.

Mobilux EP 1 and ***EP 2—*** This brown multipurpose grease offers rust and corrosion resistance for use in moist or wet conditions.

Dow Corning Molykote BR-2 Plus— Contain molybdenum disulfide to withstand extreme pressures. These black greases are suitable for moderate- to high-speed ball and roller bearings, conveyors, and shop equipment.

Dow Corning Molykote 44 with Silicone— Use these off-white silicone-based synthetic greases for antifriction bearings; plastic and rubber parts under light loads; and moderate- to high-speed applications.

Size	NLGI No.		Each	Pkg. Qty.	
Mobilux EP 111 *(+14° to +248°F)*					
Cartridge for Grease					
Gun (13.7 oz.)	1	1416K174	$3.48	10	$31.20
35-lb. Container	1	1416K15	112.80	—	—
Mobilux EP 1 *(–4° to +266°F)*					
Cartridge for Grease					
Gun (13.7 oz.)	1	1416K414	3.45	10	30.90
Mobilux EP 2 *(–4° to +266°F)*					
Cartridge for Grease					
Gun (13.7 oz.)	2	1416K434	3.52	10	31.60
Dow Corning Molykote BR-2 Plus *(–20° to +265°F)*					
Cartridge for Grease					
Gun (14.1 oz.)	2	10605K425	11.06	10	100.40
35-lb. Container	2	10605K43	234.07	—	—
Dow Corning Molykote 44 with Silicone *(–40° to +400°F)*					
5.3-oz. Tube	2	1252K232	29.71	12	323.52
Cartridge for Grease					
Gun (14.1 oz.)	2	1252K252	75.32	10	683.60
8-lb. Container	2	1252K27	485.35	—	—
Shell Gadus S2 High-Speed Coupling Grease *(–10° to +250°F)*					
Cartridge for Grease					
Gun (14.1 oz.)	0-1	8670T122	6.33	10	57.60

■ Temperature range is –22° to +350°F.

Shell Gadus S2 High-Speed Coupling Grease— Suitable for low and high speeds and heavy loads, use this dark brown grease on geared and flexible chain couplings.

Shell Gadus S2 V220— Fortified with extreme-pressure additives, this brown grease can handle heavy, suddenly applied (shock) loads in bearing applications.

Shell Gadus S2 V100— This is a low-noise grease. Color is brown.

White Lithium— This grease is for general lubrication. Stem is male.

White Lithium with PTFE— PTFE additive provides protection from friction. Aerosol has a female stem.

Marine Grade— These purple greases cling to surfaces, so they won't be washed away by water or salt.

Synthetic— Long-lasting with a wide temperature range, this light gray grease is great for bearings and gears as well as most plastics.

Bio-Based— This ester-based grease resists water and protects from rust. It also contains extreme-pressure additives for heavy duty applications. Color is brown.

Size	NLGI No.		Each	Pkg. Qty.	
Shell Gadus S2 V220 *(–4° to +212°F)*					
Cartridge for Grease					
Gun (14.1 oz.)	2	8670T133	$3.90	10	$35.50
Shell Gadus S2 V100 *(–22° to +266°F)*					
Cartridge for Grease					
Gun (14.1 oz.)	2	8670T142	3.95	10	35.90
White Lithium *(0° to +335°F)*					
10.25-oz. Aerosol	2	1380K294	5.06	12	54.24
White Lithium with PTFE *(–10° to +300°F)*					
10-oz. Aerosol	2	1284K754■	11.00	12	120.60
Cartridge for Grease					
Gun (14 oz.)	2.5	1380K22	5.68	—	—
1-lb. Container	2.5	1380K353	6.49	16	92.48
35-lb. Container	2.5	1380K23	132.39	—	—
Marine Grade *(0° to +325°F)*					
Cartridge for Grease					
Gun (14 oz.)	2	10175K153	5.21	30	132.30
35-lb. Container	2	10175K19	128.68	—	—
Synthetic *(–50° to +400°F)*					
Cartridge for Grease					
Gun (14 oz.)	1	1431K102	13.08	20	222.00
Bio-Based *(0° to +350°F)*					
Cartridge for Grease					
Gun (14 oz.)	2	3246K322	12.67	10	114.00

High-Performance Lithium-Thickened Grease

Additives improve performance in severe operating conditions.

Mobilgrease XHP 222—The choice for marine applications, this blue grease offers excellent adhesion plus rust and corrosion resistance.

Mobilgrease XHP 222 Special—Contains moly (molybdenum disulfide) for extreme-pressure applications. Color is dark gray.

Shell Gadus S3 V220C—Formulated for extreme-pressure applications, these red greases are also suitable for heavy loads and wet conditions.

Dow Corning Molykote G-4700—This black synthetic grease contains moly (molybdenum disulfide) for extreme-pressure applications.

DuPont Teflon®—Teflon® fluoropolymers give these white greases nonstick and chemical-resistant properties. They are also corrosion resistant. Aerosol has a male stem.

DuPont Teflon® with Moly—In addition to Teflon® fluoropolymers for nonstick and chemical-resistant properties, these black greases have moly (molybdenum disulfide) to withstand extreme pressures.

Standard—Contains extreme-pressure additives. Color is dark red. *Aerosol* has a female stem. It cannot be sold in California.

Size	NLGI No.		Each	Pkg. Qty.	
Mobilgrease XHP 222 *(Maximum temperature is +284°F)*					
Cartridge for Grease Gun (13.7 oz.)	2	1416K224	$3.51	10	$31.40
35-lb. Container	2	1416K23	112.14	—	—
Mobilgrease XHP 222 Special *(Maximum temperature is +284°F)*					
Cartridge for Grease Gun (13.7 oz.)	2	1416K144	4.52	10	40.60
Shell Gadus S3 V220C *(–4° to +320°F)*					
Cartridge for Grease Gun (14.1 oz.)	1	8670T153	3.95	10	35.90
Cartridge for Grease Gun (14.1 oz.)	2	8670T163	3.95	10	35.90
Dow Corning Molykote G-4700 *(–40° to +350°F)*					
Cartridge for Grease Gun (13.7 oz.)	2	4328T262	19.27	10	174.90

Size	NLGI No.		Each	Pkg. Qty.	
DuPont Teflon® *(–10° to +350°F)*					
14-oz. Aerosol	2	8708T112	$8.82	6	$45.78
Cartridge for Grease Gun (14 oz.)	2	8708T132	6.93	10	60.00
16-oz. Container	2	8708T152	8.23	12	85.44
DuPont Teflon® with Moly *(–10° to +350°F)*					
Cartridge for Grease Gun (14 oz.)	2	8708T222	8.32	10	71.90
16-oz. Container	2	8708T242	9.71	12	100.68
Standard *(0° to +300°F)*					
11.75-oz. Aerosol	2	1337K882	17.24	12	175.68
Cartridge for Grease Gun (14 oz.)	2	1337K13	4.42	—	—
1-lb. Container	2	1337K153	7.63	16	103.68
35-lb. Container	2	1337K14	133.70	—	—

Aluminum-Thickened Grease

Thickened with aluminum, these greases offer excellent oxidation resistance for long lubricant life. These products are compliant under all state VOC rules in effect on October 1, 2010, unless otherwise stated.

With Moly—Contains moly (molybdenum disulfide) for extreme-pressure applications. Color is black.

Water Resistant—Lubricate and protect surfaces from corrosion in wet environments. Color is red.

Super Adhesive—Clings to surfaces, including vertical, for long-lasting protection. Stem is female. Color is red. This product is compliant under all state VOC rules in effect on October 1, 2010, except in California.

High Temperature—In addition to high temperatures, these greases also resist water. Color is green.

All ***food-grade greases*** are NSF registered H1 for incidental food contact.

Dow Corning Molykote—All greases are white. *Molykote G-4500FM* and *4501FM* are synthetic.

Standard—Color is clear.

With PTFE—PTFE additive provides protection from friction. Color is white.

Size	NLGI No.		Each	Pkg. Qty.	
Grease					
With Moly *(+10° to +350°F)*					
Cartridge for Grease Gun (14 oz.)	0	1208K103	$9.56	12	$107.04
Cartridge for Grease Gun (14 oz.)	1	1208K112	9.56	12	107.04
Cartridge for Grease Gun (14 oz.)	2	1208K223	9.56	12	107.04
Water Resistant *(+10° to +350°F)*					
Cartridge for Grease Gun (14 oz.)	0	1372K122	6.78	12	74.76
Cartridge for Grease Gun (14 oz.)	1	1372K142	6.78	12	74.76
Cartridge for Grease Gun (14 oz.)	2	1372K162	6.78	12	74.76
Super Adhesive *(0° to +400°F)*					
12-oz. Aerosol	2	1062K672	8.82	12	95.28
High Temperature *(0° to +500°F)*					
Cartridge for Grease Gun (14 oz.)	2	1423K122	7.52	30	191.01
35-lb. Container	2	1423K14	171.62	—	—
Food-Grade Grease					
Dow Corning Molykote G-0050FM *(0° to +302°F)*					
Cartridge for Grease Gun (13.4 oz.)	0	1445K412	11.79	10	107.00

Size	NLGI No.		Each	Pkg. Qty.	
Food-Grade Grease					
Dow Corning Molykote G-0051FM *(0° to +302°F)*					
Cartridge for Grease Gun (13.4 oz.)	1	1445K432	$11.79	10	$107.00
Dow Corning Molykote G-0052FM *(0° to +302°F)*					
Cartridge for Grease Gun (13.4 oz.)	2	1445K452	11.79	10	107.00
Dow Corning Molykote G-4500FM *(–40° to +325°F)*					
Cartridge for Grease Gun (14.1 oz.)	2	4328T242	18.15	10	164.80
Dow Corning Molykote G-4501FM *(–40° to +302°F)*					
Cartridge for Grease Gun (14.1 oz.)	1	4328T252	18.46	10	167.60
Standard *(–4° to +350°F)*					
Cartridge for Grease Gun (14 oz.)	2	1242K113	10.42	12	112.56
7-lb. Container	2	1242K132	80.35	2	145.82
35-lb. Container	2	1242K12	278.79	—	—
With PTFE *(+15° to +350°F)*					
Cartridge for Grease Gun (14 oz.)	2	1402K313	10.37	12	112.08
7-lb. Container	2	1402K332	82.74	2	147.76
35-lb. Container	2	1402K35	264.86	—	—

Dow Corning Molykote 1122 Chain and Open Gear Grease

Formulated for extreme-pressure applications involving chains and open gears, these black greases with moly (molybdenum disulfide) also resist wear. NSF registered H2 for applications with no possibility of food contact. Temperature range is 32° to 320°F. Aerosol has a female stem. These products are compliant under all state VOC rules in effect on October 1, 2010.

Size	NLGI No.		Each	Pkg. Qty.	
11-oz. Aerosol	2-3	4328T312	$31.81	12	$346.44
14-oz. Container	2-3	4328T282	51.14	12	557.04

Clay-Thickened Grease

Even at their highest temperatures, these greases maintain their consistency. These products are compliant under all state VOC rules in effect on October 1, 2010.

Extreme Pressure—These black greases contain moly (molybdenum disulfide) to withstand extreme pressures. Apply *cartridge for caulk gun* with a standard caulk gun (see page 3484).

Antispatter—An additive holds this green grease in place and protects it from spattering or pounding out, a common occurrence in heavy duty applications.

Semisynthetic—A blend of synthetic and petroleum-based oils, these amber greases last longer than petroleum-based grease.

High-Temperature Standard—Adheres to metal. Color is amber.

High-Temperature Acid Neutralizing—These white greases contain lead-free zinc oxide to neutralize acid.

High-Temperature Extreme Pressure—These black greases contain moly (molybdenum disulfide) to withstand extreme pressures.

High-Temperature Semisynthetic—A blend of synthetic and petroleum-based oils, these silver greases contain moly (molybdenum disulfide) and aluminum for increased wear resistance.

Size	NLGI No.		Each	Pkg. Qty.	
Grease					
Extreme Pressure *(+10° to +400°F)*					
Cartridge for Caulk Gun (10 oz.)	2	1335K454	$7.73	25	$174.00
Antispatter *(+10° to +400°F)*					
Cartridge for Grease Gun (14 oz.)	2.5	1391K103	6.79	48	293.28
Semisynthetic *(–20° to +400°F)*					
Cartridge for Grease Gun (14 oz.)	2	1295K112	10.39	20	176.40
1-lb. Container	2	1295K632	10.29	16	139.84
35-lb. Container	2	1295K12	267.40	—	—
High-Temperature Grease					
Standard *(0° to +550°F)*					
Cartridge for Grease Gun (14 oz.)	2	1062K874	6.43	30	165.30
1-lb. Container	2	1062K852	8.86	12	91.08
35-lb. Container	2	1062K89	151.82	—	—
Acid Neutralizing *(–20° to +550°F)*					
Cartridge for Grease Gun (14 oz.)	2	1062K613	6.76	30	174.00
Extreme Pressure *(0° to +550°F)*					
Cartridge for Grease Gun (14 oz.)	2	1062K973	7.11	30	194.10
35-lb. Container	2	1062K99	161.25	—	—
Semisynthetic *(0° to +450°F)*					
Cartridge for Grease Gun (14 oz.)	2	1417K483	15.06	48	679.58
45-lb. Container	2	1417K51	485.10	—	—

Ultra High-Temperature Food-Grade Grease

With a temperature range of –40° to +800° F, this white grease can take the heat. It's thickened with calcium sulfonate, which makes it great for wet, extreme-pressure applications. NSF registered H1 for incidental food contact. This product is compliant under all state VOC rules in effect on October 1, 2010.

Size	NLGI No.		Each	Pkg. Qty.	
Cartridge for Grease Gun (16 oz.)	2	2136K112	$36.35	12	$391.92

DuPont Grease with Teflon®

Teflon® fluoropolymers give these multipurpose greases nonstick and chemical-resistant properties. They are thickened with calcium sulfonate, which makes them great for wet, dirty applications. Temperature range is –40° to +350° F. Color is red. These products are compliant under all state VOC rules in effect on October 1, 2010.

Size	NLGI No.		Each	Pkg. Qty.	
Cartridge for Grease Gun (14 oz.)	2	8708T442	$9.71	10	$83.90
16-oz. Container	2	8708T462	10.59	12	109.80

High-Temperature Grease with PTFE

The PTFE additive in these elastomer-thickened greases reduces friction and waterproofs metal surfaces, preventing rust and corrosion. They are NSF registered H2 for applications with no possibility of food contact. Temperature range is –35° to +458° F. Color is green. These products are compliant under all state VOC rules in effect on October 1, 2010.

Size	NLGI No.		Each	Pkg. Qty.	
0.75-oz. Tube	2	1243K312	$5.12	24	$109.44
Cartridge for Grease Gun (14.5 oz.)	2	1243K114	12.36	16	176.64
1-lb. Container	2	1243K122	11.25	6	60.54
5-lb. Container	2	1243K132	46.25	6	248.82
35-lb. Container	2	1243K14	263.36	—	—

Dow Corning Molykote Chemical-Resistant Grease

A fluorosilicone base means these greases have excellent chemical resistance. They're also synthetic, which means they are long lasting. These products are compliant under all state VOC rules in effect on October 1, 2010.

1292—Thickened with elastomer. Color is off-white.

3451—Thickened with fluorocarbon. NSF registered H2 for applications with no possibility of food contact. Color is white.

Dow Corning No.	NLGI No.		Each	Pkg. Qty.	
1292 *(–40° to +400°F)*					
5.3-oz. Tube	1-2	4328T332	$71.16	12	$775.20
3451 *(–40° to +450°F)*					
3-oz. Tube	2	1252K612	63.42	12	690.84
Cartridge for Grease Gun (19.4 oz.)	2	1252K62	328.79	—	—

Long-Lasting Synthetic Grease

Synthetic base oils allow these greases to last longer than petroleum-based grease. These products are compliant under all state VOC rules in effect on October 1, 2010.

Mobilith SHC 100—Meets the requirements of most electric motor manufacturers for grease-lubricated bearings. Color is red.

Mobilith SHC 220—Use this red grease in extreme-pressure applications.

Mobilith SHC PM 460—Resists rust and corrosion. It's suitable for bearings under heavy loads at low speeds. Color is off-white.

Mobiltemp SHC 32—This red grease offers excellent wear resistance for long service life.

Mobilgrease 28—Offers excellent wear and corrosion resistance for extreme-pressure applications in a wide range of temperatures. Meets MIL-PRF-81322G. Color is red.

Silica-Thickened—Dry to a long-lasting, water-resistant white film.

Silicone-Thickened Food Grade—These clear greases are NSF registered H1 for applications with incidental food contact.

Size	NLGI No.		Each	Pkg. Qty.	
Mobilith SHC 100 *(–40° to +302°F)*					
Cartridge for Grease Gun (13.4 oz.)	2	1394K303	$10.42	10	$94.90
Mobilith SHC 220 *(–40° to +302°F)*					
Cartridge for Grease Gun (13.4 oz.)	2	1394K402	10.23	10	93.20
Mobilith SHC PM 460 *(–40° to +356°F)*					
Cartridge for Grease Gun (13.4 oz.)	1.5	1394K202	10.23	10	93.20
Mobiltemp SHC 32 *(–58° to +356°F)*					
Cartridge for Grease Gun (12.5 oz.)	1.5	1394K502	7.50	40	273.22
Mobilgrease 28 *(–65° to +350°F)*					
Cartridge for Grease Gun (13.4 oz.)	1.5	1394K602	22.24	10	202.56
Silica-Thickened *(–20° to +400°F)*					
1.5-oz. Tube	2	1286K822	3.34	12	36.12
4-oz. Tube	2	1286K843	5.79	12	61.92
8-oz. Tube	2	1286K113	8.93	12	96.96
8-lb. Container	2	1286K85	92.75	—	—
Silicone-Thickened Food Grade *(–40° to +400°F)*					
Cartridge for Grease Gun (14 oz.)	1	1213K713	15.13	12	163.32
Cartridge for Grease Gun (14 oz.)	2	1213K732	14.87	12	148.70

For information about lubricants, grease, and oil, see page 2192. For more on grease, see page 2198.

High-Temperature Synthetic Grease

Increase the time between applications with these synthetic greases that handle your high-temperature applications. These products are compliant under all state VOC rules in effect on October 1, 2010.

Dow Corning Molykote 41— Thickened with carbon for excellent heat resistance. Color is black.

Dow Corning Molykote 3451— Fluorocarbon thickener adds chemical resistance to these white greases. NSF registered H2 for applications with no possibility of food contact.

Standard— Thickened with silicone, grease is blue.

Food Grade with PTFE— These silica-thickened greases have a PTFE additive that reduces friction and waterproofs metal surfaces. NSF registered H1 for applications with incidental food contact. Color is white. Aerosols have a female stem.

With Moly— As temperature increases, so does the performance of this gray grease. It is thickened with sodium and contains molybdenum disulfide to withstand extreme pressures.

Size	NLGI No.		Each	Pkg. Qty.	
Dow Corning Molykote 41 *(0° to +550°F)*					
5.3-oz. Tube	2	1252K322	$35.24	12	$383.76
Cartridge for Grease Gun (14.1 oz.)	2	1252K342	75.75	10	687.60
Dow Corning Molykote 3451 *(–40° to +450°F)*					
3-oz. Tube	2	1252K612	63.42	12	690.84
Cartridge for Grease Gun (19.4 oz.)	2	1252K62	328.79	—	—
Standard *(0° to +500°F)*					
Cartridge for Grease Gun (14 oz.)	2	1359K102	16.40	12	177.12
Food Grade With PTFE *(–45° to +450°F)*					
0.5-oz. Tube	2	1378K272	4.15	12	43.56
3-oz. Tube	2	1378K313	6.81	12	71.52
11-oz. Aerosol	2	1378K323	7.89	12	85.20
Cartridge for Grease Gun (14.1 oz.)	2	1378K333	11.55	12	124.80
14.1-oz. Container	2	1378K343	11.55	12	124.68
5-lb. Container	2	1378K352	58.14	4	210.20
30-lb. Container	2	1378K36	307.88	—	—
With Moly *(0° to +600°F)*					
Cartridge for Grease Gun (16 oz.)	1	1446K102	48.04	12	525.00

Low-Temperature Synthetic Grease

Low temperatures won't affect the lubricity of these greases. All have synthetic base oils, which increase the time between applications. Greases are white. These products are compliant under all state VOC rules in effect on October 1, 2010.

Dow Corning Molykote 33— These greases are NSF registered H2 for applications with no possibility of food contact.

Food Grade— Thickened with aluminum, these greases are NSF registered H1 for applications with incidental food contact.

Size	NLGI No.		Each	Pkg. Qty.	
Dow Corning Molykote 33 *(–100° to +400°F)*					
5.3-oz. Tube	2	1252K122	$29.51	12	$321.36
Cartridge for Grease Gun (14.1 oz.)	2	1252K142	75.32	10	683.60
8-lb. Container	2	1252K16	444.48	—	—
Food Grade *(–90° to +350°F)*					
Cartridge for Grease Gun (14 oz.)	1	10115K512	15.17	12	166.92

Electrically and Thermally Conductive Grease

Take on heat and electricity transfer applications with these nonsilicone greases—a high silver content (80-90%) gives them excellent conductivity. These greases are suitable for ESD (electrostatic discharge) and EMI (electromagnetic interference) shielding applications. Their volume electrical resistivity, a measure of how well a material opposes the flow of electricity, is less than 0.005 ohm-cm. Thermal conductivity, a measure of a material's ability to transfer heat, is 60 Btu-in./hr.-sq. ft. °F. Resistivity is the opposite of conductivity, so a low resistivity number means high conductivity.

These silver-colored greases have a temperature range of –40° to +302° F. NSF registered H2 for applications with no possibility of food contact. These products are compliant under all state VOC rules in effect on October 1, 2010.

Size	NLGI No.		Each
0.5-oz. Container	2	1219K57	$94.80
1-oz. Container	2	1219K59	190.88

Water-Safe Synthetic Grease

Meets NSF/ANSI Standard 61 for use with drinking (potable) water; this silica-thickened grease holds up in harsh, wet environments. Synthetic oil base increases the time between applications. Temperature range is –40° to +400° F. This product is compliant under all state VOC rules in effect on October 1, 2010.

Size	NLGI No.		Each	Pkg. Qty.	
8-oz. Tube	2	2982K222	$22.91	12	$252.48

High-Vacuum Grease

The firm consistency of these white synthetic greases is excellent for high-vacuum applications. The synthetic oil base increases the time between applications. These products are compliant under all state VOC rules in effect on October 1, 2010.

Dow Corning— Made of silicone with silica thickener, these greases are suitable for clean room use.

With PTFE— Comparable to Fomblin grease, this grease is thickened with PTFE to reduce friction and resist chemicals.

Size	NLGI No.		Each	Pkg. Qty.	
Dow Corning *(–40° to +400°F)*					
5.3-oz. Tube	3-4	2966K522	$29.19	12	$320.16
8-lb. Container	3-4	2966K58	628.02	—	—
With PTFE *(–4° to +482°F)*					
3.5-oz. Tube	3	1326K59	122.00	—	—

Electrical Contact Grease

Lubricate, clean, deoxidize, and prevent corrosion all with one performance-enhancing grease, which is designed to improve the performance of your electrical contacts. Temperature range is –40° to +500° F. These products are compliant under all state VOC rules in effect on October 1, 2010.

Standard— Particle free. Color is amber.

Aluminum— Has aluminum particles and is for use on aluminum parts that won't come in contact with each other. Color is gray.

Copper— Has copper particles to assist oxide breakup and resist abrasion on surfaces that require conductivity. Color is red.

Graphite— Has graphite particles to absorb and dissipate heat. Color is gray.

	Size	NLGI No.		
Standard	8-oz. Container	2	9050T2	$31.53
Aluminum	8-oz. Container	2	9050T6	31.53
Copper	8-oz. Container	2	9050T4	31.53
Graphite	8-oz. Container	2	9050T8	36.79

Electrical Insulating Grease

Also known as dielectric grease, these insulating greases lubricate electrical devices and systems. Synthetic oil base increases the time between applications. These products are compliant under all state VOC rules in effect on October 1, 2010.

Dow Corning 4— These translucent white greases act as a moisture barrier. Meet NSF/ANSI Standards 51 and 61 for use with food and drinking (potable) water. Also meet FDA 21 CFR 175.300 and SAE-AS8660.

Dow Corning 5— Use this translucent gray grease on insulators, bushings, and high-current switches.

Standard— These translucent white greases are corrosion resistant and contain a silica thickener that won't react with rubber. Suitable for use on O-rings, gaskets, and seals in vacuum systems.

Food Grade— These clear greases are NSF registered H1 for applications with incidental food contact.

Size	Dielectric Strength, volts/mil	NLGI No.		Each	Pkg. Qty.	
Dow Corning 4 *(–40° to +400°F)*						
5.3-oz. Tube	450	2-3	1204K122	$18.90	12	$205.80
8-lb. Container	450	2-3	1204K18	358.40	—	—
Dow Corning 5 *(–65° to +450°F)*						
5.3-oz. Tube	545	3	4328T112	28.51	12	310.56
Standard *(–50° to +400°F)*						
5.3-oz. Tube	385	1	1418K312	15.09	12	163.68
Cartridge for Grease Gun (14 oz.)	385	1	1418K32	29.78	—	—
1-lb. Container	385	1	1418K332	30.00	16	445.76
8-lb. Container	385	1	1418K342	220.10	4	793.80
5-gram Packet	830	2	1418K29♠	.65	—	—
5.3-oz. Tube	830	2	1418K352♠	12.94	12	144.24
Cartridge for Grease Gun (14 oz.)	830	2	1418K36♠	29.78	—	—
Food Grade Standard *(–40° to +400°F)*						
1-oz. Tube	350	1	1418K51	4.92	—	—
4-oz. Tube	350	1	1418K532	11.60	12	126.12

♠ Temperature range is –40° to +400° F.

Valve and Packing Grease

Lubricate and seal valves and pump packings.

Dow Corning Molykote 111 and ***Dow Corning 112*—**Made of silicone fluids and silica fillers, these translucent white greases act as moisture barriers.

***Dow Corning Molykote 3452*—**Fluorocarbon thickeners add chemical resistance. Color is white.

***Standard*—**Good for tight tolerance plug valves and high-pressure seals. Color is amber.

***PTFE Gel*—**Thickened with silica, this nonstick grease reduces friction and includes a detergent additive that cleans while it lubricates. Color is amber. This product cannot be sold in California.

Size	NLGI No.	Each	Pkg. Qty.	
Dow Corning Molykote 111 *(–40° to +400°F)*				
5.3-oz. Tube	3-4	1204K323	$17.61	12 $191.76
Cartridge for Grease Gun (14.1 oz.)	3-4	1204K352	45.45	10 412.50
8-lb. Container	3-4	1204K38	295.30	— —
Dow Corning 112 *(–40° to +450°F)*				
5.3-oz. Tube	3	1204K422	20.48	12 223.08
Dow Corning Molykote 3452 *(–20° to +450°F)*				
2-oz. Tube	2-3	1252K642	63.89	12 695.88
Dow Corning Molykote 3452 (Cont.) *(–20° to +450°F)*				
Cartridge for Grease Gun (19.4 oz.)	2-3	1252K66	$333.47	— —
Standard *(0° to +400°F)*				
Cartridge for Grease Gun (14 oz.)	3	8150T132	18.47	30 $496.20
PTFE Gel *(–10° to +400°F)*				
Cartridge for Grease Gun (14 oz.)	00	8150T332	23.84	30 640.50

DuPont/Chemours Krytox Grease and Oil

Extreme temperature swings are no problem for these Krytox greases and oils. They also resist aggressive chemicals and are long lasting. These products are compliant under all state VOC rules in effect on October 1, 2010.

Food-grade greases and ***oils*** are NSF registered H1 for applications with incidental food contact.

Grease

Greases are thickened with PTFE to reduce friction except for ***High-Temperature XHT-BDX greases***, which are thickened with boron nitride for added thermal stability. Color is white, unless otherwise indicated.

***Corrosion Resistant*—**Sodium nitrite additives give these greases better resistance to moisture and oxygen than standard grease.

***Extreme Pressure*—**Made with molybdenum disulfide, this grease is effective on highly loaded gears and bearings. Color is black.

***High Temperature*—**Does not evaporate under high temperatures.

***High Vacuum*—**This insoluble grease has a low vapor pressure and gives superior performance in vacuum systems.

***Electronics Grade*—**High purity for use in clean rooms and electronic assembly. They are not conductive.

***Mil. Spec.*—**Meet MIL-PRF-27617 specifications.

DuPont/ Chemours Krytox No.	Temperature Range	NLGI No.	*0.5-oz. Tube* Each ♦	*2-oz. Tube* Each ♦	*8-oz. Tube* Each ♦	*Cartridge for Grease Gun (14.1 oz.)* Each ♦
Standard						
GPL 205	–33° to +400°F	2	10195K19 $18.52	10195K29 $53.92	10195K49 $165.58	10195K69 $417.94
GPL 207	–22° to +550°F	2	10195K34 18.52	10195K36 53.92	10195K38 165.58	10195K42 417.94
Corrosion Resistant						
GPL 224	–60° to +355°F	2	10195K47 18.52	10195K45 53.92	10195K53 165.58	10195K54 417.94
GPL 225	–33° to +400°F	2	10195K74 18.52	10195K76 53.92	10195K78 165.58	10195K79 417.94
GPL 227	–22° to +550°F	2	10195K17 18.52	10195K37 53.92	10195K57 165.58	10195K77 417.94
Extreme Pressure						
GPL 215	–33° to +400°F	2	10195K13 18.52	10195K32 53.92	10195K52 165.58	10195K72 417.94
Low Temperature						
GPL 202	–81° to +270°F	2	— —	10195K26 53.92	10195K46 165.58	10195K66 417.94
GPL 203	–76° to +310°F	2	— —	10195K23 53.92	10195K43 165.58	10195K73 417.94
GPL 204	–60° to +355°F	2	— —	10195K28 53.92	10195K48 165.58	10195K68 417.94
High Temperature						
XHT-BDX	+5° to +662°F	2	— —	10195K22 113.79	10195K24 378.31	10195K44 1,152.31
High Vacuum						
LVP	+5° to +572°F	2	— —	10195K41 120.86	10195K71 399.40	10195K92 1,283.56
Electronics Grade						
EG 2000	–30° to +550°F	2	— —	10195K67 109.27	10195K87 361.11	10195K97 1,160.19
Mil. Spec.						
240AZ Type I	–70° to +300°F	1	10195K18 62.25	10195K61 222.06	10195K81 759.44	10195K91 1,947.33
240AB Type II	–40° to +450°F	2	10195K21 69.26	10195K63 223.37	10195K83 759.44	10195K93 2,169.87
240AC Type III	–30° to +550°F	2	— —	10195K65 223.37	10195K85 759.44	10195K95 2,169.87
Food Grade						
GPL 206	–33° to +500°F	2	10195K111 18.52	10195K311 53.93	10195K511 165.58	10195K331 417.94
Corrosion-Resistant Food Grade						
GPL 226	–33° to +500°F	2	10195K151 18.52	10195K351 53.92	10195K551 165.58	10195K751 417.94
High-Temperature Food Grade						
XHT-AC	–4° to +572°F	2	— —	10195K251 55.37	10195K271 194.02	10195K391 538.44

♦ Prices are approximately 10% less when you order in quantities of four or more.

Oil

Use these clear oils when temperatures are consistently high and oil flow is needed to remove heat, or when you want to remove debris from your system using oil and a filter. Container size is 9 fl. oz.

***Vacuum Pump*—**Low vapor pressure makes these the choice for vacuum pumps and compressors.

DuPont/ Chemours Krytox No.	Temperature Range	ISO Grade	SAE Grade	SSU @ 100°F	Each ♦
Standard					
GPL 106	–33° to +500°F	220	50	1,250	10195K2 $268.90
GPL 107	–22° to +550°F	460	—	2,320	10195K3 268.90
Vacuum Pump					
1506	+14° to +212°F	22	—	125	10195K7 145.30
Vacuum Pump (Cont.)					
1514	+32° to +248°F	46	—	250	10195K8 $145.30
1525	+50° to +284°F	68	—	425	10195K9 145.30
Food Grade					
GPL 105	–33° to +400°F	150	40	825	10195K121 268.90

♦ Prices are approximately 10% less when you order in quantities of four or more.

For information about lubricants, grease, and oil, see page 2192. For more on grease, see page 2198.

Extreme-Pressure Grease and Oil

Able to withstand pressures up to 50,000 psi, these lubricants also repel water and resist corrosion. Use them on lathes, machine ways, cams, and bearings. Grease is thickened with petroleum wax and is green; oil is black. These products are compliant under all state VOC rules in effect on October 1, 2010. *Note:* Not rated for temperature.

Size		Each	Pkg. Qty.	
Grease				
4-oz. Tube	1392K314	$8.20	24	$173.52
Cartridge for Grease Gun (14 oz.)	1392K582	20.35	10	179.30
1-gal. Container	1392K322	169.73	2	299.04
Oil				
4-oz. Tube	1392K342	8.20	24	173.52
1-gal. Container	1392K352	149.52	2	267.24

No-Spill Fluid Containers

Even when turned upside down, these containers keep fluids inside. Use them to hold lubricants, cutting fluids, and many other liquids without worrying about spills. Containers are made of polyethylene. They include an applicator brush as well as a plug for storing liquids. Size is 3″ Dia.x2½″ Ht.



Color of Container Top	Capacity		
Red	3.9 oz.	1023K111	$7.67
White	3.9 oz.	1023K112	7.67
Blue	3.9 oz.	1023K113	7.67

About Oil

Viscosity is the thickness, or resistance to flow, of an oil. Various organizations have different scales on which oil viscosity is measured. The *International Organization for Standardization (ISO) and Society of Automotive Engineers (SAE)* each assign a grade number. Oils with higher numbers are thicker than those with lower numbers. The *Saybolt Seconds Universal (SSU)* viscosity test measures the number of seconds it takes for 60 cc (cubic centimeters) of oil to flow through a specified diameter hole. The *American Gear Manufacturers Association (AGMA)* has its own grading system specific to industrial gear oil.

Additives improve specific characteristics of an oil, such as load capacity and corrosion resistance. *Detergent additives* prevent sludge and other engine deposits by keeping unwanted particles suspended in the oil. These suspended particles are later removed when the oil passes through a filter. Detergents are most commonly found in engine oils. *Nondetergent oils* are suitable for applications in which the formation of sludge and other deposits is not a problem and no filter is present.

Oil Brand Name Cross Reference

	ExxonMobil	ChevronTexaco	Shell	McMaster-Carr Equivalent	Page
Machine Oil	DTE Light, Medium, Heavy	Regal R&O	Vitrea/Turbo T	**3025K**	2203
Gear Oil	Mobilgear 600 Series	Meropa	Omala	**2284K**	2204
Hydraulic Oil	DTE 20 Series/Excel ISO	Rando HD	Tellus Plus	**1016K**	2204
Way Oil	Vactra	Way Lubricant	Tonna V	**1017K**	2205
Spindle Oil	Velocite	Spindura	Spindle Oil	**13595K**	2205

Machine Oil

Meet your general purpose needs with these nondetergent oils. Suitable for machine tools, circulating systems, and reciprocating equipment, they all resist rust and oxidation.

Mobil DTE—Color is amber.

Standard—Also known as turbine oil, these oils are comparable to Regal R&O and Vitrea/Turbo. ISO grade 22 and 32 are yellow; ISO grade 46-150 are amber.

Food Grade—NSF registered H1 for applications with incidental food contact. Color is clear.

Extendable-Spout Oiler—Filled with standard machine oil, this oiler telescopes to 7″ and flexes to reach lubrication points. Oil is yellow.

Grade ISO	Grade SAE	SSU @ 100° F	1 Gallon	Each	Pkg. Qty.		5 Gallon	Each
Mobil DTE								
32	10	158	2158K142	$26.11	6	$141.30	2158K34	$108.33
68	20	325	2158K152	26.11	6	141.30	2158K35	108.33
100	30	495	2158K162	26.11	6	141.30	2158K36	108.33
150	40	840	2158K172	27.04	6	146.34	2158K37	112.24
Standard								
22	5W	100	3025K212	17.29	6	94.62	3025K23	72.93
32	10W	150	3025K252	17.29	6	94.62	3025K27	72.93
46	10	225	3025K292	17.29	6	94.62	3025K32	72.93
68	20	335	3025K342	17.29	6	94.62	3025K36	72.93
100	30	500	3025K382	17.58	6	96.96	3025K41	74.72
150	40	750	3025K432	17.93	6	107.58	3025K45	76.16
Food Grade								
46	20	237	1400K113	31.31	4	112.72	1400K15	139.56
68	20	348	1400K212	33.40	4	120.24	1400K25	139.56
100	30	542	1400K312	33.40	4	120.24	1400K35	139.56
150	40	791	1400K412	35.96	4	129.44	1400K45	152.69
Extendable-Spout Oiler—*4 oz. Squeeze Bottle*								
32	10W	155	1244K141	**Each**	$3.33	**Pkg. of 12**	$35.90	

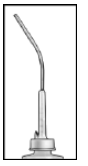

Extendable-Spout Oiler

Air Compressor Oil

Designed for most major manufacturers' compressors, these nondetergent oils reduce wear on rings, cylinders, and other moving parts.

Mobil Rarus 427—Color is amber.

Standard—ISO grade 32 and 46 are yellow. ISO grade 68, 100, and 150 are amber.

Food Grade—NSF registered H1 for applications with incidental food contact. Color is clear.

Synthetic—Change your oil less often with these long-lasting synthetic oils. ISO grade 32, 68, and 100 are yellow. ISO grade 46, 150, and 220 are amber.

Grade ISO	Grade SAE	SSU @ 100° F	1 Gallon	Each	Pkg. of 6	5 Gallon	Each
Mobil Rarus 427							
100	30	530	2158K252	$34.23	$182.52	2158K45	$130.69
Standard							
32	10W	150	14015K232	20.93	108.00	14015K26	84.31
46	10	225	14015K332	21.86	112.80	14015K36	87.76
68	20	300	14015K433★	27.91	96.00	14015K46	101.45
100	30	500	14015K732	22.79	117.60	14015K76	92.51
150	40	750	14015K832	22.92	118.32	14015K86	93.16
Food Grade							
32	10W	150	8763T322	58.75	317.82	8763T37	230.77
46	—	225	8763T422	58.75	317.82	8763T47	230.77

★ Package quantity is 4.

Grade ISO	Grade SAE	SSU @ 100° F	1 Gallon	Each	Pkg. of 6	5 Gallon	Each
Food Grade (Cont.)							
68	20	330	8763T522	$58.75	$317.82	8763T57	$230.77
100	30	500	8763T622	58.75	317.82	8763T67	230.77
150	40	750	8763T722	59.66	322.80	8763T77	233.85
Synthetic							
32	10W	150	1411K112	60.00	319.98	1411K15	230.00
46	20	209	1411K412	80.69	430.32	1411K45	293.80
68	20	300	1411K212	60.00	319.98	1411K25	230.00
100	30	500	1411K312	60.00	319.98	1411K35	230.00
150	40	666	1411K512	89.04	474.90	1411K55	327.20
220	50	1,009	1411K612	89.38	476.64	1411K65	327.80

Gear Oil

Extreme pressure additives strengthen these nondetergent oils to withstand heavy loads found in gears and gear-drive systems.

For open gear lubricants, see page 2194. For chain and open gear grease, see page 2199.

***Mobilgear*—**The choice for industrial as well as marine applications. Color is amber.

***Mobil SHC*—**These oils are synthetic, which means less frequent oil changes. Color is orange.

***Standard*—**Comparable to Meropa and Omala. Color is amber.

***Food Grade*—**NSF registered H1 for applications with incidental food contact. Color is clear.

***Semisynthetic*—**A blend of synthetic and petroleum oils, these oils are more economical than synthetic oils. Color is yellow.

***Synthetic*—**Change oil less often with these long-lasting synthetic oils. Color is yellow.

Grade			SSU @	32 oz.		1 Gallon		5 Gallon	
ISO	SAE	AGMA	100° F		Each ♦		Each ♦		Each
Mobilgear 600 XP 150									
150	90	4EP	796			2158K81	$23.82	2158K82	$105.08
Mobilgear 600 XP 460									
460	140	7EP	2,493			2158K83	24.92	2158K84	105.08
Mobil SHC 630									
220	90	5	1,122	2158K65	$16.00			2158K67	289.11
Mobil SHC 634									
460	140	7	2,236	2158K66	18.19			2158K68	295.87
Standard									
68	80W	2EP	330	2284K761	9.33	2284K841	20.52	2284K121	93.72
100	85W	3EP	540	2284K771	10.00	2284K851	21.20	2284K122	96.86
150	90	4EP	750	2284K781	10.11	2284K861	21.59	2284K123	98.56
220	90	5EP	1,100	2284K791	10.17	2284K871	22.07	2284K124	101.25
320	90	6EP	1,700	2284K811	10.28	2284K881	22.39	2284K125	102.29
460	140	7EP	2,500	2284K821	10.35	2284K891	22.82	2284K126	104.29
680	140	8EP	3,628	2284K831	10.66	2284K911	27.54	2284K127	114.21
Food Grade									
100	80	3	542			1401K21	38.75	1401K25	167.74
150	90	4	791			1401K61	41.39	1401K65	179.18
220	90	5	1,194			1401K31	36.60	1401K35	158.45
320	140	6	1,681			1401K41	36.60	1401K45	158.45
460	140	7	2,392			1401K51	36.60	1401K55	158.45
1000	250	8A	5,234			1401K71	36.60	1401K75	158.45
Semisynthetic									
68	75W	2EP	315	3512K61	10.00	3512K11	20.00	3512K41	85.00
100	80W	3EP	463	3512K63	10.00	3512K13	20.00	3512K43	85.00
150	85W	4EP	695	3512K65	10.00	3512K15	20.00	3512K45	85.00
220	90	5EP	1,020	3512K67	10.00	3512K17	20.00	3512K47	85.00
320	140	6EP	1,483	3512K69	10.11	3512K19	20.22	3512K49	86.00
460	140	7EP	2,132	3512K72	10.11	3512K22	20.22	3512K52	85.00
Synthetic									
68	80W	2EP	325	13665K26	13.33	13665K21	27.27	13665K25	123.33
100	85W	3EP	500	13665K36	13.33	13665K31	29.09	13665K35	131.67
150	90	4EP	750	13665K46	13.33	13665K41	32.73	13665K45	146.67
220	90	5EP	1,000	13665K56	13.33	13665K51	36.36	13665K55	158.33
320	140	6EP	1,650	13665K66	13.33	13665K61	36.36	13665K65	158.33
460	140	7EP	2,250	13665K76	13.33	13665K71	36.36	13665K75	158.33

♦Prices are approximately 10% less when you buy in multiples of 6.

Hydraulic Oil

Antiwear additives make these nondetergent oils the best choice for hydraulic systems and equipment. These products are compliant under all state VOC rules in effect on October 1, 2010.

***Standard*—**Comparable to Rando HD and Tellus Plus.

***Zinc-Free*—**Use where zinc waste disposal can be a problem. Color is amber.

***All Weather*—**Great for outdoor equipment, these oils withstand harsh weather conditions. Color is amber.

***Food Grade*—**NSF registered H1 for applications with incidental food contact. Color is white.

***Biodegradable Food Grade*—**An alternative to petroleum-based oil, this vegetable oil is NSF registered H1 for applications with incidental food contact. Color is yellow.

Grade		SSU @	1 Gallon		Pkg.	5 Gallon		55 Gallon	
ISO	SAE	100° F		Each	Qty.		Each		Each
Mobil DTE 24									
32	10W	165	2158K112	$24.46	6	$132.36	2158K31	$96.17	
Mobil DTE 25									
46	20	238	2158K122	24.46	6	132.36	2158K32	96.17	
Mobil DTE 26									
68	20	335	2158K132	24.46	6	132.36	2158K33	103.30	
Mobil Zinc-Free DTE									
46	20	228					2158K75	121.72	
Standard									
32	10W	155	1016K112	18.22	6	98.40	1016K12	72.06	1016K82 $569.90
46	10	215	1016K212	18.32	6	98.88	1016K22	72.94	1016K83 569.90
68	20	325	1016K312	18.31	6	98.88	1016K32	73.04	1016K84 569.90
100	30	525	1016K412	25.31	4	91.12	1016K52	92.94	1016K85 569.90
Zinc-Free									
32	10W	150	3504K322	22.57	6	121.02	3504K34	98.91	
All Weather									
32	10W	150	1849K112	20.48	4	74.72	1849K12	87.44	
46	10W-20	225	1849K212	19.23	6	105.24	1849K22	86.37	
68	20	325	1849K312	19.23	6	105.24	1849K32	89.23	
Food Grade									
32	10	150	2023K332	32.43	6	175.14	2023K44	144.00	
46	20W	212	2023K352	32.43	6	175.14	2023K45	146.00	
68	20	311	2023K372	32.43	6	175.14	2023K47	146.00	
Biodegradable Food Grade									
32/46	20	175	3499K222	22.31	6	120.36	3499K24	90.36	

Vacuum Pump Oil

Low vapor pressure allows you to use these nondetergent oils in high-vacuum applications with little evaporation. These products are compliant under all state VOC rules in effect on October 1, 2010.

***Mobil*—**Color is amber.

***Standard*—**Color is yellow.

Size	Grade ISO	Grade SAE	SSU @ 100° F		Each	Pkg. Qty.	
Mobil							
32 oz.	68	20	330	2158K713	$8.62	12	$91.92
5 gal.	68	20	330	2158K89	158.70		
Standard							
32 oz.	68	20	325	1385K213	6.67	12	72.12
1 gal.	68	20	325	1385K223	25.82	6	136.74
5 gal.	68	20	325	1385K23	102.87		

For information about lubricants, grease, and oil, see page 2192. For more about oil, see page 2203.

Air Tool Oil

Keep air-powered equipment running longer and cleaner for greater power and less downtime. These nondetergent oils absorb water to reduce potential condensation problems and keep gum and sludge from forming. They contain corrosion inhibitors as well as antiwear and extreme-pressure additives.

These products are compliant under all state VOC rules in effect on October 1, 2010.

***Mobil Almo 525*—**Color is amber.

***Standard*—**Color is clear.

***Food Grade*—**NSF registered H1 for applications with incidental food contact. Color is clear.

***Winter Grade*—**Resists temps. as low as –50° F. Color is green.

***Synthetic*—**This oil reduces the frequency of oil changes. It's highly compatible with most rubber and plastics. Color is clear.

***Cleaner*—**Removes rust, dirt, and varnish from air tools. Just apply to the inlet of your air tool and connect tool to air line. Color is yellow.

Grade ISO	Grade SAE	SSU @ 100° F	16 oz.	Each	Pkg. of 24	32 oz.	Each	Pkg. of 12	1 Gallon	Each	Pkg. of 6	5 Gallon	Each
Mobil Almo 525	46	20	230				2158K463	$8.03	$85.56				
Standard	22	10W	126	1298K513	$9.04	$192.72	1298K523	16.78	179.04	1298K534	$33.58	$181.32	1298K48	$116.20
Food Grade	22	10W	100	1298K572	9.94	212.16	1298K582	18.75	200.04	1298K593	40.25	217.38	1298K49	186.19
Winter Grade	15						1298K552	17.35	185.04				1298K36	204.06
Synthetic	32	10W	163				1298K722	24.47	293.64					
Cleaner							1298K62	16.77						

Engine Oil

Primarily for use in automotive applications, these oils also work well with machinery. These products are compliant under all state VOC rules in effect on October 1, 2010.

***Single-Grade Gasoline Engine Oil*—**Good for heavy duty jobs, these single-grade oils are detergent oils that neutralize acids and prevent sludge and varnish deposits. Color is amber.

***Multigrade Gasoline Engine Oil*—**These all-climate, multiviscosity oils protect engines in warm and cold environments. They are also detergent oils that neutralize acids and prevent sludge and varnish deposits. Color is amber.

***Mobil Delvac 1230 Diesel Engine Oil*—**In addition to excellent oxidation and thermal stability, this oil prevents rust and corrosion to keep engines clean and extend oil life. Color is brown.

***Mobil Delvac MX Diesel Engine Oil*—**The choice for high-performance diesel applications, this oil provides outstanding rust protection and thermal stability, which prevents sludge and deposits to extend engine life. Color is brown.

***Mobil Delvac 1300 Super Diesel Engine Oil*—**Use this extra-high-performance diesel engine oil in your most severe applications. It controls soot to improve engine efficiency and extend engine life. Color is brown.

***Diesel Engine Oil*—**This heavy duty oil works with all diesel engines to protect against wear and deposits. Color is amber.

***Synthetic Oil for Gasoline and Diesel Engines*—**Even in severe conditions, this long-lasting oil extends engine life as well as the time between oil changes. Compatible with petroleum-based oils, you can add it without draining your existing oil first. Color is amber.

SAE Grade	32 oz. Each	Pkg. Qty.		5 Gallon Each
Single-Grade Gasoline Engine Oil				
10W	1361K244 $4.73	12	$51.96	1361K36 $80.00
20	1361K254 4.73	12	51.96	1361K37 80.00
30	1361K264 4.73	12	51.96	1361K38 80.00
40	1361K272 4.73	12	51.96	1361K39 80.00
Multigrade Gasoline Engine Oil				
5W-30	1360K173 4.91	12	54.00	1360K27 78.33
10W-30	1360K154 4.91	12	54.00	1360K25 78.33
10W-40	1360K163 4.91	12	54.00	1360K26 78.33
Mobil Delvac 1230 Diesel Engine Oil				
30	2158K932 7.08	12	76.44	2158K49 152.60
Mobil Delvac MX Diesel Engine Oil				
15W-40	2158K922 6.68	12	72.12	2158K48 126.80
Mobil Delvac 1300 Super Diesel Engine Oil				
15W-40	2158K912 7.62	6	41.10	2158K47 138.31
Diesel Engine Oil				
15W-40	1887K313 6.00	12	64.80	1887K32 103.00
Synthetic Oil for Gasoline and Diesel Engine Oil				
5W-40	2276K512 11.66	12	139.92	2276K52 177.17

Slick 50 Engine Treatment

Protect your gasoline engine from friction and heat with this treatment. Color is amber. This product is compliant under all state VOC rules in effect on October 1, 2010.

Note: Not for vehicles used in heavy duty industrial or commercial applications.

Size	SAE Grade		Each	Pkg. Qty.	
15 oz.	5-W30	2206K232	$23.76	6	$128.28

Way Oil

Formulated to reduce friction and wear, these nondetergent oils ensure smooth, uniform motion of ways and slides. These products are compliant under all state VOC rules in effect on October 1, 2010.

***Mobil Vactra*—**Color is brown.

***Standard*—**Comparable to Tonna V. Color is amber.

Grade ISO	Grade SAE	SSU @ 100° F	1 Gallon Each	Pkg. of 6	5 Gallon Each
Mobil Vactra No. 2					
68	20	355	2158K212 $27.20	$147.18	2158K41 $115.02
Mobil Vactra No. 4					
220	50	1,170	2158K222 27.20	147.18	2158K42 112.93
Standard					
68	20	300	1017K112 22.89	121.38	1017K12 83.38
220	50	1,050	1017K212★ 31.11	109.96	1017K22 99.14

★Package quantity is 4.

Spindle Oil

Low viscosity to penetrate tight tolerances, these nondetergent oils lubricate high-speed spindles in machine tools.

***Mobil Velocite*—**No. 3 and 10 are amber. No. 6 is yellow. No. 3 cannot be sold in the Los Angeles area.

***Standard*—**Comparable to Spindura. Color is yellow.

Grade ISO	Grade SAE	SSU @ 100° F	1 Gallon Each	Pkg. of 6	5 Gallon Each
Mobil Velocite No. 3					
2		35			2158K52 $111.50
Mobil Velocite No. 6					
10		59	2158K232 $24.58	$134.10	2158K43 110.87
Mobil Velocite No. 10					
22	5W	107	2158K242 26.72	144.60	2158K44 110.87
Standard					
10		60	13595K512 20.29	110.10	13595K55 84.85
15		75	13595K612 17.45	94.62	13595K65 78.71
22	5W	100	13595K712 19.13	103.74	13595K75 79.94

Automatic Transmission Fluids

Improve the performance of your automatic transmissions with these nondetergent fluids, which also work as power steering fluid and compressor fluid. Meet Ford and General Motors (Dexron III) specifications for automatic transmission fluids. Color is red.

These products are compliant under all state VOC rules in effect on October 1, 2010.

***Synthetic*—**Compatible with petroleum-based oils, you can add these long-lasting fluids without draining your existing oil first.

Size	Grade ISO	Grade SAE	SSU @ 100° F		Each	Pkg. Qty.	
Standard							
32 oz.	32	10W	150	2183K112	$7.43	12	$80.28
Synthetic							
1 gal.	46	20	220	2183K212	46.84	6	253.32
5 gal.	46	20	220	2183K31	207.71		

Cutting and Tapping Fluids and Compounds

Use full strength while machining for easier and faster tapping, drilling, and milling. These fluids also improve surface finishes, extend tool life, and help you meet closer tolerances.

Standard fluids are for use on all metals. ***Water-based*** fluids are for use on all metals except magnesium.

Tap Magic—*Extra Thick* is for hard metals such as titanium and stainless steel. *Protap* is for all metals.

Cool Tool II—For use on all metals.

LPS Tapmatic Edge—*Cream* works especially well for vertical applications and is also good for forming and bending. *Stick* is perfect for use on rotating and stationary cutting tools and grinding belts. It's 2 3/16″ Dia. × 9 9/16″ long.

Tap Magic—Aerosols have a female stem.

TAP MAGIC

Size		Each	Pkg. Qty.	
Standard				
4-oz. Container	1413K313★	$3.68	24	$77.28
12-oz. Aerosol	1413K393	12.85	12	134.88
16-oz. Container	1413K334★	11.80	12	123.84
1-gal. Container	1413K352★	64.22	2	115.60
5-gal. Container	1413K37★	268.52	—	—
For Aluminum				
4-oz. Container	1413K422★	3.68	24	77.28
12-oz. Aerosol	1413K432★	12.85	12	134.88
16-oz. Container	1413K443★	11.80	12	123.84
1-gal. Container	1413K462★	64.22	2	115.60
5-gal. Container	1413K48★	268.52	—	—
Extra Thick				
16-oz. Container	8705T633	14.74	12	154.80
1-gal. Container	8705T652	88.47	2	154.82
5-gal. Container	8705T66	343.08	—	—
Protap				
4-oz. Container	10015K142	3.68	24	77.28
12-oz. Aerosol	10015K152	12.85	12	134.88
16-oz. Container	10015K162	11.80	12	123.84
1-gal. Container	10015K182	64.22	2	117.56
5-gal. Container	10015K22	268.52	—	—
Formula 1 Aqueous Water-Based				
12-oz. Aerosol	1043K592	12.85	12	134.88
16-oz. Container	1043K522	11.80	12	123.84
1-gal. Container	1043K532	70.78	2	123.86
5-gal. Container	1043K54	275.53	—	—

★This product cannot be sold in California.

Cool Tool II—Aerosol has a male stem.

COOL TOOL II

Size		Each	Pkg. Qty.	
4-oz. Container	10075K232★	$3.16	24	$68.40
12.5-oz. Aerosol	10075K242	16.87	12	182.64
16-oz. Container	10075K253★	11.40	12	123.48
1-gal. Container	10075K272★	68.41	2	123.48
5-gal. Container	10075K29★	254.47	—	—

★This product cannot be sold in California.

LPS—Aerosol has a male stem.

LPS

Size		Each	Pkg. Qty.	
Tapmatic #1 Gold Standard				
11-oz. Aerosol	2008K122	$14.63	12	$160.20
16-oz. Container	2008K132	14.34	12	156.12
1-gal. Container	2008K142	74.71	4	272.64
5-gal. Container	2008K15	274.14	—	—
Tapmatic Natural				
16-oz. Container	1146K612	13.82	12	150.83
1-gal. Container	1146K622	72.27	4	263.72
5-gal. Container	1146K63	270.43	—	—
Tapmatic Aquacut Water-Based				
16-oz. Container	1450K322	12.52	12	136.32
1-gal. Container	1450K332	53.42	4	194.96
5-gal. Container	1450K34	205.48	—	—
Tapmatic Edge				
10-oz. Cream	1398K132	23.48	10	210.50
13-oz. Stick	1398K142	17.63	10	160.90

Rapid Tap Standard

Rapid Tap

Size		Each	Pkg. Qty.	
4-oz. Container	1858K752	$3.90	24	$83.90
16-oz. Container	1858K763	12.61	12	135.84
1-gal. Container	1858K772	70.97	4	254.76
5-gal. Container	1858K78	298.07	—	—

Anchorlube Water-Based

Anchor

Size		Each	Pkg. Qty.	
4-oz. Container	10705K482	$4.76	24	$102.30
16-oz. Container	10705K492	11.16	12	120.00
1-gal. Container	10705K542	37.21	4	133.32
5-gal. Container	10705K55	144.30	—	—

Marvel Mystery Gasoline and Oil Additive

Simply add these additives directly to gasoline and oil to improve your engine performance. In gas it cleans fuel injectors, prevents sticky rings and valves, and limits the buildup of varnish and gum. In oil it eases start-up in cold temperatures, extends oil life, and prevents the formation of acid and sludge. It can also be used with marine and diesel engines. Color is red.

These products are compliant under all state VOC rules in effect on October 1, 2010.

Size		Each	Pkg. Qty.	
16-oz. Container	1272K502	$4.60	6	$25.62
32-oz. Container	1272K102	6.45	6	35.94
1-gal. Container	1272K203	25.35	4	94.16

Micro-Drop Coolants

Developed for use in droplet coolant dispensers (sold separately on page 2233), only a small amount of these coolants is needed for machining purposes. They're chlorine free, sulfur free, and nonflammable. Suitable for all metals. Use at full strength.

These products are compliant under all state VOC rules in effect on October 1, 2010.

Size	***Synthetic***		***Vegetable***	
1-gal. Container	10305K16	$111.22	10305K26	$114.49

Easy-Coat Cutting and Tapping Stick Waxes



Pocket Size



Push-Up

Prevent mess and waste in machining operations with these easy-to-apply, nonstaining lubricants. They are chlorine free and sulfur free. These products are compliant under all state VOC rules in effect on October 1, 2010.

Pocket Size—This crayon-like stick is 1/2″ Dia. × 4 1/2″ long. Color is tan.

Push-Up—Advance the stick by pushing the bottom of the cartridge. Size is 2″ Dia. × 10 3/4″ long. Color is green.

Size		Each	Pkg. Qty.	
0.43-oz. Pocket Size	1009K222	$2.92	24	$62.88
16-oz. Push-Up	1379K633	10.83	12	117.84

For information about lubricants and oil, see page 2192. For more about oil, see page 2203.

Two-Cycle Engine Oil

Take care of your two-cycle engines. These oils reduce engine wear and provide superior rust protection. Color is brown. These products are compliant under all state VOC rules in effect on October 1, 2010.

Size	SSU @ 100° F		Each	Pkg. Qty.	
8-oz. Container	150	1274K153	$2.77	24	$60.96
32-oz. Container	150	1274K172	5.68	12	62.52

Gas Stabilizer

Just add to the gas tank of your two- or four-cycle engines and you can store your engine without draining the gas. One ounce of stabilizer treats 2.5 gallons of gasoline. Color is red. These products are compliant under all state VOC rules in effect on October 1, 2010.

Size		Each	Pkg. Qty.	
32-oz. Container	10385K472	$21.01	12	$224.04

Cutting and Threading Oil

The choice for a variety of cutting, pipe threading, and broaching operations. Use full strength except for Mobil Mobilcut, which must be diluted. These products are compliant under all state VOC rules in effect on October 1, 2010.

Mobil Mobilmet*—*426 is for light to moderate duty use. It is chlorine free, sulfur free, and nonstaining. *766* is for heavy duty use on difficult-to-machine steels.

***Mobil Mobilcut*—**Offers excellent rust protection. It forms a milky emulsion when mixed with water.

***Heavy Duty*—**These sulfur-based oils are designed for use with ferrous metals; they can stain nonferrous metals. Use alone or blended with other oils. *Light-colored oil* allows you to see your workpiece and is chlorine free. *Dark-colored oil* is a high-lubricity oil that allows increased speeds and is especially effective for machining tough ferrous metals.

***Nonstaining*—**Also known as plumber's lard oil, this oil provides excellent lubricity for fine surface finishes and extended tool life. It's chlorine free and sulfur free.

***Food Grade*—**NSF registered H1 for applications where there is incidental food contact. It contains anticorrosion additives.

	1 Gallon				5 Gallon	
		Each	Pkg. Qty.			Each
Mobil Mobilmet						
426	2507K162	$19.43	6	$104.94	2507K6	$102.87
766	2507K112	24.56	6	132.60	2507K12	109.75
Mobil Mobilcut						
100	2507K272	27.25	6	147.12	2507K28	120.98
Heavy Duty						
Light Colored	2307K262	19.29	6	104.16	2307K28	89.11
Dark Colored	1011K114	20.75	6	112.08	1011K12	86.44
Nonstaining						
Light Colored	1308K402	21.56	6	116.40	1308K2	89.90
Food Grade						
Light Colored	2084K102	16.51	6	89.16	2084K2	73.47

Stamping and Drawing Vanishing Oil

Shortly after application, this oil evaporates to leave only a thin residue to protect your machined parts. Evaporation time is 15 minutes to 2 hours, depending on factors such as humidity and temperature. Oil is nonstaining, chlorine free, and sulfur free. Use it full strength on all metals up to 0.025″ thick.

***Standard*—**These products are compliant under all state VOC rules in effect on October 1, 2010 except in the Los Angeles area.

***Food Grade*—**Complies with FDA specification 21 CFR 178.3910 for applications with incidental food contact. These products are compliant under all state VOC rules in effect on October 1, 2010.

Size		Each	Pkg. Qty.	
Standard				
1-gal. Container	1842K112	$24.50	4	$87.56
5-gal. Container	1842K12	94.53	—	—
55-gal. Container	1842K13	698.40	—	—
Food Grade				
1-gal. Container	1515K112	37.91	4	136.48
5-gal. Container	1515K22	164.83	—	—

Misting Coolant Concentrates

These synthetic coolants are fortified with rust inhibitors and prevent foul odors. Dilute them with water to suit your drilling, milling, tapping, sawing, turning, and grinding operations on all types of metal. They can even be used for flooding applications. These products are compliant under all state VOC rules in effect on October 1, 2010.

For coolant dispensers, see pages 2232-2233.

***Kool Mist*—**Sulfide free. *Formula 78* is for light duty applications. *Formula 77* provides greater lubricity for tougher machining jobs.

***Tri-Cool*—**Contain extreme-pressure additives that reduce heat buildup and extend tool life. Chlorine free and sulfur free.

Size		Each	Pkg. Qty.	
Kool Mist Formula 78				
1-gal. Container	11365K632	$38.39	4	$137.68
5-gal. Container	11365K67	172.75	—	—
Kool Mist Formula 77				
1-gal. Container	11365K613	39.85	4	142.92
5-gal. Container	11365K65	179.33	—	—
Tri-Cool				
1-gal. Container	1455K25	46.37	—	—
5-gal. Container	1455K28	196.46	—	—

Coolants for Near-Dry Machining

Only a minimal amount of coolant is needed, which means you'll have near-dry workpieces that require little to no cleanup and disposal costs. Apply these coolants to your tool's cutting edge to reduce friction between the tool and the workpiece. Great for shallow drilling, reaming, and tapping operations as well as on band saws and circular saws.

These products are compliant under all state VOC rules in effect on October 1, 2010.

Size		Each	Pkg. Qty.	
1.6-oz. Stick	1503K102	$4.51	50	$206.50
4-oz. Liquid	1503K502	11.54	36	377.60
12-oz. Paste	1503K302	22.29	12	245.19

Sawing Fluid Concentrates

Able to take the heat off of tough metalworking jobs, these fluids cool while they lubricate, preventing metal distortion and corrosion in sawing applications. Use them with power hacksaws, circular saws, and band saws. All fluids are chlorine free and sulfur free. *Synthetic* and *Nonstaining* are odorless. Dilute them with water to suit your application. These products are compliant under all state VOC rules in effect on October 1, 2010.

***Semisynthetic*—**A blend of synthetic and mineral oils for extra lubricity. Use them on all metals, including yellow metals.

***Synthetic*—**Use this oil with all metals except aluminum, brass, bronze, and copper.

***Nonstaining*—**You can use this synthetic oil on nonferrous metals, including aluminum. Not for use on yellow metals.

	1 Gallon				5 Gallon	
		Each	Pkg. Qty.			Each
Semisynthetic	1197K803	$19.28	4	$68.72	1197K9	$83.74
Synthetic	1197K403	20.01	4	71.28	1197K5	84.88
Nonstaining	1197K602	21.67	4	77.24	1197K7	91.82

Stamping and Drawing Concentrate

Replace the multiple oils you're using with just one. These water-soluble synthetic oil concentrates are designed to handle all of your light to heavy duty stamping and drawing applications. They're nonstaining, chlorine free, and sulfur free. Suitable for all metals. Dilute with water to suit your application.

These products are compliant under all state VOC rules in effect on October 1, 2010.

Size		Each	Pkg. Qty.	
1-gal. Container	1077K202	$50.56	6	$273.00
5-gal. Container	1077K5	210.00	—	—

Machining and Grinding Concentrates

Dilute these nonstaining, water-soluble concentrates with water to meet your specific machining and grinding applications. They are for use with most metals. These products are compliant under all state VOC rules in effect on October 1, 2010.

Light Duty—This economical, general purpose concentrate is formulated for intermittent service.

Medium Duty—Increases tool life and is designed for more demanding applications.

Heavy Duty—Tough enough to handle difficult-to-machine alloys as well as the most severe applications, this concentrate is the best product for extending tool life.

Semisynthetic and ***Synthetic—***All are chlorine free and sulfur free. *Long-lasting semisynthetic* provides excellent cooling and is for use where traditional soluble oils can't adequately cool.

	1 Gallon				5 Gallon	
		Each	Pkg. Qty.			Each
Light Duty	1310K102	$21.98	6	$118.68	1310K2	$91.54
Medium Duty	1020K113	24.44	6	132.00	1020K12	109.00
Heavy Duty	1021K172	26.71	6	144.24	1021K19	113.56
Semisynthetic	1216K132	22.78	6	123.00	1216K14	98.00
Long-Lasting Semisynthetic	1216K212	41.79	4	149.88	1216K22	178.64
Synthetic	1216K152	22.18	6	119.76	1216K16	92.44

Quenching Oil

To minimize cracking and distortion, these nonstaining oils cool parts uniformly and more slowly than water. Use them to harden production parts, taps, dies, and forming tools. Chlorine and sulfur free. Use full strength.

These products are compliant under all state VOC rules in effect on October 1, 2010.

Size		28-Second Quench Time		11-Second Quench Time
1-gal. Container	3202K5	$18.29	3202K4	$19.13
5-gal. Container	3202K1	76.50	3202K7	79.94
30-gal. Container	3202K2	423.21	3202K9	449.23

Polishing Oil

Apply these oils to abrasive belts and wheels for extended life and improved surface finishes. They increase production by allowing belts and wheels to handle more workpieces. They also work well as general purpose grinding oils. Suitable for use on all metals as well as glass. These oils are nonstaining, chlorine free, and sulfur free. Use full strength. Aerosol has a female stem.

These products are compliant under all state VOC rules in effect on October 1, 2010.

Size		Each	Pkg. Qty.	
11-oz. Aerosol	1165K262	$5.24	12	$56.64
1-gal. Container	1165K282	36.27	6	195.84

Lubricants for Smoothing and Sharpening Stones

These solutions lubricate and prevent material buildup.

Water-Soluble Lubricants—Easier to clean from your workpiece than oil-based lubricants.

Oil-Based Lubricants—Nonstaining, chlorine free, sulfur free, and won't corrode metals. Use full strength. Meet U.S. Pharmacopeia standards for mineral oil purity.

Size		
Water Soluble		
8 oz.	44555A11	$5.30
1 gal.	44555A77	23.02
Oil Based		
4½ oz.	1386K41	6.74
16 oz.	1386K42	12.67
32 oz.	1386K43	20.71

Honing Oil

Oil keeps cylinder hones clean, which allows them to continue abrading and polishing. It's nonstaining and chlorine free. Contains sulfur. Use full strength on all metals.

Size		
1 gal.	1823K1	$28.33
5 gal.	1823K2	110.00

Machining and Grinding Concentrate for Carbide

To keep the leaching of cobalt from carbide to a minimum, use these synthetic concentrates that are specially formulated for carbide applications. They provide excellent lubricity, cooling, and corrosion protection for use on carbide, carbon steel, cast iron, high alloy steels, and stainless steels. They are also free of mineral oil, chlorine, and sulfur. Dilute with water.

These products are compliant under all state VOC rules in effect on October 1, 2010.

Size		Each	Pkg. Qty.	
1-gal. Container	1537K102	$53.11	4	$191.20
5-gal. Container	1537K2	230.92		

Electric Discharge Machining Fluid

Demanding EDM (electric discharge machining) applications are no problem for these fluids. They are low viscosity, which means they allow faster machining speeds for fine surface finishes. They are also long lasting and extend tool life. Use them on a variety of hard metals. Use full strength.

These products are compliant under all state VOC rules in effect on October 1, 2010.

Size		Each	Pkg. Qty.	
1-gal. Container	1496K102	$20.91	4	$75.83
5-gal. Container	1496K2	94.57		

Pipe and Tube Bending Lubricant

Make bending and forming pipe and tube easier with this lubricant. It's a pourable gel that produces a high-strength lubricating film on your metal surface. Great for use on ferrous metals as well as high-strength alloys.

Lubricant offers excellent rust protection. It is chlorine, sulfur, and phosphorous free. Use full strength.

This product is compliant under all state VOC rules in effect on October 1, 2010.

Size		Each	Pkg. Qty.	
1-gal. Container	1529K102	$40.10	4	$143.40

Cutting Fluid and Coolant Deodorizers

Neutralize and eliminate acidic and alkaline gases, including hydrogen sulfide and ammonia. These deodorizers dissolve odors from recycled water-soluble coolant and cutting fluids. They're also suitable for wastewater and trash collection areas. Use full strength or dilute and use as a spray. These products are compliant under all state VOC rules in effect on October 1, 2010.

Standard—Until it reacts completely with odorous gases, this neutralizer emits a fresh scent.

Extra Strength—Strong enough for use in sludge treatment.

	Container Size		
Standard	70 oz.	63545T22	$54.76
Extra Strength	77 oz.	63545T21	83.72

Reservoir Cleaner and Anti-Foaming Liquid

Clean and defoam your coolant systems to keep them running in tiptop shape. Dilute with water. These products are compliant under all state VOC rules in effect on October 1, 2010.

Reservoir Cleaner—Removes oily residue, soap deposits, and heavy soils from your reservoir without harming paints, coatings, seals, and hoses.

Anti-Foaming Liquid—Simply add this liquid to your reservoir to reduce foam in your coolants.

	Container Size		1-3	4-Up
Reservoir Cleaner	1 gal.	2147K1	$36.09	$31.65
Anti-Foaming Liquid	64 oz.	2147K3	46.62	40.19

Grease Guns

Apply your grease to the precise lubrication point desired with these steel-barreled grease guns. All guns have a 1/8" NPT female connection for attaching nozzles and a nozzle with coupler for standard grease fittings, unless noted. Fill in one of three ways (unless otherwise stated): insert a cartridge of grease, draw grease from a container using the bottom handle to suction load, or bulk load using a filler pump or by scooping grease into the gun barrel.

Pistol Grip—Designed for one-hand operation, these grease guns allow you to access hard-to-reach areas. Filler nipple (sold separately) is required for bulk loading with a filler pump.

High Pressure Lever Grip—Put yourself in complete control of your grease output. When you're using a thick grease or need to force the grease through clogged fittings, use short, quick strokes. Use longer strokes to dispense larger amounts at lower pressures. Guns include a 1/8" NPT male filler nipple for bulk loading.

Lever Grip for Grease and Oil—Similar to the grease gun shown above, with the additional ability to dispense both grease and oil. Bulk load only by pouring in oil or scooping in grease.

Dual Output—Switch the latch pin to toggle between low-pressure and high-pressure settings. Use the low-pressure setting to dispense more grease with each stroke. Make use of the high-pressure setting when you're dispensing thicker grease or need to force grease through clogged fittings. Include a 1/8" NPT male filler nipple for bulk loading.

High Output—Dispense large quantities of grease quickly with little effort. Includes a 1/8" NPT male filler nipple for bulk loading.

Extreme Pressure—Easily dispense even the thickest grease with the highest-pressure-rated gun we offer. Screw the T-handle into the barrel to prime the gun and produce 20 or more strokes without priming or screwing down the handle again. Has a 1/4" NPT female connection for attaching nozzles. Includes a coupler for button-head grease fittings, 1/8" NPT male filler nipple for bulk loading, pressure gauge, relief valve, and carrying strap. Suction load or bulk load only.

Nozzle Type	Strokes per oz.	Max. psi	Load Cap., oz.		
Pistol Grip					
6" Rigid	40	5,400	16	1190K35	$20.43
12" Flexible	40	5,400	16	1190K37	23.78
Filler Nipple (1/8" NPT male connection)				1014K31	7.13
High Pressure Lever Grip					
5" Rigid	22	10,000	14	1363K27	30.12
6" Rigid	21	10,000	24	1891K3	45.82
18" Flexible	21	10,000	16	1891K5	36.16
Lever Grip for Grease and Oil					
7" Rigid	21	5,800	17	1811K1	76.38
12" Flexible	21	5,800	17	1811K2	93.10
Dual Output					
6" Rigid	18 or 33	4,000 or 7,000	16	1053K43	42.86
6" Rigid	18 or 33	4,000 or 7,000	21	1053K44	74.06
High Output					
6" Rigid	9	3,000	21	1048K3	150.78
Extreme Pressure					
18" Flexible	24	15,000	12	1059K2	890.78

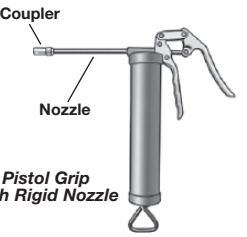

Pistol Grip with Rigid Nozzle


High Pressure Lever Grip with Rigid Nozzle


Lever Grip for Grease and Oil with Flexible Nozzle

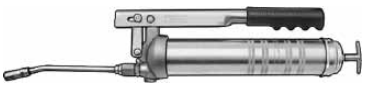
Dual Output

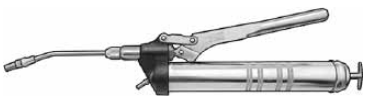
High Output

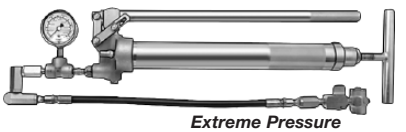
Extreme Pressure

Battery-Powered Grease Guns

Powered by a rechargeable battery, these guns require less work than a manual gun. Plus, with no air hose to tie you down, they offer more freedom than air-powered guns. Hold the trigger for a continuous flow of grease, or deliver 1 oz. of grease per 50 strokes.

Guns have a steel barrel plus a 7/16" female UNEF connection for attaching nozzles, and a 30" long flexible nozzle that has both a coupler for standard grease fittings and a steel spring guard to prevent kinking. A rechargeable battery, battery charger, and a carrying case are also included. Fill in one of three ways: insert a cartridge of grease, draw grease from a container using the bottom handle to suction load, or use a filler nipple and filler pump to bulk load. Load capacity is 16 oz.

Standard—Delivers a continuous flow of 2.9 oz. of grease per minute. Maximum pressure is 6,000 psi. Requires a 12-volt NiCad battery (included).

High Output—Delivers a continuous flow of 8.5 oz. of grease per minute. Maximum pressure is 7,500 psi. Requires a 14.4-volt NiCad battery (included).



	Grease Guns		***Repl. Batteries***		***Repl. Battery Chargers***	
Standard	1524K2	$215.62	1524K7	$90.64	1524K81	$50.25
High Output	1524K3	278.33	1524K8	90.91	1524K91	53.15
Replacement 30" Flexible Nozzle					1524K82	35.24

Air-Powered Grease Guns

Use air power to dispense grease without the effort that manual grease guns require. One-hand operation allows you to access hard-to-reach areas. Gun has a steel barrel and a coupler for standard grease fittings. Fill in one of three ways: insert a cartridge of grease, draw grease from a container using the bottom handle to suction load, or use a filler nipple and filler pump to bulk load. Hold the trigger to deliver a continuous flow of 10 oz. of grease per minute. Gun has a 7/16" UNEF female connection for attaching nozzles and includes a 30" flexible nozzle. It requires a 40-150 psi air supply. Air inlet connection is 1/4" NPS female.



Strokes per oz.	Max. psi	Load Cap., oz.		
29	6,000	16	1454K38	$106.11
Replacement 30" Flexible Nozzle			1524K82	35.24

Grease Guns & Grease Injector Needles

For information about grease, see page 2198. For grease gun nozzles, see page 2211.

Compact Grease Guns

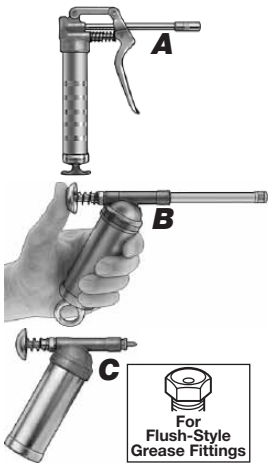

Designed for one-hand operation, these grease guns allow you to access hard-to-reach areas that larger guns can't. Guns have a steel barrel.

Style A—Includes a 1/8" NPT female connection for attaching nozzles and a nozzle with coupler for standard grease fittings. Use the included 3-oz. black NLGI No. 1.5 lithium grease cartridge or suction load. *Replacement grease gun cartridges* have a temperature range of 0° to 280° F. Grease is compliant under all state VOC rules in effect on October 1, 2010.

Styles B & C—The palm and finger-grip design of these guns allows for easy operation. Push the plunger with your thumb to dispense grease. Guns include a 1/8" NPT female connection for attaching nozzles.

Style B also includes a nozzle with coupler for standard grease fittings. Suction load or bulk load only.

Style C also includes a nozzle with coupler for flush-style fittings. Bulk load only.

Nozzle Type	Strokes per oz.	Max. psi	Load Cap., oz.		
For Standard Grease Fittings					
A ... 6" Rigid	80	4,500	3	1060K52	$15.82
B ... 4" Rigid	150	3,000	3	10225K93	18.10
B ... 4" Rigid	150	3,000	5	10225K95	19.32
For Flush-Style Grease Fittings					
C ... 13/16" Needle	150	3,000	3	10225K97	17.08
Replacement 3-oz. Grease Gun Cartridges for Style A					
Black NLGI No. 1.5 Lithium Grease (3/Pkg.)				1060K31	$11.93
White NLGI No. 2 Lithium Grease (4/Pkg.)				1060K63	13.18

Compact Light Duty Grease Guns

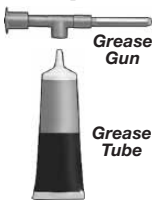

Thread this handy 6" gun directly onto a tube of multipurpose lithium grease (sold separately), and push the plunger to dispense.

Grease is rated NLGI No. 2 and has a temperature range of –25° to +280° F. Grease is compliant under all state VOC rules in effect on October 1, 2010.

Grease Gun	1348K22	$7.55
8-oz. Tube White Lithium Grease	1348K13	5.85

Ready-to-Use Grease Guns



Eliminate the time and mess of manual filling. This 6 5/16" long gun comes loaded with 2 oz. of blue NLGI No. 2 lithium grease. When the gun is empty, simply throw it away. Push-action allows easy one-hand operation. It has a transparent body for a clear view of the grease level and a universal nozzle that fits standard grease fittings. Maximum pressure is 3,700 psi. Grease temperature range is –31° to +302° F. Grease is compliant under all state VOC rules in effect on October 1, 2010.

8648K5 ... $11.17

Grease Gun Holders



Keep your grease guns close at hand. Holder is steel and mounts to walls, vehicles, and other machinery. The center latch secures any standard 2 1/4" dia. grease gun. Holder has two 1/4" dia. mounting holes.

Compatible with the grease guns on page 2209 (except 1059K).

1275K33 ... $7.73

Pinpoint Grease Injector Needles

Perfect for dispensing precise amounts of grease, these needles lubricate sealed bearings and allow pinpoint penetration of boots and gaskets in hard-to-reach areas.

Snap-In Needles



Snap directly into the coupler of your grease gun for speed and convenience. Made of Type 304 stainless steel.

Needle Style	Ga.	OD	Needle Lg.	O'all Lg.		
Straight	18	0.050"	1 1/4"	2"	1187K14	$3.50
Straight	16	0.065"	1 1/2"	2 1/4"	1187K11	3.60
Straight	16	0.065"	1 1/2"	2 3/4"	1078K85	4.63
Straight with 12" Flexible Nozzle	16	0.065"	1 1/2"	16 1/2"	1078K83	10.95

Thread-On Needles

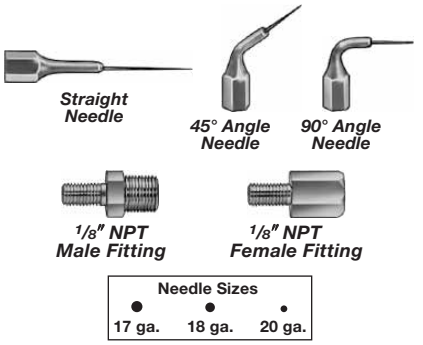

Choose from straight, 45° angle, and 90° angle needles. Threads are 1/4"-28 female. Needles are made of Type 304 stainless steel; fittings are brass.

Needles with 1/8" NPT male fitting thread directly into your grease gun barrel.

Needles with 1/8" NPT female fitting thread into your grease gun nozzle.

Replacement needles have 1/4"-28 female threads.

To Order: Please specify needle size: 17 ga. (0.058" OD), 18 ga. (0.050" OD), or 20 ga. (0.035" OD).

Needle Style	Needle Lg.	O'all Lg.	*Needles with 1/8" NPT Male Fitting*		*Needles with 1/8" NPT Female Fitting*		*Replacement Needles*	
Straight	1/2"	1 9/16"	10475K61	$7.36	10475K81	$7.43	10475K11	$5.75
Straight	3/4"	1 13/16"	10475K62	7.36	10475K82	7.43	10475K12	5.75
Straight	1"	2 1/16"	10475K63	7.36	10475K83	7.43	10475K13	5.88
Straight	2"	3 1/16"	10475K64	7.46	10475K84	7.54	10475K14	6.00
45° Angle	1/2"	1 9/16"	10475K71	8.53	10475K91	8.53	10475K21	7.50
90° Angle	1/2"	1 9/16"	10475K72	8.53	10475K92	8.53	10475K31	7.63
Replacement 1/8" NPT Male Fitting							10475K51	$2.85
Replacement 1/8" NPT Female Fitting							10475K52	2.95

Tube Fittings for Thread-On Needles



Use these fittings to attach the above thread-on needles to tubing. Threads are 1/4"-28 male. Made of Type 316 Stainless Steel.

For Tube OD		
1/8"	8829T2	$35.35
3/16"	8829T3	36.17
1/4"	8829T4	36.50

Grease Gun Filler Pumps



Simplify bulk loading your grease guns. Insert the grease gun's filler nipple into the socket located on top of the unit, then pump the lever handle.

Pump for ***35-lb. containers*** delivers 1 oz. of grease per stroke; pump for ***120-lb. containers*** delivers 2.6 oz. of grease per stroke.

Pumps are steel and include a 1/8" NPT male steel filler nipple, steel drum cover, and follower plate for pumping extra-thick grease. Pail and drum are not included.

Fits Container	Max. Container Size Dia.	Ht.		
35 lb. (5 gal.) Container	12"	13 1/4"	1014K21	$90.31
120 lb. (16 gal.) Drum	15"	27"	1008K25	320.16
Repl. Filler Nipple (1/8" NPT male connection)			1014K31	7.13

Lincoln Grease Gun Filler Nipples



Attach this steel nipple to a manual grease gun so you can load the gun using a Lincoln brand filler pump. Size is 11/32" Dia. x 3/4" Lg. Connection is 1/8" NPT male.

1099K11 ..... $5.00

Grease Fitting Cleaning Tools



Easily open clogged grease fittings. To use, fill the tool with a light oil, place the tool's coupler on the grease fitting, and tap it with a light hammer. This tapping action forces oil through the fitting and quickly removes contamination from its bearings, joints, and other mechanical parts. Tool is steel with a corrosion-resistant coating. Includes a flexible rubber, nylon reinforced extension hose for hard-to-reach fittings. Furnished in a plastic case.

5059K1 ..... $58.98

Rigid Grease Gun Nozzles

One end has a 1/8" NPT male connection that threads into your grease gun barrel, while the other end has a coupler for standard grease fittings, unless noted. Use with manual grease guns, unless noted.

(A) Rigid Nozzle with Coupler—Combination nozzle/coupler fits standard grease fittings.

(B) Rigid Nozzle with High-Pressure Coupler—Same as Style A but built for heavy duty use.

(C) Rigid Nozzle with 180° Swivel Coupler—A sliding, spring-loaded sleeve locks coupler in place for straight applications and at any angle up to 90°.

(D) Rigid-to-Flexible Nozzle with Coupler—Slide the sleeve along this nozzle to shift from a rigid to a flexible nozzle. For use with both manual grease guns and air-powered grease guns.

(E) Nozzle without Coupler—Has a 1/8" NPT male connection at each end.

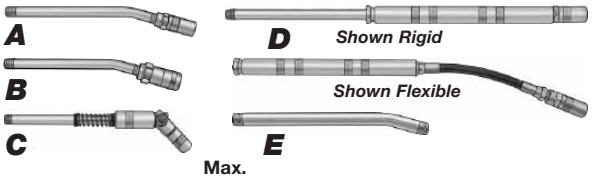

	Lg.	Max. psi		
A	6"	6,000	1090K39	$9.19
B	5 1/2"	10,000	1090K22	16.53
B	6 1/2"	10,000	1090K13	23.20
B	12"	10,000	1090K15	25.31
B	21"	10,000	1090K11	77.01
C	8"	7,000	1090K47	16.26
D	13"	5,000	1351K11	34.35
E	6"	Not Rated	1090K71	6.28

Flexible Grease Gun Nozzles

Nozzles without coupler have 1/8" NPT male connections on each end to allow you to connect your own coupler.

Nozzles with coupler have a steel coupler on one end and a 1/8" NPT male connection on the other. Coupler fits standard grease fittings, unless noted.

Polyethylene Nozzles



Without Coupler



With Coupler for Standard Grease Fittings

Use with manual grease guns.

Lg.	Without Coupler Max. psi			With Coupler Max. psi		
12"	4,500	1195K51	$4.58	4,000	1195K52	$7.67
18"	4,500	1195K57	4.70	4,000	1195K58	8.00
24"	4,500	1195K61	10.62	4,000	1195K62	10.38
36"	4,500	1195K67	11.00	4,000	1195K68	12.00

Kink-Free Thermoplastic Nozzles



Without Coupler



With Coupler for Standard Grease Fittings

A steel spring guard prevents kinking. Nozzles are for use with both manual grease guns and air-powered grease guns, except 24"- and 36"-long nozzles with coupler, which are for use with manual grease guns only.

Lg.	Without Coupler Max. psi			With Coupler Max. psi		
12"	5,000	1082K7	$21.64	4,500	1083K11	$37.73
18"	5,000	1082K8	25.12	4,500	1083K12	45.76
24"	5,000	1082K2	27.85			
36"	5,000	1082K3	32.98	3,000	1083K14	15.08

Reinforced Nitrile Nozzles



Without Coupler



With Coupler for Standard Grease Fittings

Nozzles are made of nitrile rubber with a single wire-braid reinforcement to protect the inner hose. Use with manual grease guns.

Lg.	Max. psi	Without Coupler		With Coupler	
12"	3,000	2044K41	$6.72	2044K61	$10.22
18"	3,000	2044K42	8.50	2044K62	11.38
24"	3,000	2044K43	12.05	2044K63	15.28
36"	3,000	2044K44	12.72	2044K64	18.73

Nozzles with Coupler for Pin-Style Grease Fittings





Use with manual grease guns. Nozzles are rubber.

Lg.	Max. psi		
12"	4,800	2162K13	$34.80
18"	4,800	2162K14	37.75

Nozzles with Coupler for Button-Head Grease Fittings

Nozzles ***without spring guard*** are for use with manual grease guns and are made of polyamide.

Nozzles ***with spring guard*** have a steel spring guard that prevents kinking. Use with manual and air-powered grease guns. Nozzles are polyethylene.





Lg.	Max. psi	5/8" Coupler Head Diameter		7/8" Coupler Head Diameter	
Without Spring Guard					
12"	4,500	2162K41	$17.68	2162K43	$22.60
20"	4,500	2162K42	19.85	2162K44	23.95
With Spring Guard					
12"	4,000	2162K15	$100.56	2162K31	$106.08
36"	4,000	2162K51	109.36	2162K52	111.18

Grease Gun Couplers


Medium Pressure


High Pressure


360° Swivel


Slide On


Pin Style, Male


Pin Style, Female


Flush Style


Button Head


Bare Lubrication Points

Form a positive, leakproof seal between grease guns and compatible grease fittings with these steel couplers. Use with both manual grease guns and air-powered grease systems, unless noted.

360° Swivel Coupler— Built-in swivel and 45° body allow 360° movement. Coupler locks in place at any 45° angle.

Inlet Thread Size	Max. psi		
For Standard Grease Fittings			
Medium Pressure			
1/8″ NPT Female	6,000	1091K2	$6.12
High Pressure			
1/8″ NPT Female	10,000	1091K5	14.21
360° Swivel			
1/8″ NPT Female	7,500	1091K3	48.81
Slide On			
1/8″ NPT Female	1,000	1091K61	8.96
For Pin-Style Grease Fittings			
1/8″ NPT Male	10,000	1091K16	37.32
1/8″ NPT Female	10,000	1091K17	41.40
For Flush-Style Grease Fittings			
1/8″ NPT Female	10,000	1091K9	6.22

Slide-On Coupler— Lubricate your hard-to-reach standard grease fittings from the side with this slide-on coupler.

Coupler for Bare Lubrication Points— Use when your lubrication point doesn't have a grease fitting. Use with manual grease guns only.

Inlet Thread Size	Max. psi		
For Button-Head Grease Fittings			
5/8″ Head Dia.			
1/8″ NPT Female	10,000	1091K42	$34.41
7/16″-27 NS-2 Female	10,000	1091K41	33.90
7/8″ Head Dia.			
1/8″ NPT Female	15,000	1091K44	42.26
1/4″ PTF Female	15,000	1091K88	53.97
7/16″-27 NS-2 Female	15,000	1091K43	38.28
16 mm Head Dia.			
1/8″ NPT Female	10,000	2443K77	23.00
For Bare Lubrication Points			
1/8″ NPT Female	3,000	1091K63	4.04

Grease Gun Snap-In Coupler Extensions

Snap into the coupler of your grease gun to access hard-to-reach lubrication points.

Straight

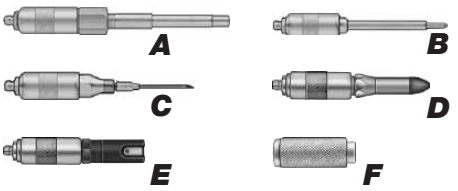

(A) Coupler for Recessed Lubrication Points— For use with standard grease fittings. 6″ long. Max. pressure is 4,000 psi.
2906K94 ..... $15.00

(B) Needlepoint Coupler— For use with flush-style grease fittings and bare lubrication points. 5 1/4″ long. Max. pressure is 4,000 psi.
2906K92 ..... $13.22

(C) Injector Needle— For precise applications. Needle is 14-ga. (0.08″ OD) and 1 1/2″ long. Overall length is 5 1/4″. Max. pressure is 4,000 psi.
2906K91 ..... $9.89

(D) Coupler for Bare Lubrication Points— 4″ long. Max. pressure is 4,000 psi.
2906K82 ..... $9.00

(E) Slide-On Coupler— For use with standard grease fittings. 3 1/2″ long. Max. pressure is 4,000 psi.
2906K81 ..... $20.30

(F) Locking Sleeve— Has a 1/8″ NPT female connection to connect any 1/8″ NPT male nozzle to a coupler. 2 1/2″ long. Max. pressure is 7,500 psi.
1090K65 ..... $20.32

90° Right Angle

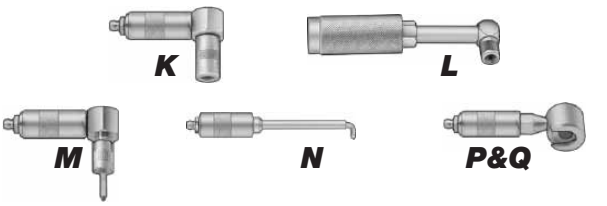

(K) 90° Coupler— For use with standard grease fittings. 2 13/16″ long. Max. pressure is 4,000 psi.
2906K96 ..... $11.61

(L) 90° Coupler for Recessed Lubrication Points— For use with standard grease fittings. 4 3/4″ long. Max. pressure is 7,500 psi.
1090K52 ..... $26.18

(M) 90° Needlepoint Coupler— For use with flush-style grease fittings and bare lubrication points. 2 1/4″ long. Max. pressure is 4,000 psi.
2906K95 ..... $16.06

(N) 90° Needlepoint Coupler— For use with flush-style grease fittings and bare lubrication points. 4 1/2″ long. Max. pressure is 4,000 psi.
2906K93 ..... $12.98

(P) 90° Coupler for 5/8″ Head Dia. Button-Head Fittings— 3 5/8″ long. Max. pressure is 4,000 psi.
2906K97 ..... $12.50

(Q) 90° Coupler for 7/8″ Head Dia. Button-Head Fittings— 3 5/8″ long. Max. pressure is 4,000 psi.
2906K83 ..... $16.77

360° Swivel Coupler

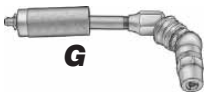

(G) 360° Swivel Coupler— Includes a 2″ long steel nozzle with a coupler for standard grease fittings. Overall length is 7 1/2″. Max. pressure is 7,500 psi.
1090K44 ..... $49.25

Flexible Nozzle



(R) Flexible Nozzle— This rubber nozzle is 18″ long and has a steel spring guard to prevent kinking. Max. pressure is 3,000 psi.
2906K89 ..... $15.74

Grease Fitting Tools



(H) Easy-Out Grease Fitting Tool— Use this tool to remove and retap 1/4″-28 grease fittings.
2906K98 ..... $7.31

(J) Easy-Out Grease Fitting Tool— Use this tool to remove and retap 1/8″ NPT grease fittings.
2906K99 ..... $7.37

10-Piece Grease Gun Accessory Kit



Contains: Three straight extensions (Styles A-C), two grease fitting tools (Styles H and J), four 90° right angle extensions (Styles K, M, N, and P), and a flexible nozzle (Style R).
2906K7 ..... $132.87

Grease Lubricators

Efficient and easy to use, these hand-operated lubricators are made of steel. All include a grease pump plunger system, container cover, and delivery hose.

Use with NLGI Nos. 0-2 grease. For containers, see pages 1735-1736.

Styles A and ***B*** have a gun with 6″ rigid nozzle, ⅛″ BSPT female coupler for standard grease fittings, and follower plate. The gun has a switch for moving between low-pressure or high-pressure settings. The low-pressure setting dispenses more grease with each stroke. Make use of the high-pressure setting when you're dispensing thicker grease or need to force grease through clogged fittings. Maximum pressure is 10,000 psi.

Style C dispenses over 50% more grease per stroke than the other manual lubricators we offer. It has a ⅛″ NPT female coupler for standard grease fittings. Maximum pressure is 5,000 psi.







	Fits Container	Strokes per oz.	Container Included	Delivery Hose Lg.		
Dual-Output Lubricators						
A	7 lb. (1 gal.)	23 or 63	No	5 ft.	1368K16	$216.90
A	11 lb.	23 or 63	Yes	5 ft.	1368K19	243.28
B	35 lb. (5 gal.)	23 or 63	No	10 ft.	1368K24	395.85
	13″ Flexible Nozzle				1368K22	30.48
High-Output Lubricator						
C	35 lb. (5 gal.)	7.5	No	5 ft.	10465K31	498.67

Battery-Powered Grease Lubricator

Attach this lubricator to a battery for go-anywhere convenience. Battery sold separately. Lubricator dispenses 5 oz. of NLGI Nos. 0-2 grease per minute. It has a steel housing and includes a grease pump, cover assembly, delivery hose, universal z-swivel fitting for connecting the delivery hose to your gun, and a gun with coupler for standard grease fittings. Container is not included. For containers, see pages 1735-1736.

Optional steel cart holds grease pump and 35-lb. container. It has two pneumatic tires and a plastic box to hold the battery.



Lubricator with Battery and Optional Steel Cart (Container Not Included)

Fits Container	Max. psi	Delivery Hose Lg.		
35 lb. (5 gal.)	5,000	25 ft.	1412K42	$1,768.31
Battery (12 VDC)			71805K82	123.57
Optional Steel Cart			1412K43	522.89

Air-Powered Grease Lubricators











Dispense grease without the effort that manual lubricators require. These air-powered lubricators have a follower plate that moves down the inside of the container as the grease level drops; this compresses the grease and prevents vapor pockets from forming as the grease is dispensed. Lubricators are steel and include a grease pump, cover assembly, delivery hose, and a coupler for standard grease fittings. Air inlet connection is ¼″ NPT female for low- and high-volume lubricators and ¼″ NPTF female for medium-volume lubricators.

Styles D-G also have a universal z-swivel fitting for connecting the delivery hose to your gun, and either a standard gun or a booster gun (see table below). Guns dispense grease at the same pressure as your existing grease system, up to the maximum grease outlet pressure. In addition, booster guns allow you to increase the pressure up to the maximum gun pressure. *Note*: Do not use flexible nozzles with these booster guns. *Styles D* and *F* include a four-caster dolly; *Style G* includes a two-wheel hand truck.

Style H has a ⅜″ NPT male connection and can be used with standard gun 1306K13 on page 2214. Includes a 3-ft. long air inlet hose.

Containers and drums are not included. For containers, see pages 1735-1736; for drums, see pages 1740-1741.

	Fits Container	Max. Grease Outlet psi	Gun Type	Max. Gun psi	Max. Air Inlet psi	Delivery Hose Lg.		
Low-Volume Lubricators—*Dispense 16 oz. of NLGI Nos. 0-2 grease per minute.*								
D	35-lb. (5-gal.) Container	7,500	Booster	10,000	150	13 ft.	1384K11	$718.08
D	120-lb. (16-gal.) Drum	7,500	Booster	10,000	150	13 ft.	1384K13	858.76
Medium-Volume Lubricators—*Dispense 32 oz. of NLGI Nos. 0-2 grease per minute.*								
E	35-lb. (5-gal.) Container	7,500	Standard	7,500	150	10 ft.	1033K52	1,311.59
F	120-lb. (16-gal.) Drum	7,500	Standard	7,500	150	10 ft.	1033K53	1,441.47
G	120-lb. (16-gal.) Drum	7,500	Standard	7,500	150	10 ft.	1033K54	1,604.70
High-Volume Lubricators—*Dispense 64 oz. of NLGI Nos. 0-2 grease per minute.*								
E	35-lb. (5-gal.) Container	7,500	Booster	10,000	150	10 ft.	13585K51	1,300.09
F	120-lb. (16-gal.) Drum	7,500	Booster	10,000	150	10 ft.	13585K52	1,571.37
G	120-lb. (16-gal.) Drum	7,500	Booster	10,000	150	10 ft.	13585K53	1,721.95
H	400-lb. (55-gal.) Drum	7,500	———	———	150	4 ft.	13585K54	2,046.11

Grease Lubricator Accessories & Grease Cups

For information about pipe size, see pages 2-3. For information about grease, see page 2198.

Guns for Powered Grease Lubricators

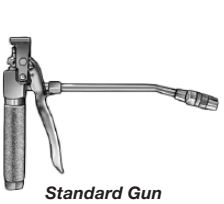

Standard Gun



Booster Gun

Team these guns with any air-powered or electric grease system. All are made of steel; nozzle extensions include a coupler for standard grease fittings.

Standard Guns—Dispense grease at the same pressure as your existing grease system, up to 7,500 psi.

Booster Guns—Increase the pressure of your existing grease system to deliver greater pressure when you need it. *Note:* Do not use flexible extension hoses with these booster guns.

Thread Size	Nozzle Type	Max. psi		
Standard Guns				
1/4" NPTF Female	6" Rigid	7,500	1306K11	$130.74
3/8" NPT Female	6" Rigid	7,500	1306K13	139.21
Booster Guns				
1/8" NPT Male	8" Rigid	10,000	14195K66	261.88
1/8" NPT Female	6" Rigid	12,000	14195K25	125.47

No-Kink Grease Hose Swivels



Straight, Male x Female



90° Angle, Male x Female



Universal, Male x Male

Make handling your manual or air-powered grease dispensing system easier while preventing damage to hoses. These steel fittings connect the delivery hose to the gun and swivel 360° to keep hoses from twisting.

Thread Size	Max. psi		
Straight			
1/8" NPT Male x 1/8" NPT Female	4,500	1092K21	$17.69
1/8" NPT Male x 1/8" NPT Male	4,500	1092K19	45.23
1/2"-27 Male x 1/4" NPT Male	7,500	1092K18	35.04
90° Angle			
1/8" NPT Male x 1/8" NPT Female	7,500	1092K27	82.21
1/8" NPT Male x 1/8" NPT Male	7,500	1092K16	71.87
1/2"-27 Male x 1/4" NPT Male	5,000	1092K31	73.06
Universal			
1/8" NPT Male x 1/8" NPT Male	7,500	1092K12	85.94
1/4" NPT Male x 1/4" NPT Male	7,500	1092K24	88.69
1/2" NPT Male x 3/8" NPT Male	5,000	1092K25	158.52
1/2" NPT Male x 1/2" NPT Male	5,000	1092K26	144.75
1/2"-27 Male x 1/4" NPT Male	7,500	1092K11	79.38

Metering Grease Dispensing Nozzles



Rigid Nozzle

An LCD display allows you to precisely monitor the grease you dispense. These nozzles are great when you need to dispense a specific amount of grease or when you can't see how much grease you're dispensing. Measure batch total in oz. (resettable) and cumulative total in lb. (nonresettable).

Nozzles have a universal z-swivel fitting for connecting the inlet to your grease supply, and a coupler for standard grease fittings. Operate on two AA batteries (included). Inlet connection is 1/4" NPT female; outlet connection is 1/8" NPT female.

Nozzle Type	Max. psi		
6" Rigid	7,250	2446K14	$515.42
12" Flexible	7,250	2446K22	531.02

Grease Cups



Turn the lid clockwise to force grease down into the bearing. As grease is dispensed, cups compress slightly. Made of steel. Temperature range is 32° to 150° F. Use with NLGI Nos. 1-3 grease.

Cap., oz.	Thread Size, NPT male	Dia.	O'all Ht.		
0.25	1/8"	15/16"	1 5/8"	1112K41	$6.02
1	1/4"	1 3/4"	2 5/16"	1112K44	16.16
2	3/8"	2 1/4"	2 9/16"	1112K45	23.18
3.5	1/2"	2 11/16"	2 15/16"	1112K46	23.95

See-Through Automatic Grease Cups



With a transparent polycarbonate dome, these grease cups won't leave you wondering how much grease you have left. Cups come with three interchangeable springs, each with a different wire diameter. To achieve your desired flow rate, choose the most appropriate spring for the thickness of your grease.

Furnished with a 1/4"-28 straight thread grease fitting for refilling. Pipe size is 1/8" NPT male. Temperature range is –10° to +250° F. Use with NLGI Nos. 0-4 grease.

Polycarbonate Base—An economical choice when there's minimal vibration, shock, or impact.

Aluminum Base—Strong enough to withstand vibration, shock, or impact.

Double-Plated Aluminum Base—Nickel and chrome plated for corrosion resistance.

	1-oz. Capacity				***2-oz. Capacity***				***6-oz. Capacity***			
Base	Dia.	O'all Ht.	1-5	6-Up	Dia.	O'all Ht.	1-5	6-Up	Dia.	O'all Ht.	1-5	6-Up
Polycarbonate	1 3/4"	3 5/8"	1303K11 $24.49	$21.10	2 3/8"	4 5/8"	1303K12 $31.56	$27.19	3"	6"	1303K19 $42.58	$36.69
Aluminum	1 3/4"	3 5/8"	1303K13 41.83	36.04	2 3/8"	4 5/8"	1303K14 53.92	46.45	3"	6"	1303K15 83.68	72.09
Double-Plated Aluminum	1 3/4"	3 5/8"	1303K16 59.10	50.91	2 3/8"	4 5/8"	1303K17 72.54	62.49	3"	6"	1303K18 116.05	99.98

Heavy Duty Automatic Grease Cups



Made of steel to perform under rugged conditions. Cups are designed to feed slowly and to work with close- or tight-fitting bearings. They have a metering pin you can adjust to increase or decrease the feed rate. A stem at the top of the cup descends to show when it needs refilling.

Furnished with a 1/4" NPT grease fitting for refilling, except the 0.5-oz. cup has a 1/8" NPT fitting. Temperature range is 32° to 180° F. Use with NLGI Nos. 1-3 grease.

Cap., oz.	Thread Size, NPTF male	Dia.	O'all Ht.		1-2	3-Up
0.5	1/8"	1 1/4"	4 3/16"	1110K22	$67.33	$60.36
1.75	3/8"	2 1/2"	4 5/16"	1110K23	102.11	91.73
3.5	3/8"	2 1/2"	6 3/16"	1110K24	111.42	100.08
8	3/4"	3 1/4"	9 3/4"	1110K25	219.81	197.46

For information about grease, see page 2198.

Ready-to-Use Automatic Grease Cups

Grease Cups

Whether you need a large quantity of grease or just a few drops, these automatic grease cups adapt to your application. They have a 4.25-oz. capacity and dispense a precise amount of grease over a set period of time (1 to 12 months). They're filled with NLGI No. 2 grease, eliminating the time and mess of filling.

To use, screw the grease cup directly into the point of lubrication; no tubing or other connectors are needed. Grease cups are made of transparent polyamide and allow easy viewing of the grease level. Pipe size is 1/4" BSPT male with a plastic fitting. Units are 2 1/8" Dia. x 4 5/8" Ht.

Food Grade grease is NSF registered H1 for applications with incidental food contact.



Time-Set Dial



Type of Grease	Type of Thickener	Temperature Range	Grease Color		1-2	3-Up
Multipurpose	High-Performance Lithium	–22° to +284° F	Amber	3176K4	$49.04	$41.72
Multipurpose with Moly	Lithium	–4° to +250° F	Black	3176K7	48.56	41.31
High Temperature	Calcium Sulfonate	–4° to +300° F	Brown	3176K9	50.68	43.12
Food Grade	Aluminum	–4° to +230° F	Clear	3176K28	46.82	39.84

Steel Connectors and Adapters

	Connections			
	BSPP Male	BSPP Female		
45° Angle Connector	1/4"	1/4"	3176K61	$18.88
90° Angle Connector	1/4"	1/4"	3176K62	8.07
3/8" Adapter	3/8"	1/4"	3176K63	7.21
1/2" Adapter	1/2"	1/4"	3176K64	12.60



45° Connector



90° Connector



Adapter

Remote Grease Cup Filler Kit

No more climbing and reaching to fill your remote grease cups. This filler kit delivers grease to cups (not included) up to 10 ft. away. Kit includes 10 ft. of 1/4" dia. polyethylene tubing, a 1/4"-28 grease fitting and adapter, two 1/8" NPT male connectors, and a 1/8" NPT female bulkhead nut and fitting. Temperature range is –10° to +180° F.

Optional adapter has a straight connection that is 1/8" NPT female x 1/4"-28 male.



		1-5	6-Up
Kit	1395K25	$41.41	$37.34
Optional Adapter	1303K21	$3.56	

Pressure-Relief Vents

When pressure climbs into and beyond the ranges shown in the table, vents open to reduce pressure. They close as pressure drops within and below the pressure-relief range. All are made of steel. 1/8" PTF vents meet Mil. Spec. 35670.



Pressure-Relief Range, psi	O'all Ht.	Hex Size		1-9	10-Up
1/8" Pipe Thread Size (PTF)					
1/4 to 1	1/2"	7/16"	1093K11	$2.58	$2.31
1 to 5	1/2"	7/16"	1093K1	1.70	1.43
7 1/2 to 15	1/2"	7/16"	1093K2	1.49	1.24
15 to 25	1/2"	7/16"	1093K3	1.81	1.54
45 to 80	1/2"	7/16"	1093K4	2.08	1.75
80 to 140	9/16"	7/16"	1093K53	8.31	7.29
100 to 200	1/2"	7/16"	1093K52	1.72	1.43
400 to 650	1/2"	7/16"	1093K51	3.24	2.70
1/4" Pipe Thread Size (PTF)					
1 to 5	1 1/8"	5/8"	1093K21	8.50	7.43
7 1/2 to 15	1 1/8"	5/8"	1093K22	8.80	7.70
15 to 25	1 1/8"	5/8"	1093K23	8.72	7.63
3/8" Pipe Thread Size (PTF)					
1 to 5	1 3/16"	3/4"	1093K31	8.44	7.58
7 1/2 to 15	1 3/16"	3/4"	1093K32	10.89	9.53
1/2" Pipe Thread Size (PTF)					
1 to 5	1 3/8"	7/8"	1093K41	12.01	10.51
7 1/2 to 15	1 3/8"	7/8"	1093K42	12.73	11.14
1/8" BSPT					
1/4 to 1	1/2"	7/16"	1093K61	4.06	3.39
1 to 5	1/2"	7/16"	1093K62	6.43	5.36
45 to 80	1/2"	7/16"	1093K63	4.61	3.83

Flow-Stop Grease Fittings

Stop grease flow to prevent over-lubrication and damage to bearing seals. These steel fittings positively shut off within the pressure ranges listed. As the pressure drops below its closing pressure the fitting reopens and grease flow can resume. Fittings have a 60° angle and a 1/8" PTF male pipe thread.



Shut-Off Pressure, psi	O'all Ht.	Hex Size		1-9	10-Up
5 to 20	1"	5/8"	10425K15	$7.14	$6.25
60 to 110	1"	5/8"	10425K17	6.95	6.08

Bearing Grease Packers

Efficiently lubricate bearings without the mess of hand packing. These packers force out the old grease and replace it with your new grease. Include a dust cover.

Portable bearing packer is small enough for hand-held operation and strong enough to be used in a vise for more demanding applications. Made of polycarbonate and glass-filled polypropylene. Fill with bulk grease. Use with NLGI No. 2 grease.

Bench-mount bearing packer has a built-in fitting for connecting to your grease gun's coupler. Grease gun must have a 1/8" NPT female connection. For larger bearing applications, mount directly to your workbench. The base plate is 6 1/2" dia. and has three 1/4" dia. mounting holes (mounting hardware not included). Made of steel. Use with NLGI Nos. 0-2 grease.



Portable



Bench Mount

	Bearing Size Range			
	Min. ID	Max. OD		
Portable	3/4"	3 1/2"	8434K7	$26.88
Bench Mount	3/4"	6"	1074K9	170.42

Continuous Pressure-Relief Vents

Continuously vent excessive pressure from your bearing housings, gear boxes, and reservoirs. Vents are steel and have a 40-micron filter that prevents contamination.

Vents with deflector prevent fluid from splashing out of the vent hole.



Vent



Vent with Deflector

Thread Size, NPT male	Hex Size	Vents O'all Ht.			Vents w/ Deflector O'all Ht.		
1/8"	11/16"	1"	2257K11	$9.05	1 3/16"	2257K31	$19.28
1/4"	11/16"	1"	2257K12	9.58	1 3/16"	2257K32	21.84
3/8"	3/4"	1 1/16"	2257K13	9.99	1 1/4"	2257K33	22.74
1/2"	15/16"	1 3/16"	2257K14	11.46	1 5/16"	2257K34	23.63
3/4"	1 1/16"	1 1/4"	2257K15	19.45	1 3/8"	2257K35	24.55

Hydraulic Bleeder System

Perform multiple maintenance tasks without compressed air or electricity. This hand-operated system lets you flush hydraulic fluid using pressure or vacuum; bleed clutches and brakes; bench bleed any master or slave cylinder; and meter and inject liquids. Maximum hydraulic injection pressure is 125 psi. Maximum vacuum is 30" Hg. Injection stroke is 12.5 ml.

System comes furnished in a plastic case with fittings, adapters, and an instructional DVD. For use with D.O.T. (Department of Transportation) 3, 4, and 5 fluids.



6944A81 ..... $151.98

Grease Fittings

For information about pipe size, see pages 2-3.

About Grease Fitting Threads

In general, grease fitting threads follow pipe thread conventions and are either tapered or straight.

Tapered Pipe Threads

PTF and NPTF—Also known as Dryseal, these threads are tapered for leakproof installations. Compatible with NPT threads, but some leak-free characteristics are lost.

Metric and British Pipe Threads—Tapered in accordance with DIN standards established by the German Institute for Standardization and adopted by ISO (International Organization for Standardization).

Straight Threads

1/4"-28 Taper—Threads are tapered but they are designed to be installed into a 1/4"-28 straight threaded hole. Also known as SAE-LT threads (Society of Automotive Engineers Lubrication Threads).

UNF and UNEF—Similar to threads on a machine screw or bolt. They require a sealant, such as an O-ring, to minimize leakage.

Grease Fittings

Satisfy most general purpose lubrication requirements. All have a ball check to keep out dirt and other contaminants, unless noted. Max. pressure is 10,000 psi, unless noted. Threads are male, unless noted.

Steel fittings are zinc plated. ***Stainless steel***, ***brass***, and ***Monel*** fittings withstand corrosive conditions. Stainless steel is more corrosion resistant than brass; Monel is the most corrosion resistant.

Metric, BSPT, and ***BSF*** fittings meet DIN 71412 standards.

Straight Fittings



Material	O'all Ht.	Hex Size	Pkg. Qty.		Pkg. 1-9	Pkg. 10-Up
1/8" Pipe Thread (PTF)						
Steel	9/16"	7/16"	10	1095K65	$4.54	$3.78
Steel	11/16"	7/16"	10	1095K11	4.21	3.56
Steel	1 1/4"	7/16"	10	1095K12	12.49	10.71
Steel	1 3/4"	7/16"	5	1095K13	10.65	8.98
Steel	2 5/8"	3/8"	1	1095K14	3.43	2.94
Steel w/ Cap	31/32"	7/16"	1	1095K16▲	4.16	3.77
Stainless	3/4"	7/16"	5	1293K11	12.46	10.38
Brass	19/32"	7/16"	5	3088K16	9.21	7.89
Brass	11/16"	7/16"	5	3088K18	10.53	8.78
Monel	5/8"	7/16"	1	1292K31	8.88	7.77
Monel	3/4"	7/16"	1	1292K32	10.01	8.95
1/8" Female Pipe Thread (NPTF)						
Steel	1"	1/2"	10	1095K15	13.54	11.61
1/4" Pipe Thread (PTF)						
Steel	7/8"	9/16"	10	1095K31	15.80	13.33
Stainless	53/64"	9/16"	1	1293K32●	9.44	7.87
Stainless	7/8"	19/32"	1	1293K36	10.64	9.12
3/8" Pipe Thread (NPTF)						
Steel	51/64"	43/64"	5	1095K54	11.39	9.77
1/4"-28 Taper (for straight thread UNF holes)						
Steel	35/64"	5/16"	10	1095K41	3.35	2.75
Steel	11/16"	5/16"	10	1095K42	5.76	4.80
Steel	31/32"	5/16"	10	1095K43	7.50	6.33
Steel	1 1/8"	5/16"	10	1095K68	12.33	10.57
Steel	1 5/8"	5/16"	5	1095K69	11.46	9.67
Stainless	17/32"	5/16"	5	1293K21	12.46	10.38
Stainless	19/32"	9/32"	3	1293K42	8.84	7.37
Monel	17/32"	5/16"	1	1292K41	6.40	5.60
6-40 Straight Thread (UNF)						
Steel	1/2"	1/4"	10	1095K86▲	10.01	8.45
10-32 Straight Thread (UNF)						
Steel	15/32"	1/4"	10	1095K87▲	4.86	4.05
Steel	1/2"	1/4"	10	1095K88▲	7.74	6.45
1/4"-28 Straight Thread (UNF)						
Steel	33/64"	9/32"	10	1095K44	4.06	3.38
Brass	17/32"	9/32"	5	3088K3	7.66	6.48
Brass	19/32"	9/32"	5	3088K5	8.02	6.74
3/8"-24 Straight Thread (UNF)						
Steel	5/8"	7/16"	10	1095K96●	7.12	5.94
Stainless	19/32"	7/16"	3	1293K47	12.63	10.53
Brass	19/32"	7/16"	5	3088K14	9.21	7.89
5/16"-24 Straight Thread (UNF)						
Steel	21/32"	3/8"	10	1095K51	7.82	6.60
Steel	2 61/64"	11/32"	3	1095K83	8.95	7.67
5/16"-24 Straight Thread (UNF) (Cont.)						
Stainless	19/32"	11/32"	3	1293K44	$10.74	$8.95
Brass	19/32"	11/32"	5	3088K11	8.38	7.09
5/16"-32 Straight Thread (UNEF)						
Steel	21/32"	3/8"	10	1095K61	6.51	5.43
M5×0.8						
Steel	15 mm	7 mm	10	1105K13	9.95	8.39
M6×0.75						
Steel	15 mm	7 mm	10	1105K16	4.32	3.60
M6×1						
Steel	14 mm	7 mm	10	1105K71●	3.67	3.10
Steel	24 mm	7 mm	10	1105K11	13.77	11.80
Steel	29 mm	7 mm	5	1105K21	8.14	7.12
Steel	41 mm	7 mm	1	1105K31	3.33	2.83
Stainless	13 mm	7 mm	3	2250K11●	6.40	5.33
Brass	14 mm	7 mm	5	3088K21	7.18	6.08
M8×1						
Steel	15 mm	9 mm	10	1105K72●	5.10	4.32
Stainless	15 mm	9 mm	1	2250K14●	3.27	2.72
Brass	15 mm	9 mm	5	3088K26	7.02	6.02
M8×1.25						
Steel	15 mm	9 mm	10	1105K81●	5.31	4.49
Stainless	15 mm	9 mm	1	2250K21●	3.81	3.18
Brass	15 mm	9 mm	5	3088K27	7.33	6.24
M10×1						
Steel	15 mm	11 mm	10	1105K73●	6.03	5.10
Stainless	15 mm	11 mm	1	2250K17●	3.99	3.33
Brass	15 mm	11 mm	5	3088K45	9.57	8.10
M10×1.5						
Steel	15 mm	11 mm	10	1105K82●	8.97	7.59
M12×1						
Steel	18 mm	14 mm	10	1105K41	14.27	12.23
M12×1.5						
Steel	18 mm	14 mm	5	1105K51	8.15	6.98
M14×1.5						
Steel	18 mm	14 mm	5	1105K61	7.96	6.73
1/8"-28 BSPT						
Steel	15 mm	11 mm	10	2408K11	4.43	3.69
Stainless	15 mm	11 mm	5	9276K11●	14.34	12.83
1/4"-19 BSPT						
Steel	20 mm	14 mm	10	2408K17●	9.57	8.07
Stainless	20 mm	14 mm	1	9276K14●	9.44	6.94
5/16"-22 BSF (British Standard Fine)						
Steel	15 mm	9 mm	10	2408K31	6.01	5.01

▲No ball check. ●Max. psi is 8,000.

90° Angle Fittings



Material	O'all Ht.	Hex Size	Pkg. Qty.		Pkg. 1-9	Pkg. 10-Up
1/8" Pipe Thread (PTF)						
Steel	27/32"	7/16"	10	1095K27	$10.37	$8.58
Steel	1 13/16"	7/16"	3	1095K67	13.07	11.20
Stainless	7/8"	7/16"	1	1293K12	6.39	5.48
Monel	7/8"	7/16"	1	1292K33	21.83	19.10
1/4" Pipe Thread (PTF)						
Steel	15/16"	9/16"	10	1095K95●	11.87	10.18
Stainless	15/16"	9/16"	1	1293K34●	15.69	13.45
3/8" Pipe Thread (PTF)						
Steel	51/64"	43/64"	3	1095K55	11.15	9.55
1/4"-28 Taper (for straight thread UNF holes)						
Steel	3/4"	3/8"	10	1095K47	9.97	8.41
1/4"-28 Taper (for straight thread UNF holes) (Cont.)						
Steel	51/64"	3/8"	10	1095K93●	$8.83	$7.57
Stainless	3/4"	3/8"	1	1293K22	5.75	4.79
Monel	3/4"	3/8"	1	1292K42	18.35	16.20
1/4"-28 Straight Thread (UNF)						
Brass	45/64"	11/32"	3	3088K9	10.77	9.11
M6×0.75						
Steel	18 mm	9 mm	10	1105K18	12.59	10.79
M6×1						
Steel	18 mm	9 mm	10	1105K76●	9.07	7.72
Stainless	18 mm	9 mm	3	2250K13●	14.51	12.33
Brass	18 mm	9 mm	5	3088K24	14.58	12.63

●Max. psi is 8,000.

(Continued on following page)

Grease Fittings *(Continued from previous page)*

90° Angle Fittings (Cont.)



Material	O'all Ht.	Hex Size	Pkg. Qty.		1-9	10-Up
M8×1						
Steel	18 mm	9 mm	10	1105K77 ●	$9.94	$8.35
Stainless	18 mm	9 mm	1	2250K16 ●	5.87	4.98
Brass	18 mm	9 mm	1	3088K35	3.30	2.81
M8×1.25						
Steel	18 mm	9 mm	10	1105K85 ●	10.42	8.76
Stainless	18 mm	9 mm	1	2250K23 ●	6.40	5.43
Brass	18 mm	9 mm	3	3088K39	10.34	8.75
M10×1						
Steel	19 mm	11 mm	10	1105K79 ●	11.57	10.06
Stainless	19 mm	11 mm	1	2250K19 ●	6.12	5.25
Brass	20 mm	11 mm	3	3088K49	11.92	10.08
M10×1.5						
Steel	21 mm	11 mm	10	1105K86 ●	$12.96	$11.05
M12×1						
Steel	22 mm	14 mm	5	1105K43	7.96	6.73
M12×1.5						
Steel	22 mm	14 mm	5	1105K53	10.50	9.00
1/8"-28 BSPT						
Steel	20 mm	11 mm	10	2408K13	7.99	6.74
Stainless	19 mm	11 mm	1	9276K13 ●	7.85	7.01
1/4"-19 BSPT						
Steel	22 mm	14 mm	5	2408K23	9.32	7.87

● Max. psi is 8,000.

65° Angle Fittings



Material	O'all Ht.	Hex Size	Pkg. Qty.		1-9	10-Up
1/8" Pipe Thread (PTF)						
Steel	27/32"	7/16"	10	1095K24 ●	$10.91	$9.20
Steel	29/32"	7/16"	10	1095K84	13.24	11.35
Steel	1 7/32"	7/16"	5	1095K25	12.43	10.66
Steel	2 3/4"	3/8"	3	1095K36	13.69	11.73
Stainless	61/64"	7/16"	1	1293K13	6.71	5.75
Monel	61/64"	7/16"	1	1292K34	21.61	18.91
1/4" Pipe Thread (PTF)						
Steel	31/32"	9/16"	5	1095K32	8.69	7.24
1/4"-28 Taper (for straight thread UNF holes)						
Steel	49/64"	3/8"	10	1095K92 ●	$7.41	$6.35
Steel	25/32"	3/8"	10	1095K73	9.62	8.02
5/16"-32 Straight Thread (UNEF)						
Steel	51/64"	3/8"	10	1095K63	14.67	12.58
1/8"-28 BSPT						
Steel	21 mm	11 mm	10	2408K14 ●	10.09	8.62
1/4"-19 BSPT						
Steel	25 mm	14 mm	10	2408K15 ●	16.37	14.16

● Max. psi is 8,000.

45° Angle Fittings



Material	O'all Ht.	Hex Size	Pkg. Qty.		1-9	10-Up
1/8" Pipe Thread (PTF)						
Steel	57/64"	7/16"	10	1095K23	$9.25	$7.71
Stainless	63/64"	7/16"	1	1293K31 ●	7.26	6.05
1/8" Female Pipe Thread (PTF)						
Steel	1 1/8"	7/16" ■	1	1095K66	4.28	3.67
1/4" Pipe Thread (PTF)						
Steel	17/64"	9/16"	10	1095K94 ●	11.87	10.18
Stainless	17/64"	9/16"	1	1293K33 ●	14.71	12.72
3/8" Pipe Thread (NPT)						
Steel	1"	43/64"	3	1095K53	11.15	9.55
1/4"-28 Taper (for straight thread UNF holes)						
Steel	13/16"	3/8"	10	1095K45	9.58	8.09
Steel	63/64"	3/8"	10	1095K91 ●	8.80	7.54
Stainless	13/16"	3/8"	3	1293K23	14.38	12.33
1/4"-28 Straight Thread (UNF)						
Steel	39/64"	3/8"	10	1095K74	14.17	11.95
Brass	59/64"	11/32"	1	3088K7	3.29	2.77
5/16"-24 Straight Thread (UNF)						
Stainless	59/64"	11/32"	1	1293K45	7.02	6.02
Brass	59/64"	11/32"	3	3088K12	10.30	8.77
M5×0.8						
Steel	24 mm	9 mm	10	1105K14	10.86	9.16
M6×0.75						
Steel	24 mm	9 mm	10	1105K17	13.99	11.80
M6×1						
Steel	23 mm	9 mm	10	1105K74 ●	8.76	7.55
M6×1 (Cont.)						
Stainless	23 mm	9 mm	3	2250K12 ●	$14.51	$12.33
Brass	24 mm	9 mm	5	3088K23	14.58	12.63
M8×1						
Steel	23 mm	9 mm	10	1105K75 ●	9.07	7.72
Stainless	22 mm	9 mm	3	2250K15 ●	17.62	14.95
Brass	24 mm	9 mm	5	3088K28	14.58	12.63
M8×1.25						
Steel	23 mm	9 mm	10	1105K83 ●	9.49	8.03
Stainless	22 mm	9 mm	1	2250K22 ●	6.40	5.43
Brass	24 mm	9 mm	1	3088K34	3.30	2.81
M10×1						
Steel	24 mm	11 mm	10	1105K78 ●	10.06	8.58
Stainless	23 mm	11 mm	1	2250K18 ●	6.12	5.25
Brass	25 mm	11 mm	3	3088K48	11.40	9.71
M10×1.5						
Steel	26 mm	11 mm	10	1105K84 ●	11.93	10.29
M12×1.5						
Steel	23 mm	14 mm	5	1105K52	7.96	6.73
1/8"-28 BSPT						
Steel	25 mm	11 mm	10	2408K12	7.99	6.74
Stainless	23 mm	11 mm	1	9276K12 ●	7.85	7.01
1/4"-19 BSPT						
Steel	23 mm	14 mm	5	2408K22	9.24	7.79

● Max. psi is 8,000. ■ Square face vs. hex.

30° Angle Fittings



Material	O'all Ht.	Hex Size	Pkg. Qty.		1-9	10-Up
1/8" Pipe Thread (PTF)						
Steel	29/32"	7/16"	10	1095K21	$13.10	$11.06
Steel	2 3/32"	7/16"	1	1095K22	6.26	5.37
1/8" Pipe Thread (PTF) (Cont.)						
Stainless	29/32"	7/16"	1	1293K14	$7.67	$6.39
Monel	1 1/4"	7/16"	1	1292K37	21.81	19.08

Double 70° Angle Fittings



Material	O'all Ht.	Hex Size	Pkg. Qty.		1-9	10-Up
1/8" Pipe Thread (PTF)						
Steel	27/32"	1/2"	3	1095K85	$10.20	$8.74

Leakproof Grease and Oil Fittings

A specially shaped Buna-N seal, instead of a ball check, allows these fittings to handle light oils and fluids without leaking. Fittings are zinc-plated steel. Hex size is 7/16".

Style	Thread Size, male	O'all Ht.	Max. psi	Pkg. Qty.		1-9	10-Up
Straight	1/8" PTF	29/32"	5,000	5	2309K91	$12.18	$10.66
Straight	1/8" PTF	1"	10,000	5	2309K98	14.50	12.69
90° Angle	1/8" NPTF	31/32"	5,000	1	2309K95	3.65	3.19
30° Angle	1/8" NPTF	1 7/32"	5,000	5	2309K92	15.99	13.99



30° Angle

Grease Fitting Assortments



50-Piece Set



100-Piece Set

Furnished in a case, except the 8-piece set with 1/8" NPT threads, which comes in a plastic bag.

No. of Pieces	Thread Size, male	Included Fittings: Style (Quantity)	Max. psi	Zinc-Plated Steel		Stainless Steel	
Inch Assortments							
8	1/4"-28 Taper	Straight (4), 45° angle (2), 90° angle (2)	7,000	2330K3	$3.54		
8	1/8" NPT	Straight (4), 45° angle (2), 90° angle (2)	7,000	2330K7	5.16		
48	1/4"-28 Taper	Straight (12), 45° angle (6), 90° angle (6)					
	1/8" PTF	Straight (12), 45° angle (6), 90° angle (6)	10,000	2543K4	32.88		
50	1/4"-28 Taper	Straight (30), 45° angle (10), 90° angle (10)	10,000	1124K11	31.43	1124K22	$110.00
50	1/8" PTF	Straight (30), 45° angle (10), 90° angle (10)	10,000	1123K11	34.29	1123K22	130.00
136	1/4"-28 Taper	Straight (60), 45° angle (10), 90° angle (10)					
	1/8" PTF	Straight (40), 45° angle (8), 90° angle (8)	10,000	1154K11	54.55	1154K22	218.18
375	1/4"-28 Taper	Straight (120), 45° angle (25), 90° angle (25)					
	1/8" PTF	Straight (55), 30° angle (25), 45° angle (25), 65° angle (25), 90° angle (25)					
	1/4" PTF	Straight (25), 67.5° angle (25)	10,000	1207K74	142.86		
Metric Assortments							
44	M6×1 mm	Straight (10), 45° angle (6), 90° angle (6)					
	M8×1 mm	Straight (6), 90° angle (6)					
	M10×1 mm	Straight (10)	10,000	13085K44	46.85	13085K66	125.45
100	M6×1 mm	Straight (10), 45° angle (5), 90° angle (5)					
	M8×1 mm	Straight (10), 45° angle (5), 90° angle (5)					
	M8×1.25 mm	Straight (10), 45° angle (5), 90° angle (5)					
	M10×1 mm	Straight (10), 45° angle (5), 90° angle (5)					
	M10×1.5 mm	Straight (10), 45° angle (5), 90° angle (5)	8,000	1315K14	67.80		

Self-Threading Leakproof Grease Fittings

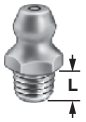

Straight



90° Angle



65° Angle



45° Angle



Metric 90° Angle



Metric 45° Angle

Create a leakproof seal in untapped holes with these zinc-plated steel fittings, which form threads as you install them. Use a power or hand wrench to spin in fittings. If spun in, fittings have a maximum pressure of 10,000 psi, unless noted. You can also drive them in, but they aren't pressure rated under this installation method. Connections are male.

Metric 90° angle and 45° angle fittings have a square face; straight fittings have a hex face.

Style	O'all Ht.	Hex Size	(L)	Pkg. Qty.		1-9	Pkg. 10-Up
Inch							
1/4"-28 Taper—*For 0.230"-0.235" hole dia.*							
Straight	1/2"	9/32"	0.08"	10	1103K31●	$4.24	$3.19
Straight	37/64"	5/16"	13/64"	10	1103K21	2.46	2.05
90° Angle	3/4"	3/8"	13/64"	10	1103K23	7.45	4.79
45° Angle	13/16"	3/8"	13/64"	10	1103K22	7.10	5.99
1/8" PTF—*For 0.373"-0.380" hole dia.*							
Straight	5/8"	7/16"	15/64"	10	1103K24	4.07	3.39
90° Angle	49/64"	7/16"	13/64"	10	1103K27	8.23	7.06
65° Angle	3/4"	7/16"	13/64"	10	1103K26	8.19	7.02
Metric							
M6×1—*For 5.6-5.7 mm hole dia. Dimensions in mm.*							
Straight	14	7	5.5	10	8742T31●	4.40	3.79
Straight	15	7	5.5	10	8742T11	5.71	4.93
90° Angle	18	9	5.5	10	8742T17	14.40	12.41
45° Angle	20	9	5.5	10	8742T14	14.24	12.15
M8×1—*For 7.6-7.7 mm hole dia. Dimensions in mm.*							
Straight	15	9	5.5	10	8742T12	6.22	5.37
90° Angle	18	9	5.5	5	8742T18	8.57	7.20
45° Angle	20	9	5.5	5	8742T15	8.26	7.12
M10×1—*For 9.6-9.7 mm hole dia. Dimensions in mm.*							
Straight	15	11	5.5	10	8742T13	6.85	5.90
90° Angle	18	11	5.5	5	8742T19	9.52	8.15
45° Angle	20	11	5.5	5	8742T16	9.09	7.83

● Max. pressure is 8,000 psi.

Drive-In Grease Fittings

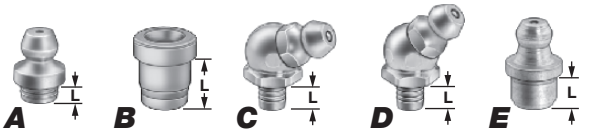

A B C D E

Drive these fittings into an untapped hole to speed production and reduce threading costs. All have a ball check, unless noted. Not rated for pressure.

Inch fittings have a serrated shank that forms a tight seal and prevents leaks, except Style B with 1/4" hole dia., which has a plain shank. ***Metric*** fittings have a plain shank.

Style	Hole Dia.	O'all Ht.	(L)	Pkg. Qty.		1-9	Pkg. 10-Up
Inch Zinc-Plated Steel							
A Straight	1/8"	15/32"	5/32"	10	1102K52★	$3.06	$2.64
A Straight	1/8"	9/16"	1/4"	10	1102K51★	4.58	3.95
A Straight	3/16"	25/64"	3/32"	10	1102K53★	2.57	2.22
A Straight	3/16"	15/32"	11/64"	10	1102K54★	2.85	2.45
A Straight	3/16"	31/64"	7/32"	10	1102K55★	3.24	2.79
A Straight	3/16"	33/64"	1/4"	10	1102K34	3.79	3.27
A Straight	3/16"	5/8"	1/4"	10	1102K31★	3.98	3.43
A Straight	1/4"	15/32"	1/8"	10	1102K61★	3.09	2.66
A Straight	1/4"	35/64"	1/4"	10	1102K32	4.36	3.76
A Straight	1/4"	9/16"	17/64"	10	1102K36★	4.05	3.49
A Straight	5/16"	35/64"	1/4"	10	1102K33	5.76	4.96
A Straight	5/16"	5/8"	7/32"	10	1102K62★	5.45	4.70
A Straight	3/8"	5/8"	1/4"	10	1102K35	10.65	9.80
B Straight-Flush	3/16"	3/8"	5/16"	5	1102K81	9.70	8.08
B Straight-Flush	1/4"	9/32"	15/64"	5	1102K83	13.39	11.47
C 65° Angle	3/16"	45/64"	7/32"	10	1102K44	12.43	10.66
C 65° Angle	1/4"	49/64"	9/32"	10	1102K41	14.92	12.79
C 65° Angle	5/16"	45/64"	7/32"	10	1102K72	13.93	11.94
D 45° Angle	3/16"	53/64"	7/32"	10	1102K71	11.93	10.22
Inch Stainless Steel							
A Straight	3/16"	1/2"	7/32"	5	2304K21	10.71	9.38
A Straight	1/4"	1/2"	7/32"	5	2304K22	10.71	9.38
Metric Zinc-Plated Steel—*Dimensions in mm.*							
E Straight	6	15	5.5	10	2417K21	4.00	3.45
E Straight	8	15	5.5	10	2417K22	4.85	4.18
E Straight	10	15	5.5	10	2417K23	6.53	5.63

★ No ball check.

Tools



For Straight Fittings

Tap these tools once or twice with a hammer to install fittings.

	Each
For Straight Fittings	2318K19 $23.56
For Angle Fittings	2318K29 25.36

For information about pipe size, see pages 2-3. For information about grease fitting threads, see page 2216.

Button-Head Grease Fittings



For a quick, positive grip, choose these rugged button-head fittings.

Inch zinc-plated steel fittings have a plunger-style check valve to allow for greater grease flow than other fittings. ***Inch stainless steel*** fittings have a ball check.

Metric and ***BSPP*** fittings meet DIN 3404 standards.

Thread Size, male	O'all Ht.	Hex Size		1-9	10-Up
Zinc-Plated Steel					
5/8" Head Dia. — *6,000 maximum psi*					
1/8" PTF	3/4"	5/8"	1094K49	$2.90	$2.42
1/8" NPTF♣	31/32"	5/8"	1094K51	4.11	3.42
1/4" NPTF	53/64"	5/8"	1094K43	3.36	2.80
3/8" NPTF	61/64"	3/4"	1094K44	4.22	3.52
1/2" NPTF	1 1/16"	7/8"	1094K53	6.36	5.40
7/8" Head Dia. — *15,000 maximum psi*					
1/4" NPTF	1 1/4"	7/8"	1094K26	5.57	4.73
3/8" NPTF	1 5/16"	7/8"	1094K17	6.59	5.59
1/2" NPTF	1 1/16"	7/8"	1094K28	6.29	5.33
16 mm Head Dia. — *10,000 maximum psi*					
M6 x 1	17 mm	17 mm	2443K39	1.66	1.42
M8 x 1	17 mm	17 mm	2443K41	1.18	1.02
M10 x 1	17 mm	17 mm	2443K42	1.18	1.02
M12 x 1.5	17 mm	17 mm	2443K43	1.90	1.64
M14 x 1.5	17 mm	17 mm	2443K44	1.98	1.71
M16 x 1.5	18 mm	17 mm	2443K45	2.06	1.77
1/8" BSPP	17 mm	17 mm	1094K61	1.66	1.42
1/4" BSPP	17 mm	17 mm	1094K62	1.66	1.42
3/8" BSPP	18 mm	17 mm	1094K71	1.42	1.21
Stainless Steel					
5/8" Head Dia. — *10,000 maximum psi*					
1/8" NPTF	45/64"	43/64"	8900T11	16.71	14.92
1/4" NPTF	53/64"	43/64"	8900T12	20.63	18.42
3/8" NPTF	59/64"	3/4"	8900T13	35.60	31.78
16 mm Head Dia. — *10,000 maximum psi*					
M6 x 1	17 mm	17 mm	2443K56	10.58	9.13
M8 x 1	17 mm	17 mm	2443K57	13.79	11.81
M10 x 1	17 mm	17 mm	2443K58	14.34	12.29
M12 x 1.5	17 mm	17 mm	2443K59	16.58	14.28
1/8" BSPP	17 mm	17 mm	1094K63	11.03	9.45
1/4" BSPP	17 mm	17 mm	1094K64	11.48	9.83

♣ Female thread.

Pin-Style Grease Fittings

The cross pins on these fittings lock positively with your pin-style coupler to create a leakproof seal. Fittings are made of brass and steel, except 1089K11, which is brass. Maximum pressure is 8,000 psi.



Straight *45° Angle*

	Thread Size, male	O'all Ht.	Hex Size		1-9	10-Up
Straight	1/8" PTF	31/32"	7/16"	1089K12	$4.35	$3.63
Straight	1/8" PTF	31/32"	7/16"	1089K11	6.37	5.40
Straight	1/4" NPTF	1 3/32"	17/32"	1089K13	6.99	5.93
45° Angle	1/8" NPTF	1 23/32"	7/16"	1089K14	6.99	5.93

Flush-Style Grease Fittings

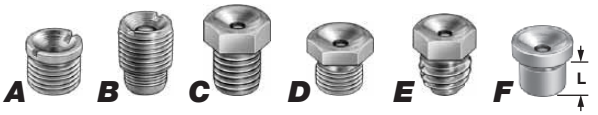

Where protruding fittings won't work, choose these zinc-plated steel flush-style fittings. Maximum pressure is 10,000 psi.

Install *Styles A* and *B* with a slotted screwdriver; *Styles C, D,* and *E* with a hex wrench. Tap in *Style F.*

Metric fittings meet DIN 3405 standards.

	Thread Size, male	O'all Ht.	Hex Size	Pkg. Qty.		Pkg. 1-9	Pkg. 10-Up
Inch							
A	1/8" NPTF	23/64"	———	5	10595K11	$6.33	$5.27
A	10-32 UNF	3/8"	———	5	10595K31	2.76	2.30
B	1/8" NPTF	17/32"	———	3	10595K12	4.72	3.93
B	1/4" NPTF	9/16"	———	1	10595K13	5.54	4.76
C	1/4"-28 UNF	13/32"	5/16"	5	10595K14	2.69	2.24
C	3/8" NPTF	49/64"	3/4"	1	10595K21	12.23	10.19
C	1/2" NPT	55/64"	7/8"	1	10595K22	12.74	10.61
C	3/4" NPTF	7/8"	1 1/8"	1	10595K23	23.65	20.70
Metric							
D	M6 x 1	8.5 mm	7 mm	5	2421K31	5.30	4.82
D	M8 x 1	9.5 mm	9 mm	5	2421K32	5.41	4.92
D	M10 x 1	9.5 mm	11 mm	5	2421K33	5.74	5.22
Metric Self-Threading							
E	M6 x 1	8.5 mm	7 mm	5	2421K37	8.35	7.59
E	M8 x 1	8.5 mm	9 mm	3	2421K38	5.01	4.55
E	M10 x 1	8.5 mm	11 mm	1	2421K39	1.81	1.64

	Hole Dia.	O'all Ht.	(L)	Pkg. Qty.		Pkg. 1-9	Pkg. 10-Up
Metric Drive-In							
F	6 mm	7.5 mm	5.5 mm	5	2421K34	$8.26	$7.51
F	8 mm	9.5 mm	6.5 mm	5	2421K35	8.26	7.51
F	10 mm	9.5 mm	6.5 mm	3	2421K36	5.22	4.75

Grease Fitting Adapters

When the size of your fitting doesn't match the opening, use these adapters to make the connection.



Straight *90° Angle* *45° Angle*

Thread Size Male	Thread Size Female	Zinc-Plated Steel		Stainless Steel	
Straight					
1/4"-28 Taper	1/8" NPTF	9006T11	$3.11	9006T31	$20.20
M6 x 1	1/4"-28 UNF	9006T21	7.72	———	———
M8 x 1	1/4"-28 UNF	9006T22	8.56	———	———
M10 x 1	1/4"-28 UNF	9006T23	8.90	———	———
90° Angle					
1/8" PTF	1/8" PTF	9006T16	12.74	9006T36●	22.92
1/4"-28 Taper	1/8" NPTF	9006T13	7.67	9006T33	22.92
45° Angle					
1/8" PTF	1/8" PTF	9006T15	15.91	9006T35●	36.36
1/4"-28 Taper	1/8" NPTF	9006T12	9.23	9006T32	36.36

● Threads are NPTF.

Grease Fitting Blocks for Hard-to-Reach Areas

Attach tubing to these blocks for easier lubrication of hard-to-reach and remote machine bearings. One side of each block has 3, 6, or 10 grease fittings, and the opposite side has compression-fitting connections for 1/4" OD tubing (not included). Overall block depth is 3/4". Use with grease up to NLGI No. 2.

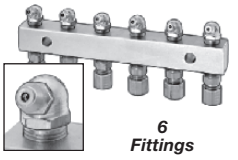

6 Fittings

No. of Fittings	O'all Wd.	Zinc-Plated Steel O'all Ht.	Max. psi			Stainless Steel O'all Ht.	Max. psi		
3	2 3/4"	2 3/4"	1,800	1693K1	$66.18	2 1/2"	5,000	1693K3	$136.84
6	5 3/4"	2 3/4"	1,800	1693K2	108.96	2 1/2"	5,000	1693K4	210.23
10	9 3/4"	2 1/2"	10,000	1693K6	137.60	2 1/2"	5,000	1693K5	277.00

Grease Fitting Dust Caps

Keep your fittings free of dirt and moisture. Caps are polyethylene and fit the standard grease fittings found on pages 2216-2217.

	Pkg. Qty.	With 1" Long Strap	Pkg. 1-9	Pkg. 10-Up	With 2" Long Strap	Pkg. 1-9	Pkg. 10-Up
Black	50	1098K12	$5.40	$4.50	1087K12	$9.47	$7.89
Blue	50	1098K17	5.40	4.50	1087K16	9.47	7.89
Green	50	1098K15	5.40	4.50	1087K15	9.47	7.89
Red	50	1098K14	5.40	4.50	1087K14	9.47	7.89
White	50	1098K13	5.40	4.50	1087K13	9.47	7.89
Yellow	50	1098K16	5.40	4.50	1087K11	9.47	7.89

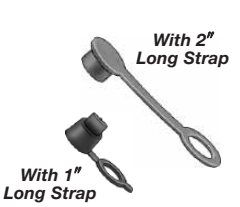

Oilers

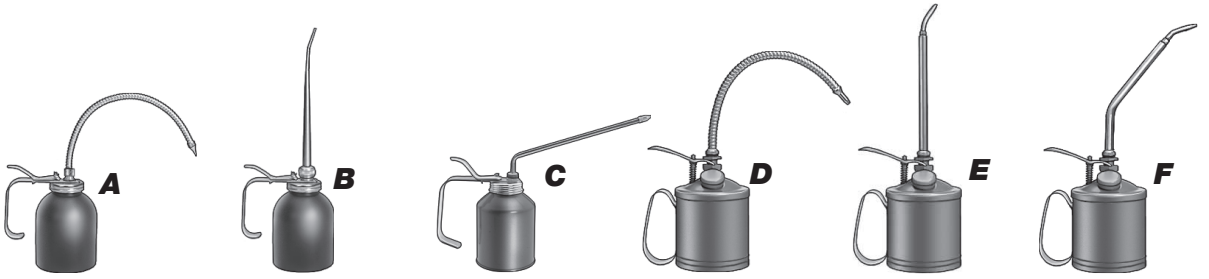

Whether you need a steady stream or just a drop of oil, these versatile oilers meet your lubricating needs. Squeeze the lever to dispense oil. Oiler bodies are steel.

Standard— Have 1/4″-28 male threads. *Flexible spouts* are steel with a zinc tip. *Straight-rigid* and *angled-rigid spouts* are steel with an aluminum tip.

	Cap., oz.	Spout	Oilers		Extra Spout	
Standard						
A	12	8″ Flexible	10085K26	$14.78	10085K76	$3.98
A	16	8″ Flexible	10085K36	18.27	10085K76	3.98
A	32	8″ Flexible	10085K46	23.67	10085K76	3.98
B	12	8″ Straight Rigid	10085K22	14.78	10085K72	4.20
B	16	8″ Straight Rigid	10085K32	18.27	10085K72	4.20
B	32	8″ Straight Rigid	10085K42	23.67	10085K72	4.20
C	12	8″ Angled Rigid	10085K24	14.78	10085K74	4.42
C	16	8″ Angled Rigid	10085K34	18.27	10085K74	4.42
C	32	8″ Angled Rigid	10085K44	23.67	10085K74	4.42

Easy Fill— A separate filler cap makes refilling these oilers fast, clean, and easy. All spouts are steel and have 13/32″-24 male threads. *Flexible spouts* have a zinc tip. *Straight-rigid* and *angled-rigid spouts* have an aluminum tip.

	Cap., oz.	Spout	Oilers		Extra Spout	
Easy Fill						
D	16	10″ Flexible	1251K73	$27.44	1251K81	$4.00
D	24	12″ Flexible	1251K72	28.08	1251K82	4.27
D	32	15″ Flexible	1251K71	29.50	1251K83	4.40
E	16	7 1/2″ Straight Rigid	1251K53	27.44	1251K84	5.58
E	24	9 1/2″ Straight Rigid	1251K52	28.08	1251K85	5.78
E	32	11″ Straight Rigid	1251K51	29.50	1251K86	5.98
F	16	7 1/2″ Angled Rigid	1251K63	27.44	1251K87	5.67
F	24	9 1/2″ Angled Rigid	1251K62	28.08	1251K88	5.91
F	32	11″ Angled Rigid	1251K61	29.50	1251K89	6.13

Large-Capacity Oilers



Minimize refilling time during big oiling jobs, such as filling large oil cups and reservoirs. Made of steel.

	Cap., oz.	Spout		
Standard	64	6 1/4″ Angled Rigid	1390K11	$52.71
With Handle	64	6 1/4″ Angled Rigid	1390K12	71.85

Air-Powered Easy-Lube Oilers



Connect to your shop air supply and pull the trigger to effortlessly deliver oil. Adjust the spout tip to modify the spray volume. A brass knob on the handle adjusts the spray pattern from medium to fine mist.

Made of aluminum with a brass tip. Air inlet connection is 1/4″ NPT female. Operates on 80 to 120 psi.

Cap., oz.	Spout		
32	12″ Straight Rigid	13945K41	$96.30

Economy Oilers

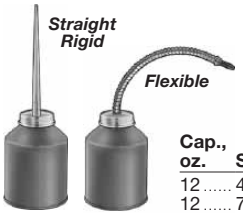

Push the bottom of these simple oilers to dispense oil with ease. Body is steel; spout is zinc-plated steel.

Flexible spout has a zinc tip.

Cap., oz.	Spout		
12	4 1/2″ Straight Rigid	1258K71	$6.40
12	7″ Flexible	1258K72	6.64

Easy-Lube Oilers



6-oz. with Angled-Rigid Spout ***20-oz. with Flexible Spout*** ***10-oz. with Angled-Rigid Spout***

Simply squeeze the trigger to operate these oilers. Made of steel.

Standard— Deliver a single drop or solid stream of oil.

Adjustable Spray— Tighten the aluminum tip for a fine mist of oil; loosen it to deliver a solid stream.

Angled-rigid spouts are steel. *Flexible spouts* are zinc-plated steel.

Cap., oz.	Spout		1-5	6-Up
Standard				
6	5″ Angled Rigid	1245K15	$9.89	$9.04
6	6″ Flexible	1245K24	11.55	10.54
20	6″ Flexible	1245K26	17.33	15.86
32	6″ Angled Rigid	1245K18	19.89	18.29
Adjustable Spray				
6	5″ Angled Rigid	1238K11	15.47	14.31
10	5″ Angled Rigid	1238K12	16.56	15.34
20	6″ Angled Rigid	1238K13	22.04	20.45
Replacement Adjustable Spray Tip		1238K51	Each	$4.22

Precision Oilers



Apply lubricant in tight spaces with the push of a button. This all-aluminum oiler has a needle-like spout, convenient pocket clip, and cap. Overall length is 5 5/8″.

Cap., oz.	Spout Lg.		
1.5	1 1/2″	9044T7	$10.06

Sheet Stock Oilers

Oilers lubricate both sides of metal sheet stock before stamping or forming to extend die life and ensure high quality. Made of steel.

Oilers for up to 2½″ Wide and 4″ Wide Sheet Stock



Oiler for up to 2½″ Wide Stock

Clip these oilers directly to sheet stock; their two felt pads spread lubricant evenly. Use for sheet stock up to 0.104″ thick as well as wire. Mount either horizontally or vertically.

Oiler for sheet stock up to 2½″ wide has four 0.1″ ID tube connections.

Oiler for sheet stock up to 4″ wide has eight 0.1″ ID tube connections.

Optional reservoir is polyethylene and has eight feed points and eight 6-ft. polyurethane feed tubes with adjustable flow. Capacity is 1 gal.

Max. Sheet Stock Width	Overall Size Lg.	Wd.	Dp.		Each
2½″	5″	¾″	3″	2277K1	$29.42
4″	6½″	¾″	3″	2277K2	31.45
Optional Reservoir				2277K3	142.54

Oilers for up to 8″ Wide Sheet Stock



Two carpet-covered rollers lubricate sheet stock up to ¼″ thick. Top roller is fed by a 32-oz. reservoir with a drip tube; bottom roller picks up lubricant from a pan below.

Oiler with valve has an overflow valve in the bottom pan to prevent excess lubricant from spilling.

Optional stand extends from 24″ to 42″ high.

Replacement rollers handle oils, soluble oils, and low pH (acidic) lubricants. *Optional heavy duty rollers* work well with high pH (alkaline) lubricants. *Optional vinyl rollers* can be used to apply a very thin coating, such as vanishing oil.

Optional wipers control the amount of lubricant on sheet stock.

Overall Size Lg.	Wd.	Ht.	Oiler	Each	Oiler with Valve	Each
10½″	4½″	13¾″	1354K11	$220.14	1354K51	$256.67

Optional Stand	1354K85	Each	$241.82
Replacement Rollers	1354K41	Pair	42.00
Optional Heavy Duty Rollers	1354K71	Pair	61.09
Optional Vinyl Rollers	1354K81	Pair	81.45
Optional Wipers	1354K31	Pair	29.27

Oil-Dispensing Guns



When you need to use oil to lubricate bearings or fittings, these guns work just like grease guns. They have a steel lever and include a coupler for standard grease fittings. *18-oz. capacity gun* has a plastic barrel; *26-oz. capacity gun* has a steel barrel.

Cap., oz.	Strokes per oz.	Max. psi	Nozzle Type		
18	15	5,800	6¾″ Rigid	1879K48	$102.49
26	7	1,800	6⅝″ Rigid	1879K21	208.06
Replacement Coupler				1879K23	7.62

No-Drip Oil-Dispensing Nozzles



Without Meter Angled-Rigid Nozzle



With Meter Flexible Nozzle

A safety lock on the handle prevents spills and accidental dispensing. Use these nozzles with motor oil, gear oil, and transmission fluid. Each has a ½″ NPT female swivel inlet connection that attaches to your bulk oil delivery system. Outlet connection is ¼″ NPT female.

Nozzles with meter have an LCD that registers in pints, quarts, gallons, or liters and totalizes in gallons or liters (up to 999.99). Meter is powered by a 3.6-volt ½ AA lithium battery (included).

Nozzle Type	Without Meter Max. psi			With Meter Max. psi		
11″ Angled Rigid	2,000	2254K21	$102.00	1,000	2254K23	$489.46
14″ Flexible	2,000	2254K22	112.14	1,000	2254K24	487.24
Replacement Nozzle Tip					2254K31	12.02
Replacement ½ AA Lithium Battery					6951K59	5.19

Oil-Removal Guns



Produce a strong suction to remove old lubricant from gear cases, transmissions, and differentials. You can also use these steel guns for transferring and adding fluid lubricants.

Cap., oz.	Nozzle Type		
12	10″ Flexible Steel	1050K11	$22.92
16	12″ Super-Flexible Vinyl	1061K11	10.25

Oil-Dispensing Pumps



Cover Pump (Container Not Included)

Self-Contained Pump

Dispense lubricants right at your job site with these mobile, easy-to-fill pumps. Pumps are perfect for neat and fast refilling of transmissions, differentials, and gear cases. All components are steel. Pump head and lid are red powder-coated; handle is zinc plated.

Cover pump dispenses oil and clamps directly onto a 5-gal. container (not included). It includes a cover assembly with a 5-ft. rubber delivery hose with a curved nozzle. For containers, see pages 1735-1736.

Self-contained pump dispenses grease rated up to NLGI No. 3 and oil. Includes a 3.7-gal. capacity steel container and a 5½-ft. nitrile delivery hose with a curved nozzle. It is 17⅛″ high and has a 7⁵⁄₁₆″ wide base.

Pump Style	Output, oz./stroke	Container		
Cover	2.6	No	1318K16	$72.24
Self Contained	1.0	Yes	1002K11	559.80

Air-Powered Oil-Dispensing Pumps



Drum Not Included

Pneumatic power lets you quickly and conveniently dispense motor oil, gear oil, and transmission fluid from 55-gal. drums (not included). Pump is made of cast aluminum and polyurethane. It includes an air regulator and gauge, 6-ft. long Buna-N rubber air hose with ⅜″ NPT male connection, 6-ft. long nitrile oil hose with ½″ NPT male connection, and a bung adapter with a 2″ NPT male connection for mounting on a drum.

Air inlet: ⅜″ NPT female. Air inlet pressure: 40-180 psi. Air volume @ 100 psi: 8.5 scfm. Oil outlet: ½″ NPT female. Maximum oil pressure: 540 psi. Flow rate: 2 gpm.

For drums, see pages 1740-1741.

Fits Container			
55-gal. Drum	2332K5	$1,095.78	

Lubrication Manifolds



4 Feeds

Simultaneously deliver equal lubrication to multiple points. Connect the included tubing to the lubrication points for access to remote and hard-to-reach areas. Manifolds work with grease rated up to NLGI No. 2 and oil.

Inlet and outlet feeds are ⅛″ NPT female. Tube fittings are ¼″ and made of brass. Manifolds are corrosion-resistant die cast aluminum alloy. Furnished with 6 ft. of nylon tubing per feed and steel tube clamps with self-tapping mounting screws.

No. of Feeds	Overall Size Ht.	Wd.	Dp.	Max. psi		
4	1.9″	3.1″	2.3″	2,500	9024T1	$108.77
6	1.9″	3.3″	2.3″	2,500	9024T2	126.32
8	1.9″	3.3″	2.3″	2,500	9024T3	145.62
12	2.4″	3.3″	2.4″	2,500	9024T4	215.78

About Oil-Hole Covers and Oil Cups

Oil-hole covers and oil cups are convenient and dependable ways to apply oil to parts in hard-to-reach areas. Install them on machinery, motors, bearings, blocks, and all kinds of moving parts. They have a self-closing hinged cover (unless noted) that keeps contaminants out of your oil and equipment. ***Oil-hole covers*** do not hold oil. Any oil poured in the cover passes into the part to be lubricated. ***Oil cups*** have a reservoir that holds oil. Oil that is poured in the cup is held in the reservoir and passes through gradually. For this reason, we list a capacity for all of our oil cups. The advantage of oil cups is that they decrease the frequency of manual lubrication.

Choose from drive-in and threaded styles. ***Drive-in*** covers have plain walls and are designed to be lightly tapped into a hole. ***Threaded*** covers and cups provide a more secure fit. There are several different thread types: NPT is National Pipe Taper; UNF is Unified National Fine; and UNEF is Unified National Extra Fine.

Installation clearance is a measurement that represents the overall diameter of the path of a cover or cup as you rotate it into place on your machinery.



Straight (Top View) *Elbow (Front View)*

Oil-Hole Covers

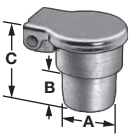

Drive-In

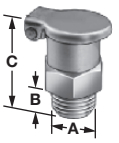

Threaded

Made of zinc-plated steel, unless noted. Connections are male.
Drive-in covers have a tapered shank that controls insertion depth.

(A)	(B)	(C)	Installation Clearance		1-9	10-Up
Drive-In						
3/16"	7/32"	15/32"	3/4"	**1232K31**	$2.13	$1.92
1/4"	5/32"	13/32"	11/16"	**1231K1**	4.45	4.00
1/4"	1/4"	7/16"	3/4"	**1232K12**	4.62	4.16
5/16"	7/32"	1/2"	3/4"	**1231K2**	7.22	6.50
3/8"	7/32"	17/32"	25/32"	**1231K3**	11.33	10.20
7/16"	5/16"	11/16"	29/32"	**1231K4**	13.67	12.30
1/2"	3/8"	13/16"	17/32"	**1232K15**	9.98	8.98
3/4"	9/16"	13/16"	1 13/16"	**1232K17**	12.13	10.92
7/8"	1/2"	1 1/16"	1 13/16"	**1232K18**	13.56	12.20
1"	19/32"	1 5/16"	2 3/32"	**1232K19**	18.89	17.00
1 1/4"	13/16"	1 11/16"	2 7/16"	**1232K21**	27.18	24.46
6 mm	6 mm	12 mm	16 mm	**1357K41**●	3.83	3.44
7 mm	6 mm	14 mm	19 mm	**1357K42**●	3.95	3.56
Threaded						
10-32 UNF	3/16"	9/16"	3/4"	**1229K12**	9.44	8.50
1/8"-27 NPT	1/4"	13/16"	13/16"	**1229K18**	10.00	9.00
1/8"-27 NPT	9/32"	7/8"	29/32"	**1229K19**	12.53	11.28
1/8"-27 NPT	13/32"	15/32"	17/32"	**1229K22**	9.44	8.50
1/4"-32 UNEF	5/32"	9/16"	11/16"	**1229K11**	10.20	9.18
1/4"-32 UNEF	3/16"	9/16"	3/4"	**1229K13**	26.20	23.58
1/4"-32 UNEF	1/4"	3/4"	3/4"	**1229K15**	21.78	19.60
1/4"-18 NPT	13/32"	15/32"	17/32"	**1229K23**	11.04	9.94
5/16"-32 UNEF	1/4"	27/32"	13/16"	**1229K28**	11.02	9.92
3/8"-18 NPT	3/8"	19/32"	17/32"	**1229K26**	19.36	17.42
1/2"-14 NPT	9/16"	17/16"	17/16"	**1229K27**	16.93	15.24
M5×0.8	4 mm	15 mm	16 mm	**1319K51**■	8.22	7.40
M6×1	5 mm	15 mm	19 mm	**1319K52**■	9.82	8.84
M8×1.25	5 mm	16.5 mm	19 mm	**1319K53**■	9.80	8.82

●Nickel-plated steel. ■Nickel-plated brass.

Easy-Fill Oil-Hole Covers

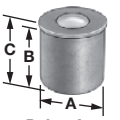

Drive-In

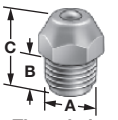

Threaded

Fill your equipment with oil without lifting a hinged cover. These low-profile covers have a self-closing ball valve. When you're ready to fill, the pressure of your oil container easily depresses the ball.

Drive-in covers are zinc-plated steel. ***Threaded*** cover is zinc-plated brass. Connection is male.

(A)	(B)	(C)	Installation Clearance		1-9	10-Up
Drive-In						
3/16"	1/4"	9/32"	7/32"	**1214K1**	$2.27	$2.04
1/4"	9/32"	5/16"	9/32"	**1214K2**	2.33	2.10
5/16"	5/16"	3/8"	11/32"	**1214K3**	2.33	2.10
3/8"	3/8"	15/32"	13/32"	**1214K4**	9.53	8.58
7/16"	15/32"	17/32"	15/32"	**1214K5**	10.53	9.48
1/2"	17/32"	9/16"	17/32"	**1214K6**	7.40	6.66
Threaded						
1/4"-32 UNEF	7/32"	7/16"	3/8"	**1211K1**	3.56	3.20

Elbow-Style Oil-Hole Covers

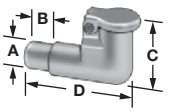

Drive-In

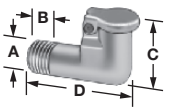

Threaded

Choose elbow-style covers for side-mounted applications and for lubricating equipment where you don't have enough vertical clearance for straight covers. All covers are die cast zinc.

Threaded covers have male connections.

(A)	(B)	(C)	(D)	Install. Clear.		1-9	10-Up
Drive-In							
3/16"	5/32"	19/32"	3/4"	1/4"	**1239K17**	$23.31	$20.98
1/4"	1/4"	11/16"	1"	5/16"	**1239K11**	13.51	12.16
5/16"	1/4"	25/32"	7/8"	13/32"	**1239K15**	14.58	13.12
3/8"	9/32"	25/32"	1 3/32"	13/32"	**1239K19**	20.98	18.88
Threaded							
10-32 UNF	5/32"	19/32"	3/4"	1 1/16"	**1227K11**	10.69	9.62
1/8"-27 NPT	1/4"	25/32"	1 3/32"	1 5/16"	**1227K16**	15.89	14.30
1/4"-32 UNEF	3/16"	19/32"	3/4"	1 1/16"	**1227K12**	11.76	10.58
5/16"-32 UNEF	3/16"	25/32"	1 3/32"	1 5/16"	**1227K21**	22.20	19.98
3/8"-24 UNF	1/4"	25/32"	1 3/32"	1 5/16"	**1227K15**	17.51	15.76

Oil Cups

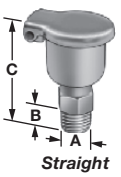

Straight

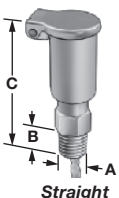

Straight Wick-Feed

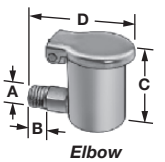

Elbow

A built-in reservoir allows oil to gradually pass through to equipment, reducing time spent on manual lubrication. Cups are zinc-plated steel and have NPT male connections.

Straight wick-feed oil cups protect bearings from dust and foreign matter. The wick extends through the threaded connection of the cup and keeps the bearing moist, even after the oil cup is drained.

Elbow style is for side-mounted applications and where vertical space is limited.

(A)	(B)	(C)	(D)	Install. Clear.	Cap., oz.		1-9	10-Up
Straight								
1/8"-27	5/16"	1 1/2"	—	17/32"	1/16	**1230K11**	$12.29	$11.06
1/8"-27	5/16"	1 21/32"	—	17/16"	1/8	**1230K12**	13.78	12.40
1/8"-27	5/16"	1 29/32"	—	1 13/16"	5/16	**1230K13**	11.49	10.34
1/4"-18	3/8"	2"	—	1 13/16"	5/16	**1230K14**	17.22	15.50
3/8"-18	3/8"	2 9/16"	—	2 7/16"	15/16	**1230K16**	68.31	61.48
Straight Wick-Feed								
1/8"-27	11/32"	2 5/32"	—	17/16"	1/8	**1221K13**	38.56	34.70
1/8"-27	3/8"	2"	—	17/32"	1/16	**1221K12**	19.20	17.28
1/8"-27	3/8"	2 13/32"	—	2"	5/8	**1221K26**	35.02	31.52
1/4"-18	3/8"	2 15/32"	—	2"	5/8	**1221K15**	33.87	30.48
Elbow								
1/8"-27	5/16"	15/16"	1 11/32"	1 19/32"	1/8	**1237K11**	22.31	20.08
1/8"-27	5/16"	1 7/16"	1 11/16"	2 5/8"	1/2	**1237K13**	24.47	22.02
1/4"-18	7/16"	1 7/16"	1 15/16"	2 1/2"	1/2	**1237K14**	12.18	10.96
3/8"-18	7/16"	2 1/16"	2 13/32"	4"	1 7/8	**1237K17**	43.67	39.30
1/2"-14	9/16"	2 1/16"	3 1/2"	4"	3 3/4	**1237K18**	74.56	67.10

About Oil Reservoirs

Oil reservoirs serve as a central dispenser for lubrication systems.

Adjustable-Flow Oil Reservoirs—Adjust the oil flow from a drop to a steady stream. Some of these oil reservoirs have special features such as multiple outlets, brushes for chain lubrication, and a solenoid to start oil flow when equipment starts running and to stop oil flow when equipment stops.

Constant-Level Oil Reservoirs—Used primarily on equipment that requires a constant supply or bath of oil.

Outlet Connections—Many of our reservoirs and sight-flow needle valves have outlets with NPTF or PTF pipe threads (also known as Dryseal). Connections prevent leaks and ensure pressure-tight joints without a lubricant or sealer. They connect to NPT threads but may lose some of their leakproof qualities.

Oil Reservoirs

Reservoirs have aluminum top and bottom plates around a clear plastic bowl and a self-closing vented fill cap. When using these reservoirs in flow-regulating applications, they require a sight-flow needle valve (sold separately on page 2226). Maximum temperature is 140° F.



Cap., oz.	Bowl Dia.	1/8" NPTF Male Outlet: O'all Ht.			1/4" NPTF Male Outlet: O'all Ht.		
1	1 1/2"	3"	1169K11	$20.86	3 3/16"	1169K13	$22.54
1 3/8	1 3/4"	2 15/16"	1169K14	19.05	2 15/16"	1169K15	22.85
1 3/4	2"	3 1/8"	1169K16	24.14	3 3/8"	1169K12	29.21
2 1/2	2"	3 1/2"	1169K17	27.30	3 3/4"	1169K18	26.77
5	2 1/2"	4 1/8"	1169K19	27.14	4 5/16"	1169K21	26.70
8	2 1/2"	5 3/16"	1169K23	44.52	5 3/8"	1169K24	41.89
9	3"	5 3/8"	1169K27	51.38	5 1/2"	1169K28	47.79
		3/8" NPTF Male Outlet			**1/4" NPTF Male Outlet**		
12	3"	6 7/16"	1169K31	$48.11	6 5/8"	1169K32	$49.06
16	3 1/2"	6 9/16"	1169K35	53.43	6 5/8"	1169K36	53.43
32	4 1/4"	7 15/16"	1169K41	63.68	8 1/16"	1169K42	64.30
64	5 1/2"	9 15/16"	1169K43	97.09	10 1/8"	1169K44	98.39
128	5 1/2"	14 15/16"	1169K45	142.60	15 1/4"	1169K46	145.22

Pressure-Equalizing Oil Reservoirs

A venting tube equalizes pressure between the reservoir and bearing so you can lubricate non-vented, closed, and sealed bearing housings while keeping out contaminants. A ball check valve below the sight chamber prevents sudden back pressure from affecting flow. Turn on and off using the toggle switch on top of the unit.

Reservoirs have aluminum top and bottom plates around a clear acrylic bowl and include a fill cap. When using them in flow-regulating applications, they require a sight-flow needle valve (sold separately on page 2226). Maximum temperature is 160° F.



Cap., oz.	Bowl Dia.	O'all Ht.	Outlet, NPTF male		
1 1/2	1 3/4"	5 5/8"	1/4"	1157K21	$74.71
2 1/2	2"	5 15/16"	3/8"	1157K22	87.12
5	2 1/2"	6 9/16"	3/8"	1157K24	84.52
9	3"	7 13/16"	1/2"	1157K25	109.10
16	3 1/2"	8 13/16"	1/2"	1157K26	116.08

High-Temperature Oil Reservoirs

Made of polycarbonate, these reservoirs withstand temperatures up to 225° F. They include a self-closing vented fill cap. When used in flow-regulating applications, they require a sight-flow needle valve (sold separately on page 2226).

Reservoirs ***with filter*** have an aluminum filter with Type 304 stainless steel wire cloth. Filter is 100 mesh (100 openings per linear inch of mesh) and removable. For information about mesh openings and particle filtration, see page 433.



Cap., oz.	Bowl Dia.	O'all Ht.	Outlet, NPT male	Without Filter		With Filter	
2 1/2	2"	4 7/16"	3/8"	1358K21	$24.60	1358K11	$36.71
5	2 7/8"	4 1/2"	1/2"	1358K22	24.81	1358K12	37.46
9	2 7/8"	5 3/4"	1/2"	1358K23	29.52	1358K13	41.58
16	3 5/8"	6 13/16"	1/2"	1358K24	35.63	1358K14	42.34
32	3 5/8"	10 3/16"	1/2"	1358K25	51.98	1358K15	60.95
64	5"	11 1/16"	1/2"	1358K26	57.97	1358K16	63.34

High-Temperature Large-Capacity Oil Reservoirs

A high maximum temperature of 250° F combined with large capacity makes these reservoirs suitable for circulating oil systems and hydraulic power units.

Reservoirs are heavy duty steel. They have a 40-micron filter built into their removable fill/breather cap and include a liquid-level gauge. When using them in flow-regulating applications, they require a sight-flow needle valve (sold separately on page 2226). Outlet is 1/2" NPT female. Mounting fasteners not included.



5-Gallon Capacity

1- and ***2-gallon reservoirs*** have four 11/32" dia. mounting holes. ***5-*** and ***10-gallon reservoirs*** contain a baffle that prevents surging or sloshing of return fluid. They have four 17/32" dia. mounting holes.

Cap., gal.	Overall Size: Ht.	Wd.	Dp.	No. of Outlets/ Return Lines	Return, NPT female		
1	10"	6"	7 1/2"	1/—	—	1149K11	$278.26
2	10"	10"	7 1/2"	1/1	1/2"	1149K14	332.86
5	11 11/16"	16"	10"	2/2	1"	1149K16	413.95
10	15 3/16"	20"	12"	2/2	1"	1149K18	489.84

Adjustable-Flow Oil Reservoirs

The precision needle valve on top of these reservoirs allows you to adjust the flow rate using the attached toggle switch. Reservoirs have aluminum top and bottom plates around either a clear plastic or glass bowl and include a vented fill cap. A sight glass allows you to view the flow. Maximum temperature is 160° F for the plastic bowl and 250° F for the glass bowl.

Direct Mount—Thread directly into bearing housings, pumps, and other machinery.

Remote Mount—Connect a pipe or tube fitting to reach remote or isolated equipment. Furnished with a nut and washer for mounting.



Direct Mount

Cap., oz.	Bowl Dia.	O'all Ht.	Outlet, NPTF male	Plastic Bowl		Glass Bowl	
5/8	1 1/2"	4 9/16"	1/8"	1167K91	$28.69	1167K51	$33.87
1	1 1/2"	5 3/16"	1/4"	1167K92	29.61	1167K52	34.91
1 1/2	1 3/4"	5 3/8"	1/4"	1167K94	28.96	1167K53	35.59
2 1/2	2"	5 3/4"	3/8"	1167K96	30.58	1167K54	37.58
5	2 1/2"	6 3/8"	3/8"	1167K98	34.01	1167K56	44.67
9	3"	7 5/8"	3/8"	1167K11	49.38	1167K21	64.94
9	3"	7 13/16"	1/2"	1167K12	49.78	1167K22	66.89
12	3"	8 15/16"	3/8"	1167K13	50.75	—	—
12	3"	9 1/8"	1/2"	1167K14	54.41	—	—
16	3 1/2"	8 15/16"	3/8"	1167K15	53.30	1167K23	83.64
16	3 1/2"	9 1/8"	1/2"	1167K16	54.34	1167K24	87.77
32	4 1/4"	10 1/8"	1/2"	1167K17	77.74	1167K25	128.06
64	5 1/2"	12 1/16"	1/2"	1167K18	111.06	1167K26	173.35
128	5 1/2"	17 1/16"	1/2"	1167K19	154.84	—	—
Replacement Sight Glass for 1 1/2" to 2 1/2" Bowl Dia.				1167K2	1.80		
Replacement Sight Glass for 3" and Larger Bowl Dia.				1167K1	1.82		

Remote Mount

Cap., oz.	Bowl Dia.	O'all Ht.	Outlet, NPTF female	Mounting Threads, UNF male	Plastic Bowl	
5/8	1 1/2"	4 3/16"	1/8"	9/16"-18	1175K41	$40.21
1	1 1/2"	5 5/16"	1/8"	9/16"-18	1175K42	38.92
1 1/2	1 3/4"	5 7/16"	1/8"	9/16"-18	1175K43	39.29
2 1/2	2"	5 3/4"	1/8"	9/16"-18	1175K44	42.82
5	2 1/2"	6 3/8"	1/8"	9/16"-18	1175K45	48.96
9	3"	7"	1/8"	5/8"-18	1175K11	57.13
12	3"	8 3/8"	1/8"	5/8"-18	1175K49	61.95
16	3 1/2"	8 15/16"	1/8"	5/8"-18	1175K12	60.10
32	4 1/4"	9 3/8"	1/8"	5/8"-18	1175K13	85.99
64	5 1/2"	12 3/16"	1/8"	5/8"-18	1175K14	118.67
128	5 1/2"	16 5/16"	1/8"	5/8"-18	1175K15	167.06

Oil Reservoirs

For information about oil reservoirs and threaded connections, see page 2223.

Electric Adjustable-Flow Oil Reservoirs



A solenoid valve is closed unless energized (normally closed) and dispenses lubricant only while equipment is running so there's no need to manually control flow. The sight-flow needle valve controls flow rate. Reservoirs have aluminum top and bottom plates around a clear plastic bowl, and a vented cap. Valve has a 1/4" OD tube outlet. Mounting threads are 5/8"-18 UNF male. Maximum temperature is 160° F.

120 VAC reservoirs draw 0.1 amps.
24 VDC reservoirs draw 0.4 amps.

Cap., oz.	Bowl Dia.	O'all Ht.	120 VAC		24 VDC	
2 1/2	2"	5 9/16"	1070K21	$174.99	1070K41	$174.99
5	2 1/2"	6 1/16"	1070K22	167.49	1070K42	167.49
9	3"	6 7/8"	1070K23	160.86	1070K43	160.86
12	3"	7 7/8"	1070K26	151.43	1070K46	151.43
16	3 1/2"	7 7/8"	1070K24	154.37	1070K44	154.37
32	4 1/4"	9 5/16"	1070K25	172.96	1070K45	172.96
64	5 1/2"	11 5/16"	1070K27	195.15	1070K47	195.15
128	5 1/2"	16 5/16"	1070K28	272.12	1070K48	272.12

Add-On Multiple-Outlet Adjustable-Flow Oil Reservoirs



Additional Valve

Customize these reservoirs to the number of outlets you need. Each includes two adjustable sight-flow needle valves to control flow rate, and will accommodate up to 22 additional valves (sold separately). Sight-flow valves interlock and seal with one another to form a multiple-outlet lubrication system. Reservoirs include a vented fill cap, vented sight, and clear plastic bowl. Turn flow on and off with the manual toggle switch at the bottom of the reservoir. Each valve has a 1/4" OD tube outlet. Mounting threads are 5/8"-18 UNF male. Maximum temperature is 225° F.

Cap., oz.	Bowl Dia.	O'all Ht.		
9	2 7/8"	9 1/16"	1328K42	$88.45
16	3 5/8"	10 1/16"	1328K45	97.80
32	3 5/8"	13 7/16"	1328K46	110.62
64	5"	14 1/8"	1328K47	142.15
Additional Valve			1328K57	18.96

Multiple-Outlet Adjustable-Flow Oil Reservoirs



Manual Toggle Switch with 2 Outlets



Electric with 4 Outlets

Serve multiple lubrication points from a single location with these reservoirs. They have aluminum top and bottom plates around a clear plastic bowl, a vented fill cap, and an adjustable sight-flow needle valve to control flow rate. Needle valve has a 1/4" OD tube outlet. Mounting threads are 5/8"-18 UNF male. Maximum temperature is 140° F.

Manual Toggle Switch— Turn on and off with the switch on top of the reservoir. **To Order:** Please specify number of outlets. **Also Available:** Reservoirs with up to 30 outlets. Please ask for 1067K999 and specify number of outlets and capacity.

Electric— A solenoid valve is closed unless energized (normally closed) and dispenses lubricant only while equipment is running so there's no need to manually control flow. **To Order:** Please specify number of outlets and 120 VAC or 24 VDC (except 1065K5 with three outlets, which is AC only). 120 VAC reservoirs draw 0.1 amps; 24 VDC reservoirs draw 0.4 amps. **Also Available:** Reservoirs with up to 30 outlets and other voltages. Please ask for 1065K999 and specify number of outlets, capacity, and voltage.

			MANUAL TOGGLE SWITCH					ELECTRIC				
Cap., oz.	Bowl Dia.	O'all Ht.		2 Outlets (4 3/8" Wd.)	3 Outlets (5" Wd.)	4 Outlets (5 7/8" Wd.)	6 Outlets (7 3/8" Wd.)	O'all Ht.		2 Outlets (4 3/8" Wd.)	3 Outlets (5" Wd.)	4 Outlets (5 7/8" Wd.)	6 Outlets (7 3/8" Wd.)
9	3"	9 13/16"	1067K1	$139.60	$171.01	$188.66	$293.46	7 5/16"	1065K1	$205.63	—	—	$390.70
16	3 1/2"	10 13/16"	1067K3	156.96	179.97	197.61	300.66	8 5/16"	1065K3	225.17	$240.88	$248.96	311.73
32	4 1/4"	12"	1067K4	178.78	207.75	224.78	321.64	9 3/4"	1065K4	229.83	263.07	276.33	339.90
64	5 1/2"	14 1/16"	1067K5	218.73	—	269.31	369.22	11 3/4"	1065K5	274.31	302.52	—	377.85
128	5 1/2"	19 1/16"	1067K6	251.51	280.94	—	329.39	16 3/4"	1065K6	327.00	353.36	359.89	417.22

Even-Coat Adjustable-Flow Oil Reservoirs

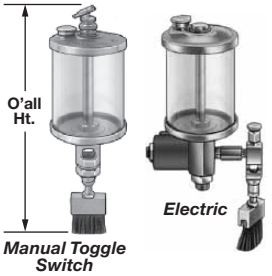

The flat nylon brush attached to these reservoirs ensures even oil application. Reservoirs have aluminum top and bottom plates around a clear plastic bowl, and a vented fill cap. Brush is 1 1/2" wide with 1 5/32" long bristles. Mounting threads are 5/8"-18 UNF male, unless noted. Max. temperature is 140° F.

Manual Toggle Switch— Turn on and off with the switch on top of the reservoir. A sight glass allows you to view the flow.

Electric— Flow is controlled by a solenoid valve that is closed unless energized (normally closed), eliminating the need to manually control flow. Flow rate is adjusted with a sight-flow needle valve. 120 VAC draws 0.1 amps; 24 VDC draws 0.4 amps.

Cap., oz.	Bowl Dia.	Manual Toggle Switch O'all Ht.			Electric O'all Ht.	120 VAC		24 VDC	
2 1/2	2"	8 3/8"	1164K19●	$55.75	8"	1161K29	$191.53	1161K49	$191.53
5	2 1/2"	8 15/16"	1164K17●	58.73	8 1/2"	1161K27	178.34	1161K47	178.34
9	3"	10 3/16"	1164K11	60.80	9 5/16"	1161K21	159.60	1161K41	159.60
12	3"	11 9/16"	1164K12	64.53	10 5/16"	1161K22	160.77	1161K42	160.77
16	3 1/2"	11 9/16"	1164K13	66.05	10 5/16"	1161K23	164.95	1161K43	164.95
32	4 1/4"	12 9/16"	1164K14	95.36	11 3/4"	1161K24	187.27	1161K44	187.27

●1/2"-20 male mounting threads.

Constant-Level Oil Reservoirs



Vented System With Optional Wire Guard



Closed System

When oil falls below the set level, these reservoirs replenish the supply for proper lubrication. Great for use in a pump bearing housing, gearbox, and other oil sump applications. Body is die cast zinc. Connections are 1/4" NPT female. Max. temperature is 250° F for the glass bowl and 165° F for the clear plastic bowl.

Vented-system reservoirs have multiple air vents for pressure balancing. ***Closed-system*** reservoirs don't require venting, reducing exposure to contaminants.

Cap., oz.	Bowl Dia.	O'all Ht.	Reservoirs		Replacement Bowls		Optional Wire Guards	
Vented System with Glass Bowl								
2 1/2	2 1/2"	4 1/4"	1181K11	$41.00	1181K51	$27.63	1181K41	$24.17
4	2 11/16"	5 3/4"	1181K12	51.53	1181K52	28.79	1181K42	25.33
8	3 3/16"	6 11/16"	1181K13	56.79	1181K53	31.10	1181K43	27.63
16	4 1/8"	7 9/16"	1181K14	65.21	1181K54	42.63	1181K44	28.13
Vented System with Plastic Bowl								
4	2 5/16"	6 3/16"	1182K11	48.37	1182K61	34.56	—	—
8	2 5/8"	7 5/16"	1182K12	51.53	1182K62	38.02	—	—
Closed System with Glass Bowl								
4	2 11/16"	7 13/16"	1181K21	96.79	1181K71	50.71	1181K42	25.33
8	3 3/16"	8 3/4"	1181K22	102.05	1181K72	53.02	1181K43	27.63
16	4 1/8"	9 5/8"	1181K23	106.26	1181K73	55.33	1181K44	28.13

Air-Powered Oil Reservoirs



Quickly and conveniently apply oil without the work that manual pumps require. These air-powered reservoirs dispense lubricant through a spray valve (sold separately). Air pressurizes the lubricant and atomizes the spray.

Reservoirs have dual regulators that control the pressure of the lubricant and the atomized spray. They have a clear acrylic bowl with aluminum top and bottom plates, and include a 40-micron filter to prevent valve blockage. Air inlet and outlets are 1/4″-18 NPTF female. Outlet is 1/8″-27 NPTF female. Maximum inlet air pressure is 125 psi, and maximum regulated air and fluid pressure is 30 psi. Maximum temperature is 140° F. Tubing and tube fittings are not included.

Reservoirs

Cap., oz.	O'all Size Ht.	Wd.	Dp.		
64	14 1/4″	5 13/16″	5 13/16″	12745K52	$402.38
128	19 1/4″	5 13/16″	5 13/16″	12745K54	435.76
256	32 1/4″	5 13/16″	5 13/16″	12745K56	591.20
Replacement 40-Micron Filter				12745K74	9.35

Spray Valves





Flat Pattern



Round Pattern

Valves have an aluminum body and a brass nozzle. Air and liquid inlets are 1/8″-27 NPTF female.

	Flat Pattern		Round Pattern	
Spray Valve	12745K71	$87.35	12745K72	$88.20

Lubrication and Coating Brushes



In addition to lubricants, these brushes can also apply paint, sealers, and coatings. They include a feed tube that extends into the 1″ long bristles. Maximum temperature is 400° F for brushes with horsehair bristles and 250° F for brushes with nylon bristles. Brushes have a 1/8″-27 NPS female connection.

Standard—Brush coats wide surfaces uniformly.

Precision—Tube extends farther into the brush for a more controlled, precise application.

Brush Dia.	O'all Ht.	Bristle Material		
Standard				
5/8″	1 7/8″	Horsehair	7412T32	$5.97
5/8″	1 7/8″	Nylon	7412T33	5.97
1 1/8″	1 7/8″	Horsehair	7412T41	16.37
1 1/8″	1 7/8″	Nylon	7412T42	16.63
Precision				
1/2″	1 7/8″	Horsehair	7412T12	7.37
1/2″	1 7/8″	Nylon	7412T14	7.40

Rotating Lubrication Brushes



Without Valve



With Valve

As chain or equipment moves, these brushes rotate to lubricate and clean at the same speed.

Brushes have a steel bracket with a 5/16″ dia. hole for mounting (brushes with valve include mounting fasteners). Oil flows to the brush via a 1/4″ OD tube inlet connection. Maximum temperature is 250° F for nylon brushes and 400° F for Type 304 stainless steel brushes.

Without Valve—Inlet connection is on top.

With Valve—Fine tune flow. Valve is brass with a 5/16″-18 UNC male mounting stud and a side inlet connection.

Replacement brush inserts come in packs of 2.

Bristle Material	Brush Dia.	Wd.	O'all Ht.	Brushes Each		Repl. Brush Inserts Pkg.	
Without Valve							
Nylon	3″	3/4″	4 3/4″	1178K1	$129.73	1178K11	$42.80
Stainless Steel	3″	3/4″	4 3/4″	1178K2	160.35	1178K25	85.17
With Valve							
Nylon	3″	3/4″	5″	1178K3	172.59	1178K11	42.80
Stainless Steel	3″	3/4″	5″	1178K4	211.78	1178K25	85.17

Lubrication Brushes

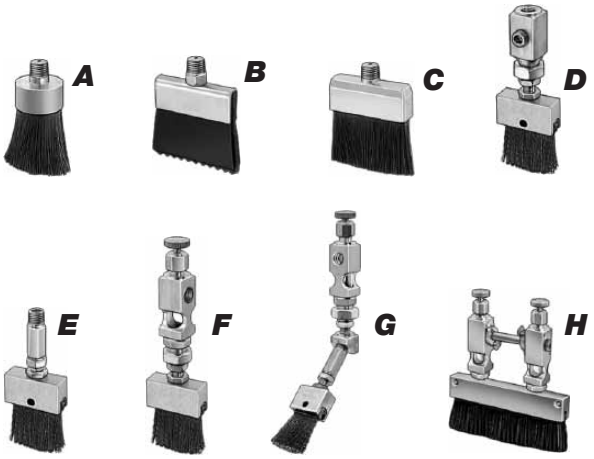

In addition to lubricating chain, use these brushes to lubricate gears and conveyors. Brushes with Type 304 stainless steel bristles provide excellent cleaning capability in harsh environments and longer life.

(A) Standard Brushes—Bristles are 1 5/16″ long. Housing is zinc. Maximum temperature is 160° F.

(B) Brushes with No-Drip Pad—A neoprene cover over a 5/8″ long felt pad provides even lubrication coverage without dripping. Housing is zinc. Maximum temperature is 200° F.

(C) Brushes with Internal Reservoir—An internal reservoir directs lubricant flow to the interior of the brush for even distribution. Bristles are 1 1/4″ long. Housing is zinc. Maximum temperature is 160° F.

(D&E) Brushes for Remote Installation—Designed for applications where flow can't be adjusted at the point of lubrication. To adjust flow, use with an adjustable oil reservoir or with a sight-flow needle valve. Brushes have 1/2″-20 UNF male mounting threads (unless noted) and 1 1/8″ long bristles. Housing is aluminum. Maximum temperature is 250° F. *Replacement brush inserts* are a strip of bristles that fit in your existing brush housing.

(F-H) Brushes with Sight-Flow Valve—Turn the valve wheel to adjust flow. Choose straight for chains and equipment travelling horizontally and 45° angle for chains and equipment travelling vertically. Brushes have 1/2″-20 UNF male mounting threads (unless noted) and 1 1/8″ long bristles. Housing and valves are aluminum. Maximum temperature is 250° F. *Replacement brush inserts* are a strip of bristles that fit in your existing brush housing.

Brush Wd.	O'all Ht.	Bristle Material	Brushes		Repl. Brush Insert	
Standard Brushes						
(A) Straight with 1/8″ NPT Male Oil Connection						
5/8″	2 5/16″	Nylon	1166K11	$22.05		
1″	2 5/16″	Nylon	1166K21	32.58		
1″	2 5/16″	Stainless Steel	1166K22	59.95		
Brushes with No-Drip Pad						
(B) Straight with 1/8″ NPT Male Oil Connection						
1 1/4″	2 5/16″	Neoprene Pad	1184K1	29.33		
2″	2 5/16″	Neoprene Pad	1184K2	33.00		
Brushes with Internal Reservoir						
(C) Straight with 1/8″ NPT Male Oil Connection						
2″	2 5/16″	Nylon	1171K21	37.90		
2″	2 5/16″	Stainless Steel	1171K22	80.76		
Brushes for Remote Installation						
(D) Straight with 1/8″ PTF Female Oil Connection						
1/2″	4 1/4″	Nylon	1151K51	33.18		
1 1/2″	4 1/4″	Nylon	1151K54	26.36	1153K14	$7.04
2 1/4″	4 1/4″	Nylon	1151K55	26.94	1153K15	8.36
(E) Straight with 1/8″ NPTF Male Oil Connection						
1 1/2″	3 5/8″	Nylon	1151K64▲	25.59	1153K14	7.04
2 1/4″	3 5/8″	Nylon	1151K65▲	27.51	1153K15	8.36
Brushes with Sight-Flow Valve						
(F) Straight with 1/8″ NPTF Female Oil Connection						
1″	5 3/4″	Nylon	1151K13	40.87	1153K13	5.50
1 1/2″	5 3/4″	Nylon	1151K14	43.33	1153K14	7.04
2 1/4″	5 5/16″	Nylon	1151K16★	49.29	1153K15	8.36
(G) 45° Angle with 1/8″ NPTF Female Oil Connection						
1″	7 11/16″	Nylon	1151K33	56.44	1153K13	5.50
(H) Straight with 1/8″ PTF Female Oil Connection						
4 1/2″	5 5/16″	Nylon	1151K17▲	96.60	1153K15■	8.36

▲ Do not have mounting threads.
★ PTF female oil connection. Does not have mounting threads.
■ Two required.

Sight-Flow Needle Valves


Straight, One Inlet

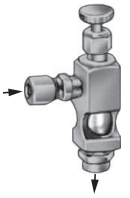
90° Angle, One Inlet


90° Angle, Three Inlets

Install these gravity-flow valves inline so you can check and adjust flow rate. A glass window allows you to view the flow.

One- and ***two-inlet*** valves have a knurled knob that enables smooth, accurate flow adjustment. Temperature range is –30° to +250° F. Not rated for pressure. *Straight* valves are brass. *90° angle* valves are aluminum.

Three-inlet valves have a T-handle that adjusts flow rate. Temperature range is –15° to +225° F. Made of gold-anodized aluminum. Maximum pressure is 55 psi.

Inlet	Outlet	O'all Ht.		
Straight with One Inlet—*NPTF threads*				
1/8" Female	1/8" Female	2 23/32"	1143K13	$34.77
1/8" Male	1/8" Male	3 1/32"	1143K11	31.06
1/4" Female	1/4" Female	2 31/32"	1143K14	28.98
1/4" Male	1/4" Male	3 13/32"	1143K12	31.08
3/8" Female	3/8" Female	3 1/4"	1143K16	47.48
3/8" Male	3/8" Male	3 9/16"	1143K15	52.79
1/2" Female	1/2" Female	4 5/8"	1143K18	70.34
1/2" Male	1/2" Male	3 15/16"	1143K17	56.10
90° Angle with One Inlet—*PTF threads*				
1/8" Male	1/8" Female	2 15/16"	1137K3	22.70
1/8" Female	1/8" Female	2 15/16"	1137K22	22.46

Inlet	Outlet	O'all Ht.		
90° Angle with One Inlet—*NPTF threads*				
1/4" Male	1/4" Tube	3 3/8"	1137K29	$32.27
1/4" Tube	1/8" Male	3 1/8"	1137K5	22.82
90° Angle with Two Inlets—*PTF threads*				
1/8" Female	1/8" Female	2 15/16"	1137K4	22.46
90° Angle with Two Inlets—*NPTF threads*				
1/4" Female	1/4" Female	3 21/32"	1137K12	45.69
90° Angle with Three Inlets—*NPT threads*				
3/8" Female	3/8" Male	6 11/32"	1317K63	64.00
1/2" Female	1/2" Male	6 11/32"	1317K64	72.14

Electric Sight-Flow Needle Valves

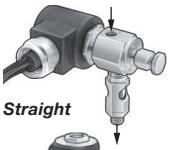
Straight

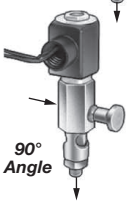
90° Angle

A built-in solenoid in these brass valves is closed unless energized (normally closed), so it dispenses lubricant only while equipment is running. A knurled knob allows you to adjust the flow rate.

Valves are designed for use with oil reservoirs. They operate on 120 VAC; motor draws 0.1 amps. Temperature range is –30° to +250° F. Not rated for pressure.

Inlet, female	Outlet, male	O'all Ht.		
Straight				
1/8" PTF	1/8" NPTF	3 9/32"	1120K35	$140.78
90° Angle				
1/4" PTF	1/4" NPTF	5 15/16"	1120K12	142.44

Sight-Flow Needle-Valve Manifolds

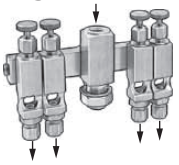
4 Valves

There's no need for each machine to have an individual oil reservoir. Just attach these valves to your reservoir and lubricate multiple sites from a single location. Each valve has an adjustable flow and can be removed for cleaning without disturbing the rest of the system.

Valves are made of aluminum. Inlet is 1/4" NPTF female. Outlet is 1/4" OD tube. Mounting threads are 5/8"-18 male. Temperature range is –30° to +250° F.

For Vented Oil Reservoirs— Not rated for pressure.

For Closed Systems— Maximum pressure is 125 psi.

No. of Valves	O'all Size Ht.	Wd.	Dp.	For Vented Oil Reservoirs		For Closed Systems	
2	3 13/16"	4 3/16"	1 11/16"	1069K21	$69.93	1069K11	$71.08
3	3 13/16"	4 15/16"	1 11/16"	1069K22	92.59	1069K12	93.81
4	3 13/16"	5 11/16"	1 11/16"	1069K23	112.87	1069K13	110.23

Precision Lubrication Systems

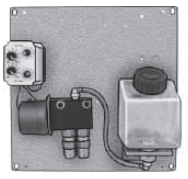
2 Pump Electric

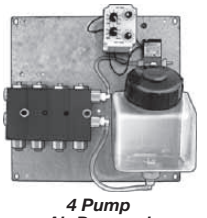
4 Pump Air Powered

Ready to install, these complete systems have an adjustable flow rate for precise lubrication. They're for use with oil and include a pump, timer, and a reservoir with plastic bowl between top and bottom plates.

Components are mounted on a 10 3/4" Ht. × 10 7/8" Wd. galvanized steel panel that has four 3/16" dia. holes with standoffs and four 1/4" × 3/8" slots for mounting (fasteners not included). If your application requires additional protection for this panel, you can mount it in a NEMA enclosure (not included; see pages 896-904). All systems require a 120 VAC power supply and have screw terminals for electrical connections. Lubrication outlet is 1/8" NPT female. Systems draw 0.06 amps.

Electric systems cycle from 1 to 1,440 times per day. Pump output is adjustable from 0 to 0.005 oz. per cycle. Set pump flow rate using a spanner wrench. Temperature range is –15° to +120° F.

Air-powered systems have a solenoid valve and 1/8" barbed tube fittings for 1/4" OD air inlet tube. Required air pressure is 40 to 120 psi. Systems cycle from 1 to 72,000 times per day. Pump output is adjustable from 0 to 0.007 oz. per cycle. Set pump flow rate using a screwdriver. Temperature range is –15° to +180° F.

No. of Pumps	Cap., oz.	Max. psi		
Electric				
2	16	250	2420K5	$382.24
4	32	100	2420K6	462.79
Air Powered				
2	16	1,080	2420K1	474.51
4	32	1,080	2420K2	517.65

Air-Powered Modular Lubrication Pumps


Two Pumps with Spray Nozzle


Add-On Pump with Spray Nozzle

Modular design allows you to easily add pumps as your lubrication requirements change. Each pump has an adjustable flow from 0 to 0.007 oz. per cycle. Set the flow rate using a screwdriver. *Note:* For proper operation, pumps require a three-way solenoid valve (sold separately on page 505). The solenoid can be controlled by a timer or PLC (programmable logic controller). Pumps are made of aluminum and have brass fittings. Pump size is 4" Ht. × 1 1/8" Dp. Required air pressure is 40 to 120 psi. Maximum outlet pressure is 1,080 psi. Lubrication inlet, air inlet, and lubrication outlet are 1/8" NPT female. Each pump has 9/32" dia. mounting holes (fasteners not included). Temperature range is –15° to +180° F. Pumps ***with spray nozzle*** provide a broader dispensing pattern. Nozzle flexes and stays in position. It's made of zinc-plated steel and includes an 8" long copper hose.

Oil/grease pumps are for use with oil and grease up to NLGI No. 2.

Grease pumps are for use with grease up to NLGI No. 2. Pumps have a 1.5-oz. capacity reservoir with a clear plastic bowl between aluminum top and bottom plates. Reservoir is 4" high.

No. of Pumps	Oil/Grease Pumps without Spray Nozzle Wd.			Oil/Grease Pumps with Spray Nozzle Wd.			Grease Pumps without Spray Nozzle Wd.		
1	2"	2279K51	$71.11	2"	2279K41	$140.51	3 1/4"	2279K21	$144.42
2	3 1/4"	2279K52	142.22	3 1/4"	2279K42	281.02	4 1/2"	2279K22	210.52
4	5 3/4"	2279K53	252.85	5 3/4"	2279K43	449.61	7"	2279K23	313.56
6	8 1/4"	2279K54	379.27	—	—	—	9 1/2"	2279K24	395.98
Add-On Pump	1 1/4"	2279K31	81.27	1 1/4"	2279K33	167.94	1 1/4"	2279K31	81.27

Central Lubrication Pumps

Dispense a fixed amount of lubricant with these pumps, which deliver 0.27 oz. of lubricant to single or multiple lubrication points. Reservoir is aluminum and includes a plastic liquid-level gauge. Outlet is 5/16″-24 female. Temperature range is 32° to 120° F. Use with oil. To control flow to each lubrication point, use a metering valve (sold separately on this page).

Vertical pump dispenses lubricant when you pull the handle. Reservoir requires 56 pulls to empty. Pump has four 15/64″ dia. mounting holes (fasteners not included).

Horizontal pumps dispense lubricant when you release the handle. Reservoir requires 69 handle releases to empty. Pumps have three 15/64″ dia. mounting holes (fasteners not included). Pumps come with a handle on the left or right side.



Vertical



Horizontal with Left Side Handle

Handle Position	Cap., oz.	Max. psi	Size Ht.	Size Wd.	Size Dp.		
Vertical							
Bottom	15	200	7 7/8″	3 15/16″	5 29/32″	2287K1	$255.22
Horizontal							
Left Side	19	50	4 31/32″	3 5/32″	9 1/4″	2287K8	255.22
Right Side	19	50	4 31/32″	3 5/32″	9 1/4″	2287K9	255.22

Metering Valves for Central Lubrication Pumps



For precise distribution of lubricant to all of your lubrication points, choose these metering valves. Valves are 1″ long with a 7/16″ hex size and are made of brass. Temperature range is 32° to 120° F.

Each flow rate listed allows about twice the flow of the next smaller size. For example, 0 has twice the flow rate of 00. In addition, the amount of lubricant that's delivered to each point depends on the total number of lubrication points and the flow rate of the metering valves used. **To Order:** Please specify flow rate.

Inlet, male	Outlet, male	Available flow rates	Max. psi		
5/16″-24	5/16″-24	00, 0, 1, 2, 3, 4, 5	200	2293K11	$13.04
5/16″-24	1/8″ NPT	00, 0, 1, 2, 3, 4, 5	200	2293K12	13.04
1/8″ NPT	1/8″ NPT	00, 0, 1, 2, 3, 4, 5	200	2293K13	13.04

Electric Central Lubrication Pumps

Automatically dispense a variable amount of lubricant at a specified time with these pumps. They have transparent plastic reservoirs and a low-level switch that triggers an audible alarm. The switch also can be wired to additional alarms. Pumps operate on 110 VAC and have screw terminals for wiring. Outlet is 5/16″-24 female. Motor draws 0.03 amps. Temperature range is 32° to 120° F. Pumps have two 15/64″ dia. mounting holes (fasteners not included). Use with oil. To control flow to each lubrication point, use a metering valve (sold separately on this page).

Fixed interval pump dispenses lubricant at set increments of time. You can adjust the amount that's dispensed each interval from 0.1 to 0.2 oz. per cycle.

To Order: Please specify one of the following dispensing intervals: 3, 5, 10, 15, 30, or 60 minutes.

Variable interval pump lets you digitally control the time period over which the amount of lubricant is dispensed (adjusts from 1-180 seconds) and the interval time between cycles (adjusts from 3-999 minutes). Maximum dispensing rate is 0.11 oz. per second.



Fixed



Variable

Interval	Cap., oz.	Max. psi	Size Ht.	Size Wd.	Size Dp.		
Fixed	68	40	8 27/32″	7 7/8″	5 1/8″	2287K2	$618.95
Variable	101	100	10 1/32″	8 27/32″	6 11/16″	2287K4	1,290.95

Antifreeze/Coolant Testers

Check your freeze protection with these testers. Choose 1/8″ dia. floating balls or easy-view 5/8″ dia. discs to provide visual indication.



Temp. Range			
Ethylene Glycol			
Ball	–34° to +20° F	6142A43	$9.55
Propylene Glycol			
Ball	–50° to +20° F	6142A45	10.18
Disc	–50° to +20° F	6142A47	16.62

Coolant Reservoir Deodorizers

Inject air directly into your coolant to keep it odor free and extend its service life. Each air port includes PVC tubing with a bronze air diffuser. Operate on 110 VAC and have a 2½-ft. power cord with two-prong plug. Housing is plastic.



Max. Reservoir Cap., gal.	Flow Rate, cc/min.	No. of Air Ports	Tubing Lg., ft.	Amps		
50	3,000	2	3½	0.032	2000K4	$64.64
100	5,000	1	10	0.041	2000K6	117.70

Stay-Put Flexible Metal Coolant Hose

Made of high-tensile-strength spring steel, these rugged hoses bend easily to any position and stay there. Hoses have a brass NPT male fitting on one end and a standard nozzle on the other. Connection, hose ID, and nozzle ID are the same size, except the 3/8″ NPT hose which has a 5/16″ nozzle ID. Not rated for pressure or temperature.



Lg.	1/8″ NPT, 5/16″ Hose OD		1/4″ NPT, 1/2″ Hose OD		3/8″ NPT, 5/8″ Hose OD		1/2″ NPT, 13/16″ Hose OD		3/4″ NPT, 1 1/16″ Hose OD	
6″	5258K21	$11.50	5258K41	$12.97	5258K62	$16.32	5258K91	$27.85	5258K111	$38.75
9″	5258K22	11.72	5258K42	13.45	5258K63	16.88	5258K92	28.45	5258K112	41.50
12″	5258K23	11.92	5258K43	15.15	5258K64	17.93	5258K93	28.92	5258K113	44.38
15″	5258K24	13.10	5258K44	15.95	5258K65	19.73	5258K94	30.15	5258K114	47.22
18″	5258K25	13.55	5258K45	16.45	5258K66	20.77	5258K95	33.88	5258K115	49.74
21″	5258K26	14.53	5258K46	18.43	5258K67	22.62	5258K96	34.67	5258K116	54.10
24″	5258K27	15.60	5258K47	20.40	5258K68	24.00	5258K97	35.52	5258K117	56.92
30″	5258K28	18.00	5258K48	21.65	5258K69	25.88	5258K98	39.82	5258K118	63.83
36″	5258K29	18.85	5258K61	23.38	5258K79	28.17	5258K99	43.30	5258K119	71.20

Corrosion-Resistant Stay-Put Flexible PVC Coolant Hose

Bend, twist, and set these hoses to stay where you want. Made of one-piece flexible black PVC with a zinc-plated steel rod along the inside wall for rigidity, they're impervious to sulfur-based cutting oils. Hoses come with a brass NPT male fitting on one end and a Type 304 stainless steel nozzle on the other. Maximum pressure is 55 psi. Maximum operating temperature is 180° F.



Lg.	1/8″ NPT, 3/8″ Hose OD Nozzle ID			1/4″ NPT, 17/32″ Hose OD Nozzle ID		
6″	1/4″	5259K91	$17.50	3/8″	5259K92	$18.75
9″	1/4″	5259K11	17.50	3/8″	5259K12	18.75
12″	1/4″	5259K16	18.75	3/8″	5259K17	21.62
15″	1/4″	5259K22	20.38	3/8″	5259K23	23.12
18″	1/4″	5259K27	21.62	3/8″	5259K28	24.00
24″	1/4″	5259K38	24.00	3/8″	5259K39	26.88

Coolant Hose

For coolants, see page 2206.

About Any-Which-Way Coolant Hose

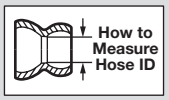

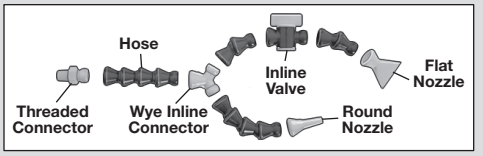

Assemble and disassemble Any-Which-Way coolant hose by snapping components together or pulling them apart. This can be done by hand, but ***assembly pliers*** and ***separation tools*** (sold separately) make the task easier.

Note: To ensure compatibility, select the hose and component color that matches your current system.

Loc-Line Any-Which-Way Coolant Hose

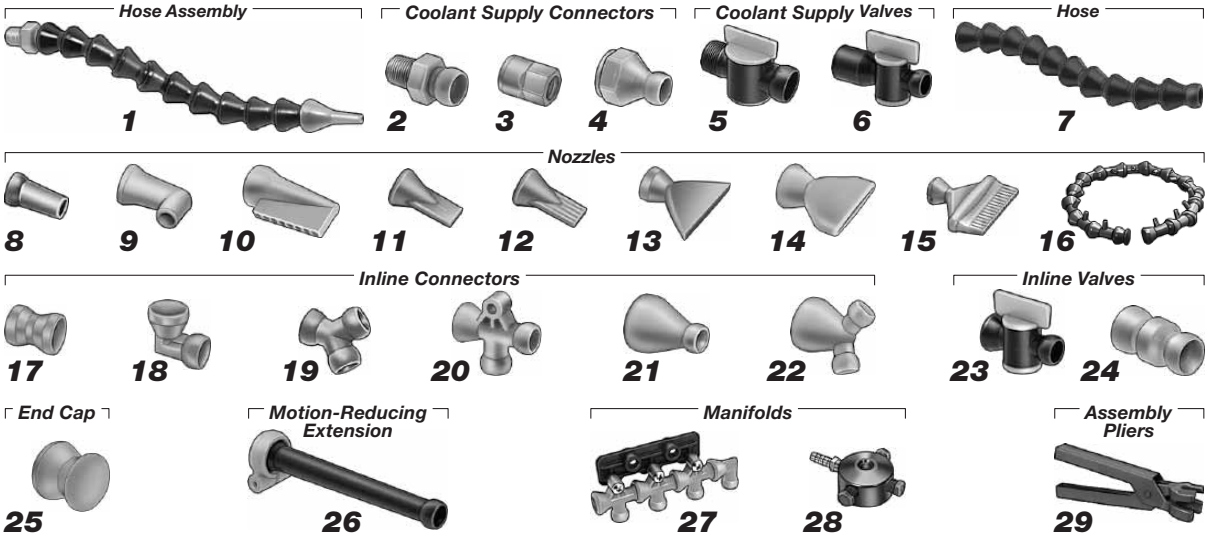

Custom build your own system to deliver coolant, cutting oils, water, and air in almost any direction. Once in position, hose stays put—there's no spring back or wandering caused by vibration. Made of acetal. Maximum operating temperature is 170° F.

(1) Hose assemblies have a hose, connectors, and round nozzles.

(16) Circular nozzle assemblies surround your cutting tool with 15 nozzles that can be precisely aimed to remove chips and debris.

(26) Motion-reducing extensions not only reduce motion at higher pressures, but also reduce sagging in longer lines.

(27) Bracket-mount manifolds have one inlet, four outlets, and two 1/4″ dia. mounting holes (fasteners included). Expand with ***(20) tee inline connectors*** (sold separately).

(28) Magnetic-base manifold has one inlet, four outlets, and a 25-lb. holding force. It also has 1/4″ NPT female connections and comes with three 1/4″ plugs and one 3/8″ barbed connector. Expand with ***(19) wye inline connectors*** (sold separately).

(29) Assembly pliers make it easier to connect your Any-Which-Way coolant hose to the components.

1/4″ ID (0.64″ OD)—Max. pressure is 30 psi. Max. flow rate is 250 gph.

	Connectors, NPT Male	Nozzles, Orifice Dia.		Each
Hose Assembly—*Color is blue and orange.*				
(1) 13″ Lg.	1/8″, 1/4″	1/16″, 1/8″, 1/4″	10095K11	$8.75

	Pkg. Qty.		Pkg.
Coolant Supply Connectors—*Color is orange.*			
(2) 1/8″ NPT Male	4	10095K29	$4.35
(2) 1/4″ NPT Male	4	10095K31	4.35
(2) 1/4″ BSPT Male	4	10095K111	4.35
(3) 1/8″ NPT Female	4	10095K64	5.53
(4) 1/4″ Flare Nut, 7/16″-20 SAE Female	4	10095K88	6.59
(4) 3/8″ Flare Nut, 5/8″-18 SAE Female	4	10095K87	6.59
Coolant Supply Valves—*Color is blue and orange.*			
(5) 1/4″ NPT Male	2	10095K51	10.98
(6) 1/4″ NPT Female	2	10095K93	10.98
Hose—*Color is blue.*			
(7) 1 ft. Lg.	1	10095K42	6.59
(7) 5 ft. Lg.	1	10095K97	31.05
(7) 25 ft. Lg.	1	10095K14	144.96
(7) 50 ft. Lg.	1	10095K55	289.92

	Orifice Size	Pkg. Qty.		Pkg.
Nozzles—*Color is orange.*				
(8) Round	1/16″ Dia.	4	10095K17	$4.35
(8) Round	1/8″ Dia.	4	10095K21	4.35
(8) Round	1/4″ Dia.	4	10095K24	4.35
(9) 90° Round	1/16″ Dia.	4	10095K112	6.08
(9) 90° Round	1/8″ Dia.	4	10095K57	6.08
(9) 90° Round	1/4″ Dia.	4	10095K58	6.08
(10) 3/4″ 90° Spray Bar	3/32″ Dia. (6 holes)	2	10095K1	6.59
(11) 7/16″ Flat	1/16″ Ht. × 7/16″ Wd.	4	10095K83	6.97
(12) 7/16″ Flat	1/16″ Dia. (5 holes)	4	10095K84	6.97
(12) 1″ Flat	3/64″ Dia. (7 holes)	4	10095K114	6.97

	Orifice Size	Pkg. Qty.		Pkg.
Nozzles—*Color is orange. (Cont.)*				
(13) 1″ Flat	1/16″ Ht. × 61/64″ Wd.	2	10095K26	$6.59
(14) 1″ Flat	3/64″ Ht. × 1″ Wd.	2	10095K77	6.59
(15) 1 1/2″ Swivel	3/64″ Dia. (16 holes)	2	10095K59	9.75
(15) 1 17/32″ Swivel	1/16″ Dia. (16 holes)	2	10095K61	9.75
(15) 2 1/2″ Swivel	5/64″ Dia. (20 holes)	2	10095K66	10.31
Circular Nozzle Assembly—*Color is orange.*				
(16) 3 5/8″ Dia.	5/64″ Dia.	1	10095K71	19.57

	Pkg. Qty.		Pkg.
Inline Connectors—*Color is orange.*			
(17) Double Socket Inline	4	10095K43	$4.85
(18) 90° Elbow Inline	2	10095K48	6.08
(19) Wye Inline	2	10095K35	6.59
(20) Tee Inline	2	10095K91	7.30
Inline Valves—*Style 23 is blue and orange; Style 24 is orange.*			
(23) Inline	2	10095K52	10.98
(24) Inline Check	2	10095K69	10.98
End Cap—*Color is orange.*			
(25) End Cap	4	10095K113	4.35
Motion-Reducing Extension—*Color is blue and orange.*			
(26) 3 11/16″ Lg.	4	10095K85	14.67

	Overall Size, Ht. × Wd. × Dp.		Each
Manifolds—*Style 27 is blue and orange; Style 28 is blue.*			
(27) Bracket Mount	1 13/16″ Ht. × 4 1/4″ × 1″	10095K62	$14.67
(28) Magnetic Base	1 3/16″ Ht. × 2 1/8″ Dia.	10095K49	32.11

		Each
Assembly Pliers—*Color is blue.*		
(29) Assembly Pliers	10095K41	$12.22

(Continued on following page)

Loc-Line Any-Which-Way Coolant Hose *(Continued from previous page)*

½″ ID (0.98″ OD)—Max. pressure is 20 psi. Max. flow rate is 478 gph.

	Connectors, NPT Male	Nozzles, Orifice Dia.		Each
Hose Assembly—*Color is blue and orange.*				
(1) 13″ Lg.	⅜″, ½″	¼″, ⅜″, ½″	10095K12	$9.87

	Pkg. Qty.		Pkg.
Coolant Supply Connectors—*Color is orange.*			
(2) ⅜″ NPT Male	4	10095K32	$4.97
(2) ⅜″ BSPT Male	4	10095K132	4.97
(2) ½″ NPT Male	4	10095K33	4.97
(2) ½″ BSPT Male	4	10095K115	4.97
(4) ⅜″ Flare Nut, ⅝″-18 SAE Female	4	10095K89	6.79
Coolant Supply Valves—*Color is blue and orange.*			
(5) ½″ NPT Male	2	10095K53	13.43
(6) ½″ NPT Female	2	10095K94	13.43
Hose—*Color is blue.*			
(7) 1 ft. Lg.	1	10095K45	8.00
(7) 5 ft. Lg.	1	10095K98	39.58
(7) 25 ft. Lg.	1	10095K15	171.72
(7) 50 ft. Lg.	1	10095K56	343.43

Orifice Size		Pkg. Qty.		Pkg.
Nozzles—*Color is orange.*				
(8) Round	¼″ Dia.	4	10095K18	$4.97
(8) Round	⅜″ Dia.	4	10095K22	4.97
(8) Round	½″ Dia.	4	10095K25	4.97
(9) 90° Round	¼″ Dia.	4	10095K131	6.91
(9) 90° Round	⅜″ Dia.	4	10095K4	6.92
(9) 90° Round	½″ Dia.	4	10095K5	6.92
(10) 1¾″ 90° Spray Bar	11⁄64″ Dia. (8 holes)	2	10095K3	7.42
(11) 45⁄64″ Flat	5⁄64″ Ht. × 45⁄64″ Wd.	4	10095K6	7.80
(11) 45⁄64″ Flat	⅛″ Ht. × 45⁄64″ Wd.	4	10095K116	7.80
(12) 45⁄64″ Flat	1⁄16″ Dia. (7 holes)	4	10095K134	7.80
(12) 45⁄64″ Flat	⅛″ Dia. (5 holes)	4	10095K7	7.80

Orifice Size		Pkg. Qty.		Pkg.
Nozzles—*Color is orange. (Cont.)*				
(13) 11⁄4″ Flat	11⁄64″ Ht. × 11⁄4″ Wd.	2	10095K67	$7.42
(13) 2½″ Flat	7⁄64″ Ht. × 229⁄64″ Wd.	2	10095K27	8.54
(14) 11⁄4″ Flat	3⁄16″ Ht. × 11⁄8″ Wd.	2	10095K78	7.42
(14) 15⁄8″ Flat	⅛″ Ht. × 15⁄8″ Wd.	2	10095K79	8.54
(15) 2½″ Swivel	5⁄64″ Dia. (20 holes)	2	10095K68	10.88
Circular Nozzle Assembly—*Color is orange.*				
(16) 4½″ Dia.	9⁄64″ Dia.	1	10095K72	22.02

	Pkg. Qty.		Pkg.
Inline Connectors—*Color is orange.*			
(17) Double Socket Inline	4	10095K46	$5.53
(18) 90° Elbow Inline	2	10095K47	6.92
(19) Wye Inline	2	10095K36	7.42
(20) Tee Inline	2	10095K92	8.13
(21) ½″ × ¼″ Inline Reducer	2	10095K38	5.46
(22) ½″ × ¼″ Wye Inline Reducer	2	10095K96	7.42
Inline Valves—*Style 23 is blue and orange; Style 24 is orange.*			
(23) Inline	2	10095K54	13.43
(24) Inline Check	2	10095K2	13.43
End Cap—*Color is orange.*			
(25) End Cap	4	10095K133	4.97
Motion Reducing Extension—*Color is blue and orange.*			
(26) 311⁄16″ Lg.	4	10095K86	15.51

	Overall Size Ht.	Wd.	Dp.		Each
Manifold—*Color is blue and orange.*					
(27) Bracket Mount	2⅛″	6″	1¼″	10095K63	$15.41

		Each
Assembly Pliers—*Color is blue.*		
(29) Assembly Pliers	10095K44	$12.22

¾″ ID (1.23″ OD)—Max. pressure is 10 psi. Max. flow rate is 1,140 gph.

	Connector, NPT Male	Nozzles, Orifice Dia.		Each
Hose Assembly—*Color is blue and orange.*				
(1) 14″ Lg.	¾″	⅝″, ¾″	10095K13	$12.22

	Pkg. Qty.		Pkg.
Coolant Supply Connectors—*Color is orange.*			
(2) ¾″ NPT Male	4	10095K34	$6.08
(2) ¾″ BSPT Male	4	10095K135	6.08
Coolant Supply Valves—*Color is blue and orange.*			
(5) ¾″ NPT Male	1	10095K73	7.42
(6) ¾″ NPT Female	1	10095K74	7.42
Hose—*Color is blue.*			
(7) 1 ft. Lg.	1	10095K81	9.26
(7) 5 ft. Lg.	1	10095K99	43.48
(7) 25 ft. Lg.	1	10095K16	200.71

Orifice Size		Pkg. Qty.		Pkg.
Nozzles—*Color is orange.*				
(8) Round	⅝″ Dia.	4	10095K19	$6.08
(8) Round	¾″ Dia.	4	10095K23	6.08
(13) 3″ Flat	3⁄16″ Ht. × 3″ Wd.	2	10095K28	9.75

	Pkg. Qty.		Pkg.
Inline Connectors—*Color is orange.*			
(17) Double Socket Inline	4	10095K82	$6.74
(18) 90° Elbow Inline	2	10095K76	7.92
(19) Wye Inline	2	10095K37	9.75
(21) ¾″ × ½″ Inline Reducer	2	10095K39	6.69
(22) ¾″ × ½″ Wye Inline Reducer	2	10095K95	9.75
Inline Valves—*Color is blue and orange.*			
(23) Inline	1	10095K75	7.42

		Each
Assembly Pliers—*Color is blue.*		
(29) Assembly Pliers	10095K65	$15.56

Cold-Air Coolant Guns

Replace messy mist systems and eliminate the need to clean coolant off your parts. Cold-air guns convert your filtered shop air into a stream of cold air using a vortex tube. Guns have no moving parts and need no electricity to provide a continuous cold air supply. All have a magnetic base. Guns require 80 to 100 psi air pressure and use 15 scfm @ 100 psi.

Standard guns produce air 50° F below the shop air you're using. Vortex tube is stainless steel with an aluminum housing. Any-Which-Way flexible acetal hose, cone nozzle, flat fan nozzle, and filter separator are included. Air inlet connection is ¼″ NPT male.

With the *dual-hose model*, you will get an additional cone nozzle and flat fan nozzle.

Adjustable guns produce air as cold as 100° F below the shop air you're using. Adjust cooling temperature using the knob on the back of the unit. Vortex tube and housing are aluminum. Any-Which-Way flexible acetal hose, cone nozzle, and 5-micron auto-drain filter are included. Air inlet connection is ¼″ NPT female.

With the *dual-hose model*, you will get an additional cone nozzle.



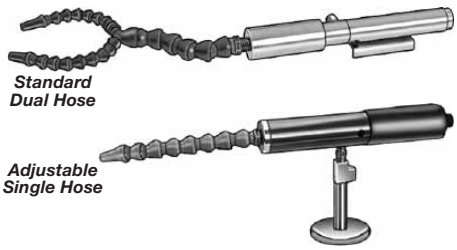

	Gun Size Dia.	Lg.	Hose Lg.		
Standard					
Single Hose	1½″	10″	11″	1382K12	$328.00
Dual Hose	1½″	10″	11″	1382K22	344.98
Adjustable					
Single Hose	1¾″	10⅝″	8½″	11215K42	403.16
Dual Hose	1¾″	10⅝″	9″	11215K52	425.26

Coolant Hose

For coolants, see page 2206. For information about Any-Which-Way coolant hose, see page 2228.

Snap-Loc Any-Which-Way Coolant Hose

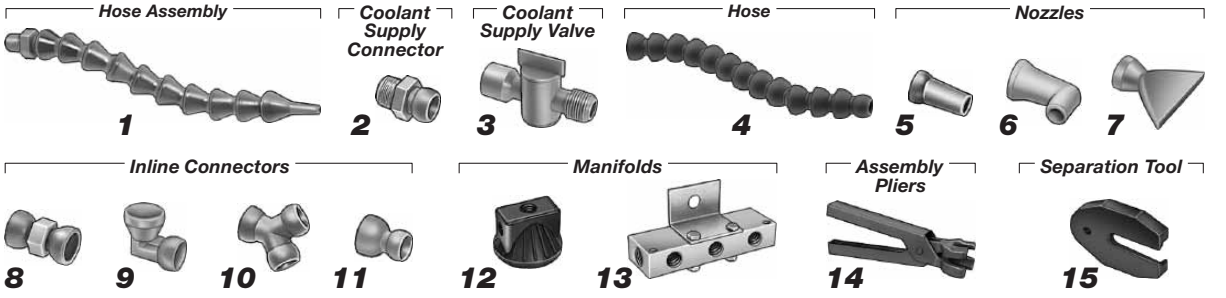

Custom build your own system to deliver coolant, cutting oils, water, and air in almost any direction. Once in position, hose stays put—there's no spring back or wandering caused by vibration. Made of acetal, unless otherwise indicated or noted. Maximum operating temperature is 200° F.

(1) Hose assemblies have a hose, connectors, and round nozzles.

(12) Magnetic-base manifold has one inlet, one outlet, and a 38-lb. holding force. It also has 1/4″ NPT female connections. Expand with ***(10) wye inline connectors*** (sold separately).

(13) Bracket-mount manifold has ports for two 1/2″ NPT male and three 3/8″ NPT male connectors. Bracket is zinc-plated steel and has four 1/4″ mounting holes (fasteners included).

(14) Assembly pliers make it easier to connect your Any-Which-Way coolant hose to the components.

(15) Separation tool makes it easier to disconnect the components from your Any-Which-Way coolant hose.

1/4″ ID (0.63″ OD)—Max. pressure is 39 psi. Max. flow rate is 240 gph. Components indicated with a ▲ are made of polypropylene.

	Connectors, NPT Male	Nozzles, Orifice Dia.		Each
Hose Assembly—*Color is gray.*				
(1) 13″ Lg.	1/8″, 1/4″	1/16″, 1/8″, 1/4″	5307K76	$10.39

	Pkg. Qty.		Pkg.
Coolant Supply Connectors—*Color is gray.*			
(2) 1/8″ NPT Male	4	5307K37	$5.79
(2) 1/4″ NPT Male	4	5307K38	5.79
Coolant Supply Valve—*Color is black.*			
(3) 1/4″ NPT Female x 1/4″ NPT Male	1	5307K19	9.23
Hose—*Color is gray.*			
(4) 1 ft. Lg.	1	5307K49	8.50
(4) 5 ft. Lg.	1	5307K61	34.85
(4) 25 ft. Lg.	1	5307K14	174.23

	Orifice Size	Pkg. Qty.		Pkg.
Nozzles—*Color is gray.*				
(5) Round	1/16″ Dia.	4	5307K21▲	$5.79
(5) Round	1/8″ Dia.	4	5307K22▲	5.79
(5) Round	1/4″ Dia.	4	5307K23▲	5.79

	Orifice Size	Pkg. Qty.		Pkg.
Nozzles—*Color is gray. (Cont.)*				
(6) 90° Round	1/8″ Dia.	2	5307K13▲	$6.06
(6) 90° Round	1/4″ Dia.	2	5307K17▲	6.01
(7) 1″ Flat	3/64″ Ht. x 15/16″ Wd.	2	5307K77▲	8.50

	Pkg. Qty.		Pkg.
Inline Connectors—*Color is gray.*			
(8) Double Socket Inline	2	5307K42	$9.84
(9) 90° Elbow Inline	2	5307K43	7.30
(10) Wye Inline	2	5307K62	8.71

	Overall Size Dia.	Ht.		Each
Manifold—*Color is black.*				
(12) Magnetic Base	2 1/2″	1 3/4″	5307K51▲	$37.28

		Each
Accessories—*Color is black.*		
(14) Assembly Pliers	5307K41	$17.11
(15) Separation Tool	5307K65	8.43

1/2″ ID (1.04″ OD)—Max. pressure is 19 psi. Max. flow rate is 480 gph. Components indicated with a ▲ are made of polypropylene.

	Connectors, NPT Male	Nozzles, Orifice Dia.		Each
Hose Assembly—*Color is gray.*				
(1) 13″ Lg.	3/8″, 1/2″	1/4″, 3/8″, 1/2″	5307K86	$11.90

	Pkg. Qty.		Pkg.
Coolant Supply Connectors—*Color is gray.*			
(2) 3/8″ NPT Male	4	5307K47	$6.01
(2) 1/2″ NPT Male	4	5307K48	6.01
Coolant Supply Valve—*Color is black.*			
(3) 1/2″ NPT Female x 1/2″ NPT Male	1	5307K25	10.78
Hose—*Color is gray.*			
(4) 1 ft. Lg.	1	5307K46	10.07
(4) 5 ft. Lg.	1	5307K66	40.85
(4) 25 ft. Lg.	1	5307K15	204.42

	Orifice Size	Pkg. Qty.		Pkg.
Nozzles—*Color is gray.*				
(5) Round	1/4″ Dia.	4	5307K27▲	$6.01
(5) Round	3/8″ Dia.	4	5307K28▲	6.01

	Orifice Size	Pkg. Qty.		Pkg.
Nozzles—*Color is gray. (Cont.)*				
(5) Round	1/2″ Dia.	4	5307K29▲	$6.01
(7) 2″ Flat	1/8″ Ht. x 2 3/32″ Wd.	2	5307K87▲	10.07

	Pkg. Qty.		Pkg.
Inline Connectors—*Color is gray.*			
(8) Double Socket Inline	2	5307K45	$11.28
(9) 90° Elbow Inline	2	5307K52	8.17
(10) Wye Inline	2	5307K63	10.07
(11) 1/2″ x 1/4″ Inline Reducer	2	5307K91	6.76

	Overall Size Ht.	Wd.	Dp.		Each
Manifold—*Color is white.*					
(13) Bracket Mount	1 3/4″	5 1/2″	1″	5307K57	$29.21

		Each
Accessories—*Color is black.*		
(14) Assembly Pliers	5307K44	$17.11
(15) Separation Tool	5307K67	11.22

3/4″ ID (1.23″ OD)—Max. pressure is 9 psi. Max. flow rate is 1,080 gph. Components indicated with a ▲ are made of polypropylene.

	Connector, NPT Male	Nozzle, Orifice Dia.		Each
Hose Assembly—*Color is gray.*				
(1) 12″ Lg.	3/4″	5/8″	5307K96	$14.82

	Pkg. Qty.		Pkg.
Coolant Supply Connectors—*Color is gray.*			
(2) 3/4″ NPT Male	4	5307K53	$7.36
Hose—*Color is gray.*			
(4) 1 ft. Lg.	1	5307K78	12.30
(4) 5 ft. Lg.	1	5307K68	56.37

	Orifice Size	Pkg. Qty.		Pkg.
Nozzles—*Color is gray.*				
(5) Round	5/8″ Dia.	4	5307K34	$7.36
(7) 3″ Flat	1/8″ Ht. x 2 29/32″ Wd.	2	5307K88▲	11.80

	Pkg. Qty.		Pkg.
Inline Connectors—*Color is gray.*			
(10) Wye Inline	2	5307K64	$11.80
(11) 3/4″ x 1/2″ Inline Reducer	2	5307K92	8.06

		Each
Accessory—*Color is black.*		
(15) Separation Tool	5307K69	$14.01

For coolants, see page 2206. For information about Any-Which-Way coolant hose, see page 2228.

Loc-Line Acid-Resistant Any-Which-Way Coolant Hose

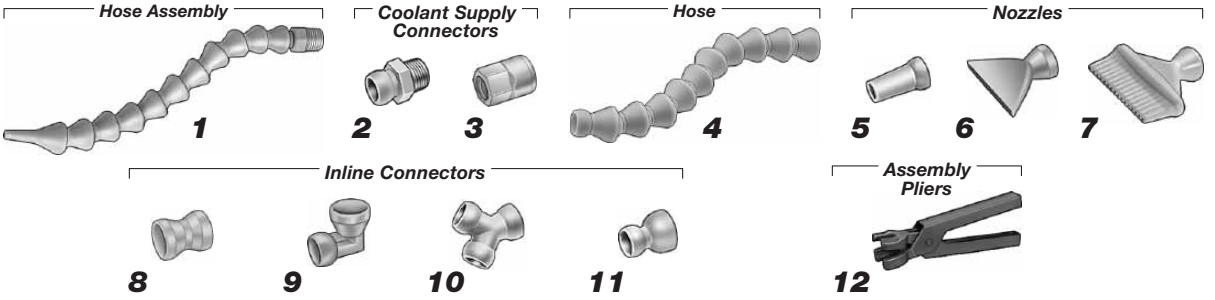

Alcohols, aromatic solvents, gasoline, grease, hydrocarbons, oil, salt solutions, and acids are no problem for this polyester hose. Custom build your own system to deliver coolant, cutting oils, water, and air in almost any direction. Once in position, hose stays put—there's no spring back or wandering caused by vibration. Maximum operating temperature is 180° F.

(1) Hose assemblies have a hose, connectors, and round nozzles.

(12) Assembly pliers make it easier to connect your Any-Which-Way coolant hose to the components.

1/4" ID (0.64" OD)—Max. pressure is 30 psi. Max. flow rate is 250 gph.

	Connectors, NPT Male	Nozzles, Orifice Dia.		Each
Hose Assembly—*Color is yellow.*				
(1) 13" Lg.	1/8", 1/4"	1/16", 1/8", 1/4"	1261K11	$11.09

	Pkg. Qty.		Pkg.
Coolant Supply Connectors—*Color is yellow.*			
(2) 1/8" NPT Male	4	1261K29	$5.52
(2) 1/4" NPT Male	4	1261K31	5.52
(3) 1/8" NPT Female	4	1261K61	6.99
Hose—*Color is yellow.*			
(4) 1 ft. Lg.	1	1261K42	8.28
(4) 5 ft. Lg.	1	1261K65	39.83
(4) 25 ft. Lg.	1	1261K14	182.52

	Orifice Size	Pkg. Qty.		Pkg.
Nozzles—*Color is yellow.*				
(5) Round	1/16" Dia.	4	1261K17	$5.52
(5) Round	1/8" Dia.	4	1261K21	5.52
(5) Round	1/4" Dia.	4	1261K24	5.52
Nozzles—*Color is yellow. (Cont.)*				
(6) 1" Flat	3/64" Ht. × 1" Wd.	2	1261K26	$8.28
(7) 1 5/8" Swivel	3/64" Dia. (16 holes)	2	1261K63	11.83
(7) 1 5/8" Swivel	1/16" Dia. (16 holes)	2	1261K64	11.83

	Pkg. Qty.		Pkg.
Inline Connectors—*Color is yellow.*			
(8) Double Socket Inline	4	1261K43	$5.86
(9) 90° Elbow Inline	2	1261K48	7.66
(10) Wye Inline	2	1261K35	8.28

		Each
Assembly Pliers—*Color is blue.*		
(12) Assembly Pliers	10095K41	$12.22

1/2" ID (0.98" OD)—Max. pressure is 20 psi. Max. flow rate is 478 gph.

	Connectors, NPT Male	Nozzles, Orifice Dia.		Each
Hose Assembly—*Color is yellow.*				
(1) 13" Lg.	3/8", 1/2"	1/4", 3/8", 1/2"	1261K12	$12.45

	Pkg. Qty.		Pkg.
Coolant Supply Connectors—*Color is yellow.*			
(2) 3/8" NPT Male	4	1261K32	$6.25
(2) 1/2" NPT Male	4	1261K33	6.25
Hose—*Color is yellow.*			
(4) 1 ft. Lg.	1	1261K45	9.35
(4) 5 ft. Lg.	1	1261K68	46.19
(4) 25 ft. Lg.	1	1261K15	216.89
(4) 50 ft. Lg.	1	1261K56	433.77

	Orifice Size	Pkg. Qty.		Pkg.
Nozzles—*Color is yellow.*				
(5) Round	1/4" Dia.	4	1261K18	$6.25
(5) Round	3/8" Dia.	4	1261K22	6.25
(5) Round	1/2" Dia.	4	1261K25	6.25
(6) 1 1/4" Flat	11/64" Ht. × 1 1/4" Wd.	2	1261K27	9.35

	Pkg. Qty.		Pkg.
Inline Connectors—*Color is yellow.*			
(9) 90° Elbow Inline	2	1261K47	$7.66
(10) Wye Inline	2	1261K36	9.01
(11) 1/2" × 1/4" Inline Reducer	2	1261K38	6.67

		Each
Assembly Pliers—*Color is blue.*		
(12) Assembly Pliers	10095K44	$12.22

Mist Coolant Dispensers and Dust Removers



You get two air-powered tools in one—a mist coolant dispenser to dissipate heat from short and intermittent machine cycles, plus a dust and shavings remover. Press the lever to stop the coolant flow and start a high-velocity stream of air. Designed for use with oil- and water-based coolants, dispensers include a 6-ft. long siphon line, a flexible plastic coolant hose with medium-spray aluminum nozzle, and a magnetic mounting base. Coolant reservoirs are not included. Air inlet is 1/4" NPT female. Pressure range is 12 to 100 psi.

Dispenser with 12" Hose Assembly	1333K11	$147.17
Dispenser with 20" Hose Assembly	1333K12	149.85
Replacement 12" Hose Assembly	1333K24	33.40
Replacement 20" Hose Assembly	1333K26	37.90
Replacement Medium-Spray Aluminum Nozzle	1333K43	50.25
Optional Fine-Spray Aluminum Nozzle	1333K41	50.25
Optional Coarse-Spray Aluminum Nozzle	1333K45	50.25

Reservoir Fluid Extractors



To make it easy to empty reservoirs and tanks, pair your compressed air with the powerful venturi vacuum of this extractor. It's made of durable, chemical-resistant polyethylene to handle a variety of coolants, gear oil, engine oil, and brake fluids. Extractor has an automatic shut-off to prevent overfilling, a separate air shut-off valve, and a quick-drain pour spout.

Furnished with 0.23" OD × 5-ft. long, 0.26" OD × 5-ft. long, and 0.41" OD × 5-ft. long tubing with tubing adapters. You'll also get a brake/clutch bleeding kit to vacuum bleed hydraulic braking systems. Reservoir capacity is 2.3 gallons. Overall size is 25 1/2" Ht. × 13" Wd. × 9 1/2" Dp. Air inlet is 1/4" NPT female. Pressure range is 60 to 120 psi. Maximum operating temperature is 175° F.

3391T1		$175.48

Adjustable Coolant Nozzles

Position these nozzles in a variety of ways for flexibility as your coolant-placement needs change.

Ball Socket Connection

Designed to fit into the sockets found on CNC (computer numerical control) machines.

Nozzles with Bendable Extension Tube— Made of brass, these nozzles have a 6″ long copper extension tube that can be cut to any length and bent in any direction. Temperature range is –40° to +300° F. Maximum pressure is 500 psi.

Extended Nozzles— Body is plastic; ball is stainless steel. Temperature range is –40° to +160° F. Maximum pressure is 150 psi.

Adapters— Install these plastic adapters in an open socket in your machine. They allow you to use Loc-Line coolant hose or threaded coolant nozzles with your machine. Temperature range is –40° to +160° F. Maximum pressure is 150 psi.









Nozzles with Bendable Extension Tube				Extended Nozzles				¼″ Loc-Line Adapters				⅛″ NPT/BSPT Adapters			
Socket Dia.	Orifice Dia.	Lg.	Each ♦	Orifice Dia.	Lg.		Each ♦	Orifice Dia.	Lg.		Each ♦	Orifice Dia.	Lg.		Each ♦
10 mm	0.12″	6″	2851K25	$11.65											
12 mm	0.18″	6″	2851K27	12.23	0.11″	1.1″	2851K21	$13.43	0.25″	0.67″	2851K52	$7.27	0.25″	0.91″	2851K54	$7.56
14 mm	0.18″	6″	2851K11	12.43	0.16″	1.2″	2851K22	13.43	0.25″	0.76″	2851K32	8.05	0.25″	0.38″	2851K55	7.27
15 mm	0.18″	6″	2851K13	12.43	0.16″	1.2″	2851K24	13.43	0.25″	0.81″	2851K33	8.24	0.25″	0.43″	2851K34	7.66
½″	0.18″	6″	2851K16	12.43	0.16″	1.1″	2851K51	13.44	0.25″	0.71″	2851K53	7.27	0.25″	0.94″	2851K56	7.56

♦ Prices are 10% less when you order in quantities of five or more.

Press-In



Nozzles— Just press these nozzles into a hole that has been drilled and reamed. Body is plastic; ball is stainless steel. Temperature range is –40° to +160° F. Maximum pressure is 150 psi.

Fits Hole Size Dia.	Dp.	Orifice Dia.	Extension Threads		Each ♦
12 mm	10.5 mm	5 mm	M5 × 0.8	9027T1	$10.24
15 mm	9 mm	6 mm	M6 × 1.0	9027T3	11.42

♦ Prices are 10% less when you order in quantities of five or more.



Optional Extension Tubes— Use these brass tubes to extend the reach of press-in nozzles.

Thread	Lg.	ID		1-4	5-Up
M5 × 0.8	40 mm	3 mm	9027T4	$5.18	$4.75
M6 × 1.0	50 mm	4 mm	9027T5	5.50	5.05

Pipe Thread Connection



Standard



Adjustable Flow with Extension Tube



High Pressure with Extension Tube

Nozzles rotate 360°. Threads are male and fit NPT and BSPT pipe threads. Temperature range is –40° to +160° F.

Standard— Body is plastic; ball is stainless steel.

Adjustable Flow— Twist to adjust from shutoff to a fine mist or to a direct stream. Made of plastic.

High Pressure— Produce a high-velocity stream of coolant for your high-pressure systems. Body is brass with a stainless steel tip.

Pipe Size	Orifice Dia.	Lg.	Wd.	Extension Tube Lg. (A)		Each ♦
Standard— *Max. pressure is 150 psi.*						
⅛″	0.11″	0.82″	0.63″	—	3177K1	$11.75
¼″	0.16″	0.94″	0.75″	—	3177K2	12.43
⅜″	0.22″	1.13″	0.88″	—	3177K3	13.76
Standard with Extension Tube— *Max. pressure is 150 psi.*						
⅛″	0.16″	0.82″	0.63″	0.50″	3177K12	16.68
⅛″	0.16″	0.82″	0.63″	1.25″	3177K14	18.68
¼″	0.16″	0.94″	0.75″	1.25″	3177K22	19.36
Adjustable Flow with Extension Tube— *Max. pressure is 100 psi.*						
⅛″	0.16″	1.50″	0.87″	1.70″	3177K4	34.39
¼″	0.16″	1.50″	0.87″	1.70″	3177K5	34.39
High Pressure with Extension Tube— *Max. pressure is 1,500 psi.*						
⅛″	0.09″	0.81″	0.56″	0.25″	3177K25	34.03
⅛″	0.12″	0.81″	0.56″	1.25″	3177K34	36.88

♦ Prices are 10% less when you order in quantities of five or more.

Air-Powered Mist Coolant Dispensers



Shown with Optional Magnetic Nozzle Holder





When you need to cool short or intermittent machine cycles efficiently, use a mist of coolant. Coolant reservoirs are not included.

(A&B) For Water-Based Coolants— *Style A* includes a 4-ft. long siphon line, a 2-ft. long plastic coolant hose with 4″ long brass nozzle, and coolant. Air inlet is ⅛″ NPT female. Mount dispenser to your equipment by using the two 3⁄32″ dia. mounting holes (fasteners not included) or by using the *optional magnetic nozzle holder* (sold separately).

Style B has a 7-ft. long siphon line and magnetic base for easy mounting. Nozzle is 7″ long flexible plastic and stays in place once positioned. Air inlet is ⅛″ NPT female.

(C) For Water- and Oil-Based Coolants— Separate air and liquid controls plus a built-in regulator allow more accurate mixtures. Dispenser has a 10-ft. long siphon line and magnetic base for easy mounting. Nozzle is 13″ long flexible plastic and stays in place once positioned. Air inlet is ¼″ NPT male quick-disconnect.

	For Coolant Type	Nozzle Style	Required Air Pressure		
A	Water Based	45°	30 to 120 psi	1186K17	$71.11
B	Water Based	Any-Which-Way	50 to 100 psi	1046K18	90.43
C	Water Based and Oil Based	Any-Which-Way	10 to 50 psi	10445K34	199.74
Replacement 2-ft. Hose Assembly for Style A				1186K52	36.30
Replacement Brass Nozzle Tip and O-Ring for Style A				1186K56	14.52
Optional Magnetic Nozzle Holder for Style A				1131K23	33.88
Optional 4-ft. Hose Assembly for Style A				1186K54	39.93

Air-Powered Mist Coolant Dispensers with Reservoir

Disperse heat from short machine cycles and avoid waste with a mist of coolant. These dispensers include hose, nozzles, and adjustable air and coolant controls.

(A) Plastic Reservoir— Use with water-based coolants. These dispensers have a 5-ft. long brass coolant hose with 6″ long straight brass nozzle, unless noted. Inlet is 1/4″ NPT female. Required air pressure is 50 to 100 psi. All include coolant and a mounting bracket with two 5/16″ dia. mounting holes (fasteners not included).

1-qt. reservoirs have a sight gauge. *1-gal. reservoirs* have a liquid level gauge.

Also Available: Repl. parts. Please ask for 1324K83 and specify parts needed.

(B&C) Steel Reservoir— Use with water- and oil-based coolants. These dispensers have a 4-ft. long plastic coolant hose encased in a stainless steel braid. Inlet is 1/8″ NPT female. Required air pressure is 30 to 125 psi. All include coolant and a mounting bracket with two 3/16″ dia. mounting holes (fasteners not included).

Style B reservoirs have a 12″ long Any-Which-Way flexible plastic nozzle with 3″ long stainless steel tip. *Style C reservoirs* have a low-coolant indicator, a 3″ long stainless steel straight nozzle and a magnetic nozzle base.

Also Available: Repl. parts. Please ask for 1199K92 and specify parts needed.

(D) Stainless Steel Reservoir— Use with water-based coolants. These dispensers have a 4-ft. long plastic coolant hose with 6″ long, 45° brass nozzle (unless noted) and a magnetic nozzle base. Inlet is 1/8″ NPT female. Required air pressure is 30 to 120 psi.

Install the *optional on/off air switch* in your air-supply line to save energy and reduce waste.

Also Available: Repl. parts. Please ask for 1131K93 and specify parts needed.

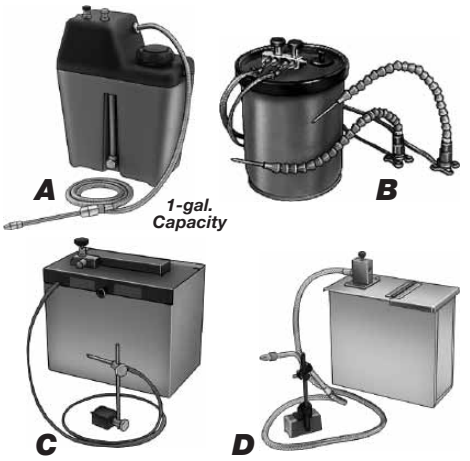

Cap.	No. of Coolant Hoses	Nozzle Lg.	Overall Size, Ht. × Wd. × Dp.		
Plastic Reservoir					
A 1 qt.	1	6″	8½″ × 5¼″ × 4″	1324K52★	$160.60
A 1 qt.	1	6″	8½″ × 5¼″ × 4″	1324K73▲	178.98
A 1 gal.	1	6″	12¼″ × 10″ × 5¼″	1324K86	292.21
A 1 gal.	2	6″	12¼″ × 10″ × 5¼″	1324K34	300.92
Steel Reservoir					
B 1 gal.	1	3″	10″ × 7″ Dia.	1199K31	157.99
B 1 gal.	2	3″	10″ × 7″ Dia.	1199K32	234.72
C 2 gal.	1	3″	8″ × 10″ × 6″	1199K1	257.29
C 2 gal.	2	3″	8″ × 10″ × 6″	1199K2	315.28
C 2 gal.	4	3″	8″ × 10″ × 6″	1199K4	428.82

★ Coolant hose is polyurethane.
▲ Has an Any-Which-Way flexible plastic nozzle with 1 1/4″ long brass tip.

Cap.	No. of Coolant Hoses	Nozzle Lg.	Overall Size, Ht. × Wd. × Dp.		
Stainless Steel Reservoir					
D 1 gal.	1	6″	10¾″ × 7¾″ × 3½″	1131K14	$177.25
D 1 gal.	1	12″	10¾″ × 7¾″ × 3½″	1131K16▲	205.91
D 1 gal.	2	6″	10¾″ × 7¾″ × 3½″	1131K18	249.81
D 3 gal.	2	6″	13¾″ × 8⅝″ × 6″	1131K19	263.08
Accessories					
45° Stainless Steel Nozzle (3″ long) for Styles B & C				1199K61	54.00
On/Off Air Switch for Style D				1131K21	48.40

Precision-Control Air-Powered Droplet Coolant Dispenser with Reservoir

Deliver a small, controlled amount of coolant, reducing disposal costs while improving the finish of your work. Use with synthetic and vegetable-based coolants (each sold separately).

Dispenser comes with two 6-ft. plastic delivery hoses and two 18″ long, Any-Which-Way flexible plastic nozzles, each with a brass tip and magnetic base. Reservoir is plastic and has a capacity of 16 oz. Easy-to-set knobs give you precise control of both the air flow and the number of droplets per minute (2 to 16) for each coolant hose.

Dispenser measures 7 1/16″ Ht. × 10 1/16″ Wd. × 7 1/16″ Dp.; operates on 120 VAC, 60 Hz (0.06 amp draw); and has a 6-ft. power cord with three-prong plug. Mount using the two 11/32″ dia. holes (fasteners not included) or the *optional magnetic mounting kit*, which is the choice if you will be moving the unit from one machine to another. Inlet is 1/4″ NPT female. Required air pressure is 60 to 125 psi.



Dispenser	10835K23	$891.53
Optional Magnetic Mounting Kit	10835K48	39.17
Synthetic Coolant (1-gal. Container)	10305K16	111.22
Vegetable Coolant (1-gal. Container)	10305K26	114.49

Flooding Coolant Pumps with Reservoir

When longer machine cycles create more heat than a mist can handle, provide a continuous stream of coolant to disperse heat and extend tool life. The reservoir includes a chip collector and baffle (unless noted) to keep fluid clean. All pumps are powered by a 115 VAC, 60 Hz, single-phase motor.

(E) For Low- to Medium-Viscosity Liquids— *1-gallon pump* has 6 ft. of plastic tubing, an adjustable 6″ plastic nozzle, and a 4-ft. power cord with three-prong plug.

5-gallon pumps have 6 ft. of plastic tubing, a flexible 12″ plastic nozzle, a brass control valve, and a 6-ft. power cord with three-prong plug.

10-gallon pump has 4 ft. of rubber tubing, a flexible 12″ plastic nozzle, a brass control valve, and a 6-ft. power cord with three-prong plug.

(F) For High-Viscosity Liquids— Pumps have 4 ft. of rubber tubing, a flexible 15″ steel nozzle, a brass control valve, and an 8-ft. power cord with three-prong plug. They also have a 3/8″ NPT female outlet.





Cap., gal.	Max. Viscosity, SSU	hp	Amps	Overall Size Ht.	Wd.	Dp.	Reservoir Material	Water-Soluble Oil Max. gph @ 1 ft. Head	Shutoff ■		
(E) For Low- to Medium-Viscosity Liquids											
1	100	1/50	1.0	9 3/8″	12″	6″	Plastic	108	11.5 ft.	43085K21●	$158.74
5	100	1/150	1.1	8½″	16 7/8″	11¼″	Plastic	70	10.2 ft.	43085K31	236.57
5	100	1/40	1.7	8½″	16 7/8″	11¼″	Plastic	82	12.3 ft.	43085K32	252.17
5	300	1/15	3.2	8½″	16 7/8″	11¼″	Plastic	500	17.3 ft.	43085K33	295.78
10	300	1/15	3.2	12″	25″	10″	Steel	500	17.3 ft.	43085K41	551.26
(F) For High-Viscosity Liquids											
6	500	1/8	0.7	15″	18″	9½″	Steel	600	14 ft.	4339K14	373.45
10	500	1/8	0.7	16½″	24″	9¾″	Steel	600	14 ft.	4339K15●	515.31

■ Max. height that water-soluble oil can be pumped. ● No baffle.

About Knobs

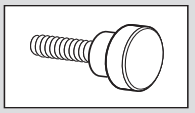

Threaded Stud

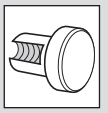

Threaded

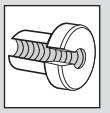

Threaded Through Hole

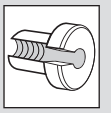

Through Hole with Threaded Insert

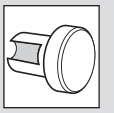

Unthreaded

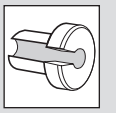

Unthreaded Through Hole

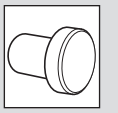

Solid Hub

Knobs provide excellent gripping action for positioning, tightening, and holding fixtures, equipment, and machinery. Because knobs require no tools for adjusting, they're a good alternative to fasteners.

***Knobs with Threaded Stud*—**Ready to install. See pages 2234-2238.

***Knobs with Threaded or Unthreaded Hole*—**Mount to your rod, shaft, or fastener. See pages 2239-2247.

***Knobs with Solid Hub*—**Ready for you to machine to your own specifications. See page 2248.

Knobs with Threaded Stud

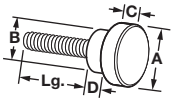









***Easy Clean*—**One-piece construction eliminates joints that can collect dirt and debris. Excellent for food-processing applications.

Thread Size	Lg.	(A)	(B)	(C)	(D)		Each ♦
Round with Knurled Rim							
(1) Zinc-Plated Cast Iron with Steel Stud							
1/4"-20	1 3/4"	1 1/2"	5/8"	3/8"	1/2"	6042K85	$6.80
1/4"-20	3"	1 1/2"	5/8"	3/8"	1/2"	6042K86	7.96
5/16"-18	1 3/4"	2"	3/4"	3/8"	1/2"	6042K87	7.40
5/16"-18	3"	2"	3/4"	3/8"	1/2"	6042K88	8.30
3/8"-16	1 3/4"	2"	3/4"	3/8"	1/2"	6042K89	8.20
3/8"-16	3"	2"	3/4"	3/8"	1/2"	6042K9	9.10
1/2"-13	1 3/4"	2 1/4"	1 1/8"	1/2"	1"	6042K91	14.60
1/2"-13	3"	2 1/4"	1 1/8"	1/2"	1"	6042K92	15.60
5/8"-11	1 3/4"	2 1/4"	1 1/8"	1/2"	1"	6042K93	15.60
5/8"-11	3"	2 1/4"	1 1/8"	1/2"	1"	6042K94	15.90
(1) Black-Oxide Steel with Steel Stud							
10-24	1/2"	3/4"	1/2"	1/4"	3/8"	6079K11	3.95
10-24	1"	3/4"	1/2"	1/4"	3/8"	6079K12	4.10
1/4"-20	3/4"	3/4"	1/2"	1/4"	3/8"	6079K13	4.05
1/4"-20	1 1/4"	3/4"	1/2"	1/4"	3/8"	6079K14	4.13
1/4"-20	1 3/4"	1"	5/8"	1/4"	1/2"	6079K15	4.72
1/4"-28	1 3/4"	1"	5/8"	1/4"	1/2"	6079K32	4.74
5/16"-18	1 3/4"	1"	5/8"	1/4"	1/2"	6079K17	4.72
5/16"-18	1 3/4"	1 1/2"	3/4"	5/16"	11/16"	6079K19	5.90
5/16"-18	3"	1"	5/8"	1/4"	1/2"	6079K18	5.03
5/16"-18	3"	1 1/2"	3/4"	5/16"	11/16"	6079K21	6.08
5/16"-24	1 3/4"	1 1/2"	3/4"	5/16"	11/16"	6079K33	5.59
3/8"-16	1 3/4"	1 1/2"	3/4"	5/16"	11/16"	6079K22	5.90
3/8"-16	1 3/4"	2"	1"	3/8"	3/4"	6079K24	7.15
3/8"-16	3"	1 1/2"	3/4"	5/16"	11/16"	6079K23	6.08
3/8"-16	3"	2"	1"	3/8"	3/4"	6079K25	7.33
3/8"-24	1 3/4"	2"	1"	3/8"	3/4"	6079K34	6.82
1/2"-13	1 3/4"	2"	1"	3/8"	3/4"	6079K26	7.15
1/2"-13	1 3/4"	2 1/2"	1 1/2"	9/16"	15/16"	6079K28	12.13
1/2"-13	3"	2 1/2"	1 1/2"	9/16"	15/16"	6079K29	12.56
1/2"-20	1 3/4"	2 1/2"	1 1/2"	9/16"	15/16"	6079K35	11.54
5/8"-11	1 3/4"	2 1/2"	1 1/2"	9/16"	15/16"	6079K31	12.79
(1) Brass with Type 303 Stainless Steel Stud							
10-24	1"	3/4"	1/2"	1/4"	3/8"	5125K61	5.66
1/4"-20	1 1/4"	3/4"	1/2"	1/4"	3/8"	5125K62	6.06
1/4"-20	1 3/4"	1"	5/8"	1/4"	1/2"	5125K63	8.23
1/4"-28	1 3/4"	1"	5/8"	1/4"	1/2"	5125K64	8.23
5/16"-18	3"	1"	5/8"	1/4"	1/2"	5125K65	10.54
5/16"-18	3"	1 1/2"	3/4"	5/16"	11/16"	5125K66	19.94
5/16"-24	1 3/4"	1 1/2"	3/4"	5/16"	11/16"	5125K67	17.57
3/8"-16	1 3/4"	1 1/2"	3/4"	5/16"	11/16"	5125K68	19.00
3/8"-16	3"	1 1/2"	3/4"	5/16"	11/16"	5125K69	20.60
3/8"-24	1 3/4"	2"	1"	3/8"	3/4"	5125K71	28.51
1/2"-13	1 3/4"	2"	1"	3/8"	3/4"	5125K72	29.26
(1) Type 303 Stainless Steel with Type 303 SS Stud							
10-24	1/2"	3/4"	1/2"	1/4"	3/8"	6091K41	9.25
10-24	1"	3/4"	1/2"	1/4"	3/8"	6091K42	9.25
1/4"-20	3/4"	3/4"	1/2"	1/4"	3/8"	6091K43	8.95
1/4"-20	1 1/4"	3/4"	1/2"	1/4"	3/8"	6091K44	9.67
1/4"-20	1 3/4"	1"	5/8"	1/4"	1/2"	6091K45	11.06
1/4"-28	1 3/4"	1"	5/8"	1/4"	1/2"	6091K61	11.06
5/16"-18	1 3/4"	1"	5/8"	1/4"	1/2"	6091K46	10.47

Thread Size	Lg.	(A)	(B)	(C)	(D)		Each ♦
Round with Knurled Rim (Cont.)							
(1) Type 303 Stainless Steel with Type 303 SS Stud (Cont.)							
5/16"-18	1 3/4"	1 1/2"	3/4"	5/16"	11/16"	6091K48	$12.61
5/16"-18	3"	1"	5/8"	1/4"	1/2"	6091K47	11.13
5/16"-18	3"	1 1/2"	3/4"	5/16"	11/16"	6091K49	13.08
5/16"-24	1 3/4"	1 1/2"	3/4"	5/16"	11/16"	6091K62	12.63
3/8"-16	1 3/4"	1 1/2"	3/4"	5/16"	11/16"	6091K51	13.69
3/8"-16	1 3/4"	2"	1"	3/8"	3/4"	6091K53	16.75
3/8"-16	3"	1 1/2"	3/4"	5/16"	11/16"	6091K52	14.19
3/8"-16	3"	2"	1"	3/8"	3/4"	6091K54	17.14
3/8"-24	1 3/4"	2"	1"	3/8"	3/4"	6091K63	16.75
1/2"-13	1 3/4"	2"	1"	3/8"	3/4"	6091K55	16.75
1/2"-13	1 3/4"	2 1/2"	1 1/2"	9/16"	15/16"	6091K56	28.31
1/2"-13	3"	2 1/2"	1 1/2"	9/16"	15/16"	6091K57	28.31
1/2"-20	1 3/4"	2 1/2"	1 1/2"	9/16"	15/16"	6091K64	28.31
5/8"-11	1 3/4"	2 1/2"	1 1/2"	9/16"	15/16"	6091K58	29.81
(1) Easy-Clean Type 303 Stainless Steel with Type 303 SS Stud							
1/4"-20	1 3/4"	1"	5/8"	1/4"	1/2"	6890K1	14.58
5/16"-18	1 3/4"	1 1/2"	3/4"	5/16"	11/16"	6890K2	17.05
3/8"-16	1 3/4"	2"	1"	3/8"	3/4"	6890K3	21.39
1/2"-13	1 3/4"	2"	1"	3/8"	3/4"	6890K4	21.42
(2) Domed Aluminum with Steel Stud							
1/4"-20	1 3/4"	1"	5/8"	1/2"	7/16"	7762K14	11.86
5/16"-18	1 3/4"	1"	5/8"	1/2"	7/16"	7762K17	12.09
3/8"-16	1 3/4"	2"	1"	11/16"	1/2"	7762K23	17.40
1/2"-13	1 3/4"	2 1/4"	1 1/4"	3/4"	5/8"	7762K26	20.00
(3) Black Nylon w/ Type 302 Stainless Steel Stud *(–15° to +150° F)*							
1/4"-20	3/4"	1"	5/8"	1/4"	1/2"	1373T51	2.80
5/16"-18	3/4"	1 3/4"	1"	5/8"	7/16"	1373T52	6.22
(3) Black Phenolic w/ Type 302 Stainless Steel Stud *(–30° to +400° F)*							
10-32	1/2"	1"	5/8"	3/8"	1/8"	1373T11	3.75
10-32	1/2"	1 1/4"	3/4"	1/2"	1/4"	1373T21	3.95
10-32	1/2"	1 3/4"	1"	1/2"	7/16"	1373T31	4.28
10-32	1"	1"	5/8"	3/8"	1/8"	1373T12	5.67
10-32	1"	1 1/4"	3/4"	1/2"	1/4"	1373T22	5.95
10-32	1"	1 3/4"	1"	1/2"	7/16"	1373T32	6.30
1/4"-20	3/4"	1"	5/8"	3/8"	1/8"	1373T57	2.80
1/4"-20	3/4"	1 1/4"	3/4"	1/2"	1/4"	1373T55	2.65
1/4"-20	3/4"	1 3/4"	1"	1/2"	7/16"	1373T53	2.83
1/4"-20	1 3/8"	1 1/4"	3/4"	1/2"	1/4"	1373T56	2.75
1/4"-20	1 1/2"	1"	5/8"	3/8"	1/8"	1373T58	2.42
5/16"-18	1/2"	1"	5/8"	3/8"	1/8"	1373T15	5.20
5/16"-18	1/2"	1 1/4"	3/4"	1/2"	1/4"	1373T25	5.53
5/16"-18	1/2"	1 3/4"	1"	1/2"	7/16"	1373T35	5.83
5/16"-18	3/4"	1 3/4"	1"	1/2"	7/16"	1373T54	6.47
5/16"-18	1"	1"	5/8"	3/8"	1/8"	1373T16	6.05
5/16"-18	1"	1 1/4"	3/4"	1/2"	1/4"	1373T26	6.35
5/16"-18	1"	1 3/4"	1"	1/2"	7/16"	1373T36	6.75
(4) Black Polypropylene with Steel Stud *(+30° to +190° F)*							
1/4"-20	3/4"	1 1/4"	9/16"	1/2"	3/8"	63625K31	3.43
1/4"-20	3/4"	1 9/16"	11/16"	1/2"	7/16"	63625K32	3.62
5/16"-18	3/4"	1 9/16"	11/16"	1/2"	7/16"	63625K33	3.24
3/8"-16	1"	2"	13/16"	5/8"	1/2"	63625K34	4.98
3/8"-16	1"	2 3/8"	15/16"	13/16"	9/16"	63625K35	5.48

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♦ Prices are 10% lower when you buy in quantities of 10 or more.

Knobs with Threaded Stud *(Continued from previous page)*

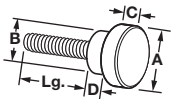


5


6


7


8


9


10


11


12


13


14


15

Thread Size	Lg.	(A)	(B)	(C)	(D)		Each ♦
Round with Knurled Rim							
***(5) Black Polyamide with Steel Stud** (–30° to +200°F)*							
1/4"-20	13/16"	1"	1/2"	7/8"	1/8"	3503K61	$8.64
5/16"-18	19/16"	1 1/4"	5/8"	1 3/16"	1/8"	3503K62	9.74
3/8"-16	19/16"	19/16"	3/4"	1 1/2"	3/16"	3503K63	11.85
1/2"-13	13/16"	2"	15/16"	1 13/16"	3/16"	3503K64	24.92
1/2"-13	2 3/8"	2"	15/16"	1 13/16"	3/16"	3503K65	24.92
***(5) Black Polyamide with Type 303 SS Stud** (–30° to +200°F)*							
1/4"-20	13/16"	1"	1/2"	7/8"	1/8"	3503K58	13.54
5/16"-18	19/16"	1 1/4"	5/8"	1 3/16"	1/8"	3503K59	16.62
3/8"-16	19/16"	19/16"	3/4"	1 1/2"	3/16"	3503K71	19.15
***(6) Black Comfort-Grip Polypropylene w/ Steel Stud** (–60° to +210°F)*							
1/4"-20	1 1/4"	19/16"	3/4"	5/16"	5/16"	6214K44	2.20
1/4"-20	1 1/4"	2"	3/4"	7/16"	3/16"	6214K46	2.40
5/16"-18	17/16"	19/16"	3/4"	5/16"	5/16"	6214K52	2.77
5/16"-18	17/16"	2"	3/4"	7/16"	3/16"	6214K56	3.00
3/8"-16	17/16"	19/16"	3/4"	5/16"	5/16"	6214K65	2.60
3/8"-16	17/16"	2"	3/4"	7/16"	3/16"	6214K72	3.06
3/8"-16	13/4"	19/16"	3/4"	5/16"	5/16"	6214K67	2.91
3/8"-16	13/4"	2"	3/4"	7/16"	3/16"	6214K73	3.66
Round with Fluted Rim							
***(7) Black Phenolic with Steel Stud** (–30° to +400°F)*							
10-24	1/2"	7/8"	5/8"	3/8"	1/8"	6479K71	1.05
10-32	3/8"	7/8"	5/8"	3/8"	1/8"	6479K69	.92
10-32	1/2"	7/8"	5/8"	3/8"	1/8"	6479K32	.80
10-32	3/4"	7/8"	5/8"	3/8"	3/8"	6479K68	.92
10-32	1"	7/8"	5/8"	3/8"	1/4"	6479K79	1.10
1/4"-20	1/2"	1 1/4"	5/8"	3/8"	3/8"	6479K88	1.20
1/4"-20	1/2"	1 3/4"	3/4"	3/8"	3/8"	6479K83	1.55
1/4"-20	9/16"	7/8"	5/8"	3/8"	1/8"	6479K33	.80
1/4"-20	9/16"	1 1/2"	11/16"	3/8"	3/8"	6479K35	1.40
1/4"-20	3/4"	1 1/4"	5/8"	3/8"	3/8"	6479K34	1.07
1/4"-20	1"	7/8"	5/8"	3/8"	3/8"	6479K81	1.10
1/4"-20	1"	1 1/4"	5/8"	3/8"	3/8"	6479K86	1.27
1/4"-20	1"	1 1/2"	11/16"	3/8"	3/8"	6479K92	1.35
1/4"-20	1"	2"	5/8"	11/16"	▲	6479K44	2.38
5/16"-18	1/2"	1 1/4"	5/8"	3/8"	3/8"	6479K91	1.25
5/16"-18	1/2"	1 1/2"	11/16"	3/8"	3/8"	6479K36	1.18
5/16"-18	3/4"	1 3/4"	3/4"	3/8"	3/8"	6479K37	1.43
5/16"-18	1"	7/8"	5/8"	3/8"	1/4"	6479K74	1.07
5/16"-18	1"	2"	5/8"	11/16"	▲	6479K39	2.52
5/16"-18	1"	2 1/2"	1 1/4"	11/16"	5/8"	6479K93	3.15
5/16"-18	1 1/2"	1 3/4"	3/4"	3/8"	3/8"	6479K38	1.48
3/8"-16	1/2"	1 1/4"	5/8"	3/8"	3/8"	6479K89	1.45
3/8"-16	3/4"	2 3/8"	1 3/4"	3/8"	7/16"	6479K23	3.33
3/8"-16	1"	1 1/4"	5/8"	3/8"	3/8"	6479K87	1.48
3/8"-16	1"	2"	5/8"	11/16"	▲	6479K41	2.40
3/8"-16	1"	2 1/2"	1 1/4"	11/16"	5/8"	6479K42	3.33
3/8"-16	1"	3"	1 1/4"	9/16"	5/8"	6479K43	4.95
1/2"-13	1"	2 1/2"	1 1/4"	11/16"	5/8"	6479K22	3.55
1/2"-13	1"	3"	1 1/4"	13/16"	11/16"	6479K24	5.58
***(7) Black Phenolic with Type 302 SS Stud** (–30° to +450°F)*							
10-32	1/2"	1 3/4"	3/4"	3/8"	3/8"	6479K26	4.20
10-32	1"	1 3/4"	3/4"	3/8"	3/8"	6479K27	6.25
1/4"-20	3/4"	1 3/4"	3/4"	3/8"	5/8"	6479K72	2.85
5/16"-18	1/2"	1 3/4"	3/4"	3/8"	3/8"	6479K45	5.80
5/16"-18	1"	1 3/4"	3/4"	3/8"	3/8"	6479K46	6.75
***(8) Black Comfort-Grip Polypropylene w/ Steel Stud** (–15° to +200°F)*							
5/16"-18	1 3/4"	2 1/2"	1 1/4"	11/16"	9/16"	5532T55	4.96
3/8"-16	2"	2 1/2"	1 1/4"	11/16"	9/16"	5532T57	5.32
1/2"-13	1 1/2"	2 1/2"	1 1/4"	11/16"	9/16"	5532T59	5.67
Round High Profile							
***(9) Black Comfort-Grip Polypropylene w/ Steel Stud** (–15° to +210°F)*							
1/4"-20	1"	1 11/16"	15/16"	2"	3/16"	6185K54	2.97
1/4"-20	1"	1 7/8"	1 1/2"	2 1/4"	1/4"	6185K65	5.43
5/16"-18	1 1/2"	1 7/8"	1 1/2"	2 1/4"	1/4"	6185K72	5.70
3/8"-16	1 1/2"	1 11/16"	15/16"	2"	3/16"	6185K59	4.00

▲ No hub projection.

Thread Size	Lg.	(A)	(B)	(C)	(D)		Each ♦
Round High Profile							
***(9) Black Comfort-Grip Polypropylene w/ Steel Stud (Cont.)**							
3/8"-16	1 1/2"	1 7/8"	1 1/2"	2 1/4"	1/4"	6185K74	$5.77
3/8"-16	1 3/4"	1 7/8"	1 1/2"	2 1/4"	1/4"	6185K76	6.00
Two Arm							
***(10) Black Nylon with Steel Stud** (–15° to +150°F)*							
1/4"-20	1"	1 1/8"	1/2"	9/16"	1/8"	65035K14	1.43
5/16"-18	1/2"	2 1/2"	3/4"	5/8"	1/2"	65035K73	2.02
5/16"-18	1"	2 1/2"	3/4"	5/8"	1/2"	65035K16	1.92
5/16"-18	1"	3 1/2"	15/16"	7/8"	1/4"	65035K75	3.02
3/8"-16	1/2"	2 1/2"	3/4"	5/8"	1/2"	65035K74	2.58
3/8"-16	1"	2 1/2"	3/4"	5/8"	1/2"	65035K18	2.08
3/8"-16	1"	3 1/2"	15/16"	7/8"	1/4"	65035K76	3.15
***(10) Black Nylon with Type 302 SS Stud** (–15° to +150°F)*							
5/16"-18	1/2"	2 1/2"	3/4"	5/8"	1/2"	65035K52	6.05
5/16"-18	1"	2 1/2"	3/4"	5/8"	1/2"	65035K55	6.85
3/8"-16	1"	2 1/2"	3/4"	5/8"	1/2"	65035K22	4.90
***(10) Black Phenolic with Steel Stud** (–30° to +400°F)*							
1/4"-20	9/16"	2"	3/4"	5/8"	1/2"	65035K71	1.68
1/4"-20	1"	2"	3/4"	5/8"	1/2"	65035K31	1.65
1/4"-20	1"	2 1/2"	3/4"	5/8"	1/2"	65035K34	1.62
5/16"-18	3/4"	2"	3/4"	5/8"	1/2"	65035K72	1.73
3/8"-16	1"	2"	3/4"	5/8"	1/2"	65035K78	1.95
***(10) Black Phenolic with Type 302 SS Stud** (–30° to +400°F)*							
1/4"-20	3/4"	2"	3/4"	5/8"	1/2"	65035K23	2.90
5/16"-18	1/2"	2"	3/4"	5/8"	1/2"	65035K49	5.95
5/16"-18	1"	2"	3/4"	5/8"	1/2"	65035K53	6.92
3/8"-16	1"	2"	3/4"	5/8"	1/2"	65035K24	4.58
***(10) Black Polypropylene with Steel Stud** (–15° to +125°F)*							
5/16"-18	1/2"	1 1/2"	3/4"	5/8"	1/8"	3708T15	2.58
1/2"-13	1"	3 1/2"	15/16"	7/8"	1/4"	65035K77	3.85
***(11) Black Nylon with Steel Stud** (–15° to +150°F)*							
1/4"-20	1/2"	3"	3/4"	3/8"	13/16"	65035K36	1.85
5/16"-18	1"	3"	3/4"	3/8"	13/16"	65035K37	1.92
***(12) Black Polypropylene with Steel Stud** (–15° to +125°F)*							
1/4"-20	1/2"	2 1/4"	3/4"	3/4"	11/16"	65035K11	4.22
***(12) Black Polypropylene with Type 302 SS Stud** (–15° to +125°F)*							
5/16"-18	1/2"	2 1/4"	3/4"	3/4"	11/16"	65035K51	6.97
5/16"-18	1"	2 1/4"	3/4"	3/4"	11/16"	65035K54	7.78
3/8"-16	1 1/2"	2 1/4"	3/4"	3/4"	11/16"	65035K48	4.10
***(13) Black Polypropylene with Steel Stud** (–15° to +125°F)*							
10-32	3/4"	1 1/4"	1/2"	3/4"	1/8"	65035K47	1.38
1/4"-20	1/2"	1 1/4"	1/2"	3/4"	1/8"	65035K39	1.38
***(14) Black Phenolic with Steel Stud** (–30° to +400°F)*							
1/4"-20	1/2"	1 1/8"	1/2"	5/8"	1/8"	6477K32	1.10
Three Arm							
***(15) Black Phenolic with Steel Stud** (–30° to +400°F)*							
8-32	1/2"	7/8"	1/2"	3/8"	3/8"	57715K36	.90
10-32	7/16"	1 1/8"	1/2"	1/2"	1/4"	57715K28	.88
10-32	1/2"	7/8"	1/2"	3/8"	3/8"	57715K39	.98
10-32	3/4"	7/8"	1/2"	3/8"	3/8"	57715K37	.92
10-32	1"	1 1/8"	1/2"	1/2"	1/4"	57715K46	1.15
1/4"-20	1/2"	7/8"	1/2"	3/8"	3/8"	57715K38	1.00
1/4"-20	1/2"	1 1/8"	1/2"	1/2"	1/4"	57715K16	1.07
1/4"-20	9/16"	1 1/2"	5/8"	5/8"	1/4"	57715K29	1.10
1/4"-20	3/4"	1 1/8"	1/2"	1/2"	1/4"	57715K44	1.05
1/4"-20	3/4"	1 1/2"	5/8"	5/8"	1/4"	57715K47	1.43
1/4"-20	1"	1 1/8"	1/2"	1/2"	1/4"	57715K45	1.07
1/4"-20	1"	1 1/2"	5/8"	5/8"	1/4"	57715K49	1.52
1/4"-20	1"	2"	3/4"	5/8"	3/8"	57715K78	1.97
1/4"-20	1 1/2"	1 1/8"	1/2"	1/2"	1/4"	57715K84	1.15
5/16"-18	1/2"	1 1/2"	5/8"	5/8"	1/4"	57715K68	1.57
5/16"-18	3/4"	1 1/2"	5/8"	5/8"	1/4"	57715K31	1.18
5/16"-18	3/4"	2"	3/4"	5/8"	3/8"	57715K17	1.85
5/16"-18	1"	1 1/2"	5/8"	5/8"	1/4"	57715K67	1.35
5/16"-18	1"	2"	3/4"	5/8"	3/8"	57715K81	2.08
3/8"-16	1/2"	2"	3/4"	5/8"	3/8"	57715K83	2.23
3/8"-16	3/4"	2"	3/4"	5/8"	5/8"	57715K32	2.08
3/8"-16	1"	2"	3/4"	5/8"	3/8"	57715K79	2.25

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Knobs with Threaded Stud (Continued from previous page)

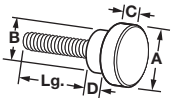



Thread Size	Lg.	(A)	(B)	(C)	(D)		Each ♦
Three Arm (Cont.)							
(15) Black Phenolic with Type 302 SS Stud *(–30° to +400°F)*							
10-32	1″	1½″	5⁄8″	5⁄8″	1⁄8″	57715K51	$6.15
1⁄4″-20	3⁄4″	1½″	5⁄8″	5⁄8″	1⁄4″	57715K55	2.70
1⁄4″-20	3⁄4″	2″	3⁄4″	5⁄8″	3⁄8″	57715K53	2.95
1⁄4″-20	1½″	1½″	5⁄8″	5⁄8″	1⁄4″	57715K56	2.88
5⁄16″-18	1⁄2″	1½″	5⁄8″	5⁄8″	1⁄8″	57715K58	5.67
5⁄16″-18	1⁄2″	2″	3⁄4″	5⁄8″	3⁄8″	57715K59	6.35
5⁄16″-18	1″	1½″	5⁄8″	5⁄8″	1⁄4″	57715K61	6.53
5⁄16″-18	1″	2″	3⁄4″	5⁄8″	3⁄8″	57715K62	7.12
3⁄8″-16	1½″	1½″	5⁄8″	5⁄8″	1⁄4″	57715K57	4.03
3⁄8″-16	1½″	2″	3⁄4″	5⁄8″	3⁄8″	57715K54	4.53
(15) Black Polypropylene with Steel Stud *(–15° to +125°F)*							
1⁄4″-20	9⁄16″	1½″	5⁄8″	5⁄8″	1⁄4″	57715K71	.95
5⁄16″-18	1⁄2″	1½″	5⁄8″	5⁄8″	1⁄4″	57715K72	.98
3⁄8″-16	1″	1½″	5⁄8″	5⁄8″	1⁄4″	57715K73	1.20
(16) Black Phenolic with Type 302 SS Stud *(–30° to +400°F)*							
1⁄4″-20	1⁄2″	1¼″	3⁄4″	7⁄16″	7⁄16″	57715K42	3.20
1⁄4″-20	3⁄4″	1¼″	3⁄4″	7⁄16″	7⁄16″	57715K43	2.70
5⁄16″-18	1⁄2″	1¼″	3⁄4″	7⁄16″	7⁄16″	57715K63	5.50
5⁄16″-18	1⁄2″	2⅛″	1″	11⁄16″	3⁄16″	57715K87	6.95
5⁄16″-18	3⁄4″	2⅛″	1″	11⁄16″	3⁄16″	57715K41	7.65
5⁄16″-18	1″	1¼″	3⁄4″	7⁄16″	7⁄16″	57715K64	6.30
5⁄16″-18	1″	2⅛″	1″	11⁄16″	3⁄16″	57715K88	7.75
(17) Black Comfort-Grip Polypropylene w/ Steel Stud *(–15° to +210°F)*							
10-32	1⁄2″	1 3⁄16″	1⁄2″	1⁄2″	1⁄8″	2776K14	2.40
1⁄4″-20	1⁄2″	1 3⁄16″	1⁄2″	1⁄2″	1⁄8″	2776K16	2.13
1⁄4″-20	1⁄2″	1¾″	3⁄4″	3⁄4″	1⁄8″	2776K19	2.53
1⁄4″-20	1″	1¾″	3⁄4″	3⁄4″	1⁄8″	2776K22	2.47
5⁄16″-18	1″	1¾″	3⁄4″	3⁄4″	1⁄8″	2776K25	2.97
3⁄8″-16	1″	2 3⁄16″	13⁄16″	15⁄16″	1⁄8″	2776K27	3.07
Four Arm							
(18) Cast Iron with Steel Stud							
1⁄4″-20	1¾″	1½″	5⁄8″	3⁄8″	1⁄2″	62215K51	7.21
1⁄4″-20	3″	1½″	5⁄8″	3⁄8″	1⁄2″	62215K52	8.60
5⁄16″-18	1¾″	2″	3⁄4″	3⁄8″	5⁄8″	62215K53	7.79
5⁄16″-18	3″	2″	3⁄4″	3⁄8″	5⁄8″	62215K54	8.72
3⁄8″-16	1¾″	2″	3⁄4″	3⁄8″	5⁄8″	62215K55	7.40
3⁄8″-16	3″	2″	3⁄4″	3⁄8″	5⁄8″	62215K56	8.35
1⁄2″-13	1¾″	2½″	1 1⁄8″	1⁄2″	1″	62215K57	10.09
1⁄2″-13	3″	2½″	1 1⁄8″	1⁄2″	1″	62215K58	10.10
5⁄8″-11	1¾″	2½″	1 1⁄8″	1⁄2″	1″	62215K59	11.28
5⁄8″-11	3″	2½″	1 1⁄8″	1⁄2″	1″	62215K61	12.67
(18) Aluminum with Steel Stud							
1⁄4″-20	1¾″	1½″	5⁄8″	3⁄8″	1⁄2″	6085K31	7.11
1⁄4″-20	3″	1½″	5⁄8″	3⁄8″	1⁄2″	6085K12	8.33
5⁄16″-18	1¾″	2″	3⁄4″	3⁄8″	5⁄8″	6085K13	7.62
5⁄16″-18	3″	2″	3⁄4″	3⁄8″	5⁄8″	6085K14	8.58
3⁄8″-16	1¾″	2″	3⁄4″	3⁄8″	5⁄8″	6085K15	8.22
3⁄8″-16	3″	2″	3⁄4″	3⁄8″	5⁄8″	6085K16	9.22
1⁄2″-13	1¾″	2½″	1 1⁄8″	1⁄2″	1″	6085K17	10.49
1⁄2″-13	3″	2½″	1 1⁄8″	1⁄2″	1″	6085K18	11.56
5⁄8″-11	1¾″	2½″	1 1⁄8″	1⁄2″	1″	6085K19	11.02
5⁄8″-11	3″	2½″	1 1⁄8″	1⁄2″	1″	6085K21	12.60
(19) Black-Oxide Steel with Steel Stud							
1⁄4″-20	1¾″	1½″	5⁄8″	1⁄2″	3⁄8″	3992T21	10.23
5⁄16″-18	1¾″	2″	13⁄16″	1⁄2″	1⁄2″	3992T22	14.66
3⁄8″-16	1¾″	2½″	1″	9⁄16″	9⁄16″	3992T23	23.80
1⁄2″-13	1¾″	2½″	1″	9⁄16″	9⁄16″	3992T24	23.80
(19) Brass with Type 303 Stainless Steel Stud							
1⁄4″-20	1¾″	1½″	5⁄8″	1⁄2″	3⁄8″	5125K85	18.06
5⁄16″-18	1¾″	2″	13⁄16″	1⁄2″	1⁄2″	5125K86	31.00
3⁄8″-16	1¾″	2½″	1″	9⁄16″	9⁄16″	5125K87	58.51
3⁄8″-16	3″	2½″	1″	9⁄16″	9⁄16″	5125K88	61.43
1⁄2″-13	1¾″	2½″	1″	9⁄16″	9⁄16″	5125K89	59.97
1⁄2″-13	3″	2½″	1″	9⁄16″	9⁄16″	5125K91	62.97
(19) Aluminum with Steel Stud							
1⁄4″-20	1¾″	1½″	5⁄8″	1⁄2″	3⁄8″	60965K31	8.62
1⁄4″-20	3″	1½″	5⁄8″	1⁄2″	3⁄8″	60965K32	8.88
5⁄16″-18	1¾″	2″	13⁄16″	1⁄2″	1⁄2″	60965K33	9.30
5⁄16″-18	3″	2″	13⁄16″	1⁄2″	1⁄2″	60965K34	10.35

Thread Size	Lg.	(A)	(B)	(C)	(D)		Each ♦
Four Arm (Cont.)							
(19) Aluminum with Steel Stud (Cont.)							
3⁄8″-16	1¾″	2½″	1″	9⁄16″	9⁄16″	60965K351	$11.43
3⁄8″-16	3″	2½″	1″	9⁄16″	9⁄16″	60965K361	11.80
1⁄2″-13	1¾″	2½″	1″	9⁄16″	9⁄16″	60965K352	12.32
1⁄2″-13	3″	2½″	1″	9⁄16″	9⁄16″	60965K362	12.50
5⁄8″-11	1¾″	3″	1¼″	5⁄8″	5⁄8″	60965K37	13.65
5⁄8″-11	3″	3″	1¼″	5⁄8″	5⁄8″	60965K38	14.25
(19) Type 303 Stainless Steel with Type 303 SS Stud							
5⁄16″-18	1 3⁄16″	1 9⁄16″	9⁄16″	1⁄2″	1⁄2″	4384K51	13.83
5⁄16″-18	1 9⁄16″	1 9⁄16″	9⁄16″	1⁄2″	1⁄2″	4384K52	14.02
3⁄8″-16	1 9⁄16″	1 9⁄16″	9⁄16″	1⁄2″	1⁄2″	4384K54	14.39
3⁄8″-16	1 15⁄16″	1 9⁄16″	9⁄16″	1⁄2″	1⁄2″	4384K55	14.75
1⁄2″-13	1 9⁄16″	1 15⁄16″	11⁄16″	9⁄16″	3⁄4″	4384K57	18.68
1⁄2″-13	1 15⁄16″	1 15⁄16″	11⁄16″	9⁄16″	3⁄4″	4384K58	19.03
(20) Black Nylon with Steel Stud *(–15° to +150°F)*							
10-32	7⁄16″	1″	7⁄16″	3⁄8″	3⁄8″	5993K16	1.49
1⁄4″-20	1⁄2″	1 3⁄4″	3⁄4″	9⁄16″	3⁄8″	5993K51	1.78
1⁄4″-20	1⁄2″	2 1⁄4″	1″	9⁄16″	7⁄16″	5993K79	1.97
5⁄16″-18	1⁄2″	1 3⁄4″	3⁄4″	9⁄16″	3⁄8″	5993K52	1.92
5⁄16″-18	1″	2 1⁄4″	1″	9⁄16″	7⁄16″	5993K88	2.19
3⁄8″-16	1⁄2″	1 3⁄4″	3⁄4″	9⁄16″	3⁄8″	5993K53	1.89
3⁄8″-16	1⁄2″	2 1⁄4″	1″	9⁄16″	7⁄16″	5993K82	2.08
3⁄8″-16	1″	2 1⁄4″	1″	9⁄16″	7⁄16″	5993K89	2.24
3⁄8″-16	1 1⁄2″	2 1⁄4″	1″	9⁄16″	7⁄16″	5993K86	2.19
(20) Black Nylon with Type 302 SS Stud *(–15° to +150°F)*							
1⁄4″-20	1″	2 1⁄4″	1″	9⁄16″	7⁄16″	5993K87	3.41
(20) Black Phenolic with Steel Stud *(–30° to +400°F)*							
1⁄4″-20	1⁄2″	1 1⁄2″	5⁄8″	1⁄2″	1⁄2″	5993K24	1.57
1⁄4″-20	1⁄2″	2″	7⁄8″	1⁄2″	1⁄2″	5993K61	2.19
1⁄4″-20	1″	1 1⁄2″	5⁄8″	1⁄2″	1⁄2″	5993K67	1.38
1⁄4″-20	1″	2″	7⁄8″	1⁄2″	1⁄2″	5993K75	2.27
5⁄16″-18	1⁄2″	2″	7⁄8″	1⁄2″	1⁄2″	5993K71	1.92
5⁄16″-18	1″	1 1⁄2″	5⁄8″	1⁄2″	1⁄2″	5993K68	1.49
5⁄16″-18	1″	2″	7⁄8″	1⁄2″	1⁄2″	5993K62	2.35
5⁄16″-18	1 1⁄4″	1 1⁄2″	5⁄8″	1⁄2″	1⁄2″	5993K25	1.70
5⁄16″-18	1 3⁄4″	1 1⁄2″	5⁄8″	1⁄2″	1⁄2″	5993K26	1.81
3⁄8″-16	1⁄2″	2″	7⁄8″	1⁄2″	1⁄2″	5993K58	2.57
3⁄8″-16	1″	2″	7⁄8″	1⁄2″	1⁄2″	5993K41	2.03
3⁄8″-16	1 1⁄2″	2″	7⁄8″	1⁄2″	1⁄2″	5993K42	2.16
3⁄8″-16	2″	2″	7⁄8″	1⁄2″	1⁄2″	5993K43	2.19
3⁄8″-16	2 1⁄2″	2″	7⁄8″	1⁄2″	1⁄2″	5993K59	2.57
1⁄2″-13	3⁄4″	2″	7⁄8″	1⁄2″	1⁄2″	5993K72	3.78
(20) Black Phenolic with Type 302 SS Stud *(–30° to +400°F)*							
1⁄4″-20	3⁄4″	1 1⁄2″	5⁄8″	1⁄2″	1⁄2″	5993K12	3.03
1⁄4″-20	3⁄4″	2″	7⁄8″	1⁄2″	1⁄2″	5993K18	3.08
(20) Black Phenolic with Type 302 SS Stud *(–20° to +350°F)*							
8-32	9⁄16″	1 1⁄2″	5⁄8″	1⁄2″	1⁄2″	5993K47	4.70
8-32	1″	1 1⁄2″	5⁄8″	1⁄2″	1⁄2″	5993K48	5.59
10-32	1⁄2″	1 1⁄2″	5⁄8″	1⁄2″	1⁄2″	5993K73	4.57
10-32	1″	1 1⁄2″	5⁄8″	1⁄2″	1⁄2″	5993K74	6.81
5⁄16″-18	1⁄2″	2″	7⁄8″	1⁄2″	1⁄2″	5993K94	6.92
5⁄16″-18	1″	2″	7⁄8″	1⁄2″	1⁄2″	5993K95	7.84
(20) Black Polypropylene with Steel Stud *(–15° to +125°F)*							
5⁄16″-18	1⁄2″	2 1⁄4″	1″	9⁄16″	7⁄16″	5993K81	1.89
(21) Black Comfort-Grip Polypropylene w/ Steel Stud *(–15° to +210°F)*							
10-32	1″	1 3⁄8″	9⁄16″	1⁄2″	3⁄16″	2454K59	3.23
10-32	1″	1 3⁄4″	11⁄16″	5⁄8″	1⁄8″	2454K64	3.43
1⁄4″-20	1″	2″	15⁄16″	11⁄16″	3⁄16″	2454K71	2.57
1⁄4″-20	1 1⁄4″	1 3⁄8″	9⁄16″	1⁄2″	3⁄16″	2454K62	2.20
1⁄4″-20	1 1⁄4″	1 3⁄4″	11⁄16″	5⁄8″	1⁄8″	2454K66	2.53
1⁄4″-20	1 1⁄4″	2 1⁄2″	1 1⁄4″	15⁄16″	3⁄16″	2454K52	2.57
1⁄4″-20	1 1⁄4″	3″	1 1⁄2″	1 1⁄16″	1⁄4″	2454K56	5.07
5⁄16″-18	1 1⁄2″	1 3⁄4″	11⁄16″	5⁄8″	1⁄8″	2454K67	3.13
5⁄16″-18	1 1⁄2″	2″	15⁄16″	11⁄16″	3⁄16″	2454K72	3.63
5⁄16″-18	1 1⁄2″	2 1⁄2″	1 1⁄4″	15⁄16″	3⁄16″	2454K53	3.43
5⁄16″-18	1 1⁄2″	3″	1 1⁄2″	1 1⁄16″	1⁄4″	2454K57	5.13
3⁄8″-16	1 3⁄4″	1 3⁄4″	11⁄16″	5⁄8″	1⁄8″	2454K68	3.73
3⁄8″-16	1 3⁄4″	2″	15⁄16″	11⁄16″	3⁄16″	2454K73	4.23
3⁄8″-16	1 3⁄4″	2 1⁄2″	1 1⁄4″	15⁄16″	3⁄16″	2454K54	4.03
3⁄8″-16	1 3⁄4″	3″	1 1⁄2″	1 1⁄16″	1⁄4″	2454K58	5.90

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♦ *Prices are 10% lower when you buy in quantities of 10 or more.*

Knobs with Threaded Stud *(Continued from previous page)*

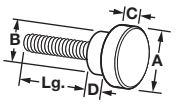


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(Style 22) Choose-a-Color—To Order: Please specify knob color: black, blue, green, orange, red, or white.
(Style 28) Choose-a-Color— Knobs are black with a colored cap. ***To Order:*** Please specify cap color: black, gray, red, or yellow.

Thread Size	Lg.	(A)	(B)	(C)	(D)		Each ♦
Four Arm (Cont.)							
(22) Choose-a-Color Nylon with Steel Stud *(+14° to +248°F)*							
1/4"-20	1"	1 3/4"	3/4"	9/16"	7/16"	7921K21	$2.31
5/16"-18	1"	2 1/4"	1"	9/16"	7/16"	7921K22	3.21
3/8"-16	1"	2 1/4"	1"	9/16"	7/16"	7921K23	3.41
1/2"-13	1"	2 1/4"	1"	9/16"	9/16"	7921K24	3.53
Five Arm							
(23) Black Nylon with Steel Stud *(–15° to +150°F)*							
1/4"-20	1"	2 1/4"	7/8"	1/2"	1/4"	59625K77	1.49
(23) Black Polypropylene with Steel Stud *(–15° to +125°F)*							
5/16"-18	3/4"	2 1/4"	7/8"	1/2"	1/4"	59625K78	1.24
3/8"-16	1"	2 1/4"	7/8"	1/2"	1/4"	59625K79	1.48
(23) Black Polypropylene with Steel Stud *(–15° to +200°F)*							
1/4"-20	1"	1 3/8"	7/8"	7/16"	3/4"	59625K39	.64
1/4"-20	1 1/2"	1 3/4"	7/8"	1/2"	3/4"	59625K42	.82
5/16"-18	1 1/2"	1 3/8"	7/8"	7/16"	3/4"	59625K41	.78
5/16"-18	2"	1 3/4"	7/8"	1/2"	3/4"	59625K43	.87
(24) Black Phenolic with Type 302 SS Stud *(–30° to +400°F)*							
1/4"-20	1/2"	1 3/16"	13/16"	7/16"	3/8"	7129T33	2.12
1/4"-20	1/2"	1 5/8"	1 3/16"	5/8"	1/4"	7129T34	2.73
5/16"-18	1/2"	1 3/16"	13/16"	7/16"	3/8"	7129T21	6.92
5/16"-18	1/2"	1 5/8"	1 3/16"	5/8"	1/4"	7129T27	6.43
5/16"-18	1"	1 3/16"	13/16"	7/16"	3/8"	7129T22	6.11
5/16"-18	1"	1 5/8"	1 3/16"	5/8"	1/4"	7129T28	7.43
(25) Black Comfort-Grip Polypropylene w/ Steel Stud *(–15° to +210°F)*							
1/4"-20	3/4"	1 1/2"	11/16"	15/16"	3/16"	61125K34	2.18
1/4"-20	1"	1 1/2"	11/16"	15/16"	3/16"	61125K43	1.97
1/4"-20	1"	1 7/8"	15/16"	15/16"	3/16"	61125K52	2.70
1/4"-20	1"	2 1/4"	1 1/4"	15/16"	3/16"	61125K61	2.63
1/4"-20	1 1/4"	1 1/2"	11/16"	15/16"	3/16"	61125K45	2.30
1/4"-20	1 1/4"	1 7/8"	15/16"	15/16"	3/16"	61125K54	2.94
1/4"-20	1 1/4"	2 1/4"	1 1/4"	15/16"	3/16"	61125K63	2.91
5/16"-18	1"	1 7/8"	15/16"	15/16"	3/16"	61125K35	2.91
5/16"-18	1 1/2"	1 1/2"	11/16"	15/16"	3/16"	61125K47	3.06
5/16"-18	1 1/2"	1 7/8"	15/16"	15/16"	3/16"	61125K71	3.39
5/16"-18	1 1/2"	2 1/4"	1 1/4"	15/16"	3/16"	61125K65	3.09

Thread Size	Lg.	(A)	(B)	(C)	(D)		Each ♦
Five Arm (Cont.)							
(25) Black Comfort-Grip Polypropylene with Steel Stud (Cont.)							
3/8"-16	1"	2 1/4"	1 1/4"	15/16"	3/16"	61125K36	$2.89
3/8"-16	1 1/2"	1 1/2"	11/16"	15/16"	3/16"	61125K48	2.97
3/8"-16	1 1/2"	1 7/8"	15/16"	15/16"	3/16"	61125K56	3.29
3/8"-16	1 1/2"	2 1/4"	1 1/4"	15/16"	3/16"	61125K67	3.20
3/8"-16	1 3/4"	1 1/2"	11/16"	15/16"	3/16"	61125K49	3.49
3/8"-16	1 3/4"	1 7/8"	15/16"	15/16"	3/16"	61125K58	3.71
3/8"-16	1 3/4"	2 1/4"	1 1/4"	15/16"	3/16"	61125K69	3.66
Seven Lobe							
(26) Black Nylon with Type 303 SS Stud *(–40° to +200°F)*							
1/4"-20	9/16"	1"	1/2"	5/16"	5/16"	6092K41	2.71
1/4"-20	1 1/8"	1"	1/2"	5/16"	5/16"	6092K43	3.54
1/4"-20	15/16"	1"	1/2"	5/16"	5/16"	6092K45	3.97
5/16"-18	11/16"	19/16"	11/16"	1/2"	1/2"	6092K47	4.86
5/16"-18	15/16"	19/16"	11/16"	1/2"	1/2"	6092K48	5.31
5/16"-18	17/16"	19/16"	11/16"	1/2"	1/2"	6092K52	5.60
3/8"-16	11/16"	2"	7/8"	9/16"	11/16"	6092K54	6.62
3/8"-16	1 3/16"	2"	7/8"	9/16"	11/16"	6092K56	6.92
3/8"-16	1 11/16"	2"	7/8"	9/16"	11/16"	6092K58	7.55
1/2"-13	13/16"	2 1/2"	1"	3/4"	13/16"	6092K63	12.12
(27) Type 303 Stainless Steel with Type 303 SS Stud							
5/16"-18	13/16"	19/16"	1/2"	1/2"	1/2"	8558K61	15.37
5/16"-18	19/16"	19/16"	1/2"	1/2"	1/2"	8558K62	15.54
3/8"-16	19/16"	19/16"	1/2"	1/2"	1/2"	8558K64	15.88
3/8"-16	1 15/16"	19/16"	1/2"	1/2"	1/2"	8558K65	16.21
1/2"-13	1 15/16"	1 15/16"	11/16"	5/8"	11/16"	8558K67	20.78
1/2"-13	2 3/8"	1 15/16"	11/16"	5/8"	11/16"	8558K68	21.15
(28) Choose-a-Color Nylon with Type 303 SS Stud *(–30° to +200°F)*							
10-32	3/8"	1"	1/2"	5/16"	5/16"	3855K21	2.34
10-32	13/16"	1"	1/2"	5/16"	5/16"	3855K22	2.37
1/4"-20	13/16"	1 1/4"	9/16"	3/8"	3/8"	3855K23	3.17
1/4"-20	1 3/16"	1 1/4"	9/16"	3/8"	3/8"	3855K24	3.32
5/16"-18	13/16"	19/16"	11/16"	1/2"	1/2"	3855K25	4.88
5/16"-18	19/16"	19/16"	11/16"	1/2"	1/2"	3855K26	5.11
3/8"-16	13/16"	2"	7/8"	5/8"	11/16"	3855K27	6.12
3/8"-16	19/16"	2"	7/8"	5/8"	11/16"	3855K28	6.80

Metric Knobs with Threaded Stud

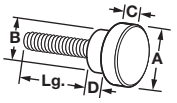


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Thread Size	Lg., mm	(A) mm	(B) mm	(C) mm	(D) mm		Each ♦
Round with Knurled Rim							
(1) Black-Oxide Steel with Steel Stud							
M5 x 0.8	25	19	13	6	10	61165K71	$4.57
M6 x 1	19	19	13	6	10	61165K73	4.57
M6 x 1	44	25	16	6	13	61165K75	5.29
M8 x 1.25	44	25	16	6	13	61165K76	5.29
M8 x 1.25	76	38	19	8	17	61165K78	6.83
M10 x 1.5	44	51	25	10	19	61165K83	7.97
M10 x 1.5	76	38	19	8	17	61165K81	6.83
M12 x 1.75	44	51	25	10	19	61165K85	7.97
(1) Brass with Type 303 Stainless Steel Stud							
M5 x 0.8	25	19	13	6	10	5125K75	6.00
M6 x 1	44	25	16	6	13	5125K76	9.60
M8 x 1.25	76	38	19	8	17	5125K77	19.43
M10 x 1.5	44	51	25	10	19	5125K78	29.94
M12 x 1.75	44	51	25	10	19	5125K79	30.74
(1) Type 303 Stainless Steel with Type 303 SS Stud							
M5 x 0.8	25	19	13	6	10	63165K91	9.56
M6 x 1	19	19	13	6	10	63165K92	9.44
M6 x 1	44	25	16	6	13	63165K93	11.06
M8 x 1.25	44	25	16	6	13	63165K94	11.06
M8 x 1.25	76	38	19	8	17	63165K95	13.81
M10 x 1.5	76	38	19	8	17	63165K96	13.81

Thread Size	Lg., mm	(A) mm	(B) mm	(C) mm	(D) mm		Each ♦
Round with Fluted Rim							
(2) Black Nylon with Steel Stud *(–20° to +270°F)*							
M4 x 0.7	10	16	11	8	5	62935K11	$2.06
M5 x 0.8	16	20	12	10	6	62935K12	2.17
M6 x 1	16	25	16	11	8	62935K13	2.17
M8 x 1.25	16	32	17	13	9	62935K14	2.66
Three Arm							
(3) Black Comfort-Grip Polypropylene w/ Steel Stud *(–15° to +210°F)*							
M6 x 1	25	30	13	13	4	2776K51	2.60
M6 x 1	25	45	19	20	3	2776K52	2.93
M6 x 1	25	55	21	24	4	2776K55	3.00
M8 x 1.25	25	45	19	20	3	2776K53	3.57
M8 x 1.25	25	55	21	24	4	2776K56	3.77
M10 x 1.5	30	45	19	20	3	2776K54	5.43
M10 x 1.5	30	55	21	24	4	2776K57	5.43
Four Arm							
(4) Brass with Type 303 Stainless Steel Stud							
M6 x 1	44	38	16	13	10	5125K94	18.06
M8 x 1.25	44	51	21	13	13	5125K95	31.00
M10 x 1.5	44	64	25	14	14	5125K96	58.51
M10 x 1.5	76	64	25	14	14	5125K97	61.43
M12 x 1.75	44	64	25	14	14	5125K98	59.97
M12 x 1.75	76	64	25	14	14	5125K99	62.97

(Continued on following page)

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Metric Knobs with Threaded Stud (Continued from previous page)

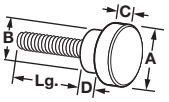



(Style 9) Choose-a-Color—Knobs are black with a colored cap. **To Order:** Please specify cap color: black, gray, red, or yellow.

Thread Size	Lg., mm	(A) mm	(B) mm	(C) mm	(D) mm		Each ♦
Four Arm (Cont.)							
(4) Aluminum with Black-Oxide Steel Stud							
M6×1	45	38	16	12	10	60965K51	$8.95
M6×1	76	38	16	12	10	60965K52	9.22
M8×1.25	45	51	21	12	13	60965K53	9.62
M8×1.25	76	51	21	12	13	60965K54	10.72
M10×1.5	45	64	25	15	14	60965K55	11.43
M10×1.5	76	64	25	15	14	60965K56	12.25
M12×1.75	45	64	25	15	14	60965K57	12.80
M12×1.75	76	64	25	15	14	60965K58	13.07
(4) Type 303 Stainless Steel with Type 303 SS Stud							
M8×1.25	30	40	14	12	13	4384K61	13.83
M8×1.25	40	40	14	12	13	4384K62	14.02
M10×1.5	30	40	14	12	13	4384K64	14.14
M10×1.5	40	40	14	12	13	4384K65	14.39
M12×1.75	40	50	18	14	19	4384K67	18.68
M12×1.75	50	50	18	14	19	4384K68	19.03
(5) Black Phenolic with Zinc-Plated Steel Stud (–40° to +165°F)							
M5×0.8	15	25	11	8	9	6390K51	1.94
M6×1	30	32	14	11	10	6390K52	2.06
M8×1.25	30	40	18	12	14	6390K53	2.77
M10×1.5	35	50	22	14	18	6390K54	3.75
M12×1.75	40	63	26	17	25	6390K55	5.35
Five Arm							
(6) Black Comfort-Grip Polypropylene with Zinc-Plated Steel Stud (–60° to +210°F)							
M6×1	25	39	17	23	5	61125K75	2.79
M6×1	25	48	24	23	4	61125K78	3.33
M6×1	25	57	32	24	4	61125K82	3.24
M8×1.25	25	39	17	23	5	61125K76	3.33
M8×1.25	25	48	24	23	4	61125K79	3.71
M8×1.25	25	57	32	24	4	61125K83	3.74
M10×1.5	30	39	17	23	5	61125K77	4.91
M10×1.5	30	48	24	23	4	61125K81	5.15
M10×1.5	30	57	32	24	4	61125K84	5.30
Seven Lobe							
(7) Type 303 Stainless Steel with Type 303 SS Stud							
M8×1.25	30	40	14	12	13	8558K71	15.37
M8×1.25	40	40	14	12	13	8558K72	15.54
M10×1.5	30	40	14	12	13	8558K74	15.65

Thread Size	Lg., mm	(A) mm	(B) mm	(C) mm	(D) mm		Each ♦
Seven Lobe (Cont.)							
(7) Type 303 Stainless Steel with Type 303 SS Stud (Cont.)							
M10×1.5	40	40	14	12	13	8558K75	$15.88
M12×1.75	40	50	18	16	17	8558K77	20.45
M12×1.75	50	50	18	16	17	8558K78	20.78
(8) Black Nylon with Zinc-Plated Steel Stud (–40° to +200°F)							
M5×0.8	25	25	12	8	8	60795K31	2.09
M6×1	21	32	14	10	10	60795K32	1.97
M8×1.25	25	40	18	12	13	60795K33	2.37
M10×1.5	50	50	22	15	17	60795K34	4.11
M12×1.75	40	63	26	19	21	60795K35	6.97
(8) Black Nylon with Zinc-Plated Steel Stud (–22° to +230°F)							
M6×1	20	32	12	10	10	2907T22	6.12
M6×1	35	32	12	10	10	2907T25	7.52
M8×1.25	20	40	14	13	13	2907T27	7.97
M8×1.25	40	40	14	13	13	2907T31	8.60
M10×1.5	30	50	18	15	17	2907T33	10.84
M10×1.5	55	50	18	15	17	2907T36	13.05
M12×1.75	35	63	20	19	21	2907T38	15.17
M12×1.75	60	63	20	19	21	2907T42	17.74
(8) Black Nylon with Type 316 SS Stud (–22° to +230°F)							
M5×0.8	15	25	12	8	8	2907T52	6.00
M5×0.8	25	25	12	8	8	2907T54	6.78
M6×1	16	32	14	10	10	2907T56	7.11
M6×1	30	32	14	10	10	2907T59	7.73
M8×1.25	25	40	18	12	13	2907T62	8.60
M8×1.25	40	40	18	12	13	2907T64	9.17
M10×1.5	25	50	22	15	17	2907T66	10.30
M10×1.5	55	50	22	15	17	2907T69	13.29
(8) Black Nylon with Type 303 SS Stud (–22° to +230°F)							
M12×1.75	30	63	26	19	21	2907T71	19.68
M12×1.75	50	63	26	19	21	2907T73	21.71
(9) Choose-a-Color Nylon with Type 303 SS Stud (–30° to +200°F)							
M6×1	20	32	14	10	10	3855K63	3.17
M6×1	30	32	14	10	10	3855K64	3.32
M8×1.25	30	40	18	12	13	3855K68	4.97
M8×1.25	40	40	18	12	13	3855K69	5.11
M10×1.5	40	50	22	15	17	3855K73	6.80
M10×1.5	50	50	22	15	17	3855K74	7.00

Knobs with Left-Hand Threaded Stud

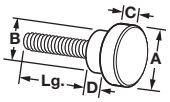



Thread Size	Lg.	(A)	(B)	(C)	(D)		Each ♦
Round with Knurled Rim							
(1) Black-Oxide Steel with Black-Oxide Steel Stud							
1/4"-20	1 3/4"	1"	5/8"	1/4"	1/2"	7222K51	$6.57
5/16"-18	1 3/4"	1"	5/8"	1/4"	1/2"	7222K53	6.57
3/8"-16	1 3/4"	1 1/2"	3/4"	5/16"	11/16"	7222K55	8.20
1/2"-13	1 3/4"	2"	1"	3/8"	3/4"	7222K57	10.75
(1) Type 303 Stainless Steel with Type 303 SS Stud							
1/4"-20	1 3/4"	1"	5/8"	1/4"	1/2"	7222K61	14.23
5/16"-18	1 3/4"	1"	5/8"	1/4"	1/2"	7222K63	14.23
3/8"-16	1 3/4"	1 1/2"	3/4"	5/16"	11/16"	7222K65	17.11
1/2"-13	1 3/4"	2"	1"	3/8"	3/4"	7222K67	21.52
Round with Fluted Rim							
(2) Black Phenolic with Zinc-Plated Steel Stud (–30° to +400°F)							
10-32	1/2"	7/8"	5/8"	3/8"	1/8"	7222K21	5.03
1/4"-20	9/16"	7/8"	5/8"	3/8"	1/8"	7222K23	5.49
1/4"-20	9/16"	1 1/2"	11/16"	3/8"	3/8"	7222K27	5.91

Thread Size	Lg.	(A)	(B)	(C)	(D)		Each ♦
Round with Fluted Rim (Cont.)							
(2) Black Phenolic with Zinc-Plated Steel Stud (Cont.)							
1/4"-20	3/4"	1 1/4"	5/8"	3/8"	3/8"	7222K25	$5.82
5/16"-18	3/4"	1 3/4"	3/4"	3/8"	3/8"	7222K29	7.28
Four Arm							
(3) Aluminum with Black-Oxide Steel Stud							
1/4"-20	1 3/4"	1 1/2"	5/8"	3/8"	1/2"	7222K11	9.57
5/16"-18	1 3/4"	2"	3/4"	3/8"	5/8"	7222K13	10.14
3/8"-16	1 3/4"	2"	3/4"	3/8"	5/8"	7222K15	10.97
1/2"-13	1 3/4"	2 1/2"	1 1/8"	1/2"	1"	7222K17	13.86
5/8"-11	1 3/4"	2 1/2"	1 1/8"	1/2"	1"	7222K19	14.57
(4) Black Phenolic with Zinc-Plated Steel Stud (–30° to +400°F)							
1/4"-20	1"	1 1/2"	5/8"	1/2"	1/2"	7222K41	6.49
5/16"-18	1"	1 1/2"	5/8"	1/2"	1/2"	7222K43	8.55
3/8"-16	1"	2"	7/8"	1/2"	1/2"	7222K45	9.83
1/2"-13	3/4"	2"	7/8"	1/2"	1/2"	7222K47	11.75

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Threaded Knobs



Thread Size	Dp.	(A)	(B)	(C)	(D)		Each ♦
Round with Knurled Rim							
(1) Aluminum							
1/4"-20	1/2"	1"	5/8"	1/2"	7/16"	7762K2	$8.49
5/16"-18	1/2"	2"	1"	11/16"	1/2"	7762K5	12.95
3/8"-16	1"	2 1/4"	1 1/4"	3/4"	5/8"	7762K8	15.47
1/2"-13	1"	3"	1 1/2"	7/8"	3/4"	7762K11	18.14
(2) Brass							
10-24	3/8"	3/4"	1/2"	1/4"	3/8"	5125K31	2.92
1/4"-20	1/2"	1"	5/8"	1/4"	1/2"	5125K32	5.94
1/4"-28	1/2"	1"	5/8"	1/4"	1/2"	5125K33	5.94
5/16"-18	1/2"	1"	5/8"	1/4"	1/2"	5125K34	5.94
5/16"-24	5/8"	1 1/2"	3/4"	5/16"	11/16"	5125K35	12.31
3/8"-16	5/8"	2"	1"	3/8"	3/4"	5125K36	23.51
3/8"-24	5/8"	2"	1"	3/8"	3/4"	5125K37	23.51
1/2"-13	5/8"	2"	1"	3/8"	3/4"	5125K38	23.51
(2) Aluminum							
1/4"-20	5/8"	1"	1/2"	3/8"	7/16"	6077K22	6.03
5/16"-18	5/8"	1"	1/2"	3/8"	7/16"	6077K23	6.03
3/8"-16	7/8"	2"	13/16"	9/16"	9/16"	6077K24	15.03
1/2"-13	7/8"	2"	13/16"	9/16"	9/16"	6077K25	15.03
(2) Type 303 Stainless Steel							
1/4"-20	5/8"	1"	1/2"	3/8"	7/16"	6399K52	7.39
5/16"-18	5/8"	1"	1/2"	3/8"	7/16"	6399K53	7.39
3/8"-16	7/8"	2"	13/16"	9/16"	9/16"	6399K54	12.89
1/2"-13	7/8"	2"	13/16"	9/16"	9/16"	6399K55	12.89
(3) Black Polyamide with Zinc-Plated Steel Insert *(–30° to +200°F)*							
1/4"-20	3/8"	1"	1/2"	7/8"	1/8"	3503K66	9.95
5/16"-18	9/16"	1 1/4"	5/8"	13/16"	1/8"	3503K67	11.23
3/8"-16	9/16"	1 9/16"	3/4"	1 1/2"	3/16"	3503K68	13.08
1/2"-13	11/16"	2"	15/16"	1 13/16"	3/16"	3503K69	20.13
(4) Black Comfort-Grip Polypropylene w/ Zinc-Plated Brass Insert *(–60° to +210°F)*							
1/4"-20	1/2"	1 9/16"	3/4"	5/16"	5/16"	6214K26	1.83
1/4"-20	1/2"	2"	3/4"	7/16"	3/16"	6214K28	2.00
5/16"-18	1/2"	1 9/16"	3/4"	5/16"	5/16"	6214K33	2.14
5/16"-18	1/2"	2"	3/4"	7/16"	3/16"	6214K35	2.40
3/8"-16	1/2"	1 9/16"	3/4"	5/16"	5/16"	6214K37	2.11
3/8"-16	1/2"	2"	3/4"	7/16"	3/16"	6214K39	2.37
(5) Black-Oxide Steel							
10-24	3/8"	3/4"	1/2"	1/4"	3/8"	6121K21	3.02
1/4"-20	3/8"	3/4"	1/2"	1/4"	3/8"	6121K22	3.02
1/4"-20	1/2"	1"	5/8"	1/4"	1/2"	6121K23	3.44
1/4"-28	1/2"	1"	5/8"	1/4"	1/2"	6121K14	3.44
5/16"-18	1/2"	1"	5/8"	1/4"	1/2"	6121K24	3.44
5/16"-18	5/8"	1 1/2"	3/4"	5/16"	11/16"	6121K25	4.33
5/16"-24	5/8"	1 1/2"	3/4"	5/16"	11/16"	6121K15	4.33
3/8"-16	5/8"	1 1/2"	3/4"	5/16"	11/16"	6121K26	4.33
3/8"-16	5/8"	2"	1"	3/8"	3/4"	6121K27	5.64
3/8"-24	5/8"	2"	1"	3/8"	3/4"	6121K16	5.67
1/2"-13	5/8"	2"	1"	3/8"	3/4"	6121K28	5.86
1/2"-13	3/4"	2 1/2"	1 1/2"	9/16"	15/16"	6121K29	11.00
1/2"-20	3/4"	2 1/2"	1 1/2"	9/16"	15/16"	6121K17	10.81
5/8"-11	3/4"	2 1/2"	1 1/2"	9/16"	15/16"	6121K31	10.81
5/8"-11	1"	3"	1 3/4"	5/8"	1 1/8"	6121K32	14.89
3/4"-10	1"	3"	1 3/4"	5/8"	1 1/8"	6121K33	14.89
(5) Type 303 Stainless Steel							
10-24	3/8"	3/4"	1/2"	1/4"	3/8"	60205K64	5.83
1/4"-20	3/8"	3/4"	1/2"	1/4"	3/8"	60205K65	5.83
1/4"-20	1/2"	1"	5/8"	1/4"	1/2"	60205K66	6.62
1/4"-28	1/2"	1"	5/8"	1/4"	1/2"	60205K46	6.65
5/16"-18	1/2"	1"	5/8"	1/4"	1/2"	60205K67	6.62
5/16"-18	5/8"	1 1/2"	3/4"	5/16"	11/16"	60205K68	8.32
5/16"-24	5/8"	1 1/2"	3/4"	5/16"	11/16"	60205K47	8.32
3/8"-16	5/8"	1 1/2"	3/4"	5/16"	11/16"	60205K69	8.32
3/8"-16	5/8"	2"	1"	3/8"	3/4"	60205K71	10.97
3/8"-24	5/8"	2"	1"	3/8"	3/4"	60205K48	10.97
1/2"-13	5/8"	2"	1"	3/8"	3/4"	60205K72	12.64
1/2"-13	3/4"	2 1/2"	1 1/2"	9/16"	15/16"	60205K73	23.33
1/2"-20	3/4"	2 1/2"	1 1/2"	9/16"	15/16"	60205K49	23.33
5/8"-11	3/4"	2 1/2"	1 1/2"	9/16"	15/16"	60205K74	23.33
5/8"-11	1"	3"	1 3/4"	5/8"	1 1/8"	60205K75	28.82
3/4"-10	1"	3"	1 3/4"	5/8"	1 1/8"	60205K76	28.82

Thread Size	Dp.	(A)	(B)	(C)	(D)		Each ♦
Round with Knurled Rim (Cont.)							
(6) Black Polypropylene with Brass Insert *(+30° to +190°F)*							
1/4"-20	1/2"	1 1/4"	9/16"	1/2"	3/8"	63625K21	$3.52
1/4"-20	1/2"	1 9/16"	11/16"	1/2"	7/16"	63625K22	3.83
5/16"-18	1/2"	1 9/16"	11/16"	1/2"	7/16"	63625K23	4.12
3/8"-16	11/16"	2"	13/16"	5/8"	1/2"	63625K24	5.64
3/8"-16	13/16"	2 3/8"	15/16"	13/16"	9/16"	63625K25	6.83
Round with Fluted Rim							
(7) Black Phenolic with Brass Insert *(–30° to +400°F)*							
8-32	1/4"	7/8"	5/8"	3/8"	1/8"	6479K73	1.00
10-32	5/16"	7/8"	5/8"	3/8"	1/8"	6479K52	.92
1/4"-20	3/8"	7/8"	5/8"	3/8"	1/4"	6479K53	.95
1/4"-20	3/8"	1 1/4"	5/8"	3/8"	3/8"	6479K54	1.20
1/4"-20	3/8"	1 1/2"	11/16"	3/8"	3/8"	6479K55	1.43
1/4"-20	3/8"	1 3/4"	3/4"	5/8"	3/8"	6479K17	1.48
5/16"-18	1/2"	1 1/4"	5/8"	3/8"	3/8"	6479K85	1.52
5/16"-18	1/2"	1 1/2"	11/16"	3/8"	5/8"	6479K21	1.68
5/16"-18	1/2"	1 3/4"	3/4"	3/8"	3/8"	6479K57	2.17
5/16"-18	1/2"	2 1/2"	1 1/4"	11/16"	5/8"	6479K94	3.33
5/16"-18	1/2"	3"	1 1/4"	5/8"	13/16"	6479K96	4.30
3/8"-16	1/2"	1 3/4"	3/4"	3/8"	5/8"	6479K82	1.97
3/8"-16	1/2"	2 3/8"	1 3/4"	3/8"	7/16"	6479K19	3.27
3/8"-16	1/2"	2 1/2"	1 1/4"	11/16"	5/8"	6479K62	3.80
3/8"-16	1/2"	3"	1 1/4"	9/16"	11/16"	6479K63	4.05
(7) Black Phenolic with Zinc-Plated Steel Insert *(–30° to +400°F)*							
1/2"-13	5/8"	2 1/2"	1 1/4"	11/16"	5/8"	6479K65	4.05
1/2"-13	5/8"	3"	1 1/4"	13/16"	11/16"	6479K66	5.28
(8) Black Comfort-Grip Polypropylene w/ Zinc-Plated Steel Insert *(–15° to +200°F)*							
5/16"-18	1/2"	2 3/8"	1 1/4"	5/8"	5/8"	5532T42	3.54
3/8"-16	1/2"	2 1/2"	1 1/4"	11/16"	9/16"	5532T44	3.66
1/2"-13	1/2"	2 1/2"	1 1/4"	11/16"	9/16"	5532T46	4.13
Round High Profile							
(9) Black Comfort-Grip Polypropylene w/ Zinc-Plated Brass Insert *(–60° to +210°F)*							
1/4"-20	1/2"	1 11/16"	1 5/16"	2"	3/16"	6185K21	2.80
1/4"-20	1/2"	1 7/8"	1 1/2"	2 1/4"	1/4"	6185K36	5.40
5/16"-18	1/2"	1 7/8"	1 1/2"	2 1/4"	1/4"	6185K39	5.00
3/8"-16	1/2"	1 11/16"	1 5/16"	2"	3/16"	6185K28	3.20
3/8"-16	1/2"	1 7/8"	1 1/2"	2 1/4"	1/4"	6185K43	4.97
1/2"-13	1/2"	1 7/8"	1 1/2"	2 1/4"	1/4"	6185K47	5.83
Single Arm							
(10) Black Polyamide with Brass Insert *(–20° to +270°F)*							
1/4"-20	11/16"	1 3/8"	5/8"	13/16"	1/4"	1904T35	4.51
5/16"-18	11/16"	1 3/8"	5/8"	13/16"	1/4"	1904T36	4.60
5/16"-18	13/16"	1 3/4"	13/16"	1 1/8"	5/16"	1904T37	6.02
3/8"-16	13/16"	1 3/4"	13/16"	1 1/8"	5/16"	1904T38	6.21
Two Arm							
(11) Type 303 Stainless Steel							
10-24	3/8"	2"	9/16"	1/2"	7/16"	4276T43	13.83
1/4"-20	3/8"	2"	9/16"	1/2"	7/16"	4276T44	13.83
5/16"-18	9/16"	2 15/16"	13/16"	3/4"	5/8"	4276T45	21.80
3/8"-16	9/16"	2 15/16"	13/16"	3/4"	5/8"	4276T46	21.80
(12) Black Polypropylene with Brass Insert *(–15° to +125°F)*							
10-32	3/8"	1 1/2"	3/4"	5/8"	1/8"	3708T17	2.60
1/4"-20	1/2"	1 1/2"	3/4"	5/8"	1/8"	3708T11	2.83
3/8"-16	1/2"	1 1/2"	3/4"	5/8"	1/8"	3708T13	2.92
3/8"-16	1/2"	2 1/2"	3/4"	5/8"	1/2"	65035K63	2.12
3/8"-16	1/2"	3 1/2"	15/16"	7/8"	1/4"	65035K65	2.58
(12) Black Nylon with Zinc-Plated Steel Insert *(–15° to +150°F)*							
1/2"-13	5/8"	3 1/2"	15/16"	7/8"	1/4"	65035K66	3.55
(12) Black Nylon with Aluminum Insert *(–15° to +150°F)*							
5/16"-18	3/4"	2 1/2"	3/4"	5/8"	1/2"	65035K62	2.05
5/16"-18	3/4"	3 1/2"	15/16"	7/8"	1/4"	65035K64	2.82
(12) Black Nylon with Brass Insert *(–15° to +150°F)*							
1/4"-20	1/2"	2 1/2"	3/4"	5/8"	1/2"	65035K15	2.00
5/16"-18	1/2"	2 1/2"	3/4"	5/8"	1/2"	65035K17	2.12
(12) Black Phenolic with Brass Insert *(–30° to +400°F)*							
1/4"-20	3/8"	2"	3/4"	5/8"	1/2"	65035K59	1.75
1/4"-20	3/8"	2 1/2"	3/4"	5/8"	1/2"	65035K32	1.77
5/16"-18	1/2"	2"	3/4"	5/8"	1/2"	65035K61	2.25
5/16"-18	1/2"	2 1/2"	3/4"	5/8"	1/2"	65035K33	2.12
3/8"-16	1/2"	2"	3/4"	5/8"	1/2"	65035K67	2.17

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♦ ***Prices are 10% lower when you buy in quantities of 10 or more.***

Threaded Knobs *(Continued from previous page)*

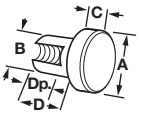

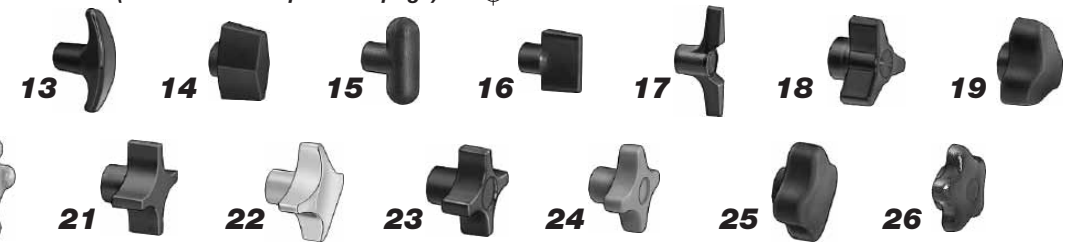

(Style 24) Choose-a-Color—To Order: Please specify knob color: black, blue, green, orange, red, or white.

Size	Thread Dp.	(A)	(B)	(C)	(D)		Each ♦
Two Arm (Cont.)							
(13) Black Phenolic with Brass Insert *(–25° to +300°F)*							
5/16"-18	7/16"	2 1/4"	9/16"	9/16"	1 1/16"	6477K53	$1.99
(14) Black Phenolic with Brass Insert *(–30° to +400°F)*							
1/4"-20	3/8"	1 1/8"	1/2"	5/8"	1/8"	6477K57	1.18
(15) Black Polypropylene with Brass Insert *(–15° to +125°F)*							
1/4"-20	1/2"	2 1/4"	3/4"	3/4"	1 1/16"	6477K69	2.07
5/16"-18	1/2"	2 1/4"	3/4"	3/4"	1 1/16"	6477K71	2.27
3/8"-16	1/2"	2 1/4"	3/4"	3/4"	1 1/16"	6477K72	2.35
(16) Black ABS with Brass Insert *(–15° to +125°F)*							
10-24	3/8"	1 1/4"	5/8"	1 1/16"	1/2"	6477K33	2.23
10-32	3/8"	1 1/4"	5/8"	13/16"	1/2"	6477K68	1.70
1/4"-20	3/8"	1 1/4"	5/8"	13/16"	1/2"	6477K67	1.80
(17) Black Polypropylene with Brass Insert *(–15° to +125°F)*							
1/4"-20	1/2"	3"	13/16"	3/8"	13/16"	6477K73	1.73
5/16"-18	1/2"	3"	13/16"	3/8"	13/16"	6477K74	1.82
3/8"-16	1/2"	3"	13/16"	3/8"	13/16"	6477K75	1.97
Three Arm							
(18) Black Phenolic with Brass Insert *(–30° to +400°F)*							
8-32	3/8"	7/8"	1/2"	3/8"	3/8"	57715K33	1.00
8-32	3/8"	1 1/8"	1/2"	1/2"	1/4"	57715K85	1.07
10-24	3/8"	1 1/8"	1/2"	1/2"	1/4"	57715K86	1.12
10-32	3/8"	7/8"	1/2"	3/8"	3/8"	57715K34	1.07
10-32	3/8"	1 1/8"	1/2"	1/2"	1/4"	57715K13	1.00
10-32	3/8"	1 1/2"	5/8"	5/8"	1/4"	57715K48	1.57
1/4"-20	3/8"	1 1/8"	1/2"	1/2"	1/4"	57715K11	1.10
1/4"-20	3/8"	1 1/2"	5/8"	5/8"	1/4"	57715K12	1.43
1/4"-20	3/8"	2"	3/4"	5/8"	3/8"	57715K77	2.10
5/16"-18	1/2"	1 1/2"	5/8"	5/8"	1/4"	57715K14	1.45
5/16"-18	1/2"	2"	3/4"	5/8"	3/8"	57715K21	2.08
3/8"-16	1/2"	2"	3/4"	5/8"	3/8"	57715K15	2.25
3/8"-24	5/8"	2"	3/4"	5/8"	3/8"	57715K82	2.17
(19) Black Comfort-Grip Polypropylene w/ Zinc-Plated Brass Insert *(–60° to +210°F)*							
10-32	1/2"	13/16"	1/2"	1/2"	1/8"	2776K2	2.00
1/4"-20	1/2"	13/16"	1/2"	1/2"	1/8"	2776K5	1.93
1/4"-20	1/2"	1 3/4"	3/4"	3/4"	1/8"	2776K7	2.20
5/16"-18	1/2"	1 3/4"	3/4"	3/4"	1/8"	2776K9	2.73
3/8"-16	1/2"	2 3/16"	13/16"	15/16"	1/8"	2776K11	2.80
Four Arm							
(20) Aluminum							
1/4"-20	1/2"	1 1/4"	9/16"	5/16"	9/16"	6047K31	3.89
5/16"-18	1/2"	1 1/4"	9/16"	5/16"	9/16"	6047K22	3.89
5/16"-18	5/8"	1 1/2"	1 1/16"	3/8"	1 1/16"	6047K35	5.15
3/8"-16	5/8"	1 1/2"	1 1/16"	3/8"	1 1/16"	6047K16	5.15
3/8"-16	7/8"	2 1/8"	7/8"	1/2"	15/16"	6047K17	5.68
1/2"-13	7/8"	2 1/8"	7/8"	1/2"	15/16"	6047K32	5.68
1/2"-13	1 1/4"	3"	1 3/8"	1 1/16"	1 1/4"	6047K33	8.78
5/8"-11	1 1/4"	3"	1 3/8"	1 1/16"	1 1/4"	6047K23	8.78
3/4"-10	1 1/4"	3"	1 3/8"	1 1/16"	1 1/4"	6047K34	8.78
(21) Black-Oxide Steel							
1/4"-20	1/2"	1 1/2"	5/8"	3/8"	1/2"	3992T25	6.60
5/16"-18	1/2"	2"	13/16"	1/2"	1/2"	3992T26	10.43
3/8"-16	1/2"	2 1/2"	1"	9/16"	9/16"	3992T27	19.49
1/2"-13	9/16"	2 1/2"	1"	9/16"	9/16"	3992T28	19.49
(21) Aluminum							
1/4"-20	1/2"	1"	1/2"	3/8"	1/2"	61135K212	5.67
5/16"-18	5/8"	1 1/2"	5/8"	1/2"	3/8"	61135K222	6.00
3/8"-16	5/8"	2"	13/16"	1/2"	1/2"	61135K232	7.21
1/2"-13	3/4"	2 1/2"	1"	9/16"	9/16"	61135K242	9.23
5/8"-11	3/4"	3"	1 1/4"	5/8"	5/8"	61135K252	11.44
(22) Type 303 Stainless Steel							
1/4"-20	1/2"	1 1/4"	1/2"	3/8"	3/8"	4384K5	12.13
5/16"-18	9/16"	1 9/16"	9/16"	1/2"	1/2"	4384K6	13.53
Four Arm (Cont.)							
(22) Type 303 Stainless Steel (Cont.)							
3/8"-16	1 1/16"	1 15/16"	1 1/16"	9/16"	1 1/16"	4384K7	$18.09
1/2"-13	13/16"	2 1/2"	13/16"	13/16"	13/16"	4384K8	23.64
(23) Black Polypropylene with Brass Insert *(–15° to +125°F)*							
1/4"-20	1/2"	1 3/4"	3/4"	9/16"	7/16"	5993K27	2.00
1/4"-20	1/2"	2 1/4"	1"	9/16"	7/16"	5993K76	2.03
5/16"-18	1/2"	2 1/4"	1"	9/16"	7/16"	5993K77	2.11
3/8"-16	1/2"	2 1/4"	1"	9/16"	7/16"	5993K78	2.22
(23) Black Nylon with Brass Insert *(–15° to +150°F)*							
8-32	3/8"	1"	7/16"	5/16"	7/16"	5993K11	1.51
10-24	3/8"	1"	7/16"	3/8"	3/8"	5993K13	1.62
10-32	3/8"	1"	7/16"	3/8"	3/8"	5993K15	1.62
10-32	3/8"	1 1/4"	1/2"	3/8"	1/2"	5993K17	1.70
1/4"-20	3/8"	1"	7/16"	3/8"	3/8"	5993K14	1.70
1/4"-20	3/8"	1 1/4"	1/2"	3/8"	1/2"	5993K19	1.70
5/16"-18	1/2"	1 1/4"	1/2"	3/8"	1/2"	5993K21	1.84
5/16"-18	1/2"	1 3/4"	3/4"	9/16"	7/16"	5993K28	1.95
3/8"-16	1/2"	1 3/4"	3/4"	9/16"	7/16"	5993K29	2.08
(23) Black Phenolic with Zinc-Plated Steel Insert *(–30° to +400°F)*							
1/2"-13	5/8"	2"	7/8"	1/2"	5/8"	5993K38	3.30
1/2"-13	5/8"	3"	7/8"	9/16"	9/16"	5993K93	4.51
(23) Black Phenolic with Brass Insert *(–30° to +400°F)*							
1/4"-20	3/8"	1 1/2"	5/8"	1/2"	1/2"	5993K45	1.51
1/4"-20	3/8"	2"	7/8"	1/2"	1/2"	5993K57	2.16
5/16"-18	1/2"	1 1/2"	5/8"	1/2"	1/2"	5993K46	1.57
5/16"-18	1/2"	2"	7/8"	1/2"	1/2"	5993K35	1.95
5/16"-18	1/2"	3"	7/8"	9/16"	9/16"	5993K91	3.76
3/8"-16	1/2"	1 1/2"	5/8"	1/2"	1/2"	5993K23	1.97
3/8"-16	1/2"	2"	7/8"	1/2"	1/2"	5993K36	2.14
3/8"-16	1/2"	3"	7/8"	9/16"	9/16"	5993K92	3.84
3/8"-24	5/8"	2"	7/8"	1/2"	1/2"	5993K37	2.27
1/2"-20	5/8"	2"	7/8"	1/2"	5/8"	5993K44	4.08
(24) Choose-a-Color Nylon with Brass Insert *(+14° to +248°F)*							
1/4"-20	1/2"	1 3/4"	3/4"	9/16"	7/16"	7921K41	2.35
5/16"-18	1/2"	2 1/4"	1"	9/16"	7/16"	7921K42	2.62
3/8"-16	1/2"	2 1/4"	1"	9/16"	7/16"	7921K43	2.82
1/2"-13	1/2"	2 1/4"	1"	9/16"	7/16"	7921K44	3.76
(25) Black Comfort-Grip Polypropylene w/ Zinc-Plated Brass Insert *(–60° to +210°F)*							
10-32	1/2"	1 3/8"	9/16"	1/2"	3/16"	2454K19	2.63
10-32	1/2"	1 3/4"	1 1/16"	5/8"	1/8"	2454K23	2.65
1/4"-20	1/2"	1 3/8"	9/16"	1/2"	3/16"	2454K21	2.00
1/4"-20	1/2"	1 3/4"	1 1/16"	5/8"	1/8"	2454K24	2.33
1/4"-20	1/2"	2"	15/16"	1 1/16"	3/16"	2454K28	2.63
1/4"-20	1/2"	3"	1 1/2"	1 1/16"	1/4"	2454K15	4.87
5/16"-18	1/2"	1 3/4"	1 1/16"	5/8"	1/8"	2454K25	2.67
5/16"-18	1/2"	2"	15/16"	1 1/16"	3/16"	2454K29	3.17
5/16"-18	1/2"	2 1/2"	1 1/4"	15/16"	3/16"	2454K12	3.00
5/16"-18	1/2"	3"	1 1/2"	1 1/16"	1/4"	2454K16	4.87
3/8"-16	1/2"	2"	15/16"	1 1/16"	3/16"	2454K31	3.13
3/8"-16	1/2"	2 1/2"	1 1/4"	15/16"	3/16"	2454K13	3.00
3/8"-16	1/2"	3"	1 1/2"	1 1/16"	1/4"	2454K17	4.83
1/2"-13	1/2"	2 1/2"	1 1/4"	15/16"	3/16"	2454K14	3.67
1/2"-13	1/2"	3"	1 1/2"	1 1/16"	1/4"	2454K18	5.77
Five Arm							
(26) Black Polypropylene with Brass Insert *(–15° to +125°F)*							
1/4"-20	3/8"	2 1/4"	7/8"	1/2"	1/4"	59625K71	1.62
5/16"-18	1/2"	2 1/4"	7/8"	1/2"	1/4"	59625K72	1.78
3/8"-16	1/2"	2 1/4"	7/8"	1/2"	1/4"	59625K73	2.08
(26) Black Polypropylene w/ Zinc-Plated Steel Insert *(–15° to +200°F)*							
1/4"-20	1/2"	15/16"	7/8"	7/16"	3/4"	59625K35	.73
1/4"-20	1/2"	1 3/4"	7/8"	1/2"	3/4"	59625K37	.82
5/16"-18	1/2"	15/16"	7/8"	1/2"	11/16"	59625K36	.73
5/16"-18	1/2"	1 3/4"	7/8"	1/2"	3/4"	59625K38	.82

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♦ Prices are 10% lower when you buy in quantities of 10 or more.

Threaded Knobs *(Continued from previous page)*

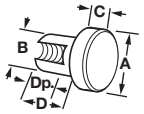


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30

(Style 30) Choose-a-Color— Knobs are black with a colored cap. **To Order:** Please specify cap color: black, gray, red, or yellow.

Thread Size	Dp.	(A)	(B)	(C)	(D)		Each ♦
Five Arm (Cont.)							
(27) Black Comfort-Grip Polypropylene w/ Zinc-Plated Brass Insert *(–60° to +210°F)*							
1/4″-20	1/2″	1 1/2″	11/16″	15/16″	3/16″	61125K11	$1.97
5/16″-18	1/2″	1 7/8″	15/16″	15/16″	3/16″	61125K12	2.71
3/8″-16	1/2″	2 1/4″	1 1/4″	15/16″	3/16″	61125K13	2.57
Six Lobe							
(28) Aluminum							
1/4″-20	3/4″	1 1/2″	7/8″	7/16″	7/8″	61515K212	4.99
3/8″-16	3/4″	2″	1″	5/8″	7/8″	61515K222	6.14
1/2″-13	1 1/4″	3 1/2″	1 1/4″	3/4″	1″	61515K242★	9.32

★ Has eight lobes.

Thread Size	Dp.	(A)	(B)	(C)	(D)		Each ♦
Seven Lobe							
(29) Type 303 Stainless Steel							
1/4″-20	1/2″	1 1/4″	1/2″	3/8″	3/8″	8558K5	$11.49
5/16″-18	9/16″	1 9/16″	9/16″	1/2″	1/2″	8558K6	14.65
3/8″-16	11/16″	1 15/16″	11/16″	5/8″	11/16″	8558K7	17.12
1/2″-13	7/8″	2 1/2″	3/4″	3/4″	13/16″	8558K8	21.02
(30) Choose-a-Color Nylon with Type 303 SS Insert *(–30° to +200°F)*							
10-32	3/8″	1″	1/2″	5/16″	5/16″	3855K11	3.14
1/4″-20	3/8″	1 1/4″	9/16″	3/8″	3/8″	3855K12	3.17
5/16″-18	9/16″	1 9/16″	11/16″	1/2″	1/2″	3855K13	3.80
3/8″-16	9/16″	2″	7/8″	9/16″	11/16″	3855K14	5.57
1/2″-13	11/16″	2 1/2″	1″	3/4″	13/16″	3855K15	10.23

Metric Threaded Knobs

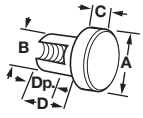


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10

(Style 10) Choose-a-Color— Knobs are black with a colored cap. **To Order:** Please specify cap color: black, gray, red, or yellow.

Thread Size	Dp., mm	(A) mm	(B) mm	(C) mm	(D) mm		Each ♦
Round with Knurled Rim							
(1) Black-Oxide Steel							
M5×0.8	10	19	13	6	10	60765K312	$2.77
M6×1	10	19	13	6	10	60765K322	2.77
M6×1	13	25	16	6	13	60765K332	3.18
M8×1.25	13	25	16	6	13	60765K342	3.18
M8×1.25	16	38	19	8	17	60765K352	4.03
(1) Brass							
M5×0.8	10	19	13	6	10	5125K39	3.08
M6×1	13	25	16	6	13	5125K41	6.43
M8×1.25	16	38	19	8	17	5125K42	13.51
(1) Type 303 Stainless Steel							
M5×0.8	10	19	13	6	10	62265K512	6.44
M6×1	10	19	13	6	10	62265K522	6.44
M6×1	13	25	16	6	13	62265K532	7.60
M8×1.25	16	38	19	8	17	62265K552	9.28
Round with Fluted Rim							
(2) Black Nylon with Brass Insert *(–20° to +270°F)*							
M4×0.7	5	16	11	8	5	62935K15	2.01
M5×0.8	5	20	12	10	6	62935K16	2.06
M6×1	8	25	16	11	8	62935K17	2.22
M8×1.25	10	32	17	13	9	62935K18	2.82
Three Arm							
(3) Black Comfort-Grip Polypropylene w/ Zinc-Plated Brass Insert *(–60° to +210°F)*							
M5×0.8	13	30	13	13	4	2776K61	4.87
M6×1	13	30	13	13	4	2776K62	2.03
M6×1	13	45	19	20	3	2776K63	2.20
M6×1	13	55	21	24	4	2776K66	2.43
M8×1.25	13	45	19	20	3	2776K64	2.50
M8×1.25	13	55	21	24	4	2776K67	2.70
M10×1.5	13	45	19	20	3	2776K65	2.60
M10×1.5	13	55	21	24	4	2776K68	2.87
M12×1.75	13	55	21	24	4	2776K69	4.40
Four Arm							
(4) Brass							
M6×1	13	25	13	10	13	5125K16	7.03
M8×1.25	13	38	16	10	10	5125K17	13.69
M10×1.5	13	51	21	13	13	5125K18	25.91
M12×1.75	14	64	25	14	14	5125K19	53.91
(4) Aluminum							
M6×1	12	25	13	10	12	61135K51	5.90
M8×1.25	16	38	16	12	10	61135K54	6.36
M10×1.5	16	51	21	12	13	61135K57	7.49
M12×1.75	20	64	25	14	14	61135K61	9.56

Thread Size	Dp., mm	(A) mm	(B) mm	(C) mm	(D) mm		Each ♦
Four Arm							
(5) Black Phenolic with Zinc-Plated Steel Insert *(–40° to +200°F)*							
M5×0.8	11	25	11	8	9	6390K21	$1.77
M6×1	12	32	14	11	10	6390K22	2.00
M8×1.25	14	40	18	12	14	6390K23	2.26
M10×1.5	18	50	22	14	18	6390K24	3.21
M12×1.75	22	63	26	17	25	6390K25	5.05
Five Arm							
(6) Aluminum							
M6×1	15	40	14	13	13	62015K1	12.09
M8×1.25	15	40	14	13	13	62015K212	12.39
M10×1.5	18	50	19	16	16	62015K312	15.72
M12×1.75	22	60	21	20	20	62015K412	21.80
M16×2	28	70	26	23	23	62015K512	30.53
(7) Black Comfort-Grip Polypropylene w/ Zinc-Plated Brass Insert *(–60° to +210°F)*							
M6×1	13	39	17	23	5	61125K85	2.06
M6×1	13	48	24	23	4	61125K88	2.82
M6×1	13	57	32	24	4	61125K92	2.76
M8×1.25	13	39	17	23	5	61125K86	2.30
M8×1.25	13	48	24	23	4	61125K89	2.67
M8×1.25	13	57	32	24	4	61125K93	2.82
M10×1.5	13	39	17	23	5	61125K87	2.48
M10×1.5	13	48	24	23	4	61125K91	2.82
M10×1.5	13	57	32	24	4	61125K94	2.97
Seven Lobe							
(8) Black Nylon with Zinc-Plated Steel Insert *(–40° to +200°F)*							
M5×0.8	9	25	12	8	8	60795K11	1.97
M6×1	9	32	14	10	10	60795K12	1.97
M8×1.25	14	40	18	12	13	60795K13	2.37
M10×1.5	21	50	22	15	17	60795K14	3.54
M12×1.75	23	63	26	19	21	60795K15	5.62
(9) Black Nylon with Zinc-Plated Steel Hub *(–40° to +230°F)*							
M6×1	12	32	12	10	10	6720K211	2.58
M8×1.25	14	40	14	13	13	6720K221	3.24
M10×1.5	18	50	18	15	17	6720K231	5.49
M12×1.75	22	63	20	19	21	6720K241	9.93
(10) Choose-a-Color Nylon w/ Type 303 SS Insert *(–30° to +200°F)*							
M5×0.8	10	25	12	8	8	3855K51	3.14
M6×1	10	32	14	10	10	3855K52	3.17
M8×1.25	14	40	18	12	13	3855K53	3.80
M10×1.5	14	50	22	15	17	3855K54	5.57
M12×1.75	18	63	26	19	21	3855K55	10.23

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Plastic Threaded Ball Knobs

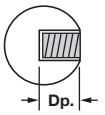



Phenolic



Polypropylene

Phenolic is shiny, scratch resistant, and very hard. Temperature range is –30° to +400° F, unless noted.

Polypropylene has greater impact resistance than phenolic, plus a textured finish for a better grip. *Black* knobs have a temperature range of –15° to +225° F. *Red* knobs have a temperature range of –15° to +125° F.

Thread Size	Dp.	Black with Brass Insert	Each ♦	Red with Brass Insert	Each ♦
Phenolic — *Inch*					
11/16″ Diameter					
10-32	3/8″	6046K11	$1.20	6146K11	$1.43
1/4″-20	3/8″	—	—	6146K31▲	2.96
13/16″ Diameter					
1/4″-20	3/8″	6046K31	1.34	—	—
1″ Diameter					
10-32	3/8″	6046K12	1.34	6146K12	1.77
1/4″-20	3/8″	6046K13	1.20	6146K13	1.85
1/4″-28	7/16″	6046K32	1.45	6146K32	1.73
5/16″-18	1/2″	6046K14	1.66	6146K14	1.73
5/16″-24	1/2″	6046K15	1.71	6146K15	1.75
3/8″-16	1/2″	6046K33	1.80	6146K33	1.94
3/8″-24	1/2″	6046K45	2.15	—	—
1 1/4″ Diameter					
1/4″-20	3/8″	6046K34	1.73	6146K34	2.19
1/4″-20	5/8″	6046K44■	1.65	—	—
5/16″-18	1/2″	6046K35	1.70	6146K35	2.45
3/8″-16	1/2″	6046K51	1.89	—	—
3/8″-24	1/2″	6046K52	2.09	—	—
1/2″-13	5/8″	6046K53	3.02	—	—
1/2″-20	5/8″	6046K54	3.80	—	—
1 3/8″ Diameter					
1/4″-20	3/8″	6046K16	1.57	6146K16	2.21
5/16″-18	1/2″	6046K17	1.68	6146K17	2.29
5/16″-24	1/2″	6046K18	1.97	6146K18	2.36
3/8″-16	1/2″	6046K19	1.85	6146K19	2.87
3/8″-24	5/8″	6046K21	1.88	6146K21	2.82
7/16″-20	3/4″	6046K22	3.05	6146K22	3.39
1/2″-13	7/8″	6046K23■	1.65	6146K23■	2.13
1/2″-20	5/8″	6046K24★	2.85	6146K24★	3.32
1 7/16″ Diameter					
5/16″-18	1/2″	6046K55	2.25	—	—
3/8″-16	1/2″	6046K56	2.37	—	—
1/2″-13	5/8″	6046K57	4.00	—	—
1 1/2″ Diameter					
3/8″-16	1/2″	6046K49	2.37	—	—
1/2″-13	7/8″	6046K48■	2.05	—	—
1 5/8″ Diameter					
3/8″-16	1/2″	6046K37	2.25	6146K37	3.67
1 15/16″ Diameter					
3/8″-16	1 1/4″	6046K25■	3.71	6146K25■	4.46
3/8″-24	7/8″	6046K26★	4.47	6146K26★	5.17
1/2″-13	1″	6046K27■	4.20	6146K27■	4.52
1/2″-20	1 1/8″	6046K28	5.10	6146K28	6.56
5/8″-18	1 3/16″	6046K29■	3.44	6146K29■	4.52
2″ Diameter					
3/8″-16	1/2″	6046K58	3.54	—	—
3/8″-24	7/8″	6046K59★	3.48	—	—
1/2″-13	3/4″	6046K61	4.30	—	—
5/8″-18	3/4″	6046K62	5.20	—	—
Phenolic — *Metric*					
25mm Diameter					
M6×1	13mm	62195K12	1.87	63075K12	2.85
M8×1.25	13mm	62195K13	1.82	63075K13	2.90
M10×1.5	15mm	62195K14	2.30	63075K14	2.95
35mm Diameter					
M8×1.25	13mm	62195K16	2.23	63075K16	3.42
M10×1.5	15mm	62195K17	2.31	63075K17	3.70
M12×1.75	18mm	62195K18	3.56	63075K18	4.80
49mm Diameter					
M12×1.75	18mm	62195K21	5.80	63075K21	7.90
M16×2	21mm	62195K22	5.98	63075K22	7.90

Thread Size	Dp.	Black with Zinc-Plated Steel Insert	Each ♦	Red with Brass Insert	Each ♦
Polypropylene — *Inch*					
3/4″ Diameter					
8-32	7/16″	61095K21	$1.31	—	—
10-24	7/16″	61095K22♠	1.31	—	—
1/4″-20	1/2″	61095K23	1.31	—	—
1″ Diameter					
10-24	1/2″	61095K31	1.11	—	—
1/4″-20	1/2″	61095K32	1.11	—	—
5/16″-18	1/2″	61095K33	1.19	—	—
3/8″-16	1/2″	61095K34	1.36	—	—
1 1/4″ Diameter					
10-24	5/16″	—	—	7386K21	$1.64
10-24	1/2″	61095K41	1.10	—	—
1/4″-20	1/2″	61095K42	1.10	7386K22	1.74
5/16″-18	1/2″	61095K43	1.10	7386K23	1.71
3/8″-16	1/2″	61095K44	1.17	7386K24	1.93
1/2″-13	3/8″	61095K45	1.48	—	—
1/2″-13	1/2″	—	—	7386K25	2.31
1 3/8″ Diameter					
1/4″-20	1/2″	61095K46	1.49	7386K26	3.57
5/16″-18	1/2″	61095K47	1.54	7386K27	3.64
3/8″-16	1/2″	61095K48	1.60	7386K28	3.83
1/2″-13	1/2″	61095K49	2.04	—	—
1/2″-13	5/8″	—	—	7386K29	4.83
1 1/2″ Diameter					
1/4″-20	1/2″	61095K51	1.87	7386K31	3.62
5/16″-18	1/2″	61095K52	1.97	7386K32	3.67
3/8″-16	1/2″	61095K53	2.08	7386K33	3.81
1/2″-13	1/2″	61095K54	2.52	—	—
1/2″-13	5/8″	—	—	7386K34	4.86
1 5/8″ Diameter					
1/4″-20	1/2″	61095K71	1.88	—	—
5/16″-18	1/2″	61095K72	1.88	—	—
3/8″-16	1/2″	61095K73	2.11	—	—
5/8″-11	1/2″	61095K74	2.55	—	—
1 7/8″ Diameter					
5/16″-18	1/2″	61095K55	2.95	7386K35	3.64
3/8″-16	1/2″	61095K56	3.02	7386K36	3.81
1/2″-13	1/2″	61095K57	3.46	—	—
1/2″-13	5/8″	—	—	7386K37	4.64
5/8″-11	3/4″	61095K58	3.63	—	—
5/8″-11	7/8″	—	—	7386K38	7.24
Polypropylene — *Metric*					
32mm Diameter					
M6×1	13mm	6630T21	1.28	—	—
M8×1.25	13mm	6630T22	1.28	—	—
M10×1.5	15mm	6630T23	1.42	—	—
35mm Diameter					
M6×1	13mm	6630T25	1.61	—	—
M8×1.25	13mm	6630T26	1.61	—	—
M10×1.5	13mm	6630T27	1.79	—	—
38mm Diameter					
M6×1	13mm	6630T31	2.08	—	—
M8×1.25	13mm	6630T32	2.17	—	—
M10×1.5	15mm	6630T33	2.39	—	—
41mm Diameter					
M6×1	13mm	6630T35	2.27	—	—
M8×1.25	13mm	6630T36	2.36	—	—
M10×1.5	13mm	6630T37	2.65	—	—
48mm Diameter					
M6×1	13mm	6630T41	3.40	—	—
M8×1.25	13mm	6630T42	3.50	—	—
M10×1.5	13mm	6630T43	3.78	—	—

▲ Temperature range is –4° to +300° F. ■ No metal insert; threads are molded into plastic. ★ Insert is zinc-plated steel. ♠ Insert is brass.

Threaded Ball Knobs for Tight Spaces

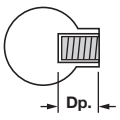



The long shank on these phenolic knobs allows easier access in tight spots. All have a brass insert. Temperature range is –30° to +400° F.

Thread Size	Dp.	Black	Each ♦	Red	Each ♦
11/16″ Diameter					
10-32	3/8″	6046K42	$1.29	6146K42	$1.80
1 1/4″ Diameter					
1/4″-20	3/8″	6046K43	1.91	6146K43	2.11

♦ ***Prices are 10% lower when you buy in quantities of 10 or more.***

Threaded Oval Knobs

Made of scratch-resistant black phenolic, these knobs have a temperature range of –30° to +400° F.

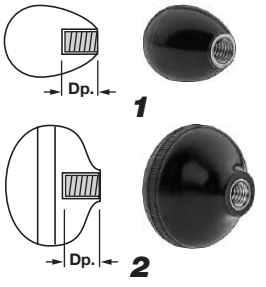

Thread Size	Dp.	Dia. × Ht.		Each ♦
(1) With Brass Insert				
1/4″-20	1/2″	1 1/8″ × 1 1/2″	6050K13	$1.33
5/16″-18	1/2″	1 1/8″ × 1 1/2″	6050K14	1.36
5/16″-24	1/2″	1 1/8″ × 1 1/2″	6050K15	1.53
3/8″-16	1/2″	1 1/8″ × 1 1/2″	6050K16	1.62
3/8″-24	5/8″	1 1/8″ × 1 1/2″	6050K17	1.71
(2) With Zinc-Plated Steel Insert				
3/8″-24	5/8″	2″ × 1 9/16″	6050K35	3.38
1/2″-13	1 1/16″	2″ × 1 9/16″	6050K36	8.07
(2) With Brass Insert				
3/8″-16	1/2″	2″ × 1 9/16″	6050K34	3.18

Comfort-Grip Threaded Ball Knobs

A textured thermoplastic shell improves grip. Knobs have a polypropylene core and a zinc-plated steel insert, unless noted. Color is black. Temperature range is –15° to +225° F.

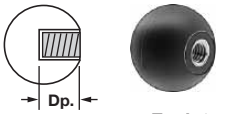

Thread Size	Dp.		Each ♦
1″ Diameter			
8-32	3/8″	60975K51	$2.11
10-24	3/8″	60975K52★	2.66
1/4″-20	1/2″	60975K53	2.66
1 1/4″ Diameter			
10-24	1/4″	60975K55	2.66
1/4″-20	1/2″	60975K56	2.66
5/16″-18	1/2″	60975K57	2.66
3/8″-16	1/2″	60975K58	2.66
1 3/8″ Diameter			
1/4″-20	1/2″	60975K71	2.09
5/16″-18	1/2″	60975K72	2.09
3/8″-16	1/2″	60975K73	2.13
1/2″-13	3/8″	60975K74	2.28
1 1/2″ Diameter			
1/4″-20	1/2″	60975K75	$2.30
5/16″-18	1/2″	60975K76	2.30
3/8″-16	1/2″	60975K77	2.33
1/2″-13	1/2″	60975K78	2.48
1 5/8″ Diameter			
5/16″-18	1/2″	60975K82	2.91
3/8″-16	1/2″	60975K83	2.91
1/2″-13	1/2″	60975K84	2.91
1 7/8″ Diameter			
3/8″-16	1/2″	60975K86	4.56
1/2″-13	5/8″	60975K87	4.56
5/8″-11	5/8″	60975K89	4.56

★ Insert is brass.

Metal Threaded Ball Knobs

These knobs have a highly polished finish.

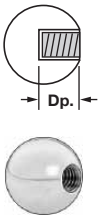

Thread Size	Dp.	Steel	Each ♦	Brass	Each ♦	Aluminum	Each ♦	Type 303 Stainless Steel	Each ♦
3/4″ Diameter									
10-24	3/8″	6045K31	$3.50	60215K51	$6.00	6940K11	$4.25	6954K12	$9.16
10-32	3/8″	6045K32	3.50	60215K52	6.00	6940K13	4.25	6954K14	9.16
1″ Diameter									
10-32	3/8″	6045K34	3.94	60215K54	6.80	6940K16	4.66	6954K15	9.97
1/4″-20	1/2″	6045K35	3.94	60215K55	6.80	6940K18	4.66	6954K17	9.97
1/4″-28	1/2″	6045K36	3.94	60215K56	6.80	___	___	___	___
5/16″-18	1/2″	6045K37	3.94	60215K57	6.80	6940K21	4.66	6954K19	9.97
5/16″-24	1/2″	6045K38	3.94	60215K58	6.80	___	___	___	___
3/8″-16	1/2″	6045K56	3.82	60215K59	6.80	6940K24	4.66	6954K22	9.97
1 3/8″ Diameter									
1/4″-20	5/8″	6045K57	5.38	60215K61	9.32	6940K27	6.38	6954K23	13.21
5/16″-18	5/8″	6045K42	5.38	60215K63	9.32	6940K33	6.38	6954K25	13.21
5/16″-24	5/8″	6045K43	5.09	60215K64	9.32	6940K35	6.38	6954K26	13.21
3/8″-16	5/8″	6045K44	5.38	60215K65	9.32	6940K41	6.38	6954K28	13.21
3/8″-24	5/8″	6045K45	5.38	60215K66	9.32	6940K43	6.38	6954K29	13.21
7/16″-20	5/8″	6045K46	5.38	60215K67	9.32	6940K46	6.38	6954K31	13.21
1/2″-13	5/8″	6045K47	5.38	60215K68	9.32	6940K47	6.38	6954K32	13.21
1/2″-20	5/8″	6045K48	5.38	60215K69	9.32	6940K48	6.38	6954K34	13.21
1 7/8″ Diameter									
3/8″-16	3/4″	6045K49	9.09	60215K71	26.17	6940K52	10.69	6954K37	21.34
3/8″-24	3/4″	6045K51	9.09	60215K72	26.17	6940K54	10.69	6954K39	21.34
1/2″-13	3/4″	6045K52	9.09	60215K73	26.17	6940K57	10.69	6954K42	21.34
5/8″-11	3/4″	6045K54	9.09	60215K75	26.17	___	___	___	___
5/8″-18	3/4″	6045K55	9.09	60215K76	26.17	6940K59	10.69	6954K44	21.34

Adjustable-Torque Threaded Knobs

Set torque with a hex key to prevent overtightening that can damage sensitive equipment. Once the torque limit is reached, the knob head disengages and turns freely. Knobs are steel with a black-oxide finish. Use a 3/32″ hex key (sold separately).

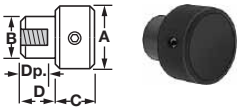

Thread Size	Dp.	(A)	(B)	(C)	(D)	Torque Range		Each 1-4	Each 5-Up
5/16″-18	1/2″	1 3/16″	3/4″	5/8″	9/16″	3 to 6 in.-lbs.	6463K211	$22.36	$20.33
3/8″-16	1/2″	1 3/16″	3/4″	5/8″	9/16″	3 to 6 in.-lbs.	6463K212	28.03	25.48
1/2″-13	1/2″	1 3/16″	3/4″	5/8″	9/16″	3 to 6 in.-lbs.	6463K213	30.07	27.34

3/32″ Hex Key — 7122A16 Each $0.16

♦ ***Prices are 10% lower when you buy in quantities of 10 or more.***

Vibration-Absorbing Knobs

Threaded Stud

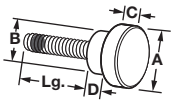



Stud has a nylon patch that prevents loosening due to vibration.

Thread Size	Lg.	(A)	(B)	(C)	(D)		Each
Round with Fluted Rim							
(1) Black Phenolic with Zinc-Plated Steel Stud (–30° to +200°F)							
10-32	1/2"	7/8"	5/8"	3/8"	1/8"	7639K13	$2.65
1/4"-20	9/16"	7/8"	5/8"	3/8"	1/8"	7639K15	2.77
1/4"-20	9/16"	1 1/2"	1 1/16"	3/8"	3/8"	7639K17	3.14
1/4"-20	3/4"	1 1/4"	5/8"	3/8"	3/8"	7639K19	3.06
5/16"-18	3/4"	1 3/4"	3/4"	3/8"	3/8"	7639K21	3.46
Four Arm							
(2) Black Phenolic with Zinc-Plated Steel Stud (–30° to +200°F)							
1/4"-20	1"	1 1/2"	5/8"	1/2"	1/2"	7639K43	3.55
5/16"-18	1"	1 1/2"	5/8"	1/2"	1/2"	7639K45	3.63
3/8"-16	1"	2"	7/8"	1/2"	1/2"	7639K47	4.43
1/2"-13	3/4"	2"	7/8"	1/2"	1/2"	7639K49	10.45

Threaded Through Hole

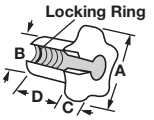



A nylon locking ring secures the knob and reduces movement.

Thread Size	(A)	(B)	(C)	(D)		Each
Two Arm						
(3) Black Polypropylene w/ Zinc-Plated Steel Insert (–15° to +125°F)						
1/4"-20	2"	3/4"	5/8"	1/2"	65035K41	$1.10
5/16"-18	2"	3/4"	5/8"	1/2"	65035K42	1.10
5/16"-18	2 1/2"	3/4"	5/8"	1/2"	65035K43	1.73
3/8"-16	2"	3/4"	5/8"	1/2"	65035K45	1.15
3/8"-16	2 1/2"	3/4"	5/8"	1/2"	65035K44	1.82
Five Arm						
(4) Black Polypropylene w/ Zinc-Plated Steel Insert (–15° to +125°F)						
1/4"-20	1 3/8"	13/16"	7/16"	11/16"	59625K31	.77
1/4"-20	1 3/4"	7/8"	1/2"	3/4"	59625K33	.77
1/4"-20	2 1/4"	7/8"	1/2"	1/4"	59625K74	1.27
5/16"-18	1 3/8"	13/16"	1/2"	11/16"	59625K32	.95
5/16"-18	1 3/4"	7/8"	1/4"	3/4"	59625K34	.95
5/16"-18	2 1/4"	7/8"	1/2"	1/4"	59625K75	1.41
3/8"-16	2 1/4"	7/8"	1/2"	1/4"	59625K76	1.49

Unthreaded Knobs

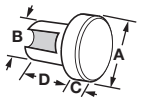

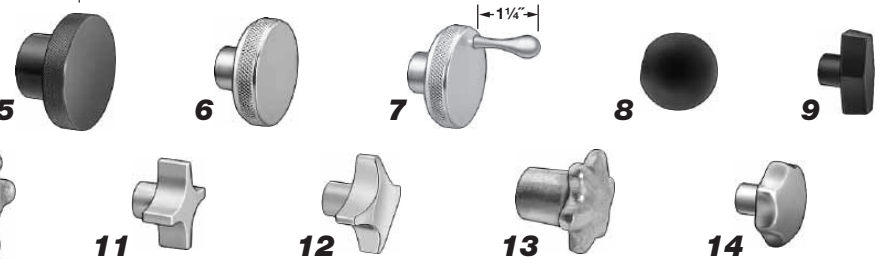

Hole Dia.	Hole Dp.	(A)	(B)	(C)	(D)		Each
Round with Knurled Rim							
(5) Black-Oxide Steel							
3/16"	3/8"	3/4"	1/2"	1/4"	3/8"	6121K41	$3.03
1/4"	3/8"	3/4"	1/2"	1/4"	3/8"	6121K42	3.03
1/4"	1/2"	1"	5/8"	1/4"	1/2"	6121K43	3.46
5/16"	1/2"	1"	5/8"	1/4"	1/2"	6121K44	3.46
5/16"	5/8"	1 1/2"	3/4"	5/16"	11/16"	6121K45	4.30
3/8"	5/8"	1 1/2"	3/4"	5/16"	11/16"	6121K46	4.30
3/8"	5/8"	2"	1"	3/8"	3/4"	6121K47	5.65
1/2"	5/8"	2"	1"	3/8"	3/4"	6121K48	5.86
1/2"	3/4"	2 1/2"	1 1/2"	9/16"	15/16"	6121K49	10.80
5/8"	3/4"	2 1/2"	1 1/2"	9/16"	15/16"	6121K51	10.81
5/8"	1"	3"	1 3/4"	5/8"	1 1/8"	6121K52	14.89
3/4"	1"	3"	1 3/4"	5/8"	1 1/8"	6121K53	14.89
(5) Type 303 Stainless Steel							
3/16"	3/8"	3/4"	1/2"	1/4"	3/8"	60205K51	6.25
1/4"	3/8"	3/4"	1/2"	1/4"	3/8"	60205K52	6.25
1/4"	1/2"	1"	5/8"	1/4"	1/2"	60205K53	7.25
5/16"	1/2"	1"	5/8"	1/4"	1/2"	60205K54	7.25
5/16"	5/8"	1 1/2"	3/4"	5/16"	11/16"	60205K55	9.17
3/8"	5/8"	1 1/2"	3/4"	5/16"	11/16"	60205K56	9.17
3/8"	5/8"	2"	1"	3/8"	3/4"	60205K57	12.00
1/2"	5/8"	2"	1"	3/8"	3/4"	60205K58	12.00
1/2"	3/4"	2 1/2"	1 1/2"	9/16"	15/16"	60205K59	23.56
5/8"	3/4"	2 1/2"	1 1/2"	9/16"	15/16"	60205K61	23.56
5/8"	1"	3"	1 3/4"	5/8"	1 1/8"	60205K62	28.90
3/4"	1"	3"	1 3/4"	5/8"	1 1/8"	60205K63	28.90
(6) Aluminum							
1/4"	5/8"	1"	1/2"	3/8"	7/16"	6077K11	5.26
3/8"	7/8"	2"	13/16"	9/16"	9/16"	6077K13	12.47
5/8"	7/8"	3"	1 1/4"	11/16"	9/16"	6077K15	23.62
(7) Aluminum with Chrome-Plated Brass Handle							
3/8"	7/8"	2"	13/16"	9/16"	9/16"	6077K17	19.23
5/8"	7/8"	3"	1 1/4"	9/16"	11/16"	6077K19	28.18
(7) Type 303 Stainless Steel with Chrome-Plated Brass Handle							
3/8"	7/8"	2"	13/16"	9/16"	9/16"	6399K49	43.80
5/8"	7/8"	3"	1 1/4"	9/16"	11/16"	6399K51	62.17

Hole Dia.	Hole Dp.	(A)	(B)	(C)	(D)		Each
Round with Smooth Rim							
(8) Black Nylon (–20° to +175°F)							
1/4"	3/4"	1"	1/2"	15/16"	▲	60865K72	$1.27
3/8"	7/8"	1 3/16"	1 1/16"	1 1/16"	▲	60865K73	3.25
1/2"	1 5/16"	1 9/16"	3/4"	1 7/16"	▲	60865K74	2.85
Two Arm							
(9) Black Nylon (–15° to +150°F)							
3/8"	1/8"	1 1/8"	1/2"	9/16"	1/8"	65035K81■	1.00
Four Arm							
(10) Aluminum							
1/4"	1/2"	1 1/4"	9/16"	5/16"	9/16"	6047K41	3.89
3/8"	5/8"	1 1/2"	1 1/16"	3/8"	1 1/16"	6047K42	5.15
3/8"	7/8"	2 1/8"	7/8"	1/2"	15/16"	6047K43	5.68
1/2"	7/8"	2 1/8"	7/8"	1/2"	15/16"	6047K44	5.68
5/8"	1 1/4"	3"	1 3/8"	1 1/16"	1 1/4"	6047K45	8.78
3/4"	1 1/4"	3"	1 3/8"	1 1/16"	1 1/4"	6047K46	8.78
(11) Aluminum							
1/4"	1/2"	1"	1/2"	3/8"	1/2"	61135K211	5.67
5/16"	5/8"	1 1/2"	5/8"	1/2"	3/8"	61135K221	6.13
3/8"	5/8"	2"	13/16"	1/2"	1/2"	61135K231	7.21
1/2"	3/4"	2 1/2"	1"	9/16"	9/16"	61135K241	9.23
5/8"	3/4"	3"	1 1/4"	5/8"	5/8"	61135K251	11.44
(12) Type 303 Stainless Steel							
1/4"	1/2"	1 1/4"	1/2"	3/8"	3/8"	4384K31	11.80
5/16"	9/16"	1 9/16"	9/16"	1/2"	1/2"	4384K32	13.04
3/8"	11/16"	1 15/16"	11/16"	9/16"	11/16"	4384K33	27.69
1/2"	13/16"	2 1/2"	13/16"	13/16"	13/16"	4384K34	23.16
Six Lobe							
(13) Aluminum							
1/4"	3/4"	1 1/2"	7/8"	7/16"	7/8"	61515K211	4.99
3/8"	3/4"	2"	1"	5/8"	7/8"	61515K221	6.14
1/2"	1 1/4"	3 1/2"	1 1/4"	3/4"	1"	61515K241★	9.32
Seven Lobe							
(14) Type 303 Stainless Steel							
1/4"	1/2"	1 1/4"	1/2"	3/8"	3/8"	8558K56	11.86
5/16"	9/16"	1 9/16"	9/16"	1/2"	1/2"	8558K57	14.96
3/8"	3/4"	1 15/16"	11/16"	5/8"	11/16"	8558K58	19.43
1/2"	13/16"	2 1/2"	3/4"	3/4"	13/16"	8558K59	25.47

▲ No hub projection. ■ Use with a socket head cap screw. ★ Has eight lobes.

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Unthreaded Knobs with Set Screw

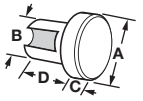


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5

The set screw allows you to tighten these knobs to a shaft.

Hole Dia.	Dp.	(A)	(B)	(C)	(D)	Set Screw Size		Each ♦
Round with Knurled Rim								
(1) Black-Oxide Steel								
1/4"	1/2"	1"	5/8"	1/4"	1/2"	10-32	6333K2	$4.08
5/16"	5/8"	1 1/2"	3/4"	5/16"	11/16"	1/4"-20	6333K5	4.79
3/8"	5/8"	2"	1"	3/8"	3/4"	5/16"-18	6333K8	6.11
1/2"	3/4"	2 1/2"	1 1/2"	9/16"	15/16"	5/16"-18	6333K11	11.26
(1) Brass								
1/4"	1/2"	1"	5/8"	1/4"	1/2"	10-32	5125K1	9.11
5/16"	5/8"	1 1/2"	3/4"	5/16"	11/16"	1/4"-20	5125K2	15.49
3/8"	5/8"	2"	1"	3/8"	3/4"	5/16"-18	5125K3	26.71
1/2"	3/4"	2 1/2"	1 1/2"	9/16"	15/16"	5/16"-18	5125K4	51.37
(1) Type 303 Stainless Steel								
1/4"	1/2"	1"	5/8"	1/4"	1/2"	10-32	2577K21	7.55
5/16"	5/8"	1 1/2"	3/4"	5/16"	11/16"	1/4"-20	2577K51	9.42
3/8"	5/8"	2"	1"	3/8"	3/4"	5/16"-18	2577K81	12.11
1/2"	3/4"	2 1/2"	1 1/2"	9/16"	15/16"	5/16"-18	2577K12	23.05
(2) Black Phenolic (–30° to +400° F)								
1/4"	1/2"	1 1/4"	3/4"	1/2"	1/4"	8-32	1373T66	3.42
1/4"	1/2"	1 3/4"	1"	1/2"	7/16"	8-32	1373T65	3.58
Round with Fluted Rim								
(3) Black Phenolic (–30° to +400° F)								
1/4"	7/16"	7/8"	5/8"	3/8"	1/8"	8-32	6479K67	2.17
3/8"	13/16"	2 1/2"	1 1/4"	11/16"	5/8"	10-32	6479K75	5.25
1/2"	1"	2 1/2"	1 1/4"	11/16"	5/8"	10-32	6479K76	5.25
(3) Black Phenolic with Brass Insert (–30° to +400° F)								
1/4"	1/2"	1 3/4"	3/4"	3/8"	5/8"	8-32	6479K25	3.00
5/16"	1/2"	1 3/4"	3/4"	3/8"	3/8"	8-32	6479K78	5.33
3/8"	9/16"	3"	1 1/4"	5/8"	7/8"	10-32	6479K98	6.97
1/2"	9/16"	3"	1 1/4"	5/8"	7/8"	10-32	6479K99	6.95
Three Arm								
(4) Black Phenolic with Brass Insert (–30° to +400° F)								
1/4"	7/16"	1 1/2"	5/8"	5/8"	1/4"	8-32	57715K66	4.03
Five Arm								
(5) Black Phenolic with Brass Insert (–30° to +450° F)								
1/4"	7/16"	15/8"	13/16"	5/8"	1/4"	10-32	7129T46	5.08

Metric Unthreaded Knobs

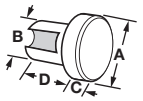


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8

Hole Dia., mm	Dp., mm	(A) mm	(B) mm	(C) mm	(D) mm		Each ♦
Four Arm							
(6) Aluminum							
6	12	25	13	9	13	61135K52	$5.90
8	16	38	16	12	10	61135K55	6.36
10	16	51	21	12	13	61135K58	7.49
12	20	64	25	14	14	61135K62	9.56
Five Arm							
(7) Aluminum							
8	15	40	14	13	13	62015K211	12.09
10	18	50	19	16	16	62015K311	15.72
12	22	60	21	20	20	62015K411	21.80
16	28	70	26	23	23	62015K511	30.53
Seven Lobe							
(8) Black Nylon with Zinc-Plated Steel Hub (–40° to +230° F)							
6	12	32	12	10	10	6720K212	2.58
8	14	40	14	13	13	6720K222	3.24
10	18	50	18	15	17	6720K232	5.49
12	22	63	20	19	21	6720K242	9.93

Knobs with Unthreaded Through Hole

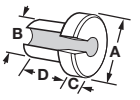


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10


11


12


13


14


15


16

Knobs ***with set screw*** allow you to tighten them to a shaft.

Hole Dia.	(A)	(B)	(C)	(D)	Set Screw Size		Each ♦
Round with Knurled Rim							
(9) Black-Oxide Steel							
1/4"	1"	5/8"	1/4"	1/2"	_____	6121K34	$3.39
5/16"	1 1/2"	3/4"	5/16"	11/16"	_____	6121K35	4.25
3/8"	2"	1"	3/8"	3/4"	_____	6121K36	5.58
1/2"	2 1/2"	1 1/2"	9/16"	15/16"	_____	6121K37	10.92
5/8"	3"	1 3/4"	5/8"	1 1/8"	_____	6121K38	14.92
(9) Type 303 Stainless Steel							
1/4"	1"	5/8"	1/4"	1/2"	_____	60205K41	7.46
5/16"	1 1/2"	3/4"	5/16"	11/16"	_____	60205K42	9.43
3/8"	2"	1"	3/8"	3/4"	_____	60205K43	12.31
1/2"	2 1/2"	1 1/2"	9/16"	15/16"	_____	60205K44	24.23
5/8"	3"	1 3/4"	5/8"	1 1/8"	_____	60205K45	29.64
(10) Black-Oxide Steel with Set Screw							
1/4"	1"	5/8"	1/4"	1/2"	10-32	6333K17	4.08
5/16"	1 1/2"	3/4"	5/16"	11/16"	1/4"-20	6333K22	4.79
3/8"	2"	1"	3/8"	3/4"	5/16"-18	6333K25	6.11
1/2"	2 1/2"	1 1/2"	9/16"	15/16"	5/16"-18	6333K28	11.26
(10) Type 303 Stainless Steel with Set Screw							
1/4"	1"	5/8"	1/4"	1/2"	10-32	2577K18	7.55
5/16"	1 1/2"	3/4"	5/16"	11/16"	1/4"-20	2577K23	9.42
3/8"	2"	1"	3/8"	3/4"	5/16"-18	2577K26	12.11
1/2"	2 1/2"	1 1/2"	9/16"	15/16"	5/16"-18	2577K29	23.05
Round with Fluted Rim							
(11) Die Cast Zinc							
1/4"	2"	3/4"	5/16"	5/16"	_____	6048K27	4.63
5/16"	2"	3/4"	5/16"	5/16"	_____	6048K28	4.63
3/8"	2"	3/4"	5/16"	5/16"	_____	6048K29	4.63
3/8"	2 1/2"	1 1/8"	7/16"	7/16"	_____	6048K31	6.74
1/2"	2 1/2"	1 1/8"	7/16"	7/16"	_____	6048K32	6.74
5/8"	2 1/2"	1 1/8"	7/16"	7/16"	_____	6048K33	6.74
(12) Black Phenolic (–30° to +450° F)							
1/4"	1 1/4"	5/8"	3/8"	3/8"	_____	6479K11	2.55
5/16"	1 1/4"	5/8"	3/8"	3/8"	_____	6479K12	2.55
5/16"	1 3/4"	3/4"	3/8"	3/8"	_____	6479K28	2.95
3/8"	1 3/4"	3/4"	3/8"	3/8"	_____	6479K29	2.95
Four Arm							
(13) Cast Iron							
1/4"	1 1/8"	9/16"	5/16"	3/8"	_____	6042K57	6.26
5/16"	1 1/2"	5/8"	7/16"	9/16"	_____	6042K58	6.60
3/8"	2"	3/4"	7/16"	9/16"	_____	6042K59	7.48
5/8"	2 1/2"	1"	1/2"	1 3/4"	_____	6042K62	11.00
1/2"	2 9/16"	1 1/8"	1/2"	1"	_____	6042K61	9.10
(14) Type 303 Stainless Steel							
1/4"	1 1/4"	1/2"	3/8"	3/8"	_____	4384K35	11.31
5/16"	1 9/16"	9/16"	1/2"	1/2"	_____	4384K36	12.56
3/8"	1 15/16"	11/16"	9/16"	11/16"	_____	4384K37	16.47
1/2"	2 1/2"	13/16"	13/16"	13/16"	_____	4384K38	22.18
Five Arm							
(15) Black Nylon (–15° to +150° F)							
1/4"	2 1/4"	13/16"	1/2"	5/16"	_____	59625K21	3.50
5/16"	2 1/4"	13/16"	1/2"	5/16"	_____	59625K22	3.50
3/8"	2 1/4"	13/16"	1/2"	5/16"	_____	59625K23	3.50
Six Lobe							
(16) Cast Iron							
3/8"	1 1/2"	7/8"	1/2"	1 1/2"	_____	6042K51	8.76
3/8"	2"	7/8"	1/2"	1/2"	_____	6042K162	8.94
3/8"	2"	7/8"	1/2"	1 1/2"	_____	6042K52	9.58
1/2"	2 3/4"	1 1/4"	1/2"	3/4"	_____	6042K53	11.68
1/2"	2 3/4"	1 1/4"	1/2"	1 1/2"	_____	6042K54	13.44
3/4"	3 1/2"	1 5/8"	5/8"	7/8"	_____	6042K55	17.38

♦ ***Prices are 10% lower when you buy in quantities of 10 or more.***

Knobs with Threaded Through Hole

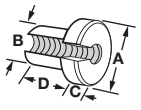

Threaded Hole

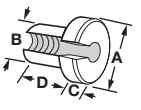

Threaded Insert



1



2



3



4



5



6

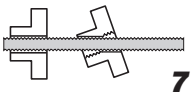

7



8



9

Knobs ***with set screw*** allow you to tighten them to a shaft. Set screw size is ¼″-20.

(Style 7) Fast Lock—The angled through hole lets you quickly slide the knob along a threaded shaft. To engage threads, straighten knob and tighten. *Note:* Not recommended for use where vibration is a concern.

Thread Size	(A)	(B)	(C)	(D)		Each ♦
Round with Knurled Rim						
(1) Black-Oxide Steel						
10-24	¾″	½″	¼″	⅜″	6121K111	$3.00
¼″-20	¾″	½″	¼″	⅜″	6121K211	3.00
¼″-20	1″	⅝″	¼″	½″	6121K311	3.44
¼″-28	1″	⅝″	¼″	½″	6121K54	3.44
5/16″-18	1″	⅝″	¼″	½″	6121K411	3.44
5/16″-18	1½″	¾″	5/16″	11/16″	6121K511	4.32
5/16″-24	1½″	¾″	5/16″	11/16″	6121K55	4.33
⅜″-16	1½″	¾″	5/16″	11/16″	6121K611	4.32
⅜″-16	2″	1″	⅜″	¾″	6121K711	5.64
⅜″-24	2″	1″	⅜″	¾″	6121K56	5.67
½″-13	2″	1″	⅜″	¾″	6121K811	5.86
½″-13	2½″	1½″	9/16″	15/16″	6121K911	10.80
½″-20	2½″	1½″	9/16″	15/16″	6121K57	10.81
⅝″-11	2½″	1½″	9/16″	15/16″	6121K112	10.81
⅝″-11	3″	1¾″	⅝″	1⅛″	6121K122	14.89
¾″-10	3″	1¾″	⅝″	1⅛″	6121K132	14.89
(1) Brass						
¼″-20	¾″	½″	¼″	⅜″	5125K21	2.92
¼″-20	1″	⅝″	¼″	½″	5125K22	5.94
5/16″-18	1″	⅝″	¼″	½″	5125K23	5.94
5/16″-18	1½″	¾″	5/16″	11/16″	5125K24	12.31
⅜″-16	1½″	¾″	5/16″	11/16″	5125K25	12.31
½″-13	2″	1″	⅜″	¾″	5125K26	23.51
(1) Aluminum						
5/16″-18	1″	½″	⅜″	7/16″	6077K31	6.34
⅜″-16	2″	13/16″	9/16″	9/16″	6077K32	15.77
(1) Type 303 Stainless Steel						
10-24	¾″	½″	¼″	⅜″	60205K211	5.95
¼″-20	¾″	½″	¼″	⅜″	60205K221	5.95
¼″-20	1″	⅝″	¼″	½″	60205K231	6.82
¼″-28	1″	⅝″	¼″	½″	60205K81	6.82
5/16″-18	1″	⅝″	¼″	½″	60205K241	6.82
5/16″-18	1½″	¾″	5/16″	11/16″	60205K251	8.54
5/16″-24	1½″	¾″	5/16″	11/16″	60205K82	8.54
⅜″-16	1½″	¾″	5/16″	11/16″	60205K261	8.54
⅜″-16	2″	1″	⅜″	¾″	60205K271	11.26
⅜″-24	2″	1″	⅜″	¾″	60205K83	11.26
½″-13	2″	1″	⅜″	¾″	60205K281	11.26
½″-13	2½″	1½″	9/16″	15/16″	60205K291	21.54
½″-20	2½″	1½″	9/16″	15/16″	60205K84	21.54
⅝″-11	2½″	1½″	9/16″	15/16″	60205K311	21.54
⅝″-11	3″	1¾″	⅝″	1⅛″	60205K321	28.93
¾″-10	3″	1¾″	⅝″	1⅛″	60205K331	28.93
Round with Fluted Rim						
(2) Black Comfort-Grip Polypropylene w/ Steel Insert (–15° to +200°F)						
5/16″-18	2½″	1¼″	11/16″	9/16″	5532T33	2.95
⅜″-16	2½″	1¼″	11/16″	9/16″	5532T35	3.07
½″-13	2½″	1¼″	11/16″	9/16″	5532T37	3.19
Two Arm						
(3) Black Nylon with Brass Insert (–15° to +150°F)						
¼″-20	1⅛″	½″	9/16″	⅛″	6477K58	1.15
Three Arm						
(4) Black Polypropylene with Brass Insert (–15° to +125°F)						
¼″-20	1½″	⅝″	⅝″	¼″	57715K75	1.18
5/16″-18	1½″	⅝″	⅝″	¼″	57715K74	1.25
⅜″-16	1½″	⅝″	⅝″	¼″	57715K76	1.65
(4) Black Phenolic with Brass Insert (–30° to +400°F)						
10-32	1⅛″	½″	½″	¼″	57715K22	1.62
¼″-20	1⅛″	½″	½″	¼″	57715K23	1.68

Thread Size	(A)	(B)	(C)	(D)		Each ♦
Three Arm (Cont.)						
(4) Black Phenolic with Brass Insert (Cont.)						
¼″-20	1½″	⅝″	⅝″	¼″	57715K24	$1.90
5/16″-18	1½″	⅝″	⅝″	¼″	57715K25	1.95
5/16″-18	2″	¾″	⅝″	⅜″	57715K26	2.60
⅜″-16	2″	¾″	⅝″	⅜″	57715K27	2.82
Four Arm						
(5) Cast Iron						
¼″-20	1⅛″	9/16″	5/16″	⅜″	6042K77	6.26
5/16″-18	1½″	⅝″	7/16″	9/16″	6042K78	6.60
⅜″-16	2″	¾″	7/16″	9/16″	6042K79	7.48
½″-13	2 9/16″	1⅛″	½″	1″	6042K81	9.10
⅝″-11	2½″	1″	½″	1¾″	6042K82	11.00
(5) Cast Iron with Set Screw						
⅜″-16	2″	¾″	7/16″	9/16″	3948T25	10.97
½″-13	2 9/16″	1⅛″	½″	1″	3948T26	12.93
⅝″-11	2½″	1″	½″	1¾″	3948T27	19.48
(6) Black-Oxide Steel						
¼″-20	1½″	⅝″	⅜″	½″	3992T29	6.60
5/16″-18	2″	13/16″	½″	½″	3992T31	10.43
⅜″-16	2½″	1″	9/16″	9/16″	3992T32	19.49
½″-13	2½″	1″	9/16″	9/16″	3992T33	19.49
(6) Brass						
¼″-20	1″	½″	⅜″	½″	5125K46	7.03
5/16″-18	1½″	⅝″	⅜″	⅜″	5125K47	13.69
⅜″-16	2″	13/16″	½″	½″	5125K48	25.91
½″-13	2½″	1″	9/16″	9/16″	5125K49	53.91
(6) Aluminum						
¼″-20	1″	½″	⅜″	½″	61135K31	5.95
5/16″-18	1½″	⅝″	⅜″	⅜″	61135K33	6.31
⅜″-16	2″	13/16″	½″	½″	61135K35	7.46
½″-13	2½″	1″	9/16″	9/16″	61135K37	9.26
(7) Fast-Lock Steel						
¼″-20	1⅛″	9/16″	5/16″	5/16″	6032K11	5.08
5/16″-18	1½″	11/16″	⅜″	½″	6032K12	5.95
⅜″-16	2″	13/16″	½″	½″	6032K13	6.82
½″-13	2½″	1″	9/16″	9/16″	6032K14	8.34
⅝″-11	3″	1¼″	⅝″	⅝″	6032K15	10.50
¾″-10	3″	1¼″	⅝″	⅝″	6032K16	17.48
(8) Type 303 Stainless Steel						
¼″-20	1¼″	½″	⅜″	⅜″	4384K1	11.64
5/16″-18	1 9/16″	9/16″	½″	½″	4384K2	13.04
⅜″-16	1 15/16″	11/16″	9/16″	11/16″	4384K3	17.11
½″-13	2½″	13/16″	13/16″	13/16″	4384K4	22.82
(9) Black Polypropylene with Brass Insert (–15° to +125°F)						
¼″-20	1¾″	¾″	9/16″	7/16″	5993K54	1.89
5/16″-18	1¾″	¾″	9/16″	7/16″	5993K55	1.95
5/16″-18	2¼″	1″	9/16″	7/16″	5993K84	2.27
⅜″-16	1¾″	¾″	9/16″	7/16″	5993K56	2.27
⅜″-16	2¼″	1″	9/16″	7/16″	5993K85	2.54
(9) Black Nylon with Brass Insert (–15° to +150°F)						
¼″-20	1¼″	½″	⅜″	½″	5993K22	1.84
¼″-20	2¼″	1″	9/16″	7/16″	5993K83	2.14
(9) Black Phenolic with Brass Insert (–30° to +400°F)						
¼″-20	1½″	⅝″	½″	½″	5993K63	2.03
5/16″-18	1½″	⅝″	½″	½″	5993K64	2.08
5/16″-18	2″	⅞″	½″	½″	5993K66	2.76
⅜″-16	2″	⅞″	½″	½″	5993K31	3.05
⅜″-24	2″	⅞″	½″	½″	5993K32	3.05
½″-13	2″	⅞″	½″	11/16″	5993K33	4.30
½″-20	2″	⅞″	½″	⅝″	5993K34	4.51

(Continued on following page)

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Knobs with Threaded Through Hole *(Continued from previous page)*

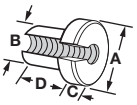

Threaded Hole

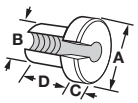

Threaded Insert


10


11


12


13


14

Knobs ***with set screw*** allow you to tighten them to a shaft. Set screw size is 1/4″-20.
(Style 10) Choose-a-Color— **to Order:** Please specify knob color: black, blue, green, orange, red, or white.

Thread Size	(A)	(B)	(C)	(D)		Each ♦
Four Arm (Cont.)						
(10) Choose-a-Color Nylon with Brass Insert *(+14° to +248°F)*						
1/4″-20	1 3/4″	3/4″	9/16″	7/16″	7921K61	$2.25
5/16″-18	2 1/4″	1″	9/16″	7/16″	7921K62	2.66
3/8″-16	2 1/4″	1″	9/16″	7/16″	7921K63	2.97
1/2″-13	2 1/4″	1″	9/16″	7/16″	7921K64	4.06
Five Arm						
(11) Cast Iron						
5/8″-11	3″	1 1/4″	1/2″	1 1/4″	6042K83	14.72
3/4″-10	3 1/4″	1 1/2″	1/2″	1 1/4″	6042K84	15.40
(11) Cast Iron with Set Screw						
5/8″-11	3″	1 1/4″	1/2″	1 1/4″	3948T28	23.60
3/4″-10	3 1/4″	1 1/2″	1/2″	1 1/4″	3948T29	24.10
Six Lobe						
(12) Cast Iron						
3/8″-16	1 1/2″	7/8″	1/2″	1 1/2″	6042K71	8.76
3/8″-16	2″	7/8″	1/2″	1/2″	6042K161	8.94
3/8″-16	2″	7/8″	1/2″	1 1/2″	6042K72	9.58
1/2″-13	2 3/4″	1 1/4″	1/2″	3/4″	6042K73	11.68
1/2″-13	2 3/4″	1 1/4″	1/2″	1 1/2″	6042K74	13.44
3/4″-10	3 1/2″	1 5/8″	5/8″	7/8″	6042K75	17.38

Thread Size	(A)	(B)	(C)	(D)		Each ♦
Six Lobe (Cont.)						
(12) Cast Iron with Set Screw						
3/8″-16	2″	7/8″	1/2″	1 1/2″	3948T21	$13.53
1/2″-13	2 3/4″	1 1/4″	1/2″	3/4″	3948T22	16.15
1/2″-13	2 3/4″	1 1/4″	1/2″	1 1/2″	3948T23	18.38
3/4″-10	3 1/2″	1 5/8″	5/8″	7/8″	3948T24	26.62
Seven Lobe						
(13) Type 303 Stainless Steel						
1/4″-20	1 1/4″	1/2″	7/16″	7/16″	8558K1	11.49
5/16″-18	1 9/16″	9/16″	1/2″	1/2″	8558K2	14.51
3/8″-16	1 15/16″	11/16″	5/8″	11/16″	8558K3	17.12
1/2″-13	2 1/2″	3/4″	3/4″	13/16″	8558K4	21.02
(14) Black Nylon with Steel Insert *(–40° to +200°F)*						
1/4″-20	1 1/4″	9/16″	7/16″	3/8″	6092K11	2.23
5/16″-18	1 9/16″	11/16″	1/2″	1/2″	6092K13	3.00
3/8″-16	2″	7/8″	5/8″	11/16″	6092K15	4.17
1/2″-13	2 1/2″	1″	3/4″	13/16″	6092K17	5.91

Metric Knobs with Threaded Through Hole

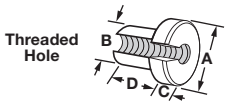

Threaded Hole

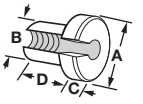

Threaded Insert


1


2


3

Thread Size	(A) mm	(B) mm	(C) mm	(D) mm		Each ♦
Round with Knurled Rim						
(1) Steel						
M5×0.8	19	13	6	10	60765K313	$2.77
M6×1	19	13	6	10	60765K323	2.77
M6×1	25	16	6	13	60765K333	3.18
M8×1.25	25	16	6	13	60765K343	3.18
M8×1.25	38	19	8	17	60765K353	4.03
M10×1.5	38	19	8	17	60765K363	4.03
M10×1.5	51	25	10	19	60765K373	5.23
M12×1.75	51	25	10	19	60765K383	5.41
(1) Type 303 Stainless Steel						
M5×0.8	19	13	6	10	62265K513	6.44
M6×1	19	13	6	10	62265K523	6.44
M6×1	25	16	6	13	62265K533	6.65
M8×1.25	25	16	6	13	62265K543	7.39
M8×1.25	38	19	8	17	62265K553	9.28
M10×1.5	38	19	8	17	62265K563	9.28
M10×1.5	51	25	10	19	62265K573	10.97
M12×1.75	51	25	10	19	62265K583	10.97

Thread Size	(A) mm	(B) mm	(C) mm	(D) mm		Each ♦
Six Lobe						
(2) Phenolic with Brass Insert *(–4° to +240°F)*						
M6×1	40	21	15	13	4273T81	$5.92
M8×1.25	40	21	15	13	4273T82	6.12
M8×1.25	50	24	17	15	4273T84	7.54
M10×1.5	40	21	15	13	4273T83	6.12
M10×1.5	50	24	17	15	4273T85	7.64
M12×1.75	50	24	17	15	4273T86	7.64
M12×1.75	60	28	20	15	4273T87	9.48
M16×2	60	28	20	15	4273T88	9.98
M16×2	70	32	21	21	4273T89	12.71
Seven Lobe						
(3) Black Nylon with Zinc-Plated Steel Insert *(–40° to +200°F)*						
M6×1	32	14	10	10	6092K21	2.23
M8×1.25	40	18	12	13	6092K23	3.00
M10×1.5	50	22	15	17	6092K25	4.17
M12×1.75	63	26	19	21	6092K27	5.91

Pry-to-Tighten Knobs

When hand-tightening isn't possible, insert a metal bar between the pins of these knobs for the leverage you need. Turn the bar (sold separately on page 3751) to tighten. Knobs are made of zinc-plated ductile iron.

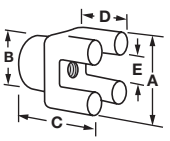



Thread Size	(A)	(B)	(C)	(D)	(E)		Each ♦
With Threaded Through Hole							
3/8″-16	2″	1 1/4″	2 1/8″	1 1/4″	7/16″	6145K14	$9.21
1/2″-13	2″	1 1/4″	2 1/8″	1 1/4″	7/16″	6145K15	9.21
1/2″-13	2 1/2″	1 1/2″	2 3/8″	1 7/16″	11/16″	6145K22	12.88
5/8″-11	2″	1 1/4″	2 1/8″	1 1/4″	7/16″	6145K16	9.21
5/8″-11	2 1/2″	1 1/2″	2 3/8″	1 7/16″	11/16″	6145K23	12.88
3/4″-10	2 1/2″	1 1/2″	2 3/8″	1 7/16″	11/16″	6145K24	12.88
With Solid Hub							
———	2″	1 1/4″	2 1/8″	1 1/4″	7/16″	6145K1	7.00
———	2 1/2″	1 1/2″	2 3/8″	1 7/16″	11/16″	6145K2	10.56

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Knobs with Solid Hub

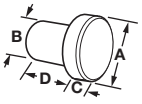


1


2


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4


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7


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10


11

(A)	(B)	(C)	(D)		Each ♦
Round with Knurled Rim					
(1) Black-Oxide Steel					
3/4"	1/2"	1/4"	3/8"	6121K91	$3.00
1"	5/8"	1/4"	1/2"	6121K92	3.44
1 1/2"	3/4"	5/16"	11/16"	6121K93	4.31
2"	1"	3/8"	3/4"	6121K94	5.86
2 1/2"	1 1/2"	9/16"	15/16"	6121K95	10.81
3"	1 3/4"	5/8"	1 1/8"	6121K96	14.88
(1) Brass					
3/4"	1/2"	1/4"	3/8"	5125K51	2.60
1"	5/8"	1/4"	1/2"	5125K52	5.69
1 1/2"	3/4"	5/16"	11/16"	5125K53	11.71
2"	1"	3/8"	3/4"	5125K54	22.80
(1) Type 303 Stainless Steel					
3/4"	1/2"	1/4"	3/8"	60205K34	6.80
1"	5/8"	1/4"	1/2"	60205K35	7.60
1 1/2"	3/4"	5/16"	11/16"	60205K36	9.51
2"	1"	3/8"	3/4"	60205K37	12.69
2 1/2"	1 1/2"	9/16"	15/16"	60205K38	24.00
3"	1 3/4"	5/8"	1 1/8"	60205K39	33.66
(2) Domed Aluminum					
1"	5/8"	1/2"	7/16"	7762K61	7.37
2"	1"	11/16"	1/2"	7762K62	11.23
2 1/4"	1 1/4"	3/4"	5/8"	7762K63	13.28
(3) Aluminum					
1"	1/2"	3/8"	7/16"	6077K12	4.50
2"	13/16"	9/16"	9/16"	6077K14	12.50
3"	1 1/4"	11/16"	9/16"	6077K16	22.45
(3) Type 303 Stainless Steel					
1"	1/2"	3/8"	7/16"	6399K41	8.31
2"	13/16"	9/16"	9/16"	6399K42	12.89
3"	1 1/4"	11/16"	9/16"	6399K43	34.72
(4) Aluminum with Chrome-Plated Brass Handle					
2"	13/16"	9/16"	9/16"	6077K18■	18.52
3"	1 1/4"	9/16"	11/16"	6077K21	28.15
(4) Type 303 Stainless Steel with Chrome-Plated Brass Handle					
2"	13/16"	9/16"	9/16"	6399K47■	42.67
3"	1 1/4"	9/16"	11/16"	6399K48	59.81
Round with Fluted Rim					
(5) Black Phenolic (–30° to +450°F)					
1 1/4"	5/8"	3/8"	3/8"	6479K13	1.55
1 3/4"	3/4"	3/8"	3/8"	6479K31	1.95

■ Handle length is 1 1/4".

(A)	(B)	(C)	(D)		Each ♦
Four Arm					
(6) Cast Iron					
1 1/8"	9/16"	5/16"	3/8"	6042K37	$3.38
1 1/2"	5/8"	7/16"	9/16"	6042K38	3.82
2"	3/4"	7/16"	9/16"	6042K39	4.32
2 1/2"	1"	1/2"	1 3/4"	6042K42	6.94
2 9/16"	1 1/8"	1/2"	1"	6042K41	5.56
(7) Aluminum					
1 1/4"	9/16"	5/16"	9/16"	6047K11	2.25
1 1/2"	11/16"	3/8"	11/16"	6047K12	3.33
2 1/8"	7/8"	1/2"	15/16"	6047K13	3.97
3"	1 3/8"	11/16"	1 1/4"	6047K14	6.53
(8) Brass					
1"	1/2"	3/8"	1/2"	5125K55	6.32
1 1/2"	5/8"	1/2"	3/8"	5125K56	12.97
2"	13/16"	1/2"	1/2"	5125K57	25.20
2 1/2"	1"	9/16"	9/16"	5125K58	53.17
(8) Aluminum					
1"	1/2"	3/8"	1/2"	61135K11	3.38
1 1/2"	5/8"	1/2"	3/8"	61135K12	4.26
2"	13/16"	1/2"	1/2"	61135K13	4.87
2 1/2"	1"	9/16"	9/16"	61135K14	6.36
3"	1 1/4"	5/8"	5/8"	61135K15	8.97
Five Arm					
(9) Cast Iron					
3"	1 1/4"	1/2"	1 1/4"	6042K43	10.48
3 1/4"	1 1/2"	1/2"	1 1/4"	6042K44	10.88
Six Lobe					
(10) Cast Iron					
1 1/2"	7/8"	1/2"	1 1/2"	6042K31	4.62
2"	7/8"	1/2"	1/2"	6042K36	4.94
2"	7/8"	1/2"	1 1/2"	6042K32	5.34
2 3/4"	1 1/4"	1/2"	3/4"	6042K33	7.30
2 3/4"	1 1/4"	1/2"	1 1/2"	6042K34	8.58
3 1/2"	1 5/8"	5/8"	7/8"	6042K35	12.90
(11) Aluminum					
1 1/2"	7/8"	1/2"	7/8"	61515K11	2.89
2"	1"	3/4"	7/8"	61515K12	4.12
3 1/2"	1 1/4"	13/16"	1"	61515K14★	6.53

★ Has eight lobes.

Push-Pull Knobs

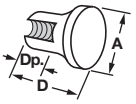


12


13


14

Easy to grip, these knobs are made of scratch-resistant black phenolic and have a brass threaded insert, unless noted. Temperature range is –30° to +400°F.

	Thread Size	Dp.	(A)	(D)		Each ♦
12	6-32	1/4"	5/8"	3/4"	6044K51	$1.04
12	8-32	3/8"	5/8"	3/4"	6044K52	1.07
12	8-32	3/8"	13/16"	3/4"	6044K58	.78
12	8-32	3/8"	7/8"	7/8"	6044K61	.84
12	8-32	3/8"	1 1/16"	1 1/16"	6044K64	.87
12	10-32	5/16"	5/8"	9/16"	6044K53	1.07
12	10-32	3/8"	13/16"	3/4"	6044K59	.82
12	10-32	3/8"	7/8"	7/8"	6044K62	.78
12	10-32	3/8"	1 1/16"	1 1/16"	6044K65	.89
12	1/4"-20	3/8"	7/8"	7/8"	6044K63	.84

	Thread Size	Dp.	(A)	(D)		Each ♦
13	8-32	3/8"	13/16"	5/8"	6044K77	$0.78
13	8-32	3/8"	1 1/16"	3/4"	6044K78	1.00
13	10-32	3/8"	13/16"	5/8"	6044K84	.84
13	10-32	3/8"	13/16"	13/16"	6044K83■	.89
14	8-32	3/8"	1 1/2"	7/8"	6044K71	1.31
14	10-32	3/8"	1 1/2"	7/8"	6044K72	1.40
14	1/4"-20	7/16"	1 1/2"	7/8"	6044K73■	1.11

■ No metal insert. Threads are molded into phenolic.

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Indicating Knobs



Be sure of your settings with these knobs. They're made of scratch-resistant black phenolic and have an unthreaded hole. Temperature range is –30° to +400° F. Knobs have a set screw for tightening, except knobs for D-shaped shafts without a set screw size listed, which have a spring. *Styles 1, 2, 3, 5, 11,* and *15* have a silver-colored cap.

	Fits Shaft Dia.	(A)	(D)	Hole Dp.	Set Screw Size		Each ♦
For Round Shafts							
1	1/4"	9/16"	5/8"	7/16"	6-32	6094K21	$3.55
1	1/4"	13/16"	5/8"	9/16"	8-32	6094K22	3.84
1	1/4"	1 1/16"	11/16"	9/16"	8-32	6094K23	4.22
2	1/4"	1 5/16"	5/8"	9/16"	8-32	6094K25	5.15
3	1/4"	1 1/16"	5/8"	1/2"	8-32	6094K24	3.90
4	1/4"	3/4"	1/2"	7/16"	8-32	6094K72	1.84
4	1/4"	1 1/8"	5/8"	1/2"	8-32	6094K74	1.82
5	1/4"	3/4"	1/2"	7/16"	8-32	6094K73	2.97
5	1/4"	1 1/8"	5/8"	1/2"	8-32	6094K75	3.49
6	1/4"	1/2"	5/8"	1/2"	6-32	6094K71	2.90
7	1/4"	1 1/4"	5/8"	1/2"	8-32	6094K15	4.50
8	1/4"	1 1/2"	3/4"	5/8"	8-32	6094K13	4.00
9	1/4"	1 1/4"	5/8"	1/2"	8-32	6094K17	2.27
10	1/4"	1 11/16"	5/8"	9/16"	8-32	6094K12	4.58
11	1/4"	1 1/2"	7/8"	3/4"	8-32	6094K42	5.12
11	1/4"	2 1/16"	7/8"	13/16"	8-32	6094K31	8.53
12	1/4"	2"	5/8"	1/2"	8-32	6094K46	2.74
13	1/4"	3/4"	9/16"	7/16"	8-32	6094K88	2.70
14	1/4"	1 1/8"	5/8"	7/16"	8-32	6094K89	2.90
For Round Shafts— *Hole has a brass insert.*							
5	1/4"	3/4"	1/2"	7/16"	6-32	6094K18	4.85
7	1/4"	1 1/4"	5/8"	1/2"	8-32	6094K28	4.38
8	1/4"	1 1/2"	3/4"	5/8"	8-32	6094K27	3.50
9	1/4"	1 1/4"	5/8"	1/2"	8-32	6094K54	2.75
10	1/4"	1 11/16"	5/8"	9/16"	8-32	6094K14	$3.87
11	1/4"	1 1/2"	7/8"	3/4"	8-32	6094K29	5.38
11	1/4"	2 1/16"	7/8"	13/16"	8-32	6094K32	7.11
15	1/4"	13/16"	1/2"	7/16"	M3 x 0.5	6094K81	1.29
15	1/4"	1"	9/16"	1/2"	M4 x 0.7	6094K82	1.62
15	1/4"	1 5/16"	11/16"	1/2"	M4 x 0.7	6094K83	1.67
15	1/4"	1 3/4"	13/16"	11/16"	M4 x 0.7	6094K84	2.31
16	1/4"	1 1/8"	1/2"	7/16"	8-32	6094K26	2.92
17	1/4"	2 1/2"	5/8"	5/16"	8-32	6094K16	2.75
18	1/4"	5/8"	9/16"	7/16"	M3 x 0.5	6094K85	1.55
18	1/4"	13/16"	5/8"	1/2"	M4 x 0.7	6094K86	1.70
18	1/4"	15/16"	13/16"	5/8"	M4 x 0.7	6094K37	2.30
18	1/4"	1 3/8"	11/16"	5/8"	M4 x 0.7	6094K87	1.78
19	1/4"	1 1/2"	11/16"	1/2"	8-32	6094K57	2.85
For D-Shaped Shafts							
3	1/4" flat	1 1/16"	5/8"	1/2"	—	6094K11	4.33
4	1/4" flat	3/4"	1/2"	7/16"	—	6094K91	2.08
4	1/4" flat	1 1/8"	5/8"	1/2"	—	6094K92	2.45
4	1/4" flat	1 1/4"	3/4"	5/8"	—	6094K93	2.80
8	1/4" flat	1 1/2"	3/4"	5/8"	—	6094K95	2.43
11	1/4" flat	1 1/2"	7/8"	3/4"	—	6094K19	3.95
11	1/4" flat	2 1/16"	7/8"	13/16"	8-32	6094K33	5.84
12	1/4" flat	2"	5/8"	1/2"	8-32	6094K96	4.14
19	1/4" flat	1 1/2"	11/16"	1/2"	—	6094K94	2.52

Comfort-Grip Indicating Knobs



The black thermoplastic elastomer shell on these knobs is soft to the touch and improves grip. They have a polypropylene core, an unthreaded hole, and a set screw for tightening onto the shaft. All except Style 20 have a gray position indicator. Temperature range is –15° to +210° F.

	Fits Shaft Dia.	(A)	(D)	Hole Dp.	Set Screw Size		Each ♦
20	1/4"	5/8"	9/16"	1/2"	4-40	60955K61	$2.63
21	1/4"	3/4"	11/16"	5/8"	4-40	60955K62	2.60
22	1/4"	3/4"	3/8"	5/16"	6-32	60955K63	2.87
23	1/4"	13/8"	7/8"	11/16"	6-32	60955K64	2.90
24	1/4"	1 1/2"	11/16"	7/16"	8-32	7354K11	4.97
24	1/4"	2"	11/16"	7/16"	8-32	7354K13	6.00
24	1/4"	2 1/2"	11/16"	7/16"	8-32	7354K15	7.77

Heavy Duty Indicating Knobs

Made of anodized aluminum, these knobs have an unthreaded hole. All have set screws for tightening onto a shaft.



Fits Shaft Dia.	(A)	(D)	Hole Dp.	Set Screw Size	*Knurled Rim*	Each ♦	*Ribbed Rim*	Each ♦
1/8"	1/2"	5/8"	1/2"	6-32	6332K32	$5.96	6332K38	$5.95
1/4"	1/2"	5/8"	1/2"	6-32	6332K34	5.96	6332K42	5.95
1/4"	15/16"	5/8"	1/2"	6-32	6332K36	6.95	6332K44	6.94

Turn-Counting Knobs

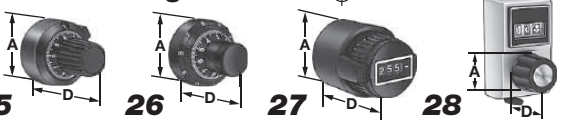

Simple to set and reset, these dial knobs have easy-to-read scales for monitoring the number of shaft turns. Use the included 4-40 set screw and hex key to tighten to the shaft. Flip the locking switch to prevent slipping and ensure long-term precision. Knobs are black.

Choose a knob with a maximum knob turn value that is equal to or greater than the number of turns required.

Styles 25&26 have two scales and a temperature range of 35° to 400° F. *Style 25* is plastic. *Style 26* is aluminum. ***Styles 27&28*** have one scale and are made of plastic. Temperature range is –22° to +185° F. *Style 28* has a 1 3/4" Ht. x 1" Wd. aluminum housing.

For installation instructions, go to mcmaster.com and search for 3148KAC.

	Fits Shaft Dia.	(A)	(D)	Hole Dp.	Max. Knob Turns		Each 1-2	Each 3-Up
25	1/4"	7/8"	1"	15/16"	20	3148K46	$27.85	$25.13
26	1/4"	1"	1"	13/16"	10	3148K44	26.22	23.65
27	1/4"	1 1/16"	1 1/4"	11/16"	10	3148K17	64.58	58.27
28	1/4"	9/16"	1"	1"	10	3148K33	89.03	80.33

Steering Wheel Knobs

Attach one of these knobs to pallet and lift truck steering wheels for one-hand operation. Also known as spinner knobs, all include fasteners.

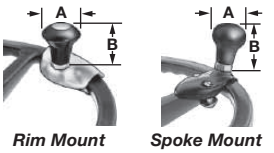

Rim Mount *Spoke Mount*

	Base/Knob Material	(A)	(B)		
Rim Mount	Steel/Plastic	1 7/8"	2 1/4"	2800T11	$14.20
Rim Mount	Type 316 Stainless Steel	1 1/2"	1 7/8"	2800T12	33.09
Spoke Mount	Plastic	1 7/8"	2 3/4"	2800T13	34.80

♦ Prices are 10% lower when you buy in quantities of 10.

Lever Shafts

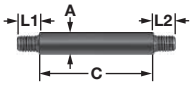

Attach a knob to create your own handle. Thread size is the same at both ends.

Inch

Thread Size	(L1)	(L2)	(A)	(C)	Black-Oxide Steel Each ♦		Type 303 Stainless Steel Each ♦	
10-24	3/8"	1/4"	1/4"	3/4"	8384K38	$5.72	8384K51	$8.62
10-24	3/8"	1/4"	1/4"	2 1/4"	8384K39	6.63	8384K52	10.22
10-32	3/8"	1/4"	1/4"	3/4"	8384K22	6.44	8384K53	9.38
10-32	3/8"	1/4"	1/4"	2 1/4"	8384K23	7.40	8384K54	10.90
1/4"-20	3/8"	1/4"	3/8"	1 3/4"	_____	___	8384K55	10.78
1/4"-20	1/2"	3/8"	3/8"	1 1/2"	8384K24	7.40	_____	___
1/4"-20	1/2"	3/8"	3/8"	5"	8384K25	9.12	8384K56	13.68
1/4"-28	3/8"	1/4"	3/8"	1 3/4"	8384K41	7.08	8384K57	10.90
1/4"-28	1/2"	3/8"	3/8"	5"	8384K42	8.88	8384K58	14.17
5/16"-18	1/2"	3/8"	3/8"	1 1/2"	8384K26	8.20	8384K59	12.10
5/16"-18	1/2"	3/8"	3/8"	5"	8384K27	9.40	8384K61	14.03
5/16"-24	1/2"	3/8"	3/8"	1 1/2"	8384K43	7.84	8384K62	12.10
5/16"-24	1/2"	3/8"	3/8"	5"	8384K44	9.16	8384K63	14.03
3/8"-16	1/2"	1/2"	1/2"	1 1/8"	8384K28	9.92	8384K64	14.80
3/8"-16	1/2"	1/2"	1/2"	2 5/8"	8384K29	10.52	8384K65	15.57
3/8"-16	1/2"	1/2"	1/2"	6 5/8"	8384K31	11.80	8384K66	17.50
3/8"-24	1/2"	1/2"	1/2"	2 5/8"	8384K46	10.16	8384K68	15.57
3/8"-24	1/2"	1/2"	1/2"	6 5/8"	8384K47	11.44	8384K69	17.50
1/2"-13	5/8"	5/8"	5/8"	4 1/8"	8384K32	14.00	8384K71	20.25
1/2"-13	5/8"	5/8"	5/8"	6 1/8"	8384K33	14.48	8384K72	21.07
1/2"-13	5/8"	5/8"	5/8"	8 1/8"	8384K34	15.92	8384K73	23.35
1/2"-20	5/8"	5/8"	5/8"	4 1/8"	8384K48	13.20	8384K74	20.23
1/2"-20	5/8"	5/8"	5/8"	6 1/8"	8384K49	13.76	8384K75	21.07
5/8"-11	3/4"	5/8"	3/4"	8"	8384K14	18.28	8384K79	28.02
5/8"-18	3/4"	3/4"	3/4"	7 7/8"	8384K17	18.28	8384K83	28.02

Metric

Thread Size	(L1) mm	(L2) mm	(A) mm	(C) mm	Black-Oxide Steel Each ♦		Type 303 Stainless Steel Each ♦	
M6×1	9.5	6.4	10	44	8384K85	$7.08	8384K91	$10.90
M8×1.25	12.7	9.5	10	38	8384K86	7.88	8384K92	12.10
M10×1.5	12.7	12.7	13	29	8384K87	9.68	8384K93	14.80
M12×1.75	15.9	15.9	16	105	8384K89	13.20	8384K94	20.23

Lever Handles

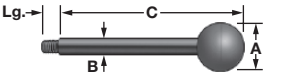

Handles ***with fixed ball knob*** are an ideal replacement for gear levers. Knob is black phenolic with a temperature range of –70° to +200° F. Shaft is black-oxide steel.

Handles ***with revolving ball knob*** provide a friction-free grip—perfect for hand wheels and cranks. Knob is black phenolic with a temperature range of –4° to +300° F. Shaft is zinc-plated steel.

Thread Size	Lg.	(A)	(B)	(C)		Each ♦
With Fixed Ball Knob—Inch						
10-32	3/8"	3/4"	1/4"	1 1/2"	6303K8	$4.68
10-32	3/8"	3/4"	1/4"	3"	6303K1	5.21
1/4"-20	3/8"	3/4"	1/4"	2 1/2"	6303K23	4.80
1/4"-20	3/8"	3/4"	1/4"	3 1/2"	6303K2	5.00
1/4"-20	1/2"	1"	3/8"	6"	6303K3	6.32
5/16"-18	1/2"	1"	3/8"	2 1/2"	6303K44	5.53
5/16"-18	1/2"	1"	3/8"	4"	6303K45	5.64
5/16"-18	1/2"	1"	3/8"	6"	6303K4	6.55
3/8"-16	1/2"	1 3/8"	1/2"	2 1/2"	6303K56	7.34
3/8"-16	1/2"	1 3/8"	1/2"	4"	6303K57	7.70
3/8"-16	1/2"	1 3/8"	1/2"	8"	6303K5	8.10
1/2"-13	5/8"	1 7/8"	5/8"	6"	6303K68	11.06
1/2"-13	5/8"	1 7/8"	5/8"	8"	6303K69	11.28
1/2"-13	5/8"	1 7/8"	5/8"	10"	6303K6	12.98
With Fixed Ball Knob—Metric						
M6×1	9.5 mm	19 mm	7 mm	76 mm	6402K12	5.28
M8×1.25	12.5 mm	26 mm	10 mm	152 mm	6402K14	6.60
M10×1.5	12.5 mm	35 mm	13 mm	203 mm	6402K16	8.45
M12×1.75	16 mm	48 mm	16 mm	254 mm	6402K18	12.55
With Revolving Ball Knob—Inch						
1/4"-20	7/16"	1"	3/8"	1 1/2"	6178T31	9.24
5/16"-18	1/2"	1 1/4"	1/2"	1 7/8"	6178T32	10.52
3/8"-16	9/16"	1 9/16"	5/8"	2 3/8"	6178T33	12.96
1/2"-13	13/16"	2"	13/16"	3 1/16"	6178T34	18.67
With Revolving Ball Knob—Metric						
M6×1	11 mm	25 mm	10 mm	38 mm	62125K31	7.67
M8×1.25	13 mm	32 mm	13 mm	48 mm	62125K32	9.24
M10×1.5	14 mm	40 mm	16 mm	61 mm	62125K33	11.68
M12×1.75	21 mm	50 mm	20 mm	78 mm	62125K34	16.78

Push-On Handles

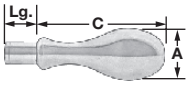

Simply press fit the unthreaded shaft to use in your application. All handles are made of polished steel.

Shaft Dia.	Lg.	(A)	(C)		Each ♦
Fixed					
1/4"	7/16"	7/16"	1 5/16"	6037K11	$9.06
1/4"	7/16"	5/8"	1 1/2"	6037K12	13.02
5/16"	7/16"	3/4"	1 3/4"	6037K28	12.94
3/8"	9/16"	7/8"	2 1/8"	6037K15	15.80
7/16"	11/16"	1 1/8"	2 3/4"	6037K29	18.48
7/16"	11/16"	1 3/16"	3 1/4"	6037K43	20.49
1/2"	15/16"	1 3/8"	4 1/16"	6037K32	41.67
5/8"	1 3/16"	1 1/2"	4 9/16"	6037K23	43.87

Shaft Dia.	Lg.	(A)	(C)		Each ♦
Revolving					
5/16"	9/16"	7/8"	2 1/16"	6037K24	$34.48
3/8"	3/4"	1 1/8"	3"	6037K25	37.55
7/16"	3/4"	1 3/16"	3 5/16"	6037K26	46.65
1/2"	15/16"	1 3/8"	4 3/16"	6037K27	47.84

Vise Handles

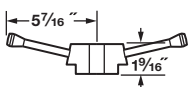



Primarily used for opening and closing milling vises, these handles have extended arms for quick turning. Hub is aluminum and has an unthreaded through hole. Arms are black-oxide steel with an aluminum knob.

Hole Size	For Vise Jaw Width		Each
9/16" Hex	4"	5609K11	$41.33
3/4" Hex	6"	5609K12	41.33
5/8" Square	(fits many imported vises)	5609K13	46.92

Impact-Resistant Three-Arm Handles

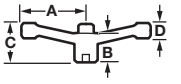



A steel hub with a 5/16" diameter unthreaded starter hole allows you to drill to your required size. Handles are made of black glass-filled nylon and have a temperature range of 14° to 248° F.

(A)	(B)	(C)	(D)		Each ♦
2 3/4"	1 9/16"	1 3/4"	15/16"	3132K43	$11.49
3 9/16"	1 11/16"	2 1/8"	15/16"	3132K49	13.11
4 5/16"	1 13/16"	2 5/16"	1 1/8"	3132K52	15.77

♦ ***Prices are 10% lower when you buy in quantities of 10 or more.***

Threaded Tapered Handles

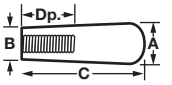


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Phenolic handles withstand higher temperatures. ***Polypropylene*** handles have greater impact resistance and a hollow core.

	Thread Size	Dp.	(A)	(B)	(C)		Each ♦
Inch							
Black Phenolic with Brass Insert *(–30° to +400°F)*							
1	3/8"-16	5/8"	1"	5/8"	37/8"	57455K61	$4.69
1	3/8"-16	2"	1"	5/8"	37/8"	57455K64	7.85
1	3/8"-24	5/8"	1"	5/8"	37/8"	57455K63	4.18
1	3/8"-24	2"	1"	5/8"	37/8"	57455K65	8.51
2	1/4"-20	3/8"	7/8"	5/8"	25/8"	57455K51	2.11
2	5/16"-18	3/4"	7/8"	5/8"	25/8"	57455K54	2.41
Fluted Black Phenolic with Brass Insert *(–30° to +400°F)*							
3	1/4"-20	1/2"	11/8"	5/8"	3"	57455K44	3.69
3	1/4"-20	1/2"	11/8"	3/4"	37/8"	57455K71	3.92
3	3/8"-16	3/4"	13/8"	1"	415/16"	57455K47	6.05
3	1/2"-13	1"	13/8"	1"	415/16"	57455K76	7.33

	Thread Size	Dp.	(A)	(B)	(C)		Each ♦
Inch (Cont.)							
Fluted Black Polypropylene with Brass Insert *(–15° to +125°F)*							
4	1/4"-20	1/2"	7/8"	5/8"	25/8"	57455K45	$3.46
4	3/8"-16	1/2"	7/8"	5/8"	25/8"	57455K46	3.46
Metric							
Black Phenolic *(–4° to +300°F)*							
5	M5×0.8	14 mm	13 mm	11 mm	27 mm	3701T21	3.46
5	M6×1	25 mm	21 mm	17 mm	50 mm	3701T22	3.46
5	M8×1.25	25 mm	21 mm	17 mm	50 mm	3701T23	4.27
5	M8×1.25	30 mm	25 mm	20 mm	65 mm	3701T24	5.02
5	M10×1.5	30 mm	25 mm	20 mm	65 mm	3701T25	5.02
5	M12×1.75	30 mm	25 mm	20 mm	65 mm	3701T26	5.02
5	M12×1.75	40 mm	29 mm	22 mm	112 mm	3701T27	10.90

Tapered Handles with Threaded Stud

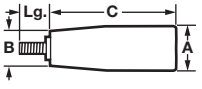


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7


8


9


10

All have a zinc-plated steel stud except Style 7 is steel. ***Phenolic*** handles withstand higher temperatures than nylon.

Inch

	Thread Size	Lg.	(A)	(B)	(C)		Each ♦
Aluminum Revolving							
6	10-24	3/8"	7/16"	3/8"	11/8"	64425K71	$7.45
6	1/4"-20	7/16"	5/8"	1/2"	19/16"	64425K72	9.76
6	5/16"-18	1/2"	7/8"	9/16"	2"	64425K73	12.21
6	3/8"-16	1/2"	1"	3/4"	21/2"	64425K74	14.58
6	1/2"-13	1/2"	11/8"	15/16"	27/8"	64425K75	16.89
6	1/2"-13	1/2"	11/4"	15/16"	31/4"	64425K76	19.34
Black Nylon Fold-Away Revolving *(–50° to +200°F)*							
7	3/8"-16	1/2"	15/16"	3/4"	33/8"	62705K41	26.20
7	1/2"-13	9/16"	1"	1"	4"	62705K42	35.60
7	5/8"-11	13/16"	11/8"	15/16"	41/2"	62705K43	35.60
Black Phenolic Fixed *(–30° to +450°F)*							
8	5/16"-18	1/2"	1"	5/8"	37/8"	62385K67	4.75
8	3/8"-16	1/2"	1"	5/8"	37/8"	62385K65	4.76
Fluted Black Phenolic Fixed *(–30° to +400°F)*							
9	1/4"-20	3/8"	11/8"	3/4"	37/8"	62385K32	3.45
9	5/16"-18	3/8"	11/8"	3/4"	37/8"	62385K21	3.81
9	3/8"-16	1/2"	11/8"	3/4"	37/8"	62385K61	4.76
9	3/8"-16	3/4"	13/8"	1"	415/16"	62385K43	5.31
Black Phenolic Revolving *(–30° to +325°F)*							
10	1/4"-20	1/2"	11/16"	9/16"	19/16"	6308K41	7.50
10	1/4"-20	1/2"	13/16"	11/16"	2"	6308K42	8.33
10	5/16"-18	9/16"	15/16"	3/4"	29/16"	6308K43	8.17
10	3/8"-16	5/8"	1"	13/16"	31/8"	6308K44	8.67
10	3/8"-16	5/8"	11/8"	13/16"	39/16"	6308K45	10.33
10	1/2"-13	13/16"	11/4"	1"	4"	6308K46	16.83

Metric

	Thread Size	Lg., mm	(A) mm	(B) mm	(C) mm		Each ♦
Aluminum Revolving							
6	M5×0.8	9	11	9	28	64425K81	$9.36
6	M6×1	11	16	13	39	64425K82	12.19
6	M8×1.25	13	22	14	50	64425K83	15.28
6	M10×1.5	13	25	19	63	64425K84	18.32
6	M12×1.75	13	28	23	72	64425K85	21.13
6	M12×1.75	13	31	23	82	64425K86	24.17
Black Nylon Fold-Away Revolving *(–50° to +200°F)*							
7	M8×1.25	13	23	19	86	62705K44	26.20
7	M10×1.5	14	26	21	102	62705K46	35.60
7	M12×1.75	14	28	23	114	62705K47	35.60
Black Phenolic Fixed *(–4° to +300°F)*							
8	M5×0.8	7	15	11	50	6540T41	5.64
8	M6×1	10	21	15	72	6540T42	8.69
8	M8×1.25	10	25	17	90	6540T43	9.52
8	M10×1.5	12	26	20	100	6540T44	14.93
8	M12×1.75	14	33	25	124	6540T45	24.37
Black Phenolic Revolving *(–30° to +325°F)*							
10	M6×1	13	18	15	40	6308K47	7.50
10	M6×1	13	21	17	50	6308K48	7.50
10	M8×1.25	15	23	19	65	6308K49	8.33
10	M10×1.5	17	26	21	80	6308K51	8.17
10	M10×1.5	17	28	22	90	6308K52	12.40
10	M12×1.75	20	31	25	102	6308K53	12.25

Quick-Positioning Cam Handles

For fast installation without ratcheting, simply clamp down on these handles. All have a threaded stud with a screwdriver slot at the top for fine-tune adjustment when clamping space is limited.

Aluminum handles have a black powder-coated finish.

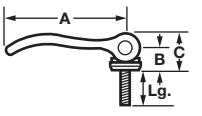


Aluminum


Stainless Steel

Inch

Thread Lg.	(A)	(B)	(C)	*Aluminum w/ Steel Stud*		*Type 303 SS w/ Type 303 SS Stud*	
1/4"-20 Thread Size							
13/16"	23/4"	9/16"	7/8"	5720K11	$12.43	5720K51	$41.91
13/16"	23/4"	9/16"	7/8"	5720K12	12.43	5720K52	41.91
19/16"	23/4"	9/16"	7/8"	5720K13	13.30	5720K53	43.43
5/16"-18 Thread Size							
1"	33/4"	11/16"	11/8"	5720K15	13.74	5720K55	56.87
13/16"	33/4"	11/16"	11/8"	5720K16	13.74	5720K56	56.87
19/16"	33/4"	11/16"	11/8"	5720K17	14.25	5720K57	58.55
3/8"-16 Thread Size							
1"	33/4"	11/16"	11/8"	5720K19	13.74	5720K59	56.87
13/16"	33/4"	11/16"	11/8"	5720K21	13.74	5720K61	56.87
19/16"	33/4"	11/16"	11/8"	5720K22	14.25	5720K62	58.55

Metric

Thread Lg., mm	(A) mm	(B) mm	(C) mm	*Aluminum w/ Steel Stud*		*Type 303 SS w/ Type 303 SS Stud*	
M6×1 Thread Size							
20	70	15	22	5720K31	$12.43	5720K71	$41.91
30	70	15	22	5720K32	12.43	5720K72	41.91
40	70	15	22	5720K33	13.30	5720K73	43.43
M8×1.25 Thread Size							
25	96	18	29	5720K35	13.74	5720K75	56.87
30	96	18	29	5720K36	13.74	5720K76	56.87
40	96	18	29	5720K37	14.25	5720K77	58.55
M10×1.5 Thread Size							
25	96	18	29	5720K39	13.74	5720K79	56.87
30	96	18	29	5720K41	13.74	5720K81	56.87
40	96	18	29	5720K42	14.25	5720K82	58.55

♦ Prices are 10% lower when you buy in quantities of 10 or more.

Adjustable Handles

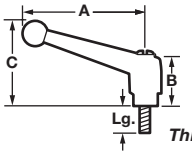



With Threaded Stud

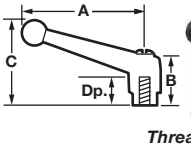

With Threaded Hole

Lift the handle to disengage and rotate freely for adjustment; release to engage gear teeth and tighten. These handles are ideal for confined work areas as well as applications requiring quick setups and frequent adjustments.

Die cast zinc handles have a black powder-coated finish and a steel stud or insert.

Type 303 stainless steel handles have a Type 303 stud or insert.

With Threaded Stud—Inch

Thread Lg.	(A)	(B)	(C)	Die Cast Zinc		Type 303 SS	
10-24 Thread Size							
9/16"	1 9/16"	15/16"	1 5/16"	6271K12	$6.40	6522K33	$16.77
3/4"	1 9/16"	15/16"	1 5/16"	6271K17	6.65	6522K3	17.27
13/16"	1 9/16"	15/16"	1 5/16"	6271K18	6.65	6522K31	17.93
10-32 Thread Size							
9/16"	1 9/16"	15/16"	1 5/16"	6271K11	6.40	6522K32	29.00
3/4"	1 9/16"	15/16"	1 5/16"	6271K19	6.65	6522K26	17.27
13/16"	1 9/16"	15/16"	1 5/16"	6271K65	4.79	6522K28	17.93
1/4"-20 Thread Size							
9/16"	1 9/16"	15/16"	1 5/16"	6271K67	4.79	6522K34	16.82
3/4"	1 9/16"	15/16"	1 5/16"	6271K13	6.40	6522K36	17.27
13/16"	1 9/16"	15/16"	1 5/16"	6271K14	6.40	6522K38	17.93
19/16"	1 9/16"	15/16"	1 5/16"	6271K15	7.21	6522K51	18.80
13/4"	1 9/16"	15/16"	1 5/16"	6271K16	6.65	6522K52	19.25
5/16"-18 Thread Size							
3/4"	2 9/16"	1 1/8"	1 13/16"	6271K21	8.19	6522K12	27.40
13/16"	2 9/16"	1 1/8"	1 13/16"	6271K22	8.26	6522K53	28.50
19/16"	2 9/16"	1 1/8"	1 13/16"	6271K23	8.56	6522K14	29.48
13/4"	2 9/16"	1 1/8"	1 13/16"	6271K37	9.05	6522K15	30.02
1 15/16"	2 9/16"	1 1/8"	1 13/16"	6271K38	9.09	6522K16	30.48
2 3/8"	2 9/16"	1 1/8"	1 13/16"	6271K24	8.56	6522K17	31.45
3/8"-16 Thread Size							
3/4"	2 9/16"	1 1/8"	1 13/16"	6271K26	8.19	6522K81	27.35
3/4"	3 1/8"	1 1/2"	2 1/4"	6271K31	8.86	6522K19	37.50
13/16"	2 9/16"	1 1/8"	1 13/16"	6271K62	8.26	6522K82	28.45

Thread Lg.	(A)	(B)	(C)	Die Cast Zinc		Type 303 SS	
3/8"-16 Thread Size (Cont.)							
13/16"	3 1/8"	1 1/2"	2 1/4"	6271K32	$8.86	6522K55	$38.83
13/16"	3 3/4"	1 11/16"	2 5/8"	6271K41	9.81	6522K85	48.42
19/16"	2 9/16"	1 1/8"	1 13/16"	6271K27	8.56	6522K83	29.45
19/16"	3 1/8"	1 1/2"	2 1/4"	6271K33	9.30	6522K97	40.15
19/16"	3 3/4"	1 11/16"	2 5/8"	6271K69	7.65	6522K86	49.22
13/4"	3 1/8"	1 1/2"	2 1/4"	6271K34	10.05	6522K98	41.02
13/4"	3 3/4"	1 11/16"	2 5/8"	6271K43	10.35	6522K87	49.74
1 15/16"	3 1/8"	1 1/2"	2 1/4"	6271K35	10.72	6522K99	41.48
2 3/8"	2 9/16"	1 1/8"	1 13/16"	6271K29	8.56	6522K84	31.52
2 3/8"	3 1/8"	1 1/2"	2 1/4"	6271K36	9.30	6522K25	42.80
2 3/8"	3 3/4"	1 11/16"	2 5/8"	6271K71	8.40	6522K88	52.53
1/2"-13 Thread Size							
3/4"	3 3/4"	1 11/16"	2 5/8"	6271K45	9.81	6522K57	46.53
13/16"	3 3/4"	1 11/16"	2 5/8"	6271K46	9.81	6522K89	48.40
13/8"	3 3/4"	1 11/16"	2 5/8"	6271K47	10.35	6522K59	48.80
19/16"	3 3/4"	1 11/16"	2 5/8"	6271K48	11.07	6522K62	49.29
19/16"	4 5/16"	2"	3 1/8"	6271K51	13.33	6522K91	59.24
13/4"	3 3/4"	1 11/16"	2 5/8"	6271K63	10.35	6522K63	49.74
1 15/16"	3 3/4"	1 11/16"	2 5/8"	6271K55	11.16	6522K65	50.84
2 3/8"	3 3/4"	1 11/16"	2 5/8"	6271K49	10.35	6522K64	52.51
2 3/8"	4 5/16"	2"	3 1/8"	6271K52	13.33	6522K92	63.53
5/8"-11 Thread Size							
19/16"	4 5/16"	2"	3 1/8"	6271K53	13.33	6522K93	59.24
2 3/8"	4 5/16"	2"	3 1/8"	6271K54	13.33	6522K94	63.53

With Threaded Stud—Metric

Thread Lg., mm	(A) mm	(B) mm	(C) mm	Die Cast Zinc		Type 303 SS	
M5×0.8 Thread Size							
15	40	24	33	6848K53	$5.17	6608K51	$16.77
M6×1 Thread Size							
15	40	24	33	6848K35	5.98	6608K52	16.77
20	40	24	33	6848K36	5.91	6608K53	17.27
25	40	24	33	6848K37	5.98	6608K54	17.65
30	40	24	33	6848K38	5.91	6608K55	18.05
35	40	24	33	6848K55	4.85	6608K56	18.37
40	40	24	33	6848K41	6.67	6608K57	18.80
45	40	24	33	6848K42	6.74	6608K58	19.20
M8×1.25 Thread Size							
20	65	29	46	6848K44	8.00	6608K13	27.40
25	65	29	46	6848K45	8.07	6608K14	27.90
30	65	29	46	6848K46	8.00	6608K15	28.50
35	65	29	46	6848K47	8.36	6608K16	28.95
40	65	29	46	6848K48	8.27	6608K17	29.48
45	65	29	46	6848K49	8.36	6608K18	30.00
50	65	29	46	6848K51	8.30	6608K59	30.48

Thread Lg., mm	(A) mm	(B) mm	(C) mm	Die Cast Zinc		Type 303 SS	
M8×1.25 Thread Size (Cont.)							
60	65	29	46	6848K52	$8.36	6608K19	$31.52
M10×1.5 Thread Size							
20	80	38	58	6848K64	8.84	6608K22	37.50
30	80	38	58	6848K66	8.84	6608K24	38.83
35	80	38	58	6848K67	9.30	6608K25	39.47
40	80	38	58	6848K68	9.30	6608K26	40.15
50	80	38	58	6848K71	9.30	6608K28	41.47
60	80	38	58	6848K72	9.30	6608K29	42.80
M12×1.75 Thread Size							
20	95	43	67	6848K81	7.86	6608K31	46.91
30	95	43	67	6848K83	9.81	6608K33	48.40
40	95	43	67	6848K85	10.33	6608K34	49.22
50	95	43	67	6848K87	10.33	6608K35	63.49
60	95	43	67	6848K57	7.44	6608K36	52.53
M16×2 Thread Size							
50	110	51	79	6848K59	12.70	6608K38	61.20
60	110	51	79	6848K61	12.70	6608K39	63.53

With Threaded Hole—Inch

Thread Dp.	(A)	(B)	(C)	Die Cast Zinc		Type 303 SS	
10-24 Thread Size							
3/8"	1 9/16"	15/16"	1 5/16"	6270K13	$5.93	6522K69	$16.18
10-32 Thread Size							
3/8"	1 9/16"	15/16"	1 5/16"	6270K12	5.93	6522K66	16.18
1/4"-20 Thread Size							
3/8"	1 9/16"	15/16"	1 5/16"	6270K14	5.93	6522K68	16.18
1/2"	2 9/16"	1 1/8"	1 13/16"	6270K22	7.21	6522K41	25.75
5/16"-18 Thread Size							
1/2"	2 9/16"	1 1/8"	1 13/16"	6270K23	7.21	6522K42	25.75
9/16"	3 1/8"	1 1/2"	2 1/4"	6270K32	8.26	6522K45	35.85
3/8"-16 Thread Size							
9/16"	3 1/8"	1 1/2"	2 1/4"	6270K34	8.26	6522K46	35.85
11/16"	3 3/4"	1 11/16"	2 5/8"	6270K42	8.84	6522K76	44.49
1/2"-13 Thread Size							
11/16"	3 3/4"	1 11/16"	2 5/8"	6270K43	8.84	6522K71	49.74
7/8"	4 5/16"	2"	3 1/8"	6270K52	10.86	6522K95	53.62
5/8"-11 Thread Size							
7/8"	4 5/16"	2"	3 1/8"	6270K53	10.86	6522K96	53.62

With Threaded Hole—Metric

Thread Dp., mm	(A) mm	(B) mm	(C) mm	Die Cast Zinc		Type 303 SS	
M5×0.8 Thread Size							
9	40	24	33	6848K11	$5.73	6608K61	$16.12
M6×1 Thread Size							
9	40	24	33	6848K12	5.73	6608K41	16.12
12	65	29	46	6848K13	6.98	6608K42	25.75
M8×1.25 Thread Size							
12	65	29	46	6848K14	6.98	6608K43	25.75
M10×1.5 Thread Size							
14	80	38	58	6848K16	8.07	6608K47	35.85
M12×1.75 Thread Size							
17	95	43	67	6848K18	8.66	6608K48	44.49
M16×2 Thread Size							
23	110	51	79	6848K21	10.61	6608K49	53.62

With Unthreaded Hole—Inch

Hole Dia.	Hole Dp.	(A)	(B)	(C)	Die Cast Zinc	
1/8"	3/8"	1 9/16"	15/16"	1 5/16"	6271K73	$4.80
3/16"	1/2"	2 9/16"	1 1/8"	1 13/16"	6271K75	6.51
1/4"	9/16"	3 1/8"	1 1/2"	2 1/4"	6271K77	6.69

Hole Dia.	Hole Dp.	(A)	(B)	(C)	Die Cast Zinc	
1/4"	11/16"	3 3/4"	1 11/16"	2 5/8"	6271K79	$8.03
1/4"	7/8"	4 5/16"	2"	3 1/8"	6271K81	10.00

Contemporary Style Adjustable Handles with Threaded Stud

Lift the handle to disengage and rotate freely for adjustment; release to engage gear teeth and tighten. These handles are ideal for confined work areas as well as applications requiring quick setups and frequent adjustments. **To Order:** Please specify color: black or orange.

Die cast zinc handles have a powder-coated finish.

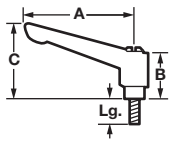



Inch

Thread Lg.	(A)	(B)	(C)	Steel Stud		Type 303 SS Stud	
Die Cast Zinc							
8-32 Thread Size							
9/16"	13/16"	15/16"	13/16"	64835K11	$10.54	60655K21	$12.64
13/16"	13/16"	15/16"	13/16"	64835K12	10.54	60655K22	12.64
1"	13/16"	15/16"	13/16"	64835K13	10.54	60655K23	12.64
10-24 Thread Size							
5/8"	15/8"	15/16"	15/16"	64835K21	6.81	60655K47	12.50
10-32 Thread Size							
9/16"	13/16"	15/16"	13/16"	64835K14	10.78	60655K24	12.96
5/8"	15/8"	15/16"	15/16"	64835K22	6.95	60655K48	12.50
13/16"	13/16"	15/16"	13/16"	64835K15	10.78	60655K25	12.96
1"	13/16"	15/16"	13/16"	64835K16	10.78	60655K26	12.96
1 1/4"	15/8"	15/16"	15/16"	64835K23	6.95	60655K49	12.50
1/4"-20 Thread Size							
3/4"	15/8"	15/16"	15/16"	64835K65	6.95	60655K53	12.60
13/16"	13/16"	15/16"	13/16"	64835K17	10.78	60655K27	12.96
1"	15/8"	15/16"	15/16"	64835K25	6.95	60655K54	12.60
1"	29/16"	1 1/4"	13/4"	64835K27	9.46	60655K55	15.64
13/16"	13/16"	15/16"	13/16"	64835K18	10.78	60655K28	12.96
1 1/4"	15/8"	15/16"	15/16"	64835K29	7.49	60655K56	12.70
19/16"	13/16"	15/16"	13/16"	64835K19	11.65	60655K29	13.96
19/16"	15/8"	15/16"	15/16"	64835K31	7.46	60655K57	13.00
1 3/4"	15/8"	15/16"	15/16"	64835K38	9.46	60655K58	13.50
5/16"-18 Thread Size							
3/4"	29/16"	1 1/4"	13/4"	64835K69	9.46	60655K59	15.64
19/16"	29/16"	1 1/4"	13/4"	64835K71	9.46	60655K61	16.90
2"	29/16"	1 1/4"	13/4"	64835K48	9.46	60655K62	17.10
2"	31/16"	17/16"	21/8"	64835K49	11.08	60655K63	19.80
2 1/2"	29/16"	1 1/4"	13/4"	64835K51	9.46	60655K64	17.50
3/8"-16 Thread Size							
3/4"	29/16"	1 1/4"	13/4"	64835K52	9.46	60655K65	15.64
1 1/4"	29/16"	1 1/4"	13/4"	64835K53	9.46	60655K66	15.90
19/16"	29/16"	1 1/4"	13/4"	64835K54	9.46	60655K67	16.90
19/16"	31/16"	17/16"	21/8"	64835K77	11.08	60655K68	19.40
19/16"	35/8"	1 11/16"	21/2"	64835K55	12.86	60655K69	25.30
2"	31/16"	17/16"	21/8"	64835K78	11.08	60655K71	20.10
2"	35/8"	1 11/16"	21/2"	64835K56	12.86	60655K72	26.20
1/2"-13 Thread Size							
1 1/4"	35/8"	1 11/16"	21/2"	64835K82	12.03	60655K73	25.40
19/16"	35/8"	1 11/16"	21/2"	64835K57	12.86	60655K74	26.00

Thread Lg.	(A)	(B)	(C)	Steel Stud		Type 303 SS Stud	
Die Cast Zinc (Cont.)							
1/2"-13 Thread Size (Cont.)							
19/16"	4 1/4"	2"	2 15/16"	64835K58	$19.46		
2"	35/8"	1 11/16"	2 1/2"	64835K59	12.86	60655K75	$27.30
2 1/2"	4 1/4"	2"	2 15/16"	64835K61	19.86		
5/8"-11 Thread Size							
19/16"	4 1/4"	2"	2 15/16"	64835K91	19.46		
2 1/2"	4 1/4"	2"	2 15/16"	64835K92	19.86		
Nylon *(–22° to +230° F)*							
10-24 Thread Size							
5/8"	13/4"	15/16"	13/8"	6305K11	4.58	6320K11	9.23
10-32 Thread Size							
5/8"	13/4"	15/16"	13/8"	6305K12	4.58	6320K12	9.23
1 1/4"	13/4"	15/16"	13/8"	6305K14	4.92	6320K13	9.61
1/4"-20 Thread Size							
3/4"	13/4"	15/16"	13/8"	6305K54	5.09	6320K14	9.61
1"	13/4"	15/16"	13/8"	6305K16	4.79	6320K15	9.93
1"	2 1/2"	1 1/4"	13/4"	6305K18	6.18	6320K16	9.86
1 1/4"	13/4"	15/16"	13/8"	6305K51	4.92	6320K17	10.45
19/16"	13/4"	15/16"	13/8"	6305K52	5.10	6320K18	9.65
5/16"-18 Thread Size							
3/4"	2 1/2"	1 1/4"	13/4"	6305K58	5.87	6320K19	10.76
1 1/4"	2 1/2"	1 1/4"	13/4"	6305K65	6.21	6320K21	13.55
19/16"	2 1/2"	1 1/4"	13/4"	6305K59	6.33	6320K22	11.96
2"	31/16"	17/16"	23/16"	6305K21	8.05	6320K23	17.94
2 1/2"	2 1/2"	1 1/4"	13/4"	6305K22	7.10	6320K24	16.82
3/8"-16 Thread Size							
3/4"	2 1/2"	1 1/4"	13/4"	6305K23	5.87	6320K25	12.19
1 1/4"	2 1/2"	1 1/4"	13/4"	6305K24	6.03	6320K26	13.59
19/16"	2 1/2"	1 1/4"	13/4"	6305K25	6.33	6320K27	14.56
19/16"	31/16"	17/16"	23/16"	6305K66	7.32	6320K28	16.86
19/16"	35/8"	1 11/16"	29/16"	6305K26	9.22	6320K29	22.92
2"	31/16"	17/16"	23/16"	6305K67	7.68	6320K83	17.94
2"	35/8"	1 11/16"	29/16"	6305K27	9.28	6320K31	23.06
2 1/2"	31/16"	17/16"	23/16"	6305K28	6.90	6320K34	23.37
1/2"-13 Thread Size							
1 1/4"	35/8"	1 11/16"	29/16"	6305K71	9.22	6320K35	23.55
19/16"	35/8"	1 11/16"	29/16"	6305K73	9.22	6320K36	24.14
2"	35/8"	1 11/16"	29/16"	6305K74	9.28	6320K37	25.22
2 1/2"	35/8"	1 11/16"	29/16"	6305K75	10.23	6320K38	26.72

Metric

Thread Lg., mm	(A) mm	(B) mm	(C) mm	Steel Stud		Type 303 SS Stud	
Die Cast Zinc							
M4×0.7 Thread Size							
15	30	25	30	60235K73	$9.97	60655K41	$12.96
20	30	25	30	60235K74	9.97	60655K42	12.96
25	30	25	30	60235K75	9.97	60655K43	12.96
M5×0.8 Thread Size							
15	30	25	30	60235K78	9.97	60655K44	12.96
20	30	25	30	60235K79	9.97	60655K45	12.96
20	42	24	33	60235K17	7.34	60655K76	12.60
25	30	25	30	60235K81	9.97	60655K46	12.96
40	42	24	33	60235K18	8.43	60655K77	13.44
M6×1 Thread Size							
20	42	24	33	60235K72	7.34	60655K78	12.60
25	42	24	33	60235K63	7.34	60655K79	12.70
32	42	24	33	60235K65	7.34	60655K81	12.90
40	42	24	33	60235K67	7.55	60655K82	13.50
M8×1.25 Thread Size							
20	65	31	45	60235K76	9.29	60655K83	15.80
25	65	31	45	60235K77	9.29	60655K84	15.90
32	65	31	45	60235K69	9.29	60655K85	16.00
40	65	31	45	60235K82	10.80	60655K86	16.90
50	65	31	45	60235K84	10.80	60655K87	17.50
63	65	31	45	60235K85	10.80	60655K88	17.90
M10×1.5 Thread Size							
25	78	36	54	60235K88	9.45	60655K89	17.70
32	78	36	54	60235K89	9.45	60655K91	18.20
40	78	36	54	60235K91	10.25	60655K92	19.40
50	78	36	54	60235K86	10.25	60655K93	19.80
63	92	43	64	60235K92	13.00	60655K94	27.30
M12×1.75 Thread Size							
32	92	43	64	60235K93	10.75	60655K95	25.40
40	92	43	64	60235K94	13.00	60655K96	26.00

Thread Lg., mm	(A) mm	(B) mm	(C) mm	Steel Stud		Type 303 SS Stud	
Die Cast Zinc (Cont.)							
M12×1.75 Thread Size (Cont.)							
50	92	43	64	60235K97	$13.00	60655K97	$25.76
63	108	50	75	60235K98	14.50		
Nylon *(–22° to +230° F)*							
M5×0.8 Thread Size							
16	45	25	35	6324K11	5.02	6267T41	8.29
32	45	25	35	6324K12	5.40	6267T42	8.69
M6×1 Thread Size							
16	45	25	35	6324K13	5.02	6267T43	8.29
20	45	25	35	6324K31	5.09	6267T44	8.69
25	45	25	35	6324K14	5.33	6267T45	8.99
32	45	25	35	6324K15	5.39	6267T46	9.40
40	45	25	35	6324K16	5.59	6267T47	9.87
M8×1.25 Thread Size							
20	63	31	45	6324K35	6.44	6267T48	11.01
25	63	31	45			6267T49	11.76
25	63	31	46	6324K36	6.75		
32	63	31	45	6324K37	6.80	6267T51	12.05
40	63	31	45	6324K38	6.94	6267T52	12.18
50	63	31	45	6324K41	7.38	6267T53	14.44
63	63	31	45	6324K42	7.75	6267T54	15.77
M10×1.5 Thread Size							
20	78	36	55	6324K51	7.58	6267T55	14.89
32	78	36	55	6324K43	7.92	6267T56	15.05
40	78	36	55	6324K44	8.26	6267T57	15.19
50	78	36	55	6324K54	8.42	6267T58	16.14
63	78	36	55	6324K55	8.97	6267T59	21.91
M12×1.75 Thread Size							
32	92	43	65	6324K76	10.52	6267T61	22.08
50	92	43	65	6324K77	10.82	6267T62	22.72
63	92	43	65	6324K79	12.18	6267T63	27.14

Contemporary Style Adjustable Handles with Threaded Hole

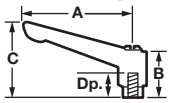



Lift the handle to disengage and rotate freely for adjustment; release to engage gear teeth and tighten. These handles are ideal for confined work areas as well as applications requiring quick setups and frequent adjustments. **To Order:** Please specify color: black or orange.
Die cast zinc handles have a powder-coated finish.

Inch

Thread Dp.	(A)	(B)	(C)	Steel Insert		Type 303 SS Insert	
Die Cast Zinc							
8-32 Thread Size							
3/8"	1 3/16"	15/16"	1 3/16"	64835K45	$10.05	60655K37	$11.94
10-24 Thread Size							
5/16"	1 5/8"	15/16"	1 5/16"	64835K93	6.46	60655K713	10.76
10-32 Thread Size							
5/16"	1 5/8"	15/16"	1 5/16"	64835K94	6.57	60655K723	10.76
3/8"	1 3/16"	15/16"	1 3/16"	64835K46	10.05	60655K38	12.24
1/4"-20 Thread Size							
5/16"	1 5/8"	15/16"	1 5/16"	64835K34	6.57	60655K733	10.76
3/8"	1 3/16"	15/16"	1 3/16"	64835K47	10.05	60655K39	12.24
3/8"	2 9/16"	1 1/4"	1 3/4"	64835K95	7.95	60655K743	13.10
5/16"-18 Thread Size							
3/8"	2 9/16"	1 1/4"	1 3/4"	64835K36	7.95	60655K753	13.10
9/16"	3 1/16"	1 7/16"	2 1/8"	64835K96	9.46	60655K763	16.40
3/8"-16 Thread Size							
9/16"	3 1/16"	1 7/16"	2 1/8"	64835K39	9.46	60655K773	16.40
11/16"	3 5/8"	1 11/16"	2 1/2"	64835K97	11.22	60655K783	21.20
1/2"-13 Thread Size							
11/16"	3 5/8"	1 11/16"	2 1/2"	64835K42	11.22	60655K793	21.20
7/8"	4 1/4"	2"	3"	64835K98	14.19		

Thread Dp.	(A)	(B)	(C)	Steel Insert		Type 303 SS Insert	
Die Cast Zinc (Cont.)							
5/8"-11 Thread Size							
7/8"	4 1/4"	2"	3"	64835K89	$14.19		
Nylon *(–22° to +230°F)*							
10-24 Thread Size							
5/16"	1 3/4"	15/16"	1 3/8"	6305K91	3.87	6320K73	$8.74
10-32 Thread Size							
5/16"	1 3/4"	15/16"	1 3/8"	6305K92	3.87	6320K74	8.74
1/4"-20 Thread Size							
5/16"	1 3/4"	15/16"	1 3/8"			6320K75	8.74
3/8"	1 3/4"	15/16"	1 3/8"	6305K13	3.87		
3/8"	2 1/2"	1 1/4"	1 3/4"	6305K93	4.62	6320K76	10.90
5/16"-18 Thread Size							
3/8"	2 1/2"	1 1/4"	1 3/4"			6320K77	10.90
7/16"	2 1/2"	1 1/4"	1 3/4"	6305K15	5.44		
9/16"	3 1/16"	1 7/16"	2 3/16"	6305K94	6.70	6320K78	12.71
3/8"-16 Thread Size							
9/16"	3 1/16"	1 7/16"	2 3/16"	6305K17	6.70	6320K79	12.71
11/16"	3 5/8"	1 11/16"	2 9/16"	6305K95	8.11	6320K81	17.17
1/2"-13 Thread Size							
11/16"	3 5/8"	1 11/16"	2 9/16"	6305K19	8.11	6320K82	17.17

Metric

Thread Dp., mm	(A) mm	(B) mm	(C) mm	Steel Insert		Type 303 SS Insert	
Die Cast Zinc							
M4×0.7 Thread Size							
9	30	25	30	60235K14	$9.30	60655K51	$12.24
M5×0.8 Thread Size							
8	42	24	33	60235K54	6.08	60655K913	10.76
9	30	25	30	60235K15	9.30	60655K52	12.24
M6×1 Thread Size							
8	42	24	33	60235K62	6.08	60655K923	10.76
M8×1.25 Thread Size							
10	65	31	45	60235K64	7.35	60655K933	13.10
M10×1.5 Thread Size							
14	78	36	54	60235K66	8.75	60655K943	16.40
17	92	43	64	60235K57	10.37	60655K953	21.20

Thread Dp., mm	(A) mm	(B) mm	(C) mm	Steel Insert		Type 303 SS Insert	
Die Cast Zinc (Cont.)							
M12×1.75 Thread Size							
17	92	43	64	60235K68	$10.37	60655K963	$21.20
Nylon *(–22° to +230°F)*							
M5×0.8 Thread Size							
9	45	25	35	6324K19	4.99	6267T11	7.88
M6×1 Thread Size							
9	45	25	35	6324K22	4.99	6267T12	7.88
M8×1.25 Thread Size							
11	63	31	45	6324K24	5.97	6267T13	9.83
M10×1.5 Thread Size							
14	78	36	55	6324K26	7.35	6267T14	11.44
M12×1.75 Thread Size							
17	92	43	65	6324K27	8.89	6267T15	15.45

Contemporary Style Type 303 Stainless Steel Adjustable Handles

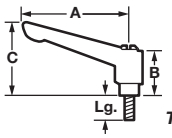



With Threaded Stud

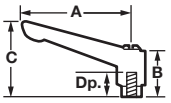



With Threaded Hole

Lift the handle to disengage and rotate freely for adjustment; release to engage gear teeth and tighten. These handles are ideal for confined work areas as well as applications requiring quick setups and frequent adjustments.

With Threaded Stud

Thread Size	Thread Lg.	(A)	(B)	(C)		
Inch						
10-32	9/16"	1 9/16"	15/16"	1 1/4"	5580K11	$27.25
10-32	13/16"	1 9/16"	15/16"	1 1/4"	5580K12	27.25
10-32	1"	1 9/16"	15/16"	1 1/4"	5580K13	27.25
1/4"-20	13/16"	1 9/16"	15/16"	1 1/4"	5580K14	27.25
1/4"-20	13/16"	2 9/16"	1 1/8"	1 11/16"	5580K16	36.57
1/4"-20	1 3/16"	1 9/16"	15/16"	1 1/4"	5580K15	27.25
1/4"-20	1 3/16"	2 9/16"	1 1/8"	1 11/16"	5580K17	36.57
1/4"-20	1 9/16"	2 9/16"	1 1/8"	1 11/16"	5580K18	37.85
5/16"-18	13/16"	2 9/16"	1 1/8"	1 11/16"	5580K19	36.57
5/16"-18	1 3/16"	2 9/16"	1 1/8"	1 11/16"	5580K21	36.57
5/16"-18	1 3/16"	3 1/8"	1 7/16"	2 1/8"	5580K22	44.17
5/16"-18	1 9/16"	3 1/8"	1 7/16"	2 1/8"	5580K23	45.47
5/16"-18	2"	3 1/8"	1 7/16"	2 1/8"	5580K24	45.47
3/8"-16	1 3/16"	2 9/16"	1 1/8"	1 11/16"	5580K25	36.57
3/8"-16	1 9/16"	2 9/16"	1 1/8"	1 11/16"	5580K26	37.85
3/8"-16	1 9/16"	3 1/8"	1 7/16"	2 1/8"	5580K27	45.47
3/8"-16	2"	3 1/8"	1 7/16"	2 1/8"	5580K28	45.47

Thread Size	Thread Lg.	(A)	(B)	(C)		
Inch (Cont.)						
1/2"-13	1 3/16"	3 3/4"	1 11/16"	2 1/2"	5580K29	$51.83
1/2"-13	1 9/16"	3 3/4"	1 11/16"	2 1/2"	5580K31	53.37
1/2"-13	2"	3 3/4"	1 11/16"	2 1/2"	5580K32	53.37
Metric						
M6×1	20 mm	40 mm	25 mm	31 mm	5580K51	29.73
M6×1	30 mm	40 mm	25 mm	31 mm	5580K52	29.73
M6×1	40 mm	40 mm	25 mm	31 mm	5580K53	30.85
M8×1.25	20 mm	65 mm	29 mm	43 mm	5580K54	39.89
M8×1.25	30 mm	65 mm	29 mm	43 mm	5580K55	39.89
M8×1.25	40 mm	65 mm	29 mm	43 mm	5580K56	41.29
M10×1.5	30 mm	80 mm	37 mm	55 mm	5580K57	44.17
M10×1.5	40 mm	80 mm	37 mm	55 mm	5580K58	49.60
M10×1.5	50 mm	80 mm	37 mm	55 mm	5580K59	49.60
M12×1.75	30 mm	95 mm	43 mm	63 mm	5580K61	56.55
M12×1.75	40 mm	95 mm	43 mm	63 mm	5580K62	58.22
M12×1.75	50 mm	95 mm	43 mm	63 mm	5580K63	58.22

With Threaded Hole

Thread Size	Thread Dp.	(A)	(B)	(C)		
Inch						
10-32	3/8"	1 9/16"	15/16"	1 1/4"	5580K41	$26.48
1/4"-20	3/8"	1 9/16"	15/16"	1 1/4"	5580K42	26.48
1/4"-20	1/2"	2 9/16"	1 1/8"	1 11/16"	5580K43	35.68
5/16"-18	1/2"	2 9/16"	1 1/8"	1 11/16"	5580K44	35.68
3/8"-16	9/16"	3 1/8"	1 7/16"	2 1/8"	5580K45	42.97
1/2"-13	11/16"	3 3/4"	1 11/16"	2 1/2"	5580K46	50.28

Thread Size	Thread Dp.	(A)	(B)	(C)		
Metric						
M6×1	9 mm	40 mm	25 mm	31 mm	5580K71	$28.89
M6×1	12 mm	65 mm	29 mm	43 mm	5580K72	38.93
M8×1.25	12 mm	65 mm	29 mm	43 mm	5580K73	38.93
M10×1.5	17 mm	95 mm	43 mm	63 mm	5580K74	54.85
M12×1.75	17 mm	95 mm	43 mm	63 mm	5580K75	54.85

Choose-a-Color Adjustable Handles

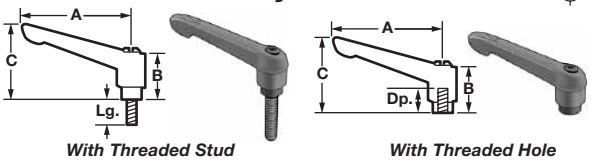

With Threaded Stud *With Threaded Hole*

Lift the handle to disengage and rotate freely for adjustment; release to engage gear teeth and tighten. These handles are ideal for confined work areas as well as applications requiring quick setups and frequent adjustments. All handles are nylon and have a temperature range of –40° to +200° F.

To Order: Please specify color: blue, green, red, or yellow.

With Threaded Stud—Steel Stud

Thread Size	Lg.	(A)	(B)	(C)		
Inch						
1/4"-20	13/16"	1 9/16"	15/16"	1 3/16"	5101K15	$6.27
1/4"-20	1"	1 9/16"	15/16"	1 3/16"	5101K16	6.27
1/4"-20	1 3/16"	2 9/16"	1 1/8"	1 5/8"	5101K17	7.60
1/4"-20	1 9/16"	2 9/16"	1 1/8"	1 5/8"	5101K18	8.18
5/16"-18	1 3/16"	3 1/8"	1 7/16"	2 1/8"	5101K24	9.20
5/16"-18	1 9/16"	3 1/8"	1 7/16"	2 1/8"	5101K25	10.09
3/8"-16	1 9/16"	3 1/8"	1 7/16"	2 1/8"	5101K26	10.09
3/8"-16	2"	3 1/8"	1 7/16"	2 1/8"	5101K27	10.09
1/2"-13	1 9/16"	3 3/4"	1 11/16"	2 3/8"	5101K31	12.47
1/2"-13	2"	3 3/4"	1 11/16"	2 3/8"	5101K32	12.47
Metric						
M5 x 0.8	20 mm	40 mm	25 mm	30 mm	5101K61	6.27
M5 x 0.8	25 mm	40 mm	25 mm	30 mm	5101K62	6.27
M6 x 1	30 mm	65 mm	29 mm	42 mm	5101K65	7.60
M6 x 1	40 mm	65 mm	29 mm	42 mm	5101K66	8.18
M8 x 1.25	30 mm	80 mm	37 mm	54 mm	5101K72	9.20
M8 x 1.25	40 mm	80 mm	37 mm	54 mm	5101K73	10.09
M10 x 1.5	40 mm	80 mm	37 mm	54 mm	5101K74	10.09
M10 x 1.5	50 mm	80 mm	37 mm	54 mm	5101K75	10.09
M12 x 1.75	40 mm	95 mm	43 mm	61 mm	5101K78	12.47
M12 x 1.75	50 mm	95 mm	43 mm	61 mm	5101K79	12.47

With Threaded Hole—Steel Insert

Thread Size	Dp.	(A)	(B)	(C)		
Inch						
1/4"-20	3/8"	1 9/16"	15/16"	1 3/16"	5101K44	$5.76
1/4"-20	1/2"	2 9/16"	1 1/8"	1 5/8"	5101K45	6.89
5/16"-18	9/16"	3 1/8"	1 7/16"	2 1/8"	5101K47	8.49
3/8"-16	9/16"	3 1/8"	1 7/16"	2 1/8"	5101K48	8.49
1/2"-13	1 1/16"	3 3/4"	1 11/16"	2 3/8"	5101K51	10.78
Metric						
M5 x 0.8	9 mm	40 mm	25 mm	30 mm	5101K91	5.76
M6 x 1	12 mm	65 mm	29 mm	42 mm	5101K92	6.89
M8 x 1.25	14 mm	80 mm	37 mm	54 mm	5101K93	8.49
M10 x 1.5	14 mm	80 mm	37 mm	54 mm	5101K94	8.49
M12 x 1.75	17 mm	95 mm	43 mm	61 mm	5101K95	10.78

Quick-Clamp Adjustable Handles

Easily clamp anywhere along a threaded rod. Press the button on the side of the handle to release the threads; release the button to engage. All handles have a steel insert.

Nylon handles are black and have a temperature range of –50° to +225° F.

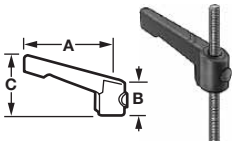

Thread Size	(A)	(B)	(C)	Nylon		Die Cast Zinc	
1/4"-20	2 9/16"	1"	1 3/4"	6385K11	$6.91	6385K21	$8.50
3/8"-16	3 1/16"	1 1/8"	2 3/16"	6385K13	8.83	6385K23	10.16
1/2"-13	4 1/4"	1 1/2"	2 15/16"	6385K14	11.28	6385K24	14.86

Milling Machine Handles

Unlike ordinary feed handles, these heavy duty handles engage and disengage with a simple flick of the wrist. Also known as quill-feed handles, they speed operations—especially when drilling deep holes. Install using the included 5/16"-18 set screw.

All are 9 1/4" long with a 1" dia. unthreaded hole. Shaft is black-oxide steel and has a black phenolic knob with a maximum temperature of 384° F.



For Bridgeport Series 1 and 2 Mills	2839A71	$49.17
For Lagun Mills	2839A72	49.17

Safety Adjustable Handles

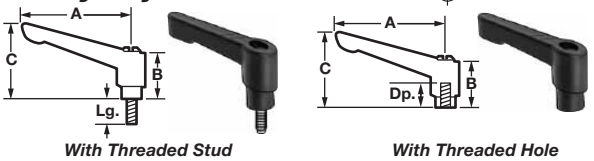

With Threaded Stud *With Threaded Hole*

The gear teeth on these handles engage only after pushing down on the handle. To move handle along the stud, just push down and turn. Once you release the handle, it will spin freely if accidentally bumped. Handles are black nylon and have a temperature range of –50° to +200° F.

With Threaded Stud—Zinc-Plated Steel Stud

Thread Size	Lg.	(A)	(B)	(C)		
Inch						
10-32	3/8"	1 5/8"	1 1/16"	1 3/8"	6506K11	$7.86
1/4"-20	9/16"	1 5/8"	1 1/16"	1 3/8"	6506K13	8.46
1/4"-20	13/16"	1 5/8"	1 1/16"	1 3/8"	6506K14	8.46
5/16"-18	13/16"	2 9/16"	1 7/16"	2"	6506K18	8.77
3/8"-16	13/16"	3 1/8"	1 13/16"	2 1/2"	6506K22	9.57
3/8"-16	1 3/16"	3 1/8"	1 13/16"	2 1/2"	6506K23	9.71
1/2"-13	2"	3 1/8"	1 13/16"	2 1/2"	6506K27	10.51
Metric						
M6 x 1	10 mm	42 mm	27 mm	35 mm	6610K32	7.86
M6 x 1	20 mm	42 mm	27 mm	35 mm	6610K33	8.23
M8 x 1.25	15 mm	65 mm	36 mm	50 mm	6610K35	8.77
M8 x 1.25	20 mm	65 mm	36 mm	50 mm	6610K36	9.00
M10 x 1.5	30 mm	80 mm	46 mm	63 mm	6610K39	9.71
M12 x 1.75	40 mm	80 mm	46 mm	63 mm	6610K43	10.51

With Threaded Hole—Zinc-Plated Steel Insert

Thread Size	Dp.	(A)	(B)	(C)		
Inch						
10-32	3/8"	1 5/8"	1 1/16"	1 3/8"	6506K41	$7.26
1/4"-20	3/8"	1 5/8"	1 1/16"	1 3/8"	6506K42	7.26
5/16"-18	1/2"	2 9/16"	1 7/16"	2"	6506K44	7.86
3/8"-16	1 1/16"	3 1/8"	1 13/16"	2 1/2"	6506K45	8.29
1/2"-13	1 1/16"	3 1/8"	1 13/16"	2 1/2"	6506K46	8.86
Metric						
M6 x 1	9 mm	42 mm	27 mm	35 mm	6610K52	7.26
M8 x 1.25	12 mm	65 mm	36 mm	50 mm	6610K54	7.86
M10 x 1.5	17 mm	80 mm	46 mm	63 mm	6610K55	8.63
M12 x 1.75	17 mm	80 mm	46 mm	63 mm	6610K56	8.63

Comfort-Grip Adjustable Handles

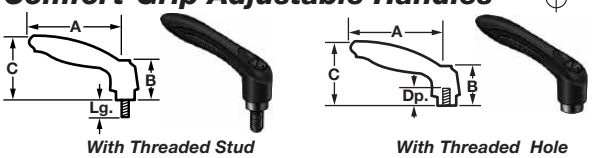

With Threaded Stud *With Threaded Hole*

The soft thermoplastic elastomer surface improves grip. Lift the handle to disengage and rotate freely for adjustment; release to engage gear teeth and tighten. These handles are ideal for confined work areas as well as applications requiring quick setups and frequent adjustments. All have a polypropylene core and temp. range of –15° to +210° F. Color is black.

With Threaded Stud—Black-Oxide Steel Stud

Thread Size	Lg.	(A)	(B)	(C)		
1/4"-20	3/4"	1 9/16"	15/16"	1 7/16"	5634K22	$8.18
5/16"-18	3/4"	2 9/16"	1 1/8"	2"	5634K24	10.72
5/16"-18	1 9/16"	2 9/16"	1 1/8"	2"	5634K26	11.97
3/8"-16	1 9/16"	3 1/8"	1 7/16"	2 9/16"	5634K28	14.57
3/8"-16	1 15/16"	3 1/8"	1 7/16"	2 9/16"	5634K31	13.62

With Threaded Hole—Black-Oxide Steel Insert

Thread Size	Dp.	(A)	(B)	(C)		
1/4"-20	3/8"	1 9/16"	15/16"	1 7/16"	5634K51	$9.15
1/4"-20	5/8"	2 9/16"	1 1/8"	2"	5634K53	11.25
5/16"-18	5/8"	2 9/16"	1 1/8"	2"	5634K55	10.00
5/16"-18	1 1/16"	3 1/8"	1 7/16"	2 9/16"	5634K57	9.26
3/8"-16	1 1/16"	3 1/8"	1 7/16"	2 9/16"	5634K59	10.55

Miniature Handles

Also called finger handles, these are made of black-oxide steel.



Thread Size	Lg.	(A)	(B)		Each 1-9	Each 10-Up
10-24	1/8"	1/4"	7/16"	60395K56	$1.60	$1.44
10-32	1/8"	1/4"	7/16"	60395K57	1.60	1.44
5/16"-18	3/16"	3/8"	7/8"	60395K58	2.05	1.84

Steel Adjustable Handles with Phenolic Ball Knob

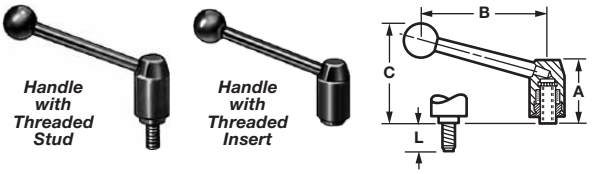

To operate, lift the handle to disengage from internal gear teeth, rotate to desired position, and release the handle to engage gear teeth.

Handles are steel with a black-oxide finish. Ball knob is made of black phenolic and has a temperature range of –22° to +230° F for inch sizes and 0° to 230° F for metric sizes.

With Threaded Stud

Thread	(L)	(A)	(B)	(C)		
Inch						
5/16"-18	1 3/16"	1 3/4"	2 3/8"	3"	6272K22	$20.49
5/16"-18	2 3/8"	1 3/4"	2 3/8"	3"	6272K41	20.63
3/8"-16	1 3/16"	1 3/4"	3 3/16"	3"	6272K21	20.91
3/8"-16	1 3/4"	1 3/4"	3 3/16"	3"	6272K42	21.14
3/8"-16	2 3/8"	1 3/4"	3 3/16"	3"	6272K44	23.84
1/2"-13	1 3/16"	2 1/4"	3 7/8"	4"	6272K23	24.97
1/2"-13	1 3/4"	2 1/4"	3 7/8"	4"	6272K46	25.93
1/2"-13	2 3/16"	2 5/8"	4 5/8"	4 9/16"	6272K25	31.77
1/2"-13	2 3/8"	2 1/4"	3 7/8"	4"	6272K24	27.14
5/8"-11	1 9/16"	2 5/8"	4 5/8"	4 9/16"	6272K48	32.97
5/8"-11	2 3/16"	2 5/8"	4 5/8"	4 9/16"	6272K27	33.71
5/8"-11	2 3/8"	2 5/8"	5 3/8"	4 5/8"	6272K28	43.56
3/4"-10	2 3/8"	2 5/8"	5 3/8"	4 5/8"	6272K32	45.17
Metric—Dimensions in millimeters.						
M10×1.5	30	44	81	82	65015K21	22.35
M10×1.5	60	44	81	82	65015K22	22.41
M12×1.75	40	51	98	97	65015K23	26.75
M12×1.75	50	57	118	109	65015K25	32.61
M16×2	50	67	136	116	65015K26	37.47

With Threaded Insert

Thread	Thread Dp.	(A)	(B)	(C)		
Inch						
1/4"-20	7/8"	1 3/4"	2 3/8"	3"	6272K12	$20.58
5/16"-18	7/8"	1 3/4"	2 3/8"	3"	6272K13	20.97
3/8"-16	7/8"	1 3/4"	3 3/16"	3"	6272K14	21.24
1/2"-13	1 1/8"	2 1/4"	4 5/8"	4 1/16"	6272K16	31.44
5/8"-11	1 1/8"	2 1/4"	4 5/8"	4 1/16"	6272K17	31.44
3/4"-10	1 3/8"	2 5/8"	5 3/8"	4 5/8"	6272K31	34.50
Metric—Dimensions in millimeters.						
M10×1.5	23	44	81	82	65015K11	20.58
M12×1.75	26	51	98	97	65015K12	22.94
M16×2	30	57	118	109	65015K13	30.89

Low-Profile Steel Adjustable Handles with Phenolic Ball Knob

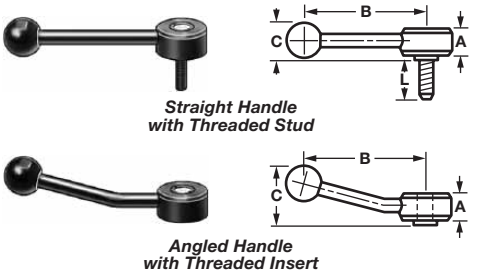

Low-profile design makes these handles ideal for tight spaces. To operate, lift the handle to disengage from internal gear teeth, rotate to desired position, and release the handle to engage gear teeth.

Handles are steel with a black-oxide finish. Ball knob is made of black phenolic and has a temperature range of –22° to +230° F.

With Threaded Stud

Thread	(L)	(A)	(B)	(C)		
Straight Handle						
5/16"-18	3/4"	1 1/16"	4"	1 5/16"	6875K311	$18.72
5/16"-18	1 9/16"	1 1/16"	4"	1 5/16"	6875K331	19.31
3/8"-16	1"	1 3/16"	5 3/16"	1 1/16"	6875K361	23.09
3/8"-16	2 3/8"	1 3/16"	5 3/16"	1 1/16"	6875K381	24.24
1/2"-13	1 3/16"	1 3/16"	5 3/16"	1 1/16"	6875K411	23.53
1/2"-13	1 9/16"	1 3/16"	5 3/16"	1 1/16"	6875K421	24.24
1/2"-13	2 3/8"	1 3/16"	5 3/16"	1 1/16"	6875K441	24.70
Angled Handle						
5/16"-18	3/4"	1 1/16"	4"	1 5/8"	6875K312	18.72
5/16"-18	1 9/16"	1 1/16"	4"	1 5/8"	6875K332	19.31
3/8"-16	1"	1 3/16"	5 3/16"	2 1/8"	6875K362	23.09
3/8"-16	2 3/8"	1 3/16"	5 3/16"	2 1/8"	6875K382	24.24
1/2"-13	1 3/16"	1 3/16"	5 3/16"	2 1/8"	6875K412	23.53
1/2"-13	1 9/16"	1 3/16"	5 3/16"	2 1/8"	6875K422	24.24
1/2"-13	2 3/8"	1 3/16"	5 3/16"	2 1/8"	6875K442	24.70

With Threaded Insert

Thread	Thread Dp.	(A)	(B)	(C)		
Straight Handle						
5/16"-18	23/32"	43/64"	4"	1 5/16"	6875K111	$17.87
3/8"-16	53/64"	51/64"	5 3/16"	1 1/16"	6875K121	22.04
1/2"-13	53/64"	51/64"	5 3/16"	1 1/16"	6875K131	22.04
Angled Handle						
5/16"-18	23/32"	43/64"	4"	1 5/8"	6875K112	17.87
3/8"-16	53/64"	51/64"	5 3/16"	2 1/8"	6875K122	22.04
1/2"-13	53/64"	51/64"	5 3/16"	2 1/8"	6875K132	22.04

Steel Handles with Nylon Ball Knobs

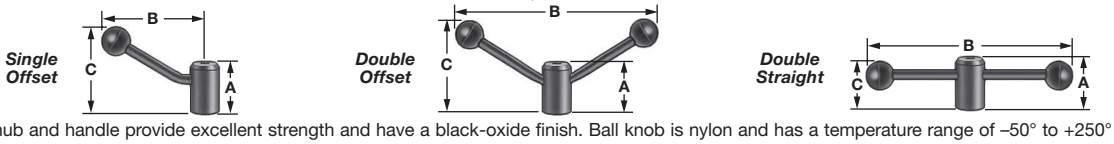

Steel hub and handle provide excellent strength and have a black-oxide finish. Ball knob is nylon and has a temperature range of –50° to +250° F.

With Solid Hub

Hub Dia.	(A)	(B)	(C)		
Single Offset					
7/8"	1 1/2"	2 3/8"	2"	6049K17	$10.20
1 1/8"	1 3/4"	3 1/2"	3"	6049K18	12.20
1 3/8"	2 1/4"	4 11/16"	3 7/8"	6049K19	14.80
Double Offset					
7/8"	1 1/2"	4 3/4"	2 3/8"	6049K14	13.34
1 1/8"	1 3/4"	7"	3 1/4"	6049K15	15.49
1 3/8"	2 1/4"	9 3/8"	4 1/2"	6049K16	18.58
Double Straight					
1 3/8"	2 1/4"	9 3/8"	2 3/8"	6049K13	18.58

With Threaded Hole

Thread	Hole Dp.	(A)	(B)	(C)		
Double Offset						
1/4"-20	1/2"	1 1/2"	4 3/4"	2 3/8"	6049K31	$14.61
3/8"-16	1/2"	1 1/2"	4 3/4"	2 3/8"	6049K32	14.61
1/2"-13	3/4"	1 3/4"	7"	3 1/4"	6049K34	16.96
5/8"-11	1"	2 1/4"	9 3/8"	3 1/2"	6049K35	19.31
3/4"-10	1"	2 1/4"	9 3/8"	3 1/2"	6049K36	19.31

Cast Iron and Aluminum Handles

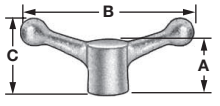

Solid Hub

Easy to grab, these one-piece double-offset handles have ball knob end pieces that provide a sure grip.

(A)	(B)	(C)	With Solid Hub: Hub Dia.			With Unthreaded Through Hole: Hole Dia.			With Threaded Through Hole: Thread		
Cast Iron with Zinc-Plated Finish											
1 3/8"	4 3/4"	2 1/4"	1 1/8"	6422K41	$8.94	1/2"	6422K42	$14.71	1/2"-13	6422K43	$14.71
1 5/8"	6"	2 1/2"	1 3/8"	6422K44	13.57	5/8"	6422K45	17.58	5/8"-11	6422K46	17.58
1 3/4"	8"	2 15/16"	1 5/8"	6422K47	19.20	3/4"	6422K48	25.13	3/4"-10	6422K49	25.13
Aluminum											
1"	4 1/2"	1 27/32"	1 1/8"	65115K31	6.08	—	—	—	3/8"-16	65115K32	10.07
1"	4 1/2"	1 27/32"	—	—	—	—	—	—	1/2"-13	65115K33	10.35
1 1/2"	6"	2 19/32"	1 1/2"	65115K41	8.00	—	—	—	1/2"-13	65115K42	11.25
1 1/2"	6"	2 19/32"	—	—	—	—	—	—	5/8"-11	65115K43	11.47

Glass-Filled Nylon Adjustable Crank Handles

Made of glass-filled nylon for impact resistance, these crank handles also feature adjustability. To operate, lift the handle to disengage from internal gear teeth, rotate to desired position, and release handle to engage gear teeth. All have a threaded hole. Handles are black and have a temperature range of 14° to 248° F.

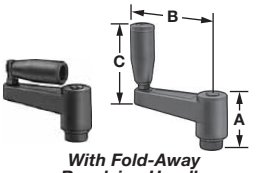

With Fold-Away Revolving Handle

Thread	Hole Dp.	(A)	(B)	With Revolving Handle (C)			With Fold-Away Revolving Handle (C)		
5/16"-18	0.70"	1.77"	3"	2.68"	6129K1	$14.03	2.68"	6129K4	$27.14
3/8"-16	0.67"	1.77"	3"	2.68"	6129K2	14.88	2.68"	6129K5	28.55
1/2"-13	0.78"	2.05"	4.84"	3.15"	6129K3	19.09	3.54"	6129K6	29.20

Steel Crank Handles

Providing the ultimate in strength and durability, these one-piece forged steel handles are unfinished. Choose from a solid hub and a hub with a square through hole.

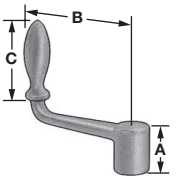

With Solid Hub

Hub Dia.	(A)	(B)	(C)	With Solid Hub		With Unthreaded Through Hole, Hole Size, sq.		
1"	1 1/4"	2 5/8"	2 7/8"	6040K42	$30.98	1/2"	6040K12	$54.36
1 1/16"	1 5/16"	4"	3 1/4"	6040K44	35.91	1/2"	6040K14	55.25
1 1/4"	1 3/8"	4 1/2"	3 7/16"	6040K45	40.14	9/16"	6040K15	63.40
1 1/4"	1 13/16"	5 1/2"	3 9/16"	6040K46	49.58	5/8"	6040K16	73.26
1 1/4"	1 15/16"	6 1/2"	3 3/4"	6040K47	65.80	11/16"	6040K17	91.78
1 3/8"	2 1/16"	8"	3 3/4"	6040K48	83.98	3/4"	6040K18	112.88
1 9/16"	2 7/16"	9"	3 15/16"	6040K49	104.96	7/8"	6040K19	137.52
1 3/4"	3"	11"	4 1/2"	6040K52	154.85	1"	6040K22	192.76

Steel Ratchet Crank Handles

Combination ratchet arm and revolving crank handles make machinery adjustment faster, easier, and safer. Reversing control allows you to quickly reverse cranking direction. Ratchet arm is steel with a black powder-coated finish. The revolving handle is black phenolic and has a maximum temperature of 300° F. Crank handles with unthreaded round through holes have an ANSI standard keyway.

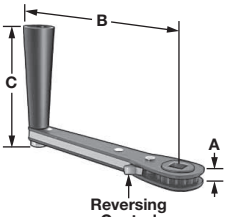

Reversing Control

Hole Size	(A)	(B)	(C)	With Unthreaded Square Through Hole		With Unthreaded Hex Through Hole		With Unthreaded Round Through Hole	
3/8"	19/32"	7"	4 17/32"	6393K11	$57.92				
1/2"	19/32"	7"	4 17/32"	6393K12	57.92	6393K13	$57.92	6393K14	$57.92
1/2"	7/8"	10"	4 13/16"	6393K51	117.00				
5/8"	19/32"	7"	4 17/32"	6393K15	57.92	6393K16	57.92	6393K17	57.92
5/8"	7/8"	10"	4 13/16"	6393K52	117.00				
3/4"	7/8"	10"	4 13/16"	6393K53	117.00	6393K55	117.00	6393K57	119.39
3/4"	7/8"	12"	4 13/16"	6393K42	120.53				
1"	7/8"	10"	4 13/16"			6393K56	119.39	6393K58	119.39
1"	7/8"	12"	4 13/16"	6393K45	120.53				
1 1/4"	7/8"	12"	4 13/16"			6393K48	120.53		

Aluminum Crank Handles

The black powder-coated finish on these handles prevents oxidation. All have unthreaded through holes. The revolving handle is black phenolic with a temperature range of –4° to +212° F.

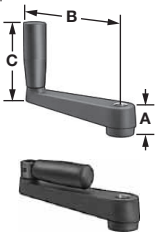

With Fold-Away Revolving Handle

Hole Dia.	(A)	(B)	(C)		
With Revolving Handle					
3/8"	0.94"	3.49"	2.50"	6473K76	$19.38
1/2"	1.10"	4.38"	3.14"	6473K77	20.38
5/8"	1.34"	5.47"	3.77"	6473K78	22.75
3/4"	1.50"	6.85"	3.90"	6473K55	29.00
With Fold-Away Revolving Handle					
1/2"	1.10"	4.28"	3.73"	6473K91	31.29
5/8"	1.34"	5.47"	4.54"	6473K92	32.23
3/4"	1.50"	6.85"	4.67"	6473K56	45.57

Steel Balanced Crank Handles

Even weight distribution keeps these handles in position after you release them. They're machined from solid steel and polished to a high luster. The center ball is used to mount the handle and has a 1/4" dia. starter hole so you can customize for your mounting requirement.

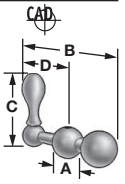

(A)	(B)	(D)	With Stationary Handle (C)			With Revolving Handle (C)		
7/8"	3"	1 1/2"	2 1/8"	6035K11	$49.79			
1"	3 1/2"	1 3/4"	2 15/32"	6035K12	57.06	2 13/16"	6036K11	$81.65
1 3/8"	6"	3"	3 3/4"	6035K17	125.70	4 1/32"	6036K16	154.39

Pull Cord Starter Handle

Replace broken or worn pull cords on machinery and tools. Handle is sturdy black PVC and attached to 80" of 1/8" dia. nylon cord. Handle is 3/4" Ht. × 2 1/2" Wd. × 2 1/2" Dp.



92865K1 ..... $5.20

Malleable Iron Crank Handles

For maximum leverage and holding power, choose these extra-rugged handles. Hub and arm have a gray powder-coated finish; the revolving handle is chrome-plated steel. Hub has an unthreaded square through hole.

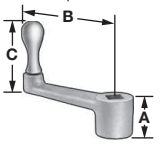

Hole Size, sq.	(A)	(B)	(C)		
9/16"	1 3/8"	4 7/16"	2 7/8"	6089K15	$91.20
5/8"	1 13/16"	5 9/16"	3 31/32"	6089K16	116.04
3/4"	2 1/16"	7 19/32"	4 7/32"	6089K18	101.98

Type 302 Stainless Steel Crank Handles

Made of one-piece solid stainless steel, these highly polished handles don't have any seams or joints to trap dirt and contaminants so they're ideal for food processing applications. All have unthreaded through holes, plus a starter hole in one side of the hub for a set screw or pin.

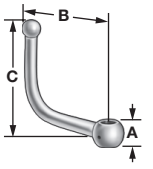

Hole Dia.	Starter Hole Dia.	(A)	(B)	(C)		
1/2"	1/8"	3/4"	3 5/16"	3"	6336K4	$37.41
5/8"	3/16"	7/8"	4 7/8"	3 1/2"	6336K7	53.77

Crank Handles with Set Screws

Two set screws and an unthreaded through hole allow positive locking. These unfinished handles are commonly used for controlling dampers. They are made of a die cast metal composite. Slot opening is 2" Lg. × 1/4" Wd. Set screws are 1/4" × 1".

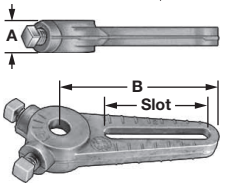

Hole Dia.	(A)	(B)		
3/8"	5/8"	3 1/16"	6149K2	$15.24
7/16"	5/8"	3 1/16"	6149K5	19.06
1/2"	5/8"	3 1/16"	6149K7	14.55

Easy-Grip Handles



Malleable Iron with Zinc-Plated Finish



Forged Steel



Stainless Steel

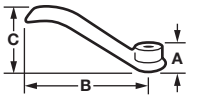

Also known as handle nuts, these handles with threaded through hole are great for quick assembly and disassembly.

	MALLEABLE IRON					FORGED STEEL				TYPE 302 STAINLESS STEEL			
Thread	(A)	(B)	(C)	Plain Finish	Zinc-Plated Finish	(A)	(B)	(C)		(A)	(B)	(C)	
1/4"-20	9/16"	3 3/16"	1 9/16"	91043A029 $2.30	91044A029 $2.78	—	—	—	—	—	—	—	—
5/16"-18	9/16"	3 3/16"	1 9/16"	91043A030 2.49	91044A030 2.97	—	—	—	—	7/16"	2 17/32"	1 1/4"	3577K3 $12.21
3/8"-16	5/8"	3 3/4"	1 13/16"	91043A031 2.90	91044A031 3.47	19/32"	3 3/4"	1 11/16"	91038A031 $14.35	9/16"	3 1/16"	1 17/32"	3577K6 15.98
1/2"-13	5/8"	3 15/16"	1 7/8"	91043A033 3.24	91044A033 3.81	21/32"	4"	1 11/16"	91038A033 17.44	3/4"	4 1/32"	2"	3577K9 21.81
5/8"-11	3/4"	4 1/8"	1 5/8"	91043A035 3.90	91044A035 4.68	1/2"	4 3/8"	1 3/4"	91038A035 19.80	7/8"	5 1/16"	2 1/2"	3577K12 32.54
3/4"-10	3/4"	4 1/8"	1 5/8"	91043A036 4.05	91044A036 4.80	1 1/16"	5 7/16"	1 13/16"	91038A036 25.63	1 1/8"	6 5/32"	3 1/16"	3577K15 46.03

About Hand Wheels

Use hand wheels to manually adjust valves, presses, and a variety of machine components. To rotate the wheel, simply grasp the wheel rim or the handle and turn.

Spoked hand wheels allow a better grip on the rim. ***Solid*** hand wheels are safer, lacking openings that can catch your hands.

Dished (also known as offset) hand wheels keep your hands away from machinery. ***Straight*** hand wheels are better for tight spaces.

Some hand wheels include ***handles***. Choose from *stationary handles*, *revolving handles* for reduced friction, and *fold-away revolving handles*, which reduce friction and allow you to safely store the handle out of the way.

Spoked Plastic Dished Hand Wheels

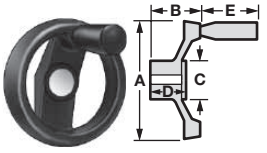

Two Spoke with Unthreaded Hole and Revolving Handle

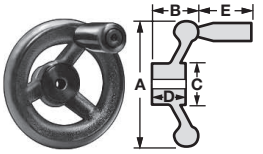

Three Spoke with Unthreaded Through Hole and Revolving Handle

These hand wheels are made of corrosion-resistant plastic with steel hubs. Color is black.

Two Spoke— Hand wheels are thermoplastic. Temperature range is 32° to 195° F.

Three Spoke— Hand wheels are nylon. Temperature range is –50° to +250° F.

Two Spoke with Unthreaded Hole

Hole Dia.	Hole Dp.	(A)	(B)	(C)	(D)	WITHOUT HANDLE		WITH HANDLE (E)	Revolving		Fold-Away Revolving	
5/16"	21/32"	3 5/32"	1 3/8"	29/32"	3/4"	6335K81	$16.44	1 31/32"	6335K87 ◆	$25.33	6335K94	$63.28
3/8"	21/32"	3 29/32"	1 15/32"	31/32"	3/4"	6335K82	18.36	2 3/16"	6335K88	27.00	6335K95	66.28
3/8"	7/8"	4 7/8"	1 23/32"	1 7/32"	31/32"	6335K83	20.74	2 9/16"	6335K89	30.60	6335K96	68.85
1/2"	1 1/16"	6 5/16"	2"	1 9/16"	1 1/8"	6335K84	27.00	2 9/16"	6335K91	37.80	6335K97	74.10
5/8"	1 11/32"	7 7/8"	2 13/32"	1 31/32"	1 13/32"	6335K85	42.80	3 5/32"	6335K92	53.27	6335K98	87.78
5/8"	1 1/2"	9 27/32"	2 3/4"	2 5/16"	1 9/16"	6335K86	61.23	3 17/32"	6335K93	75.85	6335K99	116.47

◆ Dimension E (handle length) is 1 9/16".

Three Spoke with Unthreaded Through Hole

Hole Dia.	(A)	(B)	(C)	(D)	Without Handle		With Revolving Handle (E)		
3/16"	3 5/32"	1 9/16"	31/32"	1"	6243K28	$14.80	1 31/32"	6243K48	$23.00
3/16"	3 15/16"	1 23/32"	1 3/32"	1"	6243K29	16.90	1 31/32"	6243K49	25.00
3/16"	4 29/32"	1 29/32"	1 3/16"	1 5/32"	6243K32	19.80	2 9/16"	6243K52	30.70
13/32"	6 5/16"	2 15/32"	1 3/8"	1 1/4"	6243K33	26.70	3 5/32"	6243K53	37.20
13/32"	7 7/8"	2 15/32"	1 3/8"	1 7/16"	6243K34	39.79	3 5/32"	6243K54	50.21

Spoked Die Cast Zinc Dished Hand Wheels

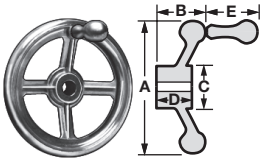

Four Spoke with Unthreaded Through Hole and Revolving Handle

Perfect for light duty service, these die cast zinc hand wheels have a smooth, polished finish and an unthreaded hole with a 5/16"-18 × 3/8" set screw in the hub for easy installation.

Hole Dia.	Hole Dp.	(A)	(B)	(C)	(D)	Without Handle		With Revolving Handle (E)		
Three Spoke with Unthreaded Hole										
1/2"	7/8"	6"	2 3/16"	1 3/8"	1 1/32"	6033K84	$32.20	2 1/8"	6033K74	$34.91
5/8"	7/8"	6"	2 3/16"	1 3/8"	1 1/32"	6033K85	32.20	2 1/8"	6033K75	34.91
3/4"	7/8"	6"	2 3/16"	1 3/8"	1 1/32"	6033K86	32.20	2 1/8"	6033K76	34.91
1"	7/8"	6"	2 3/16"	1 3/8"	1 1/32"	6033K87	32.20	2 1/8"	6033K77	34.91
Four Spoke with Unthreaded Through Hole										
3/8"	—	4 1/2"	1 1/4"	1"	7/8"	6033K88	18.29	2"	6033K78	21.09
1/2"	—	4 1/2"	1 1/4"	1"	7/8"	6033K81	18.29	2"	6033K71	21.09
5/8"	—	4 1/2"	1 1/4"	1"	7/8"	6033K82	18.29	2"	6033K72	21.09
3/4"	—	4 1/2"	1 1/4"	1"	7/8"	6033K83	18.29	2"	6033K73	21.09

Spoked Type 304 Stainless Steel Dished Hand Wheels

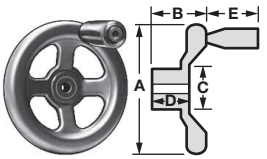

Four Spoke with Revolving Handle

Made of corrosion-resistant Type 304 stainless steel, these hand wheels have a satin finish and an unthreaded through hole. Handle is black phenolic with a temperature range of –40° to +300° F.

Hole Dia.	(A)	(B)	(C)	(D)	No. of Spokes	Without Handle		With Revolving Handle (E)		
1/2"	6 5/16"	1 17/32"	1 3/16"	25/32"	4	6328K52	$142.17	3 5/32"	6328K55	$174.70
5/8"	7 7/8"	1 23/32"	1 9/16"	15/16"	4	6328K53	195.28	3 5/32"	6328K56	229.24
3/4"	9 27/32"	2 1/16"	1 25/32"	1 3/32"	5	6328K54	249.02	3 17/32"	6328K57	286.94

Spoked Aluminum Hand Wheels

Made of lightweight, corrosion-resistant aluminum, these hand wheels have an unthreaded through hole.

Two Spoke— These dished hand wheels have a black powder-coated finish that prevents oxidation and won't leave residue on your hands. *Revolving handles* are black phenolic with a temperature range of –4° to +212° F.

Three Spoke— The outer rim is machine-polished to a smooth, high-gloss finish. Hand wheels ***with set screw and keyway*** allow easy installation onto a shaft. *Stationary handles* are polished steel. *Revolving handles* are polished aluminum.

Two Spoke w/ Revolving Handle

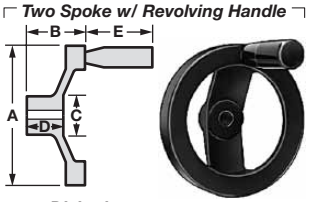

Dished

Three Spoke w/ Stationary Handle

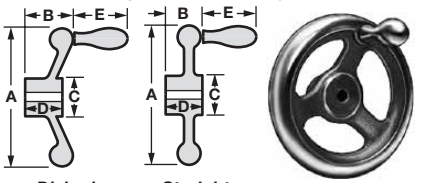

Dished *Straight*

Two Spoke

Hole Dia.	(A)	(B)	(C)	(D)	Without Handle		With Revolving Handle (E)		With Fold-Away Revolving Handle (E)	
Dished										
3/8"	4"	1 49/64"	1 1/4"	13/16"	60265K41	$27.00	2 13/64"	60265K21	$42.40	2 13/64"	60265K71	$73.70
3/8"	5"	1 15/16"	1 5/16"	7/8"	60265K43	36.80	2 9/16"	60265K23	47.60	2 9/16"	60265K73	79.00
1/2"	4"	1 49/64"	1 1/4"	13/16"	60265K42	27.00	2 13/64"	60265K22	42.40	2 13/64"	60265K72	73.70
1/2"	5"	1 15/16"	1 5/16"	7/8"	60265K44	36.80	2 9/16"	60265K24	47.60	2 9/16"	60265K74	79.00
1/2"	6"	2 3/64"	1 7/16"	1"	60265K45	39.17	2 9/16"	60265K25	47.50	2 9/16"	60265K75	89.00
1/2"	8"	2 47/64"	1 15/16"	1 3/8"	60265K47	65.45	3 5/32"	60265K27	75.56	3 5/32"	60265K77	102.22
5/8"	6"	2 3/64"	1 7/16"	1"	60265K46	39.17	2 9/16"	60265K26	47.50	2 9/16"	60265K76	89.00
5/8"	8"	2 47/64"	1 15/16"	1 3/8"	60265K48	65.45	3 5/32"	60265K28	75.56	3 5/32"	60265K78	102.22
5/8"	10"	2 51/64"	1 15/16"	1 3/8"	60265K49	76.36	3 5/32"	60265K29	99.00	3 5/32"	60265K79	127.00
3/4"	10"	2 51/64"	1 15/16"	1 3/8"	60265K51	76.36	3 5/32"	60265K31	99.00	3 5/32"	60265K81	127.00

Three Spoke

Hole Dia.	(A)	(B)	(C)	(D)	Without Handle		With Stationary Handle (E)		With Revolving Handle (E)	
Dished										
3/8"	4"	1 1/2"	1"	1"	6022K12	$20.77	2"	6022K24	$28.52	2 1/16"	6022K36	$38.79
3/8"	5"	1 43/64"	1 1/4"	1 1/8"	6022K13	27.33	2 1/8"	6022K25	32.95	2 1/16"	6022K37	42.65
1/2"	6"	2"	1 1/2"	1 1/4"	6022K14	31.08	2 3/4"	6022K26	41.08	3 1/32"	6022K38	50.89
1/2"	7"	2 1/4"	1 1/2"	1 1/2"	6022K15	41.49	3 7/32"	6022K27	51.02	3 1/32"	6022K39	68.42
5/8"	8"	2 3/8"	1 3/4"	1 1/2"	6022K16	41.98	3 7/32"	6022K28	56.98	3 9/32"	6022K41	69.75
5/8"	10"	3"	2 1/4"	2 1/8"	6022K18	63.42	3 7/16"	6022K31	79.89	3 9/32"	6022K43	88.63
3/4"	12"	3 1/4"	2 1/2"	2 1/4"	6022K19	78.08	4 1/16"	6022K32	100.95	4 1/8"	6022K44	109.17
3/4"	14"	3 3/4"	2 3/4"	2 1/2"	6022K21	114.62	4 1/16"	6022K33	145.72	4 1/8"	6022K45	162.14
1"	16"	4 1/8"	2 3/4"	2 3/4"	6022K22	148.06	4 1/16"	6022K34	178.05	4 1/8"	6022K46	185.09
Straight										
3/8"	4"	1 1/8"	1 1/4"	1 1/8"	6021K12	21.14	1 23/32"	6021K26	26.34	2 1/16"	6021K41	39.13
3/8"	5"	1 1/8"	1 1/2"	1 1/8"	6021K13	27.77	2 1/8"	6021K27	33.53	2 1/16"	6021K42	44.14
1/2"	6"	1 1/4"	1 5/8"	1 1/4"	6021K14	31.89	2 3/4"	6021K28	42.15	3 1/32"	6021K43	53.72
5/8"	8"	1 1/2"	1 7/8"	1 1/2"	6021K16	40.25	3 7/32"	6021K31	56.23	3 9/32"	6021K45	69.03
5/8"	10"	2"	2 1/4"	2"	6021K18	63.00	3 7/32"	6021K33	79.38	3 9/32"	6021K47	88.05
3/4"	12"	2 1/4"	2 1/2"	2 1/4"	6021K19	77.91	4 1/16"	6021K34	101.00	4 3/16"	6021K48	109.15
3/4"	14"	2 1/2"	2 3/4"	2 1/2"	6021K21	114.65	4 1/16"	6021K35	128.62	4 3/16"	6021K49	135.89
1"	16"	2 3/4"	3"	2 3/4"	6021K22	151.57	4 1/16"	6021K36	182.25	4 3/16"	6021K51	189.45

Three Spoke with Set Screw and Keyway

Hole Dia.	(A)	(B)	(C)	(D)	Set Screw Size	Keyway Size	Without Handle		With Revolving Handle (E)	
Dished										
3/8"	4"	1 1/2"	1"	1"	10-24	3/32" x 3/64"	3724T49	$41.18	2 1/16"	3724T57	$59.20
3/8"	5"	1 11/16"	1 1/4"	1 1/8"	10-24	3/32" x 3/64"	3724T51	47.75	2 1/16"	3724T58	63.07
1/2"	6"	2"	1 1/2"	1 1/4"	10-24	1/8" x 1/16"	3724T52	50.88	3 1/32"	3724T59	77.04
1/2"	7"	2 1/4"	1 1/2"	1 1/2"	10-24	1/8" x 1/16"	3724T53	66.47	3 1/32"	3724T61	102.50
5/8"	8"	2 3/8"	1 3/4"	1 1/2"	1/4"-20	3/16" x 3/32"	3724T54	67.27	3 1/4"	3724T62	104.71
5/8"	10"	3"	2 1/4"	2 1/8"	1/4"-20	3/16" x 3/32"	3724T55	93.95	3 1/4"	3724T63	131.81
3/4"	12"	3 1/4"	2 1/2"	2 1/4"	1/4"-20	3/16" x 3/32"	3724T56	117.31	4 1/8"	3724T64	163.16
Straight										
3/8"	4"	1 1/8"	1 1/4"	1 1/8"	10-24	3/32" x 3/64"	3724T41	41.20	2 1/16"	3724T45	60.22
1/2"	6"	1 1/4"	1 5/8"	1 1/4"	10-24	1/8" x 1/16"	3724T42	52.10	3 1/32"	3724T46	73.58
5/8"	8"	1 1/2"	1 7/8"	1 1/2"	1/4"-20	3/16" x 3/32"	3724T43	59.33	3 9/32"	3724T47	103.85
3/4"	12"	2 1/4"	2 1/2"	2 1/4"	1/4"-20	3/16" x 3/32"	3724T44	116.46	4 3/16"	3724T48	163.14

Spoked Unfinished Aluminum Hand Wheels

More economical than the finished aluminum hand wheels on this page, these unpolished hand wheels are lightweight and corrosion resistant. All have four spokes and a solid hub. ***Stationary handles*** are polished steel.

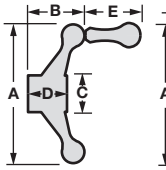

Dished

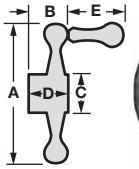

Straight



Straight with Stationary Handle

(A)	(B)	(C)	(D)	Without Handle		With Stationary Handle (E)	
Dished							
4"	1 11/16"	1 1/4"	1 1/8"	6020K24	$14.21	1 23/32"	6020K34	$30.10
6"	2"	1 5/8"	1 1/4"	6020K25	24.31	2 1/8"	6020K35	43.43
8"	2 3/16"	1 7/8"	1 3/8"	6020K26	43.93	3 1/4"	6020K36	66.10
10"	3 1/4"	2 1/4"	2 1/4"	6020K27	74.71	3 1/4"	6020K37	97.91
Straight							
4"	1 1/8"	1 1/4"	1 1/8"	6020K16	13.75	1 23/32"	6020K11	30.10
6"	1 1/4"	1 5/8"	1 1/4"	6020K17	23.94	2 1/8"	6020K12	43.73
8"	1 3/8"	1 7/8"	1 3/8"	6020K18	42.88	3 1/4"	6020K13	65.09
10"	2 1/4"	2 1/4"	2 1/4"	6020K19	69.42	3 1/4"	6020K23	97.12
12"	3"	3"	3"	6020K21	126.33	4 1/16"	6020K14	178.56
14"	3 1/2"	3"	3 1/2"	6020K22	150.00	4 1/16"	6020K15	206.73

Spoked Cast Iron Hand Wheels

Dished Unfinished Three Spoke without Handle



Straight Polished Three Spoke with Handle

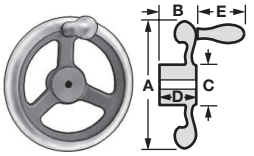

These hand wheels are made of rugged, durable cast iron.

Unfinished— Hubs are solid.

Polished— Hubs have an unthreaded through hole. Handles are polished steel.

(A)	(B)	(C)	(D)	No. of Spokes	UNFINISHED Without Handle		Hole Dia.	POLISHED Without Handle		w/ Stationary Handle (E)		w/ Revolving Handle (E)	
Dished													
4″	1 1/2″	1 1/8″	1″	2	6025K37	$14.82	1/4″	6026K109	$34.77	2 3/16″	6026K131	$46.14	2 3/16″	6026K152	$64.67
5″	1 3/4″	1 1/4″	1 1/4″	3	6025K38	17.73	5/16″	6026K111	41.08	2 3/16″	6026K132	52.61	2 3/16″	6026K153	70.93
6″	1 7/8″	1 3/8″	1 1/4″	3	6025K16	20.94	5/16″	6026K112	48.24	3 1/8″	6026K133	63.80	3 1/8″	6026K154	83.62
7″	2 1/4″	1 5/8″	1 1/2″	3	6025K17	27.20	3/8″	6026K113	55.65	3 1/8″	6026K134	71.87	3 1/8″	6026K155	91.11
8″	2 1/2″	1 3/4″	1 3/4″	3	6025K18	29.03	3/8″	6026K114	57.82	3 1/2″	6026K135	72.75	3 1/2″	6026K156	94.48
9″	2 3/4″	2″	2″	3	6025K19	41.92	1/2″	6026K115	76.42	3 1/2″	6026K136	91.37	3 1/2″	6026K157	113.12
10″	3″	2 1/8″	2 1/8″	3	6025K21	48.73	1/2″	6026K116	96.38	3 1/2″	6026K137	111.35	3 1/2″	6026K158	134.98
12″	3 1/4″	2 1/2″	1 7/8″	4	6025K22	62.84	5/8″	6026K117	121.03	4 3/16″	6026K138	151.27	4 3/16″	6026K159	164.07
Straight															
4″	1 1/8″	1 1/4″	1 1/8″	2	6025K11	15.54	1/4″	6026K101	34.61	2 3/16″	6026K122	46.16	2 3/16″	6026K143	64.44
5″	1 1/8″	1 1/2″	1 1/8″	3	6025K23	20.58	5/16″	6026K102	41.03	2 3/16″	6026K123	52.64	2 3/16″	6026K144	70.93
6″	1 1/4″	1 5/8″	1 1/4″	3	6025K12	23.62	5/16″	6026K103	47.61	3 1/8″	6026K124	62.89	3 1/8″	6026K145	82.93
8″	1 1/2″	1 7/8″	1 1/2″	3	6025K13	28.64	3/8″	6026K104	57.80	3 1/2″	6026K125	72.78	3 1/2″	6026K146	94.50
10″	2 1/4″	2 1/4″	2 1/4″	3	6025K14	48.62	1/2″	6026K105	96.68	3 1/2″	6026K126	111.60	3 1/2″	6026K147	133.32
12″	3″	3″	3″	4	6025K15	76.75	5/8″	6026K106	120.83	4 3/16″	6026K127	151.07	4 3/16″	6026K148	163.85

Dial-Indicating Aluminum Hand Wheels

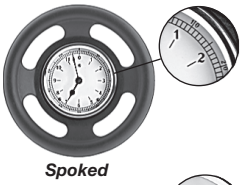

Spoked

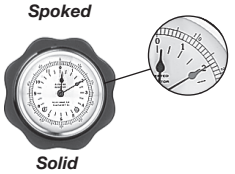

Solid

An easy-to-read dial in the center of the dished wheel gives you accurate settings for precision applications. The dials have an impact-resistant acrylic face and two pointers. The small pointer is geared so that 12 turns of the hand wheel equal one rotation of the pointer, while the large pointer is geared so that one turn of the hand wheel equals one rotation of the pointer. Pointers rotate clockwise.

Hand wheels have a black powder-coated finish. All have an unthreaded through hole with a 1/4″-20 set screw and operate on horizontal shafts at angles up to 45°.

Hole Dia.	(A)	(B)	(C)	(D)		
Spoked						
1/2″	7 3/8″	3 15/16″	2 3/16″	1 3/8″	6193K45	$264.36
5/8″	7 3/8″	3 15/16″	2 3/16″	1 3/8″	6193K46	264.36
3/4″	7 3/8″	3 15/16″	2 3/16″	1 3/8″	6193K47	264.36
1″	7 3/8″	3 15/16″	2 3/16″	1 3/8″	6193K48	264.36
Solid						
3/8″	3 3/8″	2 3/8″	1 1/8″	1/2″	6189K31	166.52
1/2″	3 3/8″	2 3/8″	1 1/8″	1/2″	6189K32	166.52
5/8″	3 3/8″	2 3/8″	1 1/8″	1/2″	6189K33	166.52

Solid Phenolic Dished Hand Wheels

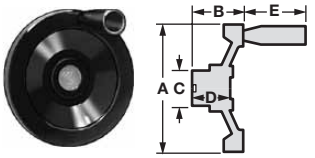

With Revolving Handle

These hand wheels are corrosion-resistant phenolic with a zinc-plated steel hub. An unthreaded starter hole allows you to machine a customized hole to suit your mounting requirements. Temperature range is –40° to +300° F. Color is black.

Starter Hole Dia.	(A)	(B)	(C)	(D)	Without Handle		With Revolving Handle (E)	Price
0.157″	3.15″	1.22″	0.79″	1.06″	61405K61	$13.41	1.57″	61405K71	$22.03
0.157″	3.94″	1.38″	0.94″	1.14″	61405K62	18.36	1.97″	61405K72	27.11
0.236″	4.92″	1.73″	1.26″	1.38″	61405K63	23.92	2.17″	61405K73	32.85
0.236″	5.91″	1.89″	1.26″	1.46″	61405K64	29.00	2.56″	61405K74	37.66
0.236″	7.87″	2.28″	1.57″	1.73″	61405K65	51.17	3.35″	61405K75	63.45
0.236″	9.84″	2.60″	1.89″	1.93″	61405K66	77.72	3.35″	61405K76	89.59

Solid Die Cast Zinc Dished Hand Wheels

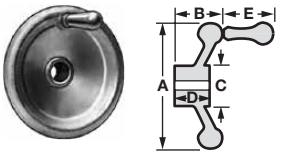

An unthreaded through hole with a 1/4″-20 set screw in the hub permits easy installation. Hand wheels are made of unpolished die cast zinc and have a revolving handle.

Hole Dia.	(A)	(B)	(C)	(D)	(E)		
3/8″	2 1/4″	1″	5/8″	5/8″	1 1/4″	6403K41	$10.57
3/8″	2 3/4″	1 1/4″	13/16″	9/16″	1 1/2″	6403K42	11.71
3/8″	3 1/4″	1 1/4″	13/16″	7/8″	1 1/2″	6403K44	12.11
1/2″	2 3/4″	1 1/4″	13/16″	9/16″	1 1/2″	6403K43	11.71
1/2″	3 1/4″	1 1/4″	13/16″	7/8″	1 1/2″	6403K45	12.11

Solid Type 303 Stainless Steel Dished Hand Wheels

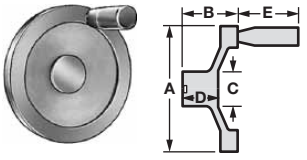

With Revolving Handle

For excellent corrosion resistance, choose these Type 303 stainless steel hand wheels. Rim has a satin finish. An unthreaded starter hole allows you to machine a customized hole to suit your mounting needs.

Starter Hole Dia.	(A)	(B)	(C)	(D)	Without Handle		With Revolving Handle (E)	
0.12″	3″	1.10″	0.87″	0.67″	8499T13	$61.44	1.49″	8499T23	$67.08
0.12″	4″	1.25″	1.02″	0.71″	8499T14	80.54	1.57″	8499T24	89.44
0.12″	6″	1.50″	1.50″	0.87″	8499T16	114.31	2.50″	8499T26	122.16

Solid Polished Aluminum Hand Wheels

Lightweight and economical, these aluminum hand wheels have a polished rim and an unthreaded through hole. Hand wheels ***with set screw and keyway*** allow easy installation onto a shaft.

Stationary handles are polished steel; *revolving handles* are polished aluminum.



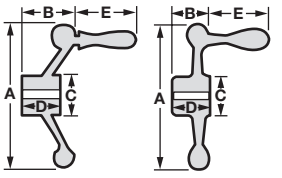

Solid

Hole Dia.	(A)	(B)	(C)	(D)	Without Handle		With Stationary Handle (E)		With Revolving Handle (E)	
Dished										
3/8"	3"	1 1/16"	7/8"	3/4"	8515K7	$18.65	1 15/32"	8515K8	$26.04	1 15/32" 8515K9 $33.29
3/8"	4"	1 1/2"	1"	1"	8515K22	30.17	1 23/32"	8515K24	35.49	2 1/16" 8515K26 43.30
1/2"	6"	2"	1 1/2"	1 1/4"	8515K31	41.96	2 3/4"	8515K33	50.55	3 1/32" 8515K35 57.45
5/8"	8"	2 3/8"	1 3/4"	1 1/2"	8515K47	49.34	3 7/32"	8515K48	59.11	3 9/32" 8515K49 65.68
5/8"	10"	3"	2 1/4"	2 1/8"	8515K53	75.00	3 7/32"	8515K54	86.32	3 9/32" 8515K55 97.37
Straight										
3/8"	3"	1 1/4"	1"	1 1/4"	8515K4	18.67	1 15/32"	8515K5	26.05	1 15/32" 8515K6 33.32
3/8"	4"	1 5/16"	1 1/4"	1 5/16"	8515K11	29.20	1 23/32"	8515K12	34.54	2 1/16" 8515K13 42.22
1/2"	6"	1 7/16"	1 5/8"	1 7/16"	8515K37	40.36	2 3/4"	8515K38	49.07	3 1/32" 8515K39 56.07
5/8"	8"	1 3/4"	1 7/8"	1 3/4"	8515K42	47.94	3 7/32"	8515K44	57.62	3 9/32" 8515K45 64.57

Solid with Set Screw and Keyway

Hole Dia.	(A)	(B)	(C)	(D)	Set Screw Size	Keyway Size	Without Handle		With Revolving Handle (E)	
Dished										
3/8"	3"	1 1/16"	7/8"	3/4"	10-24	3/32" x 3/64"	3739T27	$45.96	1 15/32"	3739T31 $53.72
1/2"	6"	2"	1 1/2"	1 1/4"	10-24	1/8" x 1/16"	3739T28	68.05	3 1/32"	3739T32 86.52
5/8"	8"	2 3/8"	1 3/4"	1 1/2"	1/4"-20	3/16" x 3/32"	3739T29	79.14	3 9/32"	3739T33 98.11
Straight										
3/8"	3"	1 1/4"	1"	1 1/4"	10-24	3/32" x 3/64"	3739T21	43.43	1 15/32"	3739T24 62.00
1/2"	6"	1 7/16"	1 5/8"	1 7/16"	10-24	1/8" x 1/16"	3739T22	60.78	3 1/32"	3739T25 76.48
5/8"	8"	1 3/4"	1 7/8"	1 3/4"	1/4"-20	3/16" x 3/32"	3739T23	71.16	3 9/32"	3739T26 88.89

Solid Enamel-Coated Aluminum Dished Hand Wheels

Black enamel coating provides a good gripping surface along with a clean appearance. Hub has an unthreaded through hole. ***Fold-away revolving handles*** are polished aluminum.

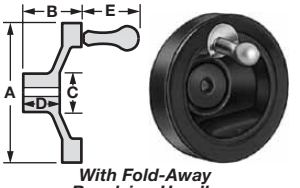

Hole Dia.	(A)	(B)	(C)	(D)	Without Handle		With Fold-Away Revolving Handle (E)	
3/8"	5"	2.13"	1.50"	1.00"	6096K312	$88.59	2.13"	6096K12 $210.13
1/2"	6"	2.38"	1.75"	1.13"	6096K313	92.56	3.06"	6096K13 171.29
5/8"	8"	2.50"	2.13"	1.25"	6096K315	107.54	3.06"	6096K15 222.50

Solid Cast Iron Hand Wheels

Rugged and durable, these hand wheels are made of heavy duty cast iron. All have a polished rim, polished steel handle, and an unthreaded through hole.

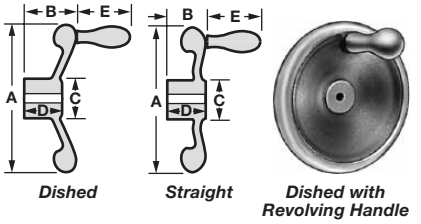

Hole Dia.	(A)	(B)	(C)	(D)	Without Handle		With Revolving Handle (E)	
Dished								
1/4"	3"	1"	3/4"	5/8"	6024K81	$33.36	1 1/2"	6024K107 $58.31
1/4"	4"	1 1/2"	1"	3/4"	6024K82	40.91	2 3/16"	6024K108 70.80
5/16"	6"	1 7/8"	1 1/4"	1"	6024K84	55.67	3 1/8"	6024K111 91.00
3/8"	8"	2 1/8"	1 5/8"	1 1/8"	6024K85	71.18	3 1/2"	6024K112 107.70
1/2"	9"	2 7/8"	2"	2 1/8"	6024K86	87.02	3 1/2"	6024K113 122.54
Straight								
1/4"	4"	1 1/8"	1 1/4"	1 1/8"	6024K75	40.07	2 3/16"	6024K102 69.98
5/16"	6"	1 1/4"	1 5/8"	1 1/4"	6024K77	65.16	3 1/8"	6024K104 100.51
1/2"	10"	2 1/4"	2 1/4"	2 1/4"	6024K79	91.02	3 1/2"	6024K106 127.68

Metric Safety Clutch Aluminum Dished Hand Wheels

Increase operator safety while performing applications with high shaft speeds. A clutch in the hand wheel lets the shaft rotate while keeping the wheel stationary. Wheel is manually adjustable by pulling on it; just release to return it to its stationary position. A fitting in the hand wheel hub lubricates the unthreaded through hole with keyway. Hand wheel is solid aluminum with a polished rim. Clutch is steel.

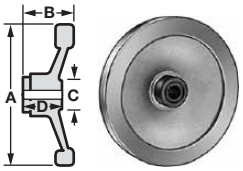

Hole Dia., mm	(A), mm	(B), mm	(C), mm	(D), mm	Keyway Size, mm		
12	125	45	29	42	4	6714K11	$199.74
12	140	48	29	42	4	6714K13	209.46
14	140	48	33	48	5	6714K15	221.25
14	160	53	33	48	5	6714K19	232.74
18	200	58	39	50	6	6714K22	267.42
22	250	64	46	54	6	6714K24	307.58

Valve Hand Wheels

Although primarily used on valves, these hand wheels fit any application that has a square shaft. Choose from aluminum and zinc.

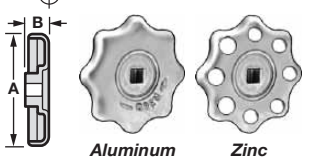

Hole Size, sq.	Hole Dp.	(A)	(B)		
Aluminum					
0.250"	0.375"	2.50"	0.500"	63155K31	$2.63
0.281"	0.375"	2.75"	0.500"	63155K32	2.68
0.375"	0.375"	2.75"	0.500"	63155K33	2.68
0.438"	0.438"	3.50"	0.563"	63155K34	2.94
0.500"	0.438"	3.50"	0.563"	63155K35	2.94
Zinc					
0.250"	0.375"	2.50"	0.500"	6055K41	1.37
0.281"	0.375"	2.50"	0.500"	6055K42	1.37
0.375"	0.375"	2.50"	0.500"	6055K43	1.37
0.438"	0.438"	3.50"	0.563"	6055K44	2.55
0.500"	0.438"	3.50"	0.563"	6055K45	2.55

Lightweight Aluminum Rulers

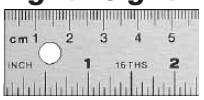

Inch/Metric

Made of aluminum, these rulers are an economical alternative to Corrosion-Resistant Stainless Steel Rulers. All are rigid with black printed graduations.

Quick-reading rulers are labeled with numeric increments that are less than 1″.

Certified rulers include a calibration certificate traceable to NIST with test measurements that confirm accuracy.

Lg.	Wd.	Thick.	Hole Dia.		
Inch					
Grad. Marks: 10ths and quick-reading 10ths front					
12″	1″	3/64″	—	1933A51	$10.16
24″	1″	3/64″	—	1933A52	13.42
36″	1″	3/64″	—	1933A53	20.16
48″	1″	1/16″	—	1933A54	29.43
60″	1″	1/16″	—	1933A55	43.10
72″	1″	1/16″	—	1933A56	54.18
96″	1″	1/16″	—	1933A57	87.07
120″	1″	1/16″	—	1933A58	110.30
Grad. Marks: 8ths and 16ths front					
12″	7/8″	3/64″	1/4″	2014A11	2.69
18″	1 1/4″	3/64″	1/4″	2014A12	4.42
36″	1 1/8″	1/16″	3/8″	1908A13	3.06
36″	2″	7/64″	3/8″	2014A2	5.29
48″	2″	7/64″	3/8″	2014A3	7.57
60″	2″	1/8″	3/8″	2014A4	12.12
72″	2″	1/8″	3/8″	2014A5	13.97
96″	2″	1/8″	3/8″	2014A6	23.19
144″	2″	3/32″	1/4″	2014A7	88.11
Grad. Marks: Quick-reading 32nds and 16ths front					
6″	3/4″	3/64″	—	2014A9	2.34
Certified Inch					
Grad. Marks: Quick-reading 32nds and 16ths front					
6″	3/4″	3/64″	—	2363A11	5.09
Grad. Marks: Quick-reading 8ths and 16ths front					
12″	7/8″	3/64″	1/4″	2363A12	6.17
18″	1 1/4″	3/64″	3/8″	2363A13	9.17
24″	1 1/4″	1/16″	3/8″	2363A14	10.84
36″	1 1/2″	1/16″	3/8″	2363A15	14.76
Inch/Metric					
Grad. Marks: 16ths and 2 mm front					
48″/122 cm	2″	1/8″	3/8″	1971A45	13.00
Grad. Marks: 8ths and mm front					
36″/100 cm	1 1/8″	1/16″	3/8″	6826A11	4.11
Grad. Marks: mm and 16ths front					
12″/30 cm	1″	3/64″	1/4″	1971A42	3.11
18″/45 cm	1 3/8″	3/64″	1/4″	1971A43	5.46
24″/60 cm	1 3/8″	3/64″	1/4″	1971A44	7.21
39″/100 cm	1 3/8″	1/16″	1/4″	1971A21	10.71
59″/150 cm	1 3/8″	1/16″	1/4″	1971A46	19.40
78″/200 cm	1 3/8″	1/16″	1/4″	1971A47	31.23
Metric					
Grad. Marks: cm and mm front					
100 cm	2″	1/8″	5/16″	1971A56	9.80
150 cm	2″	1/8″	5/16″	1971A57	16.08
200 cm	2″	1/8″	5/16″	1971A58	20.44
Grad. Marks: mm and cm front					
30 cm	1 3/8″	3/64″	1/4″	1971A52	3.28
45 cm	1 3/8″	3/64″	1/4″	1971A53	5.53
60 cm	1 3/8″	1/16″	1/4″	1971A54	7.21
75 cm	1 3/8″	1/16″	1/4″	1971A55	9.37

Nonslip Rulers



Inch/Metric

A cork back prevents slipping and protects delicate surfaces. Rulers are corrosion-resistant stainless steel and have wear-resistant black etched markings. All are flexible for measuring slightly curved surfaces.

Lg.	Wd.	O'all Thick.	Hole Dia.		
Inch—Grad. Marks: 16ths with 32nds (first inch) both edges front					
6″	1 1/8″	1/16″	1/4″	1943A21	$5.42
12″	1 1/8″	1/16″	1/4″	1943A22	6.25
18″	1 1/8″	1/16″	1/4″	1943A23	7.50
24″	1 1/8″	1/16″	1/4″	1943A24	9.55
36″	1 1/8″	1/16″	1/4″	1943A25	15.28
Inch/Metric—Grad. Marks: 16ths and mm front					
24″/61 cm	1 1/8″	1/16″	1/4″	1943A34	9.55
36″/91 cm	1 1/8″	1/16″	1/4″	1943A35	15.28
48″/121 cm	1 1/8″	1/16″	1/4″	1943A36	44.27
Inch/Metric—Grad. Marks: 16ths with 32nds (first inch) and mm front					
6″/15 cm	1 1/4″	1/16″	5/16″	1943A31	4.33
12″/30 cm	1 1/4″	1/16″	5/16″	1943A32	5.61
18″/45 cm	1 1/4″	1/16″	5/16″	1943A33	6.78

Corrosion-Resistant Stainless Steel Rulers


Inch/Metric

Made to last, our most corrosion-resistant rulers are stainless steel and have wear-resistant black etched markings. Rulers are flexible for measuring slightly curved surfaces, unless noted.

Quick-reading rulers are labeled with numeric increments that are less than 1″.

Certified rulers include a calibration certificate traceable to NIST with test measurements that confirm accuracy.

Lg.	Wd.	Thick.	Hole Dia.		
Inch					
Grad. Marks: 16ths both edges front					
12″	1 1/4″	1/32″	1/4″	2120A11	$8.85
18″	1 1/4″	1/32″	1/4″	2120A12	10.94
24″	1 1/4″	1/32″	1/4″	2120A13	13.02
36″	1 1/4″	1/32″	1/4″	2120A14	27.90
48″	1 1/4″	1/32″	1/4″	2120A15	37.21
Grad. Marks: 8ths and 16ths front with 32nds at both ends					
6″	3/4″	1/32″	—	2388A52	3.60
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front					
6″	3/4″	1/32″	—	2388A53	4.18
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 8ths and 16ths back					
6″	3/4″	1/32″	—	2388A72★	6.84
12″	1″	1/32″	—	2388A74	11.46
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; quick-reading 10ths and quick-reading 100ths back					
6″	15/32″	1/64″	—	2388A71	5.72
12″	15/32″	1/64″	—	2388A73	9.65
Inch/Metric					
Grad. Marks: 32nds and 16ths front; mm both edges back					
6″/150 mm	1″	1/32″	1/4″	2120A23	5.79
12″/300 mm	1″	1/32″	1/4″	2120A24	9.75
24″/600 mm	1″	1/32″	1/4″	2120A25	15.83
36″/900 mm	1″	1/32″	1/4″	2120A26	38.21
Grad. Marks: mm, quick-reading 32nds, and 16ths front					
6″/150 mm	3/4″	1/32″	—	2388A55	3.49
Certified Inch/Metric					
Grad. Marks: 32nds and 16ths front; mm both edges back					
6″/150 mm	1″	1/32″	1/4″	20265A41	54.69
12″/300 mm	1″	1/32″	1/4″	20265A42	61.64
24″/600 mm	1″	1/32″	1/4″	20265A43	103.36
36″/900 mm	1″	1/32″	1/4″	20265A44	154.09
Grad. Marks: 32nds and mm front					
6″/150 mm	1″	1/32″	1/4″	20265A6	26.13
12″/300 mm	1″	1/32″	1/4″	20265A12	28.91
24″/600 mm	1″	1/32″	1/4″	20265A24	54.07
36″/900 mm	1″	1/32″	1/4″	20265A36	99.18
48″/1,200 mm	1″	1/32″	1/4″	20265A38	133.09
Metric					
Grad. Marks: mm both edges front					
150 mm	1″	1/32″	1/4″	2120A16	4.15
300 mm	1″	1/32″	1/4″	2120A17	7.40
600 mm	1″	1/32″	1/4″	2120A18	11.79
1,000 mm	1″	1/32″	1/4″	2120A22	37.21
Certified Metric					
Grad. Marks: mm both edges front					
150 mm	1″	1/32″	1/4″	20265A31	26.64
300 mm	1″	1/32″	1/4″	20265A32	30.60
600 mm	1″	1/32″	1/4″	20265A33	58.09
1,000 mm	1″	1/32″	1/4″	20265A34	136.84

★ Ruler is rigid.

Wood Yardsticks and Rulers



A clear protective coating and metal endcaps add durability to these rulers.

Yardstick is an economical choice for measuring objects up to three feet long. It has black printed graduations.

Rulers are hard-maple with brass endcaps. They have wear-resistant black etched markings.

Lg.	Wd.	Thick.	Hole Dia.		
Yardstick—Grad. Marks: 8ths both edges front and back					
36″	1 1/8″	1/4″	7/32″	1908A15	$3.47
Rulers—Grad. Marks: 16ths both edges front; 8ths both edges back					
36″	1 1/2″	1/4″	5/16″	2002A1	26.00
48″	1 1/2″	1/4″	5/16″	2002A2	28.87
60″	1 1/2″	1/4″	5/16″	2002A3	34.44
72″	1 1/2″	1/4″	5/16″	2002A4	37.73

Easy-to-Read Rulers with Bold Markings

Rulers have large numbers and deeply etched black graduations. All are flexible for measuring slightly curved surfaces and have a 7/32″ dia. hang-up hole. Made of stainless steel.

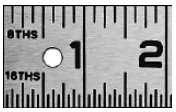

Lg.	Wd.	Thick.		
Inch—Grad. Marks: 8ths and 16ths front and back				
12″	1 1/4″	1/16″	2013A1	$29.35
24″	1 1/4″	1/16″	2013A2	46.75
36″	1 1/4″	1/16″	2013A3	70.80
48″	1 1/4″	1/16″	2013A4	85.82
72″	1 1/4″	1/16″	2013A6	162.15

Transparent Rulers

Keep your workpiece in view as you measure with these see-through rulers. Rulers have a center-finding scale and graduations that read left to right and right to left, except Style C does not have a center-finding scale and graduations are left to right only. All are plastic.

Styles A&D have red printed graduations.

Style B rulers have one stainless steel edge and a 1/4″ dia. hang-up hole. They have black printed graduations.

Style C is flexible for measuring slightly curved surfaces. It has black printed graduations and is labeled with numeric increments that are less than 1″ for quick reading.

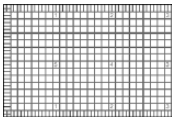
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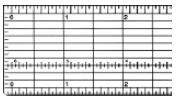
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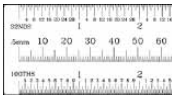
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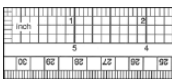
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Lg.	Wd.	Thick.		
Inch				
(A) Grad. Marks: 16ths all edges and 8ths front				
12″	2″	1/32″	20345A25	$3.14
18″	2″	1/32″	20345A28	4.35
(B) Grad. Marks: 16ths all edges front				
12″	1 1/2″	1/8″	20345A21	6.53
18″	1 1/2″	1/8″	20345A22	10.89
Inch/Metric				
(C) Grad. Marks: Quick-reading 32nds, 1/2 mm, and quick-reading 100ths front				
6″/150 mm	1 1/2″	0.007″	89715A65	4.26
(D) Grad. Marks: 16ths, mm, and 8ths front				
12″/30 cm	1″	1/32″	20345A35	1.92

Long-Length Rulers

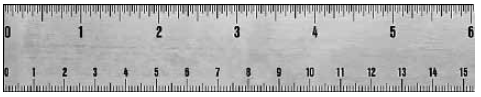

Left to Right

Create a ruler up to 192″ long by adding continuous segments. Mount them on machinery and tables. All are corrosion-resistant stainless steel and have wear-resistant black etched markings. They're flexible for mounting on slightly curved surfaces. Rulers with mounting holes have a 1/4″ dia. hole at each end. Segments are 48″ (120 cm) long.

Range, Inches/cm	With Mtg. Holes Left to Right	Without Mtg. Holes Left to Right	Without Mtg. Holes Right to Left	
Inch/Metric—Grad. Marks: 32nds and mm front				
0-48/0-120	89665A81	89665A65	89665A69	$44.40
48-96/120-240	89665A82	89665A66	89665A7	44.40
96-144/240-360	89665A83	89665A67	89665A71	44.40
144-192/360-480	89665A84	89665A68	89665A72	44.40

Circumference Rulers

Determine the circumference of a circle without calculations. These steel rulers have an inch scale for measuring diameter on the top edge and the corresponding circumference scale on the bottom edge. They're also known as tinners' rules. All are flexible for measuring slightly curved surfaces and have wear-resistant black etched markings. Rulers are 1 1/4″ Wd. × 1/16″ Thick. with a 7/32″ dia. hang-up hole.



Inch—Grad. Marks: 16ths front top and 8ths front bottom			
36″ Dia./113″ Circumference	2132A1		$71.04
48″ Dia./150″ Circumference	2132A2		90.44

Easy-to-Read High-Contrast Rulers

Numbers and graduations etched in light colors are easy to see on a black background.

Aluminum rulers are lightweight and corrosion resistant.

Stainless steel rulers are more corrosion resistant than aluminum rulers.

Flexible rulers are for measuring slightly curved surfaces.

Quick-reading rulers are labeled with numeric increments that are less than 1″.

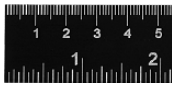

Inch/Metric

Aluminum Rulers—Flexible

Lg.	Wd.	Thick.	Left to Right	Right to Left	
Inch—Grad. Marks: 16ths front top					
12″	1″	3/32″	1970A31	1970A311	$7.90
24″	1″	3/32″	1970A32	1970A321	15.95
36″	1″	3/32″	1970A33	1970A331	23.77
48″	1″	3/32″	1970A34	1970A341	31.70
60″	1″	3/32″	1970A35	1970A351	39.64
72″	1″	3/32″	1970A36	1970A361	47.54
96″	1″	3/32″	1970A37	—	76.42
96″	1″	3/32″	—	1970A371	77.31
144″	1″	3/32″	1970A38	1970A381	158.42
Inch—Grad. Marks: 16ths front bottom					
12″	1″	3/32″	1970A41	1970A411	7.90
24″	1″	3/32″	1970A42	1970A421	15.95
36″	1″	3/32″	1970A43	1970A431	23.77
48″	1″	3/32″	1970A44	1970A441	31.70
60″	1″	3/32″	1970A45	1970A451	39.64
72″	1″	3/32″	1970A46	1970A461	47.54
96″	1″	3/32″	1970A47	1970A471	76.42
144″	1″	3/32″	1970A48	1970A481	158.42
Inch/Metric—Grad. Marks: mm front top; 16ths front bottom					
20″/50 cm	1″	3/32″	1970A71	—	14.97
40″/101 cm	1″	3/32″	1970A72	—	29.95
60″/152 cm	1″	3/32″	1970A73	—	44.66
80″/203 cm	1″	3/32″	1970A74	—	59.65
100″/254 cm	1″	3/32″	1970A75	—	81.25
Metric—Grad. Marks: mm front top					
50 cm	1″	3/32″	1970A52	1970A521	11.58
100 cm	1″	3/32″	1970A53	1970A531	23.85
150 cm	1″	3/32″	1970A54	1970A541	39.68
200 cm	1″	3/32″	1970A55	1970A551	49.99

Stainless Steel Rulers—Left to Right

Lg.	Rigid (1/32″ Thick.) Wd.		Flexible (1/64″ Thick.) Wd.		
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 8ths and 16ths back					
6″	3/4″	21215A9	$10.10	1/2″	21215A1	$9.38
12″	1″	21215A11	16.57	1/2″	21215A2	15.19
18″	1 3/16″	21215A12	26.45	3/4″	21215A3	29.01
24″	1 3/16″	21215A13	38.98	3/4″	21215A4	38.98
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; quick-reading 100ths and quick-reading 10ths back					
6″	3/4″	21215A14	10.10	1/2″	21215A5	9.40
12″	1″	21215A15	16.57	1/2″	21215A6	15.19
18″	1 3/16″	21215A16	29.17	3/4″	21215A7	29.17
24″	1 3/16″	21215A17	38.98	3/4″	21215A8	38.98

Folding Rulers

Fold these rulers for convenient storage and transport. They are 5/8″ wide and have black and red printed graduations (unless noted).

Extensions are 6″ long and reach into tight spaces that are narrower than the ruler. Wood ruler has a brass extension; fiberglass ruler has a plastic extension.

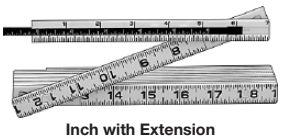
Inch with Extension

Vertical rulers give you the length of a 45° diagonal without calculations (up to 8 1/2 ft.).

Lg., ft./m	Thick.	Material	Color	Unfolding Direction		
Inch—Grad. Marks: 100ths both edges front; 16ths both edges back						
6	9/64″	Wood	White	Both	1989A1	$17.89
Inch—Grad. Marks: 16ths both edges front						
6	9/64″	Wood	White	From Front	19365A28	17.04
6	1/8″	Fiberglass	Yellow	From Back	19365A32	28.36
6	1/8″	Fiberglass	Yellow	From Front	19365A33	28.36
Inch—Grad. Marks: 16ths both edges front and back						
6	9/64″	Wood	White	From Back	19365A29	17.04
Inch with Extension—Grad. Marks: 16ths both edges front						
6	9/64″	Wood	Natural	Both	19365A21 ■	22.19
6	1/8″	Fiberglass	Yellow	From Front	19365A31	30.14
Inch/Metric—Grad. Marks: 16ths both edges front; mm both edges back						
6 1/2/2	9/64″	Wood	White	Both	19365A27	15.22
Vertical Inch/45° Scale—Grad. Marks: 16ths both edges front and 45° scale back						
6	9/64″	Wood	White	Both	19275A11 ▲	20.90

■ Graduations on front and back. ▲ Graduations are black.

High-Accuracy Rulers

Starrett High-Accuracy Rulers



Front Back
Inch/Metric

Also known as machinists' rules, these steel rulers ensure reliable, repeatable measurements. They meet Fed. Spec. GGG-R-791H, which establishes uniform standards for ruler accuracy, graduations, and size. All have a corrosion-resistant satin-chrome finish that reduces glare and wear-resistant black etched markings.

Flexible rulers are for measuring slightly curved surfaces.

Quick-reading rulers are labeled with numeric increments that are less than 1″.

Certified rulers include a calibration certificate traceable to NIST with test measurements that confirm accuracy.

Lg.	Accuracy Range
3″ to 6″	-0.0035″ to +0.004″
11¾″ to 12″	-0.0035″ to +0.005″
18″	-0.0035″ to +0.006″

Lg.	Accuracy Range
19½″ to 36″	-0.0035″ to +0.007″
39¼″ to 48″	-0.005″ to +0.010″
72″	-0.007″ to +0.012″

Lg.	Accuracy Range
150 mm	-0.09 mm to +0.1 mm
300 mm	-0.09 mm to +0.15 mm
500 mm	-0.09 mm to +0.2 mm
1,000 mm	-0.09 mm to +0.25 mm

Lg.	Wd.	Thick.	Starrett No.		
Inch—Rigid					
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; quick-reading 50ths and quick-reading 100ths back					
6″	¾″	3⁄64″	C616R-6	**2117A21**	$29.50
12″	1″	3⁄64″	C616R-12	**2117A22**	57.01
72″	1½″	3⁄32″	C416R-72	**2117A19**	893.01
Grad. Marks: Quick-reading 50ths both edges front; quick-reading 10ths both edges back					
6″	¾″	3⁄64″	C606R-6	**2117A31**	24.00
Grad. Marks: Quick-reading 64ths and quick-reading 32nds front; 8ths and 16ths back					
3″	9⁄16″	3⁄64″	C604R-3	**2117A17**	20.00
6″	¾″	3⁄64″	C604R-6	**2117A11**	24.00
6″	¾″	3⁄64″	C604RE-6	**2117A27** ★	26.00
12″	1″	3⁄64″	C604R-12	**2117A12**	40.50
12″	1″	3⁄64″	C604RE-12	**2117A33** ★	49.50
18″	1⅛″	3⁄64″	C604R-18	**2117A13**	78.00
24″	1¼″	3⁄64″	C604R-24	**2117A14**	102.00
36″	1¼″	3⁄64″	C604R-36	**2117A15**	187.01
48″	1¼″	3⁄64″	C604R-48	**2117A16**	247.01
72″	1½″	3⁄32″	C404R-72	**2117A43**	703.01
Inch—Flexible					
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; quick-reading 10ths and quick-reading 100ths back					
6″	½″	1⁄64″	C305R-6	**2285A5**	24.00
12″	½″	1⁄64″	C305R-12	**2285A6**	49.50
18″	¾″	1⁄64″	C305R-18	**2285A7**	76.00
24″	¾″	1⁄64″	C305R-24	**2285A8**	109.01
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; quick-reading 10ths and quick-reading 50ths back					
6″	½″	1⁄64″	C303R-6	**2285A25**	22.50
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; quick-reading 50ths and quick-reading 100ths back					
6″	½″	1⁄64″	C316R-6	**2285A35**	24.50
12″	½″	1⁄64″	C316R-12	**2285A36**	52.00
Grad. Marks: Quick-reading 64ths front; 16ths and quick-reading 32nds back					
6″	½″	1⁄64″	C309R-6	**2285A21**	23.01
Certified Inch—Rigid					
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; quick-reading 10ths and quick-reading 100ths back					
6″	½″	1⁄64″	C305R-6	**2117A75**	61.23
12″	½″	1⁄64″	C305R-12	**2117A76**	86.73

★ On the back, left and right ends are also graduated.

Lg.	Wd.	Thick.	Starrett No.		
Certified Inch—Rigid (Cont.)					
Grad. Marks: Quick-reading 50ths both edges front; quick-reading 10ths both edges back					
6″	¾″	3⁄64″	C606R-6	**2117A72**	$61.23
Grad. Marks: Quick-reading 64ths and quick-reading 32nds front; 8ths and 16ths back					
6″	¾″	3⁄64″	C604R-6	**2117A69**	61.23
12″	1″	3⁄64″	C604R-12	**2117A28**	77.73
24″	1¼″	3⁄64″	C604R-24	**2117A71**	139.23
36″	1¼″	3⁄64″	C604R-36	**2117A29**	224.24
72″	1½″	3⁄32″	C404R-72	**2117A44**	740.24
Inch/Metric—Rigid					
Grad. Marks: ½ mm and quick-reading 32nds front; mm and quick-reading 64ths back					
5¾″/150 mm	¾″	3⁄64″	C636ME-150	**2117A51**	26.00
11¾″/300 mm	1″	3⁄64″	C636-300	**2117A52**	56.00
19½″/500 mm	1⅛″	3⁄64″	C636-500	**2117A53**	101.01
39¼″/1,000 mm	1¼″	3⁄64″	C636-1000	**2117A54**	251.01
Inch/Metric—Flexible					
Grad. Marks: Quick-reading 10ths and quick-reading 50ths front; mm and ½ mm back					
5¾″/150 mm	½″	1⁄64″	C334-150	**2285A45**	27.01
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; ½ mm and mm back					
5¾″/150 mm	½″	1⁄64″	C331-150	**2285A55**	25.01
11¾″/300 mm	½″	1⁄64″	C331-300	**2285A56**	49.50
Certified Inch/Metric—Rigid					
Grad. Marks: ½ mm and quick-reading 32nds front; mm and quick-reading 64ths back					
5¾″/150 mm	¾″	3⁄64″	C636ME-150	**2117A73**	63.23
11¾″/300 mm	1″	3⁄64″	C636-300	**2117A74**	93.23
19½″/500 mm	1⅛″	3⁄64″	C636-500	**2117A67**	138.24
39¼″/1,000 mm	1¼″	3⁄64″	C636-1000	**2117A68**	288.24
Grad. Marks: Quick-reading 10ths and quick-reading 50ths front; mm and ½ mm back					
5¾″/150 mm	½″	1⁄64″	C334-150	**2117A77**	64.24
Metric—Rigid					
Grad. Marks: mm and ½ mm front and back					
150 mm	¾″	3⁄64″	C635E-150	**2117A56** ★	29.50
300 mm	1″	3⁄64″	C635-300	**2117A55**	56.00
Metric—Flexible					
Grad. Marks: ½ mm front; ½ mm and mm back					
150 mm	½″	1⁄64″	C330-150	**2285A65**	22.50

Magnetic High-Accuracy Rulers

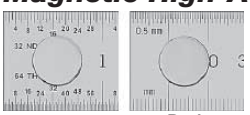

Front Back
Inch/Metric

Lg.	Accuracy Range
6″	-0.0035″ to +0.004″
12″	-0.0035″ to +0.005″
24″ to 36″	-0.0035″ to +0.007″

High-powered magnets hold these rigid steel rulers in place. Also known as machinists' rules, these rulers ensure reliable, repeatable measurements. They meet Fed. Spec. GGG-R-791H, which establishes uniform standards for ruler accuracy, graduations, and size. All have a corrosion-resistant satin-chrome finish that reduces glare and wear-resistant black etched markings. These rulers are labeled with numeric increments that are less than 1″ for quick reading.

Lg.	Wd.	Thick.	No. of Magnets		
Inch—Grad. Marks: Quick-reading 64ths and quick-reading 32nds front; 8ths and 16ths back					
6″	¾″	3⁄64″	2	**2077A21**	$20.57
12″	1″	3⁄64″	3	**2077A22**	38.40
24″	1⅛″	3⁄64″	5	**2077A23**	71.32
36″	1⅛″	3⁄64″	7	**2077A24**	136.39
Inch/Metric—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; ½ mm and mm back					
6″/150 mm	¾″	3⁄64″	2	**2077A32**	20.57
12″/300 mm	1″	3⁄64″	3	**2077A33**	38.40
24″/600 mm	1⅛″	3⁄64″	5	**2077A34**	71.32

Scratch-Resistant High-Accuracy Rulers

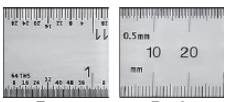

Front Back
Inch/Metric

Protect your ruler from scratches and wear with a TiN (titanium nitride) coating. Also known as machinists' rules, these steel rulers ensure reliable, repeatable measurements. They meet Fed. Spec. GGG-R-791H, which establishes uniform standards for ruler accuracy, graduations, and size. All have wear-resistant black etched markings and are labeled with numeric increments that are less than 1″ for quick reading.

Flexible rulers are for measuring slightly curved surfaces.

Lg.	Rigid (3⁄64″ Thick.) Wd.			Flexible (1⁄64″ Thick.) Wd.		
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 8ths and 10ths back						
12″	1″	**19845A16**	$43.01	—	—	—
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 8ths and 16ths back						
6″	¾″	**19845A15**	22.20	½″	**19845A11**	$21.76
12″	—	—	—	½″	**19845A12**	39.32
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; quick-reading 10ths and quick-reading 100ths back						
6″	¾″	**19845A17**	22.20	½″	**19845A13**	22.11
12″	1″	**19845A18**	42.37	½″	**19845A14**	39.92
Inch/Metric—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; mm and ½ mm back						
6″/150 mm	¾″	**19845A21**	23.77	½″	**19845A19**	21.76
12″/300 mm	1″	**19845A22**	42.99	½″	**19845A2**	39.32

High-Accuracy Rulers

These steel rulers provide reliable, repeatable measurements. All meet Fed. Spec. GGG-R-791H, which establishes uniform standards for ruler accuracy, graduations, and size. They're also known as machinists' rules. They have a corrosion-resistant satin-chrome finish that reduces glare and wear-resistant black etched markings.

Flexible rulers are for measuring slightly curved surfaces.

Quick-reading rulers are labeled with numeric increments that are less than 1″.

Certified rulers include a calibration certificate traceable to NIST with test measurements that confirm accuracy.

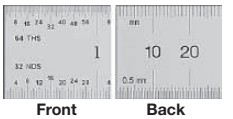

Front Back
Inch/Metric

Lg.	Accuracy Range	Lg.	Accuracy Range	Lg.	Accuracy Range
6″	-0.0035″ to +0.004″	24″	-0.0035″ to +0.007″	450 mm	-0.09 mm to +0.15 mm
12″	-0.0035″ to +0.005″	48″	-0.005″ to +0.008″	500 mm to 900 mm	-0.09 mm to +0.18 mm
18″ to 36″	-0.0035″ to +0.006″	150 mm	-0.09 mm to +0.1 mm	1,200 mm	-0.09 mm to +0.2 mm

Lg.	Rigid (3/64″ Thick.) Wd.			Flexible (1/64″ Thick.) Wd.		
Inch						
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; quick-reading 10ths and quick-reading 100ths back						
6″	3/4″	2042A76	$11.64	1/2″	2042A61	$10.26
12″	1″	2042A77	23.30	1/2″	2042A62	19.73
18″	1 1/8″	2042A78	33.68	3/4″	2042A63	29.83
24″	1 1/8″	2042A79	47.52	3/4″	2042A64	41.57
36″	1 1/4″	2042A93	117.60	3/4″	2042A95	108.73
48″	1 1/4″	2042A94	184.72	3/4″	2042A96	170.47
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; quick-reading 10ths and quick-reading 50ths back						
6″	3/4″	2042A85	11.64	1/2″	2042A68	10.26
12″	1″	2042A86	23.30	1/2″	2042A69	19.73
18″	1 1/8″	2042A87	33.68	3/4″	2042A71	29.52
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; quick-reading 50ths and quick-reading 100ths back						
6″	3/4″	2042A81	11.64	1/2″	2042A65	10.26
12″	1″	2042A82	23.30	1/2″	2042A66	19.73
18″	1 1/8″	2042A83	33.68	3/4″	2042A67	29.83
24″	1 1/8″	2042A84	47.52	3/4″	2042A88	41.57
48″	1 1/4″	2042A47	184.72	—	—	—
Grad. Marks: Quick-reading 64ths and quick-reading 32nds front; 8ths and 16ths back						
6″	3/4″	2042A72	12.38	1/2″	2042A55	10.26
12″	1″	2042A73	23.90	1/2″	2042A56	19.96
18″	1 1/8″	2042A74	34.14	3/4″	2042A57	31.16
24″	1 1/8″	2042A75	48.13	3/4″	2042A58	41.57
36″	1 1/4″	2042A91	94.55	—	—	—
48″	1 1/4″	2042A92	184.72	—	—	—
Certified Inch						
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 8ths and 16ths back						
6″	3/4″	2056A11	45.05	—	—	—
12″	1″	2056A12	75.72	—	—	—
24″	1 1/8″	2056A13	126.40	—	—	—
Certified Inch (Cont.)						
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 8ths and 16ths back (Cont.)						
36″	1 1/8″	2056A14	$204.75	—	—	—
48″	1 1/4″	2056A15	309.04	—	—	—
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; quick-reading 10ths and quick-reading 100ths back						
6″	3/4″	2056A16	45.05	1/2″	2056A32	$45.04
12″	1″	2056A17	75.72	1/2″	2056A33	75.72
24″	1 1/8″	2056A18	126.40	3/4″	2056A34	126.40
36″	1 1/8″	2056A19	247.60	3/4″	2056A35	247.60
48″	1 1/4″	2056A21	359.35	—	—	—
Inch/Metric						
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; quick-reading 1/2 mm and mm back						
6″/150 mm	3/4″	6823A5	12.55	1/2″	6823A7	12.01
12″/300 mm	1″	6823A6	25.19	1/2″	6823A8	23.37
18″/450 mm	1 1/8″	6823A61	40.89	3/4″	6823A51	37.49
24″/600 mm	1 1/8″	6823A62	54.31	3/4″	6823A52	51.48
Certified Inch/Metric						
Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; quick-reading 1/2 mm and mm back						
6″/150 mm	3/4″	2056A22	45.05	—	—	—
12″/300 mm	1″	2056A23	75.72	—	—	—
24″/600 mm	1 1/8″	2056A24	126.40	—	—	—
36″/900 mm	1 1/8″	2056A25	247.60	—	—	—
48″/1,200 mm	1 1/4″	2056A26	359.35	—	—	—
Metric						
Grad. Marks: mm and 1/2 mm front; quick-reading mm and 1/2 mm back						
150 mm	3/4″	6823A1	12.55	1/2″	6823A3	12.01
300 mm	1″	6823A2	25.19	1/2″	6823A4	23.37
450 mm	1 1/8″	6823A41	40.89	3/4″	6823A31	37.49
600 mm	1 1/8″	6823A42	54.31	3/4″	6823A32	51.48

Starrett High-Accuracy Rulers with Hook



A reversible, removable hook grabs the edge of an object for easy alignment. Also known as machinists' rules, these rigid steel rulers ensure reliable, repeatable measurements. They meet Fed. Spec. GGG-R-791H, which establishes uniform standards for ruler accuracy, graduations, and size. All have a corrosion-resistant satin-chrome finish that reduces glare and wear-resistant black etched markings. These rulers are labeled with numeric increments that are less than 1″ for quick reading.

Lg.	Wd.	Thick.	Starrett No.		
Inch—Grad. Marks: Quick-reading 64ths and quick-reading 32nds front; 8ths and 16ths back					
6″	3/4″	3/64″	CH604R-6	2113A21	$31.01
12″	1″	3/64″	CH604R-12	2113A22	54.00
18″	1 1/8″	3/64″	CH604R-18	2113A23	90.00
24″	1 1/4″	3/64″	CH604R-24	2113A24	109.01
36″	1 1/4″	3/64″	CH604R-36	2113A25	207.01
48″	1 1/2″	3/32″	CH404R-48	2113A26	567.01

Printers' Pica Rulers



Rulers are marked with picas for working with type. They have a hook for alignment. Hang-up hole is 1/4″ dia. All are corrosion-resistant stainless steel and have wear-resistant black etched markings. They're flexible for measuring slightly curved surfaces.

Lg.	Wd.	Thick.		
Inch/Pica—Grad. Marks: 6 points and 16ths front; 8 points and 10 points back				
12″	13/16″	1/32″	2270A11	$10.15
18″	13/16″	1/32″	2270A12	13.44
24″	13/16″	1/32″	2270A13	18.00

Pocket Rulers

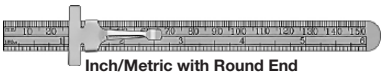
Inch/Metric with Round End

Rulers are narrow and just 6″ long to measure in tight spaces. They have a pocket clip that can also be used as a depth gauge, with the clip as the base. All are corrosion-resistant stainless steel and have wear-resistant black etched markings. They're flexible for measuring slightly curved surfaces.

Quick-reading rulers are labeled with numeric increments that are less than 1″.

Lg.	Wd.	Thick.	End Shape		
Inch—Grad. Marks: 32nds and quick-reading 64ths front					
6″	1/4″	1/64″	Square	6813A63	$2.74
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front					
6″	1/2″	1/64″	Round	6813A61	2.62
Inch/Metric—Grad. Marks: 16ths and mm front					
6″/150 mm	1/4″	1/64″	Square	6813A64	2.74
Inch/Metric—Grad. Marks: mm and 16ths front					
6″/150 mm	1/2″	1/64″	Round	2388A51	2.45
Inch/Metric—Grad. Marks: Quick-reading 64ths and mm front					
6″/150 mm	1/2″	1/64″	Round	2388A57	2.66
Metric—Grad. Marks: 1/2 mm and mm front					
150 mm	1/2″	1/64″	Round	6813A62	2.74

Starrett Tapered-End Pocket Rulers



At just 6″ long with a tapered end, this ruler fits into tight spots. It's flexible for use on slightly curved surfaces. It has a corrosion-resistant satin-chrome finish that reduces glare and wear-resistant etched markings.

Lg.	Wd.	Thick.	Starrett No.		
Inch—Grad. Marks: 64ths front; 32nds back					
6″	1/8″-1/2″	1/64″	C310T-6	2286A12	$25.01

Adhesive-Back & Center-Finding Rulers

Adhesive-Back Rulers



Inch/Metric, Left to Right



Inch/Metric, Right to Left

Permanently mount these rulers to a machine or workbench.
Flexible rulers are for mounting on curved surfaces.
Stainless steel rulers are corrosion resistant and 3/64″ thick. They have wear-resistant black etched markings. All come in one full-length segment.
Plastic rulers are 0.004″ thick. All have black printed graduations. Rulers longer than 1½ ft. come in 3-ft. long segments, unless noted. Metric rulers come in 1-meter long segments.
Steel rulers are 0.008″ thick and have black printed graduations. They come in one full-length segment.
Paper rulers are 0.004″ thick and have black printed graduations. They come in one full-length segment.

Lg.	Wd.	Color	Left to Right		Right to Left	
Inch—Rigid						
Stainless Steel—Grad. Marks: 16ths front top; 16ths front bottom						
12″	19/32″	Silver	1909A81	$32.72	1909A85	$32.72
20″	19/32″	Silver	1909A82	47.44	1909A86	47.44
28″	19/32″	Silver	1909A83	67.70	1909A87	67.70
40″	19/32″	Silver	1909A84	110.44	1909A88	110.44
Inch—Flexible						
Plastic—Grad. Marks: 16ths front top; 16ths front bottom						
1 ft.	1¼″	Clear	19325A47	1.67	19325A36	1.67
1 ft.	1¼″	Silver	1910A41	1.54	1910A21	1.54
1½ ft.	1¼″	Silver	1910A42	2.31	1910A22	2.31
3 ft.	1¼″	Clear	19325A48	5.02	19325A37	5.02
3 ft.	1¼″	Silver	1910A43	4.62	1910A23	4.62
6 ft.	1¼″	Clear	19325A49	10.04	19325A38	10.04
6 ft.	1¼″	Silver	1910A44	9.24	1910A24	9.24
9 ft.	1¼″	Clear	19325A51	15.07	19325A39	15.07
9 ft.	1¼″	Silver	1910A45	13.86	1910A25	13.86
12 ft.	1¼″	Clear	19325A52	20.09	19325A41	20.09
12 ft.	1¼″	Silver	1910A46	18.48	1910A26	18.48
18 ft.	1″	Silver	1910A71	29.70	1910A76	29.70
24 ft.	1″	Silver	1910A72	39.60	1910A77	39.60
36 ft.	1″	Silver	1910A73	59.40	1910A78	59.40
48 ft.	1″	Silver	1910A74	79.20	1910A79	79.20
60 ft.	1″	Silver	1910A75	99.00	1910A81	99.00
Plastic—Grad. Marks: 16ths front top						
1 ft.	½″	Clear	19325A42	2.03	19325A31	2.03
1 ft.	½″	Silver	1910A52	1.87	1910A62	1.87
3 ft.	½″	Clear	19325A43	6.10	19325A32	6.10
3 ft.	½″	Silver	1910A53	5.61	1910A63	5.61
6 ft.	½″	Clear	19325A44	12.20	19325A33	12.20
6 ft.	½″	Silver	1910A54	11.22	1910A64	11.22
9 ft.	½″	Clear	19325A45	18.30	19325A34	18.30
9 ft.	½″	Silver	1910A55	16.83	1910A65	16.83
12 ft.	½″	Clear	19325A46	24.40	19325A35	24.40
12 ft.	½″	Silver	1910A56	22.44	1910A66	22.44
24 ft.	½″	Silver	1910A12	38.03	1910A15	38.03
30 ft.	½″	Silver	1910A13	47.54	1910A16	47.54
Plastic—Grad. Marks: 32nds front top						
1 ft.	½″	Silver	1910A11	1.87	1910A14	1.87
3 ft.	½″	Silver	1910A47	5.61	1910A27	5.61
6 ft.	½″	Silver	1910A48	11.22	1910A28	11.22
9 ft.	½″	Silver	1910A49	16.83	1910A29	16.83
12 ft.	½″	Silver	1910A51	22.44	1910A31	22.44
Plastic—Grad. Marks: 4ths front top; 4ths front bottom						
7½ ft.	3″	Yellow	19415A11♠	16.14	19415A17♠	16.14
15 ft.	3″	Yellow	19415A12♠	32.28	19415A18♠	32.28
22½ ft.	3″	Yellow	19415A13♠	48.42		
30 ft.	3″	Yellow	19415A14♠	64.57		
45 ft.	3″	Yellow	19415A15♠	92.70		
60 ft.	3″	Yellow	19415A16♠	128.49		
Steel—Grad. Marks: 16ths with 32nds (first foot) front top; 16ths with 32nds (first foot) front bottom						
4 ft.	½″	White	1909A41	8.90		
6 ft.	½″	White			1909A42	10.40
6 ft.	¾″	White	1909A71	11.90		

♠ Comes in 7½-ft. long segments. ★ Graduations are left to right and right to left.

Lg.	Wd.	Color	Left to Right		Right to Left	
Inch—Flexible (Cont.)						
Steel—Grad. Marks: 16ths with 32nds (first foot) front top; 16ths with 32nds (first foot) front bottom (Cont.)						
12 ft.	½″	White	1909A43	$11.10	1909A44	$11.10
25 ft.	¾″	Yellow	1909A23★	36.70	1909A23★	36.70
Steel—Grad. Marks: 8ths with 32nds (first foot) front top; 16ths with 32nds (first foot) front bottom						
6 ft.	¼″	Yellow	1909A12	8.70		
10 ft.	¼″	Yellow	1909A13	11.96		
Steel—Grad. Marks: 8ths front top; 8ths front bottom						
25 ft.	⅜″	Yellow	1909A55	34.76	1909A24	34.76
50 ft.	⅜″	Yellow	1909A45	51.42	1909A25	51.42
100 ft.	⅜″	Yellow	1909A46	76.48		
Steel—Grad. Marks: 16ths front bottom						
25 ft.	⅜″	Yellow	1909A21	34.76	1909A18	34.76
50 ft.	⅜″	Yellow	1909A22	51.42	1909A19	51.42
Paper—Grad. Marks: 8ths front top; 8ths front bottom						
105 ft.	¾″	Yellow	1937A23★	20.56	1937A23★	20.56
Inch/Metric—Flexible						
Steel—Grad. Marks: 16ths with 32nds (first foot) front top; mm front bottom						
4 ft./1.2 m	½″	White	1909A52	8.90		
6 ft./1.8 m	¾″	White	1909A53	11.90		
12 ft./3.6 m	½″	White	1909A54	11.10	1909A56	11.10
Steel—Grad. Marks: 8ths front top; mm front bottom						
26 ft./8 m	⅜″	Yellow	1909A29	34.76		
50 ft./15 m	⅜″	Yellow	1909A31	51.42		
Metric—Rigid						
Stainless Steel—Grad. Marks: mm front top; mm front bottom						
0.3 m	19/32″	Silver	1909A89	35.38	1909A94	35.38
0.5 m	19/32″	Silver	1909A91	51.14	1909A95	51.14
0.7 m	19/32″	Silver	1909A92	73.22	1909A96	73.22
1 m	19/32″	Silver	1909A93	119.66	1909A97	119.66
Metric—Flexible						
Plastic—Grad. Marks: mm front top; mm front bottom						
1 m	½″	White	8965A21	6.75	8965A25	6.75
1 m	¾″	White	8965A31	6.37	8965A35	6.37
1 m	1″	White	8965A41	5.98	8965A45	5.98
2 m	½″	White	8965A22	13.51	8965A26	13.51
2 m	¾″	White	8965A32	12.74	8965A36	12.74
2 m	1″	White	8965A42	11.96	8965A46	11.96
Plastic—Grad. Marks: mm front top						
1 m	½″	White	8965A61	6.76	8965A65	6.76
2 m	½″	White	8965A62	13.60	8965A66	13.60
3 m	½″	White	8965A63	20.26	8965A67	20.26
4 m	½″	White	8965A64	27.02	8965A68	27.02
Steel—Grad. Marks: cm front top; mm front bottom						
3 m	½″	Yellow	1909A72	17.62	1909A73	17.62
8 m	¾″	Yellow	1909A26	36.14		
Steel—Grad. Marks: mm front top; mm front bottom						
3 m	¼″	Yellow	1909A59	11.96		
Steel—Grad. Marks: mm front bottom						
8 m	⅜″	Yellow	1909A27	34.76		
15 m	⅜″	Yellow	1909A28	51.42		
Paper—Grad. Marks: 2 mm front top; 2 mm front bottom						
32 m	¾″	White	1937A24★	20.56	1937A24★	20.56

Half-Measure Adhesive-Back Rulers

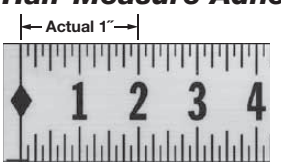

Left to Right

The graduations on these rulers are half the length of the object you are measuring. Use them to find diameters and centers. All are flexible for mounting on curved surfaces. Rulers are 1″ Wd. × 0.004″ Thick.

Lg.	*Horizontal Rulers* Left to Right	*Horizontal Rulers* Right to Left	*Vertical Rulers* Bottom to Top	*Vertical Rulers* Top to Bottom	
Half-Measure Inch—Grad. Marks: 8ths both edges front					
1½ ft.	19425A41	19425A44	19425A47	19425A49	$2.95
3 ft.	19425A42	19425A45	19425A48	19425A51	6.04
6 ft.	19425A43	19425A46			12.07
7½ ft.	19425A61	19425A62			15.09
11¼ ft.	19425A63	19425A64			22.67

Center-Finding Rulers



12″ Length

Zero marks the center when these rulers are positioned so the same number touches each side of an object. All are corrosion-resistant stainless steel and have wear-resistant black etched markings. They're flexible for measuring slightly curved surfaces. Hang-up hole is ¼″ dia.

Lg.	Wd.	Thick.		
Inch—Grad. Marks: 16ths and 32nds front				
12″	1¼″	1/32″	2346A23	$6.96
18″	1¼″	1/32″	2346A28	9.14
24″	1¼″	1/32″	2346A25	9.43
36″	1¼″	1/32″	2346A26	26.78
48″	1¼″	1/32″	2346A27	35.72
Inch/Metric—Grad. Marks: 16ths both edges front; mm both edges back				
18″/45 cm	1¼″	1/32″	2346A31	10.46
24″/60 cm	1¼″	1/32″	2346A32	13.56
36″/90 cm	1¼″	1/32″	2346A33	36.30

Vertical Rulers

Measurements are printed from top to bottom for measuring heights and depths. These rigid aluminum rulers are lightweight and corrosion resistant. All have black printed graduations. Hang-up hole is 1/4" dia.



Inch/Metric

Lg.	Wd.	Thick.		
Inch—Grad. Marks: 8ths and 16ths front				
36"	1"	1/16"	1932A65	$11.83
Inch/Metric—Grad. Marks: 16ths and mm front				
40"/100 cm	1 1/16"	1/16"	1932A66	15.44

Vertical Rulers with Hook

A hook grabs the edge of an object for easy alignment. These rulers are corrosion-resistant stainless steel and have wear-resistant black etched markings. All are flexible for measuring slightly curved surfaces. Hang-up hole is 1/4" dia.



Lg.	Wd.	Thick.		
Inch/Metric—Grad. Marks: 32nds and mm front; mm and 32nds back				
12"/30 cm	13/16"	1/32"	20155A41	$15.80
18"/45 cm	13/16"	1/32"	20155A42	23.14
24"/60 cm	13/16"	1/32"	20155A43	31.23

Long-Length Vertical Rulers

Use to measure heights and tank levels. Connect continuous segments to create a ruler up to 192" long. Each segment is 48" (120 cm) long and 1 1/8" Wd. × 1/32" Thick. All are corrosion-resistant stainless steel and have wear-resistant black etched markings. They're flexible for mounting on slightly curved surfaces.



Bottom to Top

Range	Bottom to Top		Top to Bottom	
Inch/Metric—Grad. Marks: mm and 32nds front				
0-48"/0-120 cm	89665A73	$44.40	89665A77	$44.40
48-96"/120-240 cm	89665A74	44.40	89665A78	44.40
96-144"/240-360 cm	89665A75	44.40	89665A79	44.40
144-192"/360-480 cm	89665A76	44.40		

Adhesive-Back Vertical Rulers for Floors

These extra-thick rulers have a polycarbonate coating that resists wear from traffic and chemicals. Permanently mount them to the floor. Rulers have black printed graduations on a yellow background. All are flexible for mounting on curved surfaces and come in 6 1/4-ft. long segments.

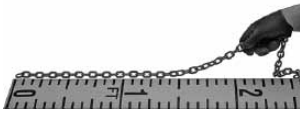

Lg.	Thick.	2" Wide Rulers		4" Wide Rulers	
Inch—Grad. Marks: Inches front left and inches front right					
12 1/2 ft.	1/64"	2403A31	$21.00	2403A11	$42.00
25 ft.	1/64"	2403A33	42.00	2403A13	84.00
50 ft.	1/64"	2403A34	84.00	2403A14	168.00
75 ft.	1/64"	2403A35	126.00	2403A15	252.00
100 ft.	1/64"	2403A36	168.00	2403A16	336.00

Mitutoyo Electronic Rulers



Move the encoder along the edge of an object to show the exact measurement on an easy-to-read digital display. Display resolution is 0.0005" (0.01 mm) and accuracy is ±0.001"/0.03 mm, unless noted. Upload measurement data from the ruler's SPC port to your PC with a 40" Mitutoyo Data Output Cable (sold separately) and a Mitutoyo Data Input Tool (not included; see 1825A on page 2288). These rulers have a zero-set button so you can start measuring at any point along the ruler, and they also have absolute positioning to retain the measuring position when the ruler is turned off. Rulers are made of stainless steel and have two 3/16" dia. mounting holes. Include one 1.5-volt coin cell battery.

Range	Overall Lg.	Ruler Wd.	Mitutoyo No.		
0"-4"/0-100 mm	8 1/4"	5/8"	572-210-20	20735A71	$235.00
0"-6"/0-150 mm	10 3/16"	5/8"	572-211-20	20735A72	249.00
0"-12"/0-300 mm	17 31/64"	5/8"	572-213-10	20735A73★	559.00
0"-24"/0-600 mm	30 31/64"	25/32"	572-475	20735A59■	867.00
40" Mitutoyo Data Output Cable				20395A67	40.05
Replacement 1.5V DC Silver Oxide Battery				7604K83	2.34

★ Accuracy ±0.002"/0.04 mm. ■ Accuracy is ±0.002"/0.05 mm.

Adhesive-Back Vertical Rulers

Permanently mount these rulers on machines, tanks, and walls to measure heights and depths.

Flexible rulers are for mounting on curved surfaces.

Plastic rulers have black printed graduations. They are 0.004" thick.

Stainless steel rulers are corrosion resistant and have wear-resistant black etched markings. They are 3/64" thick.



Inch, Bottom to Top

Lg.	Wd.	Color	Bottom to Top	Top to Bottom	
Inch—Flexible					
Plastic—Grad. Marks: 10ths front left; 10ths front right					
3 ft.	1/2"	White	1919A71	1919A75	$5.29
6 ft.	1/2"	White	1919A72	1919A76	11.00
9 ft.	1/2"	White	1919A73	1919A77	15.58
12 ft.	1/2"	White	1919A74	1919A78	20.78
Plastic—Grad. Marks: 16ths front left; 16ths front right					
1 ft.	1/2"	Clear	19395A21	19395A32	2.03
1 ft.	1 1/4"	Clear	19395A26	19395A37	1.67
1 ft.	1 1/4"	Silver	20325A16	20325A17	1.67
1 1/2 ft.	1 1/4"	Silver	20325A11	20325A18	2.26
3 ft.	1/2"	Clear	19395A22	19395A33	5.29
3 ft.	1 1/4"	Clear	19395A27	19395A38	4.62
3 ft.	1 1/4"	Silver	20325A12	20325A31	4.62
6 ft.	1/2"	Clear	19395A23	19395A34	11.00
6 ft.	1 1/4"	Clear	19395A28	19395A39	9.06
6 ft.	1 1/4"	Silver	20325A13	20325A32	9.06
9 ft.	1/2"	Clear	19395A24	19395A35	15.58
9 ft.	1 1/4"	Clear	19395A29	19395A41	14.44
9 ft.	1 1/4"	Silver	20325A14	20325A33	14.44
12 ft.	1/2"	Clear	19395A25	19395A36	20.78
12 ft.	1 1/4"	Clear	19395A31	19395A42	19.45
12 ft.	1 1/4"	Silver	20325A15	20325A34	19.45
Plastic—Grad. Marks: 4ths front right					
4 ft.	3"	Yellow	20335A71♥		8.72
6 ft.	3"	Yellow	20335A72♥		13.26
8 ft.	3"	Yellow	20335A73♥		17.21
12 ft.	3"	Yellow	20335A65♦		25.28
20 ft.	3"	Yellow	20335A66♦		36.67
24 ft.	3"	Yellow	20335A67♦		48.49
32 ft.	3"	Yellow	20335A68♦		67.40
36 ft.	3"	Yellow	20335A69♦		77.48
Inch—Rigid					
Stainless Steel—Grad. Marks: 16ths front left; 16ths front right					
12"	19/32"	Silver	1919A85	1919A81	32.72
20"	19/32"	Silver	1919A86	1919A82	47.44
28"	19/32"	Silver	1919A87	1919A83	67.70
40"	19/32"	Silver	1919A88	1919A84	110.44
Metric—Rigid					
Stainless Steel—Grad. Marks: mm front left; mm front right					
0.3 m	19/32"	Silver	1919A97	1919A91	35.38
0.5 m	19/32"	Silver	1919A98	1919A93	51.14
0.7 m	19/32"	Silver	1919A99	1919A94	73.22
1 m	19/32"	Silver	1919A89	1919A95	119.66

♥ Comes in one full-length segment. ♦ Comes in 4-ft. long segments.

Electronic Rulers with Remote Display



A cable between the ruler and display allows you to read measurements from up to 10 feet away. Slide the encoder along the edge of an object to take an exact measurement. Change the scale between fractional inches, decimal inches, and millimeters with the push of a button. These rulers have a zero-set button so you can start measuring at any point along the ruler. They also have absolute positioning to retain the measuring position when the ruler is turned off. Display resolution is 0.001" (0.01 mm) and accuracy is ±0.008"/0.20 mm, unless noted. Operate on the included 3-volt battery or hardwire for 12-24 volts DC. Rulers are made of aluminum.

Range	Ruler Lg.	Ruler Wd.	No. of Mtg. Holes		
0"-10"/0-250 mm	14 1/4"	3/4"	1	8971A71▲	$538.46
0"-18"/0-450 mm	22 1/4"	3/4"	1	8971A72♣	554.62
0"-52"/0-1.3 m	56"	2"	10	8971A73	786.15
0"-96"/0-2.4 m	100"	2"	14	8971A74	1,044.62
0"-120"/0-3 m	124"	2"	16	8971A75	1,260.00
Replacement 3V DC Lithium Battery				7821K63	5.64

▲ Accuracy is ±0.002"/0.05 mm. ♣ Accuracy is ±0.003"/0.07 mm.

Electronic Rulers for Plans and Maps



Slide this ruler across the surface of plans, maps, and blueprints and read the measurement on the digital display in one of 111 different scales including inches, feet, yards, miles, centimeters, meters, kilometers, or a scale you define. Ruler also calculates area and volume. It has a 7-digit display with a 0.04″ (1 mm) resolution. Operates on two AAA batteries (included).

Cable allows data transmission to a PC. It is 8-ft. long with a USB A Male connection.

Electronic Ruler	19895A75	$79.15
Cable and Software	19895A22	63.69
Plastic Carrying Case	19895A23	9.92
Replacement AAA Batteries (Pkg. of 4)	71455K62	2.82

Quick-Read Tape Measures





Vertical

Fractions are labeled on the blade every 1/8″ for fast reading. Tape measures have a steel blade with a lacquer coating for corrosion resistance, unless noted. Blade is yellow with black and red printed graduations. It locks in place and has an automatic return. The case is impact-resistant plastic that's brightly colored for high visibility and has a belt clip.

Lg.	Wd.	Orientation	Case Color		
Inch—Grad. Marks: 16ths on both edges					
12 ft.	3/4″	Vertical	Orange	6830A11	$11.10
16 ft.	3/4″	Vertical	Orange	6830A12	13.08
25 ft.	1″	Vertical	Orange	6830A13	16.96
30 ft.	1″	Horizontal	Yellow	6830A14★	11.15

★ Blade is acrylic coated.

Stanley Tape Measures



PowerLock



PowerLock with BladeArmor



FatMax



LeverLock

All have a locking blade that automatically rewinds when you release the lock. Slide the lock to hold the blade in place, unless otherwise stated. Cases have a belt clip.

PowerLock—Tape measures have a steel blade with a polyester coating for corrosion and scratch resistance, unless noted. It is yellow with black printed graduations. The case is chrome-plated, impact-resistant plastic.

Corrosion-Resistant PowerLock—Blade, spring, and belt clip are stainless steel for corrosion resistance. The blade is nylon coated for scratch resistance. It has black printed graduations that read horizontally on one side and vertically on the other side. The case is chrome-plated, impact-resistant plastic.

PowerLock with BladeArmor—The first 3″ of the blade is reinforced with a wear-resistant plastic coating. The blade is steel with a polyester coating for corrosion and scratch resistance, and it stays rigid when extended up to 8 feet. It is yellow with black printed graduations. The case is chrome-plated, impact-resistant plastic.

Heavy Duty PowerLock—All have a durable cast metal case that's chrome-plated for corrosion resistance. The blade is steel with a polyester coating for corrosion and scratch resistance. It is yellow with black printed graduations.

Stanley—The case is impact-resistant plastic that's yellow for high visibility. The blade is steel with a lacquer coating for corrosion resistance. It is yellow with black and red printed graduations.

FatMax—The blade on these tape measures remains rigid when extended up to 11 feet. They have a steel blade with a polyester coating for corrosion and scratch resistance. It is yellow with black printed graduations. A double-hook tip grabs from the top and bottom. The case is impact-resistant plastic with a nonslip rubber grip. It's yellow for high visibility.

FatMax with BladeArmor—A wear-resistant plastic coating reinforces the first 3″ of the blade. The blade remains rigid up to 13 feet. It is steel with a polyester coating for corrosion and scratch resistance. It's yellow with black printed graduations. A detachable, double-hook tip grabs from the top and bottom. The case is impact-resistant plastic with a nonslip rubber grip.

LeverLock—The blade automatically locks in place when extended and stays locked until you press the release lever. It is steel with a lacquer coating for corrosion resistance. Blade is yellow with black and red printed graduations. Case is impact-resistant plastic that's yellow for high visibility.

LeverLock with Magnetic-Hook Tip—A magnetic-hook tip attaches to metal surfaces to assist vertical and distance measuring. The blade automatically locks in place when extended and stays locked until you press the release lever. It is steel with a lacquer coating for corrosion resistance. Blade is yellow with black and red printed graduations. Case is impact-resistant plastic that's yellow for high visibility.

Lg.	Wd.	Stanley No.		
PowerLock				
Inch—Grad. Marks: Inches with 32nds (first foot) and 16ths				
3 ft.	1/4″	39-130	6802A63■	$3.56
Inch—Grad. Marks: 16ths with 32nds (first foot) on both edges				
16 ft.	3/4″	33-116	6802A36	12.96
Inch—Grad. Marks: 16ths on both edges				
25 ft.	1″	33-425	6802A16	17.78
30 ft.	1″	33-430	6802A18	19.25
35 ft.	1″	33-835	6802A93	24.12
Inch/Metric—Grad. Marks: 16ths with 32nds (first foot) and mm				
16 ft./5 m	3/4″	33-158	6802A51	16.74
26 ft./8 m	1″	33-428	6802A57	20.65
Corrosion-Resistant PowerLock				
Inch/Metric—Grad. Marks: 16ths with 32nds (first foot) and mm front and back				
16 ft./5 m	3/4″	STHT33-456	6802A25	20.76
26 ft./8 m	1″	STHT33-457	6802A27	27.56
PowerLock with BladeArmor				
Inch—Grad. Marks: 16ths on both edges				
16 ft.	1″	33-516	6802A72	14.93
25 ft.	1″	33-525	6802A73	18.17
Heavy Duty PowerLock				
Inch—Grad. Marks: 16ths with 32nds (first foot) and 16ths				
12 ft.	1/2″	33-212	6802A33	11.32
Inch—Grad. Marks: 16ths with 32nds (first foot) on both edges				
12 ft.	3/4″	33-312	6802A12	13.34
Inch—Grad. Marks: 16ths with 32nds (first 6″) and 10ths with 50ths (first 6″)				
12 ft.	1/2″	33-272	6802A77	12.75
Inch/Metric—Grad. Marks: 16ths with 32nds (first foot) and mm				
12 ft./3.5 m	1/2″	33-215	6802A23	11.75

■ Blade is lacquer coated.

Lg.	Wd.	Stanley No.		
Stanley				
Inch—Grad. Marks: 16ths and 16ths with 32nds (first foot)				
12 ft.	1/2″	30-485	20175A22	$6.19
Inch—Grad. Marks: 16ths and 8ths				
25 ft.	1″	30-454	20175A14	10.98
FatMax				
Inch—Grad. Marks: 16ths on both edges				
16 ft.	1 1/4″	33-716	6817A1	25.06
25 ft.	1 1/4″	33-725	6817A2	28.81
30 ft.	1 1/4″	33-730	6817A7	33.41
35 ft.	1 1/4″	33-735	6817A8	40.07
Inch/Metric—Grad. Marks: 16ths with 32nds (first foot) and mm				
26 ft./8 m	1 1/4″	33-726	6817A4	28.63
FatMax with BladeArmor				
Inch—Grad. Marks: 16ths on both edges				
16 ft.	1 1/4″	FMHT33969S	6817A31	27.92
25 ft.	1 1/4″	FMHT33502S	6817A32	31.44
35 ft.	1 1/4″	FMHT33509S	6817A34	45.06
LeverLock				
Inch—Grad. Marks: 16ths with 32nds (first foot) and 16ths				
12 ft.	1/2″	STHT30810	19175A61	7.50
Inch—Grad. Marks: 16ths with 32nds (first foot) on both edges				
16 ft.	3/4″	STHT30812	19175A62	10.15
Inch—Grad. Marks: 16ths on both edges				
25 ft.	1″	STHT30825	19175A63	14.51
30 ft.	1″	STHT30830	19175A22	17.60
Inch/Metric—Grad. Marks: 16ths with 32nds (first foot) and mm				
26 ft./8 m	1″	STHT30824	19175A47	15.31
LeverLock with Magnetic-Hook Tip				
Inch—Grad. Marks: 16ths on both edges				
25 ft.	1″	STHT33281	19175A67	10.53

Lufkin Tape Measures


Chrome-Plated Case


High-Visibility Orange Case

Hold the blade in place with a toggle while you measure—the blade automatically rewinds when the toggle is released. Blade is steel with a lacquer coating for corrosion resistance. It is yellow with black and red printed graduations, unless noted. Case is impact-resistant plastic with a belt clip.

Magnetic tip attaches to metal surfaces to assist vertical and distance measuring.

Auto-lock blade locks in place when extended until you press the release lever.

Lg.	Wd.	Lufkin No.		
Chrome-Plated Case				
Inch—Grad. Marks: 16ths with 32nds (first foot) and 16ths				
10 ft.	1/2"	P2210	19805A64	$12.76
12 ft.	1/2"	P2212	19805A65	13.62
12 ft.	3/4"	P2312	19805A66	13.02
16 ft.	3/4"	P2316	19805A67	15.69
Inch—Grad. Marks: 16ths on both edges				
25 ft.	1"	P2125	19805A69	17.45
33 ft.	1"	P2133	19805A31	20.40
Inch—Grad. Marks: 10ths with 50ths (first 6") and 10ths				
12 ft.	1/2"	P2212X	19805A78▲	13.34
Inch—Grad. Marks: 100ths and 16ths				
12 ft.	3/4"	P2312D	19805A76▲	13.77
33 ft.	1"	P2133D	19805A32	20.40
Inch/Metric—Grad. Marks: 16ths with 32nds (first foot) and mm				
10 ft./3 m	1/2"	P2223CME	19805A72	10.91
13 ft./4 m	1/2"	P2024CME	19805A28	11.64
16 ft./5 m	3/4"	P2035CME	19805A34	15.69
33 ft./10 m	1"	P2410CME	19805A33	20.40
Inch/Metric—Grad. Marks: 16ths and mm				
16 ft./5 m	3/4"	P2335ME	19805A74	15.69
Inch/Metric—Grad. Marks: 10ths with 50ths (first foot) and mm				
10 ft./3 m	1/2"	P2210MEX	19805A83	12.50
High-Visibility Orange Case				
Inch—Grad. Marks: 16ths with 32nds (first foot) and 16ths				
10 ft.	1/2"	PHV1010	68025A31	7.20
12 ft.	1/2"	PHV1012	68025A32	8.78
12 ft.	3/4"	PHV1312	68025A34	10.26
16 ft.	3/4"	PHV1316	68025A36	12.21
Inch—Grad. Marks: 16ths on both edges				
25 ft.	1"	PHV1425	68025A42	15.68
30 ft.	1"	PHV1430	68025A45	17.23
33 ft.	1"	PHV1433	68025A62	18.62
Inch—Grad. Marks: 100ths and 16ths				
12 ft.	3/4"	PHV1312D	68025A58▲	10.27
25 ft.	1"	PHV1425D	68025A61	15.83
Inch/Metric—Grad. Marks: 16ths with 32nds (first foot) and mm				
10 ft./3 m	1/2"	PHV1023CME	68025A55	7.20
16 ft./5 m	3/4"	PHV1035CME	68025A48	12.21
26 ft./8 m	1"	PHV1048CME	68025A52	15.68
30 ft./9 m	1"	PHV1049CME	68025A1	17.64
33 ft./10 m	1"	PHV1410CME	68025A12	18.62
Metric—Grad. Marks: mm on both edges				
3 m	13 mm	PHV1023CM	68025A77	7.13
5 m	19 mm	PHV1035CM	68025A76	12.10
8 m	25 mm	PHV1048CM	68025A73	15.68
High-Visibility Orange Case with Magnetic Tip				
Inch—Grad. Marks: 16ths with 32nds (first foot) on both edges				
25 ft.	1"	L725MAG	68025A21	11.87
Inch/Metric—Grad. Marks: 16ths with 32nds (first foot) and mm				
26 ft./8 m	1"	L748MAG	68025A22	11.87
High-Visibility Orange Case with Auto-Lock Magnetic Tip				
Inch—Grad. Marks: 16ths with 32nds (first foot) on both edges				
25 ft.	1"	AL725MAG	68025A23	12.77

▲Graduation marks are black only.

Corrosion-Resistant Tape Measures



All internal parts, including the blade, are stainless steel for corrosion resistance. The blade is nylon coated for scratch resistance. It locks in place and has an automatic return. A double-hook tip grabs from the top and bottom. The blade has black printed graduation marks that read horizontally on the front and vertically on the back. Case is impact-resistant plastic with a belt clip.

Lg.	Wd.	Case Color		
Inch—Grad. Marks: 16ths on both edges front and back				
16 ft.	1"	Blue	6366A34	$16.61
25 ft.	1"	Blue	6366A36	19.94
30 ft.	1"	Blue	6366A38	22.17

Certified Tape Measures



Ensure accurate measurements with certified tape measures. All include a calibration certificate traceable to NIST stating they have passed a test for accuracy. They have a steel blade with a nylon coating for scratch resistance. It locks in place and has an automatic return. Case is plastic and has a belt clip.

Inch tape measures have a yellow blade with black and red printed graduation marks.

Inch/metric and **metric** tape measures have a yellow blade with black printed graduation marks.

Lg.	Wd.	Case Color		
Inch—Grad. Marks: 16ths and 16ths with 32nds (first foot)				
12 ft.	1/2"	Red	1936A1	$47.77
Inch—Grad. Marks: 16ths on both edges				
25 ft.	1"	Red	1936A2	58.42
Inch/Metric—Grad. Marks: 16ths and mm				
26 ft./8 m	1"	Red	1936A7	56.80
Metric—Grad. Marks: mm on both edges				
3.5 m	1/2"	Red	1936A5	48.88
5 m	3/4"	Red	1936A6	50.93

Easy-Grip Tape Measures



For a comfortable and secure hold, these tape measures have a narrow case with a molded rubber grip. The case is impact-resistant plastic. It has a belt clip. The blade is steel with an enamel coating for scratch resistance, and has black and red printed graduations. It locks in place and has an automatic return.

Lg.	Wd.	Case Color		
Inch—Grad. Marks: 16ths and 32nds front				
25 ft.	1"	Green	6887T11	$21.22

Pocket Tape Measures


Pocket Tape Measure


Pocket Tape Measure with Corrosion-Resistant Blade

Compared to standard tape measures, these are about half the size. The blade is nonlocking with an automatic return.

Pocket tape measures have an impact-resistant plastic case. The blade is made of steel with a lacquer coating for corrosion resistance. It is yellow with black printed graduations.

Pocket tape measures with corrosion-resistant blade have a steel blade that is chrome-plated for durability. It is silver with black printed graduations. The case is chrome-plated, impact-resistant plastic.

Lg.	Wd.	Case Color		
Pocket Tape Measures				
Inch—Grad. Marks: 16ths with 32nds (first foot)				
6 ft.	1/4"	Orange	20105A65	$6.86
6 ft.	1/4"	Black	20105A14	7.07
10 ft.	1/4"	Black	20105A18	7.40
Inch/Metric—Grad. Marks: 16ths and mm				
10 ft./3 m	1/4"	Black	20105A22	9.05
Pocket Tape Measures with Corrosion-Resistant Blade				
Inch—Grad. Marks: 16ths on both edges				
12 ft.	1/2"	Silver	1968A54	25.89
Inch—Grad. Marks: 10ths on both edges				
12 ft.	1/2"	Silver	1968A67	28.83

Easy-to-Read Pocket Tape Measures with Level and Compass



A window with an indicator line clearly shows the measurement. Use this tape measure in tight spaces near walls and inside frames and cabinets; it's about half the size of standard tape measures. Tape measure includes a level and compass. The blade locks in place and has an automatic return. It is made of epoxy-coated steel, and is yellow with black and red printed graduations. Case is impact-resistant plastic.

Lg.	Wd.	Case Color		
Inch/Metric—Grad. Marks: 16ths with 32nds (first 6") and mm				
10 ft./3 m	1/2"	Black	2184A12	$24.76

Certified Tape Measure Accuracy Checkers



Ensure your tape measure is accurate and meets ISO standards. Check measurements at 6″ and 10 cm with this precisely machined steel checker. It includes a calibration certificate traceable to NIST stating it has passed a test for accuracy. Accuracy is ±0.0005″. The checker is 8″ Lg. × 1″ Wd. It is black anodized aluminum.

8107A1	$179.63

Magnetic Holders for Tape Measures



Clip this magnetic holder to your belt and attach the included metal adapter to your tape measure's case.

19685A2	$14.22

Leather Holders for Tape Measures



Protect your tape measure with this leather holder. It has a rivet reinforced pocket with a safety strap that snaps in place to securely hold the tape measure. The belt loops fit belts up to 3″ wide.

For Tape Measures		
Up to 30 ft.	6774A15	$6.04

Center-Finding Tape Measures

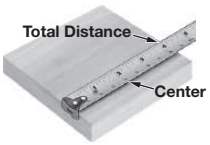

Find the exact center of your work. Measure the total distance with the upper scale; then find the same number on the bottom scale—that's your center point. The blade is steel with a lacquer coating for corrosion resistance. It locks in place and has an automatic return. It is yellow with black printed graduations. Case is impact-resistant plastic with a nonslip rubber grip and a belt clip. It's yellow for high visibility.

Lg.	Wd.		
Inch—Grad. Marks: 16ths and 8ths			
16 ft.	3/4″	6807A16	$12.97
25 ft.	1″	6807A18	14.25

Flexible Tape Measures



Durable and flexible, these tape measures are fiberglass with a vinyl coating for scratch resistance. They have black printed graduations.

Lg.	Wd.	Color		
Inch/Metric—Grad. Marks: 16ths and inches front; 16ths and mm back				
5 ft.	5/8″	White	3519A11	$1.75
5 ft.	5/8″	Yellow	3519A12	1.75
Inch/Metric—Grad. Marks: 8ths on both edges front; mm and 8ths back				
10 ft.	5/8″	Yellow	3519A32	3.50

Flexible Magnetic-Back Tape Measures



Attach to curved or flat steel surfaces. Tape measures are made of vinyl and have printed graduations.

Lg.	Wd.	Color	Graduation Color		
Inch/Metric—Grad. Marks: 16ths and mm					
1 ft.	3/4″	Red	White	19785A31	$5.41
2 ft.	3/4″	Blue	White	19785A32	8.15
3 ft.	3/4″	White	Black	19785A33	10.41
Set (Includes one of each tape measure)				19785A41	22.02

Long Tape Measures


Long Tape Measure

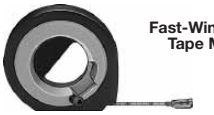
Fast-Winding Long Tape Measure

Measure distances over 35 ft. with these manual-rewind tape measures.

Long Tape Measures—All have a steel case that is vinyl coated for scratch resistance. They have a hook tip, unless noted.

Starrett Certified Long Tape Measures—A calibration certificate traceable to NIST stating they have passed a test for accuracy is included. Tape measures have a loop tip that hangs on a nail or stud. The case is steel that is vinyl coated for scratch resistance, unless noted.

Fast-Winding Long Tape Measures—Grip the tape measure through the hole in the center and quickly rewind the blade with the specially designed reel. They have a hook tip. Case is impact-resistant plastic.

Fiberglass blades are flexible for measuring curved surfaces, nonconductive for work near electricity, and corrosion resistant for use in harsh environments. They're vinyl coated for scratch resistance. Blades are white with black and red printed graduations.

Steel blades are more rigid than fiberglass blades and are lacquer coated for corrosion resistance, unless noted. They are yellow with black and red printed graduations.

Chrome-plated steel blades are more durable and corrosion resistant than lacquer-coated steel blades. They are silver with black printed graduations.

Lg.	Wd.	Case Color		
Long Tape Measures with Fiberglass Blade				
Inch—Grad. Marks: Inches and 8ths				
50 ft.	1/2″	Black	6806A31	$16.71
100 ft.	1/2″	Black	6806A32	23.98
Inch/Metric—Grad. Marks: 8ths and inches front; 2 mm back				
50 ft./15 m	1/2″	Black	6806A38	17.82
100 ft./30 m	1/2″	Black	6806A39	25.33
Long Tape Measures with Steel Blade				
Inch—Grad. Marks: Inches and 8ths				
50 ft.	3/8″	Black	1965A2	39.64
100 ft.	3/8″	Black	1965A4	60.23
Inch/Metric—Grad. Marks: 8ths and inches front; meters and mm back				
50 ft./15 m	3/8″	Black	1965A52	40.80
100 ft./30 m	3/8″	Black	1965A53	62.02
Long Tape Measures with Chrome-Plated Steel Blade				
Inch—Grad. Marks: Inches and 8ths				
50 ft.	3/8″	Black	19435A31	44.47
100 ft.	3/8″	Black	19435A32	64.31
Inch—Grad. Marks: Inches and 16ths				
50 ft.	3/8″	Black	19435A41 ★	87.09
Starrett Certified Long Tape Measures with Steel Blade				
Inch—Grad. Marks: Inches and 8ths				
100 ft.	3/8″	Red	1936A3 ■	62.84
Metric—Grad. Marks: Meters and mm				
30 m	3/8″	Red	1936A4 ■	71.73
Fast-Winding Long Tape Measures with Steel Blade				
Inch—Grad. Marks: Inches and 8ths				
50 ft.	3/8″	Black and Orange	2050A11	30.91
100 ft.	3/8″	Black and Orange	2050A12	38.73

★ Has a loop tip that hangs on a nail or stud.
■ Blade is enamel coated for scratch resistance.

High-Visibility Long Tape Measures


Loop Tip

Easily spot the brightly colored case on these tape measures around your worksite and in your toolbox. The blade is steel and polymer- or lacquer-coated for corrosion resistance. It is yellow with black and red printed graduations, unless noted. Tape measures have a plastic case with a belt clip and manual tape return.

Loop tip hangs on a nail or stud.

Lg.	Wd.	Tip Style	Case Color		
Inch—Grad. Marks: Inches and 8ths					
50 ft.	3/8″	Hook	Yellow	6839A68 ▲	$12.60
50 ft.	3/8″	Loop	Orange	6839A48	14.94
100 ft.	3/8″	Hook	Yellow	6839A69 ▲	18.18
100 ft.	3/8″	Loop	Orange	6839A49	22.01
Inch/Metric—Grad. Marks: Inches and 8ths front; meters and mm back					
50 ft./15 m	3/8″	Loop	Orange	6839A75	15.59
100 ft./30 m	3/8″	Loop	Orange	6839A76	22.95

▲ Graduation marks are black only.

Easy-Carry Long Tape Measures

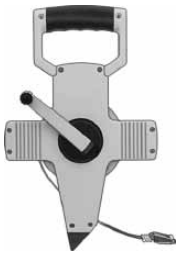

Hold on to the large, rubber-coated handle while carrying these tape measures. Use them outdoors and in dirty environments—an open reel allows dirt, sand, and other debris to fall away. Tape measures have a pointed-hook tip that grabs the edge of an object or drives into wood, unless noted. They also have a manual tape return. Case is orange plastic, unless noted.

Fiberglass blades are flexible for measuring curved surfaces, nonconductive for work near electricity, and corrosion resistant for use in harsh environments. Blades are vinyl coated for scratch resistance. They are white and yellow with black and red printed graduations, unless noted.

Steel blades are more rigid and durable than fiberglass blades. Blades are nylon coated for scratch resistance. They are white and yellow with black and red printed graduations, unless noted.

Lg.	Wd.	Blade Material		
Inch—Grad. Marks: 8ths and inches				
50 ft.	½″	Fiberglass	6806A13♦	$16.78
Inch—Grad. Marks: 8ths and inches front; 10ths and inches back				
100 ft.	½″	Fiberglass	6806A41	24.26
200 ft.	½″	Fiberglass	6806A42	40.44
300 ft.	½″	Fiberglass	6806A43♣	49.40
Inch—Grad. Marks: 8ths and inches front; 100ths and 10ths back				
100 ft.	½″	Steel	1930A31♠	39.19
200 ft.	½″	Steel	1930A32♠	65.29

Lg.	Wd.	Blade Material		
Inch—Grad. Marks: Inches and 8ths				
300 ft.	⅜″	Steel	1930A33♦	$141.55
Inch/Metric—Grad. Marks: 8ths and inches front; 2 mm back				
50 ft./15 m	½″	Fiberglass	6806A11	17.72
100 ft./30 m	½″	Fiberglass	6806A45	24.26
200 ft./60 m	½″	Fiberglass	6806A46	40.44
Inch/Metric—Grad. Marks: Inches and 8ths front; 10 cm and mm back				
100 ft./30 m	⅜″	Steel	1930A35♦	51.55
200 ft./60 m	⅜″	Steel	1930A36♦	89.24

♦ Blade is white. ♣ Has a loop tip that hangs on a nail or stud. ♠ Case is black.

Certified High-Accuracy Diameter Tape Measures



Accurately measure diameter. These tape measures include a calibration certificate traceable to NIST stating they have passed a test for accuracy. Inch rulers are accurate to ±0.001″; metric rulers are accurate to ±0.03 mm. Wrap them around circular items to determine diameter without the need for calculations. They have wear-resistant etched markings and a loop tip that hangs on a nail or stud.

Stainless steel blades are corrosion resistant.

Dia. Measured	Wd.	*Silver with Black Grad. Marks* Steel		*Silver with Black Grad. Marks* Stainless Steel		*White with Black Grad. Marks* Steel		*Blue with White Grad. Marks* Steel	
Inch—Measurement Precision: 0.001″									
¾″-7″	½″	1982A21	$116.67	1982A41	$170.00	1982A811	$140.00	1982A611	$170.00
2″-12″	½″	1982A22	116.67	1982A42	154.00	1982A812	140.00	1982A612	170.00
2″-24″	½″	1982A23	180.83	1982A44	222.00	1982A813	270.00	1982A613	325.00
12″-24″	½″	1982A24	121.33	1982A43	160.00	1982A814	160.00	1982A614	194.00
12″-36″	½″	1982A25	191.33	1982A45	237.00	1982A815	279.00	1982A615	335.00
24″-36″	½″	1982A26	136.50	1982A451	175.00	1982A816	170.00	1982A616	203.00
24″-48″	½″	1982A27	201.83	1982A46	263.00	1982A817	294.00	1982A617	352.00
36″-48″	½″	1982A28	147.00	1982A461	185.00	1982A818	191.00	1982A618	229.00
48″-60″	½″	1982A29	163.33	1982A47	207.00	1982A819	203.00	1982A619	245.00
60″-72″	½″	1982A31	180.83	1982A48	229.00	1982A821	216.00	1982A621	259.00
72″-84″	½″	1982A32	193.67	1982A49	250.00	1982A822	248.00	1982A622	297.00
84″-96″	½″	1982A33	213.50	1982A51	272.00	1982A823	263.00	1982A623	315.00
96″-108″	½″	1982A34	226.33	1982A52	284.00	1982A824	268.00	1982A624	323.00
108″-120″	½″	1982A35	246.17	1982A53	305.00	1982A825	283.00	1982A625	340.00
Metric—Measurement Precision: 0.01 mm									
100 mm-300 mm	½″	1982A11	138.83	———	———	1982A831	158.00	1982A631	189.00
300 mm-600 mm	½″	1982A12	149.33	———	———	1982A832	180.00	1982A632	214.00

Diameter Tape Measures



Pointed-Hook Tip

Also known as tree tapes, wrap these tape measures around circular items to determine diameter and measure circumference without the need for calculations. The blade is chrome-plated or lacquer-coated for corrosion resistance. It is ⅜″ wide. The case is steel with a vinyl coating for scratch resistance. It is brown. Tape measures have a manual tape return.

Pointed-hook tip grabs the edge of an object or drives into wood.

Loop tip hangs on a nail or stud.

Dia. Measured	Lg.	Tip Style	Grad. Mark Style		
Inch—Diameter Grad. Marks: 10ths; Grad. Marks: 10ths and 100ths					
2″-76″	20 ft.	Pointed Hook	Black Printed	6832A62	$94.72
Inch—Diameter Grad. Marks: 64ths; Grad. Marks: Inches and 16ths					
2″-76″	20 ft.	Loop	Silver Embossed	6832A64	103.18

Pocket-Size Diameter Tape Measures



At about half the size of standard diameter tape measures, these fit in your pocket. Wrap them around circular items to measure circumference and determine diameter without the need for calculations. Tape measures have a steel blade with a lacquer coating for corrosion resistance. The blade is yellow with black printed graduations. It's nonlocking and has a loop tip that hangs on a nail or stud. The case is chrome-plated steel. It has an automatic return.

Dia. Measured	Lg.	Wd.		
Inch—Diameter Grad. Marks: 100ths; Grad. Marks: Inches and 16ths with 32nds (first foot)				
0″-23″	6 ft.	¼″	6822A12	$19.02
Inch—Diameter Grad. Marks: 64ths; Grad. Marks: Inches and 16ths with 32nds (first foot)				
0″-23″	6 ft.	¼″	6822A17	19.02
Metric—Diameter Grad. Marks: mm; Grad. Marks: cm and mm				
0″-23″	2 m	¼″	6822A13	19.02

Pedometers



Record steps or miles while you walk or run. This pedometer measures up to 999 miles or 99,999 steps in miles and kilometers. It has a 1-ft. to 5-ft. stride adjustment. Pedometer has a belt clip. Operates on a 1.5-volt battery (included).

Pedometer	8458T9	$15.00
Replacement 1.5-Volt Battery	7604K76	1.90

Ultrasonic Distance Measurers



An economical alternative to Laser Distance Measurers, this tool uses sound waves to measure distances up to 50 ft. It measures in inches, feet, centimeters, and meters, and stores up to three values. Accuracy is ±3″. This measurer adds, and calculates area and volume. It has a laser to indicate where you are aiming. Use it indoors. Operates on one 9-volt battery (not included).

Measurer	68105A16	$47.79
9-Volt Battery	71455K56	2.75

Distance & Continuous-Length Measurers

Distance-Measuring Wheels


Style A


Style B


Style C


Style D


Style E


Style F

Roll these wheels along a surface to measure distance. Choose 36″ diameter and larger wheels for measuring uneven surfaces.

Styles A&B have a plastic wheel with a rubber tread and a telescoping handle. Counters add and have a zero reset.

Style C has a folding handle and the wheel is aluminum with a rubber tread. Counter has a zero reset.

Style D have a steel wheel with a rubber tread and a folding handle. Counters have a zero reset.

Style E operates on a nonreplaceable battery with a minimum 10 year life. Wheel is plastic with a rubber tread. The digital counter is backlit and has a zero reset.

Style F has a steel wheel with a rubber tread, and a folding handle. The backlit digital counter calculates area and has a permanent memory. It has a zero reset. Measuring wheel operates on two AA batteries (not included).

	Max. Distance	Unit of Measure	Wheel Circumference	*Overall Length* Extended	Folded	Measuring Wheels		Carrying Cases	
A	9,999 ft.	ft., in.	12″	36½″	18″	**1969A11**	$39.16		
B	9,999 ft.	ft., in.	12″	36½″	18″	**1969A13**	46.28		
C	9,999 ft.	ft., in.	36″	42½″	24″	**1969A24**	88.12	**2017A7**	$35.82
D	99,999 ft.	ft.	36″	44″	23″	**1969A26**	121.79		
D	99,999 ft.	ft.	48″	44″	23″	**1969A27**	176.67		
E	9,999 ft.	ft., yd., m	39⅜″	40″	27″	**2253A37**	68.89		
F	99,999 ft.	ft., in., m	48″	43″	22″	**2253A41**	204.40		
AA Batteries for Style F (Pkg. of 4)								**71455K53**	2.94

Laser Distance Measurers


Styles A-F


Style G

Use a laser to determine the distance to an object up to 600 yards away. A target plate (sold separately) is required for measuring distances over 150 ft., and uneven, transparent, and mirrored surfaces. Batteries are included for all measurers.

Style A calculates square and cubic feet.

Styles B-F show distance on an illuminated digital display. They add, subtract, and calculate square and cubic feet.

Style B meets IP65 for protection from dust and water.

Style C includes Bluetooth.

Styles E&F have a color touch screen with up to 4X magnification. They also have Bluetooth. Style F displays the width of objects in the distance. It includes a built-in camera and USB cable.

Style G displays distance in the viewfinder.

	Max. Distance	Unit of Measure	No. of Values Stored	Accuracy Range	Battery Size	Distance Measurers	Each	Repl. Batteries Pkg. Qty		Pkg.
A	65 ft.	ft., m	—	±0.125″	AAA	**19205A51**	$74.36	4	**71455K62**	$2.82
B	165 ft.	ft., m	5	±0.0625″	AAA	**19205A41**	154.04	4	**71455K62**	2.82
C	330 ft.	in., ft., m	10	±0.06″	AAA	**19205A45**	199.00	4	**71455K62**	2.82
D	395 ft.	in., ft., m	20	±0.04″	AAA	**19205A22**	279.00	4	**71455K62**	2.82
E	650 ft.	in., ft., yd., mm, m	30	±0.06″	AA	**19205A21**	599.00	4	**71455K53**	2.94
F	650 ft.	in., ft., yd., mm, m	30	±0.06″	AA	**19205A13**	849.00	4	**71455K53**	2.94
G	600 yd.	yd., m	—	±1 yd.	3V	**19205A31**	265.60	1	**7821K62**	11.00
Target Plate for Styles B, C, D, E, and F									**19205A16**	38.50

Flat-Material Length Measurers


Single Wheel


Double Wheel

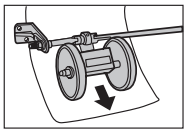
Forward

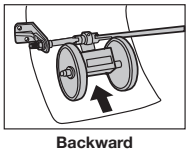
Backward

Measure sheets, rolls, and strips using these wheels and their attached counters. All counters add, subtract, and have a zero reset. Measurers have a 2½″ Lg. × 2⅜″ Wd. × 6 5/16″ Ht. cast iron bracket with two ⅜″ dia. mounting holes that are 1½″ center-to-center. All wheels have a ⅝″ tread.

Aluminum wheels are for high temperature processes and coarse materials such as sandpaper. The surface is knurled for good contact.

Plastic wheels with polyurethane tread are for textured and abrasive materials, such as burlap and fiberglass fabric. They're also good for jobs with pressure rollers.

Plastic wheels with rubber tread are for smooth materials such as paper and cloth.

Measurers

Material Travel Direction	Unit of Measure	Max. Lg. Measured	Max. Speed, Ft./Min.	Aluminum Wheels		Plastic Wheels with Polyurethane Tread		Plastic Wheels with Rubber Tread	
12″ Circumference Single Wheel—Overall size is 3 13/16″ Lg. × 19″ Wd. × 6½″ Ht.									
Backward	ft.	999,999 ft.	3,000	**1674T61**	$485.00	**1674T67**	$485.00	**1674T64**	$475.00
Backward	ft., in.	999,999 ft.	3,000	**1674T31**	485.00	**1674T33**	485.00	**1674T32**	475.00
Backward	yd.	999,999 yd.	3,000	**1674T63**	485.00	**1674T69**	485.00	**1674T66**	475.00
Forward	ft.	999,999 ft.	3,000	**1674T62**	485.00	**1674T68**	485.00	**1674T65**	475.00
Forward	ft., in.	999,999 ft.	3,000	**1674T13**	485.00	**1674T15**	485.00	**1674T14**	475.00
Forward	yd.	999,999 yd.	3,000	**1674T26**	485.00	**1674T28**	485.00	**1674T27**	475.00
18″ Circumference Double Wheel—Overall size is 5¾″ Lg. × 19″ Wd. × 7½″ Ht.									
Backward	ft.	999,999 ft.	4,500	**8677T32**★	520.00	**8677T36**★	497.74	**8677T94**★	485.00
Forward	ft.	999,999 ft.	4,500	**8677T31**★	520.00	**8677T35**★	497.74	**8677T93**★	485.00

★ Bracket width is 2 5/16″

Replacement Wheels

Circumference	For Axle Dia.	Aluminum Wheels		Plastic Wheels with Polyurethane Tread		Plastic Wheels with Rubber Tread	
12″	0.39″	**1674T97**	$90.00	**1674T99**	$64.00	**1674T98**	$38.00
18″	0.39″	**8677T72**	117.11	**8677T74**	80.27	**8677T73**	51.57

Remote Readout Flat-Material Length Measurers



Measurer with Analog Counter

Send sheet, roll, and strip measurements from this measurer to a remote Voltage Actuated Counter (sold separately). Measurer includes a rotary contactor, wheel, and mounting bracket. It operates up to 2,400 ft./min. in forward and backward directions. Overall size is 8 5/16" Lg. x 7 5/16" Wd. x 3 11/16" Ht.

The rotary contactor has a 5/16" dia. shaft and two 12" wire leads for connecting to your counter. Overall size is 3 3/16" Lg. x 2" Wd. x 2" Ht. It has a 12" circumference aluminum wheel with 5/8" wide rubber tread and a 5/16" axle dia. Rotary contactor has a 7 1/4" Lg. x 7 1/4" Wd. x 2 15/16" Ht. mounting bracket that is aluminum and has four 0.221" dia. mounting holes (fasteners not included). Holes are 1 1/2" center-to-center.

Analog counters make 600 counts/minute. They include a reset button and display six digits. Size is 1.2" Ht. x 3.1" Wd. x 2.9" Dp.

Digital counter makes 2,400 counts/minute. It includes a reset button and displays six digits on a battery-powered digital display. Size is 1.8" Ht. x 3.9" Wd. x 3" Dp.

Measurer	8690T23	$514.23
Analog Counter (120V AC)	8686T45	52.78
Analog Counter (24V DC)	1806T42	52.78
Digital Counter (6-240V AC/DC)	1874T81	179.14
Replacement Rotary Contactor	8690T16	333.47
Replacement Wheel	8690T17	80.13
Replacement Mounting Bracket	8690T15	147.39

Tank-Level Folding Rulers



Fold these vertical rulers for convenient storage and transport. They're varnished to resist gasoline, diesel fuel, and oil. Made of wood, these rulers are brown with black printed graduations. They are 7/8" wide and 5/8" thick.

Lg.	O'all Lg.	Folded Lg.		
Inch—Grad. Marks: 8ths on both edges				
8 ft.	9 1/2 ft.	3.7 ft.	1923A54	$14.64
10 ft.	12 1/2 ft.	4.7 ft.	1923A55	19.36
14 ft.	15 1/2 ft.	5.7 ft.	1923A56	24.48
15 ft.	16 1/2 ft.	4.7 ft.	1923A57	26.94

Adhesive-Back Tank-Level Rulers

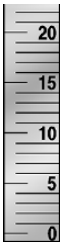

Bottom to Top

Permanently mount these vertical rulers to walls and tanks. They're water-resistant vinyl. Rulers are yellow with black printed graduations numbered every five inches.

Lg.	Wd.	Thick.	Bottom to Top	Top to Bottom	
Inch—Grad. Marks: Inches					
50"	3 1/2"	0.011"	3720K3	3720K4	$23.25
100"	3 1/2"	0.011"	3720K31	3720K41	46.50
150"	3 1/2"	0.011"	3720K32	3720K42	69.75
200"	3 1/2"	0.011"	3720K33	3720K43	93.00
250"	3 1/2"	0.011"	3720K34	3720K44	116.25
300"	3 1/2"	0.011"	3720K35	3720K45	139.50
350"	3 1/2"	0.011"	3720K36	3720K46	162.75

Wire Length Measurers

Feed wire through the wheels inside the counter to take measurements. To build your own wire, cable and cord length measurer, combine a counter, feeder reel, coiler reel and stand.

Complete Wire Length Measurers

Each length measurer includes a counter, feeder reel, coiler reel, and pedestals. The counter adds and subtracts in feet and inches up to 9,999 ft. Wind your wire (1/64"-1/2" OD) around adjustable pins on the feeder reel, or place spooled wire on the 1/2" diameter spindle. Gather the wire on the coiler reel once it has passed through the counter. Coiler reels have a hand crank and collapse for storage. Coiler reel coil ID is 12". It holds up to 500-ft. of 1/2" diameter materials up to 125 lbs.

Urethane-coated wheels are for PTFE-coated wire and fiber-optic cable.

Bench-mount length measurers include three 14" high bench-mount pedestals.

Floor-mount length measurers include a 22" high floor stand and two 14" high pedestals.

	For Use With	*Feeder Reel* Max. Coil OD	Coil ID	Wt. Cap.	With Steel Wheel		With Urethane-Coated Steel Wheel	
Bench Mount	Wire	15"	6 1/2"-10 1/2"	75 lbs.	1686T71	$915.20	1686T76	$1,060.87
Bench Mount	Wire	24"	6 1/2"-18 1/2"	150 lbs.	1686T41	1,046.74	1686T92	1,101.09
Floor Mount	Wire	24"	6 1/2"-18 1/2"	150 lbs.	1686T11	1,322.83	1686T94	1,459.29

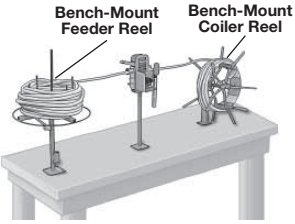

Complete Bench-Mount Wire Length Measurer

Counters and Stands

Counters measure material as you thread it through the internal wheels. These counters add and subtract. Mount them on a pedestal or a floor stand (sold separately).

Urethane-coated steel wheels are for PTFE-coated wire and fiber-optic cable.

For Use With	Material OD	Max. Lg. Measured	With Steel Wheel		With Urethane-Coated Steel Wheel	
Counters						
Cord, Rope	1/4"-3/4"	9,999 ft.	1686T22	$270.00		
Wire	1/64"-1/2"	9,999 ft.	1686T15	343.75	1686T77	$521.25
Wire	1/64"-1/2"	9,999 ft.	1686T31■	426.25	1686T78■	607.50
Wire, Cable, Hose	1/2"-2"	99,999 ft.	1686T37	1,204.44	1686T79	1,426.67
Pedestal						
14" High Bench-Mount Pedestal					1686T17	57.89
Stands						
22" High Floor Stand					1686T96	422.18
36"-43" High Floor Stand					1686T32	285.48

■ Includes a cutter.



Counter for Wire



Counter for Cord and Rope

Bench-Mount Feeder Reels

Feeder reels hold material before it's threaded through a counter. Wind material around adjustable pins on the reel, or place spooled material on the 1/2" diameter spindle. Use with wire, cable, cord, rope and hose.

Max. Coil OD	Coil ID	Coil Weight Capacity		
15"	6 1/2"-10 1/2"	75 lbs.	1686T5	$190.00
24"	6 1/2"-18 1/2"	150 lbs.	1686T65	236.25



Counter for Wire, Cable, and Hose

Bench-Mount Coiler Reels

Coiler reels gather material once it has passed through a counter. These reels have a hand crank and collapse for storage. Use with wire, cable, cord, rope and hose (unless noted).

Coil ID	Coil Weight Capacity	Coil Capacity		
8"	50 lbs.	125' of 1/2" Dia. Materials; 550' of 1/4" Dia. Materials	1686T12	$319.18
8"	40 lbs.	150' of 3/8" Dia. Materials, 10" Wide Spools with 1/2" Dia. Hole	1686T4	356.25
12"	125 lbs.	250' of 3/4" Dia. Materials; 500' of 1/2" Dia. Materials	1686T66	381.25
12"	75 lbs.	800' of 1/2" Dia. Materials	1686T24▲	398.74
15"	200 lbs.	300' of 1" Dia. Materials; 550' of 3/4" Dia. Materials	1686T25	473.86

▲ Not for use with wire.



22" High Floor Stand for Counter



36"-43" High Floor Stand for Counter

Tank-Level Measurers

Tank-Level Rulers



Built to resist corrosion and last in harsh environments, these vertical rulers are iron with a porcelain-enamel finish. Mount them to walls and tanks. Rulers are white with black printed graduations.

Inch—Rulers have six 3/16″ dia. mounting holes.

Long-Length Inch—Rulers connect continuous segments to create a ruler up to 10 ft. long. Rulers have five 3/16″ dia. mounting holes.

Lg.	Measuring Range	Wd.	Thick.		
Inch—Grad. Marks: 1/2″ front right					
48″	—	2 1/2″	1/16″	1975A25	$65.38
Long-Length Inch—Grad. Marks: 100ths front right					
3.33 ft.	0 ft.-3.33 ft.	2 1/2″	1/16″	1975A14	45.77
3.33 ft.	3.33 ft.-6.66 ft.	2 1/2″	1/16″	1975A15	45.77
3.33 ft.	6.66 ft.-10 ft.	2 1/2″	1/16″	1975A16	45.77

Water- and Gasoline-Indicating Paste

Use this color-changing paste to determine water or gasoline level in a tank. Apply a thin layer of paste to your tank-level ruler and insert it into the tank. The paste changes color to the level of the liquid.

Water-Indicating Paste (3-oz. Jar)	89775A15	$3.05
Gasoline-Indicating Paste (3-oz. Jar)	89775A17	3.90

55-Gallon Drum-Level Rulers



Measure volume in gallons without calculations. These rulers are varnished to resist gasoline, diesel fuel, and oil. They are made of wood, and are brown with black printed graduations.

Lg.	Wd.	Thick.		
Gallon—Grad. Marks: Gallons front and back				
4 ft.	5/8″	5/8″	1923A53	$4.68

Tank-Level and Depth-Measuring Rope



Attach a plumb bob to the rope's hook and lower it into your tank to take a measurement. Plumb bob not included (see page 2315). Ropes are fiberglass with a vinyl coating that resists abrasion. They are white with black and red printed graduations.

Lg.	Wd.	Thick.		
Inch—Grad. Marks: Inches front and back				
50 ft.	1/4″	1/16″	1931A51	$17.33
100 ft.	1/4″	1/16″	1931A52	25.89
200 ft.	1/4″	1/16″	1931A53	37.98

Liquid-Level Tape Measures



Tape Measure for Measuring Liquid in Tank



Plumb Bob for Measuring Liquid Removed from Tank

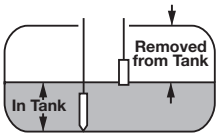

Also known as oil-gauging tapes, use these tape measures to check the level of oil and other fluids in deep, large containers such as tanks and vats. All measures have a chrome-plated steel reel.

Liquid in Tank—Tape measures have a cylindrical brass plumb bob that sinks to the bottom of the tank. The blade indicates the distance to the surface of the liquid. The plumb bob is 6 3/4″ Ht. × 1″ Dia., and weighs 20 ounces.

Liquid Removed from Tank—Tape measures have a rectangular brass plumb bob. To find the amount of liquid removed from a tank, lower the plumb bob until it makes contact with the liquid's surface, then add the measurement from the plumb bob to the measurement from the blade. To determine the amount of liquid in the tank, subtract the liquid removed from tank measurement from the overall tank height. The plumb bob is 6 1/4″ Ht. × 3/4″ Wd. × 3/4″ Dp., and weighs 16 ounces.

Chrome-plated steel blades are for measuring dark liquids. Blades are 1/2″ Wd. × 0.014″ Thick. with printed graduations.

Chrome-plated steel blades with black stripe are for measuring dark and clear liquids. The black stripe makes it easy to see the level of clear liquids. Blades are 1/2″ Wd. × 0.014″ Thick. with printed graduations.

Black steel blades are for measuring clear liquids. Blades are 1/2″ Wd. × 0.008″ Thick. with wear-resistant etched markings.

Stainless steel blades are corrosion resistant. Use them in clear and dark liquids. Blades are 1/2″ Wd. × 0.008″ Thick. with wear-resistant etched markings.

Lg.	*Liquid in Tank* Tape Measures		*Liquid in Tank* Repl. Blades		*Liquid Removed from Tank* Tape Measures		*Liquid Removed from Tank* Repl. Blades	
Inch—Grad. Marks: 8ths front left								
Chrome-Plated Steel Blade								
25 ft.	1957A31	$142.17	1957A41	$57.30	2290A31	$145.63	2290A41	$56.78
50 ft.	1957A33	161.38	1957A43	78.57	2290A33	166.02	2290A43	77.85
75 ft.	1957A35	203.39	1957A45	126.24	2290A35	207.65	2290A45	125.09
100 ft.	1957A36	220.20	1957A46	157.93	2290A36	223.70	2290A46	156.49
Chrome-Plated Steel Blade with Black Stripe								
25 ft.	20125A54	130.29	20125A74	47.56	20125A58	136.46	20125A78	47.56
50 ft.	20125A55	148.79	20125A75	63.58	20125A59	155.63	20125A79	63.58
75 ft.	20125A56	186.35	20125A76	102.81	20125A61	192.51	20125A81	102.81
Inch/Metric—Grad. Marks: 16ths front right; mm back right								
Black Steel Blade								
33 ft./10 m	2012A11	128.19	2012A15	74.94	2343A11	133.39	2343A15	74.25
50 ft./15 m	2012A12	147.49	2012A16	87.52	2343A12	152.25	2343A16	86.73
100 ft./30 m	2012A14	238.68	2012A18	180.26	2343A24	242.62	2343A25	178.62
Stainless Steel Blade								
33 ft./10 m	2291A41	165.25	2291A51	101.08	2294A41	169.85	2294A51	99.74
50 ft./15 m	2291A42	218.83	2291A52	136.44	2294A42	222.95	2294A52	135.20
100 ft./30 m	2291A45	402.77	2291A55	275.69	2294A45	405.22	2294A55	273.18

Replacement Plumb Bobs

Use as a weight on the end of your blade. Plumb bobs with graduations have wear-resistant etched markings.

Material	Ht.	Dia.	Wt.		
Liquid in Tank					
Inch—Grad. Marks: 8ths					
Brass	6 3/4″	1″	20 oz.	1957A97	$37.64
Metric—Grad. Marks: mm					
Brass	6 3/4″	1″	20 oz.	20125A67	52.29
Without Graduations					
Stainless Steel	6 3/4″	1″	20 oz.	2291A97	79.94
Liquid Removed from Tank					
Inch—Grad. Marks: 16ths					
Brass	6 1/4″	3/4″ Wd. × 3/4″ Dp.	16 oz.	2290A97	43.64
Metric—Grad. Marks: mm					
Brass	6″	7/8″ Wd. × 7/8″ Dp.	20 oz.	2343A97	62.37

Blade Wiper Attachments



Rubber Roller Wiper



Replacement Rubber Rollers

Strip excess liquid off of a blade as it is reeled in. These wipers fit all liquid-level tape measures.

Rubber Roller Wiper	20655A11	Each	$16.51
Replacement Rubber Rollers	20655A12	Pair	5.81

Layout Calipers

A friction joint holds the caliper legs in position. These calipers are steel.

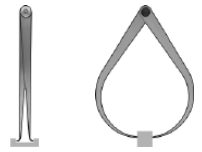
Inside

Outside

Leg Lg.	Max. Opening	For Inside Measurements		For Outside Measurements	
Starrett					
18″	24″	1962A34	$116.00	1962A39	$119.01
24″	32″	1962A35	167.01	1962A41	171.01
Economy					
6″	8″	1962A31	13.44	1962A36	14.28
8″	10 5/8″	1962A32	15.82	1962A37	19.78
12″	16″	1962A33	33.36	1962A38	47.12

Fine-Adjustment Layout Calipers

A strong, flexible bow spring holds the legs in place while a knurled nut allows you to make fine adjustments. Calipers are steel.


Inside


Outside

Leg Lg.	Max. Opening	For Inside Measurements		For Outside Measurements	
Starrett					
3″	3″	2059A22	$65.01	2059A12	$111.01
6″	6″	2059A24	68.13	2059A14	68.13
Economy					
3″	3″	2060A58	15.96	2060A56	15.96
4″	4″	2060A22	16.58	2060A13	16.58
6″	6″	2060A24	18.54	2060A15	18.54
8″	8″	2060A25	20.16	2060A16	20.16
10″	10″	2060A6	22.52	2060A62	22.52
12″	12″	2060A27	24.98	2060A18	24.98

Depth Gauges

Reach deep into small holes and slots for precise depth measurements. Gauges measure 30°, 45°, and 60° angles with a protractor. They are steel. Overall length is 6″. *Gauges with rod* can measure the depth of recesses where the ruler blade won't fit. The rod is 6″ long.

Starrett—Blade has wear-resistant black etched graduation marks at 32nds on the front and 64ths on the back. Graduation marks read from bottom to top and top to bottom. Blade has a hook for alignment. Base is 2 5/8″ wide.

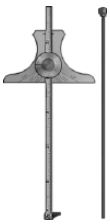
Starrett with Rod


Economy

Economy—Blade has wear-resistant black etched graduation marks at quick-reading 32nds on the front and quick-reading 64ths on the back. Quick-reading graduation marks are labeled with numeric increments that are less than 1″. Graduation marks read from bottom to top. Blade is 2 1/2″ wide.

	Max. Depth Measured	Rod Dia.		
Starrett with Rod	4 1/2″	5/64″	2090A2	$88.00
Economy	5 1/4″	—	20445A41	24.88
Economy with Rod	5 1/4″	3/32″	20445A46	24.88

High-Accuracy Squares



Ensure reliable, repeatable angles. Blades are tool steel.

Starrett squares meet Fed. Spec. GGG-S-656-E, which establishes uniform standards for square accuracy. They come in a wood case.

Economy sets come in a plastic case.

Long Blade Lg.	Short Blade Lg.	Accuracy		
Starrett				
1 1/2″	1 1/2″	+0.0001″	2275A12	$233.08
3″	2 3/8″	+0.0001″	2275A14	249.33
4 1/2″	3 1/2″	+0.0001″	2275A16	266.34
6″	4 5/16″	+0.0001″	2275A18	380.73
12″	7″	+0.0002″	2275A24	752.67
Economy				
2″	1 1/2″	+0.0008″	2278A25	13.65
3″	2 1/2″	+0.0008″	2278A22	14.30
4″	3″	+0.0008″	2278A11	17.21
6″	4″	+0.0008″	2278A14	20.08
9″	6″	+0.001″	2278A17	41.55
12″	8″	+0.0012″	2278A21	62.62
18″	10″	+0.0015″	2278A23	264.41
24″	12″	+0.0019″	2278A24	435.59
Economy Four-Piece Sets				
2″×1 1/2″, 3″×2 1/2″, 4″×3″, and 6″×4″ Squares			2278A31	56.77
4″×3″, 6″×4″, 9″×6″, and 12″×8″ Squares			2278A32	125.05

Squares

Also known as try squares, these are square inside and out for checking and marking angles. Blade is stainless steel.


Square with Plastic Handle

Square with wood handle has wear-resistant black etched graduation marks on both sides of the blade.

Squares with plastic handle measure 45° angles and include a level. They have silver printed graduation marks on both sides of the blade.

Blade Lg.	Handle Material	Handle Lg.	Grad. Marks		
8″	Wood	5 3/8″	8ths and 16ths	8994A64	$15.51
8″	Plastic	5 1/4″	8ths	8994A82	7.71
200 mm	Plastic	5 1/4″	mm	8994A85	7.71

Squares with Adjustable Blade

Measure and mark material exactly where you need to with a sliding blade. The blade has wear-resistant black etched graduation marks at quick-reading 32nds and quick-reading 64ths on the front and at 8ths and 16ths on the back. Quick-reading graduation marks are labeled with numeric increments that are less than 1″. Blade is steel with a corrosion-resistant satin-chrome finish that reduces glare. Handle is cast iron.

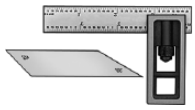
30°, 45°, and 90° Angle Square

30°, 45°, and 90° angle squares include a separate beveled blade for measuring 30° and 45° angles.

Blade Lg.	Angle Measured	Handle Lg.		
4″	90°	2 1/2″	8606A54	$39.25
4″	30°, 45°, 90°	2 1/2″	8606A55	47.25
6″	90°	2 1/2″	8606A56	42.71
6″	30°, 45°, 90°	2 1/2″	8606A57	50.60

Squares with Graduations on Both Blades

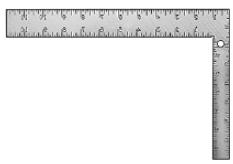

Also known as carpenters' and framing squares, these have graduations on both blades for horizontal and vertical measurements. *Etched* graduation marks are wear resistant. *Steel* blades are lacquer or epoxy coated.

Squares with rafter framing tables are also known as rafter squares.

Long Blade Lg.	Short Blade Lg.	Material	Color	Grad. Mark Color	Grad. Marks	Grad. Mark Style		
Squares								
12″	8″	Steel	Silver	Silver	8ths	Printed	2364A76	$4.84
12″	8″	Hardened Steel	Silver	Black	16ths	Embossed	2364A75	4.76
24″	16″	Steel	Silver	Black	8ths	Printed	2364A65	7.53
24″	16″	Aluminum	Silver	Silver	8ths, 10ths, 12ths, 16ths	Printed	2364A48	16.60
Squares with Rafter Framing Tables								
24″	16″	Steel	Silver	Black	8ths, 10ths, 12ths, 16ths	Etched	2006A14	13.80
24″	16″	Steel	Black	Silver	8ths, 10ths, 12ths, 16ths	Etched	2006A15	14.64
24″	16″	Aluminum	Silver	Black	8ths, 10ths, 12ths, 16ths	Printed	2006A67	12.63
24″	16″	Aluminum	Blue	White	8ths, 10ths, 12ths, 16ths	Printed	2006A21	20.93

Squares

Pipefitters' Squares

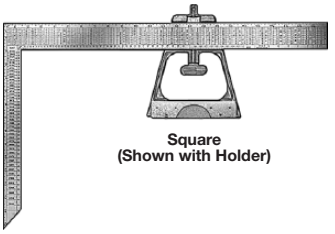

Square
(Shown with Holder)

Pipe fitting sizes and welding charts are shown on this square in wear-resistant black etched markings. Both edges of the blades have graduation marks at 16ths on one side and 12ths on the other side. Square is for pipe sizes of 1 to 24. It also has charts for bolts, 150-lb. and 300-lb. weld neck flanges, 45° weld elbows, diameter of 150-lb. and 300-lb. pipe blinds, OD of 150-lb. and 300-lb. flanges, and weld tees. It is stainless steel and 24″×15⅜″.

Magnetic holder (sold separately) keeps your square in place on a 1″ diameter or larger ferrous pipe. It has two 25-lb. magnets. Holder is aluminum. Overall size is 8¼″ Lg.×2¼″ Wd.×7½″ Ht.

Square	1946A25	$126.00
Magnetic Holder	8990A61	126.67

Starrett High-Accuracy Combination Squares

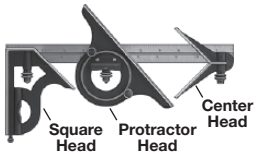

Replace your try square, miter square, depth gauge, height gauge, center-point finder, and level. The blade on these squares meets Fed. Spec. GGG-R-791H, which establishes uniform standards for accuracy, graduations, and size. Blades are labeled with numeric increments that are less than 1″ for quick reading. They are steel with a satin-chrome finish that is corrosion resistant and reduces glare, unless noted. All have wear-resistant black etched markings. *Hardened-steel* heads are more durable and last longer than cast iron heads.

Square head checks 90° angles. It has a built-in level and a scriber, unless noted.
Center head identifies the center on pipes, rods, and shafts.
Protractor head measures angles from 0° to 180° with graduation marks every 1°.

Blade Lg.	Accuracy Range
Inch	
4″ and 6″	-0.002″ to +0.004″
12″	-0.0035″ to +0.005″
Inch (cont.)	
18″	-0.0035″ to +0.006″
24″ and 36″	-0.0035″ to +0.007″
Inch/Metric	
11¾″/300 mm	-0.09 mm to +0.15 mm
23½″/600 mm	-0.11 mm to +0.25 mm

Combination Squares

Blade Lg.	With Cast Iron Heads		With Hardened-Steel Heads	
With Square Head				
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 8ths and 16ths back				
4″	2108A21 ★	$80.00	2107A21 ★	$98.00
6″	2108A22	95.01	2107A22	111.01
6″	2108A44 ▲	78.00	2107A44 ▲	99.01
12″	2108A23	99.01	2107A23	119.01
12″	2108A45 ▲	81.01	2107A45 ▲	105.01
18″	2108A24	151.01	2107A24	176.00
24″	2108A25	146.93	2107A25	196.00
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 50ths and 100ths back				
6″	2108A28	99.87	2107A28	118.00
12″	2108A29	117.51	2107A29	146.00
18″	2108A31	160.00	2107A31	185.01
24″	2108A32	185.01	2107A32	212.00
Inch/Metric—Grad. Marks: ½ mm and quick-reading 32nds front; mm and quick-reading 64ths back				
11¾″/300 mm	2108A26	129.01	2107A26	150.00
23½″/600 mm	2108A27	185.01	2107A27	212.00
With Square and Center Heads				
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 8ths and 16ths back				
4″	2108A11 ★	114.00	2107A11 ★	155.01
6″	2108A12	132.00	2107A12	186.00
12″	2108A13	118.00	2107A13	179.01
18″	2108A14	187.01	2107A14	244.00
24″	2108A15	212.00	2107A15	261.01
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 50ths and 100ths back				
6″	2108A36	138.00	2107A36	173.01
12″	2108A37	157.01	2107A37	213.01
With Square, Center, and Protractor Heads				
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 8ths and 16ths back				
12″	2108A57 ▲	221.01	_____	_____
18″	2108A58 ▲	267.01	_____	_____
24″	2108A59 ▲	282.20	_____	_____
With Square, Center, and Reversible Protractor Heads				
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 8ths and 16ths back				
12″	2108A51 ▲	244.00	2107A51 ■	308.00
18″	2108A52 ▲	275.01	2107A52 ■	352.00
24″	2108A53 ▲	291.01	2107A53 ■	370.00
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 50ths and 100ths back				
12″	2108A54 ▲	250.00	2107A54 ■	323.01
18″	_____	_____	2107A55 ■	361.01
24″	_____	_____	2107A56 ■	387.01
Inch/Metric—Grad. Marks: ½ mm and quick-reading 32nds front; mm and quick-reading 64ths back				
11¾″/300 mm	2108A55 ▲	250.00	2107A57 ■	318.00
23½″/600 mm	2108A56 ▲	308.00	2107A58 ■	387.01

★ Does not have a built-in level or scriber. ▲ Blade is unfinished.
■ Protractor head is cast iron.

Blades

Lg.		
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 8ths and 16ths back		
4″	1955A32	$39.01
6″	1955A34	40.50
12″	1955A36	49.97
12″	1955A46 ▲	48.00
18″	1955A38	98.00
24″	1955A41	119.01
36″	1955A51	317.01
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 50ths and 100ths back		
4″	1955A33	57.01
6″	1955A35	42.00
12″	1955A37	70.00
12″	1955A47 ▲	58.00
18″	1955A39	111.01
24″	1955A42	136.00
36″	1955A52	337.01
Inch/Metric—Grad. Marks: ½ mm and quick-reading 32nds front; mm and quick-reading 64ths back		
11¾″/300 mm	1955A44	70.64
23½″/600 mm	1955A45	136.00

▲ Blade is unfinished.

Heads

	For Blade Lg.	Cast Iron		Hardened Steel	
Square	4″	1955A11 ★	$41.01	1955A14 ★	$57.01
Square	6″	1955A12	48.50	1955A15	66.00
Square	12″-48″	1955A13	55.71	1955A16	76.00
Center	4″	1955A17	35.01	1955A21	58.70
Center	6″	1955A18	40.50	1955A22	95.01
Center	12″-48″	1955A19	36.00	1955A23	68.00
Protractor with Built-in Level	12″-48″	1955A29	99.87	_____	_____
Reversible Protractor with Built-in Level	12″-48″	1955A25	108.72	_____	_____

★ Does not have a built-in level or scriber.

Replacement Lockbolts

For Head Style	For Blade Lg.		
Square, Center	4″	1955A81	$14.78
Square, Center	6″	1955A82	10.47
Center	6″	1955A85	14.11
Square, Center, Protractor	12″-36″/300-600 mm	1955A83	9.15

High-Accuracy Combination Squares

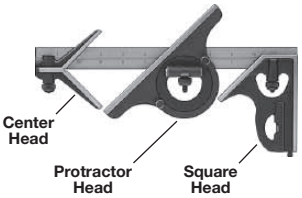

Use these squares in place of your try square, miter square, depth gauge, height gauge, center-point finder, and level. Accuracy is ±0.0025″. Blades are labeled with numeric increments that are less than 1″ for quick reading. All are steel with a corrosion-resistant satin-chrome finish that reduces glare and have wear-resistant black etched markings. *Hardened cast iron* heads are more durable and last longer than cast iron heads.

Square head checks 90° angles. It has a built-in level and a scriber.

Center head identifies the center on pipes, rods, and shafts.

Protractor head measures angles from 0° to 180° with graduations every 1°.

Combination Squares

Head Style	Blade Lg.	With Cast Iron Heads		With Hardened Cast Iron Heads	
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 8ths and 16ths back					
Square	12″	21115A14	$70.52	21115A18	$84.32
Square, Center	12″	21115A13	101.20	21115A17	128.53
Square, Center, Reversible Protractor	12″	21115A11	154.81	21115A15	191.63
Replacement Lockbolt				21115A36	3.78

Blades

Lg.		
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 8ths and 16ths back		
12″	21115A21	$39.89
18″	21115A23	58.11
24″	21115A25	75.63
Inch—Grad. Marks: Quick-reading 32nds and quick-reading 64ths front; 50ths and 100ths back		
12″	21115A22	44.78
18″	21115A24	64.30
24″	21115A26	81.65

Heads

	For Blade Lg.	Cast Iron		Hardened Cast Iron	
Square	12″-24″	21115A27	$36.69	21115A28	$45.39
Center	12″-24″	21115A29	25.67	21115A31	33.24
Reversible Protractor	12″-24″	21115A32	68.30		

Scratch-Resistant High-Accuracy Combination Squares

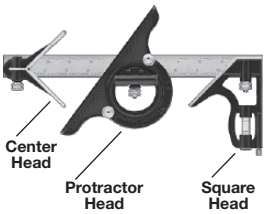

A titanium coating protects the blade against scratches and wear. Use these squares to replace your try square, miter square, depth gauge, height gauge, center-point finder, and level. Accuracy is ±0.002″. Blade is steel with wear-resistant black etched graduation marks at quick-reading 32nds and quick-reading 64ths on the front, and at 8ths and 16ths on the back. Quick-reading graduation marks are labeled with numeric increments that are less than 1″. Blade is 12″ long.

Square head checks 90° angles and includes a built-in level and a scriber. It is cast iron.

Center head identifies the center on pipes, rods, and shafts. It is cast iron.

Protractor head measures angles from 0° to 180° and has graduation marks every 1°. It is cast iron.

Head Style		
Square	21155A34	$138.70
Square, Center, Protractor	21155A36	243.91

Combination Squares

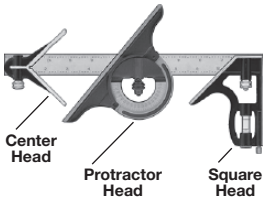

Replace your try square, miter square, depth gauge, marking gauge, 90° level, ruler, and scriber with one tool. Blade has wear-resistant black etched markings, unless noted. *Quick-reading* squares are labeled with numeric increments that are less than 1″.

Square head checks 90° angles. It has a built-in level and a scriber, unless noted.

Square head with angle finder measures any angle from 0° to 90° and has a chart to convert angle to pitch. It has a scriber.

Center head identifies the center on pipes, rods, and shafts.

Reversible protractor head measures angles from 0° to 180° with graduation marks every 1°. It has a built-in level.

Blade Lg.	Blade Material	Head Material		
With Square Head				
Inch—Grad. Marks: 16ths and 32nds front; 8ths and 16ths back				
6″	Stainless Steel	Zinc	2007A5	$8.80
12″	Steel	Zinc	2007A2♣	9.06
12″	Stainless Steel	Zinc	2007A9	11.13
16″	Stainless Steel	Zinc	2007A6	15.50
Inch/Metric—Grad. Marks: Quick-reading 32nds and mm front; mm and 16ths back				
12″/304 mm	Stainless Steel	Plastic	2007A7▲	5.75
Metric—Grad. Marks: mm on both edges front; mm on both edges back				
150 mm	Stainless Steel	Zinc	2007A31	8.80
300 mm	Stainless Steel	Zinc	2007A41	11.68
400 mm	Stainless Steel	Zinc	2007A51	15.50
With Square Head with Angle Finder				
Inch/Metric—Grad. Marks: mm and 16ths front; quick-reading 32nds back				
12″/300 mm	Steel	Zinc	2004A11	25.97
With Square, Center, and Reversible Protractor Heads				
Inch/Metric—Grad. Marks: mm and quick-reading 32nds front; mm and 16ths back				
12″/300 mm	Steel	Aluminum	2007A8	46.21

♣ Blade has silver printed graduations. ▲Scriber is not included.

Magnetic Combination Squares



Attach these squares to any ferrous surface. They have a corrosion-resistant blade with black printed graduation marks at 8ths of an inch and ½ cm on both sides. Heads are square. They are aluminum and have three magnets.

Aluminum blades are lightweight.

Blade Lg.	No. of Heads	With Aluminum Blade		With Brass Blade	
18″/45 cm	1	8995A12	$92.92	8995A11	$106.25
48″/121 cm	1	8995A14	111.25		
48″/121 cm	2	8995A13	166.25	8995A15	202.92

Angle Squares



Also known as rafter squares, these have a 0° to 90° scale for measuring angles and rafter scales. They also have a saw guide.

Powder-coated aluminum squares are silver with printed graduation marks at 8ths.

Plastic squares are yellow with embossed graduation marks at 8ths.

Size	Powder-Coated Aluminum		Plastic	
7″×7″	1960A17	$7.36	1960A65	$3.83
12″×12″	1960A19	16.18	1960A68	12.18

Holding Clamps for Squares



Fix a position on your square for repeat checking and marking. Clamps are brass.

8985A51 ... Pair ... $4.19

Protractors & Pipe Flange Aligners

Protractors

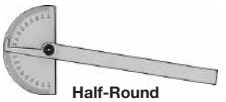

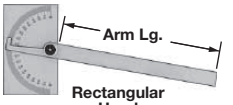

Set bevels and measure angles. Also known as bevel protractors, these have a 6″ long adjustable arm. All have wear-resistant black etched graduations from 0° to 180° in both directions.

Starrett protractors are steel with a corrosion-resistant satin-chrome finish that reduces glare. *Half-round* head is 2″ Ht.×3 1/4″ Wd. *Rectangular* head is 2″ Ht.×3 3/8″ Wd.

Economy protractors are corrosion-resistant stainless steel. Head is 2″ Ht.×3 3/8″ Wd.

Head Shape	Starrett		Economy	
Half Round	2197A12	$80.00	8517A59	$19.34
Rectangular	2197A11	83.01	8517A58	17.99

Long-Arm Protractors

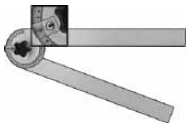

Handle big jobs such as sheet metal fabricating and pipe bending with these aluminum long-arm protractors. They measure angles from 0° to 270° with 0.5° black printed graduation marks.

Arm Lg.		
18″	8518A5	$99.00
36″	8518A3	157.95

Adhesive-Back Protractor Dials

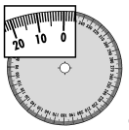

360° Counter-clockwise

With an adhesive back, these dials mount on any flat surface. They are polyester-coated plastic for abrasion and chemical resistance. All are white with black printed graduations every 1°. Center hole is 1/4″ dia. Protractors are 1/64″ thick.

Dia.	360° Clockwise	360° Counter-clockwise	180° Clockwise and Counterclockwise	
3″	20045A31	20045A41	20045A51	$10.11
4″	20045A32	20045A42	20045A52	10.76
5″	20045A33	20045A43	20045A53	11.42
6″	20045A34	20045A44	20045A54	12.68
8″	20045A35	20045A45	20045A55	13.93

Pipe Flange Aligner Pins



Pins with Horizontal Level

Insert a pair of these nut-and-bolt pins into adjacent flange holes and tighten to align flanges before connecting two pipes. One pin in each pair has a level for vertical alignment. All pins have a threaded connection. They are steel.

Pins require a separate level to align the flange horizontally.

Pins with horizontal level include a level rod that runs between two alignment pins.

For Flange Hole Dia.	Pins Pair		Pins with Horizontal Level Rod Lg.	Each
1/2″-17/16″	2298A14	$84.21	10″ 2745A241	$103.90
1/2″-115/16″	2298A15	100.96	18″ 2745A242	128.54

Pipe Flange Aligners with Protractor





Line up two pipe flanges and determine pipe angle with the included nut-and-bolt pins, level, and protractor. Flange holes align as you tighten the pins. Nut-and-bolt pins fit any pipe-flange holes spaced 2″ to 5 1/2″ apart. The protractor measures angles from 0° to 90° with graduation marks every 2.5°. Aligner is aluminum.

For Flange Hole Dia.		
3/16″-13/4″	2342A11	$115.63

Protractors with Graduated Arm

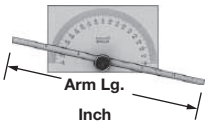



Measure angles and dimensions with one tool.

Inch—Protractors have graduations from 0° to 180° in both directions. Also known as bevel protractors, they have an adjustable arm that fits into holes for use as a depth gauge. The head is rectangular (2″ Ht.×3 3/8″ Wd.). **Starrett** protractor is steel with wear-resistant black etched markings. It has a corrosion-resistant stain-chrome finish that reduces glare. **Economy** protractor is corrosion-resistant stainless steel with wear-resistant black etched markings. It has a quick-reading arm labeled with numeric increments that are less than 1″.

Inch/Metric—Protractors have graduations from 0° to 360°. They are plastic with blue printed graduations.

Arm Size Lg.	Wd.	Closed Size Lg.	Wd.	Thick.		
Starrett						
Inch—Grad. Marks: Inches and 64ths front; inches and 32nds back						
6″	3/16″	–	—	—	19265A21	$82.00
Economy						
Inch—Grad. Marks: Inches and quick-reading 32nds front						
6″	7/32″	–	—	—	8516A51	24.79
Inch/Metric—Grad. Marks: 16ths and mm front						
7″	1 7/8″	7″	1 7/8″	1/16″	20055A11	8.33
12″	1 7/8″	12″	1 7/8″	1/8″	20055A12	13.55
18″	2″	18″	2″	3/16″	20055A13	17.66
23 5/8″	2″	23 5/8″	2″	3/16″	20055A14	22.89

Pocket-Size Protractors



Small enough to fit in your pocket, this versatile tool measures angles and dimensions. It has a center finder, 59° drill point gauge, circle divider, and tap and drill reference table. Also known as a bevel protractor, it has an adjustable arm that is 4 1/2″ Lg.×5/16″ Wd. Protractor measures angles from 0° to 180° with wear-resistant black etched markings every 1°. It has graduation marks at mm, and at 64ths labeled with numeric increments that are less than 1″ for quick-reading. Protractor is corrosion-resistant stainless steel.

2106A11		$11.23

Precision Protractors

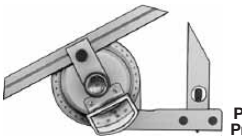

Precision Protractor

Precisely measure angles on molds and jigs. Accuracy is ±0.083°. These protractors have angle graduations from 0° to 90° (marked every 1°) in four quadrants and a vernier scale for readings to 5 minutes. Also known as bevel protractors, they have adjustable arms beveled at 45° and 60°. They are stainless steel with a corrosion-resistant satin-chrome finish that reduces glare and have wear-resistant black etched markings. They come with a plastic case and a magnifier.

Precision protractor comes with 6″ and 12″ arms.

Mitutoyo precision protractor comes with a 6″ arm. The 12″ arm is sold separately.

Precision Protractor	2288A1	$81.17
Mitutoyo Precision Protractor	2076A1	358.13
12″ Long Arm for Mitutoyo Precision Protractor	2076A2	54.17
Acute-Angle Attachment for Mitutoyo Precision Protractor—Measure angles from 0° to 90°	2076A3	105.12

Threads per Inch and Thread Pitch Size Checkers

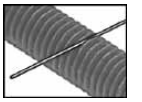

Inspect fasteners and verify external threads with this checker. Select the wire that best fits the threads; then calculate the pitch diameter with the equations provided. Use to check UNC, UNF, Acme, and NPT threads on bolts, pipe, screws, and threaded rods. Wires are stainless steel and 2 3/4″ long. Checker comes in a vinyl pouch.

No. of Wires	For Threads per Inch	For Thread Pitch	For Acme Threads per Inch		
48	3 to 48	0.5 to 6 mm	3 to 16	2082A1	$34.03

Threads per Inch and Thread Pitch Identifiers

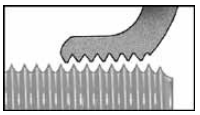

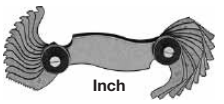

Determine threads per inch and thread pitch on a variety of external and internal threads. Use to measure screws, bolts, threaded rods, and nuts, unless noted. Identifiers are steel, unless noted.

No. of Identifiers	For Threads per Inch/ Thread Pitch	*Folded Size* Lg.	Wd.		
Inch (UNC and UNF)					
22	9 to 40	2¾″	½″	2071A1	$21.85
30	4 to 43	2¾″	½″	2071A25	19.32
30	6 to 60	2¾″	½″	2071A3	23.96
51	4 to 84	2¼″	2¼″	2071A24	38.93
Inch (UNC and UNF)/Metric					
28	4 to 56/0.5 to 6 mm	2¾″	½″	2071A26	22.31
51	4 to 42/0.4 to 7 mm	2¾″	½″	2071A68	45.20
Metric					
20	0.4 to 7 mm	2¾″	½″	2071A18	10.00
28	0.25 to 2.5 mm	2½″	½″	2071A65	46.00
28	0.25 to 2.5 mm	2¾″	½″	2071A67	22.30
Pipe Size (Whitworth)					
28	4 to 62	2¾″	⅝″	2071A19★	10.76
28	4 to 60	2¾″	¾″	2071A4★	40.20
Acme					
16	1 to 12	4¾″	1″	2071A69■	92.38

★ Not for use with nuts. ■ Identifier is stainless steel.

Threads per Inch and Center Identifiers



Identify threads per inch on external threads and find the center of your workpiece to line up thread-cutting tools. Use to measure UNC and UNF bolts, threaded rods, and screws. This identifier is steel with a corrosion-resistant satin-chrome finish that reduces glare. Overall size is 2¼″ Lg. × ¾″ Wd. × 3/64″ Thick.

For Threads per Inch		
14, 20, 24, 32	2072A11	$24.00

Thread Identifier Sets

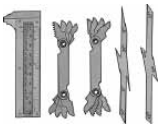

Set includes a caliper, two steel gauges, two steel angle gauges, and an instruction book. Measure external and internal threads on threaded rods, bolts, screws, pipe, and nuts. The set comes in a folding plastic case.

For Thread Type		
UNC, UNF, NPT, BSPT, BSPP	7863K1	$57.04

Acme Thread Identifiers



Identify external Acme threads and use as a guide while grinding and cutting Acme threads to a 29° included angle. Use to measure screws, bolts, and threaded rods with 1 to 10 threads per inch. Identifier is steel. Overall size is 3⅜″ Wd. × 1 5/8″ Ht. × 7/64″ Thick.

8615A69		$22.94

Screw Size Identifiers

Find external thread size, screw size, thread pitch, diameter, or drill bit size. Identifiers are steel, unless noted.

Inch (UNC and UNF)—Use to measure screws, bolts, threaded rods, pins, rivets, and drill bits. Also measures diameters from 0.73″ to 5/16″.

Metric—Use to measure screws, bolts, and threaded rods.



Material	For Thread Size/ Thread Pitch	For Screw Size	Wd.	Ht.	Thick.		
Inch (UNC and UNF)							
Plastic	1-64 to 5/16″-32	No. 1 to 5/16″	3″	5⅛″	7/64″	98728A111	$10.60
Steel	1-64 to 5/16″-32	No. 1 to 5/16″	3″	5⅛″	5/64″	98728A112	19.82
Metric							
Plastic	0.35 to 3 mm	M2.3 to M24	9½″	4″	7/16″	8567A11	12.20
Steel	M2 × 0.25 to M7 × 1	M2 to M7	3″	5⅜″	3/32″	98728A114	21.12
Steel	M8 × 0.75 to M14 × 2	M8 to M14	5⅛″	5⅜″	⅛″	98728A116	22.90

Screw, Bolt, and Nut Size Identifiers

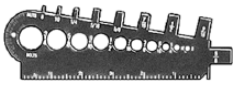



Use to measure external and internal fastener threads on screws, threaded rods, nuts, and bolts. Identifiers are plastic.

Inch—Measure #8 to ¾″ screw sizes and #8 to ⅝″ nut sizes.

Inch/Metric—Measure #6 to 1″ and M6 to M22 screw sizes; and #8 to ⅝″ nut sizes.

Metric—Measure M6 to M16 screw sizes; M10 to M24 nut sizes; and 1 mm to 2 mm thread pitch.

	Wd.	Ht.	Thick.		
Inch	7½″	2⅜″	1/64″	98845A650	$3.71
Inch/Metric	9″	3¾″	1/64″	98845A670	5.14
Metric	5¼″	3 3/16″	1/64″	98845A660	3.71

All-in-One Identifiers



Find tube, pipe, fastener, wire, and drill bit sizes with one tool. Use to measure the size of tubes and tube fittings (copper and CPVC), pipe and pipe fittings (steel, brass, and PVC), screws, bolts, threaded rods, nuts, nails, wire, and drill bits. Identifiers are plastic.

Standard identifier has graduation marks at 16ths of an inch and mm on one side.

Deluxe identifier measures more sizes than standard identifier. It has graduation marks at 32nds of an inch on one side and mm on the other side.

	Wd.	Ht.		
Standard	8 11/16″	4¼″	20165A33	$2.43
Deluxe	10½″	3½″	20165A34	4.93

Thread-It Screw, Bolt, and Nut Size Identifiers

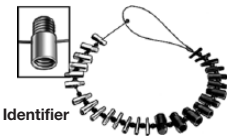





Thread your fastener into holes or onto plugs for quick and accurate size identification. Use to measure internal and external UNC and UNF threads on threaded rods, bolts, nuts, and screws. Identifiers are steel.

Inch—Measure 23 sizes: #6, #8, #10, and ¼″ to 1″.

Inch/Metric—Measure 26 sizes: #6, #8, #10, ¼″ to ½″, and M4 × 0.7 to M12 × 1.75.

Metric—Measure 21 sizes: M3 × 0.5 to M24 × 3.

Wall-Mount Inch/Metric—Mount this identifier to a wall for easy access. It measures 28 sizes: #6, #8, #10, ¼″ to 9/16″, and M4 × 0.7 to M12 × 1.75. Identifier has three 5/16″ mounting holes (fasteners not included). It is 3″ Wd. × 39″ Ht. × ½″ Thick.

Inch	20375A14	$34.90
Inch/Metric	20375A21	36.21
Metric	20375A17	34.90
Wall-Mount Inch/Metric	20375A27	49.00

Size Identifiers

Pipe Size Rulers



Measure outer diameter and mark lines around pipe. A pipe size conversion chart is printed on these rulers. They're fiber-reinforced rubber for grease, oil, gasoline, and salt water resistance. Max. temp. is 360° F. Rulers are gray with white graduations at 16ths of an inch and 2 mm.

For Pipe OD	Measuring Lg.	Lg.	Wd.	Thick.		
1″ to 6″/2 mm to 60 cm	28″	30″	2 5/8″	3/64″	8991A71	$11.69
2″ to 16″/2 mm to 78 cm	36″	60″	3 7/8″	3/64″	8991A73	17.54
6″ to 30″/2 mm to 77 cm	36″	120″	5 1/4″	3/64″	8991A75	34.81

Pipe Size Tape Measures

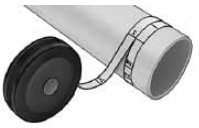

Wrap this pocket-size tape measure around pipe and fittings to determine size. It measures PVC, galvanized steel, and iron pipe sizes 1/8 to 18, as well as CPVC and copper pipe sizes 1/4 to 12. The blade locks in place and retracts with the push of a button. Rulers are white plastic with red graduations. Blade is 5/16″ Wd. × 1/64″ Thick.

2219A21 ..... $10.72

Drill Bit Size Identifiers

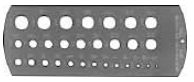

Inch

Measure drill bit sizes with these identifiers. They are steel and have a 1/8″ dia. mounting hole.

Wire gauge 1 to 60 identifier includes a tap size conversion chart.

	Wd.	Ht.	Thick.		
Letter A to Z	2 1/2″	6 1/2″	5/64″	8986A65	$15.94
Inch 1/16″ to 1/2″	2 1/2″	6 1/2″	5/64″	8986A67	15.94
Wire Gauge 1 to 60	2 1/2″	6 1/2″	5/64″	8986A68	15.94
Wire Gauge 61 to 80	1″	3″	5/64″	8986A66	18.64
Metric 1.5 to 12.5 mm	2 1/2″	6 1/2″	5/64″	8986A64	26.75

Drill Bit Point Identifiers



Verify 118° drill point angles after sharpening. The gauge slides along a ruler; has black graduation marks at quick-reading 32nds and quick-reading 64ths on the front, and 8ths and 16ths on the back. Quick-reading graduation marks are labeled with numeric increments that are less than 1″. Ruler has a hook for alignment. It is 6″ Lg. × 3/4″ Wd. Gauge and ruler are steel. Overall size is 6 1/4″ Lg. × 2 5/32″ Wd. × 3/64″ Thick.

8609A51 ..... $64.00

Wire and Sheet Metal Size Identifiers



American Wire Gauge

Read gauge numbers on one side of these identifiers and their decimal equivalents on the other. Identifiers are steel and 3 1/4″ dia.

American wire gauge identifier shows the same markings as Brown & Sharpe gauges. Use it on aluminum, brass, and copper wire.

U.S. steel wire gauge identifier shows the same markings as Washburn & Moen and American Steel and Wire Co. gauges.

For Gauge Type	For Gauge	For Wire Dia./ Sheet Thick.		
U.S. Standard Iron and Steel Gauge	36 to 0	0.0070″ to 0.3125″	8622A53	$26.36
American Wire Gauge	36 to 0	0.0050″ to 0.3250″	19305A33	26.37
U.S. Steel Wire Gauge	36 to 0	0.0070″ to 0.3125″	19305A34	73.01

Diameter Identifiers



Measure the outside diameter of small round- and hex-shaped objects such as rods, drill bits, bolts, and tubing with this pocket-size tool. It measures diameters from 3/32″ to 1 1/8″ and 4 mm to 26 mm. Identifier has wear-resistant white etched markings at 64ths of an inch and millimeters. It is blue aluminum and 5 1/2″ long. Includes a belt clip.

6821A1 ..... $14.29

Pipe, Tubing, and Hose Size Identifiers

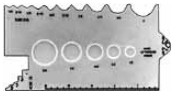

Pipe, Tubing, and Hose



Pipe, Pipe Fittings, and Hose

Determine pipe size and inner and outer diameter.

Pipe, Tubing, and Hose—Identifier measures external NPT pipe threads up to 3/4 and tubing OD and hose ID up to 1″. It has a compression fitting chart. Identifier is plastic. Overall size is 9″ Wd. × 3 3/4″ Ht. × 7/64″ Thick.

Pipe, Pipe Fittings, and Hose—Identifier measures external and internal NPT pipe threads up to pipe size 2 and hose ID to 1 1/4″. It is corrosion-resistant stainless steel. Overall size is 3 3/4″ Wd. × 4 1/2″ Ht. × 1/32″ Thick.

Pipe, Tubing, and Hose	1976A22	$4.50
Pipe, Pipe Fittings, and Hose	20195A34	19.91

Pipe Thread Identifiers

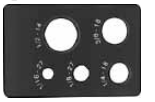

Check external NPT thread size and taper. The identifier measures 1/16, 1/8, 1/4, 3/8, and 1/2 pipe size. It is blue aluminum. Overall size is 2″ Wd. × 3″ Ht. × 1/4″ Thick.

1980A1 ..... $17.27

Tap and Drill Reference Rules



One side of this stainless steel rule lists tap and drill sizes for UNF, UNC, metric ISO, and American standard pipe threads. The other side has a decimal equivalent table for 1/64″ to 63/64″ sizes and an easy-to-read 6″ rule graduated in inches to 64ths. Overall size is 7″ Lg. × 1 1/4″ Wd.

2119A21 ..... $6.45

Radius Identifiers



Check convex and concave radii of tools, patterns, and dies with these pocket-size tools. Identifiers are steel.

No. of Identifiers	For Radius	*Folded Size* Lg.	Wd.		
30	1/32″ to 1/4″ (1/64″ increments)	2 3/4″	1/2″	8625A58	$13.66
32	17/64″ to 1/2″ (1/64″ increments)	3 1/2″	3/4″	8625A68	14.60
34	1 to 3 mm (0.25 mm increments); 3 to 7 mm (0.5 mm increments)	2 3/4″	5/8″	8625A78	34.66

Precision Radius Identifiers



Find precise convex and concave radii of tools, patterns, and dies. These identifiers are stainless steel, unless noted. They come in a vinyl pouch.

Certified Starrett identifiers include a NIST calibration certificate stating that they have passed a test for accuracy.

Optional gauge holder is steel. It is 4″ long.

No. of Identifiers	For Radius		
Mitutoyo			
8	9/16″ to 1″ (1/16″ increments)	2204A36	$394.29
26	0.01″ to 0.03″ (0.005″ increments); 0.04″ to 0.10″ (0.01″ increments); 0.12″ to 0.30″ (0.02″ increments); 0.35″ to 0.50″ (0.05″ increments)	2204A65	158.49
Starrett			
8	9/32″ to 1/2″ (1/32″ increments)	2204A2	77.01
16	1/32″ to 17/64″ (1/64″ increments)	2204A1	85.01
16	1/32″ to 1/2″ (1/32″ increments)	2204A4	106.00
21	1 to 7 mm (0.5 mm increments); 8 to 15 mm (1 mm increments)	2204A54	155.01
25	1/64″ to 17/64″ (1/64″ increments); 9/32″ to 1/2″ (1/32″ increments)	2204A3 ♦	182.00
Certified Starrett			
16	1/32″ to 1/2″ (1/32″ increments)	2204A47	143.23
25	1/64″ to 17/64″ (1/64″ increments); 9/32″ to 1/2″ (1/32″ increments)	2204A46 ♦	192.48
Economy			
8	9/16″ to 1″ (1/16″ increments)	2204A41 ■	287.88
25	1/64″ to 17/64″ (1/64″ increments); 9/32″ to 1/2″ (1/32″ increments)	2204A55 ♦	34.17
Optional Gauge Holder		2204A6	23.01

♦ Comes with a gauge holder. ■ Identifier is steel.

Drafting Compasses

Draw or scribe circles and transfer measurements. These compasses have a bow spring to hold the legs in place.

9″ max. circle dia. compass is die cast zinc for rust resistance. It adjusts with a knurled nut and includes a scribe guide for edge marking.

10½″, 14″, and 18″ max. circle dia. compasses are nickel-plated brass. They adjust with a knurled center wheel.

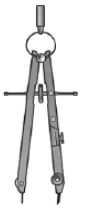

10½″ and 18″

Max. Circle Dia.	Leg Lg.	Marker Type		
9″	4⅛″	Pencil	89675A65	$5.87
10½″	4⅝″	Lead, Scribing Point	1210T4	29.12
14″	4⅝″	Lead	1210T6	41.62
18″	4⅝″	Lead	1210T1	41.62
Replacement Lead (Pkg. of 4)			1210T82	3.37

Scribing Compasses

Ensure accuracy when marking and measuring. Also known as dividers, these compasses have a strong, flexible bow spring that holds the legs in place and a screw with a knurled nut for adjustments. They include a scribing point. Compasses are steel, unless noted.



Max. Circle Dia.	Leg Lg.		
Starrett			
3″	3″	2059A32	$59.69
6″	6″	2059A34	68.00
Economy			
3″	3″	2060A29	15.96
4″	4″	2060A31	16.58
6″	6″	2060A33	18.54
8″	8″	2060A34	20.16
9¾″	4½″	1210T84▲	12.96
10″	10″	2060A66	22.52
12″	12″	2060A36	24.98

▲Compass is nickel-plated brass.

Large-Circle Scribing Compasses

A wing joint opens wide for marking and transferring large circles, arcs, and measurements. Also known as dividers, these compasses ensure accuracy when marking and measuring. They have a spring that holds the legs in place and a knurled nut for adjustments. Compasses have a scribing point. They are steel.



Max. Circle Dia.	Leg Lg.		
15⅞″	6″	2022A1	$42.91
22½″	8″	2022A3	44.18
24″	10″	2022A4	47.20
29⅝″	12″	2022A5	47.35

Edge Scribing Compasses

Mark and transfer distances from the outer edge of an object. An offset divider leg with adjustable point sits on the surface of an object while the outside-caliper style leg reaches around the edge. The compass is steel and comes with a scribing point.



Max. Circle Dia.	Leg Lg.		
10⅝″	6″	1963A36	$59.01

Center-Locating Punches for Curved Surfaces

Locate and mark the centerline on rods, tubes, and pipes, lay out keyways, and establish angles for connections. Locators measure angles from 0° to 90° with graduation marks every 2.5°. They include an adjustable dial protractor and a level. Body is aluminum and punch is steel.

Manual locator is for use with a hammer. Gently strike the rod to mark the center.

Spring-loaded locator marks the center with the pull of a trigger.

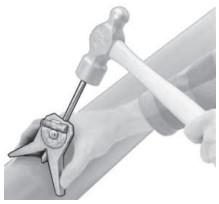

Punch Operation	For Min. Pipe OD		
Manual	½″	2195A1	$84.73
Spring Loaded	1″	2195A2	125.10
Replacement Dial and Level Assembly		2195A11	34.82

Large-Diameter Compasses

Compasses have spring-tension joints that stay rigid to draw large circles up to 100″ diameter. They fold for easy storage. Compasses are aluminum. Include a soapstone crayon.

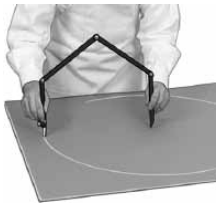

Max. Circle Dia.	Leg Lg.		
22″	6″	8989A69	$23.30
50″	14½″	8989A71	40.69
100″	26″	8989A73	65.39

Wide Range Tape Measure Compasses

Extend the locking blade to draw circles up to 144″ diameter. The compass has a 3½″ to 72″ radius range. It has graduation marks at 32nds of an inch on the top and millimeters on the bottom. Compass is steel, pin is steel, and marker is lead.



2127A12 ..... $32.78

Expandable Beam Compasses



Draw circles up to 48″ or add extension beams to create even larger circles. A coupling is required for each extension beam. The compass includes two 13″ long beams, one beam coupling, scribing points, a ruling pen, lead tips, and a plastic case. It is aluminum.

Beam Compass	89645A65	$34.62
Beam Coupling	89645A66	6.70
13″ Extension Beam	89645A67	10.24
26″ Extension Beam	89645A68	21.51

Starrett Expandable Beam Compasses

Transfer measurements and draw large, precise circles. These compasses have expandable point-holding clamps, also known as trammels, that securely grip the flat top of the beam. Adjust the scribing points with the knurled grip on the clamps. One clamp has a screw for making fine adjustments to ensure accuracy when marking and measuring. The scribing points can be replaced with the included caliper legs. These compasses are chrome-plated steel.



Max. Circle Dia.	Beam Lg.	Starrett No.		
18″	10½″	C251A	2124A11	$174.00
26″	14½″	C251B	2124A12	198.00
36″	20″	C251C	2124A13	202.00

Compass Point-Holding Clamps

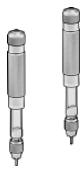

Ruler Clamps



Beam Clamps



Pipe Clamps

Clamp onto a beam, ruler, or pipe to create a compass of any size. These clamps are also known as trammels.

Ruler clamps fit rulers from ½″ to 1⅛″ thick. They include two lead point markers and two steel scribing point markers. Clamp is aluminum.

Beam clamps fit beams from ⅝″ to 1½″ thick. They include two 6″ long steel scribing points. The points may be replaced with a pen or soapstone crayon markers. Clamp is painted steel.

Pipe clamps fit pipe sizes of ½ that are at least 3½″ long. They include a hex key, one movable head with a marking tool holder, one stationary head with a hardened-steel center point, a soapstone crayon, and a steel scribe. Clamp is aluminum.

Ruler Clamps	19355A52	$17.68
Beam Clamps	2023A24	36.95
Pipe Clamps	1920A42	51.13

Straightedges



Beveled Edge



Square Edge

Use these highly accurate straightedges as a guide to scribe and cut straight lines and to check surface straightness. Accuracy is the straightness tolerance over the entire length of the straightedge.

Stainless steel is corrosion resistant.

Aluminum is lightweight.

Lg.	Wd.	Thick.	Accuracy	Hole Dia.		
Beveled Edge						
Steel						
12″	1 15/32″	5/32″	±0.0005″	—	2265A11	$49.93
24″	1 15/32″	5/32″	±0.001″	—	2265A13	124.00
36″	2 15/32″	7/32″	±0.0015″	1/4″	2265A14	176.00
48″	2 15/32″	7/32″	±0.002″	1/4″	2265A1	268.36
72″	3 5/32″	9/32″	±0.003″	1/4″	2265A17	470.39
96″	3 1/4″	11/32″	±0.004″	3/8″	2265A2	657.76
120″	3 17/64″	11/32″	±0.005″	3/8″	2265A3	763.62
Stainless Steel						
24″	2 1/16″	17/64″	±0.001″	—	19295A39	234.69
36″	2 1/16″	17/64″	±0.0015″	1/4″	19295A41	351.50
48″	2 9/16″	17/64″	±0.002″	1/4″	19295A42	511.56
60″	3 1/16″	5/16″	±0.0025″	1/4″	19295A43	697.59
72″	3 1/64″	11/32″	±0.003″	1/4″	19295A44	837.10
96″	3 17/64″	11/32″	±0.004″	3/8″	19295A46	1,276.21
Square Edge						
Steel						
12″	1 15/32″	5/32″	±0.0005″	—	2265A18	43.07
24″	1 15/32″	5/32″	±0.001″	—	2265A21	69.00
36″	2 15/32″	7/32″	±0.0015″	1/4″	2265A22	156.64
48″	2 15/32″	7/32″	±0.002″	1/4″	2265A23	220.81
72″	3 1/8″	9/32″	±0.003″	1/4″	2265A25	401.25
Stainless Steel						
24″	2 1/16″	17/64″	±0.001″	—	19295A49	210.90
36″	2 1/16″	17/64″	±0.0015″	1/4″	19295A51	315.81
48″	2 9/16″	17/64″	±0.002″	1/4″	19295A52	458.57
60″	3 1/16″	5/16″	±0.0025″	1/4″	19295A53	630.53
72″	3 1/64″	11/32″	±0.003″	1/4″	19295A54	753.83
96″	3 17/64″	11/32″	±0.004″	3/8″	19295A56	1,139.93
Aluminum						
24″	2″	1/4″	±0.005″	1/4″	1935A72	40.02
36″	2″	1/4″	±0.005″	1/4″	1935A73	62.90
48″	2″	1/4″	±0.005″	1/4″	1935A74	89.22
60″	2″	1/4″	±0.005″	1/4″	1935A75	126.20
72″	2″	1/4″	±0.005″	1/4″	1935A76	151.86
96″	2″	1/4″	±0.005″	1/4″	1935A77	187.52
120″	2″	1/4″	±0.005″	1/4″	1935A78	243.04

Angle Transfers



Duplicate or transfer any angle. Adjust the blades to an angle and tighten the nut to lock them in place. These transfers are also known as bevel squares and sliding bevels. Blade is stainless steel. It is 10″ Lg. × 1 1/8″ Wd. Handle is wood and 5 1/2″ long.

2020A2 ..... $10.15

Ice Picks



Wood Handle with Metal Cap



Plastic Handle

Chip ice, start holes in thin metal and wood, and punch holes in leather, plastic, and other soft materials. Use the wood handle pick with metal cap to break ice.

Handle Material	Blade Material	Blade Lg.	O'all Lg.		
Wood	Steel	4 1/2″	8 3/4″	3603A1	$4.03
Wood w/ Metal Cap	Steel	4 1/2″	8 3/4″	3603A2	5.31
Plastic	Stainless Steel	4″	7″	3526A71	15.71

Awls



Wood Handle



Steel Handle



Plastic Handle

Punch soft materials and scribe lines in metal and wood. Blade is steel. *Steel* handle has a flat head for hammer strikes.

Handle Material	Blade Lg.	O'all Lg.		
Wood	3 3/4″	6 1/2″	19195A21	$6.29
Steel	3 1/2″	7″	19195A23	7.13
Plastic	3 1/2″	7 1/4″	19195A22	7.15

Folding Triangle Straightedges

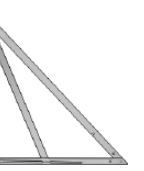

Unfold and lock the corners to form a triangle for marking angles. Straightedges are aluminum.

Straightedge with etched graduation marks has wear-resistant markings at 16ths of an inch and measures 45° and 90° angles. It is 1 1/2″ Wd. × 9/16″ Thick. Unfolded size is 16″ × 16″ × 22 5/8″.

Straightedge without graduation marks measures 90° angles. It is 2″ Wd. × 3/8″ Thick. Unfolded size is 36″ × 48″ × 60″.

With Etched Grad. Marks	2200A2	$42.23
Without Grad. Marks	2200A1	68.87

Contour Transfers



Transfer contours, patterns, and shapes for applications such as fitting floor tile and installing pipe insulation. A series of narrow probes slide within a frame to duplicate any shape.

For Contour Lg.	Wd.	Probe Material	Lg.		
5 1/4″	2″	Stainless Steel	6″	2181A12	$8.31
10″	1 1/4″	Plastic	11 1/8″	19065A32	20.58

Pipe Contour Transfers





1. Push down on the pipe.

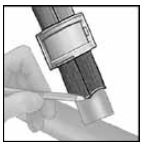

2. Slide up and mark.

Probes take the shape of a pipe joint so you can transfer the exact outline to the pipe before you cut. The probes are stainless steel.

For Pipe Size	For Pipe OD		
1	1 5/16″	7317A71	$46.31
1 1/4	1 5/8″	7317A72	52.77
1 1/2	1 7/8″	7317A73	60.31
2	2 3/8″	7317A74	61.38
2 1/2	2 7/8″	7317A75	118.46

Pipe Contour Transfer Markers

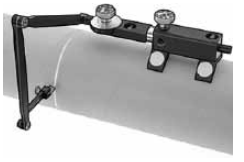

Lay out pipe and structural steel for any type or size of pipe fitting—elbows, tees, and wyes of all angles. These transfer markers measure angles from 0° to 90° with graduation marks every 2.5°. They are lightweight, anodized aluminum.

Transfer marker for 1 1/2″ to 18″ pipe OD includes calibrated protractor dials, a soapstone crayon marker with holder, level, magnetic base, and triple-jointed marking arm.

Transfer marker for 8″ to 48″ pipe OD includes a built-in bubble level, calibrated protractor dials, a soapstone crayon marker with holder, magnetic base, and triple-jointed marking arm.

For Pipe OD		
1 1/2″ to 18″	7981A1	$186.28
8″ to 48″	7981A3	268.16

Scriber, Punch, Magnet, and Ruler Sets

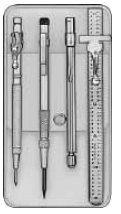

Use this four-piece set for scribing alloy steel, ceramic, glass, stainless steel, steel, and tool steel. The set comes in a vinyl pouch and includes a scriber, center punch, magnet, and ruler.

Scriber is 5 5/16″ long with a retractable carbide tip that stays inside the handle for protection when it's not in use. A knurled grip on the handle ensures a secure hold. Body is aluminum.

Center punch is 5 3/4″ long with a 1/8″ dia. steel point and aluminum handle.

Magnet adjusts from 5 1/2″ to 23 1/2″ long to retrieve ferrous particles from hard-to-reach places. It has a nickel-plated steel handle.

Ruler is 6″ long with graduation marks at 32nds and 64ths of an inch on the front. It is stainless steel.

3458A11 ..... $28.53

Scribers

For Steel and Plastics—Use the steel tip on these scribers to mark steel and plastics, or as a pick for cleaning and probing.

For Hardened Steel and Stainless Steel—A carbide tip marks hard materials such as hardened steel, stainless steel, and ceramics. It also lasts longer than steel tips on steel and plastics.

Long-Life for All Materials—Mark almost any surface including the hardest tool steel and glass. The diamond tip on these scribers lasts longer than carbide tips on hard materials.

For Steel and Plastics



90° Hook and Straight Steel-Tipped Scriber—A knurled grip ensures a secure hold. Body is aluminum. Overall length is 8″.

6808A12 ..... $3.86



90° Hook and Straight Steel-Tipped Scriber—A knurled grip ensures a secure hold. Body is aluminum. Overall length is 8⅝″.

Scriber	6808A11	$6.06
Repl. Steel Tip	6808A31	3.84



Scraper and Straight Steel-Tipped Scriber—A knurled grip ensures a secure hold. Body is steel. Overall length is 6½″.

19375A11 ..... $4.28



Hook and Straight Steel-Tipped Scriber—A knurled grip ensures a secure hold. Body is aluminum. Overall length is 8″.

6808A13 ..... $4.00



Compact Retractable Steel-Tipped Scriber—The tip stays inside the handle for protection when it's not in use, and the knurled grip ensures a secure hold. Body is aluminum. Overall length is 3¾″.

Scriber	6808A14	$4.24
Repl. Steel Tip	6808A32	.71

For Hardened Steel and Stainless Steel



Carbide-Tipped Scribers—A knurled grip ensures a secure hold on these scribers. They have a pocket clip. Body is aluminum. Overall length is 5½″.

Scriber with magnet has a magnetic tip on one end for retrieving ferrous particles from hard-to-reach places.

Scriber	2157A11	$6.74
Scriber with Magnet	2157A12	8.68
Repl. Carbide Tip	2157A14	3.86



Retractable Carbide-Tipped Scriber—The tip stays inside the handle for protection when it's not in use. Scriber has a knurled grip that ensures a secure hold. It has a pocket clip. Body is aluminum. Overall length is 6½″.

Scriber	1981A51	$26.81
Repl. Carbide Tip	1981A81	12.28



90° Hook and Straight Carbide-Tipped Scriber—Hex body shape prevents the scriber from rolling. Body is aluminum. Overall length is 8″.

68085A65 ..... $19.65



Compact Retractable Carbide-Tipped Scriber—The tip stays inside the handle for protection when it's not in use, and the knurled grip ensures a secure hold. Body is aluminum. Overall length is 3¾″.

Scriber	6808A15	$7.90
Repl. Carbide Tip	2157A14	3.86

Long-Life for All Materials



Retractable Diamond-Tipped Scriber—The tip stays inside the handle for protection when it's not in use. Includes a pocket clip. Body is black-coated brass. Overall length is 5¼″.

Scriber	1984A16	$22.08
Repl. Diamond Tip	1984A17	9.93



Diamond-Tipped Scriber—Body is plastic. Overall length is 5⅜″.

2018A51 ..... $19.21

Set for Steel and Plastics

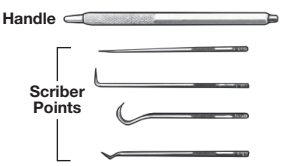

These sets include a handle with four interchangeable steel points: 90° hook, double angle hook, hook, and straight. The handle has a knurled grip for a secure hold and a hex-shaped body that prevents rolling. Body is aluminum. Overall length is 7½″. Comes in a vinyl pouch.

Scriber with magnet has a magnetic tip on the handle to retrieve ferrous particles from hard-to-reach places.

Scriber	68095A69	$7.54
Scriber with Magnet	68095A68	8.88

Straight Line Scribers



Also known as a marking gauge, this scriber draws precise, straight lines without the need for a straightedge or ruler. Lock the sliding head in place at the desired length and use it as a guide as you drag the scriber along the edge of your work surface. Scriber has graduations marked at 16ths of an inch for measurements up to 5″. Use it on alloy steel, plastic, and stainless steel. The body is nickel-plated steel, and the tip is steel. Overall length is 6″.

Scriber	2011A1	$17.12
Replacement Steel Tip	2011A22	.86

Marking Fluid Removers

Remove marking fluid and paste. *Aerosol* also cleans surfaces in preparation for fluid application.

16-oz. Aerosol Can (Net 12 oz.)	19215A21	$11.27
1-qt. Can	19215A79	11.47
1-gal. Can	19215A18	31.74
Optional Empty Brush-Top Bottle (Holds 5 oz.)	19215A251	14.10

Marking Fluids

Stain metal items such as bearings, springs, nuts, and other components. These fluids repel oil, adhere without flaking and scaling, and won't interfere with part performance.

Opaque fluids conceal the color of the part.

Transparent fluids allow the color of the part to show through and are thinner and dry faster than opaque fluids.





	Choose a Color		
Opaque			
8-oz. Brush-Top Can	Dark Blue, Red, White, Yellow	2131A68	$13.00
1-gal. Bottle	Black, Dark Blue, Dark Green, Light Blue, Light Green, Red, White, Yellow	2131A73	64.95
Transparent			
2-oz. Felt-Tip Bottle	Blue, Red	2131A74	5.95
4-oz. Brush-Top Can	Blue, Red	2131A61	7.15
8-oz. Brush-Top Can	Blue, Red	2131A62	9.93
16-oz. Can (Net 12 oz.)	Blue, Red	2131A64	11.96
1-qt. Bottle	Blue, Red	2131A65	17.71
1-gal. Bottle	Black, Dark Blue	2131A2	78.89

High Spot Blue Marking Paste

Identify high spots, interference points, and improper fit on bearings, gears, and valves. Apply this opaque blue paste, also known as engineers' blue, to parts or components and assemble them into working position. Any improper fit will show up as a blue streak. It comes in a 0.55-oz. tube. Remove paste with marking fluid remover (sold separately above).



6165K11 ..... $6.73

Mitutoyo Electronic Calipers

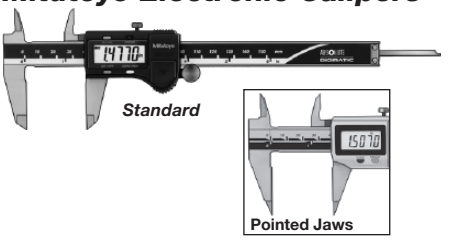

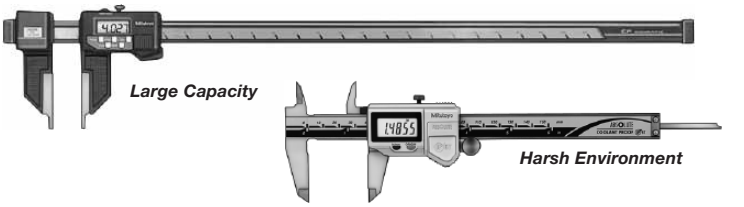

An LCD gives you a clear view of your measurements. Calipers take inside, outside, and depth measurements in 0.0005″ and 0.01 mm increments. They are made of stainless steel. All have zero-position memory, also known as absolute (ABS) positioning. Batteries (where required) are included. A case is also included.

Standard Calipers with Pointed Jaws and SPC Data Output— Measure small holes and grooves.

Large-Capacity Calipers— A deep jaw makes measuring large and hard-to-reach material easier, and a carbon fiber beam makes these lighter to use than other large-capacity calipers. Minimum inside measuring length is ½″ for 24″ caliper and 1″ for 40″ and 60″ calipers.

Harsh Environment Calipers— IP67 rated for dust and temporary water submersion.

Accessories— *Depth base attachments* secure the caliper on a base for easier depth measurements. *Display freeze adapter* keeps a measurement displayed even if the jaw is repositioned. *SPC data output cables* connect calipers with SPC data output to a Mitutoyo miniprocessor (sold separately on page 2287) or to your PC also using an input tool (sold separately on page 2288).

Certificates of calibration are traceable to NIST.

Calipers

Range Inch	Range mm	Jaw Dp.	Accuracy Inch	Accuracy mm	Mitutoyo No.	Without Certificate of Calibration		With Certificate of Calibration	
Standard									
0- 4	0- 100	1½″	±0.001	±0.025	500-195-30	8647A51	$122.39	8647A82	$162.69
0- 6	0- 150	1½″	±0.001	±0.025	500-196-30	8647A42	132.59	8647A43	172.89
0- 8	0- 200	1⅞″	±0.001	±0.025	500-197-30	8647A22	190.39	8647A81	230.69
0-12	0- 300	2½″	±0.0015	±0.04	500-193	8647A32	392.76	8647A44	433.06
Standard with SPC Data Output									
0- 4	0- 100	1½″	±0.001	±0.025	500-170-30	20925A76	172.00	20925A75	212.30
0- 6	0- 150	1½″	±0.001	±0.025	500-171-30	20925A77	183.00	20925A82	223.30
0- 8	0- 200	1⅞″	±0.001	±0.025	500-172-30	20925A78	241.00	20925A41	281.30
0-12	0- 300	2½″	±0.0015	±0.04	500-173	20925A81	538.97	20925A83	579.27
0-18	0- 450	3½″	±0.002	±0.05	500-505-10	20925A91♠	783.04	20925A94♠	823.34
0-24	0- 600	3½″	±0.002	±0.05	500-506-10	20925A92♠	860.48	20925A42♠	900.78
0-40	0-1,000	5⅛″	±0.003	±0.08	500-507-10	20925A93♠	1,665.96	20925A95♠	1,706.26
Standard with Pointed Jaws and SPC Data Output									
0- 6	0- 150	1½″	±0.001	±0.025	573-721	2338A3	407.00	2338A4	447.30
Standard with Abrasion-Resistant Carbide Jaws									
0- 6	0- 150	1½″	±0.001	±0.025	500-733-20	8647A41	305.14	8647A61	345.44
0- 8	0- 200	1⅞″	±0.001	±0.025	500-734-20	8647A21	374.83	8647A62	415.13
Standard Solar Powered									
0- 4	0- 100	1½″	±0.001	±0.025	500-473	2086A75	157.82	2086A71	198.12
0- 6	0- 150	1½″	±0.001	±0.025	500-474	2086A21	170.38	2086A22	210.68
0- 8	0- 200	1⅞″	±0.001	±0.025	500-475	2086A77	222.37	2086A81	262.67
Large Capacity with SPC Data Output									
0-24	0- 600	3⅞″	±0.002	±0.05	552-313-10	20575A76♠	986.90	_____	_____
0-40	0-1,000	5⅞″	±0.002	±0.05	552-314-10	20575A77♠	1,759.66	_____	_____
0-60	0-1,500	5⅞″	±0.004	±0.1	552-315-10	20575A78♠	2,104.14	_____	_____
Harsh Environment									
0- 6	0- 150	1½″	±0.001	±0.025	500-752-20	2340A11	178.04	2340A14	218.34
0- 8	0- 200	2″	±0.001	±0.025	500-753-20	2340A12	244.79	2340A15	285.09
0-12	0- 300	2½″	±0.0015	±0.04	500-754-10	2340A13	412.30	2340A16	452.60
Harsh Environment with SPC Data Output									
0- 6	0- 150	1½″	±0.001	±0.025	500-762-20	2340A25	254.76	2340A28	295.06
0- 8	0- 200	2″	±0.001	±0.025	500-763-20	2340A26	320.01	2340A29	360.31
0-12	0- 300	2½″	±0.0015	±0.04	500-764-10	2340A27	537.00	2340A31	577.30
Harsh Environment Solar Powered									
0- 6	0- 150	1½″	±0.001	±0.025	500-784	2086A85	193.37	2086A86	233.67
0- 8	0- 200	1⅞″	±0.001	±0.025	500-785	2086A87	247.57	2086A88	287.87

♠ Only takes inside and outside measurements.

Accessories and Replacement Battery

	Mitutoyo No.		
Depth Base Attachment for All 4″, 6″, 8″ Standard Calipers	050083-10	2325A45	$62.84
Depth Base Attachment for All 12″ Standard Calipers	050085-10	2325A47	73.63
Display Freeze Adapter for Standard Calipers with SPC Data Output	959143	20925A71	25.66
40″ SPC Data Output Cable for Standard Calipers with SPC Data Output	959149	20395A7	44.30
80″ SPC Data Output Cable for Standard Calipers with SPC Data Output	959150	20395A75	49.70
40″ SPC Data Output Cable for Pointed Jaw, Large-Capacity, and Harsh Environment Calipers with SPC Data Output	05CZA624	20395A81	93.90
Replacement Battery		7604K83	2.34

Caliper Depth Base Attachments

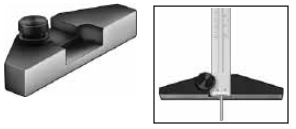

Improve depth measuring capabilities—clamp these attachments to your electronic, dial, or vernier caliper to stabilize it over wide holes. All are steel and include a screw-locking clamp. Size is ¾″ Ht. × ½″ Wd.

Fits Calipers	Base Lg.	Slot Wd.		
4″, 6″	3″	0.700″	8136A22	$33.40
4″, 6″	4″	0.700″	8136A24	40.82
12″	5″	0.865″	8136A26	55.35

Starrett Electronic Calipers



Your precision measurements stand out on the LCD. Calipers take inside, outside, and depth measurements in 0.0005″ and 0.01 mm increments. All are stainless steel and have zero-position memory, also known as absolute (ABS) positioning. A case and batteries are included.

Standard Calipers— 21335A124 only takes inside and outside measurements and does not have top jaws. Instead, it has notches on the bottom jaws to take inside measurements.

Harsh Environment Calipers— IP67 rated for dust and temporary water submersion. They have SPC data output and can be connected to a PC using an SPC data output cable (sold separately below) .

Depth base attachment secures caliper on a base for easier depth measurements. ***Certificates of calibration*** are traceable to NIST.

Range Inch	Range mm	Jaw Dp.	Accuracy Inch	Accuracy mm	Starrett No.		
Standard							
0- 6	0-150	1½″	±0.001	±0.025	EC799A-6/150	23175A92	$140.40
0- 8	0-200	2″	±0.0015	±0.04	EC799A-8/200	23175A93	198.00
0-12	0-300	2½″	±0.0015	±0.04	EC799A-12/300	23175A94	296.11
Standard with Certificate of Calibration							
0- 6	0-150	1½″	±0.001	±0.025	EC799A-6/150	23175A95	167.07
0- 8	0-200	2″	±0.0015	±0.04	EC799A-8/200	23175A96	224.67
0-24	0-600	4″	±0.002	±0.05	799AZ-24/600	21335A124	761.95
Harsh Environment with SPC Data Output							
0- 6	0-150	1½″	±0.001	±0.025	798B-6/150	2368A11	253.00
0- 8	0-200	1⅞″	±0.0015	±0.04	798B-8/200	2368A12	307.00
0-12	0-300	2½″	±0.0015	±0.04	798B-12/300	2368A13	456.00
Harsh Environment with SPC Data Output and Certificate of Calibration							
0- 6	0-150	1½″	±0.001	±0.025	798B-6/150	2368A41	277.00
0- 8	0-200	1⅞″	±0.0015	±0.04	798B-8/200	2368A42	331.00
0-12	0-300	2½″	±0.0015	±0.04	798B-12/300	2368A43	480.00
Accessories and Replacement Batteries							
Depth Base Attachment					PT22431	23175A33♥	62.93
SPC Data Output Cable (9.8 ft.)					PT63388	2368A72	158.93
Replacement Battery						7701K34	1.92

♥ Not for use with 23175A94, 21335A124, 2368A13, and 2368A43.

Brown & Sharpe Electronic Calipers



Easy to use and easy to read—these calipers have an LCD and take inside, outside, and depth measurements in 0.0005″ and 0.01 mm increments. Accuracy is ±0.001″ and ±0.025 mm. All are made of stainless steel and have zero-position memory, also known as absolute (ABS) positioning. A case and battery are included.

Harsh Environment Calipers— IP67 rated for dust and temporary water submersion. They have SPC data output and can be connected to a PC using an SPC data output cable (sold separately below).

Depth base attachment secures caliper on a base for easier depth measurements. ***Certificates of calibration*** are traceable to NIST.

Range Inch	Range mm	Jaw Dp.	Brown & Sharpe No.		
Standard					
0-6	0-150	1½″	005-900-92	20705A61	$175.84
Standard with Certificate of Calibration					
0-6	0-150	1½″	005-900-92LC	20705A63	215.84
Harsh Environment with SPC Data Output					
0-6	0-150	1½″	005-903-02	20705A81	233.11
Harsh Environment with SPC Data Output and Certificate of Calibration					
0-6	0-150	1½″	005-903-02-01LC	20705A82	268.42
Accessories and Replacement Battery					
Depth Base Attachment			05.60013	20615A75	41.00
SPC Data Output Cable (6 ft.)			04760181	20705A83	167.00
Replacement Battery				7701K34	1.92

Caliper Tip Assortment



Attach these tips to your 4″, 6″, or 8″ electronic, dial, or vernier caliper for the added versatility of measuring slots, inside pockets, shoulders, and holes. All are made of stainless steel. Assortment contains two tip bodies, four pairs of tips (flat, conical, stem, and ball end), set screws, hex key wrench, instructions, and case.

20095A31 ..... $42.40

Economy Electronic Calipers

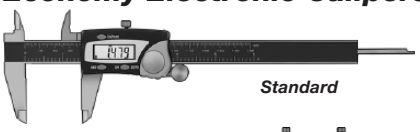

Standard

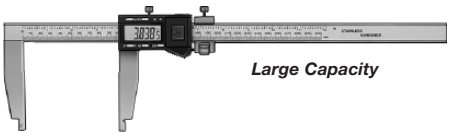

Large Capacity

Take accurate measurements at a fraction of the price of other electronic calipers. Calipers have an LCD and take inside, outside, and depth measurements in 0.0005″ and 0.01 mm increments, unless noted. All are made of stainless steel, unless otherwise stated. Include a case and two batteries.

Fraction and ***Plastic Fraction Calipers—*** Also display 1/64″ increments.

Water-Resistant Caliper— IP54 rated for dust and splashing water.

Large-Capacity Calipers— A deep jaw makes measuring large and hard-to-reach materials easier.

Range Inch	Range mm	Jaw Dp.	Accuracy Inch	Accuracy mm		
Standard						
0- 4	0- 100	1½″	±0.001	±0.025	4996A51	$82.56
0- 6	0- 150	1½″	±0.001	±0.025	4996A52	89.28
0- 8	0- 200	2″	±0.0015	±0.04	4996A53	115.20
0-12	0- 300	2⅜″	±0.0015	±0.04	4996A55	144.01
Fraction						
0- 6	0- 150	1½″	±0.001	±0.025	4996A16	29.36
0-12	0- 300	2¼″	±0.0015	±0.04	4996A18	101.00
Plastic Fraction						
0- 6	0- 150	1½″	±0.008	±0.2	4996A31	18.03
Water Resistant						
0- 6	0- 150	1½″	±0.001	±0.025	4996A54	103.45
Large Capacity						
0-12	0- 300	3½″	±0.002	±0.05	2099A1 ♠	204.22
0-24	0- 600	4″	±0.003	±0.08	2099A11 ♠	302.14
0-40	0-1,000	4⅞″	±0.004	±0.1	2099A12 ♠	712.10
Replacement Batteries						
For Standard, Plastic Fraction, Water-Resistant, and Large-Capacity Calipers					7701K34	1.92
For Fraction Calipers					7604K117	2.08

♠ Only takes inside and outside measurements.

Caliper Range Extenders



Expand your 6″ electronic, dial, or vernier caliper to measure larger items. Extenders are aluminum and come with a 6″ calibration rod. They have two pins that project ½″ when installed and act as jaws for the extension (longer pins sold separately).

If you need to drill holes in the item you are measuring, use ***centerline gauge pins*** (sold separately) to determine the center-to-center distance between holes. They are 0.620″ dia. and taper to a sharp point. Include an end block, set screw, and instructions.

Length		
26″	85635A11	$174.91
36″	85635A12	243.73
51″	85635A13	275.53
71″	85635A17	345.47
91″	85635A18	483.52
1½″ Projection Length Pins (Set of 2)	85635A16	31.79
Centerline Gauge Pins (Set of 2)	85635A2	57.62

Centerline Gauges for Calipers



Measure the center-to-center distance between two holes. Gauges attach to the jaws of your electronic, dial, or vernier caliper. They have a 60° cone shape and fit snugly into the holes. Include two stainless steel gauges, set screws, and a hex key wrench.

Fits Caliper Sizes	Slot Width	Dia.	Lg.		
4″, 6″, 8″	0.127″	0.375″	2 5/16″	20415A51	$22.78
12″	0.144″	0.500″	2¾″	20415A52	49.22

Dial Calipers

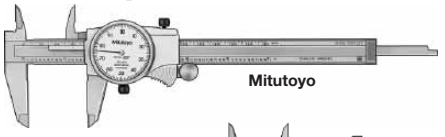





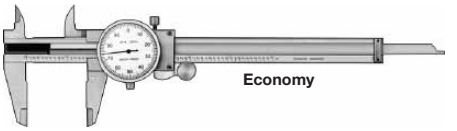

A dial lets you check your measurements at a glance. Calipers take inside, outside, depth, and step measurements. All have dials with built-in backlash control to prevent the needle from deviating. Inch calipers have a white dial face; metric calipers have a yellow dial face (unless noted). Made of stainless steel and include a case, unless otherwise stated.

Mitutoyo Calipers— Inch calipers measure in 0.001″ increments; metric in 0.025 mm increments. Accuracy is ±0.001″ for 6″, ±0.002″ for 8″ and 12″, and ±0.03 mm for 150 mm and 200 mm.

Starrett Calipers— Inch calipers measure in 0.001″ increments; metric in 0.025 mm increments. Accuracy is ±0.001″ for 6″, ±0.0015″ for 9″ and 12″, and ±0.03 mm for 150 mm. 8586A13 *and A18* require a *depth rod* (sold separately) to take depth measurements.

Brown & Sharpe Calipers— Measure in 0.001″ increments. Accuracy is ±0.001″. *Optional mahogany case* (sold separately) holds a caliper and one depth base attachment.

Economy Calipers— Inch calipers measure in 0.001″ increments; 2289A76 *and A78* also measure in 0.02 mm increments. Metric caliper measures in 0.02 mm increments. *Fraction caliper* measures in 1/64″ and 0.01″ increments and has a blue and white dial face.

Accuracy is ±0.001″ for 4″, 6″ and 8″, ±0.002″ for 12″, and ±0.03 mm for 150 mm.

Depth base attachments secure caliper on a base for easier depth measurements. ***Certificates of calibration*** are traceable to NIST.

Range	Range per Dial Rev.	Jaw Dp.	Mfr. No.		
Mitutoyo Calipers					
Standard					
0- 6″	0.100″	1½″	505-742	2325A13	$94.59
0- 6″	0.200″	1½″	505-740	2325A57	93.92
0- 8″	0.100″	1⅞″	505-743	2325A15	138.68
0- 8″	0.200″	1⅞″	505-741	2325A58	139.62
0-12″	0.100″	2½″	505-746	2325A43	241.48
0-12″	0.200″	2½″	505-749	2325A46	220.85
0-150 mm	2 mm	1½″	505-730	2325A55	93.92
0-200 mm	2 mm	1⅞″	505-731	2325A56	139.62
Standard with Choose-a-Color Dial Face—To Order: Please specify black, blue, green, orange, purple, or red.					
0- 6″	0.100″	1½″	505-742	2325A61	102.38
Standard with Certificate of Calibration					
0- 6″	0.100″	1½″	505-742	2325A17	134.89
0- 8″	0.100″	1⅞″	505-743	2325A39	178.98
0-12″	0.100″	2½″	505-746	2325A53	259.84
Standard with Abrasion-Resistant Carbide-Tipped Jaws					
0- 6″	0.100″	1½″	505-738	2325A48	157.65
0- 8″	0.100″	2″	505-737	2325A76	214.08
Starrett Calipers					
Standard					
0- 9″	0.100″	1½″	120AZ-9	8586A14	363.01
0-12″	0.100″	2½″	120Z-12	8586A13	411.01
0-150 mm	2 mm	1½″	120AM-150	8586A12	213.01
Standard with Choose-a-Color Dial Face—To Order: Please specify black, red, or white.					
0- 6″	0.100″	1½″	120A-6	8586A23	201.01

■ Dial face is black. ♠ Dial face is white.

Range	Range per Dial Rev.	Jaw Dp.	Mfr. No.		
Starrett Calipers (Cont.)					
Standard with Certificate of Calibration					
0- 6″	0.100″	1½″	120A-6	8586A17	$227.68
0-12″	0.100″	2½″	120Z-12	8586A18	437.68
Standard with Abrasion-Resistant Carbide Jaws					
0- 6″	0.100″	1½″	120X-6	8586A15	312.00
Brown & Sharpe Calipers					
Standard					
0- 6″	0.100″	1½″	599-579-4	20615A66	166.31
0- 6″	0.100″	1½″	599-579-5	20615A68 ■	166.31
Standard with Certificate of Calibration					
0- 6″	0.100″	1½″	599-579-4LC	20615A46	206.31
Economy Calipers					
Standard					
0- 4″	0.100″	1⅛″	—	2289A39	38.50
0- 4″	0.100″	1⅛″	—	2289A36 ■	38.50
0- 6″	0.100″	1½″	—	2289A45	35.83
0- 6″	0.100″	1½″	—	2289A42 ■	35.83
0- 6″ (0-150 mm)	0.100″	1½″	—	2289A76	54.10
0- 8″	0.100″	1⅞″	—	2289A91	66.58
0-12″	0.100″	2⅜″	—	2289A49	87.96
0-12″ (0-300 mm)	0.100″	2⅜″	—	2289A78	91.56
0-150 mm	2 mm	1½″	—	2289A46 ♠	37.81
Standard with Abrasion-Resistant Carbide-Tipped Jaws					
0- 6″	0.100″	1½″	—	2289A51	69.19
Fraction					
0- 6″	0.100″	1½″	—	2289A11	41.11

Accessories

	Mfr. No.		
Depth Base Attachment for 6″, 8″, 150 mm, and 200 mm Mitutoyo Calipers	050083-10	2325A45	$62.84
Depth Base Attachment for 12″ Mitutoyo Calipers	050085-10	2325A47	73.63
Depth Base Attachment for 6″, 9″, and 150 mm Starrett Calipers	PT22431	23175A33	62.93
Depth Base Attachment for Brown & Sharpe Calipers	05.60013	20615A75	41.00
Depth Rod for 12″ Starrett Calipers	PT26091	8586A95	98.37
Optional Mahogany Case for Brown & Sharpe Calipers	599-578-9999	20615A69	33.75

Plastic Dial Calipers



Lightweight yet durable. Calipers take inside, outside, depth, and step measurements.

Fraction caliper measures in 0.01″ and 1/64″ increments. Color is black with a green and white dial face.

Metric caliper measures in 0.1 mm increments. Color is black with a white dial face.

Type	Range	Range per Dial Rev.	Jaw Dp.	Accuracy		
Fraction	0-6″	1.000″	1½″	±0.001″	8588A13	$28.54
Metric	0-150 mm	10 mm	1½″	±0.0254 mm	8588A11	29.89

Holster for Dial Calipers



Keep your caliper protected and within reach. Holster is leather and includes a belt loop. Fits 6″ and 150 mm dial calipers.

3278A41 ..... $18.27

Vernier Calipers

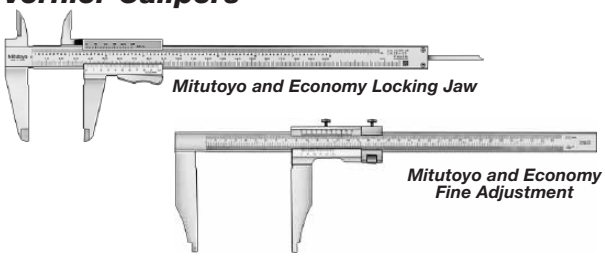

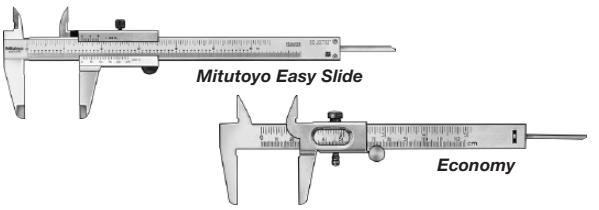

Graduations on the sliding vernier scale coupled with graduations on the main scale allow you to take precise inside, outside, and depth measurements. Calipers are graduated in 0.001″ and 0.02 mm increments. Made of stainless steel, except 2192A21 is steel.

Locking-jaw calipers move only when the thumb lock is depressed.

Easy-slide calipers have a slider knob to move the jaws.

Fine-adjustment calipers have an additional screw for finer adjustments. *Mitutoyo fine-adjustment calipers* have bottom jaws only; *economy fine-adjustment calipers* have top and bottom jaws.

Range Inch	Range mm	Jaw Dp.	Accuracy Inch	Accuracy mm	Mfr. No.		
Mitutoyo Locking Jaw							
0- 8	0- 200	1 7/8″	±0.0012	±0.03	531-129	**2064A31**	$120.39
Mitutoyo Easy Slide							
0- 6	———	1½″	±0.0015	———	530-105	**8619A68** ♣	94.34
0- 6	0- 150	1½″	±0.0012	±0.03	530-312	**8619A67**	94.34
0-12	0- 300	2½″	±0.0015	±0.04	530-119	**8619A52**	208.44
Mitutoyo Fine Adjustment							
0-18	0- 450	3 15/16″	±0.002	±0.05	160-151	**8619A81** ●	651.97
0-24	0- 600	3 15/16″	±0.002	±0.05	160-153	**8619A83** ●	1,185.38
0-40	0-1,000	5½″	±0.003	±0.07	160-155	**8619A85** ●	1,450.77

Range Inch	Range mm	Jaw Dp.	Accuracy Inch	Accuracy mm	Mfr. No.		
Economy							
0- 4¾	0-120	1⅜″	±0.0625	±0.1	———	**2192A21** ★	$10.71
Economy Locking Jaw							
0- 6	0-150	1½″	±0.0015	±0.04	———	**2272A21**	28.88
Economy Fine Adjustment							
0- 6	0-150	1 5/8″	±0.001	±0.025	———	**8619A53**	47.14
0- 8	0-200	1 7/8″	±0.0015	±0.04	———	**2272A23**	35.97
0-12	0-300	2⅜″	±0.0015	±0.04	———	**2272A24**	61.39

♣Graduated in 1/128″ and 0.001″ increments. ●Only takes inside and outside measurements. ★ Graduated in 1/16″ and 0.1 mm increments.

Slide Calipers

Move the jaw along the scale to take inside and outside measurements. Made of stainless steel.

Starrett Caliper—Has a thumb grip to open and close the jaw and a stop to prevent slide detachment. Scale is graduated in 1/32″ and 1/64″ increments on the front and 1/32″ on the back.

Economy Calipers—2287A17 is graduated in 1/32″ and 1 mm increments; 2287A21 is graduated in 1/32″ increments; 2287A22 is graduated in 1/16″ and 1 mm increments.

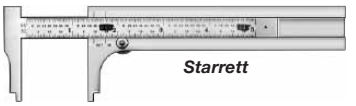



Outside Range Inch	Outside Range mm	Inside Range Inch	Inside Range mm	Jaw Dp.	Accuracy Inch	Accuracy mm	O'all Lg.	Mfr. No.	
Starrett									
0-4¾	———	¼-5	———	1⅜″	±0.006	———	6″	1025 **2062A3**	$224.00
Economy									
0-3	0- 76	3/16-3	5- 76	¾″	±0.0312	±0.8	4 5/8″	——— **2287A17**	10.72
0-4	———	3/16-4	———	1″	±0.0312	———	6″	——— **2287A21**	13.98
0-4	0-101	3/16-4	5-101	1″	±0.0625	±1.6	6″	——— **2287A22**	14.56

Large-Capacity Slide Calipers

Deep jaws are just what you need to measure pipes, poles, logs, and other items with large diameters. They take outside measurements and are made of aluminum.

Inch calipers are graduated in 0.10″ increments; metric caliper is graduated in 1 mm increments.

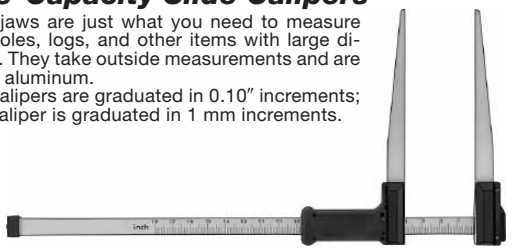

Outside Range	Jaw Dp.	Accuracy	O'all Lg.		
0-18″	11½″	±0.10″	28″	**19185A21**	$160.36
0-24″	14½″	±0.10″	34″	**19185A26**	189.88
0-30″	18″	±0.10″	40″	**19185A22**	206.28
0-50″	27½″	±0.10″	58″	**19185A24**	291.48
0-50 cm	11½″	±1 mm	28″	**19185A41**	160.36

Caliper Calibration Masters

Check your caliper's inside and outside measurements. Calibration masters work with electronic, dial, and vernier calipers. They are made of steel and come with a certificate of calibration traceable to NIST. A case is included.

Inch master is graduated in 1″ increments; metric master is graduated in 25 mm increments.



Inside Range	Outside Range	Accuracy		
½″-4½″	1″-6″	±0.0002″	**2415A33**	$629.45
12.5-112.5 mm	25-150 mm	±0.005 mm	**2415A36**	629.45

Mitutoyo SPC Miniprocessor

Process data from your Mitutoyo electronic tool with SPC data output—just connect it to this compact unit with a Mitutoyo data output cable (sold separately on page 2288).

Miniprocessor performs the following functions and prints results: Maximum and minimum values; range (R); mean ($\bar{x}$); standard deviations (σn and σn-1); number and percentage defective (±NG, P); process capability index (Cp and Cpk); histograms; displacement charts; and Go/No-Go discrimination via green and red LEDs.

In print mode, the miniprocessor will print up to 100,000 measurements; in statistical calculation mode, it'll perform and print statistical calculations on up to 9,999 measurements. Operates with included AC adapter or on four AA alkaline or rechargeable batteries (sold separately). Comes with a 157-ft. roll of printer paper. Size is 7.9″ Lg.×3.7″ Wd.×2.9″ Ht.



		Each
SPC Miniprocessor (DP-1VR)	**20815A85**	$506.00
Replacement Printer Paper (157-ft. Roll)	**20815A88**	15.20

		Pkg.
AA Alkaline Batteries (Pkg. of 4)	**6959K31**	$5.79
AA Rechargeable Batteries (Pkg. of 2)	**7685K1**	5.31

Mitutoyo Electronic Micrometers



An LCD allows quick and clear measurement readings. Micrometers measure in 0.00005″ and 0.001 mm increments. They have a cast iron frame with carbide spindle and anvil faces. Spindle and anvil are 0.250″ dia. A case and battery are included.

Standard Micrometers— Accuracy is ±0.0001″ and ±0.0025 mm.

Harsh Environment Micrometers— IP65 rated for dust and spraying water. Accuracy is ±0.00005″ and ±0.001 mm. They have zero-position memory, also known as absolute (ABS) positioning. *Micrometers with SPC data output* can be connected to a Mitutoyo miniprocessor using a data output cable (sold separately below) or to your PC using a data output cable and an input tool (sold separately on this page).

Certificates of calibration are traceable to NIST.

Range Inch	Range mm	Throat Dp.	Thimble Style	Mitutoyo No.		
Standard						
0-1	0-25	1″	Ratchet Stop	293-831-30	2097A11	$114.75
0-1	0-25	1″	Friction	293-832-30	2097A12	120.69
Standard with Certificate of Calibration						
0-1	0-25	1″	Ratchet Stop	293-831-30	2097A13	155.05
0-1	0-25	1″	Friction	293-832-30	2097A14	160.99
Harsh Environment						
0-1	0-25	1″	Ratchet	293-344-30	2054A55	158.94
0-1	0-25	1″	Ratchet Stop	293-340-30	2054A53	162.62
0-1	0-25	1″	Ratchet Stop	293-349-30	2054A65 ■●	162.62
0-1	0-25	1″	Friction	293-348-30	2054A54	162.62
1-2	25-50	1¼″	Ratchet	293-345-30	2054A52	211.16
2-3	50-75	1⅞″	Ratchet	293-346-30	2054A56	276.46
Harsh Environment with Certificate of Calibration						
0-1	0-25	1″	Ratchet	293-344-30	2054A75	199.24
0-1	0-25	1″	Ratchet Stop	293-340-30	2054A59	202.92
0-1	0-25	1″	Friction	293-348-30	2054A74	202.92
1-2	25-50	1¼″	Ratchet	293-345-30	2054A67	251.46
2-3	50-75	1⅞″	Ratchet	293-346-30	2054A68	316.76
Harsh Environment with SPC Data Output						
0-1	0-25	1″	Ratchet Stop	293-330-30	2295A5	245.27
0-1	0-25	1″	Friction	293-335-30	2295A1	245.27
1-2	25-50	1¼″	Ratchet Stop	293-331-30	2295A6	289.48
1-2	25-50	1¼″	Friction	293-336-30	2295A2	289.48
2-3	50-75	1⅞″	Ratchet Stop	293-332-30	2295A3	356.82
3-4	75-100	2⅜″	Ratchet Stop	293-333-30	2295A14 ●	384.20
4-5	100-125	3″	Ratchet Stop	293-350-30	2295A15 ■●	474.73
5-6	125-150	3½″	Ratchet Stop	293-351-30	2295A16 ■●	482.00
Harsh Environment with SPC Data Output and Certificate of Calibration						
0-1	0-25	1″	Ratchet Stop	293-330-30	2295A51	285.57
0-1	0-25	1″	Friction	293-335-30	2295A21	285.57
Accessory and Replacement Battery						
SPC Data Output Cable (40″)				05CZA662	20395A83	83.81
Replacement Battery					7604K83	2.34

■ Measures in 0.0001″ and 0.001 mm increments.

● Accuracy is ±0.0001″ and ±0.0025 mm.

Starrett Electronic Micrometers



Capture precise measurements with the ease of an LCD. Micrometers measure in 0.00005″ and 0.001 mm increments and have zero-position memory, also known as absolute (ABS) positioning. Accuracy is ±0.0001″ and ±0.002 mm. They have a steel frame with carbide spindle and anvil faces. Spindle and anvil are 0.250″ dia. A case and batteries are included.

Harsh Environment Micrometers— IP67 rated for dust and temporary water submersion.

Certificate of calibration is traceable to NIST.

Range Inch	Range mm	Throat Dp.	Thimble Style	Starrett No.		
Standard						
0-1	0-25	1″	Friction	3732XFL-1	85965A85	$126.00
Standard with Certificate of Calibration						
0-1	0-25	1″	Friction	3732XFL-1	85965A95	150.00
Harsh Environment						
0-1	0-25	1″	Ratchet	796.1XRL-1	85965A84	169.42
0-1	0-25	1″	Friction	796.1XFL-1	85965A81	169.42
Replacement Battery					7701K34	1.92

Economy Micrometers





Electronic Micrometers— Measure in 0.00005″ and 0.001 mm increments. Spindle and anvil faces are carbide and 0.250″ dia. A case and battery are included.

Standard micrometer has a steel frame.

Harsh environment micrometers are IP54 rated for dust and splashing water. Frame is hardened brushed steel.

Nonelectronic Micrometers— Thimble is graduated in 0.0001″ increments. They have a steel frame with carbide spindle and anvil faces. Spindle and anvil are 0.250″ dia. A case is included.

Nonelectronic Sets— Case is included. *3-piece set* contains one each of 0-3″ range micrometers with a round frame; *6-piece set* contains one each of all the nonelectronic micrometers.

Range Inch	Range mm	Throat Dp.	Thimble Style	Accuracy		
Electronic						
Standard						
0-1	0-25	¾″	Ratchet	±0.00016″	2091A21	$96.63
Harsh Environment						
0-1	0-25	¾″	Ratchet	±0.00016″	2091A5	120.89
1-2	25-50	1⅛″	Ratchet	±0.00016″	2091A6	143.30
Nonelectronic						
Standard						
0-1	———	1″	Ratchet	±0.00016″	2114A41	30.57
1-2	———	1¼″	Ratchet	±0.00016″	2114A42	36.07
2-3	———	1¾″	Ratchet	±0.00020″	2114A43	45.52
3-4	———	2¼″	Ratchet	±0.00020″	2114A44	48.33
4-5	———	2¾″	Ratchet	±0.00024″	2114A45	56.07
5-6	———	3¼″	Ratchet	±0.00024″	2114A46	66.00
3-Piece Nonelectronic Set					2114A47	89.95
6-Piece Nonelectronic Set					2114A48	197.62

Mitutoyo Data Input Tools







Transmit data from your Mitutoyo electronic tool with SPC data output to your PC. A data output cable (sold separately on this page) is required to connect your Mitutoyo measuring tool to the input tool.

Data input tools with PS/2 or ***USB connector*** allow you to import data into spreadsheet programs such as Microsoft Excel.

Data input tool with RS-232C connector lets you import data into SPC software such as MeasurLink. Has a D-subminiature 9-pin female connector for PCs with RS-232C interface.

Data Input Tool with PS/2 Connector	1825A11	$138.00
Data Input Tool with USB Connector	1825A14	197.00
Data Input Tool with RS-232C Connector	1825A12	278.00

Mitutoyo and Starrett Data Output Cables

Mitutoyo— Cables connect Mitutoyo electronic tools with SPC data output to Mitutoyo SPC data output miniprocessors and Pocket PCs.

40″ Length Mitutoyo No.			*80″ Length* Mitutoyo No.		
905338	20395A67	$40.05	905409	20395A71	$47.75
905689	20395A41	38.80	905690	20395A47	46.45
936937	20395A66	47.85	959150	20395A75	49.70
937387	20395A68	50.85	965013	20395A74	60.10
959149	20395A7	44.30	965014	20395A72	53.10
05CZA624	20395A81 ★	93.90	05CZA625	20395A82 ★	95.35
05CZA662	20395A83 ★	83.81			

★ For use with harsh environment tools only.

Starrett— Cable connects Starrett electronic tools with SPC data output to 761/772 series Starrett modules and PT61768 interface data processors.

Starrett No.	*10-ft. Length*	
PT22938	8602A68	$59.73

Starrett Micrometers





Micrometers have a steel frame with carbide spindle and anvil faces. A case is included, except for Starrett No. T232XRL.

Series 436 Micrometers— Spindle and anvil are 0.250″ dia.

Also Available: Starrett No. T436XRL micrometers with ranges up to 12″. Frame is cast iron. Spindle and anvil are 0.300″ dia. They do not include case. To order, please ask for 2044A8 and specify range: 6-7″, 7-8″, 8-9″, 9-10″, 10-11″, or 11-12″.

Series 232 and 230 Micrometers— Spindle and anvil are 0.235″ dia., except Starrett No. T232XRL, which is 0.200″ dia. All 1″ micrometers also have decimal equivalents on the frame.

Micrometer Sets— Include Series 436 micrometers with ratchet thimble and a case.

Certificates of calibration are traceable to NIST.

Range	Graduations	Throat Dp.	Accuracy	Starrett No.		
Series 436 Micrometers						
With Ratchet Thimble						
0-1″	0.001″	1″	±0.001″	436.1XRL-1	2044A44	$134.00
0-1″	0.0001″	1″	±0.00005″	T436.1XRL-1	2044A88	137.01
1-2″	0.001″	1½″	±0.001″	436.1XRL-2	2044A45	160.00
1-2″	0.0001″	1½″	±0.00005″	T436.1XRL-2	2044A89	167.01
2-3″	0.001″	2″	±0.001″	436.1XRL-3	2044A46	199.87
2-3″	0.0001″	2″	±0.00005″	T436.1XRL-3	2044A91	207.01
3-4″	0.001″	2½″	±0.00015″	436.1XRL-4	2044A47	220.00
4-5″	0.001″	3″	±0.00015″	436.1XRL-5	2044A48	240.00
5-6″	0.001″	3½″	±0.00015″	436.1XRL-6	2044A49	260.00
With Ratchet Thimble and Certificate of Calibration						
0-1″	0.001″	1″	±0.00005″	436.1XRL-1	2044A141	160.67
0-1″	0.0001″	1″	±0.00005″	T436.1XRL-1	2044A361	163.68
1-2″	0.0001″	1½″	±0.00005″	T436.1XRL-2	2044A371	193.68
2-3″	0.0001″	2″	±0.00005″	T436.1XRL-3	2044A152	233.68
With Friction Thimble						
0-1″	0.0001″	1″	±0.00005″	T436.1XFL-1	2044A991	137.01
1-2″	0.0001″	1½″	±0.00005″	T436.1XFL-2	2044A992	167.01
2-3″	0.0001″	2″	±0.00005″	T436.1XFL-3	2044A993	207.01
With Friction Thimble and Certificate of Calibration						
0-1″	0.0001″	1″	±0.00005″	T436.1XFL-1	2044A362	163.68
1-2″	0.0001″	1½″	±0.00005″	T436.1XFL-2	2044A372	193.68
2-3″	0.0001″	2″	±0.00005″	T436.1XFL-3	2044A151	233.68
Series 232 and 230 Micrometers						
With Ratchet Thimble						
0-½″	0.0001″	5/8″	±0.00005″	T232XRL	21075A263	214.00
0-1″	0.0001″	1″	±0.00005″	T230XRL	8601A13	222.00
With Ratchet Thimble and Certificate of Calibration						
0-1″	0.0001″	1″	±0.00005″	T230XRL	8601A512	248.67
With Friction Thimble						
0-1″	0.0001″	1″	±0.00005″	T230XFL	8601A21	222.00
With Friction Thimble and Certificate of Calibration						
0-1″	0.0001″	1″	±0.00005″	T230XFL	8601A511	248.67

Micrometer Sets

Range	No. of Micrometers	Graduations	Starrett No.		
0- 3″	3	0.0001″	ST436.1AXRLZ	2044A424	$593.01
0- 6″	6	0.0001″	ST436.1CXRLZ	2044A425	1,444.00
0-12″	12	0.0001″	ST436EXRLZ	2044A426	3,982.00

Holster for Micrometers

Keep your micrometer protected and close at hand. Holster is leather and has a belt loop. Fits 1″ and 25 mm micrometers.



21145A21 ..... $16.31

Micrometer Stand

Put your micrometer in a stand to make inspection easier. Position and angle are adjustable. Clamp holds a micrometer up to 3/4″ thick and has a rubber face to prevent marring. Made of cast iron with a rubber bottom to prevent movement.



2312A16 ..... $27.53

Brown & Sharpe Micrometers



Two thimble styles in one tool—reversible thimble sleeves let you convert these micrometers from plain thimble to friction thimble. Frame is chrome and has decimal equivalents. Spindle and anvil have carbide faces and are 0.250″ dia.

Brown & Sharpe No. 599-1-31 also has slanted graduations that remain visible through a complete revolution of the thimble.

Range	Graduations	Throat Dp.	Accuracy	Brown & Sharpe No.		
0-1″	0.0001″	1″	±0.00016″	599-1-31	2053A1	$220.00
0-1″	0.0001″	1″	±0.00016″	599-1-32	2053A4	222.00

Micrometers with Counter







A mechanical digital counter simplifies measurement readings. The counter displays in 0.001″ increments. Spindle and anvil have carbide faces and are 0.250″ dia., except Starrett No. 216P-1, which has steel faces. A case is included.

Mitutoyo Series 193 Micrometers— Frame is cast iron.

Starrett Series 216 and ***Economy Micrometers—*** Frame is steel.

Certificates of calibration are traceable to NIST.

Range	Graduations	Throat Dp.	Accuracy	Mfr. No.		
Mitutoyo Series 193 Micrometers						
With Friction Thimble						
0-1″	0.0001″	1″	±0.0001″	193-211	2041A12	$174.84
1-2″	0.0001″	1¼″	±0.0001″	193-212	2041A14	206.71
With Friction Thimble and Certificate of Calibration						
0-1″	0.0001″	1″	±0.0001″	193-211	2041A22	215.14
Starrett Series 216 Micrometers						
With Ratchet Thimble						
0-1″	0.001″	1″	±0.0001″	216XRL-1	8585A52	255.01
0-1″	0.0001″	1″	±0.00005″	T216XRL-1	8585A51	258.00
With Ratchet Thimble and Certificate of Calibration						
0-1″	0.001″	1″	±0.0001″	216XRL-1	8585A611	281.68
With Friction Thimble						
0-1″	0.001″	1″	±0.0001″	216XFL-1	8585A12	255.01
0-1″	0.0001″	1″	±0.00005″	T216XFL-1	8585A11	258.00
With Friction Thimble and Certificate of Calibration						
0-1″	0.001″	1″	±0.0001″	216XFL-1	8585A612	281.68
With Plain Thimble						
0-1″	0.001″	1″	±0.0001″	216P-1	8585A13	245.01
Economy Micrometers						
With Ratchet Thimble						
0-1″	0.0001″	7/8″	±0.00016″	———	2115A1	52.63
1-2″	0.0001″	1⅛″	±0.00016″	———	2115A2	59.45
2-3″	0.0001″	1⅝″	±0.00016″	———	2115A3	73.39
3-4″	0.0001″	2⅛″	±0.00016″	———	2115A4	86.80

Starrett Calibration Rods



Also known as calibration standards, these rods let you check and set the calibration of micrometers and other measuring tools. They include insulated plastic handles to minimize heat expansion. All are Starrett Series 234.

Also Available: Calibration rods with a certificate of calibration traceable to NIST. Please ask for 8570A26 and specify length.

Lg.	Dia.		
1″	¼″	8570A11	$28.00
2″	¼″	8570A12	31.50
3″	¼″	8570A13	33.50
4″	¼″	8570A14	37.50
5″	¼″	8570A15	41.01
6″	¼″	8570A16	47.50

Mitutoyo Micrometers


Series 101


Series 103 with Friction Thimble

Quickly get easy-to-read measurements. Spindle and anvil have carbide faces and are 0.250″ dia. A case is included.

Series 101 micrometers have a steel frame. Certificate of calibration is traceable to NIST. ***Series 103 micrometers*** have a cast iron frame.

Micrometer Sets— Contain Series 103 micrometers with ratchet thimble, except 0-1″ and 1″-2″ sizes have a friction thimble. A case is included.

Range	Graduations	Throat Dp.	Accuracy	Mitutoyo No.		
Series 101 Micrometers						
With Ratchet Thimble						
0-1″	0.0001″	1″	±0.0001″	101-113	**85185A52**	$145.55
1-2″	0.0001″	1¼″	±0.0001″	101-114	**85185A56**	146.23
2-3″	0.0001″	1¾″	±0.0001″	101-119	**85185A54**	167.15
With Ratchet Thimble and Certificate of Calibration						
0-1″	0.0001″	1.10″	±0.0001″	101-113	**85185A41**	185.85
Series 103 Micrometers						
With Ratchet Thimble						
0-1″	0.001″	1	±0.0001″	103-259	**85205A61**	97.93
1-2″	0.0001″	1½″	±0.0001″	103-262	**85205A64**	123.98
2-3″	0.001″	1⅞″	±0.0001″	103-179	**85205A65**	131.17
2-3″	0.0001″	1⅞″	±0.0001″	103-217	**85205A66**	138.36
3-4″	0.0001″	2⅜″	±0.00015″	103-218	**85205A68**	159.02
4-5″	0.0001″	3″	±0.00015″	103-219	**85205A73**	172.50
5-6″	0.0001″	3¾″	±0.00015″	103-220	**85205A74**	191.37
0-25 mm	0.01 mm	1″	±0.002 mm	103-137	**85205A69**	97.93
With Friction Thimble						
0-1″	0.0001″	1″	±0.0001″	103-135	**85205A75**	106.91

Micrometer Sets

Range	No. of Micrometers	Graduations	Mitutoyo No.		
0-3″	3	0.0001″	103-922	**85205A71**	$387.23
0-6″	6	0.0001″	103-907-40	**85205A72**	787.03

Precision Measuring Tool Sets

Electronic Tool Sets

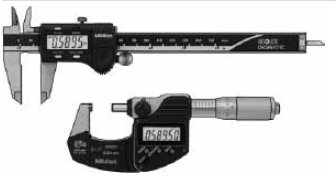
Mitutoyo Tool Set

Sets include a caliper, a micrometer, batteries, and a case. All have zero-position memory, also known as absolute (ABS) positioning.

Caliper takes inside, outside, and depth measurements. Range is 0-6″ and 0-150 mm. Measures in 0.0005″ and 0.01 mm increments.

Micrometer has a range of 0-1″ and 0-25 mm. Measures in 0.00005″ and 0.001 mm increments.

	Micrometer Thimble Style	Mfr. No.		
Mitutoyo	Ratchet	64PKA076B	**20765A242**	$338.19
Mitutoyo	Friction	64PKA077B	**20765A241**	338.19
Starrett	Friction	S766AZ	**23205A15**	344.00
Economy	Friction	———	**2111A5**	207.70

Nonelectronic Tool Sets

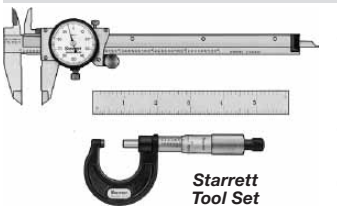
Starrett Tool Set

Sets include a dial caliper, a micrometer, a 6″ long rule, and a case.

Dial caliper takes inside, outside, and depth measurements. Range is 0-6″. Dial is graduated in 0.001″ increments.

Micrometer has a range of 0-1″. It has a friction thimble graduated in 0.0001″ increments, except Starrett has a ratchet thimble.

	Rule Graduations, Inch	Mfr. No.		
Mitutoyo	10ths, 32nds, 50ths, 64ths	64PKA068A	**3272A56**	$279.41
Starrett	8ths, 16ths, 32nds, 64ths	S909Z	**2296A46**	410.00
Economy	10ths, 32nds, 64ths,100ths	———	**2084A44**	86.66

Tips for Micrometers

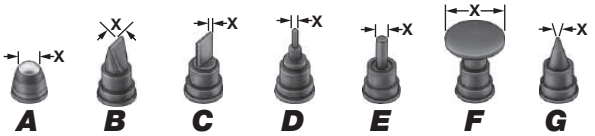

Turn your micrometer into a specialty micrometer capable of measuring slots, grooves, holes, angles, cylindrical walls, and other surfaces. Each tip comes with a 0.28″ long rubber holding device that fits 0.235″ and 0.250″ spindle and anvil diameters.

Style A ball (inch) tip also fits 0.270″ spindle and anvil diameter; *Style A ball (metric)* tip also fits 0.270″ and 6 to 7 mm spindle and anvil diameter. Both include two balls.

		Tip Size (X)	Lg.		
A	Ball (Inch)	0.200″ Dia.	0.20″	**2313A11**	$4.13
A	Ball (Metric)	5 mm Dia.	0.20″	**2313A12**	5.56
B	Knife	30°	0.50″	**2313A13**	15.91
C	Blade	0.030″ Thick	0.50″	**2313A17**	15.91
D	Spline	0.050″ Dia.	0.50″	**2313A14**	15.91
E	Spline	0.100″ Dia.	0.50″	**2313A18**	15.91
F	Disc	0.500″ Dia.	0.50″	**2313A15**	16.74
G	Cone	30°	0.50″	**2313A16**	15.91

8-Piece Tip Kit— Includes the following tips listed above and a case: two of Style A ball (inch) tip and one each of Styles B-G.
2313A21 ..... $52.09

Mitutoyo Long-Reach Micrometers

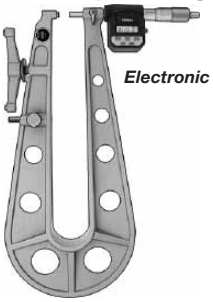
Electronic


Nonelectronic

An extra-deep throat gives you a longer reach for measuring sheet metal and other large items. Micrometers have a ratchet thimble and cast iron frame with carbide spindle and anvil faces. All include a case.

Micrometers with a 13″ throat depth have a 0.31″ dia. spindle and anvil. Micrometers with a 6″ throat depth have a 0.25″ dia. spindle and anvil.

Electronic Micrometers— Have an easy-to-read LCD and zero-position memory, also known as absolute (ABS) positioning. Battery is included.

They also have SPC data output so you can connect them to a Mitutoyo miniprocessor (sold separately on page 2287) using an SPC data output cable (sold separately below), or to your PC using an SPC data output cable and an input tool (sold separately on page 2288).

Harsh environment micrometer is IP65 rated for dust and direct water splash.

Throat Dp.	Range Inch	Range mm	Graduations Inch	Graduations mm	Accuracy Inch	Accuracy mm	Micrometers Mitutoyo No.			SPC Data Output Cables Mitutoyo No.		
Electronic with SPC Data Output												
13″	0-1	0-25	0.001	0.025	±0.00025	±0.006	389-714	**20585A69**	$823.03	959149	**20395A7**	$44.30
Electronic Harsh Environment with SPC Data Output												
6″	0-1	0-25	0.001	0.025	±0.0002	±0.005	389-351-30	**20585A76**	479.00	05CZA662	**20395A83**	83.81
Nonelectronic												
6″	0-1	———	0.0001	———	±0.0002	———	118-129	**2304A11**	215.62	———	———	———
13″	0-1	———	0.001	———	±0.00025	———	118-107	**2304A12**	357.58	———	———	———

Replacement Battery for Electronic Micrometers ..... **7604K83** $2.34

Mitutoyo and Starrett Wide-Range Micrometers

Change out the anvil to increase the micrometer's range. All micrometers have a ratchet thimble and a cast iron frame. A case, measuring rod, and wrench are included.

Mitutoyo Electronic Harsh Environment Micrometers— Have an LCD and zero-position memory, also known as absolute (ABS) positioning. They also have SPC data output so you can connect them to a Mitutoyo miniprocessor (sold separately on page 2287) using an SPC data output cable and an input tool (sold separately on page 2288). Spindle and anvil have carbide faces and are 0.250″ dia. A battery is included. All are IP65 rated to protect from dust and direct water splash.

0-6″ micrometer measures in 0.00005″ and 0.001 mm increments; *6″-12″* micrometer in 0.0001″ and 0.001 mm increments.

Starrett Nonelectronic Micrometers— Graduated in 0.001″ and 0.03 mm increments. Spindle and anvil have steel faces and are 0.300″ dia.

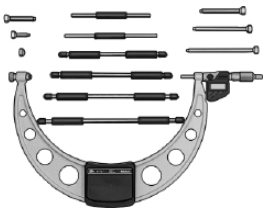

Mitutoyo Electronic

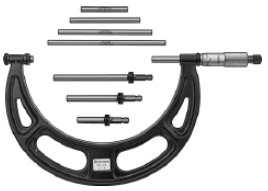

Starrett Nonelectronic

Range Inch	Range mm	Throat Dp.	Accuracy Inch	Accuracy mm	Mfr. No.		
Mitutoyo Electronic Harsh Environment with SPC Data Output							
0- 6	0-152	3½″	±0.0003	±0.008	340-351-30	20605A1	$681.52
6-12	152-305	6½″	±0.0004	±0.01	340-352-30	20605A2	881.97
Starrett Nonelectronic							
0- 4	———	2½″	±0.00015	———	224AARLZ	8597A31	461.01
2- 6	———	3½″	±0.00015	———	224ARLZ	8597A32	507.01
6- 9	———	5″	±0.00015	———	224.1BRLZ	8597A33	673.01
6-12	———	6½″	±0.00025	———	224.1GRLZ	8597A34	1,003.01
9-12	———	6½″	±0.00025	———	224.1CRLZ	8597A35	762.00
12-16	———	8½″	±0.0003	———	224.1DRLZ	8597A36	945.01
16-20	———	10½″	±0.0003	———	224.1ERLZ	8597A37	1,172.00
20-24	———	12½″	±0.0003	———	224.1JRLZ	8597A38	1,381.01
SPC Data Output Cable (40″ Long)					05CZA662	20395A83	83.81
Replacement Battery for Electronic Micrometers						7604K83	2.34

Micrometer Check Gauge

Check for out-of-parallel anvils and determine other wear on your 1″ micrometer. Gauge is steel and has nine steps that measure from 0.140″ to 0.964″. Sizes correspond to a 45° turn of a micrometer's lead screw. Each step is accurate to ±0.0001″. Overall length is 2 13/16″. A case and certificate of calibration traceable to NIST are included.



8564A12 ..... $317.45

Mitutoyo and Starrett Micrometer Heads









Use these micrometer heads with special equipment, such as jigs/fixtures, machine tools, and equipment with movable tables, where precise movement and adjustments are required. Heads are held in place by the cylindrical mounting hub using your existing brackets or fixtures. Spindle length listed is the maximum extended distance when micrometer is set at zero. *Nonrotating* spindles are ideal for delicate and high-accuracy applications.

Electronic Micrometer Heads— Have an LCD and zero-position memory, also known as absolute (ABS) positioning. They also have SPC data output so they can be connected to a Mitutoyo miniprocessor (sold separately on page 2287) using an SPC data output cable (sold separately below), or to your PC using an SPC data output cable and an input tool (sold separately on page 2288). They display in 0.00005″ and 0.001 mm increments. Spindle face is carbide. Battery is included.

8283A22 and *A23* have a mounting-hub hold-down nut for extra support.

Nonelectronic Micrometer Heads— Have a steel spindle face.

Style C inch heads are graduated in 0.001″ increments. Metric heads are graduated in 0.01 mm.

Style D have a mechanical digital counter that displays in 0.001″ increments. Thimble is graduated in 0.001″ increments.

	Range Inch	Range mm	Thimble	Spindle	Spindle Face	Accuracy Inch	Accuracy mm	Approx. O'all Lg.	Mounting Hub Dia.	Mounting Hub Lg.	Spindle Dia.	Spindle Lg.	Mfr. No.		
Mitutoyo Electronic															
A	0-1	0-25	Ratchet	Rotating	Flat	±0.0001	±0.0025	6 5/32″	0.375″	0.59″	0.250″	1.06″	350-351-30	8283A21	$311.00
A	0-1	0-25	Ratchet	Rotating	Flat	±0.0001	±0.0025	6 5/32″	0.375″	0.59″	0.250″	1.06″	350-352-30	8283A22	323.01
A	0-1	0-25	Ratchet	Rotating	Rounded	±0.0001	±0.0025	6 5/32″	0.375″	0.59″	0.250″	1.06″	350-354-30	8283A23	349.00
B	0-2	0-50	Plain	Nonrotating	Flat	±0.00015	±0.003	6 1 1/16″	0.709″	0.55″	0.433″	2″	164-164	19705A91	855.62
Mitutoyo Nonelectronic															
C	0-0.25	———	Plain	Rotating	Flat	±0.0002	———	1½″	0.250″	0.236″	0.138″	0.354″	148-202	19725A61	59.23
C	0-0.5	———	Plain	Rotating	Flat	±0.0001	———	2 13/16″	0.375″	0.375″	0.197″	0.61″	148-502	19725A62	61.46
Starrett Nonelectronic															
C	0-0.5	———	Plain	Rotating	Flat	±0.0001	———	2⅝″	0.375″	0.375″	0.200″	0.75″	463P	8578A65	82.00
C	0-0.5	———	Plain	Rotating	Flat	±0.0001	———	2⅝″	0.375″	0.375″	0.200″	0.75″	463L	8578A66	90.00
C	0-0.5	———	Ratchet	Rotating	Flat	±0.0001	———	3⅜″	0.375″	0.375″	0.200″	0.75″	463RL	8578A21	96.00
C	0-0.5	———	Plain	Nonrotating	Flat	±0.0001	———	3 7/16″	0.375″	0.375″	0.200″	0.75″	261L	8578A11	193.01
C	0-1	———	Plain	Rotating	Flat	±0.0001	———	4⅛″	0.500″	0.75″	0.235″	1.25″	263P	8578A68	90.00
C	0-1	———	Plain	Rotating	Flat	±0.0001	———	4⅛″	0.500″	0.75″	0.235″	1.25″	263L	8578A69	96.00
C	0-1	———	Ratchet	Rotating	Flat	±0.0001	———	4 15/16″	0.500″	0.75″	0.235″	1.25″	263RL	8578A22	99.97
C	0-1	———	Ratchet	Nonrotating	Flat	±0.0001	———	5½″	0.500″	0.75″	0.235″	1.25″	262RL	8578A12	212.00
C	———	0-13	Plain	Rotating	Flat	———	±0.002	2″	0.236″	0.234″	0.138″	0.625″	460MB	8578A16	97.01
C	———	0-13	Plain	Rotating	Flat	———	±0.002	2⅝″	0.375″	0.375″	0.200″	0.75″	463MP	8578A67	82.00
D	0-1	———	Plain	Rotating	Flat	±0.0001	———	5⅞″	0.500″	0.75″	0.250″	1.25″	363L	8578A18	244.00
D	0-1	———	Ratchet	Rotating	Flat	±0.0001	———	5⅞″	0.500″	0.75″	0.250″	1.25″	363RL	8578A31	248.00
Accessories and Replacement Battery for Mitutoyo Electronic Heads															
SPC Data Output Cable (40″ Long) for 8283A21, A22, and A23													05CZA662	20395A83	83.81
SPC Data Output Cable (40″ Long) for 19705A91													959149	20395A7	44.30
Replacement Battery														7604K83	2.34

Specialty Micrometers from Mitutoyo and Starrett

Range Inch	Range mm	Mfr. No.		
Mitutoyo				
Disc	0-1	___	223-125	**8655A11** $282.55
Disc	0-1	0-25	323-350-30	**20485A88** 499.00
Point (15°)	0-1	___	142-177	**8653A11** 260.55
Point (15°)	0-1	0-25	342-351-30	**19585A64** 486.28
Point (30°)	0-1	___	112-225	**8653A32** 152.97
Point (30°)	0-1	___	142-225	**8653A12** 212.93
Point (30°)	0-1	0-25	342-361-30	**19585A63** 474.73
Rounded Anvil	0-1	___	295-153	**8654A11** 193.16
Mitutoyo (Cont.)				
Rounded Anvil and Spindle	0-1	___	295-253	**8654A12** $201.25
Rounded Anvil and Spindle	0-1	0-25	395-371-30	**2339A4** 410.00
Starrett				
Mul-T-Anvil	0-1	___	220XFL-1	**8575A61** 274.00
Screw Thread Comparator	0- 7/8	___	210AP	**8594A46** 171.01
Disc	0-1	___	256RL-1	**8603A61** 329.01
Rounded Anvil	0- 1/2	___	576XR	**8576A11** 220.00
Rounded Anvil	0-1	___	577XP	**8576A12** 237.01

Mitutoyo Electronic Pocket Thickness Gauges



Do quick thickness checks on paper, film, and other flat stock. Push the thumb button to operate. Gauges have an LCD and measure in 0.0005″ and 0.01 mm increments. Accuracy is ±0.001″. Spindle and anvil faces are steel. Include a battery and case.

Certificate of calibration is traceable to NIST.

Range Inch	Range mm	Throat Dp.	Mitutoyo No.		
Standard					
0-0.5	0-12.7	3/4″	700-118-20	**2104A1**	$105.10
Standard with Certificate of Calibration					
0-0.5	0-12.7	3/4″	700-118-20	**2104A8**	145.40
Replacement Battery				**7604K83**	2.34

Mitutoyo Electronic Thickness Gauges



A



B ***Flat Anvil Face***



B ***Ball Anvil Face***



C

An LCD gives you instant readings. Gauges measure in 0.0005″ and 0.01 mm increments, except for Style A, which measures in increments selectable between 0.00005″, 0.0001″, 0.0005″, 0.001 mm, and 0.01 mm. They have zero-position memory, also known as absolute (ABS) positioning. They also have SPC data output so you can connect them to a Mitutoyo miniprocessor (sold separately on page 2287) using an SPC data output cable (sold separately below), or to your PC using an SPC data output cable and an input tool (sold separately on page 2288). A battery is included.

Flat anvil faces measure paper and other flat stock. Spindle and anvil faces are ceramic, except for Style A, which has carbide faces.

Ball anvil face measures wall thickness of pipes, tubes, and other cylindrical shapes. Spindle and anvil faces are steel.

Certificates of calibration are traceable to NIST.

	Range Inch	Range mm	Anvil Face	Anvil Dia.	Throat Dp.	Accuracy	Mitutoyo No.	*Without Certificate of Calibration*		*With Certificate of Calibration*	
A	0-0.5	0-12.7	Flat	0.25″	3/4″	±0.00015″	547-400S	**20955A16**	$773.69	___	___
B	0-0.5	0-12.7	Flat	0.4″	1 1/8″	±0.001″	547-500S	**20955A11**	289.46	**20955A15**	$329.76
B	0-0.5	0-12.7	Ball	0.14″	3/4″	±0.001″	547-561S	**20955A14**	282.00	___	___
C	0-0.5	0-12.7	Flat	0.4″	4 3/4″	±0.001″	547-520S	**20955A12**	312.61	**20955A8**	352.91
40″ SPC Data Output Cable (Mitutoyo No. 905338)										**20395A67**	40.05
Replacement Battery										**7604K83**	2.34

Dial Thickness Gauges



Mitutoyo Loop Handle



Starrett Pocket



Economy

Glance at the dial to check thickness measurements. A case is included. *Inch* dial faces are white; *metric* dial faces are yellow.

Mitutoyo loop-handle gauges have a comfortable hand grip with a thumb lever that raises the spindle.

Starrett pocket gauges fit between your thumb and index finger. Pull the serrated finger slide to raise the spindle.

Economy gauge operates with a serrated finger slide that raises the spindle.

Certificates of calibration are traceable to NIST.

Range	Graduations	Range per Dial Rev.	Throat Dp.	Accuracy	Mfr. No.	*Without Certificate of Calibration*		*With Certificate of Calibration*	
Mitutoyo Loop Handle									
0-0.05″	0.0001″	0- 10	1 1/8″	±0.0002″	7326S	**2102A3**	$197.66	**2102A9**	$237.96
0-0.5″	0.001″	0-100	1 1/8″	±0.001″	7300S	**2102A1**	119.49	**2102A5**	159.79
0-1″	0.001″	0-100	1 1/8″	±0.002″	7304S	**2102A2**	143.75	**2102A6**	184.05
0-10 mm	0.01 mm	0-100	1 1/8″	±0.015 mm	7301	**2102A4**	115.90	___	___
Starrett Pocket									
0-0.375″	0.0005″	0- 50	5/16″	±0.0005″	1010EZ	**2095A2**	343.01	**2095A8**	369.68
0-0.375″	0.001″	0-100	5/16″	±0.001″	1010Z	**2095A1**	323.01	**2095A6**	349.68
Economy									
0-0.5″	0.001″	0-100	1/2″	±0.001″	___	**19795A31**	63.93	___	___

Starrett Inside Hole Micrometers



Series 823



Series 124

Find the inside diameter of cylinders and rings, as well as the distance between two surfaces. Micrometers measure in 0.001″ increments. Accuracy is ±0.0001″. They have a plain thimble and steel measuring faces. A case is included.

***Series 823*—** Have lightweight 3/8″ dia. tubular steel extensions that attach at each end of the micrometer head.

Starrett Nos. 823AZ, 823BZ, and *823FZ* include a 5 1/2″ long handle.

***Series 124*—** Have solid steel extensions with individual length adjustment. *Starrett Nos. 124AZ* and *124BZ* have 1/4″ dia. extensions; *Starrett No. 124DZ* has 1/4″ dia. and 11/32″ dia. extensions; and *Starrett No. 124CZ* has 11/32″ dia. extensions.

Range	No. of Heads	Head Travel	No. of Extensions	Starrett No.		
Series 823						
1 1/2″- 8″	1	1/2″	5	823AZ	2049A1	$313.54
1 1/2″-12″	1	1/2″	8	823BZ	2049A2	383.43
1 1/2″-32″	2	1/2″, 1″	10	823FZ	2049A6	735.01
4″ -24″	1	1″	7	823CZ	2049A3	483.28
4″ -32″	1	1″	8	823DZ	2049A4	535.21
4″ -40″	1	1″	10	823EZ	2049A5	592.13
Series 124						
2″ - 8″	1	1/2″	6	124AZ	2048A1	261.01
2″ -12″	1	1/2″	10	124BZ	2048A2	318.00
2″ -32″	2	1/2″, 1″	10	124DZ	2048A4	821.01
8″ -32″	1	1″	4	124CZ	2048A3	578.00

***Optional 6 1/2″ Handle*—** For Starrett Nos. 124AZ, 124BZ, and 124DZ.

2048A8 ..... $13.50

Inside Hole Dial Calipers



With short, narrow contacts, these calipers have no problem measuring shallow recesses. Push the button to close the arms and release to obtain the diameter. Inch calipers measure in 0.001″ increments; metric in 0.025 mm increments. Bezel rotates to set zero anywhere on the dial and has a lock screw. Dial face is white. Arms are 3 1/4″ long and have carbide measuring points.

Range	Accuracy		
0.375″-1.375″	±0.001″	8631A61	$140.07
0.750″-1.750″	±0.001″	8631A62	156.65
1.125″-2.125″	±0.001″	8631A63	173.52
1.500″-2.500″	±0.001″	8631A64	189.02
10-35 mm	±0.025 mm	8631A72	151.28

Telescoping Hole Gauges

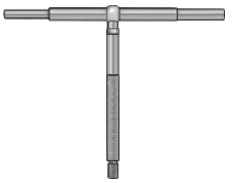

Spring tension forces two telescoping steel contacts to expand inside the hole and a screw in the handle locks the contacts. To determine hole size, measure the distance across the locked contacts with a micrometer (not included).

Sets include a pouch.

Starrett gauges are steel.

Economy gauge sets are chrome-plated brass and steel.

Range	Handle Lg.	Starrett No.		
Starrett Gauges				
5/16″- 1/2″	2 7/8″	579A	2081A6	$33.50
1/2″ - 3/4″	2 7/8″	579B	2081A1	35.50
3/4″ -1 1/4″	2 7/8″	579C	2081A2	36.50
1 1/4″ -2 1/8″	2 7/8″	579D	2081A3	37.50
2 1/8″ -3 1/2″	2 7/8″	579E	2081A4	48.00
3 1/2″ -6″	4″	579F	2081A5	61.01
Starrett Gauge Sets				
5/16″-2 1/8″ (4 Gauges)	—	S579GZ	2081A8	152.00
5/16″-6″ (6 Gauges)	—	S579HZ	2081A9	264.00
Economy Gauge Sets				
5/16″-2 1/8″ (4 Gauges)	—	_____	6743A37	68.02
5/16″-6″ (6 Gauges)	—	_____	6743A38	91.15

Brown & Sharpe Intrimik Hole Gauges



Read measurements directly from these gauges without the need for a micrometer. Three evenly spaced steel contacts ensure proper centering. Gauges have a ratchet thimble and measure in 0.0002″ increments. Also known as bore gauges.

Range	Meas. Dp.	Accuracy	Brown & Sharpe No.		
0.275″-0.350″	2″	±0.00015″	599-281-3	19545A551★	$579.00
0.350″-0.425″	2″	±0.00015″	599-281-4	19545A552★	581.00
0.425″-0.500″	2″	±0.00015″	599-281-5	19545A553★	587.00
0.500″-0.600″	3″	±0.00015″	599-281-6	19545A554	595.00
0.600″-0.700″	3″	±0.00015″	599-281-7	19545A555	599.00
0.700″-0.800″	3″	±0.00015″	599-281-8	19545A556	613.00
0.800″-1.000″	3″	±0.00015″	599-281-10	19545A557	656.00
1.000″-1.200″	3″	±0.00015″	599-281-12	19545A558	664.00
1.200″-1.400″	3″	±0.00015″	599-281-14	19545A559	672.00
1.400″-1.600″	3″	±0.00015″	599-281-16	19545A561	679.00
1.600″-2.000″	3″	±0.0002″	599-281-20	19545A562	776.00
2.000″-2.400″	3″	±0.0002″	599-281-24	19545A563	787.00
2.400″-2.800″	3″	±0.0002″	599-281-28	19545A564	802.00

★ Measures in 0.0001″ increments.

Hole Gauges

Use the interchangeable anvils to measure the inside diameter of holes and cylindrical bores, as well as identify out-of-roundness problems. Also known as bore gauges.

***Dial Gauges*—** Have a 2 1/4″ dia. (AGD Group 2) dial indicator with white face. A case is included.

Mitutoyo dial gauges measure in 0.0001″ increments and have a jeweled bearing to prevent excessive wear. Anvils have carbide steel points, except Mitutoyo No. 526-123, which has alloy steel.

Mitutoyo 3-piece dial gauge set includes Mitutoyo Nos. 511-751, 511-752, and 511-753.

Economy dial gauges measure in 0.0005″ increments. Anvils are carbide steel; probes have carbide steel points.

***Economy Electronic Gauge*—** Has an LCD to make reading measurements easier, and zero-position memory, also known as absolute (ABS) positioning. Measures in 0.00005″ increments. A battery is included.

Range	Measuring Depth	Accuracy	Probe Type	No. of Anvils	Mfr. No.		
Mitutoyo Dial Gauges							
0.4″-0.7″	2.4″	±0.0002″	B	8	526-123	20685A663	$430.35
0.7″-1.4″	4″	±0.00008″	C	9	511-751	20685A664	369.26
1.4″-2.5″	6″	±0.00008″	C	6	511-752	20685A665	360.27
2″ -6″	6″	±0.00008″	C	11	511-753	20685A666	393.52
Mitutoyo 3-Piece Dial Gauge Set							
0.7″-6″	4″, 6″	±0.00008″	C	26	511-932	20685A66	858.33
Economy Dial Gauges							
0.7″-1.5″	8″	±0.0009″	A	8	_____	2110A13	130.52
1.4″-6″	9″	±0.0009″	C	15	_____	2110A12	165.27
2″ -6″	9″	±0.0009″	C	11	_____	2110A11	137.10
Economy Electronic Gauge							
1.4″-6″	9″	±0.0006″	C	15	_____	6745A44	296.93
Replacement Battery for Electronic Hole Gauge						7701K34	1.92



Mitutoyo Dial



Economy Dial

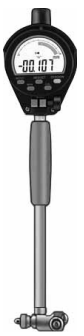

Economy Electronic



Type A Probe



Type B Probe



Type C Probe

Small-Hole Gauges


Full Ball

Insert into small holes, slots, grooves, and recesses and turn the knob on the handle to expand the contacts. To get your reading, measure the distance across the contacts with a micrometer (not included).

Full-ball gauges are great for deep through holes. ***Half-ball gauges*** are best for flat, shallow areas.

Starrett Gauges— Full-ball gauges are Series 829; half-ball gauges are Series 831.

Starrett 4-piece gauge set includes one gauge in each range listed and a pouch. **To Order:** Please specify full-ball or half-ball for all Starrett gauges.

Economy 4-Piece Gauge Set— Includes a full-ball gauge in each of the following ranges: 0.125″-0.200″, 0.200″-0.300″, 0.300″-0.400″, and 0.400″-0.500″. Comes in a pouch.

Range	O'all Lg.	Starrett No.		
Starrett Gauges				
0.125″-0.200″	2 7/8″	829A/831A	2100A25	$36.00
0.200″-0.300″	3 1/8″	829B/831B	2100A26	40.00
0.300″-0.400″	3 3/8″	829C/831C	2100A27	42.00
0.400″-0.500″	3 1/2″	829D/831D	2100A28	45.01
Starrett 4-Piece Gauge Set				
0.125″-0.500″	—	S829EZ/S831EZ	2100A29	163.00
Economy 4-Piece Gauge Set				
0.125″-0.500″	—	—	6741A47	81.22

Mitutoyo Depth Gauges

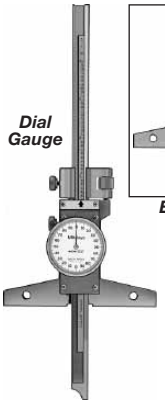
Dial Gauge

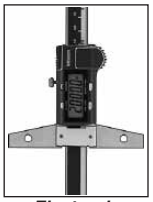
Electronic Gauge

A curve on the tip of the measuring blade lets you access narrow spaces. Base is 4″ long. A pouch is included.

Dial Gauges— Measuring blade is 0.43″ wide (0.16″ at the tip). Gauges measure in 0.001″ increments. Both have a white dial face and a fine-adjustment screw.

Electronic Gauges— Measuring blade is 0.63″ wide (0.20″ wide at the tip). Gauges have an LCD and measure in 0.0005″ and 0.01 mm increments. They also have zero-position memory, also known as absolute (ABS) positioning, and SPC data output so they can be connected to a Mitutoyo miniprocessor using an SPC data output cable (sold separately below), or to your PC using an SPC data output cable and an input tool (sold separately on page 2288). Battery is included.

Electronic harsh environment gauge is IP67 rated for dust and temporary water submersion.

Optional base extensions increase the base length to measure larger diameter holes.

Range Inch	Range mm	Accuracy Inch	Accuracy mm	Mitutoyo No.		
Dial Gauges						
0- 6	—	±0.001	—	527-311-50	2105A41	$221.02
0-12	—	±0.0015	—	527-313-50	2105A42	303.67
Electronic Gauges with SPC Data Output						
0- 6	0-150	±0.001	±0.025	571-211-30	20545A217	397.00
0- 8	0-200	±0.001	±0.025	571-212-30	20545A218	437.87
0-12	0-300	±0.0015	±0.04	571-213-10	20545A216	505.25
Electronic Harsh Environment Gauge with SPC Data Output						
0- 6	0-150	±0.001	±0.025	571-261-10	20545A302	513.00
Accessories and Replacement Battery						
SPC Data Output Cable (40″ Long) for 20545A216, A217, A218				959149	20395A7	44.30
SPC Data Output Cable (40″ Long) for 20545A302				05CZA624	20395A81	93.90
7″ Base Extension					2105A66	45.35
12″ Base Extension					2105A68	76.45
Replacement Battery for Electronic Gauges					7604K83	2.34

Dial Depth Gauges



Measure depths up to 22″ using the included connectable rod extensions. Extensions are 1″, 2″, 3″, 4″, 5″ and 6″ long with a 0.2″ dia. Without extensions, gauge has 0-1″ range and measures in 0.001″ increments. Range per dial revolution is 0.100″ and accuracy is ±0.001″. Includes three interchangeable contact points with 4-48 threads—one 0.118″ dia. carbide ball, one 1″ Lg. x 0.078″ dia. point, and one 1″ long needle point. Dial face is white. Base is 4″ long. A case and a clamping screw to lock settings are included.

8645A11 ..... $176.43

Electronic Depth Micrometers


Mitutoyo

Micrometers have an LCD, interchangeable steel rods in 1″ incremental lengths for measuring a variety of depths, and a ratchet thimble. A battery and case are included.

Mitutoyo Micrometers— Accuracy is ±0.00012″. Micrometers have zero-position memory, also known as absolute (ABS) positioning, and SPC data output that allows them to be connected to a Mitutoyo miniprocessor using an SPC data output cable (sold separately below), or to your PC using an SPC data output cable and an input tool (see page 2288).

Mitutoyo No. 329-350-30 measures in 0.00005″ and 0.001 mm increments; *Mitutoyo No. 329-351-30* in 0.0001″ and 0.001 mm increments.

Economy Harsh Environment Micrometer— IP54 rated for dust and splashing water. Micrometer measures in 0.00005″ and 0.001 mm increments. Accuracy is ±0.0001″.

Range Inch	Range mm	Base Lg.	Rods No.	Rods Dia.	Mfr. No.		
Mitutoyo with SPC Data Output							
0- 6	0-150	4″	6	0.157″	329-350-30	20635A43	$549.31
0-12	0-300	4″	12	0.157″	329-351-30	20635A63	675.93
Economy Harsh Environment							
0- 6	0-150	4″	6	0.176″	—	6747A6	202.12
Accessory and Replacement Battery							
SPC Data Output Cable (40″ Long)					05CZA662	20395A83	83.81
Replacement Battery						7604K83	2.34

Mitutoyo and Starrett Depth Micrometers


Starrett

Change out the steel rods supplied in 1″ incremental lengths to measure depth of holes, slots, shoulders, and projections. Micrometers have a ratchet thimble. *Inch* micrometers measure in 0.001″ increments; *metric* micrometers measure in 0.01 mm increments. A case is included.

Mitutoyo Micrometers— Accuracy is ±0.00012″.

Starrett Micrometers— Accuracy is ±0.0001″ for inch micrometers and ±0.007 mm for metric.

Certificates of calibration are traceable to NIST.

Range	Base Lg.	Rods No.	Rods Dia.	Mfr. No.		
Mitutoyo						
0- 4″	2 1/2″	4	5/32″	129-127	20365A12	$175.84
0- 4″	4″	4	5/32″	129-131	20365A13	195.15
0- 6″	2 1/2″	6	5/32″	129-128	20365A14	203.05
0- 6″	4″	6	5/32″	129-132	20365A15	217.42
0-12″	4″	12	5/32″	129-150	20365A17	373.75
Mitutoyo with Certificate of Calibration						
0- 4″	2 1/2″	4	5/32″	129-127	20365A18	216.14
Starrett						
0- 3″	2 1/2″	3	1/8″	440Z-3RL	2051A3	254.00
0- 3″	3″	3	5/32″	445AZ-3RL	2051A31	255.01
0- 3″	4″	3	5/32″	445BZ-3RL	2051A32	274.00
0- 6″	2 1/2″	6	1/8″	440Z-6RL	2051A4	304.00
0- 6″	3″	6	5/32″	445AZ-6RL	2051A41	308.00
0- 6″	4″	6	5/32″	445BZ-6RL	2051A42	322.00
0- 6″	6″	6	5/32″	445DZ-6RL	2051A43	365.01
0- 9″	4″	9	5/32″	445BZ-9RL	2051A52	402.00
0- 75 mm	63.5 mm	3	3.2 mm	440MZ-75RL	2051A61	254.00
0-150 mm	63.5 mm	6	3.2 mm	440MZ-150RL	2051A62	304.00
Starrett with Certificate of Calibration						
0-3″	2 1/2″	3	1/8″	440Z-3RL	2051A88	280.67

Mitutoyo Electronic Depth Gauges



Connect the 1/2″, 1″, 2″, and 4″ long rod extensions to measure depths up to 8″. Rod extensions are 0.2″ dia. Gauges have an LCD and measure in 0.0005″ and 0.01 mm increments. Accuracy is ±0.001″. Contact point is 0.118″ dia. with 4-48 threads. A battery is included.

All gauges have zero-position memory, also known as absolute (ABS) positioning, and SPC data output so they can be connected to a Mitutoyo miniprocessor using an SPC data output cable (sold separately below), or to your PC using an SPC data output cable and an input tool (sold separately on page 2288).

Range Inch	Range mm	Base Lg.	Mitutoyo No.		
0-8	0-200	2 1/2″	547-217S	20915A21	$494.75
0-8	0-200	4″	547-218S	20915A22	488.00
SPC Data Output Cable (40″ Long)			905338	20395A67	40.05
Replacement Battery				7604K83	2.34

Mitutoyo Electronic Indicators

Indicators have an LCD, ability to count forward or backward from zero, and zero-position memory, also known as absolute (ABS) positioning. They also have SPC data output so they can be connected to a Mitutoyo miniprocessor using an SPC data output cable (sold separately below), or to your PC using an SPC data output cable and an input tool (sold separately on page 2288). Mounting stem is 3/8" dia. and contact point has 4-48 threads. A battery is included where required.

(B&C) Easy-read indicators have a larger display than the other indicators and a rotating dial face. You can set any starting value, and they have go/no-go operation for tolerance checking.

(D) Compact indicator has a slim design for use in tight spaces.

(E) Backlit quick-read indicators' LCD changes from green to red so you can quickly identify out of tolerance. Indicators perform TIR (total indicating runout), which determines range of high and low spots of round parts. You can set any starting value. They have an analog bar display with adjustable range and tolerance indicators and a function lock. Operate on 120 VAC and have a 6 1/2-ft. long power cord with a two-prong plug.

(F) Harsh environment indicators are IP53 rated for dust and water droplets.

Certificates of calibration are traceable to NIST.



Indicators

Range Inch	Range mm	Increments Inch	Increments mm	Accuracy	Dial Dia./ Body Size	Back Style	Mitutoyo No.	Without Certificate of Calibration		With Certificate of Calibration	
Standard											
A	0-0.5	0-12.7	0.0005	0.01	±0.001"	2 3/8"	1/4" Lug	543-783	20835A71	$177.00	20835A91	$217.30
A	0-0.5	0-12.7	0.0005	0.01	±0.001"	2 3/8"	Flat	543-783B	20835A72	177.00	20835A92	217.30
A	0-0.5	0-12.7	0.0001	0.001	±0.0001"	2 3/8"	1/4" Lug	543-793	20835A21	279.93	20835A31	320.23
A	0-0.5	0-12.7	0.0001	0.001	±0.0001"	2 3/8"	Flat	543-793B	20835A22	279.93	20835A32	320.23
Easy Read											
B	0-0.5	0-12.7	0.0005	0.01	±0.001"	2 3/8"	1/4" Lug	543-402	20875A77	310.00	20875A35	350.30
B	0-0.5	0-12.7	0.0005	0.01	±0.001"	2 3/8"	Flat	543-402B	20875A81	310.00	20875A42	350.30
B	0-0.5	0-12.7	0.00005	0.001	±0.0001"	2 3/8"	1/4" Lug	543-392	20875A76	424.00	20875A45	464.30
B	0-0.5	0-12.7	0.00005	0.001	±0.0001"	2 3/8"	Flat	543-392B	20875A75	424.00	20875A46	464.30
C	0-1.0	0-25.4	0.00005	0.001	±0.0001"	2 3/8"	Flat	543-472B	20875A78	568.00	20875A47	608.30
Compact											
D	0-1.0	0-25.4	0.0005	0.01	±0.0008"	5" x 1 1/2" x 1"	Flat	575-123	19975A73	195.00	19975A74	235.30
Backlit Quick Read											
E	0-1.2	0-30.4	0.00005	0.001	±0.00006"	9 7/8" x 2 3/8" x 1 5/8"	Flat	543-562A	19485A91★	822.10	19485A92★	863.68
E	0-2.4	0-60.9	0.00005	0.001	±0.0001"	12 1/4" x 2 3/8" x 1 5/8"	Flat	543-564A	19485A93★	977.59	19485A94★	1,019.32
Harsh Environment											
F	0-0.5	0-12.7	0.00005	0.001	±0.0001"	2 3/8"	1/4" Lug	543-796	2360A1	309.48	2360A3	349.78
F	0-0.5	0-12.7	0.00005	0.001	±0.0001"	2 3/8"	Flat	543-796B	2360A2	309.48	2360A4	349.78

★ Has selectable measurement increments of 0.00002", 0.00005", 0.0001", 0.0005 mm, and 0.001 mm.

Accessories and Replacement Battery

	For Indicators	Mitutoyo No.		
1/4" Lug Back	A and F	21BAB102	20835A82	$6.16
1/4" Lug Back	B, C, and E	101306	20625A917	12.69
Spindle Lifting Cable (Remotely lifts spindle)	A, B, C, E, and F	540774	20875A72	37.66
SPC Data Output Cable (40" Long)	A, B, C, D, and F	905338	20395A67	40.05
SPC Data Output Cable (40" Long)	E	936937	20395A66	47.85
Replacement Battery	A, B, C, D, and F		7604K83	2.34

Economy Electronic Indicators

An economical alternative to our other electronic indicators. They have an LCD, a 3/8" dia. mounting stem, a 1/4" lug back, and a contact point with 4-48 threads. A control button provides go/no-go tolerance checking. Battery is included. ***Fraction*** indicator also measures in 1/64" increments.



Range Inch	Range mm	Increments Inch	Increments mm	Accuracy Inch	Accuracy mm	Dial Dia.	Back Style		
Inch									
0-0.5	0-12.7	0.0005	0.01	±0.001	±0.03	2 1/4"	1/4" Lug	2357A1	$81.57
0-1.0	0-25.4	0.0005	0.01	±0.001	±0.03	2 1/4"	1/4" Lug	2357A2	88.36
Fraction									
0-1.0	0-25.4	0.0005	0.01	±0.001	±0.03	2 1/4"	1/4" Lug	2357A7	89.34

Depth-Gauge Bases for Indicators

Convert electronic and dial indicators into depth gauges. All are made of steel.

Economy bases come with a set screw to hold a 3/8" dia. indicator mounting stem. Size is 5/8" Wd. x 3/4" Ht.

Standard bases come with one holding collet that accepts a 3/8" dia. indicator mounting stem. Additional mounting holes add adaptability. Size is 3/4" Wd. x 5/8" Ht.



Economy



Standard
20665A43

Lg.	No. of Holes		
Economy			
2 1/2"	1 (center)	20665A81	$23.07
4"	1 (center)	20665A82	29.30
Standard			
2"	1 (center)	20665A41	74.92
3"	1 (center)	20665A42	80.12
4"	2 (center; 1" from end)	20665A43	93.78
6"	3 (center; 1" from end; 2" from end)	20665A44	115.36
8"	3 (center; 1" from end; 2" from end)	20665A45	128.84
Replacement Collet for Standard Bases (9/16"-18 external thread)		20665A48	19.44

Starrett Electronic Indicators



Indicators have an LCD and the ability to count forward or backward from zero. They have a 3/8″ dia. mounting stem, a 1/4″ lug back, and a contact point with 4-48 threads. Battery is included.

Economy indicator is AGD Group 2.

Basic indicator has a rotating dial (AGD Group 2) for reading in any position and an SPC data output so it can be connected to your PC using an SPC data output cable (sold separately below).

Advanced indicator has a rotating dial (AGD Group 2) for reading in any position, go/no-go tolerance checking, and zero-position memory, also known as absolute (ABS) positioning. It also has SPC data output so it can be connected to your PC using an SPC data output cable (sold separately below).

Wisdom Plus indicator is AGD Group 3 and has everything the advanced indicators have plus display freeze, capability to set any starting value, function lock, and selectable display increments (increment listed in the table is the most accurate). It also has SPC data output so it can be connected to your PC using an SPC data output cable (sold separately below).

	Range		Increments			Dial	Starrett		
	Inch	mm	Inch	mm	Accuracy	Dia.	No.		
Economy	0- 1/2	0-12.7	0.0005	0.01	±0.001″	2 1/4″	3600-5	20695A34	$148.65
Basic	0-1	0-25	0.0005	0.01	±0.001″	2 1/4″	2900-3-1	20695A47	283.00
Advanced	0-1	0-25	0.0005	0.01	±0.001″	2 1/4″	2900-5-1	20695A36	446.67
Wisdom Plus	0-1	0-25	0.00005	0.001	±0.0001″	2 19/32″	F2730IQ	2511A75	520.00
Accessories and Replacement Batteries									
SPC Data Output Cable (6 ft. Long) for Basic and Advanced							2900SCKB	8602A64	211.00
SPC Data Output Cable (6 ft. Long) for Wisdom Plus							2700SCKB	2511A69	217.00
Replacement Battery for Economy and Wisdom Plus							PT61120	7701K62	3.96
Replacement Battery for Basic and Advanced							PT99492	7701K34	1.92

Dial Indicators with Magnetic Base



Place on any flat steel surface—a magnetic base provides a solid mount. A case is included.

Indicators have a 0-1″ range, plain bearings, a 3/8″ dia. mounting stem, a 1/4″ lug back, and contact point with 4-48 threads. They also have a 2 1/4″ dia. (AGD Group 2) rotating continuous dial with a white face that reads 0-100 in both directions. Dial measures in 0.001″ increments. Accuracy is ±0.002″.

Base has a 45-lb. magnetic pull and is 2″ Lg.×1 3/8″ Wd.×1 7/8″ Ht. The upright post is steel and 5/16″ Dia.×4″ Ht. Indicator holding rod is 4 1/2″ long. A swivel clamp and indicator holding clamp are included.

2316A11 ..... $105.27

Precision Dial Indicator Stands



Get precise measurements and the convenience of a stand. Stands have a black granite base with a steel upright post.

Economy stands have an indicator holding arm. 86285A51 also has a fine-adjustment knob on the indicator holding arm. 86285A51 and 86285A54 have a 1/4″ lug-back mount; 86285A55 and 86285A56 accept a 3/8″ dia. mounting stem.

Standard stands provide stability for close tolerance inspection as well as nearly frictionless workpiece movement. All include a certificate of accuracy traceable to NIST. 8628A44 has a rigid indicator holding arm. 8628A45 and 8628A46 have a fine-adjustment knob on the indicator holding arm. 8628A46 also includes a case.

To Order: Please specify 1/4″ lug-back mount or flat-back mount.

	Base			Upright Post		Throat Dp.	Surface		
	Lg.	Wd.	Ht.	Dia.	Ht.	from Post	Accuracy		
Economy									
	6″	6″	2″	1″	8″	2 3/8″	±0.0005″	86285A51	$83.48
	6″	6″	2″	1 1/4″	8″	2 3/8″	±0.0001″	86285A54	184.59
	8″	12″	2″	1 1/4″	12″	5 5/8″	±0.0001″	86285A55	202.88
	12″	18″	4″	1 1/4″	12″	4 25/32″	±0.0001″	86285A56	262.55
Standard									
	6″	6″	2″	1 1/4″	8″	1 3/4″	±0.00005″	8628A44	182.46
	8″	12″	2″	1 1/4″	12″	5″	±0.0001″	8628A45	337.59
	12″	18″	4″	1 1/4″	12″	4 5/32″	±0.0001″	8628A46	456.62

Dial Indicators with Precision Stand



A high-quality granite base provides stability for close tolerance inspection as well as nearly frictionless workpiece movement.

Indicators have a 0-1″ range, jeweled bearings, a 3/8″ dia. mounting stem, and a contact point with 4-48 threads. They also have a 2 1/4″ (AGD Group 2) rotating continuous dial with a white face that reads 0-100 in a clockwise direction. Dial measures in 0.001″ increments. Accuracy is ±0.001″. Include a certificate of calibration traceable to NIST.

Bases have a steel upright post. 8628A41 has a rigid indicator holding arm; 8628A42 has a fine-adjustment knob on the indicator holding arm.

To Order: Please specify indicator back style: 1/4″ lug back or flat back.

	Base			Upright Post		Throat Dp.	Surface		
	Lg.	Wd.	Ht.	Dia.	Ht.	from Post	Accuracy		
	6″	6″	2″	1 1/4″	8″	1 3/4″	±0.00005″	8628A41	$256.56
	8″	12″	2″	1 1/4″	12″	5″	±0.0001″	8628A42	415.59

Dial Indicator Stands



Stand with One Anvil

Use with your AGD electronic or dial indicator (not included) to take accurate comparative measurements. Stands fit 3/8″ or 8 mm dia. mounting stem. Base is made of cast iron and is 5 3/4″ Lg.×3 1/2″ Wd.×1 1/2″ Ht. Upright post and anvils are steel. The indicator holding arm has a fine-adjustment knob.

Stand with one anvil includes an anvil with a serrated face.

Stand with two anvils includes one anvil with a serrated face and one with a flat face.

	Upright Post		Throat Dp.	Anvil Face		
	Dia.	Ht.	from Post	Dia.		
With One Anvil	1″	8″	2 1/2″	2″	7386A12	$203.08
With Two Anvils	1″	14″	2 3/4″	2 3/8″	7386A14	219.77

Electronic Test Indicators



An LCD provides instant, easy-to-read measurements. Indicators have a dovetail mount, measure in selectable increments of 0.00005″, 0.0005″, 0.001 mm, and 0.01 mm, and display both digits and a bar graph. Dial face is 1 1/2″ dia. and rotates 360°. Contact point is 0.080″ dia. and swivels 270°. Operate on one 3-volt battery (included). IP65 rated for dust and spraying water.

	Range		Display Reading		Accuracy		Contact		
	Inch	mm	Inch	mm	Inch	mm	Point Lg.		
	0-0.02	0-0.5	0-40-0	0-1-0	±0.0004	±0.01	1 7/16″	2112A13	$338.89
	0-0.03	0-0.8	0-40-0	0-1-0	±0.0004	±0.01	1/2″	2112A11	296.79
Replacement Battery								7701K34	1.92

Dial Indicators

Indicators have a rotating dial face, a 1/4" lug back, and a contact point with 4-48 threads, except 2434A11 has 0-80 threads. All have jeweled bearings, unless noted. Mounting stem is 3/8" dia. except 2434A11, which is 7/32" dia. Inch dial faces are white; metric dial faces are yellow.

Continuous dials are numbered in a clockwise direction for direct measurements. ***Balanced dials*** are numbered on each side of zero (+ and -) for comparative measurements. ***Combination dials*** have a continuous scale numbered in a clockwise direction and a balanced scale numbered on each side of zero (+ and -).

Certificates of calibration are traceable to NIST.

Also Available: Replacement indicator backs in additional styles.

For Mitutoyo indicators, please ask for 20625A911 and specify 1/4" lug back, flat back, or magnetic base and AGD Group.

For Starrett indicators, please ask for 20625A711 and specify 1/4" lug back, flat back, universal back, or magnetic base and AGD Group.

For standard indicators, please ask for 20625A811 and specify 1/4" lug back or flat back and AGD Group.

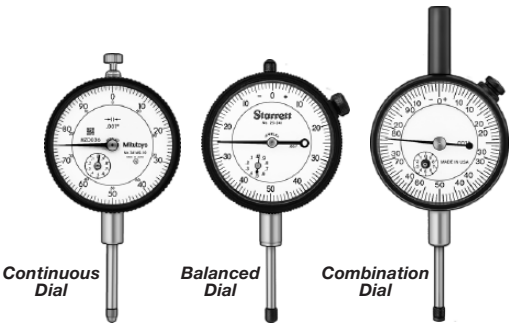

Range	Graduations	Dial Reading	Accuracy	Mfr. No.		
Mitutoyo						
Continuous Dial—1 5/8" Dia. Dial (AGD Group 1)						
0-0.250"	0.001"	0-100	±0.001"	1410S-10	2246A41	$105.26
Continuous Dial—2 1/4" Dia. Dial (AGD Group 2)						
0-0.500"	0.0001"	0-10	±0.0001"	2358S-10	2092A7	197.66
0-1.000"	0.0005"	0-50	±0.0005"	2776S	2246A55 ●	127.58
0-1.000"	0.001"	0-100	±0.001"	2416S-10	2246A54	133.35
0-1.000"	0.001"	0-100	±0.001"	2416S	2246A53 ●	106.91
0-2.000"	0.001"	0-100	±0.001"	2424S-19	2246A57	197.66
Balanced Dial—1 7/32" Dia. Dial (AGD Group 0)						
0-0.025"	0.0001"	0-5-0	±0.0002"	1925T-10	2092A67	156.33
0-0.050"	0.0005"	0-10-0	±0.0005"	1923T-10	2092A68	141.95
Balanced Dial—2 1/4" Dia. Dial (AGD Group 2)						
0-0.025"	0.0001"	0-5-0	±0.0001"	2803S-10	2246A58	143.75
Mitutoyo with Certificate of Calibration						
Continuous Dial—1 5/8" Dia. Dial (AGD Group 1)						
0-0.250"	0.001"	0-100	±0.001"	1410S-10	2246A42	145.56
Continuous Dial—2 1/4" Dia. Dial (AGD Group 2)						
0-0.500"	0.0001"	0-10	±0.0001"	2358S-10	2092A71	237.96
0-1.000"	0.0005"	0-50	±0.0005"	2776S	2246A48 ●	167.88
0-1.000"	0.001"	0-100	±0.001"	2416S-10	2246A47	173.65
0-1.000"	0.001"	0-100	±0.001"	2416S	2246A43 ●	147.21
0-2.000"	0.001"	0-100	±0.001"	2424S-19	2246A44	237.96
Starrett						
Continuous Dial—1 11/16" Dia. Dial (AGD Group 1)						
0-0.250"	0.001"	0-100	±0.001"	81-241J	2128A21	152.00
Continuous Dial—2 1/4" Dia. Dial (AGD Group 2)						
0-0.200"	0.0001"	0-10	±0.0001"	25-611J	2128A76	288.00
0-0.250"	0.001"	0-100	±0.001"	25-241J	2128A31	152.00
0-0.500"	0.001"	0-100	±0.001"	25-441/5J	2128A32	152.00
0-1.000"	0.0005"	0-50	±0.0005"	25-631J	2128A35	176.00
0-1.000"	0.001"	0-100	±0.001"	25-441J	2128A34	152.00
0-1.000"	0.001"	0-100	±0.001"	25-441P	2128A33 ●	152.00
0-2.000"	0.001"	0-100	±0.001"	25-2041J	2128A36	296.00
0-3.000"	0.001"	0-100	±0.001"	25-3041J	2128A73	386.00
0-4.000"	0.001"	0-100	±0.001"	25-4041J	2128A72	458.00
0-5.000"	0.001"	0-100	±0.001"	25-5041J	2128A71	531.01
Balanced Dial—2 1/4" Dia. Dial (AGD Group 2)						
0-0.200"	0.0001"	0-5-0	±0.0001"	25-511J	2128A74	288.00
0-1.000"	0.001"	0-50-0	±0.001"	25-341J	2128A75	152.00
Starrett with Certificate of Calibration						
Continuous Dial—1 11/16" Dia. Dial (AGD Group 1)						
0-0.250"	0.001"	0-100	±0.001"	81-241J	2128A41	178.67
Continuous Dial—2 1/4" Dia. Dial (AGD Group 2)						
0-0.200"	0.0001"	0-10	±0.0001"	25-611J	2128A86	314.67
0-0.250"	0.001"	0-100	±0.001"	25-241J	2128A44	178.67
0-0.500"	0.001"	0-100	±0.001"	25-441/5J	2128A45	178.67
0-1.000"	0.0005"	0-50	±0.0005"	25-631J	2128A65	202.67
0-1.000"	0.001"	0-100	±0.001"	25-441J	2128A64	178.67
0-1.000"	0.001"	0-100	±0.001"	25-441P	2128A47 ●	178.67
0-2.000"	0.001"	0-100	±0.001"	25-2041J	2128A46	322.67
Balanced Dial—2 1/4" Dia. Dial (AGD Group 2)						
0-1.000"	0.001"	0-50-0	±0.001"	25-341J	2128A43	178.67
Mahr Federal						
Continuous Dial—2 1/4" Dia. Dial (AGD Group 2)						
0-0.500"	0.001"	0-100	±0.001"	28IQN	2434A41	170.75
0-1.000"	0.001"	0-100	±0.001"	28ISN	2434A42	170.75
Balanced Dial—1 7/32" Dia. Dial (AGD Group 0)						
0-0.100"	0.001"	0-20-0	±0.001"	A6Q	2434A11	231.87
Balanced Dial—1 11/16" Dia. Dial (AGD Group 1)						
0-0.025"	0.0001"	0-5-0	±0.0001"	12I	2434A21	212.15
0-0.050"	0.0005"	0-10-0	±0.0005"	B3Q	2434A22	212.15
0-0.250"	0.001"	0-50-0	±0.001"	B8I	2434A23	176.94
Balanced Dial—2 1/4" Dia. Dial (AGD Group 2)						
0-0.025"	0.0001"	0-5-0	±0.0001"	22IN	2434A31	245.45
0-0.125"	0.0005"	0-25-0	±0.0005"	27I	2434A33	225.07

Range	Graduations	Dial Reading	Accuracy	Mfr. No.		
Standard with Certificate of Calibration						
Continuous Dial—1 11/16" Dia. Dial (AGD Group 1)						
0-0.025"	0.0001"	0-10	±0.0001"		2092A51	$135.78
0-0.075"	0.0005"	0-30	±0.0005"		2092A39 ●	93.37
0-0.125"	0.0005"	0-50	±0.0005"		2092A81	103.67
0-0.250"	0.001"	0-100	±0.001"		2092A28 ●	89.72
0-5.0 mm	0.01 mm	0-100	±0.01 mm		2092A84 ●	107.95
Continuous Dial—2 1/4" Dia. Dial (AGD Group 2)						
0-0.025"	0.0001"	0-10	±0.0001"		2092A15	137.23
0-0.125"	0.0005"	0-50	±0.0005"		20935A12 ♣	87.68
0-0.200"	0.0001"	0-10	±0.0001"		2092A29	156.40
0-0.250"	0.001"	0-100	±0.001"		2092A13 ●	88.17
0-0.250"	0.001"	0-100	±0.001"		20935A13 ♣	91.50
0-0.500"	0.001"	0-100	±0.001"		2092A12 ●	88.87
0-0.500"	0.001"	0-100	±0.001"		20935A65 ♣	99.37
0-1.000"	0.0005"	0-50	±0.0005"		2092A55 ●	94.20
0-1.000"	0.001"	0-100	±0.001"		2092A54	95.65
0-1.000"	0.001"	0-100	±0.001"		2092A11 ●	88.87
0-1.000"	0.001"	0-100	±0.001"		20935A66 ♣	99.37
0-2.000"	0.001"	0-100	±0.001"		2092A56	167.27
0-3.000"	0.001"	0-100	±0.001"		2092A58	191.10
0-4.000"	0.001"	0-100	±0.001"		2092A59	213.43
0-5.000"	0.001"	0-100	±0.001"		2092A61	237.98
0-10.0 mm	0.01 mm	0-100	±0.01 mm		2092A37 ●	107.18
0-25.0 mm	0.01 mm	0-100	±0.01 mm		2092A57 ●	106.75
0-25.0 mm	0.01 mm	0-100	±0.01 mm		2092A49	114.53
Balanced Dial—1 11/16" Dia. Dial (AGD Group 1)						
0-0.025"	0.0001"	0-5-0	±0.0001"		2092A52	137.23
0-0.075"	0.0005"	0-15-0	±0.0005"		2092A38 ●	94.20
0-0.250"	0.001"	0-50-0	±0.001"		2092A33 ●	88.17
Balanced Dial—2 1/4" Dia. Dial (AGD Group 2)						
0-0.025"	0.0001"	0-5-0	±0.0001"		2092A24	133.71
0-0.125"	0.0005"	0-25-0	±0.0005"		2092A23 ●	92.52
0-0.200"	0.0001"	0-5-0	±0.0001"		2092A34	156.97
0-0.250"	0.001"	0-50-0	±0.001"		2092A22 ●	89.83
0-0.250"	0.001"	0-50-0	±0.001"		20935A16 ♣	91.50
0-0.500"	0.001"	0-50-0	±0.001"		2092A62 ●	90.45
0-1.000"	0.001"	0-50-0	±0.001"		20935A67 ♣	99.37
0-1.000"	0.001"	0-50-0	±0.001"		2092A42 ●	90.45
0-10.0 mm	0.01 mm	0-50-0	±0.01 mm		2092A78	114.97
0-25.0 mm	0.01 mm	0-50-0	±0.01 mm		2092A63 ●	106.63
Combination Dial—2 1/4" Dia. Dial (AGD Group 2)						
0-0.250"	0.001"	0-100/ 0-50-0	±0.001"		8662A67 ●	87.68
0-0.500"	0.001"	0-100/ 0-50-0	±0.001"		8662A62 ●	96.43
0-1.000"	0.001"	0-100/ 0-50-0	±0.001"		8662A61 ●	96.43
0-25.0 mm	0.01 mm	0-100/ 0-50-0	±0.01 mm		8662A63 ●	115.85
Economy						
Continuous Dial—1 11/16" Dia. Dial (AGD Group 1)						
0-0.250"	0.001"	0-100	±0.001"		20715A25 ●	21.32
Continuous Dial—2 3/8" Dia. Dial (AGD Group 2)						
0-0.250"	0.001"	0-100	±0.001"		20715A74 ●	18.02
0-0.500"	0.001"	0-100	±0.001"		20715A75 ●	19.00
0-1.000"	0.0005"	0-50	±0.0005"		20715A76 ●	27.12
0-1.000"	0.001"	0-100	±0.001"		20715A69 ●	23.05
0-1.000"	0.001"	0-100	±0.002"		20715A21 ●■	57.83
0-2.000"	0.001"	0-100	±0.003"		20715A77 ●	44.70

Dial Indicator/Magnetic-Base Set— Includes indicator 20715A69 and magnetic-base holder with rigid arm (1958A31 on page 2302).

20715A44 ..... $40.19

● Has plain bearings. ♣ Dial face is black with high-visibility markings. ■ Can read inch and metric simultaneously (to 25 mm).

Starrett Plunger-Style Dial Test Indicators

Indicators



Rugged plunger-style construction has few moving parts to wear out. Indicators have jeweled bearings; a 1/4″ dia. mounting stem; 0.125″, 0.3″, and 0.5″ dia. contact points; and a tip adapter for 4-48 threaded contact points. They also have a 1 3/8″ dia. rotating dial with a white face. Dial hand moves clockwise.

Certificate of calibration is traceable to NIST.

Range	Graduations	Dial Reading	Accuracy	Starrett No.		
Indicator						
0-0.200″	0.001″	0-100	±0.001″	196B1	**2217A12**	$143.01
Indicator with Certification of Calibration						
0-0.200″	0.001″	0-100	±0.001″	196B1	**2217A77**	169.68

Replacement Contact Points and Accessories

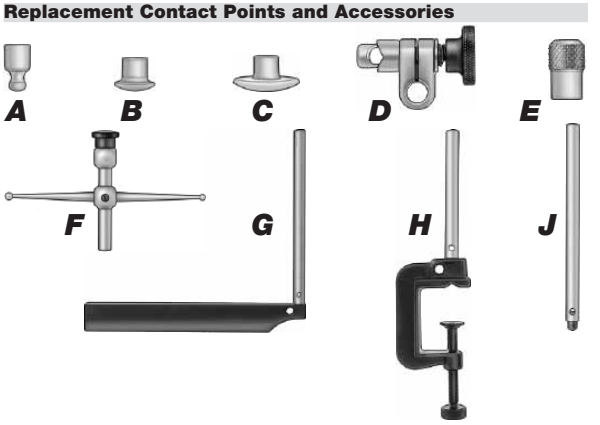

(D) Swivel clamp has a 5/16″ dia. mounting hole and a 3/32″-1/4″ dia. hole for holding indicators, upright posts, and holding rods.

(E) Tip adapter allows you to use an AGD dial indicator with 4-48 threaded contact point.

(F) Hole attachment is for inside holes up to 1 5/8″ deep.

(G) Tool post holder measures 6″ Lg. x 3/4″ Wd. x 3/8″ Thick. and has a 5/16″ Dia. x 4 1/2″ Lg. upright post.

(H) Clamp allows the indicator to be securely attached to machine tools. It has a 5/16″ Dia. x 3″ Lg. upright post.

(J) Upright post is 5/16″ Dia. x 4 1/2″ Lg.

		Starrett No.		
A	Repl. 0.125″ Dia. Contact Point	PT05471	**2217A3**	$4.69
B	Repl. 0.3″ Dia. Contact Point	PT05472	**2217A31**	4.69
C	Repl. 0.5″ Dia. Contact Point	PT05473	**2217A16**	4.69
D	Swivel Clamp	PT18718	**2217A22**	20.27
E	Tip Adapter	196R	**2217A32**	5.81
F	Hole Attachment	196F	**2217A17**	31.01
G	Tool Post Holder	PT99438	**2217A19**	20.27
H	Clamp	PT99437	**2217A18**	38.93
J	Upright Post	PT13820	**2217A24**	11.87

Indicator Sets

Set with indicator includes accessories A-H listed above and a case.

Set with antimagnetic indicator is for use near an object with a magnetic field, such as a magnetic chuck. Includes accessories A-D and F-H listed above and a case.

	Starrett No.		
Set with Indicator	196A1Z	**2217A11**	$249.01
Set with Antimagnetic Indicator	196A6Z	**2217A61**	290.00

Starrett No. 711 Last Word Dial Test Indicators



Standard Indicator



Indicator with Universal Shank

Half of the dial face is white and the other half is shaded yellow to make measurements easier to read. Indicators have jeweled bearings and a 1″ dia. rotating dial. The dial hand moves clockwise and counterclockwise. The contact point is steel, 0.120″ Dia. x 5/32″ Lg., swivels 180°, and has a ratcheting positioner joint to adjust to various angles.

Standard indicators include a mounting clamp that fastens to a 1/8″-1/4″ dia. indicator holding rod. ***Indicators with universal shank*** mount to a lathe tool post or height gauge. A mounting clamp with two arms to hold the indicator is included.

Indicator sets include an indicator with universal shank and 0.035″, 0.062″, and 0.120″ dia. contact points. They also include a body clamp, a holder with 3/16″ dia. shank, a tool post holder with 1/4″ dia. swivel post, a two-joint extension, a female coupling with 3/16″ opening on each end, a height gauge attachment, and a surface gauge attachment.

Range	Graduations	Dial Reading	Accuracy	Starrett No.		
Standard Indicators						
0-0.030″	0.0005″	0-15-0	±0.0005″	711HSZ	**2096A8**	$179.01
0-0.030″	0.001″	0-15-0	±0.001″	711FSZ	**2096A7**	174.00
Indicators with Universal Shank						
0-0.030″	0.0005″	0-15-0	±0.0005″	711HSAZ	**2096A5**	191.01
0-0.030″	0.001″	0-15-0	±0.001″	711FSAZ	**2096A1**	187.01
Indicator Sets						
0-0.030″	0.0005″	0-15-0	±0.0005″	711LCSZ	**2096A6**	263.01
0-0.030″	0.001″	0-15-0	±0.001″	711GCSZ	**2096A2**	258.00
Replacement Contact Points						
0.035″ Dia.				PT07137	**2096A28**	8.64
0.062″ Dia.				PT07136	**2096A29**	8.64
0.120″ Dia.				PT07087	**2096A31**	7.79

Starrett Dial Test Indicators



An angled head provides a better reading position and three dovetail mounts give you mounting versatility. Indicators are lever style and have jeweled bearings and a 1 3/8″ dia. rotating dial with a white face. Contact point is carbide, 0.078″ dia., and swivels 180°. Dial hand moves clockwise. A case is included.

Indicator sets include an indicator and 0.078″ dia. contact point. They also include a dovetail clamp with 3/16″ dia. stem, a tool post holder with 1/4″ dia. upright post, a swivel clamp with dovetail mount, and a swivel-clamp rod unit with one 1/4″ Dia. x 4″ Lg. rod and one 3/8″ Dia. x 4″ Lg. rod. **To Order:** For 20965A16 and 20965A12, please specify black, red, or white dial face.

Range	Graduations	Dial Reading	Accuracy	Starrett No.		
Indicators						
0-0.010″	0.0001″	0-5-0	±0.0001″	708AZ	**20965A65**	$290.00
0-0.020″	0.0001″	0-5-0	±0.0002″	708BZ	**20965A67**	349.01
0-0.030″	0.0005″	0-15-0	±0.0005″	709AZ	**20965A8**	248.00
0-0.060″	0.0005″	0-15-0	±0.001″	709BZ	**20965A81**	298.00
Indicator Sets						
0-0.010″	0.0001″	0-5-0	±0.0001″	708ACZ	**20965A16**	366.00
0-0.020″	0.0001″	0-5-0	±0.0002″	708BCZ	**20965A68**	427.01
0-0.030″	0.0005″	0-15-0	±0.0005″	709ACZ	**20965A12**	302.00
0-0.060″	0.0005″	0-15-0	±0.001″	709BCZ	**20965A83**	375.01
Repl. 0.078″ Dia. Contact Point				PT23914	**20965A84**	40.29

Starrett Swivel-Head Dial Test Indicators



A 1 3/8″ dia. rotating dial pivots 90° so indicators can be used in vertical, horizontal, and angular positions. They are lever style and have jeweled bearings and two dovetail mounts. Contact point is 0.078″ dia. and swivels 180°. Dial hand moves clockwise.

Indicators include a dovetail mounting clamp with 3/16″ mounting stem; tool post holder with 1/4″ Dia. x 1 5/16″ Lg. upright post and 1/4″ x 1/2″ body; swivel clamp with dovetail mount that fits 3/32″-1/4″ dia. rods; and a swivel clamp with two 4″ long rods (one is 1/4″ dia., the other is 3/8″ dia.). A case is included.

To Order: For 8591A62 and A61, please specify black, red, or white dial face. 8591A13 has a yellow dial face.

Range	Graduations	Dial Reading	Contact Point Lg.	Accuracy	Starrett No.		
0-0.030″	0.0005″	0-15-0	5/8″	±0.0005″	811-5CZ	**8591A62**	$510.00
0-0.060″	0.001″	0-30-0	1 5/16″	±0.001″	811-1CZ	**8591A61**	497.01
0-0.8 mm	0.01 mm	0-40-0	5/8″	±0.01 mm	811-MCZ	**8591A13**	524.00

Brown & Sharpe BesTest Dial Indicators

Indicators are lever style and have jeweled bearings, a rotating dial, and two dovetail mounts. Contact point is carbide, 0.080″ Dia.×1/2″ Lg. (except 2047A63 and A64 are 1 7/16″ long), and swivels 180°. Dial hand moves clockwise and counterclockwise. A case is included.

Indicators with white dial face and ***indicators with yellow dial face*** come with a 3″ Lg.×3/16″ Wd.×5/16″ Ht. tool post mounting bar with a 0.22″ dia. mounting stem and swivel clamp with 7/32″ and 3/8″ dia. holes.

Indicators with black dial face have a high-visibility orange hand and come with a dovetail mounting clamp with a 1/4″ Dia.×1/2″ Lg. stem.


White Dial Face


Black Dial Face

Indicators

Range	Graduations	Dial Reading	Accuracy	Dial Dia.	White Dial Face B & S No.			Black Dial Face B & S No.			Yellow Dial Face B & S No.		
0-0.008″	0.00005″	0-4-0	±0.0001″	1 1/2″	599-7033-3	2047A76	$312.00	599-7033-5	2047A69	$258.00			
0-0.008″	0.0001″	0-4-0	±0.0001″	1″	599-7032-3	2047A74	269.00	599-7032-5	2047A68	245.00			
0-0.020″	0.0005″	0-10-0	±0.0005″	1″				599-7034-5	2047A63	228.00			
0-0.020″	0.0005″	0-10-0	±0.0005″	1 1/2″				599-7035-5	2047A64	248.00			
0-0.030″	0.0005″	0-15-0	±0.0005″	1″	599-7030-3	2047A72	238.00	599-7030-5	2047A66	183.00			
0-0.030″	0.0005″	0-15-0	±0.0005″	1 1/2″	599-7031-3	2047A73	246.00	599-7031-5	2047A67	204.00			
0-0.030″	0.001″	0-15-0	±0.0005″	1″	599-7029-3	2047A71	232.00	599-7029-5	2047A65	179.00			
0-0.2 mm	0.002 mm	0-100-0	±0.002 mm	1 1/2″							599-7033-13	2047A77	$312.00
0-0.8 mm	0.01 mm	0-0.4-0	±0.01 mm	1 1/2″							599-7031-13	2047A78	246.00

Replacement Contact Points

Fits Indicators	Length	0.040″ Dia. Points B & S No.		0.080″ Dia. Points B & S No.		0.120″ Dia. Points B & S No.		
2047A63 and A64	1 7/16″	599-7034-40	2047A84	599-7034-80	2047A85			$12.18
2047A65-A78	1/2″	599-7030-40	2047A81	599-7030-80	2047A82	599-7030-120	2047A83	12.18

Miti-Mite Magnetic-Base Set

Includes test indicator 2047A72 and a magnetic V-shaped base. The base is 1 1/4″ Sq.×1 3/4″ Ht., has a 23-lb. magnetic pull, and attaches to rounded and flat surfaces. Ball-and-socket action of the posts and a fine adjustment screw allows a variety of setups. Set also includes one 7/32″ Dia.×1 1/2″ Lg. and one 5/16″ Dia.×1 1/2″ Lg. upright post as well as a 7/32″ Dia.×4 3/8″ Lg. indicator holding rod. A case is included.

23185A65 ..... $375.11

Wide-Range Interapid Dial Test Indicators

Interapid indicators measure larger ranges than other indicators. They're lever style and have jeweled bearings, a 5/32″ dia. mounting stem, a 0.080″ Dia.×0.65″ Lg. carbide contact point, a white dial face, and a rotating dial with a revolution counter to keep track of hand revolutions. Dial hand moves clockwise and counterclockwise. A case is included.

Horizontal indicators have two dovetail mounts. Contact point swivels 210°. ***Vertical indicators*** have one dovetail mount. Contact point swivels 190°.

Replacement contact points fit all Interapid indicators listed.


Horizontal


Vertical

Indicators

Range	Graduations	Dial Reading	Accuracy	Dial Dia.	Horizontal Interapid No.			Vertical Interapid No.		
0-0.016″	0.0001″	0-4-0	±0.0001″	1 1/2″	312b-3	19515A53	$326.91	312b-3v	19515A64	$352.72
0-0.060″	0.0005″	0-15-0	±0.0005″	1 1/4″	312b-2	19515A52	263.82	312b-2v	19515A62	278.16
0-0.060″	0.0005″	0-15-0	±0.0005″	1 1/2″	312b-1	19515A51	265.74	312b-1v	19515A61	282.94
0-0.060″	0.001″	0-15-0	±0.001″	1 1/4″	312b-20	19515A55	268.60	312b-20v	19515A63	268.60
0-1.6 mm	0.01 mm	0-40-0	±0.01 mm	1 15/32″	312-1	19515A54	273.38			

Replacement Contact Points

Dia.	Lg.	Interapid No.			Dia.	Lg.	Interapid No.		
0.031″	0.687″	74.105998	19515A73	$14.05	0.080″	0.687″	74.105996	19515A71	$14.05
0.031″	1.45″	74.106363	19515A75	14.05	0.080″	1.45″	74.106361	19515A74	14.05
0.060″	0.687″	74.105997	19515A72	14.05					

Mounting Stem Adapter

Increase the diameter of your indicator mounting stem from 5/32″ to 3/8″ so your indicator can mount to magnetic-base holders that fit 3/8″ diameter stems.

19515A86 ..... $20.68

Economy Dial Test Indicators

These lever-style test indicators have a 0.078″ Dia.×1/2″ Lg. carbide contact point that swivels 180°. They also have jeweled bearings, a 1 9/32″ dia. rotating dial with white face, and two dovetail mounting clamps (one with 5/32″ dia. mounting stem, one with 3/8″ dia. mounting stem). Dial hand moves clockwise. Accuracy for 0.008″ gauge is ±0.00015″; 0.030″ gauge is ±0.0004″. A case is included.

Indicator/base sets include indicator 3295A15 and a rigid- or jointed-arm magnetic base.


Horizontal


Vertical

Range	Graduations	Dial Reading	Horizontal		Vertical	
0-0.008″	0.0001″	0-40-0	3295A14	$72.29	3295A22	$73.86
0-0.030″	0.0005″	0-15-0	3295A15	55.17	3295A23	62.33
Indicator with Rigid-Arm Magnetic Base Set			3295A44	70.51		
Indicator with Jointed-Arm Magnetic Base Set			3295A55	84.81		

Chain-Clamp Holders

18″ chain-clamp holder has a 2″ Lg.×3/4″ Wd. steel body with four 5/16″ dia. threaded holes (three on the side; one on the top). Includes one 5/16″ Dia.×4″ Lg. and one 5/16″ Dia.×6″ Lg. steel holding rod and an ANSI No. 35 chain with 6″ dia. capacity.

24″ chain-clamp holder has an aluminum body with one 5/16″ Dia.×3″ Lg. and one 5/16″ Dia.×6″ Lg. stainless steel holding rod and an ANSI No. 41 chain with 9″ dia. capacity.

Alignment Kit— Includes two chain clamps, an inspection mirror, and a case.

Alignment Kit with Test Indicators— Two chain clamps position the two Starrett 196B1 indicators (included) at different points along a shaft to find any misalignment. Indicators have a 0-0.2″ range and are graduated in 0.001″ increments with a 0-100 dial reading. Kit also includes two swivel clamps, an inspection mirror, and a case.


24″ Chain-Clamp Holder

18″ Chain-Clamp Holder	21025A21	$104.44
24″ Chain-Clamp Holder	2593A11	266.07
Alignment Kit	2593A12	574.58
Alignment Kit with Test Indicators	2593A13	1,025.00

Electronic and Dial Indicator Attachments

Attachments fit electronic and dial indicators that conform to AGD (American Gauge Design) standards. All are made of steel, unless otherwise stated.

Holding Rods

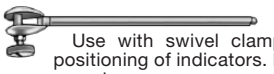

Use with swivel clamps for easy positioning of indicators. Have 1/4" lug mount.

Dia.	Lg.		
5/16"	6"	20625A311	$21.82
3/8"	7 1/2"	20625A312	23.02

Extension Rods



4-48 threads internally at one end; externally at the other. Length doesn't include external threads. Made of Type 303 stainless steel.

Dia.	Lg.		
7/32"	1/2"	20625A132	$4.49
7/32"	1"	20625A133	4.31
7/32"	1 1/2"	20625A134	4.68
7/32"	2"	20625A135	4.68
7/32"	2 1/2"	20625A136	5.05
7/32"	3"	20625A137	5.70
7/32"	4"	20625A138	7.18
7/32"	6"	20625A151	8.61
Set of 3	1", 2", 3"	20625A124	13.10

Lifting Lever



Allows easy lifting of indicator spindle. For AGD Groups 1, 2, and 3, with ranges up to 1".

20625A645 ..... $20.22

Right-Angle Contact Point Adapter



Transfers the up/down motion of the contact point 90° to a second contact point moving left to right. Fits a 3/8" dia. mounting stem.

20625A416 ..... $24.60

Clamp Attachments

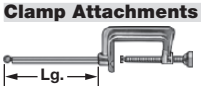

Clamp on to any surface. Clamp capacity is 1 3/8".

Shank Dia.	Lg.		
5/16"	3 1/8"	20625A211	$23.12
3/8"	4"	20625A212	28.45

Contact Points

Have 4-48 threads. Length doesn't include threaded portion.

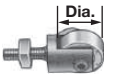

Dia.	Lg.		
Roller			
3/8"	0.51"	20625A665■	$25.18
1/2"	0.76"	20625A146★	55.58
Regular			
3/16"	1/4"	20625A651	2.20
3/16"	1/2"	20625A652	2.62
3/16"	3/4"	20625A653	3.15
3/16"	1"	20625A654	3.15
3/16"	2"	20625A655	3.60
3/16"	3"	20625A656	4.95
3/16"	4"	20625A657	6.22
Flat			
3/16"	1/4"	20625A661	5.50
3/16"	1/2"	20625A662	5.50
3/16"	3/4"	20625A663	5.80
3/16"	1"	20625A664	6.07
7/32"	3/8"	20625A161★	2.04
7/32"	5/8"	20625A162★	2.39
7/32"	1 1/4"	20625A163★	3.76
3/4"	0.10"	20625A164★	10.40
1"	1/8"	20625A165★	16.62
Tapered			
3/16"	13/32"	20625A612	2.57
3/16"	1"	20625A613	2.85
3/16"	1 1/2"	20625A614	3.48
3/16"	2"	20625A615	3.63
Needle—Carbide Tip			
0.015"	0.40"	20625A125	36.11
0.031"	0.40"	20625A126	36.11
0.062"	0.80"	20625A127	28.31
Button			
3/8"	1/8"	20625A511★	2.66
1/2"	1/8"	20625A512★	3.25
3/4"	1/8"	20625A513★	5.97
Wide			
1/4"	3/32"	20625A417	5.07
3/8"	3/32"	20625A418	5.79
1/2"	3/32"	20625A419	6.26
5/8"	3/32"	20625A421	7.96

■ Made of aluminum with stainless steel roller.
★ Made of stainless steel.

Contact Point Sets



Starrett No. 25 R

The most popular indicator points with 4-48 threads. Length doesn't include threads.

Starrett No. 25 R— Has 14 points on an aluminum ring for fast, easy selection. Includes one regular 1/4" lg. point; nine special-form points; one anvil; and three extra-long regular points (1/2", 3/4", and 1" long).

Economy— Has 22 points in a case. Includes nine flat points 0.175" to 1.250" long; five regular points 0.225" to 0.825" long; four tapered points 0.500" to 0.875" long; three needle points 0.935" to 1.35" long; and one bent needle point 0.312" long. Made of Type 303 stainless steel.

Starrett No. 25 R		2193A11	$127.01
Economy		20645A51	16.49

Backs



Flat Back



Lug Back



Universal (Starrett Only)

Starrett— Only fit Starrett indicators, not all AGD. **To Order:** Specify AGD Group No. and flat, 1/4" lug, universal, or magnetic back.

Chicago Dial (CDI)— **To Order:** Specify AGD Group No. and flat or 1/4" lug back.

Mitutoyo— **To Order:** Specify AGD Group No. and flat, 1/4" lug, or magnetic back.

Manufacturer

Starrett	20625A711
Chicago Dial (CDI)	20625A811
Mitutoyo	20625A911

Thread Adapter

Has 4-48 female threads at one end and M2.5 male at the other. 7/32" Dia. x 1/2" Lg. Length doesn't include external threads. Made of Type 303 stainless steel.

20625A155 ..... $4.71

Tungsten Carbide and Ruby Contact Points



Replace your standard steel point. Points are hard, smooth, and precision ground to 0.000025" (Grade 25). They fit indicators that conform to AGD Groups 1, 2, 3, and 4. Tip length doesn't include threads.

Tungsten carbide provides excellent wear resistance and lasts much longer than standard steel contact points. ***Ruby*** provides excellent chemical and thermal stability with extremely low friction.

Tip Lg.	Ball Size	Thread Mount	*Tungsten Carbide*		*Ruby*	
1/4"	3 mm	4-48	1851A11	$15.22	1853A11	$16.75
1/4"	3 mm	M2.5	1851A13	15.83	1853A13	17.97
1/4"	4 mm	4-48	1851A12	16.56	1853A12	20.21
1/2"	3 mm	4-48	1851A16	16.43	1853A16	20.33
1/2"	4 mm	4-48	1851A17	17.04	1853A17	20.65
3/4"	4 mm	4-48	1851A19	17.97	1853A19	20.33

Ball Contact Points



Precision ground to 0.000025" (Grade 25), these hard, smooth points have a large contact area ideal for measuring contoured shapes. Attach them directly to your indicator, replacing standard steel points. They fit indicators that conform to AGD Groups 1, 2, 3, and 4. Body is Type 303 stainless steel; ball is chrome-plated steel.

To Order: Please specify size needed.

Available Ball Sizes	Thread Mount		
0.031", 0.046", 0.062", 0.078", 0.093", 0.125", 0.156", 0.187", 0.218", 0.250"	4-48	1922A11	$11.45
0.281", 0.312", 0.343", 0.375", 0.406", 0.437", 0.468", 0.500", 0.531", 0.562"	4-48	1922A21	11.45

Miniature Magnetic Holders



Get 45 lbs. of magnetic pull with six locations for mounting indicators and accessories. Holder has three 1/4"-20 threaded holes, one 10-32 threaded hole, one hole for a 3/8" dia. stem, and a V-shaped hole for a 1/8" to 5/16" dia. stem. One 1/4"-20 thumbscrew and one 10-32 thumbscrew are included. Body is 4 3/8" Lg. x 1" Wd. x 1 1/16" Ht.

23105A65 ..... $16.58

Clamp-On Holders

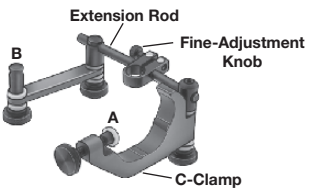

Attach the C-clamp almost anywhere for hands-free measurements. Holders include an extension rod with a fine-adjustment knob for precise positioning. They accept a 5/32" dia. stem or a 1/4" dovetail mount. 20945A65 is for use on Bridgeport "J" heads.

Clamping Range	Overall Reach●	Extension Rod, Lg.		
1 5/8" to 1 7/8"	7 7/16"	4"	20945A65	$88.73
1 3/4" to 2"	7 1/2"	4"	20945A66	121.98
1 7/8" to 2 1/4"	9 1/8"	6"	20945A67	147.03
Repl. 4" Long Extension Rod for 20945A65 and A66			20945A68	26.67
Repl. 6" Long Extension Rod for 20945A67			20945A69	30.00

● Distance from center of mounting clamp (A) to end of arm (B) when both are extended.

Test Indicator Attachments

Universal Shank



Mount an indicator to a lathe tool post or height gauge. An elbow connects the 3/16" dia. shank and 1/2" Wd.×1/4" Thick. body. Length is 4 1/4".

1987A32 ..... $40.50

Double-Jointed Attachment



Flexes in two directions. Has one 1/4" dia. shank and one 3/8" dia. shank. Length is 5 3/8".

1987A19 ..... $23.47

Tool-Post Holder



Body is 1/2" Wd.×1/4" Thick. Mounting rod is 1/4" Dia.×1 5/16" Lg.

1987A16 ..... $24.00

Body Clamp



Has a 3/8" dia. hole and a hole that adjusts from 1/8" to 1/4" dia.

1987A23 ..... $14.40

Swivel Clamp with Dovetail Groove



Has a dovetail groove and a hole that adjusts from 3/32" to 1/4" dia.

1987A69 ..... $24.00

Long and Short Arm



Has two 3/16" dia. shanks with an elbow. Tool is 2" Lg. Short arm is 13/16" Lg.; long arm is 1 3/16" Lg.

1987A21 ..... $12.27

Dovetail Holder with Shank



Has a dovetail groove and a 5/8" long shank.

To Order: Specify shank dia.: 5/32", 7/32", 1/4", or 5/16".

1987A146 ..... $12.72

Universal Dovetail Holder



Has a swiveling dovetail groove and 1/4" dia. shank. Length is 3".

1987A65 ..... $14.65

Swivel Support Dovetail Holder



Has a swiveling dovetail groove and a 3/8" dia. shank. Length is 2".

1987A53 ..... $34.28

Dovetail Body Clamp



Has a dovetail groove and a 3/16" dia. rotating ball shank. Length is 2".

1987A7 ..... $24.00

Double-Jointed Holder with Dovetail Groove



Flexes in two directions. Has a dovetail groove and 3/8" dia. shank. Length is 4 1/2".

1987A52 ..... $40.40

Combination Stem/Dovetail Holder



5 1/2" long and it flexes in three directions. Has a dovetail groove, one 5/32" and one 1/4" dia. hole, and a 3/8" dia. shank.

1987A51 ..... $34.28

Height Gauge Attachment



Has a 3" Lg.×1/4" Wd.×1/2" Ht. gauge bar and a 0.218" Dia.×0.343" Ht. post. Has a dovetail groove and two 7/32" dia. and one 5/32" dia. mounting holes for holding indicators.

1987A28 ..... $49.53

Starrett Rotating Friction Attachment for Last Word Indicators



Fits into the end plug located on top of an indicator to provide a rotating ball mount. Shank is 3/16" dia. Overall length is 2".

1987A24 ..... $13.95

Indicator Swivel Clamps

Secure indicators, upright posts, and indicator holding rods at any angle. All wing nuts are nylon with brass inserts. *Dual wing nuts* tighten the two sides independently.

Diameter (A)	Diameter (B)			
***Knurled Knob*—Steel**				
1/4"	1/4"	5148A11	$13.42	
5/16"	5/32"	5148A12	13.42	
5/16"	1/4"	5148A13	13.42	
5/16"	5/16"	5148A14	13.42	
3/8"	1/4"	5148A15	13.42	
3/8"	5/16"	5148A16	13.42	
3/8"	3/8"	5148A17	17.02	
1/2"	3/8"	5148A18	18.25	
6 mm	6 mm	5148A71	26.09	
8 mm	8 mm	5148A73	26.14	
10 mm	8 mm	5148A74	27.51	
10 mm	10 mm	5148A75	26.12	
12 mm	10 mm	5148A76	27.51	
***Knurled Knob*—Type 303 SS**				
1/4"	1/4"	5148A81	25.83	
5/16"	1/4"	5148A82	25.83	
3/8"	1/4"	5148A83	25.83	
3/8"	3/8"	5148A84	34.04	
***Tee Handle*—Steel**				
1/4"	1/4"	5148A24	$15.85	
5/16"	1/4"	5148A22	15.85	
5/16"	5/16"	5148A25	15.85	
3/8"	1/4"	5148A23	15.85	
3/8"	5/16"	5148A26	15.85	
3/8"	3/8"	5148A27	20.06	
1/2"	3/8"	5148A28	21.43	
***Dovetail*—Steel**				
7/32"	7/32"	5148A31★	26.21	
1/4"	1/4"	5148A33★	26.21	
***Dovetail*—Type 303 SS with 1/16" to 1/4" Adjustable Hole**				
1/4"	1/8"	5148A37	17.54	
***Dovetail*—Type 303 SS**				
7/32"	3/8"	5148A35■	24.56	
1/4"	3/8"	5148A36■	24.56	
***Wing Nut*—Steel**				
3/8"	3/8"	2067A51	33.18	
3/8"	1/2"	2067A52	33.18	
1/2"	1/2"	2067A53	35.85	
***Wing Nut*—Steel (Cont.)**				
1/2"	5/8"	2067A54	$37.13	
5/8"	5/8"	2067A55	38.51	
5/8"	3/4"	2067A56	45.20	
3/4"	3/4"	2067A57	57.16	
10 mm	12 mm	2067A23	43.95	
12 mm	12 mm	2067A24	45.33	
14 mm	12 mm	2067A25	45.56	
***Wing Nut*—Type 303 SS**				
3/8"	3/8"	2067A41	60.25	
1/2"	1/2"	2067A42	63.17	
***Dual Wing Nuts*—Steel**				
3/8"	3/8"	2067A61	41.18	
3/8"	1/2"	2067A62	42.51	
1/2"	1/2"	2067A63	43.85	
1/2"	5/8"	2067A64	45.18	
5/8"	5/8"	2067A65	46.49	
5/8"	3/4"	2067A66	47.84	
3/4"	3/4"	2067A67	58.51	
1"	1"	2067A69	94.51	

★ Bottom hole (C) dia. is 5/32". ■ Has two top holes. Does not have bottom hole (C).

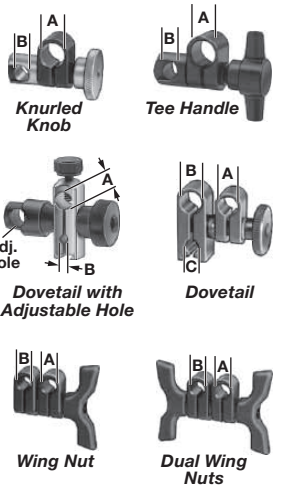

Low-Profile Magnetic-Base Holders



Confidently position indicators in areas where vertical space is limited. Bases have 50 lbs. of magnetic pull and a magnetic-release switch.

Standard holder has a fine-adjustment knob for precise positioning. Holding rod is 1/4" Dia.×6" Lg. and sits in a ball socket for versatile positioning.

Universal holder has a swivel block that holds the arm at any angle and a fine-adjustment knob for precise positioning. Holding rod is 1/4" Dia.×6" Lg. and can be removed to hold a 1/4" lug back.

Direct-mount holder has a nut and bolt to mount a 1/4" lug back to the base.

	Base Lg.	Base Wd.	Base Ht.		
Standard	3 1/2"	1 1/8"	1"	2122A2	$47.03
Universal	3 1/2"	1 1/8"	1 1/2"	2098A2	64.95
Direct Mount	3 1/2"	1 1/8"	1"	2098A1	26.13

Magnetic-Base Holders for Uneven Surfaces



A specially designed bottom allows base to conform to any shape and grip most surfaces. Bases have 120 lbs. of magnetic pull and a magnetic-release switch. The hole on top of the base has M8×1.25 mm threads. Holders are 2 1/2" Lg.×2" Wd.×2 1/4" Ht.

Rigid arm holder has a fine-adjustment knob. Arm is 15/32" Dia.×3 1/2" Lg. and has a swivel clamp at the end that accepts a 5/32" to 3/8" dia. stem or a 1/4" lug back. Upright post is 15/32" Dia.×7" Lg.

Flexible arm holder has a ball-and-socket segmented arm for flexibility in accessing awkward spots. Arm is 12 1/2" Lg. and has a swivel clamp at the end that accepts a 5/64" to 1/2" dia. stem.

Arm Style		
Rigid	1951A84	$114.57
Flexible	1951A85	222.26

Magnetic Bases


Standard

Easily moved from place to place, bases have threaded mounting holes to hold upright posts and fixtures. All have a magnetic-release switch.

Economy and ***standard*** bases have one top mounting hole and a V-grooved bottom, except standard bases with 38 and 337 lbs. of pull have a flat bottom.

Starrett base has one top and one side mounting hole and a V-step on top.

Magnetic Bases

Magnetic Pull, lbs.	Base Lg.	Base Wd.	Base Ht.	Mounting Hole Thread Size		
Economy						
176	2½″	2″	2³⁄₁₆″	M8 ×1.25	1878A22	$15.96
Standard						
38	1³⁄₁₆″	1³⁄₁₆″	1³⁄₁₆″	M5 ×0.8	1977A17	32.68
176	2⅝″	2″	2³⁄₁₆″	M8 ×1.25	1977A1	30.44
220	3″	2″	2³⁄₁₆″	M8 ×1.25	1977A15	42.86
292	4⅝″	2″	2³⁄₁₆″	M10 ×1.50	1977A16	97.83
337	4¾″	2⅜″	2¹⁄₁₆″	M8 ×1.25	1977A2	108.56
Starrett *—No. 657P*						
75	1⅞″	1⅝″	1¹⁵⁄₁₆″	¼″-20	2501A56	132.00

Optional Upright Posts

Thread Size	Dia.	Lg.		
M5 ×0.8	9.5 mm	152 mm	1977A45	$3.83
M8 ×1.25	12 mm	176 mm	1977A38	8.39
M10 ×1.5	12 mm	176 mm	1977A42	4.73
¼″-20	⅜″	7⁷⁄₁₆″	2501A48	13.50

Flexible-Arm Magnetic-Base Holders



Adjust the arm to nearly any position for use in tight spots. Holders have a ball-and-socket segmented arm that locks in place with a lever. Base has a magnetic-release switch.

(A) Standard— Arm is 12½″ long and has a swivel clamp that accepts a 5⁄32″ to ½″ dia. stem. Base has a V-grooved bottom.

(B) Fine Adjustment— Has a knob for precise positioning. Arm is 14″ long and has a swivel clamp that accepts a ⅛″ to ½″ dia. stem. Base has a flat bottom.

(C) Super-Fine Adjustment— A micro-screw thumb adjuster allows exact positioning. Arm is 15¼″ long and has a swivel clamp that accepts a ⅜″ dia. stem or an indicator with dovetail mount. Base has a V-grooved bottom.

	Magnetic Pull, lbs.	Base Lg.	Base Wd.	Base Ht.	*Holders*		*Repl. Arms*	
A	180	2½″	2″	2¼″	8667A31	$71.37	8667A32	$55.07
B	65	2″	1⅝″	2″	20755A65	113.21	20755A74	83.64
C	90	2″	2½″	2⅝″	20755A23	120.43	20755A22	82.62

Vise-Grip Flexible-Arm Holders



Clamp securely to a variety of surfaces to position an indicator around any obstruction. Holders have a 13″ long flexible arm attached to Vise-Grip locking pliers. The pliers have two threaded holes to mount the arm horizontally or vertically. A lever locks the arm. A swivel clamp at the end of the arm accepts a ⅛″ to ½″ dia. stem.

Holder	23165A75	$93.76
Replacement Arm	23165A76	51.83

Starrett Electronic Height Gauges



Read measurements from both the LCD and the graduated scale on the column. LCD measures in 0.0005″ and 0.01 mm increments; scale in 0.100″. Accuracy for 12″ gauge is ±0.0015″ and ±0.002″ for 24″ gauge. Set the gauges to zero at any position. A carbide-tipped scriber with clamp and batteries are included.

Range Inch	Range mm	Base Lg.	Base Wd.	Starrett No.		
0-12	0-300	6″	4″	3754-12/300	20975A75	$824.00
0-24	0-600	7¾″	4¾″	3754-24/600	20975A77	1,351.00
Replacement Battery (Requires 2)					7701K34	1.92

Magnetic-Base Holders


Standard

A solid mount offers numerous positioning options. Holders have a swivel clamp on both the upright post and rigid arm and a fine-adjustment knob. All accept a ¼″ lug back. Base has a magnetic-release switch.

Economy holder is 2½″ Lg.× 2″ Wd.×2¼″ Ht. and also accepts a ⅜″ dia. stem. Upright post has M8×6.5 mm threads. Has a V-grooved bottom.

Standard holders have an upright post with M8×1.25 mm threads and a V-grooved bottom.

Holders with 176 lbs. of pull are 2⅝″ Lg.× 2¼″ Wd.×2″ Ht. and accept a 5⁄32″ to ¼″ dia. stem. *Holder with 220 lbs. of pull* is 3″ Lg.×2″ Wd.× 2¼″ Ht. and accepts a ¼″ to 5⁄16″ dia. stem.

Starrett holder is 1⅞″ Lg.×1⅝″ Wd.× 2″ Ht. and also accepts a ¼″ dia. stem. Upright post has ¼″-20 threads. Has a flat bottom.

Magnetic Pull, lbs.	Upright Post Dia.	Upright Post Lg.	Rigid Arm Dia.	Rigid Arm Lg.		
Economy						
132	7⁄16″	7″	⅜″	5¹³⁄₁₆″	1958A31	$22.00
Standard						
176	7⁄16″	6⅞″	⅜″	6½″	2310A1♦	38.87
176	7⁄16″	6⅞″	⅜″	6½″	2310A15	44.76
220	⅝″	8⅞″	9⁄16″	6½″	2310A16	57.91
Starrett *—No. 657AA*						
75	⅜″	7⁷⁄₁₆″	¼″	6″	20725A67♦	224.57
Fine-Adjustment Attachment—No. 657W					20725A68	49.01

♦ Does not have a fine-adjustment knob.

Jointed-Arm Magnetic-Base Holders


Standard

Control the joints at the top, middle, and bottom of the arm with the locking knob. A fine-adjustment knob allows precise positioning and a swivel clamp provides a wide range of positions. Holders accept a ⅜″ dia. stem or an indicator with dovetail mount. Base has a magnetic-release switch and V-grooved bottom.

Magnetic Pull, lbs.	Base Lg.	Base Wd.	Base Ht.	Arm Lg.		
Economy						
132	2½″	2″	2³⁄₁₆″	13½″	2214A5	$33.73
Standard						
180	2⅜″	1¹⁵⁄₁₆″	2³⁄₁₆″	11″	85195A11	124.36
290	4¾″	1¹⁵⁄₁₆″	2⁵⁄₃₂″	25″	85195A28	219.28

Mitutoyo Electronic Height Gauges


Series 192 *Series 570*

Gauges have a low-battery indicator and zero-position memory, also known as absolute (ABS) positioning. They also have SPC data output so you can connect them to a Mitutoyo miniprocessor using an SPC data output cable, or to your PC using an SPC data output cable and an input tool (output cable is sold below; see pages 2287-2288 for Mitutoyo miniprocessor and input tool). A carbide-tipped scriber with clamp and a battery are included.

Series 192 gauges have a dual-column design and an error alarm. They measure in 0.0005″ and 0.01 mm increments. Accuracy is ±0.001″ and 0.03 mm for 12″ gauge; ±0.002″ and 0.04 mm for 18″ gauge; and ±0.002″ and 0.05 mm for 24″ gauge.

Series 570 gauges have a handwheel for smooth movement along the column. They measure in 0.0005″ increments. Accuracy is ±0.0015″ for 12″ gauge; ±0.002″ for 18″ and 24″ gauges.

Range Inch	Range mm	Base Lg.	Base Wd.	Mitutoyo No.		
Series 192						
0-12	0-300	5⁵⁄₁₆″	3⁹⁄₁₆″	192-630-10	8566A15	$1,308.94
0-18	0-450	7⅛″	4¾″	192-631-10	8566A16	1,793.42
0-24	0-600	7⅛″	4¾″	192-632-10	8566A17	2,286.40
Series 570						
0-12	0-300	6⁵⁄₁₆″	4⁷⁄₁₆″	570-312	3740A11	583.76
0-18	0-450	7⅛″	5⅝″	570-313	3740A12	819.31
0-24	0-600	7⅛″	5⅝″	570-314	3740A13	1,052.07
Accessories and Replacement Battery						
SPC Data Output Cable (40″ Long)				905338	20395A67	40.05
Replacement Scriber				900258	8566A24	59.65
Replacement Scriber Clamp				901385	8566A26	23.71

Mitutoyo Dial Height Gauges



Gauges have a chrome-coated steel column for wear resistance and a fine-adjustment knob for precise positioning.

They measure in 0.001″ increments. Accuracy is ±0.001″ for the 12″ gauge; ±0.002″ for the 18″ and 24″ gauges. A carbide-tipped scriber with clamp is included.

Range	Base Lg.	Base Wd.	Mitutoyo No.		
Gauges					
0″-12″	5 5/16″	1 25/32″	192-150	8648A21	$927.42
0″-18″	7 3/32″	2 1/8″	192-151	8648A12	1,245.74
0″-24″	7 3/32″	2 1/8″	192-152	8648A23	1,538.97
Accessories					
Test Indicator Holder			900306	2118A61	19.60
Replacement Scriber			900258	8566A24	59.65
Case for 12″ Gauge			———	8648A41	185.14
Case for 18″ and 24″ Gauges			———	8648A44	443.08

Economy Dual-Reading Height Gauges



In addition to the dial, two mechanical digital counters display measurements (one counts up; the other counts down).

Dial measures in 0.001″ increments; the counters in 0.1″ increments. A carbide-tipped scriber with clamp is included.

Range	Base Lg.	Base Wd.	Accuracy		
0-12″	5″	3 5/16″	±0.0015″	19765A72	$261.97
0-18″	5 15/16″	3 15/16″	±0.002″	19765A73	397.88
0-24″	7 1/8″	4 3/4″	±0.002″	19765A74	377.67

Starrett Surface Gauges



Use these versatile gauges as height and depth gauges, as indicator holders, or for transferring lines from one part to another. All have a fine-adjustment screw, a scriber with clamp, and a V-grooved bottom.

Gauge pins can be pushed down for use against the edge of a surface plate or T-slot for linear work.

Rod Lg.	Rod Dia.	Base Lg.	Base Wd.	Starrett No.		
Cast Iron Base with Two Gauge Pins						
9″ and 12″	5/16″	3″	2 9/16″	57B	2208A5	$208.00
12″ and 18″	3/8″	3 3/4″	3 3/8″	57D	2208A6	251.01
Hardened Steel Base with Four Gauge Pins						
9″ and 12″	5/16″	2 7/8″	2 3/8″	257B	2208A3	232.00
12″ and 18″	3/8″	3 1/2″	3 3/16″	257D	2208A4	291.01

Easy-View Electronic Edge Finders

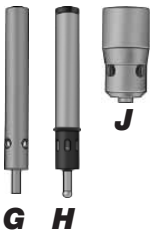

A bulb lights up to give you 360° visibility when positioning work surfaces and tools. Batteries are included.

Note: These items will not work with nonconductive materials such as plastic and wood or with rotating surfaces such as spinning wheels.

(G) Standard finder emits light when the sensor shaft reaches the edge of the surface. Made of Type 304 stainless steel.

(H&J) Precision finders have a highly perceptive sensing system with a spring-loaded probe to allow for overrun without breaking. Made of steel. *Style H* finds workpiece edges. *Style J* is for measuring and setting cutting tool height.

	Tip Dia.	Body Dia.	O'all Lg.	Accuracy		
Finders						
G	0.20″	1/2″	3 15/16″	±0.0005″	2039A12	$28.61
H	0.20″	1/2″	4 1/8″	±0.0002″	2040A41	135.74
H	0.40″	3/4″	4 1/4″	±0.0002″	2040A66	135.74
J	0.31″	1″	2″	±0.0002″	2040A71	132.79
Replacement Batteries						
Battery for Style G (Pkg. of 4, requires 1)					71455K62	2.82
Battery for Style H (Requires 1)					7735K33	1.41
Battery for Style J (Requires 3)					7604K74	1.44

Replacement Styli and Accessories for Renishaw CMM Probes

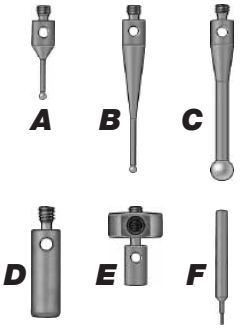

Mount styli and accessories into coordinate-measuring machine (CMM) probes. ***Also Available:*** M4 threads for all items. Please ask for 85175A999.

(A-C) Styli—300 series stainless steel bodies with Grade 10 ruby balls. Sphericity tolerance is ±0.00001″ and diameter tolerance is ±0.00001″.

(D) Stylus Extensions—Allow for added penetration. Made of 300 series stainless steel.

(E) Five-Way Stylus Crosshead Center—Holds up to five styli. Made of 300 series stainless steel.

(F) Universal Stylus Wrench—Fits all Renishaw CMM styli. Has two diameters (1.27 mm and 1.73 mm). Made of steel.

	Thread Mount	Lg.	Ball Dia.	Replaces Renishaw No.		
Styli						
A	M2	10 mm	1 mm	———	85175A21	$26.54
A	M3	10 mm	1 mm	———	85175A14	28.33
B	M2	20 mm	1 mm	PS23R	85175A22	31.30
B	M3	20 mm	1 mm	PS1-9R	85175A15	38.11
B	M2	20 mm	2 mm	PS2R	85175A23	30.64
B	M3	20 mm	2 mm	PS1-10R	85175A16	41.39
C	M2	20 mm	3 mm	PS16R	85175A24	29.90
C	M2	20 mm	4 mm	PS17R	85175A25	32.69
C	M3	21 mm	5 mm	PS1-13R	85175A43	38.56
Accessories						
D	M2	10 mm	———	SE4	85175A31	19.27
D	M2	20 mm	———	SE5	85175A32	19.14
D	M3	35 mm	———	———	85175A53	17.25
E	M2	8 mm	———	SC2	85175A34	42.10
F	———	———	———	———	85175A11	19.14

Starrett Wiggler/Center Finder Sets



Determine tool spindle position in relation to work surface, layout lines, holes, and slots.

Set includes a chuck, an offset indicator holder, a 0.10″ dia. disc contact, a 0.25″ dia. ball contact, and a needle point. Attachments are interchangeable.

8632A72 ..... $61.01

Center Finders for Round Bar and Pipe



Find the center point on round workpieces. Mount center finder into your drill chuck or collet, place it over round bar stock, and line up the pointer with the mark on the shaft. Capacity is 5″. Made of steel with a corrosion-resistant chrome finish.

22025A11 ..... $16.71

Edge Finders

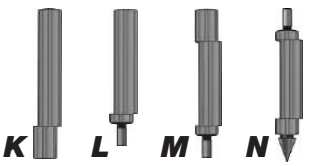

Locate working edges, shoulders, center points, and lines. All are made of steel.

Audible edge finders make a distinct sound when tip runs concentric with shank (for edge positioning; not for center points).

Style	Tip Dia.	Body Dia.	O'all Lg.	Starrett No.		
Economy						
K Single End	0.50″	1/2″	3 1/4″	———	20535A651	$12.15
K Single End	10 mm	10 mm	3 1/4″	———	20535A756	12.03
L Single End	0.20″	3/8″	3 1/4″	———	20535A655	12.03
L Single End	0.20″	1/2″	3 1/4″	———	20535A755	12.03
M Double End	0.20″/0.50″	1/2″	3 1/4″	———	20535A652	14.37
N Double End	Point/0.20″	1/2″	3 1/4″	———	20535A656	14.36
Starrett						
L Single End	0.20″	3/8″	2 1/2″	827A	20535A653	26.00
L Single End	6 mm	10 mm	3 1/8″	827MA	20535A681	26.00
N Double End	Point/0.20″	1/2″	3 5/16″	827B	20535A654	36.83
Audible						
L Single End	0.20″	3/8″	2 7/8″	———	20995A65	17.45
L Single End	0.20″	1/2″	2 7/8″	———	20995A66	17.55

Feeler Thickness Gauges

Check gaps, alignment, and narrow slots. All gauges are ½″ wide. ***12″ Lengths—*** Have rounded ends and are marked with thickness. ***Rolls—*** Come in a dispenser box. Cut to length needed. Thickness is marked every 6″.

Steel is polished and magnetic. ***Type 302/304 stainless steel*** is corrosion resistant and mildly magnetic. ***Type 316 stainless steel*** has superior resistance to corrosion and is mildly magnetic. ***Brass*** is corrosion resistant and nonmagnetic.

Gauges

Thick.		12″ Length 1-11	12″ Length 12-Up	Roll Lg.		Roll Each
Steel						
0.001″	2083A11	$2.74	$2.36	25 ft.	2093A11	$46.85
0.0015″	2083A12	1.71	1.44	25 ft.	2093A12	22.05
0.002″	2083A13	1.68	1.42	25 ft.	2093A13	25.78
0.0025″	2083A14	1.68	1.42	25 ft.	2093A14	25.78
0.003″	2083A15	1.68	1.42	25 ft.	2093A15	24.22
0.004″	2083A16	1.39	1.18	25 ft.	2093A16	17.26
0.005″	2083A17	1.39	1.18	25 ft.	2093A17	17.26
0.006″	2083A18	1.39	1.18	25 ft.	2093A18	17.26
0.007″	2083A19	1.10	.94	25 ft.	2093A19	14.86
0.008″	2083A21	1.10	.94	25 ft.	2093A21	14.86
0.009″	2083A22	1.10	.94	25 ft.	2093A22	14.86
0.01″	2083A23	1.10	.94	25 ft.	2093A23	14.89
0.011″	2083A24	1.10	.94	25 ft.	2093A24	14.89
0.012″	2083A25	1.10	.94	25 ft.	2093A25	15.31
0.013″	2083A26	1.10	.94	25 ft.	2093A26	15.31
0.014″	2083A27	1.10	.94	25 ft.	2093A27	15.31
0.015″	2083A28	1.10	.94	25 ft.	2093A28	15.31
0.016″	2083A29	1.10	.94	25 ft.	2093A29	15.31
0.017″	2083A31	1.10	.94	20 ft.	2093A31	11.82
0.018″	2083A32	1.10	.94	20 ft.	2093A32	11.82
0.019″	2083A33	1.10	.94	20 ft.	2093A33	11.82
0.02″	2083A34	1.07	.91	20 ft.	2093A34	11.82
0.021″	2083A35	1.07	.91	20 ft.	2093A35	11.82
0.022″	2083A36	1.07	.91	20 ft.	2093A36	11.82
0.023″	2083A37	1.07	.91	20 ft.	2093A37	12.52
0.024″	2083A38	1.31	1.11	20 ft.	2093A38	11.24
0.025″	2083A39	1.31	1.11	20 ft.	2093A39	11.24
0.026″	2083A51	1.31	1.11	20 ft.	2093A51	14.13
0.027″	2083A52	1.31	1.11	20 ft.	2093A52	15.00
0.028″	2083A41	1.24	1.08	20 ft.	2093A41	11.94
0.029″	2083A53	1.31	1.11	20 ft.	2093A53	15.00
0.03″	2083A42	1.34	1.14	20 ft.	2093A42	11.94
0.031″	2083A43	1.42	1.24	20 ft.	2093A43	23.06
0.032″	2083A44	1.42	1.24	20 ft.	2093A44	23.06
0.033″	2083A45	1.42	1.24	20 ft.	2093A45	23.06
0.034″	2083A46	1.42	1.24	20 ft.	2093A46	22.83
0.035″	2083A47	1.42	1.24	20 ft.	2093A47	23.06
0.04″	2083A48	2.27	1.97	15 ft.	2093A48	27.14
0.045″	2083A54	10.40	9.45	———	———	———
0.046″	2083A55	10.90	9.91	———	———	———
0.05″	2083A56	10.90	9.91	———	———	———
0.06″	2083A57	11.40	10.36	———	———	———
0.1″	2083A58	13.40	12.18	———	———	———
0.125″	2083A59	13.90	12.64	———	———	———
0.04 mm	2283A1	2.80	2.33	10 ft.	2282A1	12.55
0.05 mm	2283A2	2.80	2.33	10 ft.	2282A2	12.55
0.06 mm	2283A3	2.80	2.33	10 ft.	2282A3	11.62
0.07 mm	2283A4	2.80	2.33	10 ft.	2282A4	12.55
0.08 mm	2283A5	2.80	2.33	10 ft.	2282A5	12.55
0.09 mm	2283A6	2.80	2.33	10 ft.	2282A6	12.55
0.1 mm	2283A7	2.80	2.33	10 ft.	2282A7	13.45
0.15 mm	2283A8	1.81	1.53	10 ft.	2282A8	10.40
0.2 mm	2283A9	1.81	1.53	10 ft.	2282A9	10.41
0.25 mm	2283A11	1.81	1.53	10 ft.	2282A11	10.41
0.3 mm	2283A12	1.81	1.53	10 ft.	2282A12	10.41
0.35 mm	2283A13	1.81	1.53	10 ft.	2282A13	10.41
0.4 mm	2283A14	1.81	1.53	10 ft.	2282A14	10.41
0.5 mm	2283A15	1.81	1.53	10 ft.	2282A15	10.41
0.55 mm	2283A16	1.81	1.53	10 ft.	2282A16	10.41
0.6 mm	2283A17	1.81	1.53	10 ft.	2282A17	10.41
0.65 mm	2283A18	1.81	1.53	10 ft.	2282A18	10.41
0.7 mm	2283A19	1.81	1.53	10 ft.	2282A19	10.41
0.75 mm	2283A21	1.81	1.53	10 ft.	2282A21	10.41
0.8 mm	2283A22	1.81	1.53	10 ft.	2282A22	10.41
0.85 mm	2283A23	1.81	1.53	10 ft.	2282A23	10.41
Steel (Cont.)						
0.9 mm	2283A24	$2.80	$2.33	10 ft.	2282A24	$12.55
0.95 mm	2283A25	2.80	2.33	10 ft.	2282A25	12.55
1 mm	2283A26	2.80	2.33	10 ft.	2282A26	13.45
Type 302/304 Stainless Steel						
0.0005″	19875A3	7.75	6.83	10 ft.	2319A1	55.89
0.001″	19875A31	5.92	5.00	10 ft.	2319A2	35.38
0.0015″	19875A32	3.81	3.22	10 ft.	2319A3	22.77
0.002″	19875A33	3.22	2.72	10 ft.	2319A4	19.80
0.0025″	19875A47	3.22	2.72	10 ft.	2319A5	19.80
0.003″	19875A34	3.22	2.72	10 ft.	2319A6	19.80
0.004″	19875A35	3.22	2.72	10 ft.	2319A7	16.61
0.005″	19875A36	2.74	2.31	10 ft.	2319A8	16.61
0.006″	19875A37	2.74	2.31	10 ft.	2319A9	16.61
0.007″	19875A38	2.74	2.31	10 ft.	2319A11	16.61
0.008″	19875A39	2.74	2.31	10 ft.	2319A12	16.61
0.009″	19875A4	2.74	2.31	10 ft.	2319A13	16.61
0.01″	19875A41	2.74	2.31	10 ft.	2319A14	16.61
0.012″	19875A42	2.74	2.31	10 ft.	2319A15	16.61
0.015″	19875A43	2.74	2.31	10 ft.	2319A16	16.61
0.016″	19875A48	3.22	2.72	10 ft.	2319A17	16.61
0.018″	19875A49	3.22	2.72	10 ft.	2319A18	16.61
0.02″	19875A44	3.81	3.22	10 ft.	2319A19	19.09
0.025″	19875A45	3.81	3.22	10 ft.	2319A21	19.09
0.031″	19875A46	3.81	3.22	10 ft.	2319A22	19.09
0.04 mm	2300A1	3.53	2.82	10 ft.	2300A18	18.50
0.05 mm	2300A2	3.69	3.15	10 ft.	2300A19	18.50
0.06 mm	2300A3	3.69	3.15	10 ft.	2300A21	18.50
0.07 mm	2300A4	3.37	2.88	10 ft.	2300A22	16.07
0.08 mm	2300A5	3.37	2.88	10 ft.	2300A23	16.07
0.09 mm	2300A6	3.37	2.88	10 ft.	2300A24	16.07
0.1 mm	2300A7	3.37	2.88	10 ft.	2300A25	16.07
0.15 mm	2300A8	3.03	2.59	10 ft.	2300A26	16.07
0.2 mm	2300A9	2.72	2.46	10 ft.	2300A27	16.07
0.25 mm	2300A11	3.03	2.59	10 ft.	2300A28	16.07
0.3 mm	2300A12	3.03	2.59	10 ft.	2300A29	16.07
0.4 mm	2300A13	3.37	2.88	10 ft.	2300A31	18.50
0.45 mm	2300A14	3.37	2.88	10 ft.	2300A32	18.50
0.5 mm	2300A15	3.69	3.15	10 ft.	2300A33	18.50
0.6 mm	2300A16	3.69	3.15	10 ft.	2300A34	18.50
0.8 mm	2300A17	3.69	3.15	10 ft.	2300A35	18.50
Type 316 Stainless Steel						
0.001″	2315A1	12.71	10.79	10 ft.	2306A1	71.67
0.002″	2315A3	6.74	5.72	10 ft.	2306A3	38.00
0.003″	2315A4	6.74	5.72	10 ft.	2306A4	38.00
0.004″	2315A5	6.74	5.72	10 ft.	2306A5	38.00
0.005″	2315A6	6.74	5.72	10 ft.	2306A6	38.00
0.01″	2315A7	6.74	5.72	10 ft.	2306A7	38.01
0.012″	2315A8	6.74	5.72	10 ft.	2306A8	38.01
0.015″	2315A9	8.11	6.89	10 ft.	2306A9	45.67
0.02″	2315A11	8.11	6.89	10 ft.	2306A11	45.67
0.03″	2315A12	11.79	10.02	10 ft.	2306A12	66.44
Brass						
0.001″	20385A31	4.69	3.97	10 ft.	2317A1	16.55
0.002″	20385A32	2.54	2.15	10 ft.	2317A2	9.49
0.003″	20385A33	2.54	2.15	10 ft.	2317A3	9.49
0.004″	20385A34	2.38	2.03	10 ft.	2317A4	9.49
0.005″	20385A35	2.38	2.03	10 ft.	2317A5	9.49
0.006″	20385A36	2.38	2.03	10 ft.	2317A6	9.49
0.007″	20385A37	2.39	2.03	10 ft.	2317A7	9.49
0.008″	20385A38	2.39	2.03	10 ft.	2317A8	9.49
0.009″	20385A39	2.39	2.03	10 ft.	2317A9	9.49
0.01″	20385A41	2.32	1.97	10 ft.	2317A11	9.49
0.015″	20385A42	2.38	2.03	10 ft.	2317A13	9.49
0.02″	20385A43	2.38	2.03	10 ft.	2317A14	9.49
0.025″	20385A44	2.38	2.03	10 ft.	2317A15	9.49
0.032″	20385A45	2.38	2.03	10 ft.	2317A16	9.49

Assortments

No. of Pcs.	Lg.	Thicknesses (Ranges, where indicated, are in 0.001″ increments.)		Each
Steel				
20	6″	0.001″, 0.0015″, 0.002″ to 0.01″, 0.012″, 0.014″, 0.015″, 0.016″, 0.018″, 0.02″, 0.022″, 0.024″, 0.025″	2058A11	$21.02
32	12″	0.001″, 0.0015″, 0.002″, 0.0025″, 0.003″ to 0.03″	2066A7	43.62
48	12″	3 each: 0.001″, 0.0015″, 0.002″, 0.0025″, 0.003″ to 0.01″, 0.015″, 0.02″, 0.025″, 0.03″	2066A5	51.75
Type 302/304 Stainless Steel				
20	6″	0.0005″, 0.001″, 0.0015″, 0.002″, 0.0025″, 0.003″ to 0.01″, 0.012″, 0.015″, 0.016″, 0.018″, 0.02″, 0.025″, 0.031″	19855A1	47.87
20	12″	0.0005″, 0.001″, 0.0015″, 0.002″, 0.0025″, 0.003″ to 0.01″, 0.012″, 0.015″, 0.016″, 0.018″, 0.02″, 0.025″, 0.031″	19855A2	60.50

Feeler Thickness Gauge Sets

Sets have ½″ wide leaves nested in a steel frame. Each leaf is marked with the thickness. A lock keeps individual leaves secure in any position (except metric tool steel sets with 15 and 25 leaves).



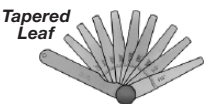



No. of Leaves	Leaf Lg.	Thicknesses	Starrett No.			Economy No.	
Rounded Leaf							
Tool Steel (Inch)							
8	9″	0.002″, 0.003″, 0.004″, 0.005″, 0.006″, 0.008″, 0.01″, 0.015″	—	—	—	2334A5	$13.58
8	12″	0.002″, 0.003″, 0.004″, 0.005″, 0.006″, 0.008″, 0.01″, 0.015″	172E	2070A6	$71.01	2334A6	14.82
9	3″	0.0015″, 0.002″, 0.003″, 0.004″, 0.006″, 0.008″, 0.01″, 0.012″, 0.015″	172A	2070A2	40.95	2334A2	5.84
13	4½″	0.0015″, 0.002″, 0.003″, 0.004″, 0.006″, 0.008″, 0.01″, 0.02″, 0.03″, 0.04″, 0.075″, 0.1″, 0.2″	467	2070A11	113.44	—	—
16	3″	0.002″, 0.003″, 0.004″, 0.005″, 0.006″, 0.008″, 0.011″, 0.012″, 0.013″, 0.014″, 0.016″, 0.018″, 0.02″, 0.022″, 0.025″, and a 2.5″ long ruler blade leaf	—	—	—	8568A11	5.29
22	2 5/16″	0.004″ to 0.025″ (0.001″ increments)	—	—	—	2334A1	12.45
25	12″	0.0015″, 0.002″ to 0.021″ (0.001″ increments), 0.025″, 0.027″, 0.03″, 0.04″	—	—	—	8675A31	33.80
26	3″	0.0015″, 0.002″, 0.0025″, 0.003″ to 0.025″ (0.001″ increments)	66	2070A8	54.13	2334A8	12.13
Tool Steel (Inch) with Certificate of Calibration traceable to NIST							
13	4½″	0.0015″, 0.002″, 0.003″, 0.004″, 0.006″, 0.008″, 0.01″, 0.02″, 0.03″, 0.04″, 0.075″, 0.1″, 0.2″	467	2070A12	150.49	—	—
26	3″	0.0015″, 0.002″, 0.0025″, 0.003″ to 0.025″ (0.001″ increments)	66	2070A43	89.21	—	—
Tool Steel (Metric)							
13	4½″	0.04, 0.05, 0.06, 0.07, 0.08, 0.10, 0.15, 0.20, 0.30, 1.0, 2.0, 3.0, 5.0 mm	467M	2070A52	97.01	—	—
15	3″	0.06, 0.07, 0.08, 0.10, 0.15 to 0.60 mm (0.05 mm increments), 0.70mm	—	—	—	2334A65	6.32
25	3″	0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10 to 1.0 mm (0.05 mm increments)	—	—	—	2334A66	11.64
300 Series Stainless Steel (Inch)							
18	3″	0.0015″, 0.002″, 0.0025″, 0.003″, 0.0035″, 0.004″ to 0.01″ (0.001″ increments), 0.012″, 0.015″, 0.016″, 0.018″, 0.02″, 0.025″	—	—	—	19495A26	22.18
25	12″	0.0015″, 0.002″ to 0.025″ (0.001″ increments)	—	—	—	2331A43	87.08
High-Carbon Spring Steel (Inch)							
25	24″	0.0015″, 0.002″ to 0.021″ (0.001″ increments), 0.025″, 0.027″, 0.03″, 0.04″	—	—	—	8675A32	116.79
High-Carbon Spring Steel (Metric)							
25	12″	0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10 to 1.0 mm (0.05 mm increments)	—	—	—	2334A4	85.21
Tapered Leaf							
Tool Steel (Inch)							
8	6″	0.002″, 0.003″, 0.004″, 0.006″, 0.008″, 0.01″, 0.012″, 0.015″	172CT	2070A4	53.01	—	—
9	3″	0.0015″, 0.002″, 0.003″, 0.004″, 0.006″, 0.008″, 0.01″, 0.012″, 0.015″	172AT	2070A9	42.70	—	—
26	3″	0.0015″, 0.002″, 0.0025″, 0.003″ to 0.025″ (0.001″ increments)	66T	2070A7	70.00	—	—
Tool Steel (Inch) with Certificate of Calibration traceable to NIST							
26	3″	0.0015″, 0.002″, 0.0025″, 0.003″ to 0.025″ (0.001″ increments)	66T	2070A71	96.76	—	—
Tool Steel (Metric)							
13	3″	0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.30, 0.40, 0.50 mm	173MAT	2070A44	57.01	—	—
High-Carbon Steel (Inch)							
9	3″	0.0015″, 0.002″, 0.003″, 0.004″, 0.006″, 0.008″, 0.01″, 0.012″, 0.015″	—	—	—	2334A9	19.24
26	3″	0.0015″, 0.002″, 0.0025″, 0.003″ to 0.025″ (0.001″ increments)	—	—	—	2334A7	20.66
Offset Leaf							
Tool Steel (Inch)							
12	4″	0.008″, 0.01″, 0.012″, 0.013″, 0.014″, 0.015″, 0.016″, 0.018″, 0.019″, 0.02″, 0.025″, 0.026″	—	—	—	8674A41	10.87

Plastic Color-Coded Feeler Thickness Gauges

Each thickness is a different color—no more stopping to read the thickness each time you check gaps. Gauges are also nonmagnetic, nonmarring, noncorrosive, nonsparking, and resistant to oil.

Gauges have square ends and can be cut with scissors. Size is 12″ Lg. × ½″ Wd.

Gauge sets have a fan design to keep gauges together and easily accessible. Leaves are ½″ wide and have rounded ends.



Gauges

Thick.	Color	Pkg. Qty.		Pkg.
0.001″	Amber	5	21035A11	$2.85
0.0015″	Purple	5	21035A12	2.85
0.002″	Red	5	21035A13	2.85
0.003″	Green	5	21035A14	2.85
0.004″	Tan	5	21035A15	2.85
0.005″	Blue	5	21035A16	2.85
0.0075″	Cream	5	21035A17	3.60
0.01″	Brown	5	21035A18	4.50
0.0125″	Black	5	21035A19	5.99
0.015″	Pink	5	21035A21	7.35
0.02″	Yellow	5	21035A22	8.55
0.025″	White	5	21035A23	9.15
0.03″	Orange	5	21035A24	10.35
0.04″	Clear	3	21035A28	8.55
0.05″	Clear	3	21035A29	10.35
0.06″	Clear	3	21035A31	12.60

Gauge Sets

No. of Leaves	Leaf Lg.	Thicknesses		Each
8	12″	0.001″, 0.002″, 0.003″, 0.004″, 0.005″, 0.01″, 0.02″, 0.04″	82755A13	$14.21
13	5″	0.001″, 0.0015″, 0.002″, 0.003″, 0.004″, 0.005″, 0.0075″, 0.01″, 0.0125″, 0.015″, 0.02″, 0.025″, 0.03″	82755A11	16.84
14	12″	0.0005″, 0.001″, 0.0015″, 0.002″, 0.003″, 0.004″, 0.005″, 0.0075″, 0.01″, 0.0125″, 0.015″, 0.02″, 0.025″, 0.03″	82755A12	23.51
16	12″	0.001″, 0.0015″, 0.002″, 0.003″, 0.004″, 0.005″, 0.0075″, 0.01″, 0.0125″, 0.015″, 0.02″, 0.025″, 0.03″, 0.04″, 0.05″, 0.06″	82755A14	26.01

Feeler Thickness Gauge Holders

Cam-lock clamps keep a single ½″ wide feeler thickness gauge in position. Fit gauges 0.001″ to 0.025″ thick and up to 6″ long. Holders are 5¼″ Lg. × 9/16″ Wd. × 3/32″ Thick.

Clamp Location		
One End	2322A11	$30.00
Both Ends	2322A12	33.50


Clamp on One End

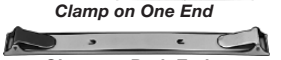
Clamp on Both Ends

Thickness, Ring & Plug Gauges

For information about go/no-go measurement, see page 2307.

Starrett Tapered Thickness Gauges



Starrett No. 270



Starrett No. 269A and No. 269B

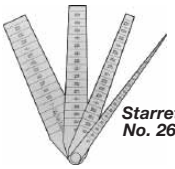

Starrett No. 267

Starrett No. 270 gauge tapers in thickness throughout its length. One side measures in 0.001″ increments, the other in 0.05 mm increments. Made of tool steel. Size is 6¼″ Lg. × 7/16″ Wd. *Certificate of calibration* is traceable to NIST.

Starrett No. 269A and ***269B*** gauges measure in 0.001″ increments. Made of tempered steel. Closed size for 8611A55 is 2½″ Lg. × ½″ Wd.; 8611A56 is 2¾″ Lg. × 1″ Wd.

Starrett No. 267 gauge measures in 1/64″ increments. Made of spring-tempered steel. Closed size is 5¼″ Lg. × 1″ Wd.

Range	No. of Leaves	Starrett No.		
Gauges				
0.010″ to 0.150″ (0.3 to 4 mm)	1	270	8611A53	$118.00
0.100″ to 0.500″	8	269A	8611A55	141.01
0.500″ to 1.000″	10	269B	8611A56	166.00
1/16″ to 1 1/16″	4	267	8611A54	132.00
Gauge with Certificate of Calibration				
0.010″ to 0.150″ (0.3 to 4 mm)	1	270	8611A62	137.69

Combination Wire and Thickness Gauges



Get a tapered gauge, a wire gauge, and an assortment of thickness gauge leaves in one tool. All are steel and closed size is 4¾″ Lg. × ½″ Wd.

Inch—*Tapered gauge* range is 1/64″ to 3/16″ in 1/64″ increments. *Wire gauge* is Birmingham Standard. It has sizes numbered from 19 to 36 plus 1/16″ and 1/8″. The reverse side gives equivalents in 0.001″. *Thickness leaves* are sizes 0.002″, 0.003″, 0.004″, 0.006″, 0.008″, 0.010″, 0.012″, 0.015″, and 1/16″.

Metric—*Tapered gauge* range is 0.5 to 5 mm in 0.5 mm increments. *Wire gauge* is English Standard. It has sizes numbered from 19 to 36 plus 1/16″ and 1/8″. The reverse side gives equivalents in 0.001″. *Thickness leaves* are sizes 0.04, 0.05, 0.06, 0.07, 0.08, 0.10, 0.15, 0.20, 0.30, 1, and 2 mm.

Inch	2323A11	$119.02
Metric	2323A13	187.01

Tapered Thickness Gauges



Replace a set of feeler thickness gauges with just one tapered gauge. Capable of measuring clearance, narrow slots, and gaps, these tools are more durable than other thickness gauges. They measure in 0.005″ increments. Made of black-oxide steel with white numerals for visibility.

Range	Blade Wd.	O'all Lg.		
0.005″ to 0.250″	1/4″	18″	8626A12	$448.04
0.020″ to 0.500″	1/4″	18″	8626A13	571.47
0.020″ to 0.500″	3/8″	18″	8626A14	610.56
0.370″ to 1.000″	3/8″	18″	8626A65	722.29

Ring Gauges



All are made of tool steel. Rockwell hardness is C60-C62. Surface smoothness is 8 microinches for Class Z gauges and 4 microinches for Class X gauges. A certificate of accuracy traceable to NIST is included. **To Order:** Please specify size in 0.0001″ increments.

Go/no-go gauges let you inspect parts, shafts, and rods to determine if they pass or fail the tolerances.

Master gauges set inside micrometers, dial bore gauges, and other precision tools.

	Gauge Tolerances		
Class	**Go**	**No-Go**	**Master**
Z (Up to 0.825″)	–0.0001″	+0.0001″	±0.00005″
Z (0.826″ to 1.51″)	–0.00012″	+0.00012″	±0.00006″
Z (1.52″ to 2.51″)	–0.00016″	+0.00016″	±0.00008″
X (Up to 0.825″)	–0.00004″	+0.00004″	±0.00002″
X (0.826″ to 1.51″)	–0.00006″	+0.00006″	±0.00003″
X (1.52″ to 2.51″)	–0.00008″	+0.00008″	±0.00004″

	CLASS Z GAUGES				***CLASS X GAUGES***			
Sizes	***Go***	***No-Go***	***Master***		***Go***	***No-Go***	***Master***	
0.1501″ to 0.2400″	2261A51	2263A61	2266A71	$128.71	2261A21	2263A31	2266A41	$148.14
0.2401″ to 0.3650″	2261A52	2263A62	2266A72	115.36	2261A22	2263A32	2266A42	133.57
0.3651″ to 0.5100″	2261A54	2263A64	2266A74	112.93	2261A24	2263A34	2266A44	131.14
0.5101″ to 0.8250″	2261A55	2263A65	2266A75	120.21	2261A25	2263A35	2266A45	138.43
0.8251″ to 1.1350″	2261A56	2263A66	2266A76	128.71	2261A26	2263A36	2266A46	146.93
1.1351″ to 1.5100″	2261A57	2263A67	2266A77	156.64	2261A27	2263A37	2266A47	176.07
1.5101″ to 2.0100″	2261A58	2263A68	2266A78	196.71	2261A28	2263A38	2266A48	221.00
2.0101″ to 2.5100″	2261A59	2263A69	2266A79	230.71	2261A29	2263A39	2266A49	262.29

Plug Gauge Handles



Holding 0.03″ to 0.50″ plug gauges is easier with a handle. Go/no-go ends are clearly marked and bushings are not required. Made of aluminum.

Colored Handles— **To Order:** Please specify green, purple, red, or yellow.

Natural Aluminum	2302A55	$17.55
Colored	2302A11	22.80

Universal Plug Gauge Handles



No bushings needed—one handle covers a range of pins. Made of aluminum. One end is green and the other is red.

Range		O'all Lg.		
Inch	**mm**			
0.0110 to 0.0605	0.28 to 1.51	4″	2367A11	$17.90
0.0610 to 0.2505	1.52 to 7.71	5 3/8″	2367A12	19.18
0.2510 to 0.5005	7.72 to 12.71	6 1/8″	2367A13	21.15
0.5010 to 0.6255	12.72 to 15.31	5 1/2″	2367A14	22.53
0.6260 to 0.7505	15.32 to 17.81	5 3/4″	2367A15	25.77
0.7510 to 0.8325	17.82 to 20.37	5 7/8″	2367A16	34.67
0.8330 to 1.0150	20.38 to 25.41	6″	2367A17	35.82

Black-Oxide Class ZZ Plug Gauges



A black-oxide treatment shows wear patterns when calibration or replacement is necessary. Gauges are made of tool steel and are 2″ long. Rockwell hardness is C60-C62; surface smoothness is 10 microinches or better. A certificate of accuracy traceable to NIST is included. Gauges 0.0610″ and larger are marked with size and direction of tolerance.

Go gauge tolerance is +0.0002″. *No-go gauge* tolerance is –0.0002″.

Gauges— **To Order:** Please specify size in 0.0005″ increments.

Gauge Sets— Measure in 0.001″ increments. A case is included.

Sizes	**Pieces Per Set**	***Go Gauges***	***No-Go Gauges***	
Gauges				
0.0110″ to 0.0605″	—	2320A001	2321A001	$3.76
0.0610″ to 0.5005″	—	2320A002	2321A002	3.43
0.5010″ to 0.6255″	—	2320A003	2321A003	4.38
0.6260″ to 0.7505″	—	2320A004	2321A004	6.57
Gauge Sets				
0.0110″ to 0.0600″	50	2327A11	2327A21	74.38
0.0610″ to 0.2500″	190	2327A12	2327A22	163.64

About Go/No-Go Measurement

A go gauge checks the minimum hole diameter. A no-go gauge checks the maximum hole diameter. If the go gauge enters the hole and the no-go gauge is unable to enter, the design specifications of the hole have been met.

Plug Gauges

Also known as pin gauges, use plug gauges for precision go/no-go measuring of hole sizes and depths, checking hole location and distance, and setting micrometers.

Gauges are heat-treated tool steel. Rockwell hardness is C60-C62. They are 2″ long, except extra-long Class ZZ inch style, which are 4″ long. All come with a certificate of accuracy traceable to NIST.

Class Z and ***Class ZZ*** gauges 0.0610″ and 1.52 mm and larger are etched with the size and "+" (go) or "–" (no-go).

	Inch Gauge Tolerances	
Class	Go	No-Go
Z	+0.0001″	–0.0001″
ZZ	+0.0002″	–0.0002″
X (up to 0.8250″)	+0.00004″	–0.00004″
X (0.8251″ to 1.0100″)	+0.00006″	–0.00006″

	Metric Gauge Tolerances	
Class	Go	No-Go
Z	+0.0025 mm	–0.0025 mm
ZZ	+0.005 mm	–0.005 mm
X (up to 20.9600 mm)	+0.001 mm	–0.001 mm
X (20.9625 to 25.654 mm)	+0.0015 mm	–0.0015 mm

Individual Plug Gauges



INCH

Sizes	Go Gauges		No-Go Gauges	
Class Z				
To Order: Please specify exact size needed in 0.0005″ increments.				
0.0110″ to 0.0605″	23055A001	$4.35	23065A503	$4.35
0.0610″ to 0.5005″	23055A002	3.89	23065A504	3.89
0.5010″ to 0.6255″	23055A004	5.33	23065A506	5.33
0.6260″ to 0.7505″	23055A005	7.73	23065A507	7.73
0.7510″ to 0.8325″	23055A006	11.60	23065A508	11.60
0.8330″ to 0.9165″	23055A007	13.25	23065A509	13.25
0.9170″ to 1.0005″	23055A008	13.71	23065A511	13.71
Extra-Long Class ZZ				
To Order: Please specify exact size needed in 0.0001″ increments.				
0.0110″ to 0.3759″	2162A11♦	58.94	2162A51♦	58.94
Class X				
To Order: Please specify exact size needed in 0.0001″ increments.				
0.0040″ to 0.0150″	21135A71	22.59	21135A81	22.59
0.0151″ to 0.0300″	21135A32	22.59	21135A52	22.59
0.0301″ to 0.0750″	21135A33	18.77	21135A53	18.77
0.0751″ to 0.1800″	21135A34	13.05	21135A54	13.05
0.1801″ to 0.2810″	21135A35	13.05	21135A55	13.05
0.2811″ to 0.4060″	21135A36	13.68	21135A56	13.68
0.4061″ to 0.5100″	21135A37	14.95	21135A57	14.95
0.5101″ to 0.6350″	21135A38	15.59	21135A58	15.59
0.6351″ to 0.7600″	21135A39	21.64	21135A59	21.64
0.7601″ to 1.0100″	21135A41	34.77	21135A61	32.29

METRIC

Sizes	Go Gauges		No-Go Gauges	
Class Z				
To Order: Please specify exact size needed in 0.01 mm increments.				
0.22 to 1.51 mm	2281A1	$5.33	2281A9	$5.33
1.52 to 12.71 mm	2281A2	4.83	2281A11	4.83
12.72 to 15.31 mm	2281A3	6.10	2281A12	6.10
15.32 to 17.81 mm	2281A4	9.56	2281A13	9.56
17.82 to 20.37 mm	2281A5	11.48	2281A14	11.48
20.38 to 22.05 mm	2281A6	13.44	2281A15	13.44
22.06 to 23.73 mm	2281A7	15.06	2281A16	15.06
23.74 to 25.41 mm	2281A8	16.94	2281A17	16.94
Class X				
To Order: Please specify exact size needed in 0.0025 mm increments.				
0.101 to 0.381 mm	2301A1	38.40	2301A8	38.40
0.382 to 0.762 mm	2301A2	24.44	2301A9	24.44
0.763 to 1.905 mm	2301A3	14.84	2301A11	14.84
1.906 to 4.572 mm	2301A4	15.71	2301A12	15.71
4.573 to 7.137 mm	2301A16	18.33	2301A17	18.33
7.138 to 10.312 mm	2301A18	19.20	2301A19	19.20
10.313 to 12.954 mm	2301A21	20.95	2301A22	20.95
12.955 to 16.129 mm	2301A5	22.69	2301A13	22.69
16.130 to 19.304 mm	2301A6	24.44	2301A14	24.44
19.305 to 25.654 mm	2301A7	32.29	2301A15	32.29

♦ Price shown is for 1-2 plug gauges of the same size. Deduct 60% for orders of 3-5 pieces of the same size and 75% for orders of 6 pieces and up of the same size.

Plug Gauge Sets



Standard Set



Master Set

Sizes	Pieces Per Set	Go Gauges	No-Go Gauges	
Standard Set with Class Z Inch Gauges— *0.001″ increments*				
0.0110″ to 0.0600″	50	2326A11	2326A31	$81.70
0.0110″ to 0.2500″	240	2326A19	2326A39	251.86
0.0115″ to 0.0605″	50	2326A21	2326A41	81.70
0.0115″ to 0.2505″	240	2326A29	2326A49	251.86
0.0610″ to 0.2500″	190	2326A12	2326A32	183.79
0.0615″ to 0.2505″	190	2326A22	2326A42	183.49
0.2510″ to 0.5000″	250	2326A13	2326A33	272.28
0.2515″ to 0.5005″	250	2326A23	2326A43	272.28
0.5010″ to 0.6250″	125	2326A14	2326A34	319.93
0.6260″ to 0.7500″	125	2326A15	2326A35	353.96
Standard Set with Class Z Metric Gauges— *0.02 mm increments*				
0.22 to 1.50 mm	65	2326A61	2326A65	106.21
Standard Set with Class ZZ Metric Gauges— *0.02 mm increments*				
1.30 to 4.98 mm	185	2326A69	2326A73	194.68
5.00 to 9.98 mm	250	2326A71	2326A74	304.49
10.00 to 13.98 mm	200	2326A72	2326A75	264.56
Master Set with Class Z Inch Gauges— *0.001″ increments*				
0.0110″ to 0.6250″	615	21015A11	21015A21	1,021.10
0.0610″ to 0.7500″	690	21015A12	21015A22	1,324.74

Go/No-Go Plug Gauge with Handle

Includes a handle with bushings and a go plug gauge on one end and a no-go plug gauge on the other.



Sizes		
Class Z Inch		
To Order: Please specify exact go size and no-go size needed in 0.0005″ increments.		
0.0110″ to 0.0755″	21205A21	$21.87
0.0760″ to 0.1805″	21205A22	21.67
0.1810″ to 0.2815″	21205A23	23.27
0.2820″ to 0.4065″	21205A24	23.73
0.4070″ to 0.5005″	21205A25	27.48
0.5010″ to 0.5105″	21205A26	29.79
0.5110″ to 0.6255″	21205A27	36.29
0.6260″ to 0.6355″	21205A28	41.21
0.6360″ to 0.7505″	21205A29	43.56
0.7510″ to 0.7605″	21205A31	51.01
0.7610″ to 0.8325″	21205A32	62.35
0.8330″ to 0.9165″	21205A33	64.19
0.9170″ to 1.0005″	21205A34	65.59
Class X Inch		
To Order: Please specify exact go size and no-go size needed in 0.0001″ increments.		
0.0040″ to 0.0250″	2328A21	58.33
0.0251″ to 0.0750″	2328A83	51.32
0.0751″ to 0.1800″	2328A84	41.42
0.1801″ to 0.2810″	2328A85	41.99
0.2811″ to 0.4060″	2328A86	43.75
0.4061″ to 0.5100″	2328A87	49.00
0.5101″ to 0.6350″	2328A88	56.00
0.6351″ to 0.7600″	2328A89	68.25
0.7601″ to 1.0000″	2328A91	80.50

Plug Gauge Sets & Thread Gauges

For information about go/no-go measurements, see page 2307.

Target-Size Plug Gauge Sets



Get your choice of one target-size gauge with 12 larger gauges and 12 smaller gauges, graduated in increments of 0.0001″. Also known as “tenth step” gauges, they’re often used in metrology labs, quality control departments, and tool rooms for setting snap gauges and comparators. Sets are Class X and Rockwell hardness is C60-C62; surface smoothness is 2 microinches or better. All are 2″ long and made of heat-treated tool steel. Gauges 0.0610″ and larger are etched with size. A case and a certificate of accuracy traceable to NIST are included. **To Order:** Please specify nominal (target) size.

Go gauges have a tolerance of +0.00004″. ***No-go gauges*** have a tolerance of –0.00004″.

Nominal (Target) Size	Go Gauges	No-Go Gauges	
0.0110″ to 0.0609″	2149A11	2149A51	$425.12
0.0610″ to 0.2509″	2149A13	2149A53	211.48
0.2510″ to 0.5009″	2149A15	2149A55	243.82
0.5010″ to 0.7499″	2149A17	2149A57	336.47
0.7500″ to 0.8129″	2149A19	2149A59	471.08

Thread Gauges

Inspect internal and external threads on parts. All are tool steel and include a certificate of accuracy traceable to NIST.
Plug gauges have external (male) threads to measure internal (female) threads.
Ring gauges have internal (female) threads to measure external (male) threads.

Inch and Metric Thread Gauges



Plug Gauge



Ring Gauge

Plug Gauges— Have a taperlock handle with a go gauge on one end and a no-go gauge on the other. They are chrome plated and marked with thread size. Rockwell hardness is C70-C72.

Ring Gauges— The no-go gauges are also known as “lo” gauges. Rockwell hardness is C60-C62.

Inch gauges meet Class X tolerance for pitch diameter: ±0.0002″ for 80 to 36 threads/in.; ±0.0003″ for 32 to 9 threads/in.; and ±0.004″ for 7 threads/in.

Threads have different classes of fit. “Fit” designates the tightness or looseness of the mating threads. For example, inch threads with a 3A fit have tighter tolerances than threads with a 2A fit. *Plug gauges* are offered in 2B and 3B thread fit; *ring gauges* are offered in 2A and 3A thread fit. **To Order:** Please specify thread fit.

Metric gauges meet Class X tolerance for pitch diameter: ±0.005 mm for 0.35 to 0.7 threads/mm and ±0.008 mm for 0.8 to 2 threads/mm. *Plug gauges* have a 6H thread fit; *ring gauges* have a 6g thread fit.

Also Available: Thread gauges with certificate of calibration traceable to NIST.
For *inch plug gauges* please ask for 3157A9 and specify part number and thread fit.
For *inch ring gauges* please ask for 3160A9 and specify part number and thread fit.
For *metric plug gauges* please ask for 3206A9 and specify part number.
For *metric ring gauges* please ask for 3227A9 and specify part number.

Thread Size	Plug Gauges		Ring Gauges Go	Ring Gauges No-Go	
0-80 UNF	2366A501	$137.49	2356A301	2356A401	$159.09
1-72 UNF	2366A503	141.06	2356A303	2356A403	146.36
2-56 UNC	2366A504	134.79	2356A304	2356A404	130.51
3-48 UNC	2366A506	113.48	2356A306	2356A406	129.09
4-40 UNC	2366A508	109.69	2356A308	2356A408	113.84
4-48 UNF	2366A509	112.60	2356A309	2356A409	113.84
5-40 UNC	2366A511	97.94	2356A311	2356A411	105.59
6-32 UNC	2366A513	95.12	2356A313	2356A413	105.59
6-40 UNF	2366A514	95.12	2356A314	2356A414	105.59
8-32 UNC	2366A515	87.27	2356A315	2356A415	110.30
8-36 UNF	2366A516	87.27	2356A316	2356A416	110.30
10-24 UNC	2366A517	87.27	2356A317	2356A417	110.30
10-32 UNF	2366A518	87.27	2356A318	2356A418	110.30
12-24 UNC	2366A519	87.27	2356A319	2356A419	110.30
1/4″-20 UNC	2366A522	82.62	2356A322	2356A422	107.50
1/4″-28 UNF	2366A523	82.62	2356A323	2356A423	107.50
5/16″-18 UNC	2366A524	82.62	2356A324	2356A424	107.50
5/16″-24 UNF	2366A525	82.62	2356A325	2356A425	107.50
3/8″-16 UNC	2366A526	84.95	2356A326	2356A426	117.09
3/8″-24 UNF	2366A527	84.95	2356A327	2356A427	117.09
7/16″-14 UNC	2366A528	84.95	2356A328	2356A428	113.96
7/16″-20 UNF	2366A529	84.95	2356A329	2356A429	113.96
1/2″-13 UNC	2366A531	87.27	2356A331	2356A431	119.83
1/2″-20 UNF	2366A532	87.27	2356A332	2356A432	119.83
9/16″-18 UNF	2366A153	110.55	2356A181	2356A185	141.57
5/8″-11 UNC	2366A533	112.87	2356A333	2356A433	141.25
5/8″-18 UNF	2366A534	112.87	2356A334	2356A434	141.25
3/4″-10 UNC	2366A535	130.05	2356A335	2356A435	177.34
3/4″-16 UNF	2366A536	130.61	2356A336	2356A436	177.34
7/8″-9 UNC	2366A537	$141.60	2356A337	2356A437	$191.68
7/8″-14 UNF	2366A538	144.60	2356A338	2356A438	191.68
1″-8 UNC	2366A539	163.17	2356A339	2356A439	230.88
1″-12 UNF	2366A541	163.17	2356A341	2356A441	230.88
1″-14 UNS	2366A542	163.17	2356A342	2356A442	230.88
1 1/8″-12 UNF	2366A544	200.84	2356A344	2356A444	270.18
1 1/4″-7 UNC	2366A545	210.19	2356A345	2356A445	276.56
1 1/4″-12 UNF	2366A546	210.19	2356A346	2356A446	276.56
M1.6×0.35	23585A103	141.19	23575A102	23575A103	177.76
M2×0.4	23585A107	141.46	23575A106	23575A107	154.18
M2.5×0.45	23585A109	128.64	23575A108	23575A109	154.18
M3×0.5	23585A111	113.83	23575A112	23575A111	132.77
M3.5×0.6	23585A113	129.03	23575A114	23575A113	133.89
M4×0.7	23585A115	113.83	23575A116	23575A115	132.37
M5×0.8	23585A119	113.83	23575A12	23575A119	140.40
M6×1.0	23585A121	90.51	23575A122	23575A121	121.38
M8×1.0	23585A129	90.51	23575A13	23575A129	121.38
M8×1.25	23585A127	90.51	23575A128	23575A127	121.38
M10×1.25	23585A133	106.97	23575A134	23575A133	133.32
M10×1.5	23585A131	103.45	23575A132	23575A131	133.32
M12×1.0	23585A141	134.12	23575A142	23575A141	134.93
M12×1.25	23585A139	111.09	23575A14	23575A139	136.44
M12×1.5	23585A137	111.47	23575A138	23575A137	143.34
M12×1.75	23585A135	111.47	23575A136	23575A135	143.34
M14×1.5	23585A143	120.95	23575A144	23575A143	157.92
M16×1.5	23585A145	120.19	23575A146	23575A145	156.36
M16×2.0	23585A147	120.19	23575A148	23575A147	156.36
M18×1.5	23585A149	132.25	23575A152	23575A149	208.30

NPT Pipe Thread Gauges



Plug Gauge



Ring Gauge

Meet Class X tolerance for pitch diameter: ±0.0002″ for 1/16″-27 to 3/8″-18 thread size and ±0.0003″ for 1/2″-14 to 2″-11 1/2 thread size. Rockwell hardness is C60-C62. Plug gauges have a taperlock handle and also have a notch that indicates when the thread being measured is within tolerance.

Also Available: Thread gauges with certificate of calibration traceable to NIST. Please ask for 2121A9 and specify thread size and plug or ring gauge part number.

Thread Size	Plug Gauges		Ring Gauges	
1/16″-27	2365A11	$86.35	2365A21	$155.41
1/8″-27	2365A111	62.67	2365A211	108.62
1/4″-18	2365A112	71.04	2365A212	119.20
3/8″-18	2365A113	79.40	2365A213	137.31
1/2″-14	2365A114	89.13	2365A214	152.40
3/4″-14	2365A115	$99.74	2365A215	$173.53
1″-11 1/2	2365A116	112.80	2365A216	197.66
1 1/4″-11 1/2	2365A117	122.54	2365A217	215.77
1 1/2″-11 1/2	2365A118	137.89	2365A218	256.49
2″-11 1/2	2365A119	164.35	2365A219	307.79

About Gauge Block Grades and Tolerances

Gauge blocks are classified by grades based on tolerance—the smaller the tolerance the greater the accuracy.

Sizes (S)	Inch Size Tolerances	
	Grade 0	Grade AS-1
0-0.050″	+0.000006″, –0.000006″	+0.000012″, –0.000012″
0.051″-1″	+0.000006″, –0.000006″	+0.000012″, –0.000012″
2″	+0.000008″, –0.000008″	+0.000016″, –0.000016″
3″	+0.000010″, –0.000010″	+0.000020″, –0.000020″
4″	+0.000012″, –0.000012″	+0.000024″, –0.000024″
5″	+0.000016″, –0.000016″	+0.000032″, –0.000032″
6″	+0.000016″, –0.000016″	+0.000032″, –0.000032″
8″	+0.000020″, –0.000020″	+0.000040″, –0.000040″
12″	+0.000028″, –0.000028″	+0.000056″, –0.000056″

Sizes (S), mm	Metric Size Tolerances, mm	
	Grade 0	Grade AS-1
0-5	+0.00014, –0.00014	+0.00030, –0.00030
5.001- 10	+0.00012, –0.00012	+0.00020, –0.00020
10.001- 25	+0.00014, –0.00014	+0.00030, –0.00030
25.001- 50	+0.00020, –0.00020	+0.00040, –0.00040
50.001- 75	+0.00025, –0.00025	+0.00050, –0.00050
75.001-100	+0.00030, –0.00030	+0.00060, –0.00060
125	+0.00040, –0.00040	+0.00080, –0.00080
150	+0.00040, –0.00040	+0.00080, –0.00080
175	+0.00050, –0.00050	+0.00100, –0.00100
200	+0.00050, –0.00050	+0.00100, –0.00100

Gauge Blocks

Precision gauge blocks are vital to dimensional quality control. They're commonly used for exacting layout, machine setup, and production of close-tolerance dies and fixtures. They are also excellent for checking the accuracy of measuring instruments such as micrometers. Blocks are high-carbon, high-chrome steel and have excellent stability and resistance to thermal expansion. They are individually numbered for recalibration at a later date. All meet ASME B89.1.9.

Block size (S) refers to the distance between the block's two measuring surfaces. To get a size that isn't offered below, press two clean blocks together with a twisting/sliding motion.

Rectangular Blocks—Dimension (A) is 0.354″ (9 mm). Dimension (B) for 0″ to 0.400″ blocks is 1.181″ (30 mm); Dimension (B) for 0.450″ blocks and larger is 1.378″ (35 mm).

Square Blocks—Dimensions (A) and (B) are both 0.949″ (24.1 mm).

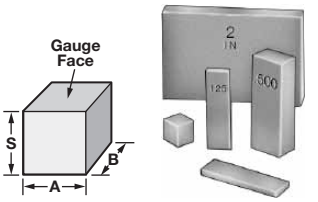

Mitutoyo Grade 0 Gauge Blocks

All include a certificate of accuracy traceable to NIST. **To Order:** Where applicable, specify size from ranges shown in the table.

Also Available: Rectangular Grade AS-1 blocks in inch and rectangular Grade 0 blocks in metric sizes. Ask for 1809A3 for inch or 2249A21 for metric and specify size.

Sizes (S)	Increments		
Rectangular			
0.004″-0.007″	0.001″	19575A12	$118.00
0.008″-0.011″	0.001″	19575A13	99.74
0.012″-0.019″	0.001″	19575A14	92.95
0.02005″	———	19575A138	46.14
0.020″-0.0209″	0.0001″	19575A15	48.76
0.021″-0.035″	0.001″	19575A15	48.76
0.036″-0.039″	0.001″	19575A17	43.80
0.040″-0.049″	0.001″	19575A18	32.85
0.050″-0.090″	0.01″	19575A21	40.80
0.0625″	———	19575A202	40.80
0.078125″	———	19575A65	38.80
0.10005″	———	19575A204	24.90
0.100″-0.1009″	0.0001″	19575A31	25.53
0.101″-0.149″	0.001″	19575A31	25.53
0.150″-0.200″	0.01″	19575A31	25.53

Sizes (S)	Increments		
Rectangular (Cont.)			
0.210″	———	19575A276	$30.50
0.250″	———	19575A277	30.50
0.300″-0.400″	0.05″	19575A41	30.50
0.375″	———	19575A307	30.50
0.450″-0.850″	0.05″	19575A51	36.95
0.900″-0.950″	0.05″	19575A61	40.80
1.000″	———	19575A294	44.50
2.000″	———	19575A295	60.45
3.000″	———	19575A296	67.20
4.000″	———	19575A297	78.30
5.000″	———	19575A298	244.00
6.000″	———	19575A299	289.00
8.000″	———	19575A302	354.00
12.000″	———	19575A304	623.00

Sizes (S)	Increments		
Square			
0.020″-0.0209″	0.0001″	2233A2	$65.24
0.021″-0.030″	0.001″	2233A2	65.24
0.040″	———	2233A34	65.31
0.050″-0.090″	0.01″	2233A3	44.43
0.0625″	———	2233A37	44.43
0.10005″	———	2233A43	29.45
0.100″-0.1009″	0.0001″	2233A4	30.03
0.101″-0.149″	0.001″	2233A4	30.03
0.150″-0.190″	0.01″	2233A4	30.03
0.200″	———	2233A5	29.45
0.250″-0.350″	0.05″	2233A6	37.80
0.400″-0.800″	0.05″	2233A7	47.32
0.850″-1.000″	0.05″	2233A8	52.70
2.000″	———	2233A9	85.55

Gauge Block Sets

Sets consist of rectangular blocks in a case. A certificate of calibration traceable to NIST is included, except Mitutoyo sets, which include a certificate of accuracy traceable to NIST.

9-Block Inch Sets—One block each in sizes 0.0625″, 0.100″, 0.125″, 0.200″, 0.250″, 0.300″, 0.500″, 1.000″, and 2.000″. 2210A12 and A67 include an optical flat to check flatness and parallelism.

34-Block Inch Set—Nine blocks in sizes 0.1001″ to 0.1009″ in 0.0001″ increments; nine blocks in sizes 0.101″ to 0.109″ in 0.001″ increments; nine blocks in sizes 0.110″ to 0.190″ in 0.01″ increments; one block each in sizes 0.100″, 0.200″, 0.300″, 0.500″, 1.000″, 2.000″, and 4.000″.

35-Block Inch Set—One block in size 0.10005″; nine blocks in sizes 0.1001″ to 0.1009″ in 0.0001″ increments; nine blocks in sizes 0.101″ to 0.109″ in 0.001″ increments; 10 blocks in sizes 0.100″ to 0.190″ in 0.01″ increments; one block each in sizes 0.200″, 0.300″, 0.500″, 1.000″, 2.000″, and 4.000″.

36-Block Inch Sets—Nine blocks in sizes 0.1001″ to 0.1009″ in 0.0001″ increments; nine blocks in sizes 0.101″ to 0.109″ in 0.001″ increments; nine blocks in sizes 0.110″ to 0.190″ in 0.01″ increments; five blocks in sizes 0.100″ to 0.500″ in 0.1″ increments; one block each in sizes 0.050″, 1.000″, 2.000″, and 4.000″.

No. of Blocks	Grade	Mfr. Number		
Mitutoyo—Inch				
9	0	516-930-26	2210A12	$341.87
9	AS-1	516-931-26	2210A67	298.18
9	AS-1	516-935-26	2210A68	229.81
35	0	516-914-26	2210A65	987.61
81	0	516-902-26	2210A72	1,960.79
Mitutoyo—Metric				
10	0	516-103-26	2262A1	372.00
10	AS-1	516-101-26	2262A2	286.00
87	0	516-946-26	2262A3	2,506.64
Starrett—Inch				
9	0	RS9.A1	2305A1	323.87
34	0	RS34.A1	2305A9	951.12

★ Tolerance is +0.00005″, –0.00005″.

81-Block Inch Sets—Nine blocks in sizes 0.1001″ to 0.1009″ in 0.0001″ increments; 49 blocks in sizes 0.101″ to 0.149″ in 0.001″ increments; 19 blocks in sizes 0.050″ to 0.950″ in 0.05″ increments; four blocks in sizes 1.000″ to 4.000″ in 1″ increments.

10-Block Metric Sets—One block each in sizes 1, 1.25, 1.5, 2, 3, 5, 10, 15, 20, and 25 mm.

47-Block Metric Set—One block in size 1.005 mm; 19 blocks in sizes 1.01 to 1.19 mm in 0.01 mm increments; eight blocks in sizes 1.2 to 1.9 mm in 0.1 mm increments; 10 blocks in sizes 1 to 10 mm in 1 mm increments; nine blocks in sizes 20 to 100 mm in 10 mm increments.

87-Block Metric Sets—2262A3 has nine blocks in sizes 1.001 to 1.009 mm in 0.001 mm increments; 49 blocks in sizes 1.01 to 1.49 mm in 0.01 mm increments; 19 blocks in sizes 0.5 to 9.5 mm in 0.5 mm increments; 10 blocks in sizes 10 to 100 mm in 10 mm increments.

2226A2 has nine blocks in sizes 1.001 to 1.009 mm in 0.001 mm increments; 50 blocks in sizes 1.01 to 1.50 mm in 0.01 mm increments; 17 blocks in sizes 2 to 10 mm in 0.5 mm increments; nine blocks in sizes 20 to 100 mm in 10 mm increments; one 0.5 mm block; one 1 mm block.

No. of Blocks	Grade	Mfr. Number		
Starrett—Inch (Cont.)				
81	0	RS81.A1	2305A3	$1,685.33
Economy—Inch				
36	0	———	2318A65	446.32
36	AS-1	———	2318A66	371.42
36	AS-2	———	2318A22★	259.91
81	0	———	2318A68	684.32
81	AS-1	———	2318A69	573.52
81	AS-2	———	2318A23★	300.86
Economy—Metric				
47	0	———	2226A1	461.68
87	0	———	2226A2	710.19

Levels

Aluminum



An economical choice, these levels have a lightweight aluminum frame and a top-reading window. They are 2¼″ Ht.×1″ Wd.

Lg.	No. of Vials: Horizontal	No. of Vials: Vertical	Nonmagnetic		Magnetic	
18″	1	2	22675A21	$16.74	2169A2	$19.72
24″	1	2	22675A22	17.75	2169A3	21.85
36″	1	2	22675A23	23.72	2169A4	29.43
48″	1	2	22675A24	28.34	2169A6	34.64
72″	2	3	22675A25	44.18	2169A8	52.58
96″	2	3	22675A67	57.02	2169A67	66.75

Heavy Duty Aluminum

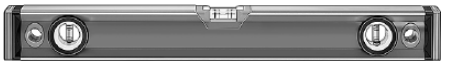

Magnetic

The sturdy box-style frame has precision-machined leveling surfaces. Levels are 2¾″ Ht.×1″ Wd.

Nonmagnetic levels have two hand grips.

Lg.	No. of Vials: Horizontal	No. of Vials: Vertical	Nonmagnetic		Magnetic	
24″	1	2	2188A21	$39.66	2188A51★	$50.56
48″	1	2	2188A23	50.42	2188A53	68.10
72″	1	2	2188A24	89.58	—	—
96″	1	2	2188A25	108.65	2188A55	135.27

★ Has one horizontal, one vertical, and one 45° vial.

Aluminum with Pitch Gauge



Standard

One of the horizontal vials is a pitch gauge that reads slope in ⅛″ increments. Also called torpedo levels, they have a V-groove for stability on curved surfaces and two top-reading windows.

Standard level is 1⅝″ Ht.×⅝″ Wd.

Heavy duty level is 2″ Ht.×¾″ Wd.

Lg.	No. of Vials: Horizontal	No. of Vials: Vertical	No. of Vials: 45°	Magnetic	
Standard					
12″	2	1	1	2169A1	$13.86
Heavy Duty					
12″	2	1	1	2151A14	23.48

Compact Aluminum



Nonmagnetic

Commonly called torpedo levels, all have tapered ends for fitting into small spaces, a V-groove for stability on curved surfaces, and a top-reading window.

Standard levels have a lightweight frame and are 1¾″ Ht.×⅝″ Wd.

Heavy duty level is 2″ Ht.×¾″ Wd.

Glow-vial level has glow-in-the-dark vials that make it easy to read in low light.

Lg.	No. of Vials: Horizontal	No. of Vials: Vertical	No. of Vials: 45°	Nonmagnetic		Magnetic	
Standard							
9″	1	1	1	2151A65	$8.51	2151A45	$10.46
Heavy Duty							
10″	1	1	1	—	—	2151A27	20.88
Glow Vial							
9″	1	1	1	—	—	21525A67	18.35

High-Strength Cast Aluminum



One-piece cast aluminum construction gives these levels strength and durability over time. They have precision-machined edges to ensure accuracy. Levels are 2⅜″ Ht.×1¼″ Wd.

Lg.	No. of Vials: Horizontal	No. of Vials: Vertical	Nonmagnetic	
18″	2	4	2138A1	$29.69
24″	2	4	2138A2	30.95
48″	2	4	2138A3	53.53
Optional Plastic Case for 2138A2			21375A65	12.15
Optional Plastic Case for 2138A3			21375A67	19.10

Heavy Duty Aluminum with Angle Indicator



In addition to the vials, these digital levels have an LCD that shows angle in degrees, % of slope, and pitch (in./ft.). Levels have a sturdy box-style frame and are 2⅜″ Ht.×1″ Wd. Battery is included.

Lg.	No. of Vials: Horizontal	No. of Vials: Vertical	Nonmagnetic	
24″	1	1	21425A61	$137.38
48″	1	1	21425A62	147.14
Optional Padded Vinyl Case for 21425A61			23325A73	19.74
Optional Padded Vinyl Case for 21425A62			21425A81	32.53

Bamboo Mason Level



Strong and durable, bamboo is also lightweight and wet cement won't stick to it. Levels have a top-reading window and are 2½″ Ht.×1⅜″ Wd.

Lg.	No. of Vials: Horizontal	No. of Vials: Vertical	Nonmagnetic	
24″	1	2	2139A6	$44.90
48″	1	2	2139A7	55.46

Black Plastic with Angle Indicator



Nonmagnetic



Magnetic

The LCD on these digital levels shows angle in degrees and % of slope. Batteries are included.

Nonmagnetic level is 2⅛" Ht.×1⅜" Wd. The display inverts when you turn the level upside down. Also measures pitch (in./ft.).

Magnetic level is 1¾" Ht.×¾" Wd.

Lg.	No. of Vials: Horizontal	No. of Vials: Vertical	Nonmagnetic		Magnetic	
6⅝″	—	—	23325A12	$117.67	—	—
7⅞″	1	1	—	—	23325A11	$45.64

Economy Plastic



Standard

The high-impact plastic frame on these torpedo levels has tapered ends for fitting into small spaces and a V-groove for stability on curved surfaces. Levels are approximately 1½″ Ht.×⅝″ Wd.

Lg.	No. of Vials: Horizontal	No. of Vials: Vertical	No. of Vials: 45°	Nonmagnetic		Magnetic	
Standard							
9″	1	1	1	2332A42	$6.55	2332A41	$7.14
High-Visibility							
9″	1	1	1	—	—	21535A68	8.78

Pocket Levels



Nonmagnetic



Magnetic

At ⅝″ high, these levels are small enough to carry around with you.

Nonmagnetic level is plastic and has a magnetic pick-up for retrieving metal parts, a V-groove for stability on curved surfaces, and a pocket clip.

Magnetic level is aluminum.

Lg.	No. of Vials, Horizontal	Nonmagnetic		Magnetic	
4″	1	—	—	2182A24	$17.31
5″	1	2034A15	$3.27	—	—

Mini-Levels with Pipe-End Attachment



A thumbscrew on this aluminum level secures to the end of your pipe or conduit to ensure accuracy when bending. It also has a V-groove for stability on curved surfaces and a top-reading window. Level is 1½″ Ht.×¾″ Wd.

Lg.	No. of Vials: Horizontal	No. of Vials: Vertical	No. of Vials: 45°	No. of Vials: 30°	Magnetic	
5½″	1	1	1	1	3860A67	$46.95

Starrett Precision Levels


No. 98 Machinist


199Z Master Precision

With a precision-machined leveling surface and a highly sensitive, graduated horizontal vial, these cast iron levels provide superior accuracy. *6″-18″ levels* also have a small vial set at a 90° angle to the main vial for checking two planes at the same time.

No. 98 Machinist—Levels have a V-groove for stability on curved surfaces. The 12″ level also has a vertical vial; the 18″ level also has two vertical vials. Sensitivity is 0.014″ to 0.016″/ft. for the 4″ level; it is 0.005″/ft. for all others.

199Z Master Precision—Sensitivity is 0.0005″/ft.

Lg.	Wd.	Ht.	Levels		Replacement Horizontal Vial	
No. 98 Machinist						
4″	7/8″	1 1/8″	21515A21	$110.00	21515A26	$84.15
6″	1 1/4″	1 1/2″	21515A22	130.00	21515A27	93.63
8″	1 1/4″	1 5/8″	21515A23	160.00	21515A28	104.30
12″	1 1/2″	2 3/4″	21515A24	304.00	21515A29	125.63
18″	1 5/8″	2 3/4″	21515A25	461.01	21515A3	170.67
199Z Master Precision						
15″	1 5/8″	3″	21675A22	882.47	21675A32	65.41

Digital Precision Levels



A color LCD and highly accurate sensor allow you to level horizontally or both horizontally and vertically at the same time. Both levels are 2 3/8″ Ht. x 1 1/2″ Wd. They require four AAA batteries (included).

Precision levels with vibration meter also display a real-time vibration graph. They come with USB cable and software, which allows for remote data display.

Levels with NIST certificate include a calibration certificate that's traceable to NIST and includes the test measurements that confirm accuracy.

Lg.	Sensitivity	Levels		Levels with NIST Certificate	
Precision Levels					
7 3/8″	0.002″/ft.	8617T11	$404.78	8617T21	$654.78
Precision Levels with Vibration Meter					
7 3/8″	0.002″/ft.	8617T12	1,004.35	8617T22	1,254.35

Precision Levels


Cross


Horizontal


Square


Triangular Magnetic

Check the accuracy of horizontal and vertical surfaces with these precision-machined levels. All have two highly sensitive vials set at 90° angles for checking two planes at the same time. Levels are insulated to protect the vials from heat transfer that may affect level sensitivity, except cross level is not insulated.

Cross level is cast iron and has two 0.220 dia. mounting holes.

Horizontal levels are cast iron and have a V-groove for stability on curved surfaces.

Square and **triangular-magnetic** levels are steel, except 2330A12 is cast iron. All have two V-groove edges for stability on curved surfaces.

Lg.	Wd.	Sensitivity		
Cross				
3 5/32″	2 9/16″	0.0012″/ft.	21665A31	$649.47
Horizontal				
8″	1 11/16″	0.0006″/ft.	23305A31	853.06
12″	2″	0.0006″/ft.	23305A32	1,042.49
Square				
4″	1 1/4″	0.0006″/ft.	2330A15	1,435.71
6″	1 3/8″	0.0006″/ft.	2330A11	1,645.71
8″	1 9/16″	0.0006″/ft.	2330A12	1,924.84
10″	1 3/4″	0.0006″/ft.	2330A13	2,133.21
Triangular Magnetic				
6″	1 9/16″	0.0006″/ft.	2330A16	1,960.71

Line Levels


Aluminum


Plastic

Lg.	No. of Vials, Horizontal	Aluminum		Plastic	
3″	1	2141A11	$3.02	2141A12	$2.04

Multi-Plane Levels


Two-Plane Cross Aluminum


Three-Plane L-Shape Brass

Adjust a surface into a level position on multiple planes.

Two Plane—Two vials are set at 90° angles to allow you to level in two directions simultaneously. The *plastic* and *aluminum* levels have two 5/32″ dia. mounting holes.

Three Plane—This level has two vials set at 90° angles, but also has a third vial for checking squareness.

	Material	Lg.	Wd.	Thick.		
Two Plane						
L-Shape	Cast Iron	2 3/4″	2 3/4″	5/8″	2212A52	$38.72
Cross	Plastic	1 7/8″	1 1/2″	5/8″	3355A35	3.77
Cross	Aluminum	2 1/4″	2″	1/2″	3355A37	77.90
Three Plane						
L-Shape	Brass	3″	2″	1/2″	2212A51	52.62

Post Levels

Use these 90° levels to position posts and corners. They're made of plastic and have a rubber strap. Each leg is 3 1/2″ long.

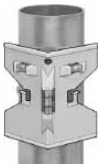

Ht.	No. of Vials: Horizontal	No. of Vials: Vertical	Nonmagnetic		Magnetic	
5 1/8″	2	1	2186A17	$5.29	2186A18	$6.95

Levels for Long Distances

One person is all you need to determine level around corners and over long distances. Mount this plastic level with the tubing installed at your desired height. Fill the other end of the tubing with water and raise it until the electronic sensor buzzes, marking the matching level point. Add more tubing (sold separately below) to find a level point up to 100 feet away. Requires one 9-volt battery.



	Accuracy		
Level with 25-ft. Tubing	±1/16″	2223A62	$32.92
Extra 25-ft. Tubing Section with Connector		2223A63	16.35

Tilt Indicators


Single Axis


Dual Axis

A ball inside a level tube indicates the side-to-side tilt angle. Indicators are black plastic with white lettering.

Single-axis indicators have an adhesive strip on the back for mounting, except indicator with 0° to 3° range.

Dual-axis indicators measure 40° front-to-back tilt in addition to side-to-side tilt. They come with a mounting bracket and fasteners.

Side-to-Side Range	Side-to-Side Accuracy	Graduations	Lg.	Ht.	Thick.		
Single Axis							
0° to 3°	±0.5°	0.5°	9″	2″	1 1/8″	20035A35	$38.02
0° to 6°	±0.8°	1°	3 5/8″	5/8″	3/8″	20035A26	31.00
0° to 10°	±1°	1°	3 1/2″	1 1/2″	3/8″	20035A22	32.62
0° to 15°	±1.5°	5°	5″	2″	1/2″	20035A34	23.44
0° to 26°	±1.2°	1°	5 1/8″	2 1/8″	1/2″	20035A25	33.44
0° to 45°	±1.8°	5°	3 1/2″	1 5/8″	3/8″	20035A21	33.34
0° to 45°	±1.8°	5°	4″	1 3/4″	3/8″	20035A36	19.79
0° to 50°	±2°	5°	6 3/8″	2 7/8″	3/4″	20035A23	39.16
0° to 26°/ 0° to 6°	±1.2°/±1.0°	1°	5 1/8″	2 1/8″	7/8″	20035A28	69.78
Dual Axis							
0° to 25°	±1.5°	5°	5 3/4″	2 3/8″	2 1/4″	3799A31	39.53
0° to 45°	±1.8°	5°	5″	2 3/8″	2 1/4″	3799A34	37.91

Bull's Eye Levels

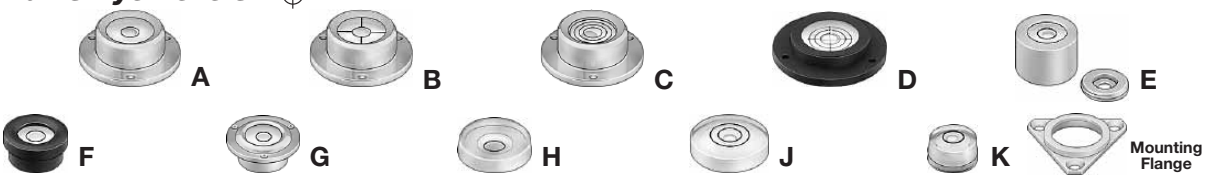

Be spot-on in all directions of a horizontal plane with these circular levels. **Glass** offers better resistance to temperature variations and chemicals than plastic. **Plastic** is more durable than glass.

Glass Surface-Mount Levels—Have a chrome-plated brass housing and three mounting holes. *Style B* has cross lines. *Style C* has concentric circles.

Plastic Surface-Mount Levels—All have concentric circles and three mounting holes. 2308A34 and 2308A35 have a plastic housing, while 2308A37 and 2308A38 have an aluminum housing.

Glass Two-Piece Surface-Mount Level—This level has a mounting disc that attaches to your surface with an included fastener; the level has an aluminum housing and screws into the mounting disc.

Glass Recess-Mount Levels—These levels slip into a drilled hole. *Style F* has a brass housing with a black finish and fits into a 47/64″ dia. hole. *Style G* is chrome-plated brass, fits into an 1 1/16″ hole, and has three mounting holes.

Glass Level Vials—The bottom of the vial may not be completely level; you must level the vial when mounting.

Plastic Level Vials—*Style K* can be used with the optional mounting flange; the flange requires three No. 4 flat head screws.

	Base Dia.	O'all Ht.	No. of Centering Circles	Sensitivity, min./0.1″	Mounting Hole Dia.		
Glass Surface-Mount Levels							
A	1 1/16″	5/16″	1	130	0.07″	2308A8	$12.04
A	7/8″	3/8″	1	45	0.09″	2308A5	13.27
A	1″	7/16″	1	45	____	3329A31■	12.10
A	1″	7/16″	1	45	0.09″	2308A6	13.44
A	1 1/4″	7/16″	1	45	0.12″	2308A7	14.56
A	1 7/16″	1/2″	1	20	0.12″	2308A9	20.22
A	1 3/4″	5/8″	1	10	0.12″	2308A4	33.50
A	2 1/4″	1 1/16″	1	10	0.14″	2308A1	56.77
A	2 3/4″	1 1/16″	1	10	0.14″	2308A2	62.15
B	1″	7/16″	1	45	0.09″	2198A84	13.30
B	1 1/4″	7/16″	1	45	0.12″	2198A85	13.90
B	1 3/4″	5/8″	1	10	0.12″	2198A87	34.50
C	1 7/16″	1/2″	2	24▲	0.12″	2198A86	18.20
C	1 3/4″	5/8″	4	1▲	0.12″	2308A27	60.88
C	2 1/4″	1 1/16″	4	60▲	0.14″	2308A3	82.91
C	2 3/4″	1 1/16″	7	1▲	0.14″	2198A72	139.35
C	2 3/4″	1 1/16″	7	30▲	0.14″	2198A88	122.96
C	2 3/4″	1 1/16″	3	300▲	0.14″	2198A83	93.85
Plastic Surface-Mount Levels							
D	3 15/16″	9/16″	4	30	0.20″	2308A34	27.61
D	3 15/16″	9/16″	6	38	0.20″	2308A35	27.61

■ Has a magnetic back. ▲Minutes/division.

	Base Dia.	O'all Ht.	No. of Centering Circles	Sensitivity, min./0.1″	Mounting Hole Dia.		
Plastic Surface-Mount Levels (Cont.)							
D	3 15/16″	3/4″	3	30	0.20″	2308A37	$82.34
D	3 15/16″	3/4″	4	61	0.20″	2308A38	82.34
Glass Two-Piece Surface-Mount Level							
E	13/16″	9/16″	1	45	0.17″	22395A21	11.30
Glass Recess-Mount Levels							
F	7/8″	7/16″	1	130	____	22325A11	10.70
G	1″	3/8″	1	45	0.07″	22325A12	15.00
Glass Level Vials							
H	3/8″	3/16″	1	130	____	2201A61	5.70
H	1/2″	3/16″	1	45	____	2201A63	5.50
H	5/8″	1/4″	1	45	____	2201A64	5.50
H	3/4″	5/16″	1	45	____	2201A65	6.50
H	7/8″	5/16″	1	20	____	2201A72	9.44
H	1″	5/16″	1	10	____	2201A67	11.52
H	1 1/2″	3/8″	1	10	____	2201A73	33.50
H	2″	3/8″	1	10	____	2201A71	35.80
Plastic Level Vials							
J	1 3/8″	9/16″	2	40	____	2147A11	5.67
K	5/8″	5/16″	1	40	____	2147A61	3.14
Mounting Flange for Style K						2147A71	2.07

Tubular Levels



Whether you choose a level that mounts on a horizontal or vertical surface, all indicate when you're level on the horizontal plane. Levels have a glass vial with graduations, unless noted. Levels with a brass housing have a black finish.

	Lg.	Wd.	Ht.	*Sensitivity* in./ft.	*Sensitivity* °/graduations	Mounting Hole Dia.	Housing Material		
Horizontal-Surface Mount									
L	3 3/4″	5/8″ dia.	____	0.0012	20 sec./2 mm	0.22″	Brass	2160A5	$76.30
L	3 3/4″	5/8″ dia.	____	0.0034	1 min./2 mm	0.22″	Brass	2160A7	63.04
L	4 13/16″	5/8″ dia.	____	0.0069	2 min./0.1″	0.19″	Chrome-Plated Brass	2160A1	96.98
M	6 3/8″	13/16″ dia.	____	0.0003	6 sec./2 mm	3/8″	Brass	2160A2	171.20
N	2 15/16″	9/16″	9/16″	0.0332	9.5 min./0.05″	0.15″	Aluminum	2160A3	28.60
N	2 15/16″	9/16″	9/16″	0.0332	9.5 min./0.05″	0.15″	Plastic	2160A4	9.80
N	2 15/16″	9/16″	9/16″	0.1569	____	0.15″	Plastic	2160A9 ★	9.50
N	3″	9/16″	9/16″	0.1569	45 min./0.1″	0.15″	Plastic with Magnetic Back	3329A46 ♥	10.50
P	2 3/16″	7/16″	5/16″	0.17	50 min./2 mm	0.09″	Aluminum	2160A36 ♦	16.35
P	2 3/16″	7/16″	5/16″	0.17	50 min./2 mm	0.09″	Chrome-Plated Aluminum	2160A37 ♦	17.05
P	2 1/2″	1/2″	5/8″	0.0034	1 min./2 mm	1/8″	Brass	2160A11	73.30
P	3 3/8″	5/8″	3/4″	0.0034	1 min./2 mm	1/8″	Brass	2160A6	69.50
Vertical-Surface Mount									
Q	1 1/2″	1 1/8″	9/16″	0.1396	45 min./0.1″	____	Brass with Magnetic Back	3329A53	49.10
R	2″	13/16″	9/16″	0.0349	10 min./2 mm	0.14″	Brass	2209A74	53.20
S	4″	1/2″	5/8″	0.0436	12 min./0.15″	0.14″	Brass	2209A76	63.11
T	2″	3/8″	1/2″	0.1222	____	0.13″	Brass	2209A73 ♦	42.40
T	2″	1/2″	5/8″	0.0044	150 sec./0.1″	0.14″	Brass	2209A72	49.92
U	1 1/4″	1″	5/8″	0.0044	150 sec./0.1″	0.16″	Brass	2209A71	49.50
U	2″	1″	1/2″	0.0349	11 min./2 mm	0.15″	Brass	2209A75	49.50

★ Plastic vial with no graduations. ♥ Plastic vial. ♦ No graduations.

Level Vials

Replace broken vials in tools and equipment. You can also snap a vial in an optional mounting flange to attach to any surface with adhesive or a fastener (not included); flanges have a 1/8″ mounting hole. Vials are plastic.

2148A72 has graduated divisions and shows pitch from 0 to 1/2″/ft.

3338A22 has two mounting holes.

Size	Lg.	Sensitivity in./ft.	Sensitivity min./0.1″	Level Vials 1-19	Level Vials 1-19	Level Vials 20-Up	Mounting Flanges 1-19	Mounting Flanges 1-19	Mounting Flanges 20-Up
Tubular									
1/4″ dia.	5/8″	0.16	46	2148A81	$2.03	$1.62			
5/16″ dia.	7/8″	0.16	45	2148A65	1.97	1.57	2148A74	$2.21	$1.76
3/8″ dia.	1″	0.20	60	2148A66	1.79	1.43	2148A77	4.38	3.50
3/8″ dia.	1 3/8″	0.13	38	2148A67	3.16	2.53	2148A77	4.38	3.50
3/8″ dia.	1 9/16″	0.13	28	2148A72	2.98	2.38	2148A77	4.38	3.50
3/8″ dia.	1 9/16″	0.13	38	2148A68	1.26	1.00	2148A77	4.38	3.50
3/8″ dia.	1 3/4″	0.13	38	2148A69	1.69	1.36	2148A77	4.38	3.50
7/16″ dia.	2″	0.13	38	2148A71	6.01	4.81			
Square									
7/16″ sq.	1 1/8″	0.15	44	3338A14	2.34	2.05			
5/8″ sq.	1 9/16″	0.15	44	3338A16	2.35	2.05			
5/8″ sq.	2 3/16″	0.13	38	3338A22	1.22	1.07			


Tubular


Square—1 1/8″ and 1 9/16″ Lg.


Square—2 3/16″ Lg.

Digital Angle Indicators



Indicators display highly accurate angle, level, and tilt measurements. They come set at true 0°, but you can choose an alternate zero point with the push of a button. Another button will freeze the reading on the display. Indicators are aluminum with machined leveling surfaces, a V-groove for stability on curved surfaces, and two 6-32 threaded holes for mounting. Overall accuracy is ±0.2°. They are 6″ Lg. × 1 1/4″ Wd. × 2″ Ht. Battery is included.

21465A82 and 21465A72 have an RS-232 compatible serial port, which can be used for ASCII output.

Indicators with NIST certificate include a calibration certificate that is traceable to NIST and includes the test measurements that confirm accuracy.

Range	Measuring Increments	Accuracy	Indicators		Indicators with NIST Certificate	
360° (90° × 4)	0.1°	±0.1° (0° to 10°)	21465A81	$198.15	21465A71	$363.15
360° (90° × 4)	0.01° (0° to 10°)	±0.05° (0° to 10°)	21465A82	337.04	21465A72	502.04

Mini Digital Angle Indicators

Only 2 1/4″ square and 1″ thick, these magnetic indicators provide digital angle readings. They allow you to choose an alternate zero point with the push of a button. These indicators also have auto shutoff.

Indicator has an aluminum housing. Accuracy is ±0.2°. Requires one AAA battery.

Indicator with level also shows level on the display and has a hold button that freezes the reading. The display pops up for easy viewing. It has a plastic housing with an aluminum V-groove for stability on curved surfaces. Accuracy is ±0.1°. It requires two AAA batteries.


Indicator


Indicator with Level

Range	Measuring Increments	Indicator		Indicator with Level	
±180°	0.1°	3353A67	$38.10	3353A78	$50.57

Digital Angle Indicators with Remote Display



Electronic sensor and display are connected by a 4-ft. cable so you can measure angles from a distance. They can be mounted up to 200 feet apart by replacing the included cable with a longer cable length (sold separately). The display unit has a plastic housing; size is 5″ Lg. × 3 1/2″ Ht. × 1 1/4″ Dp. The sensor is 2 1/2″ Ht. × 3/4″ Dp. Requires one 9-volt battery.

Also Available: Longer cable lengths. Please ask for 21955A31 and specify 10, 20, 30, 40, 50, 100, 150, or 200 ft.

Range	Measuring Increments	Accuracy		
±19.99°	0.01°	±0.1° (0° to 10°)	21955A58	$515.00
±45°	0.1°	±0.1° (0° to 10°)	21955A57	515.00

Digital Protractor and Angle Finders

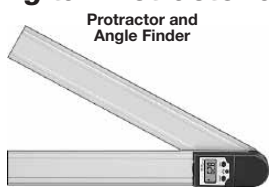
Protractor and Angle Finder


Protractor and Angle Finder with Level

Large digital displays on these aluminum tools provide easy-to-read angle calculations. Batteries are included.

Protractor and Angle Finders—These magnetic tools have one digital display and a lock to hold the arms in position. Closed size is 2″ Ht. × 1/2″ Thick.

Protractor and Angle Finder with Level—This tool has front and back digital displays, as well as horizontal and vertical vials. It also has a memory that stores angle measurements, a calculator to determine exact angles of cuts, a hold button that freezes the display, and auto shutoff. Closed size is 2 3/8″ Ht. × 1 3/8″ Thick.

Protractor and Angle Finder with Level and Laser—A dot laser extends the working distance 200 feet beyond the tool length. It has two digital displays that invert when turned upside down; one shows the base angle and the other shows the moveable arm angle. This magnetic tool also has a lock to hold the arm in position, a hold button that freezes the display, auto shutoff, and 1/4″-20 threads for connecting to a tripod. Closed size is 2 1/2″ Ht. × 1 1/2″ Thick.

Lg.	Range	Measuring Increments	Accuracy		
Protractor and Angle Finders					
8″	180°	0.1°	±0.1°	8521A33	$68.89
18″	180°	0.1°	±0.1°	8521A34	77.78
Protractor and Angle Finder with Level					
17″	220°	0.1°	±0.1°	8521A31	194.74
Protractor and Angle Finder with Level and Laser					
21″	180°	0.1°	±0.1°	8521A46	216.12

Angle Indicators

These indicators have a dial that is divided into four quadrants for reading any angle in a 360° range.

Plastic Pitch and Angle Indicator—Two quadrants read angles from 0° to 90°; the opposite two quadrants read pitch (in./ft.).

Plastic Angle Indicators—Have four quadrants that each read any angle from 0° to 90°.

Aluminum Angle Indicator—Reads any angle from 0° to 90° in each of four quadrants. Base is precision machined for accuracy.

Dial Dia.	Magnetic Base	V-Groove Edge	Base Lg.	Accuracy	With Vials: No. of Vials Horizontal	With Vials: No. of Vials Vertical	With Vials		Without Vials	
Plastic Pitch and Angle Indicator										
3″	No	No	4″	±1°	–	–			20025A41	$8.40
Plastic Angle Indicators										
1 3/4″	No	No	1 3/4″	±0.5°	–	–			20025A39	7.44
2 3/4″	Yes	No	2 1/4″	±0.5°	1	–	20025A38	$13.90	20025A37	11.66
2 3/4″	Yes	Yes	3 5/8″	±0.5°	1	1	20025A34	16.38	20025A33 ♣	9.58
4″	No	Yes	5″	±0.5°	1	1	20025A31	19.74	20025A32	14.14
4″	Yes	Yes	3 1/2″	±0.5°	1	–	20025A36	20.36	20025A35	17.50
Aluminum Angle Indicators										
3″	Yes	Yes	4″	±0.5°	1	1	20145A42	62.94		

♣ Does not have magnetic base.


Plastic Pitch and Angle Indicator


Plastic Angle Indicator


Aluminum Angle Indicator

Magnetic-Mount Angle Indicators


Economy


Heavy Duty

Set, transfer, and check angles. These indicators have a magnetic base—mount to a ferrous surface and rotate the dial until it reads level on the horizontal vial.

Economy—Made of lightweight plastic, this indicator is 2 5/8″ Lg. × 3/4″ Wd. × 3″ Ht. and has a 2″ dia. dial.

Heavy Duty—Base has a V-groove for stability on curved surfaces. Made of aluminum, this indicator is 9″ Lg. × 7/8″ Wd. × 2″ Ht. and has a 1 3/4″ dia. dial.

	Range	Measuring Increments	Accuracy		
Economy	0° to 90°	5°	±5°	2150A25	$8.50
Heavy Duty	0° to 90°	2 1/2°	—	2145A11	78.04
Replacement Vial for Heavy Duty Indicator				2195A11	34.82

Parallels

Excellent for inspection and layout on surface plates. Also use for setups on drill presses and milling and grinding machines.

Two-Sided Parallel Sets


10-Pair Set

Sets are hardened tool steel, except the 20-pair set is spring steel.

Pairs Per Set	Lg.	Wd.	Height Range	Parallel Tolerance		
9	6″	1/4″	3/8″-7/8″	±0.0001″	8642A67	$484.24
9	6″	1/4″	15/16″-17/16″	±0.0001″	8642A68	483.75
10	6″	1/8″	1/2″-1 5/8″	±0.0008″	86425A65	167.06
20	6″	1/32″	1/2″-1 11/16″	±0.0001″	8644A7	206.72
22	6″	1/4″	1/2″-1 13/16″	±0.0001″	8642A61	1,214.05

Two-Sided Parallel Pairs

Parallels are hardened tool steel.

To Order: Please specify exact height from the range listed in the table.

Lg.	Wd.	Available Heights	Parallel Tolerance		Pair
6″	1/4″	3/8″ to 2″ in 1/16″ increments	±0.0001″	8642A3	$53.83

Four-Sided Parallel Pairs

Parallels are steel.

Lg.	Wd.	Ht.	Parallel Tolerance		Pair
6″	1/4″	1/2″	±0.0001″	2259A12	$111.01
6″	1/4″	3/4″	±0.0001″	2259A14	111.01
6″	3/8″	3/4″	±0.0001″	2259A17	111.01
6″	1/2″	1″	±0.0001″	2259A21	121.01
12″	3/4″	1″	±0.0002″	2259A28	413.21
12″	1″	2″	±0.0002″	2259A33	534.86

Starrett No. 154 Adjustable Parallels



No need for dozens of parallels, these two-piece parallels adjust to the exact height you need. Use them for leveling work when setting up milling and grinding machines, planers, and drill presses. Parallels are steel and 9/32″ thick.

Height Range	Lg.	Parallel Tolerance	Starrett No.		
Individual Parallels					
3/8″-1/2″	1 3/4″	±0.0005″	154A	2211A11	$33.50
1/2″-11/16″	2 1/8″	±0.0005″	154B	2211A12	35.50
11/16″-15/16″	2 11/16″	±0.0007″	154C	2211A13	37.01
15/16″-1 5/16″	3 9/16″	±0.0007″	154D	2211A14	41.01
1 5/16″-1 3/4″	4 3/16″	±0.0009″	154E	2211A15	46.50
1 3/4″-2 1/4″	5 1/16″	±0.0009″	154F	2211A16	51.01
Parallel Sets in Vinyl Cases					
Set of Four (3/8″-1/2″ to 15/16″-1 5/16″ high)			S154SZ	2211A21	157.01
Set of Six (3/8″-1/2″ to 1 3/4″-2 1/4″ high)			S154LZ	2211A22	264.00

Center Locators and Angle Indicators



Find the center of square and round materials, such as structural framing and pipe, and determine setup angles on milling machines and grinders. These instruments have a magnetic V-base with a pointed punch to accurately mark the center of workpieces. Made of aluminum, all are 5 1/4″ Ht. × 5″ Wd. × 1″ Dp. and have a 2″ dia. dial.

Use the **clockwise dial** for moving in a counterclockwise direction. Use the **counterclockwise dial** for moving in a clockwise direction.

Range	Measuring Increments	Accuracy		
±90°	1°	±0.5°	2194A17	$319.94
360° with Clockwise Dial	1°	±0.5°	2194A19	319.94
360° with Counterclockwise Dial	1°	±0.5°	2194A18	319.94
Replacement Plastic Dial Cover			2194A21	25.40
Optional Metal Case			2194A22	47.72

Starrett No. 466 Angle Gauge Sets



Measuring 4 3/16″ Lg. × 1 1/16″ Wd., this steel gauge has 18 leaves that swing out when you want to quickly check an angle. There's one leaf for each of the following angles: 1°, 2°, 3°, 4°, 5°, 7°, 8°, 9°, 10°, 12°, 14°, 14 1/2° (half the Acme standard 29°), 15°, 20°, 25°, 30°, 35°, and 45°.

8612A57 ..... $155.01

Parallel Straightedges



Level machinery, check surface flatness, and scribe work positions with these cast iron straightedges. The top and bottom faces are precision ground within 0.0001″ per 12″.

Lg.	Wd.	Ht.	Wt., lbs.		
24″	1″	2″	10	2213A1	$554.53
36″	1 1/2″	3″	27	2213A2	805.39
48″	1 1/2″	3″	36	2213A3	1,031.88
72″	2″	4″	110	2213A5	1,811.88

Sight Levels


Nonmagnifying


Magnifying

Use these compact instruments to establish a level sight line. All have an enclosed vial.

Nonmagnifying level has crosshair and reference lines on the lens. Level is aluminum and has a pocket clip.

Magnifying level has a telescoping eyepiece that provides 2X magnification; extended length is 7 1/2″. Level is brass and comes with a case.

	Lg.		
Nonmagnifying	5″	19225A62	$19.40
Magnifying	6″	19225A67	72.02

Telescoping Leveling Rods



An integral component of sight leveling, use these telescoping rods in conjunction with sight levels. They extend to the length you need, then collapse for convenient storage.

Fiberglass rods are nonconductive.

Overall Length Open	Closed	Graduations		
Aluminum Rectangular				
8 ft.	3 ft., 0 in.	ft./in./8ths	19235A55	$43.39
16 ft.	5 ft., 0 in.	ft./in./8ths	19235A56	67.18
Fiberglass Rectangular				
13 ft.	4 ft., 10 in.	ft./10ths/100ths	19235A59	83.95
Fiberglass Oval—With carrying case				
25 ft.	4 ft., 10 in.	ft./10ths	19235A69	221.95
Optional Case for Fiberglass Rectangular			19235A61	18.95

Long Distance Sight Levels

Commonly seen in the hands of surveyors, sight levels rotate 360° to find horizontal level when grading for elevation. All have 5/8″-11 female threads for mounting on a tripod.

Level with angle indicator, also called a transit level, tilts up and down to determine incline and can be set to use only as a level. It has three leveling screws to adjust line of sight.

Sets—In addition to the instrument, both come with an aluminum leveling rod that telescopes from 3- to 8-ft. high and an aluminum tripod that adjusts from 38″ to 63″ high.


Level

	Magnification	Accuracy	Working Distance	Horizontal Range	Horizontal Grads.	Vertical Range	Vertical Grads.	Individual Instruments		Sets	
Level	24X	1/16″ @ 100 ft.	300 ft.	0° to 360°	1°	—	—	1926A47	$342.34	1926A57	$432.91
Level with Angle Indicator	20X	1/4″ @ 100 ft.	200 ft.	0° to 360°	15 min.	0° to 45°	1°	1926A44	493.92	1926A54	593.92

Tripods

Sharp-point feet on this tripod provides stability on turf, dirt, and gravel. It's aluminum and has a flat head. An opening in the head allows use with optical and laser plumb instruments. It comes with changeable rubber pads for the feet.



Mounting Threads, Male	Ht.		
5/8″-11	42″ to 65″	8973A81	$88.02

Chalk Line Reels

Fill these reels with powdered chalk and you'll be ready to snap a line. Chalk is sold separately.

Compact—Small enough to fit in your pocket. Case is aluminum.

Quick Return—Rewinds three times faster than compact reels. Case is plastic with an aluminum front.

High Capacity—With over five times the chalk capacity of other reels, these handle big jobs and make bold lines. Case is orange plastic.


Compact


Quick Return


High Capacity

Cord Lg., ft.	Chalk Cap., oz.	Chalk Line Reels		Replacement Lines	
Compact					
50	2	2026A11	$7.73	2026A13	$2.13
100	2	2026A12	8.16	2026A14	2.69
Quick Return					
100	2	2267A28	12.88	2267A68	4.29
High Capacity					
100	15	23605A16	25.98	23605A14	9.52
150	24	23605A24	42.58	23605A14	9.52

Chalk for Chalk Lines

Powdered Chalk

The lime and orange are high-visibility fluorescent colors.

Color	8-oz. Bottles		12-oz. Bottles		5-lb. Bottles	
Black	2159A12	$1.58	2159A15	$2.00	2159A44	$8.66
Blue	2159A21	1.58	2159A25	2.09	2159A65	8.66
Red	2159A18	1.58	2159A23	2.09	2159A63	8.66
White	2159A19	1.58	2159A24	2.09	2159A64	8.66
Yellow	2159A22	1.58	2159A26	2.09	2159A66	8.66
Lime	2159A34	2.51	—	—	2159A35	13.82
Orange	2159A67	2.60	—	—	2159A69	13.82

Long-Lasting Powdered Chalk

Chalk leaves a water-resistant mark that lasts three times longer than marks made with other powdered chalk.

Color	Bottle Size		
Black	8 oz.	3342A34	$3.62
Blue	8 oz.	3342A33	3.62
Red	8 oz.	3342A32	3.62

Solid Chalk

Color	Dia.	Ht.	Pkg. of 72	
Blue	2 1/4″	1″	22015A2	$21.06
White	2 1/4″	1″	22015A1	21.06

Plumb Bobs


Chrome-Plated Steel


Brass-Plated Steel


Chrome-Plated Steel Plumb Bob with Cord Reel

Plumb Bobs—Have a removable cap for cord connection. *Chrome-plated steel* bobs have a hex body. *Brass-plated steel* bobs have a round body with a replaceable steel point. *25-yd. cord spool* has 1/16″ braided nylon cord and is for all bobs that weigh 5 to 32 oz.

Chrome-Plated Steel Plumb Bob with Cord Reel—Use the steel pin, adjustable hook, or magnet to mount. The bob has a round body and comes with 14 1/2 feet of nylon braided cord that retracts automatically when not in use.

Weight, oz.	Lg.	Dia.		
Chrome-Plated Steel Plumb Bobs				
5	3 1/2″	7/8″	2161A11	$5.86
8	4″	1″	2161A12	6.21
12	4 1/2″	1 1/8″	2161A13	9.07
Brass-Plated Steel Plumb Bobs				
8	4 3/8″	1 1/8″	2178A2	21.10
12	5″	1 3/8″	2178A4	23.02
16	5 1/4″	1 3/8″	2178A5	25.06
24	6 1/8″	1 7/8″	2178A6	34.80
32	7 1/8″	2″	2178A64	45.94
Replacement Steel Point for Brass-Plated Steel Bobs			2178A7	3.08
25-yd. Cord Spool			2178A8	8.11
Chrome-Plated Steel Plumb Bob with Cord Reel				
14	5 7/8″	1 1/4″	2240A44	44.83

Compasses

These compasses have a 0° to 360° scale. They're made of plastic and come with a lanyard.

Compass with cover has a mirror with a sight line.


Compass with Cover

	Grads.	Accuracy	Ht.	Wd.	Dp.		
Compass	2°	±5°	3 1/2″	2 1/4″	1/2″	20185A18	$19.95
Compass with Cover	2°	±2.5°	2 3/4″	2 1/4″	3/4″	20185A19	30.40

Pulley Aligning Lasers

A laser line intersects the targets to show misalignment. Use this magnetic tool on ferrous pulleys, gears, and sprockets that are 3″ to 36″ in diameter and spaced 3″ to 20 ft. apart. In addition to the laser, you'll get three adjustable targets, two belt-tension testers for capacities of 30 to 300 lbs., and batteries.



Accuracy		
±0.07°	2309A46	$924.07

Magnetic Aligning-Laser Targets

Targets have a bull's-eye center as well as inch and millimeter graduation marks along the sides. They're plastic with magnets on the top.



Color	Ht.	Wd.		
Red	4″	3″	5741T31	$34.00
Reflective Red	4″	3″	5741T32	49.40

Mountable Aligning Lasers

Flat-Body Lasers

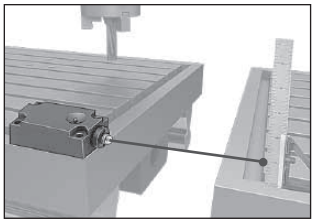

Position these lasers directly on a flat surface—they have four mounting holes and do not require an additional mount. Range is 0-300 ft. Lasers produce a red dot that is best viewed indoors. Twist the knob to focus the dot so it is more precise at short distances. The dot size is 1/16″ at distances up to 2 ft. and 3″ at 300 ft. *Portable laser* requires a 3-volt lithium battery. *Plug-in laser* operates on 120 volts AC and has a cord with plug.

Dot-to-line converter produces a 12″ line at 1 ft.

Optional pivoting magnetic mount pivots 180°.

	Application	Overall Lg.	Overall Wd.	Overall Ht.		
Portable Laser	Align machine tables during set up	4″	1½″	1″	20005A41	$434.55
Plug-In Laser	Mark placement of parts on assembly lines	4″	1½″	1″	20005A43	434.55
Dot-to-Line Converter					20005A32	198.18
Dot-to-Crosshair Converter					20005A33	89.09
Optional Pivoting Magnetic Mount					20005A53	107.28
3-Volt Lithium Battery					7821K63	5.64

Dust- and Moisture-Resistant Cylindrical-Body Lasers

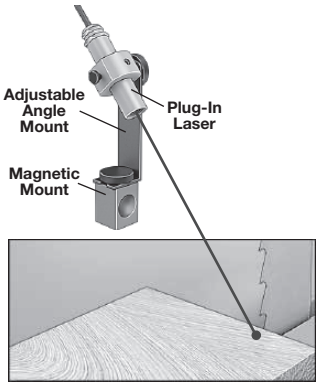

A sealed lens keeps these lasers free of dust and moisture. They project a red dot that is best viewed indoors. The dot size is 3/8″ at 100 ft. *Portable laser* includes a battery and has a horizontal vial to check level. *Plug-in laser* operates on 120 volts AC and has a cord with plug.

Line/dot size converter set includes one dot-to-line converter that projects a 2-ft. line at 18 ft. and three lens covers that convert the dot that the laser produces into a smaller dot (1/16″, 3/32″, or 1/8″) at distances up to 15 ft.

	Application	Range	Overall Dia.	Overall Lg.		
Portable Laser	Set up blade in cutting machines	0-100 ft.	3/4″	6 3/4″	5198T52	$484.88
Plug-In Laser	Indicate cut starting point for blades	0-100 ft.	3/4″	3 1/4″	5198T71	361.82
Line/Dot Size Converter Set					5198T1	133.33
Adjustable Angle Mount—Rotates 360°					5198T91	56.00
Magnetic Mount—Attaches to the Adjustable Angle Mount					5198T92	39.00

Compact Cylindrical-Body Lasers

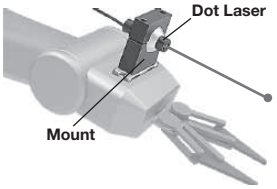

Smaller than other mountable aligning lasers, these are sized for mounting on machinery to ensure tools are properly positioned. You can also use them in conjunction with machine-vision cameras to serve as a reference location for making measurements. All lasers operate on 5 volts DC. They have wire leads for connecting to a DC power source (not included; see the plug-in transformer). For all lasers, the size of the dot or line increases as the distance increases. *Dot* and *line lasers* project a red light that is best viewed indoors. *High-visibility dot laser* projects a green light that can be seen in brightly lit areas. *Adjustable dot laser* projects a red dot that can be adjusted to 1/16″ at distances up to 2 ft. and 1 1/4″ at 100 ft. Laser comes with a fixed mount and a transformer. It works with the dot-to-line converter and the dot-to-crosshair converter (sold separately) for the flat-body lasers on this page.

	Application	Range	Dot/Line Size	Overall Dia.	Overall Lg.		
Dot Laser	Attach to robot arms to mark part placement	0-100 ft.	1/2″ @ 100 ft.	7/16″	1 1/2″	2073A11	$121.00
Line Laser	Generate hand safety lines on cutting machines	0-10 ft.	19 1/2 ft. @ 10 ft.	1/2″	1 7/8″	2073A21	151.00
High-Visibility Dot Laser	Align parts in brightly lit inspection areas	0-200 ft.	1 1/2″ @ 200 ft.	1/2″	2 1/2″	2073A14	795.00
Adjustable Dot Laser	Center pipes and tubes of different diameters	0-100 ft.	1 1/4″ @ 100 ft.	1″ sq.	1 1/4″	2055A21	298.00
Plug-In Transformer—Has a 120-volt AC input and a 5-volt DC output						2073A33	73.62
Mount for Dot and Line Lasers—Has a magnetic base and mounting holes						2073A17	94.72
Mount for High-Visibility Dot Laser—Has a magnetic base and mounting holes						2073A16	94.72

Laser Directing Components

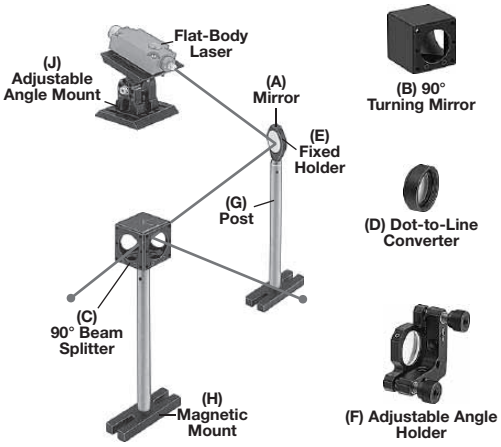

Direct laser beams where you need them. Components work with any dot laser.

90° beam splitter converts a single dot into two dots; one continues in a straight line, the other projects at a 90° angle.

Posts have 8-32 male threads on one end and 1/4″-20 female threads on the other. Diameter is 1/2″. For additional lengths, see 94033A posts on page 3297.

Mirrors			
A	Mirror—Requires a holder to mount to a post	5842T22	$60.71
B	90° Turning Mirror—Screws into a post	5842T21	201.57
Beam Converters			
C	90° Beam Splitter—Screws into a post	5842T23	335.14
D	Dot-to-Line—Requires a holder to mount to a post	5842T27	157.25
Holders for Mirrors and Beam Converters			
E	Fixed	5842T34	18.75
F	Adjustable Angle—Tilts up to 4°	5842T33	46.99
Posts—Connect Styles B, C, E, and F to a mount			
G	1″ Lg.	94033A421	6.19
G	4″ Lg.	94033A444	7.67
G	6″ Lg.	94033A449	8.85
G	12″ Lg.	94033A460	14.15
Mounts			
H	Magnetic	5842T28	14.58
J	Adjustable Angle—Rotates 180°	5842T35	206.43

Leveling Lasers

Project accurate level references onto walls and ceilings when hanging light fixtures or installing pipe. Also known as torpedo levels, these laser levels project a red light that is best viewed indoors. They have a magnetic leveling base, a V-groove for stability on curved surfaces, and 1/4"-20 threads for tripod mounting. Batteries and a leveling plate are included.

Single dot/line laser has a head that you twist to switch between a dot, a horizontal line, or a vertical line. It comes with a horizontal vial, a vertical vial, and a cross check vial.

3-dot laser projects three dots simultaneously; one horizontally, one vertically, and one to the side. Laser also has a horizontal vial, a vertical vial, a cross check vial, and a 45° vial.

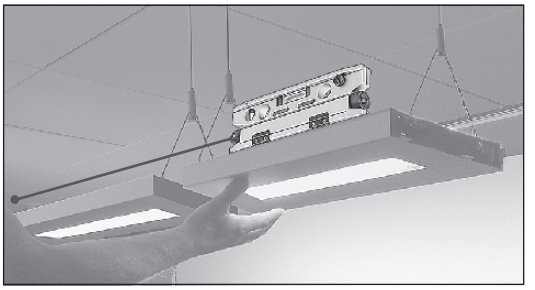

	Application	Accuracy	Range	Overall Lg.	Overall Wd.	Overall Ht.		
Single Dot/Line	Hang light fixtures straight and level	±1/8" @ 50 ft.	0-100 ft.	7 3/8"	1"	2"	2032A7	$97.40
3 Dots	Install shelving units straight, level, and plumb	±1/8" @ 50 ft.	0-100 ft.	9 1/2"	1"	2 1/4"	2032A9	134.76

Long-Distance Leveling Lasers

Mark a dot across your plant with confidence that it's level and accurate. These compact laser levels are also known as torpedo levels. They project a single red dot that is best viewed indoors. Batteries are included.

Laser with horizontal and vertical vials has 1/4"-20 threads for tripod mounting.

Laser with horizontal, vertical, and 45° vials has a magnetic base. Use the leveling plate (sold separately) for tripod mounting.

90° beam splitter converts one dot into two dots set at a 90° angle.

Dot-to-line converter changes the dot into a vertical or horizontal line.

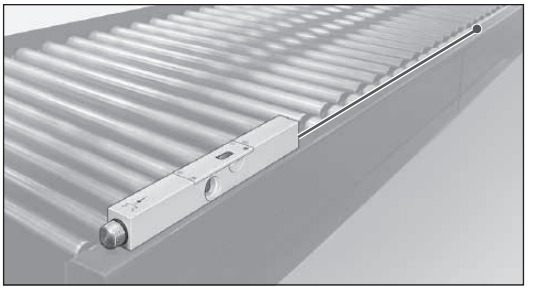

	Application	Accuracy	Range	Overall Lg.	Overall Wd.	Overall Ht.		
Lasers								
With Horizontal and Vertical Vials	Lay out conveyor systems	±1/8" @ 100 ft.	0-1,000 ft.	9 1/2"	1"	1 1/8"	21475A64	$322.64
With Horizontal, Vertical, and 45° Vials	Position ventilation systems	±1/8" @ 100 ft.	0-500 ft.	6 1/2"	5/8"	1 3/8"	21475A69	342.20
Laser-Level Kit—Includes laser with horizontal and vertical vials, 90° beam splitter, and leveling plate							21475A68	505.45
Accessories								
90° Beam Splitter							21475A55	111.80
Dot-to-Line Converter							21475A57	111.80
Leveling Plate							21475A54	110.00

Automatic Leveling Lasers



3 Dots

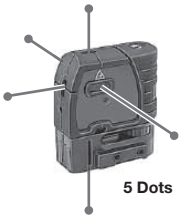

5 Dots

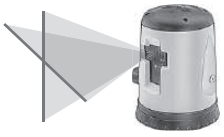

Crosshair Lines



360° Sweeping Lines

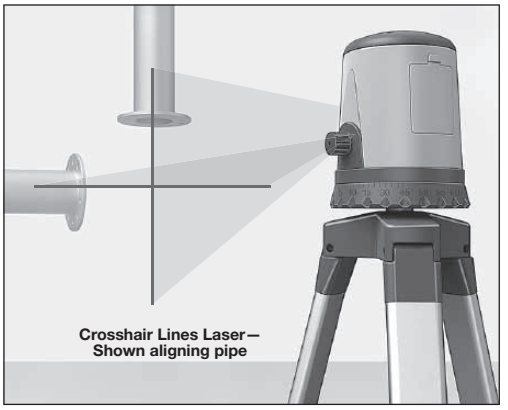

Crosshair Lines Laser—Shown aligning pipe

Set these lasers on any surface, and they'll level themselves within about 4°. Whether you're hanging a drop ceiling or aligning bench tops your installation will be at the right height. Lasers project a red light that is best viewed indoors. They have 5/8"-11 threads for tripod mounting. Batteries are included, except for the crosshair lines laser, which requires three AAA batteries.

3-dot laser and **5-dot laser** come with a magnetic base mount. **Crosshair lines laser** comes with a tripod that extends to 46". **360° sweeping lines laser** has three rotational speeds. It comes with a laser detector, which senses the beam at long distances.

	Application	Accuracy	Range	Overall Lg.	Overall Wd.	Overall Ht.		
3 Dots	Align multiple granite surface plates	±1/4" @ 100 ft.	0-100 ft.	3 1/8"	1 5/8"	4 1/8"	1986A18	$132.92
5 Dots	Level cable trays for multiple machines	±1/4" @ 100 ft.	0-100 ft.	3 1/8"	1 5/8"	4 1/8"	1986A17	223.25
Crosshair Lines	Install intersecting pipes or conduit	±1/4" @ 35 ft.	0-100 ft.	4"	3 1/2"	5"	4098T26	112.67
360° Sweeping Lines	Lay out air line around your plant perimeter	±1/8" @ 100 ft.	0-200 ft.	5"	6 7/8"	6 5/8"	19985A55	522.60

Surface-Flatness Lasers

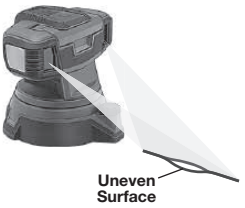

When a perfectly flat surface is essential, this laser checks for uneven spots on floors and other horizontal surfaces that are at least 18″. The laser projects two red beams that are best viewed indoors. The base sweeps the beams in a circle around the floor; the beams form a single line on flat surfaces, and separate into two lines when the surface is uneven. You can also measure the degree of deviation with the included detector. Use when installing machine tools, assembling granite surface plates, and mounting cranes and hoists. Batteries and a remote control are included.

Range		Overall				
Without Detector	With Detector	Lg.	Wd.	Ht.		
0-30 ft.	0-60 ft.	7¾″	8⅛″	8¼″	2207A22	$491.52

Chuck-Mount Lasers



Mount this laser into a ¼″ or larger chuck to precisely indicate the drilling point. Laser projects a 0.1 to 0.5 mm red dot that is best viewed indoors. Use on milling machines and drill presses. Batteries are included.

	Overall			
Range	Dia.	Lg.		
0-12″	¾″	2¾″	2035A7	$134.08

Shaft Alignment Kits

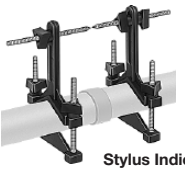
Stylus Indicator

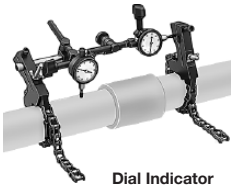
Dial Indicator

Stylus Indicators

Use stylus movement to check for misalignment. Kits include two sets of mounting brackets with adjustment knobs.

For Shaft Size	Stylus Lg. (Qty.)		
7⁄16″-3″	4¼″ (2)	6468K24	$215.00
7⁄16″-7″	4¼″ (2), 6½″ (2)	6468K25	262.78

Dial Indicators

These easy-to-read dials offer more precise measurement of misalignment than stylus indicators. Kits include stainless steel mounting tubes, software for alignment calculation, and two each of the following: alignment frames, dial indicators, indicator mount rods with swivel joints, and roller chains.

For Shaft Size	No. of Stainless Steel Mounting Tubes 5″	7″	9″	12″	15″		
¾″-3½″	2	2	2	—	—	61035K29	$997.74
¾″-5¾″	2	1	1	1	2	61035K49	1,251.77

Binoculars


Focus Free

Binoculars come with a case and a strap.
Focus Free—Your subject automatically comes into clear view. An extra-wide field of view makes it easy to track fast-moving objects. Size is 4¾″ Lg. × 7″ Wd. × 2″ Ht.
Night Vision—A built-in illuminator allows you to see in complete darkness at distances up to 750 feet. Not for use in brightly lit areas. Size is 6½″ Lg. × 6¼″ Wd. × 3″ Ht. Requires two AAA batteries.

	Magnification	Lens Dia.	Field of View at 1,000 yds.		
Focus Free	7X	35 mm	578 ft.	6590T11	$74.56
Night Vision	2.5X	40 mm	94 ft.	14175T9	612.58

Angle-Indicating Lasers

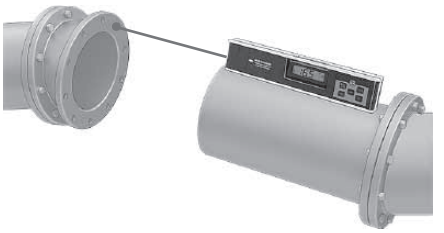

Align guide rails or lay pipe at specific angles from a flat surface. This laser projects a red dot that is best viewed indoors. The display shows the precise angle of the beam and rotates for overhead measurements. The display is also backlit for viewing in dim areas. Laser has a magnetic base and an audible indicator to tell you the tool is level and plumb. Batteries are included.

		Overall				
Accuracy	Range	Lg.	Wd.	Ht.		
±⅛″ @ 50 ft.	0-200 ft.	10½″	1¼″	2¼″	9182T11	$219.03

Right-Angle Lasers

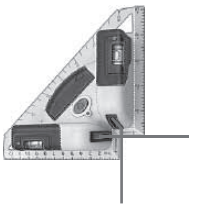

Lay out machine tables and work stations at precise right angles. This laser generates two red lines that form a 90° angle. A built-in protractor allows you to position the perpendicular lines at angles between 0° and 90°. The laser lines are best viewed indoors. Batteries are included.

		Overall				
Accuracy	Range	Lg.	Wd.	Ht.		
±¼″ @ 60 ft.	0-30 ft.	6⅛″	6⅛″	2″	2019A33	$82.38

Shaft Balancers


Standard Bench Style


Pillow-Block Style

Test parts for balance by placing them on the discs. The discs are 5¾″ dia., hardened and ground steel and they rotate freely on ball bearings.
Standard Bench Style—Can handle heavier loads than the super-sensitive bench style.
Super-Sensitive Bench Style—Detects even slight imbalances in lighter weight materials than the standard bench style.
Pillow-Block Style—Excellent for use with large parts because they can be positioned at any distance and attached to any solid base.
Also Available: Replacement discs. Please ask for 20075A888 and specify shaft balancer part number.

Max. Cap., lbs.	Max. Dia. of Work	Max. Space Between Discs	Overall Ht.	Wt., lbs.		Each
Standard Bench Style						
1,000	21″	20″	13¼″	40	2264A2	$1,152.00
2,000	40″	30″	24″	80	2264A13	1,250.00
Super-Sensitive Bench Style						
200	21″	20″	13¼″	40	2264A7	1,530.00
Pillow-Block Style						Set
1,000	—	—	7″	45	2337A21	$1,662.00
2,000	—	—	7″	50	2337A17	2,472.00

Compact Telescopes



A slide control allows one-finger focusing when viewing objects far away. Telescope has a 9° field of view. It comes with a case and a strap. Size is 3¾″ Lg. × 1½″ Wd. × 1″ Ht.

Magnification		
6X	3118T38	$166.15

Stereo Microscopes


Microscope


Microscope with Adjustable Arm


Zoom Microscope with Digital Imaging

These bench-top microscopes provide exceptionally clear, crisp images for inspection and assembly work. All have a 45° view angle and an adjustable focus. They include a light that operates on 120 volts AC with a cord and plug, except zoom microscope, which does not have a light.

Microscope has an upper and lower light that can be illuminated separately or simultaneously. The head rotates 360°. Field of view is 0.787″ dia. at 10X, 0.26″ at 30X.

Microscope with adjustable arm allows you to choose where you want to view. The head rotates 360°. Field of view is 0.787″ dia. at 10X, 0.26″ at 30X. Includes a ring light.

Zoom microscope offers the widest range of magnification. The head rotates 360°. Field of view is 1.125″ dia. at 7X, 0.052″ at 180X. Microscope does not include a light. It can be used with the fiber-optic light source or microscope illuminator 11505T65 (sold separately).

Zoom microscope with adjustable arm provides the most versatility—you decide where you view and at what magnification. The head rotates 360°. Field of view is 1.126″ dia. at 7X, 0.17″ at 45X. Includes a ring light.

Zoom microscope with digital imaging comes with a 1.3 megapixel camera that has a USB port for interfacing with your computer. Microscope has an upper LED light. Field of view is 1.35″ dia. at 6.7X, 0.14″ at 50X.

Fiber-optic light source has two flexible arms that allow you to position the light where you need it. Operates on 110 volts AC and includes a cord and plug.

Also Available: Replacement bulbs for microscopes. Please ask for 11705T1 and specify microscope part number.

	Magnification		
Microscope	10X and 30X	11705T96	$410.87
Microscope with Adjustable Arm	10X and 30X	11705T93	778.00
Zoom Microscope	7X to 180X	22005A11	872.55
Zoom Microscope with Adjustable Arm	7X to 45X	22005A21	1,070.00
Zoom Microscope with Digital Imaging	6.7X to 50X	22005A49	2,060.00
Fiber-Optic Light Source		22005A22	558.00

Microscopes with Measuring Scale

Precisely measure while magnifying. These adjustable-focus microscopes have an internal scale and a penlight mounted on the base to enhance your view. They are 7½″ high. The base is 2½″ dia. Field of view is 0.094″ dia. for the 60X microscope; 0.057″ dia. for the 100X. Batteries are included.



Magnification	Scale	Graduations		
60X	0″ to 0.080″	0.001″	2158T12	$494.90
100X	0″ to 0.050″	0.0005″	2158T13	505.24

Microscope Illuminators

Maximize your microscope's power by adding 360° of shadow-free light. Illuminators operate on 120 volts AC and have a power cord with plug.

LED illuminator allows you to adjust the light's intensity from 5% to 100%.


LED

	Diameter			
Lg.	Inside	Outside		
Fluorescent—Approximate bulb life is 7,500 hrs.				
5½″	2.35″	3½″	11505T51	$287.02
Replacement Bulb			11505T52	84.38
LED—Approximate bulb life is 50,000 hrs.				
5½″	2.35″	3½″	11505T42	396.59

Microscope Slides and Cover Glasses

	Ht., mm	Wd., mm	Thick., mm	Pkg. Qty.		Pkg.
Slides	25	75	1	72	1149T11	$13.83
Cover Glasses	22	22	0.15	162	1149T12	8.87
Cover Glasses	22	40	0.15	89	1149T13	8.11

Pocket Microscopes


Microscope


Zoom Microscope

Always be prepared to make on-the-job specification checks. These compact microscopes have a light to enhance the view. They produce a distortion-free inverted image, except the image on the zoom microscope is not inverted.

Microscopes—Are 5″ high with a ¼″ dia. eyepiece. Housing is plastic. Field of view is 0.13″ dia. for the 25X microscope; 0.08″ for the 50X microscope. Batteries are included.

Zoom Microscope—Slide the switch to adjust the magnification. Microscope is 6½″ high and has a ½″ dia. eyepiece. Housing is plastic. Field of view is 0.25″. Also comes with a snap-on slide holder. Batteries are included.

Microscopes with Scale—Have an internal scale for precise measuring. **25X microscope** is 5″ high with a ¼″ dia. eyepiece. Housing is plastic. Field of view is 0.13″ dia. Battery is included. **40X microscope** is 5¼″ high with a ½″ dia. eyepiece. Housing is plastic. Field of view is 0.15″ dia. Requires two AA batteries.

Magnification	Scale, mm	Graduations, mm		
Microscopes				
25X	____	____	1452T51	$30.69
50X	____	____	1452T54	33.48
Zoom Microscope				
60X to 100X	____	____	1483T4	57.35
Microscopes with Scale				
25X	0-3	0.05	1452T52	36.29
40X	0-4	0.1	1452T53	56.98

Hand-Held Video Microscopes



Capture magnified images as movies or pictures with this portable digital microscope. They include software and a USB cable that attaches to your computer, so you can view the image you are capturing. All have a built-in light and stand. Microscopes with 10X to 200X magnification include a measurement function.

86X to 457X microscope has a focus distance of 1.97″ at 86X. Size is 5″ Lg.×3⅛″ Dia.

10X to 200X microscopes have a focus distance of 4.4″ at 10X. Both are 4⅜″ Lg.×1¼″ Dia.

Magnification	Resolution, megapixel	Computer Compatibility		
86X to 457X	2.0	PC and Mac	1058T28	$92.31
10X to 200X	1.3	PC	1058T23	235.58
10X to 200X	5.0	PC	1058T24	317.81

Digital Microscope/Cameras



Magnify images and snap high-resolution digital pictures for quality control and material inspection. This microscope has a built-in camera with 2 megapixel resolution, 2 GB of built-in memory, and a 2″ LCD screen with a 200X digital zoom. The microscope has a magnification range of 10X to 40X, an adjustable focus, and adjustable LED lights to brighten the magnified area. It includes a rechargeable battery, software, an adjustable stand, and a USB cable. Size is ½″ Ht.×2³⁄₁₆″ Wd.×1″ Dp.

3077T65		$368.31

Digital Cameras


Compact

Use these cameras to capture pictures and video, and then transfer them to your PC or the web. Both have auto-focus, flash, and a self-timer.

Compact camera is 20 megapixels and has a 2¾″ LCD screen, an 8X optical zoom lens, and a 4X digital zoom. Video recordings are HD 720p. Includes USB cable, software, rechargeable battery, and an 8 GB memory card. Size is 3¾″ Wd.×1″ Dp.×2¼″ Ht.

High-speed camera is 16 megapixels and has a 3″ LCD screen, a 50X optical zoom lens, and a 4X digital zoom for a total zooming range of 200X when the digital zoom is paired with the optical zoom. Video recordings are HD 1080p. Includes AC power adapter, battery charger, lens cap, neck strap, and rechargeable lithium ion battery. Size is 4¾″ Wd.×3½″ Dp.×3″ Ht.

	Photography Speed, fps		
Compact	1	1041T71	$165.75
High Speed	10	1041T62	396.18
Optional 32 GB Memory Card		12075T27	12.46

Illuminated Magnifiers

About Magnification

When it comes to magnification, the power you need depends on your application. Higher magnification reveals fine details, but it also results in a smaller field of view, so you will have to move the object around to see more of it. The example below shows the enhancement of a razor blade at different magnification powers.



1.25X to 2.25X enhances details you can already see. Use this range to read serial numbers and assemble circuit boards.



2.5X to 5X brings out details you may otherwise miss. Use this range for general inspection and to find flaws in your workpiece.



7X to 20X picks up features you can't see with your naked eye. Use this range to find imperfections in surfaces.

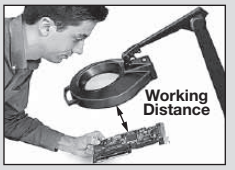

Working distance is the point where your object will be in the best possible focus. The higher the magnification, the closer you will need to be.

Adjustable-Arm Illuminated Magnifiers



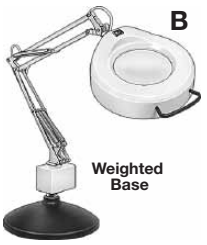

















All magnifiers have a glass lens and a metal spring arm that provides smooth positioning. They operate on 120 volts AC and include a cord with plug. Field of view is approximately the same as lens dia. *Styles A-J* come with a bulb; *Style K* requires a 60-watt incandescent bulb. *Clamp-base* magnifiers fit material up to 2¼″ thick.

Fluorescent magnifiers produce a cool, even, white light. *Styles B-D* are UL listed.

Halogen magnifiers provide the brightest light but also generate the most heat. UL listed.

LED magnifiers offer long life; they'll shine for 50,000 hours. They emit a focused, even light beam for distortion-free viewing and are dimmable. UL listed.

Incandescent magnifier is the most economical choice for general inspection work. ETL listed.

Magnification	Working Distance	Arm Lg.	Lens Dia.	Shade Material	Choose a Color	Clamp Base		Weighted Base Size	Weighted Base	
Fluorescent										
(A) Economy										
1.75X	13″	36″	5″	Metal	Black, White	14695T5	$137.77			
1.75X	13″	45″	5″	Metal	Black, White	14695T7	139.81			
2.25X	8″	36″	5″	Metal	Black, White	14695T6	150.93			
2.25X	8″	45″	5″	Metal	Black, White	14695T8	150.93			
(B) Standard										
1.75X	13″	30″	5″	Metal	Light Gray	1461T63	161.08	9¾″ Dia.	1461T62	$233.29
1.75X	13″	45″	5″	Metal	Light Gray	1461T61	161.08			
2.25X	8″	30″	5″	Metal	Light Gray	1461T65	172.19	9¾″ Dia.	1461T66	244.40
2.25X	8″	45″	5″	Metal	Light Gray	1461T64	172.19			
(C) Vibration Resistant—Arm locks into position with wing nuts										
1.75X	13″	28″	5″	Metal	Gray	8538T31	249.00			
(D) Enhanced Visibility—Textured surfaces and irregularities are more visible										
2.25X	8″	28″	5″	Plastic	Almond, Black, Gray	1462T15	276.75	10″×7½″	1462T13	324.00
2.25X	8″	42″	5″	Plastic	Almond, Black, Gray	1462T17	276.75			
(E) Distortion Free—Precision-ground lens provides a higher-quality viewing area with minimal edge distortion										
2X	10″	43″	7½″	Metal	Beige	6788T9	413.26		6788T8■	413.26
2.25X	8″	30″	5″	Plastic	Black			10½″ Dia.	6788T24	294.94
(F) Static Control										
1.75X	13″	28″	5″	Metal	Almond, Black, Gray	8477T26	301.91	10″×7½″	8477T24	353.45
1.75X	13″	42″	5″	Metal	Almond, Black, Gray	8477T29	301.91			
2.25X	8″	28″	5″	Metal	Almond, Black, Gray	8477T25	301.91	10″×7½″	8477T23	353.45
2.25X	8″	42″	5″	Metal	Almond, Black, Gray	8477T27	301.91			
5X	2.5″	42″	3″	Metal	Black	10025T51	365.25			
Halogen										
(G) Standard Use where electrostatic discharge is a concern										
1.75X	13″	30″	5″	Plastic	Black			10½″ Dia.	1035T57	243.13
1.75X	13″	45″	5″	Plastic	Black	1035T56	219.94			
LED										
(H) Standard Dim the light for a clear view of highly reflective surfaces										
2X	10″	43″	6″	Metal	Black, White	6573T25	427.50			
2X	10″	43″	7½″	Metal	Black, White	6573T26	523.93	14″×12″	6573T28	613.54
(J) Wide-Angle Lens										
1.88X	12″	30″	4½″×6¾″	Metal	Light Gray	3405A45	455.47	10″ Dia.	3405A46	555.45
1.88X	12″	45″	4½″×6¾″	Metal	Light Gray	3405A44	455.47			
2X	10″	43″	5¼″×7″	Metal	Black, White	6573T27	534.64	14″×12″	6573T29	623.96
Incandescent										
(K) Economy										
1.75X	10″	33″	4″	Plastic	Black	66045T74	67.08			

■ The base is not weighted; it permanently mounts to work surface with the included screws.

(Continued on following page)

Adjustable-Arm Illuminated Magnifiers

Bulbs		
Fluorescent		
For Styles A, B, C, and F—22 Watts	1614K14	$4.47
For Style D—13 Watts	1528K56	7.52
For Style E with Clamp and Screw Bases—28 Watts	6788T34	51.56
For Style E with Weighted Base—22 Watts	1614K14	4.47
Halogen		
For Style G—100 Watts	1513K32	19.93
Incandescent		
For Style K—60 Watts (Pkg. of 6)	1728K571	14.52

(Continued from previous page)

Optional Lenses—Replaces existing lens		
Fluorescent		
For Style C—Increases magnification to 2.25X	8477T702	$61.11
Add-On Lenses—Mounts over existing lens to increase magnification		
Fluorescent		
For Styles C and F with 1.75X Magnification—Increases magnification to 3.75X	1462T122	52.50
Halogen		
For Style G—Increases magnification to 2.5X	1035T59	24.82
For Style G—Increases magnification to 4.25X	1035T62	29.78
LED		
For Style J with 1.88X Magnification—Increases magnification to 4.3X	3405A48	77.76

Gooseneck Combination Lamp Magnifiers



The lamp and the lens are mounted on separate arms to provide ultimate flexibility. This magnifier is black with plastic-coated steel arms and a 7″ dia. weighted base. The lamp comes with a steel shade and a 20-watt halogen bulb that provides bright, crisp light. The lens is glass. Magnifier operates on 120 volts AC. It has a power cord with plug. UL listed. Cannot be sold in California.

Magnification	Working Distance	Arm Lg.	Lens Dia.		
1.75X	13″	16″	5″	10605T61	$178.36
Add-On 2X Lens				10605T441	30.45
Add-On 3X Lens				10605T581	39.30
Replacement 1.75X Lens				1035T55	12.03
Replacement 20-Watt Halogen Bulb				1997K23	6.11

Gooseneck Magnifiers



Magnetic Base

Bend the flexible steel neck to any position and it will stay in place. Magnifiers are black steel.

Magnetic-base magnifiers have a 3″ dia. base and a glass lens.

Weighted-base magnifier has a 6″ Lg.×6½″ Wd. base and an acrylic lens.

LED-illuminated with clamp base magnifier offers long life; it will shine for 50,000 hours. It emits a focused, even light beam for distortion-free viewing. Maximum clamping thickness is 1 7/16″. It has an acrylic lens with a 3.5X bifocal lens. Requires three AAA batteries.

Magnification	Working Distance	Arm Lg.	Lens Dia.		
Magnetic Base					
2.25X	8″	9″	4″	2106T11	$54.92
2.25X	8″	15″	4″	2106T12	56.83
2.25X	8″	24″	4″	2106T13	61.67
Weighted Base					
2X	10″	12″	4″	11675T61	33.04
LED Illuminated with Clamp Base					
2X	10″	17″	4″	2106T14	42.84

Illuminated Stand Magnifiers



Two LED bulbs illuminate your work while the stand keeps your hands free. The magnifier detaches from the stand for hand-held use. Lens is acrylic with a 3.5X bifocal. The stand is silver plastic and measures 5½″ Lg.×5¾″ Wd. at the base. Requires two AA batteries.

Magnification	Working Distance	Arm Lg.	Lens Dia.		
2X	5″	7″	4¼″	2122T42	$17.14

Fixed-Focus Stand Magnifiers



Metal Stand

The lens is mounted into a stand to keep it at the optimal distance for focused, hands-free magnification. Also called linen testers, these magnifiers are often used for quality control and thread counting in fabric inspection.

Plastic-stand magnifier has an acrylic lens and a scale that measures lengths to 1″ in 1/16″ and 1 mm increments.

Metal-stand magnifiers have a glass lens. 1493T26 has a scale that measures lengths to 1″ in 1/8″ and 1 mm increments. 1493T27 has a scale that measures lengths to 1/2″ in 1/8″ and 1 mm increments.

Magnification	Working Distance	Lens Dia.	Ht.		
Plastic Stand					
5X	2″	1″	2⅛″	1493T14	$7.20
Metal Stand					
5X	2″	1″	2″	1493T26	25.50
10X	1¼″	1/2″	1¼″	1493T27	22.10

Hand-Held Magnifier Sets



Always have a magnifier at arm's reach with this bench-top set. Set includes four magnifiers: 2½″ Dia. (2.75X); 3¼″ Dia. (2.5X); 4″ Dia. (2X); and 4″ Lg.×2″ Wd. (2X). Magnifiers are plastic with an acrylic lens.

2131T41 ..... $59.52

Hand-Held Magnifiers



Nonilluminated



Incandescent Illuminated



LED Illuminated

Magnifiers have a plastic frame and handle.

Nonilluminated magnifiers have an acrylic lens.

Incandescent-illuminated magnifiers are an economical way to shine a light on your inspection work. They have an acrylic lens. Batteries are included, except 2154T44 requires two C batteries.

LED-illuminated magnifier offers long life; it will shine for 50,000 hours. It emits a focused, even light beam for distortion-free viewing. Requires four AAA batteries.

Magnifier Lens	Magnification Bifocal Lens	Working Distance	Lens Size	Lg.		
Nonilluminated						
2X	4X	3″	4″ Dia.	9″	1422T3	$17.43
2X	5X	3″	3″ Dia.	7¼″	1422T2	10.32
2X	6X	3″	4″ Lg.×2″ Wd.	8″	2143T31	16.21
2.5X	6X	3″	5″ Dia.	10¼″	1422T4	26.10
3X	—	3″	2″ Dia.	5¾″	1422T1	7.54
Incandescent Illuminated						
2X	4X	6″	3″ Dia.	9″	8564T12	33.49
2X	6X	8″	4″ Lg.×2″ Wd.	7″	11645T65	19.09
3X	5X	6″	4″ Dia.	9¾″	2154T44	26.01
3X	5X	6″	4″ Lg.×2″ Wd.	8½″	10155T64	31.17
LED Illuminated						
2.5X	—	3½″	2″ Dia.	7⅜″	1366T32	59.82
Replacement Bulb for 8564T12					8564T22	1.00
Replacement Bulb for 11645T65 and 10155T64 (Pkg. of 1)					2154T33	1.50
Replacement Bulb for 11645T65 and 10155T64 (Pkg. of 10)					1505K415	5.98

Compact Fine-Detail Magnifiers


Triple Lens

These jeweler-style magnifiers enable you to see fine details in sharp focus.

Triple-lens magnifiers, also called Hastings Triplet magnifiers, have three lenses bonded together for distortion-free images.

Single-lens magnifiers, also known as Coddington magnifiers, have a single lens with a grooved circumference.

		Triple Lens			Single Lens		
Magnification	Working Distance	Lens Dia.			Lens Dia.		
7X	1½″	¾″	1501T1	$47.45			
10X	1″	⅝″	1501T5	51.76	¾″	1501T6	$30.94
14X	¾″	½″	1501T3	58.49	⅝″	1501T7	33.83
20X	½″	⅜″	1501T4	58.49	½″	1501T8	37.36

Compact Illuminated Magnifiers


Mini


Standard

Small yet powerful, these magnifiers have a light to illuminate your view. They are plastic with an acrylic lens. Batteries are included.

Magnification	Working Distance	Lens Size	O'all Lg.		
Mini Magnifiers					
5X	2″	1″ Dia.	2″	8536T24	$15.43
10X	1″	1″ Dia.	2″	8536T26	18.29
Standard Magnifiers					
3X	2″	1¾″×1¾″	5¼″	8485T14	16.72
4X	3″	1¼″×1¼″	4¾″	8485T15■	15.18
5X	2″	1¼″×1⅜″	4¾″	8485T12	15.20
10X	1″	1¼″×1⅜″	4¾″	8485T13	26.29
Repl. Bulbs for Standard Magnifiers (Pkg. of 10)				1505K41	5.44

■ Also has an 8X bifocal inset.

Flashlight-Style Illuminated Magnifiers



Standard with Scale—The eyepiece has scales on two sides; both are graduated by 1/32″ and 0.5 mm. Magnifiers are made of plastic and have a glass lens. 6559T11 requires two D batteries; 6559T12 requires two C batteries.

Standard with Precision Scale—Comes with a detachable scale on the eyepiece that's graduated by 1/64″ and 0.5 mm. Magnifier is made of plastic and has a plastic lens with scratch-resistant coating. Requires two C batteries.

Extra-Sharp View—Magnifier has a grooved lens, which is also known as a Coddington magnifier, for an extremely clear view. It has a nickel-plated aluminum handle, plastic head, and a glass lens. Requires two AA batteries.

Wide View—This magnifier has an extra-wide plastic lens that's curved on the viewing side to ensure edge-to-edge clarity. Made of plastic. Requires two C batteries.

	Magnification	Working Distance	Lens Dia.	O'all Lg.		
Standard with Scale	5X	2″	2″	8¼″	6559T11	$41.60
Standard with Scale	10X	1″	1⅛″	7″	6559T12	33.69
Standard with Precision Scale	10X	1″	1⅜″	8½″	1147T52	119.85
Extra-Sharp View	10X	1″	¾″	5¾″	1504T14	26.87
Wide View	4X	2½″	2¾″	9¾″	1466T1	176.20

Extension Magnifiers


Flex Shaft


Telescoping

A long arm and a small, swivel lens allow these magnifiers to slip into tight locations. The lens is acrylic.

Flex-shaft magnifier has a rubber-coated steel arm that bends and holds its shape. **Telescoping** magnifier has a cushion-grip stainless steel handle.

	Magnification	Working Distance	Lens Dia.	O'all Lg.		
Flex Shaft	2X	2″	1½″	22¼″	1099T16	$25.10
Telescoping	2.5X	4″	2″	6⅞″-36″	1330T4	11.23

Magnifiers with Measuring Scales

Magnify and measure in one operation. All are made of plastic with adjustable precision-ground glass lenses. *Triple-lens* magnifiers provide the sharpest focus. *Double-lens* magnifiers come with a measuring scale.

Triple-Lens Magnifiers with Optional Measuring Scales



Also known as Hastings Triplet magnifiers, these have three lenses bonded together for clear magnification. Magnifiers are 2″ high. The measuring scales are sold separately below.

General purpose scale measures radii from 1/16″ to 3/8″; angles up to 90° in 1° increments; lengths up to 1/2″ in 0.005″ increments; lengths up to 10 mm in 0.1 mm increments; and line widths of 0.001″, 0.002″, and 0.003″.

Protractor scale measures angles up to 360° in 1° increments.

Inch scale measures up to 3/4″ in 0.005″ increments.

Metric scale measures up to 20 mm in 0.1 mm increments.

Magnification	Working Distance	Lens Dia.		
7X	1½″	¾″	1502T2	$56.42
10X	1″	⅝″	1502T3	60.31
General Purpose Scale			1502T4	33.86
Protractor Scale			1502T7	33.86
Inch Scale			1502T5	33.86
Metric Scale			1502T6	33.86

Double-Lens Magnifiers with Included Measuring Scale


Standard


Illuminated

Two lenses provide distortion-free viewing. Magnifiers are 2 5/16″ high. They include a general purpose scale that measures circles from 0.002″ to 0.0625″; radii from 1/16″ to 3/8″; angles up to 90° in 5° increments; lengths up to 0.5″ in 0.005″ increments; lengths up to 10 mm in 0.2 mm increments; and line widths from 0.016″ to 0.250″.

Illuminated magnifier has a 4½″ long handle. Requires two C batteries.

Optional Thread Accuracy Scale—Measures the following threads per inch: 50, 32, 28, 24, 20, 18, 16, 14, and 8.

Magnification	Working Distance	Lens Dia.	Standard Magnifier		Illuminated Magnifier	
7X	¾″	1″	1755T17	$90.43	1755T11	$105.58
Replacement General Purpose Scale					1755T22	22.54
Optional Thread Accuracy Scale					1755T23	22.54

Adjustable-Focus Eyeglass Magnifiers



A dial on each arm of this eyeglass magnifier allows you to focus the lenses independently. Magnifier has 1 1/4″ dia. plastic lenses.

Magnification	Working Distance		
2X	16″	3102T45	$124.75

Distortion-Free Magnifiers

A long-standing favorite for precision work, this magnifier has two lenses for a wide, distortion-free field of view. It is made of plastic with glass lenses.



Magnification	Working Distance	Lens Dia.		
3.5X	3″	1⅝″	1494T1	$45.27

Fine-Detail Magnifiers

Bring detailed work into focus. Also known as watchmakers' loupes, these magnifiers are made of plastic with glass lenses.

Extra-sharp magnifier has three lenses bonded together for sharp magnification without distortion.



Magnification	Working Distance	Lens Dia.		
Standard				
4X	2½″	1″	8539T65	$14.56
5X	2″	1″	8539T64	14.56
7X	1½″	1″	8539T34	14.56
10X	1″	1″	8539T63	17.24
Extra Sharp				
10X	1″	⅝″	8539T35	55.10

Adjustable-Magnification Fine-Detail Magnifiers

Turn the eyepiece until you reach the magnification you need. Also known as a loupe, this magnifier has a scale that measures length to 0.6″ in 0.005″ increments and another that measures length to 16 mm in 0.1 mm increments. Magnifier is made of metal and plastic with a glass lens.



Magnification	Lens Dia.		
8X, 10X, 12X, 14X, 16X	⅜″	13765T21	$396.46

Eyeglass Magnifiers





Always there when you need them, these eyeglass magnifiers flip out of the way when not in use. The lens is acrylic and measures 1⅛″ Lg. × 3⅛″ Wd.

Clip-on magnifiers attach to your glasses with wire clips.

Eyeglass-frame magnifiers are designed for those who don't wear glasses, but they can also be worn over eyeglasses. Frame is plastic.

Magnification	Working Distance	Clip On		Eyeglass Frame	
1.5X	20″	6771T36	$18.10	—	—
1.75X	14″	6771T21	18.10	1344T21	$30.70
2X	10″	6771T38	18.10	—	—
2.25X	8″	6771T22	18.10	1344T22	30.70
2.75X	6″	6771T23	18.10	1344T23	30.70
3.5X	4″	6771T24	19.90	1344T24	30.70

Fine-Detail Eyeglass Magnifiers





Clip a magnifier onto the frame of your eyeglasses for viewing fine details—it flips out of the way when not in use. They have 0.94″ dia. acrylic lenses.

Magnification	Working Distance	No. of Lenses		
3X	3½″	1	1340T1	$35.83
4X	2½″	1	1340T11	36.88
7X	1½″	1	1340T2	36.88
4X and 7X	2½″ and 1½″	2	1340T3	33.47
5X and 10X	2″ and 1″	2	1340T8	33.47

Slide-Open Pocket Magnifiers



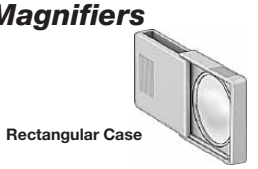

The plastic case protects these compact magnifiers when in storage and serves as a handle when in use.

Oval case magnifiers come with your choice of one, two, or three lenses; use multiple lenses together to achieve the magnification rating listed. Lenses are glass, unless noted.

Rectangular case magnifiers have an acrylic lens.

Magnification	Working Distance	Lens Dia.	No. of Lenses		
Oval Case					
3X	3″	1⅜″	1	6798T13♠	$8.24
4X	2½″	1⅜″	1	1503T3	18.40
7X	1½″	1⅜″	2	1503T7♠	9.48
9X	1⅛″	⅞″	2	1503T5	24.48
15X	1″	1⅛″	3	1503T4	26.54
20X	½″	¾″	3	1503T6	31.42
Rectangular Case					
3X	3″	1⅜″	1	2152T1	11.20
5X	2″	1⅜″	1	2152T2	11.20

♠ Lens is acrylic.

Headband Flip-Up Magnifiers









Designed to fit over prescription and safety glasses, use these magnifiers to read fine print and inspect precision parts.

Economy magnifiers are lightweight and come with a 1½″ Lg. × 4″ Wd. acrylic lens.

Standard magnifiers come with a 1½″ Lg. × 4″ Wd. glass lens.

Antistatic magnifiers are the best choice when working with electronics and in clean-room environments. They come with a 1 3⁄16″ Lg. × 3 5⁄16″ Wd. acrylic lens.

Illuminated magnifiers have a xenon bulb to improve your view by shining a bright, white light on your work. They come with a 1⅛″ Lg. × 3⅛″ Wd. acrylic lens. Batteries are included.

LED-illuminated magnifier is preferred for its long life; it will shine for up to 50,000 hours. It comes with four 1⅞″ Lg. × 4″ Wd. acrylic lenses. Requires three AAA batteries.

Optional 2.5X fine-detail magnifier serves as a bifocal. Also known as a loupe, it attaches to either side of the standard magnifiers and has a glass lens.

Magnification	Working Distance	Magnifiers		Replacement Lens	
Economy					
1.75X	14″	11555T3	$21.37	11555T31	$10.67
2.25X	8″	11555T1	21.37	11555T11	10.67
2.75X	6″	11555T5	21.37	11555T51	10.67
Standard					
1.5X	20″	1490T1	56.42	1509T31	35.08
1.75X	14″	1490T2	56.42	1509T32	35.08
2X	10″	1490T6	56.42	1509T36	35.08
2.5X	8″	1490T3	56.42	1509T33	35.08
2.75X	6″	1490T4	61.12	1509T34	39.92
3.5X	4″	1490T5	61.98	1509T35	40.52
Antistatic					
1.6X	12″-14″	1485T11	29.81	1485T21	9.58
2.25X	7″-10″	1485T13	33.65	1485T23	13.42
2.75X	4″-7″	1485T14	33.65	1485T24	13.42
Illuminated					
1.75X	14″	1500T2	72.20	1500T12	10.00
2.25X	8″	1500T4	72.20	1500T14	10.00
2.75X	6″	1500T5	72.20	1500T15	10.00
LED Illuminated					
1.5X, 2X, 2.5X, 3X	6.5″-20″	1500T1	40.89	1500T11	20.00
Optional 2.5X Fine-Detail Magnifier for Standard Magnifier				1509T14	10.70
Replacement Headband and Visor for Standard Magnifier				1490T8	27.26
Replacement Xenon Bulb				65135T65	6.24

Magnifying Bars



This plastic bar has a magnified center, and the edges are marked with graduations. It shows inches to 16ths on the top, and centimeters and millimeters to 200 mm on the bottom.

Magnification	Lens Lg.	Lens Wd.	O'all Lg.		
2X	8″	1″	10″	6786T1	$9.32

Machine Vision Cameras



With Standard Lens

Take a photo of objects as they move along a conveyor. The cameras and lenses are sold separately, so you can create the perfect inspecting tool for your operation. All cameras come with viewing software. They connect to your computer with a USB cord (sold separately below). *0.36 megapixel* cameras have a 752×480 resolution. *1.3 megapixel* cameras have 1280×1024 resolution. All cameras are 1¼″ Lg.×1½″ Wd.×1⅜″ Ht. They have M2×0.4 and M3×0.5 threaded mounting holes, or use the tripod adapter (sold separately) for mounting onto your tripod with ¼″-20 threaded connection.

Monochrome cameras are the best choice when using infrared-light illumination.

Resolution, megapixels	Speed at Full Resolution		
Color Cameras			
0.36	87 fps	6008T11	$707.14
1.3	25 fps	6008T13	952.86
Monochrome Cameras			
0.36	87 fps	6008T12	707.14
1.3	25 fps	6008T14	952.86
Lenses—For use with all cameras			
Standard Lens		6008T33	333.33
Telephoto Lens		6008T32	358.67
Wide-Angle Lens		6008T34	350.67
Accessories			
Tripod Adapter		6008T36	35.59
USB Cord		4974T34	15.31

Machine Vision Programmable Inspection and Sorting Cameras





Inspect objects on your conveyor line for defects such as surface flaws, crooked labels, and missing screws. Use the touch screen to select one of four settings: flaw identification, shape verification, feature recognition, or parts sorting. When the camera detects an issue, it sends a signal to remove the item.

Camera operates on 10-30 volts DC and has a 150 mA output signal that can be configured as PNP or NPN to match the input of your PLC or other control device. It comes with a 12 mm lens and a built-in light ring that illuminates up to 12″ from the lens. Maximum camera speed is 98 frames per second. The camera is 3⅛″ Lg.×2″ Wd.×3¾″ Ht. and has a sealed housing that's IP67 rated for keeping out dust and moisture. Mounting hardware and connection cords are included.

Field of view adjustment lens kit includes five lenses: 4.3, 6, 8, 16, and 25 mm. As the lens size decreases, the field of view widens.

Camera	6830T52	$1,830.40
Field of View Adjustment Lens Kit	6830T53	123.43

Page Magnifiers



Credit Card

The 7″×10″ sheet has a vinyl border around the lens.

	Magnification	Working Distance	Lens Lg.	Lens Wd.		
Flexible						
Credit Card	2X	2″	3¼″	2″	6796T12	$2.11
Pocket	2X	2″	2½″	7¼″	6796T13	2.63
Index Card	2X	2″	3¾″	5⅜″	6796T14	2.63
Sheet	2X	2″	7″	10″	6796T15	3.83
Sheet	2X	2″	8½″	11″	6796T16	3.83
Rigid						
Sheet	2X	2″	8¼″	11″	6796T21	8.79

Surface-Roughness Testers



This portable unit tests for the most popular roughness parameters, such as Ra, Rp, and Rq. You can also set an upper and lower limit for go/no-go readings, or test for a specific standard, such as ANSI, ISO, JIS, or VDA. Tester can save up to 10 readings. It can be connected to a Mitutoyo miniprocessor using an SPC data output cable (sold separately below); it also has an RS-232C port for a direct connection to your PC.

The tester is 6¼″ Lg.×2½″ Wd.×2″ Ht. and has a 1⅜″ Ht.×1⅞″ Wd. color display. The probe tip is 0.0002″ in dia. Tester comes with a rechargeable battery and an AC adapter; it can take 1,000 readings on a single charge. It also includes a roughness sample for calibrating.

Tester	1181T14	$2,398.03
2″ Extension for Detector Probe	1181T16	158.42
Adjustable-Height Mounting Feet for Horizontal Use	1181T41	128.03
Mounting Bracket for Vertical Use	1181T15	40.99
Mounting Adapter for Use with a Height Gauge	1181T42	93.95
SPC Data Output Cable (40″)	20395A66	47.85

Surface-Finish Scales



Economy

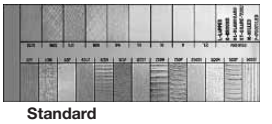

Standard

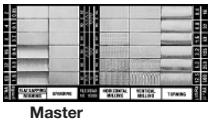

Master

Compare your surface finish to one of the swatches on these scales. The finishes are expressed in microinches (μ″).

Economy scale has 18 swatches of the most popular AA- and Ra-scale finishes ranging from 16 to 500 μ″ for comparing the following surfaces: ground, end milled, milled, shape turned, and flame cut. It is 5″ Lg.× 3½″ Wd. plastic.

Standard scales have 22 swatches of the most popular Ra-scale finishes ranging from 2 to 500 μ″ for comparing the following surfaces: lapped, ground, blanchard ground, shape turned, profiled, and milled. They're 2″ Lg.× 5⅜″ Wd. and made of solid nickel.

Master scale has 30 swatches of the most popular AA- and Ra-scale finishes ranging from 2 to 500 μ″ for comparing the following surfaces: lapped, reamed, ground, horizontal milled, vertical milled, and turned. It comes with a chart to correlate the finishes with CLA and ISO N scales. Meets ANSI B46.1 standards. It is 3″ Lg.×6″ Wd. and made of solid nickel.

Economy	1005T2	$9.46
Standard	8555T12	74.00
Standard with NIST Certificate	8555T16	318.75
Master	85615T1	108.72

Durometer Hardness Testers

Measure the hardness of flat materials, such as plastics, rubbers, and laminates. For more information about durometer scales, please see page 3588.

Standard and **slimline** testers can be held in your hand or mounted to a stand with the included knob. They are 4″ Ht.×2¼″ Wd.×1¾″ Dp.; *slimline* testers narrow to 1″ Wd.×1″ Dp. at the base for access to confined areas. Minimum testing thickness is ¼″. Meet ASTM D2240. A, D, and O scale testers have a pointer that freezes on the highest reading.

Pen-style testers come with a NIST calibration certificate. They are 6⅛″ Ht.×2¼″ Wd. Minimum testing thickness is ¼″. Meet ASTM D2240.

Digital testers have a display that rotates up to 270°. Testers are 6⅛″ Ht.×2¼″ Wd.×1½″ Dp. and come with a NIST calibration certificate. Minimum testing thickness is ¼″. They have a hold function that keeps the maximum reading until reset, high/low buttons for setting tolerances, and USB and RS-232 ports for connecting to a computer. Meet ASTM D2240.

Pocket-style testers have a scale that holds the reading until reset. Testers are 4½″ Ht.×½″ Dia. Minimum testing thickness is ¼″.

Test Kit for Durometer A Hardness—Kit comes with seven 2″×2″ test blocks, ranging from 30 to 90 Shore A hardness.



For Durometer Scale	Measuring, Points: Range	Increments	Accuracy	Standard		Slimline		Pen Style		Digital		Pocket Style	
A	0-100	1	±1	1388T2	$642.86	1388T213	$642.86	1388T235	$399.33	11665T26	$991.67	11545T21	$264.46
D	0-100	1	±1	1388T1	642.86	1388T113	642.86	1388T236	399.33	11665T27	991.67	11545T22	264.46
O	0-100	1	±1			1388T231	698.41	1388T237	465.89				
OO	0-100	1	±2			1388T232	698.41	1388T238	465.89				
Test Kit for Durometer A Hardness												1011T11	256.20

Hardness Calibration Test Blocks

Make sure your hardness testers are accurately calibrated. Blocks are marked with the Rockwell hardness; accuracy is ±5 points of the hardness ordered. They have a serial number and meet ASTM E18 requirements. **C-scale** blocks are traceable to NIST.



	Choose a Rockwell Hardness	Overall Size: Ht.	Wd.	Thick.		
A Scale	30-80	1½″	2½″	¼″	12105T54	$66.67
B Scale	30-100	2″	2″	¼″	12105T55	75.00
C Scale	20-63	1½″	2½″	¼″	12105T53	66.67
E Scale	75-100	2″	2″	¼″	12105T56	75.00

Pressure-Grip Rockwell Hardness Testers

Operate these testers with one hand. Squeeze the handles until the penetrator contacts the test material and a reading appears on the dial indicator. For use on metal up to ¼″ thick. Testers come with an extra penetrator and a test strip. Overall size is 8″ Lg.×1″ Wd.×3″ Ht. **Rockwell B scale tester** is for use with aluminum, brass, and low-carbon steel. **Rockwell E scale tester** is for use with aluminum.



For Rockwell Scale	Measuring, Points: Range	Increments	Accuracy		
B	20-100	4	±1	8731T12	$1,396.43
E	25-110	4.25	±1	8731T11	1,396.43

Small Spot Hardness Testers

A microscope measures the indentation made by a 1/16″ dia. carbide ball penetrator to provide a hardness reading for steel alloys ranging from Rockwell C20 to C65. The microscope is illuminated and has 60X magnification with a calibrated scale. Accuracy is ±1.5 points. Tester is 7½″ Ht.×⅞″ Dia. Batteries are included.



1342T13 ..... $857.14

Hardness-Testing Files

An economical way to determine the hardness of steel materials. Files are steel with a curved tip. Handles are marked with Rockwell hardness values.

File Set—Includes six Rockwell C scale files: 40, 45, 50, 55, 60, and 65, and a chart to convert to Vickers scale.



	Choose a Rockwell C Hardness		
Individual Files	40, 45, 50, 55, 60, 65	13705T38	$23.79
File Set		13705T91	104.12

Rockwell Hardness Testers

This lightweight tester is made and calibrated to ASTM E110 standards. It can be used at any angle without affecting accuracy. Tester comes with three anvils (flat, V, and convex) and a 1/16″ ball indenter. Throat size is 4½″ Ht.×2¼″ Dp. The overall size is 11″ Ht.×8″ Wd.×1½″ Dp.



For Rockwell Scale	Measuring, Points: Range	Increments	Accuracy		
A-H and K	0-100	1	±1.5	14065T9	$2,833.33
Optional C-Scale Diamond Indenter				14065T5	390.62

Brinell Hardness Tester Kits

This kit includes everything you need to test the Brinell hardness of steel from 150 to 400. To use, slide a test bar into the tester, place the tester on your surface, and hit with a hammer; a steel ball will make an impression. Measure the impression with the 20X microscope and use the computing disc to determine hardness.



Tester Kit	1347T41	$1,370.67
Individual Test Bars—Choose a Brinell Hardness: 106 to 578	1347T2	42.05

UV Penlights and Mini Flashlights

Detect leaks in piping systems with these UV LED lights. Batteries are included.

Penlight—Clip this small penlight to your pocket. It's aluminum with a black finish. Press the button for momentary light or twist the head for continuous use.

Mini Flashlight—Small enough to fit in your pocket. Body is aluminum with a gray finish. The head is Type 303 stainless steel. Press the button for momentary light or twist the end for continuous use.





	Dia.	Lg.	Battery Type (Qty.)		
Penlight	⅜″	6¼″	AAAA (3)	1159N1	$27.11
Mini Flashlight	⅞″	4¾″	3-Volt Lithium (2)	1159N2	41.67

Magnetic-Field Indicators



Noncalibrated



Calibrated

Place the lower edge of these dial indicators near or against your tools and parts to measure magnetism.

Noncalibrated indicator measures the strength of a magnetic field in gauss. Indicator is 2″ dia. with plastic housing.

Calibrated indicators are calibrated at 72°F. In addition to measuring the strength of a magnetic field in gauss, these also measure the direction of a magnetic field in positive/negative. Indicators are 2½″ dia. Housing is aluminum.

Gauss Range	Noncalibrated		Calibrated		Calibrated with NIST Certificate	
10-0-10	8575T11	$52.50	8450T14	$131.25	8450T21	$204.96
20-0-20	—	—	8450T16	130.00	8450T22	203.64
50-0-50	—	—	8450T18	137.50	8450T23	211.57

Coating-Thickness Gauges



Standard



Pen Style



Digital, Standard



Digital, High-Precision

Use these gauges to measure nonmagnetic coatings such as paint, galvanizing, plating, and enamel on steel. Hold the probe on your material for a quick reading. For readings in mils, one mil equals 0.001″.

Coating-Thickness Gauges

Standard gauges have a wear-resistant carbide probe. A V-groove in the base provides stability on curved surfaces. They have a go/no-go button for rapid measurement and come with a NIST calibration certificate. Accuracy is ±5%. Size is 2″ Ht.×8½″ Wd.×1¼″ Dp.

Pen-style gauge is for use on small, hard-to-reach surfaces. It comes with a NIST calibration certificate. Accuracy is ±10%. Size is ¼″ Dia.×5½″ Lg.

Economy pen-style gauge is ½″ Dia.×5¼″ Lg.

	Scale		
Standard	0-8 mils	1378T21	$330.08
Standard	0-80 mils	1378T22	330.08
Pen Style	0.25-20 mils/5-500 microns	1374T25	227.69
Economy Pen Style	1-15 mils	14055T11	79.28

Digital Coating-Thickness Gauges

These instruments display readings in mils and microns. They have a wear-resistant ruby probe tip. Batteries are included. *Ferrous* gauges measure the thickness of nonmagnetic coatings such as paint and plating on steel. *Ferrous/nonferrous* gauges measure the thickness of nonconductive coatings on steel and other metals such as aluminum and copper.

Standard gauges are 4″ Ht.×1½″ Wd.×1″ Dp. Accuracy is ±3%.

High-precision gauges come with a NIST calibration certificate. They conform to ISO 2808 and meet ASTM B499, D1186, and D1400. Set high/low limits and store 250 readings. Gauges are 5⅜″ Ht.×2⅜″ Wd.×1⅛″ Dp. Accuracy is +1%.

For Coated Material	Scale		
Standard Gauges with Built-In Probe			
Ferrous	0-40 mils/0-1,000 microns	1453T48	$533.08
Ferrous/Nonferrous	0-40 mils/0-1,000 microns	1453T49	748.46
High-Precision Gauges with Built-In Probe			
Ferrous	0-60 mils/0-1,500 microns	1453T61	673.08
Ferrous/Nonferrous	0-60 mils/0-1,500 microns	1453T65	1,050.00
High-Precision Gauges with 3-ft. Cable and Remote Probe			
Ferrous/Nonferrous	0-60 mils/0-1,500 microns	1453T73	1,157.69

Gauss/Tesla Meters



Measure magnetic fields with this hand-held meter to determine electromagnetic interference and detect flaws in welded metal. The meter displays readings in gauss, tesla, and ampere/meters. It has three measurement ranges: 200 gauss in 0.1 gauss increments; 2 kilogauss in 1.0 gauss increments; and 20 kilogauss in 10 gauss increments. Accuracy is 2%. Frequency bandwidth is DC-20 kHz. Meter includes batteries and an AC adapter. Its overall size is 7″ Ht.×4″ Wd.×1½″ Dp.

1488T55 ..... $1,408.82

Ultrasonic Thickness Gauges

Thickness Gauges



The ultrasonic probe provides highly accurate thickness readings to ±0.001″. These gauges display readings in inch and metric units. They come with a USB cord for connecting to your PC. Gauges meet ASTM E797 and come with a NIST calibration certificate. They also include ultrasonic gel for maximum surface contact. Batteries are included.

Thickness gauge measures the wall thickness of materials such as steel and plastic from 0.040″ to 5.000″.

Painted-surface thickness gauge measures the wall thickness of painted steel from 0.100″ to 2.500″ without removing the coating.

Thickness Gauge	8729T71	$1,071.54
Painted-Surface Thickness Gauge	8729T73	1,825.38
Replacement Ultrasonic Gel (4 oz.)	8729T81	17.43
Replacement Ultrasonic Gel (1 gal.)	8729T82	55.25

Calibration Blocks



Use these blocks to calibrate ultrasonic instruments. Steps are 0.75″ square. All blocks have a serial number and a NIST calibration certificate.

		For Aluminum	For Steel	For Stainless Steel
4 Step (0.25″-1.0″)	8489T16	$295.27	$295.27	$438.10
5 Step (0.1″-0.5″)	8489T17	320.00	320.00	484.13

UV Lights



Blacklight Blue

Inspect facilities and equipment with these lights. They operate on 120 volts AC.

Blacklight blue is used for inspection and bug and rodent detection. Housing is black plastic with a clear diffuser. Includes a 15-watt bulb and a cord with plug.

UV curing blacklight can be used for curing as well as inspection. Housing is beige aluminum with a built-in reflector. Includes two 15-watt bulbs and a cord with plug.

Lg.	Wd.	Dp.	Light Intensity, microwatts/cm² at 5″	UV Lights		Replacement UV Bulb	
Blacklight Blue							
21½″	1¾″	2¼″	Not Rated	8336K11	$32.86	8311K38	$23.90
UV Curing Blacklight							
19¾″	6″	4¼″	2,160	8337K11	445.31	8337K12	38.10

UV Lights with Stand



This versatile light can be secured in the stand or removed for hand-held use. A switch lets you select between UV and white fluorescent light. Housing is beige metal. Operates on 120 volts AC and includes a cord with plug and two 8-watt bulbs.

With Stand Lg.	Wd.	Ht.	Light Intensity, microwatts/cm² at 3″		
15″	3¾″	10¾″	1,480	1000T11	$419.73
Replacement UV Bulb				1000T31	32.51

High-Intensity UV Lights


Hand Held


Bench Top

View small particles and conduct inspections with the brilliant illumination of these UV lights. They operate on 120 volts AC and come with a cord and plug.

Hand-held light is used for automotive leak detection and magnetic-particle inspection. Light has a plastic housing. It comes with an 90-watt bulb.

Bench-top lights come with a transformer attached and a 100-watt bulb. The lamp head rotates 360°. In addition to inspection applications, use these lights for UV curing and dye-penetrant inspection. *5½″ dia.* light has an aluminum housing. *6″ dia*. light has a plastic housing. *Optional lens filter* reduces output of visible light, reducing glare and enabling finer particles to be seen.

Dia.	Lg.	Wd.	Ht.	Light Intensity, microwatts/cm² at 2″	Light Intensity, microwatts/cm² at 10″		
Hand-Held Light							
6″	9¾″	___	___	8,000	1,800	1447T18	$656.10
Bench-Top Lights							
5½″	8½″	4¼″	6¼″	21,700	8,900	1447T17	787.31
6″	9¾″	4¼″	6¼″	21,700	8,900	1447T15	881.23
Replacement Bulb for Hand-Held Light						1447T145	223.69
Replacement Bulb for Bench-Top Lights						1447T42	108.82
Optional Lens Filter for Bench-Top Lights						1447T41	62.87

Retractable-Cord UV Lights



Mount this light to your ceiling, and pull it down when you need it (extends 35 feet). When you're done, tug on the cord and it retracts out of your way. Use this light for UV curing, leak detection, and quality-control testing applications. Housing is impact-resistant plastic. Light is 5¼" dia. and 7½" long. It comes with a 6-ft. mounting chain, an 8-ft. cord with plug, and a 100-watt UV bulb.

Light Intensity, microwatts/cm² at 15″		
4,800	13605T73	$950.69
Replacement Bulb	13605T76	114.11

Broad-Beam UV Lights

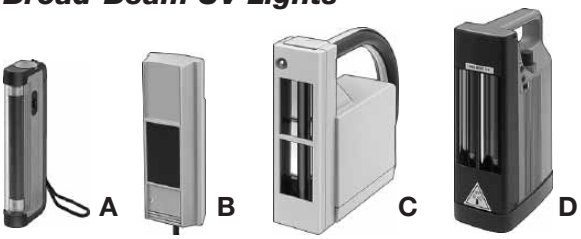

Shed light over a wide area for security control, rodent detection, UV curing, and magnetic-particle flaw detection. Lights have a plastic housing. Bulb is included.

(A) Economy—The smallest and most economical UV light we offer. It comes with a 4-watt UV bulb and a built-in white-light flashlight. Requires four AA batteries.

(B) Plug-In—Has a filter that blocks most visible light interference. It comes with a 4-watt UV bulb and a cord with plug.

(C) Battery—Has a 6-watt self-filtering UV blacklight blue bulb and a built-in white-light flashlight. Includes two 6-volt lantern batteries.

(D) Rechargeable—A rechargeable lead-acid battery provides approximately five hours of continuous use when fully charged. Includes two 6-watt self-filtering UV blacklight blue bulbs.

	Lg.	Wd.	Ht.	Light Intensity, microwatts/cm² at 3″	Lights		Replacement UV Bulb	
A	2″	7/8″	6¼″	___	6760T11	$38.35	8311K41	$19.21
B	2¾″	2″	7¾″	1,300	8519T14	175.75	8519T17	24.94
C	9½″	2¾″	9⅜″	3,250	8519T16	397.23	8311K42	19.14
D	5½″	3″	10″	1,130	13875T13	343.06	8311K42	19.14
Replacement White Bulb for Style C							8519T19	11.56

UV Magnifying Lights


Combination UV/ Fluorescent Light

The combination of UV light and magnifying lens lets you see the smallest traces of fluorescence while inspecting. Lights have a plastic housing with an aluminum reflector. The magnifying lens is made of 2" Lg.×4" Wd. glass and provides 3X magnification at an 8" working distance. Lights operate on 120 volts AC and have a cord with plug.

UV light comes with two 4-watt UV bulbs.

Combination UV/fluorescent light comes with two 4-watt UV bulbs and two 4-watt white fluorescent bulbs that work independently of each other.

Lg.	Wd.	Ht.	Light Intensity, microwatts/cm² at 6″		
UV Light					
7″	5¾″	2¼″	700	1495T23	$449.41
Combination UV/Fluorescent Light					
7″	5¾″	2¼″	700	1495T25	519.30
Replacement UV Bulb				8311K41	19.21
Replacement Fluorescent Bulb				1495T12	27.83

Colored-Dye Flaw-Detection Kits


Visible Dye Kit


Fluorescent Dye Kit with UV Light

Reveal cracks and surface flaws in most nonporous material, such as cast iron, steel, stainless steel, carbide, and ceramics. The contents of all kits comply with SAE-AMS-2644, ASTM E1417, MIL-STD 271, MIL-STD 2132, and sulfur-chlorine-halogen requirements.

Visible Dye Kit—Flaws become visible under natural light and appear as a bright red color. Commonly used for weld inspecting, this kit comes with four 16-oz. cans of cleaner, two 16-oz. cans of red dye, and two 16-oz. cans of developer.

Fluorescent Dye Kit with UV Light—Contains everything you need to detect cracks, seams, and pores on machined surfaces. This kit is more sensitive than the visible dye kit. The UV light operates on 120 volts AC and includes a cord with plug and a 100-watt bulb. This kit also contains two 16-oz. cans of cleaner, one 16-oz. can of fluorescent green dye, and one 16-oz. can of developer.

Kits

Visible Dye Kit	1383T3	$178.09
Fluorescent Dye Kit with UV Light	1387T61	876.56

Replacement Chemicals

		1-11	12-Up
Cleaner	1383T7	$16.00	$14.62
Visible Red Dye	1383T4	20.62	18.85
Fluorescent Green Dye	1387T8	23.91	21.86
Developer for Visible Red Dye	1383T5	18.40	16.82
Developer for Fluorescent Green Dye	1387T22	20.71	18.93

Magnetic-Particle Flaw-Detection Kits



Kits come with a yoke that creates a magnetic field on the part you're inspecting—apply the powder on ferrous metals and the defects appear. They comply with ASTM E1444 and MIL-STD 2132.

Standard—Operates on 120 volts AC and has a cord with plug. Kit also comes with two 1-lb. bottles of powder (one gray and one red) and a powder dispenser.

Cordless—Operates on a rechargeable battery that provides up to 8 hours of use per charge. Kit also includes a charger, 1 lb. of gray powder, and a powder dispenser. Cannot be sold in California or Oregon.

Standard	1394T1	$576.56
Cordless	1372T1	1,203.12
Replacement Gray Detection Powder—10 lbs.	1394T372	116.02
Replacement Red Detection Powder—10 lbs.	1394T373	116.02
Replacement Powder Dispenser	8572T12	30.00
Cleaner—16-oz. Can	1383T7	16.00

Leak-Detecting Pipe Flange Covers


With pH Patch


See Through

The wrap-around design of these chemical-resistant covers contains acid and caustic pipe leaks, protecting personnel and equipment. All are UV resistant, can be used indoors and out, and are made for 150 psi pipe flanges.

Covers with pH patch have a pH detecting patch that's orange when neutral. When a tiny amount of liquid makes contact with the patch, it changes color to indicate a leak. *Red, white,* and *brown* covers are plastic and have a maximum temperature of 140° F. *Chemical-resistant tan* covers are PTFE-coated fiberglass that's highly resistant to acids, alkalies, and most chemicals except hydrofluoric acid. Maximum temperature is 450° F.

See-through covers have a clear plastic center. Maximum temperature is 300° F.

Pipe Size	Actual Pipe OD	*With pH Patch* Red		White		Brown		Chemical-Resistant Tan		*See Through* Orange	
1/2"	27/32"	9169K33	$8.96	9169K13	$8.96	9169K53	$8.96	6811K24	$27.55	45125K48	$31.57
3/4"	1 3/64"	9169K34	9.97	9169K14	9.97	9169K54	9.97	6811K25	30.15	45125K49	34.67
1"	1 5/16"	9169K35	10.13	9169K15	10.13	9169K55	10.13	6811K26	32.08	45125K51	36.68
1 1/2"	1 29/32"	9169K37	10.55	9169K17	10.55	9169K57	10.55	6811K28	34.67	45125K52	39.70
2"	2 3/8"	9169K38	11.31	9169K18	11.31	9169K58	11.31	6811K29	36.52	45125K53	41.88
3"	3 1/2"	9169K39	12.56	9169K19	12.56	9169K59	12.56	6811K32	44.47	45125K54	51.09
4"	4 1/2"	9169K41	13.90	9169K21	13.90	9169K61	13.90	6811K34	53.18	45125K55	61.14
6"	6 5/8"	9169K42	17.17	9169K22	17.17	9169K62	17.17	6811K36	65.58	45125K56	75.12
Replacement pH Patches (Pkg. of 10)										9169K77	7.50

Quick-Spot Leak Detectors



Bubbling action at the source of leaks provides a quick and reliable leak detection method, saving time and energy costs. These noncorrosive, nonflammable detectors find leaks in pipes, tubes, fittings, tanks, and cylinders. They wash off with water.

These products are compliant under all state VOC rules in effect on September 1, 2011.

Foam detector bubbles over pressure leaks and forms a crater over vacuum leaks.

Compressed gas (oxygen-compatible) detectors meet MIL-PRF-25567E and nuclear industry and ASTM standards for halogen and chloride content.

High-visibility detectors are fluorescent green and adhere to vertical surfaces. Use the *optional UV leak detection flashlight* for enhanced viewing.

Dispenser		
Foam		
Standard (*35° to 170° F*)		
14-oz. Aerosol Can	6563T31	$18.31
Compressed Gas (Not Oxygen-Compatible)		
Standard (*35° to 160° F*)		
4-oz. Squeeze Bottle	1012T16	4.23
8-oz. Bottle with Applicator	1012T22	5.21
8-oz. Squeeze Bottle	1012T18	5.28
1 Gallon Refill	1012T24	35.56
Compressed Gas (Oxygen-Compatible)		
Standard (*27° to 200° F*)		
8-oz. Squeeze Bottle	10875T11	4.73
1 Gallon Refill	10875T12	41.36
Low Temperature (*-65° to 200° F*)		
8-oz. Squeeze Bottle	10875T22	5.62
1 Gallon Refill	10875T24	53.45
High Visibility (*15° to 200° F*)		
8-oz. Bottle with Applicator	6628T41	7.54
1 Gallon Refill	6628T42	46.12
Low Temperature High Visibility (*-55° to 200° F*)		
16-oz. Spray Bottle	6628T53	16.28
1 Gallon Refill	6628T55	57.85
Optional UV Leak Detection Flashlight for High-Visibility Detectors	65195T25	35.04

Viscosity Testers



Also known as Zahn cups, these testers let you calculate viscosity based on the speed at which a liquid drains through a cup with a hole at the bottom. To determine viscosity, dip the cup in a liquid until it is completely filled, lift the cup out of the liquid, and time how many seconds it takes for the liquid to drain out of the hole in the bottom. Use the included formula to convert seconds to centipoise. Testers are 304 stainless steel. Overall size is 13 3/4" Lg. x 1 3/8" Wd. x 2 3/8" Dp. Meet ASTM D4212.

For Testing	Viscosity Range, cP		
Very Thin Oils	18 to 56	8547T31	$139.94
Thin Oils and Lacquers	40 to 230	8547T32	139.94
Medium Oils and Mixed Paints	150 to 790	8547T33	139.94
Heavy Liquids	220 to 1,100	8547T34	139.94
Very Heavy Liquids and Mixtures	460 to 1,725	8547T35	139.94

Leak-Detecting Dye

Easy-to-see colors enable you to visually inspect for leaks without ultraviolet light. For enhanced viewing, you can use the *optional UV leak detection flashlight*.

These products are compliant under all state VOC rules in effect on September 1, 2011.

For Water Systems



Tablets are clean and easy to use.

Liquid is a good choice for larger volumes of water.

One gallon of water occupies 0.1337 cubic ft. Calculate the number of gallons a tank holds by dividing the tank volume by 0.1337. Meets NSF/ANSI Standard 60.

Size	Color	Max. Water Treated, gal.		
200 Tablets	Red	12,000	1400T43	$47.40
200 Tablets	Yellow/Green	12,000	1400T12	39.08
1-pt. Liquid	Red	3,125	1400T44	19.40
1-pt. Liquid	Yellow/Green	12,500	1400T45	19.40
1-gal. Liquid	Red	25,000	1400T46	91.73
1-gal. Liquid	Yellow/Green	100,000	1400T49	91.73
Optional UV Leak Detection Flashlight			1159N2	41.67

For Hydraulic Systems

Use 1 oz. of dye for every 50 gallons of oil, solvent, wax, or other industrial fluid you're inspecting.

Size	Color		
4-oz. Liquid	Red	1400T23	$20.30
4-oz. Liquid	Fluorescent Red	1400T22	58.38
4-oz. Liquid	Blue	1400T21	31.15
Optional UV Leak Detection Flashlight		1159N2	41.67

Stethoscopes

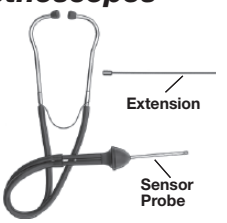

1024T28

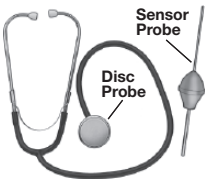

1024T32

With Sensor Probe and Extension	1024T28	$14.08
With Disc Probe and Sensor Probe	1024T32	46.15

Noise-Filtering Stethoscope



Reduce background noise so you can isolate individual sounds to detect mechanical problems and leaks. Stethoscope has a 9" flexible probe, a 5" sensor probe extension, and headphones that shut out surrounding noise. Operates on one 9-volt battery (included) and comes with a plastic carrying case.

Stethoscope	85465T53	$159.02
Replacement 9-Volt Battery (Pkg. of 1)	71455K56	2.75

Early Warning Ultrasonic Leak Detectors



Sensing inaudible sound waves, this detector converts ultrasonic waves to an audible sound so you can find leaks. An LED display indicates when a leak is identified. Unlike typical leak detectors, this unit doesn't rely only on the presence of a gas to work, making it suitable for a wider range of applications. In addition to gas leaks, it identifies ultrasonic sound caused by failing solenoids, valves, and bearings. Detector includes a 10″ tube extension, 3½″ dia. reflector dish for sound amplification, and plastic carrying case.

For low-pressure systems, use the *ultrasonic sound generator for systems under 10 psi*.

Detector and ultrasonic sound generator each operate on one 9-volt battery (included).

Detector	8402T55	$334.18
Optional Ultrasonic Sound Generator for Systems Under 10 psi	8402T57	160.23
Replacement 9-volt Battery (Pkg. of 1)	71455K56	2.75

Combustible Gas Leak Detectors



Identify gas leaks economically with this compact leak detector. Detects leaks in pipes, valves, storage tanks, and other gas system components. Detector signals with both a red light and a continuous beeping sound. Operates on two AA batteries (sold separately).

Gases Detected	Min. ppm
Methane (natural gas)	5,000
Propane	2,000

Detector	1076T8	$44.55
AA Batteries (Pkg. of 4)	71455K53	2.94

Combustion Efficiency Meters



Measure boiler and furnace combustion efficiency with this hand-held meter, which works with most fossil fuels including natural gas, oil, propane, and kerosene. Accuracy is ±0.3% of oxygen content. Meter automatically calibrates to normal atmospheric oxygen and has an LCD, 6-ft. hose, and 10″ long probe. Operates on four AA batteries (included) and comes with a storage bag.

Measurement Ranges	
Combustion Efficiency of System	0.1 to 100%
Carbon Dioxide Content of Heated Air	0 to 15%
Excess Air Produced by System	0 to 250%
Flue Gas Oxygen Content	0 to 20.9%
Flue Gas Temperature	–4° to 1,202° F

Meter	3937K35	$643.24
Replacement Oxygen Sensor	3937K37	186.33
Replacement AA Batteries (Pkg. of 4)	71455K53	2.94

Dial Contact Tachometers

- Range: 0 to 4,000 rpm
- Accuracy: ±5% of reading



Housed in steel for durability, this tachometer can measure both clockwise and counterclockwise rotation. It includes a tip for measuring shafts with a center hole and a tip for measuring flat end surfaces.

Optional 12″ extension shaft accesses hard-to-reach areas.

		Each
Tachometer	1416T1	$128.62
Optional 12″ Extension Shaft	1416T2	26.42
Replacement Tips (One for Shafts with Center Hole, One for Flat End Surfaces)	1416T3	Set $5.16

Refrigerant Leak Detectors



An LED display and audible signal alert you to leaks as small as 0.1 oz. per year in air conditioning and refrigeration systems. The audible signal also increases in intensity as you approach the leak. Unit detects halogenated refrigerants such as hydrofluorocarbons (HFCs), chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), R-22 (freon), R-134a, and 410A. Meet SAE J1627. Detector includes a 14″ flexible sensor probe for hard-to-reach areas and a plastic carrying case. Operates on two C batteries (included). UL classified. CE approved.

Detector	1130T61	$201.75
Replacement Tips (Pkg. of 3)	1130T62	40.82
Replacement C Batteries (Pkg. of 6)	71455K54	6.49

High-Sensitivity Combustible Gas Leak Detectors



Identify a variety of small leaks quickly and access hard-to-reach areas with the 14″ flexible probe. Detector has an LED indicator and an audible signal that increases in intensity the closer you get to the leak. It includes a rechargeable NiMH battery pack, a battery charger, and a vinyl carrying case. UL listed Class I, II, and III, Division 1 for hazardous locations.

Gases Detected	Min. ppm	Gases Detected	Min. ppm
Methane (natural gas)	500	Acetone	50
Hydrogen	500	Methanol	50
Butane	500	Ammonia	20
Propane	500	Gasoline	1
		Chlorine	1

Detector	1140T13	$218.25
Replacement Tip	1140T21	34.37
Replacement NiMH Battery Pack	1140T23	54.15

Radiation Detectors



Standard



Rough Duty

These hand-held detectors sense alpha, beta, gamma, and X-ray radiation. They provide measurements in mR/hr, µSv/hr, and CPM. A flashing red light with audio beep indicates the presence of radiation. Operate on one 9-volt battery (not included).

Standard detector has a scale to show radiation detected in the air.

Rough duty detector has a rubber protective casing. It detects lower levels of radiation than the standard detector. Use this detector alone to measure radiation in the air, or use it with the optional wipe test plate and sample collection wipes (sold separately) to measure radiation on surfaces. For surface testing, use a wipe on a wet or dry surface, place the wipe in the wipe test plate, and slide the plate onto the detector. Includes software and a USB connection.



	Display		
Standard	Analog	8543T11	$422.67
Rough Duty	4-Digit LCD	8543T12	660.00
Optional Wipe Test Plate for Rough Duty Detector		8543T13	46.67
Optional Sample Collection Wipes for Rough Duty Detector (Box of 250)		8543T14	26.94

Surface Contact Tachometers

- Range: 1,000 to 4,000 rpm
- Accuracy Range: ±0.5% of reading



Also known as a reed tachometer, this unit is compact for portability. Place it against enclosures of rotating equipment to measure speed. The reeds are precision calibrated and arranged in two easy-to-read rows. Tachometer is 3″ Ht.×2″ Wd.×2½″ Dp. and has an aluminum case. It operates mechanically, so batteries aren't required.

	1419T3	$355.38

About Tachometers

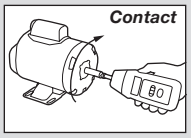

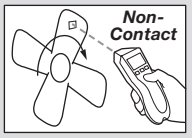

Tachometers measure the speed of rotating parts on machines such as shafts, gears, and belts.

Contact tachometers come in direct contact with an object and are an excellent choice for dirty and dusty environments.

Noncontact tachometers have a beam of light or laser that reflects off a piece of reflective tape attached to the rotating point.

Contact Tachometers



- Range: 0.5 to 19,999 rpm
- Accuracy: ±0.05% of reading

Units of Measure
Revolutions/min.
Feet/min.
Meters/min.

Measure speed in three different units with one tachometer. These units include a tip for measuring shafts with a center hole, tip for measuring flat end surfaces, 4″ circumference speed wheel, and a case. They have an LCD and plastic housing. Operate on four AA batteries (included). Choose with or without a certificate of calibration traceable to NIST.

Tachometer	8714T11	$206.24
Tachometer with NIST Certificate	8714T22	332.13
Tip for Shafts with Center Hole	8714T41	12.92
Tip for Flat End Surfaces	8714T45	12.93
4″ Circumference Speed Wheel	8714T46	12.92
Replacement AA Batteries (Pkg. of 4)	71455K53	2.94

High-Accuracy Contact Tachometers



- Range: 0.1 to 25,000 rpm
- Accuracy: ±0.006% of reading

Units of Measure	
Revolutions/min., hr.	Yards/min., hr.
Inches/min.	Meters/min., hr.
Feet/min., hr	Miles/hr.
Total Revolutions	Length—m, cm, in., ft., yd.

The most accurate tachometers we offer. Units include two tips for measuring shafts with a center hole, one tip for measuring flat end surfaces, speed wheel, 3½″ extension shaft, and a case. They have an aluminum housing and come with a certificate of calibration traceable to NIST. Operate on two AA batteries (included).

Choose an ***LCD display*** for use in bright light or ***LED display*** for dimly lit areas.

Note: Units are calibrated to work with either a 6″ or 12″ circumference speed wheel but not both.

Display	Speed Wheel		
LCD	6″ Circumference	11995T71	$292.50
LED	6″ Circumference	11995T72	292.50
LED	12″ Circumference	11995T73	352.08
3½″ Extension Shaft		11995T56	14.00
Tip for Shafts with Center Hole		11995T53	8.27
Tip for Flat End Surfaces		11995T54	8.27
6″ Circumference Speed Wheel		11995T55	38.18
12″ Circumference Speed Wheel		11995T75	63.64
Replacement AA Batteries (Pkg. of 4)		71455K53	2.94

High-Accuracy Noncontact Tachometers



- Range: 5 to 99,999 rpm
- Measuring Distance: Up to 3 ft.
- Accuracy: ±0.01% of reading
- Unit of Measure: Revolutions/Minute

Take precise measurements from a distance. This tachometer has an LCD and plastic housing. It includes 12″ of reflective tape and a ¼″-20 female threaded bushing for tripod mounting. Operates on two AA batteries (included).

Tachometer	11765T58	$162.96
Plastic Carrying Case	11765T61	38.89
Reflective Tape Roll (5 ft. Lg. × ½″ Wd.)	7178A12	12.00
Reflective ½″ Sq. Tape Tabs (Sheet of 35)	15975T21	5.25
Replacement AA Batteries (Pkg. of 4)	71455K53	2.94

Noncontact Tachometers



- Range: 2 to 99,999 rpm
- Measuring Distance: Up to 20″
- Accuracy: ±0.05% of reading
- Unit of Measure: Revolutions/Minute

Get an accurate measurement while keeping clear of moving equipment. Tachometers have an LCD and plastic housing. They include 2 ft. of reflective tape and operate on one 9-volt battery (included). Choose with or without certificate of calibration traceable to NIST.

Tachometer	1905T22	$157.37
Tachometer with NIST Certificate	1905T42	250.40
Reflective Tape Roll (5 ft. Lg. × ½″ Wd.)	7178A12	12.00
Reflective ½″ Sq. Tape Tabs (Sheet of 35)	15975T21	5.25
Replacement 9-Volt Battery (Pkg. of 1)	71455K56	2.75

Contact/Noncontact Tachometers



- Range: Contact: 0.5 to 20,000 rpm; Noncontact: 5 to 200,000 rpm
- Measuring Distance: Up to 25 ft.
- Accuracy: Contact: ±0.05% of reading; Noncontact: ±0.01% of reading

Units of Measure	
Revs./sec., min., hr.	Yards/sec., min., hr.
Inches/sec., min., hr.	Centimeters/sec., min., hr.
Feet/sec., min., hr.	Meters/sec., min., hr.

Capture high speed readings from a distance in noncontact mode, or use the included 4″ circumference speed wheel to switch to contact mode. It includes one tip for measuring shafts with a center hole, one tip for measuring flat end surfaces, 5 ft. of reflective tape, ¼″-20 female threaded bushing for tripod mounting, and a case. Unit has an LCD and plastic housing and comes with a certificate of calibration traceable to NIST. Operates on two AA batteries (included).

BNC cable sends signals from the tachometer to a vibration data collector.

Tachometer with NIST Certificate	11765T75	$314.72
BNC Cable	11765T91	52.50
Reflective Tape Roll (5 ft. Lg. × ½″ Wd.)	7178A12	12.00
Reflective ½″ Sq. Tape Tabs (Sheet of 35)	15975T21	5.25
Replacement AA Batteries (Pkg. of 4)	71455K53	2.94

High-Accuracy Contact/Noncontact Tachometers



- Range: 6 to 99,999 rpm
- Measuring Distance: Up to 20 ft.
- Accuracy: ±0.006% of reading

Units of Measure	
Revolutions/min.	Inches/min.
Feet/min.	Yards/min.
Meters/min.	Length—m, in., ft., yd.

Switching from contact to noncontact mode is as easy as attaching the included adapter. Tachometers include one tip for measuring shafts with a center hole, one tip for measuring flat end surfaces, speed wheel, 7″ of reflective tape, ¼″-20 female threaded bushing for tripod mounting, and a case. They have an aluminum housing and come with a certificate of calibration traceable to NIST. Operate on two AA batteries (included).

Choose an ***LCD display*** for use in bright light or ***LED display*** for dimly lit areas.

Display	Speed Wheel		
LCD	6″ Circumference	11835T71	$319.76
LCD	12″ Circumference	11835T81	377.42
LED	6″ Circumference	11835T51	319.76
LED	12″ Circumference	11835T61	377.42
3½″ Extension Shaft		11995T56	14.00
Tip for Shafts with Center Holes		11995T53	8.27
Tip for Flat End Surfaces		11995T54	8.27
6″ Circumference Speed Wheel		11995T55	38.18
12″ Circumference Speed Wheel		11995T75	63.64
Reflective Tape Roll (5 ft. Lg. × ½″ Wd.)		7178A12	12.00
Reflective ½″ Sq. Tape Tabs (Sheet of 35)		15975T21	5.25
Replacement AA Batteries (Pkg. of 4)		71455K53	2.94

Panel-Mount Tachometers



Tachometer



Proximity Sensor



Photoelectric Sensor

- Range: 5 to 99,990 rpm
- Accuracy: ±0.05% of reading

Install this tachometer and measure rpm remotely using a proximity or photoelectric sensor (sold separately). Unit has an LED display housed in a 1/8 DIN enclosure with cutout size of 1.8″ Ht.×3.6″ Wd.×3.5″ Dp. Mounting hardware included. Operates on 115/230 volts AC, 50/60 Hz and has screw terminal connections.

Sensors have a 6-ft. cable and two mounting holes. Temperature range is 0° to 130° F.

Proximity sensor magnetically detects moving metal objects, such as gear teeth and fan blades. Range is up to 36,000 rpm. Maximum measuring distance is 0.1″. Size is 1.4″ Ht.×0.71″ Wd.×0.71″ Dp.

Photoelectric sensor generates light beams across a 0.8″ wide gap. When a rotating object enters this gap, the beam is broken. Range is up to 6,000 rpm. Maximum measuring distance is 0.4″. Size is 2.5″ Ht.×2″ Wd.×0.8″ Dp.

Tachometer	14215T11	$212.49
Proximity Sensor	14215T22	62.49
Photoelectric Sensor	14215T33	162.49
Reflective Tape Roll (5 ft. Lg.×1/2″ Wd.)	7178A12	12.00
Reflective 1/2″ Sq. Tape Tabs (Sheet of 35)	15975T21	5.25

High-Accuracy Panel-Mount Tachometers

- Range: Standard: 5 to 99,999 rpm;
  Programmable and Deluxe Programmable: 5 to 999,990 rpm
- Accuracy: Standard: ±0.005% of reading;
  Programmable and Deluxe Programmable: ±0.001% of reading

Combine any of these tachometers and sensors to create the most accurate tachometer system we offer. Install a tachometer in a convenient location and measure speed remotely using a sensor. Mounting hardware included.

Tachometers



They have an LED display housed in a plastic 1/8 DIN enclosure with cutout size of 1.8″ Ht.×3.6″ Wd.×4.5″ Dp. Operate on 115 volts AC, 50/60 Hz and have screw terminal connections.

Standard—Display reads down to one unit. It updates twice per second when the reading exceeds 120 rpm.

Programmable—Has minimum and maximum reading recall and totalizes from 1 to 99,999. It comes with a certificate of calibration traceable to NIST.

Deluxe Programmable—Have the same features as the programmable plus two internal alarms and a USB output. Tachometer *with current output* has a range of 4 to 20 mA. Tachometer *with voltage output* has a range of 0 to 5 volts DC.

Standard	8518T61	$244.55
Programmable	8518T62	293.66
Deluxe Programmable with Current Output	8518T632	471.16
Deluxe Programmable with Voltage Output	8518T631	471.16
Reflective Tape Roll (5 ft. Lg.×1/2″ Wd.)	7178A12	12.00
Reflective 1/2″ Sq. Tape Tabs (Sheet of 35)	15975T21	5.25

Sensors



Proximity Sensor



Magnetic Sensor



Optical Sensor

Proximity sensor can be used in dirty and wet environments. Maximum measuring distance is 0.2″ from a 1/2″ minimum size metal target. Size is 0.43″ Dia.×1.3″ Lg.

Magnetic sensor has a maximum measuring distance of 0.005″ from a 0.1″ minimum size ferrous metal target. Size is 0.63″ Dia.×2″ Lg.

Optical sensor performs best in clean environments and works at up to a 45° angle from reflective tape. Maximum measuring distance is 36″. Size is 0.63″ Dia.×2.9″ Lg.

	rpm Range	Operating Temp. Range, °F	Cable Lg., ft.		
Proximity	1-60,000	–4° to +140°	6	8518T92	$123.21
Magnetic	1-99,999	–100° to +225°	8	8518T91	128.57
Optical	1-250,000	–14° to +158°	8	8518T96	160.71

Contact/Noncontact Tachometers/ Thermometers

- Accuracy: ±0.05% of reading
- Measuring Distance: Up to 6 1/2 ft.
- Range: Contact: 0.5 to 20,000 rpm; Noncontact: 10 to 99,999 rpm



Units of Measure
Revolutions/min.
Feet/min.
Meters/min.

Easily switch modes—these tachometers have a contact tip on one end and a noncontact sensor on the other. They also measure temperatures from –4° to +600° F. Units include one tip for measuring shafts with a center hole, one tip for flat end surfaces, 4″ circumference speed wheel, 24″ of reflective tape, and a case. They have an LCD and plastic housing. Operate on four AA batteries (included). Choose with or without a certificate of calibration traceable to NIST.

Tachometer	8430T22	$334.42
Tachometer with NIST Certificate	8430T77	554.09
Tip for Shafts with Center Hole	8714T41	12.92
Tip for Flat End Surfaces	8714T45	12.93
4″ Circumference Speed Wheel	8714T46	12.92
Reflective Tape Roll (5 ft. Lg.×1/2″ Wd.)	7178A12	12.00
Reflective 1/2″ Sq. Tape Tabs (Sheet of 35)	15975T21	5.25
Replacement AA Batteries (Pkg. of 4)	71455K53	2.94

Stroboscopes

- rpm and Flashes per Minute: Stroboscope: 30 to 10,000; Stroboscope with NIST Certificate: 30 to 20,000
- Accuracy: ±0.002% of reading



Inspect rotating equipment and measure rpm. Stroboscopes have a flash duration of 20 to 50 microseconds and a flash power of 13 watts. Display is a backlit LCD. Units have a plastic housing and 1/4″-20 female threaded bushing for tripod mounting.

AC-powered stroboscopes run on 115 volts AC, 50-400 Hz. They have a 5-ft. cord with three-prong plug.

Battery-powered stroboscopes have an internal battery and include a 115/230-volt AC charger.

	Stroboscopes		*Stroboscopes w/ NIST Certificate*	
AC Powered	1177T52	$309.38	1177T71	$490.09
Battery Powered	1177T53	427.23	1177T92	549.02
Optional Plastic Carrying Case			1177T73	$93.60
Replacement Flash Bulb			1177T74	70.50
Replacement Battery Charger			1177T95	52.50

Heavy Duty Stroboscopes

- rpm and Flashes per Minute: 40 to 35,000
- Accuracy: ±0.01% of reading



AC Powered



Battery Powered

An aluminum housing makes these our strongest, most durable stroboscopes. Used to inspect rotating equipment and measure rpm, units have an automatic brightness control, LED display, and a 1/4″-20 female threaded bushing for tripod mounting. Flash duration is 10 to 40 microseconds and flash power is 10 watts. Choose with or without a certificate of calibration traceable to NIST.

AC-powered stroboscopes run on 115 volts AC, 50/60 Hz. They have an 8-ft. cord with three-prong plug.

Battery-powered stroboscopes have an internal battery and include a 100/240-volt AC charger.

	Stroboscopes		*Stroboscopes w/ NIST Certificate*	
AC Powered	15015T1	$622.92	15015T5	$740.23
Battery Powered	15015T2	812.50	15015T6	943.36
Optional Plastic Carrying Case			15015T21	$152.73
Replacement Flash Bulb			15015T23	59.82
Replacement Battery Charger			15015T88	116.67

Noncontact Tachometers/Stroboscopes



- Range: Tachometer: 5 to 99,999 rpm; Stroboscope: 100 to 99,999 rpm and flashes per min.
- Measuring Distance: Up to 12″
- Accuracy: ±0.1% of reading

Measure rpm and inspect moving equipment with one compact instrument. Tachometers/stroboscopes have an LCD that shows 0.1 to 1 rpm/flashes per minute and a plastic housing. Flash duration is 60 to 1,000 microseconds. Units include 2 ft. of reflective tape and a case. Operate on four AA batteries (included).

Tachometer/Stroboscope	1412T1	$368.41
Tachometer/Stroboscope with NIST Certificate	1412T2	487.49
Reflective Tape Roll (5 ft. Lg. × ½″ Wd.)	7178A12	12.00
Reflective ½″ Sq. Tape Tabs (Sheet of 35)	15975T21	5.25
Replacement AA Batteries (Pkg. of 4)	71455K53	2.94

Combination Vibration Meters/ Stethoscopes



- Acceleration Range: 0.01 to 19.99 g
- Frequency Range: 10 to 10,000 Hz
- Velocity Range: 0.01 to 19.99 in./sec.
- Accuracy: ±2% of reading

Listen to and record machine performance. In addition to vibration, this meter measures acceleration and velocity.

Meter has an LCD, padded headphones, and a 4½″ long sensor probe for locating problem areas. Housing is plastic. The magnetic base allows you to mount the probe on a machine for constant readings. Enter recorded data into the monitoring software (included) and you can predict when machine maintenance is required. Operating temperature range is –14° to +122° F. Operates on two AA batteries (included) and comes with a case.

Meter	8738T1	$1,230.36
Replacement AA Batteries (Pkg. of 4)	71455K53	2.94

Tamper and Vibration Detection Paint



Apply directly to equipment for easy and economical detection. When paint dries it becomes brittle and cracks from any movement caused by tampering or vibration. It's noncorrosive and adheres to most surfaces, including all types of metals.

General-purpose paint is excellent for use on small parts. Temperature range is –50° to 400° F. To Order: Please specify color.

Fast-drying paint is for large jobs such as machinery bolts. Temperature range is –20° to 200° F.

Color		
General Purpose—*1 oz.*		
Gray, Pink, White	1476T51	$4.65
Fluorescent General Purpose—*1 oz.*		
Blue, Green, Orange, Red, Yellow	1476T61	4.65
Fast Drying—*5 oz.*		
White	1476T71	28.44

Hazardous-Location Vibration-Monitoring Switches

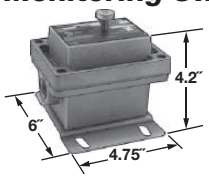

Get NEMA 4 and IP66 protection from dirt and water. Switch is rated for hazardous locations for Class I, Groups C and D, Div. 1; Class II, Groups E, F, and G, Div. 1. If vibration or shock exceeds a set point, the contacts actuate to either shut down your machine or activate an alarm. Reset switch with the push of a button. The activation point is adjustable between 0 to 5 gravity units (g's) at 0 to 60 Hz. Switch is SPDT and rated 15 amps @ 125 or 480 volts AC. Conduit connection is ¾″ NPT female. Housing is cast aluminum with ⅜″ mounting slots (fasteners not included). UL and C-UL listed. CE approved.

	1188T31	$718.33

Vibration Meters



- Acceleration Range: 0.02 to 199.9 g
- Frequency Range: 3 to 1,000 Hz
- Velocity Range: 0.02 to 199.9 in./sec.
- Displacement Range: 0.2 to 199.9 mils
- Accuracy Range: ±5% of measuring range

In addition to vibration, this meter measures acceleration, velocity, and displacement. Use to monitor the performance of rotating machines such as fans and pumps. Meter has an LCD that holds the reading for one minute and a plastic housing. It comes with a 1½″ long probe, case, and certificate of calibration traceable to NIST. Operating temperature range is 32° to 122° F. Operates on one 9-volt battery (included).

Meter	8721T1	$823.08
Replacement 9-Volt Battery (Pkg. of 1)	71455K56	2.75

Pocket-Size Vibration Meters



Quickly detect and measure machine vibration with these pen-size tools. A flexible steel wire reed detects vibration while the scale on the side of the meter indicates the machine vibration in cycles per minute (cpm). A simple calculation determines motor speed in rpm for engines with multiple cycles. Meters have an aluminum housing and come with a case.

Combination set contains one of each meter and a case.

Vibration Range	Accuracy		
200-2,000 cpm	±15% of Reading	1353T15	$78.33
2,000-21,000 cpm	±10% of Reading	1353T11	57.33
Combination Set		1353T13	131.53

Vibration-Monitoring Switches



Two easy-to-set dials allow you to adjust set points for vibration and time delay and detect vibration when it first occurs. A 4 to 20 milliamp output signals an alarm if the set point is exceeded. Set a time delay for after normal speed has been reached to avoid false triggering from start-up vibration. Switches don't require a separate power source—plug the included 16-ft. cable with four-wire M12 connector into your data collector or PLC (programmable logic controller). They're normally closed and have a supply voltage of 18 to 32 DC. Housing is 2.9″ high, stainless steel, and rated IP67 for protection from dust and water. Switches have an M8 threaded mounting stud and include a plastic cover. Temperature range is –13° to +176° F.

For temporary mounting, use a ***magnetic base***.

Activation Point		
0-1″	1161T11	$270.91
0-2″	1161T12	270.91
Optional Magnetic Base for Flat Surfaces	1161T22	74.67
Optional Magnetic Base for Curved Surfaces	1161T23	149.33
Optional Glue-On Base	1161T21	26.67
Adhesive for Glue-On Base	7560A54	38.68

Corrosion-Resistant Washdown Vibration Monitors



Continuously monitor vibration in harsh environments. Constructed entirely of stainless steel, this monitor meets IP69K standards for high-pressure washdown service. Plug the included 16-ft. cable with two-wire M12 connector into your data collector or PLC (programmable logic controller) to monitor vibration from 0-1 in./sec. Output is 4 to 20 mA. Supply voltage is 9.6 to 32 DC.

Housing is 2½″ high. Monitor mounts to equipment with an M8 thread and includes a ¼″-28 adapter. Temperature range is –20° to +220° F.

Use a ***magnetic base*** for temporary mounting.

Monitor	3738T1	$280.00
Optional Magnetic Base for Flat Surfaces	1161T22	74.67
Optional Magnetic Base for Curved Surfaces	1161T23	149.33
Optional Glue-On Base	1161T21	26.67
Adhesive for Glue-On Base	7560A54	38.68

Force Gauges

Measure tension and compression force with these hand-held gauges. They include two attachments: a hook tip for measuring tension and a flat tip for measuring compression. Gauges have a 10-32 threaded male shaft for connecting additional attachments. They also measure in ounces and have a tare function. All include a rechargeable battery, an AC adapter, and a certificate of calibration traceable to NIST. Furnished in a plastic carrying case.

Standard—Housing is plastic and is 5″ Ht. × 2⅝″ Wd. × 1¼″ Dp.

With Data-Logging Software—Gauges include Windows-compatible software that allows you to upload data and a 6-ft. long USB cable. Housing is aluminum and is 4″ Ht. × 2¾″ Wd. × 1¼″ Dp.

Optional stand for gauges with data-logging software has a steel column with a force-gauge mounting plate and an aluminum base.



Standard



Optional Stand



With Data-Logging Software

Capacity lbs.	Capacity kg	Capacity N	Accuracy lbs.	Accuracy kg	Accuracy N	Graduations lbs.	Graduations kg	Graduations N		
Standard										
10	5	50	±0.03	±0.015	±0.15	0.01	0.005	0.05	17595T91	$508.77
25	10	100	±0.075	±0.03	±0.3	0.02	0.01	0.1	17595T92	508.77
50	25	250	±0.15	±0.075	±0.75	0.05	0.02	0.2	17595T93	508.77
100	50	500	±0.3	±0.15	±1.5	0.1	0.05	0.5	17595T94	508.77
With Data-Logging Software										
5	2.5	25	±0.01	±0.005	±0.05	0.002	0.001	0.01	17595T81	932.26
10	5	50	±0.02	±0.01	±0.1	0.005	0.002	0.02	17595T82	932.26
50	25	250	±0.1	±0.05	±0.5	0.02	0.01	0.1	17595T84	932.26
100	50	500	±0.2	±0.1	±1	0.05	0.02	0.2	17595T85	932.26
Optional Stand for Gauges with Data-Logging Software									17595T2	758.06

Dial Force Gauges

Gauges include a plastic carrying case.

Compact—These small gauges include three force measuring attachments: a hook tip, a flat tip, and a 3″ extension rod. They have an M4 threaded male shaft for connecting attachments and a 2¼″ dia. dial. Housing is plastic and is 4⅜″ Wd. × 1″ Dp. *Optional stand* has a steel column with a force-gauge mounting plate and an aluminum base. *Optional handle* extends 2½″ on each side. Made of stainless steel.

Standard—Gauges include eight force measuring attachments: small, large, and Y-hooks; flat, notched, cone, and chisel tips; and a 3¼″ extension rod. They have a 10-32 threaded male shaft for connecting attachments and a 2″ dia. dial. They can be manually reset to zero. Housing is aluminum and is 9⅛″ Ht. × 2¾″ Wd. × 1⅞″ Dp. *Optional stand* has a steel column with a force-gauge mounting plate and an aluminum base. *Optional handle* extends 4″ on each side. Made of steel.

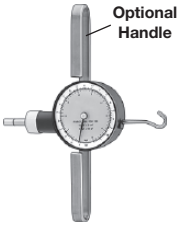

Compact



Standard



Optional Stand

Capacity English	Capacity Metric	Accuracy English	Accuracy Metric	Graduations English	Graduations Metric	Gauges		Gauges with NIST Certificate	
Compact									
32 oz.	1,000 g	±0.5 oz.	±20 g	0.25 oz.	10 g	8728T74	$322.41	8728T32	$394.83
5 lbs.	2,500 g	±2 oz.	±50 g	1 oz.	25 g	8728T75	322.41	8728T34	394.83
10 lbs.	5 kg	±2 oz.	±50 g	2 oz.	50 g	8728T76	322.41	8728T35	394.83
20 lbs.	10 kg	±0.25 lbs.	±100 g	0.25 lbs.	100 g	8728T77	322.41	8728T36	394.83
40 lbs.	20 kg	±0.5 lbs.	±200 g	0.5 lbs.	200 g	8728T78	322.41	8728T37	394.83
60 lbs.	30 kg	±0.5 lbs.	±250 g	0.5 lbs.	250 g	8728T79	322.41	8728T38	394.83
Optional Stand for Compact Gauges								8728T87	746.03
Optional Handle for Compact Gauges								8728T84	48.08
Standard									
2 lbs.	—	±0.006 lbs.	—	0.01 lbs.	—	—	—	17435T31	497.74
5 lbs.	—	±0.015 lbs.	—	0.025 lbs.	—	—	—	17435T32	497.74
10 lbs.	—	±0.03 lbs.	—	0.05 lbs.	—	—	—	17435T33	497.74
20 lbs.	—	±0.06 lbs.	—	0.1 lbs.	—	—	—	17435T34	497.74
30 lbs.	—	±0.09 lbs.	—	0.2 lbs.	—	—	—	17435T35	497.74
50 lbs.	—	±0.15 lbs.	—	0.25 lbs.	—	—	—	17435T36	497.74
100 lbs.	—	±0.3 lbs.	—	0.5 lbs.	—	—	—	17435T37	497.74
—	50 kg	—	±150 g	—	250 g	—	—	17435T45	497.74
Optional Stand for Standard Gauges								17435T63	750.77
Optional Handle for Standard Gauges								17435T38	112.28

Gripping Attachments for Force Gauges



A



B



C



D



E



F



G

Attach to the shaft of your gauge to measure tension and compression force of small materials. Attachments have 10-32 female threads and include a 10-32 threaded stud to convert to male, unless otherwise stated.

General purpose attachments are good for gripping most materials. *Style A* has a lever to open the jaws; they close automatically. *Style B* has M6 female threads and includes a 10-32 female adapter. Jaws tighten separately around the material.

Attachments **for wire** hold fine wire and filament. *Style C* can reach into tight spaces. *Style D* allows you to thread wire through the attachment without kinking.

Attachments **for pins** have a chuck-style grip with a round opening for a more secure hold.

Attachment **for sheets** holds paper, film, and thin plastic.

	Capacity, lbs.	Fits Max. Size	Throat Dp.	Jaw Wd.	O'all Lg.	Wt., oz.		
General Purpose								
A	100	⅛″ Wd.	⅝″	3/16″	2½″	1	1828T44	$293.10
B	100	⅜″ Wd.	¾″	¾″	2″	6	1828T48	324.31
For Wire								
C	30	1/16″ OD	⅜″	1/16″	1⅞″	1	1828T45	181.03
D	50	1/32″ OD	—	—	2″	1	1828T42	189.66
For Pins								
E	25	1/32″ OD	13/16″	3/32″	1¾″	0.2	1828T49	$125.86
F	100	1/32″-¼″ OD	1½″	5/32″	2⅝″	4	1828T51	168.97
For Sheets								
G	100	5/16″ Wd.	½″	1″	2½″	4	1828T46	194.83

Force Gauges

Slimline Force Gauges

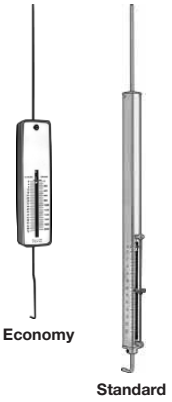

Fit these hand-held compression and tension gauges in hard-to-reach areas.
Economy—Housing is plastic.
Standard—Gauges can be manually reset to zero. Housing is brass.

Capacity		Accuracy		Graduations						
English	Metric	English	Metric	English	Metric	Ht.	Wd.	Dp.		
Economy										
8 oz.	220 g	±0.25 oz.	±5 g	0.25 oz.	5 g	14″	1½″	1″	**2115T11**	$74.50
36 oz.	1,020 g	±0.5 oz.	±20 g	0.5 oz.	20 g	14″	1½″	1″	**2115T12**	82.20
72 oz.	2,025 g	±1 oz.	±25 g	1 oz.	25 g	14″	1½″	1″	**2115T13**	74.50
15 lbs.	6,804 g	±4 oz.	±100 g	4 oz.	100 g	14″	1½″	1″	**2115T14**	74.50
Standard										
1 lbs.	500 g	±0.25 oz.	±5 g	0.25 oz.	5 g	17″	⅝″ Dia.	—	**1365T25**	276.50
2 lbs.	1,000 g	±0.5 oz.	±10 g	0.5 oz.	10 g	17″	⅝″ Dia.	—	**1365T26**	276.50
5 lbs.	2.25 kg	±1 oz.	±0.05 kg	1 oz.	0.05 kg	18½″	⅞″ Dia.	—	**1365T21**	276.50
10 lbs.	4.5 kg	±2 oz.	±0.05 kg	2 oz.	0.05 kg	18½″	⅞″ Dia.	—	**1365T22**	276.50
20 lbs.	9 kg	±4 oz.	±0.1 kg	4 oz.	0.1 kg	18½″	⅞″ Dia.	—	**1365T23**	276.50
40 lbs.	18 kg	±8 oz.	±0.2 kg	8 oz.	0.2 kg	18½″	⅞″ Dia.	—	**1365T24**	276.50

Compression Force Gauges



Apply your load directly to the top of these gauges to measure compression force. Gauges can be manually reset to zero. Mount them horizontally or vertically to your equipment for frequent testing. They include a plastic carrying case and a certificate of calibration traceable to NIST.

Capacity, lbs.	Accuracy, lbs.	Graduations, lbs.	Mounting Threads	Body Material	Ht.	Wd.	Dp.	Dial Dia.		
100	±1	1	¼″-28	Aluminum	3″	4¼″	2″	2¼″	**8725T31**	$986.64
250	±2.5	2.5	¼″-28	Aluminum	3″	4¼″	2″	2¼″	**8725T32**	986.64
500	±5	5	¼″-28	Aluminum	3″	4¼″	2″	2¼″	**8725T33**	986.64
2,000	±20	20	½″-20	Steel	3½″	4¾″	2½″	2¾″	**8725T34**	1,267.78
5,000	±50	50	½″-20	Steel	3½″	4¾″	2½″	2¾″	**8725T35**	1,559.52

Push-Tip Tension Force Gauges



Press the flat side of the gauge tip against an object to record the amount of tension required to move it. Gauges are also known as dynamometers. They have an aluminum housing and a 1½″ dia. dial with a plastic lens. Furnished in a plastic case.

Capacity, g	Accuracy, g	Graduations, g	Ht.	Wd.	Dp.		
0 to 10	±0.2	0.2	3¾″	1¾″	1″	**1368T21**	$221.76
10 to 50	±1	1	3¾″	1¾″	1″	**1368T3**	221.76
50 to 150	±5	5	3¾″	1¾″	1″	**1368T52**	221.76
50 to 250	±10	10	3¾″	1¾″	1″	**1368T62**	221.76

Tension Force Gauges with Scale


Digital


Dial

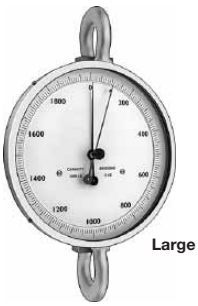
Large Dial

Measure tension force as well as weight. Gauges are also known as dynamometers and can be manually reset to zero. They have steel shackles on both ends and include a certificate of calibration traceable to NIST.
Digital—Gauges are NEMA 4X rated for protection from dust, water, and mild corrosives. Housing is aluminum. They are battery operated (batteries are included).
Dial—Housing is plastic. They have a 5″ dia. dial and are furnished in a plastic case.
Large Dial—Housing is aluminum. They have a 10″ dia. dial.

Capacity			Accuracy			Graduations			Shackle Opening						
lbs.	kg	N	lbs.	kg	N	lbs.	kg	N	Ht.	Wd.	Ht.	Wd.	Dp.		
Digital															
2,500	1,000	10,000	±5	±2	±20	2	1	10	1⅛″	1⅛″	11⅝″	5″	2½″	**1844T21**	$1,458.74
5,000	2,000	20,000	±10	±4	±40	5	2	20	1⅜″	1⅝″	14⅞″	5″	3½″	**1844T22**	1,543.61
10,000	5,000	50,000	±20	±10	±100	10	5	50	2⅛″	2¼″	17⅞″	5⅜″	4¾″	**1844T23**	1,628.48
Dial															
500	—	—	±2.5	—	—	5	—	—	1¾″	1⅝″	14½″	6″	2¾″	**1360T1**	997.75
2,000	—	—	±10	—	—	20	—	—	1¾″	1⅝″	14½″	6″	2¾″	**1360T23**	943.95
5,000	—	—	±25	—	—	50	—	—	1¾″	1⅝″	14½″	6″	2¾″	**1360T5**	997.75
10,000	—	—	±50	—	—	100	—	—	1¾″	1⅝″	14½″	6″	2¾″	**1360T7**	1,110.24
20,000	—	—	±100	—	—	200	—	—	1¾″	1⅝″	14½″	6″	2¾″	**1360T19**	1,247.18
Large Dial															
1,000	—	—	±5	—	—	5	—	—	1¾″	1⅝″	14½″	10½″	5″	**1361T12**	1,164.04
2,000	—	—	±10	—	—	10	—	—	1¾″	1⅝″	14½″	10½″	5″	**1361T43**	1,164.04
10,000	—	—	±50	—	—	50	—	—	1¾″	1⅝″	14½″	10½″	5″	**1361T17**	1,305.88
20,000	—	—	±100	—	—	100	—	—	1¾″	1⅝″	14½″	10½″	5″	**1361T19**	1,423.26
50,000	—	—	±250	—	—	200	—	—	5″	3½″	33½″	10½″	5″	**1361T47**	3,863.83

Speed Guns

Point and shoot for instant speed readings in mph. Measuring range is 6 to 110 mph for small objects such as a baseball and 6 to 200 mph for large objects such as a car. Maximum measuring distance is 1,300 ft. Accuracy is ±1 mph. Gun has a three-digit LCD and a plastic housing. Operates on two C batteries (sold separately) and comes with a storage bag.



Speed Gun	7790T5	$136.51
C Batteries (Pkg. of 6)	71455K54	6.49

Speed-Monitoring Switches

Set switch to a specified speed to detect unwanted machinery slowdown that can cause damage and downtime. The activation point is adjustable between 5 and 100 rpm. Applications include drive trains, power-driven components, and conveyors. Switch has an SPDT relay contact rated 5 amps @ 115 volts AC. Input voltage is 115 AC, 60 Hz. Conduit connection is 1″ NPT female.

Switch has an aluminum housing and mounting plate with two 0.32″ dia. slots. Rated NEMA 7 (Class I, Group D) and NEMA 9 (Class II, Groups E, F, and G) for indoor hazardous locations, and NEMA 4X for washdown and corrosion protection. UL and C-UL listed.

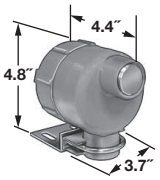

6177K11 ..... $594.87

Video Display Borescopes

View hard-to-reach areas live on a 3.5″ color LCD or TV monitor with the included video cable. Borescopes have a 0.31″ dia., 39″ long cable and provide a 54° field of view. Maximum viewing distance from end of cable is 10 ft. Cable includes three attachments: a magnetic tool for picking up small metal objects, a hook tool for grabbing, and a mirror for viewing at a 45° angle. Housing is plastic. All include a case. Borescopes are rated IP67 for protection from submersion. Operate on four AA batteries (not included).

Borescope with LCD and USB cable can record video and includes a USB cable for viewing video on a PC monitor.

Optional 0.31″ dia. cable is longer than included cable and has a maximum viewing distance from end of cable of 10 ft.

Optional 0.22″ dia. cable allows access to smaller openings and has a maximum viewing distance from end of cable of 2.4″.



Borescope with LCD	2114T61	$189.00
Borescope with LCD and USB Cable	2114T63	249.00

Accessories

Dia.	Lg.		
Optional Cables			
0.31″	118″	2114T71	$129.00
0.22″	39″	2114T72	199.00
AA Batteries (Pkg. of 4)		71455K53	2.94

Inspection Mirrors

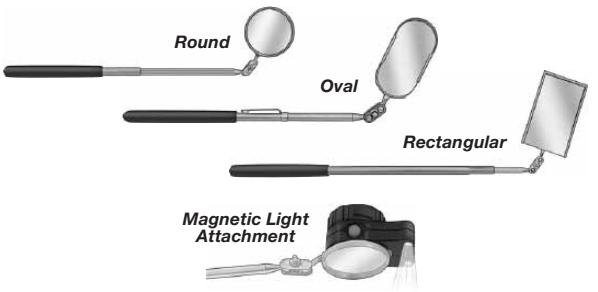

Position these mirrors to your exact requirements—they're 360° adjustable and have a telescoping handle (except 6″ long handles) with plastic grip. Round 7/8″ and 1 1/4″ dia. mirrors have a pocket clip.

Glass mirrors provide a clearer reflection; ***plastic*** mirrors are break resistant.

Magnetic light attachment has two high-intensity LEDs. Attach to any inspection mirror for convenient illumination. Operates on two lithium batteries (included).

Size	Handle Lg.	Complete Mirrors		Repl. Mirror and Frame	
Glass Mirrors with Steel Handle					
Round					
7/8″ Dia.	4″-17″▲	1017T27★	$7.81	1017T311	$3.01
7/8″ Dia.	6″	1017T11	6.14	1017T311	3.01
1 1/4″ Dia.	6″	1017T12	6.45	1017T312	3.39
2 1/4″ Dia.	7″-11″	1017T13	9.40	1017T313	3.82
2 1/4″ Dia.	13″-23″	1017T14	12.97	1017T313	3.82
3 1/4″ Dia.	7″-11″	1017T15	11.50	1017T314	6.05
3 1/4″ Dia.	13″-23″	1017T16	15.40	1017T314	6.05
Oval					
1″×2″	6″	1017T17	6.44	1017T315	3.39
Rectangular					
2 1/8″×3 1/2″	7″-11″	1017T18	9.42	1017T316	3.82
2 1/8″×3 1/2″	13″-23″	1017T19	12.97	1017T316	3.82
2X Magnification Glass Mirrors with Steel Handle					
Round					
7/8″ Dia.	6″	1017T21	9.29	1017T317	5.36
1 1/4″ Dia.	6″	1017T22	10.21	1017T318	6.95
2 1/4″ Dia.	7″-11″	1017T23	14.79	1017T319	9.04
Rectangular					
2 1/8″×3 1/2″	7″-11″	1017T24	14.91	1017T321	9.63
Glass Mirrors with Stainless Steel Handle					
Round					
1 1/4″ Dia.	6″-33″	1017T25	11.58	1017T312	3.39
2 1/4″ Dia.	6″-33″	1017T26	12.23	1017T313	3.82
3 1/4″ Dia.	6″-25″	1017T29	14.16	1017T314	6.05
Plastic Mirrors with Steel Handle					
Round					
7/8″ Dia.	4″-17″	70175T72★	7.81	70175T81	2.87
7/8″ Dia.	6″	70175T71	6.14	70175T81	2.87
1 1/4″ Dia.	6″	70175T73	6.45	70175T82	3.23
2 1/4″ Dia.	7″-11″	70175T78	9.40	70175T85	3.74
2 1/4″ Dia.	13″-23″	70175T79	12.97	70175T85	3.74
Oval					
1″×2″	6″	70175T74	6.44	70175T83	3.23
Rectangular					
2 1/8″×3 1/2″	7″-11″	70175T76	9.42	70175T84	3.64
2 1/8″×3 1/2″	13″-23″	70175T77	12.97	70175T84	3.64
Plastic Mirrors with Stainless Steel Handle					
Round					
1 1/4″ Dia.	6″-33″	70175T26	10.63	70175T82	3.23
2 1/4″ Dia.	6″-33″	70175T28	14.38	70175T85	3.74
Rectangular					
2″×3″	9″-30″	70175T91	13.98	_____	___

Accessories

Magnetic Light Attachment	1017T51	14.30
Replacement Lithium Battery	7701K34	1.92

▲Chrome-plated brass handle. ★Does not have a plastic grip.

Inspection Mirrors with Pickup Magnet

Pick up nuts, bolts, and other small parts with the magnet at the end of the mirror handle. Magnet pull is 1.5 lbs. Mirrors are glass, 360° adjustable, and have a telescoping chrome-plated brass handle with pocket clip.



Size	Handle Lg.	Complete Mirrors		Repl. Mirror and Frame	
Round 7/8″ Dia.	6″-27″	6756T21	$10.24	1017T311	$3.01
Round 1 1/4″ Dia.	6″-27″	6756T23	10.51	1017T312	3.39
Oval 1″×2″	6″-28″	6756T22	10.51	1017T315	3.39

Illuminated Inspection Mirrors



Inspect dim or dark areas with these illuminated mirrors. They have a glass mirror and operate on included batteries.

Incandescent mirrors have a thumb wheel on the handle to adjust the mirror angle up to 90°. Shaft is rubber-coated brass.

LED mirrors have a stainless steel handle with rubber grip.

Optional 4″×4″ direct reflection mirror snaps onto incandescent mirrors for a wider field of view.

Handle	Size	Complete Mirrors		Replacement Bulb	
Incandescent					
15″ Rigid	1½″×2½″	10215T56	$28.87	10215T58	$5.20
Incandescent with 4X Magnification					
15″ Flexible	1½″×2½″	10215T59	35.22	10215T58	5.20
21″ Flexible	1½″×2½″	10215T57	41.26	10215T58	5.20
39″ Flexible	1½″×2½″	10215T53	47.30	10215T58	5.20
LED					
7″-30″ Rigid	3⅜″ Dia.	10215T33	18.11	—	—
7″-35″ Rigid	1⅜″ Dia.	10215T31	14.30	—	—
7″-36″ Rigid	2⅜″ Dia.	10215T32	15.26	—	—
7″-30″ Rigid	3½″×2¼″	10215T34	16.20	—	—
Optional 4″×4″ Direct Reflection Mirror		10215T62	$6.22		
Replacement Incandescent 4X Magnification Mirror		10215T61	2.41		
Replacement Round LED Mirror **To Order:** Please specify mirror diameter.		10215T63	4.79		

Tilt-and-Lock Inspection Mirrors



Slip these mirrors flat into narrow spaces. Press the spring-loaded plunger at the end of the handle to position the mirror at any angle up to 90° and then lock into place. Mirror is glass.

Size		Handle	Complete Mirrors		Replacement Mirror	
Lg.	Wd.	Lg.				
1¼″	1½″	9″	1023T1	$17.10	1023T41	$2.10
1 11/16″	2 9/16″	13″	1023T2	17.92	1023T42	2.30

Nonconductive Inspection Mirrors



Reduce the risk of shock when inspecting electrical equipment. This plastic mirror has a black plastic-covered stainless steel backing and handle. It swivels 180°.

Size				
Lg.	Wd.	Handle Lg.		
2½″	¾″	6″	6591T2	$8.28

Nonreversed Image Inspection Mirrors



Unlike other inspection mirrors, this adjustable mirror reflects a nonreversed image. It allows you to read hard-to-reach labels, part numbers, and serial numbers. Mirror is glass and 360° adjustable. It has a shock-resistant plastic housing and chrome-plated steel telescoping handle with pocket clip.

Size				
Lg.	Wd.	Handle Lg.		
1⅛″	1¼″	6″-16″	1059T12	$23.33

Long-Reach Inspection Mirrors



Get a clear, wide-angle view of remote areas without using a ladder. Mirrors have an aluminum handle that telescopes from 4½ ft. to 12 ft. Mirror is 8″ diameter convex glass.

Mirror with light is LED and operates on three AAA batteries (included).

Mirror	1015T5	$248.38
Mirror with Light	1015T6	294.15
Repl. Mirror and Frame	1015T35	63.54
Repl. AAA Batteries (Pkg. of 4)	71455K62	2.82

Inspection Mirrors with Magnetic Base



The magnetic base on these mirrors allows hands-free inspection. They have a 1⅞″ long steel arm and 360° adjustable glass mirror.

Round mirrors have a steel base.

Rectangular mirror has a plastic base.

Mirror	Size	Complete Mirrors		Repl. Mirror and Frame	
Round	2¼″ Dia.	1018T21	$18.44	1017T313	$3.82
Round	3¼″ Dia.	1018T22	19.73	1017T314	6.05
Rectangular	2⅛″×3½″	1018T15	36.89	1018T17▲	2.37

▲Mirror only.

Flexible Inspection Mirrors



Bend and snake this mirror into any position for easy inspections. Mirror is plastic and 360° adjustable. Handle has a plastic grip.

Size				
Lg.	Wd.	Handle Lg.		
2½″	1 3/4″	20″	1981T4	$20.07

Build-Your-Own Inspection Mirrors



Change the features of your inspection mirror to suit your application with this versatile kit. It has a telescoping stainless steel handle with a plastic grip and a built-in light. Handle has a quick-connect end so it's easy to switch attachments. Kit includes three 360° adjustable plastic mirrors (¾″×2½″, 1¾″×2½″, and 2¼″×3½″), two magnets for retrieving objects (3-lb. and 14-lb. magnet pull), one 2X magnification lens, and a case. Light operates on two AA batteries (included).

	Handle Lg.		
Kit	8″-33″	9188T1	$133.04
Replacement AA Batteries (Pkg. of 4)		71455K53	2.94

Stainless Steel Inspection Mirrors

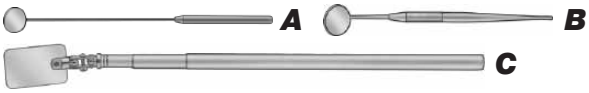

Stainless steel mirror and handle resist corrosion.

Compact mirrors are round and access tight spaces such as circuit boards. *Style B* can be autoclaved for sterile applications.

High-temperature mirrors let you inspect pilot lights and other areas up to 900°F. They have a telescoping handle and 360° adjustable mirror with cover.

Size		Handle Lg.		
Compact				
A	¼″ Dia.	8″	8723T2	$21.12
A	½″ Dia.	8″	8723T3	21.12
A	⅝″ Dia.	8″	8723T4	21.12
B	¾″ Dia.	4″	8722T2	25.98
B	⅞″ Dia.	4″	8722T3	26.94
B	15/16″ Dia.	4″	8722T4	26.45
High Temperature				
A	3¾″ Dia.	10″-26″	1016T4	15.38
C	1¼″×2″	10″-26″	1016T5	14.05
C	2″ ×3¾″	11″-26″	1016T6	15.00

Rolling Inspection Mirrors



Mounted on casters, this mirror maneuvers under and around machinery, vehicles, and other hard-to-reach areas. Handle is aluminum, telescopes from 33″ to 42″, and includes a bracket to hold the included flashlight (D batteries included). Mirror is 12″ dia. convex plastic; casters are 2″ dia.

Mirror	6116T11	$111.80
Repl. D Batteries (Pkg. of 6)	71455K55	7.32

Cutting & Sawing

Forming

Hole Punches	2338
Transfer Punches	2343
Presses	2347
Sheet Metal Formers	2350
Pipe & Tube Benders	2352

Cutting

Tube Cutters	2355
Tile Cutters	2357
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Drum Head Cutters	2359
Bolt & Chain Cutters	2360
Cable Cutters	2363
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Sawing

Band Saws & Blades	2391
Reciprocating Saws & Blades	2402
Jigsaws & Blades	2406
Hacksaws & Blades	2408
Handsaws & Chain Saws	2409
Plasma & Laser Cutter Parts	2410
Circular Saws & Blades	2411
Table & Panel Saws	2416
Cutoff Saws & Wheels	2417
Hole Saws	2422

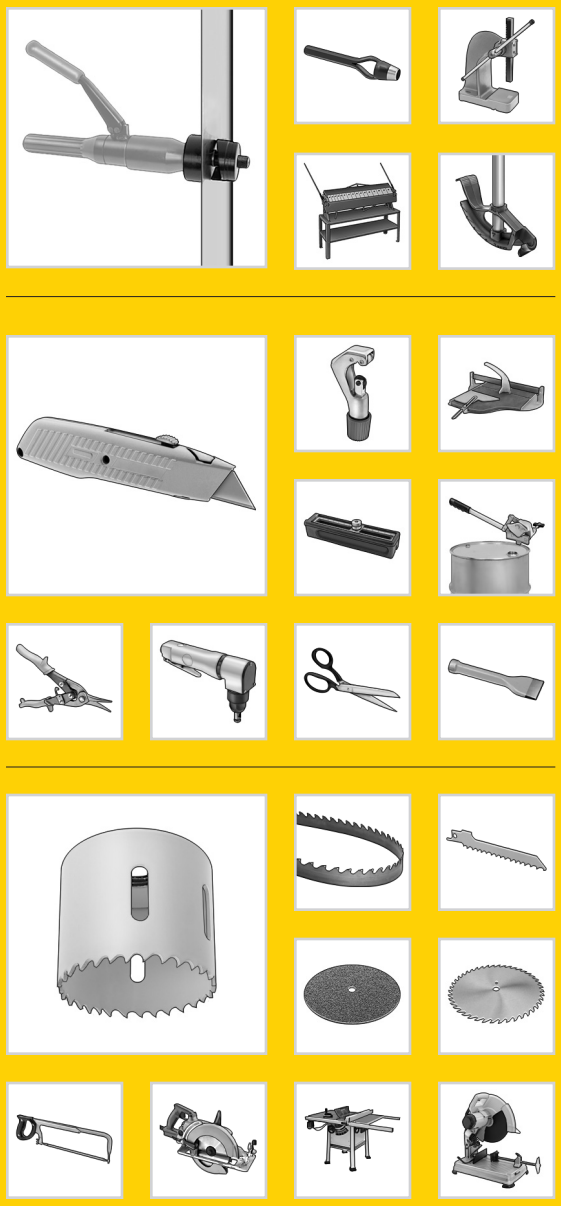

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Stud-Driven Hole Punches & Hydraulic Drivers

Stud-Driven Hole Punches



Stud, Die, and Punch

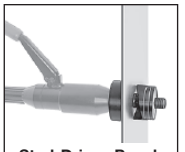

Stud-Driven Punch with Hydraulic Driver

Create round holes in steel, fiberglass, and plastic for conduit, pipe, and electrical controls. Also known as knockout punches, these are made of steel and include a stud, die, and punch. A drilled pilot hole is required for operation. Punches with hole diameters larger than 2″ require an 11-ton hydraulic driver. Other sizes, except time-saver punches, can be used with a ratchet wrench (see pages 2768-2770) or any of the hydraulic drivers sold below.

Also Available: Replacement punches, studs, and dies. Please ask for 34685A1 and specify part required and hole diameter.

Punches for Conduit

For Conduit and Pipe Size	Actual Hole Dia.	Cutting Cap., Steel		
1/2	7/8″	1/8″	34685A41	$44.13
3/4	17/64″	1/8″	34685A42	63.15
1	1 23/64″	1/8″	34685A43	72.92
1 1/4	1 11/16″	1/8″	34685A44	77.39
1 1/2	1 15/16″	1/8″	34685A45	101.52
2	2 3/8″	1/8″	34685A46	$124.40
2 1/2	2 7/8″	1/8″	3447A43	248.65
3	3 1/2″	1/8″	3447A44	303.47
3 1/2	4″	1/8″	3449A36	518.34
4	4 1/2″	1/8″	3447A45	678.97

European Standard and Metric Punches for Conduit

Choose a Conduit Size

European Standard: PG-7, PG-9, PG-11, PG-13, PG-16, PG-21	34685A224
Metric: 12, 16, 20, 25, 32, 40 mm	34685A225

Punches

Hole Dia.	Cutting Cap., Steel		
1/2″	1/16″	34685A27	$54.91
19/32″	1/16″	34685A28	49.32
41/64″	1/16″	34685A29	50.26
47/64″	1/16″	34685A33	50.61
3/4″	1/16″	34685A69	49.80
13/16″	1/16″	34685A34	50.61
7/8″	1/8″	34685A41	44.13
15/16″	1/16″	34685A71	56.95
1″	1/16″	34685A35	57.06
1 1/16″	1/16″	34685A72	58.24
17/64″	1/8″	34685A42	63.15
17/32″	1/16″	3449A137	74.66
1 1/4″	1/16″	34685A73	$86.73
19/32″	1/8″	34685A37	87.49
1 23/64″	1/8″	34685A43	72.92
1 1/2″	1/8″	34685A74	86.53
1 5/8″	1/8″	34685A75	90.78
1 11/16″	1/8″	34685A44	77.39
1 3/4″	1/8″	34685A77	92.32
1 7/8″	1/8″	34685A78	106.37
1 15/16″	1/8″	34685A45	101.52
2″	1/8″	34685A39	130.08
2 1/8″	1/8″	34685A47	129.52
2 1/4″	1/8″	34685A79	123.39
2 3/8″	1/8″	34685A46	$124.40
2 1/2″	1/8″	34685A48	167.02
2 5/8″	1/8″	3449A69	316.76
2 3/4″	1/8″	3449A124	302.95
2 7/8″	1/8″	3447A43	248.65
3″	1/8″	3449A125	406.08
3 1/2″	1/8″	3447A44	303.47
3 3/4″	1/8″	34685A82	696.44
4″	1/8″	3449A36	518.34
4 1/2″	1/8″	3447A45	678.97

Punch Sets for Conduit

Sets include punches with studs and dies.

For Conduit Sizes: 1/2, 3/4, 1, 1 1/4, 1 1/2, 2	34685A51	$372.82
For Conduit Sizes: 1/2, 3/4, 1, 1 1/4	34685A31	205.06
For Conduit Sizes: 1 1/2, 2	34685A32	206.53
For European Standard Sizes: PG-9, PG-11, PG-13, PG-16, PG-21, PG-30.5	34685A135	385.69
For Metric Sizes: 16, 20, 25, 32, 40 mm	34685A136	458.26

Time-Saver Stud-Driven Hole Punch Sets

A locking clamp eliminates the need to thread the punch and stud, so this set offers faster setup and disassembly than standard punches. Punches for conduit sizes 1/2 to 1 1/2 can be used with any hydraulic driver. Punch for conduit size 2 requires an 11-ton driver.



Also Available: Replacement punches, dies, studs, and locking clamps. For punches or dies, please ask for 6186T21 and specify conduit size. For studs, please ask for 6186T22 and specify length. For locking clamps, please ask for 6186T14.

6-Punch Set—For Conduit Sizes: 1/2, 3/4, 1, 1 1/4, 1 1/2, 2	6186T16	$591.69

Hydraulic Drivers for Stud-Driven Hole Punches



8-Ton Straight



8-Ton Right Angle



11-Ton Hand Pump

The power behind your punch, these hydraulic drivers are compatible with the stud-driven punches sold above and on page 2339. Drivers are supplied with hydraulic oil.

8 Ton—All include two studs, a stud adapter, and a spacer. **Straight driver** is for straight-on punching. **Right-angle driver** has a head that rotates 180° to fit into tight spaces.

11 Ton—The hand-pump design facilitates repeated punching and creating larger holes. It comes with two studs, a stud adapter, three spacers, a 3-ft. hose, and a step drill bit that makes holes up to 1/2″.

Drivers with Punch Sets—In addition to the driver, all sets come with six stud-driven hole punches in conduit sizes 1/2, 3/4, 1, 1 1/4, 1 1/2, and 2. **10-punch set** also includes four additional punches for conduit sizes 2 1/2, 3, 3 1/2, and 4.

	Drivers		Drivers with 6-Punch Sets		Driver with 10-Punch Set	
8 Ton						
Straight	3484A15	$747.94	34685A61	$1,006.61		
Right Angle	3490A21	868.07	34685A63	1,187.64		
11 Ton						
Hand Pump	3448A1	959.43	34685A62	1,170.47	34685A68	$2,036.29

Keyway Punches



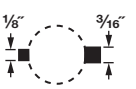

Cut keyways at the edges of existing holes. Also known as a keyway nibbler, this punch makes 1/8″ and 3/16″ keyways. For use on steel up to 1/8″ thick. Punch is steel.

Keyway Punch	3536A11	$261.56

Self-Centering Stud-Driven Hole Punches



Make accurate holes every time—these punches align themselves in the draw stud pilot hole. All are made of steel and include a die and draw stud. Punches with a 7/8" actual hole dia. can be used for 22 mm panel cutout switches; punches with a 1 7/32" actual hole dia. can be used for 30 mm panel cutout switches.

Punches for steel have a ball-bearing drive to reduce friction. Use with a hand wrench, ratchet driver, or any hydraulic driver on page 2338. **Punches for stainless steel** are used with any hydraulic driver on page 2338, except those with 1 15/16" to 2 3/8" actual hole dia. require an 11-ton hydraulic driver.

Punches for Conduit

For Conduit Size	Actual Hole Dia.	Cutting Cap., Steel	For Steel		For Stainless Steel	
1/2	7/8"	1/8"	34685A49	$49.73	3454A41	$191.65
3/4	1 7/64"	1/8"	34685A52	70.94	3454A42	219.81
—	1 7/32"	1/8"	34685A141	92.50	3454A43	281.53
1	1 23/64"	1/8"	34685A53	81.05	3454A44	242.35
1 1/4	1 11/16"	1/8"	34685A54	$87.71	3454A45	$242.39
1 1/2	1 15/16"	1/8"	34685A55	111.61	3454A46	387.42
2	2 3/8"	1/8"	34685A56	137.39	3454A47	416.53

Punch and Die Sets for Stainless Steel

Sets include punches, dies, and draw studs. **Six-punch set with hydraulic driver** also includes an 11-ton hydraulic ram, a hydraulic hand pump, a 3-ft. hydraulic hose, and all necessary couplings.

	For Conduit Sizes		
4-Punch Set	1/2, 3/4, 1, 1 1/4	3454A28	$668.55
6-Punch Set with Hydraulic Driver	1/2, 3/4, 1, 1 1/4, 1 1/2, 2	3454A31	$2,098.72

Stud-Driven Different-Shape Hole Punches



These punches make openings for a variety of panel switches and connectors. Also known as chassis punches, they cut through sheet metal and have an automatic centering design for accurate alignment. Die, draw stud, and nut are included. The 1 13/16" square punch and rectangle punches for power/control connectors can only be used with a hydraulic driver and do not require a stud adapter. All other punches can be used with a manual wrench or hydraulic driver, and they require a **stud adapter** (sold separately) when used with a hydraulic driver.

	Opening Size (A)	Opening Size (B)	Cutting Cap., Steel		
Square Punches					
	1/2"	1/2"	1/16"	3449A71	$251.79
	5/8"	5/8"	1/16"	3449A72	258.57
	3/4"	3/4"	1/16"	3449A73	264.47
	7/8"	7/8"	1/16"	3449A74	291.32
	0.95"	0.95"	1/16"	3449A41	346.90
	1"	1"	1/16"	3449A75	338.85
	1 13/16"	1 13/16"	1/8"	3449A68	960.16
D-Shape Punches					
	1/2"	0.47"	1/16"	3449A81	245.10
	5/8"	0.59"	1/16"	3449A82	259.06
	3/4"	0.70"	1/16"	3449A83	271.44
Double-D Punches					
	0.64"	0.77"	1/16"	3449A65	287.98
	0.70"	0.80"	1/16"	3449A84	311.53
	0.76"	0.91"	1/16"	3449A85	361.35
	1 1/8"	1 3/8"	1/16"	3449A86	375.19
Rectangle Punches					
	3/4"	0.67"	1/16"	3449A45	420.95
	1.02"	0.86"	1/16"	3449A87	378.69
	1.18"	0.87"	1/16"	3449A88	440.32
	1.38"	1 1/4"	1/16"	3449A91	485.05

	For No. of Poles	Opening Size (A)	Opening Size (B)	Cutting Cap., Steel		
Rectangle Punches—For Power/Control Connectors, see page 813						
	6	2.05"	1.42"	1/16"	3449A95	$805.31
	10	2.56"	1.42"	1/16"	3449A96	872.32
	16	3.39"	1.42"	1/16"	3449A97	983.85
	24	4.41"	1.42"	1/16"	3449A98	1,156.80

	Hole Dia.	Notch (A)	Notch (B)	Cutting Cap., Steel		
Circle with Keyways—For 22 mm/30 mm Panel Cutout Switches						
	0.88"	0.13"	0.06"	1/16"	3449A92	$360.87
	1.21"	0.19"	0.08"	1/8"	3449A93	389.52
Keyway—For 1 7/32" Panel Cutout Switches						
	—	3/16"	5/64"	1/8"	3449A138	237.60

	Fits Opening Size (A)		
Stud Adapters for Hydraulic Drivers			
	1/2"	3449A171	$43.15
	5/8", 0.64", 0.70", 3/4", 0.76", 7/8", 0.95"	3449A172	38.66
	1" and up; Circle with Keyways	3449A173	43.15

Stud-Driven DIN-Size Hole Punches



Cut DIN-sized openings for rectangular- and square-shaped instruments. The cutting surface is hardened tool steel to punch through steel, stainless steel, and aluminum. Each punch size includes a die and four draw studs.

Manual wrench-operated punches require a puller adapter (sold separately) and can be used with an adjustable wrench or a hydraulic driver. **Hydraulic driver-operated punches** require a driver ram and are for use with a hydraulic pump (sold separately).

	Opening Size (A)	Opening Size (B)	Cutting Cap., Steel		
Manual Wrench-Operated Punches					
1/32 DIN	0.88"	1.78"	1/16"	34835A51	$536.25
1/16 DIN	1.78"	1.78"	1/16"	34835A53	590.42
Puller Adapter				34835A35	140.78

	Opening Size (A)	Opening Size (B)	Cutting Cap., Steel		
Hydraulic Driver-Operated Punches					
1/8 DIN	1.78"	3.63"	7/64"	34835A46	$752.92
1/4 DIN	3.63"	3.63"	7/64"	34835A47	861.25
Driver Ram				34835A49	644.58
Hydraulic Hand Pump				34835A57	675.00

Stud-Driven Computer Connector Shape Hole Punches

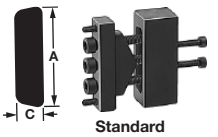

Standard

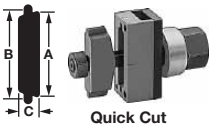

Quick Cut

Punching holes for DB computer connectors is no problem. These steel punches cut through aluminum and steel to make openings for Amphenol, ITT Cannon, TRW Cinch, and equivalent connectors. Die and draw stud are included.

Standard—Use the included hex keys to drive the punch. Not for use with hydraulic drivers. Also comes with a strip of 25 adhesive templates.

Quick Cut—Drill one 7/16" pilot hole and drive with a ratchet wrench or an 11-ton hydraulic driver.

For Connector Type	Cutting Cap., Steel	Standard Opening Size (A)	Standard Opening Size (C)			Quick Cut Opening Size (A)	Quick Cut Opening Size (B)	Quick Cut Opening Size (C)		
DB9	1/16"	0.76"	0.44"	3476A51	$202.17	0.79"	0.98"	0.47"	34195A61	$576.97
DB15	1/16"	1.09"	0.44"	3476A52	202.17	1.13"	1.31"	0.47"	34195A62	576.97
DB25	1/16"	1.65"	0.44"	3476A53	202.17	1.66"	1.85"	0.47"	34195A63	574.20
DB37	1/16"	2.29"	0.45"	3476A56	202.17	2.30"	2.49"	0.47"	34195A64	620.62
DB50	1/16"	2.17"	0.55"	3476A58	313.04	2.20"	2.40"	0.58"	34195A65	623.62

Lever-Operated Hole Punches

Bench-Mount Lever-Operated Hole Punches


Smooth Action


High Force


Extended Reach


Heavy Duty Extended Reach

Secure these punches to your workbench. The lever handle delivers the power needed to punch through tough materials such as steel and iron.

Smooth Action—Roller bearings in the lever provide low-effort punching. Includes a 9/32″ round punch and die and adjustable die holders to punch light-gauge metal. Made of cast iron with three 7/16″ dia. mounting holes. Handle is 24 1/2″ long.

High Force—Offers the greatest force of our punches and cuts through thicker metals. Includes a 1/2″ round punch, die, and coupling nut. Made of cast iron with two 9/16″ × 11/16″ mounting slots. Add your own lever handle to the rotary-action socket to customize the handle length. The socket accepts 1″ unthreaded pipe up to 48″ long.

Extended Reach—Able to reach past the edge of your material, this punch is often used to make holes in signs for fasteners. It includes a 1/4″ round punch and die. Made of cast iron with four 9/16″ × 7/8″ mounting slots. Handle is 29″ long.

Heavy Duty Extended Reach—Use this punch to make round holes in structural steel channels (2 1/2″ flange) and angle iron (2 1/2″ Ht. × 2 1/2″ Wd. × 1/4″ Dp. maximum). A die holder is required (sold separately). Punch is steel with four 1/2″ dia. mounting holes. Handle is 22″ long.

Punches

	Trade No.	Cutting Cap., Steel: Max. Hole Dia. at Thick.	Cutting Cap., Steel: Max. Metal Thick.	Throat Dp.	Punching Force	Ht.	Wd.	Dp.		
Smooth Action	No. 16	9/16″ at 1/8″	7/32″	3 1/4″	7.3 tons	9 3/4″	4″	8 1/2″	3441A18	$637.55
High Force	No. 20	13/16″ at 5/16″	1/2″	2 1/4″	20 tons	11 1/2″	4″	7″	3442A12	681.69
Extended Reach	No. 6	1/2″ at 1/8″	1/8″	8″	5 tons	11″	4 1/4″	13″	3450A11	545.90
Heavy Duty Extended Reach	No. 92	7/8″ at 1/8″	1/4″	10″	10 tons	16 3/4″	7 3/4″	20″	3443A112	1,697.74
Die Holders for Heavy Duty Extended Reach—For Hole Sizes 1/16″ to 5/8″									3443A121	98.46
Die Holders for Heavy Duty Extended Reach—For Hole Sizes 21/32″ to 7/8″									3443A122	123.08

Additional Punches

Punches come with one die. Punches for the high-force tool require a coupling nut.

To Order: For coupling nut, please specify hole size.

For Punch Tool	Choose a Hole Size (Increments)		
Round Hole			
Smooth Action	1/16″-9/16″ (× 1/64″)	3441A41	$51.03
High Force	1/8″-13/16″ (× 1/64″)	3442A41	54.67
Extended Reach	1/16″-1/2″ (× 1/32″)	3450A61	24.70
Heavy Duty Extended Reach	1/16″-9/16″ (× 1/32″)	3443A81	27.08
Round Hole (Cont.)			
Heavy Duty Extended Reach	19/32″-7/8″ (× 1/32″)	3443A82	$61.54
Square Hole			
Extended Reach	1/8″-1/2″ (× 1/16″)	3450A62	105.66
Coupling Nut for High Force Punch	1/8″-13/16″ (× 1/64″)	3442A61	

Lever-Operated Hole Punches


Compact

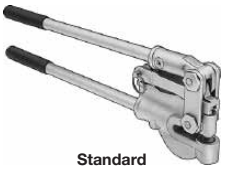
Standard

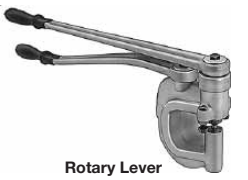
Rotary Lever


Punching Tool Kit

When you can't bring your work to the punch, bring one of these lightweight punches to your work. They have a lever handle for easy punching of round holes in mild steel and stainless steel.

Compact—Small enough to fit in your tool box, these punches have an adjustable throat to reach varying depths from the edge of your material. Made of cast iron. **Trade No. 5** tool includes a 3/16″ punch and die. **Trade No. XX** tool includes a 9/32″ punch and die.

Standard—For medium duty punching. Made of cast iron and steel. Includes a 7/32″ punch and die.

Rotary Lever—The lever handle rotates 360° for greater punching force than standard punches. Made of steel. Includes a 9/32″ punch and die. Optional ratchet handle can be used in tight spots instead of the rotary handle.

Punching Tools

	Trade No.	Cutting Cap., Steel: Max. Hole Dia. at Thick.	Cutting Cap., Steel: Max. Metal Thick.	Throat Dp.	Punching Force	Lg.	Wd.	Ht.		
Compact	No. 5	9/32″ at 1/16″	1/8″	1/4″-1 3/4″	1.2 tons	8 1/4″	1 1/2″	3 3/4″	3461A22	$87.02
Compact	No. XX	17/32″ at 1/32″	1/8″	1/4″-3 1/4″	1.2 tons	10 1/4″	1 3/4″	6 1/2″	3485A12	234.39
Standard	No. 7A	7/16″ at 1/16″	1/8″	1 5/8″	2.5 tons	18″	2″	5 3/4″	3531A11	427.59
Rotary Lever	No. 12	9/16″ at 1/8″	3/16″	2 1/4″	7.3 tons	19 1/2″	3″	8 1/2″	3434A12	640.00
Optional Ratchet Handle for Rotary Lever (No. 12)									3434A15	204.44

Additional Punches

Punches come with one die.

For Punch Tool (Trade No.)	Choose a Hole Diameter (Increments)	For Steel		For Stainless Steel	
Compact (No. 5)	1/16″-9/32″ (× 1/32″)	3461A41	$20.00		
Compact (No. XX)	1/16″-13/64″ (× 1/64″); 7/32″-17/32″ (× 1/32″)	3485A18	30.54		
Standard (No. 7A)	1/16″-7/16″ (× 1/32″)	3531A51	30.24	3531A41★	$30.24
Rotary Lever (No. 12)	1/16″-9/16″ (× 1/32″)	3434A21	43.93		

★ Not available in 7/16″ hole diameter.

Punching Tool Kits

Compact Punch (No. 5) with punches and dies: 3/32″, 1/8″, 5/32″, 3/16″, 7/32″, 1/4″, 9/32″	3461A11	$116.49
Compact Punch (No. XX) with punches and dies: 5/32″, 7/32″, 9/32″, 11/32″, 13/32″, 15/32″, 17/32″	3485A11	366.32

Portable Hydraulic Hole Punches

Often used to punch bus bars, railings, and I-beams, this tool provides 35 tons of punching force. It requires a 10,000 psi hydraulic pumping source (sold separately). Punch is steel and measures 14″ Ht. × 3½″ Wd. × 8″ Dp. It comes with four round punches and dies.

Additional punch and die sets include one round punch and die.

Hydraulic pump provides 10,000 psi and has a ½ hp motor that operates on 120 volts AC, 60 Hz. It has a 16-ft. cord with three-prong plug. Pump controls are attached with a 10-ft. cable. It also includes a 10-ft. hose, all necessary fittings, and is supplied with hydraulic oil. Pump is 15½″ Ht. × 10½″ Wd. × 9½″ Dp.


Pump

Cutting Cap., Steel	Throat Dp.	Hydraulic Punch: Hole Dia.			Additional Punch and Die Sets: Choose a Hole Dia.		
½″	2¾″	7/16″, 9/16″, 11/16″, 13/16″	3456A11	$2,048.78	5/16″, 7/16″, 9/16″, 5/8″, 11/16″, 13/16″	3456A12	$111.27
Hydraulic Pump						3456A41	2,507.81

Hammer-Driven Hole Punches

Also known as arch punches, these one-piece punches make round holes in leather, rubber, and canvas, as well as soft metals such as brass, copper, and lead. They're made of steel with a strengthened cutting edge.



Inch Sizes

Hole Dia.			Hole Dia.			Hole Dia.			Hole Dia.		
3/16″	3427A57	$14.46	7/8″	3427A22	$24.07	1 5/8″	3427A34	$68.82	2 7/8″	3427A45	$156.96
1/4″	3427A11	14.46	15/16″	3427A23	26.32	1 3/4″	3427A35	78.53	3″	3427A46	157.12
5/16″	3427A12	14.46	1″	3427A24	26.32	1 7/8″	3427A36	88.97	3 1/8″	3427A47	162.67
3/8″	3427A13	15.40	1 1/16″	3427A25	33.75	2″	3427A37	98.81	3 1/4″	3427A48	162.96
7/16″	3427A14	15.40	1 1/8″	3427A26	34.16	2 1/8″	3427A38	113.37	3 3/8″	3427A49	174.50
1/2″	3427A15	17.13	1 3/16″	3427A27	37.83	2 1/4″	3427A39	135.05	3 1/2″	3427A51	183.60
9/16″	3427A16	19.28	1 1/4″	3427A28	37.83	2 3/8″	3427A41	136.49	3 5/8″	3427A52	194.67
5/8″	3427A17	19.28	1 5/16″	3427A29	42.24	2 1/2″	3427A42	145.45	3 3/4″	3427A53	197.90
11/16″	3427A18	20.16	1 3/8″	3427A31	44.32	2 5/8″	3427A43	145.62	3 7/8″	3427A54	215.17
3/4″	3427A19	21.00	1 7/16″	3427A32	56.81	2 3/4″	3427A44	147.78	4″	3427A55	215.17
13/16″	3427A21	24.07	1 1/2″	3427A33	56.81						

Metric Sizes

Hole Dia., mm			Hole Dia., mm			Hole Dia., mm			Hole Dia., mm		
2	3418A56	$26.27	15	3418A15	$37.13	28	3418A28	$60.22	41	3418A41	$131.04
3	3418A57	26.01	16	3418A16	37.13	29	3418A29	60.22	42	3418A42	148.36
4	3418A54	26.02	17	3418A17	37.13	30	3418A3	70.86	43	3418A43	148.36
5	3418A55	26.02	18	3418A18	39.53	31	3418A31	70.86	44	3418A44	148.36
6	3418A6	26.02	19	3418A19	39.53	32	3418A32	70.86	45	3418A45	148.36
7	3418A7	26.02	20	3418A2	42.87	33	3418A33	74.47	46	3418A46	167.98
8	3418A8	26.02	21	3418A21	42.87	34	3418A34	79.92	47	3418A47	167.98
9	3418A9	26.02	22	3418A22	42.87	35	3418A35	82.20	48	3418A48	172.34
10	3418A1	26.02	23	3418A23	48.43	36	3418A36	104.79	49	3418A49	203.59
11	3418A11	26.02	24	3418A24	48.43	37	3418A37	104.79	50	3418A5	205.63
12	3418A12	32.30	25	3418A25	48.92	38	3418A38	104.79	51	3418A51	205.63
13	3418A13	32.30	26	3418A26	60.22	39	3418A39	131.04	52	3418A52	205.63
14	3418A14	37.21	27	3418A27	60.22	40	3418A4	131.04			

Punch Sets

Include common inch-size punches.

7-Punch Set: 3/16″, 5/16″, 7/16″, 9/16″, 11/16″, 13/16″, 15/16″	3429A12	$114.71
7-Punch Set: 1/4″, 3/8″, 1/2″, 5/8″, 3/4″, 7/8″, 1″	3429A11	117.59
5-Punch Set: 1 1/16″, 1 1/4″, 1 3/8″, 1 5/8″, 1 3/4″	3429A67	207.45

Punch and Tool Set—Includes five punches in 1/4″, 3/8″, 1/2″, 5/8″, and 3/4″ sizes; a 5″ awl; and 7″ long snips with a 1 3/4″ cut length.

	3491A11	$137.61

Hammer-Driven Small Hole Punches

Make small holes in tight spots. These steel punches are for use on soft nonmetallic materials.

Punches—Handle and punch are one complete unit



Hole Dia.	Punch Lg.			Hole Dia.	Punch Lg.			Hole Dia.	Punch Lg.			Hole Dia.	Punch Lg.		
1/16″	3 3/4″	3424A57	$6.59	11/64″	3 3/4″	3424A15	$7.41	9/32″	4 1/2″	3424A22	$9.25	1/2″	4 3/4″	3424A28	$13.26
5/64″	3 3/4″	3424A31	7.02	3/16″	3 3/4″	3424A16	7.41	5/16″	4 1/2″	3424A23	9.25	9/16″	5″	3424A29	15.16
3/32″	3 3/4″	3424A11	7.41	13/64″	3 3/4″	3424A17	8.22	11/32″	4 1/2″	3424A24	10.49	5/8″	5″	3424A32	16.18
1/8″	3 3/4″	3424A12	7.41	7/32″	3 3/4″	3424A18	8.22	3/8″	4 1/2″	3424A25	10.49	3/4″	5″	3424A51	17.32
9/64″	3 3/4″	3424A13	7.41	1/4″	3 3/4″	3424A19	8.22	13/32″	4 1/2″	3424A26	11.40	7/8″	5″	3424A52	17.65
5/32″	3 3/4″	3424A14	7.41	17/64″	4 1/2″	3424A21	9.25	7/16″	4 1/2″	3424A27	11.40	1″	5″	3424A53	18.29

6-Punch Sets—Handle and punch are one complete unit



Hole Dia.		
1/8″, 5/32″, 3/16″, 1/4″, 5/16″, 3/8″	3424A41	$46.45
3/16″, 1/4″, 5/16″, 3/8″, 7/16″, 1/2″	3507A11	40.71
1/2″, 9/16″, 5/8″, 3/4″, 7/8″, 1″	3424A42	91.49

Multi-Diameter Hole Punching Tool

Includes a handle and seven interchangeable screw-in punch heads.



Hole Dia.		
5/64″, 3/32″, 7/64″, 1/8″, 5/32″, 11/64″, 3/16″	3426A1	$46.53

Gasket & Washer Punch Sets and Hole Punches

Hammer-Driven Gasket and Washer Punch Sets



13-Punch Quick-Release Set

Create gaskets and washers with the swing of a hammer. These steel punches cut through rubber, leather, fabric, and soft metal foil. All come in a plastic case.

Economy set comes with a driving handle.

Quick-release sets include punches, a handle, a centering pin, and a punch-cutting pad. The handle has a quick-release mechanism to change punches for cutting inner and outer holes. The centering pin helps accurately align the punches before cutting.

One-step sets punch inner and outer holes at the same time. All sets include a handle that holds two punch heads. Punches can also be used on foam, cardboard, and fiber.

Economy		
10-Punch Set: 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/4", 7/8", 1"	3430A12	$46.33
Quick Release		
7-Punch Set: 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1"	3466A15	169.23
13-Punch Set: 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1"	3466A16	223.01
One Step—Inch Sizes		
10-Punch Set: 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/4"	33785A51	156.06
15-Punch Set: 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/4", 7/8", 1", 1 1/16", 1 1/8", 1 3/16"	33785A11	251.52
25-Punch Set: 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/4", 7/8", 1", 1 1/16", 1 1/8", 1 3/16", 1 1/4", 1 5/16", 1 3/8", 1 7/16", 1 1/2", 1 5/8", 1 11/16", 1 3/4", 1 7/8", 2"	33785A12	453.11
One Step—Metric Sizes		
10-Punch Set: 3, 4, 6, 8, 10, 12, 14, 16, 18, 20 mm	33785A52	155.70
15-Punch Set: 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30 mm	33785A14	251.28
29-Punch Set: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50 mm	33785A15	508.11
Replacement Punches—Please specify size		
Economy	3430A21	
Quick Release	3466A22	
One Step	33785A13	

Hammer-Driven Thin-Metal Punch Sets



Self-Aligning 9-Punch Inch Set

Often used to make shims and washers, these punches cut through steel, brass, stainless steel, rubber, and plastic up to 0.010" thick. Punches are made of tool steel. All come in a plastic case.

Self-Aligning Punches—For accurate punching of inner and outer holes, these sets come with pilots that attach to the outer hole punch.

Standard Punches			
Small-Diameter Sets			
9-Punch Inch	1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4"	3472A11	$159.89
9-Punch Metric	3.5, 5, 7, 8.5, 10, 11.5, 13.5, 16.5, 19.5 mm	3861A56	159.89
Self-Aligning Punches			
Small-Diameter Sets			
9-Punch Inch	1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4"	3455A71	248.60
10-Punch Metric	3, 4, 5, 6, 7, 8, 10, 12, 16, 20 mm	3455A73	286.20
Large-Diameter Sets			
4-Punch Inch	7/8", 1", 1 1/8", 1 1/4"	3455A72	384.97

Plier-Action Hole Punches

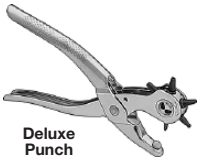

Deluxe Punch

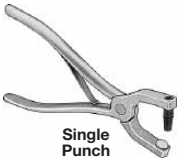

Single Punch

Punch round holes in leather, canvas, and rubber. These tools have a 1 1/2" throat depth. Made of steel.

Economy punch has a revolving head and six punch sizes. Tool is 8 1/2" long.

Deluxe punch has a revolving head and forged steel construction for extreme durability. It includes six punch sizes. Tool is 8 1/2" long and has spring-return handles.

Single punches have forged steel construction and spring-return handles. Tools are 8 1/4" long.

	Hole Dia.		
Economy	5/64", 3/32", 7/64", 1/8", 5/32", 3/16"	3488A9	$16.64
Deluxe	3/32", 7/64", 1/8", 5/32", 11/64", 3/16"	3488A1	88.53
Single	1/8"	3435A22	79.42
Single	3/16"	3435A21	79.42
Single	1/4"	3435A11	79.42

Hammer-Driven Oblong Hole Punches



Also known as arch punches, these tools make oblong holes in soft nonmetallic materials. Made of steel.

Hole Size Lg.	Hole Size Wd.	Punch Lg.		
1/2"	7/64"	4 3/4"	3503A11	$42.18
5/8"	1/8"	4 3/4"	3503A15	42.18
3/4"	9/64"	5 1/4"	3503A16	42.18
1"	5/32"	5 1/8"	3503A12	54.68
1 1/4"	11/64"	5 1/4"	3503A17	57.15
1 1/2"	13/64"	6 3/4"	3503A14	62.87

Hand-Driven Cork and Rubber Punches



Turn while pushing down on the handle to punch holes in cork and rubber. Also known as cork borers, these tools have precision-ground cutting edges that can be sharpened. Punches are 4 1/2" long. Tube is zinc-plated brass.

6-punch set includes one each of the sizes listed and a tool to push out the punched material.

Hole Dia.			Hole Dia.		
3/16"	6122A22	$11.34	3/8"	6122A25	$11.34
1/4"	6122A23	11.34	7/16"	6122A26	11.34
5/16"	6122A24	11.34	1/2"	6122A27	11.34
6-Punch Set				6122A12	41.79

Multi-Diameter Hole-Location Transfer Punches



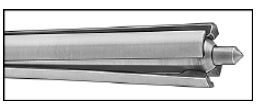

Expanded

Mark the center of various hole sizes. Insert these punches into an existing hole and twist the handle to open the end of the punch. The point automatically centers once the punch has fit the hole size; strike it with a hammer to mark the center. Punches have a point that is accurate to ±0.005". Made of steel.

3-Punch Set—Contains one of each punch listed and comes in a plastic case.

Diameter Range	Lg.		
1/4"-5/16"; 6-8 mm	3 3/4"	3380A12	$53.12
5/16"-7/16"; 8-11 mm	4"	3380A13	60.38
7/16"-11/16"; 11-17 mm	4 1/2"	3380A14	68.56
3-Punch Set		3380A11	137.50

Hole-Location Transfer Punches

When you need to make identical holes in different pieces of metal, these punches mark the spot. They fit through existing holes and mark the center of the hole in a second workpiece. Punches are made of steel and are approximately 5″ long. Diameter tolerance is ±0.0005″. **Punch sets** come in a metal stand.



Inch Sizes

Dia.			Dia.			Dia.			Dia.			Dia.		
1/16″	3374A113	$3.18	19/64″	3374A26	$3.68	17/32″	3374A43	$5.62	3/4″	3374A52	$8.80	31/32″	3374A582	$10.90
5/64″	3374A115	3.18	5/16″	3374A27	3.78	35/64″	3374A431	7.54	49/64″	3374A53	9.58	63/64″	3374A583	11.00
3/32″	3374A12	2.74	21/64″	3374A28	3.30	9/16″	3374A44	6.32	25/32″	3374A54	9.02	1″	3374A59	10.34
7/64″	3374A13	3.18	11/32″	3374A29	4.00	37/64″	3374A45	8.00	51/64″	3374A541	9.78	1 1/32″	3374A62	12.00
1/8″	3374A14	2.74	23/64″	3374A31	4.18	19/32″	3374A46	8.08	13/16″	3374A55	9.20	1 1/16″	3374A61	11.62
9/64″	3374A15	3.18	3/8″	3374A32	3.70	39/64″	3374A461	8.16	53/64″	3374A551	9.96	1 3/32″	3374A63	14.12
5/32″	3374A16	2.80	25/64″	3374A33	4.50	5/8″	3374A47	6.62	27/32″	3374A552	10.02	1 1/8″	3374A64	16.85
11/64″	3374A17	2.80	13/32″	3374A34	4.58	41/64″	3374A48	8.34	55/64″	3374A553	10.10	1 3/16″	3374A65	20.90
3/16″	3374A18	2.80	27/64″	3374A35	4.82	21/32″	3374A49	7.86	7/8″	3374A56	9.52	1 1/4″	3374A66	23.35
13/64″	3374A19	2.80	7/16″	3374A36	5.00	43/64″	3374A491	8.54	57/64″	3374A561	10.30	1 5/16″	3374A67	29.96
7/32″	3374A21	2.88	29/64″	3374A37	5.14	11/16″	3374A51	8.04	29/32″	3374A57	10.56	1 3/8″	3374A68	34.27
15/64″	3374A22	2.88	15/32″	3374A38	5.32	45/64″	3374A511	9.08	59/64″	3374A571	10.64	1 1/2″	3374A71	42.94
1/4″	3374A23	2.96	31/64″	3374A39	5.48	23/32″	3374A512	9.16	15/16″	3374A58	10.02	1 3/4″	3374A75	63.33
17/64″	3374A24	3.02	1/2″	3374A41	4.98	47/64″	3374A513	9.24	61/64″	3374A581	10.82	2″	3374A79	78.02
9/32″	3374A25	3.60	33/64″	3374A42	6.22									

Metric Sizes

Dia., mm			Dia., mm			Dia., mm			Dia., mm			Dia., mm		
1	8962A421	$4.28	5	8962A429	$4.48	9	8962A438	$5.42	13	8962A447	$7.74	19	8962A456	$10.64
1.5	8962A422	4.28	5.5	8962A431	4.56	9.5	8962A439	5.62	13.5	8962A448	8.26	20	8962A457	11.18
2	8962A423	4.28	6	8962A432	4.56	10	8962A441	5.70	14	8962A449	8.42	21	8962A458	11.52
2.5	8962A424	4.40	6.5	8962A433	4.72	10.5	8962A442	5.88	14.5	8962A451	8.76	22	8962A459	11.90
3	8962A425	4.40	7	8962A434	4.82	11	8962A443	6.40	15	8962A452	9.14	23	8962A461	12.24
3.5	8962A426	4.40	7.5	8962A435	4.92	11.5	8962A444	6.50	16	8962A453	9.40	24	8962A462	12.58
4	8962A427	4.48	8	8962A436	5.26	12	8962A445	6.94	17	8962A454	9.76	25	8962A463	12.92
4.5	8962A428	4.48	8.5	8962A437	5.34	12.5	8962A446	7.20	18	8962A455	10.10	26	8962A464	11.38

Letter and Wire-Gauge Sizes

Choose a Size		
A through Z	3374A94	$4.64

Choose a Size		
60 through 1	3374A81	$3.68

Punch Sets

Inch Sizes
- 28-Punch Set: 3/32″ to 1/2″ (in 1/64ths), 17/32″ — 3374A11 — $65.88
- 33-Punch Set: 1/2″ to 1″ (in 1/64ths) — 3374A93 — 247.02

Metric Sizes
- 25-Punch Set: 1 to 13 mm (in 0.5 mm) — 8962A41 — 92.62
- 25-Punch Set: 13 to 25 mm (in 0.5 mm) — 8962A35 — 198.97

Letter Sizes
- 26-Punch Set: A to Z — 3374A91 — $97.84

Wire-Gauge Sizes
- 60-Punch Set: 60 to 1 — 3374A92 — 120.78

Cone-Centering Hole-Location Transfer Punches

One tool punches a center mark for a range of hole sizes. Push down on the cone-shaped handle of this punch to center it in round or square holes. Then strike the punch with a hammer to make a precise mark in the center of your workpiece. Use on materials up to 2″ deep. Handle and punch are steel. The handle is spring-loaded with a knurled surface for gripping.



Hole Size Range	Lg.		
3/16″-5/8″; 5-16 mm	3″	8963A1	$16.25
3/16″-1 1/16″; 5-27 mm	4 1/2″	8963A2	19.03

Hole-Location Transfer Punches for Closed-End Holes

Also known as blind-hole spotters, these punches fit into closed-end holes and mark the center of a complementary hole. Once the punch is fitted in a hole, place your workpiece against the punch and strike with a hammer to make an indentation. Punches are steel. **Punch sets** come in a metal case.



Individual Punches

	Choose a Size	Pkg. of 6	
Inch Sizes	1/8″, 5/32″, 3/16″, 1/4″, 9/32″, 5/16″, 11/32″, 3/8″, 13/32″, 1/2″, 17/32″	3414A51	$7.40
Metric Sizes	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 mm	3414A61	8.20

Punch Sets—Include six of each punch size listed.

- 66-Punch Set: 11/16″-1″ (in 1/32nds) — 3414A12 — $114.15
- 108-Punch Set: 1/8″-2 1/32″ (in 1/32nds) — 3414A11 — $117.86

Threaded-Hole-Location Transfer Punches for Closed-End Holes

Transfer hole patterns from one workpiece to another. Also known as transfer screws, these punches have a uniform shoulder height of 0.020″ so you can quickly mark multiple holes at once. Thread the punches into closed-end holes and tighten with pliers or a wrench, and then strike the workpiece with a hammer to mark the holes. Punches are steel.

Punch sets include four punches in each size listed.



Individual Punches

Choose a Thread Size		
10-24, 10-32	3400A64	$1.92
1/4″-20, 1/4″-28, 5/16″-18, 5/16″-24	3400A65	2.17
3/8″-16, 3/8″-24, 7/16″-14, 7/16″-20	3400A66	2.45
1/2″-13, 1/2″-20, 5/8″-11, 3/4″-10	3400A67	2.90

Punch Sets

Included Thread Sizes		
10-24, 10-32, 1/4″-20	3400A22	$23.83
1/4″-20, 5/16″-18, 3/8″-16	3400A23	25.62
5/16″-18, 3/8″-16, 1/2″-13	3400A24	28.00
7/16″-14, 1/2″-13, 5/8″-11	3400A25	31.90
1/2″-13, 5/8″-11, 3/4″-10	3400A26	34.67

Threaded-Hole-Location Transfer Punches



Also known as transfer screws, these punches can be used in any threaded hole to transfer the hole location. Use the included handle to screw a punch into a hole. Place your workpiece against the punch and strike it with a hammer to mark the hole location. Each size comes with six steel punches that store in the handle.

16-punch sets include four of each punch size listed and a handle. The handle is only for use with the sizes in the set.

Individual Punches

Choose a Thread Size		
Inch		
4-40, 4-48, 5-40, 5-44	3385A84	$16.55
6-32, 6-40, 8-32, 8-36	3385A85	16.88
10-24, 10-32, 12-24, 12-28	3385A86	18.15
1/4″-20, 1/4″-28	3385A87	18.15
5/16″-18, 5/16″-24, 3/8″-16, 3/8″-24	3385A88	18.15
7/16″-14, 7/16″-20, 1/2″-13, 1/2″-20	3385A89	18.15
9/16″-12, 9/16″-18, 5/8″-11, 5/8″-18	3385A9	18.79
3/4″-10, 3/4″-16, 7/8″-9, 7/8″-14	3385A91	21.14
1″-8, 1″-14	3385A92	22.21
Metric		
M3, M4, M5, M6, M8, M10	3385A93	18.19
M12, M14, M16, M20, M24	3385A94	22.27

16-Punch Sets—Come in a plastic case

Included Thread Sizes		
Inch		
4-40, 6-32, 8-32, 10-24	3385A79	$40.34
1/4″-20, 5/16″-18, 3/8″-16, 7/16″-14	3385A77	40.34
1/2″-13, 9/16″-12, 5/8″-11, 3/4″-10	3385A78	44.06
Metric		
M3, M4, M5, M6	3385A83	40.34
M6, M8, M10, M12	3385A82	40.34
M14, M16, M20, M24	3385A81	54.65

Spring-Impact Center-Marking Punches



Steel Handle



Aluminum Handle with Pocket Clip

Turn the end of the handle to adjust the spring tension so you can make light or heavy marks in your material. Press down on the punch handle to mark hole centers. All punches have a hardened steel point.

Point Dia.	Lg.	Punches		Repl. Points	
Steel-Handle Punches					
1/16″	4 7/8″	3489A13	$25.20	3489A16	$4.47
3/32″	5 5/8″	3489A12	35.09	3489A15	5.16
Aluminum-Handle Punch with Pocket Clip					
1/16″	5 3/4″	34895A65	15.05	—	—

Starrett Spring-Impact Center-Marking Punches



Steel Handle



Aluminum Handle with Self-Centering Sleeve

With an internal spring mechanism, these punches offer one-hand operation when marking hole centers. Turn the handle cap to adjust from light to heavy punching force. All punches have a hardened tool steel point.

Aluminum-handle punch with self-centering sleeve automatically centers the punch in the hole.

		Punches			Repl. Points		
Point Dia.	Lg.	Starrett No.			Starrett No.		
Steel-Handle Punches							
1/64″	5 1/4″	18C	3422A3	$48.21	PT22256	34225A66	$7.76
1/16″	4″	18AA	3422A5	37.01	PT06689	3422A61	10.04
1/16″	5″	18A	3422A1	41.01	PT06690	3422A62	10.04
Aluminum-Handle Punch							
1/64″	5″	818	34225A65	36.50	PT22256	34225A66	7.76
Aluminum-Handle Punch with Self-Centering Sleeve							
1/64″	5″	819	3497A11	38.72	PT09966	3497A12	14.40

Center-Marking Punches



Round-Knurled Handle



Hex Handle

Strike these punches with a hammer to mark hole centers. Made of steel.

Individual Punches

Point Dia.	Lg.		
Round-Knurled Handle			
3/32″	3 1/4″	3498A11	$3.48
1/8″	4″	3498A12	3.61
5/32″	4″	3498A13	3.78
5/16″	4″	3498A14	4.93
Hex Handle			
1/16″	4″	3417A6	4.00
5/64″	4″	3417A7	4.00
3/32″	4″	3417A4	3.95
1/8″	4 1/4″	3417A8	4.28
5/32″	4 1/2″	3417A1	4.25
3/16″	5″	3417A2	4.38
1/4″	5 1/2″	3417A9	5.55
5/16″	6″	3417A3	5.66
3/8″	6 1/4″	3417A5	7.30

Punch Sets—Come in a pouch

	Point Dia.		
Round-Knurled Handle			
4-Punch Set	3/32″, 1/8″, 5/32″, 5/16″	3498A21	$16.96
Hex Handle			
5-Punch Set	3/32″, 5/32″, 3/16″, 5/16″, 3/8″	3514A11	30.34
7-Punch Set	1/16″, 5/64″, 3/32″, 1/8″, 5/32″, 3/16″, 1/4″	3527A14	37.57

Starrett Center-Marking Punches



Round Handle



Square Handle

Made of hardened tool steel with a ground tip, these punches offer precise punching and a long service life. Strike them with a hammer to mark the center of a hole. Handles are knurled.

Individual Punches

	Round-Handle Punches				Square-Handle Punches			
Point Dia.	Lg.	Starrett No.			Lg.	Starrett No.		
1/16″	3″	117AA	34155A11	$6.61	3″	264A	34155A21	$8.70
5/64″	4″	117A	34155A12	6.61	3 1/2″	264B	34155A22	8.70
3/32″	4″	117B	34155A13	6.61	3 3/4″	264C	34155A23	8.70
1/8″	4″	117C	34155A14	6.61	4″	264D	34155A24	8.70
5/32″	4″	117D	34155A15	6.61	4 1/4″	264E	34155A25	8.70
3/16″	—	—	—	—	4 1/2″	264F	34155A26	9.10
1/4″	5″	117E	34155A16	8.00	5″	264G	34155A27	9.30

Punch Sets

	Point Dia.	Starrett No.		
Round Handle—Come in a plastic case				
5-Punch Set	1/16″-5/32″	S117PC	34155A41	$39.01
Square Handle—Come in a stand				
7-Punch Set	1/16″-1/4″	S264WB	34155A51	78.00

Circle-and-Dot Center-Marking Punches



A viewing lens with a circle and dot enables you to pinpoint the location where you need to punch. Replace the lens with the included punch and strike it with a hammer to mark the hole center. Point diameter is 1/64″. The punch is tool steel and the holder is aluminum with a slip-resistant cork base. Body is 1 7/8″ Dia. ×1 1/4″ Ht.

Punch	3440A21	$104.30
Replacement Lens	3440A66	54.22

Center-Marking Punches for Pipes and Tubing



Find and mark the center of curved surfaces that range from 5/8″ to 8″ in diameter. This punch has a level for accurate marking. Punch is steel with a 9/32″ point diameter. Body is 1 7/8″ Lg. ×1 1/2″ Wd. ×1″ Ht.

	3436A32	$40.62

Extra-Fine Center-Marking Punches



Ground to a sharper tip than other center-marking punches, these tools make the precision marks required for the intersection of lines and other detailed tasks. They're also known as prick punches. Made of steel with a knurled handle.

Point Dia.	Overall Lg.		
5/64"	4"	3451A31	$8.70
1/8"	4"	3451A32	8.70
5/32"	4"	3451A33	11.50

Pin-Loosening Punches



Standard



Long

Loosen pins and rivets before removal. **Nonmarring punch** is made of soft brass, which minimizes damage to work surfaces.

Individual Punches

Point Dia.	Taper Lg. (A)	Overall Lg.		
Standard Punches—Steel				
1/16"	1 1/2"	5"	3415A51	$5.27
3/32"	1 1/2"	5"	3415A37	5.17
1/8"	1 1/2"	5"	3415A13	5.43
5/32"	1 1/2"	5"	3415A38	5.45
3/16"	1 1/2"	5"	3415A35	5.43
1/4"	1 1/2"	5"	3415A17	6.11
1/4"	3"	6"	3415A39	8.89
5/16"	2"	6"	3415A41	6.70
3/8"	2 1/4"	6 1/2"	3415A19	10.38
Long Punches—Steel				
1/4"	3"	7"	3415A31	11.40
5/16"	3"	7"	3415A36	12.19
3/8"	3"	9"	3415A22	16.99
1/2"	2 3/4"	18"	3415A33	20.19
Nonmarring Punch—Brass				
1/4"	2"	6"	3483A32	12.04

Standard Punch Set—Comes in a pouch

	Point Dia.		
6-Punch Set	3/32", 1/8", 5/32", 3/16", 1/4", 5/16"	3415A61	$37.55

Starrett Pin-Removal Punches





Standard 8-Punch Set



Long 5-Punch Set

Made of hardened steel with a knurled handle for a secure grip, these punches are a premium choice for removing loosened pins and rivets. **Punch sets** include one of each size listed.

For Pin Dia.	For Pin Lg. (A)	Starrett No.		
Standard Punches—4" Lg.				
1/16"	9/16"	565A	34185A65	$6.21
3/32"	11/16"	565B	34185A66	6.21
1/8"	3/4"	565C	34185A67	6.21
5/32"	7/8"	565D	34185A68	6.21
3/16"	1 3/64"	565E	34185A69	6.21
7/32"	1 3/64"	565F	34185A7	6.21
1/4"	1"	565G	34185A71	6.21
5/16"	1"	565H	34185A72	6.21
8-Punch Set—Starrett No. 565WB			3446A25	60.00
Long Punches—8" Lg.				
1/8"	3 1/2"	248A	34185A73	7.70
3/16"	3 1/2"	248B	34185A74	7.70
1/4"	3 1/2"	248C	34185A75	7.70
5/16"	3 1/2"	248D	34185A76	7.70
3/8"	3 1/2"	248E	34185A77	7.70
5-Punch Set—Starrett No. 248PC			3446A35	48.00

Pin-Removal Punches



Knock out pins and rivets that have already been loosened. These tools are also known as pin punches. Made of steel. Punches have a hex handle, except 5/64" pin dia. has a round handle.

Individual Punches

For Pin Dia.	For Pin Lg. (A)	Overall Lg.		
Inch Sizes				
1/16"	3/4"	4"	3416A11	$6.47
5/64"	3/4"	2 3/4"	3416A23	4.09
3/32"	7/8"	4 1/2"	3416A12	5.04
1/8"	1"	4 3/4"	3416A13	5.04
1/8"	3"	8"	3416A24	8.31
5/32"	1"	5"	3416A14	5.07
5/32"	2 1/4"	6"	3416A1	5.44
5/32"	3"	8"	3416A68	8.29
3/16"	1 1/4"	5 1/4"	3416A15	5.29
3/16"	1 1/4"	6"	3416A16	5.93
3/16"	2 1/2"	6"	3416A2	5.69
3/16"	3 1/2"	8"	3416A17	8.29
7/32"	2 1/2"	6"	3416A3	5.71
7/32"	3 1/2"	8"	3416A69	8.31
1/4"	1 1/4"	6"	3416A31	6.20
1/4"	2 5/8"	6"	3416A4	5.71
1/4"	3 1/2"	8"	3416A18	8.38
5/16"	3 1/2"	8"	3416A19	8.38
3/8"	2 1/4"	8"	3416A34	9.69
3/8"	3 1/2"	8"	3416A21	8.38
7/16"	2 1/4"	10"	3416A41	10.67
1/2"	2 1/4"	10"	3416A22	8.98
Metric Sizes				
3 mm	1 3/4"	6"	34245A63	5.93
4 mm	2 1/4"	6"	34245A64	6.04
5 mm	2 1/2"	6"	34245A65	6.28
6 mm	2 1/2"	6"	34245A66	6.35
7 mm	2 5/8"	6"	34245A67	6.36
8 mm	2 3/4"	6"	34245A68	7.44

Punch Sets—Come in a pouch

10-punch set includes two punches in each pin diameter size listed.



5-Punch Set



8-Punch Set

	For Pin Dia.	Overall Lg.		
Hex-Handle Inch Sizes				
5-Punch Set	1/8", 5/32", 3/16", 1/4", 5/16"	4 3/4"-6"	3465A2	$24.98
5-Punch Set	1/8", 3/16", 1/4", 5/16", 3/8"	8"	3453A11	40.43
10-Punch Set	1/8", 3/16", 1/4", 5/16", 3/8"	4 3/4"-8"	3505A11	77.37
Round-Handle Inch Sizes				
5-Punch Set	1/8", 3/16", 1/4", 5/16", 3/8"	8"	3486A11	29.24
8-Punch Set	1/16", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 5/16"	4"	3480A11	32.26
Hex-Handle Metric Sizes				
6-Punch Set	3, 4, 5, 6, 7, 8 mm	6"	34245A69	37.73

Pin-Removal Hammers

A hammer and punch in one, this tool knocks out pins, rivets, and bolts. The punch head is 8 1/4" long and made of steel. Handle is wood. Overall length is 15".



For Pin Dia.	For Pin Lg. (A)		
1/2"	2 3/4"	6052A11	$53.42
5/8"	2 3/4"	6052A12	55.04
3/4"	2 3/4"	6052A13	56.65
7/8"	2 3/4"	6052A14	59.15
1"	3 1/8"	6052A15	61.05
Replacement Handle		6052A47	8.51

Pin-Removal & Hole-Alignment Punches

Nonmarring Pin-Removal Punches



Round Handle



Hex Handle

Minimize damage to your work surfaces with these brass punches, which are softer than steel punches.

8-punch hex-handle set includes one of each hex-handle punch size listed and comes in a pouch.

For Pin Dia.	For Pin Lg. (A)	Overall Lg.		
Round-Handle Punches				
3/16"	1 1/4"	4"	34255A74	$7.67
1/4"	1 1/8"	4"	34255A69	8.52
5/16"	1 1/4"	4"	34255A75	8.38
3/8"	1 3/4"	6"	34255A71	11.98
Hex-Handle Punches				
1/16"	3/8"	3 1/2"	34255A61	8.49
3/32"	1/2"	3 1/2"	34255A62	8.49
1/8"	5/8"	3 1/2"	34255A63	8.49
5/32"	5/8"	3 1/2"	34255A64	8.49
3/16"	3/4"	3 1/2"	34255A65	8.49
7/32"	3/4"	3 1/2"	34255A66	8.49
1/4"	3/4"	3 1/2"	34255A67	8.49
5/16"	7/8"	3 1/2"	34255A68	8.49
8-Punch Hex-Handle Set— For Pin Dia.: 1/16" to 5/16"			34255A7	63.36

Heavy Duty Pin-Removal Punches



Made of impact-resistant tool steel, these punches are stronger and more durable than other pin-removal punches. They withstand repeated hammer strikes without chipping. **5-punch set** comes in a pouch.

For Pin Dia.	For Pin Lg. (A)	Overall Lg.		
1/16"	3/4"	4"	3502A1	$7.49
3/32"	7/8"	4 1/2"	3502A2	8.38
1/8"	1"	4 3/4"	3502A3	9.29
1/8"	3"	8"	3502A8	13.95
5/32"	1"	5"	3502A4	9.91
5/32"	3"	8"	3502A14	17.00
3/16"	1 1/4"	5 1/4"	3502A5	10.69
3/16"	3 1/2"	8"	3502A9	20.02
7/32"	3 1/2"	8"	3502A15	20.46
1/4"	1 1/4"	5 3/4"	3502A6	12.87
1/4"	3 1/2"	8"	3502A11	20.77
5/16"	3 1/2"	8"	3502A12	22.67
3/8"	3 1/2"	8"	3502A13	23.62
5-Punch Set— For Pin Dia.: 3/32", 1/8", 5/32", 3/16", 1/4"			3502A16	71.15

Nail Set Punches



Set nails flush or drive them out of view without damaging wood surfaces. All punches are steel.

Point Dia.	For Pin Lg. (A)	Overall Lg.		
1/32"	1 1/4"	4"	3425A1	$3.50
1/16"	1 1/4"	4"	3425A2	3.50
3/32"	1 1/4"	4"	3425A3	3.52
1/8"	1"	4 7/8"	3425A4	5.27
5/32"	1"	4 7/8"	3425A5	5.27
3-Punch Set—Point Dia.: 1/32", 1/16", 3/32"			3425A9	9.26

Punch-Cutting Pads

Protect your work surface and keep the edges of your punches sharp. Use these plastic pads under the material you're punching.



Lg.	Wd.	Thick.		
12"	12"	1/2"	3496A22	$23.36
24"	12"	1/2"	3496A23	47.24

Pin-Removal Punches for Hollow and Spring Pins




12-Pc. Inch Set in Wood Stand

The rounded tip of these punches fits into the open ends of hollow and spring pins to protect them from damage during removal. All punches are steel. **Punch sets** come in a pouch, except the 12-punch set in a wood stand.

Individual Punches

For Pin Dia.	For Pin Lg. (A)	Overall Lg.		
Inch Sizes				
1/16"	1"	2 3/4"	3421A33	$5.50
5/64"	1 1/2"	3 1/4"	3421A34	5.78
3/32"	1 1/2"	3 1/2"	3421A35	6.28
1/8"	2"	4"	3421A36	6.41
5/32"	2 1/2"	4 1/2"	3421A37	7.30
3/16"	2 1/2"	4 1/2"	3421A38	7.43
7/32"	3"	5"	3421A39	8.46
1/4"	3 1/2"	5 1/2"	3421A41	9.65
5/16"	4"	6"	3421A42	10.57
3/8"	4"	6"	3421A43	11.57
7/16"	4"	6"	3421A44	12.87
1/2"	4"	6"	3421A45	14.54
Metric Sizes				
2 mm	1 1/2"	3 1/4"	3421A51	8.09
3 mm	2"	4"	3421A53	8.78
4 mm	2 1/2"	4 1/2"	3421A54	9.33
5 mm	2 1/2"	4 1/2"	3421A55	11.74
6 mm	3 1/2"	5 1/2"	3421A56	10.46
7 mm	4"	6"	3421A57	11.74
8 mm	4"	6"	3421A58	14.17

Punch Sets

	For Pin Dia.		
Inch Sizes			
6-Punch Set	1/8"- 5/16"	3421A6	$40.24
9-Punch Set	1/16"- 5/16"	3421A5	64.20
12-Punch Set	1/16"- 1/2"	3421A2	99.93
12-Punch Set in Wood Stand	1/16"- 1/2"	3421A1	126.26
Metric Sizes			
6-Punch Set	3-8 mm	3421A7	55.35

Tapered Hole-Alignment Punches



Line up holes by driving these punches through existing rivet, pin, and bolt holes in multiple pieces of metal. Also known as lineup taper punches, they can also punch through metal to create new holes. Made of steel.

Individual Punches

Point Dia.	Taper Lg. (A)	Overall Lg.		
5/64"	2 3/8"	4 1/2"	3420A25	$6.11
3/32"	3 1/2"	8"	3420A2	6.00
7/64"	2 1/2"	4 1/2"	3420A26	6.33
1/8"	3 1/2"	8"	3420A3	6.26
9/64"	2 7/8"	5"	3420A27	6.62
5/32"	4 1/2"	9"	3420A4	6.61
3/16"	5"	10"	3420A65	8.61
3/16"	6"	12"	3420A9	8.67
7/32"	5"	10"	3420A66	8.85
1/4"	7"	15"	3420A11	19.24
1/4"	7 1/4"	12"	3420A7	13.65
5/16"	7"	16"	3420A12	18.76
3/8"	7"	15"	3420A13	20.26
1/2"	7 1/4"	18"	3420A8	31.76

Punch Sets—Come in a pouch

	Point Dia.	Overall Lg.		
4-Punch Set	1/8", 5/32", 3/16", 1/4"	8"-12"	3508A12	$32.53
6-Punch Set	1/8", 5/32", 3/16", 7/32", 1/4", 5/16"	8"-16"	3508A11	58.17

Nonmarring Hole-Alignment Punches



These brass tools reduce marring on metal surfaces because they're softer than steel punches. Use them to align holes in sheet metal for rivets and bolts.

Individual Punches

Point Dia.	Overall Lg.		
3/8"	6"	3483A23	$8.87
1/2"	7"	3483A24	12.24
3/4"	8"	3483A22	25.18

Punch Sets

	Point Dia.	Overall Lg.		
3-Punch Set	3/8", 1/2", 3/4"	6"-8"	34235A66	$46.30
3-Punch Set	3/8", 7/16", 3/4"	10"-14"	34235A68	108.80
4-Punch Set	1/4", 3/8" (two of each)	4"-6"	34235A67	40.67

Punch and Chisel Holders



Protect your hands from accidental hammer strikes by gripping punches and chisels with these holders.

Style A—Slide this holder over your punch or chisel. Use with tools at least 6" long.

Styles B and C—Turn the handle to tighten. *Style C* has a spring-loaded clamp and foam grip to reduce shock.

Styles D and E—Holders have a knob at the bottom of the handle for tightening. *Style E* also has a brass rivet to resist sparking.

	Fits Tool Dia.	Handle Material	Lg.		
A	5/8" to 3/4"	Plastic	4 1/2"	65295A65	$11.12
B	3/16" to 3/4"	Plastic	5 1/2"	3596A11	22.14
B	1/4" to 1"	Plastic	7 3/4"	3596A12	31.19
C	1/4" to 1"	Steel	10"	3596A13	33.64
D	Up to 1"	Plastic	6 7/8"	6524A1	16.94
E	Up to 2 3/4"	Aluminum	18"	6524A2	103.84

Maintenance Punch and Chisel Sets

Always have the tool you need on hand. These sets contain steel punches and chisels in a variety of sizes.

Punch Sets—3479A11 punches are up to 8" long. The other sets have punches that range from 2 3/4" to 6 1/2" long. Sets come in a pouch, except 24-punch set comes in a wood stand.

Punch and Chisel Sets—Tools range from 4" to 8" long. Sets come in a pouch, except 3506A76 comes in a wood stand.

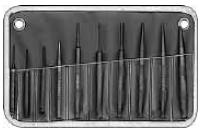

10-Punch Set

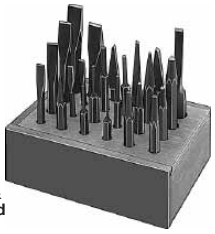

24-Piece Punch & Chisel Set in Wood Stand (3506A76)

Pieces in Set	Punch and Chisel Types (Qty.)	Sizes		
Punch Sets				
5	Pin Loosening (1)	1/16"		
	Pin Removal (4)	1/16"-5/32"	34615A61	$22.22
10	Pin Loosening (1)	3/32"		
	Pin Removal (6)	1/16"-5/32"		
	Center Marking (2)	1/4"-5/16"		
	Fine Center Marking (1)	5/16"	3481A11	41.62
10	Pin Loosening (1)	1/8"		
	Pin Removal (8)	3/32"-3/8"		
	Center Marking (1)	5/16"	3479A11	62.18
16	Pin Loosening (7)	3/32"-3/8"		
	Pin Removal (9)	1/16"-3/8"	3462A15	93.64
24	Pin Loosening (8)	1/8"-5/16"		
	Pin Removal (10)	3/32"-5/16"		
	Center Marking (4)	3/8"-1/2"		
	Fine Center Marking (2)	3/8"	3482A21	142.27
Punch and Chisel Sets				
8	Pin Loosening (1)	3/16"		
	Pin Removal (3)	1/8"-1/4"		
	Center Marking (1)	3/8"		
	Metal Cutting Chisel (3)	3/8"-5/8"	3535A12	44.04
11	Pin Loosening (3)	1/8"-5/32"		
	Pin Removal (3)	1/16"-1/8"		
	Center Marking (1)	5/16"		
	Fine Center Marking (1)	1/4"		
	Metal Cutting Chisel (3)	1/4"-3/8"	3504A11	57.49

Pieces in Set	Punch and Chisel Types (Qty.)	Sizes		
Punch and Chisel Sets (Cont.)				
14	Pin Loosening (2)	1/8"-3/16"		
	Pin Removal (5)	3/32"-1/4"		
	Center Marking (1)	3/8"		
	Alignment (1)	1/8"		
	Metal Cutting Chisel (5)	1/4"-3/4"	3470A4	$75.06
24	Pin Loosening (3)	1/8"-1/4"		
	Pin Removal (6)	3/32"-7/32"		
	Center Marking (2)	3/8"-1/2"		
	Fine Center Marking (2)	3/8"-1/2"		
	Metal Cutting Chisel (6)	1/4"-3/4"		
	Slot Cutting Chisel (2)	1/4"-3/8"		
	Half Round Nose Chisel (1)	1/4"		
	Diamond Point Chisel (1)	1/4"		
	Rivet Buster Chisel (1)	3/4"	3506A76	154.21
24	Pin Loosening (6)	3/32"-5/16"		
	Pin Removal (6)	3/32"-5/16"		
	Center Marking (2)	3/8"-1/2"		
	Fine Center Marking (1)	5/16"		
	Metal Cutting Chisel (6)	1/4"-3/4"		
	Slot Cutting Chisel (1)	1/4"		
	Half Round Nose Chisel (1)	1/4"		
	Diamond Point Chisel (1)	1/4"	3470A2	176.90

Combination Press, Punch, and Shear

Also known as a 40-ton metalworker, this machine handles a variety of forming tasks. Using hydraulic power, it provides up to 40 tons of punching force. It presses 3/8" thick steel, and it also shears 3/4" dia. steel rods and 3/8" Thick. x 4" Wd. and 1/4" Thick. x 6" Wd. steel sheets. Throat depth is 3 3/4". Overall size is 55 1/4" Ht. x 30" Wd. x 24" Dp. Includes a cord with plug and operates on 110 volts AC. The safety guard complies with ANSI B11-5 standards. Machine requires 1 gallon of Mobil DTE 24-SSU or equivalent hydraulic oil (sold separately).

Optional punches make openings up to 1" in 3/8" thick steel. Each size includes a punch and die.



Combination Press, Punch, and Shear	24695A11	$2,793.33
Optional 8" Sheet Bender—Works with steel up to 1/4" thick	24695A12	592.86
Optional Notcher—Makes 1/4" x 2" x 1 3/4" notches	24695A13	592.86
Optional Round Punches—Choose a size: 1/4"-1" (in 1/16ths)	24695A14	50.91
Optional Square Punches—Choose a size: 1/4"-1" (in 1/16ths)	24695A16	132.73
Mobile DTE 24 Hydraulic Oil (1 gal.)	2158K11	24.46

Lever Presses

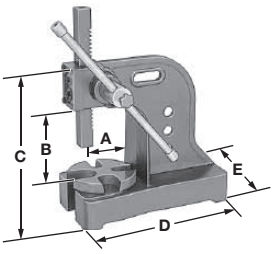

Economy Bench Mount



Standard Bench Mount with Fixed Base Plate



Standard Wall Mount



High-Force Bench Mount



Hydraulic High-Force Bench Mount

With the pull of a lever, these presses deliver force for staking, riveting, and removing bearings and arbors. They're also known as arbor presses.

Economy—These presses have an adjustable-length arm to modify leverage. The removable rotating base plate fits shafts and arbors of different diameters. Presses have a cast iron frame and steel ram.

Standard—All have an adjustable-length arm to modify leverage. They have a cast iron frame and steel ram. **Fixed base-plate** presses have a flat surface for attaching dies, press-in assemblies, and printed circuit boards. **Removable rotating base-plate** presses accommodate shafts or arbors with different diameters. **Wall-mount press** can be attached to a wall, sturdy column, or machine side.

High Force—With a high-leverage arm, these presses provide more force with less effort than economy and standard presses. They have a cast iron frame and steel ram. *3-ton and 5-ton* presses have a ratcheting device to move the lever to a convenient position and a handwheel to advance the ram.

Hydraulic High Force—For applications requiring the greatest force, this press has a hydraulic pump that provides 10 tons of pressure. It includes a gauge that shows tons and psi, and it has an adjustable safety valve screw so you can set the pressure below the 10-ton maximum. The fixed base plate has a U-shaped notch and two V-blocks. The press frame and ram are steel. The ram tip is removable. The *optional ram size adapter set* includes one each of 1 3/4" long inserts in the following diameters: 3/8", 1/2", 5/8", 3/4", and 7/8".

Approx. Cap., tons	Max. Stroke Lg.	Throat Dp. (A)	Clearance Over Base Plate (B)	Ram Size	Base Plate Slot Size	Press Ht. (C)	Base Size Lg. (D)	Base Size Wd. (E)	Mounting Holes Qty.	Mounting Holes Dia.	Lever Presses		Floor Stands	
Economy Bench Mount														
With Removable Rotating Base Plate														
1/2	5"	3 5/8"	4"	3/4"	3/8"	9 3/8"	9 3/8"	5 1/8"	2	3/8"	2444A61	$77.00	_____	_____
1	6 7/8"	4"	5 3/8"	1"	1/2"	11"	10 9/16"	6 1/8"	2	3/8"	2444A62	113.00	_____	_____
2	9"	5 7/8"	7"	1 1/4"	3/4"	15 1/8"	16"	7 7/8"	2	3/8"	2444A73	232.00	2444A81	$294.00
3	13"	6"	11 5/8"	1 1/2"	3/4"	21 1/2"	17 7/8"	9 1/2"	2	3/8"	2444A74	362.00	2444A81	294.00
4	16 1/4"	8 3/8"	14 1/2"	1 3/4"	3/4"	27"	21"	10 3/4"	2	3/8"	2444A77	719.00	2444A81	294.00
Standard Bench Mount														
With Fixed Base Plate														
1	4 1/2"	3 1/2"	4 1/2"	1"	_____	9"	9 1/2"	4 1/4"	2	3/8"	2429A11	292.22	_____	_____
1 1/2	7 3/4"	4 1/2"	7 3/4"	1"	_____	14 1/2"	15"	6"	2	1/2"	2429A66	418.06	2425A662	323.23
3	12 1/2"	7 5/8"	12 1/2"	1 1/2"	_____	21 1/2"	18"	8"	2	5/8"	2429A14	972.29	2425A39	677.43
With Removable Rotating Base Plate														
1	5"	3 1/2"	4 1/2"	1"	9/16"	9 3/8"	9"	4 1/4"	2	3/8"	2425A65	292.22	_____	_____
1 1/2	7 3/4"	4 1/2"	7 1/8"	1"	1/2"	14 1/2"	14"	6"	2	1/2"	2425A66	425.94	2425A662	323.23
3	11 1/2"	7"	10 3/4"	1 1/4"	13/16"	19"	18"	7 1/4"	2	1/2"	2425A67	643.87	2425A672	497.74
3	12"	17"	11 1/4"	1 3/4"	3/4"	27 3/4"	30 1/4"	10"	2	5/8"	2425A15	1,914.00	2425A24	1,116.00
Standard Wall Mount														
With Removable Rotating Base Plate														
3	12"	5 1/2"	_____	1 3/4"	3/4"	_____	7 1/4"	8"	4	5/8"	23785A65	1,063.12	_____	_____
High-Force Bench Mount														
With Removable Rotating Base Plate														
3	11 1/2"	7"	10 3/4"	1 1/4"	13/16"	19"	18"	7 1/4"	2	1/2"	2426A65	916.27	2425A672	801.82
3	18 1/4"	7"	17 1/2"	1 1/4"	5/8"	28"	21"	8 1/4"	2	1/2"	2426A66	1,436.32	2442A31	472.50
3	22"	7"	22 1/8"	1 3/4"	3/4"	36 1/4"	21 3/4"	8"	2	5/8"	2426A12	2,394.00	2425A24	1,116.00
5	16"	10"	14 1/2"	2"	1 1/4"	28 1/2"	24"	10"	2	3/4"	2426A67	2,922.17	2426A672	801.82
6	21 1/2"	7 3/4"	20 1/4"	1 1/2"	3/4"	32 1/2"	20"	8 1/4"	2	5/8"	2442A25	1,912.50	2442A31	472.50
Hydraulic High-Force Bench Mount														
With Fixed Base Plate														
10	6 5/8"	8 1/2"	9 1/2"	1"	_____	38 1/2"	19 1/2"	12"	6	1/2"	2427A14	1,657.15	_____	_____
Optional Ram Size Adapter Set—For use with Hydraulic High-Force Bench-Mount Press													2427A16	180.00

Adjustable Stroke and Force Air-Powered Presses

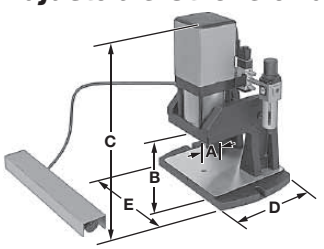

For punching, pressing, and swaging operations, these presses provide consistent pressure and faster operation than manual presses. The air power controls the pressing and return of the ram. Presses have a maximum stroke length of 3" and come with two-handed safety controls that meet OSHA regulations.

All presses require a minimum of 50 psi and maximum of 100 psi to operate. A four-way control valve, filter regulator, and all necessary polyurethane tubing and fittings are included. Presses are steel and aluminum with a cast iron base and a round stainless steel ram. They can be used with die sets on page 2350. Bases have two mounting holes.

lbs. of Force @ 100 psi	Max. Stroke Lg.	Throat Dp. (A)	Clearance Over Base (B)	Ram Dia.	Air Conn., NPT Female	Cylinder Bore Size	Press Ht. (C)	Base Size Lg. (D)	Base Size Wd. (E)	Mounting Hole Dia.		
660	3"	3 3/16"	6"	3/4"	1/4	3"	21"	7 1/16"	4 1/16"	5/16"	2373A61	$1,423.33
1,510	3"	4"	6 3/4"	1"	1/4	4 1/2"	22"	11"	15"	3/4"	2373A62	1,937.68
3,020	3"	4"	6 3/4"	1"	1/4	4 1/2" (2 Stages)	27"	11"	15"	3/4"	2373A63	2,008.70
4,530	3"	4"	6 3/4"	1"	1/4	4 1/2" (3 Stages)	32"	11"	15"	3/4"	2373A64	2,103.06

Compact Lever Presses

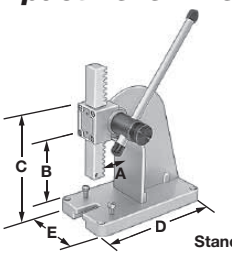

Standard


Extended Reach—6″ Max. Stroke Lg.


Adjustable Height


Center Handle

For pressing and assembling small parts, these presses provide the right amount of force in a compact size.

Standard—3¾″ max. stroke length press has an adjustable arm to modify leverage. It's die cast zinc with a steel ram. The base has a slot for arbors and two holes for attaching dies and tools. **6″ max. stroke length press** is cast iron with a steel ram.

Extended Reach—These presses reach past the edge of your material, and they accommodate large and unusual-shape workpieces. **1¾″ max. stroke length press** is cast iron and steel with a steel ram. The handle provides low-effort pressing by internally increasing pressing force at the end of the stroke. The handle is also useful for right- or left-hand operation. **6″ max. stroke length press** is cast iron with a steel ram.

Adjustable Height—Move the head of these presses to fit your workpiece. Presses are cast iron and steel with a steel ram. **8⅞″ max. stroke length press** has an adjustable handle for right- or left-hand operation and a T-slot in the base to hold dies.

Center Handle—The handle is at the center of the press head for right- or left-hand operation. The ram rises automatically when the handle is released. The base has a T-slot to hold dies. Press is aluminum with a steel ram.

Approx. Cap., lbs.	Max. Stroke Lg.	Throat Dp. (A)	Clearance Over Base (B)	Ram Size	Press Ht. (C)	Base Size Lg. (D)	Base Size Wd. (E)	Mounting Holes Qty.	Mounting Holes Dia.		
Standard											
500	3¾″	2¼″	3⅞″	¾″	7″	7″	3¾″	4	¼″	2402A11	$167.18
1,000	6″	2″	5″	⅝″	7¾″	5½″	2⅞″	2	¼″	2450A11	369.69
Extended Reach											
500	1¾″	6½″	5″	¾″	16″	12″	5″	2	¼″	2455A75	916.27
500	6″	6″	5″	⅝″	7⅝″	12″	5″	2	¼″	2455A74	610.15
Adjustable Height											
1,000	8⅞″	2¾″	1⅜″-8⅜″	¾″	12″	7⅞″	7⅞″	2	¼″	2423A13	1,188.92
1,000	9½″	2¾″	1⅜″-8⅜″	¾″	12″	7″	4″	2	¼″	2423A11	766.77
1,000	14¾″	2⅝″	1⅜″-8⅜″	¾″	12″	7″	4″	2	¼″	2423A12	773.23
Center Handle											
400	1″	2½″	1″-5⅛″	9⁄16″	10⅛″	6″	3⅝″	2	¼″	2480A12	1,100.00

Hydraulic H-Frame Floor-Mount Presses

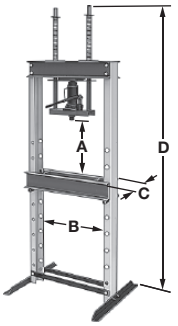

Hand-Operated Economy


Hand-Operated Standard


Electric

With a large working area and greater capacity than bench-mount presses, these handle bulky items and heavy duty applications.

Hand-Operated Economy—These presses have a jack mounted on the top cross bar that drives down a press plate instead of a ram. The plate automatically returns after pressing. Raise or lower the table by moving the supports in the vertical uprights. Presses are steel and are supplied with hydraulic oil. *Optional accessory kit* contains components for holding workpieces and modifying the press plate: one set of 9″ V-blocks, a 1½″ V-pushing adapter, ¾″ dia. pushing adapter, and 1″ dia. pushing adapter.

Hand-Operated Standard—A release valve controls the ram return. Presses are steel with a steel ram, and they have a self-locking hoist to raise and lower the table. All come with two V-blocks, a pressure gauge, and an attached hand pump. They require Mobil DTE 24 or equivalent hydraulic oil (sold separately). Presses have four ½″ holes for floor mounting. **25-ton press** has a stationary ram. **50-ton and 75-ton presses** have a movable ram that can be positioned around large materials. They also come with a V-ram nose and flat ram nose.

Electric—These presses have a control lever to advance and return the ram. Adjust the table height with the removable table pins. Presses are iron with a steel ram. Both include a 1 hp, 110 volt AC motor, hydraulic pump with fittings, pressure gauge, and 4-ft. cord with plug. They require Mobil DTE 24 or equivalent hydraulic oil (sold separately). Presses have four ½″ holes for floor mounting. **25-ton press** also includes a lifting chain.

Cap., tons	Max. Stroke Lg.	Table Travel	Clearance Over Table (A)	Ram Dia.	Table Size Lg. (B)	Table Size Wd. (C)	Press Ht. (D)	Floor Space Required Lg.	Floor Space Required Wd.	Hydraulic Oil Cap.		
Hand-Operated Economy												
12	8⅝″	42″	42″	—	28¾″	8″	84½″	28¾″	28″	—	23795A21	$1,309.90
20	8⅝″	37″	37″	—	37½″	11¾″	85⅞″	37½″	28″	—	23795A22	1,434.35
Optional Accessory Kit for Hand-Operated Economy Presses											23795A31	301.75
Hand-Operated Standard												
25	5″	35″	39″	3⅝″	33½″	5¼″	76″	42½″	30″	2.5 qt.	2374A1	3,127.66
50	4″	35″	40″	5″	32¾″	7¼″	85″	43½″	36″	3 qt.	2374A2	4,078.47
75	4½″	30″	36″	6″	44″	8¼″	87″	55″	36″	4 qt.	2374A3	4,958.33
Electric												
10	10″	36″	40″	1¾″	20″	8½″	80″	29¾″	24″	6 qt.	23825A11	2,945.79
25	10″	36″	44″	3″	28″	9⅛″	88″	30″	38″	6 qt.	23825A15	3,840.28
Mobil DTE 24 Hydraulic Oil for Hand-Operated Standard and Electric Presses (1 gal.)											2158K11	24.46

Die Sets

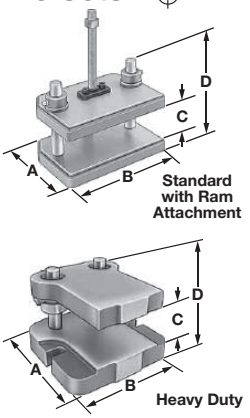

Use these steel die sets to hold punching and staking components on manual, air-powered, and hydraulic presses.

Standard die sets are used for assembly work and light stamping applications.

Standard die sets with ram attachment have a plate on top of the upper die and a 1/2"-13 tool adapter that connects the die and ram for quick set-up. The tool adapter is 4 1/2" long.

Heavy duty die sets handle punching and metal forming. Base has two 3/4" mounting slots.

Lg. (A)	Wd. (B)	Clearance (C)	Ht. (D)	Die Sets		Die Sets with Ram Attachment	
Standard							
2 7/8"	3 1/2"	2"	3 1/2"	2395A36	$218.24	2395A46	$346.91
3 3/4"	5"	3 1/4"	5"	2395A37	240.88	2395A47	370.59
4 3/8"	6 1/2"	2 5/8"	5"	2395A38	299.56	2395A48	429.26
5"	8 1/2"	3 3/4"	6 3/4"	2395A39	359.26	2395A49	487.94
6"	9 1/2"	3 3/4"	6 3/4"	2395A41	385.00	2395A51	514.71
7"	10 3/8"	3 3/4"	6 3/4"	2395A42	497.21	2395A52	625.88
Heavy Duty							
6 9/16"	6 3/4"	3 3/8"	6"	2493A51	455.00		
6 3/4"	8"	3 3/8"	6"	2493A52	462.33		
7 3/4"	8"	3 1/4"	6"	2493A53	527.12		
10 3/4"	12"	3 1/4"	6"	2493A61	794.77		

Sheet Metal Forming Hand Tools

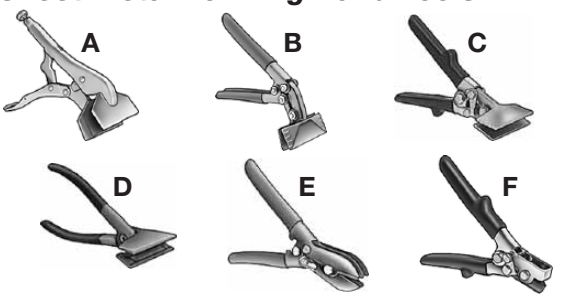

All tools are made of steel.

(A-D) Bender/Crimpers— Use to bend and join sheet metal. **Style A** locks onto your material and has a trigger mechanism to prevent the tool from opening while bending and crimping. **Styles B and C** have jaws with V-notches in 1/4" increments to measure depth. **Style B** has offset handles for use in tight spaces. **Style D** has rounded jaws to reduce damage to aluminum and other lightweight metals.

(E) Crimper— Join pieces of metal duct and gutters. This tool has five blades and compound-leverage action for more power with less effort than other crimpers. Jaws have V-notches in 1/4" increments to measure depth.

(F) Punches— Create a 3/8" long raised edge in sheet metal that locks into the rolled edge of another piece.

	Throat Dp.	Jaw Wd.	Lg.		
Bender/Crimpers					
A	1 3/4"	3 1/8"	8"	2445A11	$18.40
B	1/4"-1 1/4"	3 1/4"	9"	8763A12	53.68
C	1/4"-1 1/4"	3 1/4"	8"	8763A11	78.80
D	1"	3 1/2"	8"	2519A11	64.00
Crimper					
E	1/4"-1 1/4"	7/8"	9 3/4"	2377A51	35.89
Punches					
F	1/4"-5/8"	1/2"	8"	8752A42	66.13
F	3/8"	3/8"	8"	8752A41	85.16

Cast Iron Anvils

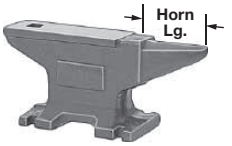

Wt., lbs.	Work Surface Lg.	Work Surface Wd.	Horn Lg.	Ht.	Hole Size		
8	5"	2"	3 1/4"	3 7/8"	3/8" dia.	2495A11	$79.81
55	8 1/4"	4"	5"	7"	1 1/8" sq.	2481A41	348.85
65	9"	4 1/4"	6 1/4"	7 1/2"	1 1/8" sq.	2481A42	412.31
85	9 3/4"	4 5/8"	6"	8 1/4"	1 1/8" sq.	2481A43	539.23
110	10 1/2"	4 7/8"	6 1/2"	9 1/2"	1 3/8" sq.	2481A64	659.27
150	12 5/8"	5 1/8"	8"	10"	1 3/8" sq.	2481A65	899.64
210	14 3/8"	5 1/4"	8 1/4"	11 1/4"	1 3/8" sq.	2481A66	1,259.45

Edge Formers

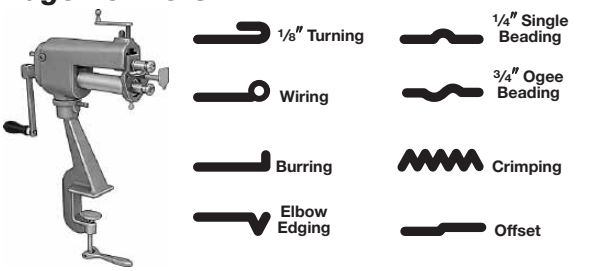

Make different edge styles on your sheet metal with this forming tool. It forms steel up to 1/64" thick and comes with rollers for 1/8" turning, wiring, burring, 3/4" ogee beading, and crimping. The distance between the roller centers is 2". The C-clamp mounting base attaches to work surfaces up to 2 3/4" thick. Tool is cast iron and rollers are steel.

Forming Tool

Throat Dp.	Ht.	Wd.	Dp.		
7"	35"	15 3/8"	21 1/8"	2435A74	$1,192.92

Additional and Replacement Rollers

		Pair
1/8" Turning	2435A75	$102.11
Wiring	2435A76	102.11
Burring	2435A77	102.11
Elbow Edging	2435A91	102.11
1/4" Single Beading	2435A79	114.58
3/4" Ogee Beading	2435A89	113.97
Crimping	2435A88	129.23
Offset	2435A81	227.37

Curved Metal Formers

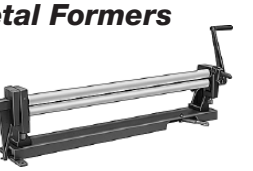

Create a variety of shapes in sheet metal, such as bends, curves, and circles. Also known as slip rolls, these formers can be mounted on a table or bench top. All have three steel rollers, enclosed gears, and a handle.

Standard former has a minimum bending radius of 1/2" and rollers that are 1" dia. Frame is aluminum. Grooves allow you to form wire in 1/16", 1/8", and 5/32" diameters. Base has two 1/4" dia. mounting holes.

Heavy duty formers have a minimum bending radius of 1" and rollers that are 2" dia. Frame is cast iron. Grooves allow you to form wire in 3/16", 1/4", and 5/16" diameters. Base has four 3/8" dia. mounting holes.

Maximum Bending Wd.	Max. Steel Thick.	Ht.	Wd.	Dp.		
Standard						
12"	1/64"	7"	23"	6"	23815A11	$466.05
Heavy Duty						
24"	1/32"	19"	38"	19"	2438A35	780.00
36"	1/32"	19"	51"	19"	2438A37	895.00
42"	1/64"	19"	57"	19"	2438A19	990.00

Sheet Metal Benders

Form metal items such as boxes and trays with these benders that attach to your bench top. They can be used with steel as well as with stainless steel and aluminum thinner than 1/16".

Economy benders make bends up to 90°. They have a brake bar and can adjust for different stock thicknesses and bend angles. Made of aluminum. Bender with 18" maximum bending width has four 1/4" dia. mounting holes. Bender with 30" maximum bending width has four 3/8" dia. mounting holes.

Standard benders can be used for vehicle panels and duct work. They make bends up to 135°. They have a clearance of 4" for insertion and removal of large workpieces. The front edge is removable to make bends that are close together. All have three 3/8" dia. mounting holes. Made of steel. *Floor stands* for the standard benders have four 3/8" dia. mounting holes for securing the stands to the floor.



Economy

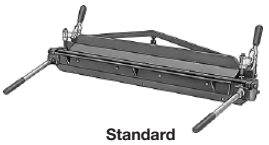

Standard

Maximum Bending Wd.	Max. Steel Thick.	Ht.	Wd.	Dp.	Sheet Metal Benders		Floor Stands	
Economy								
18"	1/16"	12 1/2"	21"	9 5/8"	2409A11	$41.67	—	—
30"	1/16"	3 3/8"	33 1/2"	6 3/4"	2409A12	106.67	—	—
Standard								
24"	1/16"	9"	32"	15"	2461A11	441.60	2461A21	$198.00
37"	1/16"	9"	45"	15"	2461A12	563.20	2461A22	202.00

Adjustable-Width Sheet Metal Benders

Position the moveable forming dies, also known as fingers, on these benders to make boxes, trays, and pans in different widths. They bend steel as well as stainless steel and aluminum. Both have a steel body and heavy truss rods. The upper leaf and nose bar are adjustable for radius bending. Minimum reverse bend is 1/4". They also include a removable apron insert, apron stop rod, and counterweights.

Bench model has four 1/2" dia. mounting holes. Handles have plastic grips.

Floor model has reinforced construction and can handle thicker material than the bench model. It has four 5/8" dia. mounting holes.



Bench Model Shown with Optional Floor Stand

Maximum Bending Wd.	Max. Steel Thick.	*Number of Forming Dies* 2" Wd.	3" Wd.	4" Wd.	Ht.	Wd.	Dp.	Max. Box Dp.		
Bench Model										
48 1/4"	1/16"	5	6	5	25"	65"	22"	4"	2489A12	$1,526.04
Optional 26" Ht. Floor Stand for Bench Model									2489A13	251.79
Floor Model										
48 1/4"	1/8"	5	6	5	53"	72"	36"	4"	2437A32	4,041.11

Benders for Plastic Sheets

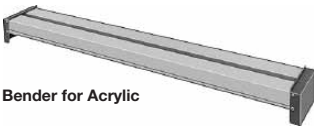

Bender for Acrylic



Bender for All Plastics

Heat a narrow area across a plastic sheet until it's malleable enough for bending and forming. These benders work with sheets up to 1/2" thick.

For Acrylic—Lay an acrylic sheet across the heating element, and wait three to six minutes for it to soften. Heating unit has an on/off switch, pilot light, and thermostat control. Maximum temperature is 450° F. Bender has a cord with plug and operates on 110 volts AC. Made of steel. CSA certified.

For All Plastics—Use with acrylic, polyethylene, polypropylene, polycarbonate, PVC, CPVC, ABS, and Kydex. Place a sheet between the heating bars to soften it. Heating time varies between 30 seconds and 12 minutes based on material type and thickness. Use wood or metal supports (not included) under the sheet during heating. Each heating bar has a cord that plugs into the control box, and a single on/off switch. Maximum temperature is 400° F. Benders have a cord with plug and operate on 120 volts AC. Made of aluminum.

Optional V-Groove Attachment—Create sharp, nonradius 90° bends in polypropylene and polyethylene sheets. This attachment melts a deep groove in the material where you can bend to form the angle. A raised edge is left along the groove to reinforce the angle. Attachment is aluminum.

Maximum Bending Wd.	Ht.	Wd.	Dp.	Bender		Optional V-Groove Attachment	
For Acrylic							
48"	5"	53"	7"	23845A12	$441.51	—	—
For All Plastics							
48"	4"	64"	2"	2370A21	853.12	2370A31	$71.09
96"	4"	114"	2"	2370A22	1,197.66	2370A32	103.91

Bar and Rod Benders

Bend round, square, and flat bars up to 90° with these tools. Made of cast iron. Bender with 3/4" round bar capacity has four 1/2" mounting holes and includes a 39" long handle. Bender with 1" round bar capacity has four 5/8" mounting holes and includes a 46" long handle.



Bending Capacities Round Bar	Square Bar	Flat Bar, Thick. x Wd.	Lg.	Wd.	Ht.		
3/4"	3/4"	1/4" x 3" - 1/2" x 1 3/16"	9 7/8"	12 5/8"	10 1/4"	8761A41	$1,347.69
1"	1"	5/16" x 4" - 1/2" x 2"	11 7/8"	12 7/8"	19 7/8"	8761A42	1,787.08

Wire Benders and Conduit & Pipe Benders

Wire, Rod, and Flat Stock Benders



Economy Bender



Standard Bender

Use these benders to create hooks, brackets, and pipe hangers. They can be clamped in a vise.

Economy benders bend wire and rods up to 3/8″ in dia. and flat stock up to 1/2″ x 3/16″. Made of aluminum. *Small diameter* has a 12″ long handle and 3″ x 3″ base. *Large diameter* has a 16″ long handle and 4″ x 6″ base.

Standard bender bends wire and rods up to 1/2″ in dia. and flat stock up to 1/4″ x 1″. Made of steel. Overall size is 20″ Lg. x 2″ Wd. x 5″ Ht.

	Die Dia.		
Small-Diameter Economy	1/2″, 3/4″, 1″, 1 1/4″, 1 1/2″	2460A16	$44.44
Large-Diameter Economy	3/4″, 2″, 3″, 4″	2460A18	69.00
Standard	3/4″, 1 1/4″, 1 5/8″	2460A11	75.72

Miniature Wire Bender



For small projects, this wire bender forms steel and other metal wire up to 1/4″ in dia. It measures 4 3/4″ Lg. x 1″ Wd. and is made of aluminum. Bender has two 1/4″ mounting holes or it can be clamped in a vise.

2379A11 ..... $8.88

Wire Benders for Complex Shapes



Squares, coils, and S-shapes may look complex, but they're no problem to form with this bender. **Wire bender** forms wire and rod up to 5/16″ in dia. and flat stock up to 1″ Wd. x 1/8″ Thick. It can be used with steel, brass, and other metals. The bender comes with four circle pins, one sharp-angle die, a bending gauge, and a 1-ft. long handle. Made of steel. Overall size (not including handle) is 9 1/2″ Lg. x 2 1/2″ Wd. x 3 1/2″ Ht. It has two 5/16″ dia. mounting holes, or it can be clamped in a vise.

Edge bender kit includes three discs to bend the edge of flat material. It forms material up to 1/8″ thick and 3/4″ wide. **Additional circle pins** make additional sizes of bends and coils.

Benders			
Wire Bender	3/16″, 1/4″, 1/2″, 1″ Pin Dia.	2436A12	$372.00
Edge Bender Kit	1″, 1 1/4″, 1 3/8″ Disc Dia.	2436A13	60.89
Additional Circle Pins			
7/8″ Dia.		2436A14	15.67
1 1/4″ Dia.		2436A15	17.93
2″ Dia.		2436A16	11.96
2 1/2″ Dia.		2436A17	13.16
3″ Dia.		2436A18	46.40

Conduit Benders



Conduit Bending Head



Short-Radius Conduit Bending Head



These tools bend conduit according to National Electrical Code (NEC) specifications.

Conduit bending heads have easy-to-read markings for 10°, 22 1/2°, 30°, 45°, 60°, and 90° angles. Aluminum heads are lighter than cast iron heads.

Short-radius conduit bending heads are used to make tight bends.

Handles are labeled with a bending guide. Made of steel.

Capacities for Conduit Size							*Bending Heads*				*Handles*		
EMT	IMC	Rigid	Lg.	Ht.	Bend Radius	Handle Socket, dia.	Aluminum		Cast Iron		Lg.		
Conduit Benders													
1/2	—	—	7 3/4″	4 3/4″	4 1/4″	3/4″	2424A55	$27.67	2424A5	$31.67	38″	8754A11	$29.55
3/4	1/2	1/2	9 1/2″	6″	5 1/8″	3/4″	2424A65	40.11	2424A6	45.15	38″	8754A11	29.55
1	3/4	3/4	12″	7 1/2″	6 1/2″	1″	2424A75	68.28	2424A7	76.82	44″	8754A12	45.94
1 1/4	1	1	17″	9 3/8″	9 5/8″	1 1/4″	2424A85	164.29	2424A8	172.72	60″	8754A13	63.97
Short-Radius Conduit Benders													
—	1/2	1/2	3 3/4″	4 1/2″	—	1″	2510A21	43.56	—	—	44″	8754A12	45.94
—	3/4	3/4	4 1/4″	4 3/4″	—	1″	2510A22	53.47	—	—	44″	8754A12	45.94
—	1	1	5 1/4″	6 1/4″	—	1 1/4″	2510A23	79.58	—	—	60″	8754A13	63.97

Conduit Benders for Offset Bends



When you're working with exposed conduit, these benders make offset bends so your conduit matches knockout holes in electrical boxes. Insert the conduit, and press and release the handle to make offset bends up to 9/16″. Benders are aluminum with two 5/16″ dia. mounting holes. Include a 22″ long steel handle. Overall length is 27 1/4″.

For 1/2 EMT Conduit	2458A1	$285.95
For 3/4 EMT Conduit	2458A2	422.93

Multisize Conduit and Pipe Benders



You only need one bender for different conduit and pipe sizes. These benders have ratcheting action to eliminate repositioning of the conduit or pipe when making multiple bends. They include a scale marked for 30°, 45°, 60°, and 90° angles. For use with Schedule 40 pipe. Benders are steel and have a mobile frame. Handle is not included; use a 3- to 4-ft. length of 1″ OD pipe or rigid conduit.

For Rigid & IMC Conduit and Rigid Pipe		*For EMT Conduit*						
Size	Bend Radius	Size	Bend Radius	Lg.	Wd.	Ht.		
1/2, 3/4, 1	2 5/8″, 4 5/8″, 5 7/8″	—	—	47″	23″	32″	2412A4	$866.92
1 1/4, 1 1/2	7 3/4″, 9 1/4″	—	—	47″	23″	38″	2412A5	1,023.08
1/2, 3/4, 1, 1 1/4	5 3/8″, 6 1/2″, 8 5/8″, 10 7/8″	1/2, 3/4, 1, 1 1/4, 1 1/2	4 3/8″, 5 1/2″, 6 5/8″, 8 3/4″, 10 7/8″	47″	23″	40″	2412A11	1,529.23

Hydraulic Multisize Conduit and Pipe Benders



Bender with Integrated Pump

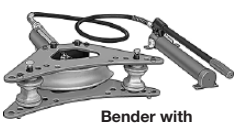

Bender with Separate Pump

The hydraulic force of these benders allows you to bend many sizes of rigid conduit and pipe to 90°. Not for use with EMT or IMC conduit. Both benders are supplied with hydraulic oil.

Bender with integrated pump bends Schedule 40 and 80 pipe. Made of steel with aluminum formers. Size is 25 3/4″ Lg. x 22″ Wd. x 7″ Ht.

Bender with separate pump bends Schedule 40 pipe. Made of aluminum. Size is 25 3/4″ Lg. x 25″ Wd. x 8 3/8″ Ht.

	For Conduit and Pipe Sizes	Hydraulic Force		
With Integrated Pump	1/2, 3/4, 1, 1 1/4, 1 1/2, 2	13 tons	2414A2	$1,787.08
With Separate Pump	1, 1 1/4, 1 1/2, 2	15 tons	2414A1	3,578.52

Benders for Thick-Wall Metal Tubing



Ratcheting action gives these tools the leverage needed to make bends up to 180° in thick-wall material. They bend steel tubing (up to 1/8″ wall thick.), stainless steel tubing (up to 3/32″ wall thick.), and Types K and L copper tubing. Benders are aluminum.

For Tube OD	Bend Radius	Angle Increments	Lg.		
5/8″	3″	15°	22″	23705A11	$337.68
3/4″	3 3/4″	15°	31″	23705A12	452.23
7/8″	3 3/4″	15°	31″	23705A13	458.78

Tube Benders for Soft and Hard Metals



Whether you're bending soft metals such as copper and brass or harder metals such as steel, stainless steel, and titanium, these tools make bends up to 180°. Made of steel.

Precision benders have an adjustable face plate to compensate for spring-back. They meet ANSI B31.1 and ASME 3 Boiler and Power standards.

For Tube OD	Bend Radius	Angle Increments	Lg.		
Standard					
3/8″	1″	15°	20 3/8″	33745A61	$226.36
1/2″	1 1/2″	15°	24 1/2″	33745A62	271.31
Precision					
3/8″	1 1/8″	15°	17″	2422A11	294.58
1/2″	1 1/2″	15°	24″	2422A13	312.12

Easy-Use Precision Tube Benders for Hard Metals



An easy-to-read dial ensures accurate bends, and ratcheting action provides fast, low-effort bending. This tool makes right- and left-hand bends up to 180° in hard metals such as alloy steel and stainless steel. Tube bender can be bench-mounted with included fasteners. Made of steel. Handle is 36″. Size (not including handle) is 19″ Lg. ×6″ Wd. ×6″ Ht. Tube bender and bending mandrels are sold separately.

Optional pedestal stand is 36″ tall and has four 3/4″ bolt holes for floor mounting.

Tube Bender and Stand

Tube Bender	2378A1	$337.14
Optional Pedestal Stand	2378A2	154.29

Bending Mandrels

For Tube OD	Min. Wall Thick.	Max. Wall Thick.	Bend Radius		
1/2″	1/32″	1/8″	2 1/4″	2378A11	$154.29
5/8″	1/32″	1/8″	3″	2378A12	165.71
3/4″	1/16″	1/8″	4 1/2″	2378A13	257.14
7/8″	1/16″	1/8″	4 1/2″	2378A14	260.87
1″	1/16″	1/8″	4 1/2″	2378A15	268.57
1 1/8″	1/16″	1/8″	4 1/2″	2378A16	280.00

Small-Diameter Multisize Tube Benders



Bend fuel, brake, and hydraulic lines up to 135°. These benders can be clamped in a vise. Made of steel with a nylon mandrel. Bend radius is 2″. Length is 5″.

For Tube OD			
Copper	Steel		
3/16″, 1/4″, 5/16″, 3/8″	3/16″, 1/4″, 5/16″	2478A12	$19.09

Benders for PVC Conduit and Pipe



Heat PVC conduit and pipe, then manually bend it to your desired angle. This electric blanket wraps around your workpiece and secures with a hook-and-loop strap. It heats any schedule PVC conduit and pipe from 1/2″ to 1 1/2″ in dia. Operates on 120 volts AC and has a cord with plug. Made of silicone rubber and vinyl.

Lg.	Wd.		
13″	8 1/4″	3236A66	$256.37

Precision Tube Benders for Soft and Hard Metals



This bender holds metal tubes securely for accurate bends every time. It has a hand crank and gears to provide high force with low effort. Use it to bend copper, brass, aluminum, steel, stainless steel, and titanium tubing up to 180°. It bends tubes from 0.016″ to 0.083″ wall thickness. It has a bend radius of 3/4″ to 3″. Bender is 16″ long with two 3/8″ mounting holes. It can also be clamped in a vise. Comes with three slide bars for 1/4″ to 3/4″ tube OD and six bending mandrels. Made of steel.

	For Tube OD		
Bender Kit	1/4″, 5/16″, 3/8″, 1/2″, 5/8″, 3/4″	2487A35	$1,956.14
Replacement Mandrels—Choose tube OD: 1/4″, 5/16″, 3/8″, 1/2″, 5/8″, 3/4″		2487A1	

One-Hand Tube Benders for Soft Metals



Make bends up to 90° with one hand. Kit includes the bender and four mandrels. Bender size is 8 1/2″ Lg. ×4 3/4″ Wd. ×3 1/2″ Ht.

	For Tube OD		
Bender Kit	1/4″, 5/16″, 3/8″, 1/2″	2430A32	$317.53
Replacement Mandrels—Choose tube OD: 1/4″, 3/8″, 1/2″		2430A1	

Tube Sleeves for Hand Bending



Protect thin-wall tubing from crimping and collapsing while bending by hand. These sleeves slip over aluminum, copper, and brass tubing. Made of spring steel.

For Tube OD	Lg.			For Tube OD	Lg.		
1/4″	10 1/2″	2420A11	$1.72	1/2″	12″	2420A15	$4.23
5/16″	10″	2420A12	2.95	5/8″	12″	2420A16	4.75
3/8″	10 1/2″	2420A13	2.04	3/4″	12″	2420A18	5.56
Tube Sleeve Set—For Tube OD: 1/4″, 5/16″, 3/8″, 7/16″, 1/2″, 5/8″						2420A17	13.22

Tube Flaring and Expanding Tools



Flare and expand tubes with different diameters. This tool makes 37° and 45° flares. It also makes 45° double flares (not for 1/8″ or 7/16″ tubing). It works on copper, brass, aluminum, steel, and stainless steel up to 0.049" wall thickness. Type M hard copper should be annealed before flaring. Tool can be mounted in a vise. It's 8″ long and made of steel.

For Tube OD			
1/8″, 3/16″, 1/4″, 5/16″, 3/8″, 7/16″, 1/2″, 5/8″, 3/4″	27555A21	$359.11

Tube Expanders



Enlarge the end of a tube to allow a second piece of the same diameter to fit inside. Use these expanders with copper and aluminum tubing up to 0.063″ wall thickness. Expanders are 24″ long with an aluminum body and steel heads.

For Tube OD		
1/2″, 5/8″, 7/8″, 1 1/8″	2637A12	$550.85
3/8″, 1/2″, 3/4″, 1″	2637A42	448.83
Replacement Heads—Choose tube OD: 3/8″, 1/2″, 5/8″, 3/4″, 7/8″, 1″, 1 1/8″	2637A1	74.94

Tube Benders & Flaring Tools

Tube Benders for Soft Metals


90° Multisize Bender

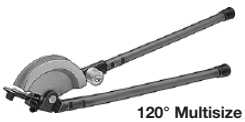
120° Multisize Bender


180° Bender


180° Multisize Bender

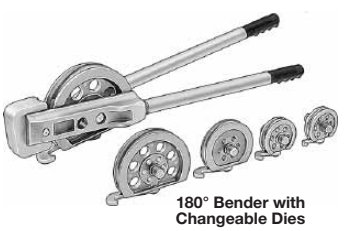
180° Bender with Changeable Dies

Slip these open-sided tools over your tubing to make bends in soft metals. **90° and 180° benders** are for use with copper, brass, and aluminum, except tool with 1″ bend radius is only for use with soft (annealed) copper and aluminum. They have incremental markings so you can accurately bend to the correct angle. **120° bender** is for use on copper and aluminum.

90° multisize benders can bend more than one size of tubing without adjusting the bending head. They're made of aluminum.

120° multisize bender can bend more than one size of tubing without adjusting the bending head. Handle is steel.

180° benders for a single tube OD have a hook to hold your tubing securely in place. All are made of steel.

180° multisize benders can bend more than one size of tubing without adjusting the bending head. They're made of aluminum.

180° benders with changeable dies come with steel handles and dies in the tube OD sizes listed. Dies for 3/8″ OD and larger tubing are only for use with soft (annealed) copper and aluminum.

For Tube OD	Bend Radius	Angle Increments	Lg.		
90° Benders—Multisize					
1/8″, 3/16″, 1/4″, 3 mm, 4 mm, 6 mm	9/16″, 14 mm	45°	5 3/4″	**2492A12**	$31.62
1/4″, 5/16″, 3/8″	1″	15°	8″	**2492A21**	53.75
120° Bender—Multisize					
1/2″, 5/8″, 3/4″, 7/8″	2″, 2″, 3 7/16″, 3 7/16″	—	27″	**2421A7**	158.25
180° Benders					
1/8″	3/8″	45°	7 7/8″	**2418A21**	45.59
3/16″	5/8″	15°	10″	**2418A11**	85.56
1/4″	9/16″	22 1/2°	10″	**2418A33**	59.64
5/16″	11/16″	22 1/2°	10″	**2418A34**	76.46
3/8″	15/16″	15°	13 1/2″	**2418A35**	68.33
7/16″	1 1/2″	22 1/2°	19″	**2418A18**	109.93
1/2″	1 1/2″	22 1/2°	19″	**2418A37**	113.49
5/8″	2 1/4″	15°	28 1/4″	**2418A16**	151.30
3/4″	3″	15°	32″	**2418A17**	210.61
7/8″	3″	15°	32″	**2418A19**	268.16
1″	3 1/2″	15°	32″	**2418A22**	364.64
6 mm	16 mm	15°	9″	**2515A11**	88.44
8 mm	17.5 mm	22 1/2°	10″	**2418A34**	76.46
10 mm	24 mm	15°	14″	**2515A15**	98.29
12 mm	38 mm	15°	18″	**2515A17**	156.50
180° Benders—Multisize					
3/16″, 1/4″, 5/16″, 3/8″	9/16″, 9/16″, 11/16″, 15/16″	15°	9 1/2″	**2421A5**	47.35
3/16″, 1/4″, 3/8″, 1/2″	11/16″, 11/16″, 1 1/8″, 1 1/2″	15°	16″	**2421A4**	54.99
180° Benders—Come with changeable dies					
1/4″, 5/16″, 3/8″, 1/2″, 5/8″, 3/4″	9/16″, 11/16″, 1 5/8″, 1 5/8″, 2 1/4″, 3″	15°	32 1/8″	**2421A2**	681.91
1/4″, 5/16″, 3/8″, 1/2″, 5/8″, 3/4″, 7/8″	9/16″, 11/16″, 1 5/8″, 1 5/8″, 2 1/4″, 3″, 3″	15°	32 1/8″	**2421A1**	831.39
3/8″, 1/2″, 5/8″, 3/4″	1 5/8″, 1 5/8″, 2 1/4″, 3″	15°	32 1/8″	**2421A3**	483.33

Tube Flaring Tools

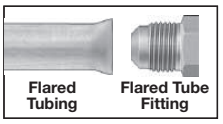


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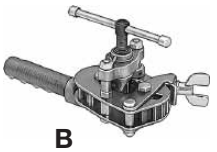
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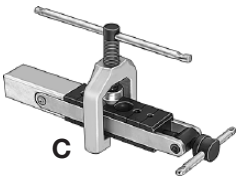
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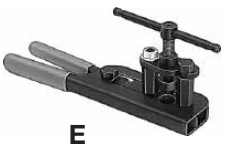
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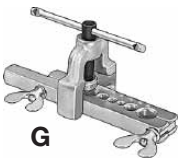
G

Create a flared end on metal tubing so it's compatible with flared tube fittings. These tools consist of a flaring head and a tube holder.

Hand-held tools flare soft metal tubing, such as copper, brass, and aluminum, except 2693A16 is not for use with brass. **Vise-mount tools** flare soft metal tubing as well as hard metal tubing including steel and stainless steel. Type M hard copper should be annealed before flaring.

Tools for 37° Flares—37° flares are used in high-pressure applications. The flaring and reaming tool can ream 1/4″ to 5/8″ OD tubing.

Tools for 45° Flares—A 45° flare is preferred for low-pressure applications. *Style F* is for copper only. The double-flare fitting tool can make single or double flares. The flaring and expanding tool expands 3/16″ to 3/4″ OD tubing.

	For Tube OD	Lg.		
Tools for 37° Flares				
Hand-Held Flaring Tools				
A	3/16″, 1/4″, 5/16″, 3/8″, 1/2″, 5/8″	6″	**2691A14**	$91.97
B	1/8″, 3/16″, 1/4″, 5/16″, 3/8″, 1/2″, 5/8″, 3/4″	8″	**2721A11**	115.83
Vise-Mount Flaring Tools				
C	1/8″, 3/16″, 1/4″, 5/16″, 3/8″, 1/2″	9 1/8″	**2714A11**	409.11
D	3/16″, 1/4″, 5/16″, 3/8″, 1/2″, 5/8″	6 1/8″	**2723A2**	361.49
D	3/4″, 7/8″, 1″, 1 1/4″	11 1/2″	**2696A2**	401.65
Vise-Mount Flaring and Reaming Tool				
D	3/16″, 1/4″, 5/16″, 3/8″, 1/2″, 5/8″	6 1/8″	**2690A12**	455.38
Tools for 45° Flares				
Hand-Held Flaring Tools				
B	1/8″, 3/16″, 1/4″, 5/16″, 3/8″, 1/2″, 5/8″, 3/4″	8″	**2721A12**	132.05
E	3/16″, 1/4″, 5/16″, 3/8″, 1/2″, 5/8″	10″	**2697A5**	87.92
F	3/16″, 1/4″, 5/16″, 3/8″, 1/2″, 5/8″, 4 mm, 6 mm, 8 mm, 10 mm, 12 mm, 15 mm, 16 mm	4 5/8″	**2692A11**	73.51
G	1/8″, 3/16″, 1/4″, 5/16″, 3/8″, 7/16″, 1/2″, 5/8″, 3/4″	6 3/4″	**2699A6**	87.72
G	3/16″, 1/4″, 5/16″, 3/8″, 7/16″, 1/2″, 5/8″	7″	**2691A15**	43.62
G	3/4″, 7/8″, 1″, 1 1/8″	7″	**2693A16**	133.75
Hand-Held Double-Flare Flaring Tool				
G	3/16″, 1/4″, 5/16″, 3/8″, 1/2″	7 1/2″	**2694A12**	60.83
Hand-Held Flaring and Expanding Tool				
G	1/8″, 3/16″, 1/4″, 5/16″, 3/8″, 7/16″, 1/2″, 5/8″, 3/4″	6 3/4″	**2698A1**	117.66

Metal Tube and Conduit Cutters

Cutters have dual grooved rollers (unless otherwise stated) for clearance to cut flared tube ends with little material loss.

(A) Compact Cutters—A small swing radius lets you cut tubing in tight spaces. 2764A12 has a 1 1/4″ swing radius and smooth dual rollers. 2764A14 has a 1 11/16″ swing radius. 2764A13 has a 1 15/16″ swing radius. All have an enclosed adjustment screw to prevent damage from chips and debris.

(B) Economy Cutter—An enclosed adjustment screw prevents damage from chips and debris.

(C) Smooth-Action Cutters—For smooth cuts and trouble-free operation, these cutters have enclosed steel bearings. All have an enclosed adjustment screw to prevent damage from chips and debris. Body is chrome plated. Cutters include a fold-away deburring reamer with file and a replacement cutting wheel.

(D) Combination Cutter and Crimper—After cutting, crimp tubing in preparation for making connections. An enclosed adjustment screw prevents damage from chips and debris. Includes one cutting wheel, one crimping wheel, and a fold-away deburring reamer.

(E) Quick-Adjusting Cutters—An enclosed ratchet feed opens quickly to accept tubing and instantly slides to cutting position. The adjustment screw is enclosed to prevent damage from chips and debris. Include an extra cutting wheel. 2708A2 has four grooved rollers.

(F) Economy Cutter with Fold-Away Deburring Reamer—A good general purpose cutter.

(G) Cutters—Include a fold-away deburring reamer, except 2670A5, which does not have a reamer. 2670A1, A2, and A3 have rollers that are not grooved.

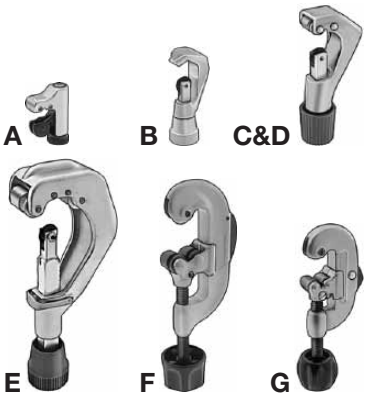

	For OD Min.	For OD Max.	O'all Lg. Open	O'all Lg. Closed	Recommended for Cutting: Soft Copper	Hard Copper	Brass and Aluminum	Steel	Stainless Steel	Titanium	Cutters		Repl. Wheels	
A	1/8″	5/8″	1 3/4″	1 3/4″	Yes	Yes	Yes	No	No	No	2764A12	$13.69	2757A18	$4.27
A	3/16″	7/8″	2 1/4″	2 1/4″	Yes	Yes	Yes	Yes♦	Yes♦	Yes♦	2764A14	20.53	2757A19	4.23
A	3/8″	1 1/8″	3 1/4″	2 11/16″	Yes	Yes	Yes	Yes♦	Yes♦	Yes♦	2764A13	26.78	2757A19	4.23
B	1/8″	3/4″	3 1/2″	3 1/2″	Yes	Yes	Yes	No	No	No	2707A1	16.27	2757A18	4.27
C	1/8″	1 1/8″	5″	5″	Yes	Yes♦	Yes	Yes♦	Yes♦	Yes♦	2706A1	27.30	2757A2	5.19
C	1/4″	1 5/8″	6″	6″	Yes	Yes	Yes	Yes	Yes	Yes	2706A4	41.97	2757A19	4.23
D	1/8″	1 1/8″	5″	5″	Yes	Yes♦	Yes	Yes♦	Yes♦	Yes♦	2766A12	35.97	2757A2	5.19
E	3/8″	2 5/8″	11 1/4″	8″	Yes	Yes	Yes	Yes	Yes	Yes	2708A2	67.13	2757A24	6.59
E	2″	4 1/8″	14 3/4″	11 1/2″	Yes	Yes	Yes	Yes	Yes	Yes	2708A3	136.25	2757A25	15.33
E	4″	6 5/8″	17″	13 1/2″	Yes	Yes	Yes	Yes	Yes	Yes	2708A4	204.50	2708A8	13.42
F	1/4″	1 5/8″	8 1/2″	6 3/4″	Yes	Yes	Yes	Yes	Yes	No	2751A12	19.25	27645A12	7.76
G	1/8″	1″	7″	5″	Yes	Yes	Yes	Yes	No	No	2670A3	28.86	2757A22	5.28
G	3/16″	1 1/8″	7 1/2″	6″	Yes	Yes	Yes	Yes	No	No	2670A1	33.08	2757A22	5.28
G	1/4″	1 3/8″	7 3/4″	6 1/4″	Yes	Yes	Yes	No	Yes	No	2670A5	42.62	2757A34★	12.30
G	5/8″	2 1/8″	9 1/2″	7 1/2″	Yes	Yes	Yes	Yes	No	No	2670A2	64.60	2757A22	5.28

♦ Yes, when used with the heavy duty cutting wheel (sold separately). ★ Comes with two wheels.

♦Heavy Duty Cutting Wheel—Use with the cutters indicated in the table above to cut material listed.

2757A2 ..... $5.19

Replacement Cutting Wheels for Tube and Conduit Cutters

For Brand and Model Nos.

For Hard and Soft Copper, Aluminum, and PVC
General: All ..... 27645A12 ..... $7.76

For Hard and Soft Copper
General: All ..... 2757A21 ..... 3.71

For Hard and Soft Copper, Aluminum, and Brass
Imperial 127F, 127FA, 127FB, 227F, 227FA, TC1050 ..... 2757A18 ..... 4.27
Imperial 174F, 274FC, 312FB ..... 2757A19 ..... 4.23

For Hard and Soft Copper, Aluminum, Brass, and Steel
Ridgid 10, 15, 20 ..... 2757A22 ..... 5.28

For Soft Copper, Aluminum, and Brass
Ridgid 101, 103, 104, 105, 131, 132, 150, 151, 152, 153, 205 ..... 2757A15 ..... 5.73
Ridgid 30, 40, 106, 108, 109, 133, 134, 136, 154, 156 ..... 2757A23 ..... 8.00

For Hard and Soft Copper, Aluminum, Brass, Stainless Steel, and Titanium
Ridgid 10, 15, 20 ..... 2757A31 ..... 4.92
Ridgid 105, 131, 132, 150, 151, 152, 153, 153P, 205 ..... 2757A29 ..... 6.97
Ridgid 30, 40, 134, 136, 154, 156 ..... 2757A32 ..... 9.36

For Brand and Model Nos.

For Hard and Soft Copper, Aluminum, Brass, Steel, and Titanium
Imperial 406FA ..... 2757A25 ..... $15.33

For Hard and Soft Copper, Aluminum, Brass, Steel, Stainless Steel, and Titanium
Imperial 206FA, 206FB ..... 2757A24 ..... 6.59
Imperial 374FC, TC1000, TC1020 ..... 2757A2 ..... 5.19

For Hard and Soft Copper, Aluminum, Brass, and Stainless Steel
Ridgid 35S ..... 2757A34★ 12.30

For Polyethylene, Polypropylene, and PVC
Ridgid 131P, 132P, 151P, 152P, 153P ..... 23855A21 ..... 11.97
Ridgid 133P, 134P, 136P, 154P, 156P, 40P ..... 23855A22 ..... 14.46

For ABS and Polyethylene
Reed T10, T15, T20, TC1Q, TC2Q ..... 2527A15 ..... 13.65
Reed TC3Q, TC4Q, TC5Q, TC6Q ..... 2527A16 ..... 11.96

For CPVC and PVC
Reed T10, T15, T20, TC1Q, TC2Q ..... 2527A18 ..... 12.02
Reed TC3Q, TC4Q, TC5Q, TC6Q ..... 2527A19 ..... 12.38

★ Comes with two wheels.

Metal Tube and Conduit Cutters for Tight Spots

(A) Ratcheting Cutters—Ratchet action permits cutting in cramped areas. Cutters are zinc with a plastic handle and a smooth roller. They also cut plastic and PVC tubing. When used with a *heavy duty cutting wheel* (sold separately) cutters can cut steel and stainless steel.

(B) Compact Cutters—A spring-loaded cutting wheel tightens as you spin these cutters around tubing without a handle to get in your way. Cutters have a plastic body, except 27005A31, which is zinc-plated steel. *Optional ratcheting handle* provides extra leverage.



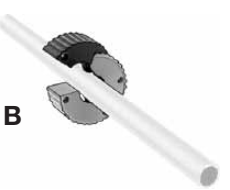

	For OD Min.	For OD Max.	O'all Size	Recommended for Cutting: Soft Copper	Hard Copper	Brass and Aluminum	Cutters		Repl. Wheels	
A	1/8″	3/8″	4″ Lg.	Yes	Yes	Yes	8290A41	$34.06	8290A51	$5.40
A	5/16″	1 1/8″	7″ Lg.	Yes	Yes	Yes	8290A42	37.77	8290A53	5.40
B	___	1/2″	2″ Dia. × 7/8″ Wd.	No	Yes	No	27005A22	24.53	27005A26★	9.38
B	___	3/4″	2 3/8″ Dia. × 7/8″ Wd.	No	Yes	No	27005A23	26.79	27005A26★	9.38
B	___	1″	2 11/16″ Dia. × 1 3/16″ Wd.	No	Yes	No	27005A31	36.20	27005A26★	9.38

Heavy Duty Cutting Wheel for 8290A41 (Style A) ..... 8290A54 ..... 11.00
Heavy Duty Cutting Wheel for 8290A42 (Style A) ..... 8290A55 ..... 11.00
Optional Ratcheting Handle for 27005A22 (Style B) ..... 27005A24 ..... 9.85
Optional Ratcheting Handle for 27005A23 (Style B) ..... 27005A25 ..... 10.77

★ Comes with two wheels.

Smooth-Action Corrugated Stainless Steel Tube and Conduit Cutters



This cutter has two sets of guide wheels that ride in the corrugations for stability so you get clean, precise cuts in 3/8" to 1" OD corrugated stainless steel tubing and conduit. Cutter is aluminum with a steel cutting wheel. It's 8 3/4" long when opened and 7" long when closed.

Cutter	3241A16	$62.12
Replacement Wheel	2757A29	6.97

Compact Flexible Tube and Hose Cutters



Fit this compact cutter into your pocket or tool belt. Use it to cut plastic and rubber hose and tubing. It has a plastic spring-loaded frame and a steel blade. Cutting capacity is 1/8" to 3/4" OD. Overall length is 3".

Cutter	8288A51	$7.00
Cutter with Lanyard	8288A52	16.10
Repl. Blades (Pkg. of 5)	8288A54	12.40
Repl. Blades (Pkg. of 10)	8288A53	20.00

Bench-Mount Flexible Tube and Hose Cutters



Use to cut plastic and rubber tubing and hose. Cutter has an aluminum frame with 9/32" mounting holes (fasteners not included). Blade is steel. Cutting capacity is 1/8" to 3/4" OD. Overall length is 9 1/2".

Cutter	3676A11	$82.99
Repl. Blade	3676A12	21.05

Multipurpose Pipe, Tube, and Hose Cutters



Standard



Easy Cut

Standard Cutters—Squeeze the handles to cut plastic pipe and tubing and rubber hose. Cutters are plastic with a black steel blade, unless noted.

Easy-Cut Cutters—Ratchet action increases leverage to cut through Schedule 40 PVC and polyethylene pipe and soft rubber tubing. Cutters are aluminum with a steel blade.

For Max. OD	For Max. Pipe Size	Lg.	Cutters		Repl. Blades	
Standard						
1 1/4"	1	8 3/16"	3691A39	$18.21	3691A19	$6.17
1 5/8"	1 1/4	8 9/16"	3691A51	20.43	3691A11	6.75
1 7/8"	1 1/4	9 9/16"	3691A43 ★	23.91	3691A23 ★	7.66
2"	1	10 3/8"	3691A55 ★	16.38	3691A56 ★	7.13
Easy Cut						
1"	3/4	7 1/2"	8336A13	49.10	8336A14	22.15
1 5/8"	1 1/4	8 1/2"	8336A11	56.87	8336A21	26.17
2 7/16"	2	13"	8336A15	150.27	8336A23	58.29
2 1/2"	2 1/8	17 1/4"	8336A12	126.65	8336A22	39.09

★ Blade is stainless steel.

Clay Pipe Cutters



Access clay and cast iron soil pipe in tight spots. These cutters use ratchet action to score and fracture pipe with a cutting chain. Minimum clearance is 1 1/4". Includes a 15 1/2" long ratchet handle.

For OD Min.	For OD Max.	Lg.		
1 1/2"	6"	26"	24935A41	$581.38
1 1/2"	8"	26"	24935A42	651.72

Polyethylene (PEX) Tube Cutters



Cut PEX tubing with one or two twists. These cutters automatically adjust pressure during cutting to prevent distorting the tube end, so it's easy to attach fittings. Cutters are plastic with a steel cutting blade.

For Max. Tube ID	For Max. OD	Size, Dia. × Wd.	Cutters		Repl. Blades Pkg. of 3	
1/2"	5/8"	2" × 1"	3254A3	$12.92	3254A6	$9.76
3/4"	7/8"	2 1/4" × 1"	3254A4	14.35	3254A6	9.76
1"	1 1/8"	2 1/2" × 1"	3254A5	19.08	3254A7	11.14

Plastic Pipe and Tube Cutters



Standard



Quick Adjusting

Cutters have dual rollers with a groove for clearance to cut flared tube ends with little material loss. Frame is aluminum and cutting wheel is steel.

Standard Cutters—Make cuts in PVC, polyethylene, and most rigid plastic pipe and tubing. An enclosed adjustment screw prevents damage from chips and debris.

Quick-Adjusting Cutters—A fast-acting release lever opens the cutter to maximum size. Push the handle to quickly slide the cutting wheel onto the pipe. Use to cut ABS and polyethylene pipe and tubing. *Cutting wheels for PVC and CPVC* are sold separately.

For OD Min.	For OD Max.	O'all Lg. Open	O'all Lg. Closed	Cutters		Repl. Wheels	
Standard							
1/8"	3/4"	4 1/2"	4 1/2"	8314A11	$41.36	8314A13	$13.37
3/16"	1 1/4"	5 1/2"	5 1/2"	8314A12	44.25	8314A13	13.37
Quick Adjusting							
1/8"	1 5/16"	7 3/8"	6"	2527A11	53.83	2527A15	13.65
1/4"	2 5/8"	11"	8"	2527A12	88.26	2527A15	13.65
3/8"	3 1/2"	14 3/4"	10 7/8"	2527A13	109.88	2527A16	11.96
1 7/8"	4 1/2"	16"	12"	2527A17	127.68	2527A16	11.96
4"	6 5/8"	19"	15"	2527A14	160.95	2527A16	11.96
Cutting Wheels for PVC and CPVC							
Wheel for 2527A11 and 2527A12						2527A18	12.02
Wheel for 2527A13, 2527A17, and 2527A14						2527A19	12.38

Easy-Cut Plastic Pipe Cutters



The pistol grip makes cutting quick and comfortable and ratchet action increases leverage. Cut Schedule 40 CPVC pipe up to 1 5/8" OD. Cutter is aluminum with a stainless steel blade. Overall length is 8 1/4".

Cutter	24875A75	$64.13
Repl. Blade	24875A77	20.91

Metal and Plastic Pipe Cutters for Tight Spots

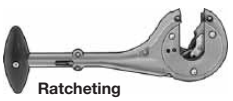

Ratcheting



Quarter Turn

Ratcheting Cutter—Ratchet action moves the cutter 360° around pipe with only 10° of handle swing. Cuts semirigid plastic pipe (such as ABS, PVC, and polyethylene) and Schedule 40 and 80 steel pipe. Also cuts plastic, copper, brass, aluminum, and steel tubing. Cutter is aluminum with a steel cutting wheel.

Quarter-Turn Cutters—Cut pipe with just 90°–110° of handle swing and 4" of clearance. Use to cut Schedule 40 steel, stainless steel, and iron pipe. Cutter is iron with four steel cutting wheels.

For OD Min.	For OD Max.	O'all Lg. Open	O'all Lg. Closed	Cutters		Repl. Wheels	
Ratcheting							
5/16"	1 1/4"	13"	13"	2710A76	$223.75	2710A86	$21.64
Quarter Turn							
1"	2 1/2"	20"	17"	2683A16	422.33	2680A41	22.32
2"	4"	26 1/2"	22"	2683A17	586.70	2680A42	24.94
4"	6"	33 1/2"	28 1/4"	2683A18	772.09	2680A43	27.44
6"	8"	38 1/4"	32"	2683A19	1,020.85	2680A44	26.39
8"	12"	40"	34"	2683A2	1,267.22	2680A44	26.39

Metal and Plastic Pipe Cutters


One Wheel with One Handle


Four Wheels

Economy Cutter—Turn this cutter 360° around a pipe to make a cut. Comes with a cutting wheel for soft copper, hard copper, aluminum, and PVC pipe, tubing, and conduit.

Ridgid Cutters—These heavy duty cutters have an iron frame for exceptional durability. Use to cut Schedule 40 iron and steel pipe. *One-wheel* cutters require a 360° turn for a complete cut. *Four-wheel* cutters require only a 180° turn to make a 360° cut. *Two-handle* cutters are for two-person operation. *Ridgid Number 202* cutter has extra-wide rollers to resist wobbling and make straight, clean cuts.

For OD Min.	For OD Max.	O'all Lg. Open	O'all Lg. Closed	No. of Handles	Ridgid No.		
Economy with One Wheel							
1/4"	2 5/8"	12 1/4"	9 1/4"	1	—	27645A11	$41.76
Replacement Economy Cutting Wheel						27645A12	7.76
Ridgid with One Wheel							
1/8"	2"	19"	16 1/2"	1	2-A	2679A2	159.17
1/8"	2"	19"	16"	1	202	2679A65	189.38
1"	3"	26"	22"	2	3-S	2679A4	280.40
2"	4"	27"	23"	2	4-S	2679A3	413.76
4"	6"	30"	25"	2	6-S	2679A5	609.64
Ridgid with Four Wheels							
3/4"	2"	16 1/2"	14"	1	42-A	2679A7	179.95
2 1/2"	4"	29"	23"	2	44-S	2679A8	484.41

Glass Cutters


Standard


Easy-Cut with Straight Handle


Easy-Cut with Pistol-Grip Handle

Standard Cutters—Make smooth, flake-free cuts in glass. Use these cutters for straight cuts. Handles have a ball end for hitting the glass on the opposite side of the score line to complete the cut except 3867A11, which has a handle with no ball end. Handles are zinc and 5 1/8" long. *Carbide wheels* last 10 times longer than steel.

Easy-Cut Cutters—A reservoir in the handle provides automatic oil-feed to keep the cutting wheel blade sharp and make cutting easy. Cutting oil sold separately. The cutter with *straight handle* is brass and 6 3/4" long. Use for straight and contoured cuts. The cutter with *pistol-grip handle* is more comfortable to hold than a cutter with straight handle. It is plastic and 6" long. Use to make straight cuts. To make contoured cuts, add an *optional carbide blade*.

Optional 1/4" wide carbide blade is for more intricate work.

For Use On	For Thick.		
Standard with Steel Wheel			
Single-/Double-Strength Glass	0.09"-0.125"	3869A12	$4.57
Standard with Carbide Wheel			
Borosilicate Glass	0.03"-0.09"	3867A11	13.64
Single-/Double-Strength Glass	0.09"-0.125"	3867A14	18.53
Single-/Double-Strength Glass	0.125"-0.25"	3867A16	18.53
Easy-Cut with Carbide Wheel and Straight Handle			
Single-/Double-Strength Glass	0.063"-0.315"	24855A13	25.46
Easy-Cut with Carbide Wheel and Pistol-Grip Handle			
Single-/Double-Strength Glass	0.063"-0.315"	3543A31	30.45
Accessories for Easy-Cut Cutters			
Repl. 19/32" Wd. Carbide Blade		3543A32	16.06
Optional 1/4" Wd. Carbide Blade		3543A33	16.06
4-oz. Cutting Oil		3543A34	3.28

Glass Cutting Pliers

Also known as nippers, these pliers include plastic jaw inserts for breaking large pieces of glass along a scored line and hardened steel inserts for shaping and breaking off small pieces.



O'all Lg.	Jaw Lg.	Jaw Wd.		
8"	3/4"	1 1/4"	5628A71	$20.23
Replacement Plastic Inserts (Set of 2)			5628A72	6.30
Replacement Steel Inserts (Set of 2)			5628A73	6.11

Replacement Cutting Wheels for Pipe Cutters

For Brand and Model Nos.

For Steel		
Ridgid 1, 1-A, 42, 42-A, 300, 360, 364, 201, 202, 2, 2-A, 535, 820; Reed 2-1, 2-1Q, 2-4WG	2680A13	$6.98
Ridgid 1, 1-A, 42, 42-A, 300, 360, 364, 201, 202, 2, 2-A, 535, 820; Reed 2-3, 2-3Q, 2-4	2680A16	7.03
Ridgid 3, 3-S, 4, 4-S, 44, 44-S, 466-C, 466-HWS, 466-S, 468-C, 468-HWS, 468-S, 472-C, 472-HWS, 472-S	2680A26	19.88
Ridgid 300, 360, 364, 535, 802, 820; Reed H2 1/2	2680A67	14.25
Ridgid 6-S, 208, 209, F367	2680A33	23.43
For Stainless Steel		
Ridgid 1, 1-A, 42, 42-A, 300, 360, 364, 201, 202, 2, 2-A, 535, 820; Reed 2-3, 2-3Q, 2-4	2680A19	8.26
Ridgid 3, 3-S, 4, 4-S, 44, 44-S, 466-C, 466-HWS, 466-S, 468-C, 468-HWS, 468-S, 472-C, 472-HWS, 472-S	2680A29	20.45
Ridgid 300, 360, 364, 535, 802, 820; Reed H2 1/2	2680A68	19.66
For Cast Iron and Stainless Steel		
Reed H2 1/2	2680A41	22.32
For Stainless Steel and Steel		
Reed H4; Wheeler 95041	2680A42	24.94
Reed H6; Wheeler 95061	2680A43	27.44
Reed H8, H12; Wheeler 95081, 95121	2680A44	26.39
For Cast Iron		
Ridgid 1, 1-A, 42, 42-A, 300, 360, 364, 201, 202, 2, 2-A, 535, 820	2680A59	12.44

Glass Tube Cutters


Compact


Standard

Use these cutters on brittle material such as glass and porcelain.

Compact Cutter—Apply fingertip pressure to this spring-loaded cutter while rotating the tubing. Cutter is made from zinc with a replaceable steel cutting wheel.

Standard Cutters—Wrap the cutter chain around tubing, then squeeze the handles while rotating the tubing. Cutters have one steel and one aluminum handle, except 9" long cutter, which has steel handles with plastic grips.

For OD Min.	For OD Max.	O'all Lg.	Cutters		Repl. Wheels/Chain	
Compact						Pkg. of 10
1/4"	1 1/2"	2 3/4"	36755A21	$17.98	36755A22	$21.18
Standard						Each
1/4"	3/4"	9"	3655A13	47.50	3655A23	$35.19
1/4"	1"	8"	3655A11	63.33	3655A21	42.50
1/4"	1 1/2"	8"	3655A12	84.44	3655A22	62.50

Ceramic Tile Cutters

Score ceramic tile for straight cuts. This pistol-grip cutter has a zinc handle and includes a carbide tile-cutting wheel. Cutting wheels for glass are sold separately. *Carbide wheels* last 10 times longer than steel.



For Use On	O'all Lg.	For Thick.		
Cutter				
Ceramic Tile	6 1/2"	0.03"-0.09"	3943A11	$38.20
Replacement Carbide Cutting Wheel			3943A32	25.82
Steel Cutting Wheels for Glass				
Borosilicate Glass		0.03"-0.09"	3943A22	5.40
Single-/Double-Strength Glass		0.09"-0.125"	3943A21	5.57
Carbide Cutting Wheels for Glass				
Single-/Double-Strength Glass		0.09"-0.125"	3943A31	25.82
Single-Strength Glass		0.125"-0.25"	3943A33	25.82

Ceramic Tile Cutting Pliers

Also know as nippers, these pliers have carbide-tipped jaws to break off small pieces of tile for straight cuts. They have a spring handle for repetitive cutting. Made of steel with plastic-coated handles and carbide jaw tips.



For Max. Thick.	O'all Lg.	Jaw Wd.		
1/2"	8"	5/8"	3736A12	$31.66

Utility-Knife Style Circular Gasket and Hole Cutters



When the blade gets dull, snap it off to expose a new, sharp edge. This cutter has a utility knife mounted on a radius bar for precise cuts. Use it to cut 2 13/16″ to 12″ dia. circles in fiber, rubber, PTFE, and cork up to 1/2″ thick. Blade has eight steel segments.

Cutter	24555A7	$42.21
Repl. Blades (Pkg. of 10)	38505A22	9.22

Precise-Cut Tile Cutters

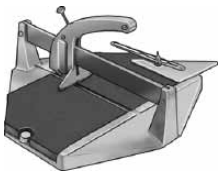

Ceramic Tile Cutter

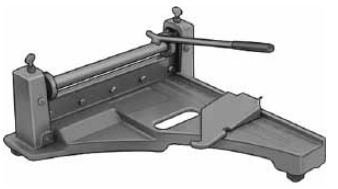

Flexible Tile Cutter

Ceramic Tile Cutters—Score a straight line and then break tile without repositioning. Base is aluminum with an inch-graduated ruler. *10″ cutter* scores tile up to 1/2″ thick with a steel cutting wheel. *16″ cutter* scores tile up to 1 1/2″ thick with a carbide cutting wheel. *Carbide* wheel lasts 10 times longer than steel.

Flexible Tile Cutter—Make precise, straight cuts in flexible floor tile up to 1/4″ thick including asphalt, linoleum, epoxy, and vinyl. Base has an inch/metric ruler and a gauge for making accurate 45° and 90° cuts. It is cast aluminum with a steel blade.

Max. Cutting Lg. Straight	Max. Cutting Lg. Diagonal	O'all Lg.	O'all Wd.		
Ceramic Tile Cutters					
10″	6″	15″	15″	3826A2	$104.33
16″	10″	16 1/2″	21″	3826A4	207.94
Flexible Tile Cutter					
12 1/4″	—	18 1/2″	18″	3825A11	292.78
Repl. Lower Blade for Flexible Tile Cutter				3825A22	49.74
Repl. Upper Blade for Flexible Tile Cutter				3825A21	49.74

Circular Gasket Cutters

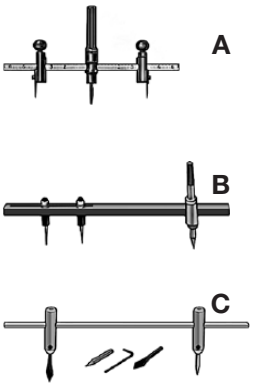

Cut soft materials such as PTFE, fiber, rubber, and cork. Styles A&B simultaneously cut inside and outside diameters.

Style A—Has steel blades, a 5/16″ square shank, and a steel cutter bar. Also cuts graphite. Use by hand or in a hand drill.

Style B—Has steel blades, a 1/4″ tapered shank, and a steel cutter bar. Also cuts stainless steel, brass, tin, and 2-3 mil thick copper. Use by hand, in a hand drill, or in a drill press.

Style C—Includes two steel knife blades with blade holder, two center points with holder, and a hex wrench. Use by hand only; do not use in a hand drill or drill press. The *2″-70″ dia. cutter* has two bars.

	Cutting Dia. Min.	Cutting Dia. Max.	For Max. Material Thick.	Bar Lg.	Cutters		Repl. Blades	
A	5/8″	6 1/2″	1/4″	6 1/2″	36795A11	$30.32	36795A12	$4.00
B	1″	24″	1/8″	13 1/4″	3077A11	95.41	3077A21	56.40
C	1″	22″	1/16″	12″	3857A11	33.68	3857A21	5.89
C	2″	70″	1/16″	36″	3857A12	64.26	3857A21	5.89

Precise-Cut Circular Gasket Cutters with Cutting Pad







Ensure precise cuts with a measuring scale and adjustable blade depth. Use to cut nonmetallic materials such as PTFE, graphite, fiber, rubber, and cork. A rectangular base keeps material flat during cutting to prevent tears and the cutting pad reseals itself after each cut.

Style A—Cutter has top-reading inch and metric scales. Includes one pointed blade for general purpose cutting, one rounded-tip blade for heavy duty cutting, one curved blade for cutting thin materials, and one angled-tip blade for cutting rigid materials. It has one 13/16″ long and one 1 5/16″ long center pin, and one pin for cutting discs. Also cuts strips up to 3 5/8″ wide. It is plastic with steel blades and comes in a metal case.

Style B—Includes six pointed blades for general purpose cutting; six rounded-tip blades for heavy duty cutting; a bolt-hole locator that finds the center point of any size hole; a cutting knob; a dovetail cutting template for cutting circular gaskets in sections held together by dovetail cutouts; and a pin insertion handle. It has one 13/16″ long, one 1 7/16″ long, and one 1 11/16″ long center pin. 3870A21 has one cutting arm. 3870A22 has two cutting arms. All are brass with steel blades and come in a plastic case.

Style C—Includes one pointed blade for general purpose cutting and one rounded-tip blade for heavy duty cutting; top-reading inch and metric scales; a piercing tool; and two extension arms. It has one 13/16″ long, one 1 7/16″ long, and one 1 11/16″ long center pin. It is plastic with steel blades and comes in a plastic case.

Optional extension arms are for cutting larger diameter gaskets with Styles B&C.

Replacement blades have six blades per package.

Gasket Cutters

	Cutting Dia. Min.	Cutting Dia. Max.	For Max. Material Thick.	Cutting Pad Size	Cutters		Repl. Blades Pointed		Repl. Blades Rounded Tip		Repl. Blades Curved		Repl. Blades Angled Tip	
A	1/4″	6″	3/4″	6″×6″	3854A11	$152.53	3854A21	$31.52	3854A22	$32.82	3854A23	$63.16	3854A24	$39.84
B	1/4″	25″	3/4″	18″×18″	3870A21	278.00	3870A2	17.51	3870A7	20.67				
B	1/4″	37″	3/4″	18″×18″	3870A22	296.27	3870A2	17.51	3870A7	20.67				
C	1″	37″	3/4″	18″×18″	3852A31	238.36	3854A17	40.33	3854A18	38.81				

Accessories

Optional Extension Arms		
For Style B	3870A3	$23.67
For Style C	3852A2	44.34
6″×6″ Cutting Pads		
For Styles A-C	3854A12	19.15
18″×18″ Cutting Pads		
For Styles A-C	3852A3	24.91

	Lg.		
Replacement Center Pins			
For Style A	13/16″	3854A31	$5.86
For Style A	1 5/16″	3854A32	5.23
For Styles B and C	13/16″	3852A51	7.20
For Styles B and C	1 7/16″	3852A52	8.84
For Styles B and C	1 11/16″	3852A53	10.38

Fast-Cut Circular Gasket Cutters

Turn the handle to make quick and accurate circular cuts. Cutters are steel and cast iron. Use the optional extension arms (sold separately) for cutting larger diameter gaskets.

Vise-Mount Cutter for Nonmetallic Materials—Cuts 2″ to 22″ dia. gaskets. Cuts PTFE up to 1/8″ thick and cork, fiber, and rubber up to 3/16″ thick.

Bench-Mount Cutter for Metallic and Nonmetallic Materials—Cuts 3″ to 28″ dia. gaskets. For steel, iron, brass, tin, and zinc up to 0.04″ thick; stainless steel and Monel up to 0.03″ thick; copper up to 1/16″ thick; PTFE up to 1/8″ thick; fiber and rubber up to 3/16″ thick; and cork up to 1/4″ thick. Has four mounting holes (fasteners not included).

Vise Mount		
Cutter	3830A1	$665.32
Extension Arm for 22″-42″ Dia. Gaskets	3830A2	109.56
Extension Arm for 42″-62″ Dia. Gaskets	3830A3	120.35
Repl. Bottom Cutting Wheel	3830A66	35.76
Repl. Top Cutting Wheel	3830A67	43.53
Repl. Knurled Nut	3830A65	9.04
Bench Mount		
Cutter	3847A1	2,024.13
Extension Arm for 30″-54″ Dia. Gaskets	3847A2	157.97
Extension Arm for 54″-80″ Dia. Gaskets	3847A3	173.02
Repl. Top Cutting Wheel (Nonmetallic Materials)	3847A67	38.25
Repl. Top Cutting Wheel (Metallic Materials)	3830A67	43.53
Repl. Bottom Cutting Wheel	3847A66	129.73
Repl. Knurled Nut	3847A65	9.16



Vise Mount



Bench Mount

Packing-Seal Cutters

Cut all kinds of packing including Kevlar, copper-sheathed, and wire-core up to 1″ dia. at 15° and 45° angles. This cutter includes a vernier caliper for accurate measurements and a direct-reading diameter/circumference scale (4″ dia. max. shaft size) to eliminate material waste. Overall size is 21″ Lg. × 6″ Wd.

Cutter	3662A11	$651.89
Replacement Blade	3662A21	29.31



Steel Drum Head Cutters

Remove the top from a steel drum leaving a clean edge and lip. The drum can then be used with drum covers (see page 1743 for covers). Also known as drum deheaders. Cutters operate counterclockwise except for the easy-cut cutter, which can operate in either direction.

Standard Cutter—These cutters are for occasional use. Turn the knob to clamp the cutter onto a drum, then push down and pull up on the handle to cut around the head. Made of steel with a steel blade. Overall length is 20 1/2″.

Nonsparking Cutter—For drums containing flammable materials. Made from aluminum-bronze with a beryllium copper blade. Like the standard cutter, turn the knob to clamp the cutter onto a drum, then push down and pull up on the handle to cut around the head. Overall length is 19″.

High-Force Cutter—Longer handles give you more leverage to cut through drum heads with less effort than other steel drum head cutters. Squeeze the two handles together to quickly penetrate the drum with the cutting tip, then push both handles down and pull them up to cut. Made of steel with a steel blade. Overall length is 24″.

Easy-Cut Cutter—This cutter uses ratchet action to provide more force with less effort than high-force cutters. Clamp the cutter onto your drum lip, then move the 18 3/4″ long handle up and down to cut. Made of steel and aluminum with a steel blade. Size is 18″ Ht. × 7″ Wd. × 12″ Dp. (without handle).



Standard and Nonsparking

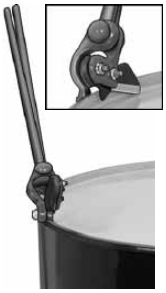

High Force



Easy Cut

	For Drum Cap., gal.	For Max. Drum Lip Thick.	Cutters		Repl. Blades	
Standard	20-85	16 ga.	3778A12	$67.94	3778A14	$21.06
Nonsparking	30-85	16 ga.	3778A61	365.40	3778A62	126.67
High Force	20-85	16 ga.	3756A1	232.19	3756A2	57.39
Easy Cut	30-55	16 ga.	2457A5	1,246.67	2457A6	119.91

Powered Steel Drum Head Cutters

Make fast cuts without manual effort. A self-propelled round blade makes a continuous cut, leaving a clean edge and lip for use with drum covers (see page 1743 for covers). Also known as drum deheaders. Cutters have an aluminum and steel frame, and a steel blade.

Standard Cutter—For intermittent use, this cutter can remove the heads from up to 10 drums per day. A quiet motor propels the blade. Cutter has a 31 1/2″ long power cord with three-prong plug. It is 1/8 hp and 115 volts. Overall size is 24″ Ht. × 10″ Wd. × 12″ Dp.

Heavy Duty Cutters—Choose these cutters for continuous use. Overall size is 25″ Ht. × 11″ Wd. × 17″ Dp. *Electric cutter* has a quiet motor that propels the blade. Includes a 31 1/2″ long power cord with three-prong plug. It is 1/3 hp and 110 volts. *Air-powered cutter* is for use in areas where work surfaces are wet. Nonmarring rollers guide the cutter around the head. It operates on 60-100 psi, 25 cfm air pressure. Air inlet is 1/4″ NPT male. Hose size is 1/2″ (hose not included).

Optional support stand is portable and can be bolted to the floor. An overhead roller and chain holds the cutter at working height and pivots 360°.



Standard

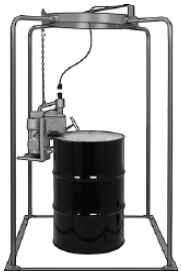

Heavy Duty Electric with Optional Support Stand



Heavy Duty Air Powered

	For Drum Cap., gal.	For Max. Drum Lip Thick.	Cutters		Repl. Blades		Optional Support Stands	
Standard								
Electric	30-55	16 ga.	24505A11	$2,125.00	24505A12	$120.21	—	—
Heavy Duty								
Electric	30-55	16 ga.	3606A18	3,506.25	3606A55	106.86	3606A45	$1,961.54
Air Powered	30-55	16 ga.	3606A22	3,400.00	3606A55	106.86	3606A47	1,961.54

Bolt and Chain Cutters



Hand Cutter



Flush Cut with Offset Handles



Bench-Mount Cutter



General Purpose, Flush Cut, and Hard Chain



Hard Chain and Padlock

Cut metal bolts, chain, rods, and wire. All cutters have an adjustment screw to align cutting edges, steel jaws, and a steel handle with rubber grips. For more leverage, choose a cutter with a longer handle. Not for use on wire rope.

General Purpose—Handle most jobs.

Flush Cut—Blades are flat on one side for close-to-the-surface cuts.

Flush Cut with Offset Handles—Cutting jaw is angled 30° up from the handle to keep work in sight and hands clear of the work surface. Blades are flat on one side for close-to-the-surface cuts.

Hard Chain—Cut hard bolts and up to Grade 70 chain with reinforced blades that stay aligned during repeat cuts.

Hard Chain and Padlock—With a short-nosed jaw, these cutters force the material being cut deeper into the jaw for maximum leverage. The short jaw also allows you to cut one side of a chain link or padlock hasp without hitting the other side.

Bench-mount cutters can be mounted to a workbench for added stability and ease of use during repeated cuts. Base is 6″ Lg. × 3″ Wd. with four ⅜″ dia. mounting holes (fasteners not included).

Replacement cutting heads include lockplate, jaws, and bolts.

		For Max. Dia.									
O'all Lg.	Cutter Type	Soft Steel▲	Medium-Hard Steel♠	Hard Steel♦	Rebar♦	Hard Chain◤	Cutters		Repl. Cutting Heads		Repl. Jaws
Hand Cutters											
14″	General Purpose	5/16″	5/16″	3/16″	3/16″	No	3771A11	$95.05	3771A31	$63.44	3771A22 $55.11
14″	Flush Cut	5/16″	1/4″	No	No	No	3772A11	107.64	3772A31	69.35	— —
18″	General Purpose	3/8″	3/8″	1/4″	1/4″	No	3771A12	99.75	3771A32	69.98	3771A23 57.67
18″	Flush Cut	3/8″	5/16″	No	No	No	3772A12	118.57	3772A32	74.11	— —
24″	General Purpose	7/16″	7/16″	5/16″	5/16″	No	3771A13	111.45	3771A33	82.40	3771A24 61.47
24″	Flush Cut	7/16″	3/8″	No	No	No	3772A13	126.71	3772A33	85.96	— —
24″	Flush Cut with Offset Handles	7/16″	3/8″	No	No	No	3770A2	206.73	3770A5	116.98	— —
24″	Hard Chain	7/16″	7/16″	5/16″	5/16″	5/16″	3757A11	178.74	3757A14	112.31	3771A24 61.47
24″	Hard Chain and Padlock	5/16″	5/16″	5/16″	5/16″	5/16″	3759A1	168.77	3759A4	89.51	— —
30″	General Purpose	1/2″	1/2″	3/8″	3/8″	No	3771A14	137.02	3771A34	105.00	3771A25 73.60
30″	Hard Chain	1/2″	1/2″	3/8″	3/8″	3/8″	3757A12	195.66	3757A15	124.47	3771A25 73.60
36″	General Purpose	9/16″	9/16″	7/16″	7/16″	No	3771A15	164.38	3771A35	111.62	3771A26 93.71
36″	Hard Chain	9/16″	9/16″	7/16″	7/16″	7/16″	3757A13	246.74	3757A16	150.45	3771A26 93.71
36″	Hard Chain and Padlock	7/16″	7/16″	7/16″	7/16″	7/16″	3759A2	270.00	3759A5	168.06	— —
42″	General Purpose	11/16″	11/16″	1/2″	No	No	3757A1	209.05	3757A5	126.76	3757A21 104.97
42″	Hard Chain	11/16″	11/16″	1/2″	1/2″	1/2″	3757A4	293.00	3757A8	180.83	3757A21 104.97
42″	Hard Chain and Padlock	1/2″	1/2″	1/2″	1/2″	1/2″	3759A3	332.29	3759A6	196.90	— —
Bench-Mount Cutters											
21″	General Purpose	3/8″	5/16″	1/4″	1/4″	No	3785A8	299.39	3771A33	82.40	3771A24 61.47
21″	Flush Cut	3/8″	5/16″	No	No	No	3785A9	307.83	3772A33	85.96	— —
21″	Hard Chain and Padlock	No	1/4″	1/4″	1/4″	1/4″	3785A7	311.06	3759A4	89.51	— —

▲Rockwell C15/Brinell 200. ♠Rockwell C31/Brinell 300. ♦Rockwell C48/Brinell 455. ◤Up to Grade 70.

Compact Bolt Cutters





Flush Cut with Offset Handles



General Purpose



End Cutter

Operate cutters with one hand to cut bolts and wire up to 1/4″ diameter. Cutters have spring-assisted jaws for quick cutting with a plastic grip, except 7119A33, which opens manually. Jaws are riveted onto the handles and are not replaceable. Overall length is 8″. Not for use on wire rope.

Flush cut with offset handles cutter has handles that are angled 30° to keep work in sight and hands clear of the work surface. Blades are flat on one side for close-to-the-surface cuts.

		For Max. Dia.				
Cutter Type	Jaw Material	Soft Steel▲	Medium-Hard Steel♠	Hard Steel♦		
General Purpose	Steel	3/16″	No	No	7119A11	$16.74
General Purpose	Stainless Steel	3/16″	1/16″	No	4969A41	31.79
General Purpose	Steel	3/16″	1/16″	No	7119A12	22.80
General Purpose	Steel	1/4″	13/64″	9/64″	7119A33	55.31
Flush Cut with Offset Handles	Steel	1/8″	No	No	7119A13	20.56
End Cutter	Steel	1/8″	1/16″	No	7119A14	24.80

▲Rockwell C15/Brinell 200. ♠Rockwell C31/Brinell 300. ♦Rockwell C48/Brinell 455.

Air-Powered Bolt and Chain Cutters



Slice through bolts and chain with low effort. A spring opens the jaws for quick cuts. Cutters are steel with rubber grips. Not for use on wire rope.

Air inlets are 3/8″ NPT female. Required hose size is 3/8″ (hose not included).

		For Max. Dia.							
O'all Lg.	O'all Ht.	Soft and Medium-Hard Steel■	Hard Steel★	Rebar★	Hard Chain◤	Air Pressure	Cutters		Repl. Cutting Heads
15″	7 1/4″	3/8″	5/16″	5/16″	5/16″	80-120 psi	3666A11	$1,395.94	3666A12 $94.21
17 1/2″	10″	1/2″	3/8″	3/8″	3/8″	90-130 psi	3666A22	1,772.80	3666A31 101.50

■Rockwell C30/Brinell 285. ★Rockwell C40/Brinell 375. ◤Up to Grade 70.

Bench-Mount Threaded Rod Cutters

An alternative to hacksaws and bandsaws, these cutters use leverage to cut rods cleanly in a single stroke. One blade mounts in the base, the other to the movable jaw. They have an adjustable length gauge for cutting duplicate lengths. Cut five sizes of threaded and unthreaded steel, aluminum, and brass rods. Blades are steel.



For Rod Dia.	Lg.	Wd.	Ht.	Cutters	
1/8", 3/16", 1/4", 5/16", 3/8"	7 1/2"	3 1/2"	5 1/2"	3781A1	$497.74
3/8", 1/2", 5/8", 3/4", 7/8"	11 1/2"	5 1/4"	8 1/2"	3781A3	1,080.71

Hard-Wire Cutters



For Cutting Steel



For Cutting Steel, Iron, Stainless Steel, Aluminum, and Copper

These powerful cutters make diagonal cuts with a nipping action to cut extra-hard wire with ease. Cutters are steel with plastic grips.

For Max. Wire Dia.	O'all Lg.		
For Cutting Steel			
0.197"	9 7/8"	5453A91	$56.81
For Cutting Steel, Iron, Stainless Steel, Aluminum, and Copper			
0.079"	8"	27485A93	49.03
0.118"	10"	27485A91	70.10

Compact Hard-Wire Cutters

Cut thin, hard wire with these small cutters. Handles are steel with rubber grips.



For Max. Wire Dia.	O'all Lg.		
0.04"	5 1/2"	59445A45	$21.89
0.06"	5 1/2"	59445A44	37.56

Wire End Cutters for Hard Wire

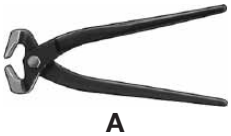

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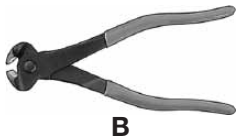

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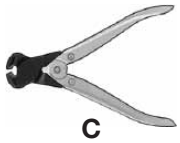

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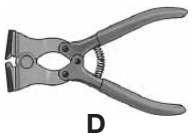

D

Also known as nippers, these have wide jaws that cut steel wire, nails, and small rivets close to the surface.

(A) Standard Cutters—Also great for pulling nails.

(B) Comfort-Grip Cutters—Plastic-cushioned grips make these cutters easy to hold during repeated cuts. They have hardened, precisely aligned cutting edges with a rust-resistant coating for clean, even cuts. Use on hard steel, aluminum, and copper.

(C) High-Force Cutter—A double hinge provides high cutting force with low gripping pressure, and a spring opens the jaws for quick cutting.

(D) Long-Life High-Force Cutters—Sharpen or replace the jaws as they wear. These cutters have a double hinge that provides high cutting force with low gripping pressure. A spring opens the jaws for quick cutting.

	O'all Lg.	Jaw Wd.	For Max. Wire Dia.		
A	10"	25/32"	0.08"	3734A3	$19.86
A	14"	7/8"	0.091"	3734A4	24.08
B	6 1/4"	13/16"	0.091"	3738A1	20.69
B	7 1/2"	13/16"	0.091"	3738A2	20.48
B	8"	13/16"	0.091"	3738A3	23.39
B	10"	7/8"	0.091"	3738A5	27.40
C	6 1/2"	1"	0.078"	3737A11	70.85
D	5 1/2"	21/32"	0.05"	3730A5	271.99
D	7"	13/16"	0.08"	3730A6	330.56

Threaded Rod Cutters

Cut aluminum, brass, and soft steel (up to Rockwell B80) rods and bolts while leaving their threads intact. Blades are steel. Handles are steel with a painted finish.



For Thread Size	For Rod Dia.	O'all Lg.		
3/8"-16	3/8"	29"	7792A32	$240.21
3/8"-16, 1/2"-13	3/8", 1/2"	37"	7792A31	365.34
Replacement Die for 3/8"-16 Thread Size Cutters			7792A41	56.70
Replacement Die for 1/2"-13 Thread Size Cutter			7792A42	64.76

Large-Diameter Wire Rope Cutters



Hammer Driven



Hydraulic-Assist Lever Operated

Ideal for cutting steel and stainless steel wire rope.

Hammer-Driven Cutters—With a quick hammer blow, these cutters make cuts without squeezing or flattening wire. Blades are made of steel. For best results, use with Wire Rope Cutting Bands (see 3501T on page 1478).

Replacement Parts: Please ask for 38535A92 and specify the McMaster-Carr part number of the cutter.

Hydraulic-Assist Lever-Operated Cutters—These manually operated cutters make a clean cut with just a few pumps of the handle. They don't require any outside power and are light enough to carry to the job. Handle is steel with a plastic grip.

Repair Kit: Please ask for 39525A81 and specify the McMaster-Carr part number of the cutter.

Hammer Driven

For Max. Dia.	Base Dia.	O'all Ht.	Cutters		Repl. Blades	
3/4"	3 1/2"	6"	38535A71	$102.41	38535A81	$25.50
1 1/16"	6 1/4"	7"	38535A72	168.33	38535A82	25.50
1 1/2"	7 3/4"	9"	38535A73	285.32	38535A83	32.75

Hydraulic-Assist Lever Operated

For Max. Dia.	Lg.	Wd.	Ht.	Cutters		Repl. Blades	
3/4"	12"	3 5/8"	6"	39525A71	$985.92	39525A74	$82.28
1 1/8"	14"	4 1/8"	7"	39525A72	1,154.93	39525A75	95.17
1 3/4"	18 1/2"	5"	8"	39525A73	1,725.35	39525A76	130.00

No-Fray Rope and Cord Cutters

A heated blade cuts material and fuses the ends to prevent fraying. Cuts rope and cord including nylon, polyester, and polypropylene. Blade is 2 5/16" long and heats to 1200°F in 30 seconds. It cuts through 1" rope in 10 seconds. Base has four 3/16" dia. holes for mounting. Operates on 120 volts AC. Has a 6 1/2-ft. long power cord with three-prong plug. Overall size is 6 1/4" Lg. x 4" Wd. x 5 3/4" Ht.

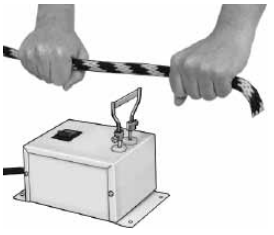

Cutter	2834A27	$149.98
Replacement Blade	2834A42	21.73

Wire Rope & Nut Cutters

Wire Rope and Bolt Cutters



Cut wire rope, bolts, and rods with one tool. Operate these cutters with both hands. Cutter is steel with rubber grips.

For Max. Dia.						
Soft Steel▲	Medium-Hard Steel♠	Hard Steel♦	For Max. Wire Rope Dia.	O'all Lg.		
7/16"	7/16"	5/16"	1/4"	24"	4943A14	$186.24
Replacement Cutting Head					4943A21	103.30

▲Rockwell C15/Brinell 200. ♠Rockwell C31/Brinell 300. ♦Rockwell C48/Brinell 455.

Hydraulic-Assist Multipurpose Bolt, Wire Rope, and Cable Cutters



Hydraulic-powered jaws cut bolts, wire rope, rods, and electrical cable with low effort and minimal material distortion. Blades can be sharpened and replaced. Cutter is steel with rubber grips.

3777A11 has insulated handles rated to 20,000 volts.

For Max. Dia.								
Wire Rope	Soft Steel■	ACSR♥	Data Cable	Rebar	O'all Lg.	Cutters		Repl. Blades	
5/8"	5/8"	5/8"	5/8"	1/2"	15"	3777A19	$1,085.22	3777A15	$133.98
3/4"	11/16"	3/4"	3/4"	1/2"	15"	3777A11	1,231.30	3777A15	133.98
1"	1 1/4"	2"	2"	3/4"	24"	3777A31	2,189.57	3777A32	362.75
1 1/4"	1 1/4"	1 1/4"	1 1/4"	7/8"	27"	3777A12	2,240.00	3777A16	209.20

■Up to Rockwell C30/Brinell 285. ♥ACSR = steel-reinforced aluminum cable.

Wire Rope Cutters

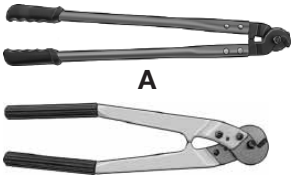



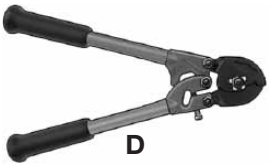



Cut steel wire rope with minimal distortion.

(A) Standard Cutter—Operate this cutter with both hands. Also cuts steel-reinforced aluminum cable (ACSR). Cutter is steel with rubber grips.

(B) Heavy Duty Cutters—Keep your hands in a comfortable position so you can apply more force for cutting. The handles are shaped to optimize cutting capacity. Operate them with both hands, or place one handle on a flat surface and apply force to the other handle with your body weight. Also cuts steel-reinforced aluminum cable (ACSR). Jaws are tool steel and handles are aluminum with plastic grips.

(C) One-Handed Cutters—A small grip enables one-handed cutting. These cutters prevent crushed and frayed cable ends. Also cut steel-reinforced aluminum cable (ASCR). Jaws are tool steel and handles are steel with plastic grips.

(D) High-Force Cutters—Cutters have a double hinge that provides high cutting force with low gripping pressure. They are steel with rubber grips.

(E) Lever-Operated Bench-Mount Cutter—Use the lever to make one-handed cuts. Cutter mounts to a workbench for extra stability and ease of use for repeated cuts. Base is 6" Lg. × 3" Wd. with four 13/32" dia. mounting holes (fasteners not included). Cutter is steel with rubber grips.

	For Max. Wire Rope Dia.	O'all Lg.	Cutters		Repl. Blades/ Cutting Heads	
A	3/8"	28"	4949A33	$92.41	—	—
B	1/4"	13"	39615A85	178.87	39615A88	$147.18
B	3/8"	19"	39615A72	277.06	39615A76	208.93
B	5/8"	23"	39615A73	425.41	39615A77	347.68
C	3/32"	8"	39615A81	78.76	—	—
C	5/32"	8"	39615A71	66.05	—	—

	For Max. Wire Rope Dia.	O'all Lg.	Cutters		Repl. Blades/ Cutting Heads	
D	1/4"	13 1/2"	39025A71	$156.61	39025A75	$91.30
D	3/8"	22"	39025A72	186.86	39025A21	121.75
D	5/8"	34"	39025A73	274.23	39025A77	178.97
D	3/4"	39 1/2"	39025A74	310.02	39025A78	192.25
E	3/8"	21"	39025A3	325.00	39025A21	121.75

Nut Cutters


Economy


Standard


Heavy Duty


Hydraulic Powered

Also known as nut splitters, use these cutters to remove frozen, rusted, and stubborn nuts. Nut width is measured across the flats.

Manual Cutters—Turn the adjustment screw with a 3/4" hand wrench to force the cutting blade into one side of a nut. Blade swivels 360° to cut in any position. *Economy* and *standard* cutters split one side of the nut at a time. *Heavy duty* cutter has two blades that split both sides of the nut at once. Can also be used with a 3/4" impact wrench.

Hydraulic-Powered Cutters—Cut all grades of steel nuts up to Rockwell C44 with these powerful cutters. An angled head gets close to the nut for easy splitting. A single-acting 10,000 psi cylinder connects to a 10,000 psi-rated hand, air, or electric pump. Cutters include a chisel, a wrench, and a plastic case. Hydraulic hose and two-speed manual jack pump are required (sold separately).

Hydraulic hose with fittings is 6-ft. long and has a 3/8 NPTF male connection. It includes a male coupler. Rated at 10,000 psi.

Two-speed manual jack pump is rated at 200/10,000 psi. Outlet connection is 3/8 NPTF female. Oil capacity is 45 cu. in.

Manual Cutters

	For Nut Wd.	O'all Lg.	Cutters		Repl. Blades	
Economy	3/4"	5 1/2"	37425A65	$26.37	—	—
Standard	3/4"	7"	3843A15	57.39	3843A42	$15.44
Heavy Duty	3/4"	11 3/4"	3742A11	152.17	3742A13	16.57

Hydraulic-Powered Cutters

For Nut Wd.	For Bolt Dia.	O'all Lg.	Cutters		Repl. Blades	
1/2"-3/4"	1/2"-5/16"	7 7/8"	36555A21	$805.17	36555A25	$152.34
3/4"-15/16"	5/8"-1/2"	8 15/16"	36555A22	2,272.23	36555A26	222.81
15/16"-1 1/8"	7/8"-5/8"	10 1/4"	36555A23	2,861.79	36555A27	243.52
1 1/8"-1 9/16"	1 1/8"-7/8"	11 1/4"	36555A24	3,637.44	36555A28	262.28
Hydraulic Hose with Fittings					2916T5	128.98
Two-Speed Manual Jack Pump					2992T17	373.42

Electrical and Data Cable Cutters

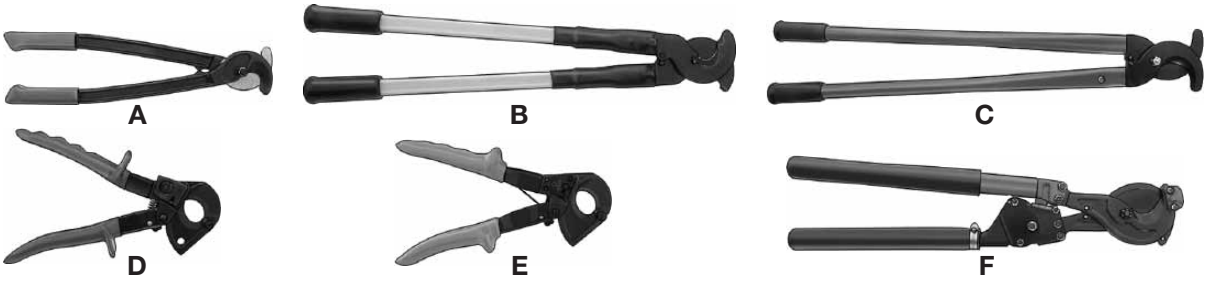

Minimize wire distortion when cutting 11/16″ diameter and larger aluminum and copper power and communication cable. Jaws are steel.

(A-C) Standard Cutters—Operate these cutters with both hands.

(D-F) Easy-Cut Cutters—Jaws ratchet to increase cutting pressure as you open and close the handles. *Styles D & E* are for one-handed use. *Style D* has spring-assisted jaws that open quickly for fast cutting. *Style F* is for use with two hands. It has spring-assisted jaws that open quickly for fast cutting.

	For Max. Data Cable Dia.	*For Max. Electrical Cable Dia.* Copper	Aluminum	O'all Lg.	Handle/Grip Material	Cutters		Repl. Cutting Jaws	
Standard Cutters									
A	3/4″	11/16″	11/16″	16 3/4″	Steel/Vinyl	70745A65	$79.80		
B	1 3/8″	13/16″	1″	25 1/2″	Fiberglass/Rubber	7074A11	145.63	7074A12	$105.76
B	1 3/4″	1″	1 1/4″	32″	Fiberglass/Rubber	7074A13	191.24	7074A14	142.61
C	2 1/4″	2 1/4″	2 1/4″	37″	Steel/Rubber	3671A1	207.32		
Easy-Cut Cutters									
D	1 1/8″	23/32″	7/8″	10 1/4″	Steel/Plastic	3600A12	252.00	3600A23✓	77.19
								3600A24▲	79.35
D	1 3/16″	1″	1″	10 1/2″	Steel/Plastic	3600A65	324.88		
E	1 1/4″	7/8″	7/8″	10″	Steel/Plastic	4935A24	392.97		
F	2″	2″	2″	27 1/2″	Steel/Rubber	3670A1	532.83	3670A2	180.27

✓Moving jaw for 3600A12. Includes assembly hardware. ▲Fixed jaw for 3600A12. Includes assembly hardware.

Small-Diameter Electrical and Data Cable Cutters

Use these one-handed cutters on small-diameter aluminum and copper power and communication cable.

Styles A&C—Cutters are steel with plastic grips.

Style B—The spring-assisted, hardened-steel jaws open quickly for fast cutting. Handle is steel with insulated plastic grips.

Style D—Cutter has spring-assisted stainless steel jaws that open quickly for fast cutting. Handle is plastic.

Style E—Jaws are steel and handle is insulated plastic.

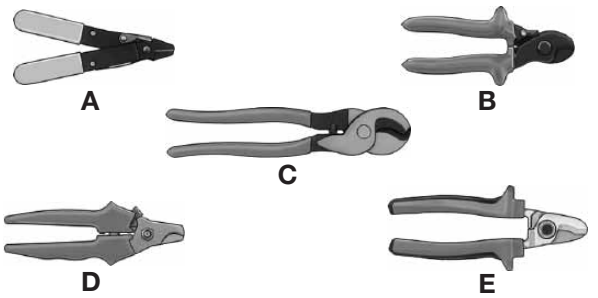

	For Max. Electrical Cable Dia. Copper	Aluminum	O'all Lg.		
A	3/32″ (12 AWG)	3/32″ (12 AWG)	5 3/8″	2893A62	$15.17
B	11/32″ (2/0 AWG)	15/32″ (4/0 AWG)	8″	4994A41	80.10
C	11/32″ (2/0 AWG)	1/2″ (4/0 AWG)	9 1/2″	3563A71	19.41
D	25/64″ (2/0 AWG)	25/64″ (2/0 AWG)	6 1/2″	3563A73	29.00
E	9/16″ (5/0 AWG)	9/16″ (5/0 AWG)	6 1/2″	3563A76	70.70

Armored Building Cable and Flexible-Conduit Cutters



Cut armored cable such as BX, MC, and HCF and flexible metal conduit with one hand. Cutting capacity is 1/2″. Cutter is steel with plastic grips. Overall length is 7 5/8″.

3724A2 ..... $40.54

Coaxial and Fiber-Optic Cable Cutters



Produce clean, distortion-free cuts in cable with one-handed operation. Also cuts carbon fiber, copper, fiberglass, and Kevlar. Cuts 3/4″ dia. cable. Overall length is 8 1/4″. Made from steel with plastic-coated handles.

4938A31 ..... $20.43

Self-Healing Die-Cutting Pads

Made from polypropylene, these pads endure pressure from dies and blades. After the pressure is released, they heal themselves to seal surface nicks and cuts. Durometer is 78D. Color is white.

Lg.	Wd.	Thick.		
18″	35″	1″	2967A15	$102.62
20″	39″	1″	2967A17	135.23

Cordless Electrical and Data Cable Cutters



Push the button to cut aluminum and copper power and communication cable. Blades automatically open when the cut is complete. Head rotates 350° so you can cut in tight spots. Cutting capacity is 1 11/32″ dia. (500 MCM).

Cutter has hardened steel jaws and a plastic handle. Operates on one rechargeable 18-volt battery; makes about 100 cuts per battery charge. Includes two batteries, a battery charger, and a carrying case. Overall length is 16″.

2920A13 ..... $1,613.54

Rotary Armored Building Cable and Flexible-Conduit Strippers



Strip armored cable such as BX, MC, and HCF cable and flexible metal conduit. Turn the crank to make a slit in the cable casing, then just twist the casing to remove it without damaging the wires inside or having to debur the ends. Strippers can cut at the end or the middle of a cable roll. Made from die cast zinc.

Capacity BX, MC, HCF Cable	Flexible Conduit	O'all Lg.	Strippers		Repl. Blades	
14/2 to 8/4 AWG	3/8″	7 1/2″	3760A11	$37.79	3760A12	$6.25
2/4 to 4/2 AWG	1/2″ to 3/4″	7 1/2″	3760A21	42.07	3760A12	6.25

Strap Cutters and Breakers

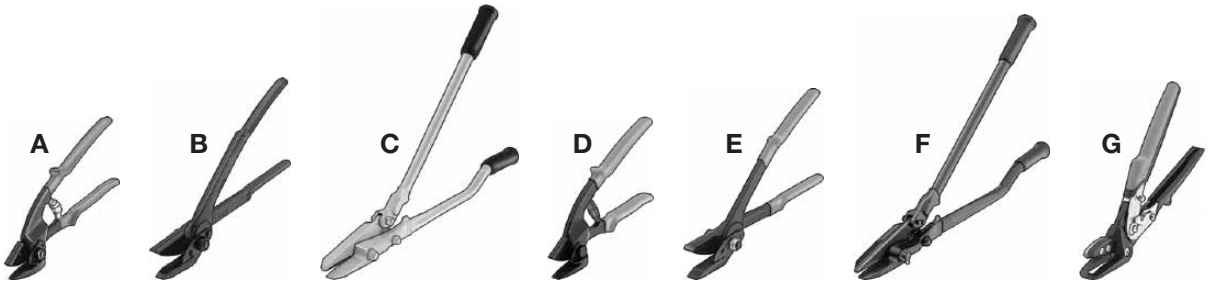

Strap Cutter



Strap Breaker



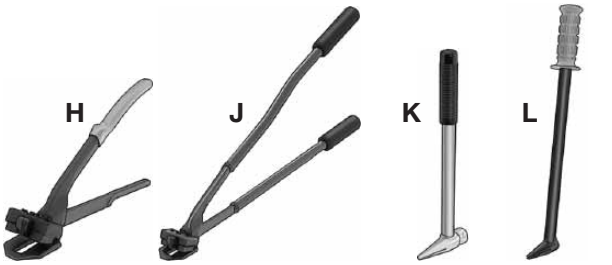

Break or cut steel and plastic strapping with ease.

(A-J) Strap Cutters

Economy—Made from forged steel.

Style A has spring-action jaws that open automatically. One-handed operation.

Style B has long handles for better leverage. One-handed operation.

Style C has an offset lower handle for cutting heavy steel strapping easily and preventing bruised knuckles. Two-handed operation.

Standard—Have hardened steel cutting heads and plastic handle grips.

Style D has spring-action jaws that open automatically. It also cuts tie wire. One-handed operation.

Style E has long handles for extra leverage when cutting wide straps. One-handed operation.

Style F makes light work of cutting heavy steel strapping. Offset lower handle prevents bruised knuckles. Two-handed operation.

Safety—Reduce the chance of worker injury from sharp flying strap ends. Cutters hold both ends of properly tightened strapping until tension is released. They're high-grade alloy steel with a plastic-grip top handle; *Styles G* and *J* also have a plastic-grip bottom handle.

Style G uses leverage for additional power. One-handed operation.

Styles H and *J* have rubber compression pads for greater control of tight straps. *Style H* is one-handed operation; *Style J* is two-handed.

(K&L) Strap Breakers

Made from steel with a durable heat-treated cutting head and a vinyl handle grip. For *Style K,* slip the strap into the slot and rotate the handle to snap the strap. For *Style L,* slip the strap into the slot and lift up or push down the handle to snap the strap.

	Cutting Capacity Thick.	Wd.	Overall Length		
Strap Cutters					
Economy					
A	0.023″	3/4″	9″	2508A11	$42.97
B	0.031″	1 1/4″	12 1/2″	35785A65	41.42
C	0.050″	2″	24 1/2″	3544A1	127.64
Standard					
D	0.035″	3/4″	9″	3727A11	104.72
E	0.050″	1 1/4″	12″	3675A11	111.96
F	0.050″	2″	24″	3909A11	246.13
Safety					
G	0.039″	1 1/4″	10 1/4″	2516A21	89.15
H	0.035″	1 1/4″	12″	35775A11	105.18
J	0.050″	1 1/4″	24 1/2″	35775A12	164.04
Strap Breakers					
K	0.040″	2″	12″	2025T14	33.62
L	0.050″	2″	18″	1920T86	51.85

Sheet Metal Cutters



Standard



Standard with Replaceable Blades



Heavy Duty with Offset Handles

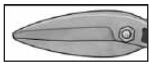

General



Notch/Nibble



Tight Spot

Also known as tinners' snips, these cutters make straight cuts and curves.

Standard Cutters—Made of steel with plastic grips. Meet Fed. Spec. GGG-S-291F and ANSI/ASME Standard B107.16M.

Standard Cutter with Replaceable Blade—Replace blades as they wear. Blades are steel and handles are magnesium. *Replacement blade kit* includes two blades with four screws and nuts.

Heavy Duty Cutters—Blades are heat treated then sharpened for increased performance and durability. Made of steel with plastic grips.

Heavy Duty Cutter with Offset Handles—Angled handles keep your hand away from the material as you cut straight lines and curves. The blades are heat treated then sharpened for increased performance and durability. Made of steel with plain handles.

Notch/nibble cutters (also known as bulldog snips) have long handles and short blades for cutting heavy material in any direction.

Tight spot cutters (also known as duckbill snips) have tapered blades to give you more control when cutting straight lines, tight curves, and circles. They're serrated to prevent slipping.

Cutting Head	O'all Lg.	Cut Lg.	For Max. Thick. Steel	Stain. Steel		
Standard						
General	8″	1 3/4″	1/32″	1/64″	3902A1	$15.93
General	10″	2 1/2″	1/32″	1/64″	3902A4	19.83
General	12″	3″	1/32″	1/32″	3902A6	24.17
General	14″	3 7/8″	3/64″	1/32″	3902A8	47.96
Notch/Nibble	16″	2 1/2″	1/16″	3/64″	3902A9	45.98
Tight Spot	7″	1 3/4″	1/64″	1/64″	3896A1	17.04
Tight Spot	10″	2 1/2″	1/64″	1/64″	3896A3	21.15
Tight Spot	12″	3″	1/64″	1/64″	3896A2	24.89
Standard with Replaceable Blades						
General	13″	3 1/2″	1/32″	1/64″	3902A2	37.54
Replacement Blade Kit for 3902A2					3902A3	9.65
Heavy Duty						
General	14 1/2″	4″	3/64″	—	3895A4	53.00
Notch/Nibble	16 1/2″	2 1/2″	3/64″	—	3905A11	54.18
Heavy Duty with Offset Handles						
General	14 1/4″	4″	3/64″	—	38805A74	59.41

Thin-Gauge Sheet Metal Cutters



Make cuts in steel up to 1/32″ thick and stainless steel up to 3/64″ thick with these compact cutters. They are steel. Overall length is 7 1/8″; cut length is 1 7/16″.

3729A65 ..... $17.52

High-Force Sheet Metal Cutters



A double hinge provides high cutting force with low gripping pressure. These cutters are also known as aviation snips. They cut angles complex patterns, and circles with half the effort required with conventional cutters. A spring opens the jaws for quick cutting, and a locking latch holds them together when the cutter is not in use. Blades are steel. Handles are steel with plastic grips.

(A) Cutters—Blades are serrated to prevent slipping. Cut aluminum, tin, and steel up to 1/32″ thick. 7102A15 also cuts stainless steel up to 1/64″ thick.

Cutting Pattern (See Chart)	Handle Color	O'all Lg.	Cut Lg.		
1	Red	9 1/4″	7/8″	3832A11	$22.48
1	Yellow	9 3/4″	1 1/2″	3585A12	15.61
1	Blue	11 1/2″	3″	7102A15	22.50
2	Red	9 3/4″	1 3/8″	3585A13	15.61
3	Green	9 3/4″	1 3/8″	3585A14	15.61

(B) Cutters with Offset Handles—Keep your hands clear of the material being cut with the offset handles on these cutters. Blades are serrated to prevent slipping. Cut aluminum, tin, and steel up to 3/64″ thick. 3558A13 also cuts stainless steel up to 1/64″ thick and 3673A1 and 3673A2 cut stainless steel up to 3/64″ thick.

Cutting Pattern (See Chart)	Handle Color	O'all Lg.	Cut Lg.		
1	Yellow	9 5/8″	1 1/2″	3558A13	$21.38
2	Red	9 1/4″	1 1/4″	3558A11	21.47
2	Blue	9 3/4″	1 3/8″	3673A1	26.94
2	Black	11″	2 3/8″	6770A13	32.73
3	Green	9 1/4″	1 1/4″	3558A12	21.47
3	Blue	9 3/4″	1 3/8″	3673A2	26.94

(C) Long-Life Cutters with Offset Handles—Blades are high-speed steel so they stay sharp longer than steel blades, and they can be sharpened. Cut steel up to 3/64″ thick and stainless steel up to 1/32″ thick. Handles are offset to keep your hand away from the material being cut.

Cutting Pattern (See Chart)	Handle Color	O'all Lg.	Cut Lg.		
2	Black	10 1/4″	1 5/16″	3545A41	$104.79
3	Black	10 1/4″	1 5/16″	3545A42	104.79

(D) Smooth-Edge Cutter with Offset Handles—This cutter has two blades that cut a 1 3/64″ wide strip—peel it back for smooth edges with little distortion. Cut steel up to 1/32″ thick.

Cutting Pattern (See Chart)	Handle Color	O'all Lg.	Cut Lg.		
1	Gray	9 1/4″	9/16″	3908A11	$28.91

(E) Cutters with Offset Handles for Tight Spaces—The handles are angled 90° from the blade so you can cut material from directly above in tight spaces. Blades are serrated to prevent slipping. Cut steel and stainless steel up to 1/64″ thick.

Cutting Pattern (See Chart)	Handle Color	O'all Lg.	Cut Lg.		
2	Red	8 3/4″	1 1/4″	4249A21	$22.85
3	Green	8 3/4″	1 1/4″	4249A22	22.85

Smooth-Edge High-Force Sheet Metal Cutters with Safety Guard



Prevent waste from flying up as you work. A double blade makes two cuts, creating a 7/64″ wide strip that peels back leaving little distortion and smooth edges. Also known as aviation snips, these cutters have a double hinge that provides high cutting force with low gripping pressure. A spring opens the jaws for quick cutting, and a locking latch holds them together when the cutter is not in use. The serrated blade edge prevents slipping.

For Max. Thick.						
Steel	Aluminum, Brass, Copper	O'all Lg.	Cutter		Repl. Blade	
3/64″	1/16″	11″	3793A4	$56.60	3793A11	$11.82

Sheet Metal Hole Cutters

Make round, square, and irregular-shaped holes in steel and aluminum up to 3/64″ thick; and stainless steel, brass, and copper up to 1/32″ thick with this punch-style hole cutter. Drill a 7/16″ dia. starting hole, then push the cutter through the hole and squeeze the handles together to cut out small pieces of material. Cutter is made of steel. Overall length is 6 3/4″.



Cutter	3623A14	$47.90
Replacement Punch	3623A15	30.00

Punch Cutter Attachment for Portable Drills

Turn your portable drill into a punch cutter for cutting curved and straight shapes in flat and corrugated sheet metal and plastic. To start cuts in the center of material, drill a 1/2″ dia. starting hole. Use with a drill having a maximum speed of 3,000 rpm. Attachment has a 1/4″ hex shank, steel punch, and plastic housing.

Maximum cutting capacity is 1/8″ thick for steel and aluminum; and 1/16″ thick for stainless steel.



Cutter	7293A11	$117.49
Replacement Punch	7293A14	45.12

Sheet Metal Notch Cutters

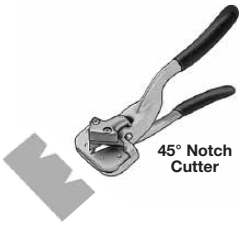

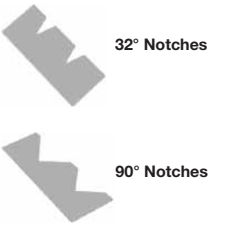

Cut up to 1″ deep V-shaped notches in sheet metal such as steel and aluminum up to 1/32″ thick; and stainless steel up to 1/64″ thick. Cutters are steel with rubber grips. Overall length is 9″.

Notch Angle	Cutters	Each	Repl. Blades	Pair
32°	2448A11	$114.48		
45°	3599A1	178.19	3599A11	$97.36
90°	3599A2	166.98	3599A21	89.64

Powered Sheet Metal Nibblers

About Powered Nibblers and Powered Cutters

Sheet Metal Nibblers—Create an almost burr-free cut with no edge distortion. A nibbler punches small pieces out of the material, producing some waste.

Sheet Metal Cutters—Also known as right-angle shears, these cut with less effort compared to manual cutters. There's little material waste, but they leave slightly rough edges. They're best for straight patterns on flat material, and they also cut curves and notches.

Cutters for Thin, Pliable Materials—These scissor-like cutters minimize material loss and edge distortion in thin, pliable materials.

Smooth-Edge Sheet Metal Cutters—Also known as slotting shears, these make two parallel cuts to create a waste strip that peels away from the remaining material, leaving two smooth edges with little distortion. Use for cutting straight lines, contours, and irregular shapes. They're not for cutting tight curves or corrugated material.

Electric Sheet Metal Nibblers

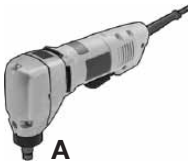
A

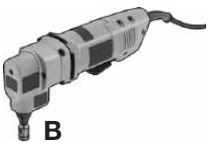
B


C


D


E

Punch small pieces out of material to create an almost burr-free cut with no material distortion. To start cuts in the center of material, drill a starting hole. These nibblers have an aluminum housing, except Style C is magnesium. All include one punch, one die, and instructions.

Style A has a round punch that can rotate 360°. Can cut flat stock up to 60″ per minute. Not for corrugated or uneven material. Nibbler can change cutting direction as desired (no cutting radius required). Has a lever switch. Overall length is 9¾″. Nibbler operates on 120 volts AC/DC, 3 amps, and has an 8-ft. power cord with two-prong plug. UL listed, CSA certified, and meets OSHA requirements.

Style B has a round punch that can rotate 360°. Can cut uneven and corrugated materials up to 84″ per minute. Nibbler can change cutting direction as desired (no cutting radius required). Has a lever switch. Overall length is 10½″. Operates on 120 volts AC/DC, 6.5 amps, and has an 8-ft. power cord with two-prong plug. UL listed, CSA certified, and meets OSHA requirements.

Style C cuts flat stock and uneven and corrugated material up to 105″ per minute. Has a toggle switch and a reversible side handle. Overall length is 12¼″. Operates on 120 volts AC/DC, 4 amps, and has an 8-ft. power cord with two-prong plug. UL listed, C-UL listed, and meets OSHA requirements.

Style D cuts flat stock up to 48″ per minute. Not for corrugated or uneven material. Has a trigger switch with a locking button. Overall length is 13″. Operates on 110 volts AC, 3-5 amps, and has a 10-ft. power cord with three-prong plug.

Style E cut flat stock up to 48″ per minute. Not for corrugated or uneven material. Nibblers have a locking trigger switch and include an extra punch. They can also cut aluminum when used with the punch, die, and stripper for aluminum (sold separately). Overall length is 14¼″. Nibblers operate on 120 volts AC, 15 amps, and have a 10-ft. power cord with three-prong plug.

	For Max. Thick.											
	Steel	Stainless Steel	Aluminum	Cut Wd.	No-Load Strokes/ Minute	Min. Cut Radius▲	Starting Hole Dia.	Nibblers		Replacement Punch		Replacement Die	
A	3/64″	3/64″	3/32″	1/4″	2,100	0″	1/2″	3601A71	$397.55	3601A72★	$77.16	____	____
B	1/16″	3/64″	3/32″	1/4″	1,950	0″	5/8″	4942A71	574.08	4942A72	79.31	4942A73	$79.31
C	1/8″	3/32″	5/64″	0.24″	1,000	2 1/2″	1 21/32″	3604A71	1,037.50	3604A72	61.85	3604A73	207.08
D	11/64″	1/8″	3/16″	0.21″	260	6″	2 1/2″	3557A12	820.00	3557A24	24.54	3557A22	39.55
E	1/4″	11/64″	3/8″	1/4″	240	8″	3 1/2″	3819A77	1,195.00	3819A14	19.09	3819A11	64.09
E	1/4″	11/64″	3/8″	1/4″	240	32″	3 1/2″	3819A1	1,195.00	3819A14	19.09	3819A11	64.09

Accessories for Style E

Punch (Recommended for cutting stainless steel)	3819A16	20.45
Punch (Required for cutting aluminum)	3819A15	25.91
Die (Required for cutting aluminum)	3819A12	66.82
Stripper (Required for cutting aluminum)	3819A17	93.41

▲ The smallest arc (or curve) the tool can cut. Radius ×2 equals the smallest diameter circle the tool can cut. ★ Punch and die set.

Air-Powered Sheet Metal Nibblers


A


B


C


D

These nibblers punch small pieces out of material to create an almost burr-free cut with no material distortion. To start cuts in the center of material, drill a starting hole. Nibblers have an aluminum housing and a lever switch, unless otherwise stated. They include one punch, one die, and instructions. Operate on 90 psi air pressure and require a 3/8″ hose (not included), except Style C, which requires 100 psi and a 1/2″ hose.

Style A cuts corrugated material up to 62″ per minute. Overall length is 7 1/16″. Air inlet is 1/4 NPT female. Air consumption is 21 cfm.

Style B cuts corrugated or uneven material up to 46½″ per minute. Includes an extra punch. Overall length is 7″. Air inlet is 1/4 NPT female. Air consumption is 4 cfm. Housing is plastic.

Style C cuts flat stock and corrugated or uneven material up to 55″ per minute. Overall length is 12″. Air Inlet is 3/8 NPT female. Air consumption is 27 cfm.

Style D cuts flat stock up to 48″ per minute. Not for corrugated or uneven material. Has a locking trigger-style switch. Overall length is 12″. Air inlet is 3/8 NPT female. Air consumption is 21-23 cfm.

	For Max. Thick.											
	Steel	Stainless Steel	Aluminum	Cut Wd.	No-Load Strokes/ Minute	Min. Cut Radius▲	Starting Hole Dia.	Nibblers		Replacement Punch		Replacement Die	
A	3/64″	___	1/32″	1/4″	3,200	1/4″	1/2″	37615A71	$156.05	37615A66	$17.02	37615A67	$34.29
B	3/64″	___	3/64″	3/16″	2,600	3/16″	3/8″	3761A75	203.46	3761A86	16.56	3761A87	38.54
C	3/32″	5/64″	1/8″	1/4″	192	2″	1 1/2″	3837A3	740.00	3837A62	23.86	3837A52	31.50
D	11/64″	1/8″	11/64″	3/16″	192	6″	2 1/2″	24745A13	935.59	3557A24	24.54	3557A22	39.55

▲ The smallest arc (or curve) the tool can cut. Radius ×2 equals the smallest diameter circle the tool can cut.

Electric Sheet Metal Cutters

Use to cut straight patterns in flat material with minimal material loss and less effort compared to manual cutters. They also cut angles and curves. Cutters operate on 120 volts AC/DC, and have an 8-ft. power cord with two-prong plug, unless otherwise stated.

Style A have an adjustable lower blade to accommodate various metal thicknesses. UL listed, CSA certified, and meet OSHA requirements.

Style B has four-sided blades for longer life. When you need a new edge, turn the blade 90°. UL listed, CSA certified, and meets OSHA requirements.

Style C operates on 110 volts AC. It has a 16-ft. power cord with two-prong plug.

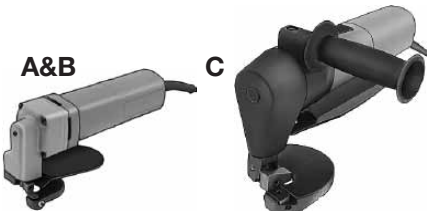

	For Max. Thick. Steel	Stainless Steel	Aluminum	No-Load Strokes/ Minute	Min. Cut Radius▲	Amps	O'all Lg.	Cutters	Each	Repl. Blades	Pair
A	3/64″	3/64″	3/64″	4,000	1/2″	4	10 1/4″	38005A72	$344.30	38005A74	$24.81
A	1/16″	3/64″	1/16″	4,000	3/4″	5	10 1/4″	38005A73	379.75	38005A75	24.45
B	3/32″	1/16″	7/64″	1,950	1″	6.5	10 1/2″	38365A11	618.52	38365A12★	48.53
C	9/64″	1/16″	9/64″	750	1″	10	12 3/4″	3834A72	2,426.81	3834A73	382.20

▲The smallest arc (or curve) the tool can cut. Radius x2 equals the smallest diameter circle the tool can cut.
★ Sold individually. Tool requires two identical blades (upper and lower).

Electric and Air-Powered Cutters for Thin, Pliable Materials

Also known as scissor-blade shears, the bottom blade remains stationary while the upper blade moves up and down to cut. They leave a clean sheared edge. Blades are steel.

(A) Cutters for Thin Metals—Minimize material loss and edge distortion with these scissor-like cutters that cut metal up to 1/64″ thick. Blades close completely when cutting. 3818A18 has a variable-speed trigger. Meet OSHA requirements.

(B&C) Pliable Sheet Cutters—For pliable materials including plastic up to 1/8″ thick and wire cloth up to 3/64″ thick. Blades do not close completely. *Style B* is UL and C-UL listed.

Electric cutters are rated for 5 amps. They have a variable speed motor, operate on 120 volts AC, and have an 8-ft. power cord with two-prong plug.

Air-powered cutters require 90 psi air pressure. Air inlet is 1/4 NPT female. Requires 1/4″ to 1/2″ hose (not included). Air consumption is 4 cfm.

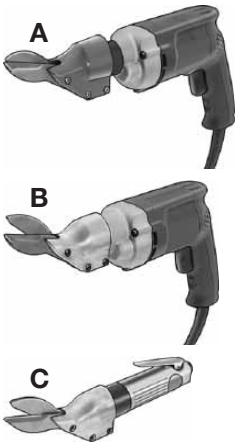

	No-Load Strokes/ Minute	O'all Lg.	Cutters		Repl. Lower Blade		Repl. Upper Blade	
Cutters for Thin Metals								
A Electric	2,500	16″	3818A18	$326.12	3818A24	$32.36	3818A22	$32.36
A Air Powered	2,200	11″	3818A19	311.29	3818A24	32.36	3818A22	32.36
Pliable Sheet Cutters								
B Electric	2,500	16″	38185A16	286.59	38185A26	34.85	38185A25	34.85
C Air Powered	2,500	12″	38185A14	278.25	38185A26	34.85	38185A25	34.85

Smooth-Edge Electric and Air-Powered Sheet Metal Cutters

A double blade creates two cuts and a 7/32″ wide waste strip that peels back, leaving two smooth edges with little distortion. These cutters are also known as slotting shears. To start cuts in the center of material, drill a starting hole. They cut sheet metal in straight lines, contours, and irregular shapes. Blades are steel.



(A) Electric Cutter—Rated for 5 amps. Comes with a wrench for head adjustment and lubricant. Cutter operates on 120 volts AC and has an 8-ft. power cord with two-prong plug. UL listed, C-UL listed, and meets OSHA requirements.

(B&C) Air-Powered Cutters—Operate on 90 psi air pressure. Air inlet is 1/4 NPT female. Requires 1/4″ to 1/2″ hose (not included). Air consumption is 4 cfm. Cutters include a wrench for head adjustment and lubricant.

(D) Cordless Cutter—Comes with a charger, hex wrench, bag, and two 20-volt lithium ion battery packs. CSA certified. Meets OSHA requirements.

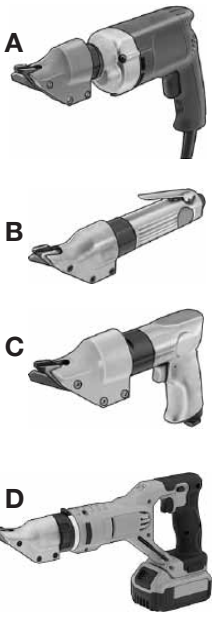

	For Max. Thick. Steel	Stainless Steel	Aluminum	No-Load Strokes/ Minute	Min. Cut Radius▲	Starting Hole Dia.	O'all Lg.		
Electric Cutter									
A	1/16″	3/64″	3/32″	2,500	7″	1/2″	14″	3717A16	$274.91
Air-Powered Cutters									
B	3/64″	1/32″	3/64″	2,500	6″	1/2″	10″	3622A21	242.12
C	1/16″	3/64″	3/32″	2,200	7″	1/2″	10 1/2″	3717A19	291.53
Cordless Cutter									
D	3/64″	1/32″	3/64″	2,450	4 1/2″	7/32″	15 1/2″	7080A34	440.45
Replacement Blades for Electric and Air-Powered Cutters									
Movable Center Blade for Styles A and C								3717A22	28.63
Movable Center Blade for Style B								3717A25	22.41
Left Stationary Blade for Styles A-D								3717A23	21.15
Right Stationary Blade for Styles A-D								3717A24	21.15
Replacement Parts for Cordless Cutters									
Replacement Battery Pack								29835A115	136.00
Replacement Charger								29835A112	80.86

▲The smallest art (or curve) the tool can cut. Radius x2 equals the smallest diameter circle the tool can cut.

Sheet Metal Cutters

Bench-Mount Sheet Metal Cutters

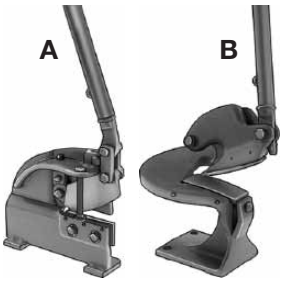

Make clean cuts in thick sheet metal, as well as rubber and leather. Blades are steel and can be sharpened.

(A) Straight-Cutting Cutter—Frames are steel. Base has two 1/2" dia. mounting holes (fasteners not included).

(B) Curve-Cutting Cutter—Turn your workpiece while cutting to create curves and complex shapes. Frame is steel. Base has three 1/2" dia. mounting holes (fasteners not included). The *4 1/4" cut length cutter* has an adjustable hold-down bar to keep material in place.

	Cut Lg.	For Max. Thick. Steel	Stainless Steel	Aluminum	O'all Lg.	O'all Wd.	O'all Ht.	Handle Lg.	Cutters	Each	Repl. Blades	Pair
A	2 1/2"	1/8"	1/16"	—	8"	3 1/4"	8"	20"	**3788A2**	$442.57	**3788A15**	$212.50
A	2 1/2"	3/16"	1/8"	—	11"	3 3/4"	13"	30"	**3788A3**	607.39	**3788A16**	205.42
B	3"	1/16"	3/64"	1/16"	7"	9"	14"	18"	**3796A2**	618.97	**3796A6**	137.42
B	3 1/8"	1/8"	1/16"	1/8"	9"	10"	15"	24"	**3796A3**	863.08	**3796A7**	177.08
B	4 1/4"	3/16"	1/8"	3/16"	9"	14"	15"	30"	**3796A4**	1,247.76	**3796A8**	247.92

Light Duty Long-Cut Bench-Top Sheet Metal Cutters



A 12" long blade makes long, straight cuts in thin metals and flexible materials. Not for use on phenolic or other rigid materials. Cut steel, aluminum, tin, brass, and copper up to 1/64" thick. Cutter is 14 1/2" Lg. x 25" Wd. x 11" Ht. Handle is 17 1/4" long. Frame is aluminum and steel. Blades are steel and can be sharpened.

	Cut Lg.		
Cutter			
12"		**86745T51**	$624.04
Replacement Blades			
Lower Blade		**86745T53**	131.52
Upper Blade		**86745T52**	193.32

Notch-Cutting Bench-Mount Sheet Metal Cutters

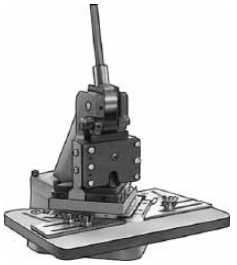

Notch, cut, and pierce a variety of materials including metal, plastic, and vinyl. These versatile cutters have an adjustable stroke length for piercing and knockout operations. Frame is made of cast iron. Blades are steel and are set at 90°. Base has four 1/2" dia. mounting holes (fasteners not included). Tools cut a 90° notch (maximum size 6" x 6") in steel, tin, and iron up to 3/64" thick; stainless steel and nickel up to 1/32" thick; aluminum up to 1/8" thick; and copper and brass up to 1/16" thick.

Replacement blades are sold in a set of four.

Optional floor stand (sold separately) is 30" Ht. x 16 1/2" Wd. x 19" Dp.

O'all Lg.	O'all Wd.	O'all Ht.	Handle Lg.	Cutter	Each	Repl. Blades	Set
19"	18"	15"	22 1/4"	**3803A8**	$958.93	**3803A9**	$400.71
Optional Floor Stand						**3803A91**	316.07

Long-Cut Bench-Top Sheet Metal Cutters



This large-capacity cutter has a 25" blade for long, straight cuts. It has a 11 13/16" x 28 1/2" work surface, an easy-to-read front gauge (up to 12"), a back gauge (up to 12 1/2"), a finger safety guard, and an automatic material hold-down clamp. Frame is steel. Weight is 220 lbs. Blades are steel and can be sharpened. Cut steel up to 1/32" thick, stainless steel up to 1/64" thick, and aluminum up to 1/16" thick. Also cuts brass.

Cut Lg.	O'all Lg.	O'all Wd.	O'all Ht.	Handle Lg.		
25"	27 3/32"	32 1/2"	36 7/8"	25"	**36665A11**	$1,733.00
Replacement Blade					**36665A14**	330.34

Floor-Mount Sheet Metal Cutters

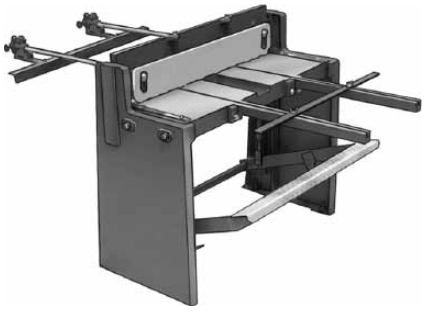

Make straight cuts up to 52 1/4" long in sheets. Also known as squaring shears, these cutters are foot operated so your hands are free to position the material. Frame is cast iron. Blades are steel and can be sharpened.

Cutters have a material hold-down clamp, a front gauge, a double-locking back gauge with embossed scales and vernier wheels for fine adjustments, 30" long front extension arms with stop, and pedal stops for safety. Back gauge range is up to 30"; front gauge range is up to 37".

Cut steel, tin and iron up to 3/64" thick; stainless steel and nickel up to 1/32" thick; aluminum up to 1/8" thick; and brass and copper up to 1/16" thick.

Cut Lg.	O'all Lg.	O'all Wd.	O'all Ht.	Cutters	Each	Repl. Blades	Pair
37"	46 1/2"	27"	42"	**3809A2**	$2,197.74	**3809A11**	$655.71
52 1/4"	61"	36"	42"	**3809A4**	2,898.65	**3809A12**	831.79

Rounded-Corner-Cutting Bench-Top Sheet Metal Cutters

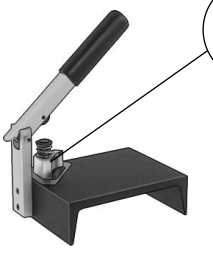

Cutting Base with Corner Punch



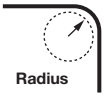

Combine the cutting base and a corner punch to make rounded corners in sheet metal. Cuts steel, brass, and copper up to 1/64" thick, and aluminum up to 1/32" thick.

Cutting base is 8" Lg. x 6" Wd. x 2 1/2" Ht. with a 10 1/4" long handle. Made of aluminum.

Corner punch is hardened aluminum and steel. **To Order:** Please specify radius: 1/8", 3/16", 5/16", 3/8", or 1/2".

Cutting Base	**23805A11**	$123.75
Corner Punch	**23805A92**	118.75

Angle-Iron Cutters



Mount this cutter to the floor and use it to cut through steel angle iron up to 2" x 2" x 1/4". It has a cast iron frame, steel blades, and a long handle for maximum leverage. Base has two 1/2" dia. mounting holes (fasteners not included). Cutters are 13 1/2" Lg. x 7" Wd. x 10" Ht. Handle is 72" long.

Cutter	**3807A1**	$627.47
Repl. Blade for Jaw	**3807A3**	89.09
Repl. Blade Set for Base	**3807A5**	122.09

Paper Cutters



Standard Tabletop with Wood Base



Floor Model



Large-Capacity Tabletop

Cut most paper products. Not for sheet metal, wood, leather, rubber, or roofing materials.

Tabletop Paper Cutters

Standard—Have a self-sharpening blade, a base marked with a 1/2″ grid, an inch/metric rule, a trigger-locking safety latch, a blade guard, and skid-resistant feet. 3823A42, 3823A44, and 3823A21 also have hold-down clamps to prevent slipping and improve cutting accuracy.

Cutters with a polypropylene base have steel blades and are warp, crack, and peel resistant. Not for mat board.

Cutters with a wood base have steel blades.

Also Available: Replacement blades. Please ask for 3823A51 and specify handle or base blade and paper cutter part number.

Large Capacity—A clamp securely holds the paper in place while roller guides control the blade for easier cutting of large capacities. It has a hardened-steel blade, a safety latch, and protective rubber feet. The back stop is marked with inch and metric scales.

Base Size	Sheet Cap.★/ Max. Thick.	Cut Lg.		
Standard with Polypropylene Base				
11″ ×12″	10 / 1/32″	12″	3823A12	$63.22
12″ ×15″	10 / 1/32″	15″	3823A17	65.07
13″ ×18″	10 / 1/32″	18″	3823A18	120.32
Standard with Wood Base				
12 1/2″×12″	20 / 1/16″	12″	3823A19	117.38
12 1/2″×15″	20 / 1/16″	15″	3823A23	166.73
12 1/2″×15″	30 / 1/8″	15″	3823A42	215.02
18 1/2″×18″	20 / 1/16″	18″	3823A14	195.50
18 1/2″×24″	20 / 1/16″	24″	3823A15	276.47
18 1/2″×24″	30 / 1/8″	24″	3823A44	331.04
23 1/2″×30″	20 / 1/16″	30″	3823A16	414.68
23 1/2″×36″	20 / 1/16″	36″	3823A21	602.58
30″ ×30″	15 / 1/16″	30″	3823A24	675.82
Large Capacity with Wood Base				
19″ ×19″	350 / 1 1/2″	12″	3561A31	1,109.44

★ Based on standard 20-lb. paper.

Floor-Model Paper Cutter

Paper cutter has a self-sharpening steel blade, a wood base marked with a 1/2″ grid, a 1/16″ increment precision rule, a safety guard rail, a blade handle lock, and a storage shelf.

Size, Lg.×Wd.×Ht.	Sheet Cap.★/ Max. Thick.	Cut Lg.		
30″×30″×30″	15 / 1/16″	30″	3823A22	$824.61
Replacement Handle Blade			3823A71	194.92
Replacement Base Blade			3823A72	56.15

★ Based on standard 20-lb. paper.

Manual Rubber Sheet and Belt Cutters

Slice through rubber belts, mats, and sheets. The cutting surface has a raised edge to keep material aligned for straight cuts. Cutter has a 14″ blade and a built-in cutting table. One side of the cutting table is longer and has an edge to keep materials lined up in the cutter for consistently straight, square cuts. Body is aluminum. Blade is steel. Overall size is 20″ Lg.×12 1/2″ Wd.×27 1/2″ Ht.

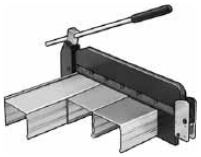

Cut Lg.	For Max. Thick.	Cutter		Repl. Blade	
14″	3/8″	6141K11	$793.06	6141K9	$153.82

Paper Cutters with Safety Blades



Light Duty



Heavy Duty

These tabletop paper cutters have a self-sharpening blade that is partially enclosed to prevent accidental cuts. Cut most paper products. Not for sheet metal, wood, leather, rubber, or roofing materials.

Light Duty—Have a steel cutting wheel with a molded-plastic handle that's mounted on a single guide rail, a metal base with an inch rule, and a see-through paper clamp.

Heavy Duty—Cut light foils and film to mat board. Paper cutters have a tungsten steel cutting wheel that glides on dual guide rails for more precise cuts. They have a gray melamine wood base marked with a 1/4″ grid, an aluminum inch/metric side rule, an adjustable paper stop, and a clamp.

Base Size	Sheet Cap.★/ Max. Thick.	Cut Lg.		
Light Duty				
17″ × 8 1/4″	5 / 1/64″	12 1/2″	3828A34	$77.28
22 1/2″× 8 1/4″	5 / 1/64″	18″	3828A32	87.07
Heavy Duty				
18 1/2″×15″	♣ / 1/8″	12″	3828A51	320.91
24 1/2″×15″	♣ / 1/8″	18″	3828A53	390.91
30 1/2″×15″	♣ / 1/8″	24″	3828A56	472.73
42 1/2″×15″	♣ / 5/64″	36″	3828A57	650.00
Replacement Parts				
Handle Blade Assembly for Light Duty Models			3828A37	29.70
Blade for Heavy Duty Models			3828A55	118.91

★ Based on standard 20-lb. paper. ♣ Not rated

Precision Paper Cutters with Safety Blades



To prevent accidents, a clear polycarbonate guard completely covers the steel cutting blades. These tabletop paper cutters have a metal base, a hand clamp that exerts extra pressure for improved cutting accuracy, a back gauge, and a side guide with inch/metric scale. Cut thin paper to mat board. Not for sheet metal, wood, leather, rubber, or roofing materials.

Also Available: Replacement upper and lower blades are sold as a set. Please ask for 3850A3 and specify paper cutter part number.

Base Size	Sheet Cap.★/ Max. Thick.	Cut Lg.		
15 3/16″ ×11 15/16″	25 / 1/8″	13 3/4″	3850A15	$304.36
16″ ×14 1/4″	50 / 1/8″	14 3/4″	3850A11	631.64
30 5/8″ ×20 1/4″	40 / 3/16″	28 1/2″	3850A13	1,031.80

★ Based on standard 20-lb. paper.

Powered Foam Cutters

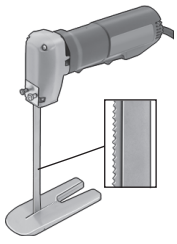

Similar to a jigsaw, this cutter uses reciprocating action to cut any density of plastic- and rubber-based foam. It also cuts carpet.

The included footplate guides the blade when cutting corners. For cutouts, remove the footplate.

This cutter comes with an 8″ steel blade and blade guide. Maximum cutting depth is 8″. To install the optional 12″ blade, you will need the *blade guide* (both sold separately).

Operates on 120 volts AC, 3.2 amps; and has a 7-ft. power cord with two-prong plug. UL and C-UL listed. Meets OSHA requirements.

	No-Load Strokes/Minute	O'all Lg.		
Cutter	3,200	9 3/4″	4981A22	$604.83
Replacement Parts and Accessories				
Replacement 8″ Blades (Pair)			4981A42	34.55
Optional 12″ Blades (Pair)			4981A45	37.45
Blade Guide for 12″ Blades			4981A46	68.71

All-Metal Scissors


Straight Handle with Pointed Tips


Offset Handle with Blunt-Point Tips

Scissors are for right-hand use except the left-hand offset handle scissors. *Chrome plating* adds durability. **Blunt-point** tips are rounded to prevent snags and injury. **Offset** handles keep your hand clear of the material as you cut on flat surfaces. **Heavy duty** blades are wider, thicker, and stronger and have a raised edge to prevent blade separation.

O'all Lg.	Cut Lg.	Handle Finish	Blade Finish		
Pointed Tips					
Straight Handle					
6 1/8"	2 5/8"	Chrome Plated	Chrome Plated	3886A1	$21.30
7 1/2"	3 1/4"	Chrome Plated	Chrome Plated	3886A3	25.07
8 1/4"	4"	Chrome Plated	Chrome Plated	3886A5	26.24
9 1/4"	4 1/2"	Chrome Plated	Chrome Plated	3886A6	29.86
10 1/2"	4 7/8"	Chrome Plated	Chrome Plated	3886A7	34.86
Offset Handle					
7 1/4"	2 3/4"	Chrome Plated	Chrome Plated	3879A3	20.89
8"	3 1/2"	Chrome Plated	Chrome Plated	3820A13	23.84
9 3/4"	4"	Chrome Plated	Chrome Plated	3879A5	25.04
10 3/8"	4 3/4"	Painted	Nickel Plated	3820A14	40.08
12 1/2"	5 3/4"	Painted	Nickel Plated	3820A15	45.94
12 1/2"	6 1/8"	Painted	Nickel Plated	24535A12	47.38
Offset Handle with Heavy Duty Blades					
10 3/8"	4 3/4"	Painted	Nickel Plated	3879A8	43.22
12 1/2"	6 1/8"	Painted	Nickel Plated	3879A9	51.96
Left-Hand Offset Handle					
8"	3 1/2"	Plastic Coated	Nickel Plated	3879A46	31.91
10 3/8"	4 3/4"	Painted	Nickel Plated	3910A1	35.11
Blunt-Point Tips					
Straight Handle					
6"	2 1/4"	Chrome Plated	Chrome Plated	37695A71	25.29
8"	3 3/4"	Chrome Plated	Chrome Plated	37695A73	27.17
10"	4 3/8"	Chrome Plated	Chrome Plated	37695A75	40.80
Offset Handle					
8"	3 1/4"	Chrome Plated	Chrome Plated	37275A73	30.66
10"	4 1/4"	Chrome Plated	Chrome Plated	3591A71	37.25
10 3/8"	4 3/4"	Plastic Coated	Nickel Plated	24535A21	43.04
12"	5 3/8"	Chrome Plated	Chrome Plated	3591A72	43.10

Corrosion-Resistant All-Metal Scissors



Cut in wet areas without any worry of rust or corrosion. These scissors handle anything from paper and gasketing to poultry. For right-hand use.

Serrated blades grip material to prevent slipping.

Knife-edge blades are precision ground to a sharp angle for fast, clean cuts.

O'all Lg.	Cut Lg.	Blade Edge		
Chrome-Plated Steel				
8"	3 1/2"	1 Straight/1 Serrated	3684A22	$28.60
Stainless Steel				
8"	3"	1 Serrated/1 Knife	39465A14	35.70
8"	3"	Knife	39465A13	34.85
9"	3"	Straight	39465A16	35.77

Fine-Point All-Metal Scissors

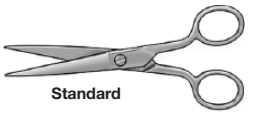
Standard


Barber Style

Tips are narrow and sharp for fine cutting and trimming. They cut material such as filaments and fine paper.

Chrome and *nickel plating* add durability. *Stainless steel* is corrosion resistant.

Standard style scissors are for right- and left-hand use. **Barber style** scissors have serrated blades that grip material to prevent slipping. They are for right-hand use only.

	O'all Lg.	Cut Lg.		
Chrome-Plated Steel				
Standard	4 1/2"	1 1/2"	3882A1	$15.52
Standard	5 1/8"	2 1/8"	3882A2	16.46
Standard	5 1/2"	2"	3871A1	20.58
Standard	6 1/8"	2 1/2"	3882A3	18.22
Nickel-Plated Steel				
Barber Style	7 5/8"	3"	3605A11	22.92
Stainless Steel				
Barber Style	5 5/8"	1 7/8"	3605A12	28.55
Barber Style	10"	5"	3605A13	50.64

High-Force All-Metal Scissors

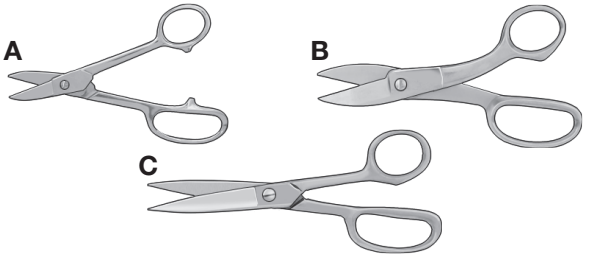

Longer handles and shorter blades give you more leverage than other scissors to cut tough materials such as leather, rope, and thick cardboard. For right-hand use. *Chrome plating* adds durability. *Stainless steel* is corrosion resistant. **Serrated** blades grip material to prevent slipping.

	O'all Lg.	Cut Lg.	Blade Edge		
Chrome-Plated Steel					
A	7 1/8"	1 3/8"	Straight	3891A18	$22.53
B	7 3/4"	2"	1 Straight/1 Serrated	36875A11	23.83
B	8 5/8"	2"	1 Straight/1 Serrated	36875A12♥	31.73
C	8 5/8"	3"	Straight	3891A11	23.44
C	9"	3"	Straight	3891A14▲	25.64
Stainless Steel					
C	8"	3"	1 Straight/1 Serrated	3891A15	30.98
C	8 5/8"	3"	Straight	3891A12	30.22

♥ Can also cut Kevlar. ▲ Has plastic-coated grips.

Long-Life Blunt-Point Lightweight Scissors



Blades are ceramic to stay sharp longer than metal blades, and points are rounded to prevent snags and injury. These scissors have lightweight handles to minimize hand fatigue. For right- and left-hand use.

O'all Lg.	Cut Lg.		
7"	2 1/4"	4945A47	$48.79

Long-Life Lightweight Scissors

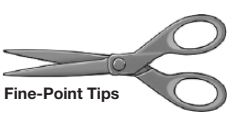
Fine-Point Tips

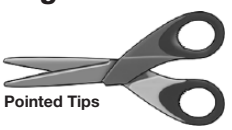
Pointed Tips

Titanium is bonded over stainless steel for blades with a sharp, long-lasting cutting edge that's three times harder than uncoated stainless steel. The blades resist corrosion. Handles have rubber grips. For right- and left-hand use, unless noted.

Fine-point tipped scissors have narrow, sharp tips for fine cutting and trimming. **Nonstick** blades cut tape, hook and loop, and other glued surfaces without the adhesive sticking to the blades. **Offset** handles keep your hand clear of the material as you cut on flat surfaces.

	Fine-Point Tips				Pointed Tips				Nonstick Blades with Pointed Tips			
O'all Lg.	Cut Lg.	Handle Type			Cut Lg.	Handle Type			Cut Lg.	Handle Type		
5"	2 1/4"	Straight	3438A11	$10.37	2 3/4"	Straight	3438A5	$14.26	—	—	—	—
7"	3 1/4"	Straight	3438A12	11.68	3 1/4"	Straight	3438A6	15.58	—	—	—	—
8"	3 1/4"	Straight	3438A13	12.98	3 1/2"	Offset	3438A7♦	16.86	3 1/2"	Offset	3438A47♦	$17.39
8"	3 1/2"	Offset	3438A14♦	12.98	3 3/4"	Straight	3438A8	16.86	3 3/4"	Straight	3438A46	17.39
9"	4"	Offset	3438A15♦	13.10	4 1/2"	Offset	3438A9♦	19.48	4 1/2"	Offset	3438A48♦	20.01

♦ Right-hand use only.

Lightweight Scissors

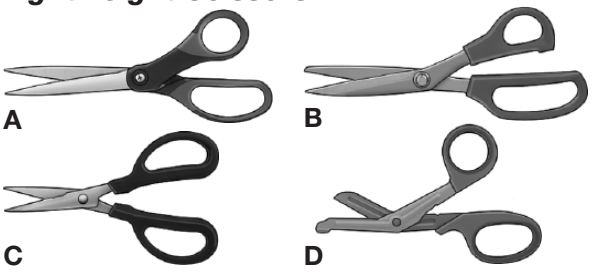

Minimize hand fatigue with the lightweight handles on these scissors. Works well on fabric, paper, and cardboard. The blades on these scissors are corrosion-resistant stainless steel.

(A&B) General Purpose—Handles are plastic. For right-hand use, unless noted.

(C&D) High Force—For extra leverage to cut through tough materials such as leather, rope, and thick cardboard, these scissors have long handles and short blades. The blades have a serrated edge that grips material to prevent slipping. Handles are rubber, unless noted. Style C is for right- and left-hand use. Style D has points that are rounded to prevent snags and injury. They are for right-hand use.

Offset handles keep your hand clear of the material as you cut on flat surfaces.

PTFE blade coating is nonstick. *TiN (titanium nitride)* coating extends blade life and is nonstick.

O'all Lg.	Cut Lg.	Blade Finish		
(A) General Purpose with Straight Handles				
5″	1 5/8″	PTFE Coated	3608A22	$11.00
5 1/4″	2″	Uncoated	7091A16	9.60
8″	3″	Uncoated	7091A11	11.72
8″	3 1/2″	TiN Coated	3344A46	12.02
9″	3 1/4″	Uncoated	7091A12	12.40
(B) General Purpose with Offset Handles				
7 1/4″	2 1/2″	Uncoated	3608A21	13.06
8 1/4″	3″	Uncoated	3608A11	11.89
8 1/4″	3 1/4″	Uncoated	3608A12★	14.85
8 1/4″	3 1/4″	PTFE Coated	3608A23	14.38
8 1/2″	3 5/8″	Uncoated	3608A24	15.60
9″	3 1/2″	Uncoated	7091A13	15.28
9″	3 3/4″	Uncoated	7091A14	16.60
9 1/4″	4 1/4″	Uncoated	3608A14	14.85
9 1/2″	4 1/4″	TiN Coated	3344A47	17.75
11 1/2″	6 1/2″	Uncoated	3608A15	15.58
(C) High Force with Straight Handles				
6″	1 3/4″	Uncoated	3610A12	10.91
7″	2″	Uncoated	3610A13	12.33
(D) High Force with Offset Handles				
7 1/4″	1 3/4″	Uncoated	3768A11■	5.66
7 1/4″	1 3/4″	TiN Coated	3768A12	8.24

★Left-hand use only. ■ Handles are plastic.

Easy-Cut Lightweight Scissors

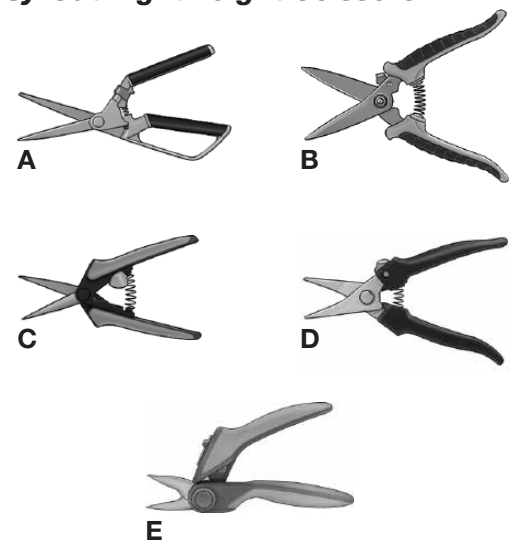

Spring action opens the blades for quick repeat cuts. These scissors work well on fabric, paper, and cardboard. Blades are corrosion-resistant stainless steel, and handles have a rubber-cushioned grip, unless noted.

(A&B) General Purpose—Style A is for right-hand use. Style B is for right- and left-hand use.

(C) Fine Point—Tips are narrow and sharp for fine cutting and trimming. Scissors are for right- and left-hand use.

(D&E) High Force—These scissors have long handles and short blades for extra leverage to cut through tough materials such as leather, rope, and thick cardboard. They are for right- and left-hand use.

TiN (titanium nitride) coating extends blade life and is nonstick.

Offset handles keep your hand clear of the material as you cut on flat surfaces.

	O'all Lg.	Cut Lg.	Blade Finish	Handle Type		
General Purpose						
A	10″	3″	Uncoated	Offset	36705A32	$17.22
A	10″	3″	TiN Coated	Offset	36705A48	19.89
B	8″	2 1/4″	TiN Coated	Straight	3540A14	15.62
Fine Point						
C	6″	1 1/2″	Uncoated	Straight	36705A31	12.90
High Force						
D	7 1/4″	1 1/2″	Uncoated	Straight	3512A21	10.19
E	8″	1 1/2″	Uncoated	Offset	36705A34	17.22

Noncushioned grip.

Scissors

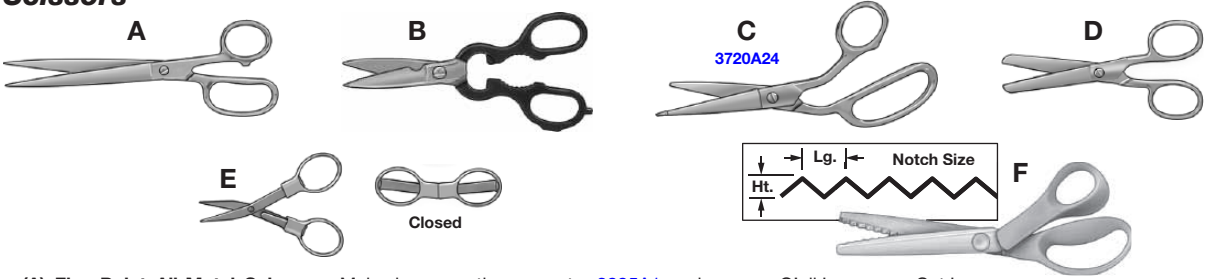

(A) Fine-Point All-Metal Scissors—Make long, continuous cuts. 3885A1 and 3885A4 are chrome-plated steel. 3877A12 is stainless steel with plastic-coated handles. For right-hand use.

(B) All-Metal Scissors with Jar/Bottle Opener—Cut twine, rope, cardboard, wire screens, light metals, and more. Also open jars and bottles. Made of stainless steel with painted handles. For right- and left-hand use.

(C) First-Aid Scissors—Slip the rounded points on these scissors under bandages to cut without causing injury. 3720A22 and 3720A23 are stainless steel. 3720A24 has large rings for easy finger insertion and are chrome-plated steel. All are for right-hand use.

(D) Blunt-Point Scissors—Prevent snags and injury with the rounded points on these scissors. Blades are chrome-plated steel. For right- and left-hand use.

(E) Compact Fine-Point Scissors—Folds to cover pointed tips so you can safely tuck it into a pocket or drawer. Blades are stainless steel; handles are chrome-plated zinc. For right- and left-hand use.

(F) Zigzag-Blade Scissors for Fabric—Also known as pinking shears, these leave a ravel-resistant zigzag edge. Blades are stainless steel; handles are plastic. For right-hand use.

	O'all Lg.	Cut Lg.		
A	9″	4 5/8″	3885A1	$23.38
A	11 7/8″	6 7/8″	3885A4	32.04
A	16″	8″	3877A12	36.11
B	8 1/4″	2 5/8″	3889A21	23.25
C	5 1/2″	1 1/2″	3720A22	15.16
C	7 1/4″	2″	3720A23	22.98
C	9 1/8″	3″	3720A24	21.72
D	4 3/8″	1 3/4″	3887A1	15.56
D	5 1/4″	2 1/4″	3887A3	15.92
D	6 1/4″	2 3/4″	3887A5	17.89
D	6 5/8″	2 3/4″	3887A7	17.40
E	3 3/4″■	1 1/8″	3703A11	11.15
F	9″	4″♦	3884A1	38.54

■ Folded length is 3 1/4″.
♦ Notch size is 1/4″ Lg. x 3/4″ Ht.

Scissors for Leather



These scissors have one serrated edge that grips material to prevent slipping and one knife edge that's precision ground to a sharp angle for fast, clean cutting. Made of steel, the blades have rounded tips to prevent snags and injury. Handles are offset to keep your hand clear of the material as you cut on flat surfaces. Overall length is 9¾"; cut length is 3¼". For right-hand use.

3878A11	$37.38

Scissors for Rubber and Thick Fabric



Cut carpet, rubber, and fabric. Blades are steel that is tempered, precision ground, and double plated with chrome for added durability. The handles are offset to keep your hand clear of the material as you cut on flat surfaces. 3877A15 has plastic-coated handles. Both are for right-hand use.

O'all Lg.	Cut Lg.		
11½"	4½"	3877A15	$49.74
12½"	6"	3877A11	73.51

Scissors for Kevlar and Abrasive Materials

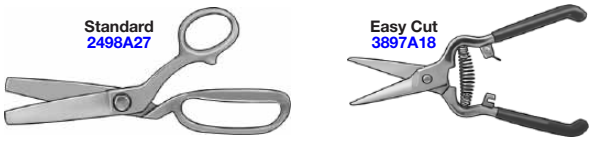

Easily cut abrasive materials such as Kevlar, wire, and metal.

Standard Scissors—The handles are offset to keep your hand clear of the material as you cut on flat surfaces. For right-hand use. 2498A28 is steel with plastic grips and pointed tips. 2498A27 is steel with blunt-point tips that are rounded to prevent snags and injury.

Easy-Cut Scissors—After each cut, the jaws spring open to make continuous cutting easy. The blades are serrated to grip material and prevent slipping. 3897A12 has short, narrow blades for getting into tight spots. All are made of steel with plastic-coated grips. For right- and left-hand use.

Blade Edge	O'all Lg.	Cut Lg.	Blade Finish		
Standard Scissors					
Straight	8"	3"	Uncoated	2498A28	$35.98
Straight	10"	3¾"	Chrome Plated	2498A27	48.45
Easy-Cut Scissors					
Serrated	6½"	5⁄8"	Chrome Plated	3897A12	31.34
Serrated	8¼"	2"	Chrome Plated	3897A18	27.61
Straight/Serrated	8⅛"	2"	Chrome Plated	3897A19	29.82

No-Fray Hot-Blade Scissors for Fabric



Eliminate fraying and produce a smooth edge when cutting carpet, rope, and synthetic fabrics. These scissors include a temperature control unit with 12 settings that let you choose temperatures from 80° to 540° F to sear thread ends. Scissors generate 100 watts and are made of steel. Operate on 120 volts AC, have a 6-ft. power cord with three-prong plug, and include a stand. Offset handles keep your hand clear of the material as you cut on flat surfaces. For right-hand use.

	O'all Lg.	Cut Lg.		
Scissors with Control Unit	12"	5"	2843A41	$543.23
Replacement Temperature Control Unit			2843A42	107.83

Compact Scissors

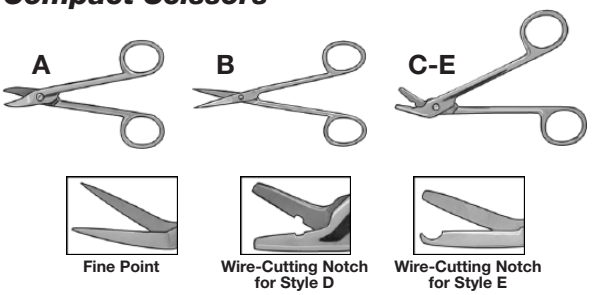

Make short cuts in tight spaces. Scissors are nickel-plated steel.

Styles A&B—For right- and left-hand use.

Styles C-E—Handles are offset to keep your hand clear of the material as you cut on flat surfaces. For right-hand use. Style D has a wire-cutting notch and a serrated jaw to prevent material from slipping. Style E has a wire-cutting notch to selectively cut small wires.

Fine-point tips are narrow and sharp for fine cutting and trimming.

Blunt-point tips are rounded to prevent snags and injury.

Blade	Tip	O'all Lg.	Cut Lg.		
A	Pointed	4⅛"	5⁄8"	3892A2	$14.89
A	Pointed	4⅛"	¾"	3892A3♦	14.89
A	Pointed	4¼"	¾"	3892A1	13.91
B	Fine Point	3½"	5⁄8"	3611A31	12.36
B	Fine Point	4⅜"	7⁄8"	3611A21	14.37
B	Fine Point	4½"	1"	3611A11	14.87
C	Fine Point	4½"	1"	2870A41	5.84
D	Blunt Point with Wire-Cutting Notch	4¾"	½"	2870A21	7.50
E	Blunt Point with Wire-Cutting Notch	5"	1½"	2870A31	6.67

♦ One blade is serrated to prevent wire slippage.

Electric Fabric Cutters

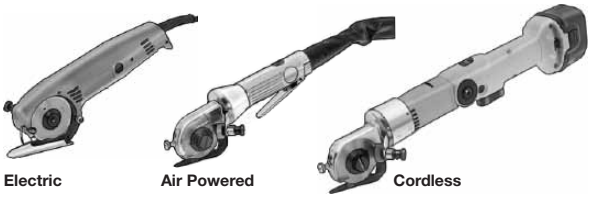

Precisely cut fabric such as burlap, Kevlar, and nylon with the rotary blades on these cutters. They have steel blades and a built-in blade sharpener. Not for cutting carpet, corrugated material, rubber, plastic, or metal.

Electric—Cut straight lines and patterns in fabrics up to ½" thick with the included 2¼" blade. Use the *optional hexagonal blade* to chop through hard-to-cut fabric. Motor is 1⁄10 hp. Operates on 110 volts AC, 0.7 amps, and has an 8-ft. power cord with two-prong plug.

Air Powered—The included 2 1⁄32" semi-square blade is for no-fray cuts. Use for general purpose wet and dry cutting and for cutting fabric up to ⅜" thick. The *optional round blade* trims and edges, but may cause fraying. Motor is ⅓ hp. Recommended air pressure is 90 psi. Air inlet is ¼ NPT male. Hose size is ¼" (hose not included). Air consumption is 4 cfm.

Cordless—Make cuts without a power cord or air line to get in your way. The included 2 1⁄32" semi-square blade is for no-fray cuts. Operates on a 7.2-volt battery. The *optional round blade* trims and edges, but may cause fraying. The *optional octagonal blade* makes no-fray cuts, and chops through hard-to-cut fabric. Cutter has a variable speed motor that operates from 0 to 2,000 rpm and has an adjustable blade guard. Includes two 7.2-volt batteries and a one-hour charger.

	O'all Lg.		
Electric			
Cutter	9"	7093A31	$508.45
Replacement 2¼" Dia. Round Blade	—	7093A17	34.93
Optional 2¼" Hexagonal Blade	—	7093A18	48.45
Air Powered			
Cutter	9"	7096A11	950.00
Replacement 2 1⁄32" Semi-Square Blade	—	7096A21	34.93
Optional 2 1⁄32" Dia. Round Blade	—	7096A23	41.69
Cordless			
Cutter	15¼"	7611A11	537.43
Replacement 2 1⁄32" Semi-Square Blade	—	7096A21	34.93
Optional 2 1⁄32" Dia. Round Blade	—	7611A21	47.27
Optional 2 1⁄32" Octagonal Blade	—	7611A22	48.80
Replacement 7.2-Volt Battery	—	6978A48	33.72
Replacement One-Hour Charger	—	29835A631	81.82

Precision Wire End Cutters



Precisely position and flush-cut copper, gold, silver, and magnetic wire. These tweezer-style cutters are also known as nippers. Tips are angled 70°.

	For Max. Wire Dia.	O'all Lg.	Tip Lg.		
Steel	0.01″	4½″	⅜″	8387A71	$44.51
Stainless Steel	0.01″	4½″	⅜″	8387A75	76.00

Easy-Cut Compact Scissors



Replaceable Blade with Fine-Point Tips



Nonreplaceable Blade with Fine-Point Tips

Make quick repeat cuts in tight spaces with blades that spring open. For right-hand use.

Fine-point tips are narrow and sharp for precise cutting and trimming.

Blunt-point tips are rounded to prevent snags and injury.

Replaceable-Blade Scissors

Have stainless steel blades and a plastic handle. Replacement blades are sold 10 pairs to a package and include 40 blade screws.

Blade Tip	O'all Lg.	Cut Lg.	Scissors		Repl. Blades	
Fine Point	4¾″	1″	3844A11	$7.45	3844A13	$35.51
Blunt Point	4¾″	1″	3844A12	7.45	3844A14	36.77

Nonreplaceable-Blade Scissors

Steel scissors are chrome plated for added durability. **Stainless steel** scissors are corrosion resistant.

Blade Tip	O'all Lg.	Cut Lg.	Steel		Stainless Steel	
Fine Point	4½″	1¼″	3898A11	$16.06	3898A12	$16.15
Blunt Point	4½″	1½″	3898A21	11.59	____	____

Cutters for Laminated Plastics

Prevent chipping, binding, and fracturing when cutting brittle, high-pressure laminated plastic. The blade cuts out a ⅛″ wide strip of material while the material on either side of the strip lays flat. A spring opens the jaws for quick cuts. Not for use on soft plastics. Cutter has steel blades and PVC hand grips. For right- and left-hand use.



O'all Lg.	Cut Lg.		
9″	1½″	7103A11	$35.87

Mini Sheet Cutters



Standard



Replaceable Blade

Choose one of these handy plastic cutters for quick, clean cutting of paper and thin plastic sheeting. All have guarded blades to protect your fingers.

Economy Cutter—Blade is stainless steel. Overall length is 3″. Package quantity is 5.

49305A71 ..... Pkg. $6.71

Standard Cutter—Blade is stainless steel. Overall length is 2¾″.

49305A67 ..... Each $6.03

Replaceable-Blade Cutter—Replace blade as needed to be sure you always have a sharp edge. Cutter has a hold-down tab that flattens the material ahead of the blade edge for easier cutting. Blade is steel. Overall length is 3½″.

Replaceable-Blade Cutter	3221A3	Each	$8.97
Repl. Blades (Pkg. of 10)	3221A4	Pkg.	$6.96

Scissors for Wire Cutting and Stripping



Wire-Stripping Notch



Also known as electricians' shears, the back edge of the blade has a file to clean contacts. The blades are nickel-plated steel for added durability. For right- and left-hand use.

Serrated blade grips material to prevent slipping.

Wire-stripping notch is for 19 and 23 gauge wire.

Blade Edge	O'all Lg.	Cut Lg.		
Straight	5¼″	1⅞″	3890A11	$12.82
Straight with Wire-Stripping Notch	5¼″	1⅞″	3890A12	13.16
Serrated with Wire-Stripping Notch	5¼″	1⅞″	3890A14	13.53

Clean-Cut Utility Cutters



Rope Cutter



Multipurpose Cutter

Rope Cutter—Produce a clean cut in rope with a cutting blade that pushes down on a flat anvil-style jaw. Cutter is also for use on wood dowels and small branches. Made of steel with a brass anvil and steel blade with nonstick coating. Grips are plastic. For right- and left-hand use.

Replacement blade kit for rope cutter includes a steel blade with nonstick coating, brass anvil, and hardware.

Multipurpose Cutters—Produce clean cuts in nonmetallic hose, wood, and leather. Made of steel with a plastic anvil and a steel blade. There are three extra blades in the handle. Grips are plastic. For right- and left-hand use.

Replacement blade kits for multipurpose cutters include three steel blades and a plastic anvil.

	O'all Lg.	For Max. Dia.	Cut Lg.		
Rope Cutter					
	8″	¾″	—	3881A11	$15.78
Repl. Blade Kit for 3881A11				3881A21	6.41
Multipurpose Cutters					
	9″	—	2⅜″	3095A13	22.13
	10½″	—	3⅞″	3095A16	24.88
Repl. Blade Kit for 3095A13				3095A21	6.26
Repl. Blade Kit for 3095A16				3095A22	6.26

Fixed-Blade Utility Knives with Protected Blade



A

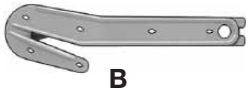

B



C

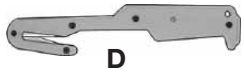

D

Blades are enclosed to protect your fingers.

Single-Blade Knives—Safely and easily cut stretch wrap, fabric, and sheet material. Blades are steel. Styles A&C have a curved handle that provides more control than a straight handle.

Double-Blade Knife—Has a stainless steel blade on the top and bottom to cut thicker material than knives with a single blade. Includes two replacement blades.

Replacement blades are steel (unless noted).

	Knives				Repl. Blades		
	O'all Lg.	Jaw Wd.		Each	Pkg. Qty.		Pkg.
Single Blade							
A	6⅜″	⅛″	2157T36	$2.83	—	____	____
B	7¾″	7/16″	2157T37	5.42	5	38755A22	$1.32
B	8½″	3/16″	4926A56★	7.89	50	4926A58	11.67
C	6″	¼″	4926A41	17.38	10	4926A43	9.61
C	7″	¼″	4926A42	29.70	10	4926A43	9.61
Double Blade							
D	8″	⅜″	4926A51	25.38	2	4926A52♥	7.50

★ Includes three blades. ♥ Blades are stainless steel.

Stanley Utility Knives and Blades


A



B



C



D


E



F



G



H



J



K



L



M

Utility Knives

Use the short blades on these knives to make quick, shallow cuts.

(A-J) Retracting-Blade and Self-Retracting Blade Knives—These knives have three cutting positions: blade fully extended, blade halfway extended, and blade tip extended (except Style J, which has one cutting position). Blade retracts into the handle for safety. Extra blades store in the handle (except Style E, which does not store extra blades).

Self-retracting blade is spring-loaded to automatically retract inside knife after losing contact with the cutting surface.

(K-M) Fixed-Blade Knives—For more stability than a retracting-blade knife when cutting with hard pressure, the blade remains fully extended. Extra blades store in the handle.

Curved handle fits your hand for a more comfortable hold than a straight handle.

	Stanley No.	Closed Lg.	Handle Type	Handle Color	No. of Blades Included		Each	Pkg. Qty.	Pkg.
Retracting-Blade Knives									
A	10-099	6″	Straight	Gray	3	4927A58	$5.22	6	$28.44
B	10-499	6″	Straight	Gray	3	3682A12	7.07	6	38.52
C	10-989	7″	Curved	Yellow	3	4927A52	8.99	6	49.32
D	10-778	6¾″	Curved	Yellow and Black	5	24885A24	13.56	6	74.52
E	10-828	5″	Straight	Gray	1	4951A9	7.22	—	—
F	10-079	6″	Straight	Gray	3	4927A53	5.80	6	31.80
F	10-179	6″	Straight	Green	3	4927A54	6.34	6	34.56
G	10-779	6″	Straight	Yellow and Black	3	4927A55	9.46	6	51.66
H	10-788	6½″	Curved	Gray and Black	3	4924A12	11.73	6	63.96
Self-Retracting Blade Knives									
F	10-189	5⅞″	Straight	Orange	1	24575A62	6.93	6	39.06
J	10-193	6½″	Curved	Yellow	1	4927A32	10.90	—	—
Fixed-Blade Knives									
K	10-299	5½″	Straight	Gray	1	4927A56	3.98	6	21.72
L	10-209	5½″	Straight	Gray	3	3678A21	7.03	6	39.66
M	10-399	6″	Curved	Gray	3	4927A57	5.86	6	31.92

Replacement Blades—All blades are steel.

Blades with dispenser include a wall-mount dispenser that distributes one blade at a time and stores used blades.
Also Available: Additional Stanley knife blades. Please ask for 4927A77 and specify Stanley number.

1

2

3

4


	For Knives	Thick.	Stanley No.	Pkg. Qty.		Pkg.
Blades without Dispenser						
1	A-M★	0.017″	11-911	5	4927A15	$1.34
1	A-M	0.024″	11-700	5	4927A41	1.65
1	A-M	0.024″	11-921	5	4927A12	1.38
1	A-M	0.024″	11-921	400	4927A65	58.69
1	A-M♦	0.035″	11-931	5	3678A16	2.23
1	A-M♦	0.035″	11-931	100	3678A12	30.12
2	A-M	0.024″	11-987	5	4927A24	2.10
3	A-M■	0.024″	11-961	5	4927A17	4.20
4	A-M■	0.024″	11-983	5	4927A35	5.17
Blades with Dispenser						
1	A-M★	0.017″	11-911	100	4927A16	13.50
1	A-M	0.024″	11-700A	100	4927A43	18.60
1	A-M	0.024″	11-921	10	4927A39	4.06
1	A-M	0.024″	11-921	100	4927A13	15.67
2	A-M	0.024″	11-988	100	4927A22	20.17
3	A-M■	0.024″	11-961	100	4927A18	46.14
4	A-M■	0.024″	11-983	100	4927A36	72.18

★Not compatible with Style D knife. ♦ Not compatible with Styles D and E knives. ■ Not compatible with Style J knife.

Self-Retracting Blade Utility Knives

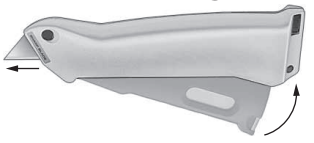

Cutting edge remains safely in the handle until you squeeze the grip, exposing the blade. Release the grip and blade retracts. A push-button release allows for easy blade changes. Spare blades store in the handle. Knife includes three blades.

Knife	8982A11	$11.88
Leather Holder	8982A21	5.73
Replacement Blades (Pkg. of 5)	38755A22	1.32

Retracting-Blade Utility Knives



(A&B) Standard—Blade locks in three cutting positions. Knives are 6″ long. Style A has a metal handle, and includes three 0.025″ thick steel blades. Style B has a metal handle with a red finish, and includes one 0.025″ thick steel blade.

(C-F) Self-Retracting—The blade is spring-loaded to automatically retract inside the knife after losing contact with the cutting surface. Style C is 5½″ long with a metal handle and one 0.025″ thick steel blade. Style D is 6¼″ long with an orange plastic handle and six 0.025″ thick steel blades. Style E is 6″ long with a metal handle and one 0.025″ thick steel blade. Style F is 6″ long with a black plastic handle and one 0.025″ thick steel blade.

Curved handle fits your hand for a more comfortable hold than a straight handle.

Utility Knives

	Handle Type		Each	Pkg. Qty.	Pkg.
A	Straight	3957A1	$7.11	6	$39.10
B	Straight	4930A4	4.53	5	19.60
C	Straight	4923A6	7.87	10	71.20
D	Straight	4923A7	3.95	12	42.12
E	Curved	4923A56	28.70	—	—
F	Curved	4923A9	19.83	10	183.13

Replacement Blades

For Knives	Blade Thick.	Pkg. of 5		Pkg. of 100	
A	0.018″	3957A12	$1.08	3957A16	$16.67
A	0.025″	3957A13	1.31	3957A17	16.88
B	0.024″	4927A12	1.38	4927A13★	15.67
C	0.025″	4923A43	2.16	4923A42★	30.82
D	0.025″	4923A45	1.69	—	—
E&F	0.025″	4923A58■	7.98	—	—

■ Pkg. of 10. ★ Includes a dispenser.

Folding Utility Knives



The blade folds into the handle for convenient storage. Use with two-notch utility blades and hook blades (sold separately on page 2374). Includes a belt clip and one 0.024″ thick steel blade.

Handle Material	Closed Lg.	O'all Lg.		
Metal	4⅛″	6¼″	6733A15	$12.76
Black Nylon Pouch with Belt Loop			73385A71	6.11

Leather and Nylon Utility-Knife Pouches

Keep utility knives handy by attaching one of these pouches to your belt.

Style A—Made of leather.

Style B—Made of nylon. Has two pockets.

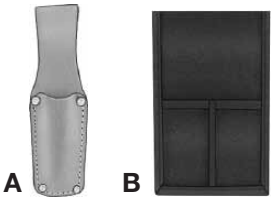

	O'all Size, Lg.×Wd.	Pocket Size, Wd.×Dp.	Fits Belt Width		
A	7½″×2¼″	1¾″×½″	3″	3961A11	$4.65
B	7½″×4¾″	3½″×1⅞″	2½″	3672A12	5.88

Mini Retracting-Blade Utility Knives



Knife has a metal handle with a slide button to lock the blade in cutting position. It is 3″ long and includes one 0.018″ thick steel blade.

Utility Knife

	Each	Pkg. of 10
3806A1	$3.74	$33.80

Replacement Blades

	Pkg. of 5	Pkg. of 50
3806A11	$2.08	$16.80

Fixed-Blade Utility Knives with Spring-Action Blade Guards



Avoid accidents—a spring-action guard keeps the blade covered until you press on the cutting surface. The guard snaps back over the blade once contact is lost with the cutting surface.

Style A is 6″ long with a metal handle. Includes three 0.025″ thick steel blades.

Style B stores five blades in the handle and opens easily with a lever for quick blade changes. Knife is 6¾″ long and has a plastic handle. Includes one 0.025″ thick steel blade.

Utility Knives

		Each	Pkg. of 12
A	4970A11	$7.22	$78.00
B	4970A61	15.50	167.40

Replacement Blades

	Pkg. Qty.	Pkg.
4970A2	5	$2.89
4970A221	60	31.20
4970A3	100	40.56

Angle-Grip Utility Knives



An angled aluminum handle gives you control, even in hard-to-reach places. **Retracting-blade** knife cuts linoleum, cloth, and cardboard. It's 6½″ long and has three double-edge, 0.015″ thick steel blades. **Fixed-blade** knife cuts wallboard and carpet padding. It's 6″ long and has two straight, 0.027″ thick steel blades.

Utility Knives

		Each	Pkg. of 6
Retracting Blade	7086A1	$11.33	$61.80
Fixed Blade	3915A5	14.04	68.94

Replacement Blades

	Blade Thick.	Pkg. Qty.		Pkg.
For Retracting-Blade Knife				
Double Edge	0.015″	5	7086A12	$2.44
Double Edge	0.017″	100	7086A65	25.35
For Fixed-Blade Knife				
Straight	0.027″	5	3915A2	3.21
Hook	0.027″	5	3915A3	8.49

Carton-Cutting Utility Knives



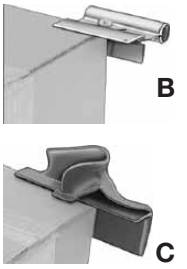

A blade guard protects your hands.

Style A—Knife blade locks at your desired cutting depth. The handle stores five extra blades; six steel blades included.

Style B—Has a one-piece design with a blade that fully retracts when not in use. Includes six steel blades.

Style C—A curved handle fits your hand for a more comfortable hold than a straight handle. Has a steel blade that adjusts for depth of cut.

	Knives	Each	Repl. Blades	Pkg. of 5	Pkg. of 100
A	2042T21	$4.92	2042T221	$1.80	$28.00
B	1982T1	4.87	1982T2	1.11	—
C	2033T1	28.07	2033T4	3.01	44.51

Utility Knives

Utility Knife Blades



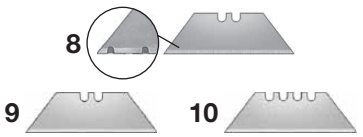



Make quick, shallow cuts with these short blades. Fits most brands of utility knives, including Ardell, Hyde, Wiss, General, Red Devil, Allway, Starrett, Evans, Great Neck, and Warner. Check the style of blade used in your knife and match it with the images shown here.

Dispenser pack distributes one blade at a time and stores used blades. It can be mounted on a wall. Includes 100 blades, unless noted.

Serrated blade allows for faster cuts with less force than straight blades.

High-speed steel lasts longer than steel. **TiN (titanium nitride) coating** extends blade life, resists corrosion, and is nonstick.

	Blade Thick.	Pkg. of 5		Pkg. of 100		Dispenser Packs	
Steel Blades							
1	0.018″	3957A12	$1.08	3957A16	$16.67	39275A62★	$22.28
1	0.025″	3957A13	1.31	3957A17	16.88	39275A71	20.08
2	0.024″	38755A17	1.50	38755A18	22.96	39275A72	21.88
3	0.024″	4927A12	1.38	38755A29	14.16	4927A13	15.67
4	0.025″	38755A22	1.32	38755A23	18.97	39275A74	19.19
5	0.025″	38755A24	1.40	38755A25	19.21	39275A75	20.07
6	0.025″	38755A26	1.46	38755A27	18.42	39275A76	19.80
7	0.025″	38755A54	3.29	38755A55	42.10		
Serrated Steel Blades							
8	0.025″	4861A41	2.95	4861A42■	19.57	4861A43	33.75
Stainless Steel Blades							
3	0.036″	4927A72♣	6.71				
High-Speed Steel Blades							
9	0.025″	5237A31	2.26	5237A33	33.94		
TiN-Coated High-Speed Steel Blades							
10	0.025″	5237A41	3.30	5237A43	46.01		

★ Includes 150 blades. ■ Pkg. of 50. ♣ Pkg. of 10.

Razor Blades







Precision-edge blades are sharper than other razor blades for fine, precise cuts. **Heavy duty** blades are durable to cut through tough material such as leather, rope, and thick cardboard. **Cleaned and degreased** blades cut without contaminating your workpiece. **Unbacked** blades do not have traditional back support. **Stainless steel** blades are corrosion resistant. **Dispensers** distribute one blade at a time and store used blades.

	Blade Thick.		Small Pkg. Qty.		Large Pkg. Qty.	
Steel Blades						
Standard	0.009″	3962A1	5	$0.68		
Standard	0.009″	3962A13	100	7.33	1,000	$65.97
Standard with Dispenser	0.009″	7071A11	10	3.37		
Standard with Pop-Up Dispenser	0.009″	7071A24▲	100	12.22	1,200	132.00
Standard with Pop-Up Dispenser	0.009″	7071A25	100	12.77	1,200	138.00
Precision Edge	0.009″	3962A14	100	14.90	5,000	655.53
Heavy Duty	0.012″	3962A16	100	9.13	1,000	76.40
Cleaned and Degreased with Dispenser	0.009″	3962A24	10	6.00	2,000	986.00
Unbacked	0.009″	3962A27	100	14.30	1,000	127.60
Stainless Steel Blades						
Standard	0.009″	3962A26	5	1.09	100	16.36
Precision Edge	0.009″	3962A18	100	19.36	5,000	781.50
Cleaned and Degreased with Dispenser	0.009″	3962A25	10	9.44	2,000	1,512.00
Cleaned and Degreased with Pop-Up Dispenser	0.009″	7071A26	100	40.14	5,000	1,839.69
Unbacked	0.009″	3962A28	100	17.62	1,000	157.50
Plastic Blades						
Nonscratch	0.04″	3962A17	5	2.05	100	35.60

▲ Blade back is aluminum.

Retracting Razor-Blade Utility Knives



Standard Blade—Includes one steel blade.

Retracting Breakaway Blade—Snap off dull blades for a fresh, sharp edge. Knife includes one steel blade with six blade segments.

Self-Retracting Blade—Blades are spring loaded to retract when cutting pressure stops. Includes one stainless steel blade.

	Knives			Repl. Blades	
	Closed Lg.		Each		Pkg. of 5
Standard	4″	3954A11★	$8.55	3962A1	$0.68
Breakaway	4 1/8″	39555A68	3.64	39555A69	4.69
Self-Retracting	4″	39545A65	10.63	39545A66♣	8.23

★ Pkg. of 12. ♣ Pkg. of 10.

Rotary-Blade Utility Knives



Cut foam board, mat board, cardboard, construction paper, fiberglass, and many other materials. Knives have a replaceable 0.012″ thick stainless steel blade. **Curved** handle knife has a blade that can be mounted to either side for right- and left-hand use. **Straight** handle knives are for right-hand use.

			Knives		Repl. Blades	
Blade Dia.	O'all Lg.	Depth of Cut		Each	Pkg. Qty.	Pkg.
Curved Handle						
1 3/4″	6 1/4″	5/16″	49255A65	$13.52	1	49255A66 $6.35
Straight Handle						
1 1/8″	6 1/8″	3/16″	49255A82	8.36	2	49255A56 6.35
2 3/8″	7 1/4″	7/16″	49255A84	25.06	1	49255A86 8.40

Blade Disposal Containers

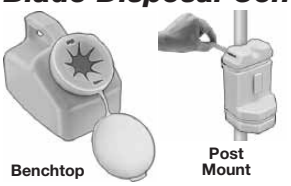

Safely dispose of worn knife blades. These containers store used single-edge, razor, precision (X-ACTO® style), and utility-knife blades. They're high-impact, puncture-resistant yellow plastic.

Benchtop can be mounted to a wall with the *optional wall-hanging rack*. **Post mount** has two ties for attaching to posts, forklift cages, and more. **Wall mount** has a bracket for mounting to a wall.

	O'all Size, Ht. x Wd. x Dp.		
Benchtop	7″ x 5 1/2″ x 8 1/2″	70885A67	$13.40
Post Mount	6 1/4″ x 3 1/2″ x 3 3/8″	70885A73	8.65
Wall Mount	6 1/4″ x 3 1/2″ x 3 3/8″	70885A78	10.32
Optional Wall-Hanging Rack for Benchtop		70885A68	13.02

Retracting Rotary-Blade Utility Knives



With a squeeze of the plastic spring-loaded handle, you can cut plastic sheet, cloth, felt, and other sheet material. Includes one 0.024″ thick steel blade that retracts into the handle when the squeeze bar is released. Blade diameter is 1″. Knife is 5 3/4″ long with a cut depth of 1/8″.

4925A11 $23.68

Breakaway-Blade Utility Knives

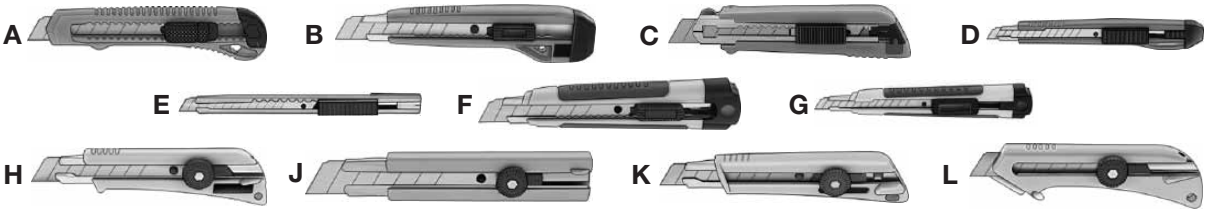

Snap off a dull blade segment to expose a sharp edge with the built-in blade breaker; ratchet-lock knives require pliers to break off the blade. Knives have a plastic handle, except Style E has a stainless steel handle and Styles F, G, J, and K have a rubber handle. Styles A-D have steel blades. Styles E-G have corrosion-resistant stainless steel blades.

Manual-Lock Knives—A sliding lock holds the blade in place.

(A) Standard—Good general purpose knife.

Auto-Lock Knives—The blade locks in position with the push of a button.

(B) Standard—Extra blades store in the handle.

(C) Multi-Blade Loading—Load six blades at once for quick blade changes.

(D) Slim—Use the narrow blades on this knife to cut in tight spaces. Extra blades store in the handle.

(E) Stainless Steel Slim—Handle and blade are stainless steel. Blade is narrow to cut in tight spaces.

(F) Cushion Insert—A rubber insert provides a comfortable, slip-resistant grip.

(G) Slim with Cushion Insert—Prevent slipping and get a comfortable hold while working in tight spaces—this knife has a rubber insert in the handle and a narrow blade.

Ratchet-Lock Knives—Knives have a wheel that advances or retracts the blade and locks it in place.

(H&J) Standard—Style H has a curved handle that fits your hand for a more comfortable hold than a straight handle. Style J has a rubber cushioned grip for comfort and slip resistance.

(K) Chemical Resistant—The handle is chemical-resistant rubber to resist acetone and solvents.

(L) Carton Cutting—Cut cardboard boxes without damaging the contents. This knife has a depth-cutting guide and a staple puller.

	Blade Segments	No. of Blades	Blade Wd.	Blade Thick.	O'all Lg.	Knives:	Each	Pkg. Qty.		Repl. Blades:	Small Pkg. Qty.		Large Pkg. Qty.	
Manual-Lock Knives														
A Standard	8	1	18 mm (0.709″)	0.02″	6″	3814A1	$3.63	10	$31.10	3814A3	10	$3.96	100	$34.00
Auto-Lock Knives														
B Standard	8	3	18 mm (0.709″)	0.02″	6¼″	35545A3	6.58	10	56.88	3814A3	10	3.96	100	34.00
C Multi-Blade Loading	8	3	18 mm (0.709″)	0.02″	6″	3815A7	25.16	6	130.62	3815A761	5	5.87	50	27.98
D Slim	13	3	9 mm (0.354″)	0.016″	5½″	35545A7	4.26	10	36.89	3814A4	10	2.90	100	24.90
E Stainless Steel Slim	13	1	9 mm (0.354″)	0.02″	5⅜″	38155A5	9.02	6	46.86	38155A711	10	8.00	60	41.54
F Cushion Insert	8	3	18 mm (0.709″)	0.02″	6½″	5098A6	7.35	10	63.70	24995A551	5	3.09	50	27.80
G Slim with Cushion Insert	13	3	9 mm (0.354″)	0.016″	5½″	5098A4	4.74	10	41.00	38155A711	10	8.00	60	41.54
Ratchet-Lock Knives														
H Standard	8	1	18 mm (0.709″)	0.02″	5¾″	26775A6	10.29	6	53.41	3814A3	10	3.96	100	34.00
J Standard	7	1	25 mm (0.984″)	0.028″	6¾″	38145A8	16.04	6	83.34	38145A711	5	8.38	30	43.50
K Chemical Resistant	8	1	18 mm (0.709″)	0.02″	6¼″	24905A4	10.91	6	56.64	24995A551	5	3.09	50	27.80
L Carton Cutting	8	1	18 mm (0.709″)	0.024″	5¾″	39585A9	13.57	6	70.50	3814A3	10	3.96	100	34.00

Breakaway Blades

Fit most brands of breakaway-blade utility knives including Olfa, Stanley, Techni-Edge, and Hyde. Match your blade with the dimensions below. **High-speed steel** lasts longer than steel. **Stainless steel** resists corrosion. **Ultra-sharp steel** blades are for use on hard-to-cut materials such as Kevlar and rubber. **Heavy duty steel** blades are wider than other breakaway blades to cut through tough materials such as leather, rope, and thick cardboard.



	Blade Thick.		Small Pkg. Qty.		Large Pkg. Qty.	
9 mm (0.354″) Wide Blades—13 Blade Segments						
Steel	0.015″	24995A62	50	$13.16	—	—
Steel	0.016″	3814A4	10	2.90	100	$24.90
Steel	0.02″	24995A611★	10	3.96	100	33.20
Stainless Steel	0.02″	38155A711	10	8.00	60	41.54
Ultra-Sharp Steel	0.015″	24995A631	50	29.41	300	156.13
18 mm (0.709″) Wide Blades—8 Blade Segments						
High-Speed Steel	0.02″	24995A841	10	10.57	50	38.32
Steel	0.02″	24995A511★	10	5.42	100	45.40
Steel	0.02″	3814A3	10	3.96	100	34.00
Stainless Steel	0.02″	24995A551	5	3.09	50	27.80
18 mm (0.709″) Wide Blades—8 Blade Segments (Cont.)						
Multi-Blade Steel	0.02″	3815A761	5	$5.87	50	$27.98
Ultra-Sharp Steel	0.02″	24995A531	10	9.38	50	36.44
25 mm (0.984″) Wide Blades—7 Blade Segments						
Heavy Duty Steel	0.028″	38145A711	5	8.38	30	43.50
Heavy Duty Steel	0.028″	24995A721	20	29.58	120	153.59
Ultra-Sharp Steel	0.03″	24995A741	20	30.92	120	167.99

★Includes a dispenser.

Precision Knives with Breakaway Blades

Snap off dull blade segments to expose a sharp edge for precise cuts. Blade has seven segments. Handle is stainless steel with a ⅜″ Wd. × 0.015″ Thick. steel blade. Overall length is 5⅜″.



Knife

	Each	Pkg. of 6
24585A4	$9.89	$51.92

Replacement Blades

	Small Pkg. Qty.		Large Pkg. Qty.	
24585A8	10	$10.25	60	$53.62

Finger-Ring Twine Cutters

Slip this cutter on your finger like a ring to cut cord and twine. Band is aluminum. Blade is steel.

To Order: Please specify ring size, #6 (0.650″ dia.) to #15 (0.956″ dia.).



		Each	Pkg. of 12
Cutter	1940T1	$5.59	$54.84

Bench-Mount String Cutters

Trim cord, string, and twine (up to ¼″ dia.). Cutter has a zinc-plated steel body. Includes three 0.025″ thick blades and mounting fasteners.



Cutter	1941T1	$7.21
Replacement Blades (Pkg. of 5)	1941T2	3.36

Precision Knives and Replacement Blades

Knives


Standard


Choose-a-Color Rubber Grip


Heavy Duty


Easy Grip


Swivel Blade


Retracting Blade

A pen-style handle gives you a comfortable hold as you make precise cuts with the sharp blade on these knives. They come with a protective cap except the easy-grip knife. All include one blade.

Standard—Has an aluminum handle.

Choose-a-Color Rubber Grip—Reduce hand fatigue with the cushioned rubber grip on this knife. To Order: Please specify grip color: black, blue, green, purple, or red.

Heavy Duty—This durable knife has a large, aluminum handle that withstands the force needed to cut through tough materials.

Easy Grip—The handle is large, fluted, and made of lightweight plastic so it's easy to hold while applying pressure. Handle is red.

Swivel Blade—Cut curves and circles with a blade that rotates 360°. Handle is aluminum.

Retracting Blade—A retracting blade prevents accidental cuts and allows you to store this knife in your pocket. Slide the button to extend or retract the blade. Handle is plastic.

	Included Blade	Comparable to X-ACTO® Knife	Handle Dia.	Handle Lg.	Fits Replacement Blades (see drawings)		Each	Pkg. Qty.	
Standard	E	No. 1	5/16″	4 7/8″	A-G	35435A611	$3.14	12	$33.96
Choose-a-Color Rubber Grip	E	Soft Grip	3/8″	5″	A-G	35575A611	4.97	10	42.60
Heavy Duty	P	No. 2	7/16″	4 7/8″	H-T	38995A611	4.41	12	47.76
Easy Grip	J	No. 5	7/8″	4 3/8″	H-T	35515A611	5.84	12	63.24
Swivel Blade	U	X3241	5/16″	4 3/4″	U	3154A21	8.09	—	—
Retracting Blade	E	X3204	3/8″	5″	E	4929A32	8.73	—	—

Replacement Blades

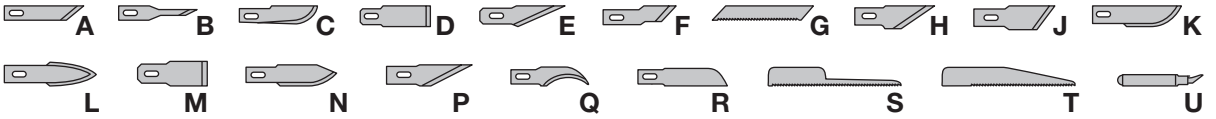

Styles A-G—Stainless steel blade is corrosion resistant. Titanium blade is three times stronger than stainless steel. All fit X-ACTO® knife No.1; Techni-Edge Nos. 1, 1SGK, and 1 X-Press; Griffin Nos. 7 and 7SC; PO No. 1; and Excel No. 1. Shank width of blade is 0.25″.

Styles H-T—Fit X-ACTO® knife Nos. 2 and 5; Techni-Edge Nos. 2 and 2SGK; Griffin Nos. 15 and 14-15; PO Nos. 2 and 5; and Excel Nos. 2 and 5. Shank width of blade is 0.35″.

Style U—Fits X-ACTO® X3241.

	Blade Material	Trade No.	Blade Lg.	Blade Wd.♦	Blade Thick.		Small Pkg. Qty.		Medium Pkg. Qty.		Large Pkg. Qty.	
Blades for Standard and Choose-a-Color Rubber Grip Knives												
A	Steel	—	1.44″	0.25″	0.020″	35435A511	5	$2.83	50	$24.60	100	$42.44
B	Steel	—	1.44″	0.13″	0.020″	35435A512	5	3.58	50	31.00	100	55.70
C	Steel	10	1.56″	0.31″	0.020″	35435A513	5	3.22	—	—	100	38.57
D	Steel	17	1.44″	0.38″	0.020″	35435A514	5	2.04	—	—	100	22.70
E	Steel	11	1.56″	0.31″	0.020″	35435A516	5	1.50	50	12.90	100	16.77
E	Steel	11	1.56″	0.38″	0.020″	35435A515	5	1.81	100	27.03	250	64.42
E	Stainless Steel	11	1.56″	0.31″	0.020″	35435A517	5	2.77	60	26.64	100	29.78
E	Titanium	11	1.56″	0.38″	0.020″	35435A18	10	8.76	—	—	—	—
F	Steel	16	1.38″	0.31″	0.020″	35435A519	5	1.64	50	14.00	100	19.91
G	Steel	13	1.75″	0.25″	0.020″	35435A34	5	3.49	—	—	—	—
Blades for Heavy Duty and Easy-Grip Knives												
H	Steel	24	1.56″	0.44″	0.025″	38995A511	5	1.82	50	15.80	100	25.83
J	Steel	19	1.69″	0.44″	0.025″	38995A512	5	1.82	50	15.80	100	25.83
K	Steel	22	1.81″	0.38″	0.025″	38995A513	5	3.07	—	—	100	42.33
L	Steel	23	1.81″	0.38″	0.025″	38995A514	5	5.00	—	—	100	59.53
M	Steel	18	1.81″	0.5″	0.025″	38995A515	5	2.26	60	24.24	100	30.73
N	Steel	25	1.88″	0.38″	0.025″	38995A516	5	6.11	50	53.10	100	77.61
P	Steel	2	1.88″	0.38″	0.025″	38995A517	5	3.51	60	24.00	100	29.81
Q	Steel	28	1.75″	0.44″	0.025″	38995A518	5	8.85	50	77.50	100	90.97
R	Steel	26	3.06″	0.44″	0.025″	38995A85	5	5.00	—	—	—	—
S	Steel	15	2.5″	0.38″	0.025″	35435A35	5	5.74	—	—	—	—
T	Steel	27	3.13″	0.38″	0.025″	35435A36	5	5.80	—	—	—	—
Blade for Swivel-Blade Knife												
U	Steel	—	0.19″	0.06″	0.010″	3154A22	2	2.65	—	—	—	—

♦Widest point of the cutting edge.

Safety Pack Plastic Dispensers

Distribute blades without exposing the sharp edge. Dispensers include 15 blades.



Dispenser Pack		
Style D Blades	35435A87	$6.47
Style E Blades	35435A81	5.97
Style F Blades	35435A86	6.47
Style P Blades	38995A82	7.20

Blade Disposal Container



Safely dispose of worn knife blades in this plastic container. A 1 5/8″ long slot on the side of the container slides open to accept precision and breakaway knife blades. Overall size is 2 5/8″ Dia. × 1″ Ht.

24525A3 ..... $3.71

Precision Knife and Blade Sets

Knife and Blade Set—Includes three knife handles (one standard, one easy grip, and one heavy duty) and 14 blades (one each of Styles A-D; two of Style E; one of Style F; three of Style H; two of Style J; and one each of Styles K and M). Comes in a wood case.

3960A11 ..... $19.59


Knife, Blade, and Tool Set

Knife, Blade, and Tool Set—Includes three knife handles (one standard, one easy grip, and one heavy duty) and 23 blades (three each of Styles C, D, E, F, J, K, and L and one each of Styles N and P). Also includes a screwdriver, pinpoint stylus, miter box, sander block with sandpaper, razor saw blade, and stencil blade. Comes in a wood case.

7055A12 ..... $43.11

Self-Healing Cutting Pads with Grid

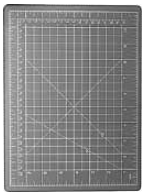

Pads are marked with inch and centimeter grid lines and 45° and 60° angles to guide your cut. These vinyl, 1/8″ thick pads heal themselves to seal surface nicks and cuts.

Size	Blue Pads		Clear Pads	
9″×12″	70875A65	$9.64	70875A41	$9.97
12″×18″	70875A66	15.28	70875A42	20.68
18″×24″	70875A67	28.19	70875A43	32.11
24″×36″	70875A68	48.35	70875A44	56.39

Scalpels

These knives have a rectangular handle to keep the knife stable while you cut. The blades are thinner than other precision-knife blades for the finest, most exact cuts.

Stainless Steel Handles—Blades sold separately below.

	Lg.	Wd.		
A	4 7/8″	1/2″	36325A63	$6.48
B	5 3/8″	9/16″	36325A58	6.47
C	5 3/8″	3/4″	36325A64	18.52



Blades



All blades are 0.015″ thick. **Stainless steel** blades are corrosion resistant and sterile.

Trade No.	Lg.	Wd.	Pkg. Qty.	Steel	Pkg.	Stainless Steel	Pkg.
For Handle Styles A and C							
10	1 1/4″	3/16″	10	36325A68	$3.63	36325A67	$5.89
10	1 1/4″	3/16″	100	36325A69	32.50	36325A73	41.67
11	1 1/4″	3/16″	10	36325A71	3.63	36325A66	5.89
11	1 1/4″	3/16″	100	36325A72	32.50	36325A74	41.67
12	1 1/4″	3/16″	10	36325A75	3.63	36325A76	5.89
12	1 1/4″	3/16″	100	36325A77	32.50	36325A78	41.67
15	1 1/4″	3/16″	10	36325A81	3.63	36325A82	5.89
15	1 1/4″	3/16″	100	36325A83	32.50	36325A84	41.67
For Handle Style B							
21	2″	1/4″	10	36325A91	3.63	36325A93	5.89
21	2″	1/4″	100	36325A92	32.50	36325A94	41.67
24	2″	1/4″	10	36325A86	3.63		
24	2″	1/4″	100	36325A87	32.50		

Disposable Scalpels



These knives have a plastic handle and a sterile, corrosion-resistant stainless steel blade. All have a protective cap that slides open to expose the blade.

Trade No.	O'all Lg.		
10	5 5/8″	36325A47	$3.30
11	5 3/4″	36325A48	3.30
15	5 1/2″	36325A49	3.30

Scalpel Blade Remover and Disposal Container

Insert scalpel and then press the button to remove the blade. Holds 150-300 blades.

36325A14 ..... $9.38

Plastic-Scoring Blade Utility Knives

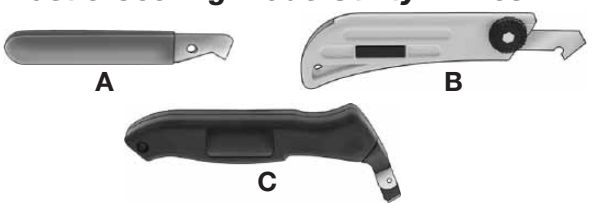

A notched blade scores acrylics and brittle plastics for a clean break.
Style A has a plastic handle and a nonreplaceable steel blade.
Style B has a plastic handle and three steel blades.
Style C has a metal handle and one steel blade.

	Knives		Repl. Blades		
	O'all Lg.	Each		Each	Pkg. of 3
A	5 1/2″	3194A41 $4.80			
B	7″	38595A65 11.19	38595A66		$6.47
C	6″	8291A11 36.37	8291A13	$5.61	

Light Duty Hot-Blade Knives



Knife



Temperature-Control Unit

Use heat to cut through gasketing, nylon webbing, slings, and other thin, synthetic materials. Without the optional temperature-control unit, this knife heats up to 1000°F. The cutting tip is copper with a 5/8″ Lg.×3/8″ Wd.×1/16″ Thick. blade. Knife with tip is 10″ long. Maximum cutting depth is 5/8″. Operates on 60 watts, 120 volts AC, and has a 5-ft. cord with two-prong plug.

Optional temperature-control unit allows you to adjust the temperature from 150° to 1000°F. Operates on 120 volts AC and has a three-prong plug. Size is 3 3/4″ Ht.×2″ Wd.×2″ Dp.

Knife	2453A61	$67.27
Optional Temperature-Control Unit	2453A62	66.39
Optional Knife Stand	2453A64	7.10
Replacement Blade	2453A63	16.68

Hot-Blade Knives



For Intermittent Use



Optional Cutting Sling with Blade



For Continuous Use

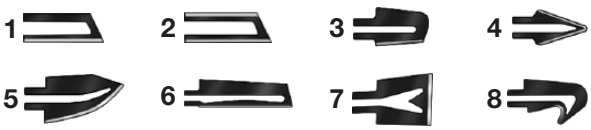

Blades heat instantly to cut through plastic and rubber up to 5″ thick. Make straight cuts with the included blade. To cut curves, angles, and other shapes, mount the *optional cutting sling* onto the knife.

Intermittent-Use Knife—Temperature easily adjusts from 0° to 1000°F with a thumb control. Overall length is 9″. Includes a 2″ long Style 1 blade. Operates on 150 watts, 120 volts AC, and has an 11-ft. power cord with three-prong plug.

Continuous-Use Knife—Has a steel handle connected to a base unit by a 9 1/2-ft. cord. Handle is 9″ long; base unit is 11 7/8″ Lg.×7 1/2″ Wd.×8 1/2″ Dp. Temperature adjusts from 220° to 1400°F. Includes one Style 6 blade. Operates on 500 watts, 120 volts AC, and has a 6-ft. cord with three-prong plug.

Optional Cutting Sling—Includes a blade that can be bent once into any shape.

Knives

For Intermittent Use	2858A442	$509.17
For Continuous Use	2858A12	1,838.11

Optional Cutting Sling with Blade

Cutting Sling with Blade	2858A25	$71.74
Replacement Blade for Cutting Sling	2858A26	7.82

Blades

	Blade Lg.		
1	5/8″	2858A13	$11.88
1	2″	2858A14	11.88
1	3 1/2″	2858A15	12.70
1	5″	2858A23	12.70
2	4″	2858A21	14.59
2	7 7/8″	2858A22	16.55
3	1 3/8″	2858A16	18.90
4	1 3/8″	2858A17	20.54
5	1 3/4″	2858A18	34.88
6	3″	2858A19▲	27.42
7	1 3/8″	2858A24	18.85
8	1/4″	2858A27	18.90
8	1/2″	2858A28	18.90

▲For use with the continuous-use knife only.

Bench-Top Hot-Blade Knives



Use the lever handle and long blade on this knife to make repetitive cuts in plastic and rubber with ease. It is aluminum with a 5″ long corrosion-resistant stainless steel blade that easily melts through woven and knitted synthetic materials (such as webbing, strapping, cord, ribbon, hook and loop, and rope) without fraying.

Knife has a 190-watt heater for efficient heating and a temperature-control unit that adjusts the temperature up to 1000° F. Operates on 120 volts AC and has a 6-ft. cord with three-prong plug. Size is 11½″ Ht. × 6″ Wd. × 15¼″ Dp.

7653A1		$561.25

Foam and Insulation Knives

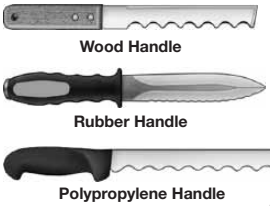

Cut through foam as well as fiberglass, mineral wool, and similar insulation materials. They have a steel blade, except the rubber-handle knife has a corrosion-resistant stainless steel blade. All include a plastic pouch.

Handle	Blade Size Lg.	Thick.		
Wood	6¾″	0.03″	49345A1	$31.42
Polypropylene	8¾″	0.074″	49345A4	31.80
Rubber	6¼″	0.12″	49345A7	15.63

Food Service Knives

Wood Handles (A, C, G, J, L, T)— Blades are steel; Style G is stain-free steel.

Polypropylene Handles (B, D-F, H, K, M-S, U-X)— These synthetic handles resist moisture and grease. Blades are stain-free steel, unless noted. Meet NSF/ANSI standards.

Choose-a-Color—Textured for slip resistance. To Order: Please specify handle color: blue, green, red, or yellow.

Soft Grip—This comfortable grip reduces user fatigue.

Sure Grip—Textured for slip resistance, these handles are also odor and stain resistant. Blades are made of steel and titanium and resist adhesives and corrosion.

Produce

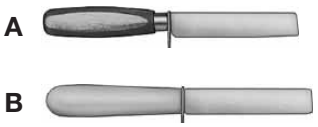

	Handle	Blade Size, Lg. × Wd.		
A	Wood	4¼″ × ⅞″	7053A12	$10.84
A	Wood	6″ × 1″	7053A11	11.27
B	Polypropylene	4½″ × ⅞″	4983A16	15.35
B	Polypropylene	6″ × 1″	4983A17	17.22

Paring



	Handle	Blade Size, Lg. × Wd.		
C	Wood	3¼″ × ⅝″	3919A11	$9.43
D	Polypropylene	3¼″ × 9⁄16″	3924A13	7.80
D	Soft Grip	3¼″ × 9⁄16″	3924A16	8.73
E	Polypropylene	3¼″ × 9⁄16″	3924A11	6.04
E	Choose-a-Color	3¼″ × 9⁄16″	3764A4■	6.38
E	Soft Grip	3¼″ × 9⁄16″	3924A14	7.32
F	Polypropylene	3½″ × 9⁄16″	3924A12	11.07
F	Sure Grip	2½″ × ½″	3279A21	9.78

Chef's



	Handle	Blade Size, Lg. × Wd.		
G	Wood	10″ × 1¾″	3920A12	$41.27
H	Polypropylene	8″ × 1¾″	3917A11	29.97
H	Polypropylene	10″ × 1¾″	3917A12	33.00
H	Soft Grip	8″ × 1¾″	3917A15	31.13
H	Sure Grip	10″ × 2½″	3279A52	35.76

Butcher

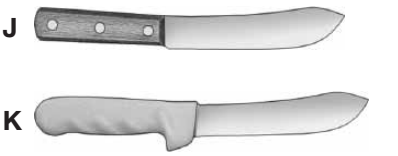

	Handle	Blade Size, Lg. × Wd.		
J	Wood	6″ × 1¾″	3921A1	$21.52
J	Wood	8″ × 1⅞″	3921A2	25.46
K	Polypropylene	6″ × 1¼″	3926A11	20.81
K	Polypropylene	8″ × 1¼″	3926A12	24.36
K	Polypropylene	10″ × 1¼″	3926A13	29.05
K	Polypropylene	12″ × 1¼″	3926A14	41.37

Fillet

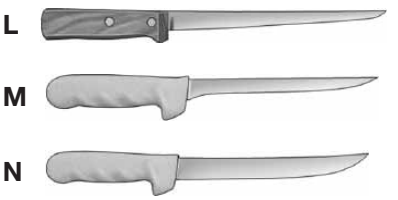

	Handle	Blade Size, Lg. × Wd.		
L	Wood	8″ × ⅝″	7052A11▲	$17.97
L	Wood	9″ × ⅝″	7052A12▲	19.13
M	Polypropylene	7″ × ⅝″	3939A13▲	20.28
M	Polypropylene	8″ × ⅝″	3939A11▲	21.93
M	Soft Grip	8″ × ⅝″	3939A14▲	22.73
N	Polypropylene	8″ × 7⁄8″	3939A12	23.14

Bread

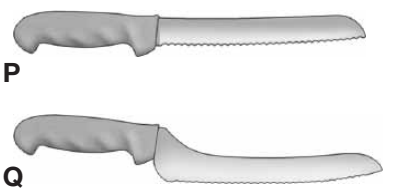

	Handle	Blade Size, Lg. × Wd.		
P	Soft Grip	8″ × ⅞″	3177A21	$17.75
Q	Soft Grip	9″ × ⅞″	3177A22	19.57

Meat Slicer

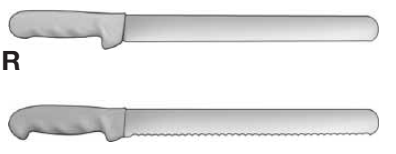

	Handle	Blade Size, Lg. × Wd.		
R	Polypropylene	12″ × 1⅛″	3851A11	$31.98
S	Soft Grip	12″ × 1⅛″	3851A13	30.22

Boning



	Handle	Blade Size, Lg. × Wd.		
T	Wood	6″ × ¾″	3918A2	$19.14
U	Polypropylene	6″ × 1 1⁄16″	3933A11	16.76
V	Polypropylene	4½″ × ⅝″	3721A9	16.65
V	Polypropylene	6″ × 1 1⁄16″	3721A11	20.12
V	Choose-a-Color	6″ × 1 1⁄16″	3306A7■	18.14
V	Soft Grip	6″ × 1 1⁄16″	3697A71	22.25
V	Soft Grip	6″ × 1 1⁄16″	3697A72▲	22.24
V	Sure Grip	5″ × ¾″	3279A41	22.41
W	Soft Grip	6″ × 1 1⁄16″	3697A73	22.35

Utility



	Handle	Blade Size, Lg. × Wd.		
X	Polypropylene	6″ × ¾″	3715A72	$14.03
X	Polypropylene	8″ × ¾″	3715A73	17.55
X	Soft Grip	8″ × ¾″	3715A74	18.90

■ To Order: Please specify handle color: blue, green, red, or yellow. ▲ Has a thinner, more flexible blade.

Ceramic-Blade Knives


Paring Knife


Utility Knife


Chef's Knife

Ceramic blades are easy to clean and retain their sharp edges up to 10 times longer than steel blades. Handles are molded black plastic.

	Blade, Lg. × Wd.		
Paring Knife	3 1/8" × 15/16"	3226A23	$21.23
Utility Knife	4 5/16" × 1 1/16"	3226A25	27.96
Chef's Knife	6 5/16" × 1 7/8"	3226A27	55.96

Shop Knife Blade Protectors


Knife not included.

Protect your knife blades from nicks and scratches. These polypropylene protectors snap over the blade so the knife can't slide out.

For Blade Lg.	Max. Blade Wd.	O'all Size Lg.	O'all Size Wd.	O'all Size Ht.		
2 1/2"-4 1/2"	3/4"	4 7/8"	1 7/8"	3/4"	4959A31	$5.79
4"-6"	1 1/8"	6 1/2"	2 1/8"	3/4"	4959A33	5.92
6"-8"	2 1/8"	9"	3"	3/4"	4959A35	7.24
8"-10"	2 1/8"	10 1/2"	3 1/8"	3/4"	4959A37	8.82

Shop Knives


A


B


C


D


E


F


G


H


J

Make deep and repetitive cuts with the exposed blade on these knives. Use them to cut cardboard, cloth, leather, and rubber. All have steel blades riveted to wood handles, except Style B has a rubber handle.

Styles A&B have a finger guard.
Style G are also known as Sloyd knives.
Style J is also known as a butcher knife. It has a finger guard.

	Blade Lg.	Blade Wd.		Each	Pkg. of 12
A	4"	1"	3951A12	$12.35	$122.52
A	6"	1"	3951A16	11.91	119.52
B	4"	1 1/16"	6426A11 ♦	15.72	71.42
C	2 1/2"	9/16"	3951A22	9.09	90.48
C	3"	5/8"	3951A23	9.02	90.48
C	3 5/8"	1 1/16"	3951A25	8.92	89.40
C	3 7/8"	1 1/16"	3951A27	8.97	89.04
C	4 1/4"	13/16"	3951A29	$8.94	$89.40
C	5"	1"	3951A32	9.84	98.76
C	6"	1"	3951A34	10.48	105.12
C	8"	1 1/8"	3951A36	16.24	161.28
D	4"	9/16"-1"	3953A14	9.26	92.88
E	4 7/8"	9/16"-3/4"	3953A16	12.38	123.60
E	6 5/8"	3/4"-15/16"	3953A18	13.17	132.24
F	3"	7/8"	3948A12	$13.42	$131.88
G	2 1/2"	1/2"	3952A14	12.57	123.36
G	3"	9/16"	3952A16	13.00	127.44
H	1"	1/4"	7057A3	13.56	133.80
H	2"	1 1/16"	7057A4	10.11	100.80
J	14"	2 9/16"	3937A5	38.42	

♦ Package quantity is 5 instead of 12.

Shop Knives with Interchangeable Blades

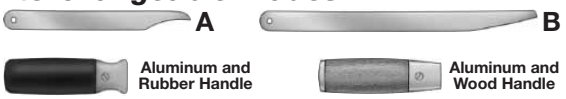

Combine a handle and blade that best fit your needs, and replace the blade when it dulls. These knives cut cloth, canvas, leather, and rubber. The blade slides back into the handle and adjusts to the cutting length you prefer. Lock it in place with the set screw in the handle. At certain lengths the blade will extend through the end of the handle. Blades and handles are sold separately.

Blades—Made of steel and 5/8" wide. *Style A* can be positioned in either handle to expose 1/4" to 5" of blade. *Style B* can be positioned in either handle to expose 1/4" to 8" of blade.

Blades

	Lg.		Each	Pkg. of 12
A	6"	3848A6	$10.93	$107.52
B	9"	3848A7	8.59	84.48

Handles

Handle Material	Handle Lg.	Handle Wd.		Each	Pkg. Qty.	Pkg.
Aluminum and Rubber	4 3/8"	1 1/4"	5648A2	$13.73	10	$112.40
Aluminum and Wood	4 3/4"	1"	3848A8	18.33	12	183.72

Hammer Knives


Wood Handle with Finger Guard

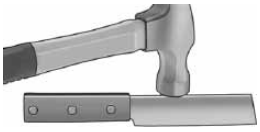
Leather Handle without Finger Guard

Use a hammer to strike the top of the blade to drive it through the material. Blades are steel and 4" Lg. × 1 1/4" Wd.

Wood Handle without Finger Guard	3956A12	$13.66
Wood Handle with Finger Guard	3956A13	20.04
Leather Handle without Finger Guard	3956A11	22.52

Knife Sheaths

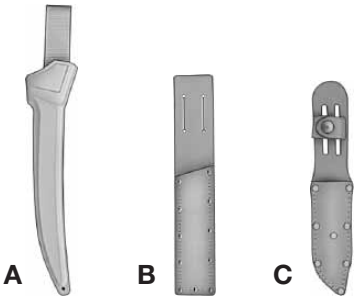

Style A is white polypropylene.
Style B is made of top-grain leather and has a stitched and rivet-reinforced pocket.
Style C is made of top-grain leather and has a stitched and rivet-reinforced pocket. Also has a snap-loop to hold the knife handle in place.

	Max. Blade, Lg. × Wd.	Max. Belt Wd.	O'all Size, Lg. × Wd.		
A	9" × 1 1/4"	2"	15 1/4" × 1 3/4"	24565A35	$8.96
B	6" × 1"	1 3/4"	11 1/4" × 2"	3609A77	8.06
C	6" × 1 1/2"	2 3/4"	11" × 2 1/4"	6794A11	5.20

Comfort-Grip Stainless Steel Knives



A nonslip handle and short corrosion-resistant stainless steel blade give this knife the high leverage needed to cut thick cardboard, burlap, and packaging materials. Plus, it can be chemically cleaned or autoclaved for sterilization. Includes a plastic pouch. Handle is neon orange. Knife is 6 1/2" long; blade is 1 5/8".

70515A21 ..... $22.31

Flooring Knives


Wood Handle


Rubber Handle

Blades are curved downward to cut through linoleum and vinyl flooring.

Wood handle knives have a steel blade.

Rubber handle knives have a more comfortable grip. 3944A18 has a steel blade with no serrations. 70905A66 has a corrosion-resistant stainless steel blade with a partially serrated edge for faster cuts with less force than straight blades.

Blade Lg.		Each	Pkg. Qty.	
Wood Handle				
2″	3944A12	$11.27	12	$121.68
2½″	3944A15	11.67	12	126.00
3½″	3944A16	12.60	12	137.28
Rubber Handle				
3½″	3944A18	13.11	10	118.00
3½″	70905A66	16.53	—	—

Electrical Cable Stripping Knives


Standard Knife


Cushion-Grip Knife

Standard Knife—Has a plastic handle with finger guard and shackle. Blade is steel with a notched back for scraping copper wire. *Leather pouch* (sold separately) fits belts up to 2″ wide.

Cushion-Grip Knife—Has a nonslip rubber handle for firm control and a stainless steel blade. Includes a leather pouch for belts up to 1¾″ wide.

	Blade Lg.		
Standard Knife	3″	3942A2	$27.20
Cushion-Grip Knife	1 9/16″	35745A81	15.52
Leather Pouch for Standard Knife		73405A78	9.04

Key Chain Pocket Knives



Folding-Blade Knife—Fold the blade into the handle to protect the cutting edge and prevent accidental cuts. Includes a pocket clip.

Fixed-Blade Knife—A twist-lock cap covers the blade to prevent accidental cuts. Includes a lanyard hole.

Both have stainless steel blades.

Blade Type	Handle Material	Blade Lg.	Closed Lg.		
Folding	Aluminum and Stainless Steel	2⅛″	3⅝″	24485A23	$27.23
Fixed	Nylon	1⅜″	3⅜″	24485A1	12.64

Replaceable-Blade Pocket Knives



This knife has a replaceable, corrosion-resistant stainless steel blade that locks in the open position. Blade is 2⅝″ long. Handle is silver-colored powder-coated zinc. Knife closed length is 4¼″.

Knife	3916A11	$8.50
Repl. Blunt-Tip Blade	3916A13	2.91
Optional Pointed-Tip Blade	3916A12	2.86

Pouches for Folding Knives


Leather


Nylon

Pouches fit on your belt and are for most styles of folding knives. **Leather** pouch fits belts up to 2½″ wide; **nylon** fits belts up to 1½″ wide when used horizontally and 2½″ wide when used vertically.

Material	Max. Knife Closed Lg.	O'all Size, Lg.×Wd.		
Leather	4½″	6″ ×2⅜″	73385A67	$5.51
Nylon	4½″	5″ ×2½″	73385A71	11.11

Pocket Knives

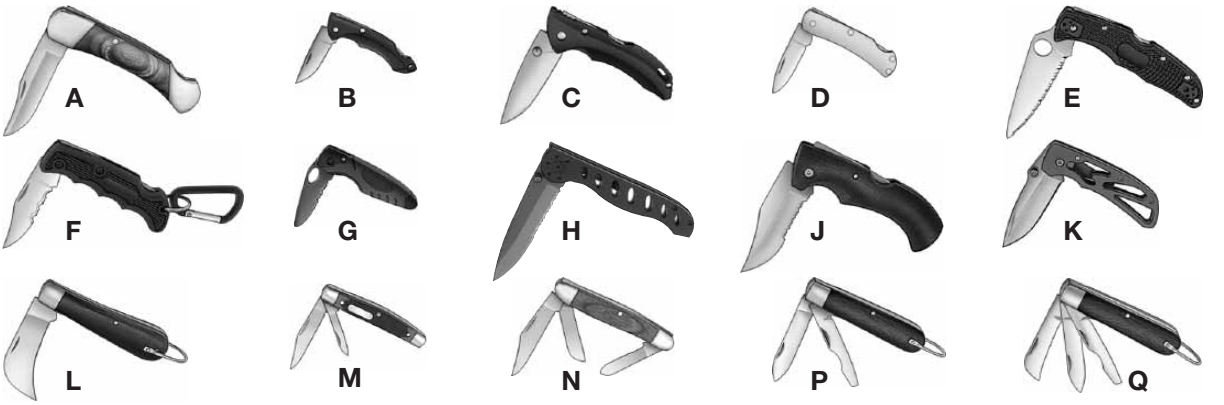

	Blade Edge	Handle Material	Features	Blade Lg.	Closed Lg.		
Locking Stainless Steel Blades—Lock in the open position.							
A	Straight	Wood	Brass liner; nickel end cap; leather pouch	2¾″	3¾″	3970A15	$44.82
A	Straight	Wood	Brass liner; nickel end cap; leather pouch	3½″	5″	3970A14	54.12
B	Straight	Plastic	Key chain hole	1⅞″	3″	37015A14	17.45
C	Straight	Plastic	Belt clip; lanyard hole	3⅛″	4⅜″	37015A15	25.71
D	Straight	Stainless Steel	Resists corrosion	2⅜″	3″	49385A22	18.15
E	Serrated	Plastic	One-hand blade opening; belt clip	2⅞″	4¼″	49235A51	82.87
E	Serrated	Plastic	One-hand blade opening; belt clip	3¾″	5″	49235A31	86.64
F	Partially Serrated	Rubber	Spring clip; lanyard hole	2⅝″	4″	24595A15	29.94
G	Partially Serrated	Plastic	One-hand belt opening/closing; belt clip	3⅛″	4⅛″	3412A33	39.22
H	Partially Serrated	Aluminum	One-hand belt opening/closing; belt clip	3½″	4½″	3492A9	36.36
H	Straight	Aluminum	One-hand belt opening/closing; belt clip	3½″	4½″	3492A8	36.36
J	Partially Serrated	Plastic	Contoured grip; plastic pouch	3¾″	5″	37015A11	40.92
K	Partially Serrated	Stainless Steel	One-hand belt opening/closing; belt clip	3″	4″	3492A6	27.20
Locking Steel Blade—Locks in the open position.							
L	Straight	Plastic	Strips wire; stainless steel liner; nickel end cap; shackle	2⅝″	4½″	3929A11	26.53
Nonlocking Stainless Steel Blades							
M	Straight	Plastic	Two blades	♥	3⅜″	3872A31	20.47
N	Straight	Wood	Three blades	♠	4″	3872A32	34.37
Nonlocking Steel Blades							
P	Straight	Plastic	Screwdriver; insulation cutter; shackle	2⅝″	3¾″	3932A11	24.55
Q	Straight	Plastic	Two blades; screwdriver; insulation cutter; shackle	2⅞″	3¾″	4984A11	28.80

♥ 2⅜″, 1¾″. ♠ 2½″, 1¾″, 1⅝″.

Swiss Army Knives

Features

1—Large blade
2—Small blade
3—Corkscrew
4—Can opener with small screwdriver
5—Bottle opener with large screwdriver and wire stripper
6—Reamer with sewing eye
7—Scissors
8—Phillips screwdriver
9—Magnifying glass
10—Wood saw
11—Fish scaler with hook remover and ruler
12—Metal file with metal saw and nail file
13—Fine screwdriver
14—Wood chisel
15—Key ring
16—Toothpick
17—Tweezers
18—Pliers with wire cutter/crimper
19—Nail file with screwdriver tip
20—Electrician's blade
21—Hook
22—Mini screwdriver
23—Ballpoint pen
24—Straight pin
25—LED flashlight
26—Reamer without sewing eye


Swiss Champ

Style	Features	Closed Lg.		
Standard Knives				
Classic	2, 7, 15-17, 19	2¼″	3791A18	$16.09
Electrician	1, 5, 20, 26	3½″	3791A17	38.84
Tinker	1, 2, 4-6, 8, 15-17	3½″	3791A19	25.42
Super Tinker	1, 2, 4-8, 15-17, 21	3½″	3791A26	34.59
Climber	1-7, 15-17, 21	3½″	3791A24	36.23

Style	Features	Closed Lg.		
Standard Knives (Cont.)				
Spartan Lite	1-6, 8, 15-17, 22, 25	3½″	3791A41	$51.69
Huntsman Lite	1-8, 10, 15-17, 21-25	3½″	3791A42	71.17
Swiss Champ	1-18, 21-24	3½″	3791A11	75.87
Locking-Blade Knife—Blade and bottle opener lock into place.				
Trekker	1, 4-6, 8, 10, 15-17	4⅜″	3791A43	54.09
Leather Pouch for Swiss Champ and Huntsman Lite			3791A22	10.91

Multitools

Features

1—Needle-nose pliers
2—Blunt-nose pliers
3—Wire cutter
4—Smooth-edge knife
5—Serrated-edge knife
6—Ruler
7—Can opener
8—Bottle opener
9—Sm. slotted screwdriver
10—Med. slotted screwdriver
11—Large slotted screwdriver
12—No. 1 Phillips screwdriver
13—No. 2 Phillips screwdriver
14—Jeweler's screwdriver
15—Metal/wood file
16—Crimper
17—Wire stripper
18—Awl/punch
19—Lanyard hole
20—Small scissors
21—Large scissors
22—Tweezers
23—Nail file/cleaner
24—Wood saw
25—Diamond-coated file
26—Metal/wood saw
27—Replaceable insert for wire cutting
28—Cutting hook

A variety of tools and blades fold out from the handles. Tools and handles are corrosion-resistant stainless steel, except 53835A15, which has titanium handles. Multitools include a nylon pouch, unless noted.

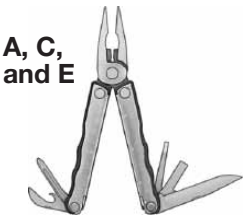
A, C, and E

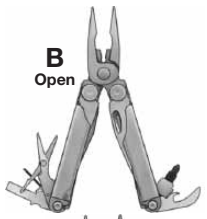
B Open

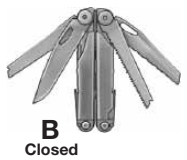
B Closed


D

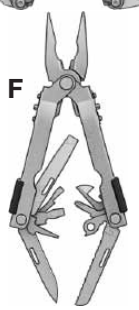
F

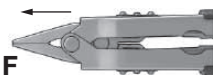
F With head sliding out.

	Features	O'all Lg.	Closed Lg.		
With Fold-Out Pliers—Unfold these multitools to access the pliers.					
A	1, 3, 4-10, 13, 15, 17, 19, 24	6″	3⅞″	53835A65	$49.97
A	1, 3-9, 11, 13, 15-19, 24	6¼″	4″	53835A64	66.01
A	1, 3-11, 13, 15-19, 24	7″	4½″	53835A94	75.00
B	1, 3-8, 10-15, 17, 19, 20, 24, 25	6¼″	4″	53835A62	84.92
B	1, 3-8, 10, 11, 15-17, 19, 20, 24, 25, 28	6¼″	4″	53835A15▲	159.83
B	1, 3, 4, 8-10, 12, 13, 19	6½″	4″	53835A48	62.50
B	1, 3-13, 15-19, 21, 24, 25, 27	7″	4½″	53835A86♣	103.17
With Fold-Out Scissors—Handles swing open to expose the scissors.					
C	4, 6, 8, 10, 12-14, 19, 21-23	5″	2½″	24655A31◩	25.41
With Fold-Out Spring-Action Pliers—Jaws open automatically for ease of use.					
D	1, 3-5, 7-10, 12, 19, 20, 26	6″	3½″	53835A47	37.94
E	1, 3-5, 8-10, 12, 15, 19	3⅞″	2⅜″	5991A57◩	17.68
E	1, 3, 4, 6-10, 13, 15, 17, 21, 28	6″	3⅞″	53835A83◩	39.99
E	1, 3, 4, 8-11, 13, 15, 20, 26, 27	6½″	4¼″	53835A42	106.38
With Slide-Out Pliers—The head slides out of the handle and locks in position.					
F	1, 3, 5-11, 13, 16, 20	5⅝″	4⅜″	53835A52	50.96
F	2-11, 13, 15-17, 19	6⅜″	5″	53835A25	65.23
F	1, 3-11, 13, 15-17, 19	6⅝″	5″	53835A27	65.23
F	1, 3, 5-10, 13, 15, 16, 20, 26	6⅝″	5⅛″	53835A54	70.67
F	1, 3, 5, 7-11, 13, 15, 20, 24, 26	6⅝″	5″	53835A44	73.38

▲Has two bit holders with eight double-end bits. ♣Has a 3/16″ slotted screwdriver bit. ◩Pouch not included.

Multitool and Mini Flashlight Kits

Similar to the 53835A64 (shown above), this multitool with fold-out pliers also includes a black leather holster and a pocket-size flashlight with a black aluminum body. Requires two AA batteries (included).

Multitool	3247A5	$98.57
Replacement AA Batteries (Pkg. of 4)	71455K53	2.94

¼″ Hex Bits for Multitools with Slide-Out Pliers

Fits multitools with slide-out pliers except 53835A44. Includes nine ¼″ hex-shaped bits: No. 1, No. 2, and No. 3 Phillips; ⅛″, 3/16″, and 9/32″ slotted; and 3 mm, 4 mm, 6 mm hex (also known as Allen). Includes a nylon pouch for the coupler and bits.

53835A34 $16.79

Replacement Wire-Cutting Inserts for 53835A25 and 53835A42

Includes two carbide inserts, four screws, and a wrench.

53835A46 $18.76

Filing Planes

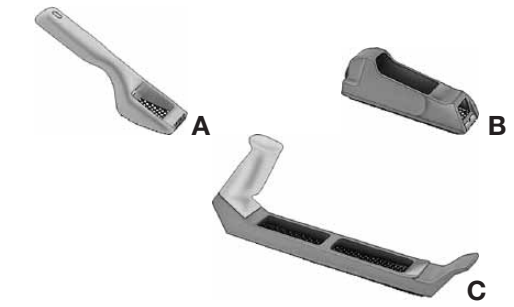

Remove material from curved and rough surfaces.

Style A has a curved steel blade for contoured surfaces. Blade cuts on the backward stroke. Handle is plastic.

Style B has a metal body and a flat steel blade that cuts on the forward stroke.

Style C works in corners. It has a metal body and a flat steel blade that cuts on the forward stroke. Handle is plastic.

Planes

	Blade Wd.	O'all Size Lg.	O'all Size Wd.		
A	1 5/8"	7 1/4"	1 5/8"	3758A15	$4.24
B	1 5/8"	5 5/8"	1 5/8"	3758A11	7.34
C	1 5/8"	12 1/2"	1 5/8"	3696A1	14.95

Replacement Blades

Replacement Blade for Style A	3758A16	$3.05
Replacement Blade for Style B	3758A12	4.77
Replacement Flat Blade for Style C	3696A5	5.54
Optional Curved Blade for Style C	3696A3	5.48

Cutting Planes



Produce smooth cuts on flat surfaces. Planes have a metal body and a chrome-plated steel blade. All have a brass adjustment knob for depth-of-cut and lateral-blade adjustment.

Style A planes are also known as block planes. Their low cutting angle slices through wood more easily than bench planes, but can tear wood along the grain. They're best for planing across the grain.

Style B planes are also known as bench planes. Use them to plane along the wood grain. Handle is plastic.

	Cutting Angle	Blade Wd.	O'all Lg.	Planes		Repl. Blade	
A	13.5°	1 3/8"	6 1/4"	3693A5	$47.02	3693A12	$10.74
A	21°	1 5/8"	6 3/8"	3693A6	49.51	3693A13	11.59
B	45°	2"	9 3/4"	3692A13	66.59	3692A22	17.02
B	45°	2"	14"	3692A15	80.55	3692A22	17.02

Electric Planes



Compact and lightweight, this plane is perfect for fast production planning and trimming. It has depth-of-cut adjustment and a D-shaped handle with trigger switch. Includes two reversible carbide blades and a plastic carrying case. Overall length is 11 1/4".

Plane operates on 120 volts AC and has a 9-ft. power cord with two-prong plug. UL listed and meets OSHA requirements.

Blade Wd.	Max. Cutting Dp.	No-Load Speed, rpm	Amps		
3 1/4"	3/32"	15,000	7.0	3228A25	$202.49
Replacement Blades (Pair)				3228A22	11.79

Chisels for Wood



Great for rough cutting and finishing work. Blades and shanks are forged from a single piece of steel and have a tempered beveled edge. Handles are plastic with a steel cap. Blade length is 3"; overall length is 8 1/2".

Chisels

Blade Wd.		
1/4"	3590A21	$9.39
3/8"	3590A27	9.39
1/2"	3590A23	10.29
5/8"	3590A28	10.49
3/4"	3590A25	10.49
1"	3590A26	10.88
1 1/2"	3590A22	12.98
2"	3590A24	15.11

Chisel Sets

No. of Pieces	Sizes Included (Blade Wd.)		
4	1/4", 1/2", 3/4", 1"	3590A32	$35.33
6	1/4", 1/2", 3/4", 1", 1 1/4", 1 1/2"	3590A42	56.67

Chisels for Wood Turning



Also known as gouges, these chisels shape wood on a lathe. Each has a steel blade and a wood handle.

Blade Wd.	Blade Lg.	O'all Lg.		
3/8"	6"	16"	3712A11	$14.17
5/8"	6"	16"	3712A12	14.17
1"	6"	16"	3712A13	14.17

Carving Tool Sets for Wood



Carve patterns and designs in wood and other soft materials. This set includes four knives: one each with a 1", 1 1/2", 1 3/4", and 2" long blade; and five gouges with a 3 1/8" long blade: two for curved cuts and one each for angled, U-, and V-shaped cuts. All have a steel blade and wood handle. The set comes in a wood case.

1286N1 ..... $182.63

Planing Knives

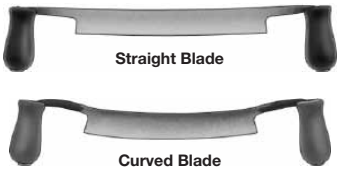

Also known as draw knives, use these for rough cutting and shaping wood. Knives have a wood handle on each side of the blade. Blades are steel. **Curved** blade is for contoured surfaces.

	Blade Size Lg.	Blade Size Wd.		
Straight Blade	10"	1 3/8"	7087A11	$61.14
Curved Blade	8 3/4"	1 3/8"	7087A13	75.21

Machetes



Has a corrosion-resistant stainless steel 18" long blade with a straight edge and a serrated edge. Handle is rubber. Includes a plastic sheath.

3955A25 ..... $26.40

Chisels for Metal


Standard End


Oversized End

These are also known as cold chisels. Oversized ends are easier to hit than standard ends.

Chisels

Blade Wd.	O'all Lg.		
Standard End			
1/4"	5"	3575A11	$3.21
5/16"	5"	3575A12	3.36
3/8"	5"	3575A13	3.68
7/16"	6"	3575A14	4.14
1/2"	6"	3575A22	4.21
1/2"	9"	3575A39	5.11
1/2"	12"	3575A41	6.39
5/8"	6 1/2"	3575A15	4.29
5/8"	12"	3575A31	6.11
3/4"	7"	3575A16	5.25
3/4"	12"	3575A32	7.46
3/4"	18"	3575A33	13.39
7/8"	7 1/2"	3575A17	6.91
7/8"	12"	3575A34	10.09
7/8"	18"	3575A35	12.87
1"	8"	3575A18	9.95
1"	12"	3575A36	10.57
1"	18"	3575A37	15.04

Blade Wd.	O'all Lg.		
Oversized End			
1/4"	4 7/8"	3566A11	$3.74
3/8"	5 1/4"	3566A12	3.96
3/8"	5 5/8"	3566A13	4.12
1/2"	6 3/8"	3566A15	4.86
1/2"	12"	3567A14	6.30
5/8"	6 3/4"	3566A16	5.20
5/8"	12"	3567A15	7.04
3/4"	7 1/8"	3566A17	6.10
3/4"	12"	3567A16	8.40
3/4"	18"	3567A21	10.90
7/8"	7 1/2"	3566A18	7.38
7/8"	12"	3567A17	10.24
1"	7 7/8"	3566A19	9.18
1"	12"	3567A18	12.10
1"	18"	3567A23	15.42
1 1/4"	12"	36085A31	8.66

Standard-End Chisel Sets

No. of Pcs.	Sizes Included (Blade Wd. x O'all Lg.)		
4	1/4" x 5", 5/16" x 5", 3/8" x 5 1/2", 7/16" x 6"	3575A19♦	$15.55
4	5/8" x 6 1/2", 3/4" x 7", 7/8" x 7 1/2, 1" x 8"	3575A21	28.60
5	1/4" x 5", 3/8" x 5 1/2", 1/2" x 6", 3/4" x 7", 1" x 8"	3575A38♦	28.10
5	3/8" x 5 1/2", 7/16" x 6", 5/8" x 6 1/2", 3/4" x 7", 7/8" x 7 1/2"	3575A23	26.78

♦ Comes in a vinyl roll pouch.

Knurled-Grip Chisels for Metal



Also known as cold chisels, these chisels are steel with a knurled grip for a more secure hold.

5-piece chisel set includes one each of the chisels in the following blade widths: 3/8", 1/2", 5/8", 3/4", and 7/8". Comes in a nylon roll pouch.

Blade Wd.	O'all Lg.		
3/8"	6"	3271A31	$9.53
1/2"	6 7/8"	3271A32	11.65
5/8"	7 5/8"	3271A33	12.81
3/4"	8 1/2"	3271A34	16.46
7/8"	9 1/4"	3271A35	22.28
1"	10 1/8"	3271A36	23.69
5-Piece Chisel Set		3271A41	67.53

Specialty-Tip Chisels for Metal


Rounded Tip


Diamond Tip


Straight Tip

Chisels are steel.

Rounded-Tip Chisels—Cut round grooves.

Diamond-Tip Chisels—Cut V-shaped grooves.

Straight-Tip Chisels—Also known as cape chisels, these cut slots and get into tight places.

Blade Wd.	O'all Lg.		
Rounded-Tip Chisels			
1/8"	5 1/2"	3568A1	$7.49
3/16"	5 1/2"	3568A2	8.32
1/4"	5 1/2"	3568A3	8.41
3/8"	7"	3568A5	10.29
1/2"	8"	3568A6	13.34
Diamond-Tip Chisels			
1/8"	5"	3570A8	6.09
3/16"	5 1/2"	3570A9	7.14
1/4"	5 3/4"	3570A2	7.51
5/16"	6"	3570A3	8.41

Blade Wd.	O'all Lg.		
Diamond-Tip Chisels (Cont.)			
3/8"	7"	3570A4	$8.67
1/2"	7"	3570A5	10.44
Straight-Tip Chisels			
1/8"	5 1/2"	3569A1	7.14
3/16"	5 1/2"	3569A2	7.66
1/4"	5 1/2"	3569A3	7.90
5/16"	6 1/4"	3569A4	8.61
3/8"	7"	3569A5	9.92
1/2"	8"	3569A6	13.23

Chisels for Masonry


Angled Tip


Straight Tip


Brick

Chisels are steel. The end is oversized so it's easy to hit.

Angled-Tip Chisel—Use to clean mortar from brick joints. Also known as a plugging chisel.

Straight-Tip Chisels—Make clean cuts in cement, cinder block, brick, and veined stone. Also known as mason's chisels.

Brick Chisels—Score, cut, and trim bricks and blocks.

Blade Wd.	O'all Lg.		
Angled-Tip Chisel			
3/16"	10"	3782A14	$8.83
Straight-Tip Chisels			
1 1/4"	7 1/2"	3571A6	7.67
2 1/4"	7 1/2"	3571A8	9.71

Blade Wd.	O'all Lg.		
Brick Chisels			
2 1/2"	7"	3576A4	$7.50
3"	7"	3576A1	8.46
3 1/2"	7"	3576A2	8.94
4"	7"	3576A3	9.94

Safety-Grip Chisels

Hit the chisel instead of your hand—a plastic guard protects your hand from injury. Blade is steel.

Replacement chisel hand guard fits all chisels listed as well as other tools with a 5/8"-3/4" shank.

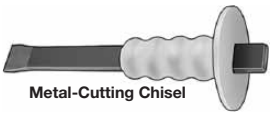
Metal-Cutting Chisel

	Blade Wd.	O'all Lg.		
Metal-Cutting Chisel	3/4"	7"	3555A11	$12.32
Metal-Cutting Chisel	1"	8"	3555A12	15.30
Metal-Cutting Chisel	1 1/4"	12"	3555A18	11.54
Masonry Chisel	1/16"	12"	3555A13	13.48
Wood Flooring Chisel	2 1/2"	10"	3555A15	18.20
Brick Chisel	3"	7"	3555A16	17.62
Brick Chisel	4"	7"	3555A17	23.73
Replacement Chisel Hand Guard			65295A65	10.60

Chisels for Wood Flooring


A


B

Use the wide blades on these chisels to make rough cuts, trim wood, and remove the tongue from floorboards. Chisels are steel.

Style A are also known as electrician's chisels. They have an oversized end that's easier to hit than a standard end.

Style B has a long shank for leverage and reach. It's also known as a clapboard chisel.

	Blade Wd.	O'all Lg.		
A	2"	10"	3586A14	$11.12
A	2 3/4"	8"	3586A11	12.68
A	3"	11"	3586A12	14.60
B	2"	18"	3577A11	13.74

Multifunction Scrapers


A

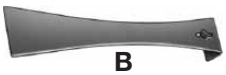
B

Pry, chisel, and scrape with one tool. These scrapers have beveled edges for removing thin coatings. Scrapers are steel.

	Blade Wd.	O'all Lg.		
A	1 1/2"	14"	7100A21	$17.69
B	1 5/8"	9 1/2"	3640A11	7.36

Comfort-Grip Scrapers


A


B

These have a screwdriver-style molded-plastic handle for a firm, comfortable hold. Blade is steel.

	Blade Wd.	O'all Lg.		
A	5/8"	8 1/2"	3645A4	$17.67
B	5/8"	7"	3645A5	15.21
B	1"	7 1/4"	3645A6	14.98
B	1"	9 3/4"	3645A2	12.98
B	1 1/2"	13"	3645A3	18.96

Nonscratching Plastic Scrapers


Scraper


Scraper/Knife


Angled Scraper

Clean and scrape off sealant and gaskets—the plastic blade on these scrapers won't scratch delicate surfaces. Made of glass-filled nylon for extra strength and longer edge life. Color is blue.

4-piece set includes one of each scraper listed in the table.

	Blade Wd.	O'all Lg.		
Scraper	1″	7″	3618A14	$5.00
Scraper	1¼″	7″	3618A47	5.00
Scraper/Knife	1″	7″	3618A25	5.00
Angled Scraper	1″	7″	3618A36	5.00
4-Piece Set			3618A51	16.00

Heavy Duty Machinist's Hand Scrapers


Flat


Curved

Get extra-smooth surfaces on slides, bearings, and surface plates with these tough metal scrapers. Blades are made of chrome-vanadium steel and are hardened to maintain a sharp cutting edge. Blades can be sharpened. They have an ultra-grip handle that provides a secure, comfortable grip.

	Blade, Wd. × Lg.	O'all Lg.		
Flat Blade	11/16″ × 37/16″	13¼″	3801A11	$30.80
Curved Blade	15/16″ × 3⅜″	13¼″	3801A12	40.42

Curved Bearing Scrapers



These scrapers leave no vibration marks, so they're perfect for scraping metal bearings, oil grooves, and babbitt metal. Blades are ground tool steel; handles are wood.

3-piece set includes one of each scraper listed in the table.

Blade, Wd. × Lg.	O'all Lg.		
½″ × 3″	10½″	3779A11	$30.40
⅝″ × 3½″	11″	3779A12	31.14
⅝″ × 4″	11½″	3779A13	31.56
3-Piece Set		3779A1	88.44

Adjustable-Blade Scrapers for Metal



A clamp on the shank of these scrapers allows you to easily adjust the blade length. Great for precision, uniform scraping of machine-tool dovetails, surface plates, and mating surfaces.

Scrapers have a solid steel body and a wood handle. They come with one carbide-tipped blade that easily cuts through materials as hard as alloy bronze. Blade is 1/16″ thick and requires sharpening before first use. Occasional touch-up sharpening will maintain its super-sharp edge.

Blade, Wd. × Lg.	O'all Lg.	Scrapers		Repl. Blade	
¾″ × 3¼″	14″	3643A17	$118.79	3643A21	$37.24
1″ × 3¼″	15″	3643A18	127.59	3643A22	41.36
1¼″ × 3¼″	17″	3643A19	144.83	3643A23	44.91

Air-Powered Scrapers



Scrape away gaskets, undercoatings, and other tough-to-remove materials with the power of 4,800 strokes per minute. Scraper has a chrome-plated steel handle and a steel blade with a beveled edge for removing thin coatings. Stroke length is 1/8″. Recommended operating pressure is 90 psi; average air consumption is 3 cfm. Recommended hose size is ⅜″; air inlet is ¼ NPT female. Scraper comes with an external air regulator and one blade.

	Blade Size Wd.	Lg.	O'all Lg.		
Scraper	1″	2½″	9¾″	4964A34	$56.38
Replacement Blade				4964A35	29.84
Replacement Blade Holder				4964A36	31.07

Machinist's Scrapers and Deburring Tools

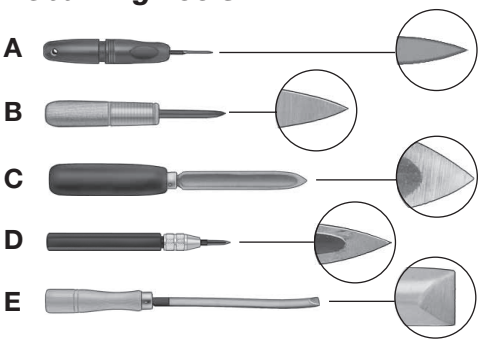

Great for scraping and deburring metal bearings and surfaces. Blades are ground high-grade tool steel. *Style A* have plastic handles; *Styles B, C,* and *E* have wood handles; and *Style D* has an aluminum handle.

	Blade, Wd. × Lg.	O'all Lg.		
Triangular Blade				
A	1/8″ × 2 15/16″	5″	4291A12	$9.25
A	3/16″ × 3 5/32″	4 13/16″	4291A13▲	9.45
B	3/16″ × 2″	5½″	4291A14	13.32
B	3/16″ × 3″	6½″	4291A15	14.78
B	¼″ × 3¼″	7½″	4291A17	17.44
B	5/16″ × 4″	8″	4291A16	17.82
C	½″ × 4″	8″	3647A2	29.99
C	½″ × 8″	13″	3797A11	38.67
C	½″ × 10″	15″	3797A12	41.18
D	3/32″ × 3 5/32″	4½″♣	4291A22▲	14.29
Half-Round Blade				
E	¾″ × 8″	13″	3650A11	48.89
E	⅞″ × 10″	15″	3650A12	52.63

▲ Blade is double ended. ♣ Handle Lg.

Ceramic Scraping and Deburring Tool



Remove burrs and high spots on bearing surfaces. Tool has a fixed zirconia ceramic blade. Handle is plastic. Includes one blade.

Blade, Wd. × Lg.	O'all Lg.	Scraper		Repl. Blade		Repl. Handle	
9/16″ × 1½″	6⅞″	6074A36	$23.83	6074A39	$18.00	6074A38	$7.90

Heated Scrapers


Straight Blade


Pointed Blade

Remove solidified adhesives, waxes, and sealants with a heated blade. Scrapers include a thermostat that keeps the temperature at 340° F. Blade is stainless steel. Handle is wood. Scrapers operate on 120 volts AC and have a 6-ft. power cord with a three-prong plug.

Pointed blade can be used for cutting and scraping.

	Blade Size Wd.	Lg.	O'all Lg.		
Straight Blade	2″	4″	15″	8106A21	$135.00
Straight Blade	4″	2″	12″	8106A22	135.00
Pointed Blade	2″	9″	17″	3233A98	120.00

Scraper Blades for Reciprocating Saws



Turn your reciprocating saw into a scraper powerful enough to remove glue, tar, and other hard-to-remove substances. Blade is steel.

3-piece set includes one of each blade listed in the table.

Blade Size Wd.	Lg.		
2″	5½″	3907A12	$10.48
4″	5½″	3907A14	12.60
6″	5½″	3907A16	14.99
3-Piece Set		3907A18	32.31

Long-Reach Scrapers

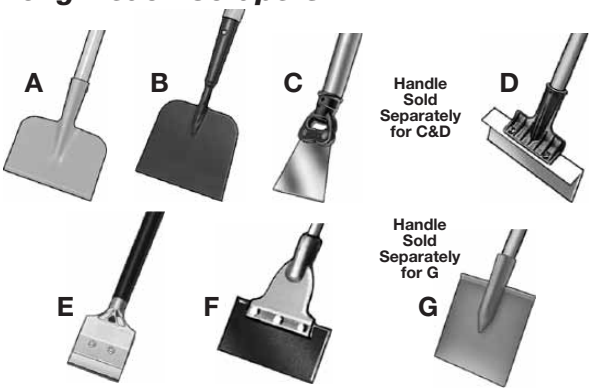

Styles A&B

Scrapers have a rigid blade for scraping ice and snow and a beveled edge that's better for removing thin coatings than a straight edge. Blade is steel. Handle is wood.

	Blade Wd.	Blade Thick.	Handle Lg.		
A	7″	3/32″	48″	6351A13	$20.73
B	3 1/2″	3/16″	48″	6351A16	31.54
B	7″	1/8″	52 1/2″	6351A14	26.27
B	8 1/2″	1/8″	54″	6351A15	53.52

Styles C&D

Handle is sold separately. **Style C** has a flexible steel blade. **Style D** has a corrosion-resistant stainless steel blade.

	Blade Wd.	Blade Thick.		
C	4″	3/64″	7089A61	$13.05
C	7″	3/64″	7089A62	14.61
D	8″	1/16″	37525A71	31.54
54″ Long Tapered Wood Handle			7349T14	7.53

Styles E-G

Replaceable-Blade Scrapers—Blades are steel. Style E blade is beveled to remove thin coatings more easily than straight-edge blades. Handle has a rubber grip. Style F handle is steel.

Nonsparking Scraper—Made of aluminum-bronze, this nonmagnetic, corrosion-resistant scraper inhibits sparking. It's FM approved for use in hazardous environments. It helps meet OSHA requirements that specify nonsparking tools for locations where flammable vapors and combustible residues are present. Handle is sold separately.

Warning: Do not use these tools in direct contact with acetylene due to the possible risk of explosion.

	Blade Wd.	Blade Thick.	O'all Lg.	Scrapers		Repl. Blade	
Replaceable-Blade Scrapers							
E	4″	1/16″	12″	38985A77	$27.89	38985A79	$9.05
E	4″	1/16″	18″	38985A78	30.04	38985A79	9.05
F	4″	1/16″	55″	38985A71	74.39	38985A74	6.47
F	8″	1/16″	55″	38985A72	82.10	38985A75	8.12
F	14″	1/16″	55″	38985A73	106.90	38985A76	14.41
Nonsparking Scraper							
G	6″	1/8″	7 7/8″	6476A1	72.75		
54″ Long Tapered Wood Handle for Style G						7349T14	7.53

Long-Reach Scrapers with Hammer-Action Blade

Sliding hammer action gives you 150 lbs. of impact per square inch for your toughest scraping jobs. Scraper comes with a steel blade that mounts to the handle's head assembly. Use for scraping glued-down carpeting, vinyl and acrylic tile, pliable floor coverings, linoleum, and dried mastic. Handle has a rubber grip.



	Blade Wd.	Blade Thick.	O'all Lg.		
Scraper	6″	0.039″	62 3/4″	3565A16	$48.34
Replacement Steel Blade				3565A18	10.83

Razor Blade Scrapers

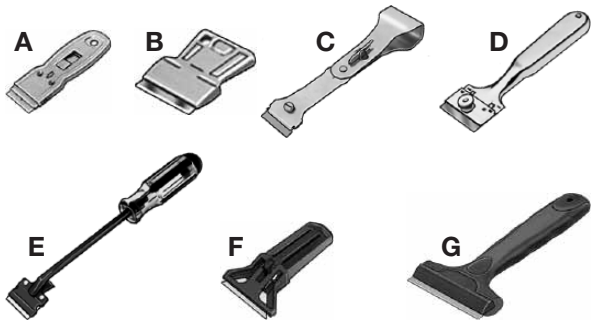

Scrapers—Replacement blades sold below.

Style A include five steel blades.
Style B includes one steel blade.
Style C has a blade that locks in three positions to scrape straight ahead or at an angle. Blade folds into the handle for storage. It includes five steel blades.
Style D has a cadmium-plated steel handle that resists rust. It includes six steel blades.
Style E includes five steel blades and one plastic blade.
Styles F&G include one steel blade.

	Blade Wd.	O'all Lg.		Each	Pkg. Qty.	Pkg.
A	1 1/2″	4 1/2″	7070A2	$2.85	10	$22.86
A	1 1/2″	3 7/8″	7070A3	3.26	10	28.90
B	1 1/2″	1 7/8″	2506A2	1.30	12	12.48
C	1 1/2″	8″	7110A2	9.06	10	81.60
D	1 7/8″	5 3/4″	7099A11	4.62	—	—
E	1 1/2″	11″	7078A24	13.00	—	—
F	2 1/4″	5″	3853A1	3.83	10	34.40
G	4″	5 1/2″	26765A1	4.62	6	22.62

Scraper Set—Includes one Style B scraper and one Style G scraper.
26765A332 $5.00

Repl. Blades—Made of steel, except Style E is stainless steel.

Fits		Small Pkg. Qty.		Medium Pkg. Qty.		Large Pkg. Qty.	
A-C	3962A13	5	$0.68	100	$7.33	1,000	$65.97
D	7099A13	5	1.94	100	30.20	—	—
E	3962A26	5	1.09	100	16.36	—	—
F	3853A13	5	1.88	100	23.24	—	—
G	26765A34	5	2.86	50	25.00	—	—

Plastic Blades—Fit Styles A, C, and E.

Prevent scratching delicate surfaces. Blades are 0.040″ thick.

	Pkg. of 5	Pkg. of 100
3962A17	$2.05	$35.60

Contoured-Surface Scrapers

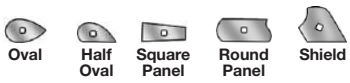


Scraper with Triangular Blade

Remove paint and varnish from concave and convex moldings, cracks, and seams. Handle is wood. Overall length is 9″. Includes one 2 1/4″ triangular blade.

Blade Shape	Blade Wd.	Blade Lg.		
Scraper				
Triangular Blade	2 1/4″	2 1/4″	7069A11	$10.99
Blades				
Triangular Blade	2 1/4″	2 1/4″	7069A41	4.21
Triangular Blade	3″	3″	7069A42	4.41
Oval Blade	1 5/16″	2 1/4″	7069A43	4.41
Half Oval Blade	1 1/8″	2 1/8″	7069A44	4.41
Square Panel Blade	1″	2 1/16″	7069A45	4.41
Round Panel Blade	1 5/16″	3″	7069A46	4.44
Shield Blade	1 3/4″	2″	7069A47	4.25

8-Piece Set—Includes one handle and a variety of blade shapes.
7069A18 $26.03

Paint and Wallpaper Scrapers

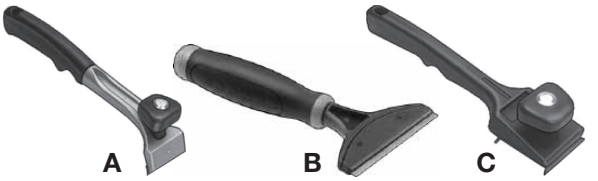

(A) Long-Life Carbide Blade Scrapers—Made of carbide, the blade stays sharp longer than steel blades. Scrapers include one reversible blade with two scraping edges.

(B) Steel Blade Scrapers—A beveled-edge blade removes thin coatings more easily than straight-edge blades. Scrapers include one steel blade and can store extra blades in the handle. 7106A11 has a threaded end that allows you to add any standard threaded handle to extend the reach of the scraper.

(C) Long-Life Steel Blade Scrapers—These scrapers have a four-sided blade for longer life—when you need a new edge, turn the blade 90°. 7105A31 and 7105A32 have one steel blade with one wavy edge for scraping thick material and three straight edges. 7105A13 has one steel blade with two serrated and two smooth edges.

	Blade Wd.	O'all Lg.	Scrapers	Each	Repl. Blades Pkg. Qty.		Pkg.
A	2″	10¼″	**3639A3**	$15.38	1	**3639A4**	$9.33
A	2⅜″	10¼″	**3639A6**	17.74	1	**3639A7**	9.76
B	4″	9½″	**7106A11**	8.37	5	**7106A21**	3.56
B	4″	12″	**7106A12**	9.63	5	**7106A21**	3.56
B	4″	18″	**7106A14**	14.14	5	**7106A21**	3.56
B	4″	48″	**7106A13**	16.15	5	**7106A21**	3.56
C	1¾″	9″	**7105A31**	7.42	2	**7105A21**	4.14
C	2½″	11¼″	**7105A32**	8.36	2	**7105A22**	4.67
C	3″	12¼″	**7105A13**	9.67	1	**7105A23**	4.42
60″ Long Wood Pole for 7106A11						**7255T5** Each	$11.58

Long-Life Ceramic Blade Scrapers



The blade is ceramic so it stays sharper longer than steel and won't rust. It's chemical resistant, nonmagnetic, and nonconductive. Handle is plastic. Blade is 2⅛″ Wd. × 1¼″ Lg. Overall length is 6¾″.

35685A65 ..... $18.62

Nonscratching Silicone Contoured-Surface Scrapers



Made from flexible silicone, this scraper has flat and curved edges that bend to fit tight areas and contoured surfaces. Size is 6″ Lg. × 3½″ Wd. Color is blue.

6060A31 ..... $16.67

Disposable Nonscratching Plastic Putty Knives

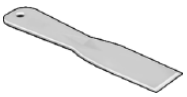

Blade Wd.	Blade Lg.	O'all Lg.		Each	Pkg. Qty.	
1½″	3½″	7¼″	**3546A11**	$0.63	36	$17.64
2″	3½″	7¼″	**3546A12**	.74	36	20.52
3″	3½″	7¼″	**3546A13**	.83	36	23.04
4″	3½″	7¼″	**3546A14**	.89	36	25.20
6″	3½″	7¼″	**3546A15**	1.19	24	22.80
8″	3¾″	7¼″	**3546A16**	1.35	24	25.20
10″	3⅛″	7¼″	**3546A17**	1.63	24	30.48

Multifunction Putty Knives



Use as a spreader, scraper, and paint-roller cleaner. The blade has a beveled edge for removing thin coatings.

Brass blade is nonsparking and nonmagnetic for use in hazardous locations.

Rubber handle has a grip that absorbs shock and conforms to your hand for a comfortable hold.

Blade Material	Handle Material	Blade Wd.	Blade Lg.	O'all Lg.		Each
Steel	Plastic	2½″	3½″	7¼″	**3581A2**	$7.57
Brass	Rubber	2⅜″	3⅜″	8¼″	**35595A81**	11.13
Stainless Steel	Rubber	2½″	3¼″	8″	**2456A11**	8.08
Stainless Steel	Wood	2⁵⁄₁₆″	4″	7¾″	**4992A24**	9.72
Stainless Steel	Plastic	2⅜″	3⅜″	7¼″	**35595A65**	11.63

Nonsparking Putty Knives



A nonsparking, nonmagnetic blade makes these tools suitable for hazardous locations. The blade is rigid, unless noted, and has a beveled edge for removing thin coatings.

Rubber handle has a grip that absorbs shock and conforms to your hand for a comfortable hold.

Blade Wd.	Blade Lg.	O'all Lg.		Each	Pkg. Qty.	
Brass Blades						
Plastic Handles						
1¼″	3¼″	7½″	**7114A1**	$7.72	10	$69.40
1⁵⁄₁₆″	3¼″	7½″	**7114A4**	7.98	10	71.80
1⁵⁄₁₆″	3¾″	11½″	**7114A5**♦	15.29	5	68.80
2″	3¼″	7½″	**7114A2**	9.15	10	82.40
3″	4¼″	8″	**7114A3**	11.02	10	99.20
3″	4¼″	12½″	**7114A6**♦	16.02	5	72.10
Rubber Handles						
1¼″	3½″	8½″	**2528A2**	7.46	5	33.30
2″	3⅝″	8½″	**2528A4**	8.60	5	38.40
3″	4⅛″	9″	**2528A5**	10.18	5	45.45
Beryllium Copper Blades						
Wood Handles						
1½″	3½″	7½″	**3665A2**	21.21	___	___
2″	4″	7⅝″	**3665A1**	25.32	___	___
3″	4½″	8¼″	**3626A1**	42.64	___	___
3″	4½″	8¼″	**3626A2**	44.16	___	___

♦ Blade is flexible.

Long-Reach Stainless Steel Putty Knives



Add any standard threaded handle to extend the reach of these putty knives. The blades have a beveled edge for removing thin coatings. They are corrosion-resistant stainless steel. Handle is plastic.

Straight Blade: Blade Wd.	Blade Lg.	O'all Lg.		Each	Bent Blade: O'all Lg.		Each
3″	4⅜″	10¼″	**35585A77**	$8.51	10¼″	**35585A79**	$9.45
4″	4″	9¾″	**35585A81**	8.98	9⅝″	**35585A83**	9.02
54″ Long Wood Pole						**7255T1**	5.56

Bent-Blade Putty Knives



Use the bent blade on these putty knives for increased leverage.

Beveled-edge blades remove thin coatings more easily than straight-edge blades.

Stainless steel blade is corrosion resistant.

Blade Material	Handle Material	Blade Wd.	Blade Lg.	O'all Lg.		Each	Pkg. Qty.	
Straight-Edge Blade								
Steel	Wood	1⅛″	3″	6⅝″	**3667A1**	$14.52	12	$143.64
Beveled-Edge Blade								
Steel	Plastic	3″	3⅞″	10″	**7113A58**	9.68	5	42.40
Steel	Wood	3″	4¾″	9¼″	**3668A43**	9.48	5	42.95
Stainless Steel	Wood	3″	4½″	9″	**4991A1**	9.73	5	40.50

Putty Knives

Handle has a hang-up hole, unless noted.
Beveled-edge blades remove thin coatings more easily than straight-edge blades.
Stainless steel blades are corrosion resistant.


Straight-Edge Blade with Wood Handle


Beveled-Edge Blade with Plastic Handle

Blade Wd.	Blade Lg.	O'all Lg.	Handle Material	Rigid Blades	Each	Pkg. Qty.		Flexible Blades	Each	Pkg. Qty.	
Straight-Edge Blades											
Steel											
3/4"	3 1/2"	7 5/8"	Wood					3658A46	$9.83	6	$53.16
3/4"	3 5/8"	7 1/2"	Plastic					7113A45	6.31	5	28.40
1"	4 1/2"	8 5/8"	Wood					3705A11♦	25.91		
1 1/8"	3 3/4"	7 3/4"	Plastic					3632A22	2.08	5	8.20
1 1/4"	3 1/2"	7 1/4"	Wood	3658A41	$11.26	12	$121.56	3658A47	11.26	12	121.56
1 1/4"	3 5/8"	7 3/4"	Plastic	7113A42	4.32	5	19.40	7113A46	4.65	5	20.90
1 1/4"	3 3/4"	7 3/4"	Wood	3668A31	5.44	5	24.50	3668A37	5.35	5	24.25
1 1/2"	3 1/2"	7 1/4"	Wood	3658A42	12.05	12	130.20	3658A48	12.05	12	130.20
1 1/2"	3 5/8"	7 3/4"	Plastic	7113A43	4.83	5	21.70	7113A47	4.83	5	21.70
2"	3 1/2"	7 1/4"	Wood	3658A43	12.97	12	140.04	3658A49	12.97	12	140.04
2"	3 5/8"	7 3/4"	Plastic	7113A44	5.22	5	23.50	7113A48	5.22	5	23.50
2"	5"	9 1/8"	Wood					3705A12♦	28.22		
3"	4"	8 1/2"	Wood	3629A3♦	37.54						
3"	4 1/2"	7 7/8"	Plastic					3632A21♦	2.65	5	10.65
3"	4 1/2"	8 1/4"	Wood	3668A34	7.78	5	35.00	3668A41	7.71	5	34.90
3"	4 1/2"	10 3/4"	Wood	3631A1♦	13.10	6	71.46				
3"	5"	9 1/8"	Wood					3705A13♦	30.40		
4"	4 1/2"	8 1/4"	Plastic					7113A49	8.96	5	38.15
4"	4 3/4"	9"	Wood	3629A5♦	39.08						
4"	5 1/4"	9"	Wood	3658A45	17.43	12	188.28				
5"	4 1/4"	8 1/4"	Plastic					7113A51	10.20	5	42.33
6"	4 1/2"	8 3/8"	Wood					3668A51	10.38	5	46.70
6"	4 1/2"	8 1/2"	Plastic					7113A52	10.09	5	41.90
10"	4 3/8"	8 3/8"	Plastic					7113A53	17.82	5	80.20
Stainless Steel											
1 1/4"	3 3/4"	7 1/2"	Wood	7107A6	5.66	5	23.60	7107A5	5.66	5	23.60
1 1/2"	3 1/2"	8 1/2"	Plastic	35625A41	5.13	5	23.10	35625A43	5.13	5	23.10
1 1/2"	3 5/8"	7 5/8"	Plastic	2459A2	8.24	5	34.45	2459A1	8.24	5	34.45
1 1/2"	3 5/8"	7 5/8"	Wood	3668A32	12.45	12	130.25	3668A38	14.70	12	153.85
1 1/2"	3 3/4"	7 1/2"	Wood	7107A2	6.47	5	26.95	7107A1	6.48	5	27.00
2"	3 5/8"	7 5/8"	Wood	3668A33	13.54	12	141.66	3668A39	14.22	12	148.88
2"	3 3/4"	7 1/2"	Wood	7107A8	7.29	5	30.40	7107A7	7.29	5	30.40
3"	3 3/4"	8 3/4"	Plastic	2641A3	9.93	5	43.20	2641A4	9.93	5	43.20
3"	4 1/8"	9"	Plastic					35625A44	6.97	5	31.40
3"	4 1/4"	8"	Plastic	2459A5	12.02	5	50.30	2459A4	12.02	5	50.30
3"	4 3/4"	8 1/2"	Wood	7107A4	8.93	5	37.15	7107A3	8.90	5	37.10
3 1/8"	4 1/4"	12"	Wood	4990A6	9.71	5	40.45				
4"	3 3/4"	8 3/4"	Plastic	2641A6	11.14	5	49.00	2641A7	11.14	5	49.00
4"	4 1/4"	9"	Plastic					35625A49	9.54	5	42.90
4"	4 1/2"	8 3/8"	Wood					4963A4	8.45	5	37.70
4"	5"	9"	Wood	3668A35	16.79	6	87.93	3668A46	18.66	6	97.64
5"	4 1/4"	9 1/8"	Plastic					35625A45	10.40	5	46.80
5"	4 5/8"	8 1/2"	Wood	3668A36	17.52	6	91.75				
6"	3 3/4"	8 3/4"	Plastic					2641A5	15.22	5	66.20
6"	4 1/4"	9 1/8"	Plastic					35625A46	11.07	5	49.80
6"	4 3/8"	8 3/8"	Plastic					4963A9	18.28	5	83.10
6"	4 1/2"	8 3/8"	Wood					4963A6	12.48	5	55.75
8"	4 1/4"	9 1/4"	Plastic					35625A47	15.98	5	71.90
10"	4"	9 3/8"	Plastic					3686A1	10.26	5	46.10
10"	4 1/4"	9 1/4"	Plastic					35625A48	18.65	5	83.90
Beveled-Edge Blades											
Steel											
3/4"	3 5/8"	7 1/2"	Plastic	7113A54	5.51	5	24.70				
1 1/4"	3 3/4"	7 3/4"	Wood	3668A42	5.92	5	26.80				
1 5/16"	3 5/8"	7 3/4"	Plastic	7113A55	5.20	5	23.40				
1 1/2"	3 1/2"	7 1/2"	Wood	3658A3	10.83	6	57.84				
3"	4 1/4"	8 1/4"	Plastic	7113A56	7.91	5	35.60				
4"	4 1/4"	8"	Plastic	7113A57	7.80	5	35.10				
Stainless Steel											
1 1/4"	3 5/8"	7 3/8"	Wood	4968A2	6.89	5	28.65				
1 1/4"	3 5/8"	8 1/2"	Plastic	35625A51	6.38	5	28.70				
1 1/2"	3 5/8"	7 5/8"	Wood	3668A44	13.42	12	140.51				

♦ No hang-up hole.

Long-Blade Stainless Steel Putty Knives

Also known as ink knives or spatulas, these putty knives mix and spread paints, chemicals, and adhesives. Blade is corrosion-resistant stainless steel and flexible. Handle is wood and 5 1/2" long.

Blade Wd.	Blade Lg.	O'all Lg.		Each
1 1/2"	4"	8 3/4"	3633A1	$22.31
1 5/8"	6"	10 1/2"	3633A2	29.13
2 1/4"	8"	13 1/2"	3633A3	33.09
2 7/8"	10"	15 1/2"	3633A4	36.44



Putty Knives & Spatulas

Food Processing and High-Temperature Plastic Putty Knives



Food processing putty knives are made from FDA listed material for use near food. Sterilize them with heat. All are non-sparking, chemical and corrosion resistant, and won't scratch metal surfaces. Resist heat up to 176°F. **To Order:** Please specify: blue, green, red, white, or yellow.

High-temperature putty knife resists heat up to 456°F with a glass-filled nylon blade and handle. Color is blue.

Blade Wd.	Blade Lg.	O'all Lg.		
Food Processing Putty Knives				
3″	3 1/4″	8″	3661A1	$4.45
4 1/2″	4 1/2″	9 3/4″	3661A2	5.36
High-Temperature Putty Knife				
4 1/2″	4 3/4″	10″	3661A28	8.28

Wide-Blade Putty Knives



Two-Piece Putty Knife



One-Piece Putty Knife

Two-piece putty knives with plastic handle meet NSF/ANSI standards.

One-piece putty knife is chemical resistant and FDA listed. **To Order:** Please specify: blue, green, red, white, or yellow.

Blade Material	Handle Material	Blade Wd.	O'all Lg.		
Two-Piece Putty Knives					
Stainless Steel	Wood	6″	4 5/8″	3651A13	$17.80
Stainless Steel	Plastic	6″	4 5/8″	3651A14	11.08
One-Piece Putty Knife					
Plastic	Plastic	8 5/16″	5″	5732A14	11.00

Spatulas



Stainless Steel Tapered Blade with Wood Handle



Copper Alloy Rounded Blade with Wood Handle



Nylon Straight Blade with Plastic Handle



Plastic Rounded Blade

Stainless Steel Blades—Also known as ink knives, these spatulas mix and spread paints, chemicals, and adhesives. Blades are Type 420 stainless steel and semiflexible except for the spatula with 3/4″ Wd. × 3 5/8″ Lg. blade, which is stiff. *Polypropylene handles* are white and meet NSF/ANSI standards. *Vinyl handles* provide a nonslip grip and have high temperature resistance.

Copper Alloy Blades—Completely nonsparking, these spatulas are the ideal choice when accidental sparks could be hazardous. Blade is stiff and nonmagnetic.

Nylon Blades—Self-sharpening and won't absorb odors. Perfect for food, printing, and paint process industries. Withstand heat up to 300°F intermittently. Spatulas with *stainless steel handles* have white blades. Spatulas with *plastic handles* have red, white, or yellow blades. **To Order:** Please specify color.

Plastic Blades—Are disposable and have flexible blades. Withstand temperatures up to 180°F.

Blade, Wd. × Lg.	Blade Shape	Handle Material	O'all Lg.		Each	Pkg. Qty.	
Stainless Steel Blades							
9/16″-5/16″ × 3	Tapered	Wood	6 3/4″	3748A401	$14.15	12	$141.48
5/8″-7/16″ × 4″	Tapered	Wood	7 3/4″	3748A5	13.03	—	—
11/16″-1/2″ × 5″	Tapered	Wood	8 3/4″	3748A6	15.15	—	—
5/8″ × 3″	Rounded	Vinyl	6 1/2″	4007A41	11.09	—	—
5/8″ × 3″	Rounded	Wood	6 7/8″	3660A111	14.15	12	141.36
3/4″ × 3 5/8″	Rounded	Wood	7 1/2″	3660A19	16.03	—	—
3/4″ × 4″	Rounded	Vinyl	7 1/2″	4007A42	12.46	—	—
3/4″ × 4″	Rounded	Wood	7 7/8″	3660A121	14.82	12	148.32
7/8″ × 5″	Rounded	Vinyl	9″	4007A43	15.62	—	—
7/8″ × 5″	Rounded	Wood	8 3/4″	3660A13	14.31	—	—
1″ × 6″	Rounded	Polypropylene	9 3/4″	5170A31	16.21	—	—
1″ × 6″	Rounded	Vinyl	10 3/8″	4007A44	15.46	—	—
1″ × 6″	Rounded	Wood	10 1/2″	3660A141	18.23	12	182.28
1 1/4″ × 3″	Rounded	Polypropylene	7 1/2″	7101A12	14.03	—	—
1 1/4″ × 3 5/8″	Rounded	Wood	8 1/8″	7101A11	19.22	—	—
1 1/4″ × 8″	Rounded	Polypropylene	11 1/2″	5170A33	18.74	—	—
1 1/4″ × 8″	Rounded	Wood	12 1/2″	3660A151	23.02	6	115.14
1 1/2″ × 10″	Rounded	Polypropylene	14 3/4″	5170A35	23.86	—	—
1 1/2″ × 10″	Rounded	Wood	15″	3660A161	25.78	6	128.88
1 3/4″ × 12″	Rounded	Polypropylene	16 3/4″	5170A37	27.29	—	—
1 3/4″ × 12″	Rounded	Wood	17 1/4″	3660A171	32.74	6	163.68
2″ × 14″	Rounded	Polypropylene	18″	5170A391	32.57	6	162.84
2″ × 14″	Rounded	Wood	19 1/4″	3660A181	37.17	6	185.88
Copper Alloy Blades							
1″ × 6″	Rounded	Wood	10 1/4″	3669A1	25.25	—	—
1 1/2″ × 9″	Rounded	Wood	14″	3669A2	48.38	—	—
2″ × 14″	Rounded	Wood	19 1/4″	3669A3	65.01	—	—
Nylon Blades							
4 1/2″ × 7 1/2″	Straight	Plastic	13 1/2″	3572A21	23.62	—	—
4 1/2″ × 7 1/2″	Straight	Plastic	40″	3572A22	29.72	—	—
4 1/2″ × 7 1/2″	Straight	Stainless Steel	48″	3572A13	100.62	—	—
4 1/2″ × 7 1/2″	Straight	Stainless Steel	72″	3572A14	117.00	—	—
Replacement White Nylon Blade				3572A15	17.38	—	—
Plastic Blades							
1″ × 3″	Rounded	Plastic	6 1/2″	70505A2	—	10	7.00
1 1/4″ × 3 1/4″	Rounded	Plastic	7 1/2″	70505A1	—	10	7.40
1 5/8″ × 4 1/4″	Rounded	Plastic	9 1/2″	70505A3	—	10	7.84

Mini Stainless Steel Lab Spatulas



Style A is made of Type 304 stainless steel; *Styles B-E* are made of Type 301 stainless steel. *Styles A, B, C,* and *E* have a stainless steel blade on both ends; *Style D* has a stainless steel blade on one end and a vinyl handle on the other.

	Spatula Blade(s)	Blade, Wd. × Lg.	O'all Lg.		Each	Pkg. Qty.	
A	Tapered/Rounded	5/16″ × 2″	7″	7075A28	$6.14	12	$61.46
B	Rounded/Squared	3/8″ × 2″	7″	7075A27	6.57	12	65.76
C	Nonstick Double Flat Rounded	5/16″ × 1 5/8″	8 1/4″	7075A29	8.80	12	87.96
C	Double Flat Rounded	5/16″ × 1 5/8″	8 1/4″	7075A21	4.72	12	47.28
D	Single Oval Spoon	1/4″ × 1″	6 1/2″	7075A24	4.79	12	47.76
E	Spoon/Squared	9/16″ × 1 1/8″	9″	7075A25	10.08	12	100.92

Band Saw Blades

Cut a wide range of materials including steel, aluminum, brass, bronze, wood, and plastic. Tooth size and number per inch are constant throughout the blade. All have a welded seam and are ready to install on your saw.

For other lengths, please specify length and teeth per inch.

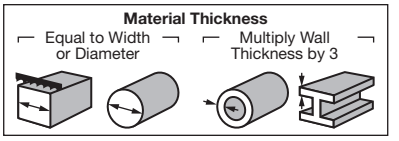



For Straight Cuts—Made of rigid carbon steel

1/4" Wd. x 0.025" Thick.

Lg.	Teeth per Inch	For Material Thick.		
56 1/8"	10	3/8"-1 1/4"	4125A64	$12.30
72"	10	3/8"-1 1/4"	4125A154	12.62
80"	10	3/8"-1 1/4"	4125A727	13.65
80"	14	1/4"-1"	4125A728	13.65
80"	18	3/16"-5/8"	2163A11	13.64
82"	10	3/8"-1 1/4"	4125A819	12.33
93"	10	3/8"-1 1/4"	4125A351	14.66
93"	14	1/4"-1"	4125A352	14.66
93"	18	3/16"-5/8"	4125A725	14.66
93 1/2"	10	3/8"-1 1/4"	4125A742	14.66
93 1/2"	14	1/4"-1"	4125A743	14.66
95"	14	1/4"-1"	4125A158	13.66
95"	18	3/16"-5/8"	4125A159	14.66
118"	14	1/4"-1"	4125A824	16.63
174"	10	3/8"-1 1/4"	4125A197	21.13
Other Lengths: 91", 126", 141", 144", 150", 152"			4125A11	

3/8" Wd. x 0.025" Thick.

92"	8	1/2"-1 1/2"	4125A74	14.66
92"	18	3/16"-5/8"	4125A65	14.66
93"	8	1/2"-1 1/2"	4125A355	14.66
93"	10	3/8"-1 1/4"	4125A356	14.66
93"	14	1/4"-1"	4125A156	14.66
93"	18	3/16"-5/8"	4125A357	14.66
93 1/2"	8	1/2"-1 1/2"	4125A746	14.66
93 1/2"	10	3/8"-1 1/4"	4125A821	14.66
93 1/2"	14	1/4"-1"	4125A747	14.66
93 1/2"	18	3/16"-5/8"	2163A12	14.66
Other Lengths: 96", 117", 123 1/2", 150", 160", 179"			4125A12	

1/2" Wd. x 0.025" Thick.

60"	10	3/8"-1 1/4"	4125A278	12.17
60"	14	1/4"-1"	4125A279	12.17
64"	14	1/4"-1"	4125A101	13.22
64 1/2"	6	1"-2"	4125A723	12.36
64 1/2"	10	3/8"-1 1/4"	4125A151	12.36
64 1/2"	14	1/4"-1"	4125A281	12.36
64 1/2"	18	3/16"-5/8"	4125A282	13.16
64 1/2"	24	5/32"-1/2"	4125A283	12.36
67 1/2"	14	1/4"-1"	4125A102	13.38
68"	10	3/8"-1 1/4"	4125A153	12.85
68"	14	1/4"-1"	4125A112	12.85
73"	14	1/4"-1"	4125A113	13.41
80"	6	1"-2"	4125A817	13.90
80"	10	3/8"-1 1/4"	4125A818	13.90
80"	14	1/4"-1"	4125A115	13.90
80"	24	5/32"-1/2"	4125A116	13.90
89"	10	3/8"-1 1/4"	4125A321	14.44
89"	14	1/4"-1"	4125A322	14.44
89"	18	3/16"-5/8"	4125A155	14.44
93"	6	1"-2"	4125A361	14.99
93"	10	3/8"-1 1/4"	4125A362	14.99
93"	14	1/4"-1"	4125A363	14.99
93"	18	3/16"-5/8"	4125A364	14.99

1/2" Wd. x 0.025" Thick. (Cont.)

93 1/2"	6	1"-2"	4125A753	$14.99
93 1/2"	10	3/8"-1 1/4"	4125A367	14.99
93 1/2"	14	1/4"-1"	4125A368	14.99
93 1/2"	18	3/16"-5/8"	4125A759	14.99
98 1/2"	14	1/4"-1"	4125A745	15.30
101"	14	1/4"-1"	4125A58	15.44
104 1/2"	14	1/4"-1"	4125A103	16.14
105"	6	1"-2"	4125A751	16.01
105"	10	3/8"-1 1/4"	4125A125	16.01
105"	14	1/4"-1"	4125A755	16.01
105"	18	3/16"-5/8"	4125A126	16.01
111"	10	3/8"-1 1/4"	4125A168	16.52
111"	14	1/4"-1"	4125A169	16.52
113 1/2"	14	1/4"-1"	4125A104	16.50
114"	14	1/4"-1"	4125A131	16.52
114"	18	3/16"-5/8"	4125A132	16.52
120"	10	3/8"-1 1/4"	4125A127	17.04
120"	14	1/4"-1"	4125A141	17.04
120"	24	5/32"-1/2"	4125A128	17.04
124 1/2"	14	1/4"-1"	4125A105	17.58
131 1/2"	14	1/4"-1"	4125A122	18.08
132"	10	3/8"-1 1/4"	4125A143	18.09
132"	14	1/4"-1"	4125A758	18.06
138"	6	1"-2"	4125A178	18.54
138"	10	3/8"-1 1/4"	4125A179	18.60
138"	14	1/4"-1"	4125A181	18.60
140"	6	1"-2"	4125A185	19.12
140"	14	1/4"-1"	4125A186	19.12
144"	10	3/8"-1 1/4"	4125A624	19.09
144"	14	1/4"-1"	4125A622	19.12
150"	6	1"-2"	4125A769	19.65
150"	10	3/8"-1 1/4"	4125A662	19.65
150"	14	1/4"-1"	4125A663	19.65
153"	6	1"-2"	4125A57	20.14
153"	10	3/8"-1 1/4"	2163A13	20.14
153"	14	1/4"-1"	4125A51	20.14
154"	6	1"-2"	4125A123	20.14
154"	10	3/8"-1 1/4"	4125A124	20.14
154"	14	1/4"-1"	4125A148	20.14
154 1/2"	14	1/4"-1"	4125A841	20.13
179"	14	1/4"-1"	4125A844	22.25
Other Lengths: 81", 95", 96", 98", 126", 141", 156 1/2"			4125A13	

5/8" Wd. x 0.032" Thick.

93"	10	3/8"-1 1/4"	4125A737	16.66
93"	14	1/4"-1"	4125A738	16.66

3/4" Wd. x 0.032" Thick.

85"	14	1/4"-1"	4125A111	16.95
93"	6	1"-2"	4125A739	17.63
93"	10	3/8"-1 1/4"	4125A118	17.63
93"	14	1/4"-1"	4125A119	17.63
93 1/2"	14	1/4"-1"	4125A149	17.92
96"	18	3/16"-5/8"	4125A77	17.63
98 1/2"	10	3/8"-1 1/4"	4125A749	18.31

3/4" Wd. x 0.032" Thick. (Cont.)

101"	10	3/8"-1 1/4"	4125A161	$18.31
101"	14	1/4"-1"	4125A162	18.31
101"	18	3/16"-5/8"	4125A163	18.31
104 1/2"	14	1/4"-1"	4125A341	19.02
107"	6	1"-2"	4125A752	19.01
107"	10	3/8"-1 1/4"	4125A164	19.01
107"	14	1/4"-1"	4125A165	19.01
108"	6	1"-2"	4125A166	19.01
108"	10	3/8"-1 1/4"	4125A481	19.01
108"	14	1/4"-1"	4125A483	19.01
115 1/2"	6	1"-2"	4125A756	20.35
115 1/2"	10	3/8"-1 1/4"	4125A134	20.35
115 1/2"	14	1/4"-1"	4125A135	20.35
120"	8	1/2"-1 1/2"	4125A174	20.35
120"	10	3/8"-1 1/4"	4125A826	20.35
120"	14	1/4"-1"	4125A825	20.35
120"	18	3/16"-5/8"	4125A129	20.35
130 1/2"	10	3/8"-1 1/4"	4125A512	21.75
130 1/2"	14	1/4"-1"	4125A513	21.75
133"	8	1/2"-1 1/2"	4125A176	22.45
133"	14	1/4"-1"	4125A177	22.45
138"	6	1"-2"	4125A581	22.45
138"	10	3/8"-1 1/4"	4125A582	22.45
138"	14	1/4"-1"	4125A583	22.45
Other Lengths: 113 1/2", 116", 124 1/2", 125", 129", 131 1/2", 137", 145", 156 1/2", 176", 189", 219"			4125A14	

1" Wd. x 0.035" Thick.

93 1/2"	14	1/4"-1"	4125A346	21.33
94"	6	1"-2"	4125A347	21.33
94"	10	3/8"-1 1/4"	4125A348	21.33
94"	14	1/4"-1"	4125A212	21.33
104 1/2"	14	1/4"-1"	4125A213	22.88
120"	14	1/4"-1"	4125A827	24.11
124 1/2"	14	1/4"-1"	4125A214	25.30
130"	6	1"-2"	4125A215	26.05
130"	10	3/8"-1 1/4"	4125A216	26.05
130"	14	1/4"-1"	4125A217	26.05
130 1/2"	8	1/2"-1 1/2"	4125A515	25.87
130 1/2"	10	3/8"-1 1/4"	4125A542	25.87
130 1/2"	14	1/4"-1"	4125A543	25.87
131 1/2"	14	1/4"-1"	4125A218	26.05
132"	6	1"-2"	4125A219	26.05
132"	10	3/8"-1 1/4"	4125A144	25.87
132"	14	1/4"-1"	4125A145	25.87
138"	6	1"-2"	4125A182	26.71
138"	8	1/2"-1 1/2"	4125A183	26.71
138"	10	3/8"-1 1/4"	4125A592	26.71
138"	14	1/4"-1"	4125A593	26.71
159"	10	3/8"-1 1/4"	4125A766	30.20
Other Lengths: 141", 144", 150", 154", 156 1/2", 162", 167", 174"			4125A6	

For Curved Cuts—Made of flexible carbon steel

1/8" Wd. x 0.025" Thick.

56 1/8"	14	1/4"-1"	4053A194	15.32
80"	14	1/4"-1"	4053A199	18.25
80"	18	3/16"-5/8"	4053A201	18.25
93 1/2"	14	1/4"-1"	4053A158	19.72
93 1/2"	18	3/16"-5/8"	4053A842	18.60

3/16" Wd. x 0.025" Thick.

93 1/2"	14	1/4"-1"	4053A843	13.09

1/4" Wd. x 0.014" Thick.

56 1/8"	14	1/4"-1"	4053A83	11.76
56 7/8"	14	1/4"-1"	4053A11	10.66
57"	14	1/4"-1"	4053A862	10.66
59 1/2"	14	1/4"-1"	4053A873	10.73

1/4" Wd. x 0.025" Thick.

56 1/8"	10	3/8"-1 1/4"	2404A11	11.76
56 1/8"	14	1/4"-1"	4053A195	11.76
56 1/8"	18	3/16"-5/8"	4053A861	10.80
80"	10	3/8"-1 1/4"	4053A204	12.07
82"	8	1/2"-1 1/2"	4053A866	12.23
93"	10	3/8"-1 1/4"	4053A351	13.84

1/4" Wd. x 0.025" Thick. (Cont.)

93"	14	1/4"-1"	4053A352	13.84
93 1/2"	10	3/8"-1 1/4"	4053A162	14.25
93 1/2"	14	1/4"-1"	4053A203	14.25

3/8" Wd. x 0.014" Thick.

56 1/8"	14	1/4"-1"	4053A82	11.57

3/8" Wd. x 0.025" Thick.

56 1/8"	18	3/16"-5/8"	4053A114	11.57
93"	10	3/8"-1 1/4"	4053A356	14.01
93"	18	3/16"-5/8"	4053A357	14.01
93"	24	5/32"-1/2"	4053A358	14.01
124"	8	1/2"-1 1/2"	4053A868	16.33

1/2" Wd. x 0.025" Thick.

64 1/2"	10	3/8"-1 1/4"	4053A151	12.14
64 1/2"	14	1/4"-1"	4053A281	11.63
64 1/2"	18	3/16"-5/8"	4053A282	12.14
64 1/2"	24	5/32"-1/2"	4053A283	12.14
93"	6	1"-2"	4053A361	14.66
93"	10	3/8"-1 1/4"	4053A362	14.66
93"	14	1/4"-1"	4053A363	14.66

1/2" Wd. x 0.025" Thick. (Cont.)

93"	18	3/16"-5/8"	4053A364	14.66
93 1/2"	10	3/8"-1 1/4"	4053A367	14.28
93 1/2"	14	1/4"-1"	4053A368	14.28
105"	10	3/8"-1 1/4"	4053A125	15.66
114"	14	1/4"-1"	4053A131	16.11
120"	14	1/4"-1"	4053A141	16.65
150"	10	3/8"-1 1/4"	4053A662	19.14
150"	14	1/4"-1"	4053A663	19.14
Other Lengths: 60", 68", 80", 81", 89", 95", 107", 126", 144"			4053A1	

3/4" Wd. x 0.032" Thick.

93"	8	1/2"-1 1/2"	4053A157	17.17
93"	10	3/8"-1 1/4"	4053A118	17.17
93"	14	1/4"-1"	4053A119	17.17
Other Lengths: 115 1/2", 125", 138"			4053A3	

1" Wd. x 0.035" Thick.

132"	14	1/4"-1"	4053A145	21.45
150"	10	3/8"-1 1/4"	4053A171	27.79
234"	6	1"-2"	4053A173	39.58

Long-Life Multipurpose Band Saw Blades

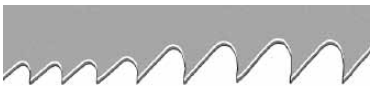

Anti-Vibration Blade



Standard Blade

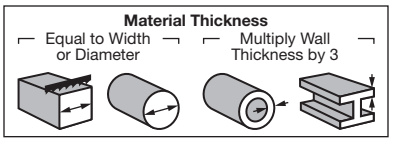

These bimetal blades have a carbon steel body with high-speed steel teeth that last up to four times longer than carbon steel teeth. They're flexible for making straight and curved cuts in steel, stainless steel, aluminum, brass, bronze, wood, and plastic. All have a welded seam and are ready to install on your saw.

For other lengths, please specify length and teeth per inch.

Anti-Vibration Blades—Also known as variable set, teeth vary in size, number per inch, and pattern to reduce vibration, so they create a smoother finish than standard blades.

Standard Blades—Tooth size and number per inch are constant throughout the blade. Also known as raker-set blades, the teeth are set to the left and right in a repeating pattern.

Anti-Vibration Blades

¼" Wd. × 0.025" Thick.

Lg.	Teeth per Inch	For Material Thick.		
56"	10-14	¼"-½"	4179A903	$26.05
56⅛"	10-14	¼"-½"	4179A156	26.05
56¼"	10-14	¼"-½"	4179A854	26.05
56½"	10-14	¼"-½"	4179A855	26.05
56¾"	10-14	¼"-½"	4179A856	26.05
59½"	10-14	¼"-½"	4179A874	25.85
62"	10-14	¼"-½"	4179A12	27.98
70"	10-14	¼"-½"	4179A862	28.49
72¼"	10-14	¼"-½"	4179A868	30.33
80"	10-14	¼"-½"	4179A321	32.16
81"	10-14	¼"-½"	4179A881	32.16
82"	10-14	¼"-½"	4179A819	32.16
93"	10-14	¼"-½"	4179A146	35.81
93½"	10-14	¼"-½"	4179A153	36.67
95"	10-14	¼"-½"	4179A531	35.81
98"	10-14	¼"-½"	4179A907	37.65
105"	10-14	¼"-½"	4179A921	39.49
114"	10-14	¼"-½"	4179A315	42.31
120"	10-14	¼"-½"	4179A938	43.16
123½"	10-14	¼"-½"	4179A23	44.98
127"	10-14	¼"-½"	4179A583	46.81
144"	10-14	¼"-½"	4179A216	48.24
150"	10-14	¼"-½"	4179A318	49.98
152"	10-14	¼"-½"	4179A21	51.73

⅜" Wd. × 0.025" Thick.

Lg.	Teeth per Inch	For Material Thick.		
56⅛"	10-14	¼"-½"	4179A852	26.05
56⅞"	10-14	¼"-½"	4179A11	26.05
59¼"	10-14	¼"-½"	4179A817	26.05
59½"	10-14	¼"-½"	4179A878	26.05
62"	10-14	¼"-½"	4179A13	27.98
64½"	10-14	¼"-½"	4179A467	27.31
70"	10-14	¼"-½"	4179A863	28.49
70½"	10-14	¼"-½"	4179A866	29.17
70¾"	10-14	¼"-½"	4179A867	28.49
80"	8-12	½"-¾"	4179A691	32.16
80"	10-14	¼"-½"	4179A322	32.16
82"	10-14	¼"-½"	4179A818	32.16
82½"	10-14	¼"-½"	4179A1	32.16
92½"	10-14	¼"-½"	4179A993	35.81
93"	8-12	½"-¾"	4179A523	35.81
93"	10-14	¼"-½"	4179A147	35.81
93½"	10-14	¼"-½"	4179A796	35.81
96"	8-12	½"-¾"	4179A562	36.67
119½"	10-14	¼"-½"	4179A487	44.19
120"	10-14	¼"-½"	4179A576	43.16
124"	10-14	¼"-½"	4179A869	44.98
136"	10-14	¼"-½"	4179A494	46.49
141"	10-14	¼"-½"	4179A971	48.24
150"	10-14	¼"-½"	4179A975	49.98

½" Wd. × 0.02" Thick.

Lg.	Teeth per Inch	For Material Thick.		
56⅛"	10-14	¼"-½"	4179A308	23.12
59½"	10-14	¼"-½"	4179A401	22.97
64½"	10-14	¼"-½"	4179A157	24.79
140"	10-14	¼"-½"	1997A22	38.46
154"	10-14	¼"-½"	4179A324	49.05

½" Wd. × 0.025" Thick.

Lg.	Teeth per Inch	For Material Thick.		
39"	10-14	¼"-½"	4179A101	20.29
40"	10-14	¼"-½"	4179A103	20.29
41"	10-14	¼"-½"	4179A104	20.29
42"	10-14	¼"-½"	4179A119	20.29
43"	10-14	¼"-½"	4179A126	22.20
44"	10-14	¼"-½"	4179A127	22.20
45"	10-14	¼"-½"	4179A129	22.20
46"	10-14	¼"-½"	4179A131	22.20
47"	10-14	¼"-½"	4179A132	22.20
48"	10-14	¼"-½"	4179A133	22.20

½" Wd. × 0.025" Thick. (Cont.)

Lg.	Teeth per Inch	For Material Thick.		
49"	10-14	¼"-½"	4179A167	$24.12
50"	10-14	¼"-½"	4179A248	24.12
51"	10-14	¼"-½"	4179A249	24.12
51½"	10-14	¼"-½"	4179A26	24.12
52"	10-14	¼"-½"	4179A261	24.12
52½"	10-14	¼"-½"	4179A262	24.12
53"	10-14	¼"-½"	4179A263	24.12
54"	10-14	¼"-½"	4179A264	24.12
54½"	10-14	¼"-½"	4179A265	24.12
55"	10-14	¼"-½"	4179A266	26.05
56"	10-14	¼"-½"	4179A267	26.05
57"	10-14	¼"-½"	4179A268	26.05
57½"	10-14	¼"-½"	4179A269	26.05
58"	10-14	¼"-½"	4179A27	26.05
59"	10-14	¼"-½"	4179A273	26.05
59¼"	10-14	¼"-½"	4179A455	26.05
59½"	6-10	¾"-1"	4179A403	26.05
59½"	10-14	¼"-½"	4179A457	25.42
60"	10-14	¼"-½"	4179A155	26.05
61"	10-14	¼"-½"	4179A274	27.31
62"	10-14	¼"-½"	4179A14	27.31
63"	10-14	¼"-½"	4179A276	27.31
63½"	10-14	¼"-½"	4179A277	27.31
64"	10-14	¼"-½"	4179A278	27.31
64½"	6-10	¾"-1"	4179A406	27.31
64½"	8-12	½"-¾"	4179A432	27.31
64½"	10-14	¼"-½"	4179A543	27.98
65"	10-14	¼"-½"	4179A279	27.31
65½"	10-14	¼"-½"	4179A284	27.31
66"	10-14	¼"-½"	4179A287	27.31
67"	10-14	¼"-½"	4179A859	28.50
67½"	10-14	¼"-½"	4179A288	28.49
68"	10-14	¼"-½"	4179A545	28.38
68½"	10-14	¼"-½"	4179A289	28.49
69"	10-14	¼"-½"	4179A296	28.49
70"	10-14	¼"-½"	4179A865	28.49
70½"	10-14	¼"-½"	4179A297	28.49
71"	10-14	¼"-½"	4179A298	28.49
72"	10-14	¼"-½"	4179A299	28.49
73"	10-14	¼"-½"	4179A872	30.33
74"	10-14	¼"-½"	4179A325	30.33
75"	10-14	¼"-½"	4179A326	30.33
76"	10-14	¼"-½"	4179A328	30.33
77"	10-14	¼"-½"	4179A33	30.33
78"	10-14	¼"-½"	4179A873	30.33
78½"	10-14	¼"-½"	4179A336	32.16
79"	10-14	¼"-½"	4179A337	32.16
79½"	10-14	¼"-½"	4179A338	32.16
80"	10-14	¼"-½"	4179A879	32.16
81"	10-14	¼"-½"	4179A154	32.16
82"	10-14	¼"-½"	4179A821	32.16
83"	10-14	¼"-½"	4179A339	32.16
84"	10-14	¼"-½"	4179A34	32.16
84½"	10-14	¼"-½"	4179A341	34.00
85"	10-14	¼"-½"	4179A342	34.00
86"	10-14	¼"-½"	4179A343	34.00
87"	10-14	¼"-½"	4179A344	34.00
88"	10-14	¼"-½"	4179A345	34.00
89"	8-12	½"-¾"	4179A517	34.00
89"	10-14	¼"-½"	4179A165	34.00
89½"	10-14	¼"-½"	4179A346	34.00
90"	10-14	¼"-½"	4179A884	34.00
90½"	10-14	¼"-½"	4179A347	34.00
91"	10-14	¼"-½"	4179A16	35.81
92"	10-14	¼"-½"	4179A348	35.81

½" Wd. × 0.025" Thick. (Cont.)

Lg.	Teeth per Inch	For Material Thick.		
92½"	10-14	¼"-½"	4179A977	$35.81
93"	6-10	¾"-1"	4179A409	36.68
93"	8-12	½"-¾"	4179A554	35.81
93"	10-14	¼"-½"	4179A557	35.81
93½"	8-12	½"-¾"	4179A527	35.81
93½"	10-14	¼"-½"	4179A173	35.81
94"	6-10	¾"-1"	4179A349	35.81
94"	8-12	½"-¾"	4179A35	35.81
94"	10-14	¼"-½"	4179A895	35.81
95"	8-12	½"-¾"	4179A532	35.81
95"	10-14	¼"-½"	4179A174	35.81
95½"	10-14	¼"-½"	4179A351	35.81
96"	8-12	½"-¾"	4179A534	35.81
96"	10-14	¼"-½"	4179A565	35.81
96½"	10-14	¼"-½"	4179A354	38.55
97"	10-14	¼"-½"	4179A356	38.55
97½"	10-14	¼"-½"	4179A357	38.55
98"	8-12	½"-¾"	4179A677	38.55
98"	10-14	¼"-½"	4179A358	38.55
99"	10-14	¼"-½"	4179A359	38.55
100"	10-14	¼"-½"	4179A36	38.55
101"	10-14	¼"-½"	4179A361	38.55
102"	10-14	¼"-½"	4179A362	38.55
103"	10-14	¼"-½"	4179A678	39.49
104"	10-14	¼"-½"	4179A363	39.49
104½"	10-14	¼"-½"	4179A364	39.49
105"	10-14	¼"-½"	4179A195	39.49
106"	6-10	¾"-1"	4179A365	39.49
106"	8-12	½"-¾"	4179A367	39.49
106"	10-14	¼"-½"	4179A368	39.49
106½"	10-14	¼"-½"	4179A369	39.49
107"	10-14	¼"-½"	4179A373	39.49
107½"	10-14	¼"-½"	4179A374	39.49
108"	6-10	¾"-1"	4179A375	39.49
108"	8-12	½"-¾"	4179A376	39.49
108"	10-14	¼"-½"	4179A377	39.49
109"	10-14	¼"-½"	4179A378	41.33
110"	8-12	½"-¾"	4179A685	41.33
110"	10-14	¼"-½"	4179A917	41.33
111"	10-14	¼"-½"	4179A923	41.33
111½"	10-14	¼"-½"	4179A379	41.33
112"	10-14	¼"-½"	4179A924	41.33
113"	10-14	¼"-½"	4179A925	41.33
113½"	10-14	¼"-½"	4179A386	41.33
114"	6-10	¾"-1"	4179A312	41.33
114"	8-12	½"-¾"	4179A387	41.33
114"	10-14	¼"-½"	4179A214	41.33
114½"	10-14	¼"-½"	4179A389	43.16
115"	10-14	¼"-½"	4179A39	43.16
115½"	10-14	¼"-½"	4179A391	43.16
116"	6-10	¾"-1"	4179A392	43.16
116"	8-12	½"-¾"	4179A393	43.16
116"	10-14	¼"-½"	4179A394	43.16
117"	10-14	¼"-½"	4179A395	43.16
117½"	10-14	¼"-½"	4179A396	43.16
118"	10-14	¼"-½"	4179A932	43.16
118½"	10-14	¼"-½"	4179A398	43.16
119"	6-10	¾"-1"	4179A397	43.16
119"	8-12	½"-¾"	4179A399	43.16
119"	10-14	¼"-½"	4179A404	43.16
119½"	10-14	¼"-½"	4179A486	44.19
120"	6-10	¾"-1"	4179A937	43.16
120"	8-12	½"-¾"	4179A179	43.16
120"	10-14	¼"-½"	4179A181	43.16
121"	10-14	¼"-½"	4179A944	44.98

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Long-Life Multipurpose Band Saw Blades *(Continued from previous page)*

Anti-Vibration Blades (Cont.)

½″ Wd. x 0.025″ Thick. (Cont.)

Lg.	Teeth per Inch	For Material Thick.		
121½″	10-14	¼″-½″	4179A407	$44.98
122″	10-14	¼″-½″	4179A946	44.98
123″	10-14	¼″-½″	4179A952	44.98
123½″	10-14	¼″-½″	4179A408	44.98
124″	10-14	¼″-½″	4179A412	44.98
124½″	10-14	¼″-½″	4179A414	44.98
125″	6-10	¾″-1″	4179A415	44.98
125″	8-12	½″-¾″	4179A416	44.98
125″	10-14	¼″-½″	4179A417	44.98
125½″	10-14	¼″-½″	4179A418	44.98
126″	10-14	¼″-½″	4179A419	44.98
126½″	10-14	¼″-½″	4179A42	46.81
127″	10-14	¼″-½″	4179A421	46.81
127½″	10-14	¼″-½″	4179A422	46.81
128″	6-10	¾″-1″	4179A17	46.81
128″	10-14	¼″-½″	4179A423	46.81
128½″	10-14	¼″-½″	4179A424	46.81
129″	10-14	¼″-½″	4179A425	46.81
129½″	10-14	¼″-½″	4179A426	46.81
130″	6-10	¾″-1″	4179A427	46.81
130″	8-12	½″-¾″	4179A429	46.81
130″	10-14	¼″-½″	4179A989	46.81
130½″	10-14	¼″-½″	4179A962	46.81
131″	10-14	¼″-½″	4179A43	46.81
131½″	10-14	¼″-½″	4179A431	46.81
132″	6-10	¾″-1″	4179A434	46.81
132″	8-12	½″-¾″	4179A435	46.81
132″	10-14	¼″-½″	4179A994	46.81
132½″	10-14	¼″-½″	4179A437	46.49
133″	10-14	¼″-½″	4179A44	46.49
134″	10-14	¼″-½″	4179A454	46.49
135″	6-10	¾″-1″	4179A464	46.49
135″	8-12	½″-¾″	4179A477	46.49
135″	10-14	¼″-½″	4179A478	46.49
136″	10-14	¼″-½″	4179A493	46.49
136½″	10-14	¼″-½″	4179A479	46.49
137″	10-14	¼″-½″	4179A48	46.49
137½″	10-14	¼″-½″	4179A481	46.49
138″	6-10	¾″-1″	4179A485	46.49
138″	8-12	½″-¾″	1999A21	46.64
138″	10-14	¼″-½″	4179A492	46.49
139″	10-14	¼″-½″	4179A497	48.24
139½″	10-14	¼″-½″	4179A498	48.24
140″	10-14	¼″-½″	4179A791	48.24
140½″	10-14	¼″-½″	4179A499	48.24
141″	10-14	¼″-½″	4179A893	48.24
141½″	10-14	¼″-½″	4179A5	48.24
142″	10-14	¼″-½″	4179A501	48.24
142½″	10-14	¼″-½″	4179A502	48.24
143″	10-14	¼″-½″	4179A503	48.24
144″	6-10	¾″-1″	4179A973	48.24
144″	8-12	½″-¾″	4179A504	48.24
144″	10-14	¼″-½″	4179A792	48.24
145″	10-14	¼″-½″	4179A505	49.98
146″	10-14	¼″-½″	4179A506	49.98
147″	10-14	¼″-½″	4179A507	49.98
148″	10-14	¼″-½″	4179A508	49.98
148½″	10-14	¼″-½″	4179A509	49.98
149″	10-14	¼″-½″	4179A51	49.98
150″	6-10	¾″-1″	4179A976	49.98
150″	8-12	½″-¾″	4179A609	49.98
150″	10-14	¼″-½″	4179A215	49.98
150½″	10-14	¼″-½″	4179A511	49.98
151″	10-14	¼″-½″	4179A512	51.73
152″	6-10	¾″-1″	4179A513	51.73
152″	8-12	½″-¾″	4179A514	51.73
152″	10-14	¼″-½″	4179A515	51.73
153″	10-14	¼″-½″	4179A978	51.73
153½″	10-14	¼″-½″	4179A52	51.73
154″	6-10	¾″-1″	4179A529	51.73
154″	8-12	½″-¾″	4179A54	51.73
154″	10-14	¼″-½″	4179A314	51.73
154½″	10-14	¼″-½″	4179A55	51.73
155″	10-14	¼″-½″	4179A552	51.73
155½″	10-14	¼″-½″	4179A56	51.73
156″	10-14	¼″-½″	4179A568	51.73
156½″	10-14	¼″-½″	4179A22	57.31
157″	10-14	¼″-½″	4179A982	53.49
157½″	10-14	¼″-½″	4179A569	53.49

½″ Wd. x 0.025″ Thick. (Cont.)

Lg.	Teeth per Inch	For Material Thick.		
158″	6-10	¾″-1″	4179A57	$53.49
158″	8-12	½″-¾″	4179A571	53.49
158″	10-14	¼″-½″	4179A902	53.49
158½″	8-12	½″-¾″	4179A684	53.49
159″	6-10	¾″-1″	4179A572	53.49
159″	8-12	½″-¾″	4179A579	53.49
159″	10-14	¼″-½″	4179A589	53.49
159½″	10-14	¼″-½″	4179A599	53.49
160″	10-14	¼″-½″	4179A6	53.49
161″	10-14	¼″-½″	4179A622	53.49
162″	6-10	¾″-1″	4179A603	53.49
162″	8-12	½″-¾″	4179A604	53.49
162″	10-14	¼″-½″	4179A671	53.49
163″	10-14	¼″-½″	4179A608	55.24
164″	10-14	¼″-½″	4179A61	55.24
165″	10-14	¼″-½″	4179A611	55.24
166″	10-14	¼″-½″	4179A615	55.24
167″	6-10	¾″-1″	4179A616	55.24
167″	8-12	½″-¾″	4179A617	55.24
167″	10-14	¼″-½″	4179A62	55.24
167½″	10-14	¼″-½″	4179A627	55.24
168″	10-14	¼″-½″	4179A628	55.24
168½″	10-14	¼″-½″	4179A629	56.98
169″	10-14	¼″-½″	4179A632	56.98
170″	10-14	¼″-½″	4179A633	56.98
171″	10-14	¼″-½″	4179A653	56.98
171½″	10-14	¼″-½″	4179A655	56.98
172″	10-14	¼″-½″	4179A657	56.98
173″	10-14	¼″-½″	4179A662	56.98
173½″	10-14	¼″-½″	4179A663	56.98
174″	6-10	¾″-1″	4179A664	56.98
174″	8-12	½″-¾″	4179A665	56.98
174″	10-14	¼″-½″	4179A667	56.98
174½″	10-14	¼″-½″	4179A668	56.98
175″	10-14	¼″-½″	4179A669	58.73
176″	6-10	¾″-1″	4179A688	58.73
176″	8-12	½″-¾″	4179A801	58.73
176″	10-14	¼″-½″	4179A802	58.73
177″	10-14	¼″-½″	4179A803	58.73
178″	6-10	¾″-1″	4179A804	58.73
178″	8-12	½″-¾″	4179A805	58.73
178″	10-14	¼″-½″	4179A806	58.73
179″	10-14	¼″-½″	4179A807	58.73
180″	10-14	¼″-½″	4179A808	58.73
180½″	10-14	¼″-½″	4179A809	60.49
181″	10-14	¼″-½″	4179A813	60.49
182″	10-14	¼″-½″	4179A814	60.49
183″	10-14	¼″-½″	4179A815	60.49
184″	10-14	¼″-½″	4179A816	60.49
185″	10-14	¼″-½″	4179A822	60.49
186″	6-10	¾″-1″	4179A824	60.49
186″	8-12	½″-¾″	4179A825	60.49
186″	10-14	¼″-½″	4179A831	60.49
187″	10-14	¼″-½″	4179A832	62.24
188″	10-14	¼″-½″	4179A851	62.24
189″	10-14	¼″-½″	4179A892	62.24
190″	10-14	¼″-½″	1997A101	62.24
191″	10-14	¼″-½″	1997A102	62.24
192″	10-14	¼″-½″	1997A103	62.24
194″	10-14	¼″-½″	1997A106	63.98
195″	10-14	¼″-½″	1997A107	63.98
196″	10-14	¼″-½″	1997A108	63.98
198″	10-14	¼″-½″	1997A11	63.98
205″	10-14	¼″-½″	1997A117	67.49
221″	10-14	¼″-½″	1997A134	71.00
222″	10-14	¼″-½″	1997A135	71.00
232″	10-14	¼″-½″	1997A145	74.49
233″	10-14	¼″-½″	1997A146	74.49
234″	10-14	¼″-½″	1997A147	74.49
236″	10-14	¼″-½″	1997A149	76.24
240″	10-14	¼″-½″	1997A153	76.24
244″	10-14	¼″-½″	1997A157	78.00
245″	10-14	¼″-½″	1997A158	78.00
246″	10-14	¼″-½″	1997A159	78.00
248″	10-14	¼″-½″	1997A161	79.73
251″	10-14	¼″-½″	1997A164	79.73
Other Lengths—From 193″ to 253″ in 1″ increments			1997A53	

½″ Wd. x 0.035″ Thick.

Lg.	Teeth per Inch	For Material Thick.		
64½″	10-14	¼″-½″	4179A163	$28.67
89″	10-14	¼″-½″	4179A168	35.79
93″	10-14	¼″-½″	4179A171	37.74
98½″	10-14	¼″-½″	4179A193	39.70
108″	10-14	¼″-½″	4179A199	41.65
123″	10-14	¼″-½″	4179A953	47.51
126″	10-14	¼″-½″	4179A236	47.51
130″	10-14	¼″-½″	4179A991	49.47
138″	10-14	¼″-½″	4179A789	49.13
150″	10-14	¼″-½″	4179A217	52.87
163″	10-14	¼″-½″	4179A673	58.44

⅝″ Wd. x 0.035″ Thick.

Lg.	Teeth per Inch	For Material Thick.		
93″	5-8	1″-1½″	4179A886	34.79
93″	10-14	¼″-½″	4179A887	34.79
105″	10-14	¼″-½″	4179A908	37.76
106″	10-14	¼″-½″	4179A909	38.40
114″	10-14	¼″-½″	4179A307	40.14

¾″ Wd. x 0.035″ Thick.

Lg.	Teeth per Inch	For Material Thick.		
59¼″	6-10	¾″-1″	4179A456	29.76
60″	10-14	¼″-½″	1997A169	27.00
61″	10-14	¼″-½″	1997A17	29.05
62″	10-14	¼″-½″	1997A171	29.05
63″	10-14	¼″-½″	1997A172	29.05
63½″	10-14	¼″-½″	1997A173	29.05
64″	10-14	¼″-½″	1997A174	29.05
64½″	6-10	¾″-1″	4179A459	31.29
64½″	10-14	¼″-½″	4179A468	29.05
65″	10-14	¼″-½″	1997A175	29.05
66″	10-14	¼″-½″	1997A176	29.05
67″	10-14	¼″-½″	1997A177	31.07
67½″	10-14	¼″-½″	1997A178	31.07
68″	10-14	¼″-½″	1997A179	31.07
68½″	10-14	¼″-½″	1997A18	31.07
69″	10-14	¼″-½″	1997A181	31.07
70″	10-14	¼″-½″	1997A182	31.07
71″	10-14	¼″-½″	1997A183	31.07
72″	10-14	¼″-½″	1997A184	31.07
73″	10-14	¼″-½″	1997A185	33.12
74″	10-14	¼″-½″	1997A186	33.12
75″	10-14	¼″-½″	1997A187	33.12
76″	10-14	¼″-½″	1997A188	33.12
77″	10-14	¼″-½″	1997A189	33.12
78″	10-14	¼″-½″	1997A19	33.12
78½″	10-14	¼″-½″	1997A191	35.14
79″	10-14	¼″-½″	1997A192	35.14
80″	10-14	¼″-½″	1997A193	35.14
81″	10-14	¼″-½″	1997A194	35.14
82″	10-14	¼″-½″	1997A195	35.14
83″	10-14	¼″-½″	1997A196	35.14
84″	10-14	¼″-½″	1997A197	35.14
84½″	10-14	¼″-½″	1997A198	37.17
85″	10-14	¼″-½″	4179A882	37.17
86″	10-14	¼″-½″	1997A199	37.17
87″	10-14	¼″-½″	1997A201	37.17
88″	10-14	¼″-½″	1997A202	37.17
89″	10-14	¼″-½″	1997A203	37.17
89½″	10-14	¼″-½″	1997A204	37.17
90″	10-14	¼″-½″	1997A205	37.17
90½″	10-14	¼″-½″	1997A206	39.21
91″	10-14	¼″-½″	1997A207	39.21
92″	10-14	¼″-½″	1997A208	39.21
92½″	6-10	¾″-1″	4179A471	42.48
92½″	10-14	¼″-½″	4179A482	39.21
93″	4-6	1½″-3½″	4179A889	42.48
93″	5-8	1″-1½″	4179A891	42.48
93″	6-10	¾″-1″	4179A152	42.48
93″	8-12	½″-¾″	4179A733	39.21
93″	10-14	¼″-½″	4179A734	39.21
93½″	10-14	¼″-½″	1997A209	39.21
94″	6-10	¾″-1″	4179A897	42.48
94″	8-12	½″-¾″	1997A211	39.21
94″	10-14	¼″-½″	4179A896	39.21
95″	6-10	¾″-1″	4179A728	42.48
95″	10-14	¼″-½″	1997A212	39.21
95½″	10-14	¼″-½″	1997A213	39.21
96″	10-14	¼″-½″	1997A214	39.21
96½″	10-14	¼″-½″	1997A215	41.24
97″	10-14	¼″-½″	1997A216	41.24
97½″	10-14	¼″-½″	1997A217	41.24

(Continued on following page)

Long-Life Multipurpose Band Saw Blades *(Continued from previous page)*



Anti-Vibration Blade



Standard Blade

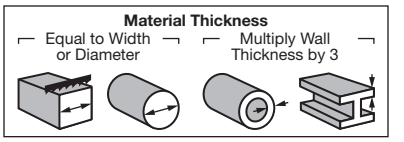

These bimetal blades have a carbon steel body with high-speed steel teeth that last up to four times longer than carbon steel teeth. They're flexible for making straight and curved cuts in steel, stainless steel, aluminum, brass, bronze, wood, and plastic. All have a welded seam and are ready to install on your saw.

For other lengths, please specify length and teeth per inch.

Anti-Vibration Blades—Also known as variable set, teeth vary in size, number per inch, and pattern to reduce vibration, so they create a smoother finish than standard blades.

Standard Blades—Tooth size and number per inch are constant throughout the blade. Also known as raker-set blades, the teeth are set to the left and right in a repeating pattern.

Lg.	Teeth per Inch	For Material Thick.		
Anti-Vibration Blades (Cont.)				
¾″ Wd. x 0.035″ Thick. (Cont.)				
98″	10-14	¼″-½″	4179A676	$41.24
98½″	10-14	¼″-½″	4179A327	41.24
99″	10-14	¼″-½″	1997A218	41.24
100″	10-14	¼″-½″	1997A219	41.24
101″	6-10	¾″-1″	4179A194	44.71
101″	10-14	¼″-½″	4179A567	41.24
102″	10-14	¼″-½″	1997A221	41.24
103″	10-14	¼″-½″	1997A27	43.26
104″	10-14	¼″-½″	1997A223	43.26
104½″	10-14	¼″-½″	1997A224	43.26
105″	10-14	¼″-½″	1997A225	43.26
106″	6-10	¾″-1″	1997A226	46.93
106″	8-12	½″-¾″	1997A227	43.26
106″	10-14	¼″-½″	4179A911	43.26
106½″	10-14	¼″-½″	4179A197	43.26
107″	6-10	¾″-1″	4179A914	45.84
107″	10-14	¼″-½″	4179A198	42.26
107½″	10-14	¼″-½″	1997A228	43.26
108″	5-8	1″-1½″	4179A176	46.93
108″	6-10	¾″-1″	4179A474	46.93
108″	8-12	½″-¾″	4179A213	43.26
108″	10-14	¼″-½″	4179A177	42.26
109″	10-14	¼″-½″	1997A229	45.31
110″	6-10	¾″-1″	4179A918	49.19
110″	10-14	¼″-½″	4179A919	45.31
111″	10-14	¼″-½″	4179A201	45.31
111½″	10-14	¼″-½″	1997A231	45.31
112″	10-14	¼″-½″	1997A232	45.31
113″	10-14	¼″-½″	1997A233	45.31
113½″	10-14	¼″-½″	1997A234	45.31
114″	6-10	¾″-1″	1999A22	47.97
114″	8-12	½″-¾″	1997A236	45.31
114″	10-14	¼″-½″	4179A178	45.31
115″	6-10	¾″-1″	4179A232	50.21
115″	10-14	¼″-½″	4179A573	47.33
115½″	8-12	½″-¾″	4179A574	47.33
115½″	10-14	¼″-½″	4179A234	47.33
116″	6-10	¾″-1″	1997A237	51.40
116″	8-12	½″-¾″	1997A238	47.33
116″	10-14	¼″-½″	4179A798	47.33
116½″	10-14	¼″-½″	4179A928	47.33
117″	10-14	¼″-½″	4179A929	47.33
117½″	10-14	¼″-½″	1997A239	47.33
118″	10-14	¼″-½″	1997A24	47.33
118½″	10-14	¼″-½″	1997A241	47.33
119″	6-10	¾″-1″	1997A242	51.40
119″	8-12	½″-¾″	1997A243	47.33
119″	10-14	¼″-½″	1997A244	47.33
119½″	6-10	¾″-1″	4179A484	51.40
119½″	10-14	¼″-½″	4179A488	47.33
120″	4-6	1½″-3½″	1997A21	47.98
120″	5-8	1″-1½″	4179A182	50.21
120″	6-10	¾″-1″	4179A939	51.40
120″	8-12	½″-¾″	4179A436	47.33
120″	10-14	¼″-½″	4179A275	47.33
121″	10-14	¼″-½″	4179A945	49.38
121½″	10-14	¼″-½″	1997A245	49.38
122″	10-14	¼″-½″	1997A246	49.38
123″	10-14	¼″-½″	1997A247	49.38
123½″	10-14	¼″-½″	1997A248	49.38
124″	10-14	¼″-½″	1997A249	49.38
124½″	10-14	¼″-½″	1997A25	49.38
125″	6-10	¾″-1″	4179A731	52.42
125″	8-12	½″-¾″	4179A581	49.38
125″	10-14	¼″-½″	4179A235	49.38
¾″ Wd. x 0.035″ Thick. (Cont.)				
125½″	10-14	¼″-½″	1997A251	$49.38
126″	10-14	¼″-½″	1997A252	49.38
126½″	10-14	¼″-½″	1997A253	50.21
127″	10-14	¼″-½″	4179A957	50.21
127½″	10-14	¼″-½″	1997A254	50.21
128″	10-14	¼″-½″	1997A255	50.21
128½″	10-14	¼″-½″	1997A256	50.21
129″	4-6	1½″-3½″	4179A237	55.88
129″	6-10	¾″-1″	4179A187	55.88
129″	8-12	½″-¾″	4179A958	50.21
129″	10-14	¼″-½″	4179A329	51.40
129½″	10-14	¼″-½″	1997A257	50.21
130″	6-10	¾″-1″	1997A258	54.58
130″	8-12	½″-¾″	1997A259	50.21
130″	10-14	¼″-½″	1997A26	50.21
130½″	4-6	1½″-3½″	4179A245	55.88
130½″	5-8	1″-1½″	4179A183	55.88
130½″	6-10	¾″-1″	4179A246	55.88
130½″	8-12	½″-¾″	4179A475	51.40
130½″	10-14	¼″-½″	4179A184	50.62
131″	10-14	¼″-½″	1997A261	50.21
131½″	10-14	¼″-½″	1997A262	50.21
141″	10-14	¼″-½″	1997A276	51.78
142″	10-14	¼″-½″	1997A278	51.78
144″	6-10	¾″-1″	1997A281	56.33
144″	8-12	½″-¾″	1997A282	51.78
144″	10-14	¼″-½″	1997A283	51.78
145″	10-14	¼″-½″	1997A284	53.67
148″	10-14	¼″-½″	1997A287	53.67
149″	10-14	¼″-½″	1997A288	53.67
151″	10-14	¼″-½″	1997A291	55.58
153″	10-14	¼″-½″	1997A295	55.58
155″	10-14	¼″-½″	1997A301	55.58
156″	10-14	¼″-½″	1997A303	55.58
157″	10-14	¼″-½″	1997A305	57.47
159″	6-10	¾″-1″	1997A311	62.60
159″	8-12	½″-¾″	1997A312	57.47
159″	10-14	¼″-½″	1997A313	57.47
160″	10-14	¼″-½″	1997A315	57.47
162″	6-10	¾″-1″	1997A318	62.60
162″	8-12	½″-¾″	1997A319	57.47
162″	10-14	¼″-½″	1997A32	57.47
170″	10-14	¼″-½″	1997A331	61.27
171″	10-14	¼″-½″	1997A332	61.27
174″	4-6	1½″-3½″	4179A256	66.78
174″	5-8	1″-1½″	4179A675	66.78
174″	6-10	¾″-1″	4179A257	66.78
174″	8-12	½″-¾″	4179A674	61.00
174″	10-14	¼″-½″	4179A258	61.27
175″	10-14	¼″-½″	1997A339	63.16
176″	4-6	1½″-3½″	4179A812	68.87
176″	5-8	1″-1½″	4179A641	68.87
176″	6-10	¾″-1″	4179A465	68.87
176″	8-12	½″-¾″	4179A239	63.16
176″	10-14	¼″-½″	4179A253	63.16
177″	10-14	¼″-½″	1997A34	63.16
178″	6-10	¾″-1″	1997A341	68.87
178″	8-12	½″-¾″	1997A342	63.16
178″	10-14	¼″-½″	1997A343	63.16
179″	10-14	¼″-½″	1997A344	63.16
180″	10-14	¼″-½″	1997A345	63.16
181″	10-14	¼″-½″	1997A346	65.07
182″	10-14	¼″-½″	1997A347	65.07
183″	10-14	¼″-½″	1997A348	65.07
184″	10-14	¼″-½″	1997A349	65.07
¾″ Wd. x 0.035″ Thick. (Cont.)				
186″	6-10	¾″-1″	1997A352	$70.96
186″	8-12	½″-¾″	1997A353	65.07
186″	10-14	¼″-½″	1997A354	65.07
187″	10-14	¼″-½″	1997A355	66.96
188″	6-10	¾″-1″	4179A259	73.04
188″	10-14	¼″-½″	1997A356	66.96
192″	10-14	¼″-½″	1997A36	66.96
240″	6-10	¾″-1″	4179A987	89.76
Other Lengths—From 132″ to 195″ in 1″ increments			1997A54	
1″ Wd. x 0.035″ Thick.				
64½″	6-10	¾″-1″	4179A461	34.93
64½″	10-14	¼″-½″	4179A469	33.19
92½″	6-10	¾″-1″	4179A472	47.69
92½″	10-14	¼″-½″	4179A483	45.17
93″	6-10	¾″-1″	1997A365	45.17
93″	8-12	½″-¾″	1997A366	45.17
93″	10-14	¼″-½″	4179A894	45.17
93½″	10-14	¼″-½″	1997A367	45.17
94″	6-10	¾″-1″	1997A968	45.17
94″	8-12	½″-¾″	1997A369	45.17
94″	10-14	¼″-½″	1997A37	45.17
95″	10-14	¼″-½″	1997A371	45.17
95½″	10-14	¼″-½″	1997A372	45.17
96″	10-14	¼″-½″	1997A373	45.17
97″	10-14	¼″-½″	1997A374	47.57
97½″	6-10	¾″-1″	4179A906	49.09
97½″	10-14	¼″-½″	4179A905	46.47
98″	10-14	¼″-½″	1997A375	47.57
99″	10-14	¼″-½″	1997A376	47.57
100″	10-14	¼″-½″	1997A377	47.57
101″	10-14	¼″-½″	1997A378	47.57
102″	10-14	¼″-½″	1997A379	47.57
103″	10-14	¼″-½″	1997A38	49.95
104″	10-14	¼″-½″	1997A381	49.95
104½″	10-14	¼″-½″	1997A382	49.95
105″	10-14	¼″-½″	1997A383	49.95
106″	4-6	1½″-3½″	4179A901	51.58
106″	6-10	¾″-1″	4179A913	52.81
106″	8-12	½″-¾″	4179A904	48.76
106″	10-14	¼″-½″	4179A912	49.95
106½″	10-14	¼″-½″	1997A384	49.95
107″	8-12	½″-¾″	4179A916	48.79
107″	10-14	¼″-½″	4179A915	48.79
107½″	10-14	¼″-½″	1997A385	49.95
108″	6-10	¾″-1″	1997A386	49.95
108″	8-12	½″-¾″	1997A387	49.95
108″	10-14	¼″-½″	1997A388	49.95
109″	10-14	¼″-½″	1997A389	51.14
110″	10-14	¼″-½″	1997A39	51.14
111″	10-14	¼″-½″	1997A391	51.14
111½″	10-14	¼″-½″	1997A392	51.14
112″	10-14	¼″-½″	1997A393	51.14
113″	10-14	¼″-½″	1997A394	51.14
114″	6-10	¾″-1″	1997A395	51.14
114″	8-12	½″-¾″	1997A296	51.14
114″	10-14	¼″-½″	4179A301	51.14
115″	10-14	¼″-½″	1997A397	54.76
115½″	10-14	¼″-½″	4179A797	53.49
116″	6-10	¾″-1″	1997A398	54.76
116″	8-12	½″-¾″	1997A399	54.76
116″	10-14	¼″-½″	1997A401	54.76
117″	10-14	¼″-½″	4179A931	54.76
117½″	10-14	¼″-½″	1997A402	54.76
118″	6-10	¾″-1″	1997A404	54.76

(Continued on following page)

Long-Life Multipurpose Band Saw Blades *(Continued from previous page)*

Anti-Vibration Blades (Cont.)

1″ Wd. x 0.035″ Thick. (Cont.)

Lg.	Teeth per Inch	For Material Thick.		
118″	8-12	½″-¾″	1997A405	$54.76
118″	10-14	¼″-½″	1997A403	54.76
118½″	10-14	¼″-½″	1997A406	54.76
119″	10-14	¼″-½″	4179A933	53.49
119½″	4-6	1½″-3½″	4179A936	57.90
119½″	6-10	¾″-1″	4179A128	56.56
119½″	10-14	¼″-½″	4179A934	54.76
120″	5-8	1″-1½″	4179A943	57.90
120″	6-10	¾″-1″	4179A134	56.56
120″	8-12	½″-¾″	4179A942	54.76
120″	10-14	¼″-½″	4179A941	54.76
121″	10-14	¼″-½″	1997A408	55.82
121½″	10-14	¼″-½″	1997A409	55.82
122″	10-14	¼″-½″	4179A947	55.81
123″	10-14	¼″-½″	4179A954	55.81
123½″	10-14	¼″-½″	1997A41	55.82
124″	10-14	¼″-½″	1997A411	55.82
124½″	10-14	¼″-½″	1997A412	55.82
125″	6-10	¾″-1″	4179A949	59.07
125″	8-12	½″-¾″	1997A413	55.82
125″	10-14	¼″-½″	4179A948	55.81
125½″	10-14	¼″-½″	1997A414	55.82
126″	6-10	¾″-1″	4179A951	59.07
126″	10-14	¼″-½″	4179A241	55.81
126½″	10-14	¼″-½″	1997A415	55.81
127″	10-14	¼″-½″	1997A416	58.16
127½″	10-14	¼″-½″	1997A417	58.16
128″	6-10	¾″-1″	4179A19	61.56
128″	10-14	¼″-½″	4179A18	58.16
128½″	10-14	¼″-½″	1997A418	58.16
129″	6-10	¾″-1″	4179A302	61.56
129″	10-14	¼″-½″	4179A959	58.16
129½″	10-14	¼″-½″	1997A419	58.16
130″	4-6	1½″-3½″	4179A247	63.02
130″	6-10	¾″-1″	4179A135	61.56
130″	8-12	½″-¾″	1997A42	58.16
130″	10-14	¼″-½″	4179A992	58.16
130½″	4-6	1½″-3½″	4179A585	61.56
130½″	5-8	1″-1½″	4179A586	61.56
130½″	6-10	¾″-1″	4179A185	61.56
130½″	8-12	½″-¾″	4179A587	58.16
130½″	10-14	¼″-½″	4179A588	58.16
131″	10-14	¼″-½″	1997A421	58.16
131½″	10-14	¼″-½″	1997A422	58.16
132″	4-6	1½″-3½″	4179A735	61.56
132″	5-8	1″-1½″	4179A736	61.56
132″	6-10	¾″-1″	4179A737	61.56
132″	8-12	½″-¾″	4179A738	58.16
132″	10-14	¼″-½″	4179A186	$58.16
133″	5-8	1″-1½″	4179A964	61.20
133″	10-14	¼″-½″	1997A424	57.80
138″	3-4	3½″-7″	4179A596	61.20
138″	4-6	1½″-3½″	4179A294	61.20
138″	5-8	1″-1½″	4179A597	61.20
138″	6-10	¾″-1″	4179A295	61.20
138″	8-12	½″-¾″	4179A202	57.80
138″	10-14	¼″-½″	4179A598	57.80
139″	10-14	¼″-½″	1997A43	60.04
140″	10-14	¼″-½″	1997A432	60.04
142″	10-14	¼″-½″	1997A435	60.04
143″	10-14	¼″-½″	1997A437	60.04
146″	10-14	¼″-½″	1997A438	62.29
148″	10-14	¼″-½″	1997A44	62.29
149″	10-14	¼″-½″	1997A441	62.29
151″	10-14	¼″-½″	1997A443	64.51
155″	4-6	1½″-3½″	4179A681	68.36
155″	10-14	¼″-½″	1997A453	64.51
156″	10-14	¼″-½″	1997A455	64.51
158″	6-10	¾″-1″	1997A459	66.75
158″	8-12	½″-¾″	1997A46	66.75
158″	10-14	¼″-½″	1997A461	66.75
161″	10-14	¼″-½″	1997A464	66.75
162″	3-4	3½″-7″	4179A623	70.73
162″	4-6	1½″-3½″	4179A624	70.73
162″	5-8	1″-1½″	4179A625	70.73
162″	6-10	¾″-1″	4179A626	70.73
162″	8-12	½″-¾″	4179A672	66.76
162″	10-14	¼″-½″	1997A466	66.75
163″	10-14	¼″-½″	1997A467	68.98
166″	10-14	¼″-½″	1997A47	68.98
167″	4-6	1½″-3½″	4179A751	73.11
167″	5-8	1″-1½″	4179A631	73.11
167″	6-10	¾″-1″	4179A752	73.11
167″	8-12	½″-¾″	4179A244	68.98
167″	10-14	¼″-½″	4179A231	68.98
168″	10-14	¼″-½″	1997A472	68.98
170″	10-14	¼″-½″	1997A474	71.22
171″	10-14	¼″-½″	1997A475	71.22
173″	10-14	¼″-½″	1997A478	71.22
174″	3-4	3½″-7″	4179A233	75.51
174″	4-6	1½″-3½″	4179A443	75.51
174″	5-8	1″-1½″	4179A634	75.51
174″	6-10	¾″-1″	4179A444	75.51
174″	8-12	½″-¾″	4179A635	75.51
174″	10-14	¼″-½″	4179A636	71.22
175″	10-14	¼″-½″	1997A481	73.44
176″	6-10	¾″-1″	1997A482	$73.44
176″	8-12	½″-¾″	1997A483	73.44
176″	10-14	¼″-½″	1997A484	73.44
177″	10-14	¼″-½″	1997A485	73.44
178″	6-10	¾″-1″	1997A486	73.44
178″	8-12	½″-¾″	1997A487	73.44
178″	10-14	¼″-½″	1997A488	73.44
180″	10-14	¼″-½″	1997A49	73.44
181″	10-14	¼″-½″	1997A491	75.69
183″	10-14	¼″-½″	1997A493	75.69
184″	10-14	¼″-½″	1997A494	75.69
186″	3-4	3½″-7″	4179A795	80.27
186″	4-6	1½″-3½″	4179A643	80.27
186″	6-10	¾″-1″	1997A497	75.69
186″	8-12	½″-¾″	1997A498	75.69
186″	10-14	¼″-½″	1997A499	75.69
192″	10-14	¼″-½″	1997A506	77.93
Other Lengths—From 134″ to 200″ in 1″ increments			1997A55	

1¼″ Wd. x 0.042″ Thick.

138″	4-6	1½″-3½″	4179A601	71.84
138″	6-10	¾″-1″	1997A511	76.07
144″	4-6	1½″-3½″	4179A607	74.64
144″	6-10	¾″-1″	1997A512	79.05
150″	4-6	1½″-3½″	4179A224	77.44
150″	6-10	¾″-1″	1997A513	82.03
161″	6-10	¾″-1″	1997A514	84.23
162″	4-6	1½″-3½″	4179A679	83.02
162″	6-10	¾″-1″	4179A687	87.98
171″	6-10	¾″-1″	1997A516	89.95
174″	4-6	1½″-3½″	4179A637	88.62
174″	5-8	1″-1½″	4179A638	88.62
174″	6-10	¾″-1″	4179A639	93.96
178″	6-10	¾″-1″	1997A518	92.80
179″	6-10	¾″-1″	1997A519	92.80
180″	4-6	1½″-3½″	4179A646	91.42
180″	6-10	¾″-1″	4179A649	96.93
183″	6-10	¾″-1″	1997A521	95.66
184″	6-10	¾″-1″	1997A522	95.66
186″	4-6	1½″-3½″	4179A647	94.22
186″	6-10	¾″-1″	4179A642	99.91
188″	6-10	¾″-1″	1997A523	98.51
192″	6-10	¾″-1″	1997A524	98.51
197″	6-10	¾″-1″	1997A525	99.25
198″	6-10	¾″-1″	1997A526	102.04
210″	6-10	¾″-1″	1997A527	107.63
222″	6-10	¾″-1″	1997A528	110.90

Standard Blades

½″ Wd. x 0.02″ Thick.

64½″	14	¼″-¾″	4179A858	24.79
80″	14	¼″-¾″	4179A549	29.83

½″ Wd. x 0.025″ Thick.

64½″	10	½″-1″	4179A251	27.34
64½″	14	¼″-¾″	4179A252	27.98
68″	14	¼″-¾″	4179A546	28.38
89″	14	¼″-¾″	4179A518	34.00
93″	14	¼″-¾″	4179A555	35.81
93½″	4	1½″-7″	4179A561	35.81
93½″	14	¼″-¾″	4179A528	35.81
95″	14	¼″-¾″	4179A533	35.81
96″	14	¼″-¾″	4179A535	35.81
114″	14	¼″-¾″	4179A313	41.33
120″	14	¼″-¾″	4179A578	43.16
130″	14	¼″-¾″	4179A988	46.81
144″	14	¼″-¾″	4179A725	48.24
149″	6	1″-3½″	4179A739	49.98
150″	6	1″-3½″	4179A742	49.98
150″	14	¼″-¾″	4179A612	49.98

½″ Wd. x 0.035″ Thick.

53¾″	14	¼″-¾″	4179A724	25.27
64½″	14	¼″-¾″	4179A162	28.67
89″	10	½″-1″	4179A516	35.79
89″	14	¼″-¾″	4179A519	35.79
93½″	6	1″-3½″	4179A172	36.81
93½″	14	¼″-¾″	4179A317	37.74
96″	14	¼″-¾″	4179A564	37.74
98½″	14	¼″-¾″	4179A566	39.70
108″	10	½″-1″	4179A191	41.65
108″	14	¼″-¾″	4179A192	41.65
115½″	10	½″-1″	4179A926	45.56
115½″	14	¼″-¾″	4179A927	45.56
126″	10	½″-1″	4179A221	47.51
126″	14	¼″-¾″	4179A222	47.51
138″	10	½″-1″	4179A271	49.13
138″	14	¼″-¾″	4179A272	49.13
150″	10	½″-1″	4179A371	52.87
150″	14	¼″-¾″	4179A372	52.87
153″	10	½″-1″	4179A316	54.71
174″	14	¼″-¾″	1998A31	61.68

¾″ Wd. x 0.035″ Thick.

93″	14	¼″-¾″	4179A526	41.49
108″	8	¾″-1½″	4179A212	45.74
115½″	14	¼″-¾″	4179A575	51.40
125″	14	¼″-¾″	4179A582	53.67
130½″	8	¾″-1½″	4179A242	54.43
130½″	10	½″-1″	4179A243	54.43
130½″	14	¼″-¾″	4179A584	54.58
138″	8	¾″-1½″	4179A282	52.82
138″	10	½″-1″	4179A283	52.82
138″	14	¼″-¾″	4179A595	58.12
174″	8	¾″-1½″	4179A255	64.98
176″	8	¾″-1½″	4179A462	67.00
176″	10	½″-1″	4179A463	67.00
130½″	6	1″-3½″	4179A536	59.98
130½″	8	¾″-1½″	4179A537	59.98
130½″	10	½″-1″	4179A538	59.98
130½″	14	¼″-¾″	4179A539	61.56
132″	10	½″-1″	4179A591	59.98
132″	14	¼″-¾″	4179A592	61.56
137″	10	½″-1″	4179A32	59.62
138″	6	1″-3½″	4179A291	59.62
138″	8	¾″-1½″	4179A292	59.62
138″	10	½″-1″	4179A293	59.62
144″	6	1″-3½″	4179A606	61.93
144″	8	¾″-1½″	4179A333	61.93
144″	10	½″-1″	4179A206	61.93
145″	8	¾″-1½″	4179A353	64.24
150″	6	1″-3½″	4179A381	64.24
150″	8	¾″-1½″	4179A382	64.24
150″	10	½″-1″	4179A383	64.24
150″	14	¼″-¾″	1998A32	62.06
159″	14	¼″-¾″	4179A996	60.26
167″	6	1″-3½″	4179A411	71.18
167″	10	½″-1″	4179A413	71.18
174″	6	1″-3½″	4179A442	73.51
174″	10	½″-1″	4179A238	73.51

Band Saw Blades

Band Saw Blades for Thin Metal



Anti-Vibration Blade



Standard Blade

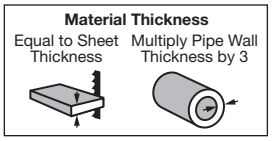

The teeth on these blades are set from side to side in a wavy pattern for cutting metal sheets and thin-walled pipe. Use them on steel, aluminum, brass, and bronze. Blades have a welded seam and are ready to install on your saw. *Long-life blades for straight and curved cuts* are bimetal blades with a flexible carbon steel body and high-speed steel teeth that last up to four times longer than carbon steel teeth. They can be used to cut stainless steel. *Blades for straight cuts* are made of rigid carbon steel. *Blades for curved cuts* are made of flexible carbon steel.

Anti-Vibration Blades—Also known as variable set, teeth vary in size, number per inch, and pattern to reduce vibration, so they create a smoother finish than standard blades.

Standard Blades—Tooth size and number per inch are constant throughout the blade.

Long-Life Anti-Vibration Blades for Straight and Curved Cuts

Lg.	Teeth per Inch	For Material Thick.		
¼″ Wd. × 0.025″ Thick.				
59¼″	14-18	5⁄32″-¼″	4179A453	$25.42
⅜″ Wd. × 0.025″ Thick.				
64½″	14-18	5⁄32″-¼″	4179A448	27.31
93″	14-18	5⁄32″-¼″	4179A449	36.68
120″	14-18	5⁄32″-¼″	4179A451	44.19
138″	14-18	5⁄32″-¼″	4179A452	46.49
144″	14-18	5⁄32″-¼″	2000A33	51.69
½″ Wd. × 0.02″ Thick.				
32⅞″	14-18	5⁄32″-¼″	2000A34	16.45
½″ Wd. × 0.02″ Thick. (Cont.)				
56⅛″	14-18	5⁄32″-¼″	4179A853	$23.68
59½″	14-18	5⁄32″-¼″	4179A447	22.97
64½″	14-18	5⁄32″-¼″	4179A143	24.79
73″	14-18	5⁄32″-¼″	4179A871	27.49
½″ Wd. × 0.025″ Thick.				
64½″	14-18	5⁄32″-¼″	4179A144	27.71
68″	14-18	5⁄32″-¼″	4179A861	29.45
92½″	14-18	5⁄32″-¼″	4179A955	35.81
93″	14-18	5⁄32″-¼″	4179A149	35.81
½″ Wd. × 0.025″ Thick. (Cont.)				
93½″	14-18	5⁄32″-¼″	4179A175	$36.67
95″	14-18	5⁄32″-¼″	4179A899	36.67
105″	14-18	5⁄32″-¼″	4179A196	39.49
114″	14-18	5⁄32″-¼″	4179A311	41.33
120″	14-18	5⁄32″-¼″	4179A577	43.16
130½″	14-18	5⁄32″-¼″	4179A961	46.81
156″	14-18	5⁄32″-¼″	4179A981	51.73

Long-Life Standard Blades for Straight and Curved Cuts

Lg.	Teeth per Inch	For Material Thick.		
½″ Wd. × 0.02″ Thick.				
32⅞″	24	5⁄32″-¼″	4179A102	16.80
64½″	18	¼″-½″	4179A159	24.79
½″ Wd. × 0.02″ Thick. (Cont.)				
64½″	24	5⁄32″-¼″	4179A161	24.79
80″	24	5⁄32″-¼″	4179A548	29.83
½″ Wd. × 0.025″ Thick.				
64½″	18	¼″-½″	4179A542	27.98
93″	18	¼″-½″	4179A556	35.81

Standard Blades for Straight Cuts

Choose a Length	Choose a Width	
60″, 64½″, 73″, 80″, 81″, 89″, 93″, 93½″, 95″, 96″, 98½″, 108″, 114″, 115½″, 116″, 120″, 125″, 126″, 130½″, 138″, 144″, 150″, 159″	¼″, ½″, ¾″	4125A856

Standard Blades for Curved Cuts

Choose a Length	Choose a Width	
59¼″, 64½″, 93″, 119″, 138″, 150″	¼″, ½″, ¾″	4053A57

Long-Life Band Saw Blades for Thick Materials

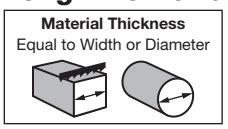

Make clog-free cuts in thick cross sections of steel, stainless steel, aluminum, brass, bronze, wood, and plastic. These blades have forward-angled teeth and plenty of space for chips to collect. They're bimetal blades with a carbon steel body and high-speed steel teeth that last up to four times longer than carbon steel teeth. They're flexible for making straight and curved cuts. Also known as variable set, teeth vary in size, number per inch, and pattern to reduce vibration and produce smooth cuts. All blades have a welded seam and are ready to install on your saw.

Lg.	Choose Teeth per Inch (For Material Thick.)		
¾″ Wd. × 0.035″ Thick.			
85″	4-6 (1″-2″)	4191A21	$40.51
93″	4-6 (1″-2″)	4191A22	42.68
114″	4-6 (1″-2″)	4191A23	49.22
120″	4-6 (1″-2″)	4191A27	51.39
138″	4-6 (1″-2″)	4191A42	57.92
1″ Wd. × 0.035″ Thick.			
115½″	3-4 (2″-5″), 4-6 (1″-2″), 5-8 (⅝″-1″)	4191A1	55.59
120″	3-4 (2″-5″), 4-6 (1″-2″), 5-8 (⅝″-1″)	4191A2	55.59
130½″	3-4 (2″-5″), 4-6 (1″-2″), 5-8 (⅝″-1″)	4191A3	60.37
132″	3-4 (2″-5″), 4-6 (1″-2″), 5-8 (⅝″-1″)	4191A4	60.37
135″	3-4 (2″-5″), 4-6 (1″-2″), 5-8 (⅝″-1″)	4191A5	62.76
1″ Wd. × 0.035″ Thick. (Cont.)			
138″	3-4 (2″-5″), 4-6 (1″-2″), 5-8 (⅝″-1″)	4191A6	$62.76
1¼″ Wd. × 0.042″ Thick.			
138″	4-6 (1″-2″), 5-8 (⅝″-1″)	4191A7	74.29
144″	4-6 (1″-2″), 5-8 (⅝″-1″)	4191A8	77.10
150″	4-6 (1″-2″), 5-8 (⅝″-1″)	4191A9	79.93
162″	4-6 (1″-2″), 5-8 (⅝″-1″)	4191A11	85.58
174″	4-6 (1″-2″), 5-8 (⅝″-1″)	4191A12	91.22
180″	4-6 (1″-2″), 5-8 (⅝″-1″)	4191A13	94.04
186″	4-6 (1″-2″), 5-8 (⅝″-1″)	4191A14	96.87
210″	4-6 (1″-2″), 5-8 (⅝″-1″)	4191A15	108.16

Long-Life Band Saw Blades for Structural Shapes and Bundles

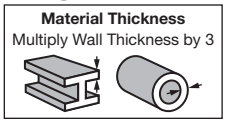

Cut structural shapes such as I-beams and angle iron as well as bundles of structural shapes and tubing with less tooth breakage than other blades. The teeth are reinforced, forward-angled, and widely spaced to leave room for chips to collect. These bimetal blades have a carbon steel body with high-speed steel teeth that last up to four times longer than carbon steel teeth. They're flexible for making straight and curved cuts in steel, stainless steel, aluminum, brass, bronze, wood, and plastic. Also known as variable set, teeth vary in size, number per inch, and pattern to reduce vibration and produce smooth cuts. All blades have a welded seam and are ready to install on your saw.

Lg.	Choose Teeth per Inch (For Material Thick.)		
¾″ Wd. × 0.035″ Thick.			
85″	4-6 (1″-2″), 5-8 (⅝″-1″)	4198A1	$37.66
93″	4-6 (1″-2″), 5-8 (⅝″-1″)	4198A2	39.66
114″	4-6 (1″-2″), 5-8 (⅝″-1″)	4198A3	45.69
120″	4-6 (1″-2″), 5-8 (⅝″-1″)	4198A4	47.69
138″	4-6 (1″-2″), 5-8 (⅝″-1″)	4198A5	53.72
1″ Wd. × 0.035″ Thick.			
115½″	4-6 (1″-2″), 5-8 (⅝″-1″)	4198A6	53.97
120″	4-6 (1″-2″), 5-8 (⅝″-1″)	4198A7	53.97
130½″	4-6 (1″-2″), 5-8 (⅝″-1″)	4198A8	58.61
132″	4-6 (1″-2″), 5-8 (⅝″-1″)	4198A9	58.61
135″	4-6 (1″-2″), 5-8 (⅝″-1″)	4198A45	60.94
1″ Wd. × 0.035″ Thick. (Cont.)			
138″	3-4 (2″-5″), 4-6 (1″-2″), 5-8 (⅝″-1″)	4198A46	$60.94
1¼″ Wd. × 0.042″ Thick.			
138″	5-8 (⅝″-1″)	4198A36	71.31
144″	5-8 (⅝″-1″)	4198A37	74.02
150″	5-8 (⅝″-1″)	4198A38	76.73
162″	5-8 (⅝″-1″)	4198A39	82.15
174″	5-8 (⅝″-1″)	4198A41	87.57
180″	5-8 (⅝″-1″)	4198A42	90.28
186″	5-8 (⅝″-1″)	4198A43	92.99
210″	5-8 (⅝″-1″)	4198A44	103.83

Band Saw Blades for Stainless Steel, Nickel, and Titanium

Titanium aluminum nitride (TiAlN) coated, precision-ground teeth cut quickly and leave a smooth edge on stainless steel, nickel, and titanium. These bimetal blades have a carbon steel body with high-speed steel teeth. They're flexible for making straight and curved cuts. Also known as variable set, teeth vary in size, number per inch, and pattern to reduce vibration and produce smooth cuts. All blades have a welded seam and are ready to install on your saw.

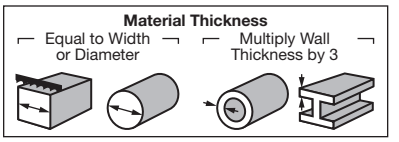

Lg.	Teeth per Inch	For Material Thick.		
½″ Wd. x 0.025″ Thick.				
64½″	10-14	Up to 1⅛″	4200A24	$75.95
93″	8-12	1⅛″-2″	4200A28	94.86
93½″	10-14	Up to 1⅛″	4200A36	94.86
120″	10-14	Up to 1⅛″	4200A52	123.05
150″	8-12	1⅛″-2″	4200A49	142.14
152″	10-14	Up to 1⅛″	4200A53	142.14
154″	10-14	Up to 1⅛″	4200A51	142.14
½″ Wd. x 0.035″ Thick.				
64½″	10-14	Up to 1⅛″	4200A25	79.00

Lg.	Teeth per Inch	For Material Thick.		
¾″ Wd. x 0.035″ Thick.				
85″	10-14	Up to 1⅛″	4200A26	$101.67
93″	5-8	1¼″-2¾″	4200A29	101.67
93″	6-10	1⅛″-2″	4200A31	101.67
93″	8-12	1⅛″-2″	4200A32	101.67
93″	10-14	Up to 1⅛″	4200A33	101.67
114″	10-14	Up to 1⅛″	4200A37	122.28
120″	10-14	Up to 1⅛″	4200A39	122.28
138″	10-14	Up to 1⅛″	4200A45	142.89
176″	10-14	Up to 1⅛″	4200A54	200.81

Lg.	Teeth per Inch	For Material Thick.		
1″ Wd. x 0.035″ Thick.				
115½″	10-14	Up to 1⅛″	4200A38	$165.70
120″	10-14	Up to 1⅛″	4200A41	165.70
130½″	10-14	Up to 1⅛″	4200A42	179.74
132″	10-14	Up to 1⅛″	4200A43	180.35
135″	6-10	1⅛″-2″	4200A44	195.00
138″	6-10	1⅛″-2″	4200A46	195.00
138″	10-14	Up to 1⅛″	4200A47	195.00
150″	10-14	Up to 1⅛″	4200A55	239.89
162″	10-14	Up to 1⅛″	4200A57	250.68
174″	10-14	Up to 1⅛″	4200A58	261.47

Band Saw Blades for Hardened Steel, Super Alloys, and Graphite


Gullet


Continuous

Carbide grit bonded to alloy steel blades cuts through hard materials such as hardened steel, graphite, fiberglass, composites, and nickel alloys including Hastelloy and Inconel. Blades are rigid for making straight cuts. Choose medium grit for less material loss and a smooth finish; choose coarse grit for fast cutting. Blades have a welded seam and are ready to install on your saw. Use coolant (not included, see page 2207) when cutting metals.

Gullet blades quickly cut material that is at least ¼″ thick.

Continuous blades are better than gullet blades for material that fractures and chips easily and material less than ¼″ thick. Use with saw wheels that are at least 24″ diameter.

For other lengths, please specify a length of at least 45″.

Lg.	Choose a Grit	Gullet	Continuous		
¼″ Wd. x 0.02″ Thick.					
93″	Medium	3054A131	—		$103.25
½″ Wd. x 0.025″ Thick.					
93″	Medium	3054A112	3054A212		112.04
120″	Coarse, Medium	3054A126	3054A226		140.48
Other Lg.	Coarse, Medium	3054A132	3054A232	Per Inch	$1.21
¾″ Wd. x 0.032″ Thick.					
93″	Coarse, Medium	3054A127	3054A227		120.20
138″	Coarse	3054A141	3054A241		169.92
Other Lg.	Medium	3054A128	3054A228	Per Inch	$1.29
1″ Wd. x 0.035″ Thick.					
132″	Coarse	3054A245	3054A238		171.67
132″	Medium	3054A119	—		171.67
138″	Coarse	3054A123	3054A223		179.20
138″	Medium	3054A122	—		179.20
144″	Coarse	3054A125	3054A225		186.70
144″	Medium	3054A124	—		186.70
174″	Coarse	3054A136	3054A236		224.23
Other Lg.	Coarse	3054A137	3054A237	Per Inch	$1.37

Band Saw Blades for Ceramics and Masonry



Blades are stainless steel with a diamond-grit edge that cuts hard, abrasive materials such as carbon fiber, ceramics, masonry, glass, composites, quartz, and silicon. They're not for use on metal. Use them for straight and curved cuts in materials of any thickness. Choose finer grit for less material loss and a smooth finish; choose coarser grit for fast cutting. Blades have a welded seam and are ready to install on your saw. Use coolant (not included, see page 2207) when cutting masonry, glass, quartz, and silicon.

For other lengths, please specify a length of at least 36″.

Lg.	Coarse Grit	Medium Grit	Fine Grit		
½″ Wd. x 0.02″ Thick.					
93″	3058A41	3058A42	3058A43		$181.64
120″	3058A31	3058A32	3058A33		234.38
150″	3058A21	3058A22	3058A23		292.97
154″	3058A51	3058A52	3058A53		300.78
174″	3058A11	3058A12	3058A13		339.84
Other Lengths	3058A57	3058A58	3058A59	Per Inch	$1.95
¾″ Wd. x 0.02″ Thick.					
93″	3058A44	3058A45	3058A46		184.52
120″	3058A34	3058A35	3058A36		238.10
150″	3058A24	3058A25	3058A26		297.62
174″	3058A14	3058A15	3058A16		345.24
181″	3058A54	3058A55	3058A56		359.13
Other Lengths	3058A61	3058A62	3058A63	Per Inch	$1.98
1″ Wd. x 0.035″ Thick.					
93″	3058A47	3058A48	3058A49		187.50
120″	3058A37	3058A38	3058A39		241.94
150″	3058A27	3058A28	3058A29		302.42
174″	3058A17	3058A18	3058A19		350.81
Other Lengths	3058A74	3058A75	3058A76	Per Inch	$2.02
1¼″ Wd. x 0.04″ Thick.					
Other Lengths	3058A67	3058A68	3058A69	Per Inch	$2.38

Band Saw Blades for Fiberglass, Plastic, and Composites

The teeth on these steel blades are carbide tipped, so they'll last longer and produce a smoother cut than other band saw blades when cutting fiberglass, plastic, and composites. Tooth size and number per inch are constant throughout the blade, and the teeth are set to the left and right in a repeating pattern. They're also known as raker-set blades. Use them for straight and curved cuts. They have a welded seam and are ready to install on your saw.

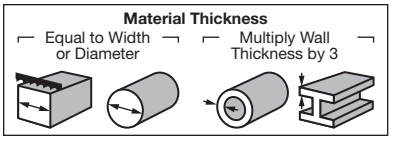

Lg.	Teeth per Inch	For Material Thick.		
½″ Wd. x 0.025″ Thick.				
44⅞″	3	2″-6″	4189A21	$80.24
64½″	3	2″-6″	4189A31	100.47
64½″	6	½″-2″	4189A29	119.82
80″	3	2″-6″	4189A32	128.80
93″	3	2″-6″	4189A41	133.98
93″	6	½″-2″	4189A46	154.09
150″	3	2″-6″	4189A91	223.56
154″	3	2″-6″	4189A94	226.77
154″	6	½″-2″	4189A89	239.77
159″	3	2″-6″	4189A95	235.03
½″ Wd. x 0.035″ Thick.				
93″	3	2″-6″	4189A42	116.12

Lg.	Teeth per Inch	For Material Thick.		
¾″ Wd. x 0.032″ Thick.				
93″	6	½″-2″	4189A45	$155.04
120″	6	½″-2″	4189A88	189.55
138″	6	½″-2″	4189A84	224.06
¾″ Wd. x 0.035″ Thick.				
93″	3	2″-6″	4189A43	148.88
93″	4	1″-4″	4189A44	96.58
120″	4	1″-4″	4189A52	118.28
130½″	4	1″-4″	4189A62	130.87
133″	3	2″-6″	4189A72	218.24
138″	3	2″-6″	4189A81	218.24
150″	3	2″-6″	4189A92	236.48

Lg.	Teeth per Inch	For Material Thick.		
1″ Wd. x 0.035″ Thick.				
120″	4	1″-4″	4189A54	$123.84
130½″	4	1″-4″	4189A64	135.06
132″	6	½″-2″	4189A69	210.55
138″	4	1″-4″	4189A83	140.68
138″	6	½″-2″	4189A85	223.67
162″	6	½″-2″	4189A96	253.20
174″	6	½″-2″	4189A98	265.02
1″ Wd. x 0.05″ Thick.				
138″	3	2″-6″	4189A82	221.78
150″	3	2″-6″	4189A93	240.30

Band Saw Blades

Band Saw Blades for Soft Materials



Scallop-Tooth Blade



Fast-Cut V-Tooth Blade

The edge on these blades is sharpened like a knife blade to cut through soft nonmetal such as foam, rubber, and packing materials of any thickness. All are made of spring steel and are flexible for making straight and curved cuts. Blades have a welded seam and are ready to install on your saw. Coil stock is not welded.

Scallop-Tooth Blades—Also known as scallop-edge blades. They have two teeth per inch.

Fast-Cut V-Tooth Blades—The tightly spaced, V-shaped teeth on these blades cut through soft materials more quickly than scallop-tooth blades. They have 10 or 14 teeth per inch.

Scallop-Tooth Blades

Lg.		
½" Wd. x 0.02" Thick.		
64½"	4091A114	$19.00
80"	4091A115	21.57
82"	4091A116	21.57
92"	4091A22	23.28
93"	4091A117	23.28
93½"	4091A119	23.28
94"	4091A118	23.28
96"	4091A23	23.28
105"	4091A121	25.00
120"	4091A122	26.70
150"	4091A123	30.98
½" Wd. x 0.025" Thick.		
58"	4091A42	19.80
64"	4091A172	20.81
64½"	4091A125	20.82
72"	4091A173	21.83
80"	4091A31	23.88

Lg.		
½" Wd. x 0.025" Thick. (Cont.)		
82"	4091A126	$23.88
92"	4091A174	25.92
93"	4091A32	25.92
93½"	4091A127	25.92
96"	4091A128	25.92
96⅜"	4091A176	26.95
100"	4091A177	26.95
106"	4091A175	27.97
110"	4091A33	28.98
111"	4091A129	28.98
116"	4091A178	29.99
120"	4091A13	30.00
122"	4091A35	31.03
123"	4091A179	31.03
132"	4091A181	32.06
138"	4091A182	33.06

Lg.		
½" Wd. x 0.025" Thick. (Cont.)		
140"	4091A183	$34.08
144"	4091A131	34.08
149"	4091A184	35.12
150"	4091A132	35.12
154"	4091A133	36.13
164"	4091A185	38.18
174"	4091A186	39.20
176"	4091A187	40.22
188"	4091A188	42.27
222"	4091A189	47.37
228"	4091A191	48.38
245"	4091A192	51.45
¾" Wd. x 0.02" Thick.		
72"	4091A134	22.57
120"	4091A136	31.22
132"	4091A137	33.38

Lg.		
¾" Wd. x 0.025" Thick.		
62"	4091A171	$22.45
¾" Wd. x 0.035" Thick.		
93"	4091A139	30.03
120"	4091A14	35.15
133"	4091A141	38.98
138"	4091A142	38.98
180"	4091A143	47.93
240"	4091A144	60.72
1" Wd. x 0.025" Thick.		
122"	4091A81	36.90
1" Wd. x 0.032" Thick.		
60"	4091A148	23.90
72"	4091A149	26.77
120"	4091A15	38.22
132"	4091A91	41.08
360"	4091A151	95.50
442"	4091A92	115.55

Fast-Cut V-Tooth Blades

Choose a Length	Choose a Width	Choose a Thickness	
60", 62", 64", 64½", 72", 80", 92", 93", 93½", 96", 96⅜", 100", 106", 111", 116", 119½", 120", 123", 126", 132", 138", 140", 149", 150", 154", 164", 174", 176", 188", 222", 228", 233", 245", 254½", 264", 311½", 316", 339½"	½", ¾", 1"	0.02", 0.025"	4091A211

Coil Stock—Cut the 100 ft. coil to any length and use a band saw welder to join the ends.

	Choose a Length	Choose a Width	Choose a Thickness	
Scallop-Tooth	1 ft., 2 ft., 3 ft., 100 ft.	½", ¾", 1"	0.02", 0.025", 0.032", 0.035"	4091A213
Fast-Cut V-Tooth	1 ft., 2 ft., 3 ft., 4 ft., 100 ft.	½", ¾", 1"	0.02", 0.025"	4091A214

Band Saw Blades for Wood



Blade for Hardwood



Blade for Softwood

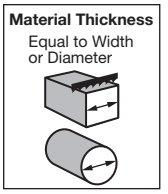

Tooth size and number per inch are constant throughout the blade, and the teeth are set to the left and right in a repeating pattern. Blades have a welded seam and are ready to install on your saw. *Blades for straight cuts* are rigid carbon steel. *Blades for curved cuts* are flexible carbon steel.

Blades for Hardwood—Also known as hook-tooth raker-set blades. They have forward-angled teeth that dig into hardwood such as maple, oak, and walnut.

Blades for Softwood—Also known as skip-tooth raker-set blades. These have extra space between the teeth for chips to collect, resulting in clog-free cuts in softwood such as pine, cedar, and redwood.

Blades for Straight Cuts in Hardwood

Lg.	Teeth per Inch	For Material Thick.		
¼" Wd. x 0.025" Thick.				
93½"	6	1"-2"	4125A741	$14.66
120"	6	1"-2"	4125A172	16.65
123"	6	1"-2"	4125A828	17.17
138"	6	1"-2"	2167A11	17.92
⅜" Wd. x 0.025" Thick.				
144"	6	1"-2"	2167A12	18.34
179"	6	1"-2"	4125A842	21.65
222"	6	1"-2"	4125A203	25.14

Lg.	Teeth per Inch	For Material Thick.		
½" Wd. x 0.025" Thick.				
80"	6	1"-2"	4125A816	$13.90
93"	6	1"-2"	4125A735	14.99
93½"	4	1½"-2"	4125A157	14.99
111"	6	1"-2"	4125A167	16.46
120"	6	1"-2"	4125A173	17.04
133"	6	1"-2"	4125A733	18.60
140"	6	1"-2"	4125A184	19.12
144"	6	1"-2"	4125A187	19.12
150"	3	2"-4"	4125A193	19.65

Lg.	Teeth per Inch	For Material Thick.		
½" Wd. x 0.025" Thick. (Cont.)				
150"	4	1½"-2"	4125A194	$19.65
150"	6	1"-2"	4125A195	19.65
157"	3	2"-4"	4125A106	20.71
234"	4	1½"-2"	4125A204	26.93
¾" Wd. x 0.032" Thick.				
101"	6	1"-2"	4125A754	18.31
133"	6	1"-2"	4125A175	22.45
157"	6	1"-2"	2167A13	24.18
222"	6	1"-2"	4125A847	32.06

Blades for Straight Cuts in Softwood

Lg.	Teeth per Inch	For Material Thick.		
¼" Wd. x 0.025" Thick.				
64½"	6	1"-2"	2166A11	12.15
93½"	4	1½"-2"	4125A353	14.66
105"	4	1½"-2"	4125A823	15.62
141"	6	1"-2"	4125A776	18.63
150"	4	1½"-2"	4125A767	19.14

Lg.	Teeth per Inch	For Material Thick.		
⅜" Wd. x 0.025" Thick.				
64½"	4	1½"-2"	2166A12	12.15
93½"	4	1½"-2"	4125A748	14.66
150"	4	1½"-2"	4125A768	19.14
174"	4	1½"-2"	4125A771	21.15

Lg.	Teeth per Inch	For Material Thick.		
½" Wd. x 0.025" Thick.				
82"	4	1½"-2"	2166A13	14.85
93"	4	1½"-2"	4125A736	14.99
144"	4	1½"-2"	4125A764	19.12
150"	4	1½"-2"	4125A196	19.65
174"	4	1½"-2"	4125A772	21.71

Blades for Curved Cuts in Hardwood

Choose a Length	Choose a Width	Choose a Thickness	
59½", 64½", 80", 89", 93", 93½", 95", 105", 108"	⅛", ¼", ⅜", ½", ¾"	0.018", 0.025", 0.032"	2410A14

Blades for Curved Cuts in Softwood

Choose a Length	Choose a Width	Choose a Thickness	
56⅛", 59½", 80", 84", 93", 93½", 105"	3/16", ¼", ⅜", ½"	0.014", 0.025"	2407A14

Cable Saws for PVC Pipe



Melt through irrigation, plumbing, and electrical grade PVC pipe with heat friction. The cutting cable is flexible stainless steel without teeth. Use these saws in hard-to-reach areas. They cut pipe up to 4" diameter. Handles are plastic.

O'all Lg.	Cable Lg.		
34"	26"	39705A31	$6.47
54"	46"	39705A32	7.48

Portable Band Saw Blades

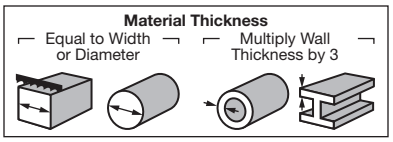


Anti-Vibration Blade


Standard Blade

These bimetal blades have a flexible carbon steel body and high-speed steel teeth. They are ½″ Wd. × 0.02″ Thick and are for use with portable band saws. Use them for straight and curved cuts. All blades have a welded seam and are ready to install on your saw.

Anti-vibration blades, also known as variable set, have teeth that vary in size, number per inch, and pattern to reduce vibration, so they create a smoother cut than standard blades. **Standard blades** have a constant tooth size and number per inch throughout the blade.

Multipurpose Blades—Use on most metals, wood, and plastic. *Anti-vibration blades* are also known as variable-set blades. *Standard blades* are also known as raker-set blades and have teeth that are set to the left and right in a repeating pattern.

Blades for Thin Metal—Cut metal sheets and thin-walled pipe with teeth set from side to side in a wavy pattern. Use them on most metals.

Lg.	Teeth per Inch	For Material Thick.		
Multipurpose				
Anti-Vibration Blades				
27³⁄₁₆″	8-11	⅛″-3″	4051A17	$10.52
28¹³⁄₁₆″	8-11	⅛″-3″	4051A18	10.52
32⅞″	8-11	⅛″-3″	4051A19	10.52
35⅜″	10-14	¼″-½″	4051A34	9.64
44⅞″	8-11	⅛″-3″	4051A21	10.52
44⅞″	10-14	¼″-½″	4051A15	11.25
53¾″	10-14	¼″-½″	4051A24	11.72

Lg.	Teeth per Inch	For Material Thick.		
Multipurpose (Cont.)				
Standard Blades				
27¼″	18	3⁄32″-¼″	4051A37	$8.35
35⅜″	14	3⁄16″-⅜″	4051A45	7.18
35⅜″	18	3⁄32″-¼″	4051A35	7.18
35⅜″	24	1⁄16″-⅛″	4051A36	7.18
44⅞″	10	½″-1″	4051A11	11.25
44⅞″	14	3⁄16″-⅜″	4051A12	11.25
53¾″	10	½″-1″	4051A27	12.11
53¾″	14	3⁄16″-⅜″	4051A22	11.72

Lg.	Teeth per Inch	For Material Thick.		
For Thin Metal				
Anti-Vibration Blades				
44⅞″	14-18	⅛″-¼″	4051A26	$11.25
44⅞″	20-24	Up to ⅛″	4051A33	7.80
53¾″	14-18	⅛″-¼″	4051A28	11.82
53¾″	20-24	Up to ⅛″	4051A31	11.82
Standard Blades				
44⅞″	18	Up to ¼″	4051A13	11.25
44⅞″	24	Up to ⅛″	4051A14	11.25
53¾″	18	Up to ¼″	4051A23	12.19

Band Saw Blade Coil Stock



Cut blades to length and use a band saw welder to join the ends. **Anti-vibration blades**, also known as variable set, have teeth that vary in size, number per inch, and pattern to reduce vibration, so they create a smoother cut than standard blades. **Standard blades** have a constant tooth size and number per inch throughout the blade.

Multipurpose—Use these blades on most metals, wood, and plastic. *Long-life coil stock* can also be used on stainless steel.

For Thin Metal—Teeth are set from side to side in a wavy pattern for cutting metal sheets and thin-walled pipe. Use on most metals. *Long-life coil stock* can also be used on stainless steel.

For Hardwood—Also known as hook-tooth raker-set blades. They have forward-angled teeth that dig into hardwood.

For Softwood—Also known as skip-tooth raker-set blades. These have extra space between the teeth for chips to collect, resulting in clog-free cuts in softwood.

Long-Life Coil Stock—Flexible carbon steel body with high-speed steel teeth that last up to four times longer than carbon steel teeth

Wd.	Thick.	Choose Teeth per Inch	Lg., ft.		
Multipurpose					
Anti-Vibration Blades for Straight and Curved Cuts					
¼″	0.025″	10-14	50	4179A836	$164.58
¼″	0.025″	10-14	100	4179A141	325.44
¼″	0.035″	10-14	50	4179A837	175.00
¼″	0.035″	10-14	100	4179A719	322.77
⅜″	0.025″	8-12, 10-14	100	4179A547	325.44
⅜″	0.025″	10-14	50	4179A838	164.58
½″	0.02″	10-14	100	4179A109	210.42
½″	0.025″	6-10, 8-12, 10-14	100	4179A58	325.44
½″	0.025″	8-12, 10-14	50	4179A111	164.58
½″	0.035″	6-10, 10-14	100	4179A28	322.77
½″	0.035″	10-14	50	4179A845	175.00
⅝″	0.035″	10-14	100	4179A834	329.72
¾″	0.035″	6-10, 8-12, 10-14	100	4179A24	356.25
¾″	0.035″	10-14	50	4179A849	178.12
1″	0.035″	4-6, 6-10, 8-12, 10-14	100	4179A29	452.34

Wd.	Thick.	Choose Teeth per Inch	Lg., ft.		
Multipurpose					
Standard Blades for Straight and Curved Cuts					
½″	0.025″	4, 6, 10, 14	100	4179A87	$325.44
½″	0.025″	10, 14	50	4179A86	164.58
½″	0.035″	6, 10, 14	100	4179A46	322.77
½″	0.035″	10, 14	50	4179A45	175.00
¾″	0.035″	10, 14	100	4179A466	391.67
For Thin Metal					
Anti-Vibration Blades for Straight and Curved Cuts					
½″	0.02″	14-18	50	4179A842	146.88
½″	0.02″	14-18	100	4179A105	293.75
½″	0.025″	14-18	100	4179A138	331.65
Standard Blades for Straight and Curved Cuts					
½″	0.02″	18, 24	100	4179A97	210.42
½″	0.025″	18	50	4179A846	164.58
½″	0.025″	18	100	4179A829	322.45

Coil Stock—Blades for straight cuts are rigid carbon steel; blades for curved cuts are flexible carbon steel

Wd.	Thick.	Choose Teeth per Inch	Lg., ft.		
Multipurpose					
Standard Blades for Straight Cuts					
¼″	0.025″	10, 14, 18, 24	100	4125A911	$87.95
⅜″	0.025″	8, 10, 14, 18	100	4125A912	91.17
½″	0.025″	6, 10, 14, 18, 24	100	4125A913	94.71
¾″	0.032″	6, 8, 10, 14, 18	100	4125A914	124.85
1″	0.035″	10, 14	100	4125A922	158.56
Standard Blades for Curved Cuts					
⅛″	0.025″	14, 18	100	4053A941	144.20
3⁄16″	0.025″	10, 14	100	4053A942	59.02
¼″	0.014″	18	100	4053A206	60.22
¼″	0.025″	10, 14, 18, 24	100	4053A943	60.22
⅜″	0.025″	10, 14, 18, 24	100	4053A944	68.94
½″	0.025″	6, 10, 14, 18, 24	100	4053A945	74.76
¾″	0.032″	6, 8, 10, 14	100	4053A946	98.02
1″	0.035″	6, 10, 14	100	4053A947	125.64
For Thin Metal					
Standard Blades for Straight Cuts					
¼″	0.025″	32	100	4125A711	87.95
½″	0.025″	10, 14, 18, 24	100	4125A915	94.71
Standard Blades for Curved Cuts					
¼″	0.014″	24	100	4053A209	60.22
¼″	0.025″	32	100	4053A853	60.22
½″	0.025″	14	100	4053A56	74.76

Wd.	Thick.	Choose Teeth per Inch	Lg., ft.		
For Thin Metal (Cont.)					
Standard Blades for Curved Cuts (Cont.)					
¾″	0.032″	14	100	4053A72	$98.02
For Hardwood					
Standard Blades for Straight Cuts					
¼″	0.025″	4, 6	100	4125A918	87.95
⅜″	0.025″	4, 6	100	4125A919	91.17
½″	0.025″	4, 6	100	4125A921	94.71
Standard Blades for Curved Cuts					
¼″	0.025″	4, 6	100	4053A949	60.23
⅜″	0.025″	4, 6	100	4053A951	68.94
½″	0.025″	4, 6	100	4053A952	74.76
¾″	0.032″	4, 6	100	4053A953	98.02
For Softwood					
Standard Blades for Straight Cuts					
¼″	0.025″	4, 6	100	4125A917	87.95
⅜″	0.025″	4	100	4125A41	91.17
½″	0.025″	4	100	4125A52	94.71
¾″	0.032″	3	100	4125A66	124.85
Standard Blades for Curved Cuts					
¼″	0.014″	6	100	4053A301	60.22
¼″	0.025″	4, 6	100	4053A948	70.85
⅜″	0.025″	4	100	4053A36	68.94
½″	0.025″	4	100	4053A47	74.76

Vertical Band Saw Blade Guards with Light



Increase safety and visibility. This clear plastic guard attaches to the guide bar on your saw and has a built-in light. It fits Atlas, Craftsman, Delta, Delta Rockwell, Grob, Homecraft, J-Line, Monarch, Powermatic, Vega, Walker Turner, Wells, and Yates American saws. The guard requires three AAA batteries (sold separately).

Guard for Saws with 10″-18″ Dia. Wheels	4720A63	$158.16
AAA Batteries (Pkg. of 4)	71455K62	2.82

Band Saw Wheel Tires



Also known as band saw rubbers, these tires provide a cushion between the blade and wheel to preserve tooth shape by reducing vibration and blade slippage. All are approximately 20% smaller than the compatible wheel diameter listed for a stretched fit. Secure them with adhesive (see 7509A816 on page 3472) and trim the width with a razor blade.

Polyurethane tires last longer than rubber tires. Prices are approximately 10% higher.

Dia.	For Wheel Width	Thick.		
Rubber				
6″	5/8″	1/8″	4561A32	$22.30
8″	3/4″	1/8″	4561A33	22.70
10″	3/4″	1/8″	4561A31	23.11
12″	1 1/16″	5/32″	4561A11	24.49
14″	1 1/16″	5/32″	4561A12	28.57
16″	1 5/16″	5/32″	4561A23	36.75
18″	1 1/2″	3/16″	4561A14	38.11
20″	1 5/8″	3/16″	4561A13	39.48
24″	1 3/4″	3/16″	4561A24	42.20
30″	2″	3/16″	4561A16	54.48
32″	2″	3/16″	4561A25	58.57
34″	2 1/8″	3/16″	4561A34	61.29
36″	2 1/8″	3/16″	4561A18	65.39
Polyurethane				
10″, 12″, 14″, 16″, 18″, or 20″ Dia.			4561A57	

Band Saw Blade Tension and Alignment Gauges



Tension Gauge



Alignment Gauge

Ensure your blades are tensioned and positioned properly.

Tension gauge measures up to 60,000 psi and 4,000 kg per cm². It also works with power hacksaws.

Alignment gauge makes sure blades are straight between your guides.

Tension Gauge	4177A11	$508.46
Alignment Gauge	4177A12	97.45

Easy-Position Band Saw Fences

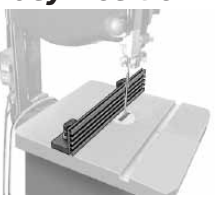

Magnets firmly hold these fences in any position and on any size cast iron table to guide straight cuts with your saw. Engage the magnets with the turn of a knob. Fence is 15″ Lg.×3″ Ht. It's made of aluminum.

5152A43		$101.64

Vertical Band Saw Blade Guides



Single-Wheel Guide



Dual-Wheel Guide



Mounting Stud



Support Blocks



Thrust Wheel



Support Wheel

Guides adjust to fit various blade widths and thicknesses, and they adapt for right- and left-hand mounting near the top or bottom wheel. Mounting holes on the back of each guide fit onto your saw's mounting stud, and set screws lock the guide in place. These guides fit most band saws.

Single-Wheel Guides—A ball bearing wheel and PTFE rub block support your band saw's blade for more accurate straight and contoured cuts during general purpose cutting.

Dual-Wheel Guides—Two permanently sealed and lubricated ball bearing wheels support band saw blades and accurately guide straight and contoured cuts in more rugged duty applications than a single wheel guide.

Dual-Wheel Guides for Delta, Jet, and Rikon Saws—Include two guides and hardware for installation.

For Wheel Dia.	For Blade Wd.	Overall Ht.	Overall Wd.	Overall Dp.	Mounting Stud Dia.		
Single-Wheel Guides							
14″-20″	3/16″-3/4″	2 1/4″	3″	1 7/8″	7/16″	4019A11	$99.60
16″-36″	3/16″-1 1/4″	3″	4″	2 1/2″	3/4″	4019A12	154.80
30″-42″	3/16″-1 3/4″	4″	4 1/4″	3″	3/4″	4019A13	195.60
Replacement Parts for Single-Wheel Guides							
Mounting Stud (7/16″ Dia.×3″ Lg.)						4019A52	14.00
Mounting Stud (3/4″ Dia.×4 1/2″ Lg.)						4019A51	14.00
Support Blocks—Please specify band saw wheel dia. and guide depth						4019A65	
Thrust Wheel—Please specify band saw wheel dia. and guide depth						4019A62	
Dual-Wheel Guides							
14″-30″	3/16″-3/4″	2 3/4″	2 1/4″	1 3/4″	7/16″	4019A21	130.80
30″-42″	1/4″-1 1/2″	4 1/4″	3 3/4″	2″	3/4″	4019A23	248.40
30″-42″	1/4″-1 1/2″	4 1/4″	4″	3 1/4″	3/4″	4019A22	403.20
Replacement Parts for Dual-Wheel Guides							
Mounting Stud (7/16″ Dia.×3″ Lg.)						4019A52	14.00
Mounting Stud (3/4″ Dia.×4 1/2″ Lg.)						4019A51	14.00
Support Wheel—Please specify band saw wheel dia. and guide depth						4019A63	
Thrust Wheel—Please specify band saw wheel dia. and guide depth						4019A64	
Dual-Wheel Guides for Delta, Jet, and Rikon Saws with 14″ Dia. Wheels—Please specify brand						4019A71	214.80

Milwaukee Cordless Band Saws



Model No. 2429-21XC



Model Nos. 2629-22 and 0729-21

Bring your saw anywhere without the hassle of a cord. All have a lithium ion battery and charger. They're UL listed and meet OSHA requirements. Saws accept 1/2″ Wd.×0.02″ Thick. blades. Blades are sold separately, except Model No. 2429-21XC includes a blade for cutting metal, plastic, and wood (18 teeth per inch). All saws come in a plastic case.

Model No. 2429-21XC—Small and light enough to operate with one hand, this saw is a good choice for overhead cuts. Runs on a 12-volt battery. Blade length is 27 1/4″.

Model No. 2629-22—This saw has a larger cutting capacity and is more powerful than Model No. 2429-21XC. It runs on an 18-volt battery. Blade length is 35 3/8″.

Model No. 0729-21—This high-powered portable saw is as powerful as a corded electric tool and makes smooth curved and straight cuts. It runs on a 28-volt battery, and run time is displayed on the battery gauge. Blade length is 44 7/8″.

Blades have high-speed steel teeth for cutting 3/32″-1/4″ thick material (18 teeth per inch), except the blade for Model No. 0729-21 is for cutting 3/16″-3/8″ thick material (14 teeth per inch).

Model No.	Maximum Cutting Dia.	Dp.	Ht.	No-Load Speed, sfpm	Lg.	Wt., lbs.	Band Saws		Blades		Replacement Batteries		Replacement Chargers	
2429-21XC	1 5/8″	1 5/8″	1 5/8″	0-280	12″	6.8	4070A11	$213.75	4051A37	$8.35	4443A35	$79.40	4443A22	$56.92
2629-22	3 1/4″	3 1/4″	3 1/4″	480	18″	10.3	4070A44	425.00	4051A35	7.18	29735A124	127.69	29735A128	64.62
0729-21	4 3/4″	4 3/4″	4 3/4″	0-225, 0-350	22″	21.5	4070A21	472.50	4051A12	11.25	54275A31	170.00	54275A33	66.00

Portable Band Saws

Make smooth curved and straight cuts. Saws operate on 120 volts AC and have a cord with plug. All are UL listed, CSA certified, and meet OSHA standards. Milwaukee saws are also C-UL listed. Saws accept 44⅞" Lg. × ½" Wd. × 0.020" Thick. blades. Milwaukee saws come in a plastic case.

Blades are sold separately, except the DeWalt saw includes a blade. *Blades for Milwaukee saws* are multipurpose style for cutting 3/16"-⅜" thick material (14 teeth per inch). *Blades for the DeWalt saw* cut up to ¼" thick metal (18 teeth per inch).

Optional stand for Milwaukee No. 6225/6226 converts the saw for bench-top use, or you can add legs with ¾ NPT pipe. It has a chain vise to hold material.


Milwaukee


DeWalt

Manufacturer	Model No.	Maximum Cutting Dia.	Dp.	Ht.	No-Load Speed, sfpm	Lg.	Wt., lbs.	Band Saws		Blades	
Milwaukee	6225/6226	3½"	3½"	4½"	200, 250	20"	16	40065A11	$318.75	4051A12	$11.25
Milwaukee	6232-20/6232-21	5"	5"	5"	0-380	21"	14.5	40065A17	323.75	4051A12	11.25
Milwaukee	6238-20/6238-21	5"	5"	5"	300, 380	21"	14.5	40065A18	323.75	4051A12	11.25
DeWalt	DWM120	5"	5"	4¾"	100-350	21"	15	4006A21	334.29	4051A13	11.25

Optional Stand for Milwaukee No. 6225/6226	40065A13	303.35
Milwaukee Replacement Parts—Please specify the Milwaukee number and replacement part needed	40065A888	
DeWalt DWM120 Replacement Parts—Please specify the replacement part needed	4006A29	

Band Saws for Metal

All saws have a single-phase motor and a cord with plug. They come with a multipurpose blade, unless otherwise stated.

(A&B) Bench-Top—Save space with these saws when you only need to make horizontal cuts in small pieces of metal. Use them to cut most metal bars, blocks, pipes, and I-beams. They make straight cuts.

Style A includes a blade for cutting ¼"-1½" thick metal (10-14 teeth per inch). Overall size is 33½" Lg. × 14¼" Wd. × 25¾" Max. Ht. It has a manual feed system, and the blade pivots for miter saw cuts up to 45°. *Optional work table for vertical cutting* turns the saw into a vertical saw for cutting sheets.

Style B includes a blade for cutting ½"-¾" thick metal (8-12 teeth per inch). Overall size is 33½" Lg. × 32¾" Wd. × 23¾" Max. Ht. It has a manual feed system and the blade pivots for miter cuts up to 60°.

(C) Adjustable—Makes both horizontal and vertical cuts. This saw is an economical choice for making straight and curved cuts in large sheets of material. It includes a blade for cutting ¼"-¾" thick metal (14 teeth per inch). It has a 9⅝" × 9½" vertical work table for cutting sheets. Overall size is 36" Lg. × 20" Wd. × 39½" Max. Ht. It has a manual feed system, auto shut-off, and the blade pivots for miter cuts up to 45°.

(D&E) Floor Mount—These saws adjust to cut both horizontally and vertically and they have twice the cutting capacity of the bench-top saws. Use them to make straight and curved cuts. The included blade cuts up to 1½" thick metal (5-7 teeth per inch). Saws have an automatic feed system, auto-shut-off, and the blade pivots for miter cuts up to 45°. *Style D* overall size is 59¼" Lg. × 24¾" Wd. × 47" Max. Ht. Work table is 10" × 16". *Style E* overall size is 66" Lg. × 29" Wd. × 47" Max. Ht. Work table is 11" × 20".


A&B

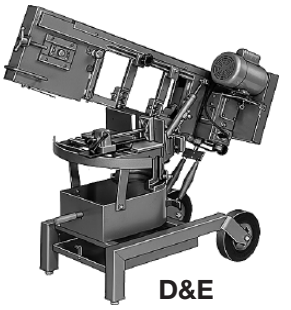
D&E


C

	Maximum Cutting Dia.	Dp.	Ht.	No-Load Speed, sfpm	AC Voltage	Wired for Voltage	Band Saws		Blades Lg.	Wd.	Thick.		
A	4"	3¾"	3¼"	135, 265	120	—	4180A13	$499.00	52½"	½"	0.025"	4179A262	$24.12
B	4½"	4½"	4"	115-262	120	—	4180A11	1,326.15	56¾"	½"	0.025"	4180A21	25.43
C	5"	5"	5¾"	80, 120, 200	120/240	120	4204A31	605.21	64½"	½"	0.025"	4179A252	27.98
D	10"	7"	9"	70, 135, 250	120/240	120	4135A14	3,135.71	120"	1"	0.035"	4135A917	58.18
E	11"	11"	10"	70, 135, 250	120/240	120	4135A15	4,253.73	132"	1"	0.035"	4135A918	63.64

Optional 12¾" × 11¾" Work Table for Vertical Cutting with Style A	4180A14	142.93

Vertical Band Saws



This vertical cutting saw has twice the cutting capacity of an adjustable band saw. Seven speed settings make it versatile enough to make straight and curved cuts in metal, wood, and plastic.

Cutting capacity is 15" deep and 10" high. No-load speeds for metal are 45, 65, 90, 110, 155, and 215 sfpm; no-load speed for wood and plastic is 3,000 sfpm. Motor is single phase and operates on 120/240 volts AC. It has a cord with plug.

Saw includes two 113" Lg. × ½" Wd. × 0.035" Thick. blades: one for cutting 1"-2" thick wood (6 teeth per inch) and one for cutting ¼"-¾" metal (14 teeth per inch).

Saw base and housing are steel. Overall size is 23" Lg. × 20" Wd. × 78" Ht. It has a manual feed system and a 15" × 15" cast iron work table that tilts 10° left and 45° right, a miter gauge, and a material guide fence.

Band Saw	4145A12	$1,923.69
Replacement Blade for Metal	4179A313	41.33

Bench-Top Band Saws for Ceramics and Masonry



The grinding action of the diamond-grit blade creates a smooth finish on hard materials such as glass, stone, tile, brick, and fiberglass. This saw is not for cutting metal. It makes straight and curved cuts.

Maximum cutting depth is 5½" and maximum cutting height is 3½". No-load speed is 3,520 sfpm. Motor is single phase and operates on 120 volts AC. It has a cord with a plug.

Saw includes a 37" Lg. × 9/64" Wd. × 0.020" Thick. diamond-grit blade. Housing is plastic and overall size is 13" Lg. × 14" Wd. × 17" Ht. The saw has a manual feed system. Work table is 12" × 12". A recirculating tap water coolant system extends blade life.

Band Saw	39725A11	$415.38
Replacement Blade	39725A15	75.91
Replacement Blade Guides (Pkg. of 4)	39725A14	7.00

Reciprocating Saw Accessories

Turn your reciprocating saw into a multipurpose tool. Accessories have a ½" universal shank to fit most saws.

Flush-cut adapter offsets your blade 2" to make flush cuts in hard-to-reach areas. Overall length is 6".

Wood rasp quickly removes and shapes wood. Overall length is 9½".


Flush-Cut Adapter


Wood Rasp

Flush-Cut Adapter	4009A11	$36.13
Wood Rasp	4009A19	25.67

Reciprocating Saw Blades

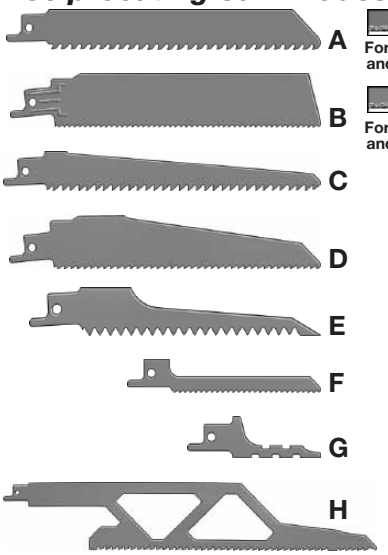


For Ceramics and Masonry


For Ceramics and Masonry

These blades have a ½″ universal shank that fits most reciprocating saws. Also known as bimetal blades, they have a flexible carbon steel body with high-speed steel teeth, unless noted. Choose blades with more teeth per inch for a smooth finish; choose blades with fewer teeth per inch for fast, rough cutting. Also known as variable set, blades with a range of teeth per inch vary in size and pattern to reduce vibration and produce smooth cuts.

Style A & B blades are for making straight cuts. They're stiffer than other blades, except blades for ceramics and masonry are flexible. *Style B* blades, also known as demolition blades, are wide to cut through multiple layers.

Style C, D, & E blades have a pointed tip that plunges into material. *Style D* blades, also known as demolition blades, are wide for cutting through multiple layers. *Style E* blades have V-shaped teeth to cut on forward and backward strokes for fast cuts.

Style F blades are narrow to cut tight curves. They're also known as scroll-cutting blades.

Style G blade cuts in two directions with teeth on both sides of the blade.

Style H blade cuts close to floors and walls. The truss design keeps the blade rigid for straight cuts.

Long Life Multipurpose—Teeth are coated with titanium nitride (TiN) for wear resistance and longer life than uncoated teeth.

Extra-Long Life Multipurpose—The teeth on these blades are carbide-tipped so they last longer than long-life blades with coated teeth.

Long Life for Metal—Teeth are coated with wear-resistant titanium nitride (TiN) so they last longer than blades with uncoated teeth.

Fast Cut for Metal—The teeth on these blades are set in a pattern specially designed to cut faster than other blades for metal.

For Ceramics and Masonry—Carbide grit is bonded to the edge of these steel blades for cutting through abrasive materials such as fiberglass, masonry, and tile.

Long Life for Ceramics and Masonry—The diamond grit bonded to the edge of these steel blades lasts up to 30 times longer and cuts through abrasive materials twice as fast as blades with carbide grit.

	Lg.	Wd.	Thick.	Teeth per Inch	For Use On	Pkg. Qty.		Pkg.
Multipurpose								
A	4″	¾″	0.035″	10	Metal, Plastic, Wood	5	4059A27	$8.63
A	4″	¾″	0.042″	10	Metal, Plastic, Wood	5	4059A37	8.64
A	6″	¾″	0.035″	10	Metal, Plastic, Wood	5	4059A59	11.82
A	6″	¾″	0.05″	8-12	Metal, Plastic, Wood	5	4059A51	11.82
A	6″	¾″	0.05″	8-12	Metal, Plastic, Wood	50	4059A121	97.27
A	8″	⅝″	0.035″	10-14	Metal, Plastic, Wood	5	4059A88	14.55
A	8″	¾″	0.035″	10	Metal, Plastic, Wood	5	4059A81	13.80
A	8″	¾″	0.035″	10-14	Metal, Plastic, Wood	5	4059A96	14.18
A	8″	¾″	0.05″	8-12	Metal, Plastic, Wood	2	4059A791	6.65
A	8″	¾″	0.05″	8-12	Metal, Plastic, Wood	50	4059A129	125.45
A	12″	⅝″	0.035″	10-14	Metal, Plastic, Wood	2	4059A49	9.16
A	12″	¾″	0.05″	8-12	Metal, Plastic, Wood	50	4059A125	184.45
B	6″	1″	0.042″	18	Metal, Plastic, Wood	2	4059A146	7.11
B	6″	1″	0.042″	18	Metal, Plastic, Wood	25	4059A148	71.45
B	9″	1″	0.042″	18	Metal, Plastic, Wood	2	4059A147	9.44
B	12″	1″	0.042″	10	Metal, Plastic, Wood	5	4059A793	27.58
B	12″	1″	0.042″	18	Metal, Plastic, Wood	2	4059A3	10.87
C	6″	¾″	0.05″	6	Metal, Plastic, Wood	2	4059A89	7.78
C	6″	¾″	0.05″	10-14	Metal, Plastic, Wood	5	4059A92	11.62
C	9″	¾″	0.05″	6	Metal, Plastic, Wood	2	4059A97	10.29
C	12″	¾″	0.05″	6	Metal, Plastic, Wood	2	4059A98	13.80
C	12″	¾″	0.05″	6-10	Metal, Plastic, Wood	5	4059A48	26.50
D	6″	1″	0.062″	8	Metal, Plastic, Wood	2	4059A151	6.98
D	9″	1″	0.062″	8	Metal, Plastic, Wood	2	4059A152	9.25
D	12″	1″	0.062″	8	Metal, Plastic, Wood	2	4059A153	10.67
E	5″	¾″	0.05″	6	Drywall	5	4059A41	10.36
F	3⅝″	5/16″	0.035″	10	Metal, Plastic, Wood	5	4059A18	12.00
G	2½″	¾″	0.062″	3	Drywall	1	4059A255	5.45
Long Life Multipurpose								
A	6″	¾″	0.035″	10	Metal, Plastic, Wood	5	4128A24	20.80
C	6″	¾″	0.05″	6	Wood, Wood with Nails	5	4128A21	24.60
C	9″	¾″	0.05″	6	Wood, Wood with Nails	5	4128A22	32.50
C	12″	¾″	0.05″	6	Wood, Wood with Nails	5	4128A23	39.70
Extra-Long Life Multipurpose								
A	3½″	¾″	0.05″	3	Drywall, Fiberglass, Plastic, Wood	1	4106A11	7.33
A	3½″	¾″	0.05″	6	Drywall, Fiberglass, Plastic, Wood	1	4106A15	8.33
A	6″	¾″	0.05″	3	Drywall, Fiberglass, Plastic, Wood	1	4106A12	9.22
A	6″	¾″	0.05″	6	Drywall, Fiberglass, Plastic, Wood	1	4106A16	11.33
A	9″	¾″	0.05″	3	Drywall, Fiberglass, Plastic, Wood	1	4106A13	10.44
A	9″	¾″	0.05″	6	Drywall, Fiberglass, Plastic, Wood	1	4106A17	13.82
A	12″	¾″	0.05″	3	Drywall, Fiberglass, Plastic, Wood	1	4106A14	12.56
A	12″	¾″	0.05″	6	Drywall, Fiberglass, Plastic, Wood	1	4106A18	17.80
For Metal								
A	4″	¾″	0.035″	14	3/16″-1/4″ Thick Metal	5	4059A56	8.64
A	4″	¾″	0.035″	18	1/8″-3/16″ Thick Metal	5	4059A57	8.64
A	4″	¾″	0.035″	24	Up to 1/8″ Thick Metal	5	4059A58	8.64
A	6″	¾″	0.035″	14	3/16″-1/4″ Thick Metal	5	4059A61	11.82
A	6″	¾″	0.035″	14	3/16″-1/4″ Thick Metal	50	4059A126	97.27
A	6″	¾″	0.035″	18	1/8″-3/16″ Thick Metal	5	4059A62	11.82
A	6″	¾″	0.035″	18	1/8″-3/16″ Thick Metal	50	4059A127	97.27
A	6″	¾″	0.035″	24	Up to 1/8″ Thick Metal	5	4059A63	11.82
A	6″	¾″	0.035″	24	Up to 1/8″ Thick Metal	50	4059A128	97.27
A	6″	1″	0.042″	14	1/4″-1/2″ Thick Metal	5	4059A181	16.02
A	6″	1″	0.042″	18	1/8″-1/4″ Thick Metal	5	4059A812	16.02

(Continued on following page)

Reciprocating Saw Blades *(Continued from previous page)*

	Lg.	Wd.	Thick.	Teeth per Inch	For Use On	Pkg. Qty.		Pkg.
For Metal (Cont.)								
A	6″	1″	0.042″	24	Up to 1/8″ Thick Metal	5	4059A813	$16.02
A	8″	3/4″	0.035″	14	1/4″-1/2″ Thick Metal	5	4059A82	13.80
A	8″	3/4″	0.035″	18	1/8″-1/4″ Thick Metal	5	4059A83	13.80
A	9″	3/4″	0.035″	14	3/16″-1/4″ Thick Metal	5	4059A64	14.55
A	9″	3/4″	0.035″	18	1/8″-3/16″ Thick Metal	5	4059A23	14.55
A	9″	3/4″	0.035″	18	1/8″-3/16″ Thick Metal	50	4059A132	120.45
A	9″	1″	0.05″	10	3/8″ and Thicker Metal	5	4059A814	19.96
A	9″	1″	0.05″	14	1/4″-1/2″ Thick Metal	5	4059A182	19.96
A	9″	1″	0.05″	18	1/8″-1/4″ Thick Metal	5	4059A815	19.96
A	12″	3/4″	0.035″	18	1/8″-3/16″ Thick Metal	2	4059A65	7.91
A	12″	1″	0.05″	10	3/8″ and Thicker Metal	5	4059A816	24.36
A	12″	1″	0.05″	14	1/4″-1/2″ Thick Metal	5	4059A817	24.36
A	12″	1″	0.05″	18	1/8″-1/4″ Thick Metal	5	4059A183	24.36
B	6″	1″	0.042″	10	3/16″- 1/4″ Thick Metal	2	4059A144	7.11
B	6″	1″	0.042″	10	3/16″- 1/4″ Thick Metal	25	4059A138	71.45
B	6″	1″	0.042″	10	3/8″ and Thicker Metal	5	4059A811	16.02
B	6″	1″	0.042″	14	3/16″- 1/4″ Thick Metal	2	4059A1	7.11
B	6″	1″	0.042″	14	3/16″- 1/4″ Thick Metal	25	4059A139	71.45
B	9″	1″	0.042″	10	3/16″- 1/4″ Thick Metal	2	4059A145	9.44
B	9″	1″	0.042″	14	3/16″- 7/16″ Thick Metal	2	4059A2	9.44
E	3 1/4″	3/4″	0.05″	30	Up to 0.024″ Thick Metal	5	4059A254	18.18
F	3 5/8″	5/16″	0.035″	14	1/8″-3/16″ Thick Metal	5	4059A14	12.00
F	3 5/8″	5/16″	0.035″	18	Up to 1/8″ Thick Metal	5	4059A15	12.00
Long Life for Metal								
A	6″	3/4″	0.035″	14	1/8″-1/4″ Thick Metal	5	4128A25	20.80
A	6″	3/4″	0.035″	18	3/32″-5/16″ Thick Metal	5	4128A26	20.80
A	6″	3/4″	0.035″	24	Up to 1/8″ Thick Metal	5	4128A27	20.80
Fast Cut for Metal								
A	4″	3/4″	0.035″	14	3/32″-1/2″ Thick Metal	5	4171A23	12.70
A	4″	3/4″	0.035″	18	3/32″-5/16″ Thick Metal	5	4171A24	12.70
A	6″	3/4″	0.035″	14	1/8″-1/2″ Thick Metal	5	4171A25	16.50
A	6″	3/4″	0.035″	18	3/32″-5/16″ Thick Metal	5	4171A26	16.50
A	6″	3/4″	0.035″	24	Up to 1/8″ Thick Metal	5	4171A27	16.50
A	6″	1″	0.035″	14	3/32″-3/8″ Thick Metal	2	4171A32	10.24
A	6″	1″	0.035″	18	1/16″-1/4″ Thick Metal	2	4171A33	10.24
A	8″	3/4″	0.035″	14	1/8″-1/2″ Thick Metal	5	4171A28	18.30
A	8″	3/4″	0.035″	18	3/32″-5/16″ Thick Metal	5	4171A29	20.80
A	8″	3/4″	0.035″	24	Up to 1/8″ Thick Metal	5	4171A31	19.90
A	9″	1″	0.035″	14	3/32″-3/8″ Thick Metal	2	4171A34	12.80
A	9″	1″	0.035″	18	1/16″-1/4″ Thick Metal	2	4171A35	12.80
A	12″	1″	0.042″	14	3/32″-3/8″ Thick Metal	2	4171A36	15.36
A	12″	1″	0.042″	18	1/16″-1/4″ Thick Metal	2	4171A37	15.36
For Ceramics and Masonry								
A	4″	3/4″	0.035″	Grit	Fiberglass, Masonry, Tile	1	4027A14	9.40
A	6″	3/4″	0.032″	Grit	Fiberglass, Masonry, Tile	1	4027A16	7.02
A	8″	3/4″	0.042″	Grit	Fiberglass, Masonry, Tile	1	4027A21	8.52
Long Life for Ceramics and Masonry								
B	6″	1″	0.042″	Grit	Fiberglass, Masonry, Tile	1	4059A251	13.91
B	9″	1″	0.042″	Grit	Fiberglass, Masonry, Tile	1	4059A252	17.40
For Wood								
A	4″	3/4″	0.042″	6	Wood, Wood with Nails	5	4059A45	11.36
C	6″	1/2″	0.05″	4-6	Wood, Wood with Nails	2	4059A66	6.65
C	6″	3/4″	0.05″	3	Wood	5	4059A223	15.68
C	6″	3/4″	0.05″	6	Wood, Wood with Nails	2	4059A91	6.16
C	6″	3/4″	0.05″	6	Wood, Wood with Nails	50	4059A122	111.27
C	9″	3/4″	0.05″	6	Wood, Wood with Nails	2	4059A93	8.09
C	9″	3/4″	0.05″	6	Wood, Wood with Nails	50	4059A123	147.64
C	9″	1″	0.059″	5	Wood	5	4059A84 ■	17.74
C	12″	3/4″	0.05″	6	Wood, Wood with Nails	2	4059A94	9.16
C	12″	3/4″	0.05″	6	Wood, Wood with Nails	50	4059A124	165.27
D	6″	1″	0.062″	5	Wood, Wood with Nails	2	4059A4	6.93
D	9″	1″	0.062″	5	Wood, Wood with Nails	2	4059A5	9.18
D	12″	1″	0.062″	5	Wood, Wood with Nails	2	4059A6	10.56
E	7 3/8″	1/2″	0.062″	5	Wood	5	4059A253	21.35
H	12″	2 1/8″	0.062″	5	Wood	1	4059A256	21.82

■ Teeth are carbon steel.

Reciprocating Saw Blade Assortments

All include a selection of blades for a variety of applications. Also known as bimetal blades, these have a flexible carbon steel body with high-speed steel teeth. All blades have a 1/2″ universal shank that fits most reciprocating saws.

10-Piece Assortment—Includes four 4″ long blades (6, 10, 18, and 24 teeth per inch) and five 6″ long blades (5-8, 10, 14, 18, and 24 teeth per inch) for metal, plastic, and wood with nails. Also includes one 6″ long blade (7 teeth per inch) for wood.

4034A22 ..... $20.21

27-Piece Assortment—Includes ten 6″ long blades (five each of 5-8 and 6 teeth per inch) for wood with nails; five 6″ long blades (10-14 teeth per inch) for metal, plastic, and wood up to 1/4″ thick; and twelve 6″ long blades (four of 6 teeth per inch and eight of 10 teeth per inch) for metal, plastic, and wood with nails. Comes in a plastic case.

4034A35 ..... $86.70

30-Piece Assortment—Includes ten 6″ long blades (five each of 14 and 18 teeth per inch) for metal up to 1/8″ thick; five 6″ long blades (10 teeth per inch) for metal, plastic, and wood up to 1/4″ thick; and fifteen 6″ long blades (five of 5-8 teeth per inch and ten of 6 teeth per inch) for wood with nails. Comes in a plastic case.

4034A25 ..... $74.72



30-Piece Assortment

Reciprocating Saws & Scroll Saw Blades

Milwaukee Reciprocating Saws



Electric



Cordless Model No. 2420-21



Cordless Model No. 2625-21

These heavy duty saws accept ½″ shank reciprocating saw blades (not included, unless otherwise stated) and have a keyless blade-change system, so you don't need tools to change blades. Saws are UL listed, C-UL listed, and meet OSHA standards. They come in a plastic case.

Electric saws include a cord with plug. *Model Nos. 6536-21* and *6523-21* have a clutch to protect their gears if the blade gets pinched while cutting tough materials. *Model No. 6523-21* also has a detachable Quik-Lok power cord and 360° rotating handle to increase comfort and control.

Cordless saws include a battery, charger, and battery gauge. *Model No. 2420-21* includes two 4″ blades: one with 18 teeth per inch for thin metal and one with six teeth per inch for wood. *Model Nos. 2621-21* and *2720-21* include one 6″ long, 10 teeth per inch multi-purpose blade. *Model No. 2720-21* also has a brushless motor that maintains consistent speed and power for faster cutting.

Saws

Model No.	Features	Stroke Lg.	No-Load Speed, strokes/min.	Lg.	Voltage	Wt., lbs.		
Electric								
6519-31	_____	1⅛″	0-3,000	19″	120V AC	7.1	4011A67	$135.00
6536-21	Adjustable Cutting Depth	1¼″	0-3,000	18¾″	120V AC	9.8	4011A83	198.75
6523-21	Adjustable Cutting Depth, Precise Speed Control	1¼″	0-3,000	19″	120V AC	10	4011A81	217.50
Cordless								
2420-21	Compact, LED Light	½″	0-3,000	11″	12V DC	2.6	4596A12	140.63
2625-21	LED Light	¾″	0-3,000	15¼″	18V DC	5.6	4596A21	219.00
2621-21	_____	1⅛″	0-3,000	18″	18V DC	7.4	24795A13	336.67
2720-21	Fast Cutting, LED Light	1⅛″	0-3,000	18½″	18V DC	8.9	24795A21	317.50

Replacement Parts

Part (Model No.)	For Model No.		
Quik-Lok Blade Change Kit (14-46-1060)	6519-31, 6536-21, 6523-21	4011A85	$13.95
Quik-Lok Blade Change Kit (14-46-1011)	2420-21, 2625-21	4011A57	15.10
Quik-Lok Blade Change Kit (42-68-1200)	2720-21	24795A12	10.65
Quik-Lok Blade Change Kit (42-68-0102)	2621-21	24795A16	13.20
Replacement Blades for Metal (Pkg. of 5)	2420-21	4059A53	8.64
Replacement Blades for Wood (Pkg. of 5)	2420-21	4059A45	11.36
Replacement Blades (Pkg. of 5)	2621-21, 2720-21	4059A59	$11.82
Quik-Lok Power Cord (48-76-5010)	6523-21	2744A78	21.17
12-Volt Battery	2420-21	4443A33	49.23
18-Volt Battery	2621-21, 2625-21	29735A124	127.69
18-Volt Battery	2720-21	29735A211	152.31
Charger for 12-Volt Battery (48-59-2401)	2420-21	4443A22	56.92
Charger for 18-Volt Battery (48-59-1812)	2621-21, 2625-21, 2720-21	29735A128	64.62

DeWalt Reciprocating Saws



Electric Model No. DWE357



Electric Model Nos. DWE304 and DW311K



Cordless

Saws accept ½″ shank reciprocating saw blades (not included) and have a keyless blade-change system, so you don't need tools to change blades. They are UL listed, CSA certified, and meet OSHA standards. They come in a plastic case, unless noted.

Electric saws include a cord and plug.

Cordless saw includes a battery and one-hour charger.

Saws

Model No.	Features	Stroke Lg.	No-Load Speed, strokes/min.	Lg.	Voltage	Wt., lbs.		
Electric								
DWE357	Compact	1⅛″	0-3,000	14½″	120V AC	6.8	40205A33★	$126.44
DWE304	_____	1⅛″	0-2,800	17½″	120V AC	7	40205A23★	102.31
DW311K	Adjustable Cutting Depth, Precise Speed Control	1⅛″	0-2,700	18″	120V AC	9	40205A14	182.31
Cordless								
DC385K	_____	1⅛″	0-3,000	16″	18V DC	8.2	2971A31	249.36

★ Does not come in a case.

Replacement Parts for Cordless Saw

Part (Model No.)	Fits Saw Model No.		
18-Volt Battery (DC9096)	DC385K	29835A13	$97.20
1-Hour Charger (DC9310)	DC385K	29835A631	$81.82

Scroll Saw Blades



Use with scroll saws, coping saws, fret saws, and jewelry saws. Blades are steel and 5″ long. Choose more teeth per inch for a smooth cut; choose fewer teeth per inch for fast, rough cutting.

Fast-cut blades have teeth that are designed to cut more quickly than the teeth on general purpose scroll saw blades.

Wd.	Thick.	Teeth Per Inch	For Use On	For Material Thick. Min.	For Material Thick. Max.		Pkg. of 12
General Purpose							
0.1″	0.022″	20	Wood	3/32″	¼″	41865A11	$6.13
0.25″	0.028″	7	Plastic, Wood	¼″	¾″	41865A13	6.13
0.25″	0.028″	20	Wood	3/32″	¼″	41865A12	6.13
Fast Cut							
0.029″	0.012″	20	Plastic, Wood	3/32″	½″	6917A23	5.90
0.038″	0.016″	12½	Metal, Plastic, Wood	3/32″	½″	41865A15	5.89
0.1″	0.022″	9	Wood	3/32″	¼″	41865A16	6.35

Air-Powered Reciprocating Saws

Use these saws with one hand and in confined spaces to cut straight lines and tight curves. They have a rear exhaust and a locking throttle lever that prevents accidental startup.

Style A—Choose this economy saw for intermittent use. It accepts 1/2″ universal shank saw blades. Three 3 1/8″ long (18, 24, and 32 teeth per inch) long-life multipurpose blades are included.

Style B—Dual pistons make this saw powerful and reduce vibration. It includes two 3 3/4″ long (32 teeth per inch) long-life multipurpose blades and an air hose.

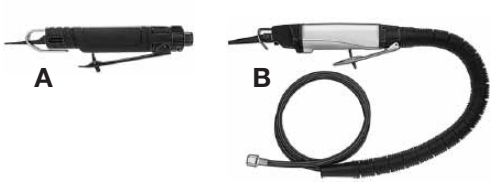

Saws

	Stroke Lg.	No-Load Speed, strokes/min.	Recommended Air Pressure, psi	Air Inlet	For Hose ID	Lg.	Wt., lbs.		
A	9/32″	9,500	90	1/4 NPT Female	3/8″	8″	1.1	4074A52	$242.64
B	7/16″	7,000	85	1/4 NPT Female	3/8″	8 1/4″	1.4	4073A33	378.82
Replacement Blades for Style A (Pkg. of 3)								4074A53	37.04
Replacement Blades for Style B (Pkg. of 5)								4073A32	13.86

Optional Long-Life Multipurpose Blades for Style B—Carbon Steel Body with High-Speed Steel Teeth

Lg.	Wd.	Thick.	Teeth Per Inch		Pkg. of 5	Lg.	Wd.	Thick.	Teeth Per Inch		Pkg. of 5
3 3/4″	1/2″	0.045″	14	4073A28	$13.86	3 3/4″	1/2″	0.045″	24	4073A31	$13.86
3 3/4″	1/2″	0.045″	18	4073A29	13.86						

Air-Powered Hacksaws

Use these saws to cut pipe, angle iron, and other structural shapes.

Style A is half the weight of other air-powered hacksaws, so it reduces fatigue during prolonged use. It can also be used under water, in oil, and in slurries. It has a front exhaust and a speed control valve. Meets OSHA standards. It includes ten 12″ long (18 teeth per inch) multipurpose blades, lubricating oil, and a metal case.

Style B has a rear exhaust. An off switch prevents accidental startup. It includes two 12″ long (16 teeth per inch) multipurpose blades.



Saws

	Stroke Lg.	No-Load Speed, strokes/min.	Recommended Air Pressure, psi	Air Inlet	For Hose ID	O'all Lg.	Wt., lbs.		
A	1 3/4″	0-1,200	90-110	1/4 NPT Female	3/8″	16″	6	4207A1	$1,297.74
B	2 3/8″	0-330	87	3/4 NPT Male	3/4″	18 3/4″	15.9	3990A31	2,345.41
Replacement Blades for Style A (Pkg. of 5)								2476A24	10.33
Replacement Blade for Style B								3990A41	9.85

Accessories for Style B

Chain clamps attach the saw to pipe for demolition work.

Extension chains are for use with the chain clamp for 6″-12 3/4″ dia. pipe.

Saw blade guide keeps the blade centered on the cutting area. It works with blades up to 20 3/4″ long.

Saw support holds the tool while you cut sheet metal. It's not for use with the chain clamps or saw blade guide.

Chain Clamp for 0″-6″ Dia. Pipe	3990A12	$385.53
Chain Clamp for 6″-12 3/4″ Dia. Pipe	3990A13	450.56
Extension Chain for up to 17 5/16″ Dia. Pipe	3990A15	78.51
Extension Chain for up to 24″ Dia. Pipe	3990A16	$196.29
Saw Blade Guide for up to 12 3/4″ Dia. Pipe	3990A19	398.65
Saw Support	3990A17	294.76

Optional Multipurpose Blades for Style B—High-Speed Steel

Lg.	Wd.	Thick.	Teeth Per Inch			Lg.	Wd.	Thick.	Teeth Per Inch		
12″	1″	0.062″	12	3990A47	$11.08	20 7/8″	1″	0.083″	12	3990A43	$22.12
15 3/4″	1″	0.062″	16	3990A42	14.67	23 5/8″	1″	0.078″	14	3990A44	33.01
19 3/4″	1″	0.078″	14	3990A46	23.57	30″	1″	0.083″	12	3990A45	40.05

RotoZip Spiral Saws, Bits, and Attachments

Make plunge cuts with the rotating cutting bit, or attach a cutoff wheel for straight cuts. Operates on 120 volts AC and has a cord with plug. Saw is 15 1/8″ long and weighs 3.7 pounds. It includes a bit for wood, a bit for precise cuts in drywall, two collets (1/8″ and 1/4″), and a dust collection system.

Right-angle cutoff attachment converts this saw from a spiral saw to a cutoff saw.



Saw		
SS560VSC-31	3979A15	$117.14
Steel Bits		
1/8″ Bit for Wood (Pkg. of 4)	3979A33	7.18
1/8″ Bit for Drywall (Pkg. of 8)	3979A39	8.27
1/8″ Bit with Guide Point for Drywall (Pkg. of 8)	3979A34	8.90
1/8″ Bit for Tile	3979A37	8.04
1/4″ Bit for Drywall	3979A41	6.76
1/4″ Bit for Plaster, Cement Board, and Stucco	3979A81	13.86
1/4″ Carbide-Tipped Bit for Plaster, Cement Board, and Stucco	3979A38	14.40
Cutoff Wheels		
Cutoff Wheels for Ceramics and Tile—Diamond grit	3979A66	$14.15
Cutoff Wheels for Concrete, Masonry, and Stone—Silicon carbide grit	3979A88	1.67
Cutoff Wheels for Aluminum, Brass, Iron, Steel, and Stainless Steel—Aluminum oxide grit	3979A87	1.67
Attachments		
Circle-Cutting Attachment (cuts 4″-12″ dia. circles)	3979A22	18.13
Right-Angle Cutoff Attachment	3979A92	46.14
Replacement Collet Set—Includes 1/8″, 5/32″, and 1/4″ collets	3979A57	$11.11

Jigsaw Blades

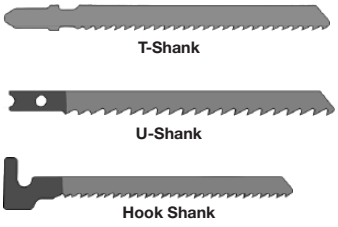

Blades are high-speed steel, unless otherwise stated.

For blades with teeth, choose more teeth per inch for a smooth cut; choose fewer teeth per inch for fast, rough cutting. Blades with a range of teeth per inch are also known as progressive-tooth blades. They have small, fine teeth near the shank that progress to larger teeth near the tip, resulting in fast cuts.

For blades with a grit edge, choose finer grit for less material loss and a smooth cut; choose coarser grit for fast cutting. Blades with diamond grit last longer than blades with carbide grit when cutting through abrasive materials such as cement, brick, stone, and tile.

Long-life blades have a carbon steel body with high-speed steel teeth that last up to four times longer than carbon steel teeth. They're also known as bimetal blades.

Extra-long life blades have teeth that are carbide tipped to last longer than bimetal blades.

Lg.	Wd.	Thick.	Teeth per Inch	For Use On	Pkg. Qty.		Pkg.
T-Shank							
Multipurpose							
4″	9/32″	0.06″	10	Plastic, Wood	5	4131A26★	$9.24
4″	9/32″	0.06″	5-6	Plastic, Wood	5	4131A65★	9.24
Long Life Multipurpose							
3″	3/16″	0.04″	10	Metal, Plastic, Wood, Wood with Nails	5	4131A27	13.27
4″	5/16″	0.04″	8	Metal, Plastic, Wood, Wood with Nails	5	4131A29	12.10
4″	5/16″	0.04″	8	Metal, Plastic, Fiberglass	5	4131A41	12.62
5 1/4″	3/8″	0.05″	5-10	Metal, Plastic, Wood, Wood with Nails	5	4017A33	15.12
Extra-Long Life Multipurpose							
4″	5/16″	0.05″	6	Plastic, Wood, Fiberglass	2	4106A31	16.11
5″	5/16″	0.05″	6	Plastic, Wood, Fiberglass	2	4106A32	16.63
For Metal							
4″	5/16″	0.04″	8	3/16″-1/4″ Thick Metal	5	4131A44	9.71
4″	11/32″	0.04″	10-24	5/64″-3/8″ Thick Metal	5	4017A32	11.48
5 1/4″	5/16″	0.05″	14	5/64″-5/16″ Thick Metal	5	4131A46	15.02
5 1/4″	3/8″	0.04″	24	1/16″-1/8″ Thick Metal	5	4131A66	15.58
Long Life for Metal							
3″	5/16″	0.03″	14	1/4″-1″ Thick Metal	2	4101A82■	3.98
3″	5/16″	0.03″	18	1/4″-1″ Thick Metal	2	4101A83■	3.98
3″	5/16″	0.03″	24	1/16″-1/4″ Thick Metal	2	4101A84■	3.98
3″	5/16″	0.03″	32	Up to 1/16″ Thick Metal	2	4101A85■	3.98
3 5/8″	5/16″	0.04″	12	1/8″-1/4″ Thick Metal	3	4131A77	8.50
3 5/8″	5/16″	0.04″	21	1/16″-1/8″ Thick Metal	3	4131A78	8.50
3 5/8″	5/16″	0.04″	30	1/64″-3/64″ Thick Metal	3	4131A76	8.50
3 5/8″	5/16″	0.04″	11-18	5/64″-7/32″ Thick Metal	5	4131A37	11.50
3 5/8″	5/16″	0.04″	17-24	1/16″-1/8″ Thick Metal	5	4131A71	11.52
3 5/8″	5/16″	0.05″	11-14	1/8″-1/4″ Thick Metal	5	4131A38	11.50
For Ceramics and Masonry—Grit Edge							
3″	5/16″	0.03″	Medium Carbide Grit	Ceramics, Fiberglass, Masonry, Tile	1	4027A17▲	3.10
3″	5/16″	0.03″	Coarse Carbide Grit	Ceramics, Fiberglass, Masonry, Tile	1	4027A18▲	3.10
3 1/4″	13/32″	0.04″	Coarse Diamond Grit	Ceramics, Fiberglass, Masonry, Tile	1	4131A75★	11.10
3 3/8″	5/16″	0.04″	Medium Diamond Grit	Ceramics, Fiberglass, Masonry, Tile	1	4045A72★	26.81
For Wood							
3″	1/4″	0.05″	12	Wood	2	4131A93★	5.69
3 1/4″	5/32″	0.05″	20	Wood	5	4131A25★	7.62
3 1/2″	5/16″	0.03″	6	Wood	2	4131A95★■	3.06
3 1/2″	5/16″	0.05″	10	Wood	2	4131A96★■	3.32
4″	9/32″	0.06″	10	Wood	5	4131A64★	10.35
4 1/2″	3/8″	0.06″	8-12	Wood	5	4017A31★	10.56
10″	5/8″	0.07″	6	Wood	3	4131A81★	17.03
Long Life for Wood							
3″	3/16″	0.03″	12	Wood	5	4131A62	13.68
4″	9/32″	0.03″	10	Wood	5	4131A63	14.34
4″	5/16″	0.05″	6	Wood	5	4101A16■	14.10
4″	5/16″	0.05″	10	Wood	5	4101A61■	11.93
4″	5/16″	0.05″	5-6	Wood, Wood with Nails	5	4131A28	14.22
4 1/2″	5/16″	0.04″	12	Wood	5	4131A82	16.35
For Plastic							
3 5/8″	3/8″	0.05″	12	Plastic	3	4131A86★	28.57
4″	9/32″	0.05″	14	Plastic	5	4131A45	14.92
4″	5/16″	0.05″	6	Plastic	3	4131A84★	7.73
4″	5/16″	0.05″	10	Plastic	3	4131A83★	7.72
Long Life for Plastic							
3 5/8″	5/16″	0.05″	13	Plastic	3	4131A85	7.72
For Soft Materials							
4″	9/32″	0.05″	Knife Edge	Cardboard, Leather, Rubber	3	4131A17★	12.56
U-Shank							
Multipurpose							
2 3/4″	11/64″	0.05″	20	Plastic, Wood	5	4101A37★	9.44
4″	9/32″	0.03″	10	Plastic, Wood	5	4101A14★	11.54
Long Life Multipurpose							
4″	5/16″	0.05″	10	Plastic, Wood	5	4101A63	13.13
5″	3/8″	0.05″	5-10	Metal, Plastic, Wood, Wood with Nails	5	4017A28	14.89
Extra-Long Life Multipurpose							
3 1/2″	5/16″	0.05″	6	Plastic, Wood, Fiberglass	2	4106A21	16.11
For Metal							
2 3/4″	9/32″	0.03″	14	1/4″ and Thicker Metal	5	4101A18	7.09
2 3/4″	9/32″	0.03″	18	1/8″ and Thicker Metal	5	4101A19	7.09
2 3/4″	9/32″	0.03″	24	Up to 1/8″ Thick Metal	5	4101A21	7.09
3 5/8″	5/16″	0.04″	10-24	5/64″-3/8″ Thick Metal	5	4017A27	12.24

★Blade is carbon steel. ■ Blade is T- and U-shank style. ▲Blade is steel.

(Continued on following page)

Jigsaw Blades (Continued from previous page)

Lg.	Wd.	Thick.	Teeth Per Inch	For Use On	Pkg. Qty.		Pkg.
U-Shank (Cont.)							
Long Life for Metal							
3 5/8"	9/32"	0.03"	14	1/4" and Thicker Metal	5	4101A26	$10.67
For Ceramics and Masonry—Grit Edge							
2 3/4"	1/4"	0.04"	Medium Diamond Grit	Ceramics, Fiberglass, Masonry, Tile	1	4045A71★	26.81
2 7/8"	3/16"	0.03"	Fine Carbide Grit	Ceramics, Fiberglass, Masonry, Tile	1	4027A22▲	2.93
2 7/8"	3/16"	0.03"	Coarse Carbide Grit	Ceramics, Fiberglass, Masonry, Tile	1	4027A23▲	2.93
2 7/8"	3/8"	0.03"	Fine Carbide Grit	Ceramics, Fiberglass, Masonry, Tile	1	4027A11▲	2.93
2 7/8"	3/8"	0.03"	Medium Carbide Grit	Ceramics, Fiberglass, Masonry, Tile	1	4027A12▲	2.93
2 7/8"	3/8"	0.03"	Coarse Carbide Grit	Ceramics, Fiberglass, Masonry, Tile	1	4027A13▲	2.93
4"	3/4"	0.03"	Medium Carbide Grit	Ceramics, Fiberglass, Masonry, Tile	1	4027A85▲	3.71
For Wood							
3 5/8"	9/32"	0.03"	10	Wood	5	4101A12★	9.71
4"	9/32"	0.03"	6	Wood	5	4101A11★	9.71
4"	5/16"	0.05"	6	Wood	5	4101A13★	10.56
4 1/4"	3/8"	0.06"	8-12	Wood	3	4017A24★	7.13
Long Life for Wood							
2 3/4"	3/16"	0.03"	20	Wood	5	4101A62	12.56
4"	9/32"	0.03"	6	Wood, Wood with Nails	5	4101A31	10.73
4 1/8"	9/32"	0.03"	10	Wood, Wood with Nails	5	4101A38	11.35
Hook Shank							
Long Life for Metal							
3"	3/8"	0.04"	24	3/16"-1/4" Thick Metal	5	4132A25	11.96
For Wood							
3"	3/16"	0.05"	20	Wood	5	4132A17★	14.29
3"	3/8"	0.06"	6	Wood	5	4132A15★	15.60
3 1/2"	1/4"	0.06"	10	Wood	5	4132A18★	13.67

★Blade is carbon steel. ▲Blade is steel.

5-Piece T-Shank Blade Assortment—Includes two 3 5/8" long high-speed steel blades (11-14 and 17-24 teeth per inch) for metal; one 3 1/4" long carbon steel blade (12 teeth per inch) for wood; and two 4" long carbon steel blades (6 and 10 teeth per inch) for wood.

4131A51 $7.98

5-Piece U-Shank Blade Assortment—Also known as bimetal blades, these have a carbon steel body with high-speed steel teeth. Includes two 2 3/4" long blades (18 and 21 teeth per inch) for metal; one 3 5/8" long blade (12 teeth per inch) for metal; and two 4" long blades (6 and 10 teeth per inch) for wood.

4028A41 $10.37

Jigsaws





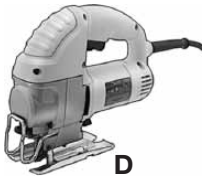

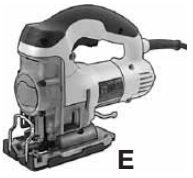





Saws hold thin blades that make contoured cuts in sheets of material. They have a quick-change blade system that allows you to switch blades without a tool. Bases tilt 45° for angle cutting. All are UL listed. They come in a plastic case.

(A-F) Electric—All have a cord with a plug. *Styles A-C* have a dial for precise speed control and a speed lock-on button. They include one 4 1/2" long, fast-cut blade for wood. *Style F* includes one 4" long, 10 teeth per inch blade for wood and one 3" long, 18 teeth per inch blade for metal. *Styles D&E* blades are sold separately.

(G) Cordless—Comes with a 20-volt battery, a one-hour charger, one 4" long, 8 teeth per inch multipurpose blade, and one 4 1/2" long, 11 teeth per inch blade for wood.

	Manufacturer	Model No.	Features	No-Load Speed, strokes/min.	For Blade Shank Style	Stroke Length	Lg.	Voltage	Wt., lbs.		
Electric											
A	Bosch	JS365	Compact	500-3,100	T	1"	9 5/8"	120V AC	6	39755A81	$131.25
B	Bosch	JS470E	_____	500-3,100	T	1"	14"	120V AC	8	39755A85	166.44
C	Bosch	JS470EB	Easy Grip	500-3,100	T	1"	10"	120V AC	5.9	39755A52	171.57
D	DeWalt	DW317K	_____	0-3,100	T and U	1"	9 3/4"	120V AC	6.2	39995A22	112.17
E	DeWalt	DW331K	Cushion Grip	500-3,100	T	1"	10 1/2"	120V AC	6.4	39995A33	156.42
F	Milwaukee	6268-21	LED Light	0-3,000	T	1"	9 1/2"	120V AC	6.4	39835A26	175.75
Cordless											
G	DeWalt	DCS331M1	Cushion Grip	0-3,000	T	1"	9"	20V DC	6.8	39995A71	295.18
Replacement Parts											
Styles A-C Replacement Blades for Wood (Pkg. of 5)										4017A31	10.56
Style F Replacement Blades for Wood (Pkg. of 5)										4131A63	14.34
Battery for Style G										29835A115	136.00
Charger for Style G										29835A2	78.61
Base Assembly—Please specify manufacturer name and model number										39755A9	22.66

Manual Miter Saws

Use this saw to cut precise angles by hand. Also known as a miter box saw. It has an adjustable cutting depth. Cutting angles are 90°, 75°, 67.5°, 60°, 54°, and 45° for both left- and right-hand cuts. Saw has a cast zinc frame. It includes a 22" Lg. x 1 1/2" Wd., 14 teeth per inch blade for wood.

Maximum cutting height is 4 1/2"; maximum cutting width is 4 1/16" at 45° and 6 1/2" at 90°. Saw length is 28". Base table is 14 1/2" Lg. x 4" Wd. Overall height is 10 3/4".



4201A48 $48.91

Hacksaw Blades



Blades are ½″ Wd. × 0.025″ Thick. Choose more teeth per inch for a smooth cut; choose fewer teeth per inch for fast, rough cutting. The blade with a range of teeth per inch is also known as a progressive-tooth blade. It has small, fine teeth that gradually increase to large teeth for fast cuts.

Economy—Blades are carbon steel. Use them to cut soft materials such as mild steel, copper, plastic, and wood.

Standard—These high-speed steel blades have hardened teeth, so they cut harder metal and plastic than carbon steel blades.

Long Life—Also known as bimetal blades, these have a steel body with high-speed steel teeth. They last twice as long as standard blades. Use to cut metal, plastic, and wood.

Heavy Duty Long Life—Teeth are ground into a forward angle for 30% more cutting power than long-life blades. Also known as bimetal blades, they have a steel body with high-speed steel teeth and last twice as long as standard blades. Use to cut metal, plastic, and wood.

Lg.	Teeth Per Inch		Economy Pkg. of 10	Standard Pkg. of 10	Long Life Pkg. of 5	Heavy Duty Long Life Pkg. of 5
10″	18	6927A21	$6.28	—	$8.65	$10.00
10″	24	6927A22	6.28	—	8.65	10.00
10″	32	6927A23	6.28	—	8.65	10.00
12″	14	6927A24	5.79	—	8.65	—
12″	18	6927A25	6.30	$10.45	8.65	10.33
12″	24	6927A26	6.30	10.45	8.65	10.33
12″	32	6927A27	7.49	10.45	8.65	10.33
12″	18-32	6927A18	—	—	8.65	—

Handsaws for Wood



Teeth sharpened on three sides make fast, accurate cuts in wood and plastic. Blades are carbon steel.

For Blade Lg.	Handle Material	Teeth Per Inch	O'all Lg.		
15″	Rubber	8	18″	4058A51	$16.41
20″	Plastic	11	24½″	4058A61	22.57
26″	Wood	11	29″	4088A71	25.33

Hacksaw Blades for Power Hacksaws



Blades have a steel body with high-speed teeth. Use them on metal, plastic, and wood. Choose more teeth per inch for a smooth cut; choose fewer teeth per inch for fast, rough cutting.

Lg.	Wd.	Thick.	Choose Teeth Per Inch		
12″	⅝″	0.032″	14, 18	4049A111	$6.69
12″	1⅛″	0.05″	10, 14	4049A112	15.20
14″	1⅛″	0.05″	10, 14	4049A113	17.73
14″	1⅜″	0.062″	6, 10	4049A114	21.51
14″	1⅝″	0.075″	6	4049A23	26.33
17″	1⅜″	0.062″	6, 10	4049A115	21.73
18″	1⅜″	0.062″	6, 10	4049A116	23.18
18″	1⅝″	0.075″	4, 6	4049A117	31.58
18″	1⅞″	0.088″	4, 6	4049A118	38.13
21″	1⅞″	0.088″	6	4049A51	45.24
24″	2″	0.1″	4	4049A54★	76.11

★ Body is high-speed steel.

Hacksaw Blades for Ceramics and Masonry



For Straight Cuts

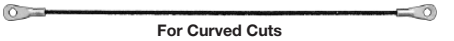

For Curved Cuts

Carbide grit bonded to a steel blade cuts through abrasive materials such as ceramics and masonry as well as hardened steel, cable, and chain.

Blades for curved cuts are also known as rodsaw blades. They cut in any direction, so they're a good choice for contoured cuts.

	For Straight Cuts				For Curved Cuts		
Lg.	Wd.	Thick.			Dia.		
10″	¾″	0.025″	4025A12	$3.95	0.1″	4127A13	$3.26
12″	¾″	0.025″	4025A11	4.29	0.1″	4127A14	3.84

Oscillating Tool Blades



These blades fit most brands of oscillating tools, including Bosch, DeWalt, Fein, Makita, Milwaukee, Ridgid, Rockwell, and Skil.

Styles A-C & F have teeth. **Styles D & E** have a knife edge. **Styles G & H** are coated with carbide grit.

	For Use On	Blade Size		
For Cutting				
A	Thin Metal	4″ Lg. × 1¼″ Wd.	1120N15	$13.25
B	Wood, Laminate	4″ Lg. × 1¼″ Wd.	1120N33	13.97
B	Wood, Wood with Nails, Metal	4″ Lg. × 1¼″ Wd.	1120N31	16.85
B	Wood, Wood with Nails, Metal, Drywall, PVC	4″ Lg. × ⅜″ Wd.	1120N59	8.83
B	Wood, Wood with Nails, Metal, Drywall, PVC	4″ Lg. × ¾″ Wd.	1120N47	11.03
B	Wood, Wood with Nails, Metal, Drywall, PVC	4″ Lg. × 1¼″ Wd.	1120N32	13.73
C	Wood, Wood with Nails, Metal, Drywall, PVC	4″ Lg. × 2½″ Wd.	1120N57	15.11
For Cutting (Cont.)				
F	Wood, Wood with Nails, Metal, Drywall, PVC	3½″ Dia.	1120N34	$23.77
F	Wood, Wood with Nails, Metal, Drywall, PVC	3½″ Dia.	1120N52	27.34
F	Drywall	3½″ Dia.	1120N18	19.01
F	Cardboard, Cloth, Foam, Leather, Rubber	4″ Dia.	1120N26	19.78
For Scraping				
D	Caulk, Paint	1½″ Lg. × 2″ Wd.	1120N28	9.55
E	Caulk, Paint	2″ Lg. × 1″ Wd.	1120N14	9.22
For Grinding				
G	Grout	3½″ Dia.	1120N21	33.75
H	Grout	3″ Dia.	1120N25	33.33

Oscillating Tools



Electric



Cordless

Cut in tight spaces. These tools have an oscillating blade that makes flush and plunge cuts without damaging the surrounding material. They accept accessories from most brands of oscillating tools and have a quick-change blade holder, so you don't need tools to change blades.

Electric tool has a cord with plug. It includes a sanding pad, 25 sanding sheets, and three blades: one for plunge cuts in wood, wood with nails, drywall, PVC, and metal; one for plunge cuts in wood and laminate; and one for cutting wood, wood with nails, drywall, PVC, and metal. Saw comes in a cloth case.

Cordless tool has a built-in LED light to illuminate your work surface. It includes an adapter for use with most brands of oscillating tool accessories, a battery, charger, sanding pad, 25 sanding sheets, and two blades: one for cutting wood and one for cutting wood with nails. Saw comes in a cloth case.

	No-Load Speed, oscillations/min.	Voltage	Lg.	Wt., lbs.	Manufacturer	Model No.		
Electric	8,000-20,000	120V AC	11″	3.3	Bosch	GOP40-30B	1690A2	$183.75
Cordless	0-20,000	20V DC	12¼″	3.3	DeWalt	DCS355D1	1715A1	211.44
Electric Tool Replacement Blades and Sanding Pad—Please specify type of blade from those listed							1120N1	
Cordless Tool Replacement Blades and Sanding Pad—Please specify type of blade from those listed							1715A5	
Battery for Cordless Tool							29835A109	121.04
Charger for Cordless Tool							29835A112	80.86

Hacksaws

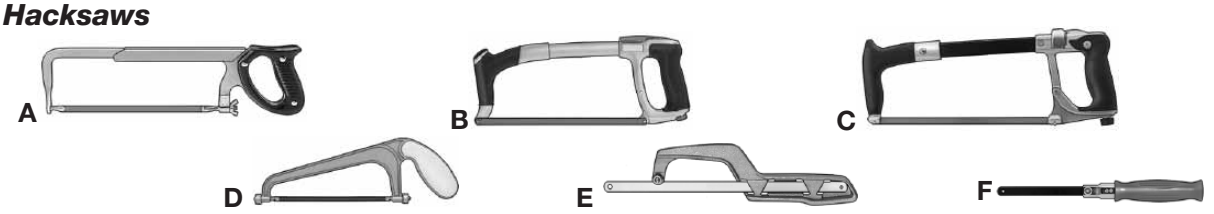

Choose from a wide range of hacksaw frame styles. All come with a blade that cuts metal, plastic, and wood.

(A) Light Duty—The plastic handle and included economy blade are good for light, general purpose cutting. The frame is steel and expands to hold 10″ or 12″ blades.

(B&C) Heavy Duty—Nonslip, cushioned grips on the handle and front end let you get a tight grip with two hands while cutting tough materials. The frame is aluminum. *Style C* has a blade storage compartment that lets you conveniently store additional blades in the frame.

(D) Compact—Designed with a small aluminum frame with a tapered nose and plastic grip, this saw makes cuts in tighter spots than standard hacksaws.

(E) Flush Cut—The blade extends past the frame to make flush cuts. The frame and handle are aluminum. This saw holds hacksaw blades of any length.

(F) Straight Handle—Hacksaw blades of any length fit this saw to make cuts in holes and tight spaces. Handle is plastic; frame is steel.

	For Blade Lg.	Teeth Per Inch	Throat Dp.	O'all Lg.		
A	10″, 12″	24	3¾″	17½″	**4077A1**	$13.90
B	12″	24	4½″	15½″	**4086A34**	36.86
C	12″	24	4¾″	16½″	**4075A31**	33.06
D	6″	32	¾″-2″	10½″	**4202A12**	20.73
E	10″	24	1 7/16″	10¾″	**4060A16**	$5.99
F	10″	18	—	11″	**4113A5**	8.55
Replacement Blades for Style D (Pkg. of 3)					**4202A18**	4.75

Specialty Handsaws and Hacksaws

Find the right saw for your application. All come with a steel blade.

(A&B) High-Precision Handsaws—Also known as backsaws, they have a reinforced back. *Style A* has an ultra-thin replaceable blade.

(C&D) Folding-Pocket Handsaws—Folds like a jackknife. They accept reciprocating saw blades. *Style C* folds to 6½″ long. *Style D* folds to 8″ long.

(E-G) Handsaws for Drywall—Have a pointed tip to make plunge cuts. Blades are not replaceable. *Style F* has long-life, carbide-tipped teeth. *Style G* has teeth on both sides of the blade to cut in both directions.

(H) Handsaw for Masonry—Has a reversible blade.

(J) Handsaws for Plastic—Blade is carbon steel.

(K) Hacksaw for Tight Curves—Also known as a coping saw. Throat depth is 4¾″.

(L) Deep-Cut Hacksaw for Tight Curves—Also known as a fret saw. Throat depth is 12⅞″

(M) Fast-Cut Handsaws for Wood—Cut on both forward and backward strokes. Frame is steel tubing with a knuckle guard. The saw with a 12″ long blade has a 6″ throat depth. It includes an extra blade for metal and plastic (24 teeth per inch). The saw with a 30″ blade has a 7″ throat depth.

(N) Flush-Cut Handsaw for Wood—Has a thin flexible blade with two cutting edges; one for rough cuts and one for finer cuts. Handle has a rubber grip.

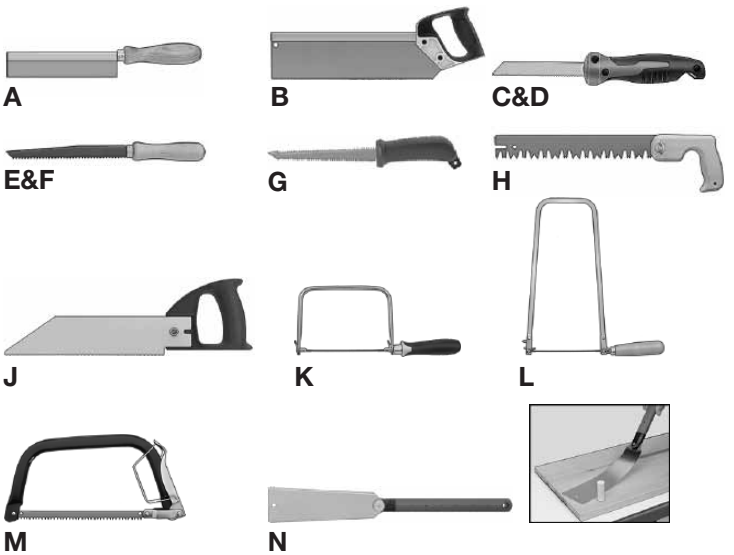

	Recommended Use	For Blade Lg.	Teeth Per Inch	O'all Lg.	Handle Material	Saws		Repl. Blades Pkg. Qty.	Repl. Blades Pkg.
A	Delicate parts in wood	5⅛″	60	9¼″	Wood	**4163A11**	$21.86	1	**4163A12** $11.07
B	Precise cuts, dovetails in plywood or hardwood	14″	13	18″	Plastic	**4092A1**	14.06	—	— —
C	Wood	6″	9	13¼″	Plastic	**6918A75**	10.33	5	**4059A59** 11.82
D	Wood, wood with nails, plastic	6″	18	11⅛″	Plastic	**8635A11**	19.40	5	**4059A51** 11.82
E	Drywall	6″	8	11″	Wood	**6923A11**	5.19	—	— —
F	Long-life for drywall	7″	6	12½″	Wood	**4040A11**	22.15	—	— —
G	Fast cuts in drywall	6″	7	11½″	Rubber	**2171A11**	6.50	—	— —
H	Brick, cinderblock	15″	2-3	19″	Wood	**6914A61**	18.40	1	**6914A71** 9.11
J	Plastic pipe, plasterboard, plywood	12″	10	16″	Aluminum	**68895A3**	19.46	1	**68895A4** 9.94
J	Plastic pipe, plasterboard, plywood	18″	10	22″	Aluminum	**68895A1**	20.86	1	**68895A2** 11.15
K	Intricate cuts in wood, plastic	6½″	15	13″	Plastic	**4099A1**	6.42	5	**4099A2** 3.75
L	Intricate cuts in metal, wood	5″	28	11¼″	Wood	**6917A11**	18.54	12	**6917A22** 5.90
M	Fast cuts in wood	12″	5	16″	Steel	**4105A7**	12.42	1	**4105A9** 3.40
M	Fast cuts in wood	30″	4	34 13/16″	Plastic	**4105A1**	13.01	1	**4105A3** 5.87
N	Precise flush cuts in wood	10″	18	23″	Plastic	**4012A1**	32.50	1	**4012A2** 20.11

Chain Saws

A toothed chain runs along a guide bar to make fast, rough cuts in landscaping applications such as tree felling and pruning. Saws are UL listed.

Electric—This saw has a 1⅘ hp motor that operates on 120 volts AC and a cord with plug.

Gas—Saw has a two-cycle engine with electronic ignition.



Gas

	Bar Lg.	Manufacturer	Model No.	Chain Saws		Replacement Chains	
Electric	18″	Oregon	CS1500	**4061A13**	$131.58	**4554A26**	$34.93
Gas	16″	Poulan	PP3816A	**4063A51**	170.00	**4554A12**	18.65
Replacement Chain Oil						**4554A74**	6.09

Chain Saw, Plasma & Laser Cutter Parts

Chain Saw Chains

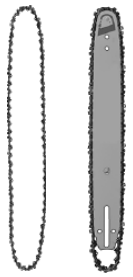

Chain | Bar/Chain Combination

Match the chain number engraved on one of the links in the chain you are replacing.

For Bar Lg.	Chain No.	For Manufacturer		
Chains				
10″	S40	Craftsman, Poulan, Remington, Skil	4554A31	$13.28
14″	S49	McCulloch	4554A18	16.16
14″	S50	Homelite, McCulloch	4554A19	16.58
14″	S52	Craftsman, Homelite, Husqvarna, Poulan	4554A11	17.24
16″	D60	Craftsman, Homelite, Husqvarna, Poulan	4554A24	20.57
16″	S54	McCulloch	4554A22	18.00
16″	S55	Poulan	4554A73	18.33
16″	S56	Craftsman, Homelite, Husqvarna, Poulan	4554A12	18.65
Chains (Cont.)				
18″	H72	Craftsman, Homelite, McCulloch, Poulan	4554A32	$24.49
18″	PS62	Oregon	4554A26	34.93
18″	S62	Craftsman, Homelite, Poulan	4554A14	20.60
20″	D70	Craftsman, Homelite, McCulloch, Poulan	4554A15	23.93
20″	D72	Poulan	4554A25	24.58
20″	H78	Craftsman, Homelite, McCulloch, Poulan	4554A16	26.58
Bar/Chain Combinations				
Please specify bar length and chain number			4554A75	

Plasma Cutter Replacement Parts



Start Cartridge



Shield Cup



Cutting Tip



Electrode

Component	Mfr. Part No.		
For Thermal Dynamics Torch No. SL40			
Gas Distributor/Start Cartridge	9-0097	65935A53	$33.18
Shield Cup	9-0098	65935A54	25.52
Cutting Tip, 20 A	9-0091	65935A56	5.26
Cutting Tip, 40 A	9-0093	65935A57	5.26
Electrode	9-0096	65935A55	7.72
For Thermal Dynamics Torch No. SL60			
Gas Distributor/Start Cartridge	9-8213	65935A85	48.87
Shield Cup	9-8218	65935A84	38.87
Cutting Tip, 30 A	9-8206	65935A12	8.52
Cutting Tip, 60 A	9-8252	65935A88	10.18

Component	Mfr. Part No.		
For Thermal Dynamics Torch No. SL60 (Cont.)			
Electrode	9-8215	65935A83	$12.36
Other Replacement Parts		65935A89	
For Thermal Dynamics Torch No. PCH-10			
Cutting Tip	9-6099	65935A24	9.09
Other Replacement Parts		65935A23	
For Thermal Dynamics Torch No. PCH/M-51			
Cutting Tip	9-5631	7829A13	4.43
Other Replacement Parts		7829A65	
For Other Torches—Please specify torch number and part			
ESAB		7829A75	
Hypertherm		7829A3	
Lincoln		7829A55	
Miller		7829A2	

Plasma Cutters for Metals



Cutter for 1/8″ Thick Steel

Using compressed air and electricity, these cutters make accurate cuts in conductive materials such as steel, stainless steel, aluminum, brass, and copper. They include a torch that is easier to maneuver and control than a portable saw, so it allows you to make straight and contoured cuts in tight spaces. Use cutters intermittently when cutting the maximum thickness. All systems include a ground cable and clamp; a pressure regulator with gauge; and a cord with plug.

Cutter for 1/8″ thick steel has a built-in compressor. Motor is single phase.

Cutter for 1/4″ and 3/8″ thick steel is wired for 230 volts and includes an adapter cord for 120 volts. Motor is single phase.

Cutter for 1/2″ thick steel is wired for 208 and 230 volts, single phase. It can be wired for three-phase.

For Recommended Steel Thick. @ Voltage	For Max. Steel and Stainless Steel Thick.	Voltage	Cutting Time On/Off, minutes	Size Ht.	Size Wd.	Size Dp.	Wt., lbs.	Cutting Cable Lg., ft.		
1/8″ @ 120V AC	3/16″	120	3.5/7	9 1/2″	6 1/2″	18″	29	20	65935A21	$1,650.56
1/4″ @ 120V AC/3/8″ @ 230V AC	5/8″/7/8″	120/230	4/10	9″	7″	18 1/2″	26	15	65935A5	1,641.22
1/2″ @ 208V AC/1/2″ @ 230V AC	1 1/8″/1 1/8″	208/230	4/6	15″	12″	24″	43	20	65935A8	2,653.11

Laser Cutter Replacement Parts

Nozzles



Single Nozzle



Shower Nozzle



Double Nozzle



Shield Nozzle

ID, mm	For Mfr.	Mfr. Part No.		
Single Nozzles				
1	Trumpf	124562-237498	1118N1	$6.33
1	Trumpf	352281	1118N15	7.80
1.2	Amada	71369812	1118N16	20.55
1.4	Trumpf	237497	1118N11	6.33
1.4	Trumpf	352283	1118N17	7.80
1.5	Cincinnati	909660	1118N12	8.73
2	Amada	1664545U-71341610	1118N19	12.29
2	Amada	71501057	1118N18	19.64
2	Mazak	46603350522	1118N13	4.64

ID, mm	For Mfr.	Mfr. Part No.		
Single Nozzles (Cont.)				
2.3	Trumpf	126933	1118N14	$6.33
2.3	Trumpf	352285	1118N2	8.91
Double Nozzles				
1.4	Amada	71369813 D1. 4E	1118N21	23.22
4	Amada	71501060	1118N22	22.60
Shower Nozzle				
1	Cincinnati	923013	1118N23	9.67
Shield Nozzle				
1.2	Mitsubishi	W1627	1118N24	23.20

Lenses



Dia.	Focal Lg.	Thick.	For Mfr.		
Meniscus Lenses					
1 1/2″	5″	0.290″	BLM, Prima, Strippit, Trumpf	1118N31	$297.33
1 1/2″	5″	0.354″	Bystronic, Han-Kwang	1118N32	404.00
1 1/2″	7 1/2″	0.290″	BLM, Prima, Strippit, Trumpf	1118N34	297.33
1 1/2″	7 1/2″	0.354″	Bystronic, Han-Kwang	1118N36	404.00
Long-Life Coated Meniscus Lenses					
1 1/2″	5″	0.354″	Bystronic, Han-Kwang, Prima	1118N33	534.67
1 1/2″	7 1/2″	0.354″	Bystronic, Han-Kwang, Prima	1118N35	534.67

Dia.	Focal Lg.	Thick.	For Mfr.		
Plano Convex (PO/CX) Lenses					
1 1/2″	5″	0.280″	Cincinnati	1118N37	$365.33
1 1/2″	5″	0.300″	Amada, Laserdyne, Mazak, NTC	1118N38	365.33
1 1/2″	5″	0.310″	Mitsubishi	1118N39	329.33
1 1/2″	7 1/2″	0.280″	Cincinnati	1118N4	365.33
1 1/2″	7 1/2″	0.300″	Amada, Laserdyne, Mazak, NTC, Preco	1118N41	365.33
1 1/2″	7 1/2″	0.310″	Mitsubishi	1118N42	329.33
2″	5″	0.380″	Amada, Mazak	1118N43	605.33
2″	5″	0.380″	Cincinnati, Mitsubishi	1118N44	608.00
2″	7 1/2″	0.310″	Mazak, Mitsubishi	1118N45	508.00
2″	7 1/2″	0.380″	Amada, Mazak, NTC, Whitney	1118N47	605.33
2″	7 1/2″	0.380″	Mitsubishi	1118N46	608.00

Circular Saw Blades for Steel

Make fast, clean cuts in steel sheets, angle iron, rebar, and pipe with the carbide teeth on these steel blades. The blades with multiple arbor diameters come with a reducer bushing. Choose blades with more teeth for a smoother cut. Blades with a narrower width of cut make faster cuts with less material loss. For blades with a diamond arbor, detach the center piece to expose the diamond shape.

Round Arbor

Round/ Diamond Arbor



Dia.	Arbor Hole Size	No. of Teeth	Width of Cut	Max. rpm		
For Hand-Held Circular Saws						
5⅜″	10 mm, ⅝″, 20 mm	32	0.059″	4,200	**2431A51**	$42.54
6½″	⅝″	40	0.063″	4,200	**2431A52**	58.40
6½″	⅝″	40	0.078″	9,000	**2431A62**	46.40
6¾″	20 mm	40	0.079″	4,200	**2431A53**	53.12
7″	20 mm	36	0.078″	3,900	**2431A63**	41.99
7″	20 mm	68	0.063″	3,900	**2431A75**	50.52
7¼″	⅝″, 20 mm	40	0.078″	5,800	**2431A64**	44.72
7¼″	⅝″, Diamond	48	0.079″	5,800	**2431A2**	45.08
7¼″	⅝″, Diamond	68	0.071″	5,800	**2431A55**	62.90
8″	⅝″	42	0.079″	5,800	**2431A56**	62.73
8¼″	⅝″, Diamond	48	0.079″	5,800	**2431A3**	66.16
9″	1″	48	0.079″	3,200	**2431A57**	71.25
For Miter and Chop Saws						
10″	⅝″, 1″	52	0.078″	5,200	**2431A65**	88.79
12″	1″	60	0.087″	2,000	**2514A21**	138.07
12″	1″	80	0.09″	2,000	**2431A43**	164.27
14″	1″	66	0.095″	1,800	**2514A51**	151.83
14″	1″	90	0.09″	1,800	**2431A46**	201.37
15″	1″	70	0.094″	1,600	**2431A67**	187.05

Circular Saw Blades for Stainless Steel

Cut stainless steel sheets, pipe, tubing, and grating with teeth made of impact-resistant carbide. Blades are steel. Choose blades with more teeth for a smoother cut. Blades with a narrower width of cut make faster cuts with less material loss.

Round Arbor



Dia.	Arbor Hole Size	No. of Teeth	Width of Cut	Max. rpm		
For Hand-Held Circular Saws						
7″	20 mm	44	0.071″	5,800	**2431A76**	$89.78
7″	20 mm	48	0.071″	3,500	**4573A23**	57.95
7¼″	20 mm	48	0.07″	3,900	**2431A68**	55.19
8″	⅝″	50	0.071″	5,800	**2431A77**	94.76
8″	⅝″	54	0.07″	5,800	**2431A69**	70.18
9″	1″	56	0.071″	3,200	**2431A58**	83.98
9″	1″	60	0.07″	3,000	**2431A71**	79.19
For Miter and Chop Saws						
10″	1″	66	0.078″	5,200	**2431A72**	112.35
12″	1″	80	0.087″	1,800	**6911A12**	245.00
14″	1″	90	0.087″	1,800	**6911A16**	280.00
14″	1″	90	0.094″	1,600	**2431A74**	193.19

Circular Saw Blades for Aluminum

Teeth are carbide tipped and designed to push chips away from the blade to prevent clogging and produce smooth cuts in aluminum sheets, tubing, and T-slotted framing. Blades are steel. Choose blades with more teeth for a smoother cut. Blades with a narrower width of cut make faster cuts with less material loss.

Round Arbor



Dia.	Arbor Hole Size	No. of Teeth	Width of Cut	Max. rpm		
For Hand-Held Circular Saws						
5½″	20 mm	30	0.059″	7,000	**1125N22**	$45.47
6½″	⅝″	36	0.059″	7,000	**1125N24**	28.40
6½″	⅝″	56	0.071″	4,200	**1125N12**	48.73
6½″	20 mm	56	0.071″	4,200	**1125N11**	48.73
7″	20 mm	54	0.078″	3,900	**1125N15**	43.63
7″	20 mm	54	0.085″	5,800	**1125N13**	56.88
7¼″	⅝″	48	0.083″	6,000	**1125N23**	59.08
8″	⅝″	60	0.094″	5,800	**1125N16**	65.44
9″	1″	80	0.094″	3,000	**1125N17**	65.44
For Miter and Chop Saws						
10″	⅝″	72	0.093″	5,500	**1125N14**	91.90
10″	1″	80	0.094″	5,200	**1125N18**	109.08
12″	1″	80	0.083″	1,600	**1125N19**	136.35
12″	1″	80	0.102″	3,800	**2514A71**	143.11
14″	1″	80	0.094″	1,600	**1125N21**	136.35
14″	1″	80	0.102″	3,800	**2514A72**	156.96

Circular Saw Blades for Copper, Brass, and Bronze

Prevent clogging when cutting soft metal—these steel blades have plenty of space between the carbide-tipped teeth to allow chips to escape. The blade with multiple arbor diameters comes with a reducer bushing. Choose blades with more teeth for a smoother cut. Blades with a narrower width of cut make faster cuts with less material loss. For the blade with a diamond arbor, detach the center piece to expose the diamond shape.

Round Arbor

Round/ Diamond Arbor



Dia.	Arbor Hole Size	No. of Teeth	Width of Cut	Max. rpm		
For Hand-Held Circular Saws						
5⅜″	10 mm, ⅝″, 20 mm	48	0.063″	4,200	**6910A71**	$38.42
7¼″	⅝″, Diamond	40	0.104″	7,900	**6910A515**	49.74
8″	⅝″	58	0.122″	9,000	**6910A84**	72.97
8″	⅝″	64	0.083″	9,000	**4176A21**	66.75
9″	1″	72	0.093″	3,200	**6910A77**	91.06
For Miter and Chop Saws						
10″	⅝″	60	0.12″	6,000	**6910A551**	84.78
10″	⅝″	80	0.091″	7,000	**4176A22**	82.54
10″	⅝″	80	0.127″	6,500	**6910A57**	113.78
12″	1″	80	0.11″	4,800	**6910A39**	120.40
12″	1″	80	0.144″	6,000	**6910A59**	140.74
12″	1″	96	0.091″	6,000	**4176A23**	99.45
12″	1″	100	0.145″	5,500	**6910A37**	139.26
14″	1″	100	0.142″	5,000	**6910A26**	177.85
14″	1″	100	0.152″	4,500	**6910A61**	174.20
15″	1″	100	0.12″	4,200	**6910A62**	224.08
16″	1″	100	0.172″	4,000	**6910A63**	250.66

Cold Saw Blades

Blades and teeth are steel and treated to a Rockwell Hardness between C63 and C65 for increased wear resistance when cutting through metal bars, rods, pipe, and tubing. Maximum speed is 65 rpm. Choose blades with more teeth for a smoother cut.

Blades for stainless steel are coated with titanium carbonitride (TiCN).

Round Arbor



Dia.	Choose an Arbor Hole Size	No. of Teeth	Width of Cut		For Steel & Cast Iron	For Stainless Steel
9″	32 mm, 40 mm	120	0.078″	**4190A1**	$86.82	$111.05
10″	32 mm, 40 mm	180	0.078″	**4190A2**	91.65	117.56
11″	32 mm, 40 mm	180	0.098″	**4190A3**	124.18	148.85
12″	32 mm, 40 mm	140	0.098″	**4190A4**	148.75	175.50
12″	32 mm, 40 mm	220	0.098″	**4190A5**	148.75	175.50
12½″	32 mm, 40 mm	160	0.098″	**4190A6**	165.77	196.23
12½″	32 mm, 40 mm	180	0.098″	**4190A7**	165.77	196.23
14″	32 mm, 40 mm	180	0.098″	**4190A8**	198.88	235.22
14″	32 mm, 40 mm	280	0.098″	**4190A9**	198.88	235.22

Circular Saw Blades for Plastic

Produce smooth cuts in plastic materials including polycarbonate, polyurethane, PVC, and acrylic with the carbide-tipped teeth on these steel blades. Sharpen them if they become dull. Choose blades with more teeth for thin, brittle plastic; choose blades with fewer teeth for thicker, softer plastic. Blades with a narrower width of cut make faster cuts with less material loss. For the blade with a diamond arbor, detach the center piece to expose the diamond shape.

Round Arbor

Round/ Diamond Arbor



Dia.	Arbor Hole Size	No. of Teeth	Width of Cut	Max. rpm		
For Hand-Held Circular Saws						
7¼″	⅝″	44	0.065″	10,000	**6909A45**	$55.57
8″	⅝″, Diamond	60	0.12″	6,900	**6909A42**	77.31
For Miter, Chop, and Table Saws						
10″	⅝″	40	0.12″	6,000	**6908A81**	69.43
10″	⅝″	72	0.102″	7,000	**6909A46**	79.40
10″	⅝″	80	0.11″	6,000	**6909A27**	102.52
10″	⅝″	80	0.12″	6,000	**6909A18**	103.85
12″	1″	84	0.102″	6,000	**6909A47**	108.50
12″	1″	96	0.11″	6,000	**6909A21**	151.01
14″	1″	108	0.11″	5,000	**6909A26**	160.73

Circular Saw Blades for Glass and Fiberglass


3″-4″ Diameter Blade


6½″-12″ Diameter Blade


Round Arbor


Round/ Diamond Arbor

The carbide-grit edge on these steel blades cuts brittle and abrasive materials including glass and fiberglass. Blades have a segmented edge, except the 3″ and 4″ diameter blades have a continuous edge. Use them for dry cutting. Blades with multiple arbor diameters come with a reducer bushing. Choose medium grit for less material loss and smoother cuts. Choose coarse grit for faster cuts. For blades with a diamond arbor, detach the center piece to expose the diamond shape.

Dia.	Arbor Hole Size	Width of Cut	Max. rpm		
For Hand-Held Circular Saws					
Medium Grit					
7″	½″, ⅝″/Diamond	0.118″	6,500	4021A21	$71.15
8″	½″, ⅝″/Diamond	0.118″	5,700	4021A22	78.86
Coarse Grit					
3″	⅜″	0.106″	15,200	4021A31	34.00
4″	⅝″	0.1″	11,500	4021A12	45.49
6½″	½″, ⅝″/Diamond	0.1″	7,000	4021A13	64.93
7″	½″, ⅝″/Diamond	0.118″	6,500	4021A14	71.15
8″	½″, ⅝″/Diamond	0.124″	5,700	4021A15	78.86
For Miter, Chop, and Table Saws					
Coarse Grit					
10″	⅝″, ¾″	0.138″	4,600	4021A16	100.22
12″	¾″, 1″	0.142″	3,800	4021A17	155.78

Circular Saw Blades for Rubber and Reinforced Hose



Round Arbor

Make clean cuts in rubber and plastic hose with the scalloped knife edge on these steel blades.

Dia.	Arbor Hole Size	Width of Cut	Max. rpm		
For Hand-Held Circular Saws					
6″	⅝″	0.093″	4,000	1729A1	$149.69
7″	⅝″	0.093″	4,000	1729A2	149.69
7″	¾″	0.093″	4,000	1729A3	149.69
8″	⅝″	0.093″	4,000	1729A4	160.46
For Miter and Chop Saws					
10″	¾″	0.093″	4,000	1729A5	214.31
10″	1″	0.125″	4,000	1729A6	300.46
10″	40 mm	0.125″	4,000	1729A7	300.46
12″	1″	0.125″	4,000	1729A8	332.77
14″	1″	0.125″	4,000	1729A9	386.62
14″	40 mm	0.16″	4,000	1729A13	472.77

Circular Saw Blades for Composites and Graphite



Round Arbor

A blend of tungsten carbide and diamond grits on the continuous edge of these steel blades cuts hard, nonmetallic materials including composites and graphite. Use dry or with water or coolant (not included).

Dia.	Arbor Hole Size	Width of Cut	Max. rpm		
For Hand-Held Circular Saws					
2″	¼″	0.12″	23,000	40225A1	$56.18
3″	¼″	0.12″	23,000	40225A8	76.77
3″	⅜″	0.12″	23,000	40225A9	76.77
4″	¾″	0.12″	23,000	40225A14	88.30
6″	⅝″	0.12″	9,000	40225A17	128.39
7¼″	⅝″	0.12″	9,000	40225A18	137.80
8″	⅝″	0.12″	9,000	40225A19	159.34
For Miter, Chop, and Table Saws					
10″	1″	0.125″	9,000	40225A21	190.91

Circular Saw Blades for Foam Insulation



Round Arbor


Round/Diamond Arbor

A razor-sharp knife edge minimizes dust and makes quick, clean cuts through foam sheets such as expanded polystyrene insulation and extruded polystyrene. Blades are steel. For the blade with a diamond arbor, detach the center piece to expose the diamond shape.

Dia.	Arbor Hole Size	Width of Cut	Max. rpm		
For Hand-Held Circular Saws					
7¼″	⅝″/Diamond	0.063″	6,000	1785A1	$59.99
For Miter, Chop, and Table Saws					
10″	⅝″	0.063″	6,000	1785A2	89.99

Circular Saw Blades for Cast Iron



Round Arbor


Round/ Diamond Arbor

Diamond grit bonded to a segmented edge cuts through hard metal such as cast iron. Blades are steel. Diamond depth is 0.2″. Use dry or with water or coolant (not included). All blades come with a reducer bushing to adjust the arbor diameter. Blades with a narrower width of cut make faster cuts with less material loss. For the blade with a diamond arbor, detach the center piece to expose the diamond shape.

Dia.	Arbor Hole Size	Width of Cut	Max. rpm		
For Hand-Held Circular Saws					
4″	⅝″, ⅞″	0.08″	15,000	4153A11	$59.80
4½″	⅝″, ⅞″	0.08″	13,300	4153A12	63.78
7″	⅝″, ⅞″/Diamond	0.095″	8,730	4153A13	116.40
For Miter, Chop, and Table Saws					
12″	20 mm, 1″	0.125″	6,300	4153A14	243.96
14″	20 mm, 1″	0.125″	5,400	4153A15	302.96

Circular Saw Blades for Masonry and Stone


Smooth Cut


Fast Cut


Round Arbor


Round/ Diamond Arbor

These blades are coated in diamond grit to cut hard, abrasive materials such as masonry, stone, asphalt, and concrete. All have a steel body and a diamond depth of 0.4″. Use dry or with water or coolant (not included). Blades come with a reducer bushing to adjust the arbor diameter. For blades with a diamond arbor, detach the center piece to expose the diamond shape.

Smooth-cut blades have a continuous edge to produce smooth cuts. **Fast-cut** blades have a segmented edge to cut faster than a continuous edge.

Long Life—Blades have diamond grit that lasts up to three times longer than the grit on standard blades in continuous-use applications.

			Standard				*Long Life*			
Dia.	Width of Cut	Max. rpm	Arbor Hole Size	Smooth Cut		Fast Cut		Arbor Hole Size	Smooth Cut		Fast Cut	
For Hand-Held Circular Saws												
4″	0.08″	15,000	⅝″, 20 mm, ⅞″	4134A11	$15.56	4134A21	$14.45	⅝″, ⅞″	4109A31	$30.69	4109A41	$33.03
4½″	0.08″	13,300	⅝″, 20 mm, ⅞″	4134A12	16.44	4134A22	16.88	⅝″, ⅞″	4109A32	40.12	4109A42	35.42
5″	0.08″	12,000						⅝″, ⅞″	4109A6	42.48	4109A64	40.12
6″	0.08″	10,185						⅝″, ⅞″	4109A61	47.20	4109A65★	49.58
7″	0.09″	8,700	⅝″, ⅞″/Diamond	4134A13	34.22	4134A23	34.31	⅝″, ⅞″/Diamond	4109A34	59.00	4109A44	64.66
8″	0.09″	7,640						⅝″, ⅞″/Diamond	4109A35	80.25	4109A45	77.88
9″	0.09″	6,790						⅝″, ⅞″/Diamond	4109A62	84.95	4109A66	89.68
For Miter, Chop, and Cutoff Saws												
10″	0.09″	6,100	⅝″, ⅞″/Diamond	4134A14	42.44	4134A24■	42.44	⅝″, ⅞″/Diamond	4109A36	101.48	4109A46	106.20
12″	0.11″	6,300	20 mm, 1″	4134A15▲	67.63	4134A25▲	67.63	20 mm, 1″	4109A37	155.77	4109A67	180.00
14″	0.125″	5,400	20 mm, 1″	4134A16	77.66	4134A26	77.66	20 mm, 1″	4109A63♣	174.63	4109A68	195.00

★⅝″, ⅞″, and diamond arbor hole sizes. ■ Width of cut is 0.08″. ▲Width of cut is 0.125″. ♣ Width of cut is 0.11″.

Walk-Behind Flat Saw Blades

Blades are steel with a diamond grit edge for use on concrete. Those with multiple arbor diameters come with a reducer bushing. Choose a narrower width of cut for faster cuts and less material loss.

Dry Cutting—Use these blades with portable cutoff saws and low horsepower (under 20 hp) walk-behind flat saws. Diamond depth is 1/4", unless otherwise stated. **Long-life** dry-cutting blades have a higher concentration of diamonds than other dry-cutting blades, so they last up to three times longer. Diamond depth is 0.35".

Wet Cutting—Use these blades with water or coolant (not included) to produce a smooth cut and minimize heat buildup. Diamond depth is 1/4".



Dia.	Arbor Hole Size	Width of Cut	Dry Cutting Max. rpm			Long-Life Dry Cutting Max. rpm			Wet Cutting Max. rpm		
12"	20 mm, 1"	0.125"	6,300	4162A22	$88.83	6,300	4466A34	$213.01	5,095	4466A8	$213.02
14"	20 mm, 1"	0.11"	5,400	4162A23	99.08	5,400	4466A37	207.39	4,365	4466A14	207.40
14"	20 mm, 1"	0.125"	5,400	4162A24	117.88	5,400	4466A38	238.57	4,365	4466A19	238.56
14"	20 mm, 1"	0.14"	—	—	—	5,400	4466A39	275.49	4,365	4466A17	275.49
16"	20 mm, 1"	0.125"	4,800	4162A25	152.05	4,800	4466A72	267.72	3,820	4466A71	267.75
18"	20 mm, 1"	0.142"	3,300	4162A26	267.20	—	—	—	—	—	—
18"	1"	0.125"	—	—	—	3,395	4466A41	340.79	3,395	4466A15	340.80
18"	1"	0.14"	—	—	—	3,395	4466A42	369.19	3,395	4466A18	369.18
20"	20 mm, 1"	0.142"	3,000	4162A27	322.40	—	—	—	—	—	—
20"	1"	0.14"	—	—	—	3,055	4466A43	454.12	3,055	4466A2	454.13

Circular Saw Blades for Tile

A continuous edge coated in diamond grit makes fast, smooth cuts in stone and ceramic tile. Blades with multiple arbor diameters come with a reducer bushing. For the blade with a diamond arbor, detach the center piece to expose the diamond shape.

Wet Cutting—Use with water or coolant (not included) to produce smoother cuts in stone and ceramic tile than dry-cutting blades. They're also for use on glass.

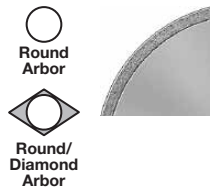

Dia.	Arbor Hole Size	Width of Cut	Max. rpm		Dry Cutting	Wet Cutting
For Hand-Held Circular Saws						
4"	5/8", 7/8"	0.06"	15,000	4166A11	$37.42	$37.42
4 1/2"	5/8", 7/8"	0.06"	13,300	4166A12	31.47	31.47
5"	5/8", 7/8"	0.06"	12,000	4166A13	33.93	33.86
6"	5/8"	0.06"	10,185	4166A14	35.96	43.50
7"	5/8"	0.06"	8,730	4166A52	—	54.53
7"	5/8", 7/8", Diamond	0.06"	8,730	4166A72	46.21	—
8"	5/8"	0.06"	7,640	4166A16	47.73	57.36
For Miter, Chop, and Table Saws						
10"	5/8"	0.06"	6,115	4166A17	64.43	71.39
12"	20 mm, 1"	0.08"	5,095	4166A18	112.55	112.55
14"	20 mm, 1"	0.08"	4,365	4166A19	173.15	173.15

Light-Use Circular Saw Blades for Wood

Use these steel blades for occasional cutting. Choose blades with more teeth for cutting across the grain; choose blades with fewer teeth for cutting with the grain (ripping). For blades with a diamond arbor, detach the center piece to expose the diamond shape.

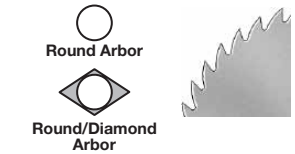

Dia.	Arbor Hole Size	No. of Teeth	Width of Cut	Max. rpm		
For Hand-Held Circular Saws						
6 1/2"	5/8"	140	0.079"	8,300	4079A24	$8.21
7 1/4"	5/8", Diamond	40	0.086"	7,000	4038A91	7.78
7 1/4"	5/8", Diamond	100	0.109"	7,000	4038A95	8.52
7 1/4"	5/8", Diamond	140	0.07"	7,000	4079A22	10.28
For Miter, Chop, and Table Saws						
10"	5/8"	40	0.11"	5,900	4038A88	12.24
10"	5/8"	180	0.094"	5,900	4079A15	12.39
10"	5/8"	80	0.086"	7,000	4038A55	21.23

Fast-Cut Circular Saw Blades for Wood

Also known as rip blades, these steel blades have large, forward-angled, carbide-tipped teeth for making fast cuts with the wood grain (ripping).



Dia.	Arbor Hole Size	No. of Teeth	Width of Cut	Max. rpm		
For Miter, Chop, and Table Saws						
10"	5/8"	28	0.1"	6,000	4124A34	$22.95
12"	1"	40	0.118"	6,000	6908A76	93.86
14"	1"	44	0.138"	5,000	6908A78	115.54
16"	1"	36	0.117"	4,000	6908A71	115.31

Circular Saw Blades for Wood

Cut wood, plywood, and particleboard. Blades are steel with carbide teeth. Choose blades with more teeth for cutting across the grain; choose blades with fewer teeth for cutting with the grain (ripping). Blades with a narrower width of cut make faster cuts with less material loss. For blades with a diamond arbor, detach the center piece to expose the diamond shape.

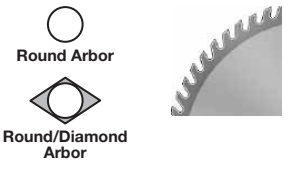

Dia.	Arbor Hole Size	No. of Teeth	Width of Cut	Max. rpm		
For Hand-Held Circular Saws						
4 3/8"	20 mm	12	0.073"	12,000	39885A14	$17.23
4 1/2"	3/8"	24	0.07"	9,300	4124A18	12.61
5 3/8"	10 mm	16	0.059"	7,000	39885A81	13.64
5 3/8"	10 mm	24	0.063"	8,500	39885A83	15.79
5 1/2"	10 mm	24	0.063"	8,500	39885A39	17.12
6"	1/2"	24	0.075"	9,800	4124A29	12.75
6 1/2"	5/8"	18	0.059"	7,000	4124A11	15.71
6 1/2"	5/8"	40	0.063"	8,300	39885A16	23.39
6 1/2"	5/8", Diamond	24	0.059"	10,000	6900A32	14.05
6 1/2"	5/8", Diamond	24	0.087"	8,300	4124A12	8.63
6 1/2"	5/8", Diamond	40	0.087"	8,300	4124A13	11.80
6 1/2"	5/8", Diamond	40	0.104"	8,800	6901A42	32.01
6 1/2"	20 mm	48	0.086"	7,000	6900A52	49.61
7 1/4"	5/8", Diamond	16	0.087"	8,300	4124A14	6.44
7 1/4"	5/8", Diamond	18	0.071"	7,000	39885A34	11.19
7 1/4"	5/8", Diamond	20	0.071"	7,000	39885A33	15.10
7 1/4"	5/8", Diamond	20	0.084"	9,400	4124A22	10.50
7 1/4"	5/8", Diamond	24	0.059"	8,000	6900A33	13.29
7 1/4"	5/8", Diamond	24	0.071"	7,000	39885A67	14.18
7 1/4"	5/8", Diamond	24	0.075"	9,400	4124A46	10.67
7 1/4"	5/8", Diamond	24	0.081"	7,900	6900A36	12.32
7 1/4"	5/8", Diamond	24	0.084"	9,400	4124A23	11.01
7 1/4"	5/8", Diamond	36	0.071"	7,000	39885A68	20.75
7 1/4"	5/8", Diamond	40	0.084"	9,400	4124A26	15.13
7 1/4"	5/8", Diamond	40	0.09"	7,900	6901A46	15.96
8"	5/8", Diamond	24	0.084"	9,000	4124A24	16.25
8"	5/8", Diamond	40	0.121"	6,900	6901A48	40.79
8 1/4"	5/8", Diamond	24	0.076"	7,000	39885A38	19.76
8 1/4"	5/8", Diamond	24	0.083"	7,300	39885A43	20.72
8 1/4"	5/8", Diamond	24	0.084"	6,000	4124A25	16.00
For Miter, Chop, and Table Saws						
10"	5/8"	24	0.095"	6,000	39885A84	33.42
10"	5/8"	24	0.098"	6,000	6900A51	36.95
10"	5/8"	40	0.095"	6,000	39885A55	40.03
10"	5/8"	40	0.095"	7,000	4124A28	29.88
10"	5/8"	40	0.104"	6,000	6901A57	47.58
10"	5/8"	60	0.095"	6,000	39885A86	48.78
10"	5/8"	60	0.121"	6,000	6901A81	64.57
10"	5/8"	80	0.11"	6,000	39885A87	90.83
10"	5/8", Diamond	24	0.102"	5,900	4124A45	26.33
12"	1"	40	0.098"	5,000	39885A19	53.72
12"	1"	40	0.131"	4,700	6900A34	59.08
12"	1"	60	0.095"	4,800	39885A62	73.51
12"	1"	80	0.095"	4,800	39885A63	82.40
15"	1"	80	0.098"	4,000	6902A75	119.42

Smooth-Cut Circular Saw Blades for Wood


Blade for Across-Grain Cuts


Nonstick Blade for Across-Grain Cuts


Nonstick Blade for Across-Grain and With-Grain Cuts


Round Arbor


Round/ Diamond Arbor

The large number of teeth on these steel blades produces a smooth cut across the wood grain. Choose blades with more teeth for a smoother cut. Blades with a narrower width of cut make faster cuts with less material loss. For the blade with a diamond arbor, detach the center piece to expose the diamond shape.

Nonstick blades have a heat-resistant coating to prevent material buildup.

Dia.	Arbor Hole Size	No. of Teeth	Width of Cut	Max. rpm		
For Hand-Held Circular Saws						
For Across-Grain Cuts						
7¼″	5/8″, Diamond	60	0.087″	8,300	4124A15	$16.98
Nonstick for Across-Grain Cuts						
8″	5/8″	64	0.116″	9,000	41215A141	72.90
9″	5/8″	72	0.116″	8,000	41215A171	86.09
Nonstick for Across-Grain Cuts and With-Grain Cuts (Rip Cuts)						
8″	5/8″	40	0.126″	9,000	6907A45	66.60
For Miter, Chop, and Table Saws						
For Across-Grain Cuts						
10″	5/8″	60	0.095″	7,000	4124A33	38.13
10″	5/8″	80	0.098″	6,000	39885A74	63.88
10″	5/8″	80	0.116″	7,000	6902A27	111.46
12″	1″	72	0.126″	6,000	6902A34	133.65
Nonstick for Across-Grain Cuts						
10″	5/8″	80	0.098″	6,000	41215A241	82.53
10″	5/8″	80	0.126″	7,000	41215A381	90.68
12″	1″	80	0.106″	4,800	41215A651	88.28
12″	1″	96	0.116″	6,000	41215A721	135.35
14″	1″	108	0.136″	5,000	41215A311	148.43
15″	1″	108	0.136″	4,000	41215A341	150.75
Nonstick for Across-Grain Cuts and With-Grain Cuts (Rip Cuts)						
10″	5/8″	50	0.128″	6,500	6907A35	66.08
12″	1″	60	0.126″	6,000	6907A41	104.74
14″	1″	70	0.157″	5,000	6907A25	125.36
16″	1″	80	0.157″	4,000	6907A29	141.71

Groove-Cutting Circular Saw Blades for Wood






Round Arbor

Also known as dado-head blades, these are for cutting grooves across the grain and with the grain (ripping) in all types of wood. Blades and teeth are carbide. Each blade includes two cutting blades, removable chip-clearing blades, and shims. Comes in a plastic case.

Dia.	Arbor Hole Size	No. of Teeth	Width of Cut	Max. rpm		
For Hand-Held Circular Saws						
6″	5/8″	20	0.25″-0.906″	9,000	4062A29	$178.71
8″	5/8″	22	0.25″-0.813″	9,000	4062A41	182.89
For Miter, Chop, and Table Saws						
10″	1″	32	0.25″-0.906″	7,000	4062A34	259.01
12″	1″	36	0.25″-0.906″	6,000	4062A53	302.95

Circular Saw Blades for Wood with Nails




Round Arbor


Round/ Diamond Arbor

Square-shaped teeth cut across the grain and with the grain (ripping) in reclaimed lumber and flooring with embedded nails. Blades and teeth are steel. For the blade with a diamond arbor, detach the center piece to expose the diamond shape.

Dia.	Arbor Hole Size	No. of Teeth	Width of Cut	Max. rpm		
For Hand-Held Circular Saws						
7¼″	5/8″, Diamond	14	0.104″	7,900	4217A13	$22.68
8¼″	5/8″, Diamond	18	0.12″	6,900	4217A17	36.46
For Miter, Chop, and Table Saws						
12″	1″	24	0.137″	6,500	4217A21	52.70

Curve-Cutting Smooth-Cut Circular Saw Blades for Masonry and Stone




Side View


Round Arbor

The blade is curved to cut arcs and circles with a radius of 15″ and up. It has a continuous edge that produces smooth cuts, and it's coated in diamond grit to cut hard, abrasive materials such as masonry, stone, asphalt, and concrete. Use dry or with water or coolant (not included).

Dia.	Arbor Hole Size	Width of Cut	Max. rpm		
Hand-Held Circular Saws					
7″	5/8″	0.125″	7,700	4064A13	$65.93

Circular Saw Blade Arbor Reducer Bushings


Round Arbor


Diamond to 5/8″ Arbor

Adapt a blade's arbor hole to fit your saw's arbor. These bushings mount to the arbor hole of a circular saw blade. They're made of steel. Do not use more than one bushing per blade.

Arbor Reduction	Thickness		
5/8″ to 1/2″	0.048″	68885A64	$0.74
3/4″ to 5/8″	0.061″	68885A63	3.28
20 mm to 5/8″	0.041″	68885A65	2.77
1″ to 5/8″	0.089″	68885A61	.92
1″ to 3/4″	0.089″	68885A62	7.84
1″ to 20 mm	0.07″	4109A58	5.12
1″ to 7/8″	0.07″	4109A57	3.43
Diamond to 5/8″	0.045″	4109A59	.85

Circular Saw Blade Stiffeners



Ensure straight cuts—these steel stiffeners prevent blades from bending during use on stationary saws. For 10″ minimum blade diameter. Stiffeners are 4″ Dia. × 1/8″ Thick. and have a 5/8″ arbor.

41035A11 ..... Pair .. $20.11

Circular Saw Blade Storage Cases



Protect and store your circular saw blades. Cases are clear plastic.

For Max. Blade Dia.	*Inside Dimensions* Lg.	Wd.	Ht.		
4″	4 3/16″	4 3/16″	1/4″	1133N1	$2.71
5″	5 1/4″	5 1/4″	1/4″	1133N2	4.43
6″	6 1/2″	6 1/2″	1/4″	1133N3	5.07
8″	8 1/4″	8 1/4″	1/4″	1133N4	8.81
10″	10 7/16″	10 7/16″	1/4″	1133N5	11.91

Cutting Guides



Clamp one of these guides onto your workpiece to make straight cuts. Use them with circular saws, jigsaws, and routers. They fit multiple workpiece sizes. Guides are aluminum.

For Max. Workpiece Size	Wd.		
24″	3″	6756A31	$39.99
36″	3″	6756A32	46.00
50″	3″	6756A33	53.00

Portable Miter Saw Stands



Support all brands of miter saws at a comfortable working height with the universal mounting clamps on this stand. Arms include end stops and adjust from 44″ to 100″ wide. Overall size is 32″ Ht. × 100″ Wd. × 28″ Dp. Stand weighs 30 lbs. and folds to 8″ Ht. × 44″ Wd. × 9″ Dp.

4136A31 ..... $279.16

Circular Saws


DeWalt Electric


Milwaukee Electric


Skil Electric


Evolution Electric


DeWalt Cordless


Makita Cordless


DeWalt Cordless for Metal

Bring these portable saws to your site to cut wood and soft metal. All include a blade. **Saws for metal** operate at a low rpm to make smooth, burr-free cuts in metal without excessive heat or the need for coolant.

Electric—Saws have a cord with plug.
Cordless—Saws include a charger and two batteries, except DeWalt Model No. DCS391P1 includes one battery.

Manufacturer	Model No.	Voltage	For Blade Dia.	Arbor	No-Load Speed, rpm	Max. Cut Dp.	Blade Location	Wt., lbs.	Saws		Replacement Blades	
Electric												
DeWalt	DW364	120V AC	7¼″	5/8″	5,800	2 7/16″	Right Side	12.3	39895A11	$203.75	39885A34	$11.19
DeWalt	DWE575SB	120V AC	7¼″	5/8″	5,200	2 9/16″	Right Side	8.8	39895A51	137.06	39885A34	11.19
Milwaukee	6390-21	120V AC	7¼″	5/8″	5,800	2 7/16″	Right Side	10.4	4052A21	147.19	4124A14	6.44
Milwaukee	6391-21	120V AC	7¼″	5/8″	5,800	2 7/16″	Left Side	10.4	4052A22	158.75	4124A14	6.44
Skil	SPT77WM-22	120V AC	7¼″	Diamond	5,300	2 3/8″	Left Side	12.5	4155A18	223.88	39885A67	14.18
Skil	SPT78W-01	120V AC	8¼″	Diamond	4,700	2 7/8″	Left Side	16.5	4155A13	227.30	39885A43	20.72
Electric for Metal												
Evolution	Steelsaw1	120V AC	7¼″	20 mm	3,900	2 1/4″	Right Side	13	2816A1	174.99	2431A64	44.72
Milwaukee	6370-21	120V AC	8″	5/8″	3,700	2 9/16″	Right Side	13.3	5241A12	312.50	2431A56	62.73
Cordless												
DeWalt	DCS391P1	20V DC	6½″	5/8″	5,150	2 1/4″	Left Side	8.3	24705A73	269.94	4124A11	15.71
Makita	XSS03	18V DC	5 3/8″	5/8″	3,600	2″	Right Side	15.7	2725A1	362.54	2725A12	24.25
Cordless for Metal												
DeWalt	DCS373P2	20V DC	5½″	20 mm	3,700	1 11/16″	Left Side	8.3	24705A61	398.30	2431A51	42.54
Replacement Brushes, Switches, and Cords—Please specify manufacturer name, model number, and part											4148A106	

Chop Saws, Miter Saws, and Cold Saws


DeWalt Miter Saw


Makita Miter Saw


Sliding-Arm Miter Saw


Chop Saw for Metal


Cold Saw

All saws come with a blade. They have a cord with plug. **Miter saws** quickly make accurate angled crosscuts. The **chop saw for metal** operates at a low rpm to make quick, straight cuts in metal without excessive heat or the need for coolant. The **cold saw** has a built-in coolant pump and specially designed teeth to cut chips and transfer heat away from this saw's blade for smoother cuts in metal and less distortion.

Manufacturer	Model No.	AC Voltage	Blade Dia.	Arbor	No-Load Speed, rpm	*Maximum Cutting* Ht.	*Maximum Cutting* Wd.	Blade Location	Wt., lbs.	Saws		Replacement Blades	
Miter Saws													
DeWalt	DW715	120	12″	5/8″/1″	4,000	2″	8″	Left Side	42	41325A18	$346.16	39885A19	$53.72
Makita	LS1040	120	10″	5/8″	4,600	2 3/4″	5 1/8″	Left Side	27.3	4140A31	230.37	4124A28	29.88
Sliding-Arm Miter Saw													
DeWalt	DWS780	120	12″	5/8″/1″	3,800	2″	16″	Left Side	56	3001A14	672.37	39885A62	73.51
Chop Saw for Metal													
DeWalt	DW872	120	14″	1″	1,300	4½″	6½″	Right Side	47	4213A21	523.55	4213A31	154.80
Cold Saw													
Dake	CUT 250	120	10″	32 mm	44	2½″	2½″	Left Side	270	4032A11	2,350.00	4190A14	91.65
Replacement Brushes, Switches, and Cords—Please specify manufacturer name, model number, and part												4148A105	

Chop Saws for Aluminum T-Slotted Framing

Use the included clamps to hold aluminum extrusions at any angle up to 45° while you cut. This saw is also for use on hard plastic, such as fiberglass, garolite, and carbon fiber. It makes smooth, burr-free cuts in steel up to four times faster than a cutoff saw without producing sparks or excessive heat. It has a cord with a plug. For the fastest, smoothest cuts in aluminum, use the blade for aluminum (sold separately) instead of the included general purpose blade.



AC Voltage	Blade Dia.	Arbor	No-Load Speed, rpm	*Maximum Cutting* Ht.	*Maximum Cutting* Wd.	Blade Location	Wt., lbs.		
120	14″	1″	1,450	4″	8″	Right Side	46	2835A2	$281.24
Blade for Aluminum								1125N21	136.35

Circular, Table & Panel Saws

Chop Saws for Hose



Pins hold hose slightly bent, pulling it apart as the knife-edge blade slices a straight, smooth cut. These saws make cleaner cuts than cutoff saws in rubber hose; reinforced air, water, and coolant hose; and hydraulic hose. They have a cord with plug. A blade is included. For smoke-free cuts, connect a wet/dry vacuum to the 2″ dia. dust-hose port.

AC Voltage	Blade Dia.	Arbor	No-Load Speed, rpm	For Max. Hose ID	Wt., lbs.	Saws		Replacement Blades	
120	7″	3/4″	3,440	1 1/4″	60	1740A1	$1,486.50	1729A3	$149.69
220	14″	40 mm	3,450	4″	160	1740A2	4,735.50	1729A13	472.77

Table Saws



Miniature Benchtop



Standard Shop Floor



Heavy Duty Tilting Shop Floor

All saws come with a blade and can cut wood and plastic. They have a cord with plug.

Heavy duty tilting shop-floor saw has twice the horsepower of our standard shop-floor table saw to keep it from slowing down when cutting thick materials. The blade tilts for angled cuts up to 45° in 1/4° increments.

	AC Voltage	For Blade Dia.	Arbor	No-Load Speed, rpm	Max. Cut Dp.	Wt., lbs.	Saws		Replacement Blades	
Miniature Bench-Top	120	3 5/32″-3 11/32″	10 mm	7,000	7/8″	12	4514A11	$454.86	4514A23	$27.16
Standard Shop Floor	120	10″	5/8″	3,450	3 1/4″	270	4211A11	989.25	39885A55	40.03
Heavy Duty Tilting Shop Floor	230	10″	5/8″	4,300	3 1/8″	665	2781A24	3,660.00	6901A81	64.57

Panel Saws

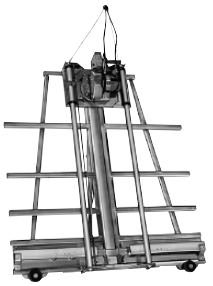

A circular saw mounted to a track allows you to make straight vertical and horizontal cuts in large sheets of wood and plastic that won't fit on a table saw. Saws have a cord with plug. Blades are not included.

Quick stops are adjustable for repetitive horizontal cuts of any length up to 96″.

Extensions add 20″ to each side of the saw frame for extra support when cutting wide panels.

Dust hose exhaust kit includes a 20-ft. long, 1 1/2″ dia. hose and everything you need to connect it to your saw.

Max. Vertical Cut	Max. Horizontal Cut	AC Voltage	For Blade Dia.	Arbor	No-Load Speed, rpm	Max. Cut Dp.	Wt., lbs.		
50″	96″	120	8″	5/8″	5,800	1 3/4″	189	24775A11	$1,592.88
64″	Any	120	8″	5/8″	5,800	1 3/4″	298	24775A31	2,626.00

Quick Stop for 50″ Vertical Saw	24775A12	287.78
Quick Stop for 64″ Vertical Saw	24775A27	332.22
40″ Length Extension	24775A13	210.00
Duct Hose Exhaust Kit	24775A33	254.44

Portable Panel Saws



Take this saw anywhere and use the included 59″ long track to make precise horizontal and vertical straight cuts in sheets of wood and plastic. It can also make plunge cuts. Saw has a 1 1/4″ dia. dust-hose port and a cord with plug. A blade is included.

Optional 102″ track allows for longer cuts. Use it in place of the included track.

Optional track clamps hold the track to your workpiece.

DeWalt Model No.	AC Voltage	Blade Dia.	Arbor	No-Load Speed, rpm	Max. Cut Dp.	Wt., lbs.		
DWS520SK	120	6 1/2″	20 mm	1,750-4,000	2 1/8″	11.5	4000A5	$518.96
Replacement 59″ Track							4000A32	81.70
Optional 102″ Track							4000A31	187.93
Optional Track Clamps (Set of 2)							4000A33	51.98

Tile Saws



Saw has a water reservoir and pump for wet cutting stone and ceramic tile. It includes an adjustable guide bar for precise straight cuts. Saw has a cord with plug. A blade and blade guard are included.

AC Voltage	Blade Dia.	Arbor	No-Load Speed, rpm	Max. Cut Dp.	Wt., lbs.	Saw		Replacement Blade	
120	7″	5/8″	6,000	2″	33	6446A21	$447.89	6446A31	$53.20

Pipe and Tube Notching Clamps



Hole Saw Not Included

Use this clamp with your 1/2″ chuck capacity drill and a hole saw to cut notches in pipe and tubing to make intersecting connections. Choose a hole saw (see pages 2422-2426) with the same diameter as the OD of the pipe to which you are attaching the notched pipe. The clamp comes with a 1/2″-20 arbor for use with 9/16″-1 1/8″ diameter hole saws and a 5/8″-18 adapter for use with 1 1/4″-2″ diameter hole saws. It holds pipe with an OD up to 2″. Cut angles from 30° to 90° in 1° increments with the built-in protractor. Bolt or clamp the notcher to the edge of your workbench.

Optional mounting bracket secures the notcher to the center of your workbench or to a drill press.

Optional 5/8″-18 arbor can be used in place of the adapter for a more secure hold on 1 1/4″ to 2″diameter hole saws.

Notching Clamp	4104A22	$186.34
Replacement 5/8″-18 Adapter	4104A25	7.68

Optional Mounting Bracket	4104A23	$45.18
Optional 5/8″-18 Arbor	4104A24	19.02

Cutoff Wheels for Metal


Type 1 Side View


Type 27 Side View

Use these wheels to cut through metals. Wheels are aluminum oxide reinforced with a layer of fiberglass mesh. Choose coarser grit for fast cuts; choose finer grit for smooth cuts.

Wheels for Angle Grinders—These wheels have an extra layer of fiberglass reinforcement. **Flush-cut wheels** are also known as Type 27, raised-hub, and depressed-center cutoff wheels. They outperform Type 1 wheels when making flush cuts.

Wheels for Bench-Top and **Floor-Mount Cutoff Saws**—These are not for use on hand-held saws. **Fast-cut wheels** are thinner than standard bench-top cutoff saw wheels, so they cut through metal more quickly.

Dia.	Thick.	Arbor Size	Max. rpm	Choose a Grit		
Wheels for Straight Grinders—Type 1						
For Aluminum, Iron, Steel, and Stainless Steel						
3/4″	1/16″	1/8″	61,115	36, 60	4550A101	$2.00
1″	0.035″	1/8″	61,115	60	4550A122	2.00
1″	1/8″	1/8″	61,115	36, 60	4550A102	2.00
1 1/2″	0.035″	1/8″	40,745	60	4550A126	1.17
1 1/2″	0.035″	1/4″	40,745	60	4550A127	1.17
2″	0.035″	1/8″	30,560	60	4550A186	1.17
2″	0.035″	1/4″	30,560	60	4550A51	1.17
2″	0.035″	3/8″	30,560	60	4550A52	1.17
2″	1/16″	1/8″	30,560	60	4550A55	1.17
2″	1/16″	1/4″	30,560	36	4550A56	1.49
2″	1/16″	3/8″	30,560	36, 60	4550A104	1.49
2″	1/8″	1/4″	30,560	36, 60	4550A105	1.71
2″	1/8″	3/8″	30,560	36, 60	4550A106	1.71
2 1/2″	0.035″	1/4″	30,560	60	4550A66	1.49
2 1/2″	0.035″	3/8″	30,560	60	4550A67	1.49
2 1/2″	1/16″	1/4″	30,560	36, 60	4550A107	1.49
2 1/2″	1/16″	3/8″	30,560	36, 60	4550A108	1.49
2 1/2″	1/8″	1/4″	30,560	60	4550A33	1.71
2 1/2″	1/8″	3/8″	30,560	36, 60	4550A109	1.71
2 7/8″	0.035″	3/8″	25,465	60	4550A129	1.49
2 7/8″	1/16″	3/8″	25,465	36, 60	4550A111	1.49
3″	0.035″	1/4″	25,465	60	4550A82	1.49
3″	0.035″	3/8″	25,465	60	4550A83	1.49
3″	1/16″	1/4″	25,465	36, 60	4550A112	1.49
3″	1/16″	3/8″	25,465	36, 60	4550A113	1.49
3″	3/32″	1/4″	25,465	36, 60	4550A114	1.49
3″	3/32″	3/8″	25,465	36, 60	4550A115	1.49
3″	1/8″	1/4″	25,465	36, 60	4550A116	1.71
3″	1/8″	3/8″	25,465	36, 60	4550A117	1.71
4″	0.035″	1/4″	19,100	60	4550A151	1.97
4″	0.035″	3/8″	19,100	60	4550A152	1.97
4″	1/16″	1/4″	19,100	36, 60	4550A118	1.97
4″	1/16″	3/8″	19,100	36, 60	4550A119	1.72
4″	1/8″	1/4″	19,100	36, 60	4550A201	2.00
4″	1/8″	3/8″	19,100	36, 60	4550A202	2.00
4″	1/8″	1/2″	15,280	36, 60	4550A203	3.52
4″	1/8″	5/8″	15,280	36, 60	4550A204	2.00
4″	1/8″	7/8″	13,580	60	4550A215	2.00
4 1/2″	1/8″	7/8″	13,580	60	4550A189	2.15
Wheels for Angle Grinders—Type 1						
For Aluminum, Iron, Steel, and Stainless Steel						
4″	0.04″	5/8″	19,000	60	4003A61	2.32
4″	0.045″	5/8″	15,280	46	4003A11	2.48
4 1/2″	0.045″	7/8″	13,300	60	4003A62	2.44
4 1/2″	3/32″	7/8″	13,300	46	4003A32	3.00
5″	0.045″	7/8″	12,000	60	4003A63	2.76
5″	0.045″	7/8″	12,225	36	4003A13	2.17
5″	3/32″	7/8″	12,000	46	4003A33	3.44
6″	0.045″	7/8″	10,000	60	4003A64	3.66
6″	0.045″	7/8″	10,185	36	4003A14	2.48
7″	0.045″	7/8″	8,600	36	4003A37	4.80
9″	3/32″	7/8″	6,600	24	4003A55	6.26
Flush-Cut Wheels for Angle Grinders—Type 27						
For Aluminum, Iron, Steel, and Stainless Steel						
4″	0.045″	5/8″	19,000	60	4535A11	2.58
4″	3/32″	5/8″	15,300	46	4535A69	3.05
4 1/2″	0.045″	7/8″	13,000	60	4535A17	2.85
4 1/2″	0.045″	7/8″	13,580	24	4535A61	2.76
4 1/2″	3/32″	5/8″-11	13,300	24	4535A15	3.93
4 1/2″	3/32″	7/8″	13,300	24	4535A71	2.74
5″	0.045″	7/8″	12,200	60	4535A23	3.29
5″	3/32″	5/8″-11	12,000	24	4535A26	6.53
Flush-Cut Wheels for Angle Grinders—Type 27 (Cont.)						
For Aluminum, Iron, Steel, and Stainless Steel (Cont.)						
5″	3/32″	7/8″	12,200	24	4535A72	$4.62
6″	0.045″	7/8″	10,185	24	4535A63	3.44
6″	0.045″	7/8″	10,200	60	4535A29	3.55
6″	3/32″	5/8″-11	10,000	30	4535A33	6.67
6″	3/32″	7/8″	10,000	24	4535A73	4.06
6″	1/8″	7/8″	10,200	24	4535A74	6.61
7″	0.045″	7/8″	8,500	60	4535A12	3.96
7″	3/32″	5/8″-11	8,600	30	4535A36	7.63
7″	3/32″	7/8″	8,600	24	4535A75	4.60
9″	3/32″	5/8″-11	6,600	24	4535A77	10.62
9″	3/32″	7/8″	6,600	24	4535A76	7.78
Wheels for Portable Circular Saws—Type 1						
For Aluminum, Iron, Steel, and Stainless Steel						
6″	1/8″	5/8″	10,200	24	4465A91	6.18
6 1/2″	1/8″	5/8″/Diamond	9,405	24	4465A32	3.29
7″	3/32″	5/8″/Diamond	8,500	24	4465A51	5.84
8″	3/32″	5/8″/Diamond	7,600	24	4465A61	6.63
For Sheet Metal						
7″	1/8″	5/8″/Diamond	8,600	24	4465A15	3.52
8″	1/8″	5/8″/Diamond	7,500	24	4465A16	4.24
Wheels for Portable Cutoff Saws—Type 1						
For Aluminum, Iron, Steel, and Stainless Steel						
12″	1/8″	20 mm	6,300	24	4178A45	7.10
12″	1/8″	1″	6,300	24	4178A12	7.10
14″	1/8″	20 mm	5,460	24	4178A51	10.31
14″	1/8″	1″	5,400	24	4178A14	10.40
16″	1/8″	1″	4,700	24	4178A26	15.81
For Sheet Metal						
14″	5/32″	20 mm, 1″	5,400	24	4178A43	11.41
For Ductile Cast Iron						
12″	1/8″	20 mm, 1″	6,300	24	4178A27■	6.27
14″	1/8″	20 mm	5,460	24	4178A52■	11.06
14″	1/8″	1″	5,400	24	4178A24■	11.06
16″	1/8″	1″	4,800	24	4178A38■	19.40
For I-Beams/Rails						
14″	1/8″	1″	5,400	60	4178A65	13.91
16″	1/8″	1″	4,800	60	4178A66	19.50
Wheels for Bench-Top Cutoff Saws—Type 1						
For Aluminum, Iron, Steel, and Stainless Steel						
10″	3/32″	5/8″	6,100	36	4173A11	9.81
10″	7/64″	1″	6,110	36	4173A24	5.04
12″	7/64″	1″	5,095	36	4173A27	7.00
Fast Cut for Aluminum, Iron, Steel, and Stainless Steel						
12″	3/32″	1″	5,090	30	4173A17	5.46
14″	3/32″	1″	4,365	30	4173A18	7.56
16″	3/32″	1″	3,820	30	4173A25	10.98
For Thin Metal						
12″	7/64″	1″	5,095	36	4173A46★	9.39
14″	7/64″	1″	4,365	36	4173A47★	13.71
16″	7/64″	1″	3,820	36	4173A48★	20.61
For Ductile Cast Iron						
12″	1/8″	1″	6,400	24	4173A61■	8.06
Wheels for Floor-Mount Cutoff Saws—Type 1						
For Aluminum, Iron, Steel, and Stainless Steel						
10″	1/8″	1″	6,110	30	4173A23	6.52
12″	1/8″	1″	5,095	24	4173A12	12.93
14″	1/8″	1″	4,365	30	4173A13	11.19
16″	5/32″	1″	3,820	30	4173A14	14.79
18″	3/16″	1″	3,395	30	4173A15	25.13
20″	3/16″	1″	3,065	30	4173A16	27.38
For Ductile Cast Iron						
20″	3/16″	1″	3,800	24	4173A81★	59.53

■ Wheel is a blend of aluminum oxide and silicon carbide. ★Wheel is zirconia alumina.

Warning: *Use wheels that have a greater rpm rating than the no-load rpm of your tool.*

Cutoff Wheels

Long-Life Cutoff Wheels for Metal


Side View

Two layers of fiberglass mesh reinforcement give these wheels at least three times the life of standard cutoff wheels when cutting metal such as aluminum, iron, steel, and stainless steel. All are Type 1 wheels. Choose coarser grit for fast cuts; choose finer grit for smooth cuts.

Wheels for straight and **bench grinders** are aluminum oxide, except extra-long-life wheels are high-density ceramic oxide that lasts up to twice as long as aluminum oxide.

Long-life wheels for floor-mount cutoff saws are zirconia alumina for fast cutting. They are not for use on hand-held saws.

Dia.	Thick.	Arbor Size	Max. rpm	Choose a Grit		
Wheels for Straight Grinders						
3″	0.035″	1/4″	25,465	60	45615A81	$1.62
3″	0.035″	3/8″	25,465	60	45615A82	1.62
3″	1/16″	1/4″	25,465	36, 60	45615A99	1.73
3″	1/16″	3/8″	25,465	36, 60	45615A1	1.73
3″	3/32″	1/4″	25,465	36, 60	45615A178	1.62
3″	3/32″	3/8″	25,465	36, 60	45615A179	1.62
4″	0.035″	1/4″	15,300	60	45615A38	2.19
4″	0.035″	3/8″	19,100	60	45615A39	2.16
4″	0.04″	5/8″	15,280	60	45615A45	2.16
4″	0.04″	7/8″	13,580	60	45615A46	2.16
4″	1/16″	1/4″	19,100	36, 60	45615A181	2.16
4″	1/16″	3/8″	19,100	36, 60	45615A18	2.16
4″	1/16″	5/8″	15,280	36, 60	45615A182	2.16
4″	1/16″	7/8″	13,580	36, 60	45615A183	2.16
4″	3/32″	1/4″	19,100	36, 60	45615A184	2.16
4″	3/32″	3/8″	19,100	36, 60	45615A185	2.16
4 1/2″	0.045″	7/8″	13,580	36	45615A56	2.41
4 1/2″	0.06″	7/8″	13,580	60	45615A55	2.41
5″	0.035″	3/8″	12,200	60	45615A97	3.74
5″	0.04″	1/2″	12,200	60	45615A98	6.12
5″	0.04″	5/8″	12,225	36	45615A101	2.56
5″	1/16″	3/8″	12,200	36	45615A41	3.74
Extra-Long-Life Wheels for Straight Grinders						
3″	0.035″	1/4″	25,000	60	45615A163	3.40
3″	0.035″	3/8″	25,000	60	45615A164	3.40
3″	1/16″	1/4″	25,000	60	45615A161	3.40
3″	1/16″	3/8″	25,000	60	45615A162	3.40
Extra-Long-Life Wheels for Straight Grinders (Cont.)						
4″	0.035″	1/4″	19,000	60	45615A168	$4.88
4″	0.035″	3/8″	19,000	60	45615A169	4.88
4″	0.035″	5/8″	19,000	60	45615A171	4.88
4″	1/16″	1/4″	19,000	60	45615A165	4.88
4″	1/16″	3/8″	19,000	60	45615A166	4.88
4″	1/16″	5/8″	19,000	60	45615A167	4.88
Wheels for Bench Grinders						
6″	0.035″	1/2″	10,200	60	45615A116	6.33
6″	0.035″	5/8″	10,185	60	45615A117	2.91
6″	0.04″	7/8″	10,185	60	45615A118	3.96
6″	1/16″	1/2″	10,185	36	45615A51	7.81
6″	1/16″	5/8″	10,185	36, 60	45615A189	2.91
7″	0.035″	1 1/4″	8,730	60	45615A126	10.40
7″	1/16″	5/8″	8,600	36, 60	45615A192	6.33
7″	1/16″	1 1/4″	8,730	36, 60	45615A191	10.40
8″	1/16″	5/8″	7,640	36	45615A64	6.46
10″	1/16″	5/8″	6,110	36, 60	45615A193	6.50
10″	1/16″	1″	6,110	60	45615A151	6.50
10″	3/32″	5/8″	6,110	36, 60	45615A194	6.55
10″	3/32″	1″	6,110	36	45615A71	6.50
10″	7/64″	1″	6,110	36	45615A68	6.50
Long-Life Wheels for Floor-Mount Cutoff Saws						
10″	3/32″	5/8″	6,110	24	4173A41	14.89
12″	1/8″	1″	5,095	24	4173A42	18.39
14″	1/8″	1″	4,365	24	4173A43	24.82
16″	5/32″	1″	3,820	24	4173A44	32.59
20″	5/32″	1″	2,710	24	4173A49	59.88

Fast-Cut Cutoff Wheels for Metal


Side View

Run these high-density aluminum oxide wheels at higher speeds than standard cutoff wheels to make quick cuts in aluminum, iron, steel, and stainless steel. Wheels are reinforced with a layer of fiberglass mesh. All are Type 1 wheels.

Dia.	Thick.	Arbor Size	Max. rpm	Grit		
Wheels for Straight and Bench Grinders						
3″	0.045″	1/4″	27,000	60	4144A11	$1.52
4″	0.045″	3/8″	22,000	60	4144A12	1.95
4 1/2″	0.045″	7/8″	18,000	60	4144A13	2.31
5″	0.045″	7/8″	15,000	60	4144A14	2.95
6″	0.045″	7/8″	14,200	60	4144A15	3.85
7″	0.045″	7/8″	10,500	60	4144A16	4.91

Smooth-Cut Cutoff Wheels for Metal


Side View

An extra-fine layer of fiberglass mesh reinforcement allows these wheels to make smoother cuts than standard bench-grinder cutoff wheels when cutting metal such as aluminum, iron, steel, and stainless steel. Wheels are aluminum oxide. All are Type 1 wheels.

Dia.	Thick.	Arbor Size	Max. rpm	Grit		
Wheels for Bench Grinders						
6″	1/16″	1/2″	9,040	46	4297A11	$4.41
6″	1/16″	1/2″	9,040	60	4297A12	4.41
6″	1/16″	1 1/4″	9,040	46	4297A13	4.41
6″	1/16″	1 1/4″	9,040	60	4297A14	4.41
7″	1/16″	1/2″	7,745	46	4297A15	4.98
7″	1/16″	1/2″	7,745	60	4297A16	4.98
7″	1/16″	1 1/4″	7,745	46	4297A17	4.98
7″	1/16″	1 1/4″	7,745	60	4297A18	4.98
8″	1/16″	1/2″	6,780	46	4297A19	5.73
8″	1/16″	1/2″	6,780	60	4297A21	5.73
8″	1/16″	1 1/4″	6,780	46	4297A22	5.73
8″	1/16″	1 1/4″	6,780	60	4297A23	5.73

Cutoff Wheels for Hard Metal


Side View

The combination of ceramic alumina and zirconia alumina in these wheels lasts up to ten times longer than aluminum oxide when cutting hard metal such as Inconel, Hastelloy, and tool steel. Wheels are reinforced with a layer of fiberglass mesh. All are Type 1 wheels. Choose coarser grit for fast cuts; choose finer grit for smooth cuts.

Wheels for angle grinders have an extra layer of reinforcement.

Dia.	Thick.	Arbor Size	Max. rpm	Grit		
Wheels for Straight Grinders						
3″	0.035″	1/4″	25,465	60	2499A31	$4.08
3″	0.035″	3/8″	25,465	60	2499A32	4.08
3″	1/16″	1/4″	25,465	36	2499A35	4.08
3″	1/16″	3/8″	25,465	36	2499A36	4.08
3″	1/8″	3/8″	25,465	36	2499A38	4.94
4″	0.035″	1/4″	19,100	60	2499A33	5.55
4″	0.035″	3/8″	19,100	60	2499A34	5.55
4″	1/16″	1/4″	19,100	36	2499A49	5.55
4″	1/16″	3/8″	19,100	36	2499A41	5.55
4″	1/8″	3/8″	19,100	36	2499A43	7.50
Wheels for Angle Grinders						
4 1/2″	0.045″	7/8″	13,580	36	2499A51	3.69
5″	0.045″	7/8″	12,225	36	2499A52	4.20
6″	0.045″	7/8″	10,185	36	2499A54	4.94

Cutoff Wheels for Cutting and Deburring Metal


Side View

Switch between cutting and deburring aluminum, iron, steel, and stainless steel without the need to change your wheel. Three layers of fiberglass mesh reinforce these aluminum oxide wheels. They're also known as Type 27, raised-hub, and depressed-center cutoff wheels, and they outperform Type 1 wheels when making flush cuts.

Dia.	Thick.	Arbor Size	Max. rpm	Grit		
Flush-Cut Wheels for Angle Grinders						
4 1/2″	5/64″	7/8″	13,300	60	4535A111	$5.68
5″	5/64″	7/8″	12,200	60	4535A112	6.23
6″	5/64″	7/8″	10,200	60	4535A113	8.92

Warning: *Use wheels that have a greater rpm rating than the no-load rpm of your tool.*

Cutoff Wheels for Cutting and Notching Metal

Made of premium grade abrasives, these wheels are strong and thick for making notches in metal. They're made of aluminum oxide, unless noted, and reinforced with two layers of fiberglass mesh. Also known as Type 27, raised-hub, and depressed-center cutoff wheels, they outperform Type 1 wheels when making flush cuts.



Side View

Dia.	Thick.	Arbor Size	Max. rpm	Grit		
Flush-Cut Wheels for Angle Grinders						
For Aluminum, Iron, Steel, and Stainless Steel						
4½″	0.09″	5/8″-11	13,300	60	4535A21	$6.02
4½″	0.09″	7/8″	13,300	60	4535A16	3.40
5″	0.09″	5/8″-11	12,200	60	4535A25	6.27
7″	0.09″	5/8″-11	8,500	60	4535A35	8.03
For Stainless Steel						
4½″	0.09″	5/8″-11	13,300	24	4535A49■	6.82
4½″	0.09″	7/8″	13,300	24	4535A48■	4.23
5″	0.094″	5/8″-11	12,225	24	4535A67	5.20
7″	0.09″	5/8″-11	8,500	60	4535A68★	9.24

■ Wheel is ceramic alumina. ★Wheel is zirconia alumina.

High-Speed Cutoff Wheels for Stainless Steel

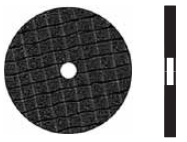

Side View

For quick cuts in stainless steel, run these high-density zirconia alumina wheels at a higher rpm than standard cutoff wheels. They're reinforced with a layer of fiberglass mesh. All are Type 1 wheels.

Dia.	Thick.	Arbor Size	Max. rpm	Grit		
Wheels for Straight Grinders						
3″	0.045″	1/4″	27,000	60	4144A21	$1.64
4″	0.045″	3/8″	22,000	60	4144A22	2.05
4½″	0.045″	7/8″	18,000	60	4144A23	2.38
5″	0.045″	7/8″	15,000	60	4144A24	3.04
6″	0.045″	7/8″	14,200	60	4144A25	4.12
7″	0.045″	7/8″	10,500	60	4144A26	5.14

Cutoff Wheels for Stainless Steel

Wheels are designed to cut stainless steel. They are aluminum oxide with a layer of fiberglass mesh reinforcement, unless otherwise stated. Choose coarser grit for fast cuts; choose finer grit for smooth cuts.

Wheels for Angle Grinders—These wheels have an extra layer of reinforcement. **Flush-cut wheels** are also known as Type 27, raised-hub, and depressed-center cutoff wheels. They make flush cuts more easily than a Type 1 wheel.

Wheels for Bench-Top Cutoff Saws—These are not for use on hand-held saws.

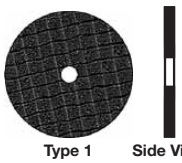

Type 1 Side View

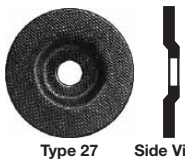

Type 27 Side View

Dia.	Thick.	Arbor Size	Max. rpm	Grit		
Wheels for Angle Grinders—Type 1						
4″	0.045″	5/8″	19,000	60	4003A45■	$2.64
4½″	0.035″	7/8″	13,300	60	4003A77★	3.99
4½″	0.045″	7/8″	13,580	36	4003A71★	3.16
5″	0.035″	7/8″	12,200	60	4003A78★	4.31
5″	0.045″	7/8″	12,225	36	4003A72★	3.46
6″	0.045″	5/8″	10,200	60	4003A76■	3.74
6″	0.045″	7/8″	10,185	36	4003A73★	3.98
7″	0.045″	5/8″	8,500	60	4003A74★	3.36
7″	0.09″	5/8″	8,500	60	4003A75★	4.20
Flush-Cut Wheels for Angle Grinders—Type 27						
4″	0.045″	5/8″	15,280	24	4535A91	2.38
4″	0.045″	5/8″	19,000	60	4535A19■	3.25
4½″	1/32″	7/8″	13,300	60	4535A106★	5.38
4½″	0.045″	7/8″	13,300	60	4535A18■	3.46
4½″	3/32″	5/8″-11	13,300	30	4535A82	4.57
4½″	3/32″	7/8″	13,300	30	4535A83	3.07

■ Wheel is ceramic alumina. ★Wheel is zirconia alumina.

Dia.	Thick.	Arbor Size	Max. rpm	Grit		
Flush-Cut Wheels for Angle Grinders—Type 27 (Cont.)						
5″	1/32″	7/8″	12,200	60	4535A107★	$5.87
5″	0.045″	7/8″	12,200	60	4535A24■	4.11
5″	3/32″	7/8″	12,000	30	4535A85	3.96
6″	0.045″	7/8″	10,200	60	4535A31■	4.49
6″	3/32″	7/8″	10,000	30	4535A87	4.97
7″	0.045″	7/8″	8,500	60	4535A32■	4.83
7″	3/32″	7/8″	8,600	30	4535A89	5.50
7″	1/8″	5/8″-11	8,600	30	4535A92	10.07
Wheels for Portable Circular Saws—Type 1						
7″	1/16″	5/8″	8,600	36	4465A21	10.69
8″	1/16″	5/8″	7,640	60	4465A42	12.36
Wheels for Bench-Top Cutoff Saws—Type 1						
12″	3/32″	1″	5,100	60	4173A71	8.60
14″	3/32″	1″	4,365	30	4173A28	9.65
14″	3/32″	1″	4,400	60	4173A72	12.04
16″	3/32″	1″	3,700	60	4173A73	18.77

Cutoff Wheels for Aluminum, Brass, and Copper

Use these clog-resistant wheels to make quick cuts in soft metal such as aluminum, brass, and copper. Wheels are aluminum oxide, unless noted, and are reinforced with a layer of fiberglass mesh. Choose coarser grit for fast cuts; choose finer grit for smooth cuts.

Wheels for Angle Grinders—These wheels have an extra layer of reinforcement. **Flush-cut wheels** are also known as Type 27, raised-hub, and depressed-center cutoff wheels. They outperform Type 1 wheels when making flush cuts.

Wheels for Bench-Top Cutoff Saws—These are not for use on hand-held saws.

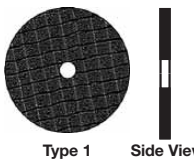

Type 1 Side View

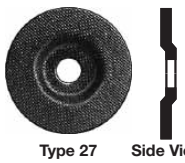

Type 27 Side View

Dia.	Thick.	Arbor Size	Max. rpm	Grit		
Wheels for Straight Grinders—Type 1						
3″	1/32″	3/8″	25,470	60	4220A1★	$3.93
4″	1/32″	3/8″	19,100	60	4220A11★	4.07
Wheels for Angle Grinders—Type 1						
4½″	0.045″	7/8″	13,300	46	4003A82	2.80
4½″	0.045″	7/8″	13,300	60	4003A79★	3.81
5″	0.045″	7/8″	12,200	46	4003A83	3.12
5″	0.045″	7/8″	12,200	60	4003A87★	4.13
6″	0.045″	7/8″	10,200	46	4003A85	3.44
6″	0.045″	7/8″	10,200	60	4003A88★	5.85
7″	0.062″	7/8″	8,600	30	4003A89★	6.48

★Wheel is zirconia alumina.

Dia.	Thick.	Arbor Size	Max. rpm	Grit		
Flush-Cut Wheels for Angle Grinders—Type 27						
4½″	0.045″	5/8″-11	13,580	24	4535A93	$4.29
4½″	0.045″	7/8″	13,300	46	4535A53	3.22
5″	0.045″	7/8″	12,200	46	4535A54	3.61
6″	0.045″	5/8″-11	10,185	46	4535A95	4.93
6″	0.045″	7/8″	10,200	46	4535A55	4.11
7″	0.045″	7/8″	8,500	24	4535A56	4.45
9″	1/16″	5/8″-11	6,600	24	4535A96	10.16
Wheels for Bench-Top Cutoff Saws—Type 1						
12″	3/32″	1″	5,100	30	4173A51★	17.45
14″	3/32″	1″	4,400	30	4173A52★	22.20
14″	7/64″	1″	4,365	36	4173A63	9.31

Warning: *Use wheels that have a greater rpm rating than the no-load rpm of your tool.*

Contaminant-Free Cutoff Wheels for Stainless Steel


Type 1


Side View


Type 27


Side View

Prevent corrosion and discoloration on stainless steel—these wheels contain less than 0.1% iron, chloride, and sulfur contaminants. They have an aluminum oxide grit and are reinforced with two layers of fiberglass mesh. Choose coarser grit for fast cuts; choose finer grit for smooth cuts.

Flush-cut wheels are also known as Type 27, raised-hub, and depressed-center cutoff wheels. They outperform Type 1 wheels when making flush cuts.

Dia.	Thick.	Arbor Size	Max. rpm	Grit		
Wheels for Angle Grinders—Type 1						
4½″	0.045″	7/8″	13,300	60	**4003A94**	$3.94
4½″	1/16″	7/8″	13,300	46	**4003A91**	4.04
5″	0.045″	7/8″	12,200	60	**4003A95**	4.35
5″	1/16″	7/8″	12,200	46	**4003A92**	4.45
6″	0.045″	7/8″	10,200	60	**4003A96**	5.85
6″	1/16″	7/8″	10,200	46	**4003A93**	5.99
7″	0.062″	7/8″	8,600	46	**4003A97**	7.41
9″	0.078″	7/8″	6,600	46	**4003A98**	10.39
Flush-Cut Wheels for Angle Grinders—Type 27						
4½″	0.045″	7/8″	13,300	60	**4535A101**	5.74
5″	0.045″	7/8″	12,200	60	**4535A102**	6.42
6″	0.045″	7/8″	10,200	60	**4535A103**	9.47
7″	0.062″	7/8″	8,600	46	**4535A104**	11.18
9″	0.078″	7/8″	6,600	46	**4535A105**	14.06

Cutoff Wheels for Carbide, Ceramics, and Glass


Side View



These steel wheels have a diamond grit edge, so they last longer than standard bench-grinder cutoff wheels when cutting hard, nonferrous materials such as carbide, ceramics, and glass. All are Type 1 wheels.

Dia.	Thick.	Arbor Size	Max. rpm	Grit		
Wheels for Bench Grinders and Bench-Top Cutoff Saws						
4″	0.035″	1 1/4″	15,275	100	**4142A11**	$147.02
6″	0.035″	1 1/4″	10,175	100	**4571A91**	157.46
7″	0.04″	1 1/4″	8,725	100	**4142A12**	162.30
8″	0.04″	1 1/4″	7,625	100	**4142A13**	170.62
10″	0.05″	1 1/4″	6,100	100	**4142A14**	190.50

Cutoff Wheels for Masonry and Concrete


Side View



Make cuts in hard, brittle materials such as firebrick, stone, and concrete. Wheels are made of silicon carbide abrasive that is reinforced with a layer of fiberglass mesh. All are Type 1 wheels.

Dia.	Thick.	Arbor Size	Max. rpm	Grit		
Wheels for Angle Grinders						
4″	1/16″	5/8″	15,280	30	**4003A41**	$2.02
4½″	1/16″	7/8″	13,580	30	**4003A52**	2.26
5″	1/16″	7/8″	12,225	30	**4003A53**	2.64
Wheels for Portable Circular Saws						
6½″	1/8″	5/8″/ Diamond	9,405	24	**4465A11**	3.43
7″	1/8″	5/8″/ Diamond	8,600	24	**4465A2**	3.69
8″	1/8″	5/8″/ Diamond	7,500	24	**4465A3**	4.77
Wheels for Portable Cutoff Saws						
12″	1/8″	20 mm	6,300	30	**4178A49**	7.17
12″	1/8″	1″	6,300	30	**4178A32**	7.17
14″	1/8″	20 mm	5,460	30	**4178A53**	10.40
14″	1/8″	1″	5,400	30	**4178A34**	10.40
16″	1/8″	1″	4,700	36	**4178A56**	16.12

Cutoff Wheels for Metallurgical Testing


Side View



Create the nearly polished finish required for testing metal with these non-reinforced aluminum oxide wheels. They are not for use on hand-held saws. All are Type 1 wheels.

Dia.	Thick.	Arbor Size	Max. rpm	Grit	For Rockwell Hardness		
Wheels for Bench-Top and Floor-Mount Cutoff Saws							
9″	0.063″	1 1/4″	4,025	90	C30-C40	**4170A13**	$20.69
9″	0.063″	1 1/4″	4,025	100	C40-C55	**4170A12**	20.69
9″	0.063″	1 1/4″	4,025	100	C55-C68	**4170A11**	20.69
10″	0.063″	1 1/4″	3,500	90	C30-C40	**4170A16**	21.93
10″	0.063″	1 1/4″	3,500	100	C40-C55	**4170A15**	21.93
10″	0.063″	1 1/4″	3,500	100	C55-C68	**4170A14**	21.93
12″	0.078″	1 1/4″	3,820	80	C30-C40	**4170A19**	24.27
12″	0.078″	1 1/4″	3,820	90	C40-C55	**4170A18**	24.27
12″	0.078″	1 1/4″	3,820	90	C55-C68	**4170A17**	24.27
13 3/4″	0.098″	1 1/4″	2,770	70	C30-C40	**4170A23**	30.02
13 3/4″	0.098″	1 1/4″	2,770	80	C40-C55	**4170A22**	30.02
13 3/4″	0.098″	1 1/4″	2,770	80	C55-C68	**4170A21**	30.02

Dremel-Compatible Miniature Blades


A


B


C


D


E

All blades are steel.

Style A—Blades have steel teeth and can cut soft metal such as aluminum, brass, and copper. Choose blades with more teeth for a smoother cut.

Style B—A tungsten carbide grit edge cuts through abrasive materials.

	Dia.	Width of Cut	No. of Teeth	Arbor Size	Max. rpm		
Multipurpose for Soft Metal, Plastic, and Wood							
A	3/4″	0.015″	36	1/8″	35,000	**6448A21**	$12.84
A	3/4″	0.015″	60	1/8″	35,000	**6448A11**	12.84
A	7/8″	0.015″	80	1/8″	35,000	**6448A12**	13.32
A	1″	0.015″	34	1/8″	35,000	**6448A22**	13.87
A	1″	0.015″	68	1/8″	35,000	**6448A13**	13.87
A	1 1/4″	0.015″	80	1/8″	35,000	**6448A14**	15.31
A	1 1/2″	0.015″	44	1/8″	35,000	**6448A23**	17.30
A	1 1/2″	0.015″	100	1/8″	35,000	**6448A15**	17.30
A	2″	0.015″	140	1/8″	35,000	**6448A16**	23.79
For Composites and Fiberglass							
B	3/4″	0.063″	—	1/8″	10,000	**1257A51**	15.57
B	1″	0.12″	—	1/4″	23,000	**1257A55**	21.97
B	1 1/4″	0.063″	—	1/8″	10,000	**1257A52**	17.79

Styles C-E—These blades have a diamond grit edge. Blades with a narrower width of cut make faster cuts with less material loss. *Style C* blades have a continuous edge; *Styles D* and *E* have a segmented edge.

	Dia.	Width of Cut	No. of Teeth	Arbor Size	Max. rpm		
For Composites and Fiberglass (Cont.)							
B	1 1/2″	0.12″	—	1/4″	23,000	**1257A56**	$23.57
B	1 3/4″	0.083″	—	1/4″	26,200	**4021A18**	23.62
For Ceramics							
C	7/8″	0.007″	—	1/16″	25,000	**4301A21**	16.88
C	7/8″	0.011″	—	1/16″	25,000	**4301A22**	16.88
C	1 1/4″	0.032″	—	1/16″	21,000	**1257A89**	22.27
For Plastic							
D	7/8″	0.007″	—	1/16″	25,000	**4301A25**	16.88
D	7/8″	0.011″	—	1/16″	25,000	**4301A26**	16.88
E	13/16″	0.007″	—	1/16″	25,000	**4301A27**	29.53
E	13/16″	0.011″	—	1/16″	25,000	**4301A28**	29.53
E	19/16″	0.007″	—	1/16″	25,000	**4301A29**	35.78
E	19/16″	0.011″	—	1/16″	25,000	**4301A31**	35.78

Warning: Use wheels that have a greater rpm rating than the no-load rpm of your tool.

Miniature Dremel Cutoff Wheels

Wheels are reinforced with a layer of fiberglass mesh, unless noted.
Wheels for aluminum, brass, and copper can also be used on plastic, stone, and wood.



Dia.	Thick.	Arbor Size	Max. rpm	Grit	Pkg. Qty.		Pkg.
For Aluminum, Iron, Steel, and Stainless Steel—Aluminum Oxide							
15/16"	0.025"	1/16"	30,000	90	50	1257A74★	$7.30
15/16"	0.04"	1/16"	30,000	90	25	1257A75★	7.17
1 1/4"	0.049"	1/16"	30,000	90	10	1257A76	13.81
1 1/4"	0.062"	1/16"	21,000	90	12	1257A86★	13.10
1 1/2"	0.025"	1/16"	21,000	90	12	1257A87★	13.10
1 1/2"	0.04"	1/16"	21,000	90	12	1257A88★	13.10
1 1/2"	0.049"	1/16"	40,740	46	6	1257A85	8.39
For Stainless Steel—Ceramic Alumina							
1 1/2"	3/64"	1/8"	45,000	80	2	1257A41	5.13
1 3/4"	3/64"	1/8"	42,000	80	2	1257A42	5.47
2"	3/64"	1/8"	30,000	80	2	1257A43	5.94
★ Wheels are not reinforced.							

Dia.	Thick.	Arbor Size	Max. rpm	Grit	Pkg. Qty.		Pkg.
For Stainless Steel—Ceramic Alumina (Cont.)							
2 1/2"	3/64"	1/4"	26,000	80	2	1257A44	$8.07
For Aluminum, Brass, and Copper—Silicon Carbide							
1"	1/32"	1/8"	61,115	80	2	1257A29	3.36
1 1/2"	1/32"	1/8"	45,000	80	2	1257A31	3.80
1 3/4"	1/32"	1/8"	42,000	80	2	1257A32	3.95
For Ceramics—Diamond							
7/8"	0.007"	1/16"	21,000	275	1	1257A92★	30.31
7/8"	0.007"	1/16"	25,000	514	1	1257A33★	16.88
7/8"	0.011"	1/16"	25,000	524	1	1257A34★	16.88
1 1/4"	0.025"	1/16"	21,000	275	1	1257A91★	35.23

Cutoff Wheel Arbors



Attach cutoff wheels, grinding wheels, and wire brushes to your drill or grinder for bits and burs. Arbors are also known as mandrels. They're steel, unless noted. **Styles A-D** have a slotted-head screw. **Style E** have a threaded mounting shaft and nut.

For Arbor Size	For Max. Wheel Thick.	Shank Dia.	Head Dia.	O'all Lg.	Thread Size		
Style A							
1/16"	1/8"	1/8"	3/16"	1 1/2"	1-64	1257A81	$4.77
1/16"	1/4"	1/8"	3/16"	1 3/4"	M1.7×0.35	4568A11	2.65
1/8"	1/16"	1/8"	1/4"	1 1/2"	5-40	4568A26♣	3.42
1/8"	3/16"	3/32"	1/4"	1 3/4"	5-40	4568A13	2.48
1/8"	3/16"	1/8"	1/4"	1 3/4"	5-40	4568A12	2.65
1/8"	1/4"	1/4"	3/8"	2"	5-40	4568A14	3.00
Style B							
1/4"	1/8"	1/8"	7/16"	1 15/16"	1/4"-28	4568A25♣	4.53
1/4"	1/4"	1/4"	3/4"	2"	1/4"-28	4568A15	3.60
3/8"	1/4"	1/4"	3/4"	2"	1/4"-28	4568A17	3.60
♣ Made of stainless steel.							

For Arbor Size	For Max. Wheel Thick.	Shank Dia.	Head Dia.	O'all Lg.	Thread Size		
Style B (Cont.)							
1/4"/3/8"	1/4"	1/4"	3/4"	2"	1/4"-28	4568A19	$4.70
Style C							
1/4"	1/4"	3/8"	3/4"	2"	1/4"-28	4568A16	5.38
3/8"	1/4"	3/8"	3/4"	2"	1/4"-28	4568A18	5.38
Style D							
1/16"	1/4"	3/32"	3/16"	1 3/4"	M1.7×0.35	4568A24	2.48
Style E							
1/4"	5/8"	1/4"	1"	2 1/2"	1/4"-20	4568A21	3.17
3/8"	5/8"	1/4"	1"	2 1/2"	3/8"-24	4568A22	3.77
1/2"	5/8"	1/4"	1 1/2"	2 1/2"	1/2"-20	4568A23	4.12

Cutoff Saws

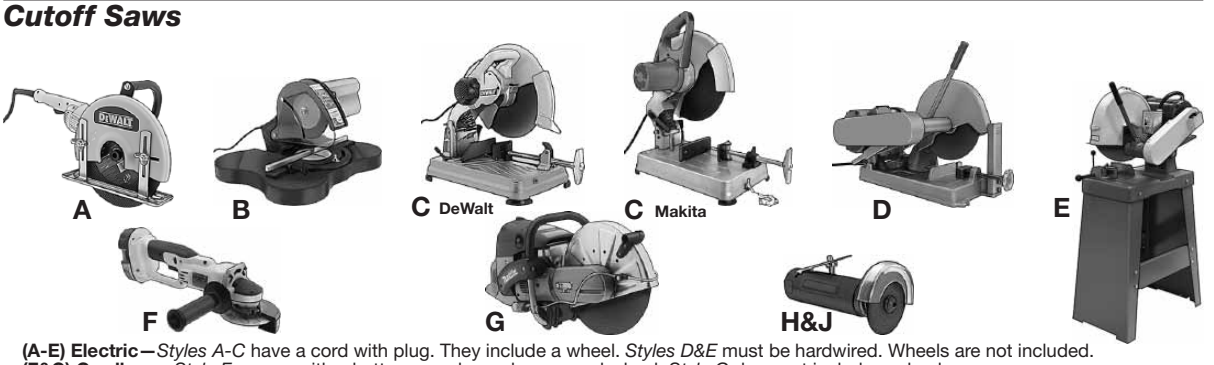

(A-E) Electric—*Styles A-C* have a cord with plug. They include a wheel. *Styles D&E* must be hardwired. Wheels are not included.
(F&G) Cordless—*Style F* comes with a battery, one-hour charger, and wheel. *Style G* does not include a wheel.
(H&J) Air Powered—Saws include a wheel. *Style H* has a front exhaust. *Style J* has a rear exhaust.

		Voltage	For Wheel Dia.	For Arbor Hole Size	No-Load Speed, rpm	Wt., lbs.	Saws		Wheels	
Electric										
A	Portable—DeWalt D28754	120V AC	12"	1"	5,000	15	4209A21	$504.20	4178A12	$7.10
B	Compact Bench-Top	120V AC	5 5/8"	5/8"	7,000	15	24675A31	348.20	24675A32	13.11
C	Bench-Top—DeWalt D28715	120V AC	14"	1"	4,000	39	4193A22	213.97	4173A13	11.19
C	Bench-Top—Makita 2414NB	120V AC	14"	1"	3,800	41	6922A13	192.97	4173A13	11.19
D	Heavy Duty Bench-Top	230V AC	10"	5/8"	3,450	80	4022A9	865.00	4173A11	9.81
D	Heavy Duty Bench-Top	440V AC	10"	5/8"	3,450	80	4022A7	865.00	4173A11	9.81
E	Heavy Duty Floor	220V AC	14"	1"	4,400	300	4110A13	2,145.34	4173A13	11.19
E	Heavy Duty Floor	220V AC	20"	1"	2,500	700	4084A37	3,630.57	4173A16	27.38
E	Heavy Duty Floor	440V AC	14"	1"	4,400	300	4110A14	2,145.34	4173A13	11.19
E	Heavy Duty Floor	440V AC	20"	1"	2,500	700	4084A38	3,630.57	4173A16	27.38
Cordless										
F	Battery-Powered Right Angle—DeWalt DC411KA	18V DC	4 1/2"	5/8"-11	6,500	7	6449A21	280.40	4003A62	2.44
G	Gas Powered—Makita EK7301	_____	14"	1", 20 mm	4,300	22	3983A42	968.67	4178A34	10.40
Air Powered										
H	Light Duty	_____	2 7/8"-3"	3/8"	20,000	1.8	4089A51	61.34	4550A134	1.49
J	Standard	_____		3/8"	20,000	1.7	40935A22	114.58	4550A89	1.49
Replacement 18-Volt Battery (DC9096) for Battery-Powered Right-Angle Saw									29835A13	97.20
Replacement 1-Hour Charger (DC9310) for Battery-Powered Right-Angle Saw									29835A631	81.82

Warning: ***Use wheels that have a greater rpm rating than the no-load rpm of your tool.***

Hole Saw Size Selection Guide for Pipe, Copper Tubing, and Conduit

Pipe Size	3/8	1/2	—	3/4	—	1	—	1 1/4	1 1/2	—	2	—	2 1/2	—	3	—	3 1/2	—	4	5
Copper Tube Size	1/2	5/8	3/4	3/4	1	1	1 1/4	1 1/2	—	2	2	—	2 1/2	3	—	3 1/2	3 1/2	4	4	5
Conduit Trade Size	—	1/2	3/4	3/4	1	1	—	1 1/4	1 1/2	—	2	—	2 1/2	—	3	—	3 1/2	—	4	—
Pipe Tap Size	1/2	3/4	—	1	—	—	1 1/4	1 1/2	—	2	—	2 1/2	—	3	—	3 1/2	—	4	—	—
Hole Saw Dia.	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 3/8"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 5/8"	3"	3 1/4"	3 5/8"	3 3/4"	4 1/8"	4 1/4"	4 3/4"	5 1/2"

Hole Saws

Attach these saws to a drill or drill press. An arbor with pilot drill (sold separately) is required. Arbor thread size is 1/2"-20 for saws up to 1 3/16" diameter and 5/8"-18 for larger saws. All saws have a steel body.

Multipurpose—These saws have high-speed steel teeth to make circular cuts in wood, plastic, and metals such as aluminum, brass, bronze, steel, and stainless steel.

1 3/4" cut depth saws have specially designed teeth for faster cutting.

Long-Life Multipurpose—The carbide teeth on these saws last up to twice as long as high-speed steel teeth when cutting fiberglass, plastic, wood, and metal such as aluminum, cast iron, steel, and stainless steel.

Long-Life for Ceramics and Masonry—The diamond-grit edge on these hole saws cuts more accurately, leaves a smoother finish, and lasts up to twice as long as carbide-grit-coated teeth. Saws are for use on reinforced plastic, Kevlar, stone, brick, and other abrasive materials with high silicon content. To cut ceramic tile, you must use a 1/4" carbide-tipped pilot drill (see 4066A141 in Hole Saw Arbors with Pilot Drill on page 2423).

For Ceramics and Masonry—These saws have carbide-grit-coated teeth that cut ceramic tile, fiberglass, masonry, plastic, and composites.











	Multipurpose			Long-Life Multipurpose		Long-Life for Ceramics & Masonry		Arbors with Pilot Drill				Replacement Pilot Drills	
		1 1/2" Cut Depth	1 3/4" Cut Depth		1 1/2" Cut Depth		1 1/2" Cut Depth		Hex Shank Size 1/4"	3/8"	7/16"	For Hex Shank 1/4" & 3/8"	7/16"
9/16"	4066A101	$5.24	$9.39	4192A11	$9.47	6930A31	$43.75	4066A911	$5.01	$7.44	$6.97	4066A97	$2.64	$2.75
5/8"	4066A102	5.25	9.39	4192A12	9.65	6930A32	47.92	4066A911	5.01	7.44	6.97	4066A97	2.64	2.75
11/16"	4066A103	5.25	9.39	4192A13	9.56	6930A33	49.97	4066A911	5.01	7.44	6.97	4066A97	2.64	2.75
3/4"	4066A104	5.25	9.39	4192A14	9.65	6930A34	49.97	4066A911	5.01	7.44	6.97	4066A97	2.64	2.75
25/32"	4066A105	5.25	9.07	4192A74	9.79	—	—	4066A911	5.01	7.44	6.97	4066A97	2.64	2.75
13/16"	4066A106	5.25	9.39	4192A63	9.52	6930A21	54.17	4066A911	5.01	7.44	6.97	4066A97	2.64	2.75
7/8"	4066A107	5.25	9.39	4192A15	9.25	6930A35	56.25	4066A911	5.01	7.44	6.97	4066A97	2.64	2.75
15/16"	4066A108	5.49	9.39	4192A64	10.15	6930A22	58.33	4066A911	5.01	7.44	6.97	4066A97	2.64	2.75
1"	4066A109	5.47	10.17	4192A16	10.00	6930A36	60.42	4066A911	5.01	7.44	6.97	4066A97	2.64	2.75
1 1/16"	4066A112	5.47	10.17	4192A17	10.69	6930A37	64.58	4066A911	5.01	7.44	6.97	4066A97	2.64	2.75
1 1/8"	4066A113	5.48	10.17	4192A18	10.79	6930A38	68.75	4066A911	5.01	7.44	6.97	4066A97	2.64	2.75
1 3/16"	4066A114	5.47	10.17	4192A19	10.84	6930A23	72.92	4066A911	5.01	7.44	6.97	4066A97	2.64	2.75
									Hex Shank Size 3/8"	7/16"	5/8"	For Hex Shank 3/8" & 7/16"	5/8"
1 1/4"	4066A115	5.54	10.17	4192A21	11.48	6930A39	77.08	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
1 5/16"	4066A116	5.52	10.17	4192A22	11.47	6930A24	79.17	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
1 3/8"	4066A117	5.87	10.61	4192A23	11.24	6930A41	85.42	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
1 7/16"	4066A118	5.87	10.61	4192A65	11.79	—	—	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
1 1/2"	4066A119	5.88	10.61	4192A24	11.82	6930A42	85.42	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
1 9/16"	4066A148	5.87	10.61	4192A66	13.44	—	—	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
1 5/8"	4066A121	5.87	10.61	4192A25	13.52	6930A43	87.50	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
1 11/16"	4066A122	5.87	10.61	4192A26	13.40	—	—	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
1 3/4"	4066A123	7.15	13.22	4192A27	15.12	6930A44	87.50	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
1 13/16"	4066A124	7.15	13.22	4192A56	15.13	—	—	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
1 7/8"	4066A125	7.15	13.22	4192A28	15.08	6930A45	95.83	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
2"	4066A126	7.15	13.22	4192A29	15.12	6930A46	102.08	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
2 1/16"	4066A127	8.75	16.25	4192A68	14.98	—	—	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
2 1/8"	4066A128	8.75	16.25	4192A31	14.99	6930A47	112.50	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
2 1/4"	4066A129	8.91	16.25	4192A32	15.88	6930A48	112.50	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
2 5/16"	4066A149	8.90	12.39	4192A33	18.65	—	—	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
2 3/8"	4066A131	8.91	16.25	4192A34	18.59	6930A49	118.75	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
2 1/2"	4066A132	9.55	17.35	4192A35	17.45	6930A51	120.83	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
2 9/16"	4066A151	9.55	17.50	4192A36	20.02	—	—	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
2 5/8"	4066A152	9.55	17.35	4192A37	19.87	6930A27	122.92	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
2 11/16"	4066A153	9.55	17.50	4192A75	19.23	—	—	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
2 3/4"	4066A154	9.55	17.35	4192A38	19.85	6930A52	125.00	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
2 7/8"	4066A133	9.55	17.35	4192A69	20.05	6930A28	129.17	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
3"	4066A134	9.82	18.13	4192A39	20.91	6930A53	133.33	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
3 1/8"	4066A155	9.82	18.46	4192A41	20.94	—	—	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
3 1/4"	4066A156	9.83	18.46	4192A42	21.12	6930A61	138.00	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
3 3/8"	4066A157	9.82	18.46	4192A43	22.61	6930A62	164.00	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
3 1/2"	4066A135	9.82	18.46	4192A44	22.60	6930A63	176.00	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
3 5/8"	4066A158	11.40	21.55	4192A45	25.36	6930A25	189.58	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
3 3/4"	4066A159	13.32	25.22	4192A46	26.09	6930A65	190.00	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
3 7/8"	4066A161	13.95	26.31	4192A47	27.66	—	—	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
4"	4066A136	14.63	26.91	4192A48	29.91	6930A54	196.00	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
4 1/8"	4066A162	16.05	29.48	4192A71	31.78	—	—	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
4 1/4"	4066A137	19.88	38.31	4192A49	36.73	6930A66	218.00	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75

(Continued on following page)

For information about hole saw size selection, see page 2422.

Hole Saws *(Continued from previous page)*











	Multipurpose			Long-Life Multipurpose		Long-Life for Ceramics & Masonry		Arbors with Pilot Drill				Replacement Pilot Drills		
		1½" Cut Depth	1¾" Cut Depth		1½" Cut Depth		1½" Cut Depth		Hex Shank Size 3/8"	7/16"	5/8"		For Hex Shank 3/8" & 7/16"	5/8"
4³⁄₈"	4066A163	$22.92	$46.84	4192A57	$43.13	—	—	4066A912	$7.44	$6.97	$10.92	4066A97	$2.64	$2.75
4½"	4066A138	24.45	52.82	4192A51	46.06	6930A67	$228.00	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
4¾"	4066A139	25.94	59.26	4192A73	53.08	6930A11	241.67	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
5"	4066A143	29.03	60.97	4192A52	59.98	6930A68	254.00	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
5¼"	4066A93	31.65	—	4192A76	62.74	—	—	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
5½"	4066A145	32.38	73.05	4192A53	76.23	6930A14	287.50	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
5¾"	4066A94	34.88	—	4192A77	78.93	—	—	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75
6"	4066A147	34.80	85.26	4192A54	88.51	6930A69	326.00	4066A912	7.44	6.97	10.92	4066A97	2.64	2.75

Multipurpose for Deep Cuts—1⅞" cut depth

Hole Saws	Choose a diameter from 9/16" to 6": See multipurpose hole saw sizes	3994A11
Arbors with Pilot Drill	Choose an arbor: ¼", ⅜", 7/16", ⅝" Hex Shank	4066A98

Metric Multipurpose—1½" cut depth

Hole Saws	Choose a diameter: 16, 20, 25, 30, 32, 35, 40, 45, 50, 55, 68, 75 mm	4556A51
Arbors with Pilot Drill	Choose an arbor: ¼", ⅜", 7/16", ⅝" Hex Shank	4066A98

For Ceramics and Masonry—1⅜" cut depth

Hole Saws	Choose a diameter: ⅝", ¾", ⅞", 1", 1⅛", 1¼", 1⅜", 1½", 1⅝", 1¾", 1⅞", 2", 2⅛", 2¼", 2⅜", 2½", 2¾", 3", 3¼", 3⅜", 3¾", 4", 4½"	4194A21
Arbors with Pilot Drill	Choose an arbor: ¼", ⅜", 7/16", ⅝" Hex Shank	4066A98



Hole Saw Arbors with Pilot Drill

Attach your hole saw to a drill or drill press with one of these arbors and use the built-in pilot drill to guide the hole saw. They fit all brands of threaded hole saws. The included high-speed steel pilot drill is ¼" dia. **Long-life pilot drills** are carbide tipped, so they last up to twice as long as high-speed steel. They're ¼" Dia. × 2⅞" Lg.

Kit for 9/16"-6" Dia. Hole Saws—Includes two ¼" Dia. × 4⅝" Lg. high-speed steel pilot drills and two arbors with ½"-20 threads: one with a ¼" hex shank for 9/16"-13/16" dia. hole saws and one with a 7/16" hex shank for 9/16"-6" dia. hole saws.

Arbor Thread Adapter—Adapt ½"-20 threads to ⅝"-18 threads on 1¼" to 6" dia. hole saws.



For 9/16"-13/16" Dia. Saws



For 1¼"-6" Dia. Saws

Hex Shank Size	Thread Size	Pilot Drill Lg.	Arbors with Pilot Drill		Replacement Pilot Drills		Long-Life Pilot Drills	
For 9/16"-13/16" Dia. Hole Saws								
¼"	½"-20	3 1/16"	4066A76	$5.01	4066A86	$2.64	4066A141	$4.13
⅜"	½"-20	3 1/16"	4066A78	7.44	4066A86	2.64	4066A141	4.13
7/16"	½"-20	4 5/16"	4066A62	6.97	4066A89	2.75	—	—
For 1¼"-6" Dia. Hole Saws								
⅜"	⅝"-18	3 1/16"	4066A79	10.88	4066A86	2.64	4066A141	4.13
7/16"	⅝"-18	3 1/16"	4066A63	10.92	4066A86	2.64	4066A141	4.13
⅝"	⅝"-18	4 5/16"	4066A68	10.92	4066A89	2.75	—	—
Kit for 9/16"-6" Dia. Hole Saws							4130A14	20.12
Accessories								
Arbor Thread Adapter—½"-20 to ⅝"-18							4066A77	3.41
12" Extension for 7/16" Hex Shank Arbor							4066A64	8.72

Quick-Change Hole Saw Arbors with Pilot Drill

Switch hole saws without using adapters or special tools. These arbors have a spring-loaded quick-release collar that pulls back to let you quickly unthread the hole saw from the arbor instead of using a wrench or loosening set screws. They fit all brands of threaded hole saws. A built-in ¼" Dia. × 4" Lg. high-speed steel pilot drill guides the hole saw.



For Hole Saw Dia.	Hex Shank Size	Thread Size		
9/16"-13/16"	⅜"	½"-20	4043A11	$21.66
1¼"-3"	⅜"	⅝"-18	4043A12	22.54
1¼"-6"	7/16"	⅝"-18	4043A13	22.54
Replacement Pilot Drill			4043A21	3.47

Hole Saw Pilots for Enlarging Holes

Enlarge holes by using an existing hole as a guide. Attach the original hole saw to this pilot and use it to center a larger hole saw. Pilot fits all brands of threaded hole saws. Thread size is ½"-20. Hex shank size is ¼".

Thread adapter is required for use on 1⅛" dia. and larger hole saws to adapt ½"-20 threads to ⅝"-18 threads.



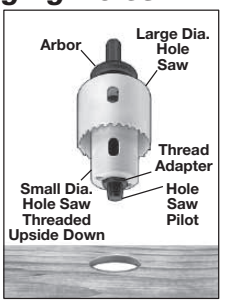

Pilot	4158A11	$20.17
Thread Adapter	4158A12	4.48

Hole Saws

For information about hole saw size selection, see page 2422.

Large Diameter Hole Saws



Multipurpose and Long-Life Multipurpose Saw



Multipurpose Saw with Replaceable Blades



Arbor with Pilot Drill for 3/4" Cut Depth Saws



Arbor with Pilot Drill for 1 1/2" Cut Depth Saws



Arbor for 2" Cut Depth Saws



Pilot Drill

These saws have high-speed steel teeth for cutting wood, plastic, and metals such as aluminum, brass, bronze, cast iron, steel, and stainless steel. Attach them to a drill or drill press. An arbor (sold separately) is required. Arbors come with a pilot drill, except pilot drills for 2" cut depth saws are sold separately. Pilot drills are 1/4" Dia. × 3 1/16" Lg. high-speed steel, unless otherwise stated.

Multipurpose—The body is steel.

Multipurpose with Replaceable Blades—These saws have a titanium-aluminum body and three replaceable steel blades. Pilot drill length is 4 5/16".

Long-Life Multipurpose—The body is steel and the teeth are carbide tipped, so they last up to twice as long as high-speed steel teeth. These saws are also for use on fiberglass and laminates.

Dia.	Saws		Arbors: Hex Shank Size		Pilot Drills	
Multipurpose—1 1/2" cut depth						
6 1/2"	4002A54	$109.29	3/8"	4066A79	$10.88	4066A86	$2.64
7"	4002A55	117.86	3/8"	4066A79	10.88	4066A86	2.64
8"	4002A56	135.00	3/8"	4066A79	10.88	4066A86	2.64
Multipurpose—2" cut depth						
7"	4002A57	196.76	1/2"	4002A67	30.00	30595A53	5.49
8"	4002A58	203.33	1/2"	4002A67	30.00	30595A53	5.49
9"	4002A59	249.11	1/2"	4002A67	30.00	30595A53	5.49
Multipurpose with Replaceable Blades—3/4" cut depth						
6"	4002A26	78.23	1/2"	4002A53	59.22	4066A89	2.75
6 1/2"	4002A27	84.65	1/2"	4002A53	59.22	4066A89	2.75
7"	4002A28	97.48	1/2"	4002A53	59.22	4066A89	2.75
7 1/2"	4002A29	103.90	1/2"	4002A53	59.22	4066A89	2.75
8"	4002A31	116.73	1/2"	4002A53	59.22	4066A89	2.75
8 3/8"	4002A32	129.57	1/2"	4002A53	59.22	4066A89	2.75
9"	4002A33	135.98	1/2"	4002A53	59.22	4066A89	2.75
10"	4002A35	143.68	1/2"	4002A53	59.22	4066A89	2.75
11"	4002A37	170.63	1/2"	4002A53	59.22	4066A89	2.75
12"	4002A39	178.32	1/2"	4002A53	59.22	4066A89	2.75
Replacement Blades (Pkg. of 3)						4002A52	15.69
Long-Life Multipurpose—2" cut depth						
6 3/4"	4002A61	248.93	1/2"	4002A67	30.00	30595A53	5.49
7"	4002A62	251.96	1/2"	4002A67	30.00	30595A53	5.49
8"	4002A63	257.97	1/2"	4002A67	30.00	30595A53	5.49
Other Sizes						
Please specify Multipurpose or Long-Life Multipurpose, diameter (6"-32"), and cut depth (2"-14") in 1" increments						4002A85	

Hole Saws with Built-In Arbor



Saw



Pilot Drill

Quickly connect these saws to your drill or drill press with the built-in arbor. All have a 7/16" hex shank. Saws have a steel body and high-speed steel teeth for cutting wood, plastic, and metals such as aluminum, brass, bronze, cast iron, steel, and stainless steel. Cut depth is 1 1/2". A pilot drill (sold separately) is required. Pilot drill is 1/4" Dia. × 4 5/16" Lg. high-speed steel.

Saws

Dia.			Dia.			Dia.			Dia.		
9/16"	4008A73	$11.11	1 3/8"	4008A251	$9.41	2 1/4"	4008A381	$14.45	3 1/2"	4008A521	$15.98
5/8"	4008A13	8.31	1 7/16"	4008A75	9.41	2 5/16"	4008A81	14.45	3 5/8"	4008A84	18.84
11/16"	4008A15	8.31	1 1/2"	4008A271	9.41	2 3/8"	4008A411	14.45	3 3/4"	4008A85	22.14
3/4"	4008A141	8.32	1 9/16"	4008A76	9.41	2 1/2"	4008A421	15.50	3 7/8"	4008A86	23.27
13/16"	4008A74	8.32	1 5/8"	4008A291	9.41	2 9/16"	4008A82	15.50	4"	4008A561	24.32
7/8"	4008A161	8.32	1 11/16"	4008A77	9.41	2 5/8"	4008A431	15.50	4 1/4"	4008A581	34.57
15/16"	4008A17	8.34	1 3/4"	4008A321	11.64	2 3/4"	4008A441	15.50	4 3/8"	4008A87	41.16
1"	4008A181	8.75	1 13/16"	4008A78	11.64	2 7/8"	4008A451	15.50	4 1/2"	4008A611	47.84
1 1/16"	4008A19	8.75	1 7/8"	4008A331	11.64	3"	4008A471	15.98	4 3/4"	4008A88	53.14
1 1/8"	4008A211	8.75	2"	4008A351	11.64	3 1/8"	4008A48	15.98	5"	4008A631	58.95
1 3/16"	4008A22	8.75	2 1/16"	4008A79	14.45	3 1/4"	4008A49	15.98	5 1/2"	4008A65	70.50
1 1/4"	4008A231	8.84	2 1/8"	4008A371	14.45	3 3/8"	4008A83	15.98	6"	4008A68	82.59
1 5/16"	4008A24	8.87									

Pilot Drills

Pilot Drill	4066A89	$2.75

Hole Saw Kits



All saws have a steel body. Attach them to a drill or drill press with the included arbors. A 1/4" dia. high-speed steel pilot drill is included with each arbor. Kits come in a plastic case, except the 16-piece multipurpose kit comes in a metal case.

Multipurpose—Saws have high-speed steel teeth for cutting wood and metals such as aluminum, brass, bronze, steel, and stainless steel. Saws *with built-in arbor* can also be used on cast iron and plastic.

Long-Life Multipurpose—Teeth are carbide tipped, so they last up to twice as long as saws with high-speed steel teeth. Use on a variety of materials including wood, plastic, fiberglass, laminates, aluminum, brass, bronze, steel, stainless steel, and cast iron.

For Ceramics and Masonry—Carbide-grit-coated teeth cut ceramic tile, fiberglass, masonry, plastic, and composites.

No. of Saws	Diameters	Cut Depth	No. of Arbors	Arbor Sizes	Includes		
Multipurpose							
5	7/8"-1 1/2"	1 1/2"	1	1/4"	One 1/2"-20 to 5/8"-18 arbor thread adapter	4044A15	$39.95
6	3/4"-2 1/4"	1 1/2"	2	1/4", 7/16"	One 12" arbor extension	4044A11	69.21
6	7/8"-2 1/2"	1 1/2"	2	1/4", 7/16"	One 12" arbor extension	4044A12	74.40
7	7/8"-2 1/8"	1 3/4"	2	3/8"	—	41005A86	110.59
9	3/4"-2 1/2"	1 1/2"	2	1/4", 7/16"	One extra 1/4" pilot drill and one 1/2"-20 to 5/8"-18 arbor thread adapter	4742A11	80.85
9	3/4"-2 1/2"	1 7/8"	2	1/4", 7/16"	One extra 1/4" pilot drill and one 1/2"-20 to 5/8"-18 arbor thread adapter	3994A65	74.98
12	5/8"-3"	1 1/2"	2	7/16"	Three extra 1/4" pilot drills	4044A13	154.38
12	5/8"-3"	1 3/4"	2	7/16"	Three extra 1/4" pilot drills	41005A84	164.08
16	3/4"-4 3/4"	1 1/2"	2	7/16"	Three extra 1/4" pilot drills	4005A31	221.40
20	3/4"-4 3/4"	1 3/4"	3	3/8", 7/16"	Three extra 1/4" pilot drills	41005A81	366.46
Multipurpose with Built-In Arbor							
5	7/8"-1 1/2"	1 1/2"	—	7/16"	One extra 1/4" pilot drill	4008A72	48.31
9	3/4"-2 1/2"	1 1/2"	—	7/16"	Four 1/4" pilot drills and one 12" arbor extension	4008A71	112.00
Long-Life Multipurpose							
5	7/8"-1 1/2"	1 1/2"	2	1/4", 7/16"	One 1/2"-20 to 5/8"-18 arbor thread adapter	4192A61	75.85
9	3/4"-2 1/2"	1 1/2"	2	1/4", 7/16"	One extra 1/4" pilot drill and one 1/2"-20 to 5/8"-18 arbor thread adapter	4192A62	167.97
For Ceramics and Masonry							
9	3/4"-2 1/2"	1 1/2"	3	1/4", 7/16"	One 12" arbor extension	4194A63	186.80

For information about hole saw size selection, see page 2422.

Hole Saws for Hard Metal

The carbide teeth on these steel saws cut hard metal such as steel, stainless steel, cast iron, and titanium. They can be sharpened, so they last longer than saws with carbide-tipped steel teeth. Use them on a drill or drill press. An arbor and pilot drill (sold separately) are required. Pilot drills are carbide-tipped high-speed steel.



Saw



Arbor



Pilot Drill

Saws

Dia.	1″ Cut Depth		2″ Cut Depth	
3/4″	4118A11	$52.57	4118A36	$75.43
7/8″	4118A12	54.86	4118A37	76.57
1″	4118A13	56.00	4118A38	80.00
1 1/8″	4118A14	57.14	4118A39	85.71
1 1/4″	4118A15	60.57	4118A41	91.43
1 3/8″	4118A16	62.86	4118A42	94.86
1 1/2″	4118A17	65.14	4118A43	99.43

Dia.	1″ Cut Depth		2″ Cut Depth	
1 5/8″	4118A18	$67.43	4118A59	$225.75
1 3/4″	4118A19	69.71	4118A44	104.00
1 7/8″	4118A21	81.14	4118A27	253.05
2″	4118A22	82.29	4118A45	120.00
2 1/8″	4118A23	84.57	4118A28	277.64
2 1/4″	4118A24	86.86	4118A46	125.71
2 3/8″	4118A25	91.43	4118A47	131.43

Dia.	1″ Cut Depth		2″ Cut Depth	
2 1/2″	4118A26	$92.57	4118A48	$136.00
2 3/4″	4118A29	97.14	4118A49	150.86
3″	4118A31	108.57	4118A51	166.86
3 1/4″	4118A32	118.86	4118A52	184.00
3 1/2″	4118A33	126.86	4118A53	198.86
3 3/4″	4118A34	314.10		
4″	4118A35	150.86	4118A55	217.14

Arbors and Pilot Drills

For Hole Saw Dia.	Hex Shank Size	Thread Size		
Arbors				
3/4″-7/8″	3/8″	1/2″-13	4118A56	$16.86
1″-1 7/8″	1/2″	3/4″-10	4118A57	17.14
2″-4″	1/2″	3/4″-10	4118A58	17.14

For Hole Saw Dia.	Dia.	1″ Cut Depth Lg.		2″ Cut Depth Lg.	
Pilot Drills					
3/4″-1 7/8″	1/4″	2 3/4″	4118A61 $10.57	3 3/4″	4118A83 $10.57
2″-4″	3/8″	2 3/4″	4118A62 10.57	3 3/4″	4118A84 10.57

Heavy Duty Hole Saws for Stainless Steel Sheets

An extra-thick steel body with carbide teeth can cut through stainless steel structural framing and electrical enclosures. Cut depth is 1/8″. The built-in arbor makes these saws easy to attach to a drill or drill press. It has a 33/64″ hex shank. The included high-speed steel pilot drill is 15/64″ Dia. × 3 1/8″ Lg. It has a spring to push out the slug.



Dia.		
3/4″	4054A11	$61.00
7/8″	4054A12	63.78
1″	4054A13	67.57
1 1/8″	4054A14	68.50
1 3/8″	4054A15	84.46

Dia.		
1 1/2″	4054A16	$86.29
1 11/16″	4054A17	105.06
2″	4054A18	126.69
2 3/8″	4054A19	141.69

Replacement Pilot Drill 4054A21 4.48

Impact-Driver Hole Saws for Sheet Metal

These saws have high-speed steel teeth to make clean, fast cuts in thin metal and plastic when you use them with an impact driver. Cut depth is 3/8″. The body is steel and widens at the top to prevent the saw from pushing through your workpiece. The built-in arbor has a 1/4″ hex shank that makes these saws easy to attach to your impact drill. The included high-speed steel pilot drill is 5/32″ Dia. × 2 1/2″ Lg. It has a spring that pushes out the slug.



Dia.		
3/4″	1137N12	$14.18
7/8″	1137N13	14.68
1″	1137N11	14.90
1 1/8″	1137N16	15.53

Dia.		
1 1/4″	1137N15	$15.80
1 3/8″	1137N17	16.06
1 1/2″	1137N14	16.61

Hole Saws for Fiberglass and Plastic Sheets

These high-speed steel saws are coated with titanium aluminum nitride (TiAlN) to reduce friction and prevent material buildup when cutting fiberglass and plastic. Cut depth is 1/4″. Attach them to your drill or drill press. An arbor with pilot drill (sold separately) is required. The pilot drills for 13/16″-2 1/2″ dia. hole saws have a spring that pushes out the slug.



Saw

Saws

Dia.		
9/16″	4146A51	$17.45
5/8″	4146A52	17.45
11/16″	4146A53	19.17
3/4″	4146A54	20.52
13/16″	4146A55	22.98

Dia.		
7/8″	4146A56	$23.83
15/16″	4146A57	25.57
1″	4146A58	26.32
1 1/16″	4146A59	26.95
1 1/8″	4146A61	29.92

Dia.		
1 3/16″	4146A62	$30.91
1 1/4″	4146A63	33.86
1 3/8″	4146A65	36.94
1 1/2″	4146A67	40.55
1 5/8″	4146A69	47.57

Dia.		
1 3/4″	4146A72	$51.63
1 7/8″	4146A74	54.60
2″	4146A75	67.25
2 1/4″	4146A78	76.55
2 1/2″	4146A81	111.28

Arbors and Pilot Drills

For Hole Saw Dia.	Hex Shank Size	Thread Size		
Arbors with Pilot Drill				
9/16″-3/4″	3/8″	3/8″-24	4146A91	$5.28
13/16″-1 1/4″	3/8″	1/2″-20	4146A92	6.82
1 3/8″-2 1/2″	1/2″	5/8″-18	4146A93	9.82

For Hole Saw Dia.	Dia.	Lg.		
Replacement Pilot Drills				
9/16″-3/4″	5/32″	2″	4146A971	$3.12
13/16″-2 1/2″	1/4″	2 1/8″	4146A981	4.20



Arbor with Pilot Drill for 9/16″-3/4″ Dia. Saws



Arbor with Pilot Drill for 13/16″-2 1/2″ Dia. Saws

Adjustable-Diameter Hole Saws for Sheet Metal

Use these saws with a drill press to cut a variety of hole sizes in sheet metal up to 1″ thick. They include a high-speed steel bit for cutting aluminum, brass, bronze, and steel. Maximum speed is 500 rpm. The included high-speed steel pilot drill is 1/4″ Dia. × 1 9/16″ Lg.



Dia. Range	Arbor Shank Size	Bit Dia.	Hole Saws		Replacement Cutting Bits	
1″-6″	3/8″	3/16″	8830A13	$20.99	8830A15	$4.52
1 3/4″-7 7/8″	1/2″	1/4″	3082A2	29.97	3082A4	6.42

Adjustable Large-Diameter Hole Saws for Sheet Metal

Attach these saws to your portable drill to cut a range of large diameter hole sizes in sheet metal up to 0.40″ thick. They include a 3/16″ dia. high-speed steel bit with a 1/4″ dia. shank. The frame rotates around a pilot pin inserted into a 1/4″ drilled hole.



Hole Dia. Range		
2″-12″	30885A12	$69.92
2″-20″	30885A14	89.01
Replacement Cutting Bit	30885A18	15.10

Hole Saws for Sheet Metal



1/8" Cut Depth Saw



1/4"-1/2" Cut Depth Saw



Arbor with Pilot Drill



Arbor with Pilot Pin

Lower cut depths than standard hole saws make these saws less likely to rip or tear while making smooth, burr-free cuts in sheets. Both the body and the teeth are heat-treated high-speed steel to cut through aluminum, brass, bronze, and steel. Use these saws on a drill or drill press. An arbor (sold separately) is required.

Arbors with pilot drill include a high-speed steel pilot drill to guide your cut.

Arbors with pilot pin require a drilled pilot hole. **Spring-loaded pilot pins** push out the slug as you cut.

Kit with pilot drill includes a 3/16" Dia. x 2 3/8" Lg. high-speed steel pilot drill.

Saws

1/8" Cut Depth

Dia.		
11/16"	3789A11	$13.77
3/4"	3789A12	13.87
13/16"	3789A13	13.96
7/8"	3789A14	14.17
15/16"	3789A15	14.36
1"	3789A16	14.57
1 1/16"	3789A17	14.75
1 1/8"	3789A18	14.96
1 3/16"	3789A19	15.06
1 1/4"	3789A21	15.26
1 5/16"	3789A22	15.36
1 3/8"	3789A23	15.66
1 7/16"	3789A24	17.25
1 1/2"	3789A25	17.25
1 9/16"	3789A26	17.34
1 5/8"	3789A27	17.43
1 11/16"	3789A28	18.04
1 3/4"	3789A29	19.42

1/8" Cut Depth (Cont.)

Dia.		
1 7/8"	3789A32	$22.79
2"	3789A33	24.38
2 1/16"	3789A34	29.02
2 1/8"	3789A35	30.02
2 1/4"	3789A36	31.70
2 3/8"	3789A38	33.19
2 1/2"	3789A39	34.87
2 9/16"	3789A41	41.60
2 5/8"	3789A42	42.49
2 3/4"	3789A43	43.00
2 7/8"	3789A44	45.96
3"	3789A45	46.26

1/4" Cut Depth

Dia.		
1/4"	4093A31	7.53
5/16"	4093A33	7.98
11/32"	4093A24 ★	10.84
3/8"	4093A35	9.31
13/32"	4093A26 ★	13.47

1/4" Cut Depth (Cont.)

Dia.		
27/64"	4093A27 ★	$13.47
7/16"	4093A38	11.09
15/32"	4093A29 ★	14.26
1/2"	4093A41	11.51
17/32"	4093A62 ★	15.49
9/16"	4093A43	12.84
5/8"	4093A44	13.32
11/16"	4093A45	15.07
23/32"	4093A66 ★	18.58
3/4"	4093A47	15.54
6 mm	4298A11	8.82
7 mm	4298A12	8.81
8 mm	4298A13	9.34
9 mm	4298A14	10.90
10 mm	4298A15	10.44
11 mm	4298A16	11.09
12 mm	4298A17	11.34
13 mm	4298A18	11.57

1/4" Cut Depth (Cont.)

Dia.		
14 mm	4298A19	$12.83
15 mm	4298A21	13.22
16 mm	4298A22	13.32
17 mm	4298A23	14.68
18 mm	4298A24	15.16
19 mm	4298A25	15.54
20 mm	4298A26	16.56

1/2" Cut Depth

Dia.		
13/16"	4093A51	25.29
7/8"	4093A52	26.63
15/16"	4093A53	27.96
1"	4093A54	29.22
1 1/16"	4093A55	32.94
1 1/8"	4093A56	34.07
1 3/16"	4093A57	36.75
1 1/4"	4093A58	39.92
1 3/8"	4093A59	43.83
1 1/2"	4093A61	45.83

★ Only for use with arbor with pilot pin.

Arbors, Pilot Drills, and Pilot Pins

For Hole Saw Cut Depth	For Hole Saw Dia.	Hex Shank Size	Thread Size	Arbors		Replacement Pilot Drills	
Arbors with Pilot Drill							
1/8"	11/16"-3"	3/8"	_____	3789A61	$29.78	3789A62	$7.51
1/4"	3/8"-3/4", 10 mm-20 mm	3/8"	3/8"-24	4093A72	21.82	4093A84	4.99
Arbors with Pilot Pin							
1/4"	11/32", 13/32", 27/64", 15/32", 17/32", 23/32"	3/8"	_____	4093A76	43.38	_____	____
Arbors with Spring-Loaded Pilot Pin							
1/4"	1/4"-3/4", 6 mm-20 mm	3/8"	3/8"-24	4093A71	16.13	4093A75	2.01
1/2"	13/16"-1 1/2"	1/2"	1/2"-20	4093A73	37.24	4093A74	5.89

Kits—Come in a plastic case

No. of Saws	Diameters	Cutting Depth	Hex Shank Size	Arbor Style	Includes		
4	1/4"-3/4"	1/4"	3/8"	Arbor with Spring-Loaded Pilot Pin	Extra 1/8" Dia. Pilot Pin	4093A83	$56.56
6	7/8"-2 1/2"	1/8"	3/8"	Arbor with Pilot Drill	Extra 3/16" Dia. Pilot Drill	3789A52	184.55
7	5/16"-3/4"	1/4"	3/8"	Arbor with Spring-Loaded Pilot Pin	Two Extra 1/8" Pilot Pins, Center Punch, Hex Wrench	4093A81	79.67
7	8-20 mm	1/4"	3/8"	Arbor with Spring-Loaded Pilot Pin	Two Extra 1/8" Pilot Pins, Center Punch, Hex Wrench	4298A31	82.56

Heavy Duty Hole Saws for Sheet Metal and Plastic Sheets



The carbide teeth on these steel saws cut aluminum, brass, bronze, steel, and plastic sheets and last up to twice as long as high-speed steel teeth. Cut depth is 1/4". The body widens at the top to prevent the saw from pushing through your workpiece. A built-in arbor with a 1/2" hex shank makes these saws easy to attach to your drill press. The included 1/4" Dia. x 2 1/8" Lg. high-speed steel pilot drill has a spring that pushes out the slug.

Dia.		
3/4"	4080A21	$63.00
13/16"	4080A22	64.17
7/8"	4080A23	65.33
1"	4080A24	67.67
1 1/16"	4080A25	71.17
1 1/8"	4080A26	73.50
1 7/32"	4080A27	74.67
1 1/4"	4080A28	77.00
1 5/16"	4080A29	78.17

Dia.		
1 3/8"	4080A31	$79.33
1 1/2"	4080A33	86.33
1 5/8"	4080A34	96.83
1 3/4"	4080A35	100.33
2"	4080A36	105.00
2 1/8"	4080A37	119.00
2 1/4"	4080A38	120.17
2 3/8"	4080A39	121.33
2 1/2"	4080A41	123.67

Replacement Pilot Drill ..... 4080A51 ..... 11.09

Hole Saw Slug and Core Removing Tools



Pull-Out Tool



Push-Out Tool

Use these steel tools to remove material from the inside of your hole saw to prevent binding.

Pull-Out Tool—Tool has two reverse-angle hooks that fit through the slots in the side of your saw. Use it to pull out wood, plastic, and metal slugs.

Push-Out Tool—Slide the curved end of each piece into the slot in the side of your saw and use a lever motion to push out metal slugs that have heated and expanded during cutting. Use the tapered end to pick up hot slugs after removing them.

Pull-Out Tool for 1/2"-3" Hole Saws ..... 4067A21 ..... $6.80
Push-Out Tool for Any Size Hole Saws ..... 4067A22 ..... 10.69

Hole Saws for Spot Welds



Cut through spot welds on sheet metal with this 3/8" dia. high-speed steel saw. It makes faster, more precise cuts than drill bits and other hole saws. This saw has a 1/4" hex shank for use with portable drills.

4096A11 ..... $17.44

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Air-Powered Drills























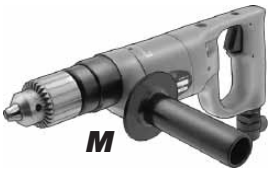

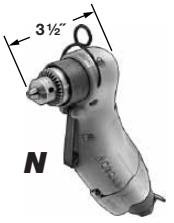

These drills operate on 90 psi air pressure and have a ¼" NPT female air inlet. All come with a chuck and a key, except Style B, which has a keyless chuck, and Style P, which have a threaded spindle.

Light Duty Drills—Designed for intermittent use. *Style B* has a rubber hand grip for added comfort. *Style D* has a side handle. *Styles E, F,* and *G* have a lever throttle with a lock to prevent accidental starts.

Medium Duty Drills—More durable than our light duty drills, these drills are excellent for general purpose drilling jobs. *Style H* have a rubber hand grip to reduce vibration. *Style J* has a side handle that adjusts 360° and a rubber hand grip for added comfort.

Heavy Duty Drills—Rated for continuous use, these tools take on your tough drilling jobs. They have heavy duty bearings and hardened steel gears. *Style H* has a rubber hand grip to reduce vibration. *Styles L* and *N* have a speed control that lets you set the motor speed at less than the max. rpm. *Style N* has an exhaust deflector/silencer that adjusts 360°.

Heavy Duty Drills for Threaded-Shank Drill Bits—Also rated for continuous use, these drills have a threaded spindle instead of a drill chuck and use ¼"-28 threaded-shank drill bits (sold separately, see page 2473). They have heavy duty bearings and hardened-steel gears.

Drill Style	Chuck Cap.	No-Load rpm	Motor Type	hp	Avg. cfm @ 90 psi	Exhaust Style	Air Hose ID	Lg.	Wt., lbs.		Each	
Light Duty Drills												
A Pistol Grip	3/8"	2,000	Reversing	0.50	4	Rear	3/8"	7 1/2"	2.2	27755A17	$69.73	***A***
B Pistol Grip	3/8"	2,000	Reversing	0.50	4	Rear	3/8"	7 1/2"	2.2	27755A22	75.32	***B***
C Pistol Grip	3/8"	20,000	Nonreversing	0.48	4	Front	3/8"	5"	1.7	27755A12	73.05	***C***
D Pistol Grip	1/2"	800	Reversing	0.40	6	Handle	3/8"	7"	4	28105A26	196.04	***D***
E Straight Handle	3/8"	20,000	Nonreversing	0.48	4	Front	3/8"	6 1/2"	1.6	27755A14	67.54	***E***
F Straight Handle	3/8"	2,700	Nonreversing	0.37	6.8	Rear	3/8"	8"	2.2	27825A21	144.82	***F***
G Right Angle	3/8"	1,800	Reversing	0.27	5.3	Rear	3/8"	8 1/4"	2.2	27825A31	189.14	***G***
Medium Duty Drills												
A Pistol Grip	3/8"	2,000	Reversing	0.50	4	Rear	3/8"	6 3/8"	2.5	28495A12	151.53	***A***
A Pistol Grip	3/8"	2,000	Nonreversing	0.50	4	Rear	3/8"	7 13/16"	2.4	28495A11	129.36	***A***
H Pistol Grip	3/8"	2,000	Reversing	1.00	7.5	Rear	3/8"	7 19/32"	2.6	2803A13	274.26	***H***
H Pistol Grip	3/8"	2,600	Nonreversing	1.00	7.5	Rear	3/8"	7"	2.5	2803A11	284.34	***H***
J Pistol Grip	1/2"	800	Reversing	0.50	6	Rear	3/8"	8 1/2"	3.3	27755A18	268.88	***J***
K Right Angle	3/8"	1,800	Reversing	0.50	4.6	Rear	3/8"	7"	2.5	27755A21	149.74	***K***
Heavy Duty Drills												
H Pistol Grip	1/4"	4,000	Reversing	1.00	7.5	Rear	3/8"	7 3/32"	2.4	3130A33	310.83	***H***
L Straight Handle	1/4"	4,000	Reversing	1.00	7.5	Rear	3/8"	9 5/16"	2.2	3130A29	365.46	***L***
L Straight Handle	3/8"	1,200	Reversing	1.00	7.5	Rear	3/8"	10 13/16"	2.8	8894A11	390.15	***L***
M D-Handle	1/2"	550	Nonreversing	1.00	8	Side	3/8"	13 3/8"	6.6	3131A12	716.49	***M***
N Angle Head	1/4"	2,200	Reversing	0.33	4	Rear	3/8"	9"	2.6	3129A15	448.45	***N***
Heavy Duty Drills for Threaded-Shank Drill Bits												
P Right Angle	—	2,400	Nonreversing	0.40	22	Rear	5/16"	11 3/32"	1.8	29955A21	876.92	***P***
P Right Angle	—	5,300	Nonreversing	0.40	22	Rear	5/16"	10 11/16"	1.6	29955A22	876.92	***P***

Multi-Angle Drill Attachment





Drill here, drill there…this attachment lets you drill anywhere. It fits onto your drill and rotates a full 360°, making it ideal for use in recessed locations.

Attachment has a round body with a 3/8" keyless chuck and a 3/8" hex shaft that rotate independently from each other. Simply slide the thumb switch and twist the soft-grip handle to lock and unlock the moving parts. For use with drills that have a 3/8" and larger chuck capacity.

2496A11 ..... **Each** $35.52

DeWalt Cordless Drill/Drivers

Get drilling power where you need it. These cordless drills have a variable-speed reversing motor, a keyless chuck, and a carrying case. All are UL listed and meet OSHA requirements.

Styles A and ***B*** have an adjustable clutch and a cushion-grip handle. Furnished with two batteries and a 1-hr., 120 VAC battery charger. *Style B* has a 360° rotating side handle.

Style C comes with one battery and a 30-min., 120 VAC battery charger.



	Volts	Chuck Cap.	No-Load rpm	Battery, amp-hrs.	Battery Type	Clutch Settings	Lg.	Wt., lbs.	DeWalt Model No.	Each
A	18	½″	0-500/0-1700	1.7	Nickel Cadmium	17	8.2″	4.8	DC720KA	29835A103	$199.86
B	18	½″	0-500/0-1250/0-2000	2.4	Nickel Cadmium	22	9.5″	6.3	DCD940KX	29835A88	274.24
C	20	⅜″	0-650/0-2,000	1.5	Lithium Ion	—	12.8″	3.8	DCD740C1	29835A65	225.53

Milwaukee Cordless Drill/Drivers

A lithium ion battery powers these cordless drills, which means they weigh less and have a longer run-time than Milwaukee cordless drills that use nickel cadmium batteries. All drills have a variable-speed reversing motor; a cushion-grip handle; one or two batteries (as stated); and a carrying case. All are UL listed and meet OSHA requirements.

Styles D, E, and ***F*** have a keyless chuck and an adjustable clutch for adjusting torque. They come with two batteries. *Styles D* and *E* include a 30-min., 120 VAC battery charger. *Style F* has a side handle and includes a 1-hr., 120 VAC battery charger. C-UL listed.

Style G has an angle head that swivels 360° and locks in any position. It also has a 360° adjustable side handle and comes with one 28-volt battery. Includes a 1-hr., 120 VAC battery charger. C-UL listed.



	Volts	Chuck Cap.	No-Load rpm	Max. Torque, in.-lbs.	Battery, amp-hrs.	Battery Type	Clutch Settings	Lg.	Wt., lbs.	Milwaukee Model No.	Each
D	12	⅜″	0-400/0-1500	275	1.5	Lithium Ion	20	7⅜″	2.6	2407-22	29735A103	$141.88
E	18	½″	0-400/0-1800	500	1.5	Lithium Ion	22	7¼″	3.8	2606-22CT	29735A121	194.38
F	18	½″	0-550/0-2000	1200	5	Lithium Ion	24	7½″	5	2703-22	29735A135	307.50
G	28	½″	0-400/0-1000	1081	3	Lithium Ion	—	18¼″	10.9	0721-21	29735A77	412.50

Makita Cordless Drill/Drivers

These cordless drills have a variable-speed reversing motor. Drills come with two lithium ion batteries, which means they last longer and weigh less than drills that use nickel cadmium and nickel metal hydride batteries. They come with a carrying case. All are UL listed and meet OSHA requirements.

Style H has a ⅜″ keyed chuck. Includes a 30-minute, 115 VAC battery charger.

Style J has a keyless chuck for fast bit changes. It also has a cushion-grip handle and an adjustable clutch that lets you adjust torque for driving various screws. Includes a 30-minute, 120 VAC battery charger.



	Volts	Chuck Cap.	No-Load rpm	Max. Torque, in.-lbs.	Battery, amp-hrs.	Battery Type	Clutch Settings	Lg.	Wt., lbs.	Makita Model No.	Each
H	18	⅜″	0-1,800	121	3	Lithium Ion	—	12⅜″	4	XAD01	8777A41	$411.04
J	18	½″	0-600/0-1,900	480	2	Lithium Ion	21	7¼″	3.3	XFD10R	27875A51	180.66

Hand Drills



Good for use on wood that is prone to splintering.

K ***Crank-Action Hand Drill—*** Just turn the smooth-running hand crank to drill.

L ***Spiral-Action Ratchet Hand Drill/Screwdriver—*** An up and down stroke turns this drill to quickly drive and remove screws. Set the drill to turn clockwise, counterclockwise, or lock in place for increased power.

M ***Ratchet-Bit Brace Hand Drill—*** Great for use in confined areas. The three-jaw chuck provides a secure fit for driving round shank drills, hex shank tools, and auger bits.

		Chuck Capacity	Lg.		Each
K	Crank-Action Hand Drill	5⁄16″	11″	2297A1	$56.40
L	Spiral-Action Ratchet Hand Drill/Screwdriver	¼″	13″	2297A2	71.98
M	Ratchet-Bit Brace Hand Drill	7⁄64″-9⁄32″	10″	2297A3	114.87

DeWalt 20-Volt Cordless Tool Combination Kits

Get the tools you need in an easy-to-carry two- or four-tool combination kit. Both kits come with two 20-volt, 3.0 amp-hour, lithium ion batteries and a 1-hr., 120 VAC charger.

Two-Tool Kit— Includes a hammer drill with ½″ chuck capacity, a reciprocating saw (0-3000 strokes per minute), and a carrying bag.

Four-Tool Kit— Includes a hammer drill with ½″ chuck capacity, a reciprocating saw (0-3000 strokes per minute), a 20V ¼″ impact driver, a flexible-stem flashlight, and a carrying case.



	Each
Two-Tool Kit (Model No. DCK292L2)	8862A53	$374.22
Four-Tool Kit (Model No. DCK490L2)	8862A54	528.35

Pistol-Grip Electric Drills

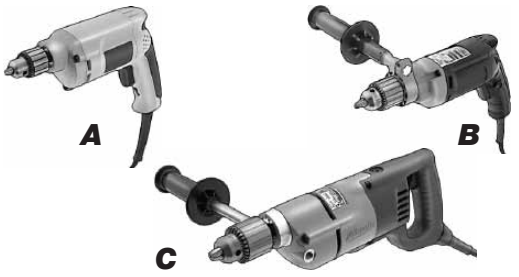

A traditional pistol-grip shape makes these drills suitable for a variety of drilling applications. All have a variable-speed, reversing motor. Drills include a chuck, a chuck key (except the keyless models), and an 8-ft. power cord with plug. Drills with two-prong plugs are double insulated. All operate on 115/120 VAC, 60 Hz and are CSA certified (except Makita models) and UL listed.

Style A have a trigger lock (except 28925A4) so you don't have to hold down the trigger for continuous use.

Style B have a 360° adjustable side handle for additional control (except 29005A61 and 2829A51, which have a two-position side handle). They also have a trigger lock (except 28135A82) so you don't have to hold down the trigger for continuous use. 2829A51 and 2829A94 have a detachable Quik-Lok power cord.

Style C have a two-position side handle for additional control and a detachable Quik-Lok power cord.

	Chuck Cap.	No-Load rpm	Chuck Style	Motor Amps	Gear Housing Material	Plug Type	Lg.	Wt., lbs.	Brand	Model No.		Each	
A	1/4″	0-4,000	Key	6.7	Metal	2 Prong	9 5/8″	3.2	DeWalt	DW217	3142A71	$165.76	***A***
A	3/8″	0-1,250	Key	7.0	Metal	3 Prong	11 3/8″	3.6	DeWalt	DW223G	28925A23	147.35	***A***
A	3/8″	0-1,250	Keyless	6.7	Thermoplastic	2 Prong	11 3/8″	3.3	DeWalt	DW222	28925A22	121.56	***A***
A	3/8″	0-2,500	Key	4.9	Thermoplastic	2 Prong	10 9/32″	3.1	Makita	6407	29125A33	82.45	***A***
A	3/8″	0-2,500	Keyless	4.9	Thermoplastic	2 Prong	10 9/32″	3.1	Makita	6408	29125A41	82.45	***A***
A	3/8″	0-2,500	Keyless	8.0	Thermoplastic	2 Prong	9″	4.1	DeWalt	DWD112	28925A4	70.03	***A***
B	3/8″	0-1,200	Key	7.0	Metal	3 Prong	12″	4.2	Milwaukee	0200-20	2946A71	146.25	***B***
B	1/2″	0-550	Key	6.5	Metal	2 Prong	11 1/4″	4.8	Makita	6302H	29005A61	141.86	***B***
B	1/2″	0-600	Key	7.8	Metal	2 Prong	12″	4.4	DeWalt	DW245	28135A83	160.24	***B***
B	1/2″	0-850	Key	8.0	Metal	3 Prong	12 3/16″	5.4	Milwaukee	0300-20	2829A91	135.00	***B***
B	1/2″	0-850	Keyless	8.0	Metal	3 Prong	12 1/4″	5.6	Milwaukee	0302-20	2829A94	156.25	***B***
B	1/2″	0-950	Key	5.5	Metal	3 Prong	10 1/2″	4.8	Milwaukee	0234-6	2829A51	155.62	***B***
B	1/2″	0-1,000	Key	8.5	Metal	3 Prong	12″	4.2	DeWalt	DW235G	28135A92	116.38	***B***
B	1/2″	0-1,250	Key	10.0	Metal	3 Prong	12 1/4″	4.9	DeWalt	DWD210G	28135A82	135.18	***B***
C	1/2″	0-500	Key	7.0	Metal	3 Prong	14 3/4″	6.8	Milwaukee	1107-6	89125A42	230.00	***C***
C	1/2″	0-600	Key	7.0	Metal	3 Prong	14 3/4″	6.8	Milwaukee	1007-1	89125A45	223.75	***C***

Three-Handle Electric Drills

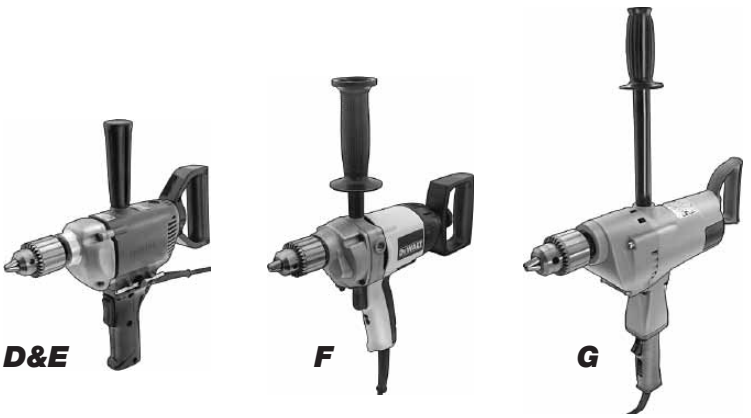

With a powerful motor, these drills have the strength for big drilling and mixing applications. Their top handle provides additional leverage and stability, and a rear D-handle makes them easy to carry. Motors are single-speed reversing, except Style F, which is variable-speed reversing. Gear housing is metal.

Drills come with a chuck, a chuck key, and an 8-ft. power cord with plug (unless noted). Those with two-prong plugs are double insulated. All are UL listed, CSA certified, and meet OSHA requirements.

Style D has a removable top handle and a rear handle that adjusts 360°.

Style E has removable top and rear handles.

Style F has a trigger lock so you don't have to hold down the trigger for continuous use. Also has a removable three-position top handle and a removable two-position rear handle.

Style G has a removable top handle and a two-position rear handle.

	Chuck Cap.	No-Load rpm	Chuck Style	Voltage	Hz	Motor Amps	Plug Type	Lg.	Wt., lbs.	Brand	Model No.		Each	
D	1/2″	600	Key	120 VAC	50/60	8.5	2 Prong	13 3/8″	6.3	Makita	DS4011	29005A52■	$168.54	***D***
E	1/2″	450	Key	120 VAC/VDC	60	7.0	3 Prong	12 1/4″	11.4	Milwaukee	1660-6	3119A27	240.00	***E***
F	1/2″	0-550	Key	120 VAC	60	9.0	2 Prong	11 1/2″	7.5	DeWalt	DW130V	28135A62	194.77	***F***
G	3/4″	350	Key	120 VAC/VDC	60	10.0	3 Prong	18 1/2″	19	Milwaukee	1854-1	2832A41	640.00	***G***

■ Has a 6-ft. power cord.

Milwaukee 28-Volt Cordless Tool Combination Kit



With this selection of powerful portable tools, you'll be ready to tackle any job, anywhere. Kit includes a hammer drill (29735A97); a Sawzall reciprocating saw (24795A7) with two blades; a 5/8″ arbor circular saw (4154A16) with 6 1/2″ blade; a work light; a belt clip; two 28-volt lithium ion batteries; a 1-hr., 120 VAC battery charger; and a heavy duty carrying bag.

2998A11 ..... **Each** $801.25

Drilling-Debris Containment Bubbles

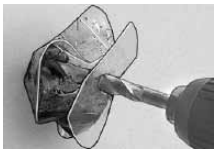

Make cleanup after drilling easy by containing chips and dust in these disposable bubbles. Use the adhesive backing to stick the bubble to the wall and pull the label to inflate. Drill through the bubble to the wall; then gently pull it off the surface to dispose.

Package quantity is 10.

For Use On		Per Pkg.
Metal	8937A13	$22.23
Painted Walls and Wallpaper	8937A21	5.01
Wood and Plaster	8937A22	5.01

Angle-Head Electric Drills

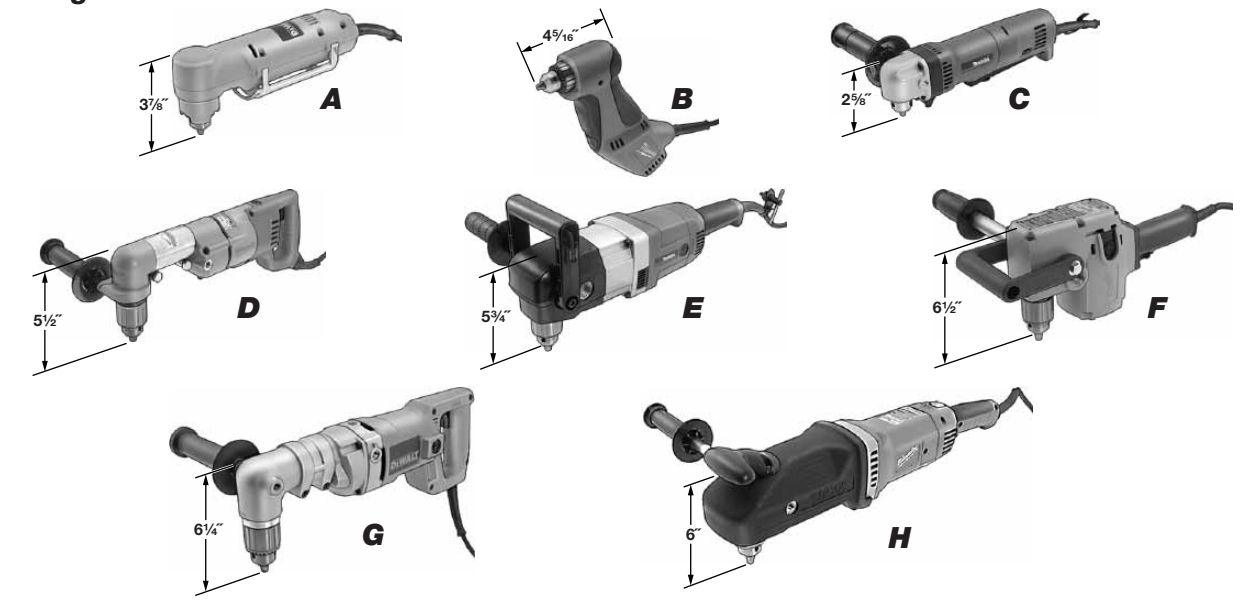

Get a better angle when drilling into hard-to-reach spaces. These durable drills have variable-speed reversing motors (except E, F, G, and H) and operate on 115/120 VAC, 60 Hz. They include a chuck, a chuck key, and an 8-ft. power cord with plug (except Style H, which has a 9-ft. power cord with plug). Drills with two-prong plugs are double insulated. All are UL listed, CSA certified (except Styles C and E), and meet OSHA requirements.

Style C has an LED light and a two-position side handle.

Style D has a 360° adjustable head, a 360° adjustable side handle, a chuck remover bar, a Quik-Lok power cord, and a carrying case.

Style E has a two-speed reversing motor, a rear handle that rotates 90°, a two-position side handle, an adjustable top handle, and a torque limiter that disengages the motor at low speeds if the bit gets stuck.

Style F has a two-position side handle and a three-position front handle.

Style G has a 360° adjustable head, a three-speed nonreversing motor (400 and 900 rpm angle drilling; 600 rpm straight drilling), a multiposition side handle, and a carrying case.

Style H has a rear handle that rotates 90° and a two-position side handle.

	Chuck Cap.	No-Load rpm	Motor Amps	Head Angle	Gear Housing Material	Plug Type	Lg.	Wt., lbs.	Brand	Model No.		Each	
A	⅜″	0-1200	3.7	90°	Thermoplastic	2 Prong	10″	3.7	DeWalt	DW160V	3143A55	$168.54	***A***
B	⅜″	0-1300	3.5	55°	Thermoplastic	2 Prong	11″	3.9	Milwaukee	0370-20	28705A21	132.50	***B***
C	⅜″	0-2400	4.0	90°	Metal	2 Prong	10⅝″	3.1	Makita	DA3010F	27775A51	237.77	***C***
D	½″	0-335/0-750★	7.0	90°	Metal	3 Prong	16¾″	10.3	Milwaukee	3107-6	3147A74	270.00	***D***
E	½″	300/1200	10.0	90°	Metal	2 Prong	18¼″	12.3	Makita	DA4031	29005A71	428.01	***E***
F	½″	300/1200	7.5	90°	Metal	3 Prong	15¼″	11.5	Milwaukee	1675-6	29175A21	334.38	***F***
G	½″	400/600/900	7.0	90°	Metal	2 Prong	17½″	9.75	DeWalt	DW120K	28135A91	292.85	***G***
H	½″	450/1750	13.0	90°	Metal	3 Prong	22″	14.7	Milwaukee	1680-20	29175A51	360.00	***H***

★ With right-angle attachment.

Right-Angle Drilling Attachments

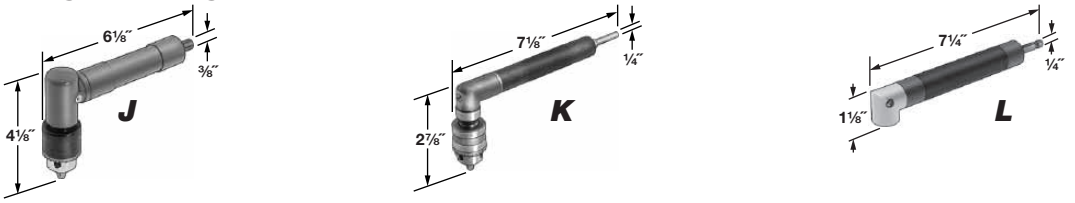

Change your drill into a right-angle tool for access into hard-to-reach spaces. Use with cordless, electric, and air-powered drills.

J General Purpose Attachment—For a variety of maintenance drilling jobs. Comes with a Jacobs drill chuck, a chuck key, and a wrench. Use in drills with ⅜″ and ½″ chuck capacities. Maximum speed is 4000 rpm.

K Long-Life Attachment—The gears, shaft, and spindle are heat-treated alloy steel for long life. Use this attachment in drills with ¼″, ⅜″, and ½″ chuck capacities. Furnished with a 1/32″-¼″ capacity Jacobs drill chuck and key. Maximum speed is 2500 rpm.

L Tight-Spot Attachment—Work in tight spaces with as little as 2″ clearance using your ¼″-28 threaded-shank drill bits. For use in drills with ¼″, ⅜″, and ½″ chuck capacities. Maximum speed is 2500 rpm. *Note:* Do not use with drill bits larger than ¼″ dia.

Tight-Spot Attachment Kit includes the tight-spot attachment above and six ¼″-28 threaded-shank high-speed drill bits in the following sizes: (Dia.×O'all Lg.) 3/32″×2½″, ⅛″×13/16″, ⅛″×1½″, ⅛″×2⅜″, 5/32″×1½″, and 3/16″×1½″. You'll also get a 6″ extension, a chuck adapter, a wrench, and a vinyl storage pouch. For replacement threaded-shank drill bits, see below and page 2473.

	For Drill Chuck Capacity	Attachment Chuck Capacity		Each
J General Purpose Attachment	⅜″, ½″	⅜″	2778A15	$66.72
K Long-Life Attachment	¼″, ⅜″, ½″	¼″	4450A4	160.00
L Tight-Spot Attachment	¼″, ⅜″, ½″	—	8787A14	32.57
L Tight-Spot Attachment Kit	¼″, ⅜″, ½″	—	8787A11	62.48
Replacement Six-Piece Drill Bit Set for 8787A11			8787A12	31.32

Cordless Hammer Drills


DeWalt


Milwaukee (29735A48)


Makita

One cordless tool for many jobs—these drills have rotary-percussion mode and rotary-only mode for drilling masonry and other materials and an adjustable clutch for fastening applications. Drills also have a variable-speed reversing motor; a side handle (except Makita model); a cushion-grip handle; a keyless chuck; two lithium-ion batteries; a 115/120 VAC battery charger; and a carrying case. All are UL listed and meet OSHA requirements. 29735A48 is also C-UL listed. See pages 2474-2477 for masonry drill bits. See pages 776-777 for replacement batteries and chargers.

Torque ratings are 480 in.-lbs. for 27835A52, 1,200 in.-lbs. for 29735A48, and 750 in.-lbs. for 29735A97. 29835A52 is not rated.

Chuck Cap.	Max. Bit Size Concrete	Steel	No-Load Blows per Min.	Battery amp-hrs.	No-Load rpm	Lg.	Wt., lbs.	Brand	Model No.	Each
18 Volts										
1/2"	5/8"	1/2"	0-8,500/0-21,250/0-34,000	2	0-500/0-1,250/0-2,000	9 1/2"	5.3	DeWalt	DCD970KL	**29835A52** $373.75
1/2"	5/8"	1/2"	0-32,000	5	0-550/0-2,000	7 3/4"	3.5	Milwaukee	2704-22	**29735A48** 330.00
1/2"	1/2"	1/2"	0-6,000/0-22,500	3	0-400/0-1,500	8 1/8"	4	Makita	XPH01	**27835A52** 301.91
28 Volts										
1/2"	5/8"	1/2"	0-7,200/0-28,800	3	0-450/0-1,800	9 1/4"	6.7	Milwaukee	0726-22	**29735A97** 446.25

Electric Hammer Drills



Just push a switch or twist the collar ring and these tools will change from a regular pistol-grip electric drill to a hammer drill—great for drilling in masonry materials. Rotary-percussion mode is for drilling masonry materials using round- and hex-shank hammer drill bits (see page 2476). Rotary-only mode is for use with standard drill bits for wood and metal as well as rotary-masonry drill bits (see page 2477).

Drills have a variable-speed reversing motor, a depth gauge, a side handle, a keyed chuck, and a power cord with two-prong plug (unless noted). They are double-insulated (unless noted). All operate on 120 VAC, 60 Hz. UL listed, CSA certified, and meet OSHA requirements.

Style A has a three-prong plug. Drill is not double insulated.

Style B has an overload-protected motor and a trigger lock so you don't have to hold down the trigger for continuous use.

Style C has a detachable Quik-Lok cord. See page 906 for replacement cord.

	Chuck Cap.	Max. Bit Size Concrete	Steel	No-Load Blows per Min.	No-Load rpm	Motor Amps	Cord Lg., ft.	Lg.	Wt., lbs.	Brand	Model No.	Each
A	1/2"	7/8"	5/8"	0-15,300/0-51,000	0-900/0-3,000	9.2	12	13 1/2"	5.9	Bosch	HD21-2	**3133A81** $189.81
B	1/2"	1/2"	1/2"	0-19,000/0-46,000	0-1,100/0-2,700	7.8	8	13"	4.8	DeWalt	DW505	**31505A81** 149.35
C	1/2"	3/4"	1/2"	0-16,000/0-40,000	0-1,000/0-2,500	8.5	10	13"	6.4	Milwaukee	5387-20	**31685A71** 188.44
Carrying Case for Style C Drill												**31685A8** 34.47

Drill Guides for Portable Drills



Drill precise holes without a drill press. Simply attach the chuck on your 3/8" or 1/2" capacity portable drill to the drill guide's drive spindle. A dual-locking knob and handle with an easy-to-read protractor let you position your drill up to 45° in either direction. Guides have a built-in V-groove that centers round material up to 2 1/2" in diameter.

Overall height in vertical position is 11 1/2". Include a chuck and a chuck key.

		Each
Guide with 3/8" Capacity Chuck	**8898A21**	$43.46
Guide with 1/2" Capacity Chuck	**8898A31**	62.77

Variable-Diameter Drill Bits



Drill and enlarge several hole sizes with one bit. To drill a specific hole size, place a washer (sold separately) with an ID of the desired hole size over the tip. The washer acts as a stop and prevents the bit from drilling a larger hole. Bits stay centered without a pilot hole, unless noted. All are high-speed steel with a black-oxide treatment and are for use on carbon steel, aluminum, copper, brass, and plastic. Maximum material thickness is 5/64".

Drill Bit Size Range	O'all Lg.	Shank Dia.	Point Angle		Each
1/8"-9/16"	2 7/32"	1/4"	90°	**8910A11**	$21.16
1/4"-13/16"	2 23/32"	3/8"	90°	**8910A12**	35.24
5/8"-1 3/16"	2 31/32"	3/8"	82°	**8910A13**	64.82
1"-1 5/8"	3 9/32"	3/8"	82°	**8910A14**	85.67
1 1/2"-2 1 1/16"	2 11 1/16"	1/2"	None	**8910A15**♠	116.62

♠ Requires a 1 29/64" dia. pilot hole.

Drill Bit Stop Collars


Stop Collar (Drill Bit Not Included)

Ensure identical hole depths every time. Hex keys for set screws are not included; see pages 2830-2831.

Individual Stop Collars— **To Order:** Please specify exact drill size from the listing below. **Also Available:** Stop collars for drill sizes 5/64" to 51/64", wire gauge sizes 1 to 52, letter sizes A to Z, and some metric sizes. Please ask for 8865A91 and specify the exact drill size needed.

Individual Stop Collars

For Drill Bit Sizes	Hex Key Size		Each
1/16", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4"	3/32"	**8865A11**	$3.04
9/32", 5/16", 3/8", 11/32"	3/32"	**8865A12**	4.72
13/32", 7/16", 15/32", 1/2"	1/8"	**8865A13**	6.80
17/32", 9/16"	1/8"	**8865A14**	10.22
19/32", 5/8"	5/32"	**8865A15**	10.22
21/32", 11/16", 23/32", 3/4"	5/32"	**8865A16**	12.37
13/16", 7/8", 15/16", 31/32"	5/32"	**8865A27**	17.80
1"	3/16"	**8865A258**	17.80

Stop Collar Sets

For Drill Bit Sizes	No. of Collars		Per Set
1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2"	7	**8959A16**	$6.15
5/8", 3/4", 7/8", 1"	4	**8959A19**	6.58

Cordless Rotary Hammer



Get the drilling and hammering benefits of a rotary hammer with the convenience of cord-free operation. Hammer has an SDS drive (also known as SDS Plus) and a variable-speed reversing motor with two modes of operation: rotary percussion and rotary only.

In rotary-percussion mode, the tool provides both a rotary drilling and hammering action. Use SDS-Shank Masonry Drill Bits for Rotary Hammers (see page 2475) for fast penetration into masonry materials. *Note:* SDS and SDS-Max bits are not interchangeable. Use the rotary-only mode for general purpose drilling and driving fasteners (requires a chuck adapter or a magnetic bit holder; sold separately below). In the percussion-only mode, the tool provides only the hammering action. Use percussion-only mode when working with chisels and other masonry tools (for chisels for rotary hammers, see page 2475).

Maximum bit capacity listed is for drilling in concrete. Hammer comes with two 5 amp-hr. batteries, a 1-hour charger, a 360° side handle, and a depth gauge. Length is 11 7/8". UL listed.

Volts	Maximum Capacity Rotary Hammer Drill Bit Size	No-Load Blows per Min.	No-Load rpm	Wt., lbs.	Brand/ Model No.	Battery Type		Each
20	1/2"	0-4600	0-1100	6.8	DeWalt DCH273P2	Lithium Ion	2842A72	$528.35
Repl. 20-Volt Lithium Ion Batteries, DeWalt DCB205							29835A1	145.51
Repl. Charger for 20-Volt Lithium Ion Battery, DeWalt DCB101							29835A2	78.61

Electric Rotary Hammers



A&C



B



D-H

A powerful and durable hammer mechanism lets you drill deeper, larger holes in less time than with hammer drills. In rotary-percussion mode, the tool provides both a rotary drilling and hammering action. In percussion-only mode, the tool provides only the hammering action. Use percussion-only mode when working with chisels and other masonry tools (for chisels for rotary hammers, see page 2475).

Maximum bit capacities listed are for drilling in concrete. All styles have a built-in safety clutch to protect you and the hammer if the bit gets stuck in your material. They also have a depth gauge (unless noted); a double-insulated motor that operates on 120 VAC, 60 Hz; a power cord with two-prong plug; and a carrying case. All are UL listed and meet OSHA requirements. Style B is also CSA-US certified.

***A-E SDS-Drive Rotary Hammers*—** Also known as SDS-Plus rotary hammers, these are lightweight and ideal for overhead work and drilling smaller holes. For use with 0.393" shank diameter SDS-shank drill bits (see 8948A on page 2475). *Note:* SDS and SDS-Max bits are not interchangeable. All have a rotary-only mode in addition to rotary-percussion and percussion-only modes. Use rotary-only mode for general purpose drilling and driving fasteners (requires a chuck adapter or a magnetic bit holder; sold separately on this page).

Styles A-D have reversing motors.

Styles B, C, D, and *E* have a chisel-lock feature that allows you to choose from 36 chisel positions (35 positions for Style D) to match the angle of many surfaces.

***F Spline-Drive Rotary Hammer*—** Designed to drill larger holes than an SDS-drive hammer, this uses spline-shank bits (see 8783A on page 2474 and 3084A on page 2476). Hammer has a variable-speed motor, a cushion-grip handle, and a service-reminder light. It has a vibration reduction in the system for increased user comfort, provides smooth starts, and won't slow down as you drill deeper. Has a chisel-lock feature that allows you to choose from 12 chisel positions to match the angle of many surfaces.

***G&H SDS-Max-Drive Rotary Hammers*—** A deeper drive system minimizes wobble for straighter, more accurate holes and better overall performance compared to other rotary hammers. These have a chisel-lock feature that allows you to choose from 12 chisel positions to match the angle of many surfaces. For use with 0.708" shank diameter SDS-Max drill bits (see 88705A and 88865A on page 2475). *Note:* SDS and SDS-Max bits are not interchangeable.

Style H provides smooth starts and won't slow down as you drill deeper. Has a variable-speed motor, a cushion-grip handle, and a service-reminder light.

	Maximum Capacity Rotary Hammer Drill Bit Size	Rotary Hammer Core Drill Bit Size	No-Load Blows per Min.	No-Load rpm	Motor Amps	Lg.	Wt., lbs.	Cord Lg., ft.	Brand	Model No.		Each	
SDS-Drive Rotary Hammers													
A	1"	2 1/2"	0-5540	0-1500	8	16 3/4"	6.6	8	DeWalt	D25262K	29935A44	$196.90	***A***
B	1"	—	0-5800	0-1300	7.2	14 3/4"	6.4	10	Bosch	11253VSR	27845A71	239.40	***B***
C	1"	—	0-5800	0-1300	7.5	17 1/4"	6.7	8	Bosch	11255VSR	27845A31	215.31	***C***
D	1 1/8"	—	0-5500	0-1500	8	12 1/2"	7.5	10	Milwaukee	5268-21	31605A42	318.12	***D***
E	1 1/8"	—	0-3800	0-850	8	13 3/16"	7.9	8	Bosch	RH328VCQ	27845A41	357.96	***E***
Spline-Drive Rotary Hammer													
F	1 5/8"	4 1/8"	1700-2900	170-340	13	18 13/16"	14.3	12	Bosch	11265EVS	8911A21▲	651.51	***F***
SDS-Max-Drive Rotary Hammers													
G	1 9/16"	4"	1500-2900	170-340	12	19"	15.2	8	Bosch	RH540M	31795A19▲	450.31	***G***
H	2"	6"	1000-2150	100-220	15	23 1/2"	26.2	13	Bosch	RH1255VC	31795A35▲	1,061.88	***H***

▲ Doesn't have a depth gauge.

Chuck Adapter and Magnetic Bit Holder for SDS-Drive Rotary Hammers



Chuck Adapter

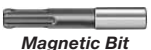

Magnetic Bit Holder

Attach one of these tools to your SDS-drive rotary hammer (also known as SDS Plus) so you can perform regular drilling and driving operations with round- or hex-shank drill bits. *Note:* SDS and SDS-Max bits are not interchangeable.

Chuck adapter works with a standard drill chuck for drilling in wood and metal. It has an SDS shank on one end and is threaded (1/2"-20) on the other end. Use with a drill chuck that has a 1/2"-20 thread mount so it will properly fit the chuck adapter. Drill chucks are shown on pages 2439-2442.

Magnetic bit holder has an SDS shank and accepts all 1/4" hex shank bits for driving masonry screws.

		Each
Chuck Adapter	27845A51	$40.04
Magnetic Bit Holder	8845A21	23.78

Cutters for Magnetic-Base Drills



Cutter

Also called annular cutters, these cut on the periphery of the hole and produce a solid slug. They work with magnetic-base drills that have a 3/4" arbor (see Compact Magnetic-Base Drills on page 2435). You can also pair them with an arbor adapter (sold separately below) when using a manual drill press or milling machine. *Note:* Carbide-tipped cutters are not for use with magnetic-base drill 8837A21 (Model No. USA101) on page 2435.

High-Speed Steel and Cobalt Steel Cutters—*Uncoated high-speed steel* has a bright finish and is for general purpose cutting of a wide range of materials. *TiN (titanium nitride) coated high-speed steel* lasts longer than uncoated high-speed steel. *Cobalt steel* offers better heat and abrasion resistance than high-speed steel.

Carbide-Tipped Cutters—Last longer than high-speed steel and cobalt steel cutters and are for high-volume cutting of difficult-to-machine materials such as stainless steel, cast iron, and titanium. *Note:* These cutters are more sensitive to shock and vibration compared to other cutters.

Pilot Pins—Also called ejector pins, these align the cutter to the desired position and eject the slug.

Arbor Adapters—Allow you to use cutters on a manual drill press and milling machine. *3/4" straight shank* fits a 3/4" capacity drill chuck or a 3/4" R8 collet on a milling machine. *#2* and *#3 Morse taper shanks* are for use on a drill press.

Fractional Size High-Speed Steel and Cobalt Steel Cutters

1" CUTTING DEPTH

Cutter Dia.	Uncoated High-Speed Steel	Each	TiN-Coated High-Speed Steel	Each	Cobalt Steel	Each
7/16"	31315A108	$28.53	8847A71	$35.55	3124A71	$31.93
1/2"	31315A141	30.23	8847A11	37.13	3124A11	33.81
9/16"	31315A112	34.43	8847A12	41.02	3124A13	38.53
5/8"	31315A113	36.16	8847A13	42.62	3124A14	40.45
11/16"	31315A114	37.60	8847A14	43.96	3124A15	42.07
3/4"	31315A115	39.58	8847A15	45.80	3124A16	44.28
13/16"	31315A116	42.34	8847A16	54.73	3124A17	47.37
7/8"	31315A117	45.37	8847A17	57.53	3124A18	50.76
15/16"	31315A118	48.38	8847A18	60.33	3124A19	54.14
1"	31315A119	51.95	8847A19	63.64	3124A21	58.13
1 1/16"	31315A121	53.37	8847A21	64.95	3124A22	59.71
1 1/8"	31315A122	61.36	8847A22	72.36	3124A23	68.66
1 3/16"	31315A123	64.68	8847A23	75.44	3124A24	72.37
1 1/4"	31315A124	66.43	8847A24	77.05	3124A25	74.33
1 5/16"	31315A125	69.85	8847A25	85.69	3124A26	78.16
1 3/8"	31315A126	89.80	8847A26	104.18	3124A27	99.74
1 1/2"	31315A128	105.09	8847A28	118.36	3124A29	117.58
1 5/8"	31315A131	123.76	8847A31	133.85	3124A32	138.48
1 3/4"	31315A133	137.86	8847A33	148.75	3124A34	154.26
2"	31315A137	166.17	8847A37	175.00	3124A38	185.92

2" CUTTING DEPTH

Cutter Dia.	Uncoated High-Speed Steel	Each	TiN-Coated High-Speed Steel	Each	Cobalt Steel	Each
7/16"	31315A109	$36.21	8847A72	$44.48	3124A73	$40.52
1/2"	31315A241	39.76	8847A41	46.87	3124A39	44.49
9/16"	31315A212	45.11	8847A42	51.84	3124A43	50.47
5/8"	31315A213	48.65	8847A43	55.11	3124A44	54.43
11/16"	31315A214	53.99	8847A44	60.07	3124A45	60.41
3/4"	31315A215	59.32	8847A45	65.02	3124A46	66.40
13/16"	31315A216	62.87	8847A46	75.58	3124A47	70.35
7/8"	31315A217	66.71	8847A47	79.13	3124A48	74.64
15/16"	31315A218	71.71	8847A48	84.67	3124A49	80.24
1"	31315A219	77.88	8847A49	90.40	3124A51	87.14
1 1/16"	31315A221	79.73	8847A51	96.65	3124A52	89.20
1 1/8"	31315A222	92.11	8847A52	102.69	3124A53	103.06
1 3/16"	31315A223	97.54	8847A53	107.73	3124A54	109.13
1 1/4"	31315A224	99.48	8847A54	109.53	3124A55	117.88
1 5/16"	31315A225	104.70	8847A55	124.36	3124A56	120.56
1 3/8"	31315A226	109.96	8847A56	129.24	3124A57	123.03
1 1/2"	31315A228	132.17	8847A58	149.84	3124A59	147.88
1 5/8"	31315A231	156.87	8847A61	172.75	3124A62	175.53
1 3/4"	31315A233	173.93	8847A63	188.56	3124A64	194.62
2"	31315A237	213.29	8847A67	225.05	3124A68	238.67

Multiple-Sheet Fractional Size High-Speed Steel Cutters—Uncoated

The special geometry of these cutters allows you to cut aligned holes in multiple sheets at one time.

2" CUTTING DEPTH

Cutter Dia.		Each	Cutter Dia.		Each	Cutter Dia.		Each	Cutter Dia.		Each
1/2"	5258A42	$64.08	3/4"	5258A46	$85.20	1"	5258A51	$105.23	1 5/16"	5258A55	$134.17
9/16"	5258A43	69.85	13/16"	5258A47	89.03	1 1/8"	5258A52	120.58	1 3/8"	5258A56	139.85
5/8"	5258A44	73.67	7/8"	5258A48	93.16	1 3/16"	5258A53	126.44	1 7/16"	5258A57	156.26
11/16"	5258A45	79.44	15/16"	5258A49	98.56	1 1/4"	5258A54	128.54	1 1/2"	5258A58	163.82

Tap Size High-Speed Steel Cutters—Uncoated

These cutters are perfectly sized for cutting holes that will be tapped later.

2" CUTTING DEPTH

Cutter Dia.	For Tap Size		Each	Cutter Dia.	For Tap Size		Each	Cutter Dia.	For Tap Size		Each
27/64"	1/2"-13	6849A41	$42.92	49/64"	7/8"-9	6849A46	$67.86	1 1/32"	1 1/8"-12	6849A52	$86.05
29/64"	1/2"-20	6849A42	42.92	51/64"	7/8"-14	6849A47	84.83	1 7/64"	1 1/4"-7	6849A53	94.95
31/64"	9/16"-12	6849A43	42.92	59/64"	1"-12	6849A48	75.14	1 11/64"	1 1/4"-12	6849A54	105.28
17/32"	5/8"-11	6849A44	48.69	59/64"	1"-14	6849A49	75.14	1 11/32"	1 1/2"-6	6849A55	182.18
21/32"	3/4"-10	6849A45	58.28	25 mm	1 1/8"-7	6849A51	81.87	1 27/64"	1 1/2"-12	6849A56	136.16

Fractional Size Carbide-Tipped Cutters

2" CUTTING DEPTH

Cutter Dia.		Each	Cutter Dia.		Each	Cutter Dia.		Each	Cutter Dia.		Each
11/16"	3118A111	$93.36	1"	3118A116	$98.09	15/16"	3118A122	$107.55	1 5/8"	3118A127	$131.18
3/4"	3118A112	93.36	1 1/16"	3118A117	99.74	1 3/8"	3118A123	111.09	1 3/4"	3118A129	133.55
13/16"	3118A113	94.55	1 1/8"	3118A118	101.64	1 7/16"	3118A124	113.45	1 13/16"	3118A131	141.82
7/8"	3118A114	95.73	1 3/16"	3118A119	105.18	1 1/2"	3118A125	115.82	1 15/16"	3118A133	147.73
15/16"	3118A115	96.91	1 1/4"	3118A121	106.36	1 9/16"	3118A126	130.00	2"	3118A134	164.27

Metric Size High-Speed Steel Cutters—Uncoated

1" CUTTING DEPTH

Cutter Dia.		Each	Cutter Dia.		Each
12 mm	6850A21	$30.24	24 mm	6850A34	$50.58
14 mm	6850A23	32.96	26 mm	6850A36	53.98
16 mm	6850A25	36.98	28 mm	6850A38	55.36
18 mm	6850A27	40.76	30 mm	6850A41	63.76
20 mm	6850A29	43.16	32 mm	6850A43	69.16

2" CUTTING DEPTH

Cutter Dia.		Each	Cutter Dia.		Each
12 mm	6850A22	$47.04	24 mm	6850A35	$84.42
14 mm	6850A24	52.18	26 mm	6850A37	91.11
16 mm	6850A26	55.89	28 mm	6850A39	94.62
18 mm	6850A28	68.04	30 mm	6850A42	108.13
20 mm	6850A31	72.80	32 mm	6850A44	116.69

Pilot Pins

For Cutter Dia.	Cutter Depth	Pin Dia.		Each
For High-Speed Steel and Cobalt Steel Cutters				
17/32" and smaller	1"	3/16"	3124A81	$7.72
17/32" and smaller	2"	3/16"	3124A82	8.01
9/16"-2"	1"	1/4"	31315A252	7.68
9/16"-2"	2"	1/4"	31315A253	8.22
For Carbide-Tipped Cutters				
11/16"-2"	2"	5/16"	3118A141	12.13

Arbor Adapters

Shank Type		Each
For High-Speed Steel and Cobalt Steel Cutters		
3/4" Straight Shank	31315A254	$82.29
#2 Morse Taper	31315A255	72.00
#3 Morse Taper	31315A251	82.29
For Carbide-Tipped Cutters		
#2 Morse Taper (Includes pilot pin.)	3118A142	226.23
#3 Morse Taper (Includes pilot pin.)	3118A143	285.00

Cutter Sets—Uncoated High-Speed Steel

Sets include five hole cutters (9/16", 11/16", 13/16", 15/16", and 1 1/16"), a pilot pin, and a hex key in a compartmented case.

Cutter Dp.		Per Set	Cutter Dp.		Per Set
1"	31315A311	$198.30	2"	31315A312	$272.73

Compact Magnetic-Base Drills

Light enough to carry to your jobsite. All drills have a 3/4" arbor for use with cutters on page 2434. Drills also have a feed handle that mounts on the left or right side of the drill. Holding force (also called drill-point breakaway) is calculated against a 1" thick steel plate. Electromagnetic base attaches to flat ferrous surfaces (such as steel and cast iron) that are at least 3/8" thick.

Hougen Drills— Include an 8-ft. power cord with three-prong plug, a 5-ft. safety chain, a built-in LED light, and a carrying case. 2831A32 and 2831A33 have a 1-pint capacity coolant reservoir (coolant included).

Jancy Drills— Include an 8-ft. power cord with three-prong plug, a 5-ft. safety strap, a retractable chip shield, and a carrying case. They also have a 1-pint capacity coolant reservoir except 8837A21, which has a 13-oz. capacity coolant reservoir. 2840A39 has a rear-mounted control panel and does not have a valve. Coolant flows automatically when pen touches material. 8837A21 and *A22* are UL listed and have a valve to adjust coolant flow and a side-mounted control panel. *Chucks* and *adapters* allow 8837A21 and 8837A22 to accept standard drill bits.



2831A31



8837A22

Max. Cutter Dia.	Max. Cutting Depth	Spindle Travel	No-Load rpm	Drill Motor	Motor Amps	Holding Force	Overall Size, Lg. × Wd. × Ht.	Wt., lbs.	Model No.		Each
Hougen Drills											
1 1/2"	2"	2"	450	120 VAC, 60 Hz	8	995 lbs.	11 5/8" × 7 3/4" × 19 5/8"	29	HMD904	2831A31	$995.00
2 3/8"	3"	3"	250/450	120 VAC, 60 Hz	12.5	1290 lbs.	12 7/8" × 8 1/4" × 25 7/8"	46	HMD917	2831A32	1,595.00
2 3/8"	3"	3"	250/450	230 VAC, 50 Hz-60 Hz	6.3	1290 lbs.	12 7/8" × 8 1/4" × 25 7/8"	46	HMD917	2831A33	1,695.00
Jancy Drills											
1 3/8"	2"	4 1/4"	480	120 VAC, 60 Hz	9.4	670 lbs.	13 3/4" × 7 3/4" × 18 1/4"	30	USA200	2840A39	670.78
1 1/2"	2"	2 5/8"	480	120 VAC, 60 Hz	9.4	650 lbs.	13 5/8" × 7 7/8" × 17 5/8"	29	USA101	8837A21	895.50
2 3/8"	3"	3 7/8"	270/520	120 VAC, 60 Hz	11.7	950 lbs.	11" × 7 1/2" × 23 3/4"	51	USA5	8837A22	1,345.50
1/2" Chuck and Adapter for 8837A21										8837A51	133.94
3/4" Chuck and Adapter for 8837A22										8837A32	138.61
1.6-oz Concentrated Cutting Fluid—Makes 1 pint of fluid when mixed with water.										2831A52	3.93
1-gal. Concentrated Cutting Fluid—Makes 11 gallons of fluid when mixed with water.										2831A53	57.16

Heavy Duty Magnetic-Base Drills with Tapping Capability

Switch these drills from forward to reverse without stopping—ideal for both drilling and tapping applications (not recommended for use with pipe taps). In addition, a dial lets you adjust the speed to match your application, making these great for drilling hard materials at slow speeds.

For use with carbide-tipped cutters sold separately below. Holding force (also called drill point breakaway) is approximately 1600 lbs. and is calculated against a 1" steel plate. Base attaches to flat ferrous surfaces (such as steel and cast iron) that are at least 1/2" thick. Motor is 120 VAC, 60 Hz. All include a spoked feed handle that mounts on either side, a 9-ft. power cord with three-prong plug, and a 6-ft. safety chain. Drills with 1/2" and 3/4" chuck mount style also include a drill chuck and key. Bases and motors are UL listed.

Adjustable-position base drills let you lock the magnet to secure the base and then move the motor to center the cutter for pinpoint accuracy. You can also move the motor 3/4" forward and backward and 20° left and right.



Adjustable-Position Base with 3/4" Chuck



Carbide-Tipped Cutter

Max. Capacity Cutter Dia.★	Drill Bit Size	Tap Size	Spindle Travel	No-Load rpm	Mount Style	Motor Amps	Overall Size, Lg. × Wd. × Ht.	Wt., lbs.	Model No.		Each
Milwaukee Adjustable-Position Base Drills											
____	1/2"	5/8"-18■	11"	0-600	1/2" Chuck	7.2	15 1/4" × 7 1/2" × 29 1/2"	57	4204-1	2805A23	$1,343.76
2 1/4"	3/4"	1"-14	11"	0-350	3/4" Chuck	12.5	17" × 7 1/2" × 32 1/2"	70	4206-1	2805A24	1,562.51
2 1/4"	1 1/4"	1"-14	11"	0-250, 0-500	#3 Morse Taper	12.5	17" × 7 1/2" × 32 1/2"	72	4208-1	2805A26	1,712.51
2 1/4"	1 1/4"	1"-14	11"	0-375, 0-750	#3 Morse Taper	12.5	17" × 7 1/2" × 32 1/2"	72	4209-1	2805A25	1,712.51
Milwaukee Fixed-Position Base Drills											
____	1/2"	5/8"-18■	9"	0-600	1/2" Chuck	7.2	14 1/2" × 7 1/2" × 25 1/2"	49	4202 and 4253-1	2805A18	1,233.55
2 1/4"	3/4"	1"-14	9"	0-350	3/4" Chuck	12.5	16 1/4" × 7 1/2" × 27"	62	4210-1	2805A19	1,456.24
2 1/4"	1 1/4"	1"-14	9"	0-250, 0-500	#3 Morse Taper	12.5	16 1/4" × 7 1/2" × 27"	64	4202 and 4297-1	2805A22	1,631.22
2 1/4"	1 1/4"	1"-14	9"	0-375, 0-750	#3 Morse Taper	12.5	16 1/4" × 7 1/2" × 27"	64	4202 and 4292-1	2805A21	1,698.53

★ See carbide-tipped cutters below. ■ Not for use with 5/8"-11 and 1/2"-13 taps.

Carbide-Tipped Cutters—2" Cutting Depth

Use with Milwaukee magnetic-base drills equipped with a 3/4" drill chuck or #3 Morse taper (listed above). They require an arbor adapter (sold separately below). Use on most metals. *Note:* Not for use with Milwaukee magnetic-base drills with a 1/2" drill chuck.

Cutter Dia.		Each	Cutter Dia.		Each	Cutter Dia.		Each	Cutter Dia.		Each
3/4"	30975A35	$84.68	1"	30975A39	$124.21	1 5/16"	30975A45	$153.30	1 3/4"	30975A53	$255.69
13/16"	30975A36	91.19	1 1/16"	30975A41	125.05	1 3/8"	30975A46	160.81	1 7/8"	30975A55	283.00
7/8"	30975A37	105.22	1 1/8"	30975A42	134.49	1 1/2"	30975A48	192.74	2"	30975A57	314.11
15/16"	30975A38	113.68	1 1/4"	30975A44	143.89	1 5/8"	30975A51	232.26	2 1/4"	30975A72	355.36

Arbor Adapters

Required when using the carbide-tipped cutters above. They come with an oiler, oil hose, and pilot pin. The ***3/4" straight shank*** arbor adapter fits a 3/4" drill chuck or a 3/4" collet on a milling machine. The ***#3 Morse taper*** shank arbor adapter fits a magnetic-base drill or drill press.

		Each
3/4" Straight Shank	30975A58	$116.98
#3 Morse Taper	30975A61	116.98

Chuck and Arbor Kit

Allows magnetic-base drills with a #3 Morse taper mount style to accept standard drill bits. Includes a 3/4" capacity drill chuck, a chuck key, and a chuck arbor.

2805A61 **Each** $111.00

Cutting Fluid

When mixed with water, this 16-oz. bottle makes 1 gallon of solution.

31625A61 **Each** $7.64

Mini Magnetic Drill Base



Get the accuracy of a drill press when you use this lightweight, portable magnetic drill base with Milwaukee electric drill models 0234-6 and 0244-1 (for Milwaukee model 0234-6, see 2829A51 on page 2430). This powerful electromagnetic base firmly attaches to flat, ferrous surfaces such as steel and cast iron that are at least 0.20″ thick. Holding force (also called drill-point breakaway) is 770 lbs. and calculated against a 1″ steel plate. It operates on 120 VAC and has an on/off toggle switch and 7½-ft. power cord with three-prong plug. Base measures 9½″ Ht. × 9″ Wd. and weighs 12 lbs. Drill travel is 3.9″.

28125A24 ..... **Each** $912.00

Light Duty Multispeed Floor Drill Presses



Select from a number of speeds by repositioning the drive belt before starting the drill press. Motors are totally enclosed fan cooled. Maximum hole size is based on drilling in steel.

All presses have a three-spoke feed handle, depth gauge graduated in 16ths of an inch, drill chuck and key, and 6-ft. power cord with three-prong plug. They're wired for 120 volts. Head, table, and base are cast iron.

	15″ (16 Speed)	*17″ (16 Speed)*	*20″ (16 Speed)*
Max. Work Dia.	15″	17″	20″
Max. Hole Size	5/8″	5/8″	1″
Drill rpm	138-3476	138-3476	150-4200
Chuck Size	5/8″	5/8″	3/4″
Spindle Taper	#2 Morse	#2 Morse	#3 Morse
Spindle Travel	5″	5″	4 3/4″
Spindle to Table	29 1/2″	29 1/2″	24″
Spindle to Base	49″	49″	42 3/4″
Table Size	11 1/2″ × 11 1/2″	14 3/8″ × 14 3/8″	18 3/4″ × 16 1/2″
Max. Table Load	100 lbs.	100 lbs.	65 lbs.
Table Tilt	45°	45°	45°
Base Size	11″ × 18 1/8″	11 1/4″ × 18 1/2″	17 1/2″ × 22 1/4″
Height	68″	68″	68″
Motor hp	1/2	1	1
Motor Amps	7.3	10	13.5
Volts (AC), ph	120/240, 1	120/240, 1	120, 1
Weight	162 lbs.	180 lbs.	318 lbs.
	Each	**Each**	**Each**
	2795A51 $689.51	**8816A51** $755.41	**28785A77** $933.33

Variable-Speed Floor Drill Presses





Turn the dial on these drill presses while they are running to get the optimum speed for your job. All include a depth gauge graduated in 16ths of an inch. Maximum hole size is based on drilling in steel. Head, table, and base are cast iron.

Light Duty 18″ Drill Press— A laser projects a crosshair at the point of bit contact and a digital readout displays the spindle speed. Motor is totally enclosed fan cooled. Press includes a three-spoke feed handle, built-in worklight (bulb included), keyless drill chuck, and 6½-ft. power cord with three-prong plug. It's wired for 115 volts.

Heavy Duty Drill Presses— The weight and rigidity of these presses prevent vibration so you can maintain close tolerances for high-quality metal drilling.

18 1/8″ drill press motor is totally enclosed fan cooled. Press includes a two-spoke feed handle, drill chuck and key, and 8-ft. power cord with three-prong plug. It's wired for 110 volts.

20″ drill press motor is open dripproof. Press includes a three-spoke feed handle, safety guard that swings away for easy tool changes, and 8-ft. power cord with three-prong plug. It's wired for 115 volts. For chucks and arbors, see pages 2439-2443.

Also Available: 220 VAC, 3 ph and 440 VAC, 3 ph versions of 2776A75. Please ask for 2776A71 and specify voltage.

	Light Duty	***Heavy Duty***	
	18″ Drill Press	***18 1/8″ Drill Press***	***20″ Drill Press***
Max. Work Dia.	18″	18 1/8″	20″
Max. Hole Size	5/8″	1 1/16″	7/8″
Drill rpm	250-3000	0-1200	300-2000
Chuck Size	5/8″	3/4″	———
Spindle Taper	#2 Morse	#3 Morse	#3 Morse
Spindle Travel	6″	5 3/8″	6 1/2″
Spindle to Table	26 5/8"	27 1/4"	33 1/8″
Spindle to Base	44 3/4″	46 1/4″	43 3/8″
Table Size	20 1/2″ × 14″	17 7/8″ × 15 7/8″	22″ × 19 1/2″
Max. Table Load	88 lbs.	200 lbs.	300 lbs.
Table Tilt	90° left and right	Nontilting	Nontilting
Base Size	13 3/8″ × 20″	16 3/8″ × 26 5/8″	22″ × 36″
Height	71″	69 1/2″	69″
Motor hp	1	2	1 1/2
Motor Amps	15	6.8	17.9
Volts (AC), ph	115/230, 1	110, 1	115/230, 1
Weight	246 lbs.	675 lbs.	590 lbs.
	Each	**Each**	**Each**
	2717A45 $1,686.70	**2752A2** $3,593.33	**2776A75** $4,181.00

Extended-Reach Tilting-Head Drill Presses

To accommodate large, odd-shaped pieces of material, the head of these drill presses moves 12″ forward and backward and tilts 45° left and 90° right (as viewed when facing the drill press). Graduated in 1° increments with a locking stop at 0°. Presses run at five speeds. Motors are totally enclosed fan cooled.

Maximum hole size is based on drilling in steel. Maximum hole size for drilling in cast iron is 5/8″. Presses include a three-spoke feed handle, graduated depth gauge, drill chuck and key, and 6 1/2-ft. power cord with three-prong plug. Head, table, and base are cast iron.

	Bench Model	*Floor Model*
Max. Work Dia.	33"	33″
Max. Hole Size	3/8″	3/8″
Drill rpm	575-3520	575-3520
Chuck Size	5/8″	5/8″
Spindle Taper	#2 Morse	#2 Morse
Spindle Travel	3 5/32″	3 5/32″
Spindle to Table	15"	30″
Spindle to Base	22"	50″
Table Size	9 1/2″ × 9″	10 3/8″ × 10 3/8″
Max. Table Load	70 lbs.	50 lbs.
Table Tilt	45° left and right	45° left and right
Base Size	8 7/8″ × 16 3/4″	10 1/8″ × 16 3/4″
Height	37"	65″
Motor hp	1/2	1/2
Motor Amps	4.8	4.8
Volts (AC), ph	115, 1	115, 1
Weight	100 lbs.	151 lbs.
	Each 8776A84 $466.11	**Each** 8776A85 $536.90



Bench Model



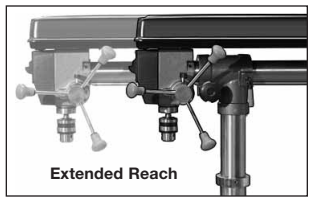

Light Duty Bench Drill Presses

Set these on top of your workbench for light duty drilling jobs.

Maximum hole size is based on drilling in cast iron. All have a three-spoke feed handle, graduated depth gauge, drill chuck and key, and 6-ft. power cord with three-prong plug. Head, table, and base are cast iron.

10″ (5 speed) drill press is our most economical light duty drill press. Motor is totally enclosed fan cooled.

13 1/4″ (16 speed) drill press has an open dripproof motor.

15″ (16 speed) drill press is our largest capacity bench unit. Motor is open dripproof and comes wired for 120 volts.



10″ (5 Speed)



13 1/4″ and 15″ (16 Speed)

	10″ (5 Speed)	*13 1/4″ (16 Speed)*	*15″ (16 Speed)*
Max. Work Dia.	10″	13 1/4″	15″
Max. Hole Size	1/2″	1/2″	5/8″
Drill rpm	620-3100	244-3386	138-3476
Chuck Size	1/2″	1/2″	5/8″
Spindle Taper	#33 Jacobs	#33 Jacobs	#2 Morse
Spindle Travel	2 1/2″	3 1/4″	5″
Spindle to Table	11″	16 3/4″	17 1/2″
Spindle to Base	15 3/4″	22 5/16″	24 1/2″
Table Size	7 5/8″ × 7 5/8″	9 7/16″ × 8 5/8″	11 1/2″ × 11 1/2″
Max. Table Load	70 lbs.	80 lbs.	100 lbs.
Table Tilt	45° left and right	45° left and right	45° left and right
Base Size	8″ × 13″	9 3/4″ × 16 1/2″	10 1/2″ × 18 1/8″
Height	27 1/2″	38 7/8″	43″
Motor hp	1/3	1/3	1/2
Motor Amps	6.8	6	7.3
Volts (AC), ph	115, 1	120, 1	120/240, 1
Weight	70 lbs.	123 lbs.	150 lbs.
	Each 28015A51 $224.73	**Each** 2799A21 $372.13	**Each** 2795A52 $660.98

Safety Guard for Drill Presses

Keep your fingers and hands protected from your drill bit, drill chuck, and flying chips. This guard retracts as the drill penetrates your material, lowers when the spindle is raised, and flips out of the way for quick bit changes. A depth adjustment knob allows for quick adjusting of the guard position.

Body is made from high-impact clear plastic for an unobstructed view. Includes five clamps for 1 3/4″ (45 mm), 2″ (52 mm), 2 3/8″ (60 mm), 2.6″ (66 mm), and 3″ (75 mm) drill press spindle shafts (also known as quills).

For Spindle Shaft Dia.	Max. Chuck Dia.	Min. Guard Lg.	Max. Guard Lg.		Each
1 3/4″-3″	2 1/8″	4 1/2″	6 11/16″	5235A21	$83.64





Shown on Drill Press (Drill Press and Bit Not Included)

Small-Hole Precision Bench Drill Press



A sensitive belt-drive motor reduces drill breakage and damage. Use for drilling small holes in steel, stainless steel, nonferrous metals (such as brass and bronze), plastic, graphite, and printed circuit boards. Also great for diamond drilling in ceramic, sapphire, and glass. Motor is self contained.

Maximum hole size is based on drilling in steel. Includes a one-spoke feed handle, depth gauge graduated in 0.001″ increments, Albrecht keyless drill chuck, and 7-ft. power cord with three-prong plug. Head is cast aluminum and base is cast iron.

	7″ (Variable Speed)
Max. Work Dia.	7″
Max. Hole Size	1/8″
Drill rpm - low speed	200-4,000
Drill rpm - high speed	1,000-20,000
Chuck Size	1/8″
Spindle Taper	#0 Jacobs
Spindle Travel	1 1/2″
Spindle to Table	6″
Table Size	6 1/2″ x 6 1/2″
Table Tilt	Nontilting
Height	13 1/16″
Motor hp	1/5
Motor Amps	2
Volts (AC), ph	120, 1
Weight	24 lbs.
	Each
	8929A21 $1,948.00

Light-Pressure Drill-Feed Attachment



When drilling small holes with a drill press or milling machine, this attachment lets you apply light feed pressure with your fingers while the machine rotates the bit. A spring-loaded, ball-bearing drill feed automatically retracts when the gripping ring is released. Attachment has a #0 Jacobs taper and a 1/2″ dia. shank that fits into a chuck or holder. Spindle travel is 3/4″.

		Each
Light-Pressure Drill-Feed Attachment	3100A45	$77.70
C15-J0 Albrecht Keyless Chuck 0.005″-1/16″ (0-1.5 mm)	2823A11	442.70
C30-J0 Albrecht Keyless Chuck 0.015″-1/8″ (0-3 mm)	2823A12	333.45
#0 Jacobs Key-Style Chuck 0.0135″-5/32″ (0.35-4 mm)	2812A11	73.74

Small-Hole Drilling Adapter



Drilling extremely small holes with your drill press is easy with this adapter. It securely holds a #99 (0.0051″) to #60 (0.040″) wire gauge drill bit.

For use in any 1/8″ or 3/16″ collet or adjustable drill chuck. Shank diameter is 1/8″. Head diameter is 1/4″. Overall length is 1 5/16″.

30505A5 ..... **Each** $9.63

Drilling/Milling Machines



Precision Variable Speed with Optional Machine Stand

Drill and mill with one machine. Motors are totally enclosed fan cooled.

Maximum hole size, face mill capacity, and end mill capacity are based on machining steel. Both machines have a three-spoke manual-feed handle, table hand wheels with micrometer dials graduated in 0.001″ increments, a depth gauge graduated in 16ths of an inch, and a drill chuck with key and arbor. Head, table, and base are cast iron.

Multispeed machine has 12 speeds. You can adjust the feed of the spindle with rapid- and fine-feed controls. Machine has a head that rotates 360°, a work light (bulb included), and a 6-ft. power cord (no plug). ***Precision variable-speed*** machine includes a digital depth gauge, speed readout, and a 5-ft. power cord (no plug).

	Multispeed	*Precision Variable Speed*
Max. Work Dia.	16″	17 5/16″
Max. Hole Size	1 1/4″	3/4″
Spindle rpm	140-2400	80-3100
Chuck Size	1/2″	5/8″
Spindle Taper	R8	R8
Face Mill Capacity	3″	3″
End Mill Capacity	3/4″	3/4″
Spindle Travel	5″	3 1/2″
Spindle to Table	18″	18 1/2″
Table Size	9 1/2″ x 32″	8 1/4″ x 29 1/2″
Max. Table Load	125 lbs.	450 lbs.
Table Tilt	Nontilting	Nontilting
Travel, Cross Slide	7″	7 7/8″
Travel, Max Table	23″	17 11/16″
Base Size	15 3/4″ x 24 1/8″	16″ x 22 1/2″
Height	42 1/8″	49″
Motor hp	2	3
Motor Amps	10	14
Volts (AC), ph	230, 1	230, 1
Weight	600 lbs.	585 lbs.
	Each	**Each**
	8724A49 $2,648.39	8724A43 $3,986.67

Optional Multispeed Drilling/Milling Machine Stand— Made of steel. Overall size is 29 7/8″ Lg. x 22″ Wd. x 31″ Ht. Weighs 97 lbs. Shipped unassembled.

8724A41 ..... **Each** $370.69

Optional Multispeed Drilling/Milling Machine Power Table Feed— Make smoother cuts and reduce operator fatigue. This easy-to-install motor-driven feed replaces hand crank for long cuts. It operates in forward/reverse. Adjustable stops allow automatic shut-off. Has a 1 1/2 hp motor that runs on 115/230 VAC, 11.5 amps. Includes a 6-ft. power cord (no plug). Weighs 26 lbs.

8724A44 ..... **Each** $740.32

Optional Variable-Speed Drilling/Milling Machine Stand— Made of steel. Overall size is 37″ Lg. x 25 1/2″ Wd. x 31″ Ht. Weighs 144 lbs. Shipped assembled.

8724A45 ..... **Each** $673.71

Light Duty Jacobs Drill Chucks



Great for occasional use. These chucks thread mount directly onto the threaded spindle of a portable drill. For use in both forward and reverse tool operation. All come with a chuck key and are made of steel. Chuck with a minimum inch capacity of 0.028″ holds a #70 drill bit.

Capacity Inch	Capacity mm	Mount	Key No.	Model No.		Each
0.028-1/4	0.7-6.5	3/8″-24	KG1	30243	3094A11	$14.16
1/16-3/8	1.5-10	3/8″-24	KG1	30247	3094A13	17.18
5/64-1/2	2-13	3/8″-24	KK	30598	3094A15	22.66
5/64-1/2	2-13	1/2″-20	KK	30602	3094A17	22.66

General Purpose Jacobs Drill Chucks

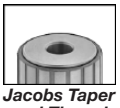

Jacobs Taper and Thread Mount



Slot-Drive Jacobs Taper Mount



Slot-Drive Straight Mount



Pin-Drive Jacobs Taper Mount



The combination of strength and durability makes these chucks the most widely used for general purpose applications. All chucks come with a chuck key and are made of steel. Chucks with a minimum inch capacity of 0.0135″ hold a #80 drill bit; chucks with a minimum inch capacity of 0.040″ hold a #60 drill bit.

Jacobs taper mount chucks require an arbor (sold separately on page 2443). For use in both forward and reverse tool operation.

Thread mount chucks mount directly onto the threaded spindle of a portable drill. Not for use in reverse tool operation, except chucks that contain the letters "BA" in the model number. Jacobs 33BA chucks can be used on a hammer drill.

Slot-drive and ***pin-drive*** (also known as positive drive) chucks mount onto a spindle or arbor for use in high-torque applications.

Drill Chucks

Capacity Inch	Capacity mm	Mount★	Key No.	Model No.		Each
Jacobs Taper Mount						
0.0135-5/32	0.4-4	0 JT	K0	0	2812A11	$73.74
0.040-1/4	1-6.5	1 JT	K1	1A	2812A12	59.40
0.040-3/8	1-10	1 JT	K2	2-01	2812A71	89.98
0.040-3/8	1-10	2 JT	K2	2A	2812A13	82.28
0.040-1/2	1-13	2 JT	K3	34-02	2812A15	83.24
0.040-1/2	1-13	6 JT	K3	34-06	2812A32	111.07
0.040-1/2	1-13	33 JT	K3	34-33	2812A16	94.56
0.040-1/2	1-13	33 JT	K3C	34-33C	2812A67▲	86.94
5/64-1/2	2-13	33 JT	K32	33	2812A14	91.99
1/8-5/8	3-16	3 JT	K3	3A	2812A34	133.18
3/16-0.8	5-20.3	3 JT	K4	36	2812A35	167.14
Thread Mount						
0.0135-5/32	0.4-4	5/16″-24	K0	0B 5/16	2812A17	90.43
0.040-1/4	1-6.5	3/8″-24	K1	1BA 3/8	2812A19	60.30
0.040-1/4	1-6.5	3/8″-24	K7	7BA 3/8	2812A84	67.59
0.040-3/8	1-10	3/8″-24	K2	2BA 3/8	2812A82	80.92
0.040-3/8	1-10	3/8″-24	K30	41BA 3/8	2812A38	49.90
0.040-3/8	1-10	1/2″-20	K30	41BA 1/2	2812A39	94.89
0.040-3/8	1-10	1/2″-20	K32	32BA 1/2	2812A41	89.28
5/64-1/2	2-13	3/8″-24	K32	33BA 3/8	2812A83	87.01
5/64-1/2	2-13	1/2″-20	K32	33BA 1/2	2812A58	83.40
5/64-1/2	2-13	5/8″-16	K32	33BA 5/8	2812A23	86.89
1/8-5/8	3-16	1/2″-20	K3	3B 1/2	2812A66	101.04
1/8-5/8	3-16	5/8″-16	K3	3B 5/8	2812A47	134.21
3/16-0.8	5-20.3	5/8″-16	K4	36B 5/8	2812A51	201.92
3/16-0.8	5-20.3	3/4″-16	K4	36B 3/4	2812A52	189.64
Slot-Drive Jacobs Taper Mount						
5/64-1/2	2-13	33 JT	K32	33KD	2812A73	102.42
1/8-5/8	3-16	3 JT	K3	3KD	2812A74	178.85
3/16-0.8	5-20.3	3 JT	K4	36KD	2812A62	161.06
Slot-Drive Straight Mount						
5/64-1/2	2-13	5/8″	K32	3326A	2812A72	116.75
Pin-Drive Jacobs Taper Mount						
1/8-5/8	3-16	3 JT	K3	3PD	2812A75	208.99

★ JT = Jacobs Taper. ▲ Comes with locking collar.

Replacement Parts





For Model No.	Jaw and Nut Sets	Each	Sleeves	Each
3 Series	2812A86	$53.46	2812A91	$38.22
33 Series	2812A87	41.69	2812A92	23.71
34 Series	2812A88	43.33	2812A93	32.18
36 Series	2812A89	68.50	2812A94	41.59

Corrosion-Resistant Jacobs Drill Chucks



When you need the rust and corrosion resistance of stainless steel, reach for these chucks. For use in both forward and reverse tool operation. All come with a chuck key and are made of Type 416 stainless steel and hold a #70 drill bit. ***Jacobs taper mount*** chucks require an arbor (sold separately on page 2443). ***Thread mount*** chucks mount directly onto the threaded spindle of a portable drill.

Capacity Inch	Capacity mm	Mount★	Key No.	Model No.		Each
Jacobs Taper Mount						
0.028-5/32	0.7-4	0 JT	K0M	0M	3166A11	$149.16
0.028-1/4	0.7-6.5	1 JT	K1M	1M	3166A14	136.05
Thread Mount						
0.028-5/32	0.7-4	5/16″-24	K0M	0BM 5/16	3166A13	146.55
0.028-1/4	0.7-6.5	5/16″-24	K1M	1BM 5/16	3166A19	148.75
0.028-1/4	0.7-6.5	3/8″-24	K1M	1BM 3/8	3166A17	145.16

★ JT = Jacobs Taper.

Extra-Grip Jacobs Drill Chucks



A ball-bearing design provides increased gripping force to keep bits from slipping, allowing these chucks to take on high-torque drilling applications. Also known as super chucks, these are excellent for use on production drilling machines, milling machines, jig borers, and lathes. All chucks are Jacobs taper mount and require an arbor (sold separately on page 2443). For use in both forward and reverse tool operation. They come with a chuck key and are made of steel. Chucks with a minimum inch capacity of 0.040″ hold a #60 drill bit.

Drill Chucks

Capacity Inch	Capacity mm	Mount■	Key No.	Model No.		Each
0.040-1/4	1-6.5	2 SJT	K30	8 1/2N	2815A11	$109.95
0.040-3/8	1-10	2 JT	K32	11N	2815A12	122.51
0.040-1/2	1-13	3 JT	K3	14N	2815A13	171.28
1/8-5/8	3-16	3 JT	K4	16N	2815A14	196.58
1/8-3/4	3-19	4 JT	K4	18N	2815A15	295.66
3/8-1	10-25.4	5 JT	K5	20N	2815A16	398.20

■ SJT = Short Jacobs Taper; JT = Jacobs Taper.

Replacement Parts

Service kits include a set of jaws, nuts, a caged bearing, and a thrust washer. *Style A* is for older chucks that do not have a service kit number on their nose. *Style B* is for chucks that have a service kit number on their nose.





For Model No.	Service Kits (A)	Each	Service Kits (B)	Each	Sleeves	Each
8 1/2N	2815A51	$66.94	2815A41	$80.37		
11N	2815A52	75.63	2815A42	94.86	2815A25	$40.76
14N	2815A53	104.25	2815A43	130.19	2815A26	51.38
16N	2815A54	120.89	2815A44	152.67	2815A27	73.83
18N	2815A55	164.38	2815A45	234.66	2815A28	101.60
20N	2815A56	198.04	2815A46	317.54	2815A29	159.06

Portable Drill Guides for High-Speed Drilling

Connect this guide to your portable drill for increased leverage so you can quickly power through your most difficult drilling jobs. A lightweight alternative to a magnetic-base drill, use it when drilling into steel plates, pipes, and I-beams. The guide has a V-groove that centers round material. It comes with two steel drill clamps that will fit onto most portable drills that have a round collar, a steel pipe clamp, 1/4″ and 3/16″ hex keys, and a plastic case. Maximum workpiece size is 8″.



Drill Not Included

Frame Ht.	Frame Thick.	Throat Dp.	O'all Wd.	Wt., lbs.		Each
Drill Guide	18″	2 3/4″	7″	18″	9	1444N1	$1,162.32
Optional 1.6″ Dia. Drill Clamp						1444N22	100.20
Replacement 1.7″ Dia. Drill Clamp						1444N23	100.20
Replacement 1.9″ Dia. Drill Clamp						1444N24	100.20
Replacement 1.3″ Dia. Pipe Clamp						1444N21	100.20

Drill Chucks for Hammer Drills



A special gripping ring in these chucks prevents drill bits from loosening during heavy hammer-drilling operations. Chucks mount directly onto the threaded spindle of a hammer drill. For use in both forward and reverse tool operation. All come with a chuck key and are made of steel.

Capacity			Key	
Inch	mm	Mount	No.	Each
1/16-1/2	1.5-13	3/8"-24	K32	28885A11 $108.41
1/16-1/2	1.5-13	1/2"-20	K32	28885A12 108.41
3/32-5/8	2.5-16	1/2"-20	K3	28885A13 140.45
3/32-5/8	2.5-16	5/8"-16	K3	28885A14 140.45

Keys for Jacobs and Rohm Drill Chucks—Fixed and Self-Ejecting Pin



All keys are made of steel, except 3169A24 and 3169A25, which are Type 416 stainless steel.

Self-ejecting pin keys have improved safety compared to fixed-pin keys. They have a spring-loaded pin that ejects the key from the chuck when released, preventing it from being left in the chuck.

Extra-long keys have handles that are almost twice the length of standard-length keys and provide more leverage for tightening power.

Key Nos.	Jacobs Chuck No.	Rohm Chuck No.	*Fixed Pin* Each	*Self-Ejecting Pin* Each
Standard-Length Keys				
K0, TK0, 0	0, 0B	No Rohm Equivalent	3169A11 $2.33	8815A11 $13.81
K0M	0BM, 0M	No Rohm Equivalent	3169A24 $9.35	
K1, S1, T1, TK1, 1	1A, 1B, 1BS	R0-0	3169A12 $2.50	8815A12 $8.57
K1M	1BM, 1M	No Rohm Equivalent	3169A25 $14.78	
K2, S17, T2, TK2, 2	2A, 2B, 2BA	No Rohm Equivalent	3169A13 $3.70	8815A13 $11.96
K3, S10, T6, TK3	3, 3A, 3B, 3KD, 3PD, 6A-33, 6B, 14N, 34, 34-02, 34-06, 34-33, 34B, 34KD, 35B	BB13-3, BB16-3, R4-3, R4-12TH, R4-58TH	3169A15 $5.19	8815A14 $11.40
K3C, T6C, TK3C	34-33C	No Rohm Equivalent	3169A42 $6.61	8815A15 $12.04
K4, S13, TK4, 9	16N, 18N, 36, 36B, 36KD, 36PD	BB20-4, BB26-5, R5-3, R5-4, R6-5	3169A16 $9.75	8815A16 $25.02
K5, TK5, 26	20N	No Rohm Equivalent	3169A17 $20.03	8815A22 $60.00
K7, R4, S18, T4, TK7	7, 7-1A, 7B, 7BA	R1-38TH	3169A18 $2.91	8815A17 $10.83
K30, R13, S8, TK30, 13	8 1/2N, 30, 30B, 31-01, 31-02, 31B, 31BA, 41BA	LCT9-12TH, LCT9-38TH, LST9-12TH, R1-1, R1-12TH, R1-38TH, R2-38TH, R8-1, R8-12TH, R8-38TH	3169A21 $3.92	8815A18 $11.19
K32, S9, T5, TK32	11N, 32, 32B, 32BA, 33, 33B, 33BA, 33KD, 3326A	R2-12TH, R2-2, R2-33, R3-2, R3-12TH, R3-33, R3-38TH, R3-58TH, R3-6	3169A23 $5.15	8815A19 $11.19
K32C, T5C, TK32C	32C, 33C	No Rohm Equivalent	3169A52 $6.88	8815A21 $12.79
KG, KG1, KGA, S14, TB1, TKG	20BA, 30248, All 1/4" and 3/8" Multi-Craft Chucks	LCT8-12TH, LCT8-38TH, LST8-38TH	3169A26 $1.88	
KK, KKA, S19, TB13, TKK	31052, 30246, All 1/2" Multi-Craft Chucks	No Rohm Equivalent	3169A27 $2.60	8815A24 $11.19
S2A	No Jacobs Equivalent	111 Prima-8, 129-00	3169A54 $3.45	
S3	No Jacobs Equivalent	111 Prima-13, 111 Prima-16, 111 Prima-16M	3169A55 $7.00	
Extra-Long Keys				
K0, TK0, 0	0, 0B	No Rohm Equivalent	3169A61 $8.79	
K1, S1, TK1, 1	1A, 1B, 1BS	R0-0	3169A62 $10.33	

Multiple-Size Keys for Jacobs Drill Chucks



Key with Fixed Pinions



Key with Replaceable Pinions

Each of these keys fits a number of Jacobs chuck sizes. All keys are made of steel.

Keys with replaceable pinions have a set screw for easy replacement of worn pinions and a magnetic body for easy storage on metal surfaces.

Note: See chart above for Jacobs key and chuck numbers and their compatibility.

Keys

Replaces Key Nos.		Each
With Fixed Pinions		
K7, K30, KG1, KK	3175A34	$16.75
K2, K3, K4, K32	3175A36	18.30
With Replaceable Pinions		
K1, K7, KG1, KK	30035A51	32.24
K2, K3, K30, K32	30035A71	34.18

Replacement Pinions

Key Nos.		Each	Key Nos.		Each
For Key 30035A51			***For Key 30035A71***		
K1	30035A45	$2.83	K2	30035A65	$3.37
K7	30035A46	3.00	K3	30035A66	3.45
KG1	30035A47	2.99	K30	30035A67	2.83
KK	30035A48	3.02	K32	30035A68	3.37

Chuck Key Holders



No more lost or misplaced keys—these holders (also called key leashes) attach to your power cord to hold your chuck key.

Note: See chart above for Jacobs key and chuck numbers and their compatibility.

For Key Number		Each
All Jacobs keys except K4 and K5	28155A72	$3.05
K1, K7, KG1, K0, K0M, K1M, K7HD, KG, KGA	3138A11	3.51
K2, K30, K32, KK, K32C, KKA	3138A12	3.51

Drill Chuck Removal Wedge Sets





Easily remove taper mount drill chucks from arbors and spindles with these steel wedge sets. Each set consists of two wedges. Simply place one wedge on each side of the chuck, and then hammer each wedge end until the chuck is removed.

For Use on Jacobs Taper No.		Per Set
1	29225A34	$9.19
2	29225A35	9.19
3	29225A36	9.19
6	29225A37	9.19

Extra-Grip Keyless Drill Chucks

Ball bearings provide increased gripping force to keep your bits from slipping. For use in both forward and reverse tool operation. All chucks are made of steel unless otherwise stated.

Jacobs taper mount chucks require an arbor (sold separately on page 2443).

Thread mount chucks mount directly onto the threaded spindle of a portable drill. Chucks with a minimum inch capacity of "0" hold a #80 (0.0135") drill bit.

Ratchet-locking thread mount chucks allow easier tightening and releasing of drill bits and other tools. They have carbide jaws, which are harder and grip tighter than steel jaws.

Capacity				
Inch	mm	Mount★		Each
Jacobs Taper Mount				
1/16-1/2	1.5-13	2 JT	2848A53	$77.89
1/16-1/2	1.5-13	33 JT	2848A44	76.60
Thread Mount				
0-3/8	0.5-10	3/8"-24	2848A42	58.27
0-3/8	0.5-10	1/2"-20	2848A43	58.27
1/16-1/2	1.5-13	3/8"-24	2848A55	77.89
1/16-1/2	1.5-13	1/2"-20	2848A56	77.89
Ratchet-Locking Thread Mount				
1/16-1/2	1.5-13	3/8"-24	2848A61	79.11
1/16-1/2	1.5-13	1/2"-20	2848A62	80.29

★ JT = Jacobs Taper.



Jacobs Taper Mount and Thread Mount



Ratchet-Locking Thread Mount

Keyless Chucks for DeWalt, Milwaukee, and Makita Cordless Drills

Find your DeWalt, Milwaukee, or Makita cordless drill model number, and then choose from a manufacturer-brand chuck or a Jacobs-brand equivalent. For use in both forward and reverse tool operation.

For Cordless Drill Model Nos.	Chuck Cap.	Mount	DeWalt/Milwaukee/Makita Brand Each	Jacobs Brand Each
DeWalt				
DW961	3/8"	3/8"-24	30405A62 $25.06	28165A32 $26.67
DW927, DW928, DW929, DW953, DW954, DW960, DW971, DW972, DW974, DW975, DW991, DW992	3/8"	1/2"-20	30405A64 $47.34	— —
DC720, DC728, DC730, DC759, DC920, DC930, DC936, DC940, DC980, DC983, DC985, DC987, DC988, DW006, DW971, DW972, DW975, DW980, DW983, DW985, DW987, DW988, DW990, DW995, DW996, DW997	1/2"	1/2"-20	— —	28165A61 $39.98
Milwaukee				
0502-02	3/8"	3/8"-24	— —	28165A32 $26.67
0512-21	1/2"	3/8"-24	— —	28165A37 $41.19
0501-02, 0511-21, 0521-20, 0523-20	1/2"	1/2"-20	30405A74 $61.58	28165A61 $39.98
0513-21, 0514-20, 0516-20, 0522-20, 0524-20, 1109-20, 3109-20	1/2"	1/2"-20	30405A75 $69.51	28165A61 $39.98
0614-20, 0615-20, 0616-20, 0617-20, 0622-20, 0624-20, 0625-20, 0627-20, 0724-20	1/2"	1/2"-20	30405A86 $35.65	28165A61 $39.98
Makita				
6201D, 6203D, 6211D, 6213D, 6217D, 6233D, 6260D, 8402VD	3/8"	3/8"-24	— —	28165A32 $26.67
6226D, 6227D, 6228D, DA312D, DA391D, DA392D	3/8"	3/8"-24	30405A71 $36.33	28165A32 $26.67
BDF452, BHP452	1/2"	1/2"-20	30405A81 $27.35	28165A61 $39.98
6336D, 6337D, 6343D, 6347D	1/2"	1/2"-20	30405A72 $59.96	28165A42 $41.19



3/8" Chuck Capacity



1/2" Chuck Capacity

Hex-Shank Drill Chucks for Power Screwdrivers and Impact Drivers

Convert your power screwdriver or impact driver into a versatile drill. Also known as adapt-a-drive, these chucks have a standard 1/4" hex shank that fits the hex socket of most power screwdrivers and impact drivers. For use in both forward and reverse tool operation.

Choose from keyed or keyless chucks. Keyed chuck is made of steel and is furnished with a chuck key. Chuck holds a #70 drill bit. Keyless chuck has a steel body and a plastic sleeve.

Capacity		Key	Jacobs		
Inch	mm	No.	Model No.		Each
0.028-1/4	0.7-6.5	KG1	30248	28055A71	$18.74
1/16-3/8	1.5-10	Keyless	31248	28055A72	38.05





Keyed



Keyless

Keyless Drill Chucks for Impact Wrenches

Transform standard impact wrenches into efficient drilling tools. These chucks mount directly onto the square-drive spindle of your impact wrench. Not for use in reverse tool operation. All are made of steel.

Capacity				
Inch	mm	Mount		Each
3/32-3/8	2.5-10	3/8" Square	3167A12	$74.18
1/8-1/2	3-13	1/2" Square	3167A11	93.72





Precision Keyless Drill Chucks



A self-tightening feature causes the chuck to grip tighter as torque increases, which prevents tool-shank slippage and allows for precise drilling. For use with drill presses, jig borers, and milling machines. Not for use in reverse tool operation. Chucks are Jacobs taper mount and require an arbor (sold separately on page 2443), except Albrecht stainless steel precision chucks, which have a through-hole and mount directly onto your machine's threaded spindle.

Albrecht— The original precision keyless drill chucks. ***Albrecht stainless steel precision chucks*** resist rust and corrosion and are ideal when tools have to be sterilized. All are made entirely of stainless steel.

Also Available: Replacement hoods, ball bearing sets, collars, jaws, jaw guides, shells, drive pins, and body and spindle assemblies for Albrecht steel precision chucks. Please ask for 2825A6 and specify part desired and Albrecht chuck number.

Jacobs— Chucks with a minimum inch capacity of 0.012″ hold a #83 drill bit; 0.02″ hold a #76 drill bit; 0.039″ hold a #61 drill bit; and 0.118″ hold a #31 drill bit. ***Jacobs extra-grip steel precision chucks*** have a spanner wrench that allows additional tightening to increase gripping torque up to three times greater than hand tightening. These chucks also resist loosening when used on high-speed machines with instant spindle stop.

Albrecht and Jacobs Steel Precision Chucks

		Albrecht					*Jacobs*			
	Max.	*Capacity*		Model			*Capacity*		Model	
Mount★	rpm	Inch	mm	No.		Each	Inch	mm	No.	Each
0 JT	50,000	0.005-0.063	0-1.5	C15-J0	2823A11	$442.70				
0 JT	35,000	0.015-0.125	0-3	C30-J0	2823A12	333.45				
1 JT	35,000	0.015-0.125	0-3	C30-J1	2823A13	333.45				
1 JT	20,000	0.015-0.25	0-6.5	C65-J1	2823A15	319.20	0.012-0.255	0.3-6.5	JKP 65-J1	2844A49 $194.49
2 JT	15,000						0.012-0.315	0.3-8	JKP 80-J2S	2844A51■ 194.49
2 JT	12,000	0.015-0.375	0-10	C100-J2	2823A18	345.80	0.02-0.394	0.5-10	JKP 100-J2	2844A52 208.95
2 JT	7,000	0.031-0.5	1-13	C130-J2	2823A21	378.10	0.039-0.512	1-13	JKP 130-J2	2844A54 223.33
6 JT	7,000	0.031-0.5	1-13	C130-J6	2823A22	378.10	0.039-0.512	1-13	JKP 130-J6	2844A56 223.33
6 JT	4,000	0.125-0.625	3-16	C160-J6	2823A23	426.55	0.118-0.63	3-16	JKP 160-J6	2844A57 258.24
33 JT	12,000	0.015-0.375	0-10	C100-J33	2823A17	345.80	0.02-0.394	0.5-10	JKP 100-J33	2844A53 208.95
33 JT	7,000	0.031-0.5	1-13	C130-J33	2823A19	378.10	0.039-0.512	1-13	JKP 130-J33	2844A55 223.33

★ JT = Jacobs Taper. ■ Jacobs short taper.

Jacobs Extra-Grip Steel Precision Chucks

	Max.	*Capacity*		Model		
Mount★	rpm	Inch	mm	No.		Each
1 JT	10,000	0.000-0.255	0-6.5	JKT 65-J1	28305A59	$216.13
2 JT	7,000	0.039-0.512	1-13	JKT 130-J2	28305A62	259.38
6 JT	7,000	0.039-0.512	1-13	JKT 130-J6	28305A64	259.38
6 JT	4,000	0.118-0.63	3-16	JKT 160-J6	28305A65	309.97
33 JT	7,000	0.039-0.512	1-13	JKT 130-J33	28305A63	259.38

★ JT = Jacobs Taper.

Albrecht Stainless Steel Precision Chucks

	Max.	*Capacity*		Model		
Mount	rpm	Inch	mm	No.		Each
3/8″-24	7,500	0-0.125	0-3	CS30-3/8″	8890A44	$524.40
3/8″-24	5,000	0.031-0.25	0.6-7.4	CS50-3/8″	8890A55	562.40

Albrecht Precision Keyless Drill Chucks with Integral Arbor



R8 (Bridgeport) Shank

The integral arbor offers greater accuracy and rigidity than a drill chuck used with a separate arbor. Not for use in reverse tool operation. All are made of steel.

Also Available: Replacement hoods, jaw guides, jaws, and drive pins. Please ask for 30075A6 and specify part and Albrecht chuck number.

Shank Style	Max. rpm	*Capacity* Inch	mm	Model No.		Each
2 Morse Taper	7000	1/32-1/2	1-13	CP130-2MT	30075A45	$434.38
3 Morse Taper	7000	1/32-1/2	1-13	CP130-3MT	30075A46	436.34
3 Morse Taper	4000	1/8-5/8	3-16	CP160-3MT	30075A54	485.48
4 Morse Taper	7000	1/32-1/2	1-13	CP130-4MT	30075A47	460.91
4 Morse Taper	4000	1/8-5/8	3-16	CP160-4MT	30075A56	510.05
5/8″ Straight	7000	1/32-1/2	1-13	CP130- 5/8	30075A49	432.41
R8 (Bridgeport)	7000	1/32-1/2	1-13	CP130-R8	30075A48	477.62
R8 (Bridgeport)	4000	1/8-5/8	3-16	CP160-R8	30075A58	524.79

Economy Precision Keyless Drill Chucks



Ideal for close-tolerance drilling with drill presses, jig borers, and milling machines, these all-steel chucks are an economical alternative to Albrecht and Jacobs precision keyless chucks. All are Jacobs taper mount and require an arbor (sold separately on page 2443). Chucks with a minimum inch capacity of "0" hold a #80 (0.0135″) drill bit.

Mount★	Max. rpm	*Capacity* Inch	mm		Each
1 JT	4500	1/64-5/16	0.5-8	2848A45	$139.93
2 JT	4500	0-3/8	0.5-10	2848A47	161.86
6 JT	4500	1/64-1/2	0.5-13	2848A48	206.16
6 JT	4500	1/8-5/8	3-16	2848A49	231.02
33 JT	4500	1/64-1/2	0.5-13	2848A51	206.16

★ JT = Jacobs Taper.

Taper Shank Removal Tools



Also called drill drifts or drift keys, these tools are designed to separate Morse taper shank cutting tools from machinery spindles and Morse Taper Adapters (also known as sleeves and extension sockets; see page 2443). To use, simply insert the removal tool into spindle slot and tap with a hammer to release the cutting tool. Made of steel.

For Morse Taper No.	O'all Lg.		Each
1	4 1/2″	2796A11	$9.29
2	5 3/4″	2796A12	10.55
3	7 7/8″	2796A13	11.78
4, 5	9 1/4″	2796A24	19.18

Machinable-End Morse Taper Arbors

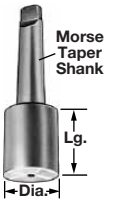

Create your own Morse taper arbors to suit your job requirements. Made of soft steel (Type 1144), these blank-end arbors are easy to machine. Arbors have a Morse taper shank.

Morse Taper No.	*Machinable End* Body Dia.	Body Lg.		Each
2	1 3/4″	2 1/8″	2862A11	$49.83
3	1 3/4″	2 1/8″	2862A12	58.51
4	2 1/2″	3″	2862A13	66.08
5	3″	4 1/16″	2862A14	109.42

Drill Chuck Arbors

Attach your drill chuck to your machine's spindle with one of these arbors. Choose an arbor with one end that fits into your machine spindle (Morse taper, straight shank, or R8 taper) and one end that fits your drill chuck mount (Jacobs taper or threaded). All arbors are made of hardened, precision-ground steel.

The following is a list of machines and some of their spindle types:
Drill Press = Morse Taper Spindle
CNC/Lathe = Straight Shank Spindle
Milling Machine = R8 Taper Spindle

If your machine spindle is Morse taper, measure the internal diameter of the spindle or chuck (which will be equal to the diameter of the arbor you need) and use the tables to the right to determine the taper number.

Morse Taper Dia.	Morse Taper No.	Jacobs Taper Dia.	Jacobs Taper No.
0.3561″	0	0.2500″	0
0.475″	1	0.3840″	1
0.700″	2	0.5590″	2
0.938″	3	0.6240″	33
1.231″	4	0.6760″	6
1.748″	5	0.8110″	3
2.494″	6	1.1240″	4
3.270″	7	1.4130″	5





Morse Taper (Spindle) to Jacobs Taper (Chuck)

Morse Taper No.	Jacobs Taper No.★	O'all Lg.		Each
1	0 JT	3 3/16″	2811A14	$27.20
1	1 JT	3 25/64″	2811A15	16.70
1	2 JT	3 5/8″	2811A16	16.40
1	3 JT	4 1/64″	2811A17	18.50
1	6 JT	3 25/32″	2811A19	18.90
1	33 JT	3 25/32″	2811A21	18.76
2	0 JT	3 25/32″	2811A22	27.20
2	1 JT	3 63/64″	2811A23	17.74
2	2 JT	4 7/32″	2811A24	16.00
2	3 JT	4 39/64″	2811A25	16.00
2	4 JT	5 3/64″	2811A26	$23.20
2	6 JT	4 3/8″	2811A28	21.14
2	33 JT	4 17/64″	2811A31	16.92
3	1 JT	4 47/64″	2811A32	33.12
3	2 JT	4 31/32″	2811A33	22.52
3	3 JT	5 23/64″	2811A34	22.52
3	4 JT	5 51/64″	2811A35	23.08
3	5 JT	5 29/32″	2811A61	41.06
3	6 JT	5 1/8″	2811A37	22.70
3	33 JT	5 1/8″	2811A38	23.60
4	2 JT	6″	2811A39	$39.02
4	3 JT	6 3/8″	2811A41	35.44
4	4 JT	6 13/16″	2811A42	36.50
4	5 JT	6 15/16″	2811A43	58.58
4	6 JT	6 5/32″	2811A44	35.44
4	33 JT	6 5/32″	2811A45	36.50
5	3 JT	7 9/16″	2811A47	79.58
5	4 JT	8 1/8″	2811A48	82.94
5	5 JT	8 1/8″	2811A49	95.62

★ JT = Jacobs Taper.



Straight Shank (Spindle) to Jacobs Taper (Chuck)

Shank Dia.	Jacobs Taper No.★	O'all Lg.		Each
1/2″	0 JT	3 7/64″	2811A53	$22.56
1/2″	1 JT	3 11/32″	2811A54	18.06
1/2″	2 JT	3 35/64″	2811A55	17.38
1/2″	3 JT	3 63/64″	2811A56	24.76
1/2″	6 JT	3 3/4″	2811A58	20.08
1/2″	33 JT	3 3/4″	2811A59	17.48
5/8″	1 JT	3 11/32″	2811A66	$23.24
5/8″	2 JT	3 19/32″	2811A62	20.20
5/8″	3 JT	3 63/64″	2811A63	21.54
5/8″	6 JT	3 3/4″	2811A64	20.00
5/8″	33 JT	3 3/4″	2811A65	18.72
3/4″	2 JT	4 7/64″	2811A68	$29.48
3/4″	3 JT	4 1/2″	2811A69	27.52
3/4″	6 JT	4 17/64″	2811A71	27.32
3/4″	33 JT	4 17/64″	2811A72	30.40

★ JT = Jacobs Taper.



R8 Taper (Spindle) to Jacobs Taper (Chuck)

Jacobs Taper No.★	O'all Lg.		Each
1 JT	4 53/64″	8775A11	$70.91
2 JT	5 5/64″	8775A12	70.91
3 JT	5 27/64″	8775A13	70.91
6 JT	5 15/64″	8775A14	70.91
33 JT	5 15/64″	8775A15	70.91

★ JT = Jacobs Taper.



#2 Morse Taper (Spindle) to Thread Mount (Chuck)

Thread Size	O'all Lg.		Each
3/8″-24	4″	3170A31	$60.04
1/2″-20	4 7/64″	3170A32	63.92
5/8″-16	4 3/16″	3170A33	62.88



Morse Taper Adapters

If your Morse taper arbor is too small or large for your machine spindle or you need additional reach, insert it into one of these adapters. All are made of steel.

Adapters are also known as sleeves or shell sockets. They adapt smaller Morse taper arbors to larger Morse taper machine spindles.

Extended-reach adapters are also known as extension sockets and are longer for hard-to-reach spots. In addition to extending your Morse taper arbor, these adapters also adapt larger Morse taper shank tools to smaller Morse taper machine spindles.

Morse Taper No.		Adapters			Extended-Reach Adapters		
Machine Spindle	Arbor	O'all Lg.		Each	O'all Lg.		Each
2	1	3 5/8″	2976A21	$10.71			
2	2	—	—	—	6 57/64″	2977A15	$39.11
2	3	—	—	—	7 23/32″	2977A19	47.67
3	1	3 7/8″	2976A22	13.86	—	—	—
3	2	4 3/8″	2976A25	13.86	7 41/64″	2977A16	39.11
3	3	—	—	—	8 29/64″	2977A21	49.85
3	4	—	—	—	9 7/16″	2977A24	77.21
4	1	4 7/8″	2976A23	20.48	—	—	—
4	2	4 7/8″	2976A26	20.48	—	—	—
4	3	5 1/2″	2976A28	19.19	9 29/64″	2977A22	49.97
4	4	—	—	—	10 7/16″	2977A25	79.79
4	5	—	—	—	11 13/16″	2977A28	145.61
5	2	6 1/8″	2976A27	39.51	—	—	—
5	3	6 1/8″	2976A29	37.85	—	—	—
5	4	6 11/16″	2976A31	37.85	11 13/16″	2977A26	79.59
5	5	—	—	—	13 3/16″	2977A29	145.69
6	4	8 9/16″	2976A32	97.27	—	—	—
6	5	8 9/16″	2976A33	98.98	—	—	—

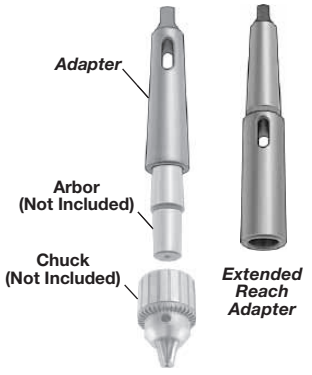

About Drill Bits

Bit Materials

High-speed steel bits are for general use in most materials.

Cobalt steel bits are better than high-speed steel for drilling very hard materials such as stainless steel, titanium alloys, and nickel alloys.

Carbide-tipped bits resist wear better than high-speed steel and cobalt steel, particularly in abrasive materials such as fiberglass and aluminum.

Carbide bits are harder, stronger, and offer greater wear resistance than high-speed steel, cobalt steel, and carbide-tipped bits. However, they require rigid toolholding to prevent breakage and should not be used in hand-held drilling applications.

Treatments & Coatings

Uncoated (Bright Finish)— Surface is untreated. For general purpose drilling of most metals, wood, and plastic.

Black-Oxide Treatment— Color is dull black. For drilling of ferrous metals such as steel, stainless steel, and cast iron.

Black-and-Gold-Oxide Treatment— Color is black and gold. Resists breakage better than black-oxide bits when drilling ferrous metals such as steel, stainless steel, and cast iron.

Extended-Life Coatings— These coatings extend the life of bits by forming a barrier against heat and abrasion.

Extended-Life Coating	Color
Long-Life TiN (titanium nitride)	Bright gold
Extra-Life TiCN (titanium carbonitride)	Violet/blue-gray
Super-Life TiAlN (titanium aluminum nitride)	Dark violet/blue-gray
Ultra-Life TiN/TiAlN	Dark violet/blue-gray

Bit Shank Diameter

The shank diameter of each drill bit is the same as or slightly smaller than the drill bit size, unless otherwise stated.

Bit Length

Though ***jobbers' length*** bits are highly versatile, you may require shorter or longer bits for your specific application.

Short-length bits have maximum rigidity and a shorter overall length for drilling straighter, shallower holes than jobbers' and maintenance-length bits.

Maintenance-length bits are more rigid and drill shallower holes than jobbers' length bits.

Extended-reach bits are for hard-to-reach spots and drilling deeper holes than jobbers' length bits.



Short Length
Pages 2456, 2458, 2460, 2462-2464



Maintenance Length
Page 2461



Jobbers' Length
Pages 2446-2461



Extended Reach
Pages 2465-2467

Jobbers' Bits Application Guide

Jobbers' drill bits are the most widely used because they're rigid enough to make accurate hole sizes in a variety of materials and long enough to drill the hole depths required for most applications.

Select a jobbers' drill bit based on the material you plan to drill. Bits with a "Good" rating are both effective and economical; bits with a "Better" rating offer longer life; and bits with a "Best" rating are designed for superior performance.

Note: For drill bits for masonry, concrete, and wood, see pages 2474-2480.

For Drilling	GOOD Pages	BETTER Pages	BEST Pages
Alloy Steel and Carbon Steel	General Purpose High-Speed Steel Jobbers' Drill Bits, Black Oxide 2448-2452	General Purpose High-Speed Steel Jobbers' Drill Bits, Long-Life TiN Coated 2448-2452	General Purpose High-Speed Steel Jobbers' Drill Bits, Super-Life TiAlN Coated 2448-2450
Cast Iron	General Purpose High-Speed Steel Jobbers' Drill Bits, Black Oxide 2448-2452	General Purpose High-Speed Steel Jobbers' Drill Bits, Long-Life TiN Coated 2448-2452	Carbide-Tipped Drill Bits for Difficult-to-Drill Materials 2456
Hard Steel	General Purpose High-Speed Steel Jobbers' Drill Bits, Super-Life TiAlN Coated 2448-2450	Straight-Flute Carbide-Tipped Drill Bits for Hard Steel 2458	Ultra Duty Carbide Drill Bits for Tool Steel and Dies 2457
Stainless Steel	Heat-Resistant Cobalt Steel Jobbers' Drill Bits 2454-2455	Heavy Duty Chip-Clearing Cobalt Steel Jobbers' Drill Bits 2453	High-Speed Steel Jobbers' Drill Bits for Stainless Steel 2459
Nickel Alloys/ Titanium Alloys	Heat-Resistant Cobalt Steel Jobbers' Drill Bits, Uncoated (Bright Finish) 2454-2455	Heat-Resistant Cobalt Steel Jobbers' Drill Bits, Ultra-Life TiN/TiAlN Coated 2454-2455	High-Speed Steel Jobbers' Drill Bits for Stainless Steel 2459
Aluminum	General Purpose High-Speed Steel Jobbers' Drill Bits, Uncoated (Bright Finish) 2448-2450	Heavy Duty Chip-Clearing High-Speed Steel Jobbers' Drill Bits, Long-Life TiN Coated 2452	High-Performance Carbide Jobbers' Drill Bits for Aluminum 2458
Brass and Bronze	General Purpose High-Speed Steel Jobbers' Drill Bits, Black Oxide 2448-2452	High-Speed Steel Jobbers' Drill Bits for Brass and Bronze 2459	High-Performance Carbide Jobbers' Drill Bits for Aluminum 2458
Plastic	General Purpose High-Speed Steel Jobbers' Drill Bits, Uncoated (Bright Finish) 2448-2450	General Purpose High-Speed Steel Jobbers' Drill Bits, Long-Life TiN Coated 2448-2452	High-Speed Steel Jobbers' Drill Bits for Plastic 2459
Fiberglass	General Purpose High-Speed Steel Jobbers' Drill Bits, Extra-Life TiCN Coated 2448-2450	General Purpose High-Speed Steel Jobbers' Drill Bits, Super-Life TiAlN Coated 2448-2450	Carbide-Tipped Drill Bits for Difficult-to-Drill Materials 2456
Composites	Carbide-Tipped Drill Bits for Difficult-to-Drill Materials 2456	Carbide Jobbers' Drill Bits for Fiber-Reinforced Composites 2460	Carbide Jobbers' Drill Bits for Composites 2460
Glass and Ceramics		Carbide-Tipped Drill Bits for Glass and Ceramics 2459	

Drill Bit Size Decimal Equivalents

Dec. Equiv.	Drill Bit Size	Dec. Equiv.	Drill Bit Size	Dec. Equiv.	Drill Bit Size	Dec. Equiv.	Drill Bit Size	Dec. Equiv.	Drill Bit Size	Dec. Equiv.	Drill Bit Size	Dec. Equiv.	Drill Bit Size
0.0135″	80	0.0551″	1.4 mm	0.1065″	36	0.1850″	13	0.2810″	K	0.4331″	11.0 mm	0.7188″	23/32″
0.0145″	79	0.0591″	1.5 mm	0.1094″	7/64″	0.1875″	3/16″	0.2813″	9/32″	0.4375″	7/16″	0.7283″	18.5 mm
0.0156″	1/64″	0.0595″	53	0.1100″	35	0.1890″	12	0.2900″	L	0.4528″	11.5 mm	0.7344″	47/64″
0.0160″	78	0.0625″	1/16″	0.1102″	2.8 mm	0.1910″	11	0.2950″	M	0.4531″	29/64″	0.7480″	19.0 mm
0.0180″	77	0.0630″	1.6 mm	0.1110″	34	0.1935″	10	0.2953″	7.5 mm	0.4688″	15/32″	0.7500″	3/4″
0.0200″	76	0.0635″	52	0.1130″	33	0.1960″	9	0.2969″	19/64″	0.4724″	12.0 mm	0.7656″	49/64″
0.0210″	75	0.0669″	1.7 mm	0.1142″	2.9 mm	0.1968″	5.0 mm	0.3020″	N	0.4844″	31/64″	0.7677″	19.5 mm
0.0225″	74	0.0670″	51	0.1160″	32	0.1990″	8	0.3125″	5/16″	0.4921″	12.5 mm	0.7813″	25/32″
0.0240″	73	0.0700″	50	0.1181″	3.0 mm	0.2010″	7	0.3150″	8.0 mm	0.5000″	1/2″	0.7874″	20.0 mm
0.0250″	72	0.0709″	1.8 mm	0.1200″	31	0.2031″	13/64″	0.3160″	O	0.5118″	13.0 mm	0.7969″	51/64″
0.0260″	71	0.0730″	49	0.1250″	1/8″	0.2040″	6	0.3230″	P	0.5156″	33/64″	0.8071″	20.5 mm
0.0280″	70	0.0748″	1.9 mm	0.1285″	30	0.2055″	5	0.3281″	21/64″	0.5313″	17/32″	0.8125″	13/16″
0.0292″	69	0.0760″	48	0.1360″	29	0.2090″	4	0.3320″	Q	0.5315″	13.5 mm	0.8268″	21.0 mm
0.0310″	68	0.0781″	5/64″	0.1378″	3.5 mm	0.2130″	3	0.3346″	8.5 mm	0.5469″	35/64″	0.8281″	53/64″
0.0313″	1/32″	0.0785″	47	0.1405″	28	0.2165″	5.5 mm	0.3390″	R	0.5512″	14.0 mm	0.8438″	27/32″
0.0320″	67	0.0787″	2.0 mm	0.1406″	9/64″	0.2188″	7/32″	0.3438″	11/32″	0.5625″	9/16″	0.8465″	21.5 mm
0.0330″	66	0.0810″	46	0.1440″	27	0.2210″	2	0.3480″	S	0.5709″	14.5 mm	0.8594″	55/64″
0.0350″	65	0.0820″	45	0.1470″	26	0.2280″	1	0.3543″	9.0 mm	0.5781″	37/64″	0.8661″	22.0 mm
0.0360″	64	0.0827″	2.1 mm	0.1495″	25	0.2340″	A	0.3580″	T	0.5905″	15.0 mm	0.8750″	7/8″
0.0370″	63	0.0860″	44	0.1520″	24	0.2344″	15/64″	0.3594″	23/64″	0.5938″	19/32″	0.8858″	22.5 mm
0.0380″	62	0.0866″	2.2 mm	0.1540″	23	0.2362″	6.0 mm	0.3680″	U	0.6094″	39/64″	0.8906″	57/64″
0.0390″	61	0.0890″	43	0.1563″	5/32″	0.2380″	B	0.3740″	9.5 mm	0.6102″	15.5 mm	0.9055″	23.0 mm
0.0394″	1.0 mm	0.0906″	2.3 mm	0.1570″	22	0.2420″	C	0.3750″	3/8″	0.6250″	5/8″	0.9063″	29/32″
0.0400″	60	0.0935″	42	0.1575″	4.0 mm	0.2460″	D	0.3770″	V	0.6299″	16.0 mm	0.9219″	59/64″
0.0410″	59	0.0938″	3/32″	0.1590″	21	0.2500″	1/4″, E	0.3860″	W	0.6406″	41/64″	0.9252″	23.5 mm
0.0420″	58	0.0945″	2.4 mm	0.1610″	20	0.2559″	6.5 mm	0.3906″	25/64″	0.6496″	16.5 mm	0.9375″	15/16″
0.0430″	57	0.0960″	41	0.1660″	19	0.2570″	F	0.3937″	10.0 mm	0.6563″	21/32″	0.9449″	24.0 mm
0.0433″	1.1 mm	0.0980″	40	0.1695″	18	0.2610″	G	0.3970″	X	0.6693″	17.0 mm	0.9531″	61/64″
0.0465″	56	0.0984″	2.5 mm	0.1719″	11/64″	0.2656″	17/64″	0.4040″	Y	0.6719″	43/64″	0.9646″	24.5 mm
0.0469″	3/64″	0.0995″	39	0.1730″	17	0.2660″	H	0.4063″	13/32″	0.6875″	11/16″	0.9688″	31/32″
0.0472″	1.2 mm	0.1015″	38	0.1770″	16	0.2720″	I	0.4130″	Z	0.6890″	17.5 mm	0.9842″	25.0 mm
0.0512″	1.3 mm	0.1024″	2.6 mm	0.1772″	4.5 mm	0.2756″	7.0 mm	0.4134″	10.5 mm	0.7031″	45/64″	0.9844″	63/64″
0.0520″	55	0.1040″	37	0.1800″	15	0.2770″	J	0.4219″	27/64″	0.7087″	18.0 mm	1.0000″	1″
0.0550″	54	0.1063″	2.7 mm	0.1820″	14								

Drill Bit Extensions

Add length to your drill bit for hard-to-reach areas. Insert your drill bit (not included) into the extension collet; then thread the collet onto the extension body and tighten with a wrench. Each includes extension collet and extension body. All are made of steel.

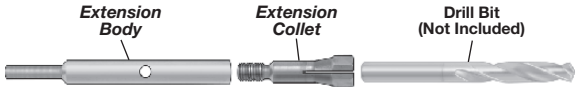

			4 1/2″ O'all		9 1/2″ O'all	
				Each		Each
1/4″	1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″; Nos. 43, 40, 30, 21	5/16″	3016A2	$25.40	3016A3	$25.59
1/4″	11/64″, 3/16″, 13/64″, 7/32″, 15/64″, 1/4″; Nos. 11, 10	7/16″	3016A4	32.17	3016A5	32.68
3/8″	1/4″, 17/64″, 9/32″, 19/64″, 5/16″	9/16″	3016A6	49.31	3016A7	50.16

Miniature Drill Bit Extensions

Smaller than our other drill bit extensions, these are perfect for extra reach when using small drill bit sizes. Collet and body are one piece and no special tools are needed to change the drill bit. Simply insert the drill bit into the collet end of the extension and tighten the knurled collar. Made of steel.

To Order: Each extension fits a specific drill bit size. Please specify the exact drill bit size to be used in the extension within the range of sizes listed.



Shank Dia.	For Drill Bit Sizes	O'all Lg.		Each
1/8″	1/64″, 1/32″; Nos. 80-56	4″	2864A11	$39.74
3/16″	1/64″, 1/32″, 3/64″, 1/16″; Nos. 80-53	4″	2864A21	41.54

Hex-Shank Adapters for Round-Shank Drill Bits

Use your round-shank drill bits in your power screwdriver or other tool that accepts a 1/4″ hex shank. Each adapter accepts a variety of round-shank drill bit sizes. Made of steel.



For Drill Bit Sizes	Hex Nut Size	O'all Lg.		Each
1/16″; Nos. 54-52; 1.4-1.6 mm	5/16″	1 11/16″	3185A41	$5.63
5/64″; Nos. 51-45; 1.7-2.0 mm	5/16″	1 11/16″	3185A42	5.63
3/32″; Nos. 44-40; 2.1-2.4 mm	5/16″	1 11/16″	3185A43	5.63
7/64″; Nos. 39-33; 2.5-2.8 mm	7/16″	1 3/4″	3185A44	5.63
1/8″; Nos. 32-30; 2.9-3.2 mm	7/16″	1 3/4″	3185A45	5.63
9/64″; Nos. 29-27; 3.3-3.6 mm	7/16″	1 3/4″	3185A46	5.63
5/32″; Nos. 26-20; 3.7-4.0 mm	7/16″	1 3/4″	3185A47	5.63

For Drill Bit Sizes	Hex Nut Size	O'all Lg.		Each
11/64″; Nos. 19-16; 4.1-4.4 mm	7/16″	1 3/4″	3185A48	$5.63
3/16″; Nos. 15-11; 4.5-4.8 mm	7/16″	1 3/4″	3185A49	5.63
13/64″; Nos. 10-5; 4.9-5.2 mm	7/16″	2 5/32″	3185A51	5.63
7/32″; Nos. 4-2; 5.3-5.6 mm	7/16″	2 5/32″	3185A52	5.63
15/64″; No. 1; A, B; 5.7-6.0 mm	7/16″	2 5/32″	3185A53	5.63
1/4″, C-E, 6.1-6.4 mm	1/2″	2 5/32″	3185A54	6.74

General Purpose High-Speed Steel Jobbers' Drill Bit Sets



Combination Set

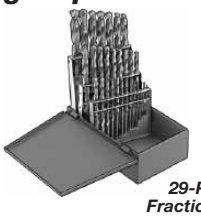

29-Piece Fractional Set

Get the drill bit sizes you need for general purpose applications in one convenient set. Sets contain one bit per size. They come in a metal case with holes for drill bits that are marked with the bit size for quick reference.

135° point angle bits perform better than 118° point angle bits on hard materials, and they produce smaller chips to reduce clogging. All have a split point that keeps the bit centered without a pilot hole to meet NAS 907 Type B aerospace specifications (except wire gauge sizes 80-53, metric sizes smaller than 1.6 mm, and where noted).

No. of Pieces	Size Range	Treatment/Coating	Point Angle	Replacement Bits on Page Nos.	Per Set
Combination Sets					
114	1/16"-1/2" (increments of 1/64"), Nos. 60-1, 1-13 mm (increments of 0.5mm)	Black Oxide	118°	2448-2449, 2451-2453	8834A13 ..... $314.20
115	1/16"-1/2" (increments of 1/64"), Nos. 60-1, A-Z	Uncoated (Bright Finish)	118°	2448-2450	29585A7 ..... $296.32
		Black Oxide	135°	2448-2450	8834A71 ..... $327.56
			118°	2448-2450	8834A12 ..... $289.52
		Long-Life TiN Coated	135°	2448-2450	29585A8 ..... $642.00
Fractional Sets					
13	1/16"-1/4" (increments of 1/64")	Uncoated (Bright Finish)	118°	2448	8875A13 ..... $24.99
		Black Oxide	135°	2448	8907A12 ..... $26.60
			118°	2448	2948A52 ..... $25.88
		Long-Life TiN Coated	135°	2448	31555A52 .. $49.36
		Extra-Life TiCN Coated	135°	2448	3108A11 ..... $66.61
15	1/16"-1/2" (increments of 1/32")	Uncoated (Bright Finish)	118°	2448-2449	8875A14 ..... $65.55
		Black Oxide	135°	2448	8907A14 ..... $65.24
			118°	2448-2449	2948A31 ..... $64.82
		Long-Life TiN Coated	135°	2448	31555A54 .. $110.64
			118°	2448-2449	2763A52 ..... $119.49
		Extra-Life TiCN Coated	135°	2448	3108A14 ..... $147.95
21	1/16"-3/8" (increments of 1/64")	Uncoated (Bright Finish)	118°	2448	8875A25 ..... $55.76
		Black Oxide	135°	2448	8907A13 ..... $59.20
			118°	2448	2948A27 ..... $60.21
		Long-Life TiN Coated	135°	2448	31555A53 .. $104.02
		Extra-Life TiCN Coated	135°	2448	3108A12 ..... $136.34
29	1/16"-1/2" (increments of 1/64")	Uncoated (Bright Finish)	118°	2448-2449	8875A15 ..... $121.60
		Black Oxide	135°	2448	8907A11 ..... $118.82
			118°	2448-2449	2948A28 ..... $116.93
		Heavy Duty Chip-Clearing Black Oxide	135°	2452	3186A41● .. $131.68
		Long-Life TiN Coated	135°	2448	31555A51 .. $204.68
			118°	2448-2449	2763A51 ..... $222.93
		Heavy Duty Chip-Clearing Long-Life TiN Coated	135°	2452	3186A42● .. $265.00
		Extra-Life TiCN Coated	135°	2448	3108A13 ..... $252.88
Wire Gauge Sets					
20	Nos. 80-61	Uncoated (Bright Finish)	118°	2449	31055A64 .. $37.53
		Black Oxide	135°	2449	8907A17 ..... $44.73
			118°	2449	2948A33 ..... $40.07
		Long-Life TiN Coated	135°	2449	31555A57 .. $71.71
			118°	2449	2763A56 ..... $63.54
60	Nos. 60-1	Uncoated (Bright Finish)	118°	2449	31055A62 .. $93.66
		Black Oxide	135°	2449	8907A16 ..... $102.67
			118°	2449	2948A32 ..... $94.80
		Long-Life TiN Coated	135°	2449	31555A56 .. $174.45
			118°	2449	2763A54 ..... $169.51
80	Nos. 80-1	Black Oxide	118°	2449	2948A34 ..... $163.58
Letter Sets					
26	A-Z	Uncoated (Bright Finish)	118°	2450	8875A35 ..... $121.96
		Black Oxide	135°	2450	8907A15 ..... $116.75
			118°	2450	2948A37 ..... $116.30
		Long-Life TiN Coated	135°	2450	31555A55 .. $211.37
			118°	____	2763A53 ..... $215.98
Metric Sets					
13	1-7 mm (increments of 0.5mm)	Black Oxide	118°	2451-2452	2788A11▲ .. $33.15
		Black-and-Gold Oxide	135°	2450-2451	30155A53 .. $30.33

● Does not meet NAS 907 Type B. ▲ Manufactured to DIN lengths.

(Continued on following page)

For information about drill bits and decimal equivalents, see pages 2444-2445.

General Purpose High-Speed Steel Jobbers' Drill Bit Sets *(Continued from previous page)*

No. of Pieces	Size Range	Treatment/Coating	Point Angle	Replacement Bits on Page Nos.	Per Set
Metric Sets					
19	1-10 mm (increments of 0.5 mm)	Uncoated (Bright Finish)	118°	_____	30555A64▲ $77.69
		Black Oxide	118°	2451-2452	2788A12▲ $78.17
		Black-and-Gold Oxide	135°	2450-2451	30155A55 $60.67
25	1-13 mm (increments of 0.5 mm)	Uncoated (Bright Finish)	118°	_____	30555A66▲ $110.10
		Black Oxide	118°	2451-2452	2788A13▲ $111.58
		Black-and-Gold Oxide	135°	2450-2451	30155A57 $110.38
41	6-10 mm (increments of 0.1 mm)	Black Oxide	118°	2451-2451	2788A14▲ $202.38
		Black-and-Gold Oxide	135°	2451	30155A59 $201.92
50	1- 5.9 mm (increments of 0.1 mm)	Black Oxide	118°	2451	2788A31▲ $100.73
118	1-2.45 mm (increments of 0.05 mm), 2.5-10 mm (increments of 0.1 mm), 10.2, 10.5, 10.8, 11, 11.2, 11.5, 11.8, 12, 12.2, 12.5, 12.8, 13 mm	Black Oxide	118°	2451-2452	3085A11▲ $469.62

▲Manufactured to DIN lengths.

General Purpose High-Speed Steel Jobbers' Drill Bit Master Sets

These master sets contain multiple bits of each size—choose from fractional, letter, and wire gauge sizes. Drill bits are black-oxide treated high-speed steel.

All bits have a 135° point angle that produces small chips to prevent clogging. They also have a split point that keeps the bit centered without a pilot hole and meet NAS 907 Type B aerospace specifications, except wire gauge sizes 60-53. Sets come in a 14 5/8" Lg. x 7 3/8" Wd. x 7 3/4" Ht. steel drawer cabinet with compartments marked with the bit size for quick reference. Fractional set and letter set have three drawers; wire gauge set has five drawers.

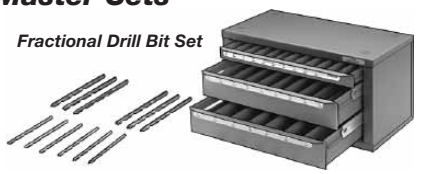

Fractional Drill Bit Set

Fractional Drill Bit Set—96 Pieces

Size	No. of Pieces	Size	No. of Pieces	Size	No. of Pieces	Size	No. of Pieces
1/16"	6	3/16"	6	19/64"	1	13/32"	2
5/64"	3	13/64"	3	5/16"	3	27/64"	2
3/32"	6	7/32"	6	21/64"	2	7/16"	2
7/64"	3	15/64"	3	11/32"	3	29/64"	2
1/8"	6	1/4"	6	23/64"	2	15/32"	2
9/64"	3	17/64"	2	3/8"	2	31/64"	1
5/32"	6	9/32"	3	25/64"	2	1/2"	2
11/64"	6						

8802A11 ..... **Per Set** $287.84

Wire Gauge Drill Bit Set—249 Pieces

Sizes	No. of Pieces for Each Size
Nos. 60-30	5
Nos. 29-23	4
Nos. 22-1	3

8802A13 ..... **Per Set** $350.81

Letter Drill Bit Set—72 Pieces

Sizes	No. of Pieces for Each Size
A-T	3
U-Z	2

8802A12 ..... **Per Set** $304.07

Heat-Resistant Cobalt Steel Jobbers' Drill Bit Sets

Each handy set includes a variety of cobalt steel jobbers' drill bits, which are harder and more heat-resistant than high-speed steel drill bits. For use on hard metals including stainless steel, nickel alloy, and titanium. Sets contain one bit per size. They come in a metal case with holes for drill bits that are marked with the bit size for quick reference.

All bits have a 135° point angle, which produces small chips to prevent clogging. All have a split point that keeps the bit centered without a pilot hole and meet NAS 907 Type J aerospace specifications, except short-flute fractional set, wire gauge sizes 80-53, and metric sizes smaller than 1.6 mm.

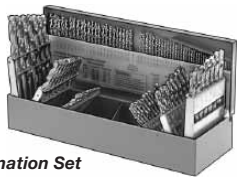

Combination Set

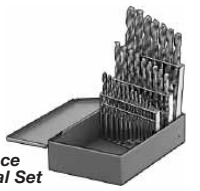

29-Piece Fractional Set

No. of Pieces	Size Range	Treatment/Coating	Point Angle	Replacement Bits on Page Nos.	Per Set
Combination Set					
115	1/16"-1/2" (increments of 1/64"), Nos. 60-1, A-Z	Uncoated (Bright Finish)	135°	2454-2455	3048A46 $579.51
Fractional Sets					
13	1/16"-1/4" (increments of 1/64")	Uncoated (Bright Finish)	135°	2454	8856A51 $44.48
13	1/16"-1/4" (increments of 1/64")	Long-Life TiN Coated	135°	2454	28115A71 $63.21
15	1/16"-1/2" (increments of 1/32")	Uncoated (Bright Finish)	135°	2454	8856A53 $117.44
15	1/16"-1/2" (increments of 1/32")	Long-Life TiN Coated	135°	2454	28115A74 $179.45
21	1/16"-3/8" (increments of 1/64")	Uncoated (Bright Finish)	135°	2454	8856A56 $86.75
21	1/16"-3/8" (increments of 1/64")	Long-Life TiN Coated	135°	2454	28115A72 $156.67
29	1/16"-1/2" (increments of 1/64")	Uncoated (Bright Finish)	135°	2454	8856A52 $215.17
29	1/16"-1/2" (increments of 1/64")	Short-Flute Black Oxide	135°	2453	87875A24 $306.86
29	1/16"-1/2" (increments of 1/64")	Long-Life TiN Coated	135°	2454	28115A77 $324.33
Wire Gauge Sets					
20	Nos. 80-61	Uncoated (Bright Finish)	135°	2454	8856A57 $63.75
60	Nos. 60-1	Uncoated (Bright Finish)	135°	2454	8856A54 $168.33
Letter Set					
26	A-Z	Uncoated (Bright Finish)	135°	2455	8856A55 $231.02
Metric Sets					
13	1-7 mm (increments of 0.5 mm)	Uncoated (Bright Finish)	135°	2455	27945A24 $36.38
19	1-10 mm (increments of 0.5 mm)	Uncoated (Bright Finish)	135°	2455	27945A25 $82.49
25	1-13 mm (increments of 0.5 mm)	Uncoated (Bright Finish)	135°	2455	27945A27 $146.83
41	6-10 mm (increments of 0.1 mm)	Uncoated (Bright Finish)	135°	2455	27945A28 $274.19

General Purpose High-Speed Steel Jobbers' Drill Bits



High-speed steel combined with ideal reach, drilling depth, and rigidity make these bits highly versatile.

135° Point Angle—Perform better than 118° point angle bits on hard materials and produce smaller chips to prevent clogging. They also have a split point that keeps the bit centered without a pilot hole and meet NAS 907 Type B aerospace specifications, unless noted.

Black-oxide bits are for use on steel, stainless steel, and cast iron. *Black-and-gold-oxide* bits are for use on steel, stainless steel, aluminum, copper, and plastic. *Long-life TiN (titanium nitride) coated* bits last longer than black-oxide and black-and-gold-oxide bits. For use on alloy steel, stainless steel, cast iron, brass, bronze, plastic, and fiberglass. *Extra-life TiCN (titanium carbonitride) coated* bits last longer than long-life TiN-coated bits. For use on alloy steel, stainless steel, cast iron, bronze, and fiberglass. *Super-life TiAlN (titanium aluminum nitride) coated* bits last longer than extra-life TiCN-coated bits. For use on alloy steel, stainless steel, cast iron, nickel alloys, titanium alloys, brass, bronze, and fiberglass.

118° Point Angle—*Metric-size 118° point angle* bits are made to DIN length specifications.

Uncoated (bright finish) bits are for use on carbon steel, aluminum, copper, brass, bronze, and plastic. *Black-oxide* bits are for use on steel and cast iron. *Black-and-gold-oxide* bits are for use on steel, stainless steel, aluminum, copper, and plastic. *Long-life TiN (titanium nitride) coated* bits last longer than uncoated, black-oxide, and black-and-gold-oxide bits. For use on steel, cast iron, brass, and bronze.

Fractional Size—135° Point Angle

Drill Bit Size	O'all Lg.	Drilling Depth	Black Oxide	Each 1-11	Each 12-Up	Long-Life TiN Coated	Each 1-11	Each 12-Up	Extra-Life TiCN Coated	Each 1-11	Each 12-Up	Super-Life TiAlN Coated	Each 1-11	Each 12-Up
1/64"	3/4"	0.2"	2901A107★	$3.82	$3.25									
1/32"	1 3/8"	0.5"	2901A108★	1.60	1.36									
3/64"	1 3/4"	0.7"	2901A109★	1.56	1.32									
1/16"	1 7/8"	0.8"	2901A111	1.38	1.17	29115A711	$2.51	$2.13	3192A34	$3.51	$2.98	3202A44	$3.73	$3.17
5/64"	2"	0.9"	2901A112	1.38	1.17	29115A712	2.56	2.17	3192A35	3.53	3.00	3202A45	3.78	3.21
3/32"	2 1/4"	1.1"	2901A113	1.42	1.21	29115A713	2.58	2.19	3192A36	3.56	3.02	3202A46	3.78	3.21
7/64"	2 5/8"	1.3"	2901A114	1.47	1.25	29115A714	2.76	2.34	3192A37	4.13	3.51	3202A47	4.42	3.75
1/8"	2 3/4"	1.4"	2901A115	1.58	1.34	29115A715	2.91	2.47	3192A38	4.31	3.66	3202A48	4.60	3.91
9/64"	2 7/8"	1.5"	2901A116	1.67	1.43	29115A716	3.04	2.58	3192A39	4.67	3.96	3202A49	4.87	4.13
5/32"	3 1/8"	1.8"	2901A117	1.80	1.53	29115A717	3.31	2.81	3192A41	4.78	4.06	3202A51	5.00	4.25
11/64"	3 1/4"	1.9"	2901A118	1.87	1.58	29115A718	3.38	2.87	3192A42	4.84	4.11	3202A52	5.38	4.57
3/16"	3 1/2"	2"	2901A119	2.13	1.81	29115A719	3.64	3.09	3192A43	5.53	4.70	3202A53	5.64	4.79
13/64"	3 5/8"	2.1"	2901A121	2.24	1.91	29115A721	4.07	3.45	3192A44	5.84	4.96	3202A54	6.22	5.28
7/32"	3 3/4"	2.2"	2901A122	2.36	2.00	29115A722	4.44	3.77	3192A45	5.91	5.02	3202A55	6.60	5.60
15/64"	3 7/8"	2.3"	2901A123	2.62	2.23	29115A723	4.84	4.11	3192A46	6.58	5.58	3202A56	7.09	6.02
1/4"	4"	2.4"	2901A124	2.84	2.42	29115A724	5.04	4.28	3192A47	6.91	5.87	3202A57	7.33	6.23
17/64"	4 1/8"	2.5"	2901A125	3.29	2.79	29115A725	7.02	5.96	3192A48	9.51	8.08	3202A58	10.33	8.77
9/32"	4 1/4"	2.5"	2901A126	3.51	2.98	29115A726	7.33	6.23	3192A49	9.76	8.28	3202A59	10.73	9.11
				1-5	6-Up		1-5	6-Up		1-5	6-Up		1-5	6-Up
19/64"	4 3/8"	2.6"	2901A127	$4.02	$3.42	29115A727	$8.53	$7.25	3192A51	$11.09	$9.42	3202A61	$12.22	$10.38
5/16"	4 1/2"	2.7"	2901A128	4.38	3.72	29115A728	8.67	7.36	3192A52	11.38	9.66	3202A62	12.60	10.70
21/64"	4 5/8"	2.8"	2901A129	4.84	4.11	29115A729	9.51	8.08	3192A53	12.73	10.81	3202A63	13.51	11.47
11/32"	4 3/4"	2.9"	2901A131	5.27	4.47	29115A731	10.42	8.85	3192A54	13.62	11.57	3202A64	14.38	12.21
23/64"	4 7/8"	3"	2901A132	6.00	5.09	29115A732	11.80	10.02	3192A55	15.69	13.32	3202A65	16.62	14.11
3/8"	5"	3.1"	2901A133	6.31	5.36	29115A733	11.93	10.13	3192A56	16.00	13.58	3202A66	17.16	14.57
25/64"	5 1/8"	3.2"	2901A134	7.07	6.00	29115A734	13.36	11.34	3192A57	18.42	15.64	3202A67	19.51	16.57
13/32"	5 1/4"	3.3"	2901A135	7.13	6.06	29115A735	13.87	11.77	3192A58	19.04	16.17	3202A68	20.13	17.09
27/64"	5 3/8"	3.3"	2901A136	8.20	6.96	29115A736	15.04	12.77	3192A59	20.24	17.19	3202A69	21.24	18.04
7/16"	5 1/2"	3.4"	2901A137	8.38	7.11	29115A737	15.29	12.98	3192A61	20.67	17.55	3202A71	21.67	18.40
29/64"	5 5/8"	3.5"	2901A138	9.62	8.17	29115A738	16.91	14.36	3192A62	22.84	19.40	3202A72	24.29	20.62
15/32"	5 3/4"	3.6"	2901A139	10.04	8.53	29115A739	17.78	15.09	3192A63	24.18	20.53	3202A73	26.09	22.15
31/64"	5 7/8"	3.6"	2901A141	10.69	9.08	29115A741	18.56	15.75	3192A64	25.62	21.75	3202A74	27.02	22.94
1/2"	6"	3.8"	2901A142	11.00	9.34	29115A742	19.36	16.43	3192A65	26.20	22.25	3202A75	27.51	23.36

★ Point is not split. Does not meet NAS 907 Type B.

Fractional Size—118° Point Angle

Drill Bit Size	O'all Lg.	Drilling Depth	Uncoated (Bright Finish)	Each 1-11	Each 12-Up	Black Oxide	Each 1-11	Each 12-Up	Long-Life TiN Coated	Each 1-11	Each 12-Up
1/64"	3/4"	0.2"	8870A11	$2.23	$1.90	2931A57	$2.22	$1.87			
1/32"	1 3/8"	0.4"	8870A12	1.48	1.26	2931A58	1.44	1.23			
3/64"	1 3/4"	0.7"	8870A13	1.12	.96	2931A11	1.31	1.11			
1/16"	1 7/8"	0.8"	8870A14	1.09	.92	2931A12	1.26	1.07	3022A31	$2.29	$1.95
5/64"	2"	0.9"	8870A15	1.14	.91	2931A13	1.30	1.10	3022A32	2.29	1.95
3/32"	2 1/4"	1.1"	8870A16	1.16	.98	2931A14	1.33	1.13	3022A33	2.46	2.09
7/64"	2 5/8"	1.3"	8870A17	1.16	.92	2931A15	1.30	1.11	3022A34	2.61	2.22
1/8"	2 3/4"	1.4"	8870A18	1.20	1.02	2931A16	1.36	1.16	3022A35	2.64	2.24
9/64"	2 7/8"	1.5"	8870A19	1.27	1.02	2931A17	1.45	1.23	3022A36	2.77	2.36
5/32"	3 1/8"	1.8"	8870A21	1.44	1.17	2931A18	1.69	1.42	3022A37	2.97	2.52
11/64"	3 1/4"	1.9"	8870A22	1.52	1.27	2931A19	1.76	1.49	3022A38	3.06	2.60
3/16"	3 1/2"	2"	8870A23	1.69	1.46	2931A21	1.96	1.67	3022A39	3.35	2.85
13/64"	3 5/8"	2.1"	8870A24	1.88	1.59	2931A22	2.15	1.83	3022A41	3.74	3.18
7/32"	3 3/4"	2.2"	8870A25	1.94	1.57	2931A23	2.22	1.88	3022A42	4.35	3.70
15/64"	3 7/8"	2.3"	8870A26	2.12	1.77	2931A24	2.47	2.10	3022A43	4.55	3.87
1/4"	4"	2.4"	8870A27	2.26	1.93	2931A25	2.62	2.22	3022A44	4.82	4.10
17/64"	4 1/8"	2.5"	8870A28	2.57	2.19	2931A26	2.96	2.51	3022A45	6.34	5.39
9/32"	4 1/4"	2.5"	8870A29	2.77	2.24	2931A27	3.19	2.70	3022A46	6.53	5.55
				1-5	6-Up		1-5	6-Up		1-5	6-Up
19/64"	4 3/8"	2.6"	8870A31	$3.20	$2.71	2931A28	$3.69	$3.14	3022A47	$7.70	$6.55
5/16"	4 1/2"	2.7"	8870A32	3.43	2.77	2931A29	3.95	3.36	3022A48	7.93	6.75
21/64"	4 5/8"	2.8"	8870A33	3.86	3.28	2931A31	4.42	3.76	3022A49	8.87	7.55
11/32"	4 3/4"	2.9"	8870A34	4.31	3.67	2931A32	4.96	4.21	3022A51	9.53	8.10
23/64"	4 7/8"	3"	8870A35	4.77	4.06	2931A33	5.50	4.67	3022A52	11.17	9.50
3/8"	5"	3.1"	8870A36	5.03	4.29	2931A34	5.79	4.91	3022A53	11.40	9.70

(Continued on following page)

For information about drill bits and decimal equivalents, see pages 2444-2445.

General Purpose High-Speed Steel Jobbers' Drill Bits *(Continued from previous page)*

Fractional Size—118° Point Angle (Cont.)

Drill Bit Size	O'all Lg.	Drilling Depth	Uncoated (Bright Finish)	Each 1-5	Each 6-Up	Black Oxide	Each 1-5	Each 6-Up	Long-Life TiN Coated	Each 1-5	Each 6-Up
25/64"	5 1/8"	3.2"	8870A37	$5.71	$4.86	2931A35	$6.57	$5.58	3022A54	$12.93	$10.99
13/32"	5 1/4"	3.3"	8870A38	5.95	5.06	2931A36	6.86	5.82	3022A55	13.33	11.33
27/64"	5 3/8"	3.3"	8870A39	6.57	5.60	2931A37	7.54	6.41	3022A56	14.44	12.28
7/16"	5 1/2"	3.4"	8870A41	6.82	5.53	2931A38	7.86	6.68	3022A57	14.78	12.57
29/64"	5 5/8"	3.5"	8870A42	7.75	6.59	2931A39	8.91	7.56	3022A58	16.56	14.08
15/32"	5 3/4"	3.6"	8870A43	8.41	7.15	2931A41	9.65	8.19	3022A59	17.30	14.71
31/64"	5 7/8"	3.6"	8870A44	8.71	7.41	2931A42	10.01	8.50	3022A61	17.54	14.91
1/2"	6"	3.8"	8870A45	8.85	7.52	2931A43	10.16	8.62	3022A62	17.90	15.22
					Each			Each			Each
33/64"	6 5/8"	4"	8870A46		$15.98	2931A44		$21.83	3022A63		$37.78
17/32"	6 5/8"	4"	8870A47		16.51	2931A45		22.53	3022A64		38.20
35/64"	6 5/8"	4"	8870A48		18.18	2931A46		24.28	3022A65		40.06
9/16"	6 5/8"	4"	8870A49		18.50	2931A47		24.72	3022A66		40.18
37/64"	6 5/8"	3.9"	8870A51		18.95	2931A48		25.32	3022A67		42.08
19/32"	7 1/8"	4.3"	8870A52		19.46	2931A49		26.58	3022A68		47.72
39/64"	7 1/8"	4.3"	8870A53		20.51	2931A51		27.40	3022A69		48.44
5/8"	7 1/8"	4.3"	8870A54		20.51	2931A52		28.00	3022A71		50.92
41/64"	7 1/8"	4.2"	8870A55		22.30	2931A53		29.13	3022A72		52.38
21/32"	7 1/8"	4.2"	8870A56		23.28	2931A54		29.79	3022A73		52.66
43/64"	7 5/8"	4.6"	8870A57		25.41	2931A55		35.45	3022A74		60.24
11/16"	7 5/8"	4.6"	8870A58		29.41	2931A56		36.38	3022A75		62.80

Wire Gauge Size—Overall Length and Drilling Depth

Drill Bit Size	O'all Lg.	Drilling Depth	Drill Bit Size	O'all Lg.	Drilling Depth	Drill Bit Size	O'all Lg.	Drilling Depth	Drill Bit Size	O'all Lg.	Drilling Depth	Drill Bit Size	O'all Lg.	Drilling Depth
80-79	3/4"	0.1"	65-62	1 1/2"	0.6"	43-42	2 1/4"	1.1"	31-30	2 3/4"	1.4"	17-14	3 3/8"	1.9"
78-76	7/8"	0.2"	61-58	1 5/8"	0.6"	41-39	2 3/8"	1.2"	29-28	2 7/8"	1.5"	13-11	3 1/2"	2.0"
75-74	1"	0.2"	57-56	1 3/4"	0.7"	38-36	2 1/2"	1.3"	27-25	3"	1.7"	10-7	3 5/8"	2.1"
73-72	1 1/8"	0.3"	55-52	1 7/8"	0.8"	35-33	2 5/8"	1.3"	24-22	3 1/8"	1.8"	6-3	3 3/4"	2.2"
71-70	1 1/4"	0.3"	51-47	2"	0.9"	32	2 3/4"	1.5"	21-18	3 1/4"	1.9"	2-1	3 7/8"	2.3"
69-66	1 3/8"	0.5"	46-44	2 1/8"	1.0"									

Wire Gauge Size—135° Point Angle

To Order: Please specify exact wire gauge size within the range listed. See chart above for overall length and drilling depth.

Drill Bit Size Range	Black Oxide	Each 1-11	Each 12-Up	Long-Life TiN Coated	Each 1-11	Each 12-Up	Extra-Life TiCN Coated	Each 1-11	Each 12-Up	Super-Life TiAlN Coated	Each 1-11	Each 12-Up
80-79	2901A324★	$3.38	$2.87	29045A64★	$5.68	$4.83						
78-71	2901A323★	1.89	1.60	29045A65★	3.38	2.87						
70-69	2901A322★	1.60	1.36	29045A66★	3.38	2.88						
68-61	2901A321★	1.51	1.28	29045A67★	2.97	2.52						
60-53	2901A325★	1.58	1.34	29045A68★	2.96	2.51						
52-28	2901A326	1.60	1.36	29045A61	2.60	2.21						
27-25	2901A327	1.86	1.58	29045A59	3.02	2.57	2821A119	$4.64	$3.94	3178A41	$4.87	$4.13
24-23	2901A328	1.84	1.57	29045A58	3.09	2.62	2821A121	4.64	3.94	3178A51	4.82	4.09
22-21	2901A317	1.84	1.57	29045A57	3.13	2.66	2821A117	4.87	4.13	3178A48	5.09	4.32
20-19	2901A329	2.00	1.70	29045A56	3.30	2.80	2821A116	5.02	4.26	3178A47	5.33	4.53
18	2901A191	2.00	1.70	29045A739	3.38	2.87	2821A171	5.02	4.26	3178A471	5.33	4.53
17-14	2901A331	2.29	1.94	29045A49	3.38	2.87	2821A115	5.62	4.77	3178A46	6.04	5.13
13	2901A185	2.29	1.94	29045A734	3.83	3.25	2821A161	5.62	4.77	3178A461	6.04	5.13
12-11	2901A314	2.22	1.89	29045A54	3.83	3.25	2821A114	5.91	5.02	3178A45	6.11	5.19
10-7	2901A313	2.38	2.02	29045A53	4.06	3.45	2821A113	6.13	5.21	3178A44	6.29	5.34
6-3	2901A312	2.78	2.36	29045A52	4.49	3.82	2821A112	6.58	5.58	3178A43	6.82	5.79
2-1	2901A311	2.87	2.43	29045A51	4.77	4.05	2821A111	6.89	5.85	3178A42	7.20	6.11

★Point is not split. Does not meet NAS 907 Type B.

Wire Gauge Size—118° Point Angle

To Order: Please specify exact wire gauge size within the range listed. See chart above for overall length and drilling depth.

Drill Bit Size Range	Uncoated (Bright Finish)	Each 1-11	Each 12-Up	Black Oxide	Each 1-11	Each 12-Up	Long-Life TiN Coated	Each 1-11	Each 12-Up
80-79	30585A225	$2.37	$2.02	2930A144	$3.56	$3.02	8903A79	$4.84	$4.12
78-71	30585A224	1.50	1.28	2930A143	2.14	1.81	8903A81	2.71	2.30
70-69	30585A223	1.27	1.08	2930A142	1.47	1.25	8903A82	2.69	2.29
68	30585A85	1.31	1.10	2930A85	1.41	1.19	8903A781	2.69	2.29
67-61	30585A209	1.31	1.10	2930A121	1.41	1.19	8903A77	2.42	2.06
60-51	30585A226	1.16	.99	2930A145	1.34	1.14	8903A455	2.29	1.94
50-31	30585A227	1.16	.99	2930A146	1.33	1.12	8903A435	2.31	1.96
30-28	30585A228	1.15	.98	2930A147	1.32	1.12	8903A395	2.57	2.18
27-23	30585A219	1.47	1.25	2930A138	1.74	1.47	8903A335	2.73	2.32
22	30585A34	1.50	1.28	2930A34	1.74	1.47	8903A34	2.73	2.32
21	30585A33	1.50	1.28	2930A33	1.74	1.47	8903A33	3.01	2.56
20-18	30585A217	1.68	1.43	2930A136	1.88	1.59	8903A285	3.01	2.56
17-13	30585A216	1.80	1.53	2930A135	2.13	1.81	8903A235	3.47	2.95
12-11	30585A215	1.88	1.60	2930A134	2.13	1.81	8903A215	3.57	3.04
10-7	30585A214	1.92	1.63	2930A133	2.18	1.85	8903A165	3.74	3.18
6-3	30585A213	2.05	1.75	2930A132	2.33	1.98	8903A125	4.13	3.51
2-1	30585A212	2.22	1.89	2930A131	2.52	2.14	8903A1	4.38	3.72

(Continued on following page)

General Purpose High-Speed Steel Jobbers' Drill Bits *(Continued from previous page)*



High-speed steel combined with ideal reach, drilling depth, and rigidity make these bits highly versatile.

135° Point Angle— Perform better than 118° point angle bits on hard materials and produce smaller chips to prevent clogging. They also have a split point that keeps the bit centered without a pilot hole and meet NAS 907 Type B aerospace specifications, unless noted.

Black-oxide bits are for use on steel, stainless steel, and cast iron. *Black-and-gold-oxide* bits are for use on steel, stainless steel, aluminum, copper, and plastic. *Long-life TiN (titanium nitride) coated* bits last longer than black-oxide and black-and-gold-oxide bits. For use on alloy steel, stainless steel, cast iron, brass, bronze, plastic, and fiberglass. *Extra-life TiCN (titanium carbonitride) coated* bits last longer than long-life TiN-coated bits. For use on alloy steel, stainless steel, cast iron, bronze, and fiberglass. *Super-life TiAlN (titanium aluminum nitride) coated* bits last longer than extra-life TiCN-coated bits. For use on alloy steel, stainless steel, cast iron, nickel alloys, titanium alloys, brass, bronze, and fiberglass.

118° Point Angle— *Metric-size 118° point angle* bits are made to DIN length specifications.

Uncoated (bright finish) bits are for use on carbon steel, aluminum, copper, brass, bronze, and plastic. *Black-oxide* bits are for use on steel and cast iron. *Black-and-gold-oxide* bits are for use on steel, stainless steel, aluminum, copper, and plastic. *Long-life TiN (titanium nitride) coated* bits last longer than uncoated, black-oxide, and black-and-gold-oxide bits. For use on steel, cast iron, brass, and bronze.

Letter Size— 135° Point Angle

Drill Bit Size	O'all Lg.	Drilling Depth	Black Oxide	Each 1-11	Each 12-Up	Long-Life TiN Coated	Each 1-11	Each 12-Up	Extra-Life TiCN Coated	Each 1-11	Each 12-Up	Super-Life TiAlN Coated	Each 1-11	Each 12-Up
A	3 7/8"	2.3"	2901A143	$3.38	$2.87	3199A21	$6.02	$5.11	3184A61	$7.33	$6.23	3180A21	$7.71	$6.55
B	4"	2.4"	2901A144	3.38	2.87	3199A22	6.02	5.11	3184A62	7.33	6.23	3180A22	8.07	6.85
C	4"	2.4"	2901A145	3.47	2.94	3199A23	6.20	5.26	3184A63	7.69	6.53	3180A23	8.09	6.87
D	4"	2.4"	2901A146	3.47	2.94	3199A24	6.20	5.26	3184A64	7.76	6.58	3180A24	8.24	7.00
E	4"	2.4"	2901A147	2.84	2.42	3199A25	5.04	4.28	3184A65	6.91	5.87	3180A25	7.33	6.23
F	4 1/8"	2.5"	2901A148	3.53	3.00	3199A26	7.07	6.00	3184A66	8.24	7.00	3180A26	8.84	7.51
G	4 1/8"	2.5"	2901A149	3.80	3.23	3199A27	7.80	6.62	3184A67	10.04	8.53	3180A27	10.89	9.25
H	4 1/8"	2.5"	2901A151	4.04	3.43	3199A28	8.16	6.92	3184A68	10.51	8.92	3180A28	11.36	9.64
I	4 1/8"	2.5"	2901A152	4.04	3.43	3199A29	8.24	7.00	3184A69	10.53	8.94	3180A29	11.47	9.74
J	4 1/8"	2.5"	2901A153	4.13	3.51	3199A31	8.36	7.09	3184A71	10.69	9.08	3180A31	11.69	9.92
K	4 1/4"	2.5"	2901A154	4.47	3.79	3199A32	9.09	7.72	3184A72	11.53	9.79	3180A32	12.51	10.62
L	4 1/4"	2.5"	2901A155	4.51	3.83	3199A33	9.24	7.85	3184A73	11.62	9.87	3180A33	12.64	10.74
				1-5	6-Up		1-5	6-Up		1-5	6-Up		1-5	6-Up
M	4 3/8"	2.6"	2901A156	$4.91	$4.17	3199A34	$9.80	$8.32	3184A74	$12.22	$10.38	3180A34	$13.09	$11.11
N	4 3/8"	2.6"	2901A157	4.96	4.21	3199A35	9.91	8.42	3184A75	12.31	10.45	3180A35	13.09	11.11
O	4 1/2"	2.7"	2901A158	5.16	4.38	3199A36	10.24	8.70	3184A76	13.13	11.15	3180A36	13.58	11.53
P	4 5/8"	2.8"	2901A159	5.47	4.64	3199A37	10.67	9.06	3184A77	13.40	11.38	3180A37	13.82	11.74
Q	4 3/4"	2.9"	2901A161	5.62	4.77	3199A38	10.93	9.28	3184A78	13.60	11.55	3180A38	14.02	11.91
R	4 3/4"	2.9"	2901A162	6.11	5.19	3199A39	11.84	10.06	3184A79	13.91	11.81	3180A39	14.67	12.45
S	4 7/8"	3"	2901A163	6.42	5.45	3199A41	12.56	10.66	3184A81	15.78	13.40	3180A41	16.44	13.96
T	4 7/8"	3"	2901A164	7.00	5.94	3199A42	12.69	10.77	3184A82	15.82	13.43	3180A42	17.67	15.00
U	5"	3.1"	2901A165	7.13	6.06	3199A43	13.13	11.15	3184A83	16.62	14.11	3180A43	17.93	15.23
V	5"	3.1"	2901A166	7.40	6.28	3199A44	13.91	11.81	3184A84	17.44	14.81	3180A44	18.24	15.49
W	5 1/8"	3.2"	2901A167	7.84	6.66	3199A45	14.40	12.23	3184A85	17.53	14.89	3180A45	20.38	17.30
X	5 1/8"	3.2"	2901A168	9.36	7.94	3199A46	16.44	13.96	3184A86	21.84	18.55	3180A46	23.09	19.60
Y	5 1/4"	3.3"	2901A169	10.42	8.85	3199A47	18.56	15.75	3184A87	24.09	20.45	3180A47	26.42	22.43
Z	5 1/4"	3.3"	2901A171	10.64	9.04	3199A48	19.16	16.26	3184A88	24.49	20.79	3180A48	27.09	23.00

Letter Size— 118° Point Angle

Drill Bit Size	O'all Lg.	Drilling Depth	Uncoated (Bright Finish)	Each	Black Oxide	Each
A	3 7/8"	2.3"	30595A31	$2.52	2932A11	$2.66
B	4"	2.4"	30595A32	2.52	2932A12	2.66
C	4"	2.4"	30595A33	2.52	2932A13	2.66
D	4"	2.4"	30595A34	2.60	2932A14	2.75
E	4"	2.4"	30595A35	2.29	2932A15	2.46
F	4 1/8"	2.5"	30595A36	2.66	2932A16	2.84
G	4 1/8"	2.5"	30595A37	3.00	2932A17	3.20
H	4 1/8"	2.5"	30595A38	3.00	2932A18	3.20
I	4 1/8"	2.5"	30595A39	3.00	2932A19	3.20
J	4 1/8"	2.5"	30595A41	3.24	2932A21	3.46
K	4 1/4"	2.5"	30595A42	3.47	2932A22	3.71
L	4 1/4"	2.5"	30595A43	3.48	2932A23	3.73
M	4 3/8"	2.6"	30595A44	3.73	2932A24	3.96
N	4 3/8"	2.6"	30595A45	$3.77	2932A25	$4.01
O	4 1/2"	2.7"	30595A46	3.84	2932A26	4.10
P	4 5/8"	2.8"	30595A47	4.15	2932A27	4.43
Q	4 3/4"	2.9"	30595A48	4.26	2932A28	4.54
R	4 3/4"	2.9"	30595A49	4.50	2932A29	4.79
S	4 7/8"	3"	30595A51	4.87	2932A31	5.19
T	4 7/8"	3"	30595A52	5.44	2932A32	5.81
U	5"	3.1"	30595A53	5.49	2932A33	5.85
V	5"	3.1"	30595A54	5.71	2932A34	6.09
W	5 1/8"	3.2"	30595A55	6.05	2932A35	6.43
X	5 1/8"	3.2"	30595A56	7.32	2932A36	7.77
Y	5 1/4"	3.3"	30595A57	8.34	2932A37	8.90
Z	5 1/4"	3.3"	30595A58	8.77	2932A38	9.35

Metric Size— 135° Point Angle

Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm	Black-and-Gold Oxide	Each 1-9	Each 10-Up	Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm	Black-and-Gold Oxide	Each 1-9	Each 10-Up
1.0	41	14.3	30565A211★	$1.66	$1.43	1.75	51	22.2	30565A227	$1.68	$1.44
1.05	41	14.3	30565A212★	1.66	1.43	1.8	51	22.2	30565A228	1.66	1.43
1.1	44	15.9	30565A213★	1.66	1.43	1.9	51	22.2	30565A231	1.66	1.43
1.15	44	15.9	30565A214★	1.66	1.43	2.0	51	22.2	30565A233	1.55	1.32
1.2	48	19.1	30565A215★	1.66	1.43	2.05	54	23.8	30565A234	1.58	1.35
1.25	48	19.1	30565A216★	1.66	1.43	2.1	54	23.8	30565A235	1.58	1.35
1.3	48	19.1	30565A217★	1.66	1.43	2.2	57	25.4	30565A237	1.58	1.35
1.35	48	19.1	30565A218★	1.66	1.43	2.3	57	25.4	30565A239	1.58	1.35
1.4	48	19.1	30565A219★	1.66	1.43	2.4	60	34.1	30565A242	1.63	1.39
1.45	48	19.1	30565A221★	1.66	1.43	2.5	60	34.1	30565A244	1.63	1.39
1.5	48	19.1	30565A222★	1.66	1.32	2.6	64	36.9	30565A245	1.63	1.39
1.55	48	19.1	30565A223★	1.66	1.43	2.7	64	36.9	30565A246	1.63	1.39
1.6	48	19.1	30565A224	1.66	1.43	2.8	67	37.3	30565A247	1.63	1.39
1.65	51	22.2	30565A225	1.67	1.43	2.9	70	38.1	30565A248	1.55	1.32
1.7	51	22.2	30565A226	1.68	1.45	3.0	70	38.1	30565A249	1.62	1.38

★ Point is not split. Does not meet NAS 907 Type B.

(Continued on following page)

For information about drill bits and decimal equivalents, see pages 2444-2445.

General Purpose High-Speed Steel Jobbers' Drill Bits *(Continued from previous page)*

Metric Size—135° Point Angle (Cont.)

Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm	Black-and-Gold Oxide	Each 1-9	Each 10-Up
3.1	70	38.1	30565A251	$1.65	$1.41
3.2	70	38.1	30565A252	1.75	1.50
3.3	73	41.3	30565A253	1.75	1.50
3.4	73	41.3	30565A254	1.75	1.50
3.5	73	41.3	30565A255	1.80	1.54
3.6	76	44.5	30565A256	1.80	1.54
3.7	76	44.5	30565A257	1.80	1.54
3.8	76	44.5	30565A258	1.83	1.56
3.9	79	47.6	30565A259	1.83	1.56
4.0	83	49.2	30565A261	1.89	1.62
4.1	83	49.2	30565A262	1.96	1.68
4.2	83	49.2	30565A263	2.02	1.73
4.3	83	49.2	30565A264	2.02	1.73
4.4	86	50.8	30565A265	2.19	1.87
4.5	86	50.8	30565A266	2.35	2.01
4.6	86	50.8	30565A267	2.35	2.01
4.7	89	58.3	30565A268	2.44	2.09
4.8	89	58.3	30565A269	2.49	2.13
4.9	92	61.1	30565A271	2.59	2.21
5.0	92	61.1	30565A272	2.59	2.21
5.1	92	61.1	30565A273	2.65	2.27
5.2	95	62.3	30565A274	2.69	2.30
5.3	95	62.3	30565A275	2.78	2.37
5.4	95	62.3	30565A276	2.82	2.41
5.5	95	62.3	30565A277	2.83	2.42
5.6	98	63.5	30565A278	3.08	2.63
5.7	98	63.5	30565A279	3.08	2.63
5.8	98	63.5	30565A281	3.11	2.67
5.9	98	63.5	30565A282	3.13	2.68
6.0	102	66.7	30565A283	3.17	2.71
6.1	102	66.7	30565A284	3.17	2.71
6.2	102	66.7	30565A285	3.41	2.91
6.3	102	66.7	30565A286	3.41	2.91
6.4	105	69.9	30565A287	3.72	3.19
6.5	105	69.9	30565A288	3.72	3.19
6.6	105	69.9	30565A289	3.79	3.24
6.7	105	69.9	30565A291	3.79	3.24
6.8	105	69.9	30565A292	4.06	3.47
6.9	105	69.9	30565A293	4.06	3.47
7.0	105	69.9	30565A294	4.06	3.47
7.1	108	71.4	30565A295	4.44	3.80
7.2	108	71.4	30565A296	4.53	3.88
7.3	108	71.4	30565A297	$4.62	$3.95
7.4	111	73	30565A298	4.70	4.02
				1-4	5-Up
7.5	111	73	30565A299	$4.73	$4.05
7.6	111	73	30565A301	4.93	4.22
7.7	114	79.8	30565A302	5.09	4.36
7.8	114	79.8	30565A303	5.09	4.36
7.9	114	79.8	30565A304	5.19	4.44
8.0	114	79.8	30565A305	5.19	4.44
8.1	117	83.3	30565A306	5.73	4.90
8.2	117	83.3	30565A307	5.73	4.90
8.3	117	83.3	30565A308	5.86	5.01
8.4	121	86.1	30565A309	5.86	5.01
8.5	121	86.1	30565A311	5.79	4.96
8.6	121	86.1	30565A312	5.91	5.05
8.7	121	86.1	30565A313	6.28	5.38
8.8	124	87.7	30565A314	6.50	5.56
8.9	124	87.7	30565A315	6.83	5.85
9.0	124	87.7	30565A316	6.61	5.65
9.1	124	87.7	30565A317	7.47	6.40
9.2	127	88.9	30565A318	7.47	6.40
9.3	127	88.9	30565A319	7.47	6.40
9.4	127	88.9	30565A321	7.47	6.40
9.5	127	88.9	30565A322	6.99	5.97
9.6	130	92.1	30565A323	7.80	6.68
9.7	130	92.1	30565A324	7.80	6.68
9.8	130	92.1	30565A325	8.14	6.96
9.9	130	92.1	30565A326	8.14	6.96
10.0	130	92.1	30565A327	7.97	6.81
10.2	133	92.1	30565A328	8.57	7.33
10.5	133	92.1	30565A329	9.20	7.87
10.8	140	99.8	30565A331	10.01	8.57
11.0	140	99.8	30565A332	9.75	8.35
11.2	143	106.4	30565A333	10.40	8.90
11.5	143	106.4	30565A334	10.51	8.99
11.8	146	109.5	30565A335	11.16	9.55
12.0	149	110.3	30565A336	11.04	9.45
12.2	149	110.3	30565A337	11.16	9.55
12.5	152	113.1	30565A338	11.70	10.01
13.0	152	113.1	30565A339	14.03	12.00

Metric Size—118° Point Angle

Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm	Black Oxide	Each	Long-Life TiN Coated	Each
1.0	34	10	2958A25	$1.55	8950A31	$3.43
1.1	36	11.8	2958A27	1.83	8950A32	3.43
1.15	36	11.7	2958A18	1.71		
1.2	38	13.6	2958A29	1.73		
1.25	38	13.5	2958A19	1.73	8950A33	3.43
1.3	38	13.4	2958A32	1.75	8950A34	3.55
1.35	40	15.3	2958A2	1.96		
1.4	40	15.2	2958A34	1.75		
1.45	40	15.1	2958A21	1.80		
1.5	40	15	2958A36	1.58	8950A35	3.38
1.55	43	16.9	2958A22	1.80		
1.6	43	16.8	2958A38	1.70	8950A36	3.43
1.65	43	16.7			8950A37	3.43
1.7	43	16.6	2958A41	1.84		
1.75	46	18.5	2958A24	1.80		
1.8	46	18.4	2958A42	1.85	8950A38	3.43
1.9	46	18.2	2958A44	1.70		
1.95	49	20.1	2958A26	1.96		
2.0	49	20	2958A46	1.53	8950A39	3.43
2.1	49	19.8	2958A48	1.85		
2.2	53	22.6	2958A49	1.85		
2.3	53	22.4	2958A52	1.70	8950A41	3.43
2.35	53	22.3	2958A33	1.97		
2.4	57	25.2	2958A54	1.84	8950A42	3.43
2.5	57	25	2958A55	1.56	8950A43	3.43
2.6	57	24.8	2958A56	1.96	8950A44	3.50
2.7	61	27.6	2958A57	1.96	8950A45	3.51
2.8	61	27.4	2958A58	1.58		
2.9	61	27.2	2958A59	1.92	8950A46	3.53
3.0	61	27	2958A61	1.67		
3.0	61	28.5			8950A11	2.60
3.1	65	29.8	2958A62	1.92	8950A47	3.46
3.2	65	29.6	2958A63	1.69	8950A48	3.83
3.3	65	29.4	2958A64	$1.69		
3.3	65	31.1			8950A13	$2.79
3.4	70	32.2	2958A65	1.92	8950A49	4.08
3.5	70	32	2958A66	1.69	8950A51	3.83
3.6	70	31.8	2958A67	2.65		
3.7	70	31.6	2958A68	1.99		
4.0	75	35	2958A72	1.90		
4.0	75	37			8950A15	2.91
4.1	75	34.8	2958A73	2.14	8950A52	4.37
4.2	75	34.6	2958A74	1.98		
4.2	75	36.7			8950A16	3.11
4.3	80	38.4	2958A75	2.30		
4.4	80	38.2	2958A76	2.72		
4.5	80	38	2958A77	2.06	8950A53	4.56
4.6	80	37.8	2958A78	2.63		
4.8	86	42.4	2958A81	2.75		
5.0	86	42	2958A83	2.30		
5.0	86	44.5			8950A17	3.69
5.1	86	41.8	2958A84	2.82		
5.2	86	41.6	2958A85	2.97	8950A54	5.42
5.3	86	41.4	2958A86	3.14		
5.4	93	46.2	2958A87	3.29		
5.5	93	46	2958A88	2.68	8950A55	5.61
5.6	93	45.8	2958A89	3.43		
5.7	93	45.6	2958A91	3.38		
5.8	93	45.4	2958A92	3.33		
6.0	93	45	2958A94	3.14		
6.0	93	48			8950A18	4.85
6.1	101	50.8	2958A95	3.51		
6.2	101	50.6	2958A96	3.36		
6.3	101	50.4	2958A97	3.38		
6.4	101	50.2	2958A98	3.71	8950A56	7.38
6.5	101	50	2958A99	3.44	8950A57	7.33

(Continued on following page)

General Purpose High-Speed Steel Jobbers' Drill Bits *(Continued from previous page)*



High-speed steel combined with ideal reach, drilling depth, and rigidity make these bits highly versatile.

118° Point Angle— All 118° metric size bits are made to DIN length specifications. *Black-oxide* bits are for use on steel and cast iron. *Long-life TiN (titanium nitride) coated* bits last longer than black-oxide bits. For use on steel, cast iron, brass, and bronze.

Metric Size—118° Point Angle (Cont.)

Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm	Pkg. Qty.	Black Oxide	Each ♦	Long-Life TiN Coated	Each ♦
6.6	101	49.8	12	2958A112	$4.29		
6.7	101	49.6	12	2958A113	3.84	8950A58	$7.50
6.8	109	55.4	12	2958A114	3.86	8950A59	8.19
7.0	109	55	12	2958A116	3.81	8950A21	7.28
7.2	109	54.6	12	2958A118	4.67		
7.3	109	54.4	12	2958A119	5.20		
7.4	109	54.2	12	2958A121	5.09		
7.5	109	54	12	2958A122	4.46	8950A61	9.01
7.6	117	54.2	12	2958A123	5.72		
7.8	117	59.4	12	2958A125	5.82		
7.9	117	59.2	12	2958A126	5.82		
8.0	117	59	6	2958A127	5.29	8950A22	10.15
8.1	117	58.8	6	2958A128	6.44		
8.2	117	58.6	6	2958A129	6.61		
8.4	117	58.2	6	2958A132	6.94		
8.5	117	58	6	2958A133	5.94	8950A23	10.45
8.6	125	63.8	6	2958A134	7.26		
8.7	125	63.6	6	2958A135	7.14		
8.8	125	63.4	6	2958A136	7.75		
8.9	125	63.2	6	2958A137	7.75		
9.0	125	67.5	6	2958A138	7.00	8950A25	11.38
9.3	125	62.4	6	2958A142	8.34		
9.4	125	62.2	6	2958A143	8.56		
9.5	125	62	6	2958A144	7.04	8950A62	13.88
9.6	133	67.8	6	2958A145	8.93		
9.7	133	67.6	6	2958A146	$9.08		
9.8	133	67.4	6	2958A147	9.55		
9.9	133	67.2	6	2958A148	9.36		
10.0	133	67	6	2958A149	8.05	8950A26	$14.50
10.2	133	66.6	6	2958A151	8.98	8950A63	16.26
10.5	133	66	6	2958A152	8.88	8950A27	15.38
10.8	142	72.4	6	2958A153	11.30		
11.0	142	72	6	2958A154	9.30	8950A64	18.30
11.2	142	71.6	6	2958A155	12.04		
11.5	142	71	6	2958A156	10.32	8950A65	23.93
11.8	142	70.4	6	2958A157	13.41		
12.0	151	77	6	2958A158	11.52	8950A28	20.18
12.2	151	76.6	6	2958A159	14.06		
12.5	151	76	6	2958A169	11.72	8950A66	25.24
13.0	151	75	1	2958A171	17.28	8950A67	29.59
13.5	160	81	1	2958A172	23.09		
14.0	160	80	1	2958A173	21.59	8950A68	32.95
14.5	169	85	1	2958A174	22.82	8950A69	35.09
15.0	169	84	1	2958A175	22.82	8950A71	35.09
15.5	178	89	1	2958A176	24.42		
16.0	178	88	1	2958A177	26.16		
16.5	184	92	1	2958A178	27.43		
17.0	184	91	1	2958A179	30.40		
17.5	191	95	1	2958A181	28.30		

♦ Prices are 15% lower when you order in full-package quantities (except when package quantity is one).

Heavy Duty Chip-Clearing High-Speed Steel Jobbers' Drill Bits



Also known as parabolic-flute drill bits, these resist breakage better than Chip-Clearing High-Speed Steel Jobbers' Drill Bits on page 2453 and have wider flutes to lift chips out of the hole, reduce clogging, and improve coolant flow. They have a 135° split point that keeps the bit centered without a pilot hole.

Uncoated (bright finish) bits are for use on steel, stainless steel (300 and 400 series), cast iron, aluminum, copper, and brass.

Black-oxide bits have improved chip flow and wear resistance compared to uncoated bits. For use on steel, stainless steel (300 and 400 series), and cast iron.

Long-life TiN (titanium nitride) coated bits last longer than uncoated and black-oxide bits. For use on steel, stainless steel (300 and 400 series), cast iron, aluminum, brass, and copper.

Fractional Size—135° Point Angle

Drill Bit Size	O'all Lg.	Drilling Depth	Uncoated (Bright Finish)	Each	Black Oxide	Each	Long-Life TiN Coated	Each
1/16"	1 7/8"	0.8"	2754A41	$2.60	29925A11	$2.45	29925A51	$4.73
5/64"	2"	0.8"	2754A42	2.62	29925A12	2.47	29925A52	4.83
3/32"	2 1/4"	1.1"	2754A43	2.60	29925A13	2.45	29925A53	4.73
7/64"	2 5/8"	1.3"	2754A44	2.83	29925A14	2.67	29925A54	5.38
1/8"	2 3/4"	1.4"	2754A45	2.85	29925A15	2.72	29925A55	5.38
9/64"	2 7/8"	1.5"	2754A46	2.96	29925A16	2.80	29925A56	5.67
5/32"	3 1/8"	1.7"	2754A47	3.02	29925A17	2.87	29925A57	5.81
11/64"	3 1/4"	1.8"	2754A48	3.44	29925A18	3.26	29925A58	6.44
3/16"	3 1/2"	1.9"	2754A49	3.69	29925A19	3.48	29925A59	7.08
13/64"	3 5/8"	2"	2754A51	4.12	29925A21	3.91	29925A61	8.21
7/32"	3 3/4"	2.1"	2754A52	4.58	29925A22	4.34	29925A62	8.56
15/64"	3 7/8"	2.2"	2754A53	5.21	29925A23	4.90	29925A63	9.79
1/4"	4"	2.3"	2754A54	5.31	29925A24	5.02	29925A64	9.94
17/64"	4 1/8"	2.3"	2754A55	6.25	29925A25	5.92	29925A65	12.50
9/32"	4 1/4"	2.4"	2754A56	6.25	29925A26	5.91	29925A66	12.62
19/64"	4 3/8"	2.5"	2754A57	7.60	29925A27	7.21	29925A67	14.92
5/16"	4 1/2"	2.6"	2754A58	8.08	29925A28	7.61	29925A68	15.29
21/64"	4 5/8"	2.7"	2754A59	9.19	29925A29	8.71	29925A69	17.46
11/32"	4 3/4"	2.7"	2754A61	10.08	29925A31	9.53	29925A71	19.27
23/64"	4 7/8"	2.8"	2754A62	11.71	29925A32	11.10	29925A72	22.27
3/8"	5"	2.9"	2754A63	11.50	29925A33	10.88	29925A73	21.98
25/64"	5 1/8"	3"	2754A64	13.50	29925A34	12.77	29925A74	25.79
13/32"	5 1/4"	3.1"	2754A65	13.42	29925A35	12.67	29925A75	25.54
27/64"	5 3/8"	3.1"	2754A66	15.42	29925A36	14.59	29925A76	29.60
7/16"	5 1/2"	3.2"	2754A67	15.44	29925A37	14.61	29925A77	29.44
29/64"	5 5/8"	3.3"	2754A68	18.12	29925A38	17.17	29925A78	34.56
15/32"	5 3/4"	3.4"	2754A69	18.62	29925A39	17.61	29925A79	35.23
31/64"	5 7/8"	3.4"	2754A71	20.23	29925A41	19.14	29925A81	38.94
1/2"	6"	3.5"	2754A72	19.56	29925A42	18.53	29925A82	37.48

Metric Size—135° Point Angle

Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm	Uncoated (Bright Finish)	Each
1.5	40	15	2754A21	$2.38
2	49	20	2754A22	2.38
2.5	57	25	2754A23	2.61
3	61	27	2754A24	2.65
3.5	70	32	2754A25	2.72
4	75	35	2754A26	3.01
4.5	80	38	2754A27	3.42
5	86	42	2754A28	3.73
5.5	93	46	2754A29	4.26
6	93	45	2754A31	4.91
6.5	101	50	2754A32	5.67
6.8	109	55.4	2754A33	5.88
7	109	55	2754A34	5.88
7.5	109	54	2754A35	6.83
8	117	59	2754A36	8.32
8.5	117	58	2754A37	9.30
9	125	63	2754A38	10.41
9.5	125	62	2754A39	10.80
10	133	67	2754A81	12.59
10.5	133	66	2754A82	13.92
11	142	72	2754A83	14.50
12	151	77	2754A84	18.00
12.5	151	76	2754A85	18.36
13.0	151	75	2754A86	18.36

Also Available: Wire gauge sizes with a 135° point angle. Please specify exact size within the range listed.

Drill Bit Size Range	Uncoated (Bright Finish)	Black Oxide	Long-Life TiN Coated
52-1	2761A21	27575A11	29925A945

For information about drill bits and decimal equivalents, see pages 2444-2445.

Chip-Clearing High-Speed Steel Jobbers' Drill Bits



The flutes on these bits are more tightly spiraled than the flutes on General Purpose High-Speed Steel Jobbers' Drill Bits, improving their ability to lift chips out of the hole. Also known as fast-spiral bits, they have a 135° point angle with a split point that keeps the bit centered without a pilot hole. All have a black-oxide finish and are for use on most metals including steel, stainless steel, and cast iron. Also for use on plastic.

Also Available: Uncoated (bright finish) fractional sizes 1/16" to 1/2" with a 118° point angle; uncoated (bright finish) wire gauge sizes 80 to 1 with a 118° point angle; and black-oxide metric sizes 1 to 8.5 mm with a 135° point angle. Please ask for 2912A71 for fractional sizes; 2912A72 for wire gauge sizes; or 30055A91 for metric sizes. Also specify exact size.

Drill Bit Size	O'all Lg.	Drilling Depth		Each 1-9	Each 10-Up
1/16"	1 11/16"	0.7"	31115A41	$1.80	$1.53
5/64"	1 15/16"	0.8"	31115A42	1.90	1.61
3/32"	2 1/4"	1"	31115A43	1.90	1.60
7/64"	2 13/32"	1.1"	31115A44	1.97	1.67
1/8"	2 9/16"	1.2"	31115A45	2.07	1.74
9/64"	2 3/4"	1.3"	31115A46	2.20	1.87
5/32"	2 15/16"	1.4"	31115A47	2.19	1.87
11/64"	3 5/32"	1.5"	31115A48	2.28	1.93
3/16"	3 3/8"	1.7"	31115A49	2.68	2.27
13/64"	3 3/8"	1.7"	31115A51	2.97	2.52
7/32"	3 21/32"	1.8"	31115A52	$3.26	$2.76
15/64"	3 21/32"	1.8"	31115A53	3.48	2.98
1/4"	3 31/32"	2"	31115A54	3.79	3.22
17/64"	4 9/32"	2.2"	31115A55	4.49	3.81
9/32"	4 9/32"	2.2"	31115A56	4.86	4.12
19/64"	4 19/32"	2.3"	31115A57	5.34	4.53
5/16"	4 19/32"	2.3"	31115A58	5.88	4.98
21/64"	4 19/32"	2.3"	31115A59	6.47	5.50
11/32"	4 29/32"	2.5"	31115A61	7.23	6.12
23/64"	4 29/32"	2.5"	31115A62	8.04	6.83
3/8"	5 1/4"	2.7"	31115A63	$8.53	$7.24
25/64"	5 1/4"	2.7"	31115A64	9.43	8.01
				1-4	5-Up
13/32"	5 1/4"	2.6"	31115A65	$9.80	$8.31
27/64"	5 19/32"	2.8"	31115A66	10.94	9.29
7/16"	5 19/32"	2.8"	31115A67	11.17	9.48
29/64"	5 19/32"	2.8"	31115A68	13.21	11.21
15/32"	5 15/16"	3"	31115A69	14.06	11.95
31/64"	5 15/16"	3"	31115A71	14.09	11.96
1/2"	5 15/16"	3"	31115A72	14.53	12.34

Heavy Duty Chip-Clearing Cobalt Steel Jobbers' Drill Bits



Resist heat and reduce clogs when drilling stainless steel (300 and 400 series), nickel alloys, and titanium (unless otherwise stated). Also known as parabolic-flute drill bits, these are made of cobalt steel and have wide flutes to lift chips out of the hole. They have a 135° split point that keeps the bit centered without a pilot hole. ***TiN (titanium nitride) coated*** drill bits last longer than uncoated (bright finish) drill bits. They are not for use on titanium.

Also Available: Wire gauge sizes 52 to 1. All are uncoated (bright finish) with a 135° point angle. Please ask for 28555A11 and specify exact size. See chart on page 2449 for overall length and drilling depth.

Drill Bit Size	O'all Lg.	Drilling Depth	Uncoated (Bright Finish)	Each	Long-Life TiN Coated	Each
1/16"	1 7/8"	0.7"	29925A911	$3.06	3183A41	$4.22
5/64"	2"	0.8"	29925A912	3.06	3183A42	4.22
3/32"	2 1/4"	1.1"	29925A913	3.06	3183A43	4.22
7/64"	2 3/8"	1.3"	29925A914	3.25	3183A44	4.40
1/8"	2 1/2"	1.4"	29925A915	3.88	3183A45	5.01
9/64"	2 3/4"	1.5"	29925A916	3.92	3183A46	5.44
5/32"	2 7/8"	1.6"	29925A917	4.42	3183A47	5.90
11/64"	3 1/8"	1.8"	29925A918	4.67	3183A48	6.10
3/16"	3 3/8"	1.9"	29925A919	5.15	3183A49	6.65
13/64"	3 3/8"	1.9"	29925A921	6.15	3183A51	9.07
7/32"	3 5/8"	2.2"	29925A922	6.78	3183A52	9.59
15/64"	3 5/8"	2.2"	29925A923	7.48	3183A53	10.25
1/4"	4"	2.4"	29925A924	7.70	3183A54	10.45
17/64"	4 1/4"	2.6"	29925A925	9.05	3183A55	13.93
9/32"	4 1/4"	2.6"	29925A926	$9.17	3183A56	$14.05
19/64"	4 1/2"	2.8"	29925A927	11.27	3183A57	15.86
5/16"	4 1/2"	2.8"	29925A928	11.89	3183A58	17.94
21/64"	4 1/2"	2.8"	29925A929	13.81	3183A59	19.51
11/32"	4 7/8"	3.1"	29925A931	14.38	3183A61	20.21
23/64"	4 7/8"	3.1"	29925A932	17.59	3183A62	23.63
3/8"	5"	3.4"	29925A933	16.52	3183A63	22.64
25/64"	5 1/4"	3.4"	29925A934	19.43	3183A64	27.15
13/32"	5 1/4"	3.4"	29925A935	19.62	3183A65	27.31
27/64"	5 1/2"	3.6"	29925A936	22.49	3183A66	29.88
7/16"	5 1/2"	3.6"	29925A937	22.19	3183A67	29.59
31/64"	5 7/8"	3.8"	29925A941	29.90	3183A71	37.09
1/2"	5 7/8"	3.8"	29925A942	27.37	3183A72	34.73

Cobalt Steel Jobbers' Drill Bits for Shallow Holes



Short flutes make these bits ideal for drilling shallow holes. They are also more rigid and provide straighter drilling compared to our other jobbers' drill bits. All are made of cobalt steel with a black-oxide surface treatment for heat resistance. For use on alloy steel, stainless steel, hardened steel, nickel alloys, and titanium alloys. Bits have a 135° point angle that produces small chips to prevent clogging. They also have a split point that keeps the bit centered without a pilot hole.

Fractional Size

Drill Bit Size	O'all Lg.	Drilling Depth		Each 1-9	Each 10-Up
1/16"	1 7/8"	0.5"	3146A112	$2.62	$2.23
5/64"	2"	0.6"	3146A113	2.62	2.23
3/32"	2 1/4"	0.6"	3146A114	2.52	2.14
7/64"	2 5/8"	0.7"	3146A115	2.74	2.33
1/8"	2 3/4"	0.7"	3146A116	2.56	2.18
9/64"	2 7/8"	0.7"	3146A117	2.78	2.36
5/32"	3 1/8"	0.8"	3146A118	2.98	2.53
11/64"	3 1/4"	0.8"	3146A119	3.16	2.69
3/16"	3 1/2"	0.8"	3146A121	3.62	3.08
13/64"	3 5/8"	0.9"	3146A122	4.02	3.42
7/32"	3 3/4"	0.9"	3146A123	4.50	3.82
15/64"	3 7/8"	1"	3146A124	$4.58	$3.89
1/4"	4"	1"	3146A125	5.10	4.33
17/64"	4 1/8"	1"	3146A126	6.30	5.35
9/32"	4 1/4"	1.1"	3146A127	6.46	5.49
				1-4	5-Up
19/64"	4 3/8"	1.1"	3146A128	$9.68	$8.23
5/16"	4 1/2"	1.2"	3146A129	9.72	8.26
21/64"	4 5/8"	1.2"	3146A131	10.70	9.09
11/32"	4 3/4"	1.2"	3146A132	11.20	9.52
23/64"	4 7/8"	1.2"	3146A133	12.64	10.74
3/8"	5"	1.3"	3146A134	$12.72	$10.81
25/64"	5 1/8"	1.3"	3146A135	14.02	11.92
13/32"	5 1/4"	1.3"	3146A136	16.36	13.90
27/64"	5 3/8"	1.4"	3146A137	16.54	14.06
7/16"	5 1/2"	1.4"	3146A138	17.90	15.21
29/64"	5 5/8"	1.5"	3146A139	19.58	16.64
15/32"	5 3/4"	1.4"	3146A141	20.22	17.19
31/64"	5 7/8"	1.5"	3146A142	20.68	17.58
1/2"	6"	1.5"	3146A143	20.78	17.66

Wire Gauge Size

To Order: Please specify exact size within the range listed. See chart on page 2449 for overall length.

Drill Bit Size Range		Each 1-9	Each 10-Up
52-28	3146A615	$2.24	$1.88
27-25	3146A317	2.67	2.27
24-18	3146A316	$2.78	$2.36
17-16	3146A315	3.11	2.65
15-7	3146A612	$3.52	$3.00
6-1	3146A611	4.18	3.56

Heat-Resistant Cobalt Steel Jobbers' Drill Bits



If your bits can't take the heat, replace them with these cobalt steel bits. Unlike high-speed steel bits, these stay sharp at the high temperatures generated when drilling materials such as stainless steel and nickel alloys. All have a 135° point angle, except Ultra-Life TiN/TiAlN-coated bits, that produces small chips to reduce clogging. They also have a split point that keeps the bit centered without a pilot hole and meet NAS 907 Type J aerospace specifications, unless noted.

Uncoated (bright finish) bits are for drilling stainless steel, alloy steel, tool steel, nickel alloys, and titanium alloys.

Long-life TiN (titanium nitride) coated bits last longer than uncoated bits. For use on stainless steel, alloy steel, tool steel, and cast iron.

Ultra-life TiN/TiAlN (titanium nitride/titanium aluminum nitride) coated bits offer the longest life for drilling stainless steel, alloy steel, tool steel, cast iron, and nickel alloys.

Fractional Size—135° Point Angle

Drill Bit Size	*Uncoated (Bright Finish)* O'all Lg.	Drilling Depth		Each 1-11	Each 12-Up	*Long-Life TiN Coated* O'all Lg.	Drilling Depth		Each 1-11	Each 12-Up	*Ultra-Life TiN/TiAlN Coated*■ O'all Lg.	Drilling Depth		Each
1/64"	3/4"	0.2"	3069A108★	$4.89	$4.15						0.79"	0.1"	2753A121★	$13.83
1/32"	1 3/8"	0.5"	3069A109★	2.60	2.21									
3/64"	1 3/4"	0.7"	3069A11★	2.09	1.88						1.49"	0.2"	2753A122★	11.92
1/16"	1 7/8"	0.8"	3069A12	1.91	1.62	1 7/8"	0.8"	27995A511	$4.11	$3.50	1.69"	0.3"	2753A123	11.92
5/64"	2"	0.8"	3069A13	1.93	1.64	2"	0.8"	27995A512	4.11	3.50	1.92"	0.4"	2753A124	10.93
3/32"	2 1/4"	1.1"	3069A14	1.98	1.68	2 1/4"	1.1"	27995A513	4.11	3.50	2.24"	0.5"	2753A125	10.93
7/64"	2 5/8"	1.3"	3069A15	2.20	1.87	2 5/8"	1.3"	27995A514	4.40	3.73	2.4"	0.5"	2753A126	10.93
1/8"	2 3/4"	1.4"	3069A16	2.47	2.09	2 3/4"	1.4"	27995A515	4.44	3.77	2.55"	0.6"	2753A127	10.93
9/64"	2 7/8"	1.5"	3069A17	2.60	2.21	2 7/8"	1.5"	27995A516	4.96	4.23	2.75"	0.7"	2753A128	13.00
5/32"	3 1/8"	1.7"	3069A18	2.98	2.53	3 1/8"	1.7"	27995A517	5.09	4.33	2.95"	0.8"	2753A129	13.00
11/64"	3 1/4"	1.8"	3069A19	3.18	2.70	3 1/4"	1.8"	27995A518	5.83	4.96	3.14"	0.9"	2753A131	13.83
3/16"	3 1/2"	2"	3069A21	3.58	3.04	3 1/2"	1.9"	27995A519	6.63	5.65	3.38"	0.9"	2753A132	15.87
13/64"	3 5/8"	2.1"	3069A22	3.93	3.34	3 5/8"	2"	27995A521	7.60	6.46	3.38"	1"	2753A133	15.87
7/32"	3 3/4"	2.1"	3069A23	4.27	3.62	3 3/4"	2.1"	27995A522	7.99	6.80	3.66"	1.1"	2753A134	17.94
15/64"	3 7/8"	2.2"	3069A24	4.58	3.89	3 7/8"	2.2"	27995A523	8.29	7.05	3.66"	1.2"	2753A135	17.94
1/4"	4"	2.3"	3069A25	4.98	4.23	4"	2.3"	27995A524	8.68	7.38	3.97"	1.3"	2753A136	17.93
17/64"	4 1/8"	2.5"	3069A26	5.67	4.81	4 1/8"	2.3"	27995A525	11.54	9.82	4.29"	1.3"	2753A137	25.11
9/32"	4 1/4"	2.5"	3069A27	6.31	5.36	4 1/4"	2.4"	27995A526	11.82	10.06	4.29"	1.4"	2753A138	27.08
19/64"						4 3/8"	2.5"	27995A527	13.23	11.25	4.6"	1.5"	2753A139	31.02
				1-5	6-Up				1-5	6-Up				Each
19/64"	4 3/8"	2.6"	3069A28	$7.36	$6.25									
5/16"	4 1/2"	2.7"	3069A29	7.78	6.60	4 1/2"	2.6"	27995A528	$15.10	$12.85	4.6"	1.6"	2753A141	$31.02
21/64"	4 5/8"	2.8"	3069A31	8.84	7.51	4 5/8"	2.7"	27995A529	16.84	14.33	4.6"	1.6"	2753A142	35.05
11/32"	4 3/4"	2.9"	3069A32	9.58	8.13	4 3/4"	2.8"	27995A531	17.79	15.13	4.92"	1.7"	2753A143	41.06
23/64"	4 7/8"	2.9"	3069A33	10.82	9.19	4 7/8"	2.8"	27995A532	18.80	16.00	4.92"	1.8"	2753A144	43.12
3/8"	5"	3"	3069A34	11.58	9.83	5"	2.9"	27995A533	18.80	16.00	5.23"	1.9"	2753A145	47.23
25/64"	5 1/8"	3.1"	3069A35	12.73	10.81	5 1/8"	3"	27995A534	22.62	19.25	5.23"	2"	2753A146	57.33
13/32"	5 1/4"	3.2"	3069A36	13.38	11.36	5 1/4"	3.1"	27995A535	23.17	19.72	5.23"	2"	2753A147	45.16
27/64"	5 3/8"	3.3"	3069A37	14.64	12.43	5 3/8"	3.1"	27995A536	24.63	20.95	5.59"	2.1"	2753A148	63.36
7/16"	5 1/2"	3.4"	3069A38	15.60	13.25	5 1/2"	3.2"	27995A537	24.93	21.22	5.59"	2.2"	2753A149	63.36
29/64"	5 5/8"	3.5"	3069A39	17.76	15.08	5 5/8"	3.3"	27995A538	28.11	23.92	5.59"	2.3"	2753A151	73.39
15/32"	5 3/4"	3.6"	3069A41	18.33	15.57	5 3/4"	3.4"	27995A539	28.48	24.22	5.94"	2.3"	2753A152	83.27
31/64"	5 7/8"	3.6"	3069A42	19.89	16.89	5 7/8"	3.4"	27995A541	29.05	24.72	5.94"	2.4"	2753A153	83.27
1/2"	6"	3.7"	3069A43	20.89	17.74	6"	3.5"	27995A542	29.05	24.72	5.94"	2.5"	2753A154	90.02
					Each					Each				Each
33/64"	6 5/8"	4"	3069A81		$38.87	6 5/8"	3.8"	27995A543		$44.20	5.94"	2.6"	2753A155	$99.97
17/32"	6 5/8"	4"	3069A82		39.28	6 5/8"	3.8"	27995A544		45.76	6.29"	2.7"	2753A156	83.82
35/64"	6 5/8"	4"	3069A83		42.98	6 5/8"	3.7"	27995A545		48.57				
9/16"	6 5/8"	3.9"	3069A84		43.19	6 5/8"	3.7"	27995A546		50.37	6.65"	2.8"	2753A157	119.80
37/64"	6 5/8"	3.9"	3069A85		45.50	6 5/8"	3.7"	27995A547		50.41				
19/32"	7 1/8"	4.2"	3069A86		46.70	7 1/8"	4"	27995A548		51.55				
39/64"	7 1/8"	4.2"	3069A87		47.22	7 1/8"	4"	27995A549		54.61				
5/8"	7 1/8"	4.2"	3069A88		47.63	7 1/8"	3.9"	27995A551		54.61				
41/64"	7 1/8"	4.2"	3069A89		55.52	7 1/8"	3.9"	27995A552		60.86				
21/32"	7 1/8"	4.2"	3069A91		57.17	7 1/8"	3.9"	27995A553		63.26				
43/64"	7 1/8"	4.6"	3069A92		61.83	7 5/8"	4.3"	27995A554		67.42				
11/16"	7 1/8"	4.6"	3069A93		65.80	7 5/8"	4.3"	27995A555		71.72				

■ Point angle is 130°. Does not meet NAS 907 Type J. ★ Point is not split. Does not meet NAS 907 Type J.

Wire Gauge Size—135° Point Angle

To Order: Please specify exact wire gauge size within the range listed. See chart on page 2449 for overall length and drilling depth.

Drill Bit Size Range	*Uncoated (Bright Finish)*	Each 1-11	Each 12-Up	*Long-Life TiN Coated*	Each 1-11	Each 12-Up
80-75	3033A44★	$4.48	$3.81			
74-69	3033A43★	2.90	2.47			
68-66	3033A42★	2.68	2.28			
65-61	3033A41★	2.41	2.05			
60	3033A276★	2.28	1.94	27995A678★	$4.82	$4.10
59-58	3033A38★	2.29	1.94	27995A65★	4.82	4.10
57-56	3033A37★	2.29	1.94	27995A66★	4.82	4.10
55-53	3033A36★	2.16	1.84	27995A67★	4.82	4.10
52-41	3033A45	2.25	1.92	27995A63	4.59	3.92
40-38	3033A46	2.25	1.92	27995A62	4.64	3.94
37-33	3033A34	2.50	2.12	27995A61	4.84	4.12
32-30	3033A33	2.57	2.18	27995A59	4.90	4.18
29-28	3033A32	$2.86	$2.42	27995A58	$5.26	$4.48
27-25	3033A31	3.27	2.78	27995A57	5.45	4.65
24-22	3033A29	3.27	2.78	27995A68	5.87	5.02
21-20	3033A28	3.29	2.80	27995A69	5.87	5.02
19-18	3033A27	3.55	3.02	27995A71	5.87	5.02
17-16	3033A26	3.80	3.24	27995A55	6.31	5.35
15-13	3033A25	3.84	3.26	27995A54	6.50	5.52
12-11	3033A24	4.10	3.48	27995A72	8.55	7.27
10-7	3033A23	4.26	3.62	27995A73	8.55	7.27
6-3	3033A22	4.96	4.22	27995A52	9.68	8.23
2-1	3033A21	5.31	4.50	27995A51	10.09	8.58

★ Point is not split. Does not meet NAS 907 Type J.

(Continued on following page)

For information about drill bits and decimal equivalents, see pages 2444-2445.

Heat-Resistant Cobalt Steel Jobbers' Drill Bits *(Continued from previous page)*

Letter Size—135° Point Angle

Drill Bit Size	O'all Lg.	Drilling Depth	Uncoated (Bright Finish)	Each 1-11	Each 12-Up
A	3 7/8"	2.3"	3069A51	$5.24	$4.45
B	4"	2.4"	3069A52	5.58	4.74
C	4"	2.4"	3069A53	5.58	4.74
D	4"	2.4"	3069A54	5.67	4.81
E	4"	2.4"	3069A55	4.98	4.23
F	4 1/8"	2.5"	3069A56	5.82	4.94
G	4 1/8"	2.5"	3069A57	6.18	5.25
H	4 1/8"	2.5"	3069A58	6.36	5.40
I	4 1/8"	2.5"	3069A59	6.53	5.55
J	4 1/8"	2.5"	3069A61	6.93	5.89
K	4 1/4"	2.5"	3069A62	$7.11	$6.04
L	4 1/4"	2.5"	3069A63	7.80	6.62
				1-5	6-Up
M	4 3/8"	2.6"	3069A64	$8.44	$7.17
N	4 3/8"	2.6"	3069A65	8.62	7.32
O	4 1/2"	2.7"	3069A66	9.38	7.96
P	4 5/8"	2.8"	3069A67	9.82	8.34
Q	4 3/4"	2.9"	3069A68	9.89	8.40
R	4 3/4"	2.9"	3069A69	10.09	8.57
S	4 7/8"	3"	3069A71	$11.87	$10.08
T	4 7/8"	3"	3069A72	12.13	10.30
U	5"	3.1"	3069A73	12.56	10.66
V	5"	3.1"	3069A74	13.13	11.15
W	5 1/8"	3.2"	3069A75	13.27	11.26
X	5 1/8"	3.2"	3069A76	14.07	11.94
Y	5 1/4"	3.3"	3069A77	14.38	12.21
Z	5 1/4"	3.3"	3069A78	15.22	12.92

Metric Size—135° Point Angle

Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm	Uncoated (Bright Finish)	Each 1-11	Each 12-Up
1.0	34	10	29355A11	$2.48	$2.12
1.05	34	9.9	29355A12	2.91	2.49
1.1	36	11.8	29355A13	2.77	2.36
1.15	36	11.7	29355A14	2.91	2.49
1.2	38	13.6	29355A15	2.63	2.24
1.25	38	13.5	29355A16	2.53	2.16
1.3	38	13.4	29355A17	2.54	2.17
1.35	40	15.3	29355A18	2.62	2.25
1.4	40	15.2	29355A19	2.52	2.15
1.45	40	15.1	29355A21	2.62	2.25
1.5	40	15	29355A22	2.41	2.07
1.55	43	16.9	29355A23	2.62	2.25
1.6	43	16.8	29355A24	2.65	2.26
1.65	43	16.7	29355A25	2.65	2.27
1.7	43	16.6	29355A26	2.65	2.26
1.75	46	18.5	29355A27	2.80	2.40
1.8	46	18.4	29355A28	2.65	2.26
1.85	46	18.3	29355A29	2.80	2.40
1.9	46	18.2	29355A31	2.65	2.26
1.95	49	20.1	29355A32	2.80	2.40
2.0	49	20	29355A33	2.40	2.05
2.05	49	19.9	29355A34	2.80	2.40
2.1	49	19.8	29355A35	2.65	2.26
2.2	53	22.6	29355A37	2.65	2.26
2.3	53	22.4	29355A39	2.65	2.26
2.35	53	22.3	29355A41	2.73	2.35
2.4	57	25.2	29355A42	2.60	2.22
2.5	57	25	29355A44	2.44	2.09
2.6	57	24.8	29355A45	2.77	2.36
2.7	61	27.6	29355A46	2.77	2.36
2.8	61	27.4	29355A48	3.23	2.76
2.9	61	27.2	29355A49	3.08	2.63
3.0	61	27	29355A51	3.05	2.61
3.1	65	29.8	29355A52	3.08	2.63
3.2	65	29.6	29355A53	$2.84	$2.42
3.3	65	29.4	29355A55	2.84	2.42
3.4	70	32.2	29355A56	3.16	2.71
3.5	70	32	29355A57	3.05	2.62
3.6	70	31.8	29355A58	3.54	3.02
3.7	70	31.6	29355A59	3.58	3.06
3.8	75	35.4	29355A62	3.78	3.22
3.9	79	47.6	29355A63	2.61	2.23
4.0	75	35	29355A64	3.28	2.82
4.1	75	34.8	29355A65	3.83	3.29
4.2	75	34.6	29355A66	3.41	2.92
4.3	80	38.4	29355A68	3.94	3.38
4.5	80	38	29355A71	3.67	3.13
4.7	80	37.6	29355A73	4.40	3.76
4.8	86	42.4	29355A75	4.77	4.08
4.9	92	61.1	29355A76	3.68	3.14
5.0	86	42	29355A77	4.39	3.75
5.1	86	41.8	29355A78	4.96	4.24
5.2	86	41.6	29355A79	5.48	4.69
5.3	86	41.5	29355A82	5.48	4.69
5.4	95	62.3	29355A83	4.23	3.61
5.5	93	46	29355A84	4.93	4.20
5.6	93	45.8	29355A85	5.83	4.98
5.7	93	45.6	29355A86	5.83	4.98
5.8	98	63.5	29355A89	4.63	3.96
5.9	93	45.2	29355A91	6.13	5.24
6.0	93	45	29355A92	5.49	4.69
6.1	101	50.8	29355A93	6.28	5.37
6.2	101	50.6	29355A94	6.02	5.16
6.3	101	50.4	29355A96	5.67	4.86
6.4	101	50.2	29355A97	6.40	5.49
6.5	101	50	29355A98	6.17	5.27
6.6	101	49.8	29355A112	7.05	6.03
6.7	101	49.6	29355A113	6.40	5.49
6.8	109	55.4	29355A115	$6.80	$5.83
6.9	109	55.2	29355A116	7.38	6.33
7.0	109	55	29355A117	6.48	5.54
7.5	109	54	29355A124	8.06	6.90
7.7	114	80.2	29355A126	7.03	6.00
7.8	117	59.4	29355A128	9.55	8.17
7.9	117	59.2	29355A131	9.55	8.17
				1-5	6-Up
8.0	114	80.2	29355A132	$7.37	$6.30
8.1	117	83.3	29355A133	7.65	6.53
8.2	117	58.6	29355A134	11.11	9.51
8.3	117	83.3	29355A136	8.34	7.12
8.4	117	58.2	29355A137	12.19	10.43
8.5	117	58	29355A138	10.23	8.75
8.6	121	86.1	29355A139	8.89	7.60
8.7	121	60.7	29355A141	8.89	7.60
8.8	125	63.4	29355A143	13.31	11.41
9.0	125	63	29355A145	11.77	10.06
9.4	125	62.2	29355A151	13.98	11.98
9.5	125	62	29355A152	12.00	10.27
9.6	133	67.8	29355A153	15.87	13.58
9.7	133	67.6	29355A154	15.78	13.51
10.0	133	67	29355A158	13.92	11.92
10.2	133	66.6	29355A159	14.77	12.64
10.5	133	66	29355A161	15.36	13.15
10.8	142	72.4	29355A162	18.22	15.60
11.0	142	72	29355A163	15.68	13.43
11.5	142	71	29355A165	18.88	16.16
11.8	142	70.4	29355A166	23.34	19.98
12.0	151	77	29355A167	19.78	16.92
12.5	151	76	29355A169	20.14	17.24
13.0	151	75	29355A171	19.58	16.63

Metric Size—130° Point Angle

Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm	Ultra-Life TiN/TiAlN Coated ■	Each
1.0	34	5	2753A161	$10.93
2.0	49	10	2753A162	10.93
2.5	57	12.5	2753A163	10.93
3.0	61	15	2753A164	10.93
3.3	65	16.5	2753A165	10.93
3.5	70	17.5	2753A166	10.93
4.0	75	20	2753A167	13.00
4.2	75	21	2753A168	$13.00
4.5	80	22.5	2753A169	13.83
5.0	86	25	2753A171	15.87
5.5	93	27.5	2753A172	17.94
6.0	93	30	2753A173	17.94
6.5	101	32.5	2753A174	23.12
7.0	109	35	2753A175	25.11
8.0	117	40	2753A176	$27.08
8.5	117	42.5	2753A177	28.94
9.0	125	45	2753A178	35.05
10.0	133	50	2753A179	43.27
12.0	151	60	2753A182	77.33
14.0	160	70	2753A184	99.79
14.5	169	72.5	2753A185	119.80

■ Point angle is 130°. Does not meet NAS 907 Type J.

High-Speed Steel Jobbers' Drill Bits for Tight-Tolerance Holes



Also known as double-margin drill bits, these have a flute construction that keeps them centered as they drill, giving you rounder holes with a tighter tolerance than other bits provide. All are TiN (titanium nitride) coated high-speed steel and have a 118° point angle. For use on steel and cast iron.

Also Available: Solid carbide fractional sizes 1/8" to 1/2" with a 145° point angle and an AlTiN (aluminum titanium nitride) coating. Please ask for 8980A91 and specify size.

Drill Bit Size	O'all Lg.	Drilling Depth		Each
3/16"	3 1/2"	2.3"	3021A26	$3.38
13/64"	3 5/8"	2.4"	3021A27	4.62
7/32"	3 3/4"	2.5"	3021A28	4.75
1/4"	4"	2.8"	3021A31	5.04
17/64"	4 1/8"	2.9"	3021A32	$8.13
9/32"	4 1/4"	2.9"	3021A33	8.43
5/16"	4 1/2"	3.2"	3021A35	9.11
3/8"	5"	3.6"	3021A39	12.19
25/64"	5 1/8"	3.8"	3021A41	$14.62
7/16"	5 1/2"	4.1"	3021A44	16.23
1/2"	6"	4.5"	3021A48	18.71

Drill Bits

For information about drill bits and decimal equivalents, see pages 2444-2445.

Smooth-Finish Three-Flute Carbide Jobbers' Drill Bits



With three cutting edges instead of the typical two, these uncoated (bright finish) solid-carbide bits drill holes with a smoother finish than other drill bits. For use on steel, stainless steel, nickel alloys, aluminum, copper, bronze, and cast iron. All bits have a 150° point angle with a split point that keeps the bit centered without a pilot hole. They require rigid toolholding to prevent breakage and should not be used in hand-held drilling applications.

Also Available: Wire gauge sizes 36 to 1 and letter sizes A to Z. For wire gauge sizes, please ask for 3171A96 and specify size. For letter sizes, please ask for 2792A81 and specify size.

Fractional Size

Drill Bit Size	O'all Lg.	Drilling Depth		Each
1/16"	1 1/2"	0.6"	3171A31	$13.76
3/32"	2"	0.8"	3171A33	14.68
7/64"	2 1/4"	1"	3171A34	16.39
1/8"	2 1/4"	1"	3171A35	16.88
9/64"	2 1/2"	1.1"	3171A36	19.37
5/32"	2 1/2"	1.1"	3171A37	22.50
11/64"	2 3/4"	1.3"	3171A38	25.07
3/16"	2 3/4"	1.3"	3171A39	25.32
13/64"	3"	1.4"	3171A41	$30.20
7/32"	3"	1.4"	3171A42	33.50
15/64"	3 1/4"	1.6"	3171A43	36.20
1/4"	3 1/4"	1.6"	3171A44	38.65
17/64"	3 1/2"	1.7"	3171A21	44.44
9/32"	3 1/2"	1.7"	3171A45	48.67
5/16"	3 3/4"	1.9"	3171A46	56.00
11/32"	4"	2"	3171A47	$66.59
3/8"	4 1/4"	2.2"	3171A48	73.12
25/64"	4 1/2"	2.3"	3171A25	92.09
27/64"	4 1/2"	2.3"	3171A26	108.96
7/16"	4 1/2"	2.3"	3171A51	116.53
1/2"	4 3/4"	2.4"	3171A53	134.99
33/64"	4 3/4"	3"	3171A54	158.29

Metric Size

Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm		Each
3.0	46	15.9	2783A1	$26.09
3.1	49	18	2783A11	27.32
3.2	49	18	2783A12	27.32
3.3	49	18	2783A13	28.05
3.4	52	19.9	2783A14	$27.72
3.5	52	19.9	2783A15	29.86
4.0	55	21.9	2783A2	31.28
4.2	55	21.9	2783A22	33.36
5.0	62	25.9	2783A3	$35.48
5.5	66	28	2783A35	41.19
6.0	66	28	2783A4	45.13
6.4	70	31	2783A44	46.16

Carbide-Tipped Drill Bits for Difficult-to-Drill Materials



A steel body and a carbide cutting edge give these bits the perfect combination of long life and vibration resistance for difficult-to-drill materials. For use on cast iron, aluminum, copper, brass, bronze, titanium, plastic, and composites. All bits are uncoated (bright finish).

Short-length bits have a shorter overall length for maximum rigidity. They drill straighter, shallower holes than jobbers' length bits. Also known as screw-machine and stub-length drill bits.

135° point angle bits perform better than 118° point angle bits on hard materials and produce smaller chips to reduce clogging. They also have a split point that keeps the bit centered without a pilot hole.

Fractional Size—Jobbers' Length

Drill Bit Size	O'all Lg.	Drilling Depth	*135° Point Angle*	Each	*118° Point Angle*	Each
1/8"	2 3/4"	1.4"	31575A32	$11.40	2940A13	$8.83
9/64"	3 1/8"	1.6"	31575A33	12.29	2940A14	9.58
5/32"	3 1/8"	1.6"	31575A11	12.14	2940A15	9.42
11/64"	3 1/2"	1.9"	31575A12	13.03	2940A16	10.25
3/16"	3 1/2"	1.9"	31575A13	12.79	2940A17	9.92
13/64"	3 3/4"	2"	31575A14	13.93	2940A18	10.92
7/32"	3 3/4"	2"	31575A15	13.93	2940A19	10.92
15/64"	4"	2.1"	31575A16	15.08	2940A21	11.83
1/4"	4"	2.3"	31575A17	15.08	2940A22	11.83
17/64"	4 1/4"	2.4"	31575A18	15.57	2940A23	12.25
9/32"	4 1/4"	2.4"	31575A19	17.70	2940A24	13.83
19/64"	4 1/2"	2.6"	31575A34	19.59	2940A25	15.33
5/16"	4 1/2"	2.6"	31575A21	$19.18	2940A26	$15.00
21/64"	4 3/4"	2.8"	31575A35	20.41	2940A27	15.92
11/32"	4 3/4"	2.8"	31575A22	20.41	2940A28	15.92
23/64"	5"	2.9"	31575A36	21.72	2940A29	16.92
3/8"	5"	2.9"	31575A23	21.72	2940A31	16.92
25/64"	5 1/4"	3"	31575A24	23.61	2940A32	18.42
13/32"	5 1/4"	3"	31575A25	23.61	2940A33	18.42
27/64"	5 1/2"	3.2"	31575A26	25.58	2940A34	20.00
7/16"	5 1/2"	3.2"	31575A27	25.58	2940A35	20.00
29/64"	5 3/4"	3.6"	31575A37	29.34	2940A36	23.00
31/64"	6"	3.8"	31575A29	32.21	2940A38	25.17
1/2"	6"	3.8"	31575A31	32.21	2940A39	25.17

Fractional Size—Short Length

Drill Bit Size	O'all Lg.	Drilling Depth	*135° Point Angle*	Each	*118° Point Angle*	Each
1/8"	1 7/8"	0.4"	2750A11	$11.50	28805A211	$8.83
9/64"	2 1/16"	0.4"	2750A12	15.08	28805A212	9.58
5/32"	2 1/16"	0.5"	2750A13	12.25	28805A213	9.42
11/64"	2 3/16"	0.5"	2750A14	13.67	28805A214	10.25
3/16"	2 3/16"	0.5"	2750A15	13.00	28805A215	9.92
13/64"	2 3/8"	0.6"	2750A16	14.92	28805A216	12.00
7/32"	2 3/8"	0.6"	2750A17	13.92	28805A217	10.83
1/4"	2 1/2"	0.8"	2750A19	15.00	28805A219	11.58
17/64"	2 11/16"	0.8"	2750A21	18.67	28805A221	13.58
9/32"	2 11/16"	0.8"	2750A22	17.25	28805A222	13.33
5/16"	2 13/16"	0.9"	2750A24	18.42	28805A224	13.83
11/32"	3"	1"	2750A26	21.42	28805A226	16.50
3/8"	3 1/8"	1.1"	2750A28	$21.92	28805A228	$16.50
25/64"	3 5/16"	1.2"	2750A29	26.08	28805A229	20.00
13/32"	3 5/16"	1.2"	2750A31	26.08	28805A231	20.00
27/64"	3 7/16"	1.3"	2750A32	28.33	28805A232	21.83
7/16"	3 7/16"	1.3"	2750A33	26.67	28805A233	20.50
1/2"	3 3/4"	1.5"	2750A35	37.92	28805A237	29.17
17/32"	3 7/8"	1.6"	2750A36	45.92	28805A238	35.25
9/16"	4"	1.7"	2750A37	45.92	28805A239	35.25
5/8"	4 1/4"	1.9"	2750A39	52.58	28805A242	40.50
11/16"	4 5/8"	2"	2750A42	65.00	28805A244	49.74
3/4"	5"	2.3"	2750A44	73.75	28805A246	56.67

Metric Size—Jobbers' Length

Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm	*118° Point Angle*	Each
3.0	70	34.3	28595A41	$12.78
3.3	79	41.9	28595A44	13.40
3.5	79	41.9	28595A46	12.26
4.0	79	41.9	28595A51	12.09
4.2	89	47	28595A53	12.26
4.5	89	47	28595A56	12.78
5.0	95	50.8	28595A59	13.40
5.5	95	50.8	28595A61	$14.17
6.0	102	53.3	28595A63	14.69
6.5	108	61	28595A65	15.22
7.0	108	61	28595A71	15.90
8.0	114	66	28595A73	17.04
8.5	121	71.1	28595A74	17.83
9.0	127	73.7	28595A76	$18.26
10.0	133	76.2	28595A81	20.52
10.5	140	81.3	28595A85	23.66
11.0	140	81.3	28595A87	25.56
12.0	146	91.4	28595A89	31.04
13.0	168	101.6	28595A94	32.96

Fractional Size Drill Bit Sets—Jobbers' Length

Sets include the 118° point angle fractional size bits above. Come in a metal case.

Drill Bit Size Range	No. of Bits		Per Set
1/8"-1/2" (increments of 1/32")	13	2940A61	$263.80
1/8"-1/4" (increments of 1/64")	9	2940A62	137.09

Also Available: Wire gauge, letter, and metric sizes. Please specify exact size within the range listed.

Drill Bit Size Range	Point Angle	Style	
32-1	135°	Jobbers' Length	31575A71
40-1	118°	Jobbers' Length	2940A81
A-Z	118°	Jobbers' Length	2940A82
A-Z	135°	Jobbers' Length	31575A72
3.5-14.0 mm	118°	Short Length	28805A401

Super Duty Carbide Jobbers' Drill Bits



Made from a solid piece of carbide, these bits are harder and more wear resistant than our other jobbers' bits. They require rigid toolholding to prevent breakage and should not be used in hand-held drilling applications. All have a 118° point angle with a four-facet point (unless noted) that keeps the bit centered without a pilot hole.

Uncoated (bright finish) bits are for use on soft metals such as aluminum and copper as well as soft plastics. ***Long-life TiN (titanium nitride) coated*** bits last longer than uncoated bits. For use on steel, stainless steel, cast iron, aluminum, copper, nickel alloys, and titanium. ***Super-life TiAlN (titanium aluminum nitride) coated*** bits last longer than TiN-coated bits. For use on steel, stainless steel, cast iron, aluminum, copper, nickel alloys, and titanium.

Also Available: Wire gauge sizes with a long-life TiN coating or super-life TiAlN coating. For long-life TiN-coated sizes 56-1, please ask for 8825A61 and specify size. For super-life TiAlN-coated sizes 30-1, please ask for 8879A91 and specify size.

Fractional Size

To Order: For coated bits, please specify coating: long-life TiN or super-life TiAlN.

Drill Bit Size	O'all Lg.	Drilling Depth	Uncoated (Bright Finish)	Each	Coated	Each
1/64"	1 1/4"	0.2"	2956A57♣	$14.19	8879A211♣	$18.12
1/32"	1 1/4"	0.3"	2956A58	8.73	8879A212	11.63
3/64"	1 1/2"	0.6"	2956A59	8.73	8879A213	10.78
1/16"	1 1/2"	0.6"	2956A61	8.91	8879A214	10.96
5/64"	1 3/4"	0.7"	2956A12	9.19	8879A215	11.42
3/32"	2"	0.8"	2956A13	9.51	8879A216	11.73
7/64"	2 1/4"	1"	2956A14	10.60	8879A217	13.78
1/8"	2 1/4"	1"	2956A15	10.93	8879A218	14.11
9/64"	2 1/2"	1.1"	2956A16	12.55	8879A219	16.42
5/32"	2 1/2"	1.1"	2956A17	14.55	8879A311	18.43
11/64"	2 3/4"	1.3"	2956A18	16.19	8879A312	20.06
3/16"	2 3/4"	1.3"	2956A19	16.38	8879A313	20.25
13/64"	3"	1.4"	2956A21	19.57	8879A314	24.81
7/32"	3"	1.4"	2956A22	21.65	8879A315	26.89
15/64"	3 1/4"	1.6"	2956A23	23.43	8879A316	30.02
1/4"	3 1/4"	1.6"	2956A24	25.02	8879A317	31.62
17/64"	3 1/2"	1.7"	2956A25	28.76	8879A318	36.95
9/32"	3 1/2"	1.7"	2956A26	$31.47	8879A319	$39.68
19/64"	3 3/4"	1.9"	2956A27	33.62	8879A411	41.81
5/16"	3 3/4"	1.9"	2956A28	36.23	8879A412	44.41
21/64"	4"	2"	2956A29	39.08	8879A413	47.99
11/32"	4"	2"	2956A31	43.08	8879A414	51.95
23/64"	4 1/4"	2.2"	2956A32	47.99	8879A415	61.65
3/8"	4 1/4"	2.2"	2956A33	47.31	8879A416	60.96
25/64"	4 1/2"	2.3"	2956A34	59.60	8879A417	75.30
13/32"	4 1/2"	2.3"	2956A35	64.01	8879A418	79.71
27/64"	4 1/2"	2.3"	2956A36	70.52	8879A419	86.22
7/16"	4 1/2"	2.3"	2956A37	75.43	8879A511	92.04
29/64"	4 3/4"	2.4"	2956A38	82.81	8879A512	100.55
15/32"	4 3/4"	2.4"	2956A39	87.54	8879A513	105.28
1/2"	4 3/4"	2.4"	2956A42	87.36	8879A515	105.10
9/16"	6"	3.2"	2956A76	156.04	8879A516	175.84
5/8"	6"	3.2"	2956A77	181.31	8879A517	203.37
3/4"	6"	3.2"	2956A78	243.39	8879A518	269.11

♣ Two-facet point.

Wire Gauge Size—Uncoated (Bright Finish)

To Order: Please specify exact size within the range listed.

Drill Bit Size Range		Each	Drill Bit Size Range		Each	Drill Bit Size Range		Each	Drill Bit Size Range		Each
80-73	2860A224★	$13.74	50-48	2860A218	$8.97	32-30	2860A212	$11.65	16-13	2860A115	$16.92
72-70	2860A223★	13.19	47-45	2860A217	9.19	29-28	2860A211	12.56	12-10	2860A114	17.71
69-66	2860A222★	9.55	44-43	2860A216	9.19	27-25	2860A119	13.07	9-7	2860A113	18.84
65-61	2860A221	9.32	42-40	2860A215	9.51	24-23	2860A118	13.83	6-4	2860A112	20.11
60-57	2860A226	8.83	39-36	2860A214	10.61	22-20	2860A117	15.16	3-2	2860A111	21.16
56-51	2860A225	8.83	35-33	2860A213	11.11	19-17	2860A116	15.92	1	2860A11	23.67

★ Drill bit sizes 69-80 have a two-facet point.

Letter Size—Uncoated (Bright Finish)

To Order: Please specify exact size within the range listed.

Drill Bit Size Range	O'all Lg.	Drilling Depth		Each	Drill Bit Size Range	O'all Lg.	Drilling Depth		Each
A-E	3 1/4"	1.6"	29195A71	$24.34	P-S	4"	2"	29195A74	$39.08
F-L	3 1/2"	1.7"	29195A72	28.76	T-V	4 1/4"	2.2"	29195A75	47.99
M-O	3 3/4"	1.9"	29195A73	33.62	W-Z	4 1/2"	2.3"	29195A76	53.28

Metric Size—Uncoated (Bright Finish)

Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm		Each	Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm		Each	Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm		Each
1.0	38	10.4	3030A21	$9.88	3.5	63	28	3030A26	$13.65	6.0	82	40	3030A32	$26.40
1.5	38	15.2	3030A22	9.60	4.0	63	28	3030A27	16.27	7.0	89	43.2	3030A34	33.88
2.0	44	17.6	3030A23	10.00	4.5	70	32.8	3030A28	17.99	8.0	95	48	3030A36	39.96
2.5	50	20	3030A24	10.88	5.0	76	35.2	3030A29	20.08	9.0	108	56	3030A38	47.40
3.0	57	25.6	3030A25	12.35	5.5	76	35.2	3030A31	22.99	10.0	114	58.4	3030A41	62.08

Fractional and Wire Gauge Size Drill Bit Sets—Uncoated (Bright Finish)

All sets come in a metal case.

Drill Bit Size Range	No. of Bits		Per Set	Drill Bit Size Range	No. of Bits		Per Set
1/16"-3/8" (increments of 1/16")	6	29325A21	$157.43	1/16"-1/2" (increments of 1/32")	15	29325A23	$553.68
1/16"-3/8" (increments of 1/64")	21	29325A22	481.64	Nos. 60-1	60	29325A24	735.78

Ultra Duty Carbide Drill Bits for Tool Steel and Dies

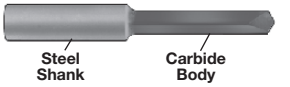

Four straight cutting edges and a carbide body give these bits the strength to drill steel with a Rockwell hardness up to C70 such as tool steel and dies. All have an uncoated (bright finish) carbide body with a steel shank and a 120° point angle. They require rigid toolholding to prevent breakage and should not be used in hand-held drilling applications.

Also Available: Wire gauge sizes 50 to 1. Please ask for 8839A95 and specify exact size.

Drill Bit Size	O'all Lg.	Drilling Depth		Each	Drill Bit Size	O'all Lg.	Drilling Depth		Each	Drill Bit Size	O'all Lg.	Drilling Depth		Each
5/64"	1 3/8"	0.9"	8839A09	$29.51	13/64"	2 1/2"	1.3"	8839A64	$39.64	5/16"	2 1/2"	1.3"	8839A18	$51.39
3/32"	1 1/2"	0.9"	8839A11	27.15	7/32"	2 1/2"	1.3"	8839A15	44.51	3/8"	2 3/4"	1.3"	8839A2	56.51
1/8"	2"	0.9"	8839A12	28.48	1/4"	2 1/2"	1.3"	8839A16	44.64	13/32"	2 3/4"	1.3"	8839A28	60.59
5/32"	2 1/8"	1"	8839A13	31.92	17/64"	2 1/2"	1.3"	8839A66	45.10	1/2"	2 3/4"	1.3"	8839A24	68.66
3/16"	2 1/4"	1"	8839A14	35.85	9/32"	2 1/2"	1.3"	8839A17	45.25	17/32"	2 3/4"	1.3"	8839A26	73.57

Drill Bits

For information about drill bits and decimal equivalents, see pages 2444-2445.

Straight-Flute Carbide-Tipped Drill Bits for Hard Steel



The 118° notched point and straight flutes on these carbide-tipped bits withstand the heavy feed pressure necessary to penetrate hard steel with a Rockwell hardness between C45 and C60. Bits also produce a smooth finish.

Also Available: Metric sizes 5 to 14 mm. Please ask for 2973A61 and specify size.

Drill Bit Size	O'all Lg.	Drilling Depth		Each
3/16"	3 1/2"	0.8"	2973A19	$16.78
13/64"	3 3/4"	0.8"	2973A21	17.20
7/32"	3 3/4"	0.9"	2973A22	17.20
15/64"	4"	0.9"	2973A23	17.97
1/4"	4"	1"	2973A24	17.97
17/64"	4 1/4"	1.1"	2973A25	18.98
9/32"	4 1/4"	1.1"	2973A26	18.98
19/64"	4 1/2"	1.2"	2973A27	19.83
5/16"	4 1/2"	1.3"	2973A28	$19.83
21/64"	4 3/4"	1.3"	2973A29	21.27
11/32"	4 3/4"	1.4"	2973A31	21.18
23/64"	5"	1.4"	2973A52	22.80
3/8"	5"	1.5"	2973A33	22.80
25/64"	5 1/4"	1.6"	2973A34	26.53
13/32"	5 1/4"	1.6"	2973A35	26.53
27/64"	5 1/2"	1.7"	2973A36	30.76
7/16"	5 1/2"	1.8"	2973A37	$30.76
15/32"	5 3/4"	1.9"	2973A39	33.90
1/2"	6"	2"	2973A42	39.66
17/32"	6"	2.1"	2973A43	45.42
9/16"	6"	2.3"	2973A44	37.71
5/8"	7"	2.5"	2973A46	54.07
3/4"	8"	3"	2973A51	67.29

Straight-Flute Carbide Short-Length Drill Bits for Hard Steel



The best choice for drilling hard steel, these solid carbide bits are shorter than jobbers' length bits for maximum rigidity and have straight flutes to withstand the heavy feed pressure necessary to drill hard steel (hardness of Rockwell C50 and higher), stainless steel, and high-temperature alloys. Bits have two flutes and a 135° point angle with a split point that keeps the bit centered without a pilot hole. They require rigid toolholding to prevent breakage and should not be used in hand-held drilling operations. TiN (titanium nitride) coated bits last longer and resist heat and friction for cleaner holes than uncoated (bright finish) bits.

Also Available: Uncoated (bright finish) letter sizes A to Z. Please ask for 8944A669 and specify size.

Fractional Size

Drill Bit Size	O'all Lg.	Drilling Depth	Uncoated (Bright Finish)	Each	Long-Life TiN Coated	Each
1/16"	1 1/2"	0.3"	8944A11	$11.44	8882A11	$12.93
5/64"	2"	0.4"	8944A12	11.79	8882A12	13.48
3/32"	2"	0.4"	8944A13	12.00	8882A13	13.67
7/64"	2 1/4"	0.5"	8944A14	13.28	8882A14	15.90
1/8"	2 1/4"	0.5"	8944A15	14.76	8882A15	17.29
9/64"	2 1/2"	0.5"	8944A16	15.98	8882A16	19.17
5/32"	2 1/2"	0.6"	8944A17	16.72	8882A17	19.86
11/64"	2 1/2"	0.6"	8944A18	19.58	8882A18	22.53
3/16"	2 1/2"	0.6"	8944A19	20.68	8882A19	23.58
13/64"	2 1/2"	0.8"	8944A21	23.96	8882A21	28.14
7/32"	2 1/2"	0.8"	8944A22	$24.76	8882A22	$28.87
15/64"	2 1/2"	0.8"	8944A23	26.34	8882A23	30.37
1/4"	2 1/2"	0.8"	8944A24	29.61	8882A24	33.44
17/64"	2 1/2"	0.8"	8944A25	38.29	8882A25	42.81
9/32"	2 1/2"	0.8"	8944A26	39.78	8882A26	44.19
5/16"	2 1/2"	1"	8944A28	43.64	8882A28	47.80
3/8"	3"	1"	8944A33	59.09	8882A33	62.76
7/16"	3"	1"	8944A37	80.93	8882A37	85.45
1/2"	3"	1"	8944A39	89.67	8882A39	93.88

Wire Gauge Size

To Order: Please specify exact size within the range listed.

Drill Bit Size Range	Uncoated (Bright Finish)	Each	Long-Life TiN Coated	Each
60-53	8944A131	$11.44	8882A71★	$12.93
52-48	8944A129	11.79	8882A69	13.48
47-42	8944A128	12.00	8882A68	13.67
41-36	8944A127	13.28	8882A67	15.89
35-32	8944A126	13.50	8882A66	16.11
31	8944A7	12.80	8882A65	16.80
30-29	8944A124	15.01	8882A64	18.27
28-27	8944A123	$16.13	8882A63	$19.32
26-23	8944A122	16.72	8882A62	19.86
22	8944A61	18.35	8882A61	21.39
21-20	8944A119	19.11	8882A59	22.10
19-18	8944A118	19.58	8882A58	22.53
17-15	8944A117	19.94	8882A57	22.88
14-13	8944A116	$20.68	8882A56	$23.58
12-11	8944A115	22.32	8882A55	26.61
10-9	8944A114	22.48	8882A54	26.75
8-7	8944A113	23.12	8882A53	27.34
6-3	8944A112	24.43	8882A52	28.58
2-1	8944A111	26.34	8882A51	30.37

★ Available in sizes 56-53 only.

Metric Size

Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm	Uncoated (Bright Finish)	Each
1.0	38	7.6	8842A41	$10.71
1.5	38	7.6	8842A42	10.71
2.0	50	9.6	8842A43	11.24
2.5	50	9.6	8842A44	12.07
3.0	57	12.8	8842A45	$13.33
4.0	63	15.2	8842A47	17.18
4.5	63	15.2	8842A48	18.67
5.0	63	20	8842A49	$21.65
6.0	63	20	8842A52	27.80
8.0	63	25.6	8842A56	40.87

High-Performance Carbide Jobbers' Drill Bits for Aluminum



The specially designed cutting edge, heavy duty chip-clearing flutes (also known as parabolic flutes), and 130° point angle on these solid carbide drill bits make them ideal for drilling all types of aluminum. They are also for use on copper and bronze. ***TiN (titanium nitride) coated*** bits last longer than uncoated (bright finish) bits.

Also Available: Wire gauge sizes 30 to 1. Please ask for 8822A91 for uncoated or 8822A92 for TiN-coated and specify size.

Drill Bit Size	O'all Lg.	Drilling Depth	Uncoated (Bright Finish)	Each	Long-Life TiN Coated	Each
1/8"	2 3/4"	1"	8822A11	$31.87	8822A51	$46.20
9/64"	2 7/8"	1.1"	8822A13	31.87	8822A53	46.20
5/32"	3 1/8"	1.2"	8822A15	33.41	8822A55	48.44
3/16"	3 1/2"	1.5"	8822A18	45.00	8822A58	62.91
7/32"	3 3/4"	1.7"	8822A23	53.94	8822A63	75.49
1/4"	4"	2"	8822A25	$58.37	8822A65	$78.72
9/32"	4 1/4"	2.2"	8822A29	67.01	8822A69	90.50
5/16"	4 1/2"	2.5"	8822A32	77.83	8822A72	101.02
3/8"	5"	3"	8822A37	106.91	8822A77	138.99
1/2"	6"	4"	8822A45	159.49	8822A85	191.41

For information about drill bits and decimal equivalents, see pages 2444-2445.

High-Speed Steel Jobbers' Drill Bits for Stainless Steel



Made of powdered steel with an ultra-life TiN/TiAlN coating for long life and resistance to heat, these bits are tough enough to drill all types of stainless steel as well as nickel alloys and tool steel. They have a heavy duty chip-clearing flute design (also known as parabolic flute) and a 130° point angle with a split point that keeps the bit centered without a pilot hole.

Fractional Size

Drill Bit Size	O'all Lg.	Drilling Depth		Each
3/32"	2.24"	1.2"	3020A11	$11.08
7/64"	2.4"	1.3"	3020A12	11.08
1/8"	2.56"	1.4"	3020A13	12.48
9/64"	2.76"	1.5"	3020A14	12.48
5/32"	2.95"	1.7"	3020A15	12.48
11/64"	3.15"	1.9"	3020A16	$13.20
3/16"	3.39"	2.1"	3020A17	13.93
13/64"	3.39"	2.1"	3020A18	13.93
7/32"	3.66"	2.2"	3020A19	16.79
15/64"	3.66"	2.2"	3020A21	16.79
1/4"	3.98"	2.5"	3020A22	$18.22
9/32"	4.29"	2.7"	3020A23	24.66
5/16"	4.61"	3"	3020A24	26.08
11/32"	4.92"	3.2"	3020A25	32.15
7/16"	5.59"	3.7"	3020A26	61.07

Metric Size

Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm		Each
1.5	40	18	3020A32	$11.08
2.0	49	24	3020A33	9.64
2.5	57	30	3020A34	11.08
3.0	61	33	3020A36	10.35
3.3	65	36	3020A39	12.48
3.4	70	39	3020A41	$12.48
3.5	70	39	3020A42	12.48
4.0	75	43	3020A43	11.78
4.2	75	43	3020A44	13.20
5.0	86	52	3020A46	$12.48
6.0	93	57	3020A48	14.64
6.7	101	63	3020A51	18.93
7.0	109	69	3020A54	22.16

High-Speed Steel Jobbers' Drill Bits for Brass and Bronze



Also known as slow-spiral drill bits, these are designed to lift chips from the hole and reduce clogging when drilling brass and bronze. All are uncoated (bright finish) with a 118° point angle.

Fractional Size

Drill Bit Size	O'all Lg.	Drilling Depth	Pkg. Qty.		Each ♦
1/16"	1 7/8"	0.8"	12	2928A211	$2.34
5/64"	2"	0.8"	12	2928A212	2.34
3/32"	2 1/4"	1.1"	12	2928A213	2.34
7/64"	2 5/8"	1.3"	12	2928A214	2.34
1/8"	2 3/4"	1.4"	12	2928A215	2.48
9/64"	2 7/8"	1.5"	12	2928A216	2.41
5/32"	3 1/8"	1.7"	12	2928A217	2.78
11/64"	3 1/4"	1.8"	12	2928A218	3.34
3/16"	3 1/2"	1.9"	12	2928A219	3.21
13/64"	3 5/8"	2"	12	2928A221	3.86
7/32"	3 3/4"	2.1"	12	2928A222	$4.35
15/64"	3 7/8"	2.2"	12	2928A223	4.93
1/4"	4"	2.3"	12	2928A224	4.59
17/64"	4 1/8"	2.3"	12	2928A225	6.48
9/32"	4 1/4"	2.4"	12	2928A226	6.20
19/64"	4 3/8"	2.5"	12	2928A227	8.00
5/16"	4 1/2"	2.6"	6	2928A228	7.56
21/64"	4 5/8"	2.7"	6	2928A229	9.05
11/32"	4 3/4"	2.8"	6	2928A231	10.00
23/64"	4 7/8"	2.8"	6	2928A232	12.07
3/8"	5"	2.9"	6	2928A233	$11.02
25/64"	5 1/8"	3"	6	2928A234	14.56
13/32"	5 1/4"	3.1"	6	2928A235	13.70
27/64"	5 3/8"	3.1"	6	2928A236	15.64
7/16"	5 1/2"	3.2"	6	2928A237	15.89
29/64"	5 5/8"	3.3"	6	2928A238	19.98
15/32"	5 3/4"	3.4"	6	2928A239	18.64
31/64"	5 7/8"	3.4"	6	2928A241	22.44
1/2"	6"	3.5"	6	2928A242	18.66

Wire Gauge Size

Full-package quantity is 12. **To Order:** Please specify exact size within the range listed. See chart on page 2449 for o'all lg. and drilling dp.

Drill Bit Size Range		Each ♦
80-79	2928A185	$6.30
78-71	2928A184	4.56
70-69	2928A183	3.49
68-61	2928A182	3.17
60-29	2928A181	$2.73
28-26	2928A179	3.15
25-23	2928A178	3.53
22-21	2928A177	3.55
20-18	2928A176	$3.63
17-13	2928A175	4.13
12-11	2928A174	4.44
10-7	2928A173	$4.72
6-3	2928A172	5.48
2-1	2928A171	5.40

♦ Prices are 15% lower when you order in full-package quantities.

High-Speed Steel Jobbers' Drill Bits for Plastic



A sharp 60° point angle eliminates edge chipping and chip wrapping when drilling plastic. For use on hard plastics such as cast acrylic, nylon, PVC, vinyl, and melamine and soft plastics such as ABS, polyethylene, and polypropylene.

Fractional Size

Drill Bit Size	O'all Lg.	Drilling Depth		Each
1/8"	2 3/4"	0.9"	27465A81	$3.47
9/64"	2 7/8"	1.1"	27465A51	5.56
5/32"	3 1/8"	1.1"	27465A82	3.97
11/64"	3 1/4"	1.1"	27465A52	6.09
3/16"	3 1/2"	1.5"	27465A83	4.48
13/64"	3 5/8"	1.8"	27465A53	6.80
7/32"	3 3/4"	1.8"	27465A54	7.07
15/64"	3 7/8"	1.9"	27465A55	7.33
1/4"	4"	1.8"	27465A84	5.91
17/64"	4 1/8"	2.1"	27465A56	8.09
9/32"	4 1/4"	2.1"	27465A57	$9.16
19/64"	4 3/8"	2.3"	27465A58	9.96
5/16"	3 7/8"	1"	27465A85★	8.31
21/64"	4 5/8"	2.5"	27465A59	11.33
11/32"	4 3/4"	2.6"	27465A61	12.09
23/64"	4 7/8"	2.6"	27465A62	12.93
3/8"	4 3/8"	1.4"	27465A86★	11.47
25/64"	5 1/8"	2.9"	27465A63	14.53
13/32"	5 1/8"	3"	27465A64	15.47
27/64"	5 3/8"	3"	27465A65	16.76
7/16"	4 3/4"	1.6"	27465A87★	$12.78
29/64"	5 5/8"	3.3"	27465A66	17.73
15/32"	5 3/4"	3.4"	27465A67	18.67
31/64"	5 7/8"	3.4"	27465A68	19.87
1/2"	5 1/8"	1.6"	27465A88★	15.19
33/64"	6"	2.1"	27465A69■	42.89
17/32"	6"	2.1"	27465A71■	42.89
35/64"	6"	2.1"	27465A72■	44.22
9/16"	6"	2.1"	27465A73■	45.33

★ Has a 1/4" shank diameter. ■ Has a 1/2" shank diameter.

Fractional Size Drill Bit Set—7 Pieces

Includes one each of the following bit sizes: 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", and 1/2". Overall lengths differ from those listed above by approximately 1/8". Comes in a metal case.

27465A94 ..... Per Set $58.85

Also Available: Wire gauge, letter, and metric sizes. Please specify exact size within the range listed.

Drill Bit Size Range	
Wire Gauge Nos. 31-1	27465A31
A-Z	27465A21
3-17.5 mm	27465A41

Carbide-Tipped Drill Bits for Glass and Ceramics



Here's a smooth solution to the tricky job of drilling through glass, ceramics, and other nonmetals. Bit sizes 1/8"-1/2" require a coolant such as water. All are steel with a carbide-tipped spear point.

Drill Bit Size	O'all Lg.	Shank Dia.		Each
1/8"	2 3/16"	7/64"	2954A1	$6.00
3/16"	2 3/16"	5/32"	2954A2	6.39
1/4"	2 9/16"	11/64"	2954A3	6.75
5/16"	3"	7/32"	2954A4	8.36
3/8"	3 9/16"	15/64"	2954A5	$10.68
1/2"	3 9/16"	5/16"	2954A7	13.14
5/8"	3 3/4"	5/16"	2954A71	13.47
3/4"	4"	5/16"	2954A72	$15.83
7/8"	4"	5/16"	2954A73	18.19
1"	4"	5/16"	2954A74	20.54

Carbide Jobbers' Drill Bits for Fiber-Reinforced Composites

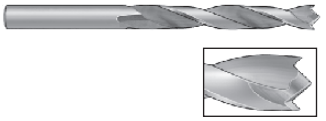

Also known as brad-point drill bits, these have three drill points that make a clean hole in fiber-reinforced composites without fraying or delaminating the material. Bits are made of uncoated (bright finish) solid carbide and stay centered without a pilot hole. Also for use on wood; soft plastics such as polyethylene, polypropylene, and ABS; fiberglass; and carbon fiber. They require rigid toolholding to prevent breakage and should not be used in hand-held drilling applications.

Also Available: Wire gauge sizes 60 to 1 and letter sizes A to Z. For wire gauge sizes, please ask for 2828A84 and specify size. For letter sizes, please ask for 2828A81 and specify size.

Drill Bit Size	O'all Lg.	Drilling Depth		Each
3/64"	1 1/2"	0.6"	2828A6	$14.91
1/16"	1 1/2"	0.6"	2828A7	15.22
5/64"	1 3/4"	0.7"	2828A11	15.79
3/32"	2"	0.8"	2828A71	14.49
7/64"	2 1/4"	1"	2828A12	18.22
1/8"	2 1/4"	1"	2828A72	18.63
9/64"	2 1/2"	1.1"	2828A13	21.51
5/32"	2 1/2"	1.1"	2828A73	22.20
11/64"	2 3/4"	1.3"	2828A14	27.72
3/16"	2 3/4"	1.3"	2828A74	24.95
13/64"	3"	1.4"	2828A15	33.53
7/32"	3"	1.4"	2828A69	$36.96
15/64"	3 1/4"	1.6"	2828A16	40.01
1/4"	3 1/4"	1.6"	2828A75	42.71
17/64"	3 1/2"	1.7"	2828A17	49.12
9/32"	3 1/2"	1.7"	2828A76	47.97
19/64"	3 3/4"	1.9"	2828A18	57.45
5/16"	3 3/4"	1.9"	2828A77	55.18
21/64"	4"	2"	2828A19	66.76
11/32"	4"	2"	2828A21	73.73
23/64"	4 1/4"	2.2"	2828A22	81.97
3/8"	4 1/4"	2.2"	2828A78	72.09
25/64"	4 1/2"	2.3"	2828A23	$101.74
13/32"	4 1/2"	2.3"	2828A24	109.38
27/64"	4 1/2"	2.3"	2828A25	120.52
7/16"	4 1/2"	2.3"	2828A26	128.77
29/64"	4 3/4"	2.4"	2828A27	141.35
15/32"	4 3/4"	2.4"	2828A28	149.49
31/64"	4 3/4"	2.4"	2828A29	156.18
1/2"	4 3/4"	2.4"	2828A79	133.10
9/16"	6"	3.2"	2828A31	247.44
5/8"	6"	3.2"	2828A32	287.45

Carbide Jobbers' Drill Bits for Composites



Made of solid carbide with a diamond coating, these bits are wear resistant and last longer than other drill bits when drilling abrasive composites such as plastic, carbon fiber, graphite, and fiberglass. Also for use on copper, brass, and aluminum. Bits have a 118° point angle with a split point that keeps the bit centered without a pilot hole. They require rigid toolholding to prevent breakage and should not be used in hand-held drilling applications.

Drill Bit Size	O'all Lg.	Drilling Depth		Each
1/16"	1 1/2"	0.6"	3162A11	$29.27
5/64"	1 3/4"	0.7"	3162A12	29.83
3/32"	2"	0.8"	3162A13	30.39
7/64"	2 1/4"	1"	3162A14	31.51
1/8"	2 1/4"	1"	3162A16	32.65
9/64"	2 1/2"	1.1"	3162A18	$40.51
5/32"	2 1/2"	1.1"	3162A19	44.46
11/64"	2 3/4"	1.3"	3162A22	45.58
3/16"	2 3/4"	1.3"	3162A24	50.64
7/32"	3"	1.4"	3162A26	56.84
1/4"	3 1/4"	1.6"	3162A28	$62.47
5/16"	3 3/4"	1.9"	3162A31	81.59
3/8"	4 1/4"	2.2"	3162A33	99.04
1/2"	4 3/4"	2.4"	3162A35	154.75

Carbide Short-Length Drill Bits for Composites



Shorter than our Carbide Jobbers' Drill Bits for Composites, these have maximum rigidity to drill straighter, shallower holes than jobbers' bits. For use on carbon fiber, graphite, and fiberglass as well as copper, brass, aluminum, and plastic. Also known as screw-machine and stub-length bits, they are made of solid carbide with a diamond coating. All have a 118° point angle with a split point that keeps the bit centered without a pilot hole. They require rigid toolholding to prevent breakage and should not be used in hand-held drilling applications.

Drill Bit Size	O'all Lg.	Drilling Depth		Each
1/8"	2"	0.5"	3162A15	$34.59
9/64"	2"	0.5"	3162A17	43.11
11/64"	2 1/2"	0.6"	3162A21	47.56
3/16"	2 1/2"	0.6"	3162A23	$54.10
7/32"	2 1/2"	0.8"	3162A25	59.91
1/4"	2 1/2"	0.8"	3162A27	64.23
5/16"	2 3/4"	1"	3162A29	$82.76
3/8"	3"	1"	3162A32	98.20
1/2"	3"	1"	3162A34	140.19

High-Speed Steel Drill Bits for Sheet Metal



Single End



Double End

Also known as body drills, these bits are short and sturdy for all of your sheet metal drilling needs. They are also for use on thin-wall tubing and for general shallow-hole drilling. All are high-speed steel with a black-oxide treatment. They have a 135° point angle with a split point that keeps the bit centered without a pilot hole. Full package quantity is 12. ***Double-end*** bits can be turned around if one end becomes worn.

Drill Bit Size	Single End O'all Lg.	Single End Drilling Depth		Single End Each ♦	Double End O'all Lg.	Double End Drilling Depth		Double End Each ♦
7/64"	3"	5/8"	3045A12	$1.45	1 15/16"	1/2"	3163A52	$1.84
1/8"	2"	5/8"	3045A14	1.36	1 15/16"	9/16"	3163A54	1.91
No. 30	2"	5/8"	3045A25	1.36	2"	9/16"	3163A56	1.91
9/64"	2"	5/8"	3045A16	1.45	2"	9/16"	3163A58	2.22
5/32"	2"	3/4"	3045A18	1.74	2 1/8"	9/16"	3163A62	2.36
No. 20	—	—	—	—	—	—	—	—
3/16"	2"	3/4"	3045A21	$1.74	2 5/16"	9/16"	3163A66	2.64
No. 11	—	—	—	—	2 5/16"	9/16"	3163A71	2.64
7/32"	—	—	—	—	2 9/16"	11/16"	3163A73	3.31
1/4"	2 1/2"	3/4"	3045A23	2.41	2 5/8"	3/4"	3163A75	3.71

♦ Prices are 15% lower when you order full-package quantities.

Carbide Spade Drill Bits for Sheet Metal



A combination of two flat flutes and a short length prevent pulling and breakage when drilling thin sheets of steel and stainless steel. All bits are made of solid carbide and have a 118° point angle. They require rigid toolholding to prevent breakage and should not be used in hand-held drilling applications.

Drill Bit Size	O'all Lg.		Each
1/16"	1 1/2"	8769A21	$12.80
3/32"	1 1/2"	8769A22	12.80
1/8"	1 1/2"	8769A23	12.80
5/32"	2"	8769A24	16.41
3/16"	2"	8769A25	$17.50
7/32"	2"	8769A26	20.26
1/4"	2"	8769A27	22.89
9/32"	2"	8769A28	28.11
5/16"	2 1/2"	8769A29	$31.61
11/32"	2 1/2"	8769A31	37.86
3/8"	2 1/2"	8769A32	40.45
13/32"	2 1/2"	8769A33	45.77
7/16"	2 3/4"	8769A34	$48.41
15/32"	3"	8769A35	52.82
1/2"	3"	8769A36	58.05

For information about drill bits and decimal equivalents, see pages 2444-2445.

Hole-Starting Drill Bits



120° Point Angle

With a short flute and a short overall length, these bits stay straight to give you accurate placement when starting holes that will be drilled deeper with a longer bit. Also known as spotting bits, all are uncoated (bright finish). ***Cobalt steel*** bits are heat resistant for drilling stainless steel, nickel alloys, and titanium. ***Carbide*** bits are more rigid and maintain their sharp edges longer than cobalt bits. For use on cast iron, aluminum, brass, bronze, fiberglass, plastic, and graphite.

90° point angle bits are for centering and chamfering holes that will be followed by a smaller drill bit size. ***120° point angle*** bits are for starting a hole that will be followed by a drill bit with a point angle from 90°–118°. ***140° point angle*** bits are for starting a hole that will be followed by a drill bit with a point angle from 118°–135°.

Cobalt Steel

Drill Bit Size	O'all Lg.	Drilling Depth	90° Point Angle	Each	120° Point Angle	Each	Drill Bit Size	O'all Lg.	Drilling Depth	90° Point Angle	Each	120° Point Angle	Each
4 mm	2 1/16"	0.5"	27445A15	$18.77	27445A25	$18.77	1/2"	4"	1.4"	27445A13	$33.17	27445A23	$33.17
5 mm	2 3/8"	0.6"	27445A16	21.34	27445A26	21.34	5/8"	4 1/2"	1.4"	27445A14	48.09	27445A24	48.09
1/4"	2 5/8"	0.9"	27445A11	24.04	27445A21	24.04	3/4"	5 1/8"	1.6"	27445A17	67.43	27445A27	67.43
3/8"	3 1/2"	1"	27445A12	25.69	27445A22	25.69							

Carbide

Drill Bit Size	O'all Lg.	Drilling Depth	90° Point Angle	Each	120° Point Angle	Each	140° Point Angle	Each
1/4"	2 1/2"	0.3"	2911A29	$19.56	2911A39	$19.56	2911A51	$19.56
3/8"	2 1/2"	0.4"	2911A32	25.67	2911A42	25.67	2911A53	25.67
1/2"	3"	0.5"	2911A33	44.28	2911A43	44.28	2911A54	44.28
5/8"	3 1/2"	0.6"	2911A34	84.92	2911A44	84.92	2911A55	84.92

Left-Hand (Reverse Flute) Drill Bits



Commonly used for drilling into broken screws, these bits have flutes that spiral in the opposite direction of other bits and are for use in reverse tool operation only. Bits are uncoated (bright finish), except the jobbers' length bits, which have a black-and-gold oxide treatment. All have a 135° point angle with a split point that keeps the bit centered without a pilot hole, unless otherwise stated. ***Jobbers' length high-speed steel*** bits are for use on steel, cast iron, and plastic, unless otherwise stated. ***Maintenance-length cobalt steel*** bits provide more heat resistance and rigidity and drill shallower holes than jobbers' length high-speed steel bits. For use on stainless steel, nickel alloys, and titanium alloys.

Also Available: High-speed steel fractional sizes 1/32" to 1/2", wire gauge sizes 60 to 1, and metric sizes 1 to 12 mm. All have a 118° point angle and are uncoated (bright finish) except metric sizes larger than 2.5 mm, which have a black-oxide treatment. For fractional sizes, please ask for 2876A61 and specify size. For wire gauge sizes, please ask for 3024A41 and specify size. For metric sizes, please ask for 29855A91 and specify size.

Fractional Size—Jobbers' Length, High-Speed Steel

Drill Bit Size	O'all Lg.	Drilling Depth		Each	Drill Bit Size	O'all Lg.	Drilling Depth		Each	Drill Bit Size	O'all Lg.	Drilling Depth		Each
1/16"	1 7/8"	0.8"	88055A41	$5.13	11/64"	3 1/4"	2.1"	88055A62	$6.87	9/32"	4 1/4"	2.8"	88055A67	$12.60
5/64"	2"	0.9"	88055A42	5.13	3/16"	3 1/2"	2.3"	88055A47	7.17	19/64"	4 3/8"	2.9"	88055A49	14.32
3/32"	2 1/4"	1.2"	88055A43	5.13	13/64"	3 5/8"	2.4"	88055A63	8.02	5/16"	4 1/2"	3.2"	88055A51	15.04
7/64"	2 5/8"	1.5"	88055A44	5.13	7/32"	3 3/4"	2.5"	88055A64	8.59	3/8"	5"	3.5"	88055A52	23.22
1/8"	2 3/4"	1.5"	88055A45	5.13	15/64"	3 7/8"	2.5"	88055A65	9.17	7/16"	5 1/2"	3.9"	88055A53	30.60
9/64"	2 7/8"	1.6"	88055A61	5.13	1/4"	4"	2.6"	88055A48	9.91	1/2"	6"	4.5"	88055A54	38.92
5/32"	3 1/8"	1.9"	88055A46	5.97	17/64"	4 1/8"	2.8"	88055A66	10.53					

Fractional Size—Maintenance Length, Cobalt Steel

Drill Bit Size	O'all Lg.	Drilling Depth		Each	Drill Bit Size	O'all Lg.	Drilling Depth		Each	Drill Bit Size	O'all Lg.	Drilling Depth		Each
5/64"	2"	0.9"	3474A11	$3.01	1/4"	3 5/16"	1.6"	3474A17	$5.88	3/8"	4 1/8"	2.1"	3474A23	$13.33
7/64"	2 3/16"	0.8"	3474A12	3.38	9/32"	3 9/16"	1.7"	3474A18	7.94	13/32"	4 3/8"	2.1"	3474A24	14.90
1/8"	2 1/4"	1.1"	3474A13	3.76	19/64"	3 5/8"	1.9"	3474A19	8.25	7/16"	4 9/16"	2.2"	3474A25	17.18
5/32"	2 9/16"	1.3"	3474A14	3.95	5/16"	3 3/4"	2"	3474A21	9.33	15/32"	4 3/4"	2.2"	3474A26	18.98
3/16"	2 7/8"	1.3"	3474A15	4.89	11/32"	3 15/16"	2"	3474A22	10.48	1/2"	5"	2.3"	3474A27	21.52
7/32"	3 1/8"	1.4"	3474A16	5.59										

Fractional and Wire Gauge Size Drill Bit Sets—Jobbers' Length, High-Speed Steel

Come in a metal case with folding panels that are marked with the drill bit sizes. All have a 118° point angle and are uncoated (bright finish). For use on carbon steel, alloy steel, and cast iron.

Drill Bit Size Range	No. of Pieces	Per Set
1/16"-1/2" (increments of 1/64")	29	29505A51 $353.50
Wire Gauge Nos. 60-1	60	29505A71 187.82

High-Speed Steel Maintenance-Length Drill Bits



Shorter than jobbers' length drill bits for better rigidity; longer than short-length drill bits for extra depth. All are high-speed steel with a black-and-gold-oxide treatment that adds wear resistance and improves coolant flow. Three flats on the drill bit shank provide a secure grip to eliminate slipping in the drill chuck. Drill bits have a 135° point angle with a split point that keeps the bit centered without a pilot hole. For use on steel, stainless steel, cast iron, aluminum, brass, copper, and plastic.

Drill Bit Size	O'all Lg.	Drilling Depth		Each	Drill Bit Size	O'all Lg.	Drilling Depth		Each	Drill Bit Size	O'all Lg.	Drilling Depth		Each
3/16"	3"	1.8"	87755A29	$2.21	19/64"	3 7/8"	2.3"	87755A37	$4.29	13/32"	4 3/8"	2.7"	87755A45	$7.78
13/64"	3 1/8"	1.8"	87755A31	2.41	5/16"	4"	2.5"	87755A38	4.54	27/64"	4 7/16"	2.8"	87755A46	8.62
7/32"	3 1/4"	1.9"	87755A32	2.48	21/64"	4 1/16"	2.5"	87755A39	5.11	7/16"	4 1/2"	2.8"	87755A47	8.93
15/64"	3 3/8"	1.9"	87755A33	2.68	11/32"	4 1/8"	2.5"	87755A41	5.77	29/64"	4 5/8"	2.9"	87755A48	10.05
1/4"	3 1/2"	1.9"	87755A34	3.07	23/64"	4 3/16"	2.6"	87755A42	6.38	15/32"	4 3/4"	3"	87755A49	10.64
17/64"	3 5/8"	2"	87755A35	3.73	3/8"	4 1/4"	2.6"	87755A43	6.57	31/64"	4 7/8"	3.2"	87755A51	11.32
9/32"	3 3/4"	2.2"	87755A36	3.80	25/64"	4 5/16"	2.6"	87755A44	7.53	1/2"	5"	3.3"	87755A52	11.49

High-Speed Steel Short-Length Drill Bits



Maximum rigidity and a shorter overall length make these bits better for drilling straighter, shallower holes than jobbers' and maintenance-length bits. Also known as screw-machine and stub-length bits. ***Drill bit sets*** come in a metal case.

135° Point Angle—Better for hard materials than 118° point angle bits. All have a split point that keeps the bit centered without a pilot hole, except size 3/64″ and wire gauge sizes 60-53. *Black-oxide* bits are wear resistant and are for use on steel and cast iron. *Long-life TiN (titanium nitride) coated* bits last longer than black-oxide bits and are for use on steel, stainless steel, aluminum, brass, nickel alloys, and plastic.

118° Point Angle—*Uncoated (bright finish)* bits are for use on steel, cast iron, and plastic. *Black-oxide* bits are more wear resistant than uncoated bits and are for use on steel and cast iron. *Long-life TiN (titanium nitride) coated* bits last longer than uncoated bits and are for use on steel, aluminum, brass, bronze, plastic, and composites.

Fractional Size—135° Point Angle

Drill Bit Size	O'all Lg.	Drilling Depth	Black Oxide	Each	Long-Life TiN Coated	Each
3/64″	1 3/8″	0.4″	2896A11	$1.43		
1/16″	1 5/8″	0.5″	2896A12	1.44	2908A31	$2.80
5/64″	1 11/16″	0.6″	2896A13	1.44	2908A32	2.80
3/32″	1 3/4″	0.6″	2896A14	1.46	2908A33	2.80
7/64″	1 13/16″	0.6″	2896A15	1.46	2908A34	2.80
1/8″	1 7/8″	0.7″	2896A16	1.46	2908A35	2.80
9/64″	1 15/16″	0.7″	2896A17	1.55	2908A36	3.20
5/32″	2 1/16″	0.8″	2896A18	1.59	2908A37	3.28
11/64″	2 1/8″	0.8″	2896A19	1.62	2908A38	3.42
3/16″	2 3/16″	0.8″	2896A21	1.74	2908A39	3.50
13/64″	2 1/4″	0.9″	2896A22	1.87	2908A41	4.61
7/32″	2 3/8″	0.9″	2896A23	2.21	2908A42	4.95
15/64″	2 7/16″	1″	2896A24	2.29	2908A43	4.97
1/4″	2 1/2″	1″	2896A25	2.41	2908A44	5.14
17/64″	2 5/8″	1″	2896A26	2.72	2908A45	7.13
9/32″	2 11/16″	1.1″	2896A27	$2.84	2908A46	$7.33
19/64″	2 3/4″	1.1″	2896A28	3.36	2908A47	7.53
5/16″	2 13/16″	1.2″	2896A29	3.45	2908A48	7.77
21/64″	2 15/16″	1.2″	2896A31	3.85	2908A49	8.95
11/32″	3″	1.2″	2896A32	4.23	2908A51	9.42
23/64″	3 1/16″	1.2″	2896A33	4.78	2908A52	10.05
3/8″	3 1/8″	1.3″	2896A34	5.04	2908A53	10.29
25/64″	3 1/4″	1.3″	2896A35	5.73	2908A54	11.77
13/32″	3 5/16″	1.3″	2896A36	5.96	2908A55	11.98
27/64″	3 3/8″	1.4″	2896A37	6.58	2908A56	12.51
7/16″	3 7/16″	1.4″	2896A38	6.64	2908A57	12.69
29/64″	3 9/16″	1.4″	2896A39	7.96	2908A58	14.67
15/32″	3 5/8″	1.4″	2896A41	8.39	2908A59	15.07
31/64″	3 11/16″	1.5″	2896A42	8.67	2908A61	15.35
1/2″	3 3/4″	1.5″	2896A43	8.72	2908A62	15.35

Fractional Size—118° Point Angle

Drill Bit Size	O'all Lg.	Drilling Depth	Uncoated (Bright Finish)	Each
3/64″	1 3/8″	0.4″	8947A11	$1.40
1/16″	1 5/8″	0.5″	8947A111	1.31
5/64″	1 11/16″	0.6″	8947A112	1.35
3/32″	1 3/4″	0.6″	8947A113	1.35
7/64″	1 13/16″	0.6″	8947A114	1.35
1/8″	1 7/8″	0.7″	8947A115	1.35
9/64″	1 15/16″	0.7″	8947A116	1.37
5/32″	2 1/16″	0.8″	8947A117	1.44
11/64″	2 1/8″	0.8″	8947A118	1.55
3/16″	2 3/16″	0.8″	8947A119	1.56
13/64″	2 1/4″	0.9″	8947A121	1.77
7/32″	2 3/8″	0.9″	8947A122	1.94
15/64″	2 7/16″	1″	8947A123	2.08
1/4″	2 1/2″	1″	8947A124	2.25
17/64″	2 5/8″	1″	8947A125	2.51
9/32″	2 11/16″	1.1″	8947A126	2.66
19/64″	2 3/4″	1.1″	8947A127	$3.01
5/16″	2 13/16″	1.2″	8947A128	3.11
21/64″	2 15/16″	1.2″	8947A129	3.40
11/32″	3″	1.2″	8947A131	3.77
23/64″	3 1/16″	1.2″	8947A132	4.31
3/8″	3 1/8″	1.3″	8947A133	4.55
25/64″	3 1/4″	1.3″	8947A134	5.24
13/32″	3 5/16″	1.3″	8947A135	5.47
27/64″	3 3/8″	1.4″	8947A136	5.92
7/16″	3 7/16″	1.4″	8947A137	6.02
29/64″	3 9/16″	1.4″	8947A138	7.01
15/32″	3 5/8″	1.4″	8947A139	7.54
31/64″	3 11/16″	1.5″	8947A141	7.93
1/2″	3 3/4″	1.5″	8947A142	8.08
33/64″	3 7/8″	1.6″	8947A217	$19.30
17/32″	3 7/8″	1.6″	8947A218	19.79
35/64″	4″	1.7″	8947A219	20.89
9/16″	4″	1.7″	8947A221	20.94
37/64″	4 1/8″	1.8″	8947A222	21.90
19/32″	4 1/8″	1.7″	8947A223	23.90
39/64″	4 1/4″	1.8″	8947A224	24.85
5/8″	4 1/4″	1.8″	8947A225	25.06
41/64″	4 1/2″	1.9″	8947A226	26.80
21/32″	4 1/2″	1.9″	8947A227	27.81
11/16″	4 5/8″	1.8″	8947A228	28.00
23/32″	4 3/4″	1.9″	8947A229	31.36
3/4″	5″	2″	8947A231	33.45
13/16″	5 1/4″	2.2″	8947A232	38.96
7/8″	5 1/2″	2.2″	8947A233	44.96
57/64″	5 5/8″	2.3″	8947A234	46.25
1″	6″	2.5″	8947A235	58.09

Wire Gauge Size—135° Point Angle

To Order: Please specify exact size within the range listed.

Drill Bit Size Range	O'all Lg.	Pkg. Qty.	Black Oxide	Each ♦	Long-Life TiN Coated	Each ♦
60-56	1 3/8″	12	2896A826	$1.36		
55-53	1 5/8″	12	2896A825	1.36		
52-48	1 11/16″	12	2896A824	1.42	3584A24	$3.47
47-42	1 3/4″	12	2896A823	1.42	3584A23	3.45
41-36	1 13/16″	12	2896A822	1.42	3584A22	3.33
35-31	1 7/8″	12	2896A821	1.42	3584A21	3.47
30-28	1 15/16″	12	2896A819	1.42	3584A19	4.14
27-25	2 1/16″	12	2896A818	1.57	3584A18	3.82
24-23	2 1/16″	12	2896A817	$1.59	3584A17	$3.82
22-21	2 1/8″	12	2896A816	1.57	3584A16	3.82
20-18	2 1/8″	12	2896A815	1.67	3584A15	4.11
17-13	2 3/16″	12	2896A814	1.91	3584A14	4.71
12-7	2 1/4″	12	2896A813	1.89	3584A13	4.81
6-3	2 3/8″	12	2896A812	2.33	3584A12	5.08
2-1	2 7/16″	12	2896A811	2.33	3584A11	5.24

♦ Prices are 15% lower when you order in full-package quantities.

Wire Gauge Size—118° Point Angle

To Order: Please specify exact size within the range listed.

Drill Bit Size Range	O'all Lg.	Pkg. Qty.	Uncoated (Bright Finish)	Each ♦	Long-Life TiN Coated	Each ♦
60-56	1 3/8″	12	8947A47	$1.32	29425A227	$2.40
55-53	1 5/8″	12	8947A46	1.33	29425A226	2.40
52-48	1 11/16″	12	8947A45	1.35	29425A224	2.09
47-42	1 3/4″	12	8947A44	1.35	29425A223	2.40
41-36	1 13/16″	12	8947A43	1.39	29425A222	2.40
35-31	1 7/8″	12	8947A42	1.39	29425A221	2.40
30-28	1 15/16″	12	8947A41	1.31	29425A219	2.76
27-25	2 1/16″	12	8947A39	1.36	29425A218	2.77
24-23	2 1/16″	12	8947A38	$1.39	29425A217	$2.81
22-21	2 1/8″	12	8947A37	1.41	29425A216	2.81
20-18	2 1/8″	12	8947A36	1.44	29425A215	3.30
17-13	2 3/16″	12	8947A35	1.62	29425A214	3.31
12-7	2 1/4″	12	8947A34	1.60	29425A213	3.31
6-3	2 3/8″	12	8947A33	1.89	29425A212	4.10
2-1	2 7/16″	12	8947A32	2.02	29425A211	4.21

♦ Prices are 15% lower when you order in full-package quantities.

(Continued on following page)

High-Speed Steel Short-Length Drill Bits *(Continued from previous page)*

Letter Size—135° Point Angle

Drill Bit Size	O'all Lg.	Drilling Depth	Pkg. Qty.	Black Oxide	Each ♦
A	2 7/16"	0.8"	12	2896A611	$2.73
B	2 1/2"	0.9"	12	2896A612	2.72
C	2 1/2"	0.9"	12	2896A613	2.73
D	2 1/2"	0.9"	12	2896A614	2.73
E	2 1/2"	0.9"	12	2896A615	2.89
F	2 5/8"	0.9"	12	2896A616	2.97
G	2 5/8"	0.9"	12	2896A617	3.17
H	2 11/16"	1"	12	2896A618	3.17
I	2 11/16"	1"	12	2896A619	3.17
J	2 11/16"	0.9"	12	2896A621	$3.45
K	2 11/16"	0.9"	12	2896A622	3.70
L	2 3/4"	1"	12	2896A623	3.70
M	2 3/4"	1"	12	2896A624	4.02
N	2 13/16"	1"	12	2896A625	4.02
O	2 15/16"	1.1"	6	2896A626	4.07
P	2 15/16"	1"	6	2896A627	4.53
Q	3"	1"	6	2896A628	4.53
R	3"	1"	6	2896A629	4.57
S	3 1/16"	1.1"	6	2896A631	$5.24
T	3 1/16"	1"	6	2896A632	6.04
U	3 1/8"	1.1"	6	2896A633	6.04
V	3 1/4"	1.1"	6	2896A634	6.48
W	3 1/4"	1.1"	6	2896A635	6.78
X	3 5/16"	1.1"	6	2896A636	7.90
Y	3 5/16"	1.1"	6	2896A637	9.35
Z	3 3/8"	1.2"	6	2896A638	9.35

♦ Prices are 15% lower when you order in full-package quantities.

Metric Size—135° Point Angle

Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm	Pkg. Qty.	Black Oxide	Each ♦
1	26	3.9	10	28255A11★	$1.96
1.3	30	5.4	10	28255A13★	1.80
1.5	32	5.9	10	28255A15★	1.65
2	38	8	10	28255A17★	1.63
2.4	43	9.1	10	28255A19★	1.79
2.5	43	9	10	28255A21★	1.63
3	46	9.9	10	28255A23	1.63
3.2	49	11.6	10	28255A25	1.41
3.3	49	11.4	10	28255A26	1.41
3.4	52	13.1	10	28255A27	$1.52
3.5	52	12.9	10	28255A31	1.61
4	55	13.9	10	28255A33	2.09
4.2	55	13.5	10	28255A35	1.79
4.5	58	14.9	10	28255A37	2.11
5	62	15.9	10	28255A39	2.19
5.5	66	17	10	28255A41	2.60
6	66	16	10	28255A43	2.93
6.5	70	18	10	28255A45	3.45
6.8	74	20.4	10	28255A47	$3.84
7	74	19.9	10	28255A49	3.50
7.5	74	18.9	10	28255A51	3.67
8	79	20.9	10	28255A53	4.89
8.5	79	20	10	28255A55	5.67
9	84	22	10	28255A57	6.60
10	89	22.9	5	28255A61	7.96
11	95	24.9	5	28255A63	9.03
12	102	27	5	28255A65	11.52

♦ Prices are 15% lower when you order in full-package quantities. ★ Has a 118° point angle.

Fractional, Wire Gauge, and Letter Size Drill Bit Sets

Uncoated (bright finish) bits have a 118° point angle. ***Black-oxide*** and ***TiN-coated*** bits have a 135° point angle.

Drill Bit Size Range	No. of Pieces	Uncoated (Bright Finish)	Per Set	Black Oxide	Per Set	TiN Coated	Per Set
1/16"-1/2" (increments of 1/32")	15			2927A27	$68.62		
1/16"-1/2" (increments of 1/64")	29	2953A82	$121.76	2927A31	122.24	3076A48	$193.07
Wire Gauge Nos. 60-1	60	2953A85	115.71	2927A34	128.50	3076A51	171.79
A-Z	26	2953A88	146.31				

Super Duty Carbide Short-Length Drill Bits



More wear resistant than high-speed steel with a shorter length for better rigidity and shallower drilling than jobbers' bits. Also known as screw-machine and stub-length drill bits, all have a split point that keeps the bit centered without a pilot hole. They require rigid toolholding to prevent breakage and should not be used in hand-held drilling applications. ***Uncoated (bright finish)*** bits are for use on aluminum, copper, and soft plastic. ***Long-life TiN (titanium nitride) coated*** bits last longer than uncoated bits. For use on steel, stainless steel, cast iron, aluminum, copper, nickel alloys, and titanium. ***Super-life TiAlN (titanium aluminum nitride) coated*** bits last longer than TiN-coated bits. For use on most metals such as steel, stainless steel, cast iron, aluminum, copper, nickel alloys, and titanium.

Fractional Size, Uncoated (Bright Finish)—118° Point Angle

Drill Bit Size	O'all Lg.	Drilling Depth		Each
1/8"	2"	0.5"	2956A43	$12.93
9/64"	2"	0.5"	2956A79	14.95
11/64"	2 1/2"	0.6"	2956A64	17.67
3/16"	2 1/2"	0.6"	2956A45	19.30
13/64"	2 1/2"	0.6"	2956A65	21.75
7/32"	2 1/2"	0.8"	2956A46	22.94
15/64"	2 1/2"	0.8"	2956A66	24.02
1/4"	2 1/2"	0.8"	2956A47	$25.21
17/64"	2 1/2"	0.8"	2956A67	26.96
9/32"	2 1/2"	0.8"	2956A48	28.48
5/16"	2 3/4"	1"	2956A49	35.44
21/64"	2 3/4"	1"	2956A69	38.25
11/32"	3"	1"	2956A51	41.10
23/64"	3"	1"	2956A71	44.40
3/8"	3"	1"	2956A52	$44.95
25/64"	3"	1"	2956A72	49.46
13/32"	3"	1"	2956A53	54.56
27/64"	3"	1"	2956A73	57.39
7/16"	3"	1"	2956A54	60.87
29/64"	3"	1"	2956A74	65.65
1/2"	3"	1"	2956A56	71.74

Fractional Size, Coated—118° Point Angle

Drill Bit Size	O'all Lg.	Drilling Depth	Long-Life TiN Coated	Each	Super-Life TiAlN Coated	Each
1/8"	2"	0.5"	27515A11	$14.18	8879A21	$15.60
9/64"	2"	0.5"	27515A24	16.56	8879A22	18.21
5/32"	2 1/2"	0.6"			8879A23	20.65
11/64"	2 1/2"	0.6"	27515A12	20.26	8879A24	22.29
3/16"	2 1/2"	0.6"	27515A13	21.74	8879A25	23.92
13/64"	2 1/2"	0.6"	27515A14	25.45	8879A26	28.00
7/32"	2 1/2"	0.8"	27515A15	26.54	8879A27	29.19
1/4"	2 1/2"	0.8"	27515A17	$28.61	8879A29	$31.48
9/32"	2 1/2"	0.8"	27515A18	32.80	8879A31	36.08
5/16"	2 3/4"	1"	27515A19	39.14	8879A32	43.04
3/8"	3"	1"	27515A21	48.27	8879A34	53.09
7/16"	3"	1"	27515A22	64.98		
1/2"	3"	1"	27515A23	75.09	8879A42	82.60

Ultra Duty Carbide Short-Length Drill Bits



Stronger than our Super Duty Carbide Short-Length Drill Bits, these are for use on hard steel with a Rockwell hardness up to C65 as well as titanium, nickel alloys, stainless steel, and cast iron. All have a long-life TiN (titanium nitride) coating and a 140° point angle with a split point that keeps the bit centered without a pilot hole. They require rigid toolholding to prevent breakage and should not be used in hand-held drilling operations.

Drill Bit Size	O'all Lg.	Drilling Depth		Each
1/8"	2 1/16"	0.4"	88915A21	$40.16
No. 29	2 1/16"	0.4"	88915A362	44.83
9/64"	2 5/32"	0.4"	88915A22	41.77
5/32"	2 7/32"	0.5"	88915A23	41.77
No. 21	2 7/32"	0.5"	88915A353	48.74
3/16"	2 3/8"	0.6"	88915A25	45.17
No. 7	2 7/16"	0.6"	88915A337	$48.01
13/64"	2 7/16"	0.6"	88915A26	45.17
7/32"	2 1/2"	0.7"	88915A27	48.25
15/64"	2 17/32"	0.7"	88915A28	48.25
1/4"	2 19/32"	0.8"	88915A29	51.83
F	2 19/32"	0.8"	88915A216	52.95
17/64"	2 5/8"	0.8"	88915A31	$57.67
9/32"	2 11/16"	0.8"	88915A32	61.33
5/16"	2 13/16"	0.9"	88915A34	69.50
3/8"	3 1/4"	1.1"	88915A38	96.68
7/16"	3 1/2"	1.3"	88915A43	127.58

For information about drill bits and decimal equivalents, see pages 2444-2445.

Heat-Resistant Cobalt Steel Short-Length Drill Bits



A combination of cobalt steel and a short overall length keeps these bits sharp at high temperatures while providing rigidity for drilling straight, shallow holes. Also known as stub-length and screw-machine length bits. For use on alloy and tool steels, stainless steel, nickel alloys, and hard plastic. All have a 135° point angle that produces small chips to reduce clogging. They also have a split point that keeps the bit centered without a pilot hole, except 28765A886 and A885, which do not have a split point. ***Long-life TiN (titanium nitride) coated*** bits last longer than uncoated (bright finish) bits.

Fractional Size—Uncoated (Bright Finish)

Drill Bit Size	O'all Lg.	Drilling Depth		Each
1/16"	1 5/8"	0.5"	28765A11	$1.56
5/64"	1 11/16"	0.6"	28765A12	1.58
3/32"	1 3/4"	0.6"	28765A13	1.65
7/64"	1 13/16"	0.6"	28765A14	1.77
1/8"	1 7/8"	0.7"	28765A15	2.07
9/64"	1 15/16"	0.7"	28765A16	2.13
5/32"	2 1/16"	0.8"	28765A17	2.26
11/64"	2 1/8"	0.8"	28765A18	2.46
3/16"	2 3/16"	0.8"	28765A19	2.80
13/64"	2 1/4"	0.9"	28765A21	3.24
7/32"	2 3/8"	0.9"	28765A22	3.39
15/64"	2 7/16"	1"	28765A23	3.72
1/4"	2 1/2"	1"	28765A24	3.98
17/64"	2 5/8"	1"	28765A25	4.40
9/32"	2 11/16"	1.1"	28765A26	4.71
19/64"	2 3/4"	1.1"	28765A27	$5.67
5/16"	2 13/16"	1.2"	28765A28	5.86
21/64"	2 15/16"	1.2"	28765A29	6.77
11/32"	3"	1.2"	28765A31	7.04
23/64"	3 1/16"	1.2"	28765A32	8.22
3/8"	3 1/8"	1.3"	28765A33	8.21
25/64"	3 1/4"	1.3"	28765A34	9.42
13/32"	3 5/16"	1.3"	28765A35	9.57
27/64"	3 3/8"	1.4"	28765A36	10.64
7/16"	3 7/16"	1.4"	28765A37	10.84
29/64"	3 9/16"	1.4"	28765A38	11.98
15/32"	3 5/8"	1.4"	28765A39	12.36
31/64"	3 11/16"	1.5"	28765A41	13.41
1/2"	3 3/4"	1.5"	28765A42	13.57

Fractional Size—Long-Life TiN Coated

Drill Bit Size	O'all Lg.	Drilling Depth		Each
1/16"	1 5/8"	0.5"	2416A11	$3.71
5/64"	1 11/16"	0.6"	2416A12	3.88
3/32"	1 3/4"	0.6"	2416A13	3.97
7/64"	1 13/16"	0.6"	2416A14	4.23
1/8"	1 7/8"	0.7"	2416A15	4.64
9/64"	1 15/16"	0.7"	2416A16	4.78
5/32"	2 1/16"	0.8"	2416A17	4.89
11/64"	2 1/8"	0.8"	2416A18	5.24
3/16"	2 3/16"	0.8"	2416A19	6.15
13/64"	2 1/4"	0.9"	2416A21	6.89
7/32"	2 3/8"	0.9"	2416A22	7.36
15/64"	2 7/16"	1"	2416A23	7.82
1/4"	2 1/2"	1"	2416A24	8.24
17/64"	2 5/8"	1"	2416A25	9.40
9/32"	2 11/16"	1.1"	2416A26	9.96
19/64"	2 3/4"	1.1"	2416A27	$12.36
5/16"	2 13/16"	1.2"	2416A28	12.82
21/64"	2 15/16"	1.2"	2416A29	14.29
11/32"	3"	1.2"	2416A31	15.13
23/64"	3 1/16"	1.2"	2416A32	16.78
3/8"	3 1/8"	1.3"	2416A33	16.31
25/64"	3 1/4"	1.3"	2416A34	19.69
13/32"	3 5/16"	1.3"	2416A35	20.08
27/64"	3 3/8"	1.4"	2416A36	22.09
7/16"	3 7/16"	1.4"	2416A37	22.40
29/64"	3 9/16"	1.4"	2416A38	23.76
15/32"	3 5/8"	1.4"	2416A39	24.13
31/64"	3 11/16"	1.5"	2416A41	24.84
1/2"	3 3/4"	1.5"	2416A42	25.02

Wire Gauge Size—Uncoated (Bright Finish)

To Order: Please specify exact size within the range listed.

Drill Bit Size Range		Each
60-56	28765A886	$1.82
55-53	28765A885	1.75
52-48	28765A884	1.75
47-42	28765A883	1.75
41-36	28765A882	1.98
35-31	28765A881	$2.14
30-28	28765A879	2.22
27-25	28765A878	2.40
24-23	28765A877	2.60
22-21	28765A876	2.60
20-18	28765A875	$2.75
17-13	28765A874	3.16
12-7	28765A873	3.23
6-3	28765A872	4.41
2-1	28765A871	4.26

Letter Size—Uncoated (Bright Finish)

Drill Bit Size	O'all Lg.	Drilling Depth		Each
A	2 7/16"	1"	28765A841	$4.25
B	2 1/2"	1"	28765A842	4.29
C	2 1/2"	1"	28765A843	4.36
D	2 1/2"	1"	28765A844	4.42
E	2 1/2"	1"	28765A845	3.98
F	2 5/8"	1.1"	28765A846	4.60
G	2 5/8"	1"	28765A847	4.77
H	2 11/16"	1"	28765A848	4.97
I	2 11/16"	1.1"	28765A849	5.04
J	2 11/16"	1.1"	28765A85	5.12
K	2 11/16"	1.1"	28765A851	5.28
L	2 3/4"	1.1"	28765A852	5.96
M	2 3/4"	1.1"	28765A853	6.08
N	2 13/16"	1.2"	28765A854	$6.55
O	2 15/16"	1.2"	28765A855	7.14
P	2 15/16"	1.2"	28765A856	7.29
Q	3"	1.2"	28765A857	7.64
R	3"	1.2"	28765A858	7.77
S	3 1/16"	1.2"	28765A859	9.19
T	3 1/16"	1.2"	28765A86	9.32
U	3 1/8"	1.3"	28765A861	9.37
V	3 1/4"	1.3"	28765A862	10.17
W	3 1/4"	1.3"	28765A863	10.83
X	3 5/16"	1.3"	28765A864	11.32
Y	3 5/16"	1.3"	28765A865	11.34
Z	3 3/8"	1.4"	28765A866	12.22

Fractional, Wire Gauge, and Letter Size Drill Bit Sets—Uncoated (Bright Finish)

All sets come in a metal case.

Drill Bit Size Range	No. of Pieces		Per Set
1/16"-1/2" (increments of 1/64")	29	3148A68	$209.29
1/16"-1/2" (increments of 1/32")	15	3148A62	113.65
Wire Gauge Nos. 60-1	60	3148A72	$152.82
A-Z	26	3148A76	225.77

Extended-Reach Drill Bits



Reach recessed locations and drill deep holes—these bits have longer flutes and a longer overall length than jobbers' length and maintenance-length bits.

High-Speed Steel—All have a 118° point angle. *Uncoated (bright finish)* bits are for use on steel, stainless steel, aluminum, copper, brass, and bronze. *Black-oxide* bits are for use on steel, cast iron, and plastic. *TiN (titanium nitride) coated* bits last longer than uncoated (bright finish) and black-oxide bits. For use on steel, cast iron, copper, brass, and bronze.

Cobalt Steel—All are uncoated (bright finish) and have a 135° point angle with a split point that keeps bits centered without a pilot hole. For use on steel, stainless steel, nickel alloys, and titanium.

Also Available: Carbide-tipped steel fractional sizes 1/8″ to 1″ with a 118° point angle (please ask for 29465A75 and specify size); cobalt steel wire gauge sizes 40 to 1 with a 135° point angle (please ask for 88555A91 and specify size); and uncoated (bright finish) high-speed steel metric sizes 1 to 16 mm with a 118° point angle (please ask for 3083A3 and specify size).

Fractional Size, Uncoated (Bright Finish) High-Speed Steel—118° Point Angle

Drill Bit Size	O'all Lg.	Drilling Depth		Each
1/8″	8″	5.8″	29515A61	$10.81
1/8″	12″	8.8″	2939A11	14.66
9/64″	12″	8.7″	2939A12	15.93
5/32″	8″	5.7″	29515A62	11.84
5/32″	12″	8.7″	2939A13	15.94
11/64″	12″	8.7″	2939A14	16.53
3/16″	8″	5.6″	29515A63	12.21
3/16″	12″	8.6″	2939A15	16.53
13/64″	12″	8.6″	2939A16	17.77
7/32″	8″	5.6″	29515A64	13.26
7/32″	12″	8.6″	2939A17	17.77
15/64″	12″	8.5″	2939A18	18.14
1/4″	8″	5.5″	29515A65	13.60
1/4″	12″	8.5″	2939A19	18.47
1/4″	18″	12.5″	2955A15	34.02
17/64″	12″	8.5″	2939A21	19.55
17/64″	18″	12.5″	2955A16	38.79
9/32″	8″	5.4″	29515A66	14.29
9/32″	12″	8.4″	2939A22	$19.20
9/32″	18″	12.4″	2955A17	37.45
19/64″	12″	8.4″	2939A23	20.24
5/16″	8″	5.4″	29515A67	14.66
5/16″	12″	8.4″	2939A24	19.84
5/16″	18″	12.4″	2955A19	36.41
21/64″	12″	8.3″	2939A25	21.13
21/64″	18″	12.3″	2955A21	41.09
11/32″	8″	5.3″	29515A68	15.45
11/32″	12″	8.3″	2939A26	20.79
11/32″	18″	12.3″	2955A22	39.67
23/64″	12″	8.3″	2939A27	21.70
23/64″	18″	12.3″	2955A23	44.80
3/8″	8″	5.3″	29515A69	15.73
3/8″	12″	8.3″	2939A28	21.32
3/8″	18″	12.3″	2955A24	38.55
25/64″	12″	8.2″	2939A29	24.42
25/64″	18″	12.2″	2955A25	44.54
13/32″	8″	5.2″	29515A71	$17.80
13/32″	12″	8.2″	2939A31	23.98
13/32″	18″	12.2″	2955A26	42.95
27/64″	12″	8.2″	2939A32	25.82
27/64″	18″	12.2″	2955A27	48.01
7/16″	8″	5.1″	29515A72	18.84
7/16″	12″	8.1″	2939A33	25.34
7/16″	18″	12.1″	2955A28	45.02
29/64″	12″	8.1″	2939A34	28.32
15/32″	8″	5.1″	29515A73	21.05
15/32″	12″	8.1″	2939A35	27.86
31/64″	12″	8″	2939A36	29.46
31/64″	18″	12″	2955A32	57.25
1/2″	8″	5″	29515A74	21.20
1/2″	12″	8″	2939A37	28.41
1/2″	18″	12″	2955A33	53.63

Fractional Size, Black-Oxide High-Speed Steel—118° Point Angle

Drill Bit Size	O'all Lg.	Drilling Depth		Each
3/64″	2 1/4″	1.1″	29315A115	$3.17
1/16″	3″	1.7″	29315A116	3.24
5/64″	3 3/4″	1.9″	29315A117	3.62
3/32″	4 1/4″	2.1″	29315A118	4.19
7/64″	4 5/8″	2.3″	29315A119	4.89
7/64″	8″	5.3″	29515A41	14.04
1/8″	5 1/8″	2.6″	29315A121	4.92
9/64″	5 3/8″	2.8″	29315A122	5.13
9/64″	8″	5.3″	29515A42	13.73
5/32″	5 3/8″	2.8″	29315A123	5.38
11/64″	5 3/4″	3.1″	29315A124	5.57
11/64″	8″	5.2″	29515A43	13.93
3/16″	5 3/4″	3.1″	29315A125	5.42
3/16″	18″	12″	2955A11	25.80
13/64″	6″	3.3″	29315A126	6.28
13/64″	18″	12″	2955A12	25.80
7/32″	6″	3.3″	29315A131	6.35
7/32″	18″	12″	2955A13	25.80
15/64″	6 1/8″	3.4″	29315A132	6.90
15/64″	8″	5.1″	29515A44	15.40
1/4″	6 1/8″	3.4″	29315A133	6.93
17/64″	6 1/4″	3.5″	29315A134	7.86
17/64″	8″	5.1″	29515A45	14.94
9/32″	6 1/4″	3.5″	29315A135	8.06
19/64″	6 3/8″	3.6″	29315A136	8.40
19/64″	8″	5.1″	29515A46	16.90
5/16″	6 3/8″	3.5″	29315A141	8.64
21/64″	6 1/2″	3.6″	29315A142	9.85
21/64″	8″	5″	29515A47	17.75
11/32″	6 1/2″	3.6″	29315A143	$9.92
23/64″	6 3/4″	3.7″	29315A144	11.53
23/64″	8″	5″	29515A48	18.17
3/8″	6 3/4″	3.7″	29315A145	11.63
25/64″	7″	3.8″	29315A146	13.39
25/64″	8″	4.9″	29515A49	19.72
13/32″	7″	3.8″	29315A147	13.62
27/64″	7 1/4″	4″	29315A148	14.40
7/16″	7 1/4″	4″	29315A153	14.52
29/64″	7 1/2″	4.1″	29315A154	16.37
15/32″	7 1/2″	4″	29315A155	16.97
31/64″	7 3/4″	4″	29315A156	17.97
1/2″	7 3/4″	4″	29315A161	18.04
33/64″	8″	4″	29315A162	25.25
33/64″	12″	8″	2939A38	36.68
33/64″	18″	12″	2955A34	68.04
17/32″	8″	4″	29315A163	25.25
17/32″	12″	7.9″	2939A39	35.40
17/32″	18″	11.9″	2955A35	65.64
35/64″	8 1/4″	4.1″	29315A164	28.06
9/16″	8 1/4″	4″	29315A165	28.05
9/16″	12″	7.9″	2939A42	35.40
9/16″	18″	11.9″	2955A37	66.66
37/64″	8 3/4″	4″	29315A166	31.77
37/64″	12″	7.8″	2939A43	39.43
19/32″	8 3/4″	4″	29315A167	33.07
19/32″	12″	7.8″	2939A44	38.00
39/64″	8 3/4″	4″	29315A168	33.25
39/64″	12″	7.8″	2939A45	41.41
5/8″	8 3/4″	3.9″	29315A173	$33.62
5/8″	12″	7.8″	2939A46	39.95
5/8″	18″	11.8″	2955A42	72.43
41/64″	9″	4.2″	29315A174	36.96
21/32″	9″	4.1″	29315A175	36.97
21/32″	12″	7.7″	2939A48	44.23
43/64″	9 1/4″	4.4″	29315A176	42.73
11/16″	9 1/4″	4.3″	29315A181	42.73
11/16″	12″	7.6″	2939A51	46.81
11/16″	18″	11.6″	2955A44	85.73
45/64″	9 1/2″	4.6″	29315A182	44.62
23/32″	9 1/2″	4.5″	29315A183	44.62
23/32″	12″	7.6″	2939A53	50.68
47/64″	9 3/4″	4.8″	29315A184	43.96
3/4″	9 3/4″	4.8″	29315A185	43.96
3/4″	12″	7.5″	2939A55	52.66
3/4″	18″	11.5″	2955A46	99.36
49/64″	9 7/8″	4.9″	29315A186	45.87
25/32″	9 7/8″	4.8″	29315A187	46.72
25/32″	18″	11.4″	2955A47	110.84
13/16″	10″	4.9″	29315A189	52.49
13/16″	18″	11.4″	2955A48	115.04
7/8″	10″	4.8″	29315A212	55.61
7/8″	18″	11.3″	2955A49	118.70
29/32″	10″	4.8″	29315A214	63.50
1″	11″	4.9″	29315A225	78.97
1″	18″	11″	2955A52	132.34

Fractional Size, Long-Life TiN-Coated High-Speed Steel—118° Point Angle

Drill Bit Size	O'all Lg.	Drilling Depth		Each
1/8″	5 1/8″	2.5″	28965A731	$8.21
9/64″	5 3/8″	2.7″	28965A732	11.17
5/32″	5 3/8″	2.7″	28965A733	11.18
11/64″	5 3/4″	3″	28965A734	11.17
3/16″	5 3/4″	3″	28965A735	11.18
13/64″	6″	3.2″	28965A736	12.40
7/32″	6″	3.2″	28965A737	$12.40
15/64″	6 1/8″	3.3″	28965A738	12.40
1/4″	6 1/8″	3.3″	28965A739	12.40
17/64″	6 1/4″	3.3″	28965A741	16.56
9/32″	6 1/4″	3.3″	28965A742	16.56
19/64″	6 3/8″	3.4″	28965A743	$16.68
5/16″	6 3/8″	3.4″	28965A744	16.68
3/8″	6 3/4″	3.5″	28965A748	23.28
7/16″	7 1/4″	3.8″	28965A753	27.35
1/2″	7 3/4″	3.8″	28965A757	31.83

(Continued on following page)

Extended-Reach Drill Bits *(Continued from previous page)*



Reach recessed locations and drill deep holes—these bits have longer flutes and a longer overall length than jobbers' length and maintenance-length bits.

High-Speed Steel— All have a 118° point angle. *Uncoated (bright finish)* bits are for use on steel, stainless steel, aluminum, copper, brass, and bronze. *Black-oxide* bits are for use on steel, cast iron, and plastic. *TiN (titanium nitride) coated* bits last longer than uncoated (bright finish) and black-oxide bits. For use on steel, cast iron, copper, brass, and bronze.

Cobalt Steel— All are uncoated (bright finish) and have a 135° point angle with a split point that keeps bits centered without a pilot hole. For use on steel, stainless steel, nickel alloys, and titanium.

Also Available: Carbide-tipped steel fractional sizes 1/8″ to 1″ with a 118° point angle (please ask for 29465A75 and specify size); cobalt steel wire gauge sizes 40 to 1 with a 135° point angle (please ask for 88555A91 and specify size); and uncoated (bright finish) high-speed steel metric sizes 1 to 16 mm with a 118° point angle (please ask for 3083A3 and specify size).

Fractional Size, Uncoated (Bright Finish) Cobalt Steel—135° Point Angle

Drill Bit Size	O'all Lg.	Drilling Depth		Each
1/16″	3″	1.6″	3063A111	$5.69
5/64″	3 3/4″	1.8″	3063A112	6.64
3/32″	4 1/4″	2.1″	3063A113	7.78
3/32″	8″	5.5″	3168A11	26.47
7/64″	4 5/8″	2.3″	3063A114	10.02
1/8″	5 1/8″	2.5″	3063A115	9.79
1/8″	8″	5.5″	3168A12	21.31
1/8″	12″	9″	3168A31	27.07
9/64″	5 3/8″	2.7″	3063A116	11.98
5/32″	5 3/8″	2.7″	3063A117	12.11
5/32″	8″	5.5″	3168A13	23.27
11/64″	5 3/4″	3″	3063A118	12.11
3/16″	5 3/4″	3″	3063A119	11.90
3/16″	8″	5.5″	3168A14	23.69
3/16″	12″	9″	3168A32	30.64
13/64″	6″	3.2″	3063A121	14.00
7/32″	6″	3.2″	3063A122	13.76
15/64″	6 1/8″	3.3″	3063A123	$14.53
1/4″	6 1/8″	3.3″	3063A124	13.76
1/4″	8″	5.5″	3168A15	24.33
1/4″	12″	9″	3168A33	34.18
17/64″	6 1/4″	3.3″	3063A125	17.94
17/64″	8″	5.5″	3168A16	24.41
9/32″	6 1/4″	3.3″	3063A126	16.99
9/32″	8″	5.5″	3168A17	26.89
5/16″	6 3/8″	3.4″	3063A128	17.00
5/16″	8″	5.5″	3168A19	28.51
5/16″	12″	9″	3168A34	36.73
21/64″	6 1/2″	3.5″	3063A129	20.64
11/32″	6 1/2″	3.4″	3063A131	19.88
3/8″	6 3/4″	3.5″	3063A133	22.60
3/8″	8″	5.5″	3168A22	29.02
3/8″	12″	9″	3168A35	39.41
25/64″	7″	3.6″	3063A134	$25.31
7/16″	7 1/4″	3.8″	3063A137	26.47
7/16″	8″	5.5″	3168A25	41.03
7/16″	12″	9″	3168A36	46.93
1/2″	7 3/4″	3.8″	3063A142	32.56
1/2″	12″	9″	3168A37	52.65
17/32″	8″	3.7″	3063A144	42.99
9/16″	8 1/4″	3.8″	3063A146	46.45
9/16″	12″	9″	3168A38	65.58
5/8″	8 3/4″	3.6″	3063A151	54.64
5/8″	12″	9″	3168A39	74.02
21/32″	9″	3.8″	3063A153	60.02
11/16″	9 1/4″	4″	3063A155	70.17
11/16″	12″	9″	3168A42	86.76
3/4″	9 3/4″	4.4″	3063A159	81.45
1″	11″	4.4″	3063A177	145.75

Wire Gauge Size, Black-Oxide High-Speed Steel—118° Point Angle

To Order: Please specify exact size within the range listed.

Drill Bit Size Range	O'all Lg.	Drilling Depth		Each
80-76	1 1/2″	0.2″	3096A68	$5.45
75-72	1 1/2″	0.2″	3096A67	4.71
71-70	2″	0.7″	3096A66	4.66
69-66	2″	0.7″	3096A65	4.30
65-61	2″	0.7″	3096A64★	4.30
60-56	2 1/4″	1″	3096A33	4.39
55-53	3″	1.6″	3096A32	$4.39
52-48	3 3/4″	1.9″	3096A31	4.39
47-42	4 1/4″	2.1″	3096A29	5.45
41-39	4 5/8″	2.3″	3096A28	6.57
38-36	4 5/8″	2.4″	3096A27	7.01
35-31	5 1/8″	2.6″	3096A26	8.12
30-28	5 3/8″	2.8″	3096A25	$8.22
27-23	5 3/8″	2.7″	3096A24	8.22
22-13	5 3/4″	3.1″	3096A23	8.60
12-3	6″	3.3″	3096A22	9.28
2-1	6 1/8″	3.4″	3096A21	9.41

★ No. 61 is 2 1/4″ long and has a drilling depth of 1″.

Letter Size, Black-Oxide High-Speed Steel—118° Point Angle

To Order: Please specify exact size within the range listed.

Drill Bit Size Range	O'all Lg.	Drilling Depth		Each
A-E	6 1/8″	3.4″	3110A81	$10.95
F-K	6 1/4″	3.5″	3110A82	11.20
L-N	6 3/8″	3.5″	3110A83	$12.12
O-R	6 1/2″	3.6″	3110A84	12.71
S-U	6 3/4″	3.7″	3110A85	$16.19
V-Z	7″	3.8″	3110A86	17.02

Metric Size, Black-Oxide High-Speed Steel—118° Point Angle

Drill Bit Size, mm	O'all Lg., mm	Drilling Depth, mm		Each
1.5	160	96.9	88455A32●	$19.65
2.0	160	96	88455A34●	17.78
2.5	160	95	88455A36	15.15
3.0	160	94	88455A37	14.56
3.0	200	144	88455A57	27.36
3.3	160	93.4	88455A38	14.45
3.5	160	92.9	88455A39	13.93
4.0	160	91.9	88455A42	14.47
4.0	200	141.9	88455A62	$18.07
4.0	315	241.9	88455A72	42.85
5.0	160	89.9	88455A44	16.31
5.0	200	139.9	88455A64	20.42
5.0	315	239.9	88455A74	48.05
5.5	200	139	88455A65	21.58
6.0	200	138	88455A66	24.45
6.0	315	238	88455A76	38.71
6.5	200	136.9	88455A67	$25.89
6.5	315	236.9	88455A77	61.13
7.0	200	135.9	88455A68	27.36
7.5	200	134.9	88455A69	31.16
8.0	315	233.9	88455A81	52.95
10.0	315	229.9	88455A85	73.35
12.0	315	226	88455A88	97.82

● Have a bright finish.

Chip-Clearing High-Speed Steel Extended-Reach Drill Bits



Long, wide flutes and a long overall length allow you to drill deep holes in hard-to-reach areas without worrying about clogs. For use on steel, stainless steel, aluminum, and plastic. All are uncoated (bright finish) high-speed steel and have a 135° point angle with a split point that keeps the bit centered without a pilot hole.

Drill Bit Size	O'all Lg.	Drilling Depth		Each
1/8″	8″	5.8″	29745A31	$16.72
1/8″	12″	8.8″	29745A61	21.56
9/64″	8″	5.7″	29745A32	20.10
5/32″	8″	5.7″	29745A33	18.17
5/32″	12″	8.7″	29745A63	23.78
11/64″	8″	5.7″	29745A34	19.18
11/64″	12″	8.7″	29745A64	26.34
3/16″	8″	5.6″	29745A35	18.92
3/16″	12″	8.6″	29745A65	24.30
13/64″	8″	5.6″	29745A36	21.52
13/64″	12″	8.6″	29745A66	26.52
7/32″	8″	5.6″	29745A37	21.16
7/32″	12″	8.6″	29745A67	26.18
15/64″	8″	5.5″	29745A38	$23.14
1/4″	8″	5.5″	29745A39	21.94
1/4″	12″	8.5″	29745A69	27.10
17/64″	8″	5.5″	29745A41	25.00
17/64″	12″	8.5″	29745A71	37.13
9/32″	8″	5.4″	29745A42	23.80
9/32″	12″	8.4″	29745A72	32.87
5/16″	8″	5.4″	29745A44	24.58
5/16″	12″	8.4″	29745A74	33.52
21/64″	8″	5.3″	29745A45	31.18
21/64″	12″	8.3″	29745A75	40.12
11/32″	8″	5.3″	29745A46	29.60
11/32″	12″	8.3″	29745A76	38.70
23/64″	12″	8.3″	29745A77	$44.86
3/8″	8″	5.3″	29745A48	30.46
3/8″	12″	8.3″	29745A78	39.14
25/64″	8″	5.2″	29745A49	35.97
25/64″	12″	8.2″	29745A79	46.26
13/32″	12″	8.2″	29745A81	44.64
7/16″	8″	5.1″	29745A53	43.38
7/16″	12″	8.1″	29745A83	55.88
1/2″	8″	5″	29745A57	51.86
1/2″	12″	8″	29745A87	75.14

For information about drill bits and decimal equivalents, see pages 2444-2445.

Short-Flute Extended-Reach Drill Bits



A long overall length allows you to reach deep, inaccessible spots while a short flute maximizes rigidity for drilling straighter holes. All bits meet NAS 907 aerospace standards and have a 135° point angle with a split point that keeps the bit centered without a pilot hole (unless noted).

High-speed steel bits are for use on steel, stainless steel, and cast iron. They have a black-oxide treatment. ***Cobalt steel*** bits provide better heat and abrasion resistance than high-speed steel. For use on stainless steel, cast iron, and nickel alloys. They have a bright finish. ***Carbide-tipped*** bits provide better wear resistance when drilling materials such as cast iron, brass, bronze, hard plastic, fiberglass, and graphite.

High-Speed Steel

Drill Bit Size	Drilling Depth	Pkg. Qty.	6″ Length	Each ♦	12″ Length	Each ♦
3/64″	0.7″	12	2986A11 ♥	$7.48	2986A45 ♥	$12.53
1/16″	0.8″	12	2986A12	4.19	2986A46	11.01
5/64″	0.9″	12	2986A13	4.27	2986A47	11.40
3/32″	1.1″	12	2986A14	3.55	2986A48	11.51
7/64″	1.3″	12	2986A15	3.70	2986A49	11.97
1/8″	1.4″	12	2986A16	3.70	2986A51	9.42
9/64″	1.5″	12	2986A17	4.34	2986A52	9.73
5/32″	1.8″	12	2986A18	4.41	2986A53	9.74
11/64″	1.9″	12	2986A19	4.51	2986A54	10.75
3/16″	2″	12	2986A21	4.51	2986A55	10.75
13/64″	2.1″	12	2986A22	5.44	2986A56	12.10
7/32″	2.2″	12	2986A23	5.44	2986A57	12.10
15/64″	2.3″	12	2986A24	5.96	2986A58	12.83
1/4″	2.4″	12	2986A25	5.96	2986A59	12.83
17/64″	2.5″	12	2986A26	13.65	2986A61	16.27
9/32″	2.5″	12	2986A27	$13.85	2986A62	$16.33
19/64″	2.6″	6	2986A28	17.21	2986A63	18.37
5/16″	2.7″	6	2986A29	17.60	2986A64	18.67
21/64″	2.8″	6	2986A31	19.00	2986A65	21.27
11/32″	2.9″	6	2986A32	19.04	2986A66	21.48
23/64″	3″	6	2986A33	21.32	2986A67	23.01
3/8″	3.1″	6	2986A34	21.57	2986A68	23.51
25/64″	3.1″	6	2986A35	23.87	2986A69	26.31
13/32″	3.3″	6	2986A36	23.95	2986A71	26.44
27/64″	3.3″	6	2986A37	25.34	2986A72	27.87
7/16″	3.4″	6	2986A38	25.54	2986A73	28.08
29/64″	3.5″	6	2986A39	27.52	2986A74	31.79
15/32″	3.6″	6	2986A41	29.26	2986A75	33.85
31/64″	3.6″	6	2986A42	29.49	2986A76	34.23
1/2″	3.8″	6	2986A43	29.73	2986A77	34.55

♦ Prices are 15% lower when you order in full-package quantities. ♥ Does not have a split point.

Cobalt Steel

Drill Bit Size	Drilling Depth	6″ Length Pkg. Qty.	Each ♦	12″ Length Pkg. Qty.	Each ♦
1/16″	0.8″	12	8934A11	$5.84	12	8934A31	$15.69
5/64″	0.8″	12	8934A12	5.94	12	8934A32	15.69
3/32″	1.1″	12	8934A61	4.35	12	8934A62	13.39
7/64″	1.3″	12	8934A14	4.96	12	8934A34	14.46
1/8″	1.4″	12	8934A15	4.69	12	8934A35	13.46
9/64″	1.5″	12	8934A16	5.59	12	8934A36	15.69
5/32″	1.7″	12	8934A17	5.52	12	8934A37	14.30
11/64″	1.8″	12	8934A18	$6.14	12	8934A38	$15.54
3/16″	1.9″	12	8934A19	5.98	6	8934A39	15.14
13/64″	2″	12	8934A21	7.60	6	8934A41	19.79
7/32″	2.1″	12	8934A22	7.52	6	8934A42	17.85
15/64″	2.2″	12	8934A23	8.22	6	8934A43	19.11
1/4″	2.3″	12	8934A24	8.08	6	8934A44	18.20

♦ Prices are 15% lower when you order in full-package quantities.

Carbide Tipped

Drill Bit Size	Drilling Depth	Pkg. Qty.	6″ Length Each	12″ Length Each
1/8″	0.4″	1	2854A51	$13.40	2854A11	$14.59
9/64″	0.4″	1	2854A52	14.58	2854A34	15.83
5/32″	0.5″	1	2854A53	14.25	2854A12	15.50
3/16″	0.6″	1	2854A55	15.20	2854A14	16.58
13/64″	0.6″	1	2854A56	16.68	2854A15	18.08
7/32″	0.7″	1	2854A57	16.68	2854A16	18.08
1/4″	0.8″	1	2854A59	17.91	2854A18	19.50
17/64″	0.8″	1	2854A61	19.15	2854A19	20.75
9/32″	0.8″	1	2854A62	$19.15	2854A21	$20.92
5/16″	0.9″	1	2854A64	20.81	2854A23	22.50
21/64″	1″	1	2854A65	22.09	2854A24	24.00
3/8″	1.1″	1	2854A68	23.56	2854A27	25.50
25/64″	1.2″	1	2854A69	24.18	2854A28	26.34
27/64″	1.3″	1	2854A72	26.22	2854A31	28.50
7/16″	1.3″	1	2854A73	26.22	2854A32	28.50
1/2″	1.5″	1	2854A77	33.10	2854A33	35.92

Also Available: Wire gauge and letter sizes. Please specify exact size within the range listed.

Drill Bit Size Range	Material	O'all Lg.	
60-1	High-Speed Steel	6″	3161A96
60-1	High-Speed Steel	12″	3158A5
52-1	Cobalt Steel	6″	8952A4
32-1, A-Z	Carbide Tipped	12″	2854A41

High-Speed Steel Multi-Diameter Step Drill Bits



Each bit has cutting steps with progressively larger diameters for drilling a range of hole sizes in thin materials. All bits are high-speed steel and stay centered without a pilot hole, unless noted. ***Uncoated (bright finish)*** bits are for use on steel, aluminum, brass, bronze, and plastic. ***Long-Life TiN (titanium nitride) coated*** bits last longer than uncoated (bright finish) bits. They are for use on steel, stainless steel, nickel alloys, and titanium.

Individual Multi-Diameter Step Drill Bits

Drill Bit Size Range	Increments	No. of Sizes	Shank Dia.	Max. Material Thick.	Uncoated (Bright Finish)	Each	Long-Life TiN-Coated	Each
Fractional Size								
1/8″-1/2″	1/32″	13	1/4″	1/8″	8841A21	$19.07	89315A41	$25.48
3/16″-1/2″	1/16″	6	1/4″	1/4″	8841A22	19.07	89315A46	25.48
3/16″-7/8″	1/16″	12	3/8″	1/8″	8841A24	41.11	89315A42	54.81
1/4″-3/4″	1/16″	9	3/8″	1/8″	8841A23	34.43	89315A43	45.90
1/4″-1 3/8″	1/8″	10	7/16″	1/8″	8841A25	72.93	—	—
9/16″-1″	1/16″	8	7/16″	1/8″	8841A33■	39.37	89315A44■●	71.08
13/16″-1 3/8″	1/16″	10	7/16″	1/8″	8841A34■	80.80	89315A47■★	144.31
1/4″, 7/8″, 1 1/8″	—	3	3/8″	3/32″	—	—	89315A45	96.50
7/8″, 1 1/8″	—	2	7/16″	1/8″	8841A35	55.67	—	—
Metric Size								
4-12	1 mm	9	6.5 mm	5 mm	89275A11	19.91	89275A31	27.12
4-12	2 mm	5	6.5 mm	11 mm	89275A12	19.91	—	—
4-22	2 mm	10	10 mm	5 mm	89275A14	42.94	89275A34	57.80
5-35	2-3 mm	13	11.1 mm	4 mm	89275A15	76.18	89275A35	102.42
6-18	2 mm	7	10 mm	5 mm	89275A13	35.96	89275A33	48.90
14-24	2 mm	6	11.1 mm	5 mm	89275A16■	41.13	—	—
20-34	2 mm	8	11.1 mm	5 mm	89275A17■	84.39	—	—

■ Requires a pilot hole. ● Shank diameter is 3/8″. ★ Shank diameter is 1/2″.

Multi-Diameter Step Drill Bit Sets

Uncoated (Bright Finish)— Come in a fitted case. *Set with 1/8″-3/4″ bits* contains one drill bit in each of the following size ranges: 1/8″-1/2″, 3/16″-1/2″, and 1/4″-3/4″. *Set with 1/8″-13/8″ bits* contains one drill bit in each of the following size ranges: 1/8″-1/2″, 3/16″-1/2″, 3/16″-7/8″, and 13/16″-1 3/8″.

Long-Life TiN-Coated— Comes in a nylon pouch. Contains one drill bit in each of the following size ranges: 1/8″-1/2″, 3/16″-1/2″, and 1/4″-3/4″.

Drill Bit Size Range	No. of Bits	Per Set
Uncoated (Bright Finish)		
1/8″-3/4″	3	8841A32	$69.74
1/8″-1 3/8″	4	8841A36	157.17
Long-Life TiN Coated		
1/8″-3/4″	3	89315A48	91.06

Chamfering, Counterboring, and Countersinking Drill Bits



Style 1



Style 2



Style 3

With a point that matches the profile of common fasteners, these bits save time by chamfering, counterboring, or countersinking the hole as they drill. When you're done drilling, tap the hole and install your fastener. Each bit produces a range of hole diameters. They are uncoated (bright finish) high-speed steel with a 118° point angle. For use on carbon steel, alloy steel, and cast iron.

Styles 1 and 2— Also known as subland drill bits, these last longer than Style 3 bits because their diameters will not change, even after sharpening.

Style 1 is for drilling and chamfering holes (creating a beveled edge around the top of the hole) prior to tapping. The body has a large diameter and produces a 90° countersink angle that guides the tap. Percent of thread refers to the amount of thread engagement between interlocking threads. *Style 2* is for drilling and counterboring holes for socket head cap screws.

Style 3— Also known as step drill bits. Choose from bits for drilling and counterboring socket head cap screw holes and bits for drilling and countersinking 82° flat head machine screw holes. *Note:* After multiple sharpenings, the drill bit diameter may become smaller.

Style 1—Chamfering Bits

For Tap Size	% of Thread	Large Dia.	Small Dia.	Step Lg.	O'all Lg.		Each
6-32	78	0.156″	0.107″	5/16″	31/8″	29475A71	$45.59
8-32	69	0.188″	0.136″	3/8″	31/2″	29475A72	45.59
10-32	76	0.219″	0.159″	1/2″	33/4″	29475A74	47.06
1/4″-20	75	0.281″	0.201″	1/2″	41/4″	29475A75	47.06
1/4″-28	80	0.313″	0.213″	5/8″	41/2″	29475A76	47.06
5/16″-18	75	0.438″	0.257″	11/16″	51/2″	29475A77	$49.26
5/16″-24	75	0.375″	0.272″	11/16″	5″	29475A78	48.53
3/8″-16	77	0.438″	0.313″	3/4″	51/2″	29475A79	49.26
7/16″-14	75	0.5″	0.368″	3/4″	6″	29475A81	49.26

Style 2—Counterboring Bits

For Screw Size	Type of Fit♥	Large Dia.	Small Dia.	Step Lg.	O'all Lg.		Each
#6	B	0.234″	0.146″	5/16″	27/16″	29525A41	$40.00
#6	A	0.228″	0.141″	5/16″	37/8″	29525A42	40.00
#8	A	0.272″	0.164″	3/8″	211/16″	29525A44	40.71
#8	B	0.281″	0.175″	3/8″	41/4″	29525A47	41.43
#10	A	0.313″	0.19″	1/2″	213/16″	29525A48	40.00
#10	B	0.328″	0.206″	5/8″	45/8″	29525A49	41.43
#10	D	0.344″	0.206″	1/2″	43/4″	29525A51	42.86
1/4″	A	0.375″	0.25″	1/2″	5″	29525A53	47.26
1/4″	B	0.391″	0.266″	1/2″	51/8″	29525A54	$48.59
1/4″	C	0.406″	0.281″	1/2″	51/4″	29525A55	48.57
1/4″	D	0.406″	0.266″	1/2″	51/4″	29525A71	48.57
5/16″	A	0.469″	0.313″	5/8″	35/8″	29525A56	49.98
5/16″	C	0.5″	0.344″	5/8″	6″	29525A62	52.78
3/8″	B	0.578″	0.391″	3/4″	41/8″	29525A63	54.29
3/8″	C	0.594″	0.406″	3/4″	41/8″	29525A64	54.29

♥ A = exact. B = 1/64″ oversize head and body. C = 1/32″ oversize head and body. D = 1/32″ oversize head and 1/64″ oversize body.

Style 3—Counterboring Bits (For Socket Head Cap Screw Holes) and Countersinking Bits (For Flat Head Machine Screw Holes)

For Screw Size	Step Lg.	*For Socket Head Cap Screw Holes* Large Dia.	Small Dia.	O'all Lg.		Each	*For 82° Flat Head Machine Screw Holes* Large Dia.	Small Dia.	O'all Lg.		Each
#6	1/2″	0.25″	0.15″	4″	8914A31	$14.81	0.281″	0.142″	41/4″	8914A51	$15.24
#8	1/2″	0.29″	0.178″	41/4″	8914A32	16.95	0.332″	0.169″	43/4″	8914A52	19.05
#10	5/8″	0.332″	0.204″	43/4″	8914A33	18.54	0.386″	0.196″	51/8″	8914A53	20.64
1/4″	11/16″	0.406″	0.281″	51/4″	8914A34	21.41	0.5″	0.257″	6″	8914A54	25.79
5/16″	3/4″	0.5″	0.344″	6″	8914A35	27.74	0.625″	0.32″	71/8″	8914A55	38.51
3/8″	7/8″	0.594″	0.406″	71/8″	8914A36	41.66	0.75″	0.383″	5″	8914A56	52.37
7/16″	1″	0.688″	0.469″	75/8″	8914A38	50.34	0.813″	0.446″	51/4″	8914A58	59.51
1/2″	1″	0.781″	0.531″	97/8″	8914A37	80.71	0.875″	0.51″	51/2″	8914A57	70.39

1/4″ and 3/8″ Diameter Reduced-Shank Drill Bits



1/4″ Shank Diameter

When you need to drill a large hole, but your chuck only accepts 1/4″ or 3/8″ shank diameter bits, these bits come to the rescue. The shank diameter of these bits is smaller than the drill bit size. For use in steel, stainless steel, aluminum, brass, and plastic. Bits with a 135° point angle have a split point that keeps the bit centered without a pilot hole. ***1/4″ shank diameter*** bits are uncoated (bright finish) high-speed steel with black-oxide treated flutes. They are about 20% shorter than jobbers' bits, unless noted. ***3/8″ shank diameter*** bits are black-oxide high-speed steel for more wear resistance than uncoated (bright finish) bits. They are the same length as jobbers' bits. ***Drill bit sets*** come in a metal case. All are uncoated (bright finish) unless noted.

1/4″ Shank Diameter—118° Point Angle

Drill Bit Size	O'all Lg.		Each	Drill Bit Size	O'all Lg.		Each
17/64″	31/2″	3038A11	$4.81	27/64″	49/16″	3038A22	$8.66
9/32″	319/32″	3038A12	4.86	7/16″	411/16″	3038A23	8.22
5/16″	327/32″	3038A14	4.86	29/64″	425/32″	3038A24	12.39
3/8″	41/4″	3038A18	6.29	15/32″	47/8″	3038A25	9.80
25/64″	411/32″	3038A19	8.07	31/64″	5″	3038A26	12.86
13/32″	415/32″	3038A21	7.62	1/2″	5″	3038A27	9.80

3/8″ Shank Diameter—135° Point Angle

Drill Bit Size	O'all Lg.		Each	Drill Bit Size	O'all Lg.		Each
25/64″	51/8″	8773A51	$10.94	29/64″	55/8″	8773A55	$14.83
13/32″	51/4″	8773A52	10.97	15/32″	53/4″	8773A56	15.29
27/64″	53/8″	8773A53	12.51	31/64″	57/8″	8773A57	16.17
7/16″	51/2″	8773A54	12.66	1/2″	6″	8773A58	16.06

1/4″ Shank Diameter Drill Bit Sets—118° Point Angle

Size Range	Increments	No. of Pieces		Per Set
1/16″-1/2″	32nds	15	2969A12♠	$56.46
1/16″-1/2″	64ths	29	2969A14♠	113.71

3/8″ Shank Diameter Drill Bit Sets—118° Point Angle

Size Range	Increments	No. of Pieces		Per Set
1/16″-1/2″	32nds	15	3135A39	$49.92
1/16″-1/2″	64ths	29	3135A44	89.48

♠ Sizes 1/16″-1/4″ are jobbers' length. Sizes 17/64″-1/2″ have black-oxide flutes.

1/2″ Diameter Reduced-Shank TiN-Coated Cobalt Steel Drill Bits



Protect against heat and abrasion with these long-life TiN-coated cobalt steel drill bits. Also known as Silver and Deming bits, the 1/2″ dia. shank allows you to drill large holes using a tool or machine with a 1/2″ or 3/4″ chuck. The shank dia. is smaller than the drill bit size. All have a 118° angle with a split point that keeps the bit centered without a pilot hole. Drilling depth is 31/8″. For use on steel and cast iron.

Drill Bit Size	O'all Lg.		Each	Drill Bit Size	O'all Lg.		Each
17/32″	6″	3322A12	$35.69	25/32″	6″	3322A29	$64.25
9/16″	6″	3322A14	36.21	13/16″	6″	3322A32	64.80
19/32″	6″	3322A16	47.61	27/32″	6″	3322A34	70.11
5/8″	6″	3322A18	47.61	7/8″	6″	3322A36	70.13
21/32″	6″	3322A21	51.82	29/32″	6″	3322A38	76.87
11/16″	6″	3322A23	51.82	15/16″	6″	3322A41	77.82
23/32″	6″	3322A25	56.37	31/32″	6″	3322A43	88.85
3/4″	6″	3322A27	56.91	1″	6″	3322A45	89.25

For information about drill bits and decimal equivalents, see pages 2444-2445.

1/2" Diameter Reduced-Shank Drill Bits

Also known as Silver and Deming bits, these have a 1/2" diameter shank that allows you to drill large holes using a tool or machine with a 1/2" or 3/4" chuck. The shank diameter is smaller than the drill bit size. Overall length is 6" and drilling depth is 2.1". ***Slip-resistant shank*** bits have three flats to prevent the bit from slipping in the chuck.

135° Point Angle— A split point keeps the bit centered without a pilot hole. *Black-oxide high-speed steel* bits are for use on steel, cast iron, brass, bronze, and plastic. ***118° Point Angle—****Black-oxide high-speed steel* bits are for use on steel and cast iron. *Long-life TiN (titanium nitride) coated high-speed steel* bits last longer than black-oxide high-speed steel bits and are for use on steel, aluminum, brass, bronze, nickel alloys, and plastic. *Uncoated (bright finish) cobalt steel* bits perform better than high-speed steel bits on hard metals. They have a split point, which keeps the bit centered without a pilot hole. Use on carbon and alloy steel, stainless steel, ductile iron, nickel alloys, titanium, and fiberglass. *Carbide-tipped* bits resist wear better than high-speed steel and cobalt steel bits. Use on cast iron, brass, bronze, and plastic.



Round Shank, 118° Point Angle



Slip-Resistant Shank, 118° Point Angle

Fractional Size, Black-Oxide High-Speed Steel—135° Point Angle

Drill Bit Size	Slip-Resistant Shank	Each	Drill Bit Size	Slip-Resistant Shank	Each	Drill Bit Size	Slip-Resistant Shank	Each	Drill Bit Size	Slip-Resistant Shank	Each	Drill Bit Size	Slip-Resistant Shank	Each
33/64"	2905A11	$20.64	37/64"	2905A15	$23.62	5/8"	2905A18	$23.59	43/64"	2905A22	$27.44	23/32"	2905A25	$27.66
17/32"	2905A12	19.69	19/32"	2905A16	22.51	41/64"	2905A19	26.40	11/16"	2905A23	26.12	47/64"	2905A26	30.29
35/64"	2905A13	22.00	39/64"	2905A17	24.74	21/32"	2905A21	25.13	45/64"	2905A24	29.06	3/4"	2905A27	28.83
9/16"	2905A14	20.95												

Fractional Size, Black-Oxide High-Speed Steel—118° Point Angle

Drill Bit Size	Round Shank	Each	Slip-Resistant Shank	Each	Drill Bit Size	Round Shank	Each	Slip-Resistant Shank	Each	Drill Bit Size	Round Shank	Each	Slip-Resistant Shank	Each
1/2"	2933A23	$17.76			51/64"	2933A61	$36.44	29415A41	$39.83	13/32"	2933A77	$58.25	29415A62	$58.34
33/64"	2933A51	19.89	29415A21	$21.74	13/16"	2933A35	31.73	29415A42	34.67	17/64"	2933A69	62.46	29415A63	62.59
17/32"	2933A25	19.38	29415A22	21.12	53/64"	2933A62	37.71	29415A43	41.14	1 1/8"	2933A44	59.79	29415A64	62.19
35/64"	2933A52	21.15	29415A23	23.16	27/32"	2933A36	32.83	29415A44	35.89	19/64"	2933A78	63.83	29415A65	64.01
9/16"	2933A26	20.57	29415A24	22.54	55/64"	2933A63	39.10	29415A45	42.79	15/32"	2933A79	62.08	29415A66	62.24
37/64"	2933A53	22.68	29415A25	24.84	7/8"	2933A37	34.08	29415A46	37.29	1 11/64"	2933A81	68.52	29415A67	68.72
19/32"	2933A27	22.09	29415A26	24.14	57/64"	2933A64	40.81	29415A47	44.68	1 3/16"	2933A45	65.58	29415A68	68.27
39/64"	2933A54	23.76	29415A27	26.03	29/32"	2933A39	35.63	29415A48	38.88	1 13/64"	2933A82	73.75	29415A69	73.96
5/8"	2933A28	23.13	29415A28	25.32	59/64"	2933A65	43.68	29415A49	47.76	1 7/32"	2933A83	73.33	29415A71	73.50
41/64"	2933A55	25.42	29415A29	27.76	15/16"	2933A41	38.05	29415A51	41.62	1 15/64"	2933A84	75.35	29415A72	75.58
21/32"	2933A29	24.69	29415A31	27.00	61/64"	2933A66	46.17	29415A52	50.49	1 1/4"	2933A46	72.62	29415A73	73.52
43/64"	2933A56	26.41	29415A32	28.83	31/32"	2933A47	40.24	29415A53	43.96	1 9/32"	2933A85	84.83	29415A74	84.99
11/16"	2933A31	25.72	29415A33	28.07	63/64"	2933A67	51.39	29415A54	56.20	1 5/16"	2933A71	89.88	29415A77	98.24
45/64"	2933A57	26.76	29415A34	29.24	1"	2933A42	44.77	29415A55	48.95	1 11/32"	2933A86	97.54	29415A75	97.80
23/32"	2933A32	26.00	29415A35	28.41	1 1/64"	2933A68	61.58	29415A56	67.28	1 3/8"	2933A72	103.35	29415A82	112.96
47/64"	2933A58	29.11	29415A36	31.79	1 1/32"	2933A74	54.65	29415A57	59.70	1 13/32"	2933A87	120.29	29415A76	131.44
3/4"	2933A33	28.29	29415A37	30.92	1 3/64"	2933A75	56.15	29415A58	56.28	1 7/16"	2933A88	112.16	29415A78	124.24
49/64"	2933A59	31.07	29415A38	33.92	1 1/16"	2933A43	52.56	29415A59	54.72	1 15/32"	2933A89	132.25	29415A79	130.23
25/32"	2933A34	30.20	29415A39	33.03	1 5/64"	2933A76	58.05	29415A61	58.15	1 1/2"	2933A73	125.04	29415A91	136.66

Fractional Size, Long-Life TiN-Coated High-Speed Steel—118° Point Angle

Drill Bit Size	Round Shank	Each	Drill Bit Size	Round Shank	Each	Drill Bit Size	Round Shank	Each	Drill Bit Size	Round Shank	Each	Drill Bit Size	Round Shank	Each
17/32"	8512A23	$30.90	5/8"	8512A29	$35.82	3/4"	8512A38	$46.54	7/8"	8512A46	$51.94	1"	8512A55	$63.60
9/16"	8512A25	33.76	11/16"	8512A34	42.66	13/16"	8512A42	49.68	15/16"	8512A51	58.26			

Fractional Size, Uncoated (Bright Finish) Cobalt Steel—118° Point Angle

Drill Bit Size	Round Shank	Each	Drill Bit Size	Round Shank	Each	Drill Bit Size	Round Shank	Each	Drill Bit Size	Round Shank	Each	Drill Bit Size	Round Shank	Each
33/64"	8939A41	$37.87	5/8"	8939A12	$46.14	47/64"	8939A49	$55.32	53/64"	8939A53	$68.91	59/64"	8939A56	$77.47
17/32"	8939A42	38.34	41/64"	8939A46	49.74	3/4"	8939A14	55.32	27/32"	8939A24	70.47	15/16"	8939A17	77.47
35/64"	8939A43	38.34	21/32"	8939A21	51.26	49/64"	8939A51	63.40	55/64"	8939A54	69.14	61/64"	8939A57	86.56
9/16"	8939A11	38.75	43/64"	8939A47	50.67	25/32"	8939A23	63.40	7/8"	8939A16	67.14	31/32"	8939A26	86.56
37/64"	8939A44	46.69	11/16"	8939A13	50.67	51/64"	8939A52	63.95	57/64"	8939A55	76.70	63/64"	8939A58	86.56
19/32"	8939A19	47.83	45/64"	8939A48	54.78	13/16"	8939A15	63.95	29/32"	8939A25	76.70	1"	8939A18	86.56
39/64"	8939A45	46.14	23/32"	8939A22	54.78									

Fractional Size, Carbide Tipped—118° Point Angle

Drill Bit Size	Round Shank	Each	Drill Bit Size	Round Shank	Each	Drill Bit Size	Round Shank	Each	Drill Bit Size	Round Shank	Each	Drill Bit Size	Round Shank	Each
1/2"	8871A11	$40.96	21/32"	8871A16	$77.82	25/32"	8871A21	$96.95	29/32"	8871A25	$103.47	1 1/16"	8871A31	$115.55
17/32"	8871A12	59.95	11/16"	8871A17	80.86	13/16"	8871A22	97.14	15/16"	8871A26	104.53	1 1/8"	8871A33	120.62
9/16"	8871A13	62.12	23/32"	8871A18	83.91	27/32"	8871A23	97.14	1"	8871A28	110.38	1 1/4"	8871A37	142.89
5/8"	8871A15	71.78	3/4"	8871A19	87.92	7/8"	8871A24	101.05	1 1/32"	8871A29	106.56			

Metric Size, Black-Oxide High-Speed Steel—118° Point Angle

Drill Bit Size, mm	Round Shank	Each	Drill Bit Size, mm	Round Shank	Each
14	3091A31	$21.16	22	3091A48	$37.05
15	3091A33	22.76	24	3091A53	41.80
16	3091A35	25.08	26	3091A57	54.65
17	3091A37	26.78	27	3091A59	56.25
18	3091A39	28.28	28	3091A62	62.31
19	3091A42	30.27	29	3091A64	64.42
20	3091A44	31.96	30	3091A66	67.15
21	3091A46	33.96	31	3091A68	72.24

Fractional Size Drill Bit Sets

Size Range	Increments	Point Angle	No. of Pieces	Case Style		Per Set
Black-Oxide High-Speed Steel, Round Shank						
1/2"-1"	64ths	118°	33	Metal Stand	2933A97★	$987.64
17/32"-1"	32nds	118°	16	Wood Stand	2933A98	423.66
9/16"-1"	16ths	118°	8	Metal Case	2933A99	249.57
Black-Oxide High-Speed Steel, Slip-Resistant Shank						
1/2"-1"	64ths	118°	33	Metal Stand	29415A93■	870.97
17/32"-1"	32nds	118°	16	Wood Stand	29415A92■	459.49
9/16"-1"	16ths	118°	8	Metal Case	29415A94■	276.62
Long-Life TiN-Coated High-Speed Steel, Round Shank						
9/16"-1"	16ths	118°	8	Metal Stand	8512A62	414.92
Uncoated (Bright Finish) Cobalt Steel, Round Shank						
9/16"-1"	16ths	118°	8	Metal Case	8939A31■	428.51

★ Uncoated (bright finish) with black-oxide flutes. ■ Bits have a split point, which keeps the bit centered without a pilot hole.

Drill Bits

For information about drill bits and decimal equivalents, see pages 2444-2445.

Extended-Reach 1/2" Diameter Reduced-Shank Drill Bits



Drill deep, large holes using toolholders that accept a 1/2" diameter bit—the shank diameter on these bits is smaller than the drill bit size. For use on cast iron and steel. Drill bits are black-oxide high-speed steel with a 118° point angle. Overall length is 12" and drilling depth is 9".

Also Available: Bits with an 18" overall length and 12" drilling depth. Please ask for 2464A71 and specify size.

Drill Bit Size		Each	Drill Bit Size		Each	Drill Bit Size		Each	Drill Bit Size		Each	Drill Bit Size		Each
17/32"	2464A11	$38.56	39/64"	2464A15	$42.03	11/16"	2464A19	$49.33	3/4"	2464A24	$54.30	7/8"	2464A28	$71.07
9/16"	2464A12	38.56	5/8"	2464A16	44.08	45/64"	2464A21	52.52	49/64"	2464A25	58.27	59/64"	2464A29	75.52
37/64"	2464A13	40.78	41/64"	2464A17	47.37	23/32"	2464A22	52.52	25/32"	2464A26	58.27	15/16"	2464A31	75.52
19/32"	2464A14	40.78	21/32"	2464A18	47.37	47/64"	2464A23	54.30	13/16"	2464A27	61.67	1"	2464A32	86.85

Hole-Enlarging 1/2" Diameter Reduced-Shank Drill Bits



Enlarge an existing hole using your 1/2" capacity toolholder (unless noted) without altering the hole depth. These bits have four flutes for precise hole enlarging and a slip-resistant shank. All are tool steel with a black-and-gold-oxide treatment for use on steel, stainless steel, cast iron, nickel alloys, aluminum, brass, titanium, and plastic. Bit length is 4 5/16" and drilling depth is 1 3/4".

Drill Bit Size	Min. Starting Hole Size		Each
3/8"	1/4"	30455A61●	$20.61
1/2"	5/16"	30455A62	26.92
9/16"	3/8"	30455A63	35.07

● Shank dia. is 3/8".

Drill Bit Size	Min. Starting Hole Size		Each
5/8"	25/64"	30455A64	$39.12
11/16"	7/16"	30455A65	43.71
3/4"	15/32"	30455A66	47.66

8-Piece Hole-Enlarging Drill Bit Set—Includes hole-enlarging drill bit sizes 3/8", 1/2", 5/8", and 3/4". Also includes 1/4", 5/16", 25/64", and 15/32" hole-starting bits with a 135° point angle. Comes in a metal case.

30455A71 ..... **Per Set** $128.40

3/4" Diameter Reduced-Shank Drill Bits



Our largest drill bit sizes have a 3/4" shank diameter for use in your 3/4" capacity or larger toolholder. Overall length is 6" and drilling depth is 2.1".

High-speed steel bits are uncoated (bright finish) with black-oxide treated flutes and a 118° point angle. For use on steel, stainless steel, cast iron, aluminum, brass, and plastic. ***Cobalt steel*** bits stay sharp at the high temperatures generated when drilling stainless steel, nickel alloys, and titanium alloys. They are uncoated (bright finish) and have a 135° point angle with a split point that keeps the bit centered without a pilot hole.

Drill Bit Size	*High-Speed Steel*	Each	*Cobalt Steel*	Each
1"	8772A11	$58.60	8814A41	$75.63
1 1/32"	8772A31	70.09	8814A31	90.80
1 1/16"	8772A12	70.09	8814A42	90.80
1 3/32"	8772A32	74.67	———	———
1 1/8"	8772A13	78.18	8814A43	103.15
1 5/32"	8772A33	79.67	8814A33	113.22
1 3/16"	8772A14	87.44	8814A44	113.22
1 7/32"	8772A34	94.58	———	———
1 1/4"	8772A15	96.36	8814A45	125.28
1 9/32"	8772A35	108.40	———	———
1 5/16"	8772A16	112.69	8814A46	153.67
1 11/32"	8772A36	120.04	———	———

Drill Bit Size	*High-Speed Steel*	Each	*Cobalt Steel*	Each
1 3/8"	8772A17	$124.73	8814A47	$174.30
1 7/16"	8772A18	138.98	8814A48	191.73
1 15/32"	8772A38	144.73	———	———
1 1/2"	8772A19	148.84	8814A49	210.90
1 9/16"	8772A21	159.62	8814A54	228.60
1 5/8"	8772A22	177.49	———	———
1 11/16"	8772A39	203.58	———	———
1 3/4"	8772A24	205.82	8814A52	303.82
1 13/16"	8772A25	230.62	———	———
1 7/8"	8772A26	235.60	———	———
1 15/16"	8772A27	247.56	———	———
2"	8772A28	256.96	8814A53	382.12

Micro-Size Drill Bits

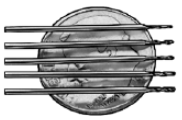

The smallest of our drill bit sizes, these bits are for drilling extremely small holes. They are uncoated (bright finish) steel.

High-speed steel bits are for use on steel, cast iron, aluminum, brass, and bronze. They have a 118° point angle. The shank diameter is the same as the drill bit size.

Cobalt steel bits maintain a sharp edge at the high temperatures generated when drilling stainless steel and titanium. Also for use on steel, aluminum, copper, brass, and plastic. They have a 120° point angle, except 8904A11-A14, which have a 118° point angle. These bits have a 0.0394" (1 mm) shank diameter.

High-Speed Steel

Drill Bit Size	O'all Lg.	Drilling Depth		Each	Drill Bit Size	O'all Lg.	Drilling Depth		Each	Drill Bit Size	O'all Lg.	Drilling Depth		Each
0.0059"	3/4"	0.06"	2951A11	$14.18	0.011"	3/4"	0.11"	2951A25	$6.84	0.0181"	7/8"	0.19"	2951A36	$3.38
0.0063"	3/4"	0.06"	2951A12	11.22	0.0114"	3/4"	0.09"	2951A26	6.84	0.0189"	7/8"	0.19"	2951A37	3.38
0.0067"	3/4"	0.06"	2951A13	11.22	0.0118"	3/4"	0.13"	2951A27	6.20	0.0197"	7/8"	0.19"	2951A38	3.38
0.0071"	3/4"	0.08"	2951A14	10.20	0.0126"	3/4"	0.13"	2951A28	6.20	0.0217"	1"	0.25"	2951A42	3.38
0.0075"	3/4"	0.06"	2951A15	10.20	0.0134"	3/4"	0.13"	2951A29	6.20	0.0236"	1 1/8"	0.31"	2951A43	3.38
0.0079"	3/4"	0.08"	2951A16	8.44	0.0138"	3/4"	0.19"	2951A39	3.38	0.0256"	1 1/4"	0.38"	2951A44	3.38
0.0083"	3/4"	0.08"	2951A17	8.44	0.0142"	3/4"	0.19"	2951A31	3.91	0.0276"	1 1/4"	0.38"	2951A45	3.09
0.0087"	3/4"	0.08"	2951A18	8.44	0.015"	3/4"	0.19"	2951A32	3.91	0.0295"	1 3/8"	0.5"	2951A46	2.80
0.0091"	3/4"	0.09"	2951A19	8.44	0.0157"	3/4"	0.19"	2951A33	3.76	0.0315"	1 3/8"	0.5"	2951A47	2.80
0.0094"	3/4"	0.08"	2951A21	8.44	0.0165"	7/8"	0.19"	2951A34	3.38	0.0335"	1 1/2"	0.63"	2951A48	2.80
0.0098"	3/4"	0.09"	2951A22	6.84	0.0173"	7/8"	0.19"	2951A35	3.38	0.0354"	1 1/2"	0.63"	2951A49	2.80
0.0102"	3/4"	0.09"	2951A23	6.84	0.0177"	7/8"	0.19"	2951A41	3.38	0.0374"	1 1/2"	0.63"	2951A51	2.80
0.0106"	3/4"	0.09"	2951A24	6.84										

Cobalt Steel

Drill Bit Size	O'all Lg.	Drilling Depth		Each	Drill Bit Size	O'all Lg.	Drilling Depth		Each	Drill Bit Size	O'all Lg.	Drilling Depth		Each
0.002"	63/64"	0.01"	8904A11	$19.85	0.0059"	63/64"	0.04"	8904A22	$15.00	0.0118"	63/64"	0.09"	8904A38	$10.13
0.0024"	63/64"	0.01"	8904A12	19.85	0.0071"	63/64"	0.06"	8904A25	15.00	0.0126"	63/64"	0.11"	8904A41	10.13
0.0028"	63/64"	0.01"	8904A13	19.47	0.0075"	63/64"	0.06"	8904A26	15.00	0.013"	63/64"	0.11"	8904A42	10.13
0.0032"	63/64"	0.02"	8904A14	19.22	0.0079"	63/64"	0.07"	8904A27	10.13	0.0142"	63/64"	0.11"	8904A45	10.13
0.0039"	63/64"	0.03"	8904A16	15.00	0.0087"	63/64"	0.07"	8904A29	10.13	0.015"	63/64"	0.11"	8904A47	10.13
0.0043"	63/64"	0.03"	8904A17	15.00	0.0098"	63/64"	0.09"	8904A33	10.13	0.0181"	63/64"	0.14"	8904A56	10.13
0.0047"	63/64"	0.03"	8904A18	15.00	0.0102"	63/64"	0.09"	8904A34	10.13	0.0189"	63/64"	0.14"	8904A58	10.13
0.0051"	63/64"	0.04"	8904A19	15.00	0.0106"	63/64"	0.09"	8904A35	10.13	0.0197"	63/64"	0.14"	8904A61	9.12
0.0055"	63/64"	0.04"	8904A21	15.00	0.011"	63/64"	0.09"	8904A36	10.13					

For information about drill bits and decimal equivalents, see pages 2444-2445.

Carbide Small-Diameter Drill Bits with 1/8" Shank



A 1/8" shank diameter allows for fast changes between small drill bit sizes—eliminating the need for different collets to hold each bit size. All bits are made of uncoated (bright finish) solid carbide for use on steel, stainless steel, aluminum, brass, fiberglass, and plastic. They have a 130° point angle.

Fractional Size

Drill Bit Size	O'all Lg.	Drilling Depth		Each
1/64"	1 1/2"	0.27"	2841A91	$6.95
1/32"	1 1/2"	0.39"	2841A92	4.51
3/64"	1 1/2"	0.39"	2841A93	4.51
1/16"	1 1/2"	0.41"	2841A94	4.51
5/64"	1 1/2"	0.41"	2841A95	5.60
3/32"	1 1/2"	0.41"	2841A96	5.60
7/64"	1 1/2"	0.41"	2841A97	5.60
1/8"	1 1/2"	0.41"	2841A98	5.60

Wire Gauge Size

To Order: Please specify exact size within the range listed.

Drill Bit Size Range	O'all Lg.	Drilling Depth		Each
80-79	1 1/2"	0.27"	2841A25	$6.95
78-77	1 1/2"	0.27"	2841A28	6.28
76-71	1 1/2"	0.33"	2841A24	4.98
70-56	1 1/2"	0.39"	2841A27	4.51
55-52	1 1/2"	0.41"	2841A29	4.51
55-31	1 1/2"	0.41"	2841A21	5.60

Taper-Shank Drill Bits



The Morse taper shank on these bits fits directly into the tapered spindle hole of machines such as drill presses as well as Morse taper size adapters (also known as sleeves and sockets; see Morse Taper Adapters on page 2443). ***Black-oxide high-speed steel*** bits have a 118° point angle. For use on steel, cast iron, and plastic. ***Cobalt steel*** bits offer more heat resistance than high-speed steel. They are uncoated (bright finish) and have a 135° point angle with a split point that stays centered without a pilot hole.

Also Available: Black-oxide high-speed steel metric size bits with a 118° point angle. Please ask for 3070A41 and specify size.

Black-Oxide High-Speed Steel—118° Point Angle

Drill Bit Size	Morse Taper No.	O'all Lg.	Drilling Depth		Each
3/16"	1	5 3/4"	2.2"	2929A325	$12.96
13/64"	1	6"	2.4"	2929A331	13.89
1/4"	1	6 1/8"	2.5"	2929A334	14.22
17/64"	1	6 1/4"	2.6"	2929A335	14.80
9/32"	1	6 1/4"	2.6"	2929A336	14.80
5/16"	1	6 3/8"	2.7"	2929A343	15.33
3/8"	1	6 3/4"	2.9"	2929A352	21.38
13/32"	1	7"	3"	2929A354	21.91
27/64"	1	7 1/4"	3.2"	2929A359	23.89
7/16"	1	7 1/4"	3.2"	2929A361	23.89
29/64"	1	7 1/2"	3.4"	2929A362	26.45
31/64"	2	8 1/4"	3.6"	2929A364	27.05
1/2"	2	8 1/4"	3.6"	2929A365	27.24
33/64"	2	8 1/2"	3.9"	2929A368	27.84
17/32"	2	8 1/2"	3.8"	2929A372	27.33
35/64"	2	8 3/4"	4.1"	2929A373	29.40
9/16"	2	8 3/4"	4"	2929A374	30.07
37/64"	2	8 3/4"	4"	2929A375	32.07
19/32"	2	8 3/4"	4"	2929A381	32.38
39/64"	2	8 3/4"	4"	2929A382	33.02
5/8"	2	8 3/4"	3.9"	2929A383	33.07
41/64"	2	9"	4.2"	2929A384	$35.07
21/32"	2	9"	4.1"	2929A385	35.07
43/64"	2	9 1/4"	4.4"	2929A386	36.19
11/16"	2	9 1/4"	4.3"	2929A392	36.64
45/64"	2	9 1/2"	4.6"	2929A393	39.07
23/32"	2	9 1/2"	4.5"	2929A394	39.19
47/64"	2	9 3/4"	4.8"	2929A395	43.24
3/4"	2	9 3/4"	4.8"	2929A411	43.81
49/64"	2	9 7/8"	4.9"	2929A412	47.48
25/32"	2	9 7/8"	4.8"	2929A413	48.79
51/64"	3	10 3/4"	4.9"	2929A414	50.74
13/16"	3	10 3/4"	4.9"	2929A415	50.79
53/64"	3	10 3/4"	4.9"	2929A416	54.41
27/32"	3	10 3/4"	4.9"	2929A422	54.53
55/64"	3	10 3/4"	4.8"	2929A423	56.03
7/8"	2	10"	4.8"	2929A511	75.33
7/8"	3	10 3/4"	4.8"	2929A424	56.79
29/32"	3	10 3/4"	4.8"	2929A426	59.97
59/64"	3	10 3/4"	4.7"	2929A427	60.60
15/16"	3	10 3/4"	4.7"	2929A433	61.34
31/32"	3	11"	4.9"	2929A435	64.34
63/64"	3	11"	4.9"	2929A436	$65.02
1"	3	11"	4.9"	2929A442	65.90
1 1/64"	3	11 1/8"	5"	2929A443	74.52
1 1/32"	3	11 1/8"	5"	2929A444	74.69
1 1/16"	3	11 1/4"	5"	2929A446	78.00
1 1/8"	3	11 3/4"	5.4"	2929A512	119.12
1 1/8"	4	12 3/4"	5.4"	2929A451	93.41
1 3/16"	4	13"	5.6"	2929A456	102.22
1 1/4"	3	12 1/2"	6"	2929A514	135.91
1 1/4"	4	13 1/2"	6"	2929A461	113.69
1 5/16"	4	14 1/4"	6.7"	2929A463	162.67
1 11/32"	4	14 3/8"	6.7"	2929A464	169.12
1 3/8"	4	14 1/2"	6.8"	2929A465	172.16
1 7/16"	4	14 3/4"	7"	2929A467	182.84
1 1/2"	4	15"	7.1"	2929A469	202.50
1 9/16"	5	16 5/8"	7.3"	2929A612	255.53
1 3/4"	4	16 1/4"	7.8"	2929A516	382.90
1 3/4"	5	17 1/8"	7.5"	2929A618	309.95
1 7/8"	5	17 3/8"	7.6"	2929A623	373.53
2"	4	16 5/8"	7.6"	2929A517	452.72
2"	5	17 3/8"	7.4"	2929A627	422.47

Cobalt Steel—135° Point Angle

Drill Bit Size	Morse Taper No.	O'all Lg.	Drilling Depth		Each
1/4"	1	6 1/8"	2.9"	3068A11	$16.33
3/8"	2	7 3/8"	3.5"	3068A15	25.84
1/2"	2	8 1/4"	4.4"	3068A19	33.04
17/32"	2	8 1/2"	4.6"	3068A21	38.87
9/16"	2	8 3/4"	4.9"	3068A22	40.50
5/8"	2	8 3/4"	4.9"	3068A24	46.29
41/64"	2	9"	3.8"	3068A64	$71.42
21/32"	3	9 3/4"	5.1"	3068A25	52.31
11/16"	3	10"	5.4"	3068A26	57.13
3/4"	3	10 1/2"	5.9"	3068A28	66.31
13/16"	3	10 3/4"	6.1"	3068A31	71.81
7/8"	3	10 3/4"	6.1"	3068A32	$83.77
15/16"	3	10 3/4"	6.1"	3068A33	98.56
1"	3	11"	6.4"	3068A34	112.63
1 1/16"	4	12 1/4"	6.6"	3068A35	143.38
1 1/4"	4	13 1/2"	8.6"	3068A38	202.37

High-Speed Steel Hex-Shank Drill Bits



Slide these high-speed steel bits into your power screwdriver and other holders and drivers that accept a 1/4" hex shank. All bits have a titanium treatment and a 130° point angle, except sizes 1/16" and 3/32", which have a black-oxide treatment and a 118° point angle. For use on steel, cast iron, aluminum, brass, copper, and plastic, unless noted.

Drill Bit Size	O'all Lg.	Drilling Depth		Each
1/16"	2 1/4"	0.18"	29305A11 ♠	$4.06
3/32"	2 7/16"	0.28"	29305A12 ♠	4.08
1/8"	2 5/8"	0.97"	29305A13	4.15
5/32"	2 13/16"	1.2"	29305A14	4.46
3/16"	3"	1.3"	29305A15	$5.15
7/32"	3 1/8"	1.4"	29305A16	5.95
1/4"	3 3/16"	1.5"	29305A17	7.13
5/16"	4"	2"	29305A41	10.78
3/8"	4"	2"	29305A42	$14.18
7/16"	4"	2"	29305A43	18.96
1/2"	4"	2"	29305A44	22.04

♠ Not rated for use with impact drivers. For use on steel and wood only.

7-Piece Drill Bit Set—Includes two each of size 1/8" and one each of sizes 5/32", 3/16", 7/32", 1/4", and 5/16".

29305A61 ..... **Per Set** $34.71

Cases and Stands for Drill Bits

Organize your individual drill bits in these compact cases and stands. They have one hole for each bit size listed. Holes are marked with the size and decimal equivalent, unless noted. All are made of steel, except 2961A61, which is made of high-impact plastic and is waterproof.



Combination Case for Jobbers' Drill Bits



Case for Jobbers' Drill Bits 2961A61



Case for Jobbers' Drill Bits 2961A12



Stand for Jobbers' and Extended-Reach Drill Bits

Holds Drill Bit Sizes	No. of Holes	Overall Size, Lg. × Wd. × Ht.		Each
Combination Cases for Jobbers' Drill Bits				
Fractional Size/Wire Gauge Size/Letter Size				
1/16", 5/64", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8", 27/64", 7/16", 1/2", Nos. 29, 25, 21, 7, F, U	19	7" × 4" × 1 1/4"	2961A43●	$6.95
1/16"-1/2" (increments of 1/64"), Nos. 60-1, A-Z	115	13 1/2" × 4 5/8" × 2 1/4"	2798A12	36.10
1/16"-1/2" (increments of 1/64"), Nos. 80-1, A-Z	135	13 1/2" × 4 5/8" × 2 1/4"	2798A13	41.55
Fractional Size/Wire Gauge Size/Metric Size				
1/16"-1/2" (increments of 1/64"), Nos. 80-1, 1-13 mm (increments of 0.5 mm)	134	13 1/2" × 4 5/8" × 2 1/4"	2798A14	43.30
Cases for Jobbers' Drill Bits				
Fractional Size				
1/64"-1/4" (increments of 1/64")	16	5 3/8" × 4" × 5/16"	2961A27	9.77
1/16"-1/4" (increments of 1/64")	13	5 3/8" × 4" × 5/16"	2961A33	3.72
1/16"-1/2" (increments of 1/64")	29	3" Dia. × 6 5/8" Ht.	2961A61	11.89
1/16"-1/2" (increments of 1/64")	29	7" × 4" × 1 3/4"	2961A11	7.10
1/16"-1/2" (increments of 1/32")	15	7" × 4" × 1 1/4"	2961A22	6.87
1/16"-3/8" (increments of 1/64")	21	6" × 4" × 1 1/8"	2961A12	6.07
Wire Gauge Size				
Nos. 80-61	20	2" × 1 1/2" × 9/32"	2961A17	3.96
Nos. 60-1	60	4 1/2" × 3 1/4" × 1"	2961A16	6.63
Nos. 80-1	80	4 1/2" × 3 1/4" × 15/16"	2961A21	18.58
Letter Size				
A-Z	26	7" × 4" × 1 3/4"	2961A19	7.43
Metric Size				
1-5.9 mm (increments of 0.1mm)	50	4 1/2" × 3 1/4" × 1"	2961A31	9.70
1-7 mm (increments of 0.5 mm)	13	5 1/2" × 4" × 1/2"	2961A28	4.62
1-10 mm (increments of 0.5 mm)	19	6" × 4" × 1 1/8"	2961A29	6.95
1-13 mm (increments of 0.5 mm)	25	7" × 4" × 1 3/4"	2961A25	8.08
6-10 mm (increments of 0.1 mm)	41	7 1/8" × 4 1/2" × 2 1/2"	2961A32	20.20
Case for Extended-Reach Drill Bits (overall length less than 8")				
1/16"-1/2" (increments of 1/64")	29	8 3/4" × 4" × 1 3/4"	2961A34	17.23
Case for 1/2" Reduced-Shank Diameter Drill Bits				
9/16"-1" (increments of 1/16")	8	8 1/2" × 6 1/4" × 2"	2961A35●	19.39
Stands for Jobbers' and Extended-Reach Drill Bits				
Fractional Size				
1/16"-1/2" (increments of 1/64")	29	5 5/8" × 2 5/8" × 1 1/2"	2793A12	8.57
Letter Size				
A-Z	26	5 5/8" × 2 5/8" × 1 1/2"	2793A18	8.80
Stand for Jobbers' and Short-Length Drill Bits				
1/2"-1" (increments of 1/64")	33	13" × 5" × 2 3/4"	2793A24	42.00
Stand for 1/2" Reduced-Shank Diameter Drill Bits				
1/2"-1" (increments of 1/64")	33	13" × 5" × 2 3/4"	2793A27	40.47

●Decimal equivalents are not indicated.

Drawer Cabinets for Drill Bits

Keep multiple drill bits of each size in order. Drill bit sizes and decimal equivalents are permanently marked on the drawers, unless noted. All cabinets are made of steel. ***Combination cabinets*** have a built-in lock with two keys. The bottom drawer is undivided for general storage. Stack up to three high. ***Standard cabinets*** can be stacked up to three high. *Fractional size 1/2" reduced-shank diameter drill bit cabinets* hold two of each drill bit size. ***Undermount cabinets*** mount underneath a workbench or shelf with 1/4" screws (not included). They have a built-in lock with two keys.



Combination Cabinet



Undermount Cabinet

Holds Drill Bit Sizes	No. of Drawers	No. of Compartments	Overall Size, Lg. × Wd. × Ht.		Each
Combination Cabinets					
Fractional Size/Letter Size/Wire Gauge Size					
1/16"-1/2" (increments of 1/64"), A-Z, Nos. 60-1	4	159	26" × 12" × 12 1/2"	8922A31	$508.85
Metric Size					
0.35-2.5 mm (increments of 0.05 mm), 2.6-10 mm (increments of 0.1 mm), 10.2, 10.5, 10.8, 11, 11.2, 11.5, 11.8, 12, 12.2, 12.5, 13 mm	4	138	26" × 12" × 12 1/2"	8922A44●	508.85
Standard Cabinets					
Fractional Size					
1/16"-1/2" (increments of 1/64")	3	29	14 5/8" × 7 3/8" × 7 3/4"	2962A1	88.78
Letter Size					
A-Z	3	28	14 5/8" × 7 3/8" × 7 3/4"	2962A3	87.82
Wire Gauge Size					
Nos. 60-1	5	60	14 5/8" × 7 3/8" × 7 3/4"	2962A2	108.82
Nos. 80-1	5	84	14 5/8" × 7 3/8" × 7 3/4"	2962A8	112.64
Metric Size					
1-13 mm (increments of 0.5 mm)	3	29	14 5/8" × 7 3/8" × 7 3/4"	2962A4	91.64
1-6.9 mm (increments of 0.1 mm)	5	60	14 5/8" × 7 3/8" × 7 3/4"	2962A5	110.73
Fractional Size 1/2" Reduced-Shank Diameter Drill Bits					
33/64"-63/64" (increments of 1/64")	5	60	14 5/8" × 7 3/8" × 7 3/4"	2755A31	151.45
1", 1 1/32", 1 1/16", 1 1/8", 1 5/32", 1 3/16", 1 1/4", 1 5/16", 1 3/8", 1 7/16", and 1 1/2"	3	23	14 5/8" × 7 3/8" × 7 3/4"	2755A32	99.47
Undermount Cabinets					
Fractional Size					
1/16"-1/2" (increments of 1/64")	1	42	26 1/8" × 12 1/2" × 4 1/2"	2786A11	156.55
Letter Size					
A-Z	1	42	26 1/8" × 12 1/2" × 4 1/2"	2786A12	160.36
Wire Gauge Size					
Nos. 60-1	1	75	26 1/8" × 12 1/2" × 4 1/2"	2786A13	156.55
Open Storage					
No Dividers	1	1	26 1/8" × 12 1/2" × 4 1/2"	2786A14	129.97

●Decimal equivalents are not indicated.

For information about drill bits and decimal equivalents, see pages 2444-2445.

Threaded-Shank Drill Bits

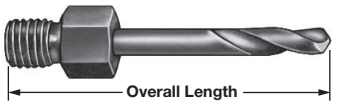

All bits have a 1/4″-28 threaded shank and 135° point angle with a split point that keeps the bit centered without a pilot hole. Bits are black-oxide high-speed steel. Use on steel, stainless steel, cast iron, aluminum, brass, and bronze. Meet NAS (National Aerospace Standard) 965, Type B.

Drill Bit Size	Short O'all Lg.		Medium O'all Lg.		Long O'all Lg.		Each
Fractional Size							
3/32″	3/4″	8824A62	1 1/4″	8824A47	2 3/8″	8824A33	$5.40
7/64″	3/4″	8824A26	1 1/4″	8824A25	2 3/8″	8824A24	10.48
1/8″	3/4″	8824A64	1 1/4″	8824A49	2 3/8″	8824A35	5.06
9/64″	13/16″	8824A29	___	___	2 3/8″	8824A27	11.17
5/32″	13/16″	8824A67	1 1/2″	8824A53	2 3/8″	8824A38	5.38
11/64″	13/16″	8824A76	1 1/2″	8824A75	2 3/8″	8824A74	11.90
3/16″	13/16″	8824A71	1 1/2″	8824A56	2 3/8″	8824A42	5.60
13/64″	___	___	1 1/2″	8824A88	2 3/8″	8824A87	11.54
7/32″	7/8″	8824A93	1 1/2″	8824A92	___	___	6.65
1/4″	7/8″	8824A73	1 1/2″	8824A58	2 3/8″	8824A44	5.73
Wire Gauge Size							
40	3/4″	8824A63	1 1/4″	8824A48	2 3/8″	8824A34	4.04
30	13/16″	8824A65	1 1/2″	8824A51	2 3/8″	8824A36	4.33
27	13/16″	8824A66	1 1/2″	8824A52	2 3/8″	8824A37	5.04
21	13/16″	8824A68	1 1/2″	8824A54	2 3/8″	8824A39	4.96
20	13/16″	8824A69	1 1/2″	8824A55	2 3/8″	8824A41	5.02
13	13/16″	8824A79	1 1/2″	8824A78	2 3/8″	8824A77	5.33
12	13/16″	8824A83	1 1/2″	8824A82	___	___	6.17
11	13/16″	8824A86	1 1/2″	8824A85	___	___	5.25
10	13/16″	8824A72	1 1/2″	8824A57	2 3/8″	8824A43	5.23

Diamond-Core Drill Bits for Masonry





Diamond particles attached to the hollow steel barrel provide fast cutting. Use for wet drilling of concrete and masonry as well as light to moderate amounts of steel reinforcing bar (rebar). Bits are 15 1/2″ long and have a drilling depth of 13″. Bit ID is approximately 1/4″ less than the OD. *Note:* Not suitable for dry drilling. Not for use with portable electric drills or grinders.

1″-1 1/2″ bits have 5/8″-11 threaded hubs. Add an optional thread adapter (sold separately) and use in drilling rigs (see 3165A31 on this page). *1 3/4″ and larger bits* have 1 1/4″-7 threaded hubs.

Bit OD		Each	Bit OD		Each
1″	2872A51	$113.40	3″	2872A57★	$173.68
1 1/8″	2872A29	116.40	3 1/2″	2872A37	226.13
1 1/4″	2872A52	119.40	4″	2872A58	261.33
1 3/8″	2872A31	124.80	4 1/2″	2872A59	322.13
1 1/2″	2872A53	127.80	5″	2872A61	342.40
1 3/4″	2872A54	135.60	6″	2872A62	371.52
2″	2872A55★	119.28	7″	2872A43	521.76
2 1/4″	2872A34	166.80	8″	2872A63	540.96
2 1/2″	2872A56	180.00	10″	2872A22	664.80
2 3/4″	2872A35	199.20	12″	2872A23	761.28

★ Overall length is 16 1/2″ and drilling depth is 14″.

Optional thread adapter lets you use core drill bits with 5/8″-11 threaded hubs on drilling rigs that have a 1 1/4″-7 threaded spindle. Overall length, including threads, is 5 3/8″.

2872A99 ..... **Each** $101.25

Hollow Drill Bits for Paper and Fabric



Razor-sharp cutting edges quickly cut through paper, fabric, and other soft materials. All bits are steel and have a 11/16″ shank diameter and a 3 1/8″ overall length.

These are standard Style A bits for use with Casco, Challenge, Climax, Lassco, Ottawa, and Super Speed paper-drilling machines.

Drill Bit Size	Max. Material Thickness		Each
1/8″	1″	3164A21	$32.82
3/16″	1 3/4″	3164A23	32.82
1/4″	2″	3164A25	32.82
5/16″	2″	3164A27	32.82
3/8″	2″	3164A29	32.82
7/16″	2″	3164A31	35.41
1/2″	2″	3164A33	32.82

Drill Press Diamond-Core Drill Bits for Glass and Nonmetallic Materials

Hard, abrasive nonmetallic materials such as glass, alumina, quartz, ruby, and silica are no match for these bits. An adapter (sold separately below) is required for use. Bits are 2″ long with a 1/4″ of 100-grit diamonds.

Recommended operating speed is 1,800-2,400 rpm for OD sizes up to 1/2″ and 1,250-1,800 rpm for OD sizes 9/16″-1 1/4″. Recommended coolant is plain water.

Also Available: Other sizes from 9/64″ to 5″ OD. Please ask for 2868A999 and specify bit OD.

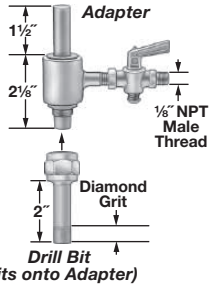

Bit Size OD	ID		Each
3/32″	0.043″	2868A46	$135.04
1/8″	0.075″	2868A21	84.49
5/32″	0.106″	2868A22	79.76
3/16″	0.137″	2868A23	81.85
7/32″	0.169″	2868A27	84.05
1/4″	0.200″	2868A24	85.92
9/32″	0.231″	2868A28	88.34
5/16″	0.262″	2868A29	89.58
3/8″	0.325″	2868A25	95.32
7/16″	0.387″	2868A33	101.86
1/2″	0.446″	2868A26	105.93
9/16″	0.504″	2868A18	110.95
5/8″	0.562″	2868A35	116.37
3/4″	0.692″	2868A36	127.54
7/8″	0.817″	2868A38	139.05
1″	0.940″	2868A37	150.88
1 1/4″	1.190″	2868A39	194.71

Adapters— Required to connect the core drill bits above to a drill press. Attach the threaded nut on the bit to the adapter. Adapter is equipped with a water swivel.

Shank Dia.		Each
3/8″	2868A12	$142.81
1/2″	2868A11	142.81

Milwaukee Diamond-Core Drilling Rig

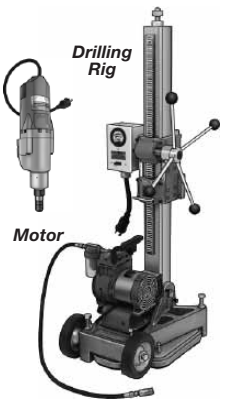

Roll this portable drill to where you need it and cut holes up to 10″ diameter in masonry, reinforced concrete, tile, marble, and natural stone. Drilling rig and motor are sold separately.

Drilling Rig— Has a rack-and-pinion feed mechanism and feed wheel that mounts on either side of the column. The column is 43 1/2″ high and it can be set at any angle up to 45° for 28″ of smooth and precise drill alignment. The base is cast aluminum and has two rubber wheels and a mounting slot to secure it to the floor or wall.

Rig includes a bubble level and vacuum base. The 1/3 hp, 115 VAC vacuum base provides 1,800 lbs. of holding force. Power cord is 6-ft. long with a three-prong plug. Rig also has a 360° adjustable, 30 amp, 120 VAC meter box that indicates proper drilling pressure and speed. Power cord for meter box is 9” long with a NEMA L5-20P twist-lock plug. Overall height is 47”; weight is 106 lbs. For drill bits, see 2872A on this page.

Motor— Has triple gear reduction and a clutch to protect against overload. A built-in water swivel and adapter accepts a standard water hose and water control valve. Spindle thread size is 1 1/4″-7. Comes with a 2-ft. long power cord with NEMA L5-20P twist-lock plug. Operates on 120 VAC, 60 Hz, 20 amps. No load rpm is 450/900. Weight is 24 lbs.

Optional Spacer Assembly— Increases core bit OD capacity from 10″ to 14″.

		Each
Drilling Rig (Milwaukee No. 4136)	3165A31	$1,765.00
Motor (Milwaukee No. 4096)	3165A32	812.50
Optional Spacer Assembly	3165A33	89.00

About Masonry Drill Bits

Bits have alloy steel bodies with carbide tips that can be resharpened. Bits are made to ANSI standards (where applicable).

Hammer Drilling Bits

Also called percussion or impact bits, these bits drill holes using simultaneous rotary and hammering action to break masonry materials, such as concrete, into tiny granules. This dual action allows bits to drill faster and penetrate materials with less pressure than drilling-only bits. These bits can be used with hammer drills or rotary hammers. If you need a shank adapter, see our 89385A series on page 2476.

Drilling-Only Bits

These bits drill holes using rotary action. They don't break up masonry materials like hammer drilling bits, but they do grind it up when you apply pressure. Use these bits with portable electric drills, cordless drills, and hammer drills (rotary-mode only).

Drill Bit Shank Styles



How to Avoid Premature Bit Failure

1. Do not let bit come into contact with embedded rebar (reinforcing bar). If you do encounter rebar, move the hole or switch to a rebar cutting bit, such as our 28655A series on page 2477.
2. Frequently withdraw the bit from the hole to clean out dust to lessen the chance of the drill bit binding in the hole.
3. Keep the bit's shank clean and lubricated.
4. Do not pour water into the hole while drilling. The extreme change in temperature may cause the bit's carbide tip to fail.

Spline-Shank Masonry Drill Bits for Rotary Hammers

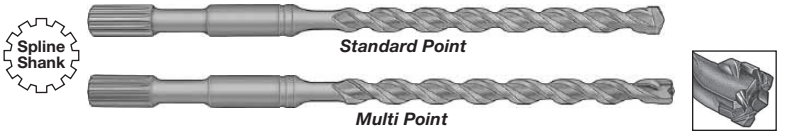

The shank has 12 splines to keep an optimum fit between the bit and the bit holder during the heavy impact produced by a spline-drive rotary hammer. Shank is ¾″ dia. ***Multi-point*** bits have five carbide cutters in the tip, resulting in less vibration, smoother and rounder holes, faster drilling, and longer bit life.

Standard Point

Bit Size	Drilling Depth	O'all Lg.		
⅜″	4″	10″	8783A18	$38.40
⅜″	8″	14″	8783A71	47.16
⅜″	12″	18″	8783A19	50.22
7⁄16″	8″	14″	8783A72	51.20
½″	8″	14″	8783A11	42.67
½″	12″	18″	8783A22	44.09
½″	16″	22″	8783A23	56.18
½″	22″	28″	8783A73	67.56
½″	36″	42″	8783A74	121.60
9⁄16″	8″	14″	8783A13	53.38
9⁄16″	12″	18″	8783A46	57.30
⅝″	8″	14″	8783A12	50.05
⅝″	12″	18″	8783A25	50.49
⅝″	16″	22″	8783A26	$62.61
⅝″	22″	28″	8783A77	81.52
11⁄16″	8″	14″	8783A15	56.50
¾″	8″	14″	8783A16	57.26
¾″	12″	18″	8783A28	56.89
¾″	16″	22″	8783A29	60.73
¾″	22″	28″	8783A79	82.94
13⁄16″	8″	14″	8783A61	57.25
13⁄16″	16″	22″	8783A62	73.65
⅞″	8″	14″	8783A17	68.85
⅞″	12″	18″	8783A31	61.82
⅞″	16″	22″	8783A32	72.00
⅞″	22″	28″	8783A82	91.02
1″	8″	14″	8783A48	$68.44
1″	12″	18″	8783A34	70.86
1″	16″	22″	8783A35	78.30
1″	22″	28″	8783A84	94.58
1⅛″	8″	14″	8783A52	88.69
1⅛″	16″	22″	8783A43	105.78
1¼″	8″	14″	8783A54	100.44
1¼″	16″	22″	8783A37	98.13
1¼″	22″	28″	8783A85	137.24
1⅜″	16″	22″	8783A63	142.48
1½″	16″	22″	8783A45	135.63

Multi Point

Bit Size	Drilling Depth	O'all Lg.		
⅝″	8″	14″	8809A11	$48.35
⅝″	12″	18″	8809A12	61.02
⅝″	36″	42″	8783A78	122.43
¾″	8″	14″	8809A13	54.76
¾″	12″	18″	8809A14	66.13
¾″	16″	22″	8809A15	76.09
¾″	36″	42″	8783A81	$130.23
⅞″	8″	14″	8809A18	57.60
⅞″	12″	18″	8809A19	70.40
⅞″	36″	42″	8783A83	148.16
1″	8″	14″	8809A16	62.58
1″	12″	18″	8809A17	76.09
1″	36″	42″	8783A51	$169.66
1⅛″	16″	22″	8809A21	97.42
1¼″	16″	22″	8809A22	113.07
1⅜″	16″	22″	8809A23	132.27
1½″	16″	22″	8809A24	153.60
1½″	36″	42″	8783A58	245.16

Tapered Round-Shank Masonry Drill Bits for Rotary Hammers



Also known as A-taper bits, they fit all rotary hammers with a taper-shank chuck. An adapter (sold separately) is required for use in spline-drive and SDS-Plus drive rotary hammers.

Adapters are made of steel and include a bit removal tool (also called a drift pin).

Bit Size	Drilling Depth	O'all Lg.		
¼″	4¼″	6″	2808A31	$12.94
5⁄16″	4¼″	6″	2808A32	13.61
5⁄16″	7¼″	9″	2808A43	22.71
⅜″	4¼″	6″	2808A33	15.09
⅜″	7¼″	9″	2808A44	21.59
⅜″	10¼″	12″	2808A55	23.67
½″	4¼″	6″	2808A35	23.61
½″	7¼″	9″	2808A46	27.86
½″	10¼″	12″	2808A56	32.14
½″	17¼″	19″	2808A64	$49.97
9⁄16″	7¼″	9″	2808A47	29.00
9⁄16″	10¼″	12″	2808A57	37.70
⅝″	3¼″	5″	2808A37	29.42
⅝″	7¼″	9″	2808A48	28.68
⅝″	10¼″	12″	2808A58	38.38
¾″	7¼″	9″	2808A51	38.43
¾″	10¼″	12″	2808A61	44.46

Spline-Shank Adapter for Spline-Drive Rotary Hammers	2813A47	$56.15
SDS-Plus Shank Adapter for SDS-Plus Drive Rotary Hammers	2813A53	43.14

SDS-Shank Masonry Drill Bits for Rotary Hammers

Designed to withstand the heavy blows from a rotary hammer.

SDS-Plus shank drill bits have two deep slots and two shallow slots on the shank for additional hold in your rotary hammer. Shank dia. is 0.393″. Use with an SDS-Plus drive rotary hammer and Hilti brand rotary hammer models TE-1 through TE-25.

SDS-Max shank drill bits have five slots on the shank—three deep slots for driving the bit in a rotary motion and two shallow slots for keeping a secure hold in the rotary hammer. This design adds strength and maximizes impact at the drill tip while minimizing wobble and vibration. Bits 5⁄8″ dia. and larger have five cutting edges rather than two, which enhances hole accuracy. Shank dia. is 0.708″. Use with an SDS-Max drive rotary hammer and Hilti brand rotary hammer models TE-50 through TE-94. Cannot be used with an SDS-Plus drive rotary hammer.

SDS-Max shank core bits have a one-piece design that provides power at impact. Multiple carbide tips cut on the outside edge for easier drilling of larger holes. Shank dia. is 0.708″. A pilot drill and ejector key are included. Use with an SDS-Max drive rotary hammer. Cannot be used with an SDS-Plus drive rotary hammer.

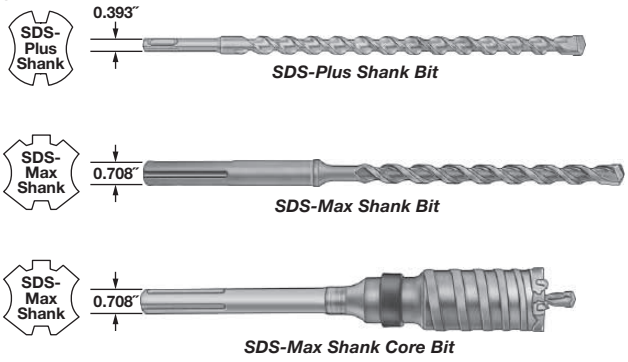

Bit Size	Drilling Depth	O'all Lg.		
SDS-Plus Shank Bits				
5⁄32″	2″	4 5⁄8″	8948A75	$7.85
5⁄32″	6″	8 5⁄8″	8948A76	15.71
3⁄16″	2″	4 3⁄8″	8948A49	5.32
3⁄16″	4″	6 3⁄8″	8948A11	5.18
3⁄16″	6″	8 5⁄8″	8948A51	9.02
3⁄16″	8″	10 5⁄8″	8948A52	11.60
3⁄16″	10″	12 5⁄8″	8948A53	15.01
3⁄16″	12″	14 5⁄8″	8948A54	16.16
7⁄32″	2 1⁄2″	4 3⁄4″	8948A55	6.30
7⁄32″	4″	6 5⁄8″	8948A56	6.50
7⁄32″	6″	8 5⁄8″	8948A57	9.60
7⁄32″	8″	10 1⁄4″	8948A58	10.14
7⁄32″	12″	14 5⁄8″	8948A61	12.83
1⁄4″	2″	4 3⁄8″	8948A62	4.54
1⁄4″	4″	6 3⁄8″	8948A13	5.07
1⁄4″	6″	8 5⁄8″	8948A63	6.73
1⁄4″	9″	11 5⁄8″	8948A64	10.55
1⁄4″	9 5⁄8″	12 1⁄4″	8948A65	13.23
1⁄4″	12″	14 5⁄8″	8948A66	14.30
1⁄4″	18″	20 5⁄8″	8948A77	22.17
5⁄16″	4″	6 5⁄8″	8948A14	6.83
5⁄16″	7 1⁄2″	9 3⁄4″	8948A15	9.11
5⁄16″	10″	12 5⁄8″	8948A16	15.69
3⁄8″	4″	6 5⁄8″	8948A17	6.80
3⁄8″	8″	10 5⁄8″	8948A18	12.38
3⁄8″	10″	12 5⁄8″	8948A19	12.59
3⁄8″	18″	20 5⁄8″	8948A21	25.16
3⁄8″	22″	24″	8948A93	27.48
3⁄8″	34″	36″	8948A94	74.26
7⁄16″	4″	6 5⁄8″	8948A22	9.93
7⁄16″	10″	12 5⁄8″	8948A23	15.91
7⁄16″	16″	18 5⁄8″	8948A24	19.36
1⁄2″	4″	6 5⁄8″	8948A25	8.65
1⁄2″	8″	10 5⁄8″	8948A26	15.33
1⁄2″	10″	12 5⁄8″	8948A27	15.30
1⁄2″	16″	18 5⁄8″	8948A28	22.59
1⁄2″	22″	24″	8948A78	36.80

5-Piece SDS-Plus Shank Drill Bit Set— Includes one each of sizes (bit size×o'all lg.) 3⁄16″×6″, 1⁄4″×6″, 5⁄16″×6″, 3⁄8″×6″, and 1⁄2″×6″. Comes in a plastic box.

8948A98 ..... $50.16

Bit Size	Drilling Depth	O'all Lg.		
SDS-Plus Shank Bits (Cont.)				
1⁄2″	36″	38″	8948A95	$57.09
9⁄16″	4″	6 3⁄4″	8948A29	12.15
9⁄16″	7 7⁄8″	10 1⁄8″	8948A31	15.56
9⁄16″	10″	12 3⁄4″	8948A32	20.60
9⁄16″	16″	18 3⁄4″	8948A33	31.67
5⁄8″	4″	6 3⁄4″	8948A34	14.11
5⁄8″	7″	9 3⁄4″	8948A35	16.25
5⁄8″	10″	12 3⁄4″	8948A36	25.61
5⁄8″	16″	18 3⁄4″	8948A37	33.54
5⁄8″	22″	24″	8948A81	48.50
5⁄8″	34″	36″	8948A96	79.29
11⁄16″	10″	12 3⁄4″	8948A38	29.61
3⁄4″	7″	9 3⁄4″	8948A39	27.24
3⁄4″	10″	12 3⁄4″	8948A41	28.96
3⁄4″	16″	18 3⁄4″	8948A42	40.82
3⁄4″	22″	24″	8948A83	42.54
13⁄16″	10″	12 3⁄4″	8948A43	32.89
27⁄32″	6″	8 3⁄4″	8948A44	35.10
7⁄8″	7″	9 3⁄4″	8948A45	37.27
7⁄8″	10″	12 3⁄4″	8948A46	38.16
7⁄8″	16″	18 3⁄4″	8948A47	48.27
1″	8″	10 3⁄4″	8948A84	38.70
1″	10″	13 1⁄8″	8948A48	45.71
1″	16″	18 3⁄4″	8948A67	64.64
1″	22″	25″	8948A85	66.36
1″	28″	30″	8948A97	68.18
1 1⁄8″	10″	12 3⁄4″	8948A86	71.16
1 1⁄8″	16″	18 3⁄4″	8948A87	83.78
SDS-Max Shank Bits				
3⁄8″	8″	14″	88705A42	44.80
3⁄8″	12″	18″	88705A43	50.49
7⁄16″	8″	14″	88705A44	45.82
1⁄2″	8″	14″	88705A11	48.76
1⁄2″	16″	22″	88705A12	65.49
1⁄2″	22″	28″	88705A45	72.19
9⁄16″	8″	14″	88705A13	57.83

6-Piece SDS-Plus Shank Drill Bit Set— Includes one each of sizes (bit size×o'all lg.) 3⁄16″×6 3⁄8″, 1⁄4″×6 3⁄8″, 5⁄16″×6 5⁄8″, 3⁄8″×6 5⁄8″, 1⁄2″×6 5⁄8″, and 1⁄2″×10 5⁄8″. Comes in a vinyl pouch.

8948A91 ..... $54.59

Bit Size	Drilling Depth	O'all Lg.		
SDS-Max Shank Bits (Cont.)				
5⁄8″	8″	14″	88705A15	$52.84
5⁄8″	12″	18″	88705A46	61.02
5⁄8″	16″	22″	88705A16	65.92
5⁄8″	36″	42″	88705A47	116.36
3⁄4″	8″	14″	88705A19	60.41
3⁄4″	12″	18″	88705A48	69.21
3⁄4″	16″	22″	88705A21	67.14
3⁄4″	36″	42″	88705A22	131.76
7⁄8″	8″	14″	88705A25	63.22
7⁄8″	12″	18″	88705A51	77.27
7⁄8″	16″	22″	88705A26	83.91
7⁄8″	36″	42″	88705A52	139.64
1″	8″	14″	88705A27	73.37
1″	12″	18″	88705A53	78.22
1″	16″	22″	88705A28	86.40
1″	36″	42″	88705A54	153.07
1 1⁄8″	8″	14″	88705A32	102.22
1 1⁄8″	16″	22″	88705A33	113.60
1 1⁄8″	36″	42″	88705A55	190.93
1 1⁄4″	8″	14″	88705A34	112.00
1 1⁄4″	16″	22″	88705A35	117.82
1 3⁄8″	16″	22″	88705A38	144.00
1 1⁄2″	16″	22″	88705A41	164.47
1 1⁄2″	36″	42″	88705A56	254.40
SDS-Max Shank Core Bits				
1 3⁄4″	7″	12″	88865A21	156.76
1 3⁄4″	17″	22″	88865A22	171.20
2″	7″	12″	88865A63	166.06
2″	17″	22″	88865A64	180.50
2 5⁄8″	7″	12″	88865A23	198.04
2 5⁄8″	17″	22″	88865A24	212.46
3 1⁄4″	7″	12″	88865A25	215.04
3 1⁄4″	17″	22″	88865A26	220.35
3 9⁄16″	7″	12″	88865A79	221.27
4″	17″	22″	88865A76	249.40
5″	17″	22″	88865A74	312.84

Replacement Pilot Drill and Ejector Key— For SDS-Max shank core bits.

88865A97 ..... $15.93

Chisels with Spline, SDS-Plus, and SDS-Max Shanks for Rotary Hammers



Chisels with spline shank have a combination 5⁄8″ dia. round and 3⁄4″ hex shank that works with all spline-drive rotary hammers.
Chisels with SDS-Plus shank have a 0.393″ dia. shank and work only in SDS-Plus rotary hammers.
Chisels with SDS-Max shank have a 0.708″ dia. shank and work only in SDS-Max rotary hammers.

Chisel Type	Application	With Spline Shank Wd.	Lg.			With SDS-Plus Shank Wd.	Lg.			With SDS-Max Shank Wd.	Lg.		
Flat	Edging/Chipping Masonry	1″	12″	28645A11	$15.71	3⁄4″	10″	28645A31	$19.16	1″	12″	28645A41	$19.54
Bull Point	Light Masonry Demolition	Pt.	12″	28645A12	15.71	Pt.	10″	28645A32	19.16	Pt.	12″	28645A42	19.54
Scaling	Remove Scale/Rust/Concrete	2″	12″	28645A51	27.12	1 1⁄2″	10″	28645A33	32.30	2″	12″	28645A52	34.01
Scaling	Remove Scale/Rust/Concrete	3″	12″	28645A13	41.39					3″	12″	28645A43	37.49
Bushing Tool	Finish Concrete Surfaces	1 3⁄4″	9 1⁄2″	28645A14	83.24					1 3⁄4″	9 1⁄2″	28645A46	84.44
Slotting	Slotting/Web Breaking	1 1⁄8″	12″	28645A15	24.44					1 1⁄8″	12″	28645A44	41.12
Seam	Remove Mortar Between Bricks	1 1⁄8″	15″	28645A16	20.66					1 1⁄8″	15″	28645A45	38.68

Masonry Drill Bits

For information about masonry drill bits, see page 2474.

Shank Adapters for Rotary Hammers



89385A31



89385A32



89385A34

Quick-change adapters let you use a bit with a different shank style in your rotary hammer. Made of steel.

For Rotary Hammer Style	For Bit Style	O'all Lg.		
Spline Drive	SDS-Plus Shank	8″	89385A31	$83.35
SDS-Max Drive and Hilti Rotary Hammers	SDS-Plus Shank	8″	89385A32	87.81
SDS-Max Drive and Hilti Rotary Hammers	Spline Shank	10¾″	89385A34	116.27

Three-Piece Large-Hole Masonry Drill Bits for Rotary Hammers

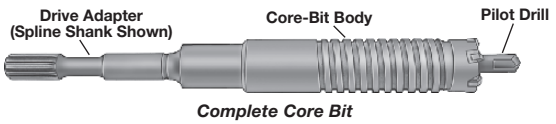

Complete Core Bit

Because they cut only on their outside edge, these bits are effective for drilling holes from 1″ to 5″ in diameter in demanding applications.

A complete core bit consists of a core-bit body, a drive adapter, and a pilot drill (each sold separately). Each component is made of alloy steel and has ¾″-10 threads for easy assembly and replacement of individual parts. Drilling depth is achieved in 4″ increments.

Core-bit bodies have carbide tips.

Spline-shank drive adapter fits all spline-drive rotary hammers.

SDS-Max shank drive adapter fits all SDS-Max shank rotary hammers.

Pilot drill has a carbide tip to make starting a hole easier.

Optional drive extensions are for use with 1¼″ to 5″ dia. core-bit bodies. Made of alloy steel.

Core-Bit Bodies

Bit Size	Length			Bit Size	Length		
1″	6″	3084A21	$140.10	2½″	6″	3084A27	$268.21
1⅛″	6″	3084A22	146.56	3″	6″	3084A29	326.34
1¼″	6″	3084A23	143.73	3½″	6″	3084A31	394.21
1½″	6″	3084A24	155.78	4″	6″	3084A32	457.82
1¾″	6″	3084A25	194.39	4½″	6″	3084A33	499.74
2″	6″	3084A26	220.92	5″	6″	3084A34	571.07

Drive Adapters and Pilot Drill

	Length		
Spline-Shank Drive Adapter	7″	3084A62	$57.76
SDS-Max Shank Drive Adapter	7¼″	3084A67	66.86
Pilot Drill for 1½″ to 5″ Bit Sizes	6″	3084A42	26.42

Accessories and Replacement Parts

Optional 6″ Drive Extension	3084A71	$33.87
Optional 12″ Drive Extension	3084A73	38.33
Optional 18″ Drive Extension	3084A75	54.48
Replacement Drive Adapter Thread	3084A78	8.51

Hex- and Round-Shank Masonry Drill Bits for Hammer Drills



Standard Hex Shank



Premium Round Shank

Use in hammer drills that have a three-jaw drill chuck.

Standard hex-shank bits are for use in concrete and masonry.

Premium round-shank bits penetrate faster than standard hex-shank bits. In addition to concrete and masonry, you can also use them on marble, granite, tile, hard metals, and plastics. Bits have serrations on the edges of the tips for faster, cooler cutting and longer life. Bits with shank diameters ⅜″ and larger have three flats on the shank for more secure gripping. *Note:* Bits should be used in a drill press when drilling hard metals.

Standard Hex Shank

Bit Size	Shank Dia.	Drilling Depth	O'all Lg.		
⅛″	⅛″	1⅜″	3″	8897A19●	$3.44
⅛″	⅛″	4″	6″	8897A64●	4.00
5⁄32″	5⁄32″	1⅜″	3″	8897A22●	3.43
5⁄32″	5⁄32″	4″	6″	8897A65●	4.17
11⁄64″	5⁄32″	1⅜″	3″	8897A21●	3.72
3⁄16″	11⁄64″	1½″	4″	8897A1	3.43
3⁄16″	11⁄64″	3⅞″	6″	8897A23	3.60
3⁄16″	11⁄64″	6″	8″	8897A66	5.73
7⁄32″	3⁄16″	4″	6″	8897A67	4.47
¼″	15⁄64″	2″	4″	8897A24	3.38
¼″	15⁄64″	4″	6″	8897A2	4.15
¼″	15⁄64″	12″	13½″	8897A51	8.91
9⁄32″	¼″	2″	4″	8897A3	5.18
5⁄16″	¼″	4″	6″	8897A25	5.06
5⁄16″	9⁄32″	2″	4″	8897A4	4.82
5⁄16″	9⁄32″	4″	6″	8897A5	5.06
5⁄16″	9⁄32″	12″	13½″	8897A52	10.02
3⁄8″	11⁄32″	2″	4″	8897A6	$5.44
3⁄8″	11⁄32″	4″	6″	8897A7	6.00
3⁄8″	11⁄32″	12″	13½″	8897A8	11.49
3⁄8″	11⁄32″	16″	18″	8897A9	15.09
3⁄8″	3⁄8″	10″	12″	8897A34	10.66
7⁄16″	3⁄8″	4″	6″	8897A11	7.23
½″	3⁄8″	2″	4″	8897A26	5.54
½″	3⁄8″	4″	6″	8897A12	8.70
½″	3⁄8″	12″	13½″	8897A13	12.65
½″	3⁄8″	16″	18″	8897A53	19.75
9⁄16″	3⁄8″	4″	6″	8897A27	6.89
9⁄16″	3⁄8″	12″	13½″	8897A35	13.46
5⁄8″	3⁄8″	4″	6″	8897A14	10.96
5⁄8″	3⁄8″	16″	18″	8897A15	23.32
5⁄8″	½″	12″	13½″	8897A54	16.35
11⁄16″	½″	4″	6″	8897A28	9.33
11⁄16″	½″	12″	13½″	8897A36	$14.08
¾″	3⁄8″	4″	6″	8897A16	14.48
¾″	½″	12″	13½″	8897A55	22.24
¾″	½″	16″	18″	8897A56	27.14
⅞″	½″	4″	6″	8897A17	17.44
⅞″	½″	12″	13½″	8897A57	25.70
⅞″	½″	16″	18″	8897A58	29.53
1″	½″	4″	6″	8897A18	20.95
1″	½″	12″	13½″	8897A59	28.90
1″	½″	16″	18″	8897A61	32.69
1⅛″	½″	4″	6″	8897A29	22.57
1⅛″	½″	12″	13½″	8897A62	32.43
1⅛″	½″	16″	18″	8897A63	37.13
1¼″	½″	4″	6″	8897A31	23.85
1⅜″	½″	4″	6″	8897A32	27.74
1½″	½″	4″	6″	8897A33	33.96

●Round shank.

6-Piece Standard Hex-Shank Drill Bit Set— Includes one each of sizes (bit size×drilling depth) ⅛″×1⅜″, 3⁄16″×3⅞″, ¼″×4″, 5⁄16″×4″, ⅜″×4″, and ½″×4″. Comes in a vinyl pouch.

8897A92 ..... $23.97

Premium Round Shank

Bit Size	Shank Dia.	Drilling Depth	O'all Lg.		
3⁄16″	3⁄16″	2⅜″	4″	2899A22	$8.51
3⁄16″	3⁄16″	4½″	6″	2899A19	8.93
3⁄16″	3⁄16″	6″	8″	2899A23	10.74
¼″	¼″	2¼″	4″	2899A24	8.85
¼″	¼″	3¾″	6″	2899A25	9.77
¼″	¼″	6″	8″	2899A26	$13.27
5⁄16″	¼″	2½″	4¼″	2899A27	11.45
5⁄16″	¼″	4″	6″	2899A28	12.43
⅜″	⅜″	4″	6″	2899A31	13.26
7⁄16″	⅜″	4″	6″	2899A34	17.69
½″	⅜″	4″	6″	2899A33	$16.00
⅝″	½″	4″	6″	2899A35	21.89
¾″	½″	4″	6″	2899A37	29.90
1″	½″	4″	6″	2899A38	50.53

5-Piece Premium Round-Shank Drill Bit Set— Includes one each of sizes (bit size×drilling depth) 3⁄16″×4½″, ¼″×3¾″, 5⁄16″×4″, ⅜″×4″, and ½″×4″. Comes in a plastic case.

2899A51 ..... $63.16

Round-Shank Masonry Drill Bits for Portable Drills

Designed for nonhammer drilling.
Slow spiral bits are better than fast spiral bits for drilling concrete.
Fast spiral bits are for more brittle, soft to medium materials such as block and brick.



Bit Size	Shank Dia.	Drilling Depth	O'all Lg.	Slow Spiral		Fast Spiral	
1/8"	1/8"	1 1/2"	3"	2960A54	$2.97		
1/8"	1/8"	1 5/8"	3"			2941A12	$2.33
5/32"	5/32"	1 5/8"	3"	2960A55	3.23	2941A14	3.13
11/64"	11/64"	1 5/8"	3"	2960A56	3.43	2941A15	3.02
3/16"	5/32"	1 5/8"	3"			2941A16	2.62
3/16"	3/16"	1 5/8"	3"	2960A57	3.02		
1/4"	1/4"	2 1/2"	4"	2960A58	3.15	2941A23	1.94
1/4"	1/4"	4"	6"	2960A39	3.24	2941A17	3.26
1/4"	1/4"	10"	12"	2960A12	8.51	2941A51	10.87
1/4"	1/4"	13"	18"	2960A13	12.42	2941A52	21.89
1/4"	1/4"	16"	24"	2960A41	23.80		
9/32"	1/4"	2 1/2"	4"	2960A59	4.10		
9/32"	1/4"	3"	4"			2941A24	2.97
5/16"	1/4"	2 1/2"	4"	2960A611	2.90	2941A25	2.95
5/16"	1/4"	4"	6"	2960A38	3.82	2941A18	4.07
5/16"	1/4"	10"	12"	2960A14	10.47	2941A53	13.49
5/16"	5/16"	16"	24"	2960A42	30.77		
3/8"	1/4"	2 1/2"	4"	2960A612	3.34	2941A26	3.94
3/8"	1/4"	4"	6"	2960A37	4.07	2941A19	7.44
3/8"	1/4"	10 1/2"	12"			2941A55	17.68
3/8"	1/4"	16 1/2"	18"			2941A56	21.62
3/8"	5/16"	10"	12"	2960A16	11.16		
3/8"	3/8"	16"	24"	2960A43	37.77		
7/16"	1/4"	4"	6"	2960A613	5.97	2941A32	6.09
7/16"	3/8"	16"	18"	2960A18	17.78		
1/2"	1/4"	4"	6"	2960A614	5.58	2941A38	6.98
1/2"	3/8"	4 1/2"	6"			2941A33	6.18
1/2"	3/8"	10"	12"	2960A19	14.60	2941A58	26.00
1/2"	3/8"	16"	18"	2960A21	21.18	2941A59	39.56
1/2"	3/8"	16"	24"	2960A44	43.93		
9/16"	3/8"	4"	6"	2960A615	7.57	2941A39	7.26
5/8"	3/8"	4"	6"			2941A35	16.71
5/8"	3/8"	10 1/2"	12"			2941A61	51.92
5/8"	1/2"	4"	6"	2960A616	8.35		
5/8"	1/2"	16"	24"	2960A45	47.00		
11/16"	1/2"	4"	6"			2941A37	10.91
3/4"	3/8"	4"	6"			2941A41	17.68
3/4"	1/2"	4"	6"	2960A617	12.97		
3/4"	1/2"	10"	12"	2960A22	23.18	2941A63	51.37
3/4"	1/2"	16"	24"	2960A46	50.50		
7/8"	1/2"	4"	6"	2960A618	23.17	2941A42	14.04
7/8"	1/2"	10 1/2"▲	12"	2960A24	29.49		
1"	1/2"	4"	6"	2960A619	33.83	2941A43	17.12
1"	1/2"	10 1/2"▲	12"	2960A26	30.87		
1"	1/2"	16 1/2"▲	18"	2960A27	36.51		
1 1/8"	1/2"	4"	6"	2960A621	31.22		
1 1/8"	1/2"	10 1/2"▲	12"	2960A28	33.13		
1 1/4"	1/2"	4"	6"	2960A622	35.86		
1 1/4"	1/2"	10 1/2"▲	12"	2960A31	39.33		
1 1/4"	1/2"	16 1/2"▲	18"	2960A32	44.33		
1 3/8"	1/2"	10 1/2"▲	12"	2960A33	46.56		
1 3/8"	1/2"	16 1/2"▲	18"	2960A34	49.74		
1 1/2"	1/2"	10 1/2"▲	12"	2960A35	53.00		
1 1/2"	1/2"	16 1/2"▲	18"	2960A36	55.44		
1 1/2"	1/2"	22 1/2"▲	24"	2960A53	98.17		

▲Flute length is 4". Drill in 4" increments to achieve drilling depth.

4-Piece Round-Shank Drill Bit Set—
Includes one each of sizes (bit size×o'all lg.) 1/4"×4", 5/16"×4", 3/8"×4", and 1/2"×6". Comes in a vinyl pouch.

Slow Spiral	2943A4	$23.27
Fast Spiral	2943A1	19.97

6-Piece Round-Shank Drill Bit Set—
Includes one each of sizes (bit size×o'all lg.) 1/4"×4", 5/16"×4", 3/8"×4", 1/2"×6", 5/8"×6", and 3/4"×6". Comes in a vinyl pouch.

Slow Spiral	2943A5	$42.80
Fast Spiral	2943A2	54.42

6-Piece Round-Shank Drill Bit Set—
Includes one each of sizes (bit size×o'all lg.) 3/16"×3", 1/4"×4", 5/16"×4", 3/8"×4, 1/2"×6", and 5/8"×6". Comes in a vinyl pouch.

Slow Spiral	2943A6	$33.37
Fast Spiral	2943A3	40.47

Round-Shank Large-Hole Masonry Drill Bits for Portable Drills

Drill large holes using a portable drill. Bits are rotary only and work well on thin or brittle materials that might be damaged by the impact of rotary-hammer bits. All have a removable shank. To achieve maximum drilling depth, break up and remove the core every 4" of depth before drilling deeper.
Optional carbide-tipped pilot drill makes starting a hole easier.



Bit Size	Shank Dia.	Drilling Depth	O'all Lg.	Bits		Optional Extensions	
1"	1/2"	8"	9"	2942A23	$94.06	2942A62	$26.33
1"	1/2"	11"	12"	2942A42	104.29	2942A62	26.33
1 1/4"	1/2"	11"	12"	2942A25	111.59	2942A62	26.33
1 1/2"	1/2"	11"	12"	2942A27	129.96	2942A62	26.33
1 3/4"	1/2"	11"	12"	2942A41 ♣	183.78	2942A73	42.84
2"	1/2"	11"	12"	2942A43 ♣	204.28	2942A73	42.84
2 1/2"	1/2"	17"	18"	2942A47 ♣	238.07	2942A73	42.84
3"	1/2"	11"	12"	2942A48 ♣	261.44	2942A73	42.84

♣Shank is 3/4" stepped down to 1/2".
Optional Carbide-Tipped Pilot Drill for Bit Sizes 1 3/4" and Larger — 2942A89 — $22.18

Drill Bits for Concrete-Embedded Rebar

When you encounter rebar (reinforcing bar), stop drilling and mount one of these bits in your tool. Drill through the rebar and resume drilling with your masonry drill bit. *Note:* Bits are for rotary drilling only—hammer drilling will damage the bit.
Round-shank bits have three flats on the shank for a secure hold. Use with portable drills with a 1/2" chuck. Shank diameter is 5/16" for 3/8" bit size; 3/8" for 1/2"-9/16" bit sizes; and 1/2" for 5/8" and larger bit sizes.
SDS-Plus shank bits are used with SDS-Plus drive rotary hammers. Shank diameter is 0.393". Bit sizes 7/8" and larger have a removable shank.

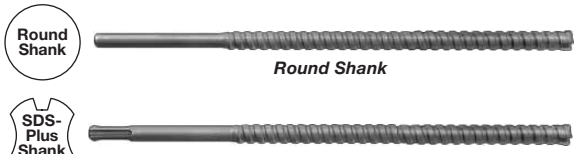

Bit Size	Drilling Depth	O'all Lg.	Round Shank		SDS-Plus Shank	
3/8"	6"	8"	28655A19	$41.24	28655A51	$42.67
1/2"	10"	12"	28655A21	42.67	28655A52	44.09
1/2"	16"	18"	28655A18	64.00	28655A53	65.42
9/16"	10"	12"	28655A22	49.07	28655A54	50.84
5/8"	10"	12"	28655A23	51.56	28655A55	52.98
5/8"	16"	18"	28655A32	68.98	28655A56	70.40
11/16"	10"	12"	28655A33	58.31	28655A57	59.73
3/4"	10"	12"	28655A25	59.02	28655A61	60.44
3/4"	16"	18"	28655A34	75.38	28655A62	76.80
3/4"	22"	24"	28655A35	$86.76	28655A63	$88.18
13/16"	10"	12"	28655A36	64.00	28655A64	65.42
7/8"	10"	12"	28655A27	78.22	28655A65	80.71
1"	10"	12"	28655A28	82.49	28655A66	84.62
1 1/8"	10"	12"	28655A31	97.42	28655A67	99.56
1 1/4"	10"	12"	28655A29	102.40	28655A71	104.53
1 3/8"	10"	12"	28655A37	103.82	28655A72	105.96
1 1/2"	10"	12"	28655A38	114.49	28655A73	116.62

Deep-Hole Drill Bits for Wood

Bits start easily and cut holes in construction lumber, railroad ties, and utility poles. All are made of heat-treated steel and have a screw point. Overall length includes the screw point.

Extra Long



Also called pole auger bits, these are our longest bits for deep-boring jobs. All have a single cutting edge. The hex shank can be cut off to expose a 1/2" round shank.

Bit Size	Hex Size	Drilling Depth	O'all Lg.		
9/16"	7/16"	24"	29"	2907A31	$72.70
5/8"	7/16"	24"	29"	2907A32	74.84
11/16"	7/16"	24"	29"	2907A33	78.13
3/4"	7/16"	24"	29"	2907A34	80.39
13/16"	7/16"	24"	29"	2907A35	$84.55
7/8"	7/16"	24"	29"	2907A36	86.71
1"	7/16"	24"	29"	2907A38	97.06
1 1/16"	7/16"	24"	29"	2907A39	107.34

Regular Length

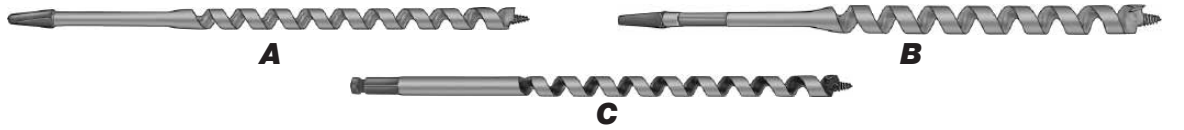

Break through obstructions in wood to produce a smooth hole. Bits have a single cutting edge and a hollow center. They can be resharpened.

Bits ***with tapered square shank*** are also known as pole auger bits. The tapered square shank can be cut off to expose a round shank. All have an extra-long twist.

Bits ***with quick-change hex shank*** are also known as ship auger bits.

	Bit Size	Shank Dia.	Drilling Depth	O'all Lg.		
With Tapered Square Shank						
A	3/8"	3/8"	12"	18"	2878A11	$25.51
A	1/2"	3/8"	12"	18"	2878A13	26.91
A	9/16"	3/8"	12"	18"	2878A14	27.05
A	5/8"	3/8"	12"	18"	2878A15	27.31
B	3/4"	5/16"	12"	18"	2878A17	29.29
B	7/8"	5/16"	12"	18"	2878A19	33.53
B	1"	5/16"	12"	18"	2878A22	37.71

	Bit Size	Hex Size	Drilling Depth	O'all Lg.		
With Quick-Change Hex Shank						
C	7/16"	3/8"	12"	17"	2818A13	$23.06
C	1/2"	3/8"	12"	17"	2818A15	24.45
C	9/16"	7/16"	12"	17"	2818A11	24.48
C	5/8"	7/16"	12"	17"	2818A12	25.00
C	3/4"	7/16"	12"	17"	2818A14	27.96
C	7/8"	7/16"	12"	17"	2818A16	31.14
C	1"	7/16"	12"	17"	2818A18	33.36
C	1 1/8"	7/16"	12"	17"	2818A21	40.90
C	1 1/4"	7/16"	12"	17"	2818A22	47.08
C	1 3/8"	7/16"	12"	17"	2818A23	54.18
C	1 1/2"	7/16"	12"	17"	2818A24	57.25
C	1 3/4"	7/16"	12"	17"	2818A25	91.74
C	2"	7/16"	12"	17"	2818A26	91.74

Carbide Tipped



Bits have a double cutting edge and the carbide tips can be resharpened. Use in electric, air, and hydraulic impact wrenches, as well as air and electric drills with a capacity of 1/2" or larger.

Bit Size	Hex Size	Drilling Depth	O'all Lg.		
9/16"	7/16"	21"	24"	30395A73	$109.21
11/16"	7/16"	15"	18"	30395A71	97.84
11/16"	7/16"	21"	24"	30395A74	122.39
13/16"	7/16"	15"	18"	30395A72	108.92
13/16"	7/16"	21"	24"	30395A76	$139.34
15/16"	7/16"	21"	24"	30395A78	147.16
1 1/16"	7/16"	21"	24"	30395A81	155.00

General Purpose Drill Bits for Wood



Flat Blade



Fast Cut

An economical choice for drilling large holes in hard and soft woods, including plywood.

Flat-blade bits are also known as spade bits. They have a grooved point and extended cutting edges for fast, clean boring. Made of steel. Bits are for use with quick-change chucks and drill chucks, except 16" length bits, which cannot be used with quick-change chucks. For holders, see 7179A series on page 2816.

Fast-cut bits have a cutting angle on the flute for fast chip removal, and a self-feed screw tip for faster cutting than flat-blade bits. Made of heat-treated steel.

Bit Size	Hex Size	Drilling Depth	O'all Lg.		
Flat Blade					
1/4"	1/4"	4 1/2"	6"	2894A62	$2.95
5/16"	1/4"	4 1/2"	6"	2894A63	2.95
3/8"	1/4"	4 1/2"	6"	2894A53	3.17
3/8"	1/4"	14 1/4"	16"	2894A43	9.51
7/16"	1/4"	4 1/2"	6"	2894A64	3.17
1/2"	1/4"	4 1/2"	6"	2894A54	3.17
1/2"	1/4"	14 1/4"	16"	2894A44	10.01
9/16"	1/4"	4 1/2"	6"	2894A65	3.33
5/8"	1/4"	4 1/2"	6"	2894A55	3.33
5/8"	1/4"	14 1/4"	16"	2894A45	10.51
11/16"	1/4"	4 1/2"	6"	2894A66	3.33
3/4"	1/4"	4 1/2"	6"	2894A56	3.33
3/4"	1/4"	14 1/4"	16"	2894A46	11.01
13/16"	1/4"	4 1/2"	6"	2894A67	3.71
7/8"	1/4"	4 1/2"	6"	2894A57	3.71

6-Piece Flat-Blade Drill Bit Set— Includes one each of 6" long bits in sizes 3/8", 1/2", 5/8", 3/4", 7/8", and 1".

2894A91 ..... $19.06

Bit Size	Hex Size	Drilling Depth	O'all Lg.		
Flat Blade (Cont.)					
7/8"	1/4"	14 1/4"	16"	2894A47	$11.46
15/16"	1/4"	4 1/2"	6"	2894A68	3.93
1"	1/4"	4 1/2"	6"	2894A58	3.78
1"	1/4"	14 1/4"	16"	2894A48	11.98
1 1/8"	1/4"	4 1/2"	6"	2894A69	5.59
1 1/4"	1/4"	4 1/2"	6"	2894A59	5.59
1 3/8"	1/4"	4 1/2"	6"	2894A71	5.59
1 1/2"	1/4"	4 1/2"	6"	2894A61	5.59
Fast Cut					
3/4"	7/16"	5"	7 5/8"	2906A51	28.52
7/8"	7/16"	5"	7 5/8"	2906A43	29.75
1"	7/16"	5"	7 5/8"	2906A45	32.52
1 1/4"	7/16"	5"	7 5/8"	2906A46	48.63
1 3/8"	7/16"	4"	6 1/2"	2897A19	27.98
1 1/2"	7/16"	4"	6 1/2"	2897A21	31.83

13-Piece Flat-Blade Drill Bit Set— Includes one each of 6" long bits in sizes 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", and 1". Comes in a plastic pouch.

2894A92 ..... $42.18

Fast-Cutting Drill Bits for Wood

A self-feed screw draws the bit in to quickly bore holes without applying pressure. Bits are made of tool steel. Overall length includes screw.



Bit Size	Hex Size	O'all Lg.		
1"	7/16"	5"	3188A11	$25.49
1 1/8"	7/16"	5"	3188A12	25.55
1 1/4"	7/16"	5"	3188A13	25.55
1 3/8"	7/16"	5"	3188A14	25.55
1 1/2"	7/16"	5"	3188A15	25.55
1 3/4"	7/16"	5 1/8"	3188A16	$27.36
2"	7/16"	5 1/8"	3188A17	29.36
2 1/8"	7/16"	5 1/8"	3188A18	30.00
2 1/4"	7/16"	5 1/8"	3188A19	32.55
2 9/16"	7/16"	5 1/8"	3188A21	33.57

Bit Size	Shank Dia.	O'all Lg.		
3"	1/2"	6 1/4"	3188A22	$80.70
3 5/8"	1/2"	6 1/4"	3188A23	109.74
4 1/8"	1/2"	6 1/4"	3188A41	122.26
4 5/8"	1/2"	6 1/4"	3188A24	129.13

7/16" Hex Shank Extensions—Use with 1" to 2 9/16" bit sizes.

5 1/2" Length	3188A31	$16.26
12" Length	3188A32	17.22

8-Piece Drill Bit Set—Includes bit sizes 1", 1 1/8", 1 1/4", 1 1/2", 1 3/4", 2 1/8", and 2 9/16", plus a 5 1/2" extension. Comes in a plastic case.

3188A33 ... $178.00

Smooth-Finish Drill Bits for Wood

Bore accurate, smooth-finish holes at a wide range of angles in soft wood, thin stock veneer, and laminates. Also known as Forstner bits, they can produce partial-arc and end-grain holes, pilot holes for mortising and grooving, and perfectly finished flat-bottom holes. The rim scribes the hole while the two cutters rapidly remove the chips. A center guide point keeps the bits from wandering, making them good for use in portable electric tools and drill presses. Overall length includes the center guide point.

Carbide-tipped bits outlast steel bits and can cut tough, abrasive materials such as plywood, hard wood, and solid surface materials.



Bit Size	Shank Dia.	O'all Lg.		
Steel				
1/4"	5/16"	3 1/2"	3216A19	$11.83
5/16"	5/16"	3 1/2"	3216A37	12.19
3/8"	5/16"	3 1/2"	3216A21	12.91
7/16"	5/16"	3 1/2"	3216A38	13.51
1/2"	5/16"	3 1/2"	3216A22	14.15
9/16"	5/16"	3 1/2"	3216A39	14.83
5/8"	5/16"	3 1/2"	3216A23	15.24
11/16"	5/16"	3 1/2"	3216A43	15.85
3/4"	5/16"	3 1/2"	3216A24	16.30
13/16"	5/16"	3 1/2"	3216A44	16.61
7/8"	3/8"	3 1/2"	3216A25	17.08
15/16"	3/8"	3 1/2"	3216A45	19.13
1"	3/8"	3 1/2"	3216A26	19.68
1 1/16"	3/8"	3 1/2"	3216A46	20.02
1 1/8"	3/8"	3 1/2"	3216A27	20.22
1 3/16"	3/8"	3 1/2"	3216A47	22.46
1 1/4"	3/8"	3 1/2"	3216A28	24.20
1 5/16"	3/8"	3 1/2"	3216A48	26.94
1 3/8"	3/8"	3 1/2"	3216A29	28.07
1 1/2"	3/8"	3 1/2"	3216A31	30.36
1 5/8"	3/8"	3 1/2"	3216A32	33.68
Steel (Cont.)				
1 3/4"	3/8"	3 1/2"	3216A33	$39.14
1 7/8"	3/8"	3 1/2"	3216A34	40.16
2"	3/8"	3 1/2"	3216A35	44.32
2 1/8"	3/8"	3 1/2"	3216A36	50.82
Carbide-Tipped Steel				
1/4"	5/32"	3 1/2"	8799A31	24.63
3/8"	1/4"	3 1/2"	8799A32	24.63
1/2"	5/16"	3 1/2"	8799A33	26.14
5/8"	5/16"	3 1/2"	8799A34	27.98
3/4"	3/8"	3 1/2"	8799A35	30.72
7/8"	3/8"	3 1/2"	8799A36	33.30
1"	3/8"	3 1/2"	8799A37	36.37
1 1/8"	3/8"	3 1/2"	8799A38	38.37
1 1/4"	3/8"	3 1/2"	8799A39	41.28
1 3/8"	3/8"	3 1/2"	8799A41	42.87
1 1/2"	3/8"	3 1/2"	8799A42	50.48
1 5/8"	3/8"	3 1/2"	8799A43	54.12
1 3/4"	3/8"	3 1/2"	8799A44	58.70
1 7/8"	3/8"	3 1/2"	8799A45	64.39
2"	3/8"	3 1/2"	8799A46	68.40
2 1/8"	3/8"	3 1/2"	8799A47	78.83

7-Piece Steel Drill Bit Set—Includes sizes 1/4" to 1" in 1/8" increments. Comes in a wood case.

3216A41 ... $107.98

16-Piece Steel Drill Bit Set—Includes sizes 1/4" to 2 1/8" in 1/8" increments. Comes in a wood case.

3216A42 ... $320.95

Optional 4" Bit Extension—For use with carbide-tipped steel bits that have a 3/8" shank diameter. Includes two set screws and a hex key.

3216A66 ... $14.23

Fast-Cutting Smooth-Finish Drill Bits for Wood

Ideal for use in a drill press, bits have multiple outlining teeth that bore clean holes without chipping and splintering your wood's surface—even when cutting across the grain. Also known as multispur bits, they are excellent for boring overlapping holes, holes on close centers, and straight boring in wood and veneered stock. Bits are heat-treated steel. The cutting edges are precision ground for quick chip removal. A center guide point prevents the bit from wandering. The overall length includes the center guide point.



Bit Size	Shank Dia.	O'all Lg.		
3/4"	1/2"	6"	2890A15	$37.67
13/16"	1/2"	6"	2890A16	37.67
7/8"	1/2"	6"	2890A17	38.30
15/16"	1/2"	6"	2890A18	38.30
1"	1/2"	6"	2890A19	38.97
1 1/16"	1/2"	6"	2890A21	38.97
1 1/8"	1/2"	6"	2890A22	40.41
1 3/16"	1/2"	6"	2890A23	40.41
1 1/4"	1/2"	6"	2890A24	41.07
1 5/16"	1/2"	6"	2890A25	41.07
1 3/8"	1/2"	6"	2890A26	42.11
1 7/16"	1/2"	6"	2890A27	$42.11
1 1/2"	1/2"	6"	2890A28	43.95
1 9/16"	1/2"	6"	2890A29	43.95
1 5/8"	1/2"	6"	2890A31	45.56
1 11/16"	1/2"	6"	2890A32	47.27
1 3/4"	1/2"	6"	2890A33	49.11
1 13/16"	1/2"	6"	2890A34	53.04
1 7/8"	1/2"	6"	2890A35	55.36
1 15/16"	1/2"	6"	2890A36	57.77
2"	1/2"	6"	2890A37	59.86
2 1/8"	1/2"	6"	2890A38	$63.83
2 1/4"	1/2"	6"	2890A39	68.45
2 3/8"	1/2"	6"	2890A41	74.76
2 1/2"	1/2"	6"	2890A42	79.46
2 3/4"	1/2"	6"	2890A44	89.16
2 7/8"	1/2"	6"	2890A45	99.55
3"	1/2"	6"	2890A46	135.83
3 1/4"	3/4"	6"	2890A47	213.15
3 1/2"	3/4"	6"	2890A48	236.16
4"	3/4"	6"	2890A51	306.13

Drill Bit Extensions for Wood

Add reach to hex- and round-shank bits with an extension. All include two set screws and a hex wrench.



Hex Size/ Shank Dia.	O'all Lg.	Large End Dia.		
1/4"	6"	1/2"	3127A77	$4.05
1/4"	12"	1/2"	3127A78	5.39
5/16"	18"	11/16"	2773A11	23.52
5/16"	24"	11/16"	2773A12	$26.47
7/16"	18"	11/16"	2773A14	23.26
7/16"	24"	7/8"	2773A15	30.04

Drill Press Adjustable-Hole Drill Bits for Wood



Cut a variety of hole sizes with one bit by sliding the blade to the desired cutting diameter. Two adjustable cutter blades have easy-to-read markings and are securely held in position by the screw. Bits are forged steel and have three flats on the shank for extra grip. Bits require the torque and rpm of a drill press and are not recommended for use in portable electric drills. Use in standard drill chucks.

Hole Dia. Range	Blade Ranges #1	Blade Ranges #2	Shank Dia.	O'all Lg.		
5/8"-1 3/4"	5/8"-1"	1"-1 3/4"	9/32"	5 1/2"	3140A51	$36.01
7/8"-3"	7/8"-1 3/4"	1 3/4"-3"	11/32"	6 1/2"	3140A53	52.91

Clean-Cut Drill Bits for Wood



Bore smooth and accurate holes across the grain. Also known as brad-point bits. A center guide point prevents the bit from wandering so even overlapping holes can be bored without splintering. Overall length includes the center guide point. Use in portable power tools, power-feed boring machines, and drill presses. ***High-speed steel*** bits can be run at higher speeds than steel bits.

Bit Size	Shank Dia.	O'all Lg.		
Steel				
1/8"	1/8"	2 9/16"	2926A35	$2.86
3/16"	3/16"	3 3/8"	2926A38	3.19
1/4"	1/4"	3 31/32"	2926A41	3.65
5/16"	5/16"	4 19/32"	2926A44	4.29
3/8"	3/8"	5 1/4"	2926A45	5.12
7/16"	3/8"	5 19/32"	2926A47	8.90
1/2"	3/8"	5 15/16"	2926A49	10.90
High-Speed Steel				
1/8"	1/8"	2 3/4"	2926A111	5.09
5/32"	5/32"	3 1/8"	2926A112	5.36
7/32"	7/32"	3 3/4"	2926A113	7.00
1/4"	1/4"	4"	2926A114	8.29
17/64"	17/64"	4 1/8"	2926A115	8.29
9/32"	9/32"	4 1/4"	2926A116	9.07
5/16"	5/16"	4 1/2"	2926A117	9.87

Bit Size	Shank Dia.	O'all Lg.		
High-Speed Steel (Cont.)				
11/32"	11/32"	4 3/4"	2926A118	$11.65
3/8"	3/8"	5"	2926A119	12.80
25/64"	25/64"	5 1/8"	2926A121	14.31
13/32"	13/32"	5 1/4"	2926A122	14.51
7/16"	7/16"	5 1/2"	2926A123	16.02
29/64"	29/64"	5 5/8"	2926A124	17.87
15/32"	15/32"	5 3/4"	2926A125	18.02
1/2"	1/2"	6"	2926A77	22.60
17/32"	1/2"	6"	2926A78	26.67
9/16"	1/2"	6"	2926A79	28.25
19/32"	1/2"	6"	2926A81	30.53
5/8"	1/2"	6"	2926A82	31.18
21/32"	1/2"	6"	2926A83	33.45
11/16"	1/2"	6"	2926A84	34.25
3/4"	1/2"	6"	2926A85	38.55

Bit Size	Shank Dia.	O'all Lg.		
High-Speed Steel (Cont.)				
25/32"	1/2"	6"	2926A86	$41.55
13/16"	1/2"	6"	2926A87	43.18
7/8"	1/2"	6"	2926A88	46.76
15/16"	1/2"	6"	2926A89	52.84
1"	1/2"	6"	2926A91	58.35
1 1/16"	1/2"	6"	2926A92	77.07
3 mm	3 mm	70 mm	28205A71	16.34
5 mm	5 mm	90 mm	28205A73	17.24
6 mm	6 mm	100 mm	28205A74	17.24
7 mm	7 mm	110 mm	28205A75	17.80
8 mm	8 mm	115 mm	28205A76	17.80
9 mm	9 mm	125 mm	28205A77	19.74
10 mm	10 mm	130 mm	28205A78	20.82
14 mm	10 mm	140 mm	28205A83	37.48
15 mm	10 mm	140 mm	28205A84	44.46

5-Piece Steel Drill Bit Set—Includes one each of sizes (bit size x o'all lg.) 3/16" x 3 3/8", 1/4" x 3 31/32", 5/16" x 4 19/32", 3/8" x 5 1/4", and 1/2" x 5 15/16".
2810A21 ..... $23.86

Drill Bits for Wood Screws



Bits are cut to match a wood screw's thread and shank, resulting in a perfect fit for your screw. They produce clean edges when cutting soft and hard woods. Bits are high-speed steel and have a bright finish. Shank diameter is the same as the bit size. Use in drill presses and portable drills.

Standard length bits are equivalent to a jobbers' length bit; ***long length*** bits are equivalent to a taper length bit.

Bit Size	For Screw Size	Standard Length O'all Lg.			Long Length O'all Lg.		
5/64"	No. 2	2"	3080A35	$5.07	3 3/4"	30915A71	$9.31
3/32"	No. 3	2 1/4"	3080A36	5.07	4 1/4"	30915A72	10.29
7/64"	No. 4	2 5/8"	3080A37	5.20	4 5/8"	30915A73	12.32
1/8"	No. 5	2 3/4"	3080A14	5.07	5 1/8"	30915A74	12.59
9/64"	No. 6	2 7/8"	3080A16	5.40	5 3/8"	30915A75	15.47
5/32"	No. 7	3 1/8"	3080A17	5.40	5 3/8"	30915A76	14.61
11/64"	No. 8	3 1/4"	3080A18	5.66	5 3/4"	30915A77	14.81

Bit Size	For Screw Size	Standard Length O'all Lg.			Long Length O'all Lg.		
3/16"	No. 9	3 1/2"	3080A19	$5.92	5 3/4"	30915A78	$14.74
13/64"	No. 10	3 5/8"	3080A22	6.20	6"	30915A79	17.96
7/32"	No. 12	3 3/4"	3080A23	6.59	6"	30915A81	18.87
1/4"	No. 14	4"	3080A25	7.26	6 1/8"	30915A83	16.65
9/32"	No. 16	4 1/4"	3080A32	9.33	6 1/4"	30915A85	19.47
5/16"	No. 18-20	4 1/2"	3080A34	10.27	6 3/8"	30915A87	20.25

Wire-Installing Drill Bits



Also known as bell hanger drill bits, a hole in the flute near the tip lets you pull wire through after holes are drilled. Bits drill through wood, plaster, metal lath, stucco, light masonry, and concrete. Bits are steel with carbide tips.

Bit Size	Shank Dia.	Drilling Depth	12" O'all Lg.		18" O'all Lg.		24" O'all Lg.		36" O'all Lg.		48" O'all Lg.	
1/4"	1/4"	3 1/2"	2934A21	$17.43	2934A25	$21.93	2934A29	$25.50	2934A34	$35.27	2934A38	$49.40
5/16"	5/16"	3 1/2"	2934A22	21.00	2934A26	24.07	2934A31	29.93	2934A35	38.87	2934A39	47.70
3/8"	3/8"	5 1/2"	2934A23	18.32	2934A27	21.08	2934A32	26.66	2934A36	32.58	2934A41	42.55
1/2"	3/8"	7 1/2"	2934A24	20.68	2934A28	25.21	2934A33	32.11	2934A37	38.71	2934A42	46.61

Drill Press Wood-Plug Cutters



Cut wood plugs to conceal fastener heads in counterbored holes. Cutters are made of steel. Use in a drill press.

For Plug Size Dia.	For Plug Size Max. Lg.	Cutter OD	Shank Dia.		
1/4"	3/8"	1/2"	1/4"	2806A11	$11.79
5/16"	3/8"	9/16"	1/4"	2806A12	13.66
3/8"	1/2"	5/8"	1/4"	2806A13	15.23
7/16"	1/2"	3/4"	1/4"	2806A14	16.37

For Plug Size Dia.	For Plug Size Max. Lg.	Cutter OD	Shank Dia.		
1/2"	1/2"	3/4"	1/4"	2806A15	$19.45
5/8"	5/8"	7/8"	1/4"	2806A17	22.45
3/4"	3/4"	1"	1/2"	2806A18	29.75
1"	3/4"	1 5/16"	1/2"	2806A21	42.76

Dowel Hole Drill Guide



Drill holes for dowels that require exact alignment in the edge, end, or surface of your work. Clamp the jig onto your material, lift and turn the turret to select the drill hole size you need, and drill. The turret has 3/16", 1/4", 5/16", 3/8", 7/16", and 1/2" drill hole sizes. Use the graduations to set the jig to the centerline of your workpiece. Designed for material up to 4" wide.

3123A11 ..... $48.94

About Countersinks

Countersinks form a cone-shaped opening at the top of a hole, which acts as a seat for the head of a screw or rivet. They can also be used for chamfering, deburring, and creating openings for holding material between centers.

Flutes

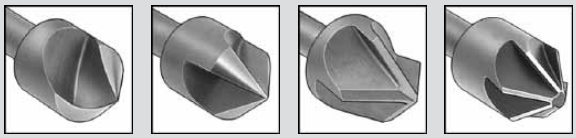

Fast Cut (Single Flute) — *General Purpose (Three Flutes) (Four Flutes)* — *Smooth Finish (Six Flutes)*

***Fast Cut*—** Have one flute and won't vibrate at high speeds. Also great for cutting smaller holes.

***General Purpose*—** Have two, three, or four flutes. Tool life increases with more flutes because the cutting load is distributed over more edges. However, fewer flutes provide better chip clearance, which is a consideration when machining stringy materials like plastic.

***Smooth Finish*—** Have six flutes. These remove more material per revolution and have a longer life than other countersinks.

Body Diameter and Countersink Angle

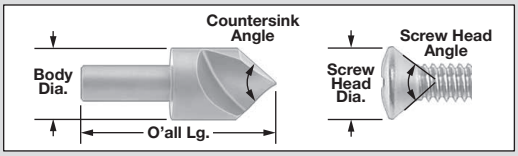

The countersink body diameter must be equal to or larger than the head diameter of the screw, center, or rivet being countersunk. Use a pilot hole that's larger than 10% of the countersink body diameter.

- ***60° Countersink Angle:*** For holding workpieces between the centers on a lathe.
- ***82° Countersink Angle:*** For flat- and oval-head inch screws.
- ***90° Countersink Angle:*** For flat- and oval-head metric screws. They're also great for chamfering.
- ***100° Countersink Angle:*** For rivets.
- ***120° Countersink Angle:*** For rivets.

Drill-Bit Countersinks

When used in combination with your drill bit (not included), these tools let you drill and countersink wood-screw holes in one quick operation. They attach to the body of your drill bit with two set screws and can be easily adjusted up and down for any length wood screw. All countersinks have four flutes.

Carbon steel countersinks have an 82° angle and are for use in wood and plastic.

High-speed steel countersinks come in your choice of an 82° or 90° angle and are for use in wood, plastic, and most metals. **To Order:** Please specify 82° or 90° countersink angle.

Stop collars control the cutting depth of your countersinks. The inside diameter of the stop collar fits the outside diameter of your countersink. Collars attach easily with two set screws and can be easily adjusted for depth. Made of steel with a black-oxide surface treatment.



Drill Bit Not Included



Stop Collar Sold Separately

Drill Bit Countersinks and Stop Collars

For Screw Size	Fits Drill Bit Size	Body Dia.	O'all Lg.	DRILL BIT COUNTERSINKS Carbon Steel	Each	High-Speed Steel	Each	STOP COLLARS OD	Wd.		Each
#3	3/32″	1/4″	3/4″	2785A12	$8.86	2910A63	$18.09	1/2″	1/4″	2903A11	$3.00
#4	7/64″	5/16″	7/8″	2785A13	8.86	2910A42★	18.09	9/16″	1/4″	2903A12	3.07
#5	1/8″	3/8″	7/8″	2785A21	8.01	2910A43	16.37	5/8″	1/4″	2903A13	3.29
#6	9/64″	3/8″	7/8″	2785A22	8.01	2910A44	16.37	5/8″	1/4″	2903A13	3.29
#7	5/32″	3/8″	7/8″	2785A23	8.01	2910A64	16.37	5/8″	1/4″	2903A13	3.29
#7	5/32″	1/2″	7/8″	2785A35	8.86	2910A62	18.09	3/4″	1/4″	2903A15	3.72
#8	11/64″	3/8″	7/8″	2785A24	8.01	2910A46	16.37	5/8″	1/4″	2903A13	3.29
#9	3/16″	3/8″	7/8″	2785A25	8.01	2910A47	16.37	5/8″	1/4″	2903A13	3.29
#9	3/16″	1/2″	7/8″	2785A37	8.86	2910A57	18.09	3/4″	1/4″	2903A15	3.72
#9	3/16″	5/8″	11/16″	2785A53	11.87	2910A53	24.74	7/8″	1/4″	2903A17	4.43
#10	13/64″	3/8″	7/8″	2785A26	8.01	2910A59	16.37	5/8″	1/4″	2903A13	3.29
#10	13/64″	7/16″	7/8″	2785A31	8.86	2910A48	16.37	11/16″	1/4″	2903A14	3.65
#10	13/64″	1/2″	7/8″	2785A38	8.86	2910A49	18.09	3/4″	1/4″	2903A15	3.72
#12	7/32″	3/8″	7/8″	2785A27	8.01	2910A61	16.37	5/8″	1/4″	2903A13	3.29
#12	7/32″	1/2″	7/8″	2785A39	8.86	2910A51	18.09	3/4″	1/4″	2903A15	3.72
#14	1/4″	1/2″	7/8″	2785A52	8.86	2910A52	18.09	3/4″	1/4″	2903A15	3.72
#16	1/4″	5/8″	11/16″	2785A54	11.87	2910A54	24.74	7/8″	1/4″	2903A17	4.43
#16	9/32″	5/8″	11/16″	2785A56	11.87	2910A55	24.74	7/8″	1/4″	2903A17	4.43
#18	5/16″	5/8″	11/16″	2785A58	11.87	2910A56	24.74	7/8″	1/4″	2903A17	4.43

★ Overall length is 3/4″.

Drill Bit Countersink Sets

All countersinks have an 82° countersink angle. Sets are furnished in a wood stand.

***7-Piece Sets*—** You'll get one each 3/8″ body dia. countersink for 1/8″, 9/64″, 5/32″, 11/64″, and 3/16″ dia. drill bits; one 7/16″ body dia. countersink for a 13/64″ dia. drill bit; and one 1/2″ body dia. countersink for a 7/32″ dia. drill bit.

		Per Set
Carbon Steel Set	2785A46	$60.92
High-Speed Steel Set	2910A41	112.35

***14-Piece Sets*—** You'll get one each 3/8″ body dia. countersinks for 1/8″, 9/64″, 5/32″, 11/64″, and 3/16″ dia. drill bits; one 7/16″ body dia. countersink for a 13/64″ dia. drill bit; four 1/2″ body dia. countersinks for 3/16″, 13/64″, 7/32″, and 1/4″ dia. drill bits; and four 5/8″ body dia. countersinks for 3/16″, 1/4″, 9/32″, and 5/16″ dia. drill bits.

		Per Set
Carbon Steel Set	2785A48	$137.63
High-Speed Steel Set	2910A45	259.14

Hex Shank Combination Drill Bits and Countersinks for Wood



Make holes for wood plugs in one easy operation. These combination tools consist of a general purpose, high-speed steel jobbers' drill bit and a hardened steel countersink. Tools have an 82° countersink angle and a hex shank that fits all quick-change and standard drill chucks. Bits are securely held by a set screw and can be adjusted up to 1″ for different screw lengths.

For Screw Size Hardwood	Softwood	Drill Bit Size	Drill Bit/Countersinks	Each	Replacement Drill Bits	Each
#4	—	5/64″	2747A21	$8.06	8870A15	$1.14
—	#6	3/32″	2747A22	8.06	8870A16	1.16
#6	#8	7/64″	2747A23	8.06	8870A17	1.16
#8	#10	1/8″	2747A24	8.06	8870A18	1.20
#10	#12	9/64″	2747A25	8.06	8870A19	1.27

Countersinks for Aluminum, Brass, and Bronze



Three spiral flutes leave a clean, smooth finish on soft metals such as aluminum, brass, and bronze. Made of high-speed steel. **To Order:** Please specify 60°, 82°, 90°, 100°, or 120° countersink angle.

Body Dia.	Shank Dia.	O'all Lg.		Each
1/4″	1/4″	1 1/4″	2742A511	$11.01
3/8″	1/4″	1 5/8″	2742A512	12.30
1/2″	1/4″	2″	2742A513	16.09
5/8″	1/4″	2 1/4″	2742A514	22.18
3/4″	1/2″	3″	2742A515	29.79
1″	1/2″	3 1/4″	2742A517	48.95
1 1/4″	5/8″	3 1/2″	2742A519	88.78
1 1/2″	3/4″	3 7/8″	2742A521	125.26
2″	3/4″	4 1/4″	2742A522	231.37

***Five-Piece Sets*—** You'll get one countersink in each of the following body diameters: 1/4″, 3/8″, 1/2″, 5/8″, and 3/4″. Furnished in a plastic case. **To Order:** Please specify 60°, 82°, 90°, 100°, or 120° countersink angle.

2742A601 ..... **Per Set** $88.24

High-Speed Steel and Cobalt Steel Countersinks



Single End Fast Cut (Single Flute)

High-Speed Steel—For use on ferrous and nonferrous metals such as steel, brass, and bronze.
Cobalt Steel—Heat and abrasion-resistant, these are for use on hard-to-machine metals such as cast iron, stainless steel, Inconel, and titanium.
TiN (titanium nitride) coated countersinks last longer and withstand more heat than uncoated.
To Order: Please specify 60°, 82°, 90°, 100°, or 120° countersink angle, unless noted. Smooth-finish (six-flute) individual countersinks are also available with a 110° countersink angle, except for double-end countersinks.

Single-End Countersinks

Body Dia.	Shank Dia.	HIGH-SPEED STEEL Uncoated O'all Lg.		Each	HIGH-SPEED STEEL TiN Coated O'all Lg.		Each	COBALT STEEL Uncoated O'all Lg.		Each	COBALT STEEL TiN Coated O'all Lg.		Each
Fast Cut (Single Flute)													
1/8"	1/8"	1 1/4"	2846A121	$7.21	1 1/4"	3210A21	$10.01	1 1/2"	3285A31	$10.28	1 1/2"	3213A31	$11.49
3/16"	3/16"	1 3/8"	2846A122	7.47	1 3/8"	3210A22	10.11	1 1/2"	3285A32	10.83	1 1/2"	3213A32	12.11
1/4"	1/4"	1 1/2"	2846A123	7.88	1 1/2"	3210A23	14.01	2"	3285A33	11.02	2"	3213A33	12.46
3/8"	1/4"	1 3/4"	2846A124	8.83	1 3/4"	3210A24	14.13	2"	3285A34	13.08	2"	3213A34	15.98
1/2"	1/4"	2"	2846A125	10.88	2"	3210A25	19.96	2"	3285A35●	16.85	2"	3213A35●	22.67
5/8"	3/8"	2 1/4"	2846A126	14.44	2 1/4"	3210A26	29.96	2 1/4"	3285A36	23.42	2 1/4"	3213A36	30.55
3/4"	1/2"	2 5/8"	2846A127	21.13	2 5/8"	3210A27	36.66	2 3/4"	3285A37	32.49	2 3/4"	3213A37	46.36
1"	1/2"	2 3/4"	2846A128	36.22	2 3/4"	3210A28	56.76	2 3/4"	3285A38	52.51	2 3/4"	3213A38	65.11
1 1/4"	1/2"	2 3/4" ◆	2846A129	65.57	2 3/4" ◆	3210A29	99.87	3"	3285A39	91.67	3"	3213A39	98.69
1 1/2"	3/4"	2 7/8" ◆	2846A131	95.93	2 7/8" ◆	3210A31	124.35	3 1/2"	3285A41	125.53	3 1/2"	3213A41	141.20
1 3/4"	3/4"	3" ◆	2846A132	122.44	3" ◆	3210A32	179.48	4 1/4"	3285A42	199.04	4 1/4"	3213A42	219.00
2"	3/4"	3 1/4" ◆	2846A133	171.38	3 1/4" ◆	3210A33	239.33	3 3/4"	3285A43	226.18	3 3/4"	3213A43	267.00
General Purpose (Three Flute)													
1/4"	1/4"	1 1/2"	3013A111	9.24	2"	3210A41	10.18	2"	3285A44	11.02	2"	3213A51	12.46
3/8"	1/4"	1 3/4"	3013A112	10.37	2"	3210A42	12.66	2"	3285A45	13.09	2"	3213A52	15.98
1/2"	1/4"	2"	3013A113	12.72	2"	3210A43●	17.50	2"	3285A46●	16.84	2"	3213A53●	22.67
5/8"	3/8"	2 1/4"	3013A114	16.92	2 1/4"	3210A44	21.42	2 1/4"	3285A47	23.43	2 1/4"	3213A54	30.55
3/4"	1/2"	2 5/8"	3013A115	24.66	2 3/4"	3210A45	34.76	2 3/4"	3285A48	32.49	2 3/4"	3213A55	46.36
1"	1/2"	2 3/4"	3013A116	38.08	2 3/4"	3210A46	51.80	2 3/4"	3285A49	52.51	2 3/4"	3213A56	65.11
General Purpose (Four Flute)													
1 1/4"	1/2"	2 3/4" ◆	3013A117▲	91.71	2 3/4" ◆	3210A47▲	107.79	2 3/4" ◆	3285A51▲	111.24	2 3/4" ◆	3213A61▲	118.24
1 1/2"	3/4"	2 7/8" ◆	3013A118▲	125.16	2 7/8" ◆	3210A48▲	149.97	2 7/8" ◆	3285A52▲	154.26	2 7/8" ◆	3213A62▲	165.28
1 3/4"	3/4"	3" ◆	3013A119▲	158.51	3" ◆	3210A49▲	197.33	3" ◆	3285A53▲	199.36	3" ◆	3213A63▲	225.91
2"	3/4"	3 1/4" ◆	3013A121▲	221.78	3 1/4" ◆	3210A51▲	261.88	3 1/4" ◆	3285A54▲	279.32	3 1/4" ◆	3213A64▲	303.04
Smooth Finish (Six Flute)★													
1/8"	1/8"	1 1/4"	3098A109	8.15	1 1/4"	3210A61	8.22	1 1/4"	3285A61	8.20	1 1/2"	3213A11	12.29
3/16"	3/16"	1 3/8"	3098A111	8.70	1 3/8"	3210A62	9.16	1 3/8"	3285A62	8.98	1 1/2"	3213A12	12.96
1/4"	1/4"	1 1/2"	3098A112	8.88	1 1/2"	3210A63	9.75	1 1/2"	3285A63	9.35	2"	3213A13	13.38
5/16"	1/4"	1 3/4"	3098A113	10.59	1 3/4"	3210A64	11.75	1 1/2"	3285A64	11.43	2"	3213A14	15.80
3/8"	1/4"	1 3/4"	3098A114	11.00	1 3/4"	3210A65	12.15	1 3/4"	3285A65	12.30	2"	3213A15	17.07
1/2"	3/8"	2"	3098A115	13.44	2"	3210A66	15.69	2"	3285A66	16.00	2"	3213A16	24.29
5/8"	3/8"	2 1/4"	3098A116	19.61	2 1/4"	3210A67	23.57	2 1/4"	3285A67	24.11	2 1/4"	3213A17	32.66
3/4"	1/2"	2 5/8"	3098A117	27.03	2 5/8"	3210A78	31.16	2 5/8"	3285A68	34.52	2 3/4"	3213A18	49.82
7/8"	1/2"	2 3/4"	3098A118	38.04	2 3/4"	3210A69	43.59	2 3/4"	3285A69	48.67	2 3/4"	3213A19	62.58
1"	1/2"	2 3/4"	3098A119	42.31	2 3/4"	3210A71	49.96	2 3/4"	3285A71	55.42	2 3/4"	3213A21	69.60
1 1/4"	1/2"	2 3/4" ◆	3098A121	65.05	2 3/4" ◆	3210A72	72.77	2 3/4" ◆	3285A72	87.26	3"	3213A22▲	105.56
1 1/2"	3/4"	2 7/8" ◆	3098A122	93.03	2 7/8" ◆	3210A73	106.03	2 7/8" ◆	3285A73	127.59	2 7/8" ◆	3213A23	137.11
2"	3/4"	3 1/4" ◆	3098A123	157.30	3 1/4" ◆	3210A74	177.21	3 1/4" ◆	3285A74	227.66	3 1/4" ◆	3213A24	240.54
2 1/2"	1"	5"	3098A124▲	408.62	5"	3210A75	430.55	5"	3285A75	498.12	5"	3213A25	560.91
3"	1"	5 1/4"	3098A125▲	561.48	5 1/4"	3210A76	646.89	5 1/4"	3285A76	702.12	5 1/4"	3213A26	843.68

● Has 3/8" shank dia. ◆Overall length may vary depending on the countersink angle.
▲Choose from 60°, 82°, or 90° countersink angle. ★ Uncoated countersinks have a black oxide treatment.

Double-End Smooth-Finish (Six-Flute) Countersinks



When one end becomes dull, simply turn the countersink around. All are high-speed steel.

Body Dia.	O'all Lg.		Each	Body Dia.	O'all Lg.		Each
1/8"	1 1/2"	27885A11	$11.73	3/8"	2 1/2"	27885A15	$16.42
3/16"	2"	27885A12	12.58	1/2"	3"	27885A16	20.45
1/4"	2"	27885A13	12.78	5/8"	3 1/2"	27885A17	26.93
5/16"	2 1/2"	27885A14	14.95	3/4"	4"	27885A18	42.33

Single-End Countersink Sets

You'll get one countersink in each of the sizes shown. All are high-speed steel. Five-piece sets come in a wood block stand; the seven-piece set comes in a padded plastic case.

No. of Pcs.	No. of Flutes	Sizes in Set 1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"		Per Set
5	1	✓		✓	✓		✓	✓	2846A134	$97.56
5	3	✓		✓	✓		✓	✓	3012A21	101.04
7	6	✓	✓	✓	✓	✓	✓	✓	3098A126	132.24

Long-Reach Countersinks



Fast Cut (Single Flute)

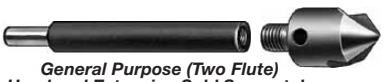

General Purpose (Two Flute) Head and Extension Sold Separately

All countersinks are high-speed steel for use on materials including steel, brass, and bronze. ***Fast-cut*** and ***smooth-finish*** countersinks are made with an integral long-reach shank. Add a carbon steel ***extension*** to give ***general-purpose heads*** a long reach.

Fast Cut (Single Flute)—82°

Body Dia.	Shank Dia.	O'all Lg.		Each
1/8"	1/8"	4"	3172A11	$17.44
3/16"	3/16"	4"	3172A12	19.50
1/4"	1/4"	6"	3172A13	24.02
5/16"	5/16"	6"	3172A14	24.56
3/8"	3/8"	6"	3172A15	29.58
1/2"	3/8"	6"	3172A16	40.26
5/8"	3/8"	6"	3172A17	47.86
3/4"	1/2"	6"	3172A18	53.46
1"	1/2"	6"	3172A19	80.72

Smooth Finish (Six Flute)—82°

Body Dia.	Shank Dia.	O'all Lg.		Each
1/8"	1/8"	4"	3195A21	$19.32
3/16"	3/16"	4"	3195A22	21.46
1/4"	1/4"	6"	3195A23	25.92
5/16"	5/16"	6"	3195A24	27.46
3/8"	3/8"	6"	3195A25	32.48
1/2"	3/8"	6"	3195A26	43.32
5/8"	3/8"	6"	3195A27	52.70
3/4"	1/2"	6"	3195A28	58.28
1"	1/2"	6"	3195A29	85.54

General-Purpose (Two-Flute) Heads

To Order: Please specify 82°, 90°, or 100° countersink angle.

Body Size	Shank Dia.	Each
3/8" Dia. x 3/4" Lg.	1/4"	3109A51 $13.91
1/2" Dia. x 3/4" Lg.	1/4"	3109A52 15.68

General-Purpose (Two-Flute) Extensions

O'all Lg.	Shank Dia.	Each
4"	1/4"	3109A71 $11.32
6"	1/4"	3109A72 13.09
12"	1/4"	3109A73 23.96

Solid-Carbide Countersinks for Hard and Abrasive Materials

Harder and longer lasting than high-speed steel countersinks, these tools are more effective for cutting hard and abrasive materials. They are not for use in hand-held applications.

TiCN (titanium carbonitride) coated tools last longer than uncoated tools and are best for general purpose cuts in steel and cast aluminum. ***TiAlN*** (titanium aluminum nitride) is the best choice for materials up to a Rockwell hardness of C50. ***AlTiN*** (aluminum titanium nitride) is for high-speed machining on materials with a Rockwell hardness up to C70. Not for use on aluminum.

To Order: Please specify 60°, 82°, 90°, or 100° countersink angle. For coated countersinks, also specify TiCN, TiAlN, or AlTiN coating.



Single End Fast Cut (Single Flute)



Double End Smooth Finish (Six Flute)

Single-End Countersinks

Sizes 1/8″ through 1/4″ are made entirely of carbide. Sizes 5/16″ and larger have a solid carbide body that's brazed onto a hardened steel shank. *Note:* Overall length may vary slightly depending on the countersink angle.

			FAST CUT (SINGLE FLUTE)				GENERAL PURPOSE (THREE FLUTE)				SMOOTH FINISH (SIX FLUTE)			
			Uncoated		Coated		Uncoated		Coated		Uncoated		Coated	
Body Dia.	Shank Dia.	O'all Lg.		Each		Each		Each		Each		Each		Each
1/8″	1/8″	1 1/2″	2922A411	$12.51	2944A11	$16.15	29485A22	$15.23	2944A31	$17.14	2923A511	$11.55	2944A51	$15.43
3/16″	3/16″	2″	2922A412	13.37	2944A12	17.77	29485A23	17.15	2944A32	19.59	2923A512	12.34	2944A52	17.02
1/4″	1/4″	2″	2922A413	16.95	2944A13	24.00	29485A11	17.75	2944A33	26.40	2923A513	17.77	2944A53	25.22
5/16″	1/4″	2 5/8″	2922A422	25.63	2944A82	34.72	29485A18	23.50	2944A83	34.72	2923A522	25.07	2944A81	34.72
3/8″	1/4″	2 5/8″	2922A414	24.96	2944A14	34.20	29485A12	27.57	2944A34	39.43	2923A514	25.29	2944A54	35.14
1/2″	1/4″	2 5/8″	2922A415	34.31	2944A15	47.82	29485A13	39.05	2944A35	56.20	2923A515	37.30	2944A55	51.63
5/8″	3/8″	2 3/4″	2922A416	53.23	2944A16	72.75	29485A14	56.40	2944A36	81.20	2923A516	54.15	2944A56	74.87
3/4″	3/8″	2 3/4″	2922A417	72.45	2944A17	94.11	29485A15	80.47	2944A37	109.72	2923A517	75.78	2944A57	99.16
1″	1/2″	3″	2922A418	122.60	2944A18	155.12	29485A16	130.09	2944A38	174.84	2923A518	123.78	2944A58	159.00
1 1/4″	3/4″	3 1/4″	2922A419	180.06	2944A19	229.93	29485A17	195.78	2944A39	264.02	2923A519	183.62	2944A59	237.08
1 1/2″	3/4″	3 1/4″	—	—	—	—	—	—	—	—	2923A521	298.48	2944A61	370.21

Five-Piece Single-End Countersink Sets

You'll get one countersink in each of the following body diameters: 1/4″, 3/8″, 1/2″, 5/8″, and 3/4″. Furnished in a metal case.

To Order: Please specify 60°, 82°, 90°, or 100° countersink angle. For coated countersink sets, also specify TiCN, TiAlN, or AlTiN coating.

	Uncoated Per Set		Coated Per Set	
Fast Cut (Single Flute)	2922A421	$214.15	2944A71	$288.37
General Purpose (Three Flute)	29485A21	236.10	2944A72	330.31
Smooth Finish (Six Flute)	2923A523	220.86	2944A73	300.11

Double-End Smooth-Finish (Six-Flute) Countersinks

When one end is worn, simply turn the countersink around for a sharp cutting edge. All are uncoated solid carbide.

To Order: Please specify 60°, 82°, 90°, 100°, or 120° countersink angle.

Body Dia.	O'all Lg.		Each
1/8″	1 1/2″	27655A11	$19.60
3/16″	2″	27655A12	25.40
1/4″	2″	27655A13	30.63
5/16″	2 1/2″	27655A14	$50.52
3/8″	2 1/2″	27655A15	60.13
1/2″	3″	27655A16	84.17
5/8″	3 1/2″	27655A17	$111.73
3/4″	4″	27655A18	159.90

Carbide-Insert Countersinks

Instead of sharpening your countersink, rotate the carbide insert in these tools to reveal a fresh cutting edge. When all of the edges are used, just replace the insert. You can use them on ferrous and nonferrous metals including steel, aluminum, and copper. An uncoated carbide insert and a Torx wrench are included with each tool.

Uncoated carbide inserts are for general purpose use. ***TiN (titanium nitride) coated carbide inserts*** offer higher heat resistance and reduced friction for increased productivity and tool life.

To Order: For countersinks, please specify 60°, 82°, 90°, or 100° countersink angle.



With Triangle Insert

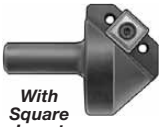

With Square Insert

For Hole Dia. Min.	For Hole Dia. Max.	Shank Dia.	Insert Type, ANSI Code	COUNTERSINKS WITH INSERT	Each	REPLACEMENT CARBIDE INSERTS Uncoated	Each	TiN-Coated	Each	REPLACEMENT INSERT SCREWS	Each
1/4″	3/4″	1/2″	Triangle, TPGH-321	29245A11	$87.78	29245A67	$6.98	29245A71	$8.51	29245A96	$0.46
1/2″	1 3/4″	1/2″	Square, SPGH-433	29245A12	130.22	29245A68	12.19	29245A72	14.62	29245A96	0.46
1 1/4″	2 1/2″	3/4″	Square, SPGH-433	29245A13	171.51	29245A68	12.19	29245A72	14.62	29245A96	0.46

Precision Countersinks for CNC Applications

A tight tolerance ensures accuracy and precision on computer-controlled machines. All have six flutes and the tolerance is +0.001″/-0.001″. ***High-speed steel*** is for use on a wide variety of materials including wood, steel, brass, and bronze. Carbide is harder and longer lasting than high-speed steel and is for use on hard and abrasive materials such as cast aluminum and fiberglass.

To Order: Please specify 60°, 82°, 90°, or 100° countersink angle.



For Min. Hole Dia. 60° Angle	For Min. Hole Dia. 82°, 90°, and 100° Angle	Body Dia.	Shank Dia.	High-Speed Steel O'all Lg.		Each	Carbide O'all Lg.		Each
0.078″	0.046″	1/4″	1/4″	2″	3214A12	$10.63	2″	3308A32	$23.21
0.125″	0.078″	3/8″	1/4″	2″	3214A14	15.33	2 1/2″	3308A34	39.56
0.156″	0.109″	1/2″	3/8″	2″	3214A16	19.56	2 1/2″	3308A36	55.47
0.203″	0.125″	5/8″	3/8″	2 1/4″	3214A18	28.06	2 5/8″	3308A38	84.79
0.250″	0.156″	3/4″	1/2″	2 1/4″	3214A21	32.42	2 3/4″	3308A41	119.00
0.328″	0.203″	1″	1/2″	2 3/4″	3214A25	50.24	3″	3308A45	169.89

Repair Tools for 60° Countersunk Holes

Made with a large number of flutes and cutting edges to lightly shear off material, these tools repair and clean out holes used for machining between centers. The countersink angle is 60°. Sizes 5/16″ to 3/4″ have a solid-carbide head brazed to a steel shank. The 1/4″ size is made entirely of carbide.



Body Dia.	Shank Dia.	O'all Lg.	No. of Flutes		Each
1/4″	1/4″	2″	8	27865A11	$21.91
5/16″	1/4″	2 5/8″	8	27865A12	27.67
3/8″	1/4″	2 5/8″	8	27865A13	30.19
1/2″	1/4″	2 5/8″	8	27865A14	45.39
5/8″	3/8″	2 3/4″	10	27865A15	60.43
3/4″	3/8″	2 3/4″	10	27865A16	89.52

Anti-Vibration Through-Hole Countersinks

Also known as zero-flute countersinks, all have a single flute that passes through the center of the tool. This design reduces vibration (chatter) for smooth cuts and prevents chips from clogging. These countersinks are also great for deburring.

Single End and ***Double End***—*High-speed steel* is for use on steel and other ferrous metals. *Cobalt steel* has higher heat and abrasion resistance for use on high-tensile alloys, stainless steel, and other hard-to-machine materials. Double-end countersinks can be turned around when one end becomes worn.

Single-End with Pilot—The pilot acts as a guide to maintain alignment in the hole. All are high-speed steel for use on steel and other ferrous metals. They have an 82° countersink angle.

To Order: Please specify countersink angle when a choice is given.

Single-End and Double-End Countersinks



Single End



Double End

For Hole Dia. Range	Shank Dia.	O'all Lg.	Available Countersink Angles		Each
Single End—*High-Speed Steel*					
5/32"-13/32"	1/4"	1 21/32"	82°, 90°, 100°	2739A12■	$9.69
3/16"-13/32"	1/4"	1 25/32"	60°	2739A53	10.51
3/16"-17/32"	1/4"	1 7/8"	82°, 90°, 100°	2739A13	11.51
5/16"-17/32"	1/4"	1 15/16"	60°	2739A54	11.51
5/16"-25/32"	1/4"	2 1/8"	82°, 90°	2739A14■	20.00
5/16"-25/32"	1/2"	2 5/8"	82°, 90°, 100°	2739A15■	20.00
7/16"-25/32"	1/4"	2 3/8"	60°	2739A55	20.00
7/16"-25/32"	1/2"	2 3/4"	60°	2739A56	20.00
7/16"-7/8"	1/2"	2 19/32"	82°	2739A45	31.71
9/16"-11/16"	1/2"	2 29/32"	82°, 90°, 100°	2739A16■	33.91
5/8"-1 15/32"	1/2"	2 7/8"	82°	2739A46	52.93
11/16"-1 3/32"	1/2"	2 11/64"	60°	2739A57	34.22
3/4"-1 3/4"	5/8"	3 1/8"	82°	2739A47	83.42
1"-2"	5/8"	3 1/2"	82°	2739A48	109.11
1 1/4"-2 1/2"	3/4"	3 7/8"	82°	2739A49	120.33
Single End—*Cobalt Steel*					
13/64"-27/64"	1/4"	2 1/32"	60°, 82°, 90°	2724A12	14.69
5/16"-17/32"	1/4"	2"	60°, 82°, 90°	2724A13	18.37
1/2"-25/32"	1/2"	2 5/8"	60°, 82°, 90°	2724A14	33.81
3/4"-1 3/32"	1/2"	2 7/8"	60°, 82°, 90°	2724A15	56.43
Double End—*High-Speed Steel*					
1/16"-15/64"	1/4"	1 7/8"	82°, 90°, 100°	2739A11■	9.69
1/8"-15/64"	1/4"	1 7/8"	60°	2739A52	9.69
Double End—*Cobalt Steel*					
3/32"-15/64"	1/4"	1 1/2"	60°, 82°, 90°	2724A11	13.36

■ Overall length may vary slightly depending on the countersink angle.

Single-End Countersinks with Pilot—High-Speed Steel, 82°



Single End with Pilot

For Hole Dia. Range	For Screw Size	Shank Dia.	Pilot Dia.	Pilot Lg.	O'all Lg.		Each
1/4"-33/64"	1/4"	3/8"	1/4"	5/32"	2"	2739A64	$12.72
5/16"-41/64"	5/16"	3/8"	5/16"	5/32"	2 3/16"	2739A66	15.12
3/8"-49/64"	3/8"	1/2"	3/8"	5/32"	2 1/2"	2739A68	20.20
7/16"-53/64"	7/16"	1/2"	7/16"	7/32"	2 11/16"	2739A71	25.20
1/2"-15/16"	1/2"	1/2"	1/2"	1/4"	2 11/16"	2739A73	26.05

Five-Piece Sets—High-Speed Steel



Single End



Single End with Pilot

Single-End Sets—Include one each of the sizes listed below in a wood block stand.

Countersink Angle	1/4" Shank Dia. For Min. Hole Dia.	1/2" Shank Dia. For Min. Hole Dia.		Per Set
60°	1/8", 3/16", 5/16"	7/16", 11/16"	2739A27	$79.22
82°	1/16", 5/32", 3/16"	5/16", 9/16"	2739A42	80.63
90°	1/16", 5/32", 3/16"	5/16", 9/16"	2739A43	80.63
100°	1/16", 5/32", 3/16"	5/16", 9/16"	2739A28	81.04

Single-End with Pilot Set—All have an 82° countersink angle. You'll get one each of the piloted-style tools above furnished in a wood block stand.

2739A29 ..... **Per Set** $93.67

Drill-Tip Countersinks for Flat- and Oval-Head Screws



One tool is all you need to drill and countersink for flat- and oval-head screws. All countersinks are high-speed steel and have two flutes. ***Machine screw and fractional sizes*** have an 82° countersink angle. ***Metric sizes*** have a 90° countersink angle.

Machine Screw and Fractional Sizes

Screw Size	Body Dia.	Shank Dia.	Drill Tip Dia.	O'all Lg.		Each
#5	5/16"	1/4"	0.127"	1 3/4"	28145A41	$14.37
#6	5/16"	1/4"	0.140"	1 3/4"	28145A42	14.48
#8	7/16"	1/4"	0.166"	2"	28145A43	17.18
#10	7/16"	1/4"	0.192"	2"	28145A44	17.36
#12	7/16"	1/4"	0.220"	2"	28145A45	20.04
1/4"	1/2"	3/8"	0.252"	2 3/8"	28145A46	22.88
5/16"	5/8"	3/8"	0.315"	2 5/8"	28145A47	25.73
3/8"	3/4"	1/2"	0.378"	3"	28145A48	31.47

Metric Sizes, mm

Screw Size	Body Dia.	Shank Dia.	Drill Tip Dia.	O'all Lg.		Each
3	6.35	6.35	3.10	44.44	28145A71	$15.71
4	8.20	6.35	4.10	44.44	28145A72	16.11
5	11.10	7.93	5.10	50.79	28145A73	19.32
6	12.70	7.93	6.10	50.79	28145A74	22.55
8	17.45	11.11	8.10	66.66	28145A75	25.74
10	20.63	12.70	10.10	76.19	28145A76	28.98
12	25.40	15.87	12.10	76.19	28145A77	35.40

Eight-Piece Set—You'll get one of each machine screw and fractional size listed above in a plastic tube. ..... 28145A61 **Per Set** $161.63

Step-Saver Countersinks



Single-End High-Speed Steel



Double-End Solid Carbide

A drill point is blended into two of the four flutes, so you can drill a starter hole and countersink in one step—no need for separate tools.

Double-End—When one end becomes dull, simply turn the countersink around.

To Order: Please specify 60°, 82°, 90°, 100°, or 120° countersink angle.

Single-End High-Speed Steel

Body Dia.	Drill Point	Shank Dia.	O'all Lg.		Each
1/8"	0.041"	1/8"	1 1/2"	27535A11	$11.35
3/16"	0.062"	3/16"	1 1/2"	27535A12	12.04
1/4"	0.082"	1/4"	2"	27535A13	12.62
5/16"	0.104"	1/4"	2"	27535A14	14.79
3/8"	0.125"	1/4"	2"	27535A15	17.31
1/2"	0.167"	3/8"	2"	27535A16	22.33
5/8"	0.208"	3/8"	2 1/4"	27535A17	31.67
3/4"	0.250"	1/2"	2 3/4"	27535A18	42.62
7/8"	0.291"	1/2"	2 3/4"	27535A19	53.94
1"	0.333"	1/2"	2 3/4"	27535A21	66.04

Double-End Solid Carbide

Body Dia.	Drill Point	O'all Lg.		Each
1/8"	0.041"	1 1/2"	3290A51	$24.83
3/16"	0.062"	2"	3290A52	32.08
1/4"	0.082"	2"	3290A53	38.64
5/16"	0.104"	2 1/2"	3290A54	64.77
3/8"	0.125"	2 1/2"	3290A55	76.13
1/2"	0.167"	3"	3290A56	106.25
5/8"	0.208"	3 1/2"	3290A57	143.09
3/4"	0.250"	4"	3290A58	198.72

For information about countersinks, see page 2481.

Drill-Point Countersinks



Plain Style



Radius Style



Bell Style

The tips of these countersinks have small drill points and are also double-ended (unless noted)—if one end becomes worn, simply turn the tool around.

Plain Style—For general purpose use.

Radius Style—The surface formed by these tools minimizes contact between the material and the centers, preventing damage and allowing for more precise machining between centers than 60° plain style tools.

Long Plain Style—A great choice when a longer reach is needed.

Bell Style—For applications where accuracy is important and where the material will go through several machining processes. The tool bevels the outer edges and gives an additional 120° chamfer to prevent damage to the center hole.

Use ***60° countersinks*** to create the holes needed to machine material between centers. The drill tip creates a small gap that prevents damage to the points of live or dead centers. The tips on ***82°*** and ***90° countersinks*** create a small pilot hole at the bottom of the countersunk hole to facilitate drilling.

High-speed steel countersinks are for use on steel and other ferrous metals. ***Cobalt steel countersinks*** have higher heat and abrasion resistance for use on high-tensile alloys, stainless steel, and other hard-to-machine materials. ***TiN (titanium nitride) coated high-speed steel countersinks*** have a wear- and heat-resistant coating that improves tool life and reduces friction. In most applications, the user may be able to increase speeds, and in many cases improve feed rates as well.

Plain Style and Radius Style

Trade Size	Drill Size	Body Dia.	O'all Lg.	PLAIN STYLE 60° High-Speed Steel	Each	60° Cobalt Steel	Each	60° TiN-Coated High-Speed Steel	Each	82° and 90° ★ High-Speed Steel	Each	RADIUS STYLE High-Speed Steel	Each
00000	0.010″	1/8″	1 1/4″	2915A111	$8.23	—	—	29775A11	$8.67	2915A132●	$28.39	27435A15	$11.18
0000	0.015″	1/8″	1 1/4″	2915A112	7.29	—	—	29775A12	7.98	2915A133●	24.37	27435A16	10.59
000	0.020″	1/8″	1 1/4″	2915A81	7.64	—	—	29775A13	7.55	2915A134●	22.90	27435A17	9.18
00	0.025″	1/8″	1 1/4″	2915A82	7.49	2915A117◆	$13.37	29775A14	7.55	2915A141	24.33	27435A18	9.18
0	1/32″	1/8″	1 1/4″	2915A83	7.68	2915A118◆	13.37	29775A15	17.60	2915A144	24.33	27435A19	9.18
1	3/64″	1/8″	1 1/4″	2915A11	5.28	2915A51	9.44	29775A16	5.44	2915A145	8.05	27435A21	6.22
2	5/64″	3/16″	1 7/8″	2915A12	5.28	2915A52	8.11	29775A17	5.45	2915A146	8.24	27435A22	6.49
3	7/64″	1/4″	2″	2915A13	5.34	2915A53	8.34	29775A18	5.49	2915A147	8.93	27435A23	6.79
4	1/8″	5/16″	2 1/8″	2915A14	5.48	2915A54	8.40	29775A19	5.77	2915A148	8.99	27435A24	6.99
4 1/2	9/64″	3/8″	2 1/2″	2915A19	7.36	2915A55	22.95	29775A21	16.26	2915A151	18.34	27435A32	10.07
5	3/16″	7/16″	2 3/4″	2915A15	8.16	2915A56	15.20	29775A22	12.20	2915A152	14.09	27435A25	11.00
6	7/32″	1/2″	3″	2915A16	12.54	2915A57	22.77	29775A23	15.44	2915A153	21.13	27435A26	16.61
7	1/4″	5/8″	3 1/4″	2915A17	18.79	2915A58	33.13	29775A24	20.06	2915A154	27.40	27435A27	23.41
8	5/16″	3/4″	3 1/2″	2915A18	26.96	2915A59	47.85	29775A25	24.73	2915A155	35.99	27435A28	31.86
9	11/32″	7/8″	3 5/8″	2915A113	50.40	—	—	29775A26	84.05	2915A161	98.71	27435A29	61.42
10	3/8″	1″	3 3/4″	2915A114	65.59	—	—	29775A27	113.49	2915A164	129.87	27435A31	80.17

★ **To Order:** Please specify 82° or 90° countersink angle. ● Not available with an 82° countersink angle. ◆ Single-ended. 1 1/8″ overall length.

Plain Style Sets—High-Speed Steel

Five-Piece Sets—Come in a plastic case.

Countersink Angle	Trade Sizes In Set	Per Set
60°	00000-0	2917A4 $33.71
60°	1, 2, 3, 4, 5	2917A1 32.37
82°	1, 2, 3, 4, 5	2917A2 $44.24
90°	1, 2, 3, 4, 5	2917A3 44.24

Plain Style Set—Cobalt Steel

Five-Piece Set—Comes in a plastic case.

Countersink Angle	Trade Sizes In Set	Per Set
60°	1, 2, 3, 4, 5	2917A5 $46.01

Long Plain Style

Trade Size	Drill Size	Body Dia.	O'all Lg.	60° High-Speed Steel	Each	60° Cobalt Steel	Each	82° High-Speed Steel	Each	90° High-Speed Steel	Each
1	3/64″	1/8″	3″	2915A31	$11.86	2728A11	$31.09	2756A11	$18.52	2756A41	$18.52
1	3/64″	1/8″	4″	2915A32	12.05	2728A12	32.47	2756A12	21.03	2756A42	21.03
1	3/64″	1/8″	5″	2915A325	16.98	2728A13	45.55	2756A13	29.21	2756A43	29.21
1	3/64″	1/8″	6″	2915A33	22.14	2728A14	59.50	2756A14	38.19	2756A44	38.19
2	5/64″	3/16″	3″	2915A331	10.79	2728A15	31.81	2756A15	20.84	2756A45	20.42
2	5/64″	3/16″	4″	2915A34	13.40	2728A16	35.87	2756A16	23.47	2756A46	23.47
2	5/64″	3/16″	5″	2915A35	17.22	2728A17	46.00	2756A17	29.77	2756A47	29.77
2	5/64″	3/16″	6″	2915A36	22.48	2728A18	59.95	2756A18	39.09	2756A48	39.09
3	7/64″	1/4″	3″	2915A361	11.25	2728A19	33.08	2756A19	21.52	2756A49	21.52
3	7/64″	1/4″	4″	2915A37	14.15	2728A21	37.73	2756A21	24.98	2756A51	24.98
3	7/64″	1/4″	5″	2915A38	18.50	2728A22	49.75	2756A22	32.25	2756A52	32.25
3	7/64″	1/4″	6″	2915A39	22.48	2728A23	60.39	2756A23	39.12	2756A53	39.12
4	1/8″	5/16″	3″	2915A391	13.07	2728A24	38.86	2756A24	25.19	2756A54	25.19
4	1/8″	5/16″	4″	2915A41	15.53	2728A25	41.91	2756A25	27.15	2756A55	27.15
4	1/8″	5/16″	5″	2915A42	20.01	2728A26	53.57	2756A26	40.94	2756A56	40.94
4	1/8″	5/16″	6″	2915A43	23.05	2728A27	61.80	2756A27	39.82	2756A57	39.82
4 1/2	9/64″	3/8″	4″	2915A86	17.22	2728A28	46.03	2756A28	30.29	2756A58	30.29
4 1/2	9/64″	3/8″	5″	2915A44	18.47	2728A29	54.56	2756A29	35.42	2756A59	35.42
4 1/2	9/64″	3/8″	6″	2915A87	24.61	2728A31	65.83	2756A31	43.11	2756A61	43.11
5	3/16″	7/16″	4″	2915A88	18.52	2728A32	53.95	2756A32	35.26	2756A62	35.26
5	3/16″	7/16″	5″	2915A45	23.39	2728A33	62.58	2756A33	40.94	2756A63	40.94
5	3/16″	7/16″	6″	2915A46	28.91	2728A34	70.18	2756A34	45.87	2756A64	45.87
6	7/32″	1/2″	4″	2915A461	20.06	2728A35	57.29	2756A35	28.84	2756A65	28.84
6	7/32″	1/2″	5″	2915A91	24.61	2728A36	65.91	2756A36	43.11	2756A66	43.11
6	7/32″	1/2″	6″	2915A47	29.85	2728A37	79.48	2756A37	52.14	2756A67	52.14
7	1/4″	5/8″	6″	2915A48	54.75	2728A38	146.98	2756A38	94.27	2756A68	94.27
8	5/16″	3/4″	6″	2915A49	59.21	2728A39	158.70	2756A39	101.84	2756A69	101.84

Bell Style

Trade Size	Drill Size	Body Dia.	O'all Lg.	60° High-Speed Steel	Each	Trade Size	Drill Size	Body Dia.	O'all Lg.	60° High-Speed Steel	Each
11	3/64″	1/8″	1 1/4″	2915A71	$6.52	16	3/16″	1/2″	3″	2915A76	$16.67
12	1/16″	3/16″	1 7/8″	2915A72	6.85	17	7/32″	5/8″	3 1/4″	2915A77	22.78
13	3/32″	1/4″	2″	2915A73	6.97	18	1/4″	3/4″	3 1/2″	2915A78	30.48
14	7/64″	5/16″	2 1/8″	2915A74	7.10	19	5/16″	7/8″	3 5/8″	2915A119	62.95
15	5/32″	7/16″	2 3/4″	2915A75	10.96	20	3/8″	1″	3 3/4″	2915A121	85.63

Solid-Carbide Drill-Point Countersinks



Longer-lasting than high-speed steel drill-point countersinks and great for hard and abrasive materials. The tips of these countersinks have small drill points and are double-ended—if one end becomes worn, simply turn the tool around.

Use ***60° countersinks*** to create the holes needed to machine material between centers. The drill tip creates a small gap that prevents damage to the points of live or dead centers. The tips on ***82° and 90° countersinks*** create a small pilot hole at the bottom of the countersunk hole to facilitate drilling.

Uncoated tools are for use with hardened steel, nonferrous metals such as aluminum, and nonmetallic materials. ***Coated tools*** offer superior performance and longer life. *TiCN* (titanium carbonitride) coated tools last longer than uncoated tools and are best for general purpose cutting of steel. They are also the best option for cuts in cast aluminum. *TiAlN* (titanium aluminum nitride) is the best choice for materials up to Rockwell hardness C50. Not for use on aluminum. *AlTiN* (aluminum titanium nitride) is for high-speed machining on materials with a Rockwell hardness between C50 and C70. Not for use on aluminum.

To Order: Please specify 60°, 82°, or 90° countersink angle. For coated tools, also specify TiCN, TiAlN, or AlTiN coating.

Countersinks

Trade Size	Drill Size	Body Dia.	O'all Lg.	Uncoated	Each	Coated	Each
00	0.025″	1/8″	1 1/2″	2925A51	$16.80	2936A11	$22.50
0	1/32″	1/8″	1 1/2″	2925A52	15.77	2936A12	21.31
1	3/64″	1/8″	1 1/2″	2925A53	14.71	2936A13	20.16
2	5/64″	3/16″	2″	2925A54	23.21	2936A14	30.38
3	7/64″	1/4″	2″	2925A55	26.35	2936A15	36.74
4	1/8″	5/16″	2 1/2″	2925A56	36.02	2936A16	51.03
5	3/16″	7/16″	2 3/4″	2925A57	53.52	2936A17	74.78
6	7/32″	1/2″	3″	2925A58	73.47	2936A18	97.12
7	1/4″	5/8″	3 1/2″	2925A59	116.01	2936A19	152.88
8	5/16″	3/4″	4″	2925A61	152.87	2936A21	197.94

Six-Piece Countersink Sets

You'll get one countersink in each of the following trade sizes: 1, 2, 3, 4, 5, and 6. Furnished in a metal case.

To Order: For coated countersink sets, please specify TiCN, TiAlN, or AlTiN coating.

	Uncoated Per Set	Coated Per Set
60° Countersink Angle	2925A22 $227.81	2936A31 $267.42
82° Countersink Angle	2925A72 227.81	2936A32 267.42
90° Countersink Angle	2925A73 227.81	2936A33 267.42

Hand-Driven Countersinks



A manually powered, angled shank makes it easy to countersink and debur next to a shoulder and in hard-to-reach holes.

Complete tool is furnished in a plastic case and includes a 5″ long plastic handle and four high-speed steel countersinks with a 90° countersink angle in 1/8″, 1/4″, 5/16″, and 3/8″ body diameters.

		Each
Complete Tool	28775A61	$58.71
Replacement Parts		
5″ Long Plastic Handle	28775A67	6.61
1/8″ Countersink	28775A62	6.32
1/4″ Countersink	28775A63	17.26
5/16″ Countersink	28775A64	17.63
3/8″ Countersink	28775A65	17.54

Tight-Spot Reverse Countersinks



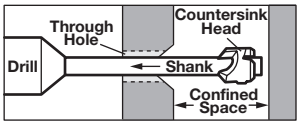

When you can't get at your work with a regular tool, these reverse countersinks do the trick. Simply put the shank (sold separately) in your drill chuck, insert shank into a through hole, and attach the countersink head on the end. Pull back on the drill to countersink the backside of the hole. Shanks are 6″ long and are tempered steel; countersink heads are high-speed steel.

For Hole Dia.	Body Dia.	COUNTERSINK HEADS 82°	Each	100°	Each	SHANKS Dia.	Each
3/32″	5/16″	3309A41	$23.40	3309A11	$23.09	3/32″	3309A31 $8.00
1/8″	5/16″	3309A42	23.40	3309A12	23.09	1/8″	3309A32 8.76
5/32″	5/16″	3309A43	23.40	3309A13	23.09	5/32″	3309A33 9.05
1/8″	3/8″	3309A44	24.50	3309A14	24.13	1/8″	3309A32 8.76
5/32″	3/8″	3309A45	24.50	3309A15	24.13	5/32″	3309A33 9.05
3/16″	3/8″	3309A46	24.50	3309A16	24.13	3/16″	3309A34 9.79
5/32″	1/2″	3309A47	26.10	3309A17	25.49	5/32″	3309A33 9.05
3/16″	1/2″	3309A48	26.10	3309A18	25.49	3/16″	3309A34 9.79
1/4″	1/2″	3309A49	26.10	3309A19	25.49	1/4″	3309A35 10.17

About Counterbores

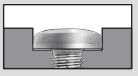

Counterboring

Counterboring—Enlarge the top portion of an existing hole, forming a cylindrical-shaped opening with a flat bottom that acts as a seat for the head of a screw or wood plug.



Shallow Counterboring

Shallow Counterboring—Bore a shallow spot (1/8″ or less) around a hole so that the head of the screw, bolt, or nut is slightly raised above the surface of the material (also known as spot facing).

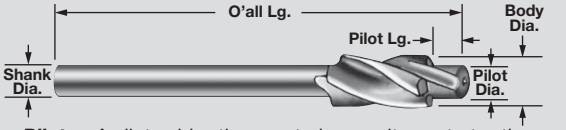

Pilots—A pilot guides the counterbore as it penetrates the material, keeping it centered over the drilled screw hole and ensuring a level seat for the screw head. ***Counterbores with built-in pilots*** have a counterbore and pilot made from one piece of steel. ***Changeable-pilot counterbores*** have a removable pilot, allowing you to use various pilot diameters in a single tool.

Drill-Bit Counterbores for Wood and Plastic



Drill Bit Not Included



Stop Collar Sold Separately

Simply position one of these counterbores on your standard jobbers' or guide-point (brad-point) drill bit and lock it into position with the two set screws. You can now drill and counterbore in a single step.

All are made of steel and have four flutes. Drill bits are not included. For general purpose jobbers' drill bits, see pages 2448-2452.

Stop collars control the cutting depth of your counterbore. They attach with two set screws and are made of steel.

Counterbores Body Dia.	Fits Drill Size	O'all Lg.		Each	Stop Collars OD	Wd.		Each
5/8″	3/16″	1″	3105A11 ✓	$24.12	7/8″	1/4″	2903A17	$4.43
5/8″	1/4″	1″	3105A21	22.81	7/8″	1/4″	2903A17	4.43
3/4″	1/4″	1″	3105A12 ✓	27.15	1″	1/4″	2903A18	4.57
3/4″	5/16″	1 1/8″	3105A13 ✓	25.67	1″	1/4″	2903A18	4.57
7/8″	3/8″	1 1/4″	3105A14 ✓	34.04	1 1/8″	1/4″	2903A19	4.72
1″	7/16″	1 3/8″	3105A15 ✓	38.82	1 1/4″	5/16″	2903A21	5.15
1 1/8″	1/2″	1 1/2″	3105A16 ✓	51.42	1 3/8″	5/16″	2903A32	5.37
1 1/4″	9/16″	1 5/8″	3105A22	53.77	1 1/2″	3/8″	2903A23	6.07

Six-Piece Drill-Bit Counterbore Set—Includes one each of the above counterbores marked with a ✓. The set comes in a wood stand.

3105A31 ..... **Per Set** $205.93

For information about counterbores, see page 2486.

Large-Diameter Drill-Bit Counterbores for Wood

Also known as multi-spur counterbores, these counterbores have two set screws to secure them to any woodworking bit that has a 1/2" shank and a cutting diameter of 1/2" and larger. Counterbores are made of carbon steel and are for wood applications only. The drill bit is not included.



Body Dia.	O'all Lg.		Each
1 1/8"	1"	2921A12	$69.23
1 1/4"	1"	2921A13	70.41
1 3/8"	1"	2921A14	73.10
1 1/2"	1"	2921A15	82.00
1 3/4"	1"	2921A17	$95.04
2"	1 1/4"	2921A19	102.31
2 1/2"	1 1/4"	2921A24	133.41

Drill-Tip Counterbores

In one timesaving operation, drill and counterbore holes with sufficient clearance for socket-head cap screws. All counterbores have round shanks and are made of high-speed steel for use on most metals.



Machine Screw and Fractional Sizes

For Screw Size	Body Dia.	Drill Bit Dia.	Shank Dia.	O'all Lg.		Each
#5	0.220"	0.138"	1/4"	1 7/32"	29445A11	$13.20
#6	0.242"	0.150"	1/4"	1 7/32"	29445A12	13.76
#8	0.290"	0.178"	5/16"	1 15/32"	29445A13	14.10
#10	0.332"	0.200"	5/16"	1 1/2"	29445A14	14.87
1/4"	0.406"	0.280"	7/16"	1 3/4"	29445A15	17.32
5/16"	0.490"	0.340"	1/2"	1 15/16"	29445A16	18.68
3/8"	0.593"	0.406"	5/8"	2 11/32"	29445A17	20.81
7/16"	0.687"	0.468"	5/8"	2 1/2"	29445A18	26.28
1/2"	0.781"	0.532"	5/8"	2 11/16"	29445A19	37.72

Metric Sizes

For Screw Size, mm	Body Dia., mm	Drill Bit Dia., mm	Shank Dia.	O'all Lg.		Each
3	5.95	3.57	1/4"	1 9/32"	29445A21	$14.82
4	7.54	4.36	1/4"	1 13/32"	29445A22	15.35
5	9.13	5.55	5/16"	1 9/16"	29445A23	17.41
6	10.71	6.35	5/16"	1 5/8"	29445A24	20.51
8	13.49	8.73	7/16"	1 29/32"	29445A25	21.30
10	16.66	10.32	1/2"	2 5/32"	29445A26	23.86
12	18.75	12.70	5/8"	2 9/16"	29445A27	35.99
14	21.82	14.68	5/8"	2 27/32"	29445A28	37.39
16	24.60	16.67	5/8"	3 1/32"	29445A29	39.73

Counterbores with Built-In Pilots



High-Speed Steel



Carbide Tipped

Also known as cap-screw and solid-pilot counterbores, these round shank tools have four spiral flutes (unless noted) for easy cutting with no chip clogging.

High-speed steel counterbores are for use on most metals.

Choose *TiN (titanium nitride) coated high-speed steel counterbores* when you need increased wear and heat resistance. For use on ferrous metals such as steel and stainless steel.

Grade C-2 carbide-tipped counterbores are for cast iron and nonferrous metals such as aluminum, brass, and copper.

Grade C-5/C-6 carbide-tipped counterbores are for use on steel.

Machine Screw and Fractional Sizes— Choose from standard size, 1/64" oversize, and 1/32" oversize styles. Use the 1/64" and 1/32" oversize counterbores when screw holes in sheets or layers of material are misaligned. **To Order:** Please specify size: standard, 1/64" oversize, or 1/32" oversize.

Metric Sizes— All are high-speed steel and 0.5 mm oversize.

Machine Screw and Fractional Sizes

For Screw Size	Body Dia.★	Pilot Dia.★	Pilot Lg.	Shank Dia.	O'all Lg.	HIGH-SPEED STEEL Uncoated	Each	HIGH-SPEED STEEL TiN-Coated	Each	CARBIDE TIPPED Grade C-2	Each	CARBIDE TIPPED Grade C-5/C-6	Each
#4	0.1860"	0.1120"	5/32"	5/32"	3 7/8"	2919A11	$21.94	28225A11	$29.59				
#5	0.2050"	0.1250"	3/16"	3/16"	4 1/8"	2919A92	21.94	28225A12	29.59				
#6	0.2280"	0.1380"	7/32"	7/32"	4 5/8"	2919A13	22.18	28225A13	30.00				
#8	0.2720"	0.1640"	1/4"	1/4"	5"	2919A94	24.04	28225A14	31.79				
#10	0.3140"	0.1900"	9/32"	9/32"	5 1/4"	2919A15	24.80	28225A15	33.43				
1/4"	0.3820"	0.2500"	5/16"	5/16"	5 5/8"	2919A96	26.58	28225A16	37.84	3218A11●	$80.08	3218A21●	$99.84
5/16"	0.4750"	0.3125"	3/8"	3/8"	6 1/8"	2919A17	32.14	28225A17	46.50	3218A12●	89.58	3218A22●	100.55
3/8"	0.5720"	0.3750"	1/2"	1/2"	6 1/2"	2919A18	35.00	28225A18	52.80	3218A13●	101.04	3218A23●	113.37
7/16"	0.6630"	0.4375"	1/2"	1/2"	7"	2919A19	44.35	28225A19	68.90	3218A14●	97.57	3218A24●	109.50
1/2"	0.7570"	0.5000"	1/2"	1/2"	7 1/2"	2919A21	50.61	28225A21	79.36	3218A15●	110.65	3218A25●	124.20
5/8"	0.9450"	0.6250"	5/8"	5/8"	7 5/8"	2919A22	89.79	28225A22	125.21	3218A16●	121.94	3218A26●	136.80
3/4"	1.1330"	0.7500"	3/4"	3/4"	7 3/4"	2919A23	102.62	28225A23	147.93	3218A17●	120.20	3218A27●	134.86
7/8"	1.3220"	0.8750"	7/8"	7/8"	8 1/8"	2919A24	125.65	28225A24	184.22	3218A18	133.61	3218A28	150.02
1"	1.5100"	1.0000"	1"	1"	8 1/2"	2919A25	158.56	28225A25	234.81	3218A19	153.01	3218A29	171.68

★ Dimensions are for standard size. Add 1/64" (0.0156") or 1/32" (0.0312") to size shown for approximate dimensions of oversize counterbores.
● Has three flutes.

Metric Sizes

For Screw Size, mm	Body Dia., mm	Pilot Dia., mm	Pilot Lg.	Shank Dia.	O'all Lg.	HIGH-SPEED STEEL Uncoated	Each
3	6.0	3.5	7/32"	3/16"	4 1/2"	2740A11	$21.64
4	7.5	4.5	1/4"	1/4"	5"	2740A12	23.11
5	9.0	5.5	9/32"	5/16"	5 5/8"	2740A13	25.21
6	10.5	6.5	5/16"	5/16"	5 5/8"	2740A14	30.25
8	13.5	8.5	3/8"	1/2"	6 1/2"	2740A15	41.84
10	16.5	10.5	1/2"	1/2"	7"	2740A16	44.36
12	18.5	12.5	1/2"	1/2"	7 1/8"	2740A17	50.99
14	21.5	14.5	9/16"	5/8"	7 1/2"	2740A18	76.43
16	24.5	16.5	5/8"	5/8"	7 5/8"	2740A22	86.69
20	30.5	20.5	3/4"	7/8"	8 1/8"	2740A26	114.68

Counterbore Sets

10-Piece Machine Screw and Fractional Size Sets— Each set contains uncoated high-speed steel counterbores for screw sizes #4 through 1/2". Come in a wood case.

		Per Set
Standard Size	2919A12	$311.64
1/64" Oversize	2919A14	311.64
1/32" Oversize	2919A16	311.64

8-Piece Metric Size Set— Each set contains uncoated high-speed steel counterbores for metric screw sizes 3, 4, 5, 6, 8, 10, 12, and 14 mm. Come in a wood case.

		Per Set
0.5 mm Oversize	2740A19	$323.62

Counterbores for Fillister-Head Screws





Get accurate counterbored holes for fillister-head machine screws. These tools are made of high-speed steel for use on most metals. All have a round shank and two spiral flutes. Shank diameter is slightly larger than the counterbore body diameter.

For Screw Size	Body Dia.	Pilot Head Dia.	O'all Lg.		Each
#0	0.110"	0.059"	2 1/2"	2909A11	$9.14
#1	0.133"	0.072"	2 1/2"	2909A12	9.14
#2	0.155"	0.085"	2 1/2"	2909A13	8.55
#3	0.176"	0.098"	2 1/2"	2909A14	8.55
#4	0.198"	0.111"	2 5/8"	2909A15	8.55
#5	0.220"	0.124"	2 5/8"	2909A16	9.33
#6	0.241"	0.137"	2 5/8"	2909A17	9.69
#8	0.285"	0.163"	2 3/4"	2909A18	10.31
#10	0.328"	0.189"	2 7/8"	2909A19	11.08
#12	0.372"	0.215"	3"	2909A21	12.37

Adjustable-Diameter Counterbores



Straight Shank

Counterbore a variety of diameters with one tool. Simply turn the set screw and adjust the blades to the diameter you need. Use these counterbores to machine tough steel forgings, cast iron, and aluminum alloys. They have a steel body with replaceable high-speed steel blades and carbon steel pilots. The replaceable pilots provided are the minimum size recommended for use with these counterbores. If your job requires a larger pilot size, see 3103A series pilots for changeable-pilot counterbores (sold separately on this page). *Note:* Not for use in hand-held, portable tools.

Body Dia. Range	Shank Dia.	Pilot Shank Dia.	Pilot Head Dia.	*Counterbores*	Each	*Set of Two Repl. Blades*	Per Set
Straight-Shank Counterbores							
1" - 1 1/4"	1/2"	3/16"	7/16"	3104A11	$460.26	3104A31	$163.58
1 1/4" - 1 5/8"	1/2"	1/4"	9/16"	3104A14	462.55	3104A32	178.42
Morse Taper-Shank Counterbore							
2 1/8" - 2 7/8"	#3	3/8"	3/4"	3104A22	741.79	3104A34	339.17

Changeable-Pilot Counterbores



Narrow-Shank Counterbore Shown with Pilot (Pilot Sold Separately)



Pilot

Unlike counterbores with built-in pilots, these tools allow you to change pilots so you can use the right pilot diameter for your application. All have three flutes, except the narrow-shank high-speed steel counterbores, which have four flutes. *Note*: Changeable counterbore pilots are sold separately.

Standard-Shank Counterbores— Use *high-speed steel* tools on most metals and plastic. *Carbide-tipped* tools come in two grades. **To Order:** For carbide-tipped counterbores, please choose grade for steel or grade for nonferrous metals (such as aluminum, brass, and bronze) and cast iron.

Narrow-Shank Counterbores— These have a narrower 1/4" diameter shank and are designed to fit in tools that use a smaller shank size. *High-speed steel* tools are for use on most metals and plastic. *Carbide-tipped* tools are for soft nonferrous metals such as aluminum, brass, and bronze.

Standard-Shank Counterbores

Body Dia.	Shank Dia.	For Pilot Shank Dia.	*High-Speed Steel* O'all Lg.		Each	*Carbide Tipped* O'all Lg.		Each
3/16"	15/64"	3/32"	3"	3015A11	$71.58	———	———	———
7/32"	15/64"	3/32"	3"	3015A12	71.58	———	———	———
1/4"	15/64"	3/32"	3 13/16"	3015A13	40.42	3 13/16"	2814A41	$75.64
9/32"	17/64"	3/32"	3 13/16"	3015A14	43.23	3 13/16"	2814A42	90.93
5/16"	19/64"	3/32"	3 13/16"	3015A15	40.34	3 13/16"	2814A59	82.73
11/32"	5/16"	3/32"	3 13/16"	3015A16	44.17	3 13/16"	2814A31	102.06
3/8"	5/16"	5/32"	4 1/16"	3015A17	45.41	4 1/16"	2814A43	85.39
13/32"	3/8"	5/32"	4 1/16"	3015A18	46.02	4 1/16"	2814A32	96.48
7/16"	3/8"	5/32"	4 1/16"	3015A19	46.64	4 1/16"	2814A44	87.75
15/32"	7/16"	3/16"	4 5/16"	3015A21	48.65	4 5/16"	2814A33	106.52
1/2"	7/16"	3/16"	4 5/16"	3015A22	49.44	4 5/16"	2814A45	96.94
17/32"	1/2"	3/16"	4 5/16"	3015A23	51.80	4 5/16"	2814A34	108.52
9/16"	1/2"	3/16"	4 5/16"	3015A24	55.56	4 5/16"	2814A46	98.66
19/32"	1/2"	3/16"	5 1/8"	3015A25	59.33	5 1/8"	2814A35	111.51
5/8"	1/2"	3/16"	5 1/8"	3015A26	63.87	5 1/8"	2814A47	101.34
21/32"	1/2"	3/16"	5 1/8"	3015A27	65.28	5 1/8"	2814A36	117.73
11/16"	1/2"	3/16"	5 1/8"	3015A28	65.71	5 1/8"	2814A37	106.91
23/32"	1/2"	1/4"	5 3/8"	3015A29	66.94	5 3/8"	2814A38	119.71
3/4"	1/2"	1/4"	5 3/8"	3015A31	65.36	5 3/8"	2814A49	108.68
25/32"	5/8"	1/4"	5 1/8"	3015A32	68.34	5 3/8"	2814A39	121.67
13/16"	5/8"	1/4"	5 1/8"	3015A33	71.14	5 3/8"	2814A51	110.62
7/8"	3/4"	1/4"	5 3/8"	3015A34	74.03	5 3/8"	2814A53	116.29
15/16"	3/4"	1/4"	6 1/8"	3015A43	77.70	6 1/8"	2814A56	119.46
1"	3/4"	5/16"	6 3/8"	3015A36	92.75	6 3/8"	2814A54	122.26
1 1/8"	1"	5/16"	6 3/8"	3015A38	103.95	6 3/8"	2814A58	127.79

Narrow-Shank Counterbores

Body Dia.	Shank Dia.	For Pilot Shank Dia.	*High-Speed Steel* O'all Lg.		Each	*Carbide Tipped* O'all Lg.		Each
1/4"	1/4"	3/32"	2 3/8"	3102A11	$23.61	2 3/8"	31125A21	$51.19
9/32"	1/4"	3/32"	2 3/8"	3102A12	24.22	2 3/8"	31125A22	51.25
5/16"	1/4"	3/32"	2 3/8"	3102A13	24.39	2 3/8"	31125A23	52.56
11/32"	1/4"	3/32"	2 3/8"	3102A14	24.93	2 3/8"	31125A24	53.60
3/8"	1/4"	3/32"	2 3/8"	3102A15	24.93	2 3/8"	31125A25	53.77
13/32"	1/4"	1/8"	2 13/16"	3102A16	25.85	2 3/4"	31125A26	61.17
7/16"	1/4"	1/8"	2 13/16"	3102A17	25.85	2 3/4"	31125A27	65.93
15/32"	1/4"	1/8"	2 13/16"	3102A18	27.24	2 3/4"	31125A28	67.03
1/2"	1/4"	1/8"	2 13/16"	3102A19	27.24	2 3/4"	31125A29	67.85
17/32"	1/4"	1/8"	2 13/16"	3102A21	33.80	2 3/4"	31125A31	68.18
9/16"	1/4"	1/8"	2 13/16"	3102A22	33.80	2 3/4"	31125A32	68.45
19/32"	1/4"	1/8"	2 13/16"	3102A23	35.50	2 3/4"	31125A33	68.84
5/8"	1/4"	1/8"	2 13/16"	3102A24	35.50	2 3/4"	31125A34	69.61
21/32"	1/4"	3/16"	3 1/8"	3102A25	37.57	2 3/4"	31125A35	77.33
11/16"	1/4"	3/16"	3 1/8"	3102A26	38.57	2 3/4"	31125A36	81.22
23/32"	1/4"	3/16"	3 1/8"	3102A27	40.04	2 3/4"	31125A37	83.97
3/4"	1/4"	3/16"	3 1/8"	3102A28	41.59	2 3/4"	31125A38	85.01
25/32"	1/4"	3/16"	3 1/8"	3102A29	43.44	2 3/4"	31125A39	85.39
13/16"	1/4"	3/16"	3 1/8"	3102A31	43.44	2 3/4"	31125A41	86.10
7/8"	1/4"	3/16"	3 1/8"	3102A33	46.59	2 3/4"	31125A43	87.58
15/16"	1/4"	3/16"	3 1/8"	3102A35	49.74	2 3/4"	31125A45	89.01
1"	1/4"	3/16"	3 1/8"	3102A37	53.26	2 3/4"	31125A47	89.88

Steel Pilots for Changeable-Pilot Counterbores

When selecting a pilot, be sure the pilot shank diameter is compatible with your counterbore. The length of the pilot head is equal to its diameter. All are carbon steel. **Also Available:** Other sizes. Please ask for 3103A999 and specify pilot diameter and shank diameter.

Pilot Shank Dia.	Pilot Head Dia.		Each
3/32"	3/32"	3103A1	$5.54
3/32"	1/8"	3103A11	5.54
3/32"	5/32"	3103A12	5.54
3/32"	3/16"	3103A13	5.14
3/32"	7/32"	3103A14	6.49
3/32"	1/4"	3103A15	6.50
1/8"	1/8"	3103A16	6.00
1/8"	5/32"	3103A17	6.00
1/8"	3/16"	3103A18	6.00
1/8"	7/32"	3103A19	6.67
1/8"	1/4"	3103A2	6.67
1/8"	5/16"	3103A21	7.03
1/8"	3/8"	3103A22	$7.03
5/32"	3/16"	3103A23	5.58
5/32"	7/32"	3103A24	6.50
5/32"	1/4"	3103A25	6.50
5/32"	9/32"	3103A61	6.50
5/32"	5/16"	3103A26	6.50
5/32"	3/8"	3103A27	6.50
3/16"	3/16"	3103A64	6.00
3/16"	1/4"	3103A28	6.67
3/16"	9/32"	3103A62	7.22
3/16"	5/16"	3103A29	7.22
3/16"	11/32"	3103A63	7.22
3/16"	3/8"	3103A3	$7.22
3/16"	13/32"	3103A65	7.22
3/16"	7/16"	3103A31	7.22
3/16"	15/32"	3103A66	7.22
3/16"	1/2"	3103A32	5.20
3/16"	17/32"	3103A48	20.02
3/16"	9/16"	3103A33	10.64
3/16"	5/8"	3103A34	12.75
1/4"	5/16"	3103A35	6.84
1/4"	3/8"	3103A36	6.84
1/4"	7/16"	3103A37	6.84
1/4"	1/2"	3103A38	7.43
1/4"	9/16"	3103A39	$10.94
1/4"	5/8"	3103A4	13.11
1/4"	11/16"	3103A41	11.65
1/4"	3/4"	3103A42	15.95
1/4"	13/16"	3103A43	18.26
5/16"	3/8"	3103A45	7.03
5/16"	7/16"	3103A46	7.43
5/16"	1/2"	3103A47	7.43
5/16"	5/8"	3103A49	13.11
5/16"	11/16"	3103A5	14.78
5/16"	3/4"	3103A51	14.78
5/16"	1"	3103A55	20.85

Standard-Shank High-Speed Steel Changeable-Pilot Counterbore Set

15-Piece Set— You'll get five high-speed steel counterbores in sizes 1/4" - 1/2" x 16ths. You'll also get 10 pilots: 1/8", 5/32", 3/16", and 1/4" diameters with a 3/32" shank; 3/16", 7/32", 1/4", and 5/16" diameters with a 5/32" shank; and 1/4" and 5/16" diameters with a 3/16" shank. Come in a wood case.

2817A71 ..... **Per Set** $395.38

Tight-Spot Reverse Counterbores

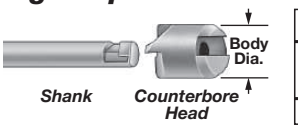

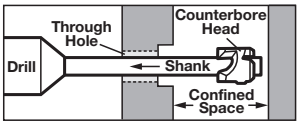

If limited space makes it difficult to counterbore your hole, access it from the other side with this tool. Simply put the shank (sold separately) in your drill chuck, insert shank into a through hole, and attach the counterbore on the end. Pull back on the drill to counterbore the backside of the hole. All are high-speed steel with four flutes; for use on most metals. Shanks are 6″ long and made of steel.

Counterbore Heads				Shanks		
For Hole Dia.	Body Dia.		Each	Dia.		Each
3/32″	5/16″	3323A21	$20.04	3/32″	3309A31	$8.00
1/8″	5/16″	3323A22	20.04	1/8″	3309A32	8.76
1/8″	3/8″	3323A24	20.75	1/8″	3309A32	8.76
5/32″	5/16″	3323A23	20.04	5/32″	3309A33	9.05
5/32″	3/8″	3323A25	20.75	5/32″	3309A33	9.05
5/32″	1/2″	3323A27	21.96	5/32″	3309A33	9.05
3/16″	3/8″	3323A26	20.75	3/16″	3309A34	9.79
3/16″	1/2″	3323A28	21.96	3/16″	3309A34	9.79
1/4″	1/2″	3323A29	21.96	1/4″	3309A35	10.17

Contouring Router Bits

A ball-nose design with upward chip removal provides accurate, smooth carving and modeling in CNC routers. These solid-carbide router bits allow for contours and curved corners and are for use on modeling foam, soft and hard plastics, and aluminum blocks and plates. All have two spiral flutes.

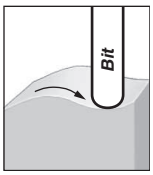



Cutting Dia.	Cutting Lg.	Shank Dia.	O'all Lg.		Each
1/8″	1/2″	1/4″	2″	8793A21	$32.50
3/16″	3/4″	1/4″	2″	8793A22	32.50
1/4″	7/8″	1/4″	2 1/2″	8793A23	32.50
3/8″	1 1/8″	3/8″	3″	8793A24	51.56
1/2″	1 1/8″	1/2″	3″	8793A25	79.28

Router Bits for Carbon Fiber

Designed for routing carbon fiber composites and fiber laminates with minimal material separation and loosening of fibers. All are solid carbide with diamond-pattern cutting edges.



Cutting Dia.	Cutting Lg.	Shank Dia.	O'all Lg.		Each
1/8″	1/2″	1/8″	2″	3334A11	$81.55
3/16″	5/8″	3/16″	2″	3334A12	84.45
1/4″	3/4″	1/4″	2″	3334A13	84.98
1/4″	1 1/2″	1/4″	3″	3334A14	86.78
3/8″	1 1/8″	3/8″	3″	3334A15	91.76
1/2″	1 1/8″	1/2″	3 1/2″	3334A16	99.42
1/2″	2 1/8″	1/2″	4″	3334A17	106.85

Mil. Spec. Hydraulic Port Counterbores



MS 33649



MS 16142

Create the contoured profiles you need for installing hydraulic ports in accordance with military and SAE specifications. All counterbores are made of steel, have an integral reamer pilot, and are for use on most metals.

Thread Size	Series No.	Shank Dia.	Shank Lg.	O'all Lg.		Each
MS 33649 Counterbores						
3/8″-24	NB-3	0.4995″	2″	5 1/16″	2144A11	$199.74
7/16″-20	NB-4	0.4995″	2″	5 5/32″	2144A12	204.00
1/2″-20	NB-5	0.4995″	2″	5 5/32″	2144A13	213.71
9/16″-18	NB-6	0.4995″	2″	5 3/16″	2144A14	222.21
3/4″-16	NB-8	0.4995″	2″	5 5/16″	2144A15	238.00
MS 16142 Counterbores						
3/8″-24	SAE-3SS	0.5000″	2″	3 3/4″	2144A21	166.36
7/16″-20	SAE-4SS	0.5000″	2″	3 3/4″	2144A22	170.00
1/2″-20	SAE-5SS	0.7500″	2 1/32″	4″	2144A23	178.50
9/16″-18	SAE-6SS	0.7500″	2 1/32″	4″	2144A24	185.79
3/4″-16	SAE-8SS	0.7500″	2 1/32″	4″	2144A25	199.14

Router Bits for Aluminum

Machine aluminum on your CNC router with these solid-carbide bits. All have one flute.

Grooving and Slotting— Have a spiral flute for upward chip removal. They machine multiple sheets and plates.

Edging— Have a straight flute and do not pull up on your material, making them great for edges.



Grooving and Slotting



Edging

Cutting Dia.	Cutting Lg.	Shank Dia.	O'all Lg.		Each
Grooving and Slotting					
1/8″	1/4″	1/8″	1 1/2″	3317A21	$26.10
1/8″	1/2″	1/4″	2″	3317A22	32.65
3/16″	3/8″	1/4″	2″	3317A23	32.65
3/16″	5/8″	1/4″	2″	3317A24	34.53
1/4″	3/8″	1/4″	2″	3317A25	32.53
1/4″	1 1/4″	1/4″	3″	3317A26	50.83
3/8″	3/4″	3/8″	3″	3317A27	60.36
3/8″	1 1/8″	3/8″	3″	3317A28	73.13
Edging					
1/8″	1/2″	1/4″	2″	3317A31	32.32
3/16″	5/8″	1/4″	2″	3317A32	32.32
1/4″	3/4″	1/4″	2 1/2″	3317A33	32.32
5/16″	13/16″	3/8″	2 1/2″	3317A34	55.34
3/8″	7/8″	3/8″	2 1/2″	3317A35	55.34
7/16″	1″	1/2″	3″	3317A36	84.60
1/2″	1″	1/2″	3″	3317A37	84.60

Router Bits for Stainless Steel

An AlTiN (aluminum titanium nitride) coating over these solid-carbide router bits provides long tool life for cutting stainless steel. They have two spiral flutes for upward chip removal. *Note*: Do not use a dust collector when cutting stainless steel, as it may cause a fire.



Cutting Dia.	Cutting Lg.	Shank Dia.	O'all Lg.		Each
1/8″	1/4″	1/8″	2″	3324A11	$25.45
3/16″	3/8″	3/16″	2 1/2″	3324A12	35.33
1/4″	3/8″	1/4″	2 1/2″	3324A13	36.82
3/8″	1/2″	3/8″	3″	3324A14	52.00

Router Bits for Fiberglass and Ceramics

Fiberglass Cutting— The diamond-pattern cutting edge creates small chips for a fine finish on fiberglass-reinforced polyester, graphite-composite laminates, and some grades of Kevlar. Bits are made of solid carbide. ***Plain end*** are for side routing. ***Bur end*** are for side and bottom routing. ***End-mill end*** are for side and bottom routing, as well as for plunge cuts. ***Drill-point end*** are for fast plunge cutting and slotting.

Ceramic Cutting— Not to be confused with plated tools, a 40-grit diamond coating is firmly bonded to the router bit body using a high-temperature metal alloy. These bits stay sharper longer than solid carbide for longer tool life. Use for routing nonmetallic composites such as graphite, fiberglass, phenolics, and ceramics.

			FIBERGLASS CUTTING								CERAMIC CUTTING		
													
Cutting Dia.	Cutting Lg.	Shank Dia.	O'all Lg.	Plain End	Each	Bur End	Each	End-Mill End	Each	Drill-Point End	Each	O'all Lg.		Each
1/16″	3/16″	1/8″	1 1/2″	8785A11	$7.80	8785A31	$9.27	8785A21	$9.30	8785A41	$9.85	—	—	—
1/8″	1/2″	1/8″	1 1/2″	8785A12	7.92	8785A32	8.84	8785A22	9.57	8785A42	10.12	2″	8796A11	$28.08
3/16″	5/8″	3/16″	2″	8785A13	13.00	8785A33	14.44	8785A23	15.02	8785A43	16.43	—	—	—
1/4″	3/4″	1/4″	2″	8785A14	14.12	8785A34	15.78	8785A24	16.83	8785A44	17.55	2 1/2″	8796A12	38.42
3/8″	1″	3/8″	2 1/2″	8785A15	36.58	8785A35	39.74	8785A25	41.29	8785A45	42.90	3″	8796A13	58.02
1/2″	1″	1/2″	3″	8785A16	50.20	8785A36	55.25	8785A26	57.89	8785A46	60.60	4″	8796A14★	65.68
3/4″	1″	1/2″	—	—	—	—	—	—	—	—	—	4″	8796A15	93.05

★ Cutting length is 1 1/2″.

Router Bits for Plastic

Carbide-tipped bits outlast ***high-speed steel*** bits. ***Solid-carbide*** bits last longer than carbide-tipped bits and are not for hand-held applications.

(1 & 2) Bits for Hard and Soft Plastic

1



Up Cut



Down Cut

(1) Smooth-finish bits produce a smooth groove or slot in soft and hard plastic. All have two spiral flutes and are pilotless. *Up-cut bits* provide upward chip removal and the best finish on the bottom of your material; *down-cut bits* push chips down and give the best finish on the top of your material.

(2) Edge-rounding bits create round edges on soft and hard plastic sheets. Bits have 3/8″ cutting length. All have one straight flute and are pilotless.

2



Cutting Dia.	Cutting Lg./Radius	Shank Dia.	O'all Lg.		Each
(1) Smooth-Finish Solid-Carbide Bits—Up Cut					
1/4″	3/8″ length	1/4″	2 1/2″	8782A11	$18.76
1/4″	3/4″ length	1/4″	2 1/2″	8782A12	20.04
(1) Smooth-Finish Solid-Carbide Bits—Down Cut					
1/4″	3/8″ length	1/4″	2 1/2″	8782A21	18.76
1/4″	3/4″ length	1/4″	2 1/2″	8782A22	20.04
(2) Edge-Rounding Solid-Carbide Bits					
1/4″	1/8″ radius	1/4″	2 1/2″	3144A21	38.22
1/4″	3/16″ radius	1/4″	2 1/2″	3144A22	38.22
1/4″	1/4″ radius	1/4″	2 1/2″	3144A23	38.22

(3-5) Bits for Plastic Laminates

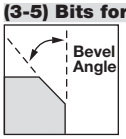

Great for trimming and edging laminate countertops and other laminate materials. All have straight flutes.

(3) Flush/22° bevel-cutting bit has two flutes and a ball-bearing pilot for flush and 22° bevel cuts.

(4) Flush-cutting and ***7° bevel-cutting*** bits have one flute and a solid pilot for either flush or 7° bevel cuts.

(5) Smooth-edging bits have two flutes (unless noted) with a ball-bearing pilot for flush cuts. The bearing diameter is equal to the cutting diameter.

3



4



5



Cutting Dia.	Cutting Lg.	Shank Dia.	O'all Lg.		Each
(3) Flush/22° Bevel-Cutting Carbide-Tipped Bit					
1/2″	3/8″	1/4″	2″	35465A63	$22.02
(4) Flush-Cutting Solid-Carbide Bit					
1/4″	1/4″	1/4″	1 1/2″	35505A61	10.79
(4) 7° Bevel-Cutting Solid-Carbide Bit					
1/4″	1/4″	1/4″	1 1/2″	35505A59	10.79
(5) Smooth-Edging Carbide-Tipped Bits					
3/8″	1/2″	1/4″	2 1/4″	35505A62	16.82
3/8″	1″	1/4″	2 3/4″	35505A63	17.73
1/2″	1/2″	1/4″	2″	35505A64	17.06
1/2″	1″	1/4″	2 3/4″	35505A65★	19.92
1/2″	1″	1/2″	3 1/4″	35505A66	19.92
1/2″	1 1/2″	1/2″	4 1/4″	35505A67	19.92
1/2″	2″	1/2″	4 1/4″	35505A68	30.78

★ Has three flutes.

(6) Bits for Hard Plastic and Composites

6



For plunge and profile cuts in fiberglass, phenolics, reinforced acetal, cast acrylic, melamine, nylon, rigid PVC, vinyl, and solid-surface materials such as Corian. All have two straight flutes and are pilotless.

Cutting Dia.	Cutting Lg.	Shank Dia.	O'all Lg.		Each
(6) Smooth-Finish Solid-Carbide Bits					
1/8″	1/4″	1/4″	2″	31615A19	$21.33
3/16″	5/8″	1/4″	2″	31615A21	21.52
1/4″	3/4″	1/4″	2 1/2″	31615A22	23.73
3/8″	7/8″	3/8″	2 1/2″	31615A23	43.29
1/2″	1″	1/2″	3″	31615A24	68.02

(7 & 8) Bits for Soft Plastic

7



Fast Cutting

8



Smooth Finish

For plunge and profile cuts in soft- to medium-density plastics such as ABS, polycarbonate, polyethylene, polystyrene, polypropylene, HDPE, UHMW, extruded acrylic, and some PVCs. All have straight flutes and are pilotless.

(7) Fast-cutting bits have one flute.

(8) Smooth-finish bits have two flutes.

Cutting Dia.	Cutting Lg.	Shank Dia.	O'all Lg.		Each
(7) Fast-Cutting High-Speed Steel Bits					
1/8″	1/2″	1/4″	2″	36035A21	$12.24
3/16″	5/8″	1/4″	2″	36035A22	9.72
1/4″	1″	1/4″	2 3/8″	36035A23	9.58
(7) Fast-Cutting Solid-Carbide Bits					
1/8″	1/2″	1/4″	2″	36035A49	23.84
3/16″	5/8″	1/4″	2″	36035A51	26.44
1/4″	3/4″	1/4″	2 1/2″	36035A52	27.88
3/8″	7/8″	3/8″	2 1/2″	36035A53	48.00
1/2″	1″	1/2″	3″	36035A54	69.38
(8) Smooth-Finish High-Speed Steel Bits					
3/16″	5/8″	1/4″	2″	36035A41	13.36
1/4″	3/4″	1/4″	2 1/8″	36035A42	9.96
1/4″	1″	1/4″	2 3/8″	36035A43	11.28
3/8″	1″	3/8″	2 1/2″	36035A45	16.44
1/2″	1 1/4″	1/2″	2 3/4″	36035A47	20.02
(8) Smooth-Finish Solid-Carbide Bits					
1/8″	1/2″	1/4″	2″	36035A61	20.64
3/16″	5/8″	1/4″	2″	36035A62	20.64
1/4″	1″	1/4″	2 1/2″	36035A63	22.62

Router Bits for Wood and Laminates

9



Up Cut



Down Cut

The spiral flutes on these bits cut soft and hard natural woods, wood composites such as plywood and particleboard, and solid-surface materials such as Corian. Made of solid carbide.

Up-Cut Bits—Designed for effective, upward chip removal. These bits are the best choice for straight grooving and slotting applications where a smoother finish on the bottom of the material is desired. Because these bits are designed to lift, it is necessary to securely clamp your material.

Down-Cut Bits—Push chips down from the cut. Use this style for grooving and slotting applications where a smoother finish on the top of your material is desired. They are the best choice for laminates because they eliminate edge chipping. Also good for small parts that would be difficult to clamp down.

(9) Smooth-finish bits have two flutes and make fast, clean cuts with a smooth finish.

(10) Ultra-smooth-finish bits have three flutes and provide a smoother finish than smooth-finish bits. Also for use on hard plastics.

10



Up Cut



Down Cut

Cutting Dia.	Cutting Lg.	Shank Dia.	O'all Lg.	*Up Cut*	*Down Cut*	Each
(9) Smooth-Finish Bits						
1/8″	1/2″	1/4″	2″	27395A21	27395A41	$20.11
5/32″	5/8″	1/4″	2″	27395A22	27395A42	20.11
3/16″	3/4″	1/4″	2 1/2″	27395A23	27395A43	20.11
1/4″	7/8″	1/4″	2 1/2″	27395A24	27395A44	22.37
1/4″	1″	1/4″	2 1/2″	27395A25	27395A45	23.18
5/16″	1 1/8″	5/16″	3″	27395A26	27395A46	38.40
5/16″	1 1/8″	1/2″	3″	27395A27	27395A47	59.68
3/8″	1 1/8″	3/8″	3″	27395A28	27395A48	42.93
3/8″	1 1/4″	3/8″	3″	27395A37	27395A57	41.26
3/8″	1 1/4″	1/2″	3″	27395A29	27395A49	60.66
1/2″	1 1/4″	1/2″	3 1/2″	27395A31	27395A51	58.05
1/2″	1 5/8″	1/2″	3 1/2″	27395A32	27395A52	62.73
1/2″	2 1/8″	1/2″	4″	27395A33	27395A53	70.91
(10) Ultra-Smooth-Finish Bits						
1/4″	7/8″	1/4″	3″	8771A11	8771A21	53.15
3/8″	1 1/8″	3/8″	3″	8771A12	8771A22	73.06
1/2″	1 5/8″	1/2″	4″	8771A13	8771A23	118.66

Router Bits for Wood

Create decorative and functional edges in wood and wood composites such as plywood and particleboard. All bits have two flutes, unless otherwise stated. ***Square-cut*** bits come in your choice of high-speed steel or carbide-tipped. All other styles are carbide-tipped. ***Carbide-tipped*** bits outlast ***high-speed steel***.

Square Cut—Pilotless



Cutting Dia.	Cutting Lg.	Shank Dia.	O'all Lg.		Each
High-Speed Steel					
3/16"	5/8"	1/4"	2"	2891A11	$6.73
1/4"	3/4"	1/2"	2 3/8"	2891A12	14.07
1/4"	1"	1/4"	2 1/4"	2891A23	7.63
5/16"	1 1/4"	1/2"	2 3/4"	2891A13	18.56
3/8"	1"	1/4"	2 1/4"	2891A24	12.71
3/8"	1 1/2"	1/2"	3"	2891A14	19.87
1/2"	3/4"	1/4"	2"	2891A25	10.27
1/2"	1 1/4"	1/2"	2 3/4"	2891A16	14.87
5/8"	1 1/4"	1/2"	2 3/4"	2891A18	28.69
3/4"	3/4"	1/4"	1 3/4"	2891A26	24.02
3/4"	1 1/4"	1/2"	2 3/4"	2891A19	22.42
7/8"	1 1/2"	1/2"	3"	2891A21	57.05
1"	1 1/4"	1/2"	2 3/4"	2891A22	53.45
Carbide-Tipped					
1/4"	7/8"	1/4"	2 1/8"	2904A22	16.30
1/4"	1"	1/4"	2 1/4"	2904A31	16.23
5/16"	3/4"	1/2"	2 1/2"	2904A12	24.60
5/16"	1"	1/4"	2 1/4"	2904A11	16.54
3/8"	1"	1/4"	2 1/4"	2904A13	16.36
3/8"	1"	1/2"	2 3/4"	2904A14	16.91
3/8"	1 1/4"	1/2"	3"	2904A15	15.38
1/2"	1"	1/4"	2 1/4"	2904A23	16.55
1/2"	1"	1/2"	2 5/8"	2904A16	16.59
1/2"	1 1/4"	1/2"	2 7/8"	2904A26	18.39
1/2"	1 1/2"	1/2"	3 1/8"	2904A17	17.27
1/2"	2"	1/2"	4 1/4"	2904A18	18.58
5/8"	3/4"	1/4"	2"	2904A24	15.57
5/8"	1 1/4"	1/2"	2 7/8"	2904A19	16.65
3/4"	3/4"	1/4"	2"	2904A25	17.88
3/4"	1 1/4"	1/2"	2 7/8"	2904A21	17.15

Corner Round—Have 1/2" dia. ball-bearing pilot.



Curve Radius	Cutting Lg.	Shank Dia.	O'all Lg.		Each
1/8"	3/8"	1/4"	2 1/8"	35455A29	$27.75
5/32"	15/32"	1/4"	2 3/32"	35455A37	30.53
3/16"	1/2"	1/4"	2"	35455A36	26.22
1/4"	7/16"	1/4"	1 29/32"	35455A31	27.67
5/16"	9/16"	1/4"	2 1/4"	35455A38	30.35
3/8"	5/8"	1/4"	2 1/32"	35455A32	29.46
1/2"	3/4"	1/4"	2 5/32"	35455A33	31.33
1/2"	3/4"	1/2"	2 11/16"	35455A34	37.20
3/4"	1 11/32"	1/2"	3"	35455A35	48.70

Wavy—Has 1/2" dia. ball-bearing pilot.



Cutting Dia.	Cutting Lg.	Shank Dia.	O'all Lg.		Each
1 1/4"	5/8"	1/4"	2 1/4"	29875A31	$37.90

Roman Ogee—Has 3/8" dia. ball-bearing pilot.



Curve Radius	Cutting Lg.	Shank Dia.	O'all Lg.		Each
5/32"	9/16"	1/4"	2"	35495A11	$32.50

3/16" Bead—Have 3/8" dia. ball-bearing pilot.



Curve Radius	Cutting Lg.	Shank Dia.	O'all Lg.		Each
1/4"	7/16"	1/4"	1 29/32"	35475A71	$26.60
3/8"	23/32"	1/4"	2 3/8"	35475A72	30.11
1/2"	13/16"	1/4"	2 13/32"	35475A73	37.18

Chamfer—Have 1/2" dia. ball-bearing pilot.



Bevel Angle	Cutting Lg.	Shank Dia.	O'all Lg.		Each
25°	1/2"	1/4"	1 7/8"	35485A23	$24.15
45°	1/2"	1/4"	2"	35485A21	28.44
45°	1/2"	1/2"	2 1/2"	35485A22	29.67

Cove—Have 3/8" dia. ball-bearing pilot.

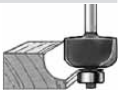

Curve Radius	Cutting Lg.	Shank Dia.	O'all Lg.		Each
1/4"	9/16"	1/4"	2"	29655A11	$33.37
3/8"	9/16"	1/4"	2"	29655A12	33.56
1/2"	5/8"	1/4"	2 1/8"	29655A13	34.71

Rabbet—Has 1/2" dia. ball-bearing pilot.



Rabbet Wd.	Cutting Lg.	Shank Dia.	O'all Lg.		Each
3/8"	1/2"	1/4"	2"	3187A16	$26.55

Hinge Mortise—Pilotless

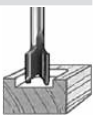

Cutting Dia.	Cutting Lg.	Shank Dia.	O'all Lg.		Each
1/2"	3/4"	1/4"	2"	3794A41	$17.07
3/4"	3/4"	1/4"	2"	3794A42	17.07

Panel Pilot—Pilotless with one flute.

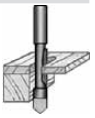

Cutting Dia.	Cutting Lg.	Shank Dia.	O'all Lg.		Each
1/4"	3/4"	1/4"	2 9/16"	3190A11	$12.44
3/8"	1"	3/8"	3"	3190A12	12.90
1/2"	1 3/16"	1/2"	3 1/2"	3190A13	14.32

Electric and Air-Powered Routers

Electric routers are CSA certified, UL listed, and meet OSHA requirements, unless noted. All are double insulated and have a two-prong plug.

Style A router comes with a 1/4" collet. *Styles B* and *C* come with 1/4" and 1/2" collets.

Style C router is variable speed with plunging capability. It has a six-position speed control that matches rpm to your material and circuitry that maintains constant speed under full load. An eight-position turret and depth-rod control maintain cutting depth. Also has a swing-away chip shield. C-UL listed.

Air-powered router *(Style D)* includes a 6-ft 3/8" air hose and a 3/8" collet. Recommended operating pressure is 90 psi. Air consumption is 38 cfm. Air inlet is 1/4" NPT. Additional collet sizes are sold separately below.

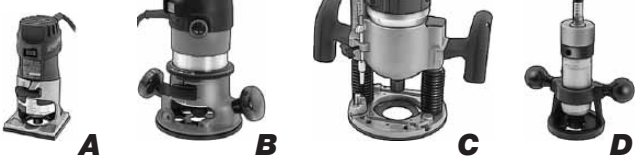

	hp	No-Load rpm	Collet Cap.	Electrical Specifications	Amps	Base Size	Max. O'all Ht.	Weight, lbs.	Cord Lg., ft.		Each
Electric Routers											
A	1	35,000	1/4"	120 VAC, 60 Hz	5.6	3 1/2" Lg. x 3 1/2" Wd.	8 9/16"	3.2	10	35465A61●	$107.16
B	1 3/4	27,500	1/2"	120 VAC, 60 Hz	11	5 3/4" Dia.	8 5/8"	8	8	36515A61	166.85
C	2 1/4	8,000-25,000	1/2"	120 VAC, 60 Hz	12	6" Dia.	11 3/4"	20	10	36485A11●	237.50
Air-Powered Router											
D	1 1/2	20,000 at 90 psi, 38 cfm	1/2"	—	—	4" Dia.	7 5/8"	4 1/2	—	3773A11	746.24
Replacement 1/4" Collet for Style A Electric Router										35465A65	3.54
Roller Guide Kit for Style A Electric Router (for use with non-piloted bit)										35465A66	17.32
Style A Electric Router Kit (includes Style A router, straight-edge guide, 1/4" collet, wrench, and plastic case)										35465A81	122.81
1/4" Collet for Style D Air-Powered Router										3773A12	75.78
1/2" Collet for Style D Air-Powered Router										3773A13	70.61

● Not CSA certified.

About Chucking Reamers and Hand Reamers

Reamers are rotary cutting tools used to enlarge an existing hole to an exact size, as well as provide a smooth finish to the walls of the hole. Reaming may be done with a variety of machine tools or by hand. *Note:* When using a reamer, never rotate it in the reverse direction of the cut. This will ruin its accuracy.

Types of Reamers

Chucking Reamers—Also known as machine reamers, they are used in drill presses, turret lathes, screw machines, and other machine tools. The shank is round or Morse taper and the cutting end of the reamer is ground with a 45° chamfer angle for easy hole entry.

Hand Reamers—A square portion on the end of the shank allows the reamer to be turned by hand with an adjustable wrench or a straight-handle tap wrench. Most hand reamers have a slight taper at the cutting end for easy hole entry.

Reamer Material

High-speed steel is used on a wide variety of materials including tool steel, cast iron, and aluminum.

Cobalt steel can be run up to 25% faster than high-speed steel and has better abrasion and heat resistance for longer tool life. Use on hard-to-machine materials such as nickel alloys, stainless steel, Inconel, and titanium.

Carbide tipped and ***solid carbide*** have better abrasion resistance and retain a sharper, harder edge at higher temperatures than high-speed steel and cobalt steel. Typically used on abrasive materials such as cast iron, nonferrous alloys, plastics, and hardened steels.

Solid carbide offers more wear resistance for the most accuracy but requires rigid tool holding to prevent breakage.

High-Speed Steel and Cobalt Steel Chucking Reamer Sets



All reamers have a round shank.

Standard-Length Reamers—Shank diameter is slightly smaller than the reamer cutting diameter except 3008A5, which is equal to the reamer cutting diameter.

Drill-Length Reamers—Have the same overall length as a jobbers' twist drill bit for added rigidity. The shank diameter is the same as the cutting diameter.

Straight-flute reamers are used for most jobs. ***Spiral-flute*** reamers are right-hand spiral, right-hand cut. They are ideal where chip removal is necessary, such as in blind holes. They also give a smoother finish and work well where there is an interrupted cut, such as in keyways.

Size Range	Pieces Per Set	Flute Style	Case		
High-Speed Steel Standard Length					
Fractional Sizes					
1/16"-1/2"×32nds	15	Straight	Roll Pouch	3008A24	$275.99
1/16"-1/2"×64ths	29	Straight	Wood	3008A8	690.08
1/16"-1/2"×64ths	29	Straight	Metal	3008A17	665.94
1/16"-1/2"×64ths	29	Spiral	Metal	3008A9	771.01
Wire Gauge Sizes					
1-60	60	Straight	Metal	3008A13	1,009.57
61-80	20	Straight	Metal	3008A5	385.05
Dowel-Pin Sizes					
1/8"-1/2"×16ths	14	Straight	Metal	3002A39	429.29
Metric Sizes					
1- 7 mm×0.5 mm	13	Straight	Wood	3008A15	292.51
1-13 mm×0.5 mm	25	Straight	Metal	3008A16	568.96
Decimal Sizes—*Includes 7 oversize and 7 undersize reamers*					
0.124"-0.499"/ 0.126"-0.501"	14	Straight	Roll Pouch	3087A21	297.41
0.124"-0.499"/ 0.126"-0.501"	14	Straight	Wood	3087A22	322.81
0.124"-0.499"/ 0.126"-0.501"	14	Spiral	Wood	3087A23	380.42

Size Range	Pieces Per Set	Flute Style	Case		
High-Speed Steel Drill Length					
Fractional Sizes					
1/16"-1/4"×64ths	13	Straight	Metal	3008A1	$172.05
1/16"-1/2"×32nds	15	Spiral	Metal	3008A34	290.69
1/16"-1/2"×64ths	29	Straight	Metal	3008A2	533.87
Letter Sizes					
A-Z	26	Straight	Metal	3008A3	511.84
Wire Gauge Sizes					
1-60	60	Straight	Metal	3008A4	810.76
Cobalt Steel Standard Length					
Dowel-Pin Sizes					
1/8"-1/2"×16ths	14	Straight	Metal	3002A79	506.25
Decimal Sizes—*Includes 7 oversize and 7 undersize reamers*					
0.124"-0.499"/ 0.126"-0.501"	14	Straight	Wood	3087A24	395.57
0.124"-0.499"/ 0.126"-0.501"	14	Spiral	Wood	3087A25	450.60

High-Speed Steel and Cobalt Steel Chucking Reamers



Straight-flute reamers are used for most jobs.

Spiral-flute reamers have right-hand spiral, right-hand cut. They are ideal where chip removal is necessary, such as in blind holes. They also give a smoother finish and work well where there is an interrupted cut, such as in keyways.

High-Speed Steel Fractional Sizes—Round Shank

Shank diameter is slightly smaller than the reamer cutting diameter. *Straight flute* cutting diameter tolerance is +0.0002", –0.0000" for 1/32" to 1/2"; +0.0003", –0.0000" for 17/32" to 5/8"; and +0.0004" to +0.0001" for 21/32" to 1 1/2". *Spiral flute* cutting diameter tolerance is +0.0002", –0.0000" for 1/32" to 1/2"; +0.0003", –0.0000" for 17/32" to 5/8"; and +0.0004" to +0.0001" for 21/32" to 1 1/2".

Dia.	Flute Lg.	O'all Lg.	No. of Flutes	Straight Flute		Spiral Flute	
1/32"	1/2"	2 1/2"	4	2995A111	$14.57		
3/64"	1/2"	2 1/2"	4	2995A112	14.43	3106A09	$17.41
1/16"	1/2"	2 1/2"	4	2995A59	13.28	3106A11	17.41
5/64"	3/4"	3"	4	2995A113	12.37	3106A12	14.03
3/32"	3/4"	3"	4	2995A114	11.54	3106A13	13.90
7/64"	7/8"	3 1/2"	4	2995A115	12.37	3106A14	14.55
1/8"	7/8"	3 1/2"	4	2995A61	9.71	3106A15	11.86
9/64"	1"	4"	4	2995A116	13.53	3106A16	17.41
5/32"	1"	4"	4	2995A62★	15.66	3106A18	17.41
11/64"	1 1/8"	4 1/2"	6	2995A117	15.19	3106A17	18.59
3/16"	1 1/8"	4 1/2"	6	2995A63	13.92	3106A19	17.66
13/64"	1 1/4"	5"	6	2995A118	15.90	3106A21	18.84
7/32"	1 1/4"	5"	6	2995A64	16.57	3106A22	18.84
15/64"	1 1/2"	6"	6	2995A119	17.35	3106A23	19.36
1/4"	1 1/2"	6"	6	2995A65	16.75	3106A24	18.75
17/64"	1 1/2"	6"	6	2995A121	19.17	3106A25	24.59
9/32"	1 1/2"	6"	6	2995A66	20.41	3106A26	23.03
19/64"	1 1/2"	6"	6	2995A122	22.72	3106A27	24.59
5/16"	1 1/2"	6"	6	2995A67	$19.38	3106A28	$22.13
21/64"	1 1/2"	6"	6	2995A123	25.80	3106A29	26.30
11/32"	1 1/2"	6"	6	2995A68	23.76	3106A31	26.30
23/64"	1 3/4"	7"	6	2995A124	26.58	3106A32	26.55
3/8"	1 3/4"	7"	6	2995A69	21.44	3106A33	23.88
25/64"	1 3/4"	7"	6	2995A125	27.28	3106A34	28.88
13/32"	1 3/4"	7"	6	2995A71	25.13	3106A35	29.95
27/64"	1 3/4"	7"	6	2995A126	28.12	3106A36	29.95
7/16"	1 3/4"	7"	6	2995A72	27.46	3106A37	28.45
29/64"	1 3/4"	7"	6	2995A127	30.32	3106A38	32.62
15/32"	1 3/4"	7"	6	2995A73	30.61	3106A39	32.62
31/64"	2"	8"	6	2995A128	31.49	3106A41	32.62
1/2"	2"	8"	6	2995A74	28.05	3106A42	30.98
17/32"	2"	8"	8	2995A75	37.78	3106A43★	38.49
9/16"	2"	8"	8	2995A76	36.96	3106A44	38.95
19/32"	2"	8"	8	2995A77	46.87	3106A45	38.95
5/8"	2 1/4"	9"	8	2995A78	45.84	3106A46	45.47
21/32"	2 1/4"	9"	8	2995A79	49.81	3106A47	47.83

★ Has 6 flutes.

(Continued on following page)

High-Speed Steel and Cobalt Steel Chucking Reamers *(Continued from previous page)*

High-Speed Steel Fractional Sizes—Round Shank

Dia.	Flute Lg.	O'all Lg.	No. of Flutes	Straight Flute		Spiral Flute	
11/16"	2 1/4"	9"	8	2995A81	$51.04	3106A48	$51.41
23/32"	2 1/4"	9"	8	2995A82	57.25	3106A49	57.37
3/4"	2 1/2"	9 1/2"	8	2995A83	58.13	3106A51	57.37
25/32"	2 1/2"	9 1/2"	8	2995A84	63.73	3106A52	62.23
13/16"	2 1/2"	9 1/2"	8	2995A85	68.31	3106A53	62.23
27/32"	2 1/2"	9 1/2"	8	2995A86	70.25	3106A54	73.64
7/8"	2 5/8"	10"	8	2995A87	73.23	3106A55	75.31
29/32"	2 5/8"	10"	10	2995A88	82.46	3106A56★	81.21
15/16"	2 5/8"	10"	10	2995A89	89.89	3106A57★	81.21
31/32"	2 5/8"	10"	10	2995A91	$91.32	3106A58★	$90.92
1"	2 3/4"	10 1/2"	10	2995A92	93.60	3106A59★	85.03
1 1/16"	2 3/4"	10 1/2"	10	2995A93	106.04	3106A61★	101.76
1 1/8"	2 7/8"	11"	10	2995A94	121.10	3106A62★	108.16
1 3/16"	2 7/8"	11"	10	2995A95	133.27	3106A63	126.65
1 1/4"	3"	11 1/2"	12	2995A96	145.23	3106A64◆	134.23
1 5/16"	3"	11 1/2"	12	2995A129	161.44	3106A65◆	156.57
1 3/8"	3 1/4"	12"	12	2995A97	173.68	3106A66◆	164.56
1 1/2"	3 1/2"	12 1/2"	12	2995A98	203.10	3106A68◆	189.96

★Has 8 flutes. ◆Has 10 flutes.

TiN-Coated High-Speed Steel Fractional Sizes—Round Shank with Spiral Flutes

TiN-coated (titanium nitride) reamers run faster than uncoated high-speed steel and last twice as long. The coating acts as a barrier against high temperatures and abrasion. They are right-hand spiral, right-hand cut. Use on free-machining steels as well as nonmetallic materials and plastics. Not for use on aluminum and titanium alloys. Shank diameter is slightly smaller than the reamer cutting diameter. Cutting diameter tolerance is +0.0002", –0.0000".

Dia.	Flute Lg.	O'all Lg.	No. of Flutes		
1/16"	1/2"	2 1/2"	4	28435A153	$25.90
3/32"	3/4"	3"	4	28435A155	25.90
1/8"	7/8"	3 1/2"	4	28435A157	25.90
5/32"	1"	4"	6	28435A159	25.90
3/16"	1 1/8"	4 1/2"	6	28435A162	$25.90
1/4"	1 1/2"	6"	6	28435A166	33.54
5/16"	1 1/2"	6"	6	28435A171	36.93
3/8"	1 3/4"	7"	6	28435A175	41.52
7/16"	1 3/4"	7"	6	28435A179	$48.82
1/2"	2"	8"	6	28435A184	57.74
5/8"	2 1/4"	9"	8	28435A188	81.59
3/4"	2 1/2"	9 1/2"	8	28435A193	110.12

Cobalt Steel Fractional Sizes—Round Shank with Straight Flutes

Shank diameter is slightly smaller than the reamer cutting diameter. Cutting diameter tolerance is +0.0002", –0.0000" for 3/64" to 1/2"; +0.0003", –0.0000" for 17/32" to 5/8"; and +0.0001" to +0.0004" for 21/32" to 1".

Dia.	Flute Lg.	O'all Lg.	No. of Flutes		
3/64"	1/2"	2 1/2"	4	2975A19	$19.51
1/16"	1/2"	2 1/2"	4	2975A21	19.51
5/64"	3/4"	3"	4	2975A34	15.73
3/32"	3/4"	3"	4	2975A35	15.73
7/64"	7/8"	3 1/2"	4	2975A36	16.32
1/8"	7/8"	3 1/2"	4	2975A22	13.05
9/64"	1"	4"	4	2975A37	19.50
5/32"	1"	4"	4	2975A39	17.51
11/64"	1 1/8"	4 1/2"	6	2975A38	20.84
3/16"	1 1/8"	4 1/2"	6	2975A23	18.77
13/64"	1 1/4"	5"	6	2975A57	23.98
7/32"	1 1/4"	5"	6	2975A41	23.98
15/64"	1 1/2"	6"	6	2975A58	24.67
1/4"	1 1/2"	6"	6	2975A24	21.09
17/64"	1 1/2"	6"	6	2975A59	$33.62
9/32"	1 1/2"	6"	6	2975A42	31.93
19/64"	1 1/2"	6"	6	2975A61	33.62
5/16"	1 1/2"	6"	6	2975A25	30.25
21/64"	1 1/2"	6"	6	2975A62	36.20
11/32"	1 1/2"	6"	6	2975A43	36.20
23/64"	1 3/4"	7"	6	2975A63	36.83
3/8"	1 3/4"	7"	6	2975A26	33.11
25/64"	1 3/4"	7"	6	2975A64	44.88
13/32"	1 3/4"	7"	6	2975A44	44.88
7/16"	1 3/4"	7"	6	2975A27	42.65
29/64"	1 3/4"	7"	6	2975A66	51.44
15/32"	1 3/4"	7"	6	2975A45	51.44
31/64"	2"	8"	6	2975A67	51.44
1/2"	2"	8"	6	2975A28	$48.89
17/32"	2"	8"	6	2975A46	57.73
9/16"	2"	8"	8	2975A47	58.42
19/32"	2"	8"	8	2975A48	58.42
5/8"	2 1/4"	9"	8	2975A29	68.18
21/32"	2 1/4"	9"	8	2975A49	77.06
11/16"	2 1/4"	9"	8	2975A51	77.06
23/32"	2 1/4"	9"	8	2975A52	86.02
3/4"	2 1/2"	9 1/2"	8	2975A31	86.53
25/32"	2 1/2"	9 1/2"	8	2975A53	93.33
13/16"	2 1/2"	9 1/2"	8	2975A54	93.33
7/8"	2 5/8"	10"	8	2975A32	112.04
15/16"	2 5/8"	10"	8	2975A56	121.73
1"	2 3/4"	10 1/2"	8	2975A33	137.62

High-Speed Steel and Cobalt Steel Oversize/Undersize Sizes—Round Shank with Straight Flutes

Allow for a slightly tighter or looser fit than the common fractional reamer diameters. Oversize reamers are 0.001" larger than the fractional size, and undersize are 0.001" smaller. Shank diameter is slightly smaller than the reamer cutting diameter. Cutting diameter tolerance is +0.0002", –0.0000".

Dia.	Flute Lg.	O'all Lg.	No. of Flutes	High-Speed Steel		Cobalt Steel	
Oversize							
0.1260"	7/8"	3 1/2"	4	3087A31	$10.43	2791A31	$13.38
0.1885"	1 1/8"	4 1/2"	6	3087A32	14.70	2791A32	17.09
0.2510"	1 1/2"	6"	6	3087A33	17.39	2791A33	18.28
0.3135"	1 1/2"	6"	6	3087A34	20.43	2791A34	26.19
0.3760"	1 3/4"	7"	6	3087A35	29.08	2791A35	28.65
0.4385"	1 3/4"	7"	6	3087A36	26.00	2791A36	36.80
0.5010"	2"	8"	6	3087A37	29.22	2791A37	37.68
0.5635"	2"	8"	8	3087A38	33.16		
0.6260"	2 1/4"	9"	8	3087A39	50.52		
0.6885"	2 1/4"	9"	8	3087A41	45.38		
0.7510"	2 1/2"	9 1/2"	8	3087A42	64.70		
0.8760"	2 5/8"	10"	8	3087A43	77.83		
1.0010"	2 3/4"	10 1/2"	10	3087A44	92.70		
Undersize							
0.1240"	7/8"	3 1/2"	4	3087A51	$10.43	2791A51	$13.38
0.1865"	1 1/8"	4 1/2"	6	3087A52	14.40	2791A52	17.08
0.2490"	1 1/2"	6"	6	3087A53	17.11	2791A53	18.28
0.3115"	1 1/2"	6"	6	3087A54	23.79	2791A54	26.19
0.3740"	1 3/4"	7"	6	3087A55	21.58	2791A55	28.65
0.4365"	1 3/4"	7"	6	3087A56	27.46	2791A56	36.79
0.4990"	2"	8"	6	3087A57	29.22	2791A57	42.18
0.5615"	2"	8"	8	3087A58	41.88		
0.6240"	2 1/4"	9"	8	3087A59	45.02		
0.6865"	2 1/4"	9"	8	3087A61	52.85		
0.7490"	2 1/2"	9 1/2"	8	3087A62	62.09		
0.8740"	2 5/8"	10"	8	3087A63	76.09		
0.9990"	2 3/4"	10 1/2"	10	3087A64	92.70		

High-Speed Steel Decimal Sizes—Round Shank with Straight Flutes

Flute length, overall length, and number of flutes are equivalent to dimensions of fractional, letter, and wire gauge size chucking reamers. Shank diameter is slightly smaller than the reamer cutting diameter. Cutting diameter tolerance is +0.0002", –0.0000".

To Order: For standard decimal sizes in increments of 0.0005" (size must end in 0 or 5), please ask for the part number in the appropriate size range below and specify the exact size.

Also Available: Other decimal sizes in 0.0001" increments. Please ask for 8803A999 and specify the exact size.

Available Diameters		
0.0405"-0.0620"	8803A11	$17.21
0.0625"-0.0935"	8803A14	16.75
0.0940"-0.1090"	8803A18	17.08
0.1095"-0.1245"	8803A21	16.43
0.1250"-0.1405"	8803A23	19.16
0.1410"-0.1560"	8803A25	19.37
0.1565"-0.1715"	8803A27	20.16
0.1720"-0.1870"	8803A29	20.03

Available Diameters		
0.1880"-0.2030"	8803A32	$19.02
0.2035"-0.2185"	8803A34	22.24
0.2190"-0.2340"	8803A36	21.73
0.2345"-0.2500"	8803A38	22.41
0.2505"-0.2690"	8803A41	20.06
0.2695"-0.2965"	8803A43	24.26
0.2970"-0.3125"	8803A46	23.79
0.3130"-0.3435"	8803A48	26.91

Available Diameters		
0.3440"-0.3590"	8803A53	$26.91
0.3595"-0.3750"	8803A54	27.49
0.3755"-0.3905"	8803A56	29.08
0.3910"-0.4215"	8803A58	29.11
0.4220"-0.4375"	8803A63	30.83
0.4380"-0.4840"	8803A65	33.24
0.4845"-0.4985"	8803A72	34.32
0.4990"-0.5050"	8803A74	41.03

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High-Speed Steel and Cobalt Steel Chucking Reamers *(Continued from previous page)*



Straight Flute

High-Speed Steel Decimal Sizes (Cont.)—Round Shank with Straight Flutes

Flute length, overall length, and number of flutes are equivalent to dimensions of fractional, letter, and wire gauge size chucking reamers. Shank diameter is slightly smaller than the reamer cutting diameter. Cutting diameter tolerance is +0.0002″, –0.0000″.

Also Available: Other decimal sizes in 0.0001″ increments. Please ask for 2777A999 and specify the exact size.

Dia.			Dia.			Dia.			Dia.		
0.0622″	2777A12	$16.53	0.5100″	2777A52	$41.13	0.5920″	2777A635	$50.88	0.6900″	2777A788	$61.24
0.0623″	2777A13	16.53	0.5110″	2777A351	41.30	0.6000″	2777A623	50.89	0.6910″	2777A8	61.47
0.0942″	2777A14	15.34	0.5120″	2777A44	41.31	0.6020″	2777A636	50.88	0.7000″	2777A801	61.47
0.1186″	2777A15	16.58	0.5130″	2777A122	41.16	0.6040″	2777A124	51.73	0.7095″	2777A128	66.22
0.1243″	2777A16	16.58	0.5140″	2777A45	41.31	0.6050″	2777A125	51.73	0.7250″	2777A129	66.22
0.1248″	2777A17	16.58	0.5150″	2777A451	41.13	0.6120″	2777A637	50.88	0.7400″	2777A811	66.19
0.1253″	2777A171	15.75	0.5180″	2777A452	41.13	0.6150″	2777A638	50.88	0.7430″	2777A812	66.19
0.1256″	2777A18	16.59	0.5190″	2777A453	41.13	0.6200″	2777A639	51.77	0.7450″	2777A813	66.19
0.1257″	2777A19	16.59	0.5200″	2777A53	41.31	0.6220″	2777A66	51.77	0.7470″	2777A82	66.25
0.1552″	2777A21	18.10	0.5230″	2777A531	41.31	0.6230″	2777A67	51.77	0.7485″	2777A821	66.19
0.1557″	2777A22	18.10	0.5250″	2777A46	43.00	0.6235″	2777A68	51.77	0.7495″	2777A83	66.25
0.1572″	2777A23	18.10	0.5270″	2777A532	42.82	0.6245″	2777A69	51.77	0.7505″	2777A84	70.89
0.1872″	2777A231	16.00	0.5300″	2777A54	43.01	0.6255″	2777A7	58.68	0.7520″	2777A85	70.89
0.1878″	2777A24	18.51	0.5350″	2777A541	45.65	0.6270″	2777A71	58.68	0.7530″	2777A86	69.64
0.2008″	2777A241	17.80	0.5430″	2777A542	45.65	0.6280″	2777A72	58.68	0.7550″	2777A87	69.64
0.2357″	2777A25	21.08	0.5460″	2777A55	45.65	0.6290″	2777A73	58.71	0.7570″	2777A871	69.69
0.2367″	2777A251	21.07	0.5470″	2777A551	45.65	0.6295″	2777A731	60.31	0.7600″	2777A91	69.69
0.2493″	2777A26	21.08	0.5500″	2777A56	45.65	0.6300″	2777A74	60.28	0.7750″	2777A911	69.69
0.2497″	2777A27	21.08	0.5520″	2777A58	45.65	0.6302″	2777A741	60.31	0.7900″	2777A912	69.69
0.2498″	2777A28	21.08	0.5550″	2777A581	45.65	0.6330″	2777A75	60.31	0.8000″	2777A131	79.11
0.2502″	2777A29	21.04	0.5580″	2777A582	45.65	0.6350″	2777A78	60.31	0.8400″	2777A913	79.57
0.2503″	2777A31	21.04	0.5600″	2777A59	45.63	0.6400″	2777A781	60.31	0.8650″	2777A914	79.40
0.3144″	2777A311	25.22	0.5610″	2777A61	45.60	0.6410″	2777A782	60.31	0.8730″	2777A915	74.56
0.3752″	2777A32	26.54	0.5620″	2777A611	45.63	0.6450″	2777A126	60.27	0.8745″	2777A132	89.60
0.3757″	2777A321	26.54	0.5630″	2777A62	50.84	0.6500″	2777A751	60.31	0.8770″	2777A92	89.58
0.3932″	2777A322	28.82	0.5650″	2777A621	50.84	0.6690″	2777A127	60.27	0.8810″	2777A133	89.60
0.3947″	2777A33	28.82	0.5660″	2777A63	50.88	0.6700″	2777A752	60.31	0.8830″	2777A134	89.60
0.5002″	2777A34	37.20	0.5670″	2777A631	49.72	0.6810″	2777A783	60.31	0.8850″	2777A921	89.52
0.5003″	2777A35	37.20	0.5680″	2777A632	50.88	0.6820″	2777A784	60.31	0.9980″	2777A922	94.80
0.5060″	2777A47	41.13	0.5750″	2777A622	50.88	0.6850″	2777A785	60.31	0.9995″	2777A923	94.80
0.5070″	2777A48	41.13	0.5780″	2777A633	50.88	0.6860″	2777A786	60.31	1.0050″	2777A135	117.07
0.5080″	2777A49	41.13	0.5800″	2777A634	50.88	0.6870″	2777A787	61.55	1.0100″	2777A136	117.07
0.5090″	2777A51	41.13	0.5890″	2777A123	50.84	0.6880″	2777A79	61.24			

Cobalt Steel Decimal Sizes—Round Shank with Straight Flutes

Flute length, overall length, and number of flutes are equivalent to dimensions of fractional, letter, and wire gauge size chucking reamers. Shank diameter is slightly smaller than the reamer cutting diameter. Cutting diameter tolerance is +0.0002″, –0.0000″.

Dia.			Dia.			Dia.			Dia.		
0.0480″	8324A01	$22.28	0.0930″	8324A28	$25.54	0.1370″	8324A55	$33.57	0.2540″	8324A82	$38.68
0.0490″	8324A02	22.28	0.0940″	8324A29	23.51	0.1410″	8324A56	33.57	0.2550″	8324A83	38.68
0.0495″	8324A03	22.28	0.0945″	8324A3	23.51	0.1550″	8324A57	33.57	0.2560″	8324A84	38.68
0.0500″	8324A04	22.28	0.0950″	8324A31	23.51	0.1555″	8324A58	33.57	0.2600″	8324A85	38.68
0.0510″	8324A05	22.28	0.0955″	8324A32	23.51	0.1560″	8324A59	33.57	0.3080″	8324A86	47.25
0.0540″	8324A06	22.28	0.0965″	8324A33	23.51	0.1565″	8324A6	33.57	0.3100″	8324A87	47.25
0.0560″	8324A07	22.28	0.0970″	8324A34	23.51	0.1580″	8324A61	33.57	0.3110″	8324A88	47.25
0.0600″	8324A08	22.28	0.0990″	8324A35	23.51	0.1650″	8324A62	32.23	0.3130″	8324A89	47.25
0.0610″	8324A09	22.28	0.1000″	8324A36	23.51	0.1860″	8324A63	32.23	0.3140″	8324A9	47.25
0.0615″	8324A1	22.28	0.1170″	8324A37	23.51	0.1880″	8324A64	32.23	0.3145″	8324A91	36.98
0.0620″	8324A11	22.28	0.1175″	8324A38	23.51	0.1895″	8324A65	32.23	0.3155″	8324A92	36.98
0.0630″	8324A12	21.84	0.1180″	8324A39	23.51	0.1900″	8324A66	35.51	0.3180″	8324A93	40.20
0.0640″	8324A13	22.28	0.1190″	8324A4	23.51	0.1920″	8324A67	35.51	0.3190″	8324A94	40.20
0.0645″	8324A14	25.54	0.1210″	8324A41	23.51	0.1965″	8324A68	35.51	0.3200″	8324A95	40.20
0.0650″	8324A15	25.54	0.1220″	8324A42	23.51	0.1970″	8324A69	35.51	0.3735″	8324A96	40.20
0.0660″	8324A16	25.54	0.1245″	8324A43	23.51	0.1975″	8324A7	35.51	0.3780″	8324A97	53.57
0.0690″	8324A17	25.54	0.1255″	8324A44	31.74	0.2000″	8324A71	35.51	0.3790″	8324A98	53.57
0.0770″	8324A18	25.54	0.1265″	8324A45	31.74	0.2180″	8324A72	35.51	0.3800″	8324A111	53.71
0.0780″	8324A19	25.54	0.1270″	8324A46	31.74	0.2200″	8324A73	38.68	0.3930″	8324A112	53.71
0.0790″	8324A2	25.54	0.1275″	8324A47	31.74	0.2350″	8324A74	38.68	0.4970″	8324A113	61.70
0.0795″	8324A21	25.54	0.1280″	8324A48	31.74	0.2360″	8324A75	38.68	0.4985″	8324A114	61.70
0.0800″	8324A22	25.54	0.1290″	8324A49	33.57	0.2485″	8324A76	38.68	0.5005″	8324A115	86.26
0.0830″	8324A23	25.54	0.1300″	8324A5	33.57	0.2505″	8324A77	38.68	0.5020″	8324A116	86.26
0.0900″	8324A24	25.54	0.1310″	8324A51	33.57	0.2515″	8324A78	38.68	0.5030″	8324A117	86.26
0.0910″	8324A25	25.54	0.1320″	8324A52	33.57	0.2520″	8324A79	38.68	0.5040″	8324A118	86.26
0.0920″	8324A26	25.54	0.1340″	8324A53	33.57	0.2525″	8324A8	38.68			
0.0925″	8324A27	25.54	0.1350″	8324A54	33.57	0.2530″	8324A81	38.68			

High-Speed Steel and Cobalt Steel Letter Sizes—Round Shank with Straight Flutes

Shank diameter is slightly smaller than the reamer cutting diameter. Cutting diameter tolerance is +0.0002″, –0.0000″.

To Order: Please specify exact letter size within the size range listed.

Avail. Sizes	Flute Lg.	O'all Lg.	No. of Flutes	High-Speed Steel		Cobalt Steel	
A	1½″	6″	6	89485A41	$18.58	26885A41	$24.28
B-D	1½″	6″	6	89485A71	19.88	26885A71	25.88
E	1½″	6″	6	89485A45	14.48	26885A45	21.84
F-G	1½″	6″	6	89485A72	20.06	26885A72	26.25
H-N	1½″	6″	6	89485A73	21.12	26885A73	33.94
O-R	1½″	6″	6	89485A74	$22.15	26885A74	$36.46
S-U	1¾″	7″	6	89485A75	23.60	26885A75	36.47
V-W	1¾″	7″	6	89485A76	29.08	26885A76	44.20
X-Z	1¾″	7″	6	89485A77	25.10	26885A77	45.66

(Continued on following page)

High-Speed Steel and Cobalt Steel Chucking Reamers *(Continued from previous page)*

High-Speed Steel and Cobalt Steel Wire Gauge Sizes—Round Shank with Straight Flutes

High-speed steel wire gauge sizes 71-80 and *cobalt steel wire gauge sizes 61-80* have shank diameters equal to the reamer cutting diameter. All other sizes have shank diameters slightly smaller than the reamer cutting diameter. Cutting diameter tolerance is +0.0002″, –0.0000″.

To Order: Please specify exact wire gauge size within the range listed.

Avail. Sizes	Flute Lg.	O'all Lg.	High-Speed Steel No. of Flutes		Cobalt Steel No. of Flutes	
1-2	1½″	6″	6 — 8930A78	$16.20	6 — 2733A78	$18.39
3-11	1¼″	5″	6 — 8930A79	15.57	6 — 2733A79	16.67
12	1⅛″	4½″	6 — 8930A24	15.57	6 — 2733A24	17.10
13-15	1⅛″	4½″	6 — 8930A81	14.40	6 — 2733A81	18.18
16-21	1⅛″	4½″	6 — 8930A82	12.84	6 — 2733A82	18.18
22-29	1″	4″	4 — 8930A83★	12.84	4 — 2733A83★	17.01
30	⅞″	3½″	4 — 8930A44	12.04	4 — 2733A44	12.16
31-35	⅞″	3½″	4 — 8930A84	10.47	4 — 2733A84	14.24
36-41	⅞″	3½″	4 — 8930A85	10.38	4 — 2733A85	13.82
42-50	¾″	3″	4 — 8930A86	10.88	4 — 2733A86	12.97
51	¾″	3″	4 — 8930A67	13.28	4 — 2733A67	13.72
52-60	½″	2½″	4 — 8930A87	$13.28	4 — 2733A87	$15.79
61	½″	1⅝″	4 — 8930A88●	12.14	3 — 2733A88	15.79
62-65	½″	1½″	4 — 8930A89●	12.14	3 — 2733A89	17.31
66-67	½″	1⅜″	4 — 8930A91●	12.14	3 — 2733A91	17.31
68-69	½″	1⅜″	4 — 8930A92●	15.06	3 — 2733A92	21.03
70-71	½″	1¼″	3 — 8930A93	15.03	3 — 2733A93	21.03
72-73	½″	1⅛″	3 — 8930A94	17.52	3 — 2733A94	21.03
74-75	½″	1″	3 — 8930A95	17.59	3 — 2733A95	21.03
76-78	⅜″	⅞″	2 — 8930A96	17.59	2 — 2733A96	21.03
79-80	⅜″	¾″	2 — 8930A97	17.59	2 — 2733A97	21.03

★ Size 22 has 6 flutes. ● Overall length is 2½″.

High-Speed Steel and Cobalt Steel Dowel-Pin Sizes—Round Shank with Straight Flutes

Size holes in preparation for installing dowel pins. Two reamer diameters are listed for each dowel-pin diameter so holes can be made for a slightly tighter- or looser-fitting pin. Shank diameter is slightly smaller than the reamer cutting diameter. Cutting diameter tolerance is +0.0000″, –0.0002″.

For Pin Dia.	Reamer Dia.	Flute Lg.	O'all Lg.	No. of Flutes	High-Speed Steel		Cobalt Steel	
1/8″	0.1230″	7/8″	3½″	4	3002A21	$13.10	3002A56	$15.06
1/8″	0.1247″	7/8″	3½″	4	3002A22	12.41	3002A57	14.17
3/16″	0.1855″	1⅛″	4½″	6	3002A23	18.39	3002A58	21.20
3/16″	0.1870″	1⅛″	4½″	6	3002A24	18.39	3002A72	21.20
1/4″	0.2480″	1½″	6″	6	3002A25	19.88	3002A61	22.01
1/4″	0.2495″	1½″	6″	6	3002A26	19.88	3002A62	22.40
5/16″	0.3105″	1½″	6″	6	3002A27	23.79	3002A63	37.56
5/16″	0.3120″	1½″	6″	6	3002A28	$23.79	3002A64	$37.56
3/8″	0.3730″	1¾″	7″	6	3002A29	24.18	3002A65	40.97
3/8″	0.3745″	1¾″	7″	6	3002A31	24.18	3002A66	40.97
7/16″	0.4355″	1¾″	7″	6	3002A32	27.46	3002A67	46.54
7/16″	0.4370″	1¾″	7″	6	3002A33	27.46	3002A68	53.77
1/2″	0.4980″	2″	8″	6	3002A34	30.70	3002A69	57.90
1/2″	0.4995″	2″	8″	6	3002A35	30.70	3002A71	57.90

High-Speed Steel Metric Sizes—Round Shank with Straight Flutes

Shank diameter is slightly smaller than the reamer cutting diameter. Cutting diameter tolerance is +0.005, –0.000 mm for 1.0 to 12.5 mm and 30.0 mm; +0.008, –0.000 mm for 13.0 to 15.5 mm; and +0.01, +0.0025 mm for 16.0 to 25.0 mm.

Also Available: Cobalt steel reamers in sizes 1.5 through 12.5 mm. Please ask for 2735A51 and specify size.

Dia., mm	Flute Lg.	O'all Lg.	No. of Flutes		
1.0	½″	2½″	4	8851A09	$16.27
1.5	½″	2½″	4	8851A11	16.27
1.6	½″	2½″	4	8851A122	13.34
1.65	½″	2½″	4	8851A131	13.34
2.0	¾″	3″	4	8851A12	13.09
2.4	¾″	3″	4	8851A132	12.89
2.5	⅞″	3½″	4	8851A13	13.24
3.0	⅞″	3½″	4	8851A14	13.44
3.5	1″	4″	4	8851A15	15.04
4.0	1″	4″	6	8851A16	16.27
4.2	1⅛″	4½″	6	8851A161	18.26
4.5	1⅛″	4½″	6	8851A17	16.46
5.0	1¼″	5″	6	8851A18	16.80
5.5	1¼″	5″	6	8851A19	17.91
6.0	1½″	6″	6	8851A21	20.06
6.5	1½″	6″	6	8851A41	21.42
7.0	1½″	6″	6	8851A22	23.50
7.5	1½″	6″	6	8851A42	23.72
8.0	1½″	6″	6	8851A23	25.11
8.5	1½″	6″	6	8851A43	25.31
9.0	1¾″	7″	6	8851A24	25.44
9.5	1¾″	7″	6	8851A44	23.51
10.0	1¾″	7″	6	8851A25	26.02
10.5	1¾″	7″	6	8851A45	26.82
11.0	1¾″	7″	6	8851A26	27.08
11.5	1¾″	7″	6	8851A46	30.84
12.0	2″	8″	6	8851A27	31.15
12.5	2″	8″	6	8851A47	$30.65
13.0	2″	8″	6	8851A28	33.86
13.5	2″	8″	6	8851A48	34.88
14.0	2″	8″	8	8851A29	36.31
14.5	2″	8″	8	8851A49	39.01
15.0	2″	8″	8	8851A31	39.66
15.5	2¼″	9″	8	8851A51	43.21
16.0	2¼″	9″	8	8851A32	43.85
16.5	2¼″	9″	8	8851A52	44.86
17.0	2¼″	9″	8	8851A33	46.45
17.5	2¼″	9″	8	8851A53	43.97
18.0	2¼″	9″	8	8851A54	49.70
18.5	2½″	9½″	8	8851A55	52.85
19.0	2½″	9½″	8	8851A69	54.18
19.5	2½″	9½″	8	8851A71	57.56
20.0	2½″	9½″	8	8851A72	57.58
20.5	2½″	9½″	8	8851A73	59.90
21.0	2½″	9½″	8	8851A74	65.61
21.5	2⅝″	10″	8	8851A75	65.57
22.0	2⅝″	10″	8	8851A76	65.57
22.5	2⅝″	10″	8	8851A77	73.90
23.0	2⅝″	10″	8	8851A5	74.90
23.5	2⅝″	10″	8	8851A511	78.82
24.0	2⅝″	10″	8	8851A6	81.43
25.0	2¾″	10½″	8	8851A7	81.27
30.0	2⅞″	11″	10	8851A711	163.44

High-Speed Steel Hand Reamers for Morse Taper-Socket Holes

Turn existing straight, drilled holes into Morse taper holes. Reamers are also good for sizing and smoothing existing Morse taper holes and for removing nicks and burs in machine spindles. All have straight flutes. Use an adjustable wrench or straight-handle tap wrench (sold separately).

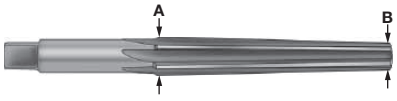

Morse Taper No.	Diameter Large End (A)	Small End (B)	Flute Lg.	O'all Lg.	No. of Flutes	Reamers		Optional Tap Wrenches	
0	0.367″	0.250″	2¼″	3¾″	6	2996A11	$47.37	2546A13	$55.35
1	0.517″	0.367″	3″	5″	6	2996A12	61.69	2546A15	72.35
2	0.745″	0.569″	3½″	6″	8	2996A13	72.36	2546A16	92.96
3	0.988″	0.775″	4¼″	7¼″	8	2996A14	107.13	2546A16	92.96
4	1.289″	1.017″	5¼″	8½″	10	2996A15	156.85	2546A18	229.84
5	1.799″	1.471″	6¼″	9¾″	12	2996A16	298.23	2546A19	283.49

Chucking Reamers

For information about reamers, see page 2492.

Solid Carbide Chucking Reamers



Fractional, Wire Gauge, and Metric

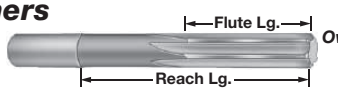

Oversize/Undersize, Decimal, and Dowel Pin

Solid carbide construction provides superior accuracy. Reamers are shorter and have better abrasion and temperature resistance than standard-length high-speed steel, cobalt steel, and carbide-tipped chucking reamers. They require a rigid machine setup.

Fractional Sizes—Round Shank with Straight Flutes

Shank diameter is slightly smaller than the reamer cutting diameter. Cutting diameter tolerance is +0.0002″, –0.0000″ for 1/16″ to 1/4″ and +0.0003″, –0.0000″ for 9/32″ to 1/2″.

Dia.	Flute Lg.	O'all Lg.	No. of Flutes		
1/16″	3/8″	1 1/2″	4	3026A11	$22.26
3/32″	1/2″	2″	4	3026A16	25.91
1/8″	5/8″	2 1/4″	4	3026A18	29.35
5/32″	3/4″	2 1/2″	4	3026A21	32.97
3/16″	7/8″	2 3/4″	4	3026A23	39.24
13/64″	1″	3″	4	3026A24	43.82
7/32″	1″	3″	4	3026A19	$43.82
15/64″	1″	3″	4	3026A26	45.18
1/4″	1″	3″	4	3026A27	45.18
9/32″	1 1/8″	3 1/4″	6	3026A25	56.56
5/16″	1 1/8″	3 1/4″	6	3026A32	62.24
21/64″	1 1/4″	3 1/2″	6	3026A34	72.38
11/32″	1 1/4″	3 1/2″	6	3026A31	$72.38
3/8″	1 1/4″	3 1/2″	6	3026A37	80.12
13/32″	1 1/4″	3 1/2″	6	3026A36	92.09
7/16″	1 3/8″	4″	6	3026A38	101.90
15/32″	1 3/8″	4″	6	3026A41	122.00
1/2″	1 1/2″	4″	6	3026A44	135.15

Oversize/Undersize Sizes—Round Shank with Straight Flutes

Allow for a slightly tighter or looser fit than the common fractional reamer diameters. Oversize reamers are 0.001″ larger than the fractional size, and undersize are 0.001″ smaller. Flute length is half the reach length. Shank diameter is slightly smaller than the reamer cutting diameter. Cutting diameter tolerance is +0.0002″, –0.0000″.

Reamer Dia.	Shank Dia.	Reach Lg.	O'all Lg.	No. of Flutes		
Oversize						
0.1260″	9/64″	1 1/2″	2 1/2″	4	8307A193	$33.00
0.1885″	13/64″	2″	3″	4	8307A342	42.88
0.2510″	17/64″	2 1/4″	3 1/2″	6	8307A513	64.73
0.3135″	21/64″	2 3/8″	4″	6	8307A652	80.80
0.3760″	25/64″	2 7/8″	4″	6	8307A788	96.19
Undersize						
0.1240″	1/8″	1 1/4″	2 1/4″	4	8307A187	$32.89
0.1865″	3/16″	1 3/4″	2 3/4″	4	8307A329	43.17
0.2490″	1/4″	2″	3″	4	8307A479	62.93
0.3115″	5/16″	2 1/4″	3 3/4″	6	8307A647	77.95
0.3740″	3/8″	2 3/8″	4″	6	8307A336	95.11

Decimal Sizes—Round Shank with Straight Flutes

Flute length is half the reach length. Cutting diameter tolerance is +0.0002″, –0.0000″.

To Order: Within the diameter range shown, please specify the exact size in standard decimal increments of 0.0005″ (size must end in 0 or 5).

Available Reamer Dia.	Shank Dia.	Reach Lg.	O'all Lg.	No. of Flutes		
0.0470″-0.0625″	1/16″	3/4″	1 1/2″	4	8307A11	$28.93
0.0630″-0.0775″	5/64″	1″	2″	4	8307A47	30.80
0.0780″-0.0935″	3/32″	1 1/4″	2 1/4″	4	8307A83	26.48
0.0940″-0.1090″	7/64″	1 1/4″	2 1/4″	4	8307A118	30.02
0.1095″-0.1250″	1/8″	1 1/4″	2 1/4″	4	8307A154	32.89
0.1255″-0.1405″	9/64″	1 1/2″	2 1/2″	4	8307A191	33.00
0.1410″-0.1555″	5/32″	1 1/2″	2 1/2″	4	8307A226	39.33
0.1560″-0.1715″	11/64″	1 3/4″	2 3/4″	4	8307A262	38.74
0.1720″-0.1875″	3/16″	1 3/4″	2 3/4″	4	8307A296	43.17
0.1880″-0.2025″	13/64″	2″	3″	4	8307A333	46.59
0.2030″-0.2185″	7/32″	2″	3″	4	8307A374	55.06
0.2190″-0.2340″	15/64″	2″	3″	4	8307A409	55.03
0.2345″-0.2500″	1/4″	2″	3″	4	8307A445	62.93
0.2505″-0.2650″	17/64″	2 1/4″	3 1/2″	6	8307A511	64.73
0.2655″-0.2805″	9/32″	2 1/4″	3 1/2″	6	8307A545	69.36
0.2810″-0.2965″	19/64″	2 1/4″	3 3/4″	6	8307A579	$72.94
0.2970″-0.3120″	5/16″	2 1/4″	3 3/4″	6	8307A615	77.95
0.3130″-0.3275″	21/64″	2 3/8″	4″	6	8307A649	80.80
0.3280″-0.3435″	11/32″	2 3/8″	4″	6	8307A683	83.22
0.3440″-0.3590″	23/64″	2 3/8″	4″	6	8307A717	88.31
0.3595″-0.3745″	3/8″	2 3/8″	4″	6	8307A753	95.11
0.3750″-0.3900″	25/64″	2 7/8″	4″	6	8307A786	96.19
0.3905″-0.4055″	13/32″	2 7/8″	4″	6	8307A819	118.12
0.4060″-0.4215″	27/64″	2 7/8″	4″	6	8307A854	118.24
0.4220″-0.4370″	7/16″	2 7/8″	4″	6	8307A891	113.95
0.4375″-0.4525″	29/64″	2 7/8″	4″	6	8307A924	101.90
0.4530″-0.4685″	15/32″	2 7/8″	4″	6	8307A958	122.51
0.4690″-0.4840″	31/64″	2 7/8″	4″	6	8307A995	123.84
0.4845″-0.4995″	1/2″	2 7/8″	4″	6	8307A998	124.73

Wire Gauge Sizes—Round Shank with Straight Flutes

Shank diameter is slightly smaller than the reamer cutting diameter. Cutting diameter tolerance is +0.0002″, –0.0000″.

To Order: Please specify exact size within range listed.

Avail. Sizes	Flute Lg.	O'all Lg.	No. of Flutes		
1	1″	3″	4	30425A21	$53.58
2-9	1″	3″	4	30425A22	46.59
10	1″	3″	4	30425A421	46.59
11	7/8″	2 3/4″	4	30425A422	46.59
12-16	7/8″	2 3/4″	4	30425A23	41.71
17-19	7/8″	2 3/4″	4	30425A24	39.68
20	7/8″	2 3/4″	4	30425A432	39.68
21-26	3/4″	2 1/2″	4	30425A25	$35.03
27-29	3/4″	2 1/2″	4	30425A26	34.71
30	5/8″	2 1/4″	4	30425A443	31.35
31-32	5/8″	2 1/4″	4	30425A27	31.35
33-40	5/8″	2 1/4″	4	30425A28	29.35
41	1/2″	2″	4	30425A455	29.35
42-44	1/2″	2″	4	30425A29	27.53
45	1/2″	2″	4	30425A459	$27.53
46	1/2″	1 3/4″	4	30425A461	27.53
47-50	1/2″	1 3/4″	4	30425A31	25.78
51	1/2″	1 3/4″	4	30425A466	25.91
52-55	3/8″	1 1/2″	4	30425A32	23.68
56-59	3/8″	1 1/2″	4	30425A33	22.35
60-61	1/4″	1 1/2″	4	30425A47	22.35

Dowel-Pin Sizes—Round Shank with Straight Flutes

Used to size holes in preparation for installing dowel pins. Two reamer diameters are listed for each dowel-pin diameter so holes can be made for jobs that require a slightly tighter- or looser-fitting pin. Flute length is half the reach length. Cutting diameter tolerance is +0.0002″, –0.0000″.

Pin Dia.	Reamer Dia.	Shank Dia.	Reach Lg.	O'all Lg.	No. of Flutes		
1/8″	0.1230″	1/8″	1 1/4″	2 1/4″	4	8307A185	$32.89
1/8″	0.1247″	1/8″	1 1/4″	2 1/4″	4	8307A189	27.77
3/16″	0.1855″	3/16″	1 3/4″	2 3/4″	4	8307A327	43.17
3/16″	0.1870″	3/16″	1 3/4″	2 3/4″	4	8307A331	43.17
1/4″	0.2480″	1/4″	2″	3″	4	8307A477	62.93
1/4″	0.2495″	1/4″	2″	3″	4	8307A481	$62.93
5/16″	0.3120″	5/16″	2 1/4″	3 3/4″	6	8307A648	77.95
3/8″	0.3730″	3/8″	2 3/8″	4″	6	8307A783	95.11
3/8″	0.3745″	3/8″	2 3/8″	4″	6	8307A785	95.11
1/2″	0.4995″	1/2″	2 7/8″	4″	6	8307A072	124.73

Metric Sizes—Round Shank with Straight Flutes

Shank diameter is slightly smaller than the cutting diameter. Cutting diameter tolerance is +0.0050 mm, –0.0000 mm for 1.0 to 6.0 mm and +0.0076 mm, –0.0000 mm for 6.5 to 12.0 mm.

Dia., mm	Flute Lg.	O'all Lg.	No. of Flutes		
1.0	1/4″	1 1/2″	4	30545A61	$22.35
1.5	3/8″	1 1/2″	4	30545A62	23.68
2.0	1/2″	1 3/4″	4	30545A63	25.91
2.5	5/8″	2 1/4″	4	30545A64	29.35
3.0	5/8″	2 1/4″	4	30545A65	31.35
3.5	3/4″	2 1/2″	4	30545A66	34.71
4.0	3/4″	2 1/2″	4	30545A67	$36.57
5.0	1″	3″	4	30545A69	46.59
5.5	1″	3″	4	30545A71	51.51
6.0	1″	3″	4	30545A72	52.58
6.5	1 1/8″	3 1/4″	6	30545A73	60.06
7.0	1 1/8″	3 1/4″	6	30545A74	60.06
8.0	1 1/8″	3 1/4″	6	30545A76	$70.28
8.5	1 1/4″	3 1/2″	6	30545A77	74.71
9.0	1 1/4″	3 1/2″	6	30545A78	82.71
10.0	1 1/4″	3 1/2″	6	30545A81	97.82
11.0	1 3/8″	4″	6	30545A83	113.44
12.0	1 3/8″	4″	6	30545A85	143.56

Carbide-Tipped Chucking Reamers



Carbide tips brazed to a one-piece hardened tool steel body provide better abrasion resistance and retain a sharper, harder edge at higher temperatures than high-speed steel and cobalt steel. Reamers have a round shank and straight flutes. Shank diameter is slightly smaller than the reamer cutting diameter. Cutting diameter tolerance is +0.0003″, –0.0000″.

Dia.	Flute Lg.	O'all Lg.	No. of Flutes		
3/16″	1 1/8″	4 1/2″	4	3025A13	$40.22
7/32″	1 1/4″	5″	4	3025A14	40.22
1/4″	1 1/2″	6″	4	3025A15	40.22
9/32″	1 1/2″	6″	4	3025A18	41.10
5/16″	1 1/2″	6″	4	3025A17	41.10
11/32″	1 1/2″	6″	4	3025A25	42.56
3/8″	1 3/4″	7″	4	3025A19	42.56
13/32″	1 3/4″	7″	4	3025A29	44.65
7/16″	1 3/4″	7″	4	3025A22	47.69
15/32″	1 3/4″	7″	4	3025A34	48.32
1/2″	2″	8″	6	3025A24	57.51
17/32″	2″	8″	6	3025A37	62.57
9/16″	2″	8″	6	3025A38	62.57
19/32″	2″	8″	6	3025A39	$65.11
5/8″	2 1/4″	9″	6	3025A28	65.11
21/32″	2 1/4″	9″	6	3025A41	66.25
11/16″	2 1/4″	9″	6	3025A43	66.25
3/4″	2 1/2″	9 1/2″	6	3025A33	69.35
13/16″	2 1/2″	9 1/2″	6	3025A44	71.63
7/8″	2 5/8″	10″	6	3025A45	77.33
1″	2 3/4″	10 1/2″	8	3025A42	94.43
1 1/8″	2 7/8″	11″	8	3025A48	105.51
1 3/16″	2 7/8″	11″	8	3025A49	110.96
1 1/4″	3″	11 1/2″	8	3025A51	117.29
1 1/2″	3 1/2″	12 1/2″	8	3025A55	154.28

Carbide-Tipped Expansion Chucking Reamers



Slots allow expansion as the adjusting screw is tightened. Bodies are made of one-piece tool steel. The carbide-tipped cutting edges run the full length of the flutes. All have a round shank and straight flutes. Shank diameter is slightly smaller than the reamer cutting diameter. Cutting diameter tolerance is +0.0003″, –0.0000″. Minimum expansion is 0.006″ for 3/8″ and 7/16″; 0.010″ for 1/2″ to 7/8″; 0.013″ for 1″ to 1 1/2″; and 0.015″ for 1 3/4″.

Note: These reamers are not designed for producing holes larger than the listed diameter or for producing holes of various sizes. The expansion screw should never be loosened.

Dia.	Flute Lg.	O'all Lg.	No. of Flutes		
3/8″	1″	7″	4	3107A11	$59.10
7/16″	1″	7″	4	3107A13	62.75
1/2″	1″	8″	6	3107A14	66.52
17/32″	1″	8″	6	3107A12	68.13
9/16″	1 1/8″	8″	6	3107A16	68.13
5/8″	1 1/4″	9″	6	3107A18	71.14
11/16″	1 1/4″	9″	6	3107A19	77.81
3/4″	1 3/8″	9 1/2″	6	3107A23	80.66
25/32″	1 3/8″	9 1/2″	6	3107A22	86.95
13/16″	1 3/8″	9 1/2″	6	3107A24	$86.95
7/8″	1 1/2″	10″	6	3107A27	93.78
1″	1 5/8″	10 1/2″	8	3107A32	103.73
1 1/16″	1 5/8″	10 1/2″	8	3107A31	113.68
1 1/8″	1 3/4″	11″	8	3107A33	113.68
1 1/4″	1 7/8″	11 1/2″	8	3107A36	124.06
1 3/8″	2″	12″	8	3107A37	144.01
1 1/2″	2 1/8″	12 1/2″	8	3107A39	175.14
1 3/4″	2 3/8″	13 1/2″	10	3107A41	254.73

High-Speed Steel Hand Reamers

A slightly tapered cutting end eases hole entry for final sizing of drilled holes. Use on most ferrous and nonferrous materials. All have a round shank and are for use with a straight-handle tap wrench (not included; see page 2561).

Straight-flute reamers are for general purpose reaming.

Spiral-flute reamers have a left-hand spiral, right-hand cut and are preferred for use on holes that have an interrupted cut, such as a keyway.



Straight Flute



Spiral Flute

Fractional Sizes

Cutting diameter tolerance is +0.0002″, –0.0000″ for 1/8″ to 1/2″; +0.0003″, –0.0000″ for 9/16″ and 5/8″; and +0.0001″, +0.0004″ for 11/16″ to 1 1/4″. Recommended tap wrench is 2546A13 for 1/8″ to 1/4″; 2546A16 for 5/16″ to 9/16″; and 2546A19 for 5/8″ to 1 1/4″.

Dia.	Flute Lg.	O'all Lg.	No. of Flutes	*Straight Flute*		*Spiral Flute*	
1/8″	1 1/2″	3″	4	2989A11	$39.80	2989A81	$48.93
3/16″	1 3/4″	3 1/2″	6	2989A13	42.22	2989A82	52.80
1/4″	2″	4″	6	2989A15	46.25	2989A51	51.16
5/16″	2 1/4″	4 1/2″	6	2989A17	48.93	2989A53	56.29
3/8″	2 1/2″	5″	6	2989A19	55.49	2989A55	63.08
7/16″	2 3/4″	5 1/2″	6	2989A22	63.04	2989A57	70.34
1/2″	3″	6″	6	2989A24	67.08	2989A59	75.75
9/16″	3 1/4″	6 1/2″	8	2989A26	76.14	2989A62	87.33
5/8″	3 1/2″	7″	8	2989A28	$82.04	2989A64	$93.27
11/16″	3 7/8″	7 3/4″	8	2989A31	90.14	2989A66	101.96
3/4″	4 3/16″	8 3/8″	8	2989A33	96.13	2989A68	107.85
7/8″	4 7/8″	9 3/4″	8	2989A37	116.46	2989A73	128.23
15/16″	5 1/8″	10 1/4″	8	2989A39	116.56	2989A75	142.98
1″	5 7/16″	10 7/8″	8	2989A42	141.05	2989A77	157.42
1 1/8″	5 13/16″	11 5/8″	8	2989A49	184.35	2989A84	202.63
1 1/4″	6 1/8″	12 1/4″	10	2989A43	226.35	2989A78	249.34

Metric Sizes—Spiral Flute

Cutting diameter tolerance is +0.008 mm, +0.004 mm for 2.0 to 3.0 mm; +0.010 mm, +0.005 mm for 4.0 to 6.0 mm; +0.012 mm, +0.006 mm for 6.5 to 10.0 mm; +0.015 mm, +0.008 mm for 11.0 to 18.0 mm, and +0.017 mm, +0.009 mm for 20.0 to 25.0 mm.

Recommended tap wrench is 7112A2 for 2.0 to 2.5 mm; 2546A13 for 3.0 to 7.0 mm; 2546A15 for 8.0 to 11.0 mm; 2546A16 for 12.0 to 17.0 mm; and 2546A18 for 18.0 to 25.0 mm.

Dia., mm	Flute Lg.	O'all Lg.	No. of Flutes		
2.0	1″	2″	4	2822A31	$73.10
2.5	1 1/8″	2 1/4″	4	2822A32	62.48
3.0	1 1/4″	2 1/2″	6	2822A33	73.10
4.0	1 1/2″	3″	6	2822A35	62.48
5.0	1 3/4″	3 1/2″	6	2822A37	62.48
5.5	1 7/8″	3 11/16″	6	2822A38	58.22
6.0	1 7/8″	3 11/16″	6	2822A39	58.22
6.5	2″	4″	6	2822A41	68.11
7.0	2 1/8″	4 3/16″	6	2822A42	75.56
8.0	2 1/4″	4 1/2″	6	2822A44	75.56
9.0	2 1/2″	4 3/4″	6	2822A46	72.47
10.0	2 9/16″	5 1/4″	6	2822A48	83.10
11.0	2 3/4″	5 9/16″	6	2822A49	$83.10
12.0	3″	6″	6	2822A51	86.29
13.0	3″	6″	6	2822A52	86.29
14.0	3 3/16″	6 1/2″	8	2822A53	117.05
15.0	3 3/16″	6 1/2″	8	2822A54	117.05
16.0	3 7/16″	6 7/8″	8	2822A55	106.96
17.0	3 7/16″	6 7/8″	8	2822A56	116.45
18.0	3 5/8″	7 7/16″	8	2822A57	123.87
20.0	4″	8″	8	2822A59	136.05
22.0	4 3/16″	8 1/2″	8	2822A62	170.93
25.0	4 1/2″	9 1/8″	8	2822A65	181.04

High-Speed Steel Expansion Hand Reamers



Straight Flute



Spiral Flute

Slightly enlarge previously drilled holes for proper fit. The undersized pilot on these reamers acts as a guide to maintain alignment with the hole to be reamed. Slots in the hollow center permit expansion as the adjusting screw is tightened. Recommended expansion limit is 0.010″ for 1/4″ to 5/8″ diameters and 0.013″ for 3/4″ to 1″. Cutting diameter tolerance is +0.0000″, –0.0005″. Use with an adjustable wrench or straight-handle tap wrench (sold separately).

Straight-flute reamers are for general purpose reaming.

Spiral-flute reamers have a left-hand spiral, right-hand cut and are for use on holes that have an interrupted cut, such as a keyway. They provide a smoother finish.

Dia.	Flute Lg.	O'all Lg.	No. of Flutes	Straight-Flute Reamers		Spiral-Flute Reamers		Optional Tap Wrenches	
1/4″	1 7/16″	4 1/4″	6	2993A56	$50.48	2993A79	$53.00	2546A15	$72.35
5/16″	1 3/4″	4 1/2″	6	2993A57	51.68	2993A8	54.62	2546A15	72.35
3/8″	1 3/4″	5″	6	2993A58	59.10	2993A81	61.74	2546A15	72.35
1/2″	1 13/16″	5 1/2″	6	2993A6	62.00	2993A83	65.10	2546A16	92.96
5/8″	2 1/2″	6 1/2″	6	2993A62	73.34	2993A85	76.72	2546A16	92.96
3/4″	2 11/16″	7 1/16″	8	2993A64	92.66	2993A87	97.28	2546A16	92.96
7/8″	3 5/16″	8″	8	2993A66	112.26	2993A89	117.88	2546A19	283.49
1″	3 3/4″	8 7/8″	8	2993A68	136.62	2993A91	143.44	2546A19	283.49

Replaceable-Blade Adjustable-Size Hand Reamers



Angle and Straight Blade



Extra-Long Angle Blade

Handle multiple hole sizes with just one tool—loosen one nut and tighten another to move the six adjustable blades within their size range. They're an excellent choice for reaming bushings to a precise fit when size needs to be determined during assembly. Blades can be reground and replaced. To measure size, adjust blades to a known size (such as a bushing or ring), or measure across two opposite blades with a micrometer.

Also Available: Optional reamer extensions for all except extra-long angle-blade reamers. Use in place of the end adjusting nut to align holes that are spaced far apart. Made of steel. Please ask for 3004A22 and specify McMaster-Carr part number.

Angle-blade reamers are for general purpose use and for use on holes that have an interrupted cut, such as a keyway. ***Also Available:*** Replacement blades. Please ask for 2987A48 and specify diameter range.

Straight-blade reamers are for general purpose reaming. Blades outlast angle-blade reamers. ***Also Available:*** Replacement blades. Please ask for 3141A4 and specify diameter range.

Extra-long angle-blade reamers are great for aligning holes that are spaced far apart. They have an extra-long, permanently mounted pilot. A floating sleeve steadies the pilot. ***Also Available:*** Replacement blades. Please ask for 3027A3 and specify diameter range.

Angle Blade—Steel

Dia. Range	O'all Lg.			Dia. Range	O'all Lg.			Dia. Range	O'all Lg.		
27/64″-29/64″	5 3/8″	2987A28	$54.98	23/32″-25/32″	7 1/8″	2987A15	$63.11	1 1/4″-1 7/16″	11 1/4″	2987A39	$99.82
27/64″-15/32″	5 3/8″	2987A1	54.98	3/4″-13/16″	7 1/8″	2987A34	63.11	1 11/32″-1 17/32″	12″	2987A21	125.02
7/16″-1/2″	5 3/8″	2987A29	54.98	25/32″-27/32″	7 1/2″	2987A16	63.11	1 7/16″-1 5/8″	12″	2987A4	125.02
15/32″-17/32″	5 5/8″	2987A11	54.98	13/16″-7/8″	7 1/2″	2987A35	63.11	1 17/32″-1 25/32″	14 1/4″	2987A22	178.06
1/2″-9/16″	5 5/8″	2987A3	54.98	27/32″-15/16″	8 1/8″	2987A17	67.81	1 5/8″-1 7/8″	14 1/4″	2987A41	178.06
17/32″-19/32″	5 5/8″	2987A12	54.98	7/8″-1″	8 1/8″	2987A36	67.81	1 25/32″-2 3/32″	16″	2987A23	245.87
9/16″-5/8″	5 7/8″	2987A31	54.98	15/16″-1 1/16″	9 1/4″	2987A18	72.19	1 7/8″-2 3/16″	16″	2987A42	245.87
19/32″-21/32″	6 5/8″	2987A13	58.13	1″-1 1/8″	9 1/4″	2987A37	72.19	2 3/32″-2 15/32″	18″	2987A24	365.98
5/8″-11/16″	6 5/8″	2987A32	58.13	1 1/16″-1 3/16″	10 1/4″	2987A19	83.21	2 3/16″-2 9/16″	18″	2987A43◆	365.98
21/32″-23/32″	6 7/8″	2987A14	58.13	1 1/8″-1 1/4″	10 1/4″	2987A38	83.21	2 9/16″-3″	20″	2987A44◆	515.20
11/16″-3/4″	6 7/8″	2987A33	58.13	1 3/16″-1 11/32″	11 1/4″	2987A2	99.82				

◆Blades are straight.

Straight Blade—High-Speed Steel

Dia. Range	O'all Lg.			Dia. Range	O'all Lg.			Dia. Range	O'all Lg.		
1/4″-9/32″	3 1/4″	3141A61★	$84.34	15/32″-17/32″	5 5/8″	3141A12	$113.47	15/16″-1 1/16″	9 1/4″	3141A23	$160.92
9/32″-5/16″	3 5/8″	3141A62★	84.34	17/32″-19/32″	5 5/8″	3141A13	113.47	1 1/16″-1 3/16″	10 1/4″	3141A24	178.91
5/16″-11/32″	4″	3141A63★	84.34	19/32″-21/32″	6 5/8″	3141A14	118.75	1 3/16″-1 11/32″	11 1/4″	3141A25	204.59
11/32″-3/8″	4 1/4″	3141A64★	84.37	21/32″-23/32″	6 7/8″	3141A16	124.23	1 11/32″-1 17/32″	12″	3141A26	260.08
3/8″-13/32″	4 1/2″	3141A65★	84.37	23/32″-25/32″	7 1/8″	3141A15	130.58	1 17/32″-1 25/32″	14 1/4″	3141A27	275.61
13/32″-7/16″	4 3/4″	3141A66	113.47	25/32″-27/32″	7 1/2″	3141A17	137.26	1 25/32″-2 3/32″	16″	3141A28	350.37
7/16″-15/32″	5 1/8″	3141A67	113.47	27/32″-15/16″	8 1/8″	3141A18	143.54	2 3/32″-2 15/32″	18″	3141A31	590.09

★Has four blades.

Extra-Long Angle Blade—Steel

Dia. Range	Pilot Lg.	O'all Lg.			Dia. Range	Pilot Lg.	O'all Lg.		
15/32″-17/32″	10″	15 5/8″	3027A11	$122.73	23/32″-25/32″	16″	23 1/8″	3027A15	$139.41
17/32″-19/32″	10″	15 5/8″	3027A12	122.73	25/32″-27/32″	16″	23 1/2″	3027A16	149.35
19/32″-21/32″	12″	18 5/8″	3027A13	128.25	15/16″-1 1/16″	18″	27 1/8″	3027A18	160.43

Reamer Sets—Come in a wood case.

Style	Blade Material	Dia. Range	Pieces Per Set			Style	Blade Material	Dia. Range	Pieces Per Set		
Angle	Steel	15/32″-1 1/16″	8	2987A91	$542.55	Angle	Steel	7/16″-1 1/4″	10	2987A95	$662.08
Angle	Steel	15/32″-1 17/32″	11	2987A93	814.52	Straight	High-Speed Steel	1/4″-15/32″	7	3141A79	705.81

Optional Tap Wrenches

For 3141A reamers with an overall length of 4 1/2″ and shorter.

2546A12 ..... $39.51

For 2987A and 3141A reamers with an overall length of 4 3/4″-7 1/2″ and 3027A reamers with an overall length of 23 1/2″ and shorter.

2546A15 ..... $72.35

For 2987A and 3141A reamers with an overall length of 8 1/8″-11 1/4″ and 3027A reamers with an overall length of 27 1/8″.

2546A16 ..... $92.96

For 2987A and 3141A reamers with an overall length of 12″ and longer.

2546A19 ..... $283.49

High-Speed Steel Reamers for Taper-Pin Holes

Accurately ream previously drilled holes for standard taper pins. All reamers have a round shank and are tapered 1/4" per foot.

Straight- and ***spiral-flute hand reamers*** are square drive. For pin size Nos. 7/0-4/0, use a common adjustable wrench or a pin vise (see 8455A on page 2576). Others are used with a straight-handle tap wrench (see 2546A on page 2561). Recommended tap wrench for Nos. 3/0-7 and 2.00-5.00 mm is 2546A13; Nos. 4-10 and 3.00-13.00 mm, use 2546A16; Nos. 8.00-20.00 mm, use 2546A18.; and Nos. 11-14, use 2546A19.

Straight-flute reamers are used in easy-to-ream materials, such as aluminum and brass. *Spiral-flute* reamers have a left-hand spiral, right-hand cut that operates with ease in hard-to-ream materials, such as high-carbon steel and cast iron.

Helical-flute chucking reamers have left-hand helical construction, which moves chips forward to prevent chips from packing in flutes. This reduces breakage and produces a fine finish.

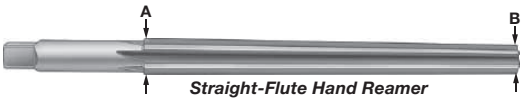

Straight-Flute Hand Reamer


Spiral-Flute Hand Reamer


Helical-Flute Chucking Reamer

Standard Pin Sizes

Pin Size No.	Reamer Dia. Large End (A)	Reamer Dia. Small End (B)	Shank Dia.	Flute Lg.	O'all Lg.	Straight-Flute Hand Reamers No. of Flutes			Spiral-Flute Hand Reamers No. of Flutes			Helical-Flute Chucking Reamers No. of Flutes		
7/0	0.0666"	0.0497"	5/64"	13/16"	1 13/16"	4	2990A11	$41.62	4	2990A41	$42.75	3	2991A11	$39.65
6/0	0.0806"	0.0611"	3/32"	15/16"	1 15/16"	4	2990A12	41.62	4	2990A42	42.75	3	2991A12	39.65
5/0	0.0966"	0.0719"	7/64"	1 3/16"	2 3/16"	4	2990A13	37.78	4	2990A43	41.62	3	2991A13	36.93
4/0	0.1142"	0.0869"	1/8"	1 5/16"	2 5/16"	4	2990A14	37.78	4	2990A44	41.62	3	2991A14	36.93
3/0	0.1302"	0.1029"	9/64"	1 5/16"	2 5/16"	4	2990A15	37.78	4	2990A45	41.62	3	2991A15	36.93
2/0	0.1462"	0.1137"	5/32"	1 9/16"	2 9/16"	4	2990A16	31.08	4	2990A46	33.54	3	2991A16	33.96
0	0.1638"	0.1287"	11/64"	1 11/16"	2 15/16"	6	2990A17	31.50	6	2990A47	34.97	3	2991A17	31.67
1	0.1798"	0.1447"	3/16"	1 11/16"	2 15/16"	6	2990A18	30.24	6	2990A48	33.57	3	2991A18	32.35
2	0.2008"	0.1605"	13/64"	1 15/16"	3 3/16"	6	2990A19	30.24	6	2990A49	33.57	3	2991A19	36.08
3	0.2294"	0.1813"	15/64"	2 5/16"	3 11/16"	6	2990A21	29.21	6	2990A51	32.43	3	2991A21	37.36
4	0.2604"	0.2071"	17/64"	2 9/16"	4 1/16"	6	2990A22	30.91	6	2990A52	34.30	3	2991A22	40.67
5	0.2994"	0.2409"	5/16"	2 13/16"	4 5/16"	6	2990A23	33.71	6	2990A53	37.36	3	2991A23	46.70
6	0.3540"	0.2773"	23/64"	3 11/16"	5 7/16"	6	2990A24	41.53	6	2990A54	50.34	3	2991A24	54.34
7	0.4220"	0.3297"	13/32"	4 7/16"	6 5/16"	6	2990A25	53.41	6	2990A55	57.06	3	2991A25	67.67
8	0.5050"	0.3971"	7/16"	5 3/16"	7 3/16"	6	2990A26	68.69	6	2990A56	74.55	3	2991A26	79.13
9	0.6066"	0.4805"	9/16"	6 1/16"	8 5/16"	8	2990A27	81.25	8	2990A57	87.45	3	2991A27	84.06
10	0.7216"	0.5799"	5/8"	6 13/16"	9 5/16"	8	2990A28	89.07	8	2990A58	97.47	4	2991A28	107.32
11	0.8780"	0.7060"	3/4"	8 1/4"	11 1/4"	8	2990A29	94.89	8	2990A59	104.40	4	2991A29	114.82
12	1.0500"	0.8420"	3/4"	10"	13 7/8"	8	2990A31	141.49	8	2990A61	155.63	4	2991A31	171.26
13	1.2590"	1.0090"	1 1/16"	12"	16"	10	2990A32	274.42	10	2990A62	301.87	6	2991A32	417.14
14	1.5420"	1.2500"	1 13/32"	14"	18 1/4"	10	2990A33	420.67	10	2990A63	462.72	6	2991A33	483.11

Metric Pin Sizes—Dimensions in mm

Pin Size	Straight-Flute Hand Reamers: Reamer Dia. Large End (A)	Reamer Dia. Small End (B)	Shank Dia.	Flute Lg.	O'all Lg.	No. of Flutes			Helical-Flute Chucking Reamers: Reamer Dia. Large End (A)	Reamer Dia. Small End (B)	Shank Dia.	Flute Lg.	O'all Lg.	No. of Flutes		
2.00	2.86	1.90	2.86	48	68	4	30165A61	$64.60	2.86	1.90	3.15	48	73	3	30025A61	$42.79
2.50	3.36	2.40	3.36	48	68	4	30165A62	55.43	3.46	2.40	3.15	53	79	3	30025A62	42.79
3.00	4.06	2.90	4.00	58	80	4	30165A63	53.85	4.16	2.90	3.94	63	88	3	30025A63	42.79
4.00	5.26	3.90	5.00	68	93	4	30165A64	49.62	5.40	3.90	5.13	75	100	3	30025A64	36.68
5.00	6.36	4.90	6.30	73	100	4	30165A65	53.55	6.64	4.90	6.32	87	115	3	30025A65	41.86
6.00	8.00	5.90	7.90	105	135	6	30165A66	62.32	8.28	5.90	7.90	119	150	3	30025A66	48.40
8.00	10.80	7.90	10.50	145	180	6	30165A67	83.77	10.72	7.90	10.29	141	177	3	30025A67	52.47
10.00	13.40	9.90	13.30	175	215	6	30165A68	103.46	13.16	9.90	11.09	163	205	3	30025A68	85.50
12.00	16.00	11.80	16.00	210	255	8	30165A69	121.09	15.74	11.86	14.26	194	240	3	30025A69	97.03
13.00	16.74	12.86	16.74	210	255	8	30165A71	139.95	16.74	12.80	15.85	194	240	3	30025A71	106.74
16.00	20.40	15.80	20.40	230	280	8	30165A72	411.18								
20.00	24.80	19.80	24.80	250	310	8	30165A73	567.81								

Taper-Pin Sets

Pin Size No.	Flute Style	Pieces Per Set	Case			Pin Size No.	Flute Style	Pieces Per Set	Case		
7/0-0	Straight	7	Plastic	2990A67	$202.57	0- 5	Spiral	6	Wood	2990A74	$186.86
7/0-0	Spiral	7	Plastic	2990A69	221.40	0-10	Straight	11	Wood	2990A76	443.03
0-5	Straight	6	Wood	2990A72	175.18	0-10	Spiral	11	Wood	2990A78	487.16

High-Speed Steel Combination Drill Bit and Reamer for Taper-Pin Holes

Drill and ream tapered holes for taper pins in one operation. All are tapered at 1" per 50" and have chip breakers on the cutting edge, a straight shank, and a 118° point. Designed for machine reaming.



Standard Sizes

Pin Size No.	Diameter Large End (A)	Diameter Small End (B)	Shank Dia.	Flute Lg.	O'all Lg.		
3/0	0.1270"	0.0879"	1/8"	1 7/8"	3 1/8"	8831A13	$60.61
0	0.1580"	0.1137"	5/32"	2 1/8"	3 3/8"	8831A15	69.37
2	0.1950"	0.1325"	3/16"	3"	4 3/8"	8831A17	87.46
3	0.2200"	0.1575"	7/32"	3"	4 1/2"	8831A18	111.85
4	0.2530"	0.1775"	1/4"	3 5/8"	5 1/4"	8831A19	90.29
5	0.2920"	0.1983"	9/32"	4 1/2"	6 1/4"	8831A21	140.29
6	0.3470"	0.2455"	11/32"	4 7/8"	6 7/8"	8831A22	203.80
7	0.4120"	0.2818"	13/32"	6 1/4"	8 1/2"	8831A23	225.46
8	0.5060"	0.3600"	1/2"	7"	9 3/4"	8831A24	240.83

Metric Sizes—Dimensions in mm

Pin Size	Diameter Large End (A)	Diameter Small End (B)	Shank Dia.	Flute Lg.	O'all Lg.		
2.00	2.84	1.98	2.84	43	65	8831A71	$67.88
2.50	3.46	2.33	3.46	56	89	8831A72	53.17
3.00	4.16	2.84	4.16	66	98	8831A73	62.44
4.00	5.40	3.78	5.40	81	119	8831A74	73.22
5.00	6.64	4.70	6.64	97	138	8831A75	87.05
6.00	8.28	5.71	8.28	129	179	8831A76	93.17
8.00	10.72	7.64	10.72	154	211	8831A77	131.22
10.00	13.16	9.65	13.16	175	246	8831A78	168.05
12.00	15.70	11.96	15.70	198	275	8831A79	260.78

Reamers for Structural Steel

Also known as bridge reamers, car reamers, and aligning reamers. Use them to ream, true, enlarge, align, and debur holes in structural steel. Ends are tapered for easy entry into out-of-line holes. All are made of high-speed steel and have a left-hand spiral and right-hand cut. Not for reaming tapered holes.

Round Shank

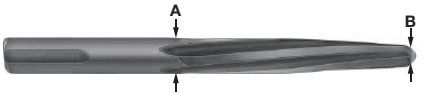

Three flats provide a secure fit in portable electric and air tools. Cutting diameter tolerance is +0.010″, –0.000″.

Diameter Large End (A)	Diameter Small End (B)	Shank Dia.	Flute Lg.	O'all Lg.		
1/4″	5/32″	1/4″	2 1/4″	4 3/8″	3089A11♦	$37.56
5/16″	3/16″	5/16″	2 1/2″	4 5/8″	3089A12	39.60
3/8″	1/4″	3/8″	2 1/2″	4 5/8″	3089A13	35.64
7/16″	1/4″	7/16″	3 1/4″	5 3/8″	3089A14	39.24
1/2″	9/32″	1/2″	3 3/4″	5 7/8″	3089A15	42.53
9/16″	11/32″	1/2″	3 3/4″	5 7/8″	3089A16	45.11
5/8″	11/32″	1/2″	4 1/4″	6 3/8″	3089A17	49.24
21/32″	3/8″	1/2″	4 1/4″	6 3/8″	3089A18	54.58
11/16″	3/8″	1/2″	4 1/4″	6 3/8″	3089A19	54.69
3/4″	13/32″	1/2″	4 1/2″	6 7/8″	3089A21	65.69
25/32″	13/32″	1/2″	4 1/2″	6 7/8″	3089A22	63.16
13/16″	7/16″	1/2″	4 1/2″	6 7/8″	3089A26	65.69
7/8″	15/32″	1/2″	4 1/2″	6 7/8″	3089A23	74.20
15/16″	9/16″	1/2″	4 1/2″	6 7/8″	3089A27	92.38
1″	19/32″	1/2″	4 1/2″	6 7/8″	3089A24	105.80
1 1/16″	5/8″	1/2″	4 1/2″	6 7/8″	3089A25	107.58

♦ Shank does not have flats.

Round Shank with Safety Collar



A collar prevents overpenetration and a fast spiral clears away chips. Use in portable electric and air tools. Cutting diameter tolerance is +0.005″, –0.000″.

Diameter Large End (A)	Diameter Small End (B)	Shank Dia.	Flute Lg.	O'all Lg.		
3/16″	1/8″	1/4″	1 3/8″	3 1/2″	2743A51	$41.24
7/32″	1/8″	1/4″	1 3/8″	3 1/2″	2743A52	41.92
1/4″	1/8″	1/4″	1 7/8″	4″	2743A53	42.35
9/32″	9/64″	1/4″	1 7/8″	4″	2743A54	43.55
5/16″	5/32″	1/4″	2 3/8″	4 1/2″	2743A55	44.84
11/32″	11/64″	1/4″	2 3/8″	4 1/2″	2743A56	45.87
3/8″	3/16″	3/8″	2 7/8″	5″	2743A11	53.12
7/16″	7/32″	7/16″	3 1/8″	5 1/4″	2743A12	54.59
1/2″	7/32″	1/2″	3 13/16″	5 15/16″	2743A13	58.11
9/16″	19/64″	1/2″	4 1/8″	6 1/4″	2743A31	55.14
5/8″	1/4″	1/2″	4 7/16″	6 9/16″	2743A14	65.15
11/16″	23/64″	1/2″	4 7/8″	7″	2743A32	68.68
3/4″	29/64″	1/2″	4 7/8″	7″	2743A15	76.66
13/16″	15/32″	1/2″	5 1/8″	7 1/4″	2743A33	82.87
7/8″	37/64″	1/2″	5 1/8″	7 1/4″	2743A16	94.86
15/16″	19/32″	1/2″	5 1/8″	7 1/4″	2743A34	98.49
1″	45/64″	1/2″	5 1/8″	7 1/4″	2743A17	103.34
1 1/16″	25/32″	1/2″	5 1/8″	7 1/4″	2743A35	113.32
1 1/8″	13/16″	1/2″	5 1/8″	7 1/4″	2743A36	121.58
1 3/16″	53/64″	1/2″	5 1/8″	7 1/4″	2743A37	129.35
1 1/4″	7/8″	1/2″	5 3/8″	7 1/2″	2743A38	136.31
1 5/16″	57/64″	1/2″	5 3/8″	7 1/2″	2743A39	185.40
1 3/8″	1 1/64″	1/2″	5 3/8″	7 1/2″	2743A41	227.95
1 1/2″	1 5/64″	1/2″	5 3/8″	7 1/2″	2743A43	254.21

Taper Shank



For use in stationary machines. Cutting diameter tolerance is +0.010″, –0.000″.

Diameter Large End (A)	Diameter Small End (B)	Morse Taper No.	Flute Lg.	O'all Lg.		
3/8″	7/32″	1	2 3/4″	5 11/16″	2992A15	$70.64
7/16″	1/4″	2	4 3/8″	8 1/4″	2992A17	94.64
1/2″	9/32″	2	4″	7 9/16″	2992A18	87.51
1/2″	9/32″	2	5 1/8″	9″	2992A19	109.24
9/16″	11/32″	2	4″	7 9/16″	2992A21	92.60
9/16″	11/32″	2	5 1/8″	9″	2992A22	114.11
5/8″	11/32″	2	4 1/2″	8 1/16″	2992A41	93.76
5/8″	3/8″	2	6 1/8″	10″	2992A23	117.93
11/16″	3/8″	3	4 1/2″	8 13/16″	2992A42	105.64
11/16″	25/64″	3	7 1/8″	11 3/4″	2992A24	133.38
3/4″	13/32″	3	5″	9 1/2″	2992A43	108.58
3/4″	13/32″	3	7 3/8″	12″	2992A25	134.60
13/16″	15/32″	3	5″	9 1/2″	2992A44	110.00
13/16″	1/2″	3	7 3/8″	12″	2992A26	135.18
7/8″	15/32″	3	5″	9 1/2″	2992A45	112.11
7/8″	9/16″	3	7 3/8″	12″	2992A27	135.87
15/16″	19/32″	3	5″	9 1/2″	2992A46	115.00
15/16″	19/32″	3	7 3/8″	12″	2992A28	136.49
1″	19/32″	3	5″	9 1/2″	2992A47	123.82
1″	11/16″	3	7 3/8″	12″	2992A29	141.96
1 1/16″	5/8″	3	5″	9 1/2″	2992A48	132.82
1 1/16″	3/4″	3	7 3/8″	12″	2992A31	144.93
1 1/8″	21/32″	3	5″	9 1/2″	2992A49	146.87
1 1/8″	13/16″	3	7 3/8″	12″	2992A32	150.71
1 1/4″	23/32″	3	5″	9 1/2″	2992A51	151.62
1 1/4″	15/16″	4	7 3/8″	13″	2992A34	178.96
1 3/8″	1 1/16″	4	7 3/8″	13″	2992A36	209.58
1 1/2″	1 3/16″	4	7 3/8″	13″	2992A38	247.53

Hex Nut Shank



Reamers have a hex nut on the end of the shank for use with square-drive impact wrench sockets. Cutting diameter tolerance is +0.010″, –0.000″.

Diameter Large End (A)	Diameter Small End (B)	Hex Head Wd.	Flute Lg.	O'all Lg.		
9/16″	11/32″	1 1/16″	4″	5 1/2″	3000A24	$59.96
9/16″	11/32″	1 1/16″	5 1/8″	6 7/8″	3000A25	62.57
11/16″	3/8″	1 1/16″	4 1/2″	6 3/8″	3000A28	70.18
11/16″	25/64″	1 1/16″	7 1/8″	9 1/4″	3000A29	85.29
13/16″	15/32″	1 1/4″	5″	7″	3000A35	84.10
13/16″	1/2″	1 1/4″	7 3/8″	9 3/8″	3000A36	97.55
15/16″	19/32″	1 7/16″	5″	7″	3000A42	108.78
15/16″	19/32″	1 7/16″	7 3/8″	9 3/8″	3000A43	108.78
1 1/16″	5/8″	1 5/8″	5″	7″	3000A48	134.53
1 1/16″	3/4″	1 5/8″	7 3/8″	9 3/8″	3000A49	146.63
1 3/16″	11/16″	1 13/16″	5″	7″	3000A55	163.08
1 3/16″	7/8″	1 13/16″	7 3/8″	9 3/8″	3000A56	182.86
1 5/16″	1″	2″	7 3/8″	10″	3000A62	232.04

Hex Nut Shank with Safety Magnet



A strong magnet on two of the hex surfaces holds the reamer in the tool. The magnets can also keep the reamer from accidentally falling when not in the socket (see OSHA standard 1926.759 for falling object protection). Use with square-drive impact wrench sockets. Cutting diameter tolerance is +0.010″, –0.000″.

Diameter Large End (A)	Diameter Small End (B)	Hex Head Wd.	Flute Lg.	O'all Lg.		
9/16″	11/32″	1 1/16″	4″	5 1/2″	3239A11	$69.47
5/8″	11/32″	1 1/16″	4 1/2″	6″	3239A13	69.47
11/16″	3/8″	1 1/16″	4 1/2″	6 3/8″	3239A15	69.47
3/4″	13/32″	1 1/4″	5″	7″	3239A17	82.37
13/16″	15/32″	1 1/4″	5″	7″	3239A19	82.22
7/8″	15/32″	1 7/16″	5″	7″	3239A22	91.78
15/16″	19/32″	1 7/16″	5″	7″	3239A24	91.78
1″	19/32″	1 7/16″	5″	7″	3239A26	113.24
1 1/16″	5/8″	1 5/8″	5″	7″	3239A28	$125.80
1 1/8″	21/32″	1 5/8″	5″	7″	3239A31	145.14
1 3/16″	11/16″	1 13/16″	5″	7″	3239A33	150.57
1 1/4″	23/32″	1 13/16″	5″	7″	3239A35	170.18
1 5/16″	25/32″	2″	5″	7 7/8″	3239A37	187.04
1 3/8″	1 1/16″	2″	7 3/8″	10″	3239A39	267.25
1 7/16″	1 1/8″	2″	7 3/8″	10″	3239A41	264.57
1 1/2″	1 3/16″	2″	7 3/8″	10″	3239A42	315.29

High-Speed Steel Reamers for Taper-Pipe Holes

Use these reamers prior to tapping with taper-pipe taps. All have a left-hand spiral and right-hand cut. They fit into straight-handle tap wrenches (see 2546A on page 2561).

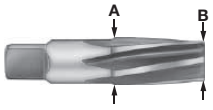

For Pipe Size	Diameter Large End (A)	Diameter Small End (B)	Flute Lg.	O'all Lg.		
1/8"	0.362"	0.316"	3/4"	2 1/8"	8798A11	$41.70
1/4"	0.472"	0.406"	1 1/16"	2 7/16"	8798A12	48.90
3/8"	0.606"	0.54"	1 1/16"	2 9/16"	8798A13	52.13
1/2"	0.751"	0.665"	1 3/8"	3 1/8"	8798A14	64.80
3/4"	0.962"	0.876"	1 3/8"	3 1/4"	8798A15	90.83
1"	1.212"	1.103"	1 3/4"	3 3/4"	8798A16	133.57

Tube Reaming and Deburring Tools



Ream and debur the inside and outside edges of 3/16"-1 1/2" PVC and CPVC tubing and 3/16"-1 1/2" metal tubing with one tool. Tools have three cutters on each end and a die cast zinc body. They cut both clockwise and counterclockwise.

Tool with Tungsten Tool Steel Cutters—Use on PVC, CPVC, stainless steel (including Type 304 and Type 316), brass, hard and soft copper, and aluminum tubing.

2737A11		$71.82

Tool with Hardened Steel Cutters—Use on PVC, CPVC, brass, soft copper, and aluminum tubing.

2709A12		$19.36

High-Speed Steel Deburring Reamers for Sheet Metal

Also known as repairmen's reamers.

Spiral-flute reamers not only countersink, enlarge, and smooth the edges of holes in sheet metal, they also remove burs from pipe and conduit.

Straight-flute reamers remove burs and enlarge holes in thin sheet metal.

Reamers with a ***round shank*** are for portable drills. Reamers with a ***T-handle shank*** are for hand use.



Spiral Flute Round Shank



Straight Flute T-Handle

Shank Style	For Pipe Size	Diameter Large End	Diameter Point End	O'all Lg.		
Spiral Flute						
1/2" Round	1/8"-1"	1 1/4"	3/16"	5 3/64"	3017A11	$107.61
1/2" Round	1/4"-1 1/4"	1 15/32"	1/4"	5"	3017A12	160.26
1/2" Round	1/4"-2"	2 17/64"	1/4"	5 7/8"	3017A13	251.04
T-Handle	1/4"-2"	2 17/64"	1/4"	5 7/8"	3017A18	274.56
Straight Flute						
3/8" Round	_____	1/2"	1/8"	5 9/16"	3018A5	40.50
1/2" Round	_____	1"	3/8"	6 1/2"	3018A6	121.50
T-Handle	_____	1/2"	1/8"	5 9/16"	3018A4	46.66

Morse Taper Shank High-Speed Steel Chucking Reamers

The tapered shank on these reamers fits the spindle hole of a machine tool with a Morse taper. All have straight flutes. Cutting diameter tolerance is +0.0002", –0.0000" for 1/2"; +0.0003", –0.0000" for 5/8"; and +0.0004", +0.0001" for 3/4" to 1 1/2".



Dia.	Morse Taper	Flute Lg.	O'all Lg.	No. of Flutes		
1/2"	1	2"	8"	6	2995A24	$43.98
5/8"	2	2 1/4"	9"	8	2995A28	56.90
3/4"	2	2 1/2"	9 1/2"	8	2995A33	60.25
13/16"	2	2 1/2"	9 1/2"	8	2995A35	75.78
7/8"	2	2 5/8"	10"	8	2995A37	85.51
1"	3	2 3/4"	10 1/2"	8	2995A42	106.63
1 1/16"	3	2 3/4"	10 1/2"	8	2995A43	$116.59
1 1/8"	3	2 7/8"	11"	8	2995A14	135.49
1 3/16"	3	2 7/8"	11"	10	2995A45	144.98
1 1/4"	4	3"	11 1/2"	10	2995A46	156.97
1 3/8"	4	3 1/4"	12"	10	2995A48	185.55
1 1/2"	4	3 1/2"	12 1/2"	10	2995A51	213.74

Threaded-Shank High-Speed Steel Reamers

Ream hard, high-strength alloys and tough, heat-resistant materials. All have a 1/4"-28 threaded shank and straight flutes. The pilot is 1/4" long and has a 45° cutting chamfer. Overall length includes the pilot and threaded shank. Reamer cutting diameter tolerance is +0.0002", –0.0000". Pilot cutting diameter tolerance is +0.000", –0.001".



Reamer Dia.	Pilot Dia.	Flute Lg.	O'all Lg.	No. of Flutes		
0.161"	0.152"	1 1/8"	2 3/8"	6	2585A11	$37.56
0.1719"	0.164"	1 1/8"	2 3/8"	6	2585A13	37.56
0.185"	0.175"	1 1/8"	2 3/8"	6	2585A15	38.22
0.187"	0.178"	1 1/8"	2 3/8"	6	2585A17	38.22
0.1875"	0.178"	1 1/8"	2 3/8"	6	2585A19	38.22
0.189"	0.18"	1 1/8"	2 3/8"	6	2585A21	38.22
0.191"	0.18"	1 1/8"	2 3/8"	6	2585A23	38.22
0.1935"	0.183"	1 1/8"	2 3/8"	6	2585A25	38.22
0.2031"	0.194"	1 1/8"	2 3/8"	6	2585A27	$38.44
0.2188"	0.207"	1 1/8"	2 3/8"	6	2585A29	38.44
0.2344"	0.226"	1 1/8"	2 3/8"	6	2585A31	38.44
0.25"	0.24"	1 1/8"	2 3/8"	6	2585A33	38.67
0.2656"	0.255"	1 1/8"	2 3/8"	6	2585A35	39.56
0.2812"	0.27"	1 1/8"	2 3/8"	6	2585A37	39.78
0.2969"	0.288"	1 1/8"	2 3/8"	6	2585A39	39.78
0.3125"	0.3"	1 1/8"	2 3/8"	6	2585A41	40.00

Drill Guides for Countersunk Holes

Save time when drilling holes for hinges, latches, and other hardware that requires screws. Each guide has a beveled tip that fits into countersunk hardware, ensuring centered pilot holes.

Round-shank guides are also known as Vix Bits. ***Hex-shank*** guides fit all quick-change and standard drill chucks.

Guides are spring loaded. Drilling pressure compresses the guide body and extends the drill bit into the material. All are made of steel. ***Replacement drill bits*** are high-speed steel.



Round Shank

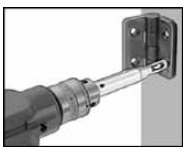

Bit Size	For Screw Sizes	ROUND SHANK Shank Dia.	ROUND SHANK Guides		ROUND SHANK Replacement Drill Bits		HEX SHANK Shank Size	HEX SHANK Guides		HEX SHANK Replacement Drill Bits	
5/64"	Nos. 2, 3, 4	1/4"	27455A61	$11.80	27455A91	$3.50	1/4"	2869A31	$11.81	2869A81	$3.07
7/64"	Nos. 5, 6	1/4"	27455A62	10.40	27455A92	3.62	1/4"	2869A32	11.81	2869A82	3.07
9/64"	Nos. 8, 9, 10	1/4"	27455A63	10.80	27455A93	3.75	1/4"	2869A33	12.95	2869A83	3.07
11/64"	No. 12	3/8"	27455A64	42.00	27455A94	7.50	1/4"	2869A34	22.53	2869A84	5.27
13/64"	No. 14	3/8"	27455A65	42.00	27455A95	7.50	1/4"	2869A35	22.53	2869A85	5.27

CAT-V40 Flange End Mill Holders

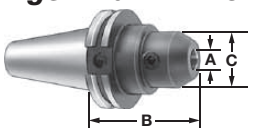

Holders securely grip end mills in machines with a 40 taper spindle. All are made of case-hardened alloy steel and have 5/8″-11 threads on the tapered end to hold retention knobs that fit your machine. End mill holding set screws are included.

For End Mill Shank Dia. (A)	Projection (B)	Dia. (C)		
1/2″	2 3/8″	3/4″	28745A118	$123.75
3/16″	2 1/2″	3/4″	28745A122	123.75
1/4″	2 1/2″	51/64″	28745A125	114.60
3/8″	2 1/2″	1″	28745A132	114.60
1/2″	2 1/2″	1 3/8″	28745A136	114.60
1/2″	4″	1 3/8″	28745A137	137.72
5/8″	3″	1 21/32″	28745A141	123.75
3/4″	3″	1 3/4″	28745A145	114.60
1″	4″	2 3/8″	28745A153	127.56
1 1/4″	4″	2 1/2″	28745A156	145.85

End Mill Extensions



Get into tight spots with these extensions. Made of steel, they securely hold your end mill with the included set screws.

For End Mill Shank Dia.	Extension Shank Dia.	O'all Lg.		
1/8″	3/4″	6″	28045A41	$85.58
3/16″	3/4″	6″	28045A42	85.58
1/4″	3/4″	6″	28045A43	85.58
3/8″	1″	6″	28045A45	94.25
1/2″	1″	6″	28045A48	94.25

Machine Tool Wipers

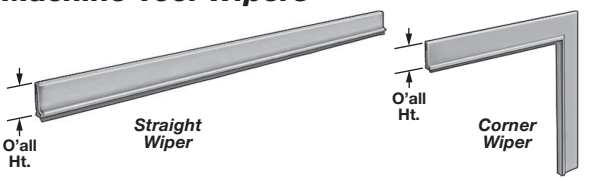

Attach wipers to your milling machine and as the table moves, wipers sweep away chips and other contaminants, preventing them from wearing down sliding parts.

Housing is made of 0.18″ thick Type 304 stainless steel and has a 0.33″ thick extended lip to protect the wiper blade from hot chips. Wiper blades are made of polyurethane, so they withstand exposure to most oils, coolants, and contaminants. Wipers can be cut to length. To mount, counterbore holes and attach with 1/4″-20 socket head cap screws (not included).

	Straight Wipers			*Corner Wipers*		
O'all Ht.	O'all Lg.			Leg Lg., Inside		
0.68″	20.9″	8920A21	$34.29	5.25″	8920A23	$63.84
0.94″	20.9″	8920A22	33.47	5.25″	8920A24	66.37

R8 Right-Angle Milling Machine Attachments



Simplify right-angle work by reducing the need for special tooling. Ideal for cavities and pocket-milling jobs, this attachment requires a drawbar (sold separately) to operate.

Attachments

Has hardened and ground spiral bevel gears (1.33:1 ratio), sealed bearings, R8 collet spindle, and a grease fitting. Body is ductile iron and has alignment flats on the sides.

29155A11 ..... $1,156.91

Drawbars

Required for the attachment above. They are made of heat-treated alloy steel and have 1 1/2″ long 7/16″-20 threads.

For Milling Machine	Drawbar Lg.	Hex Lg.		
Bridgeport, Clausing/Kondia	18″	8 1/2″	29155A61	$44.21
Lagun, Index	18″	11 1/2″	29155A64	48.42

R8 Shank End Mill Holders and Adapters



End Mill Holder



Morse Taper Adapter

Designed to hold end mills, drills, and reamers securely in Bridgeport and similar milling machines with an R8 taper spindle. All are made of heat-treated alloy steel and are ground to accurate size. Their R8 shanks have a 7/16″-20 internal drawbar thread.

R8 Shank End Mill Holders

All include set screws.

Holders for ***1/8″***, ***5/16″***, and ***1/2″ to 1 1/2″*** diameter end mills accept single-end end mills only. Holders for ***3/16″***, ***1/4″***, and ***3/8″*** diameter end mills accept single- and double-end end mills.

For End Mill Dia.	Head Dia.			For End Mill Dia.	Head Dia.		
1/8″	3/4″	8781A33	$65.10	5/8″	1 21/32″	8781A24	$75.43
3/16″	3/4″	8781A21	65.10	3/4″	1 57/64″	8781A25	75.43
1/4″	51/64″	8781A32	65.10	7/8″	2″	8781A26	76.47
5/16″	7/8″	8781A34	65.10	1″	2 3/8″	8781A27	76.47
3/8″	1″	8781A22	65.10	1 1/4″	2 1/2″	8781A28	97.65
1/2″	1 3/8″	8781A23	65.10	1 1/2″	3″	8781A29	134.85

Morse Taper to R8 Shank Milling Machine Adapters

Convert tools with a Morse taper shank to an R8 shank.

Adapter Hole Size	Adapter Shank		
#1 Morse Taper	R8	8784A13	$113.33
#2 Morse Taper	R8	8784A14	113.84
#3 Morse Taper	R8	8784A15	121.71

End Mill Storage Cabinets



Three drawers and 29 compartments make it easy to organize and store your 1/8″ to 1″ end mills. Size is marked on each drawer for easy identification. Cabinets are steel with a gray epoxy finish. Overall size is 14 5/8″ Lg.×7 3/8″ Wd.×7 3/4″ Ht.

Cabinet holds one each of sizes 9/16″, 11/16″, and 7/8″; two each of sizes 3/16″, 5/16″, 7/16″, 5/8″, and 1″; three each of sizes 1/8″, 1/4″, 3/8″, and 3/4″; and four of size 1/2″.

28345A17 ..... $91.88

Milling Machine Power Feeds



Convert your milling machine from manual feed to motorized power. Designed for general purpose machining on Class 1 mills up to 3 hp, you'll get smooth power and rapid traverse. Speed is variable so you can make adjustments for material, cutter, and coolant. Install on the X (left/right) or the Y (in/out) motion axis. Feeds fit below the table surface for unobstructed workpiece mounting, and a limit switch prevents damage caused by over-travel. Single-lever control engages and disengages as well as starts and stops feeds. Feeds also have a central control knob for speed adjustment, on/off switch, pilot light, protective breaker, travel stop/limit switch assemblies, and 110 VAC, 50/60 Hz motor.

Standard Torque— Peak torque is 140 in.-lbs., intermittent torque is 105 in.-lbs., and continuous torque is 90 in.-lbs.

High Torque— For applications where it's necessary to maintain stable feed control for a smooth surface finish at speeds as low as 1/2″/min. at full torque. Peak torque is 150 in.-lbs., intermittent torque is 120 in.-lbs., and continuous torque is 100 in.-lbs.

To Order: Select the power feed of your choice and a mounting kit (sold separately below) designed to fit your milling machine.

Also Available: Other mounting kits that fit milling machines not listed below. Please ask for 30815A999 and specify the make and model number of your milling machine.

Power Feeds

Torque	Amps	Feed Rate	Rapid Traverse		
Standard	3.0	3/4″-25″/min.	35″/min.	30815A27	$639.16
High	3.0	1/2″-35″/min.	35″/min.	30815A34	737.06

Mounting Kits

X-axis table feed for manually operated Bridgeport, Brute 9″×42″, 9″×49″, Jet 1048, South Bend Import	30815A41	$94.29
X-axis table feed for Bridgeport (to replace existing Bridgeport electronic-controlled power table feed)	30815A52	348.57
Y-axis table feed for manually operated Bridgeport 12″ Cross Travel	30815A61	171.43

Drawbars for Milling Machines



2J



Universal Adjustable Length

All have 1½″ long 7/16″-20 threads and a black-oxide finish. Made of alloy steel, except the universal adjustable-length drawbar, which is low-carbon steel. ***Universal adjustable-length*** drawbar has spacers so you can adjust the shaft length in ¼″ increments. It also has a hex so it will fit a variety of milling machines.

	Bar Lg.	Hex Lg.		
1J for Bridgeport Belt Drive or Vari-Speed	18″	1¾″	29705A21	$18.64
2J for Bridgeport Belt Drive or Vari-Speed	18″	4¾″	29705A22	23.83
For Lagun Variable Speed	18 5/8″	7¼″	29705A25	40.73
For Kondia Variable Speed	19″	4¼″	29705A27	34.35
For Wells Index Variable Speed	19¼″	5¼″	29705A26	38.28
Extended Hex for Bridgeport and Clausing/Kondia	18″	8½″	29155A61	44.21
Extended Hex for Lagun and Wells Index	18″	11½″	29155A64	48.42
Universal Adjustable Length	17¼″-20″	7¼″	29705A23	49.07

Machine Tool Depth Stops

Attach a depth stop to your milling machine to accurately set machining depth. Also known as quill stops, they fit all ½″-20 threaded rods.

Clamp-on stop is spring-loaded. Squeeze knobs toward each other to set depth. Made of aluminum.

Push-button stop installs on the quill and lets you adjust the depth in two ways. Push the button and slide the stop to the desired position, or turn the nut and make adjustments in 0.001″ increments. Made of carbon steel. Can also be used on drill presses.



Clamp On



Push-Button

Clamp On	2949A71	$23.74
Push-Button	2949A75	52.44

End Mill Cut Styles



Square End
Pages 2504-2518, 2520-2524



Ball End
Pages 2504, 2508-2523



Rounded Edge
Pages 2510, 2516, 2519, 2521



Tapered
Pages 2512, 2518



Drill/Mill
Pages 2511, 2524



Chamfer
Pages 2514, 2522



Corner Rounding
Pages 2503, 2518



Concave Radius
Page 2503

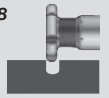

Convex Radius
Page 2503

Concave- and Convex-Radius End Mills for Curved Edges

Machine curved edges into your workpiece. End mills have six flutes and a radius tolerance of ±0.001″. All are made of high-speed steel.

Concave-radius end mills produce a rounded outward-curving shape.

Convex-radius end mills produce a hollow inward-curving shape.



Concave Radius



Convex Radius

Radius	Shank Dia.	O'all Lg.	Concave Radius Mill Dia.			Convex Radius Mill Dia.		
1/32″	1/2″	3″	3/4″	2800A71	$69.79	3/4″	2820A71	$79.36
1/16″	1/2″	3″	3/4″	2800A72	70.41	3/4″	2820A72	79.36
3/32″	1/2″	3″	3/4″	2800A73	71.05	7/8″	2820A73	80.51
1/8″	3/4″	3 1/2″	1″	2800A74	83.56	1 1/4″	2820A74	83.56
5/32″	3/4″	3 1/2″	1″	2800A75	85.56	1 5/16″	2820A78	90.75
3/16″	3/4″	3 1/2″	1″	2800A76	97.53	1 3/8″	2820A75	93.89
1/4″	3/4″	4″	1 1/4″	2800A77★	105.68	1 1/2″	2820A76★	104.33
3/8″	3/4″	4 3/16″	1 1/2″	2800A79★	140.73	1 3/4″	2820A77★◆	135.89

★Four flutes. ◆Overall length is 4″.

Corner-Rounding End Mills

Round off sharp corners on the edge of your workpiece. End mills have four flutes and a radius tolerance of ±0.001″. ***Cobalt steel*** provides better heat and abrasion resistance than high-speed steel. Use on tough materials such as cast iron, cast steel, and heat-treated steel.



Inch Sizes

Radius	Tip Dia.	Mill Dia.	Shank Dia.	O'all Lg.	High-Speed Steel		Cobalt Steel	
1/32″	1/4″	7/16″	3/8″	2 1/2″	3067A34	$44.20	2790A69	$46.88
1/16″	1/4″	7/16″	3/8″	2 1/2″	3067A11	44.67	2790A71	47.35
3/32″	1/4″	1/2″	3/8″	2 1/2″	3067A12	47.50	2790A72	50.82
1/8″	1/4″	5/8″	1/2″	3″	3067A13	58.51	2790A73	62.13
5/32″	5/16″	3/4″	1/2″	3″	3067A14	63.57	2790A74	68.59
3/16″	3/8″	7/8″	1/2″	2 7/8″	3067A28	72.52	2790A61♣	59.24
3/16″	3/8″	7/8″	3/4″	3 1/8″	3067A15	72.52	2790A75	78.36
1/4″	3/8″	1″	1/2″	3″	3067A29	80.87	2790A62♣	70.73
1/4″	3/8″	1″	3/4″	3 1/4″	3067A16	80.87	2790A76	88.56
5/16″	3/8″	1 1/8″	1/2″	3 1/4″	3067A36	$99.11	2790A63♣▲	$76.89
5/16″	3/8″	1 1/8″	7/8″	3 1/2″	3067A17	99.11	2790A77	111.05
3/8″	3/8″	1 1/4″	1/2″	3 1/2″	3067A32	112.78	2790A64♣●	95.45
3/8″	3/8″	1 1/4″	7/8″	3 3/4″	3067A18	112.78	2790A78	126.32
7/16″	3/8″	1 3/8″	3/4″	3 3/4″	3067A21	124.44	2790A81	124.52
1/2″	3/8″	1 1/2″	3/4″	3 7/8″	3067A23	132.15	2790A82	131.42
1/2″	3/8″	1 1/2″	1″	4 1/8″	3067A33	132.15	2790A79	150.75
5/8″	9/16″	1 7/8″	3/4″	4″	3067A25	161.11	2790A83	163.41
3/4″	5/8″	2 1/4″	3/4″	4 1/8″	3067A27	181.43	2790A84	181.83

♣Tip dia. is 1/2″. ▲Overall length is 3 1/2″. ●Overall length is 3 3/4″.

Metric Sizes

Radius	Tip Dia.	Mill Dia.	Shank Dia.	O'all Lg.	High-Speed Steel	
1.0 mm	6.0 mm	7/16″	3/8″	2 1/2″	30245A31	$60.09
2.0 mm	7.0 mm	1/2″	3/8″	2 1/2″	30245A33	63.59
2.5 mm	6.0 mm	1/2″	3/8″	2 1/2″	30245A34	63.59
3.0 mm	7.0 mm	5/8″	1/2″	3″	30245A35	74.93
4.0 mm	8.0 mm	3/4″	1/2″	3″	30245A37	$78.87
5.0 mm	9.0 mm	7/8″	1/2″	3″	30245A39	88.96
6.0 mm	10.5 mm	1″	3/4″	3 1/4″	30245A41	100.38

High-Speed Steel End Mills

For information about end mill cut styles, see page 2503.

High-Speed Steel Two-Flute End Mill Sets



Sets pack mill diameters 1/8", 3/16", 1/4", 5/16", 3/8", and 1/2" into a wood block stand. End mills have a 3/8" shank diameter, except the 1/2" mill dia. size, which has a 1/2" shank. Overall lengths range from 2 5/16" to 3 3/4". All are center cutting and have a 30° hex angle. Mill diameter tolerance is +0.001", –0.000" for single-end tools; +0.0000", –0.0015" for double-end tools.

Square-end end mills allow plunge cuts. ***Ball-end*** end mills machine rounded details into a workpiece.

Uncoated end mills are for general milling of alloy steel, carbon steel, and cast iron.

Coated end mills last longer and can be run at much higher feeds/speeds.

Long-life TiN (titanium nitride) coating is good for use on alloy steel, aluminum, and plastic. Maximum working temperature is 1100° F. Color is gold.

Extra-life TiCN (titanium carbonitride) coating has better wear resistance than TiN coating, making it a good choice for tough-to-machine materials such as ductile cast iron, stainless steel, aluminum, and plastic. Maximum working temperature is 750° F. Color is blue-gray.

	Uncoated		Long-Life TiN Coated		Extra-Life TiCN Coated	
Single Square End	88505A24	$92.45	88505A31	$99.02	88505A34	$104.54
Single Ball End	88505A26	125.03	88505A33	133.91	88505A36	141.35
Double Square End	88505A27	124.10	88505A32	132.93	88505A35	140.25

High-Speed Steel Two-Flute End Mills



An economical alternative to cobalt and carbide tools, two flutes maximize chip clearance for slotting applications. All are square end and center cutting, allowing plunge cuts into a surface. Helix angle is 30°. Mill diameter tolerance is +0.001", –0.000". *Note:* The 7/8", 1", and 1 1/4" shank diameters should be secured with an end mill holder (see page 2502).

Uncoated end mills are for general milling of alloy steel, carbon steel, and cast iron.

Coated end mills last longer and can be run at higher feeds/speeds.

Long-life TiN (titanium nitride) coating is good for use on alloy steel, aluminum, and plastic. Max. working temperature is 1100° F. Color is gold.

Extra-life TiCN (titanium carbonitride) coating has better wear resistance than TiN coating, making it a good choice for tough-to-machine materials such as ductile cast iron, stainless steel, aluminum, and plastic. Max. working temperature is 750° F. Color is blue-gray.

Super-life TiAlN (titanium aluminum nitride) coating is the best for very high feeds/speeds and high-temperature applications. Use to mill cast iron, stainless steel, nickel-based alloys, and titanium. Not for use on aluminum. Max. working temperature is 1470° F. Color is purple-gray.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Uncoated		Long-Life TiN Coated		Extra-Life TiCN Coated		Super-Life TiAlN Coated	
1/8"	3/8"	3/8"	2 5/16"	3051A11	$12.67	8949A14	$13.65	30225A21	$15.68	8838A11	$17.62
1/8"	3/8"	3/8"	2 3/8"	3051A42	22.12	8949A811	23.75	30225A111	30.77	8838A811	30.77
11/64"	3/8"	7/16"	2 5/16"	3051A25	18.32	8949A812	19.78	30225A112	25.65	8838A812	25.65
3/16"	3/8"	7/16"	2 5/16"	3051A12	12.67	8949A16	13.65	30225A23	15.68	8838A14	17.62
3/16"	3/8"	3/4"	2 5/8"	3051A44	19.42	8949A17	20.81	30225A24	27.02	8838A813	27.02
13/64"	3/8"	7/16"	2 5/16"	3051A26	18.32	8949A813	19.78	30225A113	25.65	8838A814	25.65
7/32"	3/8"	1/2"	2 5/16"	3051A73	14.27	8949A31	15.37	30225A25	20.02	8838A815	20.02
7/32"	3/8"	7/8"	2 11/16"	3051A45	19.42	8949A814	20.81	30225A114	27.02	8838A816	27.02
15/64"	3/8"	1/2"	2 5/16"	3051A27	18.32	8949A815	19.78	30225A115	25.65	8838A817	25.65
1/4"	3/8"	1/2"	2 5/16"	3051A13	12.67	8949A21	13.65	30225A27	15.68	8838A18	17.62
1/4"	3/8"	5/8"	3 1/16"	3051A51	22.12	8949A816	23.75	30225A116	30.77	8838A819	30.77
1/4"	3/8"	1"	2 7/8"	3051A48	19.42	8949A43	20.81	30225A28	27.02	8838A818	27.02
17/64"	3/8"	9/16"	2 5/16"	3051A28	18.32	8949A817	19.78	30225A117	25.65	8838A821	25.65
9/32"	3/8"	9/16"	2 5/16"	3051A74	14.27	8949A32	15.37	30225A29	20.02	8838A822	20.02
9/32"	3/8"	1 3/8"	3 1/8"	3051A52	19.42	8949A818	20.81	30225A118	27.02	8838A823	27.02
19/64"	3/8"	9/16"	2 5/16"			8949A819	22.23			8838A824	25.65
5/16"	3/8"	9/16"	2 5/16"	3051A14	12.67	8949A33	13.65	30225A32	15.68	8838A22	17.62
5/16"	3/8"	3/4"	3 5/16"	3051A55	22.55	8949A821	24.18	30225A121	31.48	8838A826	31.48
5/16"	3/8"	1 3/8"	3 1/8"	3051A54	19.42	8949A44	20.81	30225A33	27.02	8838A825	27.02
21/64"	3/8"	9/16"	2 5/16"	3051A31	18.32	8949A822	19.78	30225A122	25.65	8838A827	25.65
11/32"	3/8"	9/16"	2 5/16"	3051A75	14.27	8949A51	15.37	30225A34	20.02	8838A828	20.02
11/32"	3/8"	1 1/2"	3 1/4"	3051A59	19.42	8949A823	20.81	30225A123	27.02	8838A829	27.02
23/64"	3/8"	9/16"	2 5/16"	3051A33	18.32	8949A824	19.78			8838A831	25.65
3/8"	3/8"	9/16"	2 5/16"	3051A15	12.67	8949A22	13.65	30225A36	15.68	8838A26	17.62
3/8"	3/8"	3/4"	3 5/16"	3051A62	22.55	8949A46	24.18	30225A72	31.48	8838A833	31.48
3/8"	3/8"	1 1/2"	3 1/4"	3051A61	19.42	8949A45	20.81	30225A37	27.02	8838A832	27.02
25/64"	3/8"	13/16"	2 1/2"	3051A34	26.43	8949A825	28.41	30225A125	36.95	8838A834	36.95
13/32"	3/8"	13/16"	2 1/2"	3051A76	18.49	8949A34	19.86	30225A38	25.80	8838A835	25.80
27/64"	3/8"	13/16"	2 1/2"	3051A35	25.92	8949A826	27.90			8838A836	36.10
7/16"	3/8"	13/16"	2 1/2"	3051A16	17.82	8949A35	19.17	30225A41	24.80	8838A31	24.80
7/16"	3/8"	2"	3 11/16"	3051A65	22.29	8949A47	23.92	30225A42	31.15	8838A837	31.15
29/64"	3/8"	13/16"	2 1/2"	3051A36	28.46	8949A827	30.66	30225A127	39.67		
15/32"	3/8"	13/16"	2 1/2"	3051A77	20.52	8949A828	22.11	30225A128	28.55	8838A839	28.55
31/64"	3/8"	13/16"	2 1/2"	3051A37	28.46	8949A829	30.66			8838A841	39.67
1/2"	3/8"	13/16"	2 1/2"	3051A17	17.82	8949A39	19.17	30225A45	24.80		
1/2"	1/2"	1"	3"	3051A18	18.49	8949A23	19.86	30225A46	22.89	8838A36	25.80
1/2"	1/2"	1"	4"	3051A67	28.46	8949A831	30.66	30225A131	39.67	8838A842	39.67
1/2"	1/2"	2"	4"	3051A89	24.40	8949A48	26.17	30225A47	34.02		
33/64"	1/2"	1"	3"	3051A38	26.94	8949A832	29.02	30225A132	37.65	8838A844	37.65
17/32"	1/2"	1 1/8"	3 1/8"	3051A78	25.50	8949A36	27.29	30225A48	35.60	8838A845	35.60
35/64"	1/2"	1 1/8"	3 1/8"	3051A39	34.79	8949A833	37.40			8838A846	48.55
9/16"	1/2"	1 1/8"	3 1/8"	3051A19	22.29	8949A37	23.92	30225A51	31.15	8838A847	31.15
9/16"	1/2"	2 1/2"	4 1/2"	3051A92	33.02	8949A834	35.41	30225A134	46.17	8838A848	46.17
37/64"	1/2"	1 1/8"	3 1/8"	3051A41	34.54	8949A835	37.14	30225A135	48.25		
19/32"	1/2"	1 1/8"	3 1/8"	3051A79	27.95	8949A836	29.97	30225A136	39.00	8838A851	39.00
5/8"	1/2"	1 1/8"	3 1/8"	3051A21	25.00	8949A41	26.77	30225A55	34.88	8838A44	34.88
5/8"	5/8"	1 5/16"	3 7/16"	3051A24	25.92	8949A24	27.90	30225A56	36.10	8838A852	36.10
5/8"	5/8"	1 3/8"	4 5/8"	3051A984	41.55	8949A838	44.56	30225A138	58.00		
5/8"	5/8"	2"	4 1/8"	3051A93	33.44	8949A837	35.84	30225A137	46.67	8838A853	46.67
5/8"	5/8"	2 1/2"	4 5/8"	3051A96	29.56	8949A839	31.70	30225A139	41.23	8838A855	41.23
21/32"	5/8"	1 5/16"	3 7/16"	3051A81	30.23	8949A841	32.47	30225A141	42.08		

(Continued on following page)

For information about end mill cut styles, see page 2503.

High-Speed Steel Two-Flute End Mills *(Continued from previous page)*

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Uncoated		Long-Life TiN Coated		Extra-Life TiCN Coated		Super-Life TiAlN Coated	
11/16"	1/2"	15/16"	3 5/16"	3051A22	$26.85	8949A55	$28.85	30225A61	$37.42	8838A857	$37.42
11/16"	5/8"	15/16"	3 7/16"	3051A46	26.85	8949A842	28.85	30225A142	37.42	8838A858	37.42
45/64"	3/4"	15/16"	3 9/16"	3051A47	43.07	8949A843	46.20	30225A143	59.71	—	—
23/32"	3/4"	15/16"	3 9/16"	3051A82	32.34	8949A844	34.72	30225A144	45.12	8838A861	45.12
3/4"	1/2"	15/16"	3 5/16"	3051A23	29.30	8949A57	31.44	30225A66	40.85	8838A54	40.85
3/4"	5/8"	15/16"	3 7/16"	3051A49	29.30	8949A42	31.44	30225A67	40.85	8838A862	40.85
3/4"	3/4"	15/16"	3 9/16"	3051A32	29.30	8949A25	31.44	30225A68	40.85	8838A56	40.85
3/4"	3/4"	1 5/8"	5 3/8"	3051A324	52.27	8949A845	56.14	30225A145	73.00	8838A864	73.00
3/4"	3/4"	3"	5 1/4"	3051A322	41.80	8949A49	45.00	30225A69	58.33	8838A863	58.33
25/32"	3/4"	1 1/2"	3 3/4"	3051A83	39.69	8949A58	42.58	—	—	8838A865	55.20
13/16"	5/8"	1 1/2"	3 5/8"	3051A84	35.21	8949A59	37.83	30225A73	49.05	8838A866	49.05
13/16"	3/4"	1 1/2"	3 3/4"	3051A53	35.21	8949A846	37.83	30225A146	49.05	8838A867	59.85
27/32"	7/8"	1 1/2"	3 3/4"	3051A85	45.60	8949A847	48.98	—	—	8838A868	56.42
7/8"	5/8"	1 1/2"	3 5/8"	3051A56	35.21	8949A62	37.83	30225A78	49.05	8838A869	49.05
7/8"	3/4"	1 1/2"	3 3/4"	3051A57	35.64	8949A63	38.17	30225A79	49.58	—	—
7/8"	7/8"	1 1/2"	3 3/4"	3051A58	36.82	8949A848	39.55	—	—	8838A872	51.30
7/8"	7/8"	3 1/2"	5 3/4"	3051A582	51.00	8949A849	54.75	30225A149	71.12	—	—
29/32"	7/8"	1 5/8"	3 7/8"	3051A86	50.96	8949A851	54.75	—	—	—	—
15/16"	7/8"	1 5/8"	3 7/8"	3051A87	39.52	8949A65♦	42.49	30225A85♦	55.08	—	—
31/32"	1"	1 5/8"	4 1/8"	3051A88	51.67	8949A852	55.50	—	—	—	—
1"	5/8"	1 1/2"	3 5/8"	3051A66	40.87	8949A68	43.87	30225A91	56.95	8838A877	56.95
1"	3/4"	1 1/2"	3 3/4"	3051A43	40.87	8949A38	43.87	30225A92	50.54	—	—
1"	1"	1 5/8"	4 1/8"	3051A68	45.35	8949A26	48.71	30225A93	63.25	8838A878	63.25
1"	1"	2 1/2"	7 1/4"	3051A682	92.21	8949A854	98.97	—	—	—	—
1"	1"	4"	6 1/2"	3051A684	74.90	8949A853	80.49	—	—	8838A879	104.65
1 1/16"	3/4"	1 1/2"	3 3/4"	3051A69	75.66	8949A855	81.18	30225A155	105.47	8838A882	105.47
1 1/8"	3/4"	1 5/8"	3 7/8"	3051A91	67.39	8949A69	72.37	30225A94	94.08	8838A883	94.08
1 1/8"	1"	1 5/8"	4 1/8"	3051A63	66.20	8949A856	71.16	—	—	—	—
1 3/16"	1"	1 5/8"	4 1/8"	3051A94	83.60	8949A857	89.73	—	—	8838A885	116.65
1 1/4"	3/4"	1 5/8"	3 7/8"	3051A95	83.60	8949A71	89.73	30225A95	116.65	8838A886	116.65
1 1/4"	1"	1 5/8"	4 1/8"	3051A64	73.89	8949A858	79.28	—	—	8838A887	103.10
1 1/4"	1 1/4"	1 5/8"	4 1/8"	3051A97	73.89	8949A859	79.28	—	—	—	—
1 3/8"	3/4"	1 5/8"	3 7/8"	3051A971	83.60	8949A861	89.73	30225A161	116.65	8838A889	116.65
1 3/8"	1"	1 5/8"	4 1/8"	3051A71	82.59	8949A862	88.78	—	—	8838A891	115.27
1 1/2"	3/4"	1 5/8"	3 7/8"	3051A974	99.05	8949A73	106.40	30225A97	138.35	8838A892	138.35
1 1/2"	1"	1 5/8"	4 1/8"	3051A72	90.52	8949A863	97.33	—	—	—	—
1 1/2"	1 1/4"	1 5/8"	4 1/8"	3051A975	90.52	8949A864	97.33	—	—	—	—
1 5/8"	1 1/4"	1 5/8"	4 1/8"	3051A977	96.27	8949A865	103.38	—	—	8838A895	134.28
1 3/4"	3/4"	1 5/8"	3 7/8"	3051A978	111.04	8949A866	119.18	30225A166	154.93	—	—
1 3/4"	1 1/4"	1 5/8"	4 1/8"	3051A979	111.04	8949A867	119.18	—	—	—	—
2"	3/4"	1 5/8"	3 7/8"	3051A981	131.40	8949A868	141.12	30225A168	183.50	8838A898	183.50
2"	1 1/4"	1 5/8"	4 1/8"	3051A983	131.40	8949A869	141.12	—	—	—	—

♦ Shank diameter is 3/4"; length of cut is 1 1/2"; overall length is 3 3/4".

Tight-Tolerance High-Speed Steel Two-Flute End Mills



Made to a closer tolerance than standard two-flute end mills for cutting keyways. Use for materials such as alloy steel, carbon steel, and cast iron. All are square end and center cutting so you can make plunge cuts into a surface. Helix angle is 30°. Mill diameter tolerance is +0.0000", –0.0015". *Note:* The 7/8" and 1" shank diameters should be secured with an end mill holder (see page 2502).

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
1/8"	3/8"	3/8"	2 5/16"	8857A61	$15.74
3/16"	3/8"	7/16"	2 5/16"	8857A62	16.38
1/4"	3/8"	1/2"	2 5/16"	8857A63	16.38
5/16"	3/8"	9/16"	2 5/16"	8857A64	16.38
11/32"	3/8"	9/16"	2 5/16"	8857A76	20.02
3/8"	3/8"	9/16"	2 5/16"	8857A65	$17.19
7/16"	3/8"	13/16"	2 1/2"	8857A654	26.51
1/2"	1/2"	1"	3"	8857A66	23.43
9/16"	1/2"	1 1/8"	3 1/8"	8857A664	39.73
5/8"	5/8"	1 5/16"	3 7/16"	8857A67	$33.66
3/4"	3/4"	1 5/16"	3 9/16"	8857A68	38.17
7/8"	7/8"	1 1/2"	3 3/4"	8857A69	48.42
1"	1"	1 5/8"	4 1/8"	8857A71	59.26

Metric High-Speed Steel Two-Flute End Mills



Two flutes provide maximum chip clearance for slotting applications. All are square end and center cutting so you can make plunge cuts into a surface. Helix angle is 30°. Mill diameter tolerance is +0.001", –0.000". *Note:* End mill with a 1" shank diameter should be secured with an end mill holder (see page 2502).

Uncoated end mills are for general milling of alloy steel, carbon steel, and cast iron.

Long-life TiN (titanium nitride) coated end mills last longer and can be run at much higher feeds/speeds. Use on alloy steel, aluminum, and plastic. Maximum working temperature is 1100° F. Color is gold.

Mill Dia., mm	Shank Dia.	Lg. of Cut	O'all Lg.	Uncoated		Long-Life TiN Coated	
1.6	3/16"	1/4"	1 1/2"	8853A61	$15.65	8694A11	$17.69
2.0	3/16"	1/4"	1 1/2"	8853A63	15.65	8694A12	17.69
2.5	3/16"	1/4"	1 1/2"	8853A64	15.65	8694A13	17.69
3.0	3/8"	3/8"	2 5/16"	8853A66	14.93	8694A14	15.64
3.5	3/8"	7/16"	2 5/16"	8853A67	14.93	8694A15	15.64
4.0	3/8"	7/16"	2 5/16"	8853A68	14.93	8694A16	16.86
4.5	3/8"	7/16"	2 5/16"	8853A69	16.20	8694A17	17.18
5.0	3/8"	7/16"	2 5/16"	8853A71	16.20	8694A18	17.18
5.5	3/8"	1/2"	2 5/16"	8853A72	16.20	8694A19	17.18
6.0	3/8"	1/2"	2 5/16"	8853A73	16.20	8694A21	17.18
6.5	3/8"	1/2"	2 5/16"	8853A735	16.20	8694A22	17.18
7.0	3/8"	9/16"	2 5/16"	8853A74	16.20	8694A23	17.18
8.0	3/8"	9/16"	2 5/16"	8853A75	16.20	8694A24	17.18
8.5	3/8"	9/16"	2 5/16"	8853A755	$16.20	8694A25	$17.18
9.0	3/8"	9/16"	2 5/16"	8853A76	16.20	8694A26	17.18
10.0	3/8"	13/16"	2 1/2"	8853A77	19.54	8694A27	20.51
10.5	3/8"	13/16"	2 1/2"	8853A772	23.43	8694A28	24.62
11.0	3/8"	13/16"	2 1/2"	8853A774	23.43	8694A29	24.62
11.5	3/8"	13/16"	2 1/2"	8853A776	23.70	8694A31	24.87
12.0	3/8"	13/16"	2 1/2"	8853A79	24.60	8694A32	25.90
13.0	1/2"	1"	3"	8853A794	28.78	8694A33	30.00
14.0	1/2"	1 1/8"	3 1/8"	8853A82	28.78	8694A34	32.54
16.0	5/8"	15/16"	3 7/16"	8853A83	32.66	8694A35	34.10
18.0	3/4"	15/16"	3 9/16"	8853A84	36.28	8694A36	37.95
20.0	3/4"	1 1/2"	3 3/4"	8853A85	43.52	8694A37	45.38
25.0	1"	1 5/8"	4 1/8"	8853A91	55.64	8694A38	58.21

High-Speed Steel End Mills

For information about end mill cut styles, see page 2503.

High-Speed Steel Three-Flute End Mills



Three flutes make smoother cuts and produce a finer finish than two flutes, though they do not provide the same chip clearance. Use on alloy steel, carbon steel, and cast iron. All are square end and center cutting so you can make plunge cuts into a surface. Helix angle is 30°. Mill diameter tolerance is +0.001″, –0.000″. *Note:* End mills with a 1″ shank diameter should be secured with an end mill holder (see page 2502).

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
1/8″	3/8″	3/8″	2 5/16″	2849A73	$17.57
3/16″	3/8″	1/2″	2 3/8″	2849A74	17.57
1/4″	3/8″	5/8″	2 7/16″	2849A75	17.57
1/4″	3/8″	1 1/4″	3 1/8″	2849A61	25.55
5/16″	3/8″	3/4″	2 1/2″	2849A76	17.57
5/16″	3/8″	1 3/8″	3 1/8″	2849A62	25.55
3/8″	3/8″	3/4″	2 1/2″	2849A77	23.84
3/8″	3/8″	1 1/2″	3 1/4″	2849A63	$25.55
7/16″	3/8″	1″	2 11/16″	2849A78	28.21
1/2″	1/2″	1 1/4″	3 1/4″	2849A79	29.26
1/2″	1/2″	2″	4″	2849A64	30.30
9/16″	1/2″	1 3/8″	3 3/8″	2849A8	35.53
5/8″	5/8″	1 5/8″	3 3/4″	2849A81	35.53
5/8″	5/8″	2 1/2″	4 5/8″	2849A65	$38.38
3/4″	3/4″	1 5/8″	3 7/8″	2849A82	41.61
3/4″	3/4″	3″	5 1/4″	2849A66	47.78
7/8″	3/4″	1 7/8″	4 1/8″	2849A83	50.26
1″	1″	2″	4 1/2″	2849A84	55.95
1″	1″	4″	6 1/2″	2849A67	77.33

High-Speed Steel Four-Flute End Mill Sets



You'll get six end mills in diameters 1/8″, 3/16″, 1/4″, 5/16″, 3/8″, and 1/2″ in a wood block stand. All have a 3/8″ shank dia., except the 1/2″ mill dia. size, which has a 1/2″ shank. They are square end and center cutting so you can make plunge cuts into a surface. Helix angle is 30°. ***Single end*** overall lengths range from 2 5/16″ to 3 1/4″. Mill diameter tolerance is +0.001″, –0.000″. ***Double end*** overall lengths range from 3 1/16″ to 4 1/8″. Mill diameter tolerance is +0.0000″, –0.0015″.

Uncoated end mills are for general milling of alloy steel, carbon steel, and cast iron. ***Coated*** end mills last longer and can be run at higher feeds/speeds. *Long-life TiN (titanium nitride)* coating is good for use on alloy steel, aluminum, and plastic. Maximum working temperature is 1100° F. Color is gold. *Extra-life TiCN (titanium carbonitride)* coating has better wear resistance than TiN coating, making it a good choice for tough-to-machine materials such as ductile cast iron, stainless steel, aluminum, and plastic. Maximum working temperature is 750° F. Color is blue-gray.

	Uncoated		Long-Life TiN Coated		Extra-Life TiCN Coated	
Single-End Set	88505A25	$119.84	88505A41	$126.12	88505A43	$128.33
Double-End Set	88505A28	158.52	88505A42	166.86	88505A44	179.23

High-Speed Steel Four-Flute End Mills



Center Cutting

Try four flutes for a fine finish and feeds twice as fast as two-flute end mills. All are square end and have a 30° helix angle. Mill diameter tolerance is +0.001″, –0.000″. *Note:* The 7/8″, 1″, and 1 1/4″ shank diameters should be secured with an end mill holder (see page 2502).

Noncenter cutting end mills are designed for operations where the peripheral teeth do most of the work. ***Center cutting*** end mills allow plunge cuts into a surface.

Uncoated end mills are for general milling of alloy steel, carbon steel, and cast iron. ***Coated*** end mills last longer and can be run at much higher feeds/speeds.

Long-life TiN (titanium nitride) coating is good for use on alloy steel, aluminum, and plastic. Max. working temperature is 1100° F. Color is gold.

Extra-life TiCN (titanium carbonitride) coating has better wear resistance than TiN coating, making it a good choice for tough-to-machine materials such as ductile cast iron, stainless steel, aluminum, and plastic. Max. working temperature is 750° F. Color is blue-gray.

Super-life TiAlN (titanium aluminum nitride) coating is the best for very high feeds/speeds and high-temperature applications. Use to mill cast iron, stainless steel, nickel-based alloys, and titanium. Not for use on aluminum. Max. working temperature is 1470° F. Color is purple-gray.

			NONCENTER CUTTING				CENTER CUTTING							
Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Uncoated		Long-Life TiN Coated		Uncoated		Long-Life TiN Coated		Extra-Life TiCN Coated		Super-Life TiAlN Coated	
1/8″	3/8″	3/8″	2 5/16″	3052A11	$13.93	89205A11	$14.32	3056A61	$17.31	8918A41	$18.07	30305A41	$21.38	2715A11	$24.12
11/64″	3/8″	1/2″	2 3/8″	3052A61	19.09	89205A71	19.62	3056A211	19.47	8918A111	20.36	30305A711	24.12	2715A711	24.12
3/16″	3/8″	1/2″	2 3/8″	3052A12	13.93	89205A13	14.32	3056A62	17.31	8918A42	18.07	30305A42	21.38	2715A12	24.12
3/16″	3/8″	3/4″	2 5/8″	3052A22	17.91	89205A51	18.38	3056A11	20.35	8918A21	21.45	30305A21	28.38	2715A41	28.38
3/16″	3/8″	1 1/8″	3″	3052A24	21.53	89205A52	22.00	3056A12	24.74	8918A22	25.92	30305A22	34.38	2715A42	34.38
13/64″	3/8″	1/2″	2 3/8″	3052A62	19.09	89205A72	19.62	3056A212	19.47	8918A112	20.36	30305A712	24.12	2715A712	24.12
7/32″	3/8″	5/8″	2 7/16″	3052A42	14.20	89205A15	14.58	3056A35	18.24	8918A61	19.17	30305A43	25.50	2715A13	25.50
7/32″	3/8″	1 3/4″	3 9/16″	3052A422	22.71	89205A73	23.33	3056A13	25.59	8918A113	26.94	30305A713	35.73	2715A713	35.73
15/64″	3/8″	5/8″	2 7/16″	3052A63	19.09	89205A74	19.62	3056A213	19.47	8918A114	20.36	30305A714	24.12	2715A714	24.12
1/4″	3/8″	5/8″	2 7/16″	3052A13	13.93	89205A17	14.32	3056A63	16.64	8918A51	17.40	30305A44	20.52	2715A14	20.52
1/4″	3/8″	1 1/4″	3 1/16″	3052A25	18.37	89205A53	18.82	3056A14	19.68	8918A23	20.69	30305A23	27.57	2715A43	27.57
1/4″	3/8″	1 3/4″	3 9/16″	3052A27	21.80	89205A54	22.45	3056A15	23.22	8918A24	24.40	30305A24	32.33	2715A44	32.33
17/64″	3/8″	5/8″	2 7/16″	3052A64	19.09	89205A75	19.62	3056A214	19.47	8918A115	20.36	30305A715	24.12	2715A715	24.12
9/32″	3/8″	5/8″	2 7/16″	3052A43	14.20	89205A19	14.58	3056A36	18.32	8918A62	19.34	30305A45	25.65	2715A15	25.65
9/32″	3/8″	1 3/8″	3 1/8″	3052A433	17.91	89205A76	18.38	3056A16	20.35	8918A116	21.45	30305A716	28.38	2715A716	28.38
9/32″	3/8″	2″	3 3/4″	3052A28	23.25	89205A77	23.86	3056A17	25.92	8918A117	27.28	30305A717	36.10	2715A717	36.10
19/64″	3/8″	3/4″	2 1/2″	3052A65	19.09	89205A78	19.62	3056A215	19.47	8918A118	20.36	30305A718	24.12	2715A718	24.12
5/16″	3/8″	3/4″	2 1/2″	3052A14	13.93	89205A21	14.32	3056A64	16.64	8918A43	17.40	30305A46	20.52	2715A16	23.12
5/16″	3/8″	1 3/8″	3 1/8″	3052A58	18.37	89205A55	18.82	3056A18	19.68	8918A25	20.69	30305A25	27.57	2715A45	27.57
5/16″	3/8″	2″	3 3/4″	3052A59	22.89	89205A56	23.42	3056A19	24.40	8918A26	25.59	30305A26	34.02	2715A46	34.02
11/32″	3/8″	3/4″	2 1/2″	3052A44	14.20	89205A23	14.58	3056A37	18.32	8918A63	19.34	30305A47	25.65	2715A17	25.65
11/32″	3/8″	1 1/2″	3 1/4″	3052A444	17.91	89205A79	18.38	3056A21	20.35	8918A119	21.45	30305A719	28.38	2715A719	28.38
23/64″	3/8″	3/4″	2 1/2″	3052A67	19.09	89205A81	19.62	3056A216	19.47	8918A121	20.36	30305A721	24.12	2715A721	24.12
3/8″	3/8″	3/4″	2 1/2″	3052A15	13.93	89205A25	14.32	3056A65	16.64	8918A52	17.40	30305A48	20.52	2715A18	23.12
3/8″	3/8″	1 1/2″	3 1/4″	3052A69	17.91	89205A57	18.38	3056A22	18.92	8918A27	19.84	30305A27	26.30	2715A47	26.30
3/8″	3/8″	2 1/2″	4 1/4″	3052A72	23.25	89205A58	23.86	3056A23	24.74	8918A28	25.92	30305A28	34.38	2715A48	34.38
25/64″	3/8″	1″	2 11/16″	3052A68	28.05	89205A811	28.81	3056A217	19.47	8918A122	20.36	30305A722	24.12	2715A722	24.12
13/32″	3/8″	1″	2 11/16″	3052A45	19.81	89205A26	20.33	3056A38	25.00	8918A64	26.18	30305A49	34.88	2715A19	34.88
13/32″	3/8″	2 5/8″	4 5/16″	3052A455	34.86	89205A812	35.81	3056A24	32.51	8918A123	34.12	30305A723	45.33	2715A723	45.33
7/16″	3/8″	1″	2 11/16″	3052A16	18.91	89205A27	19.53	3056A39	23.64	8918A44	24.83	30305A51	32.98	2715A21	32.98
7/16″	1/2″	1 3/4″	3 3/4″	3052A75	25.33	89205A814	25.98	3056A218	29.64	8918A125	31.16	30305A726	36.80	2715A726	36.80
7/16″	3/8″	2″	3 11/16″	3052A166	24.43	89205A59	25.01	3056A25	26.01	8918A29	27.36	30305A724	36.23	2715A724	36.23
7/16″	3/8″	2 5/8″	4 5/16″	3052A74	29.22	89205A813	29.96	3056A26	30.74	8918A124	32.26	30305A725	42.90	2715A725	42.90
29/64″	3/8″	1″	2 11/16″	3052A71	27.41	89205A815	28.19	3056A219	26.62	8918A126	27.98	30305A727	32.98	2715A727	32.98
15/32″	3/8″	1″	2 11/16″	3052A46	18.91	89205A28	19.53	3056A75	23.64	8918A65	24.83	30305A52	32.98	2715A22	32.98
1/2″	3/8″	1″	2 11/16″	3052A17	18.91	89205A61	19.53	3056A76	24.40	8918A31	25.59	30305A17	34.02	2715A49	34.02
1/2″	1/2″	1 1/4″	3 1/4″	3052A18	18.91	89205A29	19.53	3056A66	24.40	8918A53	25.59	30305A53	30.21	2715A23	30.21
1/2″	1/2″	2″	4″	3052A76	24.70	89205A62	25.45	3056A27	26.35	8918A32	27.61	30305A29	32.59	2715A51	36.80

(Continued on following page)

High-Speed Steel Four-Flute End Mills *(Continued from previous page)*

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	NONCENTER CUTTING Uncoated		NONCENTER CUTTING Long-Life TiN Coated		CENTER CUTTING Uncoated		CENTER CUTTING Long-Life TiN Coated		CENTER CUTTING Extra-Life TiCN Coated		CENTER CUTTING Super-Life TiAlN Coated	
1/2"	1/2"	3"	5"	3052A78	$30.04	89205A63	$30.75	3056A28	$31.75	8918A33	$33.27	30305A31	$44.27	2715A52	$44.27
33/64"	1/2"	1 1/4"	3 1/4"	3052A73	27.41	89205A817	28.19	3056A221	34.51	8918A128	36.20	30305A728	42.73	2715A728	42.73
17/32"	1/2"	1 3/8"	3 3/8"	3052A47	24.43	89205A31	25.01	3056A41	30.65	8918A66	32.09	30305A54	42.73	2715A24	42.73
17/32"	1/2"	2 1/2"	4 1/2"	3052A477	31.49	89205A818	32.34	3056A29	36.82	8918A129	38.68	—	—	2715A729	51.30
9/16"	1/2"	1 3/8"	3 3/8"	3052A19	24.16	89205A32	24.74	3056A42	33.44	8918A45	35.04	30305A55	46.67	2715A25	46.67
9/16"	1/2"	2 1/2"	4 1/2"	3052A82	34.83	89205A64	35.70	3056A31	40.28	8918A34	42.31	30305A731	56.23	2715A731	56.23
9/16"	1/2"	4"	6"	3052A822	41.89	89205A819	43.04	3056A32	43.66	8918A131	45.85	30305A732	60.88	2715A732	60.88
19/32"	1/2"	1 3/8"	3 3/8"	3052A48	29.22	89205A821	29.96	3056A222	34.51	8918A132	36.20	30305A733	42.73	2715A733	42.73
5/8"	1/2"	1 3/8"	3 3/8"	3052A21	26.51	89205A34	27.13	3056A223	34.51	8918A133	36.20	30305A734	42.73	2715A734	42.73
5/8"	5/8"	1 5/8"	3 3/4"	3052A79	28.86	89205A35	29.69	3056A67	30.65	8918A54	32.09	30305A56	37.91	2715A26	42.73
5/8"	5/8"	2 1/2"	4 5/8"	3052A85	34.83	89205A822	35.70	3056A33	36.82	8918A134	38.68	30305A32	51.30	2715A53	51.30
5/8"	5/8"	4"	6 1/8"	3052A93	43.52	89205A823	44.54	3056A34	45.68	8918A135	47.96	30305A735	63.75	2715A735	63.75
41/64"	5/8"	1 5/8"	3 3/4"	3052A77	44.06	89205A824	45.16	3056A224	37.58	8918A136	39.36	30305A736	46.55	2715A736	46.55
21/32"	5/8"	1 5/8"	3 3/4"	3052A49	33.11	89205A825	33.85	3056A225	37.58	8918A137	39.36	30305A737	46.55	2715A737	46.55
11/16"	1/2"	1 5/8"	3 5/8"	3052A51	29.22	89205A36	29.96	3056A226	37.58	8918A138	39.36	30305A738	46.55	2715A738	46.55
11/16"	5/8"	1 5/8"	3 3/4"	3052A81	30.94	89205A33	31.73	3056A43	33.27	8918A67	34.96	30305A57	46.55	2715A27	46.55
11/16"	5/8"	3"	5 1/8"	3052A817	41.08	89205A826	42.07	3056A51	39.94	8918A139	41.97	30305A739	55.73	2715A739	55.73
23/32"	3/4"	1 5/8"	3 7/8"	3052A52	35.01	89205A827	35.88	3056A235	39.69	8918A141	41.69	30305A741	49.05	2715A741	49.05
3/4"	1/2"	1 5/8"	3 5/8"	3052A23	31.67	89205A37	32.43	3056A77	35.21	8918A57	36.99	30305A18	49.05	2715A54	49.08
3/4"	1/2"	3"	5"	3052A97	40.71	89205A828	41.80	3056A227	50.78	8918A142	53.38	30305A742	62.75	2715A742	62.75
3/4"	5/8"	1 5/8"	3 3/4"	3052A26	31.67	89205A38	32.43	3056A228	39.69	8918A143	41.69	30305A743	49.05	2715A743	49.05
3/4"	3/4"	1 5/8"	3 7/8"	3052A711	32.93	89205A39	33.76	3056A68	35.21	8918A55	36.99	30305A58	43.51	2715A28	43.51
3/4"	3/4"	3"	5 1/4"	3052A95	42.52	89205A66	43.57	3056A52	45.01	8918A35	47.37	30305A33	62.75	2715A55	62.75
3/4"	3/4"	4"	6 1/4"	3052A96	51.03	89205A67	52.32	3056A53	53.54	8918A36	56.24	30305A34	74.75	2715A56	74.75
49/64"	3/4"	1 7/8"	4 1/8"	3052A83	53.56	89205A831	55.06	3056A229	48.96	8918A145	51.42	30305A744	60.52	2715A744	60.52
25/32"	3/4"	1 7/8"	4 1/8"	3052A53	44.06	89205A832	45.16	3056A231	48.96	8918A146	51.42	30305A745	60.52	2715A745	60.52
13/16"	3/4"	1 7/8"	4 1/8"	3052A54	41.17	89205A42	42.15	3056A44	43.40	8918A68	45.60	30305A59	60.52	2715A29	60.52
13/16"	3/4"	3 1/2"	5 3/4"	3052A549	53.20	89205A833	54.44	3056A54	54.47	8918A147	57.17	30305A746	75.92	2715A746	75.92
27/32"	7/8"	1 7/8"	4 1/8"	3052A55	44.06	89205A834	45.16	3056A232	50.16	8918A148	52.76	30305A747	62.05	2715A747	62.05
7/8"	3/4"	1 7/8"	4 1/8"	3052A712	43.34	89205A44	44.45	3056A233	50.16	8918A149	52.76	30305A748	62.05	2715A748	62.05
7/8"	7/8"	1 7/8"	4 1/8"	3052A86	41.35	89205A41	42.33	3056A45	44.50	8918A69	46.78	30305A61	62.05	2715A31	62.05
7/8"	7/8"	3 1/2"	5 3/4"	3052A962	53.20	89205A835	54.44	3056A55	56.07	8918A151	58.94	30305A749	78.33	2715A749	78.33
7/8"	7/8"	5"	7 1/4"	3052A961	67.40	89205A836	69.11	3056A56	70.34	8918A152	73.89	30305A751	98.17	2715A751	98.17
29/32"	7/8"	1 7/8"	4 1/8"	3052A56	52.11	89205A837	53.47	3056A234	55.49	8918A153	58.22	30305A752	68.75	—	—
15/16"	7/8"	1 7/8"	4 1/8"	3052A57	51.45	89205A43	52.84	3056A78	49.23	8918A46	51.60	30305A62	68.75	2715A32	68.75
1"	3/4"	1 7/8"	4 1/8"	3052A32	46.96	89205A46	48.07	3056A79	53.54	8918A58	56.24	30305A19	66.31	2715A57	66.31
1"	1"	2"	4 1/2"	3052A33	49.85	89205A47	51.08	3056A46	53.54	8918A56	56.24	30305A63	66.31	2715A33	74.75
1"	1"	3"	5 1/2"	3052A335	64.69	89205A838	66.28	3056A81	71.86	8918A154	75.49	30305A753	100.22	2715A753	100.22
1"	1"	4"	6 1/2"	3052A964	72.11	89205A839	73.88	3056A57	75.49	8918A155	79.21	30305A754	105.35	2715A754	105.35
1"	1"	6"	8 1/2"	3052A966	88.85	89205A841	91.11	3056A58	92.21	8918A156	96.77	30305A755	114.00	2715A755	128.62
1 1/8"	1"	2"	4 1/2"	3052A971	76.43	89205A91	78.28	3056A47	74.14	8918A71	77.94	—	—	2715A34	103.47
1 1/4"	1 1/4"	2"	4 1/2"	3052A972	87.64	89205A92	89.86	3056A48	81.32	8918A72	85.37	30305A756	113.42	2715A756	113.42
1 1/2"	1 1/4"	2"	4 1/2"	3052A973	106.86	89205A93	109.58	3056A49	102.85	8918A73	107.92	30305A757	143.50	2715A757	143.50

Metric High-Speed Steel Four-Flute End Mills

The metric version of our inch size four-flute end mills, they produce a fine finish and can be fed up to twice as fast as two-flute end mills. All are square end and center cutting so you can make plunge cuts into a surface. Helix angle is 30°. Mill diameter tolerance is +0.001″, –0.000″. *Note:* End mill with a 1″ shank diameter should be secured with an end mill holder (see page 2502).



Mill Dia., mm	Shank Dia.	Lg. of Cut	O'all Lg.		
3.0	3/8"	3/8"	2 5/16"	8854A11	$18.10
3.5	3/8"	1/2"	2 3/8"	8854A12	18.10
4.0	3/8"	1/2"	2 3/8"	8854A13	18.10
4.5	3/8"	1/2"	2 3/8"	8854A14	19.63
5.0	3/8"	1/2"	2 3/8"	8854A15	19.63
5.5	3/8"	5/8"	2 7/16"	8854A16	19.63
6.0	3/8"	5/8"	2 7/16"	8854A17	19.63
6.5	3/8"	5/8"	2 7/16"	8854A18	19.63
7.0	3/8"	5/8"	2 7/16"	8854A19	$19.63
8.0	3/8"	3/4"	2 1/2"	8854A21	19.63
9.0	3/8"	3/4"	2 1/2"	8854A22	19.63
10.0	3/8"	1"	2 11/16"	8854A23	24.61
11.0	3/8"	1"	2 11/16"	8854A24	26.06
12.0	3/8"	1"	2 11/16"	8854A25	26.60
12.5	1/2"	1 1/4"	3 1/4"	8854A26	26.60
13.0	1/2"	1 1/4"	3 1/4"	8854A27	$30.40
14.0	1/2"	1 3/8"	3 3/8"	8854A28	30.40
15.0	1/2"	1 3/8"	3 3/8"	8854A29	31.76
16.0	5/8"	1 5/8"	3 3/4"	8854A31	36.37
18.0	3/4"	1 5/8"	3 7/8"	8854A32	40.90
20.0	3/4"	1 7/8"	4 1/8"	8854A33	52.48
25.0	1"	2"	4 1/2"	8854A35	64.60

High-Speed Steel Six- and Eight-Flute End Mills

More flutes means these end mills produce a finer finish. They can also be fed at faster rates and resist wear better than tools with fewer flutes. Use for machining alloy steel, carbon steel, and cast iron. All are square end and noncenter cutting. Helix angle is 30°. Mill diameter tolerance is +0.001″, –0.000″. *Note:* The 7/8″, 1″, and 1 1/4″ shank diameters should be secured with an end mill holder (see page 2502).



Six Flute

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
Six Flute					
3/4"	3/4"	1 1/2"	3 3/4"	3052A713	$32.93
13/16"	5/8"	1 7/8"	4"	3052A84	40.62
7/8"	5/8"	1 7/8"	4"	3052A29	41.89
1"	5/8"	1 7/8"	4"	3052A31	47.86
1"	3/4"	1 1/4"	3 1/2"	3052A714	59.53
1 1/8"	3/4"	1 1/4"	3 1/2"	3052A715	87.40
1 1/8"	3/4"	2"	4 1/4"	3052A87	73.10
1 1/8"	7/8"	2"	4 1/4"	3052A88	65.69
1 1/8"	1"	2"	4 1/2"	3052A34	67.77
1 1/8"	1"	4"	6 1/2"	3052A344	95.18
Six Flute (Cont.)					
1 1/4"	3/4"	1 1/4"	3 1/2"	3052A716	$92.74
1 1/4"	3/4"	2"	4 1/4"	3052A89	79.71
1 1/4"	7/8"	2"	4 1/4"	3052A91	80.26
1 1/4"	1"	2"	4 1/2"	3052A35	73.65
1 1/4"	1"	4"	6 1/2"	3052A355	112.37
1 1/4"	1 1/4"	4"	6 1/2"	3052A922	112.37
1 1/4"	1 1/4"	6"	8 1/2"	3052A968	133.36
1 3/8"	3/4"	1 1/4"	3 1/2"	3052A717	93.55
1 3/8"	1"	2"	4 1/2"	3052A36	84.05
1 1/2"	3/4"	2"	4 1/4"	3052A718	103.41
Six Flute (Cont.)					
1 1/2"	1"	2"	4 1/2"	3052A37	$94.73
1 1/2"	1 1/4"	2"	4 1/2"	3052A94	94.73
1 1/2"	1 1/4"	4"	6 1/2"	3052A944	134.18
1 3/4"	3/4"	2"	4 1/4"	3052A719	114.18
1 3/4"	1 1/4"	2"	4 1/2"	3052A38	114.18
1 7/8"	1 1/4"	2"	4 1/2"	3052A39	117.08
Eight Flute					
2"	3/4"	2"	4 1/4"	3052A721	131.55
2"	1 1/4"	2"	4 1/2"	3052A41	131.55
2"	1 1/4"	4"	6 1/2"	3052A415	213.98

High-Speed Steel End Mills

For information about end mill cut styles, see page 2503.

Double-End High-Speed Steel Two-Flute End Mills



Double the life of your tool—when one end wears out, switch to the opposite end. They are an economical alternative to cobalt and carbide tools. Two flutes maximize chip clearance for slotting applications. All are square end and center cutting for plunge cuts. Helix angle is 30°. Mill diameter tolerance is +0.0000″, –0.0015″. *Note:* The 7/8″ and 1″ shank diameters should be secured with an end mill holder (see page 2502).

Uncoated end mills are for general milling of alloy steel, carbon steel, and cast iron.

Coated end mills last longer and can be run at higher feeds/speeds.

Long-life TiN (titanium nitride) coating is good for use on alloy steel, aluminum, and plastic. Max. working temperature is 1100° F. Color is gold.

Extra-life TiCN (titanium carbonitride) coating has better wear resistance than TiN coating, making it a good choice for tough-to-machine materials such as ductile cast iron, stainless steel, aluminum, and plastic. Max. working temperature is 750° F. Color is blue-gray.

Super-life TiAlN (titanium aluminum nitride) coating is the best for very high feeds/speeds and high-temperature applications. Use to mill cast iron, stainless steel, nickel-based alloys, and titanium. Not for use on aluminum. Max. working temperature is 1470° F. Color is purple-gray.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Uncoated		Long-Life TiN Coated		Extra-Life TiCN Coated		Super-Life TiAlN Coated	
7/64″	3/8″	3/8″	3 1/16″	3049A155	$17.65	8924A52	$21.00	89255A29	$24.65	8850A15	$24.65
1/8″	3/8″	3/8″	3 1/16″	3049A19	17.65	8924A53	21.00	89255A31	21.85	8850A16	24.65
9/64″	3/8″	7/16″	3 1/8″	3049A39	19.68	8924A54	23.27	89255A51	27.57	8850A17	27.57
5/32″	3/8″	7/16″	3 1/8″	3049A41	18.75	8924A55	22.13	89255A52	26.15	8850A18	26.15
11/64″	3/8″	7/16″	3 1/8″	3049A5	19.68	8924A81	23.27	89255A81	27.57	8850A61	27.57
3/16″	3/8″	7/16″	3 1/8″	3049A2	17.65	8924A57	21.00	89255A32	21.85	8850A21	24.65
13/64″	3/8″	1/2″	3 1/8″	3049A42	19.68	8924A82	23.27	89255A82	27.57	8850A22	27.57
7/32″	3/8″	1/2″	3 1/8″	3049A43	18.75	8924A59	22.13	89255A56	26.15	8850A23	26.15
15/64″	3/8″	1/2″	3 1/8″	3049A44	19.68	8924A83	23.27	—	—	8850A62	27.57
1/4″	3/8″	1/2″	3 1/8″	3049A21	17.99	8924A62	21.28	89255A33	22.13	8850A25	24.95
17/64″	3/8″	9/16″	3 1/8″	3049A45	19.68	8924A68	23.27	89255A59	27.57	8850A63	27.57
9/32″	3/8″	9/16″	3 1/8″	3049A46	18.92	8924A71	22.32	89255A61	26.30	8850A27	26.30
19/64″	3/8″	9/16″	3 1/8″	3049A47	19.68	8924A84	23.27	89255A84	27.57	—	—
5/16″	3/8″	9/16″	3 1/8″	3049A23	17.65	8924A72	21.00	89255A34	21.85	8850A29	24.65
21/64″	3/8″	9/16″	3 1/8″	3049A48	19.68	8924A85	23.27	89255A85	27.57	8850A65	27.57
11/32″	3/8″	9/16″	3 1/8″	3049A49	18.75	8924A74	22.13	89255A65	26.15	8850A32	26.15
23/64″	3/8″	9/16″	3 1/8″	3049A51	22.18	8924A86	26.15	—	—	—	—
3/8″	3/8″	9/16″	3 1/8″	3049A25	17.99	8924A63	21.28	89255A35	22.12	8850A34	24.95
25/64″	1/2″	13/16″	3 3/4″	3049A52	30.06	8924A87	35.53	89255A87	41.88	—	—
13/32″	1/2″	13/16″	3 3/4″	3049A53	28.46	8924A75	33.73	89255A69	39.67	8850A36	39.67
27/64″	1/2″	13/16″	3 3/4″	3049A54	30.06	8924A88	35.53	—	—	—	—
7/16″	1/2″	13/16″	3 3/4″	3049A26	27.11	8924A76	32.02	89255A36	37.83	8850A38	37.83
29/64″	1/2″	13/16″	3 3/4″	3049A55	33.87	—	—	89255A89	41.88	—	—
15/32″	1/2″	13/16″	3 3/4″	3049A56	28.20	8924A91	33.25	—	—	—	—
31/64″	1/2″	13/16″	3 3/4″	3049A57	33.87	8924A92	40.02	—	—	—	—
1/2″	1/2″	13/16″	3 3/4″	3049A29	27.11	8924A64	32.02	89255A37	33.53	8850A42	37.83
17/32″	5/8″	1 1/8″	4 1/2″	3049A3	42.31	8924A93	50.06	—	—	8850A73	59.00
9/16″	5/8″	1 1/8″	4 1/2″	3049A31	38.42	8924A77	45.31	89255A38	53.70	8850A44	53.70
19/32″	5/8″	1 1/8″	4 1/2″	3049A33	47.73	8924A94	56.42	—	—	—	—
5/8″	5/8″	1 1/8″	4 1/2″	3049A32	37.49	8924A65	44.27	89255A39	52.33	8850A46	52.33
21/32″	3/4″	1 5/16″	5″	3049A35	59.68	—	—	—	—	—	—
11/16″	3/4″	1 5/16″	5″	3049A58	47.37	8924A96	55.95	—	—	8850A76	66.00
3/4″	3/4″	1 5/16″	5″	3049A34	47.37	8924A66	55.95	89255A41	58.52	8850A51	66.00
13/16″	7/8″	1 9/16″	5 1/2″	3049A59	59.62	8924A97	70.39	—	—	—	—
7/8″	7/8″	1 9/16″	5 1/2″	3049A36	59.62	8924A98	70.39	—	—	8850A78	83.08
1″	1″	1 5/8″	5 7/8″	3049A38	73.30	8924A99	86.55	—	—	8850A79	102.25

Metric Double-End High-Speed Steel Two-Flute End Mills



The metric version of our inch size end mills, all are square end and center cutting for plunge cuts. Use on alloy steel, carbon steel, and cast iron. Helix angle is 30°. Mill dia. tolerance is +0.003″, –0.000″.

Mill Dia., mm	Shank Dia.	Lg. of Cut	O'all Lg.		
3.0	3/8″	3/8″	3 1/16″	8855A57	$14.77
4.0	3/8″	7/16″	3 1/4″	8855A59	14.77
5.0	3/8″	7/16″	3 1/4″	8855A62	14.77
6.0	3/8″	1/2″	3 3/8″	8855A64	15.11
7.0	3/8″	9/16″	3 3/8″	8855A65	$15.11
8.0	3/8″	9/16″	3 1/2″	8855A66	15.11
9.0	3/8″	9/16″	3 1/2″	8855A67	15.11
10.0	1/2″	13/16″	4 1/8″	8855A68	23.11
12.0	1/2″	13/16″	4 1/8″	8855A71	$23.11
14.0	5/8″	1 1/8″	5″	8855A73	33.32
16.0	3/4″	1 5/16″	5 5/8″	8855A74	39.32
18.0	3/4″	1 5/16″	5 5/8″	8855A75	39.32

Double-End High-Speed Steel Three-Flute End Mills



Two cutting ends double the life of these tools and three flutes produce smoother cuts and a finer finish than two-flute tools. Use on alloy steel, carbon steel, cast iron, and nonferrous metals. All are square end and center cutting for plunge cuts. Helix angle is 30°. Mill diameter tolerance is +0.0000″, –0.0015″. *Note:* The 7/8″ and 1″ shank diameters should be secured with an end mill holder (see page 2502).

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
1/8″	3/8″	3/8″	3 1/16″	2847A68	$23.61
3/16″	3/8″	1/2″	3 1/4″	2847A69	23.61
1/4″	3/8″	5/8″	3 3/8″	2847A71	23.61
5/16″	3/8″	3/4″	3 1/2″	2847A72	23.61
3/8″	3/8″	3/4″	3 1/2″	2847A73	$32.21
7/16″	1/2″	1″	4 1/8″	2847A74	35.56
1/2″	1/2″	1″	4 1/8″	2847A75	35.56
9/16″	5/8″	1 3/8″	5″	2847A83	50.40
5/8″	5/8″	1 3/8″	5″	2847A76	$50.40
3/4″	3/4″	1 5/8″	5 5/8″	2847A77	63.42
7/8″	7/8″	1 7/8″	6 1/8″	2847A79	92.17
1″	1″	1 7/8″	6 3/8″	2847A82	110.93

Double Ball-End High-Speed Steel Two-Flute End Mills



Machine rounded details into alloy steel, carbon steel, and cast iron workpieces. All have two cutting ends for extended life. They are center cutting and have a 30° helix angle. Mill diameter tolerance is +0.0000″, –0.0015″.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
1/8″	3/8″	3/8″	3 1/16″	3060A11	$36.94
3/16″	3/8″	7/16″	3 1/8″	3060A13	36.94
1/4″	3/8″	1/2″	3 1/8″	3060A15	36.94
5/16″	3/8″	9/16″	3 1/8″	3060A17	$36.94
3/8″	3/8″	9/16″	3 1/8″	3060A19	36.94
7/16″	1/2″	13/16″	3 3/4″	3060A22	51.96
1/2″	1/2″	13/16″	3 3/4″	3060A23	$51.96
5/8″	5/8″	1 1/8″	4 1/2″	3060A24	71.14
3/4″	3/4″	1 5/16″	5″	3060A25	101.67

Double-End High-Speed Steel Four-Flute End Mills

Switch to the opposite cutting end when one end wears out and double the life of your tool. Four flutes produce a fine finish. All are square end and have a 30° helix angle. *Note:* The 7/8″ and 1″ shank diameters should be secured with an end mill holder (see page 2502).

Noncenter-cutting end mills are for operations where the peripheral teeth do most of the work. Mill diameter tolerance is +0.001″, –0.000″.

Center-cutting end mills allow you to make plunge cuts into a surface. Mill diameter tolerance is +0.0000″, –0.0015″.

Uncoated end mills are for general milling of alloy steel, carbon steel, and cast iron.

Coated end mills last longer and can be run at higher feeds/speeds.

Long-life TiN (titanium nitride) coating is good for use on alloy steel, aluminum, and plastic. Max. working temperature is 1100° F. Color is gold.



Noncenter Cutting

Extra-life TiCN (titanium carbonitride) coating has better wear resistance than TiN coating, making it a good choice for tough-to-machine materials such as ductile cast iron, stainless steel, aluminum, and plastic. Max. working temperature is 750° F. Color is blue-gray.

Super-life TiAlN (titanium aluminum nitride) coating is the best for very high feeds/speeds and high-temperature applications. Use to mill cast iron, stainless steel, nickel-based alloys, and titanium. Not for use on aluminum. Max. working temperature is 1470° F. Color is purple-gray.

				NONCENTER CUTTING				CENTER CUTTING							
Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Uncoated		Long-Life TiN Coated		Uncoated		Long-Life TiN Coated		Extra-Life TiCN Coated		Super-Life TiAlN Coated	
1/8″	3/8″	3/8″	3 1/16″	3050A2	$17.99	89145A31	$18.92	2873A61	$23.05	8912A41	$24.32	8864A21	$27.14	8828A12	$30.67
9/64″	3/8″	7/16″	3 1/8″					2873A21	23.05	8912A21	24.32	8864A41	30.93	8828A51	30.93
5/32″	3/8″	7/16″	3 1/8″	3050A21	18.75	89145A33	19.68	2873A22	23.05	8912A22	24.32	8864A42	30.67	8828A14	30.67
11/64″	3/8″	1/2″	3 1/4″	3050A12	18.92	89145A34	19.84	2873A23	23.05	8912A23	24.32	8864A43	30.93	8828A52	30.93
3/16″	3/8″	1/2″	3 1/4″	3050A18	17.99	89145A35	18.92	2873A62	23.05	8912A42	24.32	8864A22	27.14	8828A16	30.67
13/64″	3/8″	9/16″	3 1/4″	3050A13	18.92	89145A36	19.84	2873A24	23.05	8912A24	24.32	8864A44	30.93	8828A53	30.93
7/32″	3/8″	9/16″	3 1/4″	3050A23	18.75	89145A37	19.68	2873A25	23.05	8912A25	24.32	8864A45	30.67	8828A18	30.67
15/64″	3/8″	5/8″	3 3/8″	3050A49	18.92	89145A38	19.84	2873A26	23.05	8912A26	24.32	8864A46	30.93	8828A54	30.93
1/4″	3/8″	5/8″	3 3/8″	3050A19	17.65	89145A39	18.66	2873A63	23.05	8912A43	24.32	8864A23	27.14	8828A21	27.14
17/64″	3/8″	11/16″	3 3/8″	3050A51	18.92	89145A41	19.84	2873A27	23.05	8912A27	24.32	8864A47	30.93	8828A55	30.93
9/32″	3/8″	11/16″	3 3/8″	3050A27	18.75	89145A42	19.68	2873A28	23.05	8912A28	24.32	8864A48	30.67	8828A23	30.67
19/64″	3/8″	3/4″	3 1/2″					2873A29	23.05	8912A29	24.32	8864A49	30.93		
5/16″	3/8″	3/4″	3 1/2″	3050A22	17.65	89145A44	18.66	2873A64	23.05	8912A37	24.32	8864A24	27.14	8828A25	30.67
21/64″	3/8″	3/4″	3 1/2″	3050A53	18.92	89145A45	19.84	2873A31	23.05	8912A31	24.32	8864A51	30.93	8828A57	30.93
11/32″	3/8″	3/4″	3 1/2″	3050A29	18.75	89145A46	19.68	2873A32	23.05	8912A32	24.32	8864A52	30.67	8828A27	30.67
23/64″	3/8″	3/4″	3 1/2″									8864A53	30.93		
3/8″	3/8″	3/4″	3 1/2″	3050A24■	17.65	89145A48■	18.66	2873A65	23.05	8912A44	24.32	8864A25	27.14	8828A29	27.14
25/64″	1/2″	1″	4 1/8″			89145A49	33.11	2873A34	23.05	8912A34	24.32			8828A59	30.93
13/32″	1/2″	1″	4 1/8″	3050A32	26.18	89145A51	27.53	2873A41	39.35	8912A51	41.38	8864A55	52.31	8828A61	52.31
7/16″	1/2″	1″	4 1/8″	3050A26	25.50	89145A53	26.68	2873A35	35.72	8912A35	37.49	8864A26	47.60	8828A34	47.60
15/32″	1/2″	1″	4 1/8″	3050A34	29.51					8912A12	46.51				
1/2″	1/2″	1″	4 1/8″	3050A28■	25.50	89145A55■	26.68	2873A66	35.72	8912A45	37.49	8864A27	42.16	8828A38	42.16
17/32″	5/8″	1 3/8″	5″	3050A43	38.59	89145A56	40.45	2873A36	45.68	8912A36	47.96	8864A57	61.38		
9/16″	5/8″	1 3/8″	5″	3050A36	36.99	89145A57	38.84	2873A43	45.68	8912A53	47.96				
5/8″	5/8″	1 3/8″	5″	3050A31■	36.99	89145A58■	38.84	2873A67	45.68	8912A46	47.96	8864A29	60.71	8828A43	60.71
21/32″	3/4″	1 5/8″	5 5/8″											8828A64	81.79
11/16″	3/4″	1 5/8″	5 5/8″	3050A38	46.61	89145A61	48.98	2873A44	63.08	8912A54	66.20	8864A59	83.88	8828A65	83.88
3/4″	3/4″	1 5/8″	5 5/8″	3050A33■	46.61	89145A62■	48.98	2873A68	57.42	8912A47	60.29	8864A31	76.43	8828A45	76.43
13/16″	7/8″	1 7/8″	6 1/8″			89145A64	70.22	2873A38	74.31	8912A38	78.03			8828A66	99.69
7/8″	7/8″	1 7/8″	6 1/8″	3050A35■	59.28	89145A66■	62.32	2873A69	74.31	8912A55	78.03			8828A46	98.67
1″	1″	1 7/8″	6 3/8″	3050A37■	71.69	89145A68■	75.32	2873A71	89.34	8912A48	93.82	8864A32	118.71	8828A47	118.71

■ Mill diameter tolerance is +0.000″, –0.0015″.

Ball-End High-Speed Steel Two-Flute End Mills



Machine rounded details into a workpiece. End mills are center cutting and have a 30° helix angle. Mill diameter tolerance is +0.001″, –0.000″. *Note:* The 7/8″ and 1″ shank diameters should be secured with an end mill holder (see page 2502).

Uncoated end mills are for general purpose milling of alloy steel, carbon steel, and cast iron. ***Long-life TiN (titanium nitride) coated*** end mills last longer and can be run at higher feed/speeds. Use on alloy steel, aluminum, and plastic. Max. working temp. is 1100° F. Color is gold.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Uncoated		Long-Life TiN Coated	
1/8″	3/8″	3/8″	2 5/16″	3046A11	$18.65	8900A15	$20.09
3/16″	3/8″	1/2″	2 3/8″	3046A12	18.65	8900A18	20.09
1/4″	3/8″	5/8″	2 7/16″	3046A13	18.65	8900A21	20.09
1/4″	3/8″	5/8″	3 1/16″	3046A41	28.81	8900A22	30.94
5/16″	3/8″	3/4″	2 1/2″	3046A14	20.94	8900A24	22.44
3/8″	3/8″	3/4″	2 1/2″	3046A15	21.65	8900A27	23.25
3/8″	3/8″	3/4″	3 5/16″	3046A42	30.75	8900A28	33.11
7/16″	1/2″	1″	3″	3046A16	28.37	8900A32	30.49
1/2″	1/2″	1″	3″	3046A17	28.37	8900A35	30.49
1/2″	1/2″	1″	4″	3046A43	44.54	8900A36	47.95
9/16″	1/2″	1 1/8″	3 1/8″	3046A18	35.17	8900A38	37.73
5/8″	1/2″	1 1/8″	3 1/8″	3046A44	40.47	8900A39	43.52
5/8″	5/8″	1 3/8″	3 1/2″	3046A19	$40.47	8900A41	$43.52
3/4″	1/2″	1 5/16″	3 5/16″	3046A45	47.46	8900A42	51.03
3/4″	3/4″	1 5/8″	3 7/8″	3046A21	47.46	8900A46	51.03
3/4″	3/4″	1 5/8″	5 5/8″	3046A46	74.23	8900A47	79.71
13/16″	3/4″	2″	4 1/4″	3046A47	60.27	8900A48	64.69
7/8″	7/8″	2″	4 1/4″	3046A22	60.27	8900A49	64.69
15/16″	3/4″	2 1/4″	4 1/2″	3046A48	70.26	8900A51	75.55
1″	3/4″	2 1/4″	4 1/2″	3046A49	76.00	8900A58	81.70
1″	1″	2 1/4″	4 3/4″	3046A23	76.00	8900A61	81.70
1 1/8″	3/4″	1 5/8″	3 7/8″	3046A24	85.81	8900A62	92.10
1 1/4″	3/4″	1 5/8″	3 7/8″	3046A26	96.77	8900A63	103.96
1 1/2″	3/4″	1 5/8″	3 7/8″	3046A31	112.59	8900A64	120.97

Ball-End High-Speed Steel Four-Flute End Mills



The ball end lets you machine rounded details into a workpiece and four flutes produce a fine finish. All are center cutting and have a 30° helix angle. Mill diameter tolerance is +0.001″, –0.000″. *Note:* The 7/8″ and 1″ shank diameters should be secured with an end mill holder (see page 2502).

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
1/4″	3/8″	5/8″	2 7/16″	2866A61	$31.18
1/4″	3/8″	1 1/4″	3 1/16″	2866A71	35.58
1/4″	3/8″	1 3/4″	3 9/16″	2866A78	36.70
5/16″	3/8″	3/4″	2 1/2″	2866A62	31.18
5/16″	3/8″	1 3/8″	3 1/8″	2866A72	37.22
5/16″	3/8″	2″	3 3/4″	2866A79	39.55
3/8″	3/8″	3/4″	2 1/2″	2866A63	34.89
3/8″	3/8″	1 1/2″	3 1/4″	2866A73	$40.25
3/8″	3/8″	2 1/2″	4 1/4″	2866A81	44.30
1/2″	1/2″	1 1/4″	3 1/4″	2866A64	40.25
1/2″	1/2″	2″	4″	2866A74	47.67
1/2″	1/2″	3″	5″	2866A82	62.87
5/8″	5/8″	1 5/8″	3 3/4″	2866A65	61.49
5/8″	5/8″	4″	6 1/8″	2866A83	86.19
3/4″	3/4″	1 5/8″	3 7/8″	2866A66	$71.16
3/4″	3/4″	3″	5 1/4″	2866A77	84.46
3/4″	3/4″	4″	6 1/4″	2866A84	98.45
7/8″	7/8″	1 7/8″	4 1/8″	2866A67	79.11
1″	1″	2″	4 1/2″	2866A68	119.18
1″	1″	4″	6 1/2″	2866A86	136.45
1″	1″	6″	8 1/2″	2866A85	168.41

Cobalt Steel End Mills

For information about end mill cut styles, see page 2503.

Cobalt Steel Two-Flute End Mills



Cobalt steel provides better heat and abrasion resistance than uncoated high-speed steel. Use on tough, abrasive materials such as cast iron, cast steel, and heat-treated steel. All are square end and center cutting so you can make plunge cuts into a surface. Helix angle is 30°. Mill diameter tolerance is +0.001″, –0.000″. *Note:* The 7/8″, 1″, and 1 1/4″ shank diameters should be secured with an end mill holder (see page 2502).

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
1/8″	3/8″	3/8″	2 5/16″	2782A69	$14.07
5/32″	3/8″	7/16″	2 5/16″	2782A61	16.42
3/16″	3/8″	7/16″	2 5/16″	2782A71	14.07
7/32″	3/8″	1/2″	2 5/16″	2782A62	16.42
1/4″	3/8″	1/2″	2 5/16″	2782A72	14.07
9/32″	3/8″	9/16″	2 5/16″	2782A63	16.42
5/16″	3/8″	9/16″	2 5/16″	2782A73	14.07
11/32″	3/8″	9/16″	2 5/16″	2782A64	$18.49
3/8″	3/8″	9/16″	2 5/16″	2782A74	14.07
7/16″	3/8″	13/16″	2 1/2″	2782A75	21.50
1/2″	3/8″	13/16″	2 1/2″	2782A65	21.50
1/2″	1/2″	1″	3″	2782A76	18.92
9/16″	1/2″	1 1/8″	3 1/8″	2782A66	29.97
5/8″	5/8″	1 5/16″	3 7/16″	2782A77	29.63
3/4″	1/2″	1 5/16″	3 5/16″	2782A67	$32.13
3/4″	3/4″	1 5/16″	3 9/16″	2782A78	32.13
7/8″	7/8″	1 1/2″	3 3/4″	2782A68	44.30
1″	3/4″	1 1/2″	3 3/4″	2782A82	52.95
1″	1″	1 5/8″	4 1/8″	2782A81	49.40
1 1/8″	1″	1 5/8″	4 1/8″	2782A83	78.59
1 1/2″	1 1/4″	1 5/8″	4 1/8″	2782A86	115.73

Cobalt Steel Four-Flute End Mills



Use on tough, abrasive materials such as cast iron, cast steel, and heat-treated steel for a finer finish than two-flute end mills. Cobalt steel provides better heat and abrasion resistance than uncoated high-speed steel. All are square end and center cutting so you can make plunge cuts into a surface. Helix angle is 30°. Mill diameter tolerance of +0.001″, -0.000″. *Note:* The 7/8″, 1″ and 1 1/4″ shank diameters should be secured with an end mill holder (see page 2502).

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
1/8″	3/8″	3/8″	2 5/16″	2883A11	$16.41
3/16″	3/8″	1/2″	2 3/8″	2883A12	16.41
1/4″	3/8″	5/8″	2 7/16″	2883A13	16.41
1/4″	3/8″	1 1/4″	3 1/16″	2883A41	22.54
1/4″	3/8″	1 3/4″	3 9/16″	2883A42	29.36
5/16″	3/8″	3/4″	2 1/2″	2883A14	16.41
5/16″	3/8″	1 3/8″	3 1/8″	2883A43	22.54
5/16″	3/8″	2″	3 3/4″	2883A44	29.36
3/8″	3/8″	3/4″	2 1/2″	2883A15	16.41
3/8″	3/8″	1 1/2″	3 1/4″	2883A45	22.54
3/8″	3/8″	2 1/2″	4 1/4″	2883A25	29.36
7/16″	3/8″	1″	2 11/16″	2883A46	23.32
7/16″	1/2″	1 3/4″	3 3/4″	2883A54 ■	30.92
1/2″	3/8″	1″	2 11/16″	2883A17	24.27
1/2″	1/2″	1 1/4″	3 1/4″	2883A16	22.89
1/2″	1/2″	2″	4″	2883A47	33.25
1/2″	1/2″	2″	3″	2883A26	$37.22
1/2″	1/2″	4″	6″	2883A35	54.84
9/16″	1/2″	1 3/8″	3 3/8″	2883A48	35.41
5/8″	5/8″	1 5/8″	3 3/4″	2883A18	33.94
5/8″	5/8″	2 1/2″	4 5/8″	2883A49	44.30
5/8″	5/8″	4″	6 1/8″	2883A51	49.49
3/4″	1/2″	1 5/8″	3 5/8″	2883A52	38.60
3/4″	3/4″	1 5/8″	3 7/8″	2883A21	38.60
3/4″	3/4″	3″	5 1/4″	2883A28	49.40
3/4″	3/4″	4″	6 1/4″	2883A37	64.34
7/8″	3/4″	1 7/8″	4″	2883A53 ▲	50.78
1″	3/4″	1 7/8″	4 1/8″	2883A55	62.18
1″	1″	2″	4 1/2″	2883A23	57.86
1″	1″	4″	6 1/2″	2883A31	89.30
1 1/4″	1 1/4″	2″	4 1/2″	2883A36 •	103.55

■ Shank dia. is 3/8″; lg. of cut is 2″; o'all length is 3 11/16″.

▲ Shank dia. is 7/8″. O'all length is 4 1/8″.

• Six flutes.

Premium Cobalt Steel Four-Flute End Mills



Built to last, these particle metal tools resist chipping and can be run at higher feeds/speeds than standard cobalt steel end mills. Use on high-temperature alloys such as titanium, Inconel 718, Monel, and Hastelloy. All are square end and center cutting so you can make plunge cuts in a surface. Helix angle is 35°. Mill diameter tolerance is +0.001″, –0.000″. *Note:* The 7/8″, 1″, and 1 1/4″ shank diameters should be secured with an end mill holder (see page 2502).

Extra-life TiCN (titanium carbonitride) coated end mills have better wear resistance than uncoated tools. Maximum working temperature is 750° F. Color is blue-gray.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Uncoated		Extra-Life TiCN Coated	
3/8″	3/8″	3/8″	2 1/16″	8933A11	$20.48	8933A51	$22.57
3/8″	3/8″	3/4″	2 1/2″	8933A12	24.43	8933A52	26.83
3/8″	3/8″	2 1/2″	4 1/4″	8933A13	36.82	8933A53	40.62
1/2″	1/2″	1/2″	2 1/2″	8933A14	26.33	8933A54	28.86
1/2″	1/2″	1 1/4″	3 1/4″	8933A15	34.11	8933A55	37.55
1/2″	1/2″	3″	5″	8933A16	59.10	———	———
1/2″	1/2″	4″	6″	8933A17	58.10	8933A57	64.05
5/8″	5/8″	5/8″	2 3/4″	8933A18	36.37	8933A58	39.99
5/8″	5/8″	1 5/8″	3 3/4″	8933A19	49.58	8933A59	54.47
5/8″	5/8″	2 1/2″	4 5/8″	———	———	8933A61	75.74
5/8″	5/8″	3″	5 1/8″	8933A22	70.14	8933A62	77.12
5/8″	5/8″	4″	6 1/8″	8933A23	91.38	8933A63	100.45
3/4″	3/4″	3/4″	3″	8933A24	$46.69	8933A64	$51.30
3/4″	3/4″	1 5/8″	3 7/8″	8933A25	60.26	8933A65	66.32
3/4″	3/4″	2″	4 1/4″	8933A26	65.96	8933A66	67.14
3/4″	3/4″	3″	5 1/4″	8933A29	81.61	8933A69	89.84
3/4″	3/4″	4″	6 1/4″	8933A32	97.17	8933A72	106.85
7/8″	7/8″	1 7/8″	4 1/8″	———	———	8933A74	98.36
1″	1″	1″	3 1/2″	8933A36	75.00	8933A76	82.42
1″	1″	2″	4 1/2″	8933A37	96.36	8933A77	105.95
1″	1″	3″	5 1/2″	8933A39	117.71	8933A79	129.47
1″	1″	4″	6 1/2″	8933A42	139.06	8933A82	152.90
1″	1″	6″	8 1/2″	8933A27	167.86	8933A67	184.76
1 1/4″	1 1/4″	3″	5 1/2″	8933A31	147.14	8933A71	161.90

Rounded-Edge Cobalt Steel Four-Flute End Mills



Rounded edges on the tips of the flutes reduce chipping and lengthen the life of the tool. Also known as corner radius end mills, they work well for making molds. Use on cast iron, cast steel, and heat-treated steel. All are center cutting and have a 30° helix angle. Mill diameter tolerance is +0.0015″, –0.000″; corner radius tolerance is ±0.001″.

To Order: Please specify corner radius.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Available Corner Radii		
1/8″	3/8″	3/8″	2 5/16″	0.015″	30855A41	$22.48
3/16″	3/8″	1/2″	2 3/8″	0.020″, 0.030″	30855A42	22.48
1/4″	3/8″	5/8″	2 7/16″	0.020″, 0.030″, 0.045″	30855A45	24.06
5/16″	3/8″	3/4″	2 1/2″	0.020″, 0.030″, 0.045″	30855A51	25.33
3/8″	3/8″	3/4″	2 1/2″	0.020″, 0.030″, 0.045″	30855A55	25.33
1/2″	1/2″	1 1/4″	3 1/4″	0.020″, 0.030″, 0.045″, 0.060″	30855A61	34.02
5/8″	5/8″	1 5/8″	3 3/4″	0.020″, 0.030″, 0.045″, 0.060″, 0.090″	30855A71	43.30
3/4″	3/4″	1 5/8″	3 7/8″	0.020″, 0.030″, 0.045″, 0.060″, 0.090″, 0.125″	30855A81	52.42

For information about end mill cut styles, see page 2503.

Double-End Cobalt Steel Two-Flute End Mills



Two cutting ends extend working life. Cobalt steel provides better heat and abrasion resistance than uncoated high-speed steel. Use on tough, abrasive materials such as cast iron, cast steel, and heat-treated steel. All are square end and center cutting so you can make plunge cuts in a surface. Helix angle is 30°. Mill diameter tolerance is +0.0000″, –0.0015″. *Note:* End mill with a 1″ shank diameter should be secured with an end mill holder (see page 2502).

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
1/8″	3/8″	3/8″	3 1/16″	29815A56	$20.51
5/32″	3/8″	7/16″	3 1/8″	29815A57	23.86
3/16″	3/8″	7/16″	3 1/8″	29815A58	20.51
7/32″	3/8″	1/2″	3 1/8″	29815A59	23.86
1/4″	3/8″	1/2″	3 1/8″	29815A61	20.51
9/32″	3/8″	9/16″	3 1/8″	29815A71	$23.86
5/16″	3/8″	9/16″	3 1/8″	29815A62	20.51
11/32″	3/8″	9/16″	3 1/8″	29815A72	26.88
3/8″	3/8″	9/16″	3 1/8″	29815A63	20.51
7/16″	1/2″	13/16″	3 3/4″	29815A73	31.45
1/2″	1/2″	13/16″	3 3/4″	29815A64	$30.75
5/8″	5/8″	1 1/8″	4 1/2″	29815A65	41.80
3/4″	3/4″	1 5/16″	5″	29815A66	54.17
1″	1″	1 5/8″	5 7/8″	29815A77	84.60

Double-End Cobalt Steel Four-Flute End Mills



Ball End

Four flutes provide a fine finish and two cutting ends extend tool life. Cobalt steel provides higher heat and abrasion resistance than uncoated high-speed steel. Use on tough, abrasive materials such as cast iron, cast steel, and heat-treated steel. All are center cutting with a 30° helix angle. *Note:* The 7/8″ and 1″ shank diameters should be secured with an end mill holder (see page 2502).

Square-end end mills allow plunge cuts in a surface. Mill diameter tolerance is +0.0000″, –0.0015″. ***Ball-end*** end mills machine rounded details into a workpiece. Mill diameter tolerance is ±0.0005″.

Inch

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Square End		Ball End	
1/8″	3/8″	3/8″	3 1/16″	8858A51	$27.45	3253A11	$45.47
5/32″	3/8″	7/16″	3 1/8″	8858A71	29.45	3253A12	45.47
3/16″	3/8″	1/2″	3 1/4″	8858A52	27.45	3253A13	45.47
7/32″	3/8″	9/16″	3 1/4″	8858A72	29.45	3253A14	46.83
1/4″	3/8″	5/8″	3 3/8″	8858A53	27.45	3253A15	46.83
9/32″	3/8″	11/16″	3 3/8″	8858A73	29.45	3253A16	46.83
5/16″	3/8″	3/4″	3 1/2″	8858A54	27.45	3253A17	46.83
11/32″	3/8″	3/4″	3 1/2″	_____	____	3253A18	46.83
3/8″	3/8″	3/4″	3 1/2″	8858A55	$27.45	3253A19	$46.83
7/16″	1/2″	1″	4 1/8″	8858A75	40.95	_____	____
1/2″	1/2″	1″	4 1/8″	8858A56	40.09	3253A21	66.93
9/16″	5/8″	1 3/8″	5″	8858A76	62.05	_____	____
5/8″	5/8″	1 3/8″	5″	8858A57	53.58	3253A22	90.18
3/4″	3/4″	1 5/8″	5 5/8″	8858A58	67.64	3253A23★	120.31
7/8″	7/8″	1 7/8″	6 1/8″	8858A59	92.81	_____	____
1″	1″	1 7/8″	6 3/8″	_____	____	3253A24★	183.26

★Mill diameter tolerance is ±0.001″.

Metric

Mill Dia., mm	Shank Dia.	Lg. of Cut	O'all Lg.	Square End	
3.0	3/8″	3/8″	3 1/16″	8891A31	$28.88
4.0	3/8″	7/16″	3 1/8″	8891A32	28.88
5.0	3/8″	9/16″	3 1/4″	8891A33	28.88
6.0	3/8″	5/8″	3 3/8″	8891A34	29.42
7.0	3/8″	11/16″	3 3/8″	8891A35	29.99
8.0	3/8″	3/4″	3 1/2″	8891A36	29.42
9.0	3/8″	3/4″	3 1/2″	8891A37	$29.42
10.0	1/2″	1″	4 1/8″	8891A38	45.17
11.0	1/2″	1″	4 1/8″	8891A39	45.17
12.0	1/2″	1″	4 1/8″	8891A41	45.17
13.0	5/8″	1 3/8″	5″	8891A42	66.70
14.0	5/8″	1 3/8″	5″	8891A43	66.70
15.0	5/8″	1 3/8″	5″	8891A44	$66.70
16.0	3/4″	1 5/8″	5 5/8″	8891A45	84.53
18.0	3/4″	1 5/8″	5 5/8″	8891A46	84.53
20.0	7/8″	1 7/8″	6 1/8″	8891A47	110.81
22.0	7/8″	1 7/8″	6 1/8″	8891A48	110.81

Reduced-Shank End Mills

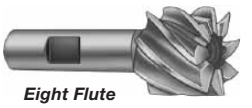

Eight Flute

Also known as Bridgeport end mills, these tools have a reduced shank for use in milling machines and a shorter cutting length for extra rigidity. The more flutes, the finer the finish. Made of cobalt steel, unless noted. All are square end with a 30° helix angle.

Two-flute end mills are center cutting so you can make plunge cuts in a surface. Mill diameter tolerance is +0.0015″, –0.000″. ***Four-, six-,*** and ***eight-flute*** end mills are noncenter cutting for operations where peripheral teeth do most of the work. Mill diameter tolerance is +0.0015″, –0.0000″.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
Two Flute					
3/4″	1/2″	5/8″	2 5/8″	8827A15	$43.89
7/8″	1/2″	5/8″	2 5/8″	8827A17	59.20
1″	1/2″	3/4″	2 3/4″	8827A19	72.98
1″	5/8″	3/4″	2 7/8″	8827A18	66.96
1″	3/4″	3/4″	3″	8827A2	66.90
1 1/8″	3/4″	3/4″	3″	8827A27	108.64
1 1/4″	1/2″	3/4″	2 3/4″	8827A23	111.36
1 1/4″	5/8″	3/4″	2 7/8″	8827A22	111.36
1 1/4″	3/4″	3/4″	3″	8827A24	111.36
1 3/8″	3/4″	3/4″	3″	8827A25 ♦	120.63
1 1/2″	3/4″	3/4″	3″	8827A26 ♦	137.98
Four Flute					
3/4″	1/2″	5/8″	2 5/8″	3057A11	47.70
7/8″	1/2″	5/8″	2 5/8″	3057A12	65.66
Four Flute (Cont.)					
1″	1/2″	3/4″	2 3/4″	3057A13	$72.72
1″	3/4″	3/4″	3″	3057A14	72.72
Six Flute					
3/4″	1/2″	5/8″	2 5/8″	3057A15	60.04
3/4″	3/4″	1 1/2″	3 7/8″	3057A16	71.50
7/8″	1/2″	5/8″	2 5/8″	3057A23	77.54
1 1/8″	3/4″	3/4″	3″	3057A24	110.96
1 1/8″	3/4″	1 1/2″	3 7/8″	3057A25	110.96
1 1/4″	5/8″	3/4″	2 7/8″	3057A26	121.54
1 1/4″	3/4″	3/4″	3″	3057A28	121.54
1 1/4″	3/4″	1 1/2″	3 7/8″	3057A31	121.54
1 3/8″	5/8″	3/4″	2 7/8″	3057A46 ♥	134.14
1 3/8″	3/4″	3/4″	3″	3057A47 ♥	137.33
1 3/8″	3/4″	1 1/2″	3 7/8″	3057A48 ♥	134.14
Six Flute (Cont.)					
1 1/2″	3/4″	3/4″	3″	3057A49 ♥	$150.46
1 1/2″	3/4″	1 1/2″	3 7/8″	3057A51 ♥	150.46
1 3/4″	3/4″	1 1/2″	3 7/8″	3057A52 ♥	184.23
Eight Flute					
1″	1/2″	3/4″	2 3/4″	3057A27	76.68
1″	5/8″	3/4″	2 7/8″	3057A53	95.19
1″	3/4″	3/4″	3″	3057A54	98.94
1″	3/4″	1 1/2″	3 7/8″	3057A55	94.87
1 1/8″	5/8″	3/4″	2 7/8″	3057A29	110.96
1 1/8″	3/4″	3/4″	3″	3057A56	119.18
1 1/8″	3/4″	1 1/2″	3 7/8″	3057A57	127.05
1 1/4″	3/4″	1 1/2″	3 7/8″	3057A58	137.49
1 1/2″	3/4″	2″	4 1/4″	3057A59 ♥	195.90

♦High-speed steel. ♥High-speed steel. Mill diameter tolerance is +0.002″, –0.000″.

Cobalt Steel Two-Flute Drill/Mills



A 90° point angle turns these end mills into drills for slotting, side milling, beveling, and profiling. Cobalt steel provides better heat and abrasion resistance than uncoated high-speed steel. Use on tough, abrasive materials such as cast iron, cast steel, and heat-treated steel. All have a 30° helix angle. Mill diameter tolerance is +0.0015″, –0.0000″. ***Long-life TiN (titanium nitride) coated*** end mills offer higher heat and abrasion resistance and longer tool life. Use on stainless steel, alloy steel, cast iron, and nickel alloys. Maximum working temperature is 950° F. Color is gold.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Uncoated		Long-Life TiN Coated	
1/4″	3/8″	5/8″	2 7/16″	2957A11	$19.70	8877A51	$26.05
5/16″	3/8″	23/32″	2 15/32″	2957A12	19.70	8877A52	26.05
3/8″	3/8″	3/4″	2 1/2″	2957A13	19.70	8877A53	26.05
7/16″	3/8″	1 1/32″	2 23/32″	2957A14	30.30	8877A54	39.60
1/2″	1/2″	1 1/4″	3 1/4″	2957A15	28.49	8877A55	38.40
9/16″	1/2″	1 13/32″	3 13/32″	2957A16	$38.27	8877A56	$50.30
5/8″	5/8″	1 5/8″	3 3/4″	2957A17	41.81	8877A57	54.88
3/4″	3/4″	1 11/16″	3 15/16″	2957A19	47.84	8877A59	70.60
7/8″	3/4″	1 15/16″	4 3/16″	2957A21	65.00	8877A61	90.35
1″	3/4″	2″	4 1/4″	2957A22	73.77	8877A62	98.70

Miniature & Tapered End Mills

For information about end mill cut styles, see page 2503.

Miniature Double-End End Mills



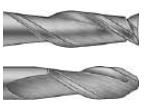

Thanks to small mill diameters, these tools are well suited for detail work. All have a 3/16″ shank diameter, which allows you to use one holder for all sizes. They are center cutting and have a 35° to 40° helix angle. ***Cobalt steel*** provides better heat and abrasion resistance than high-speed steel.

Square-end end mills allow plunge cuts into a surface. *Four-flute* end mills have a mill diameter tolerance of +0.002″, –0.000″. ***Ball-end*** end mills machine rounded details into a workpiece.

Two Flute

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Mill Dia. Tolerance	SQUARE END High-Speed Steel		SQUARE END Cobalt Steel		BALL END High-Speed Steel		BALL END Cobalt Steel	
1/32″	3/16″	3/64″	2″	+0.000″, –0.0015″	2802A12	$18.55	28425A31	$18.55	2802A42	$24.93	2827A11	$24.93
1/32″	3/16″	3/32″	2 1/4″	+0.000″, –0.0015″	2802A26	17.43	28425A11	17.43	2802A57	23.73	2827A12	24.70
3/64″	3/16″	1/16″	2″	+0.000″, –0.0015″	2802A13	18.55	28425A32	18.55	2802A43	24.93	2827A13	24.93
3/64″	3/16″	9/64″	2 1/4″	+0.000″, –0.0015″	2802A27	17.43	28425A12	17.43	2802A58	23.73	2827A14	24.70
1/16″	3/16″	3/32″	2″	+0.000″, –0.0015″	2802A14	18.10	28425A33	18.55	2802A44	23.70	2827A15	23.70
1/16″	3/16″	3/16″	2 1/4″	+0.000″, –0.0015″	2802A28	17.43	28425A13	17.43	2802A59	23.73	2827A16	22.88
1/16″	3/16″	7/32″	2 1/2″	+0.002″, –0.0000″	2802A81	23.65	28425A14	23.65	2802A71	30.35	2827A17	30.68
5/64″	3/16″	1/8″	2″	+0.000″, –0.0015″	2802A15	16.12	28425A34	16.12	2802A45	23.70	2827A18	23.70
5/64″	3/16″	15/64″	2 1/4″	+0.000″, –0.0015″	2802A29	17.43	28425A15	17.43	2802A61	23.73	2827A19	22.88
3/32″	3/16″	9/64″	2″	+0.000″, –0.0015″	2802A16	16.12	28425A35	16.12	2802A46	23.70	2827A21	23.70
3/32″	3/16″	9/32″	2 1/4″	+0.000″, –0.0015″	2802A31	17.43	28425A16	17.43	2802A62	23.73	2827A22	22.88
3/32″	3/16″	9/32″	2 5/8″	+0.002″, –0.0000″	2802A82	23.65	28425A17	23.65	2802A72	30.35	2827A23	30.32
7/64″	3/16″	5/32″	2″	+0.000″, –0.0015″	2802A17	15.73	28425A36	16.12	2802A47	23.70	2827A24	23.70
7/64″	3/16″	21/64″	2 1/4″	+0.000″, –0.0015″	2802A32	17.43	28425A18	17.43	2802A63	23.73	2827A25	22.88
1/8″	3/16″	3/16″	2″	+0.000″, –0.0015″	2802A18	15.73	28425A37	16.12	2802A48	23.70	2827A26	23.70
1/8″	3/16″	3/8″	2 1/4″	+0.000″, –0.0015″	2802A33	17.43	28425A19	17.43	2802A64	23.73	2827A27	22.88
1/8″	3/16″	3/4″	3 1/8″	+0.002″, –0.0000″	2802A83	23.65	28425A21	23.65	2802A73	30.35	2827A28	30.32
9/64″	3/16″	7/32″	2″	+0.000″, –0.0015″	2802A19	16.12	28425A38	16.12	2802A49	22.75	2827A29	22.75
9/64″	3/16″	13/32″	2 1/4″	+0.000″, –0.0015″	2802A34	17.43	28425A22	17.43	2802A65	23.73	2827A31	22.88
5/32″	3/16″	15/64″	2″	+0.000″, –0.0015″	2802A21	16.12	28425A39	16.12	2802A51	22.75	2827A32	22.75
5/32″	3/16″	7/16″	2 1/4″	+0.000″, –0.0015″	2802A35	17.43	28425A23	17.43	2802A66	23.73	2827A33	22.88
5/32″	3/16″	7/8″	3 1/4″	+0.002″, –0.0000″	2802A84	23.65	28425A24	23.65	2802A74	30.35	2827A34	30.32
11/64″	3/16″	1/4″	2″	+0.000″, –0.0015″	2802A22	15.73	28425A41	16.12	2802A52	22.75	2827A35	22.75
11/64″	3/16″	1/2″	2 1/4″	+0.000″, –0.0015″	2802A36	17.43	28425A25	17.43	2802A67	23.73	2827A36	22.88
3/16″	3/16″	9/32″	2″	+0.000″, –0.0025″	2802A23	16.12	28425A42	16.12	2802A53	22.75	2827A37	22.75
3/16″	3/16″	1/2″	2 1/4″	+0.000″, –0.0025″	2802A37	17.43	28425A26	17.43	2802A68	23.73	2827A38	22.88
3/16″	3/16″	1″	3 3/8″	+0.000″, –0.0025″	2802A85	23.65	28425A27	23.65	2802A75	30.35	2827A39	30.32

Four Flute—Square End

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	High-Speed Steel		Cobalt Steel	
1/16″	3/16″	3/32″	2″	8807A44	$15.57	28715A51	$16.35
1/16″	3/16″	3/16″	2 1/4″	8807A49	18.22	28715A41	22.77
1/16″	3/16″	7/32″	2 1/2″	8807A55	20.76	28715A61	24.18
3/32″	3/16″	9/64″	2″	8807A45	15.57	28715A52	16.35
3/32″	3/16″	9/32″	2 1/4″	8807A51	18.22	28715A42	22.77
3/32″	3/16″	9/32″	2 5/8″	8807A56	20.76	28715A62	24.18
1/8″	3/16″	3/16″	2″	8807A46	15.57	28715A53	16.35
1/8″	3/16″	3/8″	2 1/4″	8807A52	18.54	28715A43	23.18
1/8″	3/16″	3/4″	3 1/8″	8807A57	$20.76	28715A63	$24.97
5/32″	3/16″	15/64″	2″	8807A47	15.57	28715A54	16.35
5/32″	3/16″	7/16″	2 1/4″	8807A53	19.32	28715A44	24.15
5/32″	3/16″	7/8″	3 1/4″	8807A58	20.76	28715A64	24.97
3/16″	3/16″	9/32″	2″	8807A48▲	15.57	28715A55▲	16.35
3/16″	3/16″	1/2″	2 1/4″	8807A54▲	19.32	28715A45▲	24.15
3/16″	3/16″	1″	3 3/8″	8807A59▲	20.76	28715A65▲	24.97

▲ Mill diameter tolerance is +0.000″, –0.0025″.

Tapered High-Speed Steel End Mills



Machine angled slots in dies and molds. Also known as taper degree end mills. All have three flutes and are center cutting. Mill diameter tolerance is ±0.002″.

Tip Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
0.5° Taper Per Side					
3/32″	3/8″	3/4″	2 5/8″	8936A13	$17.43
1/8″	3/8″	3/4″	2 1/2″	8936A15	17.43
1/8″	3/8″	1″	2 7/8″	8936A16	19.49
3/16″	3/8″	1 1/4″	3 1/8″	8936A17	21.34
1/4″	3/8″	3/4″	2 1/2″	8936A18	17.70
1/4″	3/8″	1 1/4″	3″	8936A11	22.34
3/8″	1/2″	2 1/4″	4 1/4″	8936A19	34.58
1° Taper Per Side					
3/32″	3/8″	1/2″	2 1/2″	8936A22	16.47
3/32″	3/8″	3/4″	2 1/2″	8936A23	17.64
1/8″	3/8″	1/2″	2 1/2″	8936A24	16.53
1/8″	3/8″	3/4″	2 1/2″	8936A25	17.70
1/8″	3/8″	1″	2 7/8″	8936A12	19.62
1/8″	3/8″	1 1/2″	3 1/4″	8936A21	23.04
3/16″	3/8″	1 1/4″	3 1/8″	8936A26	21.47
1/4″	3/8″	1 1/4″	3″	8936A28	22.49
3/8″	1/2″	2 1/4″	4 1/4″	8936A32	37.32
1/2″	1/2″	1 1/4″	3 1/4″	8936A34	34.45
1.5° Taper Per Side					
1/4″	3/8″	1 1/4″	3″	8936A33	22.62
2° Taper Per Side					
1/8″	3/8″	3/4″	2 1/2″	8936A42	18.04
1/8″	3/8″	1 1/4″	3 1/8″	8936A35	22.42
3/16″	3/8″	1 1/4″	3 1/8″	8936A43	22.08
1/4″	3/8″	3/4″	2 1/2″	8936A46	18.38
1/4″	3/8″	1 1/4″	3″	8936A47	22.83

■ Four flutes.

Tip Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
3° Taper Per Side					
3/32″	3/8″	1″	2 7/8″	8936A48	$19.96
3/32″	3/8″	1 1/2″	3 1/4″	8936A49	21.60
1/8″	3/8″	3/4″	2 5/8″	8936A53	18.32
1/8″	3/8″	1″	2 7/8″	8936A54	20.51
3/16″	3/8″	1 1/4″	3 1/8″	8936A58	22.62
1/4″	3/8″	3/4″	2 1/2″	8936A59	19.49
1/4″	3/8″	1 1/4″	3 1/8″	8936A61	23.04
1/4″	1/2″	2 1/4″	4 1/4″	8936A62	39.23
1/2″	1/2″	1 1/4″	3 1/4″	8936A66	36.02
5° Taper Per Side					
1/16″	3/8″	1/2″	2 5/8″	8936A69	19.49
3/32″	3/8″	3/4″	2 5/8″	8936A71	18.32
3/32″	3/8″	1″	2 7/8″	8936A72	20.23
1/8″	3/8″	3/4″	2 5/8″	8936A74	18.51
1/8″	3/8″	1″	2 7/8″	8936A75	20.58
1/8″	3/8″	1 1/2″	3 1/4″	8936A76	25.43
3/16″	3/8″	3/4″	2 9/16″	8936A36	19.00
3/16″	1/2″	1 1/4″	3 3/8″	8936A77	23.79
1/4″	3/8″	3/4″	2 1/2″	8936A78	20.17
1/4″	1/2″	1″	3″	8936A37	23.72
1/4″	1/2″	1 1/4″	3 1/4″	8936A79	24.74
7° Taper Per Side					
3/32″	3/8″	1″	2 3/4″	8936A38	21.06
1/8″	3/8″	3/4″	2 9/16″	8936A81	19.21
3/16″	1/2″	1 1/4″	3 1/4″	8936A82	28.72

Tip Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
10° Taper Per Side					
3/32″	3/8″	1/2″	2 3/8″	8936A84	$20.58
3/32″	1/2″	1 1/2″	3 1/2″	8936A86	41.62
1/8″	3/8″	3/4″	2 5/8″	8936A87	21.47
1/8″	1/2″	1 1/4″	3 1/4″	8936A88	34.45
3/16″	1/2″	1 1/4″	3 3/8″	8936A89	33.15
1/4″	1/2″	3/4″	2 3/4″	8936A92	26.04
1/4″	1/2″	1 1/4″	3 1/4″	8936A93	40.40
15° Taper Per Side					
1/8″	1/2″	1″	3 1/8″	8936A94	32.94
3/16″	1/2″	1″	3 1/8″	8936A95	38.68
1/4″	1/2″	1″	3 1/8″	8936A96	48.19
20° Taper Per Side					
1/8″	3/8″	1/2″	2 1/2″	8936A971	28.59
1/8″	1/2″	1″	3 1/8″	8936A972■	58.36
3/16″	1/2″	1″	3 1/8″	8936A973■	62.24
1/4″	1/2″	1″	3 1/8″	8936A974■	65.14
25° Taper Per Side					
1/8″	1/2″	1/2″	2 1/2″	8936A975	39.02
1/4″	5/8″	1″	3 1/4″	8936A976■	85.71
30° Taper Per Side					
1/8″	1/2″	1/2″	2 5/8″	8936A977■	46.65
1/4″	3/4″	1″	3 3/8″	8936A978■	93.15
45° Taper Per Side					
1/8″	1/2″	5/16″	2 1/2″	8936A979■	53.50
1/8″	1/2″	1/2″	2 5/8″	8936A981■	70.20

High-Speed Steel Two-Flute End Mills for Aluminum

A helix angle of 37° allows for greater chip removal than a 30° helix angle. All are center cutting and have a mill diameter tolerance of +0.001″, –0.000″. *Note:* The 7/8″, 1″, and 1 1/4″ shank diameters should be secured with an end mill holder (see page 2502). ***Square-end*** end mills allow plunge cuts in a surface. ***Ball-end*** end mills machine rounded details into a workpiece.



Square End



Ball End

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
Square End					
1/8″	3/8″	3/8″	2 5/16″	2983A31	$13.26
3/16″	3/8″	1/2″	2 3/8″	2983A32	13.26
1/4″	3/8″	5/8″	2 7/16″	2983A11	16.00
1/4″	3/8″	1 1/4″	3 1/16″	2983A16	19.09
1/4″	3/8″	1 3/4″	3 9/16″	2983A17	21.03
5/16″	3/8″	3/4″	2 1/2″	2983A12	16.00
5/16″	3/8″	1 3/8″	3 1/8″	2983A25	19.09
5/16″	3/8″	2″	3 3/4″	2983A26	21.47
3/8″	3/8″	3/4″	2 1/2″	2983A13	16.00
3/8″	3/8″	1 1/2″	3 1/4″	2983A27	19.09
3/8″	3/8″	2 1/2″	4 1/4″	2983A28	23.07
7/16″	3/8″	1″	2 11/16″	2983A14	20.59
7/16″	1/2″	1 3/4″	3 3/4″	2983A29	26.16
1/2″	1/2″	1 1/4″	3 1/4″	2983A15	22.18
1/2″	1/2″	2″	4″	2983A35	26.51
1/2″	1/2″	3″	5″	2983A36	31.20
Square End (Cont.)					
5/8″	1/2″	1 3/8″	3 3/8″	2983A51	$31.46
5/8″	5/8″	1 5/8″	3 3/4″	2983A18	29.52
5/8″	5/8″	2 1/2″	4 5/8″	2983A37	35.44
5/8″	5/8″	4″	6 1/8″	2983A38	43.74
11/16″	5/8″	1 5/8″	3 3/4″	2983A52	31.64
3/4″	1/2″	1 5/8″	3 5/8″	2983A53	35.70
3/4″	3/4″	1 5/8″	3 7/8″	2983A19	33.23
3/4″	3/4″	3″	5 1/4″	2983A39	46.57
3/4″	3/4″	4″	6 1/4″	2983A41	55.32
13/16″	3/4″	1 7/8″	4 1/8″	2983A54	41.62
7/8″	3/4″	1 7/8″	4 1/8″	2983A33	47.46
7/8″	7/8″	1 7/8″	4 1/8″	2983A21	47.46
1″	3/4″	1 7/8″	4 1/8″	2983A34	58.68
1″	1″	2″	4 1/2″	2983A22	54.70
1″	1″	4″	6 1/2″	2983A42	79.18
1″	1″	6″	8 1/2″	2983A43	97.21
Square End (Cont.)					
1 1/2″	1 1/4″	2″	4 1/2″	2983A24	$103.84
Ball End					
1/4″	3/8″	5/8″	2 7/16″	8909A21	25.89
1/4″	3/8″	1 3/4″	3 9/16″	8909A41	37.29
3/8″	3/8″	3/4″	2 1/2″	8909A23	27.93
3/8″	3/8″	2 1/2″	4 1/4″	8909A43	39.68
7/16″	3/8″	1″	2 11/16″	8909A24	31.98
1/2″	1/2″	1 1/4″	3 1/4″	8909A25	38.53
1/2″	1/2″	3″	5″	8909A45	55.32
5/8″	1/2″	1 3/8″	3 3/8″	8909A26	59.98
5/8″	5/8″	1 5/8″	3 3/4″	8909A28	59.98
3/4″	1/2″	1 5/8″	3 5/8″	8909A27	67.12
3/4″	3/4″	1 5/8″	3 7/8″	8909A29	59.56
7/8″	7/8″	1 7/8″	4 1/8″	8909A33	81.77
1″	1″	2″	4 1/2″	8909A31	89.34

High-Speed Steel Three-Flute End Mills for Aluminum



Three flutes provide a fine finish and a helix angle of 37° allows for greater chip removal than a 30° helix angle. All are square end and center cutting, allowing plunge cuts into a surface. Mill diameter tolerance is +0.001″, –0.000″. *Note:* The 1″ shank diameters should be secured with an end mill holder (see page 2502).

Extra-life TiCN (titanium carbonitride) coated end mills have better wear resistance than uncoated tools. Maximum working temperature is 750° F. Color is blue-gray.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Uncoated		Extra-Life TiCN Coated	
3/16″	3/8″	1/2″	2 3/8″	2716A11	$18.50	2716A51	$20.31
1/4″	3/8″	5/8″	2 7/16″	2716A13	18.50	2716A53	20.31
1/4″	3/8″	1 1/4″	3 1/16″	2716A14	21.22	2716A54	23.38
1/4″	3/8″	1 3/4″	3 9/16″	2716A15	25.00	2716A55	27.34
5/16″	3/8″	3/4″	2 1/2″	2716A17	18.50	2716A57	20.31
5/16″	3/8″	1 3/8″	3 1/8″	2716A18	21.22	2716A58	23.38
5/16″	3/8″	2″	3 3/4″	2716A19	25.00	2716A59	27.34
3/8″	3/8″	3/4″	2 1/2″	2716A22	18.50	2716A62	20.31
3/8″	3/8″	1 1/2″	3 1/4″	2716A23	21.22	2716A63	23.38
3/8″	3/8″	2 1/2″	4 1/4″	2716A24	25.00	2716A64	27.34
7/16″	1/2″	1 1/4″	3 1/4″	2716A26	26.54	2716A66	29.15
7/16″	1/2″	1 3/4″	3 3/4″	2716A27	30.41	2716A67	33.48
7/16″	1/2″	2 3/4″	4 3/4″	2716A28	$38.97	2716A68	$42.86
1/2″	1/2″	1/2″	2 1/2″	2716A29	23.83	2716A69	26.27
1/2″	1/2″	1 1/4″	3 1/4″	2716A31	25.35	2716A71	27.97
1/2″	1/2″	2″	4″	2716A32	28.79	2716A72	31.67
5/8″	5/8″	5/8″	2 3/4″	2716A34	29.96	2716A74	33.04
5/8″	5/8″	1 5/8″	3 3/4″	2716A35	31.86	2716A75	35.01
5/8″	5/8″	2″	4 1/8″	2716A36	34.22	2716A76	37.64
3/4″	3/4″	3/4″	3″	2716A39	31.58	2716A79	34.74
3/4″	3/4″	1 5/8″	3 7/8″	2716A41	33.48	2716A81	36.73
1″	1″	1″	3 1/2″	2716A46	51.45	2716A86	56.68
1″	1″	2″	4 1/2″	2716A47	54.61	2716A87	60.11
1″	1″	4″	6 1/2″	2716A49	79.07	2716A88	86.99

Double-End High-Speed Steel Two-Flute End Mills for Aluminum



When one cutting end wears out switch to the opposite end. They have a 37° helix angle for greater chip removal than a 30° helix angle. All are square end and center cutting so you can make plunge cuts into a surface. Mill diameter tolerance is +0.0000″, –0.0015″.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
1/8″	3/8″	3/8″	3 1/16″	29905A41	$18.87
3/16″	3/8″	7/16″	3 1/8″	29905A42	18.87
1/4″	3/8″	1/2″	3 1/8″	29905A43	31.40
5/16″	3/8″	9/16″	3 1/8″	29905A44	$31.40
3/8″	3/8″	9/16″	3 1/8″	29905A45	31.40
7/16″	1/2″	13/16″	3 3/4″	29905A46	36.18
1/2″	1/2″	13/16″	3 3/4″	29905A47	$49.27
9/16″	5/8″	1 1/8″	4 1/2″	29905A48	46.33
3/4″	3/4″	1 5/16″	5″	29905A52	88.28

Roughing High-Speed Steel End Mills

For some applications speed is more important than a smooth finish. Roughing end mills remove large amounts of material up to three times faster than conventional end mills. Their coarse pitch also removes large chips. Use for milling alloy steel, carbon steel, and cast iron. All are square end, noncenter cutting, and have a 30° helix angle, except three flute are center cutting and have a 35° helix angle. Mill diameter tolerance is ±0.005″.

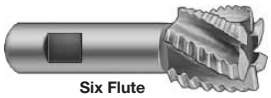

Six Flute

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
Three Flute					
1/4″	3/8″	5/8″	2 7/16″	8819A41	$25.61
5/16″	3/8″	3/4″	2 1/2″	8819A42	26.98
Four Flute					
3/16″	3/8″	1/2″	2 3/8″	8819A31	25.10
3/8″	3/8″	3/4″	2 1/2″	8819A43	30.61
3/8″	3/8″	1 1/2″	3 1/4″	8819A32	34.62
7/16″	3/8″	1″	2 11/16″	8819A33	32.87
1/2″	1/2″	1″	3″	8819A12	31.46
1/2″	1/2″	1 1/4″	3 1/4″	8819A13	37.59
1/2″	1/2″	2″	4″	8819A14	47.29
5/8″	5/8″	1 5/8″	3 3/4″	8819A16	45.19
5/8″	5/8″	2 1/2″	4 5/8″	8819A18	64.60
3/4″	5/8″	1 5/8″	3 7/8″	8819A34	57.05
Four Flute (Cont.)					
3/4″	3/4″	3/4″	3″	8819A35	$49.92
3/4″	3/4″	1 5/8″	3 7/8″	8819A21	51.20
3/4″	3/4″	3″	5 1/4″	8819A23	75.34
Five Flute					
7/8″	3/4″	1 1/8″	3 3/8″	8819A44	54.63
7/8″	3/4″	3 1/2″	5 3/4″	8819A62	82.51
1″	3/4″	1 1/8″	3 3/8″	8819A45	68.57
1″	3/4″	1 1/2″	3 3/4″	8819A36	78.86
1″	3/4″	1 7/8″	4 1/8″	8819A46	79.53
1″	3/4″	4″	6 1/4″	8819A47	107.31
1″	1″	2″	4 1/2″	8819A63	75.23
1″	1″	3″	5 1/2″	8819A65	92.33
1″	1″	4″	6 1/2″	8819A64	103.75
Six Flute					
1 1/8″	3/4″	1 1/8″	3 3/8″	8819A71	$79.60
1 1/8″	1″	2″	4 1/2″	8819A37	87.62
1 1/4″	3/4″	1 1/8″	3 3/8″	8819A72	82.77
1 1/4″	3/4″	1 1/2″	3 3/4″	8819A38	101.27
1 1/4″	3/4″	2″	4 1/2″	8819A73	99.74
1 1/4″	1 1/4″	2″	4 1/2″	8819A76	99.74
1 1/4″	1 1/4″	4″	6 1/2″	8819A78	153.93
1 1/2″	3/4″	1 1/8″	3 3/8″	8819A74	127.16
1 1/2″	3/4″	1 1/2″	3 3/4″	8819A39	141.70
1 1/2″	3/4″	2 1/4″	4 1/2″	8819A79	153.90
Eight Flute					
2″	3/4″	1 1/8″	3 3/8″	8819A75	202.98

Cobalt Steel & Carbide End Mills

For information about end mill cut styles, see page 2503.

Roughing Cobalt Steel End Mills



Four Flute Coarse Pitch

Not only do these end mills quickly remove chips, they resist heat and abrasion better than uncoated high-speed steel end mills. All are square end and noncenter cutting. Helix angle is 30°. Mill diameter tolerance is +0.003″, –0.000″ for 3/16″ to 1″ diameters and +0.006″, –0.000″ for 1 1/8″ to 2″ diameters. *Note:* The 1″ and 1 1/4″ shank diameters should be secured with an end mill holder (see page 2502).

Coarse-pitch end mills produce large chips. Use for milling low- to medium-carbon steel and alloy steel. ***Fine-pitch*** end mills last longer and produce smaller chips. Use on high-temperature alloys, stainless steel, and nickel-based alloys.

Uncoated end mills are for general milling applications.

Coated end mills last longer and can be run at higher feeds/speeds.

Long-life TiN (titanium nitride) coating has a maximum working temperature of 1100° F. Color is gold.

Extra-life TiCN (titanium carbonitride) coating has better wear resistance than TiN coated. Maximum working temperature is 750° F. Color is light gray.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	COARSE PITCH Uncoated		Long-Life TiN Coated		Extra-Life TiCN Coated		FINE PITCH Uncoated		Extra-Life TiCN Coated	
Four Flute													
3/16″	3/8″	1/2″	2 3/8″	8817A19	$28.55	88185A61	$30.03	88335A11	$31.43	28315A11	$28.55	8919A11	$34.65
1/4″	3/8″	5/8″	2 7/16″	8817A24	28.55	88185A11	30.03	88335A12	31.43	28315A12	28.55	8919A12	34.65
5/16″	3/8″	3/4″	2 1/2″	8817A25	28.55	88185A12	30.03	88335A14	31.43	28315A14	28.55	8919A13	34.65
3/8″	3/8″	3/4″	2 1/2″	8817A26	28.55	88185A13	30.03	88335A16	31.43	28315A16	28.55	8919A14	34.65
3/8″	3/8″	1 1/2″	3 1/4″	8817A11	34.05	88185A41	35.78	88335A17	37.49	28315A17	34.05	8919A15	41.35
7/16″	3/8″	1″	2 11/16″	8817A51	42.33	88185A14	44.40	88335A18	46.53	28315A18	43.00	8919A16	52.11
1/2″	1/2″	1″	3″	8817A27	36.02	88185A62	37.91	88335A61	39.72	28315A61	37.57	8919A17	45.60
1/2″	1/2″	1 1/4″	3 1/4″	8817A12	37.49	88185A15	39.30	88335A19	41.27	28315A19	37.49	8919A18	45.51
1/2″	1/2″	2″	4″	8817A52	49.88	88185A16	52.43	88335A21	54.90	28315A21	49.88	8919A19	60.53
5/8″	5/8″	1 5/8″	3 3/4″	8817A28	45.46	88185A17	47.67	88335A23	50.04	28315A23	45.46	8919A21	55.19
5/8″	5/8″	2 1/2″	4 5/8″	8817A53	58.66	88185A18	69.41	88335A24	64.58	28315A24	58.66	8919A22	71.20
3/4″	5/8″	1 5/8″	3 3/4″	8817A54	57.92	88185A23	68.54	88335A26	63.66	28315A25	65.28	8919A23	70.21
3/4″	3/4″	3/4″	3″	8817A18	54.23	88185A22	57.03	88335A25	59.57	28315A26	54.23	8919A24	65.69
3/4″	3/4″	1 5/8″	3 7/8″	8817A29	52.09	88185A19	54.73	88335A27	57.36	28315A27	52.09	8919A25	63.24
3/4″	3/4″	3″	5 1/4″	8817A55	68.27	88185A21	71.62	88335A28	75.08	28315A28	68.27	8919A26	82.79
Five Flute													
7/8″	3/4″	1 7/8″	4 1/8″	8817A31	74.74	88185A24	88.64	88335A29	82.22	28315A29	84.33	8919A27	102.29
7/8″	3/4″	3 1/2″	5 3/4″	8817A21	90.98	88185A49	107.80	88335A31	100.19			8919A28	119.40
1″	3/4″	1 1/2″	3 3/4″	8817A13	76.89	88185A28	80.64	88335A34	84.58	28315A34	83.02	8919A29	100.61
1″	3/4″	2″	4 1/4″	8817A32	82.12	88185A63	97.17	88335A62	90.32	28315A62	82.12	8919A31	112.36
1″	3/4″	4″	6 1/4″	8817A33	115.07	88185A64	120.82	88335A63	126.62	28315A63	115.07	8919A32	139.64
1″	1″	2″	4 1/2″	8817A56	78.43	88185A25	82.37	88335A35	86.30	28315A35	78.43	8919A33	95.18
1″	1″	3″	5 1/2″	8817A57	100.41	88185A26	105.42	88335A36	110.51	28315A36	100.41	8919A34	121.87
1″	1″	4″	6 1/2″	8817A58	106.34	88185A27	111.68	88335A37	116.90	28315A37	106.34	8919A35	128.93
Six Flute													
1 1/8″	1″	2″	4 1/2″	8817A59	112.23			88335A41	123.47			8919A36	153.57
1 1/4″	3/4″	1 1/2″	3 3/4″	8817A22	107.08			88335A42	117.83	28315A42	120.82	8919A37	146.57
1 1/4″	3/4″	2″	4 1/4″	8817A34	112.23	88185A65	132.93	88335A64	123.47	28315A64	126.62	8919A38	153.57
1 1/4″	1 1/4″	4″	6 1/2″			88185A31	161.70	88335A45	169.41	28315A45	153.99	8919A41	186.83
1 1/2″	3/4″	1 1/2″	3 3/4″	8817A23	141.63			88335A51	155.79			8919A42	159.45
1 1/2″	3/4″	2″	4 1/4″	8817A63	146.63	88185A66	173.66	88335A65	161.29			8919A43	200.67
Eight Flute													
2″	3/4″	1 1/8″	3 3/8″	8817A71	185.08			88335A66	203.58	28315A66	208.85	8919A44	253.26

Roughing Cobalt Steel End Mills for Aluminum



Three wide flutes, a 36° helix angle, and a coarse pitch provide maximum chip removal when milling aluminum. End mills can also be used on other soft metals such as brass and bronze. All are square end and center cutting so you can make plunge cuts into a surface. Mill diameter tolerance is +0.005″, –0.000″. *Note:* End mill with a 1″ shank diameter should be secured with an end mill holder (see page 2502).

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
1/4″	3/8″	5/8″	2 7/16″	3300A29	$30.85
3/8″	3/8″	3/4″	2 1/2″	3300A31	30.85
1/2″	1/2″	1 1/4″	3 1/4″	3300A32	36.26
1/2″	1/2″	2″	4″	3300A33	46.94
5/8″	5/8″	1 5/8″	3 3/4″	3300A34	$44.05
5/8″	5/8″	2 1/2″	4 5/8″	3300A35	55.79
3/4″	3/4″	1 5/8″	3 7/8″	3300A36	54.23
3/4″	3/4″	2″	4 1/4″	3300A37	60.89
1″	3/4″	1 1/2″	3 3/4″	3300A45	$100.82
1″	1″	3″	5 1/2″	3300A44	90.24
1 1/4″	3/4″	1 1/2″	3 3/4″	3300A49	116.24
1 1/2″	3/4″	3/4″	3″	3300A55	141.62

Carbide Chamfer End Mills



Make bevelled and angled cuts without the need for hand deburring. All are made of premium submicrograin carbide. Two flutes provide better chip clearance, while four flutes produce a finer finish. Shank diameter is equal to mill diameter. Mill diameter tolerance is +0.000″, –0.003″.

Mill Dia.	Cutting Angle	Lg. of Cut	O'all Lg.	Two Flute		Four Flute	
1/4″	60°	0.216″	2 1/2″	3073A42	$29.56	3073A62	$29.56
1/4″	82°	0.143″	2 1/2″	3073A49	29.55	3073A71	29.55
1/4″	90°	0.125″	2 1/2″	3073A46	29.56	3073A66	29.56
3/8″	60°	0.324″	2 1/2″	3073A43	37.72	3073A63	37.72
3/8″	82°	0.215″	2 1/2″	3073A51	37.72	3073A72	37.72
3/8″	90°	0.188″	2 1/2″	3073A47	$37.72	3073A67	$37.72
1/2″	60°	0.433″	3″	3073A44	63.30	3073A64	63.30
1/2″	82°	0.287″	3″	3073A52	63.31	3073A73	63.31
1/2″	90°	0.250″	3″	3073A48	63.30	3073A68	63.30

Carbide End Mill Sets



Get diameters 1/8″, 3/16″, 1/4″, 5/16″, 3/8″, and 1/2″ in a wood case. Shank diameter is equal to mill diameter. All are center cutting with a helix angle of 30°. Mill diameter tolerance is +0.000″, –0.002″. ***Square-end*** end mills allow plunge cuts into a surface. ***Ball-end*** end mills machine rounded details into a workpiece.

To Order: For coated end mills, please specify coating: long-life TiN, extra-life TiCN, or high-temperature AlTiN.

	SINGLE END Uncoated		Coated		DOUBLE END Uncoated		Coated	
Two Flute Square End	8873A11	$161.53	8873A21	$179.71	8873A15	$192.88	8873A31	$250.91
Four Flute Square End	8873A12	161.53	8873A22	179.71	8873A16	192.88	8873A32	250.91
Two Flute Ball End	8873A13	182.87	8873A23	218.14	8873A17	224.19	8873A33	288.29
Four Flute Ball End	8873A14	190.84	8873A24	218.14	8873A18	228.50	8873A34	288.29

For information about end mill cut styles, see page 2503.

Ultra Duty Carbide End Mills

Use these tools for strong, fast, and long-lasting aggressive machining on hardened steel, stainless steel, titanium, Monel, and workpieces with interrupted cuts. Premium sub-micrograin carbide provides excellent wear and fracture resistance. Sharper cutting edges improve lubricity and provide a finer finish than our other carbide end mills. Fewer flutes provide better chip clearance, while more flutes produce a finer finish. All are center cutting and have a 30° helix angle. Mill diameter tolerance is +0.000", –0.002".

Square-end end mills allow plunge cuts into a surface. ***Ball-end*** end mills machine rounded details into a workpiece.

Uncoated end mills are for general milling applications.

Coated end mills last longer and can be run at higher feeds/speeds.

Long-life TiN (titanium nitride) coating has a maximum working temperature of 840° F. Color is gold.



Four Flute Square End

Extra-life TiCN (titanium carbonitride) coating has better wear resistance than TiN coating. Maximum working temperature is 1110° F. Color is light violet.

Super-life TiAlN (titanium aluminum nitride) coating is best for high-speed, high-temperature applications. Maximum working temperature is 1560° F. Color is purple-gray.

To Order: For coated end mills, please specify coating: TiN, TiCN, or TiAlN.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	TWO FLUTE Uncoated	TWO FLUTE Coated	THREE FLUTE Uncoated	THREE FLUTE Coated	FOUR FLUTE Uncoated	FOUR FLUTE Coated
Square End									
1/64"	1/8"	3/64"	1 1/2"	8848A51 $16.77	8795A11 $19.60	8901A11 $16.77	8770A11 $19.60	8848A19 $16.77	8977A11 $19.60
1/32"	1/8"	3/32"	1 1/2"	8848A35 12.43	8795A12 15.24	8901A12 12.43	8770A12 15.25	8848A21 12.43	8977A12 15.25
3/64"	1/8"	3/16"	1 1/2"	8848A52 12.43	8795A13 15.24	8901A13 12.43	8770A13 15.25	8848A72 12.43	8977A13 15.25
1/16"	1/8"	3/16"	1 1/2"	8848A36 11.56	8795A14 14.39	8901A14 11.56	8770A14 14.39	8848A22 11.56	8977A14 14.39
5/64"	1/8"	1/4"	1 1/2"	8848A53 11.56	8795A15 14.39	8901A15 11.56	8770A15 14.39	8848A73 11.56	8977A15 14.39
3/32"	1/8"	3/8"	1 1/2"	8848A37 11.27	8795A16 14.10	8901A16 11.27	8770A16 14.10	8848A23 11.27	8977A16 14.10
7/64"	1/8"	1/2"	1 1/2"	8848A54 11.27	8795A17 14.10	8901A17 11.27	8770A17 14.10	8848A74 11.27	8977A17 14.10
1/8"	1/8"	1/2"	1 1/2"	8848A38 10.11	8795A18 12.94	8901A18 10.11	8770A18 12.94	8848A24 10.11	8977A18 12.94
1/8"	1/8"	3/4"	2"	8848A711 15.48	8795A19 18.31	8901A19 15.48	8770A19 18.31	8848A746 15.48	8977A19 18.31
1/8"	1/8"	1"	3"	8848A712 21.67	8795A21 25.72	8901A21 21.67	8770A21 25.72	8848A747 21.67	8977A21 25.72
9/64"	3/16"	1/2"	2"	8848A55 15.59	8795A22 19.07	8901A22 15.59	8770A22 19.07	8848A75 15.59	8977A22 19.07
5/32"	3/16"	9/16"	2"	8848A39 15.59	8795A23 19.07	8901A23 15.59	8770A23 19.07	8848A25 15.59	8977A23 19.07
11/64"	3/16"	9/16"	2"	8848A713 15.59	8795A24 19.07	8901A24 15.59	8770A24 19.07	8848A748 15.59	8977A24 19.07
3/16"	3/16"	5/8"	2"	8848A41 14.43	8795A25 17.91	8901A25 14.43	8770A25 17.91	8848A26 14.43	8977A25 17.91
3/16"	3/16"	1"	4"	8848A715 28.90	8795A27 34.96	8901A27 28.90	8770A27 34.96	8848A751 28.90	8977A27 34.96
3/16"	3/16"	1 1/4"	3"	8848A714 24.26	8795A26 29.18	8901A26 24.26	8770A26 29.18	8848A749 24.26	8977A26 29.18
13/64"	1/4"	5/8"	2 1/2"	8848A716 19.63	8795A28 26.29	8901A28 19.65	8770A28 26.29	8848A752 19.65	8977A28 26.29
7/32"	1/4"	5/8"	2 1/2"	8848A42 19.65	8795A29 26.29	8901A29 19.65	8770A29 26.29	8848A27 19.65	8977A29 26.29
15/64"	1/4"	3/4"	2 1/2"	8848A717 19.65	8795A31 26.29	8901A31 19.65	8770A31 26.29	8848A753 19.65	8977A31 26.29
1/4"	1/4"	3/4"	2 1/2"	8848A43 17.33	8795A32 23.98	8901A32 17.33	8770A32 23.98	8848A28 17.33	8977A32 23.98
1/4"	1/4"	1 1/8"	3"	8848A718 30.63	8795A33 37.27	8901A33 30.63	8770A33 37.27	8848A754 30.63	8977A33 37.27
1/4"	1/4"	1 1/2"	4"	8848A11 32.42	8795A34 40.80	8901A34 32.42	8770A34 40.80	8848A91 32.42	8977A34 40.80
1/4"	1/4"	1 1/2"	6"	8848A719 43.73	8795A35 54.73	8901A35 43.73	8770A35 54.73	8848A755 43.73	8977A35 54.73
17/64"	5/16"	3/4"	2 1/2"	8848A721 27.44	8795A36 35.54	8901A36 27.44	8770A36 35.54	8848A756 27.44	8977A36 35.54
9/32"	5/16"	3/4"	2 1/2"	8848A44 27.44	8795A37 35.54	8901A37 27.44	8770A37 35.54	8848A29 27.44	8977A37 35.54
19/64"	5/16"	13/16"	2 1/2"	8848A722 27.44	8795A38 35.54	8901A38 27.44	8770A38 35.54	8848A757 27.44	8977A38 35.54
5/16"	5/16"	13/16"	2 1/2"	8848A45 24.26	8795A39 32.35	8901A39 24.26	8770A39 32.35	8848A31 24.26	8977A39 32.35
5/16"	5/16"	1 1/8"	3"	8848A723 37.85	8795A41 45.94	8901A41 37.85	8770A41 45.94	8848A758 37.85	8977A41 45.94
5/16"	5/16"	1 1/2"	6"	8848A724 62.70	8795A43 77.14	8901A43 62.70	8770A43 77.14	8848A759 62.70	8977A43 77.14
5/16"	5/16"	1 5/8"	4"	8848A12 42.30	8795A42 52.71	8901A42 42.30	8770A42 52.71	8848A92 42.30	8977A42 52.71
21/64"	3/8"	13/16"	2 1/2"	8848A725 33.52	8795A44 42.18	8901A44 33.52	8770A44 42.18	8848A761 33.52	8977A44 42.18
11/32"	3/8"	13/16"	2 1/2"	8848A56 33.52	8795A45 42.18	8901A45 33.52	8770A45 42.18	8848A76 33.52	8977A45 42.18
23/64"	3/8"	1"	2 1/2"	8848A726 33.52	8795A46 42.18	8901A46 33.52	8770A46 42.18	8848A762 33.52	8977A46 42.18
3/8"	3/8"	1"	2 1/2"	8848A46 28.90	8795A47 37.57	8901A47 28.90	8770A47 37.57	8848A32 28.90	8977A47 37.57
3/8"	3/8"	1 1/8"	3"	8848A727 42.53	8795A48 51.20	8901A48 42.53	8770A48 51.20	8848A763 42.53	8977A48 51.20
3/8"	3/8"	2"	4"	8848A13 46.80	8795A49 58.07	8901A49 46.80	8770A49 58.07	8848A93 46.80	8977A49 58.07
3/8"	3/8"	3"	6"	8848A728 68.13	8795A51 85.47	8901A51 68.13	8770A51 85.47	8848A764 68.13	8977A51 85.47
25/64"	7/16"	1"	2 3/4"	8848A729 44.49	8795A52 55.76	8901A52 44.49	8770A52 55.76	8848A765 44.49	8977A52 55.76
13/32"	7/16"	1"	2 3/4"	8848A731 44.49	8795A53 55.76	8901A53 44.49	8770A53 55.76	8848A766 44.49	8977A53 55.76
7/16"	7/16"	1"	2 3/4"	8848A47 41.03	8795A55 52.31	8901A55 41.03	8770A55 52.31	8848A33 41.03	8977A55 52.31
7/16"	7/16"	2"	4"	8848A733 68.82	8795A56 83.27	8901A56 68.82	8770A56 83.27	8848A768 68.82	8977A56 83.27
7/16"	7/16"	3"	6"	8848A734 89.04	8795A57 108.98	8901A57 89.04	8770A57 108.98	8848A769 89.04	8977A57 108.98
15/32"	1/2"	1"	3"	8848A736 51.42	8795A59 62.98	8901A59 51.42	8770A59 62.98	8848A772 51.42	8977A59 62.98
1/2"	1/2"	1"	3"	8848A48 50.26	8795A62 62.44	8901A62 48.97	8770A62 62.44	8848A34 50.26	8977A62 62.44
1/2"	1/2"	2"	4"	8848A16 73.09	8795A63 89.53	8901A63 69.34	8770A63 89.53	8848A96 73.09	8977A63 89.53
1/2"	1/2"	3"	6"	8848A17 104.15	8795A64 126.69	8901A64 104.15	8770A64 126.69	8848A97 104.15	8977A64 126.69
9/16"	9/16"	1 1/4"	3 1/2"	8848A57 86.80	8795A65 104.15	8901A65 84.57	8770A65 98.81	8848A77 82.35	8977A65 104.15
5/8"	5/8"	1 1/2"	3 1/2"	8848A58 95.93	8795A67 114.81	8901A67 93.47	8770A67 114.81	8848A78 95.93	8977A67 114.81
5/8"	5/8"	2 1/2"	5"	8848A739 144.95	8795A68 174.50	8901A68 144.95	8770A68 174.50	8848A775 144.95	8977A68 174.50
3/4"	3/4"	1 1/2"	4"	8848A61 133.99	8795A72 156.23	8901A72 133.99	8770A72 156.23	8848A81 133.99	8977A72 156.23
3/4"	3/4"	2 1/2"	5"	8848A742 219.25	8795A73 253.68	8901A73 219.25	8770A73 253.68	8848A777 219.25	8977A73 253.68
1"	1"	1 1/2"	4"	8848A63 220.79	8795A76 252.77	8901A76 220.79	8770A76 252.77	8848A83 220.79	8977A76 252.77
1"	1"	2 1/2"	5"	8848A744 377.62	8795A77 422.69	8901A77 377.62	8770A77 422.69	8848A779 377.62	8977A77 422.69
Ball End									
1/32"	1/8"	3/32"	1 1/2"	8848A412 15.90	8795A79 18.71	8901A79 15.90	8770A79 18.71	8848A612 15.90	8977A79 18.71
3/64"	1/8"	3/16"	1 1/2"	8848A413 15.90	8795A81 18.71	8901A81 15.90	8770A81 18.71	8848A613 15.90	8977A81 18.71
1/16"	1/8"	3/16"	1 1/2"	8848A414 15.03	8795A82 17.87	8901A82 15.03	8770A82 17.87	8848A614 15.03	8977A82 17.87
5/64"	1/8"	1/4"	1 1/2"	8848A415 15.03	8795A69 17.87	8901A83 15.03	8770A58 17.87	8848A615 15.03	8977A54 17.87
3/32"	1/8"	3/8"	1 1/2"	8848A416 14.75	8795A84 17.56	8901A84 14.75	8770A84 17.56	8848A616 14.75	8977A84 17.56
1/8"	1/8"	1/2"	1 1/2"	8848A418 13.29	8795A85 16.13	8901A85 13.29	8770A85 16.13	8848A618 13.29	8977A85 16.13
5/32"	3/16"	9/16"	2"	8848A421 19.65	8795A71 23.12	8901A95 19.65	8770A69 23.12	8848A621 19.65	8977A58 23.12
3/16"	3/16"	5/8"	2"	8848A422 18.49	8795A86 21.95	8901A86 18.49	8770A86 21.95	8848A622 18.49	8977A86 21.95
1/4"	1/4"	3/4"	2 1/2"	8848A424 22.25	8795A87 28.90	8901A87 22.25	8770A87 28.90	8848A624 22.25	8977A87 28.90
5/16"	5/16"	13/16"	2 1/2"	8848A426 30.93	8795A88 39.01	8901A88 30.93	8770A88 39.01	8848A626 30.93	8977A88 39.01
3/8"	3/8"	1"	2 1/2"	8848A428 36.98	8795A89 45.65	8901A89 36.98	8770A89 45.65	8848A628 36.98	8977A89 45.65
1/2"	1/2"	1"	3"	8848A431 63.65	8795A92 75.84	8901A92 63.65	8770A92 75.84	8848A631 63.65	8977A92 75.84
5/8"	5/8"	1 1/2"	3 1/2"	8848A811 119.98	8795A93 138.87	8901A93 119.98	8770A93 138.87	8848A821 119.98	8977A93 138.87
3/4"	3/4"	1 1/2"	4"	8848A812 167.49	8795A94 189.73	8901A94 167.49	8770A94 189.73	8848A822 167.49	8977A94 189.73

Carbide End Mills



Four Flute

Speed up your milling operation—these micrograin carbide tools can be run two to five times faster than high-speed steel end mills. They're also harder than high-speed steel for better resistance to abrasion and high cutting temperatures. Fewer flutes provide better chip clearance, while more flutes produce a finer finish. All are square end and center cutting so you can make plunge cuts into a surface. Helix angle is 30°. Mill diameter tolerance is +0.000″, –0.002″.

Uncoated end mills are for general milling applications.

Coated end mills last longer and can be run at higher feeds/speeds.

Long-life TiN (titanium nitride) coating has a maximum working temperature of 1110° F. Color is gold.

Extra-life TiCN (titanium carbonitride) coating has better wear resistance than TiN coating. Maximum working temperature is 750° F. Color is light violet.

High-temperature AlTiN (aluminum titanium nitride) coating is best for very high feeds/speeds and high-temperature applications. Maximum working temperature is 1450° F. Color is dark gray.

To Order: For coated end mills, please specify coating: TiN, TiCN, or AlTiN.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	TWO FLUTE Uncoated		TWO FLUTE Coated		THREE FLUTE Uncoated		THREE FLUTE Coated		FOUR FLUTE Uncoated		FOUR FLUTE Coated	
1/64″	1/8″	1/32″	1 1/2″	8876A56	$23.56	8926A11	$28.20	88815A11	$23.56	8927A11	$28.20	3066A53	$25.79	8928A11	$28.76
1/32″	1/8″	5/64″	1 1/2″	8876A28	12.73	8926A12	15.22	88815A12	13.92	8927A12	15.22	3066A49	13.39	8928A12	14.92
3/64″	1/8″	7/64″	1 1/2″	8876A29	13.69	8926A13	15.56	88815A13	13.94	8927A13	15.56	3066A51	13.66	8928A13	15.26
1/16″	1/8″	3/16″	1 1/2″	8876A11	9.15	8926A14	13.82	88815A14	12.65	8927A14	13.82	3066A11	12.40	8928A14	13.82
5/64″	1/8″	3/16″	1 1/2″	8876A31	11.68	8926A15	13.99	88815A15	12.77	8927A15	13.99	3066A28	12.53	8928A15	13.99
3/32″	1/8″	9/32″	1 1/2″	8876A12	11.14	8926A16	13.33	88815A16	11.93	8927A16	13.33	3066A12	11.70	8928A16	13.07
7/64″	1/8″	3/8″	1 1/2″	8876A32	9.17	8926A17	13.33	88815A17	11.93	8927A17	13.33	3066A29	11.70	8928A17	13.07
1/8″	1/8″	1/2″	1 1/2″	8876A13	8.72	8926A18	14.17	88815A18	11.29	8927A18	12.60	3066A13	11.29	8928A18	12.60
1/8″	1/8″	3/4″	2 1/4″	8876A26	15.42	8926A19	18.43	88815A31	11.28	8927A37	13.74	3066A58	16.85	8928A19	18.79
1/8″	1/8″	1″	3″	8876A48	22.58	8926A21	27.01	88815A37	15.20	8927A53	18.78	3066A59	24.23	8928A21	27.01
9/64″	3/16″	1/2″	2″	8876A33	12.63	8926A22	18.57	88815A19	16.33	8927A19	18.21	3066A31	16.66	8928A22	18.57
5/32″	3/16″	1/2″	2″	8876A14	15.22	8926A23	18.57	88815A21	16.33	8927A21	18.21	3066A14	16.66	8928A23	18.57
11/64″	3/16″	5/8″	2″	8876A34	15.35	8926A24	18.69	88815A22	16.45	8927A22	18.69	3066A32	16.77	8928A24	18.69
3/16″	3/16″	5/8″	2″	8876A15	12.31	8926A25	17.56	88815A23	15.76	8927A23	17.56	3066A15	15.76	8928A25	17.56
3/16″	3/16″	3/4″	2 1/2″	8876A61	19.84	8926A26	23.54	88815A39	13.93	8927A54	17.59	3066A61	21.29	8928A26	24.00
3/16″	3/16″	1 1/8″	3″	8876A62	19.13	8926A27	29.90	88815A42	18.09	8927A55	22.65	3066A62	26.83	8928A27	29.90
13/64″	1/4″	5/8″	2 1/2″	8876A35	15.10	8926A28	23.39	88815A24	20.98	8927A24	23.39	3066A33	20.98	8928A28	23.39
7/32″	1/4″	5/8″	2 1/2″	8876A16	15.09	8926A29	23.39	88815A25	20.98	8927A25	23.39	3066A26	20.98	8928A29	23.39
15/64″	1/4″	3/4″	2 1/2″	8876A36	19.66	8926A31	24.01	88815A26	21.11	8927A26	24.01	3066A34	21.52	8928A31	24.01
1/4″	1/4″	3/4″	2 1/2″	8876A17	15.81	8926A32	21.46	88815A27	19.23	8927A27	21.46	3066A16	19.23	8928A32	21.46
1/4″	1/4″	1 1/8″	3″	8876A63	21.02	8926A33	30.00	88815A43	18.80	8927A56	22.59	3066A63	26.90	8928A33	30.00
1/4″	1/4″	1 1/2″	4″	8876A64	25.64	8926A34	36.03	88815A44	23.18	8927A57	27.12	3066A64	32.30	8928A34	36.03
17/64″	5/16″	3/4″	2 1/2″	8876A37	23.88	8926A35	28.58	88815A28	25.62	8927A28	28.58	3066A35	25.62	8928A35	28.58
9/32″	5/16″	3/4″	2 1/2″	8876A18	17.10	8926A36	28.58	88815A29	25.62	8927A29	28.58	3066A27	25.62	8928A36	28.58
19/64″	5/16″	13/16″	2 1/2″	8876A81	24.36	8926A37	29.16	88815A81	26.64	8927A31	29.74	3066A81	26.64	8928A37	29.74
5/16″	5/16″	13/16″	2 1/2″	8876A19	17.80	8926A38	29.46	88815A32	26.41	8927A32	29.46	3066A17	26.41	8928A38	29.46
5/16″	5/16″	1 1/8″	3″	8876A65	25.81	8926A39	38.76	88815A53	25.62	8927A58	29.79	3066A65	35.44	8928A39	39.53
5/16″	5/16″	1 5/8″	4″	8876A66	32.57	8926A41	49.20	88815A54	30.77	8927A59	36.37	3066A66	42.80	8928A41	49.21
21/64″	3/8″	1″	2 1/2″	8876A39	31.47	8926A42	37.66	88815A33	33.77	8927A33	37.66	3066A37	33.77	8928A42	37.66
11/32″	3/8″	1″	2 1/2″	8876A41	31.47	8926A43	37.66	88815A34	33.77	8927A34	37.66	3066A38	33.77	8928A43	37.66
23/64″	3/8″	1″	2 1/2″	8876A42	31.47	8926A44	37.66	88815A35	33.12	8927A35	36.93	3066A39	33.77	8928A44	37.66
3/8″	3/8″	1″	2 1/2″	8876A21	29.56	8926A45	35.35	88815A36	31.71	8927A36	35.35	3066A18	31.71	8928A45	35.35
3/8″	3/8″	1 1/8″	3″	8876A67	32.78	8926A46	46.18	88815A55	30.69	8927A61	36.24	3066A67	41.42	8928A46	47.10
3/8″	3/8″	1 3/4″	4″	8876A68	42.19	8926A47	58.71	88815A56	37.72	8927A62	45.19	3066A68	49.80	8928A47	55.55
13/32″	7/16″	1″	2 3/4″	8876A44	33.16	8926A48	52.30	88815A38	46.89	8927A38	52.30	3066A42	46.89	8928A48	53.33
27/64″	7/16″	1″	2 3/4″	8876A82	43.71	8926A49	53.33	88815A82	46.89	8927A39	52.30	3066A82	46.89	8928A49	53.33
7/16″	7/16″	1″	2 3/4″	8876A22	33.13	8926A51	52.53	88815A41	41.04	8927A41	45.76	3066A19	41.04	8928A51	45.76
7/16″	7/16″	2″	4″	8876A69	59.86	8926A52	71.61	88815A57	50.64	8927A63	57.57	3066A69	61.30	8928A52	68.35
29/64″	1/2″	1″	3″	8876A83	53.35	8926A53	64.28	88815A83	56.54	8927A42	63.05	3066A83	56.54	8928A53	63.05
15/32″	1/2″	1″	3″	8876A84	53.35	8926A54	64.28	88815A84	57.64	8927A43	64.28	3066A84	57.64	8928A54	64.28
31/64″	1/2″	1″	3″	8876A85	52.32	8926A55	63.05	88815A85	57.64	8927A44	64.28	3066A85	57.64	8928A55	64.28
1/2″	1/2″	1″	3″	8876A23	39.61	8926A56	57.91	88815A45	51.91	8927A45	57.91	3066A21	51.91	8928A56	57.91
1/2″	1/2″	2″	4″	8876A71	65.37	8926A57	78.08	88815A58	56.91	8927A64	62.77	3066A71	65.37	8928A57	78.08
1/2″	1/2″	3″	6″	8876A72	95.49	8926A58	123.45	88815A59	86.05	8927A65	95.05	3066A72	104.72	8928A58	116.78
9/16″	9/16″	1 1/8″	3 1/2″	8876A24	67.24	8926A59	97.50	88815A46	89.75	8927A46	97.50	3066A22	89.75	8928A59	97.50
5/8″	5/8″	1 1/4″	3 1/2″	8876A25	71.46	8926A61	108.48	88815A47	99.88	8927A47	108.48	3066A23	99.88	8928A61	108.48
5/8″	5/8″	2 1/4″	5″	8876A73	110.56	8926A62	146.85	88815A61	111.09	8927A66	113.03	3066A73	122.52	8928A62	146.85
5/8″	5/8″	3″	6″	8876A74	157.06	8926A63	172.94	88815A62	124.92	8927A67	133.32	3066A74	132.90	8928A63	159.25
11/16″	3/4″	1 3/8″	4″	8876A53	102.43	8926A64	171.99	88815A48	158.35	8927A48	168.68	3066A24	140.76	8928A64	168.68
3/4″	3/4″	1 1/2″	4″	8876A27	104.68	8926A65	159.84	88815A49	125.02	8927A49	159.84	3066A25	130.79	8928A65	156.77
3/4″	3/4″	2 1/4″	5″	8876A75	143.90	8926A66	196.74	88815A63	130.50	8927A68	151.44	3066A75	160.98	8928A66	196.74
3/4″	3/4″	3″	6″	8876A76	196.53	8926A67	256.32	88815A64	162.77	8927A69	191.88	3066A76	207.61	8928A67	248.79
7/8″	7/8″	1 1/2″	4″	8876A54	178.42	8926A68	239.88	88815A51	190.55	8927A51	239.88	3066A55	190.55	8928A68	228.41
1″	1″	1 1/2″	4″	8876A55	193.88	8926A69	251.09	88815A52	203.38	8927A52	243.78	3066A56	203.38	8928A69	243.78

Long-Reach Rounded-Edge Carbide End Mills for Mold Steels



Use to mill hardened steel for die and mold work. A rounded-edge cutting surface with recessed teeth won't scratch your workpiece like other end mills. Plus, they have a long neck for deep cuts. Also known as torus end mills. All are made of micrograin carbide and have four flutes. They are coated with a multilayered blend of TiN (titanium nitride) and TiAlN (titanium aluminum nitride) for extended life and use in temperatures up to 1470° F. Color is red-violet. All are center cutting. Helix angle is 30°. Mill diameter tolerance is +0.000″, –0.001″.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
3/16″	1/4″	3/16″	2 1/2″	8899A21	$28.46
1/4″	1/4″	1/4″	3″	8899A22	32.04
5/16″	5/16″	5/16″	3″	8899A23	42.43
3/8″	3/8″	3/8″	3″	8899A24	$50.56
1/2″	1/2″	1/2″	4 1/2″	8899A25	87.60
5/8″	5/8″	5/8″	5″	8899A26	157.58

For information about end mill cut styles, see page 2503.

Metric Carbide End Mills

Micrograin carbide end mills can be run two to five times faster than high-speed steel. They're also harder for better resistance to abrasion and high cutting temperatures. Fewer flutes provide better chip clearance, while more flutes produce a finer finish. All are square end and center cutting so you can make plunge cuts in a surface. Helix angle is 30°. Mill diameter tolerance is +0.000 mm, –0.051 mm.

Uncoated end mills are for general milling applications.

Coated end mills last longer and can be run at higher feeds/speeds.

Long-life TiN (titanium nitride) coating has a maximum working temperature of 840° F. Color is gold.



Four Flute

Extra-life TiCN (titanium carbonitride) coating has better wear resistance than TiN coating. Maximum working temperature is 1110° F. Color is light violet.

Super-life TiAlN (titanium aluminum nitride) coating is best for high-speed, high-temperature applications. Maximum working temperature is 1560° F. Color is purple-gray.

To Order: For coated end mills, please specify coating: TiN, TiCN, or TiAlN.

Mill Dia., mm	Shank Dia., mm	Lg. of Cut, mm	O'all Lg., mm	TWO FLUTE Uncoated		TWO FLUTE Coated		THREE FLUTE Uncoated		THREE FLUTE Coated		FOUR FLUTE Uncoated		FOUR FLUTE Coated	
1	3	3	38	8940A21	$12.13	8866A21	$14.76	8945A21	$12.68	8931A21	$14.76	29605A16	$12.13	8780A21	$14.76
1.5	3	4.5	38	8940A22	11.23	8866A22	13.85	8945A22	11.72	8931A22	13.85	29605A17	11.23	8780A22	13.85
2	3	6.3	38	8940A23	11.23	8866A23	13.85	8945A23	11.72	8931A23	13.85	29605A18	11.23	8780A23	13.85
2.5	3	9.5	38	8940A24	10.64	8866A24	13.25	8945A24	11.11	8931A24	13.25	29605A19	10.64	8780A24	13.25
3	3	12	38	8940A25	9.88	8866A25	12.50	8945A25	10.33	8931A25	12.50	29605A21	9.88	8780A25	12.50
3	3	25	75	8940A26	21.40	8866A26	25.14	8945A26	22.36	8931A26	25.14	29605A41	21.40	8780A26	25.14
4	4	14	50	8940A27	14.56	8866A27	17.76	8945A27	15.19	8931A27	17.76	29605A22	14.56	8780A27	17.76
4	4	28	75	8940A28	24.55	8866A28	29.10	8945A28	25.64	8931A28	29.10	29605A42	24.55	8780A28	29.10
5	5	16	50	8940A29	16.09	8866A29	21.18	8945A29	16.82	8931A29	21.18	29605A23	16.09	8780A29	21.18
5	5	32	75	8940A31	28.77	8866A31	34.92	8945A31	30.04	8931A31	34.92	29605A43	28.77	8780A31	34.92
6	6	19	50	8940A32	16.58	8866A32	21.67	8945A32	17.32	8931A32	21.67	29605A24	16.58	8780A32	21.67
6	6	38	75	8940A33	30.00	8866A33	36.15	8945A33	31.34	8931A33	36.15	29605A44	30.00	8780A33	36.15
7	7	20	60	8940A47	22.99	8866A19	30.49	8945A11	24.02	8931A11	30.49	29605A15	22.99	8780A19	30.49
8	8	20	63	8940A34	23.27	8866A34	31.29	8945A34	24.30	8931A34	31.29	29605A25	23.27	8780A34	31.29
8	8	40	100	8940A35	39.14	8866A35	49.58	8945A35	40.89	8931A35	49.58	29605A45	39.14	8780A35	49.58
10	10	22	70	8940A36	37.45	8866A36	47.87	8945A36	39.10	8931A36	47.87	29605A26	37.45	8780A36	47.87
10	10	50	100	8940A37	61.55	8866A37	74.92	8945A37	64.29	8931A37	74.92	29605A46	61.55	8780A37	74.92
12	12	25	74	8940A38	47.37	8866A38	58.62	8945A38	49.46	8931A38	58.62	29605A27	47.37	8780A38	58.62
12	12	76	150	8940A39	98.65	8866A39	120.64	8945A39	103.03	8931A39	120.64	29605A48	93.59	8780A39	120.64
14	14	32	89	8940A41	84.00	8866A41	100.06	8945A41	87.73	8931A41	100.06	29605A28	84.00	8780A41	100.06
16	16	38	89	8940A42	90.19	8866A42	110.78	8945A42	94.20	8931A42	110.78	29605A29	90.19	8780A42	110.78
18	18	38	100	8940A43	149.39	8866A43	169.95	8945A43	156.03	8931A43	169.95	29605A36	149.39	8780A43	169.95
20	20	38	100	8940A44	171.93	8866A44	195.60	8945A44	179.57	8931A44	195.60	29605A37	171.93	8780A44	195.60

Double-End Carbide End Mills

Two ends are better than one when it comes to tool life. These micrograin carbide tools can be run two to five times faster than high-speed steel end mills. They're also harder than high-speed steel for better resistance to abrasion and high cutting temperatures. Two flutes provide better chip clearance, while four flutes produce a finer finish. End mills with 3″ or greater overall length have a flat on the shank for better gripping power. All are center cutting and have a 30° helix angle. Mill diameter tolerance is +0.000″, –0.002″.

Square-end end mills allow plunge cuts into a surface. ***Ball-end*** end mills machine rounded details into a workpiece.

Uncoated end mills are for general milling applications.

Coated end mills last longer and can be run at higher feeds/speeds.

Long-life TiN (titanium nitride) coating has a maximum working temperature of 1110° F. Color is gold.



Four Flute Ball End

Extra-life TiCN (titanium carbonitride) coating has better wear resistance than TiN coating. Maximum working temperature is 750° F. Color is light violet.

High-temperature AlTiN (aluminum titanium nitride) coating is best for very high feeds/speeds. Maximum working temperature is 1470° F. Color is dark gray.

To Order: For coated end mills, please specify coating: TiN, TiCN, or AlTiN.

Also Available: Ball-end end mills with TiN coating. Please ask for 27375A7 and specify mill diameter, overall length, and two or four flutes.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	SQUARE END UNCOATED Two Flute	SQUARE END UNCOATED Four Flute		SQUARE END COATED Two Flute	SQUARE END COATED Four Flute		BALL END UNCOATED Two Flute	BALL END UNCOATED Four Flute	
1/32″	1/8″	1/16″	1 1/2″	8888A11	8889A18	$19.66	8888A61	8889A11	$22.98	8762A31	8766A11	$25.03
3/64″	1/8″	3/32″	1 1/2″	8888A21	8889A31	19.66	8888A62	8889A12	22.98	8762A32	8766A12	25.03
1/16″	1/8″	1/8″	1 1/2″	8888A12	8889A19	16.86	8888A63	8889A13	19.71	8762A33	8766A13	20.95
5/64″	1/8″	1/8″	1 1/2″	8888A22	8889A32	16.54	8888A64	8889A14	18.95	8762A34	8766A14	20.95
3/32″	1/8″	3/16″	1 1/2″	8888A23	8889A33	16.54	8888A65	8889A15	19.33	8762A35	8766A15	20.95
7/64″	1/8″	3/16″	1 1/2″	8888A24	8889A34	16.54	8888A66	8889A16	19.33	8762A36	8766A16	20.95
1/8″	1/8″	1/4″	1 1/2″	8888A13	8889A21	14.47	8888A67	8889A17	16.94	8762A37	8766A17	19.11
1/8″	3/8″	3/8″	3 1/16″	8888A41	8889A51	44.30	8888A68	8889A65	50.25	8762A38	8766A18	51.67
9/64″	3/16″	5/16″	2″	8888A25	8889A35	22.42	8888A69	8889A66	26.24	8762A39	8766A19	27.00
5/32″	3/16″	5/16″	2″	8888A26	8889A36	22.42	8888A71	8889A67	26.24	8762A41	8766A21	27.00
5/32″	3/8″	7/16″	3 1/4″	—	—	—	—	—	—	8762A42	8766A22	59.46
11/64″	3/16″	5/16″	2″	8888A27	8889A37	22.28	8888A73	8889A69	26.08	8762A43	8766A23	26.82
3/16″	3/16″	3/8″	2″	8888A14	8889A22	21.26	8888A74	8889A71	24.90	8762A44	8766A24	26.51
3/16″	3/8″	1/2″	3 1/4″	8888A43	8889A53	48.34	8888A75	8889A72	52.12	8762A45	8766A25	60.53
13/64″	1/4″	1/2″	2 1/2″	8888A28	8889A38	27.60	8888A76	8889A73	32.29	8762A46	8766A26	33.21
7/32″	1/4″	1/2″	2 1/2″	8888A29	8889A39	27.60	8888A77	8889A74	32.29	8762A47	8766A27	34.40
15/64″	1/4″	1/2″	2 1/2″	8888A31	8889A41	27.60	8888A79	8889A76	32.29	8762A49	8766A29	33.21
1/4″	1/4″	1/2″	2 1/2″	8888A15	8889A23	25.72	8888A81	8889A77	30.09	8762A51	8766A31	31.56
1/4″	3/8″	5/8″	3 1/2″	8888A45	8889A55	51.71	8888A82	8889A78	55.53	8762A52	8766A32	63.19
9/32″	5/16″	1/2″	2 1/2″	8888A32	8889A42	35.49	8888A83	8889A79	41.51	8762A53	8766A33	43.55
5/16″	5/16″	1/2″	2 1/2″	8888A33	8889A43	35.33	8888A85	8889A82	41.34	8762A55	8766A35	42.51
5/16″	3/8″	3/4″	3 1/2″	8888A47	8889A57	54.98	8888A86	8889A83	62.88	8762A56	8766A36	66.78
3/8″	3/8″	9/16″	2 1/2″	8888A16	8889A24	37.72	8888A88	8889A85	44.11	8762A58	8766A38	44.48
3/8″	3/8″	3/4″	3 1/2″	8888A49	8889A59	58.95	8888A89	8889A86	68.56	8762A59	8766A39	69.85
7/16″	7/16″	9/16″	2 3/4″	8888A34	8889A44	52.25	8888A91	8889A87	61.13	8762A61	8766A41	64.10
1/2″	1/2″	5/8″	3″	8888A17	8889A25	64.16	8888A93	8889A89	75.07	8762A63	8766A43	78.72
1/2″	1/2″	1″	4″	8888A52	8889A62	91.20	8888A94	8889A91	106.66	8762A64	8766A44	105.91

Tight-Tolerance Carbide End Mills



Four Flute

Made for precision machining, tools have a +0.001″, –0.000″ mill diameter tolerance. The shank diameter is equal to or slightly smaller than the mill diameter, allowing you to make deep cuts. They are premium sub-micrograin carbide. Two flutes provide better chip clearance, while four flutes produce a finer finish. All are square end and center cutting so you can make plunge cuts in a surface. Helix angle is 30°.

Uncoated end mills are for general milling applications.

Coated end mills last longer and can be run at higher feeds/speeds. *Long-life TiN (titanium nitride)* coating has a maximum working temperature of 840° F. Color is gold.

Extra-life TiCN (titanium carbonitride) coating has better wear resistance than TiN coating. Maximum working temperature is 1110° F. Color is light violet.

Super-life TiAlN (titanium aluminum nitride) coating is best for high-speed, high-temperature applications. Maximum working temperature is 1560° F. Color is purple-gray.

To Order: For coated end mills, please specify TiN, TiCN, or TiAlN.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	TWO FLUTE Uncoated		TWO FLUTE Coated		FOUR FLUTE Uncoated		FOUR FLUTE Coated	
1/32″	1/8″	3/32″	1 1/2″	28605A11	$21.93	4557A11	$24.79	28605A25	$21.93	4557A61	$24.79
3/64″	1/8″	3/16″	1 1/2″	28605A54	21.93	4557A54	24.79	28605A55	21.93	4557A62	24.79
1/16″	1/8″	3/16″	1 1/2″	28605A12	17.48	4557A12	20.34	28605A26	17.48	4557A63	20.34
3/32″	1/8″	3/8″	1 1/2″	28605A13	16.55	4557A13	19.41	28605A27	16.55	4557A64	19.41
1/8″	1/8″	1/2″	1 1/2″	28605A14	16.08	4557A14	18.92	28605A28	16.08	4557A65	18.92
5/32″	3/16″	9/16″	2″	28605A15	25.13	4557A15	28.64	28605A29	25.13	4557A66	28.64
3/16″	3/16″	5/8″	2″	28605A16	21.40	4557A16	24.91	28605A31	21.40	4557A67	24.91
1/4″	1/4″	3/4″	2 1/2″	28605A18	24.60	4557A18	31.33	28605A33	24.60	4557A68	31.33
5/16″	5/16″	13/16″	2 1/2″	28605A21	35.19	4557A21	43.39	28605A35	35.19	4557A69	43.39
3/8″	3/8″	1″	2 1/2″	28605A22	45.12	4557A22	53.90	28605A36	45.12	4557A71	53.90
1/2″	1/2″	1″	3″	28605A24	76.40	4557A24	88.73	28605A38	76.40	4557A73	88.73

Tapered Carbide End Mills



2° Taper

Also known as taper degree end mills, these premium sub-micrograin carbide tools machine angled slots in dies and molds. Three flutes provide efficient chip ejection and a smooth finish. All are center cutting, allowing plunge cuts in a surface. Mill diameter tolerance is ±0.002″.

Tip Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
0.5° Taper					
3/32″	1/8″	3/4″	2″	8946A13	$35.91
1/8″	3/16″	3/4″	2″	8946A14	36.07
1/4″	3/8″	1 1/4″	3″	8946A19	50.16
1° Taper					
1/32″	1/8″	1/2″	2″	8946A22	40.49
1/16″	1/8″	1/2″	2″	8946A24	40.89
1/16″	1/8″	3/4″	2″	8946A25	41.47
3/32″	1/8″	1/2″	2″	8946A28	36.16
1/8″	1/4″	3/4″	2 1/2″	8946A31	38.20
1/8″	1/4″	1″	3″	8946A32	40.29
3/16″	1/4″	3/4″	2 1/2″	8946A34	43.38
3/16″	1/4″	1 1/4″	3″	8946A35	44.27
1/4″	3/8″	3/4″	2 1/2″	8946A37	48.62
1/4″	3/8″	1 1/4″	3″	8946A38	52.27
1/4″	3/8″	2″	4″	8946A39	81.87
1.5° Taper					
3/16″	3/8″	1 3/4″	3 1/2″	8946A43	59.40
1/4″	3/8″	1 1/4″	3″	8946A45	52.27
2° Taper					
1/16″	3/16″	1″	3″	8946A46	57.49
3/32″	1/4″	1″	3″	8946A47	44.82
2° Taper (Cont.)					
1/8″	1/4″	3/4″	2 1/2″	8946A48	$39.04
1/8″	1/4″	1 1/4″	3″	8946A49	46.84
3/16″	3/8″	1 3/4″	3 1/2″	8946A52	56.93
1/4″	3/8″	3/4″	2 1/2″	8946A53	48.62
1/4″	3/8″	1 1/4″	3″	8946A54	52.98
1/4″	1/2″	2″	4″	8946A51	81.87
3° Taper					
3/32″	1/4″	1″	3″	8946A56	39.60
1/8″	1/4″	1″	3″	8946A59	40.58
3/16″	3/8″	1 1/4″	3″	8946A62	54.09
1/4″	3/8″	3/4″	2 1/2″	8946A63	48.04
1/4″	3/8″	1 1/4″	3″	8946A64	53.29
1/4″	1/2″	2″	4″	8946A65	81.87
5° Taper					
1/16″	1/4″	1/2″	2″	8946A67	41.47
3/32″	1/4″	3/4″	2 1/2″	8946A69	45.40
3/32″	3/8″	1″	3″	8946A71	49.51
1/8″	1/4″	3/4″	2 1/2″	8946A72	40.27
1/8″	3/8″	1″	3″	8946A73	47.42
3/16″	3/8″	3/4″	2 1/2″	8946A75	47.82
3/16″	1/2″	1 1/4″	3″	8946A76	74.53
5° Taper (Cont.)					
1/4″	1/2″	3/4″	3″	8946A77	$56.02
1/4″	1/2″	1″	3″	8946A78	65.20
1/4″	5/8″	2″	4″	8946A79	97.00
7° Taper					
3/32″	3/8″	1″	3″	8946A82	53.04
3/16″	1/2″	1 1/4″	3 1/2″	8946A84	74.53
1/4″	1/2″	3/4″	3″	8946A85	62.07
1/4″	5/8″	1 1/4″	3 1/2″	8946A98	90.09
10° Taper					
3/32″	3/8″	1/2″	2 1/2″	8946A86	41.24
1/8″	3/8″	3/4″	2 1/2″	8946A88	49.27
1/8″	1/2″	1″	3″	8946A89	74.53
3/16″	5/8″	1 1/4″	3 1/2″	8946A92	90.27
1/4″	5/8″	3/4″	3″	8946A93	79.96
20° Taper					
1/8″	1/2″	1/2″	2 1/2″	8946A87	72.84
25° Taper					
1/8″	1/2″	1/2″	2 1/2″	8946A91●	98.60
30° Taper					
1/8″	1/2″	1/2″	2 1/2″	8946A94●	150.78

● Four flutes.

Spherical Carbide End Mills



Four Flute

A 220° tip provides a greater curve than a ball-end tool with a 180° tip. Made of premium sub-micrograin carbide with a high-temperature AlTiN (aluminum titanium nitride) coating for very high feeds/speeds. Mill titanium, nickel-based alloys, cast iron, and stainless steel.

Two flutes provide better chip clearance, while four flutes produce a finer finish. All are center cutting to allow plunge cuts in a surface. Helix angle is 15°. Mill diameter tolerance is +0.000″, –0.002″. Maximum working temperature is 1450° F. Color is black.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Two Flute		Four Flute	
1/8″	1/8″	3/32″	1 1/2″	8892A11	$20.76	8892A31	$20.76
1/8″	1/8″	3/32″	3″	8892A12	22.20	8892A32	22.20
3/16″	3/16″	9/64″	2″	8892A13	25.02	8892A33	25.02
3/16″	3/16″	9/64″	3″	8892A14	27.82	8892A34	27.82
1/4″	1/4″	3/16″	2 1/2″	8892A15	36.20	8892A35	36.20
1/4″	1/4″	3/16″	4″	8892A16	39.84	8892A36	39.84
3/8″	3/8″	9/32″	2 1/2″	8892A17	51.56	8892A37	51.56
3/8″	3/8″	9/32″	4″	8892A18	57.25	8892A38	57.25
1/2″	1/2″	3/8″	3″	8892A19	76.58	8892A39	76.58
1/2″	1/2″	3/8″	6″	8892A21	110.31	8892A41	110.31

Corner-Rounding Carbide End Mills



Single End

Round off sharp corners. All are noncenter cutting and have straight flutes.

Single-end four-flute end mills are premium sub-micrograin carbide and have a radius tolerance of ±0.0005″. *Note:* Those with a mill dia. greater than 1/2″ have a carbide head brazed on a steel shank. ***Double-end three-flute*** end mills are micrograin carbide and have a radius tolerance of ±0.002″.

Corner Radius	Mill Dia.	Tip Dia.	Shank Dia.	O'all Lg.		
Single End Four Flute						
1/32″	3/16″	1/8″	3/16″	2″	8505A41	$37.05
1/16″	1/4″	1/8″	1/4″	2 1/2″	8505A42	50.33
3/32″	3/8″	3/16″	3/8″	2 1/2″	8505A43	79.19
1/8″	1/2″	1/4″	1/2″	3″	8505A44	100.92
3/16″	3/4″	3/8″	3/8″	3″	8505A46	115.48
1/4″	1″	1/2″	1/2″	3″	8505A47	140.87
Double End Three Flute						
0.020″	1/4″	0.140″	1/4″	2 1/2″	8508A33	45.73
0.025″	1/4″	0.140″	1/4″	2 1/2″	8508A34	45.73
1/32″	1/4″	0.140″	1/4″	2 1/2″	8508A35	45.73
0.039″	1/4″	0.140″	1/4″	2 1/2″	8508A37	45.73
3/64″	1/4″	0.140″	1/4″	2 1/2″	8508A38	45.73
0.050″	1/4″	0.140″	1/4″	2 1/2″	8508A39	45.73
1/16″	1/4″	0.090″	1/4″	2 1/2″	8508A43	45.73
0.075″	1/4″	0.090″	1/4″	2 1/2″	8508A45	45.73
3/32″	3/8″	0.115″	3/8″	2 1/2″	8508A47	76.24
1/8″	3/8″	0.115″	3/8″	2 1/2″	8508A49	72.43

Ball-End Carbide End Mills

These end mills cut rounded grooves up to 2½ times faster than high-speed steel end mills. Made of micrograin carbide, they're also harder than high-speed steel for better resistance to abrasion and high cutting temperatures. Two flutes provide maximum chip clearance, while three and four flutes produce a finer finish. All are center cutting. Helix angle is 30°. Mill diameter tolerance is +0.000″, –0.002″.

Uncoated end mills are for general milling applications.

Coated end mills last longer and can be run at higher feeds/speeds.

Long-life TiN (titanium nitride) coating has a maximum working temperature of 1100° F. Color is gold.



Four Flute

Extra-life TiCN (titanium carbonitride) coating has better wear resistance than TiN coating. Maximum working temperature is 750° F. Color is dark gray.

High-temperature AlTiN (aluminum titanium nitride) coating is best for very high feeds/speeds. Maximum working temperature is 1650° F. Color is black.

To Order: For coated end mills, please specify TiN, TiCN, or AlTiN.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	TWO FLUTE Uncoated		TWO FLUTE Coated		THREE FLUTE Uncoated		THREE FLUTE Coated		FOUR FLUTE Uncoated		FOUR FLUTE Coated	
1/64″	1/8″	3/64″	1 1/2″	8878A31	$20.70	8885A11	$22.52	88825A11	$21.68	8886A11	$23.02	88805A11	$21.20	8887A11	$22.50
1/32″	1/8″	3/32″	1 1/2″	8878A32	12.42	8885A12	12.03	88825A12	12.42	8886A12	13.00	88805A12	12.42	8887A12	12.03
3/64″	1/8″	1/8″	1 1/2″	8878A33	11.00	8885A13	12.12	88825A13	10.57	8886A13	12.12	88805A13	11.00	8887A13	12.12
1/16″	1/8″	3/16″	1 1/2″	8878A11	11.38	8885A14	11.50	88825A14	11.38	8886A14	12.43	88805A14	10.94	8887A14	12.43
5/64″	1/8″	3/16″	1 1/2″	8878A34	11.00	8885A15	11.55	88825A15	10.57	8886A15	12.48	88805A15	11.00	8887A15	12.48
3/32″	1/8″	3/8″	1 1/2″	8878A12	11.08	8885A16	11.30	88825A16	10.66	8886A16	11.30	88805A16	11.08	8887A16	11.30
7/64″	1/8″	3/8″	1 1/2″	8878A36	11.08	8885A17	11.30	88825A17	10.66	8886A17	11.30	88805A17	11.08	8887A17	11.30
1/8″	1/8″	1/2″	1 1/2″	8878A13	10.66	8885A18	11.78	88825A18	10.66	8886A18	11.78	88805A18	10.66	8887A18	11.78
1/8″	1/8″	3/4″	2 1/4″	8878A22	12.97	8885A19	14.07	88825A31	12.97	8886A37	14.14	88805A54	12.97	8887A19	14.07
1/8″	1/8″	1″	3″	8878A35	18.18	8885A21	19.40	88825A37	18.18	8886A53	19.98	88805A55	18.18	8887A21	19.40
9/64″	3/16″	9/16″	2″	8878A37	13.47	8885A22	16.18	88825A19	13.53	8886A19	16.32	88805A19	13.53	8887A22	16.18
5/32″	3/16″	9/16″	2″	8878A14	13.53	8885A23	16.18	88825A21	13.47	8886A21	16.18	88805A21	13.47	8887A23	16.18
11/64″	3/16″	9/16″	2″	8878A38	14.69	8885A24	16.87	88825A22	14.69	8886A22	16.75	88805A22	14.69	8887A24	16.87
3/16″	3/16″	5/8″	2″	8878A15	13.65	8885A25	15.78	88825A23	13.65	8886A23	15.78	88805A23	13.65	8887A25	15.78
3/16″	3/16″	3/4″	2 1/2″	8878A61	17.55	8885A26	19.18	88825A39	17.55	8886A54	19.18	88805A61	17.55	8887A26	19.18
3/16″	3/16″	1 1/8″	3″	8878A62	21.48	8885A27	23.89	88825A42	20.65	8886A55	23.10	88805A62	22.50	8887A27	23.89
13/64″	1/4″	5/8″	2 1/2″	8878A39	17.77	8885A28	20.42	88825A24	17.77	8886A24	20.42	88805A24	17.77	8887A28	20.42
7/32″	1/4″	5/8″	2 1/2″	8878A16	18.22	8885A29	20.61	88825A25	18.22	8886A25	20.68	88805A25	18.22	8887A29	20.61
15/64″	1/4″	3/4″	2 1/2″	8878A41	18.45	8885A31	20.84	88825A26	18.45	8886A26	20.84	88805A26	19.08	8887A31	20.84
1/4″	1/4″	3/4″	2 1/2″	8878A17	16.45	8885A32	19.55	88825A27	16.45	8886A27	19.55	88805A27	16.45	8887A32	19.55
1/4″	1/4″	1 1/8″	3″	8878A63	23.46	8885A33	26.15	88825A43	23.46	8886A56	26.15	88805A63	24.65	8887A33	26.15
1/4″	1/4″	1 1/2″	4″	8878A64	29.01	8885A34	31.40	88825A44	29.01	8886A57	32.24	88805A64	29.01	8887A34	31.40
17/64″	5/16″	3/4″	2 1/2″	8878A42	25.18	8885A35	28.61	88825A28	25.18	8886A28	28.06	88805A28	25.18	8887A35	28.61
9/32″	5/16″	3/4″	2 1/2″	8878A18	22.81	8885A36	27.59	88825A29	22.81	8886A29	27.20	88805A29	22.81	8887A36	27.59
19/64″	5/16″	13/16″	2 1/2″	8878A81	25.65	8885A37	29.03	88825A81	25.53	8886A31	28.21	88805A81	25.65	8887A37	29.03
5/16″	5/16″	13/16″	2 1/2″	8878A19	22.39	8885A38	26.57	88825A32	22.39	8886A32	26.57	88805A32	22.39	8887A38	26.57
5/16″	5/16″	1 1/8″	3″	8878A65	28.48	8885A39	33.02	88825A53	28.48	8886A58	33.02	88805A65	31.04	8887A39	33.02
5/16″	5/16″	1 5/8″	4″	8878A66	35.99	8885A41	39.69	88825A54	35.88	8886A59	39.95	88805A66	35.82	8887A41	39.50
21/64″	3/8″	7/8″	2 1/2″	8878A43	30.98	8885A42	34.31	88825A33	30.68	8886A33	34.35	88805A33	30.98	8887A42	34.31
11/32″	3/8″	7/8″	2 1/2″	8878A44	30.98	8885A43	34.31	88825A34	30.98	8886A34	34.49	88805A34	30.98	8887A43	34.31
23/64″	3/8″	7/8″	2 1/2″	8878A45	30.98	8885A44	34.31	88825A35	30.68	8886A35	34.33	88805A35	30.98	8887A44	34.31
3/8″	3/8″	1″	2 1/2″	8878A21	28.17	8885A45	31.00	88825A36	28.17	8886A36	31.00	88805A36	28.17	8887A45	31.00
3/8″	3/8″	1 1/8″	3″	8878A67	37.36	8885A46	40.83	88825A55	37.36	8886A61	40.83	88805A67	38.05	8887A46	40.83
3/8″	3/8″	1 3/4″	4″	8878A68	44.91	8885A47	48.14	88825A56	44.91	8886A62	48.38	88805A68	47.14	8887A47	48.14
13/32″	7/16″	1″	2 3/4″	8878A46	41.74	8885A48	48.43	88825A38	41.74	8886A38	48.43	88805A38	41.74	8887A48	48.43
27/64″	7/16″	1″	2 3/4″	8878A82	43.99	8885A49	49.61	88825A82	43.99	8886A39	47.33	88805A82	43.99	8887A49	49.61
7/16″	7/16″	1″	2 3/4″	8878A47	40.61	8885A51	46.12	88825A41	40.61	8886A41	46.12	88805A41	40.61	8887A51	46.12
7/16″	7/16″	2″	4″	8878A69	60.24	8885A52	66.25	88825A57	60.32	8886A63	66.36	88805A69	60.24	8887A52	66.25
29/64″	1/2″	1″	3″	8878A83	54.05	8885A53	60.24	88825A83	51.48	8886A42	57.02	88805A83	51.48	8887A53	59.67
15/32″	1/2″	1″	3″	8878A84	54.05	8885A54	60.24	88825A84	51.48	8886A43	57.38	88805A84	54.05	8887A54	60.24
31/64″	1/2″	1″	3″	8878A85	51.05	8885A55	60.25	88825A85	51.05	8886A44	56.88	88805A85	51.05	8887A55	59.15
1/2″	1/2″	1″	3″	8878A23	46.67	8885A56	58.25	88825A45	46.67	8886A45	58.25	88805A45	46.67	8887A56	58.25
1/2″	1/2″	2″	4″	8878A71	65.15	8885A57	70.98	88825A58	65.15	8886A64	70.98	88805A71	65.15	8887A57	70.98
1/2″	1/2″	3″	6″	8878A72	98.78	8885A58	104.87	88825A59	98.78	8886A65	104.89	88805A72	102.84	8887A58	104.87
9/16″	9/16″	1 1/4″	3 1/2″	8878A24	77.41	8885A59	83.24	88825A46	73.72	8886A46	83.27	88805A46	77.41	8887A59	83.24
5/8″	5/8″	1 1/4″	3 1/2″	8878A25	83.27	8885A61	91.67	88825A47	83.27	8886A47	91.67	88805A47	83.27	8887A61	91.67
11/16″	3/4″	1 3/8″	4″	8878A26	136.24	8885A64	147.40	88825A48	136.24	8886A48	147.45	88805A48	136.24	8887A64	147.45
3/4″	3/4″	1 1/2″	4″	8878A27	126.13	8885A65	136.42	88825A49	126.13	8886A49	136.42	88805A49	126.13	8887A65	136.42
3/4″	3/4″	2 1/4″	5″	8878A75	168.97	8885A66	184.96	88825A63	168.97	8886A68	184.96	88805A75	212.03	8887A66	184.96
3/4″	3/4″	3″	6″	8878A76	217.90	8885A67	228.53	88825A64	217.90	8886A69	228.53	88805A76	269.15	8887A67	228.53
7/8″	7/8″	1 1/2″	4″	8878A28	212.00	8885A68	232.68	88825A51	201.90	8886A51	233.02	88805A51	212.00	8887A68	232.68
1″	1″	1 1/2″	4″	8878A29	238.30	8885A69	257.96	88825A52	238.30	8886A52	257.96	88805A52	238.30	8887A69	257.96

Rounded-Edge Carbide End Mills

Put an end to chipped corners. Rounded edges on the tips of the flutes reduce chipping and extend tool life. Also known as corner radius end mills, they work well for mold applications. Two flutes provide better chip clearance, while four flutes produce a finer finish. All are micrograin carbide and center cutting. Helix angle is 30°. Mill diameters 3/8″ and 1/2″ have a flat on the shank for better gripping power. Mill diameter tolerance is –0.001″, –0.002″; corner radius tolerance is +0.000″, –0.002″.

Uncoated end mills are for general milling applications.

Long-life TiN (titanium nitride) coated end mills can be run at higher feeds/speeds and resist heat better than uncoated tools. Maximum working temperature is 1110° F. Color is gold.



Four Flute

To Order: Please specify corner radius from the table.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Available Corner Radii	TWO FLUTE Uncoated		TWO FLUTE Long-Life TiN Coated		FOUR FLUTE Uncoated		FOUR FLUTE Long-Life TiN Coated	
1/8″	1/8″	1/2″	1 1/2″	0.015″, 0.020″	30705A122	$15.43	2851A11	$16.96	30705A121	$15.43	2851A21	$17.29
3/16″	3/16″	5/8″	2″	0.015″, 0.020″, 0.030″	30705A124	20.27	2851A12	23.15	30705A123	20.67	2851A22	23.15
1/4″	1/4″	3/4″	2 1/2″	0.015″, 0.020″, 0.030″, 0.045″	30705A126	25.17	2851A13	28.18	30705A125	25.17	2851A23	28.18
5/16″	5/16″	13/16″	2 1/2″	0.015″, 0.020″, 0.030″, 0.045″	30705A128	33.00	2851A14	37.69	30705A127	33.65	2851A24	37.69
3/8″	3/8″	1″	2 1/2″	0.015″, 0.020″, 0.030″, 0.045″	30705A131	40.19	2851A15	45.01	30705A129	40.19	2851A25	45.01
1/2″	1/2″	1″	3″	0.015″, 0.030″, 0.045″, 0.060″	30705A133	69.76	2851A16	78.13	30705A132	71.12	2851A26	79.67

Miniature Carbide End Mills



Use where short, precise cuts are necessary. Made of premium submicrograin carbide. Shank diameter is 1/8". Overall length is 1 1/2". Two flutes provide better chip clearance, while four flutes produce a finer finish. All are center cutting and have a 30° helix angle. Mill diameter tolerance is ±0.0005".

Square-end end mills allow plunge cuts in a surface. *Short flute* length of cut is the mill diameter multiplied by 1.5. *Regular flute* length of cut is the mill diameter multiplied by 3. *Long flute* length of cut is the mill diameter multiplied by 5.

Ball-end end mills machine rounded details into a workpiece.

Uncoated end mills are for general milling applications.

Coated end mills last longer and can be run at higher feeds/speeds. *Extra-life TiCN (titanium carbonitride)* coating resists wear. Maximum working temperature is 750° F. Color is light violet.

Super-life TiAlN (titanium aluminum nitride) coating is best for high-speed, high-temperature applications. Maximum working temperature is 1560° F. Color is purple-gray.

To Order: For coated end mills, please specify coating: TiCN or TiAlN.

Square End Two Flute

Mill Dia.	SHORT FLUTE Uncoated		SHORT FLUTE Coated		REGULAR FLUTE Uncoated		REGULAR FLUTE Coated		LONG FLUTE Uncoated		LONG FLUTE Coated	
0.005"	8832A005	$46.74	8832A222	$51.51								
0.006"	8832A006	46.74	8832A225	51.51								
0.007"	8832A007	42.47	8832A228	47.09								
0.008"	8832A008	42.47	8832A232	47.09								
0.009"	8832A009	37.92	8832A235	42.42								
0.010"	8832A11	37.92	8832A238	42.82	8832A16	$40.02	8832A551	$46.32	8915A11	$49.18	8915A411	$57.30
0.011"	8832A12	33.99	8832A242	38.38	8832A17	35.61	8832A554	39.82	8915A12	44.57	8915A414	51.93
0.012"	8832A13	33.99	8832A245	38.38	8832A18	35.61	8832A557	39.82	8915A13	44.57	8915A417	51.93
0.013"	8832A14	28.13	8832A248	31.76	8832A19	29.59	8832A561	33.08	8915A14	37.53	8915A421	43.73
0.014"	8832A29	28.13	8832A252	31.76	8832A21	29.59	8832A564	33.10	8915A15	37.53	8915A424	43.73
0.015"	8832A31	23.71	8832A255	26.78	8832A56	25.04	8832A567	28.00	8915A16	31.70	8915A427	36.93
0.016"	8832A32	23.71	8832A258	26.80	8832A57	25.03	8832A571	28.05	8915A17	31.70	8915A431	36.93
0.017"	8832A33	23.71	8832A262	26.80	8832A58	25.03	8832A574	28.05	8915A18	31.70	8915A434	36.93
0.018"	8832A34	23.72	8832A265	26.82	8832A59	25.03	8832A577	28.01	8915A19	31.70	8915A437	36.93
0.020"	8832A36	21.54	8832A272	24.35	8832A62	22.64	8832A584	25.35	8915A22	29.11	8915A444	33.06
0.021"	8832A37	21.54	8832A275	24.35	8832A63	22.64	8832A587	25.35	8915A23	29.11	8915A447	33.06
0.022"	8832A38	21.55	8832A278	24.44	8832A64	22.63	8832A591	25.39	8915A24	29.11	8915A451	33.06
0.023"	8832A39	21.55	8832A282	24.44	8832A65	22.63	8832A594	25.39	8915A25	29.11	8915A454	33.06
0.024"	8832A41	21.55	8832A285	24.44	8832A66	22.63	8832A597	25.39	8915A26	29.11	8915A457	33.06
0.025"	8832A42	21.53	8832A288	24.61	8832A67	22.63	8832A611	25.55	8915A27	25.83	8915A461	33.06
0.026"	8832A43	20.31	8832A292	23.23	8832A68	21.33	8832A614	24.08	8915A28	24.25	8915A464	33.06
0.027"	8832A44	20.30	8832A295	23.55	8832A69	21.31	8832A617	24.48	8915A29	27.64	8915A467	37.66
0.028"	8832A45	20.30	8832A298	23.55	8832A71	21.31	8832A621	24.48	8915A31	27.64	8915A471	37.66
0.030"	8832A47	20.30	8832A354	23.55	8832A73	21.31	8832A627	24.48	8915A33	27.64	8915A477	36.71
0.031"	8832A48	18.94	8832A357	22.62	8832A74	19.94	8832A631	23.47	8915A34	31.26	8915A481	41.53
0.032"	8832A482	18.94	8832A361	22.62	8832A741	19.94	8832A634	23.47	8915A35	31.26	8915A484	41.53
0.037"	8832A483	18.92	8832A364	22.74	8832A746	19.94	8832A637	23.57	8915A41	31.26	8915A487	41.53
0.040"	8832A51	18.92	8832A367	22.78	8832A76	19.94	8832A641	23.62	8915A44	33.01	8915A491	43.85
0.046"	8832A518	18.91	8832A371	22.90	8832A766	19.94	8832A644	23.01	8915A51	33.01	8915A494	43.85
0.047"	8832A52	18.54	8832A374	22.45	8832A77	19.39	8832A647	23.06	8915A52	33.01	8915A497	43.85
0.050"	8832A53	18.54	8832A377	22.45	8832A78	19.39	8832A651	23.06	8915A55	33.01	8915A511	41.56
0.055"	8832A54	18.54	8832A381	22.45	8832A79	19.39	8832A654	23.06	8915A61	33.01	8915A514	41.56
0.057"	8832A543	18.54	8832A384	22.45	8832A792	19.39	8832A657	23.06	8915A63	33.01	8915A517	41.56
0.060"	8832A55	18.54	8832A387	22.45	8832A81	19.39	8832A661	23.06	8915A66	33.01	8915A521	41.56

Square End Four Flute

Mill Dia.	REGULAR FLUTE Uncoated		REGULAR FLUTE Coated	
0.010"	8916A11	$35.93	8916A111	$71.53
0.011"	8916A12	35.93	8916A114	71.53
0.012"	8916A13	35.93	8916A117	71.53
0.013"	8916A14	35.93	8916A121	71.53
0.014"	8916A15	35.93	8916A124	71.53
0.015"	8916A16	35.93	8916A127	43.20
0.016"	8916A17	35.93	8916A131	43.20
0.017"	8916A18	35.93	8916A134	43.20
0.018"	8916A19	35.93	8916A137	43.20
0.020"	8916A22	34.27	8916A144	41.23
0.021"	8916A23	$32.77	8916A147	$40.00
0.022"	8916A24	32.77	8916A151	40.00
0.023"	8916A25	32.77	8916A154	40.00
0.024"	8916A26	32.77	8916A157	40.00
0.025"	8916A27	32.77	8916A161	37.07
0.026"	8916A28	31.59	8916A164	39.27
0.027"	8916A29	31.59	8916A167	39.27
0.028"	8916A31	31.59	8916A171	39.27
0.030"	8916A33	31.59	8916A177	39.27
0.031"	8916A34	31.61	8916A181	39.27
0.032"	8916A35	$31.61	8916A184	$39.27
0.037"	8916A41	26.68	8916A187	34.10
0.040"	8916A44	26.68	8916A191	34.10
0.046"	8916A51	26.68	8916A194	34.10
0.047"	8916A52	26.66	8916A197	34.54
0.050"	8916A55	26.66	8916A211	34.54
0.055"	8916A61	26.66	8916A214	34.54
0.057"	8916A63	26.66	8916A217	34.54
0.060"	8916A66	26.66	8916A221	34.54

Ball End Two Flute—Uncoated

Mill Dia.	Short Flute Lg. of Cut		Short Flute		Regular Flute Lg. of Cut		Regular Flute	
0.010"	0.0150"	8832A306	$30.18	0.0300"	8832A335	$31.74		
0.013"	0.0195"	8832A307	30.18	0.0390"	8832A336	31.74		
0.015"	0.0225"	8832A308	30.18	0.0450"	8832A337	31.74		
0.018"	0.0270"	8832A309	29.24	0.0540"	8832A338	31.03		
0.020"	0.0300"	8832A311	30.13	0.0600"	8832A321	31.66		
0.022"	0.0330"	8832A328	28.91	0.0660"	8832A339	31.03		
0.025"	0.0375"	8832A312	28.19	0.0750"	8832A322	29.72		
0.030"	0.0450"	8832A313	$27.02	0.0900"	8832A323	$28.58		
0.031"	0.0465"	8832A314	27.02	0.0930"	8832A324	28.56		
0.032"	0.0480"	8832A329	20.11	0.0960"	8832A341	21.23		
0.037"	0.0555"	8832A331	19.61	0.1110"	8832A342	20.79		
0.040"	0.0600"	8832A315	25.11	0.1200"	8832A325	26.66		
0.047"	0.0705"	8832A316	25.11	0.1410"	8832A326	26.64		
0.055"	0.0825"	8832A317	25.11	0.1650"	8832A327	26.64		

High-Performance Carbide End Mills for Titanium



Designed with titanium in mind—three flutes and a 45° helix angle provide superior shearing and chip removal. All are micrograin carbide coated with a multilayered blend of long-life TiN (titanium nitride) and super-life TiAlN (titanium aluminum nitride) for extended life and heat resistance. Use on titanium alloys and nickel-based alloys. Max. working temp. is 1470° F. Color is red-violet. All are square end and center cutting for plunge cuts. Mill diameter tolerance is +0.000", –0.003".

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
1/8"	1/8"	3/8"	1 1/2"	8883A11	$13.99
3/16"	3/16"	5/8"	2"	8883A12	19.41
1/4"	1/4"	3/4"	2 1/2"	8883A13	23.94
5/16"	5/16"	13/16"	2 1/2"	8883A14	32.96
3/8"	3/8"	1"	2 1/2"	8883A15	39.75
1/2"	1/2"	1"	3"	8883A16	65.03
5/8"	5/8"	1 1/4"	3 1/2"	8883A17	122.35
3/4"	3/4"	1 1/2"	4"	8883A18	180.16

For information about end mill cut styles, see page 2503.

High-Performance Carbide End Mills for Mold Steels



Two Flute Ball End



Six Flute Rounded Edge

Get better results milling mold steels at high feeds/speeds. All have a high-temperature AlTiN (aluminum titanium nitride) coating for extended life, heat resistance, and dry or semidry machining. Mill diameter tolerance is +0.000″, –0.001″. Maximum working temperature is 1650° F. Color is purple-gray. Choose end mills based on the Rockwell hardness of material to be machined. *End mills for hardness up to C52* are standard carbide; *end mills for hardness up to C62* are premium sub-micrograin carbide.

Two-flute ball-end end mills provide better chip clearance for rough and finish milling of contours and complex shapes. They are center cutting and have a 15° helix angle.

Six-flute rounded-edge end mills, also known as corner radius end mills, produce a fine finish. They are square end and noncenter cutting. Helix angle is 45°. Corner radius is 0.020″.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	For Hardness Up to C52		For Hardness Up to C62	
Two Flute Ball End							
1/32″	1/4″	1/32″	2 1/2″	8942A11	$80.66		
1/16″	1/4″	1/16″	2 1/2″	8942A12	73.96	8942A42	$96.13
3/32″	1/4″	3/32″	2 1/2″	8942A13	80.66		
1/8″	1/4″	1/8″	3″	8942A14	84.91	8942A44	110.38
3/16″	1/4″	3/16″	3″	8942A15	95.64		
1/4″	1/4″	1/4″	3″	8942A16	90.38	8942A46	117.45
5/16″	5/16″	5/16″	3″			8942A47	147.62
3/8″	3/8″	3/8″	3″	8942A18	115.09	8942A48	149.53
1/2″	1/2″	1/2″	4″	8942A21	169.81	8942A51	227.26
Two Flute Ball End—Dimensions in mm							
1	6	1	64	8942A28	73.96		
2	6	2	64	8942A29	73.96	8942A59★	104.86
3	6	3	64	8942A31	$84.91	8942A61★	$133.75
4	6	4	64	8942A32	87.74		
5	6	5	64	8942A33	95.64		
6	6	6	64	8942A34	90.38	8942A64★	128.11
8	8	8	80	8942A35	104.15		
10	10	10	82	8942A36	123.21	8942A66	174.72
12	12	12	100	8942A37	150.75		
16	16	16	120	8942A38	205.35		
Six Flute Rounded Edge							
1/8″	1/4″	3/8″	3″	8942A22	106.53	8942A52	121.42
1/4″	1/4″	5/8″	3″	8942A24	113.37	8942A54	135.00
3/8″	3/8″	1″	3″			8942A56	171.98
1/2″	1/2″	1 1/8″	4″	8942A27♦	212.95	8942A57♦	261.51

★ O'all lg. is 60 mm. ♦ Corner radius is 0.030″.

High-Performance Carbide End Mills for Stainless Steel and High-Temp. Alloys



Three Flute Rounded Edge



Three Flute Ball End



Five Flute Square End

Machine stainless steel and high-temperature alloys with ease. Made of extra-fine grain carbide with a super-life AlTiN (aluminum titanium nitride) coating for extended life, heat resistance, and higher feeds/speeds in dry applications. End mills are center cutting and have a mill diameter tolerance of +0.000″, –0.002″. Maximum working temperature is 1470° F. Color is purple-gray.

Three-flute end mills provide good chip clearance and have a 35° helix angle. *Rounded-edge* end mills' corner radius is 0.008″-0.010″ for mill diameters 1/8″-3/16″, 0.015″-0.020″ for mill diameters 7/32″-7/16″, and 0.030″-0.035″ for mill diameters 1/2″-1″. *Ball-end* end mills machine rounded details into a workpiece.

Five-flute square-end end mills allow plunge cuts into a surface and produce a fine finish. Helix angle is 45°.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
Three Flute Rounded Edge					
1/8″	1/8″	1/4″	1 1/2″	8835A1	$23.33
1/8″	1/8″	1/2″	1 1/2″	8835A11	26.00
5/32″	3/16″	5/16″	2″	8835A12	27.99
3/16″	3/16″	5/16″	2″	8835A14	25.14
3/16″	3/16″	9/16″	2″	8835A15	27.99
7/32″	1/4″	3/8″	2″	8835A16	29.72
1/4″	1/4″	3/8″	2″	8835A18	27.05
1/4″	1/4″	3/4″	2 1/2″	8835A19	30.20
9/32″	5/16″	7/16″	2″	8835A2	37.52
5/16″	5/16″	7/16″	2″	8835A22	34.10
5/16″	5/16″	13/16″	2 1/2″	8835A23	37.81
3/8″	3/8″	1/2″	2″	8835A26	42.11
3/8″	3/8″	1″	2 1/2″	8835A27	46.96
7/16″	7/16″	9/16″	2 1/2″	8835A28	52.86
1/2″	1/2″	5/8″	2 1/2″	8835A3	64.95
1/2″	1/2″	1 1/4″	3″	8835A31	72.19
5/8″	5/8″	3/4″	3″	8835A32	136.57
5/8″	5/8″	1 5/8″	3 1/2″	8835A33	151.90
3/4″	3/4″	1″	3″	8835A34	176.95
1″	1″	2″	4″	8835A36	312.95
Three Flute Ball End					
1/8″	1/8″	1/4″	1 1/2″	8835A37	26.00
1/8″	1/8″	1/2″	1 1/2″	8835A38	28.85
5/32″	3/16″	5/16″	2″	8835A39	$31.24
3/16″	3/16″	5/16″	2″	8835A41	28.09
7/32″	1/4″	3/8″	2″	8835A43	33.33
1/4″	1/4″	3/8″	2″	8835A45	30.38
9/32″	5/16″	7/16″	2″	8835A47	42.00
5/16″	5/16″	7/16″	2″	8835A49	38.10
11/32″	3/8″	1/2″	2″	8835A51	51.81
3/8″	3/8″	1/2″	2″	8835A53	47.24
7/16″	7/16″	9/16″	2 1/2″	8835A55	59.14
1/2″	1/2″	5/8″	2 1/2″	8835A57	72.76
5/8″	5/8″	3/4″	3″	8835A59	166.95
1″	1″	2″	4″	8835A63	350.57
Five Flute Square End					
1/8″	1/8″	1/4″	1 1/2″	8835A64	22.86
1/8″	1/8″	1/2″	1 1/2″	8835A65	25.24
5/32″	3/16″	5/16″	2″	8835A66	27.99
3/16″	3/16″	5/16″	2″	8835A68	25.14
3/16″	3/16″	9/16″	2″	8835A69	27.99
7/32″	1/4″	3/8″	2″	8835A7	29.72
1/4″	1/4″	3/8″	2″	8835A72	27.05
1/4″	1/4″	3/4″	2 1/2″	8835A73	30.20
1/4″	1/4″	1 1/4″	4″	8835A74	52.00
9/32″	5/16″	7/16″	2″	8835A75	40.86
5/16″	5/16″	7/16″	2″	8835A77	$34.10
5/16″	5/16″	13/16″	2 1/2″	8835A78	37.81
5/16″	5/16″	1 1/4″	4″	8835A79	63.62
5/16″	5/16″	2 1/8″	4″	8835A8	92.29
11/32″	3/8″	1/2″	2″	8835A81	50.50
3/8″	3/8″	1″	2 1/2″	8835A83	46.96
3/8″	3/8″	1 1/2″	4″	8835A84	72.19
3/8″	3/8″	2 1/2″	6″	8835A85	123.81
13/32″	7/16″	1″	2 3/4″	8835A86	70.40
7/16″	7/16″	1″	2 3/4″	8835A87	58.67
7/16″	7/16″	2″	4″	8835A88	97.33
1/2″	1/2″	5/8″	2 1/2″	8835A9	64.95
1/2″	1/2″	1 1/4″	3″	8835A91	72.19
1/2″	1/2″	2″	4″	8835A92	104.19
1/2″	1/2″	3 1/8″	6″	8835A93	204.38
5/8″	5/8″	3/4″	3″	8835A94	133.33
5/8″	5/8″	1 5/8″	3 1/2″	8835A95	149.62
3/4″	3/4″	1″	3″	8835A96	171.52
3/4″	3/4″	1 5/8″	4″	8835A97	192.29
1″	1″	2″	4″	8835A98	304.10

High-Performance Diamond-Coated Carbide End Mills for Nonmetals



Square End

Designed for machining graphite and other nonmetals, diamond-coated tools are stronger, last up to 30 times longer, and can run 2-3 times faster than other carbide end mills. Made of premium sub-micrograin carbide. Four flutes provide a fine finish. All are center cutting. Helix angle is 30°. Mill diameter tolerance is +0.001″, –0.001″.

Square-end end mills allow plunge cuts. ***Ball-end*** end mills machine rounded details into a workpiece.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Square End		Ball End	
1/32″	1/8″	3/32″	1 1/2″	3725A111	$75.00	3725A113	$84.38
1/16″	1/8″	3/16″	1 1/2″	3725A121	84.38	3725A123	93.76
3/32″	1/8″	3/8″	1 1/2″	3725A131	84.38	3725A133	93.76
1/8″	1/8″	1/2″	1 1/2″	3725A141	93.76	3725A143	103.14
1/8″	1/8″	1″	3″	3725A142	121.88	3725A144	131.26
3/16″	3/16″	5/8″	2″	3725A151	103.14	3725A153	131.26
1/4″	1/4″	3/4″	2 1/2″	3725A161	$112.50	3725A163	$121.88
1/4″	1/4″	1 1/4″	3″	3725A162	168.76	3725A164	178.14
3/8″	3/8″	7/8″	2 1/2″	3725A181	168.76	3725A183	178.14
1/2″	1/2″	1″	3″	3725A211	206.26	3725A213	215.62
1/2″	1/2″	2″	4″	3725A212	262.50	3725A214	281.26

Carbide End Mills

For information about end mill cut styles, see page 2503.

High-Performance Carbide End Mills for Aluminum



Two Flute Square End

With their premium extra-fine grain carbide composition and extra-life TiCN (titanium carbonitride) coating, these end mills are engineered to mill aluminum and soft coppers. They resist wear and shock better than other carbide end mills for aluminum. Two flutes provide better chip clearance, while three flutes produce a finer finish. All are center cutting. Helix angle is 45°. Mill diameter tolerance is +0.000″, –0.002″. Maximum working temperature is 750° F. Color is purple-gray. ***Square-end*** end mills allow plunge cuts into a surface. ***Ball-end*** end mills machine rounded details into a workpiece.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
Two Flute Square End					
1/8″	1/8″	1/4″	1 1/2″	8829A11	$17.81
1/8″	1/8″	3/8″	1 1/2″	8829A12	19.62
5/32″	3/16″	5/16″	2″	8829A13	23.90
3/16″	3/16″	5/16″	2″	8829A15	24.19
3/16″	3/16″	9/16″	2″	8829A16	26.95
7/32″	1/4″	3/8″	2 1/2″	8829A17	39.56
1/4″	1/4″	3/8″	2 1/2″	8829A19	33.05
1/4″	1/4″	3/4″	2 1/2″	8829A2	36.57
1/4″	1/4″	1 1/4″	4″	8829A21	57.05
9/32″	5/16″	7/16″	2 1/2″	8829A22	42.69
5/16″	5/16″	7/16″	2 1/2″	8829A24	35.71
5/16″	5/16″	13/16″	2 1/2″	8829A25	39.62
5/16″	5/16″	1 1/4″	4″	8829A26	75.43
3/8″	3/8″	1/2″	2 1/2″	8829A3	41.71
3/8″	3/8″	1″	2 1/2″	8829A31	46.01
3/8″	3/8″	1 1/2″	4″	8829A32	87.71
13/32″	7/16″	9/16″	2 3/4″	8829A33	71.00
7/16″	7/16″	1″	2 3/4″	8829A35	71.83
1/2″	1/2″	5/8″	3″	8829A37	67.05
1/2″	1/2″	1 1/4″	3″	8829A38	74.38
Two Flute Square End (Cont.)					
1/2″	1/2″	2″	4″	8829A39	$117.24
1/2″	1/2″	3 1/8″	6″	8829A4	193.24
5/8″	5/8″	3/4″	3″	8829A41	128.10
5/8″	5/8″	2 1/2″	5″	8829A42	210.19
3/4″	3/4″	1″	3″	8829A43	177.24
3/4″	3/4″	2 1/4″	5″	8829A44	255.62
Two Flute Ball End					
1/4″	1/4″	3/8″	2 1/2″	8829A47	36.28
1/4″	1/4″	3/4″	2 1/2″	8829A48	40.37
5/16″	5/16″	7/16″	2 1/2″	8829A49	42.97
3/8″	3/8″	1/2″	2 1/2″	8829A51	46.01
1/2″	1/2″	5/8″	3″	8829A55	74.10
Three Flute Square End					
1/8″	1/8″	1/4″	1 1/2″	8829A62	17.81
1/8″	1/8″	3/8″	1 1/2″	8829A63	19.62
5/32″	3/16″	5/16″	2″	8829A64	24.19
3/16″	3/16″	5/16″	2″	8829A66	24.19
3/16″	3/16″	9/16″	2″	8829A67	35.24
7/32″	1/4″	3/8″	2 1/2″	8829A68	36.02
1/4″	1/4″	3/8″	2 1/2″	8829A7	33.05
Three Flute Square End (Cont.)					
1/4″	1/4″	3/4″	2 1/2″	8829A71	$36.57
1/4″	1/4″	1 1/4″	4″	8829A72	57.05
9/32″	5/16″	7/16″	2 1/2″	8829A73	42.69
5/16″	5/16″	7/16″	2 1/2″	8829A75	39.14
5/16″	5/16″	13/16″	2 1/2″	8829A76	43.51
5/16″	5/16″	1 1/4″	3 1/2″	8829A77	71.14
5/16″	5/16″	2 1/4″	4″	8829A78	92.29
3/8″	3/8″	1/2″	2 1/2″	8829A81	48.57
3/8″	3/8″	1″	2 1/2″	8829A82	53.90
3/8″	3/8″	1 1/2″	4″	8829A83	82.48
13/32″	7/16″	9/16″	2 3/4″	8829A84	65.31
7/16″	7/16″	1″	2 3/4″	8829A86	66.67
1/2″	1/2″	5/8″	3″	8829A88	74.10
1/2″	1/2″	1 1/4″	3″	8829A89	82.48
1/2″	1/2″	2″	4″	8829A9	117.24
1/2″	1/2″	3 1/8″	6″	8829A91	204.38
5/8″	5/8″	3/4″	3″	8829A92	138.95
5/8″	5/8″	1 5/8″	3 1/2″	8829A93	180.10
3/4″	3/4″	1″	3″	8829A94	192.48
3/4″	3/4″	1 5/8″	4″	8829A95	212.00

Carbide End Mills for Aluminum



Four Flute

These micrograin carbide end mills machine smooth cuts in aluminum as well as other nonferrous metals and nonmetallic material. They can also be run at higher feeds/speeds than other carbide end mills. Two flutes provide better chip clearance, while four flutes produce a finer finish. All are square end and center cutting, allowing plunge cuts into a surface. Helix angle is 30°. Mill diameter tolerance is +0.000″, –0.002″.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	*Two Flute*		*Four Flute*	
1/8″	1/8″	7/16″	1 1/2″	26865A31	$12.26	26865A51	$12.26
3/16″	3/16″	9/16″	2″	26865A32	17.35	26865A52	17.35
1/4″	1/4″	3/4″	2 1/2″	26865A33	22.25	26865A53	22.25
5/16″	5/16″	13/16″	2 1/2″	26865A34	25.54	26865A54	25.54
3/8″	3/8″	7/8″	2 1/2″	26865A35	30.80	26865A55	30.80
7/16″	7/16″	1″	2 3/4″	26865A36	$46.64	26865A56	$46.64
1/2″	1/2″	1″	3″	26865A37	55.26	26865A57	54.19
9/16″	9/16″	1 1/8″	3 1/2″	26865A38	91.87	26865A58	91.87
5/8″	5/8″	1 1/4″	3 1/2″	26865A39	104.80	26865A59	102.78
3/4″	3/4″	1 1/2″	4″	26865A41	154.76	26865A61	151.78

Reduced-Vibration Carbide End Mills



Square End with Chamfer Corner

Unequal spacing between the flutes reduces vibration for smooth, silent machining. Also known as variable-helix end mills, these tools remove large amounts of material and leave a fine finish at high feeds/speeds. All have four flutes and are center cutting. Mill diameter tolerance is +0.000″, –0.002″.

Square-end end mills allow plunge cuts in a surface. They have a super-life TiAlN (titanium aluminum nitride) coating. Maximum working temperature is 1500° F. Color is purple-gray.

Square-end with chamfer corner end mills have a 45° corner chamfer for improved cutting edge strength in roughing cuts. Chamfer width is 0.020″. All have a super-life TiAlN (titanium aluminum nitride) coating. Maximum working temperature is 1500° F. Color is purple-gray.

Ball-end end mills machine rounded details into a workpiece. They have a high-temperature AlTiN (aluminum titanium nitride) coating. Maximum working temperature is 1470° F. Color is blue-gray.

Mill Dia.	Shank Dia.	*Square End* Lg. of Cut	*Square End* O'all Lg.			*Square End with Chamfer Corner* Lg. of Cut	*Square End with Chamfer Corner* O'all Lg.			*Ball End* Lg. of Cut	*Ball End* O'all Lg.		
1/4″	1/4″	3/4″	2 1/2″	8745A11	$36.10	3/4″	2 1/2″	8745A31	$36.10	3/4″	2 1/2″	8745A51	$37.01
5/16″	5/16″	3/4″	2 1/2″	8745A12	47.31	3/4″	2 1/2″	8745A32	47.31	13/16″	2 1/2″	8745A52	49.74
3/8″	3/8″	7/8″	2 1/2″	8745A13	56.75	7/8″	2 1/2″	8745A33	56.75	7/8″	2 1/2″	8745A53	58.57
1/2″	1/2″	5/8″	2 1/2″	8745A14	78.69	5/8″	2 1/2″	8745A34	78.69	1″	6″	8745A55	155.04
1/2″	1/2″	5/8″	6″	8745A15	167.08	5/8″	6″	8745A35	167.08	1 1/4″	3″	8745A54	99.91
5/8″	5/8″	3/4″	3″	8745A16	150.78	3/4″	3″	8745A36	168.22	1 1/4″	3 1/2″	8745A56	159.07
5/8″	5/8″	3/4″	6″	8745A17	214.00	3/4″	6″	8745A37	218.38	1 1/4″	6″	8745A57	294.21
3/4″	3/4″	7/8″	3 1/2″	8745A18	227.12	7/8″	3 1/2″	8745A38	227.12	1 1/2″	4″	8745A58	228.11
3/4″	3/4″	1″	6″	8745A19	299.50	1″	6″	8745A39	278.09	1 1/2″	6″	8745A59	398.74
1″	1″	1 1/8″	6″	8745A22	376.60	1 1/8″	6″	8745A42	410.84	1 1/2″	6″	8745A62	601.03
1″	1″	1 1/2″	4″	8745A21	362.04	1 1/2″	4″	8745A41	362.04	2″	5″	8745A63	389.46

Reduced-Vibration Carbide End Mills for Stainless Steel and High-Temp. Alloys



Finishing

A variable helix angle of 36°-38° reduces vibration for smooth machining. All are solid carbide coated with a multilayered blend of long-life TiN (titanium nitride) and super-life TiAlN (titanium aluminum nitride) for extended life and heat resistance. Mill diameter tolerance is +0.000″, –0.002″. Maximum working temperature is 1650° F. They are square end and center cutting, allowing plunge cuts into a surface.

Roughing end mills remove large amounts of material at high speeds. ***Finishing*** end mills produce a fine finish.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	*Roughing*		*Finishing*	
3/16″	3/16″	5/8″	2″	_____	____	8207A21	$24.43
1/4″	1/4″	3/4″	2 1/2″	8207A41	$53.89	8207A22	29.82
5/16″	5/16″	13/16″	2 1/2″	8207A42	61.26	8207A23	41.02
3/8″	3/8″	1″	2 1/2″	8207A43	70.28	8207A24	49.30
1/2″	1/2″	1 1/4″	3 1/2″	8207A44	96.13	8207A25	80.68
5/8″	5/8″	1 1/4″	3 1/2″	8207A45	137.21	8207A26	151.23

For information about end mill cut styles, see page 2503.

Diamondlike-Coated Carbide End Mills for Nonmetals



Four Flute Square End

The diamondlike carbon coating is very hard and highly abrasion resistant. Tools are premium sub-micrograin carbide for roughing and finishing cuts in composites, green ceramics, carbon fiber, PVC, acrylic, ABS, nylon, PTFE, and fiberglass. Two flutes provide chip clearance, while four flutes produce a finer finish. All are center cutting and have a 33° helix angle. Mill diameter tolerance is ±0.0005″.

Square-end end mills allow plunge cuts into a surface. ***Ball-end*** end mills machine rounded details into a workpiece.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	TWO FLUTE Square End		TWO FLUTE Ball End		FOUR FLUTE Square End		FOUR FLUTE Ball End	
1/32″	1/8″	1/16″	2″	4083A61	$49.85	4083A81	$54.84	4119A51	$49.85	4119A71	$54.84
1/32″	1/8″	1/4″	2″	4083A62	61.48	4083A82	66.47	4119A52	61.48	4119A72	66.47
1/16″	1/8″	5/16″	1 1/2″	4083A11	37.28	4083A31	37.28	4119A11	37.28	4119A31	37.28
1/16″	1/8″	1/2″	2″	4083A63	63.13	4083A83	68.14	4119A53	63.13	4119A73	68.14
5/64″	1/8″	25/64″	1 1/2″	4083A12	37.28	4083A32	37.28	4119A12	37.28	4119A32	37.28
3/32″	1/8″	15/32″	1 1/2″	4083A13	37.28	4083A33	37.28	4119A13	37.28	4119A33	37.28
7/64″	1/8″	35/64″	1 1/2″	4083A14	37.28	4083A34	37.28	4119A14	37.28	4119A34	37.28
1/8″	1/8″	5/8″	1 1/2″	4083A15	37.28	4083A35	37.28	4119A15	37.28	4119A35	37.28
1/8″	1/8″	1″	4″	4083A64	70.62	4083A84	75.60	4119A54	70.62	4119A74	75.60
5/32″	3/16″	3/4″	2″	4083A17	48.25	4083A37	48.25	4119A17	48.25	4119A37	48.25
3/16″	3/16″	3/4″	2″	4083A19	48.25	4083A39	48.25	4119A19	48.25	4119A39	48.25
3/16″	3/16″	1 3/8″	4″	4083A65	74.78	4083A85	79.75	4119A55	74.78	4119A75	79.75
7/32″	1/4″	1″	2 1/2″	4083A21	55.77	4083A41	55.77	4119A21	55.77	4119A41	55.77
1/4″	1/4″	1″	2 1/2″	4083A22	55.77	4083A42	55.77	4119A22	55.77	4119A42	55.77
1/4″	1/4″	1 1/2″	6″	4083A66	103.85	4083A86	108.83	4119A56	103.85	4119A76	108.83
5/16″	5/16″	1″	2 1/2″	4083A23	70.47	4083A43	70.47	4119A23	70.47	4119A43	70.47
3/8″	3/8″	1″	2 1/2″	4083A24	105.04	4083A44	105.04	4119A24	105.04	4119A44	105.04
3/8″	3/8″	2″	6″	4083A67	191.08	4083A87	199.39	4119A57	191.08	4119A77	199.39
1/2″	1/2″	1 1/4″	3″	4083A25	138.73	4083A45	138.73	4119A25	138.73	4119A45	138.73
1/2″	1/2″	2″	6″	4083A68	245.91	4083A88	255.05	4119A58	245.91	4119A78	255.05

Miniature Diamondlike-Coated Carbide End Mills for Nonmetals



Square End

Small mill diameters cut fine details in hard-to-reach spots. Their diamondlike carbon coating is very hard and highly abrasion resistant for use on graphite and other nonmetals. They are made of premium sub-micrograin carbide and have three flutes, except 3/16″ and 1/4″ mill diameters have four flutes, for a fine finish. All are center cutting and have a 35° helix angle. Mill diameter tolerance is +0.000″, –0.001″, except 1/8″ to 1/4″ mill diameters are +0.000″, –0.002″.

Square-end end mills allow plunge cuts into a surface. ***Ball-end*** end mills machine rounded details into a workpiece.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Square End		Ball End	
1/64″	1/8″	5/64″	2 1/2″	8880A21	$49.88	8880A34	$39.46
1/32″	1/8″	1/16″	2 1/2″	8880A22	35.90	8880A35	45.96
1/32″	1/8″	5/32″	2 1/2″	8880A23	49.14	8880A36	37.84
3/64″	1/8″	1/4″	2 1/2″	8880A24	51.82	8880A37	34.62
1/16″	1/8″	1/8″	2 1/2″	8880A25	45.20	8880A38	45.20
1/16″	1/8″	1/2″	2 1/2″	8880A26	43.42	8880A39	33.16
5/64″	1/8″	1/2″	2 1/2″	8880A27	45.92	8880A41	35.50
3/32″	1/8″	3/16″	2 1/2″	8880A28	48.84	8880A42	48.84
3/32″	1/8″	3/4″	2 1/2″	8880A29	47.20	8880A43	35.88
1/8″	1/8″	1″	3″	8880A31	45.24	8880A44	65.22
3/16″	3/16″	1 1/8″	3″	8880A32	68.68	8880A45	81.80
1/4″	1/4″	1 1/2″	4″	8880A33	90.74	8880A46	89.10

Smooth-Finish Fast-Spiral Carbide End Mills



A high 60° helix angle increases the cutting force while three flutes produce a smooth finish on stainless steel, titanium, and Inconel. All are made of micrograin carbide. They are square end and center cutting, allowing plunge cuts into a surface. Mill diameter tolerance is +0.000″, –0.0015″, except 1/8″ is +0.000″, –0.001″.

Long-life TiN (titanium nitride) coated tools last longer than uncoated tools and can be run at higher feeds/speeds. Maximum working temperature is 930° F. Color is gold.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Uncoated		Long-Life TiN Coated	
1/8″	1/8″	1/2″	1 1/2″	29335A31	$12.61	29335A51	$15.33
3/16″	3/16″	5/8″	2″	29335A33	17.86	29335A53	21.31
1/4″	1/4″	3/4″	2 1/2″	29335A35	22.26	29335A55	29.33
5/16″	5/16″	13/16″	2 1/2″	29335A37	26.69	29335A57	37.24
3/8″	3/8″	1″	2 1/2″	29335A38	35.87	29335A58	46.44
1/2″	1/2″	1″	3″	29335A41	57.87	29335A61	71.31
5/8″	5/8″	1 1/4″	3 1/2″	29335A43	95.03	29335A63	114.52
3/4″	3/4″	1 1/2″	4″	29335A44	139.36	29335A64	162.39

Finishing Carbide End Mills



You won't believe the smoothness of a five-flute finish. End mills also excel at cutting tough-to-machine materials such as stainless steel, titanium, and titanium alloys. Made of premium sub-micrograin carbide, they are square end and center cutting, allowing plunge cuts into a surface. Helix angle is 45°. Mill diameter tolerance is +0.000″, –0.002″.

Uncoated end mills are for general milling applications.

Coated end mills last longer and can be run at higher feeds/speeds.

Extra-life TiCN (titanium carbonitride) coating resists wear. Maximum working temperature is 750° F. Color is light gray.

High-temperature AlTiN (aluminum titanium nitride) coating is best for very high feeds/speeds. Maximum working temperature is 1650° F. Color is blue-gray.

To Order: For coated end mills, specify coating: TiCN or AlTiN.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Uncoated		TiCN or AlTiN Coated	
3/16″	3/16″	5/16″	2″	8992A11	$17.34	8993A11	$20.41
3/16″	3/16″	9/16″	2″	8992A12	17.34	8993A12	20.41
1/4″	1/4″	3/8″	2″	8992A13	19.36	8993A13	23.69
1/4″	1/4″	3/4″	2 1/2″	8992A14	20.91	8993A14	27.17
1/4″	1/4″	1 1/4″	4″	8992A15	37.78	8993A15	44.52
5/16″	5/16″	13/16″	2 1/2″	8992A17	29.33	8993A17	37.67
3/8″	3/8″	1/2″	2″	8992A19	32.70	8993A19	39.46
3/8″	3/8″	7/8″	2 1/2″	8992A21	36.53	8993A21	44.88
3/8″	3/8″	1 1/2″	3 1/2″	8992A22	54.57	8993A22	64.92
7/16″	7/16″	1″	2 3/4″	8992A24	44.59	8993A24	54.62
1/2″	1/2″	1 1/4″	3″	8992A27	58.51	8993A27	68.52
1/2″	1/2″	2″	4″	8992A28	79.87	8993A28	92.38
5/8″	5/8″	1 5/8″	3 1/2″	8992A31	112.83	8993A31	128.43
3/4″	3/4″	1 5/8″	4″	8992A34	165.44	8993A34	183.30

Light-Finish Carbide Bur End Mills



Fine



Coarse

Multiple intersecting flutes make these the choice for light stock removal. They can also be used for finishing on heat-treated die steels, stainless steel, and graphite. All are made of micrograin carbide. They are square end and center cutting, allowing plunge cuts into a surface. Mill diameter tolerance is +0.000″, –0.003″ for 1/8″ through 1/4″ mill diameters and +0.000″, –0.004″ for all others.

Coarse end mills remove material faster than fine end mills, but leave a rougher finish.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	Fine		Coarse	
1/8″	1/8″	1/2″	1 1/2″	28685A41	$12.10	28685A61	$12.10
5/32″	3/16″	9/16″	2″	28685A42	16.95	28685A62	16.95
3/16″	3/16″	5/8″	2″	28685A43	16.95	28685A63	16.95
1/4″	1/4″	3/4″	2 1/2″	28685A44	22.07	28685A64	22.07
5/16″	5/16″	13/16″	2 1/2″	28685A45	25.40	28685A65	25.40
3/8″	3/8″	1″	2 1/2″	28685A46	32.12	28685A66	32.12
1/2″	1/2″	1″	3″	28685A48	56.47	28685A68	56.47

Roughing Carbide End Mills



Remove large amounts of material at high speeds on medium- to high-tensile steels, stainless steels, and high-temp. alloys. All are premium sub-micrograin carbide and have four flutes. They are square end and center cutting for plunge cuts. Helix angle is 30°. Mill diameter tolerance is +0.0000″, –0.0035″.

Long-life TiN (titanium nitride) coated end mills are good for basic milling jobs. Maximum working temperature is 840° F. Color is gold.

Super-life TiAlN (titanium aluminum nitride) coated end mills are best for high-speed, high-temperature applications. Maximum working temperature is 1560° F. Color is purple-gray.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	*Long-Life TiN Coated*		*Super-Life TiAlN Coated*	
1/4″	1/4″	3/8″	2″	87825A11	$36.94	87825A61	$36.94
1/4″	1/4″	3/4″	2 1/2″	87825A31	41.87	87825A62	41.87
5/16″	5/16″	7/16″	2 1/2″	87825A12	48.58	87825A63	48.58
5/16″	5/16″	13/16″	2 1/2″	87825A32	55.46	87825A64	55.46
3/8″	3/8″	1/2″	2 1/2″	87825A13	57.38	87825A65	57.38
3/8″	3/8″	1″	2 1/2″	87825A33	63.66	87825A66	63.66
1/2″	1/2″	5/8″	2 1/2″	87825A14	94.75	87825A67	94.75
1/2″	1/2″	1″	3″	87825A34	112.84	87825A68	112.84
1/2″	1/2″	2″	4″	87825A15	172.79	87825A69	172.79
5/8″	5/8″	1 1/2″	3 1/2″	87825A35	191.22	87825A72	191.22
3/4″	3/4″	7/8″	4″	87825A18	210.52	87825A74	210.52
3/4″	3/4″	1 1/2″	4″	87825A36	258.91	87825A75	258.91

Roughing Carbide End Mills for Aluminum



Specially designed for aluminum, these incorporate a staggered pitch angle the full length of the cutting edge for complete chip removal. All are solid carbide and have three flutes. They are square end and center cutting for plunge cuts. Helix angle is 30°. Mill diameter tolerance is +0.000″, –0.002″.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
1/4″	1/4″	3/4″	2 1/2″	3469A11	$43.12
5/16″	5/16″	3/4″	2 1/2″	3469A12	49.01
3/8″	3/8″	7/8″	2 1/2″	3469A13	56.23
1/2″	1/2″	1″	3″	3469A14	76.91
5/8″	5/8″	1 1/4″	3 1/2″	3469A15	109.76

Reduced-Vibration Roughing Carbide End Mills



Four flutes with variable helix angle of 30° to 32° remove large amounts of material and reduce vibration for smooth machining. All are made of solid carbide and are coated with a multilayered blend of long-life TiN (titanium nitride) and super-life TiAlN (titanium aluminum nitride) for extended life and heat resistance. Max. working temp. is 1470° F. All are square end and center cutting, allowing for plunge cuts into a surface. Mill diameter tolerance is +0.000″, –0.002″.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
1/4″	1/4″	3/4″	2 1/2″	8581A31	$53.89
5/16″	5/16″	13/16″	2 1/2″	8581A32	61.26
3/8″	3/8″	1″	2 1/2″	8581A33	70.28
1/2″	1/2″	1 1/4″	3 1/2″	8581A34	96.13
5/8″	5/8″	1 1/4″	3 1/2″	8581A35	137.21

Square Tool Bit Flat-Surface Cutters



Also known as fly tool cutters, these are used with grind-your-own tool blanks (sold separately on page 2532) for machining flat surfaces. Compared to standard end mills, they make wider cuts, produce less vibration, cut thin materials easily, and can be run at faster speeds. Made of hardened steel.

Head Dia.	Shank Dia.	For Square Tool Bit Size		
Cutters				
3/4″	1/2″	3/16″	3041A17	$11.92
1 1/8″	1/2″	1/4″	3041A18	13.44
1 3/8″	1/2″	5/16″	3041A19	15.35
1 3/8″	3/4″	5/16″	3041A14	23.74
2″	3/4″	5/16″	3041A15	25.46
2 1/2″	3/4″	5/16″	3041A16	29.20
2 1/2″	R8	5/16″	3041A22	48.08
Three-Piece Cutter Sets — Come in a wood stand				
One of each 1/2″ shank dia. cutter above			3041A13	39.96
One of each 3/4″ shank dia. cutter above			3041A11	78.42

Straight-Flute Carbide End Mills



Make light cuts on cast iron and other very hard, abrasive materials, as well as on thin sheeting where spiral flutes would lift the material. All are premium sub-micrograin carbide and have two flutes. They are center cutting for plunge cuts. Mill diameter tolerance is +0.000″, –0.002″.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
1/16″	1/8″	3/16″	1 1/2″	8881A11	$12.89
3/32″	1/8″	9/32″	1 1/2″	8881A12	12.89
1/8″	1/8″	1/2″	1 1/2″	8881A13	12.51
5/32″	3/16″	1/2″	2″	8881A14	18.17
3/16″	3/16″	5/8″	2″	8881A15	17.31
7/32″	1/4″	5/8″	2 1/2″	8881A16	23.74
1/4″	1/4″	3/4″	2 1/2″	8881A17	22.31
5/16″	5/16″	13/16″	2 1/2″	8881A19	29.83
3/8″	3/8″	1″	2 1/2″	8881A21	35.98
7/16″	7/16″	1″	2 3/4″	8881A22	51.78
1/2″	1/2″	1″	3″	8881A23	61.44

Straight-Flute Carbide-Tipped End Mills



Four straight flutes tipped with premium sub-micrograin carbide produce fine finishes on very hard, abrasive materials such as cast iron, ductile iron, malleable iron, and nonferrous metals. Tool body is made of high-speed steel. All are square end and noncenter cutting. Mill diameter tolerance is +0.005″, –0.000″.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.		
1/4″	3/8″	1/2″	2 1/2″	3053A11	$36.67
5/16″	3/8″	5/8″	2 1/2″	3053A12	39.13
3/8″	3/8″	5/8″	2 1/2″	3053A13	41.23
7/16″	3/8″	1″	2 11/16″	3053A14	41.23
1/2″	1/2″	1″	3 1/4″	3053A15	43.86
9/16″	1/2″	1″	3 3/8″	3053A16	49.21
5/8″	1/2″	1″	3 3/8″	3053A17	51.58
3/4″	5/8″	1″	3 5/8″	3053A19	56.75
7/8″	5/8″	1 1/4″	4″	3053A22	67.11
1″	7/8″	1 1/4″	4″	3053A24	77.46
1 1/8″	1″	1 1/4″	4 1/4″	3053A26	87.81
1 1/4″	1″	1 1/4″	4 1/4″	3053A28	95.09

Carbide Drill/Mills



Four Flute

A pointed tip on these tools makes them capable of drilling, slotting, spotting, and other milling operations. Two flutes provide better chip clearance, while four flutes produce a finer finish. All are made of premium sub-micrograin carbide and have a 90° point angle and a 30° helix angle. Mill diameter tolerance is +0.000″, –0.003″.

Coated end mills last longer and can be run at higher feeds/speeds. *Long-life TiN (titanium nitride)* coating has a maximum working temperature of 1110° F. Color is gold. *High-temperature AlTiN (aluminum titanium nitride)* coating is best for very high feeds/speeds. Maximum working temperature is 1450° F. Color is purple-gray.

To Order: For coated end mills, please specify TiN or AlTiN.

Three-piece set includes an uncoated two-flute drill/mill in 1/4″, 3/8″, and 1/2″ mill diameters. Comes in a plastic case.

Mill Dia.	Shank Dia.	Lg. of Cut	O'all Lg.	*Uncoated*		*TiN or AlTiN Coated*	
Two Flute							
1/16″	1/8″	3/16″	1 1/2″	2770A52	$11.82	3723A71	$14.33
3/32″	1/8″	3/8″	1 1/2″	2770A54	11.24	3723A72	13.63
1/8″	1/8″	1/2″	1 1/2″	2770A61	12.11	3723A73	17.84
3/16″	3/16″	5/8″	2″	2770A63	16.65	3723A74	24.06
1/4″	1/4″	3/4″	2 1/2″	2770A65	19.92	3723A75	31.34
5/16″	5/16″	13/16″	2 1/2″	2770A67	27.93	3723A76	42.61
3/8″	3/8″	1″	2 1/2″	2770A69	34.88	3723A77	51.69
1/2″	1/2″	1″	3″	2770A72	54.60	3723A78	78.80
5/8″	5/8″	1 1/2″	3 1/2″	2770A74	105.99	3723A79	148.32
3/4″	3/4″	1 1/2″	4″	2770A76	154.15	3723A81	210.47
Four Flute							
1/16″	1/8″	3/16″	1 1/2″	8747A22	11.66	8905A61	15.69
3/32″	1/8″	3/8″	1 1/2″	8747A24	11.40	8905A62	15.33
1/8″	1/8″	1/2″	1 1/2″	8747A11	12.10	8905A63	17.84
3/16″	3/16″	5/8″	2″	8747A12	16.64	8905A64	24.06
1/4″	1/4″	3/4″	2 1/2″	8747A13	19.91	8905A65	31.34
5/16″	5/16″	13/16″	2 1/2″	8747A14	27.91	8905A66	42.61
3/8″	3/8″	1″	2 1/2″	8747A15	34.87	8905A67	51.69
1/2″	1/2″	1″	3″	8747A16	54.59	8905A68	78.80
5/8″	5/8″	1 1/4″	3 1/2″	8747A17	105.99	8905A69	148.32
3/4″	3/4″	1 1/2″	4″	8747A18	154.14	8905A71	210.47
Three-Piece Set						2770A81	117.06

For information about end mill cut styles, see page 2503.

Replaceable Carbide-Insert End Mills

Use on low-horsepower Bridgeport and similar milling machines. Add positive-rake triangular carbide inserts which can be replaced when worn or chipped (sold separately). Tool body is steel. All are noncenter cutting. ***R8 shanks*** have a 7/16″-20 internal thread.

Carbide inserts have a long-life TiN (titanium nitride) coating and are for use on steel, stainless steel, and nickel. **To Order:** Please specify tip radius: 1/64″, 1/32″, 3/64″, or 1/16″.



Shown with Carbide Inserts (Sold Separately)

Mill Dia.	Shank Dia./ Style	O'all Lg.	No. of Inserts Req'd		
3/4″	3/4″	3 7/8″	1	8902A31	$56.11
1″	3/4″	3 7/8″	1	8902A32	68.94
1″	R8	5 7/8″	1	8902A33	74.78
1 1/4″	3/4″	3 7/8″	2	8902A34	80.63
1 1/4″	R8	5 7/8″	2	8902A35	87.65
1 3/8″	3/4″	3 7/8″	2	8902A36	95.83
1 1/2″	3/4″	3 7/8″	3	8902A37	107.50
1 1/2″	1″	3 7/8″	3	8902A38	104.57
1 1/2″	R8	5 7/8″	3	8902A39	115.69
1 5/8″	R8	5 7/8″	3	8902A41	123.85
1 3/4″	R8	5 7/8″	3	8902A43	144.91
2″	3/4″	3 7/8″	3	8902A44	146.06
2″	1″	6 1/4″	3	8902A52	197.06
2″	R8	5 7/8″	3	8902A45	158.61
2″	R8	8 1/4″	3	8902A53	219.69
2 1/2″	R8	5 7/8″	5	8902A56	245.39
2 1/2″	R8	8 1/4″	5	8902A54	321.35
3″	R8	5 7/8″	5	8902A57	275.48
3″	R8	8 1/4″	5	8902A55	362.24
Carbide Inserts with Long-Life TiN Coating				8902A66	6.10
Replacement Hold-Down Clamp				8902A64	5.01
Replacement Clamp Screw				8902A65	.30

Large-Diameter High-Speed Steel Face Milling Cutters

Also known as shell cutters, these tools have a large diameter for face and side milling. All require the use of an R8 shank arbor (sold separately below). Milling cutters are noncenter cutting and have a 30° helix angle. Mill diameter tolerance is +0.015″, –0.000″.



Mill Dia.	Hole Dia.	Face Wd.	No. of Teeth		
1 1/4″	1/2″	1″	8	3040A11	$89.08
1 1/2″	1/2″	1 1/8″	8	3040A12	91.88
2″	3/4″	1 3/8″	10	3040A14	131.48
2 1/4″	1″	1 1/2″	10	3040A15	144.62
2 1/2″	1″	1 5/8″	10	3040A16	173.54
3″	1 1/4″	1 3/4″	12	3040A18	235.02
3 1/2″	1 1/4″	1 7/8″	12	3040A19	324.90
4″	1 1/2″	2 1/4″	14	3040A21	392.48

R8 Shank Arbors for Large-Diameter Face Milling Cutters

An arbor is required to hold large-diameter milling cutters securely in Bridgeport and similar milling machines with an R8 taper spindle. All are heat-treated alloy steel. Shank has an internal 7/16″-20 thread.



For Milling Cutter Hole Dia.		
1/2″	8778A11	$88.04
3/4″	8778A12	90.52
1″	8778A13	95.69
1 1/4″	8778A14	99.20
1 1/2″	8778A15	122.76

Large-Diameter Replaceable Carbide-Insert Face Milling Cutters

Create versatile face mills, also known as indexable face mills, by combining a cutter body and carbide inserts (both sold separately).

Cutter Bodies

Remove metal 2-5 times faster with these carbide cutter bodies than comparable high-speed steel face mills. An R8 shank arbor is required (sold separately above). All cutter bodies accept octagon, round, and square carbide inserts (sold separately).



Shown with Octagon Inserts (Sold Separately)

Mill Dia.	Hole Dia. (A)	Key Wd. (B)	Dp. (C)	No. of Inserts Req'd		
2″	3/4″	5/16″	1 23/32″	4	8826A11	$200.37
3″	1 1/4″	1/2″	1 7/8″	5	8826A12	272.87
3 1/2″	1 1/2″	5/8″	1 7/8″	5	8826A13	286.47
4″	1 1/2″	5/8″	1 7/8″	6	8826A14	375.57
5″	1 1/2″	5/8″	1 61/64″	6	8826A15	404.04
6″	1 1/2″	5/8″	1 61/64″	8	8826A16	464.06

Carbide Inserts

Octagon inserts are for general face milling. They generate smooth cuts with eight cutting edges.

Round inserts are the strongest. Use for roughing and heavy cuts.

Square inserts are used when a shoulder is required, with or without a radius.

To Order: Please specify shape.



For Use On	Available Shapes		
Carbon Steel	Octagon, Round, Square	8826A31	$18.06
Stainless Steel	Octagon, Round, Square	8826A32	18.06
Cast Iron	Octagon, Round, Square	8826A33	18.06
Nickel Alloys, Titanium	Octagon, Round, Square	8826A34	18.06
Aluminum, Copper	Octagon, Round, Square	8826A35	18.06
PH Stainless Steel, Die Steel	Octagon, Round, Square	8826A36	18.06

Face Mill Kits—Each includes 1 cutter body, 10 inserts, 2 wrenches, extra screws, and a plastic carrying case.

For Use On	WITH OCTAGON INSERTS 2″ Mill Dia.		3″ Mill Dia.		4″ Mill Dia.		WITH SQUARE INSERTS 2″ Mill Dia.		3″ Mill Dia.		4″ Mill Dia.	
Carbon Steel	8826A41	$277.20	8826A42	$375.38	8826A43	$467.78	8826A44	$277.20	8826A45	$375.38	8826A46	$467.78
Aluminum and Copper	8826A51	277.20	8826A52	375.38	8826A53	467.78	8826A54	277.20	8826A55	375.38	8826A56	467.78
PH Stainless, Die Steel	8826A47	277.20	8826A48	375.38	8826A49	467.78						

Dovetail Cutters

Machine slots for components that require a sliding fit. Cutter diameter tolerance is ±0.010″.

Cobalt steel is more resistant to heat and abrasion than high-speed steel.

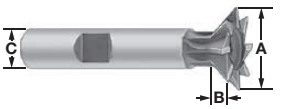



Cutter Dia. (A)	Shank Dia. (C)	O'all Lg.	45° CHAMFER ANGLE Face Wd. (B)	High-Speed Steel		Cobalt Steel		60° CHAMFER ANGLE Face Wd. (B)	High-Speed Steel		Cobalt Steel	
3/8″	3/8″	2 1/8″	1/8″	2984A17	$45.96	2984A61	$56.43	3/16″	2984A19	$45.96	2984A71	$56.43
1/2″	3/8″	2 1/8″	1/8″	2984A16	45.96	2984A62	56.43	7/32″	2984A21	45.96	2984A72	56.43
3/4″	3/8″	2 1/8″	3/16″	2984A11	45.96	2984A63	56.43	5/16″	2984A22	45.96	2984A73	56.43
1 3/8″	5/8″	2 7/8″	3/8″	2984A12	75.09	2984A64	92.07	9/16″	2984A23	75.09	2984A74	92.07
1 7/8″	7/8″	3 1/4″	1/2″	2984A13	164.33	2984A65	201.24	13/16″	2984A24	164.33	2984A75	201.24
2 1/4″	1″	3 3/4″	11/16″	2984A14	199.29	2984A66	243.98	1 1/16″	2984A25	199.29	2984A76	243.98
2 1/2″	1″	3 3/4″	3/4″	2984A15	255.02	2984A67	312.29	1 1/8″	2984A26	255.02	2984A77	312.29

T-Slot Cutters

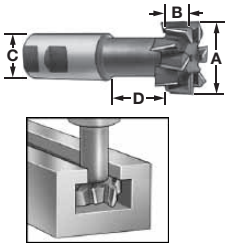

Mill T-slots in machine tool tables, indexing tables, and other work-holding surfaces. All are made of high-speed steel and have staggered teeth for efficient chip clearance. Cutter diameter tolerance is +0.000″, –0.010″. Face width tolerance is +0.000″, –0.005″. For T-slot bolts, see page 3180.

Note: Before using the cutter, mill a slot in the work surface so the neck of the cutter can enter the cut.

T-Slot Bolt Size	Cutter Dia. (A)	Face Wd. (B)	Shank Dia. (C)	Neck Dia.	Neck Lg. (D)	O'all Lg.		
1/4″	9/16″	15/64″	1/2″	17/64″	35/64″	2 19/32″	8789A16	$53.21
5/16″	21/32″	17/64″	1/2″	21/64″	39/64″	2 11/16″	8789A17	56.92
3/8″	25/32″	21/64″	3/4″	13/32″	55/64″	3 1/4″	8789A11	83.32
1/2″	31/32″	25/64″	3/4″	17/32″	63/64″	3 7/16″	8789A12	94.50
5/8″	1 1/4″	31/64″	1″	21/32″	1 9/64″	3 15/16″	8789A13	128.84
3/4″	1 15/32″	5/8″	1″	25/32″	1 1/2″	4 7/16″	8789A14	150.78
1″	1 27/32″	53/64″	1 1/4″	1 1/32″	1 43/64″	4 13/16″	8789A15	243.64

V-Slot Cutters

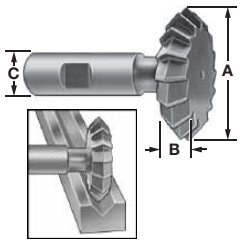

A single pass cuts a V-shaped slot. Also known as double-angle milling cutters, they can also mill notches, serrations, angles, and chamfers. All are high-speed steel. Overall length ranges from 2 3/8″ to 3 1/8″. Cutter diameter and face width tolerances are +0.015″, –0.000″.

Cutter Dia. (A)	Shank Dia. (C)	60° Angle Face Wd. (B)			90° Angle Face Wd. (B)		
3/4″	3/8″	3/16″	29755A17	$47.90	1/4″	29755A12	$47.90
1″	1/2″	5/16″	29755A18	76.50	3/8″	29755A13	76.50
1 3/8″	5/8″	7/16″	29755A19	102.02	1/2″	29755A14	102.02
2 1/4″	3/4″	1/2″	29755A21	184.53	1/2″	29755A11	184.53

Bevel Cutters

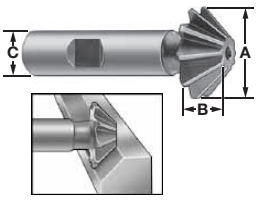

Make uniform bevel cuts in your workpieces. All cutters are high-speed steel with a long-life TiN (titanium nitride) coating for heat resistance and faster feeds/speeds. Overall length ranges from 2 1/8″ to 2 3/4″. Cutter diameter tolerance is +0.010″, –0.000″. Maximum working temperature is 1100° F. Color is gold.

Cutter Dia. (A)	Shank Dia. (C)	45° Chamfer Angle Face Wd. (B)			60° Chamfer Angle Face Wd. (B)		
1/2″	3/8″	1/8″	29895A51	$61.51	7/32″	29895A61	$61.51
3/4″	3/8″	3/16″	29895A52	72.35	5/16″	29895A62	72.35
1″	1/2″	5/16″	29895A53	89.95	7/16″	29895A63	89.95
1 1/2″	3/4″	1/2″	29895A54	116.23	5/8″	29895A64	116.23

Keyseat Cutters


Straight Tooth

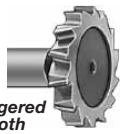
Staggered Tooth



Also known as Woodruff keyseat cutters, tools mill precise notches in shafts. They can also be used for slot milling. Cutters have a 1/2″ diameter shank and an overall length of 2 1/16″ to 2 3/8″. Face width tolerance is +0.0000″, –0.0010″.

Straight-tooth cutters work well on high-carbon steel and cast iron. *Carbide* cutters are premium sub-micrograin carbide for fast, smooth cuts. ***Staggered-tooth*** cutters have an alternating right- and left-hand helix for efficient cuts in mild steel, aluminum, and brass.

Straight Tooth

Cutter Dia.	Amer. Std. No.	High-Speed Steel Neck Dia.			Carbide Neck Dia.		
1/16″ Face Wd.							
1/4″	202	0.11″	3031A11	$24.21	—	—	—
5/16″	202 1/2	0.11″	3031A12	24.21	—	—	—
3/8″	203	0.11″	3031A14	24.21	0.20″	31595A51	$78.93
1/2″	204	0.13″	3031A17	24.21	0.25″	31595A37	63.46
3/32″ Face Wd.							
5/16″	302 1/2	0.11″	3031A13	24.22	—	—	—
3/8″	303	0.12″	3031A15	24.22	0.20″	31595A11	79.19
1/2″	304	0.16″	3031A18	24.22	0.25″	31595A13	89.28
5/8″	305	0.19″	3031A19	24.38	0.28″	31595A14	93.23
1/8″ Face Wd.							
3/8″	403	0.13″	3031A16	24.22	0.20″	31595A12	80.57
1/2″	404	0.19″	3031A21	24.22	0.25″	31595A15	90.58
5/8″	405	0.22″	3031A22	24.38	0.28″	31595A16	98.41
3/4″	406	0.22″	3031A23	25.57	0.28″	31595A17	124.74
5/32″ Face Wd.							
5/8″	505	0.25″	3031A24	25.59	0.28″	31595A18	101.52
3/4″	506	0.25″	3031A26	25.57	0.28″	31595A21	127.85
7/8″	507	0.25″	3031A28	27.91	0.28″	31595A23	151.40
3/16″ Face Wd.							
5/8″	605	0.25″	3031A25	24.44	0.28″	31595A19	104.75
3/4″	606	0.28″	3031A29	25.57	0.28″	31595A24	133.73
7/8″	607	0.28″	3031A31	27.91	0.28″	31595A25	152.69
1″	608	0.28″	3031A33	30.57	0.28″	31595A27	166.41
1 1/8″	609	0.31″	3031A36	34.27	0.28″	31595A29	227.61
1 1/4″	610	0.31″	3031A42	38.38	0.28″	31595A34	234.85
7/32″ Face Wd.							
7/8″	707	0.28″	3031A32	$28.39	0.28″	31595A26	$158.52
1″	708	0.34″	3031A34	31.72	0.28″	31595A28	182.84
1 1/8″	709	0.31″	3031A39	34.27	0.28″	31595A38	195.49
1 1/4″	710	0.38″	3031A43	38.38	0.28″	31595A35	238.74
1/4″ Face Wd.							
3/4″	806	0.28″	3031A27	25.57	0.28″	31595A22	134.39
7/8″	807	0.34″	3031A37	28.39	0.28″	31595A31	163.69
1″	808	0.34″	3031A38	30.82	0.28″	31595A32	185.23
1 1/8″	809	0.38″	3031A41	34.93	0.28″	31595A33	232.67
1 1/4″	810	0.38″	3031A44	39.69	0.28″	31595A36	240.03
1 3/8″	811	0.40″	3031A45	46.58	0.40″	31595A46	254.80
1 1/2″	812	0.44″	3031A46	48.75	0.31″	31595A41	284.09
5/16″ Face Wd.							
1″	1008	0.40″	3031A47	31.64	—	—	—
1 1/8″	1009	0.44″	3031A48	36.72	0.44″	31595A39	162.55
1 1/4″	1010	0.44″	3031A49	41.17	0.44″	31595A44	165.18
1 3/8″	1011	0.47″	3031A51	44.40	0.47″	31595A47	199.74
1 1/2″	1012	0.47″	3031A52	47.58	0.31″	31595A42	295.23
3/8″ Face Wd.							
1″	1208	0.40″	3031A35	31.73	—	—	—
1 1/4″	1210	0.47″	3031A53	41.19	0.47″	31595A45	167.88
1 3/8″	1211	0.47″	3031A54	45.11	0.47″	31595A48	199.74
1 1/2″	1212	0.47″	3031A55	49.10	0.31″	31595A43	306.04

Staggered Tooth High-Speed Steel

Face Wd.	Cutter Dia.	Amer. Std. No.	Neck Dia.		
1/16″	1/4″	202	0.11″	8765A11	$29.06
1/16″	3/8″	203	0.12″	8765A41	29.06
1/16″	1/2″	204	0.13″	8765A17	29.13
3/32″	5/16″	302 1/2	0.11″	8765A39	29.06
3/32″	1/2″	304	0.16″	8765A18	27.64
3/32″	5/8″	305	0.19″	8765A21	29.29
1/8″	3/8″	403	0.13″	8765A16	29.06
1/8″	1/2″	404	0.19″	8765A19	$29.06
1/8″	5/8″	405	0.22″	8765A22	29.29
1/8″	3/4″	406	0.22″	8765A25	30.72
3/16″	5/8″	605	0.25″	8765A24	29.29
3/16″	3/4″	606	0.28″	8765A27	48.10
3/16″	7/8″	607	0.28″	8765A42	46.20
3/16″	1″	608	0.28″	8765A34	58.86
1/4″	3/4″	806	0.28″	8765A28	$48.10
1/4″	7/8″	807	0.34″	8765A33	52.59
1/4″	1″	808	0.34″	8765A36	59.25
1/4″	1 1/2″	812	0.44″	8765A53	89.21
5/16″	1″	1008	0.40″	8765A37	38.04
3/8″	1″	1208	0.40″	8765A38	38.01
3/8″	1 1/2″	1212	0.47″	8765A55	58.89

Narrow-Width Keyseat Cutters

Cut narrow Woodruff keyseats. All cutters are high-speed steel and have straight teeth. Shank is 2″ long from under the head and has a 1/2″ diameter. Face width tolerance is +0.0000″, –0.0005″.

Also Available: Cobalt steel cutters. Please ask for 2970A81 and specify face width and cutter diameter.



Face Wd.	Cutter Dia.	Neck Dia.		
0.02″	1/2″	0.130″	2970A12	$27.35
0.02″	5/8″	0.191″	2970A18	27.35
1/32″	1/2″	0.130″	2970A13	27.35
1/32″	5/8″	0.191″	2970A19	27.35
1/32″	3/4″	0.218″	2970A29	29.45
3/64″	1/2″	0.130″	2970A14	27.35
3/64″	5/8″	0.191″	2970A21	27.35
1/16″	5/8″	0.191″	2970A22	27.35
1/16″	3/4″	0.218″	2970A32	$29.45
1/16″	1″	0.279″	2970A41	36.35
1/16″	1 1/8″	0.312″	2970A56	43.34
1/16″	1 1/4″	0.312″	2970A69	46.80
1/16″	1 1/2″	0.435″	2970A73	54.00
3/32″	3/4″	0.218″	2970A34	29.45
3/32″	1″	0.279″	2970A43	36.35
3/32″	1 1/8″	0.312″	2970A57	$43.34
3/32″	1 1/4″	0.312″	2970A71	46.80
3/32″	1 1/2″	0.435″	2970A75	54.00
1/8″	1″	0.279″	2970A45	36.35
1/8″	1 1/8″	0.312″	2970A58	43.34
1/8″	1 1/4″	0.312″	2970A72	46.80
3/16″	1 1/2″	0.435″	2970A74	54.00

Straight- and Staggered-Tooth Milling Cutters

With peripheral and side teeth, cutters remove chips for consistent cutting width. All are made of high-speed steel and have a standard keyway. Cutter thickness tolerance is ±0.001″.

Straight-tooth cutters are thinner, have more teeth, and leave a finer finish than staggered-tooth cutters. Use for thin slots and plunge cuts. Cutter diameter tolerance is ±0.015″.

Staggered-tooth cutters are for deep slots and other applications requiring maximum chip clearance. Also known as side-milling cutters, they have alternating right- and left-hand helical teeth to remove more metal at higher feeds/speeds than straight-tooth cutters. The keyway lets you interlock two or more cutters of the same diameter so you can customize the thickness of the cutter to match the slot width you require. Cutter diameter tolerance is +0.015″, –0.000″.



Straight Tooth



Staggered Tooth

Straight Tooth

Thick.	Cutter Dia.	Hole Dia.	No. of Teeth		
1/16″	2 1/2″	7/8″	28	3064A11	$72.08
1/16″	3″	1″	32	3064A14	89.58
1/16″	4″	1″	36	3064A19	110.25
1/16″	5″	1″	40	3064A25	142.26
1/16″	6″	1″	42	3064A32	253.11
1/16″	6″	1 1/4″	42	3064A33	253.12
3/32″	3″	1″	32	3064A15	84.71
3/32″	4″	1″	36	3064A21	112.04
3/32″	5″	1″	40	3064A26	$146.03
3/32″	6″	1″	42	3064A42	184.37
1/8″	3″	1″	32	3064A16	89.52
1/8″	4″	1″	36	3064A22	110.67
1/8″	5″	1″	40	3064A27	149.44
1/8″	5″	1 1/4″	40	3064A28	149.44
1/8″	6″	1″	42	3064A34	190.34
1/8″	6″	1 1/4″	42	3064A35	190.34
1/8″	8″	1″	48	3064A38	$439.86
5/32″	3″	1″	32	3064A17	84.71
5/32″	4″	1″	36	3064A23	114.94
5/32″	5″	1″	40	3064A29	155.16
3/16″	3″	1″	32	3064A18	125.88
3/16″	4″	1″	36	3064A24	122.03
3/16″	5″	1″	40	3064A31	161.22
3/16″	6″	1″	42	3064A36	211.69

Staggered Tooth

Thick.	Cutter Dia.	Hole Dia.	No. of Teeth		
3/16″	3″	1″	16	3139A13	$99.00
7/32″	3″	1″	16	3139A14	131.82
1/4″	2 1/2″	7/8″	16	3139A11	102.13
1/4″	3″	1″	16	3139A15	106.29
1/4″	4″	1″	18	3139A36	175.39
1/4″	4″	1 1/4″	18	3139A37	154.66
1/4″	5″	1″	24	3139A59	243.53
1/4″	6″	1 1/4″	24	3139A75	321.37
5/16″	3″	1″	16	3139A17	118.74
5/16″	4″	1″	18	3139A114	$182.47
5/16″	6″	1 1/4″	24	3139A78	343.16
3/8″	2 1/2″	7/8″	16	3139A12	115.87
3/8″	4″	1″	18	3139A115	191.18
3/8″	4″	1 1/4″	18	3139A41	160.26
3/8″	6″	1 1/4″	24	3139A8	284.42
1/2″	2 1/2″	7/8″	16	3139A111	121.63
1/2″	4″	1″	18	3139A117	210.53
1/2″	4″	1 1/4″	18	3139A44	181.66
1/2″	6″	1″	24	3139A84	$379.71
1/2″	6″	1 1/4″	24	3139A129	318.03
5/8″	4″	1 1/4″	18	3139A97	209.26
5/8″	5″	1 1/4″	24	3139A126	277.13
5/8″	6″	1 1/4″	24	3139A85	370.76
3/4″	4″	1 1/4″	18	3139A118	223.16
3/4″	5″	1 1/4″	24	3139A127	304.53
1″	6″	1 1/4″	24	3139A133	514.21

Vibration-Reducing Arbors for Milling and Slitting Cutters

A low-profile cap on these arbors absorbs vibration and adds support and rigidity. Made of heat-treated steel. Use with straight-tooth milling cutters on this page and the slitting cutters on page 2528.

High-precision arbors are for use with carbide cutters and high-rpm CNC machines.

Three-piece arbor sets include a wood stand.



For Cutter Hole Dia.	Shank Dia.	Head Dia.	Head Lg.	O'all Lg.	Standard		High Precision	
Arbors								
1/4″	1/2″	1/2″	1″	2 25/32″	28545A61	$42.08	28545A51	$142.63
3/8″	1/2″	5/8″	1 3/16″	2 61/64″	28545A62	44.04	28545A52	170.81
1/2″	1/2″	3/4″	1 3/8″	3 11/64″	28545A63	46.86	28545A53	184.03
5/8″	3/4″	1″	1 1/2″	3 21/32″	28545A64	51.12	28545A54	195.55
1″	3/4″	1 1/2″	1 3/4″	3 15/16″	28545A65	54.38	28545A55	229.15
1 1/4″	3/4″	1 3/4″	2″	4 1/4″	28545A66	54.92	28545A56	240.31
Three-Piece Arbor Sets								
One of each 1/2″ shank dia. standard arbor							28545A71	$117.46
One of each 3/4″ shank dia. standard arbor							28545A81	144.52

Arbors for Slitting Cutters



2807A22



2807A41



2807A1



2807A33

Arbors hold and center your slitting cutters. All are made of steel, have spring-loaded centering, and include a hex key for installation. Use with high-speed steel slitting cutters on page 2528.

2807A33 has a 5/16″-24 thread.

For Cutter Hole Dia.	Max. Cutter Size Dia.	Max. Cutter Size Thick.	Shank Dia.	Head Dia.	O'all Lg.		
1/4″, 3/8″, 1/2″	3″	1/16″	1/4″	5/8″	1 3/4″	2807A22	$39.22
3/8″	4″	3/16″	1/2″	5/8″	3 3/8″	2807A41	21.50
1/2″, 5/8″, 3/4″, 7/8″, 1″	4″	3/16″	1/2″	1 1/4″	2 9/16″	2807A1	29.57
1/2″, 5/8″, 3/4″, 7/8″, 1″	4″	3/16″	R8	1 1/4″	5 3/32″	2807A33	43.30

Slitting Cutters



General Purpose High-Speed Steel

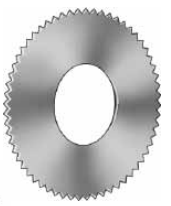

Smooth Finish High-Speed Steel

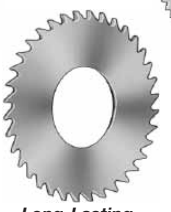

Long-Lasting Solid Carbide

Also known as metal slitting saws, these cutters do not have side teeth, making them the choice for thin slitting and slotting jobs. They are ground concave for free cutting through your workpiece. See page 2527 for arbors.

When choosing a cutter, consider the diameter and the number of teeth. A cutter with a smaller diameter provides better rigidity.

To determine how many teeth your cutter should have, follow these guidelines:

1. Always have at least three teeth in the cut.
2. Use more teeth for thin and hard materials.
3. Use fewer teeth for soft materials and larger sections.

General purpose high-speed steel cutters are best for cutoff, slitting, and slotting applications. Cutters with a 2¾″ dia. are also known as screw slotting saws; other diameters are also known as plain metal slitting saws. All have a standard keyway. Cutter diameter tolerance is ±0.015″; thickness tolerance is ±0.001″.

Smooth-finish high-speed steel cutters are also known as jewelers' slotting saws. Use for very thin materials, such as wire, tubing, and extrusions requiring delicate cuts. Cutters do not have a keyway, except those with a 1″ hole diameter have a standard keyway. Cutter diameter tolerance is ±0.015″; thickness tolerance is ±0.001″.

Long-lasting solid carbide cutters can be used for climb (down) milling rather than conventional (up) milling for better tooth engagement and finish. Cutters do not have a keyway. Cutter diameter tolerance is ±0.015″; thickness tolerance is ±0.00025″.

General Purpose High-Speed Steel

Thick.	Cutter Dia.	Hole Dia.	No. of Teeth		
0.006″	2¾″	1″	72	3062A39	$24.08
0.008″	2¾″	1″	72	3062A38	20.88
0.010″	2¾″	1″	72	3062A37	17.31
0.013″	2¾″	1″	72	3062A16	15.42
0.014″	2¾″	1″	72	3062A35	15.42
0.016″	2¾″	1″	72	3062A34	13.31
0.018″	2¾″	1″	72	3062A33	12.66
0.020″	2¾″	1″	72	3062A32	11.64
0.023″	2¾″	1″	72	3062A31	11.64
0.025″	2¾″	1″	56	3062A42	15.93
0.025″	2¾″	1″	72	3062A29	11.64
0.028″	2¾″	1″	56	3062A43	15.93
0.028″	2¾″	1″	72	3062A28	11.64
1/32″	1¼″	1/2″	28	3061A11	11.78
1/32″	1½″	1/2″	32	3061A13	17.33
1/32″	2″	1/2″	38	3061A22	21.58
1/32″	2½″	7/8″	28	3061A28	27.49
1/32″	3″	1″	30	3061A33	32.78
1/32″	4″	1″	36	3061A43	40.30
0.032″	2¾″	1″	56	3062A44	14.57
0.032″	2¾″	1″	72	3062A27	12.80
0.036″	2¾″	1″	56	3062A45	12.80
0.036″	2¾″	1″	72	3062A26	12.80
0.040″	2¾″	1″	56	3062A46	12.80
0.040″	2¾″	1″	72	3062A25	12.80
0.045″	2¾″	1″	56	3062A47	14.62
0.045″	2¾″	1″	72	3062A24	$14.62
3/64″	3″	1″	30	3061A34	33.36
0.051″	2¾″	1″	56	3062A48	15.47
0.051″	2¾″	1″	72	3062A23	15.47
0.057″	2¾″	1″	56	3062A49	16.29
0.057″	2¾″	1″	72	3062A22	16.29
1/16″	1¼″	1/2″	28	3061A12	10.35
1/16″	1½″	1/2″	26	3061A14	18.05
1/16″	2″	1/2″	34	3061A23	22.30
1/16″	3″	1″	30	3061A35	33.92
1/16″	4″	1″	36	3061A44	42.38
1/16″	5″	1″	40	3061A49	54.19
1/16″	6″	1″	42	3061A56	74.00
0.064″	2¾″	1″	56	3062A51	17.16
0.064″	2¾″	1″	72	3062A21	17.16
0.072″	2¾″	1″	56	3062A52	20.22
0.072″	2¾″	1″	72	3062A19	20.22
5/64″	3″	1″	30	3061A36	35.60
0.081″	2¾″	1″	56	3062A54	20.59
0.081″	2¾″	1″	72	3062A53	20.59
0.091″	2¾″	1″	56	3062A55	22.03
0.091″	2¾″	1″	72	3062A17	22.03
3/32″	1½″	1/2″	26	3061A15	20.06
3/32″	2″	1/2″	34	3061A24	23.31
3/32″	3″	1″	30	3061A37	37.50
3/32″	4″	1″	36	3061A45	49.18
3/32″	6″	1″	42	3061A57	$83.90
0.102″	2¾″	1″	56	3062A57	23.75
0.102″	2¾″	1″	72	3062A56	23.75
0.114″	2¾″	1″	56	3062A59	25.26
0.114″	2¾″	1″	72	3062A58	25.26
1/8″	1½″	1/2″	26	3061A16	21.07
1/8″	2″	1/2″	34	3061A25	24.25
1/8″	2½″	7/8″	28	3061A31	33.85
1/8″	3″	1″	30	3061A38	40.26
1/8″	4″	1″	36	3061A46	53.16
1/8″	5″	1″	40	3061A52	74.63
1/8″	6″	1″	42	3061A58	97.52
1/8″	8″	1″	46	3061A63	212.96
1/8″	8″	1¼″	46	3061A64	212.96
0.128″	2¾″	1″	56	3062A62	26.27
0.128″	2¾″	1″	72	3062A61	26.27
0.144″	2¾″	1″	56	3062A64	33.04
0.144″	2¾″	1″	72	3062A63	33.04
5/32″	2″	1/2″	34	3061A26	26.22
5/32″	3″	1″	30	3061A39	49.68
0.182″	2¾″	1″	72	3062A67	42.91
3/16″	3″	1″	30	3061A41	49.74
3/16″	4″	1″	36	3061A48	65.67
3/16″	5″	1″	40	3061A55	112.00
3/16″	6″	1″	42	3061A61	156.92

Smooth-Finish High-Speed Steel

Thick.	Cutter Dia.	Hole Dia.	No. of Teeth		
0.006″	1″	3/8″	90	3044A11	$10.79
0.006″	1½″	1/2″	140	3044A37	13.42
0.006″	2″	1/2″	190	3044A51	17.55
0.008″	1″	3/8″	90	3044A12	8.73
0.008″	1½″	1/2″	140	3044A38	12.29
0.008″	2″	1/2″	190	3044A52	16.42
0.010″	1″	3/8″	90	3044A13	7.41
0.010″	1½″	1/2″	140	3044A39	11.64
0.010″	2″	1/2″	190	3044A53	14.17
0.012″	1″	3/8″	90	3044A14	7.41
0.012″	1½″	1/2″	140	3044A41	9.76
0.012″	2″	1/2″	190	3044A54	13.62
0.014″	1″	3/8″	80	3044A15	7.41
0.014″	1½″	1/2″	110	3044A42	9.29
0.014″	2″	1/2″	150	3044A55	13.62
0.016″	1″	3/8″	80	3044A16	7.41
0.016″	1½″	1/2″	110	3044A43	9.29
0.016″	2″	1/2″	150	3044A56	12.87
0.018″	1″	3/8″	80	3044A17	6.86
0.018″	1½″	1/2″	110	3044A44	9.11
0.018″	2″	1/2″	150	3044A57	$11.64
0.020″	1″	3/8″	80	3044A18	6.86
0.020″	1½″	1/2″	110	3044A45	8.64
0.020″	2″	1/2″	150	3044A58	10.89
0.020″	3″	1/2″	224	3044A25	16.82
0.020″	3″	1″	224	3044A71	16.82
0.020″	4″	1″	300	3044A75	29.01
0.020″	5″	1/2″	380	3044A28	44.59
0.020″	5″	1″	380	3044A78	44.59
0.023″	1″	3/8″	80	3044A19	6.86
0.023″	1½″	1/2″	110	3044A46	8.08
0.025″	1″	3/8″	80	3044A21	6.86
0.025″	1½″	1/2″	110	3044A47	8.08
0.025″	2″	1/2″	150	3044A61	10.89
0.025″	6″	1/2″	440	3044A32	60.08
0.025″	6″	1″	440	3044A29	60.08
0.028″	1″	3/8″	80	3044A22	7.41
0.028″	1½″	1/2″	110	3044A48	8.08
0.028″	2″	1/2″	150	3044A62	10.89
0.032″	1″	3/8″	80	3044A23	$7.41
0.032″	1½″	1/2″	110	3044A49	9.39
0.032″	2″	1/2″	110	3044A63	11.74
0.032″	3″	1/2″	170	3044A24	16.73
0.032″	3″	1″	170	3044A72	16.73
0.032″	4″	1″	224	3044A76	25.81
0.032″	5″	1″	280	3044A79	39.33
0.035″	2″	1/2″	110	3044A64	11.74
0.035″	3″	1″	170	3044A73	17.96
0.035″	4″	1″	224	3044A26	27.13
0.040″	2″	1/2″	110	3044A65	12.87
0.040″	4″	1/2″	224	3044A27	28.36
0.040″	6″	1″	340	3044A31	56.60
0.045″	2″	1/2″	110	3044A66	12.87
0.051″	2″	1/2″	110	3044A67	14.17
0.057″	2″	1/2″	110	3044A68	14.17
0.057″	3″	1″	170	3044A74	21.47
0.057″	4″	1″	224	3044A77	31.82
0.057″	5″	1″	280	3044A81	46.94

Long-Lasting Solid Carbide

Thick.	Cutter Dia.	Hole Dia.	No. of Teeth		
1/64″	3/4″	1/4″	18	3078A931	$50.06
1/64″	1″	3/8″	20	3078A935	61.16
1/64″	1¼″	1/2″	24	3078A938	72.44
1/64″	1½″	1/2″	32	3078A942	79.19
1/64″	2″	1/2″	36	3078A945	111.05
1/32″	3/4″	1/4″	18	3078A932	50.06
1/32″	1″	3/8″	20	3078A936	72.63
1/32″	1¼″	1/2″	24	3078A939	$70.16
1/32″	1½″	1/2″	32	3078A943	74.54
1/32″	2″	1/2″	36	3078A946	98.08
1/32″	2½″	1″	48	3078A948	130.34
1/32″	3″	1″	60	3078A951	181.35
3/64″	3/4″	1/4″	18	3078A933	51.30
1/16″	3/4″	1/4″	18	3078A934	49.39
1/16″	1″	3/8″	20	3078A937	$56.78
1/16″	1¼″	1/2″	24	3078A941	71.98
1/16″	1½″	1/2″	32	3078A944	82.26
1/16″	2″	1/2″	36	3078A947	103.53
1/16″	2½″	1″	48	3078A949	115.16
1/16″	3″	1″	60	3078A952	171.31
1/16″	4″	1″	96	3078A953	231.25

Gear Cutters

Mill spur or pinion gears with a 14½° pressure angle. Also known as involute gear cutters, cutters may be sharpened repeatedly. All are high-speed steel and have a standard keyway. Determine the cutter number you need based on the number of teeth in your gear.

To Order: Please specify the cutter number (1-8) from the chart at right.

No. of Teeth to Be Cut	Please Specify Cutter No.	No. of Teeth to Be Cut	Please Specify Cutter No.
135 and Up	1	21 to 25	5
55 to 134	2	17 to 20	6
35 to 54	3	14 to 16	7
26 to 34	4	12 to 13	8



Cutter No. 5

Pitch	Cutter Dia.	Hole Dia.	Available Cutter Nos.		
4	3 5/8"	1"	1-5, 7-8	3034A928	$179.73
5	3 3/4"	1 1/4"	1-8	3034A912	161.31
6	3 1/8"	1"	1-8	3034A913	128.48
7	2 7/8"	1"	1-8	3034A931	128.48
8	2 7/8"	1"	1-8	3034A914	104.56
10	2 3/8"	7/8"	1-6, 8	3034A915	84.58
10	2 3/4"	1"	1-8	3034A933	94.34
12	2 1/4"	7/8"	1-8	3034A916	74.03
12	2 5/8"	1"	1-8	3034A935	83.76
14	2 1/8"	7/8"	1-8	3034A917	$71.20
14	2 1/2"	1"	1-8	3034A936	84.58
16	2 1/8"	7/8"	2-8	3034A918	71.20
16	2 1/2"	1"	1-8	3034A937	84.58
20	2"	7/8"	1-8	3034A921	64.08
20	2 3/8"	1"	1-8	3034A939	75.88
24	1 3/4"	7/8"	1-6, 8	3034A922	63.28
32	1 3/4"	7/8"	1-4, 6-8	3034A923	60.26
48	1 3/4"	7/8"	1-8	3034A924	60.26

About Keyway Broaches

Keyway broaches are straight, multitoothed, high-speed steel cutting tools for making keyways. Each tooth's cutting edge is a few thousandths of an inch larger than the one before. The cutting edges increase until they reach the required size. Broaches are for use in hand and hydraulic arbor presses and are great for maintenance and short-run production operations.

Bushings for keyway broaches rest inside the arbor hole of your workpiece. They have a slot that works as a guide for broaches. With bushings, you can use a single broach in a variety of arbor holes. Bushings for smaller arbor holes are collared for easier handling. The collar rests on top of the workpiece rather than being supported from below.

Shims for keyway broaches slide between the broach and bushing to set the depth of the keyway.

Note: Broaches have a style designation of A, B, B1, C, C1, D, D1, or E. For proper fit, broaches, bushings, and shims used together must have the same letter designation.

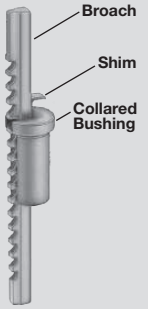

Keyway Broach Sets

Sets contain combinations of broaches and bushings and include the necessary shims. They come in a wood box.

Keyway Sizes	Broach Style	Bushing Sizes for Hole Dia.	Bushing Type	No. of Keyway Variations		
1/16", 3/32", 1/8"	A	1/4", 5/16", 3/8", 7/16", 1/2"	Collared	15	3152A12	$201.75
1/8" 3/16", 1/4"	B C	1/2", 5/8", 3/4" 7/8", 1", 1 1/8", 1 1/4", 1 3/8", 1 1/2"	Collared	15	3152A16	$303.55
1/8", 3/16" 1/4", 3/8"	B C	1/2", 5/8", 3/4", 7/8" 1", 1 1/8", 1 1/4", 1 3/8", 1 1/2"	Collared	18	3152A29	$352.97
1/8", 3/16" 1/4", 3/8"	B C	1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8" 15/16", 1", 1 1/16", 1 1/8", 1 3/16", 1 1/4", 1 5/16", 1 3/8", 1 7/16", 1 1/2", 1 9/16"	Collared	36	3152A38	$453.81
1/8", 3/16" 1/4", 5/16", 3/8"	B C	1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8" 15/16", 1", 1 1/16", 1 1/8", 1 3/16", 1 1/4", 1 5/16", 1 3/8", 1 7/16", 1 1/2", 1 9/16"	Collared	47	3152A39	$522.39
5/16", 3/8", 7/16", 1/2"	D	1 1/2", 1 5/8", 1 3/4", 1 7/8", 2", 2 1/8", 2 1/4", 2 1/2"	Plain	32	3152A41	$661.56
1/8", 3/16" 1/4", 5/16" 3/8", 7/16", 1/2" 5/8", 3/4"	B C D E	1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8" 15/16", 1", 1 1/16", 1 1/8", 1 3/16", 1 1/4", 1 5/16", 1 3/8", 1 7/16", 1 1/2", 1 9/16" 1 7/16", 1 1/2", 1 9/16", 1 5/8", 1 11/16", 1 3/4", 1 13/16", 1 7/8", 1 15/16", 2", 2 1/16", 2 1/8", 2 3/16", 2 1/4" 2 5/16", 2 3/8", 2 7/16", 2 1/2", 2 9/16", 2 5/8", 2 11/16", 2 3/4", 2 13/16", 2 7/8", 2 15/16", 3"	Plain and Collared	102	3152A49	$2,287.22
2, 3 mm	A	6, 8, 10 mm	Collared	6	2801A11	$158.80
4, 5 mm 6, 8 mm	B1 C1	12, 14, 15, 16 mm 18, 19, 20, 22, 24, 25, 26, 28, 30 mm	Collared	26	2801A12	$408.91
10, 12, 14 mm	D1	32, 34, 35, 36, 38, 40, 42, 44, 45, 46, 48, 50 mm	Plain	36	2801A13	$637.29

Shims for Keyway Broaches

When broaching in multiple passes, shims are necessary to ensure full keyway depth. All are made of steel. Use with the keyway broaches on page 2530.

Keyway Size	Broach Style	Shim Thick.	Shim Lg.		
1/8"	A	0.0310"	1 1/4"	8836A11	$3.26
1/8"	B	0.0310"	1 13/16"	8836A12	3.26
5/32"	B	0.0420"	1 13/16"	8836A13	3.26
3/16"	B	0.0500"	1 13/16"	8836A14	3.26
3/16"	C	0.0500"	2 11/16"	8836A15	3.26
1/4"	C	0.0625"	2 11/16"	8836A16	3.26
5/16"	C	0.0550"	2 11/16"	8836A17	3.26
5/16", 7/16"	D	0.0560"	6 1/4"	8836A19	4.49
3/8"	C	0.0625"	2 11/16"	8836A18	3.26
3/8"	D	0.0625"	6 1/4"	8836A21	4.49
1/2"	D	0.0625"	6 1/4"	8836A23	4.49
5/8", 3/4"	E	0.0625"	6 3/4"	8836A24	4.60

Keyway Size, mm	Broach Style	Shim Thick.	Shim Lg.		
3	A	0.0310"	1 1/4"	8836A31	$3.26
4	B1	0.0380"	1 13/16"	8836A32	3.26
5	B1	0.0500"	1 13/16"	8836A33	3.26
5	C	0.0470"	2 11/16"	8836A34	3.26
6	C1	0.0625"	2 11/16"	8836A35	3.26
8	C	0.0500"	2 11/16"	8836A36	3.26
10, 12	D	0.0560"	6 1/4"	8836A37	4.49
14	D	0.0625"	6 1/4"	8836A39	4.49
16, 18	E	0.0560"	6 3/4"	8836A41	4.60



Keyway Broaches



Cut precision keyways with these push-style broaches. All are made of high-speed steel and include the required shims. A bushing is also required (sold separately on this page). Metric broaches meet ISO standards.

Long-life TiN (titanium nitride) coated broaches offer increased hardness, heat resistance, and lubricity for extended life.

Keyway Size	Broach Style	Body Size Wd.	Body Size Lg.	No. of Shims Included		
Uncoated						
1/16"	A	1/8"	5"	0	3153A12	$47.70
3/32"	A	1/8"	5"	0	3153A14	47.70
3/32"	B	3/16"	6 3/4"	0	3153A18	57.36
1/8"	A	1/8"	5"	1	3153A16	47.70
1/8"	B	3/16"	6 3/4"	1	3153A21	57.35
5/32"	B	3/16"	6 3/4"	1	3153A23	57.36
3/16"	B	3/16"	6 3/4"	1	3153A25	57.36
3/16"	C	3/8"	11 3/4"	1	3153A27	71.81
1/4"	C	3/8"	11 3/4"	1	3153A29	71.81
5/16"	C	3/8"	11 3/4"	2	3153A32	71.81
5/16"	D	9/16"	13 7/8"	2	3153A36	108.64
3/8"	C	3/8"	11 3/4"	2	3153A34	71.81
3/8"	D	9/16"	13 7/8"	2	3153A38	108.64
7/16"	D	9/16"	13 7/8"	3	3153A41	108.64
1/2"	D	9/16"	13 7/8"	3	3153A43	108.64
5/8"	E	3/4"	15 1/2"	4	3153A45	182.60
3/4"	E	3/4"	15 1/2"	5	3153A47	182.60
2 mm	A	1/8"	5"	0	8805A11	47.70
3 mm	A	1/8"	5"	1	8805A12	47.70
4 mm	B1	1/4"	6 3/4"	1	8805A13	57.36
Uncoated (Cont.)						
5 mm	B1	1/4"	6 3/4"	1	8805A14	$57.36
5 mm	C	3/8"	11 3/4"	1	8805A15	71.81
6 mm	C	3/8"	11 3/4"	1	8805A16	71.81
8 mm	C	3/8"	11 3/4"	2	8805A17	71.81
10 mm	D	9/16"	13 7/8"	2	8805A18	108.64
12 mm	D	9/16"	13 7/8"	2	8805A19	108.64
14 mm	D	9/16"	13 7/8"	2	8805A21	108.64
16 mm	E	3/4"	15 1/2"	3	8805A22	182.60
18 mm	E	3/4"	15 1/2"	3	8805A23	182.60
Long-Life TiN Coated						
1/8"	A	1/8"	5"	1	3153A51	85.15
1/8"	B	3/16"	6 3/4"	1	3153A53	96.43
3/16"	B	3/16"	6 3/4"	1	3153A55	96.43
3/16"	C	3/8"	11 3/4"	1	3153A56	134.39
1/4"	C	3/8"	11 3/4"	1	3153A57	134.39
5/16"	C	3/8"	11 3/4"	2	3153A58	134.39
3/8"	C	3/8"	11 3/4"	2	3153A59	134.39
3/8"	D	9/16"	13 7/8"	2	3153A62	181.06
1/2"	D	9/16"	13 7/8"	3	3153A64	181.06
5/8"	E	3/4"	15 1/2"	4	3153A65	288.27
3/4"	E	3/4"	15 1/2"	5	3153A66	288.27

Bushings for Keyway Broaches



Collared



Plain

Use individual keyway broaches in a variety of arbor hole sizes. Bushings act as guides to ensure rigid and accurate keyway cutting. Use with the keyway broaches on this page. Made of steel.

To Order: Please specify bushing diameter from those listed in the table.

For Broach Style	Available Bushing Diameters	Lg.		
Collared				
A	1/4", 5/16", 3/8", 7/16", 1/2"	1 1/8"	3151A109	$11.39
A	6, 8, 10, 12, 15 mm	1 1/8"	8804A71	12.21
B	1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8"	1 11/16"	3151A11	10.15
B1	12, 14, 15, 16, 17, 18, 19 mm	1 11/16"	8804A72	12.00
C	3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8"	2 1/2"	3151A12	13.33
C	1 3/16", 1 1/4", 1 5/16", 1 3/8", 1 7/16", 1 1/2"	2 1/2"	3151A14	15.69
C	18, 19, 20, 22, 24, 25, 26 mm	2 1/2"	8804A73	14.26
C	28, 30, 32, 34, 35, 36 mm	2 1/2"	8804A74	16.52
Plain				
D	1 7/16", 1 1/2", 1 9/16", 1 5/8"	4"	3151A184	$16.72
D	1 11/16", 1 3/4", 1 13/16", 1 7/8"	4"	3151A15	22.57
D	1 15/16", 2", 2 1/16", 2 1/8", 2 3/16"	5"	3151A186	24.31
D	2 1/4", 2 5/16", 2 3/8", 2 7/16", 2 1/2"	5"	3151A187	34.22
D	32, 34, 35, 36, 38 mm	4"	8804A75	21.75
D	40, 42, 44, 45 mm	4"	8804A76	23.70
D	46, 48, 50 mm	5"	8804A77	26.06
D	52, 54, 56 mm	5"	8804A78	38.26
E	2 5/16", 2 3/8", 2 7/16", 2 1/2"	6"	3151A16	38.97
E	2 5/8", 2 11/16", 2 3/4", 2 7/8", 2 15/16", 3"	6"	3151A197	48.15
E	52, 54, 55, 56, 58, 60, 62, 63 mm	5"	8804A79	47.51
E	64, 65, 66, 68, 70, 72 mm	6"	8804A81	53.03

Square and Hexagon Broaches



Square



Hexagon

Transform round holes into finely finished square- and hex-shaped holes. Broaches are push style and made of high-speed steel. Square/hex size tolerance is ±0.0005" for inch sizes; –0.0102 mm to +0.0127 mm for metric sizes. Tolerances are based on actual size. Drill a pilot hole into your workpiece using the drill size listed. Use with hand and hydraulic arbor presses. No shims or bushings are required.

Square broaches have a square shank.

Hexagon broaches have a round shank, except 5/8" and larger hex size have a hex shank.

Square Size	Actual Square Size	Lg.	Use Drill Size		
Square					
1/8"	0.1260"	4 1/8"	#30	3156A11	$105.37
5/32"	0.1570"	5 1/8"	#21	3156A12	119.91
3/16"	0.1885"	5 9/16"	#10	3156A13	105.89
1/4"	0.2510"	6 1/2"	17/64"	3156A15	105.37
9/32"	0.2820"	7 3/4"	19/64"	3156A16	132.37
5/16"	0.3135"	7 7/8"	21/64"	3156A17	107.55
3/8"	0.3760"	9 3/8"	25/64"	3156A19	137.14
7/16"	0.4385"	10 7/8"	29/64"	3156A22	174.10
1/2"	0.5010"	12"	17/32"	3156A24	199.74
9/16"	0.5635"	14 3/4"	19/32"	3156A25	256.64
5/8"	0.6265"	16 5/16"	21/32"	3156A26	301.75
3/4"	0.7515"	17 3/4"	13/16"	3156A28	406.24
1"	1.0025"	24 1/8"	1 3/32"	3156A32	624.98
4 mm	4.0069 mm	5 1/8"	4.1 mm	8757A41	126.45
5 mm	5.0051 mm	6 1/2"	5.2 mm	8757A42	157.70
6 mm	6.0096 mm	6 11/16"	6.4 mm	8757A43	157.70
7 mm	7.0104 mm	7 3/4"	7.4 mm	8757A44	175.55
8 mm	8.0112 mm	7 7/8"	8.4 mm	8757A45	159.57
10 mm	10.0101 mm	10 1/4"	10.4 mm	8757A46	181.89
12 mm	12.0091 mm	12"	12.8 mm	8757A47	267.85

Hex Size	Actual Hex Size	Lg.	Use Drill Size		
Hexagon					
1/8"	0.1260"	4 1/8"	1/8"	2875A11	$119.39
3/16"	0.1885"	5 1/16"	3/16"	2875A13	127.18
1/4"	0.2510"	6"	1/4"	2875A15	127.18
5/16"	0.3135"	7 3/4"	5/16"	2875A17	133.40
3/8"	0.3760"	8 1/2"	3/8"	2875A19	156.24
7/16"	0.4385"	10 1/2"	7/16"	2875A22	197.46
1/2"	0.5010"	11 7/8"	1/2"	2875A24	230.37
5/8"	0.6265"	16 1/4"	5/8"	2875A26	321.31
11/16"	0.6890"	16 3/4"	11/16"	2875A27	354.22
3/4"	0.7515"	17 1/4"	3/4"	2875A28	373.84
1"	1.0025"	19 3/4"	1"	2875A31	617.19
5 mm	5.0051 mm	5 3/8"	5 mm	8760A42	331.50
6 mm	6.0096 mm	6"	6 mm	8760A43	345.89
8 mm	8.0112 mm	7 3/4"	8 mm	8760A45	392.70
10 mm	10.0101 mm	9 5/8"	10 mm	8760A46	482.80
12 mm	12.0091 mm	11 7/8"	12 mm	8760A47	506.60

Carbide-Tipped Lathe Tools



Right Handed



Left Handed

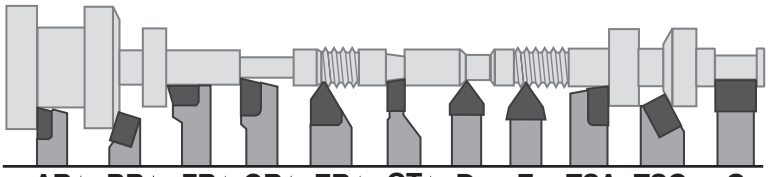

★ Right-hand tool shown.

A carbide tip is brazed onto a ground-steel shank to provide the strength needed for precise lathe work. The carbide tip can be sharpened when it dulls. When used in a lathe, right-handed tools cut from right to left, left-handed tools cut from left to right, and non-handed tools can cut from either direction.

Tools for steel have a grade C-6 carbide tip.

Tools for brass, bronze, and aluminum have a grade C-2 carbide tip. They're the best choice for cutting nonferrous materials, as well as cast iron.

Tools for all materials provide a good finish on materials such as plastic, stainless steel, titanium, and nickel alloys, making them useful when you're not sure what material you'll encounter next. They have a micrograin carbide tip.

Handed Tools

Shank Size, sq.	O'all Lg.	Tip Radius	Right-Handed Tools: Style No.		For Steel	For Brass, Bronze, Aluminum	For All Materials	Left-Handed Tools: Style No.		For Steel	For Brass, Bronze, Aluminum	For All Materials
Styles AR and AL—0° angle for turning, boring, and facing a square shoulder as well as chamfering												
1/4″	2″	1/64″	AR-4	3367A757	$4.17	$4.15	$12.01	AL-4	3367A789	$4.17	$4.15	$12.01
5/16″	2 1/4″	1/64″	AR-5	3367A758	4.74	4.75	12.28	AL-5	3367A791	4.74	4.75	12.28
3/8″	2 1/2″	1/64″	AR-6	3367A759	4.81	4.79	13.04	AL-6	3367A792	4.81	4.79	13.04
7/16″	3″	1/32″	AR-7	3367A761	4.85	4.84	13.66	AL-7	3367A793	4.85	4.84	13.66
1/2″	3 1/2″	1/32″	AR-8	3367A762	6.27	6.25	14.07	AL-8	3367A794	6.27	6.25	14.07
5/8″	4″	1/32″	AR-10	3367A763	8.93	8.95	25.94	AL-10	3367A795	8.93	8.95	25.94
3/4″	4 1/2″	1/32″	AR-12	3367A764	10.96	10.94	36.17	AL-12	3367A796	10.96	10.94	36.17
1″	7″	1/32″	AR-16	3367A765	19.62	19.63	—	AL-16	3367A797	19.62	19.63	—
Styles BR and BL—15° angle for interrupted cuts, turning, boring, and facing where a square shoulder is not required												
1/4″	2″	1/64″	BR-4	3367A766	4.17	4.16	—	BL-4	3367A798	4.17	4.16	—
5/16″	2 1/4″	1/64″	BR-5	3367A767	4.74	4.75	—	BL-5	3367A799	4.74	4.75	—
3/8″	2 1/2″	1/64″	BR-6	3367A768	4.81	4.79	13.31	BL-6	3367A801	4.81	4.79	13.31
7/16″	3″	1/32″	BR-7	3367A769	4.85	4.84	14.07	BL-7	3367A802	4.85	4.84	14.07
1/2″	3 1/2″	1/32″	BR-8	3367A771	6.27	7.32	14.89	BL-8	3367A803	6.27	7.32	14.89
5/8″	4″	1/32″	BR-10	3367A772	8.93	8.95	26.70	BL-10	3367A804	8.93	8.95	26.70
3/4″	4 1/2″	1/32″	BR-12	3367A773	10.96	10.94	36.58	BL-12	3367A805	10.96	10.94	36.58
Styles FR and FL—0° angle for turning and facing to a shoulder when working close to a lathe chuck												
1/2″	3 1/2″	1/32″	FR-8	3367A774	7.55	7.55	—	FL-8	3367A806	7.55	7.55	—
5/8″	4″	1/32″	FR-10	3367A775	10.05	9.94	—	FL-10	3367A807	10.05	9.94	—
3/4″	4 1/2″	1/32″	FR-12	3367A776	14.01	14.46	—	FL-12	3367A808	14.01	14.46	—
Styles GR and GL—0° angle for turning, boring, and facing												
1/2″	3 1/2″	1/32″	GR-8	3367A777	7.55	7.55	—	GL-8	3367A809	7.55	7.55	—
5/8″	4″	1/32″	GR-10	3367A778	10.05	10.04	—	GL-10	3367A811	10.05	10.04	—
3/4″	4 1/2″	1/32″	GR-12	3367A779	12.96	13.27	—	GL-12	3367A812	12.96	13.27	—
Styles ER and EL—30° angle for thread cutting and boring to a shoulder; 60° angle for standard thread cutting												
5/16″	2 1/4″	—	ER-5	3367A781	5.17	5.20	14.07	EL-5	3367A813	5.17	5.20	14.07
3/8″	2 1/2″	—	ER-6	3367A782	5.38	5.41	14.69	EL-6	3367A814	5.38	5.41	14.69
1/2″	3 1/2″	—	ER-8	3367A783	7.35	7.36	16.54	EL-8	3367A815	7.35	7.36	16.54
5/8″	4″	—	ER-10	3367A784	10.21	11.44	24.98	EL-10	3367A816	10.21	11.44	24.98
3/4″	4 1/2″	—	ER-12	3367A785	13.07	13.09	31.57	EL-12	3367A817	13.07	13.09	31.57
Styles CT and CTL—3° angle for cutoff and grooving operations												
1/2″×1″	5″	3/16″	CT-122	3367A786★	11.63	11.64	15.20	CTL-122	3367A818★	11.63	11.64	15.20
1/2″×1″	5″	1/4″	CT-121	3367A787★	11.99	12.01	15.79	CTL-121	3367A819★	11.99	12.01	15.79
1/2″×1″	5″	5/16″	CT-120	3367A788★	12.66	12.67	16.05	CTL-120	3367A821★	12.66	12.67	16.05
5/8″×1 1/4″	5″	3/8″	CT-130	3367A919★	14.74	14.51	16.73	CTL-130	3367A928★	14.74	14.51	16.73
3/4″×1 1/2″	6″	3/8″	CT-140	3367A924★	16.92	16.28	18.81	CTL-140	3367A933★	16.92	16.28	18.81

★Tip radius equals cutting-edge width.

Non-Handed Tools

Shank Size, sq.	O'all Lg.	Tip Radius	Style No.		For Steel	For Brass, Bronze, Aluminum	For All Materials
Style D—80° angle for outside and inside diameter turning, boring, facing, chamfering, and undercutting							
1/4″	2″	1/64″	D-4	3367A822	$3.91	$3.85	$12.01
5/16″	2 1/4″	1/64″	D-5	3367A823	4.55	4.51	12.70
3/8″	2 1/2″	1/64″	D-6	3367A824	5.04	5.03	13.45
7/16″	3″	1/32″	D-7	3367A825	5.47	5.49	13.73
1/2″	3 1/2″	1/32″	D-8	3367A826	6.54	6.79	14.07
5/8″	4″	1/32″	D-10	3367A827	9.11	9.25	25.87
3/4″	4 1/2″	1/32″	D-12	3367A828	12.25	12.23	34.93
1″	7″	1/32″	D-16	3367A829	21.36	21.33	—
Style E—60° angle for standard thread cutting; 30° angle for chamfering, notching, undercutting, and V-grooving							
1/4″	2″	—	E-4	3367A831	3.91	3.85	—
5/16″	2 1/4″	—	E-5	3367A832	4.55	4.51	12.70
3/8″	2 1/2″	—	E-6	3367A833	5.04	5.03	13.45
1/2″	3 1/2″	—	E-8	3367A834	6.54	6.79	14.07
5/8″	4″	—	E-10	3367A835	9.11	9.25	25.87
3/4″	4 1/2″	—	E-12	3367A836	12.25	12.23	34.93
Style TSA—For boring a square shoulder in 90° boring bars							
5/16″	1 1/2″	1/64″	TSA-5	3367A837	5.08	5.08	—
3/8″	1 3/4″	1/64″	TSA-6	3367A838	5.15	5.15	—
1/2″	2 1/2″	1/32″	TSA-8	3367A839	$7.32	$7.32	—
Style TSC—For facing as well as boring a square shoulder in 30° boring bars							
5/16″	1 1/2″	1/64″	TSC-5	3367A841	5.08	5.08	—
3/8″	1 3/4″	1/64″	TSC-6	3367A842	5.15	5.15	—
1/2″	2 1/2″	1/32″	TSC-8	3367A843	7.97	7.97	—
Style C—0° angle for turning, facing, chamfering, forming, and grooving							
1/4″	2″	—	C-4	3367A844	4.35	4.35	$12.28
5/16″	2 1/4″	—	C-5	3367A845	4.85	4.83	13.31
3/8″	2 1/2″	—	C-6	3367A846	5.13	5.13	13.79
7/16″	3″	—	C-7	3367A847	6.13	6.12	14.07
1/2″	3 1/2″	—	C-8	3367A848	6.82	6.83	14.76
1/2″×1″	7″	—	C-44	3367A941	25.82	25.82	—
5/8″	4″	—	C-10	3367A849	10.14	10.14	29.51
3/4″	4 1/2″	—	C-12	3367A851	14.60	14.59	37.61
3/4″×1″	6″	—	C-64	3367A944	35.11	35.11	—
1″	7″	—	C-16	3367A852	24.47	24.46	—
1 1/4″	8″	—	C-20	3367A937	60.82	60.82	—

Never-Sharpen Carbide-Insert Lathe Tools

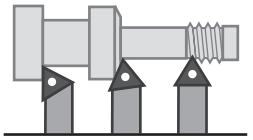

★Right-hand tool shown.


Right Handed


Left Handed

When one point becomes dull, rotate the carbide insert on these lathe tools to use a sharp point. When all three points are dull, replace only the insert and not the tool. All tools include a carbide insert for use on steel. The insert has a 1/64″ tip radius, a built-in chipbreaker, and a single-side cutting edge (also known as positive rake).

Styles AR and AL are for turning and facing to a 90° square shoulder.

Styles BR and BL are for turning and facing where a square shoulder is not required.

Style E is for turning, cutting threads, boring, facing, chamfering, and V-grooving.

Replacement carbide inserts for steel are grade C-5; **long-life for steel** are grade C-5 with a TiN (titanium nitride) coating that extends insert life; and **for brass, bronze, and aluminum** are grade C-2.

Lathe Tools—Include a carbide insert for steel

Shank Size, sq.	O'all Lg.	Insert Size	Right Handed Style No.		Left Handed Style No.	
Styles AR and AL—0° angle						
3/8″	2 1/2″	1/4″	AR-6 **3240A101**	$21.19	AL-6 **3240A102**	$21.19
1/2″	3 1/2″	3/8″	AR-8 **3240A105**	23.13	AL-8 **3240A106**	23.13
5/8″	4″	3/8″	AR-10 **3240A109**	26.01	AL-10 **3240A111**	26.01
3/4″	4 1/2″	3/8″	AR-12 **3240A114**	27.94	AL-12 **3240A115**	27.94
Styles BR and BL—15° angle						
3/8″	2 1/2″	1/4″	BR-6 **3240A103**	21.19	BL-6 **3240A104**	21.19
1/2″	3 1/2″	3/8″	BR-8 **3240A107**	23.13	BL-8 **3240A108**	23.13
5/8″	4″	3/8″	BR-10 **3240A112**	26.01	BL-10 **3240A113**	26.01
3/4″	4 1/2″	3/8″	BR-12 **3240A116**	27.94	BL-12 **3240A117**	27.94

Shank Size, sq.	O'all Lg.	Insert Size	Style No.	Non-Handed	
Style E—60° angle					
3/8″	2 1/2″	1/4″	E-6	**3240A118**	$21.19
1/2″	3 1/2″	3/8″	E-8	**3240A119**	23.13
5/8″	4″	3/8″	E-10	**3240A121**	26.01
3/4″	4 1/2″	3/8″	E-12	**3240A122**	27.94

Lathe Tool Sets—Come in a wood stand

Lathe Tools Included		
AR-6, AL-6, BR-6, BL-6, E-6	**3240A125**	$99.93
AR-8, AL-8, BR-8, BL-8, E-8	**3240A126**	106.72
AR-10, AL-10, BR-10, BL-10, E-10	**3240A127**	122.65
AR-12, AL-12, BR-12, BL-12, E-12	**3240A128**	131.73

Replacement Carbide Inserts

Insert Size	Tip Radius	For Steel		Long-Life For Steel		For Brass, Bronze, Aluminum	
1/4″	1/64″	**3240A131**	$6.63	**3240A133**	$8.27	**3240A132**	$6.63
1/4″	1/32″	**3240A134**	6.63	**3240A136**	8.27	**3240A135**	6.63
3/8″	1/64″	**3240A137**	6.63	**3240A139**	8.27	**3240A138**	6.63
3/8″	1/32″	**3240A141**	6.63	**3240A143**	8.27	**3240A142**	6.63
Replacement Screw for 1/4″ Inserts						**3240A211**	1.82
Replacement Screw for 3/8″ Inserts						**3240A212**	2.01

Fast-Cutting Diamond-Tipped Lathe Tools

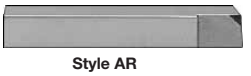
Style AR


Style AL

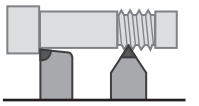

★Right-hand tool shown.

With a diamond tip, these tools can be used at faster speeds than carbide-tipped tools on nonferrous and nonmetallic materials. They cut aluminum, copper, fiberglass, rubber, ceramics, plastics, and carbon. Diamond tip length for all tools is 0.1″. **Styles AR and AL** are for turning, facing, and boring. **Style E** is for threading, chamfering, and undercutting.

Shank Size, sq.	O'all Lg.	Tip Radius	Right Handed Style No.		Left Handed Style No.	
Styles AR and AL—6° angle						
1/4″	2″	0.015″	AR-4 **3316A32**	$71.04	AL-4 **3316A42**	$71.04
3/8″	2 1/2″	0.015″	AR-6 **3316A34**	71.04	AL-6 **3316A44**	71.04
1/2″	3 1/2″	0.030″	AR-8 **3316A36**	71.04	AL-8 **3316A46**	71.04

Shank Size, sq.	O'all Lg.	Tip Radius	Style No.	Non-Handed	
Style E—60° angle					
5/16″	2 1/4″	0.010″	E-5	**3316A82**	$71.04
3/8″	2 1/2″	0.010″	E-6	**3316A83**	71.04
1/2″	3 1/2″	0.010″	E-8	**3316A85**	71.04

Curve-Cutting Carbide-Tipped Lathe Tools


Concave Bit


Convex Bit

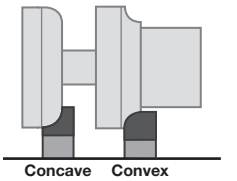

Cut a curve in metal workpieces. These tools are right-handed. Radius tolerance is ±0.001″. *Bits for steel* have grade C-6 carbide tips. *Bits for aluminum, brass, and bronze* have grade C-2 carbide tips.

Radius	Shank Size, sq.	O'all Lg.	*Choose Material: For Steel or For Aluminum, Brass, and Bronze* Concave Bits		Convex Bits	
1/32″	1/4″	2″	**3359A11**	$27.92	**3361A11**	$27.92
1/16″	1/4″	2″	**3359A12**	27.92	**3361A12**	27.92
3/32″	1/4″	2″	**3359A13**	27.92	**3361A13**	27.92
1/8″	1/4″	2″	**3359A14**	27.92	**3361A14**	27.92
5/32″	3/8″	2 1/2″	**3359A15**	29.24	**3361A15**	29.24
3/16″	3/8″	2 1/2″	**3359A16**	29.24	**3361A16**	29.24
1/4″	3/8″	2 1/2″	**3359A18**	29.24	**3361A18**	29.24
5/16″	1/2″	3 1/2″	**3359A21**	30.36	**3361A21**	30.36
3/8″	1/2″	3 1/2″	**3359A23**	30.36	**3361A23**	30.36
1/2″	3/4″	4 1/2″	**3359A27**	35.84	**3361A27**	35.84

Grind-Your-Own Lathe Tool Blanks



Grind these hardened blanks to your desired size and shape. They have 10° beveled ends. *Blanks for steel, brass, and aluminum* are M-2 high-speed steel. *Blanks for stainless steel and nickel* are M-42 tool steel. *Blanks for titanium* are PM M-48 high-speed steel. *Blanks for all metals and plastic* are PM T-15 high-speed steel.

Shank Size, sq.	Overall Lg.	For Steel, Brass, and Aluminum		For Stainless Steel and Nickel		For Titanium		For All Metals and Plastic	
1/8″	2 1/2″	**3200A19**	$7.62	**3363A11**	$7.87	**3205A78**	$10.36	**3205A59**	$8.33
3/16″	2 1/2″	**3200A21**	6.88	**3363A8**	7.19	**3205A79**	10.00	**3205A61**	8.25
1/4″	2 1/2″	**3200A22**	7.62	**3363A1**	7.84	**3205A71**	10.15	**3205A62**	9.21
5/16″	2 1/2″	**3200A23**	8.45	**3363A2**	9.15	**3205A72**	15.10	**3205A63**	10.94
3/8″	3″	**3200A24**	11.05	**3363A3**	12.12	**3205A73**	18.47	**3205A64**	14.86
7/16″	3 1/2″	**3200A25**	13.93	**3363A4**	15.46	**3205A74**	31.09	**3205A65**	22.27
1/2″	4″	**3200A26**	18.53	**3363A5**	21.63	**3205A75**	35.13	**3205A66**	27.80
5/8″	4 1/2″	**3200A27**	27.76	**3363A6**	33.25	**3205A76**	57.07	**3205A67**	44.36
3/4″	5″	**3200A28**	39.96	**3363A7**	53.02	**3205A77**	79.67	**3205A68**	61.73
7/8″	6″	**3200A29**	63.71	**3363A9**	86.45	_____	____	**3205A69**	104.73
1″	7″	**3200A31**	88.78	**3363A12**	110.93	_____	____	**3205A58**	142.55

High-Speed Steel Lathe Tools

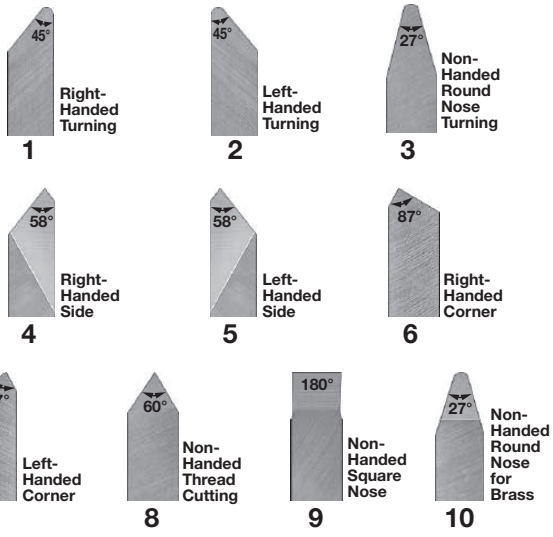

No matter what material you need to cut, these high-speed steel tools can get the job done. **Style 10** is the best choice for use on brass because of its shape. **Styles 1, 2, 3, and 10** have a tip radius of 1/16"; others do not have a tip radius.

10-piece sets contain one each of the bit styles shown above.

Lathe Tools

Shank Size, sq.	O'all Lg.	Style 1	Style 2	Style 3	Style 4	Style 5	
1/4"	2 1/2"	3364A23	3364A21	3364A22	3364A29	3364A27	$15.48
5/16"	2 1/2"	3364A34	3364A32	3364A33	3364A41	3364A38	22.04
3/8"	3"	3364A45	3364A43	3364A44	3364A52	3364A49	31.02

Shank Size, sq.	O'all Lg.	Style 6	Style 7	Style 8	Style 9	Style 10	
1/4"	2 1/2"	3364A26	3364A24	3364A25	3364A28	3364A31	$15.48
5/16"	2 1/2"	3364A37	3364A35	3364A36	3364A39	3364A42	22.04
3/8"	3"	3364A48	3364A46	3364A47	3364A51	3364A53	31.02

10-Piece Lathe Tool Sets

1/4" Sq. x 2 1/2" O'all Lg.	3364A12	$140.80
5/16" Sq. x 2 1/2" O'all Lg.	3364A13	200.31
3/8" Sq. x 3" O'all Lg.	3364A14	281.61

Lathe Tools for Thread Cutting



Make standard 60° threads from 8 to 36 pitch. These tools come with one insert for use on steel and stainless steel and one insert for use on aluminum, brass, bronze, and plastic. Tip radius is 0.004". **3/8" and 3/4" shank size tools** make external threads only. **1/2" shank size tool** makes external threads or internal threads in a 1 3/8" min. dia. hole.

Lathe Tools—Include two high-speed steel inserts

Shank Size, sq.	O'all Lg.	Insert Size		
3/8"	4 1/2"	3/8"	3264A11	$91.54
1/2"	5"	3/8"	3264A12	91.54
3/4"	4 3/8"	3/8"	3264A13	107.69

Replacement Inserts

For Use On		
Stainless Steel, Steel	3264A21	$13.77
Aluminum, Brass, Bronze, Plastic	3264A22	15.00

Hand Knurling Tools



Bring this tool with you for on-the-job knurling of steel and stainless steel. It includes three straight-pattern knurls with 25 teeth per inch. Knurls are high-speed steel.

Knurling Tool

Knurling Cap.	Knurl (Knurl Dia.)	Knurl (Face Wd.)	Knurl (Hole Dia.)	O'all Lg.		
1/8"-1"	1/2"	1/4"	3/16"	12 1/2"	3328A1	$161.17

Replacement Knurls (Set of 3)—Choose the teeth per inch (TPI)

Diamond Pattern—16, 25, or 33 TPI	3328A15	$47.08
Straight Pattern—16, 25, or 33 TPI	3328A16	47.08

Lathe Knurling Tools



Attach these tools directly to your lathe for more powerful knurling than hand tools. They come with a pair of knurls with 14 teeth per inch, a pair with 21 teeth per inch, and a pair with 33 teeth per inch. All the included knurls have a right- and left-hand spiral to produce a male diamond pattern. They are made of high-speed steel and can be used on any material. For replacement knurls, see High-Speed Steel and Cobalt Steel Knurls sold below.

Shank Wd.	Shank Ht.	Knurling Cap.	Knurl (Knurl Dia.)	Knurl (Face Wd.)	Knurl (Hole Dia.)	O'all Lg.		
5/16"	3/4"	1/4" and Up	5/8"	5/16"	7/32"	6 1/2"	3332A51	$303.88
3/8"	7/8"	1/4" and Up	5/8"	5/16"	7/32"	6 1/2"	3332A52	320.77
1/2"	1 1/8"	3/8" and Up	3/4"	3/8"	1/4"	6 1/2"	3332A53	343.85
5/8"	1 3/8"	3/8" and Up	3/4"	3/8"	1/4"	7"	3332A54	378.54

High-Speed Steel and Cobalt Steel Knurls

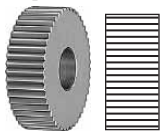
Straight

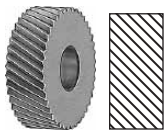
Right-Hand Spiral

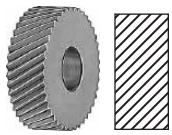
Left-Hand Spiral

Create patterns on your workpiece to improve your grip. These knurls have a ground finish for close tolerances, and their smooth teeth provide a clean knurled surface. To produce a diamond pattern, choose one right-hand and one left-hand spiral knurl.

High-Speed Steel—These knurls are made of M-1 high-speed steel and can be used on any material, except cast iron.

Cobalt Steel—Made of M-42 tool steel, these knurls are harder and last longer than high-speed steel.

Long-Life Cobalt Steel—With a convex shape, these knurls are long-lasting and produce a smoother finish than other knurls. Made of M-42 tool steel.

Knurl Dia.	Face Wd.	Hole Dia.	Choose the Teeth per Inch	Straight		Right-Hand Spiral		Left-Hand Spiral	
High-Speed Steel									
1/2"	3/16"	3/16"	20, 25, 30, 35, 80	3330A31	$14.52	33425A61	$14.52	3340A81	$14.52
5/8"	1/4"	1/4"	16, 20, 25, 30, 40, 50	3330A32	15.68	33425A62	15.68	3340A82	15.68
5/8"	5/16"	7/32"	14, 21, 33	3330A33	19.27	33425A63	19.27	3340A83	19.27
3/4"	1/4"	1/4"	16, 20, 25, 30, 40, 50	3330A34	17.65	33425A64	17.65	3340A84	17.65
3/4"	3/8"	1/4"	12, 14, 16, 20, 21, 25, 30, 33, 40, 50	3330A35	18.58	33425A65	18.58	3340A85	18.58
1"	3/8"	5/16"	14	3330A177	28.56	33425A47	28.56	3340A67	28.56
Cobalt Steel									
1/2"	3/16"	3/16"	20, 25, 30, 35, 40, 50, 80	3371A601	17.60	3371A602	17.60	3371A603	17.60
3/4"	3/8"	1/4"	12, 14, 20, 21, 25, 30, 80	3371A604	22.40	3371A605	22.40	3371A606	22.40
1"	3/8"	5/16"	14, 21, 33	3371A607	34.51	3371A608	34.51	3371A609	34.51
Long-Life Cobalt Steel									
3/4"	3/8"	1/4"	12, 14, 16, 20, 21, 25, 33	32915A501	34.32	32915A502	34.32	32915A503	34.32

Carbide Inserts

When the cutting edge becomes dull, rotate these carbide inserts in their tool holder to use a sharp edge. A larger tip radius provides a stronger cutting edge than a smaller tip radius, but it results in a rougher finish. Inserts for steel, stainless steel, nickel and titanium, cast iron, and all materials are coated carbide. Inserts for brass, bronze, and aluminum are uncoated carbide.

Long Life—Also known as negative-rake inserts, these have cutting edges on both the front and back to give you twice the life of comparable smooth-finish inserts. They have 90° corners and sit at an angle in the tool holder to provide strong cutting force in heavy duty applications.

Smooth Finish—Also called positive-rake inserts, these inserts have corners that are smaller than 90° for more clearance than comparable long-life inserts when machining inside workpieces. They sit flat in the holder and generate a lower cutting force than long-life inserts, providing a better finish.

Insert Size / Insert Code		CNMG	DNMG	SNMG	TNMG	WNMG	CCMT	DCMT	TCMT	TPG	SCMT	VBMT
Type of Cut	Along the Length	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Profiling		✓		✓			✓	✓	✓		✓
	Facing	✓		✓	✓	✓	✓		✓	✓	✓	
	Plunging		✓					✓				✓
Works with Holder Code		MCLN	MDJN	MSDN	MTAN MTEN MTGN MTJN	MWLN	SCLC	SDJC	STAC STEC STNC	CTAP CTFP	SSDC	SVJB

Insert Code	Insert Size	Thick.	Tip Radius		For Best Performance On: Steel	Stainless Steel	Nickel and Titanium	Cast Iron	Brass, Bronze, and Aluminum	For All Materials
Long Life										
CNMG-431	1/2″	3/16″	1/64″	3244A611	$15.89	$13.79	$15.22	$15.22	$10.90	$15.22
CNMG-432	1/2″	3/16″	1/32″	3244A612	15.89	13.79	15.22	15.22	10.90	15.22
CNMG-433	1/2″	3/16″	3/64″	3244A613	15.89	13.79	15.22	15.22	10.90	15.22
CNMG-542	5/8″	1/4″	1/32″	3244A614	25.05	21.79	23.98	23.98	17.46	23.98
CNMG-543	5/8″	1/4″	3/64″	3244A615	25.05	21.79	23.98	23.98	17.46	23.77
CNMG-544	5/8″	1/4″	1/16″	3244A616	25.05	21.79	23.98	23.98	21.79	23.77
DNMG-431	1/2″	3/16″	1/64″	3244A617	21.02	18.27	20.16	20.16	14.61	20.16
DNMG-432	1/2″	3/16″	1/32″	3244A618	21.02	18.27	20.16	20.16	14.61	20.16
SNMG-431	1/2″	3/16″	1/64″	3244A625	15.89	13.79	15.22	15.22	—	15.22
SNMG-432	1/2″	3/16″	1/32″	3244A626	15.89	13.79	15.22	15.22	10.90	15.22
SNMG-433	1/2″	3/16″	3/64″	3244A627	15.89	13.79	15.22	15.22	10.90	15.22
TNMG-321	3/8″	1/8″	1/64″	3244A646	13.95	—	—	—	—	12.12
TNMG-322	3/8″	1/8″	1/32″	3244A647	13.95	—	—	—	—	12.12
TNMG-332	3/8″	3/16″	1/32″	3244A648	13.95	12.12	13.34	13.34	9.75	13.34
TNMG-431	1/2″	3/16″	1/64″	3244A619	19.04	16.80	—	—	13.39	18.48
TNMG-432	1/2″	3/16″	1/32″	3244A621	19.04	16.80	18.48	18.48	13.39	18.48
WNMG-431	1/2″	3/16″	1/64″	3244A622	17.41	15.17	16.64	16.64	12.12	16.49
WNMG-432	1/2″	3/16″	1/32″	3244A623	17.41	15.17	16.64	16.64	11.97	16.49
WNMG-433	1/2″	3/16″	3/64″	3244A624	17.41	15.17	16.64	16.64	12.12	16.49
Smooth Finish										
CCMT-21.51	1/4″	3/32″	1/64″	3244A631	12.62	10.94	12.06	12.06	14.92	12.06
CCMT-21.52	1/4″	3/32″	1/32″	3244A632	12.62	10.94	12.06	12.06	8.75	12.06
CCMT-32.51	3/8″	5/32″	1/64″	3244A633	14.61	12.63	14.00	14.00	15.83	14.00
CCMT-32.52	3/8″	5/32″	1/32″	3244A634	14.61	12.63	14.00	14.00	15.83	14.00
DCMT-21.51	1/4″	3/32″	1/64″	3244A635	12.62	10.94	12.06	12.06	15.07	12.06
DCMT-21.52	1/4″	5/32″	1/32″	3244A636	12.62	10.94	12.06	12.06	8.75	12.06
DCMT-32.51	3/8″	5/32″	1/64″	3244A637	16.91	14.56	16.20	16.20	16.85	16.20
DCMT-32.52	3/8″	5/32″	1/32″	3244A638	16.91	14.56	16.20	16.20	16.85	16.20
TCMT-21.51	1/4″	3/32″	1/64″	3244A649	13.39	11.66	12.83	12.83	9.31	12.83
TCMT-21.52	1/4″	3/32″	1/32″	3244A651	13.39	11.66	12.83	12.83	9.31	12.80
TCMT-32.51	3/8″	5/32″	1/64″	3244A639	16.85	14.61	16.08	16.08	20.00	16.08
TCMT-32.52	3/8″	5/32″	1/32″	3244A641	16.85	14.61	16.08	16.08	20.00	15.98
TPG-321	3/8″	1/8″	1/64″	3244A652	—	21.53	—	—	16.90	21.53
TPG-322	3/8″	1/8″	1/32″	3244A653	—	21.53	—	—	16.90	21.53
SCMT-32.51	3/8″	5/32″	1/64″	3244A642	14.61	12.63	14.00	14.00	10.10	14.00
SCMT-32.52	3/8″	5/32″	1/32″	3244A643	14.61	12.63	14.00	14.00	15.83	14.00
VBMT-331	3/8″	3/16″	1/64″	3244A644	23.57	20.52	22.55	22.55	22.91	22.55
VBMT-332	3/8″	3/16″	1/32″	3244A645	23.57	20.52	22.55	22.55	22.91	22.55

Carbide Insert Holders

Pair these holders with a carbide insert to make the exact lathe tool you need. Carbide inserts are sold separately on page 2534. **Right-handed** holders cut from right to left. **Left-handed** holders cut from left to right. **Non-handed** holders cut in either direction.

For Long-Life Carbide Inserts

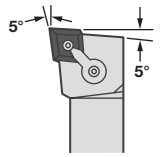

MCLN★

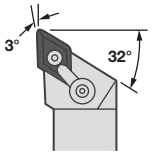

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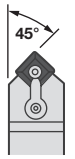

MSDN

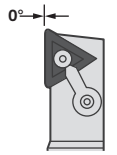

MTAN★

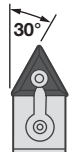

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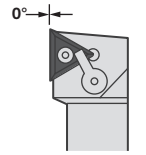

MTGN★

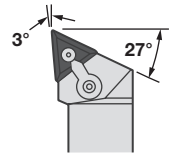

MTJN★

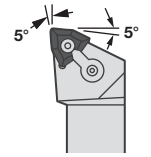

MWLN★

★ Right-hand tool shown.

Holder Code	Shank Wd.	Shank Ht.	Overall Lg.	Right Handed		Left Handed		Non-Handed	
For CNMG Carbide Inserts—½″ Insert Size; 3⁄16″ Insert Thick.									
MCLN	¾″	¾″	4½″	3288A741	$60.52	3288A745	$60.52		
MCLN	1″	1″	6″	3288A742	64.39	3288A746	64.39		
For CNMG Carbide Inserts—⅝″ Insert Size; ¼″ Insert Thick.									
MCLN	1″	1″	6″	3288A749	77.27	3288A748	77.27		
For DNMG Carbide Inserts—½″ Insert Size; 3⁄16″ Insert Thick.									
MDJN	¾″	¾″	4½″	3288A752	93.81	3288A756	93.81		
MDJN	1″	1″	6″	3288A754	96.06	3288A758	96.06		
For SNMG Carbide Inserts—½″ Insert Size; 3⁄16″ Insert Thick.									
MSDN	¾″	¾″	4½″					3288A443	$60.52
MSDN	1″	1″	6″					3288A445	64.39
For TNMG Carbide Inserts—⅜″ Insert Size; ⅛″ Insert Thick.									
MTAN	⅝″	⅝″	4½″	3288A11	55.84	3288A12	55.84		
MTEN	¾″	¾″	4½″					3288A82	60.52
MTGN	¾″	¾″	4½″	3288A514	60.52	3288A518	60.52		
MTJN	¾″	¾″	4½″	3288A472	60.52	3288A476	60.52		
For TNMG Carbide Inserts—⅜″ Insert Size; 3⁄16″ Insert Thick.									
MTJN	1″	1″	6″	3288A44	64.38	3288A45	64.38		
For TNMG Carbide Inserts—½″ Insert Size; 3⁄16″ Insert Thick.									
MTAN	1″	1″	6″	3288A68	64.39	3288A73	64.39		
MTEN	1″	1″	6″					3288A86	64.39
MTGN	1″	1″	6″	3288A516	64.39	3288A521	64.39		
MTJN	1″	1″	6″	3288A475	64.39	3288A478	64.39		
For WNMG Carbide Inserts—½″ Insert Size; 3⁄16″ Insert Thick.									
MWLN	¾″	¾″	4½″	3288A782	60.52	3288A787	60.52		
MWLN	1″	1″	6″	3288A783	64.39	3288A788	64.39		

For Smooth-Finish Carbide Inserts

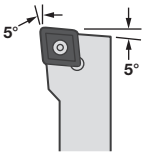

SCLC★

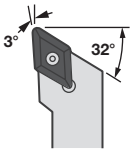

SDJC★



SSDC



STAC

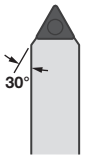

STEC

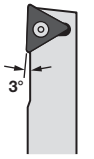

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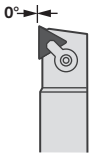

CTAP★

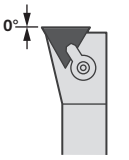

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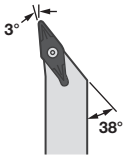

SVJB★

★ Right-hand tool shown.

Holder Code	Shank Wd.	Shank Ht.	Overall Lg.	Right Handed		Left Handed		Non-Handed	
For CCMT Carbide Inserts—¼″ Insert Size; 3⁄32″ Insert Thick.									
SCLC	⅜″	⅜″	3½″	3288A811	$51.47	3288A815	$51.47		
For CCMT Carbide Inserts—⅜″ Insert Size; 5⁄32″ Insert Thick.									
SCLC	½″	½″	4″	3288A812	51.47	3288A816	51.47		
SCLC	⅝″	⅝″	4½″	3288A813	52.70	3288A817	52.70		
SCLC	¾″	¾″	4½″	3288A814	62.65	3288A818	62.65		
For DCMT Carbide Inserts—¼″ Insert Size; 3⁄32″ Insert Thick.									
SDJC	⅜″	⅜″	3½″	3288A821	62.98	3288A826	62.98		
SDJC	½″	½″	4″	3288A822	62.98	3288A827	62.98		
For DCMT Carbide Inserts—⅜″ Insert Size; 5⁄32″ Insert Thick.									
SDJC	½″	½″	4″	3288A823	62.98	3288A828	62.98		
SDJC	⅝″	⅝″	4½″	3288A824	65.36	3288A829	65.36		
SDJC	¾″	¾″	4½″	3288A825	81.70	3288A831	81.70		
For SCMT Carbide Inserts—⅜″ Insert Size; 5⁄32″ Insert Thick.									
SSDC	½″	½″	4″					3288A834	$51.48
SSDC	⅝″	⅝″	4½″					3288A836	52.70
SSDC	¾″	¾″	4½″					3288A838	62.65
For TCMT Carbide Inserts—⅜″ Insert Size; 5⁄32″ Insert Thick.									
STAC	¾″	¾″	4½″	3288A457	47.72				
STAC	¾″	1″	6″	3288A458	51.57				
STEC	¾″	¾″	4½″					3288A655	47.72
STEC	¾″	1″	6″					3288A656	51.57
STNC	¾″	¾″	4½″	3288A669	47.72				
STNC	¾″	1″	6″	3288A671	51.57				
For TPG Carbide Inserts—⅜″ Insert Size; ⅛″ Insert Thick.									
CTAP	¾″	¾″	4½″	3288A851	60.52	3288A855	60.52		
For TPG Carbide Inserts—½″ Insert Size; 3⁄16″ Insert Thick.									
CTFP	1″	1″	6″	3288A863	64.39	3288A867	64.39		
For VBMT Carbide Inserts—⅜″ Insert Size; 3⁄16″ Insert Thick.									
SVJB	¾″	¾″	4½″	3288A842	92.27	3288A846	92.27		
SVJB	1″	1″	6″	3288A844	93.75	3288A843	93.75		

Cutoff Blades & Boring Tools

High-Speed Steel Cutoff Blades



One End Beveled 10° and One End Square



Both Ends Beveled 10°

With beveled and ground edges, these blades cut through a range of materials. Blades with one end beveled 10° and one end square fit 31805A cutoff blade holders on page 2539. Blades with both ends beveled 10° fit 3307A cutoff blade holders on page 2539.

Blades for steel, brass, and aluminum are M-2 tool steel. **Blades for stainless steel and nickel** are M-42 tool steel to withstand high heat while cutting. **Blades for all metals and plastic** are wear-resistant T-15 tool steel.

Wd.	Ht.	Lg.	For Steel, Brass, and Aluminum		For Stainless Steel and Nickel		For All Metals and Plastic	
One End Beveled 10° and One End Square								
1/16"	1/2"	4 1/2"	3366A71	$21.03	3366A24	$24.52	3366A37	$28.43
1/16"	11/16"	5"	3366A72	24.65	3366A25	34.25	3366A38	38.67
1/16"	13/16"	6"	3366A73	32.63	3366A26	46.74	3366A39	50.65
3/32"	1/2"	4 1/2"	3366A74	24.05	3366A13	31.60	3366A41	36.00
3/32"	11/16"	5"	3366A14	25.43	3366A27	35.13	3366A42	37.67
3/32"	13/16"	6"	3366A75	33.26	3366A28	54.05	3366A43	56.29
3/32"	1"	6 1/2"	3366A76	38.64	3366A29	56.67	3366A44	58.52
1/8"	11/16"	5"	3366A77	27.61	3366A31	36.28	3366A45	38.05
1/8"	13/16"	6"	3366A18	34.58	3366A32	44.85	3366A46	49.85
1/8"	1"	6 1/2"	3366A79	40.00	3366A33	49.85	3366A47	54.96
3/16"	13/16"	6"	3366A81	47.22	3366A34	54.34	3366A48	68.13
3/16"	1"	6 1/2"	3366A85	55.35	3366A86	62.95	3366A49	74.22
1/4"	1"	6 1/2"	3366A22	60.72	3366A35	81.08	3366A69	82.95
5/16"	1"	6 1/2"	3366A83	62.14	3366A36	82.32	3366A68	87.44
Both Ends Beveled 10°								
3/32"	1/2"	4 1/2"	3366A51	26.37	3366A61	42.50	3366A91	43.67
3/32"	5/8"	5"	3366A52	29.77	3366A62	45.16	3366A92	45.74
1/8"	3/4"	5"	3366A53	32.55	3366A63	47.42	3366A93	48.85
1/8"	7/8"	6"	3366A55	41.48	3366A64	52.77	3366A94	54.10
3/16"	1"	6 1/2"	3366A56	49.49	3366A65	65.62	3366A95	82.86
3/16"	1 1/8"	7"	3366A57	61.44	3366A66	83.25	3366A96	93.78

Chipbreaking High-Speed Steel Cutoff Blades



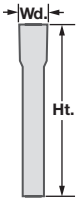

End View of Blade

The T-shape of these tools allows chips to move away from the cut, which reduces friction for fast cutting. Use them with 31805A cutoff blade tool holders on page 2539.

Blades for steel, brass, and aluminum are M-2 tool steel. **Blades for stainless steel** are M-35 steel and can be used on materials that are difficult to machine.

Wd.	Ht.	Lg.	For Steel, Brass, and Aluminum		For Stainless Steel	
1/16"	1/2"	4 1/2"	3275A42	$12.96	3275A56	$15.58
5/64"	1/2"	4 1/2"	3275A41	14.24	3275A74	16.48
3/32"	1/2"	4 1/2"	3275A43	14.91	3275A57	16.74
3/32"	11/16"	5"	3275A45	15.09	3275A59	17.47
1/8"	1/2"	4 1/2"	3275A44	15.40	3275A58	17.70
1/8"	11/16"	5"	3275A46	15.59	3275A61	18.17
1/8"	3/4"	5"	3275A49	16.14	_____	_____
1/8"	7/8"	6"	3275A51	18.71	3275A64	23.18
1/8"	1 1/8"	6 1/2"	3275A69	32.40	_____	_____
5/32"	11/16"	5"	3275A47	17.51	3275A62	21.74
5/32"	7/8"	6"	3275A53	21.93	_____	_____
3/16"	11/16"	5"	3275A48	19.42	3275A63	22.23
3/16"	7/8"	6"	3275A52	21.64	3275A65	26.88
1/4"	7/8"	6"	3275A68	26.59	_____	_____

Grind-Your-Own Boring Tools





Create the exact boring tool you need. The bit holders have one end angled at 45° and one at 90°. They are made of steel and are suitable for right- and left-hand use. The tool bits are M-2 tool steel, which cuts steel, aluminum, brass, and bronze. Grind them to the specific shape you need. Use bit holders and tool bits with the Quick-Change Tool Posts and Holders on page 2539.

Bit Holders				Tool Bits		
Dia.	O'all Lg.			Size		
1/4"	5"	32435A11	$12.63	5/32" dia.	32435A51	$2.74
5/16"	5"	32435A12	14.35	3/16" dia.	32435A52	3.12
3/8"	6"	32435A13	15.49	3/16" dia.	32435A52	3.12
1/2"	6"	32435A14	20.37	3/16" sq.	3200A21	6.88
9/16"	9"	32435A15	22.96	3/16" sq.	3200A21	6.88
5/8"	10"	32435A16	24.09	1/4" sq.	3200A22	7.62
3/4"	12"	32435A17	27.53	1/4" sq.	3200A22	7.62
1"	12"	32435A18	34.33	5/16" sq.	3200A23	8.45
1 1/4"	16"	32435A19	56.78	1/2" sq.	3200A26	18.53
1 1/2"	18"	32435A21	76.58	1/2" sq.	3200A26	18.53

High-Performance Carbide-Insert Boring Tools



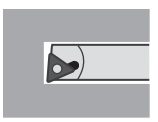

Combine these holders and replaceable carbide inserts to make a tool for the toughest boring applications on materials such as steel, stainless steel, and nickel-based alloys. **Insert holders** have a round shank with a through hole for coolant. All are right-handed. **Long-life carbide inserts** have a TiN (titanium nitride) coating for extended tool life, and they have a built-in chipbreaker.

To Order: For replacement torx screws and keys, please specify torx screw or key and the insert holder part number.

Min. Hole Dia.	Max. Boring Depth	Shank Dia.	O'all Lg.	Insert Holders		Long-Life Carbide Inserts	
0.180"	3/4"	3/16"	2 1/2"	3315A11	$109.29	3315A51	$14.10
0.290"	1"	1/4"	4"	3315A15	100.77	3315A52	13.60
0.350"	1 1/4"	5/16"	4"	3315A16	100.77	3315A52	13.60
0.430"	1 1/2"	3/8"	5"	3315A18	109.31	3315A53	13.49
0.560"	2"	1/2"	6"	3315A22	117.87	3315A53	13.49
0.720"	2 1/2"	5/8"	7"	3315A24	117.87	3315A54	15.63
0.850"	3"	3/4"	8"	3315A27	128.23	3315A54	15.63
1.100"	4"	1"	10"	3315A28	183.02	3315A54	15.63

Replacement Torx Screws and Keys 3315A91

Carbide-Insert Cutoff and Grooving Tools

Versatile and time saving, these tools have a carbide insert for cutting and grooving applications. When it dulls, you change only the carbide insert instead of the entire blade.

Use a carbide insert and a shank-style insert holder with workpieces up to 3″ in dia. For larger diameter workpieces, combine a carbide insert, a blade-style insert holder, and a tool block for blade-style insert holder.

Carbide Inserts



Inserts for steel are Grade C-5 carbide for general machining. **Inserts for steel and stainless steel** are TiN (titanium nitride) coated Grade C-5 carbide so they last longer and run at faster speeds than uncoated inserts. **Inserts for brass, bronze, and aluminum** are Grade C-2 carbide, which is best for nonferrous metals as well as cast iron.

Insert Wd.	For Steel		For Steel and Stainless Steel		For Brass, Bronze, and Aluminum	
For Solid Rods—0° angle						
0.087″	3212A39	$8.07	3212A41	$10.55	3212A38	$8.07
0.094″	3212A46	8.07	3212A47	10.55	3212A45	8.07
0.122″	3212A53	8.07	3212A54	10.55	3212A52	8.07
0.161″	3212A59	9.14	3212A61	11.24	3212A58	9.14
0.187″	3212A66	9.56	3212A67	10.97	3212A65	9.56
0.201″	3212A73	9.56	3212A74	10.97	3212A72	9.56
0.252″	3212A76	11.03	3212A77	12.98	3212A75	11.03
For Tubing—8° angle						
0.087″	3212A43	8.79	3212A44	10.67	3212A42	8.79
0.094″	3212A49	8.79	3212A51	10.67	3212A48	8.79
0.122″	3212A56	8.79	3212A57	10.83	3212A55	8.79
0.161″	3212A63	9.99	3212A64	11.66	3212A62	9.99
0.187″	3212A69	10.41	3212A71	11.95	3212A68	10.41

Shank-Style Insert Holders

No need for a tool block—the shank fits directly into a lathe post or an appropriately sized tool holder. Holders are right handed and have a tapered opening at one end. An insert extractor tool is included.



Shown with Carbide Insert

Max. Work Dia.	Shank Size, sq.	O'all Lg.	Use with Insert Width		
1 7/64″	3/8″	3 3/8″	0.087″, 0.094″	3212A25	$74.76
1 11/64″	1/2″	4 21/64″	0.087″, 0.094″	3212A26	80.92
1 17/64″	1/2″	4 21/64″	0.122″	3212A27	80.92
1 17/64″	5/8″	4 21/64″	0.122″	3212A29	87.09
1 17/64″	3/4″	4 21/64″	0.087″, 0.094″	3212A32	104.63
1 13/32″	3/4″	4 21/64″	0.122″	3212A33	104.63
2 1/16″	1″	5 7/8″	0.122″	3212A35	131.35
2 1/2″	1″	5 7/8″	0.161″	3212A98	131.35
3″	1″	5 7/8″	0.187″, 0.201″	3212A37	131.35

Blade-Style Insert Holders

Holders have a tapered opening on each end. Use for right- and left-handed mounting.



Shown with Carbide Insert

Max. Work Dia.	*Blade* Lg.	*Blade* Wd.	*Blade* Ht.	Use with Insert Width		
1 1/2″	3 3/8″	0.063″	3/4″	0.087″, 0.094″	3212A81	$58.63
3″	4 5/16″	0.063″	1 1/32″	0.087″, 0.094″	3212A16	73.26
3″	4 5/16″	0.094″	1 1/32″	0.122″	3212A17	76.14
3″	4 5/16″	0.125″	1 1/32″	0.161″	3212A18	80.32
4″	5 7/8″	0.094″	1 1/4″	0.122″	3212A21	77.88
4″	5 7/8″	0.125″	1 1/4″	0.161″	3212A22	77.91
5″	5 7/8″	0.156″	1 1/4″	0.187″, 0.201″	3212A23	90.35
5″	5 7/8″	0.203″	1 1/4″	0.252″	3212A24	87.83

Tool Blocks for Blade-Style Insert Holders

Use with blade-style insert holders for correct alignment. Blocks can be mounted for both right- and left-handed machining on manual lathes and CNC machines.



Shown with Insert-Holder Blade and Carbide Insert

(A)	(B)	O'all Lg.	Use with Blade-Style Insert-Holder Nos.		
5/8″	5/8″	3 7/16″	3212A81	3212A09	$116.72
3/4″	3/4″	3 7/16″	3212A16, A17, and A18	3212A11	116.67
3/4″	3/4″	4 5/16″	3212A21, A22, A23, and A24	3212A12	125.25
25/32″	1″	4 5/16″	3212A21, A22, A23, and A24	3212A13	143.68
1 1/8″	1 1/4″	4 5/16″	3212A21, A22, A23, and A24	3212A15	150.34

Never-Sharpen Carbide-Insert Boring Tools



When one point dulls, rotate the replaceable carbide insert for a new cutting point.

Boring tools include a carbide insert for steel with a 1/64″ radius and built-in chipbreaker. **Sets** include one each of the tools listed.

Carbide inserts have a built-in chipbreaker. **Inserts for steel** are Grade C-5 carbide for general purpose machining. **Inserts for brass, bronze, and aluminum** are Grade C-2 carbide, which is best for nonferrous metals as well as cast iron.

Boring Tools

Min. Hole Dia.	Max. Boring Depth	O'all Lg.		
1/2″ Shank Diameter				
7/16″	1 1/4″	2 3/4″	3249A201	$28.11
7/16″	2 1/8″	3 5/8″	3249A202	28.63
1/2″	1 1/2″	3″	3249A203	28.63
1/2″	2 1/2″	4″	3249A204	29.18
4-Pc. 1/2″ Shank Dia. Set			3249A221	105.66
3/4″ Shank Diameter				
7/16″	1 3/8″	3 3/8″	3249A205	35.20
7/16″	2 1/4″	4 1/4″	3249A206	35.80
1/2″	1 5/8″	3 5/8″	3249A207	36.32
1/2″	2 5/8″	4 5/8″	3249A208	36.91
9/16″	1 7/8″	3 7/8″	3249A209	37.40
9/16″	3″	5″	3249A211	37.98
11/16″	2 1/4″	4 1/4″	3249A212	37.98
11/16″	3 1/2″	5 1/2″	3249A213	38.53
8-Pc. 3/4″ Shank Dia. Set			3249A222	273.28

Carbide Inserts

Tip Radius	For Steel		For Brass, Bronze, and Aluminum	
1/64″	3240A131	$6.63	3240A132	$6.63
1/32″	3240A134	6.63	3240A135	6.63
Repl. Hex Screw (2-56 x 1/4″)			3249A215	1.45

Boring Holders for Replaceable Inserts



Bore an opening inside workpieces when you pair these holders with TCMT inserts (please see page 2534). Holders are steel with a round shank and have a 3° angle. One insert screw and one torx key are included.

Min. Hole Dia.	Max. Boring Depth	Shank Dia.	O'all Lg.	Right Handed		Left Handed	
For TCMT-21.51 and TCMT-21.52 inserts							
0.500″	1 1/2″	3/8″	5″	3707A11	$51.65	3707A16	$51.65
0.590″	2″	1/2″	6″	3707A12	57.79	3707A17	57.79
0.750″	2 1/2″	5/8″	8″	3707A13	58.62	3707A18	58.62
For TCMT-32.51 and TCMT-32.52 inserts							
0.845″	3″	3/4″	10″	3707A14	61.91	3707A19	61.91
1.115″	4″	1″	12″	3707A15	66.79	3707A21	66.79

Internal Threading Tools

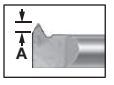

V-Shaped Threads

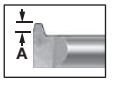

Acme Threads



These tools are solid micrograin carbide with flats on the shank for quick setups. All are right handed. Use on steel, stainless steel, nickel, aluminum, brass, bronze, and cast iron.

Min. Hole Dia.	Max. Hole Dp.	Offset (A)	Shank Dia.	O'all Lg.	Threads Per Inch		
V-Shaped Threads—Standard 60°							
0.12″	0.30″	0.030″	3/16″	2 1/2″	—	3369A21	$27.96
0.14″	0.30″	0.035″	3/16″	2 1/2″	—	3369A22	27.96
0.18″	0.50″	0.040″	1/4″	2 1/2″	—	3369A23	30.03
0.18″	0.75″	0.040″	1/4″	2 1/2″	—	3369A24	30.03
0.20″	0.60″	0.045″	1/4″	2 1/2″	—	3369A25	30.03
0.23″	0.75″	0.055″	5/16″	2 1/2″	—	3369A26	37.68
0.23″	1.00″	0.055″	5/16″	2 1/2″	—	3369A27	37.68
0.29″	1.00″	0.070″	5/16″	2 1/2″	—	3369A28	37.68
0.32″	0.75″	0.075″	3/8″	2 1/2″	—	3369A29	49.09
0.36″	0.75″	0.085″	3/8″	2 1/2″	—	3369A31	49.09
0.36″	1.00″	0.085″	3/8″	2 1/2″	—	3369A32	49.09
0.49″	0.75″	0.120″	1/2″	3″	—	3369A33	68.10
Acme Threads							
0.49″	2.00″	0.120″	1/2″	3″	5	3369A34	68.10
0.49″	2.00″	0.120″	1/2″	3″	6	3369A35	68.10
0.49″	2.00″	0.150″	1/2″	3″	4	3369A36	68.10

Carbide-Tipped Boring Tools

Combining strength and rigidity, these tools are the right choice for all types of boring operations. They have an offset taper that provides additional clearance to prevent chips from clogging the hole. Their round shank is ground to fit standard holders.

Standard Depth



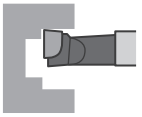

All tools are right handed. **Tools for steel** have a Grade C-6 carbide tip for general machining. **Tools for brass, bronze, and aluminum** have a Grade C-2 carbide tip, which is best for nonferrous metals as well as cast iron.

Sets include one of each tool listed under the shank diameters.

Min. Hole Dia.	Max. Boring Depth	O'all Lg.	For Steel		For Brass, Bronze, and Aluminum	
3/8" Shank Diameter						
5/16"	3/4"	2"	3296A511	$13.07	3296A611	$13.07
5/16"	1 1/8"	2 3/8"	3296A512	13.22	3296A612	13.22
5/16"	1 1/2"	2 3/4"	3296A513	13.70	3296A613	13.70
3/8"	15/16"	2 3/16"	3296A514	14.49	3296A614	14.49
3/8"	1 13/32"	2 21/32"	3296A515	14.98	3296A615	14.98
3/8"	1 7/8"	3 1/8"	3296A516	15.53	3296A616	15.53
7/16"	1 1/8"	2 3/8"	3296A517	15.91	3296A617	15.91
7/16"	1 11/16"	2 15/16"	3296A518	16.31	3296A618	16.31
7/16"	2 1/4"	3 1/2"	3296A519	16.89	3296A619	16.89
9-Pc. 3/8" Shank Dia. Set			3296A71	126.02	3296A72	126.02
1/2" Shank Diameter						
5/16"	3/4"	2 1/4"	3296A531	17.43	3296A631	17.43
5/16"	1 1/8"	2 5/8"	3296A532	17.92	3296A632	17.92
5/16"	1 1/2"	3"	3296A533	18.40	3296A633	18.40
7/16"	1 1/8"	2 5/8"	3296A534	19.24	3296A634	19.24
7/16"	1 11/16"	3 3/16"	3296A535	19.58	3296A635	19.58
7/16"	2 1/4"	3 3/4"	3296A536	19.92	3296A636	19.92
9/16"	1 1/2"	3"	3296A537	20.71	3296A637	20.71
9/16"	2 1/4"	3 3/4"	3296A538	21.01	3296A638	21.01
9/16"	3"	4 1/2"	3296A539	21.35	3296A639	21.35
9-Pc. 1/2" Shank Dia. Set			3296A73	165.19	3296A74	165.19
5/8" Shank Diameter						
5/16"	3/4"	2 1/4"	3296A416	24.57	3296A412	24.57
5/16"	1 1/8"	2 5/8"	3296A426	25.55	3296A422	25.55
5/16"	1 1/2"	3"	3296A436	26.42	3296A432	26.42
7/16"	1 1/8"	2 5/8"	3296A446	28.02	3296A442	28.02
7/16"	1 11/16"	3 3/16"	3296A456	29.11	3296A452	29.11

Min. Hole Dia.	Max. Boring Depth	O'all Lg.	For Steel		For Brass, Bronze, and Aluminum	
5/8" Shank Diameter (Cont.)						
7/16"	2 1/4"	3 3/4"	3296A466	$30.03	3296A462	$30.03
9/16"	1 1/2"	3"	3296A476	31.39	3296A472	31.39
9/16"	2 1/4"	3 3/4"	3296A486	32.43	3296A482	32.43
9/16"	3"	4 1/2"	3296A496	33.23	3296A492	33.23
11/16"	1 7/8"	3 3/8"	3296A526	34.96	3296A522	34.96
11/16"	2 13/16"	4 5/16"	3296A546	36.09	3296A542	36.09
11/16"	3 3/4"	5 1/4"	3296A576	37.06	3296A572	37.06
12-Pc. 5/8" Shank Dia. Set			3296A95	346.88	3296A85	346.88
3/4" Shank Diameter						
7/16"	1 1/8"	3 1/8"	3296A551	24.43	3296A651	24.43
7/16"	1 11/16"	3 11/16"	3296A552	25.22	3296A652	25.22
7/16"	2 1/4"	4 1/4"	3296A553	26.09	3296A653	26.09
9/16"	1 1/2"	3 1/2"	3296A554	27.22	3296A654	27.22
9/16"	2 1/4"	4 1/4"	3296A555	28.25	3296A655	28.25
9/16"	3"	5"	3296A556	29.03	3296A656	29.03
11/16"	1 7/8"	3 7/8"	3296A557	30.35	3296A657	30.35
11/16"	2 13/16"	4 13/16"	3296A558	31.48	3296A658	31.48
11/16"	3 3/4"	5 3/4"	3296A559	32.21	3296A659	32.21
13/16"	2 1/4"	4 1/4"	3296A561	34.61	3296A661	34.61
13/16"	3 3/8"	5 3/8"	3296A562	35.74	3296A662	35.74
13/16"	4 1/2"	6 1/2"	3296A563	37.06	3296A663	37.06
12-Pc. 3/4" Shank Dia. Set			3296A75	340.24	3296A76	340.24
1" Shank Diameter						
9/16"	3"	5"	3296A581	46.02	3296A681	46.02
11/16"	3 3/4"	5 3/4"	3296A582	48.42	3296A682	48.42
7/8"	4 1/2"	6 1/2"	3296A583	51.50	3296A683	51.50
1 1/16"	4 1/2"	6 1/2"	3296A584	54.69	3296A684	54.69

Deep Boring



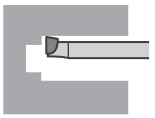

The long steel shank bores deeper than standard-depth tools, and it can be cut to length depending on the depth of the hole you need. Use on steel, stainless steel, nickel alloys, and titanium. All have a micrograin carbide tip, which is tougher than Grade C-6 and Grade C-2 carbide.

5-pc. set includes one tool each in 1/4", 3/8", 1/2", 5/8", and 3/4" shank diameters.

Shank Dia.	Min. Hole Dia.	Max. Boring Depth	O'all Lg.	Left Handed		Right Handed	
1/4"	0.32"	3"	4"	3296A322	$23.28	3296A312	$23.28
5/16"	0.413"	4"	5"	3296A323	24.27	3296A313	24.27
3/8"	0.463"	5"	6"	3296A324	26.13	3296A314	26.13
1/2"	0.625"	6"	7"	3296A325	32.90	3296A315	32.90
5/8"	0.795"	7"	8"	3296A326	34.71	3296A316	34.71
3/4"	0.935"	8"	9"	3296A327	36.52	3296A317	36.52
1"	1.233"	9"	10"	3296A321	38.56	3296A311	38.56
5-Piece Set				3296A32	140.75	3296A31	140.75

Shank Dia.	Min. Hole Dia.	Max. Boring Depth	O'all Lg.	Non-Handed	
1/4"	1/4"	1 1/2"	2 1/2"	3296A332	$23.28
5/16"	5/16"	2"	3"	3296A333	24.27
3/8"	3/8"	2 1/2"	3 1/2"	3296A334	26.13
7/16"	7/16"	3"	4"	3296A335	28.53
1/2"	1/2"	4"	5"	3296A336	32.90
5/8"	5/8"	5"	6"	3296A331	34.71

Small-Diameter Solid-Carbide Boring Tools



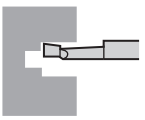

The smallest boring tools we offer. All are solid micrograin carbide and have flats on their shanks for quick setups. They are right handed. Use on most metals and plastics.

6-pc. set includes one each of the sizes marked with a ★ under 1/8" shank diameter.

Min. Hole Dia.	Max. Boring Depth	O'all Lg.		
1/8" Shank Diameter				
0.015"	0.05"	1 1/2"	3301A72	$39.36
0.020"	0.08"	1 1/2"	3301A73★	39.36
0.025"	0.10"	1 1/2"	3301A74★	34.68
0.030"	0.10"	1 1/2"	3301A75★	34.68
0.035"	0.10"	1 1/2"	3301A76★	34.68
0.035"	0.15"	1 1/2"	3301A77	34.68
0.040"	0.10"	1 1/2"	3301A78	34.68
0.040"	0.15"	1 1/2"	3301A79★	34.68
0.045"	0.10"	1 1/2"	3301A81	34.68
0.045"	0.15"	1 1/2"	3301A82★	34.68
0.050"	0.15"	2"	3301A11	20.19
0.060"	0.30"	2"	3301A15	20.19

Min. Hole Dia.	Max. Boring Depth	O'all Lg.		
1/8" Shank Diameter (Cont.)				
0.080"	0.50"	2"	3301A22	$20.19
0.100"	0.50"	2"	3301A25	20.19
6-Pc. 1/8" Shank Dia. Set			3301A71	212.10
3/16" Shank Diameter				
0.120"	0.70"	2 1/2"	3301A32	21.63
0.140"	0.40"	2 1/2"	3301A34	21.63
0.160"	0.60"	2 1/2"	3301A37	21.63
1/4" Shank Diameter				
0.180"	0.35"	2 1/2"	3301A39	23.30
0.180"	0.50"	2 1/2"	3301A41	23.30
0.180"	0.75"	2 1/2"	3301A43	23.30

Min. Hole Dia.	Max. Boring Depth	O'all Lg.		
1/4" Shank Diameter (Cont.)				
0.180"	1.00"	2 1/2"	3301A44	$23.30
0.200"	0.80"	2 1/2"	3301A46	23.30
0.200"	1.00"	2 1/2"	3301A47	23.30
0.280"	3.38"	4 3/8"	3301A91	55.05
5/16" Shank Diameter				
0.230"	1.00"	2 1/2"	3301A53	31.93
0.230"	1.20"	2 1/2"	3301A54	31.93
0.350"	3.38"	4 3/8"	3301A92	65.74
3/8" Shank Diameter				
0.320"	1.00"	2 1/2"	3301A59	44.64
0.360"	1.50"	2 1/2"	3301A65	44.64

Grooving Tools for Retaining Rings



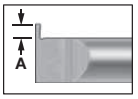

The shape of these tools lets you cut square-corner grooves for retaining rings. All are made of solid micrograin carbide and have flats on the shank for fast setups. They are right-handed. Use on steel, stainless steel, nickel, aluminum, brass, bronze, and cast iron.

Groove Width	Min. Hole Dia.	Max. Hole Dp.	Offset (A)	Shank Dia.	O'all Lg.		
Inch							
0.017″-0.018″	3/16″	5/8″	0.050″	3/16″	2 1/2″	32335A81	$26.57
0.017″-0.018″	1/4″	5/8″	0.050″	1/4″	2 1/2″	32335A82	27.38
0.025″-0.026″	1/4″	1/2″	0.050″	1/4″	2 1/2″	32335A18	27.39
0.030″-0.031″	3/16″	1/4″	0.050″	3/16″	2 1/2″	32335A21	25.55
0.030″-0.031″	1/4″	3/8″	0.050″	1/4″	2 1/2″	32335A22	27.39
0.030″-0.031″	1/4″	5/8″	0.050″	1/4″	2 1/2″	32335A24	27.39
0.038″-0.039″	5/16″	3/4″	0.100″	5/16″	2 1/2″	32335A31	34.20
0.039″-0.041″	3/8″	1/2″	0.100″	3/8″	2 1/2″	32335A34	44.76
0.046″-0.047″	3/32″	1/4″	0.030″	1/8″	2″	32335A17	22.10
0.046″-0.048″	3/8″	1″	0.100″	3/8″	2 1/2″	32335A41	44.76
0.055″-0.057″	3/8″	1″	0.100″	3/8″	2 1/2″	32335A46	44.76
0.062″-0.063″	1/8″	1/4″	0.040″	1/8″	2″	32335A42	22.05
0.062″-0.063″	1/8″	3/8″	0.040″	1/8″	2″	32335A43	22.05
0.062″-0.064″	5/16″	3/4″	0.100″	5/16″	2 1/2″	32335A47	32.88
0.062″-0.064″	3/8″	1/2″	0.100″	3/8″	2 1/2″	32335A48	44.76
0.062″-0.064″	3/8″	1″	0.100″	3/8″	2 1/2″	32335A51	44.76
0.063″	5/16″	3″	0.060″	1/4″	4 1/2″	32335A87	55.57
0.063″	5/8″	5″	0.120″	1/2″	6 1/2″	32335A91	109.76
0.069″-0.071″	3/8″	1″	0.100″	3/8″	2 1/2″	32335A54	44.76
0.087″-0.089″	3/8″	1″	0.100″	3/8″	2 1/2″	32335A58	44.76
0.093″-0.095″	1/2″	3/4″	0.150″	1/2″	3″	32335A59	60.84
0.094″	3/8″	3″	0.075″	5/16″	4 1/2″	32335A88	69.71
0.103″-0.105″	3/8″	1/2″	0.106″	3/8″	2 1/2″	32335A61	39.85
0.120″-0.122″	3/8″	1/2″	0.106″	3/8″	2 1/2″	32335A62	39.85
0.125″-0.127″	3/8″	1″	0.100″	3/8″	2 1/2″	32335A83	44.75
0.125″	3/8″	3″	0.075″	5/16″	4 1/2″	32335A89	69.71
0.156″-0.158″	1/2″	1″	0.150″	1/2″	3″	32335A84	63.27
0.187″-0.189″	1/2″	1″	0.150″	1/2″	3″	32335A85	63.27
0.250″-0.252″	1/2″	1″	0.150″	1/2″	3″	32335A86	63.27
Metric							
0.25-0.75 mm	1/4″	1/2″	0.050″	1/4″	2 1/2″	32335A73	24.38
0.85-1.35 mm	1/4″	1/2″	0.050″	1/4″	2 1/2″	32335A75	24.38
1.05-1.55 mm	1/4″	1/2″	0.050″	1/4″	2 1/2″	32335A76	24.38

Grooving Tools for O-Rings



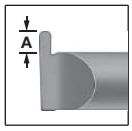

0.030″-0.071″ Groove Width

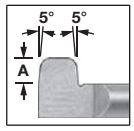

0.096″-0.243″ Groove Width

Cut small grooves inside your workpiece for insertion and removal of O-rings. Tools are right-handed and made of solid micrograin carbide. Use on steel, stainless steel, nickel, aluminum, brass, bronze, and cast iron as well as plastic.

Groove Width	Min. Hole Dia.	Max. Hole Depth	Offset (A)	Shank Dia.	O'all Lg.		
0.030″-0.031″	1/4″	5/8″	0.050″	1/4″	2 1/2″	3373A17	$34.59
0.039″-0.041″	3/8″	5/8″	0.100″	3/8″	2 1/2″	3373A18	55.67
0.055″-0.057″	3/8″	3/4″	0.100″	3/8″	2 1/2″	3373A19	55.67
0.062″-0.064″	3/8″	3/4″	0.100″	3/8″	2 1/2″	3373A21	55.67
0.069″-0.071″	3/8″	1″	0.100″	3/8″	2 1/2″	3373A22	55.67
0.096″-0.098″	1/4″	1/2″	0.100″	1/4″	2 1/2″	3373A11	33.93
0.141″-0.143″	1/4″	9/16″	0.100″	1/4″	2 1/2″	3373A12	33.93
0.144″-0.146″	1/4″	5/8″	0.100″	1/4″	2 1/2″	3373A13	33.93
0.174″-0.176″	3/8″	3/4″	0.115″	3/8″	2 1/2″	3373A14	55.77
0.208″-0.210″	3/8″	13/16″	0.115″	3/8″	2 1/2″	3373A15	55.77
0.241″-0.243″	3/8″	15/16″	0.115″	3/8″	2 1/2″	3373A16	55.77

Cutoff Blade Holders



Straight Shank



Right-Hand Offset

Place your cutoff blade into a holder to reduce breakage and keep it firmly in place in your lathe. Holders are made of alloy steel and come with a wrench. They adjust so you can modify blade length. Use with blades that have a 10° bevel on each end. Cutting tools are not included (please see page 2536).

To Order: Please specify straight shank or right-hand offset.

For Lathe Swing	For Blade Size Wd.	For Blade Size Ht.	Tool Holder Size Wd.	Tool Holder Size Lg.	Tool Holder Size Ht.		
9″ to 10″	3/32″	5/8″	3/8″	5″	7/8″	3307A41	$19.23
11″ to 14″	1/8″	3/4″	1/2″	6″	1 1/8″	3307A42	23.80
14″ to 16″	1/8″	7/8″	5/8″	7″	1 3/8″	3307A43	28.69
16″	3/16″	1″	3/4″	8″	1 5/8″	3307A44	38.97

Quick-Change Tool Posts and Holders

Position and secure your tools on manual and CNC lathes. Slide-in dovetail mounts on the tool posts allow you to quickly change from one tool holder to another. Posts and holders (sold separately) are interchangeable with systems from Aloris, Dorian, and Armstrong. Use with cutting tools (sold separately) that have a shank diameter that matches the tool holder capacity.

Tool Posts

Posts have a handle for positioning and two slide-in dovetail mounts for tool holder changes. The mounts are set 90° apart so you can mount tool holders on either side. A locking system eliminates vibration and ensures repeated accuracy within millionths of an inch. All tool posts include a T-bolt for mounting on your lathe.

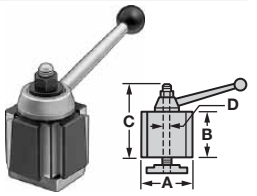

For Lathe Swing	(A)	(B)	(C)	(D)	Center Ht. Min.	Center Ht. Max.	Tool Post Series	Use with Tool Holder Nos.		
Up to 10″	2 1/2″	2 1/4″	3 7/8″	9/16″	15/16″	1 1/4″	AXA	31805A15, A33, A19, A91	31805A11	$328.21
12″ to 15″	3″	2 3/4″	4 5/8″	5/8″	1 1/8″	1 3/4″	BXA	31805A26, A34, A21, A92	31805A12	399.00
13″ to 18″	3 1/2″	3″	5 1/8″	3/4″	1 7/16″	2″	CXA	31805A17, A35, A22, A93	31805A13	544.26
14″ to 20″	4″	3 5/8″	6 1/4″	7/8″	1 11/16″	2 5/8″	CA	31805A18, A36, A23, A94	31805A14	684.92

Tool Holders

A height-adjustment screw provides a secure fit every time without shimming.

Square-Shank Tool Holders—Grip shanks close to the post for good rigidity. Use with high-speed steel and carbide square-shank tools.

Square- and Round-Shank Tool Holders—Hold high-speed steel and carbide square-shank tools. They also have a V-groove that enables them to grip round-shank boring tools of the same capacity, except 31805A36 round shank capacity is 13/16″.

Heavy Duty Round-Shank Tool Holders—Four flat-head screws lock down on the tool for maximum rigidity.

Cutoff Blade Holders—Use with standard beveled blades with one beveled end, T-shaped cutoff blades, and high-speed steel blades.



Square-Shank Tool Holder



Heavy Duty Round-Shank Tool Holder

Fits Tool Post Series	Square-Shank Tool Holders: Tool Holder Capacity			Square- and Round-Shank Tool Holders: Tool Holder Capacity			Heavy Duty Round-Shank Tool Holders: Tool Holder Capacity			Cutoff Blade Holders: Tool Holder Capacity		
AXA	1/2″	31805A15	$56.03	1/2″	31805A33	$60.86	3/4″	31805A19	$91.78	3/32″ x 1/2″	31805A91	$98.16
BXA	5/8″	31805A26	65.69	5/8″	31805A34	72.46	1″	31805A21	111.10	1/8″ x 11/16″	31805A92	111.10
CXA	3/4″	31805A17	82.12	3/4″	31805A35	90.81	1″	31805A22	125.59	1/8″ x 3/4″	31805A93	123.66
CA	1″	31805A18	99.51	1″	31805A36	112.07	1 1/4″	31805A23	150.71	3/16″ x 7/8″	31805A94	160.37

Square-Shank Lathe Tool Holders


Straight Shank


Right-Hand Offset


Left-Hand Offset

A set screw keeps your square-shank lathe tool in place. Holders are made of steel and come with a wrench. Lathe tools are not included (please see pages 2531-2532).

For Lathe Swing	For Square Shank Size	Tool Holder Size Wd.	Lg.	Ht.	Straight Shank		Right-Hand Offset		Left-Hand Offset	
10″ to 12″	1/4″	3/8″	5″	7/8″	3298A713	$21.37	3298A712	$21.37	3298A711	$21.37
14″ to 16″	5/16″	1/2″	6″	1 1/8″	3298A723	23.80	3298A722	23.80	3298A721	23.80
16″ to 18″	3/8″	5/8″	7″	1 3/8″	3298A733	26.79	3298A732	26.79	3298A731	26.79

5C, 16C, 3J, and R8 Collets


5C Collet


R8 Collet

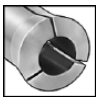
Round

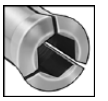
Hexagon


Square

The most popular collets we offer, these are used for machining a large number of parts that have the same diameter. All have slots in the body that allow them to tightly grip your workpiece. The diameter of the workpiece should be within +0.000″, –0.004″ of the collet size. Collets up to 13/32″ (11 mm) have an accuracy of 0.0007″; all others have an accuracy of 0.0011″.

5C Collets—Main body diameter is 1 1/4″. Overall length is 3.270″. They have 1.041″×24 internal right-hand threads and 1.238″×20 external right-hand threads.

16C Collets—Main body diameter is 1.89″. Overall length is 4.31″. They have 1 11/16″×20 internal right-hand threads and M47.5×1.75 external right-hand threads.

3J Collets—Main body diameter is 2″. Overall length is 3 3/4″. They have 1.988″×20 external right-hand threads.

R8 Collets—Main body diameter is 0.95″. Overall length is 4.089″. They have 0.4375″×20 internal right-hand threads.

Choose a Size

5C Collets		
Round		
3/64″, 1/16″, 5/64″, 3/32″, 7/64″	3223A11	$28.33
1/8″, 9/64″, 5/32″, 11/64″, 3/16″, 13/64″, 7/32″, 15/64″	3223A12	23.77
1/4″, 17/64″, 9/32″, 19/64″, 5/16″, 21/64″, 11/32″, 23/64″	3223A13	23.77
3/8″, 25/64″, 13/32″, 27/64″, 7/16″, 29/64″, 15/32″, 31/64″	3223A14	23.77
1/2″, 33/64″, 17/32″, 35/64″, 9/16″, 37/64″, 19/32″, 39/64″	3223A15	23.77
5/8″, 41/64″, 21/32″, 43/64″, 11/16″, 45/64″, 23/32″, 47/64″	3223A16	23.77
3/4″, 49/64″, 25/32″, 51/64″, 13/16″, 53/64″, 27/32″, 55/64″	3223A17	23.77
7/8″, 57/64″, 29/32″, 59/64″, 15/16″, 61/64″, 31/32″, 63/64″, 1″	3223A18	23.77
1 1/64″, 1 1/32″, 1 3/64″, 1 1/16″, 1 5/64″, 1 3/32″, 1 7/64″, 1 1/8″	3223A19	28.33
8-Collet Set (1/8″-1″x1/8ths)	3223A681	189.16
15-Collet Set (1/8″-1″x1/16ths)	3223A682	354.67
Round Metric—Sizes are in mm		
3, 4, 5, 6	3223A21	28.77
7, 8, 9, 10, 11, 12, 13, 14, 15, 16	3223A22	33.06
17, 18, 19, 20, 21, 22, 23, 24, 25, 26	3223A23	33.06
Hexagon		
1/8″, 3/16″, 1/4″, 5/16″, 3/8″, 7/16″	3223A24	35.54
1/2″, 9/16″, 5/8″, 11/16″, 3/4″, 7/8″	3223A25	35.54
Square		
1/8″, 3/16″, 1/4″, 5/16″, 3/8″, 7/16″, 1/2″, 5/8″, 3/4″	3223A26	35.54

Choose a Size

16C Collets		
Round		
1/4″, 5/16″, 3/8″, 7/16″, 1/2″, 9/16″, 5/8″, 11/16″, 3/4″, 13/16″	3274A11	$93.07
7/8″, 1″, 1 1/16″, 1 1/8″, 1 3/16″, 1 1/4″, 1 3/8, 1 1/2″, 1 5/8″	3274A12	93.07
3J Collets		
Round		
3/8″, 1/2″, 5/8″, 3/4″, 7/8″	3811A11	85.91
1″, 1 1/8″, 1 1/4″, 1 1/2″	3811A12	85.91
R8 Collets		
Round		
1/16″, 3/32″, 1/8″, 5/32″, 3/16″, 7/32″, 1/4″, 9/32″, 5/16″, 11/32″	3257A821	23.27
3/8″, 13/32″, 7/16″, 15/32″, 1/2″, 17/32″, 9/16″, 19/32″, 5/8″	3257A822	23.27
21/32″, 11/16″, 23/32″, 3/4″, 25/32″, 13/16″, 27/32″, 7/8″	3257A823	23.27
1″	3257A64	45.36
8-Collet Set (1/8″-1″x1/8ths)	3257A65	177.85
13-Collet Set (1/8″-7/8″x1/16ths)	3257A66	250.41
Round Metric—Sizes are in mm		
3, 4, 5, 6, 7, 8, 9, 10, 11, 12	3257A824	32.38
13, 14, 15, 16, 17, 18, 19, 20	3257A825	32.38

Machine-Your-Own 5C, 16C, and 3J Collets



Also known as emergency collets, their soft face allows you to bore or machine an opening. They are especially useful for workpieces that are an unusual size and shape. All have a 1/16″ dia. pilot hole on the face. 5C collets have 1.041″×24 right-hand internal threads and 1.238″×20 right-hand external threads, 16C collets have 1 11/16″-20 right-hand internal threads and M47.5 × 1.75 external right-hand threads, and 3J collets have 1.988-20 right-hand external threads.

Steel collets have a hardened body and threads. **Brass collet** is recommended for holding soft and delicate workpieces.

	Max. Bore Dia.	Body Dia.	O'all Lg.	Steel		Brass	
5C	1 1/8″	1 1/4″	3 1/4″	3209A12	$27.11	3209A14	$34.77
16C	1 5/8″	1 7/8″	4 1/4″	3274A151	70.70	_____	____
3J	1 3/4″	2″	3 3/4″	3811A161	70.70	_____	____

Large-Diameter Machine-Your-Own 5C Collets


Collet


Replaceable-Head Collet and 5C Body

Create the setup you need with these collets that have a large head to handle unusual or odd-shaped workpieces and a soft face for machining.

Collets—Also known as step collets, these are made of steel and have a hardened body. Collets have 1.238″×20 right-hand external threads.

Replaceable-Head Collets—Save time when switching to a new workpiece. Also known as clutch collets, these allow you to switch head sizes instead of replacing the entire collet. Overall length refers to the length of the collet when assembled with the required 5C body (sold separately).

5C Body for Replaceable-Head Collets—Has 1.238″×20 right-hand external threads. Made of steel.

Head Dia.	Head Thick.	O'all Lg.	Aluminum		Steel	
Collets						
2″	1 3/16″	4 33/64″	_____	____	3208A28	$55.93
3″	1 3/16″	4 33/64″	_____	____	3208A31	64.93
4″	1 3/16″	4 33/64″	_____	____	3208A33	94.61
5″	1 3/16″	4 33/64″	_____	____	3208A34	136.09
6″	1 3/16″	4 33/64″	_____	____	3208A35	158.94
Replaceable-Head Collets						
1 1/2″	7/8″	4 1/8″	3311A112	$30.55	3311A111	30.55
2″	3/4″	4 1/8″	3311A122	37.56	3311A121	37.56
2″	1 1/4″	4 5/8″	3311A132	41.38	3311A131	41.38
2 1/2″	1″	4 3/8″	3311A142	42.64	3311A141	42.64
2 1/2″	1 1/2″	4 7/8″	3311A152	43.69	3311A151	43.69
3″	1″	4 3/8″	3311A162	47.38	3311A161	47.38
3″	1 5/8″	5 1/8″	3311A172	51.71	3311A171	51.71
4″	1″	4 3/8″	3311A182	58.35	3311A181	58.35
5C Body for Replaceable-Head Collets					3311A21	22.12

Inside-Grip 5C Collets



Eliminate the need for a mandrel—these collets expand to hold the inside of your workpiece. They have 1.234″×20 external right-hand threads, which are the same as 5C collets. They hold concentricity within 0.0005″ during machining. All are made of steel. Use on any machine with a 5C spindle.

Head Dia.	Head Thick.	Min. Machinable Dia.	O'all Lg.		
1/2″	1″	0.250″	4 1/2″	3242A11	$48.76
1″	1″	0.437″	4 1/2″	3242A14	49.55
1″	2″	0.437″	5 1/2″	3242A15	105.81
1 1/2″	1″	0.750″	4 1/2″	3242A17	48.76
1 1/2″	1 1/2″	0.750″	5″	3242A18	81.90
2″	1″	0.750″	4 1/2″	3242A23	88.48
2″	1 1/2″	0.750″	5″	3242A24	96.57
2 1/2″	2 1/2″	0.750″	6″	3242A32	140.67

Lathe Chuck to 5C Collet Adapters



When a job calls for a 5C collet, save time by using this adapter instead of removing your lathe chuck. Adapter is made of hardened steel and fits most conventional lathe chucks. A lock at the front of the adapter holds collets in place. A hex key is included. Often used for short-production runs on a lathe or CNC machine.

Dia.	Lg.		
3″	3 1/2″	3302A21	$437.50

5C Collet Fixtures for Milling Machines

These fixtures use 5C collets to grip and release parts on your milling machine. 5C collets are sold separately.

Manual Collet Fixture



A spring-loaded handle allows you to operate this fixture from any position. It is made of cast iron and has four 11/16″ slots for mounting vertically or horizontally. Maximum collet size is 1 1/16″.

Ht.	Wd.	Dp.		
4″	5″	3 3/4″	3174A42	$254.71

Compact Air-Operated Collet Fixture



Small enough to mount multiple fixtures in limited space, this fixture has a maximum collet size of 1 1/16″. It has four 3/8″ dia. mounting holes and two air ports (1/4″-18 straight pipe thread, male). Holding power is 7 1/2 times the air-line pressure. Housing is aluminum.

Compact air-operated collet fixture kit includes the compact air-operated fixture, four-way foot-operated air valve, and three air hoses.

Dia.	Ht.	Max. Air Pressure, psi		
5 1/2″	3 1/4″	150	5317A13	$268.29
Compact Air-Operated Collet Fixture Kit			5317A21	437.81

5C Collet to Lathe Chuck Adapters

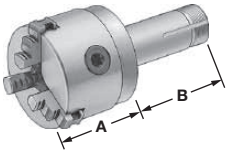

No need to remove the spindle and install a chuck when your workpiece is too large for a 5C collet. Install one of these self-centering adapters in your 5C spindle and its three jaws securely grasp the workpiece. Adapters have 7/8″×20 internal right-hand threads and 1.238″×20 external right-hand threads. Two sets of hardened steel jaws (internal and external) and a chuck key are included.

Dia.	Holding Range OD	Holding Range ID	Length (A)	Length (B)	Hole Through Center		
3″	5/64″-2 15/32″	63/64″-2 3/4″	2 41/64″	3 13/32″	5/8″	33135A21	$285.88
4″	5/64″-3 5/32″	1 3/16″-3 35/64″	2 27/32″	3 13/32″	7/8″	33135A22	316.60

Adjustable 5C Collet Stops



Collet Stop



Collet Stop with Optional Ejector

Keep parts from being pushed back into the collet while machining. Stops have an aluminum and plastic body and an adjustable rod with a set screw that allows you to set the appropriate depth for your 5C collet. Slide the expanding sleeve into the back of your collet and tighten the nut with the included wrench. Use with 5C collets that have internal or external threads.

Optional ejector has a spring plunger for taking out small parts that are difficult to remove.

Stop for Collets Up to 63/64″ Dia.	3256A21	$27.82
Stop for 1″ to 1 1/16″ Dia. Collets	3256A25	27.82
Optional Ejector	3256A31	33.82

5C Collet Block Chucks



Pair block chucks with a 5C collet to hold your workpiece, and you can accurately machine different shapes or drill crossholes at 60°, 90°, and 120°. All are made of steel. A tightening ring to close the collet is included.

The 5C collet capacity is 3/64″ to 1 1/8″ for round collets, 1/8″ to 3/4″ for square collets, and 1/8″ to 7/8″ for hexagon collets.

Optional lever collet closer replaces the tightening ring for faster opening and closing.

	Lg.	Wd. Across Flats		
Square Block Chuck	2 3/4″	1 3/4″	3245A22	$63.08
Hex Block Chuck	2 3/4″	1 3/4″	3246A22	63.08
Optional Lever Collet Closer			3248A11	63.08

5C Collet Wrenches



Use this wrench to grip collets on CNC lathes so you can quickly change them out. Wrench has a steel head with reinforced plastic fins and a plastic handle. Body diameter is 1 1/8″; overall length is 4 1/4″.

3197A24		$28.76

5C and R8 Collet Stands

Stands are made of steel, except 76-collet capacity holder is made of plastic.

Collet Cap.	Overall Size Ht.	Wd.	Dp.	Mounts On		
For 5C Collets						
30	5 1/8″	12″	9″	Machine, Bench	8908A12	$27.69
76	3″	17 3/8″	14″	Bench	8908A22	38.74
For R8 Collets						
17	2 3/4″	9″	5 1/4″	Machine, Wall	8908A11	32.73
32	3 1/2″	8″	10 1/2″	Machine, Bench	8908A17	70.00


5C 30-Piece


5C 76-Piece


R8 17-Piece


R8 32-Piece

ER-16, ER-32, and 100-TG Collets


ER-32 Collet


100-TG Collet



Collet Chuck for ER-16 Collets

These collets are commonly used on swiss-style CNC machines, milling machines, and drills. All are made of hardened steel.

ER-16 collets have a collet diameter that compresses up to approximately 1/32". Tolerance at the collet nose is 0.0001". Maximum body diameter is 0.677" and overall length is 1.06".

ER-32 collets have a collet diameter that compresses up to approximately 1/32". Tolerance at the collet nose is 0.0001". Maximum body diameter is 1.30" and overall length is 1.57".

ER-32 tap collets have a square back end to securely hold taps. Collet diameters compress up to approximately 1/32". Tolerance at the collet nose is 0.0001". Maximum body diameter is 1.30" and overall length is 1.57".

100-TG collets work on large-size workpieces and tools. Collet diameters compress approximately 1/64". Tolerance at the collet nose is 0.0003". Maximum body diameter is 1.278" and overall length is 2.386".

Collet chucks and nut wrenches—Collet chucks securely hold collets. Taper is CAT 40. Use a nut wrench to tighten the chuck nut.

ER-16 Collets

Size Range			Size Range		
0.027"-1/32"	3215A301	$33.55	7/32"-1/4"	3215A308	$29.81
3/64"-1/16"	3215A302	33.55	1/4"-9/32"	3215A309	29.81
5/64"-3/32"	3215A303	33.55	9/32"-5/16"	3215A311	29.81
7/64"-1/8"	3215A304	29.81	5/16"-11/32"	3215A312	29.81
1/8"-5/32"	3215A305	29.81	11/32"-3/8"	3215A313	29.81
5/32"-3/16"	3215A306	29.81	3/8"-13/32"	3215A314	29.81
3/16"-7/32"	3215A307	29.81			

ER-32 Collets

Size Range			Size Range		
7/64"-1/8"	3321A11	$33.74	11/32"-3/8"	3321A16	$33.74
5/32"-3/16"	3321A12	33.74	13/32"-7/16"	3321A17	33.74
7/32"-1/4"	3321A13	33.74	15/32"-1/2"	3321A18	33.74
9/32"-5/16"	3321A14	33.74	19/32"-5/8"	3321A19	33.74
5/16"-11/32"	3321A15	33.74	23/32"-3/4"	3321A21	33.74

ER-32 Tap Collets

Tap Thread Size			Tap Thread Size		
#8, 5/32", M4	3321A22	$100.43	7/16"	3321A28	$100.43
#10, 3/16", M4.5, M5	3321A23	100.43	1/2", M12, M12.5	3321A29	100.43
#12, 7/32"	3321A24	100.43	9/16", M14	3321A33	100.43
#14, 1/4", M6, M6.3	3321A25	100.43	5/8", M16	3321A34	100.43
5/16", M7, M8	3321A26	100.43	11/16", M18	3321A35	100.43
3/8", M10	3321A27	100.43	3/4"	3321A36	100.43
			13/16"	3321A37	100.43

100-TG Collets

Size			Size		
1/8"	32605A25	$45.45	1/2"	32605A52	$32.86
3/16"	32605A29	45.45	9/16"	32605A56	32.86
1/4"	32605A34	41.08	5/8"	32605A61	32.86
5/16"	32605A38	41.08	3/4"	32605A69	32.86
3/8"	32605A43	32.86	7/8"	32605A78	28.28
7/16"	32605A47	32.87	1"	32605A87	32.86

Collet Chucks and Nut Wrenches

For Collet	Projection	Collet Chucks		Nut Wrenches	
ER-16	3 1/2"	3215A326	$191.72	3215A341	$21.87
ER-32	3 1/8"	3321A31	191.72	3321A32	26.05
100-TG	2 3/4"	32605A15	153.57	32605A95	31.02
100-TG	3 1/2"	32605A16	133.06	32605A95	31.02

Solid Mandrels



When centers cannot be used, mandrels support hollow or bored workpieces during machining of the outside diameter. Use an arbor press to tighten the mandrel into the hole of the workpiece. Made of steel. They are tapered, have flat ends, and are 0.0005" undersized on the tapered end. Taper is 0.0005" per inch over entire body.

Body Dia.	O'all Lg.			Body Dia.	O'all Lg.		
1/8"	2 1/2"	3277A11	$5.79	1/2"	5"	3277A18	$9.04
3/16"	3"	3277A13	6.32	9/16"	5 1/4"	3277A19	10.20
1/4"	3 3/4"	3277A14	6.91	5/8"	5 1/2"	3277A23	10.20
5/16"	4"	3277A15	7.16	3/4"	6"	3277A25	10.57
3/8"	4 1/4"	3277A16	7.39	7/8"	6 1/2"	3277A27	13.30
7/16"	4 1/2"	3277A17	7.96	1"	7"	3277A29	14.61

Live Centers

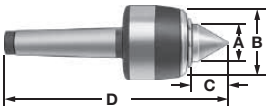

With bearings to support their free-turning point, live centers are exceptionally accurate and produce minimal friction between the center and your work. For increased tool life, the bearings are lubricated and sealed to protect them from fluids and chips. All centers have steel points with a 60° angle.

Maximum rpm is 6,000 for Morse Tapers 1 and 2; 5,000 for Morse Taper 3; 4,000 for Morse Taper 4, except Standard is 4,500; and 3,500 for Morse Taper 5. Please see page 2443 for Morse Taper dimensions.

Economy—For intermittent use on manual lathes. The point is ground for accuracy to ±0.0002" TIR between the shank and the point.

Standard—For continuous use, these have a high load capacity for turning heavier parts and reducing vibration. The body and point are hardened for extra strength and wear resistance. Use on manual and CNC lathes. Point is ground for accuracy to ±0.00005" TIR between the shank and the point.

Morse Taper	Max. Weight of Work, lbs.	Point Dia. (A)	Head Dia. (B)	Point Lg. (C)	O'all Lg. (D)		
Economy							
1	220	45/64"	1 11/32"	61/64"	4 9/16"	3229A21	$49.74
2	750	55/64"	1 27/64"	1"	4 59/64"	3229A12	65.04
3	900	1 3/16"	1 27/32"	1 17/64"	6 3/8"	3229A13	87.98
4	2,850	1 3/8"	2 11/64"	1 31/64"	7 41/64"	3229A14	101.51
5	4,400	1 49/64"	2 3/4"	1 55/64"	9 29/64"	3229A15	133.49
Standard							
2	725	7/8"	1 3/4"	1 1/64"	5 19/64"	3259A17	382.16
3	970	1"	2 11/32"	1 15/64"	6 13/32"	3259A12	423.70
4	1,720	1 1/4"	2 11/16"	1 31/64"	7 57/64"	3259A28	549.04
5	3,260	1 1/2"	3 29/64"	1 27/32"	10 13/64"	3259A29	762.23

Pipe and Tubing Live Centers

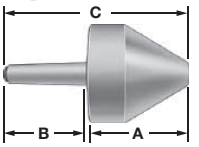

Also known as bull-nose centers, these have a wide head to hold pipe and large-diameter tubing. They have ball and roller bearings for a free-turning point. They consist of an arbor with a snug-fitting head that is 1" dia. at the tip and 4" dia. at the base. All are made of hardened steel. Please see page 2443 for Morse Taper dimensions.

Morse Taper	Point Lg. (A)	Shank Lg. (B)	O'all Lg. (C)		
2	3 29/32"	2 9/16"	6 27/32"	3265A21	$604.86
3	4 29/32"	3 3/16"	7 15/32"	3265A22	604.86
4	5 29/32"	4 1/16"	8 11/32"	3265A23	604.86
5	6 29/32"	5 3/16"	9 15/32"	3265A24	604.86

Dead Centers

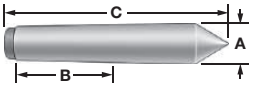

Commonly used in grinders, dead centers stay stationary and support the end of your workpiece in high-speed turning applications where friction is not a concern. They have a 60° angle and accuracy to ±0.00005" TIR between the shank and the point. Made of hardened steel. Please see page 2443 for Morse Taper dimensions.

Carbide-tipped dead centers have better wear resistance than steel centers.

Morse Taper	Point Dia. (A)	Taper Lg. (B)	O'all Lg. (C)	Steel		Carbide Tipped	
1	0.475"	2 1/8"	3 5/16"	3266A2	$60.08	31755A31	$73.35
2	0.700"	2 9/16"	4 3/16"	3266A3	83.87	31755A32	109.96
3	0.938"	3 3/16"	5 1/4"	3266A5	129.11	31755A33	149.19
4	1.231"	4 1/16"	6 3/4"	3266A6	185.03	31755A34	197.24
5	1.748"	3 3/16"	8 1/2"	3266A7	277.60	31755A35	305.57

Expanding-End Mandrels



Also known as arbors, the end on these mandrels expands 0.002" to tightly hold the inside diameter of your workpiece without the use of an arbor press. Made of steel. Use with milling machines, lathes, and grinders.

Body Dia.	Shank Dia.	O'all Lg.			Body Dia.	Shank Dia.	O'all Lg.		
1/4"	1/4"	3"	2779A11	$13.64	7/8"	7/8"	4"	2779A22	$19.08
3/8"	3/8"	3"	2779A12	13.64	1"	1"	4"	2779A23	21.81
1/2"	1/2"	3"	2779A13	16.36	1 1/4"	1"	4"	2779A24	27.25
5/8"	5/8"	3"	2779A14	16.36	1 1/2"	1"	4"	2779A25	40.89
3/4"	3/4"	4"	2779A21	19.08	1 3/4"	1"	4"	2779A26	54.51
8-Pc. Set—Includes 1/4"-1 1/4" mandrel sizes								2779A19	83.71

Wide-Diameter Range Mandrels



With an expanding sleeve that holds workpieces in a range of diameters, these mandrels are more versatile than solid and expanding-end mandrels. Also known as arbors, they have a steel tapered body and expanding sleeve that is accurate to 0.001". The sleeve mounts on the body, resulting in a large bearing surface that provides a strong grip and prevents vibration.

Mandrel OD ranges from 1/2"-9/16" to 7/8"-1" include one expanding sleeve.

Mandrel OD ranges from 1"-1 1/4" to 2 3/4"-3 3/4" have two expanding sleeves.

Mandrel OD Range	O'all Lg.	Sleeve Lg.		
1/2"-9/16"	5"	2 1/2"	3276A31	$38.84
9/16"-21/32"	6"	2 3/4"	3276A32	40.39
21/32"-3/4"	7"	2 3/4"	3276A33	50.55
3/4"-7/8"	7"	3 1/4"	3276A34	55.56
7/8"-1"	7"	3 1/2"	3276A35	60.61
1"-1 1/4"	9"	4"	3276A38	121.17
1 1/4"-1 1/2"	9"	4"	3276A39	126.31
1 1/2"-2"	11 1/2"	5"	3276A42	154.09
2"-2 3/4"	14"	6"	3276A43	488.88
2 3/4"-3 3/4"	17"	7"	3276A44	644.37

Lathe Chuck Wrenches



The long T-handle on these wrenches gives you the leverage you need to open tight lathe chucks. They're also known as lathe chuck keys.

Self-ejecting wrenches prevent you from leaving the key in the machine by automatically coming out of the chuck when hand pressure is released.

Square Size	Handle Lg.	O'all Ht.	Standard		Self Ejecting	
1/4"	6"	4"	3204A62	$17.62	3189A12	$36.61
5/16"	6"	4"	3204A59	16.48	3189A44	37.33
3/8"	8"	4"	3204A65	20.24	3189A15	41.38
7/16"	8"	5"	3204A61	21.15	3189A45	44.81
1/2"	10"	5"	3204A69	31.50	3189A19	41.90
9/16"	10"	6"	3204A75	39.28	3189A31	51.79
5/8"	12"	6"	3204A83	61.26	3189A38	70.94
11/16"	12"	10"	3204A84	67.38	3189A39	75.70

Lathe Drivers

A set screw grips your workpiece and the bent tail connects to your lathe to spin the workpiece. Also known as lathe dogs, these drivers are used to turn your workpiece when you are machining between centers.



Cap.			Cap.		
1/2"	3283A52	$3.20	1 1/2"	3283A56	$9.16
3/4"	3283A53	4.65	2"	3283A58	11.27
1"	3283A54	6.94	2 1/2"	3283A59	20.43
1 1/4"	3283A55	8.06	3"	3283A61	26.27

Lathe Guards

Lathe Chuck Guards

Block chips while maintaining an unobstructed view of your workpiece.

Complete guards have a 3/16" thick clear plastic shield and mounting bracket with mounting hardware included. They can be locked in the swing-away or down position.

Optional headstock mounting bracket (Style 1) allows mounting on the top or back of lathe headstock.

Optional headstock extension mounting bracket (Style 2) can be mounted on the top or back of lathe headstock, and it has an extension tube.



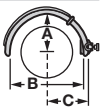

Fits Lathe Size	Max. Chuck Dia.	(A)	(B)	(C)	(D)	(E)	Complete Guards		Replacement Shields	
6" to 12"	8"	6"	11.8"	7"	1"	6 1/4"	6157A45	$161.45	6157A51	$90.65
12" to 16"	12"	8"	15.8"	9"	1"	8"	6157A46	181.95	6157A52	100.45
16" to 20"	16"	10"	19.7"	11"	1"	8"	6157A42	197.22	6157A53	116.38
20" to 24"	20"	13"	23.6"	12.9"	1"	8"	6157A43	230.59	6157A54	131.07
Optional Headstock Mounting Bracket (Style 1)									6157A55	31.20
Optional Headstock Extension Mounting Bracket (Style 2)									6157A44	60.60


Base Bracket (Included)


Optional Style 1 Bracket


Optional Style 2 Bracket

Cutting-Point Lathe Guards

Cover the spot where your tools cut the workpiece to protect yourself from flying chips and coolant splash. Guards have a heavy gauge steel frame and a 3/16" thick clear polycarbonate window that provides a clear view of your workpiece. The front panel lifts for quick access. Guards mount and travel on the cross slides and are fully adjustable in all directions. The adjustable arm swivels and the mounting bracket adjusts vertically. Both lock for easy positioning.

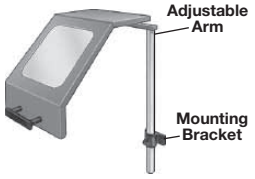

Max. Chuck Dia.	Panel Size, Lg. x Wd.	Window Size, Ht. x Wd.		
20"	13" x 11 7/8"	8 1/2" x 8 1/2"	32635A31	$273.52
28"	14 1/2" x 14"	10 3/4" x 9 3/4"	32635A32	299.85

3D Prototype Printers

Save time going from concept to production when you create your own models and prototypes. These printers convert digital files and lay down thin layers of plastic material to create your part in 3D. Minimum printable feature is 0.0039". Accuracy is within 0.0004". Printers operate on 120/240 volts AC and include a cord with plug.

PLA printer has USB, Ethernet, and WiFi connectivity. The included software converts .sti and .obj files to printable .makerbot files. It offers single-color printing and includes a spool of white PLA plastic. PLA is best for large parts and has a glossier finish than ABS.

ABS printer has USB and SD card connectivity. The included software converts .stl and .obj files to printable .x3g files. It offers dual-color printing and includes a spool of natural ABS plastic. ABS is stronger than PLA and is good for designs that have interlocking pieces.

Replacement plastic spools allow you to print in different colors.



For Use With	Overall Size, Lg. x Wd. x Ht.	Maximum Print Size, Lg. x Wd. x Ht.	Printers		Replacement Plastic Spools Available Colors		
PLA	20 7/8" x 17 1/2" x 16 1/4"	9 7/8" x 7 3/4" x 5 7/8"	1473A51	$2,746.82	Black, Blue, Gray, Natural, White	1473A15	$48.00
ABS	19 1/8" x 16 1/2" x 21"	9 5/8" x 6" x 6"	1473A52	2,691.95	Black, Blue, Gray, Natural, White	1473A16	48.00

Tap Thread Size to Drill Bit Size Equivalents

Don't see the size you're looking for? Equivalent drill bit sizes are listed for each tap thread size on mcmaster.com.

Tap Thread Size	Drill Bit Size
0000-160	78
000-120	69
00-90	62
00-96	62
0-80	3/64"
1-64	53
1-72	53
2-56	51
2-64	50
3-48	47
3-56	46
4-36	44
4-40	43
4-48	42
5-40	38
5-44	37
6-32	36
6-40	33
6-48	2.9 mm
8-24	31
8-32	29
8-36	29
8-40	28
10-24	25
10-28	23
10-32	21
10-36	20
10-40	20
10-48	18
10-56	18
12-24	16
12-28	15
12-32	13
12-36	12
1/8"-40	38
3/16"-24	5/32"
3/16"-100	16
7/32"-32	13
1/4"-20	7
1/4"-24	4
1/4"-27	3
1/4"-28	3
1/4"-32	5.6 mm
1/4"-36	2
1/4"-40	2
1/4"-48	1
1/4"-56	1
1/4"-80	B
9/32"-32	1/4"
5/16"-18	F
5/16"-20	G
5/16"-24	I
5/16"-27	6.9 mm
5/16"-28	J
5/16"-32	9/32"
5/16"-40	7.2 mm
11/32"-32	5/16"
3/8"-16	5/16"
3/8"-18	8.1 mm
3/8"-20	8.2 mm
3/8"-24	Q
3/8"-27	R
3/8"-28	R
3/8"-32	11/32"
3/8"-40	8.9 mm
7/16"-14	U
7/16"-16	9.5 mm
7/16"-18	9.6 mm
7/16"-20	25/64"
7/16"-24	9.9 mm
7/16"-27	10.2 mm
7/16"-28	13/32"
7/16"-32	13/32"
7/16"-40	10.5 mm
15/32"-32	7/16"
1/2"-12	10.5 mm
1/2"-13	27/64"
1/2"-16	7/16"
1/2"-18	11.2 mm
1/2"-20	29/64"
1/2"-24	11.5 mm
1/2"-27	11.5 mm
1/2"-28	15/32"
1/2"-32	15/32"
1/2"-40	12.0 mm
9/16"-12	31/64"
9/16"-16	1/2"
9/16"-18	33/64"
9/16"-20	33/64"
9/16"-24	33/64"
9/16"-27	33/64"
9/16"-32	17/32"
5/8"-11	17/32"
5/8"-12	35/64"
5/8"-16	9/16"
5/8"-18	37/64"
5/8"-20	37/64"
5/8"-24	37/64"
5/8"-27	37/64"
5/8"-28	37/64"
5/8"-32	19/32"
11/16"-16	5/8"
11/16"-18	16.0 mm
11/16"-20	41/64"
11/16"-24	16.5 mm
11/16"-32	21/32"
3/4"-10	21/32"
3/4"-12	16.5 mm
3/4"-16	11/16"
3/4"-18	45/64"
3/4"-20	45/64"
3/4"-24	45/64"
3/4"-27	23/32"
3/4"-32	23/32"
13/16"-12	47/64"
13/16"-16	3/4"
13/16"-18	19.0 mm
7/8"-9	49/64"
7/8"-12	51/64"
7/8"-14	13/16"
7/8"-16	13/16"
7/8"-18	53/64"
7/8"-20	53/64"
7/8"-27	21.0 mm
7/8"-32	27/32"
15/16"-16	7/8"
15/16"-20	57/64"
1"-8	7/8"
1"-12	59/64"
1"-14	23.5 mm
1"-16	15/16"
1"-18	61/64"
1"-20	61/64"
1"-24	61/64"
1"-27	24.5 mm
1"-32	31/32"
1 1/16"-8	24.0 mm
1 1/16"-12	63/64"
1 1/16"-20	1"
1 1/8"-7	63/64"
1 1/8"-12	1 1/32"
1 1/8"-14	1 3/64"
1 1/8"-16	1 1/16"
1 1/8"-20	1 5/64"
1 3/16"-12	1 7/64"
1 3/16"-16	1 1/8"
1 3/16"-20	1 9/64"
1 1/4"-7	1 3/32"
1 1/4"-12	1 11/64"
1 1/4"-16	1 3/16"
1 1/4"-18	1 3/16"
1 1/4"-20	1 13/64"

Tap Thread Size, mm	Drill Bit Size
0.5×0.12	78
0.8×0.20	71
1×0.25	66
1.2×0.25	60
1.4×0.30	56
1.6×0.35	1.25 mm
1.8×0.35	1.45 mm
2×0.4	1.6 mm
2.2×0.45	1.75 mm
2.5×0.45	2.05 mm
3×0.5	2.5 mm
3.5×0.6	2.9 mm
4×0.7	3.3 mm
4×0.75	3.2 mm
4.5×0.75	3.7 mm
5×0.5	4.5 mm
5×0.8	4.2 mm
6×0.5	5.5 mm
6×0.75	5.2 mm
6×1	5.0 mm
6.3×1	5.3 mm
7×1	6.0 mm
8×0.5	7.5 mm
8×0.75	7.2 mm
8×1	6.9 mm
8×1.25	6.7 mm
9×1	8.0 mm

Tap Thread Size, mm	Drill Bit Size
9×1.25	7.7 mm
10×1	8.9 mm
10×1.25	8.7 mm
10×1.5	8.5 mm
11×1	10.0 mm
11×1.5	9.5 mm
12×1	11.0 mm
12×1.25	10.8 mm
12×1.5	10.5 mm
12×1.75	10.2 mm
14×1	13.0 mm
14×1.25	12.8 mm
14×1.5	12.5 mm
14×2	12.0 mm
16×1	15.0 mm
16×1.5	14.5 mm
16×2	14.0 mm
18×1	17.0 mm
18×1.5	16.5 mm
18×2.5	15.5 mm
20×1	19.0 mm
20×1.5	47/64"
20×2	18.0 mm
20×2.5	17.5 mm
22×1.5	20.0 mm
22×2.5	25/32"
24×1.5	57/64"
24×2	22.0 mm
24×3	21.0 mm
26×1.5	24.5 mm
27×1.5	1"
27×2	25.0 mm
27×3	24.0 mm
30×1.5	1 1/8"
30×2	28.0 mm
30×3.5	1 1/32"

General Purpose Taps



For Starting Threads



For Through-Hole Threading



For Closed-End Hole Threading

These taps are made of uncoated high-speed steel and are for use on most metals and plastics. Also known as hand taps, use them with a tap wrench.

Taps for starting threads have a taper chamfer with 7-10 tapered threads at the tip to guide the tap into the hole.

Taps for through-hole threading are for start-to-finish tapping of through-holes. They have a plug chamfer with 3-5 tapered threads at the tip to guide the tap into the hole, but they're not as good for starting threads.

Taps for closed-end hole threading make threads close to the bottom of closed-end holes. They have a bottoming chamfer with 1-2 tapered threads to guide the tap into the hole, but they're not as good for starting threads.

Tap sets include a starting, through-hole, and closed-end hole tap.

Thread Size	Thread Lg.	Overall Lg.	For Starting Threads	For Through-Hole Threading	For Closed-End Hole Threading		Tap Sets	
Inch								
0000-160	1/4"	3/4"		2504A11		$95.00		
000-120	3/16"	1 1/2"		2504A12		55.08		
00-90	1/4"	1 9/16"		2504A14		41.40		
00-96	1/4"	1 9/16"		2504A13		41.40		
0-80	5/16"	1 5/8"	2522A751	2522A771	2522A811	12.17	2522A881	$32.86
1-64	3/8"	1 11/16"	2522A662	2522A712	2522A732	11.28	2522A862	30.46
1-72	3/8"	1 11/16"	2522A752	2522A772	2522A812	11.28	2522A882	30.46
2-56	7/16"	1 3/4"	2522A663	2522A713	2522A733	9.72	2522A863	26.24
2-64	7/16"	1 3/4"	2522A753	2522A773	2522A813	10.48	2522A883	28.30
3-48	1/2"	1 13/16"	2522A664	2522A714	2522A734	7.46	2522A864	20.14
3-56	1/2"	1 13/16"	2522A754	2522A774	2522A814	8.35	2522A884	22.55
4-40	9/16"	1 7/8"	2522A665	2522A715	2522A735	6.13	2522A865	16.55
4-48	9/16"	1 7/8"	2522A755	2522A775	2522A815	6.61	2522A885	17.85
5-40	5/8"	1 15/16"	2522A666	2522A716	2522A736	6.13	2522A866	16.55
5-44	5/8"	1 15/16"	2522A756	2522A776	2522A816	6.61	2522A886	17.85
6-32	11/16"	2"	2522A667	2522A717	2522A737	4.65	2522A867	12.56
6-40	11/16"	2"	2522A757	2522A777	2522A817	4.96	2522A887	13.39
6-48	11/16"	2"	2595A516	2595A517	2595A518	21.66	2595A951	51.98
8-24	3/4"	2 1/8"	2595A734	2595A735	2595A736	21.85		
8-32	3/4"	2 1/8"	2522A668	2522A718	2522A738	4.83	2522A868	13.04
8-36	3/4"	2 1/8"	2522A758	2522A778	2522A818	4.96	2522A888	13.39
8-40	3/4"	2 1/8"	2595A525	2595A526	2595A527	21.85	2595A952	52.46
10-24	7/8"	2 3/8"	2522A671	2522A719	2522A739	4.96	2522A869	13.39
10-28	7/8"	2 3/8"	2595A737	2595A738	2595A739	24.02		

(Continued on following page)

General Purpose Taps *(Continued from previous page)*

Thread Size	Thread Lg.	Overall Lg.	For Starting Threads	For Through-Hole Threading	For Closed-End Hole Threading		Tap Sets	
Inch (Cont.)								
10-32	7/8"	2 3/8"	2522A759	2522A779	2522A819	$4.96	2522A889	$13.39
10-36	7/8"	2 3/8"	2595A741	2595A742	2595A743	24.02		
10-40	7/8"	2 3/8"	2595A543	2595A544	2595A545	24.02		
10-48	7/8"	2 3/8"	2595A745	2595A746	2595A747	24.02		
10-56	7/8"	2 3/8"	2595A748	2595A749	2595A751	24.02		
12-24	15/16"	2 3/8"	2522A672	2522A721	2522A741	5.24	2522A871	14.15
12-28	15/16"	2 3/8"	2522A761	2522A781	2522A821	5.76	2522A891	15.55
12-36	15/16"	2 3/8"	2595A561	2595A562	2595A563	25.59		
3/16"-100	7/8"	2 3/8"	2595A121	2595A122	2595A123	36.70		
7/32"-32	15/16"	2 3/8"	2595A611	2595A612	2595A613	31.31		
1/4"-20	1"	2 1/2"	2521A571	2521A621	2521A641	5.35	2521A771	14.45
1/4"-24	1"	2 1/2"	2595A129	2595A131	2595A132	19.49		
1/4"-27	1"	2 1/2"	2595A134	2595A135	2595A136	19.49		
1/4"-28	1"	2 1/2"	2521A661	2521A681	2521A721	5.35	2521A821	14.45
1/4"-32	1"	2 1/2"	2521A482	2521A427	2521A445	6.86	2521A211	18.52
1/4"-36	1"	2 1/2"	2595A592	2595A593	2595A594	19.49	2595A953	46.79
1/4"-40	1"	2 1/2"	2595A143	2595A144	2595A145	19.49		
1/4"-48	1"	2 1/2"	2595A621	2595A622	2595A623	19.49		
1/4"-56	1"	2 1/2"	2595A624	2595A625	2595A626	19.49		
1/4"-80	1"	2 1/2"	2595A627	2595A628	2595A629	27.65	2595A954	68.04
9/32"-32	1 1/8"	2 23/32"	2595A631	2595A632	2595A633	39.77		
5/16"-18	1 1/8"	2 23/32"	2521A572	2521A622	2521A642	6.61	2521A772	17.85
5/16"-20	1 1/8"	2 23/32"	2595A165	2595A166	2595A167	21.26		
5/16"-24	1 1/8"	2 23/32"	2521A662	2521A682	2521A722	6.61	2521A822	17.85
5/16"-27	1 1/8"	2 23/32"	2595A169	2595A171	2595A172	21.26		
5/16"-28	1 1/8"	2 23/32"	2595A634	2595A635	2595A636	21.26		
5/16"-32	1 1/8"	2 23/32"	2521A418	2521A428	2521A446	8.07	2521A212	21.79
5/16"-40	1 1/8"	2 23/32"	2595A178	2595A179	2595A181	21.26		
11/32"-32	1 1/4"	2 15/16"	2595A637	2595A638	2595A639	32.48		
3/8"-16	1 1/4"	2 15/16"	2521A573	2521A623	2521A643	7.46	2521A773	20.14
3/8"-18	1 1/4"	2 15/16"	2595A187	2595A188	2595A189	24.41		
3/8"-20	1 1/4"	2 15/16"	2595A192	2595A193	2595A194	24.41		
3/8"-24	1 1/4"	2 15/16"	2521A663	2521A683	2521A723	7.46	2521A823	20.14
3/8"-27	1 1/4"	2 15/16"	2595A196	2595A197	2595A198	24.41		
3/8"-28	1 1/4"	2 15/16"	2595A641	2595A642	2595A643	24.41		
3/8"-32	1 1/4"	2 15/16"	2521A419	2521A429	2521A447	8.23	2521A213	22.22
3/8"-40	1 1/4"	2 15/16"	2595A205	2595A206	2595A207	24.41	2595A955	58.59
7/16"-14	1 7/16"	3 5/32"	2521A574	2521A624	2521A644	12.70	2521A774	34.29
7/16"-16	1 7/16"	3 5/32"	2595A209	2595A211	2595A212	30.81		
7/16"-18	1 7/16"	3 5/32"	2595A214	2595A215	2595A216	30.81		
7/16"-20	1 7/16"	3 5/32"	2521A664	2521A684	2521A724	12.70	2521A824	34.29
7/16"-24	1 7/16"	3 5/32"	2595A218	2595A219	2595A221	31.20	2595A956	83.16
7/16"-27	1 7/16"	3 5/32"	2595A223	2595A224	2595A225	31.20		
7/16"-28	1 7/16"	3 5/32"	2521A421	2521A483	2521A448	11.58	2521A214	31.27
7/16"-32	1 7/16"	3 5/32"	2595A227	2595A228	2595A229	31.20		
7/16"-40	1 7/16"	3 5/32"	2595A232	2595A233	2595A234	31.20		
15/32"-32	1 7/16"	3 5/32"	2595A236	2595A237	2595A238	35.44	2595A957	85.05
1/2"-12	1 21/32"	3 3/8"	2595A647	2595A648	2595A649	34.30		
1/2"-13	1 21/32"	3 3/8"	2521A575	2521A625	2521A645	13.50	2521A775	36.45
1/2"-16	1 21/32"	3 3/8"	2595A249	2595A251	2595A252	34.30		
1/2"-18	1 21/32"	3 3/8"	2595A651	2595A652	2595A653	34.30		
1/2"-20	1 21/32"	3 3/8"	2521A665	2521A685	2521A725	15.09	2521A825	40.74
1/2"-24	1 21/32"	3 3/8"	2595A258	2595A259	2595A261	34.30		
1/2"-27	1 21/32"	3 3/8"	2595A263	2595A264	2595A265	34.30		
1/2"-28	1 21/32"	3 3/8"	2521A422	2521A484	2521A449	13.89	2521A215	37.50
1/2"-32	1 21/32"	3 3/8"	2595A267	2595A268	2595A269	34.30	2595A958	91.67
1/2"-40	1 21/32"	3 3/8"	2595A272	2595A273	2595A274	34.30		
9/16"-12	1 21/32"	3 19/32"	2521A576	2521A626	2521A646	22.93	2521A776	61.91
9/16"-16	1 21/32"	3 19/32"	2595A276	2595A277	2595A278	30.72		
9/16"-18	1 21/32"	3 19/32"	2521A666	2521A686	2521A726	22.93	2521A826	61.91
9/16"-20	1 21/32"	3 19/32"	2595A281	2595A282	2595A283	41.18	2595A959	118.61
9/16"-24	1 21/32"	3 19/32"	2595A851	2595A852	2595A853	30.72		
9/16"-27	1 21/32"	3 19/32"	2595A654	2595A655	2595A656	41.67		
9/16"-32	1 21/32"	3 19/32"	2595A289	2595A291	2595A292	41.18		
5/8"-11	1 13/16"	3 13/16"	2521A577	2521A627	2521A647	27.41	2521A777	74.01
5/8"-12	1 13/16"	3 13/16"	2595A298	2595A299	2595A301	45.41		
5/8"-16	1 13/16"	3 13/16"	2595A303	2595A304	2595A305	45.41		
5/8"-18	1 13/16"	3 13/16"	2521A667	2521A687	2521A727	27.41	2521A827	74.01
5/8"-20	1 13/16"	3 13/16"	2595A307	2595A308	2595A309	45.41		
5/8"-24	1 13/16"	3 13/16"	2521A423	2521A527	2521A495	18.46	2521A216	49.84
5/8"-27	1 13/16"	3 13/16"	2595A312	2595A313	2595A314	45.41		
5/8"-28	1 13/16"	3 13/16"	2595A316	2595A317	2595A318	45.41		
5/8"-32	1 13/16"	3 13/16"	2595A321	2595A322	2595A323	45.41		
11/16"-16	1 13/16"	4 1/32"	2595A854	2595A855	2595A856	48.80		
11/16"-18	1 13/16"	4 1/32"	2595A661	2595A662	2595A663	48.80	2595A961	124.74
11/16"-20	1 13/16"	4 1/32"	2595A664	2595A665	2595A666	48.80		
11/16"-24	1 13/16"	4 1/32"	2521A424	2521A491	2521A497	22.61	2521A217	61.05
11/16"-32	1 13/16"	4 1/32"	2595A667	2595A668	2595A669	48.80		
3/4"-10	2"	4 1/4"	2521A578	2521A628	2521A648	38.30	2521A778	103.41

(Continued on following page)

For drill bit size equivalents, see page 2544.

General Purpose Taps *(Continued from previous page)*



For Starting Threads



For Through-Hole Threading



For Closed-End Hole Threading

These taps are made of uncoated high-speed steel and are for use on most metals and plastics. Also known as hand taps, use them with a tap wrench.

Taps for starting threads have a taper chamfer with 7-10 tapered threads at the tip to guide the tap into the hole.

Taps for through-hole threading are for start-to-finish tapping of through-holes. They have a plug chamfer with 3-5 tapered threads at the tip to guide the tap into the hole, but they're not as good for starting threads.

Taps for closed-end hole threading make threads close to the bottom of closed-end holes. They have a bottoming chamfer with 1-2 tapered threads to guide the tap into the hole, but they're not as good for starting threads.

Tap sets include a starting, through-hole, and closed-end hole tap.

Thread Size	Thread Lg.	Overall Lg.	For Starting Threads	For Through-Hole Threading	For Closed-End Hole Threading		Tap Sets	
Inch (Cont.)								
3/4"-12	2"	4 1/4"	2595A356	2595A357	2595A358	$50.79	_____	_____
3/4"-16	2"	4 1/4"	2521A668	2521A688	2521A728	38.30	2521A828	$103.41
3/4"-18	2"	4 1/4"	2595A361	2595A362	2595A363	50.79	_____	_____
3/4"-20	2"	4 1/4"	2521A425	2521A443	2521A498	26.20	2521A218	70.74
3/4"-24	2"	4 1/4"	2595A365	2595A366	2595A367	50.79	_____	_____
3/4"-27	2"	4 1/4"	2595A369	2595A371	2595A372	50.79	_____	_____
3/4"-32	2"	4 1/4"	2595A374	2595A375	2595A376	50.79	_____	_____
13/16"-12	2"	4 15/32"	2595A671	2595A672	2595A673	62.28	_____	_____
13/16"-16	2"	4 15/32"	2595A396	2595A397	2595A398	62.28	_____	_____
13/16"-18	2"	4 15/32"	2595A674	2595A675	2595A676	62.28	_____	_____
7/8"-9	2 7/32"	4 11/16"	2521A579	2521A629	2521A649	53.50	2521A779	144.45
7/8"-12	2 7/32"	4 11/16"	2595A414	2595A415	2595A416	67.90	_____	_____
7/8"-14	2 7/32"	4 11/16"	2521A669	2521A689	2521A729	53.50	2521A829	144.45
7/8"-16	2 7/32"	4 11/16"	2595A418	2595A419	2595A421	67.90	_____	_____
7/8"-18	2 7/32"	4 11/16"	2595A423	2595A424	2595A425	67.90	_____	_____
7/8"-20	2 7/32"	4 11/16"	2521A426	2521A444	2521A456	35.87	2521A219	96.85
7/8"-27	2 7/32"	4 11/16"	2595A432	2595A433	2595A434	78.81	_____	_____
7/8"-32	2 7/32"	4 11/16"	2595A436	2595A437	2595A438	78.81	_____	_____
15/16"-16	2 7/32"	4 29/32"	2595A441	2595A442	2595A443	59.85	2595A962	174.74
15/16"-20	2 7/32"	4 29/32"	2595A867	2595A865	2595A866	59.85	_____	_____
1"-8	2 1/2"	5 1/8"	2521A581	2521A631	2521A651	71.24	2521A781	192.35
1"-12	2 1/2"	5 1/8"	2521A671	2521A691	2521A731	73.48	2521A831	198.40
1"-14	2 1/2"	5 1/8"	2521A851	2521A852	2521A853	71.24	2521A854	192.35
1"-16	2 1/2"	5 1/8"	2595A467	2595A468	2595A469	77.57	_____	_____
1"-18	2 1/2"	5 1/8"	2595A472	2595A473	2595A474	77.57	_____	_____
1"-20	2 1/2"	5 1/8"	2595A456	2595A457	2595A458	76.22	2595A963	189.00
1"-24	2 1/2"	5 1/8"	2595A476	2595A477	2595A478	77.57	_____	_____
1"-27	2 1/2"	5 1/8"	2595A914	2595A915	2595A916	76.86	_____	_____
1"-32	2 1/2"	5 1/8"	2595A485	2595A486	2595A487	77.57	2595A964	192.78
1 1/16"-8	2 1/2"	5 1/8"	2595A931	2595A932	2595A933	225.07	_____	_____
1 1/16"-12	2 1/2"	5 1/8"	2595A917	2595A918	2595A919	119.07	_____	_____
1 1/16"-20	1 1/2"	4"	2595A681	2595A682	2595A683	98.88	_____	_____
1 1/8"-7	2 9/16"	5 7/16"	2521A582	2521A632	2521A652	105.96	2521A782	286.09
1 1/8"-12	2 9/16"	5 7/16"	2521A672	2521A692	2521A732	110.33	2521A832	297.89
1 1/8"-14	1 1/2"	4"	2595A684	2595A685	2595A686	117.25	_____	_____
1 1/8"-16	1 1/2"	4"	2595A687	2595A688	2595A689	96.02	_____	_____
1 1/8"-20	1 1/2"	4"	2595A691	2595A692	2595A693	117.25	_____	_____
1 3/16"-12	2 9/16"	5 7/16"	2595A921	2595A922	2595A923	140.49	_____	_____
1 3/16"-16	1 1/2"	4"	2595A694	2595A695	2595A696	126.52	_____	_____
1 3/16"-20	1 1/2"	4"	2595A697	2595A698	2595A699	126.52	_____	_____
1 1/4"-7	2 9/16"	5 3/4"	2521A583	2521A633	2521A653	138.78	2521A783	374.71
1 1/4"-12	2 9/16"	5 3/4"	2521A673	2521A693	2521A733	141.60	2521A833	382.32
1 1/4"-16	1 1/2"	4"	2595A714	2595A715	2595A716	103.28	_____	_____
1 1/4"-18	1 1/2"	4"	2595A868	2595A862	2595A863	119.35	_____	_____
1 1/4"-20	1 1/2"	4"	2595A717	2595A718	2595A719	103.28	_____	_____
1 5/16"-16	1 1/2"	4"	2595A721	2595A722	2595A723	136.99	_____	_____
1 3/8"-6	3"	6 1/16"	2521A584	2521A634	2521A654	175.34	2521A784	473.42
1 3/8"-12	3"	6 1/16"	2521A674	2521A694	2521A734	176.28	2521A834	475.96
1 3/8"-16	1 1/2"	4"	2595A724	2595A725	2595A726	137.17	_____	_____
1 3/8"-24	1 1/2"	4"	2595A934	2595A935	2595A936	247.75	_____	_____
1 1/2"-6	3"	6 3/8"	2521A855	2521A856	2521A857	201.75	2521A858	544.73
1 1/2"-12	3"	6 3/8"	2521A859	2521A861	2521A862	201.75	2521A863	544.73
1 1/2"-16	1 1/2"	4"	2595A727	2595A728	2595A729	175.27	_____	_____
1 5/8"-16	2"	5"	2595A924	2595A925	2595A926	188.85	_____	_____
1 7/8"-12	2"	5"	2595A927	2595A928	2595A929	241.46	_____	_____
Left-Hand Inch								
6-32	11/16"	2"	_____	2584A12	2584A67	5.75	_____	_____
8-32	3/4"	2 1/8"	2584A46	2584A13	2584A68	5.86	2584A314	15.82
10-24	7/8"	2 3/8"	2584A47	2584A14	2584A69	5.95	_____	_____
10-32	7/8"	2 3/8"	2584A48	2584A32	2584A71	5.95	2584A318	16.07
1/4"-20	1"	2 1/2"	2584A49	2584A15	2584A72	6.08	2584A321	16.42
1/4"-28	1"	2 1/2"	2584A51	2584A33	2584A73	8.85	2584A323	23.89
1/4"-40	1"	2 1/2"	2584A901	2584A902	2584A903	55.19	2584A927	163.45
5/16"-18	1 1/8"	2 23/32"	2584A52	2584A16	2584A74	8.14	2584A325	21.98
5/16"-20	1 1/8"	2 23/32"	2584A904	2584A905	2584A906	55.83	2584A928	165.30
5/16"-24	1 1/8"	2 23/32"	2584A53	2584A34	2584A75	8.14	2584A327	21.98
3/8"-16	1 1/4"	2 15/16"	2584A54	2584A17	2584A76	10.54	2584A329	28.46
3/8"-24	1 1/4"	2 15/16"	2584A55	2584A35	2584A77	10.54	2584A332	28.46

(Continued on following page)

General Purpose Taps *(Continued from previous page)*

Thread Size	Thread Lg.	Overall Lg.	For Starting Threads	For Through-Hole Threading	For Closed-End Hole Threading		Tap Sets	
Left-Hand Inch (Cont.)								
7/16"-14	1 7/16"	3 5/32"	2584A56	2584A18	2584A78	$15.31	2584A651	$44.73
7/16"-20	1 7/16"	3 5/32"	2584A57	2584A36	2584A79	15.31	2584A653	41.34
1/2"-13	1 21/32"	3 3/8"	2584A58	2584A19	2584A81	17.88	2584A338	48.28
1/2"-20	1 21/32"	3 3/8"	2584A59	2584A37	2584A82	17.88	2584A341	48.28
9/16"-18	1 21/32"	3 19/32"	2584A592	2584A372	_____	27.22	_____	_____
9/16"-20	1 21/32"	3 19/32"	2584A907	2584A908	2584A909	68.19	2584A929	199.66
5/8"-11	1 13/16"	3 13/16"	2584A61	2584A38	2584A83	34.42	2584A657	92.93
5/8"-18	1 13/16"	3 13/16"	2584A62	2584A39	2584A84	34.42	2584A646	92.93
11/16"-16	1 13/16"	4 1/32"	2584A911	2584A912	2584A913	32.53	2584A931	99.08
11/16"-18	1 13/16"	4 1/32"	2584A914	2584A915	2584A916	76.79	2584A932	216.52
3/4"-10	2"	4 1/4"	2584A63	2584A41	2584A85	45.21	2584A659	122.07
3/4"-16	2"	4 1/4"	2584A64	2584A42	2584A86	45.21	2584A658	122.07
7/8"-18	2 7/32"	4 11/16"	2584A917	2584A918	2584A919	96.17	2584A933	271.22
Other thread sizes from 1"-8 to 1 1/2"-12. Please specify thread size and starting, through-hole, closed-end hole, or a set of all three.								2584A4
Metric—Thread sizes are in mm								
M0.5×0.12	1/4"	3/4"	_____	2504A21	_____	95.00	_____	_____
M0.8×0.2	5/16"	1"	_____	2504A22	_____	49.17	_____	_____
M1×0.25	3/8"	1 1/16"	_____	2504A23	_____	49.17	_____	_____
M1.2×0.25	3/8"	1 1/16"	_____	2504A24	_____	49.17	_____	_____
M1.6×0.35	5/16"	1 5/8"	26015A631	26015A632	26015A633	13.05	26015A411	35.24
M1.8×0.35	3/8"	1 11/16"	26015A122	26015A123	26015A124	16.21	26015A412	43.77
M2×0.4	7/16"	1 3/4"	8305A77	8305A78	8305A79	15.76	8305A511	42.55
M2.2×0.45	7/16"	1 3/4"	26015A131	26015A132	26015A133	15.27	26015A413	41.23
M2.5×0.45	1/2"	1 13/16"	8305A11	8305A31	8305A51	9.39	8305A513	25.35
M3×0.5	5/8"	1 15/16"	8305A12	8305A32	8305A52	8.09	8305A515	21.84
M3.5×0.6	11/16"	2"	8305A13	8305A33	8305A53	7.02	8305A517	18.95
M4×0.7	3/4"	2 1/8"	8305A14	8305A34	8305A54	6.67	8305A519	18.01
M4×0.75	3/4"	2 1/8"	26015A154	26015A155	26015A156	17.48	26015A415	47.20
M4.5×0.75	7/8"	2 3/8"	8305A15	8305A35	8305A55	7.02	8305A522	18.95
M5×0.5	7/8"	2 3/8"	26015A141	26015A142	26015A143	19.69	26015A416	53.16
M5×0.8	7/8"	2 3/8"	8305A16	8305A36	8305A56	6.67	8305A524	18.01
M6×0.5	1"	2 1/2"	26015A151	26015A152	26015A153	23.63	26015A417	63.80
M6×0.75	1"	2 1/2"	26015A161	26015A162	26015A163	13.33	26015A418	35.99
M6×1	1"	2 1/2"	8305A17	8305A37	8305A57	7.04	8305A526	19.01
M6.3×1	1"	2 1/2"	26015A671	26015A672	26015A673	7.82	26015A674	21.11
M7×1	1 1/8"	2 23/32"	8305A18	8305A38	8305A58	7.69	8305A528	20.76
M8×0.5	1 1/8"	2 23/32"	26015A177	26015A178	26015A179	22.49	26015A422	60.72
M8×0.75	1 1/8"	2 23/32"	26015A171	26015A172	26015A173	23.63	26015A423	63.80
M8×1	1 1/8"	2 23/32"	26015A174	26015A175	26015A176	12.77	26015A424	34.48
M8×1.25	1 1/8"	2 23/32"	8305A19	8305A39	8305A59	7.69	8305A531	20.76
M9×1	1 1/4"	2 15/16"	26015A187	26015A188	26015A189	27.72	26015A427	74.84
M9×1.25	1 1/4"	2 15/16"	26015A184	26015A185	26015A186	27.72	26015A428	74.84
M10×1	1 1/4"	2 15/16"	26015A197	26015A198	26015A199	20.68	26015A429	55.84
M10×1.25	1 1/4"	2 15/16"	26015A211	26015A212	26015A213	21.51	26015A432	58.08
M10×1.5	1 1/4"	2 15/16"	8305A2	8305A4	8305A6	9.53	8305A533	25.73
M11×1	1 21/32"	3 5/32"	26015A217	26015A218	26015A219	31.50	26015A434	85.05
M11×1.5	1 21/32"	3 5/32"	26015A214	26015A215	26015A216	25.57	26015A435	69.04
M12×1	1 21/32"	3 3/8"	26015A221	26015A222	26015A223	31.34	26015A436	84.62
M12×1.25	1 21/32"	3 3/8"	26015A231	26015A232	26015A233	26.96	26015A437	72.79
M12×1.5	1 21/32"	3 3/8"	26015A611	26015A612	26015A613	30.40	26015A438	82.08
M12×1.75	1 21/32"	3 3/8"	8305A21	8305A41	8305A61	17.07	8305A535	46.09
M14×1	1 21/32"	3 19/32"	26015A241	26015A242	26015A243	39.22	26015A441	105.89
M14×1.25	1 21/32"	3 19/32"	26015A227	26015A228	26015A229	37.22	26015A442	100.49
M14×1.5	1 21/32"	3 19/32"	26015A251	26015A252	26015A253	35.65	26015A443	96.25
M14×2	1 21/32"	3 19/32"	8305A22	8305A42	8305A62	25.49	8305A537	68.82
M16×1	1 13/16"	3 13/16"	26015A234	26015A235	26015A236	41.71	26015A444	112.62
M16×1.5	1 13/16"	3 13/16"	26015A261	26015A262	26015A263	41.86	26015A445	113.02
M16×2	1 13/16"	3 13/16"	8305A23	8305A43	8305A63	31.04	8305A539	83.81
M18×1	1 13/16"	4 1/32"	26015A271	26015A272	26015A273	56.19	26015A446	151.71
M18×1.5	1 13/16"	4 1/32"	26015A281	26015A282	26015A283	48.16	26015A447	130.03
M18×2.5	1 13/16"	4 1/32"	8305A24	8305A44	8305A64	41.76	8305A542	112.75
M20×1	2"	4 15/32"	26015A237	26015A238	26015A239	45.09	26015A448	148.00
M20×1.5	2"	4 15/32"	26015A291	26015A292	26015A293	61.51	26015A449	166.08
M20×2.5	2"	4 15/32"	8305A25	8305A45	8305A65	56.82	8305A544	153.41
M22×1.5	2 7/32"	4 11/16"	26015A311	26015A312	26015A313	66.58	26015A451	179.77
M22×2.5	2 7/32"	4 11/16"	26015A321	26015A322	26015A323	66.58	26015A452	179.77
M24×1.5	2 7/32"	4 29/32"	26015A331	26015A332	26015A333	86.57	26015A453	233.74
M24×2	2 7/32"	4 29/32"	26015A341	26015A342	26015A343	78.92	26015A454	213.08
M24×3	2 7/32"	4 29/32"	8305A66	8305A67	8305A68	79.04	8305A546	213.41
M26×1.5	1 1/2"	4"	26015A351	26015A352	26015A353	92.32	26015A455	249.26
M27×1.5	1 1/2"	4"	26015A244	26015A245	26015A246	93.56	26015A456	252.61
M27×2	2 1/2"	5 1/8"	26015A361	26015A362	26015A363	112.28	26015A457	303.16
M27×3	2 1/2"	5 1/8"	26015A371	26015A372	26015A373	112.28	26015A458	303.16
M30×1.5	1 1/2"	4"	26015A381	26015A382	26015A383	121.75	26015A459	328.73
M30×2	2 9/16"	5 7/16"	26015A247	26015A248	26015A249	136.40	26015A461	368.28
M30×3.5	2 9/16"	5 7/16"	8305A69	8305A71	8305A72	174.53	8305A548	471.23
M33×2	2 9/16"	5 3/4"	26015A254	26015A255	26015A256	146.62	26015A463	395.87
M33×3.5	2 9/16"	5 3/4"	26015A731	26015A732	26015A733	179.43	26015A464	484.46
M35×1.5	1 1/2"	4"	26015A257	26015A258	26015A259	139.57	26015A465	376.84

(Continued on following page)

General Purpose Taps *(Continued from previous page)*

These taps are made of uncoated high-speed steel and are for use on most metals and plastics. Also known as hand taps, use them with a tap wrench.

Taps for starting threads have a taper chamfer with 7-10 tapered threads at the tip to guide the tap into the hole.

Taps for through-hole threading are for start-to-finish tapping of through-holes. They have a plug chamfer with 3-5 tapered threads at the tip to guide the tap into the hole, but they're not as good for starting threads.

Taps for closed-end hole threading make threads close to the bottom of closed-end holes. They have a bottoming chamfer with 1-2 tapered threads to guide the tap into the hole, but they're not as good for starting threads.

Tap sets include a starting, through-hole, and closed-end hole tap.

Thread Size	Thread Lg.	Overall Lg.	For Starting Threads	For Through-Hole Threading	For Closed-End Hole Threading		Tap Sets	
Metric (Cont.)—Thread sizes are in mm								
M36×1.5	1½″	4″	26015A267	26015A268	26015A269	$157.35	26015A466	$424.85
M36×2	3″	6 1/16″	26015A264	26015A265	26015A266	180.70	26015A467	487.89
M36×4	3″	6 1/16″	8305A73	8305A74	8305A75	221.16	8305A551	597.13
M40×1.5	2″	5″	26015A274	26015A275	26015A276	191.22	26015A468	516.29
M42×4.5	3 3/16″	7″	26015A277	26015A278	26015A279	268.38	26015A469	724.63
Left-Hand Metric—Thread sizes are in mm								
M4×0.7	¾″	2⅛″	26565A12	26565A32	26565A52	5.85	26565A72	15.80
M5×0.8	⅞″	2⅜″	26565A14	26565A34	26565A54	5.85	26565A74	15.80
M6×1	1″	2½″	26565A15	26565A35	26565A55	6.96	26565A75	18.79
M7×1	1⅛″	2 23/32″	26565A16	26565A36	26565A56	7.74	26565A76	20.90
M8×1	1⅛″	2 23/32″	26565A161	26565A361	26565A561	7.85	26565A761	21.20
M8×1.25	1⅛″	2 23/32″	26565A17	26565A37	26565A57	8.08	26565A77	21.82
M10×1	1¼″	2 15/16″	26565A172	26565A372	26565A572	51.85	26565A772	140.00
M10×1.25	1¼″	2 15/16″	26565A173	26565A373	26565A573	14.70	26565A773	39.69
M10×1.5	1¼″	2 15/16″	26565A18	26565A38	26565A58	15.14	26565A78	40.88
M12×1.25	1 21/32″	3⅜″	26565A182	26565A382	26565A582	17.41	26565A782	47.01
M12×1.5	1 21/32″	3⅜″	26565A183	26565A383	26565A583	57.45	26565A783	155.12
M12×1.75	1 21/32″	3⅜″	26565A19	26565A39	26565A59	17.27	26565A79	46.63
Other thread sizes from 14×1 to 24×3. Please specify thread size and starting, through-hole, closed-end hole, or a set of all three.							26565A4	

Thread Repairing Taps



For Starting Threads



For Through-Hole Threading



For Closed-End Hole Threading

Also known as hand taps, use these with a tap wrench to repair rusted and damaged threads on most metals and plastics. Taps are uncoated carbon steel.

Taps for starting threads have a taper chamfer with 7-10 tapered threads at the tip to guide the tap into the hole.

Taps for through-hole threading are for start-to-finish repairing of through-holes. They have a plug chamfer with 3-5 tapered threads at the tip to guide the tap into the hole, but they're not as good for starting threads.

Taps for closed-end hole threading repair threads close to the bottom of closed-end holes. They have a bottoming chamfer with 1-2 tapered threads to guide the tap into the hole, but they're not as good for starting threads.

Tap sets include a starting, through-hole, and closed-end hole tap.

Thread Size	Thread Lg.	Overall Lg.	For Starting Threads	For Through-Hole Threading	For Closed-End Hole Threading		Tap Sets	
0-80	5/16″	1 5/8″	25995A113	25995A211	25995A114	$5.91	25995A117	$15.96
1-72	⅜″	1 11/16″	25995A115	25995A212	25995A116	5.54	25995A118	14.96
2-56	7/16″	1¾″	25995A123	25995A143	25995A163	5.79	25995A333	15.63
4-40	9/16″	1 7/8″	25995A125	25995A145	25995A165	2.72	25995A335	7.34
6-32	11/16″	2″	25995A127	25995A147	25995A167	2.15	25995A337	5.80
8-32	¾″	2⅛″	25995A128	25995A148	25995A168	2.15	25995A338	5.80
10-24	⅞″	2⅜″	25995A129	25995A149	25995A169	2.32	25995A339	6.26
10-32	⅞″	2⅜″	25995A189	25995A219	25995A239	3.52	25995A359	9.50
12-24	15/16″	2⅜″	25995A131	25995A151	25995A171	2.72	25995A341	7.34
1/8″-40	⅝″	1 15/16″	26035A277	26035A313	26035A333	2.04	26035A413	5.51
3/16″-24	⅞″	2⅜″	26035A281	26035A316	26035A336	2.27	26035A416	6.13
1/4″-20	1″	2½″	26035A121	26035A155	26035A178	2.82	26035A351	7.61
1/4″-28	1″	2½″	26035A211	26035A231	26035A251	2.83	26035A371	7.64
5/16″-18	1⅛″	2 23/32″	26035A122	26035A156	26035A179	3.39	26035A352	9.15
5/16″-24	1⅛″	2 23/32″	26035A212	26035A232	26035A252	3.39	26035A372	9.15
3/8″-16	1¼″	2 15/16″	26035A123	26035A157	26035A181	3.82	26035A353	10.31
3/8″-24	1¼″	2 15/16″	26035A213	26035A233	26035A253	3.82	26035A373	10.31
7/16″-14	1 7/16″	3 5/32″	26035A124	26035A158	26035A182	5.06	26035A354	13.66
7/16″-20	1 7/16″	3 5/32″	26035A214	26035A234	26035A254	5.06	26035A374	13.66
1/2″-13	1 21/32″	3⅜″	26035A125	26035A159	26035A183	5.75	26035A355	15.53
1/2″-20	1 21/32″	3⅜″	26035A215	26035A235	26035A255	5.74	26035A375	15.50
9/16″-12	1 21/32″	3 19/32″	26035A126	26035A161	26035A184	7.81	26035A356	21.09
9/16″-18	1 21/32″	3 19/32″	26035A216	26035A236	26035A256	7.81	26035A376	21.09
5/8″-11	1 13/16″	3 13/16″	26035A127	26035A162	26035A185	8.75	26035A357	23.62
5/8″-18	1 13/16″	3 13/16″	26035A217	26035A237	26035A257	8.75	26035A377	23.62
3/4″-10	2″	4¼″	26035A129	26035A164	26035A187	12.51	26035A359	33.78
3/4″-16	2″	4¼″	26035A219	26035A239	26035A259	12.51	26035A379	33.78
7/8″-9	2 7/32″	4 11/16″	26035A131	26035A165	26035A188	17.41	26035A361	47.01
7/8″-14	2 7/32″	4 11/16″	26035A221	26035A241	26035A261	17.41	26035A381	47.01
1″-8	2½″	5⅛″	26035A132	26035A166	26035A189	21.56	26035A362	58.21
1″-12	2½″	5⅛″	26035A222	26035A242	26035A262	21.57	26035A382	58.24
1″-14	2½″	5⅛″	26035A841	26035A842	26035A843	21.56	26035A844	58.21
1⅛″-7	2 9/16″	5 7/16″	26035A133	26035A167	26035A191	53.68	26035A363	144.94
1⅛″-12	2 9/16″	5 7/16″	26035A223	26035A243	26035A263	53.68	26035A383	144.94
1¼″-7	2 9/16″	5¾″	26035A134	26035A168	26035A192	61.68	26035A364	166.54
1¼″-12	2 9/16″	5¾″	26035A224	26035A244	26035A264	61.68	26035A384	166.54
Other thread sizes from 1⅜″-6 to 2″-4½. Please specify thread size and starting, through-hole, closed-end hole, or a set of all three.							26035A4	

Long-Life General Purpose Taps



For Starting Threads



For Through-Hole Threading



For Closed-End Hole Threading

Coated to extend tap life, these high-speed steel taps are for use on most metals and plastics. They're also known as hand taps and are for use with a tap wrench.

Long Life—Coated with titanium nitride (TiN), these taps last up to two times longer than uncoated taps.

Extra-Long Life—These taps are coated with titanium carbonitride (TiCN) to last up to three times longer than uncoated taps.

Taps for starting threads have a taper chamfer with 7-10 tapered threads at the tip to guide the tap into the hole.

Taps for through-hole threading are for start-to-finish tapping of through-holes. They have a plug chamfer with 3-5 tapered threads at the tip to guide the tap into the hole, but they're not as good for starting threads.

Taps for closed-end hole threading make threads close to the bottom of closed-end holes. They have a bottoming chamfer with 1-2 tapered threads to guide the tap into the hole, but they're not as good for starting threads.

Tap sets include a starting, through-hole, and closed-end hole tap.

Thread Size	Thread Lg.	Overall Lg.	For Starting Threads	For Through-Hole Threading	For Closed-End Hole Threading		Tap Sets	
Long Life								
Inch								
000-120	9/64"	1"		2504A15		$38.40		
00-90	11/64"	1"		2504A16		38.40		
0-80	5/16"	1 5/8"		2636A112	2636A113	12.99		
2-56	7/16"	1 3/4"	2636A115	2636A116	2636A117	11.56	2636A118	$31.21
3-48	1/2"	1 13/16"	2636A252	2636A262	2636A272	9.81	2636A292	26.49
3-56	1/2"	1 13/16"	2636A254	2636A264	2636A274	11.00	2636A294	29.70
4-40	9/16"	1 7/8"	2636A21	2636A41	2636A61	7.89	2636A81	21.30
4-48	9/16"	1 7/8"	2636A211	2636A412	2636A613	8.23	2636A814	22.22
5-40	5/8"	1 15/16"	2636A22	2636A42	2636A62	8.54	2636A82	23.06
5-44	5/8"	1 15/16"	2636A221	2636A422	2636A623	9.77	2636A824	26.38
6-32	11/16"	2"	2636A23	2636A43	2636A63	6.06	2636A83	16.36
6-40	11/16"	2"	2636A231	2636A432	2636A633	6.98	2636A834	18.85
8-32	3/4"	2 1/8"	2636A24	2636A44	2636A64	6.21	2636A84	16.77
8-36	3/4"	2 1/8"	2636A241	2636A442	2636A643	6.71	2636A844	18.12
10-24	7/8"	2 3/8"	2636A25	2636A45	2636A65	6.38	2636A85	17.23
10-32	7/8"	2 3/8"	2636A251	2636A452	2636A653	6.38	2636A854	17.23
12-24	15/16"	2 3/8"	2636A26	2636A46	2636A66	6.95	2636A86	18.77
1/4"-20	1"	2 1/2"	2636A27	2636A47	2636A67	6.86	2636A87	18.52
1/4"-28	1"	2 1/2"	2636A271	2636A472	2636A673	6.86	2636A874	18.52
5/16"-18	1 1/8"	2 23/32"	2636A28	2636A48	2636A68	8.56	2636A88	23.11
5/16"-24	1 1/8"	2 23/32"	2636A281	2636A482	2636A683	8.56	2636A884	23.11
3/8"-16	1 1/4"	2 15/16"	2636A29	2636A49	2636A69	9.63	2636A89	26.00
3/8"-24	1 1/4"	2 15/16"	2636A291	2636A492	2636A693	9.87	2636A894	26.65
7/16"-14	1 7/16"	3 5/32"	2636A31	2636A51	2636A71	16.62	2636A91	44.87
7/16"-20	1 7/16"	3 5/32"	2636A311	2636A512	2636A713	16.62	2636A914	44.87
1/2"-13	1 21/32"	3 3/8"	2636A32	2636A52	2636A72	17.38	2636A92	46.93
1/2"-20	1 21/32"	3 3/8"	2636A321	2636A522	2636A723	20.25	2636A924	54.68
9/16"-12	1 21/32"	3 19/32"	2636A33	2636A53	2636A73	22.13	2636A93	59.75
5/8"-11	1 13/16"	3 13/16"	2636A34	2636A54	2636A74	29.06	2636A94	78.46
5/8"-18	1 13/16"	3 13/16"	2636A341	2636A542	2636A743	29.06	2636A944	78.46
3/4"-10	2"	4 1/4"	2636A35	2636A55	2636A75	41.68	2636A95	112.54
3/4"-16	2"	4 1/4"	2636A351	2636A552	2636A753	41.68	2636A954	112.54
7/8"-9	2 7/32"	4 11/16"	2636A36	2636A56	2636A76	49.83	2636A96	134.54
7/8"-14	2 7/32"	4 11/16"	2636A361	2636A562	2636A763	67.85	2636A964	183.19
1"-8	2 1/2"	5 1/8"	2636A37	2636A57	2636A77	74.70	2636A97	201.69
1"-12	2 1/2"	5 1/8"	2636A131	2636A141	2636A151	94.15	2636A171	254.21
1 1/8"-7	2 9/16"	5 7/16"	2636A132	2636A142	2636A152	146.06	2636A172	394.36
1 1/8"-12	2 9/16"	5 7/16"	2636A133	2636A143	2636A153	156.92	2636A173	423.68
1 1/4"-7	2 9/16"	5 3/4"	2636A134	2636A144	2636A154	191.71	2636A174	517.62
1 1/4"-12	2 9/16"	5 3/4"	2636A135	2636A145	2636A155	195.08	2636A175	526.72
Metric—Thread sizes are in mm								
M1×0.25	11/64"	1"		2504A25		34.80		
M1.2×0.25	11/64"	1"		2504A26		34.80		
M1.4×0.3	13/64"	1 19/64"		2504A27		34.80		
M2×0.4	7/16"	1 3/4"	26475A32	26475A68	26475A63	20.93	26475A11	56.51
M2.5×0.45	1/2"	1 13/16"	26475A33	26475A69	26475A64	12.93	26475A12	34.91
M3×0.5	5/8"	1 15/16"	26475A34	26475A71	26475A65	10.88	26475A13	29.38
M3.5×0.6	11/16"	2"	26475A35	26475A95	26475A66	8.87	26475A14	23.95
M4×0.7	3/4"	2 1/8"	26475A36	26475A72	26475A78	8.68	26475A15	23.44
M4.5×0.75	7/8"	2 3/8"	26475A37	26475A53	26475A93	8.87	26475A16	23.95
M5×0.5	7/8"	2 3/8"	26475A375	26475A535	26475A935	21.86	26475A165	59.02
M5×0.8	7/8"	2 3/8"	26475A38	26475A73	26475A79	8.68	26475A17	23.44
M6×0.75	1"	2 1/2"	26475A384	26475A734	26475A794	14.27	26475A174	38.53
M6×1	1"	2 1/2"	26475A39	26475A74	26475A81	8.79	26475A18	23.73
M7×1	1 1/8"	2 23/32"	26475A41	26475A54	26475A94	10.23	26475A19	27.62
M8×1	1 1/8"	2 23/32"	26475A416	26475A546	26475A946	14.29	26475A196	38.58
M8×1.25	1 1/8"	2 23/32"	26475A42	26475A75	26475A82	9.96	26475A21	26.89
M10×1	1 1/4"	2 15/16"	26475A422	26475A752	26475A952	23.02	26475A212	62.15
M10×1.25	1 1/4"	2 15/16"	26475A426	26475A756	26475A956	22.55	26475A216	60.89
M10×1.5	1 1/4"	2 15/16"	26475A428	26475A758	26475A958	24.79	26475A218	66.93
M12×1	1 21/32"	3 3/8"	26475A433	26475A763	26475A833	33.65	26475A223	90.86
M12×1.25	1 21/32"	3 3/8"	26475A435	26475A765	26475A835	25.96	26475A225	70.09
M12×1.5	1 21/32"	3 3/8"	26475A437	26475A767	26475A837	33.65	26475A227	90.86
M12×1.75	1 21/32"	3 3/8"	26475A44	26475A77	26475A84	21.93	26475A23	59.21
M14×1.5	1 21/32"	3 19/32"	26475A446	26475A776	26475A846	43.55	26475A236	117.58

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Long-Life General Purpose Taps *(Continued from previous page)*



For Starting Threads



For Through-Hole Threading



For Closed-End Hole Threading

Coated to extend tap life, these high-speed steel taps are for use on most metals and plastics. They're also known as hand taps and are for use with a tap wrench.

Long Life—Coated with titanium nitride (TiN), these taps last up to two times longer than uncoated taps.

Extra-Long Life—These taps are coated with titanium carbonitride (TiCN) to last up to three times longer than uncoated taps.

Taps for starting threads have a taper chamfer with 7-10 tapered threads at the tip to guide the tap into the hole.

Taps for through-hole threading are for start-to-finish tapping of through-holes. They have a plug chamfer with 3-5 tapered threads at the tip to guide the tap into the hole, but they're not as good for starting threads.

Taps for closed-end hole threading make threads close to the bottom of closed-end holes. They have a bottoming chamfer with 1-2 tapered threads to guide the tap into the hole, but they're not as good for starting threads.

Tap sets include a starting, through-hole, and closed-end hole tap.

Thread Size	Thread Lg.	Overall Lg.	For Starting Threads	For Through-Hole Threading	For Closed-End Hole Threading		Tap Sets	
Long Life (Cont.)								
Metric (Cont.)—Thread sizes are in mm								
M14×2	1 21/32″	3 19/32″	26475A45	26475A55	26475A85	$34.32	26475A24	$92.66
M16×1.5	1 13/16″	3 13/16″	26475A458	26475A558	26475A858	51.84	26475A248	139.97
M16×2	1 13/16″	3 13/16″	26475A46	26475A56	26475A86	40.27	26475A25	108.73
M18×1	1 13/16″	4 1/32″	26475A466	26475A566	26475A866	60.01	26475A256	162.03
M18×1.5	1 13/16″	4 1/32″	26475A469	26475A569	26475A869	56.73	26475A259	153.17
M18×2.5	1 13/16″	4 1/32″	26475A47	26475A57	26475A87	55.05	26475A26	148.63
M20×1.5	2″	4 15/32″	26475A475	26475A575	26475A875	59.03	26475A265	159.38
M20×2.5	2″	4 15/32″	26475A48	26475A58	26475A88	58.83	26475A27	158.84
M24×3	2 7/32″	4 29/32″	26475A49	26475A59	26475A89	102.04	26475A28	275.51
Extra-Long Life								
Inch								
0-80	5/16″	1 5/8″	26545A111	26545A16	26545A141	22.47	26545A171	60.67
2-56	7/16″	1 3/4″	26545A112	26545A17	26545A142	12.50	26545A172	33.75
4-40	9/16″	1 7/8″	26545A113	26545A18	26545A143	10.84	26545A173	29.27
5-40	5/8″	1 15/16″	26545A114	26545A19	26545A144	12.70	26545A174	34.29
6-32	11/16″	2″	26545A115	26545A21	26545A145	10.69	26545A175	28.86
6-40	11/16″	2″	26545A331	26545A332	26545A333	15.27	26545A334	41.23
8-32	3/4″	2 1/8″	26545A116	26545A22	26545A146	9.26	26545A176	25.00
10-24	7/8″	2 3/8″	26545A117	26545A23	26545A147	10.91	26545A177	29.46
10-32	7/8″	2 3/8″	26545A118	26545A24	26545A148	10.95	26545A178	29.57
12-24	15/16″	2 3/8″	26545A119	26545A26	26545A149	11.30	26545A179	30.51
1/4″-20	1″	2 1/2″	26545A121	26545A25	26545A151	9.59	26545A181	25.89
1/4″-28	1″	2 1/2″	26545A122	26545A27	26545A152	10.73	26545A182	28.97
5/16″-18	1 1/8″	2 23/32″	26545A123	26545A28	26545A153	13.96	26545A183	37.69
5/16″-24	1 1/8″	2 23/32″	26545A124	26545A29	26545A154	13.85	26545A184	37.40
3/8″-16	1 1/4″	2 15/16″	26545A125	26545A36	26545A155	15.30	26545A185	41.31
3/8″-24	1 1/4″	2 15/16″	26545A126	26545A37	26545A156	16.31	26545A186	44.04
7/16″-14	1 7/16″	3 5/32″	26545A127	26545A38	26545A157	19.21	26545A187	51.87
7/16″-20	1 7/16″	3 5/32″	26545A128	26545A39	26545A158	19.42	26545A188	52.43
1/2″-13	1 21/32″	3 3/8″	26545A129	26545A46	26545A159	23.71	26545A189	64.02
1/2″-20	1 21/32″	3 3/8″	26545A131	26545A47	26545A161	23.72	26545A191	64.04
9/16″-12	1 21/32″	3 19/32″	26545A132	26545A31	26545A162	25.02	26545A192	67.55
5/8″-11	1 13/16″	3 13/16″	26545A133	26545A48	26545A163	31.07	26545A193	83.89
5/8″-18	1 13/16″	3 13/16″	26545A134	26545A49	26545A164	32.61	26545A194	88.05
3/4″-10	2″	4 1/4″	26545A135	26545A56	26545A165	45.50	26545A195	122.85
3/4″-16	2″	4 1/4″	26545A136	26545A57	26545A166	45.73	26545A196	123.47
7/8″-9	2 7/32″	4 11/16″	26545A137	26545A58	26545A167	57.18	26545A197	154.39
1″-8	2 1/2″	5 1/8″	26545A138	26545A59	26545A168	82.03	26545A198	221.48

Machine Tool Taps for Through-Hole Threading

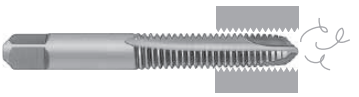

These taps have straight flutes with a spiral point that pushes chips ahead of the tap and out of the hole. They're also known as gun taps. All are made of high-speed steel and are for use on most metals and plastics. Use these plug-chamfer taps for start-to-finish threading of through-holes. They have 3-5 tapered threads at the tip to guide the tap into the hole. Drive them with a drill press or CNC machine.

Standard—Taps are uncoated.

Long Life—Coated with titanium nitride (TiN), these taps last up to two times longer than uncoated taps.

Extra-Long Life—Coated with titanium carbonitride (TiCN), these last up to three times longer than uncoated taps.

Thread Size	Thread Lg.	Overall Lg.		Standard	Long Life	Extra-Long Life
Inch						
0-80	5/16″	1 5/8″	2523A21	$14.91	$19.07	$21.93
1-64	3/8″	1 11/16″	2523A22	13.59	17.40	28.35
1-72	3/8″	1 11/16″	2523A23	13.59	17.74	28.35
2-56	7/16″	1 3/4″	2523A24	11.39	14.59	16.78
2-64	7/16″	1 3/4″	2523A25	13.00	16.63	27.11

Thread Size	Thread Lg.	Overall Lg.		Standard	Long Life	Extra-Long Life
Inch (Cont.)						
3-48	1/2″	1 13/16″	2523A26	$9.22	$11.80	$19.21
3-56	1/2″	1 13/16″	2523A27	10.20	13.49	22.34
4-36	9/16″	1 7/8″	2523A28	9.20	16.63	19.20
4-40	9/16″	1 7/8″	2523A29	7.37	11.42	12.47
4-48	9/16″	1 7/8″	2523A31	8.52	10.92	21.77

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Machine Tool Taps for Through-Hole Threading *(Continued from previous page)*

Thread Size	Thread Lg.	Overall Lg.		Standard	Long Life	Extra-Long Life
Inch (Cont.)						
5-40	5/8"	1 15/16"	2523A32	$7.37	$9.43	$10.85
5-44	5/8"	1 15/16"	2523A33	8.52	10.92	25.56
6-32	11/16"	2"	2523A34	6.20	7.93	9.13
6-40	11/16"	2"	2523A35	7.07	9.04	10.39
6-48	11/16"	2"	25705A51	25.11	____	____
8-32	3/4"	2 1/8"	2523A36	6.20	7.93	9.13
8-36	3/4"	2 1/8"	2523A37	7.07	9.04	14.72
8-40	3/4"	2 1/8"	25705A53	25.11	____	____
10-24	7/8"	2 3/8"	2523A38	6.20	7.93	9.13
10-32	7/8"	2 3/8"	2523A39	6.20	7.93	9.13
10-40	7/8"	2 3/8"	25705A55	24.86	____	____
12-24	15/16"	2 3/8"	2523A51	7.07	9.04	10.39
12-28	15/16"	2 3/8"	2523A52	7.07	9.23	14.72
12-32	15/16"	2 3/8"	25705A57	24.46	____	____
1/4"-20	1"	2 1/2"	2523A53	6.20	7.93	9.13
1/4"-24	1"	2 1/2"	25705A58	20.52	____	____
1/4"-28	1"	2 1/2"	2523A54	6.20	7.93	11.35
1/4"-32	1"	2 1/2"	25705A59	16.35	____	____
1/4"-36	1"	2 1/2"	25705A61	20.52	____	____
1/4"-40	1"	2 1/2"	25705A62	20.52	____	____
5/16"-18	1 1/8"	2 23/32"	2523A55	6.67	8.54	13.02
5/16"-24	1 1/8"	2 23/32"	2523A56	6.67	8.54	13.02
5/16"-32	1 1/8"	2 23/32"	25705A63	18.14	____	____
3/8"-16	1 1/4"	2 15/16"	2523A57	7.96	10.20	11.70
3/8"-24	1 1/4"	2 15/16"	2523A58	8.52	10.91	12.54
3/8"-32	1 1/4"	2 15/16"	25705A64	20.66	____	____
7/16"-14	1 7/16"	3 5/32"	2523A59	13.59	17.39	20.00
7/16"-20	1 7/16"	3 5/32"	2523A71	13.59	17.39	20.00
1/2"-13	1 21/32"	3 3/8"	2523A72	13.78	17.65	20.30
1/2"-20	1 21/32"	3 3/8"	2523A73	16.11	20.61	23.70
1/2"-28	1 21/32"	3 3/8"	25705A65	27.70	____	____
5/8"-11	1 13/16"	3 13/16"	2523A74	31.28	39.28	45.17
5/8"-18	1 13/16"	3 13/16"	2523A75	31.28	39.28	65.30
3/4"-10	2"	4 1/4"	2523A76	44.33	55.63	63.98

Thread Size	Thread Lg.	Overall Lg.		Standard	Long Life	Extra-Long Life
Left-Hand Inch						
5-40	5/8"	1 15/16"	25315A49	$26.60	____	____
6-32	11/16"	2"	25315A51	19.47	____	____
8-32	3/4"	2 1/8"	25315A52	19.59	____	____
10-24	7/8"	2 3/8"	25315A54	20.83	____	____
10-32	7/8"	2 3/8"	25315A55	19.56	____	____
1/4"-20	1"	2 1/2"	25315A56	21.56	____	____
1/4"-28	1"	2 1/2"	25315A57	23.69	____	____
5/16"-18	1 1/8"	2 23/32"	25315A58	23.55	____	____
5/16"-24	1 1/8"	2 23/32"	25315A59	23.55	____	____
3/8"-16	1 1/4"	2 15/16"	25315A61	24.32	____	____
3/8"-24	1 1/4"	2 15/16"	25315A62	24.32	____	____
7/16"-14	1 7/16"	3 5/32"	25315A63	33.29	____	____
1/2"-13	1 21/32"	3 3/8"	25315A64	32.69	____	____
1/2"-20	1 21/32"	3 3/8"	25315A65	32.79	____	____
5/8"-11	1 13/16"	3 13/16"	25315A66	48.88	____	____
Metric—Thread sizes are in mm						
M1.6×0.35	5/16"	1 5/8"	8302A41	20.00	$27.24	$28.50
M2×0.4	7/16"	1 3/4"	8302A42	18.53	21.47	14.25
M2.5×0.45	1/2"	1 13/16"	8302A43	13.49	15.37	15.58
M3×0.5	5/8"	1 15/16"	8302A44	9.36	11.80	12.92
M3.5×0.6	11/16"	2"	8302A45	8.09	11.41	15.34
M4×0.7	3/4"	2 1/8"	8302A46	8.09	10.20	11.17
M4.5×0.75	7/8"	2 3/8"	8302A47	9.97	14.33	15.84
M5×0.8	7/8"	2 3/8"	8302A48	8.09	10.20	11.17
M6×1	1"	2 1/2"	8302A49	8.09	10.20	11.17
M6.3×1	1"	2 1/2"	8302A51	9.10	22.27	22.69
M7×1	1 1/8"	2 23/32"	8302A52	11.38	15.85	25.65
M8×1.25	1 1/8"	2 23/32"	8302A53	9.36	11.80	12.92
M10×1.5	1 1/4"	2 15/16"	8302A54	10.94	15.22	15.90
M12×1.75	1 21/32"	3 3/8"	8302A55	19.04	24.00	26.27
M14×2	1 21/32"	3 19/32"	8302A56	28.16	40.25	55.05
M16×2	1 13/16"	3 13/16"	8302A57	36.57	43.26	43.67
M18×2.5	1 13/16"	4 1/32"	8302A58	47.80	65.99	98.39
M20×2.5	2"	4 15/32"	8302A59	63.16	86.39	112.06

Machine Tool Taps for Closed-End Hole Threading





These taps have spiral flutes that pull chips back toward the tap. All are made of high-speed steel. Drive them with a drill press or CNC machine.

Standard—These uncoated taps are for use on nonferrous metals and plastics.

Long Life—Coated with titanium nitride (TiN), these taps last up to two times longer than uncoated taps. Use them on most metals and plastics.

Plug-chamfer taps are for starting holes. They have 3-5 tapered threads at the tip to guide the tap into the hole.

Bottoming-chamfer taps thread close to the bottom of closed-end holes. They have 1-2 tapered threads to guide the tap into the hole, but they're not as good for starting threads.

Thread Size	Thread Lg.	Overall Lg.	*Standard* Plug Chamfer	*Standard* Bottoming Chamfer		*Long Life* Plug Chamfer	*Long Life* Bottoming Chamfer	
Inch								
4-40	9/16"	1 7/8"	2529A12	2529A44	$13.50	26255A31	26255A51	$17.34
5-40	5/8"	1 15/16"	2529A13	2529A45	13.50	26255A21	26255A22	25.05
6-32	3/8"	2"	2529A14	2529A46	10.98	26255A32	26255A52	14.09
8-32	3/8"	2 1/8"	2529A15	2529A47	10.98	26255A33	26255A53	14.09
10-24	1/2"	2 3/8"	2529A16	2529A48	10.98	26255A34	26255A54	14.09
10-32	1/2"	2 3/8"	2529A32	2529A49	10.98	26255A35	26255A55	14.09
12-24	1/2"	2 3/8"	2529A17	2529A51	11.93	26255A23	____	36.75
1/4"-20	5/8"	2 1/2"	2529A18	2529A53	11.93	26255A36	26255A56	15.34
1/4"-28	5/8"	2 1/2"	2529A34	2529A54	11.93	26255A37	26255A57	15.34
5/16"-18	11/16"	2 23/32"	2529A19	2529A55	14.76	26255A38	26255A58	18.95
5/16"-24	11/16"	2 23/32"	2529A61	2529A62	14.76	26255A39	26255A59	18.95
3/8"-16	3/4"	2 15/16"	2529A21	2529A56	17.07	26255A41	26255A61	21.93
3/8"-24	3/4"	2 15/16"	2529A36	2529A57	17.07	26255A42	26255A62	21.93
7/16"-14	7/8"	3 5/32"	2529A42	2529A58	25.41	26255A43	26255A63	32.64
1/2"-13	15/16"	3 3/8"	2529A23	2529A59	29.87	26255A44	26255A64	38.39
5/8"-11	1 3/32"	3 13/16"	2529A63	2529A64	52.70	____	____	____
Metric—Thread sizes are in mm								
M3×0.5	5/16"	1 15/16"	26355A41	26355A61	14.44	26355A71	26355A81	18.61
M4×0.7	3/8"	2 1/8"	26355A42	26355A62	11.75	26355A72	26355A82	15.12
M5×0.8	1/2"	2 3/8"	26355A43	26355A63	11.75	26355A73	26355A83	15.12
M6×1	5/8"	2 1/2"	26355A44	26355A64	12.77	26355A74	26355A84	16.46
M8×1.25	11/16"	2 23/32"	26355A45	26355A65	15.79	26355A75	26355A85	20.34
M10×1.5	3/4"	2 15/16"	26355A46	26355A66	18.26	26355A76	26355A86	23.54
M12×1.75	15/16"	3 3/8"	26355A47	26355A67	31.96	26355A77	26355A87	41.20

Taps for Hardened Steel and Nickel



Use these hand taps with a tap wrench. They're cobalt steel for cutting through materials with a Rockwell hardness up to C45, such as mold and tool steels and nickel. These plug-chamfer taps are for start-to-finish threading of through-holes. They have 3-5 tapered threads at the tip to guide the tap into the hole.

Standard—Taps are uncoated.

Long Life—Coated with titanium nitride (TiN), these taps last up to two times longer than uncoated taps.

Thread Size	Thread Lg.	Overall Lg.		
Standard Inch				
4-40	5/16"	1 7/8"	2662A41	$14.20
5-40	5/16"	1 15/16"	2662A42	14.20
6-32	3/8"	2"	2662A43	11.64
8-32	3/8"	2 1/8"	2662A44	11.64
10-24	1/2"	2 3/8"	2662A45	11.64
10-32	1/2"	2 3/8"	2662A46	11.64
1/4"-20	5/8"	2 1/2"	2662A11	12.86
1/4"-28	5/8"	2 1/2"	2662A12	12.86
5/16"-18	11/16"	2 23/32"	2662A13	14.72
5/16"-24	11/16"	2 23/32"	2662A14	14.72
3/8"-16	3/4"	2 15/16"	2662A15	16.60
3/8"-24	3/4"	2 15/16"	2662A16	16.60
7/16"-14	7/8"	3 5/32"	2662A17	22.16
7/16"-20	7/8"	3 5/32"	2662A18	22.16
1/2"-13	15/16"	3 3/8"	2662A19	23.98
1/2"-20	15/16"	3 3/8"	2662A21	23.98
5/8"-11	1 3/32"	3 13/16"	2662A22	48.00
5/8"-18	1 3/32"	3 13/16"	2662A23	48.00
3/4"-10	1 7/32"	4 1/4"	2662A24	66.42
3/4"-16	1 7/32"	4 1/4"	2662A25	66.42

Thread Size	Thread Lg.	Overall Lg.		
Long-Life Inch				
4-40	5/16"	1 7/8"	25215A51	$18.71
6-32	3/8"	2"	25215A53	21.76
8-32	3/8"	2 1/8"	25215A55	22.47
10-24	1/2"	2 3/8"	25215A56	23.02
10-32	1/2"	2 3/8"	25215A58	23.02
1/4"-20	5/8"	2 1/2"	25215A59	27.19
1/4"-28	5/8"	2 1/2"	25215A61	25.04
5/16"-18	11/16"	2 23/32"	25215A62	30.73
5/16"-24	11/16"	2 23/32"	25215A63	33.78
3/8"-16	3/4"	2 15/16"	25215A64	34.69
3/8"-24	3/4"	2 15/16"	25215A65	36.47
Long-Life Metric—Thread sizes are in mm				
M6×1	5/8"	2 1/2"	25235A41	25.11
M8×1.25	11/16"	2 23/32"	25235A43	30.73
M10×1.5	3/4"	2 15/16"	25235A45	32.57
M12×1.75	15/16"	3 3/8"	25235A47	47.22

Taps for Aluminum, Brass, and Plastic



For Through-Hole Threading

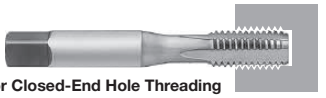

For Closed-End Hole Threading

Also known as hand taps, turn these with a tap wrench. They have specially shaped cutting threads that create smooth and accurate threads when tapping holes in soft materials. Taps are vanadium steel.

Taps for through-hole threading are for start-to-finish tapping of through-holes. They have a plug chamfer with 3-5 tapered threads at the tip to guide the tap into the hole.

Taps for closed-end hole threading make threads close to the bottom of closed-end holes. They have a bottoming chamfer with 1-2 tapered threads to guide the tap into the hole.

Thread Size	Thread Lg.	Overall Lg.	For Through-Hole Threading	For Closed-End Hole Threading	
Inch					
2-56	7/16"	1 3/4"	27175A111	27175A211	$19.91
4-40	9/16"	1 7/8"	27175A112	27175A212	13.23
5-40	5/8"	1 15/16"	27175A113	27175A213	13.23
6-32	11/16"	2"	27175A114	27175A214	10.90
8-32	3/4"	2 1/8"	27175A115	27175A215	10.90
10-24	7/8"	2 3/8"	27175A116	27175A216	10.90
10-32	7/8"	2 3/8"	27175A117	27175A217	10.90
1/4"-20	1"	2 1/2"	27175A118	27175A218	12.19
1/4"-28	1"	2 1/2"	27175A119	27175A219	12.19
5/16"-18	1 1/8"	2 23/32"	27175A121	27175A221	13.67
5/16"-24	1 1/8"	2 23/32"	27175A122	27175A222	13.67
3/8"-16	1 1/4"	2 15/16"	27175A123	27175A223	15.40
3/8"-24	1 1/4"	2 15/16"	27175A124	27175A224	15.40

Thread Size	Thread Lg.	Overall Lg.	For Through-Hole Threading	For Closed-End Hole Threading	
Inch (Cont.)					
7/16"-14	1 7/16"	3 5/32"	27175A125	27175A225	$20.03
7/16"-20	1 7/16"	3 5/32"	27175A126	27175A226	20.03
1/2"-13	1 21/32"	3 3/8"	27175A127	27175A227	23.08
1/2"-20	1 21/32"	3 3/8"	27175A128	27175A228	23.08
Metric—Thread sizes are in mm					
M3×0.5	5/8"	1 15/16"	27175A511	27175A611	17.28
M4×0.7	3/4"	2 1/8"	27175A512	27175A612	15.40
M5×0.8	7/8"	2 3/8"	27175A513	27175A613	15.40
M6×1	1"	2 1/2"	27175A514	27175A614	15.40
M8×1.25	1 1/8"	2 23/32"	27175A515	27175A615	17.28
M10×1.25	1 1/4"	2 15/16"	27175A516	27175A616	24.12
M10×1.5	1 1/4"	2 15/16"	27175A517	27175A617	24.12
M12×1.75	1 21/32"	3 3/8"	27175A518	27175A618	28.75

Machine Tool Taps for Titanium



For Through-Hole Threading



For Closed-End Hole Threading

The cutting threads on these taps are shaped to plow through titanium. They're plug-chamfer taps with 3-5 tapered threads at the tip to guide the tap into the hole. Drive them with a drill press or CNC machine.

Taps for through-hole threading have straight flutes with a spiral point that pushes chips ahead of the tap and out of the hole. They're also known as gun taps. Taps are oxide-over-nitride coated cobalt steel.

Taps for closed-end hole threading have spiral flutes that pull chips back toward the tap. Taps are uncoated cobalt steel.

Thread Size	Thread Lg.	Overall Lg.		
For Through-Hole Threading				
4-40	13/32"	2 3/16"	2439A12	$39.74
5-40	13/32"	2 3/16"	2439A14	41.46
6-32	15/32"	2 3/16"	2439A16	36.70
8-32	1/2"	2 15/32"	2439A18	35.49
10-24	19/32"	2 3/4"	2439A21	35.49
10-32	19/32"	2 3/4"	2439A22	37.22
1/4"-20	21/32"	3 5/32"	2439A25	39.74
1/4"-28	21/32"	3 5/32"	2439A26	41.95
5/16"-18	25/32"	3 17/32"	2439A27	44.28
5/16"-24	25/32"	3 17/32"	2439A28	45.61

Thread Size	Thread Lg.	Overall Lg.		
For Through-Hole Threading (Cont.)				
3/8"-16	27/32"	3 15/16"	2439A29	$50.46
3/8"-24	27/32"	3 15/16"	2439A31	52.58
7/16"-14	27/32"	3 15/16"	2439A32	71.39
7/16"-20	27/32"	3 15/16"	2439A33	73.61
1/2"-13	31/32"	4 5/16"	2439A34	72.10
1/2"-20	27/32"	3 15/16"	2439A35	75.43
5/8"-11	11/16"	4 5/16"	2439A38	115.17
5/8"-18	27/32"	3 15/16"	2439A39	119.52
3/4"-10	13/16"	4 29/32"	2439A41	151.67
3/4"-16	31/32"	4 5/16"	2439A42	157.53

(Continued on following page)

Machine Tool Taps for Titanium *(Continued from previous page)*

For Closed-End Hole Threading

Thread Size	Thread Lg.	Overall Lg.		
2-56	1/4"	1 3/4"	2401A24	$51.48
4-40	13/32"	2 3/16"	2401A28	39.74
5-40	13/32"	2 3/16"	2401A31	41.46
6-32	15/32"	2 3/16"	2401A33	36.70
6-40	15/32"	2 3/16"	2401A34	37.61
8-32	1/2"	2 15/32"	2401A35	35.49
8-36	1/2"	2 15/32"	2401A36	37.22
10-24	19/32"	2 3/4"	2401A37	35.49
10-32	19/32"	2 3/4"	2401A38	37.22
12-28	5/8"	3 5/32"	2401A41	37.61

For Closed-End Hole Threading (Cont.)

Thread Size	Thread Lg.	Overall Lg.		
1/4"-20	21/32"	3 5/32"	2401A42	$39.74
1/4"-28	21/32"	3 5/32"	2401A43	41.95
5/16"-18	25/32"	3 17/32"	2401A44	44.28
5/16"-24	25/32"	3 17/32"	2401A45	45.61
3/8"-16	27/32"	3 15/16"	2401A46	50.46
3/8"-24	27/32"	3 15/16"	2401A47	52.58
7/16"-14	27/32"	3 15/16"	2401A48	71.39
7/16"-20	27/32"	3 15/16"	2401A49	73.61
1/2"-13	31/32"	4 5/16"	2401A51	72.10
1/2"-20	27/32"	3 15/16"	2401A52	75.43

Machine Tool Taps for Steel, Stainless Steel, and Fiberglass

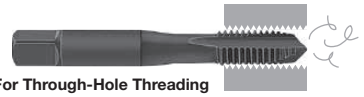

For Through-Hole Threading



For Closed-End Hole Threading

The flutes on these taps are designed to guide chips out of the hole so you don't have to reverse your machine to prevent material buildup. They're oxide-coated vanadium steel for cutting threads in steel, stainless steel, and fiberglass. These plug-chamfer taps have 3-5 tapered threads at the tip to guide the tap into the hole. Drive them with a drill press or CNC machine.

Taps for through-hole threading have straight flutes with a spiral point that pushes chips ahead of the tap and out of the hole. They're also known as gun taps.

Taps for closed-end hole threading have spiral flutes that pull chips back toward the tap.

For Through-Hole Threading

Thread Size	Thread Lg.	Overall Lg.		
Inch				
2-56	3/8"	1 3/4"	2684A61	$20.74
3-48	7/16"	1 13/16"	2684A62	16.58
4-40	1/2"	1 7/8"	2684A29	13.60
4-48	1/2"	1 7/8"	2684A63	13.60
5-40	9/16"	1 15/16"	2684A64	13.60
6-32	3/8"	2"	2684A31	11.40
6-40	3/8"	2"	2684A65	11.40
8-32	3/8"	2 1/8"	2684A32	11.40
8-36	3/8"	2 1/8"	2684A84	11.40
10-24	1/2"	2 3/8"	2684A33	11.40
10-32	1/2"	2 3/8"	2684A34	11.40
12-24	1/2"	2 3/8"	2684A66	12.64
12-28	1/2"	2 3/8"	2684A67	12.64
1/4"-20	5/8"	2 1/2"	2684A35	12.64
1/4"-28	5/8"	2 1/2"	2684A36	12.64
5/16"-18	11/16"	2 23/32"	2684A37	14.12
5/16"-24	11/16"	2 23/32"	2684A38	14.12
3/8"-16	3/4"	2 15/16"	2684A39	16.08
3/8"-24	3/4"	2 15/16"	2684A41	16.08
7/16"-14	7/8"	3 5/32"	2684A68	20.74
7/16"-20	7/8"	3 5/32"	2684A69	20.74
1/2"-13	15/16"	3 3/8"	2684A71	23.90
1/2"-20	15/16"	3 3/8"	2684A72	23.90
9/16"-12	1"	3 19/32"	2684A85	37.06
9/16"-18	1"	3 19/32"	2684A86	37.06
5/8"-11	1 3/32"	3 13/16"	2684A75	43.44

Thread Size	Thread Lg.	Overall Lg.		
Inch (Cont.)				
5/8"-18	1 3/32"	3 13/16"	2684A76	$43.44
3/4"-10	1 7/32"	4 1/4"	2684A77	68.22
3/4"-16	1 7/32"	4 1/4"	2684A78	68.22
7/8"-9	1 11/32"	4 11/16"	2684A79	88.60
7/8"-14	1 11/32"	4 11/16"	2684A81	88.60
1"-8	1 1/2"	5 1/8"	2684A82	120.16
1"-12	1 1/2"	5 1/8"	2684A83	120.74
Metric—Thread sizes are in mm				
M3×0.5	9/16"	1 15/16"	2671A71	16.64
M3.5×0.6	3/8"	2"	2671A81	14.81
M4×0.7	3/8"	2 1/8"	2671A72	14.81
M5×0.8	1/2"	2 3/8"	2671A73	14.81
M6×1	5/8"	2 1/2"	2671A74	14.81
M7×1	11/16"	2 23/32"	2671A82	16.64
M8×1	11/16"	2 23/32"	2671A83	16.64
M8×1.25	11/16"	2 23/32"	2671A75	16.64
M10×1.25	3/4"	2 15/16"	2671A84	23.11
M10×1.5	3/4"	2 15/16"	2671A76	23.11
M12×1.25	15/16"	3 3/8"	2671A85	27.70
M12×1.75	15/16"	3 3/8"	2671A77	27.70
M14×1.5	1"	3 19/32"	2671A86	38.35
M14×2	1"	3 19/32"	2671A87	41.20
M16×1.5	1 3/32"	3 13/16"	2671A88	49.96
M16×2	1 3/32"	3 13/16"	2671A89	49.96
M18×1.5	1 3/32"	4 1/32"	2671A91	70.11
M18×2.5	1 7/32"	4 1/32"	2671A92	70.11

For Closed-End Hole Threading

Thread Size	Thread Lg.	Overall Lg.		
Inch				
2-56	13/32"	1 3/4"	27055A11	$31.02
4-40	1/2"	1 7/8"	27055A31	20.38
4-48	17/32"	1 7/8"	27055A32	20.38
5-40	19/32"	1 15/16"	27055A33	20.38
6-32	3/8"	2"	27055A34	16.20
6-40	3/8"	2"	27055A35	16.20
8-32	3/8"	2 1/8"	27055A36	16.20
10-24	1/2"	2 3/8"	27055A37	16.58
10-32	1/2"	2 3/8"	27055A38	16.58
12-24	1/2"	2 7/16"	27055A39	18.30
12-28	1/2"	2 7/16"	27055A41	18.30
1/4"-20	5/8"	2 1/2"	27055A42	18.30
1/4"-28	5/8"	2 1/2"	27055A43	18.30
5/16"-18	11/16"	2 23/32"	27055A44	20.38
5/16"-24	11/16"	2 23/32"	27055A45	20.38
3/8"-16	3/4"	2 15/16"	27055A46	22.70
3/8"-24	3/4"	2 15/16"	27055A47	22.70
7/16"-14	7/8"	3 5/32"	27055A48	33.16
7/16"-20	7/8"	3 5/32"	27055A49	33.16
1/2"-13	15/16"	3 3/8"	27055A51	40.38
1/2"-20	15/16"	3 3/8"	27055A52	40.38

Thread Size	Thread Lg.	Overall Lg.		
Inch (Cont.)				
5/8"-11	1 3/32"	3 13/16"	27055A55	$67.24
5/8"-18	1 3/32"	3 13/16"	27055A56	67.24
3/4"-10	1 7/32"	4 1/4"	27055A57	86.86
3/4"-16	1 7/32"	4 1/4"	27055A58	86.86
7/8"-9	1 11/32"	4 11/16"	27055A59	128.84
7/8"-14	1 11/32"	4 11/16"	27055A61	128.84
1"-8	1 1/2"	5 1/8"	27055A62	169.08
1"-12	1 1/2"	5 1/8"	27055A63	169.08
Metric—Thread sizes are in mm				
M3×0.5	9/16"	1 15/16"	8296A21	25.82
M3.5×0.6	3/8"	2"	8296A22	23.85
M4×0.7	3/8"	2 1/8"	8296A23	23.85
M5×0.8	1/2"	2 3/8"	8296A24	23.85
M6×1	5/8"	2 1/2"	8296A25	23.85
M7×1	11/16"	2 23/32"	8296A26	25.82
M8×1	11/16"	2 23/32"	8296A27	25.82
M8×1.25	11/16"	2 23/32"	8296A28	25.82
M10×1.25	3/4"	2 15/16"	8296A29	36.46
M10×1.5	3/4"	2 15/16"	8296A31	36.46
M12×1.25	15/16"	3 3/8"	8296A32	43.90
M12×1.75	15/16"	3 3/8"	8296A33	43.90

Machine Tool Taps for Hardened Steel and Nickel

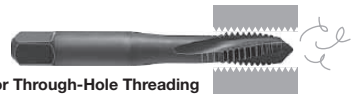

For Through-Hole Threading



For Closed-End Hole Threading

A blend of cobalt and vanadium steel cuts through materials with a Rockwell hardness up to C40, such as mold and tool steels and nickel. These plug-chamfer taps have 3-5 tapered threads at the tip to guide the tap into the hole. Drive with a drill press or CNC machine.

Taps for through-hole threading have spiral flutes with a spiral point that pushes chips ahead of the tap and out of the hole. They're also known as gun taps.

Taps for closed-end hole threading have spiral flutes that pull chips back toward the tap.

For Through-Hole Threading

Thread Size	Thread Lg.	Overall Lg.		
Inch				
2-56	1/4"	1 3/4"	25595A71	$36.84
4-40	5/16"	1 7/8"	25595A72	19.66
4-48	5/16"	1 7/8"	25595A73	19.66
5-40	3/8"	1 15/16"	25595A74	19.66
6-32	13/32"	2"	25595A75	16.44
6-40	13/32"	2"	25595A76	16.44
8-32	7/16"	2 1/8"	25595A77	16.44
8-36	7/16"	2 1/8"	25595A62	24.30
10-24	17/32"	2 3/8"	25595A78	16.44
10-32	17/32"	2 3/8"	25595A79	16.44
12-24	1/2"	2 3/8"	25595A63	43.86
1/4"-20	9/16"	2 1/2"	25595A81	19.54
1/4"-28	9/16"	2 1/2"	25595A82	19.54
5/16"-18	21/32"	2 23/32"	25595A83	21.66
5/16"-24	21/32"	2 23/32"	25595A84	21.66
3/8"-16	23/32"	2 15/16"	25595A85	24.84
3/8"-24	23/32"	2 15/16"	25595A86	24.84
7/16"-14	27/32"	3 5/32"	25595A87	33.66
7/16"-20	27/32"	3 5/32"	25595A88	33.66
1/2"-13	15/16"	3 3/8"	25595A89	39.92
1/2"-20	15/16"	3 3/8"	25595A91	39.92
9/16"-12	1"	3 19/32"	25595A65	53.83

Thread Size	Thread Lg.	Overall Lg.		
Inch (Cont.)				
9/16"-18	1"	3 19/32"	25595A66	$69.20
5/8"-11	1 1/16"	3 13/16"	25595A92	91.94
5/8"-18	1 1/16"	3 13/16"	25595A93	91.94
3/4"-10	1 3/16"	4 1/4"	25595A94	118.50
3/4"-16	1 3/16"	4 1/4"	25595A95	118.50
Metric—Thread sizes are in mm				
M3×0.5	3/8"	1 15/16"	2676A11	20.37
M3.5×0.6	13/32"	2"	2676A12	21.52
M4×0.7	7/16"	2 1/8"	2676A13	21.52
M5×0.8	17/32"	2 3/8"	2676A14	21.52
M6×1	9/16"	2 1/2"	2676A15	23.04
M7×1	21/32"	2 23/32"	2676A16	24.65
M8×1	21/32"	2 23/32"	2676A17	24.65
M8×1.25	21/32"	2 23/32"	2676A18	24.65
M10×1.25	23/32"	2 15/16"	2676A19	28.75
M10×1.5	23/32"	2 15/16"	2676A21	28.75
M12×1.25	31/32"	3 3/8"	2676A22	40.90
M12×1.75	31/32"	3 3/8"	2676A23	40.90
M14×1.5	1"	3 19/32"	2676A24	65.90
M14×2	1"	3 19/32"	2676A25	65.90
M16×1.5	1 1/16"	3 13/16"	2676A26	76.50
M16×2	1 1/16"	3 13/16"	2676A27	76.50

For Closed-End Hole Threading

Thread Size	Thread Lg.	Overall Lg.		
Inch				
2-56	7/16"	1 3/4"	2626A11	$55.74
4-40	9/16"	1 7/8"	2626A12	26.78
4-48	9/16"	1 7/8"	2626A13	26.78
5-40	1/4"	1 15/16"	2626A14	26.78
6-32	11/32"	2"	2626A15	24.32
6-40	11/32"	2"	2626A99	34.74
8-32	5/16"	2 1/8"	2626A17	23.90
10-24	15/32"	2 3/8"	2626A19	23.90
10-32	15/32"	2 3/8"	2626A22	23.90
12-24	13/32"	2 3/8"	2626A97	36.14
12-28	7/16"	2 3/8"	2626A98	36.14
1/4"-20	7/16"	2 1/2"	2626A25	26.78
1/4"-28	7/16"	2 1/2"	2626A28	26.78
5/16"-18	15/32"	2 23/32"	2626A32	29.42
5/16"-24	15/32"	2 23/32"	2626A35	29.42
3/8"-16	19/32"	2 15/16"	2626A38	33.88
3/8"-24	19/32"	2 15/16"	2626A42	33.88
7/16"-14	23/32"	3 5/32"	2626A45	47.56
7/16"-20	23/32"	3 5/32"	2626A46	47.56

Thread Size	Thread Lg.	Overall Lg.		
Inch (Cont.)				
1/2"-13	1/4"	3 3/8"	2626A48	$52.34
1/2"-20	1/4"	3 3/8"	2626A52	52.34
5/8"-11	29/32"	3 13/16"	2626A55	118.50
5/8"-18	15/16"	3 13/16"	2626A57	118.50
3/4"-10	1"	4 1/4"	2626A58	151.94
3/4"-16	1"	4 1/4"	2626A59	151.94
Metric—Thread sizes are in mm				
M3×0.5	5/16"	1 15/16"	8327A41	27.14
M3.5×0.6	3/8"	2"	8327A42	24.46
M4×0.7	3/8"	2 1/8"	8327A43	24.46
M5×0.8	1/2"	2 3/8"	8327A44	24.46
M6×1	5/8"	2 1/2"	8327A45	26.45
M7×1	11/16"	2 23/32"	8327A46	29.83
M8×1	11/16"	2 23/32"	8327A47	29.83
M8×1.25	11/16"	2 23/32"	8327A48	29.83
M10×1.25	3/4"	2 15/16"	8327A49	38.69
M10×1.5	3/4"	2 15/16"	8327A51	38.69
M12×1.25	15/16"	3 3/8"	8327A52	49.29
M12×1.75	15/16"	3 3/8"	8327A53	49.29

Machine Tool Taps for Aluminum, Brass, and Plastic

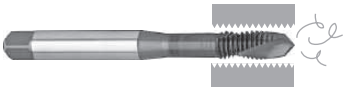

Taps have specially shaped cutting threads that produce smooth and accurate threads in soft materials. Also known as gun taps, these have straight threads with a spiral point that pushes chips ahead of the tap and out of a through-hole. Taps are titanium nitride (TiN) and chromium carbide-coated vanadium steel. Use these plug-chamfer taps for start-to-finish threading of through-holes. They have 3-5 tapered threads at the tip to guide the tap into the hole. Drive them with a drill press or CNC machine.

Thread Size	Thread Lg.	Overall Lg.		
Inch				
2-56	5/16"	1 3/4"	2687A41	$19.37
4-40	5/16"	2 7/32"	2687A42	12.82
5-40	5/16"	2 7/32"	2687A43	12.82
6-32	11/32"	2 7/32"	2687A44	10.76
8-32	7/16"	2 15/32"	2687A45	11.41
10-24	15/32"	2 3/4"	2687A46	10.76
10-32	15/32"	2 3/4"	2687A47	10.76
1/4"-20	19/32"	3 5/32"	2687A48	11.81
1/4"-28	19/32"	3 5/32"	2687A49	11.81
5/16"-18	19/32"	3 17/32"	2687A51	13.18
3/8"-16	3/4"	3 15/16"	2687A53	15.16
7/16"-14	23/32"	3 15/16"	2687A55	19.37
1/2"-13	29/32"	4 5/16"	2687A57	22.53
1/2"-20	29/32"	3 15/16"	2687A58	22.53

Thread Size	Thread Lg.	Overall Lg.		
Metric—Thread sizes are in mm				
M3×0.5	5/16"	2 7/32"	2673A71	$17.41
M3.5×0.6	11/32"	2 7/32"	2673A72	15.64
M4×0.7	7/16"	2 15/32"	2673A73	15.64
M5×0.8	15/32"	2 3/4"	2673A74	15.64
M6×1	15/32"	3 5/32"	2673A75	15.64
M7×1	19/32"	3 17/32"	2673A76	17.41
M8×1.25	19/32"	3 17/32"	2673A78	17.41
M10×1.25	23/32"	3 15/16"	2673A79	24.40
M10×1.5	23/32"	3 15/16"	2673A81	25.88
M12×1.25	27/32"	4 5/16"	2673A82	28.97
M12×1.5	27/32"	4 5/16"	2673A83	28.97
M12×1.75	27/32"	4 5/16"	2673A84	28.97

Chip-Free Machine Tool Taps

Also known as cold-forming and fluteless taps, these high-speed steel taps press threads into material so no chips are formed. Drive them with a drill press or CNC machine.

For Aluminum and Brass—The threads are specially shaped to produce smooth, accurate threads in soft materials. Taps are uncoated.

For Steel and Stainless Steel—Coated with titanium nitride (TiN).

Taps for through-hole threading are for start-to-finish tapping of through-holes. They have 3-5 tapered threads at the tip to guide the tap into your hole. They're also known as plug-chamfer taps.

Taps for closed-end hole threading thread close to the bottom of closed-end holes. They have 1-2 tapered threads to guide the tap into your hole. They're also known as bottoming-chamfer taps.



For Through-Hole Threading



For Closed-End Hole Threading

Thread Size	Thread Lg.	Overall Lg.	For Through-Hole Threading	For Closed-End Hole Threading	
Inch for Aluminum and Brass					
4-40	5/16"	1 7/8"	2531A14	2531A26	$13.50
5-40	5/16"	1 15/16"	2531A37	2531A49	13.50
6-32	3/8"	2"	2531A16	2531A27	11.10
8-32	3/8"	2 1/8"	2531A17	2531A28	11.10
10-24	1/2"	2 3/8"	2531A18	2531A29	11.10
10-32	1/2"	2 3/8"	2531A39	2531A53	11.10
12-24	1/2"	2 3/8"	_____	2531A62	11.79
12-24	15/16"	2 3/8"	2531A61	_____	11.79
1/4"-20	5/8"	2 1/2"	2531A21	2531A31	11.79
1/4"-28	5/8"	2 1/2"	2531A43	2531A54	11.79
5/16"-18	11/16"	2 23/32"	2531A22	2531A32	13.10
5/16"-24	11/16"	2 23/32"	2531A44	_____	13.10
3/8"-16	3/4"	2 15/16"	2531A23	2531A33	14.93
3/8"-24	3/4"	2 15/16"	2531A46	2531A56	14.93
1/2"-13	15/16"	3 3/8"	2531A25	2531A34	25.46
1/2"-20	15/16"	3 3/8"	2531A47	2531A57	25.46

Thread Size	Thread Lg.	Overall Lg.	For Through-Hole Threading	For Closed-End Hole Threading	
Inch for Steel and Stainless Steel					
6-32	3/8"	2"	2534A11	2534A21	$14.23
8-32	3/8"	2 1/8"	2534A12	2534A22	14.23
10-24	1/2"	2 3/8"	2534A13	2534A23	14.23
10-32	1/2"	2 3/8"	2534A14	2534A24	14.23
1/4"-20	5/8"	2 1/2"	2534A15	2534A25	15.08
1/4"-28	5/8"	2 1/2"	2534A16	2534A26	15.08
5/16"-18	11/16"	2 23/32"	2534A17	2534A27	16.79
3/8"-16	3/4"	2 15/16"	2534A18	2534A28	19.12
Metric for Steel and Stainless Steel—Thread sizes are in mm					
M3×0.5	5/16"	1 15/16"	2541A31	2541A41	15.05
M4×0.7	3/8"	2 1/8"	2541A32	2541A42	14.98
M5×0.8	1/2"	2 3/8"	2541A33	2541A43	14.78
M6×1	5/8"	2 1/2"	2541A34	2541A44	15.46
M8×1.25	11/16"	2 23/32"	2541A35	2541A45	18.28
M10×1.5	3/4"	2 15/16"	2541A36	2541A46	20.45
M12×1.75	15/16"	3 3/8"	2541A37	2541A47	33.98

Taps for Deep Holes

Flutes are widely spaced to leave extra room for chips to accumulate. Use to tap holes with depths more than 1 1/2 times the tap diameter. These taps are made of high-speed steel for use on most metals and plastics. Also known as hand taps, use them with a tap wrench.

Standard—Taps are uncoated.

Long Life—Coated with titanium nitride (TiN), these taps last up to twice as long as uncoated taps and produce smooth threads.

Taps for through-hole threading are for start-to-finish tapping of through-holes. They have a plug chamfer with 3-5 tapered threads at the tip to guide the tap into the hole.

Taps for closed-end hole threading make threads close to the bottom of closed-end holes. They have a bottoming chamfer with 1-2 tapered threads to guide the tap into the hole.

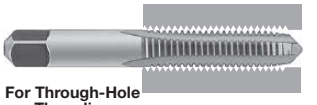

For Through-Hole Threading

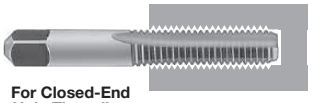

For Closed-End Hole Threading

			Standard			*Long Life*		
Thread Size	Thread Lg.	Overall Lg.	For Through-Hole Threading	For Closed-End Hole Threading		For Through-Hole Threading	For Closed-End Hole Threading	
2-56	7/16"	1 3/4"	26955A21	26955A61	$10.48	26955A11	26955A68	$13.07
3-48	1/2"	1 13/16"	26955A22	26955A62	8.43	26955A12	26955A69	10.53
4-40	9/16"	1 7/8"	26955A24	26955A64	6.61	26955A13	26955A71	8.23
5-40	5/8"	1 15/16"	26955A25	26955A65	6.61	26955A14	26955A72	8.23
6-32	11/16"	2"	26955A27	26955A67	4.96	26955A15	26955A74	6.17
6-40	11/16"	2"	26955A28	26955A281	5.77	26955A16	26955A161	11.37
8-32	3/4"	2 1/8"	26955A33	26955A73	4.38	26955A17	26955A76	5.63
10-24	7/8"	2 3/8"	26955A37	26955A77	5.15	26955A18	26955A78	6.44
10-32	7/8"	2 3/8"	26955A41	26955A81	5.15	26955A29	26955A86	6.44
1/4"-20	1"	2 1/2"	26955A43	26955A83	6.67	26955A32	26955A95	8.34
1/4"-28	1"	2 1/2"	26955A48	26955A88	6.67	26955A35	26955A98	8.34
5/16"-18	1 1/8"	2 23/32"	26955A49	26955A89	8.35	26955A36	26955A99	10.42
5/16"-24	1 1/8"	2 23/32"	26955A52	26955A92	8.35	26955A46	26955A992	10.43
3/8"-16	1 1/4"	2 15/16"	26955A53	26955A93	8.41	26955A47	26955A993	10.51
3/8"-24	1 1/4"	2 15/16"	26955A54	26955A94	9.68	26955A58	26955A994	12.06
7/16"-14	1 7/16"	3 5/32"	26955A55	_____	13.98	26955A59	_____	17.45
1/2"-13	1 21/32"	3 3/8"	26955A56	26955A96	16.59	26955A63	26955A996	20.69
1/2"-20	1 21/32"	3 3/8"	26955A57	_____	16.59	26955A66	_____	20.69

Portable Power Tool Taps

The shank fits a standard 1/4" insert-bit holder for use with portable drills and screwdrivers. These taps are made of uncoated high-speed steel and are for use on most metals and plastics. They're plug-chamfer taps and they are for start-to-finish tapping of through-holes. They have 3-5 tapered threads at the tip to guide the tap into the hole.

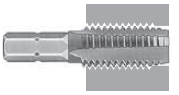

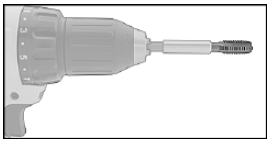

Thread Size	Thread Lg.	Overall Lg.		
Inch				
1/4"-20	11/16"	1 17/32"	1021N11	$11.00
5/16"-18	3/4"	1 9/16"	1021N12	17.60
3/8"-16	13/16"	1 19/32"	1021N13	20.80
Metric—Thread sizes are in mm				
M3×0.5	7/16"	1 5/16"	1021N21	8.00
M3.5×0.6	3/8"	1 5/16"	1021N22	9.30
M4×0.7	1/2"	1 3/8"	1021N23	8.00
M5×0.8	5/8"	1 7/16"	1021N24	10.00

Thread Size	Thread Lg.	Overall Lg.		
Metric (Cont.)—Thread sizes are in mm				
M6×0.75	11/16"	1 15/32"	1021N26	$12.20
M6×1	11/16"	1 9/16"	1021N25	10.00
M7×1	5/8"	1 1/2"	1021N27	14.40
M8×0.75	3/4"	1 9/16"	1021N29	14.93
M8×1.25	3/4"	1 9/16"	1021N28	14.00
M10×1	13/16"	1 5/8"	1021N32	21.00
M10×1.5	13/16"	1 5/8"	1021N31	17.00

Long-Reach Taps

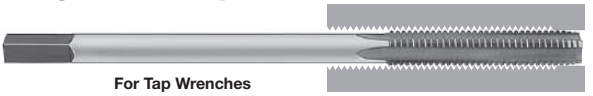

For Tap Wrenches

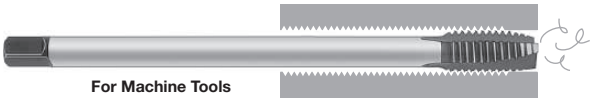

For Machine Tools

A long, narrow shank allows you to thread holes three times deeper than standard taps. Use these plug-chamfer taps for start-to-finish threading of through-holes. They have 3-5 tapered threads at the tip to guide the tap into the hole.

For Tap Wrenches—Taps are uncoated high-speed steel and are for use on most metals and plastics. Also known as nut taps, the nuts accumulate on the shank as you finish tapping each one. They're also known as hand taps.

For Machine Tools—Made of oxide-coated vanadium steel, these taps last up to two times longer and create smoother threads on steel, stainless steel, and malleable iron than uncoated high-speed steel taps. Also known as gun taps, they have straight flutes with a spiral point that pushes chips ahead of the tap and out of a through-hole. Drive them with a drill press or CNC machine.

Thread Size	Thread Lg.	Overall Lg.		
For Tap Wrenches				
1/4″-20	1 5/8″	5″	2583A12	$48.92
5/16″-18	1 13/16″	5 1/2″	2583A13	55.21
3/8″-16	2″	6″	2583A14	65.15
1/2″-13	2 1/2″	7″	2583A16	88.32
5/8″-11	3″	8″	2583A17	100.56
3/4″-10	3 1/4″	9″	2583A18	140.44
1″-8	4″	11″	2583A19	262.25

Thread Size	Thread Lg.	Overall Lg.		
For Machine Tools				
7/16″-14	7/8″	6″	2589A32	$43.27
7/16″-20	7/8″	6″	2589A33	43.27
1/2″-13	15/16″	6″	2589A34	52.71
1/2″-20	15/16″	6″	2589A35	51.67

Taps for Tight Spaces



For Tap Wrenches



For Machine Tools

Reach deep into recesses and confined spaces with the long shank on these taps. Use these plug-chamfer taps for start-to-finish threading of through-holes. They have 3-5 tapered threads at the tip to guide the tap into the hole.

For Tap Wrenches—Taps are uncoated high-speed steel and are for use on most metals and plastics. They're also known as hand taps.

For Machine Tools—Made of oxide-coated vanadium steel, these taps last up to two times longer and create smoother threads on steel, stainless steel, and malleable iron than high-speed steel taps. Also known as gun taps, they have straight flutes with a spiral point that pushes chips ahead of the tap and out of a through-hole. Drive them with a drill press or CNC machine.

Thread Size	Thread Lg.	Overall Lg.		
For Tap Wrenches				
6-32	11/16″	6″	2582A12	$22.20
8-32	3/4″	6″	2582A13	20.38
10-24	7/8″	6″	2582A14	19.34
10-32	7/8″	6″	2582A16	19.34
1/4″-20	1″	6″	2582A31	32.86
1/4″-28	1″	6″	2582A32	32.86
5/16″-18	1 1/8″	6″	2582A33	34.98
5/16″-24	1 1/8″	6″	2582A34	34.03
3/8″-16	1 1/4″	6″	2582A35	37.55
3/8″-24	1 1/4″	6″	2582A36	34.12
7/16″-14	1 7/16″	6″	2582A17	21.30
7/16″-20	1 7/16″	6″	2582A18	37.48
1/2″-13	1 21/32″	6″	2582A19	21.94
1/2″-20	1 21/32″	6″	2582A21	44.52
5/8″-11	1 13/16″	6″	2582A22	28.30
5/8″-18	1 13/16″	6″	2582A23	59.00

Thread Size	Thread Lg.	Overall Lg.		
For Machine Tools				
2-56	7/16″	6″	2589A17	$119.74
4-40	5/16″	6″	2589A19	48.38
6-32	3/8″	6″	2589A21	40.71
8-32	3/8″	6″	2589A22	36.69
10-24	1/2″	6″	2589A23	31.27
10-32	1/2″	6″	2589A24	31.27
1/4″-20	5/8″	6″	2589A25	26.81
1/4″-28	5/8″	6″	2589A26	26.81
5/16″-18	11/16″	6″	2589A27	24.38
5/16″-24	11/16″	6″	2589A28	24.38
3/8″-16	3/4″	6″	2589A29	31.42
3/8″-24	3/4″	6″	2589A31	31.42

Oversize Taps for Plating

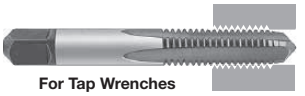

For Tap Wrenches



For Machine Tools

Cut oversize threads to leave room for coating or plating. These taps are made of uncoated high-speed steel and are for use on most metals and plastics. Use these plug-chamfer taps for start-to-finish threading of through-holes. They have 3-5 tapered threads at the tip to guide the tap into the hole.

For Tap Wrenches—Also known as hand taps.

For Machine Tools—Also known as gun taps, these have straight flutes with a spiral point that pushes chips ahead of the tap and out of the hole. Drive them with a drill press or CNC machine.

Thread Size	Thread Lg.	Overall Lg.		
For Tap Wrenches				
6-32	11/16″	2″	2535A11	$6.64
8-32	3/4″	2 1/8″	2535A12	6.64
10-24	7/8″	2 3/8″	2535A13	6.82
10-32	7/8″	2 3/8″	2535A23	6.82
1/4″-20	1″	2 1/2″	2535A14	7.04
1/4″-28	1″	2 1/2″	2535A33	7.03
5/16″-18	1 1/8″	2 23/32″	2535A15	8.21
5/16″-24	1 1/8″	2 23/32″	2535A34	8.20
3/8″-16	1 1/4″	2 15/16″	2535A16	9.28
3/8″-24	1 1/4″	2 15/16″	2535A35	9.28
7/16″-14	1 7/16″	3 5/32″	2535A19	14.57
7/16″-20	1 7/16″	3 5/32″	2535A21	14.57
1/2″-13	1 21/32″	3 3/8″	2535A17	17.61
1/2″-20	1 21/32″	3 3/8″	2535A36	17.61
5/8″-11	1 13/16″	3 13/16″	2535A18	31.26

Thread Size	Thread Lg.	Overall Lg.		
For Machine Tools				
4-40	9/16″	1 7/8″	2612A11	$8.32
6-32	11/16″	2″	2612A13	8.43
8-32	3/4″	2 1/8″	2612A14	8.43
10-24	7/8″	2 3/8″	2612A15	8.54
10-32	7/8″	2 3/8″	2612A16	8.54
1/4″-20	1″	2 1/2″	2612A17	9.10
1/4″-28	1″	2 1/2″	2612A18	10.38
5/16″-18	1 1/8″	2 23/32″	2612A19	10.50
5/16″-24	1 1/8″	2 23/32″	2612A21	12.10
3/8″-16	1 1/4″	2 15/16″	2612A22	12.52
3/8″-24	1 1/4″	2 15/16″	2612A23	12.98
1/2″-13	1 21/32″	3 3/8″	2612A26	20.65
1/2″-20	1 21/32″	3 3/8″	2612A27	23.67
5/8″-11	1 13/16″	3 13/16″	2612A28	36.51
3/4″-10	2″	4 1/4″	2612A31	56.91

For drill bit size equivalents, see page 2544. For information about pipe thread types, see pages 2-3.

Pipe and Conduit Thread Taps



Produce tapered threads to connect pipes. Turn them by hand with a tap wrench. Tap shank fits standard size tap wrenches.

Thread Repairing—Taps are uncoated carbon steel. Use these taps on most metals and plastics.

General Purpose—Taps are uncoated high-speed steel for making threads in most metals and plastics.

Long-Life General Purpose—Made of high-speed steel with titanium nitride (TiN) coating, these taps last up to two times longer than uncoated taps. Use them on most metals and plastics.

Long-Reach for Tight Spaces—A long shank accesses hard-to-reach areas. These taps are uncoated high-speed steel and are for use on most metals and plastics.

For Steel and Iron—Extra space between cutting teeth on these high-speed steel taps leaves room for the chips from hard metals to accumulate so they don't damage the newly cut threads. Taps are uncoated high-speed steel.

For Hardened Steel—Made of cobalt steel, these taps are for use on materials with a Rockwell hardness up to C45, such as hardened steel, mold steel, and tool steel.

For Stainless Steel and Plastics—These vanadium steel taps are coated with titanium nitride (TiN) to cut through stainless steel and plastic. They have straight flutes with a spiral point that pushes chips ahead of the tap and out of the hole.

For Aluminum, Copper, and Brass—The teeth on these uncoated high-speed steel taps are designed to thread soft materials that produce long, continuous chips.

Pipe Size	Threads per Inch	Thread Lg.	Overall Lg.	Drill Bit Size		NPT	NPTF
Thread Repairing							
1/8	27	3/4"	2 1/8"	R	2525A112	$6.77	—
1/4	18	1 1/16"	2 7/16"	7/16"	2525A113	7.83	—
3/8	18	1 1/16"	2 9/16"	37/64"	2525A114	10.54	—
1/2	14	1 3/8"	3 1/8"	23/32"	2525A115	13.71	—
3/4	14	1 3/8"	3 1/4"	59/64"	2525A116	21.89	—
1	11 1/2	1 3/4"	3 3/4"	1 5/32"	2525A117	36.83	—
1 1/4	11 1/2	1 3/4"	4"	1 1/2"	2525A118	46.86	—
1 1/2	11 1/2	1 3/4"	4 1/4"	1 23/32"	2525A119	108.43	—
2	11 1/2	1 3/4"	4 1/2"	2 3/16"	2525A121	165.57	—
General Purpose							
1/16	27	11/16"	2 1/8"	C	2525A31	20.68	$20.68
1/8	27	3/4"	2 1/8"	Q	2525A32	20.68	20.68
1/4	18	1 1/16"	2 7/16"	7/16"	2525A34	23.75	23.75
3/8	18	1 1/16"	2 9/16"	9/16"	2525A35	30.14	30.14
1/2	14	1 21/32"	3 1/8"	45/64"	2525A36	47.72	47.72
3/4	14	1 3/8"	3 1/4"	29/32"	2525A37	66.82	66.82
1	11 1/2	1 3/4"	3 3/4"	1 9/64"	2525A38	101.14	101.14
1 1/4	11 1/2	1 3/4"	4"	1 31/64"	2525A39	145.26	145.26
1 1/2	11 1/2	3"	4 1/4"	1 23/32"	2525A41	194.90	194.90
2	11 1/2	1 3/4"	4 1/4"	2 3/16"	2525A42	263.84	263.84
2 1/2	8	2 9/16"	5 1/2"	2 39/64"	2525A43	355.00	355.00
3	8	2 5/8"	6"	3 15/64"	2525A44	392.49	392.49
General Purpose Left Hand							
1/16	27	11/16"	2 1/8"	C	2525A128	—	77.37
1/8	27	3/4"	2 1/8"	Q	2525A129	—	53.01
1/4	18	1 1/16"	2 7/16"	7/16"	2525A131	—	48.48
3/8	18	1 1/16"	2 9/16"	9/16"	2525A142	—	60.20
1/2	14	1 3/8"	3 1/8"	45/64"	2525A143	—	70.35
3/4	14	1 3/8"	3 1/4"	29/32"	2525A144	—	96.78
1	11 1/2	1 3/4"	3 3/4"	1 9/64"	2525A145	—	141.22
1 1/4	11 1/2	1 3/4"	4"	1 31/64"	2525A146	—	216.12
1 1/2	11 1/2	1 3/4"	4 1/4"	1 23/32"	2525A147	—	279.65
Long-Life General Purpose							
1/16	27	11/16"	2 1/8"	C	2652A61	26.55	26.55
1/8	27	3/4"	2 1/8"	Q	2652A62	26.55	26.55
1/4	18	1 1/16"	2 7/16"	7/16"	2652A64	30.81	30.81
3/8	18	1 1/16"	2 9/16"	9/16"	2652A65	39.08	39.08
1/2	14	1 3/8"	3 1/8"	45/64"	2652A66	61.86	61.86
3/4	14	1 3/8"	3 1/4"	29/32"	2652A67	86.63	86.63
1	11 1/2	1 3/4"	3 3/4"	1 9/64"	2652A68	131.08	131.08
1 1/4	11 1/2	1 3/4"	4"	1 31/64"	2652A48	193.71	—
1 1/2	11 1/2	1 3/4"	4 1/4"	1 23/32"	2652A49	260.52	—
2	11 1/2	1 3/4"	4 1/2"	2 3/16"	2652A51	353.95	—

Pipe Size	Threads per Inch	Thread Lg.	Overall Lg.	Drill Bit Size		NPT	NPTF
Long-Reach for Tight Spaces							
1/8	27	3/4"	3"	Q	2538A51	$24.17	$24.17
1/8	27	3/4"	6"	Q	2538A52	45.89	45.89
1/4	18	1 1/16"	3 1/2"	7/16"	2538A53	27.10	27.10
1/4	18	1 1/16"	6"	7/16"	2538A54	41.41	41.41
3/8	18	1 1/16"	3 3/4"	9/16"	2538A55	35.57	35.57
3/8	18	1 1/16"	6"	9/16"	2538A56	81.94	81.94
1/2	14	1 3/8"	4 3/8"	45/64"	2538A44	56.77	—
1/2	14	1 3/8"	6"	45/64"	2538A57	112.56	112.56
3/4	14	1 3/8"	4 5/8"	29/32"	2538A45	76.22	—
3/4	14	1 3/8"	6"	29/32"	2538A58	117.08	117.08
1	11 1/2	1 3/4"	5 1/4"	1 9/64"	2538A46	115.31	—
For Steel and Iron							
1/8	27	3/4"	2 1/8"	Q	2525A46	32.17	32.17
1/4	18	1 1/16"	2 7/16"	7/16"	2525A47	35.69	35.69
3/8	18	1 1/16"	2 9/16"	9/16"	2525A48	46.72	46.72
1/2	14	1 21/32"	3 1/8"	45/64"	2525A49	74.48	74.48
3/4	14	1 3/8"	3 1/4"	29/32"	2525A51	105.35	105.35
1	11 1/2	1 3/4"	3 3/4"	1 9/64"	2525A52	162.79	162.79
1 1/4	11 1/2	1 3/4"	4"	1 31/64"	2525A197	228.88	—
1 1/2	11 1/2	3"	4 1/4"	1 23/32"	2525A198	307.40	—
2	11 1/2	1 3/4"	4 1/4"	2 3/16"	2525A199	413.69	—
For Hardened Steel							
1/8	27	3/4"	2 1/8"	Q	2662A26	35.44	—
1/4	18	1 1/16"	2 7/16"	7/16"	2662A27	39.26	—
3/8	18	1 1/16"	2 9/16"	9/16"	2662A28	51.32	—
1/2	14	1 3/8"	3 1/8"	45/64"	2662A29	81.84	—
3/4	14	1 3/8"	3 1/4"	29/32"	2662A31	114.50	—
For Stainless Steel and Plastics							
1/16	27	11/16"	2 1/8"	C	2663A11	36.07	36.07
1/8	27	3/4"	2 1/8"	Q	2663A12	36.07	36.07
1/4	18	1 1/16"	2 7/16"	7/16"	2663A14	41.02	41.02
3/8	18	1 1/16"	2 9/16"	9/16"	2663A15	56.15	56.15
1/2	14	1 3/8"	3 1/8"	45/64"	2663A45	83.85	—
3/4	14	1 3/8"	3 1/4"	29/32"	2663A17	108.91	108.91
1	11 1/2	1 3/4"	3 3/4"	1 9/64"	2663A47	179.17	—
For Aluminum, Copper, and Brass							
1/8	27	3/4"	2 1/8"	Q	2654A31	21.73	21.73
1/4	18	1 1/16"	2 7/16"	7/16"	2654A32	23.95	23.95
3/8	18	1 1/16"	2 9/16"	9/16"	2654A33	31.66	31.66
1/2	14	1 21/32"	3 1/8"	45/64"	2654A34	50.25	50.25
3/4	14	1 3/8"	3 1/4"	29/32"	2654A35	70.19	70.19
1	11 1/2	1 3/4"	3 3/4"	1 9/64"	2654A16	106.24	—

Pipe and Conduit Taps for Shallow Holes



Also known as short-projection taps, these have fewer tapered threads at the tip than standard pipe taps so you don't have to drive them as deep to produce full threads. They make tapered NPTF (Dryseal) threads. Turn them by hand with a tap wrench. They're high-speed steel for threading most metals and plastics.

General purpose taps are uncoated.

Long-life taps are coated with titanium nitride (TiN) so they last up to two times longer than uncoated taps.

Pipe Size	Threads per Inch	Thread Lg.	Overall Lg.	Drill Bit Size	General Purpose		Long Life	
1/16	27	11/16"	2 1/8"	C	2553A11	$23.11	2553A31	$25.98
1/8	27	3/4"	2 1/8"	Q	2553A12	23.11	2553A32	29.93
1/4	18	1 1/16"	2 7/16"	7/16"	2553A13	25.47	2553A33	32.98
3/8	18	1 1/16"	2 9/16"	9/16"	2553A14	33.68	2553A34	43.59
1/2	14	1 5/8"	3 1/8"	45/64"	2553A15	53.30	2553A35	66.10
3/4	14	1 3/8"	3 1/4"	29/32"	2553A16	74.66	2553A36	92.60
1	11 1/2	1 3/4"	3 3/4"	1 9/64"	2553A17	111.46	2553A37	140.13
1 1/4	11 1/2	1 3/4"	4"	1 31/64"	2553A18	162.26	2553A38	201.75
1 1/2	11 1/2	1 3/4"	4 1/4"	1 23/32"	2553A19	217.70	2553A39	259.26
2	11 1/2	1 3/4"	4 1/4"	2 3/16"	2553A21	294.72	2553A41	344.08

Straight Pipe and Conduit Thread Taps

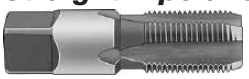

Create straight threads to connect pipes in low-pressure applications. Taps are uncoated high-speed steel for making threads in most metals and plastics. Turn these taps by hand with a tap wrench. Tap shanks fit standard size tap wrenches.

Pipe Size	Threads per Inch	Thread Lg.	Overall Lg.	NPS Drill Bit Size			NPSF Drill Bit Size		
1/8	27	3/4″	2 1/8″	T	2526A31	$24.28	R	2526A41	$24.28
1/4	18	1 1/16″	2 7/16″	15/32″	2526A32	26.97	7/16″	2526A43	26.97
3/8	18	1 1/16″	2 9/16″	19/32″	2526A33	35.26	37/64″	2526A44	35.26
1/2	14	1 21/32″	3 1/8″	19 mm	2526A34	56.26	18 mm	2526A45	56.26
3/4	14	1 3/8″	3 1/4″	61/64″	2526A35	78.96	59/64″	2526A46	78.96
1	11 1/2	1 3/4″	3 3/4″	1 13/64″	2526A36	119.93			

British Standard Pipe and Conduit Thread Taps



Cut threads that meet British standards. These taps are uncoated high-speed steel for making threads in most metals and plastics. Turn these taps by hand with a tap wrench.

Pipe Size	Threads per Inch	Thread Lg.	Overall Lg.	BSPT Drill Bit Size, mm			BSPP Drill Bit Size, mm		
1/8	28	3/4″	2 1/8″	8.4	8328A11	$16.78	8.8	8328A21	$16.78
1/4	19	1 1/16″	2 7/16″	11.2	8328A12	18.00	11.8	8328A22	18.00
3/8	19	1 1/16″	2 9/16″	14.5	8328A13	23.15	15	8328A23	23.15
1/2	14	1 3/8″	3 1/8″	18	8328A14	36.75	19	8328A24	36.75
3/4	14	1 3/8″	3 1/4″	22	8328A15	50.83	24	8328A25	50.83
1	11	1 3/4″	3 3/4″	30	8328A16	78.52	30	8328A26	78.52
1 1/4	11	1 3/4″	4″	38.5	8328A17	113.92	39.5	8328A27	113.92
1 1/2	11	1 3/4″	4 1/4″	44.5	8328A18	151.78	45	8328A28	151.78
2	11	1 3/4″	4 1/2″	56	8328A19	212.28	57	8328A29	212.28

Metric Pipe and Conduit Thread Taps



Use these taps to make tapered threads in metric sizes. They're uncoated high-speed steel for making threads in most metals and plastics. Turn these taps by hand with a tap wrench.

Thread Size, mm	Thread Pitch, mm	Thread Lg.	Overall Lg.	Drill Bit Size, mm		
M8	1	7/8″	2 1/4″	6.9	1017N111	$60.00
M10	1	3/4″	2 1/4″	8.9	1017N112	64.00
M12	1.5	7/8″	2 1/2″	10.2	1017N113	76.00
M14	1.5	7/8″	2 3/4″	12.2	1017N114	99.74
M16	1.5	7/8″	2 1/2″	14	1017N115	110.00
M18	1.5	7/8″	3 3/8″	16	1017N116	150.00
M20	1.5	7/8″	3 3/16″	18	1017N117	170.00
M22	1.5	7/8″	3 3/16″	20	1017N118	196.00

Garden Hose, Spark Plug, and Compressed Gas Thread Taps



Tap the unique thread sizes for garden hose, spark plug, and compressed gas connections. These taps are made of uncoated high-speed steel. Thread close to the bottom of closed-end holes with these bottoming-chamfer taps. They have 1-2 tapered threads to guide the tap into the hole. Turn them by hand with a tap wrench.

Compressed gas thread taps are also known as National Gas Outlet (NGO) taps.

Thread Size	Thread Lg.	Overall Lg.	Drill Bit Size		
Garden Hose					
3/4″-11 1/2	1 1/2″	4″	31/32″	2477A21	$84.84
Spark Plug					
7/8″-18	2 7/32″	4 11/16″	20 mm	2477A32	67.90
M14×1.25mm	1 21/32″	3 19/32″	12.8 mm	2477A31	37.22
M18×1.5mm	1 13/16″	4 1/32″	16.5 mm	2477A22	54.98
Compressed Gas					
0.830″-14	2 7/32″	4 11/16″	19 mm	2477A23	109.80
0.965″-14	2 1/2″	5 5/16″	57/64″	2477A24	137.74

Large Diameter Eight- and Twelve-Pitch Taps

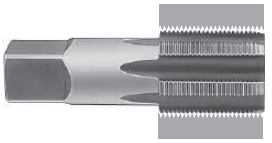

For Through-Hole Threading

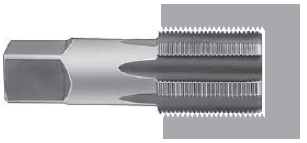

For Closed-End Hole Threading

Also known as constant pitch taps, these have the same number of threads per inch across all thread sizes. They're often used for high-pressure oil field and power generation applications. Taps are uncoated high-speed steel and are for use on most metals and plastics. Turn them by hand with a tap wrench.

Taps for through-hole threading are for start-to-finish tapping of through-holes. They have a plug chamfer with 3-5 tapered threads at the tip to guide the tap into the hole.

Taps for closed-end hole threading make threads close to the bottom of closed-end holes. They have a bottoming chamfer with 1-2 tapered threads to guide the tap into the hole.

Thread Size	Thread Lg.	Overall Lg.	Drill Bit Size	For Through-Hole Threading	For Closed-End Hole Threading	
Eight Pitch—Eight threads per inch						
1 1/8″-8	2 9/16″	5 7/16″	1″	2597A11	2597A71	$57.26
1 1/4″-8	2 9/16″	5 3/4″	1 1/8″	2597A12	2597A72	75.06
1 3/8″-8	3″	6 1/16″	1 1/4″	2597A13	2597A73	82.08
1 1/2″-8	3″	6 3/8″	1 3/8″	2597A14	2597A74	95.70
1 5/8″-8	3 3/16″	6 11/16″	1 1/2″	2597A15	2597A75	113.09
1 3/4″-8	3 3/16″	7″	1 5/8″	2597A16	2597A76	144.38
2″-8	3 9/16″	7 5/8″	1 7/8″	2597A18	2597A78	182.54
2 1/4″-8	3 9/16″	8 1/4″	2 1/8″	2597A21	2597A81	266.04
2 1/2″-8	4″	8 3/4″	2 3/8″	2597A23	2597A83	312.91
Twelve Pitch—Twelve threads per inch						
1 1/16″-12	1 1/2″	4″	63/64″	26625A11	26625A31	60.11
1 5/16″-12	1 1/2″	4″	1 15/64″	26625A13	26625A33	80.28
1 5/8″-12	2″	5″	1 9/16″	26625A14	26625A34	118.79
1 3/4″-12	2″	5″	1 11/16″	26625A15	26625A35	141.01
2″-12	2″	5″	1 15/16″	26625A17	26625A37	169.54
2 1/4″-12	2″	5 1/4″	2 3/16″	26625A19	26625A39	231.28
2 1/2″-12	2″	5 1/4″	2 7/16″	26625A22	26625A42	287.34

European Conduit Thread Taps

These taps match European (PG) thread standards for conduit. They are uncoated high-speed steel for use on most metals and plastics. Also known as plug-chamfer taps, they're for start-to-finish tapping of through-holes and have 3-5 tapered threads at the tip to guide the tap into the hole. Turn them by hand with a tap wrench.



Thread Size	Thread Lg.	Overall Lg.	Drill Bit Size		
PG-7	1 21/32"	3 3/8"	11.2 mm	2485A11	$52.24
PG-9	1 13/16"	3 13/16"	35/64"	2485A12	71.66
PG-11	2"	4 1/4"	17.25 mm	2485A13	87.81
PG-13.5	2"	4 15/32"	3/4"	2485A14	100.14
PG-16	2 7/32"	4 11/16"	21.25 mm	2485A15	$116.88
PG-21	1 1/2"	4"	1 1/16"	2485A16	140.04
PG-29	1 1/2"	4"	1 13/32"	2485A17	299.77
PG-36	2"	5"	1 51/64"	2485A18	503.87

Acme Thread Taps

Form general purpose Acme threads. Use these plug-chamfer taps for start-to-finish threading of through-holes. They have 3-5 tapered threads at the tip to guide the tap into the hole. Turn them by hand with a tap wrench.

Also Available: Other sizes. Please ask for 25345A999 and specify right-hand or left-hand threads, thread size, tap depth, and material being tapped.



Thread Size	Thread Lg.	Overall Lg.	Drill Bit Size	Max. Tapping Depth: Bronze and Steel	Brass and Cast Iron	Nickel and Stainless Steel	Aluminum, Copper, and Plastic	For Right-Hand Threads		For Left-Hand Threads	
1/4"-16	1 3/4"	3"	10	1"	1 1/2"	7/8"	7/8"	25345A41	$77.74	25345A43	$77.74
3/8"-12	2 1/8"	4 1/16"	7.6 mm	1"	1 1/2"	1"	1"	25345A42	84.81	25345A44	84.81
7/16"-12	2 9/16"	5"	23/64"	1"	1 1/2"	1"	1 1/2"	25345A93	102.31	25345A94	102.31
1/2"-10	2 9/16"	5"	13/32"	1"	1 1/2"	1"	1 1/2"	25345A55	84.15	25345A45	84.15
5/8"-8	3 3/16"	6 1/4"	13 mm	1 1/4"	1 7/8"	1 1/4"	1 7/8"	25345A56	103.30	25345A46	103.30
5/8"-10	3 3/16"	6 1/4"	17/32"	1 1/4"	1 7/8"	1 1/4"	1 7/8"	25345A11	115.61	25345A47	115.61
3/4"-5	4 5/16"	7 15/16"	14.5 mm	1 1/2"	2 1/4"	1 1/2"	2 1/4"	25345A14	148.48	25345A48	148.48
3/4"-6	4 5/16"	7 15/16"	39/64"	1 1/2"	2 1/4"	1 1/2"	2 1/4"	25345A57	132.53	25345A49	132.53
3/4"-8	4 5/16"	7 15/16"	41/64"	1 1/2"	2 1/4"	1 1/2"	2 1/4"	25345A17	155.22	25345A51	155.22
3/4"-10	4 5/16"	7 15/16"	21/32"	1 1/2"	2 1/4"	1 1/2"	2 1/4"	25345A21	148.48	25345A52	148.48
7/8"-6	4 3/8"	8 5/8"	47/64"	1 3/4"	2 5/8"	1 3/4"	2 5/8"	25345A59	155.70	25345A53	155.70
1"-4	5 1/4"	10 1/8"	49/64"	2"	3"	2"	3"	25345A24	193.67	25345A54	193.67
1"-5	5 1/4"	10 1/8"	21 mm	2"	3"	2"	3"	25345A61	172.90	25345A58	172.90
1"-8	5 1/4"	10 1/8"	7/8"	2"	3"	2"	3"	25345A96	193.85	25345A97	193.85
1"-10	5 1/4"	10 1/8"	29/32"	2"	3"	2"	3"	25345A27	193.67	25345A66	193.67
1 1/8"-5	5 1/4"	10 3/4"	24 mm	2 1/4"	3 3/8"	2 1/4"	3 3/8"	25345A62	187.49	25345A81	187.49
1 1/4"-4	5 1/4"	11 1/8"	1 1/64"	2 1/2"	3 3/4"	2 1/2"	3 3/4"	25345A31	228.95	25345A82	228.95
1 1/4"-5	5 1/4"	11 1/8"	1 5/64"	2 1/2"	3 3/4"	2 1/2"	3 3/4"	25345A63	202.16	25345A91	202.16
1 3/8"-4	5 7/8"	12 1/4"	1 9/64"	2 3/4"	4 1/8"	2 3/4"	4 1/8"	25345A83	223.46	25345A89	223.46
1 1/2"-4	5 7/8"	12 5/8"	32 mm	3"	4 1/2"	3"	4 1/2"	25345A65	266.16	25345A92	261.05

Combination Drill Bit/Taps

Drill holes and cut threads in a single step. These taps have spiral flutes that pull chips back toward the tap. They are uncoated high-speed steel for use on most metals and plastics. They're plug-chamfer taps that have 3-5 tapered threads at the tip to guide the tap into the hole.

For Portable Power Tools—The shank on these taps fits a standard 1/4" insert-bit holder for use with portable drills and screwdrivers.

For Machine Tools—Drive them with a drill press or CNC machine.



For Portable Power Tools



For Machine Tools

Thread Size	Thread Lg.	Overall Lg.	Drill Point Angle		
For Portable Power Tools					
Inch					
4-40	3/8"	2 7/8"	118°	3464A11	$16.73
6-32	7/16"	3"	118°	3464A12	14.42
8-32	1/2"	3 1/8"	118°	3464A13	14.42
10-24	5/8"	3 3/8"	118°	3464A14	14.93
10-32	5/8"	3 3/8"	118°	3464A15	14.93
1/4"-20	25/32"	3 1/2"	118°	3464A16	16.88
1/4"-28	25/32"	3 1/2"	118°	3464A17	16.88
5/16"-18	15/16"	3 23/32"	118°	3464A18	22.21
5/16"-24	15/16"	3 23/32"	118°	3464A19	22.21
3/8"-16	1 1/8"	3 15/16"	118°	3464A21	24.23
3/8"-24	1 1/8"	3 15/16"	118°	3464A22	29.58
7-Piece Assortment—Includes a chuck and taps for thread sizes: 6-32, 8-32, 10-24, 1/4"-20, 5/16"-18, 3/8"-16				3464A31	116.54
Metric—Thread sizes are in mm					
M4×0.7	1/2"	3 1/8"	118°	3464A51	24.09
M5×0.8	5/8"	3 3/8"	118°	3464A52	25.67
M6×1	25/32"	3 1/2"	118°	3464A53	24.95
M7×1	15/16"	3 23/32"	118°	3464A54	27.69
M8×1.25	15/16"	3 23/32"	118°	3464A55	27.69
M10×1.5	1 1/8"	3 15/16"	118°	3464A56	29.57
7-Piece Assortment—Includes a chuck and taps for thread sizes: 3×0.5, 4×0.7, 5×0.8, 6×1, 8×1.25, 10×1.5				3464A32	107.69
For Machine Tools					
Inch					
4-40	3/8"	1 7/8"	110°	2748A14	15.85
4-48	3/8"	1 7/8"	110°	2748A15	17.12
5-40	13/32"	1 15/16"	110°	2748A16	15.85
6-32	7/16"	2"	110°	2748A22	15.47

Thread Size	Thread Lg.	Overall Lg.	Drill Point Angle		
For Machine Tools (Cont.)					
Inch (Cont.)					
6-40	7/16"	2"	110°	2748A23	$16.32
8-32	1/2"	2 1/8"	110°	2748A24	15.47
8-36	1/2"	2 1/8"	110°	2748A25	15.85
10-24	5/8"	2 3/8"	110°	2748A28	15.47
10-32	5/8"	2 3/8"	110°	2748A32	15.47
12-24	21/32"	2 3/8"	110°	2748A33	15.85
12-28	21/32"	2 3/8"	110°	2748A34	17.12
1/4"-20	25/32"	2 1/2"	110°	2748A38	15.47
1/4"-28	25/32"	2 1/2"	110°	2748A39	15.85
5/16"-18	15/16"	2 27/32"	110°	2748A43	23.37
5/16"-24	15/16"	2 27/32"	110°	2748A44	23.37
3/8"-16	1 1/16"	3 3/8"	110°	2748A47	28.38
3/8"-24	1 1/16"	3 3/8"	110°	2748A48	28.38
7/16"-14	1 1/4"	3 3/4"	110°	2748A49	34.00
7/16"-20	1 1/4"	3 3/4"	110°	2748A51	34.00
1/2"-13	1 3/8"	4 1/16"	110°	2748A57	38.37
1/2"-20	1 3/8"	4 1/16"	110°	2748A58	38.37
5/8"-11	1 3/4"	5 1/16"	110°	2748A11	116.36
3/4"-10	2"	6"	110°	2748A12	130.80
Metric—Thread sizes are in mm					
M3×0.5	13/32"	1 15/16"	110°	2748A59	18.79
M4×0.7	1/2"	2 1/8"	110°	2748A61	18.79
M5×0.8	5/8"	2 3/8"	110°	2748A63	17.00
M6×1	25/32"	2 1/2"	110°	2748A64	17.00
M7×1	15/16"	2 27/32"	110°	2748A65	30.83
M8×1.25	15/16"	2 27/32"	110°	2748A66	30.83
M10×1.5	1 1/16"	3 3/8"	110°	2748A67	35.24
M12×1.75	1 3/8"	4 1/16"	110°	2748A68	35.24
NPTF Pipe Sizes					
Pipe Size of 1/8, 1/4, 3/8, 1/2, 3/4, or 1				2655A2	

Tap Assortments & Storage

For drill bit size equivalents, see page 2544.

6-in-1 Thread Repairing Tools

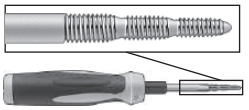

Restore six internal thread sizes with one tool. Combine the included plastic handle, tap holder, and one of the two carbon steel taps; each taps three sizes. Thread sizes are 6-32, 8-32, 10-24, 10-32, 12-24, and 1/4″-20. Thread length per thread size is 1/4″. Overall length is 8 1/2″.

Replacement tap set includes a holder and two taps.

6-in-1 Thread Repairing Tools	2555A7	$29.27
Replacement Tap Set	2555A73	23.60

Tap Assortments

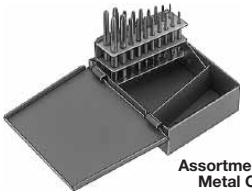

Assortment with Metal Case



Assortment with Plastic Case



Assortment with Plastic Pouch



Assortment with Wood Case

Also known as hand taps, use these with a tap wrench. They're plug-chamfer taps for start-to-finish tapping of through-holes. They have 3-5 tapered threads at the tip to guide the tap into the hole. *60-piece assortment* also includes taps for starting threads and taps for closed-end hole threading in each thread size. It fits the tap cabinet 2543A46 sold separately below. *113-piece assortment* fits the tap cabinet 2543A49 sold separately below.

Pipe and Conduit Taps—Use to create NPT threads.
General purpose taps are uncoated high-speed steel.
Thread repairing taps restore damaged screw threads. They are uncoated carbon steel.

No. of Pieces	Thread Sizes	Container		
Taps				
General Purpose				
10	No. 4-40 to 5/8″-11	Metal Case	25555A31	$135.67
10	1/4″-20 to 1/2″-20	Metal Case	27045A22	86.00
10	M3×0.5 mm to M16×2 mm	Metal Case	25555A81	134.73
19	No. 0-80 to No. 12-28	Metal Case	27045A21	121.71
Thread Repairing				
10	1/4″-20 to 1/2″-20	Plastic Case	2524A18	44.07
19	No. 0-80 to No. 12-28	Plastic Case	2524A19	56.91
60	1/4″-20 to 1″-12	———	2688A11	356.06
113	M3×0.5 mm to M24×3 mm	———	2688A13	359.32

No. of Pieces	Thread Sizes	Container		
Pipe and Conduit Taps				
General Purpose				
6	1/8 to 1	Plastic Pouch	2765A43	$254.85
6	1/8 to 1	Wood Case	2765A44	307.94
Thread Repairing				
6	1/8 to 1	Plastic Pouch	2765A42	143.48

Tap Storage



Stand



Case for Taps



Case for Taps and Drill Bits



Five-Drawer Cabinet



Four-Drawer Cabinet



Three-Drawer Cabinet

Protect your taps from damage and keep them organized. All are labeled with sizes. Taps and drill bits are not included.

For Use With	Holds Tool Sizes	Lg.	Wd.	Ht.		
Stands—Plastic						
Taps & Drill Bits	Taps: Two each of Nos. 2, 3, 4, 5, 6, 8, 10, 12; 1/4″, 5/16″, 3/8″, 7/16″, 1/2″; Drill Bits: Two each of Nos. 2, 3, 4, 5, 6, 8, 10, 12; 1/4″, 5/16″, 3/8″, 7/16″, 1/2″	7 3/8″	4 11/16″	1 11/16″	2972A11	$20.00
Taps & Drill Bits	Taps: Two each of 4, 5, 6, 8, 10, 12, 14 mm; one each of 2, 3 mm; Drill Bits: Two each of 4, 5, 6, 8, 10, 12, 14 mm	7″	4 1/2″	1 11/16″	2972A41	20.00
Cases—Steel						
Taps	Three each of Nos. 6, 10; 1/4″, 5/16″, 3/8″, 7/16″, 1/2″	6 3/16″	4 3/8″	1 3/8″	2656A11	21.52
Taps & Drill Bits	Taps: One each of Nos. 6-32, 8-32, 10-24, 10-32; 1/4″-20, 5/16″-18, 3/8″-16, 7/16″-14, 1/2″-13; Drill Bits: One each of Nos. 36, 29, 25, 21, 7; F; 5/16″; U; 27/64″	7″	4″	1 1/4″	2794A74	11.82
Taps & Drill Bits	Taps: One each of Nos. 6-40, 8-36, 10-24, 10-32; 1/4″-28, 5/16″-24, 3/8″-24, 7/16″-20, 1/2″-20; Drill Bits: One each of Nos. 33, 29, 25, 21, 3; I, Q; 25/64″, 29/64″	7″	4″	1 1/4″	2794A75	12.60
Taps & Drill Bits	Taps: One each of 2.5×0.45, 3×0.5, 3.5×0.6, 4×0.7, 5×0.8, 6×1, 8×1.25, 10×1.5, 12×1.75; Drill Bits: One each of 2.05, 2.5, 2.9, 3.3, 4.2, 5, 6.7, 8.5, 10.2 mm	7″	4″	1 1/4″	2794A77	14.00
Cabinets—Steel						
Taps	Multiples of Nos. 2-56 to 12-28; five drawers with 60 compartments	14 5/8″	7 3/8″	7 3/4″	2543A48	121.91
Taps	Multiples of 1/4″ to 1″; three drawers with 26 compartments	14 5/8″	7 3/8″	7 3/4″	2543A46	112.00
Taps	Multiples of 3 to 24 mm; three drawers with 29 compartments	14 5/8″	7 3/8″	7 3/4″	2543A49	114.33
Taps	Multiples of Nos. 2 to 12, 1/4″ to 1 1/2″, 2.5 to 30 mm; four drawers with 152 compartments; comes with a lock and two keys	26″	12″	12 1/2″	2551A72	486.82
Taps & Drill Bits	Taps: Multiples of Nos. 6 to 10, 1/4″ to 1/2″; Drill Bits: Multiples of Nos. 36 to 3; 5/16″, 25/64″, 27/64″, 29/64″; F, I, U, Q; three drawers with 29 compartments	14 5/8″	7 3/8″	7 3/4″	25475A71	98.70
Pipe Taps	Multiples of 1/16-2; three drawers with 21 compartments	14 5/8″	7 3/8″	7 3/4″	2543A51	93.55

Tap and Drill Bit Assortments

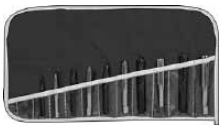

Assortment with Plastic Pouch



Assortment with Plastic Case (2609A12)



Assortment with Plastic Case (2608A14)



Assortment with Metal Case

Taps and their matching drill bits are combined in these assortments. Use these taps for start-to-finish tapping of through-holes. They have a plug chamfer with 3-5 tapered threads at the tip to guide the tap into the hole. *29-piece assortments* also include taps for starting threads and taps for closed-end hole threading. Drill bits are black-oxide coated high-speed steel, unless noted. See page 2444 for information about drill bits.

For Tap Wrenches—Also known as hand taps, use the taps in these assortments with a tap wrench.

For Machine Tools—Drive the taps and drill bits with a drill press or CNC machine. The taps have a spiral point that pushes chips ahead of the tap and out of the hole. They're also known as gun taps.

No. of Pieces	Tap Thread Sizes	Drill Bit Sizes	Container	Includes		
Uncoated Carbon Steel for Tap Wrenches						
13	No. 4-40 to 1/4"-20	No. 43 to No. 7	Plastic Case	Tap Wrench	2609A12	$22.79
29	M3 x 0.5 mm to M12 x 1.75 mm	2.5 to 10.2 mm	Metal Case	Tap Wrench	2608A12	167.27
Uncoated High-Speed Steel for Tap Wrenches						
10	1/4"-20 to 1/2"-13	13/64" to 27/64"	Plastic Pouch	_____	26175A72	51.35
13	M3 x 0.5 mm to M10 x 1.5 mm	2.5 to 8.5 mm	Plastic Case	1/4" Hex Shank Adapter	2608A14★	90.91
16	M3 x 0.5 mm to M12 x 1.75 mm	2.5 to 10.25 mm	Plastic Pouch	_____	2610A45	74.27
29	M3 x 0.5 mm to M12 x 1.75 mm	2.5 to 10.2 mm	Metal Case	Tap Wrench	2608A13	199.93
36	No. 6-32 to 1/2"-20	No. 36 to 29/64"	Metal Case	_____	2727A19	270.22
Uncoated High-Speed Steel for Machine Tools						
18	No. 6-32 to 1/2"-13	No. 36 to 27/64"	Metal Case	_____	27275A27	112.87

★Drill bits are uncoated.

Tap Wrenches

Attach a tap to a wrench so you can turn it by hand.

Sliding T-handle moves from side to side for accessing tight spaces.

Sliding ratcheting T-handle adjusts for right- or left-hand ratcheting and locks in a fixed position.

Sliding machine-mount T-handle has a guide shank that fits into the chuck on your drill press and holds the tap steady so you can manually thread holes after drilling without moving the workpiece.

Straight handle is long to provide more leverage than a T-handle. These wrenches can also be used with larger diameter taps than T-handle wrenches.

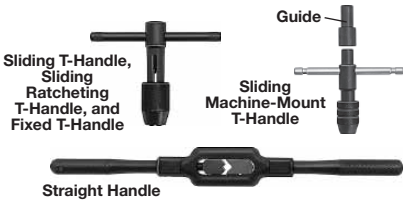

	For Tap Size					
Inch	Metric	Pipe	Fits Taps with Square Shank Size	Lg.	Model No.	
Sliding T-Handle						
Economy						
No. 0-1/4"	1.6-6.3 mm	_____	0.110"-0.191"	2 3/8"	25605A63	$5.95
1/4"-1/2"	6-12.5 mm	_____	0.191"-0.275"	3 1/2"	25605A67	8.45
Economy with 3/8" Square-Drive Socket						
1/4"-1/2"	6-12.5 mm	_____	0.191"-0.275"	3 1/2"	25605A71	11.12
Standard						
No. 0-1/4"	1.6-6.3 mm	_____	0.110"-0.191"	2 3/4"	2546A22	17.50
No. 12-1/2"	5.5-12.5 mm	_____	0.191"-0.275"	4"	2546A24	23.20
Starrett						
1/16"-3/16"	1.6-4.7 mm	_____	0.063"-0.156"	2"	93A 23455A365	35.50
7/32"-7/16"	5.5-11 mm	_____	0.156"-0.250"	2 1/2"	93B 23455A366	37.50
1/4"-1/2"	6-12.5 mm	1/16-1/8	0.188"-0.313"	3 1/2"	93C 23455A367	49.01
Sliding Ratcheting T-Handle						
Standard						
1/16"-1/4"	1.6-6.3 mm	_____	0.078"-0.203"	3 1/2"	2544A1	35.33
1/16"-1/4"	1.6-6.3 mm	_____	0.078"-0.203"	10"	2544A6	37.62
1/4"-1/2"	6-12.5 mm	1/16-1/8	0.188"-0.313"	4 1/4"	2544A5	38.36
1/4"-1/2"	6-12.5 mm	_____	0.188"-0.313"	12"	2544A7	41.48
Replacement Jaw and Spring Set for 2544A1 and 2544A6					2544A611	4.42
Sliding Machine-Mount T-Handle						
Standard						
No. 0-1/4"	1.6-6.3 mm	_____	0.110"-0.191"	3 1/2"	2550A64★	17.92
1/4"-1/2"	6-12.5 mm	_____	0.191"-0.275"	4"	2550A65★	21.83
1/2"-3/4"	12-19 mm	1/16-1/8	0.275"-0.442"	4 1/4"	2550A66■	45.55
3/4"-1"	19-25 mm	1/4	0.442"-0.6"	5"	2550A67▲	109.93
Fixed T-Handle						
Standard						
No. 0-1/4"	1.6-6.3 mm	_____	0.110"-0.191"	2 3/4"	2546A23	17.88
No. 0-1/4"	1.6-6.3 mm	_____	0.110"-0.191"	8 3/4"	2546A26	29.33
No. 12-1/2"	5.5-12.5 mm	_____	0.191"-0.275"	4"	2546A25	22.00
No. 12-1/2"	5.5-12.5 mm	_____	0.191"-0.275"	10 5/8"	2546A27	41.25
Straight Handle						
Economy						
No. 0-1/2"	1.6-12.5 mm	_____	0.110"-0.275"	9"	25605A75	15.04
1/4"-1"	6-25 mm	1/8-1/4	0.191"-0.6"	18"	25605A79	39.27
Standard						
No. 0-1/4"	1.6-6.3 mm	_____	0.110"-0.191"	7"	2546A12	39.51
No. 0-3/8"	1.6-10 mm	_____	0.110"-0.286"	9"	2546A13	55.35
No. 8-1/2"	4-12.5 mm	1/16-1/8	0.131"-0.275"	11"	2546A14	66.16
No. 8-3/4"	4-19 mm	1/8-1/4	0.131"-0.442"	15"	2546A15	72.35
1/4"-11/8"	6-28 mm	1/8-3/4	0.191"-0.672"	19"	2546A16	92.96
3/4"-1 5/8"	19-40 mm	3/8-1 1/4	0.442"-0.979"	40"	2546A18	229.84
1"-2 1/2"	25-56 mm	3/4-2	0.600"-1.575"	54"	2546A19	283.49

★Guide shank dia. is 1/2". ■ Guide shank dia. is 5/8". ▲Guide shank dia. is 3/4".

T-Handle Tap Wrenches with Aligner



The aligner squares your tap to your work surface to tap straight holes and prevent tap breakage. The base of the aligner has a V-groove for stability on round surfaces. Made of steel. It includes two sets of hardened jaws that hold tap size Nos. 0 to 1/2″ (1.6 to 12.5 mm).

Tap Wrench with Aligner	2548A12	$55.19
Replacement Jaws (Two Sets)	2548A42	15.24

Tap and Die Wrench Sets



Switch from internal to external threading with interchangeable tap and die adapters.

Set includes a tap adapter for tap size Nos. 4 to 12, a tap adapter for tap sizes 1/4″ to 1/2″, and a die adapter for 1″ wide hex dies. Use them with the included ratcheting wrench. The attachable sliding T-handle moves from side to side for accessing tight spaces.

8340A21		$66.07

Tap Extensions



With Knurled Ring for Hand Tapping



For Machine Tapping

Extend the length of your tap to access hard-to-reach areas. Made of steel.

For Hand Tapping—These extensions are for use with a tap wrench. *5″ long* extensions come in a set of two that can be used separately or together as a 10″ extension. Extensions *with knurled ring* adjusts to fit many different tap sizes.

For Machine Tapping—Use these extensions in an auto-reversing tap holder for drill presses and milling machines. They have a close-fitting deep socket and two set screws to securely hold the tap. They're also for use with tap wrenches.

For Tap Size	Lg.	Fits Taps with Square Shank Size	Max. O'all Dia.		Pair
For Hand Tapping					
With 5″ Long Extensions					
No. 10, 3/16″, 4.5 mm, 5 mm	5″	0.152″	0.289″	2545A15	$34.03
No. 14, 1/4″, 6 mm, 6.3 mm	5″	0.191″	0.354″	2545A11	36.05
5/16″, 7 mm, 8 mm	5″	0.238″	0.454″	2545A12	39.01
3/8″, 10 mm	5″	0.286″	0.529″	2545A13	44.54
7/16″	5″	0.242″	0.454″	2545A14	45.24
1/2″, 12 mm, 12.5 mm	5″	0.275″	0.529″	2545A16	47.97
5/8″, 16 mm	5″	0.360″	0.704″	2545A17	52.95
With Knurled Ring					Each
Nos. 0-12, 1/16″-7/32″, 1.6-5 mm	7″	____	0.852″	2674A71	$33.70
Nos. 12-14, 7/32″-1/2″, 6-12.5 mm	10 3/4″	____	1.063″	2674A72	36.96
For Machine Tapping					
Nos. 0-6, 1/16″-1/8″, 1.6-3.5 mm	8″	0.191″	0.312″	2760A11	33.88
No. 8, 5/32″, 4 mm	8″	0.191″	0.375″	2760A12	36.73
No. 10, 3/16″, 4.5 mm, 5 mm	8″	0.191″	0.375″	2760A13	38.95
No. 12, 7/32″, 5.5 mm	8″	0.164″	0.437″	2760A14	40.06
No. 14, 1/4″, 6 mm, 6.3 mm	8″	0.191″	0.437″	2760A15	41.96
5/16″, 7 mm, 8 mm	8″	0.237″	0.500″	2760A16	44.25
3/8″, 10 mm	8″	0.285″	0.625″	2760A17	48.45
7/16″, 11 mm	8″	0.241″	0.625″	2760A18	50.43
1/2″, 12 mm, 12.5 mm	8″	0.274″	0.625″	2760A19	52.80
9/16″, 14 mm	8″	0.320″	0.687″	2760A22	60.48
5/8″, 16 mm	8″	0.359″	0.750″	2760A23	63.33
3/4″	8″	0.441″	0.875″	2760A24	77.42
9-Piece Set—Includes one each of 2760A11 to 2760A19, three hex keys, and six extra socket set screws.				2760A21	392.19

Tap and Drill Bit Alignment Guides



Hold taps and drill bits in place for accurate threading and drilling with these guides. They have holes for common sizes, and a V-groove on the bottom keeps them stable on round surfaces. They're made of alloy steel.

For Tap and Drill Sizes	Lg.	Wd.	Ht.		
Tap Guides					
Inch	No. 6-5/8″	4 5/8″	1″	7/8″	9550T12 $26.59
Metric	3-16 mm	4 5/8″	1″	7/8″	9550T13 26.59
Drill Guides					
Inch	1/8″-3/8″	5 1/2″	3/4″	7/8″	9550T14 28.90
Metric	3-9.5 mm	5 1/2″	3/4″	7/8″	9550T15 28.90

Mounted Tap Wrenches

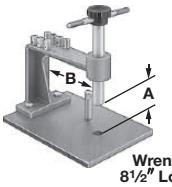

Wrench with 8 1/2″ Long Base

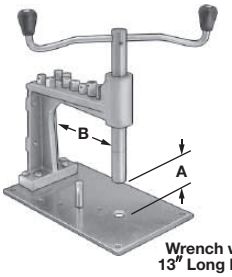

Wrench with 13″ Long Base

Also known as hand tappers, these wrenches mount to a flat surface and guide the tap straight into the hole for accurate threading. They come with a tap guide, work table, and spindle wrench. For best results, use machine tool taps for through-holes with these mounted wrenches.

Wrench with 8 1/2″ Long Base—Includes seven holders, two for tap sizes Nos. 0 to 6 and one for each of the following tap sizes: No. 8, No. 10, No. 12, 1/4″, and 5/16″. Also for use with metric tap sizes 1.6, 1.8, 2, 2.2, 2.5, 3, 3.15, 3.5, 4, 4.5, 5, 6, 6.3, 7, and 8 mm.

Wrench with 13″ Long Base—Has a removable spindle wrench. Includes nine holders; one for each of the following tap sizes: No. 8, No. 10, 1/4″, 5/16″, 3/8″, 7/16″, 1/2″, 5/8″, and 3/4″. Also for use with metric tap sizes 4, 4.5, 5, 6, 6.3, 7, 8, 10, 12, 12.5, and 16 mm.

For Tap Size	Base Lg.	Base Wd.	(A)	(B)	O'all Ht.		
Wrench with 8 1/2″ Long Base							
Nos. 0-5/16″	8 1/2″	6″	3 3/4″	4 1/2″	9″	2704A11	$211.51
Wrench with 13″ Long Base							
Nos. 8-3/4″	13″	8″	7″	7 1/2″	14″	2704A12	350.79
Replacement Tap Holders							
Wrench with 8 1/2″ Long Base—Please specify tap size.						2704A92	
Wrench with 13″ Long Base—Please specify tap size.						2704A93	

Hole Makers for Tapping Sheet Metal



Use friction heat to melt through sheet metal and quickly produce a hole with a lip. The lip that is formed is approximately three times the material thickness. Use on metal that is 0.0339″-0.094″ thick. Thread the hole with a chip-free thread-forming tap (not included).

Mount this hole maker in drill presses, milling machines, and CNC machines with 1.5-2 hp and 3,000 maximum rpm. It's made of tungsten carbide and is for use on steel, stainless steel, aluminum, copper, and brass.

Hole maker comes with a Morse taper 2 tool holder/cooler that dissipates heat; a Morse taper 3 adapter; and 6, 8, 10, and 14 mm collets.

Hole Maker for Tapping Sheet Metal		
Hole Maker	1643A11	$303.57

Bits

For Hole Size	Bit Dia.	Shank Dia., mm	Min. rpm		
6-32	0.12″	6	2,300	1643A21	$94.64
8-32	0.15″	6	2,300	1643A22	94.64
10-24	0.17″	6	2,200	1643A23	101.34
1/4″-20	0.22″	8	2,000	1643A24	111.88
5/16″-18	0.28″	8	1,600	1643A25	137.05
3/8″-16	0.34″	10	1,500	1643A26	166.79
1/2″-13	0.46″	14	1,400	1643A27	215.27
5/8″-11	0.58″	16	1,200	1643A28	268.04
3/4″-10	0.70″	20	1,100	1643A29	377.77

Tap Holders for Ratchet Wrenches

Use these tap holders to connect taps to ratchet wrenches. Holders are steel.

Holders with a **knurled ring** adjust to fit many different tap sizes.


Standard


With Knurled Ring

For Tap Size	Fits Square Drive Wrench Size	Fits Taps with Square Shank Size		
Standard				
Nos. 0-8, 1.6-3.5 mm	1/4"	0.110"	2604A37	$7.04
No. 8, 4 mm	1/4"	0.131"	2604A39	7.04
No. 10, 4.5 mm, 5 mm	1/4"	0.152"	2604A41	7.04
1/4", 6 mm, 6.3 mm	1/4"	0.191"	2604A43	7.04
5/16", 7/16", 7 mm, 8 mm	3/8"	0.242"	2604A45	7.04
3/8", 10 mm	3/8"	0.286"	2604A47	7.04
1/2", 12 mm, 12.5 mm	3/8"	0.275"	2604A49	7.58
5/8", 16 mm	1/2"	0.360"	2604A52	11.71
1/8 Pipe	3/8"	0.328"	2604A51	7.58
8-Piece Set—Includes one of each size above, except 2604A52			2604A35	45.62
With Knurled Ring				
No. 0-1/4", 1.6-6.3 mm	3/8"	____	8334A31	13.85
1/4"-1/2", 6-12.5 mm	3/8"	____	8334A32	15.79

Auto-Reversing Tap Holders for Portable Drills



Designed with a clutch to instantly reverse, these holders allow you to back out of a hole without stopping the drill's motor. They're not for use in drill presses. Use with tap size Nos. 6-10 and 3.5-5 mm. For best results, use them with machine tool taps for through-holes (see page 2550).

Kit includes collets for tap sizes No. 6, 8, 10, wrench pin, and a bushing wrench. To use the holder without removing the drill chuck, attach the included 1/4" shank adapter. When the drill chuck is removed, this holder fits drills with a 1/2"-20 arbor thread. Use the arbor adapter (sold separately) for drills with a 3/8"-24 arbor thread.

Tap Holders		
Kit	2559A14	$262.78
Accessories		
Arbor Adapter—1/2"-20 to 3/8"-24	2559A41	18.29
Tap Collets—1/4", 6 mm, 6.3 mm	2559A24	40.15
Tap Collets—5/16", 7 mm, 8 mm	2559A25	40.15
Replacement Parts		
Wrench Pin	2559A26	6.98
Bushing Wrench	2559A29	15.71
Chuck Adapter	2559A28	22.69
Tap Collet—Please specify tap collet size: No. 6, 8, or 10	2559A61	

Tap Holders for Drill Presses and Milling Machines

Also known as tap chucks, these fit into machines that have a Morse taper spindle. They're made of black-oxide steel.



For Tap Size			For Tap Size		
Morse Taper 2			**Morse Taper 3 (Cont.)**		
No. 14, 1/4", 6 mm, 6.3 mm	2731A46	$30.51	3/4", 19 mm	2731A57	$40.68
5/16", 7 mm, 8 mm	2731A48	30.51	7/8", 22 mm	2731A59	40.68
3/8", 10 mm	2731A49	30.51	1/4 Pipe	2731A65	40.68
7/16", 11 mm	2731A51	30.51	**Morse Taper 4**		
1/2", 12 mm, 12.5 mm	2731A52	30.51	3/4", 19 mm	2731A58	63.56
9/16", 14 mm	2731A54	30.51	7/8", 22 mm	2731A61	63.56
5/8", 16 mm	2731A55	30.51	1", 25 mm	2731A62	63.56
1/8 Pipe with 7/16" Shank	2731A64	30.51	1/2 Pipe	2731A67	63.56
Morse Taper 3			3/4 Pipe	2731A68	63.56
1/2", 12 mm, 12.5 mm	2731A53	40.68	3/8 Pipe	2731A66	63.56
5/8", 16 mm	2731A56	40.68			

Auto-Reversing Tap Holders for Drill Presses and Milling Machines

These instantly reversing tap holders allow you to back out of a hole once it has been tapped without stopping the machine's motor. They're also known as tapping heads. Use them for fast, precise tapping on manually operated drill presses and milling machines. Collets (sold separately) are required to connect the tap to the holder.

Procunier Tap Holders for Straight and Morse Taper Spindles

Includes two wrenches.



Procunier No.	For Tap Size: For Steel	For Tap Size: For Aluminum	Max. rpm	Choose a Shank Style		
1-E	Nos. 0-10, 2-5 mm	Nos. 0-1/4", 2-6 mm	3,000	1/2" Straight, Morse Taper 1, Morse Taper 2	2532A81	$685.71
2-E	Nos. 6-5/16", 4-8 mm	Nos. 6-1/2", 4-12 mm, 1/8 Pipe	2,000	1/2" Straight, Morse Taper 2, Morse Taper 3	2532A82	827.14
3-E	Nos. 10-1/2", 6-12 mm	Nos. 10-3/4, 6-18 mm, 1/4 Pipe	1,000	3/4" Straight, Morse Taper 2, Morse Taper 3	2532A83	1,085.36
4-F	1/4"-1", 7-24 mm	1/4"-1 1/8", 6-27mm, 1/4-3/4 Pipe	800	3/4" Straight, Morse Taper 3, Morse Taper 4	2532A84	1,535.36

Replacement Parts—Please specify Procunier No. and part: clutch assembly, clutch spring, stud nut, collet nut, or wrench. 2532A61

Steel Collets for Procunier Tap Holders

Use to connect a tap to the holder.



For Procunier No.	Choose a Tap Size		
1-E	Nos. 0-6, 8, 10, 12, 1/4"	2532A51	$36.57
2-E	Nos. 0-6, 8, 10, 12, 1/4", 5/16", 3/8", 1/2"	2532A52	38.86
3-E	Nos. 8, 10, 12, 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 1/8 Pipe, 1/4 Pipe	2532A53	41.14
4-F	1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1/8 Pipe	2532A54	46.86

Tap Holders for Jacobs Taper Shanks

Each holder comes with a chart that indicates the maximum speed, which may be lower depending on the tap size and workpiece material. Collets (sold separately) are required to connect the tap to the holder.



For Jacobs Taper No.	For Tap Size	Max. rpm		
33	Nos. 0-1/4", 1.4-7 mm	2,000	8317A65	$580.16
33	Nos. 6-1/2", 3-12 mm, 1/16-1/8 Pipe	1,500	8317A66	774.53

Rubber Collets for Tap Holders for Jacobs Taper Shanks

Use to connect a tap to the holder. Jaw inserts are steel.



Jacobs No.	Fits Taps with Sq. Shank Size	For Tap Size		
J116	0.094"-0.177"	Nos. 0-8	25305A71	$52.30
J117	0.177"-0.256"	Nos. 10-1/4"	25305A72	52.30
J420	0.176"-0.320"	____	25305A54	48.52
J421	0.139"-0.257"	Nos. 6-1/4"	25305A55	48.52
J422	0.253"-0.383"	1/4"-1/2"	25305A56	48.52
J423	0.09"-0.180"	____	25305A57	$47.70
J440	0.28"-0.500"	____	25305A58	55.57
J441	0.176"-0.383"	____	25305A59	54.62
J443	0.11"-0.280"	____	25305A61	54.62

Chip Retrievers for Tapped Holes



Insert the chip retriever into a tapped hole and pull out to remove chips. Tools are aluminum. Overall length is 5¾".

3-piece retriever set comes in a wood case.

Retriever for threaded hole sizes No. 10 to ¾"—Blue handle	2681A11	$16.00
3-Piece Retriever Set for threaded hole sizes No. 5 to 1½"—Gold, blue, and red handles	2681A21	52.00

Tap Extractors



Remove broken taps and save threads. Extractors have hardened steel fingers that fit in the straight flutes of a broken tap so you can remove the tap without damaging the workpiece threads. Use them on hand taps and taps for through-holes. They're made of tool steel and have a square shank that fits standard tap wrenches.

Tap Extractors

For Tap Sizes		Extractors						Replacement Fingers			
Inch	Metric, mm	For Taps with Two Flutes		For Taps with Three Flutes		For Taps with Four Flutes		Choose the Number of Flutes	Pkg. Qty.		Pkg.
No. 4	3	2561A121	$14.94	2561A221	$14.94			Two, Three	12	2561A546	$7.25
No. 5, ⅛"	3, 3.15	2561A122	14.94	2561A222	14.94			Two, Three	12	2561A547	7.25
No. 6	3.5	2561A123	14.94	2561A223	14.94	2561A321	$14.94	Two, Three, Four	12	2561A548	7.25
No. 8, 5/32"	4	2561A124	14.94	2561A224	14.94	2561A322	14.94	Two, Three, Four	12	2561A549	7.25
No. 10, 3/16"	4.5, 5	2561A125	14.94	2561A225	14.94	2561A323	14.94	Two, Three, Four	12	2561A551	10.36
No. 12, 7/32"	5.5	2561A126	15.46	2561A226	15.46	2561A324	15.46	Two, Three, Four	12	2561A552	10.36
No. 14, ¼"	6, 6.3	2561A127	15.46	2561A227	15.46	2561A325	15.46	Two, Three, Four	12	2561A553	12.64
5/16"	7, 8	2561A129	16.06	2561A229	16.06	2561A327	16.06	Two, Three, Four	12	2561A554	14.09
3/8"	9, 10	2561A132	16.06	2561A232	16.06	2561A329	16.06	Two, Three, Four	12	2561A556	14.09
7/16"	11	2561A134	16.75	2561A234	16.75	2561A332	16.75	Two, Three, Four	12	2561A558	14.51
½"	12, 12.5	2561A135	17.96	2561A235	17.96	2561A333	17.96	Two, Three, Four	12	2561A559	18.65
9/16"	14			2561A236	24.79	2561A334	24.79	Three, Four	12	2561A561	21.35
5/8"	16			2561A237	26.95	2561A335	26.95	Three, Four	1	2561A562	2.23
¾"	18, 19, 20			2561A239	34.63	2561A337	34.63	Three, Four	1	2561A563	2.57
7/8"	22			2561A241	37.74	2561A338	37.74	Three, Four	1	2561A564	3.32
1"	24, 25			2561A242	42.32	2561A339	42.32	Three, Four	1	2561A565	3.32

Pipe Tap Extractors

Choose a Tap Size	For Number of Flutes	Extractors	Replacement Fingers Pkg. Qty.	
⅛, ¼, 3/8, ½	4	2547A61	12	2547A51

Tap Extractor Sets—Sets come in a plastic case

Extractors are for taps with four flutes, except extractors for tap size No. 6 and smaller are for taps with three flutes.

No. of Pcs.	For Tap Sizes Inch	Metric, mm		
6	Nos. 10, 14; 3/16" to ½"	4.5 to 12.5	2561A421	$99.75
6	No. 14; ¼" to 5/8"	6 to 16	2561A422	111.93
6	5/16" to 5/8"	7 to 16	2561A423	121.25

No. of Pcs.	For Tap Sizes Inch	Metric, mm		
11	Nos. 5 to 14; ⅛" to 1"	3 to 25	2561A424	$251.92
13	Nos. 4 to 14; ⅛" to ¾"	3 to 20	2561A425	235.08
15	Nos. 4 to 14; ⅛" to 1"	3 to 25	2561A426	311.25

Drill Out Tap Removers



Drill a broken tap out of your workpiece in three steps. Make a starter hole in the broken tap with a larger diameter cobalt steel or carbide drill bit (not included). Then choose the correct size tap remover and drill through the broken tap. Remove the remains with a scriber or pick. Tap removers are made of solid carbide.

7-piece set includes the four tap removers, a pin vise, and two picks. It comes in a plastic case.

For Tap Sizes Inch	Metric, mm	Dia.	Lg.		
Nos. 4, 5, 6	3, 3.5	5/64"	1¼"	2624A11	$20.36
Nos. 8, 10, 12	4, 5	⅛"	1½"	2624A12	23.45
¼", 5/16"	6, 7	3/16"	2"	2624A13	32.23

For Tap Sizes Inch	Metric, mm	Dia.	Lg.		
5/16", 3/8", 7/16", ½"	8, 10, 12	¼"	2½"	2624A14	$41.41
7-Piece Set				2624A25	117.27

Screw Thread Dies



Use these dies to create external threads on bolts, studs, and rods. Loosen and tighten the die with the included set screw to adjust thread depth. Turn these dies by hand with a die wrench.

General Purpose—Made of carbon steel. Use these dies on most metals and plastics.

Long Life—Made of high-speed steel, these last longer than carbon steel dies. Use them on most metals and plastics.

Long-Life for Stainless Steel—Made of high-speed steel coated with titanium nitride (TiN), these dies last up to twice as long as uncoated dies when used on stainless steel.

General Purpose Inch

Thread Size			Thread Size			Thread Size			Thread Size		
13/16" OD			**13/16" OD (Cont.)**			**1" OD (Cont.)**			**1½" OD (Cont.)**		
0-80	2576A232	$17.65	10-32	2576A241	$16.09	7/16"-20	2576A458	$15.45	5/8"-11	2576A627	$20.35
1-64	2576A131	17.65	12-24	2576A139	16.09	½"-13	2576A261	15.45	5/8"-18	2576A635	20.35
1-72	2576A233	17.65	12-28	2576A242	16.09	½"-20	2576A262	15.45	¾"-10	2576A263	20.35
2-56	2576A132	17.65	**1" OD**			**1½" OD**			¾"-16	2576A264	20.35
2-64	2576A234	17.65	6-32	2576A141	15.45	¼"-20	2576A621	20.35	**2" OD**		
3-48	2576A133	17.65	8-32	2576A142	15.45	¼"-28	2576A628	20.35	¼"-20	2576A721	43.06
3-56	2576A235	17.65	10-24	2576A143	15.45	5/16"-18	2576A622	20.35	¼"-28	2576A731	43.06
4-40	2576A134	16.09	10-32	2576A245	15.45	5/16"-24	2576A629	20.35	5/16"-18	2576A722	43.06
4-48	2576A236	16.09	12-24	2576A144	15.45	3/8"-16	2576A623	20.35	5/16"-24	2576A733	43.06
5-40	2576A135	16.09	¼"-20	2576A451	15.45	3/8"-24	2576A631	20.35	3/8"-16	2576A723	43.06
5-44	2576A237	16.09	¼"-28	2576A455	15.45	7/16"-14	2576A624	20.35	3/8"-24	2576A734	43.06
6-32	2576A136	16.09	5/16"-18	2576A452	15.45	7/16"-20	2576A632	20.35	7/16"-14	2576A724	43.06
6-40	2576A238	16.09	5/16"-24	2576A456	15.45	½"-13	2576A625	20.35	7/16"-20	2576A735	43.06
8-32	2576A137	16.09	3/8"-16	2576A453	15.45	½"-20	2576A633	20.35	½"-13	2576A725	43.06
8-36	2576A239	16.09	3/8"-24	2576A457	15.45	9/16"-12	2576A626	20.35	½"-20	2576A736	43.06
10-24	2576A138	16.09	7/16"-14	2576A454	15.45	9/16"-18	2576A634	20.35	9/16"-12	2576A726	43.06

(Continued on following page)

Screw Thread Dies *(Continued from previous page)*

General Purpose Inch (Cont.)

2″ OD (Cont.)

Thread Size		
9/16″-18	2576A737	$43.06
5/8″-11	2576A727	43.06
5/8″-18	2576A759	43.06
3/4″-10	2576A728	$43.06
3/4″-16	2576A738	43.06
7/8″-9	2576A729	$43.06
7/8″-14	2576A739	43.06
1″-8	2576A265	$43.06
1″-12	2576A266	43.06

2½″ OD—Please specify thread sizes from 5/8″-11 to 1″-12. 2576A761

3″ OD—Please specify thread sizes from 1″-8 to 1½″-12. 2576A12

Long-Life Inch

13/16″ OD

Thread Size		
0-80	2602A125	33.08
1-64	2602A121	33.08
1-72	2602A131	33.08
2-56	2602A122	33.08
2-64	2602A132	33.08
3-48	2602A123	33.08
3-56	2602A133	33.08
4-40	2602A124	33.08
4-48	2602A134	33.08
5-40	2602A11	31.71
5-44	2602A51	31.71
6-32	2602A12	31.71
6-40	2602A52	31.71
8-32	2602A13	31.71
8-36	2602A53	31.71
10-24	2602A14	31.71
10-32	2602A54	31.71
12-24	2602A15	31.71
12-28	2602A55	31.71
1/4″-20	2602A16	31.71
1/4″-28	2602A56	31.71
5/16″-18	2602A17	31.71
5/16″-24	2602A57	31.71

1″ OD

Thread Size		
6-32	2602A21	30.64
6-40	2602A282	30.64
6-48	26005A231	42.03
8-32	2602A22	30.64
8-36	2602A283	30.64
8-40	26005A232	42.03
10-24	2602A23	30.64
10-32	2602A61	30.64
10-40	26005A233	44.91
12-24	2602A24	30.64
12-28	2602A284	30.64
12-32	26005A235	46.82
12-36	26005A236	46.82
1/4″-20	2602A25	30.64
1/4″-24	26005A112	44.09
1/4″-27	26005A113	44.09
1/4″-28	2602A62	30.64
1/4″-32	26005A211	44.09

1″ OD (Cont.)

Thread Size		
1/4″-36	26005A223	44.09
1/4″-40	26005A114	44.09
1/4″-48	26005A224	44.09
1/4″-64	26005A225	44.09
5/16″-18	2602A26	30.64
5/16″-20	26005A116	47.63
5/16″-24	2602A63	30.64
5/16″-27	26005A117	47.63
5/16″-32	26005A212	47.63
5/16″-40	26005A118	47.63
3/8″-16	2602A27	30.64
3/8″-18	26005A121	47.63
3/8″-20	26005A122	47.63
3/8″-24	2602A64	30.64
3/8″-27	26005A123	47.63
3/8″-32	26005A213	47.63
3/8″-40	26005A124	47.63
7/16″-14	2602A28	30.64
7/16″-20	2602A65	30.64
1/2″-13	2602A281	30.64
1/2″-20	2602A285	30.64

1½″ OD

Thread Size		
1/4″-20	2602A31	48.71
1/4″-28	2602A71	48.71
5/16″-18	2602A32	48.71
5/16″-24	2602A72	48.71
3/8″-16	2602A33	48.71
3/8″-24	2602A73	48.71
7/16″-14	2602A34	48.71
7/16″-16	26005A126	56.56
7/16″-18	26005A127	56.56
7/16″-20	2602A74	48.71
7/16″-24	26005A128	56.56
7/16″-27	26005A129	56.56
7/16″-32	26005A131	56.56
7/16″-40	26005A132	56.56
1/2″-12	26005A227	62.37
1/2″-13	2602A35	48.71
1/2″-16	26005A134	62.37
1/2″-20	2602A75	48.71
1/2″-24	26005A135	62.37
1/2″-27	26005A136	62.37

1½″ OD (Cont.)

Thread Size		
1/2″-28	26005A214	62.37
1/2″-32	26005A137	62.37
1/2″-40	26005A138	62.37
9/16″-12	2602A36	48.71
9/16″-16	26005A141	66.57
9/16″-18	2602A76	48.71
9/16″-20	26005A142	66.57
9/16″-24	26005A215	66.57
9/16″-27	26005A143	66.57
9/16″-32	26005A144	66.57
5/8″-11	2602A37	48.71
5/8″-12	26005A146	70.23
5/8″-16	26005A147	70.23
5/8″-18	2602A77	48.71
5/8″-20	26005A148	70.23
5/8″-24	26005A216	70.23
5/8″-27	26005A149	70.23
5/8″-28	26005A151	70.23
5/8″-32	26005A152	70.23
3/4″-10	2602A371	48.71
3/4″-16	2602A372	48.71

2″ OD

Thread Size		
1/4″-20	2602A381	52.06
1/4″-28	2602A388	52.06
5/16″-18	2602A382	52.06
5/16″-24	2602A389	52.06
3/8″-16	2602A383	52.06
3/8″-24	2602A391	52.06
7/16″-14	2602A384	52.06
7/16″-20	2602A392	52.06
1/2″-13	2602A385	52.06
1/2″-20	2602A393	52.06
9/16″-12	2602A386	52.06
9/16″-18	2602A394	52.06
5/8″-11	2602A41	52.07
5/8″-18	2602A81	52.07
11/16″-11	26005A242	52.06
11/16″-16	26005A243	52.06
11/16″-18	26005A154	74.10
11/16″-20	26005A155	74.10
11/16″-24	26005A217	74.10
11/16″-32	26005A157	74.10

2″ OD (Cont.)

Thread Size		
3/4″-10	2602A42	52.07
3/4″-12	26005A161	74.10
3/4″-16	2602A82	52.07
3/4″-18	26005A162	74.10
3/4″-20	26005A219	74.10
3/4″-24	26005A163	74.10
3/4″-27	26005A164	74.10
3/4″-32	26005A165	74.10
13/16″-16	26005A171	74.63
13/16″-18	26005A228	74.63
13/16″-20	26005A244	74.63
7/8″-9	2602A43	52.07
7/8″-12	26005A174	88.63
7/8″-14	2602A83	52.07
7/8″-16	26005A175	88.63
7/8″-18	26005A176	88.63
7/8″-20	26005A245	88.63
7/8″-24	26005A177	88.63
7/8″-27	26005A178	88.63
7/8″-32	26005A179	88.63
15/16″-16	26005A183	88.63
15/16″-18	26005A184	88.63
15/16″-20	26005A226	88.63
15/16″-32	26005A185	88.63
1″-8	2602A387	52.06
1″-12	2602A395	52.06
1″-14	26005A221	52.08
1″-16	26005A191	78.98
1″-18	26005A192	78.98
1″-20	26005A222	78.98
1″-24	26005A193	78.98
1″-32	26005A195	78.98

3″ OD

Thread Size		
1 1/8″-7	2602A462	145.96
1 1/8″-12	2602A466	145.96
1 1/4″-7	2602A463	145.96
1 1/4″-12	2602A467	145.96
1 3/8″-6	2602A464	145.96
1 3/8″-12	2602A468	145.96
1 1/2″-6	2602A465	145.96
1 1/2″-12	2602A469	145.96

Long-Life Inch for Stainless Steel

1″ OD

Thread Size		
1/4″-20	8349A11	59.10
1/4″-28	8349A12	59.10
5/16″-18	8349A13	59.10
5/16″-24	8349A14	59.10
3/8″-16	8349A15	59.10
3/8″-24	8349A16	59.10
7/16″-14	8349A17	59.10
7/16″-20	8349A18	59.10
1/2″-13	8349A19	59.10
1/2″-20	8349A21	59.10

2″ OD

Thread Size		
5/8″-11	8349A33	123.81
5/8″-18	8349A34	123.81
11/16″-11	8349A35	123.81
11/16″-16	8349A36	123.81
3/4″-10	8349A37	123.81
3/4″-16	8349A38	123.81
7/8″-9	8349A39	134.40
7/8″-14	8349A41	134.40
1″-8	8349A42	134.40
1″-12	8349A43	134.40

General Purpose Left-Hand Inch

13/16″ OD

Thread Size		
6-32	2600A51	20.64
8-32	2600A52	20.64
10-24	2600A53	20.64
10-32	2600A54	20.64
1/4″-20	2600A55	20.64
1/4″-28	2600A56	20.64
5/16″-18	2600A57	20.64
5/16″-24	2600A58	20.64

1″ OD

Thread Size		
6-32	2600A11	21.83
8-32	2600A12	21.83
10-24	2600A13	21.83
10-32	2600A14	21.83
1/4″-20	2600A15	14.73
1/4″-28	2600A16	14.73
5/16″-18	2600A17	14.73
5/16″-24	2600A18	14.73
3/8″-16	2600A19	14.73
3/8″-24	2600A21	14.73
1/2″-13	2600A24	14.73
1/2″-20	2600A25	14.73

1½″ OD

Thread Size		
1/4″-20	2600A31	25.53
1/4″-28	2600A32	25.53
5/16″-18	2600A33	25.53
5/16″-24	2600A34	25.53
3/8″-16	2600A35	25.53
3/8″-24	2600A36	25.53
7/16″-14	2600A37	25.53
7/16″-20	2600A38	25.53
1/2″-13	2600A39	25.53

1½″ OD (Cont.)

Thread Size		
1/2″-20	2600A41	25.53
5/8″-11	2600A42	27.06
5/8″-18	2600A43	27.06
3/4″-10	2600A44	27.06

2″ OD

Thread Size		
5/8″-11	2600A61	43.12
5/8″-18	2600A62	43.12
3/4″-10	2600A63	43.12
3/4″-16	2600A64	43.12

Long-Life Left-Hand Inch

13/16″ OD

Thread Size		
6-32	2645A11	22.72
8-32	2645A12	22.72
10-24	2645A13	22.72
10-32	2645A14	22.72
1/4″-20	2645A15	22.72
1/4″-28	2645A16	22.72
3/8″-16	2645A17	22.72
3/8″-24	2645A18	22.72

1″ OD

Thread Size		
6-32	2645A71	25.13
8-32	2645A72	25.13
10-24	2645A73	25.13
10-32	2645A74	25.13
1/4″-20	2645A75	25.13
1/4″-28	2645A76	25.13
5/16″-18	2645A77	25.13
5/16″-24	2645A78	25.13
3/8″-16	2645A79	25.13
3/8″-24	2645A81	25.13

1½″ OD

Thread Size		
1/4″-20	2645A59	31.37
1/4″-28	2645A61	31.37
3/8″-16	2645A62	31.37
3/8″-24	2645A63	31.37
7/16″-14	2645A82	31.37
7/16″-20	2645A83	31.37
1/2″-13	2645A84	31.37
1/2″-20	2645A85	31.37
9/16″-18	2645A64	31.37
5/8″-11	2645A86	31.37

1½″ OD (Cont.)

Thread Size		
5/8″-18	2645A87	31.37
3/4″-10	2645A65	31.37
3/4″-16	2645A66	31.37

2″ OD

Thread Size		
5/8″-11	2645A91	57.82
5/8″-18	2645A67	57.82
3/4″-10	2645A89	57.82
3/4″-16	2645A68	57.82
1″-8	2645A69	57.82

(Continued on following page)

For information about pipe thread types, see pages 2-3.

Screw Thread Dies *(Continued from previous page)*



Use these dies to create external threads on bolts, studs, and rods. Loosen and tighten the die with the included set screw to adjust thread depth. Turn these dies by hand with a die wrench.

General Purpose—Made of carbon steel. Use these dies on most metals and plastics.

Long Life—Made of high-speed steel, these last longer than carbon steel dies. Use them on most metals and plastics.

Long-Life for Stainless Steel—Made of high-speed steel coated with titanium nitride (TiN), these dies last up to twice as long as uncoated dies when used on stainless steel.

Long-Life Metric—Thread sizes are in mm

Thread Size			Thread Size			Thread Size			Thread Size		
13/16″ OD			**1″ OD (Cont.)**			**1 1/2″ OD (Cont.)**			**1 1/2″ OD (Cont.)**		
2.5×0.45	8294A11	$29.20	6×0.75	8294A44	$36.90	10×1.5	8294A58	$41.03	18×2.5	8294A33	$41.03
3×0.5	8294A12	29.20	6×1	8294A21	36.90	11×1.5	8294A59	41.03	20×2.5	8294A34	41.03
3.5×0.6	8294A13	29.20	7×0.75	8294A45	36.90	12×1	8294A591	41.03	**2″ OD**		
4×0.7	8294A14	29.20	7×1	8294A22	36.90	12×1.25	8294A35	41.03	20×1.5	8294A51	45.41
4.5×0.75	8294A15	29.20	8×1	8294A46	36.90	12×1.5	8294A61	41.03	20×2.5	8294A72	45.41
5×0.8	8294A16	29.20	8×1.25	8294A23	36.90	12×1.75	8294A62	41.03	22×1.5	8294A52	45.41
6×1	8294A17	29.20	9×1	8294A47	36.90	14×1.25	8294A63	41.03	22×2.5	8294A73	45.41
1″ OD			9×1.25	8294A48	36.90	14×1.5	8294A36	41.03	24×1.5	8294A53	45.41
3×0.5	8294A37	36.90	10×1.5	8294A24	36.90	14×2	8294A31	41.03	24×2	8294A74	45.41
3×0.6	8294A38	36.90	12×1.75	8294A25	36.90	16×1.5	8294A64	41.03	24×3	8294A54	45.41
3.5×0.6	8294A39	36.90	**1 1/2″ OD**			16×2	8294A32	41.03	25×1.5	8294A55	45.41
4×0.7	8294A41	36.90	10×1	8294A56	41.03	18×1.5	8294A65	41.03	25×2	8294A75	45.41
4.5×0.75	8294A42	36.90	10×1.25	8294A57	41.03	18×2	8294A66	41.03	26×3	8294A76	45.41
5×0.8	8294A43	36.90									

2 1/2″ OD—Please specify thread sizes from 27×3 to 36×4. ..... 8294A97

Long-Life Metric for Stainless Steel—Thread sizes are in mm

1″ OD			**1″ OD (Cont.)**			**2″ OD**			**2″ OD (Cont.)**		
6×1	8349A51	59.10	10×1.25	8349A56	59.10	14×1.5	8349A71	118.77	20×1.5	8349A76	134.40
7×1	8349A52	59.10	10×1.5	8349A57	59.10	14×2	8349A72	118.77	20×2.5	8349A77	134.40
8×1	8349A53	59.10	11×1.5	8349A58	59.10	16×1.5	8349A73	123.81	22×1.5	8349A78	134.40
8×1.25	8349A54	59.10	12×1.25	8349A61	59.10	18×1.5	8349A74	123.81	22×2.5	8349A79	134.40
9×1.25	8349A55	59.10	12×1.75	8349A62	59.10	18×2.5	8349A75	123.81	24×2	8349A81	134.40

Long-Life Left-Hand Metric—Thread sizes are in mm

1″ OD			**1″ OD (Cont.)**			**1 1/2″ OD**			**1 1/2″ OD (Cont.)**		
5×0.8	2596A21	29.10	10×1.5	2596A24	44.03	10×1.5	2596A41	37.26	18×1.5	2596A45	37.26
6×1	2596A22	29.10	12×1.75	2596A25	44.03	12×1.75	2596A42	37.26	18×2.5	2596A46	37.26
8×1.25	2596A23	29.10				14×2	2596A43	37.26	20×2.5	2596A32	37.26
						16×2	2596A44	37.26			

Inch Die Assortments—Assortments come in a plastic case

OD	No. of Pcs.	Thread Sizes		
General Purpose				
13/16″	6	2-56 to 8-32	2576A82	$118.19
13/16″	6	2-64 to 8-36	2576A83	113.79
1″	4	10-32 to 3/8″-24	2576A85	34.05
1″	6	6-32 to 3/8″-16	2576A84	56.00

OD	No. of Pcs.	Thread Sizes		
Long Life				
13/16″	6	5-40 to 5/16″-18	2602A95	$136.61
13/16″	6	5-44 to 5/16″-24	2602A96	136.61
1″	4	10-32 to 3/8″-24	2602A98	97.82
1″	6	6-32 to 3/8″-16	2602A97	142.21

Pipe and Conduit Thread Dies



Cut NPT threads on the outside of pipes. Loosen and tighten the die with the included set screw to adjust thread depth. Turn these dies by hand with a die wrench. Use these dies on most metals and plastics.

General Purpose—Dies are made of carbon steel.

Long Life—These dies are high-speed steel, which lasts longer than carbon steel.

OD	Pipe Size	Threads per Inch		
General Purpose				
1 1/2″	1/8	27	2685A111	$14.59
1 1/2″	1/4	18	2685A112	14.59
1 1/2″	3/8	18	2685A12	17.36
1 1/2″	1/2	14	2685A13	29.16
2″	1/2	14	2685A14	36.64
2″	3/4	14	2685A15	48.57
Long Life				
1″	1/16	27	2556A111	39.65
1″	1/8	27	2556A112	39.65

OD	Pipe Size	Threads per Inch		
Long Life (Cont.)				
1″	1/4	18	2556A113	$39.65
1 1/2″	1/16	27	2556A121	64.18
1 1/2″	1/8	27	2556A122	64.18
1 1/2″	1/4	18	2556A123	64.18
1 1/2″	3/8	18	2556A124	64.18
1 1/2″	1/2	14	2556A125	64.18
2″	1/4	18	2556A131	89.36
2″	3/8	18	2556A132	89.36
2″	1/2	14	2556A133	89.36

OD	Pipe Size	Threads per Inch		
Long Life (Cont.)				
2″	3/4	14	2556A134	$89.36
2 1/2″	3/8	18	2556A141	130.04
2 1/2″	1/2	14	2556A142	130.04
2 1/2″	3/4	14	2556A143	130.04
2 1/2″	1	11 1/2	2556A144	130.04
3″	1/2	14	2556A151	156.19
3″	3/4	14	2556A152	156.19
3″	1	11 1/2	2556A153	156.19
3″	1 1/4	11 1/2	2556A154	156.19

Long-Life British Standard Pipe Thread Dies



Use to thread British pipes. These dies are high-speed steel, which lasts longer than carbon steel when used on most metals and plastics. Loosen and tighten the die with the included set screw to adjust thread depth. Turn these dies by hand with a die wrench.

OD	Pipe Size	Threads per Inch	BSPT Dies		BSPP Dies	
1″	1/8	28	8287A21	$45.03	8287A11	$45.03
1″	1/4	19	8287A22	45.03	8287A12	45.03
1 1/2″	3/8	19	8287A23	58.27	8287A13	58.27
1 1/2″	1/2	14	8287A24	63.75	8287A14	63.75
2″	3/4	14	8287A25	80.05	8287A15	80.05
2 1/2″	1	11	8287A26	109.71	8287A16	109.71
3″	1 1/4	11	8287A27	197.25	8287A17	197.25

European Conduit Thread Dies



Dies match European (PG) thread standards for conduit and electrical applications. They're made of high-speed steel; use them to create external threads on most metals and plastics. Turn these dies by hand with a die wrench.

OD	Thread Size		
1 1/2″	PG-7	1018N111	$98.55
1 13/16″	PG-9	1018N112	120.44
1 13/16″	PG-11	1018N113	120.44
1 13/16″	PG-13.5	1018N114	120.44
2 3/16″	PG-16	1018N115	140.00
2 9/16″	PG-21	1018N116	203.64
2 9/16″	PG-29	1018N117	209.09
3 9/16″	PG-36	1018N118	416.36

Thread Repairing Dies

Restore rusted and damaged screw threads. These dies are hex shaped for use with conventional wrenches. They're made of carbon steel and are for use on most metals and plastics.



Inch Dies

Thread Size	Wd.			Thread Size	Wd.			Thread Size	Wd.			Thread Size	Wd.		
1/4"-20	19/32"	2573A11	$18.43	1/2"-13	1 1/16"	2573A15	$24.52	3/4"-10	1 7/16"	2573A19	$37.70	1 1/8"-12	2"	2573A43	$58.12
1/4"-28	19/32"	2573A31	18.43	1/2"-20	1 1/16"	2573A35	24.52	3/4"-16	1 7/16"	2573A39	37.70	1 1/4"-7	2 3/16"	2573A24	62.80
5/16"-18	1 1/16"	2573A12	20.23	9/16"-12	1 1/16"	2573A16	29.25	7/8"-9	1 5/8"	2573A21	41.67	1 1/4"-12	2 3/16"	2573A44	62.80
5/16"-24	1 1/16"	2573A32	20.23	9/16"-18	1 1/16"	2573A36	29.25	7/8"-14	1 5/8"	2573A41	41.67	1 3/8"-6	2 3/8"	2573A25	69.72
3/8"-16	25/32"	2573A13	21.17	5/8"-11	1 1/4"	2573A17	29.30	1"-8	1 13/16"	2573A22	49.90	1 3/8"-12	2 3/8"	2573A45	69.72
3/8"-24	25/32"	2573A33	21.17	5/8"-18	1 1/4"	2573A37	29.30	1"-12	1 13/16"	2573A42	49.90	1 1/2"-6	2 9/16"	2573A26	70.42
7/16"-14	7/8"	2573A14	23.17	11/16"-11	1 7/16"	2573A51	39.27	1"-14	1 13/16"	2573A27	56.02	1 1/2"-12	2 9/16"	2573A46	70.42
7/16"-20	7/8"	2573A34	23.17	11/16"-16	1 7/16"	2573A53	39.27	1 1/8"-7	2"	2573A23	58.12	2"-4 1/2	3 1/2"	2573A28	187.55

Left-hand thread sizes from 1/4"-20 to 1 1/2"-12. Please specify thread size. 2560A21

Metric Dies—Thread sizes are in mm

4×0.7	1 1/16"	2573A54	24.92	12×1.5	1 1/16"	2573A59	13.38	20×1	1 5/8"	2573A679	47.62	30×1.5	2 1/4"	2573A685	61.30
5×0.8	19/32"	2573A71	21.98	12×1.75	1 1/16"	2573A75	29.14	20×1.5	1 5/8"	2573A81	26.32	30×3.5	2 1/4"	2573A85	33.66
6×1	19/32"	2573A72	22.38	14×1.5	1 1/16"	2573A67	15.36	20×2.5	1 5/8"	2573A78	40.73	32×3	2 1/4"	2573A86	33.66
7×1	1 1/16"	2573A56	8.82	14×2	1 1/16"	2573A76	30.47	22×1.5	1 5/8"	2573A681	47.62	33×3.5	2 3/8"	2573A87	36.02
8×1.25	1 1/16"	2573A73	23.90	16×1	1 1/4"	2573A675	43.06	22×2.5	1 5/8"	2573A82	26.32	35×1.5	2 3/8"	2573A687	64.24
10×1	7/8"	2573A57	13.22	16×1.5	1 1/4"	2573A68	15.28	24×1.5	1 13/16"	2573A683	49.40	36×1.5	2 5/8"	2573A689	65.56
10×1.25	7/8"	2573A58	13.22	16×2	1 1/4"	2573A77	33.46	24×3	1 13/16"	2573A83	27.20	36×2	2 5/8"	2573A88	38.52
10×1.5	7/8"	2573A74	25.54	18×1.5	1 7/16"	2573A677	46.00	26×1.5	1 13/16"	2573A831	38.58	36×3	2 5/8"	2573A89	38.52
12×1	1 1/16"	2573A671	40.86	18×2	1 7/16"	2573A69	18.44	27×3	2"	2573A84	28.08	36×4	2 5/8"	2573A91	38.52
12×1.25	1 1/16"	2573A673	40.86	18×2.5	1 7/16"	2573A79	21.76	28×1.5	2"	2573A841	38.58				

Left-hand thread sizes from 6×1 to 16×2. Please specify thread size. 2573A996

Die Assortments—Assortments come in a plastic case

No. of Pcs.	Thread Sizes		
Inch			
8	1/4"-20 to 3/4"-10	2575A2	$223.00
10	1/4"-20 to 1"-8	2575A3	319.67
20	1/4"-20 to 1"-14	2575A7	598.35

No. of Pcs.	Thread Sizes		
Metric—Thread sizes are in mm			
7	6×1 to 20×2.5	8316A21	$195.70

Thread Repairing Dies for Tight Spots

A smaller width than regular hex dies lets you repair rusted and damaged screw threads in tight spaces. These dies are hex shaped for use with conventional wrenches. They're made of carbon steel and are for use on most metals and plastics.



Dies

Thread Size	Wd.			Thread Size	Wd.			Thread Size	Wd.			Thread Size	Wd.		
1/4"-20	7/16"	2667A411	$1.17	7/16"-14	1 1/16"	2667A414	$1.37	5/8"-11	15/16"	2667A417	$2.20	1"-8	1 1/2"	2667A421	$5.14
1/4"-28	7/16"	2667A431	1.17	7/16"-20	1 1/16"	2667A434	1.37	5/8"-18	15/16"	2667A437	2.20	1"-14	1 1/2"	2667A441	5.14
5/16"-18	1/2"	2667A412	1.23	1/2"-13	3/4"	2667A415	1.51	3/4"-10	1 1/8"	2667A418	2.89	1 1/8"-7	1 5/8"	2667A422	7.00
5/16"-24	1/2"	2667A432	1.23	1/2"-20	3/4"	2667A435	1.51	3/4"-16	1 1/8"	2667A438	2.89	1 1/8"-12	1 5/8"	2667A442	7.00
3/8"-16	9/16"	2667A413	1.31	9/16"-12	7/8"	2667A416	2.05	7/8"-9	1 1/4"	2667A419	5.62	1 1/4"-7	1 3/4"	2667A423	7.54
3/8"-24	9/16"	2667A433	1.31	9/16"-18	7/8"	2667A436	2.05	7/8"-14	1 1/4"	2667A439	5.62	1 1/4"-12	1 3/4"	2667A443	7.54

Left-hand thread sizes from 1/4"-20 to 5/8"-18. Please specify thread size. 2667A481

Metric thread sizes from M6×1 mm to M12×1.75 mm. Please specify thread size. 2667A459

Die Assortments

No. of Pcs.	Thread Sizes	Widths		
Inch				
5	3/4"-10 to 1 1/4"-7	11/16" to 1 3/4"	2667A19	$25.00
5	3/4"-16 to 1 1/4"-12	11/16" to 1 3/4"	2667A21	25.00
7	1/4"-20 to 5/8"-11	7/16" to 15/16"	2667A11	10.47
7	1/4"-28 to 5/8"-18	7/16" to 15/16"	2667A12	10.47
8	1/4"-20 to 3/4"-10	7/16" to 1 1/8"	2667A13	12.98
8	1/4"-28 to 3/4"-16	7/16" to 1 1/8"	2667A14	12.98

No. of Pcs.	Thread Sizes	Widths		
Left-Hand Inch				
7	1/4"-20 to 5/8"-11	7/16" to 15/16"	2667A15	$15.74
7	1/4"-28 to 5/8"-18	7/16" to 15/16"	2667A16	15.74
Metric—Thread sizes are in mm				
5	6×1 to 12×1.75	11 mm to 19 mm	2667A32	7.06

Wrap-Around Thread Repairing Dies

Start thread repair anywhere along the length of a bolt, stud, or rod. These dies open to wrap around your workpiece, so they don't need to be threaded on from the end. All are hex shaped for use with conventional wrenches. They're made of tool steel and are for use on most metals and plastics.



Dies

Thread Size	Wd.			Thread Size	Wd.			Thread Size	Wd.			Thread Size	Wd.		
Inch				**Inch (Cont.)**				**Metric—**Thread sizes are in mm				**Metric** (Cont.)			
1/4"-20	1"	8335A22	$16.98	3/8"-24	1"	8335A27	$16.98	6×1	1"	8335A33	$16.98	10×1.25	1"	8335A39	$16.98
1/4"-28	1"	8335A23	16.98	7/16"-14	1"	8335A28	16.98	7×1	1"	8335A34	16.98	10×1.5	1"	8335A41	16.98
5/16"-18	1"	8335A24	16.98	7/16"-20	1"	8335A29	16.98	8×1	1"	8335A35	16.98	12×1.25	1"	8335A42	16.98
5/16"-24	1"	8335A25	16.98	1/2"-13	1"	8335A31	16.98	8×1.25	1"	8335A36	16.98	12×1.5	1"	8335A43	16.98
3/8"-16	1"	8335A26	16.98	1/2"-20	1"	8335A32	16.98	9×1	1"	8335A37	16.98	12×1.75	1"	8335A44	16.98
								9×1.25	1"	8335A38	16.98				

Die Assortments—Assortment comes in a plastic case

Wrench and socket are included.

No. of Pcs.	*Thread Sizes* Inch	Metric, mm		
23	1/4"-20 to 1/2"-20	6×1 to 12×1.75	8335A21	$256.09

Pipe and Conduit Thread Repairing Dies



Restore rusted and damaged NPT threads. These hex-shaped dies are for use with conventional wrenches. They're made of carbon steel and are for use on most metals and plastics.

Pipe Size	Threads per Inch	Wd.		
1/16	27	11/16"	2573A49	$27.02
1/8	27	1 1/16"	2573A61	33.04
1/4	18	1 1/4"	2573A62	39.81
3/8	18	1 7/16"	2573A63	44.77
1/2	14	1 5/8"	2573A64	53.80
3/4	14	2"	2573A65	73.25
1	11 1/2	2 3/8"	2573A66	92.22
1 1/4	11 1/2	3 1/8"	2573A92	144.65
1 1/2	11 1/2	3 1/2"	2573A93	167.31
2	11 1/2	4 1/2"	2573A94	210.18
2 1/2	8	5"	2573A95	581.81
3	8	5"	2573A96	603.75
6-Piece Assortment—Includes dies for pipe sizes of 1/8 to 1.			2557A66	143.49

British Standard Pipe Thread Repairing Dies



Clean up your British Standard pipe threads. These hex-shaped dies are for use with conventional wrenches. They're made of carbon steel and are for use on most metals and plastics.

Pipe Size	Threads per Inch	Wd.	BSPT		BSPP	
1/8	28	7/8"	8285A21	$36.62	8285A11	$36.62
1/4	19	1 1/16"	8285A22	37.82	8285A12	37.82
3/8	19	1 7/16"	8285A23	39.15	8285A13	39.15
1/2	14	1 5/8"	8285A24	43.29	8285A14	43.29
3/4	14	2"	8285A25	47.04	8285A15	47.04
1	11	2 3/8"	8285A26	58.40	8285A16	58.40
1 1/4	11	3 1/4"	8285A27	144.32	8285A17	144.32

Thread Repairing Dies for Eight and Twelve Threads per Inch



Restore rusted and damaged screw threads. Dies are hex shaped for use with conventional wrenches. They're made of carbon steel and are for use on most metals and plastics.

Thread Size	Wd.		
1 1/16"-12	2"	25585A41	$44.58
1 1/8"-8	2"	25585A11	44.58
1 3/16"-12	2 1/4"	25585A42	55.51
1 1/4"-8	2 1/4"	25585A12	53.22
1 5/16"-12	2 3/8"	25585A43	57.90
1 3/8"-8	2 3/8"	25585A13	56.63
1 1/2"-8	2 5/8"	25585A14	53.96
1 5/8"-8	3 1/4"	25585A15	140.55
1 5/8"-12	3 1/4"	25585A44	140.55
1 3/4"-8	3 1/4"	25585A16	141.46
1 3/4"-12	3 1/4"	25585A45	141.47
2"-8	3 1/2"	25585A18	166.45

Thread Size	Wd.		
2"-12	3 1/2"	25585A47	$166.45
2 1/4"-8	3 1/2"	25585A21	178.64
2 1/4"-12	3 1/2"	25585A49	178.64
2 1/2"-8	4 1/2"	25585A23	215.32
2 1/2"-12	4 1/2"	25585A52	215.32
2 3/4"-8	4 1/2"	25585A32	236.43
2 3/4"-12	4 1/2"	25585A54	226.35
3"-8	5"	25585A34	398.96
3"-12	5"	25585A56	388.19
3 1/2"-12	5"	25585A63	344.31
4"-12	6"	25585A65	458.98

Round Die to Hex Die Adapters



Convert round dies to hex dies for use with a conventional wrench. A set screw secures the die. Adapters are made of steel.

For Die OD	Wd.		
13/16"	1 1/16"	25545A21	$9.98
1"	1 1/4"	25545A22	11.57
1 1/2"	1 31/32"	25545A23	12.64
2"	2 9/16"	25545A24	14.15
2 1/2"	3"	25545A25	21.37

Acme Thread Repairing Dies



Repair the broad, square threads on Acme threaded rods and studs. These dies are for general purpose Acme threads with a Class 2G thread fit. They're hex shaped for use with conventional wrenches. Dies are made of high-speed steel and are for use on most metals and plastics.

Thread Size	Wd.		
3/8"-10	1 1/16"	2486A31	$58.33
1/2"-8	1 1/16"	2486A32	63.64
1/2"-10	1 1/16"	2486A11	63.64
5/8"-6	1 1/4"	2486A33	70.00
5/8"-8	1 1/4"	2486A12	67.62
5/8"-10	1 1/4"	2486A13	67.62
3/4"-5	1 7/16"	2486A14	73.44
3/4"-6	1 7/16"	2486A15	73.44
3/4"-8	1 7/16"	2486A16	73.44
3/4"-10	1 7/16"	2486A17	73.44

Thread Size	Wd.		
7/8"-5	1 5/8"	2486A34	$78.17
7/8"-6	1 5/8"	2486A18	74.48
1"-4	1 13/16"	2486A19	81.34
1"-5	1 13/16"	2486A21	81.34
1"-10	1 13/16"	2486A22	81.34
1 1/8"-5	2"	2486A23	117.60
1 1/4"-4	2 3/16"	2486A24	136.34
1 1/4"-5	2 3/16"	2486A25	136.34
1 1/2"-4	2 5/8"	2486A26	149.21

Bearing-Locknut Shaft Thread Repairing Dies



Use these dies to restore and clean the fine threads on power transmission shafts that are used with bearing locknuts. They also remove thread-locking compound that has built up in the threads. All are hex shaped for use with conventional wrenches. Use them on most metals and plastics. Dies are sized according to the American Bearing Manufacturer's Association (ABMA).

General Purpose—Made of carbon steel.

Long Life—Made of high-speed steel, which lasts longer than carbon steel.

Thread Size	For ABMA Locknut No.	Wd.	General Purpose		Long Life	
0.391"-32	00	7/8"	2619A71	$49.32	2619A31	$72.80
0.469"-32	01	1 1/16"	2619A72	52.21	2619A32	74.75
0.586"-32	02	1 1/4"	2619A73	53.95	2619A33	78.32
0.664"-32	03	1 7/16"	2619A74	55.10	2619A34	79.69
0.781"-32	04	1 5/8"	2619A75	56.50	2619A35	83.22
0.969"-32	05	1 13/16"	2619A76	58.74	2619A36	85.26
1.173"-18	06	2 1/4"	2619A77	66.22	2619A37	98.74
1.376"-18	07	2 3/8"	2619A78	69.50	2619A38	104.48
1.563"-18	08	3 1/4"	2619A79	116.85	2619A39	153.82
1.767"-18	09	3 1/4"	2619A81	151.37	2619A41	176.53
1.967"-18	10	3 1/2"	2619A82	176.84	2619A42	202.04
2.157"-18	11	3 1/2"	2619A83	184.69	2619A43	209.91
2.360"-18	12	4 1/2"	2619A84	205.05	2619A44	231.36
2.548"-18	13	4 1/2"	2619A85	216.37	2619A45	240.37
2.751"-18	14	4 1/2"	2619A86	220.12	2619A46	247.43
2.933"-12	15	5"	2619A87	299.78	2619A47	348.90

Die Holders for Lathes



Straight Shank



Morse Taper

Use these holders to drive a round die with your lathe. Set screws secure the die in the holder. Holders are made of steel.

Straight Shank

For Die OD	Shank Dia.		
13/16"	1/2"	8326A12	$19.52
1"	1/2"	8326A11	19.19
1 1/2"	3/4"	8326A13	22.79

Morse Taper—Die holders and shanks are sold separately

For Die OD	Accepts Morse Taper No.	Max. Thread Lg.		
Die Holders				
1"	2	2 3/8"	29265A51	$56.73
1"	3 and 4	2 7/8"	29265A52	67.16
1 1/2"	3 and 4	2 7/8"	29265A53	69.06
2"	3 and 4	2 7/8"	29265A54	74.09
Required Shanks				
Morse Taper No. 2			29265A56	55.60
Morse Taper No. 3			29265A57	74.09
Morse Taper No. 4			29265A58	86.84

For information about pipe thread types, see pages 2-3.

Wrenches for Round Dies



Also known as die stocks, use these wrenches to turn round dies by hand. The three included set screws secure the die. Wrenches have steel handles and a cast zinc die holder.

For Die OD	Lg.		
13/16"	7"	25565A19	$8.18
1"	8"	25565A21	8.18
1 1/2"	12 1/2"	25565A22	15.12
2"	15"	25565A25	27.86
2 1/2"	20"	25565A26	50.07
3"	22"	25565A27	91.09

Wrenches for Hex Dies



Use these wrenches to turn hex-shaped dies by hand. They're also known as die stocks. The wrench for 1" dies also holds round dies. The included set screw secures the die. The die holder is cast zinc.

For Die Wd.	Lg.	Handle Material		
5/8"	4 7/8"	Cast Zinc	8325A21	$5.06
1"	10"	Cast Zinc	8325A22	9.99
1 7/16"	14 11/16"	Aluminum	8325A23	23.92
1 13/16"	22 1/2"	Aluminum	8325A24	42.06

Tap and Die Assortments



Tap and die wrenches are included in these assortments. The inch and metric tap sizes are for start-to-finish tapping of through-holes; they have a plug chamfer with 3-5 tapered threads at the tip to guide the tap into the hole, but they're not as good for starting threads. The pipe size taps are for starting threads; they have a taper chamfer with 7-10 tapered threads at the tip to guide the tap into the hole. Dies are hex shaped for thread repair, except the 19-piece long-life assortment comes with round dies for cutting threads. Assortments come in a plastic case, except the 19-piece long-life assortment comes in a metal case.

General Purpose—Made of carbon steel, these taps and dies are for occasional use.

Long Life—Made of high-speed steel, which lasts longer than carbon steel.

No. of Pieces	Tap and Die Sizes: Inch	Tap and Die Sizes: Metric, mm	Tap and Die Sizes: Pipe	No. of Taps	No. of Dies	No. of Tap Wrenches	No. of Die Wrenches	No. of Thread Gauges	No. of Screw-drivers	No. of Extrac-tors		
General Purpose												
24	1/4"-20 to 1/2"-20	—	1/8 NPT	11	11	1	1	—	—	—	2631A5	$98.79
24	—	3×0.5 to 12×1.75	1/8 BSPT	11	11	1	1	—	—	—	26025A41	84.32
40	4-40 to 1/2"-20	—	1/8 NPT	17	17	3	2	1	—	—	2625A12	131.88
40	6-32 to 1/2"-13	4×0.75 to 12×1.75	1/8 NPT	17	17	3	2	1	—	—	2668A36	141.17
40	—	3×0.5 to 12×1.75	1/8 BSPT	17	17	3	2	1	—	—	2647A12	156.86
52	—	3×0.5 to 18×2.5	1/8 BSPT, 1/4 BSPT	23	23	3	2	1	—	—	2726A66	257.09
53	6-32 to 3/4"-16	—	1/8 NPT, 1/4 NPT	23	23	3	2	1	1	—	25955A6	315.82
65	4-40 to 1"-14	—	1/8 NPT, 1/4 NPT	28	28	4	4	1	—	—	26075A71	461.84
65	—	3×0.5 to 24×3	1/8 BSPT	28	28	4	4	1	—	—	2726A68	484.62
75	4-40 to 1/2"-20	3×0.5 to 12×1.75	1/8 NPT, 1/8 BSPT	34	34	3	2	2	—	—	2668A34	237.28
Long Life												
19	—	3×0.5 to 12×1.75	—	7	7	2	1	1	1	—	2646A14	189.23
40	4-40 to 1/2"-20	—	1/8 NPT	17	17	3	1	1	1	—	26055A64	317.20
58	6-32 to 3/4"-16	—	1/8 NPT, 1/4 NPT	23	23	3	2	1	1	5	26055A74	593.44

Tap, Die, and Drill Bit Assortments



Cut and repair threads and drill holes in many different sizes. Taps, dies, and drill bits are made of carbon steel and are for use on most metals and plastics. The inch and metric tap sizes are for start-to-finish tapping of through-holes; they have a plug chamfer with 3-5 tapered threads at the tip to guide the tap into the hole, but they're not as good for starting threads. The pipe size taps are for starting threads; they have a taper chamfer with 7-10 tapered threads at the tip to guide the tap into the hole. The dies are hex shaped for thread repair. The assortment comes in a plastic case and includes 36 drill bits, 3 tap wrenches, 2 die wrenches, 2 thread gauges, and 5 extractors.

No. of Pieces	Tap and Die Sizes: Inch	Tap and Die Sizes: Metric, mm	Tap and Die Sizes: Pipe	No. of Taps	No. of Dies		
116	4-40 to 1/2"-20	3×0.5 to 12×1.75	1/8 NPT, 1/8 BSPT	34	34	82955A11	$389.78

Thread Repairing Tap, Die, and File Assortments



Repair screw threads in a wide range of sizes. Taps, dies, and files are made of carbon steel and are for use on most metals and plastics. Taps have hex shanks and dies are hex shaped. Both are for use with conventional wrenches. The taps are for through-holes; they're also known as plug-chamfer taps and have 3-5 tapered threads at the tip to guide the tap into the hole. The assortment comes in a plastic case and includes two files: one for 11 to 24 threads per inch and one for 0.8 to 3 mm thread pitches.

No. of Pieces	Tap Sizes: Inch	Tap Sizes: Metric, mm	No. of Taps	Die Sizes: Inch	Die Sizes: Metric, mm	No. of Dies		
53	1/4"-20 to 9/16"-18	6×1 to 12×1.75	19	1/4"-20 to 3/4"-20	6×1 to 20×1.5	32	25325A14	$114.87

Pipe and Conduit Thread Repairing Tap and Die Assortments



These 12-piece sets are for use on most metals and plastics. The taps are for starting threads; they're also known as taper-chamfer taps and have 7-10 tapered threads at the tip to guide the tap into the hole. The dies are hex shaped for use with conventional wrenches. Assortments contain one tap and one die in each of the following NPT pipe sizes: 1/8, 1/4, 3/8, 1/2, 3/4, and 1.

General Purpose—Made of carbon steel, these taps and dies are for occasional use. Come in a wood case.

Long Life—The taps in these assortments are high-speed steel, which lasts longer than carbon steel. The dies are made of carbon steel. Come in a plastic case.

General Purpose	2549A76	$232.78
Long Life	2549A78	376.85

Bench-Top Ridgid Electric Pipe and Conduit Threaders

Thread and cut pipe and conduit with these bench-top tools. Dies and die heads are included. They're for use on most metals and plastics. Threaders operate on 120 volts AC. All have a machine-mounted forward/off/reverse switch, safety foot switch, quick-opening die head, pipe reamer, pipe/rod/bolt cutter, and cutter wheel for steel and iron. Threading oil (sold separately, see page 2207) is required.

Ridgid 300 Electric Pipe and Conduit Threader



This machine has a 1/2-hp, single-speed (38 rpm) motor; manual chuck; eight alloy steel dies for steel; manual oiler; cutter for pipe sizes of 1/8-2 and bolt sizes 5/16"-1"; tripod stand; and a 15-ft. cord with three-prong plug.

	Ridgid No.		
Threader	300	**25245A21**	$4,086.85
Accessories			
Cutter Wheel for Stainless Steel	E-1032S	**2650A97**	32.06
Pipe Nipple Chuck	819	**2620A13**	485.17
Replacement Parts			
Cutter Wheel for Steel and Iron	E-1032	**2650A86**	22.61
Power Drive	300	**25245A23**	2,398.79
Carriage with Feed Lever	311	**25245A26**	377.34
Reamer Assembly	341	**25245A28**	205.17

	Ridgid No.		
Replacement Parts (Cont.)			
Pipe Cutter	360	**25245A27**	$221.64
Oiler with 1 gal. Cutting Oil	418	**25245A41**	303.62
Die Head	811A	**25245A29**	414.17
Tripod Stand	1206	**25245A25**	376.74
Clip-On Tool Tray	1452	**25245A32**	119.61
Chuck Jaw Set	44090	**2650A71**	285.80
Carbon Brush Assembly	44540	**2650A43**	23.95
Jaw Insert Set	44715	**2650A42**	85.14
Oil Gun	72332	**25245A42**	152.29

Ridgid 535A Electric Pipe and Conduit Threader



With Cabinet Stand (Optional)

This machine threads faster than the Ridgid 300 and includes a self-lubricating die head and automatic chuck. It also cuts pipe and conduit. It has a 2-hp, three-speed (16, 46, and 58 rpm) motor; eight high-speed steel dies for steel; cutter with length guide for pipe sizes of 1/8-2 and bolt sizes 1/4"-2"; and a 17-ft. cord with three-prong plug. Pipe nipple chuck adapter kits are required to use this threader with the pipe nipple chucks (both sold separately below).

	Ridgid No.		
Threader	535A	**2650A51**	$6,397.16
Accessories			
Cutter Wheel for Stainless Steel	E-1032S	**2650A97**	32.06
Tray Stand	150A	**2650A24**	777.68
Cabinet Stand	200A	**2689A51**	1,011.52
Pipe Nipple Chuck	819	**2620A13**	485.17
Pipe Nipple Chuck Adapter Kit	839	**2620A15**	126.04

	Ridgid No.		
Replacement Parts			
Die Head	811A	**25245A29**	$414.17
Cutter Wheel for Steel and Iron	E-1032	**2650A86**	22.61
Reamer Assembly	341	**25245A28**	205.17
Reamer Cone	36277	**2650A91**	106.69
Wheel	27442	**2650A49**	131.53

Ridgid Large Size Pipe and Conduit Threader Adapters



Use with Ridgid 300 and 535A bench-top and Ridgid 700 hand-held electric threaders to thread NPT pipe and conduit sizes of 2 1/2, 3, 3 1/2, and 4. Five high-speed steel dies for steel are included.

	Ridgid No.		
Threader Adapter	141	**2587A11**	$2,227.15
Accessories			
Connector (required for use with Ridgid No. 300)	758	**2587A41**	44.28
Drive Bar (required for use with Ridgid No. 300)	844	**2587A34**	154.84
Mounting Kit (required for use with Ridgid No. 535A)	97882	**2587A42**	589.87

	Ridgid No.		
Accessories (Cont.)			
Ratchet and Handle	D-1440	**2587A23**	$231.15
Metal Case	96725	**2587A22**	212.14
Universal Drive Shaft	840A	**2587A24**	498.24
Dies for Stainless Steel (Set of Five)	70640	**2587A13**	290.78
Replacement Parts			
Dies for Steel (Set of Five)	38120	**2587A12**	289.50

Dies for Bench-Top Ridgid Electric Pipe and Conduit Threaders



Use these dies with the Ridgid No. 811A die heads on Ridgid 300 and 535A pipe and conduit threaders. They're also for use with Ridgid No. 504A, 711, 815A, 816, and 817 die heads, except the dies for pipe sizes of 2 1/2-4 are for the Ridgid No. 714 die head only.

Pipe and conduit thread dies for steel are made of alloy steel. The other dies are made of high-speed steel and have teeth designed to cut through specific materials.

Screw thread dies are made of high-speed steel and are for use on steel, iron, and stainless steel.

Pipe and Conduit Thread Dies (NPT)—Set of Four

For Pipe Size	For Steel		Long Life for Steel		For Stainless Steel		For PVC	
1/8	**2660A21**	$123.28	**2660A25**	$185.84	**2660A64**	$184.75	———	———
1/4, 3/8	**2660A22**	123.28	**2660A26**	184.75	**2660A65**	184.75	———	———
1/2, 3/4	**2660A23**	123.28	**2660A27**	184.75	**2660A66**	184.75	**2660A17**	$214.47
1, 1 1/4, 1 1/2, 2	**2660A24**	123.28	**2660A28**	184.75	**2660A67**	184.75	**2660A16**	214.47
2 1/2, 3, 4	———	———	**2660A18**	275.94	**2660A19**	275.69	———	———

Screw Thread Dies—Set of Four

For Thread Size			For Thread Size			For Thread Size			For Thread Size		
1/4"-20	**2660A63**	$235.03	3/8"-24	**2660A56**	$241.08	5/8"-18	**2660A58**	$241.08	7/8"-14	**2660A61**	$241.08
1/4"-28	**2660A54**	235.03	1/2"-13	**2660A81**	239.66	3/4"-10	**2660A83**	239.66	1"-8	**2660A49**	239.66
5/16"-18	**2660A78**	235.00	1/2"-20	**2660A57**	241.08	3/4"-16	**2660A59**	241.08	1"-14	**2660A62**	241.08
3/8"-16	**2660A79**	239.66	5/8"-11	**2660A82**	239.66	7/8"-9	**2660A48**	239.66	1 1/2"-6	**2660A98**	235.00

Pipe and Conduit Thread Square Dies



Use these dies in square-die pipe threader and conduit threaders. They have special threads that pull the die onto a pipe or conduit making it easy to start threading. Dies are made of tool steel and are for use on steel and stainless steel.

Choose a Pipe Size	Lg.	Wd.		
1/8, 1/4, 3/8, 1/2, 3/4, 1, 1 1/4	2 1/2"	2 1/2"	**2580A3**	$47.18
1/4, 3/8, 1/2, 3/4, 1	2"	2"	**2580A2**	48.41
1/2, 3/4, 1, 1 1/4, 1 1/2, 2	4"	4"	**2580A4**	73.77

Hand-Held Ridgid Electric Pipe and Conduit Threaders



Carry this pipe and conduit threader to your work site. It operates on 120 volts AC and has an 8½-ft. cord with three-prong plug. The motor is reversible, ½ hp, and single speed (30 rpm). The body is cast aluminum and overall length is 28¼". It's CSA certified.

Use this threader with Ridgid 12-R die heads (not included) to thread ⅛ to 2 conduit and NPT pipe sizes. Stabilize your threader with the *support clamp* when threading conduit and NPT pipe sizes 1 and larger. Thread pipe and conduit sizes of 2½ to 4 with the *large size threader adapter* and the *square drive adapter*. To use the threader with Ridgid No. 00-R and 11-R die heads, use the *die head adapters*.

	Ridgid No.		
Threader	700	**8303A11**	$1,589.06
Accessories			
Large Size Threader Adapter	141	**2587A11**	2,227.15
Square Drive Adapter	774	**8303A12**	113.34
Die Head Adapter for 00-R Die Head	770	**8303A18**	161.86
Die Head Adapter for 11-R Die Head	772	**8303A19**	117.77
Metal Case	B-171-X	**8303A15**	165.25
Support Clamp	775	**8303A13**	201.24
Oiler with 1 gal. Cutting Oil	418	**25245A41**	303.62
Replacement Part			
Motor Brush Assembly	44815	**8303A63**	12.89

Hand-Held Ridgid Pipe and Conduit Threaders



Threader Set



Ratchet for Standard Die Head



Ratchet for Enclosed Die Head

Threader Sets

Each set includes a ratchet with handle, die heads, and alloy steel dies for cutting NPT threads in steel pipe and conduit. **12-R** sets also include a plastic case.

Standard die heads have a round bottom.

Enclosed die head keeps chips out for smooth operation and has a squared bottom.

Ridgid No.	For Pipe Size	No. of Dies		
Threader Sets with Standard Die Heads				
00-R	⅛, ¼, ⅜, ½, ¾, 1	6	**2536A49**	$469.12
00-R	½, ¾, 1	3	**2536A67**	261.16
12-R	⅛, ¼, ⅜, ½, ¾, 1, 1¼, 1½, 2	9	**2536A71**	1,031.56
12-R	½, ¾, 1, 1¼	4	**2536A68**	507.69
12-R	½, ¾, 1, 1¼, 1½, 2	6	**2536A73**	760.38
Threader Set with Enclosed Die Heads				
11-R	½, ¾, 1, 1¼	4	**2569A26**	427.81
Metal Cases				
Please specify Ridgid No.: 00-R, 11-R, or 12-R.			**2536A97**	

Ratchets with Handle

Ridgid No.	Handle Lg.		
For Standard Die Heads			
00-R	17½"	**2569A91**	$69.84
12-R	22½"	**2569A93**	79.28
For Enclosed Die Heads			
11-R	22½"	**2569A45**	112.73

Die Heads and Dies for Hand-Held Ridgid Pipe and Conduit Threaders

Use with Ridgid 700, 00-R, 12-R, and 11-R pipe and conduit threaders.

Die Heads

Each die head comes with four alloy steel NPT dies for steel. **Enclosed** die heads keep chips out for smooth operation.



Standard



Enclosed

	Standard				*Enclosed*	
For Pipe Size	Ridgid 00-R		Ridgid 12-R		Ridgid 11-R	
⅛	**2569A61**	$74.46	**2569A75**	$95.68	**2569A36**	$112.44
¼	**2569A62**	74.46	**2569A76**	95.68	**2569A37**	112.44
⅜	**2569A63**	74.46	**2569A77**	95.68	**2569A38**	112.44
½	**2569A64**	74.46	**2569A78**	103.69	**2569A39**	112.44
¾	**2569A65**	74.46	**2569A79**	103.69	**2569A41**	112.44
1	**2569A66**	80.78	**2569A81**	132.55	**2569A42**	119.56
1¼			**2569A82**	132.55	**2569A43**	119.56
1½			**2569A83**	146.15		
2			**2569A84**	146.15		

Pipe and Conduit Thread Dies—Set of Four

Dies fit the die heads above. They also fit Ridgid No. 0-R, 111-R, 30-A, and 31-A die heads. Dies for steel are made of alloy steel; all others are made of high-speed steel and have teeth designed to cut through specific materials.



	NPT								*NPSM*	
For Pipe Size	For Steel		Long Life for Steel		For Stainless Steel		For PVC		For Steel	
⅛	**2536A86**	$49.53	**2536A22**	$54.78	**2536A32**	$59.84			**2536A961**	$54.44
¼	**2536A87**	49.53	**2536A23**	54.78	**2536A33**	59.84			**2536A962**	54.44
⅜	**2536A88**	49.53	**2536A24**	54.78	**2536A34**	59.84	**2536A76**	$62.52	**2536A963**	54.44
½	**2536A89**	49.53	**2536A25**	54.78	**2536A35**	69.92	62.52	**2536A77**	**2536A964**	54.44
¾	**2536A91**	49.29	**2536A26**	54.78	**2536A36**	69.92	**2536A78**	62.52	**2536A965**	54.44
1	**2536A92**	58.53	**2536A27**	65.15	**2536A37**	69.92	**2536A79**	75.02	**2536A966**	64.13
1¼	**2536A93**	58.82	**2536A28**	65.15	**2536A38**	86.90	**2536A81**	76.58	**2536A967**	64.13
1½	**2536A94**	65.29	**2536A29**	80.86	**2536A39**	86.90	**2536A82**	95.61	**2536A968**	70.21
2	**2536A95**	65.00	**2536A31**	80.86	**2536A41**	86.90	**2536A83**	95.61	**2536A969**	70.21

Long-Life Dies for Steel with Left-Hand NPT Threads—Please specify pipe size: ¼, ⅜, ½, ¾, 1, 1¼, 1½, or 2 **2536A98**

Thread Repairing Die and File Assortments

Renew external threads in a wide range of sizes. Dies and files are carbon steel. Dies are hex shaped and have a small width across the flats for use in tight spots. Use them with drive sockets and other conventional wrenches.



No. of Pieces	Thread Sizes	Widths	No. of Dies	File Sizes	No. of Files		
Inch							
15	¼"-20 to ⅝"-18	7/16" to 15/16"	14	For 11 to 24 threads per inch	1	**2616A19**	$36.61
18	¼"-20 to ¾"-16	7/16" to 1 1/16"	16	For 9 to 32 threads per inch	2	**2616A21**	45.35
Metric—Thread sizes are in mm							
13	6×1 to 14×1.5	11mm to 21mm	12	For 0.8 to 3 mm thread pitches	1	**2616A22**	35.91

External Screw, Pipe, and Conduit Thread Repairing Tools

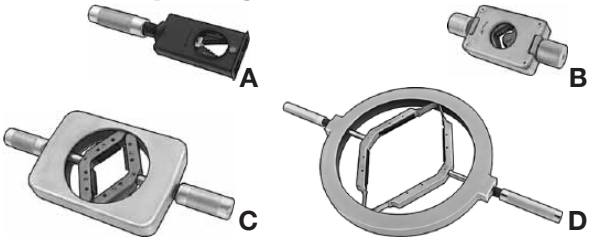

Slide over the end of threaded rod, pipe, and conduit to the area where threads are damaged, then tighten and rotate to repair threads. Tool is for thread sizes of 6 to 28 threads per inch and thread pitches from 1 to 4 mm. The blade is hardened steel. Minimum clearance required is measured from the center of the tool to the end of the handle.

	For OD	Min. Clearance Required		
A	1/4″-1″	8 1/2″	**2615A11**	$106.84
B	1/4″-1″	3 1/4″	**2615A12**	204.43
C	1″-2 9/16″	5 3/8″	**2615A14**	329.53
C	1 3/4″-4″	7″	**2615A15**	411.60
C	4″-6″	7 7/8″	**2615A16**	525.12
D	6″-12″	17″	**2615A17**	1,269.35

Side-Grip External Screw, Pipe, and Conduit Thread Repairing Tools

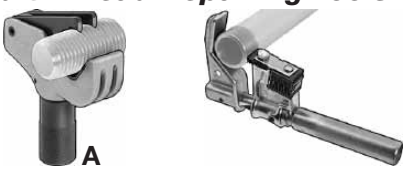

Clamp onto threaded rod, pipe, and conduit from the side to repair threads in tight spaces and where threaded ends are not exposed.

Style A includes two replaceable steel blades that adjust to any inch or metric pitch.

Style B includes hardened steel dies that you can replace once they become worn rather than replacing the entire tool. The dies are for 4, 5, 6, 7, 7 1/2, 8, 9, 10, 11, 11 1/2, 12, 14, 16, 18, 20, and 24 threads per inch.

External Thread Repairing Tools

	For OD	Min. Clearance Required	Tools		Repl. Blades	
A	5/32″-1 1/16″	3 1/2″	**2607A21**	$59.60	**2607A31**	$17.05
A	1 1/16″-1 1/2″	5 3/4″	**2607A22**	86.80	**2607A32**	23.33
A	1 3/8″-6″	12 1/2″	**2607A23**	245.28	**2607A35**	32.94
B	1 1/4″-5″	7″	**2630A12**	105.45		
Replacement Pad for Style B					**2630A31**	38.99

Die Sets and Dies for Style B

3-Piece Metric Set—Includes dies for 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, and 4 mm pitches.	**2630A29**	34.85
Individual Inch Dies—Please specify threads per inch from 4 to 24.	**2630A36**	7.73
Individual Metric Dies—Please specify thread pitch from 1 to 4 mm.	**2630A37**	23.39

Internal and External Thread Repairing Files



One file restores internal and external threads in many sizes. Pipe thread files can also be used on conduit. Files are 3/8″ square, 9 1/4″ long, and made of steel. They come in a plastic tube.

Thread Type	For Thread Pitch		
Inch (threads per inch)			
Screw	9, 10, 12, 16, 20, 27, 28, and 32	**2542A51**	$41.42
Screw	11, 12, 13, 14, 16, 18, 20, and 24	**2542A41**	41.42
Pipe	8, 10, 11 1/2, 14, 16, 18, 24, and 27	**2542A52**	41.42
Metric			
Screw	0.75, 1, 1.25, 1.5, 1.75, 2, 2.5, and 3 mm	**2542A42**	41.42
4-Piece Set			
One of each file in a plastic pouch		**2542A61**	148.14

Internal Screw, Pipe, and Conduit Thread Repairing Tools



Repair straight and tapered threads in holes with an ID from 3/4″ to 6″. The dies line up with threads to start and stop repair at any point. Change the dies once they become worn rather than replacing the entire tool.

The included dies are for 14 threads per inch on a 3/4″ ID; 11 1/2 threads per inch on 1″ to 2″ IDs; and 8 threads per inch on 3/4″ to 6″ IDs. Dies are hardened steel. Overall length is 9″.

Internal Thread Repairing Tool

Tool with Dies	**2598A11**	$23.33

Die Sets and Dies

24-Piece Inch Set—Includes dies for 9, 10, 11, 12, 13, 16, 18, 20, 24, 27, 28, and 32 threads per inch.	**2598A12**	26.89
16-Piece Metric Set—Includes dies for 0.8, 1, 1.25, 1.5, 1.75, 2, 2.5, and 3 mm thread pitches.	**2598A13**	18.71
Pair of Inch Dies—Please specify threads per inch from 8 to 32.	**2598A31**	3.05
Pair of Metric Dies—Please specify thread pitch from 0.8 to 3 mm.	**2598A33**	2.17

Small-Diameter Internal Screw, Pipe, and Conduit Thread Repairing Tools



Insert this tool into a threaded hole or bore, twist the knob to extend the blade, and rotate to restore straight and tapered threads. You can start and stop the repair at any point. Blade is made of steel; it's replaceable and adjusts to any inch or metric thread pitch.

For ID	O'all Lg.		
5/16″-7/16″	4 5/16″	**2581A41**	$72.04
1/2″-5/8″	4 5/16″	**2581A42**	72.04
11/16″-13/16″	4 3/8″	**2581A43**	78.38
7/8″-1 1/4″	5 3/8″	**2581A44**	104.75
Replacement Blades			**2581A21**
Replacement Pads			**2581A24**

Thread Repairing Files



Internal Threads and External Threads



Universal External Threads

Repair rusted and damaged threads on any diameter screw or pipe. Pipe thread files can also be used on conduit. All files are steel.

Internal Threads—Files are 7/16″ square and 10″ long.

External Threads—Files are 7/16″ square (unless noted) and 8 3/8″ long. Thread sizes are marked on each file.

Universal External Threads—File is 7/8″ Wd. × 1/8″ Thick. × 9″ Lg. It has a plastic handle.

10-Piece External-Thread Set—Includes six files and four handles in a plastic case.

Optional File Handles—Slip them over the file for a comfortable grip. They fit the files listed below, except 2616A14 and 2617A12.

Thread Type	For Thread Pitch		
Internal Threads (threads per inch)			
Pipe	8 and 10	**2616A16**	$19.67
Pipe	8 and 11 1/2	**2616A17**	19.67
Pipe	10 and 14	**2616A18**	19.67
External Threads (threads per inch)			
Screw	11, 12, 13, 14, 16, 18, 20, and 24	**2616A11**	11.27
Screw	9, 10, 12, 16, 20, 27, 28, and 32	**2616A12**	11.27
Pipe	8, 10, 11 1/2, and 14	**2616A14★**	36.00
Pipe	8, 10, 11 1/2, 14, 16, 18, 24, and 27	**2616A15**	11.27
Metric External Threads			
Screw	0.8, 1, 1.25, 1.5, 1.75, 2, 2.5, and 3 mm	**8309A11**	10.19
Universal External Threads			
Screw/Pipe	Any	**2617A12**	5.51
10-Piece External-Thread Set			
For 8, 9, 10, 11, 11 1/2, 12, 13, 14, 16, 18, 20, 24, 27, 28, and 32 threads per inch		**2616A31**	67.95
Optional File Handles (Pkg. of 6)		**2616A41**	6.00

★Size is 7/8″ Wd. × 7/16″ Thick.

Jaw Liners for Bench Vises

Protect your workpiece and vise-jaw faces from marring.

Magnetic Mount

Liners are held in place by magnets. Choose liners with V-grooves to hold round objects. **Rubber** covers provide a nonslip grip. **Fiber** covers are nonabsorbent and allow you to keep heat on your parts and off the jaws.



With Horizontal and Vertical V-Grooves

For Jaw Width	Aluminum	Pair	Rubber-Covered Aluminum	Pair	Fiber-Covered Aluminum	Pair
Smooth						
3″-4″	5268A25	$21.12	5268A35	$48.24	5268A33	$50.13
4½″			5268A36	50.13	5268A34	51.75
5″			5268A21	41.76	5268A13	44.86
6″			5268A22	44.71	5268A14	48.16
With Horizontal V-Grooves						
4″	5268A31	48.24				
4½″	5268A32	50.13				
5″	5268A18	38.67				
6″	5268A19	43.55				
With Horizontal and Vertical V-Grooves						
4″	5268A37	51.75				
4½″	5268A38	53.91				
5″	5268A15	47.15				
5″	5345A5 ★	16.25				
6″	5268A16	50.22				

★ Made of nylon.

Set-Screw Mount

Place liners over the vise jaws and tighten the set screws. **Rubber-covered aluminum** liners provide a nonslip grip. **Brass** liners are good for welding applications.



For Jaw Width	Rubber-Covered Aluminum	Pair	Brass	Pair
3″	5346A17	$38.22	5346A19	$51.56
3½″	5346A21	39.56	5346A22	54.22
4″	5346A25	41.11	5346A27	64.00
4½″	5346A28	42.00	5346A29	70.67
5″	5346A31	43.11	5346A32	71.78
6″	5346A35	45.56	5346A36	79.56

Wraparound Mount

Fold the pliable extensions over the vise jaws to mount. **Copper** liners are good for welding applications.



For Jaw Width	Aluminum	Pair	Copper	Pair
3″	5254A61	$32.73	5254A44	$32.64
3½″	5254A62	34.55	5254A45	46.27
4″	5254A63	40.00	5254A46	50.29
4½″	5254A64	41.82	5254A47	53.76
5″	5254A65	50.91	5254A48	73.55
6″	5254A66	65.38	5254A49	106.23
6½″			5254A53	124.80
8″	5254A67	82.69	5254A51	147.02

Vise Adapters for Round Material



Drop In



Magnetic

Firmly hold small-diameter material vertically in your vise.

Drop-in adapter is steel with aluminum jaws. It is held in place by tightening the vise.

Magnetic adapter is aluminum and is held in place with magnets. Furnished in a pair.

Mounting Style	Fits Diameters		
Drop In	5/16″-13/32″	6325A42	$16.05
Magnetic	5, 9, 10, 12, 14, 20, 25, 30, and 36 mm	6325A43	30.24

Jaws for Bench Vises



Wilton Top Jaws



Wilton Pipe Jaws

These steel jaws have serrated faces for a firm grip. Fasteners for attaching the jaws to your vise are included.

Wilton

For Vise Models		Pair
Top Jaws		
400N, 400S, 10016, 10076	8467A34	$113.79
500N, 500S, 10026, 10096	8467A36	159.30
Other Model Numbers		8467A33
Pipe Jaws		
Please Specify Model Number		8467A19

Yost

For Vise Models		Pair
Top Jaws		
33C	5289A132	$104.00
34C	5289A142	132.00
Other Model Numbers		5289A5
Pipe Jaws		
Please Specify Model Number		5289A6

Columbian

For Vise Models		Pair
Top Jaws		
505M3, 605M3, 10105, 10205	8468A33	$234.09
604M3, 10203	8468A13	195.02
Other Model Numbers		8468A18
Pipe Jaws		
Please Specify Model Number		8468A19

Milwaukee

For Vise Models		Pair
Top Jaws		
50, 150 T-Shape	8469A25	$77.64
60, 160 Flat	8469A48	102.22
Other Model Numbers with T-, Flat-, or U-Shape Jaws		8469A4

Wilton Bench Vises



Also known as machinists' vises, these have an Acme-threaded main screw that's enclosed to keep contaminants out and lubricants in for long life. They have an iron body with a built-in anvil and replaceable steel top jaws with serrated faces for a firm grip. Mounting fasteners not included.

Vises **with swivel base** swivel 360° and lock in place. Vises **with pipe jaws** allow you to securely hold round objects. The pipe jaws are steel and are replaceable.

Jaw Wd.	Max. Open.	Throat Dp.	Pipe Cap.	Wilton No.	*Mounting Holes* Dia.	Qty.		
With Fixed Base								
3″	4¾″	2⅝″		300N	17/32″	2	5298A19	$455.88
3½″	5¼″	2¾″		350N	17/32″	2	5298A21	491.64
4″	6½″	3½″		400N	17/32″	2	5298A22	563.15
4½″	7½″	4″		450N	17/32″	2	5298A23	652.54
5″	8″	4¼″		500N	17/32″	2	5298A24	956.46
6″	10″	5½″		600N	21/32″	2	5298A25	1,163.61
8″	12″	5 13/16″		800N	21/32″	2	5298A27	3,069.90
With Swivel Base								
3″	4¾″	2⅝″		300S	7/16″	4	5298A12	518.46
3½″	5¼″	2¾″		350S	9/16″	4	5298A13	545.27
4″	6½″	3½″		400S	11/16″	4	5298A14	625.72
4½″	7½″	4″		450S	11/16″	4	5298A15	715.11
5″	8″	4¼″		500S	11/16″	4	5298A16	1,033.33
6″	10″	5½″		600S	11/16″	4	5298A17	1,314.30
8″	12″	5 13/16″		800S	11/16″	4	5298A26	3,069.90
With Swivel Base and Pipe Jaws								
3½″	5″	4½″	⅛″-2½″	C-0	9/16″	4	5200A11	659.24
4½″	6″	4¾″	⅛″-3½″	C-1	11/16″	4	5200A12	914.15
5″	7″	5 5/16″	⅛″-4½″	C-2	11/16″	4	5200A13	1,197.10
6″	9″	6⅝″	¼″-6″	C-3	11/16″	4	5200A14	1,757.98

Bench Vises



Vises have an Acme-threaded main screw and replaceable steel top jaws with serrated faces (unless otherwise stated). Mounting fasteners not included.

Vises **with swivel base** swivel 360° (unless noted) and lock in place. Vises **with pipe jaws** allow you to securely hold round objects.

Standard vises have an iron body. *Standard vises with swivel base and pipe jaws* have a built-in anvil and replaceable steel pipe jaws. Their top jaws can be flipped; they're serrated on one side and smooth on the other side.

Corrosion-resistant vises have a 304 stainless steel body making them good for corrosive and washdown environments. They come with three sets of interchangeable top jaws: stainless steel with smooth faces, stainless steel with serrated faces, and plastic with smooth faces. Vises *with pipe jaws* have replaceable stainless steel pipe jaws.

Compact vises have an iron body with built-in pipe jaws and an anvil.

High-visibility compact vises are yellow-painted steel and conform to OSHA regulation No. 1910.144. They have built-in pipe jaws and an anvil.

Weather-resistant compact vises have a black-enamel painted steel body. Vises come with built-in pipe jaws and an anvil.

Extended-opening vise can be used with its top jaws in their standard 6″ jaw-opening position, or reverse one jaw to extend the jaw opening to 9¾″. Body is iron with built-in pipe jaws and two anvils.

Rotating multijaw vise has three sets of steel jaws (top jaws, pipe jaws, and V-jaws) and a head that rotates 360° and locks at 45° intervals. Body is iron with a built-in anvil. Maximum V-jaw opening is 4½″.

Jaw Wd.	Max. Open.	Throat Dp.	Pipe Cap.	Mount. Holes Dia.	Mount. Holes Qty.		
With Fixed Base							
Standard							
3″	4″	2½″	____	33/64″	3	5286A1	$278.08
3½″	5″	2¾″	____	33/64″	3	5286A8	329.57
4″	6″	3¼″	____	33/64″	3	5286A3	367.14
4½″	7″	3½″	____	33/64″	3	5286A4	429.80
5″	8″	3½″	____	33/64″	3	5286A5	526.79
6″	10″	4″	____	13/16″	3	5286A6	840.55
8″	12″	5½″	____	13/16″	3	5286A7	1,643.00
Corrosion Resistant							
4″	6″	2¼″	____	7/16″	2	5310A11	964.96
With Fixed Base and Pipe Jaws							
Corrosion Resistant							
6″	10″	5″	1/4″-3½″	1/2″	2	5310A13	2,108.31
With Swivel Base							
Standard							
3″	4″	2½″	____	9/16″	3	5287A1	366.00
3½″	5″	2¾″	____	9/16″	3	5287A2	407.66
4″	6″	3¼″	____	9/16″	3	5287A3	456.73
4½″	7″	3½″	____	9/16″	3	5287A4	528.82
5″	8″	3½″	____	9/16″	3	5287A5	678.68
6″	10″	4″	____	23/32″	3	5287A6	1,046.91
8″	12″	5½″	____	23/32″	3	5287A7	2,008.67
Corrosion Resistant							
4″	6″	2¼″	____	7/16″	3	5310A12	1,174.98
With Swivel Base and Pipe Jaws							
Standard							
4½″	4½″	4½″	1/8″-2½″	7/16″	3	5344A31	396.72

★ Has a locking 180° swivel base.

Jaw Wd.	Max. Open.	Throat Dp.	Pipe Cap.	Mount. Holes Dia.	Mount. Holes Qty.		
With Swivel Base and Pipe Jaws (Cont.)							
Standard (Cont.)							
5½″	5″	4½″	1/8″-2½″	7/16″	3	5344A32	$488.52
6½″	6½″	5½″	1/8″-3½″	5/8″	4	5344A33	604.92
8″	7½″	6″	1/8″-4½″	11/16″	4	5344A34	778.69
Compact							
4″	4″	2¾″	5/8″-2″	9/16″	4	5310A42	112.06
5″	5″	3″	5/8″-2⅜″	9/16″	4	5310A43	121.09
6″	6″	3½″	5/8″-2½″	9/16″	4	5310A7	174.82
6½″	5½″	3 13/16″	1/8″-2½″	7/16″	4	5310A44 ★	163.13
8″	8″	4″	¾″-3″	9/16″	4	5310A6	265.16
High-Visibility Compact							
4″	4″	2¼″	1/4″-1½″	1/2″	3	5333A21	109.09
5″	5″	2⅝″	1/2″-1½″	9/16″	3	5333A22	136.36
6″	6″	3″	1/2″-2″	9/16″	3	5333A23	169.64
8″	8″	3½″	¾″-2¼″	5/8″	3	5333A38	234.49
Weather-Resistant Compact							
4″	4″	2¼″	1/4″-1½″	1/2″	3	5252A1	101.89
5″	5″	2⅝″	1/2″-1½″	9/16″	3	5252A2	133.33
6″	6″	3″	1/2″-2″	9/16″	3	5252A3	175.51
8″	8″	3½″	¾″-2¼″	5/8″	3	5252A4	252.08
Corrosion Resistant							
6″	10″	5″	1/4″-3½″	1/2″	3	5310A14	2,533.33
Extended Opening							
5½″	9¾″	3¾″	1/8″-3″	9/16″	4	4065A1	192.12
Rotating Multijaw							
5⅛″	4″	3½″	1/2″-3½″	3/8″	3	5256A1	237.61

Pivoting Vises

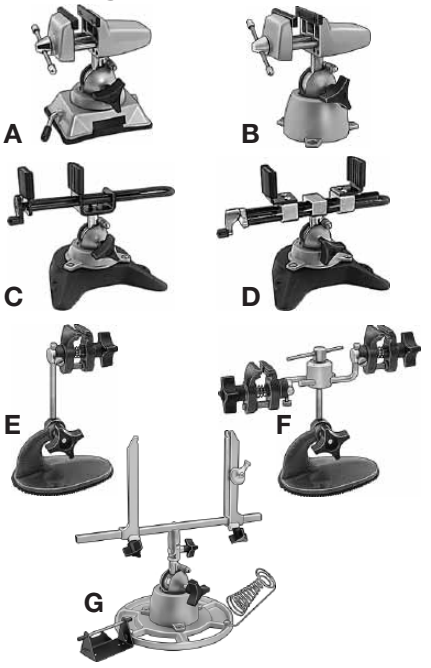

The head not only swivels 360° and locks in place with a knob, but it also tilts up and down 90° (except Styles E and F adjust in all directions). Vises have an aluminum and zinc body (except Styles E and F are aluminum).

(A) Vacuum Base—Use the mounting lever to attach and release the rubber suction pad from smooth surfaces. Vise has replaceable nylon jaws with smooth faces.

(B) Bolt-Mount Base—Vise has replaceable nylon jaws with smooth faces. Mounting fasteners not included.

(C) Weighted Base—A 5-lb. base is heavy enough to hold most parts, but light enough to be portable. Vise has reversible, replaceable neoprene jaw pads that are ribbed on one side and have V-grooves on the other side.

(D) Self-Centering with Weighted Base—Jaws move at the same time to position parts in the center while a 5-lb. base is heavy enough to hold most parts, but light enough to be portable. Vise has reversible, replaceable neoprene jaw pads that are ribbed on one side and have V-grooves on the other side.

(E&F) Small-Opening Vise Head(s) with Bolt-Mount Base—Jaws are aluminum. One jaw has a horizontal V-groove; the other jaw has a horizontal and a vertical V-groove. Mounting fasteners not included.

Style E has one vise head. *Style F* has two vise heads.

(G) Extra-Deep Vise Head with Bolt-Mount Base—Accommodates flat objects such as circuit boards from 1/4″ to 12″ wide and up to 5/32″ thick. Vise has replaceable aluminum jaws with V-grooves. It comes with a six-compartment tool tray base, solder holder, and soldering iron holder. Mounting fasteners not included.

Optional C-Clamp Base for Styles B, C, and D—Convert the bases on Styles B, C, and D to a C-clamp base. Clamp is 10 1/8″ long and is for use on bench tops up to 3″ thick.

	Jaw Wd.	Max. Open.	Throat Dp.	Mounting Holes Dia.	Mounting Holes Qty.		
A	2½″	2¼″	1/2″	____	___	8464A63	$80.64
B	2½″	2¼″	1/2″	5/16″	3	8464A14	59.13
C	1½″	6″	1 7/8″	____	___	8464A91	112.91
D	1½″	9″	1 7/8″	____	___	8464A92	125.81
E	1½″	11/16″	13/32″	1/4″	2	52015A66	115.74
F	1½″	11/16″	13/32″	1/4″	2	52015A67	174.03
G	5/32″	12″	6″	5/16″	3	8464A48	107.53
Optional C-Clamp Base for Styles B, C, and D						8464A41	54.79

Portable Vises



Take these lightweight vises anywhere. Mounting fasteners (where applicable) are not included.

With Fixed Base—Vises have an iron body and built-in top jaws with smooth faces.

Vise with *1 3/32″ jaw width* clamps onto bench tops up to 1″ thick.

Vise with *3″ jaw width* clamps onto bench tops up to 2″ thick and has built-in pipe jaws and an anvil.

With Swivel Base—Vises swivel and lock in place.

Vise with *1 1/4″ jaw width* has a steel body and built-in top jaws with smooth faces. Base swivels 180°.

Vises with *2 1/2″* and *4″ jaw widths* clamp onto bench tops up to 3″ thick. They have an iron body, replaceable steel top jaws with V-grooves, and a built-in anvil. Base swivels 45°.

Vise with *3″ jaw width* clamps onto bench tops up to 1 7/8″ thick. Body is iron and has built-in top jaws with smooth faces, pipe jaws, and an anvil. Base swivels 360°.

Jaw Wd.	Max. Open.	Throat Dp.	Weight, lbs.	Mount Type	Mounting Holes Dia. (Qty.)		
With Fixed Base							
1 3/32″	1″	5/16″	1	Clamp/Bolt	3/16″ (2)	6015A33	$8.62
1 3/16″	1″	5/16″	3/4	Bolt	3/16″ (2)	6015A57	7.75
3″	2 1/2″	2 5/8″	4 1/4	Clamp/Bolt	3/16″ (2)	5312A2	43.58
With Swivel Base							
1 1/4″	1 1/4″	5/16″	1 1/4	Bolt	3/16″ (3)	6015A74	17.50
2 1/2″	2 1/8″	1 3/4″	11	Clamp	—	4985A1	142.63
3″	2 1/2″	2 5/8″	6	Clamp/Bolt	1/4″ (2), 5/16″ (2)	5312A3	54.94
4″	2 1/4″	2″	18	Clamp	—	4985A2	167.14

Create-Your-Own Workholders

Build a custom clamping system for holding lightweight objects. First select a base, then choose the rods, connectors, and clamps. The clamps require a connector to attach to rods. Not rated for holding capacity.

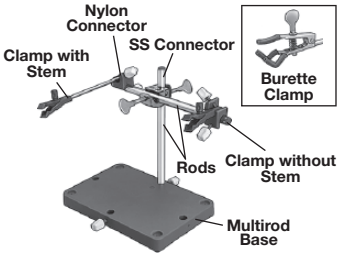

Bases

Single Rod—Base is nylon and 2 1/2″ dia. It holds one 1/2″ dia. rod and has three 1/4″ dia. mounting holes (fasteners not included).

50165A11 ..... $11.64

Multirod—Base is nylon and 6″ Wd.×9″ Lg. It holds up to four 1/2″ dia. rods, weighs 3.3 lbs. for stability, and has rubber feet.

50165A12 ..... $61.09

Rods

Made of corrosion-resistant 304 stainless steel, rods are 1/2″ dia.

Length			Length		
6″	50165A21	$41.36	20″	50165A23	$29.09
10″	50165A22	23.27	24″	50165A24	33.45

Connectors

Nylon Clamp-to-Rod Connector—Offers good resistance to chemicals.

50165A31 ..... $8.73

316 Stainless Steel Rod-to-Rod and Clamp-to-Rod Connector—This connector holds two rods at a 90° angle or connects a clamp to a rod.

50205A6 ..... $51.32

Clamps

Nylon Clamps—These clamps won't mar surfaces and have good resistance to chemicals. Adjust opening size with the thumb screw.

Opening Size	With Stem: Stem Lg.			Without Stem	
0″-5/8″	5″	50165A41	$35.38	50165A51	$26.18
0″-1 3/4″	6″	50165A42	41.60	50165A52	32.27
1/8″-3 5/16″	6″	50165A43	52.24	50165A53	42.34

304 Stainless Steel Burette Clamp—This clamp has a stem and nonmarring rubber pads. Opening size is 0″-1″; turn the thumb screw to adjust. Overall length is 10″.

50205A61 ..... $72.44

Pipe Vises

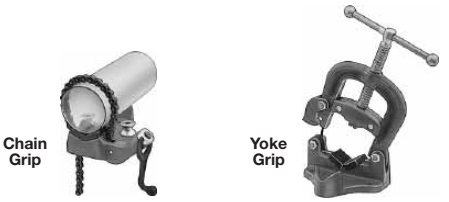

Securely hold various sizes of pipe, tubing, and conduit for cutting and threading.

Chain Grip—Crank the handle to tighten the chain and secure your object against the base jaws.

Bolt-mount vises have an iron body with serrated steel jaws (unless noted). Mounting fasteners not included.

Vises *with tripod stand* have steel jaws that are serrated on both sides.

Vise *with tripod stand for clean rooms* has 410 stainless steel jaws (serrated on one side; with bonded rubber on the other side) and a clear plastic tube over the chain. The chain is lubricated with food-grade, nonpetroleum-based oil.

Yoke Grip—Turn the handle to firmly clamp your object between the top and bottom steel jaws. Vises have a hinged side opening with a locking latch. You can reverse the yoke to open on the left or right. Not recommended for plastic pipe.

Bolt-mount vises have an iron yoke and base. Mounting fasteners are not included.

Vise *with tripod stand* has an iron yoke and aluminum base.

Pipe Cap.	*Mounting Holes* Dia.	Qty.		
Chain Grip				
Bolt Mount				
1/8″-2 1/2″	13/32″	3	5328A67	$141.59
1/8″-2 1/2″	21/32″	3	5328A11★	146.79
1/8″-4″	9/16″	3	5328A68	227.19
1/8″-4″	5/8″	3	5328A12★	242.74
1/8″-5″	13/32″	3	5328A13	311.99
1/4″-6″	9/16″	3	5328A14	427.04
1/2″-8″	9/16″	3	5328A3	560.87
1″-12″	11/16″	3	5328A36	1,899.05
With Tripod Stand				
1/8″-2 1/2″	—	—	5340A4	389.58
1/8″-6″	—	—	5340A2	461.40
With Tripod Stand for Clean Rooms				
1/8″-6″	—	—	5340A3	554.90
Yoke Grip				
Bolt Mount				
1/8″-2″	13/32″	3	5325A1	203.96
1/8″-2 1/2″	17/32″	3	5325A2	242.46
1/8″-3 1/2″	17/32″	3	5325A3	304.11
1/8″-4 1/2″	11/16″	3	5325A4	349.13
1/4″-6″	21/32″	3	5325A6	781.13
1″-8″	25/32″	4	5325A7	1,742.03
1 1/2″-12″	25/32″	5	5325A8	2,551.67
With Tripod Stand				
1/8″-2 1/2″	—	—	5340A1	546.97

★ Jaws are neoprene-coated to grip objects without marring them.

Pivoting Positioning Bases


A


B


C

Ball joint swivels 360°, tilts up and down 90°, and locks in place to position objects. To use, attach your object to a fixture such as a plate, stem, or sheet of metal (not included) and then mount the fixture to the attaching point on the base. All of these bases are made of iron. Mounting fasteners not included.

Style A—The attaching point is cadmium-plated steel and has a 1/2″ ID×1/2″ Dp. hole with a set screw. Base has four 1/4″ wide mounting slots.

Style B—The attaching point is aluminum and has a 3″ dia. pad with two 1/4″-20 threaded holes (includes screws and washers). Base has four 9/32″ wide mounting slots.

Style C—The attaching point is iron and has two 5/16″-18 threaded holes that are spaced 1″ center-to-center (includes screws and washers). Base has three 3/8″ dia. mounting holes.

	Load Cap., lbs.	O'all Ht.	Base Dia.		
A	20	4 1/4″	3 3/4″	5251A3	$188.32
B	30	5″	4 1/4″	5251A1	234.94
C	70	10 1/2″	5 15/16″	5250A1	500.51
C	150	10 1/2″	5 7/8″	5250A2	647.45

Specialty Vises

Pin Vises


Hollow-Handle Single End


Hollow-Handle Double End


Hollow-Handle Slide Grip


Swivel Handle


Comfort-Grip Swivel Handle


Chuck

A steel collet in these vises firmly holds pins, wires, scriber points, taps, drills, and other small objects. Turn the collet collar to adjust the collets (unless otherwise stated).

Hollow-handle single-end vises have a nickel-plated steel body that is hollow to accept long wires and rods.

Hollow-handle double-end vise has a collet on each end of the body. Made of nickel-plated steel, the body is hollow to accept long wires and rods.

Hollow-handle slide-grip vise allows one-handed operation—slide the knurled ring forward to close the collet. Body is aluminum and is hollow to accept long wires and rods.

Swivel-handle vise has an aluminum body with a rotating cap. Apply pressure to the cap with your index finger or palm and turn the body of the vise for precision control. Vise comes with two collets that can be stored in the body.

Comfort-grip swivel-handle vises have a plastic handle with cushioned rubber grip and rotating cap. Apply pressure to the cap with your index finger or palm and turn the body of the vise for precision control. Drills, taps, and collets can be stored in the handle.

Chuck vises have a collet with three chuck-style gripping jaws and a plastic handle.

Opening Range	Dia.	O'all Lg.		
Hollow-Handle Single End				
0″-0.055″ (0-1.4 mm)	5/16″	3 1/8″	8455A16	$13.72
0.025″-0.075″ (0.6-1.9 mm)	3/8″	3 1/2″	8455A17	14.70
0.045″-0.125″ (1.1-3.2 mm)	7/16″	3 13/16″	8455A18	15.70
0.11″-0.187″ (2.8-4.8 mm)	9/16″	4″	8455A19	16.66
Hollow-Handle Double End				
0″-0.125″ (0-3.2 mm)	7/16″	3 5/8″	8455A12	14.62
Hollow-Handle Slide Grip				
0″-0.051″ (0-1.3 mm)	9/32″	4 1/8″	5205A32	13.60
Swivel Handle				
0″-0.125″ (0-3.2 mm)	3/8″	3 11/16″	8455A31	11.28
Comfort-Grip Swivel Handle				
0″-0.059″ (0-1.5 mm)	7/8″	4 3/16″	7112A1	14.05
0″-0.125″ (0-3.2 mm)	7/8″	4 3/16″	7112A2	16.25
Chuck				
0.04″-0.25″ (1-6.4 mm)	1 1/8″	5 3/4″	5204A41	14.43
0.04″-0.32″ (1-8 mm)	1″	4 7/8″	5232A55	26.71

4-Piece Hollow-Handle Single-End Vise Set—Includes one of each hollow-handle single-end vise listed. Furnished in a plastic pouch.

8455A14 ..... $58.76

Hand Vises

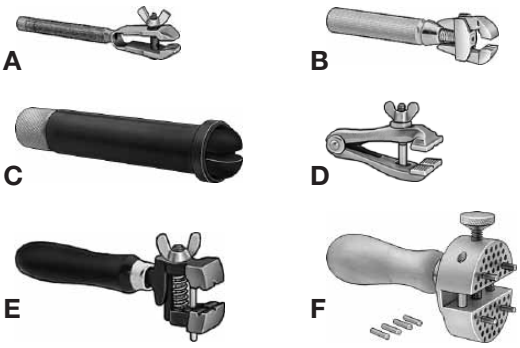

Save your fingers by using these vises to tightly grip small objects.

Style A—Vises are steel with a hollow handle for wires to pass through. Turn the wing nut to adjust the jaws, which have serrated faces.

Style B—Twist the handle to adjust the jaws, which have serrated faces. Vise is steel and the handle is hollow for wires to pass through.

Style C—Vise has an aluminum body and steel jaws with plastic inserts to grip without marring. Turn the knurled end to adjust the jaws, which have smooth faces.

Style D—Vise is steel and has a spring-action grip that keeps the jaws open. Turn the wing nut to adjust the jaws, which have serrated faces.

Style E—This steel vise has a contoured wood handle. Turn the wing nut to adjust the jaws, which have V-grooves.

Style F—Arrange the eight removable pins in the jaw's positioning holes to hold objects at various angles. Vise is aluminum with a contoured wood handle. Turn the screw to adjust the jaws.

	Jaw Wd.	Max. Open.	Throat Dp.	O'all Lg.		
A	1/4″	1/4″	1/2″	4 1/2″	5042A29	$37.15
A	5/8″	1/4″	1/2″	4 1/2″	5042A38	31.57
B	1/2″	1/2″	1/2″	4 3/4″	5042A44	25.10
C	7/8″	3/8″	1″	7″	5042A46	59.14
D	1 1/4″	7/16″	1″	3 3/4″	5042A23	35.32
E	1 1/4″	1″	1/2″	6 1/4″	5042A17	11.52
F	1 7/8″	2 1/4″	3/8″	5 1/4″	5042A45	55.88

Micro Hand Vises


For Round Objects

For Flat Objects

For delicate handling of small and lightweight objects, these tiny vises grip firmly without damaging. Squeeze the body to open the jaws; release the body to grip. Body is stainless steel.

Jaw Material	Max. Open.	Jaw Size Lg.	Jaw Size Wd.	O'all Size Lg.	O'all Size Ht.		
For Round Objects							
Rubber	5/8″	1/4″ Dia.	____	2 1/4″	7/8″	5097A51	$6.82
Rubber/Brass	5/8″	1/4″ Dia.	____	2 1/4″	7/8″	5097A52	7.51
For Flat Objects							
Stainless Steel	3/4″	7/16″	3/16″	2 1/4″	1″	5097A54	8.39
Stainless Steel	3/4″	11/16″	1/8″	2 3/4″	1″	5097A53	8.39
Rubber/SS	3/4″	1/2″	1/8″	2 1/4″	1″	5097A55	8.39

Woodworkers' Vises

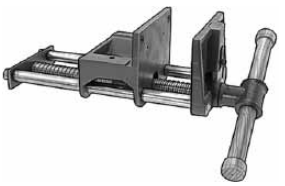

Iron jaws apply pressure across a large surface area to hold wood pieces without marring. Turn the handle to disengage the screw and slide the back jaw to quickly move items in and out of the vise. Turn the handle in the other direction to engage the screw and grip your item. Vises fit flush with the top of 2 1/4″ thick bench tops. Mounting fasteners not included.

Jaw Wd.	Max. Open.	Throat Dp.	Mounting Holes Dia.	Mounting Holes Qty.		
7″	9″	4″	25/64″	2	5275A3	$201.96
10″	12″	4″	25/64″	2	5275A4	227.06

Wide-Grip Micro Hand Vises



Measuring 1 7/8″ Lg. x 1 1/4″ Wd. x 1″ Ht., this miniature vise opens wide for its size—from 1/2″ to 1 3/8″ wide. The vise is plated brass. Use the thumb screw to adjust the jaws.

5123A16 ..... $29.90

Ultra-Precision Vises



Also known as toolmakers' vises, these are built for precision grinding and inspection jobs. The base and bed are parallel to within 0.0002″ and the jaws are square to within 0.0002″. The movable jaw pulls into the base at a 45° to 60° angle to prevent jaw tilt and lift and ensure a secure grip. Tighten jaws with a 1/4″ hex key.

Body and jaws are steel. The fixed jaw has a smooth face. The movable jaw has horizontal and vertical V-grooves. Vises have holes for bench mounting (fasteners not included). The vise with a *3″ wide jaw* also has end pockets for clamping to sine plates (see page 2578 for sine plates).

Jaw Wd.	Jaw Dp.	Max. Open.	Body Lg.	O'all Ht.	Mounting Holes Dia.	Mounting Holes Qty.		
2″	1″	3 1/4″	5 7/8″	2″	5/16″	4	5218A52	$472.16
3″	1 5/16″	4 3/4″	7 1/2″	2 5/8″	5/16″	4	5218A54	585.52

Drill-Press Vises



Mount these vises on drill presses for drilling, tapping, and reaming applications. Vises have an iron body (except quick-lock vises with slide screw and lug base are steel) and replaceable steel jaws.

Standard—These traditional vises have a threaded main screw and an open base that allows through-hole drilling.

Vises *with side-slot base* and *lug base* have slots or lugs for mounting (fasteners not included).

Vises *with smooth base* can be mounted in the standard position and turned on either side or on end. Mount with clamps (not included).

Vises *with side-grooved base* have a groove to clamp the vise to a machine table.

Quick Lock—It's easy to tighten and lock the jaws on these vises. The jaws have steps to elevate the workpiece to allow through-hole drilling. Vises have lugs for mounting (fasteners not included).

Vises *with slide bar* have a center lever you push to slide the movable jaw to your workpiece and a locking lever you press to exert final holding pressure. An open base allows additional depth for through-hole drilling.

Vises *with pump-action slide bar* have a locking lever you pump to move the jaws for final holding. Vises have an open base that allows additional depth for through-hole drilling.

Vises *with slide screw* have a handle you turn to disengage the screw and slide the back jaw to quickly move items in and out of the vise. Turn the handle in the other direction to engage the screw and grip your item.

Jaw Wd.	Jaw Ht.	Max. Open.	Body Lg.	O'all Ht.	*Mount. Holes* Size	Qty.		
Standard								
With Side-Slot Base—One smooth jaw, one grooved jaw								
3″	1 1/8″	3″	6 5/8″	2 1/2″	15/32″	4	52855A21	$53.57
4″	1 3/4″	4″	7 5/8″	2 7/8″	1/2″	4	52855A22	82.14
6″	2″	6″	11″	3 5/8″	21/32″	4	52855A24	165.96
8″	2″	8″	15 1/2″	3 5/8″	5/8″	4	52855A25	252.13
With Smooth Base—One smooth jaw, one grooved jaw								
1 1/2″	1″	1 1/2″	5 1/8″	1 7/8″	—	—	5226A2	75.89
2 7/16″	1 1/2″	3″	7 1/2″	2 5/8″	—	—	5226A3	83.93
4″	1 3/4″	4″	10 3/4″	3 1/4″	—	—	5226A6	200.89
With Side-Grooved Base—Two smooth jaws								
3″	1 3/4″	3″	9″	3″	—	—	5226A7	168.75
With Side-Grooved Base—One smooth jaw, one grooved jaw								
6″	2″	6″	11 3/8″	3 1/2″	—	—	5226A75	112.50
With Lug Base—One smooth jaw, one grooved jaw								
1 3/4″	1″	1 1/2″	4 1/4″	2″	3/8″	2	5272A1	70.54
3″	1 1/2″	3″	6 3/4″	2 5/8″	9/16″	2	5272A2	107.14
Quick Lock								
With Slide Bar and Lug Base—Two smooth jaws								
3″	1 1/4″	3″	9″	2 3/4″	1/2″	4	5219A1	159.26
4″	1 5/16″	4 11/16″	11 3/4″	3 1/4″	17/32″	4	5219A3	225.40
6″	1 13/16″	6 3/16″	14 3/4″	3 3/4″	11/16″	4	5219A5	295.57
8″	2″	8 3/16″	17 7/8″	4 1/2″	11/16″	4	5219A7	418.39
With Pump-Action Slide Bar and Lug Base—Two smooth jaws								
3″	1 1/4″	3″	9″	2 3/4″	1/2″	4	5227A1	176.14
4″	1 5/16″	4 11/16″	11 3/4″	3 1/4″	17/32″	4	5227A2	241.38
6″	1 13/16″	6 3/16″	14 3/4″	3 3/4″	11/16″	4	5227A3	311.84
8″	2″	8 3/16″	17 7/8″	4 1/2″	11/16″	4	5227A4	430.56
With Slide Screw and Lug Base—One smooth jaw, one grooved jaw								
3″	1 1/2″	3″	9″	2 5/8″	1/2″	4	5221A51	229.45
4″	1 1/2″	6″	13″	3″	1/2″	4	5221A53	318.32
6″	2″	8″	17″	3 7/8″	5/8″	8	5221A55	494.74
8″	3″	10″	21 3/4″	5 1/2″	7/8″	8	5221A56	1,047.28

Cross-Slide Drill-Press Vises

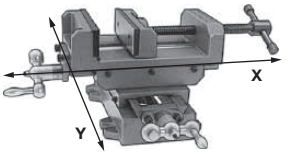

Accurately position work on two axes (X and Y). Vises have an iron body and replaceable steel jaws; one is smooth, the other is grooved. Mounting fasteners not included.

Standard vises have dials that are graduated in 0.1 mm increments. They have five mounting lugs; vise with *3″ jaw width* uses 7/16″ bolts, vises with *6″* and *8″ jaw widths* use 5/8″ bolts.

Precision vise has jaws that are parallel to 0.001″ and dials that are graduated in 0.001″ increments. The base has a 5/8″ keyway. Vise has four mounting lugs that use 5/8″ bolts. You can remove the vise from the base and use it as a traditional drill-press vise.

Jaw Wd.	Jaw Ht.	Max. Open.	*Travel* X	Y	*Base Size* Lg.	Wd.	O'all Ht.		
Standard									
3″	1 3/8″	3″	5″	5″	8 3/8″	4 5/8″	5 7/8″	6079A11	$116.36
6″	2″	6″	8″	8″	12 1/8″	7 1/8″	7 3/8″	6079A12	225.45
8″	2″	8″	8″	8″	12 1/8″	7 1/8″	7 3/8″	6079A13	306.36
Precision									
3″	1 3/4″	3″	3 1/2″	4″	7 1/2″	6 1/4″	5 1/2″	52645A61	541.67

Variable-Angle Drill-Press Vises

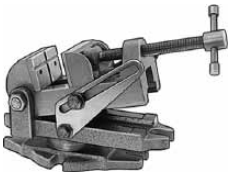

Frequent angle changes aren't a problem for these vises—they hold your work at any angle between 0° and 90°. Vises have an iron body and replaceable steel jaws; one is smooth, the other is grooved. They have lugs for mounting (fasteners not included).

Vises **with swivel base** rotate 360° and lock in place. Vise with *2 7/8″ jaw width* is graduated in 5° increments; with *4″ jaw width* is graduated in 1° increments.

Jaw Wd.	Jaw Ht.	Max. Open.	Body Lg.	O'all Ht.	*Mounting Holes* Size	Qty.		
With Fixed Base								
2 7/8″	1 1/2″	2 1/2″	9″	3 7/8″	1/2″	2	5202A15	$124.66
With Swivel Base								
2 7/8″	1 1/2″	2 1/2″	8″	4 5/8″	1/2″	4	5202A66	165.46
4″	1 3/4″	4″	12″	6 1/4″	1/2″	2	5199A1	262.50

Jaws for Milling-Machine Vises

Fasteners for attaching the jaws to your vise are not included.

Standard

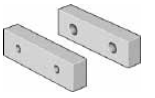

Thickness tolerance is ±0.0005″ for hardened steel and ±0.020″ for machinable soft aluminum.

Jaw Wd.	Jaw Ht.	Thick.	Mount. Holes Ctr.-to-Ctr.		Pair
Hardened Steel					
4″	1.235″	0.547″	2.5″	8474A21	$73.67
6″	1.75″	0.75″	3.875″	8474A22	64.00
8″	2.2″	1.105″	4.75″	8474A23	188.50
Machinable Soft Aluminum					
4″	1.5″	0.98″	2.5″	1005N23	46.67
6″	2″	1.23″	3.875″	1005N24	60.67
8″	2.5″	1.73″	4.75″	1005N25	107.33

Multi-Angle

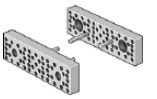

A series of holes in the jaws hold pins to position parts at 5°, 10°, 15°, 20°, 25°, 30°, and 45° angles. Jaws include four 6×22 mm pins, three 6×40 mm pins, three 6×58 mm pins, and three 6×76 mm pins. All components are hardened steel. Thickness tolerance is ±0.0008″ for the jaws; ±0.018 mm for the pins.

Jaw Wd.	Jaw Ht.	Thick.	Mount. Holes Ctr.-to-Ctr.		Set
6″	1.735″	0.725″	3.875″	1005N26	$314.00

Quick Change

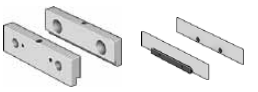

When paired with parallels (sold separately), the master jaws position parts higher in your vise. To use, install the master jaws on a vise and then slide the parallels in and out of the jaws for quick setup changes. All components are hardened steel. **Master jaws** have a thickness tolerance of ±0.001″. **Parallels** have a thickness tolerance of ±0.005″.

Jaw Wd.	Jaw Ht.	Thick.	Mount. Holes Ctr.-to-Ctr.		Pair
Master Jaws					
4″	1.235″	0.56″	2.5″	1005N11	$246.62
6″	1.735″	0.735″	3.875″	1005N12	254.15

Jaw Wd.	Jaw Ht.	Thick.		Pair
Parallels				
4″	0.5″	0.118″	1005N13	$76.46
4″	0.75″	0.118″	1005N16	76.46
4″	1″	0.118″	1005N17	76.46
6″	0.75″	0.118″	1005N18	80.77
6″	1″	0.118″	1005N19	80.77
6″	1.25″	0.118″	1005N21	80.77
6″	1.5″	0.118″	1005N22	80.77
5-Piece Sets of Parallels				Set
4″	0.5″, 0.75″, 1″, 1.125″, 1.19″	0.118″	1005N15	$339.23
6″	0.75″, 1″, 1.25″, 1.5″, 1.625″	0.118″	1005N14	379.08

Workstops for Milling-Machine Vises

Attach these steel workstops to a vise to create a stop for positioning your parts.

Clamp-mount workstop clamps onto 1/2″-1″ thick vise jaws. Turn the screw to adjust tension. Size is 1 7/16″ Lg.×1″ Wd.

Magnetic-mount workstop can be placed anywhere on the vise. It has adjustable stop pins on both ends. Size is 2 5/8″ long.

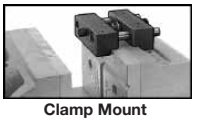
Clamp Mount


Magnetic Mount

Clamp Mount	51985A67	$17.19
Magnetic Mount	51985A68	39.00

Sine Plates & V-Blocks

Sine Plates

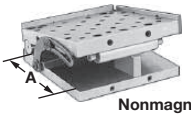

Nonmagnetic


Magnetic

In addition to holding work for inspecting and grinding, use these hardened-steel sine plates with surface plates and height gauges to measure and duplicate angles. The 4″ and 6″ long plates are square and parallel within 0.0002″; the 12″ long plate is square and parallel within 0.0003″.

Note: Do not use for milling and drilling machine processes.

Magnetic sine plate has a removable handle that turns the magnetic force on and off.

Lg.	Wd.	Ht.	(A)	Tapped Hole Size		Each
Nonmagnetic						
4″	4″	2″	3″	¼″-20	5216A21	$462.43
6″	6″	2″	5″	¼″-20	5216A24	677.86
12″	6″	2⅝″	10″	⅜″-16	5216A26	1,346.43
Magnetic						
6″	6″	4¼″	5″	____	5216A31	1,467.14

Aluminum V-Blocks



Made of lightweight aluminum, this V-block is an economical way to hold shafts and cylinders for drilling, cutting, and sawing. The V is 90°. There is a channel in the base that allows you to bottom your drill to find center before drilling into your workpiece. The V-block has four ⅜″ Wd. mounting slots.

Lg.	Wd.	Ht.		Each
5″	4″	1¾″	20065A8	$17.78

1-2-3 Blocks


1-Hole Blocks


11-Hole Blocks


23-Hole Blocks

Use for surface plate setup, layout, and inspection. These hardened-steel blocks are precision ground and square within 0.0001″ per inch and parallel within 0.0002″. They're sold in matched pairs.

11- and **23-hole blocks** have a combination of threaded and counterbored holes.

	Block Size Lg.	Wd.	Ht.	Hole Size		Pair
1-Hole Blocks	3″	2″	1″	½″	8630A75	$112.73
11-Hole Blocks	3″	2″	1″	5/16″-18	8630A76	144.22
23-Hole Blocks	3″	2″	1″	⅜″-16	8630A74	175.70

Cast Iron V-Blocks



Support large shafts and cylinders for machining and inspecting with a matched pair of V-blocks. The base, sides, and V have a ground finish. The V is 90° and is square with the sides and parallel to the base within 0.0008″, unless noted.

Max. Workpiece Dia.	Lg.	Wd.	Ht.		Pair
3 1/16″	1½″	4″	2½″	2227A2	$43.29
3⅜″	2″	5″	3″	2227A7	68.58
4¼″	2½″	6″	3½″	2227A8	105.16
6¼″	2⅜″	7⅛″	5⅛″	2227A5▲	326.02
7⅞″	2¾″	8⅝″	6¼″	2227A6▲	422.96

▲The V is parallel to the base within 0.0025″.

Precision V-Blocks


Steel

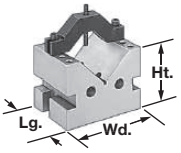

Steel with Clamp

For accurate layout, machining, and inspection work, these V-blocks are ground to tight tolerances. The V is 90° and is square with the sides and parallel to the base within 0.0002″ for 2½″ and 3″ long blocks; within 0.0003″ for the 6″ long blocks. The blocks have slots on the sides for securing to the work surface.

The V-blocks **with clamp** have multiple holes in the top for a variety of clamping positions to secure your workpiece.

Hardened steel V-blocks have greater strength and durability than the plain steel.

Also Available Matched V-block pairs for use with long workpieces. Please ask for 2361A888 and specify V-block part number.

Max. Workpiece Dia.	Lg.	Wd.	Ht.	Steel	Each	Steel with Clamp	Each	Hardened Steel with Clamp	Each
1⅝″	2½″	2½″	2″	2361A76	$116.80	2361A66	$196.02	2361A61	$200.08
2⅞″	3″	4″	3″	2361A77	161.48	2361A67	276.25	2361A62	290.47
3¾″	3″	5″	3″	2361A78	344.30	2361A68	416.41	2361A63	445.86
4⅜″	6″	6″	4″	2361A79	487.50	2361A69	636.80	2361A64	691.64
5¼″	6″	7″	4″	____	____	____	____	2361A65	1,177.11

Starrett V-Blocks with Clamps

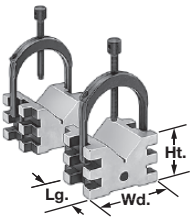

Starrett No. 568C

Furnished as matched pairs, these precision-ground hardened-steel V-blocks securely hold work for drilling, grinding, and milling operations. The V is 90° and is square with the sides and parallel to the base within 0.0002″. These V-blocks come with clamps and have tapped holes.

Starrett No. 278—Hold round workpieces.

Starrett No. 568C—In addition to round stock, these V-blocks can hold square workpieces up to 1 7/16″. The clamps can be mounted in two positions to accommodate small and large work; they do not project beyond the sides of the block, so the block can be used on its base, ends, or sides.

	Max. Workpiece Dia.	Lg.	Wd.	Ht.	Tapped Hole Size	V-Blocks with Clamps	Pair	Replacement Clamp	Each
Starrett No. 278	1″	1⅝″	1¼″	1¼″	1/4″-20	2221A11	$293.01	2221A21	$22.00
Starrett No. 568C	2″	2½″	3″	2″	3/8″-16	2203A11	494.00	2203A21	31.50

Magnetic V-Blocks

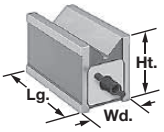

No clamps or mounting bolts are needed for these V-blocks—a turn of the lever switches the magnetic force on and off. These V-blocks are magnetic on the V face, bottom, and back. The V is 90° and is square with the sides and parallel to the base within 0.0008″ for 2202A1 and within 0.001″ for 2202A4.

Holding Force	Max. Workpiece Dia.	Lg.	Wd.	Ht.		Each
65 lbs.	2″	3⅛″	2⅜″	2⅞″	2202A1	$204.55
99 lbs.	2″	4⅞″	2⅜″	2⅞″	2202A4	318.18

Miniature Steel V-Block Sets



Place these V-blocks into a larger V-block to hold shafts and cylinders from 1/32″ to 9/32″ dia. or square. The V-blocks are precision-ground hardened steel. The V is 90° and is square with the sides and parallel to the base within 0.0002″. The set includes two miniature V-blocks with clamps; one for 1/32″-5/32″ workpieces and one for 3/64″-9/32″ workpieces.

20115A41 ..... $99.00

Kurt® Milling-Machine Vises

The jaws on these vises pull your part down and keep it seated firmly on the vise bed for precise machining. Vises have an iron body. The jaws are hardened steel and reversible with smooth faces. Mounting fasteners not included.

Standard and **high-precision** vises have jaws that can be attached to the outside ends of the jaw plates to extend the jaw opening. The *high-precision* vise is commonly used with CNC equipment. It delivers repeatable clamping accuracy of ±0.0005″.

5-axis vises are for use in multi-axis machining equipment. They deliver repeatable clamping accuracy of ±0.0002″ and are self-centering, which means both jaws move at the same time to position parts in the center. Jaws grip items from the outside as well as the inside.

Optional Swivel Bases—Rotate 360°, lock in place, and are graduated in 1° increments. Fasteners for mounting a base to a vise are included.



Standard



5-Axis

Jaw Wd.	Jaw Ht.	Max. Open.	Max. Extended Open.	Keyway Size	Body Lg.	O'all Ht.	Kurt No.	Vises: Mounting Holes Size (Qty.)			Optional Swivel Bases: Mounting Holes Size (Qty.)		
Standard													
4″	1 15/64″	3 7/8″	10 5/16″	1/2″	12 11/32″	3 31/64″	D40	17/32″ (2)	8474A12	$579.93	9/16″ (2)	5210A12	$427.80
6″	1 47/64″	8 51/64″	17 1/32″	1 1/16″	16 13/16″	4 39/64″	D688	21/32″ (2)	8474A16	628.29	1 1/16″ (2)	5210A13	386.31
8″	2 3/16″	10″	22″	1 3/16″	21 13/16″	5 1/2″	D810	7/8″ (2)	8474A14	1,595.00	2 9/32″ (2)	5210A14	1,021.62
High Precision													
6″	1 47/64″	6″	14 3/4″	1 1/16″	15 1/16″	4 43/64″	3600V	5/8″ (4)	8474A17	882.04	—	—	—
5-Axis													
2 1/2″	1 1/2″	1″	—	—	6 7/64″	3 1/2″	SCMX250	3/8″ (5), 13/32″ (4)	8474A25	1,488.00	—	—	—
4″	2 1/4″	2 1/2″	—	—	9 1/8″	4 9/16″	SCMX425	5/8″ (5), 17/32″ (4)	8474A24	1,701.33	—	—	—

Milling-Machine Vises

Vises have replaceable hardened-steel jaws. Mounting fasteners not included.

Vises **with fixed base** have an iron body. One jaw is smooth, the other is grooved. Base and bed are parallel to within 0.001″.

Vises **with swivel base** swivel 360°, lock in place, and are graduated in 1° increments. They have an iron body and two smooth jaws. Base and bed are parallel to within 0.002″. The swivel base can be removed for use as a stationary model.

Self-centering vise with swivel base has two smooth jaws that move at the same time to position parts in the center. The body is steel with a base that swivels 360°, locks in place, and is graduated in 1° increments. Base and bed are parallel to within 0.0012″.



With Fixed Base



With Swivel Base



Self-Centering with Swivel Base

Jaw Wd.	Jaw Ht.	Max. Open.	Keyway Size	Body Lg.	O'all Ht.	*Mounting Holes* Size	Qty.		
With Fixed Base									
4″	1 3/4″	4″	—	8 3/4″	3 3/8″	9/16″	2	5265A8	$187.50
6″	2″	6″	—	11 1/2″	3 7/8″	5/8″	2	5265A9	406.25
With Swivel Base									
4″	1 1/2″	4″	15/32″	14 7/16″	4 9/16″	1/2″	2	5240A41	200.96
6″	2″	6″	43/64″	20 3/16″	6 3/16″	5/8″	2	5240A43	395.19
6″	1 3/4″	8 3/4″	43/64″	19 1/2″	6 1/4″	5/8″	2	5240A45	601.92
Self-Centering with Swivel Base									
4″	1 1/2″	4″	—	11 13/32″	6 3/32″	1/2″	2	4980A11	538.56

Any-Angle Milling-Machine Vises

Three-way angle positioning provides the most adjustability of any vises we offer. Vises tilt 45° to each side and 90° vertically. The base swivels 360°, locks in place, and is graduated in 1° increments. Vises have an iron body and hardened, precision-ground steel jaws. The jaws are replaceable and have smooth faces. Mounting fasteners not included.



Jaw Wd.	Jaw Ht.	Max. Open.	Body Lg.	O'all Ht.	*Mounting Holes* Size	Qty.		
2″	1″	2″	9″	5 19/32″	1/2″	2	4159A21	$386.58
4″	1 1/2″	4″	19 45/64″	10 13/32″	1/2″	2	4159A22	908.46
6″	1 3/4″	6″	19″	13 19/64″	1/2″	2	4159A23	1,274.02

Air-Powered Milling-Machine Vises

Grip your workpieces hands-free—step on the foot control to instantly close the moving jaw; step again to release it. Vises have an iron body (except single-acting vise is iron and aluminum). Furnished with two 5-ft. long air hoses (except double-acting vises have three). Mounting fasteners not included. To calculate the gripping force on your workpiece, multiply your operating pressure by the gripping force factor. To control force, add an air regulator (see pages 1021-1025).

Single-acting vise has a maximum travel of 5/8″. The foot control includes a guard. Hose connections are 1/4 NPT male.

Single-acting spring-return vises have a spring-return air cylinder that returns the moveable jaw faster than the single-acting vise. Maximum travel is 3/8″. Hose connections are 1/4 NPS male.

Double-acting vises have a double-acting air cylinder that returns the moveable jaw under air pressure for more jaw control than single-acting vises. Maximum travel is 3/8″. Hose connections are 1/4 NPS male.



Single-Acting Spring Return

Jaw Wd.	Jaw Ht.	Max. Open.	Max. Operating Pressure	Max. Gripping Force Factor	Body Lg.	O'all Ht.	*Mounting Holes* Size	Qty.		
Single Acting										
3″	2″	2 7/8″	150 psi	15	12″	6″	3/8″	4	5257A11	$356.36
Single-Acting Spring Return										
3″	1 1/4″	3 1/8″	120 psi	15	10 1/4″	5 3/8″	17/32″	4	5269A24	352.47
4″	1 5/16″	4 5/8″	120 psi	15	13 1/2″	5 3/8″	21/32″	4	5269A21	415.63
Double Acting										
3″	1 1/4″	3 1/8″	120 psi	15	13 11/16″	5 3/8″	17/32″	4	5269A25	491.40
4″	1 5/16″	5″	120 psi	15	18 1/4″	5 3/8″	21/32″	4	5269A22	545.42
6″	2 1/2″	7 3/8″	120 psi	19	25 5/8″	6 17/32″	11/16″	4	5269A23	999.51

Granite Flat-Surface Plates



Plate with Ledges

In addition to being noncorrosive and nonmagnetic, granite plates also resist warping and abrasion. They provide an accurate reference plane for layout and inspection work. Choose plates with ledges to hold fixtures and instruments with clamps. All meet or exceed Fed. Spec. GGG-P-463C and ISO 10012. They include a NIST certificate of accuracy.

Covers keep abrasives from damaging flatness and finish. They are heavy duty felt-lined vinyl.

Stands are steel with a 36″ overall working height.

Also Available: Other sizes. Please ask for 2245A999 and specify grade, length, width, thickness, and the number of ledges (0 or 2).

To Order: When ordering a stand, please specify if the stand is for a plate without ledges or for a plate with ledges.

				Plates		Plates with Ledges						
Lg.	Wd.	Ht.	Tolerance	Wt., lbs.		Wt., lbs.		Covers		Stands		Stands with Casters
Laboratory Grade AA—For precision quality-control work												
18″	12″	4″	±0.000025″	93	2245A39 $272.00	83	2245A72 $310.15	22455A64	$57.14	2196A81	$494.40	2196A71 $495.52
24″	18″	4″	±0.000037″	185	2245A41 528.00	175	2245A53 586.67	22455A65	82.30	2196A82	565.22	2196A72 697.74
Inspection Grade A—For general quality-control work												
18″	12″	4″	±0.00005″	93	2245A43 224.09	83	2245A46 272.00	22455A64	57.14	2196A81	494.40	2196A71 495.52
24″	18″	4″	±0.000075″	185	2245A44 432.00	175	2245A47 473.85	22455A65	82.30	2196A82	565.22	2196A72 697.74
36″	24″	6″	±0.0001″	555	2245A45 810.29	530	2245A48 899.43	22455A66	97.13	2196A83	737.02	2196A73 936.67
48″	36″	6″	±0.0002″	1,110	2245A56 1,648.00	1,063	2245A49 1,761.14	22455A67	123.43	2196A84	795.00	2196A74 951.58
Toolroom Grade B—For checking work throughout a shop												
12″	8″	2″	±0.0001″	21	2245A23 100.92	—	—	—	—	—	—	— —
18″	12″	3″	±0.0001″	70	2245A24 169.85	66	2245A62 209.23	22455A64	57.14	2196A81	494.40	2196A71 495.52
24″	18″	3″	±0.00015″	139	2245A21 292.92	130	2245A63 335.72	22455A65	82.30	2196A82	565.22	2196A72 697.74
36″	24″	4″	±0.0002″	370	2245A26 595.43	357	2245A64 669.51	22455A66	97.13	2196A83	737.02	2196A73 936.67
Surface Plate Cleaner												
Pint Bottle												2216A51 3.95
Pint Spray-Pump Bottle												2216A54 5.39
Quart Bottle												2216A55 8.37
Gallon Bottle												2216A52 16.79

Cast Iron Flat-Surface Plates



This precision-ground plate is smooth on one side and lapped with 1/16″ Wd. x 1/16″ Dp. grooves spaced 1/2″ apart on the other side.

Lg.	Wd.	Ht.	Wt., lbs.	Tolerance	
14″	10″	2 3/8″	50	±0.00025″	2224A2 $363.28

Angle Plates

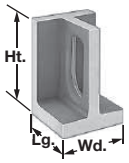

1



2



3



4



Standard



With Step

5

Use angle plates for positioning, holding, and inspecting. **Machined-finish** plates are square and parallel within 0.002″ per 6″. **Ground-finish** plates are square and parallel to better than 0.0005″ per 6″, except the ends for *Styles 2* and *3* are machined and are parallel to 0.002″ per 6″.

(1) Cast Iron with Handle

Because the handle extends the full length and height of these angle plates, you can use them on any of their six sides and they'll remain square. They can be rotated through three planes without the need for reclamping.

Lg.	Wd.	Ht.	Wt., lbs.	Machined Finish		Ground Finish	
4″	3 3/4″	5″	10	23535A65	$90.07	2244A65	$238.64
4″	4″	6″	12	23535A66	111.43	2244A66	266.50
5″	4″	8″	21	23535A68	168.07	2244A68	321.29
5″	4 1/2″	6″	16	23535A67	124.43	2244A67	285.07
6″	6″	8″	32	23535A72	239.57	2244A3	472.64
7″	5 1/2″	10″	37	23535A69	243.29	2244A69	451.29
8″	5″	12″	44	23535A71	264.64	2244A71	507.93
8″	5 1/2″	10″	40	23535A7	258.14	2244A77	489.36
9″	8″	16″	94	23535A73	472.64	2244A5	899.79
10″	8″	12″	86	23535A74	415.07	2244A74	676.93

(2) Cast Iron

The solid faces on these angle plates allow you to drill your own holes for a custom setup.

Lg.	Wd.	Ht.	Wt., lbs.	Machined Finish		Ground Finish	
2″	2″	2″	1	23525A65	$47.36	2243A65	$73.36
3″	3″	3″	3	23525A66	50.14	2243A66	81.71
4″	4″	4″	7	23525A67	71.50	2243A13	111.43
5″	5″	5″	11	23525A68	94.71	2243A68	175.50
6″	6″	6″	18	23525A69	130.00	2243A17	260.00
8″	6″	10″	45	—	—	2243A25	399.29
8″	8″	8″	42	23525A7	226.57	2243A7	390.93
8″	10″	6″	50	—	—	2243A22	417.86
12″	12″	12″	125	23525A71	529.29	—	—

(3) Cast Iron with Slots

Lg.	Wd.	Ht.	No. of Slots	Wt., lbs.	Machined Finish		Ground Finish	
2 1/2″	3 1/2″	3″	4	4	2353A65	$65.93	—	—
3″	4 1/2″	3 1/2″	4	5	2353A66	67.79	2359A66	$152.34
4 1/2″	6″	5″	4	13	2353A67	90.07	2359A67	188.91
4 1/2″	7″	5 1/2″	4	14	2353A68	122.57	2359A68	271.17
5″	8″	6″	4	22	2353A69	150.43	2359A69	338.20
6″	9″	7″	4	28	2353A7	186.64	2359A7	415.39
6″	10″	8″	4	37	2353A71	221.00	2359A71	462.11
8″	12″	9″	11	63	2353A72	337.07	2359A72	741.41

(4) Cast Iron with Slots

Lg.	Wd.	Ht.	No. of Slots	Wt., lbs.	Machined Finish	
3″	4 1/2″	3 1/2″	4	4	2351A65	$90.07
4 1/2″	6″	5″	7	12	2351A66	125.36
4 1/2″	7″	5 1/2″	8	14	2351A67	147.64
5″	8″	6″	8	20	2351A68	173.64
6″	9″	7″	13	24	2351A69	215.43
6″	10″	8″	13	33	2351A71	265.57
8″	12″	9″	13	62	2351A72	375.14

(5) Alloy Steel with Threaded Holes

Lg.	Wd.	Ht.	Threaded Holes, No. (Size)	*Counterbored Holes* Dia.	*Counterbored Holes* Dp.	Wt., lbs.	Ground Finish	
Standard								
3″	3″	4″	13 (1/4″-20)	5/16″	7/16″	6	5230A62	$213.43
4″	4″	4″	13 (1/4″-20)	5/16″	7/16″	10	5230A63	331.25
4″	4″	6″	14 (3/8″-16)	7/16″	5/8″	14	5230A65	407.86
With 9/16″ High Step								
3″	3″	2 3/4″	24 (1/4″-20)	—	—	5	5230A61	315.38

Fine-Adjust Rotary Tables

Turn the crank handle to rotate these tables 360° and accurately position your work. You can bolt the tables to your drill press, milling machine, or grinder for milling slots. Tops are cast iron with 1° graduations, a 1⅝″ center bore, and two ⅝″×1″ T-slots at 90°. The handle that controls the rotation of the top has a dial with 1/20° graduations. Mounting fasteners are not included.

Cross Slide—These tables not only rotate 360°, but also travel side-to-side in two directions with crank handles. The handles have a dial with 0.001″ graduations. Tops are ground flat to ±0.001″. Tables *with 90° tilt* also adjust anywhere from 0° to 90° for added positioning versatility.

Horizontal/Vertical—You can mount these tables in either the horizontal or vertical position. Tops are ground flat to ±0.002″.

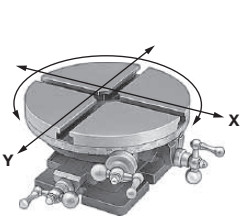

Cross Slide

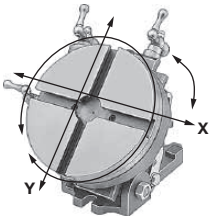

Cross Slide with 90° Tilt

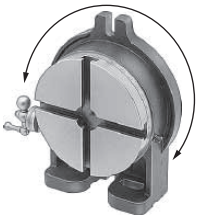
Horizontal/Vertical

Table Dia.	Load Cap., lbs.	Base Size Lg.	Base Size Wd.	Travel X	Travel Y	Keyway Size	O'all Ht.	Mounting Holes Dia.	Mounting Holes Qty.		
Cross Slide											
8″	50	6¼″	7½″	4″	4″	⅝″	5½″	⅝″	4	**5207A4**	$917.54
10″	50	6¼″	7½″	4″	4″	⅝″	5⅜″	⅝″	4	**5207A7**	1,059.38
Cross Slide with 90° Tilt											
8″	50	5″	9″	4″	4″	⅝″	5″	⅝″	2	**5207A5**	1,013.69
10″	50	5″	9″	4″	4″	⅝″	5¾″	⅝″	2	**5207A8**	1,186.38
Horizontal/Vertical											
8″	50	12″	9½″	—	—	⅝″	3⅞″	⅝″	4	**5209A1**	692.97
10″	50	12″	9½″	—	—	⅝″	3⅞″	⅝″	4	**5209A2**	750.23

Fine-Adjust Cross-Slide Tables

Precisely position work on two axes (X and Y). Use these tables for inspection and layout jobs, as well as for boring, drilling, grinding, and milling operations. The table tops are made of cast iron. The base has four mounting lugs for ⅝″ dia. bolts (not included).

With Two T-Slots—The top is ground flat to ±0.002″ and has two ½″ T-slots that are 2⅜″ center-to-center. Hand wheels on both ends allow you to position your work from either side. They have a dial with 0.001″ graduations.

With Four T-Slots—The top is ground flat to ±0.001″ and has one longitudinal T-slot and three equally spaced cross T-slots. All T-slots are 7/16″×¾″. Turn the crank handles to position your work. Handles have a dial with 0.001″ graduations and a thumb screw for zero setting. In addition to the lugs, the base has a keyway for mounting. The table *with 90° tilt* also adjusts anywhere from 0° to 90° for added positioning versatility.



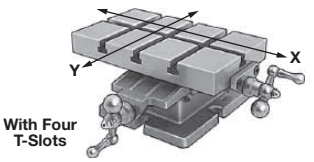

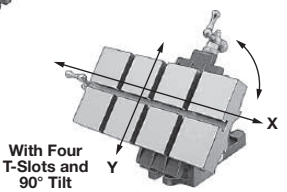

Table Size Lg.	Table Size Wd.	Load Cap., lbs.	Base Size Lg.	Base Size Wd.	Travel X	Travel Y	Keyway Size	O'all Ht.		
With Two T-Slots										
18⅝″	6″	150	12″	7⅛″	12″	8″	—	5³/16″	**5179A29**	$388.86
With Four T-Slots										
10″	6″	50	7⅝″	6⅜″	6″	4″	⅝″	4⅜″	**5234A1**	646.00
12″	6″	50	7⅝″	6⅜″	8″	4″	⅝″	4⅜″	**5234A2**	774.00
With Four T-Slots and 90° Tilt										
12″	6″	50	9″	5″	8″	4″	⅝″	4⅝″	**5234A6**	964.00

Precision Positioning Slides CAD

You'll get precise, repeatable low-friction movement along a single linear axis (X) or double linear axes (X and Y)—good for positioning parts that are part of a larger automated system. Slides have a spring-loaded drive mechanism and a micrometer with 0.001″ graduations (double axes slides have two micrometers). They also have tapped holes on the top for fixture mounting and drilled counterbored holes on the bottom for installation (fasteners not included).

Precision—Straight line accuracy is 0.0005″ per inch of travel. Carriage is black anodized aluminum with steel ball bearings.

Ultra Precision—Straight line accuracy is 0.00008″ per inch of travel. Carriage is black anodized aluminum with precision-ground top and bottom surfaces and Type 440C stainless steel ball bearings. Slides have a knurled screw to lock the carriage without affecting position (except the 105-lb. capacity slides do not).

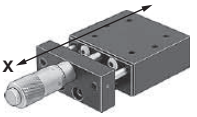

Single Axis (X)

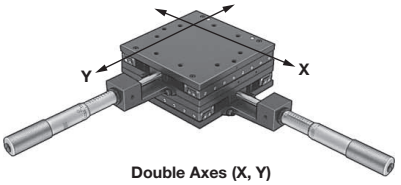

Double Axes (X, Y)

Load Cap., lbs.	Carriage Size Lg.	Carriage Size Wd.	Top Mounting Holes Screw Size	Top Mounting Holes Qty.	Bottom Mounting Holes Screw Size	Bottom Mounting Holes Qty.	Single Axis (X) O'all Ht.	Single Axis (X) Travel X			Double Axes (X, Y) O'all Ht.	Double Axes (X, Y) Travel X	Double Axes (X, Y) Travel Y		
Precision															
4	1.25″	1.25″	2-56	10	No. 2	4	0.38″	0.50″	**60935K11**	$226.63	0.75″	0.50″	0.50″	**60935K21**	$458.85
12	1.50″	1.50″	4-40	4	No. 4	2	0.62″	0.50″	**60935K13**	247.33	1.25″	0.50″	0.50″	**60935K23**	502.02
20	1.75″	1.75″	6-32	6	No. 6	2	0.75″	0.50″	**60935K14**	248.85	1.50″	0.50″	0.50″	**60935K24**	492.68
20	1.75″	1.75″	6-32	6	No. 6	2	0.75″	1.00″	**60935K15**	282.68	1.50″	1.00″	1.00″	**60935K25**	517.25
30	4.12″	4.12″	10-32	10	No. 10	2	0.91″	2.00″	**60935K18**	430.03	1.82″	2.00″	2.00″	**60935K28**	805.62
60	2.62″	2.62″	10-32	8	No. 10	2	1.00″	1.00″	**60935K17**	301.35	2.00″	1.00″	1.00″	**60935K27**	551.71
Ultra Precision															
6	1.28″	1.25″	4-40	6	No. 4	2	0.50″	0.50″	**5239A19**	342.50	1.00″	0.50″	0.50″	**5239A51**	661.90
25	1.75″	1.75″	6-32	8	No. 6	2	0.75″	0.50″	**5239A21**	376.25	1.50″	0.50″	0.50″	**5239A52**	740.48
62	2.62″	2.62″	10-32	8	¼″	2	1.00″	1.00″	**5239A43**	470.00	2.00″	1.00″	1.00″	**5239A55**	932.14
105	5.00″	5.00″	¼″-20	12	¼″	2	1.00″	1.00″	**5239A45**	583.75	2.00″	1.00″	1.00″	**5239A56**	1,154.76

Turntables, Support Stands & Positioning Arms

Turntables



Tables rotate for easy access to every side of your object.

Manual—Spin these turntables by hand. They are steel and include a rubber platform pad.

Motorized—Turntables operate on 120 volts AC and rotate in a clockwise direction at 2 rpm. They are made of steel and aluminum and have a 6-ft. power cord with three-prong plug. The base has four 3/16″ dia. holes for bench mounting (fasteners not included).

Style E also has a three-prong electrical outlet to power a mounted object.

	Load Cap., lbs.	Platform Dia.	O'all Ht.		
Manual					
A	300	18″	21″-32″	7869T35	$252.67
B	300	30″	20 3/4″-31 3/4″	7869T36	560.11
C	500	8″	4″	7869T27	98.33
C	500	12″	4″	7869T32	130.33
D	1,000	18″	7/8″	7869T33	226.33
D	1,000	24″	7/8″	7869T34	338.33
Motorized					
E	100	6 3/8″	5″	6034K51	367.13
E	150	8 1/2″	5 1/2″	6034K58	478.95
F	100	17″	4 5/8″	6034K31	297.46
F	150	23″	5″	6034K32	424.15

Adjustable-Height Support Stands



Also known as laboratory jacks, these stands are good for positioning small shop and laboratory equipment. They are made of stainless steel and have a plastic control knob for height adjustments. Note: Do not make height adjustments with weight on the stand.

Ratchet Handle for 150-lb. Capacity Stand—Replace the stand's control knob with this 6 3/4″ long ratchet handle for easier height adjustments.

Load Cap., lbs.	*Platform Size* Lg.	Wd.	Height		
20	3″	3″	2 1/2″-5″	9967T42	$142.35
30	4″	4″	2 1/2″-5″	9967T51	158.15
35	6″	6″	3″-9 3/4″	9967T43	198.11
55	8″	8″	3 1/2″-13″	9967T44	245.57
80	10″	10″	3 1/2″-13″	9967T55	330.77
150	12″	12″	4″-19 1/2″	9967T45	558.85
Ratchet Handle for 150-lb. Capacity Stand				9967T59	66.00

Flat-Panel Monitor Positioning Arms


Ceiling Mount

Ceiling Mount

Arms swivel 360° and are made of black powder-coated steel. Fasteners are included.

Arms for **10″-23″** and **25″-37″** monitors tilt down 20° and up 5°. Both are compatible with 75 mm and 100 mm VESA (Video Electronics Standards Association) mounting hole patterns. Arm for 25″-37″ monitor is also compatible with 200 mm and 100 mm×200 mm VESA mounting hole patterns.

Arm for **37″-70″** monitors tilts down 15°. You can route cables through the mounting pole. Arm supports a mounting hole pattern of up to 500 mm×860 mm.

Fits Monitor Size	Load Cap., lbs.	Distance From Ceiling	Base Lg.	Base Wd.		
10″-23″	25	17″-27″	4 11/16″	4 11/16″	4653T11	$71.56
25″-37″	75	18″-30″	5 1/2″	5 1/2″	4653T12	110.89
37″-70″	180	23″-35″	7 1/2″	7 1/2″	4653T13	212.22


Surface Mount

Surface Mount

Arm swivels 360° and raises your monitor up to 21 1/4″ above your work surface. The attaching end tilts up and down 320° and moves side-to-side 320°. Arm is made of steel, aluminum, and rubber. It is compatible with a 75 mm VESA (Video Electronics Standards Association) mounting hole pattern and has four 0.34″ dia. mounting holes on the base (fasteners not included).

Fits Monitor Size	Load Cap., lbs.	Projection	Base Lg.	Base Wd.		
10″-32″	10	7 1/4″	3 1/2″	3 1/2″	5031T133	$114.24


Counterbalanced Surface Mount

Counterbalanced Surface Mount

For easy positioning, these die cast aluminum arms have gas springs that counterbalance the weight of your monitor. Arms swivel 360° and raise your monitor up to 14″ above your work surface. The attaching end tilts up and down 20° and moves side-to-side 320°. Arms include mounting plates for 75 mm and 100 mm VESA (Video Electronics Standards Association) mounting hole patterns.

Bolt mount is for surfaces up to 2 1/4″ thick. Fasteners are included. **Clamp mount** is for surfaces up to 3 5/8″ thick.

Fits Monitor Size	Load Cap., lbs.	Projection	Base Dia.	**Bolt Mount**		**Clamp Mount**	
10″-24″	7-20	4″-22″	4″	1993A3	$328.12	1993A5	$343.27


Wall Mount

Wall Mount

The attaching end tilts up and down 15° and moves 30° side-to-side. Arms are black powder-coated aluminum and attach to a separate wall plate (included) that has a level and a hook for cords. Arms are compatible with 75 mm, 100 mm, 200 mm, and 400 mm VESA (Video Electronics Standards Association) mounting hole patterns. Arm for 10″-50″ monitor is also compatible with a 600 mm VESA mounting hole pattern. Mounting fasteners are included.

Optional Desktop Mounting Clamp—Mount the arm (including the wall plate) on the clamp to position your monitor from 8″ to 15″ above the work surface. Clamp is die cast aluminum and can be used on most desktops.

Fits Monitor Size	Load Cap., lbs.	Projection	Base Lg.	Base Wd.		
10″-32″	45	6″-10 1/2″	7 1/8″	1 13/16″	1133A1	$41.45
10″-50″	70	6″-14″	7 1/8″	1 13/16″	1133A2	65.45
Optional Desk-Top Mounting Clamp (21″ Ht.×6″ Wd.×5″ Dp.)					1133A3	36.36


Easy-Adjust Wall Mount

Easy-Adjust Wall Mount

Attaching end tilts up and down 140° and can be easily pulled into position. Arms rotate side-to-side 180° for added viewing versatility, except arm with 3″ projection only rotates up and down. All arms are silver powder-coated aluminum and steel. They are compatible with 75 mm and 100 mm VESA (Video Electronics Standards Association) mounting hole patterns (fasteners are included).

Fits Monitor Size	Load Cap., lbs.	Projection	Base Lg.	Base Wd.		
10″-30″	40	3″	3 13/16″	2 7/16″	4628T11	$45.45
10″-30″	40	3 5/8″-10 11/16″	3 13/16″	2 7/16″	4628T13	90.91
10″-30″	40	4 11/16″	3 13/16″	2 7/16″	4628T12	63.64

Positioning Arms

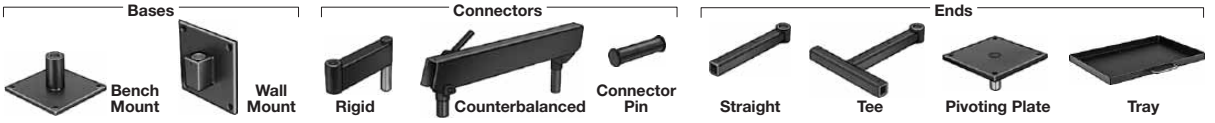

Select a base, connector, and end to build your own arm, or choose a complete arm. Components are steel with a black finish and do not include fasteners (except tray is aluminum with a black finish and includes fasteners).

Build-Your-Own Arms—The load capacity of an assembled arm is determined by the component with the lowest capacity.

Bases have four 13/32″ dia. mounting holes. When using a wall-mount base with a counterbalanced connector, a rigid connector is also required.

Rigid connectors move horizontally and have a friction adjustment to control drift. Combine one with a counterbalanced connector for both vertical and horizontal movement. You can connect multiple rigid connectors up to a maximum length of 48″.

Counterbalanced connectors tilt 40° up and 35° down and have an adjustable load capacity. You can attach them directly to a bench-mount base. If used with a wall-mount base, a rigid connector is also required.

Connector pin is required when connecting a straight or a tee to a rigid connector.

Straight and **tee** have 9/32″ dia. mounting holes (two for straight; four for tee). When connecting these ends to a rigid connector, a connector pin is also required. *Tee* can be used with a tray.

Pivoting plate allows 360° rotation of your load. It has four 13/32″ dia. mounting holes and can be used with a tray. It is not for use with a counterbalanced connector.

Tray can be used with a tee or a pivoting plate. It has eight 13/32″ dia. mounting holes.

	Lg.	Wd.	Load Cap., lbs.		
Bases					
Bench Mount	6″	6″	100	5164T51	$80.39
Wall Mount	6″	6″	100	5164T52	80.39
Connectors					
Rigid	6″	—	100	5164T61	82.69
Rigid	12″	—	100	5164T62	90.38
Rigid	18″	—	100	5164T63	102.00
Rigid	24″	—	100	5164T92	108.00
Counterbalanced	13 1/2″	—	18-43	5164T74	265.62
Connectors (Cont.)					
Counterbalanced	18″	—	6-33	5164T72	$304.68
Counterbalanced	24″	—	16-35	5164T73	334.00
Connector Pin	3 7/8″	7/8″ Dia.	—	5164T85	15.40
Ends					
Straight	8″	1 1/4″	100	5164T81	62.75
Tee	9″	7 1/2″	100	5164T82	71.06
Pivoting Plate	6″	6″	100	5164T83	82.00
Tray	12 1/4″	18 1/4″	100	5164T94	96.60

Complete Wall-Mount Arms

Arms consist of a wall-mount base, two rigid connectors, and a pivoting plate.

Projection	Load Cap., lbs.		
6″-27 3/4″	100	5164T1	$302.61
6″-39 3/4″	100	5164T2	340.43

Ball-Grip Positioning Arms

Arms use a ball-and-socket system that allows 360° positioning. Pick a base, connector, and end to create an arm for lightweight objects up to 10 lbs. Components have a black finish. Mounting fasteners are not included.

Bases

(A) Surface Mount—The most popular base.
(B) Rectangular Bar Mount—Maximum opening size is 1 27/32″ Ht. × 2 1/2″ Wd.
(C&D) Pipe Mount—*Style C* fits a maximum OD of 1 1/4″. *Style D* fits an OD of 2″ to 2 1/2″.
(E) Surface Mount with Flexible Arm—Bends into position. It does not have a ball; use with Style A to attach a connector.
(F) Surface Mount with Locking Arm—The arm swivels 360°, tilts 165°, and locks into any position. Maximum extension is 14 1/2″.
(G&H) Wall/Pipe Mount with Swinging Arms—The arms swivel 360°. Two 1/2″ wide hose clamps (not included) are required for mounting to pipe. *Style G* has one arm for a maximum extension of 9 1/4″. *Style H* has two arms for a maximum extension of 15 1/4″.



	Ball Dia.	*Base Size* Lg.	Wd.	Max. Ht.	Material	*Mounting Holes* Dia.	Qty.		
A	1 1/2″	2 1/2″ Dia.	—	2 1/8″	Aluminum, Rubber	7/32″	7	5031T63	$16.52
B	1 1/2″	—	—	2 1/2″	Aluminum, Rubber	—	—	5031T28	21.61
C	1 1/2″	—	—	3″	Aluminum, Rubber	—	—	5031T38	19.39
D	1 1/2″	—	—	3 1/2″	Aluminum, Rubber	—	—	5031T131	57.44
E	—	2 1/2″ Dia.	—	6″	Plastic	13/64″	8	5031T132	16.28
F	1 1/2″	3 7/16″	3 7/16″	14 1/2″	Aluminum, Rubber	21/64″	4	5031T26	180.88
G	1 1/2″	4 3/4″	3 7/8″	9″	Aluminum, Rubber	21/64″	6	5031T77	84.05
H	1 1/2″	4 3/4″	3 7/8″	11 1/4″	Aluminum, Rubber	21/64″	6	5031T25	132.68

Connectors

Style J—Connect bases and ends with 1 1/2″ dia. balls.

Style K—One end is 1″ dia. and the other is 1 1/2″ dia. to connect bases and ends with different ball diameters.



	Lg.	Material		
J	3 1/2″	Aluminum	5031T31	$20.88
J	5 5/8″	Aluminum	5031T68	22.37
J	9 1/8″	Aluminum	5031T33	38.94
K	5 1/4″	Plastic	5031T137	23.10

Ends

(L) Round—Has the universal AMPS mounting hole pattern.
(M) Rectangular—Has 24 mounting holes to match hole patterns of many electronic devices.
(N) Flat Panel—Has a VESA (Video Electronics Standards Association) mounting hole pattern.
(P-R) Hand-Held Device—*Style P* holds 1 1/2″ to 3 1/2″ wide devices. *Style Q* holds 1 7/8″ to 3 1/4″ wide devices. *Style R* holds 2 1/4″ to 5 3/4″ wide devices.
(S) Magnetic-Surface Tray—Keeps small items such as fasteners in place. Does not have a ball, but accepts a 1 1/2″ dia. ball.

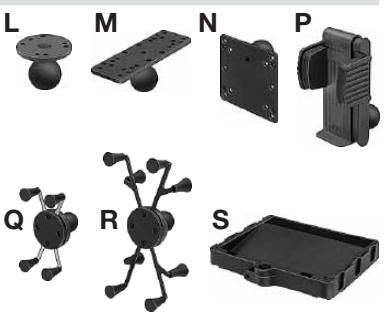

	Ball Dia.	*Attaching Surface* Lg.	Wd.	Material	*Mounting Holes* Dia.	Qty.		
L	1 1/2″	2 1/2″ Dia.	—	Aluminum, Rubber	7/32″	7	5031T63	$16.52
M	1 1/2″	6 1/4″	2″	Aluminum, Rubber	7/32″	24	5031T151	17.46
N	1 1/2″	4 3/4″	4 3/4″	Aluminum, Rubber	75 and 100 mm VESA	14	5031T12	22.28
P	1 1/2″	6 1/2″	4 1/2″	Aluminum, Rubber	—	—	5031T69	51.35
Q	1″	—	—	Plastic, SS	—	—	5031T138	26.86
R	1″	—	—	Plastic, SS	—	—	5031T139	40.88
S	—	10″	13″	Plastic	11/64″	4	5031T141	37.66

Ultra-Flexible Positioning Arms



Bend and flex these support arms to hold small equipment such as lights and microphones in almost any position.

Surface Mount

This arm has a plate-style attaching end that swivels and tilts for added flexibility. Arm is made of black die cast zinc and steel. Mounting fasteners are not included.

Maximum Projection	Load Cap., lbs.	Mounting End Lg.	Mounting End Wd.	Mounting End Mounting Hole Dia.	Mounting End Mounting Hole Qty.	Attaching End Lg.	Attaching End Wd.	Attaching End Swivel	Attaching End Tilt	Attaching End Mounting Hole Dia.	Attaching End Mounting Hole Qty.		
14″	5	2″	3″	13/64″	3	2″	1 7/8″	360°	210°	3/16″	8	1492A1	$46.84

Threaded Mount

Arms have two threaded ends.

Maximum Projection	Load Cap., lbs.	Threaded Ends	Chrome-Plated Steel		Black Vinyl-Coated Steel	
6″	3	5/8″-27 female × male	50035A671	$10.75	50035A691	$9.38
9″	2.2	1/8″-27 male × male	50035A661	11.25	50035A681	8.12
13″	1.4	5/8″-27 female × male	50035A672	13.12	50035A692	10.38
15″	1.1	1/8″-27 male × male	50035A663	12.38	50035A682	9.88
19″	1	5/8″-27 female × male	50035A673	16.88	50035A693	15.62
24″	0.6	1/8″-27 male × male	50035A665	17.62	50035A683	12.12

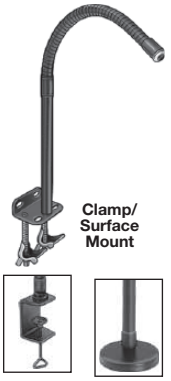

Clamp Mount, Clamp/Surface Mount, and Magnetic Mount

Clamp Mount—Clamp arms onto surfaces up to 2″ thick. Polyurethane pads on the clamp protect your mounting surface from marring. Arms are black vinyl-coated steel.

Clamp/Surface Mount—A dual base lets you mount these arms by bolting through or clamping onto surfaces up to 2″ thick. Arms are hollow and have a 1/4″ dia. opening at the base so you can run wires through them. Made of steel with a gray powder-coated finish. Mounting fasteners are not included.

Magnetic Mount—Arms stay put on magnetic surfaces. Made of black vinyl-coated steel.

Maximum Projection	Load Cap., lbs.	Mounting End Lg.	Mounting End Wd.	Mounting End Mounting Hole Lg.	Mounting End Mounting Hole Wd.	Mounting End Mounting Hole Qty.	Attaching End Thread Size		
Clamp Mount									
16″	3	2″	2″	—	—	—	3/8″-16 female	49985A17	$44.11
24″	2	2″	2″	—	—	—	3/8″-16 female	49985A16	51.44
Clamp/Surface Mount									
16″	1.5	2 7/8″	2″	1/4″	5/8″	4	1/8″-27 male	49985A12	112.11
26″	1.5	2 7/8″	2″	1/4″	5/8″	4	1/8″-27 male	49985A13	112.11
Magnetic Mount									
16″	3	3″ dia.	—	—	—	—	3/8″-16 female	49985A19	40.44
25″	2	3″ dia.	—	—	—	—	3/8″-16 female	49985A18	48.12

Support Arms

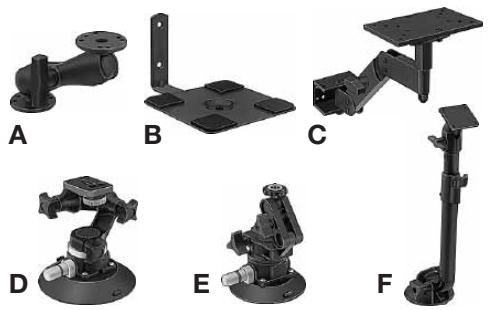

(A-C) Bolt Mount—All have a black finish.

Style A has two ball joints that can be locked into position with the hand knob. Made of aluminum, rubber, and nylon. Mounting fasteners are not included.

Style B is made of steel and includes slip-resistant pads that attach to the platform to reduce vibration. Mounting fasteners are not included.

Style C have two joints that tilt 45° for added adjustability. Knobs lock the arms into position. Made of aluminum. Mounting fasteners are included.

(D-F) Suction-Cup Mount—The rubber suction cup attaches to smooth, dry surfaces such as glass and polished metal. Arms lock into position with a knob. All have a black finish.

Style D has two joints (one that swivels 360° and another that tilts 180°) for a wide range of motion. Made of aluminum.

Style E has a joint that tilts 225° for a wide range of motion. Made of polycarbonate.

Style F has a knob to lock the attaching plate into position. Made of aluminum.

	Maximum Projection	Load Cap., lbs.	Mounting End Lg.	Mounting End Wd.	Mounting End Swivel	Mounting End Tilt	Mounting End Mount. Hole Dia.	Mounting End Mount. Hole Qty.	Attaching End Size	Attaching End Swivel	Attaching End Tilt	Attaching End Mount. Hole Dia.	Attaching End Mount. Hole Qty.		
Bolt Mount															
A	7 1/4″	10	2 7/16″ Dia.	—	360°	180°	7/32″	7	2 7/16″ Dia.	360°	180°	7/32″	7	5031T61	$45.14
B	8 1/2″	12	4 1/2″	1 3/16″	180°	—	3/16″	2	6″ × 6″	360°	—	1/4″	4	8262K12	21.90
C	13″	8	3″	2″	220°	—	17/64″	4	6″ × 4″	360°	22°	13/64″	12	1592A31	164.53
C	20″	8	3″	2″	220°	—	17/64″	4	6″ × 4″	360°	22°	13/64″	12	1592A32	173.80
Suction-Cup Mount															
D	7 5/16″	6.7	6″ Dia.	—	360°	—	—	—	1/4″-20 threads	360°	180°	—	—	1592A3	143.02
E	8 1/2″	10	4 1/2″ Dia.	—	360°	—	—	—	1/4″-20 threads	360°	185°	—	—	1592A2	73.02
F	18″	3	3 1/2″ Dia.	—	—	140°	—	—	2″ × 1 7/8″	360°	210°	—	—	1492A15	50.64

Mounts for Tablet Computers

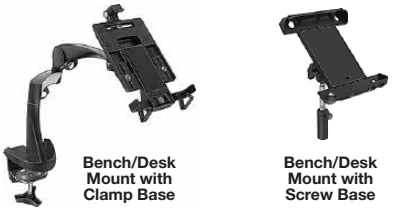

Keep your tablet accessible in your work area. Mounts have a pivoting head that holds your device vertically or horizontally.

Bench/desk mount with clamp base has a pivoting arm and fits surfaces up to 1 13/16″ thick. Remove the clamp and you can mount through a 3/8″ to 2″ dia. hole.

Bench/desk mount with screw base secures into a 1/4″-20 threaded hole and holds your tablet 1″ to 3″ off your work surface. Use the knob to adjust position.

Mount Type	Holds Devices Ht.	Holds Devices Wd.	Holds Devices Dp.		
Bench/Desk—Clamp Base	8″-9.7″	5.5″-8″	Up to 0.75″	3796T12	$141.76
Bench/Desk—Screw Base	8.5″-10.7″	Up to 7.7″	Up to 0.56″	3796T13	86.40

Adjustable-Height Positioning Stands

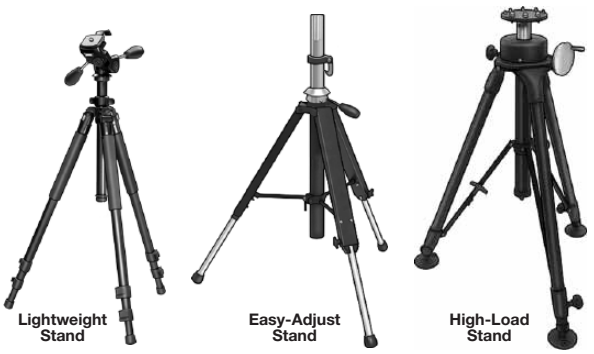

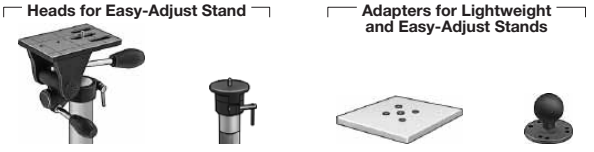

Various mounting options make these stands more versatile than a standard tripod.

Lightweight Stand—Is easy to transport and includes a storage case. The head has a 1/4″-20 mounting connection and quick-release attachment plate. Head swivels 360° and tilts up 75°, down 90°, and left 90°. Made of aluminum.

Easy-Adjust Stand—The central column has a gas cylinder for smooth height adjustment. Heads are sold separately. Made of aluminum.

High-Load Stand—Handles up to 150 lbs. and has 4″ self-leveling footplates with a 5/8″ hole for staking. Includes a 6″ dia. head with eight 1/4″-20 and eight 5/8″-16 mounting holes for easy attachment (four fasteners for each hole size are included). Made of aluminum.

Heads for easy-adjust stands have a 1/4″-20 stud and locking pin to attach to stand. Made of aluminum. *Rectangular head* swivels 360°, tilts up 15°, tilts down 90°, and measures 3 1/2″ Wd. x 6″ Lg. *Round head* is 2 1/2″ dia.

Adapters for lightweight and **easy-adjust stands** attach to stand heads. *Adapter plate* is made of aluminum. It's 4″ square with a 1/4″-20 center hole and four 0.225″ unthreaded holes spaced 1 1/2″ x 1 13/16″ apart. *Ball-grip adapter* has a 1 1/2″ dia. rubber ball. It can be used with our Ball-Grip Positioning Arm connectors and ends on page 2583. Adapter has a 2.44″ dia. aluminum base with seven 0.22″ dia. holes for attachments.

	Height Range	Load Cap., lbs.		
Positioning Stands				
Lightweight	11″-58″	9	1425A5	$92.58
Easy Adjust	25 1/2″-54 1/2″	50	1425A12	393.17
High Load	33 1/2″-70″	150	1425A7	3,161.43
Heads for Easy-Adjust Stand				
Rectangular		35	1425A14	205.11
Round		50	1425A13	82.37
Adapters for Lightweight and Easy-Adjust Stands				
Adapter Plate		Not rated	1425A17	21.35
Ball-Grip Adapter		10	5031T55	17.94

Flexible-Leg Tripod

Stand this tripod on its own three feet, or bend, flex, and wrap the legs around almost anything while keeping a level mounting surface. Legs are made of 1 1/8″ dia. plastic sections. The feet and the rings around each section are rubber to prevent slipping.

Tripod has a 1 3/4″ dia. head with 1/4″-20 threaded mounting stud. Includes a 3/8″-20 male adapter. Color is black and gray.



Height	Load Cap., lbs.		
9 13/16″	6.6	1050A1	$49.74

Tool Supports

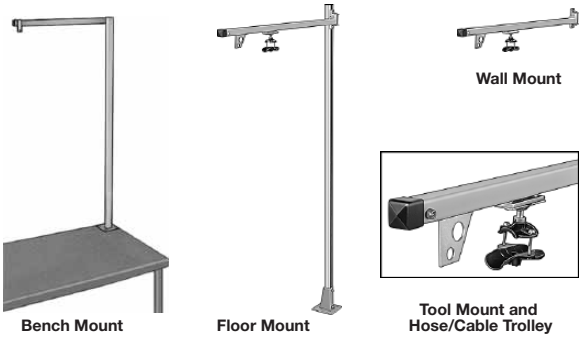

Suspend and position your power tools to keep them organized and within reach for assembly work. Supports include a tool mount that slides along the length of the arm.

Bench Mount—Made of stainless steel. The support arm swivels 360°. Mounting fasteners are included.

Optional bench-mount clamp allows you to clamp a support to workbenches up to 2 1/4″ thick.

Floor Mount and **Wall Mount—**Made of steel. The support arm swivels 180° and includes a hose/cable trolley and end clamp. Mounting fasteners are not included.

Arm Lg.	Ht., ft.	Load Cap., lbs.	*Base Size* Lg.	Wd.	*Mounting Holes* Dia.	Qty.		
Bench Mount								
18″	3	10	3″	3″	9/32″	4	6139T23	$110.18
24″	3	10	3″	3″	9/32″	4	6139T24	115.64
Optional Bench-Mount Clamp							6139T29	43.46
Floor Mount								
36″	9	30	6″	5″	1/2″	4	49385T22	506.87
72″	9	50	6″	6″	1/2″	4	49385T32	873.52
Wall Mount								
36″	—	30	4 1/4″	1 1/2″	3/8″	2	49385T21	281.03
72″	—	50	10″	5″	1/2″	6	49385T31	598.31

Tool Counterbalancing Arms



Able to support the full weight of a tool as well as absorb any torque the tool puts out, these articulating arms will reduce your hand fatigue when performing continuous fastening and grinding work. Arms rotate 360° and have in-and-out movement for effortless tool positioning. They include a mount that holds a 1″-2″ dia. tool.

Arms are made of black powder-coated aluminum with a cast iron base. The base is 5 1/2″ dia. and has four 13/32″ dia. mounting holes.

Projection	Max. Torque of Tool, ft.-lbs.	Choose a Load Range, lbs.		
19″-37″	10	1-3, 4-7, 8-10	1641A11	$570.00
19″-37″	20	1-4, 5-8, 9-11, 12-15	1641A41	755.00
21″-46″	10	1-3, 4-7, 8-10	1641A21	625.00
30″-57″	10	1-3, 4-7, 8-10	1641A31	675.00

Tool Positioners

Keep your tool in any position throughout the 4 1/2-ft. cable travel the entire time you're working. When you've finished, lift the tool up until the cable retracts into the housing. Cable tension is adjustable.

Positioner has a load range of 1-10 lbs., a 1/16″ dia. nylon cable, and a plastic housing. It has a hanger with 1/2″ opening at the top and includes an adjustable cable stop with snap-style tool clip. In addition to the tool, total weight for the load should include tool fittings, hose, and cord. Size is 8 1/2″ Lg. x 1 1/2″ Wd.



6739A41 $21.06

Tool Counterbalancers



Designed to make your suspended tool feel weightless, counterbalancers allow you to keep the tool within reach and move it up, down, and around with minimal effort. They also minimize hand fatigue in applications that require continuous tool use. All have a 360° swivel hanger at the top and include a cable stop with snap-style tool clip for quick tool changes. Cable tension is adjustable. Choose a counterbalancer where the total weight of your tool (including fittings, hose, and cord) falls in the middle of the capacity range listed.

Counterbalancers with ratchet lock have a ratchet mechanism that slows the cable retraction and halts the cable at set positions so you can control the movement of your tool. Tug on the cable to release the lock.

A **secondary restraint** is required for over-head mounting.

Load Cap., lbs.	Cable: Travel, ft.	Cable: Dia.	Cable: Material	Housing: Hanger Size	Housing: Wd.	Housing: Material	Minimum Clearance	Counterbalancers		Secondary Restraints	
With Ratchet Lock											
6-9	6½	1/16″	Galv. Steel	¾″	6¾″	Plastic	15½″	6704A71	$214.73	6703A64	$37.62
9-13	6½	1/16″	Galv. Steel	¾″	6¾″	Plastic	15½″	6704A72	232.42	6703A64	37.62
13-18	6½	1/16″	Galv. Steel	¾″	6¾″	Plastic	15½″	6704A73	253.85	6703A64	37.62
18-24	6½	1/16″	Galv. Steel	¾″	6¾″	Plastic	15½″	6704A74	272.73	6703A64	37.62
25-35	6½	1/8″	Galv. Steel	13/16″	7¾″	Aluminum	20¾″	6644A45	865.81	6652A21	59.33
35-45	6½	1/8″	Galv. Steel	13/16″	7¾″	Aluminum	20¾″	6644A46	865.81	6652A21	59.33
Without Ratchet Lock											
6-9	6½	1/16″	Galv. Steel	¾″	6¾″	Plastic	15½″	6704A61	174.62	6703A64	37.62
9-13	6½	1/16″	Galv. Steel	¾″	6¾″	Plastic	15½″	6704A62	189.95	6703A64	37.62
13-18	6½	1/16″	Galv. Steel	¾″	6¾″	Plastic	15½″	6704A63	202.35	6703A64	37.62
18-24	6½	1/16″	Galv. Steel	¾″	6¾″	Plastic	15½″	6704A64	234.22	6703A64	37.62
25-35	6½	1/8″	Galv. Steel	13/16″	7¾″	Aluminum	20¾″	6644A52	830.27	6652A21	59.33
35-45	6½	1/8″	Galv. Steel	13/16″	7¾″	Aluminum	20¾″	6644A53	830.27	6652A21	59.33
45-60	5	1/8″	Galv. Steel	13/16″	7¾″	Aluminum	20¾″	6644A58	724.72	6652A21	59.33
53-70	7	3/16″	Galv. Steel	13/16″	12″	Aluminum	28″	6644A11	1,318.92	6644A15	130.62
68-86	7	3/16″	Galv. Steel	13/16″	12″	Aluminum	28″	6644A12	1,318.92	6644A15	130.62
84-115	7	3/16″	Galv. Steel	13/16″	12″	Aluminum	28″	6644A26	1,558.03	6644A15	130.62
125-135	7	3/16″	Galv. Steel	13/16″	12″	Aluminum	28″	6644A38	1,558.03	6644A15	130.62
145-155	7	3/16″	Galv. Steel	13/16″	12″	Aluminum	28″	6644A31	1,558.03	6644A15	130.62
174-210	7	3/16″	Galv. Steel	13/16″	12″	Aluminum	28″	6644A91	2,271.45	6644A15	130.62
209-236	7	3/16″	Galv. Steel	13/16″	12″	Aluminum	28″	6644A92	2,271.45	6644A15	130.62
234-250	7	3/16″	Galv. Steel	13/16″	12″	Aluminum	28″	6644A93	2,271.45	6644A15	130.62

Air-Controlled Tool Counterbalancers



For precise tool positioning, this counterbalancer has an air regulator to adjust cable tension. Once tension is set, it remains constant to keep your suspended tool feeling weightless throughout the 5-ft. cable travel. Good for applications that require continuous tool use to minimize hand fatigue.

Counterbalancer has a load capacity of 2-50 lbs., a 1/8″ dia. steel cable, and a 10¼″ wide aluminum housing. It has a 360° swivel hanger with 1″ opening at the top and includes a snap-style tool clip for quick tool changes. Maximum air pressure is 100 psi. Air inlet connection is ¼ NPT. Minimum clearance is 20⅛″.

48005T86 ..... $1,290.94

Air-Tool Counterbalancers with Built-In Hose Reel



Furnished with their own retractable air hose so you can directly attach your air tool, these counterbalancers eliminate clutter and tangles. They have adjustable tension to make your suspended tool feel weightless and minimize hand fatigue in applications that require continuous tool use.

Counterbalancers have a 7½″ wide plastic housing and 360° swivel hanger with ¾″ opening at the top. Maximum air pressure is 145 psi. Air inlet connection is ¼″ hose barb. Air tool connection is ¼ NPT female. Minimum clearance is 10″.

A **secondary restraint** is required for over-head mounting.

Load Cap., lbs.	Air Hose: Travel, ft.	Air Hose: Dia.	Air Hose: Material	Counterbalancers		Secondary Restraints	
1.1-3.3	4	3/8″	Plastic	5740T76	$340.76	5740T82	$47.80
3.3-6.6	4	3/8″	Plastic	5740T77	341.49	5740T82	47.80
6.6-11	4	3/8″	Plastic	5740T78	352.84	5740T82	47.80

Spring Counterbalancers

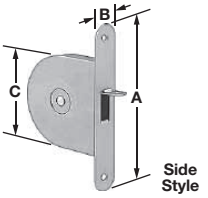

Side Style

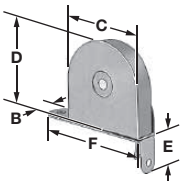

Overhead Style

Use these counterbalancers to suspend, lift, or retract objects that are moved vertically in a track such as tools, windows, and doors. Counterbalancers are made of steel with a stainless steel spring. Once your object is attached to the load clip, the spring is released until the object is counterbalanced. Mounting fasteners are included.

Note: The load capacity stamped on each counterbalancer is the load capacity for a pair. When using counterbalancers on windows, two are required for each sash.

Side style mounts on a vertical frame. **Overhead style** mounts in the corner of a horizontal frame.

Travel, ft.	Dimensions: (A)	(B)	(C)	(D)	(E)	(F)
3½	6″	1″	3 7/16″	3 7/16″	1 5/16″	4 11/16″
4½	7 7/16″	1 3/8″	4 7/16″	4 3/8″	1½″	5 7/8″
5	8¾″	1¾″	5 13/16″	5 7/16″	1½″	7¼″

Load Capacity, lbs. Each	Load Capacity, lbs. Per Pair	Side Style		Overhead Style	
			Each		Each
3½-ft. Travel					
2-2½	4-5	1053A11	$42.36	1053A25	$42.36
3½-4½	7-9	1053A13	43.95	1053A27	43.95
4½-5½	9-11	1053A14	43.95	1053A28	43.95
5½-6½	11-13	1053A15	43.95	1053A29	43.95
6½-7½	13-15	1053A16	43.95	1053A31	43.95
7½-8½	15-17	1053A17	43.95	1053A32	43.95
8½-9½	17-19	1053A18	46.58	1053A33	46.58
9½-10½	19-21	1053A19	46.58	1053A34	46.58
10½-11½	21-23	1053A21	46.58	1053A35	46.58
11½-12½	23-25	1053A22	48.55	1053A36	48.55
13½-14½	27-29	1053A24	48.55	1053A38	48.55
4½-ft. Travel					
15-16	30-32	1053A44	68.75	1053A57	68.75
18-19	36-38	1053A46	68.75	1053A59	68.75
21-22	42-44	1053A48	65.88	1053A62	65.88
26-27	52-54	1053A52	65.88	1053A65	65.88
5-ft. Travel					
38½-40	77-80	1053A74	105.06	1053A89	105.06

Tool Retractors



Suspend your tool to keep it within reach, but out of the way until it's needed. Pull your tool down when you're ready to work and let it go when you're finished—the cable automatically pulls the tool back up. Cable tension is adjustable.

Retractors have a hanger at the top and include an adjustable cable stop with snap-style tool clip for quick tool changes. Choose a retractor where the total weight of your tool (including fittings, hose, and cord) falls in the middle of the capacity range listed.

Retractors with ratchet lock have a ratchet mechanism that slows the cable retraction and halts the cable at set positions so you can control the movement of the tool. Tug on the cable to release the lock.

A **secondary restraint** is required for over-head mounting where listed below.

Load Cap., lbs.	Cable: Travel, ft.	Cable: Dia.	Cable: Material	Housing: Hanger Size	Housing: Hanger Swivel	Housing: Wd.	Housing: Material	Minimum Clearance	Retractors		Secondary Restraints	
With Ratchet Lock												
1-15	15	1/16″	Steel	3/4″	—	8 1/2″	Steel	13 3/4″	6652A22	$383.69	6652A21	$59.33
4-6	6 1/2	1/8″	Plastic-Coated Steel	3/4″	360°	5 1/2″	Plastic	13″	6703A67	110.32	6703A64	37.62
6-8	6 1/2	1/8″	Plastic-Coated Steel	3/4″	360°	5 1/2″	Plastic	13″	6703A68	135.63	6703A64	37.62
8-15	8	1/16″	Steel	3/4″	360°	6 1/2″	Aluminum	15 1/4″	66765A7	398.02	6652A21	59.33
16-22	8	1/16″	Steel	3/4″	360°	6 1/2″	Aluminum	15 1/4″	66765A8	398.02	6652A21	59.33
Without Ratchet Lock												
0-2 1/2	5	1/16″	Nylon	7/32″	—	3″	Aluminum	7 1/2″	6651A5	40.33	—	—
1/2-1 1/2	6	1/16″	Plastic-Coated Steel	5/8″	360°	4″	Plastic	9 1/4″	7433A12	44.64	7433A18	19.95
1-2	5	1/16″	Nylon	1/2″	360°	4″	Plastic	10 1/4″	6495A61	51.04	6495A63	31.36
1-3 1/2	8	1/16″	Plastic-Coated Steel	5/8″	—	4″	Steel	10 1/2″	6696A11	76.43	—	—
1 1/2-3	6	1/16″	Plastic-Coated Steel	5/8″	360°	4″	Plastic	9 1/4″	7433A14	44.64	7433A18	19.95
1 1/2-5	5	1/16″	Nylon	7/32″	—	3″	Aluminum	7 1/2″	6651A6	40.33	—	—
2-4	5	1/16″	Nylon	1/2″	360°	4″	Plastic	10 1/4″	6495A62	49.99	6495A63	31.36
2-4 1/2	8	1/16″	Plastic-Coated Steel	5/8″	—	4″	Steel	10 1/2″	6696A16	84.73	—	—
3-5	6	1/16″	Plastic-Coated Steel	5/8″	360°	4″	Plastic	9 1/4″	7433A16	44.63	7433A18	19.95
4-6	6 1/2	1/8″	Plastic-Coated Steel	3/4″	360°	5 1/2″	Plastic	13″	6703A65	86.90	6703A64	37.62
4 1/2-8	8	1/16″	Plastic-Coated Steel	5/8″	—	4″	Steel	10 1/2″	6696A17	88.15	—	—
4 1/2-10	5	1/16″	Nylon	7/32″	—	3″	Aluminum	7 1/2″	6651A7	68.28	—	—
6-8	6 1/2	1/8″	Plastic-Coated Steel	3/4″	360°	5 1/2″	Plastic	13″	6703A66	112.18	6703A64	37.62
6 1/2-13 1/2	8	1/16″	Plastic-Coated Steel	5/8″	—	5 3/4″	Steel	13 1/4″	6696A13	143.42	—	—
11-19	8	1/16″	Plastic-Coated Steel	5/8″	—	5 3/4″	Steel	13 1/4″	6696A14	151.32	—	—
18-25	8	1/16″	Plastic-Coated Steel	5/8″	—	5 3/4″	Steel	13 1/4″	6696A18	162.62	—	—

Portable Tool Retractors

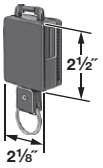

Attached to your belt, these retractors keep tools handy when you're on the go. Pull your tool down when you're ready to work and let it go when you're finished—the cable automatically pulls your tool back up. Retractors have a 1″ stainless steel split ring for tool changes. Made of nylon, the cable is 1/16″ dia. with a travel length of 32″. Housing is plastic.

Belt loops fit belts up to 2″ wide. **Strap** has a snap-style mounting hook with 1 5/16″ opening.

Style	Load Cap., lbs.		
With Belt Loop	1.5	30155T12	$33.86
With Belt Loop and Strap	1.5	30155T11	33.86
With Stainless Steel Belt Clip	1.5	30155T13	40.09

Constant-Force Retractors



With Two Storage Drums

An alternative to electric motors, counterweights, and power springs, these retractors provide constant force to their cable for controlled extension and retraction. They are powered by a stainless steel spring housed in one or two storage drums. They also have an output drum which holds the cable. When you attach an object to the cable (object weight should be equal to or close to cable tension weight), the spring will automatically pull the cable and your object back.

Retractors have a zinc-plated steel base, 1/16″ dia. stainless steel cable, acetal drums, and four 0.177″ dia. mounting holes (except 61115A1 has a stainless steel base, 1/16″ dia. nylon cable, nylon drums, and no mounting holes). Mounting fasteners are not included.

Cable: Travel, ft.	Cable: Tension, lbs.	Spring Torque, lb./in.	Ht.	Wd.	Dp.		
With One Storage Drum							
3	0.375	0.10	1 1/2″	1″	1/2″	61115A1	$99.33
6	1	0.78	3 3/4″	2 1/2″	1 1/4″	61115A2	103.15
6	2	1.56	3 3/4″	2 1/2″	1 1/4″	61115A3	105.05
With Two Storage Drums							
6	3	2.33	3 3/4″	2 1/2″	1 1/4″	61115A4	135.62
6	4	3.12	3 3/4″	2 1/2″	1 1/4″	61115A5	141.35
6	5	3.90	3 3/4″	2 1/2″	1 1/4″	61115A6	156.64

Spring-Powered Retractors



Stem Mount



Shaft Mount



Bracket Mount



Covered Bracket Mount

When you attach an object to the cable, the spring will automatically pull the cable and your object back. The cable reels do not lock in place. Mounting fasteners are not included.

Stem Mount—Have a steel spring, plastic-coated galvanized steel cable, zinc-coated steel cable reel, and 1 1/2″ Wd. × 8 3/4″ Ht. zinc-coated steel mounting stem.

Shaft Mount—Have a steel spring, plastic-coated galvanized steel cable, and steel cable reel that mounts directly on a 5/16″ square arbor (except 6653A25 and 6653A26 mount directly on a 7/16″ square arbor).

Bracket Mount—Has a stainless steel spring, plastic-coated stainless steel cable, and zinc-coated steel bracket with two 0.238″ dia. mounting holes.

Covered Bracket Mount—Have a stainless steel spring, plastic-coated stainless steel cable, and aluminum bracket with four 3/16″ dia. mounting holes.

Load Cap., lbs.	Cable Travel, ft.	Reel Dia.	Bracket Size: Ht.	Wd.	Dp.		
Stem Mount—1/8″ dia. cable							
8	10 1/2	5 1/16″	—	—	—	61095A4	$172.68
15	10 1/2	5 1/16″	—	—	—	61095A6	186.82
Shaft Mount—3/32″ dia. cable							
3 1/2	7 1/2	3 3/8″	—	—	—	6653A21	69.55
10	5	3 3/8″	—	—	—	6653A22	88.89
14	5	3 3/8″	—	—	—	6653A24	139.11
24	10	5″	—	—	—	6653A25	173.87
35	9	6″	—	—	—	6653A26	185.47
Bracket Mount—1/16″ dia. cable							
3/4	5	—	2″	2 3/8″	27/32″	61245A13	97.80
Covered Bracket Mount—1/16″ dia. cable							
1/2	8	—	3 5/8″	2 1/4″	1″	61215A65	123.96
1	5	—	3 5/8″	2 1/4″	1″	61215A61	123.96
2	4	—	3 5/8″	2 1/4″	1″	61215A62	137.43
3	3	—	3 5/8″	2 1/4″	1″	61215A63	137.43
4	2 1/2	—	3 5/8″	2 1/4″	1″	61215A64	137.43

C-Clamps



Regular Duty and Heavy Duty


Extra Heavy Duty

The choice for general purpose clamping applications.
Iron clamps have a steel screw, swivel pad, and sliding handle.
Steel clamps are stronger than iron clamps. All have a swivel pad and a sliding handle, except extra heavy duty clamps have a square-head screw that can be tightened with a wrench.
Regular duty welders' clamps have a copper-plated screw, swivel pad, and sliding handle to resist weld splatter.

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.		
Iron					
Regular Duty					
2½″	0″	1¾″	1,100	5033A1	$10.12
3″	0″	1⅞″	1,800	5033A2	11.62
4″	0″	2 1/16″	2,100	5033A3	16.12
5″	0″	2½″	2,200	5033A4	19.12
6″	0″	2¾″	2,400	5033A5	24.75
8″	0″	3¼″	2,700	5033A61	32.25
10″	0″	3⅝″	2,850	5033A71	38.25
12″	0″	3⅝″	2,850	5033A81	48.00
14″	0″	3¾″	2,850	5033A9	61.50
Steel					
Regular Duty					
1½″	0″	1⅝″	1,400	5027A11	16.47
2″	0″	2″	3,500	5027A12	21.19
3″	0″	2⅜″	3,500	5027A13	25.36
4″	0″	2¾″	6,500	5027A14	31.53
6″	0″	3⅝″	6,900	5027A15	43.45
8″	0″	4½″	6,900	5027A16	57.38
10″	0″	5⅜″	8,000	5027A23	67.31
10″	2″	5⅜″	8,000	5027A17	65.22
12″	0″	5¾″	9,500	5027A25	98.56
12″	4″	5¾″	9,500	5027A18	96.47
Regular Duty High Visibility— Available colors: yellow, orange					
2″	0″	2″	3,500	50295A42	24.94
3″	0″	2⅜″	3,500	50295A43	29.68
4″	0″	2¾″	6,500	50295A44	32.88
6″	0″	3⅝″	6,900	50295A45	45.44
8″	0″	4½″	6,900	50295A46	59.94
10″	2″	5⅜″	8,000	50295A47	85.38
12″	4″	5¾″	9,500	50295A48	116.02
Regular Duty Welders'					
2″	0″	2″	3,500	5165A22	23.26
3″	0″	2⅜″	3,500	5165A23	28.03
4″	0″	2¾″	6,500	5165A24	36.81
6″	0″	3⅝″	6,900	5165A25	49.16
8″	0″	4½″	6,900	5165A26	66.33
10″	0″	5⅜″	8,000	5165A27	85.70
12″	0″	5¾″	9,500	5165A28	116.87

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.		
Steel (Cont.)					
Heavy Duty					
2″	0″	1½″	7,500	5028A1	$56.06
3″	0″	2″	8,750	5028A2	63.67
4″	0″	2¼″	10,000	5028A3	71.54
6″	0″	2½″	11,250	5028A42	97.25
6″	2″	2½″	11,250	5028A4	86.41
8″	0″	2¼″	12,500	5028A43	116.87
8″	4″	2¼″	12,500	5028A5	102.45
10″	0″	2⅞″	13,750	5028A44	137.86
10″	6″	2⅞″	13,750	5028A6	118.37
12″	0″	2⅞″	15,000	5028A45	163.82
12″	8″	2⅞″	15,000	5028A7	134.52
15″	0″	3⅜″	16,250	5028A46	217.67
15″	10″	3⅛″	16,250	5028A8	185.15
18″	0″	3⅜″	17,500	5028A47	278.19
18″	13″	3⅜″	17,500	5028A9	236.62
Extra Heavy Duty					
¾″	0″	⅝″	2,800	5029A11	20.40
1⅜″	0″	1″	5,600	5029A12	27.10
1¾″	0″	1⅜″	8,750	5029A13	43.21
2⅜″	0″	1⅞″	12,500	5029A31	70.42
2⅜″	¾″	1⅞″	12,500	5029A14	66.70
3½″	0″	2½″	16,250	5029A32	96.12
3½″	¾″	2½″	16,250	5029A15	91.28
4½″	0″	2⅞″	20,000	5029A33	103.30
4½″	1″	2⅞″	20,000	5029A16	108.77
5⅜″	0″	3″	23,800	5029A34	127.72
5⅜″	1¼″	3″	23,800	5029A17	123.89
6½″	0″	3½″	27,500	5029A35	156.96
6½″	2″	3½″	27,500	5029A18	151.81
8⅜″	0″	4⅛″	31,250	5029A36	219.43
8⅜″	3″	4⅛″	31,250	5029A19	212.53
10⅜″	0″	4″	35,000	5029A37	263.90
10⅜″	5″	4″	35,000	5029A21	270.74
12⅜″	0″	4″	40,000	5029A38	348.72
12⅜″	7″	4″	40,000	5029A22	360.34

Compact C-Clamps



When space is tight, use these clamps that are smaller and thinner than other clamps. They have a steel sliding handle (unless noted).
Iron clamps have a corrosion-resistant, powder-coated body and a steel screw and swivel pad.
Iron with nonmarring tips have pads on the clamping surfaces to protect soft and delicate material. They have a steel swivel pad that is not replaceable.
Steel clamps have a corrosion-resistant zinc-plated screw and swivel pad. The swivel pad is not replaceable.

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.		
Iron					
1″	0″	1 1/16″	600	5133A11	$3.75
1½″	0″	1½″	800	5133A12	4.50
2″	0″	1⅛″	800	5133A13	4.88
2½″	0″	1 7/16″	800	5133A21	5.25
2½″	0″	2½″	1,000	5133A14	6.37
3″	0″	2″	1,400	5133A15	7.50
4″	0″	2¾″	1,500	5133A16	9.75
5″	0″	3″	1,200	5133A17	12.75
6″	0″	3¼″	1,400	5133A18	17.62
8″	0″	4″	1,700	5133A19	19.88

★ Thumbscrew handle.

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.		
Iron with Nonmarring Tips					
1¼″	0″	1⅛″	550	5134A13★	$6.50
2½″	0″	2¼″	550	5134A15★	10.22
Steel					
1″	0″	1″	500	5031A1	6.01
1″	0″	1½″	500	5031A2	6.08
1¼″	0″	1¼″	800	5031A3	6.73
1½″	0″	1½″	850	5031A4	7.76
2″	0″	1¼″	875	5031A5	10.30
2½″	0″	2½″	850	5031A7	11.86
3″	0″	1⅜″	1,100	5031A6	11.23

Replacement Swivel Pads for C-Clamps



No tools required—pressure from your clamp pops the pad onto the end of the screw. All are made of steel and have a steel-toothed internal washer to ensure a tight grip. Pads are flat.
To determine which pad you need, remove the existing pad from your clamp. Measure the ball diameter on your screw and refer to the ball diameter ranges listed.

Pad Dia.	Ball Dia. Range		
1″	0.395″-0.400″ (25/64″)	5076A1	$2.60
1¼″	0.395″-0.400″ (25/64″)	5076A41	3.12
1¼″	0.452″-0.457″ (29/64″)	5076A21	3.75
1⅜″	0.570″-0.575″ (37/64″)	5076A31	4.12

Extended-Reach C-Clamps

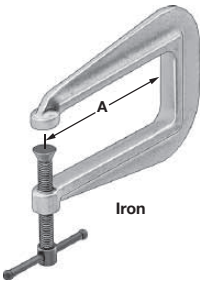



Clamp farther in from the edge of your workpiece. These have a longer reach than other C-clamps.

Iron clamps are powder-coated and have a black-oxide steel screw, swivel pad, and sliding handle.

Steel clamps are stronger than iron clamps. They have a swivel pad and a sliding handle.

Square welders' clamps have a zinc-plated screw, swivel pad, and handle to resist weld splatter.

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.		
Iron					
1″	0″	3″	350	5038A1	$6.00
2″	0″	3½″	450	5038A2	7.87
2½″	0″	4¾″	1,600	5038A7	17.62
2½″	0″	6¼″	1,600	5038A8	22.12
3″	0″	4½″	700	5038A9	12.38
Steel Square					
3″	0″	3¼″	3,500	5072A4	41.23
4″	0″	4⅜″	4,100	5072A1	41.23
6″	0″	6⅜″	5,400	5072A2	71.86
8″	0″	8⅜″	5,900	5072A3	94.37
Steel Square Welders'					
4″	0″	4″	4,100	5119A14	59.79
6″	0″	5″	5,400	5119A16	83.96
8″	0″	5¾″	5,900	5119A18	94.81

Nonconductive C-Clamps

Made from fiber-reinforced plastic, these clamps won't transmit electricity and are resistant to chemicals. Use around electrical equipment as well as in plating and anodizing applications. Clamps have a wing-nut handle. Not rated for holding capacity.

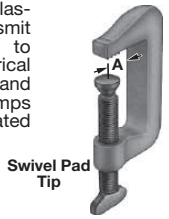



Opening Max.	Opening Min.	Reach (A)		
Swivel Pad Tip				
¾″	0″	¾″	6184A41	$10.69
1⅜″	0″	1¼″	6184A43	12.89
1⅞″	0″	1½″	6184A45	22.22
3⅜″	0″	1¾″	6184A46	42.73
Screw Tip				
1⅛″	0″	¾″	6184A11	9.58
1¾″	0″	1¼″	6184A13	11.78
2⅜″	0″	1½″	6184A15	21.11
3¾″	0″	1¾″	6184A16	41.62

Three-Way C-Clamps

Three screws let you apply pressure on three sides of your workpiece during gluing, welding, and cutting applications. Clamp has sliding handles. Body is iron. Handles, screws, and swivel pads are steel.

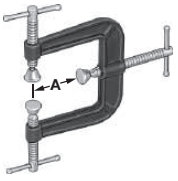

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.		
2½″	0″	2½″	300	5143A15	$10.43

Corrosion-Resistant C-Clamps







Use these clamps anywhere from clean rooms to marinas.

Stainless Steel—Clamps offer the most corrosion resistance. All have a swivel pad.

Aluminum—Clamps with *sliding handle* have a copper-plated screw and swivel pad to resist weld splatter.

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.		
Stainless Steel					
Sliding Handle					
2″	0″	2⅛″	1,400	3509A11	$43.42
3″	0″	2½″	1,400	3509A12	58.24
4″	0″	2⅞″	2,600	3509A13	92.00
6″	0″	3¾″	2,800	3509A14	156.50
8″	0″	4¾″	2,800	3509A15	224.90
10″	0″	5⅝″	3,200	3509A16	293.15
12″	0″	6″	3,800	3509A17	441.33
Wing-Nut Handle					
¼″	0″	¼″	—	3959A11	9.76
½″	0″	⅜″	—	3959A12	11.14
¾″	0″	½″	—	3959A13	12.09
1″	0″	⅝″	—	3959A14	19.05
1½″	0″	¾″	—	3959A15	28.97
2″	0″	1″	—	3959A16	40.90
Easy-Grip Handle					
1⅜″	0″	1⅛″	1,000	5073A2	88.50
Aluminum					
Sliding Handle					
1¼″	0″	1¼″	—	5041A11	15.21
2¼″	0″	1⅜″	—	5041A12	16.44
2¾″	0″	1⅝″	—	5041A13	16.94
3¾″	0″	1⅝″	—	5041A14	20.21
4⅝″	0″	2⅛″	—	5041A15	30.62
5⅝″	0″	2⅜″	—	5041A16	32.17
Easy-Grip Handle					
1⅜″	0″	1⅛″	1,000	5073A3	46.12

Low-Profile C-Clamps

No handle or protruding screw means these clamps will fit into tight spaces. They're aluminum with textured pads and a steel screw. Not rated for holding capacity.

Hinged clamp pivots for easier positioning in limited space.





Opening Max.	Opening Min.	Reach (A)		
Standard				
1″	0″	1⅞″	1705A12	$8.00
1½″	0″	1⅞″	1705A11	8.17
Hinged				
⅝″	0″	1½″	1705A21	8.06

Fast-Action C-Clamps

Make large or frequent adjustments in less time—push the quick-release button, position the clamp, then let go of the button. Final pressure is applied by turning the screw. Clamps have an iron body. Screw, swivel pad, and sliding handle are steel.



Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.		
3¼″	0″	1¾″	1,500	50275A76	$9.46
4⅜″	0″	2¼″	1,500	50275A77	11.46
6¼″	0″	3⅞″	1,500	50275A78	14.89

No-Twist C-Clamps

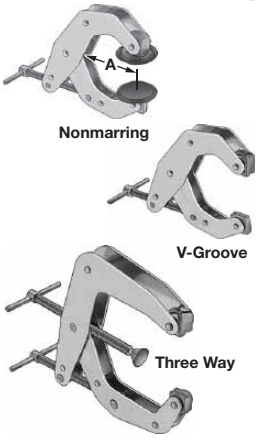

The jaws of these clamps move in unison to apply even pressure and the clamping surfaces rotate to grip your workpiece without twisting. Clamps have a T-handle (unless noted).

Steel clamps have a corrosion-resistant, zinc-plated frame and copper-plated screw and clamping surfaces to resist weld splatter.

Nonmarring clamps have a plastic pad on the clamping surfaces.

V-groove clamps have a V-groove on the clamping surfaces to hold round material.

Three-way clamp has a V-groove on the clamping surfaces and an additional screw with swivel pad so you can apply pressure on the top, bottom, and side of your workpiece.

Stainless steel clamps are the most corrosion resistant. They have a V-groove on the clamping surfaces to hold round material.

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.		
Steel					
Nonmarring					
7/8"	0"	1/2"	350	5046A27	$19.10
1 3/4"	0"	1 1/8"	800	5046A28	21.14
2 3/4"	0"	1 1/4"	1,500	5046A29	26.61
4 1/4"	0"	2 1/4"	1,700	5046A31	29.14
V-Groove					
3/4"	0"	3/8"	200	5046A41 ★	11.98
1"	0"	1/2"	350	5046A11	12.38
1"	0"	1/2"	350	5046A42 ★	13.40
2"	0"	1 1/8"	800	5046A12	14.98
2"	0"	1 1/8"	800	5046A43 ★	17.31
2 3/8"	0"	2"	700	5046A61	16.49
3"	0"	1 1/4"	1,500	5046A13	21.40
4 1/2"	0"	2 1/4"	1,700	5046A18	22.88
6"	0"	2 1/8"	2,000	5046A14	34.89
6"	0"	4 1/2"	2,000	5046A15	38.06
9"	0"	3 3/8"	2,500	5046A16	101.06
10"	0"	6"	3,500	5046A19	134.32
12"	0"	5"	6,000	5046A25	149.09
Three Way					
6"	0"	2 1/8"	2,000	5046A51	48.71
Stainless Steel					
V-Groove					
2"	0"	1 1/8"	700	5046A26	34.34
3"	0"	1 1/4"	1,200	5046A23	47.90
4 1/2"	0"	2 1/4"	1,500	5046A24	55.45

★ Thumbscrew handle.

Quick-Grip Bar Clamps/Spreaders



For quick one-handed clamping, squeeze the pistol-grip handle to lock the clamp in place and press the release trigger to open it. Clamps have plastic heads and a steel bar. Clamping surfaces are nonmarring.

Clamps/Spreaders—Reverse the heads to use as a spreader.

Clamp Opening Max.	Clamp Opening Min.	Spreader Opening Max.	Spreader Opening Min.	Reach (A)	Holding Cap., lbs.		
Clamps							
6"	0"	____	____	1 5/8"	150	5039A51	$16.71
12"	0"	____	____	1 5/8"	150	5039A52	19.97
Clamps/Spreaders							
4 1/4"	0"	8"	3 1/4"	7/8"	35	51755A2	12.23
6"	0"	13 3/8"	7 3/4"	2 1/4"	300	51755A6	24.21
12"	0"	19 3/8"	7 3/4"	2 1/4"	300	51755A7	28.45
12"	0"	20 5/8"	9"	1 7/8"	600	51755A22	38.90
18"	0"	25 3/8"	7 3/4"	2 1/4"	300	51755A11	30.61
18"	0"	26 5/8"	9"	1 7/8"	600	51755A23	40.38
24"	0"	31 3/8"	7 3/4"	2 1/4"	300	51755A12	32.66
24"	0"	32 5/8"	9"	1 7/8"	600	51755A24	40.86
36"	0"	43 3/8"	7 3/4"	2 1/4"	300	51755A13	37.17
36"	0"	44 5/8"	9"	1 7/8"	600	51755A25	48.17
50"	0"	58 5/8"	9"	1 7/8"	600	51755A26	48.46

Fast-Action Bar Clamps

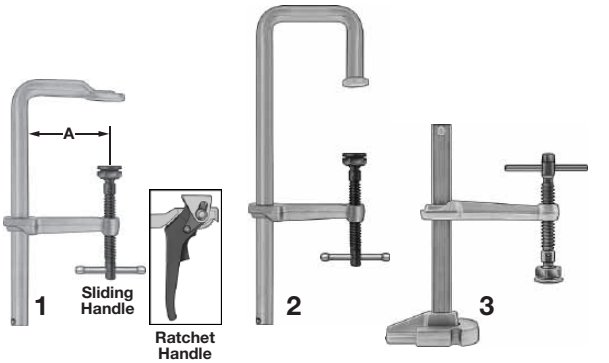

Also known as F-, J-, or L-clamps, these offer the strength of a C-clamp with the adjustability of a bar clamp. Slide the head into position, then use the handle for final tightening. Clamping surfaces are nonmarring.

Sliding-handle clamps have a corrosion-resistant zinc-plated bar, head, and sliding handle (unless noted). Screw and pad are steel.

Regular duty clamps for recessed areas provide extra clearance into areas up to 4" deep. *Regular duty welders'* clamps have a copper-plated screw, pad, and handle to resist weld splatter. The included bracket permanently mounts to a surface and allows you to easily move the clamp in and out.

Ratchet-handle clamps lock in place for use in applications where vibration could cause other clamps to move. Made of steel.

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.	Degrees of Pad Swivel		
Sliding Handle						
(1) Regular Duty						
6"	0"	4 3/4"	1,330	35°	5106A75	$42.07
8"	0"	5 1/2"	2,660	35°	5106A76	67.44
8"	0"	5 1/2"	2,800	35°	5106A22	127.76
12"	0"	5 1/2"	2,660	35°	5106A13	90.19
12"	0"	5 1/2"	2,800	35°	5106A23	143.59
20"	0"	5 1/2"	2,660	35°	5106A19	114.67
20"	0"	5 1/2"	2,800	35°	5106A24	181.00
36"	0"	5 1/2"	2,800	35°	5106A25	225.18
60"	0"	5 1/2"	2,800	35°	5106A26	301.90
(1) Heavy Duty						
12"	0"	7"	4,880	18°	5106A81	187.31
12"	0"	7"	4,880	35°	5106A16	230.52
18"	0"	7"	4,880	18°	5106A82	216.41
18"	0"	7"	4,880	35°	5106A17	256.58
36"	0"	7"	4,880	18°	5106A83	214.85
36"	0"	7"	4,880	35°	5106A18	313.63
(1) Extra Heavy Duty						
12"	0"	8"	7,770	35°	5106A27	545.01
18"	0"	8"	7,770	35°	5106A28	581.45
36"	0"	8"	7,770	35°	5106A29	669.60
(2) Regular Duty for Recessed Areas						
12"	0"	5 1/2"	2,660	35°	7543A11 ■	154.57
20"	0"	7"	4,880	35°	7543A14 ■	310.55
(3) Regular Duty Welders'						
8 1/2"	0"	5 1/2"	2,600	30°	5106A77	125.16
Additional Mounting Bracket for 5106A77					5106A98	$28.44
Ratchet Handle						
(1) Regular Duty						
8"	0"	4"	660	20°	6126A14	74.76
12"	0"	5 1/2"	1,200	20°	6126A16	102.54
20"	0"	4 3/4"	1,200	20°	6126A17	113.89

■ Bar, head, and sliding handle are steel.

Nonmarring Bar Clamps/Spreaders

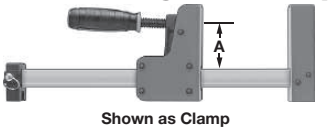

Plastic heads hold your workpiece tight without denting or marking. A built-in stand allows the clamp to stand upright. Reverse the sliding head and use the clamp as a spreader. Screw and bar are steel; handle is rubber.

Clamp Opening Max.	Clamp Opening Min.	Spreader Opening Max.	Spreader Opening Min.	Reach (A)	Holding Cap., lbs.		
12"	0"	15"	10 1/2"	3 3/4"	1,000	5022A11	$53.14
18"	0"	21 1/2"	10 1/2"	3 3/4"	1,000	5022A13	57.46
24"	0"	28 1/2"	10 1/2"	3 3/4"	1,000	5022A15	59.88
40"	0"	44"	10 1/2"	3 3/4"	1,000	5022A17	70.68
50"	0"	53"	10 1/2"	3 3/4"	1,000	5022A18	74.98

Bar Clamps

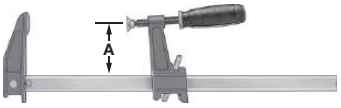

Regular Duty and Heavy Duty


Heavy Duty Extended Reach

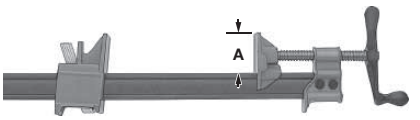

Extra Heavy Duty

All have a sliding head for easy positioning and adjustment. A clutch in the sliding head securely grips the bar, except 5032A55, A56, and A58 do not have a clutch.

Regular duty clamps have a rubber handle. Heads and nonmarring clamping surfaces are iron; bar and screw are steel.

Heavy duty clamps have a wood handle. Heads are iron, clamping surfaces are iron with plastic pads, and bar and screw are steel.

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.		
Regular Duty					
6″	0″	3″	1,000	**5090A13**	$14.38
12″	0″	3″	1,000	**5090A15**	15.12
18″	0″	3″	1,000	**5090A17**	18.73
24″	0″	3″	1,000	**5090A19**	20.45
30″	0″	3″	1,000	**5090A21**	22.77
36″	0″	3″	1,000	**5090A22**	24.57
Heavy Duty					
12″	0″	5″	1,200	**5032A52**	39.31
18″	0″	5″	1,200	**5032A53**	44.29
24″	0″	5″	1,200	**5032A54**	50.38
31½″	0″	5½″	1,200	**5032A55**	56.25
39⅜″	0″	5 1/2″	1,200	**5032A56**	62.50
59″	0″	5 1/2″	1,200	**5032A58**	79.17

Heavy duty extended-reach clamps let you clamp further into your workpiece. They have a steel sliding handle. Heads, bar, screw, and nonmarring clamping surfaces are steel.

Extra heavy duty clamps have an I-beam shaped bar for maximum holding capacity. They have a wood crank handle, iron heads and nonmarring clamping surfaces, and steel bar and screw, except 5078A2, A7, and A8 have an iron handle and steel heads.

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.		
Heavy Duty Extended Reach					
12″	0″	8″	1,700	**5037A11**	$168.98
24″	0″	8″	1,700	**5037A12**	260.51
Extra Heavy Duty					
24″	0″	1 13/16″	6,000	**5078A1**	47.11
30″	0″	2″	5,100	**5078A2**	53.09
36″	0″	1 13/16″	6,000	**5078A3**	58.67
48″	0″	1 13/16″	6,000	**5078A4**	65.78
60″	0″	1 13/16″	6,000	**5078A5**	72.89
72″	0″	1 13/16″	6,000	**5078A6**	83.56
84″	0″	2″	5,100	**5078A7**	83.22
96″	0″	2″	5,100	**5078A8**	87.44

Adjustable-Angle Bar Clamps

Also known as handscrews, these clamps have two screws that turn independently so you can change the angle of the heads to hold round, angled, or odd-shaped material. The screws are steel; heads and handles are wood. Clamping surfaces are nonmarring. Not rated for holding capacity.

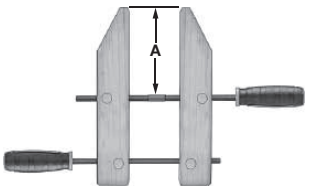

Opening Max.	Opening Min.	Reach (A)		
3″	0″	3″	**5104A13**	$22.11
5″	0″	4″	**5104A15**	24.16
7″	0″	5″	**5104A16**	27.66
9¼″	0″	6″	**5104A17**	31.72
10¼″	0″	7″	**5104A18**	38.58

Parallel Bar Clamps

The heads on these clamps stay parallel when opening and closing to apply even pressure to your workpiece during tapping, drilling, and other machine setups. The clamping surfaces are tapered for use in recessed areas. The screw heads have a hole so you can add a pin to create a handle for additional tightening. Made of steel. Not rated for holding capacity.

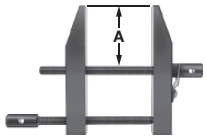

Opening Max.	Opening Min.	Reach (A)	Screw Head Hole Dia.		
1¼″	0″	¾″	⅛″	**5008A51**	$9.13
2¼″	0″	1½″	5/32″	**5008A52**	10.75
3″	0″	1⅞″	3/16″	**5008A53**	14.34

Any-Length Bar Clamps

Place these heads on a pipe (not included) that is at least 12″ long and threaded on both ends to create your own bar clamp. Also known as pipe clamps. Heads and handle are iron; screw is steel. Clamping surfaces are nonmarring with plastic pads. Not rated for holding capacity.

Clamp with wing-nut handle is for use in confined spaces as all adjustments can be made from one end.

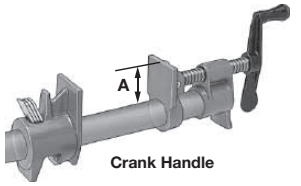

Crank Handle

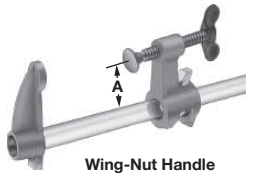

Wing-Nut Handle

For Pipe Size	Reach (A)		
Crank Handle			
½	2⅛″	**5063A31**	$15.64
¾	2⅜″	**5063A11**	19.78
Wing-Nut Handle			
¾	3⅛″	**5063A21**	21.38
Replacement Pads (Pkg. of 4)			
Pads for 5063A31		**5063A51**	6.00
Pads for 5063A11		**5063A52**	5.52
Pads for 5063A21		**5063A53**	7.20

Extra Heavy Duty Bar Clamps

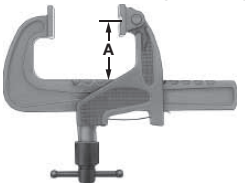

With their thick, all-steel construction, these clamps are stronger and more durable than other clamps. Slide the spring-loaded head into a notch and turn the sliding handle to tighten. The head has a V-groove on the clamping surface to accommodate round material.

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.		
6″	0″	2 3/8″	2,500	5011A41	$85.79
10″	0″	4 3/4″	1,500	5011A43	121.33
12″	0″	2 3/8″	2,500	5011A42	103.93
18″	0″	8″	2,000	5011A47	374.76
24″	0″	4 1/2″	6,000	5011A52	$592.27
36″	0″	4 1/2″	6,000	5011A53	651.19
54″	0″	4 1/2″	6,000	5011A54	762.85

Band Clamps



Polyester Band



Nylon Band Ratchet Handle



Nylon Band Twist Handle

An easy-to-tighten band encircles and holds round and odd-shaped objects with even pressure. A lock holds and releases the band. Not rated for holding capacity.

With Polyester Band—Clamps are steel.

With Nylon Band—Clamps are made of steel and plastic and include four removable clamping surfaces.

Band Lg.	Band Wd.		
With Polyester Band and Crank Handle			
23 ft.	1″	5103A15	$43.20
With Nylon Band and Ratchet Handle			
16 ft.	1″	5116A5	41.44
With Nylon Band and Twist Handle			
13 ft.	1″	5116A3	30.00

Corner Clamps



Fixed Angle (200-lb. cap.)



Fixed Angle (1,000-lb. and 1,250-lb. cap.)



Fixed Angle with Third Axis

Perfect for gluing, welding, soldering, and other assembly operations. All can be mounted to a work surface (fasteners not included).

Fixed-angle clamps align and hold two workpieces at a 90° angle. The jaws pivot to allow simultaneous clamping of materials with unequal thicknesses. *200-lb capacity* clamp is metal with nylon jaws and a steel screw. It has two sliding handles and two 13/64″ mounting holes. *1,000-lb.* and *1,250-lb. capacity* clamps are iron with a sliding handle. Screw is copper plated to resist weld splatter. They have two 1 3/4″ Lg. × 2 7/16″ Wd. mounting slots.

Fixed-angle with third axis clamp aligns and holds up to three workpieces at a 90° angle. Press a button to move the threaded holding screws in or out. The third axis clamping arm swings out of the way for easy material removal. Clamp is steel and iron with copper-plated holding screws that resist weld splatter. Has two 1 1/2″ Lg. × 7/16″ Wd. mounting slots.

Opening Max.	Opening Min.	Clamping Surface Ht.	Holding Cap., lbs.		
Fixed Angle					
3″	0″	9/16″	200	5017A51	$10.85
3 1/4″	0″	1 3/8″	1,000	5017A11	131.87
4 3/8″	0″	2 3/8″	1,250	5017A21	213.03
Fixed Angle with Third Axis					
3 3/4″	0″	1 3/8″	550	6557A14	213.46

Pipe-Welding Chain Clamps



Straight

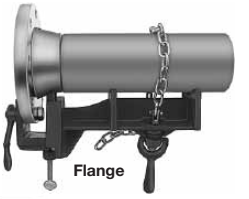

Flange



Adjustable

The combination of chains and support bars allows these clamps to hold a wide range of pipe sizes together for tack welding. Not rated for holding capacity. *Aluminum* clamps are lighter in weight and easier to handle than iron clamps. *Iron* clamps are the choice for heavy duty jobs.

Straight clamps are for use with two lengths of straight pipe and with eccentric reducers. **Flange** clamp is for standard or extra heavy duty neck flanges and straight pipe. **Adjustable** clamp is used with straight pipe, elbows, tees, angles, reducers, and risers.

Pipe OD Range	Aluminum		Iron	
Straight				
1/2″-8″	5053A1	$191.00	5053A2	$173.00
8″-16″	5053A3	380.99	5053A4	360.99
Flange				
2 1/2″-8″	5053A5	260.99	—	—
Adjustable				
2 1/8″-8″	5053A7	563.99	—	—

Magnetic Quick Clamps



Regular Duty



Heavy Duty with Magnetic-Release Switch



Heavy Duty with T-Handle

Hold ferrous metals for welding, brazing, and assembly jobs.

Regular duty clamp is compact and has two 13/64″ dia. mounting holes.

Heavy duty clamp has two 1/4″ dia. mounting holes.

Heavy duty with magnetic-release switch clamps provide the quickest and easiest placement and release of your work.

Heavy duty with T-handle clamp provides a way to disengage your work. It has four 1/4″ dia. mounting holes.

Pull, lbs.	Holding Angles	Overall Size Wd.	Ht.	Thick.		
Regular Duty						
22	30°, 45°, 60°, 75°, 90°, 180°	4″	2 1/2″	1/2″	5167A25	$11.86
Heavy Duty						
112	45°, 90°, 135°	3 3/4″	4 3/8″	3/4″	5021A86	20.72
Heavy Duty with Magnetic-Release Switch						
65	45°, 90°	4 3/8″	3 3/4″	1″	5021A41	33.60
75	45°, 90°	6″	5 1/8″	1 1/4″	5021A43	61.58
90	45°, 90°	4 3/8″	3 3/4″	1 1/8″	5021A42	37.80
150	45°, 90°	6″	5 1/8″	1 3/8″	5021A44	69.30
Heavy Duty with T-Handle						
100	45°, 90°, 135°	8 7/8″	8 7/8″	1 5/8″	5021A87	98.44

Spring Clamps



Standard
(Shown with Padded Tips and Grips)


Nonmarring


Extended Reach


High Strength


Overhead Use


Adjustable Jaw

Squeeze the handle to open these clamps; release the handle and a spring holds them tightly in place. Clamping surfaces are parallel when fully opened.

Stainless steel clamps are the most corrosion resistant. Good for plating and anodizing applications.

Nonmarring clamps have pivoting clamping surfaces.

Extended-reach clamp has a long, narrow nose for use in tight spaces.

High-strength clamp has a fiber-reinforced body for more strength than other plastic clamps. Clamping surfaces are serrated.

Overhead-use clamp has a snap hook on the handle for suspending. The snap hook rotates 360° and the clamping surfaces pivot.

Adjustable-jaw clamps let you slide jaws in and out to quickly set the opening size. 50065A24 and 50065A25 have one adjustable jaw; 50065A26 has two adjustable jaws.

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.	Clamping Surface Wd.	O'all Lg.		
Steel							
Standard							
1″	0″	1¼″	—	⅞″	4″	5107A1	$1.77
2″	0″	2¼″	—	1″	6″	5107A2	3.35
3″	0″	3¼″	—	1¼″	8″	5107A3	6.58
4″	0″	5″	—	1⅜″	11″	5107A4	15.30
Standard with Padded Tips and Grips							
1″	0″	1¼″	—	⅞″	4″	5107A7	2.31
2″	0″	2¼″	—	1″	6″	5107A8	3.71
3″	0″	3¼″	—	1¼″	8″	5107A93	6.54
4″	0″	5″	—	1⅜″	11″	5107A94	16.72
Stainless Steel							
Standard with Padded Grips							
2¼″	0″	2⅛″	35	1¼″	6″	4954A21	31.25
2¼″	0″	2⅛″	45	1¼″	6″	4954A24	33.30
Plastic							
Nonmarring							
¾″	0″	1½″	—	⅜″	3¼″	50065A19	1.76
1″	0″	1½″	—	1″	4½″	50065A21	2.43
2″	0″	2⅝″	—	1⅛″	6¼″	50065A22	3.27
3″	0″	3¾″	—	1⅛″	8¾″	50065A23	7.02
Extended Reach							
2¾″	0″	4½″	—	½″	8½″	6109A24	10.02
High Strength							
2½″	1″	2¾″	60	⅝″	8¼″	6105A24	12.70
Overhead Use							
2″	0″	3¼″	—	1¼″	7½″	50065A56	6.12
Adjustable Jaw							
2⅛″	0″	1½″	—	¾″	4¾″	50065A24	8.69
4¼″	0″	2″	—	1″	6¼″	50065A25	9.64
6½″	0″	2″	—	1″	6¼″	50065A26	11.18

Spring Clamps with Flexible Arm

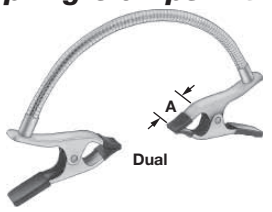

Dual

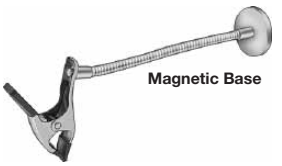

When two hands just aren't enough, use these clamps to hold and position a flashlight, tool, or instructions. Clamps are steel with nonmarring rubber-padded tips. Not rated for holding capacity.

Opening Max.	Opening Min.	Reach (A)	Clamping Surface Wd.	O'all Lg.		
Dual	2″	0″	2⅝″	1″	25″	50855A65	$35.38
Magnetic Base	2″	0″	2⅝″	1″	22″	50855A66	39.81

Miniature Spring Clamps


Antistatic


Locking


Adjustable Locking


Nonmarring


Corrosion Resistant

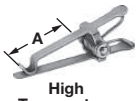

High Temperature


High Temperature with V-Shaped Jaws

Smaller than other spring clamps, use these with thin and flat materials or in areas where space is tight.

Antistatic clamp is made of nonconductive fiberglass-reinforced nylon for use in clean rooms and PC board applications. Clamping surfaces are serrated. Handles have a hole for grounding.

Locking clamp has a lever that locks the clamp onto material. Made of zinc-plated steel with nonmarring clamping surfaces.

Adjustable locking clamp has a lever to adjust the opening size. Press the lever down to lock clamp onto material. Made of zinc-plated steel with nonmarring clamping surfaces. Has mounting holes.

Nonmarring clamp holds work firmly but gently. Made of zinc-plated steel and has mounting holes.

Corrosion-resistant clamp is made of stainless steel. Clamping surfaces are smooth. Has a mounting hole.

High-temperature clamps withstand temperatures up to 700° F. All are stainless steel and have smooth clamping surfaces. *With V-shaped jaws* has mounting holes.

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.	Clamping Surface Wd.	O'all Lg.		
Antistatic							
1¼″	0″	1¾″	80	¾″	4¾″	5083A81	$5.64
Locking							
5/16″	0″	1″	—	9/16″	3¼″	5101A32	3.94
Adjustable Locking							
½″	0″	⅞″	30	⅝″	2¼″	5164A41	12.40
Nonmarring							
5/16″	0″	½″	10	½″	2⅝″	5094A51	21.84
Corrosion Resistant							
5/16″	0″	½″	—	½″	1⅝″	6076A17	2.48
High Temperature							
⅝″	0″	1½″	1½	⅜″	3¼″	5015A4	25.46
11/16″	0″	1″	1½	¼″	2⅜″	5015A2	25.46
¾″	0″	¾″	1½	⅛″	1⅝″	5015A1	25.45
High Temperature with V-Shaped Jaw							
9/16″	0″	1¼″	1½	⅜″	3″	5015A3	25.46

Base-Mounted Any-Angle Spring Clamps

Twist, rotate, and bend the jointed arms to place these steel spring clamps in the exact position you need. The 8½″ Wd. × 6¼″ Dp. base provides a work surface for soldering small items. Not rated for holding capacity.

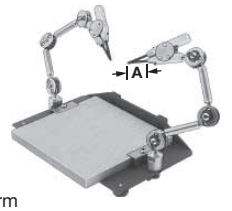

Opening Max.	Opening Min.	Reach (A)	Clamp Lg.	Arm Lg.		
¾″	0″	1¼″	3½″	6½″	5162A76	$181.51

Spring Clamps & Plier Clamps

Base-Mounted Spring Clamps



One Clamp


One Tweezer


Two Clamps


Two Clamps and Magnifier

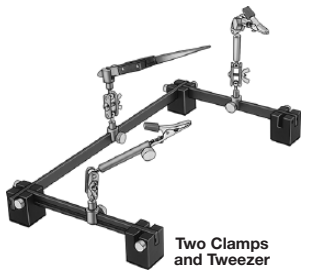
Two Clamps and Tweezer

Keep your hands free to work—these clamps are mounted to swivel arms attached to a base. Great for soldering, gluing, and assembling applications. Made of steel, unless otherwise stated. Not rated for holding capacity.

One Tweezer—Tips are serrated on the inside. Made of stainless steel.

Two Clamps and **Two Clamps and Magnifier—**Swivel arms are on a 5½″ rail. Magnifier is 2½″ dia.

Two Clamps and Tweezer—Tweezer is self-locking. Arms are mounted on two 6″ and one 12″ adjustable rails.

	Opening Max.	Opening Min.	Reach (A)	Clamp Lg.	Tweezer Lg.	Arm Lg.		
One Clamp	½″	0″	¾″	1¾″	—	3″	5007A11	$14.73
One Tweezer	¾″	0″	3″	—	6½″	2″	6179A4	23.26
Two Clamps	½″	0″	¾″	1¾″	—	1¾″	5007A12	19.64
Two Clamps and Magnifier	½″	0″	¾″	1¾″	—	1¾″	5007A14	31.64
Two Clamps and Tweezer	½″	0″	¾″	1¾″	6½″	3¾″	5007A28	56.18

Plier-Activated Edge and Hole Clamps


Pliers with Edge-Grip Clamp

Grip sheet material for gluing, fastening, riveting, and soldering. These clamps are smaller and quicker to use than standard C-clamps, and several of them can be used together. Clamps require special pliers (sold separately) for positioning and removal. Not rated for holding capacity.

Clamps and Pliers


Edge-Grip Clamp

Edge-grip clamps grab the edges of the workpiece. Jaws are made of aluminum.

Opening Max.	Opening Min.	Jaw Depth	O'all Lg.		
½″	0″	1″	2⅛″	5099A41	$4.47
¾″	0″	1″	2½″	5099A44	4.47

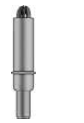
Hole-Grip Clamp

Hole-grip clamps are for use in drilled holes to grab and align material up to ¼″ thick. Made of steel.

Fits Hole Dia.	Drill Size	O'all Lg.		
3/32″	#40	2¼″	5099A29	$1.62
1/8″	#30	2¼″	5099A32	1.62
5/32″	#20	2¼″	5099A34	1.62
3/16″	#10	2¼″	5099A33	1.62
¼″	¼″	2¼″	5099A31	3.68

Pliers are required for positioning and removal of clamps. Made of steel; overall length is 7¼″.

5099A51 ..... $10.97

Clamp Sets

Clamp Set—Includes pliers, two ½″ edge-grip clamps, one of each size hole-grip clamps except 5/32″, and a plastic case.

5099A21 ..... $38.22

Edge-Grip Clamp Set—Includes pliers, six of each size edge-grip clamps, and a plastic case.

5099A25 ..... $77.32

Hole-Grip Clamp Set—Includes pliers, 10 of each size hole-grip clamps, and a plastic case.

5099A27 ..... $79.05

Heavy Duty Plier Clamps



Constructed of steel, these rugged clamps have a sliding head for easy adjustment on odd-shaped items. An adjusting screw changes the angle of the jaws up to 7° for clamping tapered workpieces. Squeeze the handle to lock the clamp; use the release trigger to open it. Clamping surfaces are serrated. Removable plastic pads are included for holding delicate items.

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.	O'all Lg.		
4″	0″	2½″	440	10¼″	5047A21	$76.20
8″	0″	2½″	440	10¼″	5047A22	87.26

Bench-Top Plier Clamps

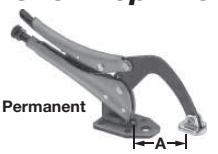

Permanent

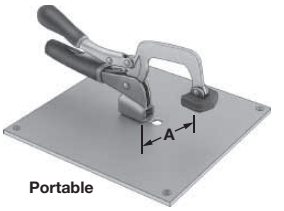

Portable

Clamps have locking handles and are made of steel.

Permanent—Once mounted to your drilling table or workbench the clamp can be used in nearly any position. A knob lets you adjust the opening size and the clamping surface swivels. Has one ½″ dia. hole and four 5/16″ dia. holes for mounting (fasteners not included). Not rated for holding capacity.

Portable—The base plate does not have to be permanently mounted for use, so you can move this clamp from place to place. Clamp swivels 360°. Clamping surface is nonmarring. Base plate is 10″ Lg.×10″ Wd.×¼″ Thick. Rubber feet and mounting hardware are included. Holding capacity is 400 lbs.

	Opening Max.	Opening Min.	Reach (A)	O'all Lg.		
Permanent	4″	0″	3¼″	12″	4987A84	$59.42
Portable	4″	0″	3″	10½″	5060A22	64.98

Fast-Action Plier Clamp



The ratchet action of this nylon clamp gives you rapid adjustment and a secure hold. A release trigger opens the clamp instantly. Clamp has long, narrow jaws for clamping further into your workpiece, or using in tight spots. Not rated for holding capacity.

Opening Max.	Opening Min.	Reach (A)	O'all Lg.		
2¾″	0″	3½″	10″	4972A2	$8.76

Quick-Grip Plier Clamps



Squeeze the handle to clamp; use the release trigger to unclamp. Clamps are made of plastic and have textured clamping surfaces.

Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.	O'all Lg.		
1½″	0″	1½″	25	5″	5070A11	$5.28
2″	0″	2″	50	7⅝″	5070A12	7.96
4″	0″	3″	35	9½″	5070A16	10.59

Vise-Grip Plier Clamps

Small, smooth clamping points apply precise force. Turn the adjustment knob to change the opening size; squeeze handle to lock clamp in place. A release trigger opens the clamp. Made of steel. Not rated for holding capacity.

5-piece standard-tip set includes two 6R (5105A14), two 11R (5105A11), and one 10R 10″ locking plier (5369A2 on page 2751).

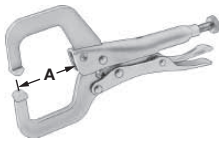

With Standard Tips


With Swivel Pads

Opening Max.	Opening Min.	Reach (A)	O'all Lg.	Mfr. No.		
With Standard Tips						
2 1/8″	0″	1 5/8″	6″	6R	5105A14	$8.83
2 1/8″	0″	1 5/8″	6″	6R	5105A63 ♣	9.73
4″	0″	3″	11″	11R	5105A11	17.01
4″	0″	3″	11″	11R	5105A64 ♣	18.71
4 1/2″	0″	4 3/4″	9″	9DR	5105A12	17.93
7 1/2″	0″	10 1/2″	18″	18DR	5105A18	28.47
8″	0″	10 1/2″	18″	18R	5105A16	24.75
10″	0″	16 1/2″	24″	24R	5105A31	31.13
5-Piece Standard-Tip Set					5105A36	63.06
With Swivel Pads						
1 5/8″	0″	1 1/4″	4″	4SP	5105A13	9.95
2 1/8″	0″	1 5/8″	6″	6SP	5105A21	9.94
4″	0″	3″	11″	11SP	5105A19	18.95
4 1/2″	0″	4 3/4″	9″	9SP	5105A23	17.05
8″	0″	10 1/2″	18″	18SP	5105A17	25.99
10″	0″	16 1/2″	24″	24SP	5105A32	32.44

♣ Includes a no-pinch, fast-release cushioned grip.

Vise-Grip Plier Clamps for Sheets

Finger-shaped clamping points on these clamps get a secure grip on thin sheets and panels. Turn the knob to adjust the opening size, then squeeze the handle to lock the clamp in place. A release trigger opens the clamp. Clamps are made of steel and have smooth clamping surfaces. Not rated for holding capacity.

Welding clamp grips sheet metal, bars, pipe, and parts.

Panel clamp has a bottom jaw that moves forward to clamp panels and sheets at a 90° angle.

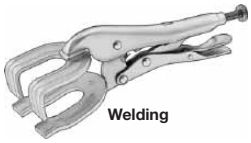
Welding

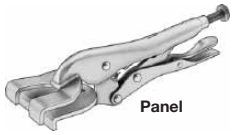
Panel

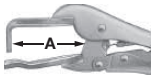



	Opening Max.	Opening Min.	Reach (A)	O'all Lg.	Mfr. No.		
Welding	2 3/4″	0″	2 3/4″	9″	9R	5084A11	$19.08
Panel	3/8″	0″	1/2″	9″	9AC	5084A12	21.57

Squeeze-Action Toggle Plier Clamps

These portable handheld clamps provide fast, positive-lock clamping where stationary toggle clamps can't be used. Clamps are made of steel. Turn the threaded holding screw to adjust the opening size.

Nonmarring holding screws have a plastic tip to protect delicate material. For replacement nonmarring holding screws, see page 2601.

(1-4) Standard clamps open by pulling the handles apart.

(5-7) Trigger-release clamps open by pulling the two-way trigger up or down.

(8) Right-angle clamps work well in tight spaces. Pull the handles apart to open them.

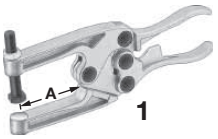

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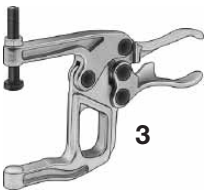
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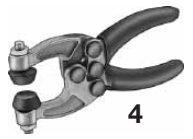
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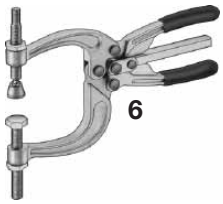
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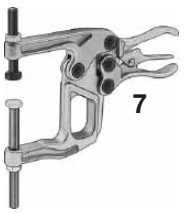
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Opening Max.	Opening Min.	Reach (A)	Holding Cap., lbs.	O'all Lg.	Holding Screw		
Standard							
Single Nonmarring Holding Screw							
1 5/8″	0″	1 1/4″	400	4 3/4″	1/4″-20	5122A3	$14.45
1 1″	0″	1 1/8″	200	4 1/2″	M6	5122A74	18.05
2 1/4″	0″	3″	100	6 7/8″	M6	5057A65	35.84
Single Holding Screw							
1 3/4″	0″	1 1/4″	400	4 3/4″	1/4″-20	5122A5	15.60
1 1 1/4″	0″	1 1/4″	2,400	8 3/4″	3/8″-24	5122A52	39.48
1 1 1/4″	0″	1 3/4″	350	6″	M8	5122A75	23.82
1 1 1/4″	0″	2 1/4″	1,200	8 3/8″	3/8″-24	5122A53	26.98
1 1 1/4″	0″	8″	300	14 1/2″	3/8″-24	5052A23	61.24
3 3″	1 7/8″	2 1/4″	1,200	8 3/8″	3/8″-24	5122A55	34.54
3 4″	2 7/8″	2 1/4″	1,200	8 3/8″	3/8″-24	5122A56	42.63
Double Nonmarring Holding Screw							
4 1″	0″	1 1/8″	200	4 1/2″	M6	5122A41	22.86
Double Holding Screw							
4 1 1/4″	0″	1 3/4″	350	6″	M8	5122A42	31.81
Trigger Release							
Single Holding Screw							
5 1 3/4″	0″	2 3/4″	700	8 1/2″	M10	5062A63	33.95
Double Holding Screw							
6 3″	0″	2 3/4″	700	8 1/2″	M10	5062A67	38.92
6 6″	0″	2 5/8″	1,000	9 1/8″	M10	5062A68	70.51
7 3″	0″	2 1/4″	1,200	8 3/8″	3/8″-24	5062A69	52.77
Right Angle							
Single Holding Screw							
8 6″	0″	2 1/4″	1,200	8 1/4″	3/8″-24	5130A23	47.91
8 6 1/8″	0″	3 1/4″	2,400	14 3/4″	5/8″-18	5130A11	100.75

Hold-Down Toggle Clamps

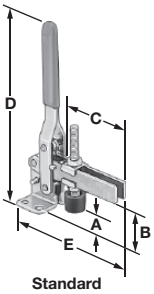

Standard


Double Locking

The most common style of toggle clamp, these clamps offer exceptional holding force with minimal hand pressure. The arm opens a minimum of 90° for easy workpiece removal. Clamps have plastic-covered handles. *High-Capacity* have a six-hole base; all others have an industry-standard four-hole base. All clamps are supplied with both a metal and nonmarring holding screw, unless noted. The holding screw moves to any position along the arm, unless noted.

Note: Position the holding screw closest to the base (as shown) to achieve maximum holding capacity. Capacity decreases by as much as 65% when the screw is positioned at the end of the arm.

Dual Mount—This clamp has mounting holes on the bottom and sides of the base for mounting versatility.

Double Locking—Useful for high-vibration applications, they have a locking lever to secure the clamp.

Cut-to-Length—Clamps have a solid arm that can be cut to your desired length. Weld the holding screw holder (included) to the end of the arm.

High Capacity—Clamps provide two to three times the holding capacity of similar-size standard clamps.

Max. Holding Cap., lbs.	Clamping Clearance (A)	Arm Ht. (B)	Arm Lg. (C)	Ht. (D)	Lg. (E)	Holding Screw	Steel		Stainless Steel	
Standard										
100	3/32"	5/8"	1 1/8"	3 1/8"	2 1/8"	10-32	5126A24	$11.70	5126A45	$23.87
200	3/16"	15/16"	1 3/8"	4 3/8"	2 3/8"	1/4"-20	5126A64■	11.43	5126A68■	29.22
200	3/16"	15/16"	1 3/4"	4 3/8"	2 3/4"	1/4"-20	5126A26	11.71	5126A48	29.95
200	3/16"	15/16"	2 3/8"	4 3/8"	3 3/8"	1/4"-20	5126A65	13.57	____	____
230	1/4"	7/8"	2 3/8"	4 3/8"	3 3/8"	1/4"-20	5126A71	10.80	5126A74	26.43
375	5/16"	1 1/4"	2 1/4"	7"	3 5/8"	5/16"-18	5126A67	14.85	____	____
375	5/16"	1 1/4"	3 7/8"	7"	5 1/4"	5/16"-18	5126A66	17.67	____	____
450	9/32"	1 1/4"	2 7/8"	5 5/8"	4 1/2"	5/16"-18	____	____	5126A49	38.68
480	5/16"	1 1/4"	3"	6 5/8"	4 1/4"	5/16"-18	5126A72	13.63	5126A75	36.02
600	13/32"	1 3/4"	3 3/4"	8 1/4"	5 5/8"	3/8"-16	5126A31	26.99	5126A56	54.64
1,000	13/32"	2"	5"	8 7/8"	7"	1/2"-13	5126A32	36.25	____	____
1,050	1 1/16"	2"	4 1/8"	8"	6 1/8"	5/16"-18	5126A73	17.87	____	____
1,200	1 7/32"	3 1/8"	5 7/8"	12"	8 7/8"	5/8"-11	5126A34	58.66	____	____
1,700	1 3/16"	2 1/4"	5 1/4"	9 7/8"	7 1/2"	1/2"-13	5126A14▲	29.86	____	____
2,570	2"	3 1/8"	6 7/8"	14 5/8"	9 7/8"	5/8"-11	5126A15▲	46.16	____	____
4,000	2"	3 1/4"	7"	14 7/8"	10"	5/8"-11	5126A16▲	157.34	____	____
Dual Mount										
375	1 23/32"	2 3/4"	2 5/8"	5 3/8"	6 5/8"	5/16"-18	50225A12	24.34	____	____
Double Locking										
375	9/32"	1 1/4"	2 1/4"	7"	4 3/4"	5/16"-18	51325A43	36.69	____	____
600	11/32"	1 3/4"	3 3/4"	8 1/4"	6 3/4"	3/8"-16	51325A44	56.42	____	____
Cut-to-Length										
500	5/16"	1 1/4"	2 1/4"	7"	3 5/8"	5/16"-18	7852A21■	29.44	____	____
750	7/16"	1 3/4"	3 3/4"	8 1/4"	5 1/2"	3/8"-16	7852A22■	27.49	____	____
1,000	1/2"	2"	4 7/8"	8 7/8"	7"	1/2"-13	7852A24■	41.71	____	____
1,200	1 11/32"	3 1/8"	5 7/8"	12"	8 7/8"	5/8"-11	5161A55■	95.43	____	____
High Capacity										
600	3/16"	15/16"	1 15/16"	4 3/4"	3 3/8"	1/4"-20	5126A59	16.55	____	____
1,000	9/32"	1 1/4"	2 7/8"	7 1/4"	4 7/8"	5/16"-18	5126A62	21.25	____	____
High Capacity Double Locking										
600	3/16"	15/16"	1 15/16"	4 3/4"	4 3/8"	1/4"-20	5126A61	33.49	____	____
1,000	9/32"	1 1/4"	2 7/8"	7 1/4"	6 5/8"	1/4"-20	5126A63	48.67	____	____

■ Holding screw does not travel along the arm. ▲Supplied with metal holding screw only.

Air-Powered Toggle Clamps

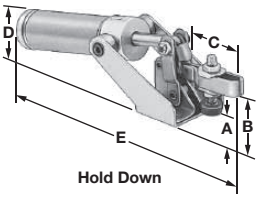

Hold Down

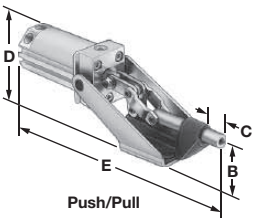

Push/Pull

For repetitive clamping and clamping in hard-to-reach locations, air-powered toggle clamps are a useful alternative to manually operated clamps. Use fittings (not included) to connect the clamp's ports to a control valve and an air line. Clamps lock against the workpiece and maintain the full-rated holding capacity, even with a loss of air pressure. They have an industry-standard four-hole base, except the 2,500-lb. capacity push/pull clamp has a six-hole base. Made of steel with a temperature range of –10° to 165° F.

Hold-Down—The holding screw opens a minimum of 90° for easy workpiece removal. Holding screw moves to any position along the arm.

Note: Position the holding screw closest to the base (as shown) to achieve maximum holding capacity. Capacity decreases by as much as 65% when the screw is positioned at the end of the arm. Clamps with 100 and 200 lbs. max. holding capacity have a nonmarring holding screw; all others have a metal holding screw.

Push/Pull Action—Plunger end is drilled and tapped to accommodate threaded holding screws and other threaded fixtures (not included). Clamps lock in the extended position only.

Hold-Down

Max. Holding Cap., lbs.	Clamping Clearance (A)	Arm Ht. (B)	Arm Lg. (C)	Ht. (D)	Lg. (E)	Holding Screw	Max. psi	Port Size		
100	3/8"	3/4"	1 1/8"	1 5/8"	5 5/8"	M5	40	M5	5174A35	$107.00
200	21/32"	1 1/8"	1 3/4"	2 5/8"	7 3/4"	M6	30	1/8" NPT	5129A21	114.05
375	29/32"	1 3/8"	2 1/2"	3"	9 3/8"	5/16"-18	45	1/8" NPT	5129A22	126.05
600	1 7/32"	1 7/8"	3 5/8"	3 7/8"	11 3/4"	3/8"-16	50	1/8" NPT	5129A23	206.69
1,000	1 15/32"	2 1/4"	4 7/8"	4 1/2"	15 1/4"	1/2"-13	75	1/8" NPT	5129A24	380.46

Push/Pull

			Plunger									
Max. Holding Cap., lbs.	Travel	Ht. (B)	Lg. (C)	Dia.	Thread Size	Thread Dp.	Ht. (D)	Lg. (E)	Max. psi	Port Size		
600	3/4"	1 1/8"	1 1/4"	7/16"	5/16"-18	1"	3"	9 7/8"	60	1/8" NPT	5137A51	$162.92
2,500	1 1/4"	1 1/8"	2"	5/8"	3/8"-16	1 1/4"	3 5/8"	13 1/2"	145	1/8" NPT	5137A52	270.73
16,000	2"	2 5/8"	3 3/8"	1"	5/8"-11	2"	7 1/4"	20 5/8"	145	1/4" NPT	5137A53	492.94

Low-Profile Hold-Down Toggle Clamps

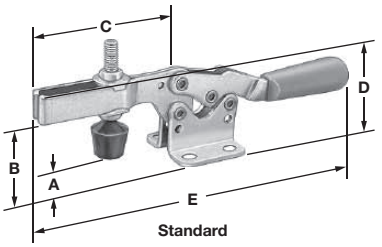

Standard


Double Locking

Secure materials in tight spaces. The clamping arm opens a minimum of 70° for easy workpiece removal. Clamps have a plastic-covered handle and include both a metal and nonmarring holding screw, unless noted. The holding screw is adjustable along the length of the arm, unless noted.

Note: Position the holding screw closest to the base (as shown) to achieve maximum holding capacity. Capacity decreases by as much as 65% when the screw is positioned at the end of the arm. All have an industry-standard four-hole base, unless otherwise stated.

Extra Hand Clearance—Additional space between the handle and the arm in the open position reduces pinch points.

Double Locking—A locking lever secures the clamp in the closed position and must be manually released before changing positions. Use for high-vibration applications.

High Capacity—These clamps have two to three times the holding capacity of similar-size standard clamps.

Max. Holding Cap., lbs.	Clamping Clearance (A)	Arm Ht. (B)	Arm Lg. (C)	Ht. (D)	Lg. (E)	Holding Screw	Steel		Stainless Steel	
Standard										
60	0″	3/8″	3/4″	3/4″	2 3/4″	8-32	5128A62 ♦	$8.80	5128A39 ★	$18.15
60	0″	3/8″	7/8″	3/4″	2 3/4″	8-32	5128A59 ♦ ■	8.80	5128A64 ★ ■	17.60
60	1/32″	1/4″	3/4″	3/4″	2 3/4″	M4	5128A63	8.80		
60	1/8″	3/8″	7/8″	3/4″	2 1/8″	6-32	5128A71	10.75	5128A72	20.14
60	1/8″	3/8″	7/8″	3/4″	2 3/4″	M4	5128A61 ■	8.80		
100	0″	1/2″	1″	1 1/8″	2 3/4″	8-32			5128A44	26.20
100	1/4″	3/4″	1″	1 1/8″	2 3/4″	8-32			5128A68	26.31
150	9/32″	5/8″	1 1/8″	1″	2 7/8″	8-32	5128A83	9.40	5128A84	21.19
200	1/4″	1″	2 1/4″	1 5/8″	5 1/2″	1/4″-20	5128A17	11.63	5128A46 ★	24.84
360	9/32″	1″	1 7/8″	1 1/2″	5″	1/4″-20	5128A85	11.59	5128A86	27.97
500	3/8″	1 3/8″	2 3/4″	1 7/8″	7″	5/16″-18	5128A22	13.28	5128A54 ★	32.72
750	1/2″	1 3/4″	4 1/4″	2 5/8″	10 3/4″	3/8″-16	5128A24	23.03	5128A55 ♣	55.95
880	1/2″	1 1/8″	2 1/2″	2″	6 7/8″	1/4″-20	5128A87	13.49	5128A88	44.47
1,600	1 3/16″	1 3/4″	3 3/4″	3 1/8″	9 1/2″	5/16″-18	5128A58	18.54		
Extra Hand Clearance										
150	3/16″	3/4″	1 1/2″	1 1/2″	4 1/8″	10-32	5091A11	11.34	5091A15	27.46
200	5/32″	1″	2 3/8″	2″	6 5/8″	1/4″-20	5091A12	15.00	5091A16	33.23
500	9/32″	1 1/4″	2 3/4″	2 1/2″	7 1/2″	5/16″-18	5091A13	16.56	5091A17	41.80
750	13/32″	1 5/8″	4″	3 1/4″	11 1/8″	3/8″-16	5091A14	27.90	5091A61	98.49
1,000	5/8″	2 1/4″	4 7/8″	4 1/4″	12 1/4″	M12	5091A18	47.47		
Double Locking										
500	3/8″	1 3/8″	2 3/4″	2″	7 1/8″	5/16″-18	5128A56	31.80		
750	7/16″	1 3/4″	4 1/4″	2 5/8″	10 1/2″	3/8″-16	5128A57	52.20		
High Capacity										
295	3/16″	3/4″	1 3/4″	1 3/8″	5 7/8″	10-32	5128A75	15.64		
560	7/32″	1″	2 5/8″	2″	8 3/4″	1/4″-20	5128A77	19.49		
High Capacity Double Locking										
295	3/16″	3/4″	1 3/4″	1 3/8″	5 7/8″	10-32	5128A76	31.24		
560	7/32″	1″	2 5/8″	2″	8 3/4″	1/4″-20	5128A78	39.98		

♦Includes both a nylon and nonmarring holding screw. ★Handle is not plastic covered. ■Holding screw does not travel along the arm. ♣Length is 10 1/2″.

Compact Hold-Down Toggle Clamps

Achieve full-size force in a small clamp. Often used for circuit boards, gluing, and assembling, these clamps have plastic-covered handles and an industry-standard four-hole base. They include both a metal and nonmarring holding screw. The holding screw can be moved to any position along the arm.

Note: Position the holding screw closest to the base (as shown) to achieve maximum holding capacity. Capacity decreases by as much as 30% when the screw is positioned at the end of the arm.

Double Locking—Built in lock/release lever prevents accidental openings.

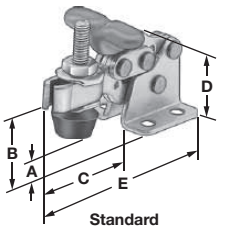

Standard


Double Locking

Max. Holding Cap., lbs.	Clamping Clearance (A)	Arm Ht. (B)	Arm Lg. (C)	Ht. (D)	Lg. (E)	Holding Screw	Steel		Stainless Steel	
Standard										
150	0″	1/2″	1 1/4″	1 1/2″	2 1/4″	10-32	5004A11	$11.08	5004A13	$26.56
350	0″	1″	2″	2 3/8″	3 5/8″	5/16″-18	5004A12	17.09	5004A14	40.29
750	1/16″	1 3/8″	2 3/4″	3 5/8″	5 1/4″	3/8″-16	5004A15	35.06	5004A16	63.92
Double Locking										
150	0″	1/2″	1 1/4″	1 1/2″	2 1/4″	10-32	4961A11	28.29		
350	0″	1″	2″	2 3/8″	3 5/8″	5/16″-18	4961A12	38.00		
750	1/16″	1 3/8″	2 3/4″	3 5/8″	5 1/4″	3/8″-16	4961A13	64.36		

Auto-Adjusting Toggle Clamps

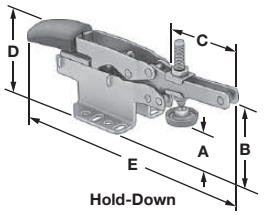

Hold-Down

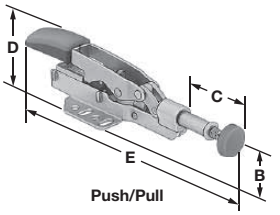

Push/Pull

You don't have to move the holding screw to fit different workpieces; these clamps have an internal mechanism that compensates for various thicknesses. Clamps have a nonmarring holding screw head that pivots to clamp angled surfaces, and a screw on the handle to modify clamping force.

Hold-Down—Arm opens a minimum of 70° for workpiece removal. They have a holding screw that moves to any position along the arm; holding capacity stays the same along the length of the arm.

Push/Pull—Clamps lock in the extended position only.

Hold-Down

Clamp Type	Max. Holding Cap., lbs.	Clamping Clearance (A)	Arm Ht. (B)	Arm Lg. (C)	Ht. (D)	Lg. (E)	Holding Screw		
Standard	700	7/8"	1 1/2"	3"	2 1/2"	8 3/8"	M8	5127A12	$24.79
Low Profile	700	5/32"	13/16"	3"	1 7/8"	8 3/8"	M8	5127A11	23.68

Push/Pull

Clamp Type	Max. Holding Cap., lbs.	Plunger: Travel	Plunger: Ht. (B)	Plunger: Lg. (C)	Plunger: Dia.	Plunger: Thread Size	Plunger: Thread Dp.	Ht. (D)	Lg. (E)	Holding Screw		
Standard	700	1"	1"	3"	15/32"	M8	3/4"	1 13/16"	9 1/2"	M8	5127A13	$25.93

Heavy Duty Hold-Down Toggle Clamps

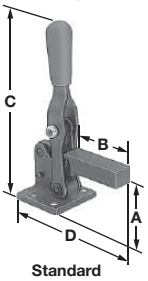

Standard

Use these clamps for your most demanding applications; their steel construction maintains high holding capacities. The arm opens a minimum of 80° for easy workpiece removal. Use the solid clamping arm as supplied, or drill and tap a hole to add a threaded holding screw (not included). All have an industry-standard four-hole base.

Standard—Has a plastic-covered handle.

Self-Adjusting—Compensate for slightly different workpiece thicknesses.

Max. Holding Cap., lbs.	Arm Ht. (A)	Arm Lg. (B)	Ht. (C)	Lg. (D)		
Standard						
750	1 1/2"	2 1/2"	6 3/4"	4"	5145A12	$64.02
Self-Adjusting						
475	1 1/2"	3 1/8"	5"	4 3/8"	50215A3	94.75
1,000	2 1/4"	3 1/2"	8 1/2"	5 3/4"	50215A7	192.07
1,600	2 1/2"	4 3/8"	9 1/2"	6 7/8"	50215A9	232.70

Hold-Down Toggle Clamps for Angled Surfaces

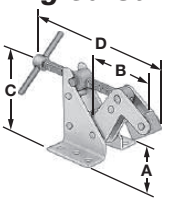

Often used on drill presses and milling tables, these clamps have jaws that pivot to stabilize angled surfaces, such as hexagonal bars. Made of steel with a zinc-plated body and frame, and a copper-plated screw to resist weld splatter. They have a six-hole base.

Max. Holding Cap., lbs.	Max. Opening	Clamping Clearance (A)	Arm Lg. (B)	Ht. (C)	Lg. (D)		
1,500	2 1/2"	1 1/2"	2 1/2"	3 1/2"	6 1/8"	5012A71	$23.00
3,200	5"	4 1/2"	4 1/4"	5 3/4"	8 7/8"	5012A72	43.97

Fast-Action Clamping Handles

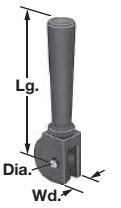

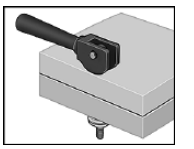
Engaged

Create your own clamp by connecting these handles to a rod end or swing bolt (not included). When pushing down on the handle, the rounded head applies pressure to draw clamping components together, resulting in a tight hold on your workpiece. Made of steel.

Lg.	Wd.	Dia.		
2 1/2"	9/16"	3/16"	61525K11	$12.60
3 1/2"	5/8"	1/4"	61525K12	14.75
5"	1 1/8"	3/8"	61525K13	18.44
5 3/8"	1 1/4"	5/8"	61525K14	20.90

Air-Powered Swing Clamps

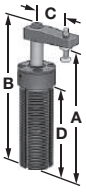

Threaded Body

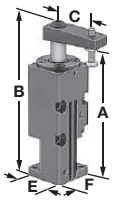

Block Style

Adjust the air pressure to apply the correct amount of clamping force without damaging delicate parts. These clamps have an arm that swings 90° before clamping down on a workpiece. Those with 15/32" vertical travel during rotation have a metal holding screw, and those with 3/4" vertical travel during rotation have a nonmarring holding screw. Use threaded fittings (not included) to connect the clamp's ports to a control valve and an air line. Clamps are aluminum with a temperature range of –14° to 140° F.

Threaded Body—To mount, screw clamp into a tapped hole in a fixture.

Block Style—Clamps have holes on the bottom and sides of the base for mounting versatility.

For additional swing clamp specifications and optional switches and mounting blocks, go to mcmaster.com and search for the clamp part number from the options below.

Threaded Body

Vertical Travel During Rotation	Max. Vertical Clamp Stroke	Clamping Clearance (A)	Ht. (B)	Ctr. to Ctr. (C)	Thread: Size	Thread: Lg. (D)	Holding Screw	Port Size	Right-Swinging Arm	Left-Swinging Arm	
15/32"	3/8"	4 11/32"	4 3/4"	1 1/8"	1 1/8"-16	2 7/8"	10-32	10-32	50185A18	50185A19	$287.63
3/4"	1/2"	5 5/16"	6 1/8"	1 5/8"	1 3/4"-12	3 1/4"	3/8"-16	1/8" NPT	50185A15	50185A16	349.64

Block Style

Vertical Travel During Rotation	Max. Vertical Clamp Stroke	Clamping Clearance (A)	Ht. (B)	Ctr. to Ctr. (C)	Wd. (E)	Dp. (F)	Holding Screw	Port Size	Right-Swinging Arm	Left-Swinging Arm	
15/32"	3/8"	4 11/32"	4 3/4"	1 1/8"	1 1/4"	1 1/4"	10-32	10-32	50185A51	50185A52	$271.24
3/4"	1/2"	5 1/2"	6 3/8"	2"	2"	3"	3/8"-16	1/8" NPT	50185A33	50185A34	370.16

Push/Pull-Action Toggle Clamps

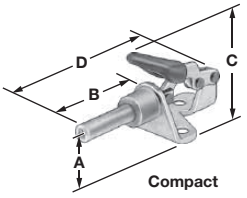

Compact


Standard


Easy Grip


Sealed


High Capacity Compact


High Capacity


Hole Mounted


Reverse Action


Double Locking Handle

Use the motion that's right for you to get fast clamping action for assembly areas, fixturing, and welding. Use for push-action clamping; those that lock in the open and closed positions can also be used as pull-action clamps. They have a plastic-covered handle, unless noted. Plungers accommodate threaded holding screws and other threaded fixtures (not included). For metal holding screws, see pages 3145-3167. For nonmarring holding screws, see page 2601.

Double locking clamps have a built-in lock/release lever to prevent accidental openings in high-vibration applications.

Compact—Often used in electronic and small fixturing applications. 5093A73 locks in the closed position only; all others lock in the open and closed positions.

Standard—6124A21 locks in the closed position only; all others lock in the open and closed positions.

Easy Grip—Clamps have a large handle for a secure grip. Lock in the open and closed positions.

Sealed—Moving parts are sealed to prevent dirt and particles from clogging the clamp. Clamp locks in the open and closed positions.

High Capacity Compact—5093A26 and 5093A77 lock in the open and closed positions; all others lock in the closed position only.

High Capacity—Clamps lock in the open and closed positions.

Hole Mounted—Mount through a panel or drill and tap a hole to flush mount. Lock in the open and closed positions.

Reverse Action—Move the handle back (or downward) to move the plunger forward. Clamps lock at the end of plunger travel, in the closed position only.

	Plunger										
Max. Holding Cap., lbs.	Travel	Ht. (A)	Lg. (B)	Dia.	Thread Size	Thread Dp.	Ht. (C)	Lg. (D)	**Steel**		**Stainless Steel**	
Compact												
100	5/8"	1/2"	1 3/8"	1/4"	8-32	1/2"	1 1/4"	2 5/8"	**5093A55**	$11.67	**5093A68**★	$25.73
100	5/8"	1/2"	1 5/8"	1/4"	1/4"-20	1/2"	1 1/4"	2 7/8"	**5093A54**▲	13.01		
100	5/8"	1/2"	1 3/8"	1/4"	M4	1/2"	1 3/8"	2 5/8"	**5093A41**	14.80		
450	1 5/8"	7/8"	2 1/4"	7/16"	5/16"-18	1"	2 1/4"	6 3/4"	**5093A73**	46.04		
Standard												
300	1 1/4"	1"	1 7/8"	7/16"	5/16"-18	1"	3 1/4"	5 1/2"	**5093A57**	20.45		
300	1 1/4"	1"	2"	7/16"	5/16"-18	1"	3 1/4"	5 1/2"	**5093A84**	17.71		
600	1 1/4"	1"	1 1/4"	7/16"	5/16"-18	1"	3 1/2"	4 3/4"	**5093A58**	21.98	**5093A21**	51.89
600	1 1/4"	1"	1 5/8"	7/16"	M8	1"	3 1/2"	4 7/8"	**5093A43**	25.20		
Easy Grip												
800	1 5/8"	3/4"	1 3/4"	1/2"	5/16"-18	1"	3 5/8"	6 1/8"	**5093A65**	34.55		
800	1 5/8"	3/4"	1 3/4"	1/2" sq.	5/16"-18	1"	3 5/8"	6 1/8"	**5093A75**	54.56		
800	1 5/8"	1 3/4"	2 1/2"	5/8"	3/8"-16	1 1/4"	4 1/2"	6 3/4"	**5093A11**	31.74		
850	1 5/8"	1 1/4"	1 5/8"	5/8"	3/8"-16	1 1/4"	4 1/8"	6"	**5093A67**	39.71		
2,500	2"	7/8"	2 1/8"	5/8"	3/8"-16	1 1/4"	3 1/8"	7 1/8"	**5093A59**	42.27		
7,500	4"	1 1/4"	4 1/8"	7/8"	1/2"-13	2"	4 3/8"	12 3/4"	**5093A66**	116.56		
Sealed												
800	1 1/4"	7/8"	2"	3/8"	1/4"-20	1/4"	2 1/2"	6 1/4"	**5093A71**	29.53		
High Capacity Compact												
560	3/4"	1/2"	3/4"	3/8"	M6	3/4"	1 5/8"	3"	**5093A26**	30.31	**5093A27**	48.93
2,500	2"	7/8"	2 1/8"	5/8"	3/8"-16	1 1/4"	3 1/8"	7 1/8"	**5093A77**	89.50		
High Capacity												
550	1"	3/8"	1 1/8"	7/16"	M6	7/8"	2 3/8"	4 1/4"	**5093A22**★	45.90		
1,100	1 1/2"	1/2"	1 1/2"	9/16"	M8	1"	2 7/8"	5 7/8"	**5093A23**★	71.14		
1,650	2"	5/8"	2"	3/4"	M12	1 5/8"	3 1/4"	7 1/2"	**5093A24**★	117.49		
3,960	2 3/8"	5/8"	2 1/2"	7/8"	M12	1 5/8"	3 5/8"	9 1/4"	**5093A25**★	130.57		
16,000	3"	2 1/4"	3 3/8"	1"	5/8"-11	2"	4 7/8"	11 1/4"	**5093A61**★	137.96		
Hole Mounted												
200	3/4"	___	1"	3/8"	1/4"-20	5/8"	3 1/8"	2 5/8"	**5093A56**	16.51	**5093A72**	56.20
200	3/4"	___	1"	3/8"	M6	5/8"	3 1/8"	2 5/8"	**5093A42**	23.71		
300	1 1/2"	___	1 7/8"	7/16"	5/16"-18	1"	4 1/4"	5"	**5093A63**	18.43	**5093A69**	50.27
450	1 1/2"	___	1 7/8"	1/2"	5/16"-18	1"	4 1/4"	5 5/8"	**5093A81**	34.16		
700	2 5/8"	___	3 1/4"	5/8"	3/8"-16	1 1/4"	5 5/8"	6 3/4"	**5093A64**	39.78	**5093A76**	105.07
Reverse Action												
300	1"	1"	1 3/4"	7/16"	5/16"-18	1"	2 3/8"	8 5/8"	**5093A62**	28.68		
600	1 1/8"	1 3/4"	1 3/4"	5/8"	3/8"-16	1"	2 1/4"	11 5/8"	**5093A74**	47.69		
Double Locking Standard												
600	1 1/4"	1"	1 1/4"	7/16"	5/16"-18	1"	3 1/2"	4 3/4"	**6124A21**	50.78		
Double Locking High Capacity Compact												
560	3/4"	1/2"	3/4"	3/8"	M6	3/4"	1 5/8"	3"	**6124A24**	48.14		
Double Locking Hole Mounted												
750	2 5/8"	___	2 3/4"	5/8"	3/8"-16	1 1/4"	4 7/8"	7 1/8"	**6124A27**	65.73		

★Handle is not plastic covered. ▲Plunger has external threads.

Pull-Action Toggle Clamps

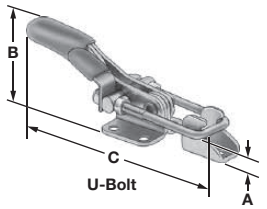


U-Bolt Double Locking


U-Bolt Right Angle


J-Hook


Latch


Threaded Holding Screw

When you need to pull it together, these clamps secure lids and doors on drums and containers. Pull the handle back to engage the draw arm. You can adjust the length of the draw arm, unless noted. Clamps have plastic-covered handles, unless noted.

U-bolt clamps include a latch plate, unless noted.

Double locking clamps have a locking lever that keeps the draw arm in the locked position, making these suitable for high-vibration applications.

Right angle clamps can be mounted on a lid with the latch plate mounted on the side of a container.

Max. Holding Cap., lbs.	*Draw Arm* Travel	*Draw Arm* Adjustment	*Draw Arm* Clearance (A)	Ht. (B)	Lg. (C)	Steel		Stainless Steel	
U-Bolt									
360	1 1/4"	13/32"	1/2"	1 1/4"	3 7/8"	5071A51	$12.65	5071A57	$28.48
720	1 3/4"	1/2"	3/4"	2"	6 1/8"	5071A52	16.81	5071A58	34.15
2,000	2 1/2"	23/32"	1"	3"	8 1/4"	5071A53	26.87	5071A59	61.59
4,000	3 1/2"	7/8"	1 1/8"	4 1/4"	10 1/4"	5071A54▲	60.40	—	—
7,500	2 1/4"	1 1/16"	1 1/8"	3 3/4"	9 3/4"	5071A55▲★	78.76	—	—
7,500	2 1/4"	1 1/16"	1 1/8"	2"	10 1/8"	5071A61▲★	95.01	—	—
U-Bolt Double Locking									
360	1 3/16"	13/32"	1/2"	1 1/4"	3 7/8"	51335A69	26.60	51335A71	49.93
720	1 3/4"	1/2"	3/4"	2"	6 1/8"	51335A65	31.25	51335A67	56.74
2,000	2 1/2"	23/32"	1"	3"	8 1/4"	5071A62	45.74	51335A68	94.14
4,000	3 1/2"	7/8"	1 1/8"	4 1/4"	10 1/4"	51335A66▲	82.27	—	—
6,000	2 3/16"	1 1/16"	1 3/16"	3 5/8"	10 5/8"	—	—	51335A72★	266.44
7,500	2 1/4"	1 1/16"	1 1/8"	3 3/4"	9 3/4"	5071A63★	119.71	—	—
U-Bolt Right Angle									
500	1 5/8"	1/2"	2"	2"	3 1/2"	5135A23	19.47	5135A33	37.05
1,000	2 1/8"	25/32"	2 7/8"	2 3/8"	4 1/8"	5135A25	24.14	5135A35	43.64
2,000	2 1/2"	1 1/4"	3 7/8"	3 1/2"	5 7/8"	5135A27	36.54	5135A37	73.77
4,000	1 3/4"	2 1/32"	—	2 3/8"	6 5/8"	5135A28♣	138.86	—	—
U-Bolt Double Locking Right Angle									
500	1 5/8"	1/2"	2"	2 1/8"	3 1/2"	5135A41	38.58	—	—
1,000	2 1/8"	25/32"	2 7/8"	2 3/8"	4 1/8"	5135A42	47.91	—	—
2,000	2 1/2"	1 1/4"	3 7/8"	3 1/2"	5 7/8"	5135A43	72.37	—	—
J-Hook									
200	2 3/8"	9/32"	5/8"	1"	6"	5136A76	15.51	5136A77	32.04
375	4"	15/32"	3/4"	1 3/8"	8 7/8"	5136A13	12.85	5136A12	28.80
750	5 3/8"	15/16"	1 1/2"	2 1/4"	12"	5136A14	31.55	5136A17	73.26
1,000	6 1/8"	1 5/32"	1 7/8"	2 3/4"	13 1/2"	5136A15	36.59	5136A78	104.26
J-Hook Double Locking									
375	4"	15/32"	3/4"	1 3/8"	9 1/2"	5136A65	29.62	—	—
750	5 3/8"	15/16"	1 1/2"	2 1/4"	12 3/4"	5136A66	56.99	—	—
Latch									
375	4"	—	1 5/8"	2"	8 3/8"	5138A16■	21.29	5138A17■	57.71
1,200	3 3/8"	—	2"	2 1/2"	9 1/2"	5138A23■	40.97	—	—
2,000	2 1/2"	1/8"	1 1/2"	1 7/8"	9 3/4"	5138A11	31.16	—	—
Threaded Holding Screw									
2,000	2 1/2"	9/16"	1 1/2"	1 7/8"	11 3/8"	5138A12	24.38	—	—
Latch Plate for 5071A54, 5071A55, 5071A61, and 51335A66								5071A56	20.10

▲ Latch plate not included; sold separately. ★ Handle is not plastic covered. ♣ Latch plate not included. ■ Length of draw arm is not adjustable.

Fast-Action Plunger Clamps

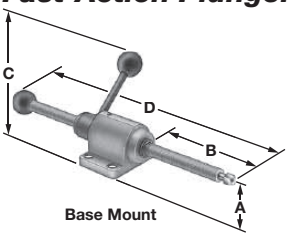

Base Mount


Flange Mount

Quick clamping action makes it easy to secure workpieces. Push the plunger forward until it contacts the workpiece, then rotate the locking lever handle to apply clamping force and lock the plunger. Mounting base is aluminum alloy, knobs are plastic, and all other parts are steel. The *base-mount* clamp mounts to a flat surface; drill a hole to mount *flange-mount* clamp into a surface.

Mount Style	Max. Holding Cap., lbs.	*Plunger* Travel	*Plunger* Ht. (A)	*Plunger* Lg. (B)	*Plunger* Dia.	*Plunger* Thread Size	*Plunger* Thread Dp.	*Plunger* Ht. (C)	*Plunger* Lg. (D)		
Base	2,000	7 7/8"	1 3/16"	7 7/8"	5/8"	M8	15 mm	6 3/8"	15"	5010A92	$345.22
Flange	600	7 7/8"	—	7 7/8"	1/2"	M6	12 mm	5 1/8"	13"	5010A91	282.80

Right-Angle Toggle Clamps

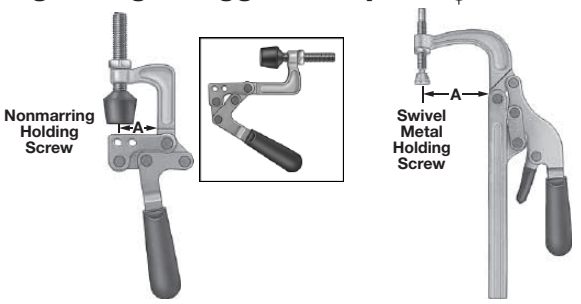

With jaws that open 85°, these clamps make workpiece removal easy. Weld or bolt them to containers for clamping lids and covers. All have a plastic-coated handle.

Clamps *with metal holding screw* are 8 3/8" long; clamps *with nonmarring holding screw* are 9 3/4" long; and clamps *with swivel metal holding screw* are 10 7/8" long.

Max. Holding Cap., lbs.	Max. Opening	Arm Lg. (A)	Steel		Stainless Steel	
With Metal Holding Screw						
800	1 3/4"	1 1/4"	5112A14	$27.08	5112A15	$82.04
With Nonmarring Holding Screw						
800	1 3/4"	1 1/4"	5112A24	29.06		
With Swivel Metal Holding Screw						
800	9 3/8"	2 3/4"	5149A71	71.33		

Press Screws



Often used for gluing, welding, and veneering, these clamps have a screw nut that mounts into a drilled 1" hole, allowing the threaded rod to move in and out. Made of stainless steel with a steel screw. Include a crank handle and a removable 1 3/8" Ht. x 1 3/4" Wd. swivel pad. Clamping surface is smooth. Not rated for holding capacity.

Max. Screw Lg.		
9"	5096A14	$19.98
12"	5096A16	25.11
18"	5096A18	30.37

Adjustable-Angle Magnetic Clamps

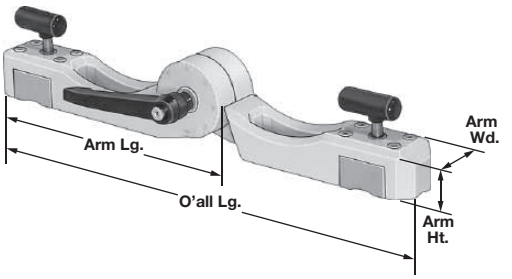

Set this clamp at any angle between 22° and 270° and then lock it in place. Often used in welding applications, it holds ferrous metals in place without needing to clamp from both sides. Turn the knobs to engage and disengage the magnets.

Max. Magnetic Pull, lbs./ft.	Arm Lg.	Arm Wd.	Arm Ht.	O'all Lg.		
200	9 1/4"	1 11/16"	1 1/2"	15 3/4"	1395N11	$172.12

Replacement Holding Screws for Toggle Clamps

Holding Screws

Replace worn screws or customize your clamps. *Nonmarring screws* have tips bonded to threaded holding screws.

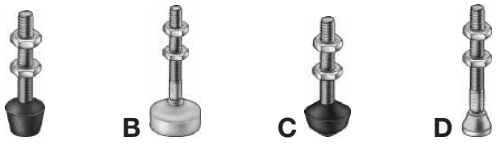

Screw Size Thread	Lg.	O'all Lg.	Tip Dia.	Steel		Stainless Steel	
(A) Nonmarring Flat-Tipped							
8-32	3/4"	1"	9/16"	5147A56	$2.71	5147A88	$4.19
8-32	1"	1 1/4"	9/16"	5147A57	2.87		
10-32	1"	1 3/8"	9/16"	5147A61	2.44	5147A16	4.19
1/4"-20	5/8"	1"	11/16"	5147A58	2.64		
1/4"-20	1 1/8"	1 1/2"	11/16"	5147A59	2.59		
1/4"-20	1 1/8"	1 3/4"	5/8"	5147A62	2.80	5147A17	4.72
1/4"-20	1 5/8"	2 1/4"	5/8"	5147A63	3.34	5147A18	5.24
5/16"-18	1 5/8"	2 1/4"	13/16"	5147A64	3.34	5147A19	5.93
5/16"-18	2 3/8"	3"	13/16"	5147A65	3.38	5147A84	5.26
3/8"-16	2 3/8"	3 1/4"	1"	5147A66	4.41	5147A85	6.38
3/8"-16	2 1/2"	3 1/2"	7/8"	5147A67	4.95		
3/8"-16	4 7/8"	5 3/4"	1"	5147A68	5.08		
1/2"-13	2 3/4"	3 7/8"	1 3/16"	5147A69	5.68		
5/8"-11	3 3/4"	5"	1 3/8"	5147A71	6.74		
M4	1 1/4"	1 3/8"	5/16"	5147A21	2.51		
M6	1 1/4"	1 3/4"	5/8"	5147A23	3.09		
M6	1 5/8"	2 1/4"	5/8"	5147A24	3.45		
M8	1 1/2"	2 1/8"	13/16"	5147A25	3.45		
M8	2 5/8"	3 3/8"	13/16"	5147A26	3.59		
M10	3 3/4"	4 3/4"	1"	5147A91	5.07		
M10	2 3/16"	3 1/8"	1"	5147A92	3.65		
M12	2 7/8"	4 1/8"	1 3/16"	5147A93	7.15		
(B) Nonmarring Swivel Flat-Tipped							
1/4"-20	1 5/8"	2 5/8"	1"	5147A72	10.82		
5/16"-18	2"	3"	1 1/2"	5147A73	12.00		
3/8"-16	2 1/2"	3 5/8"	2"	5147A74	13.00		
(C) Nonmarring Cone-Tipped							
10-32	1"	1 1/2"	9/16"	5147A81	2.87		
1/4"-20	1 5/8"	2 1/4"	3/4"	5147A82	3.46		
5/16"-18	2 3/8"	3"	3/4"	5147A83	3.59		
(D) Metal Swivel-Tipped							
1/4"-20	1 5/8"	2 1/2"	1/2"	5147A28	5.08		
5/16"-18	2"	2 3/4"	9/16"	5147A29	5.38		
3/8"-16	2"	3 1/8"	5/8"	5147A31 ♠	5.68		
3/8"-16	2 1/2"	3 1/2"	5/8"	5147A32	6.12		
1/2"-13	3 1/2"	4 3/4"	1"	5147A33	9.52		

♠ Knurl on end of thread.

Holding Screw Caps

Caps provide a nonmarring grip on surfaces that could be damaged by metal holding screws. *Push-on caps* slip over the head of a metal holding screw. *Screw-on caps* have internal threads and screw onto the headless end of a holding screw.



For Holding Screw	Rounded Push-On		Flat-Tipped Screw-On		Cone-Tipped Screw-On	
8-32	5147A11	$0.75				
1/4"-20	5147A12	.81	5147A34	$2.31	5147A37	$2.28
5/16"-18			5147A35	2.26	5147A38	2.21
5/16"-18, 5/16"-24	5147A15	1.07				
3/8"-16	5147A13	1.26	5147A36	2.54	5147A39	2.54
M6	5147A89	1.10				

Flanged Washers

Use on U-shaped open clamping arms to keep the holding screw in place.

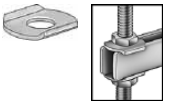

For Holding Screw	Inside Width Between Flanges	Steel		Stainless Steel	
#8	5/16"	5147A41	$0.58	5147A48	$0.84
#10	3/8"	5147A42	.70	5147A49	.79
1/4"	1/2"	5147A43	.60	5147A51	.74
5/16"	9/16"	5147A44	.70	5147A52	1.30
3/8"	3/4"	5147A45	.86	5147A53	1.90
1/2"	7/8"	5147A46	1.37		
5/8"	1"	5147A47	2.86		

Setup Clamps

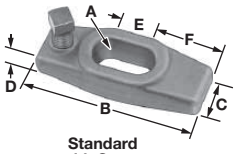

Standard with Screw

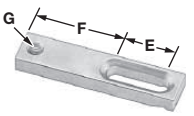

Corrosion Resistant



Gooseneck with Screw

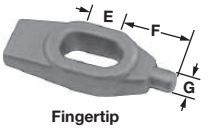

Fingertip

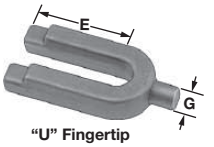

"U" Fingertip

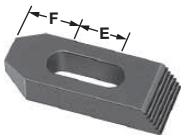

Step

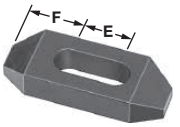

Tapered Nose



Edge Holding



Low-Profile Edge Holding

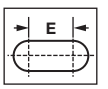

Slot length is measured center to center

Use to hold dies and fixtures on planers, punch presses, milling machines, boring mills, and drill presses. Also known as strap clamps. Made of steel, except the corrosion-resistant clamps are made of non-magnetic stainless steel.

Step clamps have one serrated end to fit into serrated step blocks. See page 2603 for step blocks.

Tapered nose clamps mount to the top of a pair of step blocks or straddle workpieces that have a mounting hole.

Edge holding and **low-profile edge holding** clamps, also known as toe clamps, have a serrated edge that exerts clamping force both forward and downward when tightened.

Edge holding clamps come with a removable aluminum cap that can be placed over the serrated edge to prevent damage to workpieces.

Low-profile edge holding clamps allow you to machine a workpiece thinner than your clamp.

Stud Size (A)	Lg. (B)	Wd. (C)	Ht. (D)	Slot Lg. (E)	Edge to Slot (F)	(G)		
Standard								
5/8"	4"	1 5/8"	3/4"	3/4"	1 3/4"	____	4997A11	$5.60
5/8"	6"	1 3/4"	7/8"	1 3/8"	2 3/8"	____	4997A12	9.73
3/4"	8"	2 1/8"	1 1/8"	2"	3 1/8"	____	4997A13	15.27
7/8"	10"	2 1/2"	1 3/8"	2 5/8"	3 3/4"	____	4997A14	29.27
Standard with Screw								
5/8"	4"	1 5/8"	3/4"	3/4"	1 3/4"	____	4997A21	15.12
5/8"	6"	1 3/4"	7/8"	1 3/8"	2 3/8"	____	4997A22	21.53
3/4"	8"	2 1/8"	1 1/8"	2"	3 1/8"	____	4997A23	31.30
Corrosion Resistant								
3/16"	1 1/2"	1/2"	1/4"	3/8"	3/4"	10-32	8525A11	10.85
3/16"	1 3/4"	1/2"	1/4"	1/2"	1"	10-32	8525A12	11.52
1/4"	2"	5/8"	1/4"	1/2"	1"	1/4"-20	8525A13	14.32
1/4"	2 1/2"	5/8"	1/4"	5/8"	1 3/8"	1/4"-20	8525A14	15.85
5/16"	2"	3/4"	3/8"	1/2"	7/8"	5/16"-18	8525A15	14.83
5/16"	3"	3/4"	3/8"	7/8"	1 1/2"	5/16"-18	8525A16	16.18
3/8"	3"	7/8"	1/2"	3/4"	1 7/8"	3/8"-16	8525A17	21.02
3/8"	4"	7/8"	1/2"	1 1/8"	2 1/4"	3/8"-16	8525A18	23.48
Gooseneck								
5/8"	4"	1 5/8"	3/4"	1/4"	2"	3/4"	4997A25	6.02
5/8"	6"	1 3/4"	7/8"	1"	2 1/2"	7/8"	4997A36	11.19
3/4"	8"	2 1/8"	1 1/8"	1 5/8"	3 1/4"	1 1/8"	4997A27	16.20
Gooseneck with Screw								
5/8"	4"	1 5/8"	3/4"	1/4"	2"	3/4"	4997A46	17.14
3/4"	8"	2 1/8"	1 1/8"	1 5/8"	3 1/4"	1 1/8"	4997A48	34.48
Fingertip								
5/8"	4"	1 5/8"	3/4"	5/8"	1 5/8"	1/2"	4997A41	5.60
3/4"	8"	2 1/8"	1 1/8"	1 3/4"	3 1/8"	3/4"	4997A43	15.27
"U" Fingertip								
5/8"	4"	1 3/4"	3/4"	2 5/8"	____	5/8"	4997A2	5.60
5/8"	6"	2"	7/8"	4 3/8"	____	3/4"	4997A16	9.73
3/4"	8"	2 3/8"	1 1/8"	6 1/8"	____	7/8"	4997A17	15.27
7/8"	10"	2 3/4"	1 1/4"	7 5/8"	____	1"	4997A18	24.37
1"	12"	3 1/4"	1 3/8"	9 3/8"	____	1 1/8"	4997A19	33.55
Step								
5/16", 3/8"	2 1/2"	1"	1/2"	7/8"	7/8"	____	4999A27	9.15
5/16", 3/8"	4"	1"	5/8"	1 1/2"	1 1/8"	____	4999A28	12.52
5/16", 3/8"	6"	1 1/8"	3/4"	2 1/4"	1 1/4"	____	4999A29	15.75
1/2"	2 1/2"	1 1/8"	1/2"	3/4"	7/8"	____	4999A31	10.46
1/2"	4"	1 1/4"	3/4"	1 3/8"	1 1/4"	____	4999A32	14.92
1/2"	6"	1 1/4"	7/8"	2 1/8"	1 1/4"	____	4999A33	18.15

Stud Size (A)	Lg. (B)	Wd. (C)	Ht. (D)	Slot Lg. (E)	Edge to Slot (F)	(G)		
Step (Cont.)								
5/8"	2 1/2"	1 1/4"	5/8"	5/8"	1"	____	4999A34	$13.21
5/8"	4"	1 1/2"	3/4"	1 1/4"	1 1/4"	____	4999A35	18.27
5/8"	6"	1 1/2"	7/8"	2"	1 1/2"	____	4999A36	21.65
3/4"	4"	1 1/2"	3/4"	1 1/8"	1 3/8"	____	4999A37	18.94
3/4"	6"	1 1/2"	1"	2"	1 1/2"	____	4999A38	27.58
3/4"	8"	1 3/4"	1 1/8"	2 1/4"	1 7/8"	____	4999A39	37.90
7/8", 1"	6"	2"	1 1/4"	1 3/4"	1 7/8"	____	4999A41	42.25
7/8", 1"	8"	2"	1 3/8"	2"	2 1/8"	____	4999A42	52.46
7/8", 1"	10"	2"	1 1/2"	3"	2 1/8"	____	4999A43	61.87
Tapered Nose								
5/16", 3/8"	2 1/2"	1"	1/2"	7/8"	7/8"	____	84945A31	8.38
5/16", 3/8"	4"	1"	5/8"	1 1/2"	1"	____	84945A32	11.29
5/16", 3/8"	6"	1 1/8"	3/4"	2 1/4"	1 1/8"	____	84945A33	14.79
1/2"	2 1/2"	1 1/8"	1/2"	3/4"	7/8"	____	84945A34	9.77
1/2"	4"	1 1/4"	3/4"	1 3/8"	1 1/8"	____	84945A35	13.15
1/2"	6"	1 1/4"	7/8"	2 1/8"	1 1/4"	____	84945A36	16.13
5/8"	2 1/2"	1 1/4"	5/8"	5/8"	1"	____	84945A37	11.46
5/8"	4"	1 1/2"	3/4"	1 1/4"	1 1/4"	____	84945A38	14.35
5/8"	6"	1 1/2"	7/8"	2"	1 3/8"	____	84945A39	18.52
3/4"	4"	1 1/2"	3/4"	1 1/8"	1 3/8"	____	84945A41	15.46
3/4"	6"	1 1/2"	1"	2"	1 1/2"	____	84945A42	23.42
3/4"	8"	1 3/4"	1 1/8"	2 1/4"	1 7/8"	____	84945A43	31.48
7/8", 1"	6"	2"	1 1/4"	1 3/4"	1 7/8"	____	84945A44	38.33
7/8", 1"	8"	2"	1 3/8"	2"	2 1/8"	____	84945A45	49.04
7/8", 1"	10"	2"	1 1/2"	3"	2 1/8"	____	84945A46	61.88
Edge Holding								
5/16"	1 7/8"	1"	5/8"	1/4"	3/8"	____	8958A61	42.96
3/8"	2 3/8"	1 1/4"	5/8"	3/8"	1/2"	____	8958A67	44.99
3/8"	4 1/8"	1 1/4"	5/8"	2"	3/4"	____	8958A68	49.68
1/2"	4 1/8"	1 1/2"	7/8"	1 1/4"	1/2"	____	8958A64	45.37
1/2"	5 3/8"	1 1/2"	7/8"	2"	7/8"	____	8958A65	48.36
1/2"	7 1/4"	1 1/2"	7/8"	3"	1 3/8"	____	8958A66	51.11
Low-Profile Edge Holding								
1/4"	1 7/8"	1"	5/8"	1/4"	3/8"	1/8"	8958A11	41.72
3/8"	2 3/8"	1 1/4"	5/8"	3/8"	1/2"	1/4"	8958A17	42.28
3/8"	4 1/8"	1 1/4"	5/8"	2"	3/4"	1/4"	8958A18	43.90
1/2"	4 1/8"	1 1/2"	7/8"	1 1/4"	1/2"	1/4"	8958A14	42.74
1/2"	5 3/8"	1 1/2"	7/8"	2"	7/8"	1/4"	8958A15	45.83
1/2"	7 1/4"	1 1/2"	7/8"	3"	1 3/8"	1/4"	8958A16	48.56

Self-Positioning Setup Clamps

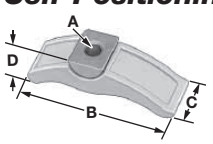

The swivel rocker design pivots to any position and adjusts within the clamping range. Secure through the center with a T-nut and stud (not included). Clamps are made of cast iron.

Clamping Range	Stud Size (A)	Lg. (B)	Wd. (C)	Ht. (D)		
Up to 1"	3/8"	3"	1 1/8"	1 1/4"	31415A21	$32.32
Up to 1 1/4"	3/8"	3 3/4"	1 1/8"	1 1/4"	31415A11	33.04
Up to 1 3/4"	1/2"	4 1/4"	1 1/2"	1 1/2"	31415A22	35.44
Up to 2 1/2"	1/2"	5 3/4"	1 1/2"	1 1/2"	31415A12	36.25
Up to 2 3/4"	5/8"	5 1/2"	1 3/4"	1 5/8"	31415A23	41.61
Up to 3 1/2"	5/8"	6 3/4"	1 3/4"	1 5/8"	31415A13	42.70
Up to 3 1/2"	3/4"	7"	2 1/8"	2 1/4"	31415A24	61.75
Up to 5"	3/4"	9"	2 1/8"	2 1/4"	31415A14	62.30

Adjustable Height Serrated Step Blocks

Step blocks support clamps on machine beds and have nonslip serrations for adjusting height in 1/8" vertical and 1/16" horizontal increments. Made of steel. Blocks with holes are for easy handling.

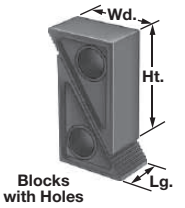

Blocks with Holes

Height Range	Ht.	Wd.	Lg.	Hole Dia.		Pair
3/4"-1 5/8"	1 1/16"	1 1/16"	1"	—	5002A6	$5.15
1 1/8"-2 1/2"	1 39/64"	1 1/16"	1"	—	5002A2	7.09
1 3/4"-4"	2 17/32"	1 43/64"	1 1/2"	—	5002A7	12.06
2 1/2"-6"	3 3/4"	2 15/32"	1"	1"	5002A3	16.54
2 1/2"-6"	3 3/4"	2 15/32"	1 1/2"	1"	5002A8	23.09
3 1/2"-9"	5 21/64"	3 7/16"	1 1/2"	1 5/8"	5002A11	41.26

Setup Clamping Kits

Kits have a full range of clamps, blocks, studs, and nuts. They include 24 studs—four each in 3", 4", 5", 6", 7", and 8" lengths or 80 mm, 110 mm, 140 mm, 150 mm, 175 mm, and 200 mm lengths (unless noted). They also include four T-slot nuts, four flange nuts, four coupling nuts, six step blocks, and six step clamps. Clamps, nuts, and blocks are steel.

Standard kits include everything listed above plus a T-slot cleaner. The kits with wall-mount holder include two additional T-slot nuts and flange nuts. 8957A51 includes two additional T-slot nuts.

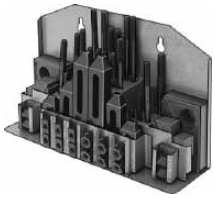
Standard Kit with Wall-Mount Holder

Stud Size	Table Slot Size	T-Slot Nut Wd.	Tray Holder		Wall-Mount Holder	
Economy Kit						
1" Wide Blocks, 3/4" to 6" Height Range						
1/2"-13	5/8"	1"	—	—	31255A89	$120.53
Standard Kits						
1" Wide Blocks, 3/4" to 6" Height Range						
5/16"-18	3/8"	5/8"	8957A19	$154.69	—	—
3/8"-16	1/2"	7/8"	8957A21	208.43	8957A41	181.98
1/2"-13	9/16"	7/8"	8957A11	232.52	8957A42	192.26
1/2"-13	5/8"	1"	8957A12	232.52	8957A43	193.93
5/8"-11	11/16"	1 1/8"	8957A14	266.17	8957A45	238.65
5/8"-11	3/4"	1 1/4"	8957A15	269.79	8957A46	241.20
1 1/2" Wide Blocks, 1 1/2" to 9" Height Range						
1/2"-13	5/8"	1"	8957A51	265.67	—	—
25 mm Wide Blocks, 19 mm to 152 mm Height Range						
M10×1.5	12 mm	19 mm	8957A61	222.30	8957A71▲	246.78
M12×1.75	14 mm	22 mm	8957A62	249.24	8957A72▲	276.15

▲Includes 125 mm studs instead of 140 mm studs.

Low-Profile Clamps

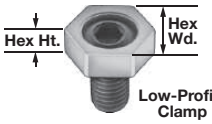

Low-Profile Clamp

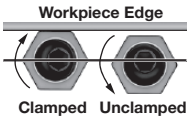

Clamped Unclamped

Give the screw a half-turn to press the hex head against the workpiece for quick and effective clamping. Use these clamps in tapped holes. They have a steel offset socket head cap screw and a brass hex head, except where noted. Clamps are often used in conjunction with T-slot nuts (sold separately below).

Clamps

Thread Size	Lg.	Hex Head Ht.	Wd.	Head Movement	Clamp Force, lbs.	Hex Key Size		
8-32	11/32"	0.11"	5/16"	0.03"	205	5/64"	84865A31	$6.56
10-32	11/32"	0.16"	1/2"	0.04"	350	3/32"	84865A13	6.80
1/4"-20	15/32"	3/16"	5/8"	0.04"	800	1/8"	84865A35 ♣	23.24
1/4"-20	15/32"	3/16"	5/8"	0.04"	800	1/8"	84865A12	6.93
5/16"-18	15/32"	3/16"	13/16"	0.04"	800	3/16"	84865A34	7.24
3/8"-16	23/32"	1/4"	13/16"	0.05"	2,000	3/16"	84865A14	7.91
1/2"-13	29/32"	3/8"	1"	0.10"	4,000	5/16"	84865A15	10.61
5/8"-11	1 1/8"	1/2"	1.187"	0.10"	6,000	3/8"	84865A47	14.08

♣ Screw and hex head are stainless steel.

T-Slot Nuts

Nuts have a set screw to hold it in the T-slot. Made of steel.



For Slot Wd.	Fits Clamps		
3/8"	84865A35 & A12	84865A22	$16.80
1/2"	84865A14	84865A26	16.80
9/16"	84865A14	84865A42	16.80
5/8"	84865A15	84865A44	16.80

T-Slot Nut and Stud Setup Kits

Kits contain 24 studs—four each in 3", 4", 5", 6", 7", and 8" lengths; four T-slot nuts; four flange nuts; four coupling nuts; a T-slot cleaner; and a wood holder. Studs and nuts are steel.



Stud Size	Table Slot Size	T-Slot Nut Wd.		
5/16"-18	3/8"	5/8"	3396A11	$66.72
3/8"-16	7/16"	11/16"	3396A12	68.02
3/8"-16	1/2"	7/8"	3396A13	70.52
1/2"-13	9/16"	7/8"	3396A14	77.06
1/2"-13	5/8"	1"	3396A15	80.04
5/8"-11	11/16"	1 1/8"	3396A16	102.11
5/8"-11	3/4"	1 1/4"	3396A17	103.61
3/4"-10	7/8"	1 1/2"	3396A19	152.70

Swivel-Hook Clamps

Also known as swing or hook clamps, these clamps have a steel hook that rides on a spring-loaded socket head cap screw. They hold workpieces securely, yet can be swiveled out of the way for a quick release. The screw is flush with the top of the clamp, permitting use in tight spaces. Clamp body is steel.



Hook to Base (A)	Clamp Lg.	Clamp Wd.	Hook Lg. (B)	Thread Size	Thread Lg.	Hex Key Size		
7/8"	1 3/8"	5/8"	1 11/16"	5/16"-18	1 3/4"	1/4"	8954A11	$28.53
1 5/8"	2 1/4"	7/8"	1"	3/8"-16	3"	5/16"	8954A12	31.14
1 5/8"	2 1/4"	7/8"	1"	1/2"-13	3"	3/8"	8954A13	31.14
1 13/16"	2 3/4"	1 1/8"	1 7/16"	5/8"-11	3 1/2"	1/2"	8954A15	33.41

Swivel Pads

Also known as toggle or swivel-foot pads, these pads apply uniform clamping pressure on uneven and angular surfaces. They tilt up to 10° to clamp against the workpiece. Thread them onto clamp bolts or studs that have a matching thread size.

Pads with a **serrated bottom** grip better on rough surfaces. Pads with a **nonmarring bottom** are made of acetal to protect soft metals and polished surfaces.

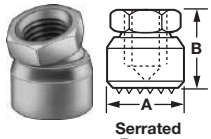

Serrated Bottom

Pad Dia. (A)	Ht. (B)	Thread Size	Steel		Stainless Steel	
Plain Bottom						
5/8"	5/8"	1/4"-20	8955A11	$4.30	89585A1	$7.77
11/16"	3/4"	5/16"-18	8955A12	4.57	89585A2	7.87
3/4"	13/16"	3/8"-16	8955A13	4.75	89585A3	8.13
7/8"	15/16"	1/2"-13	8955A14	5.13	89585A4	9.47
1"	1"	5/8"-11	8955A15	5.47	89585A5	10.07
1 1/4"	1 11/32"	3/4"-10	8955A16	7.55	89585A6	14.27
1 5/8"	1 53/64"	1"-8	8955A17	12.53	89585A7	24.03
Serrated Bottom						
5/8"	5/8"	1/4"-20	8955A21	5.02	89585A21	8.50
11/16"	3/4"	5/16"-18	8955A22	5.06	89585A22	8.67
3/4"	13/16"	3/8"-16	8955A23	5.17	89585A23	8.93
7/8"	15/16"	1/2"-13	8955A24	5.78	89585A24	10.70
1"	1"	5/8"-11	8955A25	6.04	89585A25	11.03
1 1/4"	1 11/32"	3/4"-10	8955A26	8.30	89585A26	15.90
1 5/8"	1 53/64"	1"-8	8955A27	13.89	89585A27	26.47
Nonmarring Bottom						
5/8"	5/8"	1/4"-20	84875A41	5.35	89585A8	11.06
11/16"	3/4"	5/16"-18	84875A42	5.44	89585A9	10.67
3/4"	13/16"	3/8"-16	84875A43	5.65	89585A11	11.64
7/8"	15/16"	1/2"-13	84875A44	6.19	89585A12	13.56
1"	1"	5/8"-11	84875A45	6.47	89585A13	13.90
1 1/4"	1 11/32"	3/4"-10	84875A46	8.91	89585A14	19.83
1 5/8"	1 53/64"	1"-8	84875A47	14.81	89585A15	32.27

Serrated Grippers

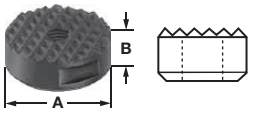

Standard Round Gripper

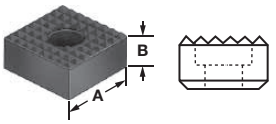

Counterbored Square Gripper

Attach to chuck jaws, clamps, and other fixturing devices to provide additional holding strength and prevent wear. Made of steel.

Standard grippers have a threaded hole for fast mounting and replacement. Thread size is 10-32 (unless noted). They also have flat notches on the side for set screw mounting. *Round carbide-tipped* grippers are more wear resistant and have a 7/32″ deep blind hole.

Counterbored grippers mount with a socket head cap screw (not included).

To Order: Please specify extra-fine or fine pattern. Extra fine teeth are close together and lightly penetrate while holding. Fine are further apart for more aggressive holding. Standard 3/8″ size (A) are only available with extra-fine pattern.

Standard

Size (A)	Ht. (B)	Round		Round Carbide-Tipped		Square	
3/8″	3/8″	84905A41	$7.56	84885A31	$8.19	84905A55	$8.35
1/2″	3/8″	84905A12	7.92	84885A22	7.79	84905A52	10.42
1/2″	1/2″	84905A16	8.19	84885A26	8.15	84905A56	10.66
5/8″	3/8″	84905A13 ♥	10.79	84885A23 ♥	9.40	—	—
3/4″	3/8″	84905A14 ♥	11.90	84885A24 ♥	11.10	84905A53	14.40
1″	3/8″	84905A15 ♥	14.40	84885A25 ♥	18.69	84905A54 ♥	20.15

♥ Thread size is 1/4″-28.

Counterbored

Size (A)	Ht. (B)	For Screw Size	Round		Square	
1/2″	3/8″	#8	31305A41	$8.12	31305A48 ♦	$10.79
1/2″	1/2″	#8	31305A42	8.46	31305A49 ♦	11.06
5/8″	3/8″	#8	31305A43	11.12	—	—
3/4″	1/2″	#10	31305A46	12.81	—	—
3/4″	1/2″	1/4″	—	—	31305A51	15.38
1″	1/2″	1/4″	31305A47	15.38	31305A52	20.71

♦ #10 screw size.

Hex Head Screw Adjustable Height Serrated Grippers



The fully threaded body and hex head allow you to quickly adjust the height of the gripper. Made of carbide-tipped steel.

Dia. (A)	Hex Head Ht.	Hex Head Wd.	Thread Size	Thread Lg.		
5/16″	13/64″	7/16″	1/4″-20	1/2″	8523A11	$6.34
5/16″	13/64″	7/16″	1/4″-20	1″	8523A12	6.47
3/8″	1/4″	1/2″	5/16″-18	1/2″	8523A31	6.52
3/8″	1/4″	1/2″	5/16″-18	1″	8523A32	6.67
1/2″	9/32″	9/16″	3/8″-16	1/2″	8523A34	7.48
1/2″	9/32″	9/16″	3/8″-16	1″	8523A35	7.60
1/2″	9/32″	9/16″	3/8″-16	1 1/2″	8523A36	7.86
5/8″	23/64″	3/4″	1/2″-13	1″	8523A37	9.52
5/8″	23/64″	3/4″	1/2″-13	1 1/2″	8523A38	9.84
3/4″	7/16″	15/16″	5/8″-11	1″	8523A39	12.38
3/4″	7/16″	15/16″	5/8″-11	2″	8523A41	12.69

Set Screw Adjustable Height Serrated Grippers

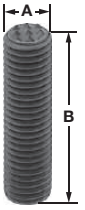

Screw in the gripper to adjust height, or mount from the bottom with a hex key to set the gripping surface flush with your jig plate. Made of carbide-tipped steel.

Dia. (A)	Ht. (B)	Thread Size	Hex Key Size		
1/4″	1/2″	3/8″-16	3/16″	4993A11	$13.00
1/4″	1″	3/8″-16	3/16″	4993A12	13.15
1/4″	2″	3/8″-16	3/16″	4993A13	13.44
3/8″	1″	1/2″-13	1/4″	4993A14	12.15
3/8″	2″	1/2″-13	1/4″	4993A15	12.60
1/2″	2″	3/4″-10	3/8″	4993A17	14.83

Low-Profile Serrated Edge Grippers

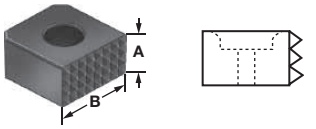

A mounting hole parallel to the serrated face makes these grippers well suited for side holding in low-profile jig, fixture, and vise gripping applications. Mounting hole is counterbored for a socket head cap screw (not included). Made of steel.

Ht. (A)	Wd. (B)	For Screw Size		
1/4″	3/8″	#6	3783A11	$9.06
1/4″	1/2″	#8	3783A13	10.88
1/4″	5/8″	1/4″	3783A15	13.71
3/8″	5/8″	1/4″	3783A16	13.98
3/8″	3/4″	5/16″	3783A18	15.67
1/2″	3/4″	5/16″	3783A19	15.90
1/2″	1″	3/8″	3783A22	21.29

Shoulder-Style Locating Pins



Round-Head Press Fit



Round-Head Removable



Diamond-Head Press Fit



Diamond-Head Removable

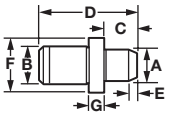



Diamond Head

A shoulder on these pins keeps them from being pressed through the fixture. Use round-head pins and diamond-head pins to locate and align parts. Diamond-head pins minimize contact with the workpiece to reduce sticking and jamming.

Press-fit pins have a tapered end for easy installation. Made of steel. Rockwell hardness is C60-C64. Diameter (A) is slightly undersized up to 0.0015″; (B) is slightly oversized up to 0.001″.

Removable pins, also known as slip-fit and lockscrew locating pins, are reuseable. Made of steel. Rockwell hardness is C60-C64. Diameter (A) is slightly undersized up to 0.0025″; (B) is slightly undersized up to 0.0002″.

Dia. (A)	Dia. (B)	(C)	(D)	(E)	(F)	(G)	Round Head		Diamond Head	
Press-Fit Pins										
1/8″	5/16″	7/16″	13/16″	3/32″	5/8″	17/64″	31375A23	$9.71	31375A24	$10.98
3/16″	5/16″	7/16″	13/16″	3/32″	5/8″	17/64″	31375A25	9.71	31375A26	10.98
1/4″	5/16″	7/16″	13/16″	3/32″	5/8″	17/64″	31375A27	9.71	31375A28	10.98
5/16″	5/16″	7/16″	13/16″	3/32″	5/8″	17/64″	31375A29	9.71	31375A31	10.98
11/32″	1/2″	1/2″	1 1/2″	1/8″	7/8″	17/64″	31375A13	9.71	31375A53	10.98
3/8″	1/2″	1/2″	1 1/2″	1/8″	7/8″	17/64″	31375A15	9.71	31375A55	10.98
13/32″	1/2″	1/2″	1 1/2″	1/8″	7/8″	17/64″	31375A16	9.71	31375A56	10.98
0.498″	1/2″	1/2″	1 1/2″	1/8″	7/8″	17/64″	31375A21	9.71	31375A61	10.98
0.499″	1/2″	1/2″	1 1/2″	1/8″	7/8″	17/64″	31375A22	9.71	31375A62	10.98
5/8″	3/4″	11/16″	1 15/16″	3/16″	1 1/8″	17/64″	31375A37	15.84	31375A38	15.84
Removable Pins										
1/8″	5/16″	7/16″	13/16″	3/32″	5/8″	17/64″	2397A11	9.96	2397A51	11.19
3/16″	5/16″	7/16″	13/16″	3/32″	5/8″	17/64″	2397A12	9.96	2397A52	11.19
1/4″	5/16″	7/16″	13/16″	3/32″	5/8″	17/64″	2397A13	9.96	2397A53	11.19
5/16″	5/16″	7/16″	13/16″	3/32″	5/8″	17/64″	2397A14	9.96	2397A54	11.19
3/8″	1/2″	1/2″	1 1/2″	1/8″	7/8″	17/64″	2397A17	10.18	2397A57	13.51
0.498″	3/4″	11/16″	1 15/16″	3/16″	1 1/8″	17/64″	2397A22	14.62	2397A62	17.89
0.499″	1/2″	1/2″	1 1/2″	1/8″	7/8″	17/64″	2397A21	10.18	2397A61	18.12
3/4″	3/4″	11/16″	1 15/16″	3/16″	1 1/8″	17/64″	2397A26	14.62	2397A66	17.89

Press-Fit Locating Pins

Use to accurately position and align parts. Made of steel. Rockwell hardness is C60-C64. Diamond-head pins minimize contact with the workpiece to reduce sticking and jamming. Diameter tolerance for (A) 1/4″ to 1/2″ is -0.0005″ to -0.001″, tolerance for (A) 9/16″ to 15/16″ is -0.0005″ to -0.0015″, and tolerance for (A) 1″ to 2″ is -0.0015″ to -0.0028″.



Round Head



Diamond Head

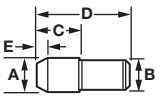

Dia. (A)	Dia. (B)	(C)	(D)	(E)	Round Head		Diamond Head	
1/4″	3/16″	1 1/32″	3/4″	3/32″	8472A11	$2.28	8472A19	$3.60
5/16″	1/4″	1 3/32″	7/8″	3/32″	8472A12	2.28	8472A21	3.66
3/8″	5/16″	1/2″	1″	1/8″	8472A13	2.52	8472A22	3.66
7/16″	3/8″	1 9/32″	1 1/4″	5/32″	8472A14	2.86	8472A23	3.90
1/2″	7/16″	1 21/32″	1 3/8″	5/32″	8472A15	3.53	8472A24	4.85
9/16″	1/2″	3/4″	1 1/2″	3/16″	8472A16	3.60	8472A25	5.08
5/8″	9/16″	1 27/32″	1 3/4″	7/32″	8472A17	3.75	8472A26	5.84
11/16″	5/8″	1 29/32″	2″	7/32″	8472A31	4.40	8472A41	6.45
3/4″	11/16″	1″	2 1/8″	1/4″	8472A18	4.72	8472A27	7.93
13/16″	3/4″	1 3/32″	2 1/4″	9/32″	8472A32	4.72	8472A42	9.65
7/8″	13/16″	1 5/32″	2 1/2″	9/32″	8472A33	4.91	8472A43	10.90
15/16″	7/8″	1 1/4″	2 3/4″	5/16″	8472A34	6.03	8472A44	11.16
1″	15/16″	1 5/16″	2 7/8″	5/16″	8472A35	6.85	8472A45	11.46
1 1/4″	1 1/8″	1 11/16″	3 5/8″	7/16″	8472A36	12.29	8472A46	19.59
1 1/2″	1 3/8″	2″	4 1/4″	1/2″	8472A37	14.68	8472A47	24.13
1 3/4″	1 5/8″	2 5/16″	5″	9/16″	8472A38	18.19	8472A48	31.39
2″	1 7/8″	2 11/16″	5 1/2″	11/16″	8472A39	22.85	8472A49	43.86

Alignment Pins

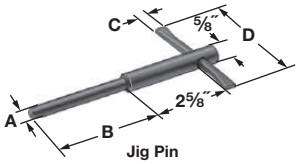

Jig Pin

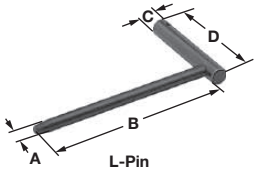

L-Pin

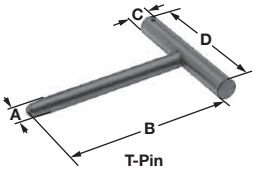

T-Pin

Precisely mate holes in jigs and fixtures with these steel pins. Rockwell hardness is C58-C64. Tolerance for *jig pins* is +0.0000″ to -0.0010″. Tolerance for *L-* and *T-pins* is +0.0000″ to -0.0005″.

Dia. (A)	(B)	Dia. (C)	(D)		
Jig Pins—Handle converts to an L or a T.					
1/4″	2″	1/4″	3″	98021A231	$10.84
3/8″	5″	1/4″	3″	98021A235	13.86
L-Pins—Handle has a hole for cable.					
1/8″	2 1/2″	1/4″	1 1/2″	98021A441	3.86
3/16″	3″	5/16″	2 1/2″	98021A313	2.70
1/4″	3″	3/8″	2 1/2″	98021A315	3.25
1/4″	4″	3/8″	2 1/2″	98021A317	3.25
0.275″	4″	3/8″	2 1/2″	98021A442	6.08
5/16″	3 1/2″	7/16″	3″	98021A321	3.79
5/16″	4″	7/16″	3″	98021A443	4.76
3/8″	4″	1/2″	3 1/2″	98021A323	4.33
1/2″	4″	5/8″	3 1/2″	98021A327	5.33

Dia. (A)	(B)	Dia. (C)	(D)		
T-Pins—Handle has a hole for cable.					
1/8″	2 1/2″	1/4″	1 1/2″	98021A412	$2.97
3/16″	3″	5/16″	2 1/2″	98021A415	2.64
1/4″	2″	3/8″	2 1/2″	98021A444	4.54
1/4″	3″	3/8″	2 1/2″	98021A419	3.25
1/4″	4″	3/8″	2 1/2″	98021A445	6.08
5/16″	4″	7/16″	3″	98021A446	6.08
3/8″	4″	1/2″	3 1/2″	98021A432	4.07
3/8″	6″	1/2″	3 1/2″	98021A435	4.44
1/2″	4″	5/8″	3 1/2″	98021A437	5.28
1/2″	6″	5/8″	3 1/2″	98021A439	6.17

Metric Press-Fit Locating Pins

Accurately position and align parts with these metric pins. Made of steel. Rockwell hardness is C58.

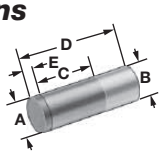

Dia. (A) mm	Dia. (A) Tolerance, mm	Dia. (B) mm	Dia. (B) Tolerance, mm	(C), mm	(D), mm	(E), mm		
5	-0.03 to -0.01	5	0 to +0.012	7	10	1.5	2336A21	$16.95
5	-0.03 to -0.01	5	0 to +0.012	10	15	1.5	2336A22	16.99
5	-0.03 to -0.01	5	0 to +0.012	13	20	1.5	2336A23	16.99
6	-0.03 to -0.01	6	0 to +0.012	7	10	1.5	2336A24	17.86
6	-0.03 to -0.01	6	0 to +0.012	10	15	1.5	2336A25	17.89
6	-0.03 to -0.01	6	0 to +0.012	13	20	1.5	2336A26	17.89
8	-0.03 to -0.01	8	0 to +0.015	13	20	2	2336A27	18.03
8	-0.03 to -0.01	8	0 to +0.015	16	25	2	2336A28	18.03
8	-0.03 to -0.01	8	0 to +0.015	19	30	2	2336A29	18.09
10	-0.03 to -0.01	10	0 to +0.015	16	25	2	2336A31	19.03
10	-0.03 to -0.01	10	0 to +0.015	19	30	2	2336A32	19.07

Wedges

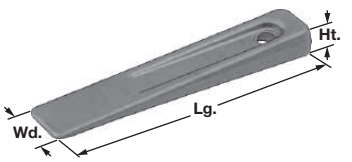

Make quick height adjustments on planers, shapers, and milling machines. Use wedges in pairs for parallel adjustment. Made of steel. A U-shaped groove on the 5″, 6″, and 8″ wedges lets chips slide under the workpiece so they don't interfere with wedge adjustment.

Lg.	Wd.	Ht.		
3″	1″	1/4″	5081A1	$4.23
5″	1″	1/2″	5081A2	5.73
6″	1 1/4″	3/4″	5081A3	6.59
8″	1 5/8″	1″	5081A4	10.89

Fixture Blocks for Socket Head Screws

Also known as fixture keys, these blocks quickly and accurately align jig and fixture components on machine tables. Mounting hole is counterbored for a socket head cap screw (not included). Made of steel. Width tolerance is +0.0000″ to -0.0005″.

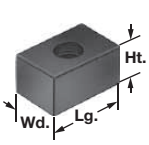

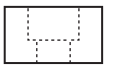

Lg.	Wd.	Ht.	For Screw Size		
3/4″	1/2″	1/2″	1/4″	8961A65	$4.95
3/4″	9/16″	1/2″	1/4″	8961A66	5.17
3/4″	5/8″	1/2″	5/16″	8961A67	5.55
1″	11/16″	1/2″	5/16″	8961A68	5.71
1 1/4″	3/4″	1/2″	5/16″	8961A69	5.95
1 1/4″	13/16″	1/2″	5/16″	8961A7	6.14

Tooling Balls

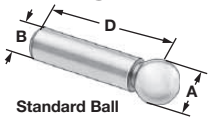

Standard Ball

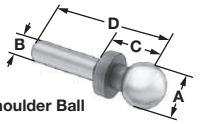

Shoulder Ball

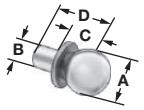

Shoulder Ball with Internal Thread

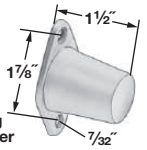

Tooling Ball Cover

Determine hole centerlines and distances between hole centerlines using tooling balls to establish a precise reference point. Made from one piece of steel, unless noted. Rockwell hardness is C52-C60. Tolerances for (A) and (C) dimensions are ±0.0002″.

Slip Fit—Shank is slightly undersized for temporary mounting. Tolerance for (B) dimension is +0.0000″ to -0.0004″.

Press Fit—Shank is slightly oversized for temporary or permanent mounting. Tolerance for (B) dimension is +0.0003″ to -0.0000″.

Shoulder balls provide a consistent height reference point. To install the **shoulder ball with internal thread**, push it through a bushing or hole and then insert a cap screw (not included) into the 6-32×1/4″ tapped shank. The screw will pull the shank through without marring the ball or changing the ball's location.

Tooling ball cover protects the tooling ball when not in use. Made of zinc alloy. Fits all balls listed.

Dia. (A)	Dia. (B)	(C)	(D)	Slip Fit		Press Fit	
Standard Balls							
1/4″	1/8″	___	9/16″	8484A11	$13.27	8484A16	$14.34
3/8″	3/16″	___	3/4″	8484A12	15.38	8484A17	15.38
1/2″	1/4″	___	15/16″	8484A13	12.76	8484A18	12.78
1/2″	1/4″	___	1½″	8484A14	14.69	8484A19	14.69
1/2″	3/8″	___	1½″	8484A15	18.44	8484A21	18.44
Shoulder Balls							
1/4″	1/8″	0.2″	9/16″	8481A25	19.69	8481A32	19.69
3/8″	3/16″	0.3″	3/4″	8481A26	19.38	8481A33	19.38
1/2″	1/4″	0.4″	15/16″	8481A27	19.38	8481A34	19.38
1/2″	1/4″	1/2″	1⅛″	8481A15★	24.75	8481A41★	24.75

Dia. (A)	Dia. (B)	(C)	(D)	Slip Fit		Press Fit	
Shoulder Balls (Cont.)							
1/2″	1/4″	1/2″	1⅜″	8481A28	$22.44	8481A35	$22.44
1/2″	1/4″	1″	1⅝″	8481A16★	24.75	8481A42★	24.75
1/2″	1/4″	1¼″	1⅞″	8481A17★	28.68	8481A43★	28.68
5/8″	5/16″	0.45″	1.05″	8481A18★	24.75	8481A44★	24.75
3/4″	3/8″	1/2″	1¼″	8481A29	30.78	8481A36	30.78
1″	1/2″	0.7″	1⅝″	8481A19★	40.09	8481A45★	40.09
Shoulder Ball with Internal Thread							
1/2″	1/4″	5/16″	5/8″	31325A27	22.92	___	___
Tooling Ball Cover						8319A11	$2.64

★Made from two pieces of steel (ball welded to the shank).

Fixture Supports



Press-Fit Support

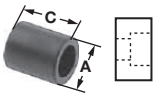

Circular Head Support

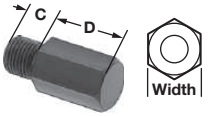

Threaded Hex-Head Support

Use with jigs and fixtures to support and position workpieces. Made of steel. **Press-fit supports** press into a hole in your jig or fixture. Diameter tolerance for (B) is ±0.001″. **Circular-head supports** are counterbored for mounting with a socket head cap screw (not included). **Threaded hex-head supports** screw in for a secure fit.

Press-Fit Supports

Dia. (A)	Dia. (B)	(C)	(D)		
1/4″	1/8″	1/8″	7/32″	8511A17	$3.97
1/4″	3/16″	1/4″	7/32″	8511A11	2.01
3/8″	1/8″	1/8″	7/32″	8511A18	3.51
3/8″	3/16″	1/4″	7/32″	8511A12	2.01
3/8″	3/16″	1/2″	3/8″	8511A23	2.00
3/8″	1/4″	1/4″	1/2″	8511A21	2.84
1/2″	1/8″	1/8″	7/32″	8511A19	3.40
1/2″	1/4″	1/4″	1/2″	8511A24	2.00
1/2″	1/4″	3/8″	1/2″	8511A25	2.00
1/2″	1/4″	1/2″	1/2″	8511A26	2.22
5/8″	3/8″	1/4″	15/32″	8511A16	2.29
5/8″	3/8″	3/8″	1/2″	8511A28	2.31
5/8″	3/8″	1/2″	1/2″	8511A29	2.37
5/8″	3/8″	5/8″	1/2″	8511A31	2.37
5/8″	3/8″	3/4″	1/2″	8511A32	2.63
5/8″	3/8″	1″	1/2″	8511A33	2.63
3/4″	1/2″	1½″	1/2″	8511A35	3.07

Circular Head Supports

Dia. (A)	(C)	For Screw Size		
5/16″	5/32″	#2	8506A33	$3.13
3/8″	3/16″	#4	8506A34	3.72
3/8″	1/4″	#6	8506A35	3.72
3/8″	1/4″	#8	8506A36	3.83
1/2″	1/2″	#10	8506A16	1.77
5/8″	3/8″	1/4″	8506A14	2.15
5/8″	1/2″	1/4″	8506A17	2.20
5/8″	5/8″	1/4″	8506A18	2.13
5/8″	3/4″	1/4″	8506A31	2.34
5/8″	1″	1/4″	8506A32	2.60
3/4″	1/2″	5/16″	8506A19	2.26
3/4″	5/8″	5/16″	8506A21	2.26
3/4″	3/4″	5/16″	8506A22	2.30
15/16″	5/8″	3/8″	8506A23	2.43
15/16″	3/4″	3/8″	8506A24	2.60
15/16″	1″	3/8″	8506A26	2.84
1¼″	7/8″	1/2″	8506A27	2.86

Threaded Hex-Head Supports

Thread Size	Lg. (C)	Hex Head Lg. (D)	Wd.		
8-32	3/16″	3/16″	1/4″	8479A13	$3.86
10-32	1/4″	3/16″	5/16″	8479A14	4.08
1/4″-28	5/16″	3/16″	3/8″	8479A15	4.31
1/4″-28	5/16″	1/4″	3/8″	8479A11	2.52
1/4″-28	5/16″	3/8″	3/8″	8479A12	2.52
1/4″-28	3/8″	3/4″	3/8″	8479A2	2.30
1/4″-28	3/8″	1″	3/8″	8479A3	2.40
3/8″-24	7/16″	1/4″	1/2″	8479A37	2.81
3/8″-24	7/16″	3/8″	1/2″	8479A38	2.81
3/8″-24	1/2″	1/2″	1/2″	8479A4	2.47
3/8″-24	1/2″	3/4″	1/2″	8479A5	2.57
3/8″-24	1/2″	1″	1/2″	8479A6	2.83
1/2″-20	1/2″	1/2″	5/8″	8479A7	2.86
1/2″-20	1/2″	3/4″	5/8″	8479A8	3.10
1/2″-20	1/2″	1″	5/8″	8479A9	3.27
1/2″-20	9/16″	1/2″	3/4″	8479A68	3.25

Alignment Dowels and Pins

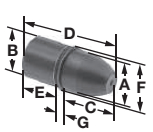

Dowel

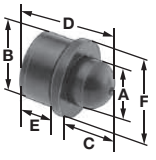

Round Pin

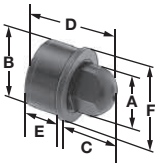

Diamond Pin

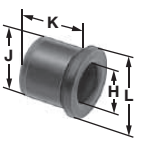

Liner

Install a dowel or pin in your jig plate and a liner in the tooling that holds the workpiece to keep fixtures and jigs aligned with other tool parts. Made of steel. Rockwell hardness is C50-C64. Diameter (A) is slightly undersized up to 0.0002″; (B) is slightly oversized up to 0.0021″.

Dowels—Have a long, tapered nose for easy entry into the liner.

Pins—The pin shank diameter (B) and liner OD (J) are the same size, so fixture pieces can be drilled at the same time.

Liners—Dimension (H) is slightly oversized up to 0.0002″; (J) is slightly oversized up to 0.0021″.

Dowels

Dia. (A)	Dia. (B)	(C)	(D)	(E)	(F)	(G)		
1/4″	1/4″	0.375″	0.907″	1/2″	0.28″	0.032″	31445A111	$2.96
5/16″	5/16″	0.407″	0.939″	1/2″	0.344″	0.032″	31445A112	3.11
3/8″	3/8″	0.5″	1.03″	1/2″	0.407″	0.032″	31445A113	3.23
1/2″	1/2″	0.562″	1.09″	1/2″	0.532″	0.032″	31445A114	3.44

Liners for Dowels

(H)	(J)	(K)	(L)		
1/4″	1/2″	3/8″	5/8″	31445A116	$5.65
5/16″	1/2″	3/8″	5/8″	31445A117	5.90
3/8″	5/8″	1/2″	3/4″	31445A118	6.07
1/2″	3/4″	5/8″	7/8″	31445A119	6.37

Pins

Dia. (A)	Dia. (B)	(C)	(D)	(E)	(F)	Round		Diamond	
1/4″	13/32″	0.219″	21/32″	3/8″	9/16″	31335A11	$4.06	31335A31	$8.60
5/16″	1/2″	0.281″	23/32″	3/8″	5/8″	31335A12	5.11	31335A32	11.24
3/8″	5/8″	0.313″	7/8″	1/2″	3/4″	31335A13	5.33	31335A33	10.58
1/2″	3/4″	0.406″	31/32″	1/2″	7/8″	31335A14	6.78	31335A34	10.56
5/8″	7/8″	0.438″	1 1/16″	1/2″	1″	31335A16	6.80	31335A18	10.02
3/4″	1″	0.563″	1 7/16″	3/4″	1⅛″	31335A15	7.22	31335A35	14.54
1″	1⅜″	0.75″	1⅝″	3/4″	1½″	31335A17	11.11	31335A19	19.04

Liners for Pins

(H)	(J)	(K)	(L)		
1/4″	13/32″	7/16″	9/16″	31335A51	$5.89
5/16″	1/2″	7/16″	5/8″	31335A52	6.19
3/8″	5/8″	7/16″	3/4″	31335A53	6.36
1/2″	3/4″	1/2″	7/8″	31335A54	6.75
5/8″	7/8″	1/2″	1″	31335A21	7.07
3/4″	1″	1/2″	1⅛″	31335A55	6.92
1″	1⅜″	1 1/16″	1½″	31335A22	6.99

Press-Fit Drill Bushings

Use as a guide to prevent drill bits from wandering. Also known as "P" bushings, they are permanently installed and mount flush with jig plates. Also suitable for use as spacers, shims, and machinery bushings. Made of hardened steel. Rockwell hardness is C61-C65.

Also Available: Other sizes. Please ask for 8491A901 and specify ID, OD, and length.

Tolerances

ID	ID Tolerance
0.0135"-0.25"	+0.0001" to +0.0004"
0.251"-0.75"	+0.0001" to +0.0005"
0.7812"-1.5"	+0.0002" to +0.0006"
1.625"-2.2656"	+0.0003" to +0.0007"

Lg.	Lg. Tolerance
1/8"-3"	±0.015"

OD	OD Tolerance
5/32"-13/32"	+0.0013" to +0.0016"
7/16"-5/8"	+0.0014" to +0.0017"
3/4"-1"	+0.0015" to +0.0018"
1 1/8"-1 1/4"	+0.0017" to +0.0020"
1 3/8"-1 5/8"	+0.0018" to +0.0022"
1 3/4"	+0.0019" to +0.0023"
2 1/4"	+0.0021" to +0.0025"
2 3/4"	+0.0022" to +0.0026"



♦ *Prices shown are for 1-5 bushings of the same ID, OD, and length. Deduct 15% for same size orders of 6-11 bushings and 25% for same size orders of 12 or more.*

OD	Lg.		Each♦
0.0135" ID—Drill Size: 80			
5/32"	1/4"	8491A291	$24.52
5/32"	5/16"	8491A294	25.57
5/32"	3/8"	8491A298	26.33
5/32"	1/2"	8491A301	26.71
0.052" ID—Drill Size: 55			
3/16"	1/4"	8491A001	24.53
0.0595" ID—Drill Size: 53			
3/16"	1/4"	8491A652	24.53
0.0625" ID—Drill Size: 1/16"			
3/16"	1/4"	8491A002	24.53
3/16"	3/8"	8491A012	26.16
3/16"	1/2"	8491A022	23.23
3/16"	3/4"	8491A043	28.80
0.0635" ID—Drill Size: 52			
3/16"	1/4"	8491A801	15.74
0.067" ID—Drill Size: 51			
3/16"	1/4"	8491A655	11.18
0.07" ID—Drill Size: 50			
3/16"	1/4"	8491A003	11.18
3/16"	3/8"	8491A013	13.20
3/16"	1/2"	8491A023	13.68
0.0781" ID—Drill Size: 5/64"			
3/16"	1/4"	8491A004	11.18
3/16"	3/8"	8491A014	13.20
3/16"	1/2"	8491A024	13.68
3/16"	3/4"	8491A045	15.07
1/4"	1/2"	8491A802	17.55
0.081" ID—Drill Size: 46			
3/16"	1/4"	8491A005	13.20
3/16"	3/8"	8491A015	13.20
0.086" ID—Drill Size: 44			
3/16"	1/4"	8491A006	11.18
0.089" ID—Drill Size: 43			
3/16"	1/4"	8491A007	11.18
3/16"	3/8"	8491A017	13.20
3/16"	1/2"	8491A027	13.68
0.0935" ID—Drill Size: 42			
3/16"	1/4"	8491A008	11.18
3/16"	3/8"	8491A018	13.20
0.0938" ID—Drill Size: 3/32"			
3/16"	1/4"	8491A009	10.61
3/16"	3/8"	8491A019	11.58
3/16"	1/2"	8491A029	13.06
3/16"	3/4"	8491A048	15.07
0.096" ID—Drill Size: 41			
3/16"	1/2"	8491A803	19.34
0.098" ID—Drill Size: 40			
3/16"	1/4"	8491A782	11.87
3/16"	1/2"	8491A783	14.61
13/64"	1/4"	8491A592	7.69
13/64"	5/16"	8491A598	8.70
13/64"	1/2"	8491A599	9.52
1/4"	1/4"	8491A031	10.37
1/4"	3/8"	8491A051	11.86
1/4"	1/2"	8491A071	12.58
1/4"	3/4"	8491A049	12.87
1/4"	1"	8491A784	16.41
0.0995" ID—Drill Size: 39			
1/4"	1/2"	8491A804	17.42
1/4"	3/4"	8491A805	19.39
0.1015" ID—Drill Size: 38			
1/4"	3/4"	8491A781	16.80
0.1065" ID—Drill Size: 36			
1/4"	1/4"	8491A033	10.37
1/4"	3/8"	8491A053	11.86
1/4"	1/2"	8491A073	12.58
1/4"	3/4"	8491A063	14.06
0.1094" ID—Drill Size: 7/64"			
1/4"	1/4"	8491A034	10.37
1/4"	3/8"	8491A054	11.86
0.1094" ID (Cont.)			
1/4"	1/2"	8491A074	$12.58
1/4"	3/4"	8491A064	14.06
0.111" ID—Drill Size: 34			
1/4"	1/4"	8491A035	10.37
1/4"	3/8"	8491A594	8.21
1/4"	1/2"	8491A075	12.58
0.113" ID—Drill Size: 33			
1/4"	3/8"	8491A025	11.86
1/4"	1/2"	8491A026	15.27
0.12" ID—Drill Size: 31			
1/4"	1/4"	8491A036	10.37
1/4"	3/8"	8491A056	11.86
1/4"	1/2"	8491A076	12.58
1/4"	3/4"	8491A065	14.06
0.125" ID—Drill Size: 1/8"			
1/4"	1/4"	8491A037	9.89
1/4"	5/16"	8491A595	7.53
1/4"	3/8"	8491A057	11.33
1/4"	1/2"	8491A077	11.95
1/4"	3/4"	8491A066	13.30
1/4"	1"	8491A711	16.41
5/16"	1/4"	8491A596	7.07
5/16"	3/8"	8491A091	8.16
5/16"	1/2"	8491A101	9.41
5/16"	3/4"	8491A111	10.80
0.1285" ID—Drill Size: 30			
1/4"	1/4"	8491A038	9.89
1/4"	5/16"	8491A597	7.53
1/4"	3/8"	8491A058	11.86
1/4"	1/2"	8491A078	11.95
1/4"	3/4"	8491A067	14.06
1/4"	1"	8491A779	16.41
5/16"	1/4"	8491A011	9.00
5/16"	1/2"	8491A032	9.89
0.136" ID—Drill Size: 29			
1/4"	1/4"	8491A039	9.89
1/4"	3/8"	8491A059	11.86
1/4"	1/2"	8491A079	12.58
1/4"	3/4"	8491A068	14.06
0.1405" ID—Drill Size: 28			
1/4"	1/4"	8491A041	10.37
1/4"	1/2"	8491A081	12.58
0.1406" ID—Drill Size: 9/64"			
1/4"	1/4"	8491A042	9.89
1/4"	3/8"	8491A062	11.86
1/4"	1/2"	8491A082	12.58
1/4"	3/4"	8491A069	14.06
5/16"	1/4"	8491A083	8.59
5/16"	1/2"	8491A084	9.41
5/16"	3/4"	8491A085	10.80
0.144" ID—Drill Size: 27			
5/16"	1/2"	8491A777	9.89
0.147" ID—Drill Size: 26			
5/16"	3/8"	8491A092	9.50
5/16"	1/2"	8491A102	9.89
0.1495" ID—Drill Size: 25			
5/16"	3/8"	8491A656	9.50
5/16"	1/2"	8491A028	9.89
5/16"	5/8"	8491A046	12.14
0.152" ID—Drill Size: 24			
5/16"	3/8"	8491A123	9.50
0.1562" ID—Drill Size: 5/32"			
5/16"	3/8"	8491A093	8.93
5/16"	1/2"	8491A103	9.41
5/16"	3/4"	8491A113	10.80
0.157" ID—Drill Size: 22			
5/16"	1/4"	8491A121	8.59
0.159" ID—Drill Size: 21			
5/16"	3/8"	8491A094	8.93
5/16"	1/2"	8491A104	9.41
5/16"	3/4"	8491A114	10.80
0.161" ID—Drill Size: 20			
5/16"	3/8"	8491A095	$9.50
5/16"	1/2"	8491A105	9.89
0.166" ID—Drill Size: 19			
5/16"	5/16"	8491A602	10.85
5/16"	1/2"	8491A776	9.89
0.1719" ID—Drill Size: 11/64"			
5/16"	3/8"	8491A096	9.50
5/16"	1/2"	8491A106	9.89
5/16"	3/4"	8491A116	10.80
0.173" ID—Drill Size: 17			
5/16"	3/8"	8491A604	5.65
5/16"	1/2"	8491A658	9.89
0.177" ID—Drill Size: 16			
5/16"	1/2"	8491A775	13.68
0.18" ID—Drill Size: 15			
1/4"	3/4"	8491A806	33.74
1/4"	1"	8491A807	36.86
5/16"	3/8"	8491A808	13.25
5/16"	1/2"	8491A809	13.73
0.1875" ID—Drill Size: 3/16"			
5/16"	1/8"	8491A811	12.34
5/16"	1/4"	8491A122	8.16
5/16"	5/16"	8491A334	9.92
5/16"	3/8"	8491A097	8.93
5/16"	1/2"	8491A107	9.41
5/16"	5/8"	8491A132	10.37
5/16"	3/4"	8491A117	10.27
5/16"	1"	8491A142	9.17
5/16"	1 3/8"	8491A345	18.12
3/8"	1/2"	8491A812	10.47
13/32"	1/4"	8491A712	6.93
13/32"	5/16"	8491A346	8.34
13/32"	1/2"	8491A052	6.58
13/32"	3/4"	8491A713	7.87
13/32"	1"	8491A347	12.08
1/2"	1/4"	8491A124	8.83
1/2"	3/8"	8491A241	8.40
1/2"	1/2"	8491A261	8.40
1/2"	3/4"	8491A281	8.93
1/2"	1"	8491A605	7.53
0.188" ID			
5/16"	1/2"	8491A279	16.19
0.189" ID—Drill Size: 12			
5/16"	1/4"	8491A773	10.22
5/16"	3/8"	8491A021	9.88
5/16"	1/2"	8491A774	9.89
0.191" ID—Drill Size: 11			
5/16"	1/4"	8491A086	8.16
5/16"	3/8"	8491A047	11.09
5/16"	1/2"	8491A087	9.89
5/16"	3/4"	8491A088	10.80
5/16"	1"	8491A089	11.18
13/32"	1/4"	8491A847	6.74
13/32"	3/8"	8491A112	8.72
13/32"	1/2"	8491A072	8.64
1/2"	1/2"	8491A772	6.93
0.1935" ID—Drill Size: 10			
5/16"	5/16"	8491A768	7.50
5/16"	1/2"	8491A607	6.84
3/8"	3/8"	8491A769	6.93
3/8"	3/4"	8491A771	7.87
13/32"	1/2"	8491A608	5.97
1/2"	3/8"	8491A242	7.92
1/2"	1/2"	8491A262	10.37
0.196" ID—Drill Size: 9			
13/32"	1/2"	8491A786	10.03
1/2"	3/8"	8491A243	8.40
1/2"	1/2"	8491A263	8.59
1/2"	3/4"	8491A283	9.50
0.199" ID—Drill Size: 8			
3/8"	1/2"	8491A813	$11.90
0.201" ID—Drill Size: 7			
3/8"	3/8"	8491A151	7.92
3/8"	1/2"	8491A161	7.20
3/8"	5/8"	8491A659	8.40
3/8"	3/4"	8491A171	8.33
13/32"	1/2"	8491A785	10.03
1/2"	1/4"	8491A126	8.83
1/2"	3/8"	8491A244	8.40
1/2"	1/2"	8491A264	8.59
1/2"	3/4"	8491A284	9.50
1/2"	2"	8491A814	33.46
0.2031" ID—Drill Size: 13/64"			
3/8"	1/4"	8491A098	7.06
3/8"	3/8"	8491A152	7.92
3/8"	1/2"	8491A162	7.20
3/8"	3/4"	8491A172	8.33
1/2"	3/8"	8491A245	8.40
1/2"	1/2"	8491A265	8.16
1/2"	3/4"	8491A285	9.50
0.213" ID—Drill Size: 3			
3/8"	1/2"	8491A061	9.98
1/2"	3/8"	8491A246	8.40
1/2"	1/2"	8491A266	8.59
1/2"	1"	8491A778	11.58
0.2188" ID—Drill Size: 7/32"			
3/8"	1/4"	8491A714	8.93
3/8"	3/8"	8491A715	10.61
13/32"	3/8"	8491A716	6.93
13/32"	1/2"	8491A609	5.97
1/2"	3/8"	8491A247	8.40
1/2"	1/2"	8491A267	8.59
1/2"	3/4"	8491A287	9.50
1/2"	1"	8491A61	9.06
0.221" ID—Drill Size: 2			
3/8"	1/2"	8491A815	11.90
13/32"	1"	8491A816	13.42
1/2"	3/8"	8491A248	8.40
1/2"	1/2"	8491A268	8.59
1/2"	3/4"	8491A288	8.33
0.228" ID—Drill Size: 1			
3/8"	1/4"	8491A127	8.74
3/8"	1/2"	8491A128	9.98
3/8"	3/4"	8491A131	11.04
1/2"	1/4"	8491A133	8.74
1/2"	1/2"	8491A143	9.98
1/2"	3/4"	8491A144	11.04
0.2344" ID—Drill Size: 15/64"			
7/16"	3/8"	8491A221	8.40
7/16"	1/2"	8491A231	8.59
7/16"	3/4"	8491A118	9.50
0.238" ID—Drill Size: B			
1/2"	3/8"	8491A155	8.72
0.25" ID—Drill Size: 1/4", E			
3/8"	1/4"	8491A099	7.06
3/8"	5/16"	8491A612	5.31
3/8"	3/8"	8491A66	7.92
3/8"	1/2"	8491A108	9.41
3/8"	5/8"	8491A169	6.21
3/8"	3/4"	8491A109	8.16
3/8"	1"	8491A817	10.90
13/32"	1/4"	8491A183	6.19
13/32"	5/16"	8491A229	7.68
13/32"	3/8"	8491A193	6.94
13/32"	1/2"	8491A203	7.15
13/32"	3/4"	8491A207	8.33
13/32"	1"	8491A181	7.53
7/16"	1/4"	8491A212	6.19
7/16"	5/16"	8491A182	5.31
7/16"	3/8"	8491A222	7.92

(Continued on following page)

Press-Fit Drill Bushings *(Continued from previous page)*



Use as a guide to prevent drill bits from wandering. Also known as "P" bushings, they are permanently installed and mount flush with jig plates. Also suitable for use as spacers, shims, and machinery bushings. Made of hardened steel. Rockwell hardness is C61-C65.

Also Available: Other sizes. Please ask for 8491A901 and specify ID, OD, and length.

Tolerances

ID	ID Tolerance
0.0135″-0.25″	+0.0001″ to +0.0004″
0.251″-0.75″	+0.0001″ to +0.0005″
0.7812″-1.5″	+0.0002″ to +0.0006″
1.625″-2.2656″	+0.0003″ to +0.0007″

Lg.	Lg. Tolerance
1/8″-3″	±0.015″

OD	OD Tolerance
5/32″-13/32″	+0.0013″ to +0.0016″
7/16″-5/8″	+0.0014″ to +0.0017″
3/4″-1″	+0.0015″ to +0.0018″
1 1/8″-1 1/4″	+0.0017″ to +0.0020″
1 3/8″-1 5/8″	+0.0018″ to +0.0022″
1 3/4″	+0.0019″ to +0.0023″
2 1/4″	+0.0021″ to +0.0025″
2 3/4″	+0.0022″ to +0.0026″

♦ *Prices shown are for 1-5 bushings of the same ID, OD, and length. Deduct 15% for same size orders of 6-11 bushings and 25% for same size orders of 12 or more.*

OD	Lg.		Each ♦
0.25″ ID (Cont.)			
7/16″	1/2″	8491A232	$7.92
7/16″	5/8″	8491A717	12.62
7/16″	3/4″	8491A119	8.93
7/16″	1″	8491A661	10.85
1/2″	1/4″	8491A302	7.06
1/2″	5/16″	8491A312	7.68
1/2″	3/8″	8491A252	8.40
1/2″	1/2″	8491A272	6.04
1/2″	3/4″	8491A292	8.93
1/2″	1″	8491A322	10.37
1/2″	1 3/8″	8491A344	11.34
0.251″ ID			
13/32″	1/2″	8491A115	7.48
13/32″	3/4″	8491A125	8.24
7/16″	1/2″	8491A841	11.90
0.252″ ID			
1/2″	1/2″	8491A842	11.90
0.253″ ID			
3/8″	1/2″	8491A843	18.57
0.254″ ID			
7/16″	1/4″	8491A844	15.74
0.257″ ID—Drill Size: F			
13/32″	1/4″	8491A055	7.80
13/32″	1/2″	8491A614	5.97
7/16″	1″	8491A787	9.12
1/2″	1/4″	8491A129	8.83
1/2″	3/8″	8491A253	8.40
1/2″	1/2″	8491A273	8.59
1/2″	3/4″	8491A293	9.50
0.261″ ID—Drill Size: G			
1/2″	1/2″	8491A615	5.97
0.2656″ ID—Drill Size: 17/64″			
7/16″	1/2″	8491A282	12.00
1/2″	1/4″	8491A134	8.83
1/2″	3/8″	8491A255	7.37
1/2″	1/2″	8491A275	8.16
1/2″	3/4″	8491A295	9.50
1/2″	1″	8491A718	11.58
0.266″ ID—Drill Size: H			
7/16″	5/16″	8491A141	8.04
1/2″	1″	8491A168	11.48
0.272″ ID—Drill Size: I			
1/2″	1/2″	8491A651	7.94
0.277″ ID—Drill Size: J			
1/2″	1/2″	8491A145	9.98
1/2″	3/4″	8491A146	11.04
0.2812″ ID—Drill Size: 9/32″			
7/16″	1/4″	8491A719	8.88
7/16″	1/2″	8491A721	8.66
7/16″	3/4″	8491A722	11.38
1/2″	1/4″	8491A135	8.40
1/2″	3/8″	8491A256	8.40
1/2″	1/2″	8491A276	8.59
1/2″	3/4″	8491A296	9.50
1/2″	1″	8491A723	11.58
0.2969″ ID—Drill Size: 19/64″			
1/2″	3/4″	8491A662	9.50
0.302″ ID—Drill Size: N			
1/2″	1/2″	8491A147	9.98
1/2″	3/4″	8491A148	11.04
0.3125″ ID—Drill Size: 5/16″			
1/2″	1/4″	8491A304	7.06
1/2″	5/16″	8491A314	7.25
1/2″	3/8″	8491A257	8.40
1/2″	1/2″	8491A277	8.16
1/2″	3/4″	8491A297	8.93
1/2″	1″	8491A324	10.37
1/2″	1 1/2″	8491A724	10.76
9/16″	3/8″	8491A325	7.82
0.3125″ ID (Cont.)			
9/16″	1/2″	8491A326	$7.82
9/16″	3/4″	8491A327	7.82
5/8″	1/4″	8491A136	7.64
5/8″	1/2″	8491A331	7.82
5/8″	5/8″	8491A351	7.92
5/8″	3/4″	8491A818	11.90
5/8″	1 3/8″	8491A371	12.29
3/4″	3/4″	8491A819	12.62
3/4″	1″	8491A821	13.73
0.316″ ID—Drill Size: O			
1/2″	3/8″	8491A788	6.94
1/2″	1/2″	8491A188	5.97
1/2″	3/4″	8491A149	7.63
1/2″	1″	8491A208	8.89
0.32″ ID			
1/2″	1 1/2″	8491A286	19.79
0.323″ ID—Drill Size: P			
1/2″	3/8″	8491A211	12.95
1/2″	1/2″	8491A224	13.13
0.3281″ ID—Drill Size: 21/64″			
5/8″	1/4″	8491A137	7.64
5/8″	1/2″	8491A333	7.44
5/8″	5/8″	8491A353	8.40
5/8″	1 3/8″	8491A373	12.29
3/4″	3/8″	8491A233	9.00
0.332″ ID—Drill Size: Q			
1/2″	1/2″	8491A226	13.13
1/2″	3/4″	8491A227	14.54
0.339″ ID—Drill Size: R			
1/2″	3/4″	8491A823	22.89
5/8″	3/4″	8491A822	11.90
0.3438″ ID—Drill Size: 11/32″			
5/8″	1/4″	8491A138	7.64
5/8″	1/2″	8491A336	7.82
5/8″	5/8″	8491A356	8.40
5/8″	3/4″	8491A663	8.64
5/8″	1 3/8″	8491A376	10.77
0.375″ ID—Drill Size: 3/8″			
1/2″	1/4″	8491A725	7.17
1/2″	3/8″	8491A726	7.31
1/2″	1/2″	8491A191	5.41
1/2″	3/4″	8491A664	8.16
1/2″	1″	8491A727	10.59
1/2″	1 1/2″	8491A185	14.68
9/16″	1/2″	8491A728	14.70
9/16″	1″	8491A729	19.66
5/8″	1/4″	8491A139	7.21
5/8″	5/16″	8491A201	5.15
5/8″	3/8″	8491A202	5.42
5/8″	1/2″	8491A338	7.44
5/8″	5/8″	8491A358	7.92
5/8″	3/4″	8491A392	8.16
5/8″	1″	8491A402	8.59
5/8″	1 1/4″	8491A412	12.29
5/8″	1 3/8″	8491A378	12.29
5/8″	1 1/2″	8491A187	13.52
5/8″	2″	8491A824	24.82
3/4″	5/16″	8491A194	8.04
3/4″	3/8″	8491A421	8.59
3/4″	1/2″	8491A431	8.59
3/4″	5/8″	8491A441	8.98
3/4″	3/4″	8491A451	8.98
3/4″	1″	8491A461	9.84
3/4″	1 3/8″	8491A471	12.53
3/4″	1 3/4″	8491A157	12.66
3/4″	2 1/2″	8491A825	38.59
0.377″ ID—Drill Size: V			
5/8″	3/8″	8491A228	9.22
5/8″	1/2″	8491A206	5.42
0.377″ ID (Cont.)			
5/8″	5/8″	8491A789	$6.93
5/8″	3/4″	8491A234	9.98
0.3906″ ID—Drill Size: 25/64″			
5/8″	1/4″	8491A153	8.64
5/8″	1/2″	8491A339	7.44
5/8″	5/8″	8491A359	8.40
5/8″	1″	8491A731	10.85
5/8″	1 3/8″	8491A379	12.29
5/8″	1 3/4″	8491A192	14.68
3/4″	3/8″	8491A249	9.00
0.4062″ ID—Drill Size: 13/32″			
5/8″	1/4″	8491A154	8.64
5/8″	1/2″	8491A341	6.52
5/8″	5/8″	8491A361	8.40
5/8″	1″	8491A732	10.85
5/8″	1 3/8″	8491A381	12.29
0.4219″ ID—Drill Size: 27/64″			
5/8″	1/2″	8491A342	7.82
5/8″	5/8″	8491A362	8.40
5/8″	1 3/8″	8491A382	12.29
3/4″	1″	8491A209	6.81
0.4375″ ID—Drill Size: 7/16″			
5/8″	1/4″	8491A156	8.64
5/8″	5/16″	8491A364	7.84
5/8″	3/8″	8491A616	5.42
5/8″	1/2″	8491A343	7.44
5/8″	5/8″	8491A363	7.92
5/8″	3/4″	8491A393	8.16
5/8″	1″	8491A403	5.85
5/8″	1 1/4″	8491A413	12.29
5/8″	1 3/8″	8491A383	12.29
3/4″	5/16″	8491A365	8.00
3/4″	3/8″	8491A366	8.95
3/4″	1/2″	8491A158	8.59
3/4″	3/4″	8491A159	8.98
3/4″	1″	8491A163	8.63
3/4″	1 3/8″	8491A367	10.44
3/4″	1 3/4″	8491A164	14.30
0.4531″ ID—Drill Size: 29/64″			
3/4″	1/2″	8491A235	9.98
3/4″	3/4″	8491A236	10.56
0.4688″ ID—Drill Size: 15/32″			
3/4″	5/16″	8491A733	7.50
3/4″	1/2″	8491A213	5.97
0.4844″ ID—Drill Size: 31/64″			
3/4″	1/2″	8491A734	7.07
0.5″ ID—Drill Size: 1/2″			
5/8″	3/8″	8491A665	7.44
5/8″	1/2″	8491A214	7.44
5/8″	5/8″	8491A735	10.03
5/8″	3/4″	8491A666	8.21
5/8″	1″	8491A736	10.85
3/4″	1/4″	8491A737	10.85
3/4″	5/16″	8491A269	8.34
3/4″	3/8″	8491A422	8.16
3/4″	1/2″	8491A432	8.16
3/4″	5/8″	8491A442	8.98
3/4″	3/4″	8491A452	8.59
3/4″	1″	8491A462	9.84
3/4″	1 1/4″	8491A335	10.89
3/4″	1 3/8″	8491A472	14.18
3/4″	1 1/2″	8491A738	14.34
3/4″	1 3/4″	8491A165	14.30
3/4″	2 1/8″	8491A739	17.41
7/8″	5/16″	8491A368	15.87
7/8″	3/8″	8491A337	12.80
7/8″	1/2″	8491A198	9.26
7/8″	5/8″	8491A369	15.13
7/8″	3/4″	8491A199	9.38
0.5″ ID (Cont.)			
7/8″	1″	8491A204	$9.38
7/8″	1 1/2″	8491A741	13.25
7/8″	1 3/4″	8491A205	13.49
1″	1/2″	8491A541	10.41
1″	5/8″	8491A174	10.62
1″	3/4″	8491A551	10.37
1″	1″	8491A561	11.05
1″	1 3/4″	8491A175	15.66
0.501″ ID			
3/4″	1/2″	8491A845	10.44
3/4″	1″	8491A846	12.03
7/8″	3/4″	8491A289	13.74
0.5156″ ID—Drill Size: 33/64″			
3/4″	5/8″	8491A654	7.87
0.5312″ ID—Drill Size: 17/32″			
3/4″	1/2″	8491A237	8.75
3/4″	3/4″	8491A453	7.87
3/4″	1″	8491A463	8.63
3/4″	1 3/8″	8491A473	11.12
7/8″	1 1/2″	8491A254	14.08
1″	3/4″	8491A742	9.54
0.5625″ ID—Drill Size: 9/16″			
3/4″	1/2″	8491A743	7.56
7/8″	1/2″	8491A481	9.44
7/8″	5/8″	8491A491	10.41
7/8″	3/4″	8491A501	10.41
7/8″	1 3/4″	8491A167	14.85
0.5938″ ID—Drill Size: 19/32″			
7/8″	1″	8491A513	10.79
1″	5/8″	8491A258	11.24
0.625″ ID—Drill Size: 5/8″			
3/4″	1/2″	8491A744	8.96
3/4″	5/8″	8491A826	21.67
3/4″	3/4″	8491A745	11.07
3/4″	1″	8491A746	10.30
3/4″	1 1/2″	8491A827	22.18
3/4″	2″	8491A667	27.79
7/8″	3/8″	8491A215	11.25
7/8″	1/2″	8491A483	9.90
7/8″	5/8″	8491A493	10.41
7/8″	3/4″	8491A503	9.85
7/8″	1″	8491A511	10.23
7/8″	1 1/4″	8491A521	11.19
7/8″	1 3/8″	8491A531	11.78
7/8″	1 1/2″	8491A747	13.25
7/8″	1 3/4″	8491A173	13.87
1″	1/2″	8491A542	10.41
1″	5/8″	8491A176	9.94
1″	3/4″	8491A552	10.37
1″	1″	8491A562	11.05
1″	1 3/8″	8491A348	12.97
1″	1 3/4″	8491A177	14.64
1 3/8″	1/2″	8491A349	17.83
1 3/8″	5/8″	8491A352	16.84
1 3/8″	3/4″	8491A354	14.77
1 3/8″	1″	8491A355	17.83
1 3/8″	1 3/8″	8491A357	19.61
0.6406″ ID—Drill Size: 41/64″			
7/8″	1/2″	8491A748	9.88
0.6563″ ID—Drill Size: 21/32″			
1″	1/2″	8491A178	10.42
1″	3/4″	8491A179	10.42
1″	1″	8491A184	11.05
1″	1 1/2″	8491A216	11.38
0.6719″ ID—Drill Size: 43/64″			
1″	1 1/4″	8491A749	13.72
0.6875″ ID—Drill Size: 11/16″			
1″	1/2″	8491A751	9.54
1″	3/4″	8491A752	9.23

(Continued on following page)

Press-Fit Drill Bushings *(Continued from previous page)*

♦ *Prices shown are for 1-5 bushings of the same ID, OD, and length. Deduct 15% for same size orders of 6-11 bushings and 25% for same size orders of 12 or more.*

OD	Lg.		Each♦
0.6875″ ID (Cont.)			
1″	1″	8491A753	$9.88
1″	1¼″	8491A571	11.78
1″	1½″	8491A754	13.72
0.75″ ID—Drill Size: ¾″			
⅞″	1″	8491A668	15.73
1″	½″	8491A544	9.85
1″	⅝″	8491A829	11.41
1″	¾″	8491A554	9.85
1″	1″	8491A564	10.44
1″	1¼″	8491A573	11.40
1″	1⅜″	8491A583	11.78
1″	1½″	8491A593	11.78
1″	1¾″	8491A755	17.08
1⅜″	⅝″	8491A317	17.57
1⅜″	¾″	8491A318	15.41
1⅜″	1″	8491A756	12.37
1⅜″	1¼″	8491A319	12.13
1⅜″	1⅜″	8491A271	11.64
0.7812″ ID—Drill Size: 25/32″			
1⅛″	¾″	8491A217	11.62
1⅛″	1″	8491A218	13.58
0.8125″ ID—Drill Size: 13/16″			
1¼″	¾″	8491A669	19.65
0.875″ ID—Drill Size: ⅞″			
1¼″	¾″	8491A186	12.48
1¼″	1″	8491A601	15.76
1¼″	1¼″	8491A757	19.11
1¼″	1½″	8491A611	14.96
1¼″	2″	8491A621	23.17
1⅜″	1″	8491A219	13.87
1⅜″	1⅜″	8491A238	15.09
0.9375″ ID—Drill Size: 15/16″			
1¼″	¾″	8491A189	13.62
1¼″	1″	8491A603	15.03
1¼″	1½″	8491A613	18.44
0.9375″ ID (Cont.)			
1¼″	2″	8491A623	$23.17
1⅜″	1″	8491A758	12.37
1″ ID—Drill Size: 1″			
1¼″	⅝″	8491A831	28.08
1¼″	¾″	8491A759	12.27
1¼″	1″	8491A7	21.57
1¼″	1½″	8491A761	17.34
1⅜″	½″	8491A633	17.47
1⅜″	⅝″	8491A321	17.62
1⅜″	¾″	8491A195	12.86
1⅜″	1″	8491A196	15.24
1⅜″	1¼″	8491A274	12.13
1⅜″	1⅜″	8491A643	16.71
1⅜″	1½″	8491A71	18.06
1⅜″	1¾″	8491A197	20.14
1⅜″	2″	8491A653	23.84
1⅜″	2⅛″	8491A323	23.54
1⅜″	3″	8491A223	32.83
1¾″	¾″	8491A328	23.16
1¾″	1″	8491A329	12.13
1¾″	1⅜″	8491A278	19.24
1¾″	1½″	8491A332	24.74
1.0156″ ID—Drill Size: 1 1/64″			
1⅜″	¾″	8491A259	14.68
1¾″	¾″	8491A408	15.96
1¾″	1″	8491A409	14.08
1¾″	1⅜″	8491A411	15.96
1¾″	1½″	8491A414	17.04
1¾″	1¾″	8491A415	18.15
1¾″	2⅛″	8491A416	21.11
1¾″	2½″	8491A417	22.31
1.0312″ ID—Drill Size: 1 1/32″			
1¾″	¾″	8491A372	15.96
1¾″	1″	8491A374	14.08
1¾″	1⅜″	8491A375	15.96
1.0312″ ID (Cont.)			
1¾″	1½″	8491A377	$17.04
1¾″	1¾″	8491A384	18.15
1¾″	2⅛″	8491A385	21.11
1¾″	2½″	8491A386	22.31
1.0469″ ID—Drill Size: 1 3/64″			
1¾″	¾″	8491A418	15.96
1¾″	1″	8491A419	14.08
1¾″	1⅜″	8491A423	15.96
1¾″	1½″	8491A424	17.04
1¾″	1¾″	8491A425	18.15
1¾″	2⅛″	8491A426	21.11
1¾″	2½″	8491A427	22.31
1.0625″ ID—Drill Size: 1 1/16″			
1¾″	¾″	8491A387	15.96
1¾″	1″	8491A388	14.08
1¾″	1⅜″	8491A389	15.96
1¾″	1½″	8491A391	17.04
1¾″	1¾″	8491A394	18.15
1¾″	2⅛″	8491A395	21.11
1¾″	2½″	8491A396	22.31
1.0781″ ID—Drill Size: 1 5/64″			
1¾″	¾″	8491A428	15.96
1¾″	1″	8491A429	14.08
1¾″	1⅜″	8491A433	15.96
1¾″	1½″	8491A434	17.04
1¾″	1¾″	8491A435	18.15
1¾″	2⅛″	8491A436	21.11
1¾″	2½″	8491A437	22.31
1.125″ ID—Drill Size: 1⅛″			
1½″	1″	8491A762	16.32
1½″	2″	8491A763	22.55
1¾″	¾″	8491A397	15.96
1¾″	1″	8491A398	14.08
1¾″	1⅜″	8491A401	15.96
1¾″	1½″	8491A404	17.04
1.125″ ID (Cont.)			
1¾″	1¾″	8491A405	$18.15
1¾″	2⅛″	8491A406	21.11
1¾″	2½″	8491A407	22.31
1.25″ ID—Drill Size: 1 1/4″			
1½″	1″	8491A832	40.00
1½″	2″	8491A833	40.00
1¾″	¾″	8491A764	16.31
1¾″	1″	8491A72	16.48
1¾″	1⅜″	8491A765	16.31
1¾″	1½″	8491A766	18.94
1.375″ ID—Drill Size: 1 3/8″			
1⅝″	2″	8491A73	40.00
1¾″	1″	8491A239	16.20
1¾″	1½″	8491A251	19.71
1.4375″ ID—Drill Size: 1 7/16″			
1¾″	3″	8491A74	40.00
1.5″ ID—Drill Size: 1½″			
1¾″	1½″	8491A834	31.80
2¼″	2½″	8491A835	40.00
1.625″ ID—Drill Size: 1⅝″			
2¼″	1½″	8491A836	34.29
1.75″ ID—Drill Size: 1¾″			
2¼″	1⅜″	8491A767	28.22
2¼″	1½″	8491A225	27.05
2.2656″ ID—Drill Size: 2 17/64″			
2¾″	¾″	8491A303	28.94
2¾″	1″	8491A305	30.58
2¾″	1¼″	8491A306	33.91
2¾″	1⅜″	8491A307	32.62
2¾″	1½″	8491A308	33.91
2¾″	1¾″	8491A309	35.18
2¾″	2″	8491A311	36.76
2¾″	2⅛″	8491A313	37.33
2¾″	2½″	8491A315	39.76
2¾″	3″	8491A316	40.00

Press-Fit Metric Drill Bushings

Guide drill bits with these metric bushings, also known as "PM" bushings. They permanently mount flush with jig plates. Also suitable for use as spacers, shims, and machinery bushings. Made of hardened steel. Rockwell hardness is C61-C65.

Also Available: Other sizes. Please ask for 8486A901 and specify ID, OD, and length.

Tolerances

ID	ID Tolerance
1.25-3 mm	+0.002 to +0.008 mm
3.1-6 mm	+0.004 to +0.012 mm
6.1-10 mm	+0.005 to +0.014 mm
10.3-18 mm	+0.006 to +0.017 mm
20-30 mm	+0.007 to +0.020 mm
Lg.	**Lg. Tolerance**
5-45 mm	±0.4 mm

OD	OD Tolerance
4-6 mm	+0.019 to +0.027 mm
7-10 mm	+0.023 to +0.032 mm
12-18 mm	+0.028 to +0.039 mm
22-30 mm	+0.035 to +0.048 mm
35-42 mm	+0.043 to +0.059 mm



♦ *Prices shown are for 1-5 bushings of the same ID, OD, and length. Deduct 15% for same size orders of 6-11 bushings and 25% for same size orders of 12 or more.*

ID, mm	OD, mm	Lg., mm		Each♦
1.25	4	9	8486A11	$31.23
1.6	4	9	8486A13	31.23
1.65	4	9	8486A14	31.23
1.8	5	9	8486A17	12.99
2	5	9	8486A18	12.99
2.3	5	6	8486A412	8.20
2.35	5	6	8486A414	8.20
2.4	5	9	8486A421	11.93
2.5	5	9	8486A22	12.99
2.9	6	12	8486A24	12.33
3	6	8	8486A416	12.56
3	6	12	8486A25	12.33
3.1	6	12	8486A423	11.29
3.2	6	12	8486A26	12.33
3.25	6	8	8486A418	12.56
3.3	6	12	8486A27	12.33
3.5	7	12	8486A28	9.69
3.6	7	12	8486A425	11.74
3.75	7	12	8486A29	9.68
3.9	7	12	8486A427	8.89
4	7	8	8486A422	8.72
4	7	12	8486A31	9.68
4.1	8	16	8486A32	10.79
4.24	8	12	8486A429	9.89
4.5	8	16	8486A33	10.79
4.6	8	16	8486A34	10.79
4.75	8	12	8486A431	9.89
5	8	8	8486A83	$10.76
5	8	12	8486A411	13.04
5	8	14	8486A84	12.76
5	8	16	8486A35	10.79
5.1	10	10	8486A424	8.00
5.25	10	10	8486A426	8.00
5.25	10	16	8486A433	9.87
5.5	10	16	8486A36	16.14
5.6	10	10	8486A428	8.00
5.7	10	16	8486A435	9.87
6	8	12	8486A413	14.40
6	10	5	8486A85	9.81
6	10	6	8486A415	14.20
6	10	10	8486A417	12.80
6	10	16	8486A37	10.79
6	10	20	8486A432	8.80
6.1	12	10	8486A434	12.44
6.25	12	10	8486A436	12.44
6.25	12	16	8486A437	9.88
6.4	12	16	8486A439	9.88
6.5	12	16	8486A38	8.43
6.6	12	10	8486A438	12.44
6.7	12	16	8486A441	9.88
6.8	12	10	8486A444	12.44
7	12	16	8486A39	8.43
7.3	12	16	8486A41	8.43
7.4	12	10	8486A442	12.44
7.5	12	16	8486A42	$8.43
7.6	12	10	8486A446	12.44
7.7	12	16	8486A443	9.88
8	12	6	8486A87	9.81
8	12	10	8486A448	12.44
8	12	12.7	8486A88	13.69
8	12	16	8486A43	8.43
8	12	20	8486A451	12.44
8.1	15	12	8486A452	13.68
8.25	15	20	8486A445	9.56
8.4	15	12	8486A453	13.68
8.5	15	12	8486A454	13.68
8.5	15	20	8486A44	8.43
8.75	15	12	8486A455	13.68
8.75	15	20	8486A456	13.68
9	15	20	8486A47	8.43
9.2	15	20	8486A48	8.43
9.4	15	20	8486A447	9.56
9.6	15	20	8486A449	9.56
10	14	25	8486A89	22.96
10	15	12	8486A91	8.43
10	15	13	8486A419	9.40
10	15	20	8486A49	8.43
10	15	25	8486A457	15.04
10	18	12	8486A92	8.43
10	18	20	8486A93	8.84
10.3	18	12	8486A458	15.04
10.5	18	12	8486A459	$15.04
10.5	18	20	8486A51	8.84
10.75	18	20	8486A52	8.84
11.8	18	20	8486A53	8.84
12	18	12	8486A94	6.12
12	18	20	8486A54	8.84
12.5	22	28	8486A55	11.06
13	22	28	8486A56	11.06
13.2	22	28	8486A57	11.06
13.5	22	28	8486A58	11.12
14	22	12	8486A95	10.89
14	22	28	8486A59	11.12
14.5	22	28	8486A61	11.12
15	22	28	8486A63	11.12
15.25	26	28	8486A64	11.12
15.5	26	28	8486A65	11.17
16	26	28	8486A66	11.17
16.5	26	28	8486A67	11.17
17	26	28	8486A69	11.17
17.5	26	28	8486A72	11.17
18	26	28	8486A73	11.17
20	30	36	8486A76	13.65
22	30	36	8486A78	13.65
24	35	36	8486A79	20.01
25	35	36	8486A96	20.01
27	42	45	8486A81	23.48
30	42	45	8486A82	23.48

Press-Fit Drill Bushings with Head

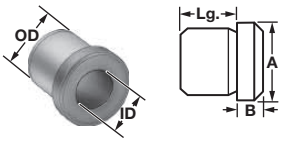

A head prevents these bushings from being pushed through the jig when drilling pressure is extreme. Also known as "H" bushings (unless noted). Sizes marked with a sq. are also known as "HL" liners and are compatible with the removable drill bushings on pages 2613-2614. Made of hardened steel. Rockwell hardness is C61-C65.

Also Available: Other sizes. Please ask for 8492A901 and specify ID, OD, and length.

♦ *Prices shown are for 1-5 bushings of the same ID, OD, and length. Deduct 15% for same size orders of 6-11 bushings and 25% for same size orders of 12 or more.*

Bushing Dimensions

OD	(A)	(B)	OD	(A)	(B)
5/32"	1/4"	3/32"	5/8"	51/64"	7/32"
13/64"	19/64"	3/32"	3/4"	59/64"	7/32"
1/4"	23/64"	3/32"	7/8"	1 7/64"	1/4"
5/16"	27/64"	1/8"	1"	1 15/64"	5/16"
3/8"	1/2"	3/32"	1 1/4"	1 1/2"	1/4"
13/32"	1/2"	5/32"	1 3/8"	1 39/64"	3/8"
7/16"	9/16"	3/32"	1 3/4"	1 63/64"	3/8"
1/2"	39/64"	7/32"	2 1/4"	2 31/64"	3/8"

Liner Dimensions ■

OD	(A)	(B)
1/2"	5/8"	3/32"
3/4"	7/8"	3/32"
1"	1 1/8"	1/8"
1 3/8"	1 1/2"	1/8"
1 3/4"	1 7/8"	3/16"

Tolerances

ID	ID Tolerance
0.0135"-0.25"	+0.0001" to +0.0004"
0.257"-0.75"	+0.0001" to +0.0005"
0.7656"-1.375"	+0.0002" to +0.0006"
1.625"-1.7656"	+0.0003" to +0.0007"

Lg.	Lg. Tolerance
1/4"-3"	±0.015"

OD	OD Tolerance
5/32"-1 3/32"	+0.0013" to +0.0016"
7/16"-5/8"	+0.0014" to +0.0017"
3/4"-1"	+0.0015" to +0.0018"
1 1/4"	+0.0017" to +0.0020"
1 3/8"-1 3/4"	+0.0018" to +0.0023"
2 1/4"	+0.0021" to +0.0025"

OD	Lg.		Each♦
0.0135" ID—Drill Size: 80			
5/32"	1/4"	8492A129	$25.36
5/32"	5/16"	8492A136	26.14
5/32"	3/8"	8492A137	26.79
5/32"	1/2"	8492A138	27.01
0.086" ID—Drill Size: 44			
13/64"	1/4"	8492A001	12.10
0.089" ID—Drill Size: 43			
13/64"	1/4"	8492A002	12.10
0.0938" ID—Drill Size: 3/32"			
13/64"	1/4"	8492A003	12.10
13/64"	3/8"	8492A013	13.10
13/64"	1/2"	8492A023	13.38
0.098" ID—Drill Size: 40			
1/4"	1/4"	8492A031	10.95
1/4"	1/2"	8492A051	12.10
0.1015" ID—Drill Size: 38			
1/4"	1/4"	8492A015	12.18
1/4"	1/2"	8492A016	14.22
0.1094" ID—Drill Size: 7/64"			
1/4"	1/4"	8492A033	10.49
1/4"	1/2"	8492A053	12.10
0.125" ID—Drill Size: 1/8"			
1/4"	1/4"	8492A034	9.97
1/4"	3/8"	8492A044	11.74
1/4"	1/2"	8492A054	12.10
1/4"	3/4"	8492A056	14.95
1/4"	1"	8492A017	22.48
5/16"	3/8"	8492A061	9.69
5/16"	1/2"	8492A071	9.89
5/16"	3/4"	8492A081	10.31
0.1285" ID—Drill Size: 30			
1/4"	1/4"	8492A371	14.51
1/4"	3/8"	8492A046	11.74
0.136" ID—Drill Size: 29			
1/4"	1/4"	8492A032	10.95
1/4"	3/8"	8492A042	11.74
1/4"	1/2"	8492A052	12.10
5/16"	1"	8492A323	13.78
0.1406" ID—Drill Size: 9/64"			
1/4"	1/4"	8492A035	10.49
1/4"	3/8"	8492A045	11.74
1/4"	1/2"	8492A055	12.10
0.1495" ID—Drill Size: 25			
5/16"	1/4"	8492A018	10.18
5/16"	1/2"	8492A019	11.54
0.1562" ID—Drill Size: 5/32"			
5/16"	3/8"	8492A062	9.69
5/16"	1/2"	8492A072	9.89
5/16"	3/4"	8492A082	10.31
0.159" ID—Drill Size: 21			
5/16"	3/8"	8492A372	13.62
0.166" ID—Drill Size: 19			
5/16"	1/4"	8492A021	10.18
5/16"	1/2"	8492A022	11.54
0.1719" ID—Drill Size: 11/64"			
5/16"	3/8"	8492A024	11.38
0.18" ID—Drill Size: 15			
5/16"	1/4"	8492A126	11.35
0.1875" ID—Drill Size: 3/16"			
5/16"	1/4"	8492A373	11.84
5/16"	5/16"	8492A185	11.47
5/16"	3/8"	8492A374	13.62
5/16"	1/2"	8492A058	9.89
5/16"	3/4"	8492A375	14.38
5/16"	1"	8492A401	19.67
5/16"	1 3/8"	8492A402	29.17
0.1875" ID (Cont.)			
13/32"	1/4"	8492A148	$9.87
13/32"	3/8"	8492A169	10.26
13/32"	1/2"	8492A178	11.50
13/32"	3/4"	8492A179	12.19
13/32"	1"	8492A182	14.51
13/32"	1 3/8"	8492A183	16.30
1/2"	1/4"	8492A151	7.46
1/2"	5/16"	8492A186	10.26
1/2"	3/8"	8492A161	9.02
1/2"	1/2"	8492A171	8.66
1/2"	3/4"	8492A403	11.66
1/2"	1"	8492A404	13.91
1/2"	1 3/8"	8492A187	16.30
0.1935" ID—Drill Size: 10			
5/16"	3/8"	8492A063	9.73
5/16"	1/2"	8492A073	9.89
3/8"	3/8"	8492A004	9.78
3/8"	1/2"	8492A006	9.78
0.199" ID—Drill Size: 8			
5/16"	1/4"	8492A025	50.71
5/16"	1/2"	8492A026	45.00
0.201" ID—Drill Size: 7			
3/8"	3/8"	8492A091	9.02
3/8"	1/2"	8492A101	9.10
1/2"	1/4"	8492A152	7.94
1/2"	3/8"	8492A162	9.02
1/2"	1/2"	8492A172	9.10
0.2031" ID—Drill Size: 13/64"			
1/2"	1/4"	8492A153	7.94
1/2"	3/8"	8492A163	9.02
1/2"	1/2"	8492A173	9.10
0.204" ID—Drill Size: 6			
13/32"	1/2"	8492A105	16.90
0.213" ID—Drill Size: 3			
3/8"	1/2"	8492A104	9.10
3/8"	3/4"	8492A027	11.38
3/8"	1"	8492A028	13.58
0.2188" ID—Drill Size: 7/32"			
3/8"	1/4"	8492A059	7.46
3/8"	3/8"	8492A092	8.57
3/8"	1/2"	8492A102	9.10
3/8"	3/4"	8492A112	9.69
0.221" ID—Drill Size: 2			
3/8"	1/2"	8492A029	10.77
3/8"	3/4"	8492A036	11.38
0.25" ID—Drill Size: 1/4", E			
13/32"	1/4"	8492A065	8.63
13/32"	3/8"	8492A005	7.85
13/32"	1/2"	8492A066	8.63
13/32"	3/4"	8492A119	18.53
13/32"	1"	8492A405	13.91
13/32"	1 3/8"	8492A406	14.54
7/16"	1/4"	8492A407	9.49
7/16"	5/16"	8492A135	16.45
7/16"	3/8"	8492A121	8.57
7/16"	1/2"	8492A131	8.66
7/16"	3/4"	8492A141	9.69
7/16"	1"	8492A133	11.50
1/2"	1/4"	8492A154	7.46
1/2"	5/16"	8492A078	15.60
1/2"	3/8"	8492A164	9.02
1/2"	1/2"	8492A174	8.66
1/2"	3/4"	8492A181	9.69
1/2"	1"	8492A191	11.54
1/2"	1 3/8"	8492A201	12.42
0.257" ID—Drill Size: F			
1/2"	1/4"	8492A155	$7.94
1/2"	3/8"	8492A165	9.02
1/2"	1/2"	8492A175	9.10
0.2656" ID—Drill Size: 17/64"			
7/16"	3/8"	8492A122	9.02
7/16"	1/2"	8492A132	9.10
1/2"	1/2"	8492A064	7.15
0.2812" ID—Drill Size: 9/32"			
1/2"	1/4"	8492A156	7.94
1/2"	3/8"	8492A166	9.02
1/2"	1/2"	8492A176	9.10
0.3125" ID—Drill Size: 5/16"			
1/2"	7/32"	31435A011■	9.45
1/2"	1/4"	8492A157	7.46
1/2"	9/32"	31435A013■	9.76
1/2"	5/16"	8492A079	15.60
1/2"	3/8"	8492A167	8.66
1/2"	13/32"	31435A015■	9.75
1/2"	1/2"	8492A177	8.66
1/2"	21/32"	31435A016■	10.11
1/2"	3/4"	8492A158	9.17
1/2"	1"	8492A159	11.46
1/2"	1 3/8"	8492A168	13.21
5/8"	1/4"	8492A211	9.02
5/8"	5/16"	8492A083	15.00
5/8"	3/8"	8492A221	8.22
5/8"	1/2"	8492A231	8.22
5/8"	3/4"	8492A206	9.02
5/8"	1"	8492A084	18.53
5/8"	1 3/8"	8492A085	24.80
3/4"	1/4"	8492A086	18.53
3/4"	5/16"	8492A087	16.45
3/4"	3/8"	8492A088	17.09
3/4"	1/2"	8492A089	17.09
3/4"	5/8"	8492A093	17.69
3/4"	3/4"	8492A094	18.53
3/4"	1"	8492A095	19.78
3/4"	1 1/4"	8492A096	25.43
3/4"	1 3/8"	8492A097	25.43
0.3281" ID—Drill Size: 21/64"			
5/8"	1/4"	8492A212	9.02
5/8"	3/8"	8492A222	8.22
5/8"	1/2"	8492A232	8.22
5/8"	5/8"	8492A008	9.78
5/8"	3/4"	8492A207	9.02
0.3438" ID—Drill Size: 11/32"			
5/8"	1/4"	8492A213	9.02
5/8"	1/2"	8492A233	8.22
0.3594" ID—Drill Size: 23/64"			
5/8"	3/4"	8492A241	9.02
0.375" ID—Drill Size: 3/8"			
5/8"	1/4"	8492A214	8.57
5/8"	5/16"	8492A007	8.60
5/8"	3/8"	8492A224	7.85
5/8"	1/2"	8492A234	7.85
5/8"	5/8"	8492A377	12.55
5/8"	3/4"	8492A242	8.57
5/8"	1"	8492A252	9.69
5/8"	1 3/8"	8492A262	13.40
3/4"	1/2"	8492A271	9.96
3/4"	3/4"	8492A281	10.71
3/4"	1 3/8"	8492A291	14.72
0.3906" ID—Drill Size: 25/64"			
5/8"	1/4"	8492A127	$11.75
5/8"	1/2"	8492A068	10.82
5/8"	3/4"	8492A069	10.78
3/4"	1/2"	8492A009	9.78
0.4062" ID—Drill Size: 13/32"			
5/8"	3/8"	8492A113	7.78
5/8"	1/2"	8492A324	9.24
5/8"	3/4"	8492A351	9.93
0.4375" ID—Drill Size: 7/16"			
5/8"	1/4"	8492A215	9.02
5/8"	3/8"	8492A225	8.22
5/8"	1/2"	8492A235	8.22
5/8"	5/8"	8492A108	17.09
5/8"	3/4"	8492A243	9.02
5/8"	1"	8492A253	9.69
5/8"	1 3/8"	8492A109	24.80
3/4"	1/4"	8492A134	18.53
3/4"	5/16"	8492A111	16.45
3/4"	3/8"	8492A266	17.09
3/4"	1/2"	8492A014	8.53
3/4"	5/8"	8492A117	17.69
3/4"	3/4"	8492A037	11.38
3/4"	1"	8492A118	19.78
0.4531" ID—Drill Size: 29/64"			
3/4"	1/2"	8492A272	9.26
3/4"	3/4"	8492A282	10.71
3/4"	1 3/8"	8492A292	14.72
0.4844" ID—Drill Size: 31/64"			
3/4"	1/2"	8492A273	9.96
3/4"	1"	8492A279	11.57
0.5" ID—Drill Size: 1/2"			
3/4"	1/4"	8492A038	8.98
3/4"	3/8"	8492A378	9.89
3/4"	1/2"	8492A274	8.76
3/4"	5/8"	8492A379	10.28
3/4"	21/32"	31435A211■	10.44
3/4"	3/4"	8492A284	9.45
3/4"	29/32"	31435A213■	12.08
3/4"	1"	8492A287	10.18
3/4"	1 1/4"	8492A039	12.36
3/4"	1 9/32"	31435A215■	14.12
3/4"	1 3/8"	8492A294	13.75
3/4"	1 1/2"	8492A115	13.21
3/4"	1 3/4"	8492A381	17.98
7/8"	1/2"	8492A408	15.19
7/8"	5/8"	8492A189	13.82
7/8"	3/4"	8492A041	10.71
7/8"	1"	8492A409	16.99
1"	1/2"	8492A411	14.47
1"	1"	8492A192	15.87
1"	1 3/8"	8492A193	17.70
1"	1 3/4"	8492A325	18.70
0.5156" ID—Drill Size: 33/64"			
3/4"	1/2"	8492A275	9.26
3/4"	3/4"	8492A285	10.71
3/4"	1"	8492A288	11.57
0.5312" ID—Drill Size: 17/32"			
3/4"	1/2"	8492A276	9.96
3/4"	3/4"	8492A286	10.71
3/4"	1"	8492A289	11.57
0.5469" ID—Drill Size: 35/64"			
7/8"	1/2"	8492A116	11.98
0.5625" ID—Drill Size: 9/16"			
7/8"	1/2"	8492A326	11.98

■ HL liners. Compatible with removable drill bushings on pages 2613-2614.

(Continued on following page)

Press-Fit Drill Bushings with Head *(Continued from previous page)*

♦ *Prices shown are for 1-5 bushings of the same ID, OD, and length. Deduct 15% for same size orders of 6-11 bushings and 25% for same size orders of 12 or more.*

OD	Lg.		Each♦
0.625″ ID—Drill Size: 5/8″			
3/4″	1″	8492A327	$14.67
7/8″	1/2″	8492A297	11.10
7/8″	5/8″	8492A123	16.57
7/8″	3/4″	8492A298	11.31
7/8″	1″	8492A299	11.79
7/8″	1 1/4″	8492A303	12.96
7/8″	1 3/8″	8492A124	21.21
1″	1/2″	8492A098	16.72
1″	3/4″	8492A265	16.43
1″	1″	8492A106	18.24
1″	1 3/8″	8492A107	19.53
1″	1 1/2″	8492A047	13.98
0.6875″ ID—Drill Size: 11/16″			
1″	1/2″	8492A048	10.34
1″	3/4″	8492A049	10.34
0.75″ ID—Drill Size: 3/4″			
1″	3/8″	31435A311■	11.45
1″	1/2″	8492A302	10.84
1″	5/8″	31435A312■	12.14
1″	3/4″	8492A312	10.84
1″	7/8″	31435A313■	12.99
1″	1″	8492A304	12.39
1″	1 1/4″	8492A382	15.61
1″	1 3/8″	8492A322	13.40
1″	1 1/2″	8492A383	18.11
1″	1 5/8″	31435A319■	17.26
1″	2 1/2″	8492A412	32.22
0.75″ ID (Cont.)			
1 3/8″	1/2″	8492A195	$22.61
1 3/8″	1 3/4″	8492A194	29.19
0.7656″ ID—Drill Size: 49/64″			
1″	1/2″	8492A305	12.52
1″	3/4″	8492A306	13.39
1″	1″	8492A307	13.53
0.7969″ ID—Drill Size: 51/64″			
1 3/8″	3/4″	8492A012	15.06
0.8125″ ID—Drill Size: 13/16″			
1 3/8″	1″	8492A128	15.85
0.875″ ID—Drill Size: 7/8″			
1 1/4″	1″	8492A329	18.87
1 1/4″	1 3/8″	8492A328	30.61
0.9062″ ID—Drill Size: 29/32″			
1 1/4″	1 1/2″	8492A011	19.66
1″ ID—Drill Size: 1″			
1 3/8″	1/2″	8492A384	18.04
1 3/8″	3/4″	8492A331	18.36
1 3/8″	7/8″	31435A411■	17.11
1 3/8″	1 3/8″	8492A33	18.36
1 3/8″	1 5/8″	31435A415■	21.56
1 3/8″	1 3/4″	8492A074	18.02
1 3/8″	2 1/8″	8492A196	30.27
1 3/8″	3″	8492A413	60.18
1 3/4″	1″	8492A414	31.09
1 3/4″	1 3/8″	8492A197	30.49
1 3/4″	1 3/4″	8492A198	33.59
1 3/4″	3″	8492A415	65.47
1.0625″ ID—Drill Size: 1 1/16″			
1 3/4″	3/4″	8492A202	$21.23
1 3/4″	1″	8492A203	20.10
1 3/4″	1 3/8″	8492A204	21.23
1 3/4″	1 1/2″	8492A205	22.17
1 3/4″	1 3/4″	8492A208	23.13
1 3/4″	2 1/8″	8492A209	26.25
1.0781″ ID—Drill Size: 1 5/64″			
1 3/4″	3/4″	8492A216	21.23
1 3/4″	1″	8492A217	20.10
1 3/4″	1 3/8″	8492A218	21.23
1 3/4″	1 1/2″	8492A219	22.17
1 3/4″	1 3/4″	8492A223	23.13
1 3/4″	2 1/8″	8492A226	26.25
1.125″ ID—Drill Size: 1 1/8″			
1 3/4″	3/4″	8492A227	21.23
1 3/4″	1″	8492A075	17.12
1 3/4″	1 3/8″	8492A228	21.23
1 3/4″	1 1/2″	8492A229	22.17
1 3/4″	1 3/4″	8492A236	23.13
1 3/4″	2 1/8″	8492A237	26.25
1.25″ ID—Drill Size: 1 1/4″			
1 3/4″	3/4″	8492A076	19.05
1 3/4″	1″	8492A077	17.12
1 3/4″	1 3/8″	8492A238	21.23
1 3/4″	1 1/2″	8492A239	22.17
1 3/4″	1 3/4″	8492A244	23.13
1 3/4″	2 1/8″	8492A245	26.25
1.3125″ ID—Drill Size: 1 5/16″			
1 3/4″	3/4″	8492A246	$21.23
1 3/4″	1″	8492A247	20.10
1 3/4″	1 3/8″	8492A248	21.23
1 3/4″	1 1/2″	8492A249	22.17
1 3/4″	1 3/4″	8492A251	23.13
1 3/4″	2 1/8″	8492A254	26.25
1.375″ ID—Drill Size: 1 3/8″			
1 3/4″	9/16″	31435A612■	20.90
1 3/4″	3/4″	8492A255	21.23
1 3/4″	13/16″	31435A711■	22.12
1 3/4″	1″	8492A256	20.10
1 3/4″	1 3/8″	8492A257	21.23
1 3/4″	1 1/2″	8492A258	22.17
1 3/4″	1 3/4″	8492A259	23.13
1 3/4″	2 1/8″	8492A261	26.25
1 3/4″	2 1/2″	8492A263	29.06
1 3/4″	3″	8492A264	40.61
1.625″ ID—Drill Size: 1 5/8″			
2 1/4″	1 3/8″	8492A125	27.38
1.7656″ ID—Drill Size: 1 49/64″			
2 1/4″	1″	8492A139	24.55
2 1/4″	1 3/8″	8492A142	27.38
2 1/4″	1 1/2″	8492A143	29.06
2 1/4″	1 3/4″	8492A144	29.06
2 1/4″	2″	8492A145	33.18
2 1/4″	2 1/8″	8492A146	37.40
2 1/4″	3″	8492A147	45.57

■ HL liners. Compatible with removable drill bushings on pages 2613-2614.

Corrosion-Resistant Press-Fit Drill Bushings

Use these stainless steel bushings as drill guides, spacers, shims, and machinery bushings. Also known as "P" bushings, they mount flush with jig plates and are permanently installed.

Type 303 stainless steel bushings have excellent corrosion resistance in chemical and marine environments.

Type 440C stainless steel bushings are hardened to Rockwell C58-C60 for better wearability, but offer less corrosion resistance than Type 303 stainless steel bushings.

Also Available: Other sizes. Please ask for 8504A999 and specify ID, OD, and length.

Tolerances

ID	ID Tolerance
0.25″	+0.0001″ to +0.0004″
0.3125″-0.75″	+0.0001″ to +0.0005″
1″	+0.0002″ to +0.0006″

Lg.	Lg. Tolerance
1/4″-1 1/2″	±0.010″

OD	OD Tolerance
3/8″	+0.0013″ to +0.0016″
1/2″-5/8″	+0.0014″ to +0.0017″
3/4″-1″	+0.0015″ to +0.0018″
1 1/4″	+0.0017″ to +0.0020″
1 3/8″	+0.0018″ to +0.0022″



OD	Lg.		
Type 303 Stainless Steel			
0.25″ ID—Drill Size: 1/4″, E			
3/8″	1/4″	8504A111	$23.84
3/8″	3/8″	8504A113	25.66
3/8″	1/2″	8504A114	26.02
3/8″	3/4″	8504A116	27.86
1/2″	3/8″	8504A117	25.66
1/2″	1/2″	8504A118	26.02
1/2″	3/4″	8504A119	27.86
1/2″	1″	8504A121	30.94
0.3125″ ID—Drill Size: 5/16″			
1/2″	1/4″	8504A131	23.84
1/2″	3/8″	8504A132	25.66
1/2″	1/2″	8504A133	26.02
1/2″	3/4″	8504A134	27.86
0.375″ ID—Drill Size: 3/8″			
1/2″	3/8″	8504A141	25.66
1/2″	1/2″	8504A142	26.02
1/2″	3/4″	8504A143	27.86
1/2″	1″	8504A144	30.94
5/8″	3/8″	8504A146	24.68
5/8″	1/2″	8504A147	24.68
5/8″	1″	8504A151	26.96
0.5″ ID—Drill Size: 1/2″			
5/8″	3/8″	8504A161	24.68
5/8″	1/2″	8504A162	24.68
Type 303 SS (Cont.)			
0.5″ ID (Cont.)			
5/8″	3/4″	8504A163	$26.02
5/8″	1″	8504A164	26.96
3/4″	3/8″	8504A165	26.02
3/4″	1/2″	8504A166	26.02
3/4″	5/8″	8504A167	26.96
3/4″	3/4″	8504A168	26.96
3/4″	1″	8504A169	28.72
0.625″ ID—Drill Size: 5/8″			
3/4″	1/2″	8504A181	26.02
3/4″	1″	8504A182	28.72
7/8″	1/2″	8504A183	29.60
7/8″	3/4″	8504A184	26.02
7/8″	1″	8504A185	31.40
0.75″ ID—Drill Size: 3/4″			
7/8″	1″	8504A191	31.40
1″	1″	8504A194	31.84
1″	1 1/4″	8504A195	33.62
1″ ID—Drill Size: 1″			
1 1/4″	3/4″	8504A201	37.12
1 1/4″	1″	8504A202	42.80
1 1/4″	1 1/2″	8504A203	49.74
1 3/8″	1/2″	8504A204	42.80
Type 440C Stainless Steel			
0.25″ ID—Drill Size: 1/4″, E			
3/8″	1/4″	4208A11	$33.42
3/8″	3/8″	4208A12	34.47
3/8″	1/2″	4208A13	35.55
3/8″	3/4″	4208A14	36.54
1/2″	1/2″	4208A16	36.10
1/2″	3/4″	4208A17	37.31
1/2″	1″	4208A18	38.61
0.3125″ ID—Drill Size: 5/16″			
1/2″	1/4″	4208A19	34.74
1/2″	1/2″	4208A22	36.10
1/2″	3/4″	4208A23	37.31
0.375″ ID—Drill Size: 3/8″			
1/2″	3/8″	4208A24	35.33
1/2″	1/2″	4208A25	36.30
1/2″	3/4″	4208A26	37.53
1/2″	1″	4208A27	38.70
5/8″	3/8″	4208A29	36.48
5/8″	1/2″	4208A31	37.05
5/8″	1″	4208A33	40.11
0.5″ ID—Drill Size: 1/2″			
5/8″	1/2″	4208A35	37.55
5/8″	3/4″	4208A36	39.12
5/8″	1″	4208A37	40.88
Type 440C SS (Cont.)			
0.5″ ID (Cont.)			
3/4″	3/8″	4208A38	$37.09
3/4″	1/2″	4208A39	38.48
3/4″	3/4″	4208A42	40.63
3/4″	1″	4208A43	42.94
0.625″ ID—Drill Size: 5/8″			
3/4″	1/2″	4208A44	39.75
3/4″	1″	4208A45	44.31
7/8″	1/2″	4208A46	40.70
7/8″	3/4″	4208A47	42.83
7/8″	1″	4208A48	45.54
0.75″ ID—Drill Size: 3/4″			
7/8″	1″	4208A49	46.53
1″	1/2″	4208A51	42.53
1″	3/4″	4208A52	45.12
1″	1″	4208A53	48.22
1″	1 1/4″	4208A54	51.46
1″ ID—Drill Size: 1″			
1 1/4″	3/4″	4208A55	48.27
1 1/4″	1″	4208A56	52.29
1 1/4″	1 1/2″	4208A58	59.36
1 3/8″	1/2″	4208A59	47.32
1 3/8″	1″	4208A57	55.02

Wear-Resistant Press-Fit Drill Bushings

Made of durable tungsten carbide, these bushings outlast steel bushings. Rockwell hardness is A89. Also known as "PC" bushings. ID tolerance is +0.0001″ to +0.0005″. OD tolerance is +0.0013″ to +0.0018″. Length tolerance is ±0.01″.

Also Available: Other sizes. Please ask for 33455A999 and specify ID, OD, and length.

OD	Lg.		
0.0938″ ID—Drill Size: 3/32″			
13/64″	1/2″	33455A123	$35.95
0.125″ ID—Drill Size: 1/8″			
1/4″	5/16″	33455A145	30.65
1/4″	1/2″	33455A205	31.48
0.1875″ ID—Drill Size: 3/16″			
5/16″	1/2″	33455A385	$35.95
0.25″ ID—Drill Size: 1/4″, E			
13/32″	1/2″	33455A455	38.65
1/2″	1/2″	33455A545	39.79
0.3125″ ID—Drill Size: 5/16″			
1/2″	1/2″	33455A585	$39.79
1/2″	1″	33455A587	59.06
5/8″	3/4″	33455A725	51.32
0.5″ ID—Drill Size: 1/2″			
3/4″	1/2″	33455A645	$48.47
3/4″	3/4″	33455A795	65.25

Finish-Your-Own Press-Fit Drill Bushings

With precision-ground IDs and oversized ODs you can finish these bushings to your specifications. They should be machine ground. Made of hardened steel. Rockwell hardness is C61-C65.

Tolerances

ID	ID Tolerance
0.0938″-0.25″	+0.0001″ to +0.0004″
0.252″-0.75″	+0.0001″ to +0.0005″
1″	+0.0002″ to +0.0006″

OD	OD Tolerance
3/16″-3/8″	+0.0095″ to +0.015″
1/2″-1 3/8″	+0.015″ to +0.020″

Lg.	Lg. Tolerance
1/4″-4″	±0.015″

OD	Lg.		
0.0938" ID—Drill Size: 3/32"			
3/16″	1/2″	4315A11	$10.87
0.125″ ID—Drill Size: 1/8″			
1/4″	1/2″	4315A14	9.82
5/16″	1/2″	4315A16	7.76
0.159″ ID—Drill Size: 21			
5/16″	1/2″	4315A24	7.76
0.1875″ ID—Drill Size: 3/16″			
5/16″	3/4″	4315A28	8.44
0.201″ ID—Drill Size: 7			
3/8″	3/8″	4315A32	6.58
0.25″ ID—Drill Size: 1/4″, E			
3/8″	3/8″	4315A36	6.58
3/8″	1/2″	4315A37	6.71
3/8″	3/4″	4315A39	7.42

OD	Lg.		
0.25″ ID (Cont.)			
1/2″	1/2″	4315A45	$6.71
1/2″	3/4″	4315A46	7.42
1/2″	1″	4315A47	8.62
0.252″ ID			
1/2″	1/2″	4315A49	6.92
0.3125″ ID—Drill Size: 5/16″			
1/2″	1/2″	4315A56	6.71
1/2″	3/4″	4315A57	7.42
1/2″	1″	4315A58	8.62
0.375″ ID—Drill Size: 3/8″			
1/2″	1/4″	4315A62	5.86
1/2″	1/2″	4315A64	6.71
1/2″	1″	4315A66	8.62
5/8″	1/2″	4315A69	6.19
5/8″	1″	4315A73	7.07

OD	Lg.		
0.377″ ID—Drill Size: V			
5/8″	1/2″	4315A75	$6.19
0.4375″ ID—Drill Size: 7/16″			
5/8″	1/2″	4315A78	6.19
5/8″	1″	4315A81	7.07
0.5″ ID—Drill Size: 1/2″			
5/8″	1/2″	4315A83	6.19
5/8″	3/4″	4315A84	6.71
5/8″	1″	4315A85	7.07
3/4″	1/2″	4315A87	6.71
3/4″	3/4″	4315A89	7.07
3/4″	1″	4315A91	7.76
3/4″	1 1/2″	4315A92	10.51
0.625″ ID—Drill Size: 5/8″			
3/4″	1/2″	4315A98	6.71
3/4″	3/4″	4315A99	7.07

OD	Lg.		
0.625″ ID (Cont.)			
3/4″	1″	4315A101	$7.76
7/8″	1/2″	4315A102	6.71
7/8″	1″	4315A104	8.79
0.75″ ID—Drill Size: 3/4″			
1″	1/2″	4315A107	8.44
1″	3/4″	4315A108	8.44
1″	1″	4315A109	8.98
1″	1 1/4″	4315A201	9.66
1″	1 1/2″	4315A202	10.87
1″	4″	4315A411	107.08
1″ ID—Drill Size: 1″			
1 1/4″	3/4″	4315A205	21.02
1 1/4″	1″	4315A206	23.60
1 1/4″	1 1/2″	4315A207	26.88
1 3/8″	3/4″	4315A209	11.02
1 3/8″	1″	4315A301	13.22

Drill Bushings for Soft Materials

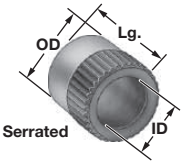


Serrated Groove


Knurled Groove

Tolerances

ID	ID Tolerance
0.098″-0.25″	+0.0001″ to +0.0004″
0.2656″-0.625″	+0.0001″ to +0.0005″

OD	OD Tolerance
Serrated	
5/16″-3/4″	–0.0002″
Serrated & Knurled Groove	
1/4″-1″	+0.010″ to +0.015″

Serrations grip soft materials to prevent rotation and spin out. Rockwell hardness is C61-C65.

Serrated—Press into magnesium, aluminum, and masonite wood. Also known as "SP" bushings.

Serrated Groove—Press or encase into plastic tooling. Also known as "SG" bushings.

Knurled Groove— Encase in plastic tooling. Knurls resist force and provide better holding strength than serrated grooves. Also known as "DG" bushings.

Also Available: Other sizes. Please ask for 3377A999 for serrated bushings, 3378A999 for serrated groove bushings, or 3379A999 for knurled groove bushings. Specify ID, OD, and length.

OD	Lg.		
Serrated			
0.125″ ID—Drill Size: 1/8″			
5/16″	5/16″	3377A111	$12.97
5/16″	1/2″	3377A114	10.47
0.1562″ ID—Drill Size: 5/32″			
5/16″	5/16″	3377A112	12.97
5/16″	1/2″	3377A115	10.47
0.1875″ ID—Drill Size: 3/16″			
5/16″	5/16″	3377A113	12.97
5/16″	1/2″	3377A116	10.47
1/2″	5/16″	3377A117	8.16
1/2″	1/2″	3377A122	9.14
0.1935″ ID—Drill Size: 10			
5/16″	3/8″	3377A171	12.97
5/16″	1/2″	3377A172	13.58
0.2188″ ID—Drill Size: 7/32″			
1/2″	1/2″	3377A153	18.13
0.25″ ID—Drill Size: 1/4″, E			
13/32″	3/8″	3377A174	11.38
1/2″	5/16″	3377A118	8.16
1/2″	1/2″	3377A123	8.74
0.2656″ ID—Drill Size: 17/64″			
1/2″	1/2″	3377A182	12.97
0.2812″ ID—Drill Size: 9/32″			
1/2″	1/2″	3377A155	18.13

OD	Lg.		
Serrated (Cont.)			
0.3125″ ID—Drill Size: 5/16″			
1/2″	5/16″	3377A121	$8.16
1/2″	1/2″	3377A125	8.17
1/2″	3/4″	3377A175	13.02
5/8″	3/4″	3377A131	9.14
0.375″ ID—Drill Size: 3/8″			
5/8″	1/2″	3377A128	7.91
5/8″	3/4″	3377A133	9.14
3/4″	1/2″	3377A135	9.14
0.5″ ID—Drill Size: 1/2″			
3/4″	1/2″	3377A137	9.14
3/4″	3/4″	3377A142	9.55
Serrated Groove			
0.125″ ID—Drill Size: 1/8″			
5/16″	5/16″	3378A111	7.20
5/16″	1/2″	3378A114	7.86
0.1875″ ID—Drill Size: 3/16″			
5/16″	5/16″	3378A113	7.20
1/2″	1/2″	3378A122	7.20
0.25″ ID—Drill Size: 1/4″, E			
13/32″	3/4″	3378A173	10.17
1/2″	5/16″	3378A118	8.68
1/2″	1/2″	3378A123	7.20
1/2″	3/4″	3378A174	12.82

OD	Lg.		
Serrated Groove (Cont.)			
0.2969″ ID—Drill Size: 19/64″			
1/2″	1/2″	3378A153	$10.11
0.3125″ ID—Drill Size: 5/16″			
1/2″	1/2″	3378A125	7.20
0.375″ ID—Drill Size: 3/8″			
5/8″	1/2″	3378A128	8.68
5/8″	3/4″	3378A133	9.45
0.4062″ ID—Drill Size: 13/32″			
5/8″	3/4″	3378A157	10.11
0.4375″ ID—Drill Size: 7/16″			
5/8″	3/4″	3378A159	10.32
0.5″ ID—Drill Size: 1/2″			
3/4″	1/2″	3378A137	7.34
3/4″	3/4″	3378A142	7.20
Knurled Groove			
0.098″ ID—Drill Size: 40			
1/4″	1/2″	3379A154	13.38
0.125″ ID—Drill Size: 1/8″			
5/16″	1/2″	3379A114	7.20
0.1562″ ID—Drill Size: 5/32″			
1/2″	1/2″	3379A158	11.44
0.1875″ ID—Drill Size: 3/16″			
1/2″	1/2″	3379A122	7.20

OD	Lg.		
Knurled Groove (Cont.)			
0.1935″ ID—Drill Size: 10			
5/16″	3/8″	3379A163	$10.83
0.2188″ ID—Drill Size: 7/32″			
13/32″	1/2″	3379A164	10.21
0.25″ ID—Drill Size: 1/4″, E			
13/32″	1/2″	3379A167	10.21
1/2″	5/16″	3379A118	6.18
1/2″	1/2″	3379A123	8.17
1/2″	3/4″	3379A168	11.03
0.2812″ ID—Drill Size: 9/32″			
1/2″	1/2″	3379A124	8.58
0.3125″ ID—Drill Size: 5/16″			
1/2″	1/2″	3379A125	8.58
5/8″	3/4″	3379A131	8.63
0.375″ ID—Drill Size: 3/8″			
5/8″	1/2″	3379A128	8.22
5/8″	3/4″	3379A133	8.63
0.5″ ID—Drill Size: 1/2″			
3/4″	1/2″	3379A169	10.17
3/4″	3/4″	3379A142	8.63
0.5625″ ID—Drill Size: 9/16″			
7/8″	3/4″	3379A171	11.27
0.625″ ID—Drill Size: 5/8″			
1″	3/4″	3379A151	14.66

Removable Drill Bushings for Thin Materials


Bushing

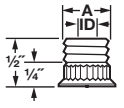


Lock Ring

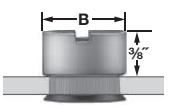

Lock Ring and Bushing (Sold Separately)

Unlike most bushings, these won't buckle the material or distort the hole when installed in thin-gauge aluminum and steel plates (1/64″ to 3/8″ thick). Insert bushing into drilled hole and twist the lock ring (sold separately) to secure. Bushings and lock rings can be removed and reused. Threads are left-handed to prevent bushing from loosening while drilling.

Bushings are made of 1144 carbon steel. Rockwell hardness is C59-C64. ID tolerance is +0.0001″ to +0.0015″; flange OD tolerance is +0.003″ to +0.005″.

Lock rings are aluminum.

Thread Size	ID (Drill Size)	Bushings OD (A)			Lock Rings OD (B)		
3/8″-24	0.0625″ (1/16″)	3/8″	8509A41	$3.84	1/2″	8509A31	$1.92
3/8″-24	0.0938″ (3/32″)	3/8″	8509A42	3.84	1/2″	8509A31	1.92
3/8″-24	0.1250″ (1/8″)	3/8″	8509A11	3.84	1/2″	8509A31	1.92
3/8″-24	0.1285″ (30)	3/8″	8509A12	3.84	1/2″	8509A31	1.92
3/8″-24	0.1406″ (9/64″)	3/8″	8509A43	3.84	1/2″	8509A31	1.92
3/8″-24	0.1562″ (5/32″)	3/8″	8509A13	3.84	1/2″	8509A31	1.92
3/8″-24	0.1875″ (3/16″)	3/8″	8509A14	3.84	1/2″	8509A31	1.92
3/8″-24	0.1935″ (10)	3/8″	8509A15	3.84	1/2″	8509A31	1.92
1/2″-20	0.2188″ (7/32″)	1/2″	8509A17	4.32	5/8″	8509A32	2.09
1/2″-20	0.2500″ (1/4″, E)	1/2″	8509A18	4.32	5/8″	8509A32	2.09
1/2″-20	0.2656″ (17/64″)	1/2″	8509A21	4.32	5/8″	8509A32	2.09
1/2″-20	0.2812″ (9/32″)	1/2″	8509A22	4.32	5/8″	8509A32	2.09
1/2″-20	0.3125″ (5/16″)	1/2″	8509A23	4.32	5/8″	8509A32	2.09
5/8″-18	0.3750″ (3/8″)	5/8″	8509A25	5.59	3/4″	8509A33	2.62

Removable Drill Bushings

Also known as slip-fixed ("SF") renewable bushings, these bushings are easy to replace and are held in place by a lock screw or locking sleeve (lock screws and locking sleeves sold separately on page 2614). Made of hardened steel. Rockwell hardness is C61-C65. Length tolerance is ±0.015".

Also Available: Other sizes. Please ask for 8493A901 and specify ID, OD, and length.

♦ *Prices shown are for 1-5 bushings of the same ID, OD, and length. Deduct 15% for same size orders of 6-11 bushings and 25% for same size orders of 12 or more.*

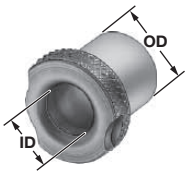

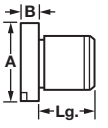



Dimensions

OD	(A)	(B)	(C)	OD	(A)	(B)	(C)	OD	(A)	(B)	(C)
3/16"	5/16"	3/16"	17/64"	1/2"	51/64"	1/4"	5/8"	1"	1 27/64"	3/8"	59/64"
1/4"	7/16"	1/4"	23/64"	9/16"	7/8"	1/4"	37/64"	1 3/8"	1 51/64"	3/8"	1 7/64"
5/16"	35/64"	1/4"	1/2"	5/8"	7/8"	1/4"	37/64"	1 3/4"	2 19/64"	3/8"	1 25/64"
3/8"	5/8"	1/4"	29/64"	3/4"	1 3/64"	1/4"	3/4"	2 1/4"	2 51/64"	3/8"	1 41/64"
7/16"	5/8"	1/4"	29/64"	7/8"	1 1/4"	3/8"	53/64"				

Tolerances

ID	ID Tolerance
0.0135"-0.25"	+0.0001" to +0.0004"
0.257"-0.75"	+0.0001" to +0.0005"
0.7812"-1.375"	+0.0002" to +0.0006"
1.875"	+0.0003" to +0.0007"

OD	OD Tolerance
3/16"-1"	–0.0002"
1 3/8"-1 3/4"	–0.0003"
2 1/4"	–0.0004"

OD	Lg.		Each♦
0.0135" ID—Drill Size: 80			
3/16"	1/4"	8493A075	$27.48
3/16"	5/16"	8493A077	28.01
3/16"	3/8"	8493A079	28.54
3/16"	1/2"	8493A082	28.79
3/16"	5/8"	8493A087	32.13
3/16"	3/4"	8493A091	38.62
0.0625" ID—Drill Size: 1/16"			
5/16"	3/4"	8493A021	20.54
0.0785" ID—Drill Size: 47			
3/16"	1/2"	8493A309	11.61
0.0938" ID—Drill Size: 3/32"			
5/16"	3/8"	8493A036	14.04
5/16"	1/2"	8493A056	14.64
5/16"	3/4"	8493A076	16.78
5/16"	1"	8493A083	19.86
0.098" ID—Drill Size: 40			
5/16"	1"	8493A022	17.96
0.1094" ID—Drill Size: 7/64"			
1/4"	1/4"	8493A001	13.75
5/16"	1/2"	8493A057	14.64
0.125" ID—Drill Size: 1/8"			
1/4"	1/4"	8493A002	13.75
1/4"	3/8"	8493A004	12.75
1/4"	1/2"	8493A012	14.64
1/4"	3/4"	8493A413	27.97
5/16"	3/8"	8493A038	14.04
5/16"	1/2"	8493A058	14.64
5/16"	3/4"	8493A078	16.78
5/16"	1"	8493A084	19.86
5/16"	1 3/8"	8493A414	29.88
0.1285" ID—Drill Size: 30			
1/4"	1/4"	8493A372	15.07
1/4"	5/16"	8493A003	12.75
1/4"	1/2"	8493A227	13.87
5/16"	1/2"	8493A023	16.92
0.136" ID—Drill Size: 29			
1/4"	1/4"	8493A403	19.05
1/4"	3/8"	8493A404	19.62
1/4"	1/2"	8493A401	20.70
1/4"	1"	8493A402	45.71
5/16"	1/2"	8493A024	16.92
0.1406" ID—Drill Size: 9/64"			
5/16"	1/2"	8493A226	13.87
0.144" ID—Drill Size: 27			
5/16"	1/2"	8493A025	16.92
0.147" ID—Drill Size: 26			
5/16"	3/4"	8493A228	15.97
0.1495" ID—Drill Size: 25			
5/16"	1/2"	8493A005	13.88
0.154" ID—Drill Size: 23			
5/16"	1/2"	8493A026	16.92
0.1562" ID—Drill Size: 5/32"			
5/16"	3/8"	8493A041	14.04
5/16"	1/2"	8493A061	14.64
5/16"	3/4"	8493A081	16.78
5/16"	1"	8493A085	19.86
1/2"	1/2"	8493A027	14.22
0.157" ID—Drill Size: 22			
5/16"	1"	8493A028	17.96
0.159" ID—Drill Size: 21			
5/16"	3/8"	8493A373	15.04
5/16"	1/2"	8493A31	14.64
0.1719" ID—Drill Size: 11/64"			
5/16"	3/8"	8493A042	14.05
5/16"	1/2"	8493A062	14.64
0.173" ID—Drill Size: 17			
5/16"	1/2"	8493A311	$14.64
0.185" ID—Drill Size: 13			
5/16"	1"	8493A029	17.96
1/2"	1/2"	8493A234	11.32
0.1875" ID—Drill Size: 3/16"			
5/16"	1/4"	8493A374	21.53
5/16"	3/8"	8493A375	15.04
5/16"	1/2"	8493A376	16.86
5/16"	3/4"	8493A377	19.10
1/2"	5/16"	8493A134	13.48
1/2"	3/8"	8493A135	13.86
1/2"	1/2"	8493A122	11.48
1/2"	3/4"	8493A142	13.21
1/2"	1"	8493A162	15.19
1/2"	1 3/8"	8493A136	20.67
0.191" ID—Drill Size: 11			
1/2"	1/2"	8493A007	12.07
0.1935" ID—Drill Size: 10			
1/2"	1/2"	8493A229	10.15
1/2"	1"	8493A233	12.55
0.196" ID—Drill Size: 9			
1/2"	1/2"	8493A006	11.31
0.199" ID—Drill Size: 8			
3/8"	3/4"	8493A069	13.09
0.201" ID—Drill Size: 7			
3/8"	1/4"	8493A092	9.25
3/8"	5/8"	8493A112	11.40
3/8"	3/4"	8493A086	11.66
1/2"	3/4"	8493A312	11.66
0.2031" ID—Drill Size: 13/64"			
1/2"	1/2"	8493A123	10.22
1/2"	3/4"	8493A143	11.66
1/2"	1"	8493A163	13.21
0.213" ID—Drill Size: 3			
1/2"	1/2"	8493A324	10.82
1/2"	1"	8493A325	13.21
0.2188" ID—Drill Size: 7/32"			
3/8"	1/4"	8493A093	9.25
3/8"	1/2"	8493A103	11.02
3/8"	3/4"	8493A088	11.66
3/8"	1"	8493A089	13.21
1/2"	1/2"	8493A133	10.82
1/2"	3/4"	8493A322	11.66
1/2"	1"	8493A323	13.21
0.221" ID—Drill Size: 2			
1/2"	1/2"	8493A031	12.64
0.228" ID—Drill Size: 1			
1/2"	1/2"	8493A032	12.64
1/2"	3/4"	8493A033	12.63
1/2"	1"	8493A034	15.53
0.2344" ID—Drill Size: 15/64"			
1/2"	1/2"	8493A125	10.78
1/2"	3/4"	8493A145	11.66
0.238" ID—Drill Size: B			
1/2"	1/2"	8493A035	12.64
0.25" ID—Drill Size: 1/4", E			
7/16"	1/2"	8493A326	11.02
7/16"	5/8"	8493A119	12.16
7/16"	3/4"	8493A411	15.18
7/16"	1"	8493A121	14.09
1/2"	1/4"	8493A072	6.60
1/2"	5/16"	8493A124	12.06
1/2"	3/8"	8493A412	12.46
1/2"	1/2"	8493A126	10.22
1/2"	3/4"	8493A146	11.07
0.25" ID (Cont.)			
1/2"	1"	8493A166	$13.21
1/2"	1 3/8"	8493A235	15.14
3/4"	1/2"	8493A074	14.28
0.257" ID—Drill Size: F			
1/2"	1/2"	8493A127	10.82
1/2"	3/4"	8493A147	11.66
0.2656" ID—Drill Size: 17/64"			
1/2"	1/2"	8493A128	10.81
1/2"	3/4"	8493A148	11.66
1/2"	1"	8493A168	13.21
0.2812" ID—Drill Size: 9/32"			
1/2"	1/2"	8493A129	10.82
1/2"	3/4"	8493A149	11.66
1/2"	1"	8493A169	13.21
0.2969" ID—Drill Size: 19/64"			
1/2"	1/2"	8493A237	10.15
0.302" ID—Drill Size: N			
1/2"	1/2"	8493A044	12.64
0.3125" ID—Drill Size: 5/16"			
1/2"	1/4"	8493A378	17.58
1/2"	3/8"	8493A379	12.10
1/2"	1/2"	8493A131	10.22
1/2"	3/4"	8493A151	11.66
1/2"	1"	8493A171	12.49
1/2"	1 3/8"	8493A137	18.47
1/2"	1 1/2"	8493A138	19.84
9/16"	1/2"	8493A139	12.91
9/16"	5/8"	8493A141	13.47
9/16"	3/4"	8493A144	13.86
9/16"	1"	8493A153	15.76
3/4"	1/2"	8493A241	12.19
3/4"	3/4"	8493A251	13.17
3/4"	1"	8493A261	13.27
0.316" ID—Drill Size: O			
1/2"	1/2"	8493A045	12.64
0.3281" ID—Drill Size: 21/64"			
1/2"	3/8"	8493A405	12.46
1/2"	1/2"	8493A406	12.87
1/2"	1"	8493A407	15.94
3/4"	2 1/8"	8493A008	14.93
0.332" ID—Drill Size: Q			
1/2"	3/8"	8493A408	12.46
1/2"	1/2"	8493A409	12.87
0.3438" ID—Drill Size: 11/32"			
1/2"	1/2"	8493A132	10.82
1/2"	3/4"	8493A152	11.66
1/2"	1"	8493A172	13.21
3/4"	1 3/8"	8493A286	15.14
0.3594" ID—Drill Size: 23/64"			
3/4"	1 3/8"	8493A238	15.14
0.375" ID—Drill Size: 3/8"			
1/2"	1/2"	8493A073	19.26
5/8"	3/8"	8493A211	10.52
5/8"	1/2"	8493A221	10.52
5/8"	5/8"	8493A381	15.23
5/8"	3/4"	8493A231	10.81
5/8"	1"	8493A224	11.90
3/4"	1/2"	8493A242	12.19
3/4"	3/4"	8493A252	13.17
3/4"	1"	8493A262	13.95
0.379" ID			
1 3/8"	1/2"	8493A071	21.96
0.3906" ID—Drill Size: 25/64"			
5/8"	1/2"	8493A046	11.03
5/8"	3/4"	8493A047	11.89
0.3906" ID (Cont.)			
5/8"	1"	8493A048	$12.53
3/4"	1/2"	8493A243	12.19
3/4"	3/4"	8493A253	13.46
3/4"	1"	8493A263	14.97
0.4062" ID—Drill Size: 13/32"			
5/8"	3/8"	8493A212	10.52
5/8"	1/2"	8493A222	10.01
5/8"	3/4"	8493A232	11.40
5/8"	1"	8493A225	11.90
3/4"	1/2"	8493A244	11.62
3/4"	3/4"	8493A254	13.46
0.4219" ID—Drill Size: 27/64"			
3/4"	1/2"	8493A245	12.19
3/4"	3/4"	8493A255	13.17
3/4"	1"	8493A265	16.79
0.4375" ID—Drill Size: 7/16"			
5/8"	1/2"	8493A019	12.52
5/8"	5/8"	8493A039	12.91
5/8"	3/4"	8493A043	13.47
5/8"	1"	8493A053	14.15
3/4"	3/8"	8493A054	12.36
3/4"	1/2"	8493A246	12.19
3/4"	3/4"	8493A256	13.17
3/4"	1"	8493A266	13.95
3/4"	1 3/8"	8493A279	16.79
0.4531" ID—Drill Size: 29/64"			
3/4"	1"	8493A329	11.35
0.4688" ID—Drill Size: 15/32"			
3/4"	1/2"	8493A247	12.19
3/4"	3/4"	8493A257	13.46
3/4"	1"	8493A267	14.97
3/4"	1 3/4"	8493A271	17.49
0.5" ID—Drill Size: 1/2"			
3/4"	3/8"	8493A382	12.33
3/4"	1/2"	8493A248	11.57
3/4"	5/8"	8493A383	20.89
3/4"	3/4"	8493A258	11.91
3/4"	1"	8493A268	13.27
3/4"	1 3/8"	8493A299	15.95
3/4"	1 1/2"	8493A055	18.12
3/4"	1 3/4"	8493A384	19.84
1"	1/2"	8493A059	14.09
1"	3/4"	8493A278	14.46
1"	1"	8493A288	16.06
1"	1 3/8"	8493A298	16.67
1"	1 1/2"	8493A301	19.62
0.5156" ID—Drill Size: 33/64"			
3/4"	1"	8493A049	12.71
0.5312" ID—Drill Size: 17/32"			
3/4"	1/2"	8493A249	12.19
3/4"	3/4"	8493A259	13.17
1"	3/4"	8493A273	14.37
0.5625" ID—Drill Size: 9/16"			
3/4"	3/4"	8493A313	12.26
3/4"	1"	8493A314	14.46
1"	3/4"	8493A315	15.94
0.6094" ID—Drill Size: 39/64"			
1"	1"	8493A283	15.46
0.625" ID—Drill Size: 5/8"			
7/8"	1/2"	8493A385	15.04
7/8"	3/4"	8493A386	15.73
7/8"	1"	8493A387	17.22
1"	1/2"	8493A018	15.76
1"	3/4"	8493A274	14.37
1"	1"	8493A284	16.06

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Removable Drill Bushings *(Continued from previous page)*

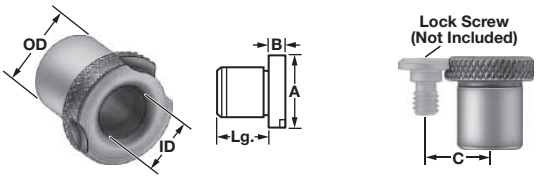

Also known as slip-fixed ("SF") renewable bushings, these bushings are easy to replace and are held in place by a lock screw or locking sleeve (lock screws and locking sleeves sold separately below). Made of hardened steel. Rockwell hardness is C61-C65. Length tolerance is ±0.015".

Also Available: Other sizes. Please ask for 8493A901 and specify ID, OD, and length.

♦ *Prices shown are for 1-5 bushings of the same ID, OD, and length. Deduct 15% for same size orders of 6-11 bushings and 25% for same size orders of 12 or more.*

Dimensions

OD	(A)	(B)	(C)	OD	(A)	(B)	(C)
3/16"	5/16"	3/16"	17/64"	5/8"	7/8"	1/4"	37/64"
1/4"	7/16"	1/4"	23/64"	3/4"	1 3/64"	1/4"	3/4"
5/16"	35/64"	1/4"	1/2"	7/8"	1 1/4"	3/8"	53/64"
3/8"	5/8"	1/4"	29/64"	1"	1 27/64"	3/8"	59/64"
7/16"	5/8"	1/4"	29/64"	1 3/8"	1 51/64"	3/8"	17/64"
1/2"	51/64"	1/4"	5/8"	1 3/4"	2 19/64"	3/8"	1 25/64"
9/16"	7/8"	1/4"	37/64"	2 1/4"	2 51/64"	3/8"	1 41/64"

Tolerances

ID	ID Tolerance	OD	OD Tolerance
0.0135"-0.25"	+0.0001" to +0.0004"	3/16"-1"	–0.0002"
0.257"-0.75"	+0.0001" to +0.0005"	1 3/8"-1 3/4"	–0.0003"
0.7812"-1.375"	+0.0002" to +0.0006"	2 1/4"	–0.0004"
1.875"	+0.0003" to +0.0007"		

OD	Lg.		Each ♦
0.625" ID (Cont.)			
1"	1 3/8"	8493A294	$16.67
1"	1 1/2"	8493A302	20.25
0.6562" ID— Drill Size: 21/32"			
1"	3/4"	8493A275	14.37
1"	1"	8493A285	15.46
0.6875" ID— Drill Size: 11/16"			
1"	1/2"	8493A051	13.88
1"	3/4"	8493A316	17.84
1"	1"	8493A052	15.53
0.75" ID— Drill Size: 3/4"			
1"	1/2"	8493A282	13.62
1"	3/4"	8493A277	13.65
1"	1"	8493A287	16.06
1"	1 1/4"	8493A388	15.14
1"	1 3/8"	8493A297	16.67
1"	1 1/2"	8493A303	20.25
1 3/8"	3/4"	8493A063	21.50
1 3/8"	1"	8493A064	24.32
1 3/8"	1 3/8"	8493A065	26.26
1 3/8"	1 1/2"	8493A066	27.94
0.7812" ID— Drill Size: 25/32"			
1"	3/4"	8493A272	14.37
0.8125" ID— Drill Size: 13/16"			
1"	3/4"	8493A317	15.38
1 3/8"	1"	8493A318	25.72

OD	Lg.		Each ♦
0.875" ID— Drill Size: 7/8"			
1 3/8"	3/4"	8493A304	$20.18
1 3/8"	1"	8493A327	22.03
0.9375" ID— Drill Size: 15/16"			
1 3/8"	1"	8493A319	25.72
1" ID— Drill Size: 1"			
1 3/8"	1/2"	8493A389	25.98
1 3/8"	3/4"	8493A391	21.19
1 3/8"	1"	8493A321	25.21
1 3/8"	1 3/8"	8493A067	26.26
1 3/8"	1 1/2"	8493A068	27.94
1 3/4"	3/4"	8493A115	31.36
1 3/4"	1"	8493A116	28.58
1 3/4"	1 3/8"	8493A117	31.24
1 3/4"	1 1/2"	8493A118	33.37
1.0469" ID— Drill Size: 1 3/64"			
1 3/4"	3/4"	8493A217	24.18
1 3/4"	1"	8493A218	22.02
1 3/4"	1 3/8"	8493A219	24.09
1 3/4"	1 1/2"	8493A223	25.74
1 3/4"	1 3/4"	8493A236	27.27
1 3/4"	2 1/8"	8493A239	28.86
1 3/4"	2 1/2"	8493A264	38.58
1.0625" ID— Drill Size: 1 1/16"			
1 3/4"	3/4"	8493A269	24.18
1 3/4"	1"	8493A276	22.02

OD	Lg.		Each ♦
1.0625" ID (Cont.)			
1 3/4"	1 3/8"	8493A281	$24.09
1 3/4"	1 1/2"	8493A289	23.00
1 3/4"	1 3/4"	8493A292	27.27
1 3/4"	2 1/8"	8493A293	28.86
1 3/4"	2 1/2"	8493A295	38.58
1.125" ID— Drill Size: 1 1/8"			
1 3/4"	3/4"	8493A154	29.01
1 3/4"	1"	8493A155	26.43
1 3/4"	1 3/8"	8493A156	28.92
1 3/4"	1 1/2"	8493A157	30.90
1 3/4"	1 3/4"	8493A158	32.72
1 3/4"	2 1/8"	8493A159	34.63
1 3/4"	2 1/2"	8493A161	46.29
1.25" ID— Drill Size: 1 1/4"			
1 3/4"	3/4"	8493A164	29.01
1 3/4"	1"	8493A165	26.43
1 3/4"	1 3/8"	8493A167	28.92
1 3/4"	1 1/2"	8493A173	30.90
1 3/4"	1 3/4"	8493A174	32.72
1 3/4"	2 1/8"	8493A175	34.63
1 3/4"	2 1/2"	8493A176	46.29
1.3125" ID— Drill Size: 1 5/16"			
1 3/4"	3/4"	8493A296	24.18
1 3/4"	1"	8493A333	22.02

OD	Lg.		Each ♦
1.3125" ID (Cont.)			
1 3/4"	1 3/8"	8493A306	$24.09
1 3/4"	1 1/2"	8493A307	25.74
1 3/4"	1 3/4"	8493A308	27.27
1 3/4"	2 1/8"	8493A331	28.86
1 3/4"	2 1/2"	8493A332	38.58
1.375" ID— Drill Size: 1 3/8"			
1 3/4"	3/4"	8493A177	29.01
1 3/4"	1"	8493A178	26.43
1 3/4"	1 3/8"	8493A179	28.92
1 3/4"	1 1/2"	8493A213	30.90
1 3/4"	1 3/4"	8493A214	32.72
1 3/4"	2 1/8"	8493A215	34.63
1 3/4"	2 1/2"	8493A216	46.29
1.875" ID— Drill Size: 1 7/8"			
2 1/4"	3/4"	8493A094	32.50
2 1/4"	1"	8493A095	29.89
2 1/4"	1 3/8"	8493A096	32.50
2 1/4"	1 1/2"	8493A097	34.08
2 1/4"	1 3/4"	8493A098	35.38
2 1/4"	2 1/8"	8493A111	40.33
2 1/4"	2 1/2"	8493A291	45.26
2 1/4"	3"	8493A114	52.51

Lock Screws for Removable Drill Bushings


Slotted Head


Hex Socket Head

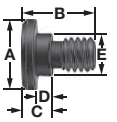

To secure removable bushings, also known as slip-fixed ("SF") renewable bushings, insert lock screws into the notches on the head of the bushings. Made of case-hardened steel.

Fits Removable Bushing OD	Thread Size	(A)	(B)	(C)	(D)	(E)	Hex Size		Pkg. of 10
Slotted Head									
3/16"	8-32	5/16"	7/16"	3/16"	0.100"	3/16"	—	8496A26	$9.59
1/4", 3/8", 7/16", 9/16", 5/8"	10-32	3/8"	1/2"	1/4"	0.138"	1/4"	—	8496A12	9.65
5/16", 1/2", 3/4"	5/16"-18	5/8"	5/8"	1/4"	0.138"	3/8"	—	8496A13	9.23
7/8", 1 1/8", 1 1/4", 1 1/2"	5/16"-18	5/8"	3/4"	3/8"	0.200"	3/8"	—	8496A14	9.65
1", 1 3/8"	5/16"-18	5/8"	7/8"	3/8"	0.200"	3/8"	—	8496A15	9.59
1 3/4", 2 1/4"	3/8"-16	3/4"	1"	3/8"	0.200"	7/16"	—	8496A16	12.59
2 3/4"	3/8"-16	3/4"	1 1/16"	7/16"	0.231"	7/16"	—	8496A41	17.19
Hex Socket Head									
3/16"	8-32	5/16"	7/16"	3/16"	0.100"	3/16"	3/32"	8496A34	12.59
1/4", 3/8", 7/16", 9/16", 5/8"	10-32	3/8"	1/2"	1/4"	0.138"	1/4"	1/8"	8496A42	17.19
5/16", 1/2", 3/4"	5/16"-18	5/8"	5/8"	1/4"	0.138"	3/8"	3/16"	8496A31	14.00
7/8", 1 1/8", 1 1/4", 1 1/2"	5/16"-18	5/8"	3/4"	3/8"	0.200"	3/8"	3/16"	8496A43	17.19
1", 1 3/8"	5/16"-18	5/8"	7/8"	3/8"	0.200"	3/8"	3/16"	8496A32	14.00
1 3/4", 2 1/4"	3/8"-16	3/4"	1"	3/8"	0.200"	7/16"	7/32"	8496A33	14.00
2 3/4"	3/8"-16	3/4"	1 1/16"	7/16"	0.231"	7/16"	7/32"	8496A44	17.19

Locking Sleeves for Removable Drill Bushings



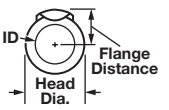

The locking flange on these sleeves will keep removable bushings, also known as slip-fixed ("SF") renewable bushings, in place. Install the sleeve in a jig plate and place bushing inside; a slight twist holds the bushing. Sleeves fit bushings with an OD equal to the sleeve ID. ID tolerance for 3/16" and 5/16" ID is +0.0001" to +0.0004"; ID tolerance for 1/2" ID is +0.0002" to +0.0005". Made of hardened steel. Rockwell hardness is C61-C65.

ID	OD	Lg.	Head Dia.	Flange Distance		
3/16"	5/16"	11/16"	23/64"	1/4"	31425A34	$17.35
5/16"	1/2"	23/32"	9/16"	3/8"	31425A21	17.62
1/2"	3/4"	47/64"	13/16"	1/2"	31425A22	18.67

Abrading & Polishing

Sanding, Filing & Grinding

Files	2616
Deburring Tools	2622
Burs	2624
Grinding Bits	2628
Grinders	2631
Grinding Wheels	2634
Grinding-Wheel Cleaners	2641
Sanding Sheets	2643
Steel Wool	2647
Sanding Rolls & Discs	2649
Sanding Belts	2661
Sanding Wheels	2665
Sanders	2672

Polishing & Finishing

Stones & Sharpeners	2675
Cylinder Hones	2679
Lapping & Polishing Compounds	2682
Buffing & Polishing Tools	2685
Finishing Media & Machines	2689
Wheel Brushes	2691
Tube Brushes	2699

Parts Cleaning & Treating

Abrasive Blasting Media & Equipment	2709
Parts Washers	2713
Wire Baskets	2716
Static Eliminators	2718
Air Knives & Blowoff Nozzles	2719
Blowguns	2721
Heat Guns & Blowers	2725
Heaters, Ovens & Furnaces	2728
Melting Pots	2730
Hot Plates & Burners	2731

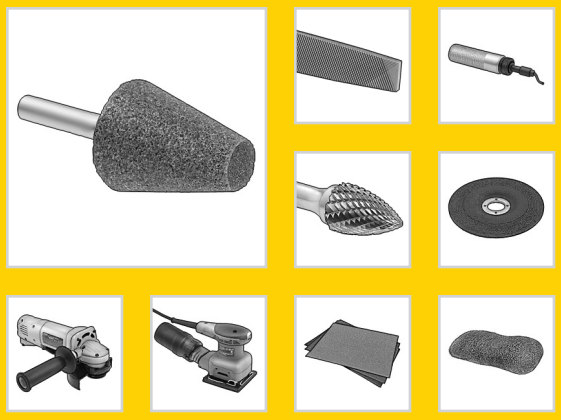

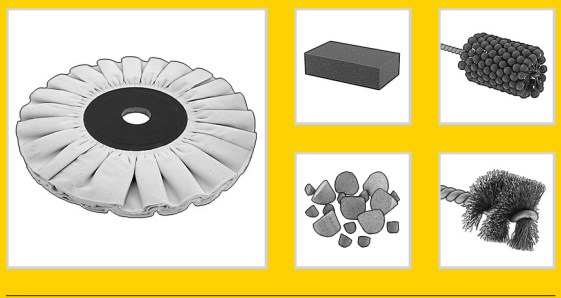

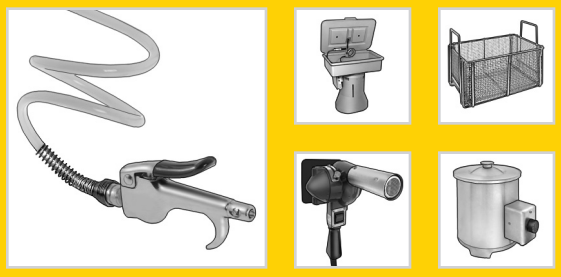

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About Files

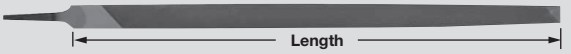

Most files do not include a handle but do have a tang that fits into a handle (see page 2622). File length listed does not include the tang.

Files, also known as American-pattern and machinists' files, are used to remove material quickly.

Precision files, also known as Swiss-pattern files, are made to exacting measurements to ensure smoothness and are useful for finishing delicate and intricate parts.

Finishes

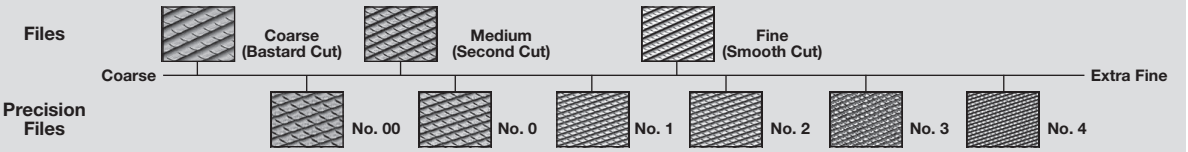

Cut Patterns



Double-cut files have two sets of diagonal rows of teeth on one or both sides of the file. They are often used with heavier pressure than single-cut files for rapid material removal.



Single-cut files have one set of diagonal rows of teeth on one or both sides of the file. They are often used with light pressure to slowly remove material and sharpen tool-cutting surfaces.

Rectangular Files

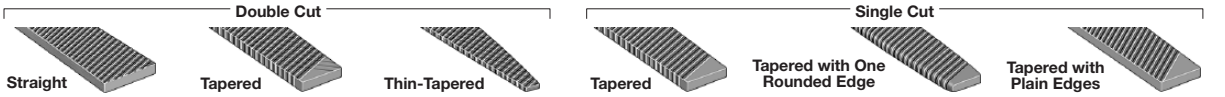

Files for deburring, sharpening, and polishing.

Double-cut straight files are also known as hand files. They are double cut on both sides. One edge is plain (without teeth) to protect adjacent surfaces and the other edge is double cut (except the 8″ long, ½″ wide file has a single-cut edge).

Double-cut tapered files are also known as flat files. They are double cut on both sides and single cut on both edges.

Double-cut thin-tapered files are also known as warding files. They are double cut on both sides, single cut on both edges, and taper extremely. Files are often used to make notches in keys.

Single-cut tapered files and **single-cut tapered files with one rounded edge** are also known as mill files. They are single cut on both sides and both edges. Files are often used to sharpen milling and circular saws.

Single-cut tapered files with plain edges are also known as lathe files. They are single cut on both sides and have plain edges (without teeth) to protect adjacent surfaces. Files are often used to shape material on a lathe.

Lg.	Wd.	Thick.	Coarse Finish		Medium Finish		Fine Finish	
Double-Cut Straight								
6″	9/16″	1/8″	4254A6	$8.00	4254A7	$8.33	4254A8	$9.79
8″	1/2″	1/8″	4242A12	11.46				
8″	3/4″	3/16″	4254A9	9.35	4254A11	11.30	4254A12	11.49
10″	15/16″	3/16″	4254A13	13.05	4254A21	15.37	4254A26	16.42
12″	1 1/8″	1/4″	4254A27	18.35	4254A28	19.88	4254A29	20.72
Double-Cut Tapered								
4″	7/16″	1/16″	4219A11	7.42	4219A19	7.93	4219A31	9.21
6″	9/16″	1/8″	4219A12	7.86	4219A22	8.21	4219A32	9.81
8″	11/16″	1/8″	4219A13	9.72	4219A23	10.70	4219A33	11.47
10″	7/8″	1/8″	4219A14	12.09	4219A24	13.88	4219A34	15.14
12″	1 1/8″	3/16″	4219A15	16.47	4219A25	18.58	4219A35	20.58
14″	1 5/16″	1/4″	4219A16	22.56	4219A26	26.00	4219A36	28.58
16″	1 1/2″	1/4″	4219A37	29.91				
Double-Cut Thin-Tapered								
4″	7/16″	1/16″	4230A11	9.30	4230A21	10.21	4230A31	11.09
6″	5/8″	1/16″	4230A12	10.21	4230A22	11.60	4230A32	12.84
8″	3/4″	1/16″	4230A13	12.84	4230A23	14.63	4230A33	16.16

Lg.	Wd.	Thick.	Coarse Finish		Medium Finish		Fine Finish	
Single-Cut Tapered								
4″	7/16″	1/16″	4225A11	$5.30			4225A31	$8.07
6″	9/16″	1/8″	4225A12	5.30	4225A22	$7.65	4225A32	8.09
8″	11/16″	1/8″	4225A13	6.26	4225A23	8.56	4225A33	9.56
10″	7/8″	1/8″	4225A14	8.12	4225A24	10.98	4225A34	11.72
12″	1 1/8″	3/16″	4225A15	13.33	4225A25	14.47	4225A35	15.88
14″	1 5/16″	1/4″	4225A16	18.00	4225A39	14.48	4225A36	22.07
16″	1 1/2″	1/4″	4225A37	27.98				
Single-Cut Tapered with One Rounded Edge								
8″	11/16″	1/8″	4270A13	9.93				
10″	7/8″	1/8″	4270A14	12.70				
12″	1 1/8″	3/16″	4270A15	16.37				
Single-Cut Tapered with Plain Edges								
10″	1″	3/16″	4223A1	15.81			4223A4	19.89
12″	1 1/8″	1/4″	4223A2	21.35			4223A5	26.67
14″	1 1/4″	3/16″	4223A3	28.84				

Half-Round Files



Use on concave, convex, and flat surfaces. **Double-cut** files are double cut on both sides. The 4″ long medium-finish file is tapered. **Single-cut** files are single cut on the convex side and double cut on the flat side (except the coarse-finish file is single cut on both sides).

Lg.	Wd.	Thick.	Coarse Finish		Medium Finish		Fine Finish	
Double Cut								
4″	7/16″	1/8″	4221A11	$11.14	4221A21	$9.30		
6″	9/16″	1/8″	4221A12	11.49				
8″	3/4″	3/16″	4221A13	13.91	4221A23	15.37		
10″	15/16″	1/4″	4221A14	17.23	4221A24	20.30		
12″	1 1/8″	5/16″	4221A15	22.16	4221A25	24.14		
14″	1 5/16″	5/16″	4221A16	28.84	4221A26	31.12		
16″	1 1/2″	3/8″	4221A37	37.77				
Single Cut								
4″	7/16″	1/8″					4221A31	$12.88
6″	9/16″	1/8″			4221A22	13.14	4221A32	13.53
8″	3/4″	3/16″					4221A33	16.46
10″	15/16″	1/4″					4221A34	19.67
12″	1 1/8″	5/16″					4221A35	25.37
14″	1 5/16″	5/16″	4221A17	19.98			4221A36	33.58

Round Files



Also known as rat-tail files, these are good for filing holes and concave surfaces. Files are single cut (except 14″ files are double cut) and tapered.

Lg.	Dia.	Coarse Finish		Medium Finish		Fine Finish	
4″	1/8″	4233A11	$6.37	4233A17	$7.02	4233A24	$7.65
6″	1/4″	4233A12	6.40	4233A18	7.28	4233A25	8.00
8″	5/16″	4233A13	7.33	4233A19	8.42	4233A26	9.44
10″	3/8″	4233A14	9.44	4233A21	11.19	4233A27	12.26
12″	1/2″	4233A15	13.12	4233A22	14.93	4233A28	16.26
14″	5/8″	4233A16	18.63	4233A29	14.10	4233A31	16.43

Round Files for Chain Saws



Get between teeth on chain saws to sharpen their cutting edges. Also known as blunt round chain saw files, these fine-finish files have a knurled cut, similar to a double cut.

Lg.	Dia.			Lg.	Dia.		
6″	1/8″	4246A8	$2.07	8″	1/4″	4246A3	$2.47
6″	5/32″	4246A9	2.07	8″	5/16″	4246A4	3.28
8″	3/16″	4246A1	1.97	8″	3/8″	4246A6	3.45
8″	7/32″	4246A2	1.97				

Triangular Files

With three filing surfaces, these tapered triangular files work in spots other files can't.

Double-cut files are double cut on all sides. Use them on grooves and corners. Not suitable for filing saws.

Single-cut files are single cut on all sides. Use them on saws to file between the teeth. *Standard taper* is for saws with 5 to 11 teeth per inch. *Slim taper* is for saws with 8 to 14 teeth per inch. *Extra-slim taper* is for saws with 12 to 16 teeth per inch.


Double Cut


Single Cut

Double Cut

Lg.	Wd.	Coarse Finish		Medium Finish		Fine Finish	
6″	1/2″	4234A11	$10.60	4234A15	$11.86	4234A18	$12.02
8″	5/8″	4234A12	12.56	4234A16	14.30	4234A19	15.09
10″	3/4″	4234A13	15.72	4234A17	16.51	4234A29	18.02

Single Cut—Fine Finish

	Standard Taper			Slim Taper			Extra-Slim Taper		
Lg.	Wd.			Wd.			Wd.		
4″	1/4″	4229A11	$4.60	3/16″	4229A17	$5.05	—	—	
5″	1/4″	4229A12	5.19	—	—	—	3/16″	4229A25	$3.04
6″	5/16″	4229A13	5.00	1/4″	4229A21	5.23	1/4″	4229A26	5.30
7″	3/8″	4229A14	6.23	3/8″	4229A22	7.12	—	—	—
8″	1/2″	4229A15	7.35	3/8″	4229A23	7.35	5/16″	4229A28	7.44

Scratch-Free Files


Rigid Rectangular | Flexible Rectangular | Half Round | Two-Hand File Holder

Also known as auto-body and milled-tooth files, these have curved rows of teeth on both sides that are designed to clear chips and create a scratch-free finish.

Rectangular files have plain edges (without teeth) to protect adjacent surfaces. *Flexible rectangular* files bend to get into hard-to-reach spots. They do not have a tang and can be used with the *two-hand file holder* (sold separately).

Half-round file is for use on concave, convex, and flat surfaces.

Lg.	Wd.	Thick.	Fine Finish	
Rigid Rectangular				
8″	3/4″	3/16″	4282A11	$22.05
10″	1″	3/16″	4282A12	30.81
12″	1 1/8″	1/4″	4282A13	37.40
14″	1 3/8″	5/16″	4282A14	44.41
Flexible Rectangular				
12″	1 1/8″	3/16″	4283A14	41.28
14″	1 5/16″	1/8″	4283A16	53.53
14″	1 5/16″	3/16″	4283A15	43.66
Two-Hand File Holder for Flexible Rectangular Files			4316A18	51.90
Rigid Half-Round				
8″	11/16″	3/16″	4325A11	25.62

Integrated-Handle Rectangular Files



No need for a separate file handle—these files come with one built-in. They have a black-oxide coating to resist rusting and clogging.

Combination files are double cut on one side and single cut on the other side. They have one single-cut edge and one plain edge (without teeth) to protect adjacent surfaces. Files have a coarse finish.

Double-cut file is double cut on both sides, single cut on both edges, and tapered. File has a coarse finish.

Single-cut file is single cut on both sides and both edges, and tapered. File has a coarse finish.

Rapid-cut file has diamond-shaped teeth on both sides for rapid material removal with a smooth finish. File is single cut on both edges and tapered. It has a fine finish.

	Lg.	Wd.	Thick.		
Combination	8″	15/16″	3/16″	42405A45	$13.02
Combination	10″	15/16″	3/16″	42405A44	16.36
Double Cut	10″	15/16″	3/16″	42405A42	12.56
Single Cut	10″	15/16″	3/16″	42405A43	11.39
Rapid Cut	10″	15/16″	3/16″	42405A41	14.29

3-Piece File Set—Includes the 10″ double-cut, 10″ single-cut, and 10″ rapid-cut files above. Furnished in a canvas roll pouch.

42405A46 ..... $46.08

Square Files

Filing slots, keyways, grooves, and corners are no problem for these four-sided files. They are double cut on all sides and tapered.



Lg.	Wd.	Coarse Finish		Medium Finish		Fine Finish	
4″	1/8″	4235A11	$8.21	4235A17	$6.40	4235A24	$9.74
6″	1/4″	4235A12	8.67	4235A18	9.74	4235A25	10.21
8″	5/16″	4235A13	10.28	4235A19	11.60	4235A26	12.74
10″	3/8″	4235A14	13.49	4235A21	15.58	4235A27	16.67
12″	1/2″	4235A15	19.16	4235A22	21.49	4235A28	23.67
14″	5/8″	4235A29	25.30	—	—	4235A31	23.04

Knife Files

Get into tight angles, corners, and slots with these knife-shaped files. They are double cut on both sides and tapered. The sharp edge is single cut and the other edge is plain (without teeth) to protect adjacent surfaces.

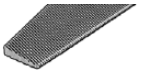

Lg.	Wd.	Thick.	Coarse Finish		Medium Finish		Fine Finish	
4″	1/2″	1/8″	4236A11	$13.79	4236A15	$14.60	4236A19	$15.14
6″	11/16″	1/8″	4236A12	15.81	4236A16	18.02	4236A21	19.47
8″	13/16″	3/16″	4236A13	18.49	4236A17	20.37	4236A22	20.88
10″	1″	1/4″	4236A14	22.30	4236A18	25.63	4236A23	27.23
12″	1 1/4″	1/4″	4236A25	27.93	—	—	—	—

File Sets

Sets are furnished in a canvas roll pouch, unless otherwise stated.

5-Piece File Set with Wood Handles—Files are 8″ long. Set includes four coarse-finish files and one rapid-cut fine-finish file.

Coarse Finish—Double cut: half round, tapered round, and tapered square. Single cut: tapered rectangular.

Rapid-Cut Fine Finish—Tapered rectangular.

8181A12 ..... $58.42

5-Piece File Set with Rubber Handles—Includes four coarse-finish files and one slim-taper file furnished in a plastic pouch.

Coarse Finish—Double cut: 8″ tapered rectangular and 10″ half round. Single cut: 8″ and 10″ tapered rectangular.

Slim-Taper—Single cut: 6″ triangular file.

8181A21 ..... $66.28

6-Piece Short File Sets—Files are 4″ long. Sets include five fine-finish files and one slim-taper file.

Fine Finish—Double cut: tapered rectangular, thin-tapered rectangular, half round, tapered round, and tapered square.

Slim-Taper—Single cut: triangular.

With Wood Handles ..... 8192A12 ..... $59.87
Without Handles ..... 8192A11 ..... 55.73

6-Piece Short File Set with Wood Handles—Files are 4″ long, medium finish, and double cut: rectangular, thin-tapered rectangular, tapered half round, tapered round, tapered square, and tapered triangular. Furnished in a metal case.

8171A11 ..... $53.96

6-Piece File Set with Wood Handles—Files are 10″ long and double cut. Set includes two coarse, two medium, and two fine-finish files (tapered rectangular and half round).

42415A41 ..... $92.15

9-Piece File Sets—Include five 10″ coarse-finish files, one 10″ fine-finish file, one 7″ slim-taper file, one 10″ rasp, and a file cleaner.

Coarse Finish—Double cut: tapered rectangular, half round, tapered round, and tapered square. Single cut: tapered rectangular.

Fine Finish—Double cut tapered rectangular.

Slim-Taper—Single cut triangular.

With Wood Handles ..... 8173A12 ..... $109.24
Without Handles ..... 8173A11 ..... 101.58

10-Piece File Set with Wood Handles—Includes five coarse- and medium-finish files: 10″ tapered rectangular, half round, tapered round, and tapered square files; and 6″ knife file.

42415A43 ..... $141.18

13-Piece File Sets—Include five coarse-finish files, one coarse-finish file for aluminum, two medium-finish files, four fine-finish files, and a file cleaner.

Coarse Finish—All are 10″. Double cut: tapered rectangular, half round, tapered round. Single cut: tapered rectangular. Double cut one side/single cut one side: rectangular.

Coarse Finish for Aluminum—10″ double-cut tapered rectangular.

Medium Finish—10″ double-cut tapered square and 8″ double-cut tapered triangular.

Fine Finish—All are 10″. Double cut: tapered rectangular, half round, and tapered round. Single cut: tapered rectangular.

With Wood Handles ..... 8176A12 ..... $166.05
Without Handles ..... 8176A11 ..... 154.42

Black-Oxide Files

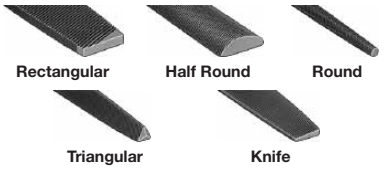

Coated with black oxide to resist rusting and clogging, these files last longer than uncoated files.

Rectangular double-cut files are double cut on both sides, single cut on both edges, and tapered. **Rectangular single-cut** files are single cut on both sides and both edges, and tapered. **Half-round double-cut** files are double cut on both sides. **Round** and **triangular double-cut** files are double cut on all surfaces and tapered. **Knife double-cut** files are double cut on both sides and tapered. The sharp edge is single cut and the other edge is plain (without teeth) to protect adjacent surfaces.

Lg.	Wd.	Thick.		
Rectangular Double-Cut Coarse Finish				
6″	9/16″	1/8″	42605A31	$6.73
8″	3/4″	1/8″	42605A32	8.46
10″	15/16″	3/16″	42605A33	10.46
12″	1 1/8″	3/16″	42605A34	14.33
14″	1 5/16″	5/16″	42605A35	19.66
Rectangular Double-Cut Fine Finish				
6″	9/16″	1/8″	42605A36	8.55
8″	3/4″	1/8″	42605A37	9.98
10″	15/16″	3/16″	42605A38	13.17
12″	1 1/8″	3/16″	42605A39	17.93
Rectangular Single-Cut Coarse Finish				
6″	9/16″	1/8″	42605A62	4.64
8″	3/4″	1/8″	42605A63	5.45
10″	15/16″	3/16″	42605A64	7.09
12″	1 1/8″	3/16″	42605A65	11.60
14″	1 5/16″	1/4″	42605A66	15.75

Lg.	Wd.	Thick.		
Rectangular Single-Cut Medium Finish				
6″	9/16″	1/8″	42605A67	$6.67
8″	3/4″	1/8″	42605A68	7.50
10″	15/16″	3/16″	42605A69	9.62
Rectangular Single-Cut Fine Finish				
6″	9/16″	1/8″	42605A71	7.05
8″	3/4″	1/8″	42605A72	8.31
10″	15/16″	3/16″	42605A73	10.21
Half Round Double-Cut Coarse Finish				
6″	9/16″	1/8″	42605A41	10.19
8″	3/4″	3/16″	42605A42	12.36
10″	15/16″	1/4″	42605A43	15.33
12″	1 1/8″	5/16″	42605A44	19.66
14″	1 1/4″	3/8″	42605A45	25.62
Half Round Double-Cut Fine Finish				
6″	9/16″	1/8″	42605A46	12.00
8″	3/4″	3/16″	42605A47	14.63
10″	15/16″	1/4″	42605A48	17.52

Lg.	Wd.	Thick.		
Round Double-Cut Coarse Finish				
6″	3/16″ Dia.	___	42605A53	$5.65
8″	5/16″ Dia.	___	42605A54	6.55
10″	3/8″ Dia.	___	42605A55	8.46
12″	1/2″ Dia.	___	42605A56	11.64
Round Double-Cut Fine Finish				
6″	3/16″ Dia.	___	42605A57	7.10
8″	5/16″ Dia.	___	42605A58	8.46
Triangular Double-Cut Coarse Finish				
6″	7/16″	___	42605A59	9.47
8″	5/8″	___	42605A61	11.32
Knife Double-Cut Coarse Finish				
6″	11/16″	3/16″	42605A49	12.77
8″	7/8″	3/16″	42605A51	15.23

File Sets—Furnished in a canvas roll pouch

5-Piece File Set with Rubber Handles—Set includes four 8″ coarse-finish files and one 8″ rapid-cut fine-finish file.

Coarse Finish—Double cut: half round, tapered round, tapered square. Single cut: tapered rectangular. *Rapid-Cut Fine Finish*—Tapered rectangular.

42605A81 ..... $62.87

9-Piece File Set with Rubber Handles—Includes five 10″ coarse-finish files, one 10″ fine-finish file, two 10″ rapid-cut fine-finish files, and one 6″ slim-taper file.

Coarse Finish—Double cut: tapered rectangular, half round, tapered round. Double cut one side/single cut one side: rectangular. Single cut: tapered rectangular.

Fine Finish—Single-cut tapered rectangular.

Rapid-Cut Fine Finish—Tapered rectangular and half round.

Slim Taper—Single-cut triangular.

42605A82 ..... $102.31

Rapid-Cut Rectangular Files

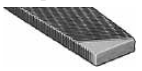

Quickly remove material while leaving a fine finish thanks to the diamond-shaped teeth. Files are rapid cut on both sides, single cut on both edges, and tapered.

Lg.	Wd.	Thick.			Lg.	Wd.	Thick.		
8″	3/4″	3/16″	4224A11	$9.91	12″	1 1/8″	1/4″	4224A13	$17.26
10″	15/16″	3/16″	4224A12	12.98	14″	1 5/16″	1/4″	4224A14	23.26

Files for Stainless Steel



File stainless steel and other hard-to-file metals with little to no clogging. Files are corrosion resistant. **Rectangular** files are double cut on both sides. One edge is single cut and the other edge is plain (without teeth) to protect adjacent surfaces. **Half-round** files are double cut on both sides and tapered. **Round, triangular,** and **square** files are double cut and tapered.

			Standard Files			Precision Files	
Lg.	Wd.	Thick.	Finish		Finish No.		
Rectangular							
6″	3/4″	5/32″	Coarse	8248A11 $8.52	00	8184A11	$15.85
6″	3/4″	5/32″	Medium	8248A12 9.13	0	8184A12	16.60
8″	55/64″	3/16″	Coarse	8248A13 12.25	00	8184A31	21.70
8″	55/64″	3/16″	Medium	8248A14 11.93	0	8184A32	22.94
8″	55/64″	3/16″	Fine	8248A15 13.97	2	8184A33	24.75
Half Round							
6″	39/64″	5/32″	Medium	8248A16 16.62	0	8184A13	27.85
8″	55/64″	7/32″	Fine	8248A17 15.44	2	8184A14	41.51
Round							
8″	5/16″ Dia.	___	Medium	8248A18 12.07	0	8184A15	17.85
8″	5/16″ Dia.	___	Fine	8248A19 12.35	2	8184A16	20.25
Triangular							
8″	9/16″	___	Medium	8248A21 18.47	0	8184A17	25.94
8″	9/16″	___	Fine	8248A22 16.09	2	8184A18	28.09
Square							
6″	13/64″	___	Medium	8248A23 15.37	_	_____	____
6″	13/64″	___	Fine	8248A24 11.51	_	_____	____

Files for Aluminum

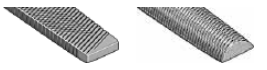

Specially designed teeth resist clogging when files are used on aluminum and other soft metals. These fine-finish files are double cut on both sides and tapered.

Rectangular files are single cut on both edges.

		Rectangular			Half Round	
Lg.	Wd.	Thick.			Thick.	
8″	3/4″	3/16″	4218A12	$13.49	3/16″	4218A16 $10.76
10″	15/16″	1/4″	4218A13	11.25	1/4″	4218A17 14.33
12″	1 1/8″	1/4″	4218A14	13.32	5/16″	4218A18 20.23

Files for Laminates and Plastics

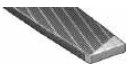

Extra sharp and fast cutting, these rectangular files are for use on laminates, plastics, and fiberglass. They have single-cut edges and are tapered.

Single-cut files are single cut on both sides for a fine finish.

Rapid-cut files have diamond-shaped teeth on both sides for rapid material removal with a fine finish.

Lg.	Wd.	Thick.	Single Cut		Rapid Cut	
8″	3/4″	1/8″	8189A11	$12.34	_____	____
10″	15/16″	3/16″	8189A12	16.65	8189A15	$22.28
12″	1 1/8″	3/16″	8189A13	22.74	8189A16	29.79
14″	1 5/16″	1/4″	8189A14	32.65	8189A17	40.09

File Cleaners



File Cleaner with Brush

Also known as file cards, these cleaners have sharp steel bristles that clear metal shavings from file teeth.

File cleaner with brush has hard plastic bristles on the flip side for cleaning fine-finish files.

	O'all Lg.		
File Cleaner	8 1/4″	4332A12	$7.36
File Cleaner with Brush	10″	4333A14	9.09

Rasps



With their sharp individual teeth, rasps quickly remove large amounts of soft, clog-prone materials better than regular files. Use them on wood, leather, plastic, and soft metals.

(A) Rectangular rasp has rasp teeth on one side, double-cut teeth on the other side, and single-cut teeth on both edges.

(B) Rectangular rapid-cut rasp has rasp teeth on one side, rapid-cut teeth on the other side (diamond-shaped teeth for rapid material removal with a fine finish), and single-cut teeth on both edges.

(C) Rectangular double-ended rasp has rasp teeth on both ends of one side, double-cut teeth on both ends of the other side, and single-cut teeth on both edges.

(D) Half-round rasps have rasp teeth on both sides and single-cut teeth on both edges.

(E) Half-round double-ended rasps are also known as shoe rasps. Each side has rasp teeth on one end and double-cut teeth on the other end. The edges are plain (without teeth) to protect adjacent surfaces.

(F) Round rasp has rasp teeth and is tapered.

	Lg.	Wd.	Thick.		
A	14″	1¾″	5⁄16″	**42355A11**	$26.72
B	14″	1 11⁄16″	3⁄16″	**42355A12**	27.56
C	14″	1½″	1⁄4″	**4277A14**	22.85
D	8″	3⁄4″	3⁄16″	**4239A12**	12.72

	Lg.	Wd.	Thick.		
D	10″	15⁄16″	1⁄4″	**4239A14**	$17.30
D	10″	1 1⁄8″	3⁄16″	**4239A18**	21.83
D	12″	1 1⁄8″	5⁄16″	**4239A16**	26.74
D	12″	1 5⁄16″	1⁄4″	**4239A19**	28.00

	Lg.	Wd.	Thick.		
E	8″	7⁄8″	3⁄16″	**4263A1**	$10.96
E	10″	1 1⁄16″	1⁄4″	**4263A3**	13.87
F	10″	3⁄8″ Dia.	—	**4285A31**	22.04

Precision Files

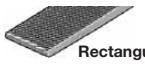
Rectangular


Rectangular Thin-Tapered


Half Round


Round


Triangular

Also known as Swiss-pattern files, these files are made to measurements that are more exact than regular files to ensure smoothness. Use them to finish delicate and intricate parts. Finish ranges from coarse No. 00 to extra fine No. 4.

Rectangular files are also known as pillar files. They are double cut on both sides and have plain edges (without teeth) to protect adjacent surfaces.

Rectangular thin-tapered files are also known as warding files. They are double cut on both sides, single cut on both edges, and taper extremely toward the point to fit into tight spaces.

Half-round files are double cut on both sides and tapered.

Round files are double cut and tapered.

Triangular files are double cut on all sides and tapered.

	4″ Length			6″ Length			8″ Length		
Finish No.	Wd.	Thick.		Wd.	Thick.		Wd.	Thick.	
Rectangular									
00	3⁄8″	7⁄64″	**4251A18** $13.95	31⁄64″	11⁄64″	**4251A26** $15.90	37⁄64″	3⁄16″	**4251A34** $21.19
0	3⁄8″	7⁄64″	**4251A19** 13.95	31⁄64″	11⁄64″	**4251A27** 15.90	37⁄64″	3⁄16″	**4251A35** 21.19
1	—	—	— —	31⁄64″	11⁄64″	**4251A28** 16.31	19⁄32″	13⁄64″	**4251A36** 22.49
2	3⁄8″	7⁄64″	**4251A22** 13.95	31⁄64″	11⁄64″	**4251A29** 16.35	37⁄64″	3⁄16″	**4251A37** 22.62
4	3⁄8″	7⁄64″	**4251A23** 15.90	31⁄64″	11⁄64″	**4251A31** 18.95	19⁄32″	13⁄64″	**4251A38** 26.57
Rectangular Thin-Tapered									
00	1⁄2″	3⁄64″	**4259A15** 11.46	5⁄8″	5⁄64″	**4259A18** 14.19	25⁄32″	5⁄64″	**4259A23** 25.40
0	1⁄2″	3⁄64″	**4259A16** 11.19	5⁄8″	1⁄16″	**4259A19** 18.72	7⁄8″	11⁄64″	**4259A24** 28.00
2	29⁄64″	3⁄64″	**4259A17** 15.57	5⁄8″	1⁄16″	**4259A21** 21.48	7⁄8″	11⁄64″	**4259A25** 32.47
Half Round									
00	15⁄32″	9⁄64″	**4248A21** 22.23	19⁄32″	3⁄16″	**4248A26** 27.37	27⁄32″	1⁄4″	**4248A34** 41.79
0	15⁄32″	9⁄64″	**4248A22** 23.50	39⁄64″	3⁄16″	**4248A27** 29.03	27⁄32″	1⁄4″	**4248A35** 41.79
1	—	—	— —	39⁄64″	3⁄16″	**4248A28** 33.69	27⁄32″	1⁄4″	**4248A36** 44.95
2	15⁄32″	9⁄64″	**4248A23** 26.28	39⁄64″	3⁄16″	**4248A29** 34.13	13⁄16″	15⁄64″	**4248A37** 47.56
3	—	—	— —	39⁄64″	3⁄16″	**4248A31** 35.80	—	—	— —
4	15⁄32″	9⁄64″	**4248A25** 30.65	39⁄64″	3⁄16″	**4248A32** 39.09	—	—	— —
Round									
00	—	—	— —	3⁄16″ Dia.	—	**4256A26** 15.92	1⁄4″ Dia.	—	**4256A41** 22.98
0	1⁄8″ Dia.	—	**4256A19** 15.08	3⁄16″ Dia.	—	**4256A27** 15.92	5⁄16″ Dia.	—	**4256A35** 12.71
1	—	—	— —	1⁄4″ Dia.	—	**4256A28** 12.34	1⁄4″ Dia.	—	**4256A36** 25.00
2	5⁄32″ Dia.	—	**4256A22** 10.16	3⁄16″ Dia.	—	**4256A29** 18.00	1⁄4″ Dia.	—	**4256A37** 25.00
4	5⁄32″ Dia.	—	**4256A24** 16.52	1⁄4″ Dia.	—	**4256A32** 14.43	1⁄4″ Dia.	—	**4256A39** 26.28
Triangular									
00	9⁄32″	—	**4258A17** 16.55	3⁄8″	—	**4258A24** 18.59	1⁄2″	—	**4258A31** 28.20
0	9⁄32″	—	**4258A18** 17.26	3⁄8″	—	**4258A25** 18.80	1⁄2″	—	**4258A32** 25.12
1	—	—	— —	3⁄8″	—	**4258A26** 20.12	1⁄2″	—	**4258A33** 27.68
2	9⁄32″	—	**4258A21** 17.60	3⁄8″	—	**4258A27** 23.05	1⁄2″	—	**4258A34** 28.65

File Sets

5-Piece Double-Cut File Sets with Built-In Handles—Include 8½″ long files in the following shapes: rectangular, tapered half round, tapered round, tapered triangular, and tapered square.

Finish No. 00 **8194A11** $79.92
Finish No. 1 **8194A12** 82.02

6-Piece Double-Cut File Sets—Include 6″ long files in the following shapes: rectangular, thin-tapered rectangular, tapered half round, tapered round, knife, and triangular. Furnished in a plastic pouch.

Finish No. 0 **42365A21** $86.13
Finish No. 2 **42365A22** 98.79

Bendable Precision Needle Files

Bend these files to conform to your workpiece and they will hold the shape until you bend them again. Files can be bent more than 100 times without breaking. They are single cut with a No. 2 finish and are tapered. Overall length is 6¼″.

Shape	Wd.	Thick.		
Rectangular	7⁄32″	1⁄16″	**8178A21**	$47.07
Half Round	3⁄32″	5⁄64″	**8178A23**	47.07
Round	1⁄8″ Dia.	—	**8178A22**	47.07
Triangular	1⁄8″	—	**8178A25**	47.07
Square	7⁄64″	—	**8178A24**	47.07
Barrette	3⁄32″	1⁄16″	**8178A26**	47.07

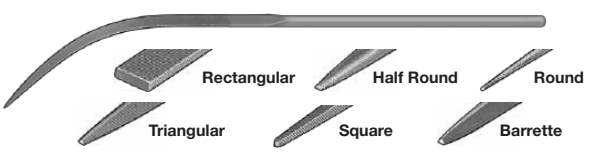

6-Piece File Set—Includes one of each file listed furnished in a vinyl pouch.

8178A31 $186.27

Precision & Diamond Files

Precision Needle Files

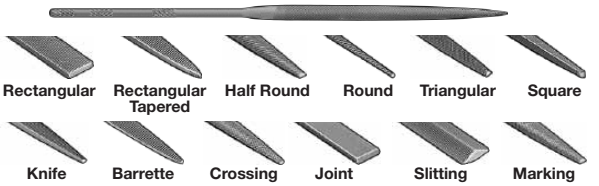

The small tips of these files allow precise work in tight spots. Files are 6¼″ long, are double-cut on both sides (unless otherwise stated), and are tapered (except rectangular, joint, and slitting files are not tapered). Finish ranges from medium No. 0 to extra-fine No. 4. **Rectangular** files have single-cut edges. **Knife** files have one single-cut edge and one plain edge (without teeth). **Barrette** files have one double-cut side and two plain sides (without teeth). **Joint** files have plain sides (without teeth) and double-cut edges.

Files

Shape	Wd.	Thick.	Finish No. 0	Finish No. 2	Finish No. 4	
Rectangular	0.213″	0.047″	4261A57	4261A58	4261A59	$14.60
Rectangular Tapered	0.215″	0.047″	4261A35	4261A36	4261A37	14.60
Half Round	0.22″	0.069″	4261A31	4261A32	4261A33	14.60
Round	0.115″ Dia.	———	4261A26	4261A27	4261A28	14.60
Triangular	0.154″	———	4261A53	4261A54	4261A55	14.60
Square	0.094″	———	4261A48	4261A49	4261A51	14.60
Knife	0.213″	0.059″	4261A44	4261A45	4261A46	14.60
Barrette	0.201″	0.071″	4261A62	4261A63	4261A64	14.60
Crossing	0.201″	0.079″	4261A39	4261A41	4261A42	14.60
Joint	0.209″	0.051″	4261A66	4261A67	4261A68	13.39
Slitting	0.236″	0.086″	4261A71	4261A74	4261A73	14.60
Marking	0.209″	0.071″	4261A75	4261A76	4261A77	13.39

12-Piece File Sets

Include one of each file shape listed. Furnished in a plastic pouch.

Standard sets are for frequent use. In the *4″ length* sets, an oval file replaces the crossing file. **Economy sets** are for infrequent use.

Finish No.	4″ Length		5½″ Length		6¼″ Length	
Standard Sets						
0	4261A11	$152.67	4261A16	$155.67	4261A22	$169.78
2	4261A12	152.67	4261A17	155.67	4261A23	169.78
4	———	———	4261A18	155.67	4261A24	169.78
6	———	———	———	———	4261A25	169.78
Economy Sets						
0	———	———	8174A41	18.00	8174A45	20.00
2	———	———	8174A42	18.00	8174A46	20.00
4	———	———	———	———	8174A47	20.00

Integrated-Handle Diamond Files



A wood handle is built into this file that is good for use on hard materials such as carbide, ceramics, and glass. File has a coarse 100-grit side, fine 200-grit side, and plain edges (without teeth) to protect adjacent surfaces. Size is 13″ Lg.×1″ Wd.×0.125″ Thick. Diamond surface length is 8″.

42345A11 ..... $64.93

Precision Detail Files

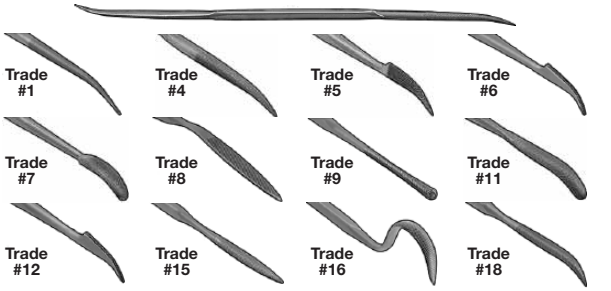

Also known as riffler files, these reach into the smallest holes, grooves, and slots to perform detailed work. Tools are 6″ long with a file at each end and a smooth portion in the middle for a comfortable grip. Finish No. 0 is medium and No. 2 is fine. Note: Simonds trade numbers are preceded by the letters DS.

Trade Numbers Nicholson and Simonds	Grobet	Wd.	Finish No. 0		Finish No. 2	
#1	981	0.128″ Dia.	4278A24	$16.40	4278A25	$16.40
#4	961	0.172″	4278A27	21.51	4278A28	21.51
#5	955	0.22″	4278A31	28.04	4278A32	28.04
#6	956	0.051″	4278A34	19.24	4278A35	19.24
#7	965	0.2″	4278A37	16.40	4278A38	16.40
#8	964	0.18″	4278A41	16.40	4278A42	16.40
#9	982	0.128″ Dia.	4278A44	16.40	4278A45	16.40
#11	963	0.19″	4278A47	21.96	4278A48	21.96
#12	957	0.184″	4278A51	21.51	4278A52	21.51
#15	973	0.161″	4278A54	19.00	4278A55	19.00
#16	975	0.169″	4278A57	18.20	4278A58	18.20
#18	972	0.159″	4278A61	18.91	4278A62	18.91

12-Piece File Sets—Include one of each trade number listed. Furnished in a vinyl pouch.

Finish No. 0	4278A1	$196.24
Finish No. 2	4278A2	196.24

Thin-Face Diamond Files



File with Holder (Sold Separately)

Compared to other diamond files, these have a thinner filing surface to reach into small slots and narrow spaces. Use them on hard materials such as carbide, ceramics, and glass. A **file holder** is required and sold separately. Holder has a plastic handle.

Diamond Surface, sq.	Medium Finish (120/140 Grit) File Thick.			Fine Finish (170/200 Grit) File Thick.		
0.591″	0.047″	8142A12	$15.71	0.039″	8142A11	$15.71
0.984″	0.047″	8142A14	26.24	0.039″	8142A13	26.24
File Holder					8142A21	46.50

5-Piece Set—Includes one of each file listed and one holder. Furnished in a plastic case.

8142A31 ..... $131.71

Diamond Files

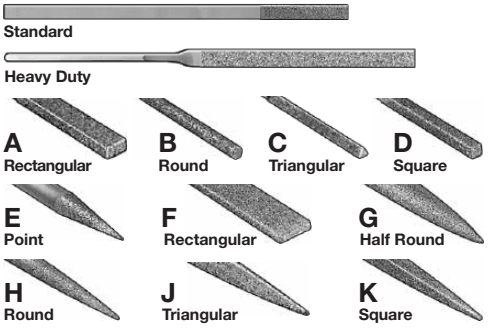

Diamonds provide the strength you need to file hard materials such as carbide, ceramics, and glass. *Styles E* and *G-K* are tapered.

Standard files are 6″ long. Diamond surface is 1½″ long for Styles A-D; ½″-⅞″ long for Style E.

Heavy duty files are approximately 8⅝″ long and have a 4.328″ long diamond surface.

	Wd.	Thick.	Coarse Finish (80/100 Grit)		Medium Finish (120/140 Grit)		Fine Finish (170/200 Grit)	
Standard								
A	0.25″	0.125″	8168A61	$18.22	8168A51	$18.22	8168A42	$18.22
A	0.375″	0.125″	8168A62	18.22	8168A52	18.22	8168A43	18.22
B	0.125″ Dia.	———	8168A63	18.22	8168A53	18.22	8168A44	18.22
C	0.125″	———	8168A45	18.22	8168A64	18.22	8168A54	18.22
D	0.125″	———	8168A65	18.22	8168A49	18.22	8168A41	18.22
E	0.125″	———	8168A66	18.22	8168A55	18.22	8168A46	18.22
E	0.25″	———	8168A67	18.22	8168A56	18.22	8168A48	18.22
Heavy Duty								
F	0.409″	0.11″	4243A24	53.64	4243A22	53.64	4243A25	53.69
G	0.496″	0.154″	4243A34	53.64	4243A32	53.64	4243A35	53.69
H	0.268″ Dia.	———	4243A44	37.45	4243A42	37.45	4243A45	37.54
J	0.382″	———	4243A64	59.66	4243A62	59.66	4243A65	59.72
K	0.24″	———	4243A54	47.50	4243A52	47.50	4243A55	47.54

6-Piece Standard Sets—Include one of each standard file listed (except 0.25″ wide Style E). Furnished in a vinyl pouch.

Coarse Finish	8168A68	$108.97
Medium Finish	8168A57	108.97
Fine Finish	8168A47	108.97

5-Piece Heavy Duty Sets—Include one of each heavy duty file listed. Furnished in a vinyl pouch.

Coarse Finish	4243A72	$228.85
Medium Finish	4243A71	228.85
Fine Finish	4243A73	229.81

Diamond Precision Needle Files

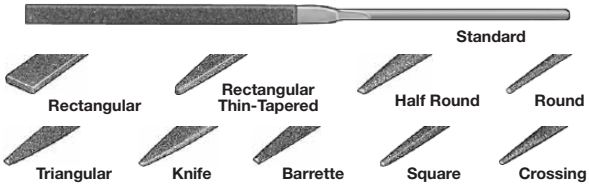

Small, diamond-covered tips are good for intricate work on hard materials such as carbide, ceramics, and glass. Files are 5½″ long and tapered (except rectangular files are not tapered).

Standard files have a 2¾″ long diamond surface. **Miniature** files are also known as escapement files. Diamond surface is 1⁹⁄₁₆″ long.

Files

Shape	Wd.	Thick.	Coarse Finish (80/100 Grit)	Medium Finish (120/140 Grit)	Fine Finish (170/200 Grit)	
Standard						
Rectangular	0.201″	0.055″	4279A18	4279A9	4279A1	$18.81
Rectangular Thin-Tapered	0.205″	0.055″	4279A43	4279A42	4279A41	18.81
Half Round	0.213″	0.075″	4279A19	4279A12	4279A2	18.81
Round	0.118″ Dia.	____	4279A22	4279A15	4279A5	18.81
Triangular	0.154″	____	4279A21	4279A13	4279A3	18.81
Knife	0.213″	0.063″	4279A23	4279A16	4279A6	18.81
Barrette	0.197″	0.067″	4279A39	4279A38	4279A37	18.81
Miniature						
Rectangular	0.154″	0.043″	4252A36	4252A35	4252A34	21.59
Half Round	0.169″	0.071″	4252A56	4252A55	4252A54	21.59
Round	0.067″ Dia.	____	4252A26	4252A25	4252A24	21.59
Triangular	0.122″	____	4252A46	4252A45	4252A44	21.59
Square	0.079″	____	4252A66	4252A65	4252A64	21.59
Barrette	0.154″	0.055″	4252A86	4252A85	4252A84	21.59
Crossing	0.165″	0.071″	4252A76	4252A75	4252A74	21.59

6-Piece Standard File Sets

Include one each of these standard files: rectangular, half round, round, triangular, square, and crossing. Furnished in a vinyl pouch.

Coarse Finish (80/100 Grit)	4330A13	$104.35
Medium Finish (120/140 Grit)	4330A12	104.35
Fine Finish (170/200 Grit)	4330A11	104.35

Flexible Diamond Files

Tough, diamond-covered files flex to reach hard-to-access spaces. Use them on hard materials such as carbide, ceramics, and glass.

Rectangular files are approximately 6¾″ long and have a 3.465″ long diamond surface.

Wire files are approximately 5⅛″ long and have a 2.756″ long diamond surface.


Rectangular

Finish	Grit	Wd.	Thick.		
Rectangular					
Medium	100/120	0.551″	0.067″	1055N12	$30.50
Fine	200/230	0.551″	0.067″	1055N11	30.50
Very Fine	325/400	0.551″	0.067″	1055N22	30.50
Wire					
Fine	170/200	0.024″ Dia.	____	1055N15	33.15
Fine	170/200	0.028″ Dia.	____	1055N16	33.15
Fine	170/200	0.031″ Dia.	____	1055N17	33.15
Fine	170/200	0.039″ Dia.	____	1055N18	33.15
Fine	170/200	0.059″ Dia.	____	1055N19	33.15
Fine	170/200	0.079″ Dia.	____	1055N21	33.15
Very Fine	270/325	0.02″ Dia.	____	1055N14	33.15
Ultra Fine	500/600	0.016″ Dia.	____	1055N13	33.15

Pocket-Size Abrasive Contact Files

Keep files close at hand to remove corrosion on relay and switch contacts. You'll get six fine-finish files and a pen-shaped plastic holder. Files are 1½″ long and store in the holder, which is 4½″ long.


Holder with Files

Holder **with files and rods** includes six 1¼″ Lg.×0.02″ Dia. ball-end rods for cleaning pits on contacts.

File Wd.	File Thick.	Holders		Individual Repl. Files		Individual Repl. Rods	
With Files							
3⁄16″	0.007″	4575A71	$29.44	4575A85	$0.93	____	____
With Files and Rods							
3⁄16″	0.0035″	4575A73	36.59	4575A86	.93	4575A87	$1.10

Carbide Files

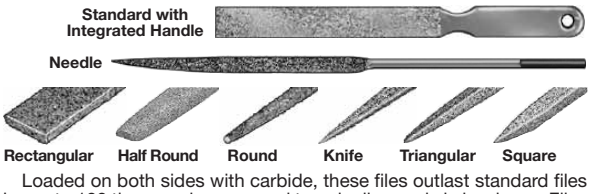

Loaded on both sides with carbide, these files outlast standard files by up to 100 times and are second to only diamonds in hardness. Files are tapered (except rectangular files).

Standard Files

Files **without handle** have a coarse 60-grit surface.

Files **with integrated handle** have a built-in plastic handle. The *1⁄8″ thick* file has an extra-coarse 46-grit surface on one side and coarse 80-grit surface on the other. The *3⁄16″ thick* file has an extra-coarse 24-grit surface.

Shape	Lg.	Wd.	Thick.		
Without Handle					
Rectangular	8″	1⁄4″	1⁄8″	81725A11	$14.58
Rectangular	8″	1⁄2″	1⁄8″	81725A12	15.75
Rectangular	10″	1⁄2″	1⁄8″	81725A13	17.35
Rectangular	10″	3⁄4″	1⁄8″	81725A14	25.22
Rectangular	10″	1″	1⁄8″	81725A15	25.20
Rectangular	12″	1⁄2″	1⁄8″	81725A16	25.71
Half Round	6″	5⁄8″	3⁄16″	81725A19	24.44
Half Round	8″	3⁄4″	1⁄4″	81725A21	24.44
Round	8″	1⁄16″ Dia.	____	81725A17	14.58
Round	8″	1⁄8″ Dia.	____	81725A18	14.58
With Integrated Handle					
Rectangular	14″	1″	1⁄8″	4337A11	29.33
Rectangular	14″	1″	3⁄16″	4337A12	35.13

Needle Files

Sized for precise work in tight spots, these files have a very fine 280-grit surface.

Choose a Shape	Lg.		
Rectangular, Round, Knife, Triangular, Square	5½″	4288A4	$12.76
Rectangular, Round, Knife, Triangular, Square	7⅛″	4288A5	15.24

6-Piece Needle File Sets—Include a plastic handle and one of each needle file shape listed above.

5½″ Lg. Files	4288A16	$56.20
7⅛″ Lg. Files	4288A26	66.49

Electrical Contact Files

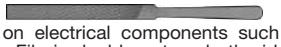

Clean contacts on electrical components such as spark plugs and ignition points. File is double cut on both sides and has plain edges (without teeth) to protect adjacent surfaces. Size is 5¼″ Lg.× 5⁄16″ Wd.×0.044″ Thick.

4275A2		$5.65

Flexible Abrasive Contact Files

Bend and twist these nonconductive files to clean contacts and relays in hard-to-reach spots. They are coated with aluminum oxide and are 4¾″ long.



Finish	Grit	Wd.	Thick.		Each	Pkg. of 12
Coarse	80	3⁄8″	0.04″	4610A45	$2.56	$25.34
Coarse	80	1⁄2″	0.04″	4610A34	2.56	25.34
Medium	120	3⁄8″	0.025″	4610A35	2.56	25.34
Medium	120	1⁄2″	0.04″	4610A39	2.56	25.34
Medium	120	7⁄8″	0.03″	4610A43	2.56	25.34
Fine	180	3⁄8″	0.04″	4610A46	2.56	25.34
Fine	180	1⁄2″	0.025″	4610A36	2.56	25.34
Fine	180	1⁄2″	0.04″	4610A41	2.56	25.34
Fine	180	7⁄8″	0.03″	4610A44	2.56	25.34
Very Fine	240	3⁄8″	0.025″	4610A37	2.56	25.34
Very Fine	240	3⁄8″	0.04″	4610A47	2.56	25.34
Very Fine	320	3⁄8″	0.015″	4610A38	2.56	25.34
Very Fine	320	3⁄8″	0.025″	4610A42	2.56	25.34
Very Fine	320	3⁄8″	0.04″	4610A48	2.56	25.34

No-Dust Abrasive Files



Finish and polish metals without producing dust. Files are 5″ long and are coated with a coarse 100-grit grain of aluminum oxide and silicon carbide.

Wd.	Thick.			Wd.	Thick.		
1⁄2″	3⁄8″	4512A1	$17.00	1″	5⁄8″	4512A3	$38.51
3⁄4″	3⁄8″	4512A2	21.41	2″	1″	4512A4	88.98
1″	1⁄8″	4512A6	16.32	4″	1″	4512A5	155.79

File Handles, Air-Powered Filers & Deburring Tools

File Handles

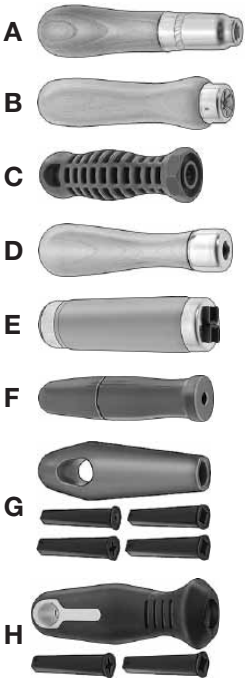

(A) Push-On Long Ferrule—These wood handles have a long, heavy-gauge steel ferrule that is especially good for holding long files.
(B) Push-On Short Ferrule—These economical wood handles have a metal ferrule.
(C) Ergonomic Push-On—Handles are plastic, contoured for comfort, and have air vents to reduce hand moisture.
(D) Screw On—A steel insert cuts threads onto file tangs to securely hold files. Handles are wood with a heavy-gauge steel ferrule.
(E) Jaw Grip—Turn the bottom knob to lock and unlock the steel chuck-style jaws to grip tangs and shanks that are 1/64" to 19/32" in diameter. Handle is plastic.
(F) Ergonomic Jaw Grip—Twist the upper and lower halves in opposite directions to lock and unlock the clamping jaws that grip tangs and shanks 1/8" to 9/64" in diameter. Handle is plastic and contoured for comfort.
(G) Interchangeable Grip—Four interchangeable inserts accommodate different files. Handle is plastic.
(H) Ergonomic Interchangeable Grip—Handle is plastic with a rubber coating and contoured shape for a secure, comfortable grip. It has two interchangeable inserts to accommodate different files.

For File Lg.	Handle Lg.	ID		
(A) Push-On Long Ferrule				
3"-6"	4"	1/8"	4318A1	$2.28
6"-8"	4 1/2"	11/64"	4318A2	2.52
8"-12"	5"	1/4"	4318A3	2.98
12"-16"	5 1/2"	5/16"	4318A4	3.30
16"-20"	6"	11/32"	4318A5	3.62
(B) Push-On Short Ferrule				
3"-4"	3 1/2"	5/32"	4320A51	1.12
4"-6"	4"	3/16"	4320A52	1.24
6"-8"	4 1/4"	7/32"	4320A53	1.36
8"-10"	4 3/4"	9/32"	4320A54	1.42
10"-14"	5"	3/8"	4320A55	1.56
(C) Ergonomic Push-On				
4"-6"	3 1/2"	—	42215A11	3.37
8"-10"	4 23/64"	—	42215A12	3.45
12"-14"	4 3/8"	—	42215A13	3.80

For File Lg.	Handle Lg.	ID		
(D) Screw On				
Up to 4"	3 1/2"	3/32"	4322A1	$2.46
4"	3 1/2"	3/32"	4322A2	2.46
5"	4"	9/64"	4322A3	2.58
6"	4"	7/32"	4322A4	2.58
8"	4 1/2"	1/4"	4322A5	3.04
10"	4 1/2"	21/64"	4322A6	3.04
12"	5"	3/8"	4322A7	3.30
14"	5"	7/16"	4322A8	3.30
(E) Jaw Grip				
Up to 16"	4 1/8"	—	4255A12	7.98
(F) Ergonomic Jaw Grip				
5 1/2"-8"	3 1/2"	—	42215A24	4.83
(G) Interchangeable Grip				
6"-10"	4"	—	8163A11	4.20
(H) Ergonomic Interchangeable Grip				
6"-10"	4 1/2"	—	42215A21	4.38

Air-Powered Filers



Remove material with minimal effort. Tools include a double-cut rectangular file, tapered half-round file that is single cut on the convex side and double cut on the flat side, tapered round file (single cut for economy tool; double cut for heavy duty tool), double-cut tapered triangular file, air hose, and a hex key. Air inlet is 1/4 NPT female.

Economy tool is for light, intermittent use. Recommended operating pressure is 90 psi. Air consumption is 4 cfm.

Heavy duty tool is for heavy, continuous use. Recommended operating pressure is 85 psi. Air consumption is 8.5 cfm.

Tools

	Strokes per Minute	Stroke Lg.	O'all Lg.	File Shank Dia.		
Economy	9,000	1/4"	7"	1/4"	42185A21	$144.63
Heavy Duty	3,700	23/64"	7"	3/16"	4231A26	267.46

Replacement Files

Shape	Lg.	Wd.	Thick.		Each	Pkg. Qty.	
1/4" Dia. Shank for Economy Tool							
Rectangular	4 5/32"	3/8"	1/8"	42185A1	$11.90	3	$28.37
Half Round	4 5/32"	3/8"	1/8"	42185A2	11.90	3	28.37
Round	4 3/16"	1/4" Dia.	—	42185A3	11.90	3	28.37
Triangular	4 3/16"	1/4"	—	42185A4	11.90	3	28.37
3/16" Dia. Shank for Heavy Duty Tool							
Rectangular	4 1/8"	5/16"	1/8"	4231A1	7.63	5	30.50
Half Round	4 1/8"	5/16"	1/8"	4231A2	8.75	5	35.00
Round	4 1/8"	7/32" Dia.	—	4231A3	7.63	5	30.50
Triangular	4 1/8"	1/4"	—	4231A4	7.63	5	30.50

Accessories for Heavy Duty Tool

Rounded-Tip Rubber Sanding Pad with 13/16" Wd. x 2 11/16" Lg. Sanding Surface	4231A35★	$10.00
Sanding Pad Mandrel	4231A37	17.75

★ Must be used with sanding pad mandrel.

Small-Hole Deburring Tools



Triangular blades debur the front and the back edges of small holes. Good for deburring steel, aluminum, and plastic.

For Hole Size	O'all Lg.	Tools		Repl. Blades	
1/8"-7/32"	3 3/8"	7815A21	$21.17	7815A41	$9.32
13/64"-11/32"	4 3/4"	7815A22	21.17	7815A42	10.09
25/64"-27/32"	6 3/4"	7815A23	25.19	7815A43	12.60

Pocket-Size Deburring Tools



This go-anywhere tool has a blade that swivels 360° and removes burrs from steel and aluminum.

Blade Trade No.	Blade Style	O'all Lg.		
B-10	Nonreplaceable	5 5/16"	4286A15	$3.48
B-10	Replaceable	5 3/4"	4286A16	8.36
E-100	Nonreplaceable	5 1/2"	4286A14	3.90

Quick-Change Deburring Bits


Insert Bit


1/4" Hex Power Bit


3/8" Hex Power Bit with V-Shaped Cutters

Quickly attach and remove these deburring bits from interchangeable-bit screwdrivers.

Insert bit is for hand drivers. Blade swivels 360° and deburs steel and aluminum.

1/4" hex power bit is for power tools. Blade swivels 360° and deburs steel and aluminum.

3/8" hex power bit with V-shaped cutters is for power tools and deburs both sides of sheet metal or the front and back edges of a hole (3/4" dia. and larger) in one stroke. It includes a pair of replacement cutters and is for use on steel, stainless steel, copper, brass, and aluminum up to 10-ga. thick.

	O'all Lg.		
1/4" Hex Insert Bit	1 1/8"	7811A18	$2.98
1/4" Hex Power Bit	1 3/4"	7811A19	2.98
3/8" Hex Power Bit with V-Shaped Cutters	2 3/32"	4982A11	29.48
Replacement Cutters (3 Pairs/Pkg.)		4982A22	23.58

Deburring Tools for Sheet Metal



With two round cutting blades, this tool removes burrs from both sides of 1/32" to 1/2" thick sheet metal in one stroke. It has a hand guard and includes two multipurpose blades for use on steel and aluminum.

4247A33 ..... $20.58

Blades (2 required)		1-9	10-Up
Replacement Multipurpose Blade	4247A35	$5.14	$3.96
Optional Blade for Stainless Steel	4247A37	7.64	6.03

Deburring Tools and Blades

Blades swivel 360° and store in the tools' handles. Blades for heavy duty tools are larger than those for standard duty tools and are for more frequent use.

Deburring Tools with Blades

The pull-down locking collar makes changing blades a snap. *Fixed-length* tools have blades that fit directly into the handle. *Adjustable-length* tools have blades that fit into a 5 1/8" long blade holder (included) that locks at various lengths and reaches into holes up to 5" deep.



Fixed-Length Tool



Adjustable-Length Tool

Blades Included		Handle Material	Deburring Tools		Repl. Blade Holders	
Standard Duty Tools with Blades						
Fixed Length	B-10, B-20	Plastic	4289A35	$7.66		
Adjustable Length	B-10, B-20	Plastic	4289A33	10.09	4289A26	$5.34
Adjustable Length	B-10, B-20	Aluminum	4289A11	14.77	4289A26	5.34
Heavy Duty Tools with Blades						
Fixed Length	E-100, E-200, E-350	Plastic	4289A71	11.19		
Fixed Length	E-100, E-101, E-102, E-200, E-350	Plastic	4253A16	11.43		
Adjustable Length	E-100A, E-200, E-300	Plastic	4289A34	10.83	4289A29	5.79

Individual Deburring Blades

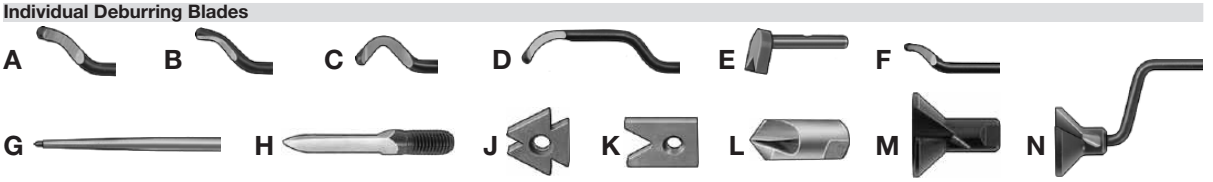

	Use on Material	Use for Edges/Surfaces: Straight Edge	Hole Front Edge	Hole Back Edge	Hole Both Edges	Tube Edge	Flat Surface	Sheet Edge	Trade No.	O'all Lg.		1-9	10-Up
Uncoated Blades for Standard Duty Tools—0.1" dia. shank, except Styles H-M do not have a shank and require a blade holder (sold below)													
A	Steel, Aluminum	•	•						B-10, N1	0.91"	4289A12	$1.79	$1.46
A	Steel, Aluminum	•	•						B-10L, N1LH	0.98"	4289A47	2.53	2.15
A	Steel, Aluminum, Copper, Plastic	•	•						B-12	0.98"	4289A84	2.37	2.01
A	Stainless Steel	•	•						B-10S	0.98"	4289A66	2.07	1.71
A	Hardened Steel	•	•						B-10C, N1C	0.83"	4289A63	6.53	5.76
A	Plastic	•	•						B-10A	0.96"	4289A61	1.99	1.61
A	Carbide, Glass	•	•						B-10D, N1D	0.98"	4289A46	13.16	11.85
B	Brass, Cast Iron	•	•						B-20, N2	0.91"	4289A13	1.79	1.46
B	Hardened Steel	•	•						B-20C, N2C	0.9"	4289A65	6.29	5.76
C	Steel, Aluminum				•				B-30, N3	0.87"	4289A16	2.02	1.75
D	Steel, Aluminum			•					B-60, N6	1.74"	4289A41	2.91	2.56
E	Steel, Aluminum up to 1/8" thick							•	B-70	0.78"	4289A86 ★	9.17	7.75
F	Steel, Aluminum, Copper, Plastic	•	•						B-1	0.98"	4289A87	2.38	2.01
F	Steel, Aluminum, Copper, Plastic	•	•						B-11	0.78"	4289A88	2.53	2.15
G	Steel, Aluminum, Copper, Brass, Stainless Steel, Plastic						•		B-50C	1.89"	4289A72	6.44	5.90
H	Plastic	•					•		C-40	1.5"	4289A18 ■	7.35	6.28
H	Plastic	•					•		C-42	1.75"	4289A19 ■	13.59	11.99
J	Plastic up to 1/8" thick						•	•	D-80C	0.63"	4289A45 ■	8.04	6.89
K	Plastic up to 11/32" thick							•	D-82C	0.75"	4289A22 ■	14.15	12.74
L	Plastic with holes up to 1/2" dia.		•						C12, F-12	1.13"	4289A23 ■	14.27	13.25
L	Plastic with holes up to 3/4" dia.		•						C20, F-20	1.13"	4289A24 ■	17.81	15.27
L	Plastic with holes up to 13/16" dia.		•						C30, F-30	1.75"	4289A73 ■	40.30	35.83
M	Plastic with holes up to 1" dia.					•			F-26X	1.13"	4289A74 ■	32.24	28.66
Long-Life TIN (titanium nitride) Coated B-10P, B-11P, B-12P, B-20P, or B-30P Blades for Standard Duty Tools											4289A81		
Uncoated Blades for Heavy Duty Tools—0.125" dia. shank													
A	Steel, Aluminum	•	•						E-100, S10	1.85"	4289A14	2.42	1.96
A	Steel, Aluminum	•	•						E-100L, S10LH	1.96"	4289A68	3.49	2.96
A	Stainless Steel	•	•						E-100A, S100	1.85"	4289A64	2.56	2.19
A	Hardened Steel	•	•						E-100C, S10C	1.69"	4289A91	9.96	8.71
A	Plastic	•	•						E-250	1.96"	4289A89	3.17	2.68
A	Carbide, Glass	•	•						E-100D, S10D	1.96"	4289A67	14.72	13.24
B	Brass, Cast Iron	•	•						E-200, S20	1.85"	4289A15	2.54	2.06
B	Hardened Steel	•	•						E-200C, S20C	1.96"	4289A92	9.96	8.71
C	Steel, Aluminum				•				E-300, S30	1.82"	4289A17	2.63	2.23
D	Steel, Aluminum			•					E-600, S60	2.48"	4289A53	3.49	3.24
F	Steel, Aluminum, Copper, Plastic	•	•						E-101, S101	1.69"	4253A24	2.57	2.23
F	Steel, Aluminum, Copper, Plastic	•	•						E-350, S35	1.85"	4289A51	2.54	2.06
F	Steel, Brass, Cast Iron, Plastic	•	•						E-102, S202	1.69"	4253A25	2.67	2.30
N	Steel, Aluminum, Copper, Plastic					•			EX-18	2.22"	4289A83	11.70	10.63
Long-Life TIN (titanium nitride) Coated E-100P, E-200P, or E-300P Blades for Heavy Duty Tools											4289A82		

★ Only compatible with the adjustable-length standard duty tool with aluminum handle.

■ Required Blade Holders to use Standard Duty Blade Styles H-M in Standard Duty Adjustable-Length Tools

For Blade	Lg.			For Blade	Lg.			For Blade	Lg.		
H	4 1/2"	4289A27	$5.84	J, K	5 1/4"	4289A28	$5.84	L, M	5"	4289A31	$5.84

Deburring Tool Sets

7-Piece Set—Includes 16.5 mm and EX-18 countersinks, an O-ring blade with a 0-3 mm groove width, a thread-cleaner blade, a S100 cobalt blade, a blade for holes up to 1.5 mm in diameter, and a handle. Furnished in a plastic case.

4289A78 ..... $67.27

11-Piece Set—Includes a reversible countersink; 3.2 mm, 10.4 mm, 16.5 mm, and EX-18 countersinks; E-100, E-200, and E-300 blades; a blade holder; and two handles. Furnished in a plastic case.

4289A79 ..... $122.70

28-Piece Set—Includes F-12 and F-20 countersinks, 18 blades (three B-10, two B-20, one B-30, one B-50, one B-70, one C-40, one C-42, one D-80, one D-82, two E-100, one E-200, one E-300, one E-600, and one E-601), two wrenches, five telescoping blade holders, and a handle. Furnished in a plastic box.

4289A36 ..... $139.84

High-Visibility Deburring Tools



Individual Tool

With colored handles, these tools are easy to spot and keep organized. Blades swivel 360° and debur hard and soft metals.

Individual tools include a handle and a blade. **Sets** include a blue, green, red, and yellow handle. *Same-blade* sets include a blade for each handle. *Standard duty multi-blade set* includes a B-10, B-11, B-20, and B-30 blade. Handle length is 4¾". *Heavy duty multi-blade set* includes an E-100, E-100A, E-100T, and E-200 blade. Handle length is 5⁹⁄₁₆".

To Order: For individual tools, please specify handle color: blue, green, red, or yellow.

	Handle Lg.	Blade Trade No.	Individual Tools		Same-Blade Sets	
Standard Duty	4⅝"	B-10	4493A21	$4.25	4493A41	$16.98
Heavy Duty	4⅝"	E-100	4493A31	4.25	4493A42	18.35
Standard Duty Multi-Blade Set					4493A43	$16.11
Heavy Duty Multi-Blade Set					4493A44	16.78

About Bur Cut Patterns



Cylindrical—Flat End
Straight edges, flat surfaces

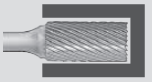

Cylindrical—Flat End, End Cut
Straight edges, flat surfaces, flat-bottom holes and slots



Cylindrical—Radius End
Curved surfaces and slots, round-bottom holes and slots

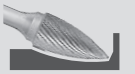

Tree—Pointed End
Curved surfaces and slots, curved holes with pointed bottoms



Tree—Radius End
Curved surfaces and slots, curved holes with rounded bottoms



Ball
Curved surfaces, round slots, round-bottom holes

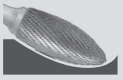

Flame
Contoured surfaces, slots, and holes



Oval/Egg
Oblong slots and holes

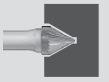

Cone
Beveled edges, countersunk holes

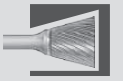

Inverted Cone
Inverted-angle holes, dovetailed slots



Tapered Cone—Pointed End
Tapered holes and slots with pointed bottoms

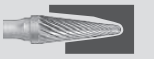

Tapered Cone—Radius End
Tapered holes and slots with rounded bottoms

Carbide Burs

Debur virtually any material. Overall length is 1½" for ³⁄₃₂" shank dia.; 1½"-2⅛" for ⅛" shank dia.; 2" for ³⁄₁₆" shank dia.; 2"-3⅜" for ¼" shank dia. **Double cut** is for rapid metal removal with a coarser finish than single cut. **Single cut** is for gradual metal removal with a fine finish.

Shank Dia.	Head Dia.	Lg. of Cut	Trade No.	Double Cut	Single Cut	
Cylindrical—Flat End						
³⁄₃₂"	1⁄16"	¼"	SA-61	4284A21	4284A32	$6.33
³⁄₃₂"	³⁄₃₂"	⅜"	SA-63	4284A22	4284A33	6.33
⅛"	1⁄16"	¼"	SA-41	8175A14	42955A11	5.50
⅛"	³⁄₃₂"	7⁄16"	SA-42	8175A12	42955A12	5.50
⅛"	⅛"	9⁄16"	SA-43	8175A11	42955A13	5.50
⅛"	5⁄32"	½"	SA-52	8175A15	42955A14	10.83
⅛"	3⁄16"	½"	SA-53	8175A16	42955A15	9.17
⅛"	¼"	½"	SA-51	8175A13	42955A16	9.17
3⁄16"	3⁄16"	½"	SA-81	4287A21	4287A31	14.17
¼"	⅛"	½"	SA-11	4292A12	43035A11	14.67
¼"	⅛"	⅝"	SA-12	4292A101	43035A201	14.67
¼"	5⁄32"	⅝"	SA-13	4292A102	43035A202	15.00
¼"	3⁄16"	⅝"	SA-14	4292A19	43035A12	15.00
¼"	¼"	⅝"	SA-1	4292A11	43035A13	13.00
¼"	¼"	1"	SA-1L	4292A22	43035A14	17.83
¼"	5⁄16"	¾"	SA-2	4292A103	43035A203	12.83
¼"	⅜"	¾"	SA-3	4292A13	43035A15	14.33
¼"	⅜"	1"	SA-3L	4292A27	43035A16	19.23
¼"	⅜"	1½"	SA-3X	4292A141	43035A241	27.50
¼"	7⁄16"	1"	SA-4	4292A104	43035A204	22.00
¼"	½"	1"	SA-5	4292A14	43035A17	23.33
¼"	⅝"	1"	SA-6	4292A15	43035A18	35.60
¼"	¾"	½"	SA-15	4292A28	43035A19	47.33
¼"	¾"	¾"	SA-16	4292A105	43035A205	55.00
¼"	¾"	1"	SA-7	4292A17	43035A21	56.33
¼"	1"	1"	SA-9	4292A18	43035A22	82.33
Cylindrical—Flat End, End Cut						
⅛"	1⁄16"	¼"	SB-41	8175A25	42955A51	6.00
⅛"	³⁄₃₂"	7⁄16"	SB-42	8175A26	42955A52	6.00
⅛"	⅛"	9⁄16"	SB-43	8175A27	42955A53	6.00
⅛"	¼"	3⁄16"	SB-51	8175A17	42955A17	9.17
¼"	⅛"	½"	SB-11	4292A106	43035A206	16.00
¼"	⅛"	⅝"	SB-12	4292A107	43035A207	16.00
¼"	5⁄32"	⅝"	SB-13	4292A108	43035A208	16.00
¼"	3⁄16"	⅝"	SB-14	4292A109	43035A209	16.00
¼"	¼"	⅝"	SB-1	4292A29	43035A23	14.00
¼"	¼"	1"	SB-1L	4292A111	43035A211	18.33
¼"	5⁄16"	¾"	SB-2	4292A112	43035A212	14.17
¼"	⅜"	¾"	SB-3	4292A38	43035A24	$14.17
¼"	7⁄16"	1"	SB-4	4292A113	43035A213	25.00
¼"	½"	1"	SB-5	4292A39	43035A25	26.33
¼"	⅝"	1"	SB-6	4292A46	43035A26	40.33
¼"	¾"	¾"	SB-16	4292A115	43035A215	49.74
¼"	¾"	1"	SB-7	4292A47	43035A27	51.67
¼"	1"	1"	SB-9	4292A48	43035A28	91.40
Cylindrical—Radius End						
³⁄₃₂"	³⁄₃₂"	⅜"	SC-61	4284A23	4284A34	6.33
⅛"	³⁄₃₂"	7⁄16"	SC-41	8175A22	42955A18	5.50
⅛"	⅛"	9⁄16"	SC-42	8175A21	42955A19	5.50
⅛"	5⁄32"	½"	SC-52	8175A28	42955A54	11.00
⅛"	3⁄16"	½"	SC-53	8175A24	42955A21	11.00
⅛"	¼"	½"	SC-51	8175A23	42955A22	9.17
3⁄16"	3⁄16"	½"	SC-81	4287A22	4287A32	14.17
¼"	⅛"	½"	SC-11	4292A49	43035A29	14.67
¼"	⅛"	⅝"	SC-12	4292A116	43035A216	15.00
¼"	5⁄32"	⅝"	SC-13	4292A117	43035A217	15.00
¼"	3⁄16"	⅝"	SC-14	4292A56	43035A31	15.00
¼"	¼"	⅝"	SC-1	4292A21	43035A32	14.17
¼"	¼"	1"	SC-1L	4292A57	43035A33	17.67
¼"	5⁄16"	¾"	SC-2	4292A118	43035A218	13.00
¼"	⅜"	¾"	SC-3	4292A23	43035A34	15.67
¼"	⅜"	1"	SC-3L	4292A58	43035A35	20.67
¼"	⅜"	1½"	SC-3X	4292A142	43035A242	29.33
¼"	7⁄16"	1"	SC-4	4292A119	43035A219	20.33
¼"	½"	1"	SC-5	4292A24	43035A36	25.00
¼"	⅝"	1"	SC-6	4292A25	43035A37	38.33
¼"	¾"	¾"	SC-16	4292A149	43035A249	55.00
¼"	¾"	1"	SC-7	4292A26	43035A39	51.67
¼"	1"	1"	SC-9	4292A61	43035A41	88.33
Tree—Pointed End						
³⁄₃₂"	³⁄₃₂"	¼"	SG-61	4284A27	4284A37	6.33
⅛"	⅛"	¼"	SG-41	8175A91	42955A29	5.83
⅛"	⅛"	5⁄16"	SG-42	8175A37	42955A58	5.83
⅛"	⅛"	⅜"	SG-43	8175A38	42955A59	5.83
⅛"	⅛"	½"	SG-44	8175A93	42955A31	5.83

(Continued on following page)

For information about bur cut patterns, see page 2624.

Carbide Burs *(Continued from previous page)*

Shank Dia.	Head Dia.	Lg. of Cut	Trade No.	Double Cut	Single Cut	
Tree—Pointed End (Cont.)						
1/8″	3/16″	1/2″	SG-53	8175A39	42955A61	$11.00
1/8″	1/4″	1/2″	SG-51	8175A92	42955A32	9.17
1/4″	1/4″	5/8″	SG-1	4292A51	43035A59	13.33
1/4″	5/16″	3/4″	SG-2	4292A125	43035A225	13.67
1/4″	3/8″	3/4″	SG-3	4292A52	43035A61	15.33
1/4″	1/2″	3/4″	SG-13	4292A79	43035A62	22.00
1/4″	1/2″	1″	SG-5	4292A53	43035A63	22.33
1/4″	5/8″	1″	SG-6	4292A54	43035A64	31.33
1/4″	3/4″	1″	SG-7	4292A55	43035A65	40.00
1/4″	3/4″	1 1/2″	SG-15	4292A126	43035A226	63.00
Tree—Radius End						
3/32″	3/32″	1/4″	SF-61	4284A26	4284A36	6.33
1/8″	1/8″	1/4″	SF-41	8175A35	42955A56	5.83
1/8″	1/8″	1/2″	SF-42	8175A81	42955A27	5.83
1/8″	3/16″	1/2″	SF-53	8175A36	42955A57	11.00
1/8″	1/4″	1/2″	SF-51	8175A82	42955A28	9.17
1/4″	1/8″	1/2″	SF-11	4292A75	43035A49	14.17
1/4″	1/4″	5/8″	SF-1	4292A41	43035A51	14.00
1/4″	3/8″	3/4″	SF-3	4292A42	43035A52	14.83
1/4″	7/16″	1″	SF-4	4292A124	43035A224	22.00
1/4″	1/2″	3/4″	SF-13	4292A76	43035A53	22.33
1/4″	1/2″	1″	SF-5	4292A43	43035A54	23.33
1/4″	5/8″	1″	SF-6	4292A44	43035A55	31.67
1/4″	3/4″	1″	SF-7	4292A45	43035A56	38.17
1/4″	3/4″	1 1/2″	SF-15	4292A78	43035A58	60.00
Ball						
3/32″	3/32″	3/32″	SD-61	4284A24	4284A35	6.33
1/8″	3/32″	3/32″	SD-41	8175A73	42955A23	5.50
1/8″	1/8″	1/8″	SD-42	8175A71	42955A24	5.50
1/8″	5/32″	5/32″	SD-52	8175A29	42955A55	11.00
1/8″	3/16″	5/32″	SD-53	8175A74	42955A25	11.00
1/8″	1/4″	7/32″	SD-51	8175A72	42955A26	9.17
3/16″	3/16″	5/32″	SD-81	4287A23	4287A33	14.17
1/4″	1/8″	3/32″	SD-11	4292A121	43035A221	14.33
1/4″	3/16″	1/8″	SD-14	4292A31	43035A42	14.33
1/4″	1/4″	7/32″	SD-1	4292A32	43035A43	13.33
1/4″	5/16″	1/4″	SD-2	4292A33	43035A44	11.33
1/4″	3/8″	5/16″	SD-3	4292A34	43035A45	12.67
1/4″	7/16″	3/8″	SD-4	4292A122	43035A222	17.50
1/4″	1/2″	7/16″	SD-5	4292A35	43035A46	18.00
1/4″	5/8″	9/16″	SD-6	4292A36	43035A47	21.33
1/4″	3/4″	11/16″	SD-7	4292A37	43035A48	31.67
1/4″	1″	15/16″	SD-9	4292A123	43035A223	65.33
Flame						
1/8″	1/8″	1/4″	SH-41	8175A18	42955A36	5.83
1/8″	3/16″	3/8″	SH-53	8175A19	42955A37	11.00
1/4″	1/4″	5/8″	SH-1	4292A82	43035A71	14.33
1/4″	5/16″	3/4″	SH-2	4292A83	43035A72	13.67
1/4″	1/2″	1 1/4″	SH-5	4292A84	43035A73	28.33
1/4″	5/8″	1 7/16″	SH-6	4292A85	43035A74	43.33
1/4″	3/4″	1 5/8″	SH-7	4292A86	43035A75	72.33
Oval/Egg						
1/8″	1/8″	7/32″	SE-41	8175A41	42955A33	5.83
1/8″	3/16″	9/32″	SE-53	8175A43	42955A34	11.00
1/8″	1/4″	3/8″	SE-51	8175A42	42955A35	9.17
1/4″	3/16″	5/16″	SE-11	4292A127	43035A227	15.00
1/4″	1/4″	3/8″	SE-1	4292A65	43035A67	14.33
1/4″	3/8″	5/8″	SE-3	4292A128	43035A228	16.67
1/4″	1/2″	7/8″	SE-5	4292A62	43035A68	23.00
1/4″	5/8″	1″	SE-6	4292A63	43035A69	34.00
1/4″	3/4″	1″	SE-7	4292A129	43035A229	49.74

Shank Dia.	Head Dia.	Lg. of Cut	Cut Angle	Trade No.	Double Cut	Single Cut	
Cone							
1/8″	1/8″	1/16″	90°	SK-42	8175A48	42955A66	$6.67
1/8″	1/8″	3/32″	60°	SJ-42	8175A31	42955A44	6.67
1/4″	1/4″	1/8″	90°	SK-1	4292A95	43035A96	13.33
1/4″	1/4″	3/16″	60°	SJ-1	4292A66	43035A92	13.33
1/4″	3/8″	3/16″	90°	SK-3	4292A96	43035A97	12.83
1/4″	3/8″	5/16″	60°	SJ-3	4292A67	43035A93	12.83
1/4″	1/2″	1/4″	90°	SK-5	4292A97	43035A98	15.83
1/4″	1/2″	7/16″	60°	SJ-5	4292A68	43035A94	16.33
1/4″	5/8″	9/16″	60°	SJ-6	4292A132	43035A232	21.50
1/4″	3/4″	3/8″	90°	SK-7	4292A98	43035A99	29.17
1/4″	3/4″	11/16″	60°	SJ-7	4292A69	43035A95	30.50
1/4″	1″	1/2″	90°	SK-9	4292A148	43035A248	46.33
1/4″	1″	15/16″	60°	SJ-9	4292A146	43035A246	48.33
Inverted Cone							
1/8″	3/32″	1/8″	10°	SN-41	8175A53	42955A38	5.83
1/8″	1/8″	3/16″	10°	SN-42	8175A51	42955A39	5.83
1/8″	3/16″	1/4″	10°	SN-53	8175A54	42955A41	11.00
1/8″	1/4″	1/4″	10°	SN-51	8175A52	42955A47	9.17
1/4″	1/4″	5/16″	10°	SN-1	4292A88	43035A76	14.00
1/4″	3/8″	3/8″	13°	SN-2	4292A89	43035A77	15.33
1/4″	1/2″	1/2″	16°	SN-5	4292A99	43035A78	20.67
1/4″	1/2″	1/2″	28°	SN-4	4292A143	43035A243	20.83
1/4″	5/8″	3/4″	18°	SN-6	4292A81	43035A79	29.03
1/4″	3/4″	5/8″	30°	SN-7	4292A144	43035A244	34.00
Tapered Cone—Pointed End							
3/32″	3/32″	1/4″	10°	SM-61	4284A41	4284A42	6.33
1/8″	1/8″	11/32″	12°	SM-41	8175A33	42955A45	5.83
1/8″	1/8″	7/16″	14°	SM-42	8175A45	42955A63	5.83
1/8″	1/8″	5/8″	7°	SM-43	8175A46	42955A64	5.83
1/8″	3/16″	1/2″	16°	SM-53	8175A47	42955A65	11.00
1/8″	1/4″	1/2″	22°	SM-51	8175A34	42955A46	9.17
1/4″	1/4″	1/2″	22°	SM-1	4292A71	43035A88	13.67
1/4″	1/4″	3/4″	14°	SM-2	4292A131	43035A231	14.33
1/4″	1/4″	1″	10°	SM-3	4292A147	43035A247	14.33
1/4″	3/8″	5/8″	28°	SM-4	4292A72	43035A89	17.50
1/4″	1/2″	7/8″	28°	SM-5	4292A73	43035A9	21.67
1/4″	5/8″	1″	31°	SM-6	4292A74	43035A91	31.33
Tapered Cone—Radius End							
1/8″	1/8″	3/8″	8°	SL-41	8175A61	42955A42	5.83
1/8″	1/8″	1/2″	8°	SL-42	8175A44	42955A62	5.83
1/8″	3/16″	1/2″	14°	SL-53	8175A62	42955A43	11.00
1/4″	1/4″	5/8″	14°	SL-1	4292A94	43035A82	14.00
1/4″	5/16″	7/8″	14°	SL-2	4292A91	43035A83	15.00
1/4″	3/8″	11/16″	14°	SL-3	4292A92	43035A84	18.00
1/4″	1/2″	11/8″	14°	SL-4	4292A93	43035A85	24.00
1/4″	5/8″	13/16″	14°	SL-5	4292A992	43035A86	42.67
1/4″	5/8″	15/16″	14°	SL-6	4292A145	43035A245	46.00
1/4″	3/4″	11/2″	14°	SL-7	4292A993	43035A87	70.83

Shank Dia.	Head Dia.	Lg. of Cut	Single-Cut Square Edge		Single-Cut Radius Edge	
Thin Disc						
1/8″	1/4″	3/32″	4241A51	$17.22	4241A61	$21.71
1/4″	3/8″	1/8″	4241A53	24.20	4241A63	30.25
1/4″	1/2″	1/8″	4241A54	25.75	4241A64	32.08
1/4″	5/8″	1/8″	4241A55	28.40	4241A65	35.67
1/4″	1″	3/16″	4241A57	52.30	4241A67	65.61

Long-Life Carbide Burs

Coated with TiAlN (titanium aluminum nitride), these burs have more heat and wear resistance than uncoated burs for long life. Overall length is 2″ to 3″. **Double cut** is for rapid metal removal with a coarser finish than single cut. **Single cut** is for gradual metal removal with a fine finish.

Shank Dia.	Head Dia.	Lg. of Cut	Trade No.	Double Cut	Single Cut	
Cylindrical—Flat End						
1/4″	1/4″	5/8″	SA-1T	4290A11	4290A31	$14.52
1/4″	3/8″	3/4″	SA-3T	4290A12	4290A32	18.52
1/4″	1/2″	1″	SA-5T	4290A13	4290A33	25.27
Cylindrical—Radius End						
1/4″	1/4″	5/8″	SC-1T	4290A14	4290A34	15.40
1/4″	3/8″	3/4″	SC-3T	4290A15	4290A35	19.52
1/4″	1/2″	1″	SC-5T	4290A16	4290A36	26.52

Shank Dia.	Head Dia.	Lg. of Cut	Trade No.	Double Cut	Single Cut	
Tree—Pointed End						
1/4″	1/4″	5/8″	SG-1T	4290A21	4290A41	$14.78
1/4″	3/8″	3/4″	SG-3T	4290A22	4290A42	19.27
1/4″	1/2″	1″	SG-5T	4290A23	4290A43	24.52

Other Shapes: Cylindrical—Flat End, End Cut; Tree—Radius End; Ball; Flame; Oval/Egg; 90° Cone; 60° Cone; Inverted Cone; Tapered Cone—Pointed End; Tapered Cone—Radius End

1/4″	1/4″	____	____	4290A4	4290A1
1/4″	3/8″ (Flame is 5/16″)	____	____	4290A5	4290A2
1/4″	1/2″	____	____	4290A6	4290A3

Extra-Long Carbide Burs

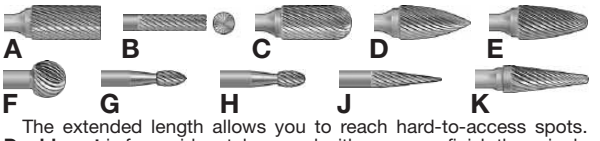

The extended length allows you to reach hard-to-access spots. **Double cut** is for rapid metal removal with a coarser finish than single cut. **Single cut** is for gradual metal removal with a fine finish.

Rigid Shank

Burs with a 1/8" shank dia. have an overall length of 3". Burs with a 1/4" shank dia. have an overall length of 6 1/4" to 7 1/4".

	Shank Dia.	Head Dia.	Lg. of Cut	Cut Angle	Trade No.	Double Cut	Single Cut	
A	1/8"	1/16"	1/4"	—	SA-41L3	4313A15	4313A17	$7.85
A	1/8"	1/8"	9/16"	—	SA-43L3	4313A31	4313A51	7.85
A	1/4"	1/4"	1/2"	—	SA-1L6	4324A21	4324A71	13.29
A	1/4"	3/8"	3/4"	—	SA-3L6	4324A22	4324A72	17.72
A	1/4"	1/2"	1"	—	SA-5L6	4324A23	4324A73	23.42
B	1/8"	1/8"	9/16"	—	SB-43L3	4313A65	4313A75	8.58
C	1/8"	1/8"	9/16"	—	SC-42L3	4313A32	4313A52	8.10
C	1/4"	1/4"	1/2"	—	SC-1L6	4324A24	4324A84	13.92
C	1/4"	3/8"	3/4"	—	SC-3L6	4324A25	4324A85	16.08
C	1/4"	1/2"	1"	—	SC-5L6	4324A26	4324A86	23.42
D	1/8"	1/8"	1/2"	—	SG-44L3	4313A36	4313A56	8.10
D	1/4"	1/4"	1/2"	—	SG-1L6	4324A37	4324A87	13.92
D	1/4"	3/8"	3/4"	—	SG-3L6	4324A38	4324A88	16.46
D	1/4"	1/2"	1"	—	SG-5L6	4324A39	4324A89	21.52
E	1/8"	1/8"	1/2"	—	SF-42L3	4313A35	4313A55	8.10
E	1/4"	1/4"	1/2"	—	SF-1L6	4324A34	4324A74	14.56
E	1/4"	3/8"	3/4"	—	SF-3L6	4324A35	4324A75	16.46
E	1/4"	1/2"	1"	—	SF-5L6	4324A36	4324A76	22.15
F	1/8"	1/8"	1/8"	—	SD-42L3	4313A33	4313A53	8.10
F	1/4"	1/4"	7/32"	—	SD-1L6	4324A27	4324A77	13.29
F	1/4"	3/8"	5/16"	—	SD-3L6	4324A28	4324A78	13.92
F	1/4"	1/2"	7/16"	—	SD-5L6	4324A29	4324A79	16.84
G	1/8"	1/8"	1/4"	—	SH-41L3	4313A37	4313A57	8.10
G	1/4"	5/16"	3/4"	—	SH-2L6	4324A41	4324A94	17.47
G	1/4"	1/2"	1 1/4"	—	SH-5L6	4324A42	4324A95	28.35
H	1/8"	1/8"	7/32"	—	SE-41L3	4313A34	4313A54	7.85
H	1/4"	1/4"	3/8"	—	SE-1L6	4324A31	4324A91	14.18
H	1/4"	3/8"	5/8"	—	SE-3L6	4324A32	4324A92	17.72
H	1/4"	1/2"	7/8"	—	SE-5L6	4324A33	4324A93	22.28
J	1/8"	1/8"	7/16"	14°	SM-42L3	4313A39	4313A59	8.10
K	1/8"	1/8"	1/2"	8°	SL-42L3	4313A38	4313A58	8.10
K	1/4"	1/4"	5/8"	14°	SL-1L6	4324A43	4324A81	14.56
K	1/4"	3/8"	1 1/16"	14°	SL-3L6	4324A44	4324A82	18.99
K	1/4"	1/2"	1 1/8"	14°	SL-4L6	4324A45	4324A83	25.82

8-Piece 1/4" Shank Dia. Sets: Includes one each of the following burs (Head Dia. x Lg. of Cut): 1/4" x 1/2" and 1/2" x 1" cylindrical—flat end (A); 1/4" x 1/2" and 1/2" x 1" cylindrical—radius end (C); 1/4" x 1/2" tree—pointed end (D); 1/4" x 1/2" tree—radius end (E); 1/4" x 7/32" ball (F); and 1/4" x 5/8" 14° tapered cone—radius end (K). Furnished in a wood box.

Double Cut	4324A51	$220.25
Single Cut	4324A52	220.25

Flexible Shank

The shank flexes to reach around bends.

	Shank Dia.	Head Dia.	Lg. of Cut	O'all Lg.	Trade No.	Double Cut	
C	1/4"	3/8"	3/4"	6 3/4"	SC-3F	1057N11	$28.33
C	1/4"	3/8"	3/4"	8 3/4"	SC-3F	1057N12	32.78
C	1/4"	3/8"	3/4"	12 3/4"	SC-3F	1057N13	37.22
C	1/4"	1/2"	1"	7"	SC-5F	1057N14	36.00
C	1/4"	1/2"	1"	9"	SC-5F	1057N15	40.44
C	1/4"	1/2"	1"	13"	SC-5F	1057N16	44.89
E	1/4"	3/8"	3/4"	6 3/4"	SF-3F	1057N31	24.14
E	1/4"	3/8"	3/4"	8 3/4"	SF-3F	1057N32	23.22
E	1/4"	3/8"	3/4"	12 3/4"	SF-3F	1057N33	27.67
E	1/4"	1/2"	1"	7"	SF-5F	1057N34	24.44
E	1/4"	1/2"	1"	9"	SF-5F	1057N35	28.89
E	1/4"	1/2"	1"	13"	SF-5F	1057N36	33.33
F	1/4"	3/8"	3/8"	6 3/8"	SD-3F	1057N17	22.29
F	1/4"	3/8"	3/8"	8 3/8"	SD-3F	1057N18	21.78
F	1/4"	3/8"	3/8"	12 3/8"	SD-3F	1057N19	26.22
F	1/4"	1/2"	1/2"	6 1/2"	SD-5F	1057N21	20.89
F	1/4"	1/2"	1/2"	8 1/2"	SD-5F	1057N22	25.33
F	1/4"	1/2"	1/2"	12 1/2"	SD-5F	1057N23	29.78
H	1/4"	3/8"	5/8"	6 5/8"	SE-3F	1057N24	20.00
H	1/4"	3/8"	5/8"	8 5/8"	SE-3F	1057N25	24.44
H	1/4"	3/8"	5/8"	12 5/8"	SE-3F	1057N26	28.89
H	1/4"	1/2"	7/8"	6 7/8"	SE-5F	1057N27	24.22
H	1/4"	1/2"	7/8"	8 7/8"	SE-5F	1057N28	28.67
H	1/4"	1/2"	7/8"	12 7/8"	SE-5F	1057N29	33.11

Clog-Free Carbide Burs

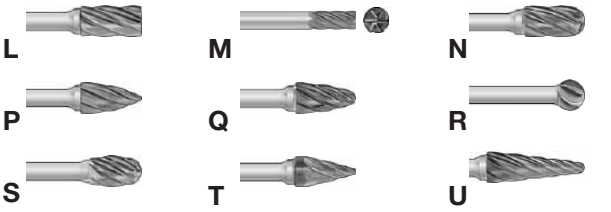

Specially spaced flutes quickly remove clog-prone materials such as soft metals and plastics. Overall length is 2" to 3 3/8".

	Shank Dia.	Head Dia.	Lg. of Cut	Cut Angle	Trade No.		
L	1/4"	1/4"	5/8"	—	SA-1NF	4295A51	$11.11
L	1/4"	3/8"	3/4"	—	SA-3NF	4295A52	15.56
L	1/4"	1/2"	1"	—	SA-5NF	4295A53	22.78
L	1/4"	5/8"	1"	—	SA-6NF	4295A54	31.11
L	1/4"	3/4"	1"	—	SA-7NF	4295A56	42.22
M	1/4"	1/4"	5/8"	—	SB-1NF	4295A58	13.33
N	1/4"	1/4"	5/8"	—	SC-1NF	4295A12	12.78
N	1/4"	3/8"	3/4"	—	SC-3NF	4295A13	16.67
N	1/4"	1/2"	1"	—	SC-5NF	4295A14	22.78
N	1/4"	5/8"	1"	—	SC-6NF	4295A15	33.33
N	1/4"	3/4"	1"	—	SC-7NF	4295A16	49.13
P	1/4"	1/4"	5/8"	—	SG-1NF	4295A33	13.33
P	1/4"	3/8"	3/4"	—	SG-3NF	4295A34	16.33
P	1/4"	1/2"	1"	—	SG-5NF	4295A35	21.67
Q	1/4"	1/4"	5/8"	—	SF-1NF	4295A29	12.78
Q	1/4"	3/8"	3/4"	—	SF-3NF	4295A31	16.11
Q	1/4"	1/2"	1"	—	SF-5NF	4295A32	21.11
Q	1/4"	5/8"	1"	—	SF-6NF	4295A87	33.33
Q	1/4"	3/4"	1 1/4"	—	SF-14NF	4295A88	37.78
R	1/4"	1/4"	7/32"	—	SD-1NF	4295A19	13.33
R	1/4"	3/8"	5/16"	—	SD-3NF	4295A21	12.00
R	1/4"	1/2"	7/16"	—	SD-5NF	4295A22	18.89
S	1/4"	3/8"	5/8"	—	SE-3NF	4295A71	16.11
S	1/4"	1/2"	7/8"	—	SE-5NF	4295A73	20.00
S	1/4"	5/8"	1"	—	SE-6NF	4295A75	37.78
S	1/4"	3/4"	1"	—	SE-7NF	4295A77	51.31
T	1/4"	1/4"	1/2"	22°	SM-1NF	4295A38	13.11
T	1/4"	3/8"	5/8"	28°	SM-4NF	4295A39	24.16
T	1/4"	1/2"	7/8"	28°	SM-5NF	4295A41	25.56
U	1/4"	1/4"	5/8"	14°	SL-1NF	4295A61	12.67
U	1/4"	3/8"	1 1/16"	14°	SL-3NF	4295A62	20.00
U	1/4"	1/2"	1 1/8"	14°	SL-4NF	4295A63	26.44
U	1/4"	5/8"	1 3/16"	14°	SL-5NF	4295A64	45.71
U	1/4"	3/4"	1 1/2"	14°	SL-7NF	4295A66	67.22

Diamond-Tooth Carbide Burs

With their raised, diamond-cut tooth pattern, these burs leave a fine finish on steel dies and molds as well as other hard materials. Overall length is 2" to 3".

Shank Dia.	Head Dia.	Lg. of Cut	Trade No.		
Cylindrical—Flat End					
1/4"	1/4"	5/8"	SA-1DM	4197A11	$13.60
1/4"	3/8"	3/4"	SA-3DM	4197A12	18.54
1/4"	1/2"	1"	SA-5DM	4197A13	29.06
Cylindrical—Radius End					
1/4"	1/4"	5/8"	SC-1DM	4197A14	15.49
1/4"	3/8"	3/4"	SC-3DM	4197A15	20.54
1/4"	1/2"	1"	SC-5DM	4197A16	32.29
Tree—Pointed End					
1/4"	1/4"	5/8"	SG-1DM	4197A24	16.66
1/4"	3/8"	3/4"	SG-3DM	4197A25	21.20
1/4"	1/2"	1"	SG-5DM	4197A26	29.86
Flame					
1/4"	1/4"	1/2"	SH-1DM	4197A27	18.53
1/4"	5/16"	3/4"	SH-2DM	4197A28	20.53
1/4"	1/2"	1 1/4"	SH-5DM	4197A29	42.42
Other Shapes: Cylindrical—Flat End, End Cut; Tree—Radius End; Ball; Oval/Egg; 90° Cone; 60° Cone; Inverted Cone; Tapered Cone—Pointed End; Tapered Cone—Radius End					
1/4"	1/4"	—	—	4197A31	
1/4"	3/8"	—	—	4197A41	
1/4"	1/2"	—	—	4197A51	

For information about bur cut patterns, see page 2624.

Carbide Bur Sets

Sets contain some of the most popular sizes and shapes of carbide burs furnished in a wood box.

1/8" Dia. Shank

9-Piece Set
Approx. Overall Lg.: 1 11/16"-2"



Head Dia.:	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
Lg. of Cut:	1/2"	3/16"	1/2"	1/2"	1/2"	7/32"	3/8"	1/2"	1/4"

Double Cut **8177A11** $67.13
Single Cut **8177A13** $67.13

12-Piece Set
Approx. Overall Lg.: 1 1/2"

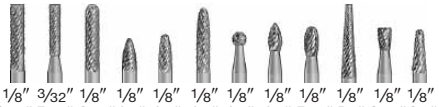

Head Dia.:	1/8"	3/32"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"
Lg. of Cut:	9/16"	7/16"	9/16"	1/4"	1/4"	1/2"	1/8"	1/4"	7/32"	5/8"	3/16"	3/8"

Double Cut **8177A12** $56.86
Single Cut **8177A14** $56.86

1/4" Dia. Shank

5-Piece Set
Approx. Overall Lg.: 1 3/4"-2"



Head Dia.:	1/4"	1/4"	1/4"	1/4"	1/4"
Lg. of Cut:	5/8"	5/8"	5/8"	3/16"	1/2"

Double Cut **4308A1** $60.50
Single Cut **4308A15** $60.50

8-Piece Set
Approx. Overall Lg.: 2 3/16"-3"



Head Dia.:	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Lg. of Cut:	1"	1"	1"	7/16"	1 1/4"	7/8"	7/8"	1 1/8"

Double Cut **43125A11** $132.00
Single Cut **43125A18** $132.00

8-Piece Set
Approx. Overall Lg.: 1 3/4"-3"



Head Dia.:	1/2"	1/4"	3/8"	1/4"	3/8"	1/2"	1/2"	1/2"
Lg. of Cut:	1"	5/8"	3/4"	5/8"	5/16"	1 1/4"	7/8"	1/4"

Double Cut **4308A2** $110.90
Single Cut **4308A16** $110.90

8-Piece Set
Approx. Overall Lg.: 1 3/4"-3"



Head Dia.:	1/4"	1/2"	1/4"	3/8"	1/2"	1/2"	3/8"	1/2"
Lg. of Cut:	5/8"	1"	5/8"	3/4"	1"	1"	1 1/16"	1 1/8"

Double Cut **4308A14** $140.00
Single Cut **4308A19** $140.00

8-Piece Set
Approx. Overall Lg.: 2"-3"



Head Dia.:	1/4"	3/8"	3/8"	1/2"	5/16"	1/2"	1/2"	1/2"
Lg. of Cut:	5/8"	3/4"	3/4"	1"	1/4"	7/8"	7/8"	1 1/8"

Double Cut **4308A13** $132.00
Single Cut **4308A17** $132.00

9-Piece Set
Approx. Overall Lg.: 1 3/4"-2 3/4"



Head Dia.:	1/4"	3/8"	1/2"	1/4"	3/8"	1/2"	1/4"	3/8"	1/2"
Lg. of Cut:	5/8"	3/4"	1"	5/8"	3/4"	1"	5/8"	3/4"	1"

Double Cut **4308A12** $115.00
Single Cut **4308A21** $115.00

16-Piece Set
Approx. Overall Lg.: 1 3/4"-3"



Head Dia.:	1/4"	3/8"	1/2"	1/4"	3/8"	1/2"	1/4"	3/8"	1/4"	3/8"	1/2"	3/8"	1/2"	3/8"	3/8"	1/2"
Lg. of Cut:	5/8"	3/4"	1"	5/8"	3/4"	1"	5/8"	3/4"	5/8"	3/4"	1"	5/16"	7/16"	5/8"	1 1/16"	1 1/8"

Double Cut **4308A31** $212.90
Single Cut **4308A32** $212.90

High-Speed Steel Burs



Choose high-speed steel to debur mild steel and softer, nonferrous materials. Burs with a 1/8" shank dia. have an overall length of 1 1/4"-1 1/2". Those with a 1/4" shank dia. have an overall length of 2"-3 1/2".

	Shank Dia.	Head Dia.	Lg. of Cut		
A	1/8"	1/8"	5/8"	4238A119	$6.08
A	1/8"	1/4"	1/2"	4238A121	9.73
A	1/4"	1/8"	1/2"	4238A122	13.43
A	1/4"	1/4"	1"	4238A123	11.49
A	1/4"	1/4"	1 1/2"	4238A124	14.27
A	1/4"	3/8"	1"	4238A125	17.97
A	1/4"	3/8"	1 1/2"	4238A126	20.35
A	1/4"	1/2"	1"	4238A127	18.19
A	1/4"	5/8"	1"	4238A128	20.93
A	1/4"	3/4"	3/4"	4238A131	23.33
A	1/4"	1"	1"	4238A132	34.19
B	1/8"	1/8"	5/8"	4238A111	6.08
B	1/4"	1/8"	1/2"	4238A112	14.21
B	1/4"	1/4"	1"	4238A113	12.05
B	1/4"	1/4"	1 1/2"	4238A114	11.68
B	1/4"	3/8"	1"	4238A115	16.48
B	1/4"	3/8"	1 1/2"	4238A116	20.64
B	1/4"	1/2"	1"	4238A117	18.12
B	1/4"	3/4"	1 1/4"	4238A118	25.54

	Shank Dia.	Head Dia.	Lg. of Cut		
C	1/4"	1/4"	3/4"	4238A175	$11.93
C	1/4"	3/8"	3/4"	4238A176	21.53
C	1/4"	1/2"	3/4"	4238A194	20.27
C	1/4"	1/2"	1 1/8"	4238A177	22.51
D	1/4"	1/4"	3/4"	4238A171	14.71
D	1/4"	3/8"	3/4"	4238A172	16.22
D	1/4"	1/2"	1 1/8"	4238A173	22.13
D	1/4"	3/4"	1 1/4"	4238A174	28.34
E	1/8"	1/4"	1/4"	4238A133	9.73
E	1/8"	3/8"	3/8"	4238A134	10.22
E	1/4"	1/8"	1/8"	4238A192	14.61
E	1/4"	3/16"	3/16"	4238A135	14.10
E	1/4"	1/4"	1/4"	4238A136	13.78
E	1/4"	5/16"	5/16"	4238A137	12.20
E	1/4"	3/8"	3/8"	4238A138	16.52
E	1/4"	1/2"	1/2"	4238A139	22.20
E	1/4"	1"	1"	4238A143	35.41
F	1/8"	1/4"	1/2"	4238A163	9.73
F	1/4"	5/8"	17/16"	4238A164	32.27

	Shank Dia.	Head Dia.	Lg. of Cut		
G	1/8"	1/4"	1/2"	4238A144	$9.73
G	1/4"	3/8"	5/8"	4238A146	16.22
H	1/4"	1/4"	1"	4238A169	13.65
J	1/8"	5/8"	1/8"	4238A168	16.05
K	1/8"	5/8"	1/8"	4238A167	16.05

	Shank Dia.	Head Dia.	Lg. of Cut	Cut Angle		
L	1/4"	1/2"	1/4"	90°	4238A181	$17.17
M	1/4"	1/2"	1/2"	16°	4238A178	19.74
N	1/8"	1/8"	9/16"	10°	4238A152	7.22
N	1/8"	1/4"	1/2"	28°	4238A153	9.73
N	1/4"	1/4"	1/2"	22°	4238A154	11.03
N	1/4"	1/4"	3/4"	14°	4238A156	13.31
N	1/4"	1/4"	1"	10°	4238A158	17.24
N	1/4"	1/2"	1"	28°	4238A161	19.45
P	1/4"	5/16"	5/8"	18°	4238A185	11.62
P	1/4"	5/16"	1 1/4"	8°	4238A186	14.05
P	1/4"	3/8"	1 3/4"	7°	4238A187	22.97

8-Piece 1/4" Shank Dia. Set: Includes one each of the following burs (Head Dia.×Lg. of Cut): 3/8"×1 1/2" and 3/4"×3/4" cylindrical—flat end (A); 7/16"×7/16" ball (E); 5/8"×1" oval/egg (G); 5/16"×1 1/8" convex-concave (H); 3/4"×5/8" inverted cone with 34° cut angle (M); 5/8"×13/16" tapered cone—radius end with 36° cut angle (P); and 5/16"×5/8" tapered cone—radius end with 19° cut angle (P). Furnished in a wood box.

4306A2 $205.32

Grinding Bits for Metals



Made of aluminum oxide, these bits are for use on steel, iron, stainless steel, and other materials that are not heat sensitive. They are also known as mounted points and die grinder bits. Grits are 36 (rough, blue-gray); 46 (rough, blue-gray); 60 (rough, orange); or 120 (smooth, blue). Shank is 1½″ long. Head diameter is measured at the widest point.

	Head Dia.	Head Lg.	Max. rpm	Shape No.	Choose a Grit		Pkg. of 5
⅛″ Shank Dia.							
1	3/32″	1/4″	105,000	W142	60, 120	4522A111	$4.41
1	1/8″	1/8″	105,000	W143	60, 120	4522A112	4.41
1	1/8″	1/4″	105,000	W144	60, 120	4522A113	4.41
1	1/8″	3/8″	105,000	W145	60, 120	4522A114	5.29
1	1/8″	1/2″	105,000	W146	60, 120	4522A115	5.29
1	3/16″	1/4″	105,000	W152	60, 120	4522A116	4.41
1	3/16″	3/8″	80,850	W153	60, 120	4522A117	5.29
1	3/16″	1/2″	70,500	W154	46, 60, 120	4522A118	5.29
1	1/4″	1/4″	81,370	W160	46, 60, 120	4522A119	4.41
1	1/4″	5/16″	77,250	B136	46, 60, 120	4522A149	5.29
1	1/4″	3/8″	68,400	W162	46, 60, 120	4522A121	5.29
1	1/4″	1/2″	60,000	B135	46, 60, 120	4522A151	5.29
1	1/4″	1/2″	60,000	W163	46, 60, 120	4522A122	5.29
1	1/4″	3/4″	45,900	W164	46, 60, 120	4522A123	5.44
1	5/16″	3/8″	61,650	B134	46, 60, 120	4522A152	5.29
1	5/16″	1/2″	52,500	W170	46, 60, 120	4522A124	5.29
1	5/16″	3/4″	37,120	W171	46, 60, 120	4522A125	5.44
1	3/8″	1/4″	69,000	W174	46, 60, 120	4522A126	4.41
1	3/8″	3/8″	54,000	W175	46, 60, 120	4522A127	5.29
1	3/8″	1/2″	45,370	B132	46, 60, 120	4522A153	5.29
1	3/8″	1/2″	45,370	W176	46, 60, 120	4522A128	5.29
1	3/8″	3/4″	33,750	W177	46, 60, 120	4522A129	5.44
1	3/8″	1″	26,250	W178	36, 60, 120	4522A131	5.74
1	1/2″	1/8″	73,500	W182	60, 120	4522A132	5.29
1	1/2″	1/4″	51,750	W183	46, 60, 120	4522A133	5.29
1	1/2″	3/8″	41,020	W184	46, 60, 120	4522A134	5.29
1	1/2″	1/2″	34,500	B131	46, 60, 120	4522A154	5.29
1	1/2″	1/2″	34,500	W185	46, 60, 120	4522A135	5.29
1	1/2″	3/4″	26,250	W186	36, 60, 120	4522A136	5.44
1	1/2″	1″	20,620	W187	36, 60, 120	4522A137	5.74
1	5/8″	3/4″	22,120	W195	46, 60, 120	4522A138	5.74
1	3/4″	1/8″	50,930	W200	46, 60, 120	4522A139	5.29
1	3/4″	1/4″	38,250	W201	46, 60, 120	4522A141	5.29
1	1″	1/8″	38,200	W215	46, 60, 120	4522A142	5.44
1	1″	1/4″	30,520	W216	46, 60, 120	4522A143	5.44
2	1/4″	5/16″	81,370	B43	46, 60, 120	4522A169	6.32
2	1/2″	3/4″	33,750	B42	46, 60, 120	4522A171	6.76
5	5/8″	1/4″	61,120	B103	46, 60, 120	4522A181	6.32
6	3/4″	3/16″	50,930	B81	60, 120	4522A179	6.32
7	3/4″	1/8″	50,930	B72SS	46, 60, 120	4522A161	10.59
9	3/4″	5/16″	38,250	B61	46, 60, 120	4522A163	6.76
12	1/8″	5/16″	105,000	B46	60, 120	4522A172	6.32
13	3/32″	1/4″	105,000	B98	60, 120	4522A174	5.74
13	1/8″	1/4″	105,000	B96	60, 120	4522A175	5.74
13	1/8″	3/8″	105,000	B97	60, 120	4522A176	6.32
13	1/4″	5/8″	60,000	B53	46, 60, 120	4522A177	6.76
14	3/16″	5/16″	104,250	B45	60, 120	4522A166	6.32
14	7/32″	3/8″	68,400	B44	46, 60, 120	4522A167	6.32
14	3/8″	3/4″	45,370	B52	46, 60, 120	4522A168	6.76
15	7/16″	3/4″	45,370	B51	46, 60, 120	4522A173	6.76
17	5/8″	5/8″	33,750	B41	46, 60, 120	4522A156	7.06
20	1/4″	1/4″	81,370	B92	46, 60, 120	4522A164	5.74
20	1/2″	5/8″	34,500	B91	46, 60, 120	4522A165	6.76
22	3/8″	3/4″	33,750	B54SS	46, 60, 120	4522A155	8.68
23	5/16″	3/8″	68,400	B104	46, 60, 120	4522A182	6.32
24	5/8″	11/16″	22,120	B104SS	46, 60, 120	4522A162	9.85
24	5/8″	11/16″	33,750	B101	60, 120	4522A159	7.06
25	1/2″	3/8″	41,020	B62	46, 60, 120	4522A178	6.32
26	1/8″	1/8″	105,000	B124	60, 120	4522A144	5.74
26	3/16″	3/16″	104,250	B123	60, 120	4522A145	5.74
26	1/4″	1/4″	81,370	B123SS	60, 120	4522A146	9.85
26	3/8″	3/8″	61,650	B122	46, 60, 120	4522A147	6.32
26	1/2″	1/2″	45,370	B121	46, 60, 120	4522A148	6.32
27	3/8″	1/2″	45,370	B112	46, 60, 120	4522A157	6.32
27	7/16″	11/16″	33,750	B111	46, 60, 120	4522A158	6.76

	Head Dia.	Head Lg.	Max. rpm	Shape No.	Choose a Grit		Pkg. of 5
¼″ Shank Dia.							
1	1/4″	3/4″	66,000	W164	46, 60, 120	4522A211	$5.44
1	5/16″	1/2″	81,000	W170	46, 60, 120	4522A212	5.29
1	3/8″	3/8″	81,000	W175	46, 60, 120	4522A213	5.29
1	3/8″	1/2″	81,000	W176	46, 60, 120	4522A214	5.29
1	3/8″	3/4″	66,000	W177	46, 60, 120	4522A215	5.44
1	3/8″	1″	55,200	W178	36, 60, 120	4522A216	5.74
1	3/8″	1 1/4″	45,750	W179	46, 60, 120	4522A217	7.06
1	1/2″	1/2″	61,500	W185	46, 60, 120	4522A218	5.29
1	1/2″	3/4″	51,000	W186	36, 60, 120	4522A219	5.44
1	1/2″	1″	40,500	W187	46, 60, 120	4522A221	5.74
1	1/2″	1 1/2″	30,370	W188	46, 60, 120	4522A222	8.68
1	1/2″	2″	24,000	W189	46, 60, 120	4522A223	10.44
1	5/8″	3/4″	46,500	W195	46, 60, 120	4522A224	5.74
1	5/8″	1″	35,250	W196	36, 60, 120	4522A225	6.32
1	5/8″	2″	21,000	W197	36, 60, 120	4522A226	11.03
1	3/4″	3/8″	50,930	W202	46, 60, 120	4522A227	5.44
1	3/4″	3/4″	42,750	W204	60, 120	4522A228	5.74
1	3/4″	3/4″	47,250	A39	36, 60, 120	4522A253	5.74
1	3/4″	1″	34,500	W205	36, 60, 120	4522A229	6.32
1	3/4″	1 1/4″	28,720	W206	46, 60, 120	4522A231	7.21
1	3/4″	1 1/2″	24,000	W207	46, 60, 120	4522A232	8.97
1	3/4″	2″	18,750	W208	36, 60, 120	4522A233	11.03
1	1″	1/4″	38,200	W216	46, 60, 120	4522A234	5.44
1	1″	3/8″	38,200	W217	46, 60, 120	4522A235	5.74
1	1″	1/2″	38,200	W218	36, 60, 120	4522A236	5.74
1	1″	3/4″	35,100	W219	36, 60, 120	4522A237	6.32
1	1″	1″	25,500	W220	46, 60, 120	4522A238	6.76
1	1″	1″	34,500	A38	46, 60, 120	4522A254	6.76
1	1″	1 1/2″	19,120	W221	46, 60, 120	4522A239	9.41
1	1″	2″	15,900	W222	46, 60, 120	4522A241	11.47
1	1 1/4″	1/2″	30,560	W227	36, 60, 120	4522A242	6.76
1	1 1/4″	1 1/4″	20,400	W230	36, 60, 120	4522A243	9.41
1	1 1/4″	2″	14,250	W232	36, 60, 120	4522A244	13.53
1	1 1/2″	1/4″	25,470	W235	36, 60, 120	4522A245	6.76
1	1 1/2″	1/2″	25,470	W236	36, 60, 120	4522A246	6.91
1	1 1/2″	1″	22,500	W237	36, 60, 120	4522A247	8.68
1	1 1/2″	1 1/2″	15,600	W238	36, 60, 120	4522A248	11.47
1	2″	1″	19,100	W242	36, 60, 120	4522A249	10.15
3	3/4″	5/8″	50,930	A22	36, 60, 120	4522A268	7.06
3	1″	1″	34,500	A21	36, 60, 120	4522A269	7.94
4	7/8″	2″	19,860	A11	46, 60, 120	4522A275	12.35
4	1″	2 3/4″	16,100	A3	36, 60, 120	4522A281	17.94
7	1 1/4″	1/4″	30,560	A37	36, 60, 120	4522A264	7.21
7	1 3/4″	3/8″	23,520	A36	36, 60, 120	4522A265	9.71
8	1″	3/8″	38,200	A35	46, 60, 120	4522A271	7.06
8	1 1/2″	3/8″	25,470	A34	36, 60, 120	4522A272	8.68
9	1 1/2″	3/8″	25,470	A43SS	36, 60, 120	4522A267	12.50
10	1/4″	3/4″	76,500	A24	36, 60, 120	4522A279	6.81
11	1/4″	1 1/16″	72,750	A15	46, 60, 120	4522A278	9.41
16	1 1/8″	1 1/8″	33,950	A13	36, 60, 120	4522A277	11.47
17	3/4″	1 1/8″	45,000	A5	36, 60, 120	4522A258	9.71
17	1 1/4″	1 1/4″	30,560	A4	36, 60, 120	4522A259	11.47
18	1 1/16″	1 1/4″	48,000	A12	36, 60, 120	4522A276	9.71
19	3/4″	1 1/8″	39,000	A6	46, 60, 120	4522A274	9.71
21	1″	1 1/4″	38,200	A2	36, 60, 120	4522A273	10.15
22	3/4″	2 1/2″	19,800	A1	36, 60, 120	4522A255	16.47
22	13/16″	1 3/4″	18,750	A1SS	36, 60, 120	4522A256	20.88
22	1″	2 1/2″	16,100	A1SS	36, 60, 120	4522A257	21.62
24	1″	5/8″	38,200	A32	36, 60, 120	4522A262	7.21
24	1″	1″	25,500	A41SS	36, 60, 120	4522A266	10.44
24	1 3/8″	1″	27,780	A31	36, 60, 120	4522A263	9.71
26	5/8″	5/8″	61,120	A26	36, 60, 120	4522A251	7.06
26	1″	1″	35,620	A25	36, 60, 120	4522A252	7.94
27	3/4″	1″	39,370	A23	46, 60, 120	4522A261	7.21

Caution: *As bit shank is exposed beyond ½″, max. safe rpm decreases significantly. Refer to ANSI standard B7.1.*

Grinding Bit Sets for Metals

Each set contains a selection of grinding bits. They are also known as mounted points and die grinder bits. Use on steel and iron. Bits are aluminum oxide, which is the most common abrasive used for grinding metal. Grit is 60 (rough). Shank is 1½″ long. Packed in a foam block stand. For dimensions, illustrations, and max. rpms for these bits, see page 2628.

Shank Dia.	No. of Pieces	Includes		
⅛″	12	Two each: B42, B44, B46, B52, B53, B103	6165A11	$19.84
⅛″	50	Two each: B97, Six Each: B44, W144, W145, W154, W163, W170, W176, W185	4524A12	68.53
⅛″	144	Nine each: B44, B52, B97, B121, W142, W144, W145, W153, W154, W162, W163, W170, W175, W176, W185, W200	4524A11	189.28
¼″	18	Three each: A3, A5, A11, A12, W207, W220	4393A51	37.47
¼″	50	Five each: A2, A5, A12, A37, A38, W185, W186, W187, W205, W219	8718A12	72.71
⅛″, ¼″	100	Five each: B42, B44, B52, B53, B111, B131, W144, W154, W163, W185 with ⅛″ shank, Five each: A1, A3, A4, A11, A12, A24, A38, W164, W185, W220 with ¼″ shank	4559A21	157.60

Miniature Grinding Bits for Metals



The small 3⁄32″ diameter shank and small head makes these bits good for precise and intricate jobs. They are also known as mounted points and die grinder bits. Use on nickel, stainless steel, steel, titanium, brass, bronze, copper, aluminum, and iron.

Bits are aluminum oxide, which is the most common abrasive used in grinding metal. Bits for smooth surface texture are red; bits for extra-smooth surface texture are white. Shank is 1½″ long. Head diameter is measured at the widest point. Maximum rpm is 35,000.

	Head Dia.	Head Lg.	For Smooth Surface Texture Grit			For Extra-Smooth Surface Texture Grit		
1	3⁄16″	17⁄32″	80	4407A55	$2.76	400	4407A75	$2.76
1	¼″	½″	80	4407A56	2.76	400	4407A76	2.76
2	5⁄16″	1⁄32″	120	4407A57	2.76	400	4407A77	2.76
3	¼″	5⁄64″	120	4407A51	2.76	400	4407A71	2.76
4	½″	1⁄16″	80	4407A58	2.76	400	4407A78	2.76
5	⅛″	7⁄32″	120	4407A54	2.76	400	4407A74	2.76
6	⅛″	13⁄32″	120	4407A52	2.76	400	4407A72	2.76
7	¼″	¼″	100	4407A53	2.76	400	4407A73	2.76

Rubber-Cushioned Abrasive Grinding Bits and Discs for Metals

The abrasive grains are blended with rubber, which cushions during grinding to produce a smoother surface texture than other bits and discs with similar grits.

Bits with Shank

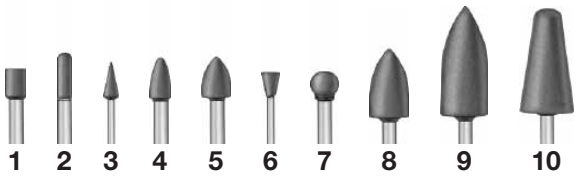

Bits are also known as mounted points and die grinder bits. They have 1½″ long shanks. Head diameter is measured at the widest point.

Bits for steel are aluminum oxide.

Bits for aluminum, brass, and bronze are silicon carbide, which cuts through soft metals without causing material buildup.

To Order: Please specify grit: 46 (rough, brown); 70 or 90 (smooth, black); 120 (smooth, green); 180 (smooth, red); or 240 (extra-smooth, red), unless noted.

	Head Dia.	Head Lg.	Max. rpm	Shape No.	For Steel★		For Aluminum, Brass, and Bronze ■	
⅛″ Shank Dia.								
1	⅛″	⅜″	105,000	W145	4919A311	$5.79	4919A811	$8.88
1	3⁄16″	½″	70,500	W154	4919A312	6.01	4919A821	9.20
1	¼″	¼″	81,370	W160	4919A313	5.87	4919A831	9.01
1	¼″	½″	60,000	W163	4919A314	6.89	4919A841	10.56
1	¼″	¾″	45,900	W164	4919A461	7.32	4919A851	11.21
1	⅜″	⅜″	54,000	W175	4919A316	6.86	4919A861	10.51
1	⅜″	1″	26,250	W178	4919A317	8.50	4919A871	13.03
1	½″	⅜″	41,020	W184	4919A319	7.14	4919A881	10.94
1	½″	½″	34,500	W185	4919A321	7.83	4919A891	12.00
3	¼″	⅝″	60,000	B53	4919A324	8.58	4919A921	13.17
6	5⁄16″	⅜″	68,400	B104	4919A325	8.58	4919A931	13.17
7	3⁄16″	3⁄16″	104,250	B123	4919A327	7.05	4919A911	10.81
¼″ Shank Dia.								
1	⅜″	½″	81,000	W176	4919A381	7.14	4919A816	10.94
1	½″	½″	61,500	W185	4919A531	7.83	4919A826	12.00
1	½″	1″	40,500	W187	4919A561	8.98	4919A836	13.77
1	¾″	1″	34,500	W205	4919A565	10.75	4919A846	16.48
1	1″	1″	25,500	W220	4919A472	12.44	4919A856	19.06
1	2″	1″	19,100	W242	4919A571	21.44	4919A866	32.85
2	¼″	¾″	76,500	A24	4919A173	8.58	4919A886	13.17
4	⅜″	¾″	81,000	B52	4919A323	8.58	4919A896	13.17
5	½″	¾″	61,120	B42	4919A322	8.58	4919A916	13.17
7	½″	½″	76,390	B121	4919A326	8.58	4919A876	13.17
8	11⁄16″	1¼″	48,000	A12	4919A172	14.37	4919A926	22.02
9	⅞″	2″	19,860	A11	4919A171	19.30	4919A936	29.57
10	1″	2¾″	16,100	A3	4919A351	27.89	4919A946	42.73

★ Not available in 240 grit. ■ Not available in 180 grit.

Bits without Shank



Bits thread onto mounted shanks so you can quickly switch head shapes without removing the shank. Bits are silicon carbide, which cuts through aluminum, brass, and bronze without causing material buildup. Head diameter is measured at the widest point.

To Order: Please specify grit: 46 (rough, green); 120 (smooth, gray-brown); 180 (smooth, red); or 240 (extra-smooth, blue).

	Bits: Head Dia.	Head Lg.	Arbor Hole Size	Max. rpm	Pkg. of 10		Shanks: Dia.	Each
11	¼″	⅞″	2-56	20,000	4777A62	$6.26	⅛″	4777A34 $4.42
12	9⁄32″	1″	2-56	20,000	4777A61	6.26	⅛″	4777A34 4.42
12	⅜″	⅝″	2-56	20,000	4777A66	6.60	⅛″	4777A34 4.42
12	⅜″	1″	5-40	20,000	4777A67	9.50	⅛″	4777A36 5.07
						Each		Each
11	⅞″	1″	¼″-20	20,000	4777A63	$10.69	¼″	4777A71 $7.48
13	⅞″	1¼″	¼″-20	20,000	4777A64	10.69	¼″	4777A71 7.48
14	⅞″	1¼″	¼″-20	20,000	4777A65	10.25	¼″	4777A71 7.48

Discs



Discs attach to your grinder with a shank. Use on brass, bronze, steel, or aluminum. They are a blend of aluminum oxide and silicon carbide. Arbor hole is unthreaded.

To Order: Please specify grit: 46 (rough, green); 120 (smooth, gray-brown); 180 (smooth, red); or 240 (extra-smooth, blue).

	Discs: Dia.	Thick.	Arbor Hole Size	Max. rpm			Shanks: Dia.	
	⅝″	¼″	1⁄16″	24,000	4826A41	$0.66	⅛″	4770A14 $4.80
	⅞″	¼″	1⁄16″	24,000	4826A51	1.14	⅛″	4770A14 4.80
	1″	¼″	⅛″	20,000	4826A61	1.30	⅛″	4770A15 5.53
	1½″	½″	¼″	15,000	4824A81	11.45	¼″	4770A11 9.87
	2″	⅜″	¼″	10,500	4824A82	11.45	¼″	4770A11 9.87
	3″	½″	¼″	7,000	4824A83	21.38	¼″	4770A11 9.87

Bit and Disc Set

200-Piece Set— Includes 16 aluminum oxide and 48 silicon carbide 15⁄16″ Lg. × 1⁄4″ Dia. bits, ⅞″ dia. tapered-edge discs, and ⅞″ dia. × ⅛″ thick straight discs. Grits are 120 (smooth) and 240 (extra-smooth). Also includes five ⅛″ dia. shanks, two spiral shanks with hex nut, one 1″ Lg. × ½″ Wd. block, and a plastic case. Maximum rpm is 21,000.

4772A15 ..... $95.89

Caution: *As bit shank is exposed beyond ½″, max. safe rpm decreases significantly. Refer to ANSI standard B7.1.*

Grinding Bits

Hex-Shank Grinding Bits for Metals



Use bits in any drill chuck that accepts a 1/4″ hex shank. They are also known as mounted points and die grinder bits. Use on iron and steel.

Bits are 60-grit (rough, gray) aluminum oxide. Shank is 1 1/2″ long. Head diameter is measured at the widest point.

	Head Dia.	Head Lg.	Max. rpm	Shape No.		
1	3/8″	1″	55,200	W178	**4087A18**	$1.63
1	1″	1/2″	38,200	W218	**4087A19**	1.51
1	1″	1″	34,500	A38	**4087A17**	1.83
2	1″	1″	34,500	A21	**4087A15**	1.71
3	1/4″	3/4″	76,500	A24	**4087A16**	1.71
4	1/4″	1 1/16″	72,750	A15	**4087A14**	1.83
5	3/4″	1 1/8″	45,000	A5	**4087A12**	2.14
6	1 1/16″	1 1/4″	48,000	A12	**4087A13**	2.14

12-Piece Set—Contains one each of A12, A15, and W178; two each of A21, A24, A38, and W218. Packed in a foam block stand.

4087A21 ..... $20.08

Long-Life Grinding Bits for Metals



Bits are made of boron nitride, which is harder than aluminum oxide and lasts longer. Bits are also known as jig grinding pins and mandrels. Use on steel, stainless steel, and iron. Grit is 120 (smooth, silver), unless noted. Overall length is 2 1/4″. Head diameter is measured at the widest point.

Head Dia.	Head Lg.		
1/8″ Shank Dia.; 60,000 rpm			
0.11″	0.16″	**4338A19**	$10.48
0.12″	0.16″	**4338A41**	10.59
0.13″	0.2″	**4338A42**	11.50
0.14″	0.2″	**4338A21**	13.06
0.16″	0.2″	**4338A22**	14.36
1/8″ Shank Dia.; 100,000 rpm			
0.03″	0.08″	**4338A12**★	8.44
0.04″	0.08″	**4338A11**★	8.44
0.05″	0.08″	**4338A13**	8.44
0.06″	0.12″	**4338A14**	8.44
0.07″	0.12″	**4338A17**	9.36
0.08″	0.16″	**4338A15**	9.76
0.09″	0.16″	**4338A16**	10.00
0.1″	0.16″	**4338A18**	10.27

Head Dia.	Head Lg.		
1/4″ Shank Dia.; 20,000 rpm			
0.59″	0.39″	**4338A45**	$39.44
0.73″	0.39″	**4338A32**	57.59
1/4″ Shank Dia.; 30,000 rpm			
0.32″	0.32″	**4338A27**	21.71
0.34″	0.32″	**4338A28**	23.00
0.39″	0.39″	**4338A44**	27.62
0.47″	0.39″	**4338A3**	31.26
1/4″ Shank Dia.; 60,000 rpm			
0.2″	0.24″	**4338A24**	16.18
0.24″	0.28″	**4338A43**	18.47
0.26″	0.28″	**4338A26**	20.21

★ Grit is 220 (extra-smooth, silver).

Grinding Bits for Stainless Steel



Bits stay cool so they won't mar or discolor stainless steel. They are also known as mounted points and die grinder bits.

Bits are 30-grit (rough, gray) zirconia alumina, which lasts longer than aluminum oxide. Shank is 1/4″ Dia. × 1 1/2″ Lg. Head diameter is measured at the widest point.

	Head Dia.	Head Lg.	Max. rpm	Shape No.		
1	1/4″	3/4″	66,000	W164	**44005A24**	$2.96
1	3/8″	1 1/4″	46,750	W179	**44005A25**	3.52
1	1/2″	1 1/2″	30,370	W188	**44005A26**	3.80
1	1/2″	2″	24,000	W189	**44005A15**	4.44
1	5/8″	2″	21,000	W197	**44005A16**	4.56
1	3/4″	1 1/2″	24,000	W207	**44005A17**	3.88
1	3/4″	2″	18,750	W208	**44005A18**	4.56
1	1″	1″	25,500	W220	**44005A22**	3.52
1	1″	1 1/2″	19,120	W221	**44005A19**	4.00
1	1″	2″	15,900	W222	**44005A21**	4.68
2	7/8″	2″	19,860	A11	**44005A14**	5.28
2	1″	2 3/4″	16,100	A3	**44005A12**	8.80
3	3/4″	1 1/8″	45,000	A5	**44005A13**	4.56
4	3/4″	2 1/2″	19,800	A1	**44005A11**	6.56

Grinding Bits for Nonmetals



Almost as hard as diamond, these tungsten carbide bits cut through nonmetals without generating heat. They are also known as mounted points and die grinder bits. Use on composites, plastic, rubber, wood, plaster, and fiberglass. Grit is 36 (rough, bronze). Maximum rpm for bits with 1/8″ dia. shank is 20,000; 1/4″ dia. shank is 23,000. Head diameter is measured at the widest point.

	Head Dia.	Head Lg.		
1/8″ Dia. × 7/8″ Lg. Shank				
1	1 3/32″	2 1/32″	**4931A35**	$17.12
2	5/32″	1 3/16″	**4931A31**	17.12
4	5/16″	1 1/16″	**4931A33**	17.12
5	5/8″	1 1/16″	**4931A39**	17.12
6	1 3/32″	1 3/32″	**4931A37**	17.12

	Head Dia.	Head Lg.		
1/4″ Dia. × 1″ Lg. Shank				
1	5/8″	1″	**4437A25**	$32.20
2	1/4″	1 1/2″	**4437A21**	25.86
3	1/8″	1 1/4″	**4437A27**	25.72
4	1/8″	1 1/2″	**4437A23**	26.36
5	3/4″	1″	**4437A29**	30.35
6	3/4″	3/4″	**4437A28**	32.99

Long-Life Grinding Bits for Nonmetals



The diamond abrasive in these bits lasts longer than tungsten carbide. They are also known as mounted points and die grinder bits. Use on carbides, ceramics, and glass. Grit is 120 (smooth, silver) and overall length is 2 1/4″, unless noted. Head diameter is measured at the widest point. For longer tool life and improved finish, use a water- or oil-soluble mist or coolant.

	Head Dia.	Head Lg.	Max. rpm		
1/8″ Shank Dia.					
1	0.03″	0.08″	100,000	**4376A11**★	$8.44
1	0.03″	0.19″	96,000	**4490A75**	14.84
1	0.04″	0.08″	100,000	**4376A12**★	8.44
1	0.04″	0.19″	96,000	**4490A76**	14.16
1	0.05″	0.08″	100,000	**4376A13**	8.44
1	0.05″	0.19″	96,000	**4490A77**	13.16
1	0.06″	0.12″	100,000	**4376A31**	8.77
1	0.06″	1/4″	96,000	**4490A14**	14.84
1	0.07″	0.12″	100,000	**4376A15**	9.36
1	0.08″	0.16″	100,000	**4376A16**	9.76
1	0.08″	1/4″	96,000	**4490A15**	15.53
1	0.09″	0.16″	100,000	**4376A17**	10.00
1	0.1″	0.16″	100,000	**4376A18**	10.27
1	0.11″	0.16″	60,000	**4376A19**	10.48
1	0.12″	0.16″	60,000	**4376A21**	10.59
1	0.13″	0.2″	60,000	**4376A22**	11.50
1	0.13″	1/4″	96,000	**4490A17**	17.26
1	0.14″	0.2″	60,000	**4376A23**	13.06
1	0.16″	0.2″	60,000	**4376A24**	14.36
1	0.16″	1/4″	96,000	**4490A79**	21.37
1	0.19″	0.31″	96,000	**4490A21**	21.74
1	1/4″	0.31″	46,500	**4490A23**	24.74

	Head Dia.	Head Lg.	Max. rpm		
1/8″ Shank Dia. (Cont.)					
1	0.31″	0.31″	46,500	**4490A66**	$27.68
2	1/4″	0.03″	46,000	**4490A53**	14.00
2	1/4″	0.06″	46,000	**4490A55**	15.11
2	1/4″	0.13″	46,000	**4490A57**	17.58
3	0.06″	1/4″	96,000	**4490A68**	15.95
3	0.13″	1/4″	96,000	**4490A34**	18.95
3	1/4″	0.31″	46,000	**4490A36**	26.32
3	0.31″	0.31″	46,000	**4490A67**	29.63
4	0.14″	0.31″	96,000	**4490A65**	17.58
5	0.06″	0.31″	96,000	**4490A71**	14.00
5	0.08″	0.31″	96,000	**4490A72**	15.11
5	0.11″	0.31″	96,000	**4490A64**	16.47
6	0.16″	0.23″	96,000	**4490A59**	14.00
6	0.17″	0.14″	96,000	**4490A58**	14.00
6	0.19″	0.38″	96,000	**4490A61**	16.47
8	0.06″	0.06″	96,000	**4490A42**	14.58
8	0.09″	0.09″	96,000	**4490A44**	15.11
8	0.13″	0.13″	96,000	**4490A45**	15.89
8	0.19″	0.19″	96,000	**4490A46**	16.47
8	1/4″	1/4″	46,000	**4490A47**	17.58
8	0.38″	0.38″	46,000	**4490A49**	20.16

	Head Dia.	Head Lg.	Max. rpm		
1/4″ Shank Dia.					
1	0.06″	1/4″	96,000	**4490A11**	$14.84
1	0.09″	1/4″	96,000	**4490A78**	16.16
1	0.13″	1/4″	96,000	**4490A13**	17.26
1	0.19″	0.31″	96,000	**4490A16**	21.74
1	0.2″	0.24″	60,000	**4376A28**	16.18
1	0.24″	0.28″	60,000	**4376A27**	18.47
1	1/4″	0.31″	46,500	**4490A18**	24.74
1	0.26″	0.28″	60,000	**4376A41**	20.21
1	0.31″	0.31″	46,000	**4490A19**	27.68
1	0.32″	0.32″	30,000	**4376A42**	21.71
1	0.34″	0.32″	30,000	**4376A43**	23.00
1	0.38″	0.31″	46,500	**4490A22**	31.37
1	0.39″	0.39″	30,000	**4376A44**	27.62
1	1/2″	0.31″	30,000	**4490A24**	37.63
1	0.59″	0.39″	20,000	**4376A46**	39.44
1	0.73″	0.39″	20,000	**4376A47**	57.59
3	0.38″	0.31″	46,000	**4490A25**	33.42
3	1/2″	0.31″	30,000	**4490A26**	39.63
7	0.19″	0.1″	18,600	**4490A29**■	20.83
7	1/4″	0.1″	18,600	**4490A31**■	23.81
7	1/2″	0.2″	30,000	**4490A32**■	51.72
8	1/2″	1/2″	30,000	**4490A27**	32.68

★ Grit is 220 (extra-smooth, silver). ■ Overall length is 2″.

Caution: ***As bit shank is exposed beyond 1/2″, max. safe rpm decreases significantly. Refer to ANSI standard B7.1.***

Sharp-Tooth Bits for Nonmetals

Made of tungsten carbide, these bits grind nonmetals such as fiberglass, wood, plaster, composites, rubber, and plastics. They have pointed teeth that last longer and leave a smoother finish than other grinding bits. Shanks are 1/4" Dia. x 1"-1 1/4" Lg.

To Order: Please specify grade: coarse (red) or fine (blue).



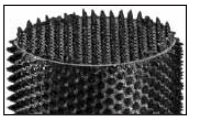
Tooth Detail-Coarse

	Head Dia.	Head Lg.	Max. rpm		
1	9/16"	3/4"	25,000	4257A18	$22.03
1	13/16"	1 1/4"	10,000	4257A83	30.24
2	5/16"	1 3/4"	25,000	4257A21	22.03
2	9/16"	3/4"	25,000	4257A22	22.03
2	13/16"	1 1/4"	10,000	4257A77	30.24
3	3/8"	3/4"	25,000	4257A27	21.06
4	5/16"	1 1/2"	25,000	4257A14	$22.14
4	9/16"	1"	25,000	4257A15	22.14
4	13/16"	1 3/8"	10,000	4257A91	30.24
5	9/16"	9/16"	25,000	4257A11	22.03
5	7/8"	7/8"	10,000	4257A28	27.00

Air-Powered Straight Grinders for Bits and Burs

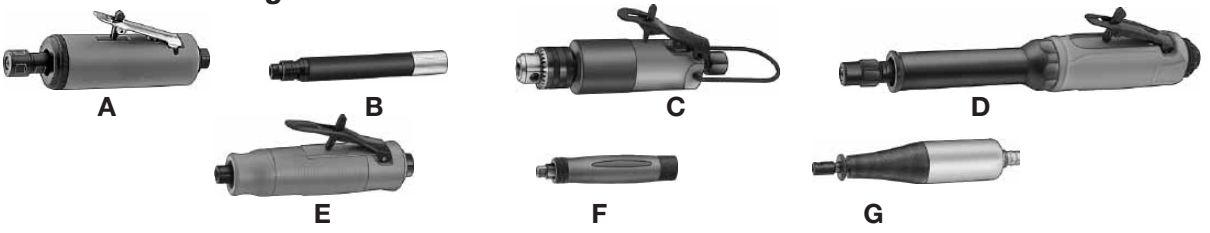

Smaller and lighter than electric grinders, these connect to a compressed air system. They are also known as die grinders. They have variable speed control, except Style G. *Styles A, C, D,* and *E* have a lever lock to prevent accidental start-ups. They are furnished with a collet and at least one collet wrench, except Style C.

Light Duty Grinders—Use these grinders for light, intermittent grinding, deburring, and finishing. *Style B* has a ring-style throttle to regulate airflow and comes with a 5-ft. air hose.

Medium Duty Grinders—More durable than our light duty grinders, these are designed for more frequent use. *Style C* includes a 1/4" chuck instead of a collet.

Heavy Duty Grinders—High-quality bearings ensure long spindle life, even when grinders are used continuously. *Style F is* a high-speed, lightweight, pencil-sized tool with a ring-style throttle to regulate airflow. It includes a 5-ft. air hose. Exhaust can be changed from rear to front, when stated.

Maintenance-Free Heavy Duty Grinder—Powered by an air turbine, this grinder doesn't require oil or have gears to maintain. It has high-quality bearings for long spindle life, even when used continuously. Grinder sustains constant speed under load, operates at high speeds for long cutting-tool life, and is lightweight to reduce operator fatigue. It comes with a 5-ft. hose with shut-off valve.

	Max. rpm	hp	For Shank Dia.	Airflow, cfm @ 90 psi	Exhaust Location	O'all Lg.	Inlet Size, NPT	For Hose ID	Wt., lbs.	Grinders		Replacement Collets	
Light Duty Grinders													
A	19,000	0.5	1/4"	4	Rear	6 1/2"	1/4	3/8"	1 1/8	4484A26	$78.01	4484A71	$23.58
A	22,000	0.4	1/4"	13	Rear	5 3/4"	1/4	3/8"	1 1/4	4484A31	77.92	4484A61	13.07
A	22,000	0.5	1/4"	4	Rear	6 3/4"	1/4	3/8"	1 3/8	4356A13	70.33	4356A31	12.88
B	70,000	0.1	1/8"	5.3	Rear	5 3/8"	1/4	1/4"	1/4	8755A21	133.86	8755A22	9.29
Medium Duty Grinders													
A	24,000	0.5	1/4"	10.5	Rear	5 3/4"	1/4	3/8"	1 1/4	4599A11	174.11	4484A61	13.07
C	25,000	0.5	1/4"	5	Front	6 1/2"	1/4	3/8"	1 1/4	4599A12	228.48		
D	22,000	0.9	1/4"	5.5	Rear	12"	1/4	3/8"	2 1/2	43575A21	267.41	43575A61	37.89
Heavy Duty Grinders													
D	25,000	1	1/4"	25	Rear	13 1/8"	1/4	3/8"	2 3/4	4426A28	715.28	4426A71	14.06
E	18,000	0.6	1/4"	30	Rear	6 7/8"	1/4	5/16"	1 1/2	46045A11	410.76	46045A31	24.36
E	18,000	1	1/4"	14	Rear	8 3/8"	1/4	3/8"	1 5/8	4426A29	465.71	4426A71	14.06
E	25,000	0.3	1/4"	16	Rear	6"	1/4	1/4"	3/4	46045A12	340.26	46045A32	26.34
E	25,000	0.4	1/4"	20	Rear/Front	6 1/8"	1/4	3/8"	3/4	4426A19	409.15	4426A72	11.71
E	25,000	1	1/4"	25	Rear	8 3/8"	1/4	3/8"	1 5/8	4426A23	465.64	4426A71	14.06
E	35,000	0.4	1/4"	25	Rear/Front	6 1/8"	1/4	3/8"	3/4	4426A25	409.09	4426A72	11.71
F	60,000	0.1	1/8"	9	Rear	5 7/8"	1/8	3/16"	3/8	4343A81	428.23	4343A83	28.96
Maintenance-Free Heavy Duty Grinder													
G	50,000	0.3	1/8"	10	Rear	4 7/8"	1/4	3/16"	3/8	4591A11	454.61	4591A68	43.41
1/4" to 1/8" Reducing Collet Bushing												46115A31	6.94

Light Duty Air-Powered Straight Grinder Kits for Bits and Burs

Kits include a light duty grinder, a variety of tools for intermittent grinding on most metals, and a plastic case.

Grinder and Bit Kit—Includes five aluminum oxide grinding bits, a collet, two wrenches, and a 1/4" to 1/8" reducing bushing.

Grinder and Bur Kit—Includes seven solid carbide double-cut burs, a collet, and two wrenches.


Grinder and Bit Kit


Grinder and Bur Kit

Max. rpm	hp	For Shank Dia.	Airflow, cfm @ 90 psi	Exhaust Location	O'all Lg.	Inlet Size, NPT	For Hose ID	Wt., lbs.	Grinder and Bit Kit		Grinder and Bur Kit	
22,000	0.5	1/4"	4	Rear	6 3/4"	1/4	3/8"	1 3/8	4405A21	$67.34	8179A11	$197.59

***Caution:** Use only accessories that have a greater rpm rating than the maximum speed of the grinder you choose.*

Electric & Cordless Straight Grinders

Electric Straight Grinders for Bits and Burs



A



B



C



D

Also known as die grinders. Grinders are UL listed. They come with a collet, collet wrench, and a cord with plug..

Style A—Grinder has a toggle switch. It meets OSHA requirements, and is CSA certified and C-UL listed.

Style B—Grinder has a toggle switch. It comes with precision 1/8″ and 1/4″ collets, eight grinding bits, a dressing stone, and a carrying case.

Style C—Has a slide switch.

Style D—Also for use with wheel brushes, cup brushes, and cutoff wheels. Grinder has a paddle switch. CSA certified.

	Max. rpm	For Shank Dia.	AC Voltage	Amps	O'all Lg.	Wt., lbs.	Manufacturer and Model No.		
A	21,000	1/4″	120	4.5	13 1/2″	4 1/2	Milwaukee 5192	**4375A21**	$236.25
B	22,000	1/8″, 1/4″	120	0.7	10″	4	Dumore 10-355V	**43805A61**	336.04
C	25,000	1/4″	120	3.5	14 1/8″	3 3/4	Makita GD0601	**4400A16**	116.40
D	25,000	1/4″	120	4.2	14″	3 3/4	DeWalt DW4887	**4577A71**	172.68
Optional 1/8″ Collet for Milwaukee Grinder No. 5192								**4375A26**	31.32

Dremel Electric and Cordless Straight Grinder Kits

Grind, sand, finish, and polish with these versatile kits. They come with a light duty Dremel grinder that accepts a multitude of accessories, including grinding bits, burs, wheels, and cutoff wheels. Grinders have a shaft lock for easy tool changes. They have a slide switch and variable speed control, except model 100-N/7.

Replacement Parts: Please ask for 4344A82 and specify part.

Grinder Kits



Model 4000-2/30



Electric Grinder Kit

Electric Grinder Kits—Grinders have a cord and plug. *Model 100-N/7* comes with seven assorted accessories. *Model 3000-1/24* comes with 24 assorted accessories and a plastic storage case. *Model 4000-2/30* comes with a circle cutter, 30 assorted accessories, and a plastic storage case.

Battery-Powered Grinder Kit—Includes an 8-volt battery, 1-hour charger, 21 assorted accessories, and a plastic storage case.

Model No.	Max. rpm	For Shank Dia.	Voltage	Amps	O'all Lg.	Wt., lbs.	Specifications Met		
Electric Grinder Kits									
100-N/7	35,000	1/8″	120V AC	1.2	7 1/2″	1 1/8	UL Listed, CSA Certified	**4370A6**	$49.15
3000-1/24	32,000	1/8″	120V AC	1.2	7 1/2″	1 1/4	CSA Certified	**4344A76**	89.84
4000-2/30	35,000	1/8″	120V AC	1.6	8 1/2″	1 1/4	CSA Certified	**4344A15**	119.47
Battery-Powered Grinder Kit									
8100-N/21	30,000	1/8″	8V DC	—	8 1/4″	3 1/2	CSA Certified	**43435A61**	82.56

Accessories



Flexible Shaft

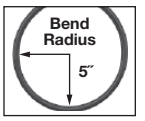





Right-Angle Attachment



Safety Shield

Flexible Shaft—Includes 3/4″ dia. handpiece. Shaft is 36″ long. Do not bend to less than a 5″ radius (see illustration).

Tool Hanger—Screws onto workbenches with included fasteners. Adjustable height ranges from 26″ to 41″.

Right-Angle Attachment—Convert your straight grinder into an angle grinder. Quick-connect system allows attachment without tools.

Safety Shield—This 360° shield closes automatically. Accepts up to 1 1/2″ diameter cutoff wheels. Includes one 1 1/2″ diameter wheel.

Battery—This 8-volt lithium-ion battery provides long-lasting power.

Battery Charger—This 1-hour charger is for use with the battery shown above.

Accessory Kit—Kit contains a variety of accessories packed in a plastic storage case. Includes 110 total pieces.

	For Dremel No.		
Flexible Shaft	100-N/7, 285, 3000-1/24, 3965-02, 4000-2/30, 7800-02, 8000, 8100-N/21, 8200	**4370A5**	$35.29
Tool Hanger	100-N/7, 285, 3000-1/24, 3965-02, 4000-2/30, 7800-02, 8000, 8200	**4344A71**	25.69
Right-Angle Attachment	100-N/7, 285, 3000-1/24, 3965-02, 4000-2/30, 8100-N/21	**4344A74**	24.93
Safety Shield	100-N/7, 3000-1/24, 3965-02, 3981-01, 4000-2/30, 7800-01, 7800-02, 8100-N/21	**4344A92**	22.20
Battery	8100-N/21	**43435A78**	45.37
Battery Charger	8100-N/21	**43435A18**	21.67
Accessory Kit	100-N/7, 285, 3000-1/24, 3965-02, 4000-2/30, 7800-02, 8000, 8100-N/21, 8200	**4344A19**	23.75
3/32″ Collet	100-N/7, 285, 3000-1/24, 3965-02, 4000-2/30, 7800-02, 8000, 8100-N/21, 8200	**4344A716**	2.30
1/8″ Collet	100-N/7, 285, 3000-1/24, 3965-02, 4000-2/30, 7800-02, 8000, 8100-N/21, 8200	**4344A711**	2.30

Miniature Bit and Disc Sets



Set contains 134 tools for grinding, sanding, and cutting hard and soft metals on small surface areas.

You'll get 64 cutoff discs, 16 aluminum oxide sanding bands, one rubber drum for sanding bands, 36 sanding discs, one 1/8″ mandrel for cutoff and sanding discs, six aluminum oxide grinding bits, four silicon carbide grinding bits, and six aluminum oxide grinding discs. Packed in a plastic case. Maximum rpm is 30,000.

4475A13 ..... $52.00

Caution: ***Use only accessories that have a greater rpm rating than the maximum speed of the grinder you choose.***

Electric Flexible-Shaft Grinders for Bits and Burs

The bendable shaft with 6″ long handpiece lets these grinders operate smoothly with less vibration, noise, and heat than other hand-held grinders. Grinders have a 120-volt AC motor and a foot pedal for variable speed control, except bench-style intermittent duty grinders have a speed-control dial. All have a cord with plug.

To prevent premature wear and shaft failure, do not bend shaft to less than a 4″ radius (see illustration). For proper operation, clean and lubricate shafts every 50 hours of use. *Intermittent duty* grinders have a 39″ Lg. x 5/32″ Dia. shaft; *continuous duty* grinders have a 63″ Lg. x 3/16″ Dia. shaft. Hanging intermittent duty grinders are CSA certified.

Grinders with 3/4″ dia. collet handpiece come with collets for 3/32″ and 1/8″ shank diameters. **Grinders with 1″ dia. collet handpiece** come with collets for 3/32″, 1/8″, and 1/4″ shank diameters; a lock pin; and a wrench. **Grinders with 1″ dia. chuck handpiece** have a three-jaw chuck that accepts shank diameters up to 5/32″. They are furnished with a chuck key.


Hanging Style

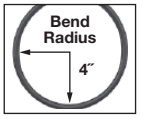


Bench Style


3/4″ Dia. Collet Handpiece


1″ Dia. Collet Handpiece


1″ Dia. Chuck Handpiece

Grinders

Duty Cycle	Max. rpm	hp	Amps	Grinders with 3/4″ Dia. Collet Handpiece		Grinders with 1″ Dia. Collet Handpiece		Grinders with 1″ Dia. Chuck Handpiece	
Hanging Style									
Intermittent	18,000	1/6	1.7	4454A13	$295.08	4454A11	$295.08	4454A14	$302.95
Continuous	15,000	1/3	3.5	—	—	4454A16	391.48	4454A17	401.31
Bench Style									
Intermittent	18,000	1/6	1.7	4454A23	333.44	4454A18	333.44	4454A25	341.31
Continuous	15,000	1/3	3.5	—	—	4454A26	420.98	4454A27	430.82

Replacement Handpieces and Flexible Shafts

For Intermittent Duty Grinders		
3/4″ Dia. Collet Handpiece	4454A82	$59.51
1″ Dia. Collet Handpiece	4454A55	57.32
1″ Dia. Chuck Handpiece	4454A31	66.31
39″ Flexible Shaft	4454A41	32.73

For Continuous Duty Grinders		
1″ Dia. Collet Handpiece	8713A34	$62.48
1″ Dia. Chuck Handpiece	8713A32	72.40
63″ Flexible Shaft	8713A93	70.00

Accessories

Seven-Piece Collet Set—For use with 1″ diameter collet handpieces. Includes a 3/32″, 3 mm, 1/8″, 5/32″, 3/16″, 6 mm, and 1/4″ collet. Packed in a plastic case.

4454A56 ..... $47.42

Motor Hanger—Screw hanger onto the top or side of your workbench to suspend hanging-style motors. It has full-swivel capability and a locking screw. A T-rod lets you hang two tools from one hanger.

4454A78 ..... $68.43

Air-Powered Angle Grinders for Bits and Burs



The angled head on these grinders makes it easy to access hard-to-reach places. They are also known as die grinders. They have a lever to control speed and a lever lock to prevent accidental start-up. All come with a collet and collet wrench.

Light Duty Grinders—Use these grinders for occasional light grinding, deburring, and finishing.

Medium Duty Grinders—More durable than the light duty grinders, these are designed for more frequent use. *Style B* has a 60° angled head to get into spots a right-angle grinder can't reach and a soft grip to reduce vibration.

Heavy Duty Grinders—With high-quality bearings and collets for long spindle life, these grinders are rated for continuous use to take on tough jobs. *Style C* has sealed bearings to minimize maintenance. *Style D* has heavy duty gears and precision collets for smooth operation and long tool life; exhaust can be changed from rear to front. *Style E* is a high-speed, lightweight, pencil-sized tool with a ring-style throttle to regulate airflow and includes a 5-ft. air hose.

	Max. rpm	hp	For Shank Dia.	Airflow, cfm @ 90 psi	Exhaust Location	O'all Lg.	Inlet Size, NPT	For Hose ID	Wt., lbs.		
Light Duty Grinders											
A	21,000	0.25	1/4″	6	Front	5 1/4″	1/4	3/8″	1	4576A61	$69.71
A	25,000	0.3	1/4″	4	Rear	6 1/8″	1/4	3/8″	1 1/8	4576A51	57.50
Medium Duty Grinders											
A	20,000	0.33	1/4″	6	Rear	7″	1/4	3/8″	1 1/4	4576A65	113.61
A	25,000	0.3	1/4″	3	Rear	6″	1/4	3/8″	1 1/8	4576A88	173.29
B	18,000	0.5	1/4″	3.3	Rear	7 3/4″	1/4	3/8″	1 3/4	4341A21	156.42
Heavy Duty Grinders											
C	12,000	0.4	1/4″	22	Front	6 5/8″	1/4	1/4″	1 1/8	45105A12	554.22
C	20,000	0.4	1/4″	22	Front	6 5/8″	1/4	1/4″	1 1/8	45105A11	554.22
D	12,000	1	1/4″	17	Rear/Front	9″	3/8	3/8″	3 1/2	8703A12	708.18
D	20,000	0.4	1/4″	25	Rear/Front	6″	1/4	3/8″	1 1/8	8703A13	554.63
E	80,000	0.1	1/8″	9	Rear	5 1/2″	1/8	3/16″	3/8	4343A82	482.06

Light Duty Grinder Kit—Includes the 0.25-hp light duty grinder listed above, plus 10 grinding bits (five with 1/4″ dia. shank, five with 1/8″ dia. shank), a 1/8″ collet, and two wrenches. Packed in a plastic case. 4576A62 ..... 82.94

***Caution:** Use only accessories that have a greater rpm rating than the maximum speed of the grinder you choose.*

Grinding Wheels for Angle Grinders

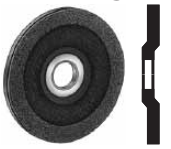

Also known as Type 27 wheels, raised hub wheels, and grinding discs, these are designed for smoothing metal surfaces, removing weld seams, and other grinding. The 1/8" and 3/16" thick wheels can also be used for notching and cutting. Wheels are 24-30 grit, except wheels for soft metals are 46 grit. Wheels remove heavy amounts of material and leave a rough surface texture. Color is black.

General Purpose—A good value for everyday use, these wheels offer an economical balance between heavy material removal and long life. Wheels are aluminum oxide, which is the most common abrasive used in grinding metal.

Long Life—Wheels are a blend of aluminum oxide and zirconia alumina, which removes more material and lasts three times as long as the general purpose wheels.

High Performance—A blend of ceramic alumina and zirconia alumina removes material at a 50% faster rate than the long-life wheels.

Contaminant Free—The absence of iron, sulfur, and chlorine in these aluminum oxide wheels means they won't corrode or discolor stainless steel. They are also known as INOX wheels.

For Aluminum and Soft Metals—Bonded without any wax or rubber filler, these aluminum oxide wheels resist material buildup.

For Concrete and Stone—Made of silicon carbide to cut through nonmetals without generating much heat.

				General Purpose for Steel			Long Life for Steel, Iron, and Stainless Steel			High Performance for Steel and Stainless Steel		
Dia.	Thick.	Arbor Hole Size	Max. rpm		Pkg. Qty.	Each		Pkg. Qty.	Each		Pkg. Qty.	Each
With Unthreaded Arbor Hole												
3"	1/8"	3/8"	18,000	—	—	—	—	—	—	44355A15	25	$168.50 $7.93
3"	1/4"	3/8"	18,000	4569A64	25	$68.75 $3.24	—	—	—	44355A16	25	206.75 9.74
4"	1/8"	3/8"	15,280	4569A65	25	65.00 3.07	44435A11	25	$101.25 $4.76	44355A17	25	190.25 8.96
4"	1/8"	5/8"	15,280	4569A66	25	61.00 2.87	44435A12	25	101.25 4.76	44355A18	25	190.25 8.96
4"	1/4"	3/8"	15,280	4569A67	25	67.75 3.20	44435A13	25	105.50 4.96	44355A19	25	227.25 10.70
4"	1/4"	5/8"	15,280	4569A68	25	65.50 3.09	44435A14	25	105.50 4.96	44355A21	25	227.25 10.70
4 1/2"	1/8"	7/8"	13,580	4569A69	25	50.75 2.39	44435A15	25	99.50 4.69	44355A22	25	203.50 9.59
4 1/2"	3/16"	7/8"	13,580	4569A71	25	57.75 2.72	—	—	—	—	—	—
4 1/2"	1/4"	7/8"	13,580	4569A72	25	51.75 2.43	44435A16	25	103.75 4.88	44355A25	25	233.25 10.98
5"	1/8"	7/8"	12,225	4569A73	25	85.50 4.02	44435A17	25	125.00 5.88	44355A26	25	244.25 11.50
5"	1/4"	7/8"	12,225	4569A74	25	85.50 4.07	44435A18	25	139.25 6.55	44355A27	25	269.25 12.67
6"	1/8"	7/8"	10,000	8729A31	25	93.00 4.41	44435A19	20	140.60 8.27	—	—	—
6"	1/4"	7/8"	10,000	4569A75	25	101.00 4.76	44435A23	20	133.40 7.92	44355A28	20	263.00 15.48
7"	1/8"	7/8"	8,600	8729A32	20	79.40 4.67	44435A24	20	130.40 7.67	44355A29	20	226.40 13.33
7"	1/4"	7/8"	8,600	4569A76	20	94.60 5.57	44435A25	20	144.60 8.51	44355A56	20	278.20 16.37
9"	1/8"	7/8"	6,600	8729A33	20	106.40 6.25	44435A26	20	202.00 11.88	—	—	—
9"	1/4"	7/8"	6,600	4569A77	20	137.80 8.11	44435A27	20	222.60 13.10	44355A57	20	376.80 22.17
With Threaded Arbor Hole												
4 1/2"	1/8"	5/8"-11	13,580	4569A78	10	36.40 4.28	44435A28	10	51.00 6.00	44355A58	10	92.20 10.85
4 1/2"	1/4"	5/8"-11	13,580	4569A79	10	37.50 4.46	44435A29	10	53.30 6.27	44355A59	10	106.60 12.54
5"	1/8"	5/8"-11	12,000	—	—	—	44435A31	10	59.70 7.02	44355A61	10	112.80 13.28
5"	1/4"	5/8"-11	12,225	4569A81	10	42.30 4.98	44435A32	10	70.50 8.29	44355A62	10	120.40 14.17
6"	1/8"	5/8"-11	10,000	8729A34	10	37.80 4.47	44435A33	10	94.50 11.12	—	—	—
6"	1/4"	5/8"-11	10,000	4569A82	10	53.60 6.30	44435A34	10	81.20 9.65	—	—	—
7"	1/8"	5/8"-11	8,600	8729A35	10	59.20 6.96	44435A35	10	82.20 9.67	44355A63	10	134.40 15.83
7"	1/4"	5/8"-11	8,600	4569A83	10	68.70 8.09	44435A36	10	88.00 10.35	44355A64	10	155.70 18.33
9"	1/8"	5/8"-11	6,600	8729A36	10	73.00 8.59	44435A37	10	117.20 13.92	44355A65	10	171.90 20.24
9"	1/4"	5/8"-11	6,600	4569A84	10	92.20 10.85	44435A38	10	129.00 15.18	44355A66	10	202.80 23.87

				Contaminant Free for Stainless Steel			For Aluminum and Soft Metals			For Concrete and Stone		
Dia.	Thick.	Arbor Hole Size	Max. rpm		Pkg. Qty.	Each		Pkg. Qty.	Each		Pkg. Qty.	Each
With Unthreaded Arbor Hole												
4"	1/4"	5/8"	15,000	—	—	—	44165A22	25	$131.75 $5.83	44425A11	25	$50.00 $2.21
4 1/2"	1/4"	7/8"	13,580	4408A25	25	$97.50 $4.59	44165A23	25	132.25 5.84	44425A12	25	52.75 2.48
7"	1/4"	7/8"	8,500	4408A26	25	160.83 7.57	44165A24	20	144.00 7.96	44425A17	—	— 5.42
With Threaded Arbor Hole												
4 1/2"	1/4"	5/8"-11	13,580	4408A27	10	41.30 4.86	44165A25	10	67.40 7.45	44425A14	10	29.20 3.43
7"	1/4"	5/8"-11	8,600	4408A28	10	85.70 10.08	44165A26	10	91.00 10.05	44425A15	5	25.65 6.04
9"	1/4"	5/8"-11	6,600	4408A29	10	120.70 14.19	44165A27	10	120.40 13.32	44425A18	5	36.65 8.63

Heavy-Removal Grinding Wheels for Angle Grinders



A large grinding surface combined with a thick layer of abrasive removes more material than other wheels. Often used to grind weld seams and remove flaws from castings, these wheels produce a rough surface texture. They are also known as Type 11 wheels, flared-cup wheels, snagging wheels, and cup stones. The full backing provides more support than a partial backing. All have a 5/8"-11 threaded arbor hole. Color is black.

For Steel—Wheels are 16-grit aluminum oxide.

For Steel and Stainless Steel—Wheels are 24-grit zirconia alumina, which grinds faster and lasts longer than aluminum oxide.

For Concrete and Stone—Wheels are 16-grit silicon carbide, which won't generate much heat.

Dia.	Thick.	Max. rpm	For Steel		For Steel and Stainless Steel		For Concrete and Stone	
Partial Backing								
3", 4"	2"	9,070	4473A3	$12.76	4354A27	$20.72	8728A1	$13.64
4", 5"	2"	7,260	4473A1	16.70	4354A28	27.20	8728A2	17.90
4 3/4", 6"	2"	6,050	4473A2	18.68	4354A29	30.46	8728A3	20.00
4 3/4", 6"	2 1/2"	6,050	4473A7	21.48	—	—	8728A7	23.02
Full Backing								
3", 4"	2"	9,070	4473A4	14.94	4354A31	23.02	8728A4	15.88
4", 5"	2"	7,260	4473A5	18.94	4354A32	29.58	8728A5	20.14
4 3/4", 6"	2"	6,050	4473A6	20.94	4354A33	32.86	8728A6	22.30
4 3/4", 6"	2 1/2"	6,050	4473A8	23.82	—	—	8728A8	25.36

Easy-Use Grinding Wheels for Angle Grinders

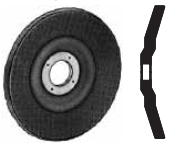

The saucer shape lets you hold these wheels at shallower angles than Type 27 wheels. Also known as Type 28 wheels and raised-hub wheels.

Use on aluminum, brass, stainless steel, and steel. Wheels are 24-grit (rough, black) aluminum oxide.

			With 7/8" Unthreaded Arbor Hole			With 5/8"-11 Threaded Arbor Hole		
Dia.	Thick.	Max. rpm		Pkg. Qty.	Each		Pkg. Qty.	Each
4 1/2"	1/4"	13,300	4477A14	25	$89.50 $3.98	4477A13	10	$54.10 $5.98
7"	1/4"	8,600	4477A16	20	130.40 7.67	4477A15	10	80.20 9.53
9"	1/4"	6,600	4477A18	20	197.00 11.59	4477A17	10	113.80 13.39

Curved Surface Grinding Wheels for Angle Grinders

The flexible backing on these wheels conforms to curved and rough surfaces. Wheels are aluminum oxide, which is the most common abrasive used in grinding metal. 24- to 60-grit wheels produce a rough surface texture; 80-grit wheels produce a smooth surface texture.

General Purpose Flexible Wheels—Also known as Type 27 wheels and raised-hub wheels. Use on steel and stainless steel. Color is black.

Long-Life Semiflexible Wheels—They have heat-dissipating holes that reduce material buildup. Use on steel, stainless steel, aluminum, and bronze. Backup pads are required. Color is red.

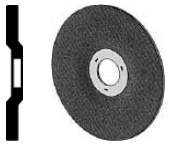

General Purpose Flexible



Long-Life Semiflexible

					Grinding Wheels			Backup Pads	
					Pkg.				
Dia.	Thick.	Arbor Hole Size	Max. rpm	Choose a Grit	Qty.	Each		Each	
General Purpose Flexible Wheels with Unthreaded Arbor Hole									
4″	1/8″	5/8″	13,700	36, 46, 60, 80	20	$51.20	$3.14	8731A71	$1.07
4 1/2″	1/8″	7/8″	13,300	36, 46, 60, 80	25	102.75	5.05	8731A73	1.20
7″	1/8″	7/8″	8,500	36, 46, 60, 80	10	55.60	6.82	8731A72	1.47
General Purpose Flexible Wheels with Threaded Arbor Hole									
7″	1/8″	5/8″-11	8,500	36, 46, 60, 80	25	185.25	9.09	____	____
9″	1/8″	5/8″-11	6,500	36, 46, 60, 80	20	226.00	13.86	____	____
Long-Life Semiflexible Wheels with Unthreaded Arbor Hole									
4 1/2″	___	7/8″	13,300	24, 36, 50, 60	5	35.40	8.36	4655A7	16.87
7″	___	7/8″	8,500	24, 36, 50, 60	5	43.25	10.23	4655A1	28.76

Grinding Wheels with Cotton Laminate for Angle Grinders

A blend of cotton laminate and aluminum oxide creates a smoother surface than other grinding wheels with similar grits. They are also known as Type 27 wheels and raised-hub wheels. Arbor holes are unthreaded, except 5/8″-11 arbor holes are threaded.

24-grit wheels are for use on steel, stainless steel, and aluminum. Color is brown.

36-grit wheels are for use on steel, stainless steel, brass, bronze, and copper. Color is white.

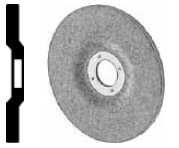

			24-Grit Wheels				36-Grit Wheels			
Dia.	Arbor Hole Size	Max. rpm	Thick.		1-9	10-Up	Thick.		1-9	10-Up
4″	3/8″	15,300	1/4″	8730A12	$14.53	$12.34	1/8″	8730A22	$9.07	$7.70
4″	5/8″	15,300	1/4″	8730A16	14.53	12.34	___	____	___	___
4 1/2″	5/8″-11	13,300	1/4″	8730A17	14.60	12.40	1/8″	8730A24	9.17	7.78
4 1/2″	7/8″	13,300	1/4″	8730A13	14.64	12.43	1/8″	8730A23	9.22	7.83
7″	5/8″-11	8,500	1/4″	8730A18	20.78	17.64	3/16″	8730A27	18.33	15.57
7″	7/8″	8,500	1/4″	8730A14	18.60	15.79	3/16″	8730A25	16.16	13.72

See-Through Grinding Wheels for Angle Grinders

Slots along the perimeter of the wheel allow you to see the work surface while you grind. The upside-down dish shape, known as a notched (AVOS) Type 29 wheel, provides a large contact area.

Wheels are for use on aluminum, steel, and stainless steel. They are aluminum oxide, which is the most common abrasive used in grinding metal. Wheels produce a rough surface texture. They have an unthreaded arbor hole. Color is black.

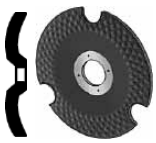

Dia.	Thick.	Arbor Hole Size	Max. rpm	Grit		1-24	25-Up
4 1/2″	1/8″	7/8″	13,580	36	5606A22	$5.65	$4.80
4 1/2″	1/8″	7/8″	13,580	60	5606A24	5.65	4.80
5″	1/8″	7/8″	12,225	36	5606A25	6.31	5.32

Paint Removal Attachments for Angle Grinders

Use on 7″ and 9″ angle grinders and sanders to remove paint, rust, and scale from iron, nickel, steel, and titanium. They have a 5/8″-11 threaded arbor hole. The maximum rpm is 6,000.

Attachments have hardened-steel cutting discs and a built-in safety guard. They come with one full set of cutters.



	Attachments		Replacement Cutters	
Dia.		Each	Pcs./ Set	Set
4″	9562T14	$106.31	21	9562T22 $15.35
6″	9562T12	174.55	49	9562T16 34.52

Air-Powered Angle Grinders for Grinding Wheels and Sanding Discs

Use these angle grinders for material removal over large surface areas. They have an angled head for accessing hard-to-reach places and a threaded spindle for attaching grinding wheels, sanding discs, and wheel brushes. Grinders have a wheel guard, a lever lock to prevent accidental start-up, and a lever throttle to regulate airflow. They also include a wrench.

Light Duty Grinders—Designed for light, intermittent grinding and sanding.

Medium Duty Grinders—More durable than the light duty grinders, these are designed for more frequent use. The 7″ grinder includes a flange and wheel nut.

Heavy Duty Grinders—Rated for continuous use to take on tough jobs, these grinders have heavy duty gears for smooth operation and long tool life. They include a flange and wheel nut.



Light Duty and Medium Duty



Heavy Duty

For Wheel Dia.	Max. rpm	hp	For Arbor Hole Size	Airflow, cfm @ 90 psi	Exhaust Location	O'all Lg.	Inlet Size, NPT	For Hose ID	Wt., lbs.		
Light Duty Grinder											
4″	11,000	3/4	3/8″-24	6	Front	9″	1/4	3/8″	4	43605A23	$155.24
Medium Duty Grinders											
4″	11,000	3/4	3/8″-24	12	Front	9″	1/4	3/8″	4	43605A21	298.45
7″	4,500	1	5/8″-11	12	Front	12″	1/4	3/8″	5 3/4	43605A22	332.71
Heavy Duty Grinders											
4″	12,000	1	3/8″-24	17	Rear	9 1/4″	3/8	3/8″	3 3/4	4435A42	627.00
4 1/2″	12,000	1	5/8″-11	17	Rear	9 1/4″	3/8	3/8″	3 3/4	4435A28	699.43

Caution: ***Use only accessories that have a greater rpm rating than the maximum speed of the grinder you choose.***

Electric Angle Grinders for Grinding Wheels and Sanding Discs



The threaded spindles on these grinders accept raised-hub grinding wheels, such as Type 27 and Type 29. Grinders can also be used with sanding discs, cup brushes, and wheel brushes. They include a wheel guard, except 4656A21, and a cord and plug. They are double insulated and UL listed.

DeWalt—All have a side handle and spindle lock. They are CSA certified and meet OSHA requirements. Grinders for 4½"-6" wheels include a flange and wrench. Grinders for 5"-6" wheels also include a grinding wheel.

Milwaukee—All have a side handle and spindle lock. They are CSA certified, C-UL listed, and meet OSHA requirements. Model 6078 has variable speeds with dial control. Grinders with a paddle switch include a flange and wrench.

Makita—All include a grinding wheel and wrench. Model 9564CV has variable speeds with dial control.

For Wheel Dia.	Max. rpm	Voltage	Amps	For Arbor Hole Size	O'all Lg.	Wt., lbs.	Switch Type	Manufacturer Model No.		
DeWalt										
4½"	11,000	120V AC	11	5/8"-11	12"	4 5/8	Paddle	DWE402	8705A19	$99.50
4½"	11,000	120V AC	11	5/8"-11	12"	4 5/8	Slide	DWE4214	8705A64	101.29
5"	10,000	120V AC	12	5/8"-11	14"	7 1/2	Trigger	DW831	8705A65	150.56
5"	11,000	120V AC	13	5/8"-11	13"	4 5/8	Paddle	D28114	8705A77	169.95
6"	9,000	120V AC	13	5/8"-11	13"	4 5/8	Paddle	D28144	8705A78	203.12
7"	8,500	120V AC	15	5/8"-11	19 1/4"	12 1/8	Trigger	DWE4517	4395A19	177.50
9"	6,500	120V AC	15	5/8"-11	19 1/4"	12 1/8	Trigger	DWE4519	4395A18	178.75
Milwaukee										
4½"	10,000	120V AC	7.5	5/8"-11	11 3/4"	5	Paddle	6140-30	46225A23	86.88
4½"	11,000	120V AC	11	5/8"-11	11 1/2"	5 1/2	Paddle	6146-31	46225A24	107.50
5"	11,000	120V AC	13	5/8"-11	12 1/4"	5 3/4	Paddle	6117-30	46225A72	137.50
7", 9"	6,000	120V AC	13	5/8"-11	17"	9 1/4	Trigger	6078	4656A21	215.00
7", 9"	6,000	120V AC	15	5/8"-11	21"	13 3/4	Trigger	6088-30	46305A14	182.80
Makita										
4"	11,000	120V AC	6	M10×1.25	10 1/2"	3 1/8	Slide	GA4030K	8721A21★	58.21
4½"	10,000	120V AC/DC	7.5	5/8"-11	10 5/8"	3 1/2	Paddle	9557PB	8721A31	82.94
4½"	10,500	120V AC	12	5/8"-11	11 3/4"	5 1/4	Slide	9564CV	8721A62	167.32
5"	10,000	120V AC/DC	7.5	5/8"-11	10 3/4"	4 5/8	Paddle	9558PB	8721A41	101.27

★Includes a flange to fit discs with a 5/8"-11 arbor hole size.

Backup Pads

Required for use with sanding discs.

For 4", 4½", and 5" Grinders—Include a spindle nut. *Milwaukee* pads also include two sanding discs.

For Wheel Dia.	DeWalt		Milwaukee		Makita	
4"					8721A22	$14.38
4½"	8705A71	$9.40	46225A73	$12.32	8721A32	29.10
5"	8705A71	9.40	46225A74	12.67	8721A42	24.25

For 7" and 9" Grinders—Include a backing plate and 5/8"-11 spindle nut, except 4395A25 includes a 14 mm (M14) spindle nut. *Round* pad has holes to reduce heat buildup. *Octagon* pads have a ribbed plate that continually sharpens the disc, making it last longer.

For Wheel Dia.	Round		Octagon	
7"			4395A23	$32.32
7"	4395A25	$34.28		
9"			4395A24	33.89

Wheel Guards for Milwaukee Grinders

Required when using grinding wheels and cups.

For Wheel/ Cup. Dia.	For Manufacturer and Model No.		
Guards for Grinding Cups			
4"	Milwaukee 6078	46305A61	$61.57
5"	Milwaukee 6078	46305A62	74.68
Guards for Grinding Wheels			
7"	Milwaukee 6078	46305A21	26.72
9"	Milwaukee 6078	46305A22	30.45

Flange Adapter Set

Use to mount 6" to 9" dia. grinding wheels that are 1/16" to 1/4" thick with a 5/8" or 7/8" arbor hole. Fits most angle grinders with a 5/8"-11 threaded arbor. Set includes flange, mounting nut, and hex key.

46225A22 ..... $21.87

Grinding Wheels for Straight Grinders



Use these wheels for heavy material removal in one spot or along a weld seam. They are also known as Type 1 wheels and snagging wheels. Use on stainless steel and iron.

Wheels are aluminum oxide, which is the most common abrasive used in grinding metal. They produce a rough surface texture. Color is black.

Dia.	Thick.	Arbor Hole Size	Max. rpm	Grit		
2"	1/4"	1/4"	30,550	36	8733A31	$4.00
2"	1/4"	3/8"	30,550	36	8733A32	4.00
2"	3/8"	3/8"	27,120	36	8733A33	5.27
2"	1/2"	3/8"	27,120	36	8733A34	7.88
3"	1/4"	3/8"	20,370	36	8733A35	5.92
3"	3/8"	3/8"	18,080	36	8733A36	6.98
3"	1/2"	3/8"	18,080	24	8733A11	10.16
4"	1/2"	1/2"	13,560	24	8733A22	$11.88
4"	1/2"	3/8"	13,560	24	8733A12	11.88
5"	1/2"	1/2"	10,848	20	8733A13	15.76
5"	3/4"	1/2"	10,848	24	8733A14	17.63
5"	1"	5/8"	9,550	24	8733A52	24.08
6"	1"	5/8"	7,958	16	8733A15	31.27

Grinding Wheels with Cotton Laminate for Straight Grinders



A combination of cotton laminate and aluminum oxide abrasive creates a smoother surface than other grinding wheels with similar grits. Wheels are also known as Type 1 wheels and snagging wheels. They have an unthreaded arbor hole. Use on aluminum, brass, steel, and stainless steel. Color is brown.

To Order: Please specify grit: 54 (rough); 80 (smooth); 120 (smooth).

Dia.	Thick.	Arbor Hole Size	Max. rpm		
Grinding Wheels					
2"	1/16"	1/4"	27,120	8736A401	$4.15
2"	1/8"	1/4"	27,120	8736A402	4.15
2"	1/4"	1/4"	27,120	8736A403	7.22
3"	1/16"	3/8"	18,080	8736A404	6.28
3"	1/8"	3/8"	18,080	8736A405	6.28
Heavy Removal Grinding Wheels					
2"	1/16"	1/4"	27,120	8736A406	$4.15
2"	1/8"	1/4"	27,120	8736A407	4.15
2"	1/4"	1/4"	27,120	8736A408	7.22
3"	1/16"	3/8"	18,080	8736A409	6.28
3"	1/8"	3/8"	18,080	8736A411	6.28

***Caution:** Use only accessories that have a greater rpm rating than the maximum speed of the grinder you choose.*

Grinding Cones for Straight Grinders

Longer lasting than grinding bits, these cones remove heavy amounts of material and leave a rough surface texture. They have a threaded insert that attaches to the spindle on a straight grinder. Use in corners and inside castings. Head diameter is measured at the widest point.

For Steel—Cones are aluminum oxide.

For Steel and Stainless Steel—Cones are zirconia alumina, which grinds faster and lasts longer than aluminum oxide.

To Order: Please specify grit: 16 or 24 (rough, gray-brown).



	Head Dia.	Head Lg.	Max. rpm	For Steel		For Steel and Stainless Steel	
3/8"-24 Arbor Hole Size							
1	1½"	2½"	24,192	8732A31	$6.72	8732A35	$8.96
1	1½"	3"	24,192	8732A37	7.52	8732A38	10.00
2	1½"	2½"	24,192	8732A39	9.80	8732A41	13.04
3	1½"	2½"	24,192	8732A81	7.92	8732A82	10.56
3	1½"	3"	24,192	8732A17	8.60	8732A18	11.48
4	1½"	3"	24,192	8732A19	9.04	8732A83	12.00
5	1½"	3"	24,192	8732A42	9.04	8732A43	12.00
5/8"-11 Arbor Hole Size							
1	1½"	2½"	24,192	8732A63	6.72	8732A64	8.96
1	1½"	3"	24,192	8732A65	7.52	8732A66	10.00
1	2"	3"	18,144	8732A67	8.28	8732A68	11.00

	Head Dia.	Head Lg.	Max. rpm	For Steel		For Steel and Stainless Steel	
5/8"-11 Arbor Hole Size (Cont.)							
1	2"	4"	18,144	8732A69	$10.24	8732A71	$13.64
1	2½"	3"	14,515	8732A72	10.32	8732A73	13.72
2	1½"	2½"	24,192	8732A74	7.92	8732A75	10.56
2	2"	4"	18,144	8732A76	12.40	8732A77	16.48
3	1½"	2½"	24,192	8732A44	8.32	8732A45	10.56
3	1½"	3"	24,192	8732A52	8.60	8732A53	11.48
3	1¾"	3"	20,735	8732A54	9.96	8732A55	12.64
3	2"	3"	18,144	8732A56	9.48	8732A57	12.64
3	2¾"	3½"	13,195	8732A58	14.36	8732A59	19.12
4	2"	4"	18,144	8732A61	12.36	8732A62	16.44
5	2"	4"	18,144	8732A78	12.36	8732A79	16.44

Air-Powered Straight Grinders for Wheels and Cones

Use these grinders with straight (Type 1) grinding wheels. Grinders have a lever lock to prevent accidental start-up and a lever throttle to regulate airflow. Wheel guard included.

Style B has a regulator that maintains constant speed when grinding.



	For Wheel Dia.	Max. rpm	hp	For Arbor Hole Size	Airflow, cfm @ 90 psi	Exhaust Location	O'all Lg.	Inlet Size, NPT	For Hose ID	Wt., lbs.		
A	3"	18,000	1	3/8"-24	14	Rear	13 3/8"	3/8	3/8"	3 1/4	45405A12	$648.18
B	3"	12,000	1	3/8"-24	38	Rear	14 1/4"	3/8	3/8"	4	45405A61	684.51
B	4"	12,000	1	3/8"-24	38	Rear	8 5/8"	3/8	3/8"	2 3/4	45405A62	507.32
B	6"	6,000	2	5/8"-11	61	Side	20"	1/2	3/4"	11 1/4	45405A45	1,479.33

Electric Straight Grinders for Wheels and Cones



Use these grinders with straight (Type 1) grinding wheels, cones, plugs, and wheel brushes. Grinders have a wheel guard, trigger power switch, and cord with plug. They are UL listed, CSA certified, and meet OSHA requirements.

Style B is double insulated. It includes a grinding wheel.

	For Wheel Dia.	Max. rpm	For Arbor Hole Size	AC/DC Voltage	Amps	O'all Lg.	Wt., lbs.	Manufacturer and Model No.		
A	2½"	19,000	3/8"-24	120	5	18½"	6 7/8	DeWalt DW880	43815A45	$269.38
B	5"	7,000	5/8"-11	120	12	20"	10 3/8	Milwaukee 5223	4425A38	367.50
C	6"	5,700	5/8"-11	120	13	24 3/8"	14 7/8	DeWalt DW882	43815A51	379.89
Replacement Brushes for Milwaukee Model No. 5223									4425A11	3.00

Bench and Pedestal Grinding Wheels for Carbides, Ceramics, and Glass

The perforated honeycomb pattern cuts nonmetals without the need for cleaning. Wheels are made of diamond-coated steel molded onto plastic, so they can be used wet or dry.

To Order: Please specify grit: 100 (smooth, red); 180 (smooth, blue); or 320 (extra-smooth, yellow).



Abrasive Surface	Dia.	Thick.	Arbor Hole Size	Wheel Type	Max. rpm		
Edge	6"	3/4"	1 1/4"	Type 1	3,820	8725A81	$130.00
Edge	6"	1"	1 1/4"	Type 1	3,820	8725A82	148.00
Partial Face	6"	3/4"	1 1/4"	Type 2	3,820	8725A91	136.00
Full Face	6"	1/2"	1/2"	Type 1	3,820	8725A92	176.00

Bench and Pedestal Grinding Wheels with Rubber-Cushioned Abrasive for Soft Metals

The silicon carbide abrasive in these wheels is suspended in rubber for a cushioned grind with light material removal. They are also known as Type 1 wheels. Use on aluminum, brass, and bronze.

To Order: Please specify grit: 46 (rough, green); 120 (smooth, brown); 180 (smooth, red); or 240 (extra-smooth, blue).



Dia.	Thick.	Arbor Hole Size	Max. rpm		
4"	1/2"	1/2"	5,250	4824A84	$31.97
6"	1/2"	1/2"	3,600	4824A85	62.42
6"	3/4"	1/2"	3,600	4824A86	75.76

Grinding Wheel to Electric Motor Adapters

Convert your bench-mount motor into a grinder-buffer. This adapter fits onto the motor shank so you can mount wire wheel brushes, grinding wheels, and more.



For Shank Dia.	For Arbor Hole Size	For Max. Wheel Thick.	Flange Dia.	O'all Lg.		
1/4"	3/8"-24	1/2"	1 1/4"	2"	43555A21	$5.20
5/16"	3/8"-24	1/2"	1 1/4"	2"	43555A22	5.20
3/8"	3/8"-24	1/2"	1 1/4"	2"	43555A23	5.20
1/2"	1/2"-20	1 1/4"	1 5/8"	3 1/2"	43555A24	6.46
5/8"	1/2"-20	1 1/4"	1 5/8"	3 1/2"	43555A25	6.46

***Caution:** Use only accessories that have a greater rpm rating than the maximum speed of the grinder you choose.*

Bench and Pedestal Grinding Wheels for Metals



These wheels are for grinding, deburring, and sharpening. Wheels include one of each reducer bushing listed, except where noted. The smallest bushing size shown is the smallest allowed for that size wheel.

Wheels **for steel and stainless steel** are aluminum oxide. *General purpose wheels* are gray; *heavy-removal wheels* are brown. Wheels **for aluminum, brass, and bronze** are silicon carbide. Color is green.

General Purpose—For light use. **To Order:** For wheels for steel and stainless steel, please specify grit: 24, 36, 46, or 60 (rough); 80 or 120 (smooth). For wheels for aluminum, brass, and bronze, please specify grit: 60 (rough); 80, 120, or 150 (smooth); or 220 (extra-smooth).

Heavy Removal— Designed to stand up to heavy use. **To Order:** For wheels for steel and stainless steel, please specify grit: 24, 36, 46, or 60 (rough); 80 or 100 (smooth), unless noted. For wheels for aluminum, brass, and bronze, please specify grit: 60 (rough); 80, 120, or 150 (smooth); or 220 (extra-smooth).

Replacement Reducer Bushings: Please ask for 4461A8 and specify wheel diameter and thickness.

Other Bushings: Reduces a 1¼″ arbor hole to ⅞″. Please ask for 4461A9.

				General Purpose				*Heavy Removal*			
		Arbor			For Steel and Stainless Steel		For Aluminum, Brass, and Bronze		For Steel and Stainless Steel		For Aluminum, Brass, and Bronze
Dia.	Thick.	Hole Size	Reducer Bushing Sizes Included	Max. rpm				Max. rpm			
4″	½″	1″	⅜″, ½″, ⅝″, ¾″, ⅞″	____	____	____	____	8,120	44611A711	$13.84	44621A311 $20.33
4″	½″	½″	None	6,210	4463A411	$8.32	4988A111 $9.59	8,120	44611A111	11.02	44621A111 18.18
4″	¾″	½″	None	6,210	4463A412	8.95	4988A121 10.41	8,120	44611A112	11.91	44621A112 19.71
5″	½″	1″	½″, ⅝″, ¾″	4,970	4463A414	9.38	4988A131 11.24	4,965	44611A113★	12.49	44621A113★ 20.69
5″	¾″	1″	½″, ⅝″, ¾″	4,970	4463A415	10.49	4988A141 11.88	4,965	44611A114★	13.16	44621A114★ 21.73
6″	½″	1″	½″, ⅝″, ¾″	4,140	4463A417	14.54	4988A211 16.67	5,410	44611A714★	18.28	44621A314★ 25.51
6″	¾″	1″	½″, ⅝″, ¾″	4,140	4463A418	16.62	4988A311 19.82	5,410	44611A715★	21.34	44621A315★ 27.40
6″	1″	1″	½″, ⅝″, ¾″	4,140	4463A419	18.46	4988A411 21.65	5,410	44611A716★	23.03	44621A316★ 27.25
6″	1¼″	1″	½″, ⅝″, ¾″	4,140	4463A421	22.08	4988A321 25.08	4,140	44611A115★	26.11	44621A115★ 28.62
7″	¾″	1″	½″, ⅝″, ¾″	3,600	4463A433	22.24	4988A758 25.78	3,600	44611A717★■	26.48	44621A318★ 43.65
7″	1″	1″	½″, ⅝″, ¾″	3,600	4463A422	23.00	4988A511 26.76	3,600	44611A718★	26.54	44621A319★ 45.86
8″	¾″	1″	½″, ⅝″, ¾″	3,600	____	____	4988A759 27.54	3,600	44611A211★▲	28.51	44621A281★▲ 53.07
8″	1″	1¼″	⅝″, ¾″, 1″	3,600	4463A424	27.19	4988A611 31.18	3,600	44611A116★♣	32.20	44621A116★♣ 47.60
8″	1″	1″	½″, ⅝″, ¾″	3,600	____	____	4988A761 27.54	3,600	44611A221★▲	33.63	44621A291★▲ 54.56
8″	1¼″	1¼″	⅝″, ¾″, 1″	3,600	4463A425	30.62	4988A341 34.76	3,600	44611A117★♣	35.55	44621A117★♣ 49.93
10″	1″	1¼″	¾″, 1″	2,485	4463A426	41.57	4988A711 53.75	3,250	44611A724★	52.50	44621A324★ 79.64
10″	1¼″	1¼″	¾″, 1″	2,485	4463A428	46.11	4988A721 63.37	2,485	44611A731★	58.15	44621A325★ 87.02
10″	1½″	1¼″	¾″, 1″	2,485	4463A427	55.70	4988A351 76.02	3,250	44611A726★	68.30	44621A326★ 93.92
12″	1½″	1½″	1″, 1¼″	1,910	4463A429	62.94	4988A731 110.18	2,710	44611A728	92.04	44621A328 125.54
12″	2″	1½″	1″, 1¼″	1,910	4463A431	76.24	4988A741 130.82	2,710	44611A729	101.92	44621A329 187.96
14″	2″	1½″	1″, 1¼″	1,637	4463A432	104.10	4988A751 182.24	2,320	44611A733	144.95	44621A331 261.44

★ Also includes a ⅞″ bushing. ■ Not available in 36 grit. ▲ ½″ bushing not included. ♣ ⅝″ bushing not included.

Bench Grinders



Heavy Duty Grinder

Grinders are for use with grinding wheels and wire wheel brushes, and come with a 36- and a 60-grit grinding wheel, unless otherwise stated. Grinders have a totally enclosed motor, a vented-exhaust wheel guard (unless noted) and include two adjustable tool rests, two eye shields, and two spark breakers. They have a cord and plug, except three-phase tools and 10″ heavy duty grinders, which have leads for hard-wiring. The 120/240-volt models are wired for 120-volt service.

Light Duty Grinders—Use for occasional bench grinding, tool sharpening, and buffing. Meets OSHA requirements, except 4601A33 and 4601A54, which are UL listed.

Heavy Duty Grinders—Long-lasting lubricated ball bearings make these good for continuous use. Made of iron. UL listed, except 4452A29. Meet OSHA requirements.

Heavy Duty Grinders with Wire Brush—These come with a 36-grit grinding wheel and a 0.014″ wire wheel brush. They are UL listed and meet OSHA requirements.

For accessories, see page 2639.

Bench Grinders

For Wheel Dia.	Wheel Thick.	For Arbor Hole Size	Max. rpm	hp	AC Voltage	Phase	Exhaust Vent Dia.	Wt., lbs.		
Light Duty Grinders										
6″	¾″	½″	3,450	⅓	120/240	1	2½″	28	4689A11♠	$185.58
6″	¾″	½″	3,600	⅓	120	1	3″	30	4601A33	296.27
6″	¾″	½″	3,600	⅓	120	1	____	30	4601A54♦	329.54
8″	1″	⅝″	3,450	¾	120/240	1	2½″	58	4689A14♠	267.69
10″	1″	1″	1,725	1	120/240	1	2½″	125	4689A17♠	476.51
Heavy Duty Grinders										
6″	¾″	½″	1,800	¼	120	1	2″	47	4601A11	463.52
6″	¾″	½″	3,600	⅓	120	1	2″	47	4601A15	463.52
7″	1″	⅝″	1,800	½	120/240	1	3″	71	4601A16	629.43
7″	1″	⅝″	3,600	½	120/240	1	3″	70	4601A23♠	631.71
7″	1″	⅝″	3,600	½	208-230/460	3	3″	70	4601A25♠	629.43
8″	1″	¾″	1,800	¾	208-230/460	3	3″	98	4602A12	952.50
8″	1″	¾″	1,800	¾	120/240	1	3″	99	4602A11	982.14
8″	1″	¾″	3,600	¾	120/240	1	3″	99	4601A19	1,017.21
8″	1″	¾″	3,600	¾	208-230/460	3	3″	99	4601A21♠	990.09
10″	1″	⅞″	1,800	1	120/240	1	3″	133	4602A15	1,255.52
10″	1″	⅞″	1,800	1½	208-230/460	3	3″	134	4602A21	1,236.34
Heavy Duty Grinders—With tool tray, two adjustable lighted eye shields, and water pot.										
6″	¾″	½″	3,600	⅓	120	1	2″	61	4452A29	604.28
7″	1″	⅝″	1,800	½	120/240	1	3″	84	4452A3	785.33
7″	1″	⅝″	3,600	½	120/240	1	3″	84	4452A4	785.33
8″	1″	¾″	1,800	¾	120/240	1	3″	110	4452A11	1,123.14
8″	1″	¾″	3,600	¾	120/240	1	3″	111	4452A12	1,123.14
10″	1″	⅞″	1,800	1	120/240	1	3″	145	4452A21	1,440.07
10″	1″	⅞″	1,800	1½	208-230/460	3	3″	146	4452A22	1,417.41
Heavy Duty Grinders with Wire Brush										
6″	¾″	½″	3,600	⅓	120	1	2″	43	4600A1♦	393.55
7″	1″	⅝″	3,600	½	120/240	1	3″	68	4600A2♦	607.72
8″	1″	¾″	3,600	¾	120/240	1	3″	97	4600A3♦	982.14

♠ CSA certified ♦ Wheel guard does not have exhaust vent.

Replacement Eye Shield for Light Duty Grinders

For *light duty grinders*, except 4601A33 and 4601A54. Includes two eye shields, two brackets, and mounting hardware.

4689A28 $14.30

Optional Pedestal

For *light duty grinders*, except 4601A33 and 4601A54. Pedestal is made of iron and has a water pot and a tool tray. Overall height is 31¾″. Mounting surface is 10″ Wd. × 11″ Dp. Weight is 59 lbs.

4689A26 $141.90

Replacement Tool Rests

Tool rests for *heavy duty grinders* are suitable for right- and left-hand mounting.

For Grinder Sizes	*For Light Duty Grinders* Left-Hand		*For Light Duty Grinders* Right-Hand		*For Heavy Duty Grinders*	
6″, 7″	4689A32♥	$11.50	4689A34♥	$13.20	4601A62♠	$36.40
8″, 10″	4689A32	11.50	4689A34	13.20	4601A64	40.69

♥ Does not fit 4601A33 or 4601A54. ♠ Does not fit 4600A1.

Caution: Use only accessories that have a greater rpm rating than the maximum speed of the grinder you choose.

Pedestal Grinders



Made of steel with an iron pedestal, these grinders use 12″ Dia.×2″ Thick×1¼″ arbor hole grinding wheels and wheel brushes. Pedestal is 30″ high with a 20″ Wd.×17″ Dp. base. They weigh 470 lbs.

Grinders have overload-protected manual starters. They include a water pot and two iron wheel guards with a 4″ dia. vent exhaust, two adjustable tool rests, two spark breakers, two tool trays, and two lighted adjustable eye shields (bulbs not included). They are wired for 240 volts, except 4606A41 is wired for 120 volts. They meet OSHA requirements. 4606A51 and 4606A61 are CSA certified.

hp	Max. rpm	AC Voltage	Hz	Phase		
2	1,800	120/240	60	1	4606A41	$3,204.44
2	1,800	240/480	50/60	3	4606A51	3,063.91
3	1,800	240/480	50/60	3	4606A61	3,145.93

Accessories for Bench and Pedestal Grinders

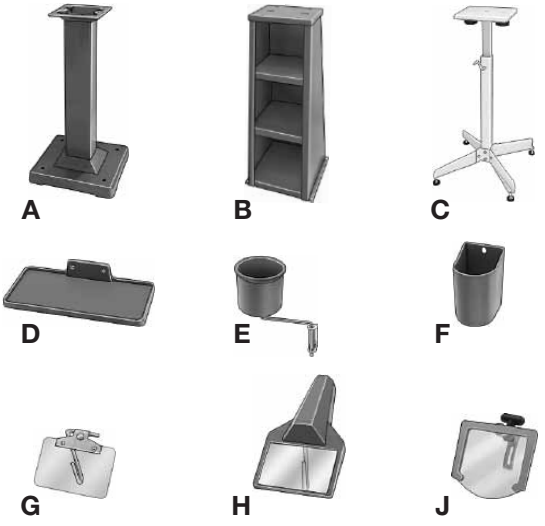

Pedestals

A	For 6″ to 10″ grinders. Made of iron; 32⅞″ Ht.; 15¾″ Wd.×14″ Dp. base; 62 lbs.	4423A3	$439.68
A	For 8″ to 14″ grinders. Made of iron; 30″ Ht.; 20″ Wd.×17″ Dp. base; 120 lbs.	4603A4	588.78
B	Three-shelf style for 6″ to 10″ grinders. Made of steel; 34½″ Ht.; 14″ Wd.×14″ Dp. base; 64 lbs.	4420A12	310.50
C	For 6″ to 8″ grinders. Made of steel. Height adjusts from 22″ to 43″; 20″ Wd.×17″ Dp. mounting surface; 26 lbs.	44665A43	159.64
C	For 6″ to 8″ grinders. Made of steel. Height adjusts from 22″ to 43″; 8½″ Wd.×9½″ Dp. mounting surface; 20 lbs.	44665A33	128.57

Tool Trays

D	For Style A pedestal (4603A4). Made of steel. 12″ Wd.×6″ Dp.	4603A9	57.19

Water Pots

E	1½-pint size with swivel arm and mounting bracket	4366A12	40.12
F	3-pint size for Style A pedestal (4603A4)	4603A8	57.19

Eye Shields

G	Standard style for 7″ to 14″ grinders. Has a 6″×4″ acrylic panel that swivels up and down. Furnished in pairs.	4604A1	51.98
H	Lighted style for 6″ to 14″ grinders. Has a 5½″×3¾″ acrylic panel in an aluminum frame. It includes a cord and plug, and uses a 60-watt light bulb (not included). UL listed and CSA certified.	4604A2	93.71
J	Has a 5½″×5¾″ aluminum framed polycarbonate panel that swivels up and down	4411A11	136.27
J	Has a 6½″×8½″ aluminum framed polycarbonate panel that swivels up and down	4411A13	149.27
J	Replacement 5½″×5¾″ panel	4411A12	22.08
J	Replacement 6½″×8½″ panel	4411A14	32.45

Dust Collectors for Pedestal Grinders

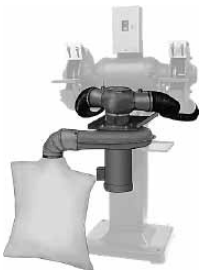

Mount on pedestal grinders for easy dust collection. They have a ½-hp, 120-volt AC totally enclosed fan-cooled motor; two hoses; fittings; bracket; 8-ft. power cord with plug; and a cloth filter bag with a 4″ dia. opening. Airflow is 440 cfm. See table for OSHA requirements.

For Grinder Sizes	OSHA Required Airflow per Wheel, cfm		
7″	220	4578A51	$990.71
8″	220	4578A52	990.71
10″	390	4578A53	990.71
12″	390	4578A54	1,080.79
Filter Bags		4578A61	64.58

Toolroom Grinding Wheels for Carbide, Ceramics, and Glass

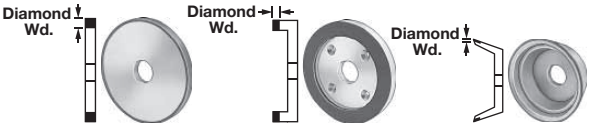

A nickel-coated diamond grit and synthetic resin bond make these wheels extremely hard and wear resistant. Wheels are silver with a 1¼″ arbor hole.

To Order: Please specify grit: 100 or 150 (smooth); or 220 (extra-smooth).

Dia.	Thick.	Diamond Wd.	Max. rpm		
Straight Wheels					
4″	⅛″	⅛″	9,050	4571A161	$99.27
4″	¼″	⅛″	9,050	4571A162	129.34
6″	⅛″	⅛″	6,025	4571A163	119.88
6″	¼″	⅛″	6,025	4571A164	139.59
6″	⅜″	⅛″	6,025	4571A165	156.68
6″	½″	⅛″	6,025	4571A166	171.13
7″	⅛″	⅛″	5,175	4571A167	129.99
7″	¼″	⅛″	5,175	4571A168	152.64
7″	⅜″	⅛″	5,175	4571A169	170.33
7″	½″	⅛″	5,175	4571A171	189.62
Recessed Wheels					
6″	¾″	1/16″	6,025	4571A141	172.61
6″	¾″	⅛″	6,025	4571A143	193.60
Flared Cup Wheels					
2⅝″, 3¾″	1½″	1/16″	9,675	4571A151	150.28
2⅝″, 3¾″	1½″	⅛″	9,675	4571A152	148.46
3¼″, 5″	1¾″	⅛″	7,250	4571A154	175.81

Norton Toolroom Grinding Wheels for Soft Metals



Unlike aluminum oxide, silicon carbide won't clog when grinding soft metals. Use on aluminum, brass, bronze, carbide, and titanium, unless noted. Abrasive is type 39C and color is green, unless noted. Wheels have a VK bond.

60-grit wheels produce a rough surface texture; 80-, 100-, and 120-grit wheels produce a smooth surface texture.

Dia.	Thick.	Arbor Hole Size	Grit	Grade	Max. rpm		
Straight Wheels—Type 1							
3″	½″	½″	60	M	10,825	4422A09★	$13.07
7″	½″	1¼″	60	I	3,600	4422A21	53.74
7″	½″	1¼″	80	I	3,600	4422A23	53.74
7″	½″	1¼″	100	I	3,600	4422A25	53.74
7″	½″	1¼″	120	I	3,600	4422A27	53.74
7″	1″	1¼″	60	I	3,600	4422A31	73.91
8″	½″	1¼″	100	I	3,600	4422A35	64.40
8″	¾″	1¼″	60	J	3,600	4422A37	76.48
8″	1″	1¼″	60	J	3,600	4422A42	90.59
8″	1″	1¼″	80	I	3,600	4422A44	90.59
8″	1″	1¼″	100	I	3,600	4422A46	90.59
Straight Cup Wheels—Type 2							
6″	1″	1¼″	60	I	3,600	4468A11	118.93
6″	1″	1¼″	80	I	3,600	4422A66	118.93
6″	1″	1¼″	120	I	3,600	4468A21	118.93
7″	1½″	1¾″	60	I	3,600	4468A14	170.17
7″	1½″	1¾″	120	I	3,600	4468A24	172.79
10″	2″	2″	60	H	2,100	4422A72	360.66

★ Not for use on carbide or titanium. Abrasive is 37C. Color is black.

Norton Toolroom Grinding Wheels for Metals



Use these wheels for precision grinding on surface, cylindrical, and tool and cutter grinders. They are also known as Type 1 wheels and straight wheels. The size listed is wheel dia. × thick. × arbor hole size. The rpm listed is the maximum. 46-grit and 60-grit wheels produce a rough surface texture. 80-grit to 150-grit wheels produce a smooth surface texture. Truing and cleaning before first use is recommended.

General Purpose—Wheels are aluminum oxide, which is the most common abrasive used in grinding metal. They have a VBE bond. *38A white* wheels stay cool during use, so they're a good choice for heat-sensitive applications.

Long Life—Wheels have a more durable abrasive so they remove more material and last longer than the general purpose wheels. *32AA purple* wheels are a blend of aluminum oxide and ceramic aluminum oxide, which lasts up to twice as long as 32A wheels. They have a VTR bond. *5SG blue* wheels are ceramic aluminum oxide, which lasts up to five times as long as 32A wheels. They have a VS bond.

About Norton Numbers

To reorder a wheel using a Norton number, match the abrasive type, grit, and grade. Bond is determined by the abrasive type.

Example:

38A60-MVBE

Abrasive Type | Grit | Grade | Bond

General Purpose—38A White for Light Material Removal

Grit	Grade		
Size: 3″×1″×½″; 10,825 rpm			
60	M	4397A311	$10.81
80	M	4397A312	10.81
Size: 6″×½″×1¼″; 4,140 rpm			
60	K	4397A17	24.05
80	K	4397A18	24.05
Size: 7″×¼″×1¼″; 3,600 rpm			
46	I	4397A19	23.09
60	I	4397A22	23.09
60	J	4397A23	23.09
60	K	4397A314	23.09
80	I	4397A24	23.09
80	K	4397A25	23.09
100	I	4397A26	23.09
100	J	4397A27	23.09
100	K	4397A316	23.09
120	K	4397A28	23.09
150	K	4397A317	40.48
150	L	4397A318	40.48
Size: 7″×½″×1¼″; 3,600 rpm			
46	H	4397A29	28.78
46	I	4397A31	28.78
46	J	4397A319	28.78
46	K	4397A32	28.78
60	H	4397A33	28.78
60	I	4397A34	28.78
60	J	4397A321	28.78
60	K	4397A322	28.78
80	H	4397A36	28.78
80	I	4397A37	28.78
Size: 7″×1″×1¼″ (Cont.)			
80	J	4397A323	$28.78
80	K	4397A324	28.78
100	I	4397A39	28.78
Size: 8″×¼″×1¼″; 3,600 rpm			
60	I	4397A42	27.79
80	I	4397A44	27.79
100	I	4397A326	27.79
100	K	4397A46	27.79
Size: 8″×½″×1¼″; 3,600 rpm			
46	H	4397A48 ★	34.52
46	I	4397A49 ★	34.52
46	J	4397A51	34.52
46	K	4397A327	34.52
60	I	4397A53	34.52
60	J	4397A54	34.52
60	K	4397A55	34.52
80	I	4397A328	34.52
80	K	4397A57	34.52
Size: 8″×¾″×1¼″; 3,600 rpm			
46	K	4397A61	41.09
60	I	4397A63	41.09
Size: 10″×¾″×3″; 2,485 rpm			
46	J	4397A67	64.10
Size: 12″×1″×3″; 2,070 rpm			
46	H	4397A329	101.93
46	J	4397A332	101.93
Size: 12″×1″×5″; 2,070 rpm			
46	I	4397A333	101.93

★ 3,105 max. rpm.

General Purpose—32A Purple for Med. to Heavy Material Removal

Grit	Grade		
Size: 6″×½″×1¼″; 4,140 rpm			
46	K	47145A115	$29.09
60	K	47145A117	29.09
80	J	47145A118	29.09
Size: 7″×¼″×1¼″; 3,600 rpm			
46	H	47145A119	27.97
46	I	47145A121	27.97
60	H	47145A122	27.97
60	I	47145A123	27.97
60	J	47145A124	27.97
60	K	47145A125	27.97
80	I	47145A126	27.97
80	J	47145A127	27.97
80	K	47145A128	27.97
100	I	47145A129	27.97
100	J	47145A211	27.97
120	K	47145A131	27.97
Size: 7″×⅜″×1¼″; 3,600 rpm			
60	I	47145A214	31.45
80	K	47145A224	31.45
Size: 7″×½″×1¼″; 3,600 rpm			
46	H	47145A134	36.12
46	I	47145A136	36.12
46	J	47145A342	36.12
46	K	47145A137	36.12
60	H	47145A139	36.12
60	I	47145A141	36.12
60	J	47145A142	36.12
60	K	47145A143	36.12
80	I	47145A144	36.12
80	J	47145A345	36.12
80	K	47145A145	36.12
100	I	47145A146	36.12
120	L	47145A147	36.12
Size: 7″×¾″×1¼″; 3,600 rpm			
46	H	47145A148	$41.69
60	K	47145A152	41.69
Size: 7″×1″×1¼″; 3,600 rpm			
46	H	47145A216	47.86
60	I	47145A217	47.86
Size: 8″×¼″×1¼″; 3,600 rpm			
46	H	47145A153 ★	33.71
60	I	47145A154	33.71
60	K	47145A155	33.71
80	K	47145A157	33.71
100	I	47145A158	33.71
Size: 8″×½″×1¼″; 3,600 rpm			
46	H	47145A161 ★	43.00
46	I	47145A163 ★	43.00
46	J	47145A346	43.00
46	K	47145A165	43.00
60	H	47145A166	43.00
60	I	47145A167	43.00
60	J	47145A168	43.00
60	K	47145A169	43.00
80	I	47145A171	43.00
80	K	47145A348	43.00
Size: 8″×¾″×1¼″; 3,600 rpm			
46	H	47145A174 ★	49.72
46	I	47145A219 ★	49.72
46	J	47145A175	49.72
46	K	47145A349	49.72
60	J	47145A176	49.72
60	K	47145A221	49.72
Size: 8″×1″×1¼″; 3,600 rpm			
46	K	47145A351	58.60
60	I	47145A352	58.60

★ 3,105 max. rpm.

General Purpose—32A Purple (Cont.)

Grit	Grade		
Size: 10″×¾″×3″; 2,485 rpm			
46	I	47145A177	$93.59
60	I	47145A178	93.59
Size: 10″×1″×3″; 2,485 rpm			
46	H	47145A179	108.50
60	I	47145A183	108.50
60	K	47145A184	108.50
Size: 12″×¾″×3″; 2,070 rpm			
46	I	47145A185	126.81
60	I	47145A186	126.81
Size: 12″×1″×3″; 2,070 rpm			
46	H	47145A187	148.59
46	I	47145A188	148.59
60	I	47145A191	148.59
Size: 12″×1″×5″; 2,070 rpm			
46	H	47145A355	148.59
60	K	47145A356	148.59
Size: 12″×1½″×3″; 2,070 rpm			
46	I	47145A358	206.24
Size: 12″×1½″×5″; 2,070 rpm			
46	H	47145A361	$206.24
46	J	47145A363	206.24
60	K	47145A365	206.24
Size: 12″×2″×1¼″; 2,070 rpm			
46	K	47145A366	264.02
Size: 14″×1″×5″; 1,800 rpm			
46	I	47145A192	198.98
80	K	47145A368	198.98
Size: 14″×1½″×5″; 1,800 rpm			
46	H	47145A194	275.40
46	I	47145A195	275.40
46	J	47145A372	275.40
46	K	47145A373	275.40
60	H	47145A374	275.40
Size: 14″×2″×5″; 1,800 rpm			
46	I	47145A376	351.53
46	J	47145A377	351.53
46	K	47145A378	351.53

Long Life—32AA Purple for Med. to Heavy Material Removal

Grit	Grade		
Size: 6″×¼″×1¼″; 4,140 rpm			
80	K	44475A22	$29.33
Size: 6″×½″×1¼″; 4,140 rpm			
46	K	44475A23	35.28
60	K	44475A24	35.28
Size: 7″×¼″×1¼″; 3,600 rpm			
46	I	44475A25	33.83
80	I	44475A29	33.83
80	K	44475A31	33.83
Size: 7″×½″×1¼″; 3,600 rpm			
46	I	44475A32	42.16
46	J	44475A33	42.16
46	K	44475A34	42.16
60	I	44475A35	42.16
60	J	44475A36	42.16
60	K	44475A37	42.16
80	I	44475A38	42.16
80	K	44475A39	42.16
Size: 8″×¼″×1¼″; 3,600 rpm			
60	I	44475A41	$40.78
80	K	44475A43	40.78
Size: 8″×½″×1¼″; 3,600 rpm			
46	I	44475A44 ★	50.48
46	K	44475A45	50.48
60	I	44475A46	50.48
60	J	44475A47	50.48
80	K	44475A49	50.48
Size: 8″×¾″×1¼″; 3,600 rpm			
46	J	44475A51	60.14
60	J	44475A52	60.14
Size: 10″×1″×3″; 2,485 rpm			
46	I	44475A53	121.12
Size: 12″×1″×3″; 2,070 rpm			
46	I	44475A55	165.03
60	I	44475A56	165.03

★ 3,105 max. rpm.

Long Life—5SG Blue for Heavy Material Removal

Grit	Grade		
Size: 7″×¼″×1¼″; 3,600 rpm			
46	I	44595A11	$59.19
60	I	44595A34	59.19
60	J	44595A35	59.19
60	K	44595A36	59.19
80	K	44595A39	59.19
100	K	44595A23	59.19
Size: 7″×½″×1¼″; 3,600 rpm			
46	I	44595A44	73.78
46	J	44595A45	73.78
46	K	44595A46	73.78
60	I	44595A47	73.78
60	J	44595A48	73.78
60	K	44595A49	73.78
80	J	44595A82	73.78
80	K	44595A83	73.78
80	L	44595A84	73.78
Size: 7″×¾″×1¼″; 3,600 rpm			
46	K	44595A12	88.34
60	K	44595A13	88.34
Size: 8″×½″×1¼″; 3,600 rpm			
46	I	44595A53 ★	88.34
46	J	44595A54	88.34
60	I	44595A55	88.34
Size: 8″×½″×1¼″ (Cont.)			
60	J	44595A56	$88.34
80	K	44595A88	88.34
Size: 8″×¾″×1¼″; 3,600 rpm			
46	J	44595A59	105.29
60	J	44595A63	105.29
Size: 10″×1″×3″; 2,485 rpm			
46	J	44595A16	177.33
60	K	44595A18	177.33
Size: 12″×¾″×3″; 2,070 rpm			
60	I	44595A19	156.74
Size: 12″×1″×3″; 2,070 rpm			
46	I	44595A91	241.71
46	K	44595A92	241.71
Size: 12″×1″×5″; 2,070 rpm			
46	J	44595A25	241.71
Size: 14″×1″×3″; 1,800 rpm			
46	I	44595A21	323.57
Size: 14″×1″×5″; 1,800 rpm			
46	J	44595A68	323.57
60	J	44595A69	323.57
Size: 14″×1½″×5″; 1,800 rpm			
60	I	44595A76	447.74

Shaped Norton Toolroom Grinding Wheels for Metals

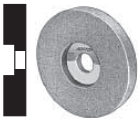
Recessed (Type 5)


Recessed (Type 7)


Straight Cup


Flared Cup


Curved (Dish)

The special shapes of these wheels provide more clearance than straight wheels. Wheels produce a rough surface texture, except 80-grit wheels produce a smooth surface. Bond is VBE for wheels with 38A and 32A abrasives, VTR for 32AA abrasive, and VS for 5SG abrasive.

Norton Abrasive Type	Dia.	Thick.	Arbor Hole Size	Grit	Norton Abrasive Grade	Max. rpm		
Recessed Wheels— Type 5								
38A	7″	1″	1¼″	46	I	3,600	4397A97	$43.95
38A	7″	1″	1¼″	46	K	3,600	4397A98	43.95
32A	7″	¾″	1¼″	46	I	3,600	4403A231	46.98
32A	7″	¾″	1¼″	60	I	3,600	4403A232	46.98
32A	7″	1″	1¼″	46	H	3,600	4403A233	53.14
32A	7″	1″	1¼″	46	I	3,600	4403A235	53.14
32A	7″	1″	1¼″	60	I	3,600	4403A236	53.14
32A	8″	1″	1¼″	46	I	3,105	4403A237	64.36
32A	8″	1″	1¼″	60	I	3,600	4403A238	64.36
32A	14″	1½″	5″	46	I	1,800	4403A341	287.34
32AA	7″	¾″	1¼″	46	I	3,600	44475A68	56.66
32AA	7″	1″	1¼″	46	I	3,600	44475A71	64.34
5SG	7″	1″	1¼″	46	I	3,600	44595A761	110.36
5SG	7″	1″	1¼″	46	J	3,600	44595A762	110.36
5SG	7″	1″	1¼″	60	J	3,600	44595A763	110.36
5SG	14″	1½″	5″	46	I	1,800	44595A743	458.00
Recessed Wheel— Type 7								
32A	12″	2″	3″	46	I	2,070	4403A363	287.86
Straight Cup Wheels— Type 6								
38A	5″	1½″	1¼″	46	K	4,585	4397A81	41.84
38A	5″	1½″	1¼″	60	K	4,585	4397A82	41.84
32A	5″	1½″	1¼″	46	K	4,585	4403A216	53.14
32A	5″	1½″	1¼″	60	K	4,585	4403A217	53.14

Norton Abrasive Type	Dia.	Thick.	Arbor Hole Size	Grit	Norton Abrasive Grade	Max. rpm		
Flared Cup Wheels— Type 11								
38A	3″, 4″	1½″	1¼″	60	K	5,730	4397A86	$30.21
38A	3¾″, 5″	1¾″	1¼″	46	K	4,585	4397A89	46.22
38A	3¾″, 5″	1¾″	1¼″	60	K	4,585	4397A92	46.22
32A	2¼″, 3″	1¼″	¾″	60	K	7,640	4403A253	18.98
32A	3″, 4″	1½″	1¼″	46	K	5,730	4403A213	34.28
32A	3″, 4″	1½″	1¼″	60	J	5,730	4403A214	34.28
32A	3″, 4″	1½″	1¼″	60	K	5,730	4403A215	34.28
32A	3″, 4″	1½″	1¼″	80	K	5,730	4403A259	34.28
32A	3¾″, 5″	1¾″	1¼″	60	J	4,585	4403A221	57.52
32A	3¾″, 5″	1¾″	1¼″	60	K	4,585	4403A222	57.52
32A	4½″, 6″	2″	1¼″	46	K	3,820	4403A393	82.09
32A	4½″, 6″	2″	1¼″	60	J	3,820	4403A396	82.09
32AA	3″, 4″	1½″	1¼″	46	K	5,730	44475A61	29.24
32AA	3″, 4″	1½″	1¼″	60	J	5,730	44475A62	29.24
32AA	3¾″, 5″	1¾″	1¼″	60	J	4,585	44475A65	67.64
5SG	3″, 4″	1½″	1¼″	60	J	5,730	44595A66	63.02
5SG	3″, 4″	1½″	1¼″	60	L	5,730	44595A67	63.02
5SG	3″, 4″	1½″	1¼″	80	J	5,730	44595A671	63.02
5SG	3¾″, 5″	1¾″	1¼″	60	K	4,585	44595A73	116.12
Curved (Dish) Wheels— Type 12								
32A	6″	½″	1¼″	60	K	4,140	4403A224	36.07
32A	7″	½″	1¼″	46	K	3,600	4403A263	43.02
32A	7″	½″	1¼″	60	K	3,600	4403A265	43.02

Heavy-Removal Norton Toolroom Grinding Wheels for Metals

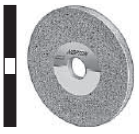
Straight

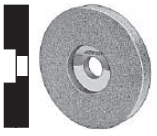
Recessed

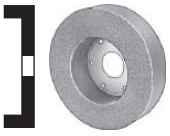
Straight Cup

The porous vitrified bond (VBEP or VSP) leaves space between abrasive grains so chips and coolant easily flow through. Wheels produce a rough surface texture, except 70-grit wheels produce a smooth surface.

Norton Abrasive Type	Dia.	Thick.	Arbor Hole Size	Grit	Norton Abrasive Grade	Max. rpm		
Straight Wheels— Type 1								
32A	7″	½″	1¼″	46	F	3,600	47145A132	$34.81
32A	7″	½″	1¼″	46	G	3,600	47145A133	34.81
32A	7″	½″	1¼″	46	H	3,600	47145A135	34.81
32A	7″	½″	1¼″	60	G	3,600	47145A138	34.81
32A	7″	½″	1¼″	60	H	3,600	47145A343	34.81
32A	8″	½″	1¼″	46	G	3,105	47145A159	41.69
32A	8″	½″	1¼″	46	H	3,600	47145A162	41.69
32A	12″	1″	3″	46	H	2,070	47145A375	148.59
5SG	7″	½″	1¼″	46	G	3,600	44595A77	84.83
5SG	7″	½″	1¼″	60	G	3,600	44595A79	84.83
5SG	14″	1½″	5″	46	G	1,800	44595A733	515.00
Recessed Wheels— Type 5								
32A	7″	1″	1¼″	46	G	3,600	4403A273	53.14
32A	7″	1″	1¼″	46	H	3,600	4403A234	53.14
Straight Cup Wheel— Type 35								
32A	9″	2″	4 15/16″	70	J	2,550	4403A428	276.34

Grinding Wheel Cleaners for Surface Grinders

Also known as dressers, these attach to the T-slot of your surface grinder or to a magnetic chuck. Base is 6″ Lg.×2½″ Wd. and holds a resettable ¼ carat, 7/16″ dia. shank, single-stone diamond at a 15° angle.



	For Wheel Dia. Range		
Cleaner with Diamond Point	6″ to 10″	4541A11	$68.97
Cleaner without Diamond Point	6″ to 10″	4541A2	31.03
¼-Carat Diamond Point		4541A12	40.09

Toolroom Grinding Wheel Mounting Adapters



Use these adapters to mount grinding wheels with a 1¼″ arbor to a surface grinder.

Adapters are steel and have a hub, adapter nut, and lock washer. Diameter is 2¼″. Choose *left-hand thread* for clockwise spindle rotation or *right-hand thread* for counterclockwise.

The *installation tool* installs and removes spindle and adapter nuts. The *puller* removes the adapter from the spindle.

For Wheel Thick.	Left-Hand Thread		Right-Hand Thread	
Adapters				
¼″ to ½″	43745A21	$57.42	43745A22	$57.42
½″ to ¾″	43745A23	78.00	43745A24	78.00
¾″ to 1″	43745A25	102.92	43745A26	102.92
Optional Accessories				
Installation Tool			43745A58	46.58
Puller			43745A51	15.71

Hand-Held Cleaning Sticks for Grinding Wheels


Square Stick


Square Holder

Also known as dressing sticks, these can be used to sharpen a variety of abrasive wheels. Silicon carbide is sharper than aluminum oxide. Boron nitride lasts longer than aluminum oxide and silicon carbide.

Square holder is for use with 1″×1″ sticks. Comes with a 24-grit silicon carbide stick. Overall length is 12″.

Round holder is for use with ½″ dia. sticks. Overall length is 10″.

For Use On	Grit	Stick Size		
Aluminum Oxide Sticks				
CBN and Diamond Wheels	150	1″×1″×6″	4563A14	$5.91
CBN and Diamond Wheels	220	1″×1″×6″	4563A16	7.80
Silicon Carbide Sticks				
Metal Bond Diamond Wheels	80	1″×1″×6″	4460A16	9.76
Metal Bond Diamond Wheels	150	1″×1″×6″	4460A17	9.76
Metal Bond Diamond Wheels	220	1″×1″×6″	4460A18	9.76
Metal Bond Diamond Wheels	320	1″×1″×6″	4460A19	11.72
Vitrified Bond Wheels	24	1″×1″×6″	4520A2	5.07
Vitrified Bond Wheels	46	½″ dia.×6″	5246A12	13.61
Boron Nitride Stick				
Vitrified Bond Wheels	900	¼″×½″×3″	43645A21	67.33
Square Holder			4387A71	28.64
Round Holder			5246A22	48.40

Hand-Held Grinding Wheel Cleaners


With Spur Cutters


With Spiral Cutters (Rough Surface Texture)


With Spiral Cutters (Smooth and Extra-Smooth Surface Texture)

Also known as hooded dressers, these steel cleaners reveal new layers of sharp abrasive and deflect flying chips. They are for use on grinding wheels with a vitrified clay bond.

Cleaners with **spur cutters** are also known as Huntington Pattern Dressers. They are for occasional use. Cleaners with **spiral cutters** are for heavy duty use. They have one-piece cutters that are formed in a continuous spiral for smoother cutting and finer finishes than spur cutters.

For Wheel Thick.	For Surface Texture	Cutter Wd.	Head Wd.	O'all Lg.	Cleaners		Replacement Cutters	
With Spur Cutters								
Up to 2″	Rough	1/2″	1 1/2″	11″	4528A1	$14.91	4530A1	$2.30
Up to 2″	Rough	1/2″	2 1/2″	11″	4528A2	19.74	4530A4	2.59
Up to 2″	Rough	7/8″	3″	15″	4528A4	28.45	4530A6	7.33
With Spiral Cutters								
Up to 2″	Rough	1 1/16″	2 3/8″	11 1/8″	4526A15	90.98	4526A16	33.64
Up to 2″	Smooth	1 1/16″	2 3/8″	11 1/8″	4526A13	85.98	4526A14	28.11
Up to 2″	Extra Smooth	1 1/16″	2 3/8″	11″	4526A11	88.00	4526A12	30.22
2″ and Up	Rough	2 1/8″	3 9/16″	14″	4526A17	118.16	4526A18	47.22
2″ and Up	Smooth	2 1/8″	3 9/16″	14″	4526A19	114.84	4526A21	44.09

Long-Life Hand-Held Grinding Wheel Cleaners


Single Point


Multiple Point


Replaceable Single Point

Cleaners have a diamond abrasive that is extremely hard and wear resistant. They are also known as dressers. Use on grinding wheels with a vitrified clay bond.

Single Point—Removes more material than multiple-point cleaners. Overall length is 9 1/2″.

Replaceable Single Point—Twist the knurled adjustment knob to advance the replaceable point. Cleaners have a guide block for accurate positioning. Overall size is 5″ Lg. × 3″ Wd.

Multiple Point—The 3/8″ × 1 1/2″ diamond face offers better control, while multiple points provide a finer finish than single-point cleaners. Overall length is 11″.

For Wheel Dia.	Carat Wt.		
Single Point			
3″-12″	1	4542A5	$101.11
3″-14″	1 1/4	4542A6	117.78
4″-6″	1/4	4542A1	32.00
6″-8″	1/3	4542A2	36.89
8″-10″	1/2	4542A3	48.22
8″-10″	3/4	4542A4	66.44
Replaceable Single Point			
8″-10″	1/2	8715A11	104.00
Multiple Point			
4″-14″ For Rough Surface Texture	3	4579A61	155.56
4″-14″ For Smooth Surface Texture	7	4579A62	128.89
Diamond Point for 87115A11		8715A12	70.00

Precision Truing Cleaners for Toolroom Grinding Wheels


Angle Style


Brake-Controlled Style

Reshape worn diamond and CBN grinding wheels with these tools, then sharpen the wheels with a cleaning stick (not included; see page 2641).

Angle Style

Mount cleaners to a T-slot to reshape up to 8″ diameter wheels. Cleaners have an angled wheel for truing 100-grit and finer grinding wheels. Comes with one silicon carbide wheel which leaves a smooth surface texture. Size is 3″ Lg. × 2 1/4″ Wd. × 3 3/16″ Ht.

Angle-Style Cleaner	6166A11	$94.12
2 1/2″ × 1/2″ × 1 1/8″ Rough Surface Wheel	6166A14	9.76
2 1/2″ × 1/2″ × 1 1/8″ Smooth Surface Wheel	6166A12	9.76

Brake-Controlled Style

Cleaners maintain a consistent speed for minimal diamond loss. Use on wheels up to 10″ diameter. Cleaners come with two silicon carbide wheels for truing 100-grit and finer grinding wheels. Wheels produce a smooth surface texture. Size is 7″ Lg. × 4 1/2″ Wd. × 3 1/2″ Ht.

Brake-Controlled Cleaner	6167A21	$585.37
3″ × 1″ × 1/2″ Smooth Surface Wheel	6167A22	17.25
5″ × 1/2″ × 1/2″ Smooth Surface Wheel	6167A24	34.48

Mounted Cleaners for Toolroom Grinding Wheels


Single Point


Multiple Point


Smooth-Finish Multiple Point

Also known as dressers, these cleaners mount onto grinding equipment. They have a diamond abrasive.

Single Point—Removes more material than multiple point cleaners. Overall length is 2″. *Nonresettable* cleaners have one point. *Resettable* cleaners can be turned to expose a second point. **To Order:** Please specify 3/8″, 7/16″, or 1/2″ shank diameter.

Multiple Point—Cleans faster and leaves a more uniform finish than single-point cleaners. Overall length is 1 1/2″; shank dia. is 7/16″.

Smooth-Finish Multiple Point—Also known as impregnated dressers, these produce a finer finish than multiple-point cleaners. Overall length is 1 5/8″; shank dia. is 7/16″.

Single Point

For Wheel Dia.	Carat Wt.	Nonresettable		Resettable	
4″-6″	1/4	4533A151	$33.45	4533A111★	$44.58
6″-8″	1/3	4533A152	40.69	4533A112	49.73
8″-10″	1/2	4533A153	57.59	4533A113	78.86
8″-10″	3/4	4533A154	81.38	4533A114	130.81
4″-12″	1	4533A155	129.31	4533A115	182.45
4″-14″	1 1/4	4533A156	168.97	4533A116	248.04
4″-18″	1 1/2	4533A157	210.34	4533A117	328.68
24″-36″	2	4533A158	306.90	4533A118	409.94

★ Not available in 7/16″ shank diameter.

Multiple Point—Nonresettable

For Wheel Dia.	Carat Wt.	No. of Points	Head Dia.		
3″-18″	3/4	3	5/8″	4531A1	$34.00
18″-24″	1 1/4	5	5/8″	4531A2	41.33
24″-36″	1 3/4	7	5/8″	4531A3	49.78

Smooth-Finish Multiple Point—Nonresettable

For Wheel Dia.	Carat Wt.	Head Dia.		
3″-12″	3 1/2	5/16″	4589A12	$42.00
12″-20″	6	3/8″	4589A13	48.40

Holder

	For Shank Dia.	O'all Lg.		
Holder	7/16″	10″	4533A9	$27.69

Toolroom Grinding Wheel Cleaners for Rounded Shapes


Convex Radius — Tip Angle


Concave Radius

Clean or create rounded shapes on wheels up to 8″ diameter. Cleaners have a nonresettable, single-point diamond. They are also known as dressers. **Convex radius** cleaners create a hump on the wheel surface; **concave radius** cleaners create a recess or notch.

Convex Radius

Tip Angle	1/8″ Shank Dia. × 1″ Lg.		1/4″ Shank Dia. × 1 1/2″ Lg.	
60°	44045A61	$9.25	44045A64	$11.88
75°	44045A71	9.00	44045A74	11.37
90°	44045A81	8.62	44045A84	11.00

Concave Radius—3/8″ Shank Dia. × 3″ Lg.

Min. Radius			Min. Radius		
0.01″	4532A1	$27.00	0.031″	4532A5	$30.00
0.015″	4532A2	27.00	0.062″	4532A6	30.00
0.02″	4532A3	27.00	0.125″	4532A7	35.00
0.025″	4532A4	27.00			

About Sanding Abrasives

Sanding abrasives are either coated abrasives, which have a layer of abrasive grains applied to a paper, fiber, or cloth backing; or nylon mesh abrasives, which have mesh embedded with abrasive grains. Both come in a variety of forms and create a range of finishes.

For Use On	Abrasive	Benefit
Multipurpose	Aluminum Oxide	Tough and fracture resistant, this abrasive can be used on most materials.
	Zirconia Alumina	Sands faster and lasts longer than aluminum oxide, and can also be used on most materials.
	Nylon Mesh	The cushioned structure gives you control over the finish.
Stainless Steel, Titanium, and Hard Metals	Zirconia Alumina	Good for use on hard materials, these abrasives cut faster and last longer than aluminum oxide. Ceramic alumina is harder than zirconia alumina so it lasts longer, but requires you to apply more force to abrade properly.
	Ceramic Alumina	
Aluminum, Brass, and Soft Metals	Abrasives with Special Coating	Aluminum is tough to sand because it is less heat resistant than other metals and tends to build up on the abrasive surface. The best products for aluminum have a clog-resistant feature such as a special coating to prevent material buildup or more space between the grains.
	Silicon Carbide	One of the sharpest abrasives, it's able to cut through aluminum and soft metals without generating much heat, which prevents material buildup.
Wood	Garnet	Used in woodworking, particularly for finishing, garnet abrades more slowly than aluminum oxide, but produces a smoother finish on wood surfaces.
Nonmetals—Plastics, Masonry, and Ceramics	Silicon Carbide	The best choice for soft nonmetals, it's very sharp and abrades quickly under light pressure. It also works on hard nonmetals, but will not last as long.
	Diamond	The best choice for sanding hard nonmetals, this tough abrasive lasts far longer than silicon carbide.

Finishes

Low grit numbers leave a rough finish and a dull appearance, mid-range grit numbers leave a smooth to extra-smooth finish and a brushed or matte appearance, and high grit numbers leave a polished finish and a satin or mirrored appearance. Diamond is very hard and does not break down like most abrasives, so it leaves a rougher finish than other abrasive grains of the same grit. Coated abrasives are generally used for grinding, blending, deburring, finishing, and polishing. Nylon mesh abrasives are good for light smoothing, cleaning, and polishing.

Application	Grinding, Smoothing, and Blending / Deburring / Cleaning, Texturing, and Finishing / Polishing																		
Finish	Rough			Smooth					Extra Smooth					Polished					
Abrasive Grit	16	24	36	60	80	100	120	150	180	220	240	280	320	360	400	500	800	1200	2000+
Nylon Mesh Grade		Extra Coarse		Coarse		Medium			Fine		Very Fine			Ultra Fine			Micro Fine		

Forms

Sheets	Pads	Rolls/ Cords	Discs	Belts	Flap Wheels	Sleeves	Spiral Wound Rolls	Bits
								
Pages 2643-2646	Pages 2646-2647	Pages 2648-2650	Pages 2650-2660	Pages 2661-2664	Pages 2665-2667	Pages 2668-2669	Page 2670	Page 2671

Sandpaper

When your sanding jobs involve shapes and contours, flexible paper sheets are a good choice. They're coated with aluminum oxide for sanding most materials. All are 9″×11″.

Choose 36-80 grit for a rough finish, 100-220 grit for a smooth finish, 240-400 grit for an extra-smooth finish, and 500-2500 grit for a polished finish.

Clog Resistant—Have a special coating for clog resistance.
Waterproof—Resist deterioration when used wet.

Grit	Small Packs: Pkg. Qty.		Pkg.	Large Packs: Pkg. Qty.		Pkg.
Standard						
36	10	4673A77	$15.10	25	4673A27	$37.22
40	10	4673A76	13.20	25	4673A26	32.22
50	15	4673A75	17.40	50	4673A25	56.67
60	15	4673A74	15.26	50	4673A24	48.89
80	15	4673A73	13.20	50	4673A23	43.33
100	15	4673A72	11.91	100	4673A22	77.78
120	15	4673A71	11.91	100	4673A21	77.78
150	15	4673A69	11.91	100	4673A19	80.00
180	15	4692A75	10.49	100	4692A5	60.00
220	15	4692A74	10.49	100	4692A4	60.00
240	15	4692A73	10.46	100	4692A3	64.98
320	15	4692A71	10.49	100	4692A1	46.00
Clog Resistant						
80	15	47025A89	16.17	50	47025A59	43.02
100	15	47025A88	17.37	100	47025A58	76.53
120	15	47025A87	17.37	100	47025A57	76.53
150	15	47025A86	17.37	100	47025A56	76.53
180	15	47025A85	13.92	100	47025A55	76.53
220	15	47025A84	14.46	100	47025A54	76.53
320	15	47025A81	14.46	100	47025A51	76.53
400	15	47025A44	15.20	100	47025A41	86.10
600	15	47025A45	15.78	100	47025A42	92.50
800	15	47025A46	15.78	100	47025A43	92.50

Grit	Small Packs: Pkg. Qty.		Pkg.	Large Packs: Pkg. Qty.		Pkg.
Waterproof						
40	10	6835A61	$10.42	100	6835A42	$90.91
50	10	6835A62	8.96	100	6835A43	78.18
60	10	6835A63	7.92	100	6835A44	69.09
80	5	6835A67	5.08	50	6835A47	36.36
120	5	6835A68	4.83	50	6835A48	32.73
150	5	6835A69	4.83	50	6835A49	31.82
180	5	6835A71	4.83	50	6835A51	31.82
220	15	6835A41	15.78	50	6835A21	39.08
240	5	6835A72	4.83	50	6835A52	31.82
320	15	6835A37	15.78	50	6835A17	39.08
360	5	6835A73	4.83	50	6835A53	31.82
400	15	6835A36	15.78	50	6835A16	39.08
500	5	6835A74	4.83	50	6835A54	31.82
600	15	6835A35	16.45	50	6835A15	39.08
800	5	6835A46	8.06	50	6835A45	39.08
1000	5	6835A75	4.83	50	6835A55	31.82
1200	5	6835A76	4.83	50	6835A56	31.82
1500	5	6835A77	4.83	50	6835A57	31.82
2000	5	6835A78	4.83	50	6835A58	31.82
2500	5	6835A79	4.83	50	6835A59	31.82

50-Piece Clog-Resistant Sheet Assortment—You'll get 10 sheets each of 60, 80, 120, 180, and 220 grits. 8234A41 $27.77

Sanding Sheets

For information about sanding abrasives, see page 2643.

Multipurpose Cloth Sanding Sheets

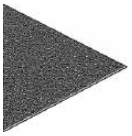

Sheets have aluminum oxide abrasive for sanding metal and wood. All have a tear-resistant cloth backing and are 9″×11″.

Standard—36-60 grit sheets have a strong, stiff backing; 80-600 grit sheets have a flexible backing.

Waterproof—Unlike standard sheets, these resist water as well as grease, chemicals, cutting fluids, and other solvents that may be present when sanding. Backing is flexible.

Available Grits				Small Packs		Large Packs	
Rough	Smooth	Extra Smooth	Polished	Pkg. Qty.	Pkg.	Pkg. Qty.	Pkg.
Standard							
36	—	—	—	5	**4671A79** $12.62	25	**4671A23** $44.88
40, 50, 60, 80	—	—	—	10	**4671A113** 21.19	25	**4671A111** 42.86
—	100, 120, 150, 180, 220	240, 280, 320, 400	500, 600	10	**4671A114** 16.63	50	**4671A112** 67.63
Waterproof							
60, 80	100, 120, 150, 180, 220	240, 320	—	10	**8270A212** 12.66	50	**8270A211** 53.03

60-Piece Standard Sheet Assortment—You'll get 10 sheets each of 80, 120, 150, 180, 240, and 320 grits. **4660A14** 49.74

Quick-Attach Sanding Strips and Sheets

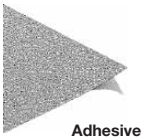

Adhesive Back

Choose peel-and-stick adhesive or hook and loop backing to stick to your sanding tool. The 1″×11″ adhesive-back strips are for use on narrow tools such as 4647A57 on page 2645.

For Metal and Wood—Coated with aluminum oxide for use on most materials. The 1″×11″ strips have a tear-resistant cloth backing. The 4½″×4¼″ and 4½″×4½″ sheets have a flexible paper backing and a special coating for clog resistance.

For Nonmetals—Have a tear-resistant cloth backing with a long-lasting diamond coating.

		Available Grits					Adhesive Back		Hook and Loop Back	
Wd.	Lg.	Rough	Smooth	Extra Smooth	Polished	Pkg. Qty.		Pkg.		Pkg.
For Metal and Wood										
1″	11″	60, 80	100, 120, 180	240, 320	—	25	**4647A6**	$11.60	—	—
4½″	4¼″	60, 80	100, 120, 150, 180, 220	320	—	10	—	—	**8223A29**	$7.63
4½″	4¼″	60	100, 220	—	—	10	**46585A45**	6.31	—	—
4½″	4½″	80	120, 150, 180	—	—	4	**46585A29**	3.79	—	—
For Nonmetals										
1″	11″	60, 120	200, 400	800	1800	1	**4647A2**	42.00	**4647A4**	42.00

Sandpaper for Wood

Create smooth finishes on wood with these garnet sheets. They measure 9″×11″ and have a paper backing. Choose 50-80 grit for a rough finish and 100-220 grit for a smooth finish.

		Small Packs		Large Packs	
Grit	Paper Type	Pkg. Qty.	Pkg.	Pkg. Qty.	Pkg.
50	Tear Resistant	15	**4693A75** $15.20	50	**4693A25** $40.00
60	Tear Resistant	15	**4693A74** 13.30	50	**4693A24** 35.00
80	Flexible	15	**4693A68** 7.92	50	**4693A18** 20.83
80	Tear Resistant	15	**4693A73** 12.35	50	**4693A23** 32.50
100	Flexible	15	**4693A67** 8.43	100	**4693A17** 38.33
100	Tear Resistant	15	**4693A72** 11.33	100	**4693A22** 56.67
120	Flexible	15	**4693A66** $8.43	100	**4693A16** $38.33
120	Tear Resistant	15	**4693A71** 11.33	100	**4693A21** 56.67
150	Flexible	15	**4693A65** 8.43	100	**4693A15** 38.33
150	Tear Resistant	15	**4693A69** 11.33	100	**4693A19** 56.67
180	Flexible	15	**4693A64** 8.43	100	**4693A14** 38.33
220	Flexible	15	**4693A63** 8.43	100	**4693A13** 38.33

Sanding Sheets for Aluminum, Soft Metals, and Nonmetals

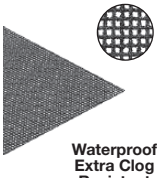

Waterproof Extra Clog Resistant

Get quick results with light pressure—sheets have silicon carbide abrasive that easily cuts through aluminum, brass, bronze, plaster, fiberglass, composites, plastics, and concrete. Sheets are 9″×11″.

Waterproof—Use for wet sanding. They have a flexible paper backing.

Clog Resistant—Have a flexible paper backing and special coating for clog resistance.

Waterproof Extra Clog Resistant—A flexible nylon mesh screen backing allows sanding dust and debris to escape without clogging. These sheets work well on plaster and wood, and can also be used on nonferrous metals, glass, rubber, plastics, and enamel. They have abrasive on both sides.

Available Grits				Small Packs		Large Packs	
Rough	Smooth	Extra Smooth	Polished	Pkg. Qty.	Pkg.	Pkg. Qty.	Pkg.
Waterproof							
60, 80	—	—	—	5	**4681A45** $7.49	50	**4681A44** $71.16
—	100, 120, 150, 180	—	—	5	**4681A47** 6.96	50	**4681A46** 53.42
—	220	240, 280, 320, 360, 400	500, 600	5	**4680A121** 5.64	50	**4680A111** 43.64
—	—	—	1000, 1200, 1500, 2000	5	**4680A141** 5.98	50	**4680A131** 46.02
Clog Resistant							
—	100, 120, 150, 180, 220	240, 320, 400	600	15	**4649A31** 9.74	100	**4649A11** 51.40
Waterproof Extra Clog Resistant							
80	100, 120, 150, 180, 220	320, 400	—	5	**4677A2** 12.71	25	**4677A1** 43.88

50-Piece Waterproof Sheet Assortment—You'll get 10 sheets each of 220, 240, 320, 400, and 600 grits. **4674A36** 46.98

60-Piece Waterproof Sheet Assortment—You'll get 10 sheets each of 60, 80, 100, 120, 150, and 180 grits. **4674A31** 56.38

For information about sanding abrasives, see page 2643.

Super Long Lasting Sanding Sheets for Hard Nonmetals

The abrasive is diamond, which lasts much longer than silicon carbide. Use on concrete, fiberglass, composites, and ceramics. All are 9″×11″. Cloth backing is tear resistant. Sheets with adhesive or hook and loop backing quickly attach to your tool.

	Available Grits					
Backing	Rough	Smooth	Extra Smooth	Polished		Each
Cloth	60, 120	200, 400	800	1800	8167A11	$271.09
Adhesive	60, 120	200, 400	800	1800	8167A31	271.09
Hook and Loop	60, 120	200, 400	800	1800	8167A21	271.09

Sanding Sheets for Sheet Sanders

These sheets are cut to convenient sizes that fit most sheet sanders. For sanders, see pages 2673-2674.

Multipurpose Clog Resistant

Widely spaced aluminum oxide grains resist clogging when sanding wood, soft metals, and fiberglass. They have a flexible paper backing. Choose 36-80 grit for a rough finish and 100-220 grit for a smooth finish.

	3⅔″×9″		4½″×5½″		4½″×11″	
Grit		Pkg. of 50		Pkg. of 50		Pkg. of 25
36	4692A48	$25.98	4692A58	$19.99	4692A68	$18.01
40	4692A47	22.98	4692A57	19.00	4692A67	15.53
50	4692A46	21.02	4692A56	15.98	4692A66	13.50
60	4692A45	19.00	4692A55	14.00	4692A65	12.00
80	4692A44	16.00	4692A54	13.02	4692A64	11.01
100	4692A43	14.01	4692A53	11.99	4692A63	9.99
120	4692A42	14.01	4692A52	11.99	4692A62	9.99
220	4692A41	10.02	4692A51	7.01	4692A61	7.00

Waterproof for Aluminum, Soft Metals, and Nonmetals

Coated with silicon carbide, these sheets have a flexible paper backing. Use to finish aluminum and other soft metals. Also used on rubber, glass, plastics, soft woods, and enamel. Choose 60 or 80 grit for a rough finish, 100-220 grit for a smooth finish, 320 or 400 grit for an extra-smooth finish, and 600-2000 grit for a polished finish.

	3⅔″×9″		4½″×5½″		4½″×11″	
Grit		Pkg. of 50		Pkg. of 50		Pkg. of 25
60	4680A36 ♥	$14.55	4680A43 ♥	$11.11	4680A49 ♣	$8.89
80	4680A35 ♥	13.64	4680A82	18.18	4680A88	17.73
100	4680A34 ♥	13.18	4680A81	18.18	4680A87	16.82
120	4680A73	24.55	4680A79	18.18	4680A86	16.82
150	4680A72	24.55	4680A78	18.18	4680A85	16.82
180	4680A71	24.55	4680A77	18.18	4680A84	16.82
220	4680A54	24.55	4680A58	18.18	4680A63	16.82
320	4680A53	24.55	4680A57	18.18	4680A62	16.82
400	4680A52	24.55	4680A56	18.18	4680A61	16.82
600	4680A51	24.55	4680A55	18.18	4680A59	16.82
1000	4680A191 ♥	8.18	4680A681 ♥	6.36	4680A761	15.87
1200	4680A192 ♥	8.18	4680A682 ♥	6.36	4680A762	15.87
1500	4680A193 ♥	8.18	4680A683 ♥	6.36	4680A763	15.87
2000	4680A194 ♥	8.18	4680A684 ♥	6.36	4680A764	15.87

♥ Pkg. of 25 ♣ Pkg. of 10

Super Long Lasting for Hard Nonmetals

These sheets are coated with tough, durable diamond abrasive with a tear-resistant cloth backing. Use on concrete, fiberglass, and ceramics.

To Order: Please specify grit: 60 or 120 (rough finish), 200 or 400 (smooth finish), 800 (extra-smooth finish), or 1800 (polished finish).

3¾″×9″		4½″×5½″		4½″×11″	
	Each		Each		Each
4680A38	$111.27	4680A39	$81.83	4680A45	$163.64

Hand Sanding Blocks



Block—Easy on the hands, this rubber block sands flat and curved surfaces. Slits on both ends of the block allow you to attach sheets over the flat or curved side.

Sheets—Have a paper backing coated with aluminum oxide and resist clogging. All are 2¾″×9″. Use for general purpose sanding of most materials. Choose 80 grit for a rough finish and 100-150 grit for a smooth finish.

Blocks

4731A2	$3.73

Sheets

Grit		Pkg. of 15	Grit		Pkg. of 15
80	4731A54	$3.58	120	4731A52	$3.12
100	4731A53	3.16	150	4731A51	3.12

Sanding Sheets for Smoothing and Polishing Nonmetals

A clean alternative to messy polishing compounds, these diamond sheets also produce a more consistent finish. They're waterproof and good for use on extremely hard materials such as glass, ceramics, and composites. Sheets are 9″×11″. Backing is plastic and 3 mils thick. Choose 360 grit for a smooth finish, 700-1500 grit for an extra-smooth finish, and 1750-2500 grit for a polished finish.

Approx. Grit	Grain Size, microns (0.001 mm)	Color		Each
360	30	Green	8258A19	$50.46
700	15	Orange	8258A18	38.85
1000	9	Blue	8258A17	38.85
1200	6	Brown	8258A16	38.85
1500	3	Pink	8258A15	38.85
1750	1.5	Light Green	8258A14	38.85
2000	1	Lavender	8258A13	38.85
2200	0.5	White	8258A12	38.85
2500	0.1	Green	8258A11	38.85

Emery and Crocus Sanding Sheets

Use to polish metal. Sheets have a tear-resistant cloth backing and measure 9″×11″.

Emery—Have block-shaped grit particles that cut slowly.

Crocus Cloth—Have a soft abrasive similar to 1500-2000 grit that's good for fine hand-polishing of soft nonferrous metals.

Approx. Grit	Pkg. of 25		Pkg. of 10		Pkg. of 5	
Emery						
50	4672A4	$49.56			4672A74	$13.47
80	4672A3	28.55	4672A63	$17.13		
120	4672A2	26.27	4672A62	15.76		
180	4672A1	24.88	4672A61	14.93		
Crocus Cloth						
	4672A5 ■	93.16			4672A65	11.13

■Pkg. of 50

40-Piece Sheet Assortment—You'll get 10 each of the 50, 120, and 180 grit emery sheets, plus 10 crocus cloth sheets.

8233A21	$42.58

Easy-Feed Hand Sanding Blocks



Blocks—Store an adhesive-back sanding roll in these blocks—cut off worn abrasive and pull out new abrasive as needed (rolls sold separately). Blocks have a cushioned pad and molded hand grip. The flat surface sands corners and the rounded end sands curves.

Rolls—These adhesive-back paper rolls have silicon carbide abrasive and resist clogging. Use on nonferrous metals, glass, rubber, plastics, soft woods, enamel, and other soft materials. Choose 100-180 grit for a smooth finish and 240 or 280 grit for an extra-smooth finish.

Blocks

Wd.	Lg.		
2½″	5″	8224A11	$16.18
3¼″	5¾″	8224A12	23.43

Rolls

Grit	Roll Lg.	For 2½″ Block		For 3¼″ Block	
100	55″	8224A25	$4.82	8224A35	$5.25
120	70″	8224A24	4.82	8224A34	5.25
180	85″	8224A23	4.82	8224A33	5.25
240	100″	8224A22	5.04	8224A32	5.73
280	100″	8224A21	5.04	8224A31	5.74

Holders for 1″ Abrasive Strips

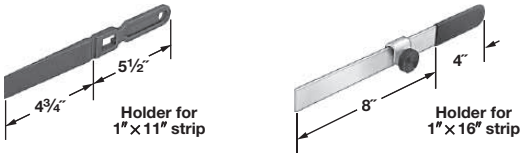

Attach a strip of 1″ wide sandpaper to make a convenient file. See page 2644 for strips and 2649-2650 for rolls.

A screw-down clamp on the 16″ holder keeps strips in place.

	For Strip		
Lg.	Style		
11″	Adhesive Back	4647A57	$6.14
16″	Cloth/Paper Back	4558A21	14.88

Sanding Sheets for Smoothing and Polishing

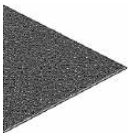

Use to create uniform finishes. Sheets have a tear-resistant cloth backing and a cushioned layer bonded with silicon carbide, unless noted. They are waterproof and reusable. The grits listed are approximate.

Wd.	Lg.	Available Grits: Smooth	Extra Smooth	Polished		
For Metal						
3″	6″	220	240, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	4611A61★	$3.99
6″	12″	220	240, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	4611A31★	12.02
For Aluminum						
3″	6″	180	320, 360, 400	800, 1500, 3000	4611A51▲	3.99
6″	12″	180	320, 360, 400	800, 1500, 3000	4611A81▲	7.98
For Plastic and Soft Woods						
3″	6″	—	400	600, 800, 1200, 1350, 1500, 2000, 2500, 3000	4611A41♣	3.99
6″	12″	—	400	600, 800, 1200, 1350, 1500, 2000, 2500, 3000	4611A71♣	7.98

★Abrasive is aluminum oxide for 2000 and 2500 grit. ▲Abrasive is aluminum oxide.
♣Abrasive is aluminum oxide for 2500 and 3000 grit.

Sanding Pads

The flexibility of these abrasive pads makes hand sanding easy, especially around curves. Choose 36-80 grit for a rough finish, 100-220 grit for a smooth finish, 320-400 grit for an extra-smooth finish, and 800-1800 for a polished finish.

Multipurpose



The aluminum oxide abrasive is one grit on the top and one side, and a different grit on the bottom and other side. Use on most materials.

Grit	Wd.	Lg.	Thick.	Pkg. Qty.		Pkg.
46, 80	2¾″	3¾″	1″	3	4023A77	$5.34
80, 120	2¾″	3¾″	1″	3	4023A73	5.34
80, 120	2¾″	3¾″	1″	24	4023A75	36.26
80, 120	3″	5″	1″	3	4023A79	7.36
80, 120	3″	5″	1″	3	4023A81■	8.45
100, 150	3 5/16″	9″	1″	1	4023A83	4.74

■ 75° angled sides.

For Paint Stripping and Preparation of Metal and Wood



The abrasive is on four sides. Grains are coated for clog resistance and long life. 36 and 60 grits are silicon carbide. Use for paint stripping. 80-150 grits are ceramic aluminum oxide. Use for bare surface sanding. 180 and 320 grits are aluminum oxide. Use for sanding between coats.

Grit	Wd.	Lg.	Thick.		
36	2⅝″	3¾″	1″	8221A11	$3.57
60	2⅝″	3¾″	1″	8221A12	3.53
80	2⅝″	3¾″	1″	8221A13	3.57
100	2⅝″	3¾″	1″	8221A14	3.53
150	2⅝″	3¾″	1″	8221A15	3.53
180	2⅝″	3¾″	1″	8221A16	3.57
320	2⅝″	3¾″	1″	8221A17	3.57

For Hard Nonmetals



Pads have diamond abrasive on one side. Use on masonry, fiberglass, ceramics, and hard composites.

Grit	Wd.	Lg.		
60	2⅛″	3½″	4023A11	$30.71
120	2⅛″	3½″	4023A12	25.07
200	2⅛″	3½″	4023A13	20.47
400	2⅛″	3½″	4023A14	16.16
800	2⅛″	3½″	4023A15	16.16
1800	2⅛″	3½″	4023A16	16.16

6-Piece Assortment—Includes one each of the grits listed.

4023A17 $117.70

Super Flexible Multipurpose



The aluminum oxide abrasive is on one side. They conform exceptionally well to small contoured surfaces and are for use on most materials.

Grit	Wd.	Lg.	Thick.		Pkg. of 2
100	4½″	5½″	3/16″	4023A63	$2.74
150	4½″	5½″	3/16″	4023A62	2.74
220	4½″	5½″	3/16″	4023A61	2.74

For Aluminum, Soft Metals, and Nonmetals



The silicon carbide abrasive is on the top and bottom. Use on nonferrous metals, glass, rubber, plastics, soft woods, enamel, and other soft materials.

Grit	Wd.	Lg.	Thick.		
100	3¾″	4¾″	½″	46355A55	$1.64
150	3¾″	4¾″	½″	46355A45	1.64
220	3¾″	4¾″	½″	46355A35	1.64

For Drywall Repair



Standard



For Corners

Pads are firm and coated with aluminum oxide. *Standard* pads have abrasive on four sides. If there are two grits listed, one grit is on the top and one side, and the second grit is on the bottom and other side. Pads *for corners* have the abrasive on two sides.

Grit	Wd.	Lg.	Thick.		
Standard					
100, 150	2¾″	4″	1″	4023A31	$1.32
100, 150	2⅞″	4⅞″	1″	4023A29	3.20
For Corners					
100	3¾″	7″	4½″	4023A27	6.24

Cushioned Sanding Pads for Smoothing and Polishing



A flexible foam layer produces consistent finishes and conforms to curved surfaces. It's coated on the top and bottom with a specially bonded abrasive that's long lasting. Pads are waterproof and have a tear-resistant cloth backing. The grits listed are approximate.

For Metal—Coated with silicon carbide, except the 2000 and 2500 grit pads are coated with aluminum oxide.
For Aluminum—Coated with aluminum oxide.
For Plastic and Soft Woods—Coated with silicon carbide, except the 2500 and 3000 grit pads are coated with aluminum oxide.
Assortments—Include one each of the grits listed.

Wd.	Lg.	Available Grits: Smooth	Extra Smooth	Polished	Individual Pads		Assortments: No. of Pieces	
For Metal								
2″	2″	220	230, 240, 260, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	4952A31	$1.43	13	4952A3 $18.62
3″	4″	220	230, 240, 260, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	4952A61	2.89	13	4952A6 37.56
For Aluminum								
2″	2″	180	320, 360, 400	800, 1500, 3000	4952A11	1.43	7	4952A1 10.05
3″	4″	180	320, 360, 400	800, 1500, 3000	4952A41	2.89	7	4952A4 20.20
For Plastic and Soft Woods								
2″	2″	—	400	600, 800, 1200, 1350, 1500, 2000, 2500, 3000	4952A21	1.43	9	4952A2 12.89
3″	4″	—	400	600, 800, 1200, 1350, 1500, 2000, 2500, 3000	4952A51	2.89	9	4952A5 26.01

For information about sanding abrasives, see page 2643.

3M Scotch-Brite Nylon Mesh Sanding Pads



Use these premium pads for cleaning, deburring, blending, and finishing. Either use by hand or cut them to size to use with portable sanders. Pads are 6″×9″ and approximately 1/4″ thick.

For Metal, Wood, and Hard Materials—Pads are embedded with aluminum oxide.

For Soft Metals, Plastics, and Soft Woods—Pads are embedded with silicon carbide.

Grade	3M No.	Color	Applications		Pkg. of 20
For Metal, Wood, and Hard Materials					
Heavy Duty (Medium)	7440	Tan	Aggressive deburring, blending, and removing rust.	46365A36	$64.44
Clean/Scour (Very Fine)	96	Green	Removing light stains, corrosion, and oxidation.	46365A31	18.83
All Purpose (Very Fine)	7447	Maroon	General cleaning.	46365A33	24.43
For Soft Metals, Plastics, and Soft Woods					
Blending (Medium)	7446	Gray	Aggressive cleaning and blending.	46365A38	42.84
Clean/Finish (Ultra Fine)	6448	Dk. Gray	Light cleaning and finishing.	46365A35	26.12
Final Finish (Ultra Fine)	7448	Lt. Gray	Light cleaning, finishing, and polishing.	46365A32	26.64

Nylon Mesh Sanding Pads

Sand, scrub, debur, and finish with these hand pads. They can be cut to size to use with portable sanders. Pads are 6″×9″ and approximately 1/4″ to 1/2″ thick.

For Metal, Wood, and Hard Materials—Pads are embedded with aluminum oxide.

For Soft Metals, Plastics, and Soft Woods—Pads are embedded with silicon carbide.

Sanding-Pad Holder—Firmly grips hand pads cut to 3″×6″.

21-Piece Sanding-Pad Kit—Includes five each of the *heavy duty, clean/scour,* and *all purpose* pads for metal, wood, and hard materials; five *clean/finish* pads for soft metals, plastics, and soft wood; and one sanding-pad holder.

Grade	Color	Applications		Pkg. of 5		Pkg. of 20
For Metal, Wood, and Hard Materials						
Heavy Duty (Medium)	Brown	Aggressive deburring, blending, and removing rust.	46365A752	$15.17	46365A86	$43.89
Long Life (Fine)	Maroon	Deburring and cleaning.	46365A21	8.25	46365A25	30.46
Long Life (Very Fine)	Maroon	Cleaning.	46365A82	5.33	46365A79	15.47
All Purpose (Very Fine)	Maroon	Light cleaning.	46365A771	5.42	46365A73	15.62
Clean/Scour (Very Fine)	Green	Removing light stains, corrosion, and oxidation.	46365A83	5.88	46365A71	17.05
Final Finish (Micro Fine)	Gold	Light cleaning, finishing, and polishing.	46365A24	5.00	46365A28	14.23
Clean (Nonabrasive)	White	Scratch free cleaning.	46365A69	6.67	46365A64	22.98
For Soft Metals, Plastics, and Soft Woods						
Blending (Medium)	Gray	Aggressive cleaning and blending.	46365A762	9.83	46365A78	28.66
All Purpose (Very Fine)	Gray	General cleaning.	46365A84	9.00	46365A87	26.12
Clean/Finish (Ultra Fine)	Gray	Light cleaning and finishing.	46365A741	5.83	46365A85	17.05
Final Finish (Micro Fine)	Gray	Light cleaning, finishing, and polishing.	46365A81	5.83	46365A72	17.05
Sanding-Pad Holder					46635A71	5.71
21-Piece Sanding-Pad Kit					46635A76	37.24

Steel Wool



Steel wool is handy for many surface preparation tasks from removing paint and rust to polishing for a fine finish. Pads are approximately 4″×2 3/4″×3/4″. The reels are approximately 4″ Wd.×1/4″ Thick.

Grade 4—Aggressively remove rust and dirt.

Grade 3—Strip lacquer and paint.

Grade 2—Remove rust, wax buildup on floors, and paint on moulding; clean glass, brick, rough metal, and stone surfaces.

Grade 1—Clean cast and wrought iron, copper pipes and fittings, and prepare wood for paint.

Grade 0—Clean bare metals, porcelain, and tile as well as remove rust from metal.

Grade 00—Remove old finishes, restore aluminum, and prepare surfaces before painting.

Grade 000—Polish metal, buff cabinets, and remove paint from wood and rust from chrome.

Grade 0000—Buff woodwork, lacquer, varnish, and clean precision instruments and tools.

	16-Pad Pkgs.		1-lb. Bags		5-lb. Reels			20-lb. Reels	
Grade	1-11	12-Up			Approx. Lg., ft.			Approx. Lg., ft.	
4 Extra Coarse	____	____	7363T18	$6.81	90	7363T48	$22.71	400	7363T58	$96.52
3 Coarse	7363T22 $3.80	$3.15	7363T17	6.69	90	7363T47	22.29	400	7363T57	94.73
2 Medium Coarse	7363T23 3.80	3.15	7363T16	6.69	90	7363T46	22.29	400	7363T56	94.73
1 Medium	7363T24 3.80	3.15	7363T15	6.69	90	7363T45	22.29	400	7363T55	94.73
0 Medium Fine	7363T25 3.80	3.15	7363T14	6.69	90	7363T44	22.29	400	7363T54	94.73
00 Fine	7363T26 3.83	3.18	7363T13	6.81	90	7363T43	22.71	400	7363T53	96.52
000 Extra Fine	7363T27 3.83	3.18	7363T12	6.81	90	7363T42	22.71	400	7363T52	96.52
0000 Super Fine	7363T28 3.84	3.18	7363T11	6.81	90	7363T41	22.71	400	7363T51	96.52

Corrosion-Resistant Metal Wool

Unlike steel wool, these metal wools won't leave small fibers that cause rust. Pads are approximately 4″×2 3/4″×3/4″; reels are approximately 4″ Wd.×1/4″ Thick.

Coarse grade is comparable to steel wool grades 3-4. Medium grade is comparable to steel wool grades 1-2. Fine grade is comparable to steel wool grades 0-00.

Bronze—Good for use on hardwood and brass.

Type 434 Stainless Steel—Good for general purpose use on stainless steel.

Type 316 Stainless Steel—Provides even better corrosion resistance than Type 434 stainless steel.

Aluminum—Lighter and softer than other corrosion-resistant metal wools. Good for cleaning and finishing aluminum.

		3-Pad Pkgs.		1-lb. Reels			5-lb. Reels		
Grade				Approx. Lg., ft.			Approx. Lg., ft.		
Bronze									
Coarse	7364T73	$4.25		____	____		125	7364T43	$164.57
Medium	7364T72	4.25		____	____		125	7364T42	164.57
Fine	7364T71	4.25		____	____		125	7364T41	164.57
Type 434 Stainless Steel									
Coarse	____		____	____	____		125	7364T46	75.96
Medium	____		____	____	____		125	7364T45	75.96
Fine	____		____	____	____		125	7364T44	75.96
Type 316 Stainless Steel									
Coarse	7364T76	6.41		20	7364T83	$45.90	100	7364T86	206.55
Medium	7364T75	6.41		20	7364T82	45.90	100	7364T85	206.55
Fine	7364T74	6.41		20	7364T81	45.90	100	7364T84	206.55
Aluminum									
Coarse	7364T79	3.05		40	7364T93	33.39	200	7364T96	150.25
Medium	7364T78	3.05		40	7364T92	33.39	200	7364T95	150.25
Fine	7364T77	3.05		40	7364T91	33.39	200	7364T94	150.25

Metal Gauze & Sanding Blocks, Cords, and Rolls

For information about sanding abrasives, see page 2643.

Corrosion-Resistant Metal Gauze

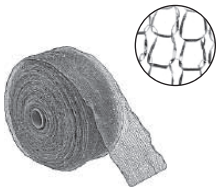

Gauze won't snag or leave strands of metal on your work surface. It creates a smooth finish.

Copper gauze is nonsparking and cleans molds, punches, dies, and plastics processing equipment without harming the finish.

Type 304 stainless steel gauze is suitable for food processing and tough cleaning jobs.

Material	Wd.	Lg.		
Copper	5″	100′	6361T12	$95.93
Type 304 Stainless Steel	5″	100′	6361T14	70.92

Corrosion-Resistant Nylon Wool



Replace your steel wool with nylon mesh. It's waterproof and won't rust, splinter, or shed. Pads are 4 3/8″ × 5 1/2″.

Extra Coarse and Coarse—For aggressive stripping and deburring.

Medium—For deburring and cleaning.

Fine—For light cleaning.

Extra Fine—For blending and finishing.

Super Fine—For scratch free cleaning and buffing.

Grade	Color	Thick.	Pkg. Qty.		Pkg.
Extra Coarse	Green	3/4″	1	44225A86	$3.40
Coarse	Blue	3/4″	1	44225A85	3.40
Medium	Charcoal	1/4″	2	44225A84	3.75
Fine	Green	1/4″	2	44225A83	3.75
Extra Fine	Gray	1/4″	2	44225A82	3.75
Super Fine	White	1/4″	2	44225A81	3.75

Sanding Sticks



Rubber or cotton bonds cushion the abrasive so it won't gouge your work surface. Choose 46 to 80 grit for a rough finish, 120-180 grit for a smooth finish, and 240-320 for an extra-smooth finish.

Rubber-bonded sticks are more flexible and longer lasting than cotton laminate sticks. Sticks *for steel* are coated with aluminum oxide. Sticks *for soft metals* are rectangular and coated with silicon carbide.

Cotton laminate sticks *for steel* are coated with aluminum oxide.

Rubber Bonded—For Steel

Wd.	Lg.	Thick.		70 Grit	120 Grit	180 Grit
Rectangular						
1/2″	4″	1/2″	4827A2	$9.12	$9.12	____
5/8″	3″	1/4″	4827A1	6.34	6.34	____
3/4″	4″	1/2″	4827A3	14.42	14.42	____
3/4″	6″	1/2″	4827A4	17.77	17.77	____
Round						
5/16″	6″	___	4825A5	9.16	9.16	$9.16
Holder for Round Sticks			4825A11			9.16

Rubber Bonded—For Soft Metals

Wd.	Lg.	Thick.		46 Grit	80 Grit	150 Grit
1 1/8″	2 1/4″	3/8″	4828A6	$5.61	$5.61	$5.61
				60 Grit	**120 Grit**	**240 Grit**
2″	3 1/4″	3/4″	4828A7	$9.56	$9.56	$9.56

Cotton Laminate—For Steel

Wd.	Lg.	Thick.		80 Grit	120 Grit	180 Grit	320 Grit
Square							
1/4″	4″	1/4″	4451A15	$4.94	$4.94	$4.94	$4.94
3/8″	4″	3/8″	4451A16	5.23	5.23	5.23	5.23
1/2″	4″	1/2″	4451A17	5.50	5.50	5.50	5.50
1/2″	6″	1/2″	4451A18	5.93	5.93	5.93	5.93
1″	6″	1″	4451A19	17.49	17.49	17.49	17.49
Round							
1/4″	4″	____	4451A11	9.52	9.52	9.52	9.52
3/8″	4″	____	4451A12	9.80	9.80	9.80	9.80
1/2″	4″	____	4451A13	10.63	10.63	10.63	10.63
1/2″	6″	____	4451A14	14.36	14.36	14.36	14.36

Sanding Blocks for Metal



The silicon carbide abrasive in this block wears evenly to maintain a flat surface. It's 180 grit and leaves a smooth finish. Use to remove burs from metal die fixtures and machine parts, and to clean magnetic chucks. Size is 4 1/8″ × 6 1/4″ × 1 5/8″.

42685A55 ..... $60.92

Sanding Blocks for Concrete



Rub down concrete and remove mold marks with these extra coarse, 24 grit silicon carbide blocks.

Wd.	Lg.	Thick.		
3″	6″	1″	4509A2	$17.62
3 1/2″	8″	1 1/2″	4509A1	22.68

Miniature Sanding Cords and Strips



The dental floss of abrasives, these cords and strips slip into areas that standard abrasives cannot. Use for deburring and polishing small holes, narrow slots, keyways, and grooves. Furnished in 50-ft. spools. *Flat strips* have grit on both the top and bottom.

Choose 120-200 grit for a smooth finish and 280 grit for an extra-smooth finish.

Multipurpose—Coated with aluminum oxide for general purpose sanding on most materials.

For Aluminum—Coated with silicon carbide, which cuts fast under light pressure. Use on nonferrous metals, glass, rubber, plastics, soft woods, enamel, and other soft materials.

For Cleaning and Polishing Soft Metals—Coated with crocus cloth.

	Round Cords			Flat Strips		
	Dia.	Grit		Wd.	Grit	
Multipurpose						
	0.030″	180	47015A16 $10.94	0.063″	150	47015A31 $12.80
	0.040″	180	47015A18 10.94	0.094″	150	47015A32 11.35
	0.055″	120	47015A23 10.88	0.125″	150	47015A33 11.55
	0.055″	150	47015A21 10.88	0.188″	150	47015A34 13.35
	0.070″	180	47015A26 18.45	0.250″	150	47015A38 15.47
	0.082″	120	47015A27 21.47	____	____	____ ____
	0.093″	150	47015A29 33.69	____	____	____ ____
For Aluminum						
	0.012″	280	47015A51 30.14	0.063″	150	47015A45 18.57
	0.015″	200	47015A35 12.47	0.094″	150	47015A46 17.33
	0.018″	200	47015A36 12.24	0.125″	150	47015A47 17.67
	0.025″	180	47015A37 12.24	0.188″	150	47015A48 19.16
	0.030″	180	47015A39 18.39	0.250″	150	47015A49 21.45
	0.040″	180	47015A41 17.14	____	____	____ ____
	0.055″	120	47015A43 17.14	____	____	____ ____
	0.055″	150	47015A42 17.14	____	____	____ ____
	0.070″	180	47015A44 24.04	____	____	____ ____
	0.082″	120	47015A28 27.41	____	____	____ ____
For Cleaning and Polishing Soft Metals						
	0.055″	___	47015A24 16.73	0.094″	___	47015A52 17.04

Quick-Attach Multipurpose Sanding Rolls



Coated with aluminum oxide and treated with a special coating for clog resistance, these rolls are easy to attach to your tool. Choose peel-and-stick adhesive or hook and loop backing. Use for general purpose sanding on most materials.

To Order: Please specify grit: 60 or 80 (rough finish); 100, 120, 150, 180, or 220 (smooth finish); 320 or 400 (extra-smooth finish); or 600 (polished finish).

Wd.	Lg.	Adhesive Back		Hook and Loop Back	
4 1/2″	10 yds.	46585A33	$32.78	8223A42	$37.51

For information about sanding abrasives, see page 2643.

Multipurpose Sanding Rolls

Also called shop, utility, and handy rolls, these rolls are coated with aluminum oxide and can be used on most materials. They have a flexible, tear-resistant cloth backing and can be cut to length. 1″-2″ widths come in a dispenser pack.

Waterproof—Unlike standard rolls, these products resist water as well as grease, chemicals, cutting fluids, and other solvents used when sanding, deburring, cleaning, or polishing.



Roll



Three-Roll Assortment

Standard

To Order: Please specify grit: 36, 40, 50, 60, or 80 (rough finish); 100, 120, 150, 180, or 220 (smooth finish); 240, 320, or 400 (extra-smooth finish); or 600 (polished finish).

Wd.		10 yds.	25 yds.	50 yds.
1/2″	4687A24	$8.89	$13.47	$20.57
3/4″	4687A28	11.63	17.63	29.38
1″	4687A43	11.41	15.84	26.40
1 1/2″	4687A47	14.75	20.49	34.15
2″	4687A83	19.60	29.70	45.39
2 1/2″	4687A87	24.51	37.14	56.75

Waterproof

To Order: Please specify grit: 36, 40, 50, 60, or 80 (rough finish); 100, 120, 150, 180, or 220 (smooth finish); or 240 or 320 (extra-smooth finish).

Wd.		10 yds.	25 yds.	50 yds.
1/2″	8225A1	$9.19	$12.32	$13.91
3/4″	8225A2	12.30	18.50	20.53
1″	8225A3	15.50	27.31	30.53
1 1/2″	8225A4	21.69	37.46	46.35
2″	8225A5	27.86	45.50	52.11
2 1/2″	8225A6	31.07	60.52	68.13

Three-Roll Assortments

Include one roll each of the grits listed. Furnished in a dispenser pack.

Wd.	Grits	10-yd. Lengths		25-yd. Lengths	
Standard					
1″	80, 120, 180	4664A24	$15.64	4664A14	$37.15
1″	120, 180, 240	4664A21	15.64	4664A11	37.15
1 1/2″	80, 120, 150	4664A18	19.36	4664A28	45.98
1 1/2″	180, 240, 320	4664A17	18.42	4664A27	43.75
2″	80, 120, 180	4664A26	30.76	4664A16	73.06
2″	120, 180, 240	4664A23	29.16	4664A13	69.25

Wd.	Grits	10-yd. Lengths	
Waterproof			
1″	80, 120, 150	4725A22	$21.60
1″	180, 240, 320	4725A21	21.82
1 1/2″	80, 120, 150	4725A42	29.40
1 1/2″	180, 240, 320	4725A33	30.53
2″	80, 120, 180	4725A52	38.75
2″	180, 240, 320	4725A51	22.67

Heavy Duty Multipurpose Sanding Rolls

A heavy, thick backing withstands tough sanding on most materials. Rolls are coated with aluminum oxide. Use on drum sanders or cut to length for use by hand.

Flexible—Have a paper backing that conforms to curved surfaces.

Tear Resistant—Have a cloth backing that is more durable than paper and withstands continual bending and flexing.

	Available Grits					
Wd.	Rough	Smooth	Extra Smooth		25 yds.	50 yds.
Flexible						
2″	60, 80	100, 120, 180, 220	320	4684A31	$33.98	$54.48
3″	60, 80	100, 120, 180, 220	320	4684A32	46.64	74.75
4″	60, 80	100, 120, 180, 220	320	4684A33	65.34	104.25
6″	60, 80	100, 120, 180, 220	320	4684A34	95.34	152.79
12″	60, 80	100, 120, 180, 220	320	4684A35	187.78	300.98
24″	60, 80	100, 120, 180, 220	320	4684A36	395.52	633.85

	Available Grits			
Wd.	Rough	Smooth		25 yds.	50 yds.
Tear Resistant					
3″	60, 80	100, 120, 180, 220	4683A51	$81.91	$149.01
4″	60, 80	100, 120, 180, 220	4683A52	99.66	181.29
6″	60, 80	100, 120, 180, 220	4683A53	148.61	270.34
8″	60, 80	100, 120, 180, 220	4683A54	196.36	357.08

Quick-Attach Sanding Rolls for Stainless Steel and Hard Metals

The abrasive is long-lasting ceramic alumina with a special coating for clog resistance. Choose adhesive or hook and loop backing.

			Available Grits					
Mount Style	Wd.	Lg.	Rough	Smooth	Extra Smooth	Polished		
Adhesive	2 3/4″	25 yds.	80	100, 120, 150, 180, 220	240, 320, 400	600, 800	7224A11 ♦	$42.48
Hook and Loop	2 3/4″	13 yds.	80	100, 120, 150, 180, 220	320, 400	500, 600	7224A21	31.88

♦ Length of 80 grit roll is 20 yards.

Sanding Rolls for Aluminum, Soft Metals, and Nonmetals

The abrasive is silicon carbide, which cuts faster than aluminum oxide, even under light pressure. Use on nonferrous metals, glass, rubber, plastics, soft woods, enamel, and other soft materials. They have a flexible paper backing, are waterproof for wet sanding, and can be cut to length.

	Available Grits				
Wd.	Smooth	Extra Smooth	Polished		25 yds.
3″	180	240, 320, 400	600	47415A36	$29.85
3″	—	—	800, 2400, 4000	47415A37	35.26

Clog-Resistant Sanding Rolls for Aluminum, Soft Metals, and Nonmetals

A screen cloth backing allows sanding dust and debris to escape without clogging. Rolls are coated with silicon carbide with a flexible, meshed polyester backing. They are particularly good for use on plaster and wood, and can also be used on nonferrous metals, glass, rubber, plastics, enamel, and other soft materials. Rolls are waterproof, have abrasive on both sides, and can be cut to length. Choose 80 grit for a rough finish, 100-220 grit for a smooth finish, and 240-400 grit for an extra-smooth finish.



Roll



Three-Roll Assortment

Rolls

Grit	1″ x 25 Yds.		1 1/2″ x 25 Yds.		2″ x 25 Yds.		4″ x 25 Yds.	
80	8230A27	$32.78	8230A77	$47.47	8230A37	$62.61	8230A51	$121.85
100	8230A26	26.91	8230A76	39.06	8230A36	51.67	8230A52	100.75
120	8230A25	23.11	8230A75	33.62	8230A35	44.51	8230A53	86.53
150	8230A24	21.85	8230A74	31.49	8230A34	42.03	8230A54	81.49
180	8230A23	20.58	8230A73	29.82	8230A33	39.49	8230A55	76.86
220	8230A22	20.58	8230A72	29.82	8230A32	39.49	8230A56	76.86
320	8230A21	20.58	8230A71	29.82	8230A31	39.49	8230A57	76.86
400	8230A61	21.49	8230A62	31.14	8230A63	41.42	8230A67	80.20

Three-Roll Assortments

You'll get one roll each of 80, 120, and 180 grits in one easy-to-use dispenser pack.

Wd.	Lg.		
1″	10 yds.	4704A19	$21.96
1 1/2″	10 yds.	4704A29	31.85
2″	10 yds.	4704A39	42.13

Sanding Rolls & Discs

For information about sanding abrasives, see page 2643.

Cushioned Sanding Rolls for Smoothing and Polishing



A flexible, cushioned layer creates consistent finishes. Rolls have a specially bonded abrasive that's long lasting and a tear-resistant cloth backing. They can be cut to length. The grits listed are approximate.

For Metal—Coated with aluminum oxide.

For Plastic and Soft Woods—Coated with silicon carbide.

Wd.	Lg.	Available Grits: Smooth	Extra Smooth	Polished		
For Metal						
1″	16 yds.	220	240, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	6810A36	$81.31
For Plastic and Soft Woods						
1″	16 yds.	—	400	600, 800, 1200, 1350, 1500, 2000, 2500, 3000	6810A35	81.31

Emery and Crocus Sanding Rolls

Use to polish and clean metals. All have a tear-resistant cloth backing and can be cut to length.

Emery—Have block-shaped grit particles that cut slowly to polish metal.

Crocus Cloth—Has a soft abrasive that's good for hand-polishing of soft nonferrous metals.

Approx. Grit	1″×20 Yds.		1″×50 Yds.		1½″×20 Yds.		1½″×50 Yds.		2″×20 Yds.		2″×50 Yds.	
Emery												
80	8238A51	$11.35	8238A55	$23.65	8238A43	$16.77	8238A47	$31.83	8238A61	$20.42	8238A65	$42.57
100	8238A52	10.35	8238A56	21.53	8238A42	13.92	8238A46	29.02	8238A62	18.65	8238A66	38.82
150	8238A53	9.93	8238A57	20.70	8238A41	13.38	8238A45	27.88	8238A63	17.92	8238A67	37.27
Crocus Cloth												
—	8238A54	16.27	8238A58	33.90	8238A44	20.35	8238A48	45.78	8238A64	29.26	8238A68	61.01

Nylon Mesh Sanding Rolls

Cut these rolls to length and use to smooth, clean, and polish by hand. Choose medium grade for a smooth finish, fine or very-fine grade for an extra-smooth finish, and ultra- or micro-fine grade for a polished finish.

For Metal, Wood, and Hard Materials—Rolls are embedded with aluminum oxide.

For Soft Metals, Plastics, and Soft Woods—Rolls are embedded with silicon carbide.

Three-Roll Assortment—Includes one each of the *long life* and *all purpose* rolls for metal, wood and hard materials; and one *final finish* roll for soft metals, plastics, and soft wood in a dispenser pack. Each roll is 2″×5 yds.

Also Available: 5-yd. rolls. Please ask for 4659A5 and specify grade and width.

Grade	Color	Applications	2″×10 Yds.		4″×10 Yds.		6″×10 Yds.	
For Metal, Wood, and Hard Materials								
Heavy Duty (Medium)	Maroon	Aggressive deburring, blending, and rust removal	4659A69	$39.48	4659A85 ■	$149.91	4659A87	$214.66
Long Life (Fine)	Maroon	Deburring and cleaning	4659A68 ★	23.43	4659A59	66.36	4659A86	101.98
All Purpose (Very Fine)	Maroon	Light cleaning	4659A42	25.69	4659A71	50.73	4659A73	84.60
Clean/Scour (Very Fine)	Green	Removing light stains, corrosion, and oxidation	4659A41	20.07	4659A84	55.51	4659A51	53.86
For Soft Metals, Plastics, and Soft Woods								
Blending (Medium)	Gray	Aggressive cleaning and blending	4659A46	29.60	4659A88	85.38	4659A52	105.05
All Purpose (Very Fine)	Gray	General cleaning	4659A45	22.87	4659A72	60.24	4659A74	80.82
Clean/Finish (Ultra Fine)	Gray	Light cleaning and finishing	4659A44	25.33	4659A62	60.33	4659A91	93.02
Final Finish (Micro Fine)	Gray	Light cleaning, finishing, and polishing	4659A43	21.00	4659A61	40.00	4659A89	92.10
Three-Roll Assortment							46335A21	60.80

★ Grade is Long Life (Very Fine). ■ Color is brown.

Flat Sanding Discs



Plain Hole



Quick Change

A heavy duty fiber backing makes these discs durable and aggressive. *Plain-hole* discs have a 7/8″ dia. arbor hole, except the 4″ dia. discs have a 5/8″ dia. arbor hole. *Quick-change* discs have a metal arbor that threads directly onto a 5/8″-11 threaded spindle. All discs require a backup pad (sold separately on page 2651). Use on angle grinders.

Multipurpose—Coated with aluminum oxide.

High Performance Multipurpose—Coated with zirconia alumina.

For Stainless Steel and Hard Metals—Coated with ceramic alumina or a ceramic alumina/zirconia alumina blend.

High Performance for Stainless Steel and Hard Metals—Coated with ceramic alumina.

For Aluminum—Coated with silicon carbide and coated to stay cool and prevent material buildup.

Available Grits: Rough	Smooth	Pkg. Qty.	4″ Dia.	Pkg.	4½″ Dia.	Pkg.	5″ Dia.	Pkg.	7″ Dia.	Pkg.	9″ Dia.	Pkg.
Plain Hole												
Multipurpose												
16, 24, 36, 50, 60, 80	100, 120	5	4699A13 ♠	$8.73	4699A68 ♠	$7.12	4699A69	$8.56	4699A71	$9.75	4699A73	$12.14
High Performance Multipurpose												
24, 36, 50, 60, 80	—	5	—	—	4732A55	8.71	4732A56	10.52	4732A57	12.84	4732A58 ◤	26.98
For Stainless Steel and Hard Metals												
24, 36, 50, 60, 80	100, 120	5	—	—	46375A51	10.38	46375A61	12.29	46375A71	17.86	46375A81	25.82
High Performance for Stainless Steel and Hard Metals												
24, 36, 50, 60, 80	120	25	—	—	46375A93	74.29	46375A94	74.72	46375A95	85.65	46375A96 ♣	138.52
For Aluminum												
24, 36, 50, 60, 80	120	10	—	—	4699A83	23.50	4699A84	24.97	4699A85	35.64	4699A86	56.71
Quick Change												
Multipurpose												
24, 36, 50, 60, 80	100, 120	10	—	—	4728A69	14.98	4728A71	15.48	4728A72	24.30	—	—
High Performance Multipurpose												
60, 80	—	5	—	—	4743A11	15.74	4743A12	16.51	4743A13	16.45	—	—
For Stainless Steel and Hard Metals												
24, 36, 50, 60, 80	—	25	—	—	46375A86	64.67	46375A87	75.60	46375A88	117.11	—	—
High Performance for Stainless Steel and Hard Metals												
24, 36	—	25	—	—	46375A89	87.83	46375A91	91.77	46375A92	118.86	—	—
For Aluminum												
24, 36, 50, 60, 80	120	10	—	—	4699A87	38.99	4699A88	39.55	4699A89	51.35	4699A91	57.63

♠ Not available in 16 grit. ◤ Not available in 80 grit. ♣ Not available in 60, 80, or 120 grit.

For information about sanding abrasives, see page 2643.

Clog-Resistant Flat Sanding Discs



Plain Hole



Quick Change

Designed to reduce material buildup on the abrasive surface, these discs have a heavy duty fiber backing and require a backup pad (sold separately; see 4728A and 4655A on this page). Use on angle grinders.

Plain-hole discs have a 7/8" dia. arbor hole. *Quick-change* discs thread directly onto a 5/8"-11 threaded spindle.

Multipurpose—Coated with aluminum oxide and an additive to resist clogging.

For Stainless Steel and Hard Metals—Coated with zirconia alumina and an additive to resist clogging.

High Performance for Stainless Steel and Hard Metals—Coated with long-lasting ceramic alumina and an additive to resist clogging.

Dia.	Available Grits: Rough	Available Grits: Smooth		1-9	10-Up
Plain Hole					
Multipurpose					
4 1/2"	24, 36, 50, 60, 80	120	46725A91	$1.93	$1.74
5"	16, 24, 36, 50, 60, 80	120	46725A52	2.36	2.13
7"	16, 24, 36, 50, 60, 80	120	46725A53	2.91	2.62
9 1/8"	16, 24, 36, 50, 60, 80	—	46725A54	2.96	2.37
For Stainless Steel and Hard Metals					
4 1/2"	24, 36, 50, 60, 80	—	4319A27	2.61	2.18
5"	24, 36, 50, 60, 80	—	4319A28	2.71	2.26
7"	24, 36, 50, 60, 80	—	4319A29	3.20	2.67
High Performance for Stainless Steel and Hard Metals					
4 1/2"	24, 36, 50, 60, 80	—	46725A71	3.31	2.78
5"	24, 36, 50, 60, 80	—	46725A72	3.86	3.24
7"	24, 36, 50, 60, 80	—	46725A73	5.40	4.54
Quick Change					
Multipurpose					
4 1/2"	36, 50, 60, 80	100, 120	46725A81	2.74	2.30
5"	36, 50, 60, 80	100, 120	46725A82	3.38	2.82
7"	36, 50, 60, 80	100, 120	46725A83	3.57	2.97
For Stainless Steel and Hard Metals					
4 1/2"	36, 50, 60, 80	—	4319A31	3.39	2.96
5"	36, 50, 60, 80	—	4319A32	3.89	3.37
7"	36, 50, 60, 80	—	4319A33	4.12	3.60
High Performance for Stainless Steel and Hard Metals					
4 1/2"	24, 36, 50, 60, 80	—	46725A84	4.13	3.44
5"	24, 36, 50, 60, 80	—	46725A85	4.37	3.67
7"	24, 36, 50, 60, 80	—	46725A86	5.54	4.65

Backup Pads for Flat Sanding Discs



Stabilize and reinforce your sanding disc with these backup pads, which are required for use with most flat sanding discs. Use the included disc nut to attach the pad to an angle grinder. Pad adapters (sold separately) convert the 5/8"-11 arbor hole to the size listed below.

For Disc Dia.	Arbor Hole	Max. rpm		
4 1/2"	5/8"-11	18,000	4728A29	$44.71
5"	5/8"-11	18,000	4728A31	44.71
7"	5/8"-11	8,600	4728A42	50.24
9", 9 1/8"	5/8"-11	7,000	4728A43	68.60
3/8"-24 Pad Adapter			4728A61	9.40
10 x 1.50 mm Pad Adapter			4728A63	11.77

Cool-Sanding Backup Pads for Flat Sanding Discs



Spiral ribs on these pads form air-flow channels to keep discs operating at a cooler temperature. Pads are made of extra strong rubber, fabric, and fiberboard. A 5/8"-11 disc nut (sold separately) is required for attachment to an angle grinder. Pad adapters (sold separately) convert the arbor hole to the size listed below.

Flexible pads are good for use on curves and contours. **Rigid** pads provide the most support.

For Disc Dia.	Arbor Hole	Max. rpm	Flexible	Medium	Rigid	
4"	5/8"-11	12,000	4655A11	4655A5	4655A21	$16.87
4 1/2"	5/8"	11,000	4655A17	4655A7	4655A33	16.87
5"	5/8"-11	10,000	4655A12	4655A3	4655A22	19.09
7"	5/8"-11	8,500	4655A16 ■	4655A1	4655A24	28.76
9"	5/8"-11	6,500	4655A15	4655A2	4655A26	34.36
Disc Nut for 4", 4 1/2", and 5" Dia. Pads					4655A27	6.47
Disc Nut for 7" and 9" Dia. Pads					4655A28	6.47
3/8"-24 Pad Adapter					4655A31	10.33
7/16"-20 Pad Adapter					4655A32	10.33

■ Max. rpm is 7,000.

Flat Sanding Discs for Concrete



Use to grind and finish concrete after making repairs and patches. These discs have a hard backing coated with silicon carbide, a 7/8" dia. arbor hole, and leave a rough finish. Use on angle grinders. Backup pads are not required.

Dia.	Available Rough Grits	Max. rpm		
4 1/2"	16, 24, 36	13,300	4751A51	$8.90
5"	16, 24, 36	12,000	4751A52	9.16
7"	16, 24, 36	8,500	4751A53	10.20

See-Through Flat Sanding Discs



Holes in the disc let you see the surface as you're sanding. Use on angle grinders that have a 5/8"-11 spindle. Backup pads (sold separately) are required.

Abrasive Discs

Multipurpose—Coated with a ceramic/zirconia alumina blend.

For Stainless Steel and Hard Metals—Coated with a ceramic/zirconia alumina blend.

High Performance for Stainless Steel and Hard Metals—Coated with ceramic alumina.

Dia.	Available Rough Grits		1-9	10-Up
Multipurpose				
4 1/2"	24, 36, 50, 60, 80	46795A67	$2.10	$1.84
5"	24, 36, 50, 60, 80	46795A68	2.71	2.37
7"	24, 36, 50, 60, 80	46795A69	3.11	2.71
For Stainless Steel and Hard Metals				
4 1/2"	24, 36, 50, 60, 80	46795A71	3.81	3.33
5"	24, 36, 60	46795A72	4.68	4.09
7"	24, 36, 50, 60	46795A73	5.33	4.65
High Performance for Stainless Steel and Hard Metals				
4 1/2"	24, 36, 50	46795A74	4.79	4.18
5"	24, 36, 50	46795A75	5.71	4.98
7"	24, 36, 50	46795A76	6.54	5.71

Nylon Mesh Discs

Discs are embedded with aluminum oxide for use on most materials. **Coarse** grade is for light deburring and removing heavy rust and surface imperfections. Color is brown. **Medium** grade is for moderate blending, cleaning, light deburring, and general cleaning. Color is maroon. **Very fine** grade is for polishing and final finishing. Color is blue.

Dia.	Available Grades		1-9	10-Up
4 1/2"	Coarse, Medium, Very Fine	46795A64	$3.45	$2.93
5"	Coarse, Medium, Very Fine	46795A65	3.80	3.22
7"	Coarse, Medium, Very Fine	46795A66	6.11	5.18

Backup Pads

Include a 5/8"-11 disc nut.

For Disc Dia.	Max. rpm		
4 1/2"	13,000	46795A24	$13.27
5"	13,000	46795A25	20.62
7"	8,600	46795A26	30.82

Angled Sanding Discs

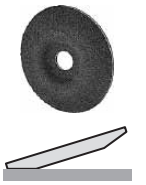

Side View

These discs are strong and have an angled edge for aggressive sanding, yet they're flexible so you can control the amount of pressure applied to the work surface. They have a fiber backing and leave a rough finish. Use on angle grinders. Backup pads are not required.

Multipurpose—Coated with zirconia alumina.

High Performance Multipurpose—Coated with zirconia alumina and an additive to resist heat.

High Performance for Stainless Steel and Hard Metals—Coated with long-lasting ceramic alumina.

Dia.	Arbor Hole	Grit	Max. rpm		
Multipurpose					
4 1/2"	7/8"	36	13,300	4516A11	$2.98
5"	7/8"	36	12,250	4516A12	3.33
High Performance Multipurpose					
4 1/2"	7/8"	36	13,300	4516A13	3.29
5"	7/8"	36	12,250	4516A14	3.82
High Performance for Stainless Steel and Hard Metals					
4 1/2"	7/8"	36	13,300	4516A15	4.44
5"	7/8"	36	12,250	4516A16	4.98

Sanding Discs & Disc Trimmers

For information about sanding abrasives, see page 2643.

Floor Sanding Discs



Use on commercial floor-buffing machines to sand wood floors and strip tape from concrete floors. All discs have a 2″ slotted center hole.

Multipurpose—Coated with silicon carbide. The *20-grit* discs resist clogging and have a combination cloth and paper backing. The *36-grit* and *80-grit* discs have a strong paper backing.

For Hard Woods—Have a heavy paper backing coated with ceramic alumina.

Dia.	Multipurpose: Available Rough Grits			For Hard Woods: Available Rough Grits		
15″	20, 36, 80	47305A255	$5.19	24, 36, 80	47305A258	$7.19
16″	20, 36, 80	47305A256	5.93	24, 36, 80	47305A259	8.21
17″	20, 36, 80	47305A257	7.96	24, 36, 80	47305A265	9.58

Sanding Disc Trimmers



Save the usable inner part of a worn disc—this tool works like a can opener to trim the perimeter of the disc down to the next smaller size. Works on paper, cloth, and fiber discs from 3″ to 9″ with a 7/8″ center hole. Not for use with flap discs.

Trimmer has two 11/32″ holes for bench mounting.

Trimmer	4710A12	$123.70
Replacement Upper Cutting Blade	4710A13	23.17
Replacement Lower Cutting Blade	4710A14	23.17

Flap Sanding Discs

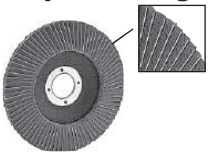

Angle



Flat

Made from overlapping pieces of cloth sanding strips bonded to a fiberglass backing plate (unless noted), these discs provide consistent material removal and even finishes in one operation. As the top layer of sanding strips wears away, a new layer is exposed. Use on angle grinders to grind, debur, finish, and blend welds.

Multipurpose—Coated with aluminum oxide.

High Performance Multipurpose—Coated with a ceramic blend or zirconia alumina. Use for aggressive material removal.

For Aluminum—Coated with ceramic/zirconia blend and an additive to prevent clogging, except the long life flat discs are coated with zirconia alumina. All can also be used on other soft metals.

For Stainless Steel and Hard Metals—Coated with a ceramic blend or zirconia alumina.

High Performance for Stainless Steel and Hard Metals—Coated with premium, long-lasting ceramic alumina.

Angle discs, also known as Type 29 discs, have an angled edge for aggressive material removal. They work well on curves and contours. *Flat* discs are also known as Type 27 discs. *Long-life angle* and *long-life flat* discs have more flaps than standard discs so they last 30% to 40% longer.

Max. rpm is 15,000 for 4″ dia. discs; 12,000 for 4 1/2″ and 5″ dia. discs; 10,000 for 6″ dia. discs; and 8,500 for 7″ dia. discs.

Disc Style	Available Grits: Rough	Smooth		4″ Dia. 5/8″ Arbor Hole	4 1/2″ Dia. 5/8″-11 Arbor Hole	4 1/2″ Dia. 7/8″ Arbor Hole	5″ Dia. 5/8″-11 Arbor Hole	5″ Dia. 7/8″ Arbor Hole	6″ Dia. 5/8″-11 Arbor Hole	6″ Dia. 7/8″ Arbor Hole	7″ Dia. 5/8″-11 Arbor Hole	7″ Dia. 7/8″ Arbor Hole
Multipurpose												
Angle	36, 40, 60, 80	120	4644A96	$5.36	$7.73	$6.20	$8.17♦	$6.82	$9.84↙	$8.56	$12.80	$12.79♥
Long Life Angle	36, 40, 60, 80	120	4644A91	3.26	5.06	3.88	5.90	4.60	6.90	5.60	9.54	7.72
Flat	40, 60, 80	120	4745A1	5.38	8.68	6.07	9.03	6.86	9.72	8.16	13.68	11.48
Long Life Flat	40, 60, 80	120	4793A1	5.21	11.30	10.20	9.33	7.17	13.00	10.40	19.52	17.95
High Performance Multipurpose												
Angle	36, 40, 60, 80	120	47055A17	6.32	9.25	7.42	9.83♦	8.08	9.84	8.26	15.13	13.17
Long Life Angle	36, 40, 60, 80	120	47055A12	3.93■	6.20	4.78	6.68■	5.20	7.91■	6.43■	12.10▲	9.78▲
Flat	40, 60, 80	120	4745A2	5.76	8.93	6.25	9.65	7.45	9.72	8.16	14.07	11.83
Long Life Flat	40, 60, 80	120	4793A2	5.03	11.30	10.20	8.93	7.00	12.32	9.96	19.52	17.95
For Aluminum												
Angle	36, 40, 50, 60, 80	120	1384A11	5.88♦	9.79	7.25	10.30	7.92	____	9.79	16.61	13.16
Flat	36, 40, 50, 60, 80	120	1384A12	5.88♦	9.79	7.25	10.30	7.92	____	9.79	16.61	13.16
Long Life Flat	40, 60, 80	120	1384A13	____	11.47	9.60	12.64	11.14	13.30	11.17	21.82	16.98
For Stainless Steel and Hard Metals												
Angle	36, 40, 60, 80	120	4750A19	7.14♦	10.69	8.35	12.59	9.68	____	____	16.10	15.04
Long Life Angle	36, 40, 60, 80	____	4750A78	____	5.78	4.60	6.52	5.22	7.60	6.30	11.34	9.52
Flat	36, 40, 50, 60, 80	120	8264A95	5.75♦	10.15	7.29	12.24	9.18	____	10.15	17.82	13.93
Long Life Flat	40, 60, 80	____	8264A88	____	12.90	11.23	12.28	9.64	15.20	12.60	22.52	20.90
High Performance for Stainless Steel and Hard Metals												
Angle	36, 40, 60, 80	____	1339A12★	____	9.12	7.38	____	9.26	____	____	17.82	14.26
Flat	40, 60, 80	____	1339A15★	____	____	6.84	____	8.56	____	____	16.52	13.22

♦Not available in 36 grit. ↙Not available in 36 or 60 grit. ♥Not available in 60 grit. ■Not available in 120 grit.
▲Not available in 36 or 120 grit. ★Backing plate is plastic.

Cool-Sanding Flap Discs



Overlapping cloth abrasive flaps with built-in lubrication aggressively remove material while minimizing heat to reduce discoloration of the work surface. The backing plate is fiberglass. Use on angle grinders to grind and finish in one operation.

Angle discs, also known as Type 29 discs, have an angled edge for aggressive material removal. They work well on contours and curves. *Flat* discs are also known as Type 27 discs.

For Stainless Steel—Coated with zirconia alumina.

For High Alloy Steels—Coated with ceramic alumina.

For Aluminum—Coated with aluminum oxide and an additive for heat resistance. They can also be used on other soft metals.

Dia.	Arbor Hole	Max. rpm	Available Disc Styles	Available Rough Grits	For Stainless Steel		For High Alloy Steels		For Aluminum	
4 1/2″	5/8″-11	13,300	Angle or Flat	40, 60, 80	4481A61	$15.42	4481A5♣	$13.67	4481A16	$12.62
4 1/2″	7/8″	13,300	Angle or Flat	40, 60, 80	4481A62	13.80	4481A8♣	12.20	4481A19	11.18
5″	5/8″-11	12,200	Angle or Flat	40, 60, 80	4481A63	16.78	4481A6♣	14.94	4481A17	14.06
5″	7/8″	12,200	Angle or Flat	40, 60, 80	4481A64	15.14	4481A9♣	13.49	4481A25	12.62
7″	5/8″-11	8,600	Angle or Flat	40, 60, 80	_____	_____	4481A7♥	22.90	4481A18	21.52
7″	7/8″	8,600	Angle or Flat	40, 60, 80	_____	_____	4481A15♥	21.20	4481A26	20.20

♣ Not available in 80 grit. ♥Not available in 60 or 80 grit.

For information about sanding abrasives, see page 2643.

Long-Lasting Flap Sanding Discs



Unlike fiberglass, the plastic backing plate on these discs can be sheared away with your workpiece as the abrasive flaps wear down, resulting in longer disc life. All have a cloth backing. Also known as Type 29 discs, they have an angled edge for aggressive material removal and work well on contours and curves. Use on angle grinders.

High Performance Multipurpose—Coated with zirconia alumina for aggressive material removal.

For Stainless Steel and Hard Metals—Coated with premium aluminum oxide that stays cool and prevents material buildup.

Dia.	Arbor Hole	Max. rpm	Available Grits: Rough	Available Grits: Smooth		
High Performance Multipurpose						
4½″	5/8″-11	13,300	40, 60, 80	120	4216A11	$10.71
4½″	7/8″	13,300	40, 60, 80	120	4216A12	10.71
5″	5/8″-11	12,200	40, 60, 80	120	4216A13	13.80
7″	7/8″	8,600	40, 60, 80	120	4216A14	21.91
For Stainless Steel and Hard Metals						
4½″	5/8″-11	13,300	40, 60, 80	120	4216A21	11.98
4½″	7/8″	13,300	40, 60, 80	120	4216A22	11.98
5″	5/8″-11	12,200	40, 60, 80	120	4216A23	15.28
7″	7/8″	8,600	40, 60, 80	120	4216A24	24.50

Flap Sanding Discs for Corners





The abrasive flaps are set at an angle and widely spaced so they reach into corners. Backing plate is fiberglass; backing is cloth. Use on angle grinders.

Multipurpose—Coated with aluminum oxide.

High Performance Multipurpose—Coated with zirconia alumina for aggressive material removal.

For Stainless Steel and Hard Metals—Coated with ceramic alumina.

Dia.	Arbor Hole	Max. rpm	Available Grits: Rough	Available Grits: Smooth		
Multipurpose						
4½″	5/8″-11	13,300	36, 40, 60, 80	120	4326A12	$8.22
4½″	7/8″	13,300	36, 40, 60, 80	120	4326A11	6.17
7″	5/8″-11	8,600	36, 40, 60, 80	120	4326A14	13.94
7″	7/8″	8,600	36, 40, 60, 80	120	4326A13	11.92
High Performance Multipurpose						
4½″	5/8″-11	13,300	36, 40, 60, 80	120	4326A16	8.91
4½″	7/8″	13,300	36, 40, 60, 80	120	4326A15	6.87
7″	5/8″-11	8,600	36, 40, 60, 80	120	4326A18	15.27
7″	7/8″	8,600	36, 40, 60, 80	120	4326A17	13.25
For Stainless Steel and Hard Metals						
4½″	5/8″-11	13,300	36, 40, 60, 80	—	4326A21	7.68
4½″	7/8″	13,300	36, 40, 60, 80	—	4326A19	5.92

Flap Sanding Discs for Right-Angle Welds





The abrasive flaps wrap around the outer edge of these discs to sand welds in right angles. They leave a rough finish. Backing plate is fiberglass; backing is cloth. Use on angle grinders.

High Performance Multipurpose—Coated with 40-grit zirconia alumina.

For Stainless Steel and Hard Metals—Coated with 60-grit ceramic oxide.

Dia.	Arbor Hole	Max. rpm	For 3/16″ Wide Welds		For 5/16″ Wide Welds	
High Performance Multipurpose						
4½″	5/8″-11	13,300	4867A19	$18.02	4867A14	$18.60
4½″	7/8″	13,300	4867A11	15.98	4867A13	16.50
5″	5/8″-11	12,200	4867A36	20.05	4867A18	20.62
5″	7/8″	12,200	4867A15	18.27	4867A17	18.88
For Stainless Steel and Hard Metals						
4½″	5/8″-11	13,300	4867A22	18.88	4867A24	19.50
4½″	7/8″	13,300	4867A21	16.78	4867A23	17.45
5″	5/8″-11	12,200	4867A26	21.88	4867A28	22.43
5″	7/8″	12,200	4867A25	19.83	4867A27	20.33

Aggressive Flap Sanding Discs



A rigid aluminum backing plate provides more support than standard fiberglass backing plates so these discs can be used for very heavy material removal. They have a cloth backing coated with zirconia alumina. Also known as Type 29 discs, they have an angled edge and work well on contours and curves. Use on angle grinders.

Dia.	Arbor Hole	Max. rpm	Available Grits: Rough	Available Grits: Smooth		
4″	5/8″	15,000	36, 40, 60, 80	120	4384A21	$7.40
4½″	5/8″-11	13,000	36, 40, 60, 80	120	4384A23	10.06
4½″	7/8″	13,000	36, 40, 60, 80	120	4384A22	8.28
5″	7/8″	12,000	36, 40, 60, 80	120	4384A24	9.53
7″	5/8″-11	8,600	36, 40, 60, 80	120	4384A26	18.09
7″	7/8″	8,600	36, 40, 60, 80	120	4384A25	16.63

Flap Sanding Discs for Nonmetals



Sand plastics, rubber, glass, concrete, stone, and ceramics with these silicon carbide discs. Backing plate is fiberglass; backing is cloth. Also known as Type 29 discs, they have an angled edge for aggressive material removal and work well on contours and curves. Use on angle grinders.

Dia.	Arbor Hole	Max. rpm	Available Grits: Rough	Available Grits: Smooth	Available Grits: Extra Smooth	Available Grits: Polished		
4″	5/8″	15,300	80	120, 220	320, 400	600	4609A11	$8.84
4½″	5/8″-11	13,000	80	120, 220	320, 400	600	4609A14	12.56
4½″	7/8″	13,000	80	120, 220	320, 400	—	4609A12	9.84
5″	5/8″-11	12,000	80	120, 220	320, 400	600	4609A16	13.62
5″	7/8″	12,000	80	120, 220	320, 400	600	4609A17	10.74
7″	5/8″-11	8,600	80	120, 220	320, 400	600	4609A15	20.47
7″	7/8″	8,600	80	120, 220	320, 400	600	4609A13	18.53

Quick-Change & Nylon Mesh Sanding Discs

For information about sanding abrasives, see page 2643.

Quick-Change Flap Sanding Discs



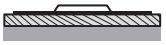

Flat

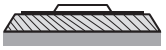

Corner

The plastic fastener (3M Roloc/Norton Speed-Lok TR compatible) on these discs allows for quick disc changes. Fasteners attach to a disc holder with a 1/4″ dia. shank (disc holder required; sold separately). Discs are made of cloth sanding strips and are for use on angle grinders for bits and burs.

Corner discs are designed for use on corners, in tight spaces, and on curved surfaces.

Multipurpose—Coated with aluminum oxide.

For Stainless Steel and Hard Metals—Coated with zirconia alumina for aggressive material removal.

Dia.	Available Grits: Rough	Available Grits: Smooth	Multipurpose		For Stainless Steel and Hard Metals	
Flat						
2″	36, 40, 60, 80	120	_____	____	8228A4	$4.50
3″	36, 40, 60, 80	120	_____	____	8228A8	5.68
Corner						
2″	36, 40, 60, 80	120	8231A41	$4.36	8231A42	4.55
3″	36, 40, 60, 80	120	8231A43	5.08	8231A44	5.65
Disc Holder for 2″ Dia. Discs (30,000 Max. rpm)					46325A92	11.87
Disc Holder for 3″ Dia. Discs (20,000 Max. rpm)					46325A93	13.04

Nylon Mesh Flap Sanding Discs for Finishing



A nylon mesh version of our popular flap sanding discs, these discs have overlapping flaps of nylon mesh embedded with aluminum oxide and mounted in layers on a fiberglass backing plate. This creates a cushion that's good for blending and other finishing tasks. Also known as Type 29 discs, they have an angled edge for aggressive material removal and work well on contours and curves. Use on angle grinders.

Coarse grade is for light deburring, and removal of heavy rust and surface imperfections. Color is red or brown. **Medium** grade is for moderate blending, cleaning, light deburring, and general finishing. Color is maroon. **Fine** grade is for light cleaning and finishing. Color is blue.

Dia.	Arbor Hole	Max. rpm		
Coarse				
4 1/2″	5/8″-11	13,300	4661A29	$20.55
4 1/2″	7/8″	13,300	4661A23	18.52
5″	5/8″-11	12,200	4661A33	24.97
5″	7/8″	12,200	4661A26	22.32
Medium				
4 1/2″	5/8″-11	13,300	4661A31	19.35
4 1/2″	7/8″	13,300	4661A22	18.52
5″	5/8″-11	12,200	4661A34	22.52
5″	7/8″	12,200	4661A27	19.89
Fine				
4 1/2″	5/8″-11	13,300	4661A32	18.34
4 1/2″	7/8″	13,300	4661A21	18.51
5″	5/8″-11	12,200	4661A35	21.97
5″	7/8″	12,200	4661A28	19.31

Nylon Mesh Stripping and Finishing Discs



Stripping



Finishing

A nylon mesh option for work on flat surfaces, these discs are also known as Type 27 discs. Use on angle grinders.

Stripping Discs—Made of extra-coarse nylon mesh embedded with silicon carbide, these black heavy duty discs handle the toughest jobs. *Multipurpose* discs remove surface coatings and clean welds on metal. They're also for use on curved surfaces. Discs *for stainless steel* eliminate discoloration from heat buildup. They can also be used on titanium and nickel alloys.

Finishing Discs—Made of multiple layers of compressed nylon mesh bonded together. *Multipurpose* discs are light gray and embedded with aluminum oxide. They are more durable than discs for soft materials. Discs *for soft materials* are dark gray and embedded with silicon carbide, which cuts faster than aluminum oxide and leaves a finer finish on most surfaces. Use on nonferrous metals, glass, rubber, plastics, soft woods, enamel, and other soft materials.

Coarse grade is for light deburring, and removal of heavy rust and surface imperfections. *Medium* grade is for moderate blending, cleaning, light deburring, and general finishing. *Fine* grade is for light cleaning and finishing. Soft and medium density discs conform to surfaces better than hard density discs. Use for blending tool marks and giving a bright surface finish. Hard density discs are more durable for aggressive material removal.

Stripping Discs

Dia.	Arbor Hole	Grade	Max. rpm		
Multipurpose					
4″	5/8″	Extra Coarse	12,400	4748A31	$9.84
4 1/2″	5/8″-11	Extra Coarse	12,000	4748A36	14.22
4 1/2″	7/8″	Extra Coarse	11,000	4748A28	11.35
5″	5/8″-11	Extra Coarse	11,000	4748A37	19.61
5″	7/8″	Extra Coarse	9,800	4748A34	12.51
7″	5/8″-11	Extra Coarse	8,000	4748A38	21.75
7″	7/8″	Extra Coarse	7,000	4748A35	18.04

Dia.	Arbor Hole	Grade	Max. rpm		
For Stainless Steel					
4 1/2″	5/8″-11	Extra Coarse	12,000	8236A14	$16.76
4 1/2″	7/8″	Extra Coarse	11,000	8236A13	18.91
5″	5/8″-11	Extra Coarse	11,000	8236A16	19.73
5″	7/8″	Extra Coarse	11,000	8236A17	18.76
7″	5/8″-11	Extra Coarse	8,000	8236A18	25.69
7″	7/8″	Extra Coarse	8,000	8236A19	24.69

Finishing Discs

Dia.	Arbor Hole	Grade	Density	Max. rpm		
Multipurpose						
4 1/2″	7/8″	Coarse	Hard	10,000	4721A15	$28.63
4 1/2″	7/8″	Medium	Hard	10,000	4721A14	28.63

Dia.	Arbor Hole	Grade	Density	Max. rpm		
For Soft Materials						
4 1/2″	7/8″	Medium	Hard	10,000	4721A13	$28.63
4 1/2″	7/8″	Fine	Medium	10,000	4721A12	24.01
4 1/2″	7/8″	Fine	Soft	10,000	4721A11	21.97

Nylon Mesh Shaft-Mount Finishing Discs



Use one disc for intricate jobs, or stack several for larger jobs. Attach to a 1/4″ dia. shank mandrel (sold separately) or shaft. They're embedded with aluminum oxide for use on most materials. Use on bench and pedestal grinders, and grinders for straight wheels.

Medium grade is for moderate blending, cleaning, light deburring, and general finishing. Thickness is 1/2″. **Fine** grade is for light cleaning and finishing. Thickness is 3/8″. **Very fine** grade is for polishing and final finishing. Thickness is 1/4″.

Dia.	Arbor Hole	Max. rpm	Medium (Maroon)	1-24	25-Up	Fine (Maroon)	1-24	25-Up	Very Fine (Maroon)	1-24	25-Up	Optional Mandrels	
6″	1/4″	3,600	46935A43	$3.73	$3.09	46935A42	$2.39	$1.98	46935A41	$2.01	$1.67	4568A21	$3.17
6″	1/2″	3,600	46935A16	3.81	3.15	46935A15	2.44	2.02	46935A14	2.05	1.70	_____	
8″	1/4″	2,700	46935A53	5.79	4.80	46935A52	3.95	3.28	46935A51	3.95	3.28	4568A21	3.17
8″	1/2″	2,700	46935A19	5.85	4.85	46935A18	3.95	3.28	46935A17	3.39	2.81	_____	

Quick-Change Sanding Discs

The fastener on the back of these discs allows you to easily swap one disc for another. Choose from three types: Style A compatible with Standard Abrasive SocAtt, Norton Speed-Lok TS, and 3M TSM styles; Style B compatible with 3M Roloc and Norton Speed-Lok TR styles; and Style C snap-on fastener compatible with Merit Power-Lock Type I and Norton TY Power-Lock Type I styles. Disc holder required (sold separately).

Discs have a cloth backing and are used on angle grinders for bits and burs.

Multipurpose—Coated with aluminum oxide. 4″ dia. Style C discs are not available in 320 grit.

High Performance Multipurpose—Coated with zirconia alumina.

Long-Lasting Multipurpose—Coated with aluminum oxide. The abrasive is compressed for longer disc life and a uniform finish.

For Soft Metals and Nonmetals—Coated with silicon carbide. ¾″ dia. discs are only available in 100 and 120 grit. 1″ dia. discs are only available in 50, 100, 120, and 180 grit. 1½″ dia. discs are only available in 36, 50, and 120 grit. 3″ dia. discs are only available in 36, 40, 50, 60, 80, 120, 180, and 240 grit. 4″ dia. discs are only available in 100, 120, and 180 grit.

For Stainless Steel and Hard Metals—Coated with ceramic.

High Performance for Stainless Steel and Hard Metals—Coated with ceramic and an additive to remove material more aggressively and last up to twice as long as standard ceramic discs.

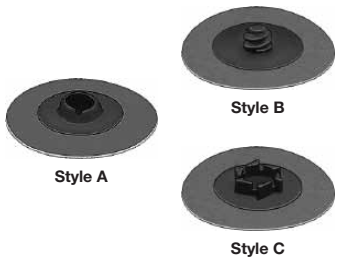

Discs

Available Grits: Rough	Smooth	Extra Smooth	Available Fastener Styles		¾″ Dia. Pkg. of 25	1″ Dia. Pkg. of 25	1½″ Dia. Pkg. of 25	2″ Dia. Pkg. of 10	3″ Dia. Pkg. of 10	4″ Dia. Pkg. of 10
Multipurpose										
36, 40, 50, 60, 80	100, 120, 180	240, 320	A, B, C	46465A7	$8.64	$8.64	$10.45	$6.55	$9.64	$15.69
High Performance Multipurpose										
24, 36, 50, 60, 80	100, 120	—	A, B, C	4635A6	—	11.81	11.81	9.85	14.68	23.77
Long Lasting Multipurpose										
80	120, 180	240, 320, 400	A, B	4293A4	—	—	12.60	6.58	8.76	—
For Soft Metals and Nonmetals										
36, 40, 50, 60, 80	100, 120, 150, 180	240	B	8237A7	15.90	16.07	16.49	10.69	13.97	23.97
For Stainless Steel and Hard Metals										
36, 50, 60, 80	120	—	A, B	46395A4	—	—	15.98	11.32	14.43	—
High Performance for Stainless Steel and Hard Metals										
36, 50, 60, 80	—	—	A, B	4212A4	—	—	19.29	12.43	15.97	—

Disc Holders

For Disc Dia.	Shank Dia.	Max. rpm	For Discs with Style A Fastener		For Discs with Style B Fastener		For Discs with Style C Fastener	
¾″	¼″	40,000	4701A77	$14.66	46465A71	$10.84	47045A81	$10.94
1″	¼″	40,000	4701A75	13.23	46465A72	10.70	47045A82	10.94
1½″	¼″	30,000	4701A71	13.90	46325A91	10.77	47045A51	11.20
2″	¼″	30,000	4701A72	15.50	46325A92	11.87	47045A52	12.34
3″	¼″	20,000	4701A73	16.73	46325A93	13.04	47045A53	13.78
4″	¼″	15,000	4701A74	25.41	46325A94	19.19	47045A54	19.98



Heavy Duty Quick-Change Sanding Discs

A strong fiber backing makes these discs long-lasting, even for aggressive sanding. A quick-change fastener secures the discs to the required disc holder (sold separately). Choose from two types: Style A metal fastener compatible with Standard Abrasive SocAtt and Norton Speed-Lok TS styles; and Style B plastic fastener compatible with 3M Roloc and Norton Speed-Lok TR styles.

Use on angle grinders for bits and burs. Choose 36-80 grit for a rough finish, and 100 or 120 grit for a smooth finish.

For Steel—Coated with ceramic.

For Aluminum—Coated with premium aluminum oxide and designed to stay cool and prevent material buildup.

Discs

Grit	Available Fastener Styles	1½″ Dia. Pkg. of 25		2″ Dia. Pkg. of 25		43″ Dia. Pkg. of 25	
For Steel							
36	A, B	47035A36	$20.88	47035A16	$31.68	47035A26	$42.26
50	A, B	47035A35	20.08	47035A15	29.37	47035A25	39.72
60	A, B	47035A34	19.64	47035A14	28.15	47035A24	38.57
80	A, B	47035A33	19.37	47035A13	27.81	47035A23	37.72
100	A, B	47035A32	19.37	47035A12	27.86	47035A22	37.75
120	A, B	47035A31	19.85	47035A11	28.52	47035A21	38.77
For Aluminum							
36	A, B	—	—	47035A41	39.50	47035A45	47.50
60	A, B	—	—	47035A42	37.00	47035A46	45.00
80	A, B	—	—	47035A43	37.00	47035A47	44.00
120	A, B	—	—	47035A44	37.00	47035A48	44.00

Disc Holders

For Disc Dia.	Shank Dia.	Max. rpm	For Discs with Style A Fastener		For Discs with Style B Fastener	
1½″	¼″	30,000	4701A71	$13.90	46325A91	$10.77
2″	¼″	30,000	4701A72	15.50	46325A92	11.87
3″	¼″	20,000	4701A73	16.73	46325A93	13.04

Quick-Change Sanding Discs for Hard Nonmetals

These discs are coated with tough, long-lasting diamond on a flexible polyester backing. A plastic fastener compatible with 3M Roloc and Norton Speed-Lok TR styles secures the disc to the required disc holder (sold separately). Use on angle grinders for bits and burs.

Choose 60 grit for a rough finish, 120 or 200 grit for a smooth finish, 200 or 400 grit for an extra-smooth finish, and 800 or 1800 grit for a polished finish.

Max. rpm is 30,000 for 2″ disc holders and 20,000 for 3″ disc holders.

Grit	2″ Dia.		3″ Dia.	
60	4696A11	$24.58	4696A21	$42.36
120	4696A12	20.71	4696A22	35.42
200	4696A13	17.02	4696A23	28.58
400	4696A14	12.80	4696A24	20.84
800	4696A15	12.80	4696A25	20.84
1800	4696A16	12.67	4696A26	25.33
Disc Holders	46325A92	$11.87	46325A93	$13.04

Quick-Change Sanding Discs

For information about sanding abrasives, see page 2643.

Quick-Change Sanding Discs for Smoothing



Grind and finish in one step—discs consist of multiple layers of cotton fiber embedded with aluminum oxide. They resist clogging and outlast standard quick-change cloth sanding discs 10:1. A 3M Roloc/Norton Speed-Lok TR compatible plastic fastener allows for fast disc changes. Use discs on angle grinders for bits and burs, for grinding welds, and for blending on flat and contoured surfaces. For best results, use a disc that is one or two grits coarser than a standard cloth sanding disc. A *disc holder* (sold separately) is required and has a 1/4″ shank diameter.

	Available Grits					Disc Holders	
Dia.	Rough	Smooth	Extra Smooth	Discs		Max. rpm	
1″	24, 36, 54, 80	120, 180	320	43835A71	$2.79	40,000	46465A72 $10.70
1 1/2″	24, 36, 54, 80	120, 180	320	43835A72	2.96	30,000	46325A91 10.77
2″	24, 36, 54, 80	120, 180	320	43835A73	3.48	30,000	46325A92 11.87
3″	24, 36, 54, 80	120, 180	320	43835A74	4.10	20,000	46325A93 13.04

Quick-Change Sanding Discs for Contours



The outer 3/8″ edge of these discs is very flexible so it won't mar or gouge your work when sanding a radius or contour. A quick-change fastener allows fast disc changes. Discs have a cloth backing and are used on angle grinders for bits and burs. A *disc holder* (sold separately) is required.

Multipurpose discs are aluminum oxide. **High performance multipurpose** discs are zirconia alumina for long-lasting, aggressive material removal.

Discs

To Order: Please specify disc fastener style: Style A metal fastener (compatible with Norton Speed-Lok TS, Standard Abrasive SocAtt, and 3M TSM styles) or Style C plastic snap-on fastener (compatible with Merit Power-Lock Type I and Norton Power-Lock Type I styles).

Please specify grit: 60 or 80 (rough finish); 100, 120, or 180 (smooth finish). High performance discs are not available in 180 grit.



Style A Metal Fastener

	1″ Dia. Pkg. of 25		1 1/2″ Dia. Pkg. of 25		2″ Dia. Pkg. of 10		3″ Dia. Pkg. of 10		4″ Dia. Pkg. of 10	
Multipurpose	47045A16	$10.43	47045A26	$12.99	47045A36	$8.00	47045A56	$11.48	47045A66	$21.08
High Performance Multipurpose	4698A11	11.60	4698A21	15.24	4698A31	9.39	4698A41	12.85	4698A51	21.70

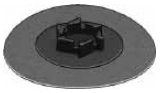

Style C Plastic Snap-On Fastener

Disc Holders

The flexible outer edge of the sanding disc overhangs these disc holders. Shank diameter is 1/4″.

Disc Fastener Style	For 1″ Discs (40,000 max. rpm)		For 1 1/2″ Discs (40,000 max. rpm)		For 2″ Discs (30,000 max. rpm)		For 3″ Discs (30,000 max. rpm)		For 4″ Discs (30,000 max. rpm)	
A	4701A92	$14.66	4701A93	$13.23	4701A94	$13.90	4701A95	$16.76	4701A95	$16.76
C	47045A83	10.94	47045A84	10.94	47045A85	11.20	47045A86	13.24	47045A86	13.24

Nylon Mesh Quick-Change Sanding Discs



Make quick and simple changes from one disc to another. Choose from two types of plastic fasteners: Style A fastener compatible with Standard Abrasive SocAtt, Norton Speed-Lok TS, and 3M TSM styles; or Style B fastener compatible with 3M Roloc and Norton Speed-Lok TR styles. All discs are embedded with aluminum oxide for surface conditioning, cleaning, polishing, and creating specific finishes. Use on most materials with angle grinders for bits and burs. A disc holder (sold separately) is required.

Surface-Conditioning for Flat Surfaces—Extra stiffness makes these more aggressive than finishing and polishing discs for surface preparation work. Also use for cleaning and light deburring.

Finishing and Polishing for Contoured and Flat Surfaces—Thicker, more pliable, and less aggressive than surface-conditioning discs, these are best suited for light duty work.

Coarse grade is for light deburring and removal of heavy rust and surface imperfections. **Medium** grade is for cleaning, blending, and rust removal. **Fine** and **very fine** grades are for light scratch removal, finishing, and polishing.



Surface-Conditioning



Finishing and Polishing

Discs

Dia.	Available Fastener Styles	Coarse (Brown) Each	Pkg. Qty.		Medium (Maroon) Each	Pkg. Qty.		Very Fine (Blue) Each	Pkg. Qty.	
Surface-Conditioning Discs for Flat Surfaces										
1 1/2″	A, B	46325A1	$0.68	50 $27.07	46325A5	$0.65	50 $25.94	46325A9	$0.65	50 $25.94
2″	A, B	46325A2	1.24	50 52.90	46325A6	1.21	50 51.41	46325A101	1.21	50 51.41
3″	A, B	46325A3	1.97	25 42.01	46325A7	1.91	25 40.77	46325A102	1.91	25 40.77
4″	A, B	46325A4	3.33	25 70.93	46325A8	3.12	25 66.47	46325A103	3.12	25 66.47
		Coarse (Maroon)			Medium (Maroon)			Fine (Maroon)		
Finishing and Polishing Discs for Contoured and Flat Surfaces										
1 1/2″	A, B	46325A104	$0.90	50 $38.17	46325A108	$0.93	50 $39.04	46325A113	$0.93	50 $39.42
2"	A, B	46325A105	1.29	50 54.50	46325A109	.99	50 42.00	46325A114	.93	50 39.50
3"	A, B	46325A106	2.51	25 53.00	46325A111	2.05	25 43.29	46325A115	1.93	25 40.71
4"	A, B	46325A107	2.27	10 19.20	46325A112	1.76	10 14.86	46325A116	1.55	10 13.10



Style A Fastener

Disc Holders

Holders have a 1/4″ dia. shank.

For Disc Dia.	Max. rpm	For Discs with Style A Fastener		For Discs with Style B Fastener	
1 1/2″	30,000	4701A71	$13.90	46325A91	$10.77
2″	30,000	4701A72	15.50	46325A92	11.87
3″	20,000	4701A73	16.73	46325A93	13.04
4″	15,000	4701A74	25.41	46325A94	19.19



Style B Fastener

26-Piece Aluminum Oxide Surface-Conditioning Disc Kits

Kits include four discs each of coarse, medium, and very fine grades in 2″ and 3″ dia. sizes plus one each of 2″ and 3″ dia. disc holders with 1/4″ dia. shank.

Disc Fastener Style		
A	4799A91	$46.79
B	4799A92	47.67

For information about sanding abrasives, see page 2643.

Aggressive Nylon Mesh Quick-Change Discs



Embedded with sharp, fast-sanding ceramic alumina, these discs debur, clean, and blend faster than other nylon mesh discs. Grain particles continuously produce new sharp cutting edges. For fast disc changes they have a plastic fastener compatible with 3M Roloc and Norton Speed-Lok TR styles. Use with an angle grinder for bits and burs on carbon steels, nickel alloys, aluminum, cast iron forgings, and stainless steel.

A *disc holder* (sold separately) is required. Holders have a 1/4" dia. shank.

Coarse grade discs are for deburring and removing heavy rust and surface imperfections. Color is blue. **Medium** grade discs are for moderate to light cleaning, blending, and surface material removal. Color is maroon.

		Discs				
Dia.	Max. rpm	Coarse	Medium		Disc Holders	
2"	25,000	4682A12	4682A11	$1.60	46325A92	$11.87
3"	18,000	4682A14	4682A13	3.27	46325A93	13.04

Nylon Mesh Quick-Change Stripping Discs



3M Roloc-Style

Handle your toughest cleaning jobs with these discs. Discs are embedded with silicon carbide, except 8236A21 is embedded with ceramic alumina. They have a 3M Roloc-style compatible plastic fastener that allows for quick changes from one disc to another, unless noted. Color is black, except 8236A21 is orange. Use with angle grinders for bits and burs. A *disc holder* (sold separately) is required and has a 1/4" shank diameter.

		Discs		Disc Holders	
Dia.	Max. rpm				
Multipurpose					
2"	18,000	4729A11	$4.54	46325A92	$11.87
3"	15,000	4729A12	8.64	46325A93	13.04
For Aluminum					
2"	15,500	8236A22	3.71	46325A92	11.87
3"	12,000	8236A23	6.93	46325A93	13.04
4"	8,000	8236A24★	12.20	8236A34	14.67
For Stainless Steel					
2"	10,500	8236A11	3.53	46325A92	11.87
3"	7,000	8236A12	5.69	46325A93	13.04
4"	8,000	8236A21★	9.87	8236A34	14.67

★ Has a Norton Speed-Lok TR+ style compatible fastener.

Nylon Mesh Shank-Mount Stripping and Cleaning Discs



For Stripping Soft Materials



Multipurpose for Cleaning

Multiple layers compressed on a shank allow these discs to conform to a variety of tight spots and internal surfaces.

Extra coarse grade discs are for heavy stripping and shaping. **Medium** grade discs are for moderate deburring and cleaning. **Fine** grade discs are for light cleaning, blending, and finishing. **Very fine** grade discs are for polishing and final finishing to a satin or luster finish.

For Stripping Soft Materials—Embedded with silicon carbide for use on wood and plastics. Use with a drill. Color is black.

Multipurpose for Cleaning—Embedded with aluminum oxide. Use with drill presses, grinders for grinding wheels, and finishing tools. Color is maroon.

Dia.	Thick.	Shank Dia.	Max. rpm	Extra Coarse		Medium		Fine		Very Fine	
For Stripping Soft Materials											
3"	1/2"	1/4"	10,500	4718A21	$8.50						
3"	1"	1/4"	10,500	4718A22	12.57						
4"	1/2"	1/4"	8,000	4718A23	7.80						
4"	1"	1/4"	8,000	4718A24	20.00						
Multipurpose for Cleaning											
1"	3/8"	1/8"	20,000			4365A41	$1.75	4365A31	$1.77		
1"	1/2"	1/8"	20,000			4365A42	1.91	4365A32	1.88		
1 1/2"	7/8"	1/8"	13,000			4365A43	3.08	4365A33	3.08		
1 1/2"	1"	1/8"	13,000			4365A44	3.79	4365A34	3.79		
2"	1"	1/4"	12,000			46925A32	6.92	46925A42	3.97	46925A52	$6.93
2 3/8"	2"	1/4"	12,000			46925A72	12.50	46925A71	12.50	46925A69	12.50
3"	1/2"	1/4"	8,000			46925A26	6.30	46925A25	4.32	46925A24	6.21
3"	1"	1/4"	8,000			46925A23	11.94	46925A22	10.19	46925A21	9.98
3"	2"	1/4"	8,000			46925A74	14.82	46925A73	14.82	46925A68	14.82
4"	1"	1/4"	6,000			46925A36	16.51	46925A46	8.43	46925A56	7.70
5"	1"	1/4"	4,000			46925A38	18.50	46925A48	9.45	46925A58	10.97

Adhesive-Back Paper Sanding Discs

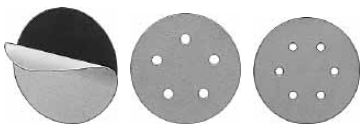

Disc without Holes on Backup Pad | Disc with Five Holes | Disc with Six Holes

Press the disc on to a portable disc sander, then peel it off to change discs. They are commonly referred to as PSA discs. A backup pad (sold separately) is required. **Discs with holes** allow dust removal when used with vacuum sanders. Holes are 3/8" diameter.

Multipurpose—Coated with aluminum oxide. 4707A118 is not available in 80 grit.

High Performance Multipurpose—These cut faster, last longer, and produce more consistent finishes than standard multipurpose discs. Coated with aluminum oxide and an additive for clog resistance.

For Aluminum and Soft Metals—Coated with silicon carbide. Discs cut faster under light pressure than aluminum oxide discs.

For Stainless Steel and Hard Metals—Coated with ceramic alumina to produce the most consistent finish. Grain particles continuously produce new sharp cutting points.

Discs

	Available Grits		Discs Per	5" Dia.				6" Dia.			
				No Holes		Five Holes		No Holes		Six Holes	
Rough	Smooth	Extra Smooth	Roll		Roll		Roll		Roll		Roll
Multipurpose											
80	100, 120, 150, 180, 220	240, 280, 320, 400	25	4707A115	$12.87	4707A116	$12.87	4707A117	$13.18	4707A118	$13.18
80	100, 120, 150, 180, 220	240, 280, 320, 400	100	4707A111	30.05	4707A112	29.18	4707A113	40.89	4707A114	39.71
High Performance Multipurpose											
80	100, 120, 150, 180, 220	240, 320, 400	25	47805A115	17.45	47805A116	17.45	47805A117	18.82	47805A118	18.82
80	100, 120, 150, 180, 220	240, 280, 320, 400	100	47805A111	39.53	47805A112	39.53	47805A113	59.64	47805A114	59.64
For Aluminum and Soft Metals											
80	100, 120, 150, 180, 220	240, 320, 400, 600	100	4722A87	30.30			4722A88	41.25		
For Stainless Steel and Hard Metals											
80	100, 120, 150, 180, 220	240, 280, 320, 400	100	47085A87	93.49			47085A88	126.99		

Backup Pads

For Disc Dia.	Threaded Spindle	Max. rpm	No Holes		Five Holes		Six Holes	
5"	5/16"-24	13,000	4709A41	$24.24	4709A51	$24.24		
6"	5/16"-24	13,000	4709A42	27.15			4709A52	$27.15

Sanding Discs

For information about sanding abrasives, see page 2643.

Adhesive-Back Cloth Sanding Discs



Disc and Disc Holder

A tear-resistant cloth backing coated with adhesive sticks to a backup pad, machine platen, disc holder, or hand sanding pad (holders and pads sold separately). They are commonly referred to as PSA discs. Use on grinders for bits and burs, bench sanders, and orbital sanders. To maintain strong adhesion, clean the holder/pad surface with mild alcohol before applying. Do not use aggressive cleaning solvents such as MEK or acetone, which can damage the adhesive.

Choose 36-80 grit for a rough finish, 100-220 grit for a smooth finish, and 240-400 grit for an extra-smooth finish.

Multipurpose—Discs are aluminum oxide.

High Performance Multipurpose—Coated with aluminum oxide and an additive to resist clogging. Use on soft metals, soft woods, fiberglass, and similar materials.

For Aluminum and Soft Metals—Discs are silicon carbide. They abrade faster under light pressure than aluminum oxide discs.

For Stainless Steel and Hard Metals—Coated with zirconia alumina for long life and aggressive material removal.

ⓘ For pricing for other sizes, please go to mcmaster.com and search for the part number.

Discs

Dia.	Pkg. Qty.		Pkg.
Multipurpose—Available grits: 36, 40, 50, 60, 80, 100, 120, 180, 220, 240, 320, or 400			
1/2"	100	4700A11	$5.69
3/4"	100	4700A12	6.98
1"	100	4700A22	10.86
1 1/2"	50	4700A24	7.00
2"	50	4700A25	8.83
3"	25	4700A26	7.77
4"	10	4700A27	5.79
5"	10	4700A28	8.57
6"	10	4700A29	9.12
8"	5	4700A36	9.19
9"	5	4700A37	10.41
10"	5	4700A38	13.12
12"	5	4700A39	17.43
Other sizes up to 30"	5	4700A41	
High Performance Multipurpose—Available grits: 40, 60, 80, 100, 120, or 180			
1/2"	100	4675A1	6.29
3/4"	100	4675A2	6.87
1"	50	4675A3	4.09
1 1/2"	50	4675A4	6.00
2"	25	4675A5	4.57
3"	25	4675A6	6.25
5"	10	4675A7	7.39
6"	10	4675A8	9.28
8"	5	4675A9	9.04
9"	5	4675A29	12.60

Dia.	Pkg. Qty.		Pkg.
High Performance Multipurpose (Cont.)—Available grits: 40, 60, 80, 100, 120, or 180			
10"	1	4675A97	$3.78
12"	1	4675A49	5.17
15"	1	4675A59	7.66
16"	1	4675A69	8.66
Other sizes up to 24"	1	4675A79	
For Aluminum and Soft Metals—Available grits: 40, 60, 80, 100, 120, or 180			
2"	10	4678A11	1.97
3"	10	4678A12	3.57
5"	10	4678A13	7.26
6"	10	4678A14	10.41
8"	5	4678A15	2.14
9"	1	4678A16	2.69
10"	1	4678A17	3.86
12"	1	4678A18	5.26
For Stainless Steel and Hard Metals—Available grits: 36, 40, 50, 60, 80, or 120			
5"	1	47125A27	.83
6"	1	47125A28	1.22
8"	1	47125A29	2.75
9"	1	47125A69	3.18
10"	1	47125A76	3.36
12"	1	47125A77	5.22
14"	1	47125A78	7.33
Other sizes up to 24"	1	47125A79	

Hand Sanding Pads



Flexible



Palm Grip

For use with adhesive-back discs.

Flexible pads are 3/8" thick neoprene foam and have a hand strap.

Palm-grip pads are polyurethane.

Disc Dia.	Flexible		Palm Grip	
5"	4738A21	$5.66	4738A23	$11.63
6"	4738A22	5.97	4738A24	12.88

Disc Holders

For Disc Dia.	Shank Dia.	Max. rpm		
1/2"	1/8"	22,000	4702A61	$3.93
1/2"	1/4"	22,000	4702A62	3.93
3/4"	1/8"	22,000	4702A63	4.18
3/4"	1/4"	22,000	4702A64	4.18
1"	1/8"	22,000	4702A65	4.59
1"	1/4"	22,000	4702A66	4.59
1 1/2"	1/8"	30,000	4702A44	6.40

For Disc Dia.	Shank Dia.	Max. rpm		
1 1/2"	1/4"	30,000	4702A45	$6.40
2"	1/4"	28,000	4702A54	7.04
3"	1/4"	20,000	4702A71	11.26
4"	1/4"	16,000	4702A74	12.42
4"	3/8"	16,000	4702A75	12.42
5"	1/4"	12,000	4702A76	17.24
5"	3/8"	12,000	4702A77	17.24

Adhesive-Back Sanding Discs for Hard Nonmetals

Grind and finish ceramics, glass, and composites as well as remove rust and scale with these diamond discs. They are commonly referred to as PSA discs. Use on portable disc sanders.

Choose 60 grit for a rough finish; 120 or 200 grit for a smooth finish; 400 grit for an extra-smooth finish; and 800 or 1500 grit for a polished finish.

Grit	2" Dia.		5" Dia.		6" Dia.		8" Dia.	
60	3499A111	$12.73	3499A211	$77.72	3499A311	$113.67	3499A411	$190.65
120	3499A112	10.58	3499A212	60.53	3499A312	87.82	3499A412	156.17
200	3499A113	8.95	3499A213	46.40	3499A313	73.08	3499A413	129.87
400	3499A114	7.38	3499A214	44.40	3499A314	59.15	3499A414	105.18
800	3499A115	7.38	3499A215	44.40	3499A315	59.15	3499A415	105.18
1500	3499A116	7.38	3499A216	44.40	3499A316	59.15	3499A416	105.18

Adhesive-Back Sanding Discs for Soft Materials

Use on plastics, soft woods, enamel, and other soft materials as well as nonferrous metals and glass. All are waterproof and have a flexible paper backing coated with silicon carbide for fast cutting under light pressure. They are commonly referred to as PSA discs. Use on bench sanders.

Choose 60-80 grit for a rough finish, 120-180 grit for a smooth finish, 240-400 grit for an extra-smooth finish, and 600 grit for a polished finish.

Grit	8" Dia. Pkg. of 5		9" Dia. Pkg. of 5		10" Dia. Pkg. of 5		12" Dia. Pkg. of 5		20" Dia. Pkg. of 5	
60	47185A59	$8.47	47185A61	$12.76	47185A41	$14.99	47185A79	$16.54	47185A81	$47.33
80	47185A58	7.86	47185A62	12.58	47185A42	14.79	47185A78	16.12	47185A82	46.55
120	47185A56	8.11	47185A63	12.21	47185A43	14.31	47185A76	15.54	47185A83	45.03
180	47185A55	7.38	47185A64	10.75	47185A44	12.31	47185A75	13.39	47185A84	38.75
240	47185A54	7.15	47185A65	10.70	47185A45	12.31	47185A74	13.39	47185A85	38.77
400	47185A52	7.38	47185A66	10.74	47185A46	12.31	47185A72	13.39	47185A86	38.77
600	47185A51	7.38	47185A67	10.74	47185A47	12.31	47185A71	13.47	47185A87	38.77

For information about sanding abrasives, see page 2643.

Adhesive-Back Multipurpose Ultra-Fine Sanding Discs



Aluminum oxide abrasive on a conformable plastic backing produces extremely consistent finishes on most materials. Discs are waterproof and have a clog-resistant additive. They are commonly referred to as PSA discs. Use on portable disc sanders. Choose 240-400 grit for an extra-smooth finish and 600-2000 grit for a polished finish.

Grit	5″ Dia. Pkg. of 10		6″ Dia. Pkg. of 10	
240	4184A37	$7.58	4184A47	$11.54
320	4184A38	7.58	4184A48	11.54
400	4184A39	7.58	4184A49	11.54
600	4184A61	7.58	4184A51	11.54
800	4184A62	8.90	4184A52	13.19
1000	4184A63	$9.23	4184A53	$13.85
1200	4184A64	9.23	4184A54	13.85
1500	4184A65	9.23	4184A55	13.85
2000	4184A66	9.23	4184A56	13.85

Quick-Attach Cushioned Sanding Discs for Smoothing and Polishing



5″ Dia. Disc with Holes



6″ Dia. Disc with Holes



Disc without Holes

A flexible cloth backing with a cushioned layer leaves a precise, uniform finish. Choose from discs with adhesive backing, commonly referred to as PSA discs, or discs with hook and loop backing. They're waterproof and for use on bench and portable disc sanders. Choose 180-230 grit for a smooth finish; 240-400 for an extra-smooth finish; and 500-3000 grit for a polished finish.

For Steel—Coated with silicon carbide.
For Aluminum—Coated with aluminum oxide.
For Plastic and Soft Wood—Coated with premium silicon carbide.
Discs with holes allow dust removal when used with a vacuum sander. Holes are ⅜″ dia. The 5″ dia. discs have 5 holes; the 6″ dia. discs have 6 holes.

Dia.	Pkg. Qty.	Adhesive Back	Pkg.	Hook and Loop Back	Pkg.
For Steel—Available grits: 220, 230, 240, 260, 280, 320, 500, 800, 1000, 1200, 1500, 2000, or 2500					
Without Holes					
2″	50	4611A11	$35.45	4611A52	$35.46
3″	10	4611A12	11.82	4611A53	11.82
4″	10	4611A13	15.64	4611A54	15.64
4½″	10	4611A14	18.00	4611A55	18.00
5″	10	4611A15	20.18	4611A56	20.18
Without Holes (Cont.)					
6″	10	4611A16	$27.82	4611A57	$27.82
7″	10	4611A17	35.64	4611A58	35.64
9″	10	4611A18	68.18	4611A59	68.18
10″	10	4611A19	80.91	4611A79	80.91
12″	10	4611A21	119.09	4611A82	119.09
For Aluminum—Available grits: 180, 320, 360, 400, 800, 1500, or 3000					
Without Holes					
2″	50	4611A22	35.46	4611A42	35.46
3″	10	4611A23	11.82	4611A43	11.82
4″	10	4611A24	15.64	4611A44	15.64
4½″	10	4611A25	18.00	4611A45	18.00
5″	10	4611A26	20.18	4611A46	20.18
6″	10	4611A27	27.82	4611A47	27.82
7″	10	4611A28	35.64	4611A48	35.64
Without Holes (Cont.)					
9″	10	4611A29	68.18	4611A49	68.18
10″	10	4611A73	80.91	4611A77	80.91
12″	10	4611A74	119.09	4611A78	119.09
With Holes					
5″	10	4611A68	21.45	4611A64	21.45
6″	10	4611A69	29.10	4611A63	29.10
For Plastic and Soft Wood—Available grits: 400, 600, 800, 1200, 1350, 1500, 2000, 2500, or 3000					
Without Holes					
2″	50	4611A1	35.46	4611A32	35.46
3″	10	4611A2	11.82	4611A33	11.82
4″	10	4611A3	15.64	4611A34	15.64
4½″	10	4611A4	18.00	4611A36	18.00
5″	10	4611A5	20.18	4611A35	20.18
6″	10	4611A6	27.82	4611A37	27.82
7″	10	4611A7	35.64	4611A38	35.64
Without Holes (Cont.)					
9″	10	4611A8	68.18	4611A39	68.18
10″	10	4611A9	80.91	4611A75	80.91
12″	10	4611A72	119.09	4611A76	119.09
With Holes					
5″	10	4611A66	21.45	4611A62	21.45
6″	10	4611A67	29.10	4611A65	29.10

Dust- and Clog-Free Hook and Loop Sanding Discs

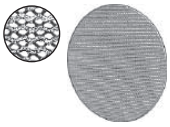

Mesh cloth backing on these aluminum oxide discs allows for efficient dust removal, eliminates clogging, and extends disc life. Use on portable disc sanders or five-, six-, and eight-hole vacuum sanders. Choose 80 grit for a rough finish; 100-220 grit for a smooth finish; 240-400 for an extra-smooth finish; and 600-1000 grit for a polished finish.

Grit	5″ Dia.	Each 1-49	Each 50-Up	6″ Dia.	Each 1-49	Each 50-Up
80	4195A11	$1.20	$1.00	4195A31	$1.44	$1.20
100	4195A12	1.20	1.00	4195A32	1.44	1.20
120	4195A13	1.20	1.00	4195A33	1.44	1.20
150	4195A14	1.20	1.00	4195A34	1.44	1.20
180	4195A15	1.20	1.00	4195A35	1.44	1.20
220	4195A16	1.20	1.00	4195A36	1.44	1.20
240	4195A17	$1.20	$1.00	4195A37	$1.44	$1.20
320	4195A18	1.20	1.00	4195A38	1.44	1.20
400	4195A19	1.20	1.00	4195A39	1.44	1.20
600	4195A21	1.20	1.00	4195A41	1.44	1.20
800	4195A22	1.20	1.00	4195A42	1.44	1.20
1000	4195A23	1.20	1.00	4195A43	1.44	1.20

Contour-Conforming Hook and Loop Sanding Discs

Made of flexible foam, these 6″ dia. silicon carbide discs conform to contoured shapes, corners, and sharp edges. All are waterproof. Use on portable disc sanders. Choose 180 grit for a smooth finish, 360 grit for an extra-smooth finish, and 500-4000 grit for a polished finish.

Grit			Grit			Grit		
180	4205A21	$5.47	500	4205A23	$5.47	2000	4205A25	$5.47
360	4205A22	5.47	1000	4205A24	5.47	4000	4205A26	5.47

Sanding Guide



Apply this black powder to highlight scratches and other imperfections in the surface you're sanding. Comes in a 100 gram container and includes an applicator.

6842A11 ..... $34.55

Hook and Loop Sanding Discs



Disc without Holes on Backup Pad



Disc with Five Holes



Disc with Six Holes



Disc with Eight Holes

Unlike adhesive-back discs, these discs can be peeled off and reused. They hold securely to a backup pad (required; sold separately). **Discs with holes** aid vacuum sanders in dust removal. Hole dia. is 7/16". Discs have a flexible paper backing and an additive for clog resistance. Use on portable disc sanders.

Multipurpose—Coated with aluminum oxide.

High Performance Multipurpose—Coated with premium aluminum oxide that lasts longer, cuts faster, and produces a more consistent finish than standard aluminum oxide.

For Aluminum and Soft Metals—Coated with silicon carbide, which cuts faster under light pressure than aluminum oxide, but is less durable. Use on nonferrous metals, glass, rubber, plastics, soft woods, enamel, and other soft materials.

Discs

Available Grits: Rough	Available Grits: Smooth	Available Grits: Extra Smooth	5" Dia.: No Holes	5" Dia.: Five Holes	5" Dia.: Eight Holes	5" Dia.: Pkg. of 25	6" Dia.: No Holes	6" Dia.: Six Holes	6" Dia.: Pkg. of 25	11 1/4" Dia.: No Holes	11 1/4" Dia.: Pkg. of 5
Multipurpose											
60, 80	100, 120, 150, 180, 220	240, 320, 400	4724A121	4724A122	4724A123	$9.17	4724A131	4724A132	$11.75	4724A133▲	$8.57
High Performance Multipurpose											
80	100, 120, 150, 180, 220	240, 320, 400	8261A151	8261A152	8261A153	13.00	8261A161	8261A162	17.46		
For Aluminum and Soft Metals											
80	100, 120, 150, 180, 220	240, 320, 400	4724A141			9.13	4724A142		12.06		

▲Not available in 60 grit.

Backup Pads

Pads have a 5/16"-24 threaded spindle and max. rpm of 10,000, except pads for 11 1/4" dia. discs screw mount and have a max. rpm of 2,400.

For Disc Dia.		
5" (No Holes)	4724A47	$17.00
5" (Five Holes)	4724A94	16.89

For Disc Dia.		
5" (Eight Holes)	4724A95	$20.64
6" (No Holes)	4724A48	15.48

For Disc Dia.		
6" (Six Holes)	4724A49	$18.73
11 1/4" (No Holes)	82355A92	90.43

Hook and Loop Sanding Discs for Smoothing and Polishing



Disc without Holes



Disc with Five Holes



Disc with Six Holes

An even coat of aluminum oxide on a plastic backing means these discs produce consistent finishes and can be used on most materials. They're tear resistant, waterproof, and have a clog-resistant additive. Use on portable disc sanders.

Discs with holes aid vacuum sanders in dust removal. Hole dia. is 7/16". Choose 180 or 220 grit for a smooth finish, 240-400 grit for an extra-smooth finish, and 600-2000 grit for a polished finish.

Grit	5" Dia.: No Holes	5" Dia.: Five Holes	5" Dia.: Pkg. of 10	6" Dia.: No Holes	6" Dia.: Six Holes	6" Dia.: Pkg. of 10
180	4321A71	4321A75	$6.63	4321A73	4321A77	$10.10
220	4321A72	4321A76	6.63	4321A74	4321A78	10.10
240	4321A17	4321A51	6.63	4321A27	4321A61	10.09
320	4321A18	4321A52	6.63	4321A28	4321A62	10.09
400	4321A19	4321A53	6.63	4321A29	4321A63	10.09
600	4321A41	4321A54	6.63	4321A31	4321A64	10.09
800	4321A42	4321A55	7.79	4321A32	4321A65	11.54
1000	4321A43	4321A56	8.08	4321A33	4321A66	12.12
1200	4321A44	4321A57	8.08	4321A34	4321A67	12.12
1500	4321A45	4321A58	8.08	4321A35	4321A68	12.12
2000	4321A46	4321A59	8.08	4321A36	4321A69	12.12

Sanding Disc Adhesives and Cleaners

Adhesive—Attach sanding discs with paper, cloth, or fiber backing to backup pads with this heat-resistant (up to 140° F) adhesive. This item cannot be sold in the Los Angeles area.

5-oz. Tube	4705A5	$22.55

Adhesive Cleaner—Remove adhesive from sanding pads and platens and get a clean surface for new discs. This citrus-based cleaner, also known as Goo Gone, removes grease, tar, oil, solvent-based residue, and other residual dirt. This product is compliant under all state VOC rules in effect on October 1, 2009.

32-oz. Bottle	7984T13	$9.77

Nylon Mesh Hook and Loop Sanding Discs



Disc and Backup Pad

The hook-and-loop style fasteners on these discs securely grab the backup pad (required; sold separately). Discs are embedded with aluminum oxide for use on most materials. Use on angle grinders, grinders for bits and burs, and portable disc sanders.

Coarse grade is for light deburring and removing heavy rust and surface imperfections. *Medium* grade is for moderate blending, cleaning, light deburring, and general finishing. *Very fine* grade is for polishing and final finishing.

Discs

Dia.	Available Grades		1-24	25-Up
2"	Coarse, Medium, Very Fine	46555A51	$1.15	$1.00
3"	Coarse, Medium, Very Fine	46555A52	2.15	1.88
4"	Coarse, Medium, Very Fine	46555A53	3.14	2.75
4 1/2"	Coarse, Medium, Very Fine	46555A58	3.55	3.10
5"	Coarse, Medium, Very Fine	46555A54	3.92	3.42
6"	Coarse, Medium, Very Fine	46555A55	5.82	5.08
7"	Coarse, Medium, Very Fine	46555A56	6.35	5.54
8"	Coarse, Medium, Very Fine	46555A57	7.12	6.22

26-Piece Disc Kit

Contains 24 discs (four each of coarse, medium, and very fine grades in 2" and 3" dia.) plus one 2" and one 3" dia. backup pad with 1/4" dia. shank.

4799A88		$42.94

Backup Pads

For Disc Dia.	Max. rpm		
1/4" Dia. Shank			
1 1/2"	25,000	46595A31	$8.13
2"	23,000	46595A32	8.13
3"	20,000	46595A33	9.58
4"	18,000	46595A34	11.24
5/16"-24 Threaded Spindle			
4"	10,000	46595A35	19.18
5"	10,000	46595A36	21.82
6"	10,000	46595A39	23.47

For Disc Dia.	Max. rpm		
5/8"-11 Threaded Arbor Hole			
4 1/2"	10,000	46595A43	$30.74
5"	8,000	46595A37	30.74
6"	8,000	46595A38	31.74
7"	6,000	46595A41	32.74
8"	6,000	46595A42	34.37

Multipurpose Sanding Belts

Belts have a tear-resistant cloth backing coated with aluminum oxide. Use on belt sanders.

For 1″ wide and smaller belts, prices are approximately 15% lower when you buy 25 or more of the same grit and size. For 4″ wide and smaller belts, prices are approximately 15% lower when you buy 10 or more of the same grit and size. For wider belts, prices are approximately 15% lower when you buy 5 or more of the same grit and size.

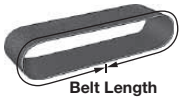

Wd.	Lg.		Available Grits: Rough 36	Rough 40	Rough 50, 60, 80	Smooth 100, 120, 150, 180	Extra Smooth 240, 320, 400
1/8″	12″	4744A641 ★	—	$1.12	$1.12	$0.96	$0.96
1/8″	18″	4744A688 ★	—	1.10	1.10	.98	.98
1/8″	24″	4744A691 ★	—	1.10	1.16	1.10	1.10
1/4″	12″	4744A733 ♠	—	1.12	1.12	.96	.96
1/4″	18″	4744A751 ★	—	1.10	1.10	1.00	1.00
1/4″	24″	4744A777 ★	—	1.16	1.16	1.10	1.10
3/8″	13″	4744A778	$1.86	1.12	1.12	1.10	1.10
3/8″	21″	5142A61	—	1.60	1.59	1.51	1.51
3/8″	24″	5142A62	—	1.66	1.63	1.55	1.55
1/2″	12″	4744A108	—	1.10	1.08	.92	.92
1/2″	13″	5142A63	—	1.62	1.61	1.37	1.37
1/2″	18″	4744A779	1.96	1.08	1.16	.98	.98
1/2″	24″	4744A781	2.08	1.12	1.10	1.00	1.04
1/2″	34″	5142A011	1.55	1.41	1.29	1.04	1.04
3/4″	18″	4744A782	2.12	1.58	1.48	1.44	1.44
3/4″	20 1/2″	4744A783	2.24	1.44	1.42	1.36	1.36
3/4″	24″	4744A784	2.60	1.54	1.68	1.42	1.42
1″	12″	4744A012	—	3.62	3.58	3.21	3.22
1″	18″	4744A785	2.68	2.08	2.06	1.78	1.78
1″	18 15/16″	5142A021	3.36	3.26	2.95	2.79	2.79
1″	24″	5142A64	2.17	2.11	2.08	1.97	1.97
1″	30″	4744A786	2.32	2.24	2.04	1.68	1.68
1″	42″	4744A787	2.58	2.50	2.30	1.84	1.84
1″	44″	4744A788	2.64	2.52	2.20	1.72	1.72
1″	60″	4744A789	2.98	2.88	2.90	2.12	2.12
1″	90″	5142A041	4.00	3.96	3.58	3.15	3.15
1 1/8″	21″	4744A667	3.54	2.88	2.82	2.64	2.64
1 3/16″	21 1/4″	4744A681	3.60	3.06	2.96	2.80	2.80
1 1/2″	18 3/4″	4744A182	3.66	2.20	2.02	3.81	3.78
1 1/2″	18 15/16″	8242A7	2.80	2.69	2.66	2.87	2.87
1 1/2″	24″	5142A051	2.35	2.26	2.08	1.65	1.65
1 1/2″	60″	4744A193	3.70	3.58	3.28	2.50	2.50
2″	18 15/16″	8242A8	3.15	3.07	2.98	3.16	3.16
2″	30″	4744A661	3.02	2.88	2.66	2.12	2.12
2″	36″	4744A791	3.28	3.20	2.90	2.30	2.30
2″	42″	4744A228	3.58	3.44	3.20	2.50	2.50
2″	48″	4744A792	3.88	3.70	3.42	2.66	2.66
2″	53 3/4″	4744A51	4.10	3.86	3.66	2.84	2.84
2″	60″	4744A793	4.36	4.26	3.90	3.06	3.06
2″	72″	4744A794	4.94	4.74	4.36	3.46	3.46
2″	132″	5142A41	14.41	13.56	12.77	10.78	10.78
2 1/2″	16″	5142A081	3.99	3.90	3.76	2.12	2.12
2 1/2″	48″	4744A023	4.82	4.66	4.28	3.38	3.38
2 1/2″	60″	4744A795	5.54	5.30	4.88	3.64	3.64
2 1/2″	72″	5142A42	10.96	10.36	9.87	8.53	8.53
2 3/4″	15 1/2″	4744A63	2.98	2.84	2.68	2.52	2.52
3″	10 11/16″	4744A08	$2.74	$2.65	$2.58	$2.39	$2.39
3″	18″	4744A796	3.70	3.58	2.64	2.58	2.58
3″	18 15/16″	8242A9	3.88	3.74	3.58	3.86	3.86
3″	21″	4744A797	3.92	2.96	2.86	2.52	2.52
3″	23 3/4″	4744A798	4.10	3.96	3.26	2.66	2.66
3″	24″	4744A799	3.38	3.24	3.10	2.78	2.78
3″	27″	4744A801	5.18	3.88	3.86	2.84	2.84
3″	48″	5142A101	5.48	5.32	4.87	3.83	3.83
3″	72″	4744A802	7.44	7.10	6.56	5.18	5.18
3″	79″	5142A111	8.80	8.66	8.15	7.09	7.09
3″	90″	5142A43	15.52	14.64	13.87	11.92	11.92
3″	120″	5142A44	19.59	18.40	17.41	14.78	14.78
3″	132″	5142A131	12.86	12.65	11.94	9.78	9.78
3 1/2″	15 1/2″	4744A301	4.10	6.36	5.98	5.80	5.80
4″	21″	4744A803	5.18	5.00	4.66	3.66	3.66
4″	21 3/4″	4744A804	5.30	5.04	4.70	3.62	3.62
4″	24″	4744A805	5.54	5.18	4.88	3.80	3.80
4″	27″	4744A806	5.78	5.26	5.06	3.78	3.78
4″	36″	4744A807	6.56	6.32	5.88	4.66	4.66
4″	38″	4744A032	6.60	6.34	6.00	4.42	4.42
4″	42″	5142A141	6.75	6.62	6.04	4.54	4.54
4″	48″	4744A288	7.70	7.44	6.82	5.38	5.38
4″	52 1/2″	4744A808	8.12	7.80	7.16	5.34	5.34
4″	54″	4744A809	7.70	7.38	6.98	5.78	5.78
4″	59″	5142A151	4.77	7.97	7.34	5.81	5.81
4″	60″	5142A161	8.34	8.04	7.42	5.85	5.85
4″	72″	4744A55	9.90	9.52	8.76	6.92	6.92
4″	84″	4744A043	12.70	11.68	11.52	10.30	10.30
4″	90″	4744A459 ▲	13.34	—	11.82	10.85	10.86
4″	120″	4744A478	16.54	16.20	15.32	12.54	12.54
4″	132″	4744A811	17.82	17.44	16.54	14.44	14.44
4″	144″	5142A181	18.15	17.80	16.05	14.72	14.72
4 1/2″	26″	4744A812	6.36	6.16	5.32	4.20	4.20
6″	48″	4744A813	11.60	11.06	10.24	8.12	8.12
6″	54″	5142A45	21.03	20.02	19.13	16.76	16.76
6″	54 1/2″	4744A814	12.44	11.98	11.02	8.16	8.16
6″	60″	4744A49	13.18	12.70	11.70	8.62	8.62
6″	79″	4744A508	18.32	17.98	16.96	13.92	13.92
6″	80″	5142A46	28.04	26.52	25.22	21.73	21.73
6″	89″	4744A54	24.64	19.50	18.46	16.14	16.14
6″	132″	5142A47	42.06	39.54	37.35	31.59	31.59
8″	107″	4744A57	30.34	29.74	28.90	24.64	24.64
9″	42″	4744A42	20.08	19.64	16.66	16.26	16.26
10″	70 1/2″	4744A815	28.24	27.70	26.22	21.44	21.44

★ Not available in 400 grit. ♠ Not available in 150 or 400 grit. ▲ Not available in 50 grit.

Multipurpose Water-Resistant Sanding Belts

Choose these belts when you're using water and cutting fluids while sanding. They have a tough polyester cloth backing coated with aluminum oxide. Use on belt sanders.

For 1″ wide and smaller belts, prices are approximately 15% lower when you buy 25 or more of the same grit and size. For 4″ wide and smaller belts, prices are approximately 15% lower when you buy 10 or more of the same grit and size. For wider belts, prices are approximately 15% lower when you buy 5 or more of the same grit and size.

Also Available: Other belt sizes and grits. Please ask for 4713A999 and specify belt size and grit.

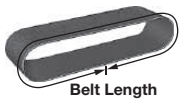

Wd.	Lg.		Available Grits: Rough 36, 40	Rough 60, 80	Smooth 100, 120, 180, 220	Extra Smooth 240, 320, 400
1/2″	24″	4713A311	$2.92	$1.06	$1.06	$0.96
1″	42″	4713A011	3.29	2.87	2.43	2.43
2″	42″	4713A331	8.62	6.38	5.88	5.88
2″	48″	4713A012	4.81	3.65	6.39	6.39
2″	60″	4713A401	6.29	9.78	8.35	8.35
2″	72″	4713A402	6.50	9.90	8.46	8.46
2″	132″	4713A013	11.21	10.85	10.77	10.77
2 1/2″	60″	4713A014	6.88	9.90	8.56	8.46
3″	21″	4713A403	6.00	5.73	5.33	5.33
3″	24″	4713A015	$6.19	$5.77	$5.37	$5.37
3″	132″	4713A016	16.77	16.42	16.23	19.10
4″	36″	4713A017	8.29	7.94	7.90	7.90
4″	54″	4713A341	18.53	14.70	13.53	13.53
4″	60″	4713A018	10.39	10.35	10.31	10.31
4″	132″	4713A501	18.31	16.80	16.62	16.62
6″	48″	4713A019	14.54	13.94	13.88	13.88
6″	60″	4713A502	15.02	14.04	14.00	14.00

High Performance Multipurpose Sanding Belts

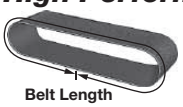

These belts are coated with zirconia alumina, which is sharper and lasts longer than aluminum oxide. They have a tear-resistant cloth backing and can be used with water and cutting fluids. Use on belt sanders.

For 1″ wide and smaller belts, prices are approximately 15% lower when you buy 25 or more of the same grit and size. For 4″ wide and smaller belts, prices are approximately 15% lower when you buy 10 or more of the same grit and size. For wider belts, prices are approximately 15% lower when you buy 5 or more of the same grit and size.

			Rough					*Smooth*
			24	36	40	50	60	80	120
Wd.	Lg.		Grit	Grit	Grit	Grit	Grit	Grit	Grit
3/8″	13″	4714A1	$0.96	$0.93	$0.90	$0.86	$0.84	$0.83	$0.79
1/2″	18″	4714A2	1.23	1.19	1.13	1.09	1.04	1.01	.97
1/2″	24″	4714A3	1.32	1.31	1.24	1.19	1.13	1.10	1.04
3/4″	18″	4714A4	1.62	1.55	1.47	1.41	1.34	1.31	1.25
3/4″	20 1/2″	4714A5	1.70	1.63	1.52	1.47	1.40	1.35	1.29
1″	30″	4714A6	2.63	2.50	2.26	2.17	2.04	1.97	1.87
1″	42″	4714A711	5.39	5.10	3.44	3.46	3.23	2.67	2.14
1 1/2″	60″	4714A712	8.16	4.19	7.39	3.84	3.65	3.53	4.03
2″	36″	4714A713	5.34	4.97	4.50	4.33	3.93	3.80	3.63
2″	42″	4714A714	9.09	8.38	7.69	7.42	6.79	6.17	3.86
2″	48″	4714A715	8.48	4.78	4.57	4.16	3.98	3.62	4.14
2″	60″	4714A716	10.30	9.32	4.85	8.04	4.24	3.84	4.77
2″	72″	4714A717	11.50	7.55	7.13	6.53	6.23	5.65	5.34
2 1/2″	48″	4714A718	7.59	6.97	6.24	5.93	5.37	5.03	4.83
2 1/2″	60″	4714A719	12.55	6.92	6.58	6.01	5.75	5.21	5.53
3″	21″	4714A721	8.46	7.95	3.18	7.15	3.59	2.62	3.44
3″	24″	4714A722	7.47	3.74	3.44	3.17	3.85	3.53	3.76
3″	79″	4714A723	21.58	19.45	17.54	16.67	15.33	13.87	7.67
3 1/2″	15 1/2″	4714A724	9.33	8.79	8.15	7.93	4.94	4.40	3.44
4″	24″	4714A725	11.02	10.31	5.50	5.12	6.28	5.84	4.73
4″	36″	4714A726	13.97	12.82	11.76	6.31	6.03	5.55	5.73
4″	48″	4714A727	19.87	18.14	16.55	15.81	14.64	13.37	6.90
4″	54″	4714A728	18.88	15.54	15.64	10.68	7.75	7.04	7.50
4″	59″	4714A729	22.97	20.92	19.08	18.05	16.68	15.22	7.97
4″	60″	4714A731	23.33	21.21	19.27	18.36	16.84	15.42	8.03
6″	48″	4714A732	25.93	17.58	16.02	15.29	14.15	12.89	11.14
6″	60″	4714A733	30.35	27.53	25.05	23.93	21.98	19.97	12.73
10″	70 1/2″	4714A734	55.04	50.20	45.65	43.38	41.02	36.83	24.10

Clog-Resistant Multipurpose Sanding Belts

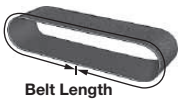

Especially good for use on soft metals, soft woods, and plastic, the widely spaced aluminum oxide grains on these belts prevent material buildup and clogging. Belts have a tear-resistant cloth backing. Use on belt sanders.

For 1″ wide and smaller belts, prices are approximately 15% lower when you buy 25 or more of the same grit and size. For 4″ wide and smaller belts, prices are approximately 15% lower when you buy 10 or more of the same grit and size. For wider belts, prices are approximately 15% lower when you buy 5 or more of the same grit and size.

			Rough			*Smooth*	
			50	60	80	100	120
Wd.	Lg.		Grit	Grit	Grit	Grit	Grit
3/8″	13″	46495A1	$2.08	$2.05	$2.01	$1.99	$1.99
1/2″	18″	46495A7	2.28	2.26	2.21	2.07	2.07
1/2″	24″	46495A8	3.05	3.01	2.95	2.77	2.77
3/4″	18″	46495A9	2.40	2.37	2.33	2.08	2.08
3/4″	20 1/2″	46495A11	2.43	2.41	2.37	2.19	2.19
1″	30″	46495A12	2.86	2.80	2.71	2.68	2.68
1″	42″	46495A13	3.31	3.22	3.11	3.06	3.06
1 1/2″	60″	46495A72	5.75	5.52	5.22	5.07	5.07
2″	36″	46495A73	5.16	4.98	4.79	4.65	4.65
2″	42″	46495A74	5.24	5.02	5.00	4.86	4.86
2″	48″	46495A75	5.57	5.36	5.12	4.93	4.93
2″	60″	46495A76	6.15	5.87	5.58	5.39	5.39
2″	72″	46495A77	6.64	6.22	6.05	5.82	5.82
2 1/2″	48″	46495A78	6.99	6.68	6.37	6.16	6.16
2 1/2″	60″	46495A79	8.55	8.18	7.78	7.50	7.50
3″	21″	46495A85	4.32	4.18	4.01	3.90	3.90
3″	24″	46495A86	4.64	4.49	4.29	4.16	4.16
3 1/2″	15 1/2″	46495A88	5.64	5.52	5.40	5.28	5.28
4″	24″	46495A92	7.08	6.86	6.21	6.06	6.06
4″	36″	46495A93	8.76	8.39	8.06	7.82	7.82
4″	48″	46495A94	12.22	11.71	11.15	10.77	10.77
4″	54″	46495A96	12.71	12.11	11.55	11.14	11.14
4″	59″	46495A81	10.27	9.77	9.23	8.90	8.90
4″	60″	46495A82	10.40	9.90	9.33	9.00	9.00
6″	48″	46495A98	17.54	16.81	16.00	15.45	15.45
6″	60″	46495A99	20.25	19.45	18.45	17.75	17.75
10″	70 1/2″	46495A108	48.34	46.01	43.54	41.84	41.84

Sanding Belts for Aluminum, Soft Metals, and Nonmetals

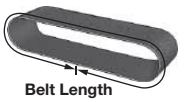

A tear-resistant cloth backing is coated with silicon carbide, which abrades quickly and prevents material buildup. Belts are for use on belt sanders and can be used with water and cutting fluids.

For 1″ wide and smaller belts, prices are approximately 15% lower when you buy 25 or more of the same grit and size. For 4″ wide and smaller belts, prices are approximately 15% lower when you buy 10 or more of the same grit and size. For 6″ wide belts, prices are approximately 15% lower when you buy 5 or more of the same grit and size.

			Rough		*Smooth*		
			60	80	120	180	220
Wd.	Lg.		Grit	Grit	Grit	Grit	Grit
1/2″	24″	46455A1	$3.18	$2.95	$1.67	$1.67	$1.67
1″	30″	46455A2	4.80	4.67	4.62	4.62	4.71
1″	42″	46455A3	5.07	4.89	4.82	4.82	4.82
1 1/8″	21″	46455A4	4.58	4.47	4.42	4.42	4.62
2″	36″	46455A5	7.75	7.40	7.18	7.18	7.18
2″	42″	46455A6	7.82	7.46	7.24	7.24	7.24
2″	48″	46455A7	7.86	7.51	7.29	7.29	7.29
2″	60″	46455A8	7.93	7.58	7.38	7.38	7.38
2″	72″	46455A9	8.04	7.66	7.46	7.46	7.46
2″	132″	46455A11	13.04	12.97	12.93	12.93	12.93
2 1/2″	60″	46455A12	11.78	11.24	10.11	10.11	10.11
3″	18″	46455A22	6.04	6.00	5.95	5.95	5.95
3″	21″	46455A13	6.47	6.16	6.04	6.04	6.04
3″	24″	46455A14	6.78	6.40	6.29	6.29	6.29
3″	84″	46455A23	14.17	14.04	13.95	13.95	13.95
3″	132″	46455A15	20.57	20.48	20.37	20.37	20.37
4″	36″	46455A16	13.89	13.29	12.89	12.89	12.88
4″	60″	46455A17	14.30	13.84	13.59	13.59	13.59
4″	84″	46455A24	18.89	18.75	18.60	18.60	18.60
4″	90″	46455A26	21.31	21.31	21.31	21.31	21.31
4″	132″	46455A28	30.85	30.70	30.56	30.56	30.56
6″	48″	46455A18	24.56	23.38	22.56	22.56	22.55
6″	60″	46455A29	25.16	25.05	24.87	24.87	24.87
6″	132″	46455A91	41.67	41.49	41.24	41.24	41.24
6″	320″	46455A92	46.31	46.11	45.82	45.82	45.82

Sanding Belts for Stainless Steel and Hard Metals

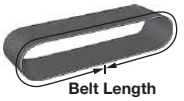

The abrasive on these belts is ceramic alumina, which continuously breaks off during use to produce new sharp edges, resulting in longer life. They have an additive to resist heat and prevent material buildup and can be used with water and cutting fluids. The backing is cloth. Use on belt sanders.

For 1″ wide and smaller belts, prices are approximately 15% lower when you buy 25 or more of the same grit and size. For wider belts, prices are approximately 15% lower when you buy 10 or more of the same grit and size.

			Rough				Smooth
			40	50	60	80	120
Wd.	Lg.		Grit	Grit	Grit	Grit	Grit
1/8″	12″	46475A1	$1.53	$1.60	$1.49	$1.40	$1.40
1/8″	18″	46475A2	1.84	1.82	1.73	1.62	1.43
1/4″	12″	46475A3	1.70	1.75	1.62	1.57	1.53
1/4″	18″	46475A4	1.79	1.89	1.77	1.70	1.66
1/4″	24″	46475A5	2.02	2.06	1.91	1.79	1.77
3/8″	13″	46475A6	2.84	2.83	2.47	2.37	2.61
1/2″	12″	46475A7	1.87	1.79	1.77	1.72	1.70
1/2″	18″	46475A8	2.00	2.06	1.94	1.87	1.79
1/2″	24″	46475A9	2.21	2.13	2.08	1.98	1.94
1/2″	42″	46475A11	4.34	4.11	4.04	3.55	3.53
3/4″	18″	46475A12	2.38	2.45	2.15	2.00	2.00
3/4″	20 1/2″	46475A13	2.30	2.21	2.21	2.13	2.06
1″	24″	46475A19	3.43	3.28	3.25	2.98	2.92
1″	30″	46475A21	4.25	4.15	4.02	3.74	3.68
1″	42″	46475A22	5.68	5.60	5.55	5.48	5.36
1 1/8″	21″	46475A23	6.00	5.92	5.79	5.55	5.43
2″	48″	46475A29	10.04	9.64	9.17	8.98	8.75
3″	18″	46475A31	4.84	4.66	4.63	4.54	4.45
3″	21″	46475A32	7.57	7.47	7.25	6.78	6.58
3″	24″	46475A33	6.33	6.21	6.08	6.04	5.92
3″	132″	46475A39	31.23	29.49	30.13	27.40	26.89
3 1/2″	15 1/2″	46475A47	8.51	8.36	8.21	7.58	7.43
4″	24″	46475A48	13.14	13.10	12.72	11.93	11.63
4″	36″	46475A49	12.21	11.45	10.94	9.92	9.74
6″	48″	46475A51	24.42	22.91	21.87	19.85	19.48

High Performance Sanding Belts for Stainless Steel and Hard Metals

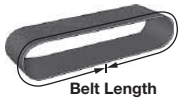

Coated with a higher grade of ceramic alumina than standard belts for stainless steel and hard metals, these belts are long lasting, resist clogging, and stay cool during use. They have a tear-resistant cloth backing and can be used with water and cutting fluids. Use on belt sanders.

For 1″ wide and smaller belts, prices are approximately 15% lower when you buy 25 or more of the same grit and size. For 4″ wide and smaller belts, prices are approximately 15% lower when you buy 10 or more of the same grit and size. For 6″ wide belts, prices are approximately 15% lower when you buy 5 or more of the same grit and size.

			Rough					Smooth
			36	40	50	60	80	120
Wd.	Lg.		Grit	Grit	Grit	Grit	Grit	Grit
1/8″	12″	4168A601	$1.98	$1.84	$1.88	$1.80	$1.72	$1.68
1/8″	18″	4168A602	2.12	1.98	2.02	1.90	1.82	1.80
1/4″	12″	4168A603	2.16	2.02	2.06	1.94	1.88	1.84
1/4″	18″	4168A604	2.32	2.18	2.22	2.08	1.98	1.94
1/4″	24″	4168A605	2.56	2.36	2.42	2.22	2.10	2.04
1/2″	12″	4168A606	2.42	2.32	2.16	2.14	2.06	2.02
1/2″	18″	4168A607	2.64	2.38	2.42	2.28	2.18	2.14
1/2″	24″	4168A608	2.88	2.62	2.50	2.46	2.28	2.22
3/4″	18″	4168A609	2.94	2.66	2.62	2.52	2.34	2.38
3/4″	20 1/2″	4168A611	3.02	2.74	2.64	2.62	2.48	2.44
1″	24″	4168A612	4.46	4.04	3.88	3.80	3.54	3.44
1″	30″	4168A613	5.52	4.98	4.90	4.70	4.40	4.32
1″	42″	4168A614	6.94	6.14	6.04	6.04	6.02	5.76
2″	48″	4168A615	12.32	10.88	10.40	9.90	9.72	9.46
2″	72″	4168A616	16.98	14.96	14.70	14.18	13.48	12.38
2″	132″	4168A617	33.60	31.40	29.72	28.22	25.60	21.42
3″	18″	4168A618▲	5.62	5.40	4.13	4.14	4.09	4.00
3″	21″	4168A619▲	8.62	8.30	6.68	6.43	5.93	5.80
3″	24″	4168A621▲	7.48	7.18	5.60	5.52	5.59	5.46
3″	132″	4168A622	42.36	36.30	34.26	32.56	29.62	32.30
4″	24″	4168A623▲	14.68	14.49	11.62	11.33	10.51	10.32
4″	36″	4168A624	14.98	14.38	13.48	12.88	11.70	11.70
6″	48″	4168A625	29.96	28.76	26.96	25.76	23.36	23.36

▲Also available in 100 and 150 grit.

Sanding Belts for Hard Nonmetals

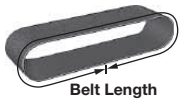

Coated with long-lasting, synthetic diamond, these belts work well on hard-to-sand materials such as ceramics and glass. They have a tear-resistant cloth backing and can be used with water and cutting fluids. Use on belt sanders.

			Rough			Smooth
			40	60	80	120
Wd.	Lg.		Grit	Grit	Grit	Grit
1/2″	24″	4150A15	$127.27	$118.18	$118.18	$118.18
1″	42″	4150A16	207.27	200.00	200.00	200.00
2″	48″	4150A17	429.09	394.55	394.55	394.55

Sanding Belts for Wide-Belt Sanders

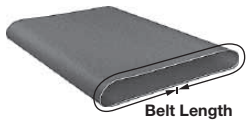

Use on wide-belt stationary sanders. Choose 60-80 grit for a rough finish, 120-220 grit for a smooth finish, and 240-320 grit for an extra-smooth finish.

Multipurpose—Have a paper backing coated with aluminum oxide.
High Performance Multipurpose—Have a tear-resistant cloth backing coated with aluminum oxide.
For Aluminum and Soft Metals—Have a paper backing coated with silicon carbide.

Wd.	Lg.		
Multipurpose—Available grits: 120, 180, 220, 240, or 320			
16″	48″	7402A11	$15.36
18″	85″	7402A12	21.04
19″	48″	7402A13	13.74
25″	60″	7402A14	21.78
25″	75″	7402A15	26.14
36″	60″	7402A16	33.94
36″	75″	7402A17	41.16
37″	60″	7402A18	33.98
37″	75″	7402A19	41.20
50″	103″	7402A21	54.14
51″	103″	7402A22	54.18
52″	75″	7402A23	42.26
52″	103″	7402A24	54.36
54″	103″	7402A25	54.38
High Performance Multipurpose—Available grits: 60, 80, 120, or 180			
16″	48″	7402A41	28.77
18″	85″	7402A42	41.36
19″	48″	7402A43	24.74
25″	60″	7402A44	44.62
25″	75″	7402A45	54.02
36″	60″	7402A46	74.09
36″	75″	7402A47	90.59

Wd.	Lg.		
High Performance Multipurpose (Cont.)			
37″	60″	7402A48	$74.16
37″	75″	7402A49	90.63
50″	103″	7402A51	122.52
51″	103″	7402A52	122.58
52″	75″	7402A53	91.78
52″	103″	7402A54	122.64
54″	103″	7402A55	122.83
For Aluminum and Soft Metals—Available grits: 120, 180, 220, or 240			
16″	48″	7402A61	15.36
18″	85″	7402A62	21.04
19″	48″	7402A63	13.74
25″	60″	7402A64	21.78
25″	75″	7402A65	26.14
36″	60″	7402A66	33.94
36″	75″	7402A67	41.16
37″	60″	7402A68	33.98
37″	75″	7402A69	41.20
50″	103″	7402A71	54.14
51″	103″	7402A72	54.18
52″	75″	7402A73	42.26
52″	103″	7402A74	54.36
54″	103″	7402A75	54.38

Sanding Belts & Sticks

For information about sanding abrasives, see page 2643.

Sanding Belts for Smoothing and Polishing

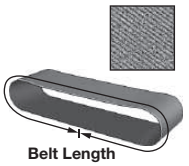

Multiple layers of aluminum oxide abrasive arranged in a pattern create extremely consistent finishes. Belts have a tear-resistant cloth backing. Use on belt sanders to sand most materials.

Wd.	Lg.		Smooth 100 Grit	Smooth 120 Grit	Smooth 180 Grit	Smooth 220 Grit	Extra Smooth 280 Grit	Extra Smooth 340 Grit	Polished 460 Grit	Polished 600 Grit
1/2"	12"	4823A24	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.49
1/2"	18"	4823A25	2.26	2.26	2.26	2.25	2.25	2.04	2.04	2.62
1/2"	24"	4823A26	2.15	2.15	2.15	2.07	2.07	2.35	2.07	2.38
1"	42"	4823A11	3.84	3.84	3.84	3.67	3.67	3.67	3.67	4.25
1 1/2"	60"	4823A12	5.38	5.38	5.38	5.27	5.27	5.27	5.27	5.98
2"	42"	4823A13	5.18	5.18	5.18	5.04	5.04	5.04	5.04	5.80
2"	48"	4823A14	5.56	5.56	5.56	5.42	5.42	5.42	5.42	6.22
2"	60"	4823A15	8.21	8.21	8.21	6.20	6.20	6.20	6.20	7.13
2"	72"	4823A16	8.34	8.34	8.34	6.96	6.96	6.96	6.96	7.13
2"	132"	4823A17	12.91	12.91	12.91	11.82	10.84	11.82	11.82	13.76
2 1/2"	60"	4823A18	8.06	8.06	8.06	7.76	7.76	7.76	7.76	8.95
3"	132"	4823A19	17.85	17.85	17.85	17.73	16.27	17.73	16.27	18.69
4"	36"	4823A21	9.60	9.60	9.60	9.27	9.27	9.27	9.27	10.64
4"	132"	4823A22	24.03	24.03	24.03	21.67	23.75	21.67	21.67	24.93
6"	48"	4823A23	17.68	17.68	17.68	16.27	16.27	16.27	16.27	18.69

Nylon Mesh Sanding Belts for Cleaning and Polishing

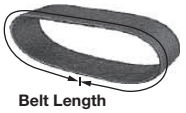

The cushioned mesh structure gives you control over the amount of pressure applied during sanding and the resulting surface finish. Belts are embedded with aluminum oxide for use on most materials, and they can be used with water and cutting fluids. Use on belt sanders.

Coarse grade is for deburring and removing heavy rust and surface imperfections. **Medium** grade is for light cleaning and blending. **Very fine** grade is for removing fine scratch marks and lines, final finishing, polishing, and preparing surfaces for painting.

To Order: Please specify grade: coarse, medium, or very fine.

Wd.	Lg.		
1/4"	18"	47505A711	$4.20
1/4"	24"	47505A712	4.20
3/8"	13"	47505A713	3.97
1/2"	12"	47505A714	4.91
1/2"	18"	47505A715	5.37
1/2"	24"	47505A716	11.55
3/4"	18"	47505A717	8.34
3/4"	20 1/2"	47505A718	8.81
1"	18"	47505A719	7.12
1"	30"	47505A721	11.35
1"	42"	47505A722	13.33
1 1/8"	21"	47505A723	$7.67
1 1/2"	60"	47505A724	24.48
2"	18 15/16"	47505A725	11.82
2"	42"	47505A726	15.79
2"	48"	47505A727	23.05
2"	60"	47505A728	24.91
2"	72"	47505A729	27.98
2"	132"	47505A731	51.81
2 1/2"	60"	47505A732	36.19
2 3/4"	15 1/2"	47505A733	17.82
3"	10 11/16"	47505A734	16.31
3"	18"	47505A735	$15.64
3"	21"	47505A736	17.29
3"	24"	47505A737	26.53
3"	132"	47505A738	72.17
3 1/2"	15 1/2"	47505A739	27.33
4"	24"	47505A741	28.82
4"	36"	47505A742	36.52
4"	54"	47505A743	49.00
4"	60"	47505A744	52.11
4"	132"	47505A745	98.52
6"	48"	47505A746	60.78

Cushioned Sanding Belts for Smoothing and Polishing

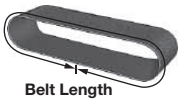

A cloth backing with a cushioned layer allows you to create a precise, uniform finish. Belts are coated with silicon carbide, which abrades quickly and prevents material buildup when sanding metal and hard woods. They can be used with water and cutting fluids. Use on belt sanders.

Wd.	Lg.	Available Grits: Smooth	Extra Smooth	Polished		
1/2"	12"	220, 230	240, 260, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	6131A11	$0.56
1/2"	18"	220, 230	240, 260, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	6131A15	.88
1/2"	24"	220, 230	240, 260, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	6131A18	1.12
1"	42"	220, 230	240, 260, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	6131A21	3.84
1 1/2"	60"	220, 230	240, 260, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	6131A25	8.26
2"	42"	220, 230	240, 260, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	6131A28	7.72
2"	48"	220, 230	240, 260, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	6131A31	8.82
2"	60"	220, 230	240, 260, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	6131A35	11.04
2"	72"	220, 230	240, 260, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	6131A38	13.26
3"	132"	220, 230	240, 260, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	6131A41	36.44
4"	36"	220, 230	240, 260, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	6131A45	13.28
6"	48"	220, 230	240, 260, 280, 320	500, 800, 1000, 1200, 1500, 2000, 2500	6131A48	26.38

Belt Sanding Sticks



Easily reach small, compact areas with these sticks. They're spring-loaded to hold a small sanding belt taut, but also allow you to rotate the belt when it becomes worn.

Belt sticks include one 120 grit (smooth finish) aluminum oxide sanding belt with a flexible cloth backing for use on most materials.

Sanding belts are coated with aluminum oxide, which is for use on most materials. They have a flexible cloth backing, except the 500 and 600 grit belts have a stiff cloth backing.

To Order: For sanding belts, please specify grit: 80 (rough finish); 120 or 180 (smooth finish); 240, 320, or 400 (extra-smooth finish); or 600 (polished finish), unless noted.

For Belt Size: Lg.	Wd.	Belt Sticks	Each	Sanding Belts	Pkg. of 10
6"	1/4"	46655A111	$2.29	46655A511★	$8.12
8"	1/2"	46655A112	3.65	46655A512	10.83
10"	3/4"	46655A113	4.48	46655A513	13.75

★ Available in 80, 120, 180, 240, 320, 400, or 500 grits.

Flap Sanding Wheels


With Shank


With Threaded Spindle


Shank Adapter for Wheels with Threaded Spindle


Arbor Hole Adapter for Wheels with Threaded Spindle

Reduce gouging while achieving a uniform finish on flat and curved surfaces with these flexible flap wheels. As the flaps wear, new abrasive is exposed. All have a cloth backing. Use on grinders for bits and burs and similar portable tools. Wheels with 1/4"-20 threaded spindles require adapters (sold separately below).

Choose 60 or 80 grit for a rough finish, 120 or 180 grit for a smooth finish, and 240 or 320 grit for an extra-smooth finish.

Multipurpose—Coated with aluminum oxide.

High Performance Multipurpose—Coated with zirconia alumina, which is sharper and lasts longer than aluminum oxide.

Cool Sanding Multipurpose—Coated with aluminum oxide and an additive to resist heat.

For Stainless Steel and Hard Metals—Coated with ceramic alumina, which breaks off during use to produce new sharp edges.

For Aluminum and Soft Metals—Coated with silicon carbide, which abrades quickly and prevents material buildup.

Dia.	Wd.	Max. rpm		1-9	10-Up
Multipurpose Flap Wheels—Available grits: 60, 80, 120, 180, 240, or 320					
1/8" Dia. Shank					
3/8"	3/8"	40,000	4734A751	$4.46	$3.74
5/8"	5/8"	37,000	4734A752	4.58	3.89
5/8"	3/4"	37,000	4734A753	4.81	4.03
3/4"	3/16"	35,000	4734A754	4.58	3.84
3/4"	3/8"	35,000	4734A755	4.58	3.84
3/4"	1/2"	35,000	4734A756	4.81	4.08
3/4"	5/8"	35,000	4734A757	4.79	4.01
3/4"	3/4"	35,000	4734A758	4.92	4.13
1 3/16"	1/8"	30,000	4734A759	4.71	3.96
1 3/16"	3/16"	30,000	4734A761	4.71	4.00
1 3/16"	3/8"	30,000	4734A762	4.65	3.99
1/4" Dia. Shank					
1"	5/8"	30,000	4734A763	4.37	3.71
1"	1"	30,000	4734A764	4.85	4.11
1 3/16"	1/4"	25,000	4734A921	5.08	4.31
1 3/16"	1/2"	25,000	4734A765	5.21	4.42
1 3/8"	5/8"	30,000	4734A766	4.71	4.00
1 1/2"	1/2"	25,000	4734A791	5.67	4.82
1 1/2"	1"	25,000	4734A767	6.25	5.31
2"	1/2"	25,000	4734A792	6.58	5.58
2"	3/4"	25,000	4734A768	7.13	6.06
2"	1"	25,000	4734A769	7.77	6.60
2"	1 1/2"	25,000	4734A771	8.92	7.58
1/4" Dia. Shank (Cont.)					
2 1/2"	1"	20,000	4734A772	$8.75	$7.43
2 1/2"	1 1/2"	20,000	4734A773	9.54	8.10
3"	1/2"	20,000	4734A793	7.54	6.40
3"	1"	20,000	4734A774	9.46	8.03
3"	2"	12,000	4734A931	16.19	13.75
1/4"-20 Threaded Spindle					
1"	5/8	30,000	4734A775	4.71	4.00
1"	1"	30,000	4734A776	4.85	4.11
1 3/8"	5/8"	30,000	4734A777	4.71	4.00
1 5/8"	1/2"	25,000	4734A811	5.67	4.82
1 5/8"	1"	25,000	4734A778	6.23	5.29
2"	1/2"	25,000	4734A779	6.58	5.58
2"	3/4"	25,000	4734A821	7.13	6.06
2"	1"	25,000	4734A781	7.77	6.60
2"	1 1/2"	25,000	4734A782	9.04	7.67
2 1/2"	1/4"	20,000	4734A831	6.31	5.36
2 1/2"	3/8"	20,000	4734A841	6.33	5.37
2 1/2"	1/2"	20,000	4734A783	7.02	5.96
2 1/2"	1"	20,000	4734A784	8.75	7.43
3"	1/2"	20,000	4734A785	7.67	6.51
3"	3/4"	20,000	4734A851	8.75	7.43
3"	1"	20,000	4734A786	9.42	8.00
High Performance Multipurpose Flap Wheels—Available grits: 60, 80, or 120					
1/4" Dia. Shank					
1"	1"	30,000	3393A11	9.51	7.91
2"	1"	25,000	3393A12	14.71	12.48
3"	1"	20,000	3393A13	19.06	16.18
1/4"-20 Threaded Spindle					
1"	1"	30,000	3393A21	9.93	8.43
2"	1"	25,000	3393A22	14.91	12.65
3"	1"	20,000	3393A23	19.34	16.42
Cool Sanding Multipurpose Flap Wheels—Available grits: 60, 80, or 120					
1/4" Dia. Shank					
2"	1"	20,000	3393A31	8.97	7.62
2 1/2"	1"	20,000	3393A32	10.05	8.53
3"	1"	15,000	3393A33	12.96	11.00
1/4"-20 Threaded Spindle					
2"	1"	18,000	3393A41	9.89	8.40
2 1/2"	1"	15,000	3393A42	10.98	9.32
3"	1"	12,000	3393A43	13.80	11.72
For Stainless Steel and Hard Metals Flap Wheels—Available grits: 60, 80, or 120					
1/4" Dia. Shank					
1"	1"	30,000	4613A11	6.90	5.86
2"	1"	25,000	4613A12	10.70	9.09
3"	1"	20,000	4613A13	17.38	14.76
1/4"-20 Threaded Spindle					
1"	1"	30,000	4613A21	6.78	5.76
2"	1"	25,000	4613A22	10.92	9.27
3"	1"	20,000	4613A23	17.10	14.52
For Aluminum and Soft Metals Flap Wheels—Available grits: 60, 80, or 120					
1/4" Dia. Shank					
1"	1"	30,000	3387A11	4.06	3.48
2"	1"	25,000	3387A12	6.61	5.66
3"	1"	20,000	3387A13	8.10	6.94
1/4"-20 Threaded Spindle					
1"	1"	30,000	3387A21	4.03	3.45
2"	1"	25,000	3387A22	6.61	5.88
3"	1"	20,000	3387A23	8.09	6.93

Multipurpose Assortments

1/8" Dia. Shank—Contains five 3/8" to 1 3/16" dia. flap wheels in various grits.

4694A41 ..... $28.40

1/4" Dia. Shank—Contains ten 1" to 3" dia. flap wheels in various grits.

4694A42 ..... $69.68

1/4"-20 Threaded Spindle—Contains ten 1" to 3" dia. flap wheels in various grits, plus a 1/4" dia. shank adapter.

4694A12 ..... $64.56

Shank Adapters for 1/4"-20 Threaded Spindles

Allow wheels to be used on portable tools that accept a shank.

Shank Dia.	Lg.			Shank Dia.	Lg.		
1/8"	1 3/8"	4734A54	$3.83	1/4"	6 1/2"	4734A56	$6.40
1/4"	1 3/8"	4734A51	1.42	1/4"	8 1/2"	4734A57	9.63
1/4"	4 5/8"	4734A55	5.85				

Arbor Hole Adapters for 1/4"-20 Threaded Spindles

Allow wheels to be used on portable tools that have a threaded spindle.

Female Thread Size	Lg.		
1/4"-20 and 1/4"-20	1 5/8"	4734A53	$6.27
1/4"-20 and 3/8"-24	1 5/8"	4734A52	6.27

Multipurpose Flap Sanding Wheels for Angle Grinders

Thread these wheels directly onto the 5/8"-11 spindle of an angle grinder. Flaps are made of a cloth backing coated with aluminum oxide. Use for paint and rust removal, cleaning, and finishing.

Dia.	Wd.	Arbor Hole	Max. rpm	*Available Grits* Rough	Smooth		
4 1/2"	3/4"	5/8"-11	13,300	40, 60, 80	120	8583A1	$31.09
5"	3/4"	5/8"-11	12,200	40, 60, 80	120	8583A2	34.14



Flap Sanding Wheels

For information about sanding abrasives, see page 2643.

Arbor-Mount Flap Sanding Wheels



A steel center holds the flaps in place for added strength. Flaps are flexible cloth, allowing them to conform to curves and contours while providing consistent, gouge-free finishes when sanding. As the flaps wear, new abrasive is exposed. They can be used as an alternative to wire wheels. Use on portable tools, bench grinders, and pedestal grinders.

Multipurpose—Coated with aluminum oxide.

For Aluminum and Stainless Steel—Coated with aluminum oxide and an additive to resist heat.

Flap Wheels

Dia.	Wd.	Arbor Hole	Max. rpm		Rough 40 Grit	Rough 50 Grit	Rough 60 Grit	Rough 80 Grit	Smooth 120 Grit	Smooth 180 Grit
Multipurpose										
3½″	1″	⅝″	12,000	4654A1	$12.80	$12.80	$13.47	$14.20	$15.03	$15.75
3½″	2″	⅝″	12,000	4654A2	19.35	19.35	20.90	21.70	23.05	25.12
4″	1″	⅝″	12,000	4654A3	13.83	14.25	15.03	15.90	16.97	17.97
4″	2″	⅝″	12,000	4654A4	20.07	20.07	21.15	21.88	23.95	25.28
5″	1½″	⅝″	12,000	4654A5	21.25	21.25	22.72	23.75	25.08	26.85
6″	½″	1″	6,000	4654A6	19.38	19.02	19.87	20.15	22.43	24.84
6″	1″	1″	6,000	4654A7	23.60	23.60	24.88	26.18	28.37	31.65
6″	2″	1″	6,000	4654A8	39.12	39.12	41.07	43.62	47.73	53.08
6″	3″	1″	6,000	4654A9	46.33	46.33	48.30	52.88	58.08	66.58
8″	1″	1″	4,500	4654A27	34.61	34.61	36.88	39.18	43.50	46.87
8″	2″	1″	4,500	4654A56	60.88	60.88	64.63	69.57	75.67	84.88
10″	1″	1¾″	4,000	4654A57	50.88	50.88	56.55	60.93	65.73	76.15
12″	2″	1¾″	3,000	4654A63	127.12	127.12	137.20	142.13	153.52	180.55
For Aluminum and Stainless Steel										
6″	1″	1″	6,000	4654A48	—	—	32.09	32.53	35.64	—
6″	1½″	1″	6,000	4654A69	—	—	38.08	39.21	—	—
6″	2″	1″	6,000	4654A72	—	—	44.42	45.98	51.50	—

Optional ¼″ Dia. Shank Adapters



Allow wheels to be used on portable tools that accept a ¼″ dia. shank. Include a hex key and fasteners.

For Wheel Dia.		
3½″	4654A33	$11.28
4″-8″	4654A64 ♦	11.12

♦ Not for use with 3″ wide wheels.

Arbor Hole Reducers

For Wheel Dia.	For Arbor Hole	Available Sizes		Pair
6″ and 8″	1″	⅜″, ½″, ⅝″, ¾″, ⅞″	4654A111	$1.25
10″ and 12″	1¾″	¾″, 1″, 1¼″	4654A112	10.85

Flap Sanding Wheels for Smoothing and Polishing



With Shank



With Arbor Hole

With alternating cloth and nylon mesh abrasive flaps, these wheels are more flexible and produce finer finishes than ordinary all-cloth flap sanding wheels. The cloth is coated with aluminum oxide and the nylon mesh is embedded with aluminum oxide for light deburring, finishing, and polishing on most materials. Use on portable tools and bench grinders.

High-density wheels have a 4:1 ratio of cloth to nylon mesh flaps, providing more aggressive material removal than medium-density wheels.

Medium-density wheels have a 1:1 ratio of cloth sanding flaps to nylon mesh flaps for extra-smooth blending.

Flap Wheels

To Order: Please specify cloth flap grit: 60 or 80 (rough finish), 120 or 180 (smooth finish), 240 or 320 (extra-smooth finish).

Dia.	Wd.	Shank Dia./ Arbor Hole	Max. rpm	High Density		Medium Density	
With Shank							
2″	1″	¼″ Shank	12,000	4634A612	$6.90	4653A712	$9.92
2″	1½″	¼″ Shank	12,000	4634A622	7.72	4653A721	7.94
3″	1″	¼″ Shank	12,000	4634A631	8.48	4653A731	12.24
With Arbor Hole							
3″	2″	⅜″ Arbor	12,000	4634A671	13.92	4653A481	12.26
4″	2″	⅝″ Arbor	12,000	4634A541	32.46	4653A441	30.35
6″	1″	1″ Arbor	6,000	4634A551	38.08	4653A451	36.75
6″	2″	1″ Arbor	6,000	4634A561	45.40	4653A461	40.93
6″	3″	1″ Arbor	6,000	4634A571	54.82	4653A471	40.07

Optional ¼″ Dia. Shank Adapters

Allows wheels to be used on portable tools that accept a ¼″ dia. shank. Includes a hex key and fasteners. Not for use with 3″ wide wheels.

For Wheel Dia.		
4″-6″	4654A64	$11.12

Reducer Bushings

For Wheel Dia.	Arbor Hole	Available Bushing IDs		Pair
6″	1″	⅜″, ½″, ⅝″, ¾″, ⅞″	4654A111	$1.25

Super-Flex Flap Sanding Wheels



Flaps slit into narrow strips provide a level of flexibility not found with other flap wheels. They have a cloth backing coated with aluminum oxide for use on most materials. All are mounted to a ¼″ dia. shank. Use them on grinders for bits and burs for finishing, polishing, and deburring work on difficult contours and irregular shapes.

Dia.	Wd.	Max. rpm	Available Grits: Smooth	Available Grits: Extra Smooth		
2″	1″	20,000	120, 180	240, 320	47065A15	$8.10
2½″	1½″	18,000	120, 180	240, 320	47065A14	11.71
3″	2″	9,600	120, 180	240, 320	47065A13	16.31

Nylon Mesh Flap Sanding Wheels for Cleaning and Polishing



The cushioned mesh structure is less aggressive than standard flap sanding wheels and gives you control over the amount of pressure applied during sanding and the resulting surface finish. Wheels are embedded with aluminum oxide for use on most materials. They're mounted on a ¼″ dia. shank for use on grinders for bits and burs. Color is maroon.

Medium grade wheels are for cleaning, removing oxides, and deglossing plastic.

Very fine grade wheels are for final finishing and polishing.

Dia.	Wd.	Max. rpm	Medium	Very Fine	
2″	1″	12,000	46735A42	46735A41	$11.62
3″	1″	12,000	46735A44	46735A43	15.36
3″	2″	12,000	46735A45	—	31.56

For information about sanding abrasives, see page 2643.

Flap Sanding Wheels for Internal Sanding



3-Flap Bundles and Shank Adapter



4-Flap Bundles and Shank Adapter



8-Flap Bundles and Shank Adapter

Polish, clean, and debur deep inside tubes and cylinders. Flaps automatically adjust to the inside diameter of your workpiece and apply equal pressure to the interior walls for uniform finishes. Use on drills and grinders for bits and burs.

Cloth wheels are coated with aluminum oxide for aggressive material removal on metals. **Combination nylon mesh and cloth** wheels have alternating layers of nylon mesh and aluminum oxide coated cloth flaps. The cushioned mesh structure gives you control over the amount of pressure applied during sanding and the resulting surface finish. Use on metals.

Shank adapters have a 1/4" dia. shank and are required. **Optional extensions** are 1/4" dia. Attach the extension to the shank adapter on 4-flap bundle wheels. Use the extension instead of a shank adapter on 8-flap bundle wheels.

Flap Wheels and Shank Adapters

To Order: Please specify grit: 60 or 80 (rough finish), 120 or 180 (smooth finish), or 240 (extra-smooth finish).

Workpiece ID Range	Flap Bundles	Flap Lg.	Max. rpm	Flap Wheels		Shank Adapters	
Cloth							
5/8"-1"	3	1/2"	25,000	8240A61	$5.29	8240A38	$4.78
1"-1 1/2"	4	3/4"	22,000	8240A33	9.94	8240A41	6.80
1 1/2"-2"	4	1 1/8"	20,000	8240A34	10.31	8240A41	6.80
2"-2 1/2"	8	1 1/8"	16,000	8240A64	17.82	8240A39	1.35
2 1/8"-2 1/2"	4	1 5/8"	16,000	8240A35	10.78	8240A41	6.80
2 1/2"-3"	4	2 1/8"	15,000	8240A36	11.37	8240A41	6.80
2 5/8"-3"	8	1 5/8"	15,000	8240A65	18.84	8240A39	1.35
3 1/8"-4"	4	2 5/8"	10,000	8240A37	11.76	8240A41	6.80
3 1/8"-4"	8	2 1/8"	10,000	8240A66	19.73	8240A39	1.35
4 1/4"-5 1/4"	8	2 5/8"	8,000	8240A62	21.59	8240A39	1.35
5 1/4"-5 7/8"	8	3 1/8"	8,000	8240A63	22.43	8240A39	1.35
Combination Nylon Mesh and Cloth							
1"-1 1/2"	4	3/4"	22,000	6335A11	11.20	8240A41	6.80
1 1/2"-2"	4	1 1/8"	20,000	6335A21	9.18	8240A41	6.80
2 1/8"-2 1/2"	4	1 5/8"	16,000	6335A31	9.47	8240A41	6.80
2 1/2"-3"	4	2 1/8"	15,000	6335A41	9.65	8240A41	6.80

Optional Extensions

Lg.		
4"	8240A42	$3.61
6"	8240A43	3.94
8"	8240A44	6.57

Assortments

Includes 10 cloth flap wheels for internal sanding and two mini flap wheels in various grits and sizes for use on 1"- 5" IDs, plus three shank adapters for use on portable tools that accept a 1/4" dia. shank.

4695A12	$108.98

Nylon Mesh Deburring Wheels for Stationary Grinders



A core wrapped in nylon mesh with an open structure allows material to flow through to prevent buildup. These wheels are also known as convolute wheels.

Medium grade leaves a smooth finish. **Fine** and **very fine** grades leave an extra-smooth finish.

Wheels for *light* deburring have medium density. Wheels for *standard* deburring have hard density. Wheels for *heavy* deburring have extra-hard density.

For Steel—Embedded with aluminum oxide. Color is tan.

For Stainless Steel and Aluminum—Embedded with silicon carbide, which abrades quickly and prevents material buildup. Color is gray.

Wheels

Dia.	Wd.	Arbor Hole	Grade	Type of Deburring	Max. rpm		
For Steel							
6"	1"	1"	Medium	Light	6,000	46575A49	$67.70
6"	1"	1"	Medium	Standard	6,000	4628A43	71.52
6"	1"	1"	Medium	Heavy	6,000	4628A63	84.40
6"	1"	1"	Fine	Light	6,000	46575A48	75.10
6"	1"	1"	Fine	Standard	6,000	4628A42	69.98
6"	1"	1"	Fine	Heavy	6,000	4628A62	72.90
6"	2"	1"	Medium	Standard	6,000	4628A45	118.22
8"	1"	3"	Medium	Light	4,500	46575A75	95.20
8"	1"	3"	Medium	Standard	4,500	4628A48	88.00
8"	1"	3"	Fine	Heavy	4,500	4628A65	88.16
8"	2"	3"	Medium	Standard	4,500	4628A51	139.54
8"	2"	3"	Medium	Heavy	4,500	4628A66	157.90
8"	2"	3"	Fine	Heavy	4,500	4628A29	120.02
10"	2"	5"	Medium	Heavy	3,600	4628A67	182.92
12"	1"	5"	Medium	Standard	3,000	4628A55	101.78
12"	1"	5"	Fine	Standard	3,000	4628A54	81.58
For Stainless Steel and Aluminum							
6"	1"	1"	Medium	Light	6,000	46575A46	72.02
6"	1"	1"	Medium	Standard	6,000	4628A21	54.00
6"	1"	1"	Medium	Heavy	6,000	4628A61	69.62
6"	1"	1"	Fine	Light	6,000	46575A71	67.48
6"	1"	1"	Fine	Standard	6,000	4628A41	47.16
6"	1"	1"	Fine	Heavy	6,000	4628A25	66.66
6"	1"	1"	Very Fine	Light	6,000	46575A45	58.92
6"	2"	1"	Medium	Light	6,000	46575A72	92.92
6"	2"	1"	Medium	Standard	6,000	4628A22	112.82
6"	2"	1"	Fine	Standard	6,000	4628A44	122.76
8"	1"	3"	Medium	Light	4,500	46575A74	87.88
8"	1"	3"	Medium	Standard	4,500	4628A23	63.84
8"	1"	3"	Medium	Heavy	4,500	4628A64	88.72
8"	1"	3"	Fine	Light	4,500	46575A73	89.80
8"	1"	3"	Fine	Standard	4,500	4628A46	66.38
8"	1"	3"	Fine	Heavy	4,500	4628A26	105.20
8"	2"	3"	Medium	Standard	4,500	4628A24	151.32
8"	2"	3"	Fine	Standard	4,500	4628A49	163.10
8"	2"	3"	Fine	Heavy	4,500	4628A27	154.50
12"	1"	5"	Fine	Heavy	3,000	4628A28	129.00
12"	2"	5"	Medium	Heavy	3,000	4628A72	218.26
12"	2"	5"	Fine	Heavy	3,000	4628A71	230.06

Arbor Hole Reducers

For Wheel Dia.	For Arbor Hole	Available Sizes		Pair
8"	3"	1/2", 5/8", 3/4", 1", 1 1/4"	47335A32	$24.03
10" and 12"	5"	1", 1 1/4", 1 1/2", 1 3/4", 2"	47335A33	57.08

Reducer Set—For use with 6" diameter wheels that have a 1" arbor hole. Set includes 1/2", 5/8", and 3/4" arbor hole reducers.

47335A29	$1.26

Nylon Mesh Cleaning and Polishing Wheels for Stationary Grinders



Also known as convolute wheels, these wheels have a core wrapped in dense nylon mesh. **Medium** grade is for cleaning. **Fine** grade is for polishing.

For Steel—Embedded with aluminum oxide. Color is red.

For Stainless Steel and Aluminum—Embedded with silicon carbide, which abrades quickly and prevents material buildup. Color is gray.

			For Steel			For Stainless Steel and Aluminum		
Dia.	Wd.	Arbor Hole	Grade	Max. rpm		Available Grades	Max. rpm	
6"	1"	1"	Medium	6,000	4670A11	$82.68	Medium, Fine	3,000	4763A12	$39.58
6"	2"	1"	Medium	6,000	4670A12	133.94	Medium, Fine	3,000	4763A13	62.98
8"	1"	3"	Medium	4,500	4670A13	112.18	Medium, Fine	2,500	4763A14	58.75
8"	2"	3"	Medium	4,500	4670A14	184.04	Medium, Fine	2,500	4763A15	90.47

Sanding Wheels & Sleeves

For information about sanding abrasives, see page 2643.

Nylon Mesh Deburring and Cleaning Wheels for Portable Tools



Also known as unified wheels, these small diameter wheels are formed from multiple layers of compressed nylon mesh, which allows them to hold their shape and makes them long lasting. Use on straight grinders and grinders for bits and burs.

Deburring and Smoothing—Embedded with aluminum oxide. *Coarse* grade leaves a rough finish. *Medium* grade leaves a smooth finish. *Fine* grade leaves an extra-smooth finish.

Cleaning and Polishing—*Medium* grade are embedded with aluminum oxide and leave a smooth finish. *Fine* grade are embedded with silicon carbide and leave an extra-smooth finish.

Wheels

			Deburring and Smoothing						Cleaning and Polishing			
			Coarse		Medium		Fine		Medium		Fine	
Dia.	Wd.	Arbor Hole		Max. rpm		Max. rpm		Max. rpm		Max. rpm		Max. rpm
2″	1/4″	1/4″	46605A11	11,000	$4.42	20,000	$5.19	20,000	$4.76	46605A41	18,000	$4.06	____	____
2″	1/2″	1/4″	46605A12	11,000	4.48	20,000	7.36	11,000	5.18	46605A92	____	____	18,000	$6.58
3″	1/4″	1/4″	46605A13	8,000	8.12	18,000	9.18	8,000	7.50	46605A21	12,000	5.30	18,000	8.84
3″	1/2″	1/4″	46605A14	8,000	8.02	____	____	8,000	8.48	46605A22	12,000	11.76	8,000	9.34
3″	3/4″	1/4″	46605A83	____	____	____	____	8,000	12.04	46605A84	____	____	8,000	11.02

Optional 1/4″ Dia. Shank Adapters

Allow wheels to be used on portable tools that accept a 1/4″ dia. shank. Include a nut and two washers.

For Wheel Dia.	Lg.		
2″	2 1/2″	46605A35	$9.04
3″	2 1/2″	46605A36	9.10

Sanding Sleeves



Also known as spiral bands, these sleeves are good for shaping, deburring holes, and sanding edges and internal surfaces. All have a strong, stiff cloth backing. Mount them on rubber drums (required, sold separately on page 2669) for use with grinders for bits and burs and similar portable tools, except sleeves 5 1/2″ or longer are for use with stationary spindle sanders.

Choose 36-80 grit for a rough finish, 120 or 180 grit for a smooth finish, and 240 or 320 grit for an extra-smooth finish.

Multipurpose—Coated with aluminum oxide.

High Performance Multipurpose—Coated with zirconia alumina, which is sharper and lasts longer than aluminum oxide.

For Aluminum and Soft Metals—Coated with silicon carbide, which abrades quickly and prevents material buildup.

For Stainless Steel and Hard Metals—Coated with ceramic alumina, which continuously breaks off during use to produce new sharp edges, resulting in longer life.

Inside Dia.	Lg.	Pkg. Qty.		Pkg.
Multipurpose—Available grits: 36, 50, 60, 80, 120, 180, 240, or 320				
1/4″	1/2″	25	4719A188	$3.90
1/4″	3/4″	25	4719A141	4.68
1/4″	1″	25	4719A231	5.46
1/4″	6″	10	4719A46	10.09
3/8″	1/2″	25	4719A191	3.90
3/8″	1″	25	4719A192	6.24
1/2″	1/2″	25	4719A211	3.90
1/2″	3/4″	25	4719A631	6.24
1/2″	1″	25	4719A212	6.24
1/2″	1 1/2″	25	4719A251	7.02
1/2″	2″	25	4719A213	8.58
1/2″	4 1/2″	10	4719A535	8.73
1/2″	6″	10	4719A531	12.56
5/8″	1/2″	25	4719A195	4.68
5/8″	1″	25	4719A197	7.02
5/8″	6″	10	4719A532	12.56
3/4″	1/2″	25	4719A691	5.46
3/4″	3/4″	25	4719A791	6.24
3/4″	1″	25	4719A214	7.02
3/4″	1 1/2″	25	4719A351	7.78
3/4″	2″	25	4719A215	9.36
3/4″	4 1/2″	10	4719A536	9.55
3/4″	9″	5	4719A91	8.83
1″	1/2″	25	4719A361	7.02
1″	3/4″	25	4719A371	7.02
1″	1″	25	4719A216	7.78
1″	1 1/2″	25	4719A217	9.36
1″	2″	25	4719A218	10.13
1″	3″	25	4719A261	14.89
1″	4 1/2″	10	4719A537	11.73
1″	9″	5	4719A92	10.30
1 1/4″	1″	25	4719A281	8.58
1 1/4″	2″	25	4719A291	13.26
1 1/2″	1″	25	4719A219	9.36
Multipurpose (Cont.)				
1 1/2″	1 1/2″	25	4719A221	$12.47
1 1/2″	2″	25	4719A222	14.82
1 1/2″	4 1/2″	10	4719A538	12.56
1 1/2″	5 1/2″	10	4719A533	14.73
2″	1″	25	4719A223	12.47
2″	1 1/2″	25	4719A224	14.82
2″	2″	10	4719A225	7.80
2″	4 1/2″	10	4719A539	11.59
2″	5 1/2″	10	4719A534	15.23
2″	9″	5	4719A93	14.16
3″	1″	10	4719A226	7.49
3″	2″	10	4719A227	11.23
3″	3″	10	4719A228	14.98
3″	5 1/2″	5	4719A94	14.72
3″	9″	5	4719A95	18.32
4″	9″	5	4719A96	26.78
High Performance Multipurpose— Available grits: 36, 50, 80, or 120				
1/4″	1/2″	25	4756A71	8.53
3/8″	1/2″	25	4756A72	8.63
1/2″	1/2″	25	4756A31	12.32
1/2″	3/4″	25	4756A73	9.16
1/2″	1″	25	4756A32	13.07
1/2″	2″	10	4756A33	7.92
5/8″	1″	25	4756A74	9.37
3/4″	3/4″	25	4756A75	9.27
3/4″	1″	25	4756A34	13.37
3/4″	2″	25	4756A76	14.43
1″	1″	25	4756A35	14.27
1″	1 1/2″	25	4756A77	11.48
1″	2″	10	4756A36	8.95
1 1/2″	1″	25	4756A78	11.05
1 1/2″	1 1/2″	10	4756A37	7.54
1 1/2″	2″	10	4756A38	10.00
2″	1″	25	4756A79	12.74

Inside Dia.	Lg.	Pkg. Qty.		Pkg.
High Performance Multipurpose (Cont.)				
2″	1 1/2″	25	4756A81	$15.05
2″	2″	10	4756A39	11.66
3″	1″	10	4756A41	8.40
3″	3″	5	4756A42	11.63
For Aluminum and Soft Metals— Available grits: 36, 50, 80, 120, or 180				
1/4″	1/2″	25	4756A51	8.69
3/8″	1/2″	25	4756A52	8.80
1/2″	1/2″	25	4756A11	8.80
1/2″	3/4″	25	4756A53	9.34
1/2″	1″	25	4756A12	9.34
1/2″	2″	25	4756A13	13.85
5/8″	1″	25	4756A54	9.55
3/4″	3/4″	25	4756A55	9.44
3/4″	1″	25	4756A14	9.55
3/4″	2″	25	4756A56	14.70
1″	1″	25	4756A15	10.19
1″	1 1/2″	25	4756A57	11.70
1″	2″	25	4756A16	13.83
1 1/2″	1″	25	4756A58	11.27
1 1/2″	1 1/2″	25	4756A17	13.20
1 1/2″	2″	25	4756A18	15.44
2″	1″	25	4756A59	12.97
2″	1 1/2″	25	4756A61	15.35
2″	2″	10	4756A19	8.33
3″	1″	10	4756A21	6.00
3″	3″	10	4756A22	15.11

Inside Dia.	Lg.		Each
For Stainless Steel and Hard Metals— Available grits: 50, 60, 80, or 120			
1/2″	1″	8257A31■	$0.90
1″	1″	8257A32	0.94
2″	1″	8257A33★	1.05
3″	1″	8257A34■★	1.21

■ Not available in 120 grit. ★ Not available in 50 grit.

100-Piece Multipurpose Sleeve Assortment—You'll get 10 of both the 50- and 120-grit sleeves in each of the following sizes (ID×Lg.): 1/2″×1/2″, 3/4″×1″, 1″×1″, 1 1/2″×1 1/2″, and 2″×1 1/2″. 4719A81 $36.66

Sanding Sleeves for Hard Nonmetals



Tungsten carbide bonded to a steel sleeve provides superior durability when used on plastics and other nonmetallic materials. These sleeves are a good choice for shaping, hole sizing, and general sanding. Mount them on rubber drums (required; sold separately on page 2669). Use on grinders for bits and burs and similar portable tools.

Inside Dia.	Lg.	Available Rough Grits		
1″	1″	24, 36, 60	4727A41	$43.25
2″	1 1/2″	24, 36, 60	4727A42	56.50
3″	3″	24, 36, 60	4727A43	73.67

Long-Life Multipurpose Flap Sanding Sleeves

Similar to flap wheels but more aggressive, these sleeves have tightly packed aluminum oxide flaps that wear down evenly to expose new layers of abrasive. Mount them on rubber drums (required; sold separately) for use on straight grinders and grinders for bits and burs.





Inside Dia.	Lg.	Available Grits: Rough	Smooth	Extra Smooth	Sleeves		Drums: Shank Dia.	Max. rpm		
7/8"	3/4"	50, 80	120, 180	240, 320	4597A11	$12.18	1/4"	26,000	4597A31	$21.29
1 3/16"	3/4"	50, 80	120, 180	240, 320	4597A12	12.84	1/4"	19,100	4597A32	23.41
1 3/16"	1 3/16"	36, 50, 80	120, 180	240, 320	4597A13	14.05	1/4"	19,100	4597A33	25.60
3"	1 3/16"	36, 50, 80	120, 180	240, 320	4597A15	26.82	5/16"	7,600	4597A35	35.30

Rubber Drum and Sanding Sleeve Assortments

Our assortments contain the most popular rubber sanding drum sizes and aluminum oxide sanding sleeves for use on most materials. Drums are secured with a hex fitting.

Five 1/8" Dia. Shank Drums with 15 Sleeves—You'll get the following drums (Dia. × Lg.): 3/8" × 1/2", 1/2" × 1/2", 1/2" × 3/4", 3/4" × 1/2", and 3/4" × 3/4" plus one 50-grit, one 80-grit, and one 120-grit sleeve for each size.

4648A14 ..... $7.95

Four 1/4" Dia. Shank Drums with 12 Sleeves—You'll get the following drums (Dia. × Lg.): 1/2" × 2", 3/4" × 2", 1" × 2", and 1 1/2" × 2" plus one 50-grit, one 80-grit, and one 120-grit sleeve for each size.

4648A13 ..... $13.46

Five 1/4" Dia. Shank Drums with 15 Sleeves—You'll get the following drums (Dia. × Lg.): 1/2" × 1/2", 3/4" × 1", 1" × 1", 1 1/2" × 1 1/2", and 2" × 1 1/2" plus one 50-grit, one 80-grit, and one 120-grit sleeve for each size. Note: The 1/2" × 1/2" drum has a 1/8" dia. shank.

4648A12 ..... $15.05

Six 1/4" Dia. Shank Drums with 90 Sleeves—You'll get the following drums (Dia. × Lg.): 1/2" × 1/2", 3/4" × 1", 1" × 1", 1 1/2" × 1 1/2", 2" × 1 1/2", and 3" × 1" plus five 36-grit, five 50-grit, and five 120-grit sleeves for each size. Note: The 1/2" × 1/2" drum has a 1/8" dia. shank and the 3" × 1" drum has a 1/2" unthreaded arbor hole.

4735A11 ..... $71.08

Nylon Mesh Sanding Sleeves for Cleaning and Polishing



A cushioned mesh structure gives you control over the amount of pressure applied during sanding and the resulting surface finish. Sleeves are embedded with aluminum oxide for use on most materials. Mount them on rubber drums (required; sold separately below) for use on straight grinders and grinders for bits and burs.

Coarse grade is for deburring and removing heavy rust and surface imperfections. **Medium** grade is for light cleaning and blending. **Very fine** grade is for finishing and polishing.

Inside Dia.	Lg.	Coarse (Brown)		Medium (Maroon)		Very Fine (Green)	
1"	1"	4657A13	$1.99	4657A12	$1.72	4657A11	$1.72
1"	1 1/2"	4657A16	2.96	4657A15	2.52	4657A14	2.52
1 1/2"	1"	4657A19	2.77	4657A18	2.35	4657A17	2.35
1 1/2"	1 1/2"	4657A23	4.12	4657A22	3.52	4657A21	3.52
2"	1"	4657A26	3.59	4657A25	3.03	4657A24	3.03
2"	1 1/2"	4657A29	5.39	4657A28	4.51	4657A27	4.51
3"	1"	4657A33	5.26	4657A32	4.39	4657A31	4.39
3"	3"	4657A36	15.24	4657A35	13.00	4657A34	13.00

Rubber Drums for Sanding Sleeves

Drums have a shank for use with grinders for bits and burs and similar tools. Slide a sleeve on the drum and tighten to securely hold the sleeve—no adhesive is needed. Drums are required for use with sanding sleeves.

Standard drums have a fitting that, when tightened, causes the drums to expand and securely hold a sleeve.

Twist-n-lock drums do not require any tools to secure the sleeves.


Standard


Twist-n-Lock

Dia.	Lg.	Shank Dia.	Max. rpm	Standard		Twist-n-Lock	
1/4"	1/2"	1/8"	30,000	4650A41	$2.81		
1/4"	3/4"	1/8"	22,000	4650A61	3.12		
1/4"	1"	1/8"	20,000	4650A62	3.12		
3/8"	1/2"	1/8"	30,000	4650A43	1.34		
3/8"	1"	1/8"	18,000	4650A44	3.12		
1/2"	1/2"	1/8"	30,000	4651A6	2.04	46715A51	$2.78
1/2"	1/2"	1/4"	30,000	4650A21	1.56	46715A11	2.78
1/2"	3/4"	1/8"	18,000	4650A63	1.97		
1/2"	3/4"	1/4"	25,000	4650A46	1.97	46715A52	2.78
1/2"	1"	1/4"	20,000	4650A22	1.97	46715A13	2.78
1/2"	1 1/2"	1/4"	14,000	4650A64	2.81	46715A81	3.52
1/2"	2"	1/4"	10,000	4650A31	2.97	46715A15	3.52
5/8"	1/2"	1/4"	27,000	4650A47	2.00	46715A53	3.02
5/8"	1"	1/4"	19,000	4650A49	2.00	46715A54	3.02
3/4"	1/2"	1/4"	27,000	4650A51	1.97	46715A55	3.02
3/4"	3/4"	1/4"	24,000	4650A52	1.97	46715A56	3.02
3/4"	1"	1/4"	19,000	4650A23	1.97	46715A19	3.02
3/4"	1 1/2"	1/4"	12,000	4650A65	2.97	46715A82	3.98
3/4"	2"	1/4"	9,000	4650A32	3.12	46715A22	4.02
1"	1/2"	1/4"	18,000	4650A66	$2.16	46715A83	$3.02
1"	3/4"	1/4"	15,000	4650A67	2.16	46715A61	3.02
1"	1"	1/4"	15,000	4650A11	2.16	46715A26	3.02
1"	1 1/2"	1/4"	10,000	4650A24	2.53	46715A27	3.52
1"	2"	1/4"	8,000	4650A33	3.53	46715A29	4.02
1"	3"	1/4"	5,000	4650A68	6.88	46715A84	7.38
1 1/4"	1"	1/4"	14,000	4650A69	2.53	46715A62	3.80
1 1/4"	2"	1/4"	7,000	4650A71	4.34	46715A63	4.30
1 1/2"	1"	1/4"	14,000	4650A25	2.53	46715A32	3.60
1 1/2"	1 1/2"	1/4"	10,000	4650A26	3.75	46715A33	4.08
1 1/2"	2"	1/4"	7,000	4650A34	4.34	46715A35	4.30
2"	1"	1/4"	11,000	4650A12	3.78	46715A37	4.34
2"	1 1/2"	1/4"	8,000	4650A27	4.34	46715A38	5.24
2"	2"	1/4"	6,000	4650A13	4.53	46715A39	6.12
3"	1"	1/4"	3,000	4650A81	14.81	46715A42	8.86
3"	1"	3/8"	3,000	4650A72	14.81	46715A64	9.34
3"	2"	1/4"	3,000	4650A82	19.66	46715A44	13.26
3"	2"	3/8"	3,000	4650A73	19.66	46715A65	13.72
3"	3"	3/8"	3,000	4651A5	24.68	46715A47	14.60

Arbor-Mount Rubber Drums for Sanding Sleeves

Use these drums on bench and pedestal grinders. Tighten the fitting on the drum to expand it and securely hold a sleeve. Drums are required for use with sanding sleeves.

Unthreaded Arbor Hole—Use on grinders with unthreaded arbors. Set screws are included.

Threaded Arbor Hole—Use on grinders with threaded arbors.

Dia.	Lg.	Arbor Hole	Max. rpm		
Unthreaded Arbor Hole					
2"	2"	1/2"	6,000	4650A14	$29.16
3"	1"	1/2"	3,000	4650A15	21.81
3"	2"	1/2"	3,000	4650A16	22.81
3"	3"	1/2"	3,000	4650A17	23.78
3"	3"	5/8"	3,000	4651A13	21.74
3"	3"	3/4"	3,000	4651A14	21.74
Threaded Arbor Hole					
3"	3"	1/2"-20	3,000	4651A2	21.51
3"	3"	5/8"-11	3,000	4651A1	22.15


Unthreaded


Threaded

Spiral-Wound Sanding Rolls



Straight Roll and Shank Adapter



Tapered Roll and Shank Adapter

Also known as cartridge rolls, as the outer layer wears away on these rolls, new abrasive is exposed. They have a strong cloth backing. Use on grinders for bits and burs and flexible shaft tools. Shank adapters are required (sold separately). Max. rpm is 26,000 for 1/4″-1/2″ diameter sizes and 18,000 for 5/8″-1″ diameter sizes.

Choose 36-80 grit for a rough finish, 120 or 180 grit for a smooth finish, and 240 or 320 grit for an extra-smooth finish.

Straight rolls are for use in channels, fillets, recesses, contours, sidewalls, and other hard-to-reach spots. **Tapered** rolls are for use on angles, corners, concave contours, funnel-shaped recesses, and other intricate shapes. The diameter listed is for the large end of the roll.

Multipurpose—Coated with aluminum oxide.

High Performance Multipurpose—Coated with zirconia alumina, which is sharper and lasts longer than aluminum oxide.

For Steel and Stainless Steel—Coated with ceramic alumina, which continuously breaks off during use to produce new sharp edges, resulting in longer life.

Sanding Rolls

Dia.	Lg.	Arbor Hole	Pkg. Qty.		Pkg.
Multipurpose Straight—Available grits: 50, 60, 80, 120, 180, 240, or 320					
1/4″	1″	1/8″	25	4690A31	$6.39
1/4″	1 1/2″	1/8″	25	4690A32	7.67
5/16″	1″	1/8″	25	4690A33	6.93
5/16″	1 1/2″	1/8″	25	4690A34	9.03
3/8″	1″	1/8″	25	4690A35	6.93
3/8″	1 1/2″	1/8″	25	4690A36	8.69
1/2″	3/4″	1/8″	25	4690A37	6.93
1/2″	1″	1/8″	25	4690A38	7.97
1/2″	1 1/2″	1/8″	25	4690A39	10.94
5/8″	1″	3/16″	10	4690A41	4.93
5/8″	1 1/2″	3/16″	10	4690A42	6.26
5/8″	2″	3/16″	10	4690A43	7.53
3/4″	1″	3/16″	10	4690A44	5.69
3/4″	1 1/2″	3/16″	10	4690A45	7.16
3/4″	2″	3/16″	10	4690A46	9.48
1″	1″	3/16″	10	4690A47	10.82
1″	1 1/2″	3/16″	10	4690A48	12.90
1″	2″	3/16″	10	4690A49	15.72
Multipurpose Tapered—Available grits: 50, 60, 80, 120, 180, 240, or 320					
3/8″	1″	1/8″	25	4688A11	12.38
3/8″	1 1/2″	1/8″	25	4688A12	14.01
1/2″	1″	1/8″	25	4688A13	13.61
Multipurpose Tapered (Cont.)					
1/2″	1 1/2″	1/8″	25	4688A14	$15.18
5/8″	1″	1/8″	10	4688A15	6.67
5/8″	1 1/2″	1/8″	10	4688A16	7.85
3/4″	1 1/2″	3/16″	10	4688A17	8.34
3/4″	2″	3/16″	10	4688A18	9.43
7/8″	1 1/2″	3/16″	10	4688A19♠	8.89
1″	1″	3/16″	10	4688A21♥	8.89
1″	1 1/2″	3/16″	10	4688A22♣	12.12
1″	2″	3/16″	10	4688A23♥	14.16
High Performance Multipurpose Straight—Available grits: 36, 50, 60, or 80					
1/2″	1″	1/8″	25	46565A2	10.47
1/2″	1 1/2″	1/8″	25	46565A3	14.34
5/8″	1″	3/16″	10	46565A4	6.85
5/8″	1 1/2″	3/16″	10	46565A5	8.70
3/4″	1″	3/16″	10	46565A6	7.47
3/4″	1 1/2″	3/16″	10	46565A7	9.38

Dia.	Lg.	Arbor Hole		Each
For Steel and Stainless Steel Straight—Available grits: 60, 80, and 120				
1/4″	1″	1/8″	8268A31★	$0.70
3/8″	1″	1/8″	8268A3	0.75
1/2″	1 1/2″	1/8″	8268A4	1.11
3/4″	1 1/2″	1/8″	8268A38★	1.58

♠ Not available in 120 grit. ♥ Not available in 240 grit. ♣ Not available in 240 or 320 grit. ★ Not available in 60 or 120 grit.

Shank Adapters

For Roll Arbor Hole	Shank Dia.	For 3/4″ to 1″ Lg. Rolls O'all Lg.			For 1 1/2″ Lg. Rolls O'all Lg.			For 2″ Lg. Rolls O'all Lg.		
1/8″	1/8″	2 3/4″	4690A21	$2.19	3″	4690A24	$2.19	____	____	____
1/8″	1/4″	2 1/2″	4690A81	1.96	2 3/4″	4690A82	1.96	____	____	____
1/8″	1/4″	4″	4690A83	3.85	4″	4690A95	3.85	____	____	____
1/8″	1/4″	6″	4690A84	5.53	6″	4690A86	5.53	____	____	____
3/16″	1/4″	2 3/4″	4690A28	2.19	3″	4690A29	2.48	3 1/2″	4690A87	$2.19

Assortments

You'll get 120 of the most popular 80- and 120-grit, straight and tapered multipurpose rolls from 1/4″ to 1/2″ diameter sizes in 1″ and 1 1/2″ lengths, plus two shank adapters. Packed in a compartmented plastic case.

4690A91 ..... $79.16

Sanding Pads for Internal and Irregular Surfaces



Square Pad and Shank Adapter

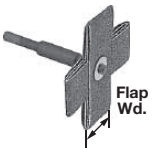

Cross Pad and Shank Adapter

Folded bands of cloth coated with aluminum oxide work on interior surfaces of pipes and tubes as well as on an angle to reach into corners and slots. Use on drills and angle grinders for bits and burs. Shank adapters (required; sold separately) are 3″ long with a 1/4″ dia. shank.

Square pads sand quickly and won't leave swirl marks because of the alternating stroke of the pad corners.

Cross pads allow you to see through the pad when in motion to better control material removal.

To Order: Please specify grit: 60 or 80 grit (rough finish) or 120 grit (smooth finish).

Size	Thick.	Flap Wd.	Max. rpm	Tools		Shank Adapters	
Square							
1 1/2″	1/2″	____	23,000	8219A21	$4.24	46665A32	$4.85
2″	1/2″	____	23,000	8219A22	5.38	46665A32	4.85
3″	1/2″	____	14,000	8219A23	8.54	46665A32	4.85
Cross							
1 1/2″	1/4″	1/2″	23,000	8219A11	1.71	46665A31	4.85
2″	1/4″	1/2″	23,000	8219A12	1.84	46665A31	4.85
3″	1/4″	1″	14,000	8219A13	3.14	46665A32	4.85

Nylon Mesh Pads for Internal and Irregular Surfaces

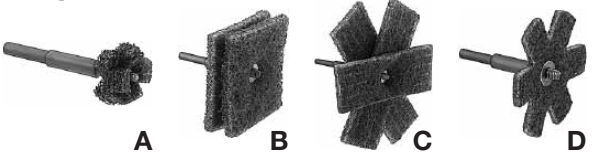

Flexible nylon mesh conforms to the inside of hard-to-reach spots. They're embedded with aluminum oxide for use on most materials. Use with straight grinders and drills. Shank adapters (required; sold separately) are 3″ long with a 1/4″ dia. shank.

Coarse grade is for deburring and removing heavy material. **Medium** grade is for light cleaning and blending. **Very fine** grade is for finishing.

Style A—Max. rpm is 20,000. *Medium* is blue. *Very fine* is red.

Style B—Max. rpm is 8,000. Color is maroon.

Style C—Max. rpm is 3,000. Color is maroon.

Style D—Max. rpm is 23,000 (unless noted). *Coarse* is brown. *Medium* is maroon. *Very fine* is blue.

	Size	Thick.	Ply		Coarse	Medium	Very Fine
A	1″	3/8″	2	46665A51	____	$2.96	$2.96
A	1 1/2″	1/2″	2	46665A52	____	4.51	4.51
A	1 1/2″	1/2″	3	46665A53	____	6.09	6.09
B	3″	3/4″	2	46665A54	____	6.09	6.09
C	6″	1″	3	46665A22	____	____	9.91
D	1 1/2″	3/16″	1	46685A11	$1.92	1.92	1.92
D	2″	3/16″	1	46685A12	2.25	2.25	2.25
D	3″	3/16″	1	46685A13■	3.62	3.62	3.62
D	4″	3/16″	1	46685A14▲	5.61	5.61	5.61

■ Max. rpm is 20,000. ▲ Max. rpm is 12,000.

Shank Adapter for Style A 46665A31 $4.85

Shank Adapter for Styles B-D 46665A32 $4.85

For information about sanding abrasives, see page 2643.

Replaceable-Cap Sanding Bits

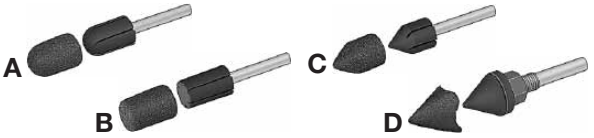

Slip a sanding cap onto the rubber head of the shank bit (sold separately) and use on small, recessed, and hard-to-reach areas. Caps have a cloth backing coated with aluminum oxide for use on most materials. Use on grinders for bits and burs, straight grinders, and drills.

Multipurpose

The 1/8″ dia. shank bits are 1″ long, and the 1/4″ dia. shank bits are 1 1/2″ long.

To Order: For sanding caps, please specify grit: 60 (rough finish), 150 (smooth finish), or 280 (extra-smooth finish), unless noted.

	Cap Dia.	Cap Lg.	Max. rpm	Shank Bits	Each	Sanding Caps	Pkg. of 10
1/8″ Dia. Shank							
A	3/16″	7/16″	40,000	4847A81	$3.60	4847A111 ★	$8.84
A	9/32″	1/2″	30,000	4847A82	3.93	4847A112	8.84
A	3/8″	5/8″	20,000	4847A83	3.98	4847A113	10.23
B	3/16″	3/8″	40,000	4847A84	3.60	4847A114 ★	8.84
B	9/32″	1/2″	30,000	4847A85	3.93	4847A115	8.84
B	3/8″	5/8″	20,000	4847A86	3.98	4847A116	10.23
C	3/16″	7/16″	40,000	4847A87	3.58	4847A117 ★	8.84
C	9/32″	1/2″	30,000	4847A88	3.93	4847A118	8.84
C	3/8″	5/8″	20,000	4847A89	3.98	4847A119	10.23
1/4″ Dia. Shank							
A	1/4″	5/8″	40,000	4847A2	4.86	4847A121 ★	10.23
A	7/16″	1″	20,000	4847A14	5.00	4847A122	11.86
A	1/2″	1 1/16″	16,000	4847A11	3.95	4847A123	11.86
A	5/8″	1″	12,000	4847A12	3.67	4847A124	11.86
A	5/8″	1 1/4″	12,000	4847A13	5.07	4847A125	11.86
A	27/32″	1 9/16″	9,000	4847A15	7.40	4847A126	17.21
B	1/2″	1 1/16″	16,000	4847A16	3.95	4847A127	11.86
B	5/8″	1″	12,000	4847A17	4.09	4847A128	11.86
C	1/2″	1 1/16″	16,000	4847A18	3.95	4847A129	11.86
C	5/8″	1″	12,000	4847A19	4.09	4847A131	11.86

★ Available in 80, 150, and 280 grit.

Deburring

Use to debur countersunk holes. Choose a bit with the same angle as your countersink. The 1/4″ dia. shank bits are 1 1/4″ long, and the 3/8″ dia. shank bits are 1 1/2″ long.

To Order: For sanding caps, please specify grit: 60 or 80 (rough finish), 100, 120, 150 or 180 (smooth finish), or 240 or 320 (extra-smooth finish).

	Cap Dia.	Cap Lg.	Angle	Max. rpm	Shank Bits	Each	Sanding Caps	Each
1/4″ Dia. Shank								
D	3/4″	1/2″	90°	20,000	4847A519	$29.79	4847A8	$0.79
D	3/4″	3/4″	60°	20,000	4847A319	29.79	4847A1	.79
D	1″	1 1/16″	90°	18,000	4847A539	29.79	4847A9	.89
D	1″	1″	60°	18,000	4847A339	29.79	4847A3	.89
D	1 1/4″	7/8″	90°	12,000	4847A569	29.79	4847A62	1.09
D	1 1/4″	1 1/4″	60°	12,000	4847A369	29.79	4847A4	1.09
D	1 1/2″	1 1/16″	90°	10,000	4847A589	29.79	4847A63	1.09
D	1 1/2″	1 1/2″	60°	10,000	4847A389	29.79	4847A5	1.09
3/8″ Dia. Shank								
D	2″	1 7/16″	90°	6,000	4847A609	38.18	4847A64	1.36
D	2″	2″	60°	6,000	4847A409	38.18	4847A6	1.36
D	3″	2 1/8″	90°	2,500	4847A629	38.18	4847A65	1.81
D	3″	3″	60°	2,500	4847A429	38.18	4847A7	1.81

Nylon Mesh Sanding Wheels for Curved Surfaces



Reach within concave surfaces and follow contours with these dome-shaped wheels. They're made of aluminum oxide embedded discs stacked and mounted on a 1/4″ Dia. x 2″ Lg. shank. Use on grinders for bits and burs, portable drills, and drill presses to sand most materials. Color is maroon.

Wheels **for deburring and cleaning** are medium grade. Wheels **for blending and finishing** are fine grade.

	Wheels Dia.	Wheels Lg.	Wheels Max. rpm	Wheels Each	Replacement Discs Pkg. Qty.	Replacement Discs Pkg.
For Deburring and Cleaning						
	2″	2″	12,000	46835A12 $31.11	8	46835A22 $7.81
	3″	2″	8,500	46835A34 35.08	8	46835A24 11.98
For Blending and Finishing						
	2″	2″	12,000	46835A11 31.11	10	46835A21 7.81
	3″	2″	8,500	46835A33 35.08	10	46835A23 11.98

Nylon Mesh Sanding Bits



Sized to fit into small and hard-to-reach areas, these bits have a cushioned mesh structure. Shanks are 1 1/2″ long. Use on grinders for bits and burs and straight grinders.

Coarse grade bits are embedded with aluminum oxide. Use for aggressive deburring and cleaning. Color is dark gray. **Medium** grade bits are embedded with aluminum oxide. Use for deburring and polishing. Color is blue. **Fine** grade bits are embedded with silicon carbide for light blending and finishing. Color is black.

To Order: Please specify grade: coarse, medium, or fine.

	Shape No.	Dia.	Lg.	Max. rpm		
1/8″ Dia. Shank						
E	B90	1/2″	1/2″	34,500	4630A14	$3.83
F	B121	1/2″	1/2″	45,300	4630A15	4.24
G	B52	3/8″	3/4″	45,300	4630A13	3.76
H	W160	1/4″	1/4″	81,300	4630A16	2.41
H	W163	1/4″	1/2″	60,000	4630A17	2.86
H	W183	1/2″	1/4″	51,700	4630A18	3.05
H	W185	1/2″	1/2″	34,500	4630A19	3.86
1/4″ Dia. Shank						
E	A21	1″	1″	34,500	4630A11	9.88
F	A25	1″	1″	35,600	4630A12	9.81
H	W220	1″	1″	25,500	4630A21	8.62

Contact Wheels for Stationary Belt Sanders



Serrations on the wheel prevent heat buildup, allowing for fast, aggressive sanding and long belt life. Wheels have a rubber tire with a durometer hardness of 55A that's balanced for smooth, vibration-free operation.

Also Available: Other wheel sizes, widths, and durometers as well as replacement tires. For wheels, please ask for 46425A999 and specify wheel diameter and width, arbor size, and rubber hardness. For replacement tires, please ask for 46425A1 and specify wheel diameter and width.

Dia.	Arbor Hole	Max. rpm	2″ Wd. Wheels		3″ Wd. Wheels	
6″	3/4″	3,475	46425A11	$254.39	46425A51	$258.67
8″	3/4″	3,275	46425A12	305.62	46425A52	333.33
10″	3/4″	3,130	46425A13	425.65	46425A53	458.67
12″	1 1/4″	3,000	46425A14	496.89	46425A54	516.00
14″	1 1/4″	2,850	46425A15	579.96	46425A55	585.33

Belt Sanding Wheels for Bench and Pedestal Grinders



Turn your 6″ grinder into a sander. As the wheel rotates, the rubber tire expands and holds the sanding belt in place. All have a 1″ arbor hole and a durometer hardness of 60A. Max. rpm is 3,650. See page 2661 for belts.

To Order: For reducer bushings, please specify ID: 1/2″, 5/8″, 3/4″, or 7/8″.

Dia.	Wd.	For Belt Size Wd.	For Belt Size Lg.	Wheels		Reducer Bushings	
6″	1″	1″	18 15/16″	8242A42	$196.26	8242A75	$15.00
6″	1 1/2″	1 1/2″	18 15/16″	8242A44	199.00	8242A76	15.00
6″	2″	2″	18 15/16″	8242A46	204.46	8242A76	15.00
6″	3″	3″	18 15/16″	8242A48	233.32	8242A76	15.00

Surface-Conforming Belt Sanding Wheels for Portable Grinders



Achieve fast, even sanding on any shape workpiece with these inflatable wheels. Slip your belt onto the rubber tire and inflate to the desired hardness. Hub has a threaded air valve. Arbor hole is 5/8″-11, unless noted. See pages 2661-2664 for belts.

Dia.	For Belt Size Wd.	For Belt Size Lg.	Max. rpm	Wheels		Replacement Tires	
3 1/4″	3″	10 11/16″	7,000	4646A21 ♦	$142.82	4646A73	$64.58
3 1/4″	3″	10 11/16″	7,000	4646A22	97.80	4646A75	49.58
5″	2 3/4″	15 1/2″	3,500	4646A71	95.38	4646A67	49.44
5″	3 1/2″	15 1/2″	3,500	4646A29	121.36	4646A68	51.21

♦ Arbor hole is 1/2″-13.

Sanding Belt and Disc Cleaners



Hand Held



Bench Mount



For Disc Sanders

Remove material buildup from the abrasive surface of a moving belt or disc in seconds. These cleaners extend sandpaper life up to four times.

Hand Held Cleaners—Use on stationary and portable tools.

Bench Mount Cleaners—Use with portable tools. Mounting screws are included.

Cleaners For Disc Sanders—Set a running disc sander on the free-spinning pad.

Lg.	Wd.	Thick.		
Hand Held				
6″	1″	1″	4836A32	$5.17
8″	1½″	1½″	4836A31	10.83
12″	2″	2″	4836A33	25.00
Bench Mount				
3″	3″	1½″	4836A34	22.50

For Disc Dia.		
For Disc Sanders		
5″	4836A41	$32.50
6″	4836A42	41.12
5″ Repl. Pad	4836A43	5.20
6″ Repl. Pad	4836A44	7.30

Electric Belt Sanders



Sander has adjustable belt tracking to keep the belt from shifting sideways, a lever or button release for fast belt changes, and a speed control dial. It comes with a dust bag, sanding belt, and 16-ft. power cord with two-prong plug. Operates on 120 volts AC. It is UL listed, CSA certified, and meets OSHA requirements. For sanding belts, see pages 2661-2664.

For Belt Size Wd.	Lg.	No-Load sfpm♦	Amps	O'all Lg.	Wt., lbs.		
3″	21″	690-1,440	8.8	11½″	9½	4892A21	$248.56

♦ Surface feet per minute.

Stationary Disc and Belt Sanders



A&B



C-G



Optional Floor Stand for C-G



H



J

Disc Sanders—Use with adhesive-back sanding discs. For sanding discs, see pages 2657-2659.

Style A has a built-in dust fan and hose that attaches to any standard shop vacuum. Includes a 6-ft. power cord with three-prong plug. The optional miter gauge has adjustable stop locks at 90° and 45°.

Style B include a totally enclosed fan-cooled motor, disc guard, miter gauge for angled sanding operations, on/off switch, and an 8-ft. power cord with three-prong plug.

Belt Sanders—Include a totally enclosed fan-cooled motor, belt control for proper tension, and belt guard. Also include an on/off switch and 8-ft. power cord with three-prong plug, unless noted. For sanding belts, see pages 2661-2664.

Styles C and *D* include a contact wheel and a platen that detaches for contour sanding. Style D operates in vertical and horizontal positions. A full-length hinge on the belt guard allows easy access to the belt.

Styles E and *F* operate in vertical and horizontal positions. Style F is mounted on a 100 cfm, 32″ Ht.×14″ Wd.×12″ Dp. dust collector.

The belt on *Style G* operates in a horizontal position, vertical position, and at any angle in between. 8249A34 does not include an on/off switch, power cord, or plug.

Combination Sanders—Offer the convenience of a belt and disc sander in one tool. Sanders have a totally enclosed fan-cooled motor, adjustable belt tracking control, and a dust port for connecting the unit to a dust collector or vacuum system. Furnished with an on/off switch. Belt tilts to operate in the horizontal and vertical position.

Style H has a 2¾″ dia. dust port. Includes an 8-ft. power cord with three-prong plug.

Style J have a belt guard and an adjustable platen that can be removed. They have a one-piece heavy duty steel stand and 4″ dia. dust port. 4739A51 includes a 6-ft. power cord with three-prong plug.

	Disc Dia.	Table Wd.	Table Lg.	No-Load rpm	*Belt* Wd.	Lg.	Table Wd.	Table Lg.	No-Load sfpm♦	AC Voltage	Wired for, AC Voltage	Amps	*Motor* rpm	hp	ph.		
Disc—Maintenance																	
A	12″	6¼″	17¼″	1,725	—	—	—	—	—	120	120	6	1,725	½	1	4615A21	$275.36
Disc—Heavy Duty																	
B	10″	6″	11″	1,725	—	—	—	—	—	120/240	120	7.4/3.7	1,725	½	1	4737A14	494.66
B	12″	8″	14″	1,725	—	—	—	—	—	120/240	120	12.8/6.4	1,725	1	1	4737A21	837.24
Belt—Heavy Duty																	
C	—	—	—	—	1″	42″	3″	3″	1,800	120/240	120	5.4/2.7	1,725	⅓	1	4715A61	312.77
D	—	—	—	—	2″	48″	2½″	5″	4,500	120/240	120	7/3.5	3,450	½	1	46275A71	461.70
E	—	—	—	—	4″	36″	2½″	5″	3,600	120/240	120	7/3.5	3,450	½	1	4625A12	671.03
F	—	—	—	—	4″	36″	2½″	5″	3,615	120/240	120	7/3.5	3,450	½	1	4625A11	1,245.52
G	—	—	—	—	6″	48″	6″	10″	3,500	120/240	120	24/12	3,450	3	1	8249A32	1,586.01
G	—	—	—	—	6″	48″	6″	10″	3,500	230/460	230	6.4/3.2	3,450	3	3	8249A34	1,586.01
Combination—Maintenance																	
H	10″	6″	11″	1,725	4″	36″	2½″	5″	1,800	115/230	115	7.4/3.7	1,725	½	1	4566A41	1,045.14
J	12″	8″	14″	2,500	6″	48″	6″	10″	2,800	220	220	12	1,725	3	1	4739A51	2,309.03
J	12″	8″	14″	2,500	6″	48″	6″	10″	2,800	220	220	8.4	1,725	3	3	4739A53	2,309.03

♦ Surface feet per minute.

Optional Miter Gauge for Style A	4615A22	50.85
Optional Floor Stand for Styles C-G	8239A26	187.50

Electric Disc Sanders

Sander operates in a random-orbital sanding pattern, which produces swirl-free finishes. It comes with a variable-speed control dial, speed lock-on button, removable front handle, and backup pad. Includes a dust-collection canister and an 8-ft. power cord with two-prong plug. Operates on 3.3 amps @ 120 volts AC. It is C-UL and UL listed and meets OSHA requirements. For sanding discs, see pages 2657-2660.



For Disc Dia.	Type of Sanding Disc Used	No-Load Orbits/Minute	O'all Lg.	Wt., lbs.	Sander		Replacement Backup Pad	
5″	Hook-and-Loop, 8-Hole Pattern	4,500-12,000	12″	5	46405A41	$141.98	46405A42	$13.24

Electric Narrow-Belt Sanders

Turn to these compact sanders for sanding in cramped quarters. They include an 8-ft. power cord with two-prong plug. Both are UL listed, CSA certified, and meet OSHA requirements. For sanding belts, see pages 2661-2664.

With Adjustable Head—This sander is hard to beat when it comes to intricate work. The head adjusts 180°. It has a three-position handle and a paddle switch. Operates on 5.5 amps @ 120 volts AC.

Without Adjustable Head—Belt speed is adjustable, so you can use this sander on a variety of materials. It has a removable multiposition side handle, variable-speed control dial, speed lock-on button, and a trigger switch. Operates on 5 amps @ 120 volts AC.



With Adjustable Head



Without Adjustable Head

Style	For Belt Size Wd.	Lg.	No-Load sfpm♦	O'all Lg.	Wt., lbs.		
With Adjustable Head	1/2″	18″	2,300	18 1/2″	6	46215A21	$221.25
Without Adjustable Head	1 1/8″	21″	656-3,280	15″	4 1/2	8235A14	270.39
Optional Contact Arm for Curved Surfaces for Sander with Adjustable Head						46215A31	52.67

♦ Surface feet per minute.

Air-Powered Narrow-Belt Sanders

The narrow belts on these air-powered tools can reach into corners and other tight spots. Sanders have adjustable belt tracking (except the 0.35-hp sander), and a 1/4″ NPT female air inlet. Use with 3/8″ ID hose. For sanding belts, see pages 2661-2664.

Maintenance Sanders—The head on these sanders pivots a full 360° and locks in place. They have a front exhaust (except the 0.35-hp sander has a rear exhaust), an exhaust muffler, and a variable-speed throttle control lever.

Heavy Duty Sanders—These tools sand, debur, blend, and polish. Their insulated housing reduces vibration and won't transmit cold air to the operator's hand. They have a front exhaust and a control screw for speed adjustment.

Sander *with adjustable handle* includes a variable-speed throttle control lever.

Sanders *with pivoting head* adjust a full 360° for reaching difficult spots.

ⓘ For replacement parts for heavy duty sanders, please go to mcmaster.com and search for 4669A68.

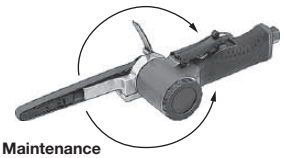

Maintenance



Heavy Duty with Adjustable Handle

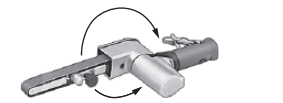

Heavy Duty with Pivoting Head

Sanders

For Belt Size Wd.	Lg.	Max. No-Load sfpm♦	hp	No-Load rpm	Avg. cfm @ 90 psi	O'all Lg.	Wt., lbs.		
Maintenance									
3/8″	13″	4,354	0.35	22,000	7	12″	2	46505A65	$277.20
1/2″	18″	5,730	0.5	20,000	22	15″	2 1/2	46505A68	334.10
3/4″	20 1/2″	5,730	0.5	20,000	22	16 1/4″	2 3/4	46505A66	352.71
Heavy Duty—With Adjustable Handle									
1/2″	24″	5,800	0.5	20,000	4	14 1/2″	3	4669A11	549.03
Heavy Duty—With Pivoting Head									
3/4″	18″	4,550	0.5	20,000	4	14 1/4″	2 1/2	4669A12	537.14
3/4″	20 1/2″	4,550	0.5	20,000	4	14 1/4″	2 1/2	4669A13	560.96

♦ Surface feet per minute.

Optional Contact Arms for Heavy Duty Sanders

Arm Style	For Belt Size Wd.	Lg.		
For Use with Heavy Duty Sander with Adjustable Handle				
Standard	1/2″	24″	4669A33	$61.00
Heavy Duty	1/2″	24″	4669A37	117.57
For Narrow Spaces	1/4″	24″	4669A28	74.33
Low Profile	1/4″	24″	4669A38	159.45
For Curved Surfaces	1/4″ and 1/2″	24″	4669A29	62.17
For Use with Heavy Duty Sanders with Pivoting Head				
Standard	5/8″ and 3/4″	18″	4669A41	70.97
Heavy Duty	5/8″ and 3/4″	18″	4669A16	155.40
For Narrow Spaces	1/4″	18″	4669A14	62.17
For Narrow Spaces	5/8″ and 3/4″	20 1/2″	4669A67	108.10
For Curved Surfaces	1/4″ and 1/2″	18″	4669A43	61.00
For Curved Surfaces	5/8″ and 3/4″	18″	4669A15	168.92

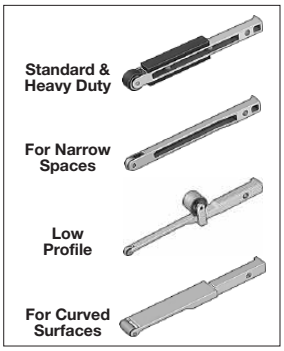

Air-Powered Sheet Sanders

Also known as a jitterbug sander, this sander operates in an orbital motion to create consistent finishes. It has a 1/4″ NPT female air inlet and a built-in air speed regulator with rear exhaust. Use with 3/8″ ID hose. A backup pad is included. For sanding sheets, see pages 2643-2645.



For Sheet Size Wd.	Lg.	No-Load Orbits/Minute	hp	Avg. cfm @ 90 psi	O'all Lg.	Wt., lbs.	Sander		Replacement Backup Pad	
3 2/3″	9″	8,000	0.3	12	8 1/4″	4	4624A51	$141.39	4624A61	$34.61

Specialty Sanding Tools & Disc Sanders

Electric Sheet Sanders



Palm Grip



Maintenance

For finishing work and light material removal, use these small, portable sanders. They operate in an orbital motion to produce consistent finishes. Sanders include a dust collector and a 6-ft. power cord with two-prong plug. Both are UL listed and meet OSHA requirements. For sanding sheets, see pages 2643-2646.

Palm Grip Sander— Includes a sandpaper punch, three sanding sheets, and a plastic carrying case. Operates on 2 amps @ 120 volts AC.

Maintenance Sander— Designed for one- or two-hand operation. Operates on 1.7 amps @ 120 volts AC.

For Sheet Size Wd.	Lg.	No-Load Orbits/ Minute	O'all Lg.	Wt., lbs.	Sanders		Replacement Backup Pads	
Palm Grip								
4½"	5½"	14,000	5"	2½	82405A34	$60.37	82405A36	$5.47
Maintenance								
3⅝"	9"	11,000	10"	3½	4479A15	58.20	4479A16	6.55

Electric Triangular Pad Detail Sanders





Sanding Sheet

The small, triangular pad on this sander reaches into corners and tight spaces. It has a variable-speed control dial, backup pad, and 13-ft. power cord with two-prong plug. It includes 25 sanding sheets, three plunge blades, a segment blade, a scraper blade, a sanding pad, and a plastic case. Operates on 4.0 amps @ 120 volts AC. UL and C-UL listed.

Sander

No-Load Orbits/Minute	O'all Lg.	Wt., lbs.		
8,000-20,000	11"	3¼	4711A71	$204.06

Sanding Sheets

All have a hook and loop backing coated with aluminum oxide and an additive to resist clogging. Use on most materials. Length is 4" per side.

To Order: Please specify grit: 40, 60, or 80 (rough finish); 100, 120, or 180 (smooth finish); or 240, 320, or 400 (extra-smooth finish).

Pkg. of 5	4708A8	$2.23

Wide-Face Electric Sanders



Use to sand wide, flat surfaces. This sander has a variable-speed control dial and regulator to keep speed constant under load for a uniform finish. It includes a wheel guard, flap wheel, and 9-ft. power cord with two-prong plug. Operates on 12.3 amps @ 120 volts AC.

Sander

No-Load rpm	O'all Lg.	Wt., lbs.		
950-3,700	15"	7¼	48015A11	$931.64

Multipurpose Flap Wheels

Cloth wheels are coated with aluminum oxide. *Nylon mesh* wheels are embedded with aluminum oxide. *Combination cloth and nylon mesh* wheels have alternating layers of nylon mesh and aluminum oxide coated cloth flaps.

Dia.	Wd.	Available Grits: Rough	Smooth	Extra Smooth		
Cloth						
4"	2"	50, 60, 80	120, 180	240	48015A2	$26.45
Nylon Mesh						
4"	4"	—	180	280	48015A3	48.03
Combination Cloth and Nylon Mesh						
4"	4"	80	180	—	48015A4	50.61

Pole Sanders



Reach ceilings and high walls with these sanders.

Standard— Has a 48" long wood handle and an aluminum base plate. Use with 4¼" × 11¼" sanding sheets.

Dust-Free Orbital— Designed to work with our wet/dry vacuums that accept a 1½" dia. hose, this sander uses the suction from the vacuum to both drive the orbital head and extract drywall dust. For vacuums, see pages 2096-2099. Sander comes with a 72" steel extension pole, three 3¼" × 8¼" sanding sheets, bearing oil, adapter for 1½" dia. hose, and hand sander adapter.

Sanders

Standard	8227A11	$20.18
Dust-Free Orbital	8204A21	135.96
Replacement Pole for Standard Sander	8227A13	11.52

Sanding Sheets

Sheets *for soft materials* have a paper backing coated with silicon carbide. *Clog resistant for soft materials* sheets have a screencloth backing coated with silicon carbide. *Multipurpose* sheets have a hook and loop backing coated with aluminum oxide.

Wd.	Lg.	Available Grits: Rough	Smooth	Pkg. Qty.		
For Soft Materials—Fit standard sander						
4¼"	11¼"	80	100	25	8227A16	$7.94
Clog Resistant for Soft Materials—Fit standard sander						
4¼"	11¼"	—	120, 220	5	8227A15	8.44
Multipurpose—Fit dust-free orbital sander						
3¼"	8¼"	—	100, 120, 150, 180, 220	5	8204A31	7.88

Air-Powered Disc Sanders



Rotary



High-Speed Rotary



Rotary/ Orbital



Swirl Free

Achieve a consistent finish with these sanders. They have a ¼" NPT female air inlet and come with one backup pad, unless noted. For sanding discs, see pages 2650-2660.

Maintenance Sanders— Designed for light duty, intermittent sanding. Use with ⅜" ID hose.

Rotary—This compact sander is designed to get into tight spaces. It has a built-in speed regulator and rear exhaust. Use with quick-change discs. Backup pad is not included.

High-Speed Rotary—This pistol-grip sander has a ⅜" NPT female air inlet and comes with three backup pads. Exhaust is in the handle. Use with flat sanding discs.

Rotary/Orbital—Produces a scratch-free finish. Sander has a built-in speed regulator and front exhaust. Use with adhesive-back sanding discs.

Heavy Duty Sanders— Rated for continuous use. All have rear exhaust. Use with ¼" ID hose.

Swirl Free—Also known as random orbital sanders, they have a speed control lever. Use with adhesive-back sanding discs.

Dust-Collecting Swirl Free—Similar to the swirl-free sander, but with a self-generating vacuum that comes ready to hook up to a self-contained dust-collection system (sold separately).

Style	For Disc Dia.	No-Load rpm	hp	Spindle Size	Avg. cfm @ 90 psi	O'all Lg.	Wt., lbs.	Sanders		Replacement Backup Pads	
Maintenance											
Rotary	2"	15,000	0.3	¼"-20 Male	3	3¾"	1½	4582A11	$109.25	4582A12	$8.78
High-Speed Rotary	3", 4½", and 5"	20,000	0.3	⅜"-24 Female	4	8¼"	2½	4639A31	59.72	4639A32	7.72
Rotary/Orbital	6"	10,000	0.5	⅜"-24 Female	4	9½"	4	4645A11	72.53	4645A12	24.27
Heavy Duty											
Swirl Free	5"	12,000	0.3	5/16"-24 Female	2	6½"	1½	82355A71	187.75	82355A73	26.17
Swirl Free	6"	12,000	0.3	5/16"-24 Female	2	7"	1½	82355A72	187.75	82355A74	29.32
Dust-Collecting Swirl Free	5" (5-Hole Pattern)	12,000	0.3	5/16"-24 Female	2	8½"	1½	82355A81	190.57	82355A83	25.92
Dust-Collecting Swirl Free	6" (6-Hole Pattern)	12,000	0.3	5/16"-24 Female	2	9"	1½	82355A82	190.57	82355A84	29.01
Dust-Collection System for Dust-Collecting Swirl-Free Sanders										82355A85	54.05

About Finishing

Finishing removes surface imperfections resulting in a precise, flat finish at a microscopic level. Achieving the flattest finish may require multiple steps using progressively higher grits or lower micron ratings.

Texture and Appearance	Smooth → Extra Smooth → Polished												
Metal Finish Equivalent	Semi-Reflective (#2B)		Dull (#3)	Brushed (#4)		Satin (#6)	Buffed (#7)			Mirror (#8)			
Grit Size	120	180	280		320		400	600	800	1000	1200	1600	2000	>2000
Micron Size	100	70	40		34		24	18	10	8	5	3	1	<0.5
Grade	Medium	Fine	Very Fine			Ultra Fine			Micro Fine					
Surface Flatness at a Microscopic Level (Approx. $R_{a\ \mu m}$)	200-150				100-50				20-10				<1	

Smoothing and Polishing Stones

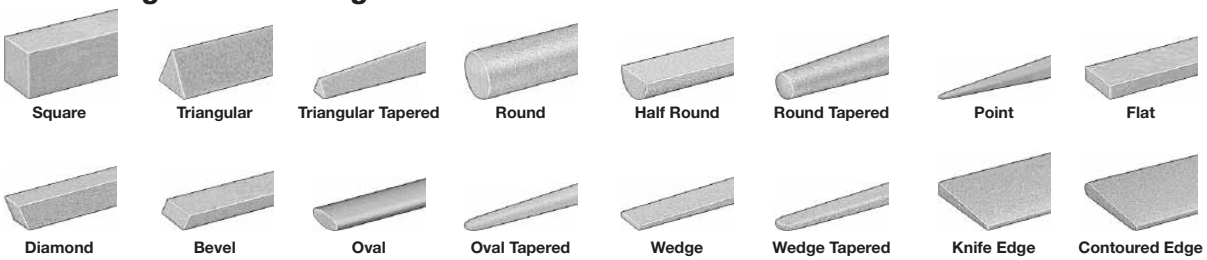

Choose the shape that best matches the contour of your work surface. Use these stones to maintain tools, molds, and dies.

Smoothing—Oil filled and made of aluminum oxide, which abrades slowly to create a consistent surface. Also known as India stones.

Choose 100 grit (gray, except knife- and contoured-edge stones are brown) for a smooth finish and 240 grit (brown) or 320 grit (orange) for an extra-smooth finish.

Polishing—Have fine grains that produce a polished finish. Also known as Arkansas stones. Color is gray, unless noted. Grit is approximate. We recommend using a water-soluble or oil-based lubricant (see page 2678) with these stones.

Individual Stones

Lg.	Wd.	Thick.	Smoothing 100, 240, or 320 Grit		Polishing 800 Grit	
Square						
4″	1/4″	—	4497A21	$7.07	4433A12	$12.21
4″	3/8″	—	4497A22	7.07	4433A11	13.79
4″	1/2″	—	4497A23	7.07	4433A13	17.75
5″	1/4″	—	—	—	4456A16♦	18.49
6″	3/8″	—	—	—	4433A14	20.08
6″	1/2″	—	4497A24	11.43	4433A15	25.93
6″	3/4″	—	4497A25	12.26	—	—
6″	1″	—	4497A26	13.70	—	—
Triangular						
4″	1/4″	—	4498A51	9.11	4433A22	13.40
4″	3/8″	—	4498A52	9.96	4433A21	13.83
4″	1/2″	—	4498A53	9.96	4433A23	18.90
5″	1/4″	—	—	—	4456A15♦	18.49
6″	3/8″	—	—	—	4433A24	21.36
6″	1/2″	—	4498A54	13.15	4433A25	25.04
6″	3/4″	—	4498A55	13.46	—	—
6″	1″	—	4498A56	15.28	—	—
Triangular Tapered						
4″	1/2″	1/4″	4507A76	10.39	—	—
Round						
4″	1/4″ Dia.	—	4499A81	11.69	4433A31	15.73
4″	3/8″ Dia.	—	4499A82	12.53	—	—
4″	1/2″ Dia.	—	4499A83	12.53	—	—
6″	3/8″ Dia.	—	—	—	4433A32	27.09
6″	1/2″ Dia.	—	4499A84	15.63	4433A33	32.75
6″	3/4″ Dia.	—	4499A85	13.38	—	—
6″	1″ Dia.	—	4499A86	13.88	—	—
Half Round						
4″	1/4″	—	4500A51	7.91	—	—
4″	5/16″	—	4500A52	7.91	—	—
4″	3/8″	—	4500A53	8.63	—	—
4″	1/2″	—	4500A54	10.62	—	—
Round Tapered						
4″	1/2″ Dia.	1/4″	8742A21	$15.86	—	—
Point						
3″	5/16″ Dia.	—	8743A31	18.21	4433A38	$23.40
Flat						
4″	1/2″	3/16″	—	—	4433A34	14.60
Diamond						
4″	1/2″	3/16″	—	—	4433A36	23.41
4″	9/16″	3/16″	4507A71	15.14	—	—
Bevel						
4″	1/2″	3/16″	—	—	4433A35	13.64
Oval						
4″	1/2″	3/16″	—	—	4433A37	19.82
Oval Tapered						
4″	1/2″- 3/16″	3/16″-1/16″	4507A72	10.38	—	—
Wedge						
4″	5/16″	3/16″-1/16″	4507A73	10.38	—	—
Wedge Tapered						
4″	3/8″- 3/16″	1/8″-1/16″	4507A75	10.38	—	—
Knife Edge						
3″	1″	1/4″-1/8″	—	—	4433A39	21.33
4″	1″	1/8″-1/16″	4415A21	13.86	—	—
Contoured Edge						
3″	1 3/4″	1/4″-1/16″	—	—	4504A1 ★	53.67
4″	7/16″	3/16″-1/8″	4507A74	10.38	—	—
4″	1″	7/16″-3/16″	4620A11■	10.27	—	—
4″	1 1/4″	1/4″-1/8″	—	—	4504A3 ★	52.37
4″	1 3/4″	3/8″-1/8″	—	—	4504A2 ★	87.44
4 1/2″	1 3/4″	1/4″-3/32″	4620A12	12.58	—	—
4 1/2″	1 3/4″	3/8″-1/8″	4620A13	12.58	—	—
4 1/2″	1 3/4″	1/2″-3/16″	4620A14	12.58	—	—
5″	1″	5/16″-3/32″	4620A15■	12.58	—	—

♦ Made of 1800-grit ceramic alumina. Color is white. ★ Color is white. ■ Not available in 100 grit.

Four-Piece Sets

4″ Polishing Set—Stones are approximately 900 grit. Also known as Arkansas stones. Includes one each of: 1/4″ square, triangular, and round stones; plus a 1/4″×1″ knife-edge stone in a box. Color is off-white. 4433A41 $45.71

6″ Polishing Set—Stones are approximately 900 grit. Also known as Arkansas stones. Includes one each of: 3/8″ square, triangular, and round stones; plus a 3/8″×1″ knife-edge stone in a box. Color is off-white. 4433A42 $75.36

5″ Long-Lasting Polishing Set—Stones are 1800-grit ceramic alumina. Includes one each of: 1/4″ square, triangular, and round stones; plus a 5″ contoured-edge stone in a sheath. Color is white. 4456A17 $73.30

Smoothing & Polishing Stones

For information about finishing, see page 2675.

Thin Smoothing and Polishing Stones



Stone



Hand-Held Holder



Tool-Mount Holder

Use by hand or in reciprocating polishing tools to reach into tight spaces on molds and dies. We recommend using a water-soluble or oil-based lubricant (see page 2678) with these stones, except the multipurpose oil-filled stones.

Choose 100-180 grit for a smooth finish, 220-320 grit for an extra-smooth finish, and 400-1200 grit for a polished finish.

Multipurpose—Made of aluminum oxide, which abrades slowly to create a consistent surface. Color is gray, except the oil-filled stones are white.

For Scale Removal—Made of aluminum oxide and specially designed to remove surface scale left by the EDM (electrical discharge machining) process on all types of steel. Color is brown.

Long Lasting and Flexible—Made of specially bonded ceramic, these stones are extremely strong and wear resistant, yet flexible for use on contours and in tight spaces. Color is green (120 grit), gold (180 grit), brown (300 grit), orange (400 grit), black (600 grit), blue (800 grit), white (1000 grit), or red (1200 grit).

For Stainless Steel and Hard Metals—Made of aluminum oxide and specially treated for use on high-grade mold steels such as P-20, H-13, and Type 420 stainless steel. Color is blue.

For Aluminum and Soft Metals—Made of aluminum oxide and specially treated for polishing aluminum and other soft metals. Color is tan.

Multipurpose

Lg.	Wd.	Thick.		Available Grits: 100, 150, 180	220, 320	400, 600	900, 1200
6″	1/8″	1/8″	47465A123	$2.53	$2.53	$3.08	$4.19
6″	1/4″	1/8″	47465A124	2.90	2.90	3.27	4.42
6″	1/4″	1/4″	47465A125	3.08	3.08	3.49	4.42
6″	3/8″	3/8″	47465A126	4.57	4.57	4.88	6.97
6″	1/2″	1/8″	47465A127	3.18	3.18	3.75	4.94
6″	1/2″	1/4″	47465A128	3.94	3.94	4.50	6.74
6″	1/2″	1/2″	47465A129	5.32	5.32	6.74	11.77
6″	1″	1/8″	47465A131	4.87	4.87	5.49	7.89
6″	1″	1/4″	47465A132	5.69	5.69	6.55	11.77
6″	1″	1/2″	47465A133	7.64	7.64	9.81	20.94

Multipurpose Oil-Filled

Lg.	Wd.	Thick.		Available Grits: 120, 150	220, 320	400, 600	800, 1000, 1200
6″	1/8″	1/8″	47465A111	$2.40	$2.40	$2.62	$4.49
6″	1/4″	1/8″	47465A112	2.69	2.69	3.05	4.72
6″	1/4″	1/4″	47465A113	2.87	2.87	3.53	4.72
6″	3/8″	3/8″	47465A114	4.63	4.63	4.91	9.83
6″	1/2″	1/16″	47465A115	2.40	2.40	2.75	4.72
6″	1/2″	1/8″	47465A116	2.97	2.97	3.53	5.29
6″	1/2″	1/4″	47465A117	3.87	3.87	4.35	7.20
6″	1/2″	1/2″	47465A118	4.91	4.91	6.14	11.38
6″	1″	1/8″	47465A119	4.53	4.53	4.82	8.44
6″	1″	1/4″	47465A121	5.56	5.56	6.51	12.60
6″	1″	1/2″	47465A122	7.39	7.39	8.50	14.88

For Scale Removal

Lg.	Wd.	Thick.		Available Grits: 100, 120, 150, 180	220, 320	400, 600	800, 1000, 1200
6″	1/8″	1/8″	47465A144	$2.40	$2.40	$2.75	$4.19
6″	5/32″	5/32″	47465A143	2.40	2.40	2.77	4.11
6″	1/4″	1/16″	47465A145	2.51	2.51	2.77	4.19
6″	1/4″	1/8″	47465A146	2.51	2.51	2.98	4.42
6″	1/4″	1/4″	47465A147	2.87	2.87	3.34	4.42
6″	3/8″	3/8″	47465A148	4.46	4.46	4.90	9.83
6″	1/2″	1/16″	47465A149	2.62	2.62	2.88	4.42
6″	1/2″	1/8″	47465A151	2.97	2.97	3.34	4.94
6″	1/2″	1/4″	47465A152	3.87	3.87	4.47	6.74
6″	1″	1/8″	47465A153	4.17	4.17	4.71	7.89
6″	1″	1/4″	47465A154	5.55	5.55	6.50	11.77

Long Lasting and Flexible

Lg.	Wd.	Thick.		Available Grits: 120, 180	300	400, 600	800, 1000, 1200
4″	5/64″	1/64″	47465A134	$16.98	$16.98	$16.98	$15.77
4″	5/64″	3/64″	47465A136	16.07	16.07	16.07	14.86
4″	5/32″	1/64″	47465A135	25.47	25.47	25.47	24.26
4″	5/32″	3/64″	47465A137	25.47	25.47	25.47	24.26
4″	15/64″	1/64″	47465A138	38.81	36.48	36.48	36.48
4″	15/64″	3/64″	47465A139	38.81	36.48	36.48	36.48
4″	25/64″	3/64″	47465A141	50.33	47.31	47.31	47.31
2″	1/8″ Dia.	—	47465A142	26.07	24.51	24.51	24.51

For Stainless Steel and Hard Metals

Lg.	Wd.	Thick.		Available Grits: 150	220, 320	400, 600	800, 1000, 1200
6″	1/4″	1/8″	47465A155	$2.86	$2.86	$3.49	$4.98
6″	1/4″	1/4″	47465A156	3.06	3.06	3.64	4.98
6″	1/2″	1/8″	47465A157	3.07	3.07	3.64	5.62
6″	1/2″	1/4″	47465A158	4.05	4.05	5.18	7.64
6″	1″	1/4″	47465A159	6.73	6.73	7.71	13.39
6″	1″	1/2″	47465A161	9.70	9.70	11.48	23.77

For Aluminum and Soft Metals

Lg.	Wd.	Thick.		Available Grits: 150	220, 320	400, 600	800, 1000, 1200
6″	1/4″	1/8″	47465A162	$2.86	$2.86	$3.50	$5.72
6″	1/4″	1/4″	47465A163	3.07	3.07	3.64	4.98
6″	1/2″	1/8″	47465A164	3.07	3.07	3.64	5.62
6″	1/2″	1/4″	47465A165	4.05	4.05	5.18	7.64
6″	1″	1/4″	47465A166	6.73	6.73	7.97	13.40
6″	1″	1/2″	47465A167	9.70	9.70	11.47	23.77

Stone Holders

Hand-held holders are for stones too small to hold by hand. *Tool-mount* holders hold stones in tools that accept a 1/8″ dia. shank.

Wd.	For Stone Size: Thick.		
Hand Held			
15/64″	3/64″	4805A31	$7.14
1/4″-1/2″	1/8″-1/4″	47465A82	6.46
5/16″-25/64″	3/64″	4805A32	7.85
1/8″ Dia.	—	4805A33	10.96
Tool Mount			
1/4″	1/8″	4394A21	6.67

Fast-Cutting Smoothing Stones



Square



Triangular



Round

Also known as Crystolon stones, these stones are made of silicon carbide, which is very sharp and abrades quickly. They're used to maintain molds and dies. Choose the shape that best matches the contour of your work surface. 150 grit stones are gray and 280 grit stones are black. We recommend using a water-soluble or oil-based lubricant (see page 2678) with stones that are not oil filled.

Lg.	Wd.		*Smooth* 150 Grit	*Extra Smooth* 280 Grit
Square				
4″	1/4″	4345A11	$5.94	$5.94
4″	3/8″	4345A12	5.94	5.94
4″	1/2″	4345A13♣	7.56	7.56
Triangular				
4″	1/4″	4346A21	7.57	7.57
4″	3/8″	4346A22	8.20	8.20
4″	1/2″	4346A23	8.20	8.20
Round				
4″	1/4″ Dia.	4347A31♣	12.19	12.19
4″	3/8″ Dia.	4347A32	10.63	10.63
4″	1/2″ Dia.	4347A33	10.63	10.63

♣ Oil filled.

Sharpening Stones


Single-Grit Rectangular


Two-Grit Round


Three Grit


Three Grit with Oil Reservoir

Quickly sharpen straight-blade tools such as chisels, plane blades, and knives with these stones. Use a water-soluble or oil-based lubricant (see page 2678) with stones that are not oil filled, unless otherwise stated. Three-grit stones include oil.

Initial Sharpening—Made of aluminum oxide, which abrades slowly to create a consistent surface. Also known as India stones. They're oil filled, unless noted.

Fast Sharpening—Made of silicon carbide, which is very sharp and abrades quickly. They're also known as Crystolon stones. These stones are oil filled, unless noted.

Long Lasting—Made of ceramic alumina, which is extremely hard and wear resistant. They're not oil filled. No lubricant is required. Clean with water and a scouring pad.

Final Sharpening—Have fine grains that produce a polished finish. Also known as Arkansas stones. They're not oil filled. The *final sharpening kit* includes a 4″ × 1⅝″ × ½″ pink stone, a 3″ × 1″ × ¼″ gray stone (both are approximately 800 grit), oil, and a 23° angle guide.

Also Available: Replacement stones for three-grit sharpeners with oil reservoir. Please order 4505A8 and specify McMaster sharpener part number and grit (100, 150, or 320).

To Order: For single-grit stones, please specify grit. Choose 100-150 for a smooth finish, 220-320 for an extra-smooth finish, or 400-1800 for a polished finish.

Lg.	Wd.	Thick.	Grits		
Single-Grit Rectangular—Please specify grit where necessary					
Initial Sharpening					
3″	⅞″	⅜″	220	4501A47♦	$7.34
4″	1″	¼″	100, 240, 320	4501A11	7.97
4″	1″	½″	100, 240, 320	4501A12	11.13
5″	2″	⅝″	240, 320	4501A13	21.24
6″	2″	1″	100, 240, 320	4501A14	25.19
8″	2″	1″	100, 240, 320	4501A15	29.53
Fast Sharpening					
3″	⅞″	⅜″	280	4399A37♦	6.08
4″	1″	¼″	100, 150, 280	4399A31	9.00
4″	1″	½″	100, 150, 280	4399A32	12.53
5″	2″	⅝″	150, 280	4399A33	23.90
6″	2″	1″	100, 150, 280	4399A34	28.37
8″	2″	1″	100, 150, 280	4399A35	33.23
Long Lasting					
8″	2″	½″	600, 1800	4456A1	65.61
Final Sharpening					
3″	1″	⅜″	600	4348A12	10.91
3″	1″	⅜″	800	4348A11	26.56
4″	1″	⅜″	600	4348A14	10.12
4″	1″	⅜″	800	4348A13	31.90
4″	2″	¾″	600, 800	4496A11	28.45
6″	2″	¾″	600, 800	4496A12	50.76
8″	2″	¾″	600, 800	4496A13	71.55
10″	2″	¾″	600, 800	4496A14	117.47
Final Sharpening Kit				4804A12	22.63
Two-Grit Round					
Initial Sharpening					
4″ Dia.	—	1″	100/320	4506A1	28.34
Fast Sharpening					
4″ Dia.	—	1″	100/280	8739A11	28.43

♦ Not oil filled.

Lg.	Wd.	Thick.	Grits		
Two-Grit Rectangular					
Initial Sharpening					
3″	1½″	½″	100/320	4506A7♦	$11.73
4″	1¾″	⅝″	100/320	4506A4	18.02
6″	2″	1″	100/320	4506A2	27.48
8″	2″	1″	100/320	4506A3	32.52
11½″	2½″	1″	100/320	4506A5	58.38
Fast Sharpening					
4″	1¾″	⅝″	100/280	8739A12	18.00
6″	2″	1″	100/280	8739A13	27.61
8″	2″	1″	100/280	8739A14	32.52
11½″	2½″	1″	100/280	8739A15	58.35
Initial Sharpening/Fast Sharpening					
6″	2″	1″	150/320	8738A33	39.98
11½″	2½″	1″	150/320	8738A54	80.22
Initial Sharpening/Final Sharpening					
6″	2″	1″	100/600	8738A11	61.60
Long Lasting					
5″	1″	¼″	600/1800	4456A18	48.84
Final Sharpening					
4″	2″	½″	400/800	6160A41	27.84
6″	2″	½″	400/800	6160A43	47.70
8″	2″	½″	400/800	6160A45	64.35
10″	2″	½″	400/800	6160A46	79.95
Three Grit					
Fast Sharpening/Final Sharpening × 2					
6″	1⅝″	½″	180/220/320	4549A21	68.18
Three Grit—With Oil Reservoir					
Initial Sharpening/Fast Sharpening × 2					
6″	2″	½″	100/150/320	4505A6	105.23
11½″	2½″	½″	100/150/320	4505A1	242.70

Sharpening Stones for Hard Metals



Sharpen carbide and high-speed steel straight-blade cutting tools with this boron carbide stone, which will last twice as long as diamond stones and up to 10 times as long as silicon carbide stones. The plastic handle has a built-in 2X magnifier. The stone is 1⅝″ Lg. × ½″ Wd. × 3⁄16″ Thick. Overall length is 7″. Color is dark gray.

To Order: Please specify grit: 240 or 320 (extra-smooth finish) or 400 (polished finish).

8737A7	$43.45

Sharpening Stones for Machine-Mount Blades



A groove around the center of the stone provides a secure grip and protects your fingers while sharpening. The stone is made of silicon carbide, which is very sharp and abrades quickly. Also known as Crystolon stones. They're not for use on serrated blades. One side is 120 grit (dark gray, smooth finish); the other is 280 grit (gray, extra-smooth finish). Size is 4″ Dia. × 1½″ Thick.

4474A4	$23.68

Wood-Handled Sharpening Stones



A handle makes these stones easy to use. They're good for sharpening straight blades that are permanently mounted, such as post hole diggers. The stone is made of silicon carbide, which is very sharp and abrades quickly. Also known as Crystolon stones. Color is dark gray. Choose 100 or 150 grit for a smooth finish and 280 grit for an extra-smooth finish.

Grit	Lg.	Wd.	Thick.	O'all Lg.		
100	10″	1¼″	¾″	14″	4513A13▲	$22.21
150	9⅛″	15⁄16″	1¼″	14¾″	4513A22	18.31
100/280	10″	1¼″	¾″	14¾″	4513A23	23.46

▲Stone has a tapered end; dimensions given are for smaller end.

Butcher Steels



Quickly align and sharpen straight-blade knives. All have a plastic handle with a hand guard.

Edge Straightener—Made of hardened steel.

Edge Straightener and Sharpener—Made of 600-grit diamond bonded to a steel rod.

Lg.	Dia.	O'all Lg.		
Edge Straightener				
10″	½″	15″	3846A44	$30.23
12″	½″	17″	3846A45	32.63
14″	½″	19″	3846A46	35.33
Edge Straightener and Sharpener				
10″	7⁄16″	16⅛″	3790A11	47.26

Sharpening Stones & Tools

For information about finishing, see page 2675.

Diamond Sharpening Stones

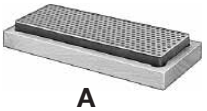
A


B

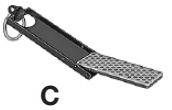
C


D


E

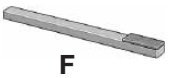
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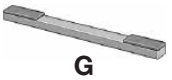
G


H


J


K

Sharpen cutting tools and chisels with these diamond stones, which are very hard and long lasting. Use dry or with water; no messy lubricants are needed. To clean, rinse with water.

Choose 100 or 150 grit for a smooth finish, 220-325 grit for an extra-smooth finish, and 400-1200 grit for a polished finish.

Style	*Diamond Area* Lg.	Wd.	O'all Lg.	Available Grits		
For Straight Blades—Single Grit						
A Bench	6″	2″	6″	220, 325, 600, 1200	**4598A4**	$61.58
B Standard	3 3/8″	7/8″	4 1/4″	325, 600	**4598A3**	31.73
C Pocket Size	2 11/16″	15/16″	6″	220, 325, 600, 1200	**4598A1**	13.15
D Folding	4 11/32″	7/8″	9 1/2″	220, 325, 600, 1200	**4598A7**	28.98
E For Hard-to-Reach Blades	2″	3/4″	6″	250, 400, 600, 1200	**43545A55**	8.28
F For Small Blades	1″	3/8″	5″	100, 150, 220, 320, 400	**4511A51**	31.11
H Wide Profile for Long Blades	2″	3 1/4″	3 1/4″	150, 250, 400, 600	**43735A11**	17.76
For Straight Blades—Two Grit						
A Bench	8″	2 5/8″	12″	220/325, 325/600, 325/1200, 600/1200	**4598A82**	120.62
A Bench	10″	4″	12″	220/325, 325/600, 325/1200, 600/1200	**4598A92**	166.40
D Folding	4 11/32″	7/8″	9 1/2″	220/325, 325/600, 600/1200	**4598A8**	48.65
G For Small Blades	1″	3/8″	5″	100/320, 150/320, 220/320, 320/400, 320/600	**4511A52**	45.56
For Curved and Serrated Blades—Single Grit						
J Standard	3 3/4″	1/4″ Dia.	8″	600	**4353A11**	22.20
K Folding	4″	1/16″-1/4″ Dia.	9 1/2″	325, 600	**4353A16**	30.27

Four-Piece Set for Straight Blades—Contains one *standard* (Style B) stone in each of the following grits: 220 and 325 (extra-smooth finish), and 600 and 1200 (polished finish). Overall length is 4 1/4″. They come in a fabric roll pouch. **4598A48** $77.83

Knife and Shear Sharpeners


For Straight Blades


Adjustable Angle for Straight Blades


Pocket Size for Straight and Serrated Blades


Four-Stone Diamond Kit

Restore sharp edges to dull knife and shear blades.

Sharpeners for Straight Blades—The *single-grade* sharpener has coarse carbide stones. The *two-grade* sharpener has coarse carbide and fine ceramic stones.

Adjustable-Angle Sharpener for Straight Blades—Turn the dial to adjust the angle of the stones to match the angle of your blade. It also includes a fixed-angle guide for serrated blades. Stones are coarse carbide and fine ceramic.

Pocket-Size Sharpener for Straight and Serrated Blades—Has a medium diamond stone for serrated blades, a coarse carbide stone for straight blades, and a fine ceramic stone for straight and serrated blades.

Kit—Includes extra-fine (1,200 grit), fine (600 grit), and coarse (325 grit) diamond stones for use on straight blades and a fine (600 grit) diamond stone for use on serrated blades. Stones are 4" long. Kit also includes stone holder, adjustable-angle guide, and carrying case.

Style		
Individual Sharpeners		
For Straight Blades—Single Grade	**3663A41**	$7.91
For Straight Blades—Two Grade	**3663A43**	12.22
Adjustable Angle for Straight Blades	**3663A44**	29.06
Pocket Size for Straight and Serrated Blades	**3663A45**	12.22
Replacement Carbide Stones for 3663A41 (Set of 2)	**3663A42**	3.71
Kit		
Four-Stone Diamond	**4555A27**	89.47

Landscaping Equipment Sharpeners


Chain Saw


Tool and Blade

Use this kit and a Dremel-style tool to quickly sharpen blades on tools such as chain saws, hoes, and knives. Kit includes three long-lasting precision-ground bits with a 1/8″ dia. shank and a 30° angle guide for chain saws, plus an aluminum oxide bit with a 1/8″ dia. shank and two angle guides (30° and any- angle) for tools and blades.

4471A13 $20.58

Lubricants for Smoothing and Sharpening Stones

These solutions lubricate and prevent material buildup.

Water-Soluble Lubricants—Easier to clean from your workpiece than oil-based lubricants.

Oil-Based Lubricants—Nonstaining, chlorine free, sulfur free, and won't corrode metals. Use full strength. Meet U.S. Pharmacopeia standards for mineral oil purity.

Size		
Water Soluble		
8 oz.	**44555A11**	$5.30
1 gal.	**44555A77**	23.02
Oil Based		
4 1/2 oz.	**1386K41**	6.74
16 oz.	**1386K42**	12.67
32 oz.	**1386K43**	20.71

Honing Oil

Oil keeps cylinder hones clean, which allows them to continue abrading and polishing. It's nonstaining and chlorine free. Contains sulfur. Use full strength on all metals.

Size		
1 gal.	**1823K1**	$28.33
5 gal.	**1823K2**	110.00

Electric Knife Sharpeners


For Straight Blades


Adjustable Angle for Straight Blades


For Straight and Serrated Blades

Diamond stones restore razor-sharp edges to your knife blades. All sharpeners include an angle guide. Operate on 120 volts AC.

Sharpener for Straight Blades—Has a fixed-angle guide and a 3-ft. power cord with two-prong plug.

Adjustable-Angle Sharpener for Straight Blades—Twist the dial to adjust the angle guide to match the angle of your blade. It includes a ceramic stone and a manual sharpener with a fixed-angle guide for serrated blades. Has a 3-ft. power cord with two-prong plug.

Sharpener for Straight and Serrated Blades—Has a fixed-angle guide and a 7-ft. power cord with three-prong plug. UL listed.

Motor rpm	Amps	Lg.	Wd.	Ht.		
For Straight Blades						
3,450	1.2	9″	3½″	4½″	**45605A82**	$91.67
Adjustable Angle for Straight Blades						
1,200	1.2	11″	6½″	4½″	**45605A11**	180.00
For Straight and Serrated Blades						
1,750	1.7	12″	5″	5″	**45605A83**	450.00
Replacement Sharpening Unit for 45605A83					**45605A91**	129.60
Replacement Angle Guide for 45605A83					**45605A94**	8.00

Drill Bit Sharpeners


Standard


Heavy Duty

Quickly sharpen drill bits with these sharpeners. Both include a guide that creates accurate point angles. Operate on 120 volts AC.

Standard Sharpener—Use to sharpen high-speed steel, cobalt steel, and carbide drill bits in sizes 3/32″-3/4″, A-Z, 1-42, and 2.5-19 mm. The angle guide sets the sharpening angle from 115° to 140°. Use on any length bits. The wheel is 1″ Dia. × 3/4″ Thick., 180-grit diamond. Has a 6-ft. power cord with three-prong plug. UL listed.

Heavy Duty Sharpener—Has a wheel that doesn't require coolants and never needs truing or dressing. Use to sharpen high-speed and cobalt steel bits in sizes 1/8″-3/4″, A-Z, 1-30, and 3-19 mm. The angle guide sets the sharpening angle from 118° to 140°. Use on bits 2″ and longer. The wheel is 3″ Dia. × 5/8″ Thick., 180-grit CBN. Has a 6-ft. power cord with three-prong plug. To sharpen carbide bits, use the *optional 180-grit diamond wheel*.

Motor rpm	Amps	Lg.	Wd.	Ht.		
Standard						
15,000	1.8	5″	7½″	4½″	**4440A41**	$175.80
Heavy Duty						
3,450	4.5	12″	11″	9″	**4432A11**	1,492.67
Replacement Diamond Wheel for 4440A41					**4440A42**	23.28
Optional 100-Grit Diamond Wheel for 4440A41					**4440A43**	23.28
Replacement Chuck for 4440A41					**4440A44**	45.68
Replacement CBN Wheel for 4432A11					**4432A12**	222.92
Optional 180-Grit Diamond Wheel for 4432A11					**4432A13**	241.50

Electric Shear Sharpeners

The angle guides on these sharpeners help you create accurate, sharp edges on your shears. Operate on 120 volts AC.

Sharpener for Straight Blades—Has diamond stones, a fixed-angle guide, and a 3-ft. power cord with two-prong plug.

Sharpener for Straight Blades and Pinking Shears—Comes with two 5″ Dia. × 1/2″ Thick. wheels: a 100-grit aluminum oxide sharpening wheel and a buffing wheel. The angle guide sets the sharpening angle from 0° to 55°. Has a 6-ft. power cord with three-prong plug.


For Straight Blades

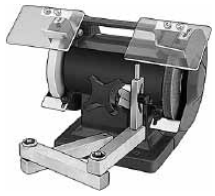
For Straight Blades and Pinking Shears

Motor rpm	Amps	Lg.	Wd.	Ht.		
For Straight Blades						
3,450	1	7½″	3½″	4″	**45605A84**	$86.67
For Straight Blades and Pinking Shears						
3,450	3.5	9½″	6½″	8″	**4515A11**	449.50
Replacement Aluminum Oxide Wheel for 4515A11					**4515A22**	25.46
Replacement Buffing Wheel for 4515A11					**4515A23**	83.59

Precision-Finish Cylinder Hones

An adjustable dial allows for quick and precise cylinder sizing in micrometer increments. To use, clip two stones and two felt cleaning wipers onto the four holders. Stones are silicon carbide, which is very sharp and abrades quickly. Use on portable drills to hone most metals. We recommend using them with honing oil to keep the abrasive surface clean (see page 2678).



Hones

The set for *small* cylinders includes six 180-grit stones, six wipers, and four holders.

The set for *large* cylinders includes a 1/2″ dia. driver extension, two 80-grit stones, two 180-grit stones, four wipers, and four holders. Larger holders are sold separately to use the hone on larger cylinders.

For Cylinder ID	Shaft Dia.	O'all Lg.	Stone Lg.	Max. rpm		
Small 1.75″- 2.75″	½″	14″	3.5″	750	**7362A45**	$192.27
Large 3″- 4.25″	½″	17″	5″	500	**6673A12**	179.24

Optional and Replacement Holders for Large Hones

Each set includes four holders: two for stones and two for wipers.

For Cylinder ID			For Cylinder ID		
2.75″-3.75″	**6673A21**	$27.70	4″-6.25″	**6673A18**	$27.70
3″-4.25″	**6673A17**	27.70	6.13″-10.25″	**6673A19**	30.92

Optional and Replacement Stone and Wiper Sets

Each set includes two stones and two wipers.

For Cylinder ID	Smooth 80 Grit	Extra Smooth 180 Grit	Extra Smooth 280 Grit	Polished 500 Grit	
For Small Hones					
1.75″-2.2″	**7362A61**	**7362A51**	**7362A71**	_____	$24.96
2.05″-2.5″	**7362A62**	**7362A52**	**7362A72**	_____	24.96
2.35″-2.75″	**7362A63**	**7362A53**	**7362A73**	_____	24.96
For Large Hones					
2.75″-3.75″	**6673A27**	**6673A26**	**6673A25**	_____	24.43
3″-10.25″	**6673A16**	**6673A14**	**6673A13**	**6673A15**	19.00

Flexible Precision-Finish Cylinder Hones

Access hard-to-reach areas with the flexible shaft on these hones. An adjustable dial lets you control the amount of pressure applied to the side of the cylinder and the resulting finish. The stones are made of silicon carbide, which is very sharp and abrades quickly. They have a square end that can hone to the bottom of step-cut and closed-end holes. Use on portable drills to hone most metals. We recommend using them with honing oil to keep the abrasive surface clean (see page 2678).



For Cylinder ID	Shaft Dia.	O'all Lg.	No. of Stones Included	Grit	Stone Lg.	Max. rpm	Hones	Each	Replacement Stones Available Grits	
11/16″-2 1/2″	¼″	8″	2	240	1 1/8″	1,500	**6713A21**	$16.55	240	**6713A22** $4.65
27/32″-2″	¼″	8″	3	240	1 1/8″	1,500	**6713A12**	16.76	240	**6713A14** 5.40
1 1/2″-3 1/8″	¼″	8″	3	240	1″	1,500	**6713A16**	17.21	240	**6713A17** 7.05
2″-7″	¼″	13″	3	220	3″	1,200	**6678A12**	34.73	220, 240	**6678A11** 8.98

Flexible Cylinder Hones



The abrasive in these hones is embedded in balls at the ends of flexible plastic spindles. They press against the inside of a cylinder to remove material and leave a smooth, even finish. Hones are slightly oversized to maximize contact with the work surface. Note: When your cylinder ID falls between two sizes, order the larger size hone.

Stems are twisted wire, except hones for 9″ and 10″ cylinder IDs have hex shanks. Use with portable drills, drill presses, and CNC machines. Hones should be rotating when inserted into or removed from cylinders. We recommend using them with honing oil to keep the abrasive surface clean (see page 2678).

Color-coding on the hone tip identifies the grit: 120 grit has no color (unless noted), 180 grit is red, 240 grit is blue, 320 grit is white, 340 grit is yellow, 600 grit is pink (unless noted), and 800 grit is light blue.

Choose 120 or 180 grit for a smooth finish; 240-340 grit for an extra-smooth finish; and 600 or 800 grit for a polished finish.

Multipurpose—Embedded with silicon carbide, which is very sharp and abrades quickly.

For Aluminum and Soft Metals—Embedded with aluminum oxide, which has blunt edges that won't clog the hone, especially when used with honing oil.

For Stainless Steel and Hard Metals—Embedded with diamond, which is very hard and long lasting. The grits listed are approximate. 120-grit hones have a red tip and 600-grit hones have a light blue tip.

Multipurpose Hones and Hones for Aluminum and Soft Metals

For Cylinder ID	Stem Dia.	O'all Lg.	Abrasive Lg.	Recommended rpm		Available Grits: Multipurpose 120, 180	Multipurpose 240	Multipurpose 320	Multipurpose 600, 800	For Aluminum and Soft Metals 120, 180	For Aluminum and Soft Metals 240	For Aluminum and Soft Metals 320	For Aluminum and Soft Metals 600, 800
3/16″	0.073″	6″	3/4″	1,000-1,200	4424A881★	$18.47	$19.02	$26.91	$33.90	$22.59	$23.94	$33.90	$33.90
1/4″	0.112″	8″	1 1/2″	1,000-1,200	4424A882	11.63	12.31	17.46	20.95	13.96	14.76	20.95	20.95
1/2″	0.168″	8″	2 1/2″	900-1,000	4424A883	15.24	16.11	22.78	27.33	18.25	19.33	27.33	27.33
5/8″	0.19″	8″	2 1/2″	900-1,000	4424A884	16.15	17.10	24.21	29.06	19.40	20.52	29.06	29.06
3/4″	0.19″	8″	2 1/2″	900-1,000	4424A885	17.00	18.00	25.50	30.61	20.42	21.60	30.60	30.60
7/8″	0.22″	8″	3″	900-1,000	4424A886	17.16	18.21	25.77	30.92	20.63	21.88	30.92	30.92
15/16″	0.22″	8″	3″	900-1,000	4424A887	17.77	18.83	26.67	31.97	21.33	22.58	31.97	31.97
1″	0.22″	8″	3″	900-1,000	4424A888	18.33	19.46	27.48	32.98	22.00	23.33	32.97	32.97
1 1/8″	0.245″	8″	3″	900-1,000	4424A889	19.30	20.46	28.96	34.77	23.15	24.52	34.78	34.78
1 1/4″	0.245″	8″	3″	900-1,000	4424A891	20.80	22.04	31.23	37.48	24.94	26.44	37.48	37.48
1 3/8″	0.245″	8″	3″	900-1,000	4424A892	21.36	22.67	32.09	38.48	25.60	27.19	38.48	38.48
1 1/2″	0.245″	8″	3″	900-1,000	4424A893	22.94	24.30	34.36	41.23	27.54	29.15	41.23	41.23
1 5/8″	0.245″	8″	3″	900-1,000	4424A894	22.96	24.29	34.42	41.32	27.56	29.15	41.31	41.31
1 3/4″	0.245″	8″	3″	900-1,000	4424A895	23.96	25.40	35.96	43.12	28.76	30.49	43.12	43.12
1 7/8″	0.245″	8″	3″	900-1,000	4424A896	24.11	25.89	36.60	43.93	29.27	31.04	43.92	43.92
2″	0.245″	8″	3″	600-900	4424A897	24.84	26.35	37.29	44.73	29.79	31.60	44.73	44.73
2 1/8″	0.245″	5″	1 1/2″	600-900	4424A898	25.27	26.79	37.90	45.48	30.33	32.15	45.48	45.48
2 1/8″	0.245″	8″	3″	600-900	4424A899	25.89	27.42	38.81	46.56	31.04	32.90	46.56	46.56
2 1/4″	0.245″	8″	3″	600-900	4424A901	26.92	28.51	40.35	48.44	32.29	34.23	48.44	48.44
2 3/8″	0.245″	8″	3″	600-900	4424A902	27.95	29.65	41.94	50.31	33.56	35.57	50.31	50.31
2 1/2″	0.245″	5″	1 1/2″	600-900	4424A903	27.76	29.06	41.60	49.90	33.30	35.28	49.90	49.90
2 1/2″	0.245″	8″	3″	600-900	4424A904	28.98	30.73	43.46	52.15	34.80	36.85	52.15	52.15
2 5/8″	0.245″	8″	3″	600-900	4424A905	30.52	32.34	45.77	54.92	36.62	38.80	54.92	54.92
2 3/4″	0.245″	8″	3″	600-900	4424A906	31.99	33.90	48.00	57.60	38.42	40.69	57.60	57.60
2 7/8″	0.245″	8″	3″	600-900	4424A907	34.58	36.64	51.85	62.23	41.48	44.00	62.23	62.23
3″	0.245″	8″	3″	600-900	4424A908	37.12	39.40	55.73	66.85	44.54	47.29	66.85	66.85
3 1/8″	0.245″	5″	1 1/2″	600-900	4424A909	37.10	39.32	55.58	66.69	44.50	47.17	66.69	66.69
3 1/4″	0.31″	13 1/2″	3 1/2″	600-900	4424A911	41.90	44.44	62.85	75.44	50.29	53.31	75.44	75.44
3 1/2″	0.31″	13 1/2″	3 1/2″	600-900	4424A912	44.64	47.32	67.02	80.42	53.56	56.79	80.42	80.42
3 3/4″	0.31″	13 1/2″	3 1/2″	600-900	4424A913	48.08	50.98	72.12	86.56	57.71	61.17	86.56	86.56
4″	0.31″	13 1/2″	6″	350-600	4424A914	73.88	78.31	110.79	132.94	88.65	93.98	132.94	132.94
4 1/8″	0.31″	13 1/2″	4″	350-600	4424A915	51.15	54.23	76.75	92.12	61.40	65.06	92.12	92.12
4 1/4″	0.31″	13 1/2″	6″	350-600	4424A916	78.94	83.69	117.90	141.48	94.77	100.44	141.48	141.48
4 1/2″	0.31″	13 1/2″	6″	350-600	4424A917	84.04	89.08	126.06	151.29	100.85	106.90	151.29	151.29
4 5/8″	0.31″	13 1/2″	4″	350-600	4424A918	57.02	60.42	85.52	102.62	68.42	72.50	102.62	102.62
5″	0.35″	17 1/2″	6″	350-600	4424A919	95.65	101.40	143.46	172.15	114.75	121.65	172.15	172.15
5 1/2″	0.35″	17 1/2″	6″	350-600	4424A921	104.90	111.17	157.40	188.85	125.88	133.42	188.85	188.85
6″	0.42″	17 1/2″	6 1/4″	350-600	4424A922	113.67	120.46	170.50	204.65	136.40	144.54	204.65	204.65
6 1/2″	0.42″	17 1/2″	6 1/4″	350-600	4424A923	122.50	129.85	183.75	218.45	146.98	155.81	220.50	220.50
7″	0.42″	17 1/2″	7″	350-600	4424A924	133.56	141.56	200.35	240.46	160.27	169.90	240.46	240.46
8″	0.42″	17 1/2″	7 1/4″	225-300	4424A925	171.24	181.56	256.91	____	192.67	204.23	289.02	____
9″	0.5″ Hex	34″	8″	225-300	4424A926	307.18	325.62	460.78	____	287.98	305.27	431.98	____
10″	0.5″ Hex	34″	8″	225-300	4424A927	313.64	332.47	470.49	____	294.04	311.71	441.08	____
Other sizes up to 18″					4424A569								
4 mm	0.055″	6″	3/4″	1,000-1,200	4424A928★	18.51	19.62	27.77	33.33	22.21	23.55	33.33	33.33
4.5 mm	0.055″	6″	3/4″	1,000-1,200	4424A929★	18.22	19.31	27.33	32.79	21.85	23.19	32.79	32.79
5 mm	0.083″	8″	1 1/2″	1,000-1,200	4424A931	17.36	18.40	26.04	31.24	20.84	22.09	31.24	31.24
5.5 mm	0.083″	8″	1 1/2″	1,000-1,200	4424A932	17.64	18.71	26.47	31.78	21.17	22.44	31.78	31.78
6 mm	0.112″	8″	1 1/2″	1,000-1,200	4424A933	17.47	18.52	26.20	31.45	20.96	22.22	31.45	31.45
6.4 mm	0.112″	8″	1 1/2″	1,000-1,200	4424A934	11.63	12.31	17.46	20.95	13.96	14.76	20.95	20.95
7 mm	0.125″	8″	2″	1,000-1,200	4424A935	11.75	12.42	17.77	21.08	14.11	14.91	21.08	21.08
8 mm	0.14″	8″	2″	1,000-1,200	4424A936	12.30	13.05	18.43	22.11	14.75	15.65	22.11	22.11
9 mm	0.14″	8″	2″	1,000-1,200	4424A937	12.81	13.58	19.22	23.04	15.39	16.30	23.04	23.04
9.5 mm	0.14″	8″	2″	1,000-1,200	4424A938	14.15	15.02	21.22	25.48	16.98	18.00	25.48	25.48
10 mm	0.14″	8″	2″	1,000-1,200	4424A939	14.31	15.14	21.46	25.75	17.17	18.17	25.75	25.75
11 mm	0.14″	8″	2″	1,000-1,200	4424A941	14.62	15.49	21.90	26.30	17.56	18.61	26.29	26.29
12 mm	0.168″	8″	2 1/2″	1,000-1,200	4424A942	14.94	15.86	22.38	26.85	17.94	18.98	26.85	26.85
14 mm	0.19″	8″	2 1/2″	900-1,000	4424A943	15.27	16.19	22.94	27.52	18.34	19.44	27.52	27.52
18 mm	0.19″	8″	2 1/2″	900-1,000	4424A944	16.58	17.57	24.84	29.81	19.90	21.06	29.81	29.81
20 mm	0.19″	8″	2 1/2″	900-1,000	4424A945	17.08	18.10	25.62	30.75	20.52	21.71	30.76	30.76

★ Not available in 120 grit.

(Continued on following page)

Flexible Cylinder Hones *(Continued from previous page)*

Hones for Stainless Steel and Hard Metals

For Cylinder ID	Stem Dia.	O'all Lg.	Abrasive Lg.	Recommended rpm		Available Grits For Stainless Steel and Hard Metals 120	340	600
3/16"	0.073"	6"	3/4"	1,000-1,200	4544A11	$23.90	$33.89	$34.64
1/4"	0.112"	8"	1 1/2"	1,000-1,200	4544A13	15.49	22.90	23.44
1/2"	0.168"	8"	3/4"	900-1,000	4544A14	24.81	35.23	36.88
5/8"	0.19"	8"	2 1/2"	900-1,000	4544A15	28.21	39.85	40.92
3/4"	0.19"	8"	2 1/2"	900-1,000	4544A16	42.46	51.87	62.29
7/8"	0.22"	8"	3"	900-1,000	4544A17	58.15	71.10	85.94
15/16"	0.22"	8"	3"	900-1,000	4544A18	58.15	71.10	85.94
1"	0.22"	8"	3"	900-1,000	4544A19	88.12	108.54	132.75
1 1/8"	0.245"	8"	3"	900-1,000	4544A21	108.00	132.79	162.46
1 1/4"	0.245"	8"	3"	900-1,000	4544A22	130.83	158.81	198.19
1 3/8"	0.245"	8"	3"	900-1,000	4544A23	143.50	177.10	217.77
1 1/2"	0.245"	8"	3"	900-1,000	4544A24	187.62	232.21	286.58
4 mm	0.055"	6"	3/4"	1,000-1,200	4544A25	23.59	34.47	35.18
4.5 mm	0.055"	6"	3/4"	1,000-1,200	4544A26	23.29	34.15	34.96
5 mm	0.083"	8"	1 1/2"	1,000-1,200	4544A27	22.93	33.68	34.49
5.5 mm	0.083"	8"	1 1/2"	1,000-1,200	4544A28	23.05	33.69	34.43
6 mm	0.112"	8"	1 1/2"	1,000-1,200	4544A29	22.80	33.44	34.18
6.4 mm	0.112"	8"	1 1/2"	1,000-1,200	4544A31	15.49	22.90	23.44
7 mm	0.125"	8"	2"	1,000-1,200	4544A32	16.64	24.26	25.06
8 mm	0.14"	8"	2"	1,000-1,200	4544A33	19.47	28.14	29.36
9 mm	0.14"	8"	2"	1,000-1,200	4544A34	20.20	29.40	30.35
9.5 mm	0.14"	8"	2"	1,000-1,200	4544A35	22.31	32.12	33.15
10 mm	0.14"	8"	2"	1,000-1,200	4544A36	23.42	32.46	33.88
11 mm	0.14"	8"	2"	1,000-1,200	4544A37	23.65	33.06	34.46
12 mm	0.168"	8"	2 1/2"	1,000-1,200	4544A38	24.17	34.69	36.35
14 mm	0.19"	8"	2 1/2"	900-1,000	4544A39	25.96	37.71	39.46
18 mm	0.19"	8"	2 1/2"	900-1,000	4544A41	33.94	44.52	48.62
20 mm	0.19"	8"	2 1/2"	900-1,000	4544A42	44.23	55.19	66.17

Hones Made of Boron Carbide, Tungsten Carbide, Alumina Zirconia, Levigated Alumina, Ceramic, and Cubic Boron Nitride

To Order: Please ask for 4424A999 and specify abrasive, cylinder ID, and grit.

Expandable Brass Cylinder Laps

Precisely match the inside diameter of a cylinder with these laps, which expand up to 15% with the twist of a screw. They have a soft brass barrel; the shank and adjusting screw are steel. The adjusting screw in *closed-end hole* laps is recessed so the barrel can reach into the bottom of the hole. Use them with lapping paste (see pages 2682-2683).

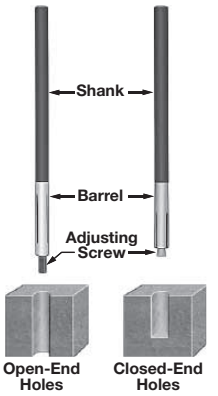

	For Open-End Holes						*For Closed-End Holes*					
	Complete Laps				Replacement Barrels		Complete Laps				Replacement Barrels	
For Cylinder ID	O'all Lg.	Barrel Lg.					O'all Lg.	Barrel Lg.				
1/8"	2 21/32"	39/64"	4548A31	$5.54	4548A66	$2.45	2 11/32"	1/2"	4380A41	$6.03	4380A43	$2.73
5/32"	3 5/32"	39/64"	4548A32	5.76	4548A67	2.51	2 55/64"	1/2"	4380A42	6.41	4380A44	2.87
3/16"	4 13/64"	15/16"	4548A11	5.87	4548A51	2.52	3 7/8"	57/64"	4380A21	6.74	4380A45	2.56
7/32"	4 7/16"	1 3/32"	4548A12	6.30	4548A52	2.73	3 15/16"	15/16"	4380A22	7.27	4380A46	2.95
1/4"	4 5/8"	1 1/4"	4548A13	6.41	4548A53	2.87	4 9/64"	1 1/8"	4380A23	7.33	4380A47	3.29
9/32"	4 55/64"	1 13/32"	4548A14	6.63	4548A54	3.21	4 3/16"	1 3/16"	4380A24	7.38	4380A48	2.88
5/16"	5"	1 9/16"	4548A15	7.01	4548A55	3.36	4 9/32"	1 9/32"	4380A25	7.82	4380A49	2.94
11/32"	5 25/32"	1 23/32"	4548A16	7.22	4548A56	3.64	4 7/8"	1 3/8"	4380A26	8.04	4380A51	3.85
3/8"	5 59/64"	1 7/8"	4548A17	7.44	4548A57	3.79	5"	1 1/2"	4380A27	8.42	4380A52	3.48
7/16"	6 1/2"	2 3/16"	4548A19	8.17	4548A58	4.20	5 5/8"	1 3/4"	4380A29	9.07	4380A53	4.41
1/2"	7 3/8"	2 1/2"	4548A22	9.07	4548A59	5.04	6"	2"	4380A32	9.62	4380A54	4.44
9/16"	7 5/8"	2 51/64"	4548A23	9.77	4548A61	6.23	6"	2"	4380A33	10.54	4380A55	5.58
5/8"	8 11/32"	3 1/8"	4548A24	13.14	4548A62	6.65	6 1/4"	2"	4380A34	13.46	4380A56	5.94
11/16"	8 11/32"	3 1/8"	4548A42	14.56	4548A46	8.54	6 1/4"	2"	4380A62	13.68	4380A65	7.32
3/4"	8 11/32"	3 1/8"	4548A26	15.59	4548A63	8.58	6 1/4"	2"	4380A36	16.29	4380A57	8.04
7/8"	8 11/32"	3 1/8"	4548A27	16.29	4548A64	10.78	6 1/4"	2"	4380A37	17.00	4380A58	9.60
1"	8 3/8"	3 1/8"	4548A29	17.93	4548A65	13.30	6 1/4"	2"	4380A39	17.71	4380A59	12.00
1 1/8"	9 1/4"	3 1/8"	4548A43	23.90	4548A47	16.24	7 1/2"	2 1/2"	4380A63	19.56	4380A66	13.92
Metric sizes for Open-End Holes up to 25 mm					4548A8							

Miniature Expandable Steel Cylinder Laps

These laps are narrow enough to fit small open-end holes. They include an expander that widens the lap to fit a slightly larger cylinder ID. Use them with lapping paste (see pages 2682-2683).

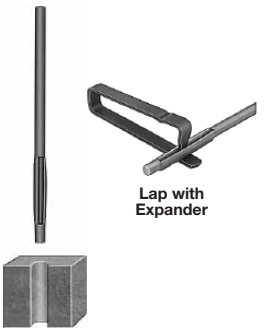

For Cylinder ID	O'all Lg.	Barrel Lg.		Pkg. of 12	For Cylinder ID	O'all Lg.	Barrel Lg.		Pkg. of 12
0.032"	2 1/2"	23/64"	4545A11	$5.77	0.104"	3 9/32"	41/64"	4545A21	$7.74
0.036"	2 1/2"	23/64"	4545A12	5.77	0.12"	3 7/8"	27/32"	4545A22	7.74
0.04"	2 1/2"	23/64"	4545A13	5.77	0.135"	3 9/32"	51/64"	4545A23	7.74
0.046"	2 1/2"	23/64"	4545A14	5.77	0.155"	3 1/4"	1"	4545A24	8.92
0.054"	2 1/2"	23/64"	4545A15	5.77	0.17"	4 3/16"	63/64"	4545A25	8.92
0.062"	2 31/32"	17/32"	4545A16	5.77	0.187"	4"	53/64"	4545A26	8.92
0.07"	3 1/32"	1/2"	4545A17	5.77	0.218"	4 7/64"	13/16"	4545A27	10.71
0.079"	3 1/32"	1/2"	4545A18	5.77	0.25"	4 1/32"	1 7/16"	4545A28	11.60
0.09"	3 1/32"	33/64"	4545A19	7.74					

18-Piece Set— Includes one each of the sizes listed above, plus an expander. 4545A29 $11.45

Lapping Pastes & Plates

For information about finishing, see page 2675. For lapping paste applicators, see pages 2681 and 2685-2687.

Lapping Pastes



Produce a level, scratch-free surface on most metals with these oil-soluble abrasive pastes. Apply them to your workpiece with cylinder laps, buffing wheels and bobs, and lapping and polishing sticks. The microns and grits listed are approximate.

Multipurpose—Contain aluminum oxide.

Fast Lapping—Contain silicon carbide, which is very sharp and abrades quickly.

Long Lasting—Contains synthetic sapphire, which is denser and more wear resistant than aluminum oxide.

Microns	Grit	2 oz.		12 oz.	
Multipurpose—Polished					
22	400	4807A27	$11.91	4807A67	$35.47
16	600	4807A28	11.91	4807A68	35.47
10	800	4807A36	12.18	4807A76	46.44
9	900	4807A33	24.85	4807A73	94.22
5	1200	4807A43	13.70	4807A83	51.57
4	1400	4807A47	13.39	4807A87	54.75
2	1800	4807A49	16.56	4807A89	49.43
1	2000	4807A45	14.85	4807A85	61.67
Fast Lapping—Smooth					
145	90	4807A21	9.76	4807A61	27.67
Fast Lapping—Extra Smooth					
60	220	4807A22	10.56	4807A62	29.36
36	320	4807A24	12.47	4807A64	37.61
Fast Lapping—Polished					
26	360	4807A25	13.39	4807A65	39.78
12	800	4807A32	16.09	4807A72	48.50
10	800	4807A35	15.06	4807A75	60.40
9	900	4807A37	20.62	4807A77	70.27
8	1000	4807A41	20.62	4807A81	70.27
Long Lasting—Polished					
1	2000	_____	____	4778A5■	66.93

■ 16 oz.

Clover Lapping Pastes



For fast lapping on most metals, these pastes contain silicon carbide, which is very sharp and abrades quickly. Apply them to your workpiece with cylinder laps, buffing wheels and bobs, and lapping and polishing sticks. The microns and grits listed are approximate. Size is 16 oz.

Oil-soluble pastes won't cause corrosion. Use **water-soluble** pastes where oil could contaminate your work surface.

Microns	Grit	Oil Soluble		Water Soluble	
Smooth					
267	80	4779A86	$33.98	4908A56	$33.77
173	100	4779A52	33.98	4908A55	33.77
142	120	4779A46	33.98	_____	____
86	180	4779A41	33.98	4908A52	33.77
Extra Smooth					
66	220	4779A35	33.98	4908A51	33.77
63	240	4779A29	33.98	_____	____
44	280	4779A24	33.98	4908A48	35.40
33	320	4779A18	35.68	4908A47	41.69
Polished					
23	400	4779A13	35.68	4908A46	42.92
14	600	4779A76	56.46	4908A44	67.09
9	800	4779A96	75.62	4908A43	68.47
5	1000	_____	____	4908A42	67.09
3	1200	4779A98	78.28	4908A41	81.89

Oil-Soluble Assortment—Includes 2 oz. each of the following microns: 142 (smooth) and 44 (extra smooth). 4779A42 $15.05

Lapping Pastes for Stainless Steel and Hard Metals

Second in hardness only to diamonds, the boron carbide in these oil-soluble pastes works well on hard metals such as stainless steel. Apply them to your workpiece with cylinder laps, buffing wheels and bobs, and lapping and polishing sticks. The microns and grits listed are approximate. Size is 4 oz.

Microns	Grit		
Rough			
356	46	4921A56	$60.87
Smooth			
165	80	4921A62	60.87
122	100	4921A63	60.87
102	120	4921A57	60.87
89	150	4921A58	60.87
76	180	4921A64	60.87
Extra Smooth			
60	220	4921A65	68.14
50	240	4921A66	68.14
40	280	4921A59	68.14
35	320	4921A67	68.14
Polished			
25	400	4921A68	81.04
20	500	4921A69	81.04
15	600	4921A71	81.04
12	800	4921A72	81.04
7	1000	4921A73	81.04
5	1200	4921A74	81.04

Lapping Pastes for Aluminum and Soft Metals

The garnet abrasive won't embed into soft metals, preventing scratches and material buildup on your work surface. Apply these oil-soluble pastes to aluminum, brass, and bronze with cylinder laps, buffing wheels and bobs, and lapping and polishing sticks. The microns and grits listed are approximate. Size is 12 oz.

Microns	Grit		
Extra Smooth			
25	400	3404A22	$42.46
Polished			
10	800	3404A21	42.46
4	1400	3404A15	42.46

Lapping Pastes for Curved Surfaces

An additive makes these pastes stick to your workpiece, so they're good for lapping curves and contours. They thin during use for even application and to make cleanup easy.

Pastes are oil soluble and contain both silicon carbide and boron carbide abrasive for use on steel, stainless steel, and hard metals. Apply them to your workpiece with cylinder laps, polishing bobs, and lapping and polishing sticks. The microns and grits listed are approximate.

Microns	Grit	2 oz.		4 oz.	
Extra Smooth					
60	220	4580A33	$35.04	4580A36	$60.00
36	320	4580A34	35.04	4580A37	60.00
Polished					
25	400	4580A23	35.04	4580A26	60.00
16	600	4580A24	35.04	4580A27	60.00

Lapping Plates

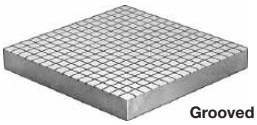

Grooved

Use these precision-ground cast iron plates with lapping pastes and slurries to create a flat surface and ensure a tight, level fit on joints and other mating parts.

The plate with **smooth** surface is for very precise lapping with grains that are 15 microns or smaller. The flatness tolerance on both sides is 0.001″. The plate with **grooved** surface has grooves on one side that capture the abrasive and hold it in place during lapping. Flatness tolerance is 0.0005″ per foot. The **combination** plate has one smooth side and one grooved side. Flatness tolerance on both sides is 0.001″.

Surface	Lg.	Wd.	Thick.	Wt., lbs.		
Smooth	5″	3″	3/4″	5	2352A11	$102.67
Grooved	18″	12″	4″	140	2238A1	470.14
Combination	8″	8″	1″	20	2352A12	166.83

For information about finishing, see page 2675. For lapping paste applicators, see pages 2681 and 2685-2687.

Diamond Lapping Pastes

Use these long-lasting pastes on most metals. Apply to your workpiece with cylinder laps, buffing wheels and bobs, and lapping and polishing sticks. They come in a plastic syringe for easy application, except assortments come in a jar. The microns and grits listed are approximate.

Oil-soluble pastes won't cause corrosion. Use **water-soluble** pastes where oil could contaminate your work surface. **Oil/water-soluble** pastes are easier to clean up than oil-soluble pastes.



Lapping Pastes

Microns	Grit		Oil Soluble 5 gram	Oil Soluble 18 gram	Water Soluble 5 gram	Water Soluble 18 gram	Oil/Water Soluble 5 gram	Oil/Water Soluble 18 gram
Extra Smooth								
60	220	4776A57	$23.64	$79.58	$23.64	$79.58	$23.63	$79.58
40	280	4776A58	23.64	79.58	23.64	79.58	23.63	79.58
Polished								
20	500	4776A59	19.70	66.97	19.70	66.97	19.70	66.97
12	800	4776A61	19.70	66.97	19.70	66.97	19.70	66.97
8	1000	4776A62	19.70	66.97	19.70	66.97	19.70	66.97
4	1400	4776A63	15.86	53.92	15.86	53.92	15.86	53.92
2	1800	4776A64	8.75	31.50	8.75	31.50	8.75	31.50
1	2000	4776A65	11.03	37.04	11.03	37.04	11.03	37.04
0.5	2500	4776A66	14.11	40.63	14.11	40.63	14.11	40.63

Assortments—Include 5 grams each of the following microns: 60 and 40 (extra smooth), and 20, 8, 4, and 2 (polished).

Oil Soluble ..... 4752A22 ..... $121.22

Water Soluble ..... 4752A21 ..... $121.22

Lubricants

Use during lapping to prevent the paste from drying. Choose a lubricant that has the same solubility as your paste.

Size		Oil Soluble	Water Soluble	Oil/Water Soluble
4 oz.	4776A1	$6.63	$6.35	$10.19
1 qt.	4776A2	15.90	11.69	35.95
1 gal.	4776A3	49.25	32.18	113.58

Diamond Lapping Slurries

Thinner than pastes, slurries spread evenly over flat surfaces. Use them with a lapping machine or lapping plate (see page 2682 for plates). Slurries are water soluble, so they are easy-to-clean and can be used where oil could contaminate your work surface. Apply to the plate and rub your workpiece on the surface to create a smooth, level finish on most metals. They contain diamond, which is long lasting. The microns and grits listed are approximate. Size is 1 pt. Cannot be sold in California.

Microns	Grit		
Extra Smooth			
54	240	4857A64	$84.21
36	320	4857A61	84.21
Polished			
20	500	4857A57	72.38
12	800	4857A54	76.84
8	1000	4857A51	68.42
4	1400	4857A47	52.69
3	1600	4857A44	22.28
2	1800	4857A41	22.55
1	2000	4857A37	39.93
0.5	2500	4857A34	39.93
0.2	2500	4857A31	39.93

Diamond Lapping Grains

Mix with oil, grease, or water to create your own long-lasting lapping pastes and slurries. The microns and grits listed are approximate.

Multipurpose—Made of synthetic diamond.

For Stainless Steel and Hard Metals—Made of natural diamond, which is sharper than synthetic diamond.

Microns	Grit		Multipurpose 10 gram	Multipurpose 20 gram	For Stainless Steel and Hard Metals 10 gram	For Stainless Steel and Hard Metals 20 gram
Extra Smooth						
60	220	4941A11	$49.97	$99.98	$75.00	$149.96
40	280	4941A12	49.97	99.98	75.00	149.96
Polished						
20	500	4941A13	49.97	99.98	75.00	149.96
12	800	4941A14	49.97	99.98	75.00	149.96
8	1000	4941A15	49.97	99.98	75.00	149.96
4	1400	4941A16	49.97	99.98	75.00	149.96
2	1800	4941A17	49.97	99.98	75.00	149.96
1	2000	4941A18	49.97	99.98	75.00	149.96
0.5	2500	4941A19	49.97	99.98	75.00	149.96

Lapping Grains

Create your own lapping pastes and slurries by mixing these grains with oil, grease, or water. They can be used on most metals. The microns and grits listed are approximate. Size is 5 lbs.

Multipurpose—Made of aluminum oxide.

Fast Lapping—Made of silicon carbide, which is very sharp and abrades quickly.

Microns	Grit		Multi-purpose	Fast Lapping
Rough				
1092	16	4780A211	$54.18	$52.97
686	24	4780A59	54.18	—
483	36	4780A61	54.18	—
254	60	4780A36	—	52.97
Smooth				
165	80	4780A212	54.41	52.97
122	100	4780A213	54.41	52.97
100	120	4780A214	54.41	52.97
85	150	4780A215	60.87	52.97
70	180	4780A216	60.87	52.97
Extra Smooth				
60	220	4780A52	—	58.68
50	240	4780A217	60.88	62.75
40	280	4780A218	76.92	62.75
35	320	4780A219	76.92	72.64
Polished				
24	400	4780A56	—	87.80
20	500	4780A71	89.89	—
18	600	4780A221	105.60	103.63
10	800	4780A85	—	124.84
8	1000	4780A86	—	147.03
5	1200	4780A73	105.60	—

Timesaving Lapping Grains

The silica grains break down during use, so they function first as an abrasive and then as a polish. Mix them with oil to make your own paste or slurry. The microns and grits listed are approximate.

Available Grits					
Rough	Smooth	Extra Smooth	1 lb.		5 lb.	
For Soft Metals						
80	120	220, 320	4781A4	$26.79	4781A5	$118.10
For Hard Metals						
40, 80	—	220, 320	4781A6	26.79	4781A7	118.10

Assortment—Includes 3 oz. each of the eight grits listed above.

4781A61 ..... $77.50

Lapping Film & Paper and Buffing Compounds

For information about finishing, see page 2675.

No-Mess Lapping Film and Paper

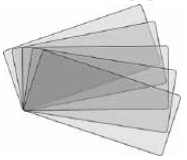
Sheets


Disc

Lap without the mess of pastes and slurries. These waterproof sheets and discs have a plastic film or paper backing coated with abrasive. The microns listed are approximate.

Multipurpose—Coated with aluminum oxide.

For Stainless Steel and Hard Metals—Coated with diamond, which is very hard and long lasting.

For Aluminum and Soft Metals—Coated with silicon carbide, which abrades quickly and prevents material buildup.

For Optics and Lenses—Made of foam embedded with cerium oxide.

Film Sheets for Hand Lapping

Wd.	Lg.	Available Microns: Extra Smooth	Available Microns: Polished	Pkg. Qty.		Pkg.
Multipurpose						
3″	8″	40, 30	20, 15, 12, 9, 5, 3, 1	5	4837A11	$3.30
9″	11″	40, 30	20, 15, 12, 9, 5, 3, 1	5	4837A12	13.16
For Stainless Steel and Hard Metals						
3″	6″	30	15, 9, 6, 3, 1	1	4837A15	19.52

Film Discs for Machine Lapping

Dia.	Available Microns: Extra Smooth	Available Microns: Polished	Pkg. Qty.		Plain Back Pkg.	Adhesive Back Pkg.
Multipurpose						
5″	60, 40, 30	20, 15, 12, 9, 5, 3, 1	5	4837A21	$6.01	$8.45
For Aluminum and Soft Metals						
5″	30	20, 15, 8, 5, 3, 1	5	4837A22	6.01	9.00
For Stainless Steel and Hard Metals						
5″	30	15, 9, 6, 3, 1	1	4837A25	7.60	10.78
For Optics and Lenses						
10″		1	1	4342A11	___	54.35
12″		1	1	4342A12	___	85.13

Paper Discs for Machine Lapping

Dia.	Available Microns: Polished	Pkg. Qty.		Plain Back Pkg.	Adhesive Back Pkg.
For Aluminum and Soft Metals					
8″	5, 3, 1	1	4837A44	$1.67	$2.15
10″	5, 3, 1	1	4837A45	2.35	3.02
12″	5, 3, 1	1	4837A46	3.64	4.68

Glass and Plastic Scratch Removal Kits


Kit for Plastic

Remove minor scratches, scuffs, cloudy surfaces, and hard water etching from glass or plastic. The microns and grits listed are approximate.

Kit for Glass—Includes five 3″ dia. adhesive-back discs coated with cerium oxide: two 10 micron, two 5 micron, and a 1 micron. All produce a polished finish. A cushioned backing pad with 1/4″ diameter shank is also included.

Kit for Glass	4416A21	$41.15
20 Micron (500 Grit) Optional Disc	4416A31	$2.27
10 Micron (800 Grit) Replacement Disc	4416A32	2.27
5 Micron (1200 Grit) Replacement Disc	4416A33	2.27
1 Micron (2000 Grit) Replacement Disc	4416A34	4.07
Replacement 1/4″ Dia. Shank	4416A37	18.65
Replacement Backing Pad	4416A36	28.13

Kit for Plastic—Includes 1 oz. of 0.5 micron (2500 grit) polishing compound embedded with aluminum oxide, a 3″ foam pad, a 3″ felt pad, and a cushioned backing pad with 1/4″ diameter shank.

4416A22 ..... $35.94

Optics Polishing Grains and Bases

Polish mirrors, lenses, and other glass and ceramic surfaces.

Grains—Mix these cerium oxide grains with water to create a paste or slurry, or use with the base to create a compound. Grains are approximately 0.7 microns (2400 grit). Size is 1 lb.

Base—Melt and mix with abrasive grains to create a polishing compound. Size is 2.2 lbs.

Grains	4335A18	$78.19
Base	4335A16	38.17

Smoothing and Buffing Compounds



Use these long-lasting compounds on most metals. Also known as satin buff bars, they're made of aluminum oxide abrasive embedded in glue so they adhere to your buffing wheel. The grits listed are approximate. Compounds are 2 1/2″ Dia. × 7″ Lg. and approximately 2 1/2 lbs.

Available Grits		
Smooth		
80, 120, 150, 180	4795A1	$7.92
Extra Smooth		
240, 300	4795A2	8.28

Available Grits		
Polished		
400	4795A23	$8.76

Buffing and Polishing Compounds



Apply a layer of compound by holding one of these bars against a revolving buffing wheel. Most buffing processes have two steps. The first step, cutting, removes scratches and surface imperfections. The second process, coloring, produces an even finish. Cut and color compounds remove scratches and produce an even finish, all in one step. The microns listed are approximate.

6 oz. compounds are 5″ Lg. × 1″ Wd. × 3/4″ Ht., **1 lb.** are 6 1/4″ Lg. × 1 1/2″ Wd. × 1 1/4″ Ht., and **3 lb.** are 9″ Lg. × 2″ Wd. × 2″ Ht.

	Microns	Color		6 oz.	1 lb.	3 lb.
For Aluminum and Soft Metals						
Smooth (Cutting)	100	Gray	4788A3	$2.92	$4.52	$9.04
Extra Smooth (Cutting)	45	Brown (Tripoli)	4786A2	4.40	4.90	6.24
Extra Smooth (Cut and Color)	35	Brown (Tripoli)	4786A4	2.56	4.08	6.92
Polished (Coloring)	4	White Rouge	4787A2	3.00	5.16	7.54
For Plastic and Hard Rubber						
Extra Smooth (Cutting)	45	Tan	4801A4	2.76	4.28	8.56
Polished (Coloring)	15	Tan	4801A5	3.12	4.88	8.92
For Steel and Stainless Steel						
Extra Smooth (Cutting)	40	Gray	4784A3	4.62	5.70	9.00
Polished (Cut and Color)	5	Yellow	4784A4	4.78	5.82	10.00
Polished (Coloring)	2	White	4785A3	4.78	6.30	11.16
Polished (Coloring)	1	Green	47955A1	5.70	9.06	13.40
For Fiberglass						
Polished (Coloring)	1	Blue	4801A6	3.52	6.16	11.00
For Brass and Copper						
Polished (Coloring)	0.5	Red Rouge	4783A1	6.16	10.36	13.02

4-Piece Assortment—Includes 4 oz. each of the following compounds: smooth (gray), extra smooth cut and color (brown), and polished (white rouge and red rouge). 4794A1 $6.60

6-Piece Assortment—Includes 1 lb. each of the following compounds: extra smooth cut and color (brown), extra smooth cutting (tan) and polished (white rouge, yellow, white, and red rouge). 4802A7 $40.83

Kit—Includes 1 lb. each of the following compounds: extra smooth (gray) and polished (yellow and white). Also includes one cotton and one sisal 6″ Dia. × 1/2″ Thick. × 1/2″ Arbor Hole buffing wheel, and one flannel 6″ Dia. × 1″ Thick. × 1/2″ Arbor Hole buffing wheel. Max. rpm is 3,600.

4518A21 ..... $67.90

For information about finishing, see page 2675.

Buffing Wheels

Use with lapping pastes and buffing compounds to buff your metal workpiece. Mount these wheels on straight spindles, except the 2″ dia. and smaller wheels have a pin-hole center for use on tapered spindles. The 1½″ dia. and smaller wheels can also be mounted on ⅛″ dia. shanks for use on portable tools.

Buffed-finish wheels are cotton and approximately ½″ thick. **Mirror-finish** wheels are flannel, which is softer than cotton and produces a highly polished surface when used with small micron pastes and compounds. They're approximately ¾″ thick. Also known as Canton flannel buffs.

For Flat Surfaces—Layers of cloth are sewn together, making them more rigid than wheels for curved surfaces. They're 30-ply. *Mirror-finish* wheels are also known as jewelers' buffs.

For Curved Surfaces—Loose layers of cloth conform to curves and contours. Wheels are 20-ply.





Dia.	Arbor Hole	Max. rpm		Buffed Finish	Mirror Finish
For Flat Surfaces					
4″	½″	3,200	4818A11	—	$4.30
6″	½″	3,200	4819A1♦	$4.36	7.05
6″	⅝″	3,400	4819A21	4.36	—
8″	½″	3,200	4819A2♦	6.15	11.32
8″	⅝″	3,400	4819A13	6.15	—
8″	¾″	3,400	4819A16	6.15	—
8″	1″	3,400	4819A22	6.15	—
10″	⅝″	3,200	4819A3	10.54	14.46
10″	¾″	3,200	4819A23	10.54	—
10″	⅞″	3,200	4819A24	10.54	—
10″	1″	3,200	4819A25	10.54	—
12″	¾″	3,200	4818A16	—	19.65
12″	1″	3,000	4819A26	11.94	—
12″	1⅛″	3,000	4819A31	11.94	—
For Curved Surfaces					
⅞″	—	2,500	4920A14	.96	—
1″	—	2,500	4920A15	1.04	—
1¼″	—	2,500	4920A16	1.33	—
1½″	—	2,500	4920A17	1.33	—
2″	—	2,500	4920A18	1.93	—
4″	½″	2,500	4817A11	—	3.32
6″	½″	2,500	4820A1♦	3.40	5.76
8″	½″	2,500	4820A2♦	6.00	7.08
8″	¾″	3,400	4820A13	6.00	—
10″	⅝″	2,500	4820A3♦	9.65	11.58
10″	¾″	3,400	4820A15	9.65	—
12″	¾″	2,500	4817A27	—	14.24
12″	1″	3,400	4820A21	12.70	—
12″	1¼″	3,400	4820A16	12.70	—
14″	1¼″	3,400	4820A23	15.89	—

♦ Max. rpm is 3,400 for buffed finish.

⅛″ Shank for ⅞″, 1″, and 1¼″ Dia. Wheels	4920A19	$1.02
⅛″ Shank for 1¼″ and 1½″ Dia. Wheels	4910A52	.71

Aggressive-Polishing Buffing Wheels

Layers of cotton are sewn and cemented together and covered with an outer layer of heavy canvas to create these rigid wheels. Use them as a first step to remove gouges and scratches from metal workpieces. They're also known as setup and polishing wheels. Mount them on straight spindles and use with lapping pastes and buffing compounds.

Wheels *for curved surfaces* are softer than the wheels for flat surfaces so they conform to curves and contours.



Dia.	Thick.	Arbor Hole	Max rpm	For Flat Surfaces		For Curved Surfaces	
6″	½″	½″	5,000	4813A11	$11.86	4832A11	$17.10
6″	1″	½″	5,000	4813A21	17.43	4832A15	16.65
6″	1″	⅝″	5,000	—	—	4832A151	16.65
6″	1″	¾″	5,000	—	—	4832A152	16.65
6″	1½″	½″	5,000	4813A31	32.13	4832A19	33.63
6″	2″	½″	5,000	4813A41	39.48	4832A24	33.16
8″	½″	½″	5,000	4813A12	17.32	4832A12	24.37
8″	1″	½″	5,000	4813A22	27.78	4832A16	26.25
8″	1″	⅝″	5,000	4813A23	29.21	4832A161	26.25
8″	1″	¾″	5,000	4813A24	29.21	4832A162	26.25
8″	1½″	½″	5,000	4813A32	46.24	4832A21	47.72
8″	2″	½″	5,000	—	—	4832A25	49.25
10″	1″	⅝″	5,000	4813A52	46.22	4832A32	47.57
10″	2″	⅝″	5,000	4813A54	70.92	4832A34	64.36
12″	2″	1¼″	5,000	4813A61	94.72	4832A28	85.62

Long-Lasting Buffing Wheels

Pleats in the cloth hold more buffing compound than other buffing wheels, so you can work longer before having to reapply. The cotton is cut at an angle to prevent fraying and extend the wheel life. Use them on flat and curved metal surfaces. Note: These wheels must be used with flanges (sold separately).

Standard—Have a fiber hub that won't fray and unravel. Mount them on straight spindles. All are 15-ply and approximately ⅝″ thick.

Ventilated—Holes in the metal hub allow air to flow through so the wheel stays cool and the compound lasts longer than on standard wheels. Also known as airway buffs. Mount them on tapered and straight spindles. All are 16-ply and approximately ¼″ thick.





Dia.	Arbor Hole	Hub Dia.	Flange OD Required	Max. rpm		
Standard						
8″	⅝″	2½″	4″	3,400	4822A21	$12.68
8″	¾″	2½″	4″	3,400	4822A11	12.68
10″	¾″	4½″	6″	3,200	4822A22	14.56
10″	⅞″	4½″	6″	3,200	4822A23	14.56
10″	1¼″	4½″	6″	3,200	4822A24	14.56
12″	½″	6½″	8″	3,000	4822A12	26.57
12″	¾″	6½″	8″	3,000	4822A14	26.57
12″	⅞″	6½″	8″	3,000	4822A16	26.57
12″	1″	6½″	8″	3,000	4822A13	26.57
12″	1¼″	6½″	8″	3,000	4822A15	26.57
Ventilated						
8″	⅝″	3″	4″	3,600	4833A21	12.18
8″	¾″	3″	4″	3,600	4833A22	12.18
10″	¾″	3″	4″	3,000	4833A11	14.20
10″	⅞″	3″	4″	3,000	4833A17	14.20
10″	1¼″	3″	4″	3,000	4833A13	14.20
12″	½″	5″	6″	2,400	4833A23	19.08
12″	¾″	5″	6″	2,400	4833A24	19.08
12″	⅞″	5″	6″	2,400	4833A25	19.08
12″	1″	5″	6″	2,400	4833A26	19.08
12″	1¼″	5″	6″	2,400	4833A14	19.08

Buffing Wheels for Hard Metals

Made of woven sisal fiber, these wheels are tough enough to use on hard metals. Mount them on straight spindles and use with lapping pastes and buffing compounds.

For Flat Surfaces—Layers of sisal are sewn together so they're more rigid than wheels for curved surfaces and they resist fraying. Wheels are 5-ply and approximately ⅜″ thick.

For Curved Surfaces—Alternating strips of cotton and sisal make these wheels more flexible than wheels for flat surfaces, so they conform to curves and contours. They also remove less material and leave fewer scratches. Also known as finger-style buffs. Wheels are 2-ply and approximately 1″ thick. The hub is metal. Note: These wheels must be used with flanges (sold separately).

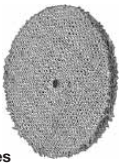

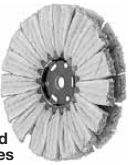

Dia.	Available Arbor Holes	Hub Dia.	Flange OD Required	Max. rpm		
For Flat Surfaces						
6″	½″, ⅝″	—	—	3,400	4821A2	$8.21
8″	½″, ⅝″, ¾″	—	—	3,400	4821A4	9.92
10″	⅝″, ¾″, ⅞″, 1″, 1¼″	—	—	3,200	4821A6	11.95
12″	1¼″	—	—	3,000	4821A62	14.26
For Curved Surfaces						
10″	¾″	3″	4″	3,200	4358A11	17.21
12″	1¼″	5″	6″	3,000	4358A12	20.29
14″	1¼″	5″	6″	2,400	4358A13	21.71
16″	1¼″	7″	8″	2,200	4358A14	29.34

Flanges for Wheels with a Hub

These ventilated steel flanges allow wheels with a center hub to be used on bench grinders and buffers.

For Wheels with Hub Dia.	Arbor Hole	Flange OD	Flange Thick.		Pair
2½″-3″	¾″	4″	¼″	4899A44	$32.31
3″	1¼″	4″	¼″	4899A43	32.31
4½″-5″	1¼″	6″	¼″	4899A51	58.96
6½″-7″	1¼″	8″	¼″	4899A52	114.17

Buffing & Polishing Wheels

For information about finishing, see page 2675.

Buffing Wheels for Irregular Surfaces



Made of long, soft cotton strings, these wheels conform to irregular surfaces and hold on to buffing compounds longer than other buffing wheels. Mount them on straight and tapered spindles and use on most metals.

Dia.	Thick.	String Lg.	Arbor Hole	Max. rpm		
4″	1″	1¼″	½″	3,600	47775A71	$22.13
4″	2″	1¼″	½″	3,600	47775A72	45.42
4″	3″	1¼″	½″	3,600	47775A73	58.97
4″	4″	1¼″	½″	3,600	47775A74	85.55
6″	1″	1¾″	½″	3,600	47775A75	47.00
6″	2″	1¾″	½″	3,600	47775A76	62.07
8″	2″	2¼″	¾″	3,600	47775A81	80.62

No-Mess Buffing Wheels



For Tapered Spindles



For Straight Spindles

With these wheels, you won't need messy compounds. They're made of nylon mesh embedded with aluminum oxide for use on most metals. Color is maroon. The grits listed are approximate.

For Tapered Spindles—The 2-ply wheels are approximately ¾″ thick and the 3-ply wheels are approximately 1″ thick.

For Straight Spindles—The 80-grit wheels are 2 ply and approximately 1½″ thick and the 120- and 180-grit wheels are 4 ply and approximately 2½″ thick. Note: These wheels must be used with flanges (see page 2685).

Dia.	Arbor Hole	Hub Dia.	No. of Plies	Max. rpm		Available Grits: Rough 80	Smooth 120	Smooth 180	Extra Smooth 240
For Tapered Spindles									
3″	¼″	—	3	4,500	4853A11	—	$8.77	$6.79	$6.79
4″	¼″	—	2	4,500	4853A12	—	8.30	6.42	6.42
6″	¼″	—	2	3,400	4853A13	—	11.45	8.41	8.41
6″	¼″	—	3	3,400	4853A14	—	15.30	10.97	10.97
For Straight Spindles									
8″	¾″	3″	—	1,700	4849A15	$18.07	25.34	18.70	—
10″	1¼″	5″	—	1,500	4849A16	23.05	33.75	23.70	—
12″	1¼″	5″	—	1,200	4849A17	31.80	44.05	33.66	—

Buffing Wheels for Internal Surfaces



Cylinder



Round End



Square End



Taper

Buff the insides of metal pipes, cylinders, stampings, and tapered objects. Mount these cotton wheels on tapered spindles and use with buffing compounds. Max. rpm is 3,600, except it's 2,400 for the 6″ dia. wheels.

Shape		2″ Dia.	3″ Dia.	4″ Dia.	6″ Dia.
Cylinder	4903A1	$23.51	$30.54	—	—
Round End	4903A2	17.23	20.53	$29.87	$52.05
Square End	4903A3	17.23	20.53	29.87	52.05
Taper	4903A4	23.39	29.22	—	—

Buffing Wheels for Angle Polishers



A ⅝″-11 threaded arbor hole allows you to mount this cotton wheel on an angle polisher. Use it with buffing compounds to buff most metals. The wheel flares while spinning for use on depressions and curved surfaces. The hub is metal.

	Dia.	Max. rpm		
Wheel with Hub	5″	3,000	4402A11	$59.39
Replacement Wheel	5″	—	4402A12	33.98

Polishing Cement

Coat cotton, canvas, and felt buffing wheels with this glue, and then apply abrasive grains to create your own polishing wheel. Size is 1 gallon.

4796A1	$26.71

Felt Polishing Wheels



Square Edge



Knife Edge

Uniform density makes these felt wheels better balanced than cotton wheels. Use them with lapping pastes and buffing compounds to polish most metals.

Square Edge—Use on right-angle corners and flat surfaces.

Knife Edge—Tapered for polishing joints, grooves, and crevices.

For Tapered Spindles

Wheels have a pin-hole center. The 1½″ dia. and smaller wheels can also be mounted on ⅛″ dia. shanks for use on portable tools. They have a hard density for polishing most metals.

Dia.	Thick.	Max. rpm		
Square Edge				
1″	⅛″	1,750	4910A34	$0.56
1″	¼″	1,750	4910A35	1.17
1¼″	¼″	1,750	4910A36	1.27
1½″	¼″	1,750	4910A37	1.33
1½″	⅜″	1,750	4910A38	2.30
1½″	½″	1,750	4910A39	3.03
2″	¼″	1,750	4910A41	1.87
2″	½″	1,750	4910A43	4.15
3″	½″	1,750	4910A44	7.02
3″	¾″	1,750	4910A45	21.51
4″	½″	1,750	4910A47	22.93
4″	¾″	1,750	4910A48	24.85
4″	1″	1,750	4910A49	29.62
Knife Edge				
1″	3⁄16″	3,450	4900A23	1.12
1½″	3⁄16″	3,450	4900A24	1.38
2″	¼″	3,450	4900A25	2.25
2½″	¼″	3,450	4900A26	3.33
3″	5⁄16″	3,450	4900A27	4.12
⅛″ Shank for 1″ and 1¼″ Dia. Wheels			4920A19	1.02
⅛″ Shank for 1¼″ and 1½″ Dia. Wheels			4910A52	.71

For Straight Spindles

To Order: Please specify density: hard (for most metals) or medium (for soft metals).

Dia.	Thick.	Arbor Hole	Max. rpm		
Square Edge					
6″	¼″	½″	3,500	4815A41	$15.66
6″	½″	½″	3,500	4815A42	30.56
6″	¾″	½″	3,500	4815A43	46.98
6″	1″	½″	3,500	4815A44	62.16
6″	1½″	½″	3,500	4815A45	93.24
6″	2″	½″	3,500	4815A46	106.64

Shank-Mount Buffing Wheels



For Flat and Curved Surfaces



For Internal Surfaces

Mount on drills and grinders for bits and burs and use to buff most metals. These wheels are for use with buffing compounds, except the 5″ dia. wheel is for use with metal polishes (see page 2069).

For Flat and Curved Surfaces—Made of loose layers of cotton. They're 40 ply, ½″ thick, and have a ¼″ dia. shank.

For Internal Surfaces—Shaped for use inside cylinders and on irregular surfaces. They're made of cotton and have a ¼″ dia. shank, except the 5″ dia. wheel is made of felt and has a 5⁄16″ dia. shank.

Dia.	Max. rpm	For Flat and Curved Surfaces		For Internal Surfaces	
2″	5,000	49025A31	$5.18	4349A11	$6.97
3″	5,000	49025A32	6.18	4349A12	8.00
4″	5,000	49025A33	8.26	4349A14	10.85
5″	2,000	—	—	3813A11	33.43
5¾″	5,000	—	—	4349A15	11.79

Buffing Wheel Cleaning Rakes



Condition and shape your buffing wheel with this rake. It removes dried paste and compound. The rake is steel and 4½″ Lg. x 2⅛″ Wd. The handle is wood and 15″ long.

Rake with Handle	4764A51	$23.35
Replacement Rake	4764A1	7.84

Polishing Pads for Portable Polishers



Bonnet



Bonnet Cleaning Tool



Pad

Use on portable tools to create a mirror finish on metal and composite surfaces.

Bonnets—Made from lambswool, these bonnets won't leave swirl marks and scratches when polishing waxed surfaces. They have a drawstring that attaches to the backup pad on your portable polishing tool. Order one size larger than the backup pad. Pile height is 1″, except on the 7½″ dia. bonnet it's 1¼″.

The *bonnet cleaning tool* removes buildup and fluffs packed wool to extend the life of the bonnet. Made of steel.

Pad—This foam pad is just what you need for most buffing and polishing jobs on acrylic enamel and clear coat finishes. It's washable and reusable. Pad is 2″ thick and has a ⅝″-11 threaded arbor hole for use on angle polishers.

Dia.	Max. rpm		
Bonnets			
4½″	1,800	4831A1	$7.41
5½″	1,800	4831A2	9.21
7½″	1,800	4831A4	15.22
9″	1,800	4831A5	20.84
Bonnet Cleaning Tool		4922A11	15.15
Pad			
8″	2,000	47855A21	15.58

Quick-Change Felt Buffing Discs



Style A Metal Fastener



Style B Plastic Fastener

A fastener on the back of these felt discs allows for fast disc changes. They're flexible to conform to curves and internal surfaces. Thickness is ¼″. Use them with drills and grinders for bits and burs to apply lapping pastes and buffing compounds to most metals. Disc holder required (sold separately).

Style A metal fastener is compatible with Standard Abrasive SocAtt, Norton Speed-Lok TS, and 3M TSM styles. **Style B** plastic fastener is compatible with 3M Roloc and Norton Speed-Lok TR styles.

Disc holders have a ¼″ dia. shank.

	Dia.	Max. rpm	Discs		Disc Holders	
A	1″	20,000	46205A31	$2.39	4701A75	$13.23
A	2″	20,000	46205A32	5.40	4701A72	15.50
A	3″	18,000	46205A33	8.04	4701A73	16.73
B	2″	20,000	46205A22	5.40	46325A92	11.87
B	3″	18,000	46205A23	8.04	46325A93	13.04

Lapping and Polishing Sticks



Square Pointed



Round Pointed

Use by hand or in reciprocating polishing tools to apply lapping pastes and buffing compounds to most metals. Sticks are made of wood. Choose the shape that best matches the contour of your work surface.

Lg.	Wd.	Pkg. Qty.		Pkg.
Square Pointed				
6″	¼″	5	4570A1	$10.71
Round Pointed				
6″	⅛″ Dia.	25	4570A2	17.50
6″	¼″ Dia.	25	4570A3	14.00

Felt Polishing Bobs



Cylindrical



Ball



Oval



Wide Tip



Tapered Point



Conical



Flat-Tip Cone



Tear Drop



Knife-Edge Wheel



Wheel

Polish small areas and tough-to-reach spots with these felt bobs. Use them with lapping pastes and buffing compounds on drills and grinders for bits and burs. Max. rpm is 20,000.

Choose **soft** density for use on aluminum and soft metals; **medium** density for use on most metals; **hard** density for use on hard nonmetals; and **rock-hard** density for use on stainless steel and hard metals.

Head Dia.	Head Lg.	Shank Dia.		Soft	Medium	Hard	Rock-Hard
Cylindrical							
¼″	¼″	⅛″	4811A111	$1.35	$1.32	$1.32	$1.32
⅜″	½″	⅛″	4811A112	1.47	1.43	1.45	1.45
½″	½″	⅛″	4811A113	1.62	1.56	1.53	1.62
½″	¾″	⅛″	4811A114	1.81	1.74	1.81	1.81
½″	1″	⅛″	4811A115	2.01	1.89	2.01	2.01
¾″	¾″	⅛″	4811A116	2.27	2.16	2.26	2.27
¾″	1″	⅛″	4811A117	2.40	2.27	2.32	2.40
1″	1″	¼″	4811A118	4.33	3.78	4.22	4.33
1″	2″	¼″	4811A119	4.66	4.38	4.56	4.66
1¼″	1¼″	¼″	4811A121	4.43	4.19	4.33	4.22
1½″	1″	¼″	4811A122	4.58	4.33	4.48	4.58
1½″	1½″	¼″	4811A123	6.08	5.65	5.86	6.08
Ball							
5⁄16″	⅜″	3⁄32″	4812A141	___	1.61	2.18	___
½″	½″	⅛″	4812A142	2.40	2.26	2.27	2.40
¾″	¾″	¼″	4812A143	3.80	3.16	3.48	3.78
1″	1″	¼″	4812A144	6.78	5.86	6.02	6.78
Oval							
½″	½″	⅛″	4812A131	2.26	1.99	2.09	2.26
¾″	¾″	⅛″	4812A132	3.83	3.18	3.32	3.83
1″	1″	¼″	4812A133	6.75	5.86	6.02	6.77
Wide Tip							
½″	¾″	⅛″	4812A181	3.06	2.58	2.63	3.06
¾″	1″	¼″	4812A182	5.57	4.26	4.27	5.57
1″	1¼″	¼″	4812A183	6.33	5.58	5.80	6.33

Head Dia.	Head Lg.	Shank Dia.		Soft	Medium	Hard	Rock-Hard
Tapered Point							
¼″	¾″	3⁄32″	4812A211	___	$1.61	$2.18	___
5⁄16″	⅝″	3⁄32″	4812A212	___	1.61	2.18	___
½″	1″	⅛″	4812A161	$2.67	2.09	2.23	$2.67
¾″	1½″	¼″	4812A162	4.33	3.38	3.75	4.33
1″	2″	¼″	4812A163	5.66	4.83	5.18	5.46
Conical							
½″	1″	⅛″	4812A151	2.67	2.11	2.23	2.67
¾″	1½″	¼″	4812A152	4.33	3.38	3.75	4.33
1″	2″	¼″	4812A153	5.66	4.83	5.18	5.66
Flat-Tip Cone							
½″	¾″	⅛″	4812A171	2.22	2.07	2.16	2.22
¾″	1″	¼″	4812A172	4.35	3.48	3.55	4.35
1″	1¼″	¼″	4812A173	5.55	4.75	5.00	5.57
Tear Drop							
⅜″	¾″	3⁄32″	4812A191	___	1.61	2.18	___
Knife-Edge Wheel							
⅝″	3⁄16″	3⁄32″	4812A91	___	_____	2.18	___
¾″	3⁄16″	3⁄32″	4812A92	___	_____	2.23	___
⅞″	3⁄16″	3⁄32″	4812A93	___	_____	2.29	___
Wheel							
⅝″	¼″	3⁄32″	4812A221	___	1.95	2.05	___
⅞″	¼″	3⁄32″	4812A222	___	2.02	2.13	___
1″	¼″	3⁄32″	4812A223	___	2.05	2.20	___

Felt Polishing Bob and Wheel Kits

This 20-piece kit contains bobs, wheels, and buffing compounds.

Bobs—Includes seven medium-density bobs mounted on ⅛″ dia. shanks in the following shapes and sizes: cylindrical, ball, and oval with ½″ Dia. x ½″ Lg. heads; wide tip and flat-tip cone with ½″ Dia. x ¾″ Lg. heads; and tapered point and conical with ½″ Dia. x 1″ Lg. heads.

Wheels—Includes four ¾″ Dia. x ⅛″ Thick. square-edge wheels, four ¾″ Dia. x ⅛″ Thick. knife-edge wheels, and a ⅛″ dia. shank.

Compounds—Includes ½ oz. each of the following compounds: extra smooth (brown), and polished (red rouge, white rouge, and black).

4791A71 ..... $29.38

Smoothing & Polishing Bobs and Polishers

For information about finishing, see page 2675.

No-Mess Felt Polishing Bobs



Cylindrical | Tapered Point | Conical

With these bobs, there's no need to mess around with lapping pastes and buffing compounds because they're embedded with abrasive grains. Use them on drills and grinders for bits and burs. The grits listed are approximate.

For Aluminum and Soft Metals—Embedded with silicon carbide, which abrades quickly and prevents material buildup.

For Steel, Stainless Steel, and Hard Metals—Embedded with diamond, which is very hard and long lasting.

Head Dia.	Head Lg.	Shank Dia.	Max. rpm	For Aluminum and Soft Metals Available Polished Grits			For Steel, Stainless Steel, and Hard Metals Available Polished Grits		
Cylindrical									
1/4"	1/4"	1/8"	15,000	450, 600, 800	4564A81	$2.37	600, 800, 1200, 1500, 2000	4564A91	$3.70
1/2"	1/2"	1/8"	15,000	450, 600, 800	4564A82	3.07	600, 800, 1200, 1500, 2000	4564A92	4.37
3/4"	3/4"	1/8"	15,000	450, 600, 800	4564A83	4.30	600, 800, 1200, 1500, 2000	4564A93	13.24
Tapered Point									
3/8"	1/2"	1/8"	15,000	450, 600, 800	4564A87	4.24	600, 800, 1200, 1500, 2000	4564A97	5.93
Conical									
3/8"	1/2"	1/8"	15,000	450, 600, 800	4564A84	4.24	600, 800, 1200, 1500, 2000	4564A94	5.93
1/2"	1"	1/8"	15,000	450, 600, 800	4564A85	4.20	600, 800, 1200, 1500, 2000	4564A95	18.93
3/4"	1 1/2"	1/4"	15,000	450, 600, 800	4564A86	6.74	600, 800, 1200, 1500, 2000	4564A96	30.03

No-Mess Smoothing Bobs



Cylindrical | Oval | Tapered Point | Tear Drop | Knife-Edge Wheel

Bobs are rubber, which cushions during use for a smooth finish. They're embedded with abrasive so you don't need lapping pastes and buffing compounds. Use them on drills and grinders for bits and burs. The grits listed are approximate.

Multipurpose—Embedded with aluminum oxide.

For Aluminum and Soft Metals—Embedded with silicon carbide, which abrades quickly and prevents material buildup.

To Order: For multipurpose bobs, please specify grit: 240 (extra smooth) or 400 (polished). For bobs for aluminum and soft metals, please specify grit: 240 or 320 (extra smooth), or 400 (polished).

Head Dia.	Head Lg.	Shank Dia.	Max. rpm	Multipurpose		For Aluminum and Soft Metals	
Cylindrical							
15/64"	7/16"	3/32"	30,000	4958A43	$2.11	4958A53	$2.11
27/64"	1/8"	3/32"	30,000	4958A41	2.11	4958A51	2.11
1/2"	3/4"	1/8"	4,500	4944A13	4.60	4944A23	4.60
Oval							
3/8"	1"	1/8"	4,500	4944A15	4.60	4944A25	4.60
35/64"	11/16"	1/8"	4,500	4944A11	4.60	4944A21	4.60
Tapered Point							
5/32"	7/16"	3/32"	30,000	4958A46	2.11	4958A56	2.11
15/64"	5/8"	3/32"	30,000	4958A45	2.11	4958A55	2.11
25/64"	5/8"	1/8"	4,500	4944A12	4.60	4944A22	4.60
27/64"	3/4"	1/8"	4,500	4944A14	4.60	4944A24	4.60
Tear Drop							
15/64"	1/2"	3/32"	30,000	4958A44	2.11	4958A54	2.11
Knife-Edge Wheel							
7/16"	3/16"	3/32"	30,000	4958A42	2.11	4958A52	2.11

Angle Polishers



Attach buffing wheels for angle polishers (see page 2686) and polishing pads for portable polishers (see page 2687) to the 5/8"-11 threaded spindle. These polishers have a two-position side handle for left- and right-hand operation. A 7" backup pad is included.

Air Powered—Has a speed regulator, front exhaust, and a 1/4 NPT female air inlet. Use with 3/8" ID hose. The motor is 0.4 hp and average cfm @ 90 psi is 8.

Electric—Has variable-speed control and a 10-ft. power cord with two-prong plug. Operates on 12 amps @ 120 volts AC. CSA certified.

Style	No-Load rpm	O'all Lg.	Wt., lbs.		
Air Powered	2,500	16"	4 1/2	44545A67	$292.10
Electric	0-3,500	17"	6 1/2	4814A17	248.65
Replacement Backup Pad for Electric Polisher				4814A21	23.44

No-Mess Long-Lasting Smoothing and Polishing Bobs



Cylindrical | Tapered Point | Conical

Made of polyurethane, these bobs are harder than rubber so they hold their shape, even during heavy use. They're embedded with aluminum oxide, which eliminates the need for lapping pastes and buffing compounds. Use them on drills and grinders for bits and burs to smooth and polish most metals. The grits listed are approximate.

Head Dia.	Head Lg.	Shank Dia.	Max. rpm	Available Grits: Extra Smooth	Available Grits: Polished		
Cylindrical							
1/4"	1/4"	1/8"	15,000	340	450, 800	7803T26	$2.07
1/2"	1/2"	1/8"	15,000	340	450, 800	7803T32	2.46
Tapered Point							
3/8"	1/2"	1/8"	15,000	340	450, 800	7803T51	3.31
Conical							
3/8"	1/2"	1/8"	15,000	340	450, 800	7803T87	3.31

Reciprocating Polishers



Let these air-powered tools take the hard work out of polishing. Also known as profilers, these polishers are for use with lapping sticks (see page 2687) and smoothing and polishing stones up to 1/2" Wd. x 1/4" Thick. (see pages 2675-2676).

Polishers have a rear exhaust and 1/4 NPT female air inlet. Use with 3/8" ID hose. They must be used with an air filter/regulator/lubricator (see 41555K51 on page 1027).

Stroke Lg.	Max. Strokes/ Min.	Avg. cfm @ 90 psi	O'all Lg.	Wt., lbs.		
0.028"	28,000	1.8	8"	1/2	4394A44	$440.00
0.118"	10,000	2.8	8"	3/4	4394A45	440.00

Electric Swirl-Free Polishers



Eliminate swirl marks without damaging painted surfaces. Also known as a random-orbital polisher, it has a counterbalanced bottom plate to reduce vibration. Includes two terry cloth polishing bonnets, two terry cloth applicator bonnets, two polyester polishing bonnets, and a polyester wash mitt. Has a 6-ft. power cord with two-prong plug. Operates on 0.8 amps @ 120 volts AC.

Polisher

For Bonnet Dia.	No-Load Orbits/Min.	Wt., lbs.		
10"	3,200	9	4843A1	$46.91

Bonnets

Dia.	Max. rpm	Terry Cloth Pkg. Qty.		Polyester Pile Ht.		
Polishing Bonnets						
10"	3,200	2	4843A54	$5.97	1/2"	4843A53	$8.96
Applicator Bonnet						
10"	3,200	2	4843A55	5.97			

Stationary Buffers



Buffer-Grinder



Buffer-Polisher

Long spindles extend out from the motor giving you enough space to buff workpieces in a variety of shapes and sizes. They operate on 120 volts AC, except the 8″ buffer-polisher also operates on 2.4 amps @ 240 volts AC.

Buffer-Grinder—For occasional tool cleaning, sharpening, and touch-up work. Use with buffing and polishing wheels that have up to a 3/8″ arbor hole and grinding wheels up to 3/4″ thick with a 1/4″ dia. arbor hole. Note: Maximum buffing wheel dia. is 4″ and maximum grinding wheel dia. is 2″.

It includes a buffing wheel, grinding wheel, variable-speed control dial, and a 6-ft. power cord with three-prong plug. Size is 13″ Lg. × 5″ Wd. × 5 1/8″ Ht. CSA certified.

Buffer-Polishers—With ball bearings sealed to keep out contaminants, these machines operate smoothly and last a long time. Use them with buffing and polishing wheels that have an arbor hole the same size as the shaft diameter (see pages 2685-2686).

They have an on/off switch and an 8-ft. power cord with three-prong plug. The 6″ buffer-polishers are 17 1/2″ Lg. × 6 1/2″ Wd. × 7 1/2″ Ht. The 8″ buffer-polisher is 28 1/2″ Lg. × 8 1/2″ Wd. × 11 1/2″ Ht.

Buffers

For Wheel Size Dia.	Thick.	hp	Amps	No-Load rpm	Shaft Dia.	Wt., lbs.		
Buffer-Grinder								
4″	—	1/6	1.8	500-7,000	5/16″	8	4755A6	$250.91
Replacement 3″ Dia. Buffing Wheel							4755A62	4.92
Replacement 1 3/4″ Dia. Grinding Wheel							4755A61	6.00
Buffer-Polishers								
6″	1/2″-3/4″	1/4	2.8	1,800	1/2″	24	4757A1	307.30
6″	1/2″-3/4″	1/3	3.1	3,600	1/2″	25	4757A11	307.30
8″	3/8″-1 1/4″	3/4	4.8	3,600	3/4″	56	4757A15	607.46

Accessories for Buffer-Polishers

Pedestal—Made of cast iron. Height is 32 7/8″; base is 15 3/4″ Wd. × 14″ Dp. Note: A picture of this pedestal is shown on page 2639.

4423A3 ..... $439.68

Wheel Guards—Protect your work area from flying debris with these vented-exhaust guards. They're made of steel.

To Order: Please specify left- or right-hand guard.

	Exhaust Vent Dia.		
For 6″ Buffer-Polishers	3″	4757A6	$176.00
For 8″ Buffer-Polisher	4″	4757A7	222.00

Buffing Spindles, Arbors, and Chucks



Tapered Spindle with Shank



Tapered Spindle with Arbor Hole



Arbor



Chuck

Secure buffing and polishing wheels to your existing bench and pedestal grinder or replace worn-out spindles on your buffer.

Tapered Spindles with Shank

Shank Dia.	Fits Max. Wheel Arbor Hole	Taper Lg.	O'all Lg.	Right Hand	
1/4″	1/4″	1 1/2″	2 1/2″	48885A77	$4.70
1/4″	1/4″	1 1/2″	4″	48885A78	5.51
1/4″	1/4″	1 1/2″	6″	48885A79	6.26

Tapered Spindles with Arbor Hole

Fits Shaft Dia.	Fits Max. Wheel Arbor Hole	Taper Lg.	O'all Lg.	Right Hand		Left Hand	
3/8″	1/4″	2″	3 1/2″	4762A12	$13.28	4762A14	$13.28
3/8″	1/2″	2 5/8″	4 5/16″	48885A71	7.22	48885A74	7.22
1/2″	1/2″	2 5/8″	4 5/16″	48885A72	7.50	48885A75	7.50
5/8″	5/8″	2 5/8″	4 5/16″	48885A73	8.82	48885A76	8.82

Arbors—Fit wheels up to 1/4″ Thick

Fits Shaft Dia.	Fits Max. Wheel Arbor Hole	Right Hand		Left Hand	
3/8″	1/4″	4762A11	$16.58	4762A13	$16.58

Chuck

Fits Shaft Dia.	Fits Max. Wheel Shank Dia.	Right Hand	
3/8″	5/32″	4762A22	$24.10

Polishing Media for Soft Metals

Use as a final step for an exceptionally polished finish on soft metals. This media also removes tarnish and oxidation without scratching. The ratio of media to parts is 4:1. Run dry in tumbling and vibrating machines.

Corn Cob—Treated with a polishing compound. Use to remove small scratches from parts with fine detail or engraving. Density is 32 lbs./cu. ft.

Walnut Shell—Treated with red rouge for use on colored metals such as brass and gold. Density is 40 lbs./cu. ft.

	Wt., lbs.		
Corn Cob	15	47575A81	$77.12
Walnut Shell	10	4947A21	74.48

Media

Made of ceramic, this media deburs, blends, and polishes most metals. Choose the shape that best matches the contour of your part, and a size that's large enough not to lodge in recesses and holes. Density is 90 lbs./cu. ft. The ratio of media to parts is 3:1. Use with liquid compounds in tumbling and vibrating machines (see page 2690).

Smooth—For deburring and blending grind lines.

Extra Smooth—For light material removal, deburring, and edge rounding. It produces a matte finish.

Polished—For producing a shiny surface.



V-Cylindrical



Cylindrical

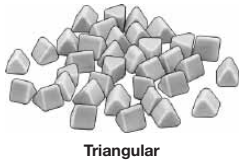

Triangular

Lg.	Wd.		Smooth 5 lb.	Smooth 10 lb.	Smooth 25 lb.	Smooth 50 lb.	Extra Smooth 5 lb.	Extra Smooth 10 lb.	Extra Smooth 25 lb.	Extra Smooth 50 lb.	Polished 5 lb.	Polished 10 lb.	Polished 25 lb.	Polished 50 lb.
V-Cylindrical														
7/16″	7/16″	4918A1	$17.53	$33.81	$78.02	$130.04	$17.53	$33.81	$78.02	$130.04	$17.53	$33.81	$78.02	$130.04
5/8″	5/8″	4918A2	16.91	32.62	75.29	125.48	16.91	32.62	75.29	125.48	16.91	32.62	75.29	125.48
1″	1″	4918A3	16.91	32.62	75.29	125.48	16.91	32.62	75.29	125.48	16.91	32.62	75.29	125.48
Cylindrical														
3/8″	3/16″	4918A4	23.12	44.60	102.92	171.53	23.12	44.60	102.92	171.53	23.12	44.60	102.92	171.53
5/8″	5/16″	4918A5	17.22	33.22	76.66	127.76	17.22	33.22	76.66	127.76	17.22	33.22	76.66	127.76
5/8″	3/8″	4918A6	16.91	32.62	75.29	125.48	16.91	32.62	75.29	125.48	16.91	32.62	75.29	125.48
Triangular														
1/4″	3/8″	4918A7	17.53	33.81	78.02	130.04	17.53	33.81	78.02	130.04	17.53	33.81	78.02	130.04
5/16″	7/8″	4918A8	16.91	32.62	75.29	125.48	16.91	32.62	75.29	125.48	16.91	32.62	75.29	125.48
3/8″	3/8″	4918A9	17.53	33.81	78.02	130.04	17.53	33.81	78.02	130.04	17.53	33.81	78.02	130.04
3/8″	5/8″	4918A39	16.91	32.62	75.29	125.48	16.91	32.62	75.29	125.48	16.91	32.62	75.29	125.48

Polishing Media



V-Cylindrical



Pyramid



Triangular

For a polished finish on most metals, try this mildly abrasive media. Choose the shape that best matches the contour of your part, and a size that's large enough not to lodge in recesses and holes. The ratio of media to parts is 3:1. Use with liquid compounds in tumbling and vibrating machines.

Plastic—Media is lighter and less abrasive than ceramic making it a good choice for use on soft metals. Density is 60 lbs./cu. ft.

Ceramic—This media will finish parts faster than plastic media. Density is 90 lbs./cu. ft.

Lg.	Wd.		5 lb.	10 lb.	25 lb.	50 lb.
Plastic						
V-Cylindrical						
5/8"	1/2"	47755A51	$29.36	$56.62	$130.67	$217.78
3/4"	3/4"	47755A52	29.36	56.62	130.67	217.78
Pyramid						
1/4"	1/4"	47755A53	48.44	93.43	215.60	359.33
Triangular						
5/8"	1/2"	47755A54	29.36	56.62	130.67	217.78
Ceramic						
V-Cylindrical						
7/16"	7/16"	47755A55	18.46	35.60	82.15	136.91
5/8"	5/8"	47755A56	17.29	33.35	76.97	128.28
Triangular						
1/4"	1/4"	47755A57	24.71	47.66	109.97	183.29
5/16"	7/8"	47755A58	17.12	33.03	76.22	127.04

Mirror-Finish Media



Often used as a final step after ceramic and plastic media, this spherical porcelain media produces a mirror finish on most metals. It's also good for use on fragile parts and won't contaminate nonferrous materials. Choose a size that's large enough not to lodge in recesses and holes in your parts. Density is 125 lbs./cu. ft. The ratio of media to parts is 3:1. Use with liquid compounds in tumbling and vibrating machines.

Dia.		5 lb.	Dia.		5 lb.
1 mm	4334A31	$69.90	4 mm	4334A34	$67.90
2 mm	4334A32	69.90	6 mm	4334A35	67.90
3 mm	4334A33	67.90			

Liquid Compounds for Tumbling and Vibrating Media

Keep media and liquid solutions clean, rust free, and fast acting. These compounds wash away buildup that could limit the effectiveness of your media. Mix 1 to 4 oz. of compound with 1 gallon of water, and then add the solution to your media.

Cleaner for All Metals—Controls the residue caused by plastic media and can also be used with ceramic and porcelain media.

Degreaser for Steel—Formulated to clean heavy grease and oil from ferrous metals. This compound contains a rust inhibitor and can be used with any media.

Cleaner/Degreaser for Stainless Steel and Aluminum—Use with any media.

Rust Preventer for All Metals—Contains a rust inhibitor and can be used with any media.

		1 qt.	1 gal.	5 gal.
Cleaner for All Metals	4918A86	$14.00	$35.99	$145.07
Degreaser for Steel	4918A36	14.00	35.99	139.07
Cleaner/Degreaser for Stainless Steel and Aluminum	4918A91	14.00	35.99	139.07
Rust Preventer for All Metals	4918A95	14.00	35.99	139.07

Tumbling and Vibrating Machines

Fill with media and run wet or dry to finish multiple parts at the same time. The rotating motion of the *tumbling machines* is good for aggressive deburring and polishing. *Vibrating machines* keep parts and media in constant motion for faster finishing than tumbling machines.

Tumbling



General Purpose—Barrels are rubber and can be filled to a maximum of 60% capacity. Machines include a 4-ft. power cord with two-prong plug.

Heavy Duty—Barrels are rubber-lined steel and can be filled to a maximum of 75% capacity. Machines have bearings for quiet operation and include a 7-ft. power cord with three-prong plug.

Capacity, cu. ft.	*Inside Barrel Size* Dia.	Dp.	*O'all Size* Ht.	Wd.	Dp.	Barrel rpm	AC Voltage	hp	Amps	Wt., lbs.	**Tumbling Machines**		**Replacement Barrel**	
General Purpose														
0.033	4 1/4"	4"	7 1/2"	6"	8 1/2"	32-36	120	1/75	0.5	4	48095A53	$146.52	48095A63	$28.40
0.067	4 1/4"	4"	7 1/2"	11"	6"	32-36	120	1/75	0.5	6	48095A54▲	177.29	48095A63	28.40
0.1	7"	4"	10"	6"	11"	24-28	120	1/75	0.5	6	48095A55	204.28	48095A65	81.86
0.167	7"	8"	11 1/2"	11"	11"	20-22	120	1/50	0.8	13	48095A57	285.24	48095A66	143.80
Replacement Drive Belt													3044K122	5.68
Heavy Duty														
0.2	7 1/2"	7"	18"	16"	18"	34	120	1/6	2.8	58	4893A41	736.67	4893A32	323.07
0.48	9"	11 7/8"	18"	28"	18"	34	120	1/6	2.8	78	4893A56	834.17	4893A18	393.60

▲Has two barrels mounted side-by-side.

Vibrating



Bowls are plastic and can be filled to 100% capacity.

General Purpose—Have a removable bowl with lid. They're not recommended for use with steel media. Machines include an on/off switch and 6-ft. power cord with three-prong plug. The 0.6 cu. ft. capacity machine has an adjustable vibration feature that increases bowl movement for more aggressive, faster finishing.

Heavy Duty—Have a thick bowl and adjustable vibration for use with steel media and other heavy loads. The bowl has a clear plastic lid so you see work in progress, and a drain for easy cleanup. Machines include an on/off timer and a 5-ft. power cord with three-prong plug.

Capacity, cu. ft.	*Inside Bowl Size* Dia.	Ht.	*O'all Size* Dia.	Ht.	AC Voltage	hp	Amps	Wt., lbs.		
General Purpose										
0.1	10"	4"	10"	11"	120	1/30	1.1	8	48165A19	$301.58
0.2	12"	4 1/2"	12"	12 1/2"	120	1/20	1.6	15	48165A22	399.66
0.2	12"	4 1/2"	12"	15"	240	1/20	0.7	15	48165A26	384.48
0.6	17"	6"	17"	18"	120	1/20	1.6	23	48165A24	699.33
Heavy Duty										
0.25	14"	6"	14"	20"	120	1/4	5	38	45055A36	907.09
0.5	17"	7 1/2"	17"	22"	120	1/3	5.9	45	45055A46	1,370.68
1	20"	9"	20"	24"	120	1/2	8.8	63	45055A56	2,094.55

About Brushes

Select the Best Bristle Material for Your Application

When choosing a brush, keep the following points in mind:
- Select a bristle that is softer than your workpiece to avoid surface wear and scratches.
- Stainless steel, brass, and nonmetal bristles won't leave behind corrosive debris that could cause rust on your workpiece.

For Use On	*Application*						
	Deburring	Removing Rust and Stains	Removing Paint and Tape	Pipe and Tube Cleaning	Surface Cleaning	Surface Finishing	Polishing
Steel	Steel	Steel	Steel	Steel	Steel and Nylon	Abrasive Nylon	Animal Hair
Stainless Steel and Aluminum	Stainless Steel and Brass	Stainless Steel and Brass	Stainless Steel and Brass	Stainless Steel and Brass	Stainless Steel and Brass	Abrasive Nylon	Animal Hair
Plastics	Stainless Steel and Nylon	———	Steel and Stainless Steel	Nylon	Nylon, Natural Fiber, and Hog Hair	Abrasive Nylon	Animal Hair

Select the Right Bristle Diameter

Light Cleaning and Deburring ⟵ ⟶ **Heavy Cleaning and Deburring**

- Small, Thin Burs
- Spotty Rust
- Less than 2 Layers of Paint
- Partially Plugged Tubes
- Light Dirt, Grease, and Dust
- Large, Chunky Burs
- Full Coating of Rust
- More than 2 Layers of Paint
- Mostly Plugged Tubes
- Weld Spatter
- Thick, Caked Dirt and Grease

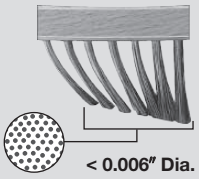

< 0.006″ Dia.

Thin, Loosely Packed, Flexible Bristles

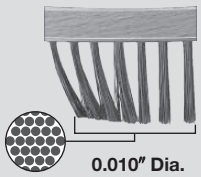

0.010″ Dia.

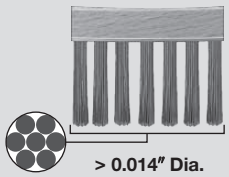

> 0.014″ Dia.

Thick, Tightly Packed or Twisted, Rigid Bristles

Brush Types

Wheel Brushes	Cup Brushes	End Brushes	Disc Brushes	Tube Brushes	Hand Brushes
					
Pages 2691-2694	Pages 2695-2697	Pages 2695-2698	Page 2698	Pages 2699-2705	Pages 2705-2708

Cleaning Brushes for Buffing Machines



For Steel and for Stainless Steel and Aluminum



For Dusting All Materials

Gently clean your work surface with the thin, flexible bristles on these brushes. Bristles are crimped, except horsehair bristles. Brushes have a wood hub with a lead center so they're easy to mount on tapered spindles (see page 2689).

Brush Dia.	Arbor Hole	Bristle Dia.	Bristle Lg.	Brush Thick.	Max. rpm		
For Steel—Steel bristles							
3″	1/4″	0.003″	7/8″	1/2″	3,000	4848A32	$25.00
4″	1/2″	0.004″	1 1/4″	1″	3,000	4848A33	61.84
6″	1/2″	0.004″	1 3/4″	1″	3,000	4848A35	81.58
Low Scratch for Stainless Steel and Aluminum—Brass bristles							
3″	1/4″	0.003″	7/8″	1/2″	3,000	4848A52	27.37
4″	1/2″	0.004″	1 1/4″	1″	3,000	4848A53	65.79
6″	1/2″	0.004″	1 3/4″	1″	3,000	4848A55	92.11
For Dusting All Materials—Horsehair bristles							
4″	1/2″	———	1 1/4″	1″	3,000	4880A1	33.75
4″	1/2″	———	1 1/4″	1 1/4″	3,000	4880A4	59.69

Arbor-Hole Reducers and Shank Adapters for Wheel Brushes

Change the arbor on a wheel brush to work with your tool.

Snap-in metal and **plastic arbor-hole reducers** decrease the arbor hole of the brush to fit the shaft on your machine.

Use **metal arbor hole to shank adapters** to mount brushes on drills and grinders for bits and burs. Overall length is approximately 1 3/4″.

Snap-in Metal Arbor-Hole Reducers

Reduce Arbor Hole	For Brush Dia.		Pair
2″ to 1/2″	6″	4844A28	$2.24
2″ to 5/8″	6″ and 8″	4844A29	2.24
2″ to 3/4″	6″, 8″, and 10″	4844A31	2.24
2″ to 7/8″	6″, 8″, and 10″	4844A32	2.24
2″ to 1″	Up to 12″	4844A33	2.24
2″ to 1 1/4″	Up to 12″	4844A34	2.24
2″ to 1 1/2″	Up to 12″	4844A35	2.24

Plastic Arbor-Hole Reducers

Reduce Arbor Hole	For Brush Dia.		Pkg. of 12
1/2″ to 1/4″	Up to 3″	4873A21	$3.29
1/2″ to 3/8″	Up to 3″	4873A22	3.54
5/8″ to 1/2″	Up to 6″	4873A23	3.41

Metal Arbor Hole to Shank Adapters

Fits Arbor Hole	Shank Dia.	For Brush Dia.	Max. Brush Thick.		Each
1/4″	3/16″	Up to 2″	3/4″	4875A18	$3.24
3/8″	1/4″	Up to 3″	3/8″	4875A11	2.84
1/2″	1/4″	Up to 3″	3/8″	4875A12	3.12

Cleaning and Deburring Brushes



For Bench and Pedestal Grinders

Remove light to medium rust and stains and small burs from flat surfaces, contours, and angles with these flexible-bristle brushes. Bristles are crimped, except tampico bristles. Note: If you need a smaller arbor hole, use the 2″ dia. arbor hole brushes with an arbor-hole reducer (see page 2691).

For Angle Grinders—Threaded Arbor Hole

Brush Dia.	Bristle Dia.	Bristle Lg.	Brush Thick.	Max. rpm	Choose an Arbor Hole		
For Steel—Steel bristles							
4″	0.014″	7/8″	1/2″	14,000	3/8″-24, 1/2″-13, 5/8″-11, 10×1.25 mm, 14×2.0 mm	4896A77	$17.10

For Bench and Pedestal Grinders—Plain Arbor Hole. Wheels with two arbor sizes accommodate both sizes.

Brush Dia.	Arbor Hole	Bristle Dia.	Bristle Lg.	Brush Thick.	Max. rpm		
For Steel—Steel bristles							
1″	1/4″	0.006″	1/4″	3/16″	20,000	4850A12	$4.97
1 1/4″	1/4″	0.003″	3/8″	1/4″	20,000	4850A14	7.08
1 1/4″	1/4″	0.006″	3/8″	1/4″	20,000	4850A15	5.05
1 1/4″	3/8″	0.006″	9/32″	1/2″	20,000	4858A1	31.09
1 3/8″	1/4″	0.008″	3/8″	1/4″	20,000	4850A18	4.32
1 1/2″	1/4″	0.008″	1/4″	3/4″	20,000	4858A2	35.17
1 1/2″	3/8″	0.012″	7/16″	1/4″	20,000	4850A21	4.00
1 3/4″	1/2″	0.012″	5/16″	1 3/4″	20,000	4858A3	50.43
2″	1/2″, 3/8″	0.006″	1/2″	3/8″	20,000	4850A25	5.90
2″	1/2″	0.006″	7/16″	2″	20,000	4858A4	81.22
2″	1/2″, 3/8″	0.008″	1/2″	3/8″	20,000	4850A28	5.17
2″	1/2″	0.010″	1/2″	3/8″	20,000	4850A81	4.83
2″	1/2″, 3/8″	0.012″	1/2″	3/8″	20,000	4850A32	4.55
2″	1/2″, 3/8″	0.014″	1/2″	3/8″	20,000	4850A35	4.35
2 1/2″	1/2″, 3/8″	0.012″	3/4″	1/2″	20,000	4850A47	5.03
3″	1/2″, 3/8″	0.006″	1″	5/8″	20,000	4850A58	6.75
3″	1/2″, 3/8″	0.012″	1″	5/8″	20,000	4850A69	5.37
3″	1/2″, 3/8″	0.014″	1″	5/8″	20,000	4850A74	5.15
4″	5/8″, 1/2″	0.006″	7/8″	1/2″	12,500	4840A17	20.52
4″	5/8″, 1/2″	0.012″	7/8″	1/2″	12,500	4840A18	16.98
4″	1/2″, 3/8″	0.014″	7/8″	1/2″	12,500	4840A23	15.87
6″	5/8″, 1/2″	0.006″	1 1/16″	1/2″	6,000	4840A44	30.35
6″	2″	0.006″	1 1/8″	1″	6,000	4840A24	59.02
6″	5/8″, 1/2″	0.008″	1 1/16″	1/2″	6,000	4840A26	18.10
6″	5/8″, 1/2″	0.012″	1 7/16″	3/4″	6,000	4840A33	20.02
6″	1″	0.012″	1 7/16″	3/4″	6,000	4840A45♦	23.15
6″	2″	0.012″	1 1/8″	1″	6,000	4840A27	26.88
6″	5/8″, 1/2″	0.014″	1 1/16″	1/2″	6,000	4840A29	16.23
6″	2″	0.014″	1 1/8″	1 1/4″	6,000	4840A32	34.70
8″	5/8″	0.006″	2 1/16″	3/4″	6,000	4840A39	43.08
8″	2″	0.006″	1 3/8″	1 1/2″	4,500	4840A35	104.60
8″	5/8″	0.010″	2 1/16″	3/4″	6,000	4840A48	23.32
8″	3/4″	0.010″	2 1/16″	3/4″	6,000	4840A41	26.41
8″	5/8″	0.012″	2 1/16″	3/4″	6,000	4840A58	26.95
8″	3/4″	0.012″	2 1/16″	3/4″	6,000	4840A74	30.02
8″	1″	0.012″	2 1/16″	3/4″	6,000	4840A52♦	30.02
8″	2″	0.012″	1 3/8″	1 1/2″	4,500	4840A51	62.42
8″	5/8″	0.014″	2 1/16″	3/4″	6,000	4840A55	19.50
8″	3/4″	0.014″	2 1/16″	3/4″	6,000	4840A78	22.57
8″	2″	0.014″	1 3/8″	1″	4,500	4840A62	49.80
8″	2″	0.014″	1 3/8″	1 1/2″	4,500	4840A63	59.08
8″	2″	0.020″	1 3/8″	1 1/2″	4,500	4840A64	59.77
10″	3/4″	0.010″	2 1/2″	3/4″	4,000	4840A56	31.55
10″	7/8″	0.010″	2 1/2″	3/4″	4,000	4840A79	31.55
10″	2″	0.010″	1 7/8″	2″	4,000	4840A57	99.97
10″	2″	0.012″	1 7/8″	2″	4,000	4840A59	112.70
10″	1″	0.014″	2 1/2″	3/4″	4,000	4840A61♦	36.75
10″	1 1/4″	0.014″	2 1/2″	3/4″	4,000	4840A65♦	36.75
10″	2″	0.014″	2″	1 1/8″	3,600	4840A66♦	66.85
10″	2″	0.020″	1 7/8″	2″	4,000	4840A71	104.90
10″	2″	0.020″	2″	1 1/8″	3,600	4840A68♦	66.47
12″	2″	0.012″	3″	1 1/4″	3,600	4840A72♦	82.57
12″	1 1/4″	0.014″	2 15/16″	3/4″	3,000	4840A69♦	46.15
12″	2″	0.014″	2 7/8″	2″	3,000	4840A75	126.75
12″	2″	0.020″	2 7/8″	2″	3,000	4840A77	124.65
12″	2″	0.020″	3″	1 1/4″	3,600	4840A76♦	79.08
For Stainless Steel and Aluminum—Stainless steel bristles							
1″	1/4″	0.005″	1/4″	3/16″	20,000	4873A31	12.59
1 1/4″	1/4″	0.006″	3/8″	1/4″	20,000	4873A34	12.69
1 1/4″	1/4″	0.008″	3/8″	1/4″	20,000	4873A37	10.34
1 1/2″	3/8″	0.005″	3/8″	7/32″	20,000	4873A5	7.75
1 1/2″	3/8″	0.008″	7/16″	1/4″	20,000	4873A6	8.34
2″	1/2″, 3/8″	0.005″	1/2″	1/4″	20,000	4873A11	9.43
2″	1/2″	0.010″	1/2″	3/8″	20,000	4873A12	8.62
3″	1/2″, 3/8″	0.006″	1″	5/8″	20,000	4873A13	10.33
For Stainless Steel and Aluminum (Cont.)							
3″	1/2″, 3/8″	0.010″	1/2″	7/16″	12,500	4842A12	$29.16
3″	1/2″, 3/8″	0.014″	1″	5/8″	20,000	4873A14	10.57
4″	1/2″, 3/8″	0.006″	7/8″	1/2″	12,500	4842A22	33.29
4″	5/8″, 1/2″	0.010″	13/16″	3/8″	6,000	4842A74	23.51
4″	5/8″, 1/2″	0.012″	7/8″	1/2″	12,500	4842A24	28.00
6″	5/8″, 1/2″	0.006″	1 7/16″	3/4″	6,000	4842A38	52.68
6″	2″	0.006″	1 1/8″	1 1/4″	6,000	4842A61	119.89
6″	2″	0.008″	1″	7/8″	6,000	4842A75	52.34
6″	5/8″, 1/2″	0.010″	1 7/16″	3/4″	6,000	4842A46	45.84
6″	2″	0.012″	1 1/8″	1″	6,000	4842A63	57.00
6″	2″	0.014″	1″	7/8″	6,000	4842A76	49.18
8″	5/8″	0.006″	2 1/16″	3/4″	6,000	4842A48	60.55
8″	2″	0.006″	1 3/8″	1″	4,500	4842A65	108.24
8″	2″	0.008″	1 1/2″	5/8″	4,500	4842A77♦	54.71
8″	5/8″	0.010″	2 1/16″	3/4″	6,000	4842A54	52.68
8″	2″	0.012″	1 3/8″	1″	4,500	4842A67	71.11
8″	2″	0.014″	1 1/2″	5/8″	4,500	4842A78♦	57.61
10″	2″	0.012″	2″	1 1/8″	3,600	4842A68♦	120.26
12″	2″	0.006″	2 15/16″	3/4″	3,000	4842A641♦	134.82
12″	2″	0.010″	2 15/16″	3/4″	3,000	4842A66♦	78.76
Low Scratch for Stainless Steel and Aluminum—Brass bristles							
1 1/2″	3/8″	0.006″	3/8″	5/16″	20,000	48155A71	12.42
1 1/2″	3/8″	0.014″	3/8″	5/16″	20,000	48155A72	10.35
2″	1/2″, 3/8″	0.006″	1/2″	5/16″	15,000	48155A74	12.93
2″	1/2″, 3/8″	0.014″	1/2″	5/16″	15,000	48155A76	11.85
2 1/2″	3/8″	0.006″	7/8″	3/8″	15,000	48155A77	14.38
2 1/2″	1/2″	0.006″	5/8″	3/8″	15,000	48155A78	14.38
2 1/2″	3/8″	0.014″	7/8″	3/8″	15,000	48155A79	13.46
2 1/2″	1/2″	0.014″	5/8″	3/8″	15,000	48155A81	13.46
3″	1/2″	0.014″	1″	5/8″	20,000	48155A83	15.69
4″	5/8″	0.005″	5/8″	7/16″	6,000	4909A16	54.94
4″	5/8″, 1/2″	0.014″	5/8″	7/16″	6,000	4909A18	42.22
4″	5/8″	0.020″	5/8″	7/16″	6,000	4909A19	42.22
6″	5/8″, 1/2″	0.005″	1 1/2″	1/2″	6,000	4909A55	58.56
6″	5/8″	0.005″	1 21/32″	1″	6,000	4909A29	115.72
6″	5/8″	0.010″	1 1/2″	1/2″	6,000	4909A26	51.92
6″	5/8″	0.010″	1 21/32″	1″	6,000	4909A31	101.06
6″	5/8″, 1/2″	0.014″	1 1/2″	1/2″	6,000	4909A57	47.36
6″	5/8″	0.014″	1 21/32″	1″	6,000	4909A32	91.64
6″	5/8″	0.020″	1 1/2″	1/2″	6,000	4909A28	46.11
6″	5/8″	0.020″	1 21/32″	1″	6,000	4909A33	91.64
8″	5/8″	0.005″	1 3/4″	1/2″	4,500	4909A34	130.00
8″	3/4″	0.005″	1 3/4″	1/2″	4,500	4909A64	130.00
8″	5/8″	0.010″	1 3/4″	1/2″	4,500	4909A35	120.61
8″	5/8″	0.014″	1 3/4″	1/2″	4,500	4909A36	116.19
8″	5/8″	0.020″	1 3/4″	1/2″	4,500	4909A37	115.28
For Lightly Cleaning All Materials—Nylon bristles							
1″	1/4″	0.006″	1/4″	1/4″	20,000	4747A61	8.40
2″	1/2″	0.006″	9/16″	3/8″	20,000	4747A62	12.90
2″	1/2″	0.010″	9/16″	3/8″	20,000	4747A63	12.90
3″	1/2″	0.006″	1″	1/2″	20,000	4747A64	13.07
3″	5/8″	0.010″	1″	1/2″	20,000	4747A65	13.73
4″	1/2″	0.006″	1 1/2″	1/2″	20,000	4747A66	13.93
4″	5/8″	0.010″	1 1/2″	1/2″	20,000	4747A67	14.87
For Applying Lubricants and Buffing Compounds—Tampico bristles							
2″	3/8″, 1/4″	_____	5/8″	5/16″	15,000	4808A22	5.10
2 1/2″	1/2″, 3/8″	_____	3/4″	3/8″	15,000	4808A24	5.67
3″	1/2″, 3/8″	_____	1″	3/8″	15,000	4808A26	5.80
4″	1 1/4″	_____	1″	1/2″	10,000	4808A29	17.65
6″	5/8″, 1/2″	_____	1 1/2″	1/2″	6,000	4774A21	29.54
8″	5/8″	_____	1 3/4″	1/2″	4,500	4774A41	36.51
8″	1″	_____	1 3/4″	1/2″	4,500	4774A52	36.51
10″	3/4″	_____	2 3/4″	1/2″	3,600	4774A54	39.46
10″	1″	_____	2 3/4″	1/2″	3,600	4774A42	39.46
12″	1″	_____	3 3/4″	1/2″	3,000	4774A55	42.85
12″	1 1/4″	_____	3 3/4″	1/2″	3,000	4774A56	42.85

♦ Has double keyways for shafts with keyway.

For information about brushes, see page 2691. For information about finishing, see page 2675.

Shank-Mount Cleaning and Deburring Brushes

Reach into narrow spaces, angles, channels, cracks, and slots with these slim wheels. They also work on flat surfaces and contours. Mount them on drills and grinders for bits and burs. Shank length is 1½″ for 3⁄32″ and 1⁄8″ diameter shanks and 7⁄8″-1″ for 1⁄4″ diameter shanks.

Brushes **for light cleaning** have flexible bristles for removing light to medium rust and stains and small burs. Bristles are crimped, except horsehair and goat hair bristles. Brushes **for heavy cleaning** have rigid, partially twisted bristles for removing weld slag, heavy surface contamination, and large burs.

Brushes *for no-mess polishing of all materials* remove surface imperfections in addition to contamination without the need for messy buffing compounds. The entire length of the bristle is embedded with 600-grit aluminum oxide abrasive, so the sides of the bristles act like flexible files.

For brushes with 3⁄32″ and 1⁄8″ dia. shanks, prices are approximately 15% lower when you buy 12 or more of the same size brush.



For Light Cleaning



For Heavy Cleaning



Side View

For Light Cleaning

Shank Dia.	Brush Dia.	Bristle Dia.	Bristle Lg.	Brush Thick.	Max. rpm		
For Steel—Steel bristles							
1⁄8″	5⁄8″	0.005″	1⁄8″	1⁄16″	37,000	4888A5	$2.01
1⁄8″	3⁄4″	0.005″	3⁄16″	1⁄16″	37,000	4888A6	2.46
1⁄8″	1″	0.005″	5⁄16″	1⁄8″	37,000	4888A7	2.59
1⁄8″	1 1⁄4″	0.005″	3⁄8″	1⁄8″	37,000	4888A8	5.08
1⁄8″	1½″	0.005″	1⁄2″	1⁄8″	25,000	4888A9	5.18
1⁄4″	1 1⁄4″	0.006″	3⁄8″	1⁄4″	20,000	7077A11	9.76
1⁄4″	1½″	0.006″	3⁄8″	1⁄4″	20,000	7077A12	11.24
1⁄4″	1½″	0.010″	3⁄8″	1⁄4″	20,000	7077A13	9.20
1⁄4″	1 3⁄4″	0.006″	7⁄16″	1⁄4″	20,000	7077A14	11.80
1⁄4″	1 3⁄4″	0.010″	7⁄16″	1⁄4″	20,000	7077A15	9.80
1⁄4″	2″	0.006″	7⁄16″	3⁄8″	20,000	7077A16	13.16
1⁄4″	2″	0.012″	7⁄16″	3⁄8″	20,000	7077A17	9.28
1⁄4″	2½″	0.008″	9⁄16″	1⁄2″	20,000	7077A18	11.48
1⁄4″	2½″	0.012″	9⁄16″	1⁄2″	20,000	7077A19	10.40
1⁄4″	3″	0.008″	13⁄16″	5⁄8″	20,000	7077A21	12.88
1⁄4″	3″	0.012″	13⁄16″	5⁄8″	20,000	7077A22	10.56
For Stainless Steel and Aluminum—Stainless steel bristles							
1⁄8″	5⁄8″	0.005″	1⁄8″	1⁄16″	37,000	4916A25	3.87
1⁄8″	3⁄4″	0.005″	3⁄16″	1⁄16″	37,000	4916A16	3.96
1⁄8″	1″	0.003″	5⁄16″	1⁄8″	37,000	4916A19	4.81
1⁄8″	1″	0.005″	5⁄16″	1⁄8″	37,000	4916A31	4.98
1⁄8″	1½″	0.005″	1⁄2″	1⁄8″	25,000	4916A18	11.55
1⁄4″	1 1⁄4″	0.006″	3⁄8″	1⁄4″	20,000	7077A31	14.96
1⁄4″	1½″	0.006″	3⁄8″	1⁄4″	20,000	7077A32	15.80
1⁄4″	1½″	0.010″	3⁄8″	1⁄4″	20,000	7077A33	13.76
1⁄4″	1 3⁄4″	0.006″	7⁄16″	1⁄4″	20,000	7077A34	16.24
1⁄4″	1 3⁄4″	0.012″	7⁄16″	1⁄4″	20,000	7077A35	13.68

Shank Dia.	Brush Dia.	Bristle Dia.	Bristle Lg.	Brush Thick.	Max. rpm		
For Stainless Steel and Aluminum (Cont.)							
1⁄4″	2″	0.006″	7⁄16″	3⁄8″	20,000	7077A36	$16.48
1⁄4″	2″	0.010″	7⁄16″	3⁄8″	20,000	7077A37	13.84
1⁄4″	3″	0.010″	13⁄16″	5⁄8″	20,000	7077A38	17.80
1⁄4″	3″	0.014″	13⁄16″	5⁄8″	20,000	7077A39	17.12
Low Scratch for Stainless Steel and Aluminum—Brass bristles							
3⁄32″	3⁄4″	0.005″	3⁄16″	1⁄16″	37,000	4792A21	2.42
1⁄8″	1″	0.005″	5⁄16″	1⁄8″	37,000	4792A22	2.52
1⁄4″	1½″	0.014″	1⁄4″	5⁄16″	20,000	44455A53	16.31
1⁄4″	2″	0.006″	3⁄8″	5⁄16″	20,000	44455A61	18.57
1⁄4″	2″	0.010″	3⁄8″	5⁄16″	20,000	44455A62	16.00
1⁄4″	2″	0.014″	3⁄8″	5⁄16″	20,000	44455A63	15.26
1⁄4″	2½″	0.006″	5⁄8″	3⁄8″	20,000	44455A64	19.83
1⁄4″	2½″	0.010″	5⁄8″	3⁄8″	20,000	44455A65	19.09
1⁄4″	2½″	0.014″	5⁄8″	3⁄8″	20,000	44455A66	18.34
1⁄4″	3″	0.006″	5⁄8″	3⁄8″	20,000	44455A67	22.09
1⁄4″	3″	0.014″	5⁄8″	3⁄8″	20,000	44455A69	19.83
1⁄4″	3″	0.020″	5⁄8″	3⁄8″	20,000	44455A71	19.83
For Dusting All Materials—Horsehair bristles							
1⁄8″	3⁄4″	———	3⁄16″	1⁄8″	37,000	4890A13	1.31
For Applying Buffing Compounds—Goat hair bristles							
3⁄32″	3⁄4″	———	3⁄16″	1⁄8″	37,000	4890A14	1.26
For No-Mess Polishing of All Materials—Nylon bristles							
1⁄8″	3⁄4″	0.012″	3⁄16″	1⁄16″	6,000	44465A51	3.80
1⁄8″	1″	0.012″	1⁄4″	1⁄16″	6,000	44465A53	4.11
1⁄8″	1 1⁄4″	0.012″	3⁄8″	1⁄16″	6,000	44465A55	5.61
1⁄8″	1½″	0.012″	1⁄2″	1⁄16″	6,000	44465A57	5.74

For Heavy Cleaning

Shank Dia.	Brush Dia.	Bristle Dia.	Bristle Lg.	Brush Thick.	Max. rpm		
For Steel—Steel bristles							
1⁄4″	3 1⁄4″	0.012″	5⁄8″	3⁄8″	25,000	47475A61	$19.90
1⁄4″	3 1⁄4″	0.014″	5⁄8″	3⁄8″	25,000	47475A64	18.93
1⁄4″	3 1⁄4″	0.020″	5⁄8″	3⁄8″	25,000	47475A67	18.38
1⁄4″	4″	0.012″	7⁄8″	1⁄2″	20,000	47475A71	21.32
1⁄4″	4″	0.014″	7⁄8″	1⁄2″	20,000	47475A74	19.57
1⁄4″	4″	0.020″	7⁄8″	1⁄2″	20,000	47475A77	19.45

Shank Dia.	Brush Dia.	Bristle Dia.	Bristle Lg.	Brush Thick.	Max. rpm		
For Stainless Steel and Aluminum—Stainless steel bristles							
1⁄4″	3 1⁄4″	0.014″	5⁄8″	3⁄8″	25,000	47475A44	$23.72
1⁄4″	4″	0.014″	7⁄8″	1⁄2″	20,000	47475A49	24.82

Surface Finishing and Deburring Brushes

Remove workpiece material and light to medium rust and stains in one step. The bristles on these brushes are nylon and their entire length is embedded with silicon carbide abrasive so the sides of the bristles act like flexible files. Use them on flat surfaces, curves, and contours to debur and finish all materials.

Choose 80, 120, or 180 grit for a smooth finish and 320 grit for an extra-smooth finish. Bristle dia. is approximately 0.04″ for 80- and 120-grit brushes, 0.035″ for 180-grit brushes, and 0.022″ for 320-grit brushes.



For Bench and Pedestal Grinders



For Drills and Grinders for Bits and Burs



Side View

For Bench and Pedestal Grinders—Plain Arbor-Hole Mount

Brush Dia.	Arbor Hole	Bristle Lg.	Brush Thick.	Max. rpm	Choose a Grit		
1½″	½″	1⁄4″	1⁄4″	20,000	120, 180, 320	4901A51	$9.46
2″	5⁄8″	7⁄16″	3⁄8″	15,000	120, 180, 320	4901A52	10.89
2½″	5⁄8″	11⁄16″	3⁄8″	15,000	120, 180, 320	4901A53	11.81
3″	3⁄8″	1″	1⁄4″	10,000	80, 120	4901A61	40.31
3″	5⁄8″	5⁄8″	1⁄2″	20,000	80, 120, 180, 320	4901A54	28.90
4″	5⁄8″	3⁄4″	5⁄8″	12,000	80, 120, 180, 320	4901A55	33.52
4″	5⁄8″	1″	1⁄4″	10,000	80, 120	4901A62	44.09
4″	5⁄8″	1″	1⁄2″	10,000	80, 120	4901A63	47.11

Brush Dia.	Arbor Hole	Bristle Lg.	Brush Thick.	Max. rpm	Choose a Grit		
6″	5⁄8″	2″	1⁄4″	6,000	80, 120	4901A13	$53.52
6″	5⁄8″	2″	1⁄2″	6,000	80, 120	4901A38	56.69
6″	2″	1 1⁄16″	7⁄8″	6,000	80, 120, 180, 320	4901A56	58.33
8″	2″	1½″	7⁄8″	4,500	80, 120, 180, 320	4901A57	92.50
10″	2″	2 1⁄16″	1″	3,600	80, 120, 180, 320	4901A58	120.85
12″	2″	2 1⁄8″	1″	3,000	80, 120, 180, 320	4901A59	148.75

For Drills and Grinders for Bits and Burs—Shank Mount. Shank diameter is 1⁄4″.

Brush Dia.	Bristle Lg.	Brush Thick.	Shank Lg.	Max. rpm	Choose a Grit		
3″	5⁄8″	3⁄8″	1″	6,000	80, 180	43535A11	$14.12
4″	15⁄16″	13⁄32″	1″	6,000	80, 180	43535A12	16.90
4″	1″	1⁄4″	13⁄16″	10,000	80, 120	4901A81	47.54
5″	1½″	1⁄4″	13⁄16″	4,500	80, 120	4901A94	50.10

Brush Dia.	Bristle Lg.	Brush Thick.	Shank Lg.	Max. rpm	Choose a Grit		
5″	1½″	1⁄2″	13⁄16″	4,500	80, 120	4901A95	$53.29
6″	2″	1⁄4″	13⁄16″	4,500	80, 120	4901A96	56.98
6″	2″	1⁄2″	13⁄16″	4,500	80, 120	4901A97	60.14

Heavy Cleaning and Deburring Brushes



Standard for Angle Grinders



Fast Cleaning for Angle Grinders

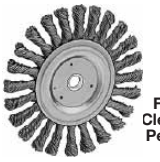

Fast and Aggressive Cleaning for Bench and Pedestal Grinders and CNC Machines

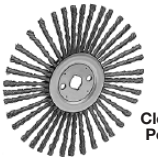

Long Reach, Fast Cleaning for Bench and Pedestal Grinders and CNC Machines

Use these rigid, twisted-bristle brushes for aggressive tasks such as edge rounding and removing weld slag, heavy surface contamination, and large burs from flat surfaces, contours, and angles. They're also known as knot-wire brushes. Note: If you need a smaller arbor hole, use the 2″ dia. arbor hole brushes with an arbor-hole reducer (see page 2691).

Brushes **for steel** can also be used on plastics if corrosive debris is not a concern. They're made of steel. Brushes **for stainless steel and aluminum** can also be used to roughen rubber surfaces and debur plastics, such as PVC pipe. They're made of stainless steel.

Bristles on *standard* brushes are partially twisted with a slightly flexible tuft at the end that conforms to irregular surfaces. Bristles on *long-lasting* brushes are partially twisted in alternating directions, which prevents them from untwisting. *Fast cleaning* brushes have bristles that are twisted all the way to the end so they're more rigid and aggressive than standard brushes.

Fast and aggressive cleaning brushes are also known as stringer bead brushes. They have small clusters of tightly twisted bristles for the fastest and most vigorous brushing. *Long-lasting, fast, and aggressive cleaning* brushes are similar to stringer bead brushes, except they have a mounting nut on each side of the arbor hole so you can use both sides of the brush. Bristles on *long-reach, fast cleaning* brushes are twisted to the end and are extra long for use in concrete joints and cracks.

For Angle Grinders—Threaded Arbor Hole

Brush Dia.	Arbor Hole	Bristle Dia.	Bristle Lg.	Brush Thick.	Max. rpm		For Steel	For SS and Alum.
Standard								
4″	★	0.014″	7/8″	1/2″	20,000	4281A31	$19.54	$31.59
6″	5/8″-11	0.016″	1 3/8″	1/2″	9,000	4281A32	35.33	62.65
8″	5/8″-11	0.016″	1 5/8″	5/8″	6,000	4281A33	52.57	91.60
Long Lasting								
4″	5/8″-11	0.014″	7/8″	5/8″	20,000	4281A34	24.53	42.73
4″	5/8″-11	0.020″	7/8″	5/8″	20,000	4281A35	23.60	46.02
6″	5/8″-11	0.016″	1 1/8″	5/8″	9,000	4281A36	38.62	78.20
6″	5/8″-11	0.023″	1 1/8″	5/8″	9,000	4281A37	31.34	63.18
Fast Cleaning								
4″	★	0.020″	7/8″	1/4″	20,000	4281A38	18.77	29.71
5″	5/8″-11	0.020″	1″	3/16″	12,000	4753A27	20.48	____
Fast and Aggressive Cleaning								
4″	★	0.020″	7/8″	3/16″	20,000	4281A41	16.02	27.32
4 1/2″	5/8″-11	0.020″	13/16″	3/16″	15,000	4281A42	21.21	32.38

★ To Order: Please specify 3/8″-24, 1/2″-13, or 5/8″-11 arbor hole.

Brush Dia.	Arbor Hole	Bristle Dia.	Bristle Lg.	Brush Thick.	Max. rpm		For Steel	For SS and Alum.
Fast and Aggressive Cleaning (Cont.)								
5″	5/8″-11	0.020″	1″	3/16″	12,000	4753A37	____	$32.85
6″	5/8″-11	0.020″	1 3/8″	3/16″	12,500	4281A43	$21.37	37.95
6″	5/8″-11	0.023″	1 3/8″	1/2″	12,500	4281A44	20.95	49.95
6 7/8″	5/8″-11	0.020″	1 1/8″	3/16″	9,000	4281A45	24.77	42.35
Long-Lasting, Fast, and Aggressive Cleaning								
4 1/2″	5/8″-11	0.020″	13/16″	3/16″	15,000	4767A45	21.71	____
5″	5/8″-11	0.020″	7/8″	3/16″	12,500	4767A46	22.60	____
5″	5/8″-11	0.023″	7/8″	1/2″	12,500	4767A49	22.83	____
6″	5/8″-11	0.020″	1 1/8″	3/16″	12,500	4767A47	23.60	____
6″	5/8″-11	0.023″	1 1/4″	1/2″	12,500	4767A51	30.73	____
7″	5/8″-11	0.020″	1 1/8″	3/16″	9,000	4767A48	24.68	____

For Bench and Pedestal Grinders and CNC Machines—Plain Arbor Hole. Wheels with two arbor sizes accommodate both sizes.

Brush Dia.	Arbor Hole	Bristle Dia.	Bristle Lg.	Brush Thick.	Max. rpm		For Steel	For SS and Alum.
Standard								
3″	3/8″, 1/2″	0.012″	5/8″	3/8″	25,000	4877A79	$21.00	$40.53
3″	3/8″, 1/2″	0.014″	5/8″	3/8″	25,000	4877A81	15.57	38.59
3″	3/8″, 1/2″	0.020″	5/8″	3/8″	25,000	4877A82	15.33	34.78
4″	3/8″, 1/2″	0.012″	7/8″	1/2″	20,000	4877A83	23.38	43.56
4″	3/8″, 1/2″	0.014″	7/8″	1/2″	20,000	4877A84	17.43	42.66
4″	3/8″, 1/2″	0.020″	7/8″	1/2″	20,000	4877A85	16.76	39.34
6″	1/2″, 5/8″	0.012″	1 3/8″	1/2″	9,000	4877A86	37.24	71.83
6″	1/2″, 5/8″	0.014″	1 3/8″	1/2″	9,000	4877A89	27.67	65.22
6″	1/2″, 5/8″	0.016″	1 3/8″	1/2″	9,000	4877A91	34.10	62.65
6″	1/2″, 5/8″	0.023″	1 3/8″	1/2″	9,000	4877A92	22.55	65.08
6″	1/2″, 5/8″	0.035″	1 3/8″	1/2″	9,000	4877A55	26.40	____
6″	2″	0.012″	1 3/8″	7/8″	8,000	4877A87	60.02	128.55
7″	5/8″	0.014″	1 7/8″	5/8″	9,000	4877A24	36.38	____
8″	5/8″	0.012″	1 5/8″	5/8″	6,000	4877A93	57.62	107.88
8″	5/8″	0.014″	1 5/8″	5/8″	6,000	4877A95	42.17	96.15
8″	5/8″	0.016″	1 5/8″	5/8″	6,000	4877A96	40.86	90.30
8″	2″	0.012″	1 5/8″	1″	6,000	4877A94	87.19	195.47
10″	3/4″	0.014″	1 3/4″	3/4″	4,500	4877A48	58.79	____
10″	3/4″	0.016″	1 3/4″	3/4″	4,500	4855A24	____	131.80

Brush Dia.	Arbor Hole	Bristle Dia.	Bristle Lg.	Brush Thick.	Max. rpm		For Steel	For SS and Alum.
Standard (Cont.)								
10″	1 1/4″	0.014″	1 3/4″	3/4″	4,500	4877A71	$58.79	____
10″	1 1/4″	0.016″	1 3/4″	3/4″	4,500	4855A25	____	$131.80
10″	2″	0.012″	1 3/4″	1 1/4″	4,500	4877A97	124.67	279.50
12″	1 1/4″	0.014″	2 3/4″	3/4″	3,600	4877A49	72.74	163.10
12″	1 1/4″	0.020″	2 3/4″	5/8″	4,500	4877A46	88.86	____
12″	1 1/4″	0.020″	2 3/4″	3/4″	3,600	4855A28	____	199.30
12″	2″	0.012″	2 3/4″	1 1/4″	3,600	4844A72	151.71	____
Fast Cleaning								
4″	3/8″, 1/2″	0.020″	7/8″	1/4″	20,000	4877A51	17.60	39.06
6″	1/2″, 5/8″	0.023″	1 3/8″	3/8″	9,000	4877A53	22.93	50.77
8″	5/8″	0.023″	1 5/8″	1/2″	6,000	4877A56	41.36	92.72
8″	3/4″	0.023″	1 5/8″	1/2″	6,000	4877A57	41.36	92.72
10″	3/4″	0.023″	1 3/4″	1/2″	4,500	4856A31	50.93	____
10″	1″	0.023″	1 3/4″	1/2″	4,500	4877A59	50.93	114.17
Fast and Aggressive Cleaning								
4″	3/8″, 1/2″	0.020″	7/8″	3/16″	20,000	4877A61	16.02	26.95
4 1/2″	7/8″	0.020″	13/16″	3/16″	15,000	4877A62	21.21	32.38
Long Reach, Fast Cleaning								
10″	1″	0.035″	2 5/8″	3/8″	5,000	4753A38	66.07	____
12″	1″	0.035″	3 5/8″	3/8″	5,000	4753A39	66.07	____

Long-Lasting Surface Finishing and Deburring Brushes



Bristles are nylon and their entire length is embedded with wear-resistant ceramic. They act like flexible files to remove workpiece material in addition to light to medium rust and stains from all materials. Use these brushes on flat surfaces, curves, and contours. They have a plain arbor hole for mounting on bench and pedestal grinders.

Choose 36 or 50 grit for a rough finish; 80, 120, or 180 grit for a smooth finish; and 220 grit for an extra-smooth finish. Bristle dia. is approximately 0.04″ for 36-120 grit brushes, 0.035″ for 180-grit brushes, and 0.022″ for 220-grit brushes.

Brush Dia.	Arbor Hole	Bristle Lg.	Brush Thick.	Max. rpm	Choose a Grit		
3″	3/8″	1″	1/4″	10,000	80, 120	4901A66	$41.53
4″	5/8″	1″	1/4″	10,000	80, 120	4901A67	45.44
4″	5/8″	1″	1/2″	10,000	80, 120, 180, 220	4901A68	57.70
6″	5/8″	2″	1/4″	6,000	80, 120	4901A39	55.16
6″	5/8″	2″	1/2″	6,000	80, 120	4901A79	58.42
6″	1″	1 1/4″	1/2″	6,000	36, 50, 80	4323A11	49.81
6″	2″	1 1/4″	1″	3,600	80, 120, 180, 220	4901A72	72.60

Brush Dia.	Arbor Hole	Bristle Lg.	Brush Thick.	Max. rpm	Choose a Grit		
8″	1 1/4″	1 1/4″	1″	6,000	50, 80, 120	4323A12	$139.67
8″	2″	1 1/4″	1″	3,600	80, 120, 180, 220	4901A73	93.08
8″	2″	2 1/4″	1″	3,600	80, 120, 180, 220	4901A74	101.59
10″	2″	1 1/2″	1″	3,600	80, 120, 180, 220	4901A75	131.11
10″	2″	3 1/4″	1″	3,600	80, 120, 180, 220	4901A76	130.00
12″	4 1/4″	1 1/2″	1″	1,800	80, 120, 180, 220	4901A77	131.11
12″	4 1/4″	3″	1″	1,800	80, 120, 180, 220	4901A78	175.10

For information about brushes, see page 2691. For information about finishing, see page 2675.

Cleaning and Deburring Brushes for Flat Surfaces

The broad face of the brush quickly cleans large, flat areas. The bristles are flexible and they'll remove light to medium rust and stains and small burs. Bristles are crimped, except horsehair and goat hair bristles.

Brushes **with guard** deflect sheared off bristle tips. **Long-lasting brushes for steel with guard** have more wires twisted into each bristle for long brush life. The brush **for no-mess polishing of all materials** removes surface imperfections in addition to contamination without the need for messy buffing compounds. The entire length of the bristle is embedded with 600-grit aluminum oxide abrasive, so the sides of the bristles act like flexible files.



For Angle Grinders



For Angle Grinders, With Guard



For Drills and Grinders for Bits and Burs

For Angle Grinders—Threaded Arbor-Hole Mount

Brush Dia.	Arbor Hole	Bristle Dia.	Bristle Lg.	Max. rpm		
For Steel—Steel bristles						
2¾″	★	0.014″	1″	14,000	4773A11	$15.11
3½″	★	0.014″	⅞″	12,000	4773A12	19.60
4″	⅝″-11	0.014″	1⅜″	10,200	4862A71	26.40
4″	⅝″-11	0.020″	1⅛″	9,000	4862A83	23.60
5″	⅝″-11	0.014″	1¼″	9,000	4862A84	35.12
5″	⅝″-11	0.020″	1¼″	9,000	4862A69	32.77
6″	⅝″-11	0.014″	1¼″	6,600	4862A72	44.88
6″	⅝″-11	0.020″	1¼″	6,600	4862A73	40.58
For Steel with Guard—Brass-coated steel bristles						
3″	⅝″-11	0.012″	⅞″	13,000	4676A31	15.15
4″	⅝″-11	0.012″	1 3/16″	8,500	4676A33	22.27
Long Lasting for Steel with Guard—Brass-coated steel bristles						
3″	⅝″-11	0.009″	⅞″	13,000	4676A32	17.40
4″	⅝″-11	0.009″	1 3/16″	8,500	4676A34	26.02

Brush Dia.	Arbor Hole	Bristle Dia.	Bristle Lg.	Max. rpm		
For Stainless Steel and Aluminum—Stainless steel bristles						
3½″	⅝″-11	0.010″	1⅛″	9,000	4872A11	$39.83
3½″	★	0.014″	⅞″	12,000	4894A21	36.52
4″	⅝″-11	0.014″	1¼″	9,000	4872A13	54.27
4″	⅝″-11	0.020″	1⅜″	10,200	4872A15	52.57
5″	⅝″-11	0.014″	1¼″	9,000	4872A17	67.97
5″	⅝″-11	0.020″	1½″	8,000	4872A14	69.06
6″	⅝″-11	0.020″	1½″	7,000	4872A16	85.48
Low Scratch for Stainless Steel and Aluminum—Brass bristles						
2¾″	⅝″-11	0.014″	¾″	12,500	4870A64	38.97
2¾″	⅝″-11	0.020″	¾″	12,500	4870A65	38.97
4″	⅝″-11	0.010″	1¼″	9,000	4870A68	95.86
4″	⅝″-11	0.014″	1¼″	9,000	4870A72	75.23
4″	⅝″-11	0.020″	1¼″	9,000	4870A73	75.23
6″	⅝″-11	0.014″	1⅝″	6,000	4870A75	136.20

★ To Order: Please specify ⅜″-24, ½″-13, ⅝″-11, or 10×1.25 mm arbor hole.

For Drills and Grinders for Bits and Burs—Shank Mount

For brushes with a ⅛″ dia. shank, prices are approximately 15% lower when you buy 12 or more of the same size brush.

Shank Dia.	Brush Dia.	Bristle Dia.	Bristle Lg.	Shank Lg.	Max. rpm		
For Steel—Steel bristles							
⅛″	⅝″	0.003″	¼″	1½″	37,000	4888A21	$3.00
⅛″	⅝″	0.005″	¼″	1½″	37,000	4888A4	2.56
¼″	1¾″	0.006″	11/16″	1⅛″	13,000	4887A1	13.29
¼″	1¾″	0.012″	11/16″	1⅛″	13,000	4887A2	9.68
¼″	2″	0.008″	⅞″	¾″	13,000	4887A3	13.39
¼″	2″	0.012″	⅞″	¾″	13,000	4887A5	11.03
¼″	2½″	0.008″	⅞″	1⅛″	13,000	4887A6	15.23
¼″	2½″	0.012″	⅞″	1⅛″	13,000	4887A7	12.94
¼″	2¾″	0.012″	⅞″	1″	6,000	4887A8	13.95
For Stainless Steel and Aluminum—Stainless steel bristles							
⅛″	⅝″	0.005″	¼″	1½″	37,000	4916A14	5.10
¼″	1¾″	0.006″	½″	⅞″	13,000	4887A26	20.32
¼″	1¾″	0.012″	¾″	1″	13,000	4887A25	18.84
¼″	2″	0.008″	⅝″	¾″	10,500	4887A21	42.65
¼″	2″	0.010″	⅝″	¾″	10,500	4887A22	41.86
¼″	2½″	0.008″	⅝″	¾″	4,500	4887A23	50.95
¼″	2½″	0.010″	⅝″	¾″	4,500	4887A24	45.53

Shank Dia.	Brush Dia.	Bristle Dia.	Bristle Lg.	Shank Lg.	Max. rpm		
Low Scratch for Stainless Steel and Aluminum—Brass bristles							
⅛″	⅝″	0.005″	¼″	1½″	37,000	4792A41	$2.52
¼″	1¾″	0.006″	¾″	1″	10,500	4868A71	18.23
¼″	1¾″	0.010″	¾″	1″	10,500	4868A72	16.80
¼″	1¾″	0.014″	¾″	1″	10,500	4868A73	16.26
¼″	2″	0.006″	¾″	1″	10,500	4868A74	26.80
¼″	2″	0.010″	¾″	1″	10,500	4868A75	25.57
¼″	2″	0.014″	¾″	1″	10,500	4868A76	24.77
¼″	2¾″	0.006″	¾″	1″	8,000	4868A77	35.71
¼″	2¾″	0.010″	¾″	1″	8,000	4868A78	33.80
¼″	2¾″	0.014″	¾″	1″	8,000	4868A79	32.97
For Dusting All Materials—Horsehair bristles							
⅛″	9/16″	———	¼″	1½″	37,000	4890A12	1.31
⅛″	1″	———	7/16″	1½″	25,000	4890A31	5.43
For Polishing with Compounds—Goat hair bristles							
⅛″	9/16″	———	¼″	1½″	37,000	4890A32	1.42
⅛″	1″	———	7/16″	1½″	25,000	4890A33	5.57
For No-Mess Polishing of All Materials—Nylon bristles							
⅛″	9/16″	0.012″	5/16″	1½″	6,000	44465A63	3.52

Heavy Cleaning and Deburring Brushes for Angles and Corners

Clean around edges, corners, and contours with these dish-shaped brushes. They have rigid, twisted bristles for aggressive deburring and cleaning. Arbor holes are threaded for mounting on angle grinders.

Brushes **for steel** can also be used on plastics if corrosive debris is not a concern. They're made of steel. Brushes **for stainless steel and aluminum** can also be used to roughen rubber surfaces and debur plastics, such as PVC pipe. They're made of stainless steel.





Side View

Brush Dia.	Bristle Dia.	Bristle Lg.	Max. rpm	Choose an Arbor Hole		For Steel	For Stainless Steel and Aluminum
4″	0.014″	¾″	12,500	⅜″-24, ⅝″-11	4775A31♣	$19.88	$31.77
4″	0.020″	¾″	12,500	⅜″-24, ½″-13, ⅝″-11	4775A32	19.70	31.48
4½″	0.014″	1″	12,500	½″-13, ⅝″-11	4775A33▲	22.45	35.88
4½″	0.020″	1″	12,500	⅝″-11	4775A34	22.27	33.73

♣ Brushes for steel are not available with ⅜″-24 arbor.
▲ Brushes for stainless steel and aluminum are not available with ½″-13 arbor.

Pilot-Guided Cleaning and Deburring Brushes

Insert the pilot into a hole for precise control while deburring and removing paint, coatings, and sharp edges from the surface surrounding the hole. These brushes are often used prior to installing rivets or other fasteners. Use them with drills and grinders for bits and burs. Bristles are crimped stainless steel. The *five-piece set* includes one each of the ½″ dia. brushes.



Shank Dia.	Brush Dia.	Bristle Dia.	Bristle Lg.	Pilot Dia.	Shank Lg.	Max. rpm		
¼″	½″	0.005″	⅛″	3/32″	13/16″	20,000	4912A21	$19.24
¼″	½″	0.005″	⅛″	⅛″	13/16″	20,000	4912A22	19.24
¼″	½″	0.005″	⅛″	5/32″	13/16″	20,000	4912A23	19.24
¼″	½″	0.005″	⅛″	3/16″	13/16″	20,000	4912A24	19.24
¼″	½″	0.005″	⅛″	¼″	13/16″	20,000	4912A25	20.66

Shank Dia.	Brush Dia.	Bristle Dia.	Bristle Lg.	Pilot Dia.	Shank Lg.	Max. rpm		
¼″	¾″	0.005″	⅛″	⅛″	⅞″	20,000	4912A32	$32.66
¼″	¾″	0.005″	⅛″	3/16″	⅞″	20,000	4912A35	32.66
¼″	¾″	0.005″	⅛″	¼″	⅞″	20,000	4912A39	37.64
¼″	1″	0.005″	⅛″	¼″	⅞″	14,000	4912A44	39.54
Five-Piece Set							4912A51	97.38

Heavy Cleaning and Deburring Brushes for Flat Surfaces



Standard



Standard with Guard



Fast Cleaning

Quickly clean weld slag, heavy surface contamination, and large burs from large, flat areas with the wide face on these brushes. Also known as knot-wire brushes, they have rigid, partially twisted bristles with a slightly flexible tuft at the end, unless noted. Brushes have a threaded arbor hole for use on angle grinders.

Brushes **for steel** can also be used on plastics if corrosive debris is not a concern. They're made of steel. Brushes **for stainless steel and aluminum** can also be used to roughen rubber surfaces and debur plastics, such as PVC pipe. They're made of stainless steel, except low-scratch brushes are brass.

Brushes *with guard* deflect sheared off bristle tips. Bristles on *long-lasting* brushes are twisted in alternating directions, which prevents them from untwisting. Bristles on *low-scratch* brushes are softer than your workpiece so they won't leave scratch marks on the surface. Brushes *for fast cleaning* have two rows of bristles, unless noted.

Brush Dia.	Arbor Hole	Bristle Dia.	Bristle Lg.	Max. rpm		For Steel	For SS and Aluminum
Standard							
2¾″	★	0.020″	1″	14,000	4771A57	$17.90	$29.70
3½″	♣	0.023″	⅞″	13,000	4771A58	20.67	40.88
4″	⅝″-11	0.014″	1¼″	10,200	4852A65	33.45	63.85
4″	⅝″-11	0.023″	1¼″	10,200	4852A66	30.05	61.02
5″	⅝″-11	0.023″	1⅜″	7,000	4852A17	46.67	____
6″	⅝″-11	0.014″	1⅜″	6,600	4852A67	61.98	122.60
6″	⅝″-11	0.023″	1⅜″	6,600	4852A68	57.12	108.97
6″	⅝″-11	0.035″	1⅜″	6,600	4852A26	54.60	____
Standard with Guard							
2¾″	⅝″-11	0.015″	¾″	15,000	4676A21	16.05	____
2¾″	⅝″-11	0.020″	¾″	15,000	4676A22	16.05	____
4″	⅝″-11	0.020″	1⅛″	8,500	4676A23	22.80	____
Long Lasting							
2¾″	⅝″-11	0.020″	⅞″	14,000	4453A25	$20.70	$34.64
4″	⅝″-11	0.023″	1¼″	9,000	4453A26	32.98	73.80
5″	⅝″-11	0.023″	1⅜″	7,000	4453A27	44.40	92.48
6″	⅝″-11	0.023″	1½″	6,000	4453A14	65.30	____
Low Scratch							
2¾″	⅝″-11	0.014″	⅞″	12,500	48955A77♦	____	49.58
2¾″	⅝″-11	0.020″	⅞″	12,500	48955A81♦	____	49.58
4″	⅝″-11	0.020″	1¼″	7,000	48955A78	____	100.70
Fast Cleaning							
4″	⅝″-11	0.020″	1¼″	9,000	4852A69	37.83	66.65
4″	⅝″-11	0.023″	1¼″	10,200	4852A52■	31.45	____
6″	⅝″-11	0.023″	1⅜″	6,600	4852A71	78.33	114.70

★ To Order: Please specify ⅜″-24, ½″-13, ⅝″-11, or 10×1.25 mm arbor hole. ♣ To Order: Please specify ⅜″-24, ½″-13, or ⅝″-11 arbor hole.
♦ Bristles are twisted to the end. ■ Have one row of bristles twisted to the end.

Cleaning Brushes for Angles and Contours



Standard for Angles and Corners



Long Lasting for Angles and Corners



For Contours and Open-End Holes



For Contours and Closed-End Holes

Bristles are crimped for flexibility and flared to conform to corners, curves, holes, and other irregular surfaces. Use to remove light to medium rust and stains. Brushes have a ¼″ dia. shank for use on drills and grinders for bits and burs. Shanks are ¾″-1″ long.

Brushes **for steel** can also be used on plastics if corrosive debris is not a concern. They're made of steel. Brushes **for stainless steel and aluminum** can also be used to roughen rubber surfaces and debur plastics, such as PVC pipe. They're made of stainless steel. **Low scratch for stainless steel and aluminum** brushes are brass.

Standard brushes for angles and corners are similar to wheel brushes, but more flexible. *Long-lasting brushes for angles and corners* are coated with a synthetic compound that keeps bristles stiff and straight so they're more aggressive and last longer than standard brushes.

For Angles and Corners

Brush Dia.	Bristle Dia.	Bristle Lg.	Max. rpm	For Steel		For Stainless Steel and Aluminum	
Standard							
1½″	0.006″	⅜″	20,000	4797A11	$6.49	4797A31	$8.84
1½″	0.012″	⅜″	20,000	4797A12	5.04	4797A32	8.27
2″	0.008″	½″	20,000	4797A13	6.60	____	____
2″	0.014″	½″	20,000	4797A14	5.82	4797A33	8.98
2″	0.020″	½″	20,000	4797A22	6.09	____	____
2½″	0.006″	⅝″	20,000	4797A25	8.31	____	____
2½″	0.014″	⅝″	20,000	4797A16	6.22	____	____
2½″	0.020″	⅝″	20,000	4797A43	6.58	____	____
3″	0.006″	15⁄16″	20,000	4797A27	9.00	4797A54	14.36
3″	0.008″	15⁄16″	20,000	4797A28	8.88	____	____
Standard (Cont.)							
3″	0.014″	15⁄16″	20,000	4797A18	$6.67	4797A55	$11.38
3″	0.020″	15⁄16″	20,000	4797A44	6.93	____	____
4″	0.006″	1¼″	20,000	____	____	4797A57	14.89
4″	0.008″	1¼″	20,000	4797A29	9.33	____	____
4″	0.014″	1¼″	20,000	4797A41	9.49	4797A59	16.09
Long Lasting							
1¾″	0.010″	⅞″	25,000	4835A14	12.50	4835A31	12.78
1¾″	0.020″	⅞″	25,000	4835A17	12.50	____	____
2″	0.020″	1″	20,000	4835A23	13.90	____	____

For Contours and Open-End Holes

Brush Dia.	Bristle Dia.	Max. rpm	For Steel		For Stainless Steel and Aluminum	
1″	0.020″	15,000	4884A13	$8.46	4884A32	$11.23
1½″	0.014″	15,000	4884A71	7.17	4884A72	11.71
1½″	0.020″	15,000	4884A26	5.90	4884A66	11.92
2¾″	0.020″	15,000	4884A56	14.75	4884A69	22.33
3″	0.014″	15,000	4884A18	8.62	4884A38	21.98
3″	0.020″	15,000	4884A19	8.79	4884A39	27.48

Brush Dia.	Bristle Dia.	Max. rpm	Low Scratch for Stainless Steel and Aluminum	
1″	0.005″	15,000	47975A71	$15.77
1″	0.010″	15,000	47975A72	14.63
1″	0.020″	15,000	47975A73	14.46
1½″	0.020″	15,000	47975A76	16.37
3″	0.020″	15,000	47975A79	26.14
4″	0.020″	15,000	47975A83	30.69

For Contours and Closed-End Holes

Brush Dia.	Bristle Dia.	Max. rpm	For Steel		For Stainless Steel and Aluminum	
1″	0.006″	25,000	4884A11	$11.12	4884A31	$16.33
1″	0.008″	25,000	4884A81	8.02	4884A83	14.71
1¼″	0.006″	20,000	4884A51	13.29	4884A33	21.02
1½″	0.006″	20,000	4884A14	12.81	4884A34	21.71
2″	0.010″	15,000	4884A27	15.19	4884A47	17.98
2¾″	0.008″	16,000	4884A55	17.77	4884A62	32.96
3″	0.006″	16,000	4884A17	22.67	4884A67	27.00
3″	0.008″	16,000	4884A82	14.17	4884A84	26.79
4″	0.008″	15,000	4884A21	27.02	4884A41	38.48

Brush Dia.	Bristle Dia.	Max. rpm	Low Scratch for Stainless Steel and Aluminum	
1½″	0.005″	15,000	47975A74	$22.57
1½″	0.010″	15,000	47975A75	16.60
3″	0.010″	15,000	47975A78	27.86
4″	0.005″	15,000	47975A81	49.06
4″	0.010″	15,000	47975A82	32.49

For information about brushes, see page 2691. For information about finishing, see page 2675.

Surface Finishing and Deburring Brushes for Flat Surfaces

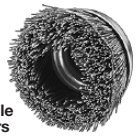

For Angle Grinders



For Drills and Grinders for Bits and Burs

These wide-face brushes remove workpiece material in addition to light to medium rust and stains from large, flat areas. The bristles are nylon and their entire length is embedded with silicon carbide abrasive, so the sides of the bristles act like flexible files. Use them on all materials.

Choose 80, 120, or 180 grit for a smooth finish and 320 grit for an extra-smooth finish. Bristle dia. is approx. 0.05″ for 80-grit brushes, 0.028″ for 120-grit brushes, 0.035″ for 180-grit brushes, and 0.022″ for 320-grit brushes.

For Angle Grinders—Threaded Arbor-Hole Mount

Brush Dia.	Arbor Hole	Bristle Lg.	Max. rpm	Choose a Grit		
4″	5/8″-11	1 1/2″	6,000	80, 120, 320	4782A29	$51.84
6″	5/8″-11	1 1/2″	6,000	80, 120, 320	4782A19	70.70

For Drills and Grinders for Bits and Burs—Shank Mount

Shank Dia.	Brush Dia.	Bristle Lg.	Shank Lg.	Max. rpm	Choose a Grit		
1/4″	2″	13/16″	1 1/8″	5,000	80, 180	44445A49	$13.41
1/4″	3″	7/8″	1 1/8″	5,000	80, 180	44445A59	14.73

Surface Finishing and Deburring Brushes for Tight Spaces



The compact brush face fits into hard-to-reach areas to remove workpiece material and light to medium rust and stains in one step. The bristles are nylon and their entire length is embedded with abrasive, so the sides of the bristles act like flexible files. Mount these brushes on drills and grinders for bits and burs and use on all materials.

Choose 120 or 180 grit for a smooth finish and 220 or 320 grit for an extra-smooth finish. Bristle dia. is approximately 0.04″ for 120-grit brushes, 0.035″ for 180-grit brushes, and 0.022″ for 220- and 320-grit brushes.

Standard brushes are embedded with silicon carbide. **Long-lasting** brushes are embedded with ceramic, which is very sharp and wear resistant.

Shank Dia.	Brush Dia.	Bristle Lg.	Shank Lg.	Max. rpm	Choose a Grit		
Standard							
1/4″	1/2″	1″	7/8″	10,000	120, 180, 320	4914A1	$14.24
1/4″	3/4″	7/8″	3/4″	10,000	120, 180, 320	4914A2	11.66
1/4″	1″	7/8″	3/4″	10,000	120, 180, 320	4914A4	14.54
Long Lasting							
1/4″	1/2″	1″	7/8″	10,000	120, 180, 220	4914A5	13.18
1/4″	3/4″	1″	7/8″	10,000	120, 180, 220	4914A6	15.28
1/4″	1″	1″	7/8″	10,000	120, 180, 220	4914A7	17.46

Cleaning and Deburring Brushes for Tight Spaces

A small brush face and flexible bristles make these brushes a good choice for deburring and removing light to medium rust and stains from hard-to-reach places. Bristles are crimped, except horsehair and goat hair bristles. Mount on drills and grinders for bits and burs.

Brushes **for polishing** remove surface imperfections in addition to contamination without the need for messy buffing compounds. The entire length of the bristle is embedded with abrasive, so the sides of the bristles act like flexible files. Brushes **for no-mess polishing of all materials** are embedded with 600-grit aluminum oxide. Brushes **for polishing hard nonmetals** are embedded with 5-micron (1200 grit) diamond abrasive, which is sharper and lasts longer than aluminum oxide. Use them on materials such as ceramics and glass. Brushes **with coated housing** have a plastic coating to protect workpieces from marks and scratches. **Long-lasting** brushes have removable bands around the bristles to keep them from flaring and breaking. Adjust the bands to change the bristle length.



For Polishing Hard-Nonmetal Flat Surfaces



For Polishing Hard-Nonmetal Angles



For Steel



Long Lasting for Steel

1/8″ Dia. Shank

Brush Dia.	Bristle Dia.	Bristle Lg.	Shank Lg.	Max. rpm		1-11	12-Up
For Steel—Steel bristles							
3/16″	0.003″	1/4″	1″	37,000	4888A1	$1.87	$1.62
1/4″	0.005″	7/16″	1″	37,000	4888A12	4.20	3.60
5/16″	0.005″	9/16″	1″	25,000	4888A3	3.91	3.30
For Stainless Steel and Aluminum—Stainless steel bristles							
3/16″	0.003″	1/4″	1 1/4″	37,000	4916A11	3.08	2.60
1/4″	0.005″	7/16″	1 1/4″	37,000	4916A12	4.85	4.09
5/16″	0.005″	9/16″	1 1/4″	25,000	4916A13	5.28	4.49
Low Scratch for Stainless Steel and Aluminum—Brass bristles							
3/16″	0.003″	1/4″	1″	37,000	4792A31	1.84	1.47
1/4″	0.005″	7/16″	1″	37,000	4792A32	3.96	3.17
For Dusting All Materials—Horsehair bristles							
3/16″	———	1/4″	1″	37,000	4890A21	1.08	.91
1/4″	———	3/8″	1 1/4″	37,000	4890A11	1.75	1.46
5/16″	———	9/16″	1 1/4″	25,000	4890A22	2.23	1.88
For Applying Buffing Compounds—Goat hair bristles							
3/16″	———	1/4″	1″	37,000	4890A23	$2.15	$1.81
For No-Mess Polishing of All Materials—Nylon bristles							
3/16″	0.012″	7/16″	1 1/4″	6,000	44465A73	2.19	1.87
1/4″	0.012″	7/16″	1 3/16″	6,000	44465A75	4.44	3.78
5/16″	0.012″	7/16″	1 3/16″	6,000	44465A77	4.87	4.15
For Polishing Hard-Nonmetal Flat Surfaces—Kevlar bristles							
3/16″	0.010″	13/64″	39/64″	3,000	4357A12★	11.70	9.95
9/32″	0.010″	13/64″	17/32″	3,000	4357A11★	11.70	9.95
For Polishing Hard-Nonmetal Angles—Kevlar bristles							
3/16″	0.010″	9/32″	39/64″	3,000	4357A13★	11.70	9.95

★ Shank is 3/32″ dia.

1/4″ Dia. Shank

Prices are approximately 15% lower when you buy 12 or more of the same size brush.

Bristle Dia.	Bristle Lg.	Shank Lg.	Max. rpm		Brush Dia. 1/2″	Brush Dia. 3/4″	Brush Dia. 1″
For Steel—Steel bristles							
0.006″	7/8″	3/4″	22,000	4865A1	$5.68	$8.14	$10.90
0.010″	7/8″	3/4″	22,000	4865A2	4.95	6.01	6.97
0.014″	7/8″	3/4″	22,000	4865A4	4.93	5.83	6.98
0.020″	7/8″	3/4″	22,000	4865A5	4.63	5.49	6.62
For Steel with Coated Housing—Steel bristles							
0.006″	7/8″	1″	22,000	4911A1	9.28	13.45	14.45
0.010″	7/8″	1″	22,000	4911A2	8.85	10.22	10.85
Long Lasting for Steel—Steel bristles							
0.006″	9/16″	1″	10,000■	4911A3	11.12	15.65	25.73
0.010″	9/16″	1″	10,000■	4911A4	9.50	13.53	15.82
For Stainless Steel and Aluminum—Stainless steel bristles							
0.006″	7/8″	3/4″	22,000	4885A1	7.66	10.27	15.81
0.010″	7/8″	3/4″	22,000	4885A2	6.67	9.16	13.53
0.014″	7/8″	3/4″	22,000	4885A3	6.67	9.21	13.21
0.020″	7/8″	3/4″	22,000	4885A4	6.53	9.04	12.99
For Stainless Steel and Aluminum with Coated Housing—Stainless steel bristles							
0.006″	7/8″	1″	22,000	4911A5	11.62	14.03	14.75
0.010″	7/8″	1″	22,000	4911A6	10.45	12.53	18.00
Long Lasting for Stainless Steel and Aluminum—Stainless steel bristles							
0.006″	9/16″	1″	10,000■	4911A7	$14.32	$15.75	$25.38
0.010″	3/8″	1″	10,000■	4911A8	10.35	14.55	20.82
Low Scratch for Stainless Steel and Aluminum—Brass bristles							
0.006″	1″	7/8″	20,000	48185A1	13.26	22.74	25.48
0.010″	1″	7/8″	20,000	48185A2	11.89	15.48	18.96
0.014″	1″	7/8″	20,000	48185A3	11.44	14.85	16.07
0.020″	1″	7/8″	20,000	48185A4	11.44	14.85	16.07
Long Lasting, Low Scratch for Stainless Steel and Aluminum—Brass bristles							
0.005″	1″	7/8″	20,000	4871A1	16.06	21.74	26.31
0.010″	1″	7/8″	20,000	4871A2	14.19	17.19	20.22
0.020″	1″	7/8″	20,000	4871A3	14.19	17.19	18.75

■ Max. rpm is 20,000 for 1/2″ and 3/4″ diameter brushes.

Heavy Cleaning and Deburring Brushes for Tight Spaces



1/4″ Dia. Standard



1″ Dia. Standard



Long Lasting

Made for areas with limited access, these compact brushes remove weld slag, heavy surface contamination, and large burs. They have a 1/4″ dia. shank for mounting on drills and grinders for bits and burs.

Brushes **for steel** can also be used on plastics if corrosive debris is not a concern. They're made of steel. Brushes **for stainless steel and aluminum** can also be used to roughen rubber surfaces and debur plastics, such as PVC pipe. They're made of stainless steel.

Standard brushes have rigid, partially twisted bristles. The 1/4″ dia. brushes are made of a single twist of bristles and work well in even the tiniest spots. Bristles on *long-lasting* brushes are crimped and coated with a synthetic compound that keeps them stiff and straight so they last longer than standard brushes.

Brush Dia.	Bristle Dia.	Bristle Lg.	Shank Lg.	Max. rpm		For Steel	For SS and Alum.
Standard							
1/4″	0.006″	1 1/8″	7/8″	20,000	4458A61	$15.87	$17.67
1/4″	0.014″	1 1/8″	7/8″	20,000	4458A62	13.88	15.10
1/4″	0.020″	1 1/8″	7/8″	20,000	4458A63	13.25	14.30
1/2″	0.006″	1 1/8″	3/4″	22,000	4863A11	19.07	25.40
1/2″	0.010″	1 1/8″	3/4″	22,000	4863A12	14.45	21.23
1/2″	0.014″	1 1/8″	3/4″	22,000	4863A13	14.69	24.87
3/4″	0.006″	1 1/8″	3/4″	20,000	4863A14	20.73	26.83
3/4″	0.010″	1 1/8″	1″	20,000	4863A15	22.64	19.06
3/4″	0.014″	7/8″	1″	22,000	4863A16	15.28	23.97
3/4″	0.020″	7/8″	1″	22,000	4863A17	15.06	23.00
1″	0.006″	1 1/8″	11/16″	20,000	4863A18	21.93	29.80
1″	0.014″	1″	11/16″	20,000	4863A19	14.73	22.40
1″	0.020″	1″	11/16″	20,000	4863A21	13.36	22.50
1 1/8″	0.006″	1″	1″	20,000	4863A22	44.06	46.67
1 1/8″	0.014″	7/8″	1″	22,000	4863A23	15.75	29.94
1 1/8″	0.020″	7/8″	1″	22,000	4863A24	15.50	26.83
Long Lasting							
1/2″	0.005″	1″	3/4″	18,000	4913A17	—	17.73
1/2″	0.020″	1″	3/4″	18,000	4913A12	14.63	—
3/4″	0.006″	1″	3/4″	15,000	4913A13	22.58	—
3/4″	0.010″	1″	3/4″	15,000	4913A18	—	21.00
1″	0.010″	1″	3/4″	13,000	4913A21	—	26.52
1″	0.020″	1″	3/4″	13,000	4913A16	21.14	—

Surface Finishing and Deburring Disc Brushes for CNC and Milling Machines



Plain Arbor-Hole Mount



Shank Mount

Precisely remove thin layers of metal from your workpiece in addition to light to medium rust and stains. The bristles are nylon, which can be used with the coolant in your CNC machine. The entire bristle length is embedded with ceramic abrasive so the sides of the bristles act like flexible files.

Choose 80, 120, or 180 grit for a smooth finish and 220 grit for an extra-smooth finish. Bristle dia. is approximately 0.04″ for 80- and 120-grit brushes, 0.035″ for 180-grit brushes, and 0.022″ for 220-grit brushes.

Plain Arbor-Hole Mount

An arbor is required (sold separately). **To Order:** For arbor, please specify brush diameter: 3″, 4″, 5″, 6″, 8″, or 10″.

Brush Dia.	Arbor Hole	Bristle Lg.	Max. rpm	Choose a Grit		
3″	7/8″	1 1/2″	2,500	80, 120, 180, 220	7006T17	$103.88
4″	7/8″	1 1/2″	2,500	80, 120, 180, 220	7006T18	127.46
5″	7/8″	1 1/2″	1,750	80, 120, 180, 220	7006T19	148.69
6″	7/8″	1 1/2″	1,750	80, 120, 180, 220	7006T21	175.41
8″	7/8″	1 1/2″	1,200	80, 120, 180, 220	7006T22	267.49
10″	7/8″	1 1/2″	800	80, 120, 180, 220	7006T23	320.59
Arbor for Plain Arbor-Hole Mount Brushes					7006T4	204.20
Replacement Bolt and Washer Kit for Arbor					7006T29	39.55

Shank Mount

Shank Dia.	Brush Dia.	Bristle Lg.	Shank Lg.	Max. rpm	Choose a Grit		
1/4″	1 1/2″	1 3/8″	7/8″	4,500	80, 120, 220	7006T31	$55.83
1/4″	2″	1 3/8″	7/8″	4,500	80, 120, 220	7006T32	72.68
1/4″	2 1/2″	1 3/8″	7/8″	4,500	80, 120, 220	7006T33	99.08

Surface Finishing and Deburring Disc Brushes



For Angle Grinders



For Drills and Grinders for Bits and Burs

Use on flat and contoured surfaces to remove workpiece material and light to medium rust and stains in one step. The bristles are nylon and their entire length is embedded with abrasive, so the sides of the bristles act like files. Use them on all materials.

For Angle Grinders

The **standard** brush has flexible nylon bristles embedded with aluminum oxide abrasive and a 5/8″-11 threaded arbor hole. Use for light to medium cleaning and deburring. Bristle dia. is 0.05″ and bristle lg. is 3/4″.

Fast cutting brushes have firm nylon bristles embedded with silicon carbide for heavy cleaning, deburring, and edge rounding. All have a 7/8″ plain arbor hole and require a backup pad and a 5/8″-11 disc nut (sold separately). Bristle dia. is 0.06″ for 46-grit brushes, 0.045″ for 60-grit brushes, 0.04″ for 80-grit brushes, 0.028″ for 120-grit brushes, 0.035″ for 180-grit brushes, and 0.022″ for 320-grit brushes. Bristle length is 3/4″.

To Order: Please specify grit: 46 or 60 (rough finish); 80, 120, or 180 (smooth finish); or 320 (extra-smooth finish), unless noted.

Brush Dia.	Max. rpm	Disc Brushes		Backup Pads		Disc Nuts	
Standard							
4 1/2″	12,000	4480A6▲	$30.45	—	—	—	—
Fast Cutting							
5″	3,000	44565A11	54.53	44565A82	$23.33	4655A27	$6.47
7″	2,500	44565A21	94.60	44565A84	35.16	4655A28	6.47

▲Available in 50, 80, and 120 grit.

For Drills and Grinders for Bits and Burs

Bristles are flexible nylon embedded with aluminum oxide abrasive for light to medium cleaning and deburring. Brushes have a 3M Roloc/Norton Speed-Lok TR compatible plastic fastener that mounts to a disc holder (sold separately) with a 1/4″ Dia. × 1 7/16″ Lg. shank.

To Order: Please specify grit: 50 (rough finish) or 80 or 120 (smooth finish).

Brush Dia.	Bristle Dia.	Bristle Lg.	Max. rpm	Disc Brushes		Disc Holders	
1″	0.050″	5/8″	30,000	4480A2	$6.04	46465A72	$10.70
2″	0.050″	5/8″	25,000	4480A4	9.53	46325A92	11.87
3″	0.050″	5/8″	15,000	4480A5	14.70	46325A93	13.04

Flexible Disc Brushes for Tight Spaces



Bristles are long and flexible to reach into contours, small cracks, angles, and corners. Use on all materials to remove light to medium rust and stains. The bristles are nylon and their entire length is embedded with aluminum oxide so the sides of the bristles act like flexible files. Mount on drills and grinders for bits and burs.

Choose 36 or 50 grit for a rough finish; 80 or 120 grit for a smooth finish; 220 grit for an extra-smooth finish; and 400 grit for a polished finish.

Quick Change

Brushes have a 3M Roloc/Norton Speed-Lok TR compatible plastic fastener that mounts to a disc holder (sold separately) with a 1/4″ Dia. × 1 7/16″ Lg. shank. Bristle dia. is 0.07″ and bristle length is 1″.

Brush Dia.	Max. rpm	Choose a Grit	Disc Brush	Disc Holder
3″	25,000	50, 80, 120	4483A31 $9.12	46465A72 $10.70

Shank Mount

A shank is required (sold separately).

Brush Dia.	Bristle Dia.	Bristle Lg.	Max. rpm	Choose a Grit		
9/16″	0.010″	3/16″	35,000	120, 220, 400	4494A51	$1.19
3/4″	0.010″	3/16″	35,000	80, 220, 400	4494A52	1.24
1″	0.030″	5/16″	35,000	36, 50, 80, 120	4494A53	1.51
2″	0.030″	3/8″	30,000	80, 120, 220, 400	4494A54	2.79
3″	0.030″	7/8″	20,000	80, 120, 220, 400	4494A55	3.07
3/32″ dia. shank for 9/16″ and 3/4″ dia. brushes					4494A44	2.23
1/8″ dia. shank for 1″ dia. brushes					4494A45	4.02
1/4″ dia. shank for 2″ and 3″ dia. brushes					4494A46	21.07

Tube Brushes

Clean inside tubes and holes with these cylindrical brushes. *Twisted-shank* brushes can be used by hand, or in tools with a 1/4″ chuck. *Smooth-shank* brushes have a 5/16″ dia. shank, unless noted. Mount them on drills and grinders for bits and burs. Max. rpm is 2,000.

Brushes **for steel** are made of steel. Brushes **for stainless steel and aluminum** are made of stainless steel. **Low scratch for stainless steel and aluminum** brushes are made of brass.

Brushes *for light cleaning and deburring* have a single spiral of bristles twisted between two stainless steel wires. Use them to remove light to medium rust and stains and small burs. Brushes *for heavy cleaning and deburring* have two spirals of bristles twisted between four galvanized steel wires. They have more bristles and more rigid stems than brushes for light cleaning. Use them to remove weld slag, heavy surface contamination, and large burs.

Prices are approximately 15% lower when you buy 12 or more of the same size brush.



Brush for Light Cleaning and Deburring with Twisted Shank



Brush for Heavy Cleaning and Deburring with Smooth Shank

Brush Dia.	Brush Lg.	O'all Lg.	Bristle Dia.		For Steel Twisted Shank	For Steel Smooth Shank	For Stainless Steel and Aluminum Twisted Shank	For Stainless Steel and Aluminum Smooth Shank	Low Scratch for Stainless Steel and Aluminum Twisted Shank	Low Scratch for Stainless Steel and Aluminum Smooth Shank
For Light Cleaning and Deburring										
1/4″	1″	3 1/2″	0.004″	4810A87 ★	$4.01	$7.22	$4.21	$7.13	$4.09	$7.13
5/16″	1″	3 1/2″	0.004″	4810A89 ♣	4.13	7.22	4.01	7.13	4.05	7.13
3/8″	1″	3 1/2″	0.004″	4810A91 ♣	4.00	7.22	4.19	7.13	4.14	7.13
7/16″	1″	3 1/2″	0.004″	4810A92 ♣	4.13	7.22	4.03	7.13	4.03	7.13
1/2″	1″	3 1/2″	0.005″	4810A93 ♣	3.61	7.31	3.88	7.19	3.78	7.19
9/16″	1″	3 1/2″	0.005″	4810A94 ♣	4.22	7.31	4.09	7.19	4.09	7.19
5/8″	1″	3 1/2″	0.005″	4810A95 ♣	3.32	7.34	4.08	7.22	3.68	7.22
11/16″	1″	3 1/2″	0.005″	4810A96 ♣	4.25	7.34	4.13	7.22	4.13	7.22
3/4″	1″	3 1/2″	0.006″	4810A97	4.14	7.38	4.35	7.25	4.37	7.34
13/16″	1″	3 1/2″	0.006″	4810A98	4.28	7.38	4.16	7.25	4.25	7.34
7/8″	1″	3 1/2″	0.006″	4810A82	4.10	7.47	4.22	7.38	4.37	7.50
15/16″	1″	3 1/2″	0.006″	4810A83	4.38	7.47	4.28	7.38	4.41	7.50
1″	1″	3 1/2″	0.008″	4810A84	4.68	7.69	5.05	7.75	5.59	7.56
1 1/8″	1″	3 1/2″	0.008″	4810A85	4.68	7.69	5.05	7.84	4.78	7.63
1 1/4″	1″	3 1/2″	0.008″	4810A86	4.68	7.69	5.05	7.84	4.91	7.66
For Heavy Cleaning and Deburring										
1/4″	1 1/2″	4″	0.005″	4917A41 ★	7.39	9.41	7.86	9.76	7.81	9.76
5/16″	1 1/2″	4″	0.005″	4917A42 ♣	7.55	9.46	8.02	9.86	7.81	9.76
3/8″	1 1/2″	4″	0.005″	4917A43 ♣	7.72	9.62	8.17	9.97	7.99	9.89
7/16″	2″	5″	0.006″	4917A44 ♣	7.27	9.70	7.62	10.32	7.84	10.54
1/2″	2″	5″	0.006″	4917A45 ♣	11.11	10.57	10.87	11.35	9.26	11.49
9/16″	2″	5″	0.005″	4917A46	8.43	10.81	8.65	11.35	9.11	11.81
5/8″	2″	5″	0.005″	4917A47	12.18	11.03	11.12	11.59	9.61	12.05
11/16″	2″	5″	0.005″	4917A48	8.65	11.03	8.95	11.65	9.43	12.14
3/4″	2 1/2″	5 1/2″	0.006″	4917A49	12.00	11.03	11.90	11.65	9.64	12.14
13/16″	2 1/2″	5 1/2″	0.006″	4917A5	8.76	11.14	9.00	11.70	9.49	12.19
7/8″	2 1/2″	5 1/2″	0.006″	4917A51	12.87	11.24	9.18	11.46	9.87	12.32
15/16″	2 1/2″	5 1/2″	0.006″	4917A52	9.00	11.38	8.78	11.49	9.84	12.54
1″	2 1/2″	5 1/2″	0.006″	4917A53	13.18	11.38	12.36	11.49	10.14	12.54
1 1/8″	2 1/2″	5 1/2″	0.006″	4917A54	9.91	12.62	10.42	13.14	10.40	13.11
1 1/4″	2 1/2″	5 1/2″	0.006″	4917A55	10.16	12.86	10.71	13.41	10.61	13.32

★ Shank diameter is 3/16″ for brushes with smooth shank. ♣ Shank diameter is 1/4″ for brushes with smooth shank.

Threaded-Shank Cleaning and Deburring Tube Brushes

Attach the threaded shank on these brushes to a handle or power tool to reach deep into tubes and pipes. They have a single spiral of bristles that removes light to medium rust and stains and small burs. Bristles are twisted between four galvanized steel wires, unless noted. Overall length is approximately 2″-3″ longer than the brush length. Max. rpm is 1,750. 1 1/4″ dia. and larger brushes have a 1/2″ dia. loop at the tip.

Brushes **for stainless steel and aluminum** are made of stainless steel. **Low scratch for stainless steel and aluminum** brushes are made of brass. **Low scratch for copper** brushes are made of nylon.



Brush Dia.	Brush Lg.	Choose a Thread Female	Choose a Thread Male	For Stainless Steel and Aluminum Bristle Dia.		For Stainless Steel and Aluminum 1-11	For Stainless Steel and Aluminum 12-Up	Low Scratch for Stainless Steel and Aluminum Bristle Dia.		Low Scratch for Stainless Steel and Aluminum 1-11	Low Scratch for Stainless Steel and Aluminum 12-Up	Low Scratch for Copper Bristle Dia.		Low Scratch for Copper 1-11	Low Scratch for Copper 12-Up
1/4″	3″	8-32	8-32	0.005″	7230T41	$8.25	$6.60	0.004″	7231T41	$7.26	$5.82	0.014″	7043T54 ▲	$3.77	$2.99
3/8″	4″	12-24	8-32	0.005″	7230T27	8.86	7.09	0.004″	7231T27	7.91	6.34	0.016″	7043T23 ▲	3.91	3.09
7/16″	4″	12-24	1/4″-28	0.005″	7230T43	8.86	7.09	0.005″	7231T43	7.91	6.34	0.016″	7043T55 ▲	3.80	3.01
1/2″	4″	12-24	1/4″-28	0.006″	7230T44	8.86	7.09	0.006″	7231T44	8.27	6.62	0.018″	7043T44 ▲	3.80	3.01
9/16″	4″	12-24	1/4″-28	0.006″	7230T45	9.61	7.69	0.005″	7231T45	8.88	7.10	0.018″	7043T45 ▲	3.96	3.13
5/8″	4″	12-24	1/4″-28	0.006″	7230T46	9.61	7.69	0.005″	7231T46	8.27	6.62	0.018″	7043T46 ▲	3.96	3.13
11/16″	4″	12-24	1/4″-28	0.006″	7230T47	9.61	7.69	0.006″	7231T47	8.27	6.62	0.020″	7043T47 ▲	4.03	3.19
3/4″	4″	12-24	1/4″-28	0.006″	7230T48	9.78	7.82	0.006″	7231T48	8.61	6.89	0.020″	7043T48 ▲	4.07	3.22
13/16″	4″	12-24	1/4″-28	0.007″	7230T49	9.78	7.82	0.006″	7231T49	8.61	6.89	0.020″	7043T49 ▲	4.07	3.22
7/8″	4″	12-24	1/4″-28	0.007″	7230T51	9.78	7.82	0.008″	7231T51	8.61	6.89	0.022″	7043T51 ▲	4.07	3.22
15/16″	4″	12-24	1/4″-28	0.009″	7230T52	10.11	8.09	0.008″	7231T52	9.00	7.21	0.022″	7043T52 ▲	4.27	3.37
1″	4″	12-24	1/4″-28	0.009″	7230T53	10.11	8.09	0.008″	7231T53	9.00	7.21	0.022″	7043T53 ▲	4.27	3.37
1 1/4″	4 1/2″	_____	1/4 NPT	0.009″	7230T14	10.47	8.38	0.006″	7231T14	8.97	7.18	0.018″	7043T14 ↙	7.94	6.28
1 1/2″	4 1/2″	_____	1/4 NPT	0.009″	7230T15	10.81	8.64	0.006″	7231T15	9.92	7.93	0.020″	7043T15 ↙	8.85	7.00
1 3/4″	4 1/2″	_____	1/4 NPT	0.009″	7230T16	11.94	9.56	0.006″	7231T16	10.33	8.27	0.022″	7043T16 ↙	9.32	7.37
2″	4 1/2″	_____	1/4 NPT	0.009″	7230T17	12.72	10.18	0.008″	7231T17	10.72	8.58	0.025″	7043T17 ↙	9.74	7.70
2 1/4″	4 1/2″	_____	1/4 NPT	0.009″	7230T18	13.42	10.73	0.008″	7231T18	10.83	8.67	0.025″	7043T18 ↙	10.21	8.07
2 1/2″	4 1/2″	_____	1/4 NPT	0.009″	7230T19	13.89	11.11	0.008″	7231T19	11.56	9.24	0.028″	7043T19 ↙	10.62	8.40
2 3/4″	4 1/2″	_____	1/4 NPT	0.013″	7230T21	14.33	11.47	0.008″	7231T21	12.42	9.93	0.036″	7043T21 ↙	11.06	8.74
3″	4 1/2″	_____	1/4 NPT	0.013″	7230T22	15.31	12.24	0.008″	7231T22	12.69	10.16	0.036″	7043T22 ↙	11.53	9.12
3 1/2″	4 1/2″	_____	1/4 NPT	0.013″	7230T24	16.28	13.02	0.012″	7231T24	14.25	11.40	0.036″	7043T41 ↙	12.41	9.81
4″	4 1/2″	_____	1/4 NPT	0.016″	7230T26	17.22	13.78	0.012″	7231T26	15.56	12.44	0.036″	7043T43 ↙	13.29	10.51

▲ Bristles are twisted between two wires. ↙ Brush length is 5″.

Tube Brushes

For information about brushes, see page 2691. For information about finishing, see page 2675.

Miniature Tube Brushes



Use by hand to remove light to medium rust and stains and small burs from very small tubes and holes. These brushes have a single spiral of bristles twisted between two stainless steel wires, unless noted. Overall length is 3″.

Brushes **for stainless steel and aluminum** are made of stainless steel. **Low scratch for stainless steel and aluminum** brushes are made of brass. Brushes **for no-mess polishing of all materials** remove surface imperfections and contamination without the need for messy buffing compounds. The bristles are nylon embedded with 600-grit aluminum oxide abrasive, unless noted.

Brushes for Stainless Steel and Aluminum

Brush Dia.	Brush Lg.	Bristle Dia.		For SS and Aluminum 1-11	For SS and Aluminum 12-Up	Low Scratch for SS and Aluminum 1-11	Low Scratch for SS and Aluminum 12-Up
0.014″	1/4″	0.003″	4754A21	$8.52	$7.22	$8.62	$7.31
0.018″	1/4″	0.003″	4754A65	7.92	6.71	8.02	6.80
0.020″	1/4″	0.003″	4754A66	4.30	3.64	4.40	3.73
0.024″	1/4″	0.003″	4754A67	5.54	4.40	4.61	3.69
0.030″	5/8″	0.003″	4754A68	4.20	3.56	4.30	3.64
0.032″	5/8″	0.002″	4754A69	4.44	3.73	4.31	3.44
0.040″	3/4″	0.003″	4754A72	4.08	3.46	4.18	3.54
0.047″	3/4″	0.002″	4754A73	4.07	3.22	4.14	3.31
0.050″	3/4″	0.003″	4754A74	4.08	3.46	4.18	3.54
0.054″	3/4″	0.002″	4754A75	3.96	3.23	3.11	2.49
0.060″	3/4″	0.003″	4754A76	3.84	3.25	3.94	3.34
0.063″	3/4″	0.003″	4754A77	3.51	2.78	3.11	2.49
0.070″	3/4″	0.003″	4754A78	3.62	3.07	3.72	3.15
0.079″	3/4″	0.003″	4754A79	3.51	2.78	3.11	2.49
0.090″	3/4″	0.003″	4754A81	3.50	2.97	3.60	3.05
0.094″	3/4″	0.003″	4754A82	3.51	2.78	2.94	2.36
0.100″	3/4″	0.003″	4754A83	3.46	2.93	3.56	3.02
0.109″	3/4″	0.003″	4754A84	3.51	2.78	2.69	2.16
0.120″	1″	0.003″	4754A85	3.24	2.75	3.34	2.83
0.125″	1″	0.003″	4754A86	3.51	2.78	2.44	1.96
0.130″	1″	0.003″	4754A87	2.94	2.49	3.04	2.58
0.140″	1″	0.003″	4754A89	$2.94	$2.49	$3.04	$2.58
0.142″	1″	0.003″	4754A91	3.51	2.78	2.42	1.93
0.150″	1″	0.003″	4754A92	2.94	2.49	3.04	2.58
0.156″	1″	0.003″	4754A93	3.51	2.78	2.41	1.93
0.160″	1″	0.003″	4754A94	2.94	2.49	3.04	2.58
0.170″	1″	0.003″	4754A95	2.82	2.39	2.92	2.47
0.172″	1″	0.003″	4754A96	3.51	2.78	2.41	1.93
0.180″	1″	0.003″	4754A97	2.82	2.39	2.92	2.47
0.189″	1″	0.003″	4754A98	3.52	2.78	2.35	1.87
1.0 mm	5/8″	0.002″	4905A81	5.18	4.17	3.89	3.13
1.5 mm	5/8″	0.002″	4905A82	4.66	3.73	2.75	2.21
2.0 mm	3/4″	0.003″	4905A83	4.11	3.30	2.75	2.21
2.5 mm	3/4″	0.003″	4905A84	4.11	3.30	2.77	2.22
3.0 mm	1″	0.003″	4905A85	4.12	3.33	2.26	1.82
3.5 mm	1″	0.003″	4905A86	4.11	3.30	2.26	1.82
4.0 mm	1″	0.003″	4905A87	4.11	3.30	2.26	1.82
4.5 mm	1″	0.003″	4905A89	4.11	3.30	2.26	1.82
5.0 mm	1″	0.003″	4905A91	4.35	3.49	2.28	1.82
5.5 mm	1″	0.003″	4905A92	4.51	3.62	2.27	1.82
6.0 mm	1″	0.003″	4905A93	4.60	3.71	2.25	1.81
6.5 mm	1″	0.003″	4905A94	4.75	3.82	2.12	1.71

Brushes for No-Mess Polishing of All Materials

Brush Dia.	Brush Lg.	Bristle Dia.		For No-Mess Polishing of All Materials 1-11	12-Up
0.032″	5/8″	0.008″	4754A11■	$6.88	$5.45
0.047″	3/4″	0.008″	4754A23■	6.57	5.21
0.054″	3/4″	0.008″	4754A12■	6.43	5.10
0.063″	3/4″	0.012″	4754A24	4.40	3.48
0.079″	3/4″	0.012″	4754A13	4.40	3.48
0.094″	3/4″	0.012″	4754A14	4.40	3.48
0.109″	3/4″	0.012″	4754A15	4.40	3.48
0.125″	1″	0.012″	4754A16	4.74	3.75
0.142″	1″	0.012″	4754A17	4.74	3.75
0.156″	1″	0.012″	4754A25	4.74	3.75
0.172″	1″	0.012″	4754A18	4.74	3.75
0.189″	1″	0.012″	4754A19	4.74	3.75
0.260″	1″	0.012″	4838A21♥	3.52	2.96
0.325″	1″	0.012″	4838A22♥	$3.52	$2.96
1.0 mm	5/8″	0.008″	4905A64■	8.01	6.45
1.5 mm	5/8″	0.008″	4905A65■	7.62	6.12
2.0 mm	3/4″	0.012″	4905A66	5.13	4.12
2.5 mm	3/4″	0.012″	4905A67	5.13	4.12
3.0 mm	1″	0.012″	4905A68	5.53	4.44
3.5 mm	1″	0.012″	4905A69	5.53	4.44
4.0 mm	1″	0.012″	4905A71	5.53	4.44
4.5 mm	1″	0.012″	4905A72	5.53	4.44
5.0 mm	1″	0.012″	4905A73	5.51	4.42
5.5 mm	1″	0.012″	4905A74	7.21	5.78
6.0 mm	1″	0.012″	4905A75	7.21	5.78
6.5 mm	1″	0.012″	4905A76	7.21	5.78

■ Abrasive is approximately 1000-grit alumina silicate. ♥ Wires are galvanized steel.

Abrasive Nylon Tube Brushes



Flexible Brush with Twisted Shank



Rigid Brush with Smooth Shank

Bristles are nylon embedded with abrasive grains to remove workpiece material in addition to surface contamination. Use on all materials to produce a smooth finish. *Twisted-shank* brushes can be used by hand, or in tools with a 1/4″ chuck. *Smooth-shank* brushes have a 5/16″ dia. shank, unless noted. Mount them on drills and grinders for bits and burs. Max. rpm is 2,000.

Flexible brushes have a single spiral of bristles embedded with silicon carbide and twisted between two stainless steel wires. Use them to remove light to medium rust and stains and small burs. **Rigid** brushes have a single spiral of bristles embedded with silicon carbide and twisted between four galvanized steel wires. Use them to remove weld slag, heavy surface contamination, and large burs.

Prices are approximately 15% lower when you buy 12 or more of the same size brush.

Brush Dia.	Brush Lg.	O'all Lg.	Bristle Dia.	Choose a Grit		Twisted Shank	Smooth Shank
Flexible							
1/4″	1″	3 1/2″	0.022″	120, 320	4810A1▲	$4.30	$6.97
5/16″	1″	3 1/2″	0.022″	120, 320	4810A2♣	4.32	7.00
3/8″	1″	3 1/2″	0.022″	120, 320	4810A3♣	4.35	7.03
7/16″	1″	3 1/2″	0.022″	120, 320	4810A4♣	4.43	7.11
1/2″	1″	3 1/2″	0.022″	120, 320	4810A5♣	3.95	6.62
9/16″	1″	3 1/2″	0.022″	120, 320	4810A6♣	4.16	6.84
5/8″	1″	3 1/2″	0.040″	80, 120	4810A7♣	4.38	7.05
11/16″	1″	3 1/2″	0.040″	80, 120	4810A8♣	4.59	7.27
3/4″	1″	3 1/2″	0.040″	80, 120	4810A9	4.81	7.49
13/16″	1″	3 1/2″	0.040″	80, 120	4810A62	5.03	7.70
7/8″	1″	3 1/2″	0.040″	80, 120	4810A63	5.24	7.92
15/16″	1″	3 1/2″	0.040″	80, 120	4810A64	5.46	8.14
1″	1″	3 1/2″	0.040″	80, 120	4810A65	5.68	8.35
1 1/8″	1″	3 1/2″	0.040″	80, 120	4810A66	6.11	8.78
1 1/4″	1″	3 1/2″	0.040″	80, 120	4810A67	6.54	9.22
Rigid							
1/4″	2″	5″	0.022″	120, 320	4895A22▲	$6.81	$8.84
5/16″	2″	5″	0.022″	120, 320	4895A23♣	6.84	8.86
3/8″	2″	5″	0.040″	80, 120, 320	4895A24★♣	7.29	8.86
7/16″	2″	5″	0.040″	80, 120, 320	4895A25★♣	5.97	8.68
1/2″	2″	5″	0.040″	80, 120, 320	4895A26★♣	6.71	8.78
9/16″	2″	5″	0.040″	80, 120, 320	4895A27★♣	6.08	8.78
5/8″	2″	5″	0.040″	80, 120	4895A28	6.71	8.78
11/16″	2 1/2″	5 1/2″	0.040″	80, 120	4895A29	6.14	8.84
3/4″	2 1/2″	5 1/2″	0.040″	80, 120	4895A31	6.82	8.92
13/16″	2 1/2″	5 1/2″	0.040″	80, 120	4895A32	6.24	8.95
7/8″	2 1/2″	5 1/2″	0.040″	80, 120	4895A33	6.65	9.35
15/16″	2 1/2″	5 1/2″	0.040″	80, 120	4895A34	6.70	9.41
1″	2 1/2″	5 1/2″	0.040″	80, 120	4895A35	6.82	9.78
1 1/8″	2 1/2″	5 1/2″	0.040″	80, 120	4895A36	7.08	9.78
1 1/4″	2 1/2″	5 1/2″	0.040″	80, 120	4895A37	7.81	9.78

▲ Shank diameter is 3/16″ for brushes with smooth shank. ♣ Shank diameter is 1/4″ for brushes with smooth shank.
★ Bristle dia. is 0.022″ for 320-grit brushes.

Tube Brushes for Internal Threads



Two rows of densely packed bristles remove weld slag, heavy surface contamination, and large burs from threaded tubes. The space between the bristles leaves room for dirt, chips, and burs to escape. Stems are made of two twisted stainless steel wires. Overall length is 2 1/8" to 2 1/4". Use brushes by hand or mount in tools with a 1/4" chuck. Max. rpm is 2,000. Use a *brush holder* for added strength and stability. Holders have a 1/4" dia. shank for mounting in drills and grinders for bits and burs.

Brushes **for steel** are made of steel. Brushes **for stainless steel and aluminum** are made of stainless steel. **Low scratch for stainless steel and aluminum** brushes are made of brass.

Prices are approximately 15% lower when you buy 12 or more of the same size brush.

Brush Dia.	Bristle Dia.	Brush Lg.		For Steel	For SS and Alum.	Low Scratch for SS and Alum.
1/4"	0.003"	9/16"	4859A41	$3.08	$3.17	$3.22
1/4"	0.005"	9/16"	4859A11	3.25	5.17	2.46
5/16"	0.003"	9/16"	4859A12	4.08	2.86	2.88
5/16"	0.005"	9/16"	4859A42	2.67	2.75	2.81
3/8"	0.003"	9/16"	4859A43	3.11	3.19	3.25
3/8"	0.003"	5/8"	4859A2	3.25	4.17	3.28
3/8"	0.005"	9/16"	4859A14	3.75	5.17	2.64
3/8"	0.005"	5/8"	4859A3	2.92	3.78	2.94
3/8"	0.008"	9/16"	4859A44	2.31	2.39	2.44
7/16"	0.003"	9/16"	4859A45	3.14	3.22	3.28
7/16"	0.003"	5/8"	4859A4	3.33	4.28	3.42
7/16"	0.005"	9/16"	4859A15	2.75	2.71	2.73
7/16"	0.005"	5/8"	4859A5	2.97	3.83	3.00
7/16"	0.008"	9/16"	4859A47	2.36	2.44	2.50
1/2"	0.003"	9/16"	4859A52	3.25	3.33	3.39
1/2"	0.003"	5/8"	4859A6	3.33	4.28	3.42
1/2"	0.005"	9/16"	4859A16	3.78	5.17	2.76
1/2"	0.005"	5/8"	4859A7	2.97	3.83	3.00
1/2"	0.008"	9/16"	4859A53	2.39	2.47	2.53
1/2"	0.008"	5/8"	4859A18	2.69	2.83	2.86
9/16"	0.003"	5/8"	4859A54	4.19	4.28	4.33
9/16"	0.005"	5/8"	4859A57	3.25	3.33	3.39
9/16"	0.008"	5/8"	4859A58	2.50	2.58	2.64
5/8"	0.003"	5/8"	4859A59	4.19	4.28	4.33
5/8"	0.005"	5/8"	4859A19	4.37	6.50	3.12
5/8"	0.008"	5/8"	4859A61	$2.50	$2.58	$2.64
3/4"	0.003"	5/8"	4859A62	4.56	4.64	4.69
3/4"	0.005"	5/8"	4859A21	4.50	6.31	3.26
3/4"	0.008"	5/8"	4859A35	4.06	3.17	2.89
7/8"	0.003"	5/8"	4859A63	4.56	4.64	4.69
7/8"	0.005"	5/8"	4859A36	4.59	6.28	3.37
7/8"	0.008"	5/8"	4859A64	2.89	2.97	3.03
15/16"	0.003"	5/8"	4859A65	4.56	4.64	4.69
15/16"	0.005"	5/8"	4859A72	3.53	3.61	3.67
15/16"	0.008"	5/8"	4859A85	2.89	2.97	3.03
1"	0.003"	5/8"	4859A8	4.64	4.72	4.78
1"	0.005"	5/8"	4859A37	4.61	6.50	3.43
1"	0.008"	5/8"	4859A38	4.14	3.52	3.54
1 1/16"	0.003"	5/8"	4859A87	4.64	4.72	4.78
1 1/16"	0.005"	5/8"	4859A89	3.53	3.61	3.67
1 1/16"	0.008"	5/8"	4859A93	2.89	2.97	3.03
1 1/8"	0.003"	5/8"	4859A94	4.81	4.89	4.94
1 1/8"	0.005"	5/8"	4859A95	3.53	3.61	3.67
1 1/8"	0.008"	5/8"	4859A96	2.94	3.03	3.08
1 1/4"	0.003"	5/8"	4859A97	4.94	5.03	5.08
1 1/4"	0.005"	5/8"	4859A98	3.61	3.69	3.75
1 1/4"	0.008"	5/8"	4859A1	2.94	3.03	3.08
Holder for 9/16" Lg. Brushes			4859A91	8.31		
Holder for 5/8" Lg. Brushes			4859A92	9.94		

Tube Brushes for Closed-End Holes

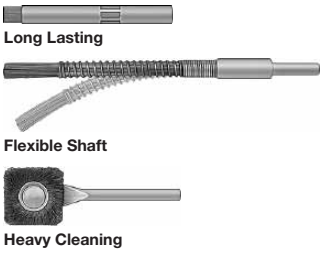

Bristles at the tip of these brushes clean the bottom of closed-end holes. Mount them on drills and grinders for bits and burs.

Brushes **for steel** are made of steel. Brushes **for stainless steel and aluminum** are made of stainless steel.

The bristles on *long-lasting* brushes are enclosed in a tube, which prevents them from flaring during use and allows you to control the length of the bristle. As the brush wears, trim the tube with a pipe cutter to expose more of the bristles.

Flexible-shaft brushes bend through curved holes and reach into corners. A flexible spring surrounds the bristles to prevent them from flaring during use. As the brush wears, trim the spring. Caution: Insert the brush into the workpiece before turning on your power tool. If used outside a hole, the brush could break off and become a dangerous projectile.

Heavy-cleaning brushes clean the sides and bottom of closed-end holes in one step. Space between the bristles allows dirt, chips, and burs to escape.

Shank Dia.	Brush Dia.	Bristle Dia.	O'all Lg.	Max. rpm	For Steel		For SS and Aluminum	
Long Lasting								
1/4"	3/16"	0.010"	3 1/4"	8,000			4886A9	$19.36
1/4"	3/16"	0.010"	3 3/4"	8,000	4886A1	$17.40		
3/8"	5/16"	0.010"	3 3/8"	8,000	4886A2	18.67	4886A3	22.11
Flexible Shaft								
1/4"	3/8"	0.014"	6 1/4"	1,800	4864A1	19.65		
1/4"	1/2"	0.014"	6 1/4"	1,800	4864A2	20.02		

Shank Dia.	Brush Dia.	Bristle Dia.	O'all Lg.	Max. rpm	For Steel	
Heavy Cleaning						
1/4"	1"	0.006"	3 1/4"	4,500	4889A4	$12.48
1/4"	1 1/16"	0.006"	3 5/8"	4,500	4889A2	13.14
1/4"	1 1/4"	0.006"	3 3/8"	4,500	4889A5	13.26
1/4"	1 1/2"	0.006"	3 3/8"	4,500	4889A6	16.23
1/4"	1 3/4"	0.006"	4"	4,500	4889A7	16.98
1/4"	1 7/8"	0.006"	3 7/8"	4,500	4889A3	17.71
1/4"	2"	0.010"	4"	4,500	4889A71	23.76
1/4"	2 1/4"	0.010"	4 1/8"	4,500	4889A72	25.17

Heavy Cleaning and Deburring Threaded-Shank Tube Brushes



Built to handle tough jobs, these brushes remove weld slag, heavy surface contamination, and large burs from deep inside tubes and pipes. They have two spirals of bristles twisted between four galvanized steel wires. Attach them to a handle or power tool. They have 1/4 NPT male threads, unless noted. Brush length is approximately 4 1/2". Overall length is approximately 7". Max. rpm is 1,750.

Brushes **for steel** are made of steel. Brushes **for stainless steel and aluminum** are made of stainless steel.

Prices are approximately 15% lower when you buy 12 or more of the same size brush.

Brush Dia.	For Steel: Bristle Dia.			For Stainless Steel and Aluminum: Bristle Dia.		
3/4"	0.012"	7232T11	$16.94	0.006"	7267T25 ■	$17.45
1"	0.012"	7232T12	15.39	0.009"	7267T24 ■	17.77
1 1/4"	0.013"	7232T13	12.35	0.007"	7267T11	16.23
1 1/2"	0.013"	7232T14	12.52	0.007"	7267T12	16.58
1 3/4"	0.013"	7232T15	12.68	0.007"	7267T13	17.00
2"	0.013"	7232T16	12.48	0.009"	7267T14	17.35
2 1/4"	0.013"	7232T17	12.90	0.009"	7267T15	17.77
2 1/2"	0.013"	7232T18	$13.23	0.009"	7267T16	$18.35
2 3/4"	0.014"	7232T19	13.35	0.012"	7267T17	19.00
3"	0.014"	7232T21	13.65	0.013"	7267T18	19.00
3 1/4"	0.014"	7232T22	13.90	0.013"	7267T19	21.35
3 1/2"	0.018"	7232T23	14.06	0.013"	7267T21	22.48
3 3/4"	0.018"	7232T24	14.23	0.016"	7267T22	23.68

■ 12-24 female thread.

Abrasive Nylon Threaded-Shank Tube Brushes



A single spiral of nylon bristles embedded with 320-grit silicon carbide abrasive removes surface contamination and produces a smooth finish in one step. Use on all materials. Stem is made of two twisted stainless steel wires. A vinyl tip at the end of the stem protects against scratches. Bristle dia. is 0.024″. Attach to a handle or power tool. Max. rpm is 1,750.

Brush Dia.	Brush Lg.	O'all Lg.	*Choose a Thread* Female	Male		1-11	12-Up
1/2″	3″	4 3/4″	8-32	8-32	6482T1	$6.78	$5.42
3/4″	4″	6 1/4″	12-24	1/4″-28	6482T2	6.91	5.53
1″	4″	6 1/4″	12-24	1/4″-28	6482T3	7.06	5.65
1 1/4″	4″	6 1/4″	12-24	1/4″-28	6482T4	7.50	6.00

Nonmarring Threaded-Shank Tube Brushes



Made of cotton, these brushes won't damage metal or plastic surfaces. Use by hand for light dusting and applying lubricants and buffing compounds. Brush length is 1 5/8″; overall length is 2 7/8″. Stem is made of two twisted galvanized steel wires.

Optional Handle Kits—Include a handle and extension rods. 70065T48 kit has a T-handle and four steel rods for a max. length of 30″. 70065T49 has a straight handle and three Type 416 stainless steel rods for a max. length of 40″.

Brush Dia.	Thread Size	Brushes 1-9	Brushes 10-Up	Optional Handle Kits
15/64″	8-32 male	70065T43 $1.74	$1.42	70065T48 $16.56
3/8″	8-32 male	70065T44 1.74	1.42	70065T48 16.56
1/2″	8-32 male	70065T45 1.74	1.42	70065T48 16.56
7/8″	5/16″-27 male	70065T46 1.87	1.53	70065T49 22.22
1″	5/16″-27 male	70065T47 1.87	1.53	70065T49 22.22

Extension Rods and Handles for Threaded-Shank Tube Brushes

When you need extra reach, these extension rods go the distance. To connect brushes, rods, and handles, match the male or female thread with the opposite thread of the same size. Rods are rigid, unless noted.

Rods with a Handle





Thread Size	Dia.	Lg.	Material	
Rod with Looped Handle				
8-32 male	5/32″	48″	Steel	7215T18 $8.60
Rods with T-Handle				
5/8″-11 female	9/16″	60″	Steel	7215T21 47.96
1/2 NPT male	3/8″	60″	Steel	7215T41 42.56
1/4 NPT female	3/8″	36″	Steel	7215T51 39.47
1/4 NPT female	3/8″	48″	Steel	7215T61 40.89
1/4 NPT female	3/8″	60″	Steel	7215T71 42.56
1/8 NPT female	3/8″	60″	Steel	7215T31 42.56

Rods with Threaded Ends

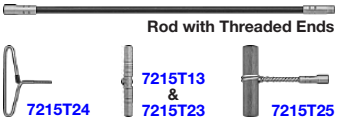

Rods have one female end and one male end of the same size.

T-handles 7215T24 and 7215T13 have male threads. 7215T23 and 7215T25 have female

Thread Size	Dia.	Lg.	Material	Rods		T-Handles	
8-32	5/32″	24″	Steel	7215T14	$9.06	7215T24	$7.83
1/4″-28	1/4″	36″	Steel	7215T27	10.74	7215T23	7.71
12-24	5/16″	24″	Aluminum	7215T15	8.80	7215T13	7.71
12-24	5/16″	36″	Aluminum	7215T17	10.74	7215T13	7.71
1/4 NPT	5/16″	60″	Steel	7215T16♦	11.57	7215T25	11.74
1/4 NPT	11/32″	48″	Fiberglass	7215T19	6.67	7215T25	11.74
1/4 NPT	3/8″	36″	Steel	7215T52	30.86	7215T25	11.74
1/4 NPT	3/8″	48″	Steel	7215T62	32.66	7215T25	11.74
1/4 NPT	3/8″	60″	Steel	7215T72	34.07	7215T25	11.74

♦ Made of flexible twisted wire.

Food-Grade Threaded-Shank Tube Brushes



Nylon bristles and a stainless steel stem make these brushes suitable for food and beverage applications. A single spiral of bristles is twisted between four wires. Attach brushes to handles and power tools. Max. rpm is 1,750.

Nylon extension rod is 3/8″ Dia. × 48″ Lg. and has one 1/4 NPT male-threaded end and one 1/4 NPT female-threaded end.

Brush Dia.	Brush Lg.	O'all Lg.	Bristle Dia.	Thread Size		
1″	4 1/2″	6 3/4″	0.018″	1/4 NPT male	4160A11	$37.44
1 1/2″	4 1/2″	6 3/4″	0.020″	1/4 NPT male	4160A12	37.75
2″	4 1/2″	6 3/4″	0.022″	1/4 NPT male	4160A13	38.00
2 1/2″	4 1/2″	6 3/4″	0.025″	1/4 NPT male	4160A14	38.31
3″	4 1/2″	6 3/4″	0.028″	1/4 NPT male	4160A15	38.61
4″	4 1/2″	6 3/4″	0.036″	1/4 NPT male	4160A16	38.86
5″	4 1/2″	6 3/4″	0.036″	1/4 NPT male	4160A17	39.17
6″	4 1/2″	6 3/4″	0.045″	1/4 NPT male	4160A18	39.44
8″	4 1/2″	6 3/4″	0.060″	1/4 NPT male	4160A19	48.00
Nylon Extension Rod					4160A21	30.14

Large-Diameter Threaded-Shank Tube Brushes


Round


Square

Similar to chimney-cleaning brushes, these brushes reach across wide tubes such as ducts and flues. They have a galvanized steel stem with 1/4 NPT male threads. Use them in a power tool, unless noted.

Brushes **for steel** have steel bristles twisted between four wires. *Round brushes* are 4 1/2″ long and have two spirals of bristles. Overall length is 7 1/2″. Max. rpm is 1,200. *Square brushes* are 6″ long and have a single spiral of bristles. Overall length is 8 5/8″. Use by hand.

Brushes **for lightly cleaning all materials** have a single spiral of nylon bristles twisted between four wires. Brush length is 6″. Overall length is 8 1/2″. Max. rpm is 1,200.

Brushes **for applying lubricants and buffing compounds** have a single spiral of tampico bristles twisted between two wires. Brush length is 4 1/2″. Overall length is 8″. Use by hand.

Round Brushes

Brush Dia.	Bristle Dia.			Brush Dia.	Bristle Dia.		
For Steel				**For Lightly Cleaning All Materials**			
4″	0.018″	6355T12	$14.90	8″	0.030″	73205T32	$14.36
4 1/2″	0.018″	6355T14	16.17	12″	0.030″	73205T33	21.87
5″	0.018″	6355T16	17.97	18″	0.030″	73205T34	30.04
5 1/2″	0.018″	6355T18	19.00	24″	0.060″	73205T35	44.11
6″	0.018″	6355T21	19.40	**For Applying Lubricants and Buffing Compounds**			
6 1/2″	0.018″	6355T23	20.07	2 1/2″	—	6413T33	10.19
7″	0.028″	6355T25	20.57	3″	—	6413T34	10.62
8″	0.028″	6355T29	21.70	4″	—	6413T35	11.10
8 1/2″	0.028″	6355T32	23.10	5″	—	6413T36	11.55
9″	0.028″	6355T34	24.07	6″	—	6413T37	11.96
10″	0.028″	6355T38	26.87	7″	—	6413T38	12.63
11″	0.028″	6355T41	27.10	8″	—	6413T39	13.69
12″	0.028″	6355T43	30.57				
13″	0.028″	6355T44	31.97				

Square Brushes

Brush Dia.	Bristle Dia.			Brush Dia.	Bristle Dia.		
For Steel				**For Lightly Cleaning All Materials**			
6″	0.028″	7374T21	$17.61	8″	0.030″	73205T36	$36.02
7″	0.028″	7374T22	19.12	12″	0.030″	73205T37	52.00
8″	0.028″	7374T23	20.95	18″	0.030″	73205T38	58.56
10″	0.028″	7374T24	26.33	24″	0.060″	73205T39	83.89

Flexible Extension Rods

Rods have one 1/4 NPT male-threaded end and one 1/4 NPT female-threaded end. The *T-handle* is galvanized steel with a wood grip.

Dia.	Lg.			Dia.	Lg.		
Nylon				**Twisted Steel (Cont.)**			
3/8″	48″	73205T41	$15.38	3/8″	72″	6413T43	$10.67
Twisted Steel				T-Handle		7215T25	11.74
3/8″	36″	6413T41	6.72				
3/8″	48″	6413T42	7.14				

Hand-Held Tube Brushes

Grasp the loop at the end of the handle to move these brushes in and out of a tube or pipe.

Brushes **for steel** have stainless steel bristles and galvanized steel wires. Brushes **for stainless steel and aluminum** have stainless steel bristles and wires. **Low scratch for stainless steel and aluminum** brushes have brass bristles and galvanized steel wires.

Brushes for *light cleaning and deburring* have a single spiral of bristles twisted between two wires. Use them to remove light to medium rust and stains and small burs. Brushes *for heavy cleaning and deburring* have two spirals of bristles twisted between four wires. They have more bristles and more rigid stems than brushes for light cleaning. Use them to remove weld slag, heavy surface contamination, and large burs.

Prices are approximately 15% lower when you buy 12 or more of the same size brush.



For Light Cleaning and Deburring



For Heavy Cleaning and Deburring

Brush Dia.	Brush Lg.	O'all Lg.	Bristle Dia.		For Steel	For SS and Alum.	Low Scratch for SS and Alum.
For Light Cleaning and Deburring							
1/32"	1/2"	4"	0.003"	7353T821	$3.83	$5.47	$4.69
1/16"	1/2"	4"	0.003"	7353T822	2.98	5.07	4.34
3/32"	3/4"	4"	0.003"	7353T823	2.93	4.50	3.86
1/8"	3/4"	4"	0.003"	7353T824	2.24	3.50	3.00
1/8"	1"	6"	0.003"	7353T825	1.74	2.60	1.83
5/32"	3/4"	4"	0.003"	7353T826	2.24	3.50	3.00
3/16"	3/4"	4"	0.003"	7353T827	2.24	3.53	3.00
3/16"	1 1/2"	7"	0.003"	7353T828	1.71	2.63	1.89
7/32"	3/4"	4"	0.003"	7353T829	2.19	3.53	3.00
1/4"	3/4"	4"	0.003"	7353T831	2.19	3.53	3.00
1/4"	1 1/2"	7"	0.005"	7353T832	1.69	2.63	1.89
1/4"	3"	27"	0.005"	7353T833	5.64	6.40	6.87
5/16"	1 1/2"	7"	0.006"	7353T834	1.69	2.77	1.89
3/8"	2"	8"	0.006"	7353T835	1.69	2.60	1.91
3/8"	3"	27"	0.005"	7353T836	5.64	6.43	6.87
7/16"	2"	8"	0.006"	7353T837	1.71	2.63	1.97
1/2"	2"	8"	0.006"	7353T838	1.71	2.43	2.00
1/2"	3"	27"	0.006"	7353T839	5.64	6.47	6.87
9/16"	2 1/2"	9"	0.008"	7353T841	1.98	3.13	2.29
5/8"	2 1/2"	9"	0.008"	7353T842	1.98	3.13	2.31
5/8"	3"	27"	0.006"	7353T843	5.81	6.50	6.87
11/16"	2 1/2"	9"	0.008"	7353T844	2.02	3.30	2.37
3/4"	2 1/2"	9"	0.008"	7353T845	2.12	3.37	2.46
3/4"	3"	27"	0.007"	7353T846	5.81	6.53	7.28
13/16"	3"	10"	0.008"	7353T847	2.48	4.07	2.86
7/8"	3"	10"	0.008"	7353T848	2.52	4.07	2.86
7/8"	3"	27"	0.007"	7353T849	6.10	6.87	7.28
1"	3"	10"	0.008"	7353T851	2.62	4.27	2.97
1"	3"	27"	0.007"	7353T852	6.10	6.90	7.28
1 1/16"	3"	10"	0.008"	7353T853	3.19	3.62	3.41
1 1/8"	3"	10"	0.008"	7353T854	3.24	3.65	3.46
1 3/16"	3"	10"	0.008"	7353T855	3.27	3.68	3.51
1 1/4"	3"	10"	0.008"	7353T856	3.30	3.70	3.57
1 1/4"	3"	27"	0.008"	7353T857	6.31	7.60	7.67
1 5/16"	3"	10"	0.008"	7353T858	3.32	3.73	3.59
1 3/8"	3"	10"	0.008"	7353T859	3.35	3.76	3.65
1 7/16"	3"	10"	0.008"	7353T861	3.38	3.78	3.70
1 1/2"	3"	10"	0.010"	7353T862	3.43	3.84	3.76
1 1/2"	3"	27"	0.010"	7353T863	6.95	7.83	8.34
1 9/16"	3"	10"	0.010"	7353T864	3.46	3.86	3.78
1 5/8"	3"	10"	0.010"	7353T865	3.49	3.92	3.84
For Light Cleaning and Deburring (Cont.)							
1 11/16"	3"	10"	0.010"	7353T866	$3.54	$3.97	$3.89
1 3/4"	3"	10"	0.010"	7353T867	3.59	4.00	3.92
1 13/16"	3"	10"	0.010"	7353T868	3.65	4.05	3.97
1 7/8"	3"	10"	0.010"	7353T869	3.70	4.11	4.03
1 15/16"	3"	10"	0.010"	7353T871	3.76	4.16	4.08
2"	3"	10"	0.010"	7353T872	3.81	4.22	4.14
For Heavy Cleaning and Deburring							
1/4"	1 1/2"	5 1/2"	0.003"	73075T952	5.50	8.27	6.34
1/4"	1 1/2"	18"	0.003"	73075T953	7.05	12.57	8.17
5/16"	1 1/2"	5 1/2"	0.003"	73075T954	7.03	7.51	7.19
3/8"	1 1/2"	5 1/2"	0.005"	73075T955	5.67	8.43	6.57
3/8"	1 1/2"	18"	0.003"	73075T956	7.02	12.63	8.17
7/16"	1 1/2"	5 1/2"	0.005"	73075T957	7.79	8.36	7.92
1/2"	2"	5 1/2"	0.006"	73075T958	6.38	9.67	7.54
1/2"	2"	18"	0.004"	73075T959	7.02	12.63	8.17
9/16"	2"	5 1/2"	0.006"	73075T961	9.68	10.25	9.81
5/8"	2"	18"	0.005"	73075T962	7.02	12.50	8.17
11/16"	2"	5 1/2"	0.008"	73075T963	10.03	10.86	10.17
3/4"	2 1/2"	5 1/2"	0.010"	73075T964	6.38	10.33	7.69
3/4"	2 1/2"	18"	0.006"	73075T965	7.52	14.47	9.03
13/16"	2 1/2"	5 1/2"	0.010"	73075T966	10.22	11.08	10.35
7/8"	2 1/2"	18"	0.006"	73075T967	7.69	14.67	9.26
15/16"	2 1/2"	5 1/2"	0.010"	73075T968	10.46	11.32	10.62
1"	2 1/2"	5 1/2"	0.010"	73075T969	6.48	10.63	7.91
1"	2 1/2"	18"	0.006"	73075T971	7.69	14.67	9.26
1 1/16"	2 1/2"	5 1/2"	0.010"	73075T972	10.73	11.65	10.86
1 1/8"	2 1/2"	5 1/2"	0.010"	73075T973	10.73	11.65	10.86
1 3/16"	2 1/2"	5 1/2"	0.010"	73075T974	10.73	11.65	11.08
1 1/4"	2 1/2"	5 1/2"	0.010"	73075T975	10.92	11.84	11.08
1 5/16"	2 1/2"	5 1/2"	0.010"	73075T976	10.92	11.84	11.08
1 3/8"	2 1/2"	5 1/2"	0.010"	73075T977	10.92	11.84	11.08
1 7/16"	2 1/2"	5 1/2"	0.010"	73075T978	10.92	11.84	11.08
1 1/2"	2 1/2"	5 1/2"	0.010"	73075T979	10.92	11.84	11.08
1 9/16"	2 1/2"	5 1/2"	0.010"	73075T981	11.02	11.95	11.19
1 5/8"	2 1/2"	5 1/2"	0.010"	73075T982	11.02	11.95	11.19
1 11/16"	2 1/2"	5 1/2"	0.010"	73075T983	11.02	11.95	11.19
1 3/4"	2 1/2"	5 1/2"	0.010"	73075T984	11.02	11.95	11.19
1 13/16"	2 1/2"	5 1/2"	0.010"	73075T985	11.13	11.95	11.19
1 7/8"	2 1/2"	5 1/2"	0.010"	73075T986	11.13	12.03	11.27
1 15/16"	2 1/2"	5 1/2"	0.010"	73075T987	11.13	12.03	11.27
2"	2 1/2"	5 1/2"	0.010"	73075T988	11.16	12.06	11.30

Hand-Held Low-Scratch Tube Brushes

Bristles are soft so they clean without scratching your workpiece. A loop in the handle makes these brushes easy to hold. They have a single spiral of bristles twisted between two galvanized steel wires, unless noted.

Low scratch for copper brushes are made of nylon. They're resistant to acids and alkalies. Brushes **for dusting all materials** are made of horsehair.



Brush Dia.	Brush Lg.	O'all Lg.	Bristle Dia.		Low Scratch for Copper 1-11	Low Scratch for Copper 12-Up	For Dusting All Materials 1-11	For Dusting All Materials 12-Up
1/32"	1/2"	4"	0.003"	7221T29 ■	$3.90	$3.16	___	___
1/16"	1/2"	4"	0.003"	7221T31 ■	2.67	2.00	___	___
3/32"	3/4"	4"	0.003"	7221T32 ■	2.33	1.81	___	___
1/8"	3/4"	4"	0.003"	7221T33 ■	2.18	1.65	___	___
5/32"	3/4"	4"	0.003"	7221T34 ■	2.18	1.65	___	___
3/16"	3/4"	4"	0.003"	7221T35 ■	2.17	1.61	___	___
7/32"	3/4"	4"	0.003"	7221T36 ■	2.07	1.61	___	___
1/4"	3/4"	4"	0.003"	7221T37 ■	2.17	1.61	___	___
1/4"	2"	6 1/4"	0.006"	7221T51	1.97	1.57	$2.45	$1.95
1/4"	4"	26"	0.006"	7221T52	3.48	2.79	4.36	3.47
5/16"	1 1/2"	9"	0.006"	7221T53	2.17	1.74	2.71	2.15
3/8"	4"	26"	0.006"	7221T54	3.85	3.08	4.58	3.64
1/2"	1 1/2"	7 1/2"	0.012"	7221T55	2.24	1.79	2.66	2.12
1/2"	3"	8 1/2"	0.012"	7221T56	2.42	1.94	2.87	2.28
1/2"	4"	26"	0.012"	7221T57	3.91	3.12	4.65	3.70
1/2"	4 1/2"	42"	0.012"	7221T58	$5.90	$4.72	$7.01	$5.57
5/8"	4 1/2"	42"	0.012"	7221T59	5.96	4.77	7.08	5.63
3/4"	3"	8 1/2"	0.012"	7221T61	2.39	1.91	2.87	2.28
3/4"	4 1/2"	42"	0.014"	7221T62	6.03	4.82	7.15	5.68
1"	4"	12 1/4"	0.012"	7221T63	3.24	2.59	3.88	3.08
1"	4 1/2"	40 1/2"	0.014"	7221T64	6.36	5.09	7.21	5.73
1 1/4"	4"	13"	0.014"	7221T65	3.39	2.71	4.01	3.19
1 1/4"	4 1/2"	40 1/2"	0.014"	7221T66	6.21	4.97	7.42	5.89
1 1/4"	5"	12"	0.014"	7221T67 ♦	3.66	2.93	4.35	3.46
1 1/2"	4 1/2"	40 1/2"	0.014"	7221T68	6.81	5.45	7.92	6.30
2"	4 1/2"	40 1/2"	0.014"	7221T69	7.57	6.06	8.76	6.97
3"	4"	42"	0.016"	7221T43	9.03	7.59	___	___
3"	6 1/2"	27"	0.016"	7221T71	6.41	5.39	10.38	8.73
3"	7"	42"	___	7221T44	___	___	11.33	9.52
4"	6 1/2"	42"	___	7221T46	___	___	11.30	9.50

■ Wires are stainless steel. ♦ Brush diameter tapers from 1 1/4" to 3/4".

Tube Brushes

For information about brushes, see page 2691.

Hand-Held Tube Brush Sets



Tube-Size Set

Each set includes our most popular sizes. Brushes have a single spiral of bristles twisted between two stainless steel wires and a loop handle, unless noted.

Brushes **for stainless steel and aluminum** are made of stainless steel. **Low scratch for stainless steel and aluminum** brushes are made of brass. Brushes **for lightly cleaning all materials** are made of nylon.

Tube-size sets include one brush in each of the following diameters: 1/8", 1/4", 3/8", and 1/2". Brush length is 1 1/2" to 2". Overall length is 8". Bristle diameter is 0.003" to 0.012" on the set for stainless steel and aluminum. Wires are galvanized steel and bristle diameter is 0.003" to 0.006" on the low scratch set for stainless steel and aluminum and set for lightly cleaning all materials.

Screw-size sets include one brush in each of the following screw sizes: 0, No. 2, No. 4, No. 6, No. 8, No. 10, 1/4", 5/16", 3/8", 1/2", and 3/4". Brush length is 3/4" to 1 1/2", overall length is 4" to 6", and bristle diameter is 0.003".

Miniature sets include one brush in each of the following diameters: 0.04", 0.047", 0.063", 0.072", and 0.094". The set for lightly cleaning all materials also includes a 0.032" diameter brush. Brush length is 1/2" to 3/4", overall length is 4", and bristle diameter is 0.003".

Brush Set		
For Stainless Steel and Aluminum		
Tube Size	7430T64	$12.06
Screw Size	7464T53■	44.67
Miniature	7396T72	21.70
Low Scratch for Stainless Steel and Aluminum		
Tube Size	7430T65	12.06
Screw Size	7464T54■	42.98
Miniature	7396T73	21.70
For Lightly Cleaning All Materials		
Tube Size	7430T63	10.21
Screw Size	7464T52■	37.92
Miniature	7396T71	25.75

■ Includes a combination of loop-handle and plain twisted-stem brushes.

Nozzle-Cleanout Tools



Remove residue and dirt from small nozzles with the wire tip on this tool. It has a knurled plastic handle and comes with five each of 0.008", 0.015", and 0.025" dia., 2" long stainless steel wires. The *replacement wires* contains five of each size.

Nozzle-Cleanout Tool	3160K11	Each	$40.13
Replacement Wires	3160K31	Pkg.	$16.00

Specialty Tube Brushes



Long Reach



High Temperature



Tapered



Rounded Head

Use these brushes to accomplish difficult tasks by hand. Bristles are twisted between galvanized steel wires.

Long Reach—Also known as radiator brushes. The extra-long shaft reaches into small and awkward spaces. The handle is wood. Bristles are nylon on brushes *for lightly cleaning all materials;* bristles are horsehair on brushes *for dusting all materials.*

High Temperature—Has special nylon bristles that handle temperatures up to 500° F and are chemical resistant. The handle is plastic.

Tapered—Also known as a spoke brush. The brush diameter tapers from 2 1/2" to 1 1/4". Bristles are tampico and the handle is wood.

Rounded Head—Also known as bottle brushes, they clean the sides and bottom of closed-end cylinders and holes in one step. Bristles are horsehair and the handle is wire.

Brush Dia.	Brush Lg.	O'all Lg.		1-11	12-Up
Long Reach—For Lightly Cleaning All Materials					
2"	5"	30 1/2"	7238T15	$9.89	$7.78
Long Reach—For Dusting All Materials					
2"	5"	30 1/2"	7238T14	10.59	8.34
High Temperature					
1 3/8"	7 1/4"	28"	73015T38	31.40	25.12
Tapered					
2 1/2"	9"	14"	7210T14	9.00	7.20
Rounded Head					
2 3/4"	6"	18"	7222T1	5.59	4.48
3"	7"	18"	7222T2	9.14	7.31

Brushes for Cleaning Copper Tubes and Fittings



1/4" Hex-Shank Brush

Mount on a drill and use to clean commonly sized plumbing and refrigeration tubes and fittings. These brushes have a single spiral of bristles twisted between two stainless steel wires, except the round-shank brushes have galvanized steel wires. Max. rpm is 2,000.

Brushes **for plumbing** have steel bristles. Brushes **for refrigeration** have stainless steel bristles, which won't leave behind corrosive debris.

The **kits** include four brushes for cleaning the outside of copper tube sizes 3/8 to 1 (Tube ODs 1/2" to 1 1/8"). They also include five brushes for cleaning the inside of copper tube sizes 3/8 to 1 (Tube ODs 1/2" to 1 1/8") in kits *for plumbing* and 3/8 to 7/8 (Tube ODs 1/2" to 1") in kits *for refrigeration*. Brush length is 3/4", overall length is 2 1/2", and bristle diameter is 0.006" for all brushes. Kits come with one each of 1/4" and 5/16" magnetic nutdriver bits, #1 and #2 Phillips screwdriver bits, and 1/4" and 9/32" slotted screwdriver bits.



Kit

Shank Dia.	For Tube Size ★	For Tube OD	Brush Lg.	O'all Lg.	Bristle Dia.	For Plumbing	1-11	12-Up	For Refrigeration	1-11	12-Up
1/4" Hex	1/4	3/8"	3/4"	2 1/2"	0.004"	63505T61	$3.84	$3.24	63505T71	$4.03	$3.39
1/4" Hex	3/8	1/2"	3/4"	2 1/2"	0.004"	63505T62	3.84	3.24	63505T72	4.03	3.39
1/4" Hex	1/2	5/8"	3/4"	2 1/2"	0.004"	63505T63	3.84	3.24	63505T73	4.03	3.39
1/4" Hex	5/8	3/4"	3/4"	2 1/2"	0.004"	63505T64	3.84	3.24	63505T74	4.03	3.39
1/4" Hex	3/4	7/8"	3/4"	2 1/2"	0.006"	63505T65	3.88	3.26	63505T75	4.09	3.45
1/4" Hex	7/8	1"	3/4"	2 1/2"	0.006"	63505T66	4.09	3.45	63505T76	4.28	3.61
1/4" Hex	1	1 1/8"	3/4"	2 1/2"	0.006"	63505T67	4.09	3.45	63505T77	4.28	3.61
3/8" Round	1 1/4	1 3/8"	1 1/2"	2 7/8"	0.008"	63005T44	13.07	10.46			
3/8" Round	1 1/2	1 5/8"	1 1/2"	2 7/8"	0.008"	63005T45	13.72	10.98			
3/8" Round	2	2 1/8"	1 1/2"	2 7/8"	0.008"	63005T46	14.57	11.66			

★ Tube size is an accepted industry designation, not an actual size.

Kit for Plumbing—1/4" hex shank	63505T1 $53.92
Kit for Refrigeration—1/4" hex shank	63505T2 55.26
Optional 1/4" Hex-Shank Quick-Change Holder for 1/4" Hex-Shank Brushes	7179A11 11.33

Hand Brushes for Cleaning Copper Tubes and Fittings

Brushes are sized for common plumbing and refrigeration applications.

Internal Cleaning Brushes

Clean the inside of tubes with two spirals of stainless steel bristles twisted between four galvanized steel wires. The handle is plastic.



For Tube Size ★	For Tube OD	Brush Lg.	O'all Lg.	Bristle Dia.		1-11	12-Up
1/8	1/4"	1"	6 1/4"	0.005"	63015T21	$3.87	$3.14
1/4	3/8"	1"	6 1/4"	0.006"	63015T22	6.90	5.59
3/8	1/2"	1"	6 1/4"	0.006"	63015T23	6.90	5.59
1/2	5/8"	1"	6 1/4"	0.006"	63015T33	6.90	5.59
5/8	3/4"	1"	6 1/4"	0.006"	63015T25	7.13	5.78
3/4	7/8"	1"	6 1/4"	0.006"	63015T35	7.13	5.78
1	1 1/8"	1"	6 1/4"	0.008"	63015T36	7.37	5.97
1 1/4	1 3/8"	1"	6 1/4"	0.008"	63015T37	7.83	6.35
1 1/2	1 5/8"	1"	6 1/4"	0.009"	63015T38	8.73	7.08
2	2 1/8"	1"	6 1/4"	0.009"	63015T39	9.17	7.43

★ Tube size is an accepted industry designation, not an actual size.

Internal Cleaning Kit for Plumbing

Kit includes a plastic handle and four brushes for cleaning the inside of copper tube sizes 3/8 to 1 (Tube ODs 1/2" to 1 1/8"). Brushes have a single spiral of steel bristles twisted between two stainless steel wires. Brush length is 1/2" to 1", overall length is 5 3/4" to 6 1/2", and bristle diameter is 0.004" to 0.006".



7354T11 ..... $18.39

External Cleaning Brushes for Plumbing

Clean the outside of a tube for applications such as soldering. Brushes have a plastic grip surrounding steel bristles.



For Tube Size ★	For Tube OD	Bristle Dia.		1-5	6-Up
1/4	3/8"	0.012"	7370T11	$4.19	$3.55
3/8	1/2"	0.012"	7370T12	4.29	3.66
1/2	5/8"	0.012"	7370T13	4.56	3.89
5/8	3/4"	0.012"	7370T17	5.04	4.27
3/4	7/8"	0.012"	7370T15	5.13	4.38
7/8	1"	0.012"	7370T14	5.29	4.52
1	1 1/8"	0.012"	7370T16	5.62	4.80

★ Tube size is an accepted industry designation, not an actual size.

Internal and External Cleaning Combination Brushes

Clean the inside and outside of a tube with one brush. These brushes have a single spiral of bristles twisted between two galvanized steel wires. The handle is plastic. Brushes *for plumbing* have steel bristles. Brushes *for refrigeration* have stainless steel bristles, which won't leave behind corrosive debris.



For Tube Size ★	For Tube OD	Brush Lg.	O'all Lg.	Bristle Dia.		
For Plumbing						
1/2 and 3/4	5/8" and 7/8"	15/16"	7 1/2"	0.006"	6301T41	$15.41
1/2 and 3/4	5/8" and 7/8"	1"	7 1/2"	0.008"	6301T44	17.03
For Refrigeration						
3/8 and 5/8	1/2" and 3/4"	1"	7 1/2"	0.008"	6301T42	15.41
1/2 and 3/4	5/8" and 7/8"	1"	7 1/2"	0.008"	6301T43	15.41

★ Tube size is an accepted industry designation, not an actual size.

Miniature Hand Brushes

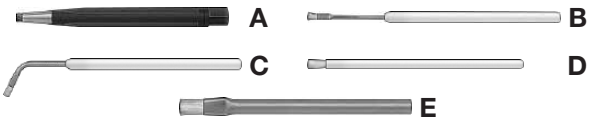

Choose these brushes for light cleaning in tiny spaces and on very small parts.

As bristles on **Style A** brushes wear, turn the handle to expose more bristle. **Style B** and **C** bristles are clamped into the end of the brush so they won't fall out. **Style D** bristles are held in place with a high-temperature epoxy. They won't fall out, even when sterilized in an autoclave. Maximum temperature is 180° F.

	Bristle Dia.	Bristle Lg.	Brush Wd.	Brush Thick.	O'all Lg.		1-11	12-Up
(A-D) Plastic Handle								
For Steel—Steel bristles								
A	0.005"	1 1/4"	1/4" Dia.	—	4 1/2"	3430K48	$9.44	$7.55
For Stainless Steel and Aluminum—Stainless steel bristles								
B	0.003"	3/16"	1/8"	1/16"	5 1/2"	33335K2	16.34	13.08
C	0.003"	3/16"	1/8"	1/16"	5 1/2"	33335K4	17.16	13.72
Low Scratch for Stainless Steel and Aluminum—Brass bristles								
A	0.002"	1 1/4"	1/4" Dia.	—	4 1/2"	3430K46	9.29	7.43
For Circuit Board Cleaning—Fiberglass bristles								
A	0.005"	1 1/4"	1/4" Dia.	—	4 1/2"	3430K42	7.11	5.69
For Use with Acids and Alkalies—Nylon bristles								
A	0.010"	1 1/4"	1/4" Dia.	—	4 1/2"	3430K44	7.56	6.05
B	0.003"	3/16"	1/8"	1/16"	5 3/4"	33335K1	16.34	13.08
C	0.003"	3/16"	1/8"	1/16"	5 1/2"	33335K3	17.16	13.72
For High Temperatures—Nylon bristles								
D	0.008"	3/8"	3/16" Dia.	—	4 7/8"	7265T31	9.03	7.45
D	0.008"	1/2"	1/4" Dia.	—	5"	7265T32	10.42	8.60
D	0.008"	3/4"	3/8" Dia.	—	5 1/4"	7265T33	12.42	10.25
D	0.008"	1"	1/2" Dia.	—	5 1/2"	7265T34	15.48	12.78
(E) Stainless Steel Handle								
For Stainless Steel and Aluminum—Stainless steel bristles								
E	0.003"	1/8"	3/16"	1/8"	3 5/8"	7248T11	10.13	8.22
E	0.003"	1/2"	5/16"	3/16"	5 1/4"	7248T13	12.70	10.30
Low Scratch for Stainless Steel and Aluminum—Brass bristles								
E	0.003"	1/8"	3/16"	1/8"	3 5/8"	7248T15	10.13	8.22
E	0.003"	1/2"	5/16"	1/4"	5 1/4"	7248T17	12.70	10.30
For Use with Acids and Alkalies—Nylon bristles								
E	0.003"	1/8"	3/16"	1/16"	3 5/8"	7248T32	10.13	8.22
E	0.008"	3/8"	1/2"	3/16"	5 1/8"	7248T34	12.70	10.30
For Dusting All Materials—Horsehair bristles								
E	—	1/8"	3/16"	1/16"	3 5/8"	7248T19	10.13	8.22
E	—	3/8"	1/2"	1/4"	5 1/8"	7248T22	12.70	10.30
For Dry Polishing—Goat hair bristles								
E	—	1/8"	1/8"	1/16"	3 5/8"	33335K5	9.50	7.60
E	—	3/8"	1/2"	1/4"	5 1/8"	7248T29	12.70	10.30
For All Materials—Hog hair bristles								
E	—	1/8"	3/16"	1/16"	3 5/8"	7248T24	10.13	8.22
E	—	3/8"	5/16"	3/16"	5 1/8"	7248T26	12.70	10.30

Refills for Style A Brushes 3430K61

Flexible-Shaft Tube Brushes

The long, flexible plastic shaft on these brushes snakes around curves to reach deep into sanitary lines. Bristles are nylon. Use by hand.



Brush Dia.	Brush Lg.	Shaft Lg.	Bristle Dia.		
4"	1 1/4"	4 ft.	0.020"	6434T57	$22.30
4"	1 1/4"	8 ft.	0.020"	6434T58	27.15
4"	1 1/4"	10 ft.	0.020"	6434T59	29.52
4"	1 1/4"	20 ft.	0.020"	6434T61	30.10

Time-Saving Brushes for Cleaning Copper Tubes and Fittings

Clean the inside and outside of plumbing and refrigeration tubes in one step. Brushes have bristles inside the housing and a protruding brush with a single spiral of bristles twisted between two galvanized steel wires. Bristles are stainless steel. Brushes have a 1/4" hex shank for mounting on drills. The *4-piece kit* includes the three brushes shown, plus a 1/4" hex-shank quick-change holder.

For Tube Size ★	For Tube OD	Brush Lg.	O'all Lg.	Bristle Dia.	Max. rpm		
1/2	5/8"	1"	5"	0.008"	2,000	7274T11	$15.29
3/4	7/8"	1"	5"	0.008"	2,000	7274T12	15.81
1	1 1/4"	1"	5"	0.010"	2,000	7274T13	15.92
4-Piece Kit						7274T14	38.95

★ Tube size is an accepted industry designation, not an actual size.



Hand Brushes

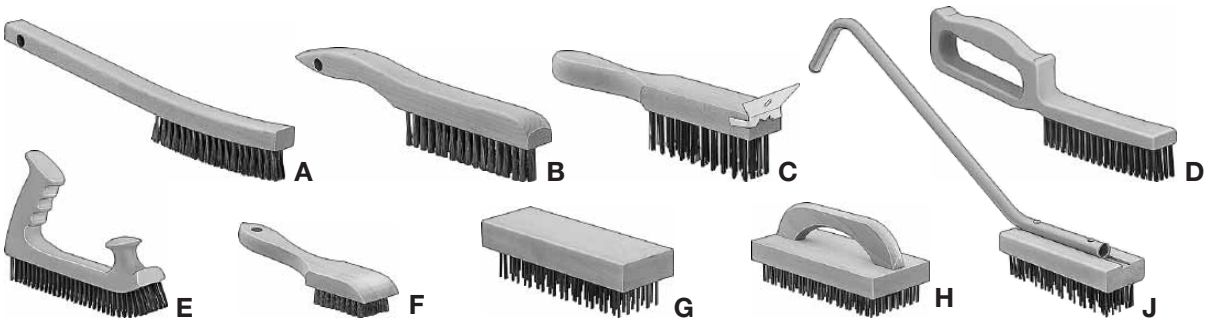

From delicate surface cleaning and polishing to heavy rust, weld slag, and scale removal, these brushes get the job done. Brushes with bristle diameters less than 0.012″ and all nylon bristle brushes are for light cleaning. Brushes with bristle diameters of 0.012″ or greater are for heavy cleaning.

	Bristle Dia.	Bristle Lg.	Brush Wd.	Brush Lg.	O'all Lg.		1-11	12-Up
Wood Handle								
For Steel—Steel bristles								
A	0.006″	1⅛″	½″	5¾″	13¾″	**7190T4**	$7.65	$6.47
A	0.006″	1⅛″	¾″	5⅜″	13¾″	**7190T1**	8.80	7.43
A	0.013″	1⅛″	⅜″	5⅜″	13¾″	**7187T5**	3.19	2.71
A	0.013″	1⅛″	½″	5¾″	13¾″	**7187T1**	3.15	2.68
A	0.013″	1⅛″	½″	5¾″	13¾″	**7187T7**▲	4.62	3.93
A	0.013″	1⅛″	⅝″	4″	13¾″	**7187T6**	3.64	3.09
A	0.013″	1⅛″	¾″	5⅜″	13¾″	**7187T2**	3.53	3.00
A	0.013″	1⅛″	¾″	5⅜″	13¾″	**7187T3**▲	5.13	4.36
A	0.014″	1½″	¼″	5¼″	13¾″	**4446A77**★	4.10	3.43
B	0.006″	1⅛″	⅝″	5″	10″	**7190T7**	7.65	6.47
B	0.006″	1⅛″	¾″	4¾″	10″	**7190T8**	8.35	7.05
B	0.013″	1⅛″	⅛″	4⅞″	10 3⁄16″	**7187T33**	5.34	4.56
B	0.013″	1⅛″	⅝″	5″	10″	**7188T1**	3.66	3.11
B	0.013″	1⅛″	¾″	4¾″	10″	**7188T2**	3.81	3.24
B	0.013″	1⅛″	¾″	4¾″	10″	**7188T3**▲	5.00	4.25
B	0.013″	1 3⁄16″	⅜″	5″	10¼″	**7188T6**	3.96	3.37
C	0.014″	1½″	1 3⁄16″	4½″	10½″	**7187T12**	6.55	5.57
C	0.020″	3⅛″	1⅝″	5¼″	20¼″	**7187T35**	11.23	9.54
F	0.006″	⅝″	1¼″	2⅛″	8″	**7451T21**	5.80	4.96
F	0.008″	⅝″	1¼″	2⅛″	8″	**7451T22**	5.80	4.96
G	0.012″	1¾″	1¾″	6½″	7¼″	**7192T3**	8.24	7.00
G	0.017″	1¼″	2⅛″	7″	7¾″	**7192T1**	14.51	12.34
H	0.017″	1¼″	3 3⁄16″	8½″	9¼″	**7192T5**	29.77	25.31
For Stainless Steel and Aluminum—Stainless steel bristles								
A	0.006″	1⅛″	⅝″	5½″	13¾″	**7190T6**	8.37	7.07
A	0.006″	1⅛″	¾″	5½″	13¾″	**7190T3**	10.16	8.59
A	0.008″	¾″	⅞″	2⅛″	8¼″	**7187T23**	15.09	12.89
A	0.012″	1⅛″	½″	5¾″	13¾″	**7187T4**	6.44	5.47
A	0.012″	1⅛″	¾″	5⅜″	13¾″	**7187T8**	7.12	6.05
A	0.012″	1½″	¼″	5¼″	13¾″	**4446A78**★	5.75	4.80
B	0.006″	1⅛″	¾″	4¾″	10″	**7190T12**	10.35	8.74
B	0.012″	¾″	⅜″	5″	10 3⁄16″	**7188T8**	6.73	5.72
B	0.012″	1⅛″	⅝″	4¾″	10″	**7187T34**	5.87	5.02
B	0.012″	1⅛″	¾″	4¾″	10″	**7188T11**	7.56	6.43
B	0.012″	1 3⁄16″	⅜″	5″	10¼″	**7188T9**	6.78	5.77
F	0.006″	⅝″	1¼″	2⅛″	8″	**7451T23**	5.80	4.96
F	0.008″	⅝″	1¼″	2⅛″	8″	**7451T24**	5.80	4.96
G	0.003″	¾″	2″	3⅝″	4¼″	**44155A64**	46.70	39.69
G	0.005″	¾″	2″	3⅝″	4¼″	**44155A65**	25.50	21.67
Low Scratch for Stainless Steel and Aluminum—Brass bristles								
A	0.006″	1⅛″	½″	5¾″	13¾″	**7190T5**	6.65	5.62
A	0.006″	1⅛″	¾″	5⅜″	13¾″	**7190T2**	8.63	7.29
A	0.008″	¾″	⅞″	2⅛″	8¼″	**7187T21**	15.09	12.89
A	0.012″	1⅛″	½″	5¾″	13¾″	**7187T36**	6.11	5.22
A	0.012″	1⅛″	¾″	5⅜″	13¾″	**7187T37**	7.55	6.45
B	0.006″	1⅛″	⅝″	4¾″	10″	**7190T9**	7.43	6.28
B	0.006″	1⅛″	¾″	4¾″	10″	**7190T11**	8.16	6.90
B	0.012″	1⅛″	¾″	4¾″	10″	**7187T32**	6.57	5.62
F	0.006″	⅝″	1¼″	2⅛″	8″	**7451T31**	5.80	4.96
F	0.008″	9⁄16″	2½″	2¾″	8⅞″	**7451T14**	10.82	8.65
F	0.008″	⅝″	1¼″	2⅛″	8″	**7451T25**	5.80	4.96
F	0.008″	⅝″	1¼″	2½″	6¾″	**7451T19**	5.21	4.17
G	0.003″	¾″	2″	3⅝″	4¼″	**44155A61**	23.55	20.02
G	0.005″	¾″	1 15⁄16″	3⅝″	4¼″	**44155A81**♦	20.17	17.14
G	0.005″	¾″	2″	3⅝″	4¼″	**44155A62**	14.00	11.90
G	0.005″	¾″	2¼″	6″	6½″	**44155A63**	28.70	24.39

	Bristle Dia.	Bristle Lg.	Brush Wd.	Brush Lg.	O'all Lg.		1-11	12-Up
Wood Handle (Cont.)								
Low Scratch for All Metals—Bronze bristles								
A	0.012″	1⅛″	½″	5¾″	13¾″	**7187T38**	$6.11	$5.22
A	0.012″	1⅛″	¾″	5⅜″	13¾″	**7187T11**	12.08	9.61
B	0.012″	1⅛″	¾″	4¾″	10″	**7188T13**	9.89	8.41
For Aluminum and Soft Metals—Aluminum bristles								
A	0.008″	7⁄16″	¼″	1½″	7¾″	**7187T31**	4.45	3.80
F	0.008″	½″	1¼″	2½″	6¾″	**7451T16**	4.76	3.81
F	0.008″	⅝″	1¼″	2⅛″	8″	**7451T34**	5.80	4.96
For Use with Acids and Alkalies—Nylon bristles								
A	0.014″	1″	¾″	5⅜″	13¾″	**7234T4**	5.10	4.31
B	0.018″	1″	¾″	4¾″	10″	**7187T39**	6.09	5.20
C	0.020″	2″	1 1⁄16″	5½″	9½″	**71855T21**	12.85	10.92
F	0.016″	⅝″	1¼″	2½″	6¾″	**7451T17**	4.00	3.20
F	0.018″	⅝″	1¼″	2⅛″	8″	**7451T32**	5.34	4.56
G	0.012″	¾″	2″	3⅝″	4¼″	**44155A71**	12.15	10.32
G	0.012″	1″	2″	5⅝″	6″	**44155A72**	14.80	12.58
For Applying Lubricants and Polishing Compounds—Tampico bristles								
A	____	1″	¾″	5⅜″	12⅞″	**7183T1**	5.10	3.98
B	____	1¼″	¾″	5″	10″	**7183T2**	6.30	5.04
For Lightly Cleaning All Materials—Hog hair bristles								
A	____	7⁄16″	¼″	4″	7¾″	**7187T44**	4.89	4.18
A	____	1⅛″	¾″	5⅜″	13¾″	**7187T41**	9.19	7.85
F	____	⅝″	1¼″	2⅛″	8″	**7451T28**	5.80	4.96
G	____	¾″	1⅞″	6⅝″	7⅛″	**44155A88**	24.77	21.05
G	____	¾″	2″	3⅝″	4¼″	**44155A68**	15.57	13.24
For Dusting All Materials—Horsehair bristles								
A	____	5⁄16″	¼″	4″	7¾″	**7187T46**	4.17	3.56
A	____	7⁄16″	¼″	4″	7¾″	**7187T45**	4.17	3.56
A	____	¾″	⅞″	2⅛″	8¼″	**7187T22**	12.02	10.27
A	____	1″	½″	5¾″	13¾″	**7187T42**	6.47	5.53
A	____	1″	¾″	5⅜″	13¾″	**7187T43**	7.66	6.55
F	____	⅝″	1¼″	2⅛″	8″	**7451T33**	5.34	4.56
G	____	¾″	1⅞″	6⅝″	7⅛″	**44155A84**	19.33	16.43
G	____	¾″	2″	3⅝″	4¼″	**44155A66**	9.80	8.33
G	____	1″	2″	5⅝″	6″	**44155A67**	19.60	16.67
Plastic Handle								
For Steel—Steel bristles								
A	0.006″	7⁄16″	¼″	1⅜″	7 3⁄16″	**7187T24**	1.91	1.64
A	0.013″	1⅛″	½″	5¾″	13¾″	**7187T9**	3.45	2.93
B	0.013″	1⅛″	¾″	4¾″	10″	**7188T12**	3.87	3.29
D	0.014″	1⅛″	1 1⁄16″	6″	12¼″	**7176T11**	7.27	6.18
D	0.014″	1⅛″	1 1⁄16″	6″	13″	**7176T12**▲	7.84	6.67
E	0.014″	1⅛″	1⅛″	10″	10″	**4280A21**	7.30	6.21
For Stainless Steel and Aluminum—Stainless steel bristles								
B	0.012″	1⅛″	¾″	4¾″	10″	**7188T4**	8.12	6.91
D	0.013″	1⅛″	1 1⁄16″	6″	12¼″	**7176T13**	10.44	8.88
Low Scratch for Stainless Steel and Aluminum—Brass bristles								
F	0.008″	⅝″	1⅜″	2½″	7¼″	**7451T26**	4.66	3.73
F	0.008″	⅝″	2¼″	3″	8⅞″	**7451T29**	7.05	5.64
F	0.008″	¾″	2½″	3¼″	20″	**7451T15**	10.52	8.77
F	0.016″	¾″	2″	2½″	10⅝″	**7206T8**▲	5.88	4.70
For Use with Acids and Alkalies—Nylon bristles								
A	0.008″	1″	¼″	1⅜″	7 3⁄16″	**7187T28**	1.91	1.64
A	0.012″	7⁄16″	¼″	1⅜″	7 3⁄16″	**7187T25**	1.38	1.18
A	0.020″	7⁄16″	¼″	1⅜″	7 3⁄16″	**7187T26**	1.38	1.18
F	0.025″	⅝″	1¼″	2¼″	7″	**7241T39**■	4.60	3.99
20½″ Long Metal Handle								
For Steel—Steel bristles								
J	0.014″	1¾″	1¾″	6⅝″	7¼″	**7144T57**	50.48	42.91
J	0.017″	1¼″	2⅛″	7⅛″	7½″	**7144T59**	57.83	49.15

▲ Brush has a scraper. ★ Brush has V-shape bristles that angle inward. ♦ Has brass bristles with an outer row of horsehair.
■ Also has three rows of ½″ long brass bristles angled forward from the tip.

Hand Brushes for Contours

With a flexible plastic handle, this brush conforms to round and uneven surfaces of pipe, moldings, and machinery. Use it to remove heavy rust, weld slag, and scale from steel. The bristles are steel.



Bristle Dia.	Bristle Lg.	Brush Wd.	Brush Lg.	O'all Lg.		1-11	12-Up
0.014″	1 1/4″	2 1/16″	6 5/8″	7″	4414A16	$8.60	$7.31

Small Hand Brushes

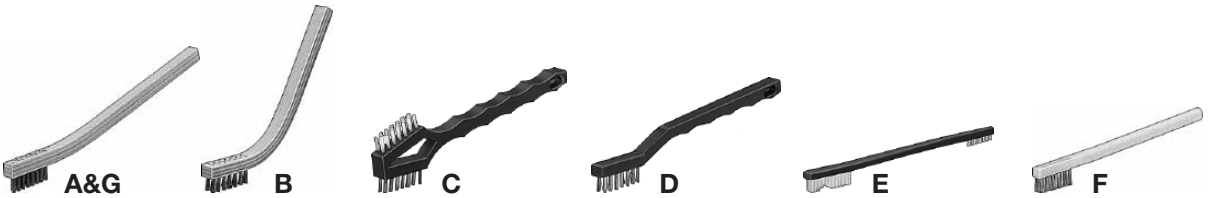

Brush faces are narrow for use in hard-to-reach areas and on small workpieces. Brushes with bristle diameters less than 0.012″ and all nylon bristle brushes are for light cleaning, such as removing light to medium rust and stains and small burs. Brushes with bristle diameters of 0.012″ or greater are for heavy cleaning, such as removing weld slag, heavy surface contamination, and large burs.

For Dry Use—Have a wood handle.

For Wet Use—*Styles A* and *B* have a wood handle and hand-laced bristles that won't fall out when the handle gets wet and expands. *Styles C, D,* and *E* have a plastic handle.

For Wet Use with Harsh Cleaning Agents—Have hand-laced bristles and a plastic handle, except Style A have an aluminum handle.

	Bristle Dia.	Bristle Lg.	Brush Wd.	Brush Lg.	O'all Lg.		1-11	12-Up
For Dry Use								
For Stainless Steel and Aluminum—Stainless steel bristles								
A	0.006″	7/16″	1/4″	1 3/8″	7 3/4″	7092T14	$1.88	$1.59
A	0.006″	5/8″	3/8″	2 7/8″	8 5/8″	7206T5	2.61	2.12
Low Scratch for Stainless Steel and Aluminum—Brass bristles								
A	0.006″	7/16″	1/4″	1 3/8″	7 3/4″	7327T21	1.84	1.46
Low Scratch for All Metals—Bronze bristles								
A	0.006″	7/16″	1/4″	1 3/8″	7 3/4″	7327T22	1.98	1.58
For Aluminum and Soft Metals—Aluminum bristles								
A	0.008″	1/2″	3/8″	2 7/8″	8 5/8″	7206T6	2.73	2.11
For Use with Acids and Alkalies—Nylon bristles								
A	0.012″	7/16″	1/4″	1 3/8″	7 3/4″	7327T23	1.98	1.58
For Lightly Cleaning All Materials—Hog hair bristles								
A	_____	7/16″	1/4″	1 3/8″	7 3/4″	71885T72	2.07	1.74
A	_____	3/4″	7/8″	2 1/8″	8 3/8″	71885T74	11.81	9.92
For Dusting All Materials—Horsehair bristles								
A	_____	7/16″	1/4″	1 3/8″	7 3/4″	71885T71	1.88	1.58
A	_____	1/2″	3/8″	1 3/4″	7″	7235T2	3.15	2.45
A	_____	3/4″	1/2″	4 3/4″	10 3/16″	71885T77	11.81	9.92
For Wet Use								
For Stainless Steel and Aluminum—Stainless steel bristles								
A	0.003″	7/16″	1/8″	1 3/8″	7 3/4″	4800A75	12.54	10.63
A	0.003″	7/16″	1/4″	1 3/8″	7 3/4″	4800A76	10.74	9.11
A	0.003″	7/16″	1/4″	1 1/2″	7 3/4″	71885T81	8.62	7.24
A	0.003″	7/16″	1/4″	1 1/2″	14″	4800A78	11.77	9.98
A	0.005″	3/4″	1″	1 5/8″	8 3/8″	7251T97	16.67	14.13
A	0.006″	7/16″	1/8″	1 3/8″	7 3/4″	4800A32	10.87	9.22
A	0.006″	7/16″	1/4″	1 3/8″	7 3/4″	4800A42	9.18	7.78
A	0.006″	7/16″	1/4″	1 1/2″	7 3/4″	4800A52	5.33	4.52
A	0.006″	7/16″	1/4″	1 1/2″	14″	4800A62	9.10	7.72
B	0.006″	7/16″	1/4″	1 1/4″	7 3/4″	4800A72	9.67	8.20
Low Scratch for Stainless Steel and Aluminum—Brass bristles								
A	0.003″	7/16″	1/8″	1 3/8″	7 3/4″	4800A81	12.54	10.63
A	0.003″	7/16″	1/4″	1 3/8″	7 3/4″	4800A82	10.72	9.09
A	0.003″	7/16″	1/4″	1 1/2″	7 3/4″	71885T73	8.14	6.84
A	0.003″	7/16″	1/4″	1 1/2″	14″	4800A84	11.77	9.98
A	0.006″	7/16″	1/8″	1 3/8″	7 3/4″	4800A33	10.87	9.22
A	0.006″	7/16″	1/4″	1 3/8″	7 3/4″	4800A43	9.18	7.78
A	0.006″	7/16″	1/4″	1 1/2″	7 3/4″	4800A53	5.33	4.52
A	0.006″	7/16″	1/4″	1 1/2″	14″	4800A63	9.10	7.72
B	0.006″	7/16″	1/4″	1 1/4″	7 3/4″	4800A73	9.67	8.20
Low Scratch for All Metals—Bronze bristles								
A	0.006″	7/16″	1/8″	1 3/8″	7 3/4″	4800A34	10.87	9.22
A	0.006″	7/16″	1/4″	1 3/8″	7 3/4″	4800A44	9.18	7.78
A	0.006″	7/16″	1/4″	1 1/2″	7 3/4″	4800A54	5.33	4.52
A	0.006″	7/16″	1/4″	1 1/2″	14″	4800A64	9.10	7.72
B	0.006″	7/16″	1/4″	1 1/4″	7 3/4″	4800A74	9.67	8.20
For Use with Acids and Alkalies—Nylon bristles								
A	0.012″	7/16″	1/8″	1 3/8″	7 3/4″	4800A39	10.87	9.22
A	0.012″	7/16″	1/4″	1 3/8″	7 3/4″	4800A49	9.18	7.78
A	0.018″	7/16″	1/4″	1 1/2″	7 3/4″	4800A59	4.69	3.98
A	0.018″	7/16″	1/4″	1 1/2″	14″	4800A69	8.67	7.35
B	0.018″	7/16″	1/4″	1 1/4″	7 3/4″	4800A79	9.67	8.20
E	0.014″	3/16″, 7/16″	1/4″	1 3/8″	7″	7187T29	2.91	2.49
For Lightly Cleaning All Materials—Hog hair bristles								
A	_____	7/16″	1/8″	1 3/8″	7 3/4″	4800A37	10.87	9.22
A	_____	7/16″	1/4″	1 3/8″	7 3/4″	4800A47	9.18	7.78
A	_____	7/16″	1/4″	1 1/2″	7 3/4″	4800A57	4.82	4.09
For Wet Use (Cont.)								
For Dusting All Materials—Horsehair bristles								
A	_____	7/16″	1/8″	1 3/8″	7 3/4″	4800A36	$10.87	$9.22
A	_____	7/16″	1/4″	1 3/8″	7 3/4″	4800A46	9.18	7.78
A	_____	7/16″	1/4″	1 1/2″	7 3/4″	4800A56	4.69	3.98
D	_____	1″	1/4″	1 3/8″	7 3/16″	71885T76	2.14	1.80
Low Scratch for Stainless Steel and Aluminum/For Use with Acids and Alkalies—Brass/nylon bristles								
C	0.006″/ 0.016″	1/2″	5/16″	1 3/8″	7 1/4″	44255A15	3.02	2.54
For Stainless Steel and Aluminum/For Use with Acids and Alkalies—Stainless steel/nylon bristles								
C	0.006″/ 0.016″	1/2″	5/16″	1 3/8″	7 1/4″	44255A25	3.02	2.54
For Stainless Steel and Aluminum/Low Scratch for Stainless Steel and Aluminum—Stainless steel/brass bristles								
C	0.006″/ 0.006″	1/2″	5/16″	1 3/8″	7 1/4″	44255A35	3.02	2.54
For Low Scratch/For Use with Acids and Alkalies—Bronze/nylon bristles								
C	0.006″/ 0.016″	1/2″	5/16″	1 3/8″	7 1/4″	44255A45	3.02	2.54
For Wet Use with Harsh Cleaning Agents								
For Stainless Steel and Aluminum—Stainless steel bristles								
A	0.003″	7/16″	1/8″	1 1/8″	6 7/16″	4740A41	14.12	11.30
A	0.003″	7/16″	1/4″	1 1/4″	6 7/16″	4740A43	18.08	14.46
A	0.003″	7/16″	5/16″	1 1/4″	6 7/16″	4740A45	24.71	19.77
D	0.006″	7/16″	1/4″	1 3/8″	7 3/16″	7092T18	1.80	1.52
F	0.003″	7/16″	1/8″	1 1/4″	6 1/2″	7448T65	12.41	9.92
F	0.003″	7/16″	1/4″	1 1/4″	6 1/2″	7448T66	14.65	11.72
F	0.003″	7/16″	5/16″	1 1/4″	6 1/2″	7448T67	19.95	15.96
Low Scratch for Stainless Steel and Aluminum—Brass bristles								
A	0.003″	7/16″	1/8″	1 1/8″	6 7/16″	4740A47	14.12	11.30
A	0.003″	7/16″	1/4″	1 1/4″	6 7/16″	4740A49	18.08	14.46
A	0.003″	7/16″	5/16″	1 1/4″	6 7/16″	4740A52	24.71	19.77
D	0.006″	7/16″	1/4″	1 3/8″	7 3/16″	7092T15	1.77	1.50
D	0.008″	7/16″	1/4″	1 1/4″	7 1/4″	7206T3	2.09	1.67
F	0.005″	1/2″	1/2″	1 1/8″	6 1/8″	7373T11	2.55	1.98
Low Scratch for All Metals—Bronze bristles								
D	0.006″	7/16″	1/4″	1 3/8″	7 3/16″	7092T17	1.88	1.59
For Use with Acids and Alkalies—Nylon bristles								
D	0.016″	7/16″	1/4″	1 3/8″	7 3/16″	7092T16	1.66	1.41
D	0.018″	5/8″	3/8″	3 1/4″	8 1/2″	7206T11	4.86	3.98
F	0.012″	7/16″	1/8″	1 1/4″	6 1/2″	7448T61	11.03	8.82
F	0.012″	7/16″	1/4″	1 1/4″	6 1/2″	7448T62	15.08	12.06
F	0.012″	7/16″	5/16″	1 1/4″	6 1/2″	7448T63	18.70	14.96
For Lightly Cleaning All Materials—Hog hair bristles								
A	_____	7/16″	1/8″	1 1/8″	6 7/16″	4740A61	13.90	11.12
A	_____	7/16″	1/4″	1 1/4″	6 7/16″	4740A63	18.08	14.46
A	_____	7/16″	5/16″	1 1/4″	6 7/16″	4740A65	23.55	18.84
For Dusting All Materials—Horsehair bristles								
A	_____	7/16″	1/8″	1 1/8″	6 7/16″	4740A54	13.90	11.12
A	_____	7/16″	1/4″	1 1/4″	6 7/16″	4740A56	18.08	14.46
A	_____	7/16″	5/16″	1 1/4″	6 7/16″	4740A58	23.55	18.84
For Titanium—Titanium bristles								
G	0.008″	7/16″	1/8″	1 1/8″	6 1/4″	7416T11	31.31	26.64
G	0.008″	7/16″	1/4″	1 1/4″	6 1/4″	7416T12	46.70	39.73
G	0.008″	7/16″	5/16″	1 1/4″	6 1/4″	7416T13	61.65	52.48

Hand Brushes

For information about brushes, see page 2691.

Applicator Brushes



Apply lubricants, flux, and other compounds to small parts and pipes. These brushes are also used for dusting and cleaning.

Brushes **for all materials** resist deterioration from heat.

Brushes with a *wood handle* are also known as dope brushes. Brushes with a *metal handle* are also known as acid brushes.

	Bristle Dia.	Bristle Lg.	Brush Wd.	Brush Thick.	O'all Lg.		1-11	12-Up
Wood Handle								
For All Materials—Horsehair bristles								
A	1″	¾″	¼″	7″		**7116T14**	$1.08	$0.92
Plastic Handle								
For Use with Acids and Alkalies—Nylon bristles								
B	0.008″	⅜″	3/16″ Dia.	—	4⅞″	**7465T92**	6.43	5.10
B	0.008″	½″	¼″ Dia.	—	5″	**7465T94**	6.82	5.40
B	0.008″	¾″	⅜″ Dia.	—	5¼″	**7465T96**	8.20	6.49
B	0.008″	1″	½″ Dia.	—	5½″	**7465T98**	10.59	8.37
Metal Handle								
For Applying Flux on Circuit Boards—Fiberglass bristles								
A	0.005″	½″	⅝″	¼″	6″	**71955T55**	2.92	2.49
For Applying Thick Flux—Hog hair bristles								
A	—	¾″	⅜″	5/16″	5¼″	**7431T94**	4.63	4.16
C	—	3/16″,¼″	⅜″	3/16″	5″	**7431T95**	6.92	6.23
For All Materials—Horsehair bristles								
A	—	¾″	⅜″	¼″	5¼″	**7431T91**	4.52	3.84
C	—	3/16″,¼″	⅜″	3/16″	5″	**7431T92**	6.61	5.62
							Pkg.	of 48
Disposable—Horsehair bristles								
A	—	½″	¼″	⅛″	3¼″	**7237T81**	$6.37	
A	—	⅝″	¼″	3/16″	6″	**7237T82**	6.88	
A	—	¾″	⅜″	3/16″	6″	**7237T83**	6.38	
A	—	13/16″	½″	¼″	6″	**7237T84**	8.51	
A	—	13/16″	9/16″	5/16″	6″	**7237T3**	11.06	

Multipurpose Brushes

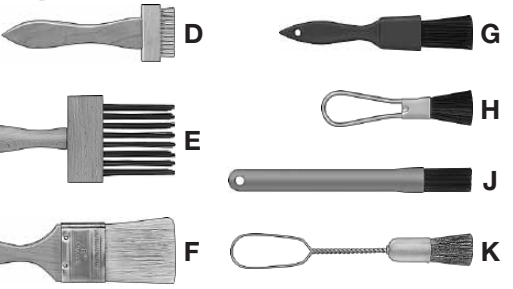

Also known as chip brushes, these brushes sweep away debris created during milling, drilling, and cutting. They're also used for light cleaning.

	Bristle Dia.	Bristle Lg.	Brush Wd.	Brush Thick.	O'all Lg.		1-11	12-Up
Wood Handle								
For All Materials—Hog hair bristles								
D	—	½″	⅞″	⅜″	5 7/16″	**71885T78**	$3.12	$2.62
D	—	½″	1¾″	11/32″	6⅛″	**71885T84**	13.50	11.34
For Dusting All Materials—Horsehair bristles								
D	—	½″	⅞″	⅜″	5 7/16″	**71885T79**	3.12	2.62
D	—	½″	1¾″	⅜″	6⅛″	**71885T86**	13.50	11.34
For Steel—Steel bristles								
E	0.014″	2⅜″	2⅜″	⅞″	8 5/8″	**7091T12**	8.22	7.00
For Applying Lubricants and Polishing Compounds—Tampico bristles								
F	—	2½″	2″	½″	9¼″	**7804T3**	7.84	6.28
F	—	2⅝″	3″	9/16″	10″	**7804T5**	9.28	7.42
Plastic Handle								
For Use with Acids and Alkalies—Nylon bristles								
G	0.008″	1¾″	1″	⅜″	6¾″	**7035T3**	2.57	2.04
G	0.008″	1¾″	1½″	⅜″	7″	**7035T4**	2.96	2.36
G	0.008″	1¾″	2″	⅜″	7¼″	**7035T5**	2.73	2.18
Metal Handle								
For Steel—Steel bristles								
H	0.010″	1⅝″	1¼″	⅛″	5½″	**7196T14**	2.95	2.38
J	0.014″	1⅝″	1⅛″	⅛″	8½″	**7197T5**	9.53	7.66
For Stainless Steel and Aluminum—Stainless steel bristles								
H	0.010″	1⅝″	1¼″	⅛″	5½″	**7196T15**	4.72	3.71
J	0.012″	1⅝″	1⅛″	⅛″	8½″	**7197T6**	14.15	11.40
K	0.005″	1½″	⅞″ Dia.	—	9″	**7273T22**	5.71	4.57
K	0.005″	1½″	⅞″ Dia.	—	18″	**7273T21**	6.00	4.80

Parts-Washing Brushes



Use with parts-washing solutions to clean dirt, oil, and grease from your parts.

Attach **flow-through brushes** to a parts washer to pump solution through the bristles. For parts washers, see pages 2713-2715. *Style N* have a ⅜″ diameter handle that can be inserted into a rubber hose.

Style P has a slip-on connection that fits any ½″ diameter parts-washer spigot. It comes with 12″ of clear plastic tubing. *Styles Q* and *R* have a push-button control that lets you regulate the flow of washing solution. They come with a 3-ft. nitrile rubber hose for connecting to a ½″-19/32″ diameter spigot.

	Bristle Dia.	Bristle Lg.	Brush Dia.	O'all Lg.	Handle Material	Ferrule Material		1-11	12-Up
(L&M) Brushes									
For All Materials—Nylon bristles									
L	0.018″	2½″	1″	11″	Plastic	Aluminum	**7191T1**	$3.25	$2.77
L	0.018″	3″	1¼″	16″	Wood	Tin	**7191T2**	5.03	4.01
Long Lasting for All Materials—Tampico bristles									
L		2⅞″	1¼″	11″	Plastic	Aluminum	**7226T2**	3.58	3.04
For Heavy Cleaning on Steel—Steel Bristles									
M	0.008″	1½″	1″	7″	Plastic	Plastic	**7434T83**	5.00	3.98
For Delicate Materials—Hog hair bristles									
L		2¼″	1 1/16″	11″	Plastic	Aluminum	**74825T25**	4.22	3.60
(N-R) Flow-Through Brushes									
For All Materials—Nylon bristles									
N	0.018″	½″	⅜″	5″	Stainless Steel	Stainless Steel	**7115T53**	15.32	13.02
P	0.015″	2¾″	15/16″	9¾″	Plastic	Nickel-Plated Steel	**7039T12**	19.08	16.11
Q	0.018″	2¼″	1⅜″	12¾″	Plastic	Plastic	**7107T4**	38.79	32.97
R	0.018″	2¼″	2¾″ Wd.x¾″ Thick.	11¾″	Plastic	Stainless Steel	**7107T6**	50.12	42.61
For Heavy Cleaning on Stainless Steel and Aluminum—Stainless steel bristles									
N	0.010″	½″	⅜″	5″	Stainless Steel	Stainless Steel	**7115T57**	15.32	13.02
Low Scratch for Stainless Steel and Aluminum—Brass bristles									
N	0.010″	½″	⅜″	5″	Stainless Steel	Stainless Steel	**7115T55**	15.32	13.02

Abrasive Blasting Media

The harder the abrasive, the deeper it penetrates and the faster it works. Use softer abrasives for delicate applications.

Mesh size is the number of holes in a 1″-square screen. As the mesh number gets larger, the number of holes per inch increases, the size of each individual hole decreases, and the media becomes finer. **Grit** refers to coarseness; the lower the number, the coarser the grit.

Media	Description	Removes Surface Rust	Removes Paint		Etches Steel, Alum., and Plastic	Deburs Steel, Alum., and Plastic
			From Steel	From Alum. and Plastic		
Extra Hard—8 to 9 Mohs						
Aluminum Oxide Grit	Sharp, hard, and durable, it prepares surfaces for coating. It also frosts glass. Typical blast pressure is 60-100 psi.	Best	Best	Better	Better	Good
Silicon Carbide Grit	Quickly cleans granite, ceramics, silicon, quartz, cemented carbides, and other tough materials. Typical blast pressure is 20-120 psi.	Best	Best	Better	Better	Good
Garnet Grit	More aggressive than other blasting media, it cuts faster while producing less dust. Typical blast pressure is 60-120 psi.	Best	Best	Better	Best	Good
Hard—5.5 to 8 Mohs						
Steel Grit	Leaves a textured surface to enhance the bonding ability of paint and other coatings. Typical blast pressure is 100 psi.	Better	Best	Good	Better	Better
Steel Shot	Generates a high-impact force to clean and peen heavy forgings and remove heat-treated scale on steel and other cast metals. Typical blast pressure is 100 psi.	Better	Better	Good	Better	Better
Glass Bead	Round beads remove carbon and surface residue for a smooth, bright finish. It is inert and leaves no residue. Peens aluminum and plastic. Typical blast pressure is 20-60 psi.	Good	Good	Good	____	Better
Black Beauty Grit	Also known as black diamond and black blast, it's the best alternative to silica sand. Contains less than 0.1% free silica. It's inert and moisture free. Typical blast pressure is 100 psi.	Good	Better	____	Good	Good
Stainless Steel Shot	Outlasts glass bead and Black Beauty grit by a ratio of 1,000 to 1. It descales nonferrous metals and peens aluminum and plastic. Typical blast pressure is 60-120 psi.	Good	Good	____	Good	Better
Glass/ Aluminum Oxide Grit	A mixture of glass bead and aluminum oxide removes tough corrosion in applications where 100% aluminum oxide is too aggressive. Typical blast pressure is 20-70 psi.	Better	Good	Good	Good	Good
Ground Glass	A lightweight alternative to sand and grit, it leaves a rough surface. Typical blast pressure is 15-120 psi.	Best	Good	Good	Better	Good
Not Hard—1 to 4.5 Mohs						
Walnut Shells	Soft-grit shells clean, polish, and debur soft metals, fiberglass, plastic, wood, and stone. Typical blast pressure is 20-90 psi.	____	Good	Good	____	Better
Corn Cob	Use for delicate parts. Cleans metal, wood, fiberglass, plastic, and masonry. It won't frost glass, pit aluminum, or damage surfaces. Typical blast pressure is 20-80 psi.	____	Good	Good	____	____
Plastic Grit	Easily removes coatings and build-up without marring and warping. Typical blast pressure is 40-60 psi.	____	Best	Best	____	Better
Baking Soda	Scours almost any material. After use, it can be washed away with water. Typical blast pressure is 20-120 psi.	____	Best	Best	____	____

Mesh Size	Grit	Small Quantity Qty., lbs.			Large Quantity Qty., lbs.		
Aluminum Oxide Grit							
18- 50	36	10	3418K46	$27.51	50	3418K71	$94.13
25- 70	46	10	3418K47	27.51	50	3418K72	94.13
35-100	60	10	3398K31	28.90	__	_____	____
35-100	60	15	3337K57	49.55	50	3418K81	94.13
45-140	80	10	3418K48	28.51	50	3418K82	94.13
70-270	120	10	3398K32	30.16	__	_____	____
70-270	120	15	3337K55	45.05	50	3418K91	97.50
80-325	150	10	3418K49	28.50	50	3418K83	97.50
100-400	180	10	3398K33	30.27	50	3418K92	97.50
120-450	220	10	3398K34	30.16	__	_____	____
120-450	220	15	3337K53	50.90	50	3418K93	108.62
230-325	280	10	3398K35	38.54	50	3418K94	125.00
270-400	320	10	3398K36	51.74	50	3418K96	125.00
325-400	360	15	3337K51	35.14	__	_____	____
325-500	400	10	3398K37	51.74	50	3418K98	137.50
Silicon Carbide Grit							
80-230	100-120	10	3398K21	33.84	50	3441K82	115.82
140-450	180-220	10	3398K22	38.36	50	3441K84	121.96
140-500	280	10	3398K23	44.82	50	3441K86	132.60
Garnet Grit							
_____	36	10	8072T41	18.00	50	8072T66	49.74
_____	54	10	8072T42	18.00	50	8072T67	49.74
Steel Grit							
25- 40	25	25	3165K51	41.71	50	3165K14	80.88
50- 80	50	25	3165K52	43.09	50	3165K15	82.93
Steel Shot							
25- 35	__	25	3165K36	41.12	50	3165K12	80.04
35- 80	__	25	3165K37	44.08	50	3165K11	84.41
Glass Bead							
40- 60	__	10	3398K11	20.92	50	3386K71	66.88
60-120	__	10	3398K12	20.92	50	3386K72	57.25
70-140	__	10	3398K13	20.92	50	3386K73	58.50
100-170	__	10	3398K14	20.92	50	3386K74	61.00

Mesh Size	Grit	Small Quantity Qty., lbs.			Large Quantity Qty., lbs.		
Glass Bead (Cont.)							
170-325	___	10	3398K15	$20.92	50	3386K75	$67.87
200	240	15	3337K59	30.79	__	_____	____
Black Beauty Grit							
12- 40	___	50	33145K36	28.25	80	33145K11	36.98
20- 40	___	50	33145K37	27.95	80	33145K12	36.56
Stainless Steel Shot							
20- 40	___	10	33085K45	101.54	25	33085K21	137.73
25- 50	___	10	33085K46	101.54	25	33085K22	153.64
35- 70	___	10	33085K47	101.54	25	33085K23	162.73
50-140	___	10	33085K48	101.54	25	33085K24	162.73
Glass/Aluminum Oxide Grit							
50- 80	80	10	31075K57	27.01	50	31075K22	72.35
120-170	120	10	3398K41	29.68	__	_____	____
170-230	180	10	3398K42	29.68	__	_____	____
70-170	220	10	31075K58	27.01	50	31075K55	69.89
Ground Glass							
25- 40	38	10	34575K26	15.75	50	34575K37	45.80
Walnut Shells							
8- 12	___	15	3393K28	18.75	50	3393K2	41.43
12- 20	___	15	3393K34	18.75	50	3393K3	41.43
20- 30	___	15	3393K41	18.75	50	3393K6	41.43
Corn Cob							
10- 14	___	10	32725K42	14.18	40	32725K61	26.67
14- 20	___	10	32725K46	14.18	40	32725K63	26.67
20- 40	___	10	32725K48	14.18	40	32725K67	26.67
Plastic Grit							
12- 16	___	25	8104T37	50.40	50	8104T44	90.55
16- 20	___	25	8104T38	50.40	50	8104T45	90.55
20- 30	___	25	8104T39	50.40	50	8104T46	90.55
Baking Soda							
40	___	10	8240T15	32.20	50	8240T72	58.26
60	___	10	8240T14	31.22	50	8240T71	55.60

Abrasive Blasting Cabinets with Dust Collector


Front Door


Flip Top

Also known as suction-feed blasters, these use compressed air to continuously siphon blasting media into the gun so you don't have to stop to refill. The dust collector removes dust from inside the cabinet. Use with most types of dry abrasive blasting media. Not for use with silica sand, steel shot, baking soda, and plastic grit.

All are steel with a window, a steel-screen work table, exterior fluorescent lighting, and a hopper door for media removal. They have a foot-operated 25 cfm gun with a 5/16" ID carbide nozzle and 5/32" ID carbide air jet (except cabinet Style A has a 12 cfm gun, a 1/4" ID nozzle, and 1/8" ID air jet). The air inlet is 3/8" NPT female and the required air pressure is 10-125 psi. All operate on 110 volts AC. A safety switch shuts off airflow when the door is opened. Include blast hose, 5/8" ID air hose, air regulator and gauge, 8-ft. power cord with three-prong plug, and gloves.

With Front and Side Door—Cabinet *Style B* has a side door on the right side. Cabinet *Style C* has a side door on each side.

With Flip Top and Side Door—The top opens 72° to accommodate large parts.

Cabinets

Interior Size Ht.	Wd.	Dp.	Overall Size Ht.	Wd.	Dp.	Front Opening Ht.	Wd.	Side Opening Ht.	Wd.	Window Size Ht.	Wd.	Dust Collector cfm	Cabinet Style		
With Front Door															
23"	30"	24"	63"	32"	25"	13"	30"	—	—	11½"	12"	100	A	3283K5	$1,137.95
With Front Door and Side Door															
23"	36"	24"	63"	39"	25"	13"	36"	11"	17"	12"	24"	100	B	3283K1	1,297.74
23"	48"	24"	63"	51"	25"	13"	48"	11"	17"	12"	24"	100	C	3283K9	1,481.62
With Flip Top and Side Door															
23"	42"	24"	65"	46"	54"	24"	42"	11"	17"	12"	24"	100	D	3463K24	1,689.23
30"	40"	40"	82"	43"	72"	40"	40"	20"	30"	12"	24"	100	E	3463K26	2,286.59
40"	48"	48"	94"	52"	90"	48"	48"	20"	30"	12"	24"	100	F	3463K27	2,580.88
40"	60"	48"	92"	65"	86"	48"	60"	20"	30"	12"	24"	400	G	3463K28	4,038.60

Accessories and Replacement Parts

	Fits Cabinet Styles		Each
Accessories			
Turntable (20" dia.; 2,000-lb. cap.)	A-G	3283K21	$331.51
Gun Mount Bracket (7¾"-12¾" Lg.)	A-G	3283K22	33.48
Replacement Parts			
Dust Collector (100 cfm)	A-F	3283K23	335.17
Dust Collector (400 cfm)	G	3283K31	1,697.74
Grommet for 100 cfm Dust Collectors	A-F	3283K28	8.02
Carbide Nozzle (1/4" ID)	A	3283K71	29.45
Carbide Nozzle (1/4" ID)	B-G	3283K26	36.11
Carbide Nozzle (5/16" ID)	B-G	3283K72	32.31
Air Jet (1/8" ID)	A	3283K68	12.42
Air Jet (5/32" ID)	B-E	3283K73	12.42
Air Jet (5/32" ID)	F-G	3463K84	19.90
Filter Bag	A-F	3283K86	32.85
Filter Foam	A-F	3283K25	8.89
Filter Cartridge	G	3463K41	67.32
Gun Assembly (12 cfm)	A	3283K69	65.00
Gun Assembly (25 cfm)	B-E	3283K89	75.00
Gun Assembly (25 cfm)	F-G	3463K82	110.82
Gun Body	B-E	3283K19	45.10
Window	A	3283K64	15.16
Window	B-G	3283K75	16.24

	Fits Cabinet Styles		Each
Replacement Parts (Cont.)			
Foot Pedal Assembly	A-G	3283K17	$68.55
Motor Assembly	A-F	3283K78	127.84
Lamp Shield	A	3283K67	12.44
Lamp Shield	B-G	3283K77	15.67
3-Way Safety Switch Valve	A-G	3283K66	46.80
Siphon Tube	A-G	3283K15	21.67
40" Hose Assembly	A-G	3283K24	16.97
5-ft. Hose Assembly	A-F	3283K14	15.56
5-ft. Clear Hose	A-G	3283K18	10.20
Window Underlay (24"×120" Roll)	A-G	3283K76	6.86
			Pkg.
10 Window Underlays (12"×24" Sheet)	A-G	3283K53	$8.38
20 Window Underlays (12"×24" Sheet)	A-G	3283K13	15.56
			Pair
Gloves	A-D	55405T22	$25.28
Gloves	E-G	55405T23	37.02
			Per Ft.
Arm Hole Gasket	A-G	3283K12	$2.78
Door Gasket (½" Thick.×1" Wd.)	A-G	3283K45	2.78
Clear Abrasive Hose (5/8" ID)	A-G	5233K69	$1.15

Bench-Top Abrasive Blasting Cabinets


With Dust Collector

Sized to fit on your work bench, these suction-feed cabinets use compressed air to continuously siphon blasting media into the gun so you don't have to stop to refill. Use with most types of dry abrasive blasting media. Not for use with silica sand, steel shot, baking soda, and plastic grit. Cabinets are steel with a front door and window, a steel-screen work table, exterior fluorescent lighting, and a hopper door for media removal. All include 5/8" ID air hose, 8-ft. power cord with three-prong plug, and gloves. Required air pressure is 10-125 psi. Operate on 120 volts AC.

Standard cabinet has a trigger-operated 12 cfm gun with 1/4" ID ceramic nozzle and 1/8" ID steel air jet. Also includes an adjustable steel stand. For dust collection, hook up a shop vacuum to the cabinet's 2¼" dia. port or use the dust collector sold separately below.

Cabinet with dust collector includes a 55 cfm shop-vacuum style dust collector. It has a foot-operated 12 cfm gun with 1/4" ID carbide nozzle, 1/8" ID carbide air jet, air regulator and gauge, and steel stand. Air inlet is 3/8" NPT female. A safety switch shuts off airflow when the cabinet door is opened. Includes 10 lbs. of 100 mesh size glass bead media.

Cabinets

	Interior Size Ht.	Wd.	Dp.	Overall Size Ht.	Wd.	Dp.	Opening Size Ht.	Wd.	Window Size Ht.	Wd.		
Standard	20"	23"	19"	40"	24½"	20½"	13"	24"	11½"	12"	5527K27	$652.97
With Dust Collector	16"	18"	16"	33"	19"	17"	12"	18"	6"	12"	3464K11	673.19

Accessories and Replacement Parts

	For Standard Cabinet	Each	For Cabinet with Dust Collector	Each
Accessories				
Dust Collector	3464K71	$121.15	3464K71	$121.15
Replacement Parts				
Nozzle (1/4" ID)	5527K81	19.81	3283K71	29.45
Gun Assembly (12 cfm)	5527K82	75.00	3283K69	65.00
Window	3283K64	15.16	3464K57	7.98
Fluorescent Bulb	3464K55	8.67	3464K55	8.67

	For Standard Cabinet	Each	For Cabinet with Dust Collector	Each
Replacement Parts (Cont.)				
Light Box Assembly	3464K21	$99.75	3464K21	$99.75
Reusable Cloth Filter	—	—	3464K53	18.09
				Pkg. of 3
Disposable Paper Filters	—	—	6679T62	$8.89
		Pair		Pair
Gloves	55405T22	$25.28	5415T465	$8.18

Dust Collector/Separator for Abrasive Blasting Cabinets



Extract the dust from your suction-feed blasting cabinet to prolong media life, increase blasting effectiveness, and improve visibility. Attach to a stationary abrasive dry-blasting cabinet that has a 2″ dia. port and an interior size up to 40″ Ht.×40″ Wd.×30″ Dp. Collector/separator works with all blasting media grits.

A 4″ cleanout drain allows removal of debris and spent media. Comes with a 1½″ Dia.×6 ft. Lg. hose that includes a 2″ cuff, 2″ OD fitting for large cabinets, and 2″ collar for small cabinets.

Collector/separator is made of corrosion-resistant polyethylene and is powered by a 1.3-hp motor that operates on 120 volts AC. A 9-ft. power cord with three-prong plug is included. Overall size is 15″ Dia.×47″ Ht.

Dust Collector/Separator	31205K21	$1,579.85
Replacement Air Filter	31205K23	143.91
Replacement Foam Silencer	31205K24	28.39
Replacement 120V AC Electric Motor	31205K25	256.00

Portable Abrasive Blasters



Low Velocity



High Velocity

Roll blasters to where you need them. Use with most types of dry abrasive blasting media. Not for use with silica sand. All come with blast nozzles and blast hose. Required air pressure is 80-125 psi.

Low-velocity blaster is also known as a suction-feed blaster. It has a longer blast time, but delivers media at slower speeds than high-velocity blasters. It has a steel tank, a gun, three air jets (5/64″, 1/8″, and 5/32″ ID), hood, and goggles. Not for use with baking soda.

Also Available: Replacement ceramic and steel nozzles and replacement air jets. For ceramic nozzles please ask for 3425K3 and specify ID. For steel nozzles please ask for 3425K2 and specify ID. For air jets please ask for 3425K4 and specify ID.

High-velocity blasters, also known as pressure-feed blasters, deliver abrasive blasting media at higher velocities to maximize production. All have an ASME certified steel tank, an adjustable abrasive-flow valve, pressure relief valves, a pressure gauge, and a soft blast hood with protective cap and rear breather vents. Blasters also include nozzle shutoff, which stops the abrasive flow at the nozzle while the abrasive hose and tank remain pressurized. Baking soda requires the baking soda conversion kit sold separately below. Blasters with 150- and 250-lb. capacity include a moisture separator for better media flow. For replacement ceramic blast nozzles, see page 2712.

Also Available: Replacement parts. Please ask for 3268K45 and specify part desired.

Cap., lbs.	Tank Dia.	Tank Ht.	Minimum cfm @ 80 psi	Nozzle, ID (Qty.)	Nozzle Material	Blast Time Per Load	Hose Dia.	Hose Lg.	Air Inlet, NPT Female		
Low Velocity											
90	11½″	28″	7	13/64″ (1), 1/4″ (1), 5/16″ (1)	Steel	70-80 min.	3/8″	10 ft.	1/4″	3425K12	$158.98
High Velocity with Nozzle Shutoff											
65	12″	17″	7	1/8″ (2), 3/32″ (1)	Ceramic	20-30 min.	½″	10 ft.	½″	3268K11	758.46
110	12″	22″	7	1/8″ (2), 3/32″ (1)	Ceramic	35-50 min.	½″	10 ft.	½″	3268K12	896.04
150	12″	27″	7	1/8″ (2), 5/32″ (1)	Ceramic	45-60 min.	½″	15 ft.	½″	3268K13	906.55
250	16″	28″	7	1/8″ (2), 5/32″ (3)	Ceramic	60-120 min.	½″	25 ft.	½″	3268K14	1,509.14
Baking Soda Conversion Kit for High-Velocity Blasters										3425K13	218.76

Hand-Held Abrasive Blasters



Standard Blaster



Pencil-Grip Blaster



Blaster/Sprayer

Small blasting jobs such as cleaning, texturing/etching glass, and removing rust and paint call for these handy blasters. They can be used with all types of abrasive media including baking soda.

Standard blaster is trigger operated and gravity fed. It's made of plastic. Air volume is 10 cfm @ 100 psi. *Optional spot blasting kit* includes four rubber cones that conform to contours and a collection bag to recover reusable media.

Pencil-grip blaster is for precision work on small, delicate parts. It's push-button operated and gravity fed. Made of brass with an aluminum media container. It includes a filter respirator mask, a hanger, an air hose, and 6 oz. of 220-grit aluminum oxide media. Air volume is 0.5 to 1.0 cfm @ 40 psi.

Blaster/sprayers can be used with blasting media and liquid. They are lever operated and siphon fed. Made of zinc with a 3/32″ ID steel air jet and media container. Air consumption is 6.65 cfm @ 80 psi. Not rated for air volume. 3158K41 includes a ceramic nozzle. 3158K11 includes three steel nozzles.

	Cap., oz.	Nozzle ID	Nozzle Material	For Media Grit Size	Air Inlet	Req'd Air Pressure, psi		
Blasters								
Standard Blaster	26	3/32″	Ceramic	14 and Finer	1/4″ NPT Female	60-100	31195K11	$75.48
Pencil-Grip Blaster	2½	0.023″	Steel	220 and Finer	1/4″-40 UNS Male	20- 65	3210K11	104.00
Blaster/Sprayer	32	3/16″	Ceramic	16-1,000	1/4″ NPT Female	60-150	3158K41	72.17
Blaster/Sprayer	32	3/16″	Steel	16-1,000	1/4″ NPT Female	60-150	3158K11	78.02
Accessories and Replacement Parts								
Optional Spot Blasting Kit for Standard Blaster							31195K12	48.12
Replacement Ceramic Nozzle for Standard Blaster (3/32″ ID)							31195K13	16.62
Replacement Steel Spray Insert for Standard Blaster							31195K14	4.96
Replacement Air Jet for Blaster/Sprayers (3/32″ ID)							3158K32	3.89
Replacement Ceramic Nozzle for 3158K41 (3/16″ ID)							3158K44	16.67
Replacement Steel Nozzle for 3158K11 (3/16″ ID)							3158K31	9.17
6 oz. Aluminum Oxide Media for Pencil-Grip Blaster (220 grit)							3210K12	6.11
5 lbs. Aluminum Oxide Media for Pencil-Grip Blaster (220 grit)							3210K13	26.15

Abrasive Blasting Guns


Standard


Heavy Duty

Suction-feed guns deliver a consistent, uniform spray pattern for surface cleaning and finishing. All are aluminum and have a 1/4″ NPT female air inlet.

Standard gun has a full-length trigger. It includes a 5/16″ ID steel nozzle and a 5/32″ ID steel air jet. Required air pressure is 70-100 psi. Air volume is 18 cfm @ 90 psi. Use with 3/8″ ID hose.

Gun kit with siphon tube comes with a blasting gun, 3/16″ and 5/16″ ID steel nozzles (air volume is 6 cfm @ 90 psi for 3/16″ ID; 18 cfm for 5/16″ ID), 3/32″ and 5/32″ ID steel air jets, a blast hose, and a 14″ long zinc-plated steel tube for drawing media.

Replacement nozzle kit includes a nozzle holder, a 5/16″ ID steel nozzle, and 5/32″ ID steel air jet.

Heavy duty gun has one-piece construction. To operate, it requires the foot pedal (sold separately below) or a shut-off valve on the air line. Use with 5/8″ ID hose. It includes a 7/16″ ID carbide nozzle and 7/32″ ID carbide air jet. Required air pressure is 70-100 psi. Air volume is 45 cfm @ 90 psi.

Guns		
Standard	3444K11	$78.18
Standard Kit with Siphon Tube	3444K71	90.38
Heavy Duty	3444K14	147.27
Accessories and Replacement Parts for Standard Gun		
Steel Nozzle (3/16″ ID)	3444K21	18.00
Steel Nozzle (5/16″ ID)	3444K22	18.00
Ceramic Nozzle (3/16″ ID)	3444K31	52.73
Ceramic Nozzle (5/16″ ID)	3444K32	52.73
Carbide Nozzle (3/16″ ID)	3444K41	63.64
Carbide Nozzle (5/16″ ID)	3444K42	63.64
Replacement Nozzle Kit	3444K66	40.00
Replacement Air Jet (3/32″ ID)	3444K51	11.67
Replacement Air Jet (5/32″ ID)	3444K52	11.67
Replacement Air Jet Seal	3444K67	3.11
Accessories and Replacement Parts for Heavy Duty Gun		
Foot Pedal	3444K15	143.64
Carbide Nozzle (5/16″ ID)	3444K35★	69.09
Carbide Air Jet (5/32″ ID)	3444K36★	50.81
Replacement Nozzle (7/16″ ID)	3444K27	64.09
Replacement Air Jet (7/32″ ID)	3444K28	50.54

★ 3444K35 and K36 must be used together.

Abrasive Blasting Nozzles


Tapered


Straight


Venturi

Tapered and **straight ceramic** nozzles are for touch-up jobs and blasting small areas. Rated for up to four hours of continuous use.

Straight tungsten carbide nozzles are for spot blasting from a distance of 12″ or less. They have a narrow pattern. Rated for up to 28 hours of continuous use.

Venturi carbide nozzles handle larger areas than straight nozzles. Rated for up to 40 hours of continuous use (with aluminum oxide), they deliver a uniform blast pattern. They have a brass jacket and carbide liner. Threads are brass 1 1/4″ NPS male.

Tip ID	Tip OD	Base OD	O'all Lg.		
Tapered Ceramic					
3/32″	5/16″	7/16″	1 5/16″	3426K31	$6.79
1/8″	5/16″	7/16″	1 5/16″	3426K36	6.95
1/8″	5/8″	1 1/8″	3 3/4″	3426K32	10.49
5/32″	5/8″	1 1/8″	3 3/4″	3426K33	10.49
3/16″	5/8″	1 1/8″	3 3/4″	3426K34	10.49
1/4″	5/8″	1 1/8″	3 3/4″	3426K35	10.49
5/16″	5/8″	1 1/8″	3 3/4″	3426K41	7.83
Straight Ceramic					
1/4″	7/8″	7/8″	1 3/8″	3426K62	10.39
5/16″	7/8″	7/8″	1 3/8″	3426K63	10.39
3/8″	7/8″	7/8″	1 3/8″	3426K64	10.39
Straight Tungsten Carbide					
3/16″	1/2″	1/2″	1 9/16″	3283K51	36.14
1/4″	1/2″	1/2″	1 9/16″	3283K52	36.14
1/4″	9/16″	9/16″	1 7/8″	3283K71	29.45
1/4″	7/8″	7/8″	1 3/8″	3283K46	40.96
5/16″	3/4″	3/4″	1 1/2″	3283K72	32.31
5/16″	7/8″	7/8″	1 3/8″	3283K47	40.96
3/8″	7/8″	7/8″	1 3/8″	3283K48	40.96
7/16″	3/4″	3/4″	1 7/8″	3283K41	33.73
Venturi Carbide					
3/16″	1 5/8″	1 5/8″	4 1/4″	3251K23	155.08
1/4″	1 5/8″	1 5/8″	5 3/8″	3251K24	161.38
5/16″	1 5/8″	1 5/8″	5 3/4″	3251K25	164.04
3/8″	1 5/8″	1 5/8″	6 3/4″	3251K26	181.00

No-Mess Portable Abrasive Spot Blasters



No more time-consuming clean ups—the abrasive media blasts your surface and is vacuumed back into the blaster. Usable media is then separated from dust and debris and recycled. Use with any type of abrasive media.

Blaster has a polyethylene tank and a steel frame. It is air- and electric-operated and has a vacuum and filtration system for 99% dust-free work and a 4″ clean-out port for media removal. The gun has a 9/32″ ID ceramic nozzle with rubber bellows.

To operate, push the bellows against the work surface. Includes two brushes, a 2″ Dia. x 20-ft. Lg. blast hose, and a 20-ft. power cord with three-prong plug. Motor is 1.3 hp and has a silencer that reduces noise below OSHA requirements. Rated 9 amps @ 120 volts AC. Required air pressure is 75-125 psi.

Cap., lbs.	O'all Size Ht.	O'all Size Wd.	Air Volume, cfm		
Abrasive Blasters					
50	54″	20″	8-20	3443K11	$2,815.45
Replacement Parts					
Blast Gun				3443K33	391.82
Ceramic Nozzle (9/32″ ID)				3443K32	147.27
Rubber Bellows				3443K35	44.55
Brush for Irregular Surfaces				3443K31	37.10
Brush for Inside 90° Angle Work				3443K34	73.64
Return Nozzle				3443K36	87.73
Air Jet (1/8″ ID)				3443K37	14.45
Nozzle Lock				3443K38	13.64
Air Filter				31205K23	143.91

Cleaning and Rinsing Solutions for Ultrasonic Cleaners

Solvent-Free Water-Based (Aqueous) Cleaning Solutions

Maximum temperature is 150° F. Rinse with water.

General Purpose Degreaser Concentrate—Removes oil, light grease, and soil from metal, glass, and plastic. It's phosphate-free, noncaustic, nonflammable, and nonabrasive. Solution can be diluted with up to seven parts water.

1 Gallon 3175K55 $32.00

Heavy Duty Degreaser Concentrate—Removes the same materials as the solution above as well as baked-on carbon soils. Solution can be diluted with up to 20 parts water.

1 Gallon 3175K45 $64.11

Degreaser Compound for Aluminum and Aluminum Alloys—Use on high levels of contamination of oils, grease, and soil. Prevents soils from redepositing on the metal. It can be diluted with up to nine parts water.

1 Gallon 3175K81 $48.75

Water-Based (Semi-Aqueous) Cleaning Solutions

Easier to dispose than petroleum-based cleaners, solutions consist of water and other naturally derived components, such as terpenes (citrus and pine oil-based components). Rinse with water.

Alkaline Concentrate—Removes wax, grease, oil, and buffing and polishing compounds from glass, plastic, and metal (except aluminum). Dilute with up to 10 parts water. Maximum temperature is 150° F.

1 Gallon 3175K3 $94.11

Heavy Duty Concentrate—Removes soil, lapping compounds, rouge, and heavy grease from most metal and glass. For plastic, test before use. Solution can be diluted with up to seven parts water. Do not heat.

1 Gallon 3175K65 $96.00

Ammonia-Free Concentrate—Handles heavy duty cleanup jobs such as removing heavy soils and grease from most metal and plastic. Solution can be diluted with up to seven parts water. Maximum temperature is 180° F.

1 Gallon 3175K71 $100.22

Petroleum-Based Solutions

Ammonia-Free Cleaning Solution—Use for cleaning all types of metal. It removes gummed oil, grease, oil-soluble cutting oil, asphalt, tar, carbon-based residue, sulfides, wax, flux, and fingerprints. Do not heat. Rinse with the rinsing solution sold below.

1 Gallon 3175K16 $48.00

Rinsing Solution—Dissolves any residue that's left behind from cleaning solutions. This solution is a blend of petroleum-based materials and contains no chlorinated solvents. For plastic, test before use. Do not heat.

1 Gallon 3175K22 $43.33

Bench-Top Ultrasonic Cleaners

Cleaners send sound waves through the cleaning solution to create scrubbing action, also known as ultrasonic cavitation, that removes dirt from crevices and between tightly spaced parts.

Cleaners

All cleaners have a stainless steel tank and include a cover and a 6-ft. power cord with three-prong plug, except Style 2 has a 3-ft. cord with two-prong plug. Baskets and pans for Styles 3-17 are sold separately.

Cleaner with basket includes a stainless steel basket. Housing is stainless steel. 32695K41 is the replacement basket for this cleaner.

Cleaner with timer and basket has a 5-cycle digital timer that can be set for up to 8 minutes. Includes a plastic basket with 1/4"x1/2" perforations. Housing is plastic. 32695K48 is the replacement basket for this cleaner.

Cleaners with timer have a 60-minute mechanical timer. Housing is vinyl-clad steel. All have a drain except Style 3.

Cleaners with heater and timer have a 60-minute mechanical timer plus a heater with a maximum temperature of 160° F. Housing is vinyl-clad steel. All have a drain except Style 8.

Cleaners with digital readout, heater, and timer have an LED display that keeps track of the time and temperature in degrees Fahrenheit or Celsius. They also have an electronic touch-pad for temperature display and calibration, timer, sleep mode, built-in shut-off, and degas settings (degas is a function that removes dissolved gases from the cleaning solution for increased cleaning effectiveness). The timer can be set from 1 to 90 minutes, or the cleaners can run continuously. The heater has a temperature range of 20° to 69° C. Housing is plastic. *Styles 13* and *14* have an indentation on the top for emptying. *Styles 15-17* include a quick-disconnect drain.

Style	Tank Cap., qt.	Inside Tank Size Ht.	Wd.	Dp.	Frequency, kHz	Watts	AC Voltage		
Cleaners with Basket									
1	1/2	2 5/8"	4 3/4"	3 3/8"	55	22	120	32695K21	$224.49
Cleaners with Timer and Basket									
2	1 1/2	5 1/2"	7"	2"	42	60	120	32695K38	144.00
Cleaners with Timer									
3	2	4"	5 7/8"	5 3/8"	43	55	120	3410K82	441.51
4	3 3/8	4"	9 3/8"	5 3/8"	43	95	120	3410K83	556.60
5	6	6"	11 3/4"	6"	43	135	120	3410K85	896.23
6	14 1/2	8"	11 1/2"	9 1/4"	43	225	120	3410K86	1,362.26
7	26	6 1/2"	19 3/4"	11 3/4"	43	410	120	3410K77	2,269.81
Cleaners with Heater and Timer									
8	2	4"	5 7/8"	5 3/8"	43	103	120	3410K27	481.13
9	3 3/8	4"	9 3/8"	5 3/8"	43	150	120	3410K37	615.09
10	6	6"	11 3/4"	6"	43	335	120	3410K47	977.36
11	14 1/2	8"	11 1/2"	9 1/4"	43	425	120	3410K57	1,401.89
12	26	6 1/2"	19 3/4"	11 3/4"	43	810	120	3410K87	2,292.45
Cleaners with Digital Readout, Heater, and Timer									
13	2	4"	6"	5 1/2"	40	143	120	3461K81	583.00
14	3	4"	9 1/2"	5 1/2"	40	239	120	3461K41	738.00
15	6	6"	11 1/2"	6"	40	335	120	3461K51	1,121.00
16	10	6"	11 1/2"	9 1/2"	40	469	120	3461K61	1,434.00
17	22	6"	19 1/2"	11 1/2"	40	881	120	3461K71	2,502.39



1



2



3-12



13-17

Stainless Steel Baskets and Pans

Use with Cleaner Style	Cap., qts.	Inside Dimensions (A)	(B)	(C)	(D)	(E)		
Wire Baskets—0.028" wire dia. with 0.222" openings.								
1	1/2	3 1/2"	3 1/2"	2 3/4"	2 1/2"	2"	32695K41	$46.62
2	1 1/2	5 3/4"	6 1/4"	4"	5"	2 1/4"	32695K48★	17.02
3, 8, 13	2	5 1/4"	4 1/4"	4 3/4"	3 3/4"	3"	3410K43	52.16
4, 9, 14	3	8 5/8"	7 3/4"	4 3/4"	3 3/4"	3 1/8"	3410K26	58.89
5, 10, 15	6	10 5/8"	9"	5 1/4"	4"	5"	3410K52	105.16
6, 11, 16	14 1/2	10 3/4"	8 1/2"	8 1/2"	7 1/4"	4 7/8"	3410K62	117.19
7, 12	26	18 1/2"	16 1/2"	10 1/2"	8"	6"	3410K73	240.59
17	22	18 1/2"	16 1/2"	10 1/2"	8"	4 1/2"	3461K77	167.13
Pans with Perforated Bottom—Perforations are 5/32" dia.								
3, 8, 13	2	4 7/8"	4 7/8"	4 7/8"	4 7/8"	2 1/2"	3461K17	55.51
4, 9, 14	3	8 1/4"	8 1/4"	4 7/16"	4 7/16"	2 1/2"	3461K13	75.64
5, 10, 15	6	10 3/8"	10 3/8"	4 7/8"	4 7/8"	4 1/2"	3461K23	96.85
6, 11, 16	14 1/2	10 3/8"	10 3/8"	8 1/4"	8 1/4"	4 1/2"	3461K33	117.60
17	22	17 3/4"	17 3/4"	10 3/8"	10 3/8"	4 1/8"	3461K43	219.23
Solid Pans								
8	2	5 7/8"	5 1/2"	5 3/8"	5"	4"	3410K44	58.02
9	3	9 3/8"	9"	5 3/8"	5 1/16"	4"	3410K24	80.66
10	6	11 3/4"	11"	6"	5 7/16"	6"	3410K53	107.55
11	13	11 1/2"	11 1/8"	9 1/4"	8 5/8"	8"	3410K63	144.34
12	24	19 3/4"	18 1/4"	11 3/4"	11"	6 1/2"	3410K64	258.49
Solid Pans with Handles								
13	2	5 1/4"	4 1/4"	5 1/4"	4 1/4"	3"	3461K16	120.15
14	3	8 1/4"	7 1/2"	4 1/2"	3 1/2"	3"	3461K12	120.15
15	6	9 1/4"	8 1/4"	5 3/8"	4 1/4"	3 7/8"	3461K22	140.40
16	10	11 5/8"	10 1/2"	9 3/8"	8 1/4"	6"	3461K32	141.75
17	22	19 3/8"	17 1/4"	11 1/2"	9 1/4"	6"	3461K42	202.50

★ Made of plastic with 1/4"x1/2" perforations.



Wire Basket



Pan with Perforated Bottom



Solid Pan



Solid Pan with Handles

Triple-Action Parts Washers—For Solvent-Based Solutions

Three ways to clean your parts: a soaking tub with an agitator moves cleaning solution around to loosen dirt as the parts soak, a neoprene hose with pistol-grip nozzle adjusts the solvent flow from a light spray to a solid stream for spray cleaning parts, and a flexible metal hose allows manual washing under the constant flow of solvent. Use with solvent-based cleaning solutions having a flash point above 104° F. Do not use with flammable liquids. Washers are steel and have two bi-level parts shelves and a 8-ft. power cord with three-prong plug. A fusible link automatically closes the cover in the event of fire. The 42-gal. capacity unit includes casters.

Also Available: For available replacement parts, please ask for 3187K7.

Tank Cap., gal.	Max. Liquid Level	Usable Inside Tank Size Ht.	Wd.	Dp.	Overall Size Ht.	Wd.	Dp.	Pump hp	AC Voltage	Base Cap., lbs.	Shelf Cap., lbs.		
42	10 1/2"	23 3/4"	32 1/4"	21"	36 3/8"	44"	23 3/4"	1/3	115	500	150	3187K2	$2,448.22
85	16 1/2"	29 1/2"	30"	28 7/8"	34"	41 3/8"	29 3/8"	1/3	115	500	150	3187K4	2,812.89



Soak-and-Scrub Parts Washers—For Solvent-Based Solutions



Soak your parts in the tub or scrub them under the flow of solvent as it is pumped through the flexible metal hose. Use with solvent-based solutions with a flash point above 105° F. Do not use with flammable liquids.

Washers are steel and include a shelf and a 6-ft. power cord with three-prong plug (unless otherwise stated). A fusible link closes the cover in the event of a fire. Electrical components are UL listed.

3189K61 includes a 4-ft. power cord without plug. A NEMA 6-15 or other compatible plug is required. See page 820 for plugs.

Also Available: For replacement parts, please ask for 3189K8 and specify the McMaster-Carr part number of your parts washer.

Tank Cap., gal.	Max. Liquid Level	Usable Tank Size Ht.	Usable Tank Size Wd.	Usable Tank Size Dp.	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Pump hp	Pump AC Voltage	Base Cap., lbs.	Shelf Cap., lbs.		
15	6″	16″	29½″	15½″	38½″	36″	22″	1/50	115	300	100	3189K51	$951.59
15	6″	16″	29½″	15½″	38½″	36″	22″	1/25	230	300	100	3189K61	990.35
30	8½″	16″	35″	23½″	35⅜″	35¾″	24½″	1/150	115	200	80	3333K33	1,014.72
40	12″	27½″	32″	21″	57″	36″	22″	1/40	115	300	150	3189K36	1,047.82

Low-Fume Parts Washers—For Solvent-Based Solutions



Cleaning solvent is stored inside the drum, so these have fewer fumes and less solvent evaporation than other washers. Wash parts under the flow of solvent as it is pumped through the flexible metal hose.

Use with solvent-based cleaning solutions having a flash point above 104° F. Do not use with flammable liquids. Washers are steel and include a 7½-ft. power cord with three-prong plug. A UL-listed fusible link closes the cover in the event of a fire.

Also Available: Replacement pumps. Please ask for 9987K67. For other replacement parts, please ask for 3255K9.

Drum Cap., gal.	Tank Cap., gal.	Usable Tank Size Ht.	Usable Tank Size Wd.	Usable Tank Size Dp.	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Pump hp	Pump AC Voltage	Base Cap., lbs.		
16	12	8″	25″	15″	35″	28″	16″	1/150	115	100	3255K39	$620.37
30	26	7½″	32″	24″	39″	34½″	26½″	1/150	115	200	3255K67	799.96

Corrosion-Resistant Parts Washers—For Water-Based Solutions



Tough polyethylene construction means this washer won't corrode when used with water-based cleaning solutions. Do not use with flammable liquids.

Solution is pumped through the flexible hose and brush by a pump. Washer has a 1.4 kW heater with thermostat. For safety, the heater and pump shut down when solution level is low. The washer includes an 8-ft. power cord with three-prong plug and a ground fault circuit interrupter. Maximum temperature is 110° F.

Also Available: For replacement parts, please ask for 32555K2.

Tank Cap., gal.	Max. Liquid Level	Usable Tank Size Ht.	Usable Tank Size Wd.	Usable Tank Size Dp.	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Pump hp	Pump AC Voltage	Base Cap., lbs.	Shelf Cap., lbs.		
30	9″	15″	35″	21½″	38″	43″	28½″	1/40	115	300	150	32555K15	$1,715.00

Small-Parts Washing Cans



Safety Can with Basket



Bench-Top Can

Save space and cleaning solution when you want to clean small parts. Cans are made of steel and have a cover to minimize evaporation.

Safety cans have a fusible link that closes the cover in the event of a fire. Available with and without a parts basket that has 3/32″ dia. perforations. UL listed and FM approved. *Cans with basket* have a steel basket.

Bench-top cans are simple to use. Submerge and agitate the spring-loaded drain plate to clean your parts. Drain plate has 3/16″ dia. perforations and also acts as a flame arrester in the event of a fire. FM approved.

Safety Cans

Can Cap., gal.	With Basket: Can Size OD	With Basket: Can Size Ht.	With Basket: Basket Size OD	With Basket: Basket Size Ht.			Without Basket: Can Size OD	Without Basket: Can Size Ht.		
1	9⅜″	10″	6⅞″	4⅞″	3397K22	$106.08	9⅜″	5″	3397K14	$61.92
2	11⅜″	10¾″	10½″	4½″	3397K23	124.07	9⅜″	9½″	3397K15	63.74
3½	13¾″	12½″	12½″	4½″	3397K24	129.25	11⅜″	10¾″	3397K16	78.85
5	—	—	—	—	—	—	13¾″	12½″	3397K17	81.17
6	15⅝″	13¾″	14¾″	4½″	3397K25	138.83	—	—	—	—
8	—	—	—	—	—	—	15⅝″	13¾″	3397K18	92.65

Bench-Top Cans

Can Cap., gal.	Can Size OD	Can Size Ht.	Drain Plate Dia.			Can Cap., gal.	Can Size OD	Can Size Ht.	Drain Plate Dia.		
¼	4⅞″	5½″	4½″	3406K1	$43.98	1	9⅜″	4½″	7½″	3406K6	$51.48
½	9⅜″	3¼″	7½″	3406K2	49.87	2	11½″	5⅞″	9¾″	3406K7	94.43
1	9⅜″	4½″	7½″	3406K3 ★	63.35	3	13½″	6″	12⅛″	3406K8	101.67

★ Also has 6″ OD x 7/16″ Ht. parts basket.

Mortorq® Bits



With Hex Shank



With Hex Shank for Power Tools



Size	Hex Shank Size	Overall Length		
With Hex Shank				
No. 00	1/4″	1″	1519N4	$10.37
No. 0	1/4″	1″	1519N1	10.37
No. 1	1/4″	1″	1519N2	10.37
No. 2	1/4″	1″	1519N3	10.37
No. 3	5/16″	1″	1519N8	21.96
With Hex Shank for Power Tools				
No. 0	1/4″	1 15/16″	1519N5	19.11
No. 1	1/4″	1 15/16″	1519N6	19.11
No. 2	1/4″	1 15/16″	1519N7	19.11

Pentalobe Bits





Commonly used with the screws in Apple devices. These bits have a 4 mm hex shank. To fit in a 1/4″ hex shank driver, use bit adapter 7225A75 on page 2816.

Size	Overall Length		
PL1	1⅛″	1533N1	$2.98
PL2	1⅛″	1533N2	2.98
PL3	1⅛″	1533N3	2.98
PL4	1⅛″	1533N4	2.98
PL5	1⅛″	1533N5	2.98
PL6	1⅛″	1533N6	2.98

Rinsing/Soaking Tanks—For Solvent-Based Solutions

Roomy tanks let you immerse your parts for rinsing and soaking. A foot pedal opens the cover and a gas spring keeps it from slamming shut, unless otherwise stated. Made of steel. They are FM approved except 3416K12. Use with solvent-based solutions with a flash point above 105° F. Do not use with flammable liquids.

3416K12 has a fusible link that closes the cover in the event of a fire. Also includes an adjustable basket rack. Does not come with a foot pedal.

Double-compartment tanks let you clean parts in one compartment and rinse them in the other compartment. Each compartment holds half the total capacity.



Single Compartment

Tank Cap., gal.	Tank Dp.	Overall Size Ht.	Wd.	Dp.	Tanks		Parts Baskets Ht.	Wd.	Dp.		
Single Compartment											
11	8¾″	32¾″	24″	16″	3401K2	$426.80	4″	16″	13″	3401K4	$57.77
22	12″	32¾″	35¼″	16″	3401K3	595.46	4″	28″	13″	3401K5	69.78
25	18″	36″	24″	20″	3416K12	768.15	5″	13″	12″	3416K13	169.63
Double Compartment											
8	8¾″	32¾″	24″	16″	3452K11	589.87	—	—	—	—	—
18	12″	32¾″	35¼″	16″	3452K21	696.57	—	—	—	—	—

Solvent-Based Parts-Washing Solutions

Remove grease, motor oil, cutting oil, water-soluble oil, gummy deposits, and buffing and lapping compounds from metal, plastic, and painted surfaces. Solvents have a mild odor and contain no chlorinated solvents. These products cannot be sold in California or Utah. *Note:* Do not heat. Use only at room temperature.

Solvent-plus-lanolin solution reduces skin irritation and chapping. Leaves a corrosion-resistant film on parts. Wear rubber gloves for prolonged use. Flash point is 105° F.

High-flash-point solution has a 141° F flash point for local regulations requiring a higher flash point.

High-flash-point lanolin-free solution leaves no residue and has a 141° F flash point.

Size		
Solvent Plus Lanolin		
5 gal.	3229K1	$111.49
50 gal.	3229K3	1,050.21
High Flash Point		
5 gal.	3457K11	100.11
50 gal.	3457K23	994.80
High Flash Point Lanolin Free		
5 gal.	3457K15	102.91

Water-Based Parts-Washing Solutions

Wash away organic soils (including grease, oil, and soft carbon) and inorganic soils (such as epoxy, hard-water residue, corrosion, oxides, paint, plating salts, and rust) with these alkaline solutions. For faster cleaning, heat up to 140° F. Rinse with water.

General purpose can be diluted with up to nine parts of water.

Low-foaming general purpose solution is for use in spray washers. Dilute with up to nine parts of water.

Solution **for use on nonferrous metals** is for aluminum and other nonferrous metals. Mix three to eight ounces of powder per gallon of water.

Size		
General Purpose		
5 gal.	3309K51	$68.34
55 gal.	3309K55	554.57
Low-Foaming General Purpose		
5 gal.	3309K67	88.06
For Use on Nonferrous Metals		
25-lb. Carton	3309K63	127.41
100-lb. Drum	3309K66	335.20

Dipping Racks

Combine a frame, crossbar, and hooks (all sold separately) to create your own dipping rack for painting, cleaning, and drying. All components are steel.

Frame is 30″ Wd.×30″ Ht. and holds up to 14 crossbars. It has three ¼″ dia. holes at the top for suspending.

Crossbar holds up to 24 hooks. Holes are 1¼″ apart.

Hooks are 0.062″ dia.

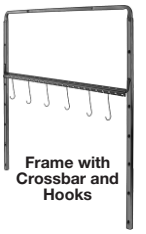

Frame with Crossbar and Hooks



U Hook



V Hook

Frame	8342T11	$34.46
Crossbar	8342T23	7.80
2″ U-Hooks (Pkg. of 20)	8342T63	10.00
2″ V-Hooks (Pkg. of 20)	8342T61	10.00
4″ U-Hooks (Pkg. of 20)	8342T64	12.00
4″ V-Hooks (Pkg. of 20)	8342T62	12.00

Surface Treaters for Slippery Plastic

Also known as a corona treater, this device prepares plastic for printing and bonding. It produces an electric field that raises the surface energy (dyne level) of the material. Use in low-volume lab and small-parts surface treatment. Treats surfaces up to 3″ wide. Maximum continuous run time is 20 minutes. Operates on 115 volts AC and has a 6-ft. cord with three-prong plug. Power supply is 4⅛″ Lg.×7¾″ Wd.×3⅛″ Ht. Handpiece is 11″ Lg.×2½″ Dia.



5693K14 ..... $756.90

Test Pens for Plastic Surfaces

Test the surface energy (dyne level) of films and other nonabsorbent surfaces before printing, coating, or laminating. Also known as dyne pens, they work like a felt-tip marker. A continuous line will appear if the material meets the pen's dyne level while insufficiently treated material results in air bubbles and a disappearing mark. Overall length is 5″.



Dynes/cm			Dynes/cm		
30	5590K26	$25.84	46	5590K18	$25.84
32	5590K11	25.84	48	5590K19	25.84
34	5590K12	25.84	50	5590K21	25.84
36	5590K13	25.84	52	5590K22	25.84
38	5590K14	25.84	54	5590K23	25.84
40	5590K15	25.84	56	5590K24	25.84
42	5590K16	25.84	58	5590K25	25.84
44	5590K17	25.84	60	5590K27	25.84

About Wire Baskets

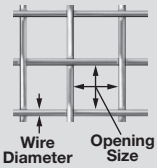

Steel offers high strength at a low cost. Use for applications where corrosion resistance is less important.
Stainless steel withstands a continuous service temperature of 1450° F.
Type 304 stainless steel is corrosion resistant.
Type 316 stainless steel is corrosion resistant and offers additional resistance to acids and salt water.
Wire diameter is the thickness of the wire.
Opening size is the size of the space between adjacent wires.

Steel and Stainless Steel Wire Baskets

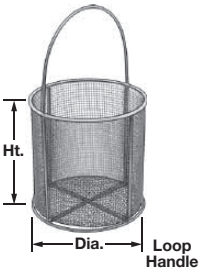











Baskets with 0.021″ Opening Size— Wire diameter is 0.012″. Do not use with sharp objects.
Baskets with 5/64″ Opening Size— Wire diameter is 3/64″.
Baskets with 3/16″ Opening Size— Wire diameter is 1/16″.
Also Available: Additional sizes. Please ask for 3287K999 and specify basket size, shape, material, opening size, and handle style.

Round Baskets

When the **swing handle** is laid down it extends beyond the basket diameter, making it easier to grab. **To Order:** Please specify loop, swing, or dual-grip handle and 0.021″, 5/64″, or 3/16″ opening size.

Overall Size Dia.	Overall Size Ht.	Handle Ht. Loop	Handle Ht. Swing	Handle Ht. Dual Grip	Cap., lbs. Opening Size 0.021″	Cap., lbs. Opening Sizes 5/64″ and 3/16″		Steel with Dull Finish, Opening Size 0.021″	Steel with Dull Finish, Opening Size 5/64″	Steel with Dull Finish, Opening Size 3/16″		Type 304 Stainless Steel with Dull Finish, Opening Size 0.021″	Type 304 Stainless Steel with Dull Finish, Opening Size 5/64″	Type 304 Stainless Steel with Dull Finish, Opening Size 3/16″
6 5/8″	6 5/8″	7″	7″	3″	15	50	3290K61	$134.09	$134.09	$114.98	3289K61	$155.70	$155.70	$138.16
8 5/8″	6 5/8″	8″	8″	3″	15	50	3290K62	140.35	140.35	123.11	3289K62	175.58	175.58	144.30
8 5/8″	8 5/8″	8″	8″	3″	15	50	3290K63	141.29	141.29	123.30	3289K63	182.44	182.44	154.68
9 5/8″	9 5/8″	8″	8″	3″	15	50	3290K64	167.65	167.65	126.71	3289K64	210.18	210.18	162.36
9 5/8″	10 5/8″	8″	8″	3″	15	50	3290K65	171.98	171.98	132.78	3289K65	211.25	211.25	165.02
10 5/8″	6 5/8″	8″	8″	3″	15	50	3290K66	167.72	167.72	127.72	3289K66	202.18	202.18	154.93
10 5/8″	8 5/8″	8″	8″	3″	15	50	3290K67	168.47	168.47	123.10	3289K67	212.67	212.67	166.35
10 5/8″	10 5/8″	8″	8″	3″	15	50	3290K68	160.50	160.50	130.99	3289K68	222.84	222.84	166.13
10 5/8″	12 5/8″	8″	8″	3″	15	50	3290K69	171.62	171.62	140.07	3289K69	230.17	230.17	174.44
12 5/8″	10 5/8″	10″	10″	3″	15	50	3290K71	194.78	194.78	160.85	3289K71	236.53	236.53	189.73
12 5/8″	12 5/8″	10″	10″	3″	15	50	3290K72	209.69	209.69	171.42	3289K72	270.29	270.29	209.09
12 5/8″	15 5/8″	10″	10″	3″	15	50	3290K73	221.82	221.82	178.87	3289K73	285.37	285.37	225.33
15 5/8″	12 5/8″	12″	12″	3″	15	50	3290K74	230.19	230.19	195.76	3289K74	294.02	294.02	240.06
18 3/4″	18 3/4″	12 1/2″	12 1/2″	3″	15	50	3290K75	312.32	312.32	288.91	3289K75	462.70	462.70	378.21

Rectangular Baskets

To Order: Please specify loop, square, or dual-grip handle and 0.021″, 5/64″, or 3/16″ opening size.

Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Handle Ht. Loop and Square	Handle Ht. Dual Grip	Cap., lbs.		Steel with Dull Finish, Opening Size 0.021″	Steel with Dull Finish, Opening Size 5/64″	Steel with Dull Finish, Opening Size 3/16″		Type 304 Stainless Steel with Dull Finish, Opening Size 0.021″	Type 304 Stainless Steel with Dull Finish, Opening Size 5/64″	Type 304 Stainless Steel with Dull Finish, Opening Size 3/16″
4 1/4″	11″	5″	4″	3″	40	3294K61	$101.39	$101.39	$80.75	3293K61	$149.33	$149.33	$129.36
6 1/2″	13″	7″	6″	3″	40	3294K63	120.64	120.64	107.29	3293K63	171.42	171.42	162.12
6 1/2″	13″	9″	6″	3″	40	3294K64	129.13	129.13	109.51	3293K64	182.20	182.20	174.42
6 1/2″	13″	10″	6″	3″	40	3294K65	117.49	117.49	118.81	3293K65	202.32	202.32	183.67
6 1/2″	15″	9″	6″	3″	40	3294K66	125.80	125.80	117.01	3293K66	185.33	185.33	174.15
6 1/2″	15″	11″	6″	3″	40	3294K67	119.38	119.38	113.65	3293K67	208.88	208.88	199.60
6 1/2″	15″	13″	6″	3″	40	3294K68	141.40	141.40	135.25	3293K68	210.27	210.27	205.93
6 1/2″	17″	11″	6″	3″	40	3294K69	126.53	126.53	122.80	3293K69	205.77	205.77	192.87
6 1/2″	19″	13″	6″	3″	40	3294K71	151.67	151.67	127.93	3293K71	228.19	228.19	232.40
6 1/2″	19″	19″	6″	3″	40	3294K72	164.63	164.63	140.13	3293K72	296.78	296.78	286.97
6 1/2″	21″	13″	6″	3″	40	3294K74	142.24	142.24	148.87	3293K74	240.51	240.51	238.04
10 1/2″	11″	11″	10″	3″	40	3294K62	165.36	165.36	133.04	3293K62	223.83	223.83	205.51
12 1/2″	19″	19″	12″	3″	40	3294K73	178.42	178.42	199.74	3293K73	360.46	360.46	319.68
12 1/2″	25″	25″	12″	3″	40	3294K75	274.82	274.82	260.32	3293K75	440.42	440.42	407.85

Snap-Lid Steel Wire Baskets



The hinged lid flips out of the way for filling and closes securely with a snap. Baskets are galvanized steel. Wire diameter is 0.025″ and opening size is 0.125″. The lid and bottom are plastic. The lid has a hole that accepts a wire tie or other fastener.

Overall Size Dia.	Overall Size Ht.	Cap., lbs.		
2 1/4″	7 1/4″	2 1/2	3238K6	$10.13
4 3/8″	7 1/4″	5	3238K8	13.67

Long-Handle Steel Wire Baskets



Keep hands clear of solutions. All are chrome-plated steel. Wire dia. is 0.031″ and opening size is 0.134″, except the 13 1/2″ dia. basket has 0.158″ openings. The diameter listed is the top of the basket.

Overall Size Dia.	Overall Size Ht.	Handle Lg.		
9″	5″	7 1/2″	3218K22	$44.73
9 7/8″	5 1/4″	8 1/2″	3218K33	47.60
11 3/8″	6 1/4″	10 3/8″	3218K44	52.51
13 1/2″	6″	11 1/2″	3218K55	66.24

For information about wire baskets, see page 2716.

Light Duty Steel Wire Baskets

Clean and store parts in these economical, general purpose baskets. Both are galvanized steel with a dull finish and 9″ diameter at the widest point. Wire diameter is 0.025″. Opening size is 0.25″. Capacity is 10 lbs.

Tapered basket is 8¼″ high and has a 4½″ high swing handle.

Barrel-style basket is 16½″ high when the two halves are joined together with the included clip.


Tapered


Barrel Style

Tapered Basket	32525K35	$14.48
Barrel-Style Basket	32525K25	19.55
Optional Lid with Clip for Tapered Basket	32525K45	7.70
Replacement Clip for Optional Lid and Barrel-Style Basket	32525K55	1.03

Light Duty Stainless Steel Wire Baskets

Sized to clean, rinse, and dip parts in ultrasonic cleaners, baskets are Type 304 stainless steel with a dull finish.

Baskets with 0.187″ Opening Size—Wire diameter is 0.063″.

Baskets with 0.015″ Opening Size—Wire diameter is 0.010″.



Overall Size Ht.	Wd.	Dp.	Handle Ht.	Cap., lbs.	0.187″ Opening Size		0.015″ Opening Size	
3½″	11″	9″	6″	40	3467K44	$135.96	3467K74	$138.91
3½″	16″	11″	6″	40	3467K48	158.67	3467K78	162.36
4½″	19″	13″	6″	40	3467K56	182.67	3467K86	212.29
6½″	15″	9″	6″	40	3467K46	166.64	3467K76	172.89
6½″	17″	13″	6″	40	3467K54	191.58	3467K84	191.04
6½″	21″	17″	6″	40	3467K58	231.56	3467K88	220.16
6½″	23″	19″	6″	40	3467K62	252.78	3467K92	240.87

Stainless Steel Wire Baskets for Small Parts

Use with bench-top ultrasonic cleaners and for holding beakers. All are 300 series stainless steel with a shiny finish.

Round baskets have a 3″ high swing handle. Wire diameter is 0.014″ and opening size is 0.027″.

Rectangular baskets stack for easy storage. All have ½″ long legs and dual-grip handles.


Round


Rectangular With Lid

Round Baskets

Overall Size Dia.	Ht.	Cap., lbs.	For Beaker Size, ml	Baskets		Optional Lids	
2⁹⁄₁₆″	2¾″	1	100	3292K12	$189.09	3292K22	$41.82
2⅞″	3″	5	250	3292K13	192.73	3292K23	41.82
3⁷⁄₁₆″	3½″	5	400	3292K14	196.36	3292K24	41.82
3¾″	3¾″	5	500	3292K15	198.18	3292K25	43.64
3⅞″	4¼″	5	600	3292K16	203.64	3292K26	43.64
4½″	5″	10	1,000	3292K17	209.09	3292K27	43.64
5¹³⁄₁₆″	6⁷⁄₁₆″	10	2,000	3292K18	214.55	3292K28	43.64

Rectangular Baskets

Overall Size Ht.	Wd.	Dp.	Handle Ht.	Cap., lbs.	With Lid		Without Lid	
0.014″ Wire Dia.; 0.027″ Opening Size								
1″	5″	3″	1½″	2	3304K111	$250.91	3304K141	$158.18
2″	7″	5″	2″	5	3304K121	283.64	3304K151	178.18
3″	9″	7″	3″	10	3304K131	383.64	3304K161	209.09
0.025″ Wire Dia.; 0.072″ Opening Size								
1″	5″	3″	1½″	2	3304K112	229.09	3304K142	149.09
2″	7″	5″	2″	5	3304K122	261.82	3304K152	167.27
3″	9″	7″	3″	10	3304K132	361.82	3304K162	196.36
0.028″ Wire Dia.; 0.225″ Opening Size								
2″	7″	5″	2″	5	3304K123	249.09	3304K153	160.00
3″	9″	7″	3″	10	3304K133	349.09	3304K163	189.09

Baskets for Miniature Parts

Nonmarring baskets have nylon mesh and a plastic frame that won't scratch parts.

Bendable-handle baskets can be hung over the edge of an ultrasonic cleaner. They are 18-8 stainless steel with a shiny finish.

Squeeze-handle baskets have 18-8 stainless steel mesh with a shiny finish and a plastic handle.

Screw-together baskets secure your tiniest parts when the two ½″ deep halves are put together. Mesh is 18-8 stainless steel with a dull finish; frame is brass.


Nonmarring


Bendable Handle


Squeeze Handle


Screw Together

	Basket Dia.	O'all Lg.	Opening Size		
Nonmarring	2½″	6¼″	0.059″	3353K42	$2.43
Nonmarring	4¼″	8¾″	0.059″	3353K44	3.81
Bendable Handle	2½″	6¾″	0.039″	3353K48	4.11
Bendable Handle	3″	7¼″	0.039″	3353K51	4.73
Squeeze Handle	1½″	6½″	0.039″	3353K55	3.32
Squeeze Handle	2½″	7½″	0.039″	3353K57	4.38
Screw Together	1″	1″ Dp.	0.039″	3353K63	4.59

Steel and Stainless Steel Perforated Baskets

Baskets are sheet metal with stamped holes, so they are more rigid than wire baskets. Use for degreasing, cleaning, plating, and rinsing parts. All are unfinished.

Round baskets have ¼″ dia. perforations. Two bottom and four side braces add rigidity.

Rectangular baskets have 3⁄32″ dia. perforations and a hinged lid. A handle sticks out 1⅞″ on two sides.


Round with Loop Handle


Rectangular

Round Baskets

Overall Size Dia.	Ht.	Handle Ht.	Cap., lbs.	Loop Handle		Swing Handle	
Steel							
8⅝″	8¼″	4″	40	3211K51	$117.80	3211K49	$117.80
12¾″	12⁵⁄₁₆″	6″	40	3211K52	203.95	3211K53	203.95
Type 304 Stainless Steel							
8⅝″	8¼″	4″	40	3211K61	198.53	3211K58	198.53
12¾″	12⁵⁄₁₆″	6″	40	3211K62	296.73	3211K63	296.73

Rectangular Baskets

Overall Size Ht.	Wd.	Dp.	Cap., lbs.		
Steel					
6¼″	10½″	8⁵⁄₁₆″	40	31165K66	$142.73
Type 304 Stainless Steel					
6¼″	10½″	8⁵⁄₁₆″	40	31165K88	219.40

Acid-Resistant Plastic Perforated Baskets

Clean, dip, and pickle parts in these perforated polypropylene baskets that withstand most acids and plating and chemical fluids. All have a solid reinforcing ring on the top and bottom and a loop handle. Maximum temperature is 212°F.



Overall Size Dia.	Ht.	Handle Ht.	Cap., lbs.	⅛″ Dia. Perforations		3⁄32″ Dia. Perforations	
6″	6″	3″	10	3228K4	$113.45	3228K5	$113.45
8″	8″	4″	15	3228K1	122.18	3228K6	122.18
10″	10″	5″	25	3228K2	128.00	3228K7	128.00
12″	12″	6″	35	3228K3	139.64	3228K8	139.64

Workstation Static Eliminators


Without Fan


With Fan

Place a unit at your workstation or desktop for protection against ESD (electrostatic discharge). Operate on 120 volts AC.

Without Fan—Controls static over a 12″×16″ area. It won't stir up dust or move lightweight items in the area. Has a 7-ft. cord with three-prong plug.

With Fan—Has a two-speed (21 and 42 cfm) fan and controls static over a 12″×36″ area. Has a swivel stand and a 7½-ft. cord with three-prong plug.

	Ht.	Wd.	Dp.		
Without Fan	5½″	5″	2½″	2240K43	$461.38
With Fan	5⅜″	3⅞″	2⅜″	2240K66	503.12

Static-Eliminating Bars



Stop the buildup of static electricity and ESD (electrostatic discharge) on conveyor and assembly lines. Also known as ionizing bars, they concentrate ionization in one long, thin area. There's no blower, which minimizes contamination. Use where there is little or no air movement. Mount 1″ to 7″ from the material. Do not mount directly over metal parts or rollers; the metal will absorb the ion charge and reduce the effectiveness of the equipment. All bars have a 6½-ft. cable for attaching to the power supply (sold separately).

Power supplies operate one or two static-eliminating bars. They have a 6-ft. cord with three-prong plug. Input is 115 or 220 volts AC.

Optional bar tester is a pen-sized device with a light that indicates if your static eliminator is operating.

Controls: Static Projection	Wd.	Overall Size: Ht.	Wd.	Dp.		
Static-Eliminating Bars						
7″	6″	1⅜″	6″	¾″	2246K32	$141.82
7″	9″	1⅜″	9″	¾″	2246K34	162.63
7″	12″	1⅜″	12″	¾″	2246K35	183.45
7″	18″	1⅜″	18″	¾″	2246K33	225.08
7″	24″	1⅜″	24″	¾″	2246K36	266.71
7″	36″	1⅜″	36″	¾″	2246K37	351.26
7″	48″	1⅜″	48″	¾″	2246K38	434.52
7″	60″	1⅜″	60″	¾″	2246K39	517.78
Power Supplies and Tester						
Power Supply (115V AC)					2246K21	293.31
Power Supply (220V AC)					2246K24	293.31
Optional Bar Tester					2246K25	30.87

Static-Eliminating Blowers


2245K31


2245K43 and 2245K49

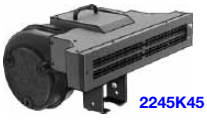
2245K45


2245K61

Project a curtain-like stream of static-eliminating ionized air and protect against ESD (electrostatic discharge). They have a built-in power supply, except 2245K31 has a separate enclosure with a power supply. All operate on 115-120 volts AC and have a 6-ft. cord with three-prong plug.

Blowers have variable controls to tailor airflow and a filter to keep dust and dirt particles out of the airstream.

Blowers with heater reduce wind chill for extra comfort in cool areas. They have three speed settings.

Max. Air Volume Output, cfm	Controls: Static Projection	Wd.	Overall Size: Ht.	Wd.	Dp.		
Blowers							
148	3 ft.	18″	7¾″	10 3/16″	9⅜″	2245K31	$1,081.67
255	8 ft.	24″	8¾″	14⅛″	10″	2245K43	981.97
300	10 ft.	24″	9¾″	16⅜″	13½″	2245K45	1,465.75
Blowers with Heater							
120	6 ft.	36″	7 7/16″	17½″	8 11/16″	2245K61	738.89
150	6 ft.	36″	7¼″	14⅛″	6½″	2245K49	733.33
Accessories							
50″ to 74″ Ht. Floor Stand for 2245K45						2245K46	356.92

Static-Eliminating Blowers for Large Areas



Eliminate static and minimize ESD (electrostatic discharge) on large processing equipment and products. Suspend these blowers from the ceiling or mount on a wall, floor, bench, or machine frame to create an extra-wide field of ionized air. All have a variable air speed/volume control and a 6½-ft. cord with three-prong plug. Operate on 110-120 volts AC. *Optional air filters* prevent contamination.

Max. Air Volume Output, cfm	Controls: Static Projection	Wd.	Overall Size: Ht.	Wd.	Dp.	No. of Fans		
105	8 ft.	14″	3 9/16″	20″	5⅜″	1	2241K49	$978.28
210	8 ft.	24″	3 9/16″	30″	5⅜″	2	2241K51	1,101.88
315	8 ft.	34″	3 9/16″	40″	5⅜″	3	2241K53	1,294.82
524	8 ft.	54″	3 9/16″	60″	5⅜″	5	2241K55	1,638.01
Optional Air Filters (Pkg. of 10)							2241K57	15.94

Static-Eliminating Compressed-Air Blowguns


High Force


Easy Adjustment

Blow off dust and contamination, eliminate static charges, and guard against ESD (electrostatic discharge) in seconds. Blowguns require a clean, dry air supply. For a static charge detector, see page 1854. Meet OSHA requirement for maximum outlet pressure.

High-force blowguns neutralize static with the nozzle 2″ to 10 ft. from the surface of the part being cleaned. Include a 10-ft. cable for connection to required power supply. Operate on compressed air. Air inlet is ¼″ NPT female. Maximum inlet pressure is 250 psi. Air consumption is 11.5 cfm @ 40 psi. Use a 10-micron and smaller air line filter. *Power supply* accommodates two blowguns and includes a 6-ft. cord with three-prong plug. Input is 115 volts AC. UL and C-UL recognized.

Easy-adjustment blowguns have flow control and a power- and ionization-indicating LED. Nozzle should be 4″ to 10″ from the part being cleaned. Meet clean room Class 1000 requirements. Operate on compressed air or nitrogen. Air inlet is ¼″ NPT female. Maximum inlet pressure is 100 psi. Air consumption is 7.4 cfm @ 100 psi. Includes a 0.01-micron filter, 7-ft. cable for connection to required power supply, and a hanger for mounting. *Power supply* has a 6-ft. cord with three-prong plug. Input is 120 volts AC.

High-Force Blowguns		
With Cable and Power Supply	5406K75	$920.45
With Cable	5406K76	503.15
Easy-Adjustment Blowguns		
With Cable and Power Supply	34405K77	885.94
With Cable	34405K78	506.25
Replacement Filters for Easy-Adjustment Blowguns (Pkg. of 2)	34405K79	$76.31

Blower-Air Air Knives

Connect air knives to a blower for high-speed airflow at low pressure. Use for dust, chip, and water removal; drying; belt wiping; and controlling coating depth. They can also control the movement of smoke or fumes and function as a barrier to keep hot air in ovens and cold air in freezers. The airflow slot is adjustable from 3/64″ to 1/2″. Made of aluminum. Not rated for cfm.

Note: To create a system, you will need a blower (sold below), threaded pipe (see page 6), a hex reducing bushing (see page 5), and a hose fitting (sold below). Connect the hose fitting to round flexible duct hose (see pages 248-250) and then to the air knife using clamps (not included).



Air Knife

Knife Wd.	Air Knives		Optional Blowers: Motor	Air Outlet		
6″	1833K212	$297.60	1 1/2 hp	1 1/2 NPT Female	9960K59	$1,080.40
12″	1833K214	347.20	6 hp	2 NPT Female	9960K64	2,196.24
18″	1833K216	420.80	6 hp	2 NPT Female	9960K64	2,196.24
24″	1833K217	483.20	10 hp	2 1/2 NPT Female	9960K65	2,559.65
30″	1833K218	527.93	10 hp	2 1/2 NPT Female	9960K65	2,559.65
36″	1833K219	590.40	10 hp	2 1/2 NPT Female	9960K65	2,559.65

Hose Fitting (4 1/2″ Lg. × 2 1/2″ OD) 1833K41 36.57


Optional Blower

Compressed-Air Air Knives

Cool parts and blow liquids, chips, and dust from conveyors and other equipment with a high-volume, high-velocity sheet of compressed air. Air flows out of a 0.002″ gap and uses 40-90% less air than open nozzles and drilled or slotted pipe. Use with clean air (filters sold separately). Recommended air pressure is 80-100 psi. Air inlet is 1/4″ NPT female. Knives meet OSHA 1910.242(b) for dead-end pressure and 1910.95(a) for noise level.

Standard knives amplify incoming air by a factor of 30 to 1. They have an air inlet on each end. Knives are 1″ wider than the air slot.

Super-efficient knives use 18% less compressed air and are quieter than standard air knives. They amplify incoming air by a factor of 40 to 1. They have an air inlet on both ends and on the bottom. Air slot runs the full width of the knife.

Also Available: Shim sets to enlarge the gap and adjust the flow and force of air. Sets for aluminum knives include plastic shims in sizes 0.001″, 0.003″, and 0.004″; sets for stainless steel knives include three 0.002″ stainless steel shims. For standard knives, ask for 5191K2 and specify aluminum or stainless steel and air slot width. For super-efficient knives, ask for 6069K41 and specify aluminum or stainless steel and air slot width.



Air Knives

Air Slot Wd.	Air Consumption @ 80 psi	dB	Aluminum: Overall Size Ht.	Overall Size Dp.	Max. Temp.			Stainless Steel: Overall Size Ht.	Overall Size Dp.	Max. Temp.		
Standard												
3″	10 cfm	86 @ 100 psi	1 1/4″	1 3/8″	180° F	5191K81	$154.05	1 7/16″	1 1/4″	800° F	5191K82	$266.99
6″	20 cfm	86 @ 100 psi	1 1/4″	1 3/8″	180° F	5191K26	179.85	1 7/16″	1 1/4″	800° F	5191K44	312.50
9″	30 cfm	86 @ 100 psi	1 1/4″	1 3/8″	180° F	5191K62	202.54	1 7/16″	1 1/4″	800° F	5191K63	381.46
12″	41 cfm	86 @ 100 psi	1 1/4″	1 3/8″	180° F	5191K27	227.10	1 7/16″	1 1/4″	800° F	5191K45	445.21
18″	61 cfm	86 @ 100 psi	1 1/4″	1 3/8″	180° F	5191K33	298.41	1 7/16″	1 1/4″	800° F	5191K46	616.59
24″	82 cfm	86 @ 100 psi	1 1/4″	1 3/8″	180° F	5191K28	340.94	1 7/16″	1 1/4″	800° F	5191K47	663.81
30″	102 cfm	86 @ 100 psi	1 1/4″	1 3/8″	180° F	5191K34	401.77	1 7/16″	1 1/4″	800° F	5191K48	863.54
36″	122 cfm	86 @ 100 psi	1 1/4″	1 3/8″	180° F	5191K42	555.79	1 7/16″	1 1/4″	800° F	5191K35	997.74
Super Efficient												
3″	9 cfm	69 @ 80 psi	1 7/16″	1 3/4″	180° F	6069K11	219.20	1 1/16″	1 7/16″	800° F	6069K18	338.21
6″	17 cfm	69 @ 80 psi	1 7/16″	1 3/4″	180° F	6069K12	252.45	1 1/16″	1 7/16″	800° F	6069K19	423.32
9″	26 cfm	69 @ 80 psi	1 7/16″	1 3/4″	180° F	6069K26	306.77	1 1/16″	1 7/16″	800° F	6069K29	581.32
12″	35 cfm	69 @ 80 psi	1 7/16″	1 3/4″	180° F	6069K13	328.23	1 1/16″	1 7/16″	800° F	6069K21	592.67
18″	52 cfm	69 @ 80 psi	1 7/16″	1 3/4″	180° F	6069K14	403.37	1 1/16″	1 7/16″	800° F	6069K22	716.27
24″	70 cfm	69 @ 80 psi	1 7/16″	1 3/4″	180° F	6069K15	486.09	1 1/16″	1 7/16″	800° F	6069K23	889.22
30″	87 cfm	69 @ 80 psi	1 7/16″	1 3/4″	180° F	6069K16	585.12	1 1/16″	1 7/16″	800° F	6069K24	1,072.78
36″	104 cfm	69 @ 80 psi	1 7/16″	1 3/4″	180° F	6069K17	683.83	1 1/16″	1 7/16″	800° F	6069K25	1,229.97
42″	122 cfm	69 @ 80 psi	1 7/16″	1 3/4″	180° F	6069K31	844.75	1 1/16″	1 7/16″	800° F	6069K33	1,583.75
48″	139 cfm	69 @ 80 psi	1 7/16″	1 3/4″	180° F	6069K32	982.40	1 1/16″	1 7/16″	800° F	6069K34	1,879.13

Static-Eliminating Air Knives

Temporarily neutralize static charges and prevent ESD (electrostatic discharge) by flowing positive and negative ions onto the surface or part. Knives are aluminum with an antistatic ionizing bar and a 5-ft. shielded cable for connection to 5kV power supply (sold separately). UL and C-UL recognized.

Air Slot Wd.	Air Consumption @ 50 psi	dB @ 40 psi	Overall Size Ht.	Overall Size Dp.	Max. Temp.		
Standard							
3″	7 cfm	78	1 5/8″	1 3/8″	165° F	52555K41	$335.53
6″	14 cfm	78	1 5/8″	1 3/8″	165° F	52555K11	386.84
12″	28 cfm	78	1 5/8″	1 3/8″	165° F	52555K12	486.48
18″	42 cfm	78	1 5/8″	1 3/8″	165° F	52555K13	580.05
24″	56 cfm	78	1 5/8″	1 3/8″	165° F	52555K14	629.36
30″	71 cfm	78	1 5/8″	1 3/8″	165° F	52555K15	728.78
36″	85 cfm	78	1 5/8″	1 3/8″	165° F	52555K33	811.25

Air Slot Wd.	Air Consumption @ 50 psi	dB @ 40 psi	Overall Size Ht.	Overall Size Dp.	Max. Temp.		
Super Efficient							
3″	6 cfm	61	1 7/8″	2 1/4″	165° F	6101K31	$398.43
6″	12 cfm	61	1 7/8″	2 1/4″	165° F	6101K32	471.52
12″	24 cfm	61	1 7/8″	2 1/4″	165° F	6101K33	600.55
18″	36 cfm	61	1 7/8″	2 1/4″	165° F	6101K34	689.17
24″	48 cfm	61	1 7/8″	2 1/4″	165° F	6101K35	801.20
30″	60 cfm	61	1 7/8″	2 1/4″	165° F	6101K36	926.82
36″	72 cfm	61	1 7/8″	2 1/4″	165° F	6101K37	1,084.98

Accessories

Air filter/regulator combines a 5-micron filter for clean air and a regulator for controlling the consumption, flow, and force of air. Note: Do not use near flammable materials or gases.

Power supply has two ports to handle two air knives at the same time. Operates on 115 volts AC.

Universal mounting arm has a 31″ reach and two locking swivels. Mounts in a 1/2″-13 threaded hole.

Air Filter/Reg. for 42″-48″ Air Slot Widths	9890K64	$256.86
Power Supply for Static-Eliminating Air Knives	52555K31	355.31
Repl. 5-ft. Shielded Cable for 52555K31	52555K32	89.88
Universal Mounting Arm	5191K31	216.80

Compressed-Air Blowoff Nozzles

Reduce noise levels, air consumption, and energy costs when drying, cleaning, sorting, and ejecting parts. Compressed-air nozzles are quieter and deliver a stronger blowing force compared to drilled pipe and open nozzles. Nozzles are 90 dB or lower at 3 ft., except Styles A, P, and Q exceed 90 dB.

Wide-Airflow Nozzles

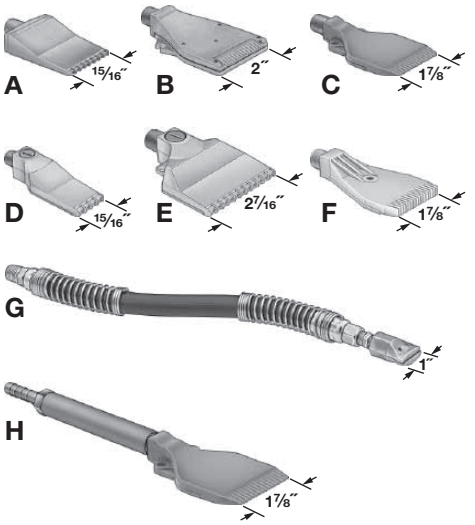

A flat nose distributes air over a wide area.
Styles A-C meet OSHA directives for maximum outlet pressure when used with a pressure regulator set at 30 psi or less. 5329K52 is made from FDA-compliant resin.
Styles D-H meet OSHA directives for maximum outlet pressure.

Air Inlet Connection	Nozzle Length	Air Consumption @ 100 psi	Nozzle Material		
Standard					
A 1/8″ NPT Male	2 3/16″	13 cfm	Zinc	31875K19	$54.52
A 1/4″ NPT Male	3 1/8″	25 cfm	Zinc	31875K14■	67.56
B 1/4″ NPT Male	3 7/16″	28 cfm	Aluminum	5329K65	107.23
C 1/4″ NPT Male	3 9/16″	20 cfm★	Plastic	5329K52	29.95
C 1/4″ NPT Male	3 9/16″	20 cfm★	Plastic	5329K63	18.17
Adjustable Flow					
D 1/8″ NPT Male	2 3/4″	0.3-17 cfm	Stainless Steel	31875K22	196.34
E 1/4″ NPT Male	3 1/8″	1-46 cfm	Stainless Steel	31875K23	249.49
Clog Free					
F 1/4″ NPT Male	3 9/16″	33 cfm	Plastic	5329K51	41.86
F 1/4″ NPT Male	3 9/16″	33 cfm	Stainless Steel	5329K68	194.44
Bend-and-Stay Tube					
G 1/4″ NPT Male	15/16″	14 cfm	Zinc/Aluminum	31875K43	94.55
Extended Reach—Extension is steel.					
H 5/16″ Hose Barb	3 9/16″	20 cfm★	Plastic	5329K64	47.00

■ Nozzle width is 1 7/8″. ★ Air consumption @ 75 psi.

Focused-Airflow Nozzles

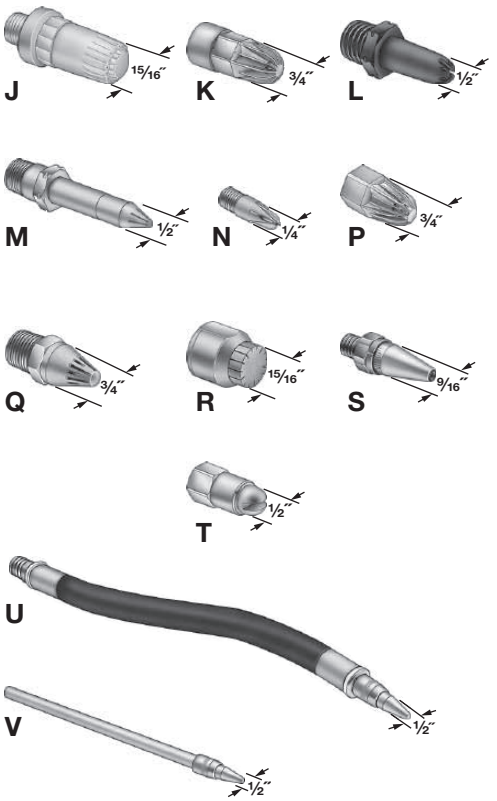

The cone-shaped nose delivers concentrated air flow.
Style J meets OSHA directives for maximum outlet pressure when used with a pressure regulator set at 30 psi or less.
Styles K-V meet OSHA directives for maximum outlet pressure.

Air Inlet Connection	Nozzle Length	Air Consumption @ 100 psi	Nozzle Material		
Standard					
J 1/8″ NPT Male	2 3/16″	21 cfm★	Plastic	5329K61	$18.17
J 1/4″ NPT Male	2 3/16″	21 cfm★	Plastic	5329K62	18.17
K 1/4″ NPT Male	1 7/8″	15 cfm	Zinc	31875K12	45.04
K 1/4″ NPT Male	1 7/8″	15 cfm	Aluminum	31875K13	54.52
K 1/4″ NPT Female	1 3/4″	18 cfm	Zinc/Aluminum	31875K61	45.43
Heat, Corrosion, and Chemical Resistant—Maximum temperature is 320° F.					
K 1/4″ NPT Female	1 3/4″	18 cfm	Plastic	31875K64	76.70
L 1/8″ NPT Male	1 1/4″	12 cfm	Plastic	31875K21	52.15
Narrow Flow					
M 1/8″ NPT Male	1 1/2″	15 cfm	Stainless Steel	31875K31	82.96
M 1/8″ NPT Male	2 3/16″	15 cfm	Zinc/Steel	31875K11	32.00
Low Flow					
N M6×0.75 Male	3/4″	10 cfm	Stainless Steel	31875K27	54.93
High Flow—Two to four times the blowing force of other nozzles.					
P 3/8″ NPT Female	15/8″	44 cfm	Zinc/Aluminum	31875K28	72.80
Q 3/8″ NPT Male	1 13/16″	77 cfm	Aluminum	31875K33	80.59
R 1/2″ NPT Female	1 1/8″	75 cfm	Stainless Steel	31875K16	278.52
Adjustable Flow					
S 1/8″ NPT Male	1 7/8″	8-26 cfm	Aluminum	8451K33	21.67
S 1/8″ NPT Male	1 7/8″	8-26 cfm	Stainless Steel	8451K34	63.25
High Volume					
T 1/4″ NPT Female	1 7/16″	21 cfm	Brass	31875K71	19.11
T 1/4″ NPT Female	1 7/16″	21 cfm	Stainless Steel	31875K72	45.22
Flexible Rubber Hose					
U 1/8″ NPT Male	1 7/16″	13 cfm	Brass	8451K36	46.39
U 1/4″ NPT Male	1 7/16″	31 cfm	Brass	8451K41	56.11
Bend-and-Stay Tube					
V 1/4″ Copper Tube	15/16″	9 cfm	Brass	8451K31▲	36.11
V 3/8″ Copper Tube	1 7/16″	13 cfm	Brass	8451K32	49.97
V 3/8″ Copper Tube	1 7/16″	31 cfm	Brass	8451K37	49.72

★ Air consumption @ 75 psi. ▲ Nozzle OD is 3/8″.

Nozzle Swivels



Fine tune the direction of airflow 30° left, right, up, and down. Swivels have the same thread size on the male end and the female end.

Air Inlet Connection	Nozzle Length	Overall Length	Air Consumption @ 100 psi	Nozzle Material		
1/8″ NPT Male	15/16″	1 3/16″	Not Rated	Stainless Steel	3101K21	$49.78
1/4″ NPT Male	1″	1 1/4″	Not Rated	Stainless Steel	3101K22	56.89

Compressed-Air Circular-Flow Air Knives

Also known as air wipes, the circular design of these knives provides a uniform 360° airstream. Use with compressed air for blowoff, drying, cleaning, and cooling of pipe, cable, extruded shapes, and hose. They're hinged for easy positioning around the material moving through them. Air inlet is 1/4" NPT female. Meet or exceed OSHA noise and dead-end pressure requirements.

Aluminum knives are rated for temperatures up to 400° F.

Stainless steel knives are rated for temperatures up to 800° F.

Also Available: Optional shim sets. Please ask for 6275A27 and specify inside diameter.

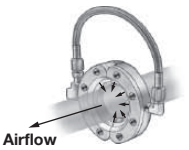

Inside Dia.	Outside Dia.	Thick.	dB @ 80 psi	Air Consumption @ 80 psi	Max. Inlet Pressure	Aluminum		Stainless Steel	
1/2"	3 1/4"	1 1/8"	75 @ 3 ft.	14 cfm	250 psi	6275A15	$331.49	6275A16	$780.33
1"	3 3/4"	1 1/8"	76 @ 3 ft.	19 cfm	250 psi	6275A34	366.47	6275A11	782.12
2"	4 3/4"	1 1/8"	77 @ 3 ft.	30 cfm	250 psi	6275A35	485.32	6275A12	1,024.13
3"	5 3/4"	1 1/8"	79 @ 3 ft.	40 cfm	250 psi	6275A36	750.28	6275A13	1,478.53
4"	6 3/4"	1 1/8"	81 @ 3 ft.	50 cfm	250 psi	6275A37	1,047.90	6275A14	2,038.00

Adjustable Direction Blowoff Nozzles with Magnetic Bases





Adjust the hose to deliver air exactly where you need it, then use the nozzle control valve to fine-tune airflow.

Standard Duty—Have a modular plastic hose that snaps together and a nozzle that produces concentrated airflow. Nozzle also may be used with liquid coolants. Magnetic base pull is 38 lbs. Air inlet is 1/4" hose barb. Hose is 9" long with a 1/4" ID. For replacement hose and fittings, see Snap-Loc Hose on page 2230.

Heavy Duty—Has a 12" long oil- and abrasion-resistant rubber hose. Nozzle is zinc and delivers a broad cone-shaped airflow. Magnetic base pull is 100 lbs. Air inlet is 1/4" NPT female. Meets OSHA directives for maximum outlet pressure.

	Max. Inlet Pressure	Single Hose		Double Hose	
Standard Duty	60 psi	33345K7	$47.37	33345K9	$53.26
Heavy Duty	150 psi	31665K21	187.95		

Push-Button Blowguns



Operate your blowgun with the touch of a button. Body is epoxy-coated zinc and nozzle is brass.

Max. inlet pressure is 150 psi. Air inlet is 1/4" NPT female and air outlet is 1/8" NPS female. Air consumption is 10 cfm @ 100 psi. Meets OSHA directives for max. outlet pressure.

5467K14	$10.24

Pistol-Grip Blowguns

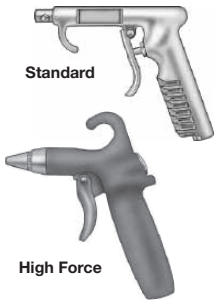

Guns fit comfortably in your hand. Maximum inlet pressure is 120 psi. Air inlet is 1/4" NPT female. Meet OSHA directives for maximum outlet pressure.

Standard—Body is chrome-plated zinc and nozzle is brass. Air outlet is 1/8" NPS female.

Easy Grip—Handle is nonslip vinyl, body is aluminum, and nozzle is brass. Air outlet is 1/8" NPT female.

High Force—Tiny air slots around the nozzle circumference increase blowing force. Body and nozzles are aluminum. Air outlet is 3/4"-32 UNF female.

	Air Consumption @ 100 psi		
Standard	10 cfm	5668K21	$21.73
Easy Grip	11 cfm	5668K11	27.57
High Force	21 cfm	54615K35	23.88
Replacement Nozzle for High Force Blowgun		54615K21	16.14

Lever-Handle Blowguns



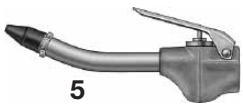





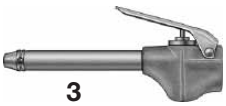



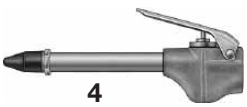

Blowguns have an easy-to-maneuver lever handle and are made of zinc. *Styles 1-3* and *6-7* meet OSHA directives for maximum outlet pressure. Maximum inlet pressure is 150 psi.

(1) General purpose blowguns are chrome plated and have a PVC-coated handle. 5650K11 and 5650K12 have a coiled nylon hose.

(2-5) Straight and angled extension blowguns increase your reach. *Style 2* is chrome plated with a 3" safety extension and a PVC-coated handle. *Style 3* has a 4" safety extension and a built-in pressure regulator. *Styles 4* and *5* have a 4 5/16" extension and a nonmarring rubber nozzle.

(6-7) High volume blowguns have large holes in the safety nozzle to increase air volume. *Style 6* is chrome plated and has a PVC-coated handle. *Style 7* has a built-in pressure regulator.

Air Inlet, NPT female	Air Outlet, female	Air Consumption @ 100 psi		
(1) General Purpose				
1/4"	1/8" NPT	11 cfm	5650K13	$9.49
1/4"	1/8" NPT (w/12-ft. Hose)	11 cfm	5650K11	24.84
1/4"	1/8" NPT (w/25-ft. Hose)	11 cfm	5650K12	28.44
(2) Straight Extension				
1/4"	1/8" NPT	11 cfm	5937K79	16.16
(3) Straight Extension with Pressure Regulator				
1/4"	1/2"-27 UNS	6 cfm	5457K51	14.96
(4) Straight Extension with Nonmarring Nozzle				
1/4"	7/16"-27 UNS	12 cfm	5418K61	12.88
Replacement Rubber Nozzle			5418K63	4.29
(5) Angled Extension with Nonmarring Nozzle				
1/4"	7/16"-27 UNS	12 cfm	5418K62	14.28
Replacement Rubber Nozzle			5418K63	4.29
(6) High Volume				
1/4"	1/8" NPT	11 cfm	5369K51	11.88
(7) High Volume with Pressure Regulator				
1/4"	1/2"-27 UNS	18 cfm	5425K51	15.69

Extended-Reach Blowguns

Reach tight corners and high areas with the long nozzle on these blowguns. Maximum inlet pressure is 120 psi. Meet OSHA directives for maximum outlet pressure, unless otherwise stated.

Pistol-Grip Blowguns

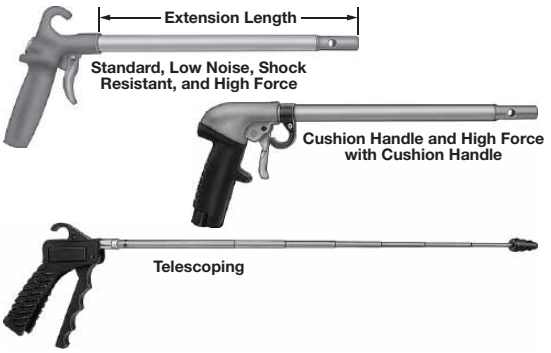

Standard—Have an aluminum body, nozzle, and extension.

Low Noise—Are 20% quieter than standard models but deliver 30% less blowing force. Body, nozzle, and extension are aluminum.

Cushion Handle—Have a rubber handle and an aluminum body, nozzle, and extension.

Shock Resistant—Have a nylon nozzle and extension that won't conduct electricity. Body is aluminum.

High Force—Deliver 30% more blowing force than standard models. Body, nozzle, and extension are aluminum.

High Force with Cushion Handle—Similar to the high force blowguns but with a rubber handle.

Telescoping—Has an adjustable stainless steel extension. Body and nozzle are plastic.

Extension Length	Air Inlet, NPT female	Air Outlet	Air Consumption @ 100 psi		
Standard					
6″	1/4″	5/8″-28 Female	34 cfm	5536K38	$28.37
12″	1/4″	5/8″-28 Female	34 cfm	5536K32	29.74
18″	1/4″	5/8″-28 Female	34 cfm	5536K39	31.12
24″	1/4″	5/8″-28 Female	34 cfm	5536K33	32.50
36″	1/4″	5/8″-28 Female	34 cfm	5536K34	35.25
48″	1/4″	5/8″-28 Female	34 cfm	5536K35	38.01
60″	1/4″	5/8″-28 Female	34 cfm	5536K36	40.76
72″	1/4″	5/8″-28 Female	34 cfm	5536K37	43.51
Standard with 12-ft. Coiled Nylon Hose					
12″	1/4″	5/8″-28 Female	34 cfm	5536K45	54.04
24″	1/4″	5/8″-28 Female	34 cfm	5536K46	56.85
Low Noise					
6″	1/4″	3/4″-32 Male	29 cfm	8316K31	30.51
12″	1/4″	3/4″-32 Male	29 cfm	8316K32	31.89
18″	1/4″	3/4″-32 Male	29 cfm	8316K33	33.26
24″	1/4″	3/4″-32 Male	29 cfm	8316K34	34.64
36″	1/4″	3/4″-32 Male	29 cfm	8316K35	37.40
48″	1/4″	3/4″-32 Male	29 cfm	8316K36	40.15
60″	1/4″	3/4″-32 Male	29 cfm	8316K37	42.91
72″	1/4″	3/4″-32 Male	29 cfm	8316K38	45.66
Cushion Handle					
6″	1/4″	5/8″-28 Female	34 cfm	5458K27	40.24
12″	3/8″	5/8″-28 Female	49 cfm	5458K22	39.32

Extension Length	Air Inlet, NPT female	Air Outlet	Air Consumption @ 100 psi		
Cushion Handle (Cont.)					
24″	3/8″	5/8″-28 Female	49 cfm	5458K24	$42.00
36″	3/8″	5/8″-28 Female	49 cfm	5458K25	44.67
48″	3/8″	5/8″-28 Female	49 cfm	5458K26	47.36
Shock Resistant					
12″	1/4″	5/8″-28 Female	34 cfm	5536K43	53.95
36″	1/4″	5/8″-28 Female	54 cfm	5536K44	79.97
High Force					
6″	1/4″	5/8″-28 Female	54 cfm	5474K61	30.70
12″	1/4″	5/8″-28 Female	54 cfm	5474K62	33.39
18″	1/4″	5/8″-28 Female	54 cfm	5474K63	34.72
24″	1/4″	5/8″-28 Female	54 cfm	5474K65	36.06
36″	1/4″	5/8″-28 Female	54 cfm	5474K66	38.75
48″	1/4″	5/8″-28 Female	54 cfm	5474K67	41.42
60″	1/4″	5/8″-28 Female	54 cfm	5474K68	44.11
72″	1/4″	5/8″-28 Female	54 cfm	5474K69	46.77
High Force with Cushion Handle					
6″	1/4″	5/8″-28 Female	54 cfm	5458K28	47.18
12″	3/8″	5/8″-28 Female	66 cfm	5458K32	43.54
24″	3/8″	5/8″-28 Female	66 cfm	5458K34	46.23
36″	3/8″	5/8″-28 Female	66 cfm	5458K35	48.91
48″	3/8″	5/8″-28 Female	66 cfm	5458K36	51.24
Telescoping					
12″-32″	1/4″	1/8″ NPS Female	11 cfm	3417K31	37.71

Lever-Handle Blowguns

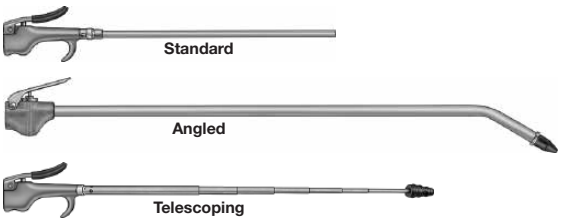

Standard—Have a chrome-plated zinc body and a vinyl-coated handle. Nozzle is brass and extension is steel.

Angled—Have an angled nozzle for directing air over and around obstacles. Include one brass nozzle and one rubber nozzle. (Blowgun must be used with the brass nozzle to conform to OSHA directives for maximum outlet pressure.) Body is zinc and extension is aluminum.

Telescoping—Has an adjustable stainless steel extension. Handle is vinyl coated, body is chrome-plated zinc, and nozzle is plastic.

Extension Length	Air Inlet, NPT female	Air Outlet	Air Consumption @ 100 psi		
Standard					
6″	1/4″	1/8″ NPT Female	11 cfm	5937K81	$17.16
8″	1/4″	1/8″ NPT Female	11 cfm	5937K82	17.84
12″	1/4″	1/8″ NPT Female	11 cfm	5937K84	20.78
18″	1/4″	1/8″ NPT Female	11 cfm	5937K86	25.10
24″	1/4″	1/8″ NPT Female	11 cfm	5937K87	31.28
36″	1/4″	1/8″ NPT Female	11 cfm	5937K89	39.82

Extension Length	Air Inlet, NPT female	Air Outlet	Air Consumption @ 100 psi		
Angled					
24″	1/4″	7/16″-27 UNS Female	11 cfm	5429K34	$25.01
48″	1/4″	7/16″-27 UNS Female	11 cfm	5429K35	30.00
Telescoping					
12″-32″	1/4″	1/8″ NPS Female	11 cfm	3417K11	32.97

Accessories and Replacement Parts



Valve Repair Kit—Standard, Low Noise, and High Force Pistol Grip	5536K42	$7.69
Nylon Safety Nozzle—Standard Pistol Grip	5536K41	16.14
Nylon Safety Nozzle—High Force Pistol Grip	5474K15	16.14
Blowgun Holder with Magnetic Base (12″ Lg.×1.75″ ID)	8717K18	24.06
Repl. Safety Nozzle—Standard Pistol Grip	5536K21	$5.79
Repl. Safety Nozzle—Low Noise Pistol Grip	8316K41	16.14
Repl. Safety Nozzle—High Force Pistol Grip	5474K21	7.39
Repl. Rubber Nozzle for Angled Lever Handle	5418K63	4.29

Also Available: Replacement extensions for standard, low-noise, and high-force pistol-grip blowguns. Please ask for 5536K135 and specify the McMaster-Carr part number of your blowgun.

For blowgun accessories and air hose, see page 2724.

Lightweight Blowguns









Lightweight design maximizes comfort and minimizes wrist strain. Vary airflow from a puff to a blast with a pull of the easy-grip trigger. Body is plastic and extension is brass. Maximum inlet pressure is 230 psi. Air inlet is 1/4″ NPT female and air outlet is 5 mm×1 mm. Blowguns can be used without a nozzle; however, when used with a safety nozzle, blowguns meet OSHA directives for maximum outlet pressure.

Blowguns with removable extension allow you to change out extensions so you can use different extensions with the same body.

Safety nozzles have holes around the circumference so air can escape if nozzle is blocked. Once clipped to the extension, only air-shield nozzles can be removed. *Standard nozzle* is for general purpose use. *Air-shield nozzle* creates an air curtain around the airstream to protect from flying chips and dust. *High force nozzle* amplifies the airflow by 100% compared to a standard nozzle.

	Air Consumption @ 100 psi		
Blowguns with Fixed Extension			
4″ Angled	22 cfm	5186K41	$20.50
Blowguns with Removable Extension			
4″ Angled	22 cfm	5186K51	21.58
13″ Straight	22 cfm	5186K42	30.34
20″ Straight	22 cfm	5186K43	42.86
Safety Nozzles			
Standard	22 cfm	5186K44	11.80
Air Shield	22 cfm	5186K47	11.98
High Force	22 cfm	5186K46	15.02
Accessories and Replacement Parts			
Chip Shield		54375K68	6.07
Replacement Removable 4″ Angled Extension		5186K63	5.58
Replacement Removable 13″ Straight Extension		5186K61	21.92
Replacement Removable 20″ Straight Extension		5186K62	25.10

Dual Air-Inlet Blowguns

Two air inlets offer increased versatility. Use the top inlet when blowgun is suspended from an overhead hose and the bottom inlet for bench and floor hoses. Includes a 4″ angled steel nozzle and a stainless steel nozzle tip. Vary airflow from a puff to a blast with a pull of the trigger. Body is plastic.

Maximum inlet pressure is 140 psi. Air inlets are 1/4″ NPT female. Air consumption @ 100 psi is 14 cfm. Meets OSHA directives for maximum outlet pressure.

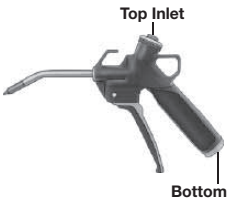

5932K33 ..... $98.37

Clean-Air Blowguns



Clean surfaces without transferring dust or moisture that exists in the air hose. Blowgun has a replaceable filter that traps particles as small as 0.01 micron (such as rust and smoke) and absorbs up to 1 oz. of moisture. For critical applications, filter should be changed weekly. Blowgun is chrome-plated zinc with a brass safety nozzle.

Maximum inlet pressure is 100 psi. Air inlet is 1/4″ NPT female and air outlet is 1/4″ NPT female. Meets OSHA directives for maximum outlet pressure.

	Air Consumption @ 100 psi		
Blowgun with Filter	10 cfm	55135K45	$25.55
Replacement Filter		55135K65	14.33

Chip-Guard Blowguns

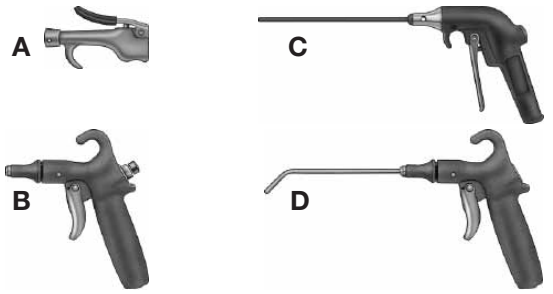

Also known as air-shield and safety-shield blowguns, a center airstream blows away debris while an outer air curtain protects from flying chips and dust. Air inlet is 1/4″ NPT female and air outlet is 1/8″ NPT female (unless otherwise stated). Meet OSHA directives for maximum outlet pressure.

(A) Lever Handle—Has a vinyl-coated lever handle and a chrome-plated zinc body.

(B) Adjustable Airflow Pistol Grip—Has a knurled adjusting nut to vary the airflow from a puff to a blast. Body is aluminum.

(C) Straight Extension Pistol Grip—Has a 3/16″ OD×6″ Lg. bendable brass nozzle extension. Body is aluminum. Air outlet is 1/8″ NPS female.

(D) Angled Extension Pistol Grip—Has a 6″ brass extension with a 1/8″ OD×2″ Lg. flexible plastic tube attached to the end to clean blind holes. Body is aluminum.

	Air Consumption @ 100 psi	Maximum Inlet Pressure		
Blowguns				
A	11 cfm	150 psi	5939K69	$15.16
B	35 cfm	120 psi	5450K55	26.28
C	17 cfm	120 psi	5450K14	23.70
D	35 cfm	120 psi	5450K35	28.52
Repair Kits and Replacement Parts				
Valve Seal Repair Kit for Style B			5450K61	14.10
Valve Seal Repair Kit for Style C			5450K18	6.25
Valve Seal Repair Kit for Style D			5536K42	7.69
Replacement 6″ Brass Extension for Style C			5450K22	4.32

Pipe and Tube Cleaning Blowguns



Flush fluid lines and blow out air lines, pipes, tubes, and other hard-to-reach areas. To activate, press the tip into the tube opening or pull back on the knurled nozzle. Blowguns are brass with a rubber cone-shaped tip. Maximum inlet pressure is 150 psi. Air inlet is 1/4″ NPT female.

	Air Consumption @ 100 psi		
Blowgun	8 cfm	3794K1	$25.84
Blowgun with 12″ Extension	8 cfm	3794K2	31.86
Blowgun with 36″ Extension	8 cfm	3794K4	36.10

Pocket-Clip Blowguns

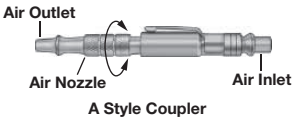

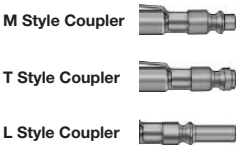

Clip these pen-sized blowguns to your pocket for easy access. Twist the knurled nozzle to adjust airflow from off to full volume. Overall length is 4 5/8″. Body is aluminum. Maximum inlet pressure is 150 psi. Air consumption @ 100 psi is 16 cfm.

Fits Couplers		
A Style or any 1/4″ ARO (No. 210)	5270K26	$7.27
M Style or any 1/4″ Industrial Interchange	5270K25	7.27
T Style or any 1/4″ Tru-Flate or Parker Hannifin	5270K27	7.27
L Style or any 1/4″ Lincoln	5270K28	8.71

Blowguns, Blowgun Nozzles & Air Hose

Wide-Flow Blowguns





Direct a strong stream of air over a wide area. Meet OSHA directives for maximum outlet pressure.
Flat Nozzle Blowgun—Produces a flat airstream. Gun has a zinc nozzle and a plastic pistol grip.
Barrel Nozzle Blowgun—Holes around the 4″ long safety nozzle increase airflow. Gun is chrome-plated zinc with a lever handle. Air outlet is 1/4″ NPT female.

Air Consumption @ 100 psi	Max. Inlet Pressure	Air Inlet, NPT female		
Flat Nozzle				
25 cfm	140 psi	1/4″	5213K21	$82.62
Barrel Nozzle				
34 cfm★	150 psi	1/4″	5444K14	39.54

★ Air consumption @ 95 psi.

Ultra-Force Blowguns for Large Areas





The most powerful blowguns we sell. Use for industrial and construction applications and for cleaning and blowing large areas and spaces. Holes in the nozzle draw in surrounding air for increased air power at the nozzle tip. Made of lightweight aluminum with a large trigger for comfort and control. Blowgun includes an adjustable second handle for two-hand operation; handle can be mounted anywhere along the extension. Air consumption is 185 @ 100 psi. Maximum inlet pressure is 120 psi and air inlet is 3/4″ NPT female. Guns meet OSHA directives for maximum outlet pressure.

	Blowguns			*Replacement Parts*	
	Pistol-Grip Handle		Lever Handle	Extension	Adjustable Handle
Length					
48″	9823K16 $218.11		9823K64 $234.63	9823K36 $105.17	9823K51 $20.38
72″	9823K18 226.92		9823K65 243.44	9823K38 114.41	9823K51 20.38

Blowgun Nozzles

Nozzles will fit any blowgun with a 1/8″ NPT female air outlet, unless otherwise stated.

Nozzles with Safety Vents

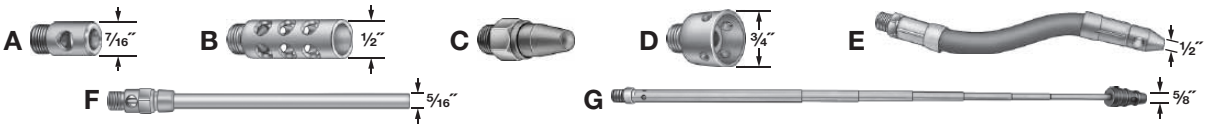

Nozzles meet OSHA 1910.242(b) directives for dead-end pressure.

(A) Standard Nozzle—Made of brass.

(B) High-Volume Nozzle—Holes in the nozzle increase air volume. Made of brass.

(C) High-Thrust Air-Saver Nozzles—Achieve high thrust with little air. Aluminum nozzle is 3/4″ dia.; brass is 1/2″ dia.

(D) Air-Shield Nozzle—Nozzle creates an air curtain around the air-stream to protect from flying chips and dust. Made of brass.

(E) Flexible Extension Nozzles—Extend your reach with these bend-able rubber hoses with brass fittings.

(F) Rigid Extension Nozzles—Access hard-to-reach areas. Made of steel and brass.

(G) Telescoping Extension Nozzle—Adjust the stainless steel shaft to the length you need.

A	Standard Nozzle	5539K17	$3.16
B	High-Volume Nozzle	5369K55	5.64
C	High-Thrust Air-Saver Nozzle—Aluminum	5568K11	14.86
C	High-Thrust Air-Saver Nozzle—Brass	5568K21	8.04
D	Air-Shield Nozzle	5934K74	9.45
E	6″ Flexible Extension Nozzle	5519K63	14.35
E	12″ Flexible Extension Nozzle	5519K64	14.80
F	6″ Rigid Extension Nozzle	5933K61	9.68
F	8″ Rigid Extension Nozzle	5933K62	10.32
F	12″ Rigid Extension Nozzle	5933K63	12.02
F	16″ Rigid Extension Nozzle	5933K71	14.97
F	18″ Rigid Extension Nozzle	5933K64	16.45
F	24″ Rigid Extension Nozzle	5933K65	21.97
F	30″ Rigid Extension Nozzle	5933K72	28.41
F	36″ Rigid Extension Nozzle	5933K66	32.23
G	9″-32″ Telescoping Extension Nozzle	3417K12	23.68

Nozzles

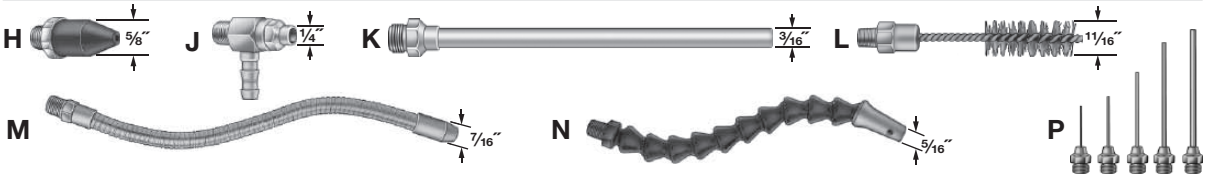

Meet OSHA directives for maximum outlet pressure when used on air lines with a pressure regulator set at 30 psi or less.

(H) Rubber Nozzle—Forms an airtight connection for blowing out molds and lines. Won't mar or scratch delicate surfaces.

(J) Siphon Nozzle—Converts your blowgun to a spray gun. Nozzle has a barbed hose fitting. Includes 7 ft. of 1/4″ ID clear PVC tubing.

(K) Rigid Extension Nozzles—Add length to your blowgun. Choose brass or steel. Brass nozzle has 1/8″ NPS threads.

(L) Round Brush Nozzles—Brush and blow away debris.

(M) Flexible Extension Nozzle—Snakes into hard-to-reach areas. Made of steel tubing with a brass fitting and nozzle.

(N) Flexible Modular Extension Nozzle—Made of flexible plastic with a modular design for easy adjustment.

(P) Five-Piece Needle Nozzle Set—Needles force air to a precise pinpoint. Needles are stainless steel, fittings are brass. Set includes needle sizes (Dia. ×Lg.): 0.134″ ×2 3/4″, 0.095″ ×2 15/32″, 0.072″ ×1 3/4″, 0.050″ ×1 3/16″, and 0.042″ ×15/16″.

H	Rubber Nozzle	5446K43	$3.67
J	Siphon Nozzle	5446K55	9.45
K	6″ Rigid Extension Nozzle—Brass	5450K22	4.32
K	6″ Rigid Extension Nozzle—Steel	5446K49	5.95
L	Round Brush Nozzle—Nylon	5662K32	14.44
L	Round Wire Brush Nozzle—Steel	5662K31	13.52
M	8″ Flexible Extension Nozzle	5446K53	31.82
N	7 1/2″ Flexible Modular Extension Nozzle	3390K22	22.95
P	Five-Piece Needle Nozzle Set	5446K45	19.98

Air Hose for Blowguns



Retracting Air Hose—Made from nylon, hose has a 1/4″ ID and comes with a brass 1/4″ NPT male fitting on each end.

	9 ft.		18 ft.	
Air Hose	5245K11	$18.89	5245K12	$23.62

Long-Life Heat Guns



Get long-lasting durability and a ceramic encapsulated heating element that produces constant heat without overheating. Guns with adjustable or programmable temperature settings have an electronic temperature sensor that protects against burn out. All guns have a 7/8" dia. nozzle and a plastic housing. Temperature is measured 1/8" from the nozzle tip. Operate on 120 volts AC and have a 6-ft. cord with two-prong plug (except 3433K82, which has a three-prong plug). UL listed.

Selectable Temperature—Guns have either two or three fixed temperature settings. Air volume adjusts based on the temperature setting selected.

Adjustable Temperature and Air Volume—3433K86 has a nine-position dial to adjust the temperature and 3433K87 has a digital control to adjust temperature in 10°F increments. Both models have a switch to adjust air volume.

Programmable Temperature and Adjustable Air Volume—Save up to four temperature and airflow settings. A lockable override prevents unintentional changes to your settings. Guns have a digital control to adjust temperature in 10°F increments. Air volume is adjustable in 0.1 cfm increments. **Static eliminating gun** prevents electrostatic discharge from damaging electronic components.

Guns and Replacement Heating Elements

Temperature Settings	Air Volume, cfm	Watts	Guns		Replacement Heating Element	
Selectable Temperature						
120°F, 750°F, 1100°F	3.6, 10, 15.9	1,400	**3433K75**	$148.87	**3433K13**	$70.92
575°F, 950°F	8.5, 14.8	1,300	**3433K74**	122.53	**3433K12**	62.43
Adjustable Temperature and Air Volume						
120° to 1100°F	3.6, 10.6, 17.6	1,500	**3433K86**	251.11	**3433K14**	96.08
120° to 1150°F	3.6, 10.6, 17.6	1,500	**3433K87**	267.47	**3433K14**	96.08
Programmable Temperature and Adjustable Air Volume						
120° to 1200°F	3.6 to 17.6	1,600	**3433K88**	304.51	**3433K15**	106.45
Static Eliminating with Programmable Temperature and Adjustable Air Volume						
120° to 1200°F	3.6 to 17.6	1,600	**3433K82**	317.93	**3433K19**	109.22

Nozzles and Accessories

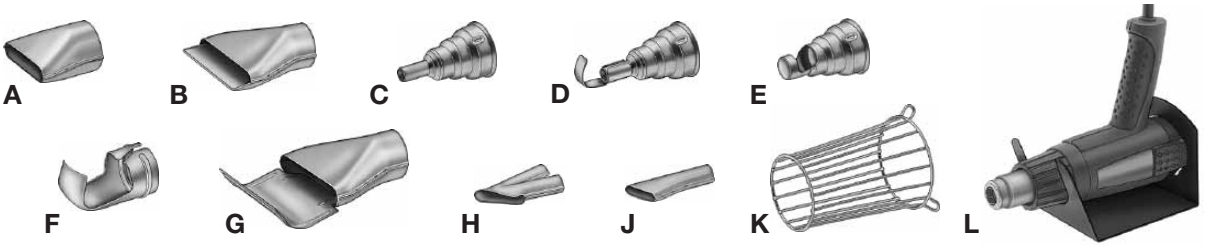

	Nozzle Size	Applications		
A	2" Wd.	Wide Surfaces, Drying/Stripping Paint, and Shaping Plastics	**3433K72**	$16.29
A	3" Wd.	Wide Surfaces, Drying/Stripping Paint, and Shaping Plastics	**3433K32**	16.29
B	3" Wd.	Window Glazing and Protecting Adjoining Areas from Overheating	**3433K34**	16.29
C	3/8" Dia.	Concentrated Airflow	**3433K29**★	16.29
C	5/8" Dia.	Concentrated Airflow	**3433K28**★	16.29
C	3/4" Dia.	Concentrated Airflow	**3433K31**★	16.78
D	3/8" Wd.	Heat-Shrinking Tubing	**3433K37**★	28.37
E	9/16" Wd.	Soldering Wire Connectors	**3433K35**★	19.33
F	1 1/2" Wd.	Bending PVC Pipe and Heat-Shrinking Tubing	**3433K33**	16.78
G	3" Wd.	Bending PVC Pipe and Heat-Shrinking Tubing	**3433K46**	22.94
H	3/16" Dia.	Welding Plastic Rods	**3433K41**■	21.53
J	3/4" Wd.	Welding Overlapping Plastic Sheets	**3433K43**■	16.29
K	_____	Safety Shield—Fits 3433K75, K86, K87, K88, and K82	**3433K65**	18.76
L	_____	Stand—Fits all	**3433K66**	41.90

★ Not for use with Selectable Temperature guns. ■ Must be used with nozzle 3433K29 (sold separately).

Light Airflow Heat Guns



A low air volume of 4 cfm means you can heat lightweight items without blowing them all over your workstation. Guns operate at a fixed temperature, but you can swap out the heating element for another one with a different temperature setting (sold separately). Heating elements are mica. Guns have a 1" dia. nozzle, a plastic housing, and a 6-ft. cord with three-prong plug. Temperature is measured 1" from the nozzle tip. Guns come with a shrink-tube nozzle for tubing up to 1" OD and a stand for hands-free use.

120 volt guns are UL and C-UL listed. *800°F gun* is grounded to eliminate electrostatic discharge and protect against EMI and RFI interference. **220 volt gun** has a NEMA 6-15 plug. For plug configurations, see page 820.

Guns

Temperature Settings	120 Volts AC Watts			220 Volts AC Watts		
650°F	475	**3414K11**	$105.55	450	**3414K21**	$113.94
800°F	525	**3414K31**	169.98	___	_____	_____

Optional Heating Elements

Temperature Settings	120 Volts AC Watts			220 Volts AC Watts		
500°F	340	**3414K14**	$31.77	___	_____	_____
650°F	475	**3414K12**	31.77	450	**3414K22**	$31.77
800°F	525	**3414K15**	31.77	500	**3414K25**	31.77

Nozzles and Accessories

M	1/4" Dia. Pinpoint Nozzle	**3414K13**	$21.66
N	Replacement Shrink-Tube Nozzle	**3414K53**	13.53
	Replacement Adjustable Bench Stand	**3414K63**	15.22


M


N

Heat Guns

General Purpose Heat Guns



Designed to be your go-to for basic heating jobs, these guns come with a nonslip rubber-backed stand for hands-free operation. They have a ceramic heating element, an aluminum housing, and a 6-ft. cord with three-prong plug. Guns have a 1¼″ dia. nozzle. Temperature is measured 1″ from the nozzle tip. Air volume is 23 cfm.

Fixed Temperature—Guns stay within your selected temperature range to prevent overheating materials.

Adjustable Temperature—Use the nine-position dial to adjust the temperature setting.

120 volt guns are UL and C-UL listed. *Gun kits* include a gun, shrink-tube nozzle, 2¼″ wide spreader nozzle, ⅞″ dia. reducer nozzle, and carrying case. **220 volt guns** have a NEMA 6-15 plug. For plug configurations, see page 820.

Guns and Replacement Heating Elements

Temperature Settings	Watts	120 Volts AC Guns		120 Volts AC Gun Kits		120 Volts AC Replacement Heating Element		220 Volts AC Guns		220 Volts AC Replacement Heating Element	
Fixed Temperature											
200°F, 300°F	600	3149K11	$138.23	3149K41	$180.26	3149K31	$25.81	3149K15	$146.64	3149K25	$25.81
300°F, 500°F	1,440	3149K12	138.23	3149K42	180.26	3149K32	25.81	3149K16	146.64	3149K26	25.81
500°F, 750°F	1,680	3149K13	138.23	3149K43	180.26	3149K23	25.81	3149K17	146.64	3149K27	25.81
750°F,1000°F	1,740	3149K84	138.23	3149K44	180.26	3149K24	25.81	3149K18	146.64	3149K28	25.81
Adjustable Temperature											
Up to 750°F	1,680	———	———	———	———	———	———	3260K61	204.55	3149K27	25.81
Up to 1000°F	1,740	3260K51	196.13	3260K46	238.17	3149K24	25.81	———	———	———	———

Nozzles and Accessories

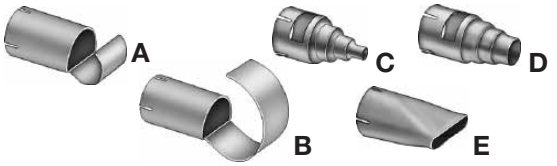

A	Shrink-Tube Nozzle (For up to ¾″ OD tubing)	3149K62	$14.82
B	Shrink-Tube Nozzle (For ¾″ to 2″ OD tubing)	3149K63	14.82
C	⅜″ Dia. Pinpoint Nozzle	3149K65 ♦	14.52
D	⅞″ Dia. Nozzle	3149K94	14.52
E	2¼″ Wd. Nozzle	3149K731	15.78
Carrying Case		3149K64	38.08

♦ Not for use with 3149K84 and 3149K18 guns.

Economy Heat Guns

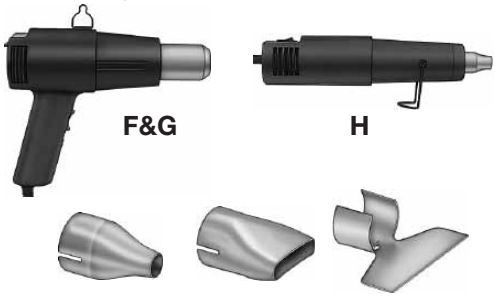

Nozzle Kit for Styles F and G Heat Guns

When intermittent use is all you need, get performance and value in one gun. Guns have a plastic housing, operate on 120 volts AC, and have a 6-ft. cord with three-prong plug (except Style H, which has a two-prong plug). Temperature is measured at the nozzle tip. UL and C-UL listed. Note: Heating elements are not replaceable.

(F) Selectable Temperature—Has two temperature settings.

(G) Adjustable Temperature—Has a digital control to adjust temperature in 100°F increments and a cool-down setting that automatically turns off the gun.

(H) Fixed Temperature—Has a tapered nozzle for concentrated airflow.

Nozzle kit for Styles F and G comes with a ⅝″ dia. pinpoint nozzle, 2″ wide surface nozzle, and 4″ extra-wide scraper nozzle.

	Temperature Settings	Air Volume, cfm	Watts	Nozzle, dia.		
F	750°F, 1000°F	21	1,200	1″	32605K44	$31.69
G	250° to 1350°F	30	1,500	1″	32605K55	57.05
H	650°F	9	360	½″	32605K33	25.45
Nozzle Kit for Styles F and G					32605K77	15.90

High-Temperature Heat Guns for Tight Spots


J


K


L

If you need industrial-strength heat in hard-to-reach places, these guns will do the trick. Use the rotary dial to adjust the temperature setting in 50°F increments for Style J; and 10°F increments for Styles K and L. Guns have a ceramic heating element and a plastic housing. Temperature is measured at the nozzle tip.

Style J—Has a removable 3⁄16″ dia. pinpoint nozzle (Style P) and a 10-ft. cord with two-prong plug.

Styles K and L—Have a much larger air volume than Style J. An LED shows temperature within 5°F. Style K has a 6-ft. cord with two-prong plug. Style L has a 6-ft. cord with continental European plug.

Guns and Replacement Heating Elements

	Temperature Settings	Air Volume, cfm	Watts	Nozzle, dia.	Guns		Replacement Heating Element	
120 Volts AC								
J	Up to 1200°F	7	1,600	5⁄16″	7880A41	$495.00	7880A42	$107.73
K	80° to 1100°F	21	1,750	19⁄16″	3174K51	898.12	3174K61	137.51
230 Volts AC								
L	80° to 1100°F	28	3,400	2″	3174K52	928.28	3174K62	140.37

Nozzles

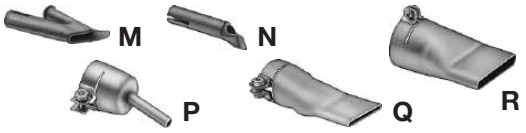

		Fits Styles		
M	3⁄16″ Dia. Welding Nozzle	J&K	7880A44 ♣	$80.45
N	Tacking Nozzle	J&K	7880A45 ♣	60.00
P	3⁄16″ Dia. Pinpoint Nozzle	J&K	7880A43	57.27
Q	19⁄16″ Wd. Angled Flathead Nozzle	K	3174K63	57.96
R	2½″ Wd. Nozzle	L	3174K64	73.39

♣ Must be used with Style P nozzle.

Replacement Heating Elements for Heat Guns

If you don't see the replacement heating element you need, just tell us what you're looking for and we'll get it for you.

For Gun Model Number	Watts		
For Master Appliance Heat Guns			
AH301 (with 3½" nozzle)	1,200	3308K411	$22.70
AH301 (with 6" nozzle)	1,200	3308K417	30.66
AH302 (with 3½" nozzle)	1,200	3308K412	22.70
AH302 (with 6" nozzle)	1,680	3308K418	30.66
AH501	1,680	3308K413	30.67
AH502	1,680	3308K414	30.67
AH751	2,160	3308K415	30.67
AH752	2,160	3308K416	38.48
HG201A	600	3149K31	25.81
HG202A	600	3149K25	25.81
HG301A	1,440	3149K32	25.81
HG302A	1,440	3149K26	25.81

For Gun Model Number	Watts		
For Master Appliance Heat Guns (Cont.)			
HG501A	1,680	3149K23	$25.81
HG502A, VT752C	1,680	3149K27	25.81
HG751, HG751A	1,740	3149K14	24.39
HG751B, VT750C	1,740	3149K24	25.81
HG752A	1,740	3149K28	25.81
For Steinel Heat Guns			
HG2310LCD	1,600	3433K15	106.45
HG2510ESD	1,600	3433K19	109.22
HL1610S	1,300	3433K12	62.43
HL1810S	1,400	3433K13	70.92
HL1910E, HL2010E	1,500	3433K14	96.08

Propane-Gas Heat-Shrink Guns

Commonly used for shrink wrapping polyethylene film, this gun has a flared nozzle that provides an even heat pattern up to 18" wide. A safety trigger minimizes fire hazards—the propane flame extinguishes upon release. Uses 8 lbs. of propane gas per hour and includes a 25-ft. hose, an adjustable regulator with pressure gauge, and adapters for connection between the gun and tank. Gun has a plastic housing and comes with a safety guard and plastic case. Temperature is measured 6" from the nozzle tip. UL listed. For empty propane tanks, see page 3439.



Temperature Settings	Heat Output		
Up to 1120°F	172,500 Btu/hr. @ 22psi	30975K11	$766.67

High-Volume Hot Air Blowers



Blast your heating, drying, and shrinking projects with 47 cfm of hot air to get any job done fast. A nonslip rubber-backed stand provides hands-free use and 90° rotation for versatile positioning.

Blowers have a steel housing, a mica heating element, a 6-ft. cord with three-prong plug, and a 1⅞" dia. nozzle. Temperature is measured 1" from the nozzle tip. Blowers are 12" Lg.×6" Wd.×9" Ht. UL and C-UL listed.

120 volt blowers have a NEMA 5-15 plug (except 2,160-watt blower, which has a NEMA 5-20 plug); **230 volt blowers** have a NEMA 6-15 plug. For plug configurations, see page 820.

Also Available: Replacement parts. Please ask for 3308K25 and specify part.

Temperature Settings	Watts	Blowers		Replacement Heating Element	
120 Volts AC					
300°F	1,200	3308K37	$246.68	3308K417	$30.66
500°F	1,680	3308K33	246.68	3308K413	30.67
750°F	2,160	3308K35	246.68	3308K415	30.67
230 Volts AC					
300°F	1,200	3308K38	254.93	3308K418	30.66
500°F	1,680	3308K34	254.93	3308K414	30.67
750°F	2,160	3308K36	254.93	3308K416	38.48

High-Volume Gentle-Heat Blowers



Combine high volume airflow with low temperature output for warming and low-heat drying. Head pivots 180° so you can zero-in on an exact spot.

Blower has a coil-wound mica heating element and a steel and aluminum housing. Operates on 120 volts AC and has an 8-ft. cord with three-prong plug. Temperature is measured at the nozzle tip. Blower is 13" Lg.×9" Wd.×18" Ht. and has a 3" dia. nozzle.

Temperature Settings	Air Volume, cfm	Watts		
105°F, 140°F	205	1,800	3092K97	$478.63

High-Temperature Hot Air Blowers



For production drying, heat shrinking, and other applications that require heat over 1000°F, get a heavy duty blower. These blowers have an air volume regulator to adjust heat output. The ceramic heating element has a separate power switch so you can turn off the heat to blow cool air.

Blowers have a plastic housing. Operate on 230 volts AC and have a 10-ft. two-wire cord (plug is not included). For plugs, see page 820. Temperature is measured 3/16" from the nozzle tip. 3,700-watt blower is 13" Lg.×4" Wd.×7" Ht; 3,100-watt blower is 14" Lg.×4" Wd.×7" Ht. Both blowers have a 2 7/16" dia. nozzle.

Temperature Settings	Air Volume, cfm	Watts		
Up to 1165°F	7.1-31.8	3,700	3396K2	$1,269.26
Up to 1345°F	7.1-31.8	3,100	3396K4	1,367.21

High-Force Heatless Air Blowers/ Vacuums



Clear dust and debris, test air ducts for leaks, and dry surfaces; or attach the optional suction cleaning kit to use as a handheld vacuum.

Blowers are built to last with a cast aluminum housing and enamel finish. They have a 21-ft. cord with three-prong plug and a detachable ¾" dia. nozzle. 115 volts AC blowers that are 15½" and 18" long are UL listed.

Suction cleaning kit converts blowers into handheld vacuum cleaners. It includes a dust bag, 4-ft. hose with swivel, 5¼" nozzle with slide-on brush, 11" crevice nozzle, and carrying strap.

Speeds	Air Volume, cfm	Overall Lg.		
115 Volts AC				
One	109	15½"	3144K15	$804.10
One	155	16½"	3144K25	977.70
Two	150, 196	18"	3144K35	1,008.61
230 Volts AC				
Two	150, 196	18"	3144K36	1,036.48
Suction Cleaning Kit (Fits All Blowers)			3144K75	193.64

Infrared Heaters & Heat Lamps

About Infrared Heating

Also known as radiant heating, infrared heating is used to dry and cure; remove moisture; and deliver localized heat. Since radiant heat is absorbed by an object—and not by the air around the object—infrared heaters are good for use in locations where it is difficult to control the ambient temperature.

Consider the following factors that affect infrared heating:

1. The operating temperature, which refers to the surface temperature of the heating element, not the heat output. Output varies with the distance the heater is from the object being heated.
2. The size of the object being heated and its ability to conduct, transmit, and absorb infrared heat.
3. The size of the heater and the presence of reflectors. Reflectors channel radiant energy to get a more concentrated and efficient heat output.
4. If heating items on a moving line, consider your material and exposure time.

Long-Distance Infrared Heaters

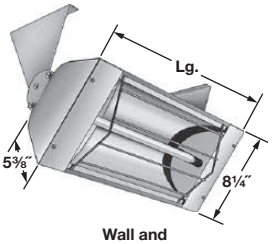

Wall and Ceiling Mount



Create radiant heat to warm, cure, and dry from as far away as 8 feet. Heaters have a quartz-tube heating element, an aluminum reflector, and a steel housing. UL listed.

Wall and Ceiling Mount—Designed for horizontal mounting indoors and out. Use the included brackets to permanently mount heaters. Brackets also allow you to tilt heaters up to 60°. Heaters are insulated and must be hardwired. They have a wiring box that accepts ½″ conduit. Can be used for continuous operation.

Portable—Heaters attach to a 6-ft. tall wheeled stand on a 26½″×30″ base and are designed for indoor use. They have a 6-ft. cord with three-prong plug. *1,500-watt heaters* are for intermittent use and have a maximum continuous operation time of 35 minutes. *2,000-watt heaters* are for intermittent use and have a 60-minute timer with automatic shut-off. The heads rotate for use in horizontal and vertical positions.

To Order: For replacement heating elements, please specify 120, 240, or 480 volts AC/DC where available.

Watts	Operating Temp., °F	Overall Size Lg.	Wd.	Dp.	Heaters 120 Volts AC/DC		240 Volts AC/DC		480 Volts AC/DC		Replacement Heating Element	
Wall and Ceiling Mount												
750	1400°	19″	8¼″	5⅜″	1737K12	$200.41	1737K41	$200.41			1737K73	$53.09
1,000	1400°	33″	8¼″	5⅜″	1737K13	305.30	1737K42	305.30			1737K74	73.48
1,500	1400°	33″	8¼″	5⅜″	1737K16	305.30	1737K43	305.30			1737K75	73.48
2,000	1400°	39″	8¼″	5⅜″			1737K44	328.37	1737K84	$328.37	1737K76	95.03
3,000	1400°	61¼″	8¼″	5⅜″			1737K45	384.43	1737K85	384.43	1737K77	128.52
Portable												
1,500	1125° to 1325°	36″	3½″	3½″	1825K411	257.07	1825K412	257.07			1825K44	73.48
2,000	1125° to 1325°	36″	3½″	3½″	1825K19	514.22	1825K31	514.22			1825K48	81.59

Close-Up Infrared Heaters

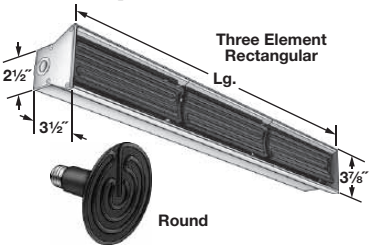

Position these heaters 6″-8″ from what you want to dry, cure, or warm. A nickel-chromium resistance wire is embedded in the ceramic body to heat with greater efficiency than our other infrared heaters. Can be used for continuous operation. Operate on 220/230 volts AC (unless noted) and have a wattage tolerance of ±5%. Components are UL recognized. Note: Do not use in hazardous locations such as enclosed areas exposed to fumes.

Rectangular—Heating elements are 9⅝″ Lg.×2⅜″ Ht.×1 7/16″ Dp. and have a slightly concave profile. Heaters come with mounting screws, reflector, and ceramic terminal blocks. Has leads for hardwiring.

Round—Heating elements are 4¾″ Dia.×4⅞″ Dp. and have a flat profile. Heaters have a light-bulb style, screw-in receptacle.

Number of Elements	Watts Per Element	Watts Total	Operating Temp., °F	Overall Size Lg.	Wd.	Dp.	Heaters		Replacement Heating Element	
Rectangular										
1	250	250	756°	10″	3⅞″	3½″	3110K81	$138.45	3110K21	$25.00
1	400	400	942°	10″	3⅞″	3½″	3110K82	138.45	3110K22	25.00
1	650	650	1156°	10″	3⅞″	3½″	3110K84	138.45	3110K23	25.00
1	1,000	1,000	1420°	10″	3⅞″	3½″	3110K85	138.45	3110K24	25.00
2	650	1,300	1156°	20″	3⅞″	3½″	3110K86	224.91	3110K23	25.00
2	1,000	2,000	1420°	20″	3⅞″	3½″	3110K87	224.91	3110K24	25.00
3	650	1,950	1156°	30″	3⅞″	3½″	3110K88	293.91	3110K23	25.00
3	1,000	3,000	1420°	30″	3⅞″	3½″	3110K89	293.91	3110K24	25.00
4	1,000	4,000	1420°	40″	3⅞″	3½″	3110K91	362.91	3110K24	25.00
5	1,000	5,000	1420°	50″	3⅞″	3½″	3110K92	431.73	3110K24	25.00
Round										
1	500	500	900°	4¾″ Dia.		4⅞″	3110K93★	27.22		
1	500	500	900°	4¾″ Dia.		4⅞″	3110K94	27.22		

★ Operates on 120 volts AC.

Hand-Held Drying and Curing Heat Lamps



This handy lamp heats, dries, softens, and defrosts while illuminating your work surface. Temperature ranges from 182° F (12″ from the work surface) to 363° F (5″ from the work surface). This lamp is for intermittent use and has a maximum continuous operation time of 30 minutes. Operates on 110 volts AC and has a 9½-ft. cord with two-prong plug. It has a plastic housing with aluminum reflector and insulated swivel handle. Comes with a 600-watt quartz bulb rated for 75 hours of use and a pair of protective glasses.

Optional stand is 6 ft. tall and folds down to 39″.

Heat Lamp	3343K11	$123.98
Optional Aluminum Stand	3343K14	52.73
Replacement Quartz Bulb (600 watts, 75 hours)	1535K96	28.54

Easy-Positioning Drying and Curing Infrared Heaters

Adjust the 42″ extension arm to direct heat where you need it for drying paint and other surface coatings and fillers. Heater clamps to the edge of a bench or table with a maximum thickness of 2″. To surface mount, choose the *optional surface-mount base.*

Operates on 120 volts AC. Includes a 250-watt, 2,000-hour infrared bulb; bulb guard; vented shade; on/off switch; and 7-ft. power cord with three-prong plug.

Heater is intended for intermittent use and has a maximum continuous operation time of 20 minutes. Not rated for temperature.



Surface-Mount Base

Lamp with Screw-Clamp Bracket	3349K51	$236.36
Optional Surface-Mount Base	3349K91	32.00
Replacement R40 Infrared Bulb (250 watts)	1547K15	14.55

Mobile Drying and Curing Infrared Heaters

Heater rolls on casters for spot-drying paint, adhesives, and other surface coatings and fillers. Regulate heat with three switch controls and up to seven infrared bulbs (sold separately). Position the 18″ dia. head anywhere along the 6-ft. high steel stand. Base is 26½″ x 30″.

Operates on 120 volts AC/DC, 1,750 watts, and includes a 6-ft. power cord with three-prong plug. UL listed.

Heater is intended for intermittent use and has a maximum continuous operation time of 15 minutes. Not for use with water-based primers and paint; not rated for temperature.



Heat Lamp (without Bulbs)	3162K5	$257.07
R40 Infrared Bulb (250 watts)	1547K15	14.55
Replacement Stand	3162K81	121.44

Ovens

Also known as gravity convection and laboratory ovens, these ovens are a good option when uniform temperatures aren't critical. Heat flows up into the oven chamber and out through the top vents for quick heating and recovery times.

Made of steel, they have a painted finish, mineral wool insulation, and Incoloy-sheathed heating elements. Include a thermostat, on/off indicator light, and power cord with three-prong plug. Ovens have two 35-lb. capacity wire shelves. Control components are UL and CSA recognized.

Also Available: Replacement shelves, thermostats, and thermometers. Please ask for 3258K18 and specify the McMaster-Carr part number of your oven and the replacement part.



Working Space, cu. ft.	Max. Temp., °F	Inside Size Ht.	Inside Size Wd.	Inside Size Dp.	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	115 Volts AC Watts			230 Volts AC Watts		
0.7	437°	10″	12″	10″	17″	14″	12″	600	3258K21	$523.85	600	3258K24	$545.24
1.3	437°	13″	13″	13″	21″	15″	15″	750	3258K22	614.73	800	3258K25	636.11
2.0	437°	16″	18″	12″	25″	20″	14″	1,200	3258K23	759.05	1,200	3258K26	780.44
3.0	437°	21″	18″	14″	30″	20″	16″	1,500	3258K31	861.72	1,600	3258K32	882.00

Forced-Air Ovens

Also known as mechanical convection ovens, these ovens have a blower to circulate air quickly and evenly, providing more uniform and accurate temperatures and faster processing than other ovens. The exhaust is located on the top of the oven.

Ovens are made of stainless steel and have Incoloy-sheathed heating elements. They have double doors with rubber gaskets, an adjustable thermostat, on/off indicator light, and two adjustable, 20-lb. capacity wire shelves.

115-volt units have a 4½-ft. power cord with three-prong plug. *230-volt* units must be hardwired.

Also Available: Replacement shelves and floor stands. Please ask for 3302K33 and specify the McMaster-Carr part number of your oven and the replacement part.



Working Space, cu. ft.	Timer	Max. Temp., °F	Inside Size Ht.	Inside Size Wd.	Inside Size Dp.	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	115 Volts AC Watts			230 Volts AC Watts		
5.3	None	550°	16″	26″	22″	23″	41″	30″	2,400	3302K41	$3,908.14	3,000	3302K42	$4,155.86
7.0	None	350°	18″	28″	24″	23″	41″	30″	2,000	3301K81	2,212.47	2,000	3301K86	2,461.27
7.0	12 Hr.	350°	18″	28″	24″	23″	41″	30″	2,000	3301K83	2,530.68	2,000	3301K84	2,779.47
36.0	None	400°	36″	36″	48″	47″	40″	55″	—	—	—	6,600	3193K23	8,349.61

Surface-Hardening Compounds for Steel

Create a wear-resistant surface on steel with these heat-treating compounds. They come in a powder form, unless noted.

Pack-In Compound— Harden your carbon steel parts in batches. To use, place parts in a vented steel container, pack compound around parts, seal container tightly, and heat to 1750° F. *100-lb. drum* comes in grain form.

Heat-and-Quench Compound— For use on plain carbon and low-alloy steel parts being heat-treated at 1650° to 1700° F. To use, sprinkle the compound over the heated part, heat again, and quench in water or oil.

Size		
Pack-In Compound		
3-lb. Pail	3399K12	$73.54
10-lb. Pail	3399K14	168.73
100-lb. Drum	3201K4	195.56
Heat-and-Quench Compound		
1-lb. Jar	3204K5	30.14
5-lb. Pail	3204K6	92.58
10-lb. Pail	3204K7	159.76

Stainless Steel Foil Bags

Foil bags offer durability at high temperatures, while providing the best possible heat treating of parts and tools in damp and corrosive environments. Made of 0.002″ thick nonmagnetic Type 309 stainless steel. Max. temperature is 2100°F for up to 30 minutes.



Wd.	Lg.		
2½″	5″	3438K11	$3.40
4″	6″	3438K12	5.14
6″	8″	3438K13	7.11
6″	12″	3438K27	10.68
8″	10″	3438K14	10.22
8″	14″	3438K29	12.83
10″	12″	3438K36	12.83
10″	16″	3438K41	16.26
12″	14″	3438K43	16.26
12″	18″	3438K45	19.67
14″	16″	3438K47	20.90
14″	20″	3438K49	25.42
18″	24″	3438K51	37.56

Surface Cleaning and Restoring Gels for Stainless Steel

Also known as pickling gel, they remove weld scale, discoloration, black oxides, and other impurities from stainless steel while restoring the corrosion-resistant chromium layer.

1-Quart Jar	8554T11	$95.45
1-Gallon Jug	8554T21	183.25

Furnaces & Melting Pots

High-Temperature Furnaces


Dial Control

The ceramic insulation in these furnaces withstands temperatures up to 2012° F. Made of steel and include a 6-ft. power cord with three-prong plug.

Dial Control—A thermometer displays temperature in ° F and ° C, even with the power off. Heating plates are ceramic. They have a safety door that opens vertically to protect the operator.

Digital Control—The LED shows actual or set-point temperature in °C. An indicator light flashes when set temperature is reached and a safety switch shuts power to heating elements if the door is opened. They have a drop-down door that doubles as a shelf for loading. Rated for continuous temperatures up to 1800° F and for intermittent use (under three hours) up to 2012° F.

Digital Programmable-Control—Build programs in three stages to manage time, temperature, and rate of temperature change. You can link two three-stage programs for a six-stage operation. A maximum of 10 programs can be stored with up to a seven-day delay. An LCD shows internal temperature, countdown time, and program number. Furnace has six programmable parameters: 1) delay start, 2) heat/cool rate, 3) target temperature, 4) temperature timer, 5) memory retrieval, and 6) °C/°F digital display. They have a safety door that opens vertically to protect the operator.

Large-Capacity Digital Programmable-Control—Uses the same controls as Digital Programmable-Control, but has more than three times the working space (1,750 cu. in.). Includes a stainless steel shelf and a safety door that opens vertically to protect the operator.


Digital Control

Also Available: Replacement shelves, thermocouples, and thermometers. Please ask for 31605K25 and specify the McMaster-Carr part number of your furnace and the replacement part.

Working Space, cu. in.	Temp. Range, °F	*Inside Size* Ht.	Wd.	Dp.	*Overall Size* Ht.	Wd.	Dp.	Watts	Volts, AC		
Dial Control											
550	392° to 2012°	7″	9″	9″	16″	16″	17″	1,920	120	**31605K55**	$1,389.10
550	392° to 2012°	7″	9″	9″	16″	16″	17″	2,400	240	**31605K77**	1,443.70
Digital Control											
76	212° to 2012°	3¾″	4″	5″	14″	9″	13″	1,060	120	**3235K23**	1,349.69
128	212° to 2012°	4¼″	5″	6″	15″	10″	16″	1,450	120	**3235K12**	1,702.93
Digital Programmable-Control											
550	122° to 2012°	7″	9″	9″	16″	16″	17″	1,920	120	**3123K51**	2,584.79
550	122° to 2012°	7″	9″	9″	16″	16″	17″	2,400	240	**3123K52**	2,646.14
Large-Capacity Digital Programmable-Control											
1,750	122° to 2012°	10″	14″	12½″	22″	24″	21″	4,600	240	**3122K75**	4,383.03

Heavy Duty Melting Pots


Low Heat

Heating elements wrap around the interior of these pots to ensure fast and even heat transfer. Pots are made of stainless steel and include an adjustable thermostat and on/off indicator light. They operate on 120 volts AC and have a 6-ft. power cord with three-prong plug, unless noted. Pots are intended for continuous use but contents must be stirred periodically to prevent damage.

Low Heat—Melt strippable hot-melt coatings, adhesives, waxes, resins, tar, and asphalt. Bowl is aluminum with insulation; cover is aluminum. Do not use with cerro alloys, acids, or other materials caustic to aluminum.

High Heat—Melt solder, tin, babbitt, and lead. Bowl is iron with insulation. Cover not included.

Pot Cap., qt.	Temp. Range, °F	*Inside Size* Dia.	Lg.	Wd.	Dp.	Watts		
Low Heat								
Round								
0.5	150° to 550°	4″	—	—	3½″	240	**3233K74**	$321.67
1	150° to 550°	4¾″	—	—	3¾″	480	**3233K81**	347.37
2	60° to 450°	6″	—	—	6½″	720	**3233K82**	418.88
4	60° to 450°	7½″	—	—	7″	840	**3233K83**	480.70
12	60° to 450°	10″	—	—	9″	1,320	**3233K25**	956.14
Rectangular								
1	150° to 550°	—	8″	4″	2″	360	**3341K51**	710.73
6	60° to 450°	—	12″	6″	5″	1,080	**3341K4**	881.23

Pot Cap., qt.	Temp. Range, °F	*Inside Size* Dia.	Lg.	Wd.	Dp.	Watts		
High Heat								
Round								
0.1	150° to 900°	2¼″	—	—	1½″	360	**3245K41**	$370.91
0.9	150° to 900°	4¼″	—	—	3½″	850	**3245K43**	572.73
3.7	150° to 900°	6½″	—	—	6½″	1,200	**3245K14**	801.67
8	150° to 900°	9¾″	—	—	6″	1,800	**3245K16**	1,283.33
12	150° to 900°	10″	—	—	9″	3,800	**3245K18**■	2,201.67
Rectangular								
1	150° to 900°	—	8″	4″	2″	1,200	**3411K56**	776.00
1.25	150° to 900°	—	6″	6″	2″	1,200	**3411K42**	776.00

■ Operates on 220 volts AC and has a 6-ft. 3-wire power cord. Plug is not included. (See page 820 for NEMA plugs.)

Melting Pots for Lead and Solder


A&B


C


D

(A-C) Standard—Use for tinning, stripping, and dip soldering. Pots are made of iron and include a 6-ft. power cord with three-prong plug. Not for use with flux core solder.

Style A are set to a fixed temperature of 750° F; *Styles B* and *C* have an adjustable thermostat control.

(D) With Pour Spout—Has a pour spout to drain melted material plus 4″ of clearance to place molds. Melting time for lead is less than 20 minutes. Housing is aluminum and interior is steel.

110 volts AC pot includes a 6-ft. power cord with two-prong plug; *220 volts AC* pot includes a 6-ft. 3-wire power cord. Plug not included. (See page 820 for NEMA plugs.)

Also Available: Replacement power cords and thermostats. Please ask for 3366K5 and specify the McMaster-Carr part number of your melting pot.

	Pot Cap., oz.	Temp. Range, °F	*Inside Size* Dia.	Dp.	Watts	Volts, AC	**Melting Pots**		**Repl. Heating Elements**	
A	1	750°	1½″	1½″	200	120	**3366K21**	$181.22	**3366K31**	$64.12
A	2.7	750°	2½″	1¾″	250	120	**3366K23**	199.43	**3366K33**	64.12
B	1	380° to 650°	1½″	1½″	250	120	**3366K1**	324.66	**3366K71**	64.12
B	2.7	380° to 625°	2½″	1¾″	250	120	**3366K2**	328.63	**3366K71**	64.12
B	5.3	380° to 650°	3½″	1¾″	650	120	**3366K3**	403.83	**3366K73**	94.85
C	4	380° to 900°	3″	4¼″	1,000	120	**3366K4**	504.80	**3366K74**	111.90
D	14	400° to 900°	2⅞″	4″	500	110	**3429K41**	95.98		
D	14	400° to 900°	2⅞″	4″	500	220	**3429K42**	103.18		

Easy-Pour Cast Iron Melting Pots

Melt lead, solder, and babbitt in these cast iron pots. They have a steel handle and a maximum temperature of 1800° F.

Pots with pouring lip have a lifting eye that provides support while tilting the pot.


With Pouring Lip

Pot Cap., qt.	Load Cap., lbs.	Inside Size Dia.	Inside Size Dp.		
Pots without Pouring Lip					
1	10	4 3/4"	2 1/4"	3355K32	$52.64
1.35	20	5 3/4"	3 1/2"	3355K33	79.04
2	35	7 1/4"	4"	3355K35	99.74
5	110	9 3/4"	5 3/4"	3355K37	165.00
Pots with Pouring Lip					
5	110	10 3/4"	5 3/4"	3355K43	180.96
8	175	12 1/4"	7 1/2"	3355K38	261.80
18	300	14 3/4"	9 1/2"	3355K41	620.00

High-Temperature Melting Pots

Pots are made of clay-bonded graphite to withstand temperatures up to 2500° F. Use to melt brass, aluminum, copper, and precious metals. They are glazed to resist wear, cracking, and oxidation, and have a molded-in pouring lip. Note: Capacities listed are based on red metals.



Cap., lbs.	Overall Size Dia.	Overall Size Ht.	Crucible No.		
1	2 5/8"	3 1/16"	0000	3226K51	$26.00
7	4 3/4"	5 1/4"	3	3226K54	41.00
14	5 9/16"	6 3/4"	6	3226K56	54.00
32	6 5/8"	8 1/8"	10	3226K11	82.00
47	7 3/8"	9 5/16"	16	3226K12	102.00
95	9 3/8"	11 1/2"	30	3226K14	152.00

General Purpose Hot Plates

Designed to be used with metal containers, these hot plates have individually controlled, coiled burners. Housing is stainless steel. Operate on 120 volts AC and include a 4-ft. power cord with three-prong plug. UL listed.



No. of Burners	Burner Dia.	Load Cap., lbs.	Temp. Range, ° F	Approx. Heat-Up Time	Watts	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.		
1	5 1/2"	8	0° to 900°	3 min.	1,100	3 1/2"	12"	12"	3118K52	$108.33
2	5 1/2"	12	0° to 900°	3 min.	1,650	3 1/2"	17 3/4"	12"	3118K54	158.33

Uniform-Heat Hot Plates

Made of aluminum to provide the most uniform temperatures, these hot plates also resist warping and buckling at low temperatures. Housing is stainless steel. Include an internal thermostat, on/off indicator light, and 6-ft. power cord with three-prong plug, unless otherwise stated. Use with glass containers. Sand baths are not recommended and metal foil and metal containers should not be used.

(A) Compact—Housing is perforated to prevent overheating. Does not have an on/off indicator light.

(B) General Purpose—*120-volt* unit is UL listed.

(C) Large Capacity—Have a larger surface area and twice the load capacity of our general purpose plates. UL and C-UL listed. 3273K3 and 3273K4 must be hardwired.

(D) Heavy Load—Has stainless steel supports along the bottom and a large surface area for heating, soldering, and glass making. ETL Testing Laboratories listed for conformance to ANSI/UL-499.


A


B

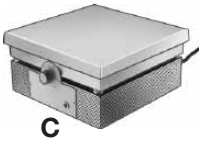
C

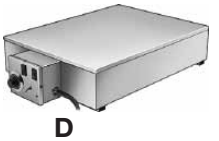
D

	Top Plate Wd.	Top Plate Dp.	Load Cap., lbs.	Temp. Range, ° F	Approx. Heat-Up Time	Ht.	Watts	120 Volts AC		240 Volts AC	
A	3 1/2" Dia.	—	Not Rated	Up to 700°	4.5 min.	3 3/4"	325	33255K31	$264.70	33255K62	$269.06
B	6 1/4"	6 1/4"	20	100° to 700°	15 min.	4 3/8"	750	3271K14	346.40	3271K64	376.73
C	12"	12"	40	100° to 700°	15 min.	6 1/8"	1,600	3273K1	1,024.58	3273K2	1,018.21
C	24"	12"	40	100° to 700°	15 min.	6 1/4"	3,200	3273K3	1,367.55	3273K4	1,367.55
D	18"	24"	300	100° to 550°	24 min.	5 5/16"	1,500	3273K51	1,410.97	3273K52▲	1,488.40

▲2,500 watts.

Precise-Temperature Hot Plates and Stirring Hot Plates

Fine-tune temperature in 1° F increments with the digital display. The top is ceramic so it cleans easily and resists acids and alkalies. Housing is heat-resistant polymer. A hot surface warning light protects against accidental burns and a ring stand holder accommodates a 1/2" dia. support rod (not included).

Operate on 120 volts AC and include a 7 1/2-ft. power cord with three-prong plug. CSA certified. Use with glass containers. Sand baths are not recommended.

Stirring hot plates have a magnet embedded in the top plate for stirring viscous solutions and separate controls for heating and stirring. Stirring speed is 60-1,600 rpm.



Top Plate Wd.	Top Plate Dp.	Load Cap., lbs.	Temp. Range, ° F	Approx. Heat-Up Time	Overall Size Ht.	Overall Size Wd.	Overall Size Dp.	Hot Plates Watts			Stirring Hot Plates Watts		
4"	4"	20	41° to 932°	8 min.	4 1/4"	6 5/8"	10 3/4"	350	31745K11	$299.12	400	31745K73	$421.93
7"	7"	40	41° to 932°	7 min.	4 1/4"	9 7/8"	14 3/4"	950	31745K12	341.58	1,000	31745K74	473.77
10"	10"	50	41° to 932°	14 min.	4 1/4"	13"	17 7/8"	1,300	31745K15	479.56	1,345	31745K75	581.84

Magnetic Stirring Bars

Made with a PTFE-encapsulated magnet, these stirring bars are noncontaminating, corrosion- and chemical resistant, and FDA compliant for food contact.

Octagonal stirring bars have a large surface area for greater turbulence so they spin well in small, flat containers.

Round stirring bars are self-centering and smooth-running to stir contents at the bottom of larger containers.

Stirring bar retriever is PTFE coated with a magnet at one end to fish stirring bars out of containers. Length is 13".

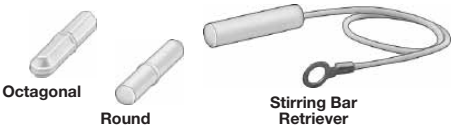
Octagonal

Round

Stirring Bar Retriever

Length inch	Length mm	OD inch	OD mm	Octagonal Stirring Bars		Round Stirring Bars	
1/2	12.7	5/16	8.0	5678K111	$3.96	5678K123	$4.60
5/8	15.9	5/16	8.0	5678K112	4.41	5678K124♠	4.84
1	25.4	5/16	8.0	5678K143	5.42	5678K154	5.08
1	25.4	3/8	9.5	5678K113	4.90	5678K125	5.46
1 1/2	38.1	5/16	8.0	5678K144	5.95	5678K155	5.86
1 1/2	38.1	3/8	9.5	5678K114	5.74	5678K126	6.92
2	50.8	5/16	8.0	5678K145	$8.17	5678K156	$8.48
2	50.8	3/8	9.5	5678K115	8.61	5678K127	8.38
2 1/2	63.5	3/8	9.5	5678K116	13.39	5678K128♦	18.72
3	76.2	1/2	12.7	5678K117	22.56	5678K129	20.35
Stirring Bar Retriever						5725K85	29.73

♠ Length is 3/4" (19.1 mm). ♦ OD is 5/8" (15.9 mm).

Gas Mixers and Valves

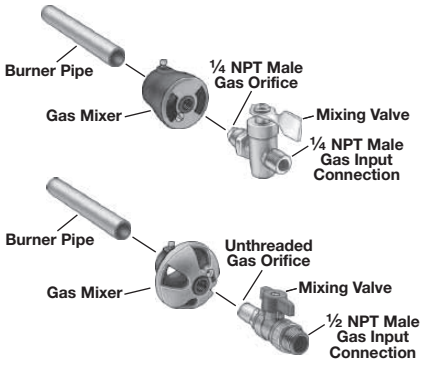

Pair mixers and valves to supply the right amount of natural or LP gas to burners. To choose your mixer and valve, determine the size of your burner pipe and gas input connection. For information about measuring pipe, see pages 2-3.

Gas mixers are made of iron and have adjustable air openings. They slip over the burner pipe's end and attach with the included set screw.

Mixing valves are made of brass. One end connects to the mixer; the other threads into your gas line.

Fits Pipe Size	For ¼ NPT Male Gas Input Connection				For ½ NPT Male Gas Input Connection			
	Gas Mixers		Mixing Valves		Gas Mixers		Mixing Valves	
½	3322K16	$84.26	3322K22	$73.91				
¾	3322K17	86.47	3322K22	73.91				
1	3322K18	90.89	3322K22	73.91	3320K1	$97.56	3320K9	$120.53
1¼	3322K19	88.70	3322K22	73.91	3320K2	102.00	3320K9	120.53
1½					3320K3	108.65	3320K9	120.53

Portable LP Gas Burners


With One Burner


POL End Fitting


QCC End Fitting

These powerful, low-pressure burners are made of ⅜″ thick cast iron. Designed for outdoor use, they include ⅜″ male flare fittings and push-turn control knobs.

Optional 5-ft. hose has a low-pressure LP gas regulator with a ⅜″ female flare fitting on one end, and a POL (CGA510) or QCC end fitting on the other end.

No. of Burners	Gas Input, Btu/hr.	Burner Dia.	Overall Size Ht.	Wd.	Dp.		
1	35,000	7″	8″	13″	15″	3310K42	$81.30
2	70,000	7″	7½″	27″	13″	3310K44	145.22
Optional 5-ft. Hose with POL End Fitting						3310K32	31.47
Optional 5-ft. Hose with QCC End Fitting						3310K33	32.25

High-Velocity Natural Gas Burners



Accelerate gas flow and improve gas-air mixing. Also known as venturi nozzles and buzzer burners, they burn natural gas at atmospheric pressure with minimal secondary air. Burners are designed to resist flashback. Use for drying, air heating, annealing, and melting soft metal, as well as in heat-treating furnaces and ovens. You can also use them as a torch for singeing and heating. Made of cast iron. Gas connection is NPT female.

Gas Input, Btu/hr.	Gas Conn., NPT	Nozzle Dia.	Overall Lg.		
25,000	¼	15⁄8″	15″	32565K731	$383.71
100,000	½	35⁄16″	26½″	32565K761	605.93

Pouring Ladles


Steel with Flat Handle


Stainless Steel

Steel ladles have pour spouts.
Stainless steel ladles have a cone-shaped bowl.

Capacity, fl. oz.	Bowl Size ID	Dp.	Handle Lg.		
Steel with Flat Handle					
2	3″	1¼″	11″	3359K2	$9.68
6	4″	15⁄8″	12″	3359K4	12.96
13	5″	2¼″	18″	3359K5	18.46
19	6″	2½″	21″	3359K6	24.95
Steel with D-Grip Handle					
32	7″	3¼″	30″	3358K2	53.53
51	8″	3¾″	32″	3358K9	57.40
Stainless Steel with Flat Steel Handle					
2	2¾″	1″	24″	3361K1	22.34
10	4⅜″	2″	24″	3361K4	30.43
45	6¾″	5″	24″	3361K16	49.24

Gas Burners


3-Ring Burner


Drilled-Pipe Burner

Burners distribute heat evenly to eliminate hot spots.

Ring burners have gas ports, a venturi mixer, and a brass valve on each ring. Made of cast iron. Gas connection is NPT male.

Rectangular burners have a venturi mixer and brass valve. Made of cast iron. Gas connection is NPT female.

Drilled pipe burners have gas ports that are drilled at 45° angles, a gas mixer, and a brass valve. Made of iron pipe. Gas connection is NPT male. **To Order:** Please specify natural or LP gas orifice.

Gas Input, Btu/hr.	Gas Conn., NPT	Burner Size	Overall Size Lg.	Ht.	Tube Lg.		
1-Ring Burner							
15,000	¼	4½″ Dia.	15½″	5¼″	—	3314K11	$353.39
2-Ring Burner							
53,000	1	8″ Dia.	15½″	5¼″	—	3314K12	634.05
3-Ring Burner							
107,000	1	12″ Dia.	15½″	5¼″	—	3314K13	987.77
Rectangular Burners							
30,000	¼	8¼″×2⅛″	14″	4½″	—	3318K14	421.08
90,000	½	16″×4¾″	20½″	7″	—	3318K16	707.93
Drilled-Pipe Burners							
9,500	¼	½″ Dia.	18″	17⁄8″	12″	3316K2	244.07
24,000	½	1″ Dia.	29½″	2⅜″	18″	3316K4	313.11
42,000	½	1¼″ Dia.	49″	2¾″	36″	3316K6	370.89
66,000	½	1½″ Dia.	74½″	3⅜″	60″	3316K8	530.41

Skimmers

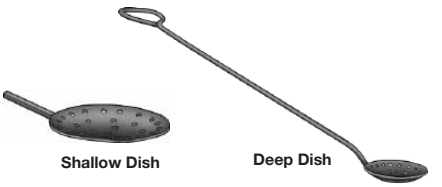
Shallow Dish

Deep Dish

Shallow dish skimmers have 5⁄16″ dia. holes and a stub handle. Handle fits inside ⅜″ pipe or you can weld it to create a longer handle.

Deep dish skimmers have ¼″ dia. holes and a steel handle.

Bowl Size Dia.	Dp.	Handle Lg.	Carbon Steel		Stainless Steel	
Shallow Dish						
6″	½″	3½″	3276K11	$18.60	3276K21	$28.04
8″	5⁄8″	3″	3276K12	22.80	3276K22	39.27
10″	7⁄8″	3″	3276K13	30.91	3276K23	50.49
12″	1¼″	3″	3276K14	35.33	3276K24	64.11
Deep Dish						
3″	½″	18″	3362K1	19.62	—	—
5″	1″	28″	3362K3	28.89	—	—
8″	15⁄8″	33″	3362K5	40.93	—	—
10″	13⁄4″	42″	3362K6	49.87	—	—

Hand Tools

Picks, Tweezers & Retrievers	2734
Pliers	2739
Adjustable & Pipe Wrenches	2751
Spanner & Drum Wrenches	2755
Open-End Wrenches	2757
Combination Wrenches	2763
Box Wrenches	2767
Tool Sets	2772
Sockets, Socket Sets & Wrenches	2774
Impact Wrenches	2796
Torque Testers & Wrenches	2799
Powered Screwdrivers & Bits	2806
Screwdrivers	2818
Hex Keys & Drivers	2829
Nutdrivers	2839
Screw Extractors	2841
Nonsparking Tools	2843
Hammers	2847
Pry Bars & Wedges	2861




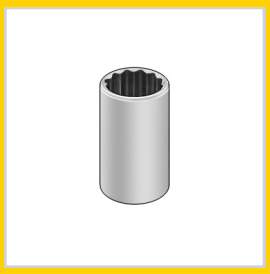


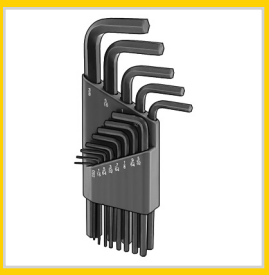




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Precision-Tip Picks

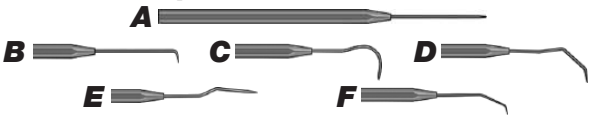

Use these needle-sharp picks for precision work around delicate circuits and components. Similar to dental instruments, they have wire tips that are nonrusting and noncontaminating. Handles are hex shaped for a good grip.

17-4 PH Stainless Steel Tips and Aluminum Handles— Have the lightest handles we offer.

	O'all Lg.			Each
0.010" Tip Diameter				
Type 17-4 PH Stainless Steel Tips and Aluminum Handles				
A	5¾"	5338A31		$12.58
B	5⅝"	5338A32		12.60
C	5⅜"	5338A34		13.60
D	5½"	5338A33		14.04
4-Piece Set (Includes 5338A31-A34)		5338A36	**Set**	$51.91
Short Length Type 440A Stainless Steel Tips and Handles				
A	3"	5338A21		6.91
B	3"	5338A22		6.91
C	3"	5338A23		6.91
D	3"	5338A24		6.91
0.017" Tip Diameter				
Type 302 Stainless Steel Tips and Nickel-Plated Steel Handles				
A	7⅜"	5338A61		4.31
B	7¼"	5338A62		4.31
C	7⅛"	5338A64		4.31
E	7⅜"	5338A65		4.31
F	7¼"	5338A63		4.31
5-Piece Set (Includes 5338A61-A65)		5338A69	**Set**	$18.87
0.025" Tip Diameter				
Type 17-4 PH Stainless Steel Tips and Handles				
A	6"	5338A42		3.51
B	5¾"	5338A44		3.51
C	5⅝"	5338A45		3.51
D	5⅝"	5338A43		3.51
E	6"	5338A46		3.51
4-Piece Set (Includes 5338A42-A45)		5338A55	**Set**	$14.29
5-Piece Set (Includes 5338A42-A46)		5338A71	**Set**	$17.78

Miniature-Hook Picks

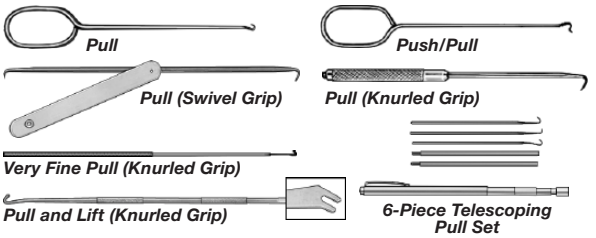

Also known as spring hooks, these picks adjust fine springs and other small parts in tight areas. Material is steel with a nickel-plated finish, unless otherwise indicated.

Pull (Swivel Grip)— Ends swivel out of the aluminum handle. Shaft is made of steel.

Pull (Knurled Grip)— Has a steel hook and an aluminum handle with a magnetic end (6-oz. pull).

	O'all Lg.		Each
Pull	6"	7426A32	$4.06
Push/Pull	6"	7426A33	4.06
Pull (Swivel Grip)	7⅞"	9493K32	9.24
Pull (Knurled Grip)	7"	9493K31	4.51
Heavy Duty Pull (Knurled Grip)	9½"	7426A41	5.72
Very Fine Pull	11"	7426A11	3.41
Very Fine Pull (Knurled Grip)	6⅞"	7426A34	3.55
Very Fine Push	11"	7426A12	3.41
Very Fine Push/Pull (Knurled Grip)	6⅝"	7426A42	3.72
Pull and Push/Pull (Knurled Grip)	7"	7426A44	4.35
Pull and Lift (Knurled Grip)	8⅛"	7426A36	3.76

4-Piece Set— Includes 7426A32, A33, A41, and A36. Comes in a vinyl pouch.

7426A48 **Set** $13.89

6-Piece Telescoping Pull Set— Includes one 45° hook, 90° narrow hook, and offset hook; all are 4" long and Type 302 stainless steel. Also has two 3⅞" nickel-plated steel extensions and a chrome-plated brass handle. Handle telescopes from 4⅞" to 17½". Comes in a plastic tube.

3913A22 **Set** $22.16

Picks with Comfort-Grip Handles



Comfort-grip handles provide a better grip than the other handles we offer. Use these tools on O-rings, small fuses, and other small parts. Blades are high-carbon steel.

4-Piece Set— Includes one of each style pick.

Screwdriver Grip



	O'all Lg.		Each
G	5⅛"	3842A21	$3.37
H	5⅛"	3842A23	3.37
J	5⅛"	3842A25	3.37
K	5⅛"	3842A26	3.37
4-Piece Set		3842A35	**Set** $11.73

Cushion Grip



	6⅞" Length	Each	9¾" Length	Each
G	3842A41	$3.27	3842A51	$4.32
H	3842A42	3.27	3842A52	4.32
J	3842A43	3.27	3842A53	4.32
K	3842A44	3.27	3842A54	4.32
4-Piece Set (6⅞")			3842A37	**Set** $11.29
4-Piece Set (9¾")			3842A39	**Set** $15.54

Insulated Grip



Insulated Grip— Handles withstand up to 1,000 VAC/1,500 VDC. Meet IEC 900 and ASTM F1505-01.

	O'all Lg.		Each
G	7¼"	3975A11	$23.49
H	7"	3975A14	23.49
J	7"	3975A13	23.49
K	7¼"	3975A12	23.49
4-Piece Set		3975A21	**Set** $86.49

General Purpose Picks

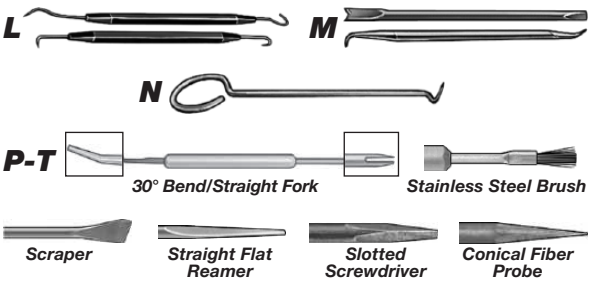

Fish out worn O-rings as well as position stubborn wires, springs, and other small parts. These tools are also good soldering aids.

Style L— Made of steel with plastic handles.

Style M— Made of brass.

Style N— Made of nickel-plated steel.

Styles P-T— Tips are steel with a satin chrome finish that repels solder. Handles have a hex shape and are made of wood, except *Style T*, which is made entirely of fiber. *Styles Q* and *R* have a Type 302 stainless steel brush on one end.

		O'all Lg.		Each
L	Hooks (2-piece set)	6⅞", 7⅛"	9570K71	$11.87
M	Pry Bars (2-piece set)	6"	9451K65	13.05
N	60° Double Bend	5⅞"	9485K51	5.17
P	30° Bend/Straight Fork	8"	7705A1	6.80
Q	Straight Fork/SS Brush	8"	7705A2	6.97
R	Scraper/SS Brush	8"	7705A3	7.16
S	Straight Flat Reamer/Straight Fork	8"	7705A4	7.35
T	Screwdriver/Conical Fiber Probe	5½"	7705A6	11.84

6-Piece Set— Includes Styles L and M plus one 6" 17-4 PH stainless steel conical probe and one 6" 400 series stainless steel tweezer (blunt ends with serrated inside tips). Comes in a canvas bag.

9490K43 **Set** $42.16

4-Piece Set— Includes Styles R, S, and T plus one 8" steel angled flat reamer/straight fork. Comes in a vinyl pouch.

7705A7 **Set** $31.86

Magnetic 4-Piece Set— Includes one straight, 60° double bend, 90° bend, and hook. Tips are steel. Handles are 4⅝" knurled aluminum and have a magnetic end (1.5-lb. pull). Comes in a vinyl pouch.

7705A21 **Set** $20.49

Interchangeable-Tip Picks



Tips and handle are sold separately, so you can create a tool that fits your needs.
(1-4) Tips—Separate wire, remove small fuses and O-rings, and position small parts. Made of steel.
Handle—Hex shaped for a good grip and has a magnetic end (6-oz. pull). Made of aluminum.

	Tip	Lg.		Each
1	Straight	3¼″	7388A31	$1.55
2	90°	3⅜″	7388A32	1.55
2	90°	6½″	7388A45	1.70
3	Hook	2⅞″	7388A33	1.55
4	60° Double Bend	3⅛″	7388A34	1.55
	Handle (3½″ long)		7388A35	2.67

5-Piece Set—Includes the handle and one of each tip (except the 6½″ long tip). Comes in a vinyl pouch.

7388A43 ..... **Set** $7.20

Nonmarring Picks



Also known as orange sticks, these picks position sensitive components.

Style	Lg.	Pkg. Qty.		Pkg.
Wood				
Flat Tip/Point Tip	7″	10	53385A48	$3.43
Two Flat Tips	7″	10	53385A55	4.29
Plastic				
Flat Tip/Point Tip	5⅝″	10	53385A12	26.58
Two Flat Tips	7″	10	53385A14	23.42

Lifting Pick



Get the leverage you need to lift computer chips and other electronic components. Tip is forked and 2″ long. Handle is antistatic plastic. Overall length is 5¾″. Made of chrome-vanadium steel.

3808A45 ..... $8.32

Electronic Component Grippers

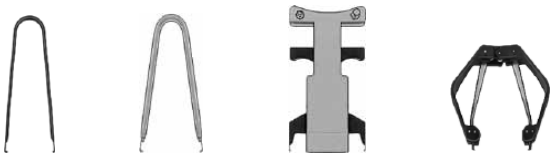

Insert and remove computer chips and other delicate components with ease. Made of plastic and steel.
Style 6—Has a plastic-coated grip.
Style 8—Only for PLCC (plastic leaded chip carrier) chips.

	For Chip Size (No. of Pins)	Lg.		Each
5	8- 24	4″	7375K4	$3.62
6	8- 24	4″	7375K7	2.92
7	24- 40	4¼″	7375K5	27.50
8	20-128	4″	7375K8	23.62

5-Piece Set—Includes Styles 5 and 7 and three insertion tools.

7375K15 ..... **Set** $84.82

Plastic Tweezers

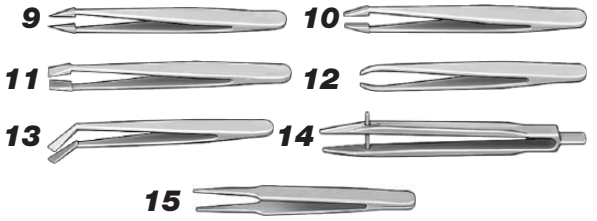

Confidently work with small items in corrosive environments. These plastic tweezers resist a variety of chemicals. Grip is smooth, except Style 14, which has a grooved grip. All have smooth inside tips.
Chemical Resistant—Made of acetal, these tweezers withstand solvents and acids. Max. temp. is 225° F. Color is light gray.
Chemical Resistant and High Temperature—Made of ryton, this tweezer withstands solvents. Max. temp. is 390° F. Color is black.

	Tip	Lg.		Each
Chemical Resistant				
9	Extra Fine	4½″	7003A21	$3.77
10	Blunt	4½″	7003A11	4.11
11	Square	4⅝″	7003A19	4.43
12	Curved Square	4⅝″	7003A12	4.11
13	Bent Spade	4⅞″	7003A16	6.68
14	Blunt	6⅜″	7003A13	11.52
15	Tapered Round Blunt	4½″	7003A18	5.00
Chemical Resistant and High Temperature				
10	Blunt	4½″	7003A22	7.97

Nonmarring Tweezers



You won't nick, scratch, or mar the components you are handling. All have smooth inside tips. Max. temperature is 250° F for Styles 16-19 and 100° F for Style 20. Style 21 is not rated for temperature.
Styles 16-19 are 300 series stainless steel with a smooth grip.
Style 20 are 400 series stainless steel with a serrated grip.
Style 21 are aluminum with a smooth grip.
Replacement tips include two tips and three screws.

			Tweezers		Replacement Tips	
	Tip	Lg.		Each		Pkg.
Antistatic Carbon-Fiber Tip						
16	Ultra Fine	5″	6182A41	$46.10	6182A51	$14.40
17	Extra Fine	5″	6182A42	46.10	6182A52	14.40
18	Fine	5″	6182A43	46.10	6182A53	14.40
19	Round Blunt	5″	6182A44	46.10	6182A54	14.40
Plastic-Coated Tip						
20	Round Blunt	8″	5244A11	8.25	_____	____
20	Round Blunt	12″	5244A12	10.25	_____	____
21	Round Blunt	6½″	4937A21	16.27	_____	____
21	Round Blunt	9″	4937A22	17.38	_____	____

4-Piece Set—Includes Styles 16, 17, 18, and 19. Comes in a wood box.

6182A45 ..... **Set** $160.70

Telescoping Gripper



A spring clip with serrated jaws holds objects until you release them. Gripper is made of brass and telescopes from 6″ to 25¾″ long. Maximum jaw opening is ¼″.

7394A41 ..... $4.78

Precision-Tip Tweezers


Ultra Fine


Extra Fine


Fine


Tapered Extra Fine


Tapered Fine


Tapered Blunt


Offset


Bent


Tapered Bent


Curved


With Cushion Grip

Specially designed for microelectronics and micro-assembly, these tweezers have a smooth grip and smooth inside tips.

Premium Swiss grade are top quality Swiss-made tweezers, crafted for perfect tip symmetry.

High grade are high-quality precision tweezers at an economical price.

Steel—Low corrosion resistance but excellent tip wear resistance. Tweezers are magnetic and have a polished finish, except 5669A81-A87 have a dull finish.

400 Series Stainless Steel—Excellent corrosion resistance and good tip wear resistance. Tweezers are magnetic and have a polished finish.

Nonmagnetic 300 Series Stainless Steel—Excellent corrosion resistance and fair tip wear resistance. *Premium Swiss-grade* tweezers have a polished finish. *High-grade* tweezers have a dull finish.

Nonmagnetic Cushion-Grip 300 Series Stainless Steel—Excellent corrosion resistance and good tip wear resistance. They have an ergonomic antistatic foam grip and a polished finish.

Nonmagnetic Titanium—High corrosion resistance is combined with superior tip wear resistance and strength for extreme durability. These tweezers are also lightweight and have a dull finish.

							NONMAGNETIC						
					400 Series		300 Series		Cushion-Grip 300 Series				
		Industry	Steel		Stainless Steel		Stainless Steel		Stainless Steel		Titanium		
Tip	Lg.	No.		Each		Each		Each		Each		Each	
Premium Swiss Grade													
Ultra Fine	4¼″	3C	5184A48	$52.98	5184A28	$40.94	5184A8	$34.07	5197A18	$43.38	5175A8	$89.64
Ultra Fine	4½″	1	5184A44	39.90	5184A24	42.98	5184A4	38.36	5197A31	35.61	5175A4	64.19
Ultra Fine	4¾″	3	5184A47	39.63	5184A27	45.17	5184A7	41.36	5197A15	45.46	5175A5	61.64
Extra Fine	5″	AA	5184A43	28.93	5184A23	32.66	5184A3	36.09	5197A13	45.60	5175A3	35.93
Fine	4½″	00	5184A41	58.98	5184A71	36.54	5184A1	39.18	5197A11	44.62	—	—
Fine	4¾″	00D	5184A42 ◆	53.28	5184A72 ◆	41.54	5184A2 ◆	36.94	5197A12 ●	43.28	5175A2 ◆	66.03
Tapered Extra Fine	3¼″	5	—	—	5184A17	52.04	—	—	—	—	—	—
Tapered Extra Fine	4¼″	4	5184A61	42.00	5184A29	36.09	5184A9	52.70	5197A19	51.88	5175A9	65.26
Tapered Extra Fine	4¼″	5	5184A51	60.18	5184A31	57.94	5184A11	49.44	5197A21	53.17	5175A11	120.90
Tapered Fine	4¾″	2	5184A45	38.27	5184A25	48.55	5184A5	48.89	5197A17	49.00	5175A6	61.64
Tapered Blunt	4¾″	2A	5184A46	46.74	5184A26	42.28	5184A6	37.20	5197A16	43.08	5175A7	61.64
Offset	4½″	5A	5184A62	45.82	5184A32	68.40	5184A12	49.70	5197A22	55.62	5175A12	73.45
Bent	4½″	6	5184A64	51.78	5184A34	61.01	5184A14	57.74	5197A24	63.68	5175A14	81.03
Tapered Bent	4¼″	5B	5184A63	47.45	5184A73	50.42	5184A13	65.78	5197A23	65.16	—	—
Curved	4½″	7	5184A55	45.53	5184A35	58.79	5184A15	43.58	5197A25	49.50	5175A15	109.40
High Grade													
Ultra Fine	4¼″	3C	8384A41	5.51	5669A48	6.40	8384A45	5.98	5180A26	28.80	5669A66	26.48
Ultra Fine	4¾″	1	5669A82	5.45	5669A44	6.40	5669A14	5.50	5180A36	24.80	5669A64	26.48
Ultra Fine	4¾″	3	5669A83	5.45	5669A47	6.74	5669A3	6.25	5180A25	30.60	5669A65	26.48
Extra Fine	5″	AA	5669A31	5.51	5669A43	6.40	5669A13	5.98	5180A23	30.07	5669A63	26.48
Fine	4¾″	00	5669A81	5.45	5669A88	6.21	5669A12	6.40	5180A21	34.08	5669A61	26.48
Fine	4¾″	00D	5669A2 ◆	6.38	5669A89 ◆	6.21	5669A1 ◆	6.44	5180A22 ●	33.72	5669A62 ◆	26.48
Tapered Extra Fine	4¼″	5	5669A4	6.88	5669A51	6.38	5669A23	5.47	5180A31	42.92	5669A71	26.48
Tapered Extra Fine	4½″	4	5669A32	5.51	5669A49	6.55	5669A7	6.40	5180A38	25.83	5669A69	26.48
Tapered Fine	4¾″	2	5669A84	5.45	5669A45	6.40	5669A15	5.50	5180A37	25.83	5669A67	25.43
Tapered Blunt	4¾″	2A	5669A85	5.45	5669A46	6.40	8384A51	6.55	5180A28	29.76	5669A68	26.48
Offset	4½″	5A	5669A86	5.45	5669A52	6.40	8384A47	5.98	5180A32	38.60	5669A72	26.48
Bent	4½″	6	5669A33	5.51	5669A54	6.74	5669A21	6.44	5180A34	34.64	5669A74	26.48
Tapered Bent	4¼″	5B	5669A87	5.45	5669A91	6.21	8384A49	7.05	5180A33	36.50	5669A92	28.12
Curved	4½″	7	5669A8	5.51	5669A55	6.74	5669A9	6.40	5180A35	26.00	5669A75	26.48

◆ Serrated grip and inside tips. ● Serrated tips.

5-Piece Premium Swiss-Grade Nonmagnetic 300 Series Stainless Steel Set—Includes one each of 5184A8, 5184A4, 5184A11, 5184A5, and 5184A15. Comes in a wood box.

5184A75 ..... **Set** $234.18

6-Piece High-Grade Nonmagnetic 300 Series Stainless Steel Set—Includes one each of 8384A45, 5669A13, 5669A12, 5669A1, 5669A23, and 5669A9. Comes in a plastic pouch.

5669A26 ..... **Set** $32.55

4-Piece High-Grade Steel Set—Includes one each of 8384A41, 5669A31, 5669A2, and 5669A8. Comes in a plastic pouch.

5669A93 ..... **Set** $20.00

Squeeze-to-Open Tweezers


Fine


Square


Round Blunt


Bent Blunt

Once clamped on a part, these 400 series stainless steel tweezers won't let go. Squeeze to open jaws then put to work in fine assembly and soldering. All have a polished finish.

Fine and ***square*** tweezers have a smooth grip and serrated inside tips.

Round blunt and ***bent blunt*** tweezers have a smooth, heat-resistant fiber grip and smooth inside tips.

Tip	Lg.		Each
Fine	4½″	5799A12	$4.53
Square	6½″	5799A14	5.58
Round Blunt	6½″	7007A73	5.33
Bent Blunt	6½″	7007A74	5.33

4-Piece Set—Includes one each of tweezers sold above. Comes in a plastic pouch.

7007A81 ..... **Set** $18.90

General Purpose Tweezers

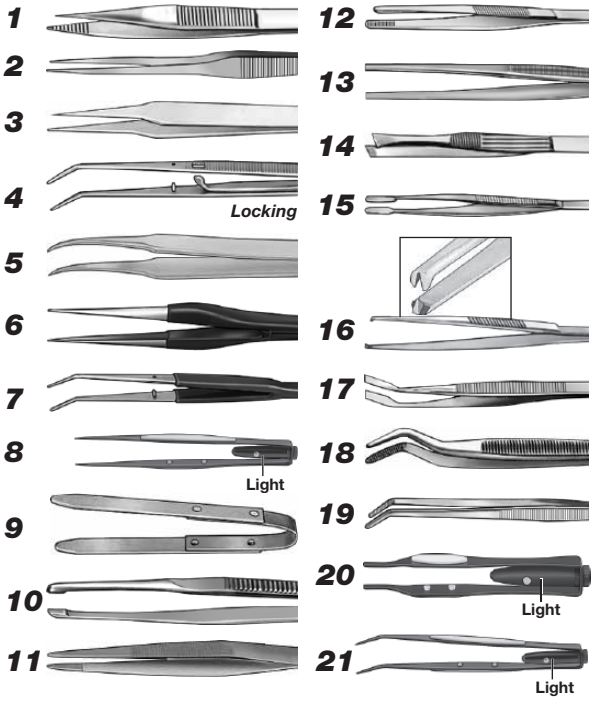

Fine-tip tweezers are polished 400 series stainless steel with a serrated grip, except for Styles 3 and 5, which have a smooth grip.

Fine-tip tweezers with comfort grip are 300 series stainless steel.

Fine-tip tweezer with comfort grip and light is made of steel.

Blunt-tip and ***extra-long blunt-tip tweezers*** are 400 series stainless steel with a serrated grip, except Style 9, which are aluminum with a smooth grip, and 3½″ long Style 13, which has a smooth grip.

Blunt-tip tweezers with comfort grip and light are steel.

	Tip	Inside Tips	Lg.		Each
Fine-Tip Tweezers					
1	Standard	Serrated	3″	5498A13■	$3.11
1	Standard	Serrated	6″	5498A22	5.56
2	Tapered	Serrated	7″	7005A11	4.89
3	Tapered	Smooth	4⅜″	5498A18■	3.20
4	Bent	Serrated	6″	5498A23	5.00
4	Bent	Serrated	7″	7005A12■	4.89
4	Bent (Locking)	Serrated	6″	5498A24	5.56
5	Curved	Serrated	4⅜″	5498A19	3.56
Fine-Tip Tweezers with Comfort Grip					
6	Standard	Smooth	5″	5796A12	5.90
7	Bent	Serrated	6½″	5796A14	6.27
Fine-Tip Tweezer with Comfort Grip and Light					
8	Standard	Smooth	6¼″	1877A11	10.82
Blunt-Tip Tweezers					
9	Round	Smooth	6½″	4937A11	10.38
10	Round	Smooth	3″	5498A11	3.11
11	Round	Serrated	5¾″	5516A14	3.89
12	Round	Serrated	6″	7379A21■	5.00
12	Round	Serrated	8″	7379A22	5.80
13	Square	Smooth	3½″	5498A15	3.11
13	Square	Smooth	4¾″	5516A16■	3.89
14	Angled	Smooth	3⅛″	5498A16	3.11
15	Spade	Smooth	4½″	5498A21	3.50
16	Toothed	Smooth	5½″	5516A17	4.80
17	Bent Spade	Smooth	4⅛″	5516A15	3.89
18	Bent Square	Serrated	4½″	5516A18■	3.89
Extra-Long Blunt-Tip Tweezers					
9	Round	Smooth	9″	4937A12	11.07
12	Round	Serrated	10″	7379A23	6.40
12	Round	Serrated	12″	7379A24	7.67
19	Bent Round	Serrated	10″	7379A36	7.00
Blunt-Tip Tweezers with Comfort Grip and Light					
20	Square	Serrated	4¼″	1877A12	10.82
21	Bent Round	Serrated	6½″	1877A13	10.82

6-Piece Set—Includes one of each tweezer marked with a ■ above. Comes in a vinyl pouch.

5498A25 ..... **Set** $24.58

Tongs

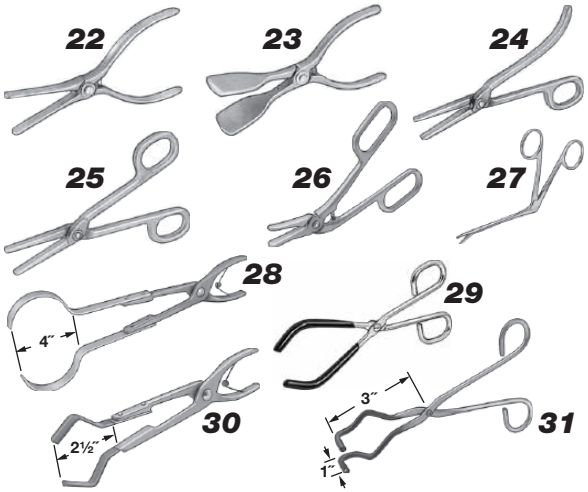

Strong enough for heavy production work, yet light enough to reduce fatigue. All have a plain finish.

Hinged-tip jaws open ½″ back from the point.

Nonmarring curved jaws are plastic coated.

Bent-tip jaws and ***nonstick bent-tip jaws*** are noncontaminating (after autoclaving) and inert to most chemicals. All tips have a 30° bend. A second gripping area behind the tips is 1″-1½″ long with an opening of 3¼″ for the 9″ long tongs; 4¼″ for the 18″ long tongs. *Nonstick bent-tip jaws* are PTFE coated.

	O'all Lg.	Jaw Lg.	Max. Jaw Opening	Material		
Straight Jaws						
22	7″	2½″	1⅛″	Aluminum	5478A21	$16.02
22	7½″	3″	1⅜″	Aluminum	6991A22	21.84
23	7⅛″	3″	1½″	Aluminum	5788A11	24.22
24	10½″	3″	3″	Aluminum	5790A24	30.69
25	10⅝″	3″	2½″	Aluminum	5745A1	37.24
25	12″	3″	3″	Aluminum	5745A2	44.12
26	12″	2½″	⅞″	Aluminum	5745A4	57.97
Hinged-Tip Jaws						
27	6″	½″	¼″	400 Series SS	5279A25	27.35
27	8″	½″	¼″	400 Series SS	5279A29	32.42
Curved Jaws						
28	16″	4″	6¼″	Aluminum	5675A2	75.00
Nonmarring Curved Jaws						
29	9⅜″	4½″	6⅜″	Steel	8542A82	12.14
30	13⅛″	2½″	3⅜″	Aluminum	5675A1	53.52
Bent-Tip Jaws						
31	9″	3″	7¼″	300 Series SS	5499A12	19.40
31	18″	3″	13½″	300 Series SS	5499A24	37.94
Nonstick Bent-Tip Jaws						
31	9″	3″	7¼″	300 Series SS	5499A11	24.29
31	18″	3″	13½″	300 Series SS	5499A25	32.29

Heavy Duty Tongs



Handle hot materials in furnaces and forging operations. Tongs are steel with a green finish.

O'all Lg.	Jaw Lg.	Max. Jaw Open.		
(32) Straight Jaws				
18″	2½″	3¼″	5665A2	$85.25
24″	3″	4¼″	5665A4	85.25
30″	3″	4¼″	5665A5	102.12
42″	3″	4¼″	5665A6	102.12
(33) Curved Jaws				
18″	3″	2¾″	5664A2	88.62
18″	4″	3¾″	5663A11	90.50
24″	3½″	2¾″	5664A4	88.62
24″	4″	4¾″	5663A13	90.50
30″	3½″	2¾″	5664A5	102.12
36″	4″	4¾″	5663A15	104.50

O'all Lg.	Jaw Lg.	Max. Jaw Open.		
(33) Curved Jaws (Cont.)				
42″	3½″	2¾″	5664A6	$102.12
42″	4″	4¾″	5663A16	104.50
(34) Double-Curved Jaws				
18″	4½″	3½″	5661A2	88.62
24″	5″	3½″	5661A4	88.62
30″	5″	3½″	5661A7	102.12
42″	5″	3½″	5661A6	102.12
(35) Three-Finger Jaws				
36″	6″	9½″	5115A11	134.22
48″	6″	9½″	5115A12	151.44

Magnetic Retrievers

Quickly get a hold of screws, nuts, bolts, and other small items.

Pocket Style



Slip these retrievers into your pocket for go-anywhere convenience. 5838A24 has a polypropylene body. 5838A14 has an aluminum body.

Length	Approx. Pull, lbs.	Tip Dia.	Max. Temp.		
6″	3/8	0.189″	250° F	5838A24	$3.89
6″	1 1/2	0.315″	175° F	5838A14	7.09

Flexible



Stay-Put



Bounce-Back



Stay-Put with Lighted End



Stay-Put with Plunger Handle



Flexible/Stiff Combination

The shaft bends to reach items in awkward spots.

Stay-Put with Plunger Handle—Push the plunger to engage magnet.

Flexible/Stiff Combination—This rigid, 18″ long tool converts to a flexible, 32″ long tool—just remove the stiff wire section inside the tool and thread it onto the handle.

Length	Approx. Pull, lbs.	Tip Dia.	Max. Temp.		
Stay-Put—*Aluminum*					
21 1/2″	1 1/2	0.312″	175° F	3838A42	$9.56
Stay-Put with Lighted End—*Aluminum*					
23″	5	0.500″	175° F	5322A23	17.29
Stay-Put with Plunger Handle—*Spring Steel*					
19″	1 1/2	0.312″	175° F	5681A87	19.06
Bounce-Back—*Spring Steel*					
10 1/2″	1/2	0.187″	150° F	5802A4	7.00
17 1/2″	3	0.500″	175° F	5802A11	11.61
25″	3	0.500″	175° F	5802A22	13.73
Flexible/Stiff Combination—*Spring Steel*					
18″ or 32″	2	0.250″	175° F	6986A11	11.11

Thumb Release



Body is Type 304 stainless steel; handle is wood.

Length	Approx. Pull, lbs.	Tip Dia.	Max. Temp.		
12″	5	1″	800° F	5646A11	$40.54
14″	10	1″	800° F	5646A12	51.69

Telescoping



Standard and High-Visibility Orange



With Protective Cap



With Lighted End

Extend these retrievers for hard-to-reach items.

With Protective Cap—The cap covers the sides of the magnet, allowing you to pinpoint the object you want to retrieve. If you want the entire magnet to attract metal, slide the cap up the shaft. Approximate pull is measured with the cap in place. 3835A26 also has an inspection mirror.

Length	Approx. Pull, lbs.	Tip Dia.	Max. Temp.		
Standard—*Chrome-Plated Brass*					
5 5/8″-25 1/2″	1 1/2	0.295″	175° F	7385A28	$8.08
Standard—*Type 304 Stainless Steel*					
5 5/8″-18 1/8″	3/8	0.205″	842° F	7385A44	6.54
6″-23 1/2″	3	0.500″	175° F	7385A35	11.19
High-Visibility Orange—*Brass*					
5 7/8″-25 7/8″	1 1/2	0.295″	175° F	7385A52	9.07
With Protective Cap—*Type 304 Stainless Steel*					
6 5/8″-33 1/4″	2	0.442″	175° F	3835A22	12.08
7 1/4″-33 3/4″	5	0.634″	175° F	3835A27	14.44
8 1/4″-30 1/4″	10	0.758″	175° F	3835A29	19.99
8 1/4″-30 1/4″	16	0.865″	175° F	3835A24	21.99
10″ -34 1/4″	16	0.865″	175° F	3835A26	26.69
With Lighted End—*Brass*					
7 3/4″-26″	5	0.500″	175° F	5322A25	14.58
With Lighted End—*Steel*					
8″-32 3/4″	8	0.735″	175° F	5322A27	17.16

All-Angle



A ball joint holds the magnetic head firmly in place so you can pick up items from any angle.

Length	Approx. Pull, lbs.	Tip Dia.	Max. Temp.	Head Material		
Standard						
7 3/4″	2	0.312″	175° F	Aluminum	5801A12	$8.04
Telescoping						
6 1/2″-19″	2	0.312″	175° F	Aluminum	5801A11	9.49
10 5/8″-14 5/8″	3	0.500″	175° F	Nylon	5801A22	14.93
16 1/4″-26″	5	0.565″	175° F	Aluminum	5801A6	16.85
16 3/4″-26 3/4″	3	0.500″	175° F	Nylon	5801A33	15.97
Telescoping with Lighted End						
6 3/4″-27 3/4″	8	0.740″	175° F	Aluminum	5801A7	20.53

Gripping Retrievers



A



B



C



D



E

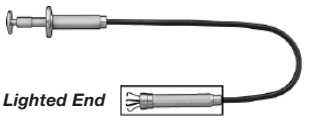

F

Lighted End

Reach objects with less stretching and bending.

Style A—Have rubber cups that grip and jaws that lock to hold objects.

Style B—Have an extra-sturdy construction and curved rubber-padded jaws.

Style C—7294A3 and *A4* have vinyl-covered jaw tips.

Style D—Upper jaw is smooth and the lower jaw is serrated.

Style E—Shaft is flexible and bounces back after you bend it, except 5681A22, which has a rigid shaft. 5681A15 has a lighted end.

Style F—Shaft is flexible and stays put where you bend it. Also has a lighted end.

	Reach	Opening Wd.	Material		Each
A	20″	4″	Aluminum	7294A31	$14.30
A	32″	4″	Aluminum	7294A32	17.39
A	40″	4″	Aluminum	7294A33	17.89
A	48″	4″	Aluminum	7294A34	17.27
A	60″	4″	Aluminum	7294A35	22.70
A	72″	4″	Aluminum	7294A36	27.00
A	96″	4″	Aluminum	7294A38	32.95
A	120″	4″	Aluminum	7294A39	37.92
B	28″	3 1/2″	Aluminum	7294A1	106.67
B	38″	3 1/2″	Aluminum	7294A2	108.05
B	48″	3 1/2″	Aluminum	7294A23	175.00
B	60″	3 1/2″	Aluminum	7294A24	208.33
C	33″	5″	Aluminum	7294A3	$22.80
C	40″	5″	Aluminum	7294A4	22.80
C	52″	2 1/4″	Aluminum	7294A5	102.00
C	60″	2 1/4″	Aluminum	7294A6	107.92
C	72″	2 1/4″	Aluminum	7294A7	135.00
D	9 1/2″	1/2″	Steel	8548A11	8.24
E	4 1/2″	21/32″	Aluminum	5681A22	11.56
E	13 1/2″	1″	Steel	5681A12	7.47
E	23 1/2″	1″	Steel	5681A14	8.20
E	25 3/8″	1/2″	Steel	5681A15	16.67
F	24″	3/4″	Aluminum	5681A23	22.20
Replacement Cups for Style A (2/Set)				7294A18	**Set** $5.71

Pole-Style Retrievers

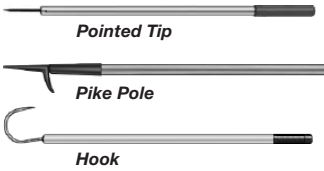



You don't have to get up close and personal with these retrievers—their long lengths allow you to reach objects that are farther away.

Pointed Tip—Tip is steel.

Pike Poles—Tip and hook are steel. *Fiberglass handles* are non-conductive and flame resistant.

Hook—Hook is Type 304 stainless steel. 5918A1 length adjusts anywhere within the range listed; 5918A11 and *A12* lengths adjust to three stop positions.

Hinged Hook—Also known as cant hooks. Head is iron with a hinged steel hook.

Noose—The plastic-coated cable opens to approximately 14″ and locks in place once tightened.

Length		
Pointed Tip—*Aluminum Handle*		
40″	**2400A11**	$10.84
Pike Pole—*Aluminum Handle*		
6 ft.	**2294T39**	83.79
8 ft.	**2294T41**	95.64
10 ft.	**2294T42**	106.44
12 ft.	**2294T43**	120.27
14 ft.	**2294T44**	128.57
16 ft.	**2294T45**	145.37
20 ft.	**2294T47**	185.05
Pike Pole—*Fiberglass Handle*		
6 ft.	**2294T49**	70.29
8 ft.	**2294T51**	81.10
10 ft.	**2294T52**	91.92

Length		
Pike Pole—*Fiberglass Handle (Cont.)*		
12 ft.	**2294T53**	$102.74
14 ft.	**2294T61**	113.56
16 ft.	**2294T55**	124.38
20 ft.	**2294T57**	146.04
Hook—*Aluminum Handle*		
24″	**5918A22**	39.22
36″	**5918A23**	40.89
48″	**5918A24**	48.27
72″	**5918A25**	55.95
17″-39″	**5918A1**	58.33
55″, 75″, 95″	**5918A11**	67.02
79″, 108″, 143″	**5918A12**	74.88

Length		
Hook—*Fiberglass Handle*		
96″	**5918A31**	$182.88
192″	**5918A32**	238.03
Hinged Hook—*Wood Handle*		
36″	**2296T11**	105.68
54″	**2296T21**	142.76
60″	**2296T41**	147.33
Noose—*Aluminum Handle*		
4 ft.	**1466A21**	113.45
5 ft.	**1466A22**	126.55
4 ft.- 6 ft.	**1466A23**	155.64
7 ft.-12 ft.	**1466A24**	210.91

Long-Reach Magnetic Retrievers

Style 1—The magnet is offset 45° from the tubular steel handle. Handle has a plastic grip.

Style 2—Has a horseshoe-style ceramic magnet and a two-piece straight steel handle that can be unscrewed to half the overall length.

Style 3— Have a flat-style Alnico magnet and a 48″ long straight wood handle. They also have a ball-joint base, which lets you pivot the magnet back and forth.

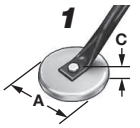



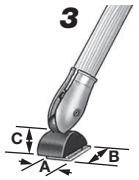

	Approx. Pull, lbs.	(A)	(B)	(C)	Overall Lg.		
1	65	3 7/32″ dia.	____	15/32″	36 15/32″	**3899A48**	$21.34
2	44.7	3 7/32″	1 11/16″	2 3/4″	41 1/4″	**58235A23**	67.80
3	20	2″	2 3/8″	2 11/16″	52″	**58235A31**	49.74
3	30	2 3/8″	1 1/8″	3 3/8″	52″	**58235A32**	71.55
3	45	2 1/2″	1 15/16″	3 3/8″	52″	**58235A33**	79.17

Pliers Sets

All-Purpose Pliers Sets

5-Piece Forged Steel Sets—Pliers are forged steel with cushion-grip handles. Packed in a roll-up vinyl pouch. Each set includes 7 1/2″ long-nose pliers with cutter, 6″ combination jaw slip-joint pliers with cutter, 7″ wire-cutting pliers, 9 1/2″ tongue-and-groove pliers with flat jaws, and 12″ tongue-and-groove pliers with flat jaws.

		Set
Economy	**5797A32**	$40.73
Premium	**5671A21**	93.89

5-Piece Type 420 Stainless Steel Set—Pliers are made of Type 420 stainless steel for good corrosion resistance. All have plain handles and are autoclavable for sterile environments. Packed in a roll-up vinyl pouch. Set includes 6″ long-nose pliers with cutter, 6″ combination jaw slip-joint pliers without cutter, 8″ wire gripping and cutting pliers, 6″ wire-cutting pliers, and 9 1/2″ tongue-and-groove pliers with flat jaws.

5671A22 ..... **Set** $147.33

4-Piece High Visibility Sets—Pliers are made of forged steel and have cushion-grip handles. Grips are neon colored for easy identification. Packed in a roll-up cloth pouch. Each set includes 6″ long-nose pliers, 6″ combination jaw slip-joint pliers with cutter, 6″ wire-cutting pliers, and 10″ tongue-and-groove pliers with flat jaws.

Color		Set
Orange	**5451A12**	$55.61
Green	**5451A15**	55.61
Red	**5451A19**	55.61

5-Piece Pliers Set with Adjustable Wrench

Pliers are made of forged steel and have cushion-grip handles. Packed in a roll-up vinyl pouch. Set includes 6″ long-nose pliers, 6″ combination jaw slip-joint pliers with cutter, 6″ wire-cutting pliers, 9 1/2″ tongue-and-groove pliers with flat jaws, and 8″ adjustable wrench.



5755A88 ..... **Set** $73.06

6-Piece Miniature Electronics Pliers Sets

All pliers have a spring return.

Regular Sets—Pliers have cushion-grip handles. *Forged steel* set is packed in a zippered vinyl pouch. *Type 420 stainless steel* set has good corrosion resistance and is packed in a roll-up vinyl pouch.

Static-Dissipative (ESD-Safe) Set—Cushion grips dissipate electrostatic charges to protect sensitive electronic components. Comes in a zippered vinyl pouch.



Zippered Vinyl Pouch

Each set includes 4 1/2″ long-nose pliers, 4 3/4″ long-nose pliers with cutter, 5 3/4″ long-nose pliers, 4 3/4″ flat-nose pliers (4 1/2″ for Type 420 stainless steel pliers), 4 1/4″ wire cutting pliers (4 1/2″ for Type 420 stainless steel pliers), and 4 1/2″ end-cutting pliers.

	Material		Set
Regular	Forged Steel	**7067A11**	$99.29
Regular	Type 420 Stainless Steel	**5323A49**	127.32
Static Dissipative	Forged Steel	**5460A55**	111.23

Tongue-and-Groove Pliers


Flat Jaw with Plain Handles


Curved Jaw with Insulated Handles


V-Jaw with Cushion-Grip Handles


Parrot Jaw with Cushion-Grip Handles

Lock the sliding top handle into one of the curved grooves for a strong, nonslip hold. All pliers have serrated jaws, unless noted.

Pliers ***with static-dissipative (ESD-safe) handles*** have cushion grips that dissipate electrostatic charges to protect sensitive electronic components. Pliers ***with high-visibility handles*** have neon-colored grips for easy identification. Pliers ***with insulated handles*** comply with IEC 60900 and ASTM F1505-01 standards and are tested to 1,000 volts. They also have finger guards to keep your fingers away from the jaws. Pliers ***with ultra-grip handles*** have special grips made of both hard and soft materials to provide a more comfortable grip than cushion grips.

Flat Jaw—*Type 420 stainless steel* pliers have good corrosion resistance and are autoclavable for sterile environments.

Curved Jaw—Ideal for round stock and tubing. *Brass* pliers have softer jaws than steel pliers and will not mar your workpiece.

V-Jaw—Have more points of contact for a better grip on round and irregular workpieces.

Parrot Jaw—Bottom jaw is shorter than the top to get a good grip on the flats of bolt heads and nuts, even those with rounded edges.

O'all Lg.	Max. Jaw Opening	Jaw Lg.	No. of Positions	Grip Type		Each
Flat Jaw with Plain Handles—*Forged steel*						
4 1/2"	1/2"	5/16"	3	—	5641A11	$15.93
6 1/2"	7/8"	13/16"	5	—	5637A3	12.50
9 1/2"	1 1/2"	1 1/8"	5	—	5637A1	17.50
Flat Jaw with Plain Handles—*Type 420 stainless steel*						
9 1/2"	1 3/16"	1 3/16"	3	—	5641A13	48.69
Flat Jaw—*Forged steel*						
4 1/2"	1/2"	5/16"	3	Cushion	5641A12	13.82
6 1/2"	7/8"	13/16"	5	Cushion	5637A4	13.79
8"	1 1/2"	1 1/8"	4	Cushion	5637A6■	16.48
9 1/2"	1 1/2"	1 1/8"	5	Cushion	5637A5	15.45
9 1/2"	1 1/2"	1 1/8"	5	Cushion	5637A23■	18.11
10"	2"	1 3/8"	7	Cushion	5765A3	16.05
10"	2"	1 3/8"	7	Cushion	5765A1▲	16.05
10"	2"	1 3/8"	7	Ultra	5637A71	23.16
12"	2 1/4"	1 1/2"	7	Cushion	5765A2	17.60
16 1/2"	4 1/4"	2 9/16"	8	Cushion	5769A1	32.60
20 1/4"	5 1/2"	3"	12	Cushion	5769A2	61.44
Flat Jaw w/Static-Dissipative (ESD-Safe) Handles—*Forged steel*						
7"	1 7/32"	1"	5	Cushion	5637A22	13.65
10"	2"	1 5/16"	6	Cushion	5637A32	15.37
Flat Jaw with High-Visibility Handles—*Forged steel*						
To Order: Please specify neon color: green, orange, or red.						
10"	2"	1 5/16"	6	Cushion	5825A12	15.26
Flat Jaw with Insulated Handles—*Forged steel*						
10"	2"	1 1/4"	7	Cushion	57775A32	60.57
12"	2 1/4"	1 1/2"	7	Cushion	57775A34	68.13
16"	4 1/4"	2 1/4"	11	Cushion	7453A42	214.74
Curved Jaw—*Brass*						
10"	1"	1 1/4"	5	Cushion	7453A43	49.05
Curved Jaw with Insulated Handles—*Forged steel*						
10"	1 13/16"	1 1/4"	5	Cushion	7453A41	65.01
V-Jaw—*Forged steel*						
9 1/2"	1 1/2"	1 1/8"	5	Cushion	5368A11	15.95
10"	2"	1 3/8"	7	Cushion	5368A2	17.20
12"	2 1/4"	1 1/2"	7	Cushion	5368A14	17.89
16 1/2"	4 1/4"	2 3/8"	8	Cushion	5368A18●	36.33
20 1/4"	5 1/2"	3 3/16"	12	Cushion	5368A19●	66.65
Parrot Jaw—*Forged steel*						
7"	5/8"	1/2"	2	Cushion	54145A21	15.85
9 1/2"	1 1/8"	1 1/8"	4	Cushion	54145A22	17.35
13 1/2"	2"	1 5/8"	6	Cushion	54145A23■	27.28

■ Has a safety stop. ▲ Smooth jaws. ● V-shape on top jaw only.

2-Pc. Flat Jaw with Cushion-Grip Handles Pliers Set—Includes one each of 5637A4 and 5637A5 above. Packed in a roll-up cloth pouch.

5637A72 ..... **Per Set** $34.05

Adjustable Self-Gripping Pliers


Standard with Cushion-Grip Handles


Standard with Insulated Handles


Locking with Push Button, V-Jaw, Cushion-Grip Handles


Locking w/Push Button, Parrot Jaw


Locking with Slide Button


Locking with Push Button and Ratchet Action

Get the gripping power of a pipe wrench while keeping the feel of pliers. Also known as alligator and cobra pliers, these tools are self-gripping; you don't have to squeeze the handles together as you apply downward pressure. The greater the resistance, the tighter the hold. Made of forged steel, pliers have thin-profile serrated jaws (unless noted). A safety stop keeps your fingers from getting pinched between the handles. Pliers ***with ultra-grip handles*** have special grips made of both hard and soft materials to provide a more comfortable grip than cushion grips.

Standard—Slide the top handle and lock it into one of the holding positions. Pliers ***with insulated handles*** comply with IEC 60900 and ASTM F1505-01 standards and are tested to 1,000 volts.

Locking with Push Button—Push and hold the button, adjust the jaws, then release the button to lock the jaws in position.

Locking with Slide Button—Slide and hold the button, adjust the jaws, then release the button to lock the jaws in position.

Locking with Push Button and Ratchet Action—Same as push-button pliers, but have ratcheting action. Designed to provide 10 times the leverage of standard pliers. All have smooth nonmarring jaws (no serrations). The bottom jaw remains parallel to top jaw at all times.

V-Jaw—Have more points of contact for a better grip on round and irregular workpieces.

Parrot Jaw—Have smooth jaws (no serrations) that will not mar objects. Bottom jaw is shorter than the top to get a good grip on the flats of bolt heads and nuts, even those with rounded edges.

O'all Lg.	Max. Jaw Opening	Jaw Lg.	No. of Positions	Grip Type		Each
Standard—*V-Jaw*						
7"	1 3/16"	1"	6	Cushion	7145A19	$27.36
7 1/8"	1 1/2"	1"	9	Ultra	7145A15	27.60
9 7/8"	2"	1 5/16"	9	Cushion	7145A11	27.87
9 7/8"	2"	1 5/16"	9	Ultra	7145A14	30.66
12"	1 3/4"	1 1/4"	7	Cushion	7145A23	44.13
12"	2 3/4"	1 1/2"	9	Cushion	7145A12	40.65
12"	2 3/4"	1 1/2"	9	Ultra	7145A22	44.72
Standard with Insulated Handles—*V-Jaw*						
9 7/8"	2"	1 1/4"	9	Ultra	5578A13	61.82
12"	1 1/2"	1 5/8"	7	Cushion	5578A15	75.58
Locking with Push Button—*V-Jaw*						
6"	1 1/4"	1"	11	Cushion	5307A38	31.21
7 1/8"	1 1/2"	1"	18	Cushion	5307A41	32.92
7 1/8"	1 1/2"	1"	18	Ultra	5307A2	36.44
9 7/8"	2"	1 3/16"	25	Cushion	5307A42	35.34
9 7/8"	2"	1 3/8"	25	Ultra	5307A47	38.87
12"	2 3/4"	1 1/2"	30	Cushion	5307A44	48.82
12"	2 3/4"	1 1/2"	30	Ultra	5307A51	54.69
15 3/4"	3 1/2"	2 1/2"	27	Cushion	5307A43	83.75
22"	4 1/2"	3 11/16"	20	Cushion	5307A46	122.66
Locking with Push Button—*Parrot Jaw*						
9 7/8"	1 1/4"	9/16"	15	Cushion	5307A39	39.09
Locking with Slide Button—*V-Jaw*						
8"	1 1/2"	1 3/4"	13	Ultra	5704A52	28.42
10"	1 3/4"	1 9/16"	13	Ultra	5704A53	33.54
12"	2 3/16"	2 3/16"	14	Ultra	5704A54	45.81
Locking with Push Button and Ratchet Action—*Flat Jaw*						
7 1/8"	1 3/8"	13/16"	13	Cushion	51505A21	54.66
9 7/8"	1 3/4"	1 5/16"	17	Cushion	51505A23	61.24
12"	2 3/8"	1 7/16"	22	Cushion	51505A25	76.40

2-Pc. Locking with Push Button V-Jaw Pliers Set—Includes 5307A41 and 5307A42 above.

5307A21 ..... **Per Set** $64.55

Self-Adjusting Pliers



Tackle different-size workpieces with ease. Just squeeze the handle on these pliers and the serrated jaws automatically adjust to fit your object, providing a secure hold. These pliers are also self-gripping; you don't have to squeeze the handles together as you apply downward pressure. Made of laminated steel with cushion-grip handles.

Use *V-jaw* pliers to hold hex nuts and irregular shapes.

Jaw Style	O'all Lg.	Max. Jaw Opening	Jaw Lg.		Each
Curved	7″	1 3/16″	7/8″	51375A34	$15.73
V-Jaw	9″	1 13/16″	1 1/4″	51375A38	19.39
V-Jaw	10″	2″	1 7/8″	51375A41	22.20

2-Piece Set—Includes one 7″ curved jaw pliers and one 10″ V-jaw pliers.

51375A52 ..... **Per Set** $31.62

Adjustable Pliers for Plastic Pipe



The jaws are circular to grip PVC, CPVC, and other plastic pipe without scratching. Jaws are serrated. Made of chrome-plated forged black steel with cushion-grip handles.

O'all Lg.	Max. Jaw Opening	No. of Positions		Each
10″	3″	25	5465A19	$56.47

Double Pipe-Grip Pliers

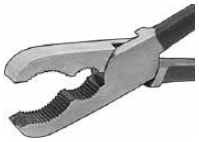

Fit a range of pipe sizes with one tool—jaws have small and large pipe grips. The round nose gets into tight spaces, especially when you're working on burners and gas pipe fittings. Made of forged steel with plain handles.

O'all Lg.	Jaw Lg.	Pipe Size Min.	Pipe Size Max.		Each
10″	2 1/8″	5/16″	1 1/2″	5622A3	$32.43

Soft-Jaw Adjustable Pliers



With Nylon Insert Pads



With Urethane Insert Pads

Comparable to Cannon plug pliers, all have replaceable pads on their jaws to protect delicate materials from marring. Made of forged steel. Use for plastic pipe, glass, ceramics, electrical connectors, and tubing. Handles have cushion grips.

Pliers ***with nylon insert pads*** have a spring-loaded mechanism that automatically opens jaws. Good for use on irregular shapes.

O'all Lg.	Max. Jaw Opening	Pliers Each	Repl. Pads (Set of 2)	Per Set
With Nylon Insert Pads—*4 positions*				
10″	1 3/4″	5555A48 $49.05	5555A52	$8.38
With Urethane Insert Pads—*4 positions*				
10″	2 1/2″	5555A55 31.10	5555A56	4.55

Combination Jaw Pliers

Perfect for general maintenance, pliers have serrated flat jaws, three 3/32″ wire-cutting notches, and a pipe grip. Made of forged alloy steel with plain handles.

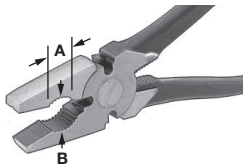

O'all Lg.	(A)	(B)	Jaw Lg.	Tip Wd.		Each
8″	31/64″	5/32″	1 9/32″	9/16″	5627A5	$29.47
10 1/4″	19/32″	17/64″	1 1/2″	5/8″	5627A2	32.79

Combination Jaw Slip-Joint Pliers



Standard Duty w/Plain Handles



Standard Duty w/ Static-Dissipative Handles



Heavy Duty w/ Cushion-Grip Handles



Heavy Duty Side Cutting

A good all-purpose choice, pliers have a slip-joint design, serrated jaws, and a built-in wire cutter, unless stated otherwise.

Standard Duty—*Type 420 stainless steel* pliers have good corrosion resistance and can be autoclaved for sterile environments. *Brass* pliers have softer jaws than steel pliers and will not mar your workpiece. Pliers *with high-visibility cushion-grip handles* have neon-colored grips for easy identification. Pliers *with static-dissipative (ESD-safe) handles* have cushion grips that dissipate electrostatic charges to protect sensitive electronic components. *Straight thin-nose* pliers reach into confined areas where other pliers won't fit.

Heavy Duty—More rugged than standard duty pliers. *Side-cutting* pliers have a sharp, 7/16″ long edge that acts as a wire cutter.

O'all Lg.	Max. Jaw Opening	Jaw Lg.	Max. Wire Size, AWG (Dia.)		Each
Standard Duty					
With Plain Handles—*Made of forged steel*					
6 1/2″	1″	1 5/16″	12 (0.080″)	5624A1	$6.69
8″	1″	1 17/64″	11 (0.090″)	5624A2	8.24
With Plain Handles—*Made of Type 420 stainless steel, no wire cutter*					
6 1/2″	1″	———	———	5624A7	17.42
With Cushion-Grip Handles—*Made of forged steel*					
6 1/2″	1 1/8″	31/32″	12 (0.080″)	5624A8	11.66
8″	1 13/32″	2 1/8″	11 (0.090″)	5624A9	15.69
10″	1 13/32″	2 1/8″	9 (0.114″)	5624A5	19.70
With Cushion-Grip Handles—*Made of brass, no wire cutter*					
6″	2 5/8″	15/16″	———	5624A81	23.80
With High-Visibility Cushion-Grip Handles—*Made of forged steel*					
To Order: Please specify neon color: green, orange, or red.					
6 3/4″	1″	1 5/8″	12 (0.080″)	5581A11	12.02

O'all Lg.	Max. Jaw Opening	Jaw Lg.	Max. Wire Size, AWG (Dia.)		Each
Standard Duty (Cont.)					
With Static-Dissipative (ESD-Safe) Cushion-Grip Handles—*Made of forged steel*					
6 3/4″	1″	1 5/8″	12 (0.080″)	5624A12	$11.55
Straight Thin Nose w/Cushion-Grip Handles—*Made of forged steel*					
6 1/2″	1 5/16″	1 13/16″	12 (0.080″)	5623A2	16.00
Heavy Duty					
With Cushion-Grip Handles—*Made of forged steel*					
6 5/8″	1 1/8″	1 3/16″	12 (0.080″)	5621A1	15.26
8″	1 1/8″	1 3/16″	11 (0.090″)	5621A2	17.42
10″	1 1/2″	1 9/16″	9 (0.114″)	5621A3	18.42
Side Cutting with Cushion-Grip Handles—*Made of forged steel*					
7 5/8″	1 3/8″	1 23/32″	12 (0.080″)	8528A11	26.53

Nonmarring Covers for Plier Jaws



Slip these rubber covers over the jaws of your pliers for a nonmarring hold. They are reusable, fit 80% of slip-joint pliers, and are unaffected by oil and most chemicals. Furnished five pairs per package.

For Pliers' Length	Inside Size, Wd. x Lg.		Per Pkg.
6″	3/8″ x 7/16″	53085A61	$8.16
8″	3/8″ x 9/16″	53085A62	9.07

Cushion Grips for Plier Handles



For a comfortable, slip-resistant grasp, slide these plastic grips over the handles of your pliers. One side is textured. Grips fit snugly; just heat with hot water and slide on. *Note:* Grips do not protect against electrical shock.

For Pliers' Length		Per Pair
6″	5633A1	$8.30
7″	5633A2	8.55
8″-9″	5633A3	$9.16

Wire Gripping and Cutting Pliers

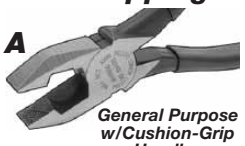

General Purpose w/Cushion-Grip Handles

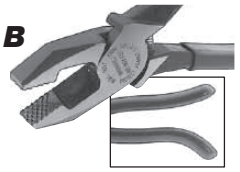



General Purpose

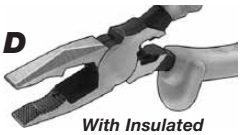

With Insulated Cushion-Grip Handles

Choose these strong, durable pliers for gripping and cutting electrical wiring. Also known as lineman's and side-cutting pliers, tools are made of forged steel (unless indicated otherwise) and have serrated jaws.

Pliers ***with ultra-grip handles*** have special grips made of both hard and soft materials to provide a more comfortable grip than cushion grips.

High Leverage— The joint rivets are closer to the cutting edges to provide more cutting power than general purpose pliers.

Ultra Cutters— Can cut through steel-reinforced wire (ACSR), hardened wire, and nails.

High Leverage with Ultra Cutters— Same as high leverage pliers above, plus cutters that can cut through steel-reinforced wire (ACSR), hardened wire, and nails.

Insulated Handles with Ceramic Blades— Made entirely of composite material, pliers are lightweight and non-corrosive. They comply with IEC 60900 and ASTM F1505-01 standards and are tested to 1,000 volts.

Insulated Cushion-Grip Handles— Comply with IEC 60900 and ASTM F1505-01 standards and are tested to 1,000 volts. All have finger guards to prevent contact with the jaws.

(A) Square-Nose Pliers

O'all Lg.	Jaw Lg.		Each
General Purpose with Cushion-Grip Handles			
8 11/16"	1 7/16"	5616A3	$39.86
Economy with Cushion-Grip Handles			
8 3/4"	1 15/32"	5827A56	8.55
Economy with Ultra-Grip Handles— *Pliers have a spring return*			
4 7/8"	1 3/16"	5827A1	8.13
High Leverage with Plain Handles			
9 1/4"	1 19/32"	5616A4	37.99
High Leverage with Cushion-Grip Handles			
9 3/8"	1 19/32"	5616A61	37.42
Insulated Handles with Ceramic Blades			
7 7/8"	1 1/2"	5233A16	110.94

(B) Square-Nose Pliers with Spring Return

Also known as ironworker's pliers, this tool has a curved handle end that stops it from slipping through your hands.

O'all Lg.	Jaw Lg.		Each
High Leverage with Ultra Cutters and Cushion-Grip Handles			
9 3/8"	1 19/32"	8531A17	$56.74

(C) Curved-Nose "New England" Style Pliers

O'all Lg.	Jaw Lg.		Each
General Purpose with Cushion-Grip Handles			
6 3/16"	1 3/32"	5642A21	$22.21
7 7/16"	1 9/32"	5642A22	37.67
8 11/16"	1 7/16"	5642A23	37.97
9 3/8"	1 19/32"	5642A24	38.27
Ultra Cutters with Insulated Cushion-Grip Handles			
8 1/16"	1 5/8"	54625A42	48.62
High Leverage with Ultra Cutters and Cushion-Grip Handles			
9 3/8"	1 19/32"	56705A21	43.97
9 3/8"	1 19/32"	56705A22 ♦	53.07
High Leverage w/Ultra Cutters and Insulated Cushion-Grip Handles			
9 5/8"	1 19/32"	54525A91	86.17

♦ Has a crimping die.

(D) Universal Pliers with Pipe Grip

Type 420 stainless steel pliers have good corrosion resistance. Pliers ***with plain handles*** are also autoclavable for sterile environments.

O'all Lg.	Jaw Lg.	Pipe Size Min.	Pipe Size Max.		Each
General Purpose with Cushion-Grip Handles					
8 5/8"	1 25/32"	1/8"	3/4"	5634A3 ♦	$42.71
General Purpose with Insulated Cushion-Grip Handles					
8 7/8"	1 25/32"	1/8"	3/4"	5644A43 ♦	72.62
Type 420 Stainless Steel General Purpose with Plain Handles					
8"	1 3/8"	3/16"	1 3/8"	5710A13	31.76
Type 420 Stainless Steel General Purpose with Cushion-Grip Handles					
8"	1 3/8"	3/16"	1 3/8"	5710A14	32.88
High Leverage with Ultra Cutters and Insulated Ultra-Grip Handles					
9"	1 5/8"	1/8"	1/2"	54845A85	70.85

♦ Has a crimping die.

Long-Reach Wire Gripping and Cutting Pliers



Handles are long so jaws can grip, twist, and cut in areas normally out of reach. The joint rivet is located closer to the cutting edges to provide more cutting power than standard side-cutting pliers. Jaws have 1/4" long serrated grippers and 3/8" long cutting edges. Made of forged steel with cushion-grip handles.

O'all Lg.	Jaw Lg.		Each
11"	55/64"	57205A23	$35.13

End-Cutting Long-Nose Pliers

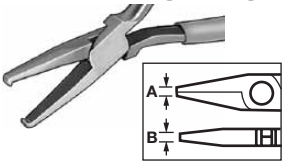

The cutting edges extend all the way across the tip of the nose for close, semiflush cutting. Also called end cutters, these pliers are well-suited for use on circuit boards and other delicate electronics. Made of forged steel with cushion-grip handles.

O'all Lg.	Jaw Lg.	Tip Thick. (A)	Tip Wd. (B)	Max. Wire Size, AWG (Dia.)		Each
8"	1 9/16"	9/32"	3/16"	14 (0.064")	5761A15	$25.80

Interchangeable-Head Plier Set

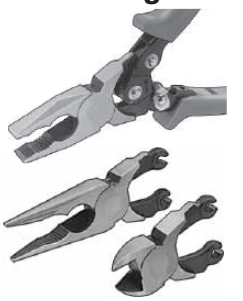

You'll get plier handles and three plier heads you change to fit your application: a wire-cutting head, a wire gripping and cutting head, and a long nose with side cutter head. Pliers have a dual-hinge design that increases leverage and delivers twice the gripping power of standard pliers.

Heads are forged steel and cut steel-reinforced wire (ACSR), hardened wire, and nails. Handles are alloy steel with cushion grips and have a spring return. Set has a nylon carrying holster. *Wire gripping and cutting head* and *long nose head* have serrated jaws.

Head Type	O'all Lg. (w/Handles)	Jaw Lg.	Max. Wire Size, AWG (Dia.)
Wire Cutting (Standard Cut)	7 1/2"	1/2"	8 (0.128")
Wire Gripping and Cutting	8 1/4"	1 1/4"	
Long Nose with Side Cutter	9"	2"	11 (0.090")

1105A1 — Per Set — $32.91

Mini Thin-Head Wire-Cutting Pliers





When you don't plan on everyday, repetitive use, these pliers are an economical alternative to our other miniature wire-cutting pliers. All have a thin, angled head that allows cutting in confined areas. Pliers make a flush cut and have a spring return.

Steel pliers cut soft wire. ***Type 420 stainless steel*** pliers have good corrosion resistance and cut soft wire and medium hard wire.

Pliers ***with static-dissipative (ESD-safe) handles*** have cushion grips that dissipate electrostatic charges to protect sensitive electronic components. Pliers ***with ultra-grip handles*** have grips made of both hard and soft materials for a more comfortable grip than cushion grips.

O'all Lg.	Head Angle	Jaw Lg.	Max. Wire Size, AWG (Dia.)		Each
Steel with Cushion-Grip Handles					
5"	20°	11/32"	20 (0.032")	3621A11	$7.68
5"	20°	11/32"	20 (0.032")	3621A12●	9.44
5 5/8"	20°	13/32"	14 (0.064")	3621A13	13.52
Steel with Static-Dissipative (ESD-Safe) Cushion-Grip Handles					
5"	20°	11/32"	20 (0.032")	3621A21	7.86
5"	20°	11/32"	20 (0.032")	3621A22●	9.52
5 5/8"	20°	13/32"	14 (0.064")	3621A23	15.40
Type 420 Stainless Steel with Ultra-Grip Handles					
4 59/64"	20°	23/64"	14 (0.064")	5758A14	34.21
4 59/64"	60°	7/32"	18 (0.040")	5758A16	38.65

● Has a catch to hold cut wire.

About Wire-Cutting Pliers

Wire-cutting pliers, also known as diagonal-cutting pliers, produce one of three cuts: standard, semiflush, or flush. These styles refer to the amount of "pinch" left on the tip of the wire after it has been cut.



Standard— These pliers produce a deep, pointed, pinched end. Use for electrical and general applications.



Semiflush— The most widely used cut for electronics assembly, these pliers produce a slightly pointed pinched end. They are generally more accurate than standard-cut pliers.



Flush— Pliers produce a cut with virtually no "pinch," creating clean connections for easy soldering. Flush-cut pliers are not as long lasting as standard and semiflush.

Wire-Cutting Pliers

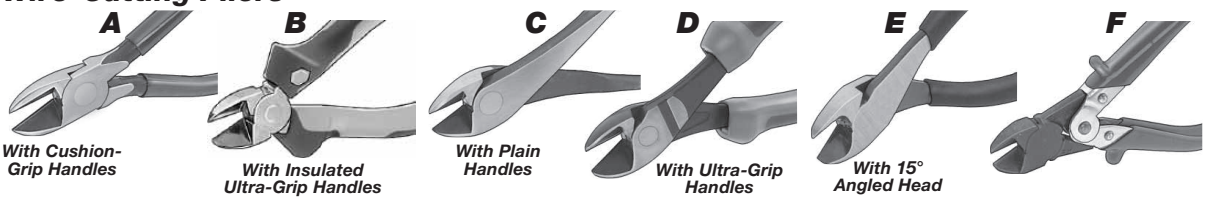

With Cushion-Grip Handles | *With Insulated Ultra-Grip Handles* | *With Plain Handles* | *With Ultra-Grip Handles* | *With 15° Angled Head*

Also known as diagonal-cutting pliers and dike pliers, these tools have cutting edges that are beveled for close cutting and hardened for long-lasting sharpness and durability. Pliers have oval-shaped heads and are made of forged steel unless indicated otherwise.

General Purpose— For cutting soft steel wire and copper wire. The *Type 420 stainless steel* pliers offer good corrosion resistance. *Type 420 stainless steel pliers with plain handles* are also autoclavable for sterile environments.

High Leverage— The joint rivets are closer to the cutting edges to provide more cutting power than general purpose pliers. In addition to cutting soft steel wire and copper wire, pliers can cut most hardened wire.

Ultra High Leverage— Have super-tough cutting edges to cut through steel-reinforced wire (ACSR), hardened wire, and nails (in addition to cutting soft steel wire and copper wire).

Compound Leverage— The jaws and the handles have leverage points to permit easy cutting of soft steel wire and copper wire.

Pliers ***with spring return*** have jaws that automatically open after the cut is made to reduce operator fatigue.

Pliers ***with high-visibility handles*** have neon-colored grips for easy identification; grips are available in green, orange, and red.

Pliers ***with static-dissipative (ESD-safe) handles*** have cushion grips that dissipate electrostatic charges to protect sensitive electronic components.

Pliers ***with insulated handles*** comply with IEC 60900 and ASTM F1505-01 standards and are tested to 1000 volts; they have finger guards to keep your fingers away from the jaws.

Pliers ***with ultra-grip handles*** have grips that are made of hard and soft materials to offer a more comfortable grip than cushion grips.

Cut Style	O'all Lg.	Jaw Lg.	Max. Wire Size, AWG (Dia.)	Spring Return		Each
General Purpose						
With Cushion-Grip Handles						
A Standard	6 3/8"	7/8"	10 (0.101")	No	3711A3	$19.94
A Standard	6 3/8"	7/8"	10 (0.101")	Yes	3711A6	22.61
A Standard	7 1/2"	1 1/16"	8 (0.128")	No	3711A8	20.43
A Standard	7 1/2"	1 1/16"	8 (0.128")	Yes	3711A9	23.57
Type 420 Stainless Steel with Plain Handles						
A Semiflush	6"	7/8"	14 (0.064")	No	5520A16	27.32
A Semiflush	7"	7/8"	14 (0.064")	No	5520A17	39.70
Type 420 Stainless Steel with Cushion-Grip Handles						
A Standard	6 1/4"	7/8"	14 (0.064")	No	5520A15	30.00
With High-Visibility Cushion-Grip Handles						
To Order: Please specify neon color: green, orange, or red.						
A Standard	6 3/8"	7/8"	10 (0.101")	No	5712A11	17.66
With Static-Dissipative (ESD-Safe) Cushion-Grip Handles						
A Standard	4 1/2"	5/8"	18 (0.040")	No	3711A1	21.91
A Standard	4 1/2"	5/8"	18 (0.040")	Yes	3711A4	28.89
A Standard	5"	49/64"	18 (0.040")	No	3711A2	24.57
A Standard	5"	49/64"	18 (0.040")	Yes	3711A5	27.61
A Semiflush	5"	49/64"	20 (0.032")	Yes	3620A12	25.65
With Insulated Ultra-Grip Handles						
B Standard	6 5/16"	5/8"	11 (0.090")	No	3619A11	51.76
B Standard	7"	7/8"	12 (0.080")	No	3619A12	59.49
High Leverage						
With Plain Handles						
C Standard	7"	13/16"	8 (0.128")	No	3719A1	18.05
C Standard	7 3/4"	13/16"	8 (0.128")	No	3719A2	19.26

★ The spring return can be engaged and disengaged.

Cut Style	O'all Lg.	Jaw Lg.	Max. Wire Size, AWG (Dia.)	Spring Re-turn		Each
High Leverage (Cont.)						
With Cushion-Grip Handles						
D Standard	7 1/4"	51/64"	12 (0.080")	No	8522A11	$13.68
D Standard	9 27/32"	7/8"	5 (0.182")	No	8522A15	47.34
With Ultra-Grip Handles						
D Standard	5 1/2"	5/8"	14 (0.064")	Yes	57115A14★	26.39
D Standard	6 1/4"	3/4"	12 (0.080")	Yes	57115A16★	26.99
D Standard	7 7/8"	7/8"	6 (0.162")	No	57115A17	43.25
D Standard	9 27/32"	7/8"	5 (0.182")	No	57115A18	52.69
With Insulated Ultra-Grip Handles						
B Standard	9 27/32"	7/8"	5 (0.182")	No	3619A15	77.54
With 12° Angled Head and Cushion-Grip Handles						
E Standard	9 27/32"	7/8"	5 (0.182")	No	56815A33	45.93
With 15° Angled Head and Cushion-Grip Handles						
E Standard	7"	51/64"	12 (0.080")	No	5372A4	16.06
E Flush	7 3/4"	13/16"	22 (0.025")	No	3706A89	21.07
With 30° Angled Head and Long-Reach Cushion-Grip Handles						
E Semiflush	11"	1 3/64"	12 (0.080")	No	57205A25	34.67
Ultra High Leverage						
With Cushion-Grip Handles						
D Standard	8 1/16"	13/16"	6 (0.162")	No	56815A31	34.41
With 12° Angled Head and Cushion-Grip Handles						
E Standard	8 1/16"	13/16"	6 (0.162")	No	56815A32	36.33
Compound Leverage						
With Cushion-Grip Handles						
F Standard	5 1/2"	1/2"	16 (0.050")	Yes	3722A22	60.92

Plastic-Cutting Pliers

Designed for cutting plastics, these extremely sharp pliers make a flush cut that leaves a smooth, finished edge. Not intended for cutting metal or wire.

Pliers are made of forged steel with a tapered and flat head that's ground flat on the back side for close trimming in confined areas. All have a spring return.

Pliers ***with adjustable stop*** have an adjustment screw to prevent the jaws from closing completely, which prolongs cutter life. Pliers ***with fatigue-reducing handles*** have contoured handles to minimize wrist strain and provide maximum comfort.

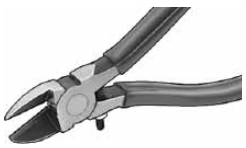

With Adjustable Stop and Cushion-Grip Handles

O'all Lg.	Jaw Lg.	Without Stop	Each	W/Adjustable Stop	Each
With Cushion-Grip Handles					
4 1/4"	1/2"	7059A8	$15.23	_____	_____
5 1/4"	3/4"	7059A9	16.37	_____	_____
6 3/8"	7/8"	7059A11	17.81	3695A21	$25.06
7 3/8"	1 1/16"	7059A12	18.42	3695A22	28.06
With Fatigue-Reducing Handles					
7"	1 1/16"	_____	_____	5292A47	31.84

Tip-Cutting Pliers

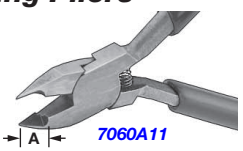

Make semiflush cuts in tight spaces; pliers have sharp cutting edges at the tip of each jaw for precise cutting. Made of polished forged steel with cushion-grip handles and a spring return.

7060A11 has a special cutting edge that is rugged enough to cut soft, medium hard, and hard wire. Edge also cuts nickel ribbon wire. 3714A11 cuts copper wire.

O'all Lg.	Jaw Lg.	(A)	Max. Wire Size, AWG (Dia.)		Each
4 1/4"	1/2"	3/16"	16 (0.050")	7060A11	$40.45
5 1/16"	11/16"	_____	14 (0.064")	3714A11	35.23

Miniature Wire-Cutting Pliers

For information about wire-cutting pliers and cut styles, see page 2743.

Miniature Wire-Cutting Pliers



Oval Head with Static-Dissipative Cushion-Grip Handles

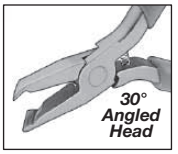

30° Angled Head





Tapered and Flat Head with Static-Dissipative Fatigue-Reducing Handles

A small head and hardened cutting edges yield good cutting results in most electronics applications. Also known as diagonal-cutting pliers, tools cut soft wire and copper wire. All have a spring return and cushion grips. ***Type 420 stainless steel*** pliers have good corrosion resistance.

Oval head pliers are the most durable. ***Angled head*** pliers allow cutting from above. ***Tapered head*** pliers provide easy access to confined spaces. ***Tapered and flat head*** pliers are ground flat on the back side for close trimming in confined areas. Pliers ***with static-dissipative (ESD-safe) handles*** have grips that dissipate electrostatic charges to protect sensitive electronic components. Pliers ***with fatigue-reducing handles*** have extra-long contoured handles that evenly disperse gripping pressure.

Head Shape	O'all Lg.	Jaw Lg.	Max. Wire Size, AWG (Dia.)	Semiflush Cut	Each	Flush Cut	Each
Forged Steel							
With Cushion-Grip Handles							
Oval	5½"	35/64"	16 (0.050")	5330A6	$18.47	—	—
With Static-Dissipative (ESD-Safe) Cushion-Grip Handles							
Oval	4"	13/32"	18 (0.040")	3817A12	20.69	3817A41♣	$22.37
29° Angled	4"	7/16"	20 (0.032")	—	—	3817A15♣	36.16
30° Angled	4½"	29/32"	20 (0.032")	—	—	3817A16	40.72
Tapered	4"	13/32"	20 (0.032")	3817A13	22.23	3817A11♣	22.43
Tapered and Flat	4"	15/32"	20 (0.032")	—	—	3817A14♣	22.94
With Static-Dissipative (ESD-Safe) Fatigue-Reducing Handles							
Oval	5½"	13/32"	20 (0.032")	58195A22	32.12	—	—
29° Angled	5½"	7/16"	20 (0.032")	—	—	58195A24	44.40
Tapered	5½"	15/32"	20 (0.032")	—	—	58195A23	33.93
Tapered and Flat	5½"	15/32"	20 (0.032")	—	—	58195A25	34.69
Type 420 Stainless Steel							
With Cushion-Grip Handles							
Tapered	4½"	35/64"	22 (0.025")	5520A6	15.84	—	—
With Static-Dissipative (ESD-Safe) Cushion-Grip Handles							
Oval	4½"	35/64"	22 (0.025")	5520A14	19.36	—	—
Tapered	4½"	35/64"	24 (0.020")	—	—	5520A7	16.75

4-Piece Set with Static-Dissipative (ESD-Safe) Cushion-Grip Handles— You'll get one of each marked with a ♣ from above in a vinyl pouch.

3817A21 ..... **Per Set** $93.60

Miniature Precision Wire-Cutting Pliers

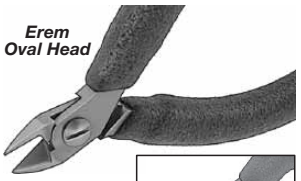

Erem Oval Head

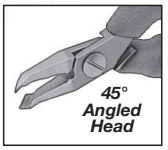

45° Angled Head

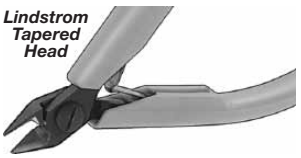

Lindstrom Tapered Head

You'll find these pliers a cut above the rest. Also known as diagonal-cutting pliers, tools cut soft steel and copper wire. All have a miniature head, precision cutting edges, and an adjustable screw joint that keeps the jaws aligned. Pliers are made of steel with static-dissipative (ESD-safe) handles that dissipate electrostatic charges to protect sensitive electronic components. ***Oval head*** pliers are the most durable. ***Angled head*** pliers allow cutting from above. ***Tapered head*** pliers provide easy access to confined spaces. ***Tapered and flat head*** pliers are ground flat on the back side for close trimming in confined areas.

Erem "Magic" Pliers— Formed by a process that imparts extra strength to the tool. All have an internal "magic" spring that provides constant, uniform tension for superior performance.

Lindstrom Pliers— Have a spring return that automatically opens the jaws to reduce operator fatigue.

Head Shape	Cut Style	O'all Lg.	Jaw Lg.	Max. Wire Size, AWG (Dia.)	Mfr. No.	Each
Erem "Magic" Pliers						
Oval	Standard	4¼"	23/64"	16 (0.050")	612N	5676A33 $61.30
Oval	Standard	4½"	25/64"	15 (0.057")	512N	5676A4 62.85
Oval	Semiflush	4¼"	23/64"	16 (0.050")	622N	5676A31 63.58
Oval	Semiflush	4½"	25/64"	15 (0.057")	522N	5676A3 65.62
Oval	Flush	4½"	31/64"	16 (0.050")	532N	5676A9 74.54
30° Angled	Semiflush	4¼"	15/32"	17 (0.045")	504E	5676A23 109.17
45° Angled	Flush	5"	49/64"	18 (0.040")	2482E	5676A27 82.18
Tapered and Flat	Flush	4¼"	23/64"	18 (0.040")	776E	5676A22 66.37
Lindstrom Pliers						
Oval	Flush	4 21/64"	25/64"	16 (0.050")	8141	5445A13 55.00
Oval	Semiflush	4 7/16"	1/2"	14 (0.064")	8150	5445A17 56.48
Oval	Semiflush	4 59/64"	5/8"	12 (0.080")	8160	5445A19 56.48
Tapered	Semiflush	4 21/64"	25/64"	16 (0.050")	8143	5445A15 53.52

Miniature Precision Anti-Glare Wire-Cutting Pliers



Tapered Head

The black chrome finish on these pliers won't cause glare that can interfere with precision work. Made of forged steel, they have hardened cutting edges and a spring return that automatically opens the jaws to reduce operator fatigue. Pliers have ultra-grip handles, which are made of both hard and soft materials to provide a comfortable grip.

Oval head pliers are the most durable. ***Angled head*** pliers allow cutting from above. ***Tapered head*** pliers provide easy access to confined spaces.

Head Shape	Cut Style	O'all Lg.	Jaw Lg.	Max. Wire Size, AWG (Dia.)	Each
For Cutting Soft, Medium, and Hard Wire					
Oval	Semiflush	5"	33/64"	18 (0.040")	5711A21 $57.36
29° Angled	Flush	4¾"	25/64"	18 (0.040")	5711A31 72.29
Tapered	Semiflush	5"	33/64"	18 (0.040")	5711A22 60.62
For Cutting Soft Wire					
Oval	Flush	5"	33/64"	18 (0.040")	5711A33 59.71
Tapered	Flush	5"	33/64"	18 (0.040")	5711A32 62.35

Miniature Precision Tungsten Carbide Wire-Cutting Pliers



Oval Head with Ultra-Grip Handles

Tungsten carbide cutting edges are bonded to the jaws for long life and superior cutting of soft, medium, and hard wire. Pliers are made of steel and have a joint that keeps the cutting edges aligned. All have a spring return and static-dissipative (ESD-safe) handles that dissipate electrostatic charges to protect sensitive electronic components.

Pliers ***with ultra-grip handles*** have grips made of both hard and soft materials for a more comfortable grip than cushion grips. ***Oval head*** pliers are the most durable. ***Angled head*** pliers allow cutting from above. ***Tapered head*** pliers provide easy access to confined spaces.

Head Shape	Cut Style	O'all Lg.	Jaw Lg.	Max. Wire Size, AWG (Dia.)	Each
With Cushion-Grip Handles					
Oval	Semiflush	4½"	29/64"	15 (0.057")	5760A21 $197.58
Tapered	Standard	4¼"	29/64"	15 (0.057")	5760A2 190.09
With Ultra-Grip Handles					
Oval	Semiflush	5"	25/64"	18 (0.040")	5760A32 178.36
29° Angled	Flush	4¾"	25/64"	18 (0.040")	5760A34 204.34
Tapered	Flush	5"	25/64"	18 (0.040")	5760A36 198.26

Air-Powered Wire-Cutting Pliers

Use your shop's air supply to power these cutting pliers. They're great for high-volume cutting and trimming of plastic (Style 1 jaw) and soft wire (Styles 2-5 jaws). Jaws can be mounted in the handle for right- and left-hand use. Pliers require 60 to 100 psi air supply. For bolt and cable cutters, see pages 2360 and 2362-2363.

Power Handles— Have an aluminum housing and a safety lever with a thumb latch that must be pushed forward to activate the lever. Come with a 5-ft. hose with 1/8" NPT male connection for power handle and 1/4" NPT male connection for air supply.

Cutting Jaws— Made of steel with a rust-resistant black-oxide finish. Jaws can be sharpened. *Scissor style* is useful for clean cutting of fine wire and nickel ribbon.

Also Available: Repl. parts. Please ask for 56145A21 and specify part name.



Power Handle with Style 2 Wire-Cutting Jaws (Sold Separately)









Medium Duty Power Handles

Cutting Force @ 80 psi	Size, Lg. × Dia.	Wt., oz.		Each
850 lbs.	5 1/2" × 1 3/4"	13	56145A31	$409.81

Cutting Jaws for Medium Duty Power Handles

	Cut Style	Cut Lg.	Max. Wire Size, AWG (Dia.)		Each
	Plastic Cutting				
1	Flush	1"	3/16"▲	56145A45	$113.45
	Wire Cutting				
2	Semiflush	1/2"	11 (0.090")	56145A43	107.82
	45° Angled Head Wire Cutting—56145A46 cuts and crimps in one motion				
3	Standard	3/8"	16 (0.050")	56145A46	107.32
3	Semiflush	7/16"	9 (0.114")	56145A41	114.66
	Scissor Style				
4	Shear	3/4"	9 (0.114")	56145A42	130.55

▲ For cutting plastic only; dimensions given are for maximum plastic thickness.

Heavy Duty Power Handles

Cutting Force @ 80 psi	Size, Lg. × Dia.	Wt., oz.		Each
1,120 lbs.	4" × 1 3/4"	16	56145A32	$469.70

Cutting Jaws for Heavy Duty Power Handle

	Cut Style	Cut Lg.	Max. Wire Size, AWG (Dia.)		Each
	Wire Cutting				
5	Semiflush	3/4"	22 (0.025")	56145A47	$382.81
5	Semiflush	1 1/32"	13 (0.072")	56145A44	296.60

Long-Nose Pliers





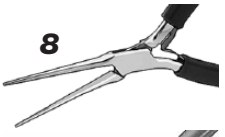









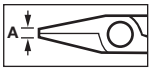

Also called needle-nose and chain-nose pliers, these are ideal for tight locations. Made of forged steel with serrated jaws, unless noted.

Pliers ***with wire cutter*** have hardened cutting edges that can cut soft wire. 5614A44 can also cut medium hard and hard wire. Pliers ***with spring return*** have a spring that automatically opens the jaws to reduce fatigue. Pliers ***with static-dissipative (ESD-safe) handles*** have cushion grips that dissipate electrostatic charges to protect sensitive electronic parts. Pliers ***with high-visibility handles*** have neon-colored grips for easy identification. Pliers ***with ultra-grip handles*** have grips made from hard and soft materials for a more comfortable grip than cushion grips. Pliers ***with insulated handles*** comply with IEC 60900 and ASTM F1505-01 standards and are tested to 1,000 volts. ***Miniature-head*** pliers are ideal for electronics applications.

	O'all Lg.	Jaw Lg.	Tip Thick. (A)	Spring Return		Each
	Without Wire Cutter					
	With Cushion-Grip Handles—5157A42 and 5157A34 are Type 420 stainless steel; 5614A31 is brass					
6	4 1/2"	15/16"	1/16"	Yes	5157A42●	$18.44
6	5 9/16"	1 11/16"	1/8"	Yes	5783A2	19.30
6	6"	1 17/32"	1/8"	Yes	5157A34	20.74
6	6 5/8"	1 7/8"	3/32"	Yes	5614A8	23.69
6	6 5/8"	1 7/8"	3/32"	No	5614A1	21.79
6	7 1/2"	2 7/16"	3/32"	Yes	5614A23	23.39
6	7 1/2"	2 21/32"	5/32"	No	5614A2	21.82
6	8"	2 19/32"	5/32"	No	5614A31	37.05
7	8 1/4"	1 9/16"	5/32"	No	5777A14	12.03
	With Static-Dissipative (ESD-Safe) Cushion-Grip Handles—5157A46 and 5157A47 are Type 420 stainless steel					
6	4"	13/16"	3/64"	Yes	5783A1	18.66
6	5"	1 3/64"	3/64"	Yes	5157A46	18.45
6	5"	1 3/16"	5/64"	Yes	5783A3	20.67
6	5"	1 27/64"	1/16"	Yes	5157A47●	18.45
6	5 1/2"	1 11/16"	5/64"	Yes	53895A19	19.51
6	5 1/2"	1 3/4"	5/64"	Yes	5781A14■	23.99
6	6"	2 5/16"	5/64"	Yes	53895A21	21.55
	Thin-Profile Head w/Cushion-Grip Handles—5157A38 is Type 420 stainless steel					
8	5"	1 3/16"	5/64"	Yes	5630A4	22.38
8	5 3/4"	1 15/16"	1/16"	Yes	5157A38	19.77
8	6 3/4"	2 1/4"	1/8"	No	5630A1	18.29
8	7 15/32"	2 11/16"	5/32"	No	5630A2	20.26

● Smooth jaws. ■ Has an alignment pin to prevent jaw overlap.

	O'all Lg.	Jaw Lg.	Tip Thick. (A)	Spring Return	Max. Wire Size, AWG (Dia.)		Each
	With Wire Cutter						
	With Plain Handles—Type 420 stainless steel						
6	6"	1 7/8"	1/8"	No	14 (0.064")	5157A43	$24.29
	With Cushion-Grip Handles—5157A39 is Type 420 stainless steel						
9	6 1/2"	1 3/4"	1/8"	No	18 (0.040")	5157A39	19.96
9	6 5/8"	1 7/8"	1/16"	Yes	12 (0.080")	5614A24	26.54
9	6 5/8"	1 7/8"	3/32"	No	12 (0.080")	5614A3	24.69
9	7 3/16"	2 7/16"	1/16"	Yes	10 (0.102")	5614A25	31.14
9	7 3/16"	2 7/16"	3/32"	No	10 (0.102")	5614A4	33.46
9	8"	2 1/8"	5/32"	No	10 (0.102")	5299A29	17.98
9	8 3/8"	2 19/64"	5/32"	No	11 (0.090")	5614A9	31.62
	Miniature Head with Cushion-Grip Handles—5157A36 is Type 420 stainless steel; 5326A11 has extra-long handles						
9	4 3/4"	1 3/64"	3/16"	Yes	18 (0.040")	5157A36	18.44
9	4 3/4"	1 3/32"	5/32"	Yes	25 (0.017")	5783A4	19.67
9	6"	1 3/32"	5/32"	Yes	22 (0.025")	5326A11	18.47
	With High-Visibility Cushion-Grip Handles— To Order: Please specify neon color: green, orange, or red.						
9	6"	2"	1/8"	No	22 (0.025")	5962A25	16.60
	With Static-Dissipative (ESD-Safe) Cushion-Grip Handles						
9	5 1/2"	1 11/16"	5/64"	Yes	18 (0.040")	53895A23	22.24
	With Ultra-Grip Handles						
10	6 1/4"	1 31/32"	7/64"	No	11 (0.090")	5614A44	27.44
	With Insulated Ultra-Grip Handles						
11	6 5/16"	1 15/16"	1/8"	No	14 (0.064")	5425A49	49.49
11	7 7/8"	3"	1/8"	No	14 (0.064")	5425A61	54.98
	With 19- and 22-AWG Wire Stripper						
12	6 5/8"	1 7/8"	3/32"	No	12 (0.080")	5731A61	31.25
	With 10-, 12-, and 14-AWG Wire Stripper and Crimper						
12	6 1/4"	7/8"	1/8"	No	10 (0.102")	5407A81	44.12

Long-Nose & Hemostat Pliers

For information about wire-cutting pliers and cut styles, see page 2743.

Extra-Reach Long-Nose Pliers

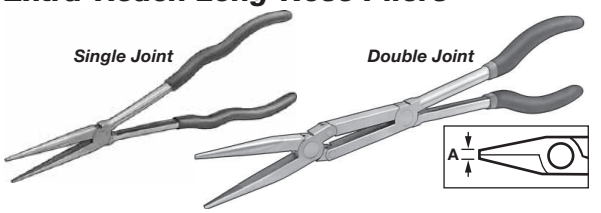

Perfect when you need to extend your reach, the handles on these pliers are longer than those on most long-nose and flat-nose pliers. Made of forged steel with cushion-grip handles. Jaws are serrated.

***Double Joint*—**Pliers have two joints, allowing the jaws to fully open with minimal handle movement. Useful for reaching into narrow areas.

	O'all Lg.	Jaw Lg.	Tip Thick. (A)		Each
Single Joint	11″	2 51/64″	11/64″	5777A22	$26.83
Double Joint	13″	3″	9/64″	5777A16	29.62

Long-Nose Locking Pliers

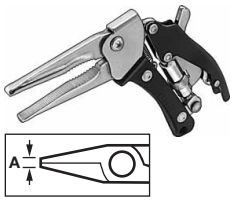

Get pistol-grip locking pliers and long-nose pliers in one tool. Just turn the pressure adjusting screw in the handle to lock the jaws around your workpiece. Pliers will stay clamped, leaving your hands free. A long nose on the jaws is ideal for use in confined spaces. Jaws are serrated and made of forged steel with a nickel-plated finish.

O'all Lg.	Jaw Lg.	Tip Thick. (A)		Each
8 5/8″	2 1/2″	5/16″	6261A11	$47.35

Flat-Nose Pliers



Although similar to long-nose pliers, these tools have a flat jaw head and wider tips. Also known as duckbill pliers, they're useful for reaching into confined spaces.

***With Cushion-Grip Handles*—**Jaws are serrated. 5567A12 can cut soft and medium hard wire up to 10 AWG (0.102″ Dia.).

***With Static-Dissipative (ESD-Safe) Cushion-Grip Handles*—**Have grips that dissipate electrostatic charges to protect sensitive electronic components. They have smooth jaws and a spring return. Type 420 stainless steel pliers have good corrosion resistance.

***With Insulated Cushion-Grip Handles*—**Meet IEC 60900 and ASTM F1505-01 standards and are tested to 1,000 volts. Jaws are serrated.

Material	O'all Lg.	Jaw Lg.	Tip Thick. (A)	Tip Wd. (B)		Each
With Cushion-Grip Handles						
Forged Steel	5 1/2″	1 3/8″	1/8″	11/64″	5567A12	$33.89
Forged Steel	8″	1 3/8″	7/32″	5/16″	5631A1	15.04
With Static-Dissipative (ESD-Safe) Cushion-Grip Handles						
Type 420 SS	4 1/2″	15/16″	3/64″	5/32″	5567A32	18.44
Type 420 SS	5″	1 3/16″	3/64″	5/32″	5567A1	18.45
Type 420 SS	6″	1 21/32″	3/64″	7/32″	5567A11	19.36
Forged Steel	5″	1 3/16″	5/64″	9/64″	5567A21	19.63
With Insulated Cushion-Grip Handles						
Forged Steel	6 5/16″	1 15/16″	9/64″	13/64″	54985A15	52.33

Round-Nose Pliers

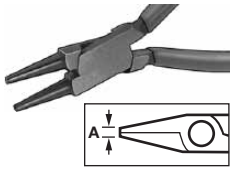

Commonly used to loop and form fine wire, pliers have a round nose and smooth jaws. ***Forged steel*** pliers have a cushion-grip handle. ***Type 420 stainless steel*** pliers resist corrosion and have static-dissipative (ESD-safe) cushion-grip handles that dissipate electrostatic charges to protect sensitive electronic components.

Material	O'all Lg.	Jaw Lg.	Tip Thick. (A)	Spring Return		Each
Forged Steel	4 1/2″	1 1/4″	9/64″	Yes	5779A6	$22.05
Forged Steel	6 5/16″	1 3/16″	1/8″	No	5779A8	25.14
Type 420 SS	5″	15/16″	7/64″	Yes	5779A2	30.74
Type 420 SS	6″	1 7/32″	7/64″	Yes	5779A21	32.26

Bent-Nose Pliers

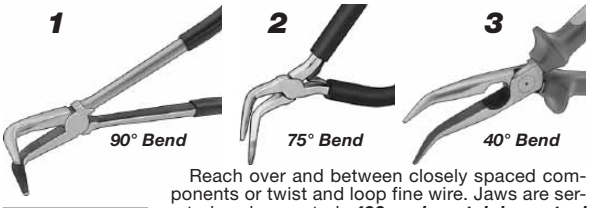



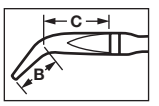

Reach over and between closely spaced components or twist and loop fine wire. Jaws are serrated, unless noted. ***400 series stainless steel*** pliers have good corrosion resistance.

***Style 1*—**5632A16 has a wire cutter for cutting medium and hard wire up to 16 AWG (0.051″ Dia.).

***Style 2*—**Pliers have static-dissipative (ESD-safe) handles with grips that dissipate electrostatic charges to protect sensitive electronic components. A spring return automatically opens the jaws.

***Style 3*—**Handles are insulated to comply with IEC 60900 and ASTM F1505-01 standards and are tested to 1,000 volts. Pliers are chrome plated with hardened cutting edges to cut soft and hard wire.

	O'all Lg.	Jaw Bend	Tip Thick. (A)	Jaw Lg. (B)	Jaw Lg. (C)		Each
Forged Steel							
With Cushion-Grip Handles							
1	6″	60°	5/32″	1 11/64″	1 3/64″	5632A14	$23.69
1	6 19/64″	40°	1/8″	15/16″	1 1/32″	5632A16	32.38
1	7 7/8″	70°	1/8″	2 27/64″	29/64″	5632A18	45.74
1	10 1/2″	90°	1/8″	1 1/4″	2 13/16″	5337A2	61.95
1	11″	45°	1/8″	1 35/64″	1 1/4″	5337A43	31.45
With Static-Dissipative (ESD-Safe) Cushion-Grip Handles							
2	5″	60°	3/32″	23/64″	7/8″	5336A42	25.07
2	5″	60°	5/64″	19/32″	11/32″	5336A44●	23.38
With Insulated Cushion-Grip Handles and Wire Cutters							
3	7 7/8″	40°	1/8″	29/32″	1 31/32″	5454A81	91.62
400 Series Stainless Steel							
With Cushion-Grip Handles							
1	4 1/2″	60°	1/8″	1/4″	1/2″	5336A39●	19.24
With Static-Dissipative (ESD-Safe) Cushion-Grip Handles							
2	5″	42°	3/64″	13/32″	1″	5336A41●	19.30
2	6″	75°	1/8″	1 7/64″	9/16″	5337A41	20.09

●Smooth jaws.

Stainless Steel Hemostat Pliers

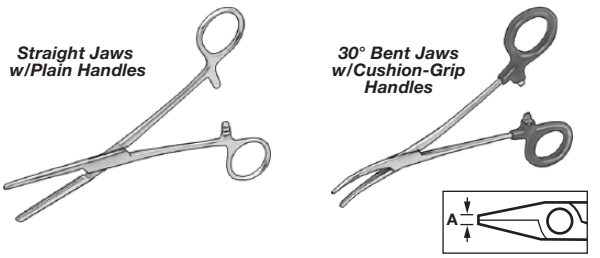

Use hemostat pliers for intricate work in tight spaces. All have a ratchet lock in the handle that allows you to vary the gripping pressure. Jaws are serrated and hold firmly without cutting. Made of 400 series stainless steel for good corrosion resistance.

Bent jaws have a 20° to 30° jaw bend, unless noted.

			Straight Jaws			Bent Jaws	
O'all Lg.	Jaw Lg.	No. of Locking Positions	Tip Thick. (A)		Each	Tip Thick. (A)		Each
With Plain Handles								
3 1/2″	2 5/32″	2	3/64″	5383A52	$4.41	3/64″	5383A62	$4.41
5 1/2″	1 1/8″	3	1/16″	5383A31	8.18	1/16″	5383A32♣	8.18
6 1/4″	1 3/4″	3	1/8″	5383A35	9.32	1/8″	5383A36♣	9.32
8″	2 23/64″	4	5/64″	5383A53	12.06	5/64″	5383A63	12.06
10 3/8″	3 1/4″	4	3/16″	5383A41	15.00	3/16″	5383A42	15.00
12″	4″	3	1/8″	5383A24	21.00	1/8″	5383A25	21.00
16″	5″	3	5/32″	5383A26	28.00	5/32″	5383A27	28.00
18″	5 15/32″	4	5/64″	5383A54	33.50	5/64″	5383A64	33.50
24″	6 7/64″	4	11/64″	5383A55	38.10	11/64″	5383A65	38.10
With Cushion-Grip Handles								
3 1/2″	1 3/16″	3	5/64″	5383A43	5.62	5/64″	5383A44	5.62
5 1/8″	1″	3	5/64″	5383A11	6.38	7/64″	5383A13	6.38
5 3/4″	1 1/4″	3	1/8″	5383A15	8.18	5/32″	5383A17	8.18
10 3/8″	3 1/4″	4	3/16″	5383A21	21.05	3/16″	5383A22	21.05
18″	1 3/16″	3	5/64″	5383A45	29.38	5/64″	5383A46	29.38

♣ Has a 45° jaw bend.

For information about wire-cutting pliers and cut styles, see page 2743.

Wire-Twisting Pliers



Manual Return



Also known as lock wire pliers, tools twist and cut Type 302/304 stainless steel safety wire (sold separately, see series 8860K on page 3828). Pliers are made of forged alloy steel with a black-oxide finish. Pliers have a diagonal nose and serrated jaws.

Note: If the plier body cannot turn freely, the wire will not twist.

***Manual Return*—** You push the knob back into the housing.

***Automatic Return*—** Simply release the knob and a spring automatically retracts it. Pliers *with wire catch* hold cut wire.

***Set*—** Packed in a plastic case. Wire meets ASTM A580 and MS 20995C. For extra wire, see series 8860K on page 3828.

O'all Lg.	Jaw Lg.	Max. Wire Cap.		Each
Manual Return				
Clockwise Rotation				
8 3/4"	1 1/8"	0.041"	5296A23	$83.33
10 1/2"	1 19/32"	0.060"	5649A1	86.68
11 7/8"	1 19/32"	0.060"	5649A2	86.98
Counterclockwise Rotation				
10 1/2"	1 19/32"	0.060"	5649A7	86.68
11 7/8"	1 19/32"	0.060"	5649A8	86.98
Automatic Return				
Clockwise Rotation				
8 3/8"	1 1/8"	0.041"	5296A62	88.03
10 1/2"	1 9/16"	0.060"	5296A25	94.25
11 7/8"	1 9/16"	0.060"	5296A26	110.47
Reversible for Clockwise and Counterclockwise Rotation				
8 3/4"	1 1/8"	0.041"	5296A54	95.75
11"	1 9/16"	0.060"	5296A52	102.48
12 1/4"	1 9/16"	0.060"	5296A53	104.20
Automatic Return with Wire Catch				
Reversible for Clockwise and Counterclockwise Rotation				
8 3/4"	1 1/8"	0.041"	5296A63	104.25
11"	1 9/16"	0.060"	5296A64	108.47

***5-Piece Set*—** Includes 5296A62 automatic-return pliers above, long-reach wire-twisting pliers (shown on this page), and three 1/4-lb. spools of Type 304 stainless steel safety wire in sizes 0.020", 0.032", and 0.041".

5296A55 ..... **Per Set** $163.56

Hose Pinch-Off Pliers



Once you clamp these pliers onto a hose, their automatic locking ratchet holds the jaws in place, allowing you to squeeze shut nonwire-reinforced hose.

Jaws swivel for parallel clamping and positive shutoff. Pliers virtually eliminate the need for draining the hose when installing thermostats and pumps on pressurized cooling systems. Ideal for radiator and heater hoses and water, air, vacuum, and fuel lines. Pliers are steel and have cushion-grip handles.

O'all Lg.	Jaw Lg.	OD Capacity		Each
5 1/2"	1 3/8"	3/4"	5774A21	$12.82
9 3/4"	2 1/2"	1 1/2"	5774A14	27.22
14"	4 3/8"	2 1/2"	5774A22	31.00

Fence Pliers



The plier head has a serrated hammer for driving staples on one side, a point for pulling staples on the other, and a 3/4" deep staple grip on top. Plus, there is a wire cutter on each side for double-stranded barbed wire and a wire stretcher between the handles. Made of forged steel with cushion-grip handles.

O'all Lg.	Head Lg.	Max. Wire Size, AWG (Dia.)		Each
10 1/2"	3 3/16"	11 (0.090")	5636A4	$21.27

Long-Reach Wire-Twisting Pliers

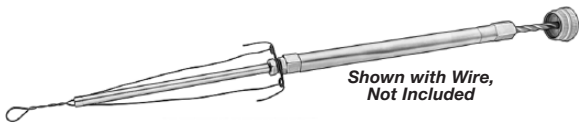

Shown with Wire, Not Included

Twist wire in narrow, hard-to-reach areas. Pliers have a slim design and come with an extension for extra length. Use with Type 302/304 stainless steel safety wire (sold separately, see 8860K series on page 3828). First, thread wire through the plier tip to the outside of the shaft. Then, thread the wire through the eyelets and bend the wire ends over to keep the wire in place. Finally, pull out the knob to twist the wire. Tool rotates clockwise. Shaft is made of chrome-plated steel.

O'all Lg.	Tip Dia.	Max. Wire Cap.		Each
13" or 19"	1/4"	0.057"	5726A9	$51.98

Stainless Steel Precision Micro-Pliers

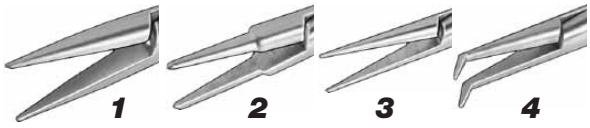

Easily work in the smallest of spaces, such as under a microscope. Pliers are made of 400 series stainless steel for good corrosion resistance. All can be autoclaved up to 600° F. Handles are designed to act as a spring return.



	O'all Lg.	Jaw Lg.		Each
1 Round Nose	3"	15/32"	5261A12	$31.30
2 Standard Long Nose	3"	15/32"	5261A11	31.30
3 Extra-Fine Long Nose	3"	1/2"	5261A13	31.30
4 45° Bent Nose	3"	3/8"	5261A14	31.30

Palm-Grip Miniature Pliers



Designed to fit comfortably in the palm of your hand, pliers have stainless steel jaws for good corrosion resistance. Handles are plastic and have a spring return.

Wire-cutting pliers make a flush cut. Max. wire size is 18 ga. (0.040" dia.).

	O'all Lg.	Jaw Lg.		Each
Wire Cutting	4 1/4"	5/16"	5486A3	$43.82
Long Nose	4 3/4"	1"	5486A5	46.78
55° Bent Nose	4 3/4"	1"	5486A7	38.45

Breakaway Collar Removal Pliers



Remove breakable round collars on 5/32" to 5/16" Hi-Lok, Hi-Lite, Hi-Tigue, Veri-Lite, and C-Lok style fasteners—even those with rounded and stripped collars. Also called Hi-Lok pliers, these get under collars to break them without cutting or damaging the fastener and surrounding material. Pliers work on collars/fasteners that have press-fit installation (hole is slightly smaller than fastener body) and clearance-fit installation (hole is slightly larger than fastener body). For collars/fasteners with clearance-fit installation, use a T-handle hex key (sold separately, see pages 2835-2837) to keep the fastener from turning.

Head is offset 20° and jaws are notched for maximum gripping power. Made of forged steel with a black-oxide finish and cushion-grip handles.

O'all Lg.	Jaw Thick.	Jaw Tip Width		Each
7 1/2"	9/32"	7/8"	1061A1	$37.22

Long-Reach Clamping Pliers

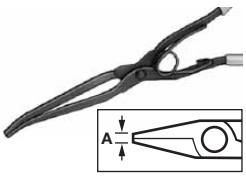

Similar to using a clamp, you squeeze the handles to open the jaws. When you release the handles, a spring snaps the jaws closed to hold your workpiece. Made of steel, pliers have long, serrated jaws and a 35° bend at the jaw tips for reaching into and around tight spaces. Handles have cushion grips.

O'all Lg.	Max. Jaw Opening	Jaw Lg.	Tip Thick. (A)		Each
9 1/4"	1 1/4"	3"	1/4"	5295A41	$42.73

Heavy Duty Fixed-Tip Retaining-Ring Pliers

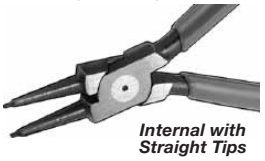

Internal with Straight Tips



External with 90° Tips

One-piece forged construction from the tips to the handles delivers super strength and long life. Made of hardened and tempered alloy steel. Handles have cushion grips. ***Internal pliers*** are for installing and removing rings inside a bore. ***External pliers*** are for installing and removing rings around a shaft. Pliers have a spring return.

For Bore Dia.	Tip Dia.	Straight Tip O'all Lg.		Each	90° Tip O'all Lg.		Each
Internal Pliers (For Rings in a Bore)							
5/16"- 1/2" (8- 13 mm)	0.035"	5 1/2"	5449A65	$22.89	5 1/8"	5449A75	$25.25
1/2" -1" (12- 25 mm)	0.053"	5 1/2"	5449A91	23.44	5 1/8"	5449A95	25.53
3/4" -2 3/8" (19- 60 mm)	0.070"	7 1/16"	5449A92	24.50	6 11/16"	5449A96	26.59
1 9/16"-3 15/16" (40-100 mm)	0.090"	8 7/8"	5449A93	27.48	8 7/16"	5449A97	28.81
3 3/8" -5 1/2" (85-140 mm)	0.126"	12 5/8"	5449A94	45.27	11 13/16"	5449A98	49.19
For Shaft Dia.							
External Pliers (For Rings on a Shaft)							
1/8" - 3/8" (3- 10 mm)	0.035"	5 1/2"	5449A79	$25.05	4 15/16"	5449A76	$27.69
3/8" -1" (10- 25 mm)	0.051"	5 1/2"	5449A81	25.43	4 15/16"	5449A85	27.93
3/4" -2 3/8" (19- 60 mm)	0.070"	7 1/16"	5449A82	26.60	6 11/16"	5449A86	29.00
1 9/16"-3 15/16" (40-100 mm)	0.090"	8 5/16"	5449A83	29.77	7 7/8"	5449A87	33.19
3 3/8" -5 1/2" (85-140 mm)	0.126"	12 5/8"	5449A84	53.76	11 13/16"	5449A88	56.44

2-Pc. Straight-Tip Sets— Packed in a plastic pouch.

Includes Internal Pliers	External Pliers	Per Set	
5449A91	5449A81	5449A31	$45.13
5449A92	5449A82	5449A32	47.12

4-Piece Straight-Tip Set— Includes one each of internal pliers 5449A91 and 5449A92 and external pliers 5449A81 and 5449A82. Packed in a nylon pouch.

5449A51 ..... **Per Set** $90.75

4-Piece Straight-Tip and 90° Tip Set— Includes one each of internal pliers 5449A91 and 5449A95 and external pliers 5449A81 and 5449A85. Packed in a nylon pouch.

5449A52 ..... **Per Set** $93.42

Standard Duty Fixed-Tip Retaining-Ring Pliers



Internal with Straight Tips

Tips are precision formed to optimize strength and ring handling capability. Made of stamped, heat-treated steel with a black-oxide finish. Handles have cushion grips with a spring return and an adjustable stop, except external pliers for 3/4"-3 1/2" bore diameter do not have a stop. ***Internal pliers*** are for installing and removing rings inside a bore. ***External pliers*** are for installing and removing rings around a shaft.

To Order: Please specify straight, 45° angle, or 90° angle tips.

For Bore Dia.	Tip Dia.	O'all Lg.		Each
Internal Pliers (For Rings in a Bore)				
1/4" - 5/16" (6- 8 mm)	0.025"	5 1/2"	57805A32	$16.12
3/8" -1 3/8" (10-35 mm)	0.038"	5 1/2"	57805A33	16.12
5/8" -1 3/8" (16-35 mm)	0.047"	5 1/2"	57805A34★	16.12
5/8" -2" (16-51 mm)	0.070"	6 1/2"	57805A35	17.41
1 13/16"-3" (46-76 mm)	0.090"	9"	57805A36	25.16

For Shaft Dia.	Tip Dia.	O'all Lg.		Each
External Pliers (For Rings on a Shaft)				
1/8" - 7/8" (3-22 mm)	0.038"	6 1/4"	57805A42	$15.96
1/8" - 7/8" (3-22 mm)	0.047"	5 3/4"	57805A43	16.13
3/4" -3 1/2" (19-89 mm)	0.115"	9 1/4"	57805A45◆	20.28
15/16"-2" (23-51 mm)	0.070"	7"	57805A44	17.41

★ Not available with 90° angle tips. ◆ Not available with 45° angle tips.

Miniature External Fixed-Tip Retaining-Ring Pliers



45° Tips

Install and remove tiny retaining rings. Made of heat-treated steel. Handles are plain with a spring return.

For Shaft Dia. (For Rings on a Shaft)	Tip Dia.	O'all Lg.	Straight Tip	45° Tip	90° Tip	Each
1/8" (3 mm)	0.023"	5 1/4"	58225A21	58225A22	58225A23	$16.98
5/32" (4 mm)	0.023"	5 1/4"	58225A31	58225A32	58225A33	16.98
3/16"-15/64" (5-6 mm)	0.023"	5 1/4"	58225A41	58225A42	58225A43	16.98

Internal/External Fixed-Tip Retaining-Ring Pliers



Thumb Screw Style with Straight Tips



T-Knob Style with 90° Tips



12-Pc. Set

Convert pliers from internal to external and vice versa. Made of stamped, heat-treated steel. Handles have cushion grips. Sets are packed in a plastic case, except for 5415A71 and 5415A72. ***Thumb Screw Style—*** To convert, remove the thumb screw, move handle from one hole to the other, and retighten the screw. ***T-Knob Style—*** To convert, give the T-knob a quarter turn, move the handle from one slot to the other, and retighten the knob.

To Order: Please specify straight, 45° angle, or 90° angle tips.

For Bore Dia. (For Rings in a Bore)	For Shaft Dia. (For Rings on a Shaft)	Tip Dia.	O'all Lg.	Thumb Screw Style	Each	T-Knob Style	Each
3/8" -1" (10-25 mm)	1/4" - 3/4" (6-19 mm)	0.038"	5 3/4"	5415A61	$16.15	5719A1	$16.15
5/8" -1 3/8" (16-35 mm)	5/16"- 7/8" (8-22 mm)	0.047"	5 3/4"	5415A62	17.30	5719A2	17.30
1 1/16"-2" (27-51 mm)	7/16"-1 7/16" (11-37 mm)	0.070"	7 1/4"	5415A63	19.02	5719A3◆	19.01
1 3/16"-3 1/4" (30-83 mm)	1 1/2" -3 1/2" (38-89 mm)	0.090"	9 1/4"	5415A64	26.64	5719A4	26.63

◆ Not available with 45° angle tips.

3-Pc. Thumb Screw Style Set— Includes one each of 5415A61 with straight, 45° angle, and 90° angle tips.

5415A71 ..... **Per Set** $39.40

4-Pc. Thumb Screw Style Set— Includes one each of 5415A61, 5415A62, 5415A63, and 5415A64 with straight tips.

5415A72 ..... **Per Set** $65.39

6-Pc. Thumb Screw Style Set— Includes one

5415A73 ..... **Per Set** $104.94

12-Pc. Thumb Screw Style Set— Includes one each of 5415A61, 5415A62, 5415A63, and 5415A64 with straight, 45° angle, and 90° angle tips.

7132A11 ..... **Per Set** $217.01

6-Pc. T-Knob Style Set— Includes one each of 5719A1, 5719A2, and 5719A3 with straight and 90° angle tips.

5719A5 ..... **Per Set** $110.65

12-Pc. T-Knob Style Set— Includes one each of 5719A1, 5719A2, 5719A3, and 5719A4 with straight, 45° angle, and 90° angle tips.

5719A51 ..... **Per Set** $217.01

Quick-Change Internal/External Fixed-Tip Retaining-Ring Pliers

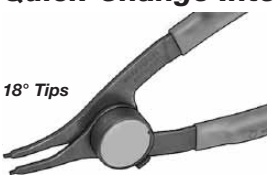

18° Tips

Simply turn the adjustment knob to quickly convert pliers from internal to external and back again. Made of stamped, heat-treated steel with a black-oxide finish. Handles have cushion grips.

For Bore Dia. (For Rings in a Bore)	For Shaft Dia. (For Rings on a Shaft)	Tip Dia.	O'all Lg.	18° Tip	Each	90° Tip	Each
3/8" -1" (10-25 mm)	1/4" - 3/4" (6-19 mm)	0.038"	6"	5182A11	$18.54	5182A12	$18.54
5/8" -1 3/8" (16-35 mm)	5/16"-1" (8-25 mm)	0.047"	6"	5182A21	20.12	5182A22	20.12
1 1/16"-2" (27-51 mm)	7/16"-2" (11-51 mm)	0.070"	7 1/4"	5182A31	21.11	5182A32	21.11

6-Pc. Set— Includes one each of pliers above. Packed in a plastic case. ..... **5182A41** **Per Set** $130.75

Heavy Duty Replaceable-Tip Retaining-Ring Pliers Set

Change tips instead of changing pliers. Pliers are forged, heat-treated steel with cushion-grip handles, a spring return, and an adjustable stop. Use the included 2.5 mm hex key to replace tips.





Pliers Set

Set includes one pair of internal pliers and one pair of external pliers. Internal pliers are for installing and removing rings inside a bore. External pliers are for installing and removing rings around a shaft. Includes one pair each of straight, 45° angle, and 90° angle tips in 0.035″, 0.051″, and 0.071″ dia. Packed in a plastic case.

5667A48 ..... **Per Set** $128.66

Replacement Tips—To Order: Please specify straight, 45° angle, or 90° angle.

Tip Dia.	For Bore Dia. (For Rings in a Bore)	For Shaft Dia. (For Rings on a Shaft)		Per Pair
0.035″	5/16″ - 15/32″ (8-12 mm)	1/8″ - 25/64″ (3-10 mm)	5667A1	$4.92
0.051″	15/32″- 63/64″ (12-25 mm)	25/64″- 63/64″ (10-25 mm)	5667A2	4.91
0.071″	3/4″ -2 31/64″ (19-63 mm)	3/4″ -2 31/64″ (19-63 mm)	5667A3	4.91

Standard Duty Replaceable-Tip Retaining-Ring Pliers Sets

You have many options for changing tools and tips. ***Sets A*** and ***B*** have both internal pliers and external pliers. ***Set C*** has internal pliers. ***Set D*** has external pliers. ***Internal pliers*** are for installing and removing rings inside a bore. ***External pliers*** are for installing and removing rings around a shaft.



Pliers Sets— Include pliers plus one pair of each tip size listed. Pliers are made of stamped, heat-treated steel and have cushion-grip handles with a spring return. Tips are made of steel and are color-coded for easy identification. Require a #1 Phillips screwdriver (not included) to change tips. *Sets A* and *B* are packed in a plastic case.

Replacement Tip Sets— 5625A17 and A32 include one pair of each tip size listed; 5625A15 includes two pairs of each size listed. All are packed in a plastic box.

For Bore Dia. (For Rings in a Bore)	For Shaft Dia. (For Rings on a Shaft)	*Included Tips, Dia.* Straight	45°	90°	O'all Lg.	*Pliers Sets* Per Set	*Repl. Tip Sets* Per Set
Internal and External Set							
A 3/8″-2″ (10-51 mm)	1/4″-2″ (6-51 mm)	0.038″, 0.047″, 0.070″	0.038″, 0.047″	0.038″, 0.047″	6 1/2″	5625A14★ $39.62	5625A17★ $9.03
B 3/8″-2″ (10-51 mm)	1/4″-2″ (6-51 mm)	0.038″, 0.047″, 0.070″, 0.090″	0.038″, 0.047″	0.038″, 0.047″	6 1/2″	5625A31 39.62	5625A32 9.27
Internal Set							
C 3/8″-2″ (10-51 mm)	—	0.047″, 0.070″	0.047″	0.038″	6 1/2″	5625A16 21.05	5625A15 9.27
External Set							
D —	1/4″-2″ (6-51 mm)	0.047″, 0.070″	0.047″	0.038″	6 1/2″	5625A18 21.05	5625A15 9.27

★ Also includes a 15° angle, 0.070″ dia. tip.

Quick-Change Internal/External Replaceable-Tip Retaining-Ring Pliers Sets

Just flip a switch to convert between external and internal action. ***Sets E*** and ***G*** have a stop that can be adjusted by turning the set screw. ***Set F*** is the same as Style G except it does not have a stop. ***Set H*** has an automatic ratchet lock that holds rings open or closed for easier installation and removal.

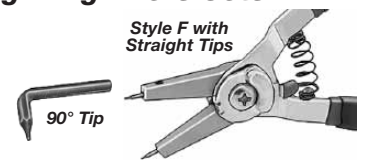

Pliers Sets— Include pliers and one pair of each tip size listed. Pliers are made of steel and have cushion-grip handles with a spring return. Tips are made of color-coded alloy steel and come with a hex key for changing tips. Packed in a plastic pouch.

Replacement Tip Sets— Each set includes one pair of each tip size listed. Packed in a plastic pouch. *Note:* Tips E, F, and G are interchangeable, H is not.

For Bore Dia. (For Rings in a Bore)	For Shaft Dia. (For Rings on a Shaft)	*Included Tips, Dia.* Straight	90°	O'all Lg.	*Pliers Sets* Per Set	*Repl. Tip Sets* Per Set
E 1/4″ -1″ (7- 26 mm)	1/8″-1″ (3- 26 mm)	0.023″, 0.036″, 0.047″	0.036″, 0.047″	6 3/16″	5391A33 $26.15	5391A41 $7.99
F 3/8″ -2″ (10- 51 mm)	1/4″-2″ (7- 51 mm)	0.036″, 0.047″, 0.070″	0.036″, 0.047″	7 5/8″	5391A34 26.96	5391A42 7.02
G 3/8″ -2″ (10- 51 mm)	1/4″-2″ (7- 51 mm)	0.036″, 0.047″, 0.070″	0.036″, 0.047″	7 5/8″	5391A35 30.70	5391A42 7.02
H 1 13/16″-4″ (46-102 mm)	1 1/2″-4″ (32-102 mm)	0.090″●, 0.108″●, 0.120″●	0.090″★, 0.108″★, 0.120″★	10 1/8″	5391A37 59.96	5391A43 16.29

● Tips are 15°. ★ Tips are 70°.

19-Piece Set— Includes Styles E, F, and H pliers; one pair of each tip size listed for each style; and hex keys for changing tips. Packed in a plastic case.

5391A91 ..... **Per Set** $113.92

Twist-Grip Replaceable-Tip Retaining-Ring Pliers Set



Give the handle a turn to open and close the jaws while you install and remove internal and external retaining rings. Use with rings that have bore diameters (for rings in a bore) from 2 7/16″ to 3 1/2″ (62 to 89 mm) and shaft diameters (for rings on a shaft) from 1 1/2″ to 4″ (38 to 102 mm). Made of stamped steel.

Set includes pliers, an extra pair of jaw plates and screws, and one pair each of 15° and 45° angle tips in 0.108″ dia. and 45° angle tips in 0.123″ dia. Pliers require a 3/32″ hex key (not included) to change tips. Overall length is 10″.

5538A11 ..... **Per Set** $51.82

Replacement Tip Set— Includes one pair each of 15° and 45° angle tips in 0.108″ dia. and 45° angle tips in 0.123″ dia., plus replacement jaw plates and screws. Packed in a plastic box.

5538A12 ..... **Per Set** $10.93

Replaceable-Tip Large-Diameter Retaining-Ring Pliers

A ratchet mechanism makes it easy to handle large rings. Compress and expand rings gradually, then lock in at the desired size without the need to keep pressure on the handles. Pliers are made of stamped, heat-treated steel and include a pair of straight steel tips. Require a #2 slotted screwdriver (not included) to change tips, except for 5300A27, which requires a 5/32″ hex key (not included). ***Internal pliers*** are for installing and removing rings inside a bore. ***External pliers*** are for installing and removing rings around a shaft.



Also Available: Extra tips. Please ask for 7131A1 for pliers with cushion-grip handles, 5300A3 for plain-handle pliers, and specify tip diameter and angle (straight, 15°, 45°, or 90°).

Note: 15° angle tips not available for pliers with plain handles.

For Bore Dia.	Tip Dia.	O'all Lg.		Each
Internal Pliers (For Rings in a Bore) w/Cushion-Grip Handles				
2 7/16″- 4 1/4″ (62-108 mm)	0.108″	9 1/2″	7131A21	$38.90
2 7/16″- 4 1/4″ (62-108 mm)	0.120″	9 1/2″	7131A26	38.90
Internal Pliers (For Rings in a Bore) with Plain Handles				
3 1/16″- 6″ (78-152 mm)	0.120″	16″	5300A21	72.20
6 1/4″ -10″ (159-254 mm)	0.150″	29″	5300A27	196.83

For Shaft Dia.	Tip Dia.	O'all Lg.		Each
External Pliers (For Rings on a Shaft) w/Cushion-Grip Handles				
1 9/16″-3 15/16″ (40-100 mm)	0.108″	9 1/2″	7131A31	$38.90
1 9/16″-3 15/16″ (40-100 mm)	0.120″	9 1/2″	7131A27	38.90
External Pliers (For Rings on a Shaft) with Plain Handles				
3 1/2″ -6 1/2″ (89-165 mm)	0.120″	16″	5300A33	72.20
6 3/4″ -9 1/2″ (171-241 mm)	0.170″	19″	5300A35	161.99

10-Piece Cushion-Grip Set— Includes internal pliers 7131A21, external pliers 7131A31, and one pair each of straight, 15°, 45°, and 90° angle tips in 0.108″ and 0.120″ dia. Packed in a plastic case.

7131A13 ..... **Per Set** $122.13

7-Piece Plain-Handle Set— Includes internal pliers 5300A21 and external pliers 5300A33, both with 0.120″ dia. straight tips. Plus, one pair each of straight, 45°, and 90° angle tips in 0.120″ dia.

5300A61 ..... **Per Set** $198.62

Large-Diameter T-Handle Replaceable-Tip Retaining-Ring Tool Set

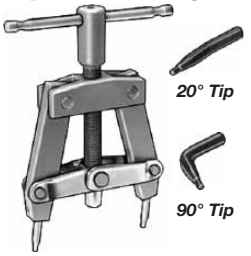

Install and remove large-diameter retaining rings easily and securely. The sliding T-handle and compound screw multiplies the force you exert and keeps internal rings contracted and external rings expanded to hold the rings in place. Tool is made of heat-treated steel and comes with one pair each of 20° angle and 90° angle tips in 0.120″, 0.150″, and 0.180″ dia. and a hex key for changing tips. Overall length is 7″. Packed in a plastic case.

Repl. Tip Sets— Include one pair each of 0.120″, 0.150″, and 0.180″ dia. tips.

	For Bore Dia. (For Rings in a Bore)	For Shaft Dia. (For Rings on a Shaft)		Per Set
Tool Set	3½″-7″ (90-175 mm)	3½″-7″ (90-175 mm)	5410A81	$106.97
20° Angle Replacement Tip Set			5410A82	14.83
90° Angle Replacement Tip Set			5410A83	14.83

External Retaining-Ring Tools

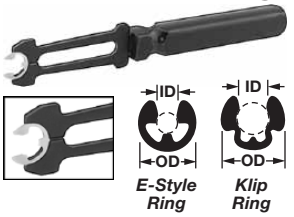

Choose tools for installing E-style or Klip ring retaining rings. Slide the retaining ring in between the jaws of the tool and push the ring onto a shaft. Remove rings by pulling or prying them off the shaft. Tools have steel jaws and a plastic handle. Overall length ranges from 4 15/16″ to 6 1/8″.

E-Style External Retaining-Ring Tools—Inch

For Ring OD	ID		Each	For Ring OD	ID		Each
5/32″	1/16″	93821A213	$23.51	7/16″	7/32″	93821A217	$24.54
3/16″	3/32″	93821A214	23.51	1/2″	5/16″	93821A219	24.54
13/64″	9/64″	93821A234	23.51	17/32″	1/4″	93821A238	24.54
15/64″	3/32″	93821A215	23.51	21/32″	3/8″	93821A221	24.54
9/32″	5/32″	93821A216	23.51	11/16″	7/16″	93821A222	24.54
5/16″	11/64″	93821A228	23.51	51/64″	1/2″	93821A223	28.75
21/64″	3/16″	93821A229	23.51	15/16″	5/8″	93821A224	28.75
3/8″	7/64″	93821A226	23.51	1″	3/4″	93821A235	44.05

E-Style External Retaining-Ring Tools—Metric (mm)

For Ring OD	ID		Each	For Ring OD	ID		Each
5.9	3	57905A41	$23.51	10.85	6	57905A44	$23.51
6.9	4	57905A42	24.54	11.8	7	57905A45	24.54
8.85	5	57905A43	24.54	13.8	8	57905A46	24.54

Klip Ring External Retaining-Ring Tools—Inch

For Ring OD	ID		Each	For Ring OD	ID		Each
21/64″	5/32″	5733A1	$34.70	19/32″	5/16″	5733A4	$34.70
13/32″	3/16″	5733A2	34.70	11/16″	3/8″	5733A5	36.41
31/64″	1/4″	5733A3	34.70	53/64″	1/2″	5733A7	36.41

Stainless Steel Locking Pliers



Made of Type 304 stainless steel to resist corrosion, pliers can be sterilized. All have a trigger-release lever handle and a pressure-adjusting screw to create a firm grip. Jaws are serrated.

Jaw Type	O'all Lg.	Max. Jaw Opening	Jaw Lg.		Each
Curved	7″	1 7/16″	1″	54645A24	$57.89
Straight	9″	1 3/4″	1 3/8″	54645A31	62.93

Storage Holder for Locking Pliers



Create convenient storage for up to three locking pliers (not included). Great for mounting to a table or bench top, holder has a thumb screw and a swivel pad that act like a C-clamp to firmly grip any surface up to 2″ thick. Made of steel with a corrosion-resistant enamel finish. Holder is 4 15/16″ Ht. × 2 1/2″ Wd.

Fits Pliers Lg.		Each
4″-5″, 6″-7″, 8″-12″	4978A22	$16.00

E- and C-Style External Retaining-Ring Tool





E-Style Ring *C-Style Ring*

A spring on one end of the tool holds a ring in position for installation, and a hook on the other end is for removal. Use with external E- and C-style rings with an ID of 0.156″ to 3″ and a thickness of 0.025″ to 0.093″. Made of steel. Overall size is 6 3/4″ Lg. × 9/32″ Wd. × 1/16″ Thick.

5728A2 ..... **Each** $19.44

External Lock-Ring Pliers

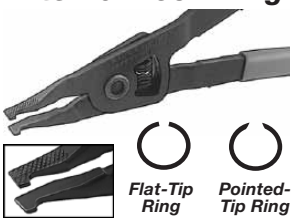

Flat-Tip Ring *Pointed-Tip Ring*

Use pliers with 3/4″ to 1 3/4″ diameter external flat and pointed-tip lock rings (also known as Eaton-style snap rings). Pliers are made of heat-treated steel and have cushion-grip handles with spring return. Jaw tips are offset and finely scored on the outside to prevent slipping. O'all length is 8 1/2″.

5773A14 ..... **Each** $20.03

Parallel-Action Pliers

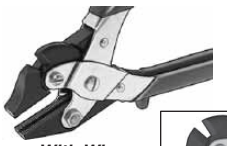

With Wire Cutter

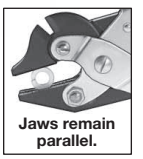

Jaws remain parallel.

Jaws remain parallel for a stronger grip—this keeps irregularly shaped objects from slipping forward when pressure is applied. Pliers have serrated steel jaws and plain handles made of nickel-plated steel. They also have a V-shaped slot in the lower jaw that allows you to lead wire and pins down the throat of the pliers. Close the pliers to hold the wire or pin firmly in place during pulling operations.

O'all Lg.	Max. Jaw Opening	Jaw Lg.	Max. Wire Size, AWG (Dia.)		Each
Without Wire Cutter					
5″	3/8″	1 3/8″	———	5654A1	$32.02
8″	11/16″	1 5/8″	———	5654A4	47.52
With Wire Cutter					
5″	3/8″	1 3/8″	10 (0.102″)	3728A1	44.36
8″	11/16″	1 5/8″	4 (0.204″)	3728A4	60.00

Self-Adjusting Locking Pliers



Automatically lock onto an object without repeated adjusting. Set the desired clamping pressure and jaws will automatically adjust to your work. An easy-release handle allows you to open with one hand. Pliers have serrated curved jaws and a wire cutter. Made of nickel-plated alloy steel.

O'all Lg.	Max. Jaw Opening	Jaw Lg.		Each
6″	1″	1″	5113A2	$16.09
10″	2″	1 1/4″	5113A3	18.45

Swivel-Jaw Locking Pliers



The swivel action of the jaw pads provides a secure hold on many shapes. Made of steel with knurled pads and a trigger-release lever handle. Use the pressure-adjusting screw to create a firm grip.

O'all Lg.	Max. Jaw Opening	Jaw Lg.		Each
9 1/4″	1 3/4″	1 1/2″	5114A51	$32.16
11 3/4″	3 15/16″	3 1/2″	5114A52	36.90

Vise-Grip Locking Pliers

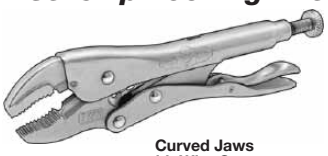
Curved Jaws with Wire Cutter (Trigger-Release Handles)


Long Nose Jaws (Easy-Release Handles)


Hex Jaws


Straight Jaws


Pinch-Off Jaws (Nonserrated)

Turn the pressure-adjusting screw in the handle to lock the jaws in a vise-like grip around your workpiece. Pliers stay clamped on your work, leaving your hands free. Pliers are made of nickel-plated alloy steel. Jaws are serrated, unless noted.

Trigger-Release Handles—To open pliers, press the release trigger on the lower handle.

Easy-Release Handles—You can pull handles open with one hand; handles open twice as easily as trigger-release handles.

Pliers with wire cutter cut up to 3/64″. One bite will cut thinner wires; progressive bites will cut thicker wires.

Pliers with hex jaws lock on three sides of a hex fastener without damaging or slipping off the fastener.

Pliers with pinch-off jaws are for pinching off tubing as well as water and gas lines in general repair work.

Individual Pliers

Jaw Type	O'all Lg.	Max. Jaw Opening	Jaw Lg.	Trigger-Release Handles	Each	Easy-Release Handles	Each
With Wire Cutter							
Curved	4″	15/16″	5/8″	5369A8	$9.65		
Curved	5″	1 1/8″	3/4″	5369A7	9.89	5172A32	$10.88
Curved	7″	1 1/2″	1″	5369A5	10.87	5172A33	11.96
Curved	10″	1 7/8″	1 1/8″	5369A6	11.60	5172A34	12.76
Long Nose	5 1/4″	1 1/2″	1 3/8″	7136A19	10.79		
Long Nose	6 1/2″	2″	1 3/4″	7136A21	11.17	5172A35	12.29
Long Nose	8 3/4″	2 3/4″	2 3/8″	7136A23	13.67		
Hex	4″	1/4″-9/16″ (7-14 mm)•	9/16″	5369A61	12.76		
Hex	7″	7/16″-3/4″ (11-19 mm)•	3/4″	5369A62	14.51		
Hex	10″	5/8″-1 1/8″ (16-28 mm)•	1 1/8″	5369A63	17.97		
Without Wire Cutter							
Straight	7″	15/16″	1″	5369A1	10.77	5172A51	11.85
Straight	10″	1 3/4″	1 1/2″	5369A2	11.60	5172A5	12.76
Pinch Off	7″	15/16″	1″	7173A11▲	12.01		
Curved	7″	1 1/2″	1 3/8″	5369A3	10.85	5172A53	11.94
Curved	10″	1 7/8″	1 1/2″	5369A4	12.07	5172A52	13.28
Curved	12″	3 1/8″	3 1/2″	7136A15	21.56		

• Jaw capacity represents hex fastener size. ▲Jaws are smooth (nonserrated).

Trigger-Release Sets

3-Pc. Set—Includes one each of 5″ curved jaw without wire cutter, 10″ curved jaw with wire cutter, and 6 1/2″ long nose with wire cutter. Packed in a pouch.

5369A46 ..... Per Set $29.74

3-Pc. Set—Includes one each of 10″ curved jaw with wire cutter, 6 1/2″ long nose with wire cutter, and 7″ straight jaw without wire cutter.

5172A42 ..... Per Set $25.79

4-Pc. Set—Includes one each of 10″ curved jaw with wire cutter, 6 1/2″ long nose with wire cutter, and 7″ and 10″ straight jaw without wire cutter. Packed in a pouch.

5369A47 ..... Per Set $42.10

Easy-Release Set

4-Pc. Set—Includes one each of 7″ and 10″ straight jaw and 7″ and 10″ curved jaw; all are without a wire cutter. Packed in a box.

5172A54 ..... Per Set $46.95

Adjustable Wrenches

Adjustability makes these wrenches a popular choice—they fit workpieces in many shapes and sizes.

Wrenches and Wrench Sets

Made of steel. **Automatic Locking—**Prevent accidental adjustment that can cause the jaws to loosen and slip off your workpiece. Apply pressure to these wrenches and the knurls won't turn.

O'all Lg.	Jaw Cap.	Standard Chrome		Standard Black		Cushion Grip Chrome		Cushion Grip Black		Automatic Locking Chrome	
4″	1/2″	5385A11	$15.39	5386A8	$14.48	7260A11	$17.56			5362A6	$17.17
6″	15/16″	5385A12	17.82	5386A2	16.76	7260A12	19.10	7260A222	$15.94	5362A1	17.62
8″	1 1/8″	5385A13	18.47	5386A3	16.96	7260A13	19.92	7260A223	18.26	5362A2	18.41
10″	1 5/16″	5385A14	21.30	5386A4	20.44	7260A14	24.13	7260A224	21.96	5362A3	23.80
12″	1 1/2″	5385A15	30.70	5386A5	30.37	7260A15	35.46	7260A225	30.54	5362A4	33.80
15″	1 11/16″	5385A16	52.59	5386A6	50.08	7260A16	61.92			5362A5	53.17
18″	2 1/16″	5385A17	87.72	5386A7	85.67						
24″	2 7/16″	5385A18	154.45	5386A9	138.94						
36″	4 3/4″	5385A34★	929.72								

★ Has a painted gray finish.

3-Pc. Sets—Include one each of 6″, 8″, and 10″ wrenches. Made of steel.

	Finish		
Standard	Chrome	5385A32	$56.19
Standard	Black	5386A47	55.73
Cushion Grip	Chrome	7260A21	49.50

5-Pc. Standard Set—Includes one of each 4″, 6″, 8″, 10″, and 12″ wrenches. Made of steel with a chrome finish. Packed in a plastic pouch.

5385A33 ..... $97.50

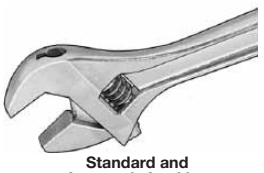
Standard and Automatic Locking


Cushion Grip


Cushion Grip with Measuring Scale

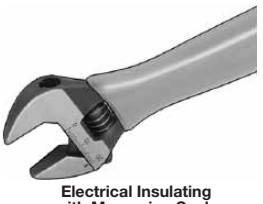
Electrical Insulating with Measuring Scale

Wrenches with Measuring Scale

In addition to turning fasteners, these wrenches let you measure objects using a scale on the head. Made of steel.

Cushion Grip—Wrenches have a plastic grip.

Electrical Insulating—Wrenches are insulated for safety in case of accidental contact with live electrical circuits. They are tested to 1,000 volts to meet IEC 60900.

O'all Lg.	Standard Jaw Cap.	Chrome		Cushion Grip Jaw Cap.	Black		Electrical Insulating Jaw Cap.	Unfinished	
4″	1/2″	7430A31	$22.72				1/2″	7435A31	$57.96
6″	15/16″	7430A32	23.68	1″	5211A52	$14.79	3/4″	7435A32	58.87
8″	1 3/16″	7430A33	26.56	1 1/8″	5211A53	16.59	15/16″	7435A33	59.98
10″	1 3/8″	7430A34	34.28	1 3/8″	5211A54	21.09	1 1/16″	7435A34	66.24
12″	1 1/2″	7430A35	51.64	1 1/2″	5211A55	28.35	1 5/16″	7435A37	83.16
15″	1 11/16″	7430A36	81.71				1 11/16″	7435A36	147.38
18″	2 1/8″	7430A37	141.46						

Adjustable & Pipe Wrenches

Tight-Clearance Adjustable Wrenches



The thin head and long jaws fit into narrow spaces. Wrenches are chrome-plated steel with a plastic grip.

O'all Lg.	Jaw Cap.		
8"	1½"	91821A200	$23.49

Lever-Locking Adjustable Wrenches



Get an adjustable wrench and lockable pliers in one tool. Press the lever to lock the jaws and these wrenches will stay clamped on your work, leaving your hands free. Wrenches are chrome-plated steel.

O'all Lg.	Jaw Cap.		
10"	1 3/16"	6556A8	$18.59

Adjustable Wrenches with Hammer Face



A raised section on the head functions as a hammer. Also known as miners' wrenches. Made of chrome-plated steel.

O'all Lg.	Jaw Cap.		
12"	1¾"	91822A100	$54.99

Ratcheting Adjustable Wrenches



You can reposition these wrenches without removing them from your workpiece. Wrench is chrome-plated steel with a rubber grip.

O'all Lg.	Jaw Cap.		
6"	13/16"	53495A41	$20.30
8"	15/16"	53495A42	25.67
10"	1 3/16"	53495A43	32.29

Corrosion-Resistant Adjustable Wrenches



Standard

Wrenches are made of stainless steel, which provides excellent corrosion resistance. **Standard** wrenches can be autoclaved up to 250° F.

O'all Lg.	Jaw Cap.	Standard		Cushion Grip	
6"	¾"	7375A37	$55.92	7375A28	$57.85
8"	15/16"	7375A31	65.23	7375A24	77.19
10"	1 3/16"	7375A32	80.97	7375A25	95.35
12"	1 7/16"	7375A33	104.80	7375A26	122.85

Combination Adjustable/Pipe Wrenches



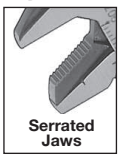

Serrated Jaws

Reverse the movable jaw to convert from a smooth-jaw adjustable wrench to a serrated-jaw pipe wrench. Made of steel with a plastic grip.

O'all Lg.	Jaw Cap.	Chrome		Black	
6"	13/16"	5195A22	$27.48	5195A42	$23.34
8"	1 1/16"	5195A24	28.53	5195A44	24.48
10"	1 5/16"	5195A26	35.66	5195A46	29.74
12"	1 5/16"	5195A28	43.66	5195A48	38.39

Nonmarring Pipe Wrenches



Also known as monkey or auto wrenches, these tools have smooth jaws. Made of chrome-plated steel.

O'all Lg.	Jaw Cap.		
9"	2¾"	5382A1	$33.70
11"	3"	5382A2	39.84
15"	3⅝"	5382A3	63.38
18"	4⅜"	5382A4	88.49

Combination Pipe/Valve Wheel Wrenches

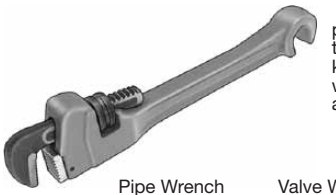

Use one end as a traditional pipe wrench and the other to loosen valve wheels. Also known as engineers' pipe wrenches. Made of steel. Jaws are serrated.

O'all Lg.	Pipe Wrench Jaw Capacity	Valve Wheel Wrench Size		
10"	1"	⅝"	51425A25	$96.61

Filter Wrenches



Band Style



Socket-Drive Style (Socket Wrench Not Included)



Plier Style

Band style have a vinyl-covered swivel handle and 1" wide stainless steel band except wrench for 2⅜"-2⅝"/60.3-66.7 mm dia. filters has a ½" wide band. **Socket-drive style** require a ⅜" square drive socket wrench for use as the handle. Ideal for tight spots, they work from the top of the filter. **Plier style** have a two-position, slip-joint, cushioned handle to cover a large range.

Filter Dia. Range		
Band Style		
2⅜"-2⅝"/60.3-66.7 mm	6880A14	$9.02
2⅞"-3¼"/73-82.5 mm	6880A12	8.85
3½"-3⅞"/88.9-98.4 mm	6880A11	8.85
4⅛"-4½"/104.7-114.3 mm	6880A13	9.93
Socket-Drive Style		
2½"-3⅛"/63.5-79.3 mm	6880A15	10.83
3⅛"-3⅞"/79.3-98.4 mm	6880A16	12.20
Plier Style		
2¼"-4"/57.1-101.6 mm	6880A17	32.57
3⅝"-6"/92-152.4 mm	6880A18	45.72

Internal Pipe Wrenches and Knurled-Grip Extractors

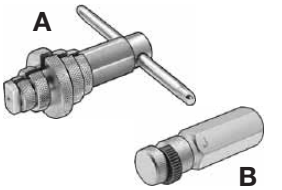

Insert into a pipe or fitting and turn. Made of steel.

(A) Internal Pipe Wrench—The wrench grips the walls for easy installation and removal without damaging threads. It has a sliding T-handle for turning.

(B) Knurled-Grip Extractors—Require a wrench (not included) to turn. The knurls will grip the part so you can twist it out.

	Pipe Size	O'all Lg.		
A	1-2	4 9/16"	7172A11	$80.58
B	⅜	3¾"	5371A13	5.94
B	½	3¾"	5371A14	6.64
B	¾	3¾"	5371A15	7.42
B	1	3¾"	5371A16	10.44

4-Piece Set—Includes one each of pipe sizes ⅜, ½, ¾, and 1. Packed in a vinyl pouch.

5371A24 ... $29.93

Round-Grip Nonmarring Pipe Wrenches



Jaws and Handle Sold Separately

Build your own pipe wrench. The smooth jaws grip most round surfaces, even highly polished objects. Push down on the wrench and pull the handle toward you—the jaws will encircle the workpiece. Made of steel. Handles have a red painted finish. Jaws and handles are sold separately. Note: Jaws are not interchangeable with other handles.

To Order: For jaws, please specify size from those listed. A separate jaw is needed for each pipe diameter.

Jaw and handle sets include a handle and one of each jaw size listed.

Jaw Sizes For Pipe OD	Jaws Wd.			Handles Lg.			Jaw and Handle Sets	
1", 1 1/16", 1⅛", 1¼", 1 5/16"	2"	5351A15	$230.76	10"	5351A71	$156.38	5351A24	$1,255.99
1¼", 1½", 1¾", 1⅞", 2", 2⅛"	3⅛"	5351A16	273.63	20"	5351A72	306.37	5351A25	1,988.29

Pipe Wrenches and Heavy Duty Adjustable Wrenches

These tools have a heavy duty handle. Hook jaws and heel jaws are steel. Wrenches meet Fed. Spec. GGG-W-651e, unless noted.

Pipe Wrenches—Have serrated jaws. The *aluminum* wrenches are more corrosion resistant and lighter weight than iron wrenches.

Heavy Duty Adjustable Wrenches—Have smooth jaws and are not for use on pipe.

End style wrenches have an angled head for working in tight spaces. *Offset style* wrenches are similar to end style, but are especially effective for overhead work.

Note: Straight style and end style wrenches have the same replacement parts.



Pipe Wrench, Straight Style



Pipe Wrench, End Style



Pipe Wrench, Offset Style



Heavy Duty Adjustable Wrench, Straight Style



Heavy Duty Adjustable Wrench, Offset Style

REPLACEMENT PARTS



O'all Lg.	Jaw Cap.	Wrenches: Straight Style		Wrenches: End Style		Replacement Parts: Hook Jaws		Heel Jaws & Pins		Coils & Flat Springs		Nuts	
Pipe Wrenches													
Iron													
6″	¾″	5357A121	$14.67	5357A141	$18.81	5357A181	$11.83	5357A201	$5.32	5357A241	$3.56	5357A261	$3.51
8″	1″	5357A122	17.91	5357A142	21.57	5357A182	11.88	5357A202	6.56	5357A242	3.68	5357A262	3.68
10″	1½″	5357A123	23.48	5357A143	29.06	5357A183	15.50	5357A203	8.71	5357A243	3.90	5357A263	3.85
12″	2″	5357A124	27.05	5357A144	33.75	5357A184	17.70	5357A205	11.09	5357A244	4.24	5357A264	4.41
14″	2″	5357A125	30.33	5357A145	36.59	5357A176	21.15	5357A205	11.09	5357A131	4.81	5357A265	4.98
18″	2½″	5357A126	43.83	5357A146	52.89	5357A177	29.52	5357A206	14.93	5357A132	8.65	5357A266	7.30
24″	3″	5357A127	69.36	5357A147	86.72	5357A178	46.04	5357A207	22.74	5357A133	9.67	5357A267	10.86
36″	5″	5357A128	148.76	5357A148	185.07	5357A188	96.72	5357A208	38.46	5357A248	12.33	5357A268	19.74
48″	6″	5357A129	230.99			5357A189	143.66	5357A209	60.63	5357A249	14.93	5357A269	30.49
60″	8″	5357A171	326.54			5357A172	228.62	5357A173	93.88	5357A174	24.83	5357A175	54.19
				Offset Style						Flat Springs			
14″	2″			5357A165	57.01	5357A191	25.31	5357A205	11.09	5357A194	4.28	5357A265	4.98
18″	2½″			5357A166	84.25	5357A192	36.04	5357A206	14.93	5357A195	7.28	5357A266	7.30
24″	3″			5357A167	133.26	5357A193	57.13	5357A207	22.74	5357A196	10.14	5357A267	10.86
Aluminum				End Style						Coils & Flat Springs			
10″	1½″	5591A44	36.39	5764A31★	41.38	5357A183	15.50	5357A203	8.71	5357A243	3.90	5357A263	3.85
14″	2″	5591A46	49.51	5764A33★	59.14	5357A176	21.15	5357A205	11.09	5357A131	4.81	5357A265	4.98
18″	2½″	5591A47	61.68	5764A35★	73.96	5357A177	29.52	5357A206	14.93	5357A132	8.65	5357A266	7.30
24″	3″	5591A48	98.32	5764A37★	117.01	5357A178	46.04	5357A207	22.74	5357A133	9.67	5357A267	10.86
36″	5″	5591A49	175.51			5357A188	96.72	5357A208	38.46	5357A248	12.33	5357A268	19.74
48″	6″	5591A51	347.41			5357A189	143.66	5357A209	60.63	5357A249	14.93	5357A269	30.49
				Offset Style						Flat Springs			
14″	2″			52905A61	67.20	5357A191	25.31	5357A205	11.09	5357A194	4.28	5357A265	4.98
18″	2½″			52905A62	88.05	5357A192	36.04	5357A206	14.93	5357A195	7.28	5357A266	7.30
24″	3″			52905A63	139.44	5357A193	57.13	5357A207	22.74	5357A196	10.14	5357A267	10.86
Heavy Duty Adjustable Wrenches													
Iron		Straight Style		Offset Style									
9½″	1⅛″-2⅝″			5373A21	34.59	5373A211	20.61					5357A263	3.85
14½″	⅝″-1¼″	5373A22★	58.92			5373A221	33.08					5357A266	7.30
20″	1″-2″	5373A23★	90.45			5373A231	51.01					5357A267	10.86

★Does not meet Fed. Spec. GGG-W-651e.

Self-Adjusting Pipe Wrenches

The top jaw is hinged to clamp down without the need for adjustment screws. Jaws are serrated and made of steel.

Standard—Jaws are spring loaded for a snug fit.

Ratcheting—The head rotates to provide leverage in hard-to-reach spots.



Standard



Ratcheting

O'all Lg.	Jaw Cap.	Material		
Standard				
10″	⅛″-1½″	Steel	5355A14	$29.53
14″	⅜″-2″	Steel	5355A16	35.99
18″	¾″-3″	Aluminum	5355A19	72.66
Ratcheting				
11½″	1½″	Steel	4476A11	56.39
14½″	2½″	Steel	4476A21	76.41

Quick-Adjust Pipe Wrenches

Press the lever to slide the movable jaw to the desired position—tension keeps it in place. Wrench is aluminum with steel serrated jaws.



O'all Lg.	Jaw Cap.		
11″	2¼″	7023A41	$31.29

Strap & Chain Wrenches

Strap Wrenches







Grip objects of almost any shape without marring. These wrenches are good for plastic pipe, tubing, hand wheels, filters, and objects with highly polished surfaces.

Styles A&B have an iron handle. Style A has a polyester strap. Style B has a rubber-coated polyester strap. **Style C** have a plastic handle and rubber strap. **Style D** has an aluminum handle and rubber strap. **Style E** have an iron handle and a rubber-coated polyester strap. A shackle holds the strap closed for extra turning force and allows quick adjustment.

Handle Lg.	For OD	Strap Wd.	Strap Lg.	Strap Thick.	Wrenches		Repl. Strap ■ Lg.		10-ft. Strap Roll ■	
Standard										
A 6″	1/4″-4″	1/2″	22″	1/32″	5378A31	$14.23	23″	5378A32	$3.62	5378A33	$29.29
B 12″	1/2″-2″	1 1/4″	17″	1/16″	5378A1▲	33.05	18″	5378A4	13.60	5349A22	65.58
B 18″	1 1/4″-6 1/2″	1 3/4″	30″	3/32″	5378A2▲	67.12	32″	5378A5	24.20	5349A23	83.84
B 24″	2 3/8″-12″	2 1/4″	54″	3/32″	5378A3	113.15	55″	5378A6	42.50	5349A24	103.72
C 6″	1/2″-4″	1/2″	20″	1/8″	54325A61	6.76	20″	54325A41	3.93		
C 8″	3/4″-6 3/4″	3/4″	24″	3/16″	54325A62	15.85	24″	54325A42	8.38		
D 8″	3/4″-12″	3/4″	38″	3/16″	54325A63	23.24	38″	54325A43	11.78		
Secure Grip										
E 12″	1/2″-2″	1 1/4″	17″	1/16″	5349A11▲	105.93	17″	5349A15	24.76		
E 18″	1 1/4″-6 1/2″	1 3/4″	30″	3/32″	5349A12▲	152.79	30″	5349A17	32.20		
E 24″	2 3/8″-12″	2 1/4″	54″	3/32″	5349A14	262.79	54″	5349A19	62.21		

2-Pc. Standard Style C Set—Includes one each of 54325A61 and A62 ... 54325A57 ... 19.72

■ Replacement straps do not fit Ridgid brand strap wrenches. ▲ Meet Fed. Spec. GGG-W-651e.

Square Drive Strap Wrenches

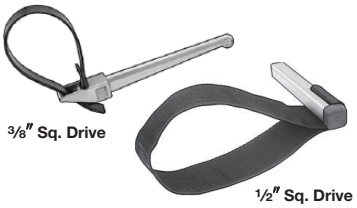

Pair these wrenches with your ratchet wrench to get more leverage. They grip objects of almost any shape without marring and are good for plastic pipe, tubing, hand wheels, filters, and objects with highly polished surfaces.

3/8″ Square Drive—Handle is aluminum; strap is made of rubber/fabric blend.

1/2″ Square Drive—Handle is steel. Strap is nylon and is not replaceable.

Square Drive	Handle Lg.	For OD	Strap Wd.	Strap Lg.	Strap Thick.	Wrenches		Replacement Strap	
3/8″	6 1/2″	1/2″-2″	1/2″	12″	5/64″	5448A31	$58.88	5448A33	$24.93
1/2″	6″	3/4″-6″	2″	23″	1/16″	6860A14	11.33		

Chain Wrenches

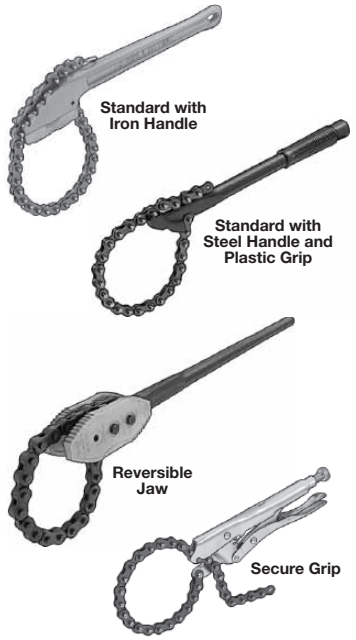

Grip objects of almost any shape with these heavy duty wrenches. Chain is steel. Wrenches meet Fed. Spec. GGG-W-651e, unless noted.

Reversible Jaw—When the teeth on the jaws become burred or dull, reverse them to double the service life of these tools. Also known as chain tongs.

Secure Grip—Turn the adjustment screw and squeeze the handle to lock the chain. Press the lever to release. Add as many 18″ lengths of **extension chain** (sold separately) as you need to the chain already on your wrench.

Handle Lg.	For OD	Chain Lg.	Chain Breaking Strength, lbs.	Wrenches		Replacement Chain		Replacement Jaws	
Standard—Iron Handle									
14″	3/8″-4 9/16″	17″	6,500	5367A14★	$67.49	5367A43	$10.84	5367A61	$42.71
18″	9/16″-5″	18″	12,100	5367A23★	100.89	5367A54	27.62	5367A62	43.16
24″	9/16″-5 3/4″	21″	12,100	5367A24★	117.08	5367A55	33.00	5367A62	43.16
33″	13/16″-7 1/16″	27″	17,750	5367A17	240.36	5367A46	86.81	5367A63	100.71
44″	1 5/16″-8 1/2″	31″	24,500	5367A18	440.54	5367A47	150.79	5367A64	137.68
46″	1 7/8″-10 15/16″	40″	27,000	5367A19	735.99	5367A48	340.64	5367A65	177.34
46″	2 7/8″-12 15/16″	48″	35,000	5367A21★	1,418.14	5367A49	558.47	5367A66	179.71
46″	2 7/8″-17 15/16″	72″	35,000	5367A22	1,622.29	5367A51	695.04	5367A66	179.71
Standard—Steel Handle; 5377A11 has a plastic grip									
13″	1/2″-4 3/4″	16″	5,000	5377A11★	46.23	5377A14	26.33		
19 1/2″	3″-6 3/4″	24″	8,100	5377A12★	126.73	5377A16	69.39		
Reversible Jaw—Steel Handle									
27″	1/4″-2 1/2″	17″	13,800	5366A13	241.06	5366A22	93.85		
37″	3/4″-4″	22″	17,600	5366A14	335.81	5366A23	156.68		
43″	1″-6″	32″	20,100	5366A15	433.61	5366A24	219.97		
50 1/2″	1 1/2″-8″	40″	22,000	5366A16	529.92	5366A25	277.43		
64 1/2″	2″-12″	55″	31,000	5366A17	852.38	5366A26	462.85		
Secure Grip—Steel Handle									
9″	1 1/16″-5 11/16″	18″	6,000	5376A14★	30.95	5376A18	14.86		

18″ Extension Chain for Secure-Grip Chain Wrench ... 5376A16 ... 14.86

★ Does not meet Fed. Spec. GGG-W-651e.

Square Drive Chain Wrenches



Access hard-to-reach caps and plugs or grip objects of almost any shape using your ratchet wrench as a handle. Chain is made of steel.

1/2″ Square Drive—Head is steel.

3/4″ Square Drive—Head is iron.

Square Drive	For OD	Chain Lg.	Chain Breaking Strength, lbs.		
1/2″	3/4″-5″	16″	6,400	5447A3	$43.37
3/4″	1 1/2″-7 1/2″	25″	13,000	5447A52	276.71

About Spanner Wrenches

There are two styles of spanner wrenches, pin style and hook style. Both styles are offered in fixed and adjustable versions. **Fixed** wrenches fit a single circle diameter. **Adjustable** wrenches fit a range of circle diameters—a good choice when you are unsure of the exact diameter you're working with.

Pin style spanner wrenches fit into round holes. Holes can be located on the **side** (circumference) of rings, locknuts, and collars or on the **face** of flanges and collars.



Pin Style



Holes on the Side



Holes on the Face

Hook style spanner wrenches fit into slots. Slots are located on the **side** (circumference) of rings, locknuts, and collars.



Hook Style



Slots on the Side

Spanner Wrenches

These wrenches are shaped to fit round holes on the circumference of rings, flanges, collars, bearings, and other machine tool equipment. All are steel with a black finish, except Style F also comes in stainless steel. **Stainless steel** wrenches are corrosion resistant and can be autoclaved up to 600° F.

(A) Pin Style, Fixed for Holes on the Side

For Circle Dia.	Pin Dia.	Pin Lg.	O'all Lg.		
Inch					
1"	3/16"	3/16"	4"	5475A11	$10.87
1 1/4"	13/64"	3/16"	4 1/2"	5475A12	11.41
1 1/2"	7/32"	7/32"	5"	5475A13	11.54
1 3/4"	15/64"	7/32"	5 1/2"	5475A14	12.00
2"	1/4"	1/4"	6"	5475A15	12.83
2 1/4"	17/64"	1/4"	6 1/2"	5475A16	13.57
2 1/2"	9/32"	9/32"	7"	5475A17	13.76
2 3/4"	19/64"	9/32"	7 1/2"	5475A18	15.39
3"	5/16"	5/16"	8"	5475A19	16.93
3 1/4"	21/64"	5/16"	8 1/2"	5475A21	17.76
3 1/2"	11/32"	11/32"	9"	5475A22	18.72
3 3/4"	23/64"	11/32"	9 1/2"	5475A23	20.26
4"	3/8"	3/8"	10"	5475A24	20.72
5"	7/16"	7/16"	12"	5475A25	27.93
6"	1/2"	1/2"	14"	5475A26	37.65
Metric					
16-18 mm	2.5 mm	3/32"	4 5/16"	55165A32	27.80
25-28 mm	3 mm	1/8"	5 5/16"	55165A33	27.07
30-32 mm	4 mm	1/8"	5 5/16"	55165A34	27.07
34-36 mm	4 mm	9/64"	6 11/16"	55165A35	31.22
40-42 mm	4 mm	9/64"	6 11/16"	55165A36	31.22
45-50 mm	5 mm	5/32"	8 1/16"	55165A37	32.22
52-55 mm	5 mm	5/32"	8 1/16"	55165A38	35.37
58-62 mm	5 mm	13/64"	9 7/16"	55165A39	39.07
68-75 mm	6 mm	13/64"	9 7/16"	55165A41	40.73
80-90 mm	6 mm	15/64"	11"	55165A42	47.44
95-100 mm	8 mm	15/64"	11"	55165A43	49.76
110-115 mm	8 mm	5/16"	13 3/16"	55165A44	71.11
120-130 mm	8 mm	5/16"	13 3/16"	55165A45	73.33
135-145 mm	8 mm	5/16"	15 1/8"	55165A46	89.33
155-165 mm	8 mm	5/16"	15 1/8"	55165A47	89.33

6-Piece Set—Includes one each of 5475A13, 5475A14, 5475A15, 5475A17, 5475A18, and 5475A19 above.

5475A33 ..... $74.37

(B) Pin Style, Fixed for Holes on the Face

For Circle Dia.	Pin Dia.	Pin Lg.	O'all Lg.		
1"	3/16"	3/16"	4 1/2"	5480A11	$12.00
1 1/4"	7/32"	7/32"	5"	5480A12	13.57
1 1/2"	7/32"	7/32"	5 1/2"	5480A13	15.00
1 3/4"	7/32"	7/32"	6"	5480A14	17.43
2"	1/4"	1/4"	6 1/2"	5480A15	19.37
2 1/4"	1/4"	1/4"	7"	5480A16	21.35
2 1/2"	9/32"	9/32"	7 1/2"	5480A17	26.00
2 3/4"	9/32"	9/32"	8"	5480A18	30.02
3"	5/16"	5/16"	8 1/2"	5480A19	34.11
3 1/4"	5/16"	5/16"	9 1/8"	5480A21	39.22
3 1/2"	5/16"	5/16"	9 3/4"	5480A22	44.80
3 3/4"	3/8"	3/8"	10 3/8"	5480A23	50.57
4"	3/8"	3/8"	11"	5480A24	58.54

(C) Pin Style, Adjustable for Holes on the Side

For Circle Dia. Inch	For Circle Dia. Metric, mm	Pin Dia.	Pin Lg.	O'all Lg.		
3/4"-2"	19-50	1/8"	1/8"	6 1/2"	5472A1	$32.83
3/4"-2"	19-50	3/16"	5/32"	6 1/2"	5472A2	32.83
1 1/4"-3"	32-76	3/16"	3/16"	8 1/16"	5472A3	37.65
1 1/4"-3"	32-76	1/4"	7/32"	8 1/16"	5472A4	37.65
2"-4 3/4"	51-120	1/4"	1/4"	11 3/16"	5472A5	47.88
4 1/2"-6 1/4"	115-158	3/8"	1/4"	12 3/16"	5472A6	50.50

6-Piece Set—Includes one of each wrench above. Packed in a plastic roll-up pouch.

5462A11 ..... $230.98

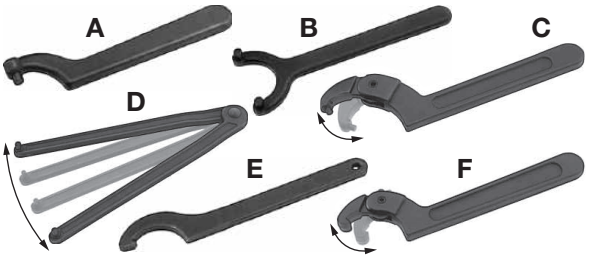

(D) Pin Style, Adjustable for Holes on the Face

For Circle Dia.	Pin Dia.	Pin Lg.	O'all Lg.		
Inch					
5/8"-2"	3/16"	7/32"	6 1/4"	5481A1	$26.46
5/8"-3"	1/4"	9/32"	8 1/4"	5481A2	38.67
5/8"-4"	5/16"	11/32"	10 1/4"	5481A3	56.02
Metric					
10-100 mm	2.9 mm	5/32"	7"	5735A11	60.98
10-100 mm	3.8 mm	13/64"	7"	5735A12	60.98
10-100 mm	4.8 mm	15/64"	9 1/16"	5735A13	63.90
10-100 mm	5.8 mm	9/32"	9 1/16"	5735A14	69.51
10-100 mm	7.8 mm	5/16"	9 1/16"	5735A15	71.71

(E) Hook Style, Fixed for Slots on the Side

For Circle Dia. Inch	For Circle Dia. Metric, mm	Hook Wd.	Hook Dp.	O'all Lg.		
15/32"-35/64"	12-14	1/8"	3/64"	4 5/16"	6975A11	$15.70
5/8"-25/32"	16-20	1/8"	1/16"	4 5/16"	6975A12	16.05
63/64"-1 7/64"	25-28	5/32"	5/64"	5 3/8"	6975A13	16.99
1 3/16"-1 17/64"	30-32	5/32"	5/64"	5 3/8"	6975A14	16.89
1 11/32"-1 27/64"	34-36	13/64"	3/32"	6 11/16"	6975A15	19.53
1 37/64"-1 21/32"	40-42	13/64"	3/32"	6 11/16"	6975A16	19.58
1 49/64"-1 31/32"	45-50	15/64"	1/8"	8 1/8"	6975A17	19.31
2 3/64"-2 11/64"	52-55	15/64"	1/8"	8 1/8"	6975A18	21.98
2 9/32"-2 7/16"	58-62	9/32"	9/64"	9 1/2"	6975A19	23.81
2 43/64"-2 61/64"	68-75	9/32"	9/64"	9 1/2"	6975A21	24.53
3 5/32"-3 35/64"	80-90	5/16"	5/32"	11"	6975A22	44.88
3 47/64"-3 15/16"	95-100	5/16"	5/32"	11"	6975A23	47.44
4 21/64"-4 17/32"	110-115	25/64"	5/32"	13 3/16"	6975A24	72.09
4 23/32"-5 1/8"	120-130	25/64"	5/32"	13 3/16"	6975A25	72.09
5 5/16"-5 45/64"	135-145	25/64"	13/64"	15 1/8"	6975A26	98.84
6 7/64"-6 1/2"	155-165	25/64"	13/64"	15 1/8"	6975A27	98.84
7 3/32"-7 43/64"	180-195	25/64"	13/64"	18 1/2"	6975A28	175.40
8 5/64"-8 21/32"	205-220	25/64"	13/64"	18 1/2"	6975A29	179.31

5-Piece Set—Includes one each of 6975A12, 6975A13, 6975A15, 6975A17, and 6975A19 above. Packed in a plastic roll-up pouch.

6975A3 ..... $105.48

(F) Hook Style, Adjustable for Slots on the Side

For Circle Dia. Inch	For Circle Dia. Metric, mm	Hook Wd.	Hook Dp.	O'all Lg.		
Steel						
3/4"-2"	19-50	3/8"	1/8"	6 1/2"	5471A11	$29.89
1 1/4"-3"	32-76	1/2"	5/32"	8 1/16"	5471A12	36.13
2"-4 3/4"	51-120	17/32"	7/32"	11 3/16"	5471A13	45.63
4 1/2"-6 1/4"	115-158	17/32"	1/4"	12"	5471A14	48.80
6 1/8"-8 3/4"	156-222	17/32"	5/16"	13 5/16"	5471A23	64.80
Stainless Steel						
7/8"-1 3/8"	20-35	5/32"	5/64"	5 1/4"	6724A11	69.83
1 3/8"-2 3/8"	35-60	3/16"	3/32"	7"	6724A12	87.93
2 3/8"-3 1/2"	60-90	1/4"	1/8"	10"	6724A13	96.98
3 1/2"-6 1/8"	90-155	5/16"	5/32"	11 1/4"	6724A14	122.57
6 1/8"-9 1/8"	155-230	3/8"	3/16"	16 3/4"	6724A15	227.59

5-Piece Steel Set—Includes one each of 5471A11, 5471A12, 5471A13, 5471A14, and 5471A23 above.

5471A21 ..... $212.53

5-Piece Stainless Steel Set—Includes one of each stainless steel wrench above.

6724A21 ..... $560.91

Deep-Reach Adjustable Hook Spanner Wrenches



In addition to a 24″ long handle, these wrenches include two heads with different hook widths. They're shaped to fit slots on the circumference of collars, bearings, and other machine tool equipment. Each head has an overall size of 12″ Lg. × 4¾″ Ht. to fit circles from 4¾″ to 12¾″ dia. One head has a ½″ Dp. × ⅜″ Wd. hook; the other has a ½″ Dp. × ¾″ Wd. hook. Made of chrome-plated steel.

5479A11	$266.79

Horizontal Flex-Head Ratcheting Combination Wrenches



The 12-point ratcheting box end pivots 180° horizontally for access to tight spots. It requires a 5° turn to engage the ratchet and has a locking head. The other end is open and rounded. Wrenches are chrome-plated steel and are polished for a mirror-like finish.

Size	O'all Lg.			Size	O'all Lg.		
5/16″	5″	**5125A2**	$20.36	9/16″	7 5/8″	**5125A6**	$22.24
3/8″	5 7/8″	**5125A3**	20.64	5/8″	8 1/2″	**5125A7**	22.80
7/16″	6 3/8″	**5125A4**	20.78	11/16″	9″	**5125A8**	23.32
1/2″	7 1/4″	**5125A5**	21.16	3/4″	10 1/8″	**5125A9**	24.02

8-Piece Set—Includes one of each wrench listed above. Furnished in a plastic caddy.

5125A1	$167.18

Adjustable-Arm Spanner Wrenches



Use these wrenches for internal and external retaining rings, bushings, and collets. They fit 1½″ to 7″ circle diameters. Set includes 3½″ and 7″ hex steel bars, two 3¼″ aluminum arms, and three pairs of tips: 3/16″ Wd. × 1/32″ Thick., 3/16″ Wd. × 1/16″ Thick., and 1/16″ dia. round point. Each arm has a locking thumb screw for adjustments (arms with tips inserted adjust 2″, 2¾″, and 3½″ below the knob). All tips lock securely into arms with set screws.

Replacement tip set includes the three pairs of tips listed above.

Wrench Set	**5770A1**	$123.08
Replacement Tip Set	**5770A2**	33.26

Water Filter Spanner Wrenches

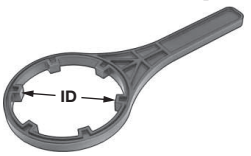

These wrenches have contact points to grip and loosen water filter housings. To estimate the diameter of your housing, measure its circumference and divide by 3.14. Wrenches are not for tightening.

ID	No. of Contact Points	O'all Lg.		
3¾″	6	11½″	**91824A100**	$3.19
4¼″	4	12″	**91824A200**	3.19
5¾″	6	13″	**91824A300**	3.35

Fire Hose Fitting Wrenches

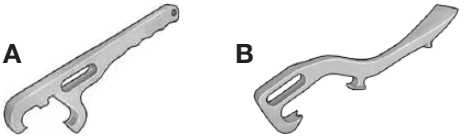

These tools fit the lugs on fire hose couplings and adapters with a ¾″ to 6″ thread size. Wrenches also have a 1 13/16″ Lg. × 7/16″ Wd. slot for gas valve shut-off.

Style B has a 1½″ wide pry tip at the end of the handle.

	O'all Lg.	Head Thick.		
A	10″	⅜″	**4898K23**	$35.99
B	10½″	⅜″	**4898K21**	30.74

Tight-Clearance Adjustable Pin Spanner Wrenches



Slim enough to fit the flanges and nuts on the backing pads of portable sanders and grinders, this wrench accommodates a range of diameters. Made of steel with a black finish.

For Circle Dia.	Pin Dia.	Pin Lg.	O'all Lg.		
3/4″-3 5/8″	9/64″	1/4″	7″	**5794A16**	$8.23

Dual-Size Adjustable Pin Spanner Wrenches



One side of this wrench has 1/4″ Dia. × 11/32″ Lg. pins—flip the tool over to use 5/16″ Dia. × 11/32″ Lg. pins. Wrench also adjusts to accommodate a range of diameters. Made of bronze with stainless steel pins.

For Circle Dia.	O'all Lg.		
1/2″-7″	7¾″	**5643A47**	$25.60

Square Drive Dual-Size Adjustable Pin Spanner Wrenches



Use your ratchet wrench as a handle. You can reverse the pins on these wrenches to fit different hole sizes on the face of collars, bearings, and other machine tool equipment. They also adjust to accommodate a range of part diameters. Made of steel with a black finish.

	For Circle Dia.	Pin Sizes, Dia. × Lg.		
1/2″ Sq. Drive	1″-3¾″	7/32″ × 3/16″, 1/4″ × 3/16″	**69745A52**	$52.47
3/4″ Sq. Drive	2″-6″	5/16″ × 3/16″, 1/4″ × 1/4″	**69745A51**	131.22

Multi-Size Adjustable Pin Spanner Wrenches



Change out the pins when you need to fit different square or round hole sizes. Wrenches are steel with a chrome finish. Length is 9 5/8″. These wrenches also adjust to accommodate a range of part diameters from 25/32″ to 3 15/16″ (20 to 100 mm).

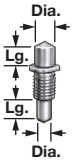

Round Pin Set with Reversible Pins

Pin Dia.	Pin Lg.	Pin Dia.	Pin Lg.
2.5 mm, 4 mm	15/64″, 5/16″	6 mm, 8 mm	25/64″, 25/64″
3 mm, 5 mm	15/64″, 21/64″	7 mm, 9 mm	25/64″, 25/64″

5501A27	$86.80

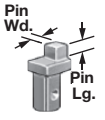

Square Pin Set—Pins are not reversible.

Pin Wd.	Pin Lg.	Pin Wd.	Pin Lg.
5/32″	1/8″	1/4″	13/64″
3/16″	5/32″	5/16″	15/64″

5490A31	$122.26

Fire Hose Fitting/Hydrant Wrenches





Use these wrenches on hydrants.

Spanner head wrenches fit rocker-lug and pin-lug fire hose fittings with ¾″ to 6″ thread size. Wrenches are iron with a black finish and have a chrome-plated steel grip. *Single spanner head* wrench also fits square nuts up to 1¼″ and 5-point nuts up to 1¾″. *Double spanner head* wrench also fits square nuts up to 1½″ and 5-point nuts up to 1⅞″.

Single ratcheting head wrench fits 5-point nuts up to 1½″. Wrench is iron with a black finish.

	O'all Lg.		
Single Spanner Head	18½″	**6537T35**	$60.68
Double Spanner Head	19½″	**6537T1**	80.88
Single Ratcheting Head	16 1/8″	**6537T3**	263.23

Drum-Plug Wrenches and Square-Drive Sockets

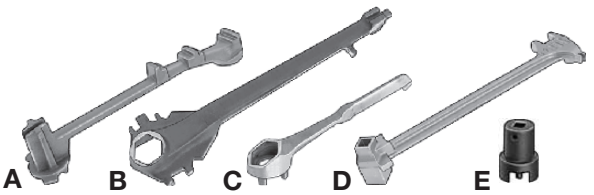

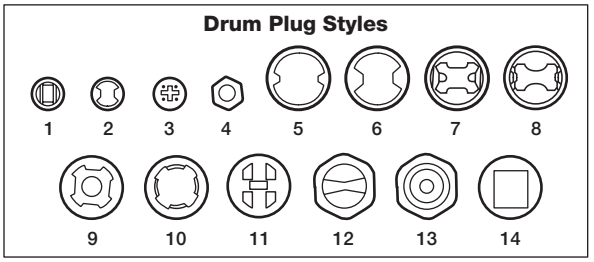

Also known as bung wrenches, these tools are used to install and remove standard screw-in 3/4″ and 2″ steel and plastic drum plugs.

Nonsparking wrenches meet OSHA requirements. *Style C* is nonmagnetic and FM approved.

1/2″ square drive socket allows you to use your ratchet wrench as a handle to install and remove screw-in drum plugs. Size is 1 15/16″ OD × 2 3/4″ Lg.

For Drum Plug Style	Material	O'all Lg.		
Wrenches				
A 1-14	Iron	15 5/8″	5302A1	$35.50
B 1-10, 12	Iron	18″	5626A12	106.25
Nonsparking Wrenches				
A 1-14	Manganese Bronze	15 1/2″	5600A31	118.56
B 1-10, 12	Manganese Bronze	18″	5626A14	228.90
C 1-12	Aluminum	10 1/2″	6512A12	32.65
D 1, 2, 4-9, 12, 14	Aluminum-Bronze	15 3/16″	6496A1	79.24
1/2″ Square Drive Socket				
E 2, 4-8, 12	Steel	2 3/4″	5506A47	208.75

Multi-Size Open-End Wrenches

The V-shaped head fits multiple hex fastener sizes. Also known as alligator wrenches and water-meter nut wrenches. Wrench is red powder-coated steel with zinc-plated steel jaws and a plastic grip. Head is 5/8″ thick. Overall length is 21″.



Size		
3/4″-2″	5040A17	$99.74

Water and Gas Shut-Off Wrenches

Turn off the main supply of water or gas at the point it enters your facility. Wrench is aluminum with a red powder-coated finish. Head is 1/2″ thick. Overall length is 11 3/8″.



Open End Size	Box Wrench Slot Size		
5/8″	1/2″ Wd. × 1 1/2″ Lg.	51435A21	$12.25

Wide-Opening Tight-Clearance Adjustable Wrenches

The jaws on these wrenches are shaped to turn slip nuts, jam nuts, and large hex nuts. They're lockable and have a cutout for locknut installation. Wrenches are zinc-plated iron.



O'all Lg.	Jaw Cap.		
10 1/4″	1″-3″	5423A12	$14.32

Drum-Plug Torque Wrenches

When you feel the wrench "break," you'll know you've applied the correct pressure to your 3/4″ or 2″ drum plug. Wrenches have a low ft.-lbs. setting for 3/4″ plugs and a higher ft.-lbs. setting for 2″ plugs. Torque is nonadjustable within each setting.

Made of steel with a cushion grip. Overall length is 14″.



Torque, ft.-lbs. Low Setting	High Setting	For Drum Plug Material	Fits Style No.■		
For Drum Plugs with Rubber Gaskets					
7-15	17-26	Plastic	3, 4, 9, 10	6102A13	$361.16
11-15	18-22	Stainless Steel	1, 7	6102A12	616.71
13-21	27-36	Steel	4, 12	6102A14	361.16
For Drum Plugs with Plastic Gaskets					
18-26	38-46	Steel	4, 12	6102A15	361.16

■ See Drum-Plug Wrenches and Square-Drive Socket on this page for drum-plug style illustrations.

Valve Wheel Wrenches

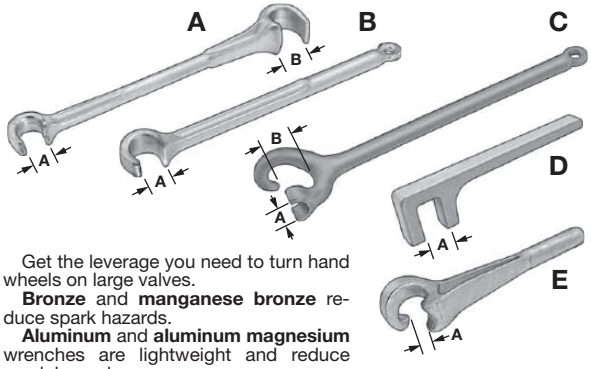

Get the leverage you need to turn hand wheels on large valves.

Bronze and **manganese bronze** reduce spark hazards.

Aluminum and **aluminum magnesium** wrenches are lightweight and reduce spark hazards.

Size (A)	Size (B)	O'all Lg.	Steel		Bronze	
A 1/2″	21/32″	8″	4862K31	$28.09	4862K41	$64.42
A 11/16″	1″	10″	4862K32	36.94	4862K42	84.87
A 1″	1 5/16″	17 1/2″	4862K33	80.56		
B 1″	—	15″	4862K34	48.32	4862K44	93.58
B 1 5/16″	—	22″	4862K35	84.67	4862K45	158.41
B 1 3/8″	—	15 1/2″			4862K43	105.54
B 2″	—	27″	4862K36	140.96		
B 2″	—	30″			4862K46	281.53
B 2 1/4″	—	48″	4862K37	202.02		
			Manganese Bronze			
C 1 3/8″	1 1/2″	21 3/8″	60555K71	201.61		

Size (A)	Size (B)	O'all Lg.	Aluminum	
A 1/2″	21/32″	8″	4862K51	$33.25
A 11/16″	1″	10″	4862K53	51.07
D 1 3/4″	—	35 1/8″	44515K86	174.79
D 1 3/8″	—	12″	44515K81	76.81
D 1 3/8″	—	14″	44515K82	76.81
D 1 3/8″	—	16″	44515K83	76.81
D 1 3/8″	—	17 3/8″	44515K84	76.81
D 1 5/8″	—	26 5/8″	44515K85	145.18
			Aluminum Magnesium	
E 1 3/4″	—	17 5/8″	49205K42	70.59
E 1 3/8″	—	13 5/8″	49205K41	46.18
E 2 1/2″	—	25 1/2″	49205K43	139.51

Quick-Adjust Wrenches

Squeeze the handles and the four gripping surfaces adjust to fit your fastener and prevent slipping and stripping. Wrenches are steel with a black finish and have a plastic grip.



O'all Lg.	Jaw Cap.		
6″	1/4″-9/16″	5139A1	$23.71
8″	1/2″-3/4″	5139A2	25.43

Open-End Wrenches





Wrenches have an open end that is angled 15°. Made of steel with a black finish, unless noted.

Tight Clearance—The slim head fits into tight spaces and around thin fasteners.

Standard Individual Wrenches

Size	Head Thick.	O'all Lg.		
Inch				
1/4"	3/16"	3 1/2"	5400A12	$13.83
5/16"	3/16"	3 1/2"	5400A13	15.88
3/8"	17/64"	4"	5400A14	17.25
7/16"	5/16"	4 5/8"	5400A16	8.89
1/2"	5/16"	4 5/8"	5400A17	8.89
9/16"	11/32"	5 1/2"	5400A18	16.57
5/8"	3/8"	6 3/8"	5400A21	12.90
11/16"	3/8"	6 3/8"	5400A22	11.77
3/4"	3/8"	7 1/4"	5400A23	13.71
13/16"	7/16"	8 1/8"	5400A25	16.57
7/8"	7/16"	8 1/8"	5400A26	17.20
15/16"	1/2"	9 1/4"	5400A27	20.64
1"	1/2"	9 1/4"	5400A28	19.51
1 1/16"	9/16"	10 1/2"	5400A29	24.10
1 1/8"	9/16"	10 1/2"	5400A31	24.75
1 1/4"	5/8"	12"	5400A32	32.06
1 5/16"	5/8"	12"	5400A55	32.60
1 3/8"	5/8"	12"	5400A34	33.84
1 7/16"	11/16"	13 1/2"	5400A35	47.02
1 1/2"	11/16"	13 1/2"	5400A36	47.02
1 5/8"	7/8"	15"	5400A37	66.13
1 11/16"	7/8"	15"	5400A38	63.69
1 13/16"	1"	16 1/2"	5400A65	87.36
Inch (Cont.)				
1 7/8"	1"	16 1/2"	5400A41	$85.81
2"	1 1/32"	18 1/4"	5400A42	121.09
2 1/16"	1 1/32"	18 1/4"	5400A43	116.66
2 3/16"	1 3/16"	20"	5400A44	162.64
2 1/4"	1 3/16"	20"	5400A45	154.93
2 3/8"	1 7/32"	22"	5400A46	195.35
2 7/16"	1 7/32"	22"	5400A47	195.35
2 9/16"	1 1/4"	24"	5400A48	245.79
2 5/8"	1 1/4"	24"	5400A49	245.79
2 3/4"	1 7/16"	27"	5400A51	252.63
2 13/16"	1 7/16"	27"	5400A52	315.62
2 15/16"	1 7/16"	27"	5400A53	229.70
3"	1 9/16"	30"	5400A61	443.57
3 1/8"	1 9/16"	30"	5400A62	443.57
3 3/8"	1 5/8"	34"	5400A63	655.75
3 1/2"	1 5/8"	34"	5400A64	655.75
3 3/4"	1 11/16"	37"	5400A66	933.14
Metric				
6 mm	1/8"	2 7/8"	5488A12	8.53
7 mm	1/8"	3"	5488A13	8.57
8 mm	9/64"	3 3/4"	5488A14	8.41
9 mm	5/32"	3 7/8"	5488A15	8.76
10 mm	11/64"	4 1/8"	5488A16	6.63
11 mm	3/16"	4 3/8"	5488A17	7.09
Metric (Cont.)				
12 mm	3/16"	4 7/8"	5488A18	$7.86
13 mm	13/64"	4 7/8"	5488A19	7.86
14 mm	7/32"	5 1/2"	5488A21	8.34
15 mm	7/32"	5 1/2"	5488A22	8.91
17 mm	15/64"	6 1/8"	5488A23	8.37
18 mm	1/4"	6 1/8"	5488A24	9.51
19 mm	17/64"	6 3/4"	5488A25	9.94
22 mm	5/16"	7 5/8"	5488A26	11.69
24 mm	11/32"	8 1/2"	5488A27	15.29
27 mm	25/64"	9 3/8"	5488A28	17.86
30 mm	27/64"	10 1/4"	5488A29	20.71
32 mm	15/32"	10 3/4"	5488A31	22.57
36 mm	1/2"	11 7/8"	5488A32	31.71
41 mm	35/64"	13 1/4"	5488A34	37.14
46 mm	37/64"	14 1/2"	5488A35	42.50
50 mm	5/8"	15 3/4"	5488A36	55.00
55 mm	21/32"	17 1/2"	5488A37	63.00
60 mm	45/64"	18 7/8"	5488A38	79.50
65 mm	47/64"	20 3/8"	5488A39	93.75
70 mm	49/64"	21 7/8"	5488A41	115.28
75 mm	13/16"	23 3/8"	5488A42	132.44
85 mm	29/32"	27 1/8"	5488A44★	213.33
90 mm	29/32"	27 1/8"	5488A45★	224.25

★Unfinished.

Tight-Clearance Wrench Sets

7-Piece Inch Set—Includes the 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", and 7/8" wrenches listed below. Packed in a plastic roll-up pouch.

5403A35 ..... $101.49

9-Piece Metric Set—Includes the 10, 11, 12, 13, 14, 15, 16, 17, and 19 mm wrenches listed below. Packed in a plastic roll-up pouch.

5742A32 ..... $145.74

Tight-Clearance Individual Wrenches

Size	Head Thick.	O'all Lg.		
Inch				
7/16"	5/32"	4"	5403A11	$10.62
1/2"	5/32"	4"	5403A12	10.62
9/16"	5/32"	4 1/2"	5403A13	12.90
19/32"	5/32"	4 1/2"	5403A14	12.90
5/8"	3/16"	5 1/8"	5403A15	14.82
11/16"	3/16"	5 1/8"	5403A16	14.82
3/4"	7/32"	5 7/8"	5403A17	18.15
13/16"	1/4"	6 5/8"	5403A19	21.71
7/8"	1/4"	6 5/8"	5403A21	21.71
15/16"	9/32"	7 1/2"	5403A22	25.99
1"	9/32"	7 1/2"	5403A23	25.99
1 1/16"	5/16"	8 1/2"	5403A24	29.27
1 1/8"	5/16"	8 1/2"	5403A25	29.27
Inch (Cont.)				
1 1/4"	3/8"	10"	5403A26	$37.05
1 5/16"	3/8"	10"	5403A27	37.05
1 1/2"	7/16"	11 3/8"	5403A29	46.53
1 5/8"	1/2"	13"	5403A31	71.01
1 11/16"	1/2"	13"	5403A32	71.01
Metric				
10 mm	5/32"	4"	5742A1	12.04
11 mm	5/32"	4"	5742A2	12.04
12 mm	5/32"	4"	5742A3	12.04
13 mm	5/32"	4"	5742A4	14.50
14 mm	5/32"	4 1/2"	5742A5	14.50
15 mm	5/32"	4 1/2"	5742A6	14.50
16 mm	3/16"	5 1/8"	5742A7	16.86
Metric (Cont.)				
17 mm	3/16"	5 1/8"	5742A8	$16.86
18 mm	3/16"	5 1/8"	5742A9	16.86
19 mm	7/32"	6 1/8"	5742A11	24.62
21 mm	1/4"	6 5/8"	5742A12	24.62
22 mm	1/4"	6 5/8"	5742A13	24.62
24 mm	9/32"	7 1/2"	5742A14	29.47
27 mm	5/16"	8 1/2"	5742A15	33.12
30 mm	5/16"	8 1/2"	5742A16	42.03
32 mm	3/8"	10"	5742A17	42.03
36 mm	3/8"	10"	5742A18	52.77
37 mm	7/16"	11 3/8"	5742A19	80.53
38 mm	7/16"	11 3/8"	5742A21	80.53
41 mm	1/2"	13"	5742A22	80.53

Striking Open-End Wrenches



Place the wrench on a stuck fastener and strike the handle with a hammer to break it free. Also known as slugging wrenches. Made of steel. Open end is angled 15°.

Size	Head Thick.	O'all Lg.		
Inch				
1"	5/8"	7 1/8"	55555A41	$45.50
1 1/16"	5/8"	7 1/8"	55555A42	45.50
1 1/4"	43/64"	7 1/8"	55555A43	62.60
1 5/16"	43/64"	7 1/8"	55555A44	64.29
1 7/16"	11/16"	8 1/2"	55555A45	72.00
1 1/2"	11/16"	8 1/2"	55555A46	76.00
1 5/8"	47/64"	9 1/4"	55555A47	97.00
1 11/16"	47/64"	9 1/4"	55555A37	91.35
1 3/4"	47/64"	9 1/4"	55555A38	119.23
1 13/16"	51/64"	10"	55555A48	119.23
1 7/8"	51/64"	10"	55555A49	119.23
2"	53/64"	10 7/8"	55555A51	136.54
2 1/8"	53/64"	10 7/8"	55555A39	140.00
Inch (Cont.)				
2 1/4"	29/32"	11 7/8"	55555A52	$161.54
2 3/8"	31/32"	12 5/8"	55555A53	178.85
2 1/2"	31/32"	12 5/8"	55555A54	217.31
2 5/8"	1 1/16"	13 1/2"	55555A55	217.85
2 3/4"	1 3/16"	14 3/4"	55555A56	292.31
3"	1 3/16"	14 3/4"	55555A57	313.35
3 3/4"	1 1/2"	17 1/2"	55555A58	542.31
Metric				
27 mm	5/8"	7 1/8"	6973A13	48.64
30 mm	43/64"	7 1/2"	6973A14	51.86
32 mm	43/64"	7 1/2"	6973A16	55.58
36 mm	11/16"	8 1/2"	6973A18	74.94
Metric (Cont.)				
41 mm	47/64"	9 1/4"	6973A21	$88.28
46 mm	25/32"	10 1/8"	6973A23	120.49
50 mm	53/64"	10 7/8"	6973A25	134.81
55 mm	29/32"	11 7/8"	6973A27	161.05
60 mm	31/32"	12 5/8"	6973A29	172.98
65 mm	1 1/16"	13 1/2"	6973A32	230.25
70 mm	1 3/16"	14 3/4"	6973A34	283.93
75 mm	1 3/16"	14 3/4"	6973A36	312.56
80 mm	1 11/32"	16 1/8"	6973A37	398.46
85 mm	1 11/32"	16 1/8"	6973A41	424.70
90 mm	1 1/2"	17 1/2"	6973A42	515.37
95 mm	1 1/2"	17 1/2"	6973A45	558.32

Tight-Clearance Open-End Wrenches

The slim head fits into tight spaces and around thin fasteners. The open end is angled 30°. Made of steel. Choose a dull chrome-plated finish or a black finish.

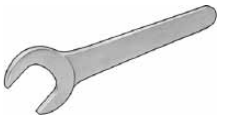

11-Piece Wrench Sets—Packed in a plastic roll-up pouch.

Sizes in Set	Finish		
Inch Sets			
3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 3/16", 1 1/4", 1 3/8", and 1 1/2"	Chrome Plated	5450A11	$235.25
3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 3/16", 1 1/4", 1 3/8", and 1 1/2"	Black	5551A61	233.11
Metric Set			
19, 21, 22, 24, 27, 30, 32, 36, 37, 38, and 40 mm	Chrome Plated	5746A21	294.47

Individual Wrenches

Size	Head Thick.	O'all Lg.	Chrome Plated		Black Finish	
Inch						
3/4"	1/4"	6 3/8"	5414A11	$22.10	5551A31	$20.09
13/16"	1/4"	6 3/8"	5414A13	22.84	5551A32	20.77
7/8"	1/4"	6 3/8"	5414A14	22.84	5551A33	20.77
15/16"	1/4"	6 7/8"	5414A15	22.84	5551A34	20.77
1"	1/4"	6 7/8"	5414A16	22.84	5551A35	20.77
1 1/16"	1/4"	6 7/8"	5414A18	23.33	5551A36	21.21
1 1/8"	1/4"	7 1/4"	5414A19	24.23	5551A37	22.03
1 3/16"	1/4"	7 1/4"	5414A23	24.37	5551A38	22.16
1 1/4"	1/4"	7 1/4"	5414A24	24.37	5551A39	22.16
1 5/16"	1/4"	7 1/4"	5414A25	24.37	5551A41	22.16
1 5/16"	9/32"	7 3/4"	5414A26	24.95	5551A42	22.68
1 3/8"	9/32"	7 3/4"	5414A27	26.19	5551A43	23.81
1 7/16"	9/32"	7 3/4"	5414A28	26.76	5551A44	24.33
1 1/2"	9/32"	7 3/4"	5414A29	26.77	5551A45	24.34
1 9/16"	9/32"	8"	5414A31	29.81	5551A46	27.10
1 5/8"	9/32"	8"	5414A32	29.80	5551A47	27.09
1 11/16"	9/32"	8"	5414A51	31.79	5551A48	28.90
1 3/4"	5/16"	8 5/8"	5414A33	31.79	5551A49	28.90
1 13/16"	5/16"	8 5/8"	5414A52	29.80	5551A51	30.73
1 7/8"	5/16"	8 5/8"	5414A35	33.81	5551A52	30.73
1 15/16"	5/16"	8 5/8"	5414A53	33.81	5551A53	30.73
2"	5/16"	9 1/2"	5414A37	33.81	5551A54	30.73
Inch (Cont.)						
2 1/8"	5/16"	9 1/2"	5414A41	$34.12	5551A55	$31.01
2 1/4"	5/16"	9 1/2"	5414A42	34.53	5551A56	31.39
2 3/8"	5/16"	9 1/2"	5414A43	37.70	5551A57	34.27
2 1/2"	5/16"	9 1/2"	5414A44	37.70	5551A58	34.27
2 9/16"	5/16"	9 1/2"	5414A45	37.70	5551A59	34.27
Metric						
19 mm	1/4"	6 3/8"	5746A1	25.12		
21 mm	1/4"	6 3/8"	5746A2	25.85		
22 mm	1/4"	6 3/8"	5746A3	25.85		
24 mm	1/4"	6 7/8"	5746A4	26.59		
27 mm	1/4"	6 7/8"	5746A5	27.11		
30 mm	1/4"	7 1/4"	5746A6	27.11		
32 mm	1/4"	7 1/4"	5746A7	27.11		
36 mm	9/32"	7 3/4"	5746A8	28.20		
37 mm	9/32"	7 3/4"	5746A9	29.26		
38 mm	9/32"	7 3/4"	5746A11	30.21		
40 mm	9/32"	8"	5746A18	31.88		
41 mm	9/32"	8"	5746A12	33.70		
46 mm	5/16"	8 5/8"	5746A13	36.10		
50 mm	5/16"	8 5/8"	5746A14	38.32		
55 mm	5/16"	9 1/2"	5746A15	39.24		
60 mm	5/16"	9 1/2"	5746A16	42.91		
65 mm	5/16"	9 1/2"	5746A17	42.91		

Miniature Tight-Clearance Open-End Wrenches

Just the right size for assembling and repairing precision equipment such as electronic devices. Wrenches are steel with a black finish. Head is angled 30°. Head thickness is 1/16". Overall length is 4 1/8".



8-Piece Wrench Sets

Inch—Includes one of each inch size listed. Packed in a plastic pouch.

8041A19 ..... $40.22

Metric—Includes one of each metric size listed. Packed in a plastic pouch.

7793A41 ..... $54.06

Individual Wrenches

Size			Size		
Inch			**Metric**		
5/64"	8041A11	$5.75	2.5 mm	7793A31	$7.92
3/32"	8041A12	5.75	3 mm	7793A32	7.92
7/64"	8041A13	5.75	3.2 mm	7793A33	7.92
1/8"	8041A14	5.75	4 mm	7793A34	7.92
5/32"	8041A15	5.75	5 mm	7793A35	7.92
3/16"	8041A16	5.75	5.5 mm	7793A36	7.92
1/4"	8041A17	5.75	6 mm	7793A37	7.92
5/16"	8041A21	5.75	7 mm	7793A38	7.92

Tapered-Handle Wrenches

Use the pointed end of the handle to align bolt holes during assembly. Also known as spud, structural, and construction wrenches. Made of steel with a black finish.

(A) Open End—Wrenches have a head that's angled 15° from the handle.

(B) Offset Open End—Head is offset 45° to provide additional clearance for turning hard-to-reach fasteners.

(C) Offset Box End—Box end is 12-point and offset 60°.

(D) Adjustable—Wrenches adjust to fit a range of sizes.



Size	Head Thick.	O'all Lg.		
(A) Open End				
5/8"	7/16"	12"	5405A15	$20.14
11/16"	7/16"	12"	5405A16	21.16
3/4"	7/16"	12"	5405A17	22.71
7/8"	17/32"	14 1/2"	5405A21	26.12
15/16"	17/32"	14 1/2"	5405A22	27.36
1"	17/32"	14 1/2"	5405A23	28.20
1 1/16"	5/8"	17"	5405A24	33.77
1 1/8"	5/8"	17"	5405A25	35.29
1 1/4"	11/16"	19"	5405A26	44.33
1 5/16"	11/16"	19"	5405A27	45.08
1 7/16"	3/4"	21"	5405A28	58.44
1 1/2"	3/4"	21"	5405A29	61.76
1 5/8"	27/32"	23"	5405A31	76.84
1 13/16"	15/16"	25"	5405A47	113.13
1 7/8"	15/16"	25"	5405A34	117.64
2"	15/16"	25"	5405A35	121.53

Size	Head Thick.	O'all Lg.		
(B) Offset Open End				
5/8"	7/16"	12 1/8"	5406A15	$21.42
11/16"	7/16"	12"	5406A16	25.67
3/4"	7/16"	12 1/8"	5406A17	22.59
13/16"	17/32"	14 1/2"	5406A19	32.17
7/8"	17/32"	14 1/2"	5406A21	30.44
15/16"	17/32"	14 1/2"	5406A22	31.87
1"	17/32"	14 1/2"	5406A23	33.07
1 1/16"	5/8"	17"	5406A24	37.42
1 1/8"	5/8"	17"	5406A25	39.58
1 1/4"	13/16"	19"	5406A26	47.39
1 5/16"	11/16"	19"	5406A27	50.43
1 7/16"	3/4"	21"	5406A28	60.43
1 1/2"	3/4"	21"	5406A29	63.45
1 5/8"	7/8"	23"	5406A31	82.53
1 13/16"	1"	25"	5406A33	117.45
1 7/8"	1"	25"	5406A34	121.38
2"	1"	25"	5406A35	129.40

Size	Head Thick.	O'all Lg.		
(C) Offset Box End				
7/8"	11/16"	12"	5457A12	$52.18
15/16"	25/32"	13"	5457A13	53.61
1"	25/32"	13"	5457A14	53.61
1 1/16"	7/8"	15"	5457A15	58.16
1 1/8"	7/8"	15"	5457A16	58.62
1 1/4"	15/16"	17"	5457A17	64.52
1 5/16"	15/16"	17"	5457A21	64.95
1 7/16"	1 1/16"	19"	5457A22	85.47
1 1/2"	1 1/16"	19"	5457A23	85.95
1 5/8"	1 1/8"	21"	5457A24	101.08
1 13/16"	1 3/16"	23"	5457A26	107.30
1 7/8"	1 3/16"	23"	5457A27	107.30
2"	1 5/16"	24 1/2"	5457A31	112.03
(D) Adjustable				
1 1/8"■	1/2"	10"	7237A12	24.83
1 1/2"■	23/32"	16"	7237A11	52.33

■ Jaw capacity.

Two-Head Open-End Wrenches



Each end has a different size opening, but both heads are angled 15°. Made of steel.

Wrench Sets—Packed in a roll-up pouch.

No. of Pcs.	Sizes in Set	Chrome Finish		
Inch, Short Length				
5	3/16″ x 7/32″, 1/4″ x 9/32″, 5/16″ x 11/32″, 3/8″ x 7/16″, 1/2″ x 9/16″	Dull	55065A71	$51.31
Inch, Standard Length				
6	1/4″ x 5/16″, 3/8″ x 7/16″, 1/2″ x 9/16″, 5/8″ x 11/16″, 3/4″ x 13/16″, 7/8″ x 15/16″	Polished	5428A18	97.50
10	1/4″ x 5/16″, 3/8″ x 7/16″, 1/2″ x 9/16″, 5/8″ x 11/16″, 3/4″ x 13/16″, 7/8″ x 15/16″, 1″ x 1 1/8″, 1 1/16″ x 1 1/4″, 1 5/16″ x 1 1/2″, 1 3/8″ x 1 7/16″	Polished	5428A19	138.29
10	1/4″ x 5/16″, 5/16″ x 3/8″, 7/16″ x 1/2″, 1/2″ x 9/16″, 9/16″ x 5/8″, 5/8″ x 3/4″, 11/16″ x 3/4″, 13/16″ x 7/8″, 15/16″ x 1″, 1 1/16″ x 1 1/8″	Dull	5436A8	166.80
12	1/4″ x 5/16″, 3/8″ x 7/16″, 1/2″ x 9/16″, 5/8″ x 11/16″, 3/4″ x 13/16″, 7/8″ x 15/16″, 15/16″ x 1″, 1 1/16″ x 1 1/4″, 1 1/8″ x 1 3/16″, 1 1/4″ x 1 5/16″, 1 3/8″ x 1 7/16″, 1 1/2″ x 1 5/8″	Dull	5430A4	323.17
Metric, Short Length				
6	3.2 x 5.5, 4 x 5, 6 x 7, 8 x 9, 10 x 11, 12 x 13 mm	Dull	5739A11	74.09
Metric, Standard Length				
8	4 x 5, 6 x 7, 8 x 9, 10 x 11, 12 x 13, 14 x 15, 16 x 17, 18 x 19 mm	Dull	5437A1	87.04
12	6 x 7, 8 x 9, 10 x 11, 12 x 13, 14 x 15, 16 x 17, 18 x 19, 20 x 22, 21 x 23, 24 x 26, 25 x 28, 27 x 30 mm	Dull	5420A51	299.07

Individual Wrenches—Inch

Size	Dull Chrome Plated: Head Thick.	Dull Chrome Plated: O'all Lg.			Black Finish: Head Thick.	Black Finish: O'all Lg.		
Short Length								
3/16″ x 7/32″	1/8″	2 7/8″	55065A61	$8.72	—	—	—	—
1/4″ x 9/32″	1/8″	3 1/8″	55065A62	9.48	—	—	—	—
5/16″ x 11/32″	5/32″	3 1/2″	55065A63	9.64	—	—	—	—
3/8″ x 7/16″	5/32″	3 3/4″	55065A64	9.98	—	—	—	—
1/2″ x 9/16″	3/16″	4 3/8″	55065A65	11.39	—	—	—	—
Standard Length								
3/16″ x 1/4″	5/32″	3 7/8″	5408A19	9.79	—	—	—	—
1/4″ x 5/16″	5/32″	4 1/2″	5408A11	10.11	3/16″	4″	5401A17	$7.97
5/16″ x 11/32″	3/16″	4″	5408A12	9.66	3/16″	4″	5401A18	8.05
5/16″ x 3/8″	13/64″	5 1/8″	5408A13	9.91	3/16″	5 1/4″	5401A11	8.94
5/16″ x 13/32″	3/16″	4″	5408A61	9.66	3/16″	4″	5401A19	8.05
3/8″ x 7/16″	7/32″	5 3/4″	5408A14	9.91	7/32″	5 7/8″	5401A12	8.94
3/8″ x 1/2″	13/64″	4 7/8″	5408A15	10.75	13/64″	4 7/8″	5401A13	8.96
7/16″ x 1/2″	1/4″	6 3/8″	5408A16	9.92	1/4″	6 1/2″	5401A14	9.25
7/16″ x 9/16″	1/4″	5 3/4″	5408A17	9.99	1/4″	5 3/4″	5401A15	8.33
1/2″ x 9/16″	17/64″	7″	5408A18	10.38	1/4″	7 1/8″	5401A16	9.77
1/2″ x 5/8″	1/4″	6 1/8″	5408A33	15.10	1/4″	6 1/8″	5401A68	12.59
9/16″ x 5/8″	9/32″	7 5/8″	5408A21	13.91	17/64″	7 3/4″	5401A21	12.06
9/16″ x 11/16″	19/64″	7 1/2″	5408A22	15.71	19/64″	7 1/2″	5401A24	13.09
9/16″ x 3/4″	19/64″	7 1/2″	5408A38	16.22	19/64″	7 1/2″	5401A27	13.51
5/8″ x 11/16″	5/16″	8 1/4″	5408A24	14.48	9/32″	7 1/4″	5401A23	11.29
5/8″ x 3/4″	5/16″	8 5/8″	5408A25	16.60	19/64″	8 3/4″	5401A25	13.95
11/16″ x 3/4″	21/64″	8 7/8″	5408A26	14.67	5/16″	9″	5401A26	14.33
11/16″ x 25/32″	21/64″	8 7/8″	5408A27	18.17	5/16″	8 1/2″	5401A28	14.31
3/4″ x 13/16″	11/32″	9 5/8″	5408A29	22.19	11/32″	9 5/8″	5401A34	18.49
3/4″ x 7/8″	11/32″	9 1/2″	5408A31	20.52	21/64″	9 5/8″	5401A35	18.56
13/16″ x 7/8″	23/64″	10 1/8″	5408A34	24.13	23/64″	10 1/4″	5401A36	20.37
7/8″ x 15/16″	3/8″	10 5/8″	5408A35	29.98	3/8″	10 5/8″	5401A43	24.98
7/8″ x 1″	3/8″	10 5/8″	5408A36	30.65	3/8″	10 5/8″	5401A37	25.54
15/16″ x 1″	13/32″	11 3/8″	5408A37	32.31	31/64″	11 1/2″	5401A45	29.39
15/16″ x 1 1/16″	7/16″	11 1/2″	5408A39	34.14	7/16″	11 1/2″	5401A47	28.45
1″ x 1 1/8″	7/16″	12 1/2″	5408A41	35.69	7/16″	12 1/2″	5401A51	29.75
1 1/16″ x 1 1/8″	29/64″	12 5/8″	5408A68	34.58	7/16″	12 3/8″	5401A76	30.58
1 1/16″ x 1 1/4″	15/32″	13 5/8″	5408A42	43.06	29/64″	13 3/4″	5401A52	38.75
1 1/8″ x 1 1/4″	1/2″	13 3/4″	5408A43	43.27	1/2″	13 3/4″	5401A53	36.06
1 1/4″ x 1 7/16″	9/16″	15″	5408A46	63.87	9/16″	15″	5401A56	53.22
1 5/16″ x 1 1/2″	9/16″	15 1/2″	5408A47	63.86	9/16″	15 1/2″	5401A57	53.22
1 3/8″ x 1 7/16″	39/64″	15 3/4″	5408A48	63.64	17/32″	15 7/8″	5401A58	56.63
1 1/2″ x 1 5/8″	39/64″	17″	5408A52	88.14	39/64″	17 1/8″	5401A64	71.62
1 11/16″ x 1 13/16″	45/64″	18 1/2″	5408A53	93.64	—	—	—	—
1 7/8″ x 2″	45/64″	20″	5408A54	121.44	—	—	—	—

Individual Wrenches—Metric

Size	Head Thick.	O'all Lg.	Dull Chrome Plated	
Short Length				
3.2 x 5.5 mm	3/32″	2 3/4″	5739A1	$11.73
4 x 5 mm	3/32″	2 3/4″	5739A2	11.79
6 x 7 mm	7/64″	3 1/8″	5739A3	12.13
8 x 9 mm	1/8″	3 5/8″	5739A4	15.43
10 x 11 mm	1/8″	4″	5739A5	17.10
12 x 13 mm	9/64″	4 3/8″	5739A6	17.37
Standard Length				
4 x 5 mm	9/64″	4″	5420A32	14.38
5.5 x 7 mm	9/64″	4 3/4″	5420A13	14.20
6 x 7 mm	5/32″	4 1/2″	5420A25▲	8.97
7 x 8 mm	5/32″	4 1/2″	5420A24▲	9.80
8 x 9 mm	3/16″	5 1/8″	5420A31	10.34
8 x 10 mm	11/64″	5 1/2″	5420A12▲	13.16
10 x 11 mm	13/64″	5 1/4″	5420A33▲	9.80
10 x 13 mm	13/64″	6 3/4″	5420A34	15.76
12 x 13 mm	1/4″	6 1/8″	5420A15▲	10.33
12 x 14 mm	1/4″	6 1/8″	5420A14▲	10.03
13 x 15 mm	1/4″	7″	5420A26▲	12.47
13 x 17 mm	17/64″	7″	5420A35▲	13.61
14 x 15 mm	17/64″	7″	5420A18▲	9.84
16 x 17 mm	9/32″	7 3/4″	5420A22▲	13.61
17 x 19 mm	19/64″	8 3/4″	5420A17▲	15.70
18 x 19 mm	5/16″	8 3/4″	5420A27▲	16.85
19 x 24 mm	19/64″	9 7/8″	5420A36	27.49
20 x 22 mm	5/16″	9 1/2″	5420A19▲	19.53
21 x 23 mm	23/64″	10 1/8″	5420A21	26.31
22 x 24 mm	5/16″	9 7/8″	5420A37	25.05
24 x 26 mm	13/32″	11 3/8″	5420A23	29.89
24 x 27 mm	21/64″	11″	5420A38	43.99
25 x 28 mm	21/64″	11 1/4″	5420A28	48.64
27 x 30 mm	3/8″	11 7/8″	5420A29	57.12
30 x 32 mm	3/8″	11 7/8″	5420A41	57.07
32 x 36 mm	25/64″	12 7/8″	5420A54	89.65
34 x 36 mm	25/64″	12 7/8″	5420A53	95.22
41 x 46 mm	15/32″	16 3/4″	5420A43	136.99
46 x 50 mm	27/64″	17 3/4″	5420A44	137.13

▲ Polished (mirror-like) chrome-plated finish.

Extra-Long Tight-Clearance Open-End Wrenches



Also known as tappet wrenches, these tools have slim heads to fit into tight spaces and around thin heads. Made of steel. Wrenches have a dull chrome-plated finish, unless noted. Heads are angled 15°.

Wrench Sets—Packed in a roll-up pouch.

No. of Pieces	Sizes in Set		
Inch Sets			
4	7/16″ x 1/2″, 9/16″ x 5/8″, 1/2″ x 9/16″ (2)	5411A31	$46.61
8	3/8″ x 7/16″ (2), 1/2″ x 9/16″ (2), 5/8″ x 11/16″ (2), 3/4″ x 7/8″ (2)	5411A32	110.78
Metric Sets			
6	8 x 9, 10 x 11, 12 x 13, 14 x 15, 16 x 17, 18 x 19 mm	54755A61	136.13

(Continued on following page)

Extra-Long Tight-Clearance Open-End Wrenches *(Continued from previous page)*

Individual Wrenches

Size	Head Thick.	O'all Lg.		
Inch				
3/8" x 7/16"	13/64"	10"	5411A11	$13.52
7/16" x 1/2"	13/64"	10"	5411A12	12.07
1/2" x 9/16"	3/16"	10"	5411A14	12.67
9/16" x 5/8"	13/64"	10"	5411A15	12.98
5/8" x 11/16"	7/32"	10"	5411A16	16.23
11/16" x 3/4"	13/64"	10"	5411A23	16.45
3/4" x 7/8"	7/32"	10"	5411A18	17.43
13/16" x 7/8"	13/64"	10"	5411A22	19.26
15/16" x 1"	7/32"	9"	5411A19	17.72

▲ Polished (mirror-like) chrome-plated finish.

Size	Head Thick.	O'all Lg.		
Inch (Cont.)				
1 1/16" x 1 1/8"	1/4"	12 1/4"	5411A34▲	$76.65
1 1/4" x 1 5/16"	1/4"	12 1/4"	5411A35▲	83.97
1 3/8" x 1 7/16"	1/4"	12 1/4"	5411A36▲	121.33
1 1/2" x 1 5/8"	9/32"	14 1/4"	5411A37▲	133.25
1 11/16" x 1 7/8"	9/32"	14 1/4"	5411A38▲	148.42
Metric				
6x7 mm	3/32"	5 7/8"	54755A51	18.92
8x9 mm	3/32"	6 7/8"	54755A52	19.30
10x11 mm	3/32"	6 7/8"	54755A53	19.57

Size	Head Thick.	O'all Lg.		
Metric (Cont.)				
12x13 mm	9/64"	8 1/4"	54755A54	$20.61
14x15 mm	9/64"	8 1/4"	54755A55	21.47
16x17 mm	11/64"	9 7/8"	54755A56	25.97
18x19 mm	11/64"	9 7/8"	54755A57	27.05
19x22 mm	5/32"	9 1/2"	54755A78▲	50.61
21x24 mm	5/32"	9 1/2"	54755A63▲	56.07
27x30 mm	15/64"	12 1/4"	54755A64▲	71.23
32x36 mm	15/64"	12 1/4"	54755A65▲	77.73

Angled Open-End Wrenches

Get a better angle on hard-to-reach fasteners—one head is angled 15° and the other is angled either 60° or 75°. Made of steel.

15° and 60° Angle Wrenches—The open ends are hex shaped, unless noted. Wrenches have a dull chrome-plated finish or a black finish.

15° and 75° Angle Wrenches—The open ends are rounded. Openings are the same size on both ends. Wrenches have a dull chrome-plated finish.

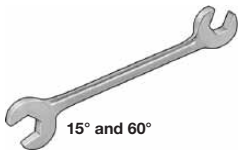



15° and 60° Angle Wrench Sets—Packed in a roll-up pouch.

9-Piece Inch Set—Includes chrome-plated wrenches in sizes 13/64" x 15/64", 15/64" x 13/64", 7/32" x 1/4", 1/4" x 7/32", 9/32" x 5/16", 5/16" x 9/32", 11/32" x 3/8", and 3/8" x 11/32". First opening listed for each size is the 15° angle end. Also includes one 4 1/16" long bent-nose pliers.

5434A2 ..... $78.31

18-Piece Inch Sets—Include sizes 11/32", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4", 1 3/8", 1 7/16", and 1 1/2". Openings are the same size on both ends.

Finish		
Chrome Plated	5433A14	$500.76
Black	54895A86	472.33

15-Piece Metric Set—Includes chrome-plated wrenches in sizes 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 24, 27, and 30 mm. Openings are the same size on both ends.

6032A34 ..... $409.53

15° and 60° Angle Individual Wrenches

Size	Head Thick.	O'all Lg.	Chrome Plated		Black Finish	
Inch						
13/64" x 15/64"	7/64"	3"	5413A41♣	$7.87		
7/32" x 1/4"	7/64"	3"	5413A43♣	8.02		
15/64" x 13/64"	7/64"	3"	5413A42♣	8.02		
1/4" x 7/32"	7/64"	3"	5413A44♣	8.02		
9/32" x 9/16"	5/32"	3 1/2"	5413A45♣	8.50		
5/16" x 9/32"	5/32"	3 1/2"	5413A46♣	8.89		
11/32" x 11/32"	7/32"	4 3/4"	5413A11	15.23	54895A62	$13.24
3/8" x 3/8"	7/32"	4 3/4"	5413A12	15.69	54895A63	13.65
7/16" x 7/16"	7/32"	5"	5413A13	17.12	54895A64	14.89
1/2" x 1/2"	7/32"	5 1/2"	5413A14	19.00	54895A65	16.52
9/16" x 9/16"	1/4"	6"	5413A15	19.59	54895A66	17.03
5/8" x 5/8"	9/32"	6 1/4"	5413A16	21.41	54895A67	18.62
11/16" x 11/16"	9/32"	7"	5413A17	23.42	54895A68	20.37
3/4" x 3/4"	9/32"	7 1/4"	5413A18	25.66	54895A69	22.31
13/16" x 13/16"	9/32"	7 1/2"	5413A19	26.51	54895A71	23.06
7/8" x 7/8"	9/32"	8 1/4"	5413A21	29.26	54895A72	25.44
15/16" x 15/16"	1/4"	9"	5413A22	30.57	54895A73	26.58
1" x 1"	5/16"	9 3/4"	5413A23	32.20	54895A74	28.00
1 1/16" x 1 1/16"	5/16"	10"	5413A31	36.05	54895A75	31.35
1 1/8" x 1 1/8"	5/16"	11"	5413A32	41.39	54895A76	36.00
1 3/16" x 1 3/16"	5/16"	11"	5413A48	43.02	54895A77	37.41
1 1/4" x 1 1/4"	11/32"	11 1/2"	5413A33	44.97	54895A78	39.10
1 3/8" x 1 3/8"	13/32"	12 1/2"	5413A34	48.85	54895A79	42.47
1 7/16" x 1 7/16"	13/32"	12 1/2"	5413A35	54.89	54895A81	47.73
1 1/2" x 1 1/2"	13/32"	12 1/2"	5413A36	59.84	54895A82	51.68
1 5/8" x 1 5/8"	15/32"	15 3/4"	5413A51	94.90	54895A91	82.53

♣ The open ends are rounded.

Size	Head Thick.	O'all Lg.	Chrome Plated		Black Finish	
Inch (Cont.)						
1 11/16" x 1 11/16"	1/2"	16 1/2"	5413A52	$103.74	54895A92	$90.20
1 3/4" x 1 3/4"	17/32"	17"	5413A53	112.45	54895A93	97.79
1 13/16" x 1 13/16"	17/32"	17 3/4"	5413A54	119.06	54895A94	103.53
1 7/8" x 1 7/8"	9/16"	18 1/2"	5413A55	130.27	54895A95	113.27
2" x 2"	19/32"	19 1/4"	5413A56	134.57	54895A96	117.03
Metric						
9x9 mm	7/32"	4 3/4"	6032A11	16.16		
10x10 mm	7/32"	4 3/4"	6032A12	16.16		
11x11 mm	7/32"	4 3/4"	6032A13	17.55		
12x12 mm	7/32"	4 3/4"	6032A14	18.41		
13x13 mm	7/32"	5 1/2"	6032A15	19.41		
14x14 mm	1/4"	6"	6032A16	19.96		
15x15 mm	1/4"	6"	6032A17	21.85		
16x16 mm	9/32"	6 1/4"	6032A18	21.85		
17x17 mm	9/32"	6 1/4"	6032A19	24.10		
18x18 mm	9/32"	7"	6032A21	26.40		
19x19 mm	9/32"	7 1/4"	6032A22	26.40		
20x20 mm	9/32"	7 1/4"	6032A23	27.26		
21x21 mm	9/32"	7 1/2"	6032A24	27.26		
22x22 mm	9/32"	7 1/2"	6032A25	30.12		
23x23 mm	9/32"	8 1/4"	6032A26	30.12		
24x24 mm	9/32"	9"	6032A27	31.47		
27x27 mm	5/16"	10"	6032A28	37.08		
30x30 mm	5/16"	11"	6032A29	44.25		
32x32 mm	11/32"	11 1/2"	6032A31	46.37		
34x34 mm	13/32"	12 1/2"	6032A32	50.25		
36x36 mm	13/32"	12 1/2"	6032A33	56.49		

15° and 75° Angle Wrench Sets—Packed in a canvas roll-up pouch.

14-Piece Inch Set—Includes one of each inch size listed below plus 5" long adjustable pliers.

5431A11 ..... $113.68

16-Piece Metric Set—Includes one of each metric size listed below.

8393A72 ..... $205.37

15° and 75° Angle Individual Wrenches

Size	Head Thick.	O'all Lg.		
Inch				
3/16"	7/64"	3"	5412A11	$6.99
13/64"	7/64"	3"	5412A12	7.16
7/32"	7/64"	3"	5412A13	7.25
15/64"	7/64"	3"	5412A14	7.30
1/4"	7/64"	3"	5412A15	7.40
9/32"	5/32"	3 1/2"	5412A16	7.57
5/16"	5/32"	3 1/2"	5412A17	7.74
11/32"	5/32"	3 3/4"	5412A18	7.91
3/8"	5/32"	3 3/4"	5412A19	7.93
7/16"	11/64"	4 1/2"	5412A21	8.46

Size	Head Thick.	O'all Lg.		
Inch (Cont.)				
1/2"	11/64"	4 1/2"	5412A22	$8.63
9/16"	3/16"	5 3/4"	5412A23	9.15
5/8"	3/16"	5 3/4"	5412A24	9.17
Metric				
3.2 mm	3/32"	2 3/4"	8393A41	9.45
4 mm	3/32"	2 3/4"	8393A42	9.45
5 mm	3/32"	3"	8393A43	9.63
5.5 mm	3/32"	3"	8393A44	9.63
6 mm	7/64"	3 1/8"	8393A45	12.61
7 mm	7/64"	3 1/8"	8393A46	13.13

Size	Head Thick.	O'all Lg.		
Metric (Cont.)				
8 mm	1/8"	3 5/8"	8393A47	$14.51
9 mm	1/8"	3 5/8"	8393A48	15.11
10 mm	1/8"	4"	8393A49	15.54
11 mm	1/8"	4"	8393A51	15.74
12 mm	9/64"	4 3/4"	8393A52	17.68
13 mm	9/64"	4 3/4"	8393A53	17.55
14 mm	9/64"	4 3/4"	8393A54	17.68
15 mm	11/64"	5 1/2"	8393A55	23.18
16 mm	11/64"	5 1/2"	8393A56	23.18
17 mm	11/64"	5 1/2"	8393A57	25.29

Two-Head Open-End Wrenches

Secure-Grip Open-End Wrenches

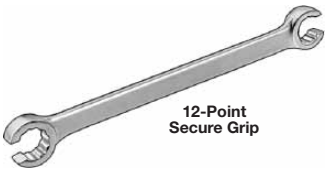

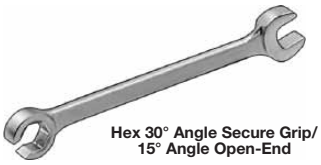

Also known as flare-nut or line wrenches, these tools have more surface contact than standard open-end wrenches for a better grip. Secure-grip ends are offset 15° and straight (not angled), except where noted. Made of steel with a dull chrome-plated finish, unless otherwise stated.

No. of Pieces	Sizes in Set	Finish		
Wrench Sets—Packed in a roll-up pouch.				
Hex Secure Grip				
5	7×8, 9×11, 10×12, 13×14, and 15×17 mm	Dull	7192A44	$94.54
Hex and 12-Point 15° Angle Secure Grip				
5	Hex: 3/8″×7/16″, 1/2″×9/16″, and 5/8″×11/16″; 12-Point: 3/4″×1″ and 7/8″×1 1/8″	Polished	8537A11	125.34
12-Point Secure Grip				
3	3/8″×7/16″, 1/2″×9/16″, and 5/8″×11/16″	Dull	54745A69	55.54
5	7×8, 9×11, 10×12, 13×14, and 15×17 mm	Dull	54855A41	99.09
Hex 30° Angle Secure Grip/15° Angle Open End				
7	3/8″, 7/16″, 1/2″, 9/16″, 5/8″, 11/16″, and 3/4″	Dull	5442A24	146.06
12-Point 30° Angle Secure Grip/15° Angle Open End				
7	3/8″, 7/16″, 1/2″, 9/16″, 5/8″, 11/16″, and 3/4″	Dull	55185A51	139.05

Individual Secure-Grip Wrenches

Size	Hex O'all Lg.			12-Point O'all Lg.		
Inch						
1/4″×5/16″	4 7/8″	8537A49♦	$13.57	—	—	—
3/8″×7/16″	6 1/8″	8537A41♦	14.94	6 1/4″	54745A63	$15.40
1/2″×9/16″	7 1/2″	8537A42♦	18.42	7 1/2″	54745A64	18.74
5/8″×11/16″	7 5/8″	8537A43♦	21.96	8 3/4″	54745A65	22.28
3/4″×13/16″	8 7/8″	8537A46♦	62.57	—	—	—
3/4″×1″	9 1/2″	8537A47♦	54.73	9 1/8″	54745A66♦	29.23
7/8″×1 1/8″	10 1/2″	8537A48♦	65.65	9 3/4″	54745A67♦	34.00
Metric						
7×8 mm	5 3/4″	7192A17	16.80	5 3/4″	54855A31	16.80
Metric (Cont.)						
9×11 mm	6 3/8″	7192A11	$16.47	6 3/8″	54855A32	$16.47
10×12 mm	7″	7192A12	19.08	7″	54855A33	19.08
13×14 mm	7 5/8″	7192A13	19.10	7 5/8″	54855A34	19.10
15×17 mm	8″	7192A14	22.86	8″	54855A35	22.86
16×18 mm	8 7/8″	7192A15	22.93	8 7/8″	54855A36	22.93
19×21 mm	9 1/2″	7192A16	23.92	8 1/2″	54855A37	23.92
22×24 mm	—	—	—	9 1/4″	54855A38♦	65.45
24×27 mm	—	—	—	10 1/8″	54855A39♦	68.18
30×32 mm	—	—	—	11″	54855A42♦	86.36

♦ Ends are angled 15°.

Individual Hex 30° Angle Secure-Grip/15° Angle Open-End Wrenches—Size is the same on both ends.

Size	Open-End Head Thick.	O'all Lg.		
3/8″	23/64″	5 3/4″	5442A11	$15.03
7/16″	13/32″	6″	5442A12	15.96
1/2″	13/32″	6 1/2″	5442A13	17.38
9/16″	15/32″	7″	5442A14	$18.21
5/8″	15/32″	7 5/8″	5442A15	21.22
11/16″	17/32″	8 3/4″	5442A16	23.17
3/4″	17/32″	9 1/4″	5442A17	$24.37
7/8″	3/8″	12 1/8″	5442A18♠	33.47

♠ Angle on secure-grip end is 22°.

Ratcheting Open-End Wrenches



Both ends require a 30° turn to engage the ratchet. Made of stainless steel.

Size	O'all Lg.		
Inch—Head Thick.: 17/64″-11/32″			
3/8″×7/16″	5″	6795A14	$17.40
1/2″×9/16″	6 3/8″	6795A16	18.49
5/8″×11/16″	7 1/8″	6795A18	20.67

Size, mm	O'all Lg.		
Metric—Head Thick.: 19/64″-11/32″			
10×12	5 1/4″	6795A24	$17.40
13×14	6 1/4″	6795A26	18.49
15×17	6 7/8″	6795A28	20.67

Square-Head Open-End Wrenches



Square openings provide a better fit on square-head bolts, cap screws, set screws, and nuts. Heads are angled 22°. Made of steel with a black finish.

Size	Head Thick.	O'all Lg.		
3/16″×1/4″	19/64″	4 1/4″	5402A31	$14.34
1/4″×5/16″	19/64″	4 1/4″	5402A33	14.34
5/16″×3/8″	11/32″	5″	5402A35	17.30
3/8″×7/16″	3/8″	5 3/4″	5402A37	20.47
3/8″×1/2″	13/32″	5 3/4″	5402A38	26.85
7/16″×1/2″	13/32″	5 3/4″	5402A39	26.85
1/2″×5/8″	9/16″	8 1/2″	5402A42	38.15

Aluminum Open-End Wrenches



The open end has corner recesses that won't mar or round fasteners. Head is angled 15°. Also known as AN (Army-Navy) wrenches, they are color-coded by size.

8-Piece Set—Includes one of each size listed below. Packed in a plastic roll-up pouch.

91825A100 ..... $260.00

Size	AN Size	Color	Head Thick.	O'all Lg.		
1/2″	3	Gray	23/64″	4″	91825A110	$22.75
9/16″	4	Black	23/64″	4 3/4″	91825A120	23.32
11/16″	6	Light Blue	23/64″	5 3/4″	91825A130	26.13
7/8″	8	Pink	23/64″	5 3/4″	91825A140	28.06
1″	10	Light Yellow	23/64″	7 1/8″	91825A150	30.68
1 1/4″	12	Red	23/64″	7 1/2″	91825A160	32.18
1 1/2″	16	Dark Yellow	23/64″	8 3/4″	91825A170	36.88
1 13/16″	20	Dark Blue	23/64″	9 1/4″	91825A180	40.31

Corrosion-Resistant Open-End Wrenches



These wrenches are made of stainless steel, which provides excellent corrosion resistance. They can be autoclaved up to 250° F. Heads are angled 15°.

Also Available: Metric sizes. Please ask for 55195A31 and specify size: 6×7, 8×9, 10×11, 12×13, 14×15, 16×17, or 19×22 mm.

8-Piece Set—Includes one of each size listed below.

54565A19 ..... $1,052.00

Size	Head Thick.	O'all Lg.		
1/4″×5/16″	3/16″	4 3/4″	54565A11	$71.79
3/8″×7/16″	7/32″	6 1/4″	54565A12	79.29
1/2″×9/16″	15/64″	7″	54565A13	87.86
5/8″×11/16″	17/64″	8 1/4″	54565A14	111.43
3/4″×13/16″	19/64″	8 7/8″	54565A15	152.14
7/8″×15/16″	5/16″	10 1/4″	54565A16	165.00
1″×1 1/16″	19/64″	10 3/8″	54565A17	197.14
1 1/8″×1 1/4″	11/32″	11 1/8″	54565A18	262.50

Open-End Head Thickness of Combination Wrenches

Inch Size	Head Thick.
1/8"	1/8"
5/32"	1/8"
3/16"	9/64"
13/64"	1/8"
7/32"	5/32"
15/64"	9/64"
1/4"	1/4"
9/32"	17/64"
5/16"	13/64"
11/32"	13/64"
3/8"	19/64"
7/16"	17/64"
1/2"	11/32"
9/16"	23/64"

Inch Size	Head Thick.
19/32"	1/4"
5/8"	13/32"
11/16"	27/64"
3/4"	29/64"
25/32"	21/64"
13/16"	27/64"
7/8"	7/16"
15/16"	15/32"
1"	15/32"
1 1/16"	11/16"
1 1/8"	35/64"
1 3/16"	9/16"
1 1/4"	19/32"
1 5/16"	17/32"

Inch Size	Head Thick.
1 3/8"	35/64"
1 7/16"	3/4"
1 1/2"	5/8"
1 5/8"	21/32"
1 11/16"	11/16"
1 3/4"	49/64"
1 13/16"	25/32"
1 7/8"	49/64"
2"	49/64"
2 1/16"	27/32"
2 1/8"	55/64"
2 3/16"	55/64"
2 1/4"	55/64"
2 3/8"	31/32"

Inch Size	Head Thick.
2 1/2"	31/32"
2 9/16"	1"
2 5/8"	17/32"
2 3/4"	17/32"
2 7/8"	17/32"
2 15/16"	17/32"
3"	17/32"
3 1/8"	17/32"
3 1/4"	1 1/2"
3 3/8"	1 1/2"
3 1/2"	1 1/2"
3 3/4"	1 1/2"
3 7/8"	1 1/2"
4"	1 1/2"

Metric Size	Head Thick.
4 mm	1/8"
4.5 mm	7/64"
5 mm	5/32"
5.5 mm	5/32"
6 mm	17/64"
7 mm	13/64"
8 mm	17/64"
9 mm	9/32"
10 mm	19/64"
11 mm	5/16"
12 mm	21/64"
13 mm	11/32"
14 mm	23/64"

Metric Size	Head Thick.
15 mm	3/8"
16 mm	13/32"
17 mm	27/64"
18 mm	23/64"
19 mm	29/64"
20 mm	27/64"
21 mm	7/16"
22 mm	29/64"
23 mm	13/32"
24 mm	13/32"
25 mm	27/64"
26 mm	29/64"
27 mm	29/64"

Metric Size	Head Thick.
28 mm	15/32"
29 mm	15/32"
30 mm	1/2"
32 mm	33/64"
36 mm	5/8"
41 mm	21/32"
46 mm	49/64"
50 mm	49/64"
55 mm	63/64"
60 mm	63/64"
65 mm	15/32"
70 mm	1 5/32"

Ratcheting Combination Wrenches

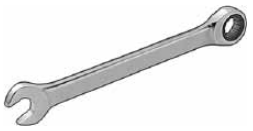

One end has a 12-point box end that requires a 5° turn to engage the ratchet. The other end is open and angled 15°. Wrenches are chrome-plated steel and are polished for a mirror-like finish. **Offset** wrenches have a box end that is offset 15° to give you additional clearance to turn hard-to-reach fasteners.

Premium Sets—The finest tools available. Made in the U.S. Packed in a plastic roll-up pouch.

Economy Sets—Imported tools. *Inch* set is packed in a plastic roll-up pouch. *Metric* set is packed in a plastic tray.

Ratcheting Wrench Sets

7-Pc. Premium Inch Set—Includes sizes 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", and 3/4".
5163A41 $157.31

10-Pc. Premium Inch Set—Includes sizes 1/4", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", and 3/4".
5163A43 $198.88

10-Pc. Premium Metric Set—Includes sizes 10 through 19 mm.
5163A42 $235.76

Individual Ratcheting Wrenches

Size	O'all Lg.		
Inch			
1/4"	5 1/8"	5163A11	$17.65
5/16"	5 3/4"	5163A12	17.65
11/32"	6 1/8"	5163A13	17.65
3/8"	6 3/4"	5163A14	18.96
7/16"	7 1/4"	5163A15	19.94
1/2"	8 1/8"	5163A16	20.69
9/16"	8 5/8"	5163A17	23.50
5/8"	9 1/2"	5163A18	25.98
11/16"	10 1/8"	5163A19	28.36
3/4"	11"	5163A21	30.95
13/16"	11 1/2"	5163A81	24.06
7/8"	11 1/2"	5163A82	24.06
15/16"	13 1/8"	5163A83	26.64
1"	13 1/8"	5163A84	26.28
1 1/16"	14 1/8"	5163A85	31.47
1 1/8"	15 7/8"	5163A86	31.47
1 1/4"	16 3/4"	5163A87	38.03
Metric			
6 mm	5 1/8"	5163A22	17.43
7 mm	5 3/8"	5163A23	17.94
Metric (Cont.)			
8 mm	5 3/4"	5163A24	$18.45
9 mm	6 1/8"	5163A25	19.96
10 mm	6 3/4"	5163A26	20.27
11 mm	7 1/4"	5163A27	20.77
12 mm	7 3/4"	5163A28	21.69
13 mm	8 1/8"	5163A29	22.73
14 mm	8 5/8"	5163A31	23.95
15 mm	9 1/8"	5163A32	25.90
16 mm	9 1/2"	5163A33	27.27
17 mm	10 1/8"	5163A34	29.77
18 mm	10 1/2"	5163A35	31.06
19 mm	11 1/8"	5163A36	32.48
21 mm	11 1/2"	5163A88	24.06
22 mm	11 1/2"	5163A89	24.06
24 mm	13 1/8"	5163A91	26.23
25 mm	13 1/8"	5163A92	26.23
27 mm	14 1/8"	5163A93	31.47
30 mm	15 7/8"	5163A94	34.60
32 mm	16 3/4"	5163A95	38.03

Offset Ratcheting Wrench Sets

7-Pc. Premium Inch Set—Includes sizes 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", and 3/4".
5160A33 $173.09

10-Pc. Premium Metric Set—Includes sizes 10 through 19 mm.
5160A34 $259.37

7-Pc. Economy Inch Set—Includes sizes 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", and 3/4".
6871A21 $91.43

8-Pc. Economy Metric Set—Includes sizes 8, 10, 12, 13, 14, 15, 17, and 19 mm.
6871A31 $91.72

Individual Offset Ratcheting Wrenches

Size	O'all Lg.		
Inch			
5/16"	5 7/8"	5160A2	$19.37
3/8"	6 3/4"	5160A3	20.87
7/16"	7 1/4"	5160A4	21.87
1/2"	8 1/8"	5160A5	22.73
9/16"	8 5/8"	5160A6	26.25
5/8"	9 5/8"	5160A7	28.53
11/16"	10 1/4"	5160A8	31.22
3/4"	11"	5160A9	34.03
Metric			
8 mm	5 7/8"	5160A21	20.23
Metric (Cont.)			
10 mm	6 3/4"	5160A22	$22.36
11 mm	7 3/8"	5160A23	22.83
12 mm	7 3/4"	5160A24	23.89
13 mm	8 1/4"	5160A25	25.01
14 mm	8 3/4"	5160A26	26.31
15 mm	9 1/4"	5160A27	27.89
16 mm	9 5/8"	5160A28	29.35
17 mm	10 1/4"	5160A29	32.10
18 mm	10 5/8"	5160A31	33.49
19 mm	11 1/8"	5160A32	35.07

Stubby Ratcheting Combination Wrenches



These shorter wrenches are designed to work in tight areas. Wrenches have a 12-point box end that requires a 5° turn to engage the ratchet. The other end is open and angled 15°. Made of chrome-plated steel that is polished for a mirror-like finish. **Offset** wrenches have a box end that is offset 15° to give you additional clearance to turn hard-to-reach fasteners.

Premium Sets—The finest tools available. Made in the U.S.

Economy Sets—Imported tools.

Ratcheting Wrench Sets

7-Pc. Premium Inch Set—Includes sizes 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", and 3/4". Packed in a plastic roll-up pouch.
5666A65 $204.06

10-Pc. Premium Metric Set—Includes sizes 10 through 19 mm. Packed in a plastic roll-up pouch.
5666A67 $294.13

7-Pc. Economy Inch Set—Includes sizes 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", and 3/4". Packed in a plastic tray.
4363A11 $90.12

10-Pc. Economy Metric Set—Includes sizes 10 through 19 mm. Packed in a plastic tray.
4363A12 $125.30

Individual Ratcheting Wrenches

Size	O'all Lg.		
Inch			
3/8"	3 7/8"	5666A12	$26.00
7/16"	4 1/8"	5666A13	27.00
1/2"	4 3/8"	5666A14	29.00
9/16"	4 5/8"	5666A15	30.51
5/8"	4 7/8"	5666A16	34.00
11/16"	5 1/8"	5666A17	35.00
3/4"	5 3/8"	5666A18	38.25
Metric			
10 mm	4"	5666A31	26.00
Metric (Cont.)			
11 mm	4 1/8"	5666A32	$27.00
12 mm	4 1/4"	5666A33	28.00
13 mm	4 3/8"	5666A34	29.00
14 mm	4 5/8"	5666A35	30.51
15 mm	4 3/4"	5666A36	31.75
16 mm	4 7/8"	5666A37	34.00
17 mm	5 1/8"	5666A38	35.00
18 mm	5 1/4"	5666A39	37.25
19 mm	5 1/2"	5666A41	38.25

Offset Ratcheting Wrench Sets—Packed in a metal box.

9-Pc. Economy Inch Set—Includes sizes 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", and 3/4".
5666A3 $134.61

13-Pc. Economy Metric Set—Includes 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, and 19 mm.
5666A29 $172.27

Individual Offset Ratcheting Wrenches

Size	O'all Lg.		
Inch			
1/4"	3 1/8"	5666A19	$10.62
7/16"	4"	5666A2	12.22
1/2"	4 3/8"	5666A21	14.03
9/16"	4 1/2"	5666A22	14.88
3/4"	5 3/8"	5666A23	19.25
Metric			
8 mm	3 1/2"	5666A24	$10.39
10 mm	3 7/8"	5666A25	11.76
13 mm	4 3/8"	5666A26	14.03
17 mm	5"	5666A27	17.48
19 mm	5 1/2"	5666A28	20.27

Corrosion-Resistant Combination Wrenches

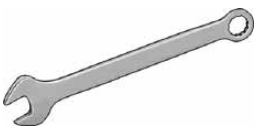

These wrenches are made of stainless steel, which provides excellent corrosion resistance. They can be autoclaved up to 250°F. The open end is angled 15°. The other end is a 12-point box end that is offset 15°.

6-Pc. Set—Includes one of each size listed in a plastic roll-up pouch.
91827A700 $217.00

Size	O'all Lg.		
5/16"	5 1/8"	91827A100	$26.86
3/8"	5 3/4"	91827A200	34.00
7/16"	6 1/8"	91827A300	39.09
1/2"	6 7/8"	91827A400	$40.74
9/16"	7 3/8"	91827A500	43.84
5/8"	8 1/8"	91827A600	52.00

Combination Wrenches

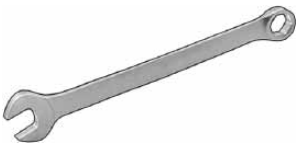

Wrenches have a 15° angle open end and a 15° offset box end with 6 or 12 points. Made of steel. Wrenches with **12-point opening** are easier to position on hex fasteners than wrenches with **6-point opening** but provide less surface contact.

Wrench Sets—Packed in a pouch, unless noted. Choose from four finishes: high-visibility colored, polished (mirror-like) chrome-plated, dull chrome-plated, and black. *High-visibility colored wrench sets* have a bright, powder-coated finish so they are easy to see. **To Order:** For high-visibility wrench sets, please specify red or yellow.

Premium wrenches have additional machining, grinding, and/or polishing for a superior fit and finish. The finest tools available. Made in the U.S. **Value** wrenches offer high quality at an economical price. Made in the U.S. **Economy** wrenches are imported.

Individual Wrenches—Choose from polished (mirror-like) chrome-plated, dull chrome-plated, and black finishes.

No. of Pieces	Sizes in Set	Range of Lengths	Finish		
High-Visibility Sets, Inch—12-Point Box End					
7	3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4"	6 1/2"-11"	High Vis.	5813A1	$89.87
11	3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1"	6 1/2"-14"	High Vis.	5813A2	179.85
14	3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4"	6 1/2"-17"	High Vis.	5813A3	294.27
Premium Sets, Inch—6-Point Box End					
7	3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4"	6 1/2"-11"	Polished	5772A51	114.54
8	1/8", 5/32", 3/16", 1/4", 9/32", 5/16", 11/32", 3/8"	3"-4 7/8"	Polished	5772A53	79.91
	5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4"	5 3/8"-11"	Dull	56945A35	109.25
11	3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1"	6 1/2"-14"	Polished	5772A52	212.87
Premium Sets, Inch—12-Point Box End					
7	3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4"	3 3/4"-5 1/2"	Polished	5304A21	91.72
		5 1/2"-9 5/8"	Polished	5304A91	99.87
			Dull	5441A94	94.22
		6"-10 1/8"	Dull	5444A3	108.54
		6 1/2"-11"	Polished	5304A92	112.08
			Black	7242A41	76.08
11	3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1"	6"-13 3/8"	Polished	5304A71	246.52
			Dull	5444A4	228.07
		7 3/8"-17"	Polished	5304A97	243.29
14	3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4"	6"-16 7/8"	Polished	5304A73	416.92
			Dull	5444A2	340.36
		6 1/2"-17 1/8"	Black	7242A45	292.99
Value Sets, Inch—12-Point Box End					
11	1/4", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16"	4"-12 5/8"	Dull	5807A6 ■	85.17
14	5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/8", 1 1/4"	4 3/8"-16 7/8"	Dull	5807A8 ■	147.71
Economy Sets, Inch—12-Point Box End					
11	3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1"	5 1/8"-13 1/2"	Dull	5201A7	41.59
14	3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4"	5 1/8"-16 7/8"	Dull	5201A8	60.06
Premium Sets, Metric—6-Point Box End					
6	4, 5, 5.5, 6, 7, and 8 mm	3"-4 3/8"	Polished	5314A25	80.41
11	7, 8, 9, 10, 11, 12, 13, 14, 15, 17, and 19 mm	5"-11"	Polished	5314A16	184.93
Premium Sets, Metric—12-Point Box End					
11	7, 8, 9, 10, 11, 12, 13, 14, 15, 17, and 19 mm	5 1/4"-10 1/8"	Polished	5314A26	201.76
			Dull	5140A15	191.98
		5 1/4"-11 1/8"	Polished	5314A93	142.01
15	7, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 29, 30, and 32 mm	5 3/8"-17"	Polished	5314A99	452.00
17	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, and 22 mm	5"-11 3/4"	Dull	5140A12	322.40
18	7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, and 24 mm	5 1/4"-13 3/8"	Dull	5314A62	316.84
Value Sets, Metric—12-Point Box End					
17	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, and 22 mm	4"-11 5/8"	Dull	5811A16 ■	139.18
Economy Sets, Metric—12-Point Box End					
11	7, 8, 9, 10, 11, 12, 13, 14, 15, 17, and 18 mm	5 3/8"-10 1/2"	Dull	5068A4	28.23
16	7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, and 24 mm	5 3/8"-13 1/4"	Dull	5068A5	28.23

■ Does not come in a pouch.

Individual Wrenches, Inch

6-Point, Polished

Size	O'all Lg.		
1/4"	4"	5772A25	$12.36
1/4"	4 7/8"	5772A26	11.37
5/16"	4 3/8"	5772A27	12.43
5/16"	5 3/4"	5772A28	11.37

6-Point, Polished (Cont.)

Size	O'all Lg.		
11/32"	4 7/8"	5772A29	$12.63
3/8"	5 1/2"	5772A31	11.14
3/8"	6 1/2"	5772A32	12.15
7/16"	7"	5772A34	12.75

6-Point, Polished (Cont.)

Size	O'all Lg.		
1/2"	6 1/8"	5772A35	$16.52
1/2"	8"	5772A36	13.22
9/16"	6 3/4"	5772A37	17.57
9/16"	8 3/4"	5772A38	15.01

6-Point, Polished (Cont.)

Size	O'all Lg.		
9/16"	8 3/4"	5772A38	$17.57
5/8"	9 1/2"	5772A41	16.58

(Continued on following page)

Combination Wrenches *(Continued from previous page)*

Individual Wrenches, Inch (Cont.)

Size	O'all Lg.		
6-Point, Polished (Cont.)			
11/16"	10 1/4"	5772A42	$18.20
3/4"	11 1/8"	5772A43	19.75
13/16"	11 3/4"	5772A44	21.50
7/8"	12 5/8"	5772A45	25.19
15/16"	13 1/4"	5772A46	28.08
1"	14"	5772A47	33.99
6-Point, Dull			
1/8"	3"	5443A18	10.17
5/32"	3"	56945A12	9.45
3/16"	3 1/8"	5443A22	10.17
7/32"	3 1/4"	56945A14	9.37
1/4"	3 1/2"	56945A15	9.72
9/32"	3 1/2"	56945A16	9.72
5/16"	3 3/4"	56945A17	9.80
5/16"	5 3/4"	56945A21	10.44
11/32"	3 7/8"	56945A18	9.80
3/8"	6 1/2"	56945A22	11.04
7/16"	7 1/4"	56945A23	11.69
1/2"	8"	56945A24	12.12
9/16"	8 7/8"	56945A25	13.78
5/8"	9 1/2"	56945A26	15.28
11/16"	10 1/4"	56945A27	16.73
3/4"	11"	56945A28	18.14
13/16"	11 7/8"	56945A29	18.40
7/8"	12 1/2"	56945A31	22.86
15/16"	13 1/4"	56945A32	25.87
1"	14"	56945A33	29.69
12-Point, Polished			
1/4"	4"	5304A41	11.12
1/4"	5"	5304A39	10.75
5/16"	4 3/8"	5304A42	11.80
5/16"	5 3/4"	5304A52	11.53
11/32"	4 7/8"	5304A43	12.69
11/32"	5 3/4"	5304A31	11.72
11/32"	6 1/4"	5441A13	9.59
3/8"	5 1/2"	5304A44	12.35
3/8"	6 1/2"	5304A53	11.78
7/16"	4"	5304A12	11.59
7/16"	5 7/8"	5304A45	12.86
7/16"	7 1/4"	5304A54	12.66
1/2"	4 1/4"	5304A13	12.40
1/2"	6 1/2"	5304A46	12.39

Size	O'all Lg.		
12-Point, Polished (Cont.)			
1/2"	8"	5304A55	$13.52
9/16"	4 1/2"	5304A14	13.21
9/16"	7 1/8"	5304A47	13.83
9/16"	8 3/4"	5304A56	15.13
5/8"	4 7/8"	5304A15	13.31
5/8"	8"	5304A48	14.62
5/8"	9 1/2"	5304A57	17.31
11/16"	5"	5304A16	16.66
11/16"	8 3/4"	5304A49	16.45
11/16"	10 1/4"	5304A58	18.21
3/4"	5 1/2"	5304A17	16.55
3/4"	9 5/8"	5304A51	17.07
3/4"	11"	5304A59	20.51
13/16"	11"	5304A82	19.90
13/16"	11 3/4"	5304A61	21.25
7/8"	11 1/2"	5304A83	22.38
7/8"	12 1/2"	5304A62	26.34
15/16"	12 1/2"	5304A37	24.57
15/16"	13 1/4"	5304A63	27.71
1"	13 5/8"	5304A38	28.71
1"	14"	5304A64	34.45
1 1/16"	14 3/4"	5304A65	45.16
1 1/8"	15 1/2"	5304A66	47.76
1 3/16"	16 3/8"	5304A68	56.71
1 1/4"	17 1/8"	5304A67	61.87
1 5/16"	17 3/4"	5304A93	106.37
1 3/8"	18 1/2"	5304A94	108.52
1 7/16"	19 1/4"	5304A95	123.95
1 1/2"	20 1/8"	5304A96	138.99
12-Point, Dull			
1/4"	4"	5441A82	9.35
1/4"	5"	5441A11	9.54
5/16"	4 3/8"	5441A71	9.35
5/16"	5 3/4"	5441A12	9.91
3/8"	5 1/2"	5441A72	9.58
3/8"	6 1/2"	5441A14	10.40
7/16"	5 7/8"	5441A73	10.09
7/16"	7"	5441A15	11.79
1/2"	6 1/2"	5441A74	10.82
1/2"	8"	5441A16	12.28
9/16"	7 1/8"	5441A75	12.19
9/16"	8 3/4"	5441A17	12.95
5/8"	8"	5441A76	12.96

Size	O'all Lg.		
12-Point, Dull (Cont.)			
5/8"	9 1/2"	5441A22	$14.36
5/8"	11 1/8"	5441A48	16.29
11/16"	8 7/8"	5441A78	13.38
11/16"	10 1/4"	5441A23	15.64
11/16"	12"	5441A49	17.61
3/4"	9 5/8"	5441A79	14.77
3/4"	11"	5441A24	18.33
3/4"	13 1/8"	5441A57	18.81
13/16"	11 7/8"	5441A26	19.86
7/8"	11 1/2"	5441A84	16.22
7/8"	12 1/2"	5441A27	23.35
7/8"	15"	5441A59	24.00
15/16"	12 1/2"	5441A85	16.22
15/16"	13 1/4"	5441A28	26.00
15/16"	16"	5441A64	26.73
1"	14"	5441A31	31.40
1 1/16"	15 1/4"	5441A32	37.07
1 1/8"	15 1/2"	5441A33	41.98
1 3/16"	16"	5441A38	53.58
1 1/4"	16 7/8"	5441A34	50.86
1 5/16"	17 5/8"	5441A35	54.42
1 3/8"	20 1/8"	5441A36	54.57
1 7/16"	19 3/8"	5441A37	64.53
1 1/2"	21 1/8"	5441A41	72.32
1 5/8"	23"	5441A42	80.58
1 11/16"	24 1/8"	5441A43	80.45
1 3/4"	25"	5441A44	92.44
1 13/16"	25 5/8"	5441A45	91.19
1 7/8"	28"	5441A46	116.65
2"	28"	5441A47	122.65
2 1/16"	29 1/2"	5441A51	143.54
2 1/8"	28"	5441A52	136.02
2 3/16"	28"	5441A53	144.13
2 1/4"	29 1/2"	5441A54	179.91
2 3/8"	31 1/2"	5441A55	220.88
2 1/2"	30"	5441A56	223.16
2 9/16"	32"	5441A61	336.50
2 5/8"	32"	5441A62	272.45
2 3/4"	32"	5441A63	383.85
2 7/8"	32"	5441A65	376.76
2 15/16"	32"	5441A66	331.73
3"	32"	5441A67	340.18
3 1/8"	32"	5441A68	322.95

Size	O'all Lg.		
12-Point, Black			
1/4"	5"	7242A31	$10.23
5/16"	5 3/4"	7242A32	10.23
11/32"	5 3/4"	7242A33	10.23
3/8"	6 1/2"	7242A11	10.33
7/16"	7 1/4"	7242A12	10.69
1/2"	8"	7242A13	11.15
9/16"	8 3/4"	7242A14	12.62
5/8"	9 1/2"	7242A15	14.00
11/16"	10 1/4"	7242A16	15.23
3/4"	11"	7242A17	16.58
13/16"	11 3/4"	7242A18	18.03
7/8"	12 1/2"	7242A19	21.12
15/16"	13 1/4"	7242A21	23.58
1"	14"	7242A22	28.51
1 1/16"	14 3/4"	7242A23	33.17
1 1/8"	15 1/2"	7242A24	38.63
1 3/16"	16 3/8"	7242A28	44.83
1 1/4"	17 1/8"	7242A25	45.48
1 5/16"	20 1/8"	7242A34	49.87
1 3/8"	20 1/8"	7242A35	52.24
1 7/16"	21 1/8"	7242A36	58.15
1 1/2"	21 1/8"	7242A26	65.86
1 5/8"	24 1/8"	7242A37	73.83
1 11/16"	24 1/8"	7242A38	78.34
1 3/4"	25 5/8"	7242A39	84.10
1 13/16"	25 5/8"	7242A51	88.78
1 7/8"	27 1/8"	7242A42	106.08
2"	28"	7242A43	111.54
2 1/8"	28"	7242A55	153.61
2 1/4"	28"	7242A47	170.74
2 3/8"	30"	7242A48	209.70
2 1/2"	30"	7242A49	219.70
2 5/8"	32"	7242A57	295.90
2 3/4"	32"	7242A58	350.07
2 15/16"	32"	7242A61	323.54
3"	32"	7242A62	324.72
3 1/8"	35"	7242A63	606.48
3 1/4"	36"	7242A65	780.84
3 3/8"	36 1/2"	7242A66	781.23
3 1/2"	37"	7242A67	788.23
3 3/4"	38"	7242A68	824.32
3 7/8"	38 1/2"	7242A69	825.87
4"	39"	7242A71	833.30

Individual Wrenches, Metric

Size, mm	O'all Lg.		
6-Point, Polished			
6	4"	5314A86	$12.62
6	5"	5314A1	12.01
7	4"	5314A87	16.12
7	5 1/4"	5314A2	12.25
8	4 1/2"	5314A88	16.12
8	5 1/2"	5314A3	12.01
9	5 3/4"	5314A4	12.61
10	6"	5314A5	12.81
11	7"	5314A6	12.91
12	7 3/4"	5314A7	13.47
13	8"	5314A8	14.10
14	8 1/4"	5314A9	14.88
15	9 1/4"	5314A11	16.04
16	9 5/8"	5314A12	17.00
17	10 3/8"	5314A13	18.48
18	10 3/4"	5314A14	19.28
19	11 1/8"	5314A15	20.20
6-Point, Dull			
4	3"	55715A22	10.91
5	3 1/4"	55715A24	10.91
5.5	3 3/8"	55715A25	10.91
7	5 1/4"	7191A62	10.12
8	5 1/2"	7191A63	10.37
9	5 3/4"	7191A64	11.60
10	6"	7191A65	11.63
11	7"	7191A66	11.87
12	7 3/4"	7191A67	12.40
13	8"	7191A68	13.00
14	8 7/8"	7191A69	13.70
15	9 1/8"	7191A71	14.78
16	9 5/8"	7191A72	15.59
17	10 3/8"	7191A73	17.03

Size, mm	O'all Lg.		
6-Point, Dull (Cont.)			
18	10 3/4"	7191A74	$17.98
19	11 1/8"	7191A75	18.62
12-Point, Polished			
6	5"	5314A29	11.27
7	5 3/8"	5314A31	11.93
8	5 3/4"	5314A32	12.52
9	4 7/8"	5314A41	12.02
9	6 1/8"	5314A33	13.24
10	5 1/2"	5314A42	12.81
10	6 3/4"	5314A51	13.90
11	5 7/8"	5314A43	13.19
11	7 1/4"	5314A52	14.03
12	6 1/4"	5314A44	13.91
12	7 3/4"	5314A53	14.73
13	6 1/2"	5314A45	13.99
13	8 1/8"	5314A54	15.35
14	7 1/8"	5314A46	13.80
14	8 5/8"	5314A55	15.90
15	7 1/2"	5314A47	15.63
15	9 1/8"	5314A56	16.29
16	8"	5314A94	15.63
16	9 1/2"	5314A57	18.52
17	8 3/8"	5314A48	17.60
17	10 1/8"	5314A58	20.18
18	8 3/4"	5314A95	19.16
18	10 1/2"	5314A59	21.03
19	9 5/8"	5314A49	23.99
19	11"	5314A61	21.92
20	10 1/4"	5314A89	21.63
20	11 1/2"	5314A64	23.66
21	11"	5314A91	22.67
21	12"	5314A65	28.82

Size, mm	O'all Lg.		
12-Point, Polished (Cont.)			
22	12 1/2"	5314A66	$29.70
24	13 3/8"	5314A68	33.55
25	14"	5314A69	35.69
26	14 3/4"	5314A71	37.32
27	15 1/4"	5314A72	43.63
28	15 1/2"	5314A96	48.38
29	15 1/2"	5314A97	51.14
30	16 3/8"	5314A73	49.41
32	17 1/8"	5314A74	56.88
12-Point, Dull			
6	5"	7191A46	14.12
7	5 1/4"	7191A51	10.54
8	5 3/4"	7191A11	10.78
9	6 1/8"	7191A12	11.64
10	6"	7191A13	11.81
11	7 1/4"	7191A14	12.20
12	7 3/4"	7191A15	12.68
13	8"	7191A16	13.27
14	7 1/8"	7191A42	9.81
14	8 5/8"	7191A17	13.94
15	7 1/2"	7191A43	11.94
15	9 1/8"	7191A18	15.10
16	9 1/2"	7191A19	15.93
17	10 1/8"	7191A21	17.37
18	10 3/4"	7191A22	18.11
19	11 1/8"	7191A23	18.99
20	11 1/2"	7191A24	20.55
21	11 7/8"	7191A25	24.13
22	12 1/2"	7191A26	25.58
23	13"	7191A27	26.97
24	13 3/8"	7191A28	29.67
25	14"	7191A29	32.52

Size, mm	O'all Lg.		
12-Point, Dull (Cont.)			
26	14 3/4"	7191A33	$34.09
27	15 1/4"	7191A31	39.54
28	15 5/8"	7191A34	44.18
29	15 7/8"	7191A35	46.67
30	15 7/8"	7191A36	44.21
32	17 1/8"	7191A32	51.92
36	19 3/8"	7191A37	72.80
41	24 1/8"	7191A38	88.97
46	25"	7191A39	130.57
50	27 1/8"	7191A41	134.60
55	28 3/4"	7191A82	258.00
60	29 1/4"	7191A83	266.79
65	29 3/4"	7191A84	360.81
70	29 3/4"	7191A85	408.88
12-Point, Black			
7	5 3/8"	71405A32	8.99
8	5 3/4"	71405A33	9.31
9	6 1/8"	71405A34	10.05
10	6"	71405A35	10.03
12	7 3/4"	71405A37	10.73
13	8"	71405A38	11.33
14	8 5/8"	71405A39	11.88
15	9 1/8"	71405A41	12.87
16	9 5/8"	71405A42	13.56
17	10 3/8"	71405A43	14.84
18	10 1/2"	71405A44	15.40
19	11"	71405A45	16.13
20	11 1/2"	71405A46	17.46
21	12"	71405A47	20.50
22	12 1/2"	71405A48	21.72
23	13"	71405A49	22.96
24	13 3/8"	71405A51	25.22

Universal-Fit Ratcheting Combination Wrenches



The spline shape of the box end fits multiple fastener styles. It also gives you a better grip on rounded fasteners. The box end requires a 5° turn to engage the ratchet. The open end is angled 15°. Made of steel. *Inch sizes* are chrome-plated and polished for a mirror-like finish. *Metric sizes* have a black finish.

Wrench Sets

11-Pc. Inch Set—Includes sizes 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", and 3/4". Comes in a plastic caddy.
4950A25 ..... $192.48

10-Pc. Metric Set—Includes sizes 10, 11, 12, 13, 14, 15, 16, 17, 18, and 19 mm. Comes in a canvas roll-up pouch.
4950A91 ..... $158.12

Individual Wrenches, Inch

Hex & 12-Point	Square	Torx	Spline	O'all Lg.		
5/16"	1/4"	E10	No. 10	6 1/4"	4950A2	$17.33
3/8"	5/16"	E12	No. 12	7 3/8"	4950A3	18.26
7/16"	3/8"	E14	No. 14	8"	4950A4	19.05
1/2"	___	E16	No. 16	9"	4950A5	20.42
9/16"	7/16"	E18	No. 18	9 1/2"	4950A6	21.19
5/8"	1/2"	E20	No. 20	10 1/2"	4950A7	23.37
11/16"	9/16"	E22	No. 22	11 1/8"	4950A8	24.79
3/4"	5/8"	E24	No. 24	12 1/4"	4950A9	27.04

Individual Wrenches, Metric

Hex & 12-Point	Square	Torx	Spline	O'all Lg.		
8 mm	___	E10	No. 10	5 1/2"	4950A11	$13.20
10 mm	8 mm	E12	No. 12	6 1/4"	4950A12	13.20
11 mm	___	E14	No. 14	6 1/2"	4950A13	14.82
12 mm	10 mm	E16	___	6 3/4"	4950A14	15.27
13 mm	11 mm	E18	No. 16	7"	4950A15	18.58
16 mm	___	E20	No. 20	8 1/4"	4950A17	18.68
18 mm	15 mm	E22	No. 22	9 3/8"	4950A18	21.78
19 mm	16 mm	E24	No. 24	9 3/4"	4950A19	23.20

Deep Offset Combination Wrenches



The 12-point box end has a 30° offset head that gives you additional clearance to turn hard-to-reach fasteners. The open end is angled 15°. Wrenches are chrome-plated steel and are polished for a mirror-like finish.

9-Pc. Set—Includes one of each size listed in a canvas roll-up pouch.
91826A100 ..... $85.41

Size	O'all Lg.			Size	O'all Lg.		
3/8"	5"	91826A110	$7.52	11/16"	8 3/4"	91826A160	$10.74
7/16"	5 3/4"	91826A120	8.14	3/4"	9 5/8"	91826A170	12.10
1/2"	6 3/4"	91826A130	8.52	13/16"	10 1/2"	91826A180	14.12
9/16"	7 1/4"	91826A140	9.36	7/8"	10 1/2"	91826A190	16.48
5/8"	8 1/8"	91826A150	10.10				

Cushion-Grip Combination Wrench Sets



Wrenches have a 15° angle open end and a 12-point, 15° offset box end. Made of chrome-plated steel that is polished for a mirror-like finish. Overall length ranges from 4" to 13". Packed in a plastic roll-up pouch.

Inch Sets—Yellow Plastic Grip

15-Pc. Inch Set—Includes one each of sizes 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", and 1 1/8".
6114A24 ..... $165.08

Metric Sets—Red Plastic Grip

15-Pc. Metric Set—Includes one each of sizes 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, and 24 mm.
6114A32 ..... $65.09

Flex-Head Ratcheting Combination Wrenches

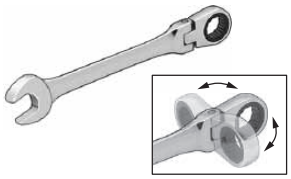

The 12-point ratcheting box end pivots 180° vertically for access to tight spots. It requires a 5° turn to engage the ratchet. The other end is an open end, angled 15°. Wrenches are chrome-plated steel and are polished for a mirror-like finish.

Wrench Sets

7-Pc. Inch Set—Includes inch sizes listed below.
6445A21 ..... $144.33

7-Pc. Metric Set—Includes metric sizes listed below.
6445A22 ..... $144.33

Individual Wrenches

Size	O'all Lg.			Size	O'all Lg.		
Inch				**Metric**			
5/16"	5 1/2"	6445A211	$21.37	8 mm	5 1/2"	6445A221	$20.25
3/8"	6 1/4"	6445A212	22.47	10 mm	6 1/4"	6445A222	21.37
7/16"	6 1/2"	6445A213	23.62	12 mm	6 3/4"	6445A223	23.08
1/2"	7"	6445A214	24.76	13 mm	7"	6445A224	23.62
9/16"	7 1/2"	6445A215	25.86	14 mm	7 1/2"	6445A225	24.76
5/8"	8 1/4"	6445A216	27.00	15 mm	7 7/8"	6445A226	25.86
3/4"	9 3/4"	6445A217	29.27	18 mm	9 3/8"	6445A227	29.27

Extra-Grip Combination Wrenches



Recesses on the open end let you apply higher torque without rounding your fastener. You can also get a better grip on fasteners that are already worn or damaged. Open end is angled 15°. Box end is 12-point and offset 15°. Wrenches are chrome-plated steel and are polished for a mirror-like finish.

Wrench Sets—Packed in a canvas roll-up pouch.

7-Pc. Set—Includes sizes 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", and 3/4".
56255A61 ..... $80.60

11-Pc. Set—Includes sizes 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", and 1".
56255A62 ..... $169.14

14-Pc. Set—Includes sizes 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", and 1 1/4".
56255A64 ..... $329.76

Individual Wrenches

Size	O'all Lg.			Size	O'all Lg.		
3/8"	6 1/2"	56255A31	$9.60	7/8"	12 1/2"	56255A39	$19.96
7/16"	7 1/4"	56255A32	9.86	15/16"	13 1/4"	56255A41	21.98
1/2"	8"	56255A33	10.42	1"	14"	56255A42	26.58
9/16"	8 3/4"	56255A34	11.75	1 1/16"	14 3/4"	56255A47	31.60
5/8"	9 1/2"	56255A35	13.16	1 1/8"	15 1/2"	56255A48	36.37
11/16"	10 1/4"	56255A36	14.27	1 3/16"	16 1/4"	56255A49	39.85
3/4"	11"	56255A37	15.67	1 1/4"	17"	56255A5	43.31
13/16"	11 3/4"	56255A38	16.93				

Miniature Combination Wrenches



These tiny combination wrenches are great for precision applications. Wrenches have an open end that's angled 15° and a 12-point box end (unless otherwise stated) that's offset 15°. Made of chrome-plated steel that is polished for a mirror-like finish.

Wrench Sets—Packed in a plastic roll-up pouch.

10-Pc. Inch Set—Includes one each of 6-point wrenches in 5/32", 3/16", and 13/64" sizes, and 12-point wrenches in 7/32", 15/64", 1/4", 9/32", 5/16", 3/8", and 7/16" sizes. Overall length ranges from 3" to 6".
5443A14 ..... $40.80

10-Pc. Metric Set—Includes one each of 6-point wrenches in 4, 4.5, and 5 mm sizes, and 12-point wrenches in 5.5, 6, 7, 8, 9, 10, and 11 mm sizes. Overall length ranges from 3" to 6".
55715A21 ..... $37.89

Individual Wrenches

Size	O'all Lg.		
Inch			
5/16"	3 1/2"	5443A28	$13.76
3/8"	3 3/4"	5443A29	13.56
Metric			
7 mm	3 3/8"	55715A27	13.86
8 mm	3 1/2"	55715A28	13.86
9 mm	3 5/8"	55715A29	13.86
10 mm	3 3/4"	55715A3	13.86
11 mm	4"	55715A31	13.86

Two-Head Box Wrenches

Wrenches have a 12-point opening at each end. Made of steel with a polished (mirror-like) chrome-plated finish, a dull chrome-plated finish, or a black finish. **45° deep offset** wrenches give you additional clearance to turn hard-to-reach fasteners. **Curved** wrenches are also known as half-moon and obstruction wrenches; the shape lets you reach around obstacles and into machinery.

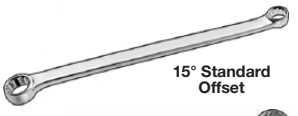





Wrench Sets—Packed in a roll-up pouch.				
No. of Pcs.	Sizes in Set	Range of Lengths		
Inch, 15° Standard Offset				
5	5/16″ x 3/8″, 7/16″, x 1/2″, 9/16″ x 5/8″, 11/16″ x 3/4″, 13/16″ x 7/8″	7″-13 1/8″	**5458A71**	$78.73
7	5/16″ x 3/8″, 7/16″, x 1/2″, 9/16″ x 5/8″, 11/16″ x 3/4″, 13/16″ x 7/8″, 15/16″ x 1″, 1 1/16″ x 1 1/8″	7″-17 1/2″	**5458A72**	149.75
Inch, 45° Deep Offset				
5	3/8″ x 7/16″, 1/2″ x 9/16″, 5/8″ x 11/16″, 3/4″ x 7/8″, 15/16″ x 1″	7 3/8″-14 1/2″	**5459A83**	108.68
9	5/16″ x 3/8″, 3/8″ x 7/16″, 1/2″ x 9/16″, 5/8″ x 11/16″, 3/4″ x 7/8″, 15/16″ x 1″, 1 1/16″ x 1 1/4″, 1 1/8″ x 1 5/16″, 1 1/4″ x 1 7/16″	7 3/8″-19″	**5459A84**	311.00
Metric, 45° Deep Offset				
5	10 x 11, 12 x 13, 14 x 15, 16 x 18, and 17 x 19 mm	7 3/8″-10 7/8″	**5469A62**	89.88

Individual Wrenches, Inch

15° Standard Offset—Polished, unless noted

Size	O'all Lg.		
5/16″ x 3/8″	7″	**5458A12**	$12.88
3/8″ x 7/16″	7 3/4″	**5458A11**	12.62
7/16″ x 1/2″	8 1/8″	**5458A13**	14.01
1/2″ x 9/16″	8 1/2″	**5458A15**	15.12
9/16″ x 5/8″	9 1/2″	**5458A17**	15.53
11/16″ x 3/4″	11 1/4″	**5458A24**	19.19
3/4″ x 7/8″	13 1/8″	**5458A31**	19.76
15/16″ x 1″	15 1/2″	**5458A37**	37.41
1 1/16″ x 1 1/8″	17 1/4″	**5458A44**	41.11
1 1/16″ x 1 1/4″	18 1/4″	**5458A45**★	39.83

15° Standard Offset—Black

7/16″ x 1/2″	8 1/8″	**7241A12**	12.36
3/4″ x 7/8″	13 1/8″	**7241A17**	17.64
1 1/16″ x 1 1/4″	18 1/4″	**7241A22**	35.12

45° Deep Offset—Polished, unless noted

1/4″ x 5/16″	6 3/4″	**5459A52**★ ■	$15.63
5/16″ x 3/8″	7 1/2″	**5459A53**	13.43
3/8″ x 7/16″	5 1/8″	**5459A71**	12.17
3/8″ x 7/16″	7 3/8″	**5459A12**	14.73
7/16″ x 1/2″	5 1/2″	**5459A72**	12.74
7/16″ x 1/2″	8″	**5459A54**	16.90
1/2″ x 9/16″	5 1/2″	**5459A73**	12.74
1/2″ x 9/16″	8 3/4″	**5459A16**	16.54
9/16″ x 5/8″	9 1/4″	**5459A18**	18.30
5/8″ x 11/16″	9 7/8″	**5459A21**	18.62
5/8″ x 3/4″	10 3/8″	**5459A22**	20.99
11/16″ x 3/4″	10 3/8″	**5459A23**	21.61
3/4″ x 7/8″	11 1/2″	**5459A28**	21.98
13/16″ x 7/8″	13 3/8″	**5459A32**★	29.87

45° Deep Offset—Polished, unless noted (Cont.)

7/8″ x 15/16″	14 1/8″	**5459A46**★	$39.30
15/16″ x 1″	14 1/2″	**5459A35**	35.94
1 1/16″ x 1 1/8″	17″	**5459A39**	46.63
1 1/16″ x 1 1/4″	18″	**5459A41**	53.76
1 1/8″ x 1 5/16″	18″	**5459A42**	53.76
1 1/4″ x 1 7/16″	19″	**5459A44**	74.96
1 5/16″ x 1 1/2″	20 1/8″	**5459A45**★	92.23

Curved—Dull

7/16″ x 1/2″	5 1/2″	**5466A21**	18.78
9/16″ x 5/8″	5 3/4″	**5466A11**	21.90
5/8″ x 3/4″	6 1/2″	**5466A24**	25.32

★Dull finish. ■ 70° deep offset.

Individual Wrenches, Metric

45° Deep Offset—Polished, unless noted.

Size	O'all Lg.		
6 x 7 mm	6 1/2″	**5469A21**★ ■	$13.31
8 x 9 mm	7 3/8″	**5469A22**	13.65
10 x 11 mm	7 1/2″	**5469A23**	13.13
12 x 13 mm	7 5/8″	**5469A14**	13.23

45° Deep Offset—Polished (Cont.)

14 x 15 mm	9 1/4″	**5469A16**	$14.45
16 x 18 mm	9 7/8″	**5469A42**	17.69
17 x 19 mm	10 7/8″	**5469A17**	19.39

45° Deep Offset—Polished (Cont.)

20 x 22 mm	12″	**5469A29**	$20.35
21 x 23 mm	13 3/8″	**5469A31**	38.30
30 x 32 mm	18″	**5469A32**	84.80

★Dull finish. ■ 70° deep offset.

Box Wrenches

Wrenches have a 12-point opening and a standard (straight) head. Made of steel with a black finish.



Size	Head Thick.	O'all Lg.		
1/2″	3/8″	6 3/4″	**5315A61**	$12.98
9/16″	7/16″	6 3/4″	**5315A62**	15.69
5/8″	1/2″	7 1/8″	**5315A63**	17.06
11/16″	1/2″	7 1/4″	**5315A64**	18.55
3/4″	9/16″	7 1/2″	**5315A65**	$18.70
7/8″	5/8″	7 1/2″	**5315A66**	21.10
15/16″	5/8″	7 7/8″	**5315A67**	23.42
1″	11/16″	7 7/8″	**5315A68**	23.66
1 1/16″	3/4″	8″	**5315A69**	$24.26
1 1/8″	25/32″	8″	**5315A71**	26.11
1 1/4″	13/16″	8″	**5315A72**	34.72
1 1/2″	7/8″	10″	**5315A73**	60.19

High-Leverage Box Wrenches and Extension Handles

Use these 12-point box wrenches alone or with an extension handle (sold separately) for extra leverage. Extension handles are designed to fit securely over the end of the wrench. Wrenches and handles are made of steel with a black finish. **Offset wrenches** have a 45° offset head that gives you additional clearance to turn hard-to-reach fasteners.







Offset Wrenches

Size	Head Thick.	Lg.	Lg. with Optional 24″ Handle		
1 1/16″	5/8″	10 1/2″	30 1/8″	**54555A21**	$34.81
1 1/8″	23/32″	10 3/4″	30 1/4″	**54555A22**	36.23
1 1/4″ (32 mm)	23/32″	10 3/4″	30 1/4″	**54555A23**	42.79
1 5/16″ (33 mm)	27/32″	10 3/4″	32 1/2″	**54555A24**	54.77
1 3/8″ (35 mm)	7/8″	10 3/4″	32 5/8″	**54555A25**	56.23
1 7/16″ (36 mm)	7/8″	10 3/4″	32 5/8″	**54555A26**	60.19
1 1/2″ (38 mm)	15/16″	10 7/8″	32 5/8″	**54555A27**	62.10
			Lg. with Optional 36″ Handle		
1 3/4″ (44 mm)	1 1/16″	13 3/8″	43 1/4″	**54555A32**	80.00
1 13/16″ (46 mm)	1 1/8″	13 3/8″	43 3/8″	**54555A33**	85.79
1 7/8″ (47 mm)	1 1/8″	13 3/8″	43 3/8″	**54555A34**	81.62
2″ (51 mm)	1 1/4″	13 1/2″	43 1/2″	**54555A35**	99.19
2 1/4″ (57 mm)	1 5/16″	13 5/8″	43 5/8″	**54555A38**	101.21
2 3/8″ (60 mm)	1 13/32″	13 3/4″	43 3/4″	**54555A39**	104.33
2 9/16″ (65 mm)	1 1/2″	13 7/8″	43 7/8″	**54555A41**	118.23
2 3/4″ (70 mm)	1 19/32″	14″	44″	**54555A43**	133.98

Standard Wrenches

Size	Head Thick.	Lg.	Lg. with Optional 24″ Handle		
3/4″	17/32″	10 7/8″	29 1/2″	**54555A13**	$36.46
13/16″	17/32″	10 7/8″	29 1/2″	**54555A14**	39.75
7/8″	19/32″	11″	29 1/2″	**54555A15**	40.75
15/16″	19/32″	11″	29 1/2″	**54555A16**	41.50
1″	21/32″	11 1/8″	29 5/8″	**54555A17**	42.92
1 1/16″	21/32″	11 1/8″	29 5/8″	**54555A18**	43.67
1 1/8″	11/16″	11 1/8″	29 5/8″	**54555A19**	45.10
1 1/4″ (32 mm)	27/32″	13 1/2″	31 7/8″	**54555A51**	47.67
1 7/16″ (36 mm)	7/8″	13 5/8″	31 7/8″	**54555A53**	67.73
1 1/2″ (38 mm)	7/8″	13 5/8″	31 7/8″	**54555A54**	71.54
1 5/8″ (41 mm)	15/16″	13 3/4″	32 3/4″	**54555A55**	70.04

Optional Extension Handles

	Lg.		
For wrench sizes 3/4″-1 5/8″	24″	**54555A81**	$44.07
For wrench sizes 1 3/4″-2 3/4″	36″	**54555A82**	89.97

Striking & Ratcheting Box Wrenches

Striking Box Wrenches



Place the wrench on a stuck fastener and strike the handle with a hammer to break it free. Also known as slugging wrenches. Made of steel with a black finish. Wrenches with **12-point opening** are easier to position on hex fasteners than wrenches with **6-point opening** but provide less surface contact.

Offset wrenches have a 45° offset head, giving you additional clearance to turn hard-to-reach fasteners.

6-Point Wrenches

Size	Head Thick.	O'all Lg.		
Standard				
11/16"	5/8"	9 7/8"	8341A41	$50.37
1 1/4"	23/32"	10 1/4"	8341A42	51.68
1 7/16"	7/8"	10 5/8"	8341A43	61.98
1 5/8"	61/64"	11"	8341A44	74.31
1 13/16"	63/64"	11 3/8"	8341A45	74.31
Standard (Cont.)				
2"	1 7/32"	11 3/4"	8341A46	$87.73
2 3/16"	1 1/4"	12"	8341A47	111.98
2 3/8"	1 7/16"	12 3/8"	8341A48	119.27
2 9/16"	1 17/32"	12 3/4"	8341A49	128.91
2 3/4"	1 17/32"	13 1/8"	8341A51	174.47
Standard (Cont.)				
2 15/16"	1 17/32"	13 1/2"	8341A52	$195.26
3 1/8"	1 5/8"	13 7/8"	8341A53	229.51
3 1/2"	1 23/32"	14 1/8"	8341A54	295.57
3 7/8"	1 23/32"	14 1/2"	8341A55	332.76

12-Point Wrenches

Size	Head Thick.	O'all Lg.		
Offset				
1 1/16"	3/4"	10"	5455A11	$51.49
1 1/8"	3/4"	10"	5455A12	54.43
1 3/16"	27/32"	11"	5455A47	56.31
1 1/4"	27/32"	11"	5455A13	57.88
32 mm	27/32"	11"	5455A72	57.88
1 5/16"	27/32"	11"	5455A14	59.53
1 3/8"	15/16"	11 1/2"	5455A36	65.33
36 mm	15/16"	11 1/2"	5455A51	70.93
1 7/16"	15/16"	11 1/2"	5455A15	67.09
1 1/2"	15/16"	11 1/2"	5455A16	68.96
1 9/16"	1 1/8"	12"	5455A33	101.93
41 mm	1 1/16"	12"	5455A73	85.16
1 5/8"	1 1/16"	12"	5455A17	85.16
1 11/16"	1 1/16"	12"	5455A18	88.62
1 3/4"	1 1/16"	12"	5455A42	93.17
1 13/16"	1 3/16"	13"	5455A19	98.41
1 7/8"	1 3/16"	13"	5455A21	100.95
1 15/16"	1 3/16"	13"	5455A43	106.99
50 mm	1 3/16"	13"	5455A52	106.99
2"	1 3/16"	13"	5455A22	106.99
2 1/16"	1 5/16"	13 1/2"	5455A34	141.33
2 1/8"	1 5/16"	13 1/2"	5455A44	109.81
2 3/16"	1 5/16"	13 1/2"	5455A23	115.72
2 1/4"	1 5/16"	13 1/2"	5455A24	123.19
2 5/16"	1 7/16"	14"	5455A49	123.79
60 mm	1 7/16"	14"	5455A74	130.86
Offset (Cont.)				
2 3/8"	1 7/16"	14"	5455A25	$130.86
2 1/2"	1 7/16"	14"	5455A46	156.82
2 9/16"	1 5/8"	15"	5455A26	159.71
2 5/8"	1 5/8"	15"	5455A27	164.15
2 3/4"	1 5/8"	15"	5455A28	165.25
2 7/8"	1 7/8"	16"	5455A48	193.77
2 15/16"	1 7/8"	16"	5455A29	195.70
3"	1 7/8"	16"	5455A31	200.63
3 1/8"	1 7/8"	16"	5455A32	200.65
3 3/8"	2 3/8"	18"	5455A61	269.55
3 1/2"	2 3/8"	18"	5455A62	306.29
3 3/4"	2 3/8"	18"	5455A63	327.23
3 7/8"	2 3/8"	18"	5455A64	358.06
4 1/8"	2 3/8"	18"	5455A65	397.86
4 1/4"	2 3/8"	18"	5455A66	414.42
Standard				
1 1/16"	5/8"	9 7/8"	5456A47	54.75
1 3/16"	23/32"	10 1/4"	5456A43	55.71
1 1/4"	23/32"	10 1/4"	5456A11	57.88
1 5/16"	23/32"	10 1/4"	5456A12	57.88
1 3/8"	15/16"	8 1/4"	5456A51	47.72
36 mm	7/8"	10 5/8"	5456A53	67.09
1 7/16"	15/16"	8 1/4"	5456A13	47.60
1 1/2"	7/8"	10 5/8"	5456A14	64.48
1 5/8" (41 mm)	1 5/32"	7 7/8"	5456A15	57.36
Standard (Cont.)				
1 11/16" (43 mm)	1 5/32"	7 7/8"	5456A16	$61.05
1 3/4"	1 1/8"	9"	5456A18	58.70
1 13/16" (46 mm)	1 1/4"	7 7/8"	5456A17	62.67
1 7/8"	1 1/4"	10"	5456A21	62.53
50 mm	1 13/32"	11 5/8"	5456A54	103.69
2"	1 7/32"	11 3/4"	5456A22	113.19
2 1/16"	1 7/32"	11 3/4"	5456A52	120.49
2 1/8"	1 1/4"	12"	5456A29	127.44
2 3/16"	1 1/4"	12"	5456A23	127.28
2 1/4"	1 7/16"	12 3/8"	5456A24	133.06
2 3/8"	1 7/16"	12 3/8"	5456A25	169.63
2 9/16"	1 17/32"	12 3/4"	5456A26	196.97
2 5/8"	1 17/32"	12 3/4"	5456A27	200.31
2 3/4"	1 17/32"	13 1/8"	5456A31	231.98
2 15/16"	1 17/32"	13 1/2"	5456A44	268.18
3"	1 5/8"	13 7/8"	5456A32	285.51
3 1/8"	1 5/8"	13 7/8"	5456A33	285.55
3 3/8"	1 23/32"	14 1/8"	5456A34	297.81
3 1/2"	1 23/32"	14 1/8"	5456A35	328.48
3 3/4"	1 23/32"	14 1/2"	5456A36	347.30
3 7/8"	1 23/32"	14 1/2"	5456A37	408.59
4 1/8"	2 7/8"	16 1/4"	5456A38	596.55
4 1/4"	2 7/8"	16 1/4"	5456A39	628.64
4 1/2"	3"	18 1/4"	5456A41	788.93
4 5/8"	3"	18 1/4"	5456A42	795.61

Ratcheting Two-Head Box Wrenches



Wrenches require a 25° turn to engage the ratchet. Made of chrome-plated steel that is polished for a mirror-like finish. Meet Fed. Spec. GGG-W-001405.

Wrenches with **12-point openings** are easier to position on hex fasteners than wrenches with **6-point openings** but provide less surface contact.

Wrench Sets—Wrenches have 12-point openings, unless noted.

Wrench Sets—Packed in a plastic pouch, unless noted.			
No. of Pieces	Sizes in Set		
Inch			
3	3/8" x 7/16"▲, 1/2" x 9/16"▲, and 5/8" x 11/16"	5364A17	$31.98
3	3/8" x 7/16", 1/2" x 9/16", and 5/8" x 3/4"	5364A19	34.81
5	1/4" x 5/16"▲, 3/8" x 7/16"▲, 1/2" x 9/16"▲, 5/8" x 11/16", and 3/4" x 7/8"	5364A13	57.87
5	1/4" x 5/16", 3/8" x 7/16", 1/2" x 9/16", 5/8" x 3/4", and 11/16" x 7/8"	5688A31♣	81.99
6	1/4" x 5/16"▲, 3/8" x 7/16"▲, 1/2" x 9/16"▲, 5/8" x 11/16", 3/4" x 7/8", and 13/16" x 15/16"	5364A15	78.62
Metric			
3	9 x 10, 13 x 14, and 15 x 17 mm	7235A27	33.68
5	7 x 8▲, 9 x 10▲, 11 x 13▲, 12 x 14▲, and 15 x 17 mm	7235A23	59.12
5	7 x 8, 9 x 10, 11 x 12, 13 x 14, and 15 x 17 mm	5688A32♣	81.99

▲ Has 6-point openings. ♣ Packed in a plastic caddy.

Individual Wrenches

Size	O'all Lg.	6-Point		12-Point	
Inch					
1/4" x 5/16"	4 3/8"	5461A1	$9.76	5461A31	$10.50
1/4" x 5/16"	8"	____	____	5461A34	23.16
3/8" x 7/16"	5 1/2"	5461A2	10.43	5461A32	12.44
3/8" x 7/16"	10"	____	____	5461A35	25.62
1/2" x 9/16"	6 7/8"	5461A3	13.10	5461A33	15.44
1/2" x 9/16"	10"	____	____	5461A36	24.80
5/8" x 11/16"	8 1/8"	____	____	5461A4	18.00
5/8" x 11/16"	12"	____	____	5461A41	28.32
5/8" x 3/4"	8 1/8"	____	____	5461A5	18.36
11/16" x 7/8"	9 1/4"	____	____	5461A83	21.11
3/4" x 7/8"	9 1/4"	____	____	5461A8	21.11
3/4" x 7/8"	14"	____	____	5461A82	27.72
13/16" x 7/8"	9 1/4"	____	____	5461A6	21.11
13/16" x 15/16"	9 1/4"	____	____	5461A9	21.11
1" x 1 1/16"	15"	____	____	5461A21	42.73
1 1/16" x 1 1/8"	15"	____	____	5461A24	42.73
1 1/16" x 1 1/4"	15"	____	____	5461A25	42.73
1 1/8" x 1 3/16"	15"	____	____	5461A22	42.73
Metric					
7 x 8 mm	4 3/8"	7235A11	10.39	5688A21	11.86
9 x 10 mm	5 1/2"	7235A12	12.08	5688A22	12.69
11 x 12 mm	6 7/8"	7235A13	15.31	5688A23	18.00
11 x 13 mm	6 7/8"	7235A16	15.31	____	____
12 x 14 mm	6 7/8"	7235A17	15.31	____	____
13 x 14 mm	6 7/8"	7235A14	15.31	5688A24	22.00
15 x 17 mm	8 1/8"	____	____	7235A15	18.14
16 x 18 mm	8 1/8"	____	____	7235A24	18.37
19 x 21 mm	9 1/4"	____	____	7235A25	20.49

Tight-Clearance Ratcheting Two-Head Box Wrenches

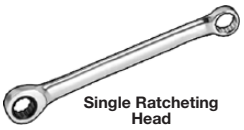
Single Ratcheting Head


Two Ratcheting Heads (Standard)

You don't need a lot of space to turn fasteners; wrenches have ratcheting heads that require only a 5° turn to engage the ratchet. Choose wrenches with a ratcheting head on one or both ends. Openings are 12-point. Made of chrome-plated steel that is polished for a mirror-like finish.

Single Ratcheting Head—Wrenches have one ratcheting box head and one nonratcheting box head. The nonratcheting box head is offset 15°.

Two Ratcheting Heads—Both heads are ratcheting.

Single Ratcheting Head Wrench Sets

7-Pc. Inch Set—Includes sizes 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", and 3/4". Packed in a plastic roll-up pouch.
5348A21 ..... $186.22

10-Pc. Metric Set—Includes sizes 10 mm through 19 mm. Packed in a plastic roll-up pouch.
5348A51 ..... $280.88

Single Ratcheting Head Wrenches

Size	O'all Lg.			Size	O'all Lg.		
Inch				**Metric**			
3/8"	6 3/4"	5348A12	$19.23	10 mm	6 3/4"	5348A33	$19.78
7/16"	7 3/8"	5348A13	22.14	11 mm	7 3/8"	5348A34	23.87
1/2"	8 5/8"	5348A14	24.46	12 mm	8"	5348A35	24.36
9/16"	9 1/4"	5348A15	28.06	13 mm	8 5/8"	5348A36	29.78
5/8"	10 1/2"	5348A16	28.90	14 mm	9 1/4"	5348A37	30.99
11/16"	11 1/4"	5348A17	33.28	15 mm	10"	5348A38	31.09
3/4"	12 5/8"	5348A18	33.28	16 mm	10 5/8"	5348A39	31.97
7/8"	14 1/4"	5348A22	55.49	17 mm	11 1/4"	5348A41	32.71
15/16"	15 1/8"	5348A23	62.09	18 mm	12"	5348A42	33.48
1"	16 1/8"	5348A24	62.09	19 mm	12 5/8"	5348A43	34.24
				21 mm	13 3/8"	5348A44	54.08

Two Ratcheting Heads Wrench Sets

4-Pc. Standard Inch Set—Includes sizes 5/16"x3/8", 7/16"x1/2", 9/16"x5/8", and 11/16"x3/4". Packed in a plastic tray.
6443A11 ..... $65.28

4-Pc. Offset Inch Set—Includes sizes 5/16"x3/8", 7/16"x1/2", 9/16"x5/8", and 11/16"x3/4". Heads are offset 15°. Packed in a plastic roll-up pouch.
6443A14 ..... $79.38

6-Pc. Metric Set—Includes sizes 8x9, 10x11, 12x13, 14x15, 16x18, and 17x19. Packed in a plastic tray.
6443A12 ..... $94.27

Electrical-Insulating Box Wrenches



These wrenches have an insulated handle to protect against accidental contact with live electrical circuits. They are tested to 1,000 volts to meet ASTM F1505-01 and IEC 60900. Wrenches have a standard (straight) head with a 12-point opening and require a 5° turn to engage the ratchet. Made of chrome-plated steel that is polished for a mirror-like finish.

Size	O'all Lg.			Size	O'all Lg.		
3/8"	5 5/8"	7449A61	$44.91	9/16"	6 1/2"	7449A64	$52.97
7/16"	5 3/4"	7449A62	49.53	5/8"	7"	7449A65	55.09
1/2"	6 1/8"	7449A63	50.59	3/4"	8 3/8"	7449A67	58.27

4-Point Ratcheting Two-Head Box Wrenches



The 4-point heads fit shut-off and service valves in air conditioning, refrigeration, and welding systems. Each wrench accommodates four sizes, two on each side. They have standard (straight) heads (unless noted) and require a 25° turn to engage the ratchet. Made of chrome-plated steel that is polished for a mirror-like finish. Meet Fed. Spec. GGG-W-001405.

Size	O'all Lg.		
3/16" and 1/4" sq. x 5/16" and 3/8" sq.	5 1/4"	5473A15♦	$22.58
3/16" and 1/4" sq. x 5/16" and 3/8" sq.	5 1/2"	5473A12	18.27
3/16" and 1/4" sq. x 1/2" and 9/16" hex	7"	5473A11	21.50

♦ Heads are offset 25°.

Offset Ratcheting Box Wrenches



The 25° offset heads give you additional clearance to turn hard-to-reach fasteners. Wrenches require a 25° turn to engage the ratchet. Made of chrome-plated steel that is polished for a mirror-like finish. Meet Fed. Spec. GGG-W-001405. **Single-head** wrenches have a plastic handle.

Wrenches with **12-point openings** are easier to position on hex fasteners than wrenches with **6-point openings** but provide less surface contact.

Wrench Sets—Openings are 6-point, unless noted.		
Pieces	Sizes in Set	
Inch, Two Head—Packed in a plastic pouch.		
3	1/4"x5/16", 3/8"x7/16", and 1/2"x9/16"	5396A41 ..... $33.28
5	1/4"x5/16", 3/8"x7/16", 1/2"x9/16", 5/8"x11/16"♠, and 3/4"x7/8"♠	5396A22 ..... 68.36
Metric, Two Head—Packed in a plastic pouch.		
5	7x8, 9x10, 11x13, 12x14, and 15x17♠mm	5359A81 ..... 68.08

♠ Has 12-point openings.

6-Point Individual Wrenches

Size	O'all Lg.			Size, mm	O'all Lg.		
Inch, Single Head				**Metric, Single Head**			
1/4"	5 1/2"	54105A31	$28.53	8	5 1/2"	54235A52	$28.00
5/16"	5 1/2"	54105A32	28.53	10	5 1/2"	54235A53	28.00
3/8"	5 1/2"	54105A33	28.00	11	6 3/4"	54235A54	30.41
7/16"	5 1/2"	54105A34	28.00	12	6 3/4"	54235A55	30.41
1/2"	6 3/4"	54105A35	31.91	13	6 3/4"	54235A56	30.41
9/16"	7"	54105A36	30.41	14	7"	54235A57	30.41
Inch, Two Head				**Metric, Two Head**			
1/4"x5/16"	4 1/4"	5396A12	11.31	7x8	4 1/4"	5359A71	11.36
3/8"x7/16"	5 1/2"	5396A14	13.14	9x10	5 1/2"	5359A72	13.80
1/2"x9/16"	6 3/4"	5396A16	16.47	11x12	6 3/4"	5359A73	17.22
				11x13	6 3/4"	5359A78	15.75
				12x14	6 3/4"	5359A79	15.42
				13x14	6 3/4"	5359A74	17.22

12-Point Individual Wrenches

Size	O'all Lg.			Size, mm	O'all Lg.		
Inch, Single Head				**Metric, Single Head**			
5/8"	7 3/4"	54105A37	$35.34	15	7 3/4"	54235A58	$36.44
3/4"	8 3/4"	54105A39	37.16	16	7 3/4"	54235A59	37.16
7/8"	9"	54105A41	37.16	17	8"	54235A61	36.44
Inch, Two Head				**Metric, Two Head**			
1/4"x5/16"	4 1/4"	5396A31	11.50	15x17	8"	5359A75	20.00
5/16"x11/32"	4 1/4"	5396A34	14.11	16x18	8"	5359A76	20.61
3/8"x7/16"	5 1/2"	5396A32	13.80	19x21	9 1/8"	5359A77	23.67
1/2"x9/16"	6 3/4"	5396A33	17.22				
5/8"x11/16"	8"	5396A18	20.00				
5/8"x3/4"	8"	5396A23	20.00				
3/4"x7/8"	9 1/8"	5396A21	23.00				
13/16"x15/16"	9 1/8"	5396A36	23.44				

Large-Size Heavy Duty Ratcheting Box Wrenches



Meet the demands of heavy equipment and industrial applications with extra-large wrenches. Wrenches have a standard head with a 12-point opening and require a 20° turn to engage the ratchet. Made of chrome-plated steel with a plastic grip. Meet Fed. Spec. GGG-W-001405.

Size	O'all Lg.			Size	O'all Lg.		
Inch—Head Thickness is 5/8"				**Metric—**Head Thickness is 9/16"			
1 5/16"	15 1/2"	5183A21	$93.80	22 mm	12"	5183A34	$37.78
1 3/8"	15 1/2"	5183A22	93.80	23 mm	12"	5183A35	37.78
1 7/16"	15 1/2"	5183A23	93.80	24 mm	12"	5183A36	37.78
1 1/2"	15 1/2"	5183A24	93.80	25 mm	12"	5183A37	37.78
1 9/16"	15 1/2"	5183A25	93.80	26 mm	12"	5183A38	37.78
1 5/8"	15 1/2"	5183A26	93.80	27 mm	12"	5183A39	37.78
1 11/16"	19"	5183A27	113.00	29 mm	12"	5183A41	37.78
1 3/4"	19"	5183A28	113.00	30 mm	12"	5183A42	37.78
1 13/16"	19"	5183A29	113.00				
1 7/8"	19"	5183A31	113.00	**Metric—**Head Thickness is 5/8"			
2"	19"	5183A32	113.00	32 mm	15 1/2"	5183A43	93.80
2 1/8"	19"	5183A33	113.00	36 mm	15 1/2"	5183A44	93.80

Bolt-Through Reversible Ratcheting Wrenches



Square, Reversing Control on Top of Head



6 Point, Reversing Control at End of Handle



Round Bore with Keyway, Reversing Control on Side of Head



Open socket head allows bolts to pass through.

A straight, open socket head allows long bolts to pass through. Wrenches require a 23° handle swing to turn a fastener. Choose square, 6-point, or round bore with keyway wrenches. **Round bore with keyway** wrenches have a channel that allows the female bore to lock onto a male shaft.

Wrenches with **reversing control on side of head** have a lever on the side of the head to reverse direction. Wrenches with **reversing control on top of head** have a lever on the top of the head to reverse direction. Wrenches with **reversing control at end of handle** have a knurled knob at the end of the handle to reverse direction, making them perfect for work in tight areas.

Standard Duty—An economical alternative to the heavy duty wrenches, these are made of stamped steel side plates that are riveted together. Handles are plain (unless noted). Sockets are not replaceable.

Heavy Duty—Made of cast iron, wrenches can be used as hand-held ratcheting tools or can be mounted to machinery to serve as handles for turning, motion control, and adjustments. Sockets are replaceable.

To Order: Please specify size where necessary.

Square

Available Sizes	O'all Lg.	Head OD	Head Thick.		
Standard Duty Reversing Control on Side of Head					
1/2", 5/8"	7 13/16"	1 9/16"	19/32"	7277A565	$37.75
1/2", 5/8", 3/4"	9"	2 1/16"	7/8"	7277A555▲	82.55
3/4", 1"	13 1/2"	2 1/2"	7/8"	7277A545	89.83
Heavy Duty Reversing Control on Top of Head					
3/8", 1/2", 5/8"	6 15/16"	1 13/16"	23/32"	5519A2	88.95
1/2", 5/8"	11"	1 15/16"	7/8"	5519A3	117.46
3/4", 7/8", 1", 1 1/8"	16 1/2"	3"	1 7/32"	5519A4	169.47
1", 1 1/8", 1 1/4"	25 7/8"	3 3/4"	1 3/8"	5519A5	350.18
Heavy Duty Reversing Control at End of Handle					
3/8", 7/16", 1/2"	8 3/16"	1 9/16"	13/16"	5508A9	174.18
1/2", 9/16", 5/8"	11 1/2"	2"	1"	5508A11	195.55
5/8", 3/4"	13 9/16"	2 3/8"	1 1/8"	5508A12	229.18
3/4", 7/8", 1"	17 1/8"	3 1/8"	1 7/32"	5508A13	279.18
3/4", 1"	20 1/16"	3 1/8"	1 7/32"	5508A14	319.91
1 1/8", 1 1/4", 1 1/2"	26 9/16"	3 3/4"	1 3/8"	5508A15	443.42
1 1/2", 2"	39 3/16"	4 7/8"	1 1/2"	5508A16	669.55

▲Has a vinyl grip handle.

6 Point

Available Sizes	O'all Lg.	Head OD	Head Thick.		
Standard Duty Reversing Control on Side of Head					
5/8", 3/4"	7 13/16"	1 9/16"	19/32"	7277A435	$37.75
3/4", 7/8", 1"	9"	2 1/16"	7/8"	7277A425▲	82.55
3/4", 1"	13 1/2"	2 1/2"	7/8"	7277A415	89.83
Heavy Duty Reversing Control on Top of Head					
1/2", 9/16", 5/8", 3/4"	6 15/16"	1 13/16"	23/32"	5519A17	88.95
3/4"	11"	1 15/16"	7/8"	5519A342	117.46
1", 1 1/8", 1 1/4"	16 1/2"	3"	1 7/32"	5519A18	169.47
1 1/2", 1 5/8"	25 7/8"	3 3/4"	1 3/8"	5519A19	350.18
Heavy Duty Reversing Control at End of Handle					
3/4"	11 1/2"	2"	1"	5508A347	195.55
1 1/4"	20 1/16"	3 1/8"	1 7/32"	5508A493	319.91

▲Has a vinyl grip handle.

Round Bore with Keyway

Available Sizes	Keyway Size	O'all Lg.	Head OD	Head Thick.		
Standard Duty Reversing Control on Side of Head						
3/4"	3/16"	7 13/16"	1 9/16"	19/32"	7277A31	$37.75
Heavy Duty Reversing Control on Top of Head						
1/2"	1/8"	9"	1 15/16"	7/8"	52795A111	109.26
5/8"	3/16"	6 15/16"	1 13/16"	23/32"	52795A112	90.97
3/4"	3/16"	11"	1 15/16"	7/8"	52795A114	120.15
1", 1 1/4"	1/4"	16 1/2"	3"	1 7/32"	52795A24	167.71

Torx Ratcheting Two-Head Box Wrenches



Both ends have a standard (straight) ratcheting head with a Torx opening. Wrenches require a 5° turn to engage the ratchet. Made of chrome-plated steel that is polished for a mirror-like finish.

4-Pc. Set—Includes one of each size wrench listed below. Set is packed in a plastic tray.

6065A25 ..... $83.82

Size	O'all Lg.			Size	O'all Lg.		
E6/E8	5 1/8"	6065A13	$21.79	E14/E18	7 1/2"	6065A17	$27.23
E10/E12	5 7/8"	6065A15	22.90	E20/E24	9 1/8"	6065A19	29.95

Snap-Open Ratcheting Box Wrenches



Open the jaws to fit around your fastener like an open-end wrench; close the jaws and it acts like a 12-point ratcheting box wrench. Wrenches require a 30° turn to engage the ratchet. Made of steel with a black finish.

7-Pc. Set—Includes sizes 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", and 3/4". Set is packed in a plastic roll-up pouch.

5515A44 ..... $164.29

Size	O'all Lg.			Size	O'all Lg.		
5/16"	5 1/2"	5515A35	$17.35	13/16"	9 3/8"	5515A19	$32.27
3/8"	5 1/2"	5515A11	21.16	7/8"	9 3/8"	5515A21	32.27
7/16"	5 1/2"	5515A12	21.16	15/16"	9 3/8"	5515A22	32.27
1/2"	5 1/2"	5515A13	21.16	1"	9 3/8"	5515A18	30.45
9/16"	7 1/4"	5515A14	26.09	1 1/16"	13 5/8"	5515A36	91.68
5/8"	7 1/4"	5515A15	26.06	1 1/8"	13 5/8"	5515A37	91.68
11/16"	7 1/4"	5515A16	26.09	1 1/4"	13 5/8"	5515A38	99.87
3/4"	7 1/4"	5515A17	26.06				

Wrench Organizers



Easy Carry

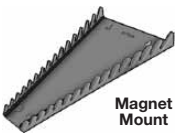

Magnet Mount



Foam

Easy Carry—Spring tabs marked with the size keep wrenches secure while allowing easy removal. These plastic organizers can also be surface or wall mounted using #11 screws (not included).

Magnet Mount—Mount these plastic racks to steel walls, cabinets, and other metal surfaces with their magnetic mounting base. Tabs hold wrenches in place.

Foam—These low-profile organizers fit inside your tool drawer and have slots marked with the wrench size. They're made of polyethylene foam that resists solvents and petroleum products.

	For No. of Wrenches	Sizes Marked	Lg.	Wd.	Ht.		
Easy Carry							
Inch	13	1/4"-1"	12 3/4"	6 1/4"	1 1/2"	8371A31	$5.90
Metric	13	6-18 mm	12 3/4"	6 1/4"	1 1/2"	8371A32	5.90
Magnet Mount							
Inch/Metric	7	_____	6"	2"	1 1/4"	5417A22	9.50
Inch/Metric	15	_____	11 3/4"	7"	1"	5417A31	14.13
Foam							
Inch	14	1/4"-1"	12"	16"	1 1/4"	5159A12	51.69
Metric	14	6-19 mm	10 1/2"	13"	1 1/4"	5159A13	51.69

Socket Wrenches


Socket Wrenches


T-Handle Socket Wrenches

Wrenches are steel with a black finish.

Use **4-point** wrenches on square screws and nuts. Use **6-point** wrenches on hex screws and nuts.

Socket Wrenches

Size	O'all Lg.			Size	O'all Lg.		
4-Point				**6-Point**			
1/4"	3 3/8"	5532A31	$21.34	7/16"	4 3/8"	5533A54	$21.88
5/16"	3 7/8"	5532A32	21.69	1/2"	5 1/8"	5533A55	23.86
3/8"	4 3/8"	5532A33	23.35	9/16"	5 7/8"	5533A56	28.17
7/16"	5 7/8"	5532A34	27.68	5/8"	6 1/4"	5533A58	32.78
1/2"	6 1/4"	5532A35	32.56	3/4"	6 3/4"	5533A63	34.26
9/16"	6 3/4"	5532A36	36.75	7/8"	8 3/8"	5533A66	42.76
5/8"	7 1/2"	5532A37	40.84	15/16"	9 1/8"	5533A67	51.94
3/4"	8 3/8"	5532A38	53.88	1 1/16"	10"	5533A69	56.98

T-Handle Socket Wrenches

Size	O'all Lg.			Size	O'all Lg.		
4-Point				**6-Point**			
3/16"	4 1/4"	5532A11	$25.49	5/16"	4 1/4"	5533A11	$25.45
1/4"	4 1/4"	5532A12	25.49	3/8"	4 1/2"	5533A12	26.61
5/16"	4 1/2"	5532A13	29.67	7/16"	4 7/8"	5533A14	34.60
3/8"	4 7/8"	5532A14	34.67	1/2"	5 1/4"	5533A15	34.60
7/16"	5 3/4"	5532A15	36.08	9/16"	5 3/4"	5533A16	36.15
1/2"	6 1/8"	5532A16	36.08	5/8"	6 1/8"	5533A18	36.15
9/16"	6 1/2"	5532A17	45.25	11/16"	6 1/2"	5533A19	45.15
5/8"	7"	5532A18	47.77	3/4"	6 1/2"	5533A23	46.91
3/4"	7 3/8"	5532A21	53.76				

Adjustable Socket Wrenches

Slide the lever to adjust the jaws to fit multiple sizes of square and hex fasteners. Made of aluminum with steel jaws and a black finish. Grip is plastic.


Jaws Expanded

Size	O'all Lg.	Turn Required to Ratchet		
5/16"-17/32" (8-14 mm)	8"	15°	53735A31	$23.81

Bolt-Through Socket Wrenches

Bolts and studs can pass right through the short end of these wrenches. The long end can give you additional leverage on difficult fasteners—slip a bar through the short end to create a T-handle. Wrenches are steel with a dull chrome-plated finish.

Wrenches with **12-point opening** are easier to position on hex fasteners than wrenches with **6-point opening** but provide less surface contact.

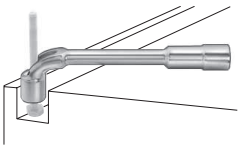
Bolts pass through wrench.

Inch—6-Point x 6-Point

Size	O'all Lg.			Size	O'all Lg.		
1/4"	4"	7250A11	$16.03	9/16"	6 5/8"	7250A16	$21.45
5/16"	4 1/2"	7250A12	15.91	5/8"	7"	7250A17	24.38
3/8"	5 1/8"	7250A13	15.91	3/4"	8"	7250A19	30.46
7/16"	5 3/8"	7250A14	16.71	13/16"	8 3/4"	7250A21	36.70
1/2"	6"	7250A15	19.09				

Metric—12-Point x 6-Point

Size	O'all Lg.			Size	O'all Lg.		
8 mm	4 1/2"	7247A46	$16.04	14 mm	6 3/8"	7247A53	$21.23
10 mm	5 1/8"	7247A48	16.50	15 mm	6 5/8"	7247A54	21.93
11 mm	5 3/8"	7247A49	17.19	17 mm	7 3/8"	7247A56	24.29
12 mm	5 3/4"	7247A51	18.53	19 mm	8"	7247A58	30.33
13 mm	6"	7247A52	19.17				

Lug Wrenches

These wrenches have a different socket size at each end to turn the fasteners commonly found on the wheels of cars and trucks. Wrenches are steel with a gray painted finish, unless noted.



Sizes	O'all Lg.		
Car—Inch			
3/4", 13/16", 7/8", and 15/16" hex	22"	6679A2	$39.25
Car—Metric with Blue Painted Finish			
17 mm, 19 mm, 21 mm, and 22 mm hex	18"	6679A4	21.81
Light Truck			
7/8", 15/16", 1", and 11/16" hex	25"	6679A5	50.81
Heavy Truck			
1 1/16", 1 1/4", and 1 1/2" hex; 13/16" square	27 1/2"	6679A3	112.04

Flex-Head Socket Wrenches

A 12-point socket end pivots to access hard-to-reach fasteners. Wrenches are chrome-plated steel.

Open end/flex-head wrenches are polished for a mirror-like finish, unless noted. Both ends are the same size.

Double flex-head wrenches have a dull finish.

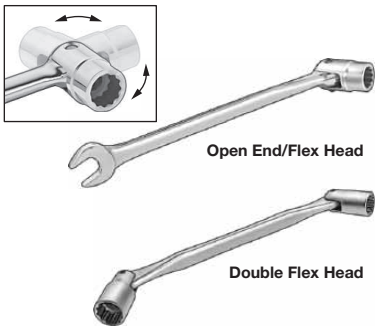
Open End/Flex Head

Double Flex Head

Open End/Flex-Head Wrench Sets

No. of Pieces	Sizes in Set		
Inch Sets—Packed in a canvas roll-up pouch			
4	7/16", 1/2", 9/16", and 5/8"	5435A64 ★	$112.68
7	3/8", 7/16", 1/2", 9/16", 5/8", 11/16", and 3/4"	5435A63 ★	206.31

Open End/Flex-Head Wrenches

Size	Head Thick.	O'all Lg.			Size	Head Thick.	O'all Lg.		
Inch					**Metric**				
1/4"	3/16"	4 3/4"	5435A49	$21.05	8 mm	13/64"	5 3/4"	54775A36	$59.58
5/16"	13/64"	5 5/8"	5435A51	22.29	9 mm	13/64"	6 1/8"	54775A37	61.22
3/8"	7/32"	6 3/8"	5435A52	22.60	10 mm	7/32"	6 5/8"	54775A38	61.22
7/16"	1/4"	6 7/8"	5435A53 ★	22.79	11 mm	1/4"	7 1/8"	54775A39	62.57
1/2"	17/64"	8 1/4"	5435A54	23.98	12 mm	15/64"	7 7/8"	54775A41	63.65
9/16"	5/16"	8 5/8"	5435A55 ★	27.39	13 mm	9/32"	8 1/8"	54775A42	65.00
5/8"	19/64"	9 1/2"	5435A56	29.84	14 mm	9/32"	8 3/8"	54775A43	72.32
11/16"	5/16"	10 1/4"	5435A57	31.16	15 mm	9/32"	8 7/8"	54775A44	78.82
3/4"	23/64"	11 1/4"	5435A58 ★	33.53	16 mm	9/32"	9"	54775A45	85.83
13/16"	3/8"	11 7/8"	5435A61	39.35	17 mm	5/16"	9 3/4"	54775A46	86.83
7/8"	25/64"	12 3/4"	5435A62	40.01	18 mm	5/16"	10"	54775A47	89.08
					19 mm	5/16"	10 1/4"	54775A48	95.12

★ Finish is dull.

Double Flex-Head Wrenches

Size	O'all Lg.		
Inch			
3/8" x 7/16"	6 1/2"	55675A62	$45.48
1/2" x 9/16"	9 1/4"	55675A63	56.85
5/8" x 3/4"	11 1/4"	55675A65	75.58
Metric			
16 x 17 mm	11"	55675A21	52.73
18 x 19 mm	11 1/4"	55675A22	54.14
20 x 22 mm	13"	55675A23	70.87

Master Inch and Metric Tool Sets

You'll get both inch and metric tools to handle a wide variety of jobs. Sockets and wrenches are forged alloy steel with a chrome finish.

75-Piece Set



Packed in a 16″ Ht. × 11″ Wd. × 3¼″ Dp. plastic case and includes the tools listed below:

- 43-pc. ¼″ sq. drive tools: sockets (inch and metric), ratchet, and extension
- 32-pc. ⅜″ sq. drive tools: sockets (inch and metric), ratchet, and extension

57615A61 ..... **Per Set** $82.47

170-Piece Set



Packed in a 15″ Ht. × 15″ Wd. × 4″ Dp. plastic case. Set includes the tools listed below:

- 30-pc. ¼″ sq. drive tools: sockets (inch and metric), ratchet, and extensions
- 27-pc. ⅜″ sq. drive tools: sockets (inch and metric), ratchet, and extensions
- 11-pc. ½″ sq. drive tools: sockets (inch and metric) and ratchet
- 56-pc. ¼″ sq. bits set: 55 bits and 1 holder
- 8 combination wrenches (inch and metric)
- 12 nutdrivers (inch and metric)
- 26 hex keys (inch and metric)

57615A62 ..... **Per Set** $147.42

Economy Inch and Metric Tool Sets

Tools are made of forged steel.

70-Piece Set



Set comes in a 9½″ Ht. × 13″ Wd. × 2½″ Dp. plastic case and includes tools listed below:

- 19-pc. ¼″ sq. drive tools: sockets (inch and metric), ratchet, extension, and adapter
- 18-pc. ⅜″ sq. drive tools: sockets (inch and metric), ratchet, and extension
- 12 combination wrenches (inch and metric)
- 13-pc. screwdriver set: 10″ magnetic driver with 12 bits (slotted, Phillips, hex, and Torx)
- 8 hex keys (inch)

4090A23 ..... **Per Set** $80.82

147-Piece Set



Set is packed in a 19½″ Ht. × 16″ Wd. × 3½″ Dp. plastic case. Includes the tools listed below:

- 22-pc. ¼″ sq. drive tools: sockets (inch and metric), ratchet, and extension
- 32-pc. ⅜″ sq. drive tools: sockets (inch and metric), ratchet, extensions, and adapter
- 12-pc. ½″ sq. drive tools: sockets (inch and metric), ratchet, and extension
- 12 combination wrenches (inch and metric)
- 2 pliers (long nose with cutter and wire cutting)
- 4 screwdrivers (slotted and Phillips)
- 45-pc. screwdriver set: 10″ magnetic driver with 38 bits (slotted, Phillips, hex, Torx, Posi-drive, and square recess), adapters, and holders
- 18-pc. hex key set: 16 hex keys (inch and metric) and 2 holders

6173A27 ..... **Per Set** $131.53

Maintenance Tool Sets

Take care of most maintenance jobs with these sets. Tools are steel.

9-Piece Set



Set comes in a vinyl roll-up pouch and includes the tools listed below:

- Screwdriver set:
  7½″ handle with bits
  Slotted: ¼″, 5⁄16″
  Phillips: #1, #2
  Nutdriver: ¼″, 5⁄16″
- 5 pliers (long nose with cutter, wire cutting, slip joint, tongue-and-groove, and vise grip)
- Fold-up hex key set (inch)
- Adjustable wrench
- Crimper/stripper

5818A66 ..... **Per Set** $139.73

33-Piece Set



Set comes in a nylon bag that has inside and outside tool pockets, strong web straps, and a zipper closure. Bag is 6″ Ht. × 12″ Wd. × 5½″ Dp. Set includes the tools listed below:

- 14-pc. ¼″ sq. drive tools:
  6-pt. standard sockets (9), 3⁄16″ to ½″ in vinyl holder
  5½″ reversible ratchet
  6″ driver handle
  3″ and 6″ extensions
- 6 pliers (long nose with cutter (2), wire cutting (2), tongue-and-groove, and vise grip)
- Fold-up hex key set (inch)
- Adjustable wrench
- Ball peen hammer
- Electricians' knife
- Inch/metric tape rule
- 7 screwdrivers (slotted, slotted narrow blade, and Phillips)
- Screwdriver set:
  8″ driver with bits
  Slotted: 3⁄16″, 17⁄64″
  Phillips: #1, #2
  Torx: T15

55915A65 ..... **Per Set** $298.74

9-Piece Insulated Electricians' Tool Set



Tools are alloy steel with insulated grips that are tested to 1,000 volts. All comply with IEC 60900 and ASTM F1505-07 standards. Set comes in a 13½″ Ht. × 9½″ Wd. × 2″ Dp. zippered vinyl case and includes the tools listed below:

- 5 screwdrivers (slotted and Phillips)
- 2 pliers (long nose w/cutter and wire cutting)
- 6 5⁄16″ wire stripper for 6-25 AWG
- 5½″ circuit tester with ⅛″ tip

5320A11 ..... **Per Set** $238.82

49-Piece Technicians' Tool Set



Get the tools you need for servicing electronic equipment, such as PCs and copy machines, in one easy-to-carry set.

The sockets and wrenches are made of forged alloy steel with a chrome finish. Set is furnished in a zippered nylon case with inside and outside tool pockets. Case is 12″ Ht. × 14″ Wd. × 3½″ Dp.

- 13-pc. ¼″ sq. drive tools:
  6-pt. standard sockets (9), 3⁄16″ to ½″ in vinyl holder
  5½″ reversible ratchet
  6″ spinner handle
  3″ and 6″ extensions
- 6-pc. screwdriver set:
  4″ handle with bits
  Slotted: 3⁄16″, ¼″, 5⁄16″
  Phillips: #1, #2
- 7-pc. mini screwdriver set:
  3″ handle with bits
  Slotted: 0.040″, 0.070″, 0.100″
  Phillips: #00, #0, #1
- 2 adjustable wrenches
- 2 pliers (long nose with cutter and wire cutting)
- Fold-up hex key set (inch)
- 6″ straight hemostat pliers
- 3-pc. soldering set
- DIP extractor
- Insertion/extraction tool
- Feeler gauge set (inch and metric)
- Alignment tool (double-end, slotted)
- Trimpot adjusting tool
- Key cap puller
- Spring combination tool
- 5″ to 19″ telescoping mirror and magnetic retriever tool
- #2 round needle file
- Standard duty precision knife
- 6″ stainless steel rule
- 5″ wire stripper/cutter
- Burnisher with 6 blades
- Penlight (AAA batteries included)

57935A45 ..... **Per Set** $384.85

Clip-Rail Socket Organizers

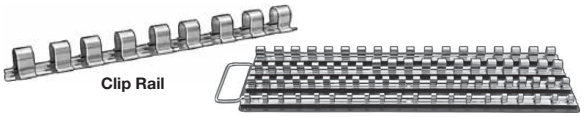

Clip-Rail Socket Tray

Move the sliding clips to any position along the rail to hold a variety of sockets. Rail and clips are nickel-plated steel.

For Sq. Drive	9″ Rails: For No. of Sockets			17″ Rails: For No. of Sockets		
1/4″	9	5605A51	$2.98	16	5605A21	$3.98
3/8″	9	5605A52	2.98	16	5605A11	3.97
1/2″	9	5605A53	3.16	16	5605A12	4.21
3/4″	4	5605A54	3.28	10	5605A22	4.37

Clip-Rail Socket Organizing Tray—Includes four rails plus 60 socket clips (20 clips each for 1/4″, 3/8″, and 1/2″ sq. drive sockets). The tray is 19 1/2″ Lg. × 6″ Wd.

5836A54 ..... $31.24

Extra Socket Clips—To Order: Please specify 1/4″, 3/8″, 1/2″, or 3/4″ square drive.

5605A75 ..... Pkg. of 20 $4.42

Flexible Socket Organizers



Bend or cut these plastic organizers to fit your tool box or cabinet. They are chemical and solvent resistant. They can accommodate 14 sockets. To Order: Please specify blue or red.

For Sq. Drive	Overall Size: Lg.	Wd.	Ht.		
1/4″	11 1/2″	7/8″	5/8″	5513A21	$3.22
3/8″	14 1/2″	1 1/16″	1 1/16″	5513A32	5.53
1/2″	17 1/2″	1 1/4″	7/8″	5513A43	6.40

Fastener-Holding Inserts for Sockets

Slip these magnetic inserts into your sockets to keep fasteners from falling out. Inserts are plastic coated.

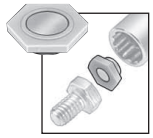

	No. of Pieces	For Socket Sizes		
Inch	9	3/8″-7/8″	8646A41	$12.84
Metric	10	10-19 mm	8646A51	12.84

Easy-Slide Clip-Rail Socket Organizers

A smooth, nylon rail lets the clips move more easily than on other clip-rail organizers. Position anywhere on the rail to hold a variety of sockets. Clips are plastic.



To Order: Please specify organizer color: red or blue, unless noted.

For Sq. Drive	For No. of Sockets	Lg.	Organizers		Replacement Clips	Pkg. of 5
1/4″	10	14″	4940A27 ■	$10.55	4940A31	$7.00
1/4″	14	8 1/4″	4940A21	9.07	4940A31	7.00
1/4″	18	11 1/4″	4940A22	11.10	4940A31	7.00
3/8″	10	8 1/4″	4940A23	7.06	4940A32	7.00
3/8″	10	14″	4940A28 ■	10.55	4940A32	7.00
3/8″	12	11 1/4″	4940A24	8.34	4940A32	7.00
1/2″	8	8 1/4″	4940A25	6.17	4940A33	7.00
1/2″	10	11 1/4″	4940A26	7.46	4940A33	7.00
1/2″	10	14″	4940A29 ■	10.55	4940A33	7.00

■ Available in red only.

Easy-ID Socket Organizers

Store your sockets on posts marked with the size. Organizers are plastic. Color is red for inch sizes and gray for metric sizes.



For Sq. Drive	For Socket Sizes	For No. of Sockets (Std./Deep)	Lg.	Wd.	Ht.		
Inch							
1/4″	1/8″-5/8″	26 (13/13)	9″	2 1/4″	2 1/2″	7014A11	$13.53
3/8″	1/4″-1″	26 (13/13)	13 1/4″	3″	3″	7014A12	13.88
1/2″	3/8″-1 1/4″	28 (14/14)	18″	4″	3 5/8″	7014A13	14.88
Metric							
1/4″	4-15 mm	28 (14/14)	9″	2 1/4″	2 1/4″	7014A21	13.53
3/8″	6-20 mm	30 (15/15)	13 1/4″	3″	3″	7014A22	13.88
1/2″	10-27 mm	34 (17/17)	20 1/2″	3 1/2″	3 5/8″	7014A23	14.88

Magnetic Socket Organizing Mats

Arrange the included pegs to store up to 84 sockets (28 pegs each for 1/4″, 3/8″, and 1/2″ sq. drive sockets). Mats are plastic and 18 3/8″ Lg. × 10 1/4″ Wd.



8634A25 ..... $74.06

Magnetic Socket Organizers

Magnets hold sockets securely in place. Styles A and C also have a magnetic mounting base and mount to steel and other magnetic surfaces.

Style A is rubber. *Styles B* and *C* are plastic.


A


B


C

	For Sq. Drive	For No. of Sockets	Lg.	Wd.	Ht.	Choose a Color		
A	1/4″	26 (13 Standard/13 Deep)	9 1/2″	2 1/4″	1 1/2″	Red, Fluorescent Green, Orange	52765A41	$21.33
B	1/4″	26 (13 Standard/13 Deep)	11 3/8″	4″	3/4″	Red, Black	55305A81	20.35
B	3/8″	28 (14 Standard/14 Deep)	16 5/8″	5″	7/8″	Red, Black	55305A83	24.42
B	1/2″	22 (11 Standard/11 Deep)	16 5/8″	6 3/8″	1 3/8″	Red, Black	55305A84	28.79
C	1/4″	10 (Standard or Deep)	9″	2 1/4″	5/8″	Red	5266A111	11.93
C	3/8″	10 (Standard or Deep)	15 5/8″	2″	1 1/16″	Red	5266A121	18.52
C	1/2″	10 (Standard or Deep)	16 1/2″	1 7/8″	13/16″	Red	5266A131	21.80

Foam Socket Organizers

These low-profile organizers have holes marked with the socket size. They're made of polyethylene foam that resists solvents and petroleum products.



For Sq. Drive	For Socket Sizes	For No. of Sockets	Lg.	Wd.	Ht.		
Inch							
1/4″	1/8″-9/16″	36 (12 Standard/12 Deep/12 Flex)	10 1/4″	4″	7/8″	5243A12	$33.86
3/8″	5/16″-1″	36 (12 Standard/12 Deep/12 Flex)	15 1/4″	5″	1 1/8″	5243A14	38.65
1/2″	3/8″-1 1/4″	30 (15 Standard/15 Deep)	15 1/4″	6″	1 3/8″	5243A16	32.17
Metric							
1/4″	4-15 mm	42 (14 Standard/14 Deep/14 Flex)	11″	4″	7/8″	5243A13	36.91
3/8″	6-23 mm	54 (18 Standard/18 Deep/18 Flex)	18 5/8″	4 5/8″	1 1/8″	5243A15	44.32
1/2″	10-24 mm	30 (15 Standard/15 Deep)	14 3/8″	5 5/16″	1 3/8″	5243A17	31.51

Square Drive Hex Bit Sockets





Sockets on a Clip Rail

Also known as socket-head bits. Sockets are chrome-plated steel. Bits are replaceable, unless noted. Not for use with impact or power tools. Furnished with a clip rail, unless noted.

Pcs.	Length	Hex Sizes		
1/4" Square Drive Socket Sets				
Inch				
10	3 5/16"-4 7/16"	5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16"	54875A69	$100.19
11	1 7/8"	1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16"	54875A68★	$77.89
Metric				
7	1 7/8"	2, 2.5, 3, 4, 5, 6, 8 mm	5557A52	$50.24
3/8" Square Drive Socket Sets				
Inch				
5	1 11/16"	1/8", 3/16", 1/4", 5/16", 3/8"	5570A36	$35.02
7	1 13/16"	1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	5570A31★	$67.08
7	2 13/16"	1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	5570A33	$56.47
7	2 13/16"	1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	5570A32■	$59.37
7	6 3/16"	1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	5570A91	$58.63
14	2 3/4"-6 1/8"	1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	5570A34★	$140.18
Metric				
5	1 11/16"	4, 5, 6, 8, 10 mm	8367A63	$33.72
6	6 1/8"	4, 5, 6, 7, 8, 10 mm	8367A81★	$67.38
7	1 13/16"	4, 5, 6, 7, 8, 9, 10 mm	8367A11★	$64.18
7	2 13/16"	4, 5, 6, 7, 8, 9, 10 mm	8367A12	$58.62
1/2" Square Drive Socket Sets				
Inch				
6	2 1/4"	1/4", 5/16", 3/8", 1/2", 9/16", 5/8"	5494A95	$81.80
6	5"-7"	1/4", 5/16", 3/8", 1/2", 9/16", 5/8"	5494A97	$76.61
7	3 1/4"-4"	1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8"	5494A96	$91.25
Metric				
6	3 1/4"-4"	6, 8, 10, 12, 14, 17 mm	5571A82★	$84.85
6	5"-7"	6, 8, 10, 12, 14, 17 mm	5571A83	$91.87
10	3 1/4"-4"	6, 8, 10, 12, 13, 14, 15, 17, 18, 19 mm	5571A45★	$147.05
Combination 3/8" and 1/2" Square Drive Socket Sets				
Inch				
10	2 3/4"-4"	**3/8" sq. dr.:** 1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8" **1/2" sq. dr.:** 1/2", 9/16", 5/8"	55595A51★	$108.86
10	2 3/4"-4"	**3/8" sq. dr.:** 1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8" **1/2" sq. dr.:** 1/2", 9/16", 5/8"	55595A49★■	$113.77
Metric				
10	2 3/4"-4"	**3/8" sq. dr.:** 4, 5, 6, 7, 8, 9, 10 mm **1/2" sq. dr.:** 12 , 14 , 17 mm	5554A42★■	$121.61
Combination 1/4", 3/8", and 1/2" Square Drive Socket Set				
Inch				
13	1 1/2"-2 1/4"	**1/4" sq. dr.:** 3/32", 1/8", 5/32", 3/16" **3/8" sq. dr.:** 5/32", 3/16", 1/4", 5/16", 3/8" **1/2" sq. dr.:** 3/8", 1/2", 5/8", 3/4"	55595A41★	$124.86

★Hex bit is not replaceable.
■ Has a plastic case.

1/4" Square Drive Individual Sockets

Also Available: Replacement hex bits (unless noted). For inch sizes, please ask for 54875A481 and specify hex size and length. For metric sizes, ask for 5557A291 and specify hex size.

Size	O'all Lg.		
Inch			
0.050"	1 7/8"	54875A41	$8.33
0.050"	3 5/16"	54875A42	10.06
1/16"	1 7/8"	54875A43★	7.34
1/16"	3 5/16"	54875A44	10.24
5/64"	1 7/8"	54875A45★	7.64
5/64"	3 5/16"	54875A46	10.24
3/32"	1 7/8"	54875A47★	7.14
3/32"	3 5/16"	54875A48	11.77
7/64"	1 7/8"	54875A49★	7.64
7/64"	3 5/16"	54875A51★	9.87
1/8"	1 1/16"	54875A31★	7.68
1/8"	1 7/8"	54875A52★	7.89
1/8"	4 7/16"	54875A53	9.87
9/64"	1 1/16"	54875A32★	7.68
9/64"	1 7/8"	54875A54★	7.64
9/64"	4 7/16"	54875A55	10.16
5/32"	1 1/16"	54875A33★	7.68
5/32"	1 7/8"	54875A56★	7.64

★Hex bit is not replaceable.

Size	O'all Lg.		
Inch (Cont.)			
5/32"	4 7/16"	54875A57	$10.16
3/16"	1 1/16"	54875A34★	7.68
3/16"	1 7/8"	54875A58★	7.72
3/16"	4 7/16"	54875A59	10.16
7/32"	1 7/8"	54875A61★	7.64
7/32"	4 7/16"	54875A62★	10.73
1/4"	1 7/8"	54875A63★	7.73
1/4"	4 7/16"	54875A64	11.42
5/16"	1 7/8"	54875A65★	7.65
5/16"	4 7/16"	54875A66	11.42
Metric			
2 mm	1 7/8"	5557A39	8.24
2.5 mm	1 7/8"	5557A41	8.24
3 mm	1 7/8"	5557A42	8.24
4 mm	1 7/8"	5557A43	8.24
5 mm	1 7/8"	5557A44	8.24
6 mm	1 7/8"	5557A45★	9.13
8 mm	1 7/8"	5557A46	10.02
10 mm	1 1/2"	5557A47	13.56

3/8" Square Drive Individual Sockets

Also Available: Replacement hex bits (unless noted). Please ask for 5570A789 for inch sizes or 8367A187 for metric sizes, and specify hex size and length.

Size	O'all Lg.		
Inch			
1/16"	1 11/16"	5570A37★	$6.81
5/64"	1 11/16"	5570A38★	5.84
3/32"	1 7/8"	5570A48	7.23
3/32"	3 3/4"	5570A53★	7.56
7/64"	1 11/16"	5570A39★	6.83
1/8"	1 13/16"	5570A11★	9.35
1/8"	2 13/16"	5570A51	8.50
1/8"	6 3/16"	5570A24	9.25
9/64"	2 13/16"	5570A64	8.58
5/32"	1 13/16"	5570A12★	9.36
5/32"	2 13/16"	5570A52	9.02
5/32"	6 3/16"	5570A27	9.66
3/16"	1 13/16"	5570A17★	9.35
3/16"	2 13/16"	5570A13	9.19
3/16"	6 3/16"	5570A28	9.89
7/32"	1 13/16"	5570A18★	9.13
7/32"	2 13/16"	5570A14	9.19
7/32"	6 3/16"	5570A29	10.32
1/4"	1 13/16"	5570A19★	9.36
1/4"	2 13/16"	5570A15	9.91
1/4"	6 3/16"	5570A61	10.65
5/16"	1 13/16"	5570A21★	9.43
5/16"	2 13/16"	5570A16	9.91
5/16"	6 3/16"	5570A62	10.65
3/8"	1 13/16"	5570A22★	10.34
3/8"	2 13/16"	5570A49	10.51

★Hex bit is not replaceable.

Size	O'all Lg.		
Inch (Cont.)			
3/8"	6 3/16"	5570A63	$10.67
Metric			
2 mm	1 7/8"	8367A18	9.78
2.5 mm	1 7/8"	8367A19	9.78
3 mm	2 13/16"	8367A21	9.08
4 mm	2 13/16"	8367A22	9.13
4 mm	6 1/8"	8367A71	12.05
5 mm	1 13/16"	8367A42★	8.15
5 mm	2 13/16"	8367A23	9.58
5 mm	6 1/8"	8367A72	12.05
6 mm	1 13/16"	8367A43★	8.15
6 mm	6 1/8"	8367A73	12.05
7 mm	2 13/16"	8367A25★	10.20
7 mm	6 1/8"	8367A74★	12.84
8 mm	1 13/16"	8367A45★	8.43
8 mm	2 13/16"	8367A26	10.82
8 mm	6 1/8"	8367A75	12.91
9 mm	2 13/16"	8367A27★	10.89
9 mm	6 1/8"	8367A77★	14.05
10 mm	1 13/16"	8367A47★	8.92
10 mm	2 13/16"	8367A28	11.17
10 mm	6 1/8"	8367A76★	14.02
11 mm	2"	8367A48★	7.20
12 mm	2"	8367A49★	7.22
12 mm	3 5/8"	8367A29	12.64

1/2" Square Drive Individual Sockets

Also Available: Replacement hex bits (unless noted). Please ask for 5494A897 for inch sizes or 5571A897 for metric sizes, and specify hex size and length.

Size	O'all Lg.		
Inch			
1/4"	3 1/4"	5494A74	$11.18
1/4"	5"	5494A75	13.39
5/16"	3 1/4"	5494A76	13.81
5/16"	5"	5494A77	13.44
3/8"	3 1/4"	5494A78	14.37
3/8"	6"	5494A79	14.89
7/16"	3 1/4"	5494A81	14.51
1/2"	3 3/4"	5494A82	16.12
1/2"	6"	5494A83	16.25
9/16"	3 3/4"	5494A84	15.88
9/16"	7"	5494A85★	17.48
5/8"	4"	5494A86	15.97
5/8"	7"	5494A87	17.81
3/4"	4"	5494A69	18.08
Metric			
4 mm	2 1/16"	5571A61★	14.88
5 mm	2 1/16"	5571A62★	15.22

★Hex bit is not replaceable.

Size	O'all Lg.		
Metric (Cont.)			
5 mm	7 1/8"	5571A59★	$16.18
6 mm	3 3/16"	5571A63	12.37
6 mm	5"	5571A76	14.51
7 mm	2 1/16"	5571A77★	13.65
7 mm	3 15/16"	5571A78★	15.30
8 mm	3 3/16"	5571A64	12.79
8 mm	5"	5571A65	14.29
10 mm	3 3/16"	5571A66	13.86
10 mm	6"	5571A67★	15.39
12 mm	3 11/16"	5571A68	15.12
12 mm	6"	5571A69★	15.23
13 mm	3 11/16"	5571A22★	13.55
14 mm	3 11/16"	5571A71★	16.10
14 mm	7"	5571A72	17.12
15 mm	3 11/16"	5571A24★	13.55
17 mm	3 15/16"	5571A73★	17.55
17 mm	7"	5571A74	19.10
19 mm	3 15/16"	5571A79★	18.80

1/2" Square Drive Electrical-Insulating Hex Bit Sockets

Made of plastic-coated steel, these sockets are insulated to protect against accidental contact with live electrical circuits. They are tested to 1,000 volts to meet ASTM F1505-01 and IEC 60900. Also known as socket-head bits. Bits are not replaceable. Not for use with impact or power tools.



Size	O'all Lg.		
1/4"	2 1/4"	7444A51	$99.30
5/16"	2 1/4"	7444A52	99.67
3/8"	2 1/4"	7444A53	99.67
7/16"	2 7/8"	7444A54	131.18
1/2"	2 7/8"	7444A55	134.60
9/16"	2 7/8"	7444A56	144.45
5/8"	2 7/8"	7444A57	144.45
3/4"	2 7/8"	7444A58	136.62

1/2" Sq. Drive Electrical-Insulating Ratchet Wrench—Tool is 10" long and requires a 5° turn to ratchet. Made of plastic-coated steel.

5556A22 ..... $195.32

Hex, Torx, Phillips, and Slotted Bit Socket Assortments

You'll get 32 sockets made of steel with a chrome-plated finish. Not for use with impact or power tools. Furnished in a plastic case.



- **3/8" sq. drive hex bit sockets:** 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"
- **3/8" sq. drive metric hex bit sockets:** 4, 5, 6, 7, 8, 9, 10 mm
- **1/4" sq. drive Torx bit sockets:** T10, T15, T20, T25, T27, T30
- **3/8" sq. drive Torx bit sockets:** T40, T45, T47, T50
- **3/8" sq. drive screwdriver bit sockets:** Slotted: 3/16", 1/4", 5/16", 3/8" Phillips: #1, #2, #3

5534A22 ..... $52.95

Square Drive Ball-End Hex Bit Sockets

You don't need exact alignment between the socket bit and fastener—the ball end allows angled entry. Also known as socket-head bits, sockets are chrome-plated steel. Not for use with impact or power tools.

Also Available: Replacement bits for inch sizes, except where noted. Please ask for 54905A32 and specify hex size and square drive size.



Inch Sets—Furnished with a metal clip rail.

No. of Pcs.	O'all Lg.	Sizes		
1/4" Square Drive				
7	1 1/2"	3/32", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"	54075A61	$44.82
3/8" Square Drive				
6	1 7/8"	5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	54905A59	52.40
7	6 1/8"	1/8", 5/32", 3/16" 7/32", 1/4", 5/16", 3/8"	54905A71	69.63

Metric Sets—Furnished with a plastic clip rail.

7-Pc. 3/8" Square Drive Set—Includes 4, 5, 6, 7, 8, 9, and 10 mm sockets. Sockets are 1 11/16"-1 7/8" long.

54185A41 ..... $55.23

8-Pc. 3/8" Square Drive Set—Includes 3, 4, 5, 6, 7, 8, 9, and 10 mm sockets. Sockets are 6" long.

54185A39 ..... $98.28

Individual Sockets—Inch

Hex Size	O'all Lg.		
1/4" Square Drive			
3/32"	1 1/2"	54075A43	$6.38
1/8"	1 1/2"	54075A44	6.38
9/64"	1 1/2"	54075A45	7.53
5/32"	1 1/2"	54075A46	6.38
3/16"	1 1/2"	54075A47	6.40
7/32"	1 1/2"	54075A48	6.40
1/4"	1 1/2"	54075A49	6.43
3/8" Square Drive			
3/32"	1 7/8"	54905A48	7.42
1/8"	1 7/8"	54905A49	7.80
1/8"	6 1/8"	54905A61♠	9.16
5/32"	1 7/8"	54905A51	7.93
3/8" Square Drive (Cont.)			
5/32"	6 1/8"	54905A62♠	$9.35
3/16"	1 7/8"	54905A52	8.11
3/16"	6 1/8"	54905A63♠	9.82
7/32"	1 7/8"	54905A53	8.37
7/32"	6 1/8"	54905A64♠	9.60
1/4"	1 7/8"	54905A54	8.53
1/4"	6 1/8"	54905A65♠	9.89
5/16"	1 7/8"	54905A55	8.62
5/16"	6 1/8"	54905A66♠	9.93
3/8"	1 7/8"	54905A56	8.82
3/8"	6 1/8"	54905A67♠	10.01

♠ Replacement bits are not available.

Individual Sockets—Metric

Hex Size	O'all Lg.		
3/8" Square Drive			
3 mm	6"	54185A21	$16.52
4 mm	1 11/16"	54185A32	12.43
4 mm	6"	54185A22	16.52
5 mm	1 11/16"	54185A33	12.41
5 mm	6"	54185A23	16.52
6 mm	1 11/16"	54185A34	12.45
6 mm	6"	54185A24	16.52
3/8" Square Drive (Cont.)			
7 mm	1 11/16"	54185A37	$13.35
7 mm	6"	54185A25	17.73
8 mm	1 11/16"	54185A35	13.35
8 mm	6"	54185A26	17.74
9 mm	6"	54185A27	17.72
10 mm	1 7/8"	54185A36	15.28
10 mm	6"	54185A28	17.72

Square Drive Torx Bit Sockets

Sockets are chrome-plated steel. Not for use with impact or power tools.

Also Available: Replacement bits, except where noted. Please ask for 5474A1 for 1/4" square drive, 6939A3 for 3/8" square drive, or 5477A5 for 1/2" square drive, and specify Torx size and length where applicable.



Socket Sets

6-Pc. 1/4" Square Drive Set—Includes T10, T15, T20, T25, T27, and T30 sockets and a plastic clip rail. Sockets are 1 1/2" long.

5474A51 ..... $47.01

8-Pc. 3/8" Square Drive Set—Includes T15, T20, T25, T27, T30, T40, T45, and T50 sockets and a plastic clip rail. Sockets are 1 11/16"-2" long.

6939A75 ..... $59.42

10-Pc. 1/4" and 3/8" Square Drive Set—Includes 1/4" drive sizes T8, T10, T15, T20, and T25 sockets plus 3/8" drive sizes T27, T30, T40, T45, and T50 sockets. Sockets are 1 1/2"-2" long. Furnished with a plastic clip rail.

5527A11 ..... $72.98

6-Pc. 1/2" Square Drive Set—Includes T30, T40, T45, T50, T55, and T60 sockets and a metal clip rail. Sockets are 2"-2 9/16" long.

5477A75 ..... $70.89

Individual Sockets

Size	O'all Lg.		
1/4" Square Drive			
T6	1 1/2"	5474A37	$6.96
T7	1 1/2"	5474A38	7.73
T8	1 1/2"	5474A39	7.73
T8	4 1/16"	5474A61	36.06
T9	1 1/2"	5474A41	7.73
T10	1 1/2"	5474A42	8.03
T10	4 1/16"	5474A62	36.06
T15	1 1/2"	5474A43	8.03
T15	4 1/16"	5474A63	34.06
T20	1 1/2"	5474A44	8.03
T20	4 1/16"	5474A64	34.06
T25	1 1/2"	5474A45	8.03
T25	4 1/16"	5474A65	34.06
T27	1 1/2"	5474A46	8.12
T30	1 1/2"	5474A47	8.12
T40	1 1/2"	5474A48	8.35
3/8" Square Drive			
T9	1 11/16"	6939A49	7.20
T10	1 11/16"	6939A51	7.61
T15	1 11/16"	6939A52	8.00
T20	1 11/16"	6939A53	8.00
3/8" Square Drive (Cont.)			
T25	1 11/16"	6939A54	$8.15
T27	1 11/16"	6939A55	8.15
T30	1 11/16"	6939A56	8.15
T30	4 1/4"	6939A84	37.65
T40	2"	6939A57	9.47
T40	4 1/4"	6939A87	38.47
T45	2"	6939A81	9.47
T45	4 1/4"	6939A88	39.00
T47	2"	6939A86♠	10.97
T50	2"	6939A82	9.47
T50	4 1/4"	6939A89	41.17
T55	2"	6939A83	11.42
1/2" Square Drive			
T27	2"	5477A61	11.59
T30	2"	5477A62	11.59
T40	2 1/4"	5477A63	11.59
T45	2 1/4"	5477A64	11.66
T50	2 1/4"	5477A65	12.05
T55	2 9/16"	5477A66	14.69
T60	2 9/16"	5477A67♠	16.14

♠ Replacement bits are not available.

Tamper-Resistant Hex Bit Socket Sets

Also known as pin-in-hex or pin-in-socket bits. Set includes nine sockets for tamper-resistant hex screws. Sockets are chrome-plated steel. Set has a clip rail with a 1 1/2" long socket in each of the following sizes: 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", and 1/4". Not for use with impact or power tools.

Also Available: Replacement sockets and bits. For sockets, please ask for 5536A1 and specify size. For bits, please ask for 5536A2 and specify size.



5536A33 ..... $70.03

Torx Sockets & 1/4" Square Drive Socket Sets

Square Drive Tamper-Resistant Torx Bit Sockets

Also known as pin-in-Torx bits, all of these sockets are for use with tamper-resistant Torx fasteners. Not for use with impact or power tools. **24-piece set** can also be used with Torx fasteners.



13-Piece Set

Sockets are chrome-plated steel. Includes 1/4" square drive sizes T7, T8, T10, T15, T20, T25, T27, and T30, 3/8" square drive sizes T40, T45, T50, and T55, and 1/2" square drive size T60. Furnished with a plastic clip rail.

54055A75 ..... $76.45

24-Piece Set



Set has 22 interchangeable steel Torx bits. All fit 3/8" and 1/2" square drive bit holders (included). Holders are chrome-plated steel and have a ball detent to firmly hold bits in place. You'll get one of each size in 13/16" and 3" lengths: T10, T15, T20, T25, T27, T30, T40, T45, T50, T55, and T60. Furnished in a plastic case.

Also Available: Replacement 3" long tamper-resistant Torx bits. Please ask for 55535A4 and specify size.

55535A42 ..... $75.66

Individual Sockets

Sockets are chrome-plated steel.

Size	O'all Lg.		
1/4" Square Drive			
T7	1 9/16"	**54055A37**	$9.03
T8	1 9/16"	**54055A38**	9.03
T10	1 9/16"	**54055A41**	9.03
T15	1 9/16"	**54055A42**	9.05
T20	1 9/16"	**54055A43**	9.05
T25	1 9/16"	**54055A44**	9.02
T27	1 9/16"	**54055A45**	9.02
T30	1 9/16"	**54055A46**	9.05

Size	O'all Lg.		
3/8" Square Drive			
T40	1 7/8"	**54055A51**	$11.48
T45	1 7/8"	**54055A52**	11.50
T50	1 7/8"	**54055A53**	11.53
T55	2"	**54055A54**	12.42

Square Drive Torx Sockets



Sockets are steel and are for use with Torx fasteners. Not for use with impact or power tools. Sockets have a black finish, except those in the *6-piece deep set* have a chrome-plated finish.

Socket Sets—Furnished with a clip rail.

7-Pc. Standard Set— Includes 1/4" square drive sizes E6, E7, and E8 and 3/8" square drive sizes E10, E12, E14, and E16.

5588A44 ..... $38.89

6-Pc. Deep Set—Includes 1/4" square drive sizes E4, E5, E6, E7, E8, and E10.

5588A32 ..... $32.33

Individual Standard Sockets

Size	O'all Lg.		
1/4" Square Drive			
E4	1"	**53025A38**	$4.48
E5	1"	**53025A39**	4.50
E6	1"	**53025A41**	4.63
E7	1"	**53025A42**	4.69
E8	1"	**53025A43**	4.50

Size	O'all Lg.		
3/8" Square Drive			
E10	1 1/4"	**53215A61**	$6.15
E12	1 1/4"	**53215A62**	6.15
E14	1 1/4"	**53215A63**	6.15
E16	1 1/4"	**53215A64**	6.15
1/2" Square Drive			
E18	1 1/2"	**55755A73**	10.48

Square Drive Torx-Plus Bit Sockets



Use Torx-Plus bit sockets for increased surface contact and 25% more torque on Torx-Plus fasteners. The bit is not compatible with standard Torx fasteners. Sockets are chrome-plated. Not for use with impact or power tools.

8-Piece Set

Includes 1/4" square drive sockets in sizes IP9, IP10, IP15, and IP20; 3/8" square drive sockets in sizes IP25, IP27, IP30 and IP40 on a clip rail; and a hex key.

8637A41 ..... $56.19

Individual Sockets

1/4" Square Drive Sockets— Overall length is 1 1/2". Available in sizes IP6, IP7, IP8, IP9, IP10, IP15, IP20, IP25, IP27, IP30, and IP40.

To Order: Please specify size.

8637A52 ..... $7.06

3/8" Square Drive Sockets— Overall length is 1 11/16". Available in sizes IP9, IP10, IP15, IP20, IP25, IP27, IP30, and IP40.

To Order: Please specify size.

8637A62 ..... $8.07

About Selecting a Square Drive Size

Select the square drive size of your socket based on the size of your fastener and your space and torque needs. Some fasteners are compatible with multiple drive sizes. For work in confined areas, select the smaller drive size. If you are applying a lot of torque and space is not an issue, select the larger drive size.

Fastener Size	Fits Square Drive	Pages
1/8" to 5/8" and 4 to 15 mm	1/4"	2776–2778
1/4" to 1" and 5.5 to 26 mm	3/8"	2779-2784
3/8" to 1 1/2" and 10 to 36 mm	1/2"	2782-2786
3/4" to 2 3/8" and 19 to 55 mm	3/4"	2786-2787
1 1/16" to 3 1/2"	1"	2787

1/4" Square Drive Socket Sets



58455A14



58455A27

Sockets are chrome-plated steel. Not for use with impact or power tools. **6-point** and **12-point sockets** are for use with hex fasteners. The 6-point sockets prevent rounding. The 12-point sockets are easier to position.

Premium sets are the finest tools available. They have gone through additional machining, grinding, and/or polishing for superior fit and finish. Made in the U.S.A. **Value sets** are high-quality tools offered at an economical price. Made in the U.S.A. **Economy set** is imported.

Pcs.	Sizes	Accessories	
Premium Sets, Inch			
10	**6-pt. standard:** 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16"	Metal Clip Rail	**58455A14** $42.72
15	**6-pt. standard:** 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16"	5 1/4" Ratchet Wrench; 6" Socket Screwdriver Handle; 1 9/16" Flex Adapter; 2" and 6" Extensions; Plastic Case	**58455A27** $110.81
10	**6-pt. deep:** 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16"	Metal Clip Rail	**58455A23** $52.26
25	**6-pt. standard:** 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16" **6-pt. deep:** 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16"	5 1/4" Ratchet Wrench; 6" Socket Screwdriver Handle; 1 9/16" Flex Adapter; 2" and 6" Extensions; Plastic Case	**5558A29** $185.77
10	**12-pt. standard:** 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16"	Metal Clip Rail	**58455A24** $49.97
10	**12-pt. deep:** 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16"	Metal Clip Rail	**58455A25** $64.98
25	**12-pt. standard:** 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16" **12-pt. deep:** 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16"	5 1/4" Ratchet Wrench; 6" Socket Screwdriver Handle; 1 9/16" Flex Adapter; 2" and 6" Extensions; Plastic Case	**5558A41** $186.07

(Continued on following page)

For information about drive size, see page 2776.

1/4" Square Drive Socket Sets *(Continued from previous page)*

Pcs.	Sizes	Accessories		
Value Sets, Inch				
10	**6-pt. standard:** 5/32", 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2"	Metal Clip Rail	5837A14	$21.61
21	**6-pt. standard:** 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2" **6-pt. deep:** 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2"	5 13/16" Ratchet Wrench; 6" Socket Screwdriver Handle; 3" Extension; 6" Extension; 1 1/4" Flex Adapter; Plastic Case	5837A49	$70.84
Economy Set, Inch				
21	**6-pt. standard:** 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2" **6-pt. deep:** 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2"	5 1/2" Ratchet Wrench; 5 7/8" Socket Screwdriver Handle; 3" Extension; 6" Extension; 1 3/8" Flex Adapter; Plastic Case	5894A36	$29.38
Premium Sets, Metric				
12	**6-pt. standard:** 4, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13, 14 mm	Metal Clip Rail	5753A41	$45.12
16	**6-pt. standard:** 4, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13, 14 mm	5 1/4" Ratchet Wrench; 6" Socket Screwdriver Handle; 2" Extension; 17/16" Flex Adapter; Metal Case	7208A13	$112.06
12	**6-pt. deep:** 4, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13, 14 mm	Metal Clip Rail	5753A43	$51.43
30	**6-pt. standard:** 4, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13, 14 mm **6-pt. deep:** 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 mm	5 1/4" Ratchet Wrench; 5 3/4" Flex-Head Wrench Handle; 5" Sliding-Head Wrench Handle; 6" Socket Screwdriver Handle; 2" Extension; 6" Extension; 17/16" Flex Adapter; Metal Case	5840A33	$193.02
Value Sets, Metric				
10	**6-pt. standard:** 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 mm	Metal Clip Rail	55275A14	$24.22
21	**6-pt. standard:** 5, 6, 7, 8, 9, 10, 11, 12, 13 mm **6-pt. deep:** 7, 8, 9, 10, 11, 12, 13	5" Ratchet Wrench; 6" Socket Screwdriver Handle; 3" Extension; 6" Extension; 1 1/4" Flex Adapter; Plastic Case	55275A48	$74.33

1/4" Square Drive Sockets

All of these premium-quality sockets are chrome-plated steel. Not for use with impact or power tools.

4-point and **8-point sockets** are for use with square fasteners. The 4-point sockets prevent rounding, but the 8-point sockets are easier to position. **6-point** and **12-point sockets** are for use with hex fasteners. The 6-point sockets prevent rounding. The 12-point sockets are easier to position.

Also Available: 12-point deep metric sockets. Please ask for 7195A2 and specify size (5-14 mm).

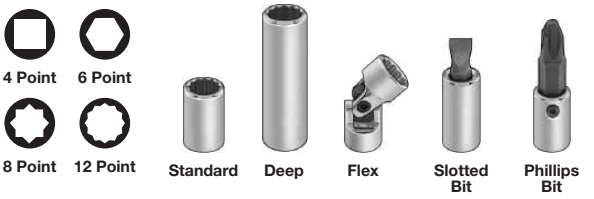

Inch Sizes

Size	O'all Lg.		
4-Pt. Standard			
3/16"	7/8"	5543A11	$5.37
1/4"	7/8"	5543A13	4.79
6-Pt. Standard			
1/8"	7/8"	5543A41	4.31
5/32"	7/8"	5543A42	4.18
3/16"	7/8"	5543A21	4.16
7/32"	7/8"	5543A22	4.19
1/4"	7/8"	5543A23	4.39
9/32"	7/8"	5543A24	4.42
5/16"	7/8"	5543A25	4.46
11/32"	7/8"	5543A26	4.50
3/8"	7/8"	5543A27	4.46
7/16"	7/8"	5543A28	4.56
1/2"	7/8"	5543A29	4.54
9/16"	7/8"	5543A43	4.57
5/8"	1"	5543A48	4.21

Size	O'all Lg.		
6-Pt. Deep			
1/8"	2"	5543A101	$7.91
5/32"	2"	5543A46	4.91
3/16"	2"	5543A72	5.80
7/32"	2"	5543A78	6.05
1/4"	2"	5543A71	6.06
9/32"	2"	5543A47	6.18
5/16"	2"	5543A73	6.21
11/32"	2"	5543A74	6.14
3/8"	2"	5543A75	6.23
7/16"	2"	5543A76	6.38
1/2"	2"	5543A77	6.33
9/16"	2"	5543A79	6.46
8-Pt. Standard			
1/4"	7/8"	5543A62	4.29
5/16"	7/8"	5543A63	4.29
3/8"	7/8"	5543A65	4.29

Size	O'all Lg.		
12-Pt. Standard			
3/16"	7/8"	5543A44	$4.23
7/32"	7/8"	5543A38	4.28
1/4"	7/8"	5543A31	4.30
9/32"	7/8"	5543A39	4.40
5/16"	7/8"	5543A32	4.36
11/32"	7/8"	5543A33	4.51
3/8"	7/8"	5543A34	4.46
7/16"	7/8"	5543A35	4.49
1/2"	7/8"	5543A36	4.55
9/16"	7/8"	5543A37	4.59
12-Pt. Deep			
3/16"	2"	5543A89	6.14
7/32"	2"	5543A91	6.48
1/4"	2"	5543A81	6.39
9/32"	2"	5543A82	6.54
5/16"	2"	5543A83	6.37

Size	O'all Lg.		
12-Pt. Deep (Cont.)			
11/32"	2"	5543A84	$6.72
3/8"	2"	5543A85	6.56
7/16"	2"	5543A86	6.82
1/2"	2"	5543A87	6.77
9/16"	2"	5543A88	6.84
12-Pt. Flex			
7/32"	1 1/4"	5543A92	19.21
1/4"	1 1/4"	5543A49	18.68
9/32"	1 1/4"	5543A93	19.21
5/16"	1 1/4"	5543A52	18.69
11/32"	1 1/4"	5543A53	19.21
3/8"	1 1/4"	5543A54	18.68
7/16"	1 1/4"	5543A55	18.68
1/2"	1 1/4"	5543A56	19.21
9/16"	1 3/8"	5543A57	19.20

Metric Sizes

Size, mm	O'all Lg.		
6-Pt. Standard			
4	7/8"	7195A11	$4.32
4.5	7/8"	7195A53	4.57
5	7/8"	7195A12	4.39
5.5	7/8"	7195A13	4.47
6	7/8"	7195A14	4.43
7	7/8"	7195A15	4.49
8	7/8"	7195A16	4.49
9	7/8"	7195A17	4.64
10	7/8"	7195A18	4.59
11	7/8"	7195A19	4.51
12	7/8"	7195A21	4.51
13	7/8"	7195A22	4.52
14	7/8"	7195A23	4.52

Size, mm	O'all Lg.		
6-Pt. Standard (Cont.)			
15	7/8"	7195A25	$4.58
16	7/8"	7195A3	6.22
6-Pt. Deep			
4	2"	7195A35	6.97
4.5	2"	7195A55	7.02
5	2"	7195A37	6.94
5.5	2"	7195A38	6.94
6	2"	7195A41	6.94
7	2"	7195A42	6.93
8	2"	7195A43	7.10
9	2"	7195A44	7.03
10	2"	7195A45	7.04
11	2"	7195A46	6.94

Size, mm	O'all Lg.		
6-Pt. Deep (Cont.)			
12	2"	7195A47	$6.94
13	2"	7195A48	6.97
14	2"	7195A49	7.06
15	2"	7195A54	8.83
6-Pt. Flex			
5	1 1/4"	7195A81	19.21
5.5	1 1/4"	7195A82	19.74
6	1 1/4"	7195A83	19.74
7	1 1/4"	7195A84	19.74
8	1 1/4"	7195A85	19.75
10	1 1/4"	7195A87	19.74

Size, mm	O'all Lg.		
12-Pt. Standard			
5	7/8"	7195A61	$4.53
5.5	7/8"	7195A62	4.58
6	7/8"	7195A63	4.55
7	7/8"	7195A64	4.59
8	7/8"	7195A65	4.62
9	7/8"	7195A66	4.65
10	7/8"	7195A67	4.69
11	7/8"	7195A68	4.74
12	7/8"	7195A69	4.76
13	7/8"	7195A71	4.80
14	7/8"	7195A72	4.90

Screwdriver Bit Sockets

Size	O'all Lg.		
Slotted			
3/16"	1 7/8"	55045A21	$10.07
1/4"	1 7/8"	55045A22	10.58
9/32"	1 7/16"	55045A24	6.60

Size	O'all Lg.		
Phillips			
No. 0	1 7/16"	55045A26	$5.92
No. 1	1 1/16"	55045A27	10.05
No. 2	1 1/16"	55045A29	10.41
No. 3	1 15/16"	55045A32	12.03

1/4" Square Drive Wrenches & Accessories

For information about drive size, see page 2776.

1/4" Square Drive Ratchet Wrenches

Wrenches are steel.

Quick Release—Push a button to release the socket with one hand. This wrench is good for applications where your sockets may get wet or oily.

Sealed Head—A gasket seals in permanent lubrication and keeps out contaminants such as dust, dirt, and moisture.

Fast Driving—Rotate the grip of the handle to rapidly turn the socket or use like a traditional ratchet wrench.

Flex Head—The head pivots up to 90° in either direction for access to tight spots.

Silent—Because these wrenches do not have teeth, they do not make the traditional "click" sound when turned. They use a series of rollers to engage the ratchet.

Note: The smaller the turn to ratchet angle the less clearance needed to engage the ratchet.



Standard Oval Head

O'all Lg.	Turn to Ratchet	Chrome Plated		Black	
5"	15°	53725A61	$22.55	53725A44	$21.42



Quick Release

O'all Lg.	Turn to Ratchet	Chrome Plated	
5 3/4"	10°	5514A48	$38.43



Sealed Head

O'all Lg.	Turn to Ratchet	Chrome Plated	
6 3/4"	10°	5574A31	$36.45



Standard Round Head

O'all Lg.	Turn to Ratchet	Chrome Plated		Black	
4 1/2"	5°	51405A11	$32.19	51405A12	$28.59
3 1/8"	5°	5539A21	82.99		



Fast Driving

O'all Lg.	Turn to Ratchet	Chrome Plated	
7 1/8"	5°	7638A12	$34.77



Flex Head

O'all Lg.	Turn to Ratchet	Chrome Plated	
6 1/4"	5°	5370A37	$42.55



Silent

O'all Lg.	Turn to Ratchet	Chrome Plated	
3 1/2"	0°	7031A31	$41.31
5 1/2"	0°	7031A32	44.07
7 1/4"	0°	7031A33	87.16



Fingertip

O'all Lg.	Turn to Ratchet	Chrome Plated	
1 1/2"	5°	53725A54	$51.03

1/4" Square Drive Socket Accessories

Made of chrome-plated steel, unless noted.

Screwdriver-Style Socket Handles

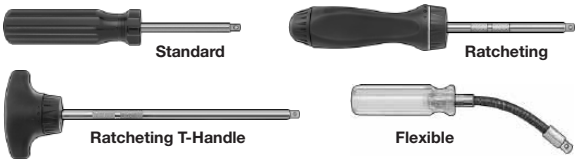

	O'all Lg.		
Standard	3 1/2"	5521A21▲	$6.21
Standard	6"	5521A24	10.06
Standard	7"	5521A65	10.68
Standard	9 1/2"	5521A67■	13.96
Ratcheting	9"	54675A45	77.95
Ratcheting T-Handle	10"	54675A47	96.68
Flexible	6 3/4"	5841A31▲	13.36

▲Made of zinc-plated steel. ■ Unfinished.

1/4" Hex Bit Socket Holders



	O'all Lg.		
Nonmagnetic	1"	7229A42■	$4.63
Magnetic	2"	7229A61■	14.84

■ Unfinished.

Adapters



Standard



Flex

	O'all Lg.		
Standard: 1/4" sq. F x 3/8" sq. M	1"	55585A35♠	$4.85
Standard: 1/4" sq. F x 3/8" sq. M	1"	5521A27	7.44
Flex: 1/4" sq.	13/8"	5521A29	17.45

♠ Black finish.

Socket Spinners



Fingertip



Hex Head

	Head Dia.	O'all Lg.		
Fingertip	1"	7/8"	5521A14	$21.78
Hex Head	3/8"	1/2"	5521A16♠	8.92

♠ Black finish.

Wrench Handles

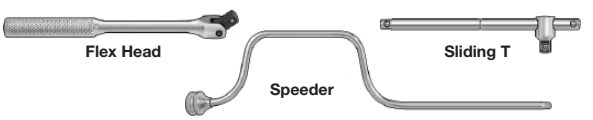

	O'all Lg.		
Flex Head	5 3/4"	5521A13	$17.16
Sliding T	4 1/2"	5521A12	18.03
Speeder	15 1/2"	5521A11	18.12

Extensions

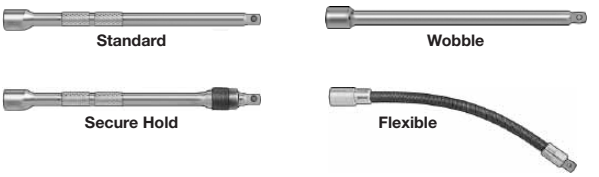

Secure Hold—A locking collar prevents disengagement. Pull the collar to release the socket.

Wobble—Allows an angled entry of up to 16°.

	O'all Lg.		
Standard			
	2"	5521A17	$5.82
	3"	5521A36	7.99
	6"	5521A18	8.36
	9 3/4"	5521A37	14.84
	14"	5521A19	13.33
	24"	5521A74	13.62
Secure Hold			
	2"	5521A76	14.07
	6"	5521A77	20.02
	15"	5521A46	34.21

▲Made of zinc-plated steel.

	O'all Lg.		
Wobble			
	2"	5521A59	$6.43
	3"	5521A61	8.48
	6"	5521A62	8.77
	11"	5521A44	35.08
Flexible			
	4 1/16"	5521A22▲	13.47
	6"	5521A23▲	16.01
	10"	5521A25▲	16.38

Set of 3 Standard Extensions (2", 6", 10")		5521A73	$30.29
Set of 3 Secure-Hold Extensions (2", 3", 6")		5521A51	20.11

3/8" Square Drive Socket Sets

Sockets are chrome-plated steel. Not for use with impact or power tools.

6-point and **12-point sockets** are for use with hex fasteners. The 6-point sockets prevent rounding. The 12-point sockets are easier to position. **8-point sockets** are for use with square fasteners.

Premium sets are the finest tools available. Made in the U.S.A. Additional machining, grinding, and/or polishing have given them a superior fit and finish. **Value sets** are high-quality tools offered at an economical price. Made in the U.S.A. **Economy set** is imported.



7-Pc. Premium Inch Set with 12-Point Flex Sockets



24-Pc. Premium Inch Set

Pcs.	Sizes	Accessories	
Premium Set, Inch, Combination 1/4" and 3/8" Square Drive			
22	**6-pt. standard—1/4" square drive:** 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8" **6-pt. standard—3/8" square drive:** 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1"	**1/4" Drive:** 6" Socket Screwdriver Handle **3/8" Drive:** 7" Ratchet Wrench, 3" and 6" Extension, 3/8" Female×1/4" Male Adapter, Plastic Case	53305A21 $161.01
Premium Sets, Inch			
9	**6-pt. standard:** 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4"	Metal Clip Rail	5609A11 $47.87
13	**6-pt. standard:** 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 7/8"	7 5/8" Ratchet Wrench; 3" Extension; 6" Extension; Metal Case	5561A33 $103.04
9	**6-pt. deep:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8"	Metal Clip Rail	5609A78 $71.71
24	**6-pt. standard:** 1/4", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4" **6-pt. deep:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8"	7 3/8" Ratchet Wrench; 8 1/2" Flex-Head Wrench Handle; 1 7/8" Flex Adapter; 3" Extension; 6" Extension; Metal Case	7223A81 $203.42
7	**8-pt. standard:** 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8"	Metal Clip Rail	5609A88 $48.33
10	**12-pt. standard:** 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8"	Metal Clip Rail	5609A87 $56.33
15	**12-pt. standard:** 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 7/8"	7 3/8" Ratchet Wrench; 8 1/2" Flex-Head Wrench Handle; 1 7/8" Flex Adapter; 3" Extension; 6" Extension; Metal Case	5561A5 $165.74
9	**12-pt. standard:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8"	Metal Clip Rail	5609A14 $72.02
28	**12-pt. standard:** 1/4", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1" **12-pt. deep:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8"	7 3/8" Ratchet Wrench; 8 1/2" Flex-Head Wrench Handle; 1 7/8" Flex Adapter; 3" Extension; 6" Extension; Metal Case	5582A11 $236.93
7	**12-pt. flex:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4"	Metal Clip Rail	5609A31 $124.76
Value Sets, Inch			
20	**6-pt. standard:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8" **6-pt. deep:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16"	7 1/2" Ratchet Wrench; 3" Extension; 6" Extension; Metal Case	5615A64 $76.71
10	**12-pt. standard:** 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16"	Metal Clip Rail	5615A19 $24.13
9	**12-pt. deep:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8"	Metal Clip Rail	5615A21 $40.18
20	**12-pt. standard:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8" **12-pt. deep:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16"	7 1/2" Ratchet Wrench; 3" Extension; 6" Extension; Metal Case	5615A66 $76.15
Premium Sets, Metric			
12	**6-pt. standard:** 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm	Metal Clip Rail	5757A33 $64.71
18	**6-pt. standard:** 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm	8" Ratchet Wrench; 2" Flex Adapter; 3" Extension; 6" Extension; Metal Case	7290A12 $138.97
12	**6-pt. deep:** 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm	Metal Clip Rail	5757A35 $81.43
27	**6-pt. standard:** 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm **6-pt. deep:** 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm	7 5/8" Ratchet Wrench; 8 9/16" Flex-Head Wrench Handle; 6" Extension; Metal Case	7259A31 $211.65
12	**12-pt. standard:** 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm	Metal Clip Rail	5757A34 $57.59
16	**12-pt. standard:** 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm	7 3/8" Ratchet Wrench; 6" Extension; Plastic Case	7290A24 $114.61
12	**12-pt. deep:** 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm	Metal Clip Rail	5757A31 $69.56
29	**12-pt. standard:** 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm **12-pt. deep:** 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm	7" Ratchet Wrench; 8 1/2" Flex-Head Wrench Handle; 1 7/8" Flex Adapter; 3" Extension; 6" Extension; Plastic Case	7259A11 $244.63
Value Sets, Metric			
13	**12-pt. standard:** 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm	Metal Clip Rail	52825A72 $30.62
22	**12-pt. standard:** 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm **12-pt. deep:** 10, 11, 12, 13, 14, 15, 17, 19 mm	7 5/8" Ratchet Wrench; 3" Extension; 6" Extension; Spark-plug gripping insert; Metal Case	52825A63 $87.01
Economy Set, Inch/Metric			
34	**12-pt. standard:** 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8" **12-pt. deep:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8" **12-pt. standard:** 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19 mm	7 3/4" Ratchet Wrench; 2" Flex Adapter; 3" Extension; 6" Extension; Plastic Case	6016A14 $52.51

3/8" Square Drive Sockets



Sockets are premium quality and made of steel. Not for use with impact or power tools. **4-point** and **8-point sockets** are for use with square fasteners. The 4-point sockets prevent rounding, but the 8-point sockets are easier to position. **5-point sockets** are for use with water and gas valves. **6-point** and **12-point sockets** are for use with hex fasteners. The 6-point sockets prevent rounding on fasteners. The 12-point sockets are easier to position. **Spark plug sockets** have a rubber insert that grips the plug's insulator to prevent damage.

Also Available: 12-point flex inch sockets with black finish. Please ask for 5484A83 and specify size: 3/8", 7/16", 1/2", 9/16", 5/8", or 3/4".

Also Available: 12-point flex metric sockets with chrome finish. Please ask for 5849A112 and specify size: 9-19 mm.

Inch Sizes—Chrome-Plated Finish

Size	O'all Lg.		
4-Pt. Standard			
9/32"	1 1/16"	5544A86	$5.27
5-Pt. Standard			
13/16"	1 1/16"	5544A8	23.35
6-Pt. Standard			
3/16"	3/4"	5544A101	4.93
3/16"	1 1/8"	5544A99	4.56
1/4"	13/16"	5544A102	6.19
1/4"	1 1/8"	5544A11	5.08
5/16"	3/4"	5544A103	5.83
5/16"	1 1/8"	5544A12	5.03
11/32"	1 1/16"	5544A13	4.86
3/8"	3/4"	5544A104	6.33
3/8"	1 1/8"	5544A14	5.03
7/16"	7/8"	5544A105	6.01
7/16"	1 1/8"	5544A15	5.05
1/2"	7/8"	5544A106	6.49
1/2"	1 1/8"	5544A16	5.07
9/16"	7/8"	5544A107	6.63
9/16"	1 1/8"	5544A17	5.28
5/8"	15/16"	5544A108	6.69
5/8"	1 1/8"	5544A18	5.33
11/16"	1 1/8"	5544A19	5.56
3/4"	15/16"	5544A109	6.95
3/4"	1 3/16"	5544A21	5.56
13/16"	1 3/16"	5544A22	6.33
7/8"	1 5/16"	5544A23	6.62
15/16"	1 5/16"	5544A24	7.44
1"	1 3/8"	5544A25	7.88

Size	O'all Lg.		
6-Pt. Deep			
1/4"	2 1/8"	5544A39	$6.67
5/16"	2 1/8"	5544A41	7.05
11/32"	2 1/2"	5544A131	6.72
3/8"	2 1/8"	5544A42	7.30
7/16"	2 1/8"	5544A43	7.37
1/2"	2 1/8"	5544A44	7.37
9/16"	2 1/8"	5544A45	7.49
5/8"	2 3/4"	5544A46	7.71
11/16"	2 3/4"	5544A47	8.56
3/4"	2 3/4"	5544A48	9.00
13/16"	2 3/4"	5544A49	9.94
7/8"	2 3/4"	5544A51	10.86
15/16"	2 3/4"	5544A111	12.80
1"	2 3/4"	5544A112	14.17
6-Pt. Flex			
7/16"	1 3/4"	5544A93	21.54
1/2"	1 13/16"	5544A94	21.54
9/16"	1 13/16"	5544A95	21.54
5/8"	1 13/16"	5544A96	21.54
3/4"	1 13/16"	5544A98	23.09
6-Pt. Spark Plug			
5/8"	2 1/2"	5544A117	8.88
3/4"	2 7/16"	5544A122	42.03
13/16"	2 3/4"	5544A118	10.35
6-Pt. Flex Spark Plug			
5/8"	3 3/8"	5544A119	33.08
13/16"	3 3/8"	5544A121	32.36

Size	O'all Lg.		
8-Pt. Standard			
1/4"	15/16"	5544A52	$6.27
9/32"	15/16"	5544A9	6.08
5/16"	15/16"	5544A53	6.27
3/8"	15/16"	5544A58	6.27
7/16"	1"	5544A54	6.27
1/2"	1"	5544A55	6.27
9/16"	1 3/8"	5544A56	8.23
5/8"	1 3/8"	5544A57	8.37
11/16"	1 1/8"	5544A113	9.51
3/4"	1 3/16"	5544A114	9.67
13/16"	1 1/4"	5544A115	10.06
7/8"	1 5/16"	5544A116	10.60
12-Pt. Standard			
1/4"	1 1/8"	5544A26	4.76
5/16"	1 1/8"	5544A27	4.71
11/32"	1 1/16"	5544A28	4.19
3/8"	1 1/8"	5544A29	4.71
7/16"	1 1/8"	5544A31	4.72
1/2"	1 1/8"	5544A32	4.78
9/16"	1 1/8"	5544A33	4.98
19/32"	1 1/8"	5544A85	5.19
5/8"	1 1/8"	5544A34	4.98
11/16"	1 1/8"	5544A35	5.20
3/4"	1 3/16"	5544A36	5.20
13/16"	1 3/16"	5544A37	5.92
7/8"	1 5/16"	5544A38	5.96
15/16"	1 5/16"	5544A82	7.17
1"	1 3/8"	5544A83	7.38

Size	O'all Lg.		
12-Pt. Deep			
1/4"	2 1/8"	5544A81	$6.18
5/16"	2 1/8"	5544A84	6.47
11/32"	2 3/8"	5544A187	6.58
3/8"	2 1/8"	5544A61	6.59
7/16"	2 1/8"	5544A62	6.70
1/2"	2 1/8"	5544A63	6.91
9/16"	2 1/8"	5544A64	7.14
5/8"	2 3/4"	5544A65	7.34
11/16"	2 3/4"	5544A66	8.10
3/4"	2 3/4"	5544A67	8.57
13/16"	2 3/4"	5544A68	9.40
7/8"	2 3/4"	5544A69	10.27
15/16"	2 3/4"	5544A59	12.10
1"	2 3/4"	5544A71	13.30
12-Pt. Flex			
5/16"	1 13/16"	5544A3	22.35
3/8"	1 3/4"	5544A73	22.35
7/16"	1 3/4"	5544A74	22.34
1/2"	1 3/4"	5544A75	21.54
9/16"	1 7/8"	5544A76	21.54
5/8"	1 7/8"	5544A77	21.54
11/16"	2"	5544A78	21.54
3/4"	2"	5544A79	23.09
13/16"	2 1/8"	5544A4	23.77
7/8"	2 1/8"	5544A5	23.54
15/16"	2 1/8"	5544A6	23.52
1"	2 1/8"	5544A7	24.63

Inch Sizes—Black Finish

Size	O'all Lg.		
12-Pt. Standard			
1/4"	1 1/16"	5484A41	$4.51
5/16"	1 1/16"	5484A42	4.92
3/8"	1 1/16"	5484A43	4.92
7/16"	1 1/16"	5484A44	4.93
1/2"	1 1/8"	5484A45	5.00
9/16"	1 1/8"	5484A46	5.20

Size	O'all Lg.		
12-Pt. Standard (Cont.)			
5/8"	1 1/8"	5484A47	$5.20
11/16"	1 1/8"	5484A48	5.38
3/4"	1 1/8"	5484A49	5.43
7/8"	1 5/16"	5484A52	6.60
15/16"	1 5/16"	5484A53	7.41
1"	1 5/16"	5484A54	7.62

Size	O'all Lg.		
12-Pt. Deep			
1/4"	2 7/16"	5484A38	$5.63
5/16"	2 7/16"	5484A39	5.63
3/8"	2 1/8"	5484A61	6.95
7/16"	2 1/8"	5484A62	7.07
1/2"	2 1/8"	5484A63	7.29
9/16"	2 1/8"	5484A64	7.53

Size	O'all Lg.		
12-Pt. Deep (Cont.)			
5/8"	2 3/4"	5484A65	$7.76
11/16"	2 3/4"	5484A66	8.55
3/4"	2 3/4"	5484A67	9.05
7/8"	2 3/4"	5484A69	10.84
15/16"	2 3/4"	5484A71	12.77
1"	2 3/4"	5484A72	13.94

Metric—Chrome-Plated Finish

Size, mm	O'all Lg.		
6-Pt. Standard			
5.5	1 1/16"	5849A1	$4.05
6	1 1/8"	5849A81	4.89
7	1 1/8"	5849A11	4.89
8	1 1/8"	5849A12	4.84
9	1 1/8"	5849A13	4.89
10	1 1/8"	5849A14	4.86
11	1 1/8"	5849A15	4.91
12	1 1/8"	5849A16	4.90
13	1 1/8"	5849A17	4.94
14	1 1/8"	5849A18	5.18
15	1 1/8"	5849A19	5.18
16	1 1/8"	5849A21	5.18
17	1 1/8"	5849A22	5.35
18	1 3/16"	5849A23	5.29
19	1 3/16"	5849A24	5.35
20	1 3/16"	5849A26	5.69
21	1 1/4"	5849A27	5.52
22	1 5/16"	5849A28	5.98
23	1 5/16"	5849A29	5.36
24	1 5/16"	5849A111	6.85
26	1 1/2"	5849A113	7.74

Size, mm	O'all Lg.		
6-Pt. Deep			
6	2 1/8"	5849A31	$6.73
7	2 1/8"	5849A32	6.73
8	2 1/8"	5849A33	6.73
9	2 1/8"	5849A34	6.85
10	2 1/8"	5849A35	6.85
11	2 1/8"	5849A36	6.85
12	2 1/8"	5849A37	6.85
13	2 1/8"	5849A38	6.85
14	2 1/8"	5849A39	7.20
15	2 3/4"	5849A41	7.20
16	2 3/4"	5849A42	6.73
17	2 3/4"	5849A43	7.20
18	2 3/4"	5849A44	7.73
19	2 3/4"	5849A45	8.24
20	2 3/4"	5849A74	8.89
21	2 3/4"	5849A75	9.18
22	2 3/4"	5849A76	9.89
23	2 3/4"	5849A77	11.65
24	2 7/8"	5849A2	10.62
25	2 7/8"	5849A3	10.72
26	2 7/8"	5849A68	12.00

Size, mm	O'all Lg.		
6-Pt. Flex			
10	1 3/4"	5849A91	$23.93
13	1 7/8"	5849A94	21.54
14	1 7/8"	5849A95	21.54
15	2"	5849A96	21.54
17	2"	5849A97	21.54
6-Pt. Spark Plug			
18	2 1/2"	5849A941	17.64
12-Pt. Standard			
6	1 1/8"	5849A78	4.99
7	1 1/8"	5849A79	4.99
8	1 1/8"	5849A25	4.88
9	1 1/8"	5849A46	4.99
10	1 1/8"	5849A47	4.83
11	1 1/8"	5849A48	4.87
12	1 1/8"	5849A49	4.94
13	1 1/8"	5849A51	4.99
14	1 1/8"	5849A52	5.15
15	1 1/8"	5849A53	5.15
16	1 1/8"	5849A54	5.15
17	1 1/8"	5849A55	5.24
18	1 3/16"	5849A56	5.24
19	1 3/16"	5849A57	5.25

Size, mm	O'all Lg.		
12-Pt. Standard (Cont.)			
20	1 3/16"	5849A58	$5.74
21	1 3/16"	5849A59	5.98
22	1 5/16"	5849A61	6.12
23	1 3/8"	5849A72	6.75
24	1 5/16"	5849A73	6.38
12-Pt. Deep			
6	2 1/2"	5849A4	6.74
7	2 1/2"	5849A5	6.74
8	2 1/8"	5849A6	6.74
9	2 1/2"	5849A7	6.90
10	2 1/2"	5849A8	6.90
11	2 1/2"	5849A9	6.90
12	2 1/2"	5849A62	6.90
13	2 1/8"	5849A64	6.90
14	2 1/2"	5849A65	7.31
15	2 1/2"	5849A67	7.31
16	2 1/2"	5849A69	7.31
17	2 1/2"	5849A71	7.31
18	2 1/2"	5849A82	7.78
19	2 1/2"	5849A83	8.36
20	2 9/16"	5849A84	8.94
21	2 1/2"	5849A85	9.88
22	2 1/2"	5849A86	11.07

Universal-Fit Sockets—Chrome-Plated Finish

Fit many sizes of inch and metric fasteners with one socket. Place over the fastener and 54 pins move to grip it securely. These sockets are not for use with impact or power tools.

For Fastener Sizes	O'all Lg.		
1/4"-3/4", 7 mm-19 mm	2"	5398A66	$15.22

3/8" Square Drive Tight-Clearance Offset Sockets

Also known as crowfoot wrenches, these sockets provide access to hard-to-reach fasteners and fittings. Made of chrome-plated steel. **Hex** and **12-point** sockets are for use with hex fasteners. The hex sockets prevent rounding. The 12-point sockets are easier to position but provide less surface contact.

Open-end sockets have the thinnest head. **Secure-grip** sockets, also known as flare-nut or line wrench sockets, are often used with flared tube fittings and fuel and hydraulic lines. **Ratcheting box-end** sockets allow you to use the ratchet to fasten and unfasten quickly.

Also Available: 1/4" square drive open-end inch sizes. Please ask for 1213A101 and specify size: 1/4", 5/16", 3/8", 7/16", 1/2", or 9/16".

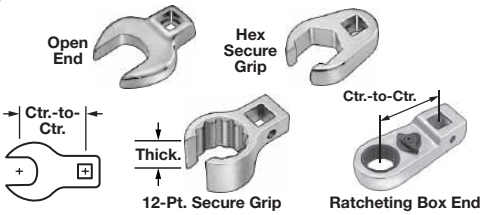

Sets

10-Pc. Inch Open-End Set—Includes 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", and 1" sizes on a metal clip rail.
5844A25 ... $116.87

7-Pc. Inch Hex Secure-Grip Set—Includes 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", and 3/4" sizes and a plastic tray.
7306A53 ... $189.34

8-Pc. Inch 12-Pt. Secure-Grip Set—Includes 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", and 1 1/16" sizes on a metal clip rail.
5845A21 ... $177.92

9-Pc. Inch 12-Pt. Ratcheting Box-End Set—Includes 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", and 3/4" sizes; 10" extension; and a plastic tray.
5844A36 ... $215.00

10-Pc. Metric Open-End Set—Includes 10, 11, 12, 13, 14, 15, 16, 17, 18, and 19 mm sizes on a metal clip rail.
5311A45 ... $115.44

Inch Sizes

Size	Thick.	Ctr.-to-Ctr.		
Open End				
3/8"	7/32"	3/4"	5844A11	$9.10
7/16"	7/32"	3/4"	5844A12	10.83
1/2"	17/64"	13/16"	5844A13	11.00
9/16"	17/64"	7/8"	5844A14	11.08
5/8"	11/32"	15/16"	5844A15	11.41
11/16"	11/32"	1 1/16"	5844A16	12.67
3/4"	11/32"	1 1/8"	5844A17	12.71
13/16"	11/32"	1 3/16"	5844A21	14.21
7/8"	3/8"	1 1/4"	5844A18	14.56
15/16"	5/16"	1 3/16"	5844A24	27.07
1"	3/8"	1 7/16"	5844A19	16.49
1 1/4"	5/16"	1 1/4"	5844A22	31.25
1 3/8"	5/16"	1 5/16"	5844A23	33.72
Hex Secure Grip				
3/8"	3/8"	9/16"	7306A31	22.36
7/16"	3/8"	9/16"	7306A32	22.36
1/2"	3/8"	9/16"	7306A33	25.00
9/16"	7/16"	3/4"	7306A34	26.34
5/8"	7/16"	3/4"	7306A35	28.86
3/4"	1/2"	13/16"	7306A37	34.19

Size	Thick.	Ctr.-to-Ctr.		
Hex Secure Grip (Cont.)				
13/16"	9/16"	7/8"	7306A38	$37.26
7/8"	9/16"	7/8"	7306A39	38.38
1"	5/8"	15/16"	7306A41	45.95
12-Pt. Secure Grip				
5/8"	11/16"	3/4"	5845A11	22.65
11/16"	11/16"	13/16"	5845A12	24.67
3/4"	23/32"	7/8"	5845A13	25.63
7/8"	3/4"	15/16"	5845A15	27.82
15/16"	3/4"	15/16"	5845A16	29.39
1"	25/32"	1 1/16"	5845A17	30.51
1 1/16"	25/32"	1 1/16"	5845A18	32.45
12-Pt. Ratcheting Box End				
5/16"	1/4"	13/16"	5844A27	25.06
3/8"	5/16"	15/16"	5844A28	24.38
7/16"	11/32"	15/16"	5844A29	25.06
1/2"	13/32"	15/16"	5844A31	27.68
9/16"	13/32"	17/16"	5844A32	29.25
5/8"	7/16"	15/8"	5844A33	31.00
11/16"	15/32"	15/8"	5844A34	31.57
3/4"	1/2"	1 3/4"	5844A35	34.07

Metric Sizes

Size	Thick.	Ctr.-to-Ctr.		
Open End				
10 mm	7/32"	11/16"	5311A31	$10.56
12 mm	1/4"	13/16"	5311A33	10.58
13 mm	17/64"	13/16"	5311A34	10.58
14 mm	17/64"	7/8"	5311A35	10.70

Size	Thick.	Ctr.-to-Ctr.		
Open End (Cont.)				
15 mm	5/16"	15/16"	5311A36	$10.70
16 mm	11/32"	15/16"	5311A37	11.07
17 mm	11/32"	1 1/16"	5311A38	13.56
18 mm	11/32"	1 1/16"	5311A39	12.07

Size	Thick.	Ctr.-to-Ctr.		
Open End (Cont.)				
19 mm	11/32"	1 1/8"	5311A41	$15.88
20 mm	1/4"	1 1/4"	5311A42	19.59
21 mm	23/64"	1 5/16"	5311A43	13.22
22 mm	3/8"	1 1/4"	5311A44	14.14

3/8" Square Drive Box-End Tight-Clearance Offset Sockets

Also known as torque adapters, these sockets have a 12-point shape that's easy to position on hex fasteners. Sockets are made of chrome-plated steel.



9-Pc. Set—Includes one each of sizes 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", and 7/8". Furnished on a metal bar.
55015A35 ... $139.23

Size	O'all Lg.		
3/8"	2 11/16"	55015A21	$15.81
7/16"	2 3/4"	55015A22	15.38
1/2"	2 13/16"	55015A23	15.81
9/16"	2 7/8"	55015A24	15.81
5/8"	2 7/8"	55015A25	$17.05
11/16"	2 15/16"	55015A26	17.67
3/4"	3"	55015A27	17.93
7/8"	3 1/16"	55015A29	22.41

3/8" Square Drive Bolt-Through Sockets

Turn hex nuts on bolts and threaded rod, which can pass right through these 6-point sockets. They require a bolt-through ratchet wrench (sold separately). Sockets are steel with a chrome-plated finish. Not for use with impact or power tools.

Also Available: Individual metric sockets. Please ask for 54485A39 and specify size: 10, 12, 13, 14, 15, 16, or 17 mm.



21-Pc. Set— Includes 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4" sockets; 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm sockets; 12" long ratchet wrench; 3" long extension; 1/4" and 3/8" sq. adapters; and a plastic case.
54485A8 ... $85.07

Individual Sockets

Size	O'all Lg.		
3/8"	1 5/16"	54485A11	$2.18
7/16"	1 5/16"	54485A12	2.18
1/2"	1 5/16"	54485A13	2.18
9/16"	1 5/16"	54485A14	2.18
5/8"	1 5/16"	54485A15	$2.85
11/16"	1 5/16"	54485A16	2.91
3/4"	1 5/16"	54485A17	2.99

Ratchet Wrench

12" Flex-Head Ratchet Wrench ... 54485A33 $48.64

Insulated Sockets and Accessories

These plastic-coated steel sockets are insulated to protect against accidental contact with live electrical circuits. They are tested to 1,000 volts to meet IEC 60900. The 12-point shape is easy to position on hex fasteners. Sockets are not for use with impact or power tools.



3/8" Square Drive 12-Point Sockets

Size	O'all Lg.		
5/16"	11/16"	55445A31	$31.16
3/8"	11/16"	55445A32	31.16
7/16"	11/16"	55445A33	31.16
1/2"	1 1/4"	55445A34	31.58
9/16"	1 1/4"	55445A35	33.20
5/8"	1 1/4"	55445A36	$34.82
11/16"	1 1/4"	55445A37	36.84
3/4"	1 1/4"	55445A38	40.48
13/16"	1 1/4"	55445A39	45.74
7/8"	1 1/4"	55445A41	48.58

Ratchet and Accessories for 3/8" Square Drive Sockets

Ratchet Wrench—7 1/2" Lg.; 5° turn to ratchet ... 55445A44 ... $133.38
5" Extension ... 55445A42 ... 36.22
10" Extension ... 55445A43 ... 47.56
3/8" Female x 1/4" Male Adapter ... 55445A58 ... 56.78
3/8" Female x 1/2" Male Adapter ... 55445A56 ... 57.88

Socket Adapter Sets

Adapters are chrome-plated steel, except for impact adapters, which have a black finish. Furnished on a metal clip rail. **Manual-drive** set is not for use with impact or power tools. **Combination** set has manual and impact adapters.



6-Pc. Manual-Drive Set—Includes female x male square-drive adapters in sizes 1/4" x 3/8", 3/8" x 1/4", 3/8" x 1/2", 1/2" x 3/8", 1/2" x 3/4", and 3/4" x 1/2".
55805A43 ... $55.91

10-Pc. Combination Set—Includes female x male square-drive manual-drive adapters in sizes 1/4" x 3/8", 3/8" x 1/4", 3/8" x 1/2", 1/2" x 3/8", and 1/2" x 3/4"; flex manual-drive adapters in sizes 1/4" and 3/8"; and flex impact adapters in sizes 1/4", 3/8", and 1/2".
55805A45 ... $140.35

3/8" and 1/2" Square Drive Ratchet Wrenches

Wrenches are made of steel, except fingertip style is rubber-coated plastic.

Silent—Because this wrench does not have teeth, it does not make the traditional "click" sound when turned. It uses a series of rollers to engage the ratchet.

Quick Release—Push a button to release the socket with one hand. These wrenches are good for applications where your sockets may get wet or oily.

Sealed Head—A gasket seals in permanent lubrication and keeps out contaminants such as dust, dirt, and moisture.

Fast Driving—Rotate the grip of the handle to rapidly turn the socket or use like a traditional ratchet wrench.

Flex and Offset Flex Head—The head pivots up to 90° in either direction for access to tight spots.

Note: The smaller the turn to ratchet angle, the less clearance needed to engage the ratchet.

Ratchet Wrenches



Standard Oval Head

O'all Lg.	Turn to Ratchet	Chrome Plated		Black	
3/8" Square Drive					
7"	5°	53035A13	$36.05	53165A62★	$31.41
11"	5°	53035A16	41.46	53165A12★	36.48
1/2" Square Drive					
10"	15°	53155A23	49.00	53125A81	43.77
16"	15°	53155A24	54.83	53125A82	51.99

★ Turn to ratchet is 15°.



Standard Round Head

O'all Lg.	Turn to Ratchet	Chrome Plated	
3/8" Square Drive			
4 3/4"	5°	53035A21	$34.67
1/2" Square Drive			
10 1/2"	10°	7199A11	62.80



Plastic Cushion Grip

O'all Lg.	Turn to Ratchet	Chrome Plated	
3/8" Square Drive			
11 1/2"	10°	5393A13	$48.96



Rubber Cushion Grip

O'all Lg.	Turn to Ratchet	Chrome Plated	
3/8" Square Drive			
7 1/8"	5°	5846A74	$43.81
1/2" Square Drive			
10 1/2"	5°	7308A56	60.57



Adjustable Length

O'all Lg.	Turn to Ratchet	Chrome Plated	
3/8" Square Drive			
8 3/4"-12 5/8"	5°	53035A2	$30.59
1/2" Square Drive			
12"-17 1/4"	5°	53155A7	36.58



Tapered Handle

O'all Lg.	Turn to Ratchet	Black	
1/2" Square Drive			
14"	10°	5747A12	$52.58



Female Drive

O'all Lg.	Turn to Ratchet	Chrome Plated	
3/8" Square Drive			
7"	15°	54205A22	$39.64
1/2" Square Drive			
16"	15°	54715A16	64.60



Silent

O'all Lg.	Turn to Ratchet	Chrome Plated	
3/8" Square Drive			
7 7/8"	0°	7031A34	$101.50



Fingertip

O'all Lg.	Turn to Ratchet	Rubber Coated	
3/8" Square Drive			
2 5/8"	20°	53725A72	$70.02



Quick Release

O'all Lg.	Turn to Ratchet	Chrome Plated	
3/8" Square Drive			
7 5/8"	10°	5835A15	$26.68
1/2" Square Drive			
10 3/8"	10°	5823A2	38.77



Sealed Head

O'all Lg.	Turn to Ratchet	Chrome Plated	
3/8" Square Drive			
8"	5°	5395A15	$37.01
10 1/4"	10°	5395A17	35.38
1/2" Square Drive			
10 1/2"	10°	5426A21	66.00
15"	10°	5426A23	50.55



Fast Driving

O'all Lg.	Turn to Ratchet	Chrome Plated	
3/8" Square Drive			
8 7/8"	5°	7438A11	$40.14

Flex-Head Ratchet Wrenches



Flex Head

O'all Lg.	Turn to Ratchet	Chrome Plated	
3/8" Square Drive			
5 1/2"	5°	53035A32■	$56.11
6 1/4"	5°	5816A3	88.17
9 1/2"	10°	5095A16	54.24
10 3/4"	5°	5749A61■	61.13
1/2" Square Drive			
14 1/4"	10°	5169A27	62.27

■ Head shape is round.



Offset Flex Head

O'all Lg.	Turn to Ratchet	Chrome Plated	
3/8" Square Drive			
10"	5°	6729A54	$146.19



Quick-Release Flex Head

O'all Lg.	Turn to Ratchet	Chrome Plated	
3/8" Square Drive			
11 3/8"	10°	5749A11	$49.02
1/2" Square Drive			
17 1/8"	5°	53205A14■	69.36

■ Head shape is round.

3/8" and 1/2" Square Drive Handles and Screwdriver-Style Handles


Flex Head

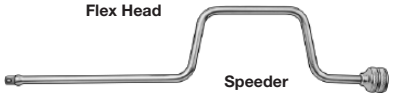
Speeder

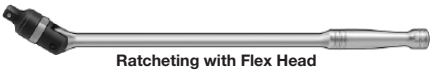
Ratcheting with Flex Head


Screwdriver-Style Handle


Sliding T


Adjustable Length with Flex Head

These quality tools are made of chrome-plated steel, unless noted. Ratcheting handles have a 15° turn to ratchet.

	O'all Lg.		
3/8" Square Drive			
Flex Head	7 7/8"	5522A17	$21.35
Flex Head	12"	5522A42	27.47
Flex Head with Black Finish	8 1/2"	55315A49	20.28
Flex Head with Rubber Grip	9 3/4"	5522A53	30.67
Ratcheting with Flex Head	17"	5522A22	31.19
Sliding T	8"	5522A15	18.65
Speeder	17"	5522A11	20.30
Screwdriver-Style Handle	5 1/2"	5522A51	8.12
Screwdriver-Style Handle	7 1/4"	5522A77	11.48
1/2" Square Drive			
Flex Head	10 7/8"	5523A14	32.40
Flex Head	15 3/4"	5523A44	40.77

	O'all Lg.		
1/2" Square Drive (Cont.)			
Flex Head	18 5/8"	5523A15	$43.57
Flex Head	24"	5523A48	46.08
Flex Head with Black Finish	10 7/8"	55435A44	25.73
Flex Head with Black Finish	18 3/8"	55435A41	41.17
Flex Head with Rubber Grip	18"	5523A45	59.79
Ratcheting with Flex Head	24"	5523A21	39.31
Adjustable Lg. with Flex Head	15", 21", 25"	5523A22	59.98
Sliding T	13"	5523A13	24.43
Speeder	13 5/8"	5523A11	21.03
Speeder	17"	5523A12	31.61

3/8" and 1/2" Square Drive Accessories

Made of chrome-plated steel, unless noted.

Screwdriver Bit Sockets

The 11/16" to 1 1/4" sizes are also known as drag link bits.


Slotted


Phillips


Pozidriv®

Size	O'all Lg.		
Slotted			
3/8" Square Drive			
1/4"	2 5/8"	51395A38	$12.15
5/16"	2 5/8"	51395A39	12.15
3/8"	2 5/8"	51395A41	13.42
11/16"	1 1/8"	51395A42	11.62
1/2" Square Drive			
5/16"	3"	55085A21	17.04
3/8"	3"	55085A22	15.33
7/16"	3 3/16"	55085A23 ♠	14.93
1/2"	3 3/16"	55085A24 ♠	15.13
3/4"	1 5/8"	55085A31	10.29
15/16"	1 5/8"	55085A32	11.09
1 1/4"	1 5/8"	55085A33	12.42

♠ Black finish.

Size	O'all Lg.		
Phillips			
3/8" Square Drive			
No. 1	2 1/16"	51395A43	$11.59
No. 2	2 1/16"	51395A44	11.59
No. 3	2"	51395A45	11.59
No. 4	2 1/16"	51395A46	14.58
1/2" Square Drive			
No. 2	2 7/16"	55085A27	13.35
No. 3	2 7/16"	55085A28	13.50
No. 4	2 7/16"	55085A29	14.03
Pozidriv®			
3/8" Square Drive			
No. 2	1 11/16"	51395A48	8.30

Hex Insert Bit Holders—Unfinished



For Bit Hex Shank Size	O'all Lg.		
3/8" Square Drive			
1/4"	1 1/4"	7229A44	$4.26
1/4"	2 1/8"	7229A62 ♦	20.35
5/16"	1 1/4"	7229A46	4.32
1/2" Square Drive			
5/16"	1 1/2"	7229A56	7.23

♦ Magnetic.

3/8" Square Drive Secure-Hold Extensions

Pull the collar to release the socket.



O'all Lg.		
3"	6339A21	$8.31
6"	6339A22	12.30

O'all Lg.		
10"	6339A23	$13.00

3-Pc. Set—Includes 3", 6", and 10" secure-hold extensions.
6339A24 ..... $30.14

3/8" Square Drive Flexible Extensions

Made of chrome-plated steel.



O'all Lg.		
8"	5522A43	$14.26
11"	5522A44	15.40

Adapters

Convertible adapter can be used as 3/8" F x 1/2" M or 1/2" F x 3/8" M. Push the square drive through the adapter to change size and gender. **Ratchet** adapters convert standard handles to ratchet handles. Not for use with impact or power tools.


Female × Male


Convertible


Ratchet


Flex

	O'all Lg.		
3/8" Square Drive			
3/8" sq. F x 1/4" sq. M	1"	5522A41	$7.78
3/8" sq. F x 1/4" sq. M	1 1/8"	55315A21 ♠	4.92
3/8" sq. F x 1/2" sq. M	1 5/16"	55315A22 ♠	8.63
3/8" sq. F x 1/2" sq. M	1 3/8"	5522A33	6.31
Convertible	2 3/4"	5522A21	8.70
Ratchet	2 1/16"	5526A2	41.52
Flex	2"	5522A28	17.35
1/2" Square Drive			
1/2" sq. F x 3/8" sq. M	1 3/8"	5523A54	8.05
1/2" sq. F x 3/8" sq. M	5"	55435A65 ♠	13.19
1/2" sq. F x 3/4" sq. M	1 11/16"	5523A38	10.52
1/2" sq. F x 3/4" sq. M	1 15/16"	55435A42 ♠	7.67
Ratchet	2 11/16"	5523A18	48.61
Flex	2 11/16"	5523A19	23.09

♠ Black finish.

Extensions


Standard

Wobble—Allows up to a 16° angled entry.

	Standard			*Wobble*
O'all Lg.	Chrome Plated	Black		Chrome Plated
3/8" Square Drive				
1 3/4"	5522A18 $5.69	55315A54	$5.25	5848A21 $5.99
3"	5522A19 8.71	55315A55	8.16	5848A14 9.59
6"	5522A23 10.52	55315A56	10.30	5848A11 12.19
8"	5522A38 11.33	55315A57	11.23	5848A22 13.14
12"	5522A24 12.74	55315A58	12.44	5848A12 14.69
17 3/16"	5522A25 16.61			5848A23 17.84
24"	5522A26 31.07			
34"	5522A39 52.39			
1/2" Square Drive				
2 1/2"	5523A27 9.63	55435A51	9.44	5523A71 10.87
5"	5523A28 12.47	55435A52	12.48	5523A72 13.29
10"	5523A29 16.06	55435A53	15.84	5523A73 17.58
20"	5523A33 26.67			5523A74 27.48
36"	5523A41 44.25			

3-Pc. 3/8" Sq. Drive Set—Includes 3", 6", and 12" standard chrome-plated extensions.
5522A54 ..... $32.08

3-Pc. 1/2" Sq. Drive Set—Includes 2", 5", and 10" standard chrome-plated extensions.
5523A82 ..... $29.60

1/2" Square Drive Socket Sets

For information about drive size, see page 2776.

3/8" and 1/2" Square Drive Fingertip Socket Spinners



Fit these adapters between your wrench and socket to allow finger tightening. Made of chrome-plated steel. They're not for use with impact or power tools.

Square Drive	Head Dia.	O'all Lg.		
3/8"	1 7/16"	1 1/2"	5522A27	$12.74
1/2"	1 13/16"	1 9/16"	5523A26	18.33

1/2" Square Drive Socket Sets



5573A13



5880A22

Furnished in convenient sets, sockets are chrome-plated steel. Not for use with impact or power tools.

Premium sets are the finest tools available. All have gone through additional machining, grinding, and/or polishing for a superior fit and finish.

Value sets are high-quality tools offered at an economical price.

Economy set is imported.

Pcs.	Sizes	Accessories	
Premium Sets, Inch			
15	**6-pt. standard:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 3/16", 1 1/4"	Metal Clip Rail	5573A13 $115.88
18	**6-pt. standard:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 3/16", 1 1/4"	10 1/2" Ratchet Wrench; 17" Flex-Head Wrench Handle; 5" Extension; Plastic Case	5573A17 $230.57
11	**6-pt. deep:** 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8"	Metal Clip Rail	5573A2 $102.65
29	**6-pt. standard:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4" **6-pt. deep:** 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8"	10 1/2" Ratchet Wrench; 17" Flex-Head Wrench Handle; 5" and 10" Extension; Metal Case	5573A19 $462.30
10	**8-pt. standard:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 1"	Metal Clip Rail	5573A26 $97.57
15	**12-pt. standard:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 3/16", 1 1/4"	Metal Clip Rail	5573A29 $113.09
18	**12-pt. standard:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4"	10 1/2" Ratchet Wrench; 17" Flex-Head Wrench Handle; 2 11/16" Flex Adapter; 5" Extension; Metal Case	5572A6 $260.93
11	**12-pt. deep:** 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8"	Metal Clip Rail	5573A4 $123.81
30	**12-pt. standard:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4" **12-pt. deep:** 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4"	10 1/2" Ratchet Wrench; 17" Flex-Head Wrench Handle; 5" and 10" Extension; Plastic Case	5573A15 $388.96
Value Sets, Inch			
14	**12-pt. standard:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4"	Metal Clip Rail	55155A33 $64.59
17	**6-pt. standard:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4" **12-pt. standard:** 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4"	9 7/8" Ratchet Wrench; 15 1/2" Flex-Head Wrench Handle; 6" Extension; Metal Clip Rail	55155A48 $90.85
26	**6-pt. standard:** 7/16", 1/2", 9/16", 5/8", 11/16", 3/4" **12-pt. standard:** 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4" **12-pt. deep:** 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1"	9 7/8" Ratchet Wrench; 15 1/2" Flex-Head Wrench Handle; 2 11/16" Flex Adapter; 5" Extension; Metal Clip Rail	55155A52 $146.31
Economy Set, Inch			
17	**12-pt. standard:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4"	10" Ratchet Wrench; 17 3/4" Flex-Head Wrench Handle; 5" Extension; Plastic Case	5880A22 $46.53
Premium Sets, Metric			
15	**6-pt. standard:** 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 mm	Metal Clip Rail	7256A5 $107.74
13	**6-pt. deep:** 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 mm	Plastic Tray	7256A8 $373.75
15	**12-pt. standard:** 10, 13, 14, 15, 17, 18, 19, 20, 22, 23, 24, 26, 27, 30, 32 mm	Metal Clip Rail	7256A21 $101.45
20	**12-pt. standard:** 10, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 30, 32, 36 mm	10 1/2" Ratchet Wrench, 17" Flex-Head Wrench Handle, 5" Extension; Metal Case	53195A74 $312.49
17	**12-pt. deep:** 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 27, 30, 32 mm	Metal Clip Rail	7256A11 $213.11
Value Sets, Metric			
15	**12-pt. standard:** 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 22, 24, 27, 30, 32 mm	Metal Clip Rail	56285A29 $58.37
23	**12-pt. standard:** 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 30, 32 mm	10 5/16" Ratchet Wrench, 15" Flex-Head Wrench Handle, 6" and 10" Extension; Metal Case	56285A27 $180.14

½" Square Drive Sockets

Sockets are premium quality and made of steel. Not for use with impact or power tools. **Spark plug sockets** have a rubber insert that grips the plug's insulator to prevent damage.

5-point socket is for use with water and gas valves. **6-point** and **12-point sockets** are for use with hex fasteners. The 6-point sockets prevent rounding on fasteners. The 12-point sockets are easier to position. **8-point sockets** are for use with square fasteners.

Also Available: 12-pt. flex sockets. For chrome-plated finish, please ask for 5545A34 and specify size: ½", 9/16", 5/8", 11/16", or 3/4". For black finish, please ask for 5491A11 and specify size: ½", 9/16", 5/8", or 3/4".

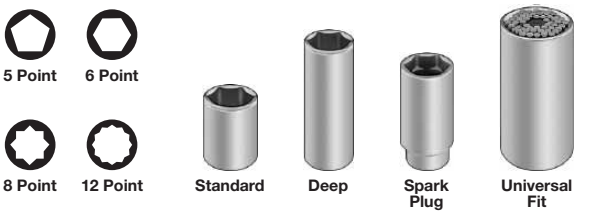

Inch Sizes—Chrome-Plated Finish, unless noted

Size	O'all Lg.		
6-Pt. Standard			
3/8"	1½"	5545A11	$6.14
7/16"	1½"	5545A12	6.19
½"	1½"	5545A13	6.32
9/16"	1½"	5545A14	6.43
19/32"	1½"	5545A15	6.07
5/8"	1½"	5545A16	6.50
11/16"	1½"	5545A18	7.06
3/4"	1½"	5545A19	7.27
25/32"	1½"	5545A21	6.44
13/16"	1½"	5545A22	7.69
7/8"	1 9/16"	5545A23	7.89
15/16"	1 9/16"	5545A24	8.43
1"	1 9/16"	5545A25	9.05
1 1/16"	1 11/16"	5545A26	10.23
1 1/8"	1¾"	5545A27	11.53
1 3/16"	1¾"	5545A17	13.22
1 1/4"	1 7/8"	5545A28	14.21
1 5/16"	1¾"	5545A271	16.15
1 3/8"	2"	5545A272	22.05
1 7/16"	2 1/8"	5545A273	21.01
1½"	2¼"	5545A274	22.67
1 9/16"	2¼"	5545A29	22.95
6-Pt. Deep			
3/8"	3¼"	5545A278	10.82
7/16"	3 1/16"	5545A294	13.32
½"	3¼"	5545A281	10.95
9/16"	3¼"	5545A282	11.15
5/8"	3¼"	5545A283	$11.19
11/16"	3¼"	5545A284	11.35
3/4"	3¼"	5545A285	11.65
13/16"	3¼"	5545A286	11.79
7/8"	3¼"	5545A287	12.66
15/16"	3¼"	5545A288	13.53
15/16"	6¼"	55375A41★	40.00
1"	3¼"	5545A289	14.15
1 1/16"	3¼"	5545A291	14.17
1 1/16"	6¼"	55375A42★	46.00
1 1/8"	3¼"	5545A292	14.40
1 1/8"	6¼"	55375A43★	48.00
1 3/16"	3¼"	5545A331	19.48
1 1/4"	3¼"	5545A295	20.30
1 1/4"	6½"	55375A44★	49.97
1 5/16"	3½"	5545A296	23.45
1 3/8"	3½"	5545A297	25.73
1 7/16"	3½"	5545A298	27.98
1½"	3½"	5545A299	33.02
6-Pt. Spark Plug			
5/8"	2½"	5545A851	10.00
13/16"	2¾"	5545A852	10.67
7/8"	2 5/8"	5545A853	22.34
8-Pt. Standard			
3/8"	1½"	5545A293	6.70
7/16"	1½"	5545A31	6.76
½"	1½"	5545A32	6.82
9/16"	1½"	5545A45	$6.86
5/8"	1½"	5545A46	6.88
11/16"	1½"	5545A68	7.52
3/4"	1½"	5545A69	8.22
13/16"	1 5/8"	5545A83	10.04
7/8"	1¾"	5545A84	10.54
15/16"	1 13/16"	5545A95	11.84
1"	1 15/16"	5545A96	12.66
1 1/16"	1 15/16"	5545A97	14.12
1 1/8"	2"	5545A98	14.82
1 1/4"	2"	5545A99	17.72
12-Pt. Standard			
3/8"	1½"	5545A47	5.80
7/16"	1½"	5545A48	6.14
½"	1½"	5545A49	6.18
9/16"	1½"	5545A51	6.27
19/32"	1½"	5545A52	6.38
5/8"	1½"	5545A53	6.52
11/16"	1½"	5545A55	6.85
3/4"	1½"	5545A56	6.95
25/32"	1½"	5545A57	7.03
13/16"	1½"	5545A58	7.63
7/8"	1 9/16"	5545A59	7.82
15/16"	1 9/16"	5545A61	8.25
1"	1 9/16"	5545A63	8.78
1 1/16"	1 5/8"	5545A64	9.93
1 1/8"	1¾"	5545A65	11.27
1 3/16"	1¾"	5545A66	$12.84
1 1/4"	1 7/8"	5545A67	13.79
1 5/16"	1 7/8"	5545A91	15.92
1 3/8"	2"	5545A92	18.05
1 7/16"	2 1/8"	5545A93	20.41
1½"	2¼"	5545A94	22.19
12-Pt. Deep			
3/8"	3 3/16"	5545A711	11.75
7/16"	3 3/16"	5545A712	11.75
½"	3¼"	5545A71	10.74
9/16"	3¼"	5545A72	10.83
5/8"	3¼"	5545A73	10.98
11/16"	3¼"	5545A74	11.05
3/4"	3¼"	5545A75	11.21
25/32"	3¼"	5545A827	10.30
13/16"	3¼"	5545A76	11.79
7/8"	3¼"	5545A77	12.53
15/16"	3¼"	5545A78	13.17
1"	3¼"	5545A79	13.88
1 1/16"	3¼"	5545A81	15.31
1 1/8"	3¼"	5545A82	16.53
1 3/16"	3¼"	5545A826	17.71
1 1/4"	3¼"	5545A821	19.53
1 5/16"	3½"	5545A822	23.70
1 3/8"	3½"	5545A823	26.01
1 7/16"	3½"	5545A824	29.12
1½"	3½"	5545A825	33.02

★ Zinc-plated finish.

Inch Sizes—Black Finish

Size	O'all Lg.		
5-Pt. Standard			
13/16"	2"	5491A35	$16.74
12-Pt. Standard			
3/8"	1½"	5491A51	5.66
½"	1½"	5491A53	5.90
9/16"	1½"	5491A54	5.98
5/8"	1½"	5491A56	6.28
3/4"	1½"	5491A59	6.69
13/16"	1½"	5491A62	7.33
7/8"	1 9/16"	5491A63	$7.52
15/16"	1 9/16"	5491A65	7.98
1"	1 9/16"	5491A67	7.53
1 1/16"	1 5/8"	5491A68	9.55
1 1/8"	1¾"	5491A69	10.76
1 1/4"	1 11/16"	5491A72	13.28
1 5/16"	1¾"	5491A73	15.33
1 3/8"	2"	5491A74	18.14
1 7/16"	2 1/8"	5491A75	$19.62
1½"	2¼"	5491A76	21.20
12-Pt. Deep			
9/16"	3¼"	5491A82	10.42
11/16"	3¼"	5491A84	10.63
3/4"	3¼"	5491A85	10.79
13/16"	3¼"	5491A86	11.12
7/8"	3¼"	5491A87	11.87
12-Pt. Deep (Cont.)			
15/16"	3¼"	5491A88	$12.68
1"	3¼"	5491A89	13.35
1 1/16"	3¼"	5491A91	14.73
1 1/8"	3¼"	5491A92	15.92
1 1/4"	3¼"	5491A93	18.20
1 5/16"	3 1/16"	5491A28	27.14
1½"	3 1/16"	5491A32	34.23

Metric Sizes—Chrome-Plated Finish

Size, mm	O'all Lg.		
6-Pt. Standard			
10	1½"	7149A52	$6.54
11	1½"	7149A53	6.54
12	1½"	7149A54	6.54
13	1½"	7149A55	6.54
14	1½"	7149A56	6.54
15	1½"	7149A57	6.54
16	1½"	7149A58	6.54
17	1½"	7149A59	6.96
18	1½"	7149A81	6.96
19	1½"	7149A62	6.96
20	1½"	7149A63	7.63
21	1½"	7149A64	7.70
22	1 9/16"	7149A65	7.81
23	1 9/16"	7149A66	8.58
24	1 9/16"	7149A67	8.63
25	1 9/16"	7149A68	9.25
26	1 5/8"	7149A69	10.20
27	1 11/16"	7149A82	10.20
28	1 13/16"	7149A86	10.98
29	1 13/16"	7149A87	12.40
30	1 13/16"	7149A83	12.97
31	1 13/16"	7149A88	$14.46
32	1 7/8"	7149A84	15.24
34	2 1/4"	7149A94	15.41
6-Pt. Deep			
10	3⅛"	7149A121	7.79
13	3⅛"	7149A124	7.99
14	3⅛"	7149A125	8.91
17	3⅛"	7149A128	9.17
18	3⅛"	7149A129	9.17
19	3⅛"	7149A131	7.99
22	3⅛"	7149A134	11.89
24	3⅛"	7149A136	13.80
30	3¼"	7149A142	62.30
32	3¼"	7149A143	66.87
12-Pt. Standard			
9	1½"	7149A61	8.48
10	1½"	7149A11	6.54
11	1½"	7149A12	6.54
12	1½"	7149A13	6.54
13	1½"	7149A14	6.54
14	1½"	7149A15	6.54
15	1½"	7149A16	$6.54
16	1½"	7149A17	6.54
17	1½"	7149A18	7.08
18	1½"	7149A19	7.08
19	1½"	7149A21	7.08
20	1½"	7149A22	7.63
21	1½"	7149A23	7.79
22	1 9/16"	7149A24	8.01
23	1 9/16"	7149A25	8.59
24	1 9/16"	7149A26	8.78
25	1 9/16"	7149A27	9.46
26	1 5/8"	7149A28	10.20
27	1 11/16"	7149A29	10.39
28	1 13/16"	7149A31	11.40
29	1 13/16"	7149A32	12.28
30	1 13/16"	7149A33	12.72
31	1 13/16"	7149A34	14.47
32	1 7/8"	7149A35	15.24
34	2 1/16"	7149A37	17.76
36	2 1/4"	7149A39	19.29
38	2 1/4"	7149A93	19.55
12-Pt. Deep			
10	3 1/4"	7149A71	$10.99
11	3 1/4"	7149A72	11.03
12	3 1/4"	7149A73	11.07
13	3 1/4"	7149A74	10.57
14	3 1/4"	7149A75	10.81
15	3 1/4"	7149A76	10.90
16	3 1/4"	7149A41	11.37
17	3 1/4"	7149A42	11.48
18	3 1/4"	7149A43	11.40
19	3 1/4"	7149A44	11.47
20	3 1/4"	7149A45	12.44
21	3 1/4"	7149A46	12.66
22	3 1/4"	7149A47	13.19
23	3 1/4"	7149A85	14.40
24	3 1/4"	7149A48	13.82
25	3 1/4"	7149A49	14.68
26	3 1/4"	7149A51	15.90
27	3 1/4"	7149A77	15.73
28	3 1/4"	7149A91	16.75
29	3 1/4"	7149A92	17.59
30	3 1/4"	7149A78	16.55
32	3 1/4"	7149A79	19.39

Universal-Fit Sockets—Chrome-Plated Finish

Fit many sizes of inch and metric fasteners with one socket. Place over the fastener and 54 pins move to grip it securely.

For Fastener Sizes	O'all Lg.		
7/16"-1 1/4"; 11 mm-32 mm	3½"	6021A11	$35.60

1/2" & 3/4" Square Drive Sockets

For information about drive size, see page 2776.

1/2" Square Drive Tight-Clearance Offset Sockets

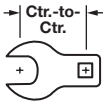





Also known as crowfoot wrenches, these sockets provide access to hard-to-reach fasteners and fittings. Made of chrome-plated steel. **Open-end** sockets have head thicknesses from 13/32" to 39/64". **Secure-grip** sockets are for flared tube fittings as well as for fuel and hydraulic lines. Head thickness ranges from 29/32" to 1 3/32".

Sets

7-Pc. Open-End Set—Includes 15/16", 1", 1 1/16", 1 1/8", 1 1/4", 1 7/16", and 1 1/2" sizes on a metal clip rail.
5831A41 ..... $137.20

8-Pc. 12-Pt. Secure-Grip Set—Includes 1 1/8", 1 1/4", 1 5/16", 1 3/8", 1 1/2", 1 5/8", 1 3/4", and 2" sizes on a metal clip rail.
5832A31 ..... $302.33

Individual Sockets

Size	Ctr.-to-Ctr.		
Open End			
15/16"	1 3/4"	**5831A11**	$29.17
1"	1 13/16"	**5831A12**	18.95
1 1/16"	1 3/4"	**5831A13**	29.17
1 1/8"	1 13/16"	**5831A14**	29.17
1 3/16"	1 3/4"	**5831A31**	54.72
1 1/4"	1 11/16"	**5831A15**	19.85
1 5/16"	2"	**5831A16**	62.57
1 3/8"	2"	**5831A22**	63.65
1 7/16"	2"	**5831A17**	43.73
1 1/2"	2"	**5831A18**	43.73
1 9/16"	2"	**5831A42**	60.03
1 5/8"	2"	**5831A19**	87.75
1 11/16"	2 1/4"	**5831A43**	64.65
Open End (Cont.)			
1 3/4"	2 3/16"	**5831A21**	$87.75
1 13/16"	2 1/4"	**5831A44**	68.65
1 7/8"	2 3/16"	**5831A32**	95.33
2"	2 1/4"	**5831A33**	100.75
2 1/8"	2 1/4"	**5831A45**	77.48
2 1/4"	2 1/2"	**5831A46**	80.94
2 3/8"	2 1/2"	**5831A47**	84.96
2 7/16"	2 1/2"	**5831A48**	84.96
2 1/2"	2 1/2"	**5831A49**	86.70
12-Pt. Secure Grip			
1 1/8"	1 3/16"	**5832A11**	32.21
1 3/16"	1 3/16"	**5832A23**	32.77
1 1/4"	1 1/4"	**5832A12**	32.88
12-Pt. Secure Grip (Cont.)			
1 5/16"	1 5/16"	**5832A24**	$35.88
1 3/8"	1 5/16"	**5832A14**	38.23
1 7/16"	1 3/8"	**5832A25**	39.02
1 1/2"	1 3/8"	**5832A16**	40.56
1 9/16"	1 7/16"	**5832A26**	44.42
1 5/8"	1 1/2"	**5832A17**	45.90
1 11/16"	1 9/16"	**5832A27**	46.42
1 3/4"	1 9/16"	**5832A19**	47.77
1 13/16"	1 5/8"	**5832A28**	48.33
1 7/8"	1 11/16"	**5832A21**	48.73
1 15/16"	1 11/16"	**5832A29**	61.50
2"	1 3/4"	**5832A22**	65.65

3/4" Square Drive Socket Sets





All of the sockets are chrome-plated steel. Not for use with impact or power tools. Made in the U.S.A. **Premium sets** are the finest tools available. All have gone through additional machining, grinding, and/or polishing for a superior fit and finish. **Value set** has high-quality tools offered at an economical price.

Pcs.	Sizes	Accessories		
Premium Sets, Inch				
11	**6-pt. deep:** 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4", 1 5/16", 1 3/8", 1 7/16", 1 1/2", 1 5/8"	Metal Clip Rail	**7220A21**	$266.69
20	**12-pt. standard:** 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4", 1 5/16", 1 3/8", 1 7/16", 1 1/2", 1 5/8", 1 11/16", 1 3/4", 1 13/16", 1 7/8", 2"	19" Ratchet; 22" Flex-Head Handle; 8" and 16" Extension; Metal Case	**7220A34**	$751.58
29	**12-pt. standard:** 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 3/16", 1 1/4", 1 5/16", 1 3/8", 1 7/16", 1 1/2", 1 9/16", 1 5/8", 1 11/16", 1 3/4", 1 13/16", 1 7/8", 2", 2 1/8", 2 3/16", 2 1/4", 2 3/8"	20" Ratchet; 18" Sliding-Head Handle; 20" Flex-Head Handle; 3 5/8" Flex Adapter; 4", 8", and 16" Extension; Metal Case	**7219A28**	$1,114.11
Value Set, Inch				
15	**12-pt. standard:** 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 3/16", 1 1/4", 1 5/16", 1 3/8", 1 7/16", 1 1/2", 1 9/16", 1 5/8"	20" Ratchet; 8" Extension; Metal Case	**5805A52**	$355.61
Premium Sets, Metric				
13	**12-pt. standard:** 19, 20, 22, 24, 27, 30, 32, 36, 41, 46, 50, 55, 60 mm	Metal Clip Rail	**8362A11**	$372.37
19	**12-pt. standard:** 24, 25, 26, 27, 28, 29, 30, 31, 32, 35, 36, 38, 41, 42, 46 mm	20" Ratchet; 20" Flex-Head Handle; 8" and 16" Extension; Metal Case	**8362A21**	$636.40
12	**12-pt. deep:** 22, 23, 24, 27, 30, 32, 35, 36, 38, 41, 46, 50 mm	Metal Clip Rail	**8362A16**	$389.96

3/4" Square Drive Sockets









These premium quality sockets are chrome-plated steel. Not for use with impact or power tools. **6-point** and **12-point sockets** are for use with hex fasteners. The 6-point sockets prevent rounding on hex fasteners. The 12-point sockets are easier to position.

Inch Sizes

Size	O'all Lg.		
6-Pt. Deep			
3/4"	3 1/2"	**5547A53**	$26.44
13/16"	3 1/2"	**5547A54**	26.62
7/8"	3 1/2"	**5547A55**	24.28
15/16"	3 1/2"	**5547A56**	24.98
1"	3 1/2"	**5547A57**	25.39
1 1/16"	3 1/2"	**5547A58**	27.11
1 1/8"	3 1/2"	**5547A59**	32.53
1 3/16"	3 1/2"	**5547A61**	33.28
1 1/4"	3 1/2"	**5547A62**	29.00
1 5/16"	3 1/2"	**5547A63**	32.80
1 3/8"	3 1/2"	**5547A64**	38.58
1 7/16"	3 1/2"	**5547A65**	38.11
1 1/2"	3 1/2"	**5547A66**	41.35
1 5/8"	3 1/2"	**5547A67**	43.45
12-Pt. Standard			
3/4"	1 15/16"	**5547A51**	$15.54
13/16"	1 15/16"	**5547A52**	15.54
7/8"	2"	**5547A11**	15.79
15/16"	2"	**5547A12**	15.47
31/32"	2"	**5547A13**	15.49
1"	2"	**5547A14**	16.06
1 1/16"	2 1/8"	**5547A15**	16.15
1 1/8"	2 1/8"	**5547A16**	15.82
1 3/16"	2 3/16"	**5547A17**	16.46
1 1/4"	2 3/16"	**5547A18**	17.46
1 5/16"	2 1/4"	**5547A19**	19.32
1 3/8"	2 1/4"	**5547A21**	21.37
1 7/16"	2 5/16"	**5547A22**	22.55
1 1/2"	2 5/16"	**5547A23**	24.77
12-Pt. Standard (Cont.)			
1 9/16"	2 7/16"	**5547A41**	$27.54
1 5/8"	2 1/2"	**5547A24**	27.87
1 11/16"	2 1/2"	**5547A25**	29.72
1 3/4"	2 11/16"	**5547A26**	30.53
1 13/16"	2 13/16"	**5547A27**	34.13
1 7/8"	2 7/8"	**5547A28**	37.66
2"	3"	**5547A29**	42.76
2 1/16"	3 3/16"	**5547A31**	47.85
2 1/8"	3 1/16"	**5547A32**	51.78
2 3/16"	3 1/16"	**5547A33**	59.66
2 1/4"	3 7/16"	**5547A34**	59.57
2 5/16"	3 1/4"	**5547A42**	69.52
2 3/8"	3 1/4"	**5547A43**	74.35

Metric Sizes

Size, mm	O'all Lg.		
12-Pt. Standard			
19	1 15/16"	**7312A21**	$16.90
20	1 15/16"	**7312A51**	17.45
21	2"	**7312A22**	16.28
22	2"	**7312A23**	17.26
23	2"	**7312A24**	16.38
24	2"	**7312A25**	17.77
25	2"	**7312A26**	16.54
26	2 1/16"	**7312A27**	16.52
27	2 1/8"	**7312A28**	17.95
12-Pt. Standard (Cont.)			
28	2 1/8"	**7312A31**	$18.04
29	2 1/8"	**7312A32**	18.84
30	2 3/16"	**7312A33**	19.26
31	2 1/4"	**7312A52**	19.65
32	2 3/16"	**7312A34**	21.41
35	2 1/4"	**7312A35**	21.86
36	2 5/16"	**7312A36**	24.05
38	2 3/8"	**7312A37**	25.54
41	2 9/16"	**7312A38**	30.78
12-Pt. Standard (Cont.)			
42	2 9/16"	**7312A39**	$31.77
46	2 13/16"	**7312A41**	39.52
50	3"	**7312A42**	44.55
54	3 1/16"	**7312A43**	53.18
55	3 3/16"	**7312A44**	68.30
58	3 1/4"	**7312A45**	74.00
60	3 1/4"	**7312A46**	79.72
12-Pt. Deep			
24	3 3/8"	**7312A64**	27.40
12-Pt. Deep (Cont.)			
30	3 1/2"	**7312A66**	$28.18
32	3 1/2"	**7312A67**	28.36
35	3 1/2"	**7312A68**	34.31
36	3 1/2"	**7312A69**	34.04
38	3 1/2"	**7312A71**	40.78
41	3 1/2"	**7312A72**	43.25
46	3 1/2"	**7312A73**	51.84
50	4"	**7312A74**	62.27
55	4 1/4"	**7312A75**	74.70

3/4" Square Drive Ratchet Wrenches and Handles

Wrenches and handles are made of chrome-plated steel, unless otherwise stated.

Ratchet Wrenches

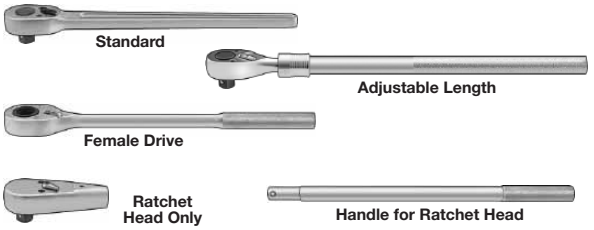

Wrenches require a 15° turn for the ratchet to engage.

	O'all Lg.		
Standard	20"	5524A11	$112.74
Standard with Black Finish	20"	5524A15	104.21
Adjustable Length	24"-40"	5524A14	125.74
Female Drive	20"	5524A17	106.23
Ratchet Head Only	6"	5524A12	117.33
Handle for Ratchet Head	19 1/4"	5524A16	40.80

Handles

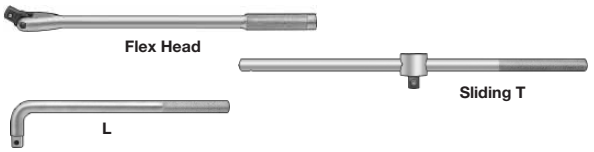

Also known as breaker bars, use these nonratcheting handles to get the high torque required to break fasteners free. **Flex head** pivots for access to tight spots. **Sliding T** allows you to position the head anywhere along the bar.

	O'all Lg.		
Flex Head with Black Finish	20"	5524A23	$58.02
Flex Head	22"	5524A18	69.93
Flex Head	40"	5524A28	69.57
Sliding T with Black Finish	19 1/4"	5524A32	47.98
Sliding T	20"	5524A19	52.03
Sliding T	24"	5524A31	116.45
L	16"	5524A21	51.83

1" Square Drive Sockets

These 12-point sockets are easier to position on hex fasteners than 6-point sockets but provide less surface contact. Sockets are chrome-plated steel. Not for use with impact or power tools.



Size	O'all Lg.		
1 1/16"	2 7/16"	5546A11	$26.08
1 1/8"	2 5/16"	5546A12	31.13
1 3/16"	2 7/16"	5546A27	26.60
1 1/4"	2 5/16"	5546A13	29.02
1 5/16"	2 3/8"	5546A46	29.40
1 3/8"	2 7/16"	5546A14	30.36
1 7/16"	2 1/2"	5546A15	33.15
1 1/2"	2 9/16"	5546A16	34.47
1 5/8"	2 11/16"	5546A17	37.26
1 11/16"	2 3/4"	5546A28	41.27
1 3/4"	2 13/16"	5546A29	45.63
1 13/16"	2 7/8"	5546A18	47.53
1 7/8"	2 15/16"	5546A19	52.23
2"	3"	5546A21	57.64

Size	O'all Lg.		
2 1/16"	3"	5546A31	$55.40
2 1/8"	3 1/16"	5546A22	68.24
2 3/16"	3 5/16"	5546A23	73.82
2 1/4"	3 13/16"	5546A24	78.42
2 3/8"	4"	5546A25	90.14
2 1/2"	3 7/16"	5546A26	99.33
2 9/16"	4 1/8"	5546A41	109.90
2 5/8"	3 9/16"	5546A42	122.12
2 3/4"	4 7/16"	5546A43	135.71
2 15/16"	3 7/8"	5546A44	154.28
3"	4 3/16"	5546A32	168.33
3 1/8"	4 3/16"	5546A45	179.63
3 1/2"	4 1/2"	5546A33	221.01

3/4" Square Drive Socket Accessories

Made of chrome-plated steel, unless otherwise stated.

Extensions



O'all Lg.		
4"	5524A24	$27.89
8"	5524A25	30.35
8" with Black Finish	5524A38	25.71
16"	5524A26	44.57
16" with Black Finish	5524A39	34.44

Slotted Bit Sockets—Black Finish

Also called drag links, sockets work like a screwdriver blade.



Size	O'all Lg.		
1 3/8"	2 3/16"	5524A54	$69.07
1 11/16"	2 3/16"	5524A57	84.23

Adapters



Ratchet adapter converts a standard handle to a ratchet handle.

Female x Male	O'all Lg.		
1/2" sq. x 3/4" sq.	1 7/8"	5523A38	$10.52
1/2" sq. x 3/4" sq. with Black Finish	1 15/16"	55435A42	7.67
3/4" sq. x 1/2" sq.	1 7/8"	5524A29	16.77
3/4" sq. x 1/2" sq. with Black Finish	2 5/16"	5524A34	14.17
3/4" sq. x 1" sq.	2 1/2"	5524A13	22.96
3/4" sq. x 1" sq. with Black Finish	2 1/2"	5524A45	18.97
1" sq. x 3/4" sq.	2 7/8"	5525A22	34.69
3/4" sq. Ratchet	3 3/4"	5524A22	141.55
3/4" sq. Flex	4 3/16"	5524A27	62.86
3/4" sq. Flex with Black Finish	4 1/16"	5524A36	51.95

1" Square Drive Ratchet Wrenches and Handles

Made of chrome-plated steel, unless otherwise stated.

Ratchet Wrenches



Wrenches require a 15° turn to engage the ratchet.

	O'all Lg.		
Chrome Plated	30"	5525A35	$199.27
Black Finish	30"	5525A31	190.15

Handles

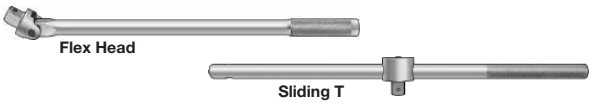

Also known as breaker bars, use these nonratcheting handles to get the high torque required to break fasteners free. **Flex head** pivots for access to tight spots. **Sliding T** allows you to position the head anywhere along the bar.

	O'all Lg.		
Flex Head	27"	5525A13	$167.83
Flex Head with Black Finish	34 1/4"	5525A24	167.72
Sliding T	30"	5525A21	206.39

1" Square Drive Socket Accessories

Made of chrome-plated steel, unless noted. Not for use with impact or power tools.

Extensions



O'all Lg.		
9"	5525A15	$52.73
18"	5525A16	68.32

Adapters



Female x Male	O'all Lg.		
3/4" sq. x 1" sq.	2 1/2"	5524A13	$22.96
1" sq. x 3/4" sq.	2 7/8"	5525A22	34.69
1" sq. x 3/4" sq. with Black Finish	3 1/16"	5525A27	34.98

About Impact Sockets and Power Sockets

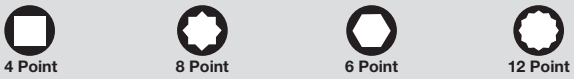

4-point and **8-point sockets** are for use with square fasteners. 4-point sockets provide more surface contact to prevent rounding while 8-point sockets are easier to position.

6-point and **12-point sockets** are for use with hex fasteners. 6-point sockets provide more surface contact to prevent rounding while 12-point sockets are easier to position.

Fastener-holding sockets have a magnet that holds fasteners in place. They are good for self-tapping screws.

Impact sockets (pages 2788-2794) are made to withstand the high torque and force of impact tools. While they can be used in hand-driven and nonimpact power tools, they will wear more quickly than the sockets designed for those tools.

Note: 3/4" square drive size and larger impact sockets require a locking retainer. Use with an impact wrench that has a pin-style socket retainer, or use a socket retaining ring with tools that have a hole- or hole-and-ring style socket retainer.

Power sockets (pages 2794-2795) have the durability required for nonimpact powered fastening applications such as high-volume production and assembly. They are not for use with impact tools.

1/4" Square Drive Impact Sockets and Accessories

1/4" Square Drive Impact Sockets and Accessories



These premium-quality sockets, adapters, and extensions are steel with a black finish, unless noted.

Also Available: 6-point impact sockets in metric sizes. For deep sockets, please ask for 53115A42 and specify size: 6, 7, 8, 10, 11, 12, or 13 mm. For flex sockets, please ask for 53115A43 and specify size: 7, 8, 10, 12, or 13 mm.

Socket Sets—Furnished with a metal clip rail.

6-Pc. Standard Set—Includes sizes 1/4", 5/16", 3/8", 7/16", 1/2", and 9/16".
7236A114 ..... $27.54

11-Pc. Deep Set—Includes sizes 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16", and 5/8".
7236A116 ..... $64.91

Inch Sizes

Size	O'all Lg.	OD		
6-Pt. Standard				
3/16"	7/8"	1/2"	7236A11	$4.48
7/32"	7/8"	1/2"	7236A12	4.48
1/4"	7/8"	1/2"	7236A13	4.48
9/32"	7/8"	1/2"	7236A14	4.69
5/16"	7/8"	1/2"	7236A15	4.56
11/32"	7/8"	33/64"	7236A16	4.49
3/8"	7/8"	9/16"	7236A17	4.48
7/16"	7/8"	21/32"	7236A18	4.51
1/2"	7/8"	45/64"	7236A19	4.38
9/16"	7/8"	51/64"	7236A21	4.51
6-Pt. Standard—Fastener-Holding				
3/16"	7/8"	1/2"	7236A85	10.14
1/4"	7/8"	1/2"	7236A87	10.55
5/16"	15/16"	1/2"	7236A89	10.55
3/8"	15/16"	9/16"	7236A92	$10.90
7/16"	1"	21/32"	7236A93	10.90
1/2"	1"	11/16"	7236A94	11.99
6-Pt. Deep				
3/16"	2"	1/2"	7236A52	5.89
1/4"	2"	1/2"	7236A35	5.89
9/32"	2"	1/2"	7236A53	5.81
5/16"	2"	1/2"	7236A36	5.88
11/32"	2"	33/64"	7236A54	5.88
3/8"	2"	9/16"	7236A37	5.88
7/16"	2"	21/32"	7236A38	5.89
1/2"	2"	11/16"	7236A55	5.89
9/16"	2"	51/64"	7236A57	6.08
5/8"	2"	7/8"	7236A58	5.89

Metric Sizes

Size	O'all Lg.	OD		
6-Pt. Standard				
4 mm	7/8"	1/2"	53115A56	$4.37
5 mm	7/8"	1/2"	53115A57	4.66
5.5 mm	7/8"	1/2"	53115A58	4.69
6 mm	7/8"	1/2"	53115A59	4.72
7 mm	7/8"	1/2"	53115A61	4.75
8 mm	7/8"	1/2"	53115A62	4.78
9 mm	7/8"	33/64"	53115A63	4.80
10 mm	7/8"	9/16"	53115A64	4.82
11 mm	7/8"	21/32"	53115A65	5.06
12 mm	7/8"	11/16"	53115A67	5.34
13 mm	7/8"	47/64"	53115A66	4.93

Accessories



	O'all Lg.		
Adapter: 1/4" sq. F x 3/8" sq. M	1"	7236A97■	$13.08
Adapter: 3/8" sq. F x 1/4" sq. M	1 1/4"	7236A98■	19.03
Flex Adapter: 1/4" sq.	1 3/8"	7236A112	38.07
Extension	2"	7236A42	5.46
Extension	6"	7236A43	10.35

■ Unfinished.

3/8" and 1/2" Square Drive Impact Screwdrivers and Wrenches


6-Piece Set

Use these tools with impact sockets to break frozen bolts and screws free. You can also remove the bit adapter from the impact screwdriver and use as an impact wrench. Strike with a hammer to tighten and loosen fasteners. Made of steel with a black finish. See pages 2808-2815 for a complete selection of 1/4" and 5/16" hex-shank bits.

Impact Screwdriver Sets

6-Piece Sets—Include impact driver, 5/16" and 3/8" slotted bits, No. 2 and No. 3 Phillips bits, 5/16" hex bit adapter, and a plastic case.

With 3/8" Sq. Drive Impact Driver 5610A2 $35.81
With 1/2" Sq. Drive Impact Driver 5610A33 42.95

9-Piece Set—Includes impact driver; 5/16" slotted bit; No. 2 Phillips bit; 3, 4, 5, 6, and 8 mm hex bits; 5/16" hex bit adapter; and a plastic case.

With 3/8" Sq. Drive Impact Driver 6967A12 $39.74

Impact Wrenches

Sq. Drive	O'all Lg.		
3/8"	4 3/4"	5610A1	$26.12
1/2"	5 1/4"	5610A23	32.65

Phillips Bits—5/16" Hex Shank

Size	O'all Lg.		
No. 2	1 1/4"	5750A94	$1.58
No. 3	1 1/4"	5750A95	1.58
No. 4	1 1/4"	5750A96	1.58

Impact Socket Adapter Sets


7-Pc. Set

Use these sets with impact tools and other power tools. Made of steel with a black finish.

6-Pc. Set—Includes female x male square drive adapters in sizes 3/8" x 1/2", 1/2" x 3/8", 1/2" x 3/4", 3/4" x 1/2", 3/4" x 1", 1" x 3/4", and a metal clip rail.
55805A44 ..... $105.15

7-Pc. Set—Includes female x male square drive adapters in sizes 3/8" x 1/2", 1/2" x 3/8", 1/2" x 3/4", 3/4" x 1/2"; flex adapters in sizes 1/4", 3/8", 1/2"; and a metal clip rail.
55805A12 ..... $147.25

3/8" Square Drive Impact Sockets and Accessories

All of these premium-quality impact sockets, adapters, and extensions are made of steel and have a black finish.

Also Available: 6-pt. metric fastener-holding sockets. Please ask for 7193A82 and specify size: 7-19 mm.

Also Available: 6-pt. metric flex sockets. Please ask for 7193A111 and specify size: 8-19 mm.



Socket Sets

Pcs.	Sizes	Container		
Inch Sets				
8	**6-pt. standard:** 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4"	Metal Clip Rail	7227A11	$34.62
8	**6-pt. deep:** 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4"	Metal Clip Rail	7227A12	$41.99
7	**6-pt. flex:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4"	Metal Clip Rail	5553A98	$148.68
7	**Hex bit:** 1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	Metal Clip Rail	54615A39	$72.67
Metric Sets				
13	**6-pt. standard:** 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm	Metal Clip Rail	6979A53	$55.82
13	**6-pt. deep:** 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm	Metal Clip Rail	6979A55	$67.44
10	**6-pt. flex:** 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm	Metal Clip Rail	7193A81	$216.44
5	**Hex bit:** 4, 5, 6, 8, 10 mm	Metal Clip Rail	55005A62	$59.61
Inch/Metric Set				
40	**6-pt. standard:** 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm **6-pt. deep:** 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", and 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 mm	Metal Clip Rail	7227A13	$217.40

Inch Sizes

Size	O'all Lg.	OD		
6-Pt. Standard				
1/4"	1 1/8"	11/16"	5553A21	$4.54
5/16"	1 1/8"	11/16"	5553A11	4.64
11/32"	1 1/8"	11/16"	5553A12	4.81
3/8"	1 1/8"	11/16"	5553A13	4.70
7/16"	1 1/8"	11/16"	5553A14	4.81
1/2"	1 1/8"	3/4"	5553A15	4.65
9/16"	1 1/8"	13/16"	5553A16	4.77
5/8"	1 1/8"	29/32"	5553A18	4.66
11/16"	1 1/8"	1"	5553A23	4.66
3/4"	1 1/8"	1 11/16"	5553A24	4.70
13/16"	1 1/4"	1 13/64"	5553A85	5.78
7/8"	1 1/4"	1 9/32"	5553A86	6.02
15/16"	1 3/8"	1 23/64"	5553A87	6.55
1"	1 3/8"	1 1/2"	5553A88	7.05
6-Pt. Standard—Fastener-Holding				
5/16"	1 1/8"	11/16"	5553A103	11.75
3/8"	1 1/8"	11/16"	5553A105	12.05
7/16"	1 1/8"	11/16"	5553A106	12.78
1/2"	1 1/8"	3/4"	5553A107	13.13
9/16"	1 1/8"	13/16"	5553A108	14.43
6-Pt. Deep				
1/4"	2"	11/16"	5553A25	8.79
1/4"	2 3/4"	11/16"	5553A95	5.50
9/32"	2 3/4"	11/16"	5553A96	5.45
5/16"	2"	11/16"	5553A26	8.79
5/16"	2 3/4"	11/16"	5553A42	6.03
11/32"	2 3/4"	11/16"	5553A97	5.96
3/8"	2"	11/16"	5553A27	8.78
3/8"	2 3/4"	11/16"	5553A43	6.02
7/16"	2"	11/16"	5553A28	8.78
7/16"	2 3/4"	11/16"	5553A44	6.10
1/2"	2"	11/16"	5553A29	8.78
1/2"	2 3/4"	3/4"	5553A45	6.01
1/2"	9 1/2"	7/8"	6023A11	67.92
9/16"	2"	25/32"	5553A3	9.63
9/16"	2 3/4"	13/16"	5553A46	6.14
9/16"	9 1/2"	7/8"	6023A12	68.27
5/8"	2"	7/8"	5553A31	10.36
5/8"	2 3/4"	29/32"	5553A47	6.36
5/8"	9 1/2"	31/32"	6023A13	68.78
6-Pt. Deep (Cont.)				
11/16"	2"	15/16"	5553A32	$11.95
11/16"	2 3/4"	1"	5553A48	6.60
11/16"	9 1/2"	1 1/8"	6023A14	69.37
3/4"	2"	1"	5553A33	12.13
3/4"	2 3/4"	1 1/16"	5553A49	6.84
3/4"	9 1/2"	1 3/16"	6023A15	63.62
13/16"	2 3/4"	1 13/64"	5553A91	7.94
7/8"	2"	1 13/64"	5553A34	16.05
7/8"	2 3/4"	1 9/32"	5553A92	8.07
15/16"	2 3/4"	1 23/64"	5553A93	8.85
15/16"	2 13/16"	1 1/4"	5553A35	17.54
1"	2 3/4"	1 1/2"	5553A94	9.33
6-Pt. Flex				
3/8"	1 15/16"	31/32"	5553A59	24.53
7/16"	1 15/16"	31/32"	5553A61	24.53
1/2"	2 1/16"	31/32"	5553A62	24.53
9/16"	2 1/16"	31/32"	5553A63	23.82
5/8"	2 1/8"	31/32"	5553A64	24.53
11/16"	2 3/16"	1"	5553A114	29.74
3/4"	2 3/16"	1 1/16"	5553A115	29.74
6-Pt. Flex Deep				
3/8"	2 15/16"	7/8"	5553A116	52.37
7/16"	2 3/4"	7/8"	5553A117	52.37
1/2"	2 3/4"	7/8"	5553A118	53.57
9/16"	3 3/16"	7/8"	5553A119	53.57
5/8"	3 1/4"	7/8"	5553A122	53.57
8-Pt. Standard				
1/4"	1"	11/16"	5553A75	7.06
7/16"	1"	13/16"	5553A37	7.70
1/2"	1 11/16"	15/16"	5553A38	8.57
9/16"	1 1/8"	1 3/16"	5553A39	8.18
Hex Bit				
1/8"	2 3/4"	11/16"	54615A21▲	9.24
5/32"	2 3/4"	11/16"	54615A22▲	9.24
3/16"	2 3/4"	11/16"	54615A23▲	9.37
7/32"	2 3/4"	11/16"	54615A24▲	9.07
1/4"	2 3/4"	11/16"	54615A25▲	10.08
5/16"	2 3/4"	11/16"	54615A26▲	9.94
3/8"	2 3/4"	11/16"	54615A27▲	10.08
7/16"	2"	3/4"	54615A28▲	13.50
1/2"	2"	3/4"	54615A29▲	13.50

▲One-piece construction (bit is not replaceable).

Metric Sizes

Size	O'all Lg.	OD		
6-Pt. Standard				
6 mm	15/16"	11/16"	7193A25	$4.97
7 mm	1 1/16"	11/16"	7193A11	4.64
8 mm	1 1/16"	11/16"	7193A12	4.64
9 mm	1 1/16"	11/16"	7193A33	4.55
10 mm	1 1/16"	11/16"	7193A14	4.64
11 mm	1 1/16"	11/16"	7193A35	4.62
12 mm	1 1/16"	23/32"	7193A16	4.63
13 mm	1 1/16"	25/32"	7193A17	4.98
14 mm	1 1/8"	13/16"	7193A18	5.07
15 mm	1 1/8"	27/32"	7193A22	5.14
16 mm	1 1/8"	29/32"	7193A23	5.18
17 mm	1 3/16"	31/32"	7193A19	5.39
18 mm	1 3/16"	1"	7193A24	5.39
19 mm	1 3/16"	1 1/16"	7193A21	5.39
20 mm	1 1/4"	1 1/8"	7193A26	6.19
21 mm	1 1/8"	1 5/32"	7193A27	6.08
22 mm	1 1/4"	1 1/4"	7193A36	6.63
24 mm	1 1/8"	1 19/64"	7193A37	6.94
6-Pt. Deep				
6 mm	2 3/4"	11/16"	7193A41	6.06
7 mm	2 1/8"	11/16"	7193A42	5.44
8 mm	2 1/8"	11/16"	7193A43	5.81
9 mm	2 1/8"	11/16"	7193A44	5.88
10 mm	2 1/8"	11/16"	7193A45	5.88
11 mm	2 1/8"	11/16"	7193A46	5.88
12 mm	2 1/8"	23/32"	7193A47	5.88
13 mm	2 1/8"	25/32"	7193A48	5.88
14 mm	2 3/8"	13/16"	7193A49	5.85
15 mm	2 3/8"	27/32"	7193A51	5.86
16 mm	2 3/8"	29/32"	7193A52	5.94
17 mm	2 5/8"	31/32"	7193A53	6.18
18 mm	2 5/8"	1"	7193A54	6.18
19 mm	2 5/8"	1 1/16"	7193A55	6.24
21 mm	2 5/8"	1 5/32"	7193A57	6.72
22 mm	2 3/4"	1 13/64"	7193A58	7.37
24 mm	2 7/8"	1 5/16"	7193A61	7.30
Hex Bit				
4 mm	2 3/4"	11/16"	55005A41▲	11.24
5 mm	2 3/4"	11/16"	55005A42▲	10.61
6 mm	2 3/4"	11/16"	55005A43▲	11.03
7 mm	2"	3/4"	55005A37▲	15.75
8 mm	2 3/4"	11/16"	55005A44▲	10.87
10 mm	2 3/4"	11/16"	55005A45▲	11.08
12 mm	2"	3/4"	55005A48▲	14.25

▲One-piece construction (bit is not replaceable).

Accessories

	O'all Lg.		
Adapter: 3/8" sq. F x 1/2" sq. M	1 3/8"	5553A69	$7.88
Adapter: 1/2" sq. F x 3/8" sq. M	1 1/2"	5549A45	10.94
Flex Adapter: 3/8" sq.	2 1/16"	5553A73	24.51

	O'all Lg.		
Extension	3"	5553A71	$8.92
Extension	6"	5553A72	11.25
Extension	12"	5553A76	16.01

1/2" Square Drive Impact Sockets

For information about impact sockets, see page 2788.

1/2" Square Drive Impact Sockets and Accessories



These premium quality sockets, adapters, and extensions are steel. All have a black finish.
Also Available 6-point flex metric sockets. Please ask for 7205A111 and specify size: 10-20 mm.

Socket Sets

Pcs.	Sizes	Container		
Inch Sets				
7	**6-pt. standard:** 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16"	Metal Clip Rail	7221A11	$39.98
11	**6-pt. standard:** 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8"	Metal Clip Rail	7221A14	$75.81
13	**6-pt. standard:** 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4"	Metal Clip Rail	7221A18	$93.50
16	**6-pt. standard:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4", 5" extension, 2 5/8" flex adapter	Metal Case	7404A86	$154.09
11	**6-pt. deep:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1"	Metal Clip Rail	7221A16	$102.67
14	**6-pt. deep:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4"	Metal Clip Rail	53105A75	$167.64
16	**6-pt. deep:** 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4", 5" extension, 2 5/8" flex adapter	Metal Case	7404A12	$249.90
7	**6-pt. flex:** 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16"	Metal Clip Rail	7221A23	$180.87
7	**Hex bit:** 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8"	Metal Clip Rail	7221A31	$82.19
Metric Sets				
16	**6-pt. standard:** 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 mm	Metal Clip Rail	5321A16	$115.30
16	**6-pt. deep:** 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 mm	Metal Clip Rail	5321A21	$145.38
6	**Hex bit:** 6, 8, 10, 12, 14, 17 mm	Metal Clip Rail	5321A24	$79.62
Economy Inch/Metric Set				
18	**Hex bit:** 1/4", 9/32", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", and 6, 7, 10, 12, 14, 15, 17, 18 mm	Plastic Case	6040A21	$141.52

Inch Sizes

Size	O'all Lg.	OD		
6-Pt. Standard				
5/16"	1 1/2"	7/8"	5549A301	$4.57
3/8"	1 1/2"	29/32"	5549A11	4.67
7/16"	1 1/2"	29/32"	5549A12	4.86
1/2"	1 1/2"	29/32"	5549A13	4.88
9/16"	1 1/2"	29/32"	5549A15	4.93
5/8"	1 1/2"	31/32"	5549A18	5.36
11/16"	1 1/2"	1 1/16"	5549A19	5.46
3/4"	1 1/2"	1 1/8"	5549A22	5.56
13/16"	1 1/2"	1 1/4"	5549A25	6.70
7/8"	1 1/2"	1 5/16"	5549A26	7.47
15/16"	1 3/4"	1 3/8"	5549A28	8.47
1"	1 3/4"	1 7/16"	5549A29	8.90
1 1/16"	2"	1 9/16"	5549A32	9.95
1 1/8"	2"	1 5/8"	5549A33	9.95
1 3/16"	2"	1 11/16"	5549A34	11.46
1 1/4"	2"	1 3/4"	5549A36	10.84
1 5/16"	2"	1 7/8"	5549A37	14.41
1 3/8"	2"	1 15/16"	5549A38	17.34
1 7/16"	2"	2"	5549A39	19.52
1 1/2"	2"	2 1/8"	5549A43	22.00
1 9/16"	2 3/8"	2 1/8"	5549A306	19.79
1 5/8"	2 3/8"	2 13/64"	5549A302	22.19
1 11/16"	2 3/8"	2 25/64"	5549A307	24.49
1 3/4"	2 3/8"	2 31/64"	5549A303	26.23
1 13/16"	2 13/16"	2 9/16"	5549A308	27.98
1 7/8"	2 13/16"	2 39/64"	5549A304	29.20
1 15/16"	2 13/16"	2 11/16"	5549A309	31.00
2"	2 13/16"	2 23/32"	5549A305	33.21
2 1/4"	2 13/16"	3 5/64"	5549A31	43.77
6-Pt. Standard—Fastener-Holding				
3/8"	1 1/2"	63/64"	5549A201	9.23
7/16"	1 1/2"	63/64"	5549A202	9.34
1/2"	1 1/2"	63/64"	5549A203	9.36
9/16"	1 1/2"	63/64"	5549A204	9.34
6-Pt. Standard—Fastener-Holding (Cont.)				
5/8"	1 1/2"	13/16"	5549A205	$10.44
13/16"	1 1/2"	17/32"	5549A206	10.44
15/16"	1 13/16"	1 3/8"	5549A207	12.98
1"	1 13/16"	1 29/64"	5549A208	14.53
6-Pt. Deep				
3/8"	3 1/4"	29/32"	5549A133	7.63
7/16"	3 1/4"	29/32"	5549A134	7.63
1/2"	3 1/4"	29/32"	5549A135	7.63
9/16"	3 1/4"	29/32"	5549A136	7.93
5/8"	3 1/4"	31/32"	5549A137	7.93
11/16"	3 1/4"	1 1/16"	5549A138	7.93
3/4"	3 1/4"	1 1/8"	5549A139	8.56
13/16"	3 1/4"	1 1/4"	5549A141	8.56
7/8"	3 1/2"	1 5/16"	5549A142	10.09
15/16"	3 1/2"	1 3/8"	5549A143	10.09
15/16"	9 1/2"	1 1/2"	6023A21	71.30
1"	3 1/2"	1 7/16"	5549A144	11.55
1 1/16"	3 1/2"	1 9/16"	5549A151	12.15
1 1/8"	3 1/2"	1 5/8"	5549A152	13.90
1 1/8"	9 1/2"	1 11/16"	6023A22	78.44
1 3/16"	3 1/2"	1 11/16"	5549A153	18.80
1 1/4"	3 1/2"	1 3/4"	5549A145	19.40
1 5/16"	3 1/2"	1 7/8"	5549A146	24.15
1 5/16"	9 1/2"	1 21/32"	6023A23	88.75
1 3/8"	3 1/2"	2"	5549A147	27.74
1 7/16"	3 1/2"	2"	5549A148	25.06
1 1/2"	3 1/2"	2 1/8"	5549A149	24.09
1 1/2"	9 1/2"	2 1/4"	6023A24	103.98
1 9/16"	3 11/16"	2 1/8"	5549A103	35.67
1 5/8"	3 11/16"	2 13/64"	5549A109	38.98
1 11/16"	3 11/16"	2 25/64"	5549A104	41.12
1 3/4"	3 11/16"	2 31/64"	5549A112	44.36
1 13/16"	3 11/16"	2 9/16"	5549A105	48.33
1 7/8"	3 11/16"	2 39/64"	5549A113	49.05
6-Pt. Deep (Cont.)				
1 15/16"	3 11/16"	2 11/16"	5549A106	$49.02
2"	3 11/16"	2 23/32"	5549A114	52.33
2 1/16"	3 11/16"	2 53/64"	5549A107	59.62
2 1/8"	3 11/16"	2 61/64"	5549A115	65.67
2 1/4"	3 11/16"	3 5/64"	5549A108	81.00
6-Pt. Flex				
7/16"	2 5/8"	1 1/16"	5549A55	27.38
1/2"	2 5/8"	1 1/16"	5549A61	27.96
9/16"	2 11/16"	1 9/64"	5549A62	29.98
5/8"	2 5/8"	1 1/16"	5549A63	29.51
3/4"	2 5/8"	1 1/4"	5549A65	30.39
13/16"	2 5/8"	1 1/4"	5549A66	30.21
7/8"	3 1/16"	1 3/16"	5549A119	64.36
15/16"	3 1/16"	1 9/32"	5549A16	66.81
1"	3 1/16"	1 11/32"	5549A17	72.31
1 1/16"	3 3/16"	1 7/16"	5549A178	72.81
1 1/8"	3 3/8"	1 1/2"	5549A179	73.35
1 3/16"	3 3/8"	1 9/16"	5549A188	83.36
1 1/4"	3 7/16"	1 5/8"	5549A189	83.36
8-Pt. Standard				
3/8"	1 1/2"	15/16"	5549A121	7.63
7/16"	1 1/2"	15/16"	5549A122	7.63
1/2"	1 1/2"	15/16"	5549A123	7.63
9/16"	1 1/2"	1 1/32"	5549A124	9.02
5/8"	1 1/2"	1 1/8"	5549A125	9.73
11/16"	1 1/2"	1 3/16"	5549A126	10.33
3/4"	1 1/2"	1 11/32"	5549A127	11.51
13/16"	1 1/2"	1 3/8"	5549A128	12.18
7/8"	1 5/8"	1 1/2"	5549A129	13.20
15/16"	1 3/4"	1 5/8"	5549A131	15.28
1"	1 3/4"	1 3/4"	5549A132	15.61
1 1/16"	1 3/4"	1 27/32"	5549A21	19.38

(Continued on following page)

½" Square Drive Impact Sockets and Accessories *(Continued from previous page)*

Inch Sizes (Cont.)

Size	O'all Lg.	OD		
8-Pt. Deep				
3/8"	3 1/4"	7/8"	5549A154	$11.30
7/16"	3 1/4"	15/16"	5549A155	11.89
1/2"	3 1/4"	15/16"	5549A156	11.89
9/16"	3 1/4"	1 1/32"	5549A157	13.13
5/8"	3 1/4"	1 1/8"	5549A158	13.26
11/16"	3 1/4"	1 3/16"	5549A159	13.13
3/4"	3 1/4"	1 5/16"	5549A163	14.31
3/4"	5"	1 5/16"	5549A211	20.47
13/16"	3 1/4"	1 3/8"	5549A165	14.31
13/16"	5"	1 1/2"	5549A212	21.71
7/8"	3 1/2"	1 1/2"	5549A166	16.68
15/16"	3 1/2"	1 39/64"	5549A167	15.70
1"	3 1/2"	1 11/16"	5549A168	18.06
1"	5"	1 3/4"	5549A213	24.16
1 1/8"	5"	2"	5549A214	28.27
12-Pt. Standard				
3/8"	1 1/2"	15/16"	5549A14	5.75
7/16"	1 1/2"	15/16"	5549A71	5.86
1/2"	1 1/2"	15/16"	5549A72	5.98
9/16"	1 1/2"	15/16"	5549A73	6.03
5/8"	1 1/2"	1"	5549A74	6.29
11/16"	1 1/2"	1 1/32"	5549A75	6.79
3/4"	1 1/2"	1 7/64"	5549A76	$6.56
13/16"	1 5/8"	1 13/64"	5549A77	7.73
7/8"	1 5/8"	1 9/32"	5549A78	7.83
15/16"	1 3/4"	1 23/64"	5549A79	8.67
1"	1 3/4"	1 1/2"	5549A81	9.00
1 1/16"	1 3/4"	1 33/64"	5549A82	11.73
1 1/8"	2"	1 19/32"	5549A83	11.73
1 3/16"	2"	1 3/4"	5549A951	12.22
1 1/4"	2"	1 3/4"	5549A952	13.82
1 5/16"	2"	1 3/4"	5549A953	15.59
1 3/8"	2 1/8"	1 51/64"	5549A954	17.50
1 7/16"	2 1/4"	1 59/64"	5549A955	20.07
1 1/2"	2 1/4"	2"	5549A956	20.98
12-Pt. Deep				
3/8"	3 1/4"	15/16"	5549A118	9.21
7/16"	3 1/4"	15/16"	5549A84	9.21
1/2"	3 1/4"	51/64"	5549A85	9.20
9/16"	3 1/4"	15/16"	5549A86	9.21
5/8"	3 1/4"	1"	5549A87	9.21
11/16"	3 1/4"	1 1/32"	5549A88	9.21
3/4"	3 1/4"	1 1/8"	5549A89	9.28
13/16"	3 1/4"	1 3/16"	5549A91	9.89
7/8"	3 1/2"	1 19/64"	5549A92	$10.96
15/16"	3 1/2"	1 3/8"	5549A93	11.20
1"	3 1/2"	1 1/2"	5549A94	12.46
1 1/16"	3 1/2"	1 1/2"	5549A95	14.24
1 1/8"	3 1/2"	1 19/32"	5549A171	17.92
1 3/16"	3 1/2"	1 43/64"	5549A172	19.99
1 1/4"	3 1/2"	1 3/4"	5549A173	20.60
1 5/16"	3 1/2"	1 27/32"	5549A174	22.45
1 3/8"	3 1/2"	1 29/32"	5549A175	26.87
1 7/16"	3 1/2"	2"	5549A176	30.51
1 1/2"	3 1/2"	2 1/16"	5549A177	31.07
Hex Bit				
1/4"	3 1/4"	29/32"	54705A51	12.35
9/32"	3 15/16"	63/64"	54705A11	15.80
5/16"	3 1/4"	29/32"	54705A52	12.35
3/8"	3 1/4"	29/32"	54705A53	12.35
7/16"	3 1/4"	29/32"	54705A54	12.91
1/2"	3 5/8"	1 1/16"	54705A55	12.35
9/16"	3 5/8"	1 1/16"	54705A56	12.40
5/8"	4"	1 5/16"	54705A57	12.66
11/16"	3"	63/64"	54705A58	15.45
3/4"	3"	63/64"	54705A59	16.19

Metric Sizes

Size	O'all Lg.	OD		
6-Pt. Standard				
8 mm	1 1/2"	15/16"	7205A11	$5.77
9 mm	1 1/2"	15/16"	7205A12	5.77
10 mm	1 1/2"	29/32"	7205A13	5.67
11 mm	1 1/2"	29/32"	7205A14	5.76
12 mm	1 1/2"	29/32"	7205A15	5.81
13 mm	1 1/2"	29/32"	7205A16	5.81
14 mm	1 1/2"	29/32"	7205A17	5.96
15 mm	1 1/2"	15/16"	7205A18	6.09
16 mm	1 1/2"	31/32"	7205A19	6.21
17 mm	1 1/2"	1"	7205A21	6.21
18 mm	1 1/2"	1 1/16"	7205A22	5.93
19 mm	1 1/2"	1 1/8"	7205A23	6.58
20 mm	1 1/2"	1 3/16"	7205A65	7.49
21 mm	1 1/2"	1 1/4"	7205A24	8.02
22 mm	1 1/2"	1 5/16"	7205A25	8.30
23 mm	1 3/4"	1 5/32"	7205A26	8.58
24 mm	1 3/4"	1 3/8"	7205A27	10.16
25 mm	1 3/4"	1 3/8"	7205A28	12.10
26 mm	1 3/4"	1 1/2"	7205A29	12.34
27 mm	2"	1 9/16"	7205A31	11.06
28 mm	2"	1 5/8"	7205A32	12.98
29 mm	2"	1 5/8"	7205A73	13.24
30 mm	2"	1 11/16"	7205A33	12.56
32 mm	2"	1 33/64"	7205A34	15.06
36 mm	2"	2 1/64"	7205A49	17.56
38 mm	2 1/4"	2 5/32"	7205A98	17.33
41 mm	2 1/4"	2 19/64"	7205A99	21.62
46 mm	2 1/4"	2 3/8"	7205A101	31.61
6-Pt. Deep				
8 mm	3 1/4"	7/8"	7205A55	$9.66
9 mm	3 1/4"	7/8"	7205A56	9.19
10 mm	3 1/4"	29/32"	7205A51	9.48
11 mm	3 1/4"	29/32"	7205A57	9.48
12 mm	3 1/4"	29/32"	7205A37	9.53
13 mm	3 1/4"	29/32"	7205A53	8.96
14 mm	3 1/4"	29/32"	7205A38	9.79
15 mm	3 1/4"	15/16"	7205A54	9.85
16 mm	3 1/4"	31/32"	7205A39	9.85
17 mm	3 1/4"	1"	7205A41	10.07
18 mm	3 1/4"	1 1/16"	7205A42	10.08
19 mm	3 1/4"	1 1/4"	7205A43	10.14
20 mm	3 1/4"	1 3/16"	7205A66	11.08
21 mm	3 1/4"	1 1/4"	7205A44	12.05
22 mm	3 1/2"	1 5/16"	7205A45	12.05
23 mm	3 1/2"	1 11/32"	7205A67	12.89
24 mm	3 1/2"	1 3/8"	7205A46	13.72
25 mm	3 1/2"	1 7/16"	7205A58	15.52
26 mm	3 1/2"	1 31/64"	7205A59	15.63
27 mm	3 1/2"	1 9/16"	7205A68	15.89
28 mm	3 1/2"	1 5/8"	7205A74	16.35
29 mm	3 1/2"	1 5/8"	7205A71	16.53
30 mm	3 1/2"	1 11/16"	7205A61	14.87
32 mm	3 1/2"	1 13/16"	7205A72	17.85
34 mm	3 1/2"	1 15/16"	7205A78	18.50
35 mm	3 1/2"	2"	7205A79	18.70
36 mm	3 1/2"	2"	7205A62	19.06
12-Pt. Standard				
10 mm	1 1/2"	57/64"	7205A35	$6.25
11 mm	1 1/2"	15/16"	7205A36	6.57
12 mm	1 1/2"	15/16"	7205A47	6.35
13 mm	1 1/2"	15/16"	7205A48	6.20
14 mm	1 1/2"	15/16"	7205A52	6.58
15 mm	1 1/2"	15/16"	7205A63	6.58
16 mm	1 1/2"	15/16"	7205A64	6.44
17 mm	1 1/2"	15/16"	7205A69	6.78
18 mm	1 1/2"	1"	7205A81	7.03
19 mm	1 1/2"	1 1/32"	7205A82	7.85
20 mm	1 1/2"	1 1/8"	7205A83	8.33
21 mm	1 1/2"	1 3/16"	7205A84	8.83
24 mm	1 1/2"	1 13/32"	7205A87	10.42
30 mm	1 5/8"	1 11/16"	7205A94	14.43
32 mm	1 3/4"	1 49/64"	7205A95	15.98
Hex Bit				
6 mm	3 1/4"	29/32"	55105A61▲	14.42
7 mm	3"	63/64"	55105A51▲	16.60
8 mm	3 1/4"	29/32"	55105A62▲	14.41
9 mm	3 15/16"	63/64"	55105A12▲	20.50
10 mm	3 1/4"	29/32"	55105A63▲	14.42
11 mm	3"	63/64"	55105A52▲	16.60
12 mm	3 1/4"	29/32"	55105A64▲	14.41
13 mm	3"	63/64"	55105A53▲	16.60
14 mm	3 5/8"	1 1/16"	55105A65▲	14.40
15 mm	3"	63/64"	55105A54▲	16.60
16 mm	3"	63/64"	55105A55▲	16.60
17 mm	4"	1 5/16"	55105A66▲	14.40
18 mm	3"	63/64"	55105A56▲	18.88
19 mm	3"	63/64"	55105A57▲	20.40

▲One-piece construction (bit is not replaceable).

Individual Accessories, Extensions, and Sets

Secure-hold extensions have a locking collar to prevent disengagement. Pull the collar to release the socket.

	O'all Lg.		
Adapter: 1/2" sq. F x 3/8" sq. M	1 1/2"	5549A45	$10.94
Adapter: 1/2" sq. F x 5/8" sq. M	1 11/16"	5549A46	12.01
Adapter: 1/2" sq. F x 3/4" sq. M	1 29/32"	5549A161■	15.79
Adapter: 5/8" sq. F x 1/2" sq. M	1 7/8"	53055A41	14.91
Magnetic Adapter: 1/2" sq. F x 3/4" sq. M	1 3/16"	5549A116	12.66
Flex Adapter: 1/2" sq.	2 5/8"	5549A51	29.00
Standard Extension	2"	5549A44	10.70
Standard Extension	5"	5549A41	11.17
Standard Extension	10"	5549A42	14.46
Secure-Hold Extension	3"	5549A312	25.98
Secure-Hold Extension	5"	5549A313	31.11
Secure-Hold Extension	10"	5549A314	38.06

■ Male end requires a retaining ring. Please ask for 5549A169.

Set of 4 Standard Extensions (2", 3", 5", 10")	5549A209	$47.80
Set of 3 Secure-Hold Extensions (3", 5", 10")	5549A311	94.33

½" Square Drive Torque-Limiting Socket Adapters and Set

These adapters spring back slightly when the set torque is reached to prevent overtightening that can damage your work. Made of steel, each adapter is painted a different color. Overall length is 7 5/8"; outer diameter is 1 1/8". Use with a 1/2" impact wrench rated at 250 ft.-lbs. of working torque with 90 psi.



Torque, ft.-lbs.	Color		
65	Yellow	4491A21	$33.60
80	Blue	4491A22	33.60
100	Gray	4491A23	33.60
120	White	4491A24	33.60
140	Blue-Green	4491A25	33.60

5-Piece Set—Includes one of each extension above and a plastic case.
4491A31 $152.13

¾" Square Drive Impact Sockets

For information about impact sockets, see page 2788.

¾" Square Drive Impact Sockets and Accessories



Made of steel, sockets, adapters, and extensions are premium quality and have a black finish. **Budd-wheel socket**, also called a dual-size socket, is designed to remove and install dual wheels on trucks and trailers. This socket has a 1½" hex recess for accessing lug nuts and a 13/16" square recess to turn the threaded shafts found on inner wheels.

♣ *Note*: Sockets and accessories require a locking retainer. Use with an impact wrench that has a pin-style socket retainer, or use a socket retaining ring with tools that have a hole- or hole-and-ring style socket retainer. The *Ring ID* is the inside diameter of the ring that will fit a particular socket (rings sold separately on page 2793).

Also Available Replacement hex bits. Please ask for 53525A1 and specify size.

Socket Sets

Pcs.	Sizes	Container		
Inch Sets				
8	**6-pt. standard:** 1", 1 1/16", 1 1/8", 1 1/4", 1 5/16", 1 7/16", 1 1/2", 1 5/8"	Metal Clip Rail	7405A81	$151.90
13	**6-pt. standard:** ¾", 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4", 1 5/16", 1 3/8", 1 7/16", 1 1/2", 1 5/8", 7" extension	Metal Clip Rail	7405A83	$219.88
8	**6-pt. deep:** 7/8", 15/16", 1", 1 1/16", 1 1/8", 1 1/4", 1 5/16", 1 1/2"	Metal Clip Rail	7405A82	$191.14
5	**Hex bit:** 9/16", 5/8", ¾", 7/8", 1"	Metal Clip Rail	53525A31	$162.38
Metric Set				
12	**6-pt. standard:** 19, 20, 21, 22, 23, 24, 27, 30, 32, 36, 41, 46 mm	Metal Clip Rail	54175A21	$230.75

Inch Sizes

Size	O'all Lg.	OD	Ring ID ♣		
4-Pt. Standard					
5/8"	1 7/8"	1 5/8"	1.4"	5552A1	$20.53
11/16"	1 7/8"	1 5/8"	1.4"	5552A2	23.88
13/16"	2"	1 5/8"	1.4"	5552A3	22.93
6-Pt. Standard					
½"	1 13/16"	1 5/8"	1.4"	5552A58	14.30
9/16"	2"	1 5/8"	1.4"	5552A59	12.59
5/8"	2"	1 5/8"	1.4"	5552A61	12.96
11/16"	2"	1 5/8"	1.4"	5552A62	13.67
¾"	2"	1 5/8"	1.4"	5552A63	14.71
13/16"	2"	1 5/8"	1.4"	5552A65	14.91
7/8"	2"	1 5/8"	1.4"	5552A66	14.91
15/16"	2"	1 5/8"	1.4"	5552A67	15.02
1"	2"	1 5/8"	1.4"	5552A109	13.66
1 1/16"	2"	1 11/16"	1.4"	5552A69	16.58
1 1/8"	2 1/8"	1 3/4"	1.4"	5552A71	18.38
1 3/16"	2 1/4"	1 13/16"	1.4"	5552A72	18.60
1 1/4"	2 1/4"	2"	1.6"	5552A73	19.33
1 5/16"	2 1/4"	2"	1.4"	5552A74	19.73
1 3/8"	2 1/4"	2 1/8"	1.4"	5552A75	19.81
1 7/16"	2 1/4"	2 1/8"	1.4"	5552A76	20.99
1 1/2"	2 1/4"	2 1/4"	1.4"	5552A77	21.67
1 9/16"	2 3/8"	2 3/8"	1.4"	5552A107	22.99
1 5/8"	2 3/8"	2 13/32"	1.4"	5552A78	22.80
1 11/16"	2 9/16"	2 1/2"	1.4"	5552A79	23.51
1 3/4"	2 5/8"	2 39/64"	1.6"	5552A41	23.56
1 13/16"	2 5/8"	2 3/4"	1.6"	5552A43	23.55
1 7/8"	2 13/16"	2 3/4"	1.6"	5552A19	24.66
1 15/16"	2 13/16"	2 7/8"	1.6"	5552A21	26.00
2"	2 13/16"	3"	1.6"	5552A22	29.97
2 1/16"	3 1/8"	3"	1.6"	5552A241	37.35
2 1/8"	3 1/8"	3 1/8"	1.6"	5552A242	40.32
2 3/16"	3 1/8"	3 1/4"	1.6"	5552A243	45.14
2 1/4"	3 1/4"	3 5/16"	1.6"	5552A244	49.68
2 3/8"	3 3/8"	3 1/2"	1.6"	5552A245	54.63
2 7/16"	3 1/4"	3 29/64"	2"	5552A246	62.04
2 1/2"	3 1/4"	3 17/32"	2"	5552A247	68.24
6-Pt. Deep					
½"	3 3/8"	7/8"	1.2"	5552A114	16.69
9/16"	3 1/4"	1 5/8"	1.4"	5552A15	19.04
5/8"	3 1/4"	1 5/8"	1.4"	5552A81	18.91
11/16"	3 1/4"	1 5/8"	1.4"	5552A82	18.91
¾"	3"	1 5/8"	1.4"	5552A83	18.22
¾"	4"	1 3/8"	1.4"	5552A161	19.02
13/16"	3"	1 5/8"	1.4"	5552A84	17.98
13/16"	4"	1 3/8"	1.4"	5552A162	20.08
7/8"	3"	1 5/8"	1.4"	5552A85	19.41
6-Pt. Deep (Cont.)					
7/8"	4"	1 3/8"	1.4"	5552A163	$22.92
15/16"	3"	1 5/8"	1.4"	5552A86	20.52
15/16"	4"	1 3/8"	1.4"	5552A164	22.34
1"	3"	1 5/8"	1.4"	5552A87	21.07
1"	4"	1 7/16"	1.4"	5552A165	23.66
1 1/16"	3"	1 11/16"	1.4"	5552A88	21.62
1 1/16"	4"	1 1/2"	1.4"	5552A166	24.81
1 1/8"	3"	1 3/4"	1.4"	5552A89	21.36
1 1/8"	4"	1 5/8"	1.4"	5552A167	25.18
1 3/16"	3 1/4"	1 13/16"	1.4"	5552A91	24.57
1 3/16"	4"	1 11/16"	1.4"	5552A168	27.37
1 1/4"	3 1/4"	2"	1.4"	5552A92	28.69
1 1/4"	4"	1 3/4"	1.6"	5552A169	28.43
1 5/16"	3 1/4"	1 7/8"	1.6"	5552A171	29.18
1 5/16"	3 1/4"	2"	1.4"	5552A93	29.67
1 3/8"	3 1/4"	1 15/16"	1.6"	5552A172	29.20
1 3/8"	3 1/4"	2 1/8"	1.4"	5552A94	29.38
1 7/16"	3 1/2"	2"	1.6"	5552A173	29.33
1 7/16"	3 1/2"	2 1/8"	1.4"	5552A95	29.55
1 1/2"	3 1/2"	2 1/8"	1.6"	5552A174	31.89
1 1/2"	3 1/2"	2 1/4"	1.4"	5552A96	31.28
1 9/16"	3 1/2"	2 5/16"	1.4"	5552A118	31.36
1 5/8"	3 1/2"	2 7/16"	1.4"	5552A97	31.58
1 11/16"	3 1/2"	2 1/2"	1.4"	5552A23	31.38
1 3/4"	3 7/8"	2 39/64"	1.6"	5552A24	33.35
1 13/16"	3 7/8"	2 3/4"	1.6"	5552A45	33.35
1 7/8"	4 1/16"	2 3/4"	1.6"	5552A27	35.86
2"	4 1/16"	3"	1.6"	5552A28	37.06
2 1/16"	3 3/4"	2 31/32"	1.7"	5552A12	45.02
2 1/8"	3 3/4"	3 5/32"	1.7"	5552A14	43.50
2 3/16"	4 1/4"	3 9/64"	1.7"	5552A25	42.41
2 1/4"	4 1/4"	3 9/64"	1.7"	5552A17	54.95
2 5/16"	4 1/4"	3 19/64"	1.7"	5552A49	54.63
2 3/8"	4 1/4"	3 3/8"	1.7"	5552A47	57.72
2 7/16"	4 1/4"	3 29/64"	2"	5552A44	62.19
2 1/2"	4 1/4"	3 17/64"	2"	5552A46	66.45
6-Pt. Deep—Budd Wheel					
1 1/2"	4"	2 1/4"	1.6"	5552A33	34.87
8-Pt. Standard					
¾"	1 15/16"	1 5/8"	1.4"	5552A121	17.67
13/16"	2"	1 5/8"	1.4"	5552A122	17.67
7/8"	2"	1 3/4"	1.6"	5552A123	18.64
15/16"	2 1/16"	1 13/16"	1.6"	5552A124	19.47
1"	2 1/8"	2"	1.6"	5552A125	19.06
1 1/16"	2 3/16"	2 1/8"	1.6"	5552A126	22.10
1 1/8"	2 1/4"	2 1/4"	1.6"	5552A127	21.61
8-Pt. Standard (Cont.)					
1 3/16"	2 5/16"	2 3/8"	1.6"	5552A29	$24.81
1 1/4"	2 3/8"	2 3/8"	1.6"	5552A128	24.90
1 5/16"	2 3/8"	2 1/2"	1.6"	5552A31	31.00
12-Pt. Standard					
9/16"	1 7/8"	1 5/8"	1.4"	5552A4	14.86
5/8"	1 7/8"	1 5/8"	1.4"	5552A132	14.95
11/16"	1 15/16"	1 5/8"	1.4"	5552A5	14.86
¾"	1 15/16"	1 5/8"	1.4"	5552A134	15.16
13/16"	1 15/16"	1 5/8"	1.4"	5552A6	15.07
7/8"	2"	1 5/8"	1.4"	5552A136	14.78
15/16"	2"	1 5/8"	1.4"	5552A137	16.11
1"	2"	1 5/8"	1.4"	5552A138	16.11
1 1/16"	2 1/16"	1 5/8"	1.4"	5552A139	17.57
1 1/8"	2 3/16"	1 3/4"	1.6"	5552A141	18.73
1 3/16"	2 3/16"	1 7/8"	1.6"	5552A142	19.66
1 1/4"	2 3/16"	2"	1.6"	5552A143	19.90
1 5/16"	2 3/16"	2 1/8"	1.6"	5552A144	21.00
1 3/8"	2 1/4"	2 1/8"	1.6"	5552A145	21.99
1 7/16"	2 5/16"	2 1/4"	1.6"	5552A146	22.80
1 1/2"	2 3/8"	2 3/8"	1.6"	5552A147	23.01
1 5/8"	2 7/16"	2 3/8"	1.6"	5552A149	23.41
1 11/16"	2 5/8"	2 39/64"	1.6"	5552A151	24.15
1 3/4"	2 5/8"	2 39/64"	1.6"	5552A152	25.57
1 13/16"	2 5/8"	2 3/4"	1.6"	5552A153	24.15
1 7/8"	2 13/16"	2 3/4"	1.6"	5552A154	27.10
1 15/16"	2 13/16"	2 7/8"	1.6"	5552A155	27.14
2"	2 13/16"	3"	1.6"	5552A156	31.66
2 1/16"	3 1/8"	3"	1.6"	5552A7	39.33
2 1/8"	3 1/8"	3 1/8"	1.6"	5552A8	39.40
2 3/16"	3 1/8"	3 1/4"	1.6"	5552A9	43.33
2 1/4"	3 1/4"	3 1/4"	1.6"	5552A112	47.70
2 3/8"	3 3/8"	3 1/2"	1.6"	5552A113	52.44
Hex Bit					
½"	3 15/16"	1 47/64"	1.4"	53525A41▲	36.54
9/16"	3 3/4"	1 5/8"	1.4"	53525A11	26.64
5/8"	3 7/8"	1 5/8"	1.4"	53525A12	29.05
¾"	4 3/8"	1 3/4"	1.6"	53525A13	32.87
13/16"	3 15/16"	1 47/64"	1.4"	53525A42▲	37.20
7/8"	4 3/4"	1 7/8"	1.6"	53525A14	40.80
1"	5 1/4"	2"	1.6"	53525A15	40.16
1 1/16"	3 15/16"	1 47/64"	1.4"	53525A43▲	39.36
1 1/8"	3 15/16"	1 47/64"	1.4"	53525A44▲	41.52
1 3/16"	3 15/16"	1 47/64"	1.4"	53525A45▲	45.82
1 1/4"	3 15/16"	1 47/64"	1.4"	53525A46▲	66.70

▲ One-piece construction (bit is not replaceable).

(Continued on following page)

3/4" Square Drive Impact Sockets and Accessories *(Continued from previous page)*

Metric Sizes

Size, mm	O'all Lg.	OD	Ring ID ♣		
6-Pt. Standard					
17	1 15/16"	1 5/8"	1.4"	54175A75	$13.05
19	1 15/16"	1 5/8"	1.4"	54175A76	13.76
20	1 15/16"	1 5/8"	1.4"	54175A61	14.13
21	1 15/16"	1 5/8"	1.4"	54175A62	14.59
22	2"	1 5/8"	1.4"	54175A77	14.06
23	2"	1 5/8"	1.4"	54175A63	14.11
24	2"	1 5/8"	1.4"	54175A78	14.69
25	2"	1 5/8"	1.4"	54175A64	15.84
26	2 1/16"	1 5/8"	1.4"	54175A65	15.21
27	2 1/16"	1 5/8"	1.4"	54175A79	15.65
28	2 1/16"	1 5/8"	1.4"	54175A66	15.92
29	2 1/8"	1 13/16"	1.4"	54175A127	19.33
30	2 3/16"	1 7/8"	1.6"	54175A81	16.55
31	2 3/16"	1 7/8"	1.6"	54175A67	17.65
32	2 3/16"	2"	1.6"	54175A82	18.06
33	2 3/16"	2"	1.6"	54175A68	18.46
34	2 1/4"	2 1/8"	1.6"	54175A69	$19.53
35	2 1/4"	2 1/8"	1.6"	54175A83	19.74
36	2 5/16"	2 1/4"	1.6"	54175A84	20.37
38	2 3/8"	2 3/8"	1.6"	54175A85	23.17
40	2 1/2"	2 1/2"	1.6"	54175A71	25.79
41	2 5/8"	2 1/2"	1.6"	54175A86	26.08
42	2 3/4"	2 1/2"	1.6"	54175A72	30.70
43	2 3/4"	2 9/16"	1.6"	54175A87	32.00
44	2 1/2"	2 9/16"	1.7"	54175A118	28.14
46	2 7/8"	2 3/4"	1.6"	54175A73	34.76
50	3 1/8"	2 15/16"	1.6"	54175A74	43.83
6-Pt. Deep					
19	3 1/4"	1 5/8"	1.4"	54175A1	18.76
21	3 1/4"	1 5/8"	1.4"	54175A2	20.27
22	3 1/4"	1 5/8"	1.4"	54175A3	20.48
23	3 1/4"	1 5/8"	1.4"	54175A4	20.27
24	3 1/4"	1 5/8"	1.4"	54175A5	21.08
6-Pt. Deep (Cont.)					
26	3 1/4"	1 5/8"	1.4"	54175A6	$21.82
27	3 1/4"	1 5/8"	1.4"	54175A7	21.82
30	3 1/4"	1 7/8"	1.6"	54175A8	25.28
32	3 1/4"	2"	1.6"	54175A9	25.23
33	3 1/4"	2"	1.6"	54175A11	25.99
35	3 1/4"	2 1/8"	1.6"	54175A12	27.68
36	3 1/4"	2 1/4"	1.6"	54175A13	29.77
38	3 1/2"	2 3/8"	1.6"	54175A14	31.19
41	3 1/2"	2 1/2"	1.6"	54175A15	35.13
43	3 1/2"	2 9/16"	1.6"	54175A16	38.50
Hex Bit					
14	3 15/16"	1 5/8"	1.4"	53245A81	36.37
17	4"	1 5/8"	1.4"	53245A82	41.86
19	4 3/8"	1 3/4"	1.6"	53245A83	39.40
22	4 1/2"	1 3/4"	1.6"	53245A84	46.71
24	4 5/8"	1 7/8"	1.7"	53245A85	48.56

Accessories

Pull the collar on the **quick-change adapter** to release the socket.

	O'all Lg.	Ring ID ♣		
Adapter: 3/4" sq. F x 1/2" sq. M	2 1/8"	1.4"	5552A101 ■	$18.57
Adapter: 3/4" sq. F x 5/8" sq. M	2 1/8"	1.4"	5552A102	26.26
Adapter: 3/4" sq. F x 1" sq. M	2 1/2"	1.4"	5552A103 ■	17.79
Magnetic Adapter: 3/4" sq. F x 1" sq. M	1 3/8"	1.7"	5552A116	20.90
Quick-Change Adapter: 3/4" sq.	3 3/16"	1.7"	5552A111	61.10
Flex Adapter: 3/4" sq.	3 5/16"	1.4"	5552A26 ■	52.39
Extension	3"	1.7"	5552A115	21.52
Extension	7"	1.4"	5552A104 ■	33.67
Extension	10"	1.4"	5552A105 ■	46.05
Extension	13"	1.4"	5552A106 ■	48.90

2-Pc. Retaining Ring (1.4" ID)	5552A108	$3.62
1-Pc. Retaining Ring (1.2" ID)	5552A52	5.08
1-Pc. Retaining Ring (1.4" ID)	5552A36	4.59
1-Pc. Retaining Ring (1.6" ID)	5552A38	4.59
1-Pc. Retaining Ring (1.7" ID)	5550A68	5.43
1-Pc. Retaining Ring (2" ID)	5550A611	5.43
1-Pc. Retaining Ring (2.2" ID)	5550A138	7.40
1-Pc. Retaining Ring (2.5" ID)	5550A133	7.40

■ Requires two retaining rings—one for adapter, flex adapter, or extension (ring ID listed); one for socket (ring ID depends on socket).

1" Square Drive Impact Sockets and Accessories

Sockets, adapters, and extensions are premium quality and made of steel. Finish is black.

♣ Note: Sockets and accessories require a locking retainer. Use with an impact wrench that has a pin-style socket retainer, or use a socket retaining ring with tools that have a hole- or hole-and-ring style socket retainer. The *Ring ID* is the inside diameter of the ring that will fit a particular socket (rings sold separately on page 2794).

Also Available: 6-point deep metric sockets. Please ask for 54155A69 and specify size.



Inch Sizes

Size	O'all Lg.	OD	Ring ID ♣		
6-Pt. Standard					
3/4"	2 1/16"	2 1/8"	2"	5550A85	$21.70
13/16"	2 1/8"	2 1/8"	2"	5550A86	21.70
7/8"	2 3/16"	2 1/8"	2"	5550A87	21.93
15/16"	2 3/16"	2 1/8"	2"	5550A88	22.26
1"	2 1/4"	2 1/8"	2"	5550A89	22.26
1 1/16"	2 1/4"	2 1/8"	2"	5550A91	22.52
1 1/8"	2 3/8"	2 1/8"	2"	5550A92	22.52
1 3/16"	2 7/16"	2 1/8"	2"	5550A93	22.76
1 1/4"	2 7/16"	2 1/8"	2"	5550A32	23.02
1 5/16"	2 9/16"	2 1/8"	2"	5550A33	24.19
1 3/8"	2 9/16"	2 1/4"	2.1"	5550A94	23.32
1 7/16"	2 9/16"	2 1/4"	2.1"	5550A35	25.59
1 1/2"	2 5/8"	2 5/16"	2.1"	5550A36	25.94
1 9/16"	2 5/8"	2 3/8"	2.1"	5550A37	29.01
1 5/8"	2 5/8"	2 7/16"	2.1"	5550A38	30.54
1 11/16"	2 11/16"	2 1/2"	2.1"	5550A39	30.42
1 3/4"	2 11/16"	2 5/8"	2.1"	5550A41	31.78
1 13/16"	2 3/4"	2 3/4"	2.1"	5550A42	34.86
1 7/8"	2 7/8"	2 3/4"	2.1"	5550A43	36.87
1 15/16"	2 7/8"	2 7/8"	2.1"	5550A77	39.08
2"	2 15/16"	3"	2.1"	5550A78	43.68
2 1/16"	3 1/16"	3"	2.1"	5550A46	46.35
2 1/8"	3 1/8"	3 1/8"	2.1"	5550A47	51.23
2 3/16"	3 1/8"	3 1/4"	2.1"	5550A48	53.42
2 1/4"	3 1/4"	3 1/4"	2.1"	5550A49	54.63
2 5/16"	3 5/16"	3 3/8"	2.1"	5550A51	57.34
2 3/8"	3 5/16"	3 1/2"	2.1"	5550A52	72.09
2 7/16"	3 1/2"	3 1/2"	2.1"	5550A53	$72.67
2 1/2"	3 1/2"	3 3/4"	2.1"	5550A54	89.93
2 9/16"	3 1/2"	3 3/4"	2.1"	5550A55	94.52
2 5/8"	3 11/16"	3 3/4"	2.1"	5550A56	99.26
2 11/16"	3 11/16"	4"	2.1"	5550A79	95.62
2 3/4"	3 11/16"	4"	2.1"	5550A81	103.13
2 13/16"	3 7/8"	4"	2.1"	5550A82	108.87
2 7/8"	3 15/16"	4"	2.1"	5550A83	113.00
2 15/16"	3 15/16"	4 1/8"	2.1"	5550A84	125.86
3"	4 1/16"	4 1/4"	2.1"	5550A63	126.54
3 1/8"	4 1/8"	4 3/8"	2.1"	5550A64	149.74
3 1/4"	4 1/8"	4 1/2"	2.1"	5550A65	151.20
3 3/8"	4 1/2"	4 3/4"	2.1"	5550A66	148.29
3 1/2"	4 1/2"	4 3/4"	2.1"	5550A67	176.02
3 5/8"	4 3/4"	4 55/64"	3.1"	5550A141	245.76
3 3/4"	5"	5"	3.1"	5550A172	279.64
3 7/8"	5 1/4"	5 7/64"	3.1"	5550A142	329.69
4"	5 3/8"	5 1/4"	3.1"	5550A143	393.09
4 1/8"	5 3/8"	5 3/8"	3.1"	5550A144	396.09
4 1/4"	5 1/2"	5 17/32"	3.1"	5550A145	456.51
4 1/2"	5 5/8"	5 13/16"	3.1"	5550A146	599.49
6-Pt. Deep					
3/4"	4"	1 7/16"	1.7"	5550A147	35.29
7/8"	3 3/4"	2 1/8"	2"	5550A111	28.10
15/16"	3 3/4"	2 1/8"	2"	5550A112	28.30
1"	3 3/4"	2 1/8"	2"	5550A113	28.61
1 1/16"	3"	2 1/8"	1.9"	5550A114	26.77
1 1/8"	3 3/4"	2 1/8"	1.9"	5550A115	27.91
6-Pt. Deep (Cont.)					
1 3/16"	3 3/4"	2 1/8"	2"	5550A116	$30.42
1 1/4"	3 1/4"	2 1/8"	1.9"	5550A137	26.66
1 5/16"	3 3/4"	2 1/8"	1.9"	5550A118	27.83
1 3/8"	3 1/4"	2 1/8"	1.9"	5550A119	29.62
1 7/16"	3 3/4"	2 1/4"	1.9"	5550A121	33.43
1 1/2"	3 3/4"	2 3/8"	1.9"	5550A153	34.99
1 9/16"	4"	2 3/8"	2.1"	5550A122	42.73
1 5/8"	3 3/4"	2 3/8"	1.9"	5550A123	42.98
1 11/16"	4"	2 1/2"	2.1"	5550A124	45.29
1 3/4"	4"	2 19/32"	2.1"	5550A125	46.20
1 13/16"	4"	2 3/4"	2.1"	5550A126	48.48
1 7/8"	4"	2 3/4"	2.1"	5550A127	46.51
1 15/16"	4 1/4"	3"	2.1"	5550A128	56.28
2"	4 1/4"	3"	2.1"	5550A129	65.08
2 1/16"	4 1/4"	3"	2.1"	5550A131	69.86
2 1/8"	4 1/2"	3 1/8"	2.1"	5550A148	68.69
2 3/16"	4 1/2"	3 1/4"	2.1"	5550A132	72.56
2 1/4"	4 1/2"	3 1/4"	2.1"	5550A134	74.63
2 5/16"	4 1/2"	3 3/8"	2.1"	5550A135	89.30
2 3/8"	4 1/2"	3 1/2"	2.1"	5550A136	97.70
2 7/16"	4 3/8"	3 1/2"	2.1"	5550A154	82.82
2 1/2"	4 7/8"	3 19/32"	2.2"	5550A175	189.11
Hex Bit					
5/8"	4"	1 55/64"	1.7"	5550A161	43.88
3/4"	4 1/2"	1 55/64"	1.7"	5550A162	43.88
7/8"	4 7/8"	1 55/64"	1.7"	5550A163	48.31
1"	5 1/4"	1 55/64"	1.7"	5550A164	48.31
1 1/4"	5 3/4"	1 55/64"	1.7"	5550A165	50.50

(Continued on following page)

1" Square Drive Impact Sockets and Accessories *(Continued from previous page)*

♣ Note: Sockets and accessories require a locking retainer. Use with an impact wrench that has a pin-style socket retainer, or use a socket retaining ring with tools that have a hole- or hole-and-ring style socket retainer. The *Ring ID* is the inside diameter of the ring that will fit a particular socket (rings sold separately below).

Metric Sizes

Size, mm	O'all Lg.	OD	Ring ID ♣		
6-Pt. Standard					
19	2 7/16"	2 1/8"	2"	54155A71	$21.41
22	2 7/16"	2 1/8"	2"	54155A72	21.41
24	2 7/16"	2 1/8"	2"	54155A73	21.51
27	2 5/8"	2 1/8"	2"	54155A74	22.53
28	2 5/8"	2 1/8"	2"	54155A75	23.44
6-Pt. Standard (Cont.)					
30	2 5/8"	2 1/8"	2"	54155A76	$26.09
32	2 5/8"	2 1/8"	2"	54155A77	27.00
33	2 3/4"	2 1/8"	2"	54155A78	27.15
36	2 7/16"	2 1/4"	2"	54155A79	26.97
41	2 13/16"	2 1/2"	2.1"	54155A81	31.06
6-Pt. Standard (Cont.)					
46	2 13/16"	2 25/32"	2.1"	54155A82	$36.00
50	3"	3"	2.1"	54155A83	38.42
55	3 1/8"	3 1/4"	2.1"	54155A84	53.88
60	3 3/8"	3 3/4"	2.1"	54155A85	64.58
65	3 1/2"	3 3/4"	2.1"	54155A86	92.24

Accessories

	O'all Lg.	Ring ID ♣		
Adapter: 1" sq. F x 3/4" sq. M	2 5/8"	2.1"	5550A14 ■	$32.46
Adapter: 1" sq. F x 1 1/2" sq. M	3 3/8"	1.9"	5550A19	54.65
Quick-Change Adapter: 1" sq.	4"	2.1"	5550A166	83.33
Flex Adapter: 1" sq.	4 7/16"	2.1"	5550A18 ■	104.98
Extension	7"	2.1"	5550A16 ■	65.24
Extension	10"	2"	5550A159	67.27
Extension	13"	2.1"	5550A17 ■	91.24

2-Pc. Retaining Ring (1.7" ID)	5550A9	$4.71
2-Pc. Retaining Ring (3" ID)	5550A25	6.91
1-Pc. Retaining Ring (1.7" ID)	5550A68	5.43
1-Pc. Retaining Ring (1.9" ID)	5550A612	4.62
1-Pc. Retaining Ring (2" ID)	5550A611	5.43
1-Pc. Retaining Ring (2.1" ID)	5550A62	5.43
1-Pc. Retaining Ring (3.1" ID)	5550A156	8.27

■ Requires two retaining rings—one for adapter, flex adapter, or extension (ring ID listed); one for socket (ring ID depends on socket).

1 1/2" Square Drive Impact Sockets and Accessories



Made of steel, these sockets and adapter are premium quality. All have a black finish.

♣ Note: Sockets and accessories require a locking retainer. Use with an impact wrench that has a pin-style socket retainer, or use a socket retaining ring with tools that have a hole- or hole-and-ring style socket retainer. The *Ring ID* is the inside diameter of the ring that will fit a particular socket (rings sold separately below).

Also Available: Other 6-point standard and 6-point deep sizes. Please ask for 7196A999 and specify size and standard or deep.

Inch Sizes

Size	O'all Lg.	OD	Ring ID ♣		
6-Pt. Standard					
1 1/2"	3 1/8"	3 1/4"	2.9"	7196A13	$91.70
1 13/16"	3 5/16"	3 1/4"	2.9"	7196A18	93.64
1 7/8"	3 1/2"	3 1/4"	2.9"	7196A19	93.64
2"	3 5/8"	3 1/4"	2.9"	7196A23	93.64
2 3/16"	3 5/8"	3 1/2"	2.9"	7196A11	101.40
2 1/4"	4"	3 3/4"	2.9"	7196A27	113.80
2 3/8"	4 1/8"	3 3/4"	2.9"	7196A29	135.46
6-Pt. Standard (Cont.)					
2 9/16"	4 1/8"	4"	2.9"	7196A33	$142.32
2 3/4"	4 3/8"	4 7/32"	2.9"	7196A64	170.13
2 15/16"	4 1/2"	4 1/2"	2.9"	7196A39	207.19
3"	4 5/8"	4 1/2"	2.9"	7196A41	210.13
3 1/8"	4 11/16"	4 3/4"	2.9"	7196A43	226.33
3 1/2"	5"	5"	2.9"	7196A49	262.77
4 1/2"	6"	6 1/4"	2.9"	7196A67	596.66

Accessories

	O'all Lg.	Ring ID ♣		
Adapter: 1 1/2" sq. F x 1" sq. M	3 7/16"	2.9"	7196A42 ■	$135.75

1-Pc. Retaining Ring (2.9"ID)	7196A75	$6.64

■ Requires two retaining rings—one for adapter or extension (ring ID listed); one for socket (ring ID depends on socket).

1/4", 3/8", and 1/2" Square Drive Power Sockets and Accessories



These premium-quality power sockets provide durability in nonimpact powered fastening applications such as high-volume production and assembly. For use with power drivers. Sockets, adapters, and extensions are steel. Sockets are unfinished, unless noted. For bit adapters and insert-bit holders, see 52735A and 7229A on page 2816.

Note: Sockets are not for use with impact tools.

Also Available: 1/4" drive 6-pt. standard inch sockets. Please ask for 54655A5 and specify size: 3/16", 1/4", 5/16", 3/8", 7/16", or 1/2".

Also Available: 3/8" drive 6-pt. deep inch sockets. Please ask for 54885A1 and specify size: 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", or 3/4".

Size	O'all Lg.	OD		
1/4" Drive				
6-Pt. Standard—Fastener-Holding				
3/16"	7/8"	1/2"	54655A31	$21.55
7/32"	7/8"	1/2"	54655A32	25.30
1/4"	7/8"	1/2"	54655A33	11.12
5/16"	7/8"	1/2"	54655A35	11.37
11/32"	1"	1/2"	54655A36	16.96
3/8"	1"	5/8"	54655A37	13.74
7/16"	1"	11/16"	54655A38	19.58
1/2"	1"	11/16"	54655A39	20.43
6-Pt. Standard Metric—Fastener-Holding				
5 mm	7/8"	1/2"	54095A41 ★	9.77
5.5 mm	7/8"	1/2"	54095A42 ★	9.77
6 mm	7/8"	1/2"	54095A43 ★	9.77

★ Black finish.

Size	O'all Lg.	OD		
1/4" Drive (Cont.)				
6-Pt. Standard Metric (Cont.)				
7 mm	15/16"	1/2"	54095A44 ★	$10.05
8 mm	15/16"	1/2"	54095A45 ★	10.33
10 mm	15/16"	9/16"	54095A47 ★	10.87
12 mm	1"	11/16"	54095A49 ★	11.42
13 mm	1"	47/64"	54095A51 ★	11.70
3/8" Drive				
6-Pt. Standard—Fastener-Holding				
5/16"	1 1/4"	3/4"	54885A35	23.48
3/8"	1 1/4"	3/4"	54885A37	25.73
7/16"	1 1/4"	3/4"	54885A38	20.03

Size	O'all Lg.	OD		
3/8" Drive (Cont.)				
6-Pt. Standard (Cont.)				
1/2"	1 1/2"	13/16"	54885A39	$27.03
9/16"	1 1/2"	7/8"	54885A41	32.33
Hex Bit				
3/16"	2 1/4"	3/4"	5613A13	18.24
7/32"	2 1/4"	3/4"	5613A14	17.93
1/4"	2 1/4"	3/4"	5613A15	18.07
5/16"	2 1/4"	3/4"	5613A16	17.95
3/8"	2 1/4"	3/4"	5613A17	18.56
1/8"	2 1/4"	3/4"	5613A11	18.57
5/32"	2 1/4"	3/4"	5613A12	18.14

(Continued on following page)

For information about power sockets, see page 2788.

1/4", 3/8", and 1/2" Square Drive Power Sockets and Accessories

(Continued from previous page)

Size	O'all Lg.	OD		
3/8" Drive (Cont.)				
Hex Bit Metric				
4 mm	2 1/4"	3/4"	5620A42	$21.47
5 mm	2 1/4"	3/4"	5620A43	21.47
6 mm	2 1/4"	3/4"	5620A44	21.77
8 mm	2 1/4"	3/4"	5620A45	22.00
10 mm	2 1/4"	3/4"	5620A46	22.06
1/2" Drive				
Hex Bit Inch				
1/4"	2 1/2"	15/16"	5652A21	20.16
5/16"	2 1/2"	15/16"	5652A22	19.53
3/8"	2 1/2"	15/16"	5652A23	19.99
1/2"	2 1/2"	15/16"	5652A24	22.79
9/16"	2 1/2"	15/16"	5652A26	23.08
5/8"	2 1/2"	15/16"	5652A28	22.20
Hex Bit Metric				
8 mm	2 1/2"	15/16"	5677A51	20.84
10 mm	2 1/2"	15/16"	5677A52	20.73
12 mm	2 1/2"	15/16"	5677A53	23.50
14 mm	2 1/2"	15/16"	5677A54	26.54
17 mm	2 1/2"	1 1/8"	5677A56	50.29

Accessories



Hex Shank Adapter



Flexible Extension

Hex shank adapters are for use with tools that accept hex shanks, such as power drills. **Flexible extensions** bend around obstructions so you can access hard-to-reach fasteners. Not for use with impact tools.

	O'all Lg.		
Hex Shank Adapters—Black Finish			
1/4" sq. x 1/4" hex	4"	7236A41	$4.02
1/4" sq. x 1/4" hex	6"	7236A45	4.64
3/8" sq. x 1/4" hex	2"	5553A41	4.45
3/8" sq. x 1/4" hex	4"	5553A65	6.01
3/8" sq. x 1/4" hex	6"	5553A17	6.97
3/8" sq. x 7/16" hex	2 3/4"	5553A66	8.26
1/2" sq. x 7/16" hex	2 3/4"	5549A162	8.18
1/2" sq. x 7/16" hex	5"	5549A56	12.80
1/2" sq. x 5/8" hex	2 3/4"	5549A164	11.98
Flexible Extensions—Chrome-Plated Finish			
3/8" sq. drive	3 3/8"	5496A61	58.51
1/2" sq. drive	3 3/4"	5496A62	64.07

Tool-Holding Heat-Shrink Attachments

Also known as tether loops, these have a heat-shrink sleeve for gripping your tool and a D-ring for attaching to a tool lanyard (not included; see page 1826). Slip the sleeve over your tool and apply heat with a heat gun until the sleeve grips tightly. Shrink temperature is 250° F. To ensure the loop won't slip off, the ends of the tool must be wider than where the loop will rest.

For Tool Diameter	ID Before Shrinking	Sleeve Lg.	Capacity, lbs.	Ring Inside Lg.	Ring Inside Wd.		
0.25"-0.5"	0.75"	1 3/4"	4	0.47"	0.56"	5166A11	$8.14
0.36"-0.75"	1.1"	1 3/4"	5	0.47"	0.56"	5166A12	8.24
0.55"-1.25"	1.5"	2"	10	0.86"	1.02"	5166A13	8.49
0.75"-1.75"	2"	2"	15	0.86"	1.02"	5166A14	9.54
0.75"-1.75"	2"	4"	25	1.05"	1.56"	5166A15	13.87
1.5"-2.5"	2.75"	2"	20	1.05"	1.56"	5166A16	12.57
1.5"-2.5"	2.75"	4"	25	1.05"	1.56"	5166A17	16.22
2.25"-3.5"	4"	4"	25	1.05"	1.56"	5166A18	28.07





Attachment Shown on Wrench

Tool-Holding Rings

Add attachment points to your tools. Slide the ring on and secure it in place with included rubber collar. It rotates so you can turn your tool freely. Use with a tool lanyard (sold separately). Capacity is 2 lbs.

For Tool Diameter	Ring ID			For Tool Diameter	Ring ID		
0.035"-0.094"	0.14"	1239N11	$6.40	0.313"-0.438"	0.61"	1239N15	$9.62
0.094"-0.156"	0.21"	1239N12	6.93	0.400"-0.540"	0.61"	1239N16	10.26
0.156"-0.250"	0.27"	1239N13	8.05	0.540"-0.790"	0.85"	1239N17	27.64
0.219"-0.313"	0.35"	1239N14	8.84	0.790"-1.000"	1.1"	1239N18	31.40
Tool Lanyard						1009N91	$18.36



Ring Shown with Tool Lanyard (sold separately)

About Powered Fastening Tools

The tool you need depends on the fastener you're using. Use the chart below as a general guide. It suggests tightening torque based on using Grade 2 low-strength carbon steel fasteners. Values are approximate. For fasteners smaller than 1/4", see powered screwdrivers on pages 2806-2807 and precision hand-driven screwdrivers on pages 2820-2821.

Air tools require lubrication to operate properly. For air tool oil, see page 2205. For air hose, see pages 264-269.

Grade 2 Carbon-Steel Fastener Size:		1/4"-20	5/16"-18	3/8"-16	1/2"-13	5/8"-11	3/4"-10	1"-8	1 1/4"-7	1 1/2"-6
Max. Tightening Torque:	in.-lbs.	61	126	224	546	1088	1929	2800	5596	9737
	ft.-lbs.	5	11	19	46	91	161	233	466	811
Ratchet Wrenches (5 to 100 ft.-lbs.)										
Impact Wrenches (20 to 3000 ft.-lbs.)										
Impact Drivers (7 to 70 ft.-lbs.)										
Powered Screwdrivers (1 to 30 ft.-lbs.)										
Precision Screwdrivers (0.17 to 11 ft.-lbs.)										

Retainer Styles for Ratchet and Impact Wrenches

Quick Change—For quick assembly and changing. *Ball* and *ring* retainers are for sockets. Ball style is spring loaded. *1/4" hex chuck* retainer is for bits.



Positive Locking—For more secure retention of sockets. *Pin* style is spring loaded. *Hole-* and *ring-and-hole* styles require a retaining ring.





Air-Powered Impact Wrenches

A



B



C



D



E



F



G



H



J



Wrenches operate at full torque in both clockwise and counterclockwise direction. Recommended air pressure is 90 psi. Use with impact sockets only. Note: Air-powered tools require lubrication to operate properly.

Light Duty—Use for general shop, maintenance, and automotive work. *Style E* has a removable top handle.

Standard Duty—Use for medium-volume production, general maintenance, and construction applications. *Styles F&H* have an adjustable side handle.

Heavy Duty—Built for durability, these high-performance tools can handle the demands of high-volume production and heavy maintenance applications. *Styles H&J* have an adjustable side handle.

Ring-style socket retainer allows quick socket changes—pull the socket off the retainer and push on another one.

Pin-, hole-, and *ring-and-hole style socket retainers* (also called positive locking) provide a more secure hold than ring-style retainers.

	Working Torque, ft.-lbs.	Max. Torque, ft.-lbs.	No-Load rpm	Socket Retainer Style	Retaining Ring Req'd	Avg. cfm @ 90 psi	Air Inlet, NPT	For Hose ID	O'all Lg.	Wt., lbs.		
Light Duty												
1/4" Square Drive												
A	25-40	55	14,500	Ring	No	Not Rated	1/4	3/8"	6 7/8"	1.5	**7176A18**	$162.77
3/8" Square Drive												
B	5-65	90	9,500	Ring	No	3.2	1/4	3/8"	6 3/8"	2.1	**7182A15**	184.07
C	20-150	180	10,000	Ring	No	2.5	1/4	3/8"	6"	2.9	**7176A19**	184.72
D	60-295	332	11,500	Ring	No	32	1/4	3/8"	7"	2.6	**7176A14**	276.42
1/2" Square Drive												
C	35-300	600	8,000	Ring	No	4.2	1/4	3/8"	7 3/8"	5.8	**5828A13**	171.45
D	25-310	425	8,400	Ring	No	15	1/4	3/8"	7 1/2"	5.1	**71205A33**	208.77
3/4" Square Drive												
C	200-800	1,050	6,000	Ring	No	8	3/8	3/8"	8 5/8"	8.8	**71805A42**	370.47
1" Square Drive												
E	100-1,000	1,450	5,000	Ring & Hole	Yes	10	1/2	1/2"	10 1/2"	22	**7176A54**	770.56
Standard Duty												
3/8" Square Drive												
G	25-230	250	15,000	Ring	No	4	1/4	3/8"	6"	2.5	**7177A22**	249.75
1/2" Square Drive												
C	40-250	400	8,500	Pin	No	5.4	1/4	3/8"	6 3/4"	5.6	**7176A13**	233.33
D	50-900	900	8,500	Ring	No	5.8	1/4	3/8"	7 1/2"	4.6	**71655A37**	475.89
3/4" Square Drive												
G	200-900	1,350	7,000	Hole	Yes	8.5	3/8	1/2"	8 1/2"	7.4	**7177A32**	652.32
1" Square Drive												
F	360-1,440	1,800	5,500	Ring & Hole	Yes	6.7	1/2	1/2"	14"	15	**55055A72**	1,395.93
H	600-1,400	3,000	4,000	Ring & Hole	Yes	5.3	1/2	1/2"	16"	25.6	**57855A43**	2,076.86
Heavy Duty												
1/2" Square Drive												
G	40-350	500	5,000	Pin	No	3.8	1/4	3/8"	6 7/8"	6	**7174A11**	851.92
3/4" Square Drive												
G	400-1,400	1,600	5,200	Hole	Yes	15	3/8	1/2"	8 7/8"	11.9	**7174A55**	2,126.76
1" Square Drive												
G	350-1,100	1,450	5,200	Hole	Yes	6	1/2	1/2"	8 7/8"	11.4	**7174A13**	2,062.80
J	1,000-1,600	2,000	5,000	Hole	Yes	10	1/2	3/4"	12 1/4"	22	**7174A22**	3,171.07
1 1/2" Square Drive												
H	600-2,000	3,500	3,000	Hole	Yes	15	1/2	1/2"	14 3/4"	33.9	**57855A42**	4,640.00

Cordless Impact Wrenches and Drivers















These powerful tools drive screws quickly, even through thick or dense material. Tools operate at full torque in both a clockwise and counterclockwise direction. They have an electric brake, unless noted. All come with a UL listed charger, two batteries, and a carrying case.

Use impact wrenches with impact sockets (see pages 2788-2794) and impact drivers with 1/4″ hex shank screwdriver bits (see pages 2808-2815).

Wrenches with light and **drivers with light** have a built-in light to improve visibility as you're working.

Style J has an angled head. Optional straight-head attachment converts the tool into a straight driver.









Wrenches and Drivers

Drive	Working Torque, ft.-lbs.	Volts	No-Load rpm	Socket Retainer Style	O'all Lg.	Wt., lbs.	Battery Chemistry	Mfr. and Model No.		
Impact Wrenches										
A 3/8″ Sq.	0-100	12	2,500	Ring	6 1/2″	2.3	Lithium Ion	Milwaukee 2463-22	54275A23	$163.75
B 1/2″ Sq.	0-150	20	2,300	Pin	5 3/4″	3.4	Lithium Ion	DeWalt DCF880M2	6790A31	292.54
C 1/2″ Sq.	0-325	28	1,450	Pin	11 3/4″	8.9	Lithium Ion	Milwaukee 0779-22	54275A21 ★	511.25
D 1/2″ Sq.	0-450	18	1,900	Pin	8 7/8″	6.7	Lithium Ion	Milwaukee 2662-22	54275A25 ★	416.87
Impact Wrenches with Light										
E 3/8″ Sq.	0-155	18	2,100	Ring	6 1/8″	3.5	Lithium Ion	Makita BTW253	51455A12	379.00
F 1/2″ Sq.	0-145	18	2,400	Pin	5 3/4″	3.7	Lithium Ion	DeWalt DC822KL	6790A13	388.99
G 1/2″ Sq.	0-170	18	2,100	Pin	6 1/2″	3.8	Lithium Ion	Makita XWT05	51455A21	374.66
Impact Driver—For use with screwdriver bits										
H 1/4″ Hex	0-117	20	2,800	—	5 9/16″	2.8	Lithium Ion	DeWalt DCF885C2	53145A81	216.41
Impact Drivers with Light—For use with screwdriver bits										
J 1/4″ Hex	0-44	18	2,000	—	15 1/4″	3.9	Lithium Ion	Makita XLT01	37375A41 ★	411.04
K 1/4″ Hex	0-125	18	2,700	—	5 1/2″	3.8	Lithium Ion	Milwaukee 2657-22	54275A18	307.50
L 1/4″ Hex	0-121	18	2,900	—	5 3/8″	2.8	Lithium Ion	Makita XDT11R	51455A91	180.66
Optional Straight-Head Attachment for Style J									37375A21	$72.05

★ Does not include an electric brake.

Replacement Battery Packs and Chargers

	Battery Packs		Chargers	
For Style A	4443A33	$49.23	4443A22	$56.92
For Style B	29835A115	136.00	29835A112	80.86
For Style C	54275A31	170.00	54275A33	66.00
For Style D	29735A124	127.69	29735A128	64.62
For Style E	27875A15	114.91	27875A17	122.97
For Style F	29835A121	161.11	29835A631	81.82

	Battery Packs		Chargers	
For Style G	27875A15	$114.91	27875A17	$122.97
For Style H	29835A109	121.04	29835A112	80.86
For Style J	27875A15	114.91	27875A17	122.97
For Style K	29735A124	127.69	29735A128	64.62
For Style L	27875A18	92.52	27875A17	122.97

Electric Impact Wrenches

No need to fire up your air compressor—just plug in and start working. Our electric wrenches operate on 120 volts AC and deliver full torque in clockwise and counterclockwise direction. All have an 8-ft. cord with two-prong plug. Wrenches are UL listed. Use with impact sockets only (see pages 2788-2794).

Style A wrench has a variable speed setting. **Style B** wrench with ring-and-hole style socket retainer includes a socket retaining ring.

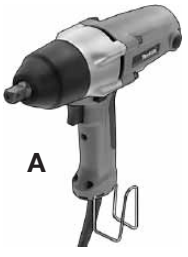





	Working Torque, ft.-lbs.	Max. Torque, ft.-lbs.	No Load rpm	Socket Retainer Style	Amps	Hz	O'all Lg.	Wt., lbs.	Mfr. and Model No.		
1/2″ Square Drive											
A	0-150	150	2,200	Pin	3.3	60	9 7/8″	4.6	Makita TW0200	57755A46	$206.31
B	0-300	300	1,800	Pin	7	60	11 5/8″	6	Milwaukee 9070-20	7184A31	181.25
B	0-300	300	1,800	Ring	7	60	11 5/8″	6	Milwaukee 9071-20	7184A32	181.25
C	0-345	345	2,100	Pin	7.5	50/60	11 1/4″	7	DeWalt DW292	5736A72	190.76
3/4″ Square Drive											
B	0-380	380	1,800	Ring & Hole	7	60	11 5/8″	6.2	Milwaukee 9075-20	7184A33	285.00
C	0-345	345	2,100	Pin	7.5	50/60	11 1/4″	7	DeWalt DW294	5736A83	254.18

Air-Powered & Cordless Ratchet Wrenches

For information about powered fastening tools, see page 2795.

Air-Powered Ratchet Wrenches









Finish jobs quickly and with less effort using these air-powered wrenches. They have a ball-detent-style socket retainer that allows quick socket changes—pull the socket off the retainer and push on another one. Wrenches operate at full torque in both clockwise and counterclockwise direction. They have a lever speed control, unless noted. Recommended air pressure is 90 psi. Use with impact sockets and power sockets, except standard duty 3/8" square drive Style C is for use with impact sockets only. See pages 2788-2794 for sockets. Note: Air-powered tools require lubrication to operate properly.

Standard duty wrenches are for general shop applications.

Built for durability, **heavy duty** wrenches can handle the demands of high-volume production and heavy maintenance applications.

	Working Torque, ft.-lbs.	Max. Torque, ft.-lbs.	No-Load rpm	Avg. cfm @ 90 psi	Air Inlet, NPT	For Hose ID	O'all Lg.	Wt., lbs.		
Standard Duty										
1/4" Square Drive										
A	5-20	25	250	3	1/4	3/8"	7 3/8"	1.4	7305A41	$117.17
A	5-25	30	330	2.8	1/4	3/8"	7 3/8"	1.4	7305A42	162.77
3/8" Square Drive										
A	5-25	30	330	2.8	1/4	3/8"	7 3/8"	1.4	6949A65	166.31
B	10-45	54	160	4	1/4	3/8"	10 3/4"	2.8	6949A41	131.43
B	10-60	76	220	4	1/4	3/8"	12"	3.3	6949A61♠	173.70
C	10-90	90	190	5	1/4	3/8"	12"	2.7	6949A66	258.63
1/2" Square Drive										
B	10-45	54	160	4	1/4	3/8"	10 7/8"	2.8	6949A46	140.16
C	10-90	110	180	3.25	1/4	3/8"	10 1/4"	2.8	6949A67	190.66
Heavy Duty										
1/4" Square Drive										
B	0-35	35	235	1.4	1/4	3/8"	7 7/8"	1.4	1392A1	380.54
3/8" Square Drive										
C	0-35	35	235	1.4	1/4	3/8"	7 3/4"	1.4	1392A2	386.30
D	5-70	70	275	4.5	1/4	3/8"	12 1/8"	2.9	1392A3♠	421.81

♠ Push-button control.

Torque-Limiting Air-Powered Wrenches





Set your desired torque and the wrench will prevent you from exceeding it. Also known as nutrunners, these tools are commonly used in assembly applications. They have a pin-style (also called positive locking) socket retainer that has a pin that fits into a matching hole in the socket and provides a secure hold. Wrenches operate at full torque in both clockwise and counterclockwise direction. Wrenches have a lever speed control. Recommended air pressure is 90 psi. Use with impact sockets only. Note: Air-powered tools require lubrication to operate properly.

The 1/4" square drive wrench shuts off automatically when the torque setting is reached. The 3/8" square drive wrench disengages the clutch to indicate when the torque setting is reached.

Sq. Drive	Working Torque, ft.-lbs.	Max. Torque, ft.-lbs.	No-Load rpm	Avg. cfm @ 90 psi	Air Inlet, NPT	For Hose ID	O'all Lg.	Wt., lbs.		
1/4"	0.16-3.8	3.8	700	13	1/8	1/4"	12 1/2"	1.8	1132A11	$1,225.07
3/8"	1.25-9.16	9.16	600	16	1/4	1/4"	13 1/8"	3.4	1132A1	1,360.30

3/8" Square Drive Cordless Ratchet Wrenches





The motor stops when the fastener is tight. Wrenches have socket retainers that allow quick socket changes—pull the socket off the retainer and push on another one. Use these wrenches with impact sockets only. Wrenches operate at full torque in both a clockwise and counterclockwise direction.

Both wrenches include a charger. Wrench with 0-44 ft.-lbs. torque includes two lithium ion batteries and a canvas carrying bag. Wrench with 10-45 ft.-lbs. torque includes one lithium ion battery and a plastic case.

Working Torque, ft.-lbs.	Max. Torque, ft.-lbs.	Volts	No-Load rpm	Socket Retainer Style	O'all Lg.	Wt., lbs.	Wrenches		Repl. Batteries		Repl. Chargers	
0-44	44	18	2,000	Ring	15 1/4"	3.7	5483A31	$449.00	27875A15	$114.91	27875A17	$122.97
10-45	45	20	225	Ball Detent	17 1/2"	5	5483A52	364.35	5483A53	126.98	5483A54	103.17

Torque Multipliers

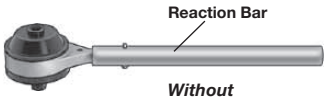

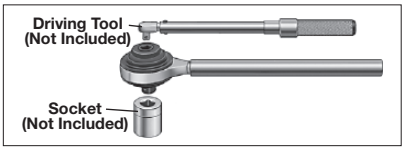

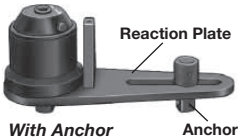



When you need more torque than your wrench can deliver, multipliers help you reach high torque values without a lot of effort. Gears in the housing multiply the amount of force (or torque) that can be applied to the fastener. For example, if the torque ratio is 1:3.3 and you apply 100 ft.-lbs., the torque output would be 330 ft.-lbs.

Multipliers torque in clockwise and counterclockwise directions. Accuracy is ±5% of torque output.

Without Anchor— Place the reaction bar against a stationary object to keep the tool in place. Multipliers for hand tools signal with an audible click when overtorque occurs. When those for hand and nonimpact power tools are overtorqued, the male output square drive shears off to protect the gear housing (an extra male square drive comes with each tool). Models with ½″ female and 1″ male square drive have an anti-backlash feature to prevent wrench from swinging back when torqued.

With Anchor— Choose a multiplier with an anchor when you need extra stability in order to apply greater force. The reaction plate is held down by placing a socket on the anchor and attaching it to a secured fastener. The anchor and the male output drive have the same square size. When overtorqued, the male output square drive shears off to protect the gear housing (an extra male square drive comes with each tool). An antibacklash feature prevents wrench from swinging back when torqued.

Square Drive Female	Square Drive Male	Torque Ratio	Max. Input ft.-lbs.	Max. Input Nm	Max. Output ft.-lbs.	Max. Output Nm	O'all Lg.	Multipliers		Replacement Male Output Drive	
Without Anchor—For hand tools.											
½″	¾″	1:3.3	227	307	750	1,016	8⅝″	7295A31	$488.48		
½″	¾″	1:4	295	398	1,000	1,356	22½″	5603A1	406.90		
¾″	1″	1:4	588	798	2,000	2,711	24″	5603A2	661.81		
1″	1½″	1:4.33	1,176	1,466	4,000	5,423	28⅞″	5603A3	1,482.96		
Without Anchor—For hand and nonimpact power tools.											
½″	¾″	1:6	200	271	1,200	1,627	19⅝″	7295A12	969.57	7295A13	$50.09
½″	1″	1:13.6	162	220	2,200	2,982	19⅝″	7295A16	1,598.21	7295A17	70.72
½″	1″	1:18.5	173	235	3,200	4,338	19⅝″	7295A18	2,313.85	7295A19	112.58
With Anchor—For hand and nonimpact power tools.											
½″	1″	1:13.6	162	220	2,200	2,983	14″	51525A42	2,574.90	7295A17	70.72
½″	1″	1:18.5	173	235	3,200	4,339	14″	51525A43	4,059.34	7295A19	112.58
½″	1½″	1:26.5	189	256	5,000	6,779	14⅞″	51525A44	4,958.05	51525A21	186.77

Adjustable Torque-Limiting Adapters



To prevent overtorquing, adapters click and release when they've reached the torque setting. Pair them with any standard square-drive tool. To set torque, remove the snap ring and locking plate, then adjust the nut. Note: There's no Nm scale on the adapter, so you'll need a torque tester (see page 2805) or torque wrench to check the setting.

All have a female square drive on one end and a male square drive on the other; drives are the same size. Adapters torque in clockwise and counterclockwise directions. Accuracy is 5% of the torque setting. Maximum rpm is 300. Made of steel.

Adaptable to machine and nonimpact power tool applications if used intermittently. Not for use with impact tools. For best results, choose an adapter so that your desired torque setting falls in the middle of its torque range.

Also Available: Factory-set torque-limiting adapters with ⅜″ drive and 60-, 75-, 180-, or 240-in.-lb. torque setting, or ½″ drive with 360-in.-lb. setting. Please ask for 6968A9 and specify drive size and torque setting.

Square Drive	Torque Range in.-lbs.	Torque Range Nm	Dia.	O'all Lg.		
⅜″	24 to 180	2.7 to 20.3	1½″	2⅛″	6968A12	$90.89
⅜″	60 to 300	6.8 to 33.9	1½″	2⅛″	6968A14	90.89
½″	120 to 480	13.6 to 54.2	1¾″	2⅝″	6968A16	108.67
½″	240 to 600	27.1 to 67.8	1¾″	2⅝″	6968A18	108.67
½″	480 to 900	54.2 to 101.7	2¼″	2⅝″	6968A21	240.24
½″	720 to 1,440	81.4 to 162.7	3″	2¾″	6968A22	343.55

Electronic Torque Analyzers and Sensors



Use an analyzer with a sensor (sold separately) to display, store, collect, and download torque readings for a variety of applications—just switch sensors as you switch jobs. Each sensor has a 4 ft. long cable, except sensor with ¾″ square drive has an 8-ft. long cable. Not for use with power tools.

Torque Analyzer— Stores up to 3,500 readings, which can be downloaded to a PC with an RS-232 cable (sold separately). The LCD shows track display (values as they're measured) or peak display (high value). Torque can be measured in ft.-lbs., in.-lbs., in.-oz., Nm, dNm, m-kg, or cm-kg. Use the keypad to specify high and low torque limits. Also features an audio output jack for use with headphones (the unit beeps at 110% of torque setting). Measures 6″ Lg.×3″ Wd.×2½″ Ht. Includes a rechargeable NiCad battery and charger. Comes in a plastic case.

Attachable Sensors— Sensors fit between your socket and driver and plug into the back of the torque analyzer. They have a female square drive on one end and a male square drive on the other; drives are the same size. Accuracy is ±1% of torque setting for 10-100% of torque range. Come with certificate of calibration traceable to NIST.

Hand-Held Sensors— No need for extra tools; grasp the knurled sensor and let your hand work as the driver for low-torque applications. Sensors have a male square drive. Accuracy is ±2% of torque reading for 10-100% of torque range. Come with certificate of calibration traceable to NIST.

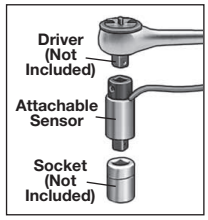

Torque Analyzer

5833A11		$1,298.49
Optional RS-232 to PC Cable (12-ft. Lg.)	5833A36	$78.96

Attachable Sensors

Square Drive	Torque Range		
¼″	5 to 50 in.-lbs.	5833A21	$425.24
¼″	20 to 200 in.-lbs.	5833A22	385.16
⅜″	10 to 100 ft.-lbs.	5833A23	386.55
½″	25 to 250 ft.-lbs.	5833A24	454.07
¾″	60 to 600 ft.-lbs.	5833A27	505.69

Hand-Held Sensors

Square Drive	Torque Range		
¼″	2 to 20 in.-oz.	5833A25	$514.73
¼″	1 to 10 in.-lbs.	5833A26	524.73

About Torque Tools

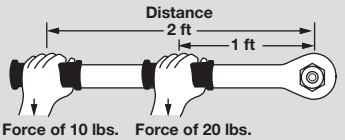

Torque is a measure of turning or twisting force. It is calculated by multiplying force by distance. For example, if you applied 10 lbs. of force with a 2-ft. wrench, you would get 20 ft.-lbs. of torque; if you applied 20 lbs. of force with a 1-ft. wrench, you would also get 20 ft.-lbs. of torque.

Selecting the Correct Torque Range— For the most accurate performance, the maximum torque you're applying should fall near the middle of the tool's torque range. For example, if you're applying 50 ft.-lbs. of torque, choose a wrench with a range of 5 to 100 ft.-lbs., rather than a range of 5 to 50 ft.-lbs.

Accuracy— Accuracy is usually given for 20-100% of a tool's torque range. For example, if the torque range is 20 to 120 in.-lbs., the accuracy statement is true for measurements between 40 and 120 in.-lbs. Below 20% of the torque range, the tool's accuracy often drops significantly.

Certificates of Calibration— Torque tools are calibrated by the manufacturer; the certificate provides proof of calibration and the date it was completed. Shelf life does not affect the calibration of a torque tool. Common practice is to consider the calibration life to begin at the date of purchase or first use.

Conversions— The chart below shows how to convert between some of the units used to measure torque:

Nm = Newton meters
dNm = deci Newton meters
cNm = centi Newton meters

To Convert From	To	Multiply By
in.-lbs.	in.-oz.	16
in.-lbs.	ft.-lbs.	0.08333
in.-lbs.	cm-kg	1.1519
in.-lbs.	m-kg	0.011519
in.-lbs.	Nm	0.113
in.-lbs.	dNm	1.13
in.-lbs.	cNm	11.3
ft.-lbs.	m-kg	0.1382
ft.-lbs.	Nm	1.356
Nm	dNm	10
Nm	cm-kg	10.2
Nm	m-kg	0.102

To Convert From	To	Multiply By
in.-oz.	in.-lbs.	0.0625
ft.-lbs.	in.-lbs.	12
cm-kg	in.-lbs.	0.8681
m-kg	in.-lbs.	86.81
Nm	in.-lbs.	8.85
dNm	in.-lbs.	0.885
cNm	in.-lbs.	0.0885
m-kg	ft.-lbs.	7.236
Nm	ft.-lbs.	0.7376
dNm	Nm	0.10
cm-kg	Nm	0.09807
m-kg	Nm	9.807

Torque Wrenches

Premium Electronic Torque Wrenches



Track applied torque and tighten fasteners with precision. The large LCD shows track display (values as they're measured) or peak display (highest value). Wrenches store up to 100 torque values and recall up to 100 measurements in order of operation. You can set the desired torque along with high and low tolerance limits. Lights signal when lower limit is met. Lights and audible alarm signal when target is met or upper limit is exceeded.

Accuracy is ±2% of torque setting for indicated torque range (for both clockwise and counterclockwise use). Torque can be measured in in.-lbs., ft.-lbs., and Nm. Download values using the required software and RS-232 cable (sold separately). Wrenches use four AA batteries (included) and come in a plastic case with certificate of calibration traceable to NIST.

Square Drive	Torque Range in.-lbs.	Torque Range ft.-lbs.	Torque Range Nm	Graduations in.-lbs.	Graduations ft.-lbs.	Graduations Nm	O'all Lg.		
1/4"	25 to 250	2 to 21	2.8 to 28	0.1	0.01	0.01	15 1/4"	8545A15	$639.12
3/8"	120 to 1,200	10 to 100	13.6 to 136	1	0.1	0.1	17"	8545A16	656.34
1/2"	300 to 3,000	25 to 250	34 to 339	1	0.1	0.1	23"	8545A17	690.76
Software and RS-232 to PC Cable (6 ft. Lg.)								8545A18	271.09

Electronic Torque Wrenches with Rotating Dial



Rotate the large digital display so you can read it at any angle. Torque wrenches show a track display (values as they're measured) or a peak display (highest value). A touch of a button sets pass/fail mode for quick target tolerance settings from ±1% to ±10%. Colored lights and audible alarm signal to let you know whether you're above, below, or within your target torque range. Accuracy is ±1% of torque setting for entire torque range (for clockwise and counterclockwise use). Wrenches are chrome-plated steel with a plastic grip. They use a 9-volt battery (included), and come in a plastic case with certificate of calibration traceable to NIST.

Square Drive	Torque Range in.-lbs.	Torque Range ft.-lbs.	Torque Range Nm	Graduations in.-lbs.	Graduations ft.-lbs.	Graduations Nm	O'all Lg.		
1/4"	7.5 to 75	0.63 to 6.25	0.84 to 8.5	0.01	0.01	0.01	11"	7767A11	$587.49
1/4"	10 to 100	0.83 to 8.3	1.1 to 11.1	0.1	0.01	0.01	11"	7767A12	620.13
3/8"	25 to 250	2.1 to 20.8	2.8 to 28.2	0.1	0.01	0.01	11"	7767A13	697.74
3/8"	60 to 600	5 to 50	6.8 to 67.8	0.1	0.01	0.1	11"	7767A14	668.99
1/2"	300 to 3,000	25 to 250	33.8 to 338	1	0.1	0.1	22"	7767A15	760.18
3/4"	720 to 7,200	60 to 600	81 to 813	1	0.1	0.1	47"	7767A16	1,409.99

Electronic Torque Wrenches



Set your torque value with the touch of a button. Digital display, colored lights, and an audible alarm let you know whether you're above, below, or have reached your target torque. Wrenches show a track display (values as they're measured) or a peak display (highest value). They have a reversible ratchet head and come in a plastic case with certificate of calibration traceable to NIST.

Wrenches with 120 to 1,200 and 300 to 3,000 in.-lbs. torque range have a steel body and a rubber grip. Accuracy is ±2% (for clockwise use) and ±3% (for counterclockwise use) of torque setting for 20-100% of torque range. Wrenches use two CR123 batteries (included).

Wrench with 180 to 1,800 in.-lbs. torque range has a steel body and a plastic grip. Accuracy is ±3.5% of torque setting for 20-100% of torque range (for clockwise and counterclockwise use). Requires three AA batteries (sold separately).

Square Drive	Torque Range in.-lbs.	Torque Range ft.-lbs.	Torque Range Nm	Graduations in.-lbs.	Graduations ft.-lbs.	Graduations Nm	O'all Lg.		
3/8"	120 to 1,200	10 to 100	13.6 to 135.6	1	0.1	0.1	17"	8976A45	$339.39
1/2"	180 to 1,800	15 to 150	20.3 to 203	6	0.5	0.6	22 1/2"	8976A31	163.33
1/2"	300 to 3,000	25 to 250	33.8 to 338	1	0.1	0.1	27"	8976A12	392.94
AA Alkaline Battery (Pkg. of 4)								71455K53	2.94

Adjustable Click-Style Torque Wrenches

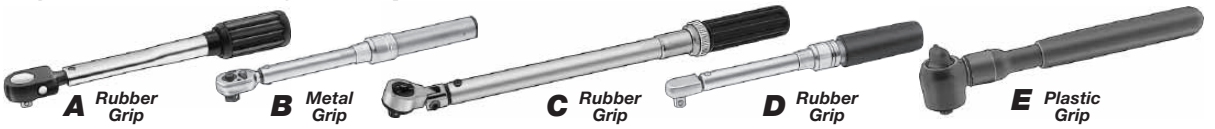

Turn the handle to the desired torque setting and lock in place. When torque setting is reached, wrenches signal with an audible click and an impulse in the grip. Accuracy is ±4% of torque setting for 20-100% of torque range (for clockwise use) and ±6% of torque setting for 20-100% of torque range (for counterclockwise use), unless noted. Body is steel. Wrenches come in a case (unless otherwise stated) with a certificate of calibration traceable to NIST.

Style C has a head that pivots 15° up and down.

Style E are insulated, tested to 1,000 VAC, and meet IEC 900 specifications. Handle is nonconductive. Case not included.

Note: To relieve pressure on the spring and maintain calibration, return setting to lowest reading on scale when not in use.

Sq. Drive	Torque Range	Graduations	Grip	O'all Lg.		
(A) Reversible Ratchet Head						
in.-lbs., Nm						
1/4"	—	4 to 20 Nm	— 0.2 Nm	Metal	10 1/8"	85555A111● $200.86
1/4"	10 to 50 in.-lbs.	—	1.0 in.-lbs., —	Metal	11 1/4"	85555A113★ 184.48
1/4"	10 to 50 in.-lbs.,	1.08 to 5.4 Nm	0.5 in.-lbs., 0.06 Nm	Metal	10"	85555A114 148.64
1/4"	30 to 150 in.-lbs.,	3.06 to 15.3 Nm	1.0 in.-lbs., 0.12 Nm	Rubber	10"	85555A115 150.17
3/8"	30 to 150 in.-lbs.	—	2.0 in.-lbs., —	Metal	11 3/4"	85555A212★ 190.52
3/8"	30 to 150 in.-lbs.,	3.06 to 15.3 Nm	1.0 in.-lbs., 0.12 Nm	Rubber	10"	85555A213 150.17
3/8"	40 to 200 in.-lbs.	—	2.0 in.-lbs., —	Metal	11 3/4"	85555A215★ 190.52
3/8"	50 to 250 in.-lbs.,	5.54 to 27.7 Nm	1.0 in.-lbs., 0.12 Nm	Metal	11 1/4"	85555A214 149.38
3/8"	150 to 750 in.-lbs.	—	5.0 in.-lbs., —	Rubber	16"	85555A216 174.47
3/8"	200 to 1,000 in.-lbs.,	22.04 to 110.2 Nm	5.0 in.-lbs., 0.6 Nm	Metal	16"	85555A217 159.93
1/2"	150 to 750 in.-lbs.,	16.38 to 81.9 Nm	5.0 in.-lbs., 0.6 Nm	Metal	16"	85555A218 182.62
1/2"	300 to 2,500 in.-lbs.,	39.6 to 276.9 Nm	10.0 in.-lbs., 1.2 Nm	Metal	18"	85555A221 258.85
1/2"	700 to 1,600 in.-lbs.	—	10.0 in.-lbs., —	Rubber	19"	85555A219 181.40
ft.-lbs., Nm						
3/8"	5 to 75 ft.-lbs.,	10.2 to 98.3 Nm	0.5 ft.-lbs., 0.7 Nm	Metal	16"	85555A311 153.15
3/8"	20 to 100 ft.-lbs.,	26.44 to 132.2 Nm	0.5 ft.-lbs., 0.7 Nm	Metal	16"	85555A312 158.38
1/2"	30 to 150 ft.-lbs.,	39.4 to 197 Nm	1.0 ft.-lbs., 1.4 Nm	Rubber	19"	85555A316 183.06
1/2"	30 to 250 ft.-lbs.,	47 to 332 Nm	1.0 ft.-lbs., 1.4 Nm	Rubber	24 7/16"	85555A319 230.78
1/2"	50 to 250 ft.-lbs.,	66.4 to 332 Nm	1.0 ft.-lbs., 1.4 Nm	Metal	24 3/8"	85555A318 183.57
3/4"	80 to 400 ft.-lbs.,	85 to 491 Nm	5.0 ft.-lbs., 3.4 Nm	Metal	34 1/4"	85555A321 603.54
3/4"	100 to 600 ft.-lbs.,	169 to 779 Nm	5.0 ft.-lbs., 6.8 Nm	Rubber	42"	85555A322 675.96
3/4"	220 to 750 ft.-lbs.,	300 to 1,000 Nm	5.0 ft.-lbs., 10 Nm	Metal	49 1/8"	85555A324■ 1,384.62
3/4"	370 to 1,100 ft.-lbs.,	500 to 1,500 Nm	10.0 ft.-lbs., 10 Nm	Metal	61 3/4"	85555A325■ 1,461.54
1"	140 to 700 ft.-lbs.,	217 to 976 Nm	2.0 ft.-lbs., 2.71 Nm	Metal	47 7/8"	85555A326 884.56
1"	200 to 1,000 ft.-lbs.,	264.4 to 1,322 Nm	5.0 ft.-lbs., 6.8 Nm	Metal	70"	85555A327 948.67
1"	370 to 1,100 ft.-lbs.,	500 to 1,500 Nm	10.0 ft.-lbs., 10 Nm	Metal	61 3/4"	85555A328■ 1,576.92
(B) Reversible Ratchet Head with Push-Button Socket Release						
in.-lbs., Nm						
1/4"	30 to 150 in.-lbs.,	3.06 to 15.3 Nm	1.0 in.-lbs., 0.12 Nm	Plastic	10"	85555A411 144.38
3/8"	30 to 150 in.-lbs.	—	1.0 in.-lbs., —	Metal	10"	85555A211 145.78
3/8"	50 to 250 in.-lbs.,	5.54 to 27.7 Nm	1.0 in.-lbs., 0.12 Nm	Plastic	11 1/4"	85555A412 151.57
3/8"	50 to 250 in.-lbs.,	5.54 to 27.7 Nm	1.0 in.-lbs., 0.12 Nm	Metal	11 1/4"	85555A413 150.11
3/8"	150 to 1,000 in.-lbs.,	19.8 to 110.2 Nm	5.0 in.-lbs., 0.6 Nm	Metal	16"	85555A414 189.36
ft.-lbs., Nm						
3/8"	5 to 75 ft.-lbs.,	10.2 to 98.3 Nm	0.5 ft.-lbs., 0.7 Nm	Metal	16"	85555A415 156.87
3/8"	10 to 100 ft.-lbs.,	16.9 to 132.2 Nm	0.5 ft.-lbs., 0.7 Nm	Metal	16"	85555A416 179.00
1/2"	20 to 150 ft.-lbs.,	34 to 197 Nm	1.0 ft.-lbs., 1.4 Nm	Metal	20"	85555A417 191.21
1/2"	30 to 150 ft.-lbs.	—	1.0 ft.-lbs., —	Metal	19"	85555A314 172.67
1/2"	30 to 250 ft.-lbs.,	47 to 332 Nm	1.0 ft.-lbs., 1.4 Nm	Metal	24 7/16"	85555A421 230.11
1/2"	30 to 150 ft.-lbs.,	39.4 to 197 Nm	1.0 ft.-lbs., 1.4 Nm	Plastic	19"	85555A418 165.96
1/2"	40 to 200 ft.-lbs.,	54 to 271 Nm	1.0 ft.-lbs., 1.4 Nm	Plastic	19"	85555A419 172.66
1/2"	50 to 250 ft.-lbs.,	66.4 to 332 Nm	1.0 ft.-lbs., 1.4 Nm	Plastic	24 3/8"	85555A422 169.64
(C) Reversible Ratchet Flex Head						
ft.-lbs.						
3/8"	10 to 80 ft.-lbs.	—	0.5 ft.-lbs., —	Rubber	16 5/8"	85555A711 180.85
(D) Nonratcheting Head						
in.-lbs., Nm						
1/4"	10 to 50 in.-lbs.,	1.08 to 5.4 Nm	0.5 in.-lbs., 0.06 Nm	Metal	10"	85555A511 128.09
1/4"	30 to 150 in.-lbs.,	3.06 to 15.3 Nm	1.0 in.-lbs., 0.12 Nm	Rubber	10"	85555A512 131.95
3/8"	30 to 150 in.-lbs.,	3.06 to 15.3 Nm	1.0 in.-lbs., 0.12 Nm	Rubber	10"	85555A513 135.91
3/8"	50 to 250 in.-lbs.,	5.54 to 27.7 Nm	1.0 in.-lbs., 0.12 Nm	Metal	11 1/4"	85555A514 131.35
3/8"	150 to 750 in.-lbs.	—	5.0 in.-lbs., —	Rubber	16"	85555A515 152.13
3/8"	200 to 1,000 in.-lbs.,	22.04 to 110.2 Nm	5.0 in.-lbs., 0.6 Nm	Metal	16"	85555A516 144.78
1/2"	150 to 750 in.-lbs.,	16.38 to 81.9 Nm	5.0 in.-lbs., 0.6 Nm	Metal	16"	85555A517 167.18
ft.-lbs., Nm						
3/8"	5 to 75 ft.-lbs.,	19.66 to 98.3 Nm	0.5 ft.-lbs., 0.7 Nm	Metal	16"	85555A611 147.71
3/8"	20 to 100 ft.-lbs.,	26.44 to 132.2 Nm	0.5 ft.-lbs., 0.7 Nm	Metal	16"	85555A612 147.71
1/2"	30 to 150 ft.-lbs.,	39.4 to 197 Nm	1.0 ft.-lbs., 1.4 Nm	Rubber	19"	85555A613 165.47
1/2"	50 to 250 ft.-lbs.,	66.4 to 332 Nm	1.0 ft.-lbs., 1.4 Nm	Metal	23 3/8"	85555A614 175.38
3/4"	120 to 600 ft.-lbs.,	154 to 770 Nm	5.0 ft.-lbs., 6.8 Nm	Metal	42"	85555A615 510.51
1"	200 to 1,000 ft.-lbs.,	264.4 to 1,322 Nm	5.0 ft.-lbs., 6.8 Nm	Metal	70"	85555A616 824.27
(E) Insulated Reversible Ratchet Head						
in.-lbs.						
1/4"	30 to 150 in.-lbs.	—	1.0 in.-lbs., —	Plastic	10 1/2"	7936A11 392.67
3/8"	30 to 150 in.-lbs.	—	1.0 in.-lbs., —	Plastic	10 1/2"	7936A12 392.67
3/8"	30 to 250 in.-lbs.	—	1.0 in.-lbs., —	Plastic	11 3/8"	7936A13 392.67
1/2"	150 to 750 in.-lbs.	—	5.0 in.-lbs., —	Plastic	15 1/2"	7936A14 672.41

● Accuracy is not rated for counterclockwise use. ★ For clockwise use only. ■ ±3% accuracy for clockwise and counterclockwise use.

Torque Wrenches

For information about torque tools, see page 2800.

Easy-Read Adjustable Click-Style Torque Wrenches

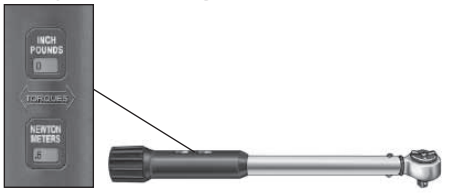

Forget squinting at scales and converting measurements—these wrenches display torque settings in two easy-to-read values. Set the torque using the knob at the end of the grip. When your torque setting is reached, the wrench signals with an audible click, an impulse in the grip, and a momentary release.

Wrenches have a reversible ratchet head, a chrome-plated steel body, and a rubber grip, except 3/4" square-drive wrench, which has a metal grip. Accuracy is ±4% of torque setting for 20-100% of torque range (for clockwise use). Accuracy is not rated for counterclockwise use. Come in a plastic case with certificate of calibration traceable to NIST.

Note: To relieve pressure on the spring and maintain calibration, return setting to lowest reading on scale when not in use.

Square Drive	Torque Range	Graduations	O'all Lg.		
in.-lbs., Nm					
3/8"	25 to 250 in.-lbs., 3 to 27.8 Nm	2 in.-lbs., 0.2 Nm	14"	5274A11	$173.20
ft.-lbs., Nm					
3/8"	5 to 80 ft.-lbs., 5 to 110 Nm	0.5 ft.-lbs., 1 Nm	17"	5274A12	160.78
1/2"	10 to 150 ft.-lbs., 10 to 200 Nm	1 ft.-lbs., 2 Nm	20 3/4"	5274A13	167.05
1/2"	25 to 250 ft.-lbs., 35 to 340 Nm	2 ft.-lbs., 2 Nm	21 3/4"	5274A14	192.45
3/4"	100 to 600 ft.-lbs., 135 to 815 Nm	50 ft.-lbs., 65 Nm	43"	5274A15	553.71

No-Reset Adjustable Click-Style Torque Wrenches

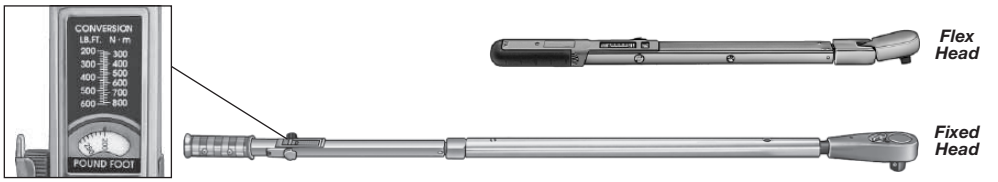

Unique split-beam design inside the wrench body minimizes friction and wear and eliminates the need to return to the lowest scale reading after each use. To set torque, turn knob to the desired setting. When your torque setting is reached, the wrench signals with an audible click and a momentary release. Use the chart above the display to convert ft.-lbs. to Nm. Wrenches have a chrome-plated steel body and a metal grip. They come in a plastic case with certificate of calibration traceable to NIST.

Flex Head—The nonreversing ratchet head flexes 15° to work around obstacles. Accuracy is ±4% of torque setting for 20-100% of torque range (for clockwise use).

Fixed Head—Has a reversible ratchet head. Three components detach for compact storage. Accuracy is ±4% of torque setting for 20-100% of torque range (for clockwise and counterclockwise use).

Note: You must use all pieces to obtain correct readings.

Square Drive	Torque Range	Graduations	O'all Lg.		
Flex Head					
3/8"	20 to 100 ft.-lbs.	2 ft.-lbs.	17 5/8"	5387A22	$207.06
1/2"	40 to 250 ft.-lbs.	5 ft.-lbs.	22 1/8"	5387A25	227.31
Fixed Head					
3/4"	200 to 600 ft.-lbs.	10 ft.-lbs.	48 1/2"	5387A56	407.90

High-Accuracy Flat-Beam Torque Wrenches

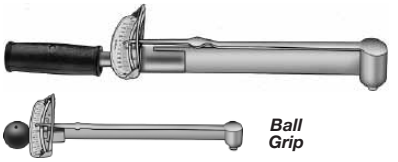

The most accurate nonelectronic torque tools we offer have almost no moving parts and are virtually maintenance-free. Memory pointers show the torque reached. Body is steel; grip is plastic. Accuracy is ±2% of torque setting for 20-100% of torque range (for clockwise and counterclockwise use). Wrenches come with certificate of calibration traceable to NIST.

Also Available: Wrenches with metric (Nm) scales. Please ask for 5358A95 and specify grip style (straight or ball), square drive (1/4", 3/8", or 1/2"), and maximum torque (2.5, 5, 12, 22, 34, 70, 140, or 210 Nm).

Square Drive	Torque Range	Graduations	O'all Lg.		
Straight Grip—*in.-lbs.*					
3/8"	0 to 300 in.-lbs.	10 in.-lbs.	15 1/2"	5358A14	$333.33
3/8"	0 to 600 in.-lbs.	25 in.-lbs.	15 1/2"	5358A15	416.50
Straight Grip—*ft.-lbs.*					
1/2"	0 to 100 ft.-lbs.	5 ft.-lbs.	17"	5358A16	437.08
1/2"	0 to 150 ft.-lbs.	5 ft.-lbs.	20"	5358A17	479.42
Ball Grip—*in.-oz.*					
1/4"	0 to 32 in.-oz.	2 in.-oz.	6 3/4"	5358A41	253.33
1/4"	0 to 80 in.-oz.	5 in.-oz.	6 7/8"	5358A42	253.33
1/4"	0 to 160 in.-oz.	10 in.-oz.	6 3/4"	5358A43	253.33
Ball Grip—*in.-lbs.*					
1/4"	0 to 10 in.-lbs.	0.5 in.-lbs.	6 3/4"	5358A44	253.33
3/8"	0 to 25 in.-lbs.	1 in.-lbs.	7"	5358A45	263.33
3/8"	0 to 50 in.-lbs.	2 in.-lbs.	6 3/4"	5358A46	266.67
3/8"	0 to 100 in.-lbs.	5 in.-lbs.	7 1/4"	5358A47	306.00
3/8"	0 to 200 in.-lbs.	10 in.-lbs.	9 3/4"	5358A48	295.83

Economy Round-Beam Torque Wrenches

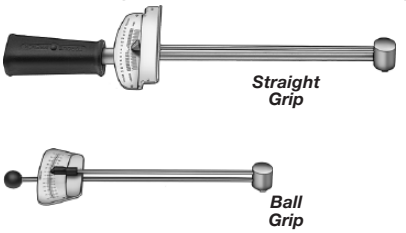

The grip pivots and transmits torque directly to the indicator needle. Body is steel; grip is plastic. Accuracy is ±7% of torque setting for 20-100% of torque range (for clockwise and counterclockwise use).

Square Drive	Torque Range	Graduations	O'all Lg.		
Straight Grip—*in.-lbs., Nm*					
3/8"	0 to 600 in.-lbs., 0 to 68 Nm	50 in.-lbs., 11 Nm	15"	7181A17	$79.36
Straight Grip—*ft.-lbs., Nm*					
1/2"	0 to 150 ft.-lbs., 0 to 190 Nm	5-ft.-lbs., 27 Nm	19 1/4"	7181A18	77.18
Ball Grip—*in.-lbs., cm-kg*					
1/4"	0 to 60 in.-lbs., 0 to 70 cm-kg	2.5 in.-lbs., 0.25 cm-kg	11"	7181A21	61.78

Interchangeable-Head Click-Style Torque Wrenches



Adjustable Handle | *Nonratcheting* | *Reversible Ratchet* | *Open End* | *Box End* | *Flare-Nut End* | *Hex Key*

Interchangeable heads let you tackle several jobs with one torque wrench. Wrenches have a pin lock for a secure connection between handle and head (handles and heads sold separately). When torque setting is reached, wrenches signal with an audible click and a momentary release. They torque in both clockwise and counterclockwise directions. To reverse direction, remove head, turn handle over, and reattach head. *Note:* Do not exceed maximum torque of handle or head.

Handles— Accuracy is ±4% of torque setting for 20-100% of torque range. Come with certificate of calibration traceable to NIST.

Adjustable handles have a steel body and a metal grip. Turn grip to set torque, then lock in setting. *Note:* To relieve pressure on the spring and maintain calibration, return setting to lowest reading on scale when not in use. *Factory-set handles* have a steel body and a vinyl grip.

Heads— All heads have one-piece construction and a consistent length to the center of the fastener, so you don't need to recalibrate handles when changing heads. Made of cast alloy steel.

Adjustable Handles

Torque Range	Graduations	O'all Lg.		
in.-lbs.				
10 to 50 in.-lbs.	1 in.-lbs.	10 3/8"	5347A25	$159.00
30 to 150 in.-lbs.	2 in.-lbs.	10 3/16"	5347A22	172.93
100 to 600 in.-lbs.	5 in.-lbs.	13 3/4"	5347A29	178.40
ft.-lbs.				
15 to 75 ft.-lbs.	0.5 ft.-lbs.	13 11/16"	5347A23	182.40
30 to 150 ft.-lbs.	1 ft.-lbs.	17 1/16"	5347A24	224.04
Nm				
4 to 20 Nm	0.2 Nm	10 1/4"	5347A127	172.93
20 to 100 Nm	0.5 Nm	13 15/16"	5347A128	182.40
40 to 200 Nm	1.0 Nm	17 5/16"	5347A129	220.59

Factory-Set Handles

To Order: Please specify exact torque setting from the ranges listed below.

Available Torque Settings	O'all Lg.		
30 to 150 in.-lbs., 3 to 17 Nm	6 7/8"	5347A64	$164.00
60 to 300 in.-lbs., 6 to 34 Nm	8 3/4"	5347A65	188.38
150 to 750 in.-lbs., 17 to 85 Nm	12 1/2"	5347A66	203.50
360 to 1,800 in.-lbs., 30 to 150 ft.-lbs., 40 to 204 Nm	15 7/8"	5347A67	216.00

Square-Drive Heads

Size	Max. Torque		
Nonratcheting			
1/4"	250 in.-lbs.	5347A55	$39.70
3/8"	1,250 in.-lbs.	5347A56	40.80
1/2"	2,500 in.-lbs.	5347A57	48.00
Reversible Ratchet			
1/4"	250 in.-lbs.	5347A61	71.72
3/8"	1,250 in.-lbs.	5347A62	81.82
1/2"	2,500 in.-lbs.	5347A63	100.50

Wrench Heads

Size	Max. Torque			
Open End— *15° Head Angle*				
1/4"	100 in.-lbs.,	8.3 ft.-lbs.	5347A111	$53.00
5/16"	150 in.-lbs.,	12.5 ft.-lbs.	5347A112	53.00
3/8"	200 in.-lbs.,	16.6 ft.-lbs.	5347A113	53.00
7/16"	300 in.-lbs.,	25 ft.-lbs.	5347A114	53.00
1/2"	350 in.-lbs.,	29.1 ft.-lbs.	5347A115	56.00
9/16"	400 in.-lbs.,	33.3 ft.-lbs.	5347A116	56.00
5/8"	600 in.-lbs.,	50 ft.-lbs.	5347A117	56.00
11/16"	800 in.-lbs.,	66.6 ft.-lbs.	5347A118	56.00
3/4"	1,000 in.-lbs.,	83.3 ft.-lbs.	5347A119	56.00
13/16"	1,250 in.-lbs.,	104.1 ft.-lbs.	5347A121	64.00
7/8"	1,500 in.-lbs.,	125 ft.-lbs.	5347A122	64.00
15/16"	1,750 in.-lbs.,	145.8 ft.-lbs.	5347A123	68.69
1"	2,000 in.-lbs.,	166.6 ft.-lbs.	5347A124	68.69
1 1/16"	2,250 in.-lbs.,	187.5 ft.-lbs.	5347A148	72.50
1 1/8"	2,500 in.-lbs.,	208.3 ft.-lbs.	5347A125	72.50
1 1/4"	3,000 in.-lbs.,	250 ft.-lbs.	5347A126	77.00
8 mm	16 Nm		5347A181	54.00
10 mm	22 Nm		5347A182	53.87
11 mm	34 Nm		5347A183	53.87

Wrench Heads (Cont.)

Size	Max. Torque			
Open End— *15° Head Angle (Cont.)*				
12 mm	39 Nm		5347A184	$57.37
13 mm	39 Nm		5347A185	57.17
14 mm	45 Nm		5347A186	57.17
15 mm	67 Nm		5347A187	57.37
16 mm	67 Nm		5347A188	56.60
17 mm	90 Nm		5347A189	57.17
18 mm	90 Nm		5347A191	57.37
19 mm	113 Nm		5347A192	57.17
22 mm	169 Nm		5347A194	64.44
24 mm	197 Nm		5347A195	68.69
27 mm	254 Nm		5347A196	68.69
Box End				
1/4"	250 in.-lbs.,	20.8 ft.-lbs.	5347A131	58.38
5/16"	350 in.-lbs.,	29.1 ft.-lbs.	5347A132	58.38
3/8"	450 in.-lbs.,	37.5 ft.-lbs.	5347A133	58.38
7/16"	650 in.-lbs.,	54.1 ft.-lbs.	5347A134	58.38
1/2"	850 in.-lbs.,	70.8 ft.-lbs.	5347A135	61.31
9/16"	1,050 in.-lbs.,	87.5 ft.-lbs.	5347A136	61.31
5/8"	1,250 in.-lbs.,	104.1 ft.-lbs.	5347A137	61.31
11/16"	1,450 in.-lbs.,	120.8 ft.-lbs.	5347A138	61.31
3/4"	1,800 in.-lbs.,	150 ft.-lbs.	5347A139	61.31
13/16"	2,100 in.-lbs.,	175 ft.-lbs.	5347A141	66.30
7/8"	2,400 in.-lbs.,	200 ft.-lbs.	5347A142	66.30
15/16"	2,700 in.-lbs.,	225 ft.-lbs.	5347A143	71.50
1"	3,000 in.-lbs.,	250 ft.-lbs.	5347A144	71.50
1 1/16"	3,150 in.-lbs.,	262.5 ft.-lbs.	5347A145	74.50
1 1/4"	3,600 in.-lbs.,	300 ft.-lbs.	5347A147	83.20
10 mm	50 Nm		5347A201	58.18
11 mm	73 Nm		5347A202	58.18
12 mm	96 Nm		5347A209	61.31
13 mm	96 Nm		5347A203	61.31
14 mm	119 Nm		5347A204	61.31
15 mm	141 Nm		5347A205	61.31
17 mm	163 Nm		5347A206	61.31
19 mm	203 Nm		5347A207	60.70
24 mm	305 Nm		5347A208	71.40
Flare-Nut End— *30° Head Angle*				
5/16"	150 in.-lbs.,	12.5 ft.-lbs.	5347A161	61.31
7/16"	250 in.-lbs.,	20.8 ft.-lbs.	5347A163	61.30
1/2"	300 in.-lbs.,	25 ft.-lbs.	5347A164	65.45
9/16"	350 in.-lbs.,	29.1 ft.-lbs.	5347A165	65.45
5/8"	400 in.-lbs.,	33.3 ft.-lbs.	5347A166	65.45
3/4"	600 in.-lbs.,	50 ft.-lbs.	5347A168	65.45
7/8"	800 in.-lbs.,	66.6 ft.-lbs.	5347A171	68.40
15/16"	900 in.-lbs.,	75 ft.-lbs.	5347A172	73.50
Hex Key				
3/32"	30 in.-lbs.,	2.5 ft.-lbs.	5347A151	65.45
5/32"	135 in.-lbs.,	11.2 ft.-lbs.	5347A153	65.45
3/16"	235 in.-lbs.,	19.5 ft.-lbs.	5347A154	65.45
1/4"	450 in.-lbs.,	37.5 ft.-lbs.	5347A155	65.45
5/16"	850 in.-lbs.,	70.8 ft.-lbs.	5347A156	65.45

1/4" Square-Drive Torque Wrench/Drivers

Check clockwise and counterclockwise torque on small fasteners. The dial faces the user for easy reading. Tools are nonratcheting and have a memory pointer to show maximum torque reached. Body is die cast zinc; grip is plastic. Overall length is 8 5/8". Accuracy is ±2% of torque setting for 20-100% of torque range. Tools with a 0 to 50 and 0 to 75 in.-lbs. torque range have a 1/4" female square drive in handle for extra leverage when applying high torque levels.

Come in a plastic case with certificate of calibration traceable to NIST.

Torque Range		*Graduations*			
in.-oz.	in.-lbs.	in.-oz.	in.-lbs.		
0 to 192	0 to 12	4	0.25	54765A11	$237.44
0 to 384	0 to 24	8	0.5	54765A12	237.44
0 to 480	0 to 30	16	1	54765A13	237.44
———	0 to 50	—	1	54765A14	245.69
———	0 to 75	—	1	54765A15	245.69



Adjustable Click-Style Pipe-Head Torque Wrenches



Head is ideal for tightening applications involving pipe, fittings, or plumbing. Just turn the end of the handle to desired torque setting. Wrench signals with an audible click when torque is reached. Accuracy is ±5% of torque setting for entire torque range (for clockwise use). Jaws are serrated. Wrenches have a steel body and a rubber grip, except wrench for 1″-2″ diameters, which has a metal grip. They come with certificate of calibration.

For Dia.	Torque Range	Graduations	O'all Lg.		
½″-1½″	100 to 400 in.-lbs.	5 in.-lbs.	13⅛″	5778A11	$690.32
½″-1½″	15 to 75 ft.-lbs.	1 ft.-lbs.	16⅛″	5778A12	701.76
½″-1½″	30 to 200 ft.-lbs.	2 ft.-lbs.	30⅛″	5778A13	844.48
1″ -2″	60 to 300 ft.-lbs.	2 ft.-lbs.	42½″	5778A14	1,226.48

Factory-Set Click-Style Torque Wrenches



When torque setting is reached, wrenches signal with an audible click and a momentary release. Accuracy is ±4% of torque setting for 20-100% of torque range (for clockwise use). Wrenches have a reversing ratchet head, a steel body, and a vinyl grip. They come with certificate of calibration traceable to NIST.

To Order: Please specify exact torque from the ranges listed.

Sq. Drive	Available Torque Settings	O'all Lg.		
in.-lbs.				
¼″	10 to 50 in.-lbs.	7¼″	7152A3	$165.45
¼″	30 to 150 in.-lbs.	7¼″	7152A9	167.82
⅜″	30 to 150 in.-lbs.	7⅞″	7152A4	177.64
⅜″	60 to 300 in.-lbs.	10⅜″	7152A5	185.00
⅜″	150 to 750 in.-lbs.	14¾″	7152A6	201.82
in.-lbs., ft.-lbs.				
½″	360 to 1,800 in.-lbs., 30 to 150 ft.-lbs.	18¼″	7152A7	230.91
½″	600 to 3,000 in.-lbs., 50 to 250 ft.-lbs.	22⅞″	7152A8	237.27
Nm				
¼″	1.2 to 6 Nm	7¼″	7152A211	165.45
¼″	3.4 to 17 Nm	7¼″	7152A221	167.82
⅜″	3.4 to 17 Nm	7⅞″	7152A231	177.64
⅜″	6.8 to 34 Nm	10⅜″	7152A241	185.00
⅜″	17 to 85 Nm	14¾″	7152A251	201.82
½″	40.8 to 204 Nm	18¼″	7152A261	230.91
½″	67.8 to 339 Nm	22⅞″	7152A271	237.27

Factory-Set Slip-Release Torque Wrenches



Straight Handle

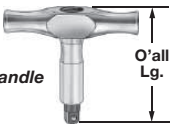

T-Handle

When torque setting is reached, wrenches slip to prevent overtorquing. All torque clockwise and also have a counterclockwise mode: torque, ratchet (nonreversing), or lock up. Lock-up mode allows you to loosen fasteners. Made of chrome-plated steel. Come with certificate of calibration traceable to NIST.

Straight Handle— Accuracy is ±4% of torque setting for entire torque range (in clockwise mode).

T-Handle— Accuracy is ±0.5 in.-lbs. for 2 to 10 in.-lb. torque settings, ±1 in.-lb. for 11 to 25 in.-lb. torque settings, ±2 in.-lbs. for 26 to 50 in.-lb. torque settings, and ±4 in.-lbs. for 51 in.-lb. and higher torque settings (in clockwise mode).

To Order: Please specify exact torque setting from the ranges listed.

Also Available: Metric factory-set wrenches. For straight handle wrenches, please ask for 7151A999 and specify square drive (¼″, ⅜″, or ½″) and exact torque setting. For T-handle wrenches, please ask for 5507A999 and specify square drive (¼″, ⅜″, or ½″) and exact torque setting.

Square Drive	Available Torque Settings	Counter-clockwise Mode	O'all Lg.		
Straight Handle					
in.-lbs.					
¼″	2 to 20 in.-lbs.	Torque	4″	7151A25	$101.38
⅜″	5 to 60 in.-lbs.	Torque	6⅛″	7151A27	141.66
⅜″	5 to 60 in.-lbs.	Lock Up	6¼″	7151A29	153.30
⅜″	30 to 100 in.-lbs.	Ratchet	5⅝″	7151A31	143.93
ft.-lbs.					
½″	3 to 15 ft.-lbs.	Ratchet	9¾″	7151A11	186.07
½″	15 to 30 ft.-lbs.	Ratchet	9¾″	7151A12	206.26
½″	30 to 90 ft.-lbs.	Ratchet	17¼″	7151A13	308.14
T-Handle					
in.-lbs.					
¼″	2 to 50 in.-lbs.	Ratchet	3⅜″	5507A21	79.85
¼″	2 to 80 in.-lbs.	Torque	3½″	5507A24	115.93
¼″	2 to 80 in.-lbs.	Lock Up	3½″	5507A26	141.48
⅜″	2 to 80 in.-lbs.	Ratchet	3½″	5507A22	115.93
⅜″	2 to 80 in.-lbs.	Torque	3½″	5507A25	115.93
⅜″	2 to 80 in.-lbs.	Lock Up	3½″	5507A27	141.48
⅜″	50 to 250 in.-lbs.	Ratchet	5⅜″	5507A23	260.33
⅜″	50 to 250 in.-lbs.	Torque	5⅜″	5507A28	260.33

Dial Torque Wrenches



Dual Scale



Single Scale



Dual Scale

Monitor torque as it's being applied. Tools have a memory pointer to show maximum torque reached. Accuracy is ±4% of torque setting for 20-100% of torque range (for clockwise and counterclockwise use). All have a steel body and a rubber grip. They come in a case with certificate of calibration traceable to NIST.

Single Scale— Shows units in in.-lbs.

Dual Scale— Show units in in.-lbs. and Nm or ft.-lbs. and Nm.

Square Drive	Torque Range	Graduations	O'all Lg.		
Single Scale					
in.-lbs.					
¼″	0 to 75 in.-lbs.	1 in.-lbs.	11½″	5718A31	$180.49
⅜″	0 to 250 in.-lbs.	5 in.-lbs.	11½″	5718A32	184.04
Dual Scale					
in.-lbs., Nm					
¼″	0 to 15 in.-lbs., 0 to 1.8 Nm	0.25 in.-lbs., 0.05 Nm	11½″	5718A41	185.39
¼″	0 to 30 in.-lbs., 0 to 3.5 Nm	0.5 in.-lbs., 0.1 Nm	11½″	5718A42	182.80
¼″	0 to 75 in.-lbs., 0 to 9 Nm	1 in.-lbs., 0.2 Nm	11½″	5718A43	179.61
⅜″	0 to 150 in.-lbs., 0 to 18 Nm	2 in.-lbs., 0.5 Nm	11½″	5718A44	182.65
⅜″	0 to 250 in.-lbs., 0 to 30 Nm	5 in.-lbs., 0.5 Nm	11½″	5718A45	182.86
⅜″	0 to 300 in.-lbs., 0 to 35 Nm	5 in.-lbs., 1 Nm	11½″	5718A46	180.61
⅜″	0 to 600 in.-lbs., 0 to 66 Nm	10 in.-lbs., 2 Nm	12½″	5718A47	220.43
ft.-lbs., Nm					
⅜″	0 to 50 ft.-lbs., 0 to 66 Nm	1 ft.-lbs., 2 Nm	12½″	5718A71	242.22
½″	0 to 175 ft.-lbs., 0 to 250 Nm	5 ft.-lbs., 5 Nm	21½″	5718A73	279.14
½″	0 to 250 ft.-lbs., 0 to 330 Nm	5 ft.-lbs., 10 Nm	21″	5718A75	294.53
¾″	0 to 350 ft.-lbs., 0 to 480 Nm	10 ft.-lbs., 10 Nm	28″	5718A76	479.08
¾″	0 to 600 ft.-lbs., 0 to 800 Nm	10 ft.-lbs., 20 Nm	47″	5718A77	485.15
1″	0 to 1,000 ft.-lbs., 0 to 1,400 Nm	20 ft.-lbs., 25 Nm	74″	5718A78	814.72

Dial Torque Tool Testers



Check the accuracy of your torque wrenches and screwdrivers. A memory needle remains on maximum torque reading until manually reset to zero. To use with click-style torque wrenches, take the reading from the main dial.

Units measure in both clockwise and counterclockwise directions. Accuracy is ±2% of torque reading for 20-100% of torque range. A female-to-female square drive adapter is included.

In.-lb. testers are 8″ Lg.× 4″ Wd.×2¼″ Ht.; ***ft.-lb.*** testers are 12⅞″ Lg.×4″ Wd.×2½″ Ht. Both testers have ¼″ dia. mounting holes and a steel housing.

Furnished with a certificate of calibration traceable to NIST.

Note: Not for use with power or impact tools.

Male Sq. Drive	Torque Range	Graduations		
in.-lbs.				
¼″	0 to 30 in.-lbs.	0.5 in.-lbs.	7154A11	$382.85
¼″	0 to 75 in.-lbs.	1 in.-lbs.	7154A12	382.85
¼″	0 to 100 in.-lbs.	2 in.-lbs.	7154A19	391.03
⅜″	0 to 150 in.-lbs.	2.5 in.-lbs.	7154A15	386.02
⅜″	0 to 300 in.-lbs.	5 in.-lbs.	7154A17	439.46
⅜″	0 to 600 in.-lbs.	10 in.-lbs.	7154A18	439.46
ft.-lbs.				
½″	0 to 50 ft.-lbs.	1 ft.-lbs.	7154A32	442.64
½″	0 to 100 ft.-lbs.	2 ft.-lbs.	7154A33	442.64
½″	0 to 150 ft.-lbs.	2.5 ft.-lbs.	7154A34	442.64
½″	0 to 200 ft.-lbs.	5 ft.-lbs.	7154A35	442.64

Low-Torque Precision Gauges



Gauges precisely measure low torque values. They have both a top dial and side scale with memory pointers that remain on the maximum torque reading, unless noted.

To use, finger-tighten the three-jaw chuck on the object to be measured, then twist either the gauge or object.

Gauges measure in both clockwise and counterclockwise directions. Accuracy is ±2% of torque reading for 10-100% of torque range. The housing is aluminum. All have an aluminum chuck except 83395A14, A29, and A13, which have a steel chuck. Plastic storage case included.

Also Available: Gauges with certificate of calibration traceable to NIST. Please ask for 83395A11 and specify torque range.

Torque Range	Graduations	Chuck Cap.	Head Dia.		
in.-oz.					
0.06 to 0.6 in.-oz.	0.01 in.-oz.	¼″	1¾″	83395A24 ♣	$516.96
2 to 18 in.-oz.	0.5 in.-oz.	¼″	1¾″	83395A26	664.35
4 to 36 in.-oz.	0.5 in.-oz.	¼″	1¾″	83395A12	664.35
10 to 120 in.-oz.	2 in.-oz.	11/32″	2½″	83395A14	936.06
in.-lbs.					
0.6 to 6 in.-lbs.	0.1 in.-lbs.	11/32″	2½″	83395A29	907.71
2 to 15 in.-lbs.	0.2 in.-lbs.	11/32″	2½″	83395A13	936.06

♣ Has no memory pointer.

Electronic Torque Tool Testers



Get quick and accurate torque measurements on the easy-to-read digital display.

Testers feature three modes of operation: track (readings go up and down as torque tool moves), peak hold (holds the top torque value), and first peak (for micrometer click-style wrenches). It also displays range in Nm.

Testers measure in both clockwise and counterclockwise directions. Accuracy is ±1% of torque reading for 10-100% of torque range. A female-to-female square drive adapter is included.

Units are 4½″ Ht.×6″ Wd.×6″ Dp. and have a steel housing with ⅜″ dia. mounting holes. 9-volt battery included.

Furnished with a certificate of calibration traceable to NIST.

Note: Not for use with power or impact tools.

Male Sq. Drive	Torque Range in.-lbs.	Torque Range ft.-lbs.	Graduations in.-lbs.	Graduations ft.-lbs.		
¼″	5 to 50	0.4 to 4.17	0.01	0.01	4457A41	$1,057.49
⅜″	25 to 250	2 to 21	0.1	0.01	4457A43	1,057.49
⅜″	60 to 600	5 to 50	0.1	0.01	4457A44	1,116.24
½″	300 to 3,000	25 to 250	1	0.1	4457A45	1,166.18
¾″	720 to 7,200	60 to 600	1	0.1	4457A46	1,465.80

Torque Gauges/Screwdrivers



The 3″ dial makes it easy to measure torque as you apply it with these combination gauge and screwdrivers.

Accuracy is ±3% of torque reading for entire range. Drivers have a ¼″ female hex drive and include a ¼″ hex × ¼″ square-drive adapter, plus two ¼″ hex-shank insert bits: one ¼″ slotted and one #2 Phillips. See pages 2808-2815 for additional ¼″ hex-shank insert bits. Plastic storage tube included.

Furnished with a certificate of calibration traceable to NIST.

Torque Range	Graduations	O'all Lg.		
For Clockwise and Counterclockwise Use				
in.-oz.				
0 to 3 in.-oz.	0.25 in.-oz.	8″	5699A25	$122.48
0 to 6 in.-oz.	0.5 in.-oz.	8″	5699A17	122.48
0 to 12 in.-oz.	0.5 in.-oz.	8″	5699A18	122.48
0 to 24 in.-oz.	1 in.-oz.	8″	5699A19	122.48
0 to 48 in.-oz.	2 in.-oz.	8″	5699A21	122.48
0 to 96 in.-oz.	4 in.-oz.	8″	5699A22	122.48
in.-lbs.				
0 to 6 in.-lbs.	0.25 in.-lbs.	8″	5699A11	122.48
0 to 12 in.-lbs.	0.5 in.-lbs.	8″	5699A12	122.48
For Clockwise Use				
in.-lbs.				
0 to 25 in.-lbs.	1 in.-lbs.	10″	5699A14	132.96
0 to 50 in.-lbs.	2 in.-lbs.	10″	5699A26	132.96
0 to 100 in.-lbs.	5 in.-lbs.	12″	5699A28	148.20

Nonadjustable Torque Screwdrivers

Maintain precision in repetitive fastening applications with factory set, nonadjustable torque. Tools slip to prevent over-torquing once the torque setting is reached, except Style F, which clicks.

Accuracy is ±6% of torque setting for 20-100% of torque range. Drive is ¼″ hex female and accepts any ¼″ hex-shank bit (see pages 2808-2815 for bits). Drivers have an aluminum housing.

Furnished with a certificate of calibration traceable to NIST.

Styles A and ***D*** torque in both clockwise and counterclockwise directions and include five colored sleeves.

Styles B, C, E, and ***F*** are for clockwise use only. ***Styles B, C,*** and ***E*** are offered in four sleeve colors.

To Order: Please specify the exact torque setting required. For Styles B, C, and E, also specify sleeve color (blue, gold, green, or red).

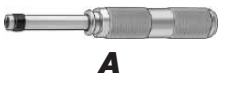

A



B



C



D



E



F

Available Torque Settings	Lg.		
in.-oz./in.-lbs.			
A 20 to 100 in.-oz., 14 to 70 cNm	5½″	7022A61	$156.30
B 19.2 to 192 in.-oz., 1.2 to 12 in.-lbs., 14 to 135 cNm	4⅜″	5851A11	403.70
B 70.4 to 576 in.-oz., 4.4 to 36 in.-lbs., 50 to 406 cNm	5″	5851A12	420.56
in.-lbs.			
A 3 to 15 in.-lbs., 0.3 to 1.65 Nm	6¼″	7022A62	162.50
C 2 to 36 in.-lbs., 22 to 406 cNm	4½″	7022A22	155.52
D 7 to 36 in.-lbs., 0.8 to 4 Nm	7¾″	7022A63	203.06
E 5 to 50 in.-lbs.	2¼″	7022A32	123.41
F 20 to 170 in.-lbs., 2.25 to 19.2 Nm	5¼″	7022A43	206.86
¼″ Hex × ¼″ Square-Drive Male Adapter—1″ long		52735A21	2.25

Adjustable Slip-Release Torque Screwdrivers and Sets



Adjust torque by turning the grip or collar. A slip-release mechanism prevents over-torquing once the setting is reached. Drivers torque in both clockwise and counterclockwise directions. Clockwise accuracy is ±6% of torque setting for 20-100% of torque range. Accuracy is not rated in counterclockwise direction. Drive is 1/4″ hex female and accepts any 1/4″ hex-shank bit (see pgs. 2808-2815 for bits).

Furnished with certificate of calibration traceable to NIST.

Styles A and **C** have an aluminum housing.

Styles B and **E** have a lock that prevents accidental adjustment and an aluminum housing with antistatic rubber grip. *Style E* also have a removable T-bar for extra leverage.

Style D is graduated in both inch and metric scales. It has an aluminum housing and vinyl grip cap.

Screwdrivers

Torque Range	Graduations	O'all Lg.		
in.-oz.				
A 20 to 100 in.-oz.	2 in.-oz.	6 3/4″	8554A25	$392.86
B 20 to 160 in.-oz.	1 in.-oz.	7 1/4″	5871A51	488.28
in.-lbs.				
B 2 to 12 in.-lbs.	0.1 in.-lbs.	7 1/4″	5871A52	488.28
C 6 to 30 in.-lbs.	1 in.-lbs.	6 3/4″	8554A26	392.86
D 2 to 36 in.-lbs.	2 in.-lbs.	7 3/4″	5716A21★	237.79
E 10 to 50 in.-lbs.	1 in.-lbs.	7 3/4″	5871A53	494.84
E 30 to 80 in.-lbs.	1 in.-lbs.	7 3/4″	5871A54	503.59
cNm				
B 20 to 120 cNm	1 cNm	7 1/4″	5871A55	488.28
Nm				
E 1 to 6 Nm	0.1 Nm	7 3/4″	5871A56	494.84
E 4 to 9 Nm	0.1 Nm	7 3/4″	5871A57	503.59

★On metric scale, torque range: 0.2 to 4 Nm; graduations: 0.2 Nm.

Adapter

1/4″ Hex × 1/4″ Square-Drive Male Adapter—1″ long

52735A21 ..... $2.25

Sets

22-Piece Set—Includes Style C torque screwdriver, plus miniature and 1/4″ hex-shank insert bits. Miniature bits include slotted size 3/32″; hex size 0.035″; socket size 7/64″; and a miniature bit adapter. The 1/4″ hex-shank bits include slotted sizes 1/8″, 3/16″, 7/32″, and 1/4″; Phillips sizes #0 and #1; hex sizes 0.050″, 1/16″, 5/64″, 3/32″, 1/8″, and 5/32″; socket sizes 1/8″, 3/16″, 1/4″, and 5/16″; and a 1/4″ hex × 1/4″ square-drive adapter. Packed in a plastic case.

8554A61 ..... $492.96

29-Piece Set—Includes Style D torque screwdriver, plus the following 1/4″ hex-shank insert bits: slotted sizes 1/8″, 5/32″, 1/4″, and two 9/32″; Phillips sizes #0, #1, #2, and #3; Torx sizes T10, T15, T20, T25, T30, and T40; square-recess sizes #0, #1, #2, and #3; Pozidriv® sizes #1 and #2; and hex sizes 5/64″, 3/32″, 7/64″, 1/8″, and 9/64″. Set also comes with a 1/4″ hex × 1/4″ square-drive adapter and 1/4″ bit holder. Packed in a plastic case.

5716A52 ..... $281.91

Interchangeable-Blade Click-Style Torque Screwdrivers



Select a handle based on torque, then add a slotted-, Phillips-, or Torx-tip blade that fits your needs. Screwdrivers signal with an audible click when torque is reached. Accuracy is ±6% and calibrated to DIN standard.

Choose from nonadjustable and adjustable torque handles. **Handles** have a slip-resistant rubber grip and are furnished in a plastic case. **Blades** are chrome-plated steel and include a plastic sleeve marked with the blade size. Sleeves are gray on slotted blades, blue on Phillips blades, and green on Torx blades.

Handles

Torque Setting/Range	O'all Lg. with Blade		
Nonadjustable Torque			
5 in.-lbs., 0.56 Nm	7 3/8″	5263A12	$77.04
7.5 in.-lbs., 0.84 Nm	7 3/8″	5263A13	77.04
10 in.-lbs., 1.12 Nm	7 3/8″	5263A14	88.02
15 in.-lbs., 1.69 Nm	7 3/8″	5263A16	88.02
20 in.-lbs., 2.25 Nm	7 3/8″	5263A17	88.02
25 in.-lbs., 2.82 Nm	7 1/2″	5263A18	88.02
30 in.-lbs., 3.39 Nm	7 1/2″	5263A19	88.02
Adjustable Torque			
1 to 5 in.-lbs.	7 3/8″	5263A42	101.31
5 to 10 in.-lbs.	7 3/8″	5263A43	101.31
10 to 50 in.-lbs.	7 1/2″	5263A24	116.00
20 to 70 in.-lbs.	7 1/2″	5263A44	123.49

Blades—To Order: For single blades, please specify size.

	Available Sizes		
Slotted	5/64″, 3/32″, 1/8″, 9/64″, 5/32″	5263A31	$5.17
Phillips	No. 000, 00, 0, 1	5263A32	5.50
Torx	T5, T6, T7, T8, T9, T10, T15, T20, T25	5263A33	5.50

8-Pc. Slotted and Phillips Blade Set—You'll get a torque adjustment tool, one handle with a torque range of 7.5 to 20 in.-lbs., and one each of slotted blade sizes 3/32″, 9/64″, 5/32″, and 1/8″ and Phillips sizes No. 0 and 1. Packed in a canvas pouch.

5263A52 ..... $128.44

Accessories

Universal Bit Holder for 1/4″ Hex Bits	5263A34	$11.49
Square-Drive Holder for 1/4″ Sockets	5263A35	10.13

Torque-Limiting Electric Screwdrivers



The motor on these drivers stops when you reach your set torque. Tools have a duty cycle of 0.5 seconds on for every 3.5 seconds off. They accept 1/4″ hex-shank bits (see pages 2808-2815 for bits). Tools have an 8-ft. cord with three-prong plug. They operate on 115 volts AC; 50/60 Hz. UL listed.

Push-to-Start—Press the tip against the fastener to start the tool.

Working Torque, in.-lbs.	No-Load rpm	Amps	Lg.	Wt., lbs.	Lever Operated		Push-to-Start	
5-15	2,000	0.8	11 1/4″	1.6	5809A11	$914.57	5809A13	$914.57
11-26	1,200	0.8	11 1/4″	1.6	5809A12	914.57	5809A14	908.95

Electric Screwdrivers



These variable speed screwdrivers accept 1/4″ hex-shank screwdriver bits (see pages 2808-2815 for bits). Tools have a 10-ft. cord with two-prong plug. They operate on 120 volts AC, 60 Hz. UL listed and CSA certified.

Standard—Includes three bits and a bit adapter.

Depth Limiting—Twist the nosepiece to set the depth and prevent fasteners from being driven too deep. The nosepiece can be removed to access tight spaces. Furnished with a 5/16″ nutdriver bit.

	Max. Torque, in.-lbs.	No-Load rpm	Amps	Lg.	Wt., lbs.	Milwaukee Model No.		
Standard	140	1,200	6.5	12 3/4″	3.6	6580-20	7415A21	$202.50
Depth Limiting	175	2,500	6.5	12 1/8″	3.7	6790-20	7415A23	137.50

Cordless Screwdrivers


A

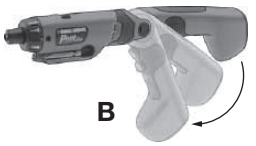
B


C


D


E

These accept 1/4″ hex-shank screwdriver bit (see pages 2808-2815 for bits) and are UL listed.

(A&B) Multiposition Grip—*Style A* includes two lithium ion batteries and a 45-minute charger. *Style B* includes a NiCad battery and a 12-hour charger.

(C&D) Pistol Grip—These have a built-in light to illuminate work surfaces. Two lithium ion batteries, a 30-minute charger, and a canvas bag are included.

(E) Depth Limiting Pistol Grip—Adjust the nosepiece to set the depth and prevent fasteners from being driven too deep. Two lithium ion batteries, a one-hour charger, and a bag are included.

	Volts	Max. Torque, in.-lbs.	No-Load rpm	Lg.	Wt., lbs.	Manufacturer and Model No.	Screwdrivers		Replacement Chargers		Replacement Batteries	
A	4	44	600	9 5/8″	0.9	Milwaukee 2101-22	7183A45	$141.88	7183A46	$44.62	7183A47	$44.62
B	6	80	600	14 1/4″	2.5	Black & Decker PD600	53625A42	35.13	53625A53	17.75	53625A71	22.65
C	12	150	500	7″	2	Milwaukee 2401-22	4443A11	111.25	4443A22	56.92	4443A33	49.23
D	12	Not Rated	1,000	6 1/4″	2.2	DeWalt DCF610S2	6978A71	108.16	29835A112	80.86	6978A72	61.54
E	20	Not Rated	4,400	8 3/4″	3.3	DeWalt DCF620D2	5687A61	210.99	29835A112	80.86	29835A4	91.28

Air-Powered Screwdrivers


A


B


C


D


E


F

Screwdrivers accept 1/4″ hex-shank power bits (see pages 2808-2815 for bits). Recommended operating pressure is 90 psi, unless noted. Air tools require lubrication to operate properly.

Torque-Limiting Screwdrivers—Set your desired torque and these drivers will prevent you from exceeding it. *Push-to-start* screwdrivers start turning when you press the tip against the fastener.

	Working Torque Range, in.-lbs.	Max. Torque, in.-lbs.	No-Load rpm	Avg. cfm @ 90 psi	Air Inlet, NPT	For Air Hose ID	O'all Lg.	Wt., lbs.		
Standard Screwdrivers										
Pistol Grip										
A	____	125	1,800	4	1/4	3/8″	7″	2.3	57555A21	$232.78
B	____	115	1,800	4	1/4	3/8″	7 3/4″	2.9	57485A11	262.55
Angle Grip										
C	____	70	1,000	16	1/4	3/8″	7 1/4″	2.3	58005A51	577.72
Torque-Limiting Screwdrivers										
Pistol Grip										
B	13-70	—	900	17	1/4	1/4″	9 1/2″	2.9	7029A15	616.30
B	25-44	—	1,800	4	1/4	3/8″	8 1/4″	2.5	5767A58	376.20
B	25-75	—	800	4	1/4	3/8″	8 7/8″	3	5767A59	399.68
Lever Operated Straight Grip										
D	1.5-30	—	1,000	13	1/8	1/4″	9 1/8″	1.1	7029A34	678.81
D	3.5-17.4	—	1,100	7	1/4	1/4″	8 1/4″	1.2	5925A14★	941.42
D	13-40	—	2,100	16	1/4	1/4″	10″	2.6	7029A14	681.70
D	45-70	—	1,800	4	1/4	3/8″	9 1/2″	1.5	5767A51	321.92
E	9.7-18.5	—	1,100	7	1/4	1/4″	10 3/4″	1.5	5925A18★	1,332.07
Push-to-Start Straight Grip										
F	1.5-30	—	1,000	13	1/8	1/4″	8 3/4″	1.1	7029A32	678.81
F	3.1-9.7	—	1,000	5.6	1/8	1/4″	7 1/8″	0.7	5925A11★	917.80
F	3.5-18.5	—	1,100	7	1/4	1/4″	7 1/4″	0.9	5925A12★	941.42
F	14.1-35.2	—	800	10.5	1/4	1/4″	8 1/8″	1.4	5925A13★	988.91

★Recommended operating pressure is 85 psi and avg. cfm rating is at 85 psi.

Tight-Clearance Bit Adapters for Power Tools



The head is angled 105° to drive fasteners in tight spaces. These adapters have a groove in the shank to fit in a power-tool chuck, allowing you to use 1/4″ hex-shank bits (also known as insert bits) in drills and powered screwdrivers (see pages 2808-2815). Max. torque is 100 in.-lbs.; max. rpm is 400. Made of steel.

5803A91 $31.51

Screw Feeders



Pour screws into the machine's hopper and they automatically line up on the included rail to be picked up with a magnetic-tipped screwdriver. To pick up different sized screws, replace the rail. Pick-up rate is two screws per second. Max. screw length is 11/16″. Operates on 120 volts AC, 60 Hz.

Also Available: Additional rails to accommodate different screw sizes. Please ask for 5931A21 and specify screw size from the table below.

For Screw Size	Thread Dia.	Compatible Rails (For Screw Size)		
No. 0	(0.06″)	No. 00, No. 0	5931A1	$950.00
No. 4	(0.112″)	No. 1, No. 2, No. 3, No. 4	5931A2	912.50
No. 10	(0.19″)	No. 6, No. 7, No. 10	5931A3	912.50

Screwdriver Bits

About Screwdriver Bits

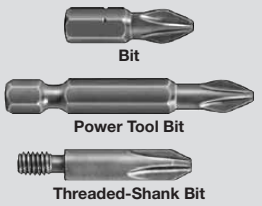

Screwdriver bits are the tips of a screwdriver blade that can be interchanged.

Bits (also known as insert bits) are compact bits that are used in hand drivers (see page 2818) or with a bit adapter (see page 2816) in power tools.

Power tool bits have a groove in the shank and fit directly into power tools without an adapter. They offer more reach for recessed holes and less wobble compared to a bit used with an adapter.

Threaded-shank bits thread directly into your driving tool.

Phillips Bits









Bits

Size	For Screw Size	1/4" Hex Shank 1" Long		1 1/2" Long		5/16" Hex Shank 1 1/4" Long		4 mm Hex Shank 1 1/8" Long	
No. 000	000							5750A44	$2.37
No. 00	00							5750A45	2.37
No. 0	0-1	5750A12	$0.70					5750A46	2.37
No. 1	2-4	5750A13	.47	5750A41	$0.79	5750A72	$1.58	5750A47	2.37
No. 2	5-10	5750A14	.47	5750A42	.79	5750A91	1.58		
No. 2	5-10	5750A11★	3.89						
No. 3	12, 1/4"	5750A15	.47	5750A43	.79	5750A92	1.58		
No. 4	5/16"-1/2"	5750A23■	2.57			5750A93	1.58		

★Has a wider tip for good contact in shallow and inexact screw recesses. ■ 1 1/4" long.

Tight-Clearance Bits

Size	For Screw Size	Shaft Lg.	O'all Lg.	1/4" Hex Shank	
Bits					
No. 0	0-1	7/16"	1"	5750A86	$1.64
No. 1	2-4	3/8"	1"	5750A82	.56
No. 1	2-4	7/16"	2"	5750A87	1.57
No. 2	5-10	3/8"	1"	5750A83	.46
No. 2	5-10	15/32"	2"	5750A84	.80
No. 2	5-10	1"	1 1/2"	5750A88	1.39
No. 2	5-10	1 1/2"	2"	5750A89	1.33
Power Tool Bits					
No. 2	5-10	1"	2"	5750A97	8.17
No. 2	5-10	2 5/8"	6"	5750A98	14.60

Power Tool Bits—1/4" Hex Shank

Size	For Screw Size	2" Long		2 3/4" Long		3" Long		3 1/2" Long		4" Long		6" Long		12" Long	
No. 00	00	5751A71	$3.22	5751A44	$4.40										
No. 0	0-1	5751A65	3.31	5751A66	4.45			5751A67	$4.84			5751A68	$9.85	5751A73	$8.69
No. 1	2-4	5751A24	.79	5751A32	.96	5751A41	$1.09	5751A25	1.34	5751A54	$1.67	5751A58	3.15	5751A74	6.22
No. 2	5-10	5751A26	.80	5751A33	.96	5751A42	1.09	5751A27	1.35	5751A55	1.67	5751A59	3.15	5751A75	6.22
No. 3	12, 1/4"	5751A31	.96	5751A35	1.33	5751A43	1.43	5751A36	1.54	5751A56	1.84	5751A64	3.25	5751A76	6.22
No. 4	5/16"-1/2"	5751A69	4.91											5751A77	8.15

Threaded-Shank Phillips Bits



Size	For Screw Size	10-32 Thread O'all Lg.			12-24 Thread O'all Lg.		
No. 1	2-4	1 1/2"	5945A21	$6.20	1 1/4"	5945A24	$5.62
No. 2	5-10	1 1/2"	5945A22	6.25	1 1/4"	5945A25	5.93
No. 3	12, 1/4"	1 1/2"	5945A23	7.95	1 1/4"	5945A26	8.61

Square Phillips Bits





Also known as Quadrex bits. Use with Phillips/square-drive combination screws (see 91550A on page 3019). They have a 1/4" hex shank.

Size	For Screw Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
No. 2	5-10	1"	2335A2	$0.66	2"	2335A4	$1.07
No. 2	5-10				3 1/2"	2335A6	2.02

Corrosion-Resistant Phillips Bits



Bits are made of stainless steel, which provides excellent corrosion resistance. They have a 1/4" hex shank.

Size	For Screw Size	O'all Lg.		
No. 1	2-4	1"	6134A21	$3.65
No. 2	5-10	1"	6134A23	3.65
No. 3	12, 1/4"	1"	6134A25	3.65

Tamper-Resistant Phillips Bits



Also known as pin-in-head Phillips bits, these compact bits have a 1/4" hex shank.

Size	For Screw Size	O'all Lg.		
No. 2	6-10	1"	54265A31	$3.75
No. 3	12, 1/4"	1"	54265A32	3.75

High-Torque Phillips Bits









Made to absorb shock and twisting force, these bits are less likely to crack or shatter under high torque compared to regular bits. They have a 1/4" hex shank, unless noted.

High-torque bits are uncoated.

Extended-life high-torque bits have a diamond coating that provides longer life than uncoated bits.

Extra-high-torque bits for impact drivers are durable and diamond coated to provide a long service life.

Size	For Screw Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
High Torque							
No. 0	0-1	1"	5980A11	$0.65	2"	5980A19	$3.00
No. 1	2-4	1"	5980A12	.65	2"	5980A21	1.48
No. 1	2-4				6"	5980A24	5.13
No. 2	5-10	1"	5980A13	.65	2"	5980A22	1.55
No. 2	5-10	1 1/4"	5750A94▲	1.58	6"	5980A25	4.93
No. 3	12, 1/4"	1"	5980A14	.65	2"	5980A23	1.55
No. 3	12, 1/4"	1 1/4"	5750A95▲	1.58			
No. 4	5/16"-1/2"	1 1/4"	5750A96▲	1.58			
No. 4	5/16"-1/2"	1 1/4"	5980A15	2.41			
Extended-Life High Torque							
No. 1	2-4	1"	36285A51	3.56	2"	36285A52	5.23
No. 2	5-10	1"	36285A53	3.55	2"	36285A54	5.23
No. 3	12, 1/4"	1"	36285A55	3.55	2"	36285A56	5.23
Extra-High Torque for Impact Drivers							
No. 2	5-10	1"	4622A11	4.78	2"	4622A13	7.40
No. 3	12, 1/4"	1"	4622A12	4.78	2"	4622A14	7.40

▲5/16" hex shank.

6-Piece Extended-Life High-Torque Bit Set—Includes four No. 2 bits for screw sizes 5-10; one No. 1 bit for screw sizes 2-4; and one No. 3 bit for screw sizes 12 and 1/4". Bits are titanium-nitride coated, and are 1" long with a 1/4" hex shank. Packed in a plastic case.

36835A48 ..... $17.90

For information about screwdriver bits, see page 2808.

Slip-Resistant Phillips Bits



Ribs forged into the wings of these bits grip the screw recess to reduce stripping. They're also known as ACR® bits.

Bits

Size	For Screw Size	¼" Hex Shank O'all Lg.			5/16" Hex Shank O'all Lg.		
No. 1	2-4	1"	7164A66	$0.85	—	—	—
No. 2	5-10	1"	7164A67	.85	1¼"	7164A73	$2.00
No. 2	5-10	2"	7164A69	1.99	—	—	—
No. 3	12, ¼"	1"	7164A68	.85	1¼"	7164A74	2.10
No. 4	5/16"-½"	—	—	—	1¼"	7164A75	3.28

6-Piece Bit Set—Includes two each of No. 1, 2, and 3 bits with ¼" hex shank. Bits are 1" long.

7164A72 ..... $4.67

Power Tool Bits

Size	For Screw Size	O'all Lg.	¼" Hex Shank	
No. 1	2-4	2"	83445A41	$1.89
No. 1	2-4	6"	83445A46	3.50
No. 2	5-10	2"	83445A42	1.89
No. 2	5-10	2¾"	83445A44	2.18
No. 2	5-10	3½"	83445A45	2.42
No. 2	5-10	6"	83445A47	3.50
No. 3	12, ¼"	2"	83445A43	1.89
No. 3	12, ¼"	6"	83445A48	3.50
No. 4	5/16"-½"	6"	83445A49	7.21

6-Piece Power Tool Bit Set—Includes two each of No. 1, 2, and 3 bits. Bits are 2" long. Packed in a plastic pouch.

83445A61 ..... $13.36

Terminal Screw Bits



These bits provide a secure grip on the Phillips/slotted combination-drive screws in electrical equipment. They have a ¼" hex shank.

Size	For Screw Size	O'all Lg.		Pkg. of 2
No. 1	2-4	2"	6087A26	$13.64
No. 2	5-10	2"	6087A27	13.64

Bits with Screw Guide

Remove screws in hard-to-reach places. A spring-loaded sleeve guides bits onto the screw head and keeps them from slipping out. These power tool bits have a ¼" hex shank.


Slotted

Slotted

Size	For Screw Size	OD	O'all Lg.		
0.193"	4-6	0.375"	3¾"	7039A19	$5.23
0.241"	6-8	0.438"	2⅛"	7039A13	7.06
0.241"	6-8	0.438"	3¾"	7039A21	7.32
0.290"	8-10	0.5"	2⅛"	7039A14	7.52
0.290"	8-10	0.5"	3¾"	7039A22	7.84
0.290"	8-10	0.5"	6¾"	7039A28	8.43
0.350"	10-12	0.563"	3¾"	7039A23	5.43
0.395"	12-14	0.625"	3⅞"	7039A24	6.25
0.457"	14,16	0.688"	4⅛"	7039A25	7.55

Phillips

Size	For Screw Size	OD	O'all Lg.		
No. 2	5-10	0.438"	3½"	7039A31	$10.03
No. 2	5-10	0.438"	6"	7039A32	19.44

Frearson Bits



Also known as Reed and Prince bits.

Hex Shank Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
¼"	1⅛"	52785A25	$0.88	2"	52785A27	$1.14
5/16"	1⅜"	52785A26	1.72	—	—	—

Pozidriv® Bits



Bits have a ¼" hex shank.

Size	For Screw Size	O'all Lg.		
Bits				
No. 0	0-1	1"	7189A24	$0.78
No. 1	2-4	1"	7189A26	.63
No. 2	5-10	1"	7189A28	.63
No. 3	12, ¼"	1"	7189A32	.63
Power Tool Bits				
No. 0	0-1	2"	52865A11	1.58
No. 0	0-1	2¾"	52865A31	3.72
No. 1	2-4	2"	52865A12	1.32
No. 1	2-4	2¾"	52865A32	3.72
No. 1	2-4	3½"	52865A34	4.29
No. 1	2-4	6"	52865A22	4.38
No. 2	5-10	2"	52865A13	1.32
No. 2	5-10	2¾"	52865A33	3.72
No. 2	5-10	3½"	52865A35	4.29
No. 2	5-10	6"	52865A23	4.52
No. 3	12, ¼"	2"	52865A14	1.33
No. 3	12, ¼"	3½"	52865A36	4.29
No. 3	12, ¼"	6"	52865A24	4.52

15-Piece Bit Set—Includes five each of No. 1, eight each of No. 2, and two each of No. 3 bits. Packed in a plastic pouch.

7189A35 ..... $11.15

15-Piece Power Tool Bit Set—Includes five each of No. 1, eight each of No. 2, and two each of No. 3 bits. Bits are 2" long. Packed in a plastic pouch.

52865A17 ..... $19.43

Extra-High-Torque Pozidriv® Bits for Impact Drivers



Designed to withstand the demands of impact drivers, these durable diamond-coated bits provide a long service life. Bits have a ¼" hex shank.

Size	For Screw Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
No. 2	5-10	1"	4581A21	$4.78	2"	4581A23	$7.40
No. 3	12, ¼"	1"	4581A22	4.78	2"	4581A24	7.40

Depth-Limiting Bits



An exterior ring prevents fasteners from being driven too deep. Good for use with soft materials such as wood, fiberboard, decking, paneling, drywall, and insulation board. Bits have a ¼" hex shank.

Size	For Screw Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
Phillips							
No. 2	8-10	1"	4955A35	$2.55	2"	4955A36	$3.51
Square							
No. 2	8-10	1"	4955A45	2.57	2"	4955A46	3.51

Triple Square Bits



Also known as XZN bits. They have a ¼" shank.

Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
M4	1"	5074A11	$4.08	2"	5074A21	$5.12
M5	1"	5074A12	4.08	2"	5074A22	5.12
M6	1"	5074A13	4.08	2"	5074A23	5.12
M8	1"	5074A14	4.96	2"	5074A24	6.26
M10	1"	5074A15	5.53	2"	5074A25	6.93
M12	—	—	—	2"	5074A26	7.59

Screwdriver Bits

For information about screwdriver bits, see page 2808.

Slotted Bits


Bit


Tight-Clearance Bit (3/8″ Shaft Lg.)


Tight-Clearance Bit (1 1/8″ Shaft Lg.)


Power Tool Bit

Bits

Size	For Screw Size		
1/4″ Hex Shank—1″ Long			
7/64″	0-1	5750A34	$2.10
1/8″	1-2	5750A35	2.10
9/64″	2-3	5750A36	2.10
5/32″	3-4	5750A37	2.10
3/16″	4-5	5750A51	.99
7/32″	6-8	5750A52	.99
1/4″	7-8	5750A53	.99
1/4″	10-12	5750A54	.96
9/32″	10-12	5750A55	.99

Size	For Screw Size		
1/4″ Hex Shank (Cont.)			
9/32″	14-16	5750A56	$0.99
1/4″ Hex Shank—1 1/2″ Long			
3/16″	4-5	5750A16	1.03
7/32″	6-8	5750A27	1.03
1/4″	8-10	5750A17	1.03
9/32″	8-10	5750A18	1.17
9/32″	10-12	5750A19	1.03
9/32″	12-14	5750A21	1.23
23/64″	14-16	5750A22	2.92

Size	For Screw Size		
5/16″ Hex Shank—1 1/2″ Long			
5/32″	3-4	5750A64	$1.39
3/16″	4-5	5750A65	1.17
1/4″	6-8	5750A61	1.39
9/32″	8-10	5750A66	1.39
9/32″	10-12	5750A67	1.39
5/16″	12-14	5750A69	1.39
23/64″	14-16	5750A85	1.39
3/8″	3/8″	5610A4	1.49
15/32″	1/2″	5610A5	1.81

Size	For Screw Size		
4 mm Hex Shank—1 1/8″ Long			
0.032″	000	5750A371	$2.37
0.048″	00	5750A372	2.37
0.060″	0	5750A373	2.37
0.071″	1	5750A374	2.37
0.079″	2	5750A375	2.37
0.099″	3	5750A376	2.37
0.119″	4	5750A377	2.37
0.138″	5	5750A378	2.37
0.158″	6	5750A379	2.37

Tight-Clearance Bits

Size	For Screw Size	Shaft Lg.		
1/4″ Hex Shank—1″ Long				
1/8″	1-2	3/8″	5944A31	$2.03
9/64″	2-3	3/8″	5944A32	1.66
5/32″	3-4	3/8″	5944A33	1.76
3/16″	4-5	3/8″	5944A34	1.66
7/32″	5-6	3/8″	5944A35	1.66
1/4″	6-7	3/8″	5944A36	1.66
1/4″ Hex Shank—1 1/2″ Long				
9/64″	2-3	1 1/8″	5944A41	1.64
5/32″	3-4	1 1/8″	5944A42	1.64
3/16″	4-5	1 1/8″	5944A43	1.64
7/32″	5-6	1 1/8″	5944A44	1.64
1/4″	6-7	1 1/8″	5944A45	1.64

Power Tool Bits

Size	For Screw Size	2″ Long		3″ Long		3 1/2″ Long		6″ Long	
1/4″ Hex Shank									
1/8″	1-2	5748A11	$1.67	5748A22	$2.98	5748A41	$3.09	5748A71	$4.80
9/64″	2-3	5748A12	1.51	5748A23	2.68	5748A42	3.09	5748A72	4.34
5/32″	3-4	5748A13	1.31	5748A24★	1.64	5748A43	2.21	5748A69	3.40
3/16″	4-5	5748A14	1.23	5748A25	1.38	5748A44	2.21	5748A61	3.37
7/32″	5-6	5748A15	1.23	5748A26	1.49	5748A45	2.21	5748A62	3.39
1/4″	6-7	5748A17	1.23	5748A28	1.46	5748A46	2.02	5748A63■	3.09
9/32″	8-10	5748A18	1.23	5748A29	1.46	5748A47	1.96	5748A64	3.14
5/16″	10-12	5748A19	1.25	5748A31	1.70	5748A48	2.21	5748A65	3.13
23/64″	12-14	5748A21	1.51	5748A32	2.03	5748A49	2.21	5748A66	3.14

★2 3/4″ long ■ For screw size 6-8

Corrosion-Resistant Slotted Bits



Bits are made of stainless steel, which provides excellent corrosion resistance. They have a 1/4″ hex shank.

Size	For Screw Size	O'all Lg.		
1/8″	1-2	1″	4966A41	$3.96
5/32″	3-4	1″	4966A42	3.96
1/4″	8-10	1″	4966A45	3.96
9/32″	10-12	1″	4966A47	3.96

High-Torque Slotted Bits



Made to absorb shock and twisting forces, these diamond-coated bits are less likely to crack or shatter under high torque compared to regular bits. They have a 1/4″ hex shank.

Size	For Screw Size	O'all Lg.		
7/32″	6-8	1″	36285A42	$4.35
1/4″	8-10	1″	36285A45	4.35

Hex Bits


Bit


Power Tool Bit

Also known as socket-head bits.

Bits

Size	O'all Lg.		
1/4″ Hex Shank			
0.050″	1″	8526A46	$1.87
1/16″	1″	8526A47	1.87
5/64″	1″	8526A61	1.66
3/32″	1″	8526A62	1.66
7/64″	1″	8526A63	1.66
1/8″	1″	8526A64	1.66
9/64″	1″	8526A65	1.66
5/32″	1″	8526A66	1.69
3/16″	1″	8526A67	1.69
7/32″	1″	8526A68	1.69
1/4″	1″	8526A69	1.69
5/16″	1″	8526A71	1.90
3/8″	1″	8526A72	1.89
1.5 mm	1″	7389A43	3.62

Size	O'all Lg.		
1/4″ Hex Shank (Cont.)			
2 mm	1″	7389A21	$1.77
2.5 mm	1″	7389A22	1.77
3 mm	1″	7389A23	1.77
4 mm	1″	7389A24	1.77
5 mm	1″	7389A25	1.77
6 mm	1″	7389A26	1.77
7 mm	1″	7389A44	1.64
8 mm	1″	7389A27	2.09
9 mm	1″	7389A45	1.92
10 mm	1″	7389A28	2.34
5/16″ Hex Shank			
5/32″	1 3/8″	8526A81	2.04
3/16″	1 3/8″	8526A82	2.04
7/32″	1 3/8″	8526A83	2.04

Size	O'all Lg.		
5/16″ Hex Shank (Cont.)			
1/4″	1 3/8″	8526A84	$2.04
5/16″	1 3/8″	8526A85	2.04
3/8″	1 3/8″	8526A86	2.04
3 mm	1 1/4″	7389A31	1.65
4 mm	1 1/4″	7389A32	1.65
5 mm	1 1/4″	7389A33	1.65
6 mm	1 1/4″	7389A34	1.65
8 mm	1 1/4″	7389A35	1.72
10 mm	1 1/4″	7389A36	3.23
4 mm Hex Shank			
1/16″	1 1/8″	8526A11	1.58
5/64″	1 1/8″	8526A12	1.58
3/32″	1 1/8″	8526A13	1.58
7/64″	1 1/8″	8526A14	1.58

Size	O'all Lg.		
4 mm Hex Shank (Cont.)			
1/8″	1 1/8″	8526A15	$1.58
9/64″	1 1/8″	8526A16	1.58
5/32″	1 1/8″	8526A17	1.58
0.7 mm	1 1/8″	7389A11	1.58
0.9 mm	1 1/8″	7389A12	1.58
1.3 mm	1 1/8″	7389A13	1.58
1.5 mm	1 1/8″	7389A14	1.58
2 mm	1 1/8″	7389A15	1.58
2.5 mm	1 1/8″	7389A16	1.58
3 mm	1 1/8″	7389A17	1.58
4 mm	1 1/8″	7389A18	1.58

12-Piece Inch Bit Set— Includes one each of the 1/4″ hex-shank inch bits, except the 0.050″ size. Packed in a plastic caddy.

8526A88 ..... $18.54

7-Piece Metric Bit Set— Includes one each of the 1/4″ hex-shank bits with sizes 2, 2.5, 3, 4, 5, 6, and 8 mm. Packed in a plastic pouch.

7389A41 ..... $13.29

Power Tool Bits—1/4″ Hex Shank

Size	O'all Lg.		
1/16″	2″	7397A31	$3.44
5/64″	2″	7397A32	3.44
3/32″	2″	7397A33	3.48
3/32″	6″	7397A52	9.24
7/64″	2″	7397A34	3.48
1/8″	2″	7397A35	3.44

Size	O'all Lg.		
9/64″	2″	7397A36	$3.44
5/32″	2″	7397A37	3.44
5/32″	6″	7397A54	9.24
3/16″	2″	7397A38	3.44
7/32″	2″	7397A39	3.44
1/4″	2″	7397A41	3.35

Size	O'all Lg.		
1.5 mm	2″	7397A56	$6.22
2 mm	2″	7397A47	3.98
2.5 mm	2″	7397A42	4.37
3 mm	2″	7397A43	3.98
4 mm	2″	7397A44	3.98
5 mm	2″	7397A45	3.98

Size	O'all Lg.		
6 mm	2″	7397A46	$3.98
7 mm	2″	7397A57	5.00
8 mm	2″	7397A48	6.05
10 mm	2″	7397A58	7.64

10-Piece Combination Inch and Metric Power Tool Bit Set— Includes one each of bits with hex sizes 1/8″, 9/64″, 5/32, 3/16″, 7/32″, 1/4″, and 3, 4, 5, and 6 mm. Bits are 2″ long. Packed in a plastic caddy.

7397A29 ..... $35.40

For information about screwdriver bits, see page 2808.

Ball-End Hex Bits





Bits can access screws at any angle up to 20° and have a 1/4″ hex shank.

Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
5/64″	1″	5464A31	$1.40	3″	5492A61	$2.00
3/32″	1″	5464A32	1.40	3″	5492A62	2.00
7/64″	1″	5464A33	1.40	3″	5492A63	2.00
1/8″	1″	5464A34	1.40	3″	5492A64	2.00
9/64″	1″	5464A35	1.40	3″	5492A65	2.00
5/32″	1″	5464A36	1.40	3″	5492A66	2.00
3/16″	1″	5464A37	1.40	3″	5492A67	2.00
7/32″	1″	5464A38	1.40	3″	5492A68	2.00
1/4″	1″	5464A39	1.40	3″	5492A69	2.00
5/16″	1 1/2″	5464A41	4.61	3″	5492A71	4.89
3/8″	1 1/2″	5464A42	4.78	3″	5492A72	5.23
1/2″	1 1/2″	5464A43	5.42	3″	5492A73	6.14
2 mm	1″	5464A51	1.40	3″	5492A81	2.00
2.5 mm	1″	5464A52	1.40	3″	5492A82	2.00
3 mm	1″	5464A53	1.40	3″	5492A83	2.00
4 mm	1″	5464A54	1.40	3″	5492A84	2.00
5 mm	1″	5464A55	1.40	3″	5492A85	2.00
6 mm	1″	5464A56	1.40	3″	5492A86	2.00
8 mm	1 1/2″	5464A57	4.61	3″	5492A87	4.89
10 mm	1 1/2″	5464A58	4.98	3″	5492A88	5.35
12 mm	1 1/2″	5464A59	5.35	3″	5492A89	5.99

12-Piece Inch Bit Set—Includes one each of the inch bits.
5464A75 ..... $28.30

9-Piece Metric Bit Set—Includes one each of the metric bits.
5464A83 ..... $22.98

12-Piece Inch Power Tool Bit Set—Includes one each of the inch bits.
5492A75 ..... $31.12

9-Piece Metric Power Tool Bit Set—Includes one each of the metric bits.
5492A92 ..... $26.76

Screw-Holding Ball-End Hex Bits



The ball end of these power tool bits has a steel retaining ring that holds standard socket head screws firmly in place. The ball end can access socket head screws at any angle up to 20°. Bits have a 1/4″ hex shank.

Size	O'all Lg.			Size	O'all Lg.		
1/8″	2″	4538A42	$4.48	1/4″	2″	4538A47	$4.48
9/64″	2″	4538A43	4.48	3 mm	2″	4538A33	4.48
5/32″	2″	4538A44	4.48	4 mm	2″	4538A34	4.48
3/16″	2″	4538A45	4.48	5 mm	2″	4538A35	4.48
7/32″	2″	4538A46	4.48	6 mm	2″	4538A36	4.48

10-Piece Power Tool Bit Set—Includes one each of the bits listed. Packed in a plastic caddy.
4538A59 ..... $48.43

Screw-Holding Hex Bits





The steel retaining ring holds standard socket head screws firmly in place. Bits have a 1/4″ hex shank.

Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
1/8″	1″	4309A21	$3.37	2″	4417A51	$4.07
9/64″	1″	4309A22	3.48	2″	4417A52	4.07
5/32″	1″	4309A23	3.48	2″	4417A53	4.07
3/16″	1″	4309A24	3.48	2″	4417A54	4.07
7/32″	1″	4309A25	3.48	2″	4417A55	4.07
1/4″	1″	4309A26	3.48	2″	4417A56	4.07
3 mm	1″	4309A13	3.48	2″	4417A43	4.09
4 mm	1″	4309A14	3.48	2″	4417A44	4.09
5 mm	1″	4309A15	3.48	2″	4417A45	4.09
6 mm	1″	4309A16	3.48	2″	4417A46	4.09

10-Piece Bit Set—Includes one each of the bits listed. Packed in a plastic case.
4309A37 ..... $40.50

10-Piece Power Tool Bit Set—Includes one each of the power tool bits. Packed in a plastic caddy.
4417A74 ..... $42.35

Tamper-Resistant Hex Bits

Also known as pin-in-hex or pin-in-socket bits.





Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
1/4″ Hex Shank						
3/32″	1″	7257A63	$2.81	2″	7240A31	$3.18
7/64″	1″	7257A64	2.81	2″	7240A32	3.18
1/8″	1″	7257A22	2.53	2″	7240A33	3.18
1/8″	_	_____	____	6″	7240A41	6.35
9/64″	1″	7257A27	2.46	2″	7240A34	3.18
9/64″	_	_____	____	6″	7240A42	6.35
5/32″	1″	7257A23	2.46	2″	7240A35	3.18
5/32″	_	_____	____	6″	7240A43	6.35
3/16″	1″	7257A24	2.46	2″	7240A36	3.18
3/16″	_	_____	____	6″	7240A44	5.79
7/32″	1″	7257A25	2.46	2″	7240A37	3.18
7/32″	_	_____	____	6″	7240A45	6.35
1/4″	1″	7257A28	2.46	2″	7240A38	3.18
1/4″	_	_____	____	6″	7240A46	6.35
5/16″	1″	7257A29	3.03	2″	7240A39	5.72
5/16″	_	_____	____	6″	7240A47	7.94
3/8″	1″	7257A31	3.08	2″	7240A52	6.52
3/8″	_	_____	____	6″	7240A53	7.94
1/4″ Hex Shank (Cont.)						
2.5 mm	1″	7257A51	$2.39	2″	7240A65	$3.16
3 mm	1″	7257A52	2.39	2″	7240A66	3.16
4 mm	1″	7257A53	2.39	2″	7240A67	3.16
5 mm	1″	7257A54	2.39	2″	7240A68	3.16
6 mm	1″	7257A55	2.44	2″	7240A69	3.16
8 mm	1″	7257A56	2.50	2″	7240A71	3.16
4 mm Hex Shank						
5/64″	1 1/8″	7257A71	1.88	_	_____	____
3/32″	1 1/8″	7257A72	1.88	_	_____	____
7/64″	1 1/8″	7257A73	1.88	_	_____	____
1/8″	1 1/8″	7257A74	1.88	_	_____	____
9/64″	1 1/8″	7257A75	1.88	_	_____	____
5/32″	1 1/8″	7257A76	1.88	_	_____	____
2 mm	1 1/8″	7257A81	1.88	_	_____	____
2.5 mm	1 1/8″	7257A82	1.88	_	_____	____
3 mm	1 1/8″	7257A83	1.88	_	_____	____
4 mm	1 1/8″	7257A84	1.88	_	_____	____

11-Piece Inch Bit Set—Includes one each of the inch bits with 1/4″ hex shank, plus one 5/64″ inch bit. Packed in a plastic pouch.
7257A41 ..... $38.64

6-Piece Metric Bit Set—Includes one each of the metric bits with 1/4″ hex shank. Packed in a plastic caddy.
7257A61 ..... $13.41

8-Piece Inch Power Tool Bit Set—Includes one each of 1/4″ hex-shank bits in sizes 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, and 1/4″. Bits are 2″ long. Packed in a plastic caddy.
7240A55 ..... $25.90

6-Piece Metric Power Tool Bit Set—Includes one each of the metric bits with 1/4″ hex shank. Packed in a plastic caddy.
7240A74 ..... $21.18

Extra-High-Torque Hex Bits for Impact Drivers

Size	Hex Shank Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
4 mm	1/4″	1″	4641A11	$5.52	2″	4641A14	$8.49
5 mm	1/4″	1″	4641A12	5.52	2″	4641A15	8.49
6 mm	1/4″	1″	4641A13	5.52	2″	4641A16	7.40



Screwdriver Bits

For information about screwdriver bits, see page 2808.

Nutdriver Bits



Bit



Power Tool Bit



Extra-Long Hollow-Body Power Tool Bit



Extra-Grip Power Tool Bit

Also known as nut setters. Bits have a 1/4″ hex shank.

Bits

Size	Bolt Clearance	O'all Lg.		
Magnetic				
1/4″	1/16″	1 1/8″	54515A61	$2.48
5/16″	1/16″	1 1/8″	54515A62	2.67
3/8″	3/16″	1 1/8″	54515A63	3.67
7 mm	1/16″	1 1/8″	54515A64	3.99
8 mm	1/8″	1 1/8″	54515A65	4.08
Magnetic (Cont.)				
10 mm	1/8″	1 1/8″	54515A66	$4.39
Nonmagnetic				
3/16″	3/16″	1 3/8″	54515A52	1.83
1/4″	1/4″	1 3/8″	54515A53	1.95
9/32″	1/4″	1 1/2″	54515A54	2.09
Nonmagnetic (Cont.)				
5/16″	1/4″	1 1/2″	54515A55	$2.25
11/32″	1/4″	1 1/2″	54515A56	2.44
3/8″	1/4″	1 1/2″	54515A57	2.94
7/16″	5/16″	1 5/8″	54515A58	3.73

7-Piece Nonmagnetic Bit Set—Includes one each of the nonmagnetic bits. Packed in a plastic caddy. 54515A51 $16.69

Power Tool Bits

Size	Bolt Clearance	O'all Lg.		
Magnetic				
3/16″	1/16″	1 5/8″	7291A81	$5.17
3/16″	1/16″	2 5/8″	7291A82	5.69
1/4″	1/16″	1 3/4″	7291A14	2.88
1/4″	1/16″	2 5/8″	7291A21	4.04
1/4″	1/16″	4″	7291A31	5.03
1/4″	1/16″	6″	7291A32	5.59
1/4″	1/16″	8″	7291A46	6.37
1/4″	1/16″	10″	7291A47	7.01
1/4″	3/16″	12″	7291A94	7.46
5/16″	1/16″	1 3/4″	7291A15	3.07
5/16″	1/16″	2 5/8″	7291A22	4.49
5/16″	1/8″	4″	7291A83	5.79
5/16″	1/8″	6″	7291A84	6.07
5/16″	3/16″	12″	7291A95	8.16
3/8″	1/8″	1 3/4″	7291A16	3.79
3/8″	1/8″	2 5/8″	7291A23	5.88
3/8″	1/8″	4″	7291A85	8.54
3/8″	1/8″	6″	7291A86	9.62
3/8″	3/16″	12″	7291A96	9.24
Magnetic (Cont.)				
7/16″	1/8″	6″	7291A48	$9.03
7/16″	3/16″	1 3/4″	7291A38	5.84
7/16″	3/16″	2 5/8″	7291A24	7.39
1/2″	3/16″	1 3/4″	7291A42	8.28
1/2″	3/16″	2 5/8″	7291A45	9.07
4 mm	1/16″	2 5/8″	8534A21	4.24
5 mm	1/16″	1 5/8″	8534A31	4.06
5 mm	1/16″	2 5/8″	8534A43	5.10
5.5 mm	1/16″	1 5/8″	8534A32	3.93
5.5 mm	1/16″	2 5/8″	8534A44	5.32
6 mm	1/16″	1 5/8″	8534A46	3.52
6 mm	1/16″	2 5/8″	8534A22	4.26
7 mm	1/16″	2 5/8″	8534A49	5.27
8 mm	1/16″	1 5/8″	8534A47	3.85
9 mm	1/8″	2 5/8″	8534A23	6.38
10 mm	1/8″	1 3/4″	8534A48	4.22
10 mm	1/8″	2 5/8″	8534A24	6.20
12 mm	3/16″	2 5/8″	8534A25	9.86
13 mm	3/16″	2 5/8″	8534A26	11.58
Nonmagnetic				
1/4″	1/8″	1 3/4″	7291A35	$3.00
1/4″	1/8″	2 5/8″	7291A11	3.27
1/4″	3/16″	1 5/8″	7291A91★	5.69
1/4″	5/8″	1 7/8″	7291A43♦	1.64
5/16″	3/16″	1 5/8″	7291A92★	4.74
5/16″	3/16″	1 3/4″	7291A36	3.36
5/16″	3/16″	2 5/8″	7291A12	3.62
3/8″	3/16″	1 5/8″	7291A93★	6.04
3/8″	3/16″	1 3/4″	7291A37	3.67
3/8″	3/16″	2 5/8″	7291A13	5.54
7/16″	1/4″	1 3/4″	7291A39	4.88
7/16″	1/4″	2 5/8″	7291A19	5.11
5 mm	3/16″	2 5/8″	8534A51	4.50
5.5 mm	3/16″	2 5/8″	8534A52	4.65
6 mm	3/16″	2 5/8″	8534A53	4.71
7 mm	3/16″	2 5/8″	8534A54	4.84
8 mm	3/16″	2 5/8″	8534A55	5.49
10 mm	3/16″	2 5/8″	8534A56	6.07

★Includes a retaining ring for a tighter hold. ♦ Tip is tapered for more clearance.

9-Piece Power Tool Bit Sets—Include one each of bits with 1/4″ and 5/16″ hex size in 1 5/8″ and 2 5/8″ lengths, one each of bits with 3/8″ and 7/16″ hex size in 1 3/4″ and 2 5/8″ lengths, and 1/4″ hex size tapered-tip bit in 2″ length. Packed in a plastic caddy.

Magnetic 7291A41 $35.37 Nonmagnetic 7291A51 $31.13

Extra-Long Hollow-Body Power Tool Bits

Bits are nonmagnetic.

Size	Bolt Clearance	O'all Lg.		
1/4″	1 7/8″	3″	5971A31	$4.34
9/32″	1 3/8″	3 1/4″	5971A32	27.96
5/16″	1 7/8″	3″	5971A33	4.68
11/32″	1 3/8″	3 1/4″	5971A34	$30.40
3/8″	1 7/8″	3″	5971A35	5.03
7/16″	1 7/8″	3″	5971A36	5.26
1/2″	1 7/8″	3″	5971A37	$5.63
9/16″	1 3/8″	3 1/4″	5971A38	34.20
5/8″	1 3/8″	3 1/4″	5971A39	38.00

Extra-Grip Power Tool Bits

Because they make contact on the flat side of fasteners rather than on the corners, these bits significantly reduce stripping and breaking. They're also known as lobular bits. Bits are magnetic.

Size	Bolt Clearance	O'all Lg.		
1/4″	1/16″	1 7/8″	7291A71	$2.23
1/4″	1/16″	2 5/8″	7291A72	2.52
5/16″	1/8″	1 7/8″	7291A73	2.55
5/16″	1/8″	2 5/8″	7291A74	$2.89
3/8″	1/8″	1 7/8″	7291A75	2.62
3/8″	1/8″	2 5/8″	7291A76	3.32
7/16″	3/16″	1 7/8″	7291A77	$3.48
7/16″	3/16″	2 5/8″	7291A78	4.58

Torx-Plus Bits



Bit



Power Tool Bit

These bits are not compatible with standard Torx screws.

Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
1/4″ Hex Shank						
IP1	1″	54305A41	$6.32	2″	3716A31	$18.95
IP2	1″	54305A42	6.32	2″	3716A32	18.95
IP3	1″	54305A16	4.69	2″	3716A33	6.95
IP4	1″	54305A17	4.69	2″	3716A34	6.94
IP5	1″	54305A18	4.69	2″	3716A35	6.94
IP6	1″	54305A11	2.42	2″	3716A21	6.69
IP7	1″	54305A12	2.42	2″	3716A22	6.69
IP8	1″	54305A13	2.42	2″	3716A11	5.09
IP9	1″	54305A14	1.94	2″	3716A12	5.09
IP10	1″	54305A21	1.94	2″	3716A13	5.09
IP15	1″	54305A22	1.94	2″	3716A14	5.09
IP20	1″	54305A23	$1.94	2″	3716A15	$5.09
IP25	1″	54305A24	1.94	2″	3716A16	5.09
IP27	1″	54305A15	1.94	2″	3716A17	5.09
IP30	1″	54305A25	2.42	2″	3716A18	5.09
IP40	1″	54305A26	2.47	2″	3716A19	5.09
5/16″ Hex Shank						
IP30	1 1/4″	54305A31	7.10			
IP40	1 1/4″	54305A32	7.06			
IP45	1 1/4″	54305A33	7.06			
IP50	1 1/4″	54305A34	7.41			

For information about screwdriver bits, see page 2808.

Torx Bits

Bit  Power Tool Bit 

Bits

Size	O'all Lg.		
1/4" Hex Shank			
T3	1"	7013A16	$2.14
T4	1"	7013A17	1.17
T5	1"	7013A18	1.27
T6	1"	7013A19	1.38
T7	1"	7013A21	1.38
T8	1"	7013A22	1.38
T9	1"	7013A23	1.38
T10	1"	7013A24	1.27
T15	1"	7013A25	1.27
T20	1"	7013A26	1.27
T25	1"	7013A27	1.27
T27	1"	7013A28	1.27
T30	1"	7013A29	1.27
T40	1"	7013A31	1.27
T45	1 3/8"	7013A35	3.56
T50	1 3/8"	7013A36	3.73
T55	1 3/8"	7013A37	3.98
5/16" Hex Shank			
T30	1 1/4"	7013A41	$1.90
T40	1 1/4"	7013A42	1.90
T45	1 1/4"	7013A43	1.90
T50	1 1/4"	7013A44	1.90
T55	1 1/4"	7013A45	1.90
4 mm Hex Shank			
T3	1 1/8"	7013A61	1.58
T4	1 1/8"	7013A62	1.58
T5	1 1/8"	7013A63	1.58
T6	1 1/8"	7013A64	1.58
T7	1 1/8"	7013A65	1.58
T8	1 1/8"	7013A66	1.58
T9	1 1/8"	7013A67	1.58
T10	1 1/8"	7013A68	1.58
T15	1 1/8"	7013A69	1.58
T20	1 1/8"	7013A71	1.58

7-Piece Bit Set—Includes one each of T10, T15, T20, T25, T27, T30, and T40 bits with a 1/4" hex shank. Packed in a plastic caddy.
7013A52 ..... $10.74

23-Piece Bit Set—Includes one each of T5, T6, T7, T8, T9, T45, T50, and T55 bits; two each of T10, T15, T20, T25, T27, T30, and T40 bits; and a 2 3/8" long bit adapter for power tools. Bits have a 1/4" hex shank. Packed in a plastic caddy.
7013A56 ..... $40.26

Power Tool Bits

Size	O'all Lg.		
1/4" Hex Shank			
T3	2"	7396A13	$2.60
T4	2"	7396A14	2.59
T5	2"	7396A79	2.45
T6	2"	7396A74	2.45
T6	2 3/4"	7396A76	3.92
T6	3 1/2"	7396A78	5.50
T7	2"	7396A17	2.45
T7	2 3/4"	7396A77	3.92
T7	3 1/2"	7396A75	4.45
T8	2"	7396A18	2.45
T8	2 3/4"	7396A28	2.65
T8	3 1/2"	7396A38	3.89
T8	6"	7396A51	5.48
T9	2"	7396A19	2.45
T9	2 3/4"	7396A29	3.45
T9	3 1/2"	7396A39	3.89
T10	2"	7396A21	2.27
T10	2 3/4"	7396A31	2.89
T10	3 1/2"	7396A41	3.48
T10	6"	7396A52	4.93
T15	2"	7396A22	2.27
T15	2 3/4"	7396A32	2.62
1/4" Hex Shank (Cont.)			
T15	3 1/2"	7396A42	$3.48
T15	6"	7396A53	4.93
T20	2"	7396A23	2.27
T20	2 3/4"	7396A33	2.89
T20	3 1/2"	7396A43	3.48
T20	6"	7396A54	4.93
T25	2"	7396A24	2.27
T25	2 3/4"	7396A34	2.89
T25	3 1/2"	7396A44	3.51
T25	6"	7396A55	4.93
T27	2"	7396A25	2.27
T27	2 3/4"	7396A35	2.89
T27	3 1/2"	7396A45	3.48
T27	6"	7396A56	4.93
T30	2"	7396A26	2.27
T30	2 3/4"	7396A36	2.89
T30	3 1/2"	7396A46	3.48
T30	6"	7396A57	4.93
T40	2"	7396A27	2.27
T40	2 3/4"	7396A37	2.89
T40	3 1/2"	7396A47	3.48
T40	6"	7396A58	4.93

11-Piece Power Tool Bit Set—Includes one each of T6, T7, T8, T9, T10, T15, T20, T25, T27, T30, and T40 bits. Bits are 2" long. Packed in a plastic caddy.
7396A81 ..... $31.19

High-Torque Torx Bits



Made to absorb shock and twisting forces, these bits are less likely to crack or shatter under high torque compared to regular bits. Also known as insert bits, these compact bits are used in hand drivers or with a bit adapter in power tools. They are diamond coated and have a 1/4" shank.

Size	O'all Lg.		
T10	1"	5983A61	$9.13
T15	1"	5983A62	9.13
T20	1"	5983A63	9.13
T25	1"	5983A64	9.13
T30	1"	5983A65	9.13
T40	1"	5983A66	9.13

Extra-High-Torque Torx Bits for Impact Drivers

Bit  Power Tool Bit 

Designed to withstand the demands of impact drivers, these durable bits provide a long service life. They are diamond coated and have a 1/4" hex shank.

Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
T25	1"	4584A11	$5.52	2"	4584A14	$8.49
T30	1"	4584A12	5.52	2"	4584A15	8.49
T40	1"	4584A13	5.52	2"	4584A16	8.49

Screw-Holding Torx Bits

Bit  Power Tool Bit 

The slightly tapered tip wedges into the screw recess for a secure hold. They're also known as Torx Align bits.

Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
1/4" Hex Shank						
T6	1"	6947A36	$2.00	2"	53275A197	$4.89
T7	1"	6947A37	2.00	2"	53275A198	4.89
T8	1"	6947A38	2.00	2"	53275A199	4.89
T9	1"	6947A39	2.00	2"	53275A201	4.89
T10	1"	6947A41	2.00	2"	53275A191	4.89
T15	1"	6947A42	2.00	2"	53275A192	4.89
T20	1"	6947A43	2.00	2"	53275A193	4.89
T25	1"	6947A44	2.00	2"	53275A194	4.89
T27	1"	6947A45	2.00	2"	53275A195	4.89
T30	1"	6947A46	2.00	2"	53275A196	4.89
T40	1"	6947A47	2.00	—	—	—
5/16" Hex Shank						
T30	1 1/4"	6947A51	6.53	—	—	—
T40	1 1/4"	6947A52	6.53	—	—	—
T45	1 1/4"	6947A53	6.53	—	—	—

6-Piece Bit Set—Includes one each of T10, T15, T20, T25, T30, and T40 bits with a 1/4" hex hank. Packed in a plastic case.
6947A48 ..... $9.50

10-Piece Power Tool Bit Set—Includes one each of the bits listed. Packed in a plastic caddy.
53275A32 ..... $40.99

Extended-Life Torx Bits



Bits are titanium-nitride coated for improved wear resistance. Also known as insert bits, these bits have a 1/4" hex shank.

Size	O'all Lg.		
T10	1"	57625A41	$5.59
T15	1"	57625A42	5.59
T20	1"	57625A43	5.59
T25	1"	57625A44	5.59
T30	1"	57625A45	5.59
T40	1"	57625A46	5.59

Ball-End Torx Bits



You don't need exact alignment between the fastener and the bit—the ball end allows angled entry at any angle up to 20° to drive screws in hard-to-reach areas. These power bits have a 1/4" hex shank.

Size	O'all Lg.			Size	O'all Lg.		
T9	2"	5044A11	$5.24	T25	2"	5044A15	$5.24
T10	2"	5044A12	5.24	T27	2"	5044A16	5.24
T15	2"	5044A13	5.24	T30	2"	5044A17	5.24
T20	2"	5044A14	5.24	T40	2"	5044A19	5.24

Screwdriver Bits

For information about screwdriver bits, see page 2808.

Tamper-Resistant Torx Bits


Bit


Power Tool Bit

Bits

Size	O'all Lg.			Size	O'all Lg.		
¼″ Hex Shank				**5/16″ Hex Shank**			
T7	1″	7377A41	$2.28	T40	1¼″	36575A31	$5.40
T8	1″	7377A42	2.28	T45	1¼″	36575A32	5.40
T9	1″	7377A43	2.28	T50	1¼″	36575A33	5.40
T10	1″	7377A44	2.13	T55	1¼″	36575A34	5.40
T15	1″	7377A45	2.13	**4 mm Hex Shank**			
T20	1″	7377A46	2.13	T7	1⅛″	7377A31	1.88
T25	1″	7377A47	2.13	T8	1⅛″	7377A32	1.88
T27	1″	7377A48	2.13	T9	1⅛″	7377A33	1.88
T30	1″	7377A49	2.13	T10	1⅛″	7377A34	1.88
T40	1″	7377A51	2.13	T15	1⅛″	7377A35	1.88
				T20	1⅛″	7377A36	1.88

7-Piece Bit Set—Includes one each of T7, T8, T9, T10, T15, T20, and T25 bits with ¼″ hex shank. Packed in a plastic case.

7377A55 ..... $22.02

Power Tool Bits

Size	O'all Lg.			Size	O'all Lg.		
¼″ Hex Shank				**¼″ Hex Shank (Cont.)**			
T7	2″	7233A84	$6.45	T27	2″	7233A67	$6.45
T7	6″	7233A21	10.81	T27	6″	7233A79	10.89
T8	2″	7233A61	6.45	T30	2″	7233A68	6.45
T8	6″	7233A22	10.80	T30	6″	7233A81	10.89
T9	2″	7233A62	6.45	T35	2″	7233A69	6.20
T9	6″	7233A23	10.86	T35	6″	7233A82	10.89
T10	2″	7233A63	6.45	T40	2″	7233A71	6.45
T10	6″	7233A75	10.89	T40	6″	7233A83	10.89
T15	2″	7233A64	6.45	T45	2″	7233A72	7.47
T15	6″	7233A76	10.89	T45	6″	7233A24	11.81
T20	2″	7233A65	6.45	T50	2″	7233A73	7.47
T20	6″	7233A77	10.89	T50	6″	7233A25	11.81
T25	2″	7233A66	6.45	T55	2″	7233A74	7.47
T25	6″	7233A78	10.89	T55	6″	7233A26	13.04

10-Piece Power Tool Bit Set—Includes one each of T7, T8, T9, T10, T15, T20, T25, T27, T30, and T40 bits. Bits are 2″ long. Packed in a plastic caddy.

7233A85 ..... $36.80

Corrosion-Resistant Square Bits



Made of stainless steel, these bits have a ¼″ hex shank.

Size	For Screw Size	O'all Lg.		
No. 1	5-7	1″	6034A31	$3.92
No. 2	8, 10	1″	6034A33	3.92
No. 3	12, 14, ¼″	1″	6034A35	3.92
No. 4	5/16″-½″	1″	6034A37	3.92

Extra-High-Torque Square Bits for Impact Drivers


Bit


Power Tool Bit

These durable diamond-coated bits provide a long service life. They have a ¼″ hex shank.

Size	For Screw Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
No. 2	8, 10	1″	4652A21	$5.14	2″	4652A23	$8.12
No. 3	12, 14, ¼″	1″	4652A22	5.14	2″	4652A24	8.12

Tamper-Resistant Pentalobe Bits



These bits have a ¼″ hex shank.

Size	O'all Lg.			Size	O'all Lg.		
PLS8	1″	5043A21	$5.90	PLS25	1″	5043A25	$5.90
PLS10	1″	5043A22	5.90	PLS27	1″	5043A26	5.90
PLS15	1″	5043A23	5.90	PLS30	1″	5043A27	5.90
PLS20	1″	5043A24	5.90	PLS40	1⅜″	5043A28	8.86

Reversible Bits

Also known as insert bits, these compact bits are used in hand drivers. Bits have a ball detent, unless noted.

Slotted/Phillips



Slotted Tip Size	Phillips Tip Size	O'all Lg.		
¼″ Hex Shank				
⅛″	No. 0	1¼″	5645A52	$1.09
3/16″	No. 1	1¼″	5645A53	1.09
7/32″	No. 1	1½″	5645A31★	1.58
7/32″	No. 1	2⅜″	5645A38★	1.75
7/32″	No. 2	2⅜″	5645A39★	2.31
¼″	No. 2	1½″	5645A32★	1.58
9/32″	No. 3	1½″	5645A33★	1.58
____	No. 0, No. 3	2½″	5645A62	2.10
____	No. 1, No. 2	3″	5645A61	1.85
____	No. 2, No. 2	1¾″	5645A41★	2.11
5/16″ Hex Shank				
⅛″	No. 0	2¾″	5645A51	2.61
3/16″	No. 1	2¾″	36565A89	2.79
3/16″, 9/32″	____	2¾″	36565A87	2.79
____	No. 1, No. 2	2⅝″	36565A91	2.79

★Does not have a ball detent.

Torx/Torx and Square/Square



Torx Tip Size	Square Tip Size	O'all Lg.		
¼″ Hex Shank				
T6, T7	____	1¼″	5645A54	$1.83
T6, T7	____	2½″	5645A47	2.23
T8, T9	____	1¼″	5645A55	1.83
T8, T10	____	1½″	5645A48	1.73
T8, T10	____	2½″	5645A49	2.24
T10, T20	____	2″	5645A43★	3.00
T15, T20	____	2″	5645A42★	3.00
____	No. 0, No. 3	1½″	5645A45★	1.98
____	No. 1, No. 2	1½″	5645A44★	2.26
5/16″ Hex Shank				
T8, T10	____	2⅞″	36565A81	3.86
T8, T10	____	2⅞″	36565A82■	7.91
T15, T20	____	2¾″	36565A92	3.71
T15, T20	____	2⅞″	36565A83■	7.91
T25, T30	____	2⅝″	36565A93	3.71
____	No. 0, No. 1	2¾″	36565A94	2.85
____	No. 2, No. 3	2¾″	36565A95	2.85

★Does not have ball detent.
■ Tamper-resistant security bits for pin-in-head fasteners

Square Bits


Bit


Power Tool Bit

These bits have a ¼″ hex shank.

Size	For Screw Size	Bits 1″ Long		Power Tool Bits 2″ Long		2¾″ Long		2⅞″ Long		4″ Long		6″ Long		12″ Long	
No. 00	1-2	7185A17	$1.78	____	____	____	____	____	____	____	____	____	____	____	____
No. 0	3-4	7185A18	.66	7021A27	$1.40	7021A28	$1.53	____	____	____	____	7021A29	$3.55	7021A31	$9.19
No. 1	5-7	7185A21	.50	7021A11	.77	7021A14	1.11	____	____	7021A24	$2.00	7021A21	2.31	7021A32	9.19
No. 2	8, 10	7185A22	.51	7021A12	.77	7021A15	1.03	____	____	7021A25	2.03	7021A22	2.32	7021A33	9.19
No. 3	12, 14, ¼″	7185A23	.49	7021A16	.77	7021A18	1.09	____	____	7021A26	2.19	7021A23	2.37	7021A34	9.19
No. 4	5/16″-½″	____	____	7021A42	2.68	____	____	7021A43	$3.76	7021A44▲	4.16	7021A45	8.06	7021A46	11.68

▲3½″ long

8-Piece Bit Set—Includes two each of sizes No. 0, 1, 2, and 3. Bits are 1″ long. Packed in a plastic caddy.

7185A31 ..... $4.19

6-Piece Power Tool Bit Set—Includes two each of sizes No. 1, 2, and 3. Bits are 2″ long. Packed in a plastic pouch.

7021A39 ..... $11.22

For information about screwdriver bits, see page 2808.

Drilled Spanner Bits





For Screw Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
¼″ Hex Shank						
No. 4	1″	52775A26	$2.69	2″	7230A55	$4.55
No. 6	1″	52775A21	2.18	2″	7230A56	4.55
No. 8	1″	52775A22	2.18	2″	7230A57	4.55
No. 10	1″	52775A23	2.18	2″	7230A58	4.55
No. 12	1″	52775A24	2.09	2″	7230A59	4.55
No. 14	1″	52775A33★	6.28	2″	7230A44	4.49
5/16″ Hex Shank						
No. 6	1¼″	5560A71	3.60	_	_____	____
No. 8	1¼″	5560A72	3.60	_	_____	____
No. 10	1¼″	5560A73	3.60	_	_____	____
No. 12	1¼″	5560A74	3.60	_	_____	____
No. 14	1¼″	5560A76★	3.60	_	_____	____

★Also for ¼″ screw size.

6-Piece Bit Set—Includes two each of the ¼″ hex-shank bits for screw sizes 6, 8, and 10. Packed in a plastic pouch.
52775A31 ..... $17.36

8-Piece Bit Set—Includes two each of the 5/16″ hex-shank bits for screw sizes 6, 8, and 10 as well as one each for screw sizes 12 and 14. Packed in a plastic pouch.
5560A81 ..... $34.12

4-Piece Power Tool Bit Set—Includes one each of the bits for screw sizes 4, 6, 8, and 10. Packed in a plastic pouch.
7230A54 ..... $14.18

Tri-Wing® Bits





Bits have a ¼″ hex shank.

For Screw Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
No. 0	0	1″	7175A44	$3.23	1¼″	53265A311	$3.53
No. 1	2	1″	7175A45	2.20	1¼″	53265A312	3.08
No. 2	4	1″	7175A46	2.23	1¼″	53265A313	3.28
No. 3	6	1″	7175A47	2.29	1¼″	53265A314	3.53
No. 4	8	1″	7175A48	2.29	1¼″	53265A315	3.26
No. 5	10	1″	7175A49	2.29	1¼″	53265A316	3.26

6-Piece Bit Set—Includes one each of the bits. Packed in a plastic caddy.
7175A51 ..... $13.93

Tri-Groove Bits

These power tool bits have a ¼″ hex shank and are 1¼″ long.



For Screw Size			For Screw Size		
1-8	7309A21	$11.24	8-12, ¼″	7309A23	$12.56
5-11	7309A22	12.10	12-13, 5/16″	7309A24	12.68

4-Piece Set—Includes one each of the bits listed. Packed in a plastic pouch.
7309A25 ..... $46.04

Triangle Bits

These power tool bits have a ¼″ hex shank and are 2″ long.



Size	(A)			Size	(A)		
TA18	0.07″	5941A11	$3.77	TA23	0.09″	5941A13	$3.78
TA20	0.083″	5941A12	3.77	TA27	0.1″	5941A14	3.77

Screw-In Hook Driver Bits

A slot in the head holds and turns curved screw-in hooks. Groove is 7/8″ Lg. × 5/32″ Wd. Bit has a ¼″ hex shank and is 1″ long.



6093A3 ..... $5.04

Torq-Set® Bits





Bits have a ¼″ hex shank.

For Screw Size	Bits O'all Lg.			Power Tool Bits O'all Lg.		
Standard Tip						
No. 2	1″	36735A55	$2.78	1¼″	56075A515	$3.15
No. 4	1″	36735A49	2.78	1¼″	56075A509	3.15
No. 6	1″	36735A51	2.78	1¼″	56075A511	3.15
No. 8	1″	36735A52	2.78	1¼″	56075A512	3.15
No. 10	1″	36735A53	2.80	1¼″	56075A513	3.15
¼″	1″	36735A54	2.99	1¼″	56075A514	5.99
5/16″	1″	36735A56	3.96	1¼″	56075A516	6.65
Slip-Resistant Tip						
No. 6	1″	5225A11	4.59	2″	5225A21	17.38
No. 8	1″	5225A12	4.67	2″	5225A22	17.38
No. 10	1″	5225A13	4.67	2″	5225A23	17.79
¼″	1″	5225A14	5.28	_	_____	____

10-Piece Standard Tip Bit Set—Includes two each of the bits for screw sizes 4, 6, 8, 10, and ¼″. Packed in a plastic pouch.
36735A75 ..... $30.66

Clutch Bits





Also known as butterfly and Type G bits. Bits have a ¼″ hex shank.

(A)	Bits O'all Lg.			Power Tool Bits O'all Lg.		
3/32″	1″	7188A31	$1.68	2″	69815A51	$3.05
1/8″	1″	7188A21	1.41	2″	69815A45	2.20
5/32″	1″	7188A23	1.41	2″	69815A46	2.27
3/16″	1″	7188A24	1.41	2″	69815A47	2.27
¼″	1″	7188A32	2.02	2″	69815A52	3.81

One-Way Bits

Use these bits to remove one-way screws. These power tool bits have a ¼″ hex shank.



For Screw Size	For Screw Head Dia.	O'all Lg.		
No. 6	0.225″	2″	5713A11	$18.27
No. 8	0.26″	2″	5713A12	18.78
No. 10	0.339″	2″	5713A13	19.10
No. 12	0.392″	2″	5713A14	19.71
No. 14	0.443″	2″	5713A15	20.86
No. 16	0.665″	2″	5713A16	33.90
No. 18-20	0.684″	2″	5713A17	33.90

Security Bit Assortments



29 Piece—Includes an 8 3/4″ long bit screwdriver; 2 1/8″ long power tool bit adapter; ¼″ male square drive × ¼″ hex shank adapter; and the following ¼″ hex shank × 1″ Lg. bits, all packed in a plastic case:

Tamper-Resistant Torx: T9, T10, T15, T20, T25, T27, T30, and T40.

Tamper-Resistant Hex: 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, and ¼″

Spanner: No. 6, 8, and 10
Torq-Set®: No. 5 and 8
Tri-Wing®: No. 4 and 5
Square: No. 1 and 2
Pozidriv®: No. 2

5996A3 ..... $67.54

39 Piece—Includes a 4 5/16″ long cushion-grip handle; 2 1/4″ long power tool bit adapter; ¼″ female square drive × female hex adapter; and the following ¼″ hex shank × 1″ Lg. bits:

Tamper-Resistant Torx: T8, T10, T15, T20, T25, T27, T30, and T40.

Tamper-Resistant Hex: 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, and 5/32″

Spanner: No. 4, 6, 8, and 10
Torq-Set®: No. 6, 8, and 10
Tri-Wing®: No. 1, 2, 3, and 4
Square: No. 1, 2, and 3
Pozidriv®: No. 0, 1, 2, and 3
Slotted: ¼″ and 5/16″
Phillips: No. 1 and 2

5996A12 ..... $77.46

Hanger Bolt Driver Bits

Turn the flat-end bolts and screws that are commonly used for wire guiding and hanging pipes and fixtures. These power bits have a ¼″ hex shank.

For Screw Size	Slot Wd.	O'all Lg.		
¼″	1/8″	2 7/8″	5977A42	$4.80
5/16″	3/16″	2 7/8″	5977A43	5.73



Bit Adapters for Power Tools



Adapters have a groove in the shank to fit in a power-tool chuck, allowing you to use hex-shank bits (also known as insert bits) in drills and powered screwdrivers. Bodies are stainless steel, unless noted.

(B) Twist Lock—Tighten the knurled end to secure the bit.

(C) Wobble Reducing—These adapters are machined from a single piece of metal to provide added stability.

(D) Quick-Change Secure-Hold—The chuck holds bits securely—pull back the collar to insert or remove.

(E) Bit Adapters for Powered Impact Drivers—These adapters are designed to withstand the high torque of impact drivers.

(F) Screw Guiding—Keep your bit from slipping. Place a screw on the end of your bit and slide the sleeve of the adapter over the screw. The sleeve retracts as the screw is driven. Sleeve is aluminum.

(G) Transparent Screw Guiding—The clear sleeve on these adapters slides over the screw and lets you see that the bit is making contact. The sleeve retracts as the screw is driven. Sleeve is plastic.

	Hex Shank	Hex Opening	Lg.		
Magnetic Adapters					
A	1/4"	1/4"	2 3/8"	7225A28	$5.07
A	1/4"	1/4"	2 5/8"	7225A29	5.70
A	1/4"	1/4"	2 7/8"	7225A24	6.91
A	1/4"	1/4"	3 7/8"	7225A31	7.54
A	1/4"	1/4"	5 7/8"	7225A32	10.14
A	1/4"	1/4"	7 7/8"	7225A33	13.48
A	1/4"	1/4"	10"	7225A34	17.08
B	1/4"	1/4"	3 1/8"	7225A49	8.54
B	1/4"	1/4"	3"	7225A41	7.73
B	1/4"	1/4"	6"	7225A42	10.96
C	1/4"	1/4"	2 1/8"	7225A21	5.68
C	1/4"	1/4"	3"	7225A22	6.85
C	1/4"	5/16"	3 1/4"	7225A25★	14.16
C	5/16"	1/4"	3 1/8"	7225A71★	24.12
C	5/16"	5/16"	3 1/8"	7225A72★	25.05
D	1/4"	1/4"	2"	7179A11★	11.33
D	1/4"	1/4"	2 3/8"	8345A38	13.00
D	1/4"	1/4"	2 7/8"	8345A36	17.60
D	1/4"	1/4"	6"	7179A12★	12.71
D	1/4"	1/4"	12"	7179A13★	14.48
E	1/4"	1/4"	3"	7225A76★	28.39
F	1/4"	1/4"	3 1/8"	52885A33	6.42
F	1/4"	1/4"	4 5/8"	52885A34	7.03
G	1/4"	1/4"	4 5/8"	52885A36	7.51
Nonmagnetic Adapters					
A	1/4"	4 mm	2 3/8"	7225A75★	7.12
B	1/4"	1/4"	2 3/8"	7225A59	7.01
C	1/4"	1/4"	2 1/8"	7225A51	3.23
C	1/4"	1/4"	4"	7225A61	5.62
C	1/4"	1/4"	6"	7225A62	9.40
C	1/4"	1/4"	10"	7225A63	15.34
C	5/16"	1/4"	2 1/2"	7225A64★	9.92
C	5/16"	5/16"	2 1/2"	7225A66★	15.78
D	5/16"	7/16"	2 3/8"	7225A73■	11.00

★Body is steel.
■ Body is aluminum.

Socket Adapters

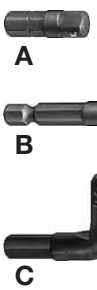

Use sockets with tools that accept hex shanks, such as bit screwdrivers and power drills. Made of steel. They are not for use with impact tools.

	Drive Type	Hex Size	Sq. Dr. Size	O'all Lg.		
A	Manual	1/4"	1/4"	1"	52735A21	$2.25
B	Power	1/4"	1/4"	2"	52735A23	2.25
B	Power	1/4"	1/4"	3"	52735A25	2.15
B	Power	1/4"	1/4"	3 7/8"	52735A27	3.04
B	Power	1/4"	3/8"	2"	52735A45	2.92
C	Manual	1/4"	1/4"	1 3/8"	52735A44	4.41

Screw-Holding Bit Adapters for Power Tools



A magnetic ring at the end of the adapter holds flat-head screws in place to ensure good contact between the bit and screw. This adapter fits in a power-tool chuck, allowing you to use hex-shank bits in drills and powered screwdrivers. It has a 1/4" hex shank, a 1/4" hex opening, and is 2 3/4" long. Made of stainless steel.

6005A1 ..... $20.40

Flexible Bit Adapters for Power Tools



Access tight spots—these adapters flex up to 90°. They fit in a power-tool chuck, allowing you to use hex-shank bits (also known as insert bits) in drills and powered screwdrivers. They have a 1/4" hex male end and a 1/4" hex female end. Made of steel.

Lg.	Max. Torque, in.-lbs.		
7 1/2"	42	85255A11	$8.91
11"	156	85255A13	19.46

Bit Adapters for Square-Drive Tools


Standard with Magnet


Standard with Retaining Ring


Twist Lock


Quick-Change Chuck

Use hex-shank bits with male square drive tools. Made of steel.

Twist Lock—Tighten the knurled end to secure the bit.

Screw Lock—Bit adapters have a set screw to hold the bit in place.

Quick-Change Chuck—Holds bits securely—pull back the collar to insert or remove.

Female Square Drive	Hex Opening	Lg.		
Standard				
With Magnet				
1/4"	1/4"	2"	7229A61	$14.84
3/8"	1/4"	2 1/8"	7229A62	20.35
3/8"	5/16"	2 1/2"	7229A82	18.20
1/2"	1/4"	2 3/4"	7229A83	18.16
With Retaining Ring				
1/4"	1/4"	1"	7229A42	4.63
3/8"	1/4"	1 1/4"	7229A44	4.26
3/8"	5/16"	1 1/4"	7229A46	4.32
1/2"	1/4"	1 3/4"	7229A81	6.48
1/2"	5/16"	1 1/2"	7229A56	7.23
Secure Hold				
Twist Lock				
1/4"	1/4"	1 1/8"	7229A48	3.99
3/8"	1/4"	1 1/8"	7229A52	4.45
3/8"	5/16"	1 3/8"	7229A54	4.06
Screw Lock				
1/4"	1/4"	7/8"	7229A77	4.39
3/8"	1/4"	1 1/8"	7229A78	5.18
3/8"	5/16"	1 1/8"	7229A79	6.58
Quick-Change Chuck				
1/4"	1/4"	1 1/4"	53655A32	25.87
3/8"	1/4"	1 5/8"	53655A33	27.21
3/8"	5/16"	2"	53655A34	26.33
1/2"	1/4"	2"	53655A35	28.72
1/2"	5/16"	2"	53655A36	30.98
Magnetic Quick-Change Chuck				
1/4"	1/4"	3"	7229A74	27.54
3/8"	1/4"	3 1/4"	7229A75	31.90

Bit Organizing Caddies and Cases



	Bit Cap.	For Hex Shank	Material	Overall Size Lg.	Wd.	Ht.		
A	8	1/4"	Plastic	3 3/4"	5/8"	5/8"	52745A28▲	$6.85
A	37	1/4"	Plastic	7"	1 1/2"	1"	52745A21▲	17.28
B	9	1/4"	Plastic	4 1/2"	2 1/4"	3/4"	83765A32	6.72
B	60	1/4"	Plastic	4 1/2"	3 1/4"	1 1/4"	83765A33	9.30
C	7	1/4"	Plastic	2 1/4"	1/4"	1/2"	56635A23♣	3.39
C	9	1/4"	Plastic	3"	1/4"	1/2"	56635A24	2.08
D	21	1/4"	Plastic	3 1/2"	5/8"	1/2"	56635A21	1.76
D	36	1/4"	Plastic	3 1/2"	1 3/4"	1/2"	56635A22	3.38

▲Nonmarring magnetic base. ♣ Includes split ring key chain.

For information about screwdriver bits, see page 2808.

Bit Assortments


Phillips


Slotted


Torx


Square


Pozidriv®


Hex


Nutdriver


Clutch


Frearson


5399A16

Bits vary from 1″ to 1⅜″ long. Bits for power tools are approximately 2″ long, unless otherwise noted.

Pcs.	Bit Shank		Includes		
Bits and Adapters					
7	¼″ high-torque hex	**Phillips:** one each No. 1 and 3; two each No. 2; **Slotted:** 7/32″ and ¼″ Bits are diamond coated.	2¼″ long bit adapter for power tools in a plastic case	36285A65	$34.78
10	¼″ hex	**Phillips:** No. 1, 2, and 3; **Slotted:** 3/16″, 7/32″, ¼″; **Hex:** ⅛″, 5/32″, 3/16″	2⅜″ long bit adapter for power tools in a plastic case	8348A17	$27.47
10	¼″ power tool hex	**Phillips:** No. 1, 2, and 3; **Slotted:** ⅛″, 3/16″, 7/32″, and ¼″; **Square:** No. 1, 2, and 3	Packed in a plastic caddy	5965A12	$22.07
11	¼″ hex	**Phillips:** No. 0, 1, 2, and 3; **Slotted:** 7/32″, ¼″, and 5/16″; **Torx:** T10, T15, and T20	2⅜″ long bit adapter for power tools in a plastic case	8348A11	$26.46
16	¼″ hex for power tools	**Phillips:** 3½″ long: No. 2 and 3; 6″ long: No. 1 and 2; **Torx:** 3½″ long: T15 and T20; 6″ long: T20, T25, T27, and T30; **Pozidriv®:** 3½″ long: No. 2; **Nutdriver:** 5/16″	2½″ and 6″ long bit adapters for power tools, two male square × hex shank adapters in a plastic case	5965A16	$46.23
17	¼″ hex	**Phillips:** four each No. 2; two each No. 1 and 3; one each No. 0; **Slotted:** two each 7/32″, ¼″, and 9/32″; one each 3/16″	2⅛″ long bit adapter for power tools in a plastic caddy	8346A41	$16.86
30	¼″ hex	**Phillips:** two each No. 1 and No. 3; seven each No. 2; **Slotted:** 13/64,15/64″, and 9/32″; **Square:** one each No. 1 and 3; five each No. 2; **Reversible:** two each Phillips No. 2/No. 2; one each slotted 15/64″/15/64″; one each square No. 2/No. 2; **Nutdriver:** ¼″, 5/16″, ⅜″, and 7/16″	2¼″ long bit adapter for power tools in a plastic case	52725A34	$29.03
34	¼″ power tool hex	**Phillips:** one each No. 1, 2, and 3 in 2″, 3½″, and 6″ lengths; **Torx:** 2″ long: T8, T9, and T10; 3½″ long: T15, T20, T25, and T30; 6″ long: T15, T20, T25, T27, and T30; **Pozidriv®:** 2″ long: No. 1, 2, and 3; 3½″ long: No. 2; 6″ long: No. 2; **Nutdriver:** 5/16″, ⅜″, and ½″	2½″ and 6″ long bit adapters for power tools, three male square × hex shank adapters in a plastic case	5965A13	$75.44
39	¼″ hex ¼″ power tool hex	**Phillips:** eight each No. 2; two each No. 1 and 3; one each No. 0 and No. 2 reducing diameter; **Slotted:** two each ¼″; one each 3/16″, 7/32″, and 9/32″ **Phillips:** eight each No. 2; two each No. 1 and 3; **Slotted:** three each ¼″; two each 7/32″; one each 3/16″	3″ long bit adapter for power tools and ¼″ female square drive × ¼″ hex adapter in a plastic caddy	53975A43	$38.37
51	¼″ hex	**Phillips:** 10 each No. 1 and 2; five each No. 3; **Hex:** 10 each ⅛″ and 3/16″; five each 5/32″	2⅜″ long bit adapter for power tools in a plastic case	8346A73	$64.39
Bits with Drivers and Adapters					
12	¼″ hex	**Phillips:** No. 1 and 2; **Slotted:** 3/16″ and 9/32″; **Nutdriver:** 3/16″, ¼″, 9/32″, 5/16″, 11/32″, ⅜″, and 7/16″	7¾″ long ratcheting bit screwdriver in a plastic caddy	7383A34	$41.58
27	¼″ hex	**Phillips:** No. 1 and 2; **Slotted:** 3/16″, ¼″, and 9/32″; **Hex:** 0.050″; 1/16″, 5/64″, 3/32″, 7/64″, ⅛″, 9/64″, 5/32″, 3/16″, 7/32″, ¼″ and 5/16″; 1.5, 2, 2.5, 3, 4, and 5 mm	4¼″ long adapter for power tools, 4⅛″ long tight-clearance ratcheting bit screwdriver, ¼″ male square drive × ¼″ hex shank adapter, and a screwdriver handle in a plastic case	52725A27	$40.60
27	¼″ hex	**Phillips:** No. 1, 2, and 3; **Slotted:** 5/32″, 11/64″, 7/32″, ¼″, and 9/32″; **Torx:** T10, T15, T20, T25, T30, and T40; **Square:** No. 0, 1, 2, and 3; **Hex:** 5/64″, 3/32″,⅛″, 5/32″, and 3/16″; **Clutch:** ⅛″ and 5/32″	2¼″ long bit adapter for power tools and a 7¾″ long bit screwdriver in a plastic case	53365A43	$46.55
27	¼″ knurled-end hex	**Phillips:** No. 1 and 2; **Slotted:** 3/16″, ¼″, and ⅜″; **Hex:** 0.50″, 1/16″, 5/64″, 3/32″, 7/64″, ⅛″, 9/64″, 5/32″, 3/16″, 7/32″, and ¼″; 1.5, 2, 2.5, 3, 4, 5, and 6 mm	3½″ long extension, 3¾″ long tight clearance ratcheting bit screwdriver, ¼″ male square drive × ¼″ hex shank adapter, and a screwdriver handle in a plastic case	5399A16	$42.89
29	¼″ hex	**Phillips:** No. 1, 2, 3, and No. 2 reduced diameter; **Slotted:** 3/16″, ¼″, and 9/32″; **Hex:** 1/16″, 5/64″, 3/32″, 7/64″, ⅛″, 9/64″, 5/32″, 3/16″, 7/32″, ¼″, 5/16″, and ⅜″; 2, 2.5, 3, 4, 5, 6, and 8 mm	2⅛″ long bit adapter for power tools, 7¾″ long bit screwdriver, and ¼″ male square drive × ¼″ hex shank adapter in a plastic case	53365A32	$63.75
35	¼″ hex 5/16″ hex	**Phillips:** No. 1 and 2; **Slotted:** 3/16″, ¼″, and 9/32″; **Torx:** T10, T15, T20, T25, T27, and T30; **Square:** No. 1, 2, and 3; **Pozidriv®:** No. 1 and 2; **Hex:** 5/64″, 3/32″, 7/64″, ⅛″, 9/64″, 7/32″, and ¼″; **Clutch:** 3/32″, ⅛″, 5/32″, 3/16″ **Torx:** T40, T45, and T50; **Hex:** 5/32″ and 3/16″	4½″ long extension, 5½″ long tight-clearance ratcheting bit screwdriver, and a 5⅜″ long angled tight-clearance ratcheting bit screwdriver in a plastic case	52815A15	$107.27
40	¼″ hex	**Phillips:** No. 0, 1, 2, and 3; **Slotted:** one each 7/64″, 5/32″, and 7/32″; two each 9/32″; **Torx:** T10, T15, T20, T25, T27, T30, and T40; **Square:** No. 0, 1, 2, and 3; **Pozidriv®:** No. 1 and 2; **Hex:** 5/64″, 3/32″, 7/64″, ⅛″, 9/64″,5/32″, 3/16″, 7/32″, and ¼″; 2.5, 3, 4, 5, and 6 mm; **Clutch:** 5/32″	1¾″ long bit adapter for power tools, 7″ long bit screwdriver, and a ¼″ male square drive × ¼″ hex shank adapter in a plastic case	8533A83	$56.95
43	Round	**Phillips:** No. 0, 1, 2, 3, and 4; **Slotted:** 3/32″, ⅛″, 9/64″, 5/32″, 3/16″, 7/32″, 9/32″, 5/16″, and ⅜″; **Hex:** 0.050″, 1/16″, 5/64″, 3/32″, 7/64″, ⅛″, 9/64″, 5/32″, 3/16″, 7/32″, ¼″, and 5/16″; 1.5, 2, 2.5, 3, 4, 5, 6, and 8 mm; **Frearson**	4 9/16″ long extension, 4 9/16″ long tight-clearance ratcheting bit screwdriver, ¼″ male square drive adapter, screwdriver handle, bit cap for driving bits in tight spaces, and three plastic caddies in a plastic case	7286A55	$102.69

Tight-Clearance Ratcheting Bit Screwdrivers—Single-head screwdriver holds ¼″ hex shank bits. Double-head screwdrivers hold both ¼″ and 5/16″ hex shank bits.

Style	O'all Lg.		
Single-Head Angled	4⅛″	52725A31	$11.79
Double-Head Angled	5⅜″	52815A11	15.30
Double-Head Straight	5½″	52815A21	15.12



Bit Screwdrivers



A magnet holds the bits in place. Hex opening is 1/4". Shaft is nickel-plated steel, except tamper-resistant hex driver has a chrome-plated finish. Handle is plastic. Bits store in the handle.

Tamper-resistant hex are also known as pin-in-hex.

Tamper-resistant Torx are also known as pin-in-Torx.

Slotted and Phillips

Bit Sizes		O'all Lg.		
Slotted	Phillips			
3/16", 7/32", 1/4"	No. 1, No. 2, No. 3	9 1/16"	5829A35	$28.38

Torx, Tamper-Resistant Hex, and Tamper-Resistant Torx

Bit Sizes	O'all Lg.		
Torx			
T10, T15, T20, T25, T30, T40	9 1/8"	5379A82	$27.36
Tamper-Resistant Hex			
3/32", 1/8", 5/32", 3/16", 7/32"	9 1/4"	7253A53	30.00
Tamper-Resistant Torx			
T8, T9, T10, T15, T20, T25, T27, T30, T40	8 5/8"	7262A47	56.77

Nonmagnetic Bit Screwdrivers



Screwdriver Handle

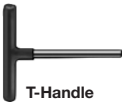

T-Handle

Insert bits are held in place with a retaining ring rather than a magnet, so the tool won't attract loose metal parts and shavings. Bits are not included.

Screwdriver Handle—Shaft is steel; handle is plastic. Bits store in the handle.

T-Handle—The cushioned T-handle provides comfort and increased torque. Shaft is steel with a zinc-plated finish; handle is plastic.

Style	Hex Opening	O'all Lg.		
Screwdriver Handle	1/4"	8"	56055A34	$8.00
T-Handle	1/4"	6"	83385A31	17.09
T-Handle	1/4"	12"	83385A35	19.11
T-Handle	1/4"	18"	83385A38	24.14

Secure-Hold Bit Screwdrivers



Pull back on the chuck to insert a bit; push it forward to lock bit firmly in place. Includes 3/16", 7/32", and 1/4" slotted bit sizes and No. 1, No. 2, and No. 3 Phillips bit sizes. Bits are steel and store in the handle.

Overall length is 9 1/8". Shaft is chrome-plated steel with a 1/4" hex opening; handle is plastic.

8343A43 ..... $29.73

T-Handle Ratcheting Bit Screwdrivers



The T-handle provides increased torque. Shaft is stainless steel; handle is plastic. A magnet holds the bits in the shaft. Bits are steel.

Hex Opening	O'all Lg.	Phillips Bit Size		
1/4"	3 7/8"	No. 2	6541A11	$27.22
1/4"	5 13/16"	No. 2	6541A12	27.10
1/4"	9 13/16"	No. 2	6541A13	30.97

Tight-Clearance Bit Screwdrivers



The head is angled 105° to drive fasteners in tight spaces. It can also be removed and used with power drills that accept a 1/4" hex shank and run at a maximum of 600 rpm with 100 in.-lbs. torque. Includes 3/16" and 1/4" slotted and No. 1 and No. 2 Phillips bit sizes. Bits store in the handle. A magnet holds the bits in place. Shaft is chrome-plated steel; handle is plastic. Overall length is 8 3/8".

5332A81 ..... $30.03

Reversible-Bit Screwdriver/Nutdrivers



Bits have a different tip at each end and snap into the shaft, which is also a nutdriver. Bits are steel and store in the shaft. They have a ball detent holding mechanism. Shaft is chrome-plated steel; handle is plastic.

Bit Sizes			O'all Lg.		
Slotted	Phillips	Torx			
5/16" Hex Opening					
3/16", 9/32"	No. 1, No. 2		7 1/4"	6981A92	$5.82
1/4" and 5/16" Hex Opening					
3/16", 1/4"	No. 1, No. 2		2 3/4"	6127A42	12.54
3/16", 1/4"	No. 1, No. 2		7 3/4"	6127A38	4.95
3/16", 1/4", 9/32"	No. 1, No. 2, No. 3	T15, T20	7 1/4"	5493A45	10.17
3/16", 1/4"	No. 1, No. 2	T10, T15	7"	6127A41▲	19.06
5 1/2" Long Extension Shaft				6981A94	2.23

▲Also has No. 1 and No. 2 square bits.

Electrical-Insulating Bit Screwdrivers



These screwdrivers have an insulated handle and shaft to protect against accidental contact with live electrical circuits. They are tested to 1,000 volts to meet EN 60900 and IEC 60900. Shaft is plastic-coated steel. A magnet holds the bits in place. Bits are steel and store in the handle. Drivers include 7/32" and 1/4" slotted bits and No. 0, No. 1, No. 2, and No. 3 Phillips bits. Overall length is 9".

7315A71 ..... $20.25

Ratcheting Bit Screwdrivers



Standard



Fast Driving



Multiposition Grip

A magnet holds the bits in place. Hex opening is 1/4". Handle is plastic; bits store in the handle.

Standard—Have a chrome-plated steel shaft.

Fast Driving—Grip the speed housing to drive screws four times faster; release to ratchet with more torque and power. Shaft is chrome-plated steel.

Multiposition Grip—Have a handle that folds into a pistol grip for access to tight spaces. Shaft is steel.

	Bit Sizes		O'all Lg.		
	Slotted	Phillips			
Standard	3/16", 1/4"	No. 1, No. 2	10"	4057A52★	$17.76
Fast Driving	3/16", 1/4"	No. 1, No. 2	9"	5647A65	30.03
Multiposition Grip	3/16", 1/4"	No. 1, No. 2	10"	4488A27■	39.22

★Also has T10, T15 Torx; No. 1, No. 2 Square; No. 1, No. 2 Pozidriv® bits.

■Also has No. 1 and No. 2 Pozidriv® bits.

Flexible-Shaft Bit Screwdrivers



Maneuver around corners and in other hard-to-reach spots that regular and offset screwdrivers can't access. Screwdrivers have a rubber-coated steel shaft and plastic handle. They accept 1/4" hex shank bits (bits not included) and have a quick-change chuck. Overall length is 10 7/8".

5705A3 ..... $25.91

Lighted Bit Screwdrivers



A light illuminates fasteners and a shaft holds 4 mm hex bits in place. Bits store in the handle. Screwdriver has a plastic shaft and handle, and is 5 3/4" long. Includes 5/64" and 1/8" slotted bit sizes, No. 000 and No. 0 Phillips bit sizes, and T5, T6, T8, and T10 Torx bit sizes. Includes three LR41 batteries.

5509A45 ..... $13.60

Ultra-Grip Screwdrivers

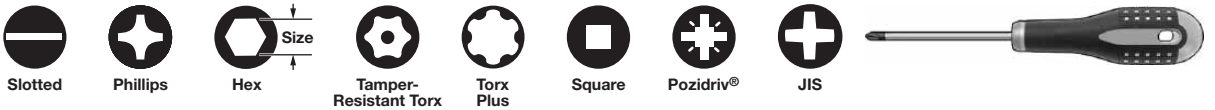

The soft, contoured handle on these premium screwdrivers provides comfort and the best possible grip for achieving maximum torque. All have a steel shaft and plastic handle.

Tamper-resistant Torx are also known as pin-in-Torx.

Torx Plus are not compatible with standard Torx screws.

Square are also known as Robertson screwdrivers.

JIS (Japanese Industrial Standard) are designed for the fasteners used in electronics assembly. The tips have slightly sharper corners than Phillips tips.

Screwdrivers

Size	Shaft Lg.	O'all Lg.		
Slotted				
3/32"	3"	7"	7127A11	$3.62
1/8"	3"	7 3/4"	7127A12	4.16
1/8"	5"	9"	7127A13	4.28
5/32"	4"	8 3/4"	7127A18	5.61
5/32"	7"	11 3/4"	7127A14	5.98
7/32"	4"	8 3/4"	7127A21	6.12
1/4"	1 3/4"	4"	7127A22	6.56
1/4"	4"	8 3/4"	7127A27	6.08
1/4"	5"	9 3/4"	7127A62	8.72
1/4"	6"	10 3/4"	7127A63	9.32
5/16"	5"	9 3/4"	7127A23	10.10
5/16"	7"	13 1/2"	7127A24	10.90
3/8"	7"	13 1/2"	7127A25	13.56
1/2"	8"	14 1/2"	7127A28	21.97
9/16"	8"	14 1/2"	7127A26	16.66
Slotted Stubby				
5/32"	1"	3 1/4"	7127A17	5.00
1/4"	1"	3 1/4"	7127A19	5.50
Phillips				
No. 0	2 3/16"	6 1/2"	7127A32	4.88
No. 1	3"	7 3/4"	7127A34	6.67
No. 1	8"	12 3/4"	7127A35	6.96
No. 2	4"	8 3/4"	7127A37	7.28
No. 2	6"	10 3/4"	7127A42	8.07
No. 2	8"	12 3/4"	7127A38	10.12
No. 3	6"	10 3/4"	7127A39	10.64
No. 4	8"	14 1/4"	7127A41	14.08
Phillips Stubby				
No. 1	1"	3"	7127A33	6.26
No. 2	1"	3"	7127A36	6.64
Hex				
3/64"	2 3/8"	4 13/16"	7400A11	4.99
Hex (Cont.)				
1/16"	2 1/2"	5"	7400A12	$5.25
5/64"	2 11/16"	5"	7400A13	5.69
3/32"	2 3/4"	6 1/4"	7400A14	5.78
7/64"	3"	6 1/4"	7400A15	5.79
1/8"	3 1/8"	6 1/2"	7400A16	6.79
9/64"	3 1/4"	6 1/2"	7400A17	7.01
5/32"	3 1/2"	8"	7400A18	7.28
3/16"	3 3/4"	8"	7400A19	7.75
7/32"	4 1/4"	9 1/16"	7400A23	7.81
1/4"	4 11/16"	9 1/2"	7400A24	8.13
5/16"	5 5/8"	10 7/16"	7400A25	8.18
3/8"	6 1/2"	11 5/16"	7400A26	8.39
1.3 mm	2 5/16"	4 3/4"	7400A27	4.62
2 mm	3"	5 3/4"	57585A53	4.91
2.5 mm	3"	6 3/16"	57585A54	5.51
3 mm	3"	6 3/16"	57585A55	5.92
4 mm	3"	6 13/16"	57585A56	6.48
5 mm	3 1/16"	7 5/16"	57585A57	7.03
6 mm	3 1/16"	7 5/16"	57585A58	8.28
8 mm	3 15/16"	8 3/8"	57585A71	9.27
Tamper-Resistant Torx				
T7	2 7/16"	6 1/2"	83335A68	8.80
T8	2 7/16"	6 1/2"	83335A69	8.86
T9	2 7/16"	6 3/4"	83335A59	9.06
T10	3 1/8"	7 1/2"	83335A61	8.96
T15	3 1/8"	7 1/2"	83335A62	9.46
T20	3 15/16"	8 5/16"	83335A63	11.78
T25	3 15/16"	8 5/16"	83335A64	11.96
T27	4 1/2"	9 1/4"	83335A65	13.92
T30	4 1/2"	9 1/4"	83335A66	16.06
T40	5 1/8"	10"	83335A67	17.58
Torx Plus				
IP6	2 7/16"	6 1/2"	5259A11	$5.16
IP7	2 7/16"	6 1/2"	5259A12	5.04
IP8	2 7/16"	6 3/4"	5259A13	5.12
IP9	2 7/16"	6 3/4"	5259A14	5.80
IP10	3 1/8"	7 1/2"	5259A15	5.90
IP15	3 1/8"	7 1/2"	5259A16	6.12
IP20	3 15/16"	8 5/16"	5259A17	6.38
IP25	3 15/16"	8 5/16"	5259A18	7.42
IP27	4 1/2"	9 1/4"	5259A19	8.48
IP30	4 1/2"	9 1/4"	5259A21	10.36
IP40	5 1/8"	10"	5259A22	10.74
Square				
No. 00	2 3/8"	5 9/16"	5830A21	5.24
No. 0	2 3/8"	5 9/16"	5830A22	5.24
No. 0	3 1/8"	7 1/2"	5830A11	5.23
No. 1	1"	3 1/8"	5830A27	5.94
No. 1	3 15/16"	8 1/4"	5830A12	6.06
No. 1	8"	11 3/4"	5830A23	7.40
No. 2	1"	3 1/8"	5830A28	6.68
No. 2	5 15/16"	10 1/2"	5830A13	7.46
No. 2	8"	12"	5830A24	11.06
No. 2	12"	16"	5830A25	11.04
No. 3	5 15/16"	10 1/2"	5830A14	7.83
No. 4	8"	12 5/16"	5830A26	17.28
Pozidriv®				
No. 1	3"	7 3/4"	7127A51	7.16
No. 2	4"	8 3/4"	7127A52	8.32
JIS				
No. 1	3"	7 5/16"	53325A32	10.76
No. 2	3 15/16"	8 5/16"	53325A33	11.08
No. 3	5 15/16"	10 7/8"	53325A34	13.00

Screwdriver Sets

6-Piece Slotted/Phillips Set—Includes the following sizes:
Slotted: 1/8"×7 3/4", 5/32"×11 3/4", 7/32"×8 3/4", 5/16"×9 3/4"
Phillips: No. 1×7 3/4", No. 2×8 3/4"
7127A61 ..... $37.17

6-Piece Hex Set—Including the following sizes: 3/64"×4 13/16", 1/16"×5", 5/64"×5", 3/32"×6 1/4", 1/8"×6 1/2", and 5/32"×8". Packed in a vinyl pouch.
7400A36 ..... $36.48

7-Piece Torx Plus Set—Includes the following sizes: IP8×6 3/4", IP10×7 1/2", IP15×7 1/2", IP20×8 5/16", IP25×8 5/16", IP30×9 1/4", and IP40×10".
5259A31 ..... $53.28

4-Piece Square Set—Includes the following sizes: No. 0×7 1/2", No. 1×8 1/4", No. 2×10 1/2", and No. 3×10 1/2". Packed in a vinyl pouch.
5830A15 ..... $24.19

12-Piece Slotted, Phillips, and Pozidriv® Set—Includes the following sizes:
Slotted: 3/32"×7", 1/8"×7 3/4", 1/8"×9", 5/32"×11 3/4", 7/32"×8 3/4", 5/16"×9 3/4", 9/16"×14 1/2"
Phillips: No. 0×6 1/2", No. 1×7 3/4", No. 2×8 3/4"
Pozidriv®: No. 1×7 3/4", No. 2×8 3/4"
7127A64 ..... $78.12

3-Piece JIS Set—Includes sizes No. 1×7 5/16", No. 2×8 5/16", and No. 3×10 7/8".
53325A61 ..... $34.14

Cushion-Grip Screwdrivers

A cushioned grip over a plastic core provides comfort and some slip resistance. Shaft is chrome-plated steel; handle is plastic.

Shafts are round, except 1/2" slotted size is square. Screwdrivers with hex bolster can be gripped with a wrench for additional torque.



Size	Shaft Lg.	O'all Lg.		
Slotted				
1/16"	2"	4 3/4"	5720A17	$8.31
3/32"	3"	5 3/4"	5720A18	8.69
1/8"	4"	6 3/4"	5720A19	9.03
1/8"	10"	12 3/4"	5720A25	12.29
3/16"	3"	6 3/4"	5720A21	5.11
3/16"	6"	9 3/4"	5720A22	5.37
3/16"	8"	11 3/4"	5720A23	6.00
3/16"	10"	13 5/8"	5720A24	9.18
1/4"	4"	8 1/2"	5720A12★	6.29
Slotted (Cont.)				
1/4"	6"	10 3/8"	5720A26	$12.07
5/16"	6"	11"	5720A13★	6.92
3/8"	8"	13 1/2"	5720A14★	8.25
3/8"	10"	15 7/16"	5720A15★	20.80
3/8"	12"	17 7/16"	5720A16★	23.38
1/2"	12"	17 7/16"	5720A27	23.10
Slotted Stubby				
1/4"	1 1/2"	3 1/2"	5720A74	4.62
Phillips				
No. 0	3"	5 3/4"	5720A45	$8.69
No. 1	3"	6 3/4"	5720A41	4.48
No. 2	4"	8 1/2"	5720A42	5.50
No. 2	7"	11 5/16"	5720A46	12.79
No. 2	10"	14 5/16"	5720A47	14.49
No. 3	6"	11"	5720A43	8.39
Phillips Stubby				
No. 2	1 1/2"	3 1/2"	5720A39	6.58

★Has a hex bolster.

6-Piece Slotted/Phillips Set—Includes the following sizes:
Slotted: 3/16"×6 3/4", 3/16"×9 3/4", 1/4"×8 1/2", 5/16"×11"
Phillips: No. 1×6 3/4", No. 2×8 1/2"
5720A84 ..... $24.96

10-Piece Slotted/Phillips Set—Includes the following sizes:
Slotted: 3/16"×6 3/4", 3/16×9 3/4", 1/4"×3 1/2", 1/4"×8 1/2", 5/16"×11", 3/8"×13 1/2"
Phillips: No. 1×6 3/4", No. 2×3 1/2", No. 2×8 1/2", No. 3×11"
Packed in a vinyl pouch.
5720A83 ..... $61.51

Screwdrivers

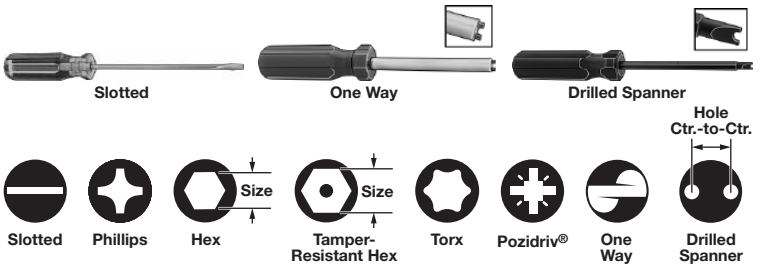

Screwdrivers with a square shaft or hex shaft can be gripped with a wrench for additional torque.

Tamper-resistant hex are also known as pin-in-hex.

One-way tools are for removal only (one-way screws can be installed with a slotted screwdriver). Screws that are corroded or were installed with power tools must be drilled out.

Drilled spanner are for use with screws that have two drilled holes.

9-piece slotted/Phillips and **9-piece hex sets** include a 3 1/8" long secondary handle that slips over the attached handle for greater torque and a more comfortable grip.

Slotted, Phillips, Hex, Tamper-Resistant Hex, Torx, and Pozidriv® Screwdrivers

Size	Shaft Lg.	O'all Lg.		
Slotted with Round Shaft				
3/32"	3"	5 1/2"	5682A73	$3.20
1/8"	3"	5 1/2"	5682A37	2.98
1/8"	4"	6 3/4"	5682A64	3.44
1/8"	6"	8 1/2"	5682A65	3.66
1/8"	10"	13"	5682A57	13.61
3/16"	3"	6 3/4"	5682A15	3.80
3/16"	4"	7 3/4"	5682A75	3.99
3/16"	6"	9 3/4"	5682A16	4.86
3/16"	8"	11 3/4"	5682A32	5.33
3/16"	10"	13 3/4"	5682A17	5.36
3/16"	12"	15 3/4"	5682A38	6.60
1/4"	4"	8 1/4"	5682A81	5.11
1/4"	7"	11 1/4"	5682A82	6.46
1/4"	20"	24 1/2"	6970A11	38.45
5/16"	6"	10 3/4"	5682A83	8.47
3/8"	8"	13 1/4"	5682A85	12.08
Slotted with Square Shaft				
3/16"	4"	7 3/4"	5682A56★	4.26
1/4"	4"	8 1/4"	5682A23	5.37
1/4"	12"	16 1/4"	5682A76	8.80
5/16"	6"	11"	5682A24★	7.58
5/16"	8"	12 3/4"	5682A84	9.27
5/16"	24"	28"	6970A17	20.77
3/8"	8"	13 1/4"	5682A25	12.20
3/8"	10"	15 1/4"	5682A86	12.48
3/8"	12"	17 1/4"	5682A87	12.70
3/8"	18"	23 5/16"	6970A13	23.29
Slotted with Square Shaft (Cont.)				
1/2"	10"	15 1/2"	5682A35★	$12.45
1/2"	12"	17 1/2"	5682A26★	13.54
5/8"	18 3/4"	24"	6970A14	29.15
Slotted Stubby with Round Shaft				
3/16"	1 1/2"	3 1/2"	5682A11	5.23
Slotted Stubby with Square Shaft				
1/4"	1 1/2"	3 1/2"	5682A74	4.80
Phillips				
No. 00	3"	5 1/2"	5682A77	2.29
No. 0	4"	6 3/4"	5682A91	3.34
No. 1	3"	6 3/4"	5682A27	3.45
No. 1	6"	9 3/4"	5682A79	4.41
No. 1	9"	12 3/4"	5682A92	6.31
No. 2	4"	8 1/4"	5682A28	6.16
No. 2	6"	10 1/4"	5682A44	6.62
No. 2	8"	12 1/4"	5682A93	7.04
No. 2	12"	16 1/4"	5682A58	8.72
No. 2	16"	20 1/4"	5682A69	11.36
No. 2	17 3/4"	21 1/2"	6970A18	32.10
No. 2	20"	24 1/2"	6970A19	29.90
No. 3	6"	10 3/4"	5682A29	9.16
No. 4	8"	13 1/4"	5682A31	9.90
Phillips Stubby				
No. 1	1 1/2"	3 1/2"	5682A78	4.33
No. 2	1 1/2"	3 1/2"	5682A39	4.80
Hex				
1.5 mm	4 1/16"	6 5/8"	57585A52	7.47
Tamper-Resistant Hex				
3/32"	4 1/4"	8 1/2"	7253A61	$9.24
1/8"	4 1/4"	8 1/2"	7253A62	9.44
5/32"	4 1/4"	8 1/2"	7253A63	9.66
3/16"	4 1/4"	8 1/2"	7253A64	10.12
7/32"	4 1/4"	8 1/2"	7253A65	10.37
1/4"	4 1/4"	8 1/2"	7253A66	10.62
Torx				
T6	3 1/4"	6"	5756A32	5.76
T7	3 1/4"	6"	5756A11	5.76
T8	3 1/4"	6"	5756A12	5.76
T9	3 1/4"	6"	5756A13	5.76
T10	3 3/16"	6"	5756A14	5.76
T10	11"	15 1/4"	5756A55	7.02
T15	3 3/8"	6 3/4"	5756A15	6.75
T15	11"	15 1/4"	5756A56	7.11
T20	3 3/8"	6 3/4"	5756A16	7.16
T25	3 7/8"	7 3/4"	5756A17	7.77
T27	4 1/8"	8"	5756A18	6.84
T30	4 1/2"	8 1/4"	5756A19	6.58
T40	4 1/8"	8"	5756A2	9.26
T45	4 7/16"	8 1/4"	5756A21	10.42
T50	4 1/8"	8"	5756A22	10.42
Pozidriv®				
No. 1	3 1/8"	7 1/2"	5682A51	5.63
No. 2	9 13/16"	13 15/16"	5682A72	7.71
No. 3	5 15/16"	10 7/16"	5682A53	10.30

★Screwdriver has a hex bolster.

One-Way and Drilled Spanner Screwdrivers

For Screw Size	Hole Ctr.-to-Ctr.	Shaft Lg.	O'all Lg.		
One Way					
No. 4, No. 6, No. 8	____	3 1/2"	7 1/8"	7392A52	$17.88
No. 10, No. 12	____	3 9/16"	7 3/8"	7392A63	18.63
No. 14, 1/4", 5/16", 3/8"	____	3 5/8"	7 5/8"	7392A64	20.25
Drilled Spanner					
No. 4	0.094"	4"	8"	94062A113	10.35
Drilled Spanner (Cont.)					
No. 6	0.125"	4"	8"	94062A114	$10.35
No. 8	0.156"	4"	8"	94062A116	10.71
No. 10	0.188"	4"	8"	94062A117	10.93
No. 12	0.218"	4"	8"	94062A118	11.10
No. 14	0.25"	4"	8"	94062A119	11.29

Screwdriver Sets

5-Piece Slotted Set—Includes the following sizes: 1/8"×4 3/4", 3/16"×9 3/4", 1/4"×3 1/2", 1/4"×8 1/4", and 5/16"×10 3/4".

8551A51 ..... $22.69

7-Piece Slotted Set—Includes the following sizes: 1/8"×6 3/4", 3/16"×3 1/2", 3/16"×6 3/4", 1/4"×3 1/2", 1/4"×8 1/4", 5/16"×10 3/4", and 3/8"×13 1/4".

8551A52 ..... $39.42

6-Piece Slotted/Phillips Set—Includes the following sizes:
Slotted: 3/16"×6 3/4", 3/16"×9 3/4", 1/4"×8 1/4", 5/16"×10 3/4"
Phillips: No. 1×6 3/4", No. 2×8 1/4"

8551A26 ..... $29.10

9-Piece Slotted/Phillips Set—Packed in a plastic case. Includes the following sizes plus a secondary screwdriver handle:
Slotted: 3/32"×3 1/2", 1/8"×3 1/2", 5/32"×3 1/2", 3/16"×3 1/2", 1/4"×3 1/2"
Phillips: No. 0×3 1/2", No. 1×3 1/2", No. 2×3 1/2"

7032A11 ..... $35.55

10-Piece Slotted/Phillips Set—Includes the following sizes:
Slotted: 1/8"×4 3/4", 3/16"×9 3/4", 1/4"×3 1/2", 1/4"×8 3/4", 5/16"×10 3/4", 3/8"×13 1/4"
Phillips: No. 1×6 3/4", No. 2×3 1/2", No. 2×8 1/4", No. 3×10 3/4"

8551A83 ..... $56.72

5-Piece Phillips Set—Includes sizes No. 0×6 3/4", No. 1×6 3/4", No. 2×3 1/2", No. 2×8 1/4", and No. 3×10 3/4".

8551A48 ..... $24.92

8-Piece Hex Set—Includes sizes 1.3 mm×6 5/8", 1.5 mm×6 5/8", 2 mm×6 5/8", 2.5 mm×7 1/8", 3 mm×7 1/8", 4 mm×7 1/8", 5 mm×7 1/8", and 6 mm×7 1/8". Packed in a canvas roll-up pouch.

57585A61 ..... $64.18

9-Piece Hex Set—Includes sizes 0.028"×3 1/2", 0.035"×3 1/2", 0.050"×3 1/2", 1/16"×3 1/2", 5/64"×3 1/2", 3/32"×3 1/2", 7/64"×3 1/2", and 1/8"×3 1/2", plus a secondary screwdriver handle. Packed in a plastic case.

5759A12 ..... $32.17

9-Piece Hex Set—Includes sizes 0.9 mm×3 1/2", 1.3 mm×3 1/2", 1.5 mm×3 1/2", 2 mm×3 1/2", 2.5 mm×3 1/2", 3 mm×3 1/2", 4 mm×3 1/2", and 5 mm×3 1/2", plus a secondary screwdriver handle. Packed in plastic case.

5759A13 ..... $36.39

(Continued on following page)

Screwdrivers *(Continued from previous page)*

Screwdriver Sets (Cont.)

11-Piece Hex Set—Includes sizes 0.050″×6⁵⁄₈″, 1⁄16″×6⁵⁄₈″, 5⁄64″×6⁵⁄₈″, 3⁄32″×7⅛″, 7⁄64″×7⅛″, ⅛″×7⅛″, 9⁄64″×7⅛″, 5⁄32″×7⅛″, 3⁄16″×7⅛″, 7⁄32″×7⅛″, and ¼″×8⅛″. Packed in a canvas roll-up pouch.

7400A33 ..... $68.11

6-Piece Torx Set—Includes sizes T6×6″, T7×6″, T8×6″, T9×6″, T10×6″, and T15×6¾″. Packed in a vinyl pouch.

5756A92 ..... $32.21

6-Piece Torx Set—Includes sizes T10×6″, T15×6¾″, T20×6¾″, T25×7¾″, T27×8″, and T30×8¼″. Packed in a vinyl pouch.

5756A45 ..... $33.62

Screwdrivers with Slip-Resistant Tip

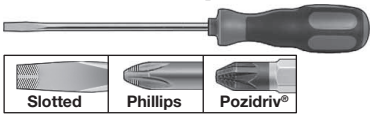

Reduce slipping and stripping the screw recess. The tip has ribbed grooves that grip the surface of the recess, minimizing the pressure required to achieve maximum torque. Shaft is chrome-plated steel; handle is plastic.

Size	Shaft Lg.	O'all Lg.		
Slotted				
9⁄64″	3″	6³⁄₁₆″	7359A38	$5.37
5⁄32″	3½″	6¾″	7359A39	7.25
3⁄16″	3½″	7⅜″	55095A28	8.07
7⁄32″	4″	7¹³⁄₁₆″	7359A41	10.14
¼″	5″	9¹⁄₁₆″	7359A37	13.19
9⁄32″	5″	9¹⁄₁₆″	7359A42	13.69
11⁄32″	6″	10⁵⁄₁₆″	7359A43	17.10
⅜″	7″	11⁵⁄₁₆″	7359A44	23.21
Phillips				
No. 1	3⅛″	7″	55095A32	7.64
No. 1	7⅛″	11⅝″	55095A33	8.22
No. 2	3¹⁵⁄₁₆″	8¹⁄₁₆″	55095A35	10.64
No. 2	5⅞″	10″	55095A36	11.00
No. 3	6″	10⁵⁄₁₆″	7359A64	18.08
Pozidriv®				
No. 1	3⅛″	7″	7359A71	12.38
No. 2	4″	8⅛″	7359A72	15.59
No. 3	6″	10⁵⁄₁₆″	7359A73	22.61

6-Piece Slotted/Phillips Set—Includes the following sizes:
Slotted: 9⁄64″×3″, 5⁄32″×3½″, 7⁄32″×4″, ¼″×5
Phillips: No. 1×3⅛″, No. 2×4″

7359A81 ..... $58.12

Nonslip-Grip Screwdrivers



The suede-like textured handle enables a firm grasp, even with wet or oily hands. Shaft is chrome-plated steel; handle is plastic.

Size	Shaft Lg.	O'all Lg.		
Slotted				
⅛″	3″	7″	52915A37	$8.80
5⁄32″	3″	7″	52915A31	9.80
3⁄16″	3⅝″	7¹⁵⁄₁₆″	52915A41	10.06
7⁄32″	3¹⁵⁄₁₆″	8⁷⁄₁₆″	52915A42	11.87
¼″	5″	9⁷⁄₁₆″	52915A43	13.26
5⁄16″	5¹⁵⁄₁₆″	10¾″	52915A44	18.37
⅜″	7″	11¾″	52915A45	17.90
Phillips				
No. 0	2⅜″	6⁷⁄₁₆″	52915A33	8.84
No. 1	3⅛″	7⁵⁄₁₆″	52915A46	10.30
No. 2	3¹⁵⁄₁₆″	8⁷⁄₁₆″	52915A47	12.46
No. 3	5¹⁵⁄₁₆″	10⁵⁄₈″	52915A48	16.54

5-Piece Nonslip-Grip Set—Packed in a vinyl pouch. Includes the following sizes:
Slotted: 7⁄32″×8⁷⁄₁₆″, ¼″×9⁷⁄₁₆″, 5⁄16″×10¾″
Phillips: No. 1×7⁵⁄₁₆″, No. 2×8⁷⁄₁₆″

52915A51 ..... $60.89

10-Piece Torx Set—Includes sizes T6×6″, T7×6″, T8×6″, T9×6″, T10×6″, T15×6¾″, T20×6¾″, T25×7¾″, T27×8″, and T30×8¼″. Packed in a vinyl pouch.

5756A91 ..... $57.89

3-Piece One-Way Set—Packed in a vinyl pouch. Includes the following drivers: 7⅛″ long for No. 4, No. 6, and No. 8 screw sizes; 7⅜″ long for No. 10 and No. 12 screw sizes; and 7⅝″ long for No. 14, ¼″, 5⁄16″, and ⅜″ screw sizes.

7392A71 ..... $50.78

3-Piece Drilled Spanner Set—Includes 8″ long drivers for No. 6, No. 8, and No. 10 screw sizes. Packed in a vinyl pouch.

94062A121 ..... $29.41

Heavy Duty Screwdrivers for Chiseling and Demolition





A steel end cap and shaft that extends through the handle gives these screwdrivers the strength to absorb hammer blows. Shaft is chrome-plated steel; handle is plastic.

Size	Shaft Lg.	O'all Lg.		
Slotted				
3⁄16″	3½″	7⁷⁄₁₆″	7249A32	$7.98
7⁄32″	4″	8⅛″	7249A33	10.42
9⁄32″	5″	9¹⁄₁₆″	7249A34	11.50
11⁄32″	6″	10⁵⁄₁₆″	7249A35	15.29
⅜″	7″	11⁵⁄₁₆″	7249A36	19.31
½″	8″	12½″	7249A37	23.14
9⁄16″	10″	14½″	7249A38	32.83
Phillips				
No. 1	3⅛″	7″	7249A41	7.81
No. 2	4″	8¹⁄₁₆″	7249A42	11.06
No. 3	6″	10⁵⁄₁₆″	7249A43	16.23
No. 4	8″	12½″	7249A44	23.60

6-Piece Slotted/Phillips Set—Includes a rack and the following sizes:
Slotted: 9⁄64″×6³⁄₈″, 3⁄16″×7⁷⁄₁₆″, 7⁄32″×8⅛″, 9⁄32″×9¹⁄₁₆″
Phillips: No. 1×7″, No. 2×8¹⁄₁₆″

7249A51 ..... $53.44

High-Visibility Screwdrivers



The handle is a fluorescent color to stand out. All have a chrome-plated steel shaft and a plastic handle. **To Order:** Please specify orange or green, unless noted.

Size	Shaft Lg.	O'all Lg.		
Slotted				
3⁄16″	3″	6½″	56805A21	$4.84
3⁄16″	6″	9½″	56805A22	5.24
3⁄16″	8″	11½″	56805A24	5.76
3⁄16″	10″	13½″	56805A25	6.38
¼″	4″	8¼″	56805A33	7.03
¼″	6″	10¼″	56805A28	7.79
5⁄16″	6″	10⅝″	56805A34	8.16
⅜″	8″	13″	56805A35	11.97
⅜″	10″	15″	56805A291★	13.68
Phillips				
No. 1	3″	6½″	56805A55	4.36
No. 2	4″	8¼″	56805A56	5.16
No. 2	6″	10¼″	56805A31	6.00
No. 3	6″	10⅝″	56805A57	7.29

★Only available in orange.

7-Piece Slotted/Phillips Set—Includes the following sizes:
Slotted: 3⁄16″×9½″, ¼″×8¼″, 5⁄16″×10⅝″, ⅜″×13″
Phillips: No. 1×6½″, No. 2×8¼″, No. 3×10⅝″

56805A67 ..... $43.14

Ball-End Screwdrivers



You don't need exact alignment between the fastener and the tool—the ball end allows up to 20° angled entry to tighten and remove screws in hard-to-reach areas. Shaft is steel with a black finish; handle is plastic.

Square are also known as Robertson screwdrivers.

Hex and Torx Screwdrivers

Size	Shaft Lg.	O'all Lg.		
Hex—Inch				
0.050"	2 7/16"	4 1/8"	5497A22	$1.86
0.050"	3 5/8"	5 3/8"	5497A19	2.46
1/16"	2 1/2"	4 3/4"	5497A23	1.97
1/16"	3 13/16"	6"	5497A21	2.46
5/64"	2 5/8"	4 13/16"	5497A24	2.15
5/64"	4 5/16"	6 1/2"	5497A68	2.55
3/32"	2 13/16"	5 1/4"	5497A25	2.24
3/32"	4 13/16"	7 1/4"	5497A69	2.63
7/64"	2 15/16"	5 5/16"	5497A26	2.28
7/64"	5 15/16"	8 7/16"	5497A38	2.89
1/8"	3 1/8"	6 5/8"	5497A27	2.29
1/8"	6 7/16"	9 15/16"	5497A39	3.14
9/64"	3 5/16"	6 13/16"	5497A28	2.52
9/64"	6 15/16"	10 7/16"	5497A41	3.40
5/32"	3 5/8"	7 15/16"	5497A29	2.65
5/32"	7 7/16"	11 13/16"	5497A42	4.07
3/16"	3 3/4"	8"	5497A31	3.54
3/16"	7 15/16"	12 5/16"	5497A43	4.50
7/32"	4 1/4"	9"	5497A32	3.82
1/4"	5"	9 13/16"	5497A33	4.81
1/4"	8 15/16"	13 3/4"	5497A45	5.85

Size	Shaft Lg.	O'all Lg.		
Hex—Inch (Cont.)				
5/16"	5 5/8"	10 7/16"	5497A34	$5.70
5/16"	9 1/2"	14 5/16"	5497A46	7.00
3/8"	6 1/2"	11 5/16"	5497A35	6.95
Hex—Metric				
1.3 mm	2 7/16"	4 1/8"	5497A49	1.82
1.3 mm	3 5/8"	5 3/8"	5497A47	2.46
1.5 mm	2 5/8"	4 3/4"	5497A51	2.04
1.5 mm	3 13/16"	5 15/16"	5497A48	2.46
2 mm	2 13/16"	5"	5497A52	2.28
2 mm	4"	6 1/4"	5497A67	2.63
2.5 mm	2 3/4"	5 1/8"	5497A53	2.27
2.5 mm	4 5/16"	6 3/4"	5497A72	2.81
3 mm	3 5/16"	6 3/4"	5497A54	2.33
3 mm	6 1/4"	9 3/4"	5497A73	3.28
3.5 mm	3 1/2"	6 15/16"	5497A55	3.17
3.5 mm	6 7/16"	9 7/8"	5497A66	3.38
4 mm	3 3/4"	8 1/8"	5497A56	3.08
4 mm	7"	11 7/16"	5497A74	3.54
5 mm	4 5/16"	8 5/8"	5497A58	3.66
5 mm	7 13/16"	12 1/8"	5497A75	4.88
6 mm	5 7/16"	10 1/4"	5497A61	4.23

Size	Shaft Lg.	O'all Lg.		
Hex—Metric (Cont.)				
6 mm	8 5/8"	13 7/16"	5497A76	$5.21
8 mm	6 7/16"	11 1/4"	5497A63	6.38
8 mm	9 5/16"	14 1/4"	5497A77	7.23
10 mm	7 5/16"	12 1/8"	5497A65	7.46
10 mm	10 1/4"	15"	5497A78	8.92
Torx				
T6	2 5/8"	4 3/4"	37455A34	7.01
T7	2 5/8"	4 3/4"	37455A35	7.01
T8	2 5/8"	5"	37455A36	7.01
T9	2 5/8"	5"	37455A21	7.01
T10	2 13/16"	5 1/4"	37455A22	7.22
T15	2 15/16"	6 7/16"	37455A23	7.22
T20	3 1/4"	7 1/2"	37455A24	7.41
T25	3 7/16"	7 3/4"	37455A25	7.62
T27	3 13/16"	8 3/4"	37455A26	8.01
T30	4 1/4"	9"	37455A27	8.55
T40	4 5/8"	9 7/16"	37455A28	9.14
T45	5 1/4"	10"	37455A29	10.84
T50	6"	10 15/16"	37455A31	12.93
T55	6 13/16"	11 5/8"	37455A32	15.53

Square Screwdrivers

Size	For Screw Size	Shaft Lg.	O'all Lg.		
No. 0	No. 3, No. 4	3 1/2"	7"	53315A11	$4.46
No. 1	No. 5, No. 6, No. 7	3 13/16"	7 1/4"	53315A12	5.09
No. 2	No. 8, No. 9, No. 10	4"	8 5/16"	53315A13	$5.46
No. 3	No. 12, No. 14	4"	8 5/16"	53315A14	6.08

Hex and Torx Screwdriver Sets

7-Piece Hex Inch Set—Includes 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", and 3/16" sizes. Packed in a vinyl pouch.
5709A39 ..... $19.25

8-Piece Hex Inch Set—Includes 0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", and 5/32" sizes. Packed in a vinyl pouch.
5709A38 ..... $19.75

8-Piece Hex Inch Set—Includes 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", and 5/16" sizes. Packed in a vinyl pouch.
5709A41 ..... $32.09

11-Piece Hex Inch Set—Includes 5/64"×4 13/16", 3/32"×5 1/4", 7/64"×5 5/16", 1/8"×6 5/8", 9/64"×6 13/16", 5/32"×7 15/16", 3/16"×8", 7/32"×9", 1/4"×9 13/16", 5/16"×10 7/16", and 3/8"×11 5/16" sizes. Packed in a vinyl pouch.
5709A23 ..... $46.16

11-Piece Hex Inch Set—Includes 5/64"×6 1/2", 3/32"×7 1/4", 7/64"×8 7/16", 1/8"×9 15/16, 9/64"×10 7/16", 5/32"×11 13/16", 3/16"×12 5/16", 7/32"×13 5/16", 1/4"×13 3/4, 5/16"×14 5/16", and 3/8"×14 13/16" sizes. Packed in a vinyl pouch.
5709A35 ..... $52.27

13-Piece Hex Inch Set—Includes 0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", and 3/8" sizes. Packed in a vinyl pouch.
5709A31 ..... $47.56

7-Piece Hex Metric Set—Includes 1.5, 2, 2.5, 3, 4, 5, and 6 mm sizes. Packed in a vinyl pouch.
5709A58 ..... $22.14

8-Piece Hex Metric Set—Includes 2, 2.5, 3, 4, 5, 6, 8, and 10 mm sizes. Packed in a vinyl pouch.
5709A33 ..... $42.74

9-Piece Hex Metric Set—Includes 1.5, 2, 2.5, 3, 4, 5, 6, 8, and 10 mm sizes. Packed in a vinyl pouch.
5709A32 ..... $37.48

8-Piece Torx Set—Includes T9, T10, T15, T20, T25, T27, T30, and T40 sizes. Packed in a vinyl pouch.
37455A33 ..... $57.08

Square Screwdriver Set

4-Piece Square Set—Includes No. 0, No.1, No. 2, and No. 3 square sizes. Packed in a vinyl pouch.
53315A21 ..... $19.23

High-Visibility Gold Ball-End Hex Screwdrivers



Gold-plated shaft is easy to see and corrosion resistant. The ball end allows up to 20° angled entry to tighten and remove screws in hard-to-reach areas. Shaft is steel; handle is plastic.

Size	Shaft Lg.	O'all Lg.		
Inch				
0.050"	2 7/16"	4 1/8"	7996A51	$2.89
1/16"	2 1/2"	4 3/4"	7996A52	3.16
5/64"	2 5/8"	4 13/16"	7996A53	3.60
3/32"	2 13/16"	5 1/4"	7996A54	3.60
7/64"	2 15/16"	5 5/16"	7996A55	3.70
1/8"	3 1/8"	6 5/8"	7996A56	3.70
9/64"	3 5/16"	6 13/16"	7996A57	4.45
5/32"	3 5/8"	7 15/16"	7996A58	4.45
3/16"	3 3/4"	8"	7996A59	5.82

Size	Shaft Lg.	O'all Lg.		
Inch (Cont.)				
7/32"	4 1/4"	9"	7996A6	$6.65
1/4"	5"	9 13/16"	7996A61	6.65
5/16"	5 5/8"	10 7/16"	7996A62	10.16
3/8"	6 1/2"	11 5/16"	7996A63	11.73
7/16"	7 5/8"	12 1/2"	7996A64	21.24
1/2"	8 5/8"	13 7/16"	7996A65	24.83
Metric				
1.3 mm	2 7/16"	4 1/8"	7996A81	3.04
1.5 mm	2 5/8"	4 3/4"	7996A82	3.33

Size	Shaft Lg.	O'all Lg.		
Metric (Cont.)				
2 mm	2 13/16"	5"	7996A83	$3.78
2.5 mm	2 3/4"	5 1/8"	7996A84	3.78
3 mm	3 5/16"	6 13/16"	7996A85	3.90
4 mm	3 3/4"	8 1/8"	7996A86	4.68
5 mm	4 5/16"	8 5/8"	7996A87	6.13
6 mm	5 7/16"	10 1/4"	7996A88	7.00
8 mm	6 7/16"	11 1/4"	7996A89	10.69
10 mm	7 5/16"	12 1/8"	7996A9	12.34

8-Piece Hex Inch Set—Includes 0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", and 5/32" sizes. Packed in a vinyl pouch.
7996A66 ..... $27.50

13-Piece Hex Inch Set—Includes 0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", and 3/8" sizes. Packed in a vinyl pouch.
7996A67 ..... $66.56

6-Piece Hex Metric Set—Includes 1.5, 2, 2.5, 3, 4, and 5 mm sizes. Packed in a vinyl pouch.
7996A91 ..... $25.42

9-Piece Hex Metric Set—Includes 1.5, 2, 2.5, 3, 4, 5, 6, 8, and 10 mm sizes. Packed in a vinyl pouch.
7996A92 ..... $54.91

Screw-Holding Ball-End Hex Screwdrivers



The ball end has a retaining ring (unless noted) to hold the fastener in place and allows up to 20° angled entry to tighten and remove screws in hard-to-reach areas. Shaft is chrome-plated steel; handle is plastic.

Size	O'all Lg.			Size	O'all Lg.		
1/8"	9 5/8"	5691A33	$4.80	3/8"	10 11/16"	5691A41	$9.71
9/64"	9 5/8"	5691A34	5.02	3 mm	8 1/16"	5691A13	5.09
5/32"	10 11/16"	5691A35	5.14	4 mm	8 5/16"	5691A14	4.97
3/16"	10 11/16"	5691A36	5.17	5 mm	9 5/8"	5691A15	5.48
7/32"	10 11/16"	5691A37	5.58	6 mm	9 5/8"	5691A16	6.24
1/4"	10 11/16"	5691A38	6.26	8 mm	10 9/16"	5691A17	7.50
5/16"	10 11/16"	5691A39	7.45	10 mm	10 11/16"	5691A18	9.66

8-Piece Hex Set—Includes 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", and 3/8" sizes.
5691A3 ..... $48.44

9-Piece Hex Set—Includes 1.5★, 2★, 2.5★, 3, 4, 5, 6, 8, and 10 mm sizes.
5691A1 ..... $49.12

13-Piece Hex Set—Includes 0.050"★, 1/16"★, 5/64"★, 3/32"★, 7/64"★, 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", and 3/8" sizes.
5691A2 ..... $66.11

★ Ball end without a retaining ring.

Changeable-Shaft Hex Screwdriver Sets

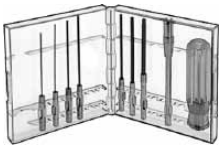

You only need one tool—slide a different shaft into the handle to change tip size. Shafts are steel with a black finish and 3 1/2" long. Handles are plastic.

Ball-end sets have tips that allow 20° angled entry to tighten and remove screw in hard-to-reach areas.

Screwdriver Sets

9-Piece Hex Set—Includes a screwdriver handle, 4" extension, and seven interchangeable shafts in sizes 1.3 mm, 1.5 mm, 2 mm, 2.5 mm, 3 mm, 4 mm, and 5 mm. Packed in a plastic case.

Standard Set ..... 5537A11 ..... $54.39
Ball-End Set ..... 5505A23 ..... 72.96

11-Piece Hex Set—Includes a screwdriver handle, a 4" extension, and nine interchangeable shafts in sizes 0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32" and 3/16". Packed in a plastic case.

Standard Set ..... 5548A11 ..... $55.21
Ball-End Set ..... 8544A11 ..... 90.39

Shafts and Handle

Size	Standard Shafts		Ball-End Shafts	
0.050"	5548A221	$4.90	8544A221	$9.09
1/16"	5548A222	4.90	8544A222	9.09
5/64"	5548A223	4.90	8544A223	9.09
3/32"	5548A224	4.90	8544A224	9.09
7/64"	5548A225	4.90	8544A225	9.09
1/8"	5548A226	4.90	8544A226	9.09
9/64"	5548A227	4.90	8544A227	9.09
5/32"	5548A228	4.90	8544A228	9.09
3/16"	5548A229	4.90	8544A229	9.09
Extension Shaft (4" Overall Length)	5548A41	6.86		
Plastic Handle (4" Overall Length)	8544A31	5.88		

Reversible-Shaft Screwdriver Sets

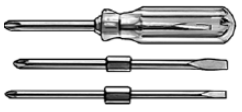

Shafts snap into the handle and a spring lock holds them in place. Pull out and reverse the shaft to use a different tip. Includes three reversible zinc-plated steel shafts and a plastic screwdriver handle. Includes 3/16", 1/4", and 5/16" slotted sizes and No. 1, No. 2, and No. 3 Phillips sizes. Shaft is 2 13/16" long. Packed in a vinyl pouch.

5817A1 ..... $26.66

Adjustable-Length Reversible-Shaft Screwdriver Sets

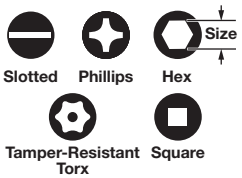



Press down on the handle's collar to adjust the shaft length or remove the shaft and reverse for a different tip. Shafts are chrome-plated steel; handle is plastic.

Tamper-resistant Torx are also known as pin-in-Torx.
Square are also known as Robertson screwdrivers.

Screwdriver Sets

5-Piece Slotted, Phillips, and Square Set—Includes a screwdriver handle and four reversible shafts in slotted sizes 9/64", 3/16", 7/32", and 17/64"; Phillips sizes No. 1 and No. 2; and Square sizes No. 1 and No. 2. Packed in a canvas pouch.
2257A4 ..... $49.58

6-Piece Tamper-Resistant Torx Set—Includes a screwdriver handle and five reversible shafts in sizes T6, T7, T8, T9, T10, T15, T20, T25, T30, and T40. Packed in a canvas pouch.
2257A5 ..... $58.74

15-Piece Slotted, Phillips, Hex, and Tamper-Resistant Torx Set—Includes 14 reversible shafts and a screwdriver handle. Includes slotted sizes 9/64", 3/16", 7/32", and 17/64"; Phillips sizes No. 1 and No. 2; hex sizes 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 2 mm, 2.5 mm, 3 mm, 4 mm, 5 mm, and 6 mm; and tamper-resistant Torx sizes T6, T7, T8, T9, T10, T15, T20, T25, T30, and T40. Packed in a canvas pouch.
2257A6 ..... $126.77

Individual Shafts

Size			Size		
Slotted/Phillips			**Hex (Cont.)**		
1/8", No. 0	2257A25	$8.14	5 mm, 6 mm	2257A32	$7.79
5/32", No. 1	2257A22	8.14	**Tamper-Resistant Torx**		
1/4", No. 2	2257A21	8.14	T6, T8	2257A26	8.72
Hex			T7, T9	2257A28	8.72
3/32", 7/64"	2257A34	7.79	T10, T15	2257A23	8.72
1/8", 9/64"	2257A35	7.79	T20, T25	2257A24	8.72
5/32", 3/16"	2257A33	7.79	T30, T40	2257A31	8.72
2 mm, 2.5 mm	2257A27	7.79	**Square**		
3 mm, 4 mm	2257A29	7.79	No. 1, No. 2	2257A36	8.72

Screw-Holding Screwdrivers



Hold and start screws, even in hard-to-reach places. Shaft is steel with a black finish; handle is plastic. **Slotted** and **Phillips** drivers have a clamping sleeve that holds the screw head. Once the screw is started, release the clamping sleeve and finish tightening. **Torx** drivers have a retaining ring at the tip to hold the screw in place while it turns.

Size	For Screw Size	Shaft Lg.	O'all Lg.		
Slotted					
3/32"	No. 0, M1.6	3"	6 5/16"	55505A43	$18.86
1/8"	1/8", M3	3 15/16"	7 5/8"	55505A45	20.45
11/64"	5/32", M4	5"	9"	55505A46	24.45
13/64"	3/16", M5	5 15/16"	10 7/16"	55505A47	27.87
1/4"	1/4", M6	6 15/16"	11 7/16"	55505A48	31.07
Phillips					
No. 0	No. 0, M1.6	3 15/16"	7 5/8"	55505A44	22.19
No. 1	No. 1	5"	9"	55505A49	24.72
No. 2	No. 2	7"	11 7/16"	55505A51	32.58

5-Piece Slotted/Phillips Set—Includes slotted 7/64", 1/8", and 11/64" and Phillips No. 0 and No. 1 sizes.
55505A52 ..... $100.15

6-Piece Torx Set—Includes T8, T10, T15, T20, T25, and T30 sizes.
7904A22 ..... $41.66

Pocket-Clip Screwdrivers



Carry these slim-handled tools comfortably in your pocket. Screwdriver has a chrome-plated steel shaft and plastic handle.

Size	Shaft Lg.	O'all Lg.		
Slotted				
3/32"	3"	5 3/4"	5682A41	$1.72
1/8"	2"	4 1/2"	5682A12	2.15
Phillips				
No. 0	2"	4 1/2"	5682A43	$2.45

Corrosion-Resistant Screwdrivers



Shaft is made of stainless steel, which provides excellent corrosion resistance. Handle is plastic.

Size	Shaft Lg.	O'all Lg.		
Slotted				
1/8"	3 1/8"	6 3/8"	56405A41	$9.04
5/32"	4"	8"	56405A63	10.92
7/32"	5"	8 13/16"	56405A62	14.42
1/4"	6"	10"	56405A44	17.54
5/16"	7"	11 5/16"	56405A45	20.96
3/8"	8"	12 7/16"	56405A56	25.12
Phillips				
No. 0	2 3/8"	5 9/16"	56405A51	9.10
No. 1	3 1/8"	7"	56405A52	9.82
No. 2	4"	8 1/8"	56405A53	13.48
No. 3	6"	10 7/16"	56405A57	19.54

6-Piece Slotted/Phillips Set—Includes 1/8", 5/32", 7/32", and 1/4" slotted sizes and No. 1 and No. 2 Phillips sizes.

56405A71 ..... $53.56

Adjustable-Length Replaceable-Tip Hex Screwdrivers



Loosen the set screw to change the tip and adjust the shaft length. Screwdriver has a plastic handle. Tips are steel with a black-oxide finish. Includes L-key.

Size	Screwdrivers		Tips	
0.028"	7160A11	$7.71	7160A23	$0.70
0.035"	7160A12	7.70	7160A24	.70
0.050"	7160A13	7.70	7160A25	.72
1/16"	7160A14	7.70	7160A26	.75
5/64"	7160A15	7.70	7160A27	.78
3/32"	7160A16	7.70	7160A28	1.00
7/64"	7160A17	7.70	7160A29	1.03
1/8"	7160A18	8.70	7160A31	1.03
9/64"	7160A19	8.70	7160A32	.69

Screwdrivers with Wire-Bending Stud



Bend and loop solid wire for making connections to outlets and switches. Shaft is chrome-plated steel; handle is plastic.

Size	Shaft Lg.	O'all Lg.	For Wire Gauge		
Slotted					
1/4"	4"	8 3/8"	10, 12, 14	5354A13	$12.78
1/4"	6"	10 3/8"	10, 12, 14	5354A14	13.86
Phillips					
No. 1	3"	6 3/4"	12, 14	5354A15	11.35
No. 2	4"	8 5/16"	10, 12, 14	5354A16	12.78

Static Control Screwdrivers



Also known as ESD-safe screwdrivers, the handle drains static away from your application, preventing buildup from electrostatic discharge (ESD) that can damage sensitive equipment. Shaft is chrome-plated steel. Drivers have a surface resistivity of 10^6-10^9 ohms. Meets EN 61340 specifications.

Warning: Because the handle conducts electricity, screwdrivers must not come in contact with sources of electrical power.

Size	O'all Lg.		
Slotted			
1/8"	8"	54445A11	$6.24
5/32"	8 5/16"	54445A12	6.76
7/32"	9 5/16"	54445A34	8.26
1/4"	10 9/16"	54445A36	9.85

Size	O'all Lg.		
Phillips			
No. 0	6 1/2"	54445A21	$6.39
No. 1	7 1/2"	54445A22	6.78
No. 2	8 9/16"	54445A44	8.47

6-Piece Slotted/Phillips Set—Includes the following sizes:
Slotted: 1/8" x 8", 5/32" x 8 5/16", 7/32" x 9 5/16"
Phillips: No. 0 x 6 1/2", No. 1 x 7 1/2", No. 2 x 8 9/16"

54445A51 ..... $39.31

Precise-Fit Slotted Screwdrivers



Also known as hollow-tip or parallel ground screwdrivers, the tip is straight and shaped to fill the screw slot better than the tapered tips on most screwdrivers for more torque and less slippage. Shaft is steel with a black finish and 4" long.

Size	Tip Thick.	O'all Lg.		
1/8"	0.023"	6 3/4"	7297A11	$12.76
11/64"	0.031"	7"	7297A23	12.76
3/16"	0.032"	7"	7297A12	12.76
3/16"	0.037"	7"	7297A13	12.76
1/4"	0.041"	7 3/8"	7297A14	12.76
5/16"	0.034"	7 1/2"	7297A15	12.76
5/16"	0.037"	7 1/2"	7297A21	12.76
5/16"	0.040"	7 1/2"	7297A22	12.76

8-Piece Slotted Set—Includes one of each size above. Packed in a vinyl pouch.

7297A33 ..... $81.10

Electrical-Insulating Screwdrivers





These screwdrivers have an insulated handle and shaft to protect against accidental contact with live electrical circuits. They are tested to 1,000 volts and meet VDE standards.

Slotted and **Phillips** meet EN 60900. 3/16" size slotted also meets ASTM F1505-01 and IEC 60900.

Torx meet ASTM F1505-01, EN 60900, and IEC 60900.

Terminal screw are for the combination drive screws in electrical equipment. Meet IEC 60900.

Square are also known as Robertson screwdrivers. Meet EN 60900.

Size	O'all Lg.		
Slotted			
3/32"	6 3/8"	7020A22	$8.11
1/8"	7 1/8"	7020A23	8.40
5/32"	7 13/16"	7020A12	8.59
3/16"	9 5/16"	7020A24	9.62
7/32"	8 13/16"	7020A14	13.81
1/4"	10 1/16"	7020A18	16.88
5/16"	11 5/16"	7020A13	21.28
3/8"	12 5/16"	7020A15	27.06
Phillips			
No. 0	6 3/8"	7020A31	8.89
No. 1	7"	7020A32	10.97
No. 2	8 1/8"	7020A33	14.26
No. 3	10 5/16"	7020A34	21.33
No. 4	12 5/16"	7020A35	23.08

5-Piece Slotted Set—Includes 3/32", 5/32", 7/32", 1/4", and 5/16" sizes.

7020A51 ..... $49.32

5-Piece Phillips Set—Includes No. 0, No. 1, No. 2, No. 3, and No. 4 sizes.

7020A42 ..... $38.53

5-Piece Slotted/Phillips Set—Includes the following sizes:
Slotted: 3/32" x 3 1/8", 7/32" x 5", 1/4" x 6"
Phillips: No. 1 x 3 1/8", No. 2 x 4"

7020A53 ..... $35.13

Size	O'all Lg.		
Torx			
T5	6 1/2"	53415A21	$6.62
T6	6 1/2"	53415A22	6.62
T7	6 1/2"	53415A23	6.62
T8	6 1/2"	53415A24	6.62
T9	6 1/2"	53415A25	6.62
T10	6 1/2"	53415A26	6.62
T15	7 1/2"	53415A27	8.30
T20	7 1/2"	53415A28	8.30
T25	7 13/16"	53415A29	8.30
Terminal Screw			
No. 1	7 3/8"	4245A11	13.35
No. 2	8 3/4"	4245A12	16.39

7-Piece Slotted/Phillips/Square Set—Includes an insulated voltage tester (use to check maximum 250 volts) and the following sizes:
Slotted: 5/32" x 4", 1/4" x 6", 7/32" x 5"
Phillips: No. 1 x 3", No. 2 x 4"
Square: No. 2 x 6"

53285A61 ..... $58.60

6-Piece Torx Set—Packed in a vinyl pouch. Includes T8, T9, T10, T15, T20, and T25 sizes.

53415A35 ..... $44.12

2-Piece Terminal Screw Set—Includes No. 1 and No. 2 sizes.

4245A16 ..... $28.66

Nonmagnetic Screwdrivers



The choice for applications where a magnetized tool can cause damage, these screwdrivers have a corrosion-resistant titanium shaft. Handle is plastic.

Size	O'all Lg.		
Slotted			
3/32"	8 1/2"	54035A71	$33.12
1/8"	8 1/2"	54035A72	33.12
3/16"	9 1/4"	54035A73	41.14
1/4"	8 1/4"	54035A74	55.70

Size	O'all Lg.		
Phillips			
No. 1	6 1/4"	54035A82	$49.51
No. 2	9 1/4"	54035A83	62.23

Precise-Control Screwdrivers

Press the rotating end cap on the handle with your palm or index finger to apply constant pressure to small fasteners while turning the body of the screwdriver with your fingertips. They're also known as precision and miniature screwdrivers. Shaft is steel; handle is plastic.

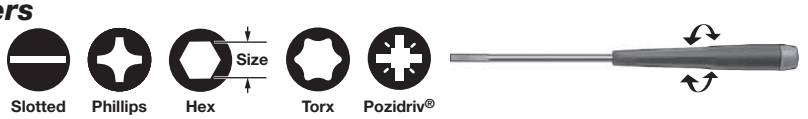

Size	Shaft Lg.	O'all Lg.		
Slotted				
0.031"	1 5/8"	4 3/4"	52985A32	$6.60
0.039"	1 5/8"	4 3/4"	52985A33	6.08
0.047"	1 5/8"	4 3/4"	52985A34	5.16
0.063"	1 5/8"	4 3/4"	52985A11	4.82
0.070"	1 5/8"	4 3/4"	52985A35	4.64
0.079"	1 5/8"	4 3/4"	52985A12	4.46
0.079"	3 15/16"	7 1/8"	52985A41	4.46
0.098"	2"	5 3/4"	52985A13	4.18
0.098"	3 15/16"	7 3/4"	52985A42	4.18
0.125"	2"	5 3/4"	52985A14	4.06
0.125"	3 15/16"	8 5/16"	52985A43	4.64
0.125"	5 15/16"	10 1/4"	52985A44	5.02
0.141"	2 3/8"	6 3/4"	52985A15	4.46
0.157"	2 3/8"	6 3/4"	52985A16	5.02
0.157"	3 15/16"	8 5/16"	52985A46	5.02
0.157"	5 15/16"	10 1/4"	52985A47	5.68
Phillips				
No. 000	1 5/8"	4 3/4"	52985A31	6.44
No. 00	1 5/8"	4 3/4"	52985A17	5.02
Phillips (Cont.)				
No. 0	2"	5 3/4"	52985A18	$4.46
No. 0	3"	6 3/4"	52985A48	4.34
No. 1	2 3/8"	6 3/4"	52985A19	4.64
No. 1	3 3/16"	7 1/2"	52985A49	5.10
No. 1	5 15/16"	10 1/4"	52985A51	5.74
Hex				
0.028", 0.7 mm	1 5/8"	4 3/4"	7270A37	4.28
0.035", 0.9 mm	1 5/8"	4 3/4"	7270A38	4.15
0.050", 1.3 mm	1 5/8"	4 3/4"	7270A39	3.75
1/16"	2"	5 3/4"	7270A41	3.56
5/64", 2 mm	2"	5 3/4"	7270A42	3.44
3/32"	2 3/8"	6 3/4"	7270A43	3.44
7/64"	2 3/8"	6 3/4"	7270A44	3.27
1/8"	2 3/8"	6 3/4"	7270A45	3.27
9/64"	2 3/8"	6 3/4"	7270A46	3.26
5/32"	2 3/8"	6 3/4"	7270A47	3.26
1.5 mm	2"	5 3/4"	52975A14	3.78
2.5 mm	2 3/8"	6 3/4"	52975A16	3.44
Hex (Cont.)				
3 mm	2 3/8"	6 3/4"	52975A17	$3.27
4 mm	2 3/8"	6 3/4"	52975A18	3.20
Torx				
T1	1 1/4"	4 15/16"	52995A22	7.33
T2	1 1/4"	4 15/16"	52995A24	7.33
T3	1 5/8"	4 3/4"	52995A26	5.68
T4	1 5/8"	4 3/4"	52995A27	5.68
T5	1 5/8"	4 3/4"	52995A23	5.68
T6	1 5/8"	4 3/4"	52995A11	5.68
T7	1 5/8"	4 3/4"	52995A12	5.68
T8	1 5/8"	4 3/4"	52995A13	5.68
T9	2"	5 3/4"	52995A14	5.68
T10	2"	5 3/4"	52995A15	5.99
T15	2 3/8"	6 3/4"	52995A16	5.99
T20	2 3/8"	6 3/4"	52995A17	5.99
Pozidriv®				
No. 0	2"	5 3/4"	2222A12	5.09
No. 1	2 3/8"	6 3/4"	2222A14	5.09

6-Piece Slotted Set—Includes 0.063" x 4 3/4", 0.079" x 4 3/4", 0.098" x 5 3/4", 0.125" x 5 3/4", 0.141" x 6 3/4", and 0.157" x 6 3/4" sizes.

52985A21 ..... $22.57

7-Piece Slotted/Phillips Set—Packed in a vinyl pouch. Includes the following sizes:
Slotted: 0.098" x 5 3/4", 0.098" x 8 5/16", 0.125" x 8 5/16", 0.125" x 10 1/4", 0.157" x 8 5/16", and 0.157" x 10 1/4"
Phillips: No. 0 x 6 3/4"

52985A52 ..... $27.66

7-Piece Slotted/Phillips Set—Includes the following sizes:
Slotted: 0.063" x 4 3/4", 0.079" x 5 3/4", 0.098" x 5 3/4", and 0.118" x 6 3/4"
Phillips: No. 00 x 4 3/4, No. 0 x 5 3/4, and No. 1 x 6 3/4

52985A22 ..... $24.47

4-Piece Phillips Set—Includes No. 000, No. 00, No. 0, and No. 1 sizes.

52985A23 ..... $17.16

7-Piece Hex Set—Includes 0.7, 0.9, 1.3, 1.5, 2, 2.5, and 3 mm sizes.

52975A21 ..... $24.75

8-Piece Hex Set—Includes 0.028", 0.035", 0.050", 1/16", 5/64", 3/32", 7/64", and 1/8" sizes.

7270A59 ..... $27.98

4-Piece Torx Set—Includes T1, T2, T3, and T4 sizes. Packed in a vinyl pouch.

52995A31 ..... $23.29

7-Piece Torx Set—Includes T5, T6, T7, T8, T9, T10, and T15 sizes.

52995A25 ..... $42.75

Precise-Control Metal-Handle Screwdrivers

Also known as jewelers' screwdrivers, these tools have a rotating end cap on the handle that lets you apply constant pressure to small fasteners while turning the body of the screwdriver with your fingertips. Overall length is 4"; shaft length is 1 1/4". Screwdrivers are steel; shaft has a black-oxide finish.

JIS (Japanese Industrial Standard) are designed for the fasteners used in electronics assembly. The tips have slightly sharper corners than Phillips tips.

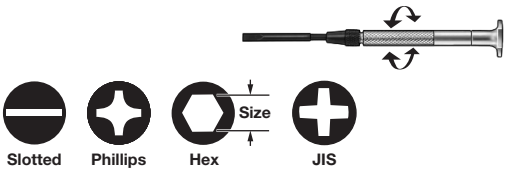

Size	Screwdrivers		Replacement Tips	
Slotted				
0.025"	7026A11	$5.87	5341A31	$1.95
0.040"	7026A12	4.97	5341A32	1.71
0.055"	7026A13	5.00	5341A33	1.71
0.070"	7026A14	5.00	5341A34	1.71
0.080"	7026A15	5.00	5341A35	1.71
0.100"	7026A16	5.00	5341A36	1.71
0.125"	7026A25	4.95	5341A37	2.66
Phillips				
No. 000	7026A23	7.61	5341A41	4.73
No. 00	7026A22	6.39	5341A42	3.37
No. 0	7026A18	5.16	5341A43	2.22
No. 1	7026A19	7.24	5341A44	4.10
Hex				
0.028"	7043A11	5.51	5341A45	2.91
0.035"	7043A12	5.51	5341A46	2.91
Hex (Cont.)				
0.050"	7043A13	$5.51	5341A47	$2.91
1/16"	7043A14	5.51	5341A48	2.91
5/64"	7043A15	5.51	5341A49	2.91
0.7 mm	7043A21	7.00	7043A57	2.91
0.9 mm	7043A22	7.00	7043A58	2.91
3/32"	7043A18	5.51	7043A78	2.91
1.3 mm	7043A23	7.00	7043A59	2.91
1.5 mm	7043A24	7.00	7043A61	2.91
2 mm	7043A25	7.00	7043A62	2.91
2.5 mm	7043A26	7.00	7043A63	2.91
JIS				
No. 000	53325A11	6.42	53325A512	3.86
No. 00	53325A12	5.40	53325A513	2.76
No. 0	53325A13	4.36	53325A514	1.94
No. 1	53325A14	6.11	53325A515	3.42

Screwdriver Sets

6-Piece Slotted Set—Includes 0.025", 0.040", 0.055", 0.070", 0.080", and 0.100" sizes. Packed in a vinyl pouch.

5714A4 ..... $23.82

4-Piece Phillips Set—Includes No. 000, No. 00, No. 0, and No. 1 sizes.

5714A23 ..... $23.82

6-Piece Slotted, Phillips, and JIS Set—Packed in a vinyl pouch. Includes slotted sizes 0.040", 0.070", and 0.100"; JIS No. 00; and Phillips No. 0 and No. 1.

5714A6 ..... $29.84

6-Piece Hex Set—Includes 0.028", 0.035", 0.050", 1/16", 5/64", and 3/32" sizes. Packed in a vinyl pouch.

7043A17 ..... $31.42

6-Piece Hex Set—Includes 0.7, 0.9, 1.3, 1.5, 2, and 2.5 mm sizes. Packed in a vinyl pouch.

7043A19 ..... $31.42

4-Piece JIS Set—Includes No. 000, No. 00, No. 0, and No. 1 sizes. Packed in a vinyl pouch.

53325A21 ..... $20.96

Ball-End Precise-Control Hex Screwdrivers



The ball end allows up to 20° angled entry to tighten and remove screws in hard-to-reach areas. Press the rotating end cap on the handle with your palm or index finger to apply constant pressure to small fasteners while turning the body of the screwdriver with your fingertips. They're also known as precision and miniature screwdrivers. Shaft is chrome-plated steel; handle is plastic.

Size	Shaft Lg.	O'all Lg.		
Inch				
0.050″, 1.3 mm	1⅝″	4¾″	7268A51	$4.39
1/16″	2″	5¾″	7268A52	4.39
5/64″	2″	5¾″	7268A53	4.39
3/32″	2″	5¾″	7268A54	4.39
7/64″	2⅜″	6¾″	7268A55	4.39
1/8″	2⅜″	6¾″	7268A56	4.39
9/64″	2⅜″	6¾″	7268A57	4.39
5/32″	2⅜″	6¾″	7268A58	4.39
Metric				
1.5 mm	2″	5¾″	55035A42	4.39
2 mm	2″	5¾″	55035A43	4.39
2.5 mm	2⅜″	6¾″	55035A44	4.39
3 mm	2⅜″	6¾″	55035A45	4.39
4 mm	2⅜″	6¾″	55035A46	4.39

8-Piece Inch Hex Set—Includes 0.050″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, and 5/32″ sizes.

7268A66 ..... $31.98

5-Piece Metric Hex Set—Includes 1.3, 1.5, 2, 2.5, and 3 mm sizes.

55035A55 ..... $20.43

Screw-Holding Precise-Control Screwdrivers



Hold and drive screws, even in hard-to-reach places. Also known as jewelers' screwdrivers, these tools have a rotating end cap on the handle that allows you to apply constant pressure while turning the body of the screwdriver with your fingertips. Handle is aluminum.

Screwdrivers

Push down on the end cap to open the jaws, place the tip of the screwdriver into the fastener recess, and release the cap to hold the screw.

Size	Shaft Lg.	O'all Lg.		
Slotted				
0.072″	5/16″	4½″	1243N2	$21.10
Phillips				
1.8 mm	5/16″	4½″	1243N1	21.10

Screwdriver Sets

A magnetized tip holds the screw in place. Packed in a vinyl pouch.

7-Piece Slotted Set—Includes a handle and six interchangeable shafts in sizes 0.025″, 0.040″, 0.055″, 0.070″, 0.080, and 0.100″.

8550A62 ..... $19.40

6-Piece Slotted/Phillips Set—Includes a handle and five interchangeable shafts in sizes 0.055″, 0.070″, and 0.100″ and Phillips No. 0 and No. 1.

8550A54 ..... $20.41

5-Piece Phillips Set—Includes a handle and four interchangeable shafts in sizes No. 000, No. 00, No. 0, and No. 1.

8550A63 ..... $23.61

Convertible-Handle Electrical-Insulating Screwdriver Sets



These screwdrivers have an insulated handle and shaft to protect against accidental contact with live electrical circuits. They are tested to 1,000 volts to meet IEC 900 and VDE standards. Push a button to swap a regular screwdriver handle for a precise-control style, which allows you to apply constant pressure while turning the body of the screwdriver with your fingertips. Overall length ranges from 7¼″ to 8¼″.

Set includes a screwdriver handle, rotating cap, and 12 interchangeable blades in the following sizes: 0.094″, 0.125″, 0.141″, 0.157″, 0.219″, and 0.250″ slotted; No.1 and No. 2 Phillips; T10, T15, and T20 Torx; and No. 2 Pozidriv®.

6095A11 ..... $64.81

Nonmarring Precise-Control Screwdrivers



The ceramic tip on these nonconductive and nonmagnetic screwdrivers won't scratch your workpiece. Press the rotating end cap on the handle with your palm or index finger to apply constant pressure to small fasteners while turning the body of the screwdriver with your fingertips. They're also known as precision and miniature screwdrivers. They have a ceramic shaft and a plastic handle.

Size	Shaft Lg.	O'all Lg.		
Slotted				
0.035″	5/8″	4¼″	5879A21	$11.92
0.051″	5/8″	4¼″	5879A22	11.92
0.071″	5/8″	4¼″	5879A23	11.92
0.102″	5/8″	4¼″	5879A24	11.92

3-Piece Slotted/Phillips Set—Includes screwdriver handle and two reversible shafts in 0.035″ and 0.071″ slotted sizes and 1.7 mm and No. 0 Phillips sizes.

5879A45 ..... $40.76

Reversible-Shaft Precise-Control Screwdriver Sets



Sets include one static-control (ESD-safe) handle and an assortment of shafts with a different tip at each end. The handle drains static away from your application, preventing buildup from electrostatic discharge that can damage sensitive equipment. Press the rotating end cap on the handle with your palm or index finger to apply constant pressure while turning the body of the screwdriver with your fingertips. They're also known as precision and miniature screwdrivers. Drivers have a surface resistivity of 10^6-10^9 ohms. Shafts are chrome-plated steel; handle is plastic.

Warning: Because the handle conducts electricity, screwdrivers must not come in contact with sources of electrical power.

Screwdriver Sets

6-Piece Slotted/Phillips Set—Includes five reversible shafts and screwdriver handle. Includes slotted sizes 0.059″, 0.079″, 0.099″, 0.118″, 0.138″, and 0.158″ and Phillips sizes No. 000, No. 00, No. 0, and No. 1.

Canvas Pouch	7271A37	$46.18
Metal Case	7271A43	57.80

9-Piece Slotted/Phillips/Torx Set—Includes a screwdriver handle and eight reversible shafts in slotted sizes 0.059″, 0.079″, 0.099″, 0.118″, 0.138″, 0.158″; Phillips sizes No. 000, No. 00, No. 0, No.1; and Torx sizes T6, T7, T8, T9, T10, and T15.

7271A46 ..... $65.11

5-Piece Torx Set—Includes a screwdriver handle and four reversible shafts in T6, T7, T8, T9, T10, T15 (two), and T20 sizes. Packed in a metal case.

7271A45 ..... $33.05

Replacement Handle

O'all Lg.	Material		
4⅜″	Plastic	7271A51	$7.49

Replacement Shafts

Size		
Slotted		
0.059″ and 0.118″	7271A11	$8.46
0.079″ and 0.138″	7271A12	7.97
0.099″ and 0.158″	7271A13	7.80
Phillips		
No. 000 and No. 00	7271A21	7.91
No. 0 and No. 1	7271A22	6.95
Torx		
T6 and T8	7271A31	6.19
T7 and T9	7271A32	6.19
T10 and T15	7271A33	6.19
T15 and T20	7271A34	6.19

Electrical-Insulating Precise-Control Screwdrivers



These screwdrivers have an insulated handle and shaft to protect against accidental contact with live electrical circuits. They are tested to 1,000 volts to meet ASTM F1505-10, EN 60900, IEC 60900, and VDE standards. Press the rotating end cap on the handle with your palm or index finger to apply constant pressure to small fasteners while turning the body of the screwdriver with your fingertips. They're also known as precision and miniature screwdrivers. Screwdrivers have a plastic-coated shaft and plastic handle.

Size	Shaft Lg.	O'all Lg.		
Slotted				
0.059″	1 5/8″	5 15/16″	52985A71	$9.16
0.079″	1 5/8″	5 15/16″	52985A72	9.16
0.098″	2 3/8″	6 1/2″	52985A73	9.16
0.118″	2 3/8″	6 1/2″	52985A74	9.16
0.138″	2 3/8″	6 1/2″	52985A75	9.16
Phillips				
No. 00	1 5/8″	5 15/16″	52985A76	9.16
No. 0	2 3/8″	6 1/2″	52985A77	9.16
No. 1	2 3/8″	6 1/2″	52985A78	9.16

8-Piece Slotted/Phillips Set—Includes slotted sizes 0.059″, 0.079″, 0.098″, 0.118″, and 0.138″ and Phillips sizes No. 00, No. 0, and No. 1.

52985A24 ..... $63.62

Static Control Precise-Control Screwdrivers



Also known as ESD-safe screwdrivers, the handle drains static away from your application, preventing buildup from electrostatic discharge (ESD) that can damage sensitive equipment. Press the rotating end cap on the handle with your palm or index finger to apply constant pressure while turning the body of the screwdriver with your fingertips. Shaft is steel; handle is plastic. Meets IEC 61340-5-1 specifications and has a surface resistivity of 10^6-10^9 ohms, unless noted.

Warning: Because the handle conducts electricity, screwdrivers must not come in contact with sources of electrical power.

Size	Shaft Lg.	O'all Lg.		
Slotted				
0.025″	1 1/4″	4 15/16″	7440A27★	$5.95
0.040″	1 1/4″	4 15/16″	7440A28★	5.51
0.055″	1 1/4″	4 15/16″	7440A29★	5.51
0.059″	1 5/8″	4 3/4″	7440A11	6.06
0.079″	1 5/8″	4 3/4″	7440A12	5.05
0.098″	2″	5 3/4″	7440A13	5.21
0.118″	2″	5 3/4″	7440A14	5.26
0.138″	2 3/8″	6 3/4″	7440A15	5.64
0.157″	2 3/8″	6 3/4″	7440A16	6.10
Phillips				
No. 00	1 5/8″	4 3/4″	7440A21	5.72
No. 0	2″	5 3/4″	7440A22	5.55
No. 1	2 3/8″	6 3/4″	7440A23	5.50
Torx				
T1	1 5/8″	4 3/4″	7440A51	7.80
T2	1 5/8″	4 3/4″	7440A52	7.81
T3	1 5/8″	4 3/4″	7440A53	7.81
T4	1 5/8″	4 3/4″	7440A54	7.25
T5	1 5/8″	4 3/4″	7440A55	7.25
T6	1 5/8″	4 3/4″	7440A56	7.25
T7	1 5/8″	4 3/4″	7440A57	7.25
T8	1 5/8″	4 3/4″	7440A58	7.25
T9	2″	5 3/4″	7440A59	7.25
T10	2″	5 3/4″	7440A61	7.55
T15	2 3/8″	6 3/4″	7440A62	7.55
T20	2 3/8″	6 3/4″	7440A63	7.55

★Does not meet IEC 61340-5-1 specifications. Surface resistivity is 10^9-10^{11} ohms.

7-Piece Slotted/Phillips Set—Includes slotted sizes 0.059″, 0.079″, 0.098″, and 0.138″ and Phillips sizes No. 00, No. 0, and No. 1.

7440A41 ..... $36.71

7-Piece Torx Set—Includes T4, T5, T6, T7, T8, T9 and T10 sizes.

7440A71 ..... $43.10

Screwdrivers with Lanyard Ring



Shown with Lanyard (not included)

Attach a lanyard to the rotating tab on the shaft so you can secure the screwdriver and still turn it freely. Please see page 1826 for tool lanyards. Shaft is chrome-plated steel; handle is plastic.

Size	Shaft Lg.	O'all Lg.		
Slotted				
3/16″	3″	6 1/8″	1233N11	$21.48
1/4″	4″	7 7/8″	1233N12	21.95
5/16″	6″	10 11/16″	1233N13	23.35
3/8″	8″	12 11/16″	1233N14	25.06
7/16″	10″	14 3/4″	1233N15	27.74
Phillips				
No. 1	3″	6 1/4″	1233N16	21.95
No. 2	4″	7 15/16″	1233N17	22.73
No. 3	6″	10 1/2″	1233N18	26.11
No. 4	6″	10 3/4″	1233N19	27.58

5-Piece Slotted/Phillips Set—Packed in a vinyl pouch. Includes the following sizes:
Slotted: 3/16″ × 6 1/8″, 1/4″ × 7 7/8″, 5/16″ × 10 11/16″
Phillips: No. 1 × 6 1/4″, No. 2 × 7 15/16″

1233N21 ..... $112.23

Tight-Clearance Offset Screwdrivers



Two Tip



Ratcheting



Four Tip

Tips have a 90° offset angle.

Two-Tip Slotted and Phillips Screwdrivers

Slotted Sizes	Phillips Sizes	O'all Lg.		
1/4″, 1/4″	_____	5″	36585A91	$5.74
5/16″, 5/16″	_____	6″	36585A92	8.21
_____	No. 1, No. 2	5″	36585A94	5.32
_____	No. 3, No. 4	8″	36585A95	12.43

Two-Tip Torx Screwdrivers

Torx Sizes	O'all Lg.		
T6, T8	3 5/8″	6103A33	$6.90
T7, T9	3 5/8″	6103A34	7.44
T10, T15	3 5/8″	6103A35	7.94
T20, T25	4 15/16″	6103A36	8.86
T27, T30	4 15/16″	6103A37	10.14

5-Piece Torx Set—Includes T6, T7, T8, T9, T10, T15, T20, T25, T27, and T30 sizes. Packed in a vinyl pouch.

6103A41 ..... $39.14

Ratcheting Tight-Clearance Offset Screwdrivers

Slotted Sizes	Phillips Sizes	O'all Lg.		
1/4″	No. 2	4″	5695A8	$10.62
1/4″, 3/8″	_____	4″	5695A1	8.22
_____	No. 1, No. 2	4″	5695A3	11.96

Four-Tip Screwdriver

Slotted Sizes	Phillips Sizes	O'all Lg.		
1/4″, 1/4″	No. 1, No. 2	5″	5707A12	$9.43

Antislip Fluid

A single drop of this nonstaining, noncorrosive fluid increases the grip between fastener and tool by as much as 700%. Use with screwdrivers, wrenches, pliers, and anywhere else tools are slipping.

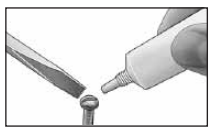

53795A21 ..... $5.67

Nonmagnetic Precision Metal-Handle Screwdriver and Tool Sets



25-Piece Screwdriver and Tool Set

Use for assembling and repairing small parts. Screwdriver handles are knurled and made of steel. Include a partitioned vinyl case.

25-Piece Set—Includes 16 handles and shafts, eight individual hex keys, and a tweezer: *Slotted Screwdrivers:* 0.055″, 0.080″, 0.100″, 0.125″; *Phillips Screwdrivers:* #00, #0, #1; *Nutdrivers:* 5/64″, 3/32″, 7/64″, 1/8″, 5/32″; *Hex-Key Drivers:* 0.050″, 1/16″, 5/64″; *Short-Arm Hex Keys:* 1/16″, 5/64″, 3/32″, 1/8″, 5/32″, 3/16″, 7/32″, 1/4″; *Awl:* 5/64″ dia.; *Stainless Steel Tweezer:* 3 9/16″ long with smooth tips.

5821A46 ..... $85.45

28-Piece Set—Includes 27 handles and shafts and an extension: *Slotted Screwdrivers:* 0.025″, 0.040″, 0.055″, 0.070″, 0.080″, 0.100″; *Phillips Screwdrivers:* #0, #1; *Nutdrivers:* 5/64″, 3/32″, 7/64″, 1/8″, 5/32″; *Hex-Key Drivers:* 0.028″, 0.035″, 0.050″, 1/16″, 5/64″, 3/32″; *Open-End Wrenches:* 5/64″, 3/32″, 7/64″, 1/8″, 5/32″, 3/16″, 1/4″, 5/16″; *Extension:* 3″ long.

5468A31 ..... $107.55

31-Piece Set—Includes three handles (one is smooth plastic and ESD static-dissipative), 27 shafts, and an extension: *Slotted Screwdrivers:* 0.055″, 0.070″, 0.080″, 0.100; *Phillips Screwdrivers:* #00, #0, #1; *Hex-Key Drivers:* 0.028″, 0.035″, 0.050″, 1/16″, 5/64″, 3/32″; *Star Drivers (fit Torx fasteners):* T5, T6, T7, T9, TPT8, TPT10 (TPT = tamper resistant); *Nutdrivers:* 7/64″, 1/8″, 5/32″; *Open-End Wrenches:* 7/64″, 1/8″, 5/32″, 3/16″ *Awl:* 5/64″ dia.; *Extension:* 3″ long.

5821A48 ..... $83.67

Screw Starters

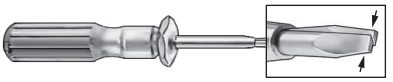

Push the sleeve on the handle forward and insert the tips into screw slot. Release the sleeve and the tips split to hold the screw firmly. These starters are not intended for final tightening or removal. Shafts are steel; handles are plastic. For slotted screws only.

Size	Shaft Lg.	O'all Lg.		
For #0 Screws (M1.6)				
1/8″	3″	5″	5690A27	$7.51
For #2 to #4 Screws (M2 to M2.5)				
1/8″	3″	5″	5690A24	6.87
1/8″	8″	10″	5690A25	8.07
For #4 to #7 Screws (M2.5 to M3.5)				
3/16″	2″	4 1/2″	5690A11	7.36
3/16″	4″	6 1/2″	5690A12	8.04
3/16″	6″	8 1/2″	5690A13	8.29
3/16″	8″	10 1/2″	5690A14	8.70
3/16″	12″	14 1/2″	5690A15	11.40
For #6 to #12 Screws (M3.5 to M5)				
3/16″	4″	8″	5690A16	9.10
3/16″	6″	10″	5690A17	9.44
3/16″	8″	12″	5690A18	10.02
For #8 to 3/8″ Screws (M4 to M10)				
1/4″	4″	8″	5690A19	10.69
1/4″	6″	10″	5690A21	11.01
1/4″	8″	12″	5690A22	11.49
1/4″	14″	18″	5690A23	15.31

4-Piece Set—Includes a wall-mount plastic rack and shaft sizes:
For #2 to #4 Screws: 1/8″×3″
For #4 to #6 Screws: 3/16″×4″
For #6 to #12 Screws: 3/16″×4″
For #8 to #12 Screws: 1/4″×6″

5690A26 ..... $30.38

7-Piece Set—Includes shaft sizes:
For #2 to #4 Screws: 1/8″×3″
For #4 to #6 Screws: 3/16″×4″, 3/16″x6″
For #6 to #12 Screws: 3/16″×4″, 3/16″×6″, 3/16″×8″
For #8 to #12 Screws: 1/4″×6″

5690A61 ..... $56.71

Nut Starters



Use these starters for holding and initial turning of hex nuts. Insert closed jaws into nut, then pull the sleeve back to open jaws and grip it. Starter releases from nut as the threads are engaged. They're not intended for final tightening or removal. Handle is aluminum. Fits 4-40 thread; overall length is 5 1/8″.

5738A62 ..... $7.61

Screw Hole Starters



Tapered screw point accurately marks, starts, and threads holes in wood and other nonmetal materials. Starter has a steel blade and plastic handle. Shank is 3/16″ Dia.×3″ Lg. Overall length is 6 11/16″. The threaded tapered point is 9/16″ long.

5352A11 ..... $4.25

Tight-Clearance Screw Starters

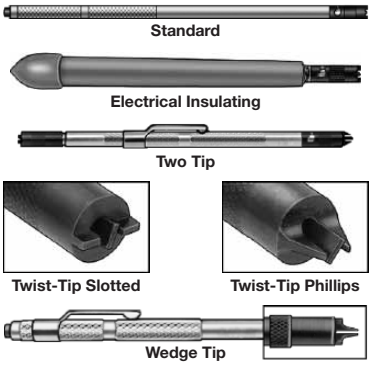

The slim body reaches into tight spots and a magnet at the end of the handle can retrieve dropped fasteners (except two-tip starters, which do not have a magnet). These starters are not intended for final tightening or removal. Tips are steel.

Twist Tip—Starters secure in the screw head with just a push and a turn. As the fastener is tightened, the starter tip releases. *Two-tip* starters have a slotted tip on one end and a Phillips tip on the other. *Electrical-insulating* tools have an insulated handle and body to protect against accidental contact with live electrical circuits. They are tested to 1,000 volts to meet IEC 900.

Wedge Tip—Starters fit a variety of drive styles. Push the sleeve on the handle forward and insert the tips into screw head. Pull the sleeve back and the tips split to hold the screw firmly. Once threads are started, the tool releases the screw.

Twist-Tip Slotted

Size	O'all Lg.		
Standard—For #6 to #12 Screws (M3.5 to M5)			
9/32″	5 5/8″	5806A2▲	$7.41
9/32″	9 5/8″	5806A3	8.39
Electrical Insulating—For #3 to #12 Screws (M2.5 to M5)			
1/4″	2 3/4″	7437A31	55.65
1/4″	6″	7437A32	59.53

▲Has pocket clip.

Twist-Tip Phillips

Size	O'all Lg.		
Standard—For #5 to #12 Screws (M3.5 to M5)			
No. 2	9 3/4″	5806A7	$8.85
No. 2	15 1/4″	5806A8	11.12
Electrical Insulating—For #3 to #12 Screws (M2.5 to M5)			
No. 1, No. 2	6″	7437A34	62.29
No. 1, No. 2	10″	7437A35	66.24

Twist-Tip Two-Tip Slotted/Phillips

Size	O'all Lg.		
For #6 to #12 Screws (M3.5 to M5)			
9/32″; No. 2	6 3/4″	58465A65★	$9.43

★Has pocket clip. Phillips tip is for #5 to #12 screws (M3 to M5).

Wedge-Tip Phillips, Hex, Torx, and Square

For use with Phillips sizes No. 1, No. 2, and No. 3; hex sizes 3/32″-1/4″; Torx sizes T10-T30; and square sizes No. 1 and No. 2.

74265A88 ..... $7.51

Screw Starter Set

4-Piece Slotted and Phillips Set with Aluminum Body—Includes:
Slotted: 9/32″×5 5/8″, 9/32″×9 5/8″
Phillips: #2×5 3/4″, #2×9 3/4″

5806A22 ..... $28.88

Screwdriver and Solid-Shaft Nutdriver Sets

We've grouped 13 of the most common screwdriver and nutdriver sizes in these sets.

Standard Set—Blades are steel and 3⅝" to 4" long. Furnished with a 4" long plastic drive handle. Includes #1 and #2 Phillips screwdriver blades; 3/16" and 1/4" slotted screwdriver blades; and 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", and 1/2" nutdriver sockets. Packed in a canvas roll-up pouch.

5404A1 ..... Per Set $93.15

ESD Static-Dissipative Set—Use on static-sensitive electronics and in areas where electrostatic discharge is a concern. Blades are hardened tool steel and 5²⁹⁄₃₂" long. Includes a 5⁹⁄₃₂" long plastic drive handle; #0, #1, and #2 Phillips screwdriver blades; 3 mm, 4 mm, and 6 mm slotted screwdriver blades; and 3/16", 1/4", 5/16", 11/32", 3/8", 7/16", and 1/2" nutdriver sockets. Packed in a canvas roll-up pouch. Warning: The handles are conductive, so tools must not come in contact with sources of electrical power.

5587A16 ..... Per Set $83.40

Threaded Stud and Rod Drivers



Hold and tighten right-hand threaded studs and rods. The 1/2" hex end on the handle lets you grip the driver with a wrench for extra torque. Shafts and handles are stainless steel.

For Thread Size	Thread Dp.	O'all Lg.		
6-32	1/4"	5⅜"	6197A11	$22.24
8-32	1/4"	5⅜"	6197A12	22.24
10-24	1/4"	5⅜"	6197A13	22.24
10-32	1/4"	5⅜"	6197A7	22.24
1/4"-20	3/8"	5⅜"	6197A14	21.56
5/16"-18	3/8"	5⅜"	6197A15	21.56
3/8"-16	1/2"	5⅜"	6197A16	21.56
1/2"-13	1/2"	5⅜"	6197A8	21.56

Fold-Up Screwdriver and Key Sets

Keys are steel with a black finish. They have a maximum fold-out angle of 180°, unless stated.

(A) Standard Sets—Handle is steel.

(B) Ultra-Grip Sets—The textured grip provides comfort and slip resistance. Handle is plastic.

(C) Z-Style Sets—Select any key without unfolding the others in the set. Keys have a maximum fold-out angle of 270°. Handle is plastic.

(D) High-Visibility Sets—A brightly colored steel handle makes these sets easy to identify. Inch sets have a fluorescent orange handle; metric sets have a blue handle.

(E) Sets with Lanyard Ring—Secure your key set by attaching a lanyard to the 0.55" ID ring on the handle. Handle is steel.

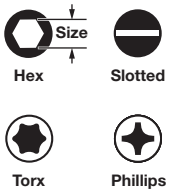

	No. of Sizes	Size	Handle Lg.		
Hex Key Sets					
A	5	3/16", 7/32", 1/4", 5/16", 3/8"	5¼"	7162A18	$9.47
A	9	0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16"	3⅝"	7162A13	5.30
A	9	5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"	4¼"	7162A14	6.72
B	6	5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	5¼"	5215A13	10.51
B	9	0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16"	3⅝"	5215A11	6.31
B	9	5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"	4¼"	5215A12	7.33
C	9	0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16"	3¾"	5725A72	7.30
C	9	5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"	4½"	5725A73	9.44
D	9	0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16"	3⅝"	54405A55	6.39
D	9	5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"	4¼"	54405A56	8.22
E	9	5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"	4½"	2913A2	22.80
Inch/Metric Hex Key Sets					
C	12	5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 1.5, 2, 2.5, 3, 4, 5 mm	4½"	7324A18	8.14
Metric Hex Key Sets					
A	6	3, 4, 5, 6, 8, 10 mm	5¼"	5541A33	10.15
A	7	1.5, 2, 2.5, 3, 4, 5, 6 mm	3⅝"	5541A31	5.49
A	7	2, 2.5, 3, 4, 5, 6, 8 mm	4¼"	5541A32	7.24
B	6	3, 4, 5, 6, 8, 10 mm	5¼"	5215A24	10.51
B	7	1.5, 2, 2.5, 3, 4, 5, 6 mm	3⅝"	5215A21	6.31
B	8	2, 2.5, 3, 4, 5, 6, 7, 8 mm	5¼"	5215A23	9.47
C	7	1.5, 2, 2.5, 3, 4, 5, 6 mm	3¾"	5724A85	7.62
D	6	3, 4, 5, 6, 8, 10 mm	5¼"	56115A66	12.34
D	7	1.5, 2, 2.5, 3, 4, 5, 6 mm	3⅝"	56115A65	7.65
E	6	3, 4, 5, 6, 8, 10 mm	6½"	2913A1	26.28
Torx Key Sets					
A	7	T6, T7, T8, T9, T10, T15, T20	3"	8372A59	11.51
A	7	T10, T15, T20, T25, T27, T30, T40	4¼"	8372A61	11.51
B	7	T10, T15, T20, T25, T27, T30, T40	4¼"	55515A22	15.39
B	8	T8, T10, T15, T20, T25, T27, T30, T40	4¼"	5842A43	13.38
Torx, Phillips, and Slotted Screwdriver and Key Set with 3/16" dia. awl					
A	6	T15 Torx; No. 1 Phillips; 1/8", 3/16", 1/4" Slotted	3⅝"	5820A17	7.30

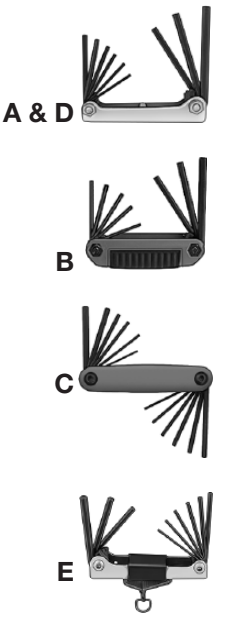

Ball-End Fold-Up Hex Key Sets

Keys have ball ends that can enter socket head screws at angles up to 20°. Keys are steel and open to 180°.

(A) Standard Sets—Keys have a black finish and a steel handle.

(B) Ultra-Grip Sets—The textured grip provides comfort and slip resistance. Keys have a black finish and a plastic handle.

(C) Screw-Holding Sets—A retaining ring around the ball end of the hex key firmly holds socket head screws during installation and removal. Keys are nickel-plated with a plastic handle.

	No. of Sizes	Size	Handle Lg.		
Inch Sets					
A	5	3/16", 7/32", 1/4", 5/16", 3/8"	5¼"	5339A21	$9.41
A	7	1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32"	3"	5339A11	9.41
A	9	5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"	4¼"	5339A31	11.99
B	5	3/16", 7/32", 1/4", 5/16", 3/8"	5¼"	5206A12	13.08
B	9	5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"	4¼"	5206A11	13.11
C	9	5/64"♣, 3/32"♣, 7/64"♣, 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"	4¾"	4881A35	23.96
Metric Sets					
A	5	1.5, 2, 2.5, 3, 4 mm	3"	5339A42	6.42
A	5	4, 5, 6, 8, 10 mm	5¼"	5339A52	9.52
B	5	4, 5, 6, 8, 10 mm	5¼"	5206A22	13.08
B	6	2, 2.5, 3, 4, 5, 6 mm	3"	5206A21	10.25
C	7	2♣, 2.5♣, 3, 4, 5, 6, 8 mm	4¾"	4881A34	23.96

♣ Sizes indicated do not have a retaining ring.

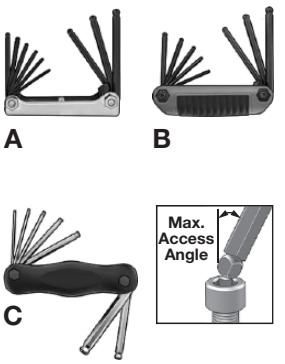

L-Keys





Hex | Tamper-Resistant Hex | Torx | Tamper-Resistant Torx | Torx Plus | Four-Flute Spline | Six-Flute Spline

Keys are made of steel and have a black finish, unless otherwise noted. **Torx Plus** are not compatible with standard Torx screws.

Hex

Size	O'all Lg.		
Inch Sizes			
0.028"	1 5/16"	7122A11	$0.24
0.028"	2 1/16"	7122A77	.34
0.035"	1 5/16"	7122A12	.24
0.035"	2 13/16"	7122A37	.34
0.050"	1 11/16"	7122A13	.14
0.050"	2 7/8"	7122A38	.18
1/16"	1 7/8"	7122A14	.14
1/16"	3 1/16"	7122A39	.20
5/64"	2 1/16"	7122A15	.16
5/64"	3 3/8"	7122A41	.20
5/64"	6"	7122A61	1.02
5/64"	12"	7122A87	3.09
3/32"	2 1/8"	7122A16	.16
3/32"	3 9/16"	7122A42	.20
3/32"	6"	7122A62	1.02
3/32"	12"	7122A88	3.21
7/64"	2 1/4"	7122A17	.18
7/64"	3 3/4"	7122A43	.29
7/64"	6"	7122A63	1.02
1/8"	2 7/16"	7122A18	.18
1/8"	3 15/16"	7122A44	.30
1/8"	6"	7122A64	1.04
1/8"	12"	7122A89	3.27
9/64"	2 5/8"	7122A19	.20
9/64"	4 3/16"	7122A45	.30
9/64"	6"	7122A65	1.10
5/32"	2 11/16"	7122A21	.20
5/32"	4 7/16"	7122A46	.34
5/32"	6"	7122A66	1.10
5/32"	12"	7122A91	3.32
3/16"	3"	7122A22	.29
3/16"	4 11/16"	7122A47	.41
3/16"	6"	7122A67	1.20
3/16"	12"	7122A92	3.55
7/32"	3 1/4"	7122A23	.42
7/32"	5 3/16"	7122A48	.63
7/32"	6"	7122A68	1.25
7/32"	12"	7122A93	3.61
1/4"	3 9/16"	7122A24	.50
1/4"	5 9/16"	7122A49	.87
1/4"	6"	7122A69	1.36
1/4"	12"	7122A94	3.95
5/16"	4 1/8"	7122A25	.83
5/16"	6 5/16"	7122A51	1.39
3/8"	4 11/16"	7122A26	1.26
3/8"	7 3/16"	7122A52	2.07
7/16"	5 1/4"	7122A27	2.95
7/16"	7 15/16"	7122A53	4.53
1/2"	5 13/16"	7122A28	3.47
1/2"	8 13/16"	7122A54	5.10
9/16"	6 3/8"	7122A29	4.89
9/16"	9 9/16"	7122A55	6.83
5/8"	6 15/16"	7122A31	6.43
5/8"	10 7/16"	7122A56	10.74
3/4"	8 1/16"	7122A32	10.34
3/4"	12 1/16"	7122A57	15.78
7/8"	9 1/8"	7122A33	19.62
7/8"	13 5/8"	7122A58	29.36
1"	10 1/4"	7122A34	28.08
1"	15 1/8"	7122A59	40.22
1 1/4"	12 1/4"	7122A35	80.45
1 1/4"	18 1/4"	7122A81	110.15
1 1/2"	14 1/2"	7122A36	$100.52
1 1/2"	21 13/16"	7122A82	175.91
1 3/4"	25"	7122A83	357.00
2"	28 7/16"	7122A84	540.60
Metric Sizes, mm			
0.7	15/16"	7289A31	.28
0.7	2 11/16"	6958A41	.39
0.9	15/16"	7289A32	.28
0.9	2 13/16"	6958A22	.39
1.3	1 11/16"	7289A33	.16
1.3	2 7/8"	6958A23	.20
1.5	1 13/16"	7289A11	.16
1.5	3 1/16"	6958A21	.23
2	2 1/16"	7289A12	.19
2	3 3/8"	6958A11	.23
2.5	2 1/4"	7289A13	.19
2.5	3 5/8"	6958A12	.33
3	2 9/16"	7289A14	.20
3	4 1/16"	6958A13	.33
3.5	2 13/16"	7289A51	.23
3.5	4 1/8"	6958A51	.39
4	2 15/16"	7289A15	.23
4	4 1/2"	6958A14	.39
4.5	3 1/8"	7289A52	.39
4.5	4 11/16"	6958A52	.60
5	3 3/8"	7289A16	.39
5	5"	6958A15	.60
5.5	3 9/16"	7289A53	.58
5.5	5 3/16"	6958A53	1.00
6	3 3/4"	7289A17	.58
6	5 3/4"	6958A16	1.01
7	4 1/16"	7289A34	1.01
7	5 13/16"	6958A33	1.76
8	4 5/16"	7289A18	1.01
8	6 3/8"	6958A17	1.76
9	4 3/8"	7289A35	1.76
9	6 5/8"	6958A34	2.77
10	4 3/4"	7289A19	1.76
10	7 3/16"	6958A18	2.77
11	4 15/16"	7289A54	4.47
11	8 3/8"	6958A54	6.18
12	5 5/16"	7289A21	4.47
12	9 1/4"	6958A19	6.18
13	5 11/16"	7289A55	6.16
13	10"	6958A55	8.44
14	6"	7289A22	6.16
14	10 13/16"	6958A2	8.40
17	6 13/16"	7289A23	6.83
17	11 11/16"	6958A31	12.00
19	7 11/16"	7289A24	11.61
19	12 3/8"	6958A32	16.87
22	8 3/8"	7289A25	19.32
22	13 11/16"	6958A35	21.14
24	9 7/16"	7289A26	24.17
24	15 5/16"	6958A36	26.11
27	10 9/16"	7289A27	48.35
27	17 7/16"	6958A37	62.73
32	13 1/8"	7289A28	58.00
32	18 5/16"	6958A38	102.00
36	14 3/4"	7289A29	72.47
36	21 3/4"	6958A39	138.55

High-Visibility Blue Hex—Keys have a blue coating

Size	O'all Lg.		
1.5 mm	1 13/16"	5984A21	$0.57
1.5 mm	3 3/16"	5984A41	.62
2 mm	2"	5984A22	.57
2 mm	3 3/8"	5984A42	.70
2.5 mm	2 1/4"	5984A23	.64
2.5 mm	3 11/16"	5984A43	.72
3 mm	2 9/16"	5984A24	.72
3 mm	4 1/16"	5984A44	1.06
4 mm	2 7/8"	5984A25	.91
4 mm	4 11/16"	5984A45	1.23
5 mm	3 1/4"	5984A26	1.19
5 mm	5 1/8"	5984A46	1.64
6 mm	3 11/16"	5984A27	$1.98
6 mm	5 7/8"	5984A47	2.36
8 mm	4 1/8"	5984A28	2.62
8 mm	6 9/16"	5984A48	3.98
10 mm	4 5/8"	5984A29	5.15
10 mm	7 1/2"	5984A49	6.62
12 mm	5 3/16"	5984A31	9.38
12 mm	9 1/2"	5984A51	12.31
14 mm	5 13/16"	5984A32	13.69
14 mm	11 3/16"	5984A52	18.04
17 mm	6 11/16"	5984A33	18.26
17 mm	12 3/16"	5984A53	28.98

High-Visibility Blue Hex (Cont.)

Size	O'all Lg.		
19 mm	7 7/16"	5984A34	$30.41
19 mm	12 7/8"	5984A54	40.90
22 mm	8 3/8"	5984A35	84.98
22 mm	14 7/16"	5984A55	$83.28
27 mm	10 3/8"	5984A36	109.25

Tamper-Resistant Hex

Size	O'all Lg.		
3/32"	2 3/8"	7390A19★	$3.26
1/8"	2 3/8"	7390A21★	3.57
5/32"	2 7/16"	7390A27★	3.57
3/16"	2 11/16"	7390A32★	3.95
7/32"	3 1/4"	7390A33★	$4.17
1/4"	5 1/2"	7390A54	6.76
5/16"	5 9/16"	7390A55	7.44
3/8"	5 11/16"	7390A56	8.38

★Unfinished steel.

Torx

Size	O'all Lg.		
T3	2 1/8"	6959A81★	$3.09
T4	2 1/8"	6959A82★	3.09
T5	1 11/16"	6959A89	3.41
T5	3"	6959A87	3.70
T6	1 1/4"	6959A11	3.22
T6	3 1/16"	6959A72	4.19
T7	1 1/2"	6959A12	2.85
T7	3 3/16"	6959A73	3.70
T8	1 3/4"	6959A14	2.85
T8	3 1/4"	6959A74	3.70
T9	1 13/16"	6959A16	2.85
T9	3 3/8"	6959A75	3.70
T10	2 1/16"	6959A18	1.63
T10	3 5/16"	6959A41	1.59
T15	2 1/2"	6959A21	1.63
T15	3 1/2"	6959A42	1.70
T20	2 3/4"	6959A23	1.78
T20	3 3/4"	6959A43	$1.81
T25	3"	6959A25	1.85
T25	4"	6959A44	2.15
T27	3 5/16"	6959A27	1.93
T27	4 3/8"	6959A45	2.15
T30	3 3/4"	6959A29	2.04
T30	4 3/4"	6959A46	2.41
T40	4 3/16"	6959A32	2.30
T40	5 3/16"	6959A76	2.60
T45	3 9/16"	6959A34	2.85
T45	5 9/16"	6959A77	3.42
T50	4 3/16"	6959A36	3.22
T50	6 5/16"	6959A78	3.75
T55	4 3/16"	6959A38	5.48
T55	7 3/16"	6959A79	5.74
T60	5 1/4"	6959A86	5.63
T60	8"	6959A88	6.81

★Unfinished steel.

Tamper-Resistant Torx

Size	O'all Lg.		
T7	1 3/4"	55525A22	$3.13
T8	1 15/16"	55525A23	3.13
T9	2 1/16"	55525A24	3.13
T10	2 1/4"	55525A25	3.13
T15	2 1/4"	55525A26	3.13
T20	2 1/2"	55525A27	3.13
T25	2 11/16"	55525A28	3.13
T27	2 7/8"	55525A29	$3.56
T30	3 3/8"	55525A31	4.30
T40	3 7/16"	55525A32	5.24
T45	3 9/16"	55525A33	7.66
T50	4 1/8"	55525A34	8.62
T55	5 3/16"	55525A35	12.46

Torx Plus

Size	O'all Lg.		
IP6	1 5/8"	3726A11	$2.92
IP6	2 3/4"	3726A23	3.30
IP7	1 3/4"	3726A12	2.92
IP7	2 15/16"	3726A24	3.30
IP8	1 7/8"	3726A13	2.92
IP8	3 1/16"	3726A25	3.30
IP9	2 1/16"	3726A14	2.92
IP9	3 1/4"	3726A26	3.30
IP10	2 3/16"	3726A15	2.92
IP10	3 1/2"	3726A27	3.30
IP15	2 5/16"	3726A16	2.92
IP15	3 3/4"	3726A28	$3.30
IP20	2 1/2"	3726A17	2.92
IP20	3 15/16"	3726A29	3.30
IP25	2 11/16"	3726A18	2.92
IP25	4 3/16"	3726A31	3.30
IP27	2 7/8"	3726A19	2.92
IP27	4 1/2"	3726A32	3.30
IP30	3 1/8"	3726A21	3.98
IP30	4 13/16"	3726A33	4.22
IP40	3 1/2"	3726A22	5.64
IP40	5 3/16"	3726A34	6.16

Four-Flute Spline

Size	O'all Lg.		
0.033"	1 5/16"	7048A11	$1.51
0.048"	1 5/16"	7048A12	3.52
0.048"	3 1/8"	7048A61	4.71
0.069"	1 7/8"	7048A15	3.44
0.069"	3 1/4"	7048A62	$4.68
0.076"	1 7/8"	7048A16	3.48
0.076"	3 1/4"	7048A63	4.68

Six-Flute Spline

Size	O'all Lg.		
0.048"	1 5/16"	7048A13	$3.52
0.048"	3 1/8"	7048A64	4.71
0.060"	1 11/16"	7048A14	3.51
0.060"	3 3/16"	7048A65	4.80
0.072"	1 7/8"	7048A17	3.51
0.072"	3 1/4"	7048A66	4.80
0.096"	2"	7048A18	3.48
0.096"	3 1/4"	7048A31	5.00
0.111"	2 1/8"	7048A19	3.48
0.111"	3 7/16"	7048A32	5.17
0.133"	2 5/16"	7048A21	$3.81
0.133"	3 3/4"	7048A33	6.50
0.145"	2 7/16"	7048A22	3.81
0.145"	3 15/16"	7048A34	6.92
0.168"	2 9/16"	7048A23	4.69
0.168"	4 1/8"	7048A35	6.92
0.183"	2 11/16"	7048A24	4.88
0.183"	4 5/16"	7048A36	6.92
0.216"	2 7/8"	7048A25	5.44
0.216"	4 11/16"	7048A37	7.21

L-Key Sets


Plastic Caddy


Plastic Ring


Vinyl Pouch

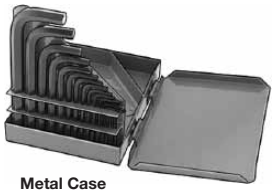
Metal Case


Vinyl Roll-Up Pouch



Hex


Tamper-Resistant Hex


Torx


Tamper-Resistant Torx


Torx Plus


Four-Flute Spline


Six-Flute Spline

A variety of sets allows you to choose the L-key sizes you need in the container you prefer. Keys are steel with a black finish, unless otherwise noted.

Corrosion-resistant sets resist salt-spray exposure. Keys are ultra-coated steel with a silver finish.

High-visibility blue sets have a blue coating to make the L-keys easy to identify.

Torx Plus are not compatible with standard Torx screws.

No. of Pieces	Sizes	Container		
Hex L-Key Sets				
10	1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″	Plastic Caddy	7158A6	$4.92
13	0.050″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″, 5/16″, 3/8″	Plastic Caddy	7158A26	7.60
13	0.050″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″, 5/16″, 3/8″	Plastic Ring	7279A14	14.10
15	0.028″, 0.035″, 0.050″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″, 5/16″, 3/8″	Vinyl Pouch	7158A4	7.08
15	0.028″, 0.035″, 0.050″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″, 5/16″, 3/8″	Metal Case	7125A11	28.39
18	0.028″, 0.035″, 0.050″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″, 5/16″, 3/8″, 1/2″, 9/16″, 5/8″	Metal Case	7125A14	39.65
20	0.028″, 0.035″, 0.050″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″, 5/16″, 3/8″, 7/16″, 1/2″, 9/16″, 5/8″, 3/4″	Vinyl Roll-Up Pouch	7156A11	57.89
270	50 each of sizes 5/64″, 3/32″, 1/8″; 25 each of sizes 5/32″, 3/16″, 7/32″, and 1/4″; 10 each of sizes 5/16″ and 3/8″	Metal Case	7155A11	121.02
Hex Long-Arm L-Key Sets				
7	5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″	Plastic Caddy	5812A44	3.91
13	0.050″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″, 5/16″, 3/8″	Plastic Caddy	5812A13	10.13
13	0.050″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″, 5/16″, 3/8″	Plastic Ring	7279A28	18.55
13	1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″, 5/16″, 3/8″, 1/2″	Metal Case	7395A42	27.56
15	5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″, 5/16″, 3/8″, 1/2″, 9/16″, 5/8″, 3/4″	Vinyl Roll-Up Pouch	7158A2	52.61
Hex Metric L-Key Sets				
9	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 mm	Plastic Caddy	5511A41	8.35
11	1.5, 2, 2.5, 3, 4, 5, 6, 7, 8, 9, 10 mm	Plastic Ring	37355A19	15.04
12	0.7, 0.9, 1.3, 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 mm	Vinyl Pouch	6956A13	8.15
12	0.7, 0.9, 1.3, 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 mm	Metal Case	5388A31	26.43
15	0.7, 0.9, 1.3, 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10, 12, 14, 17 mm	Metal Case	5388A34	44.41
Hex Metric Long-Arm L-Key Sets				
7	1.5, 2, 2.5, 3, 4, 5, 6 mm	Plastic Caddy	6956A42	5.91
9	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 mm	Plastic Caddy	69485A21	10.46
10	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10, 12 mm	Metal Case	8351A34	34.41
11	1.5, 2, 2.5, 3, 4, 5, 6, 7, 8, 9, 10 mm	Plastic Ring	37355A21	20.68
15	0.9, 1.3, 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10, 12, 14, 17, 19 mm	Vinyl Roll-Up Pouch	6956A24	67.69
Hex Corrosion-Resistant Ultra-Coated L-Key Sets				
10	1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″	Plastic Caddy	4891A28	9.34
13	0.050″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″, 5/16″, 3/8″	Plastic Caddy	4891A25	17.46
Hex Corrosion-Resistant Ultra-Coated Long-Arm L-Key Sets				
10	1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″	Plastic Caddy	4891A18	14.28
13	0.050″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″, 5/16″, 3/8″	Plastic Caddy	4891A15	23.34
Hex Metric High-Visibility Blue L-Key Sets				
9	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 mm	Plastic Caddy	5789A19	19.50
12	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10, 12, 14, 17 mm	Vinyl Pouch	5789A18	54.42
15	0.9, 1.3, 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10, 12, 14, 17, 19 mm	Canvas Roll-Up Pouch	5789A24	177.32
Hex Metric High-Visibility Blue Long-Arm L-Key Sets				
9	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 mm	Plastic Caddy	5789A15	24.65
12	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10, 12, 14, 17 mm	Vinyl Pouch	5789A16	71.47
Tamper-Resistant Hex L-Key Set				
4	1/8″, 5/32″, 3/16″, 7/32″	Vinyl Pouch	7390A45	15.62
Torx L-Key Sets				
7	T10, T15, T20, T25, T27, T30, T40	Plastic Caddy	6959A54	11.91
14	T6, T7, T8, T9, T10, T15, T20, T25, T27, T30, T40, T45, T50, T55	Vinyl Pouch	6959A62	35.91
14	T6, T7, T8, T9, T10, T15, T20, T25, T27, T30, T40, T45, T50, T55	Metal Case	6959A84	44.24
Torx Long-Arm L-Key Sets				
7	T10, T15, T20, T25, T27, T30, T40	Plastic Caddy	6959A58	15.22
14	T6, T7, T8, T9, T10, T15, T20, T25, T27, T30, T40, T45, T50, T55	Vinyl Pouch	6959A63	40.82
14	T6, T7, T8, T9, T10, T15, T20, T25, T27, T30, T40, T45, T50, T55	Metal Case	6959A85	45.73
Tamper-Resistant Torx L-Key Set				
6	T10, T15, T20, T25, T27, T30	Vinyl Pouch	55525A41	19.35
Torx Plus L-Key Set				
9	IP8, IP9, IP10, IP15, IP20, IP25, IP27, IP30, IP40	Plastic Caddy	3726A36	36.96
Four-Flute and Six-Flute Spline L-Key Sets				
9	0.033″, 0.048″, 0.069″, 0.076″ (4-Flute); 0.048″, 0.060″, 0.072″, 0.096″, 0.111″ (6-Flute)	Vinyl Pouch	7048A54	17.26
10	0.069″, 0.076″ (4-Flute); 0.060″, 0.072″, 0.096″, 0.111″, 0.133″, 0.145″, 0.168″, 0.183″ (6-Flute)	Plastic Pouch	7048A55	38.00
Six-Flute Spline L-Key Set				
7	0.096″, 0.111″, 0.133″, 0.145″, 0.168″, 0.183″, 0.216″	Plastic Pouch	7048A56	38.00

High-Visibility Gold L-Keys



The gold plating is easy to see and corrosion resistant. Made of steel.

Size	O'all Lg.		
Hex Sizes			
0.028"	2 11/16"	6493A61	$0.77
0.035"	2 13/16"	6493A62	.77
0.050"	2 7/8"	6493A63	.46
1/16"	3 1/16"	6493A64	.49
5/64"	3 3/8"	6493A65	.49
3/32"	3 9/16"	6493A66	.61
7/64"	3 3/4"	6493A67	.61
1/8"	3 15/16"	6493A68	.61
9/64"	4 3/16"	6493A69	.73
5/32"	4 7/16"	6493A71	.73
3/16"	4 11/16"	6493A72	1.05
7/32"	5 3/16"	6493A73	1.69
1/4"	5 9/16"	6493A74	1.69

Size	O'all Lg.		
Hex Sizes (Cont.)			
5/16"	6 5/16"	6493A75	$2.81
3/8"	7 3/16"	6493A76	4.38
Metric Hex Sizes, mm			
1.5	3 1/16"	6493A77	.49
2	3 3/8"	6493A78	.49
2.5	3 5/8"	6493A79	.61
3	4 1/16"	6493A81	.61
4	4 1/2"	6493A82	.73
5	5"	6493A83	1.05
6	5 3/4"	6493A84	1.58
8	6 3/8"	6493A85	2.64
10	7 3/16"	6493A86	4.09

13-Piece Inch Hex Set—Includes sizes 0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", and 3/8". Packed in a plastic caddy.

6493A91 ..... $13.73

9-Piece Metric Hex Set—Includes sizes 1.5, 2, 2.5, 3, 4, 5, 6, 8, and 10 mm. Packed in a plastic caddy.

6493A92 ..... $13.01

8-Piece Torx Set—Includes sizes T6, T7, T8, T9, T10, T15, T20, and T25. Packed in a plastic caddy.

6370A1 ..... $18.71

8-Piece Torx Set—Includes sizes T9, T10, T15, T20, T25, T27, T30, and T40. Packed in a plastic caddy.

6370A2 ..... $19.04

High-Visibility Nickel-Plated Hex L-Keys



These keys are nickel plated for a bright finish and corrosion resistance. Made of steel.

Size	O'all Lg.		
Inch Sizes			
1/16"	1 13/16"	53425A29	$0.45
5/64"	2"	53425A31	.48
3/32"	2 1/16"	53425A32	.53
1/8"	2 5/16"	53425A33	.82
5/32"	2 11/16"	53425A34	.83
3/16"	2 3/4"	53425A35	.95
7/32"	3 1/16"	53425A36	1.07
1/4"	3 1/2"	53425A37	1.20
5/16"	3 7/8"	53425A38	2.15
3/8"	4 1/4"	53425A39	2.99
1/2"	5 3/4"	53425A41	6.06
Metric Sizes			
1.5 mm	2"	53475A31	.42
2 mm	2 1/16"	53475A32	.46
2.5 mm	2 1/4"	53475A33	.52
3 mm	2 9/16"	53475A34	.58
4 mm	2 7/8"	53475A35	.63
5 mm	3 5/16"	53475A36	.86
6 mm	3 3/4"	53475A37	1.15
7 mm	3 15/16"	53475A38	1.62
8 mm	4 3/16"	53475A39	1.92
9 mm	4 7/16"	53475A41	2.53
10 mm	4 11/16"	53475A42	2.91

8-Piece Inch Set—Includes sizes 5/64", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", and 5/16". Packed in a plastic caddy.

53425A43 ..... $8.43

9-Piece Metric Set—Includes sizes 1.5, 2, 2.5, 3, 4, 5, 6, 8, and 10 mm. Packed in a plastic caddy.

53475A45 ..... $11.12

Corrosion-Resistant Stainless Steel Hex L-Keys



These keys can be sterilized to a maximum temperature of 221° F. Made of stainless steel.

Size	O'all Lg.		
Inch Sizes			
1/8"	2 5/16"	53855A11	$5.72
5/32"	2 1/2"	53855A12	6.50
3/16"	4"	53855A13	6.70
7/32"	4 1/2"	53855A14	7.15
1/4"	4 3/4"	53855A15	7.60
5/16"	5"	53855A16	9.13
3/8"	6"	53855A17	12.58
7/16"	7 1/2"	53855A21	13.97
1/2"	8 1/2"	53855A22	26.98
9/16"	9"	53855A23	28.81
5/8"	10"	53855A24	31.07

Size	O'all Lg.		
Metric Sizes, mm			
2	2 1/4"	53855A41	$9.50
2.5	2 1/4"	53855A42	10.07
3	2 3/4"	53855A43	10.50
4	2 3/4"	53855A44	11.09
5	3"	53855A45	11.65
6	3 1/2"	53855A46	12.48
7	4 1/2"	53855A47	16.50
8	4 3/4"	53855A48	17.09
10	5 1/4"	53855A49	16.47

7-Piece Inch Set—Includes sizes 1/8", 5/32", 3/16", 7/32", 1/4", 5/16", and 3/8". Packed in a vinyl pouch.

53855A18 ..... $54.15

8-Piece Metric Set—Includes sizes 2, 2.5, 3, 4, 5, 6, 8, and 10 mm. Packed in a vinyl pouch.

53855A51 ..... $87.85

Nonmagnetic Hex L-Keys



Made of corrosion-resistant titanium, use these keys where a magnetized tool can cause damage.

Size	O'all Lg.		
Inch Sizes			
0.050"	1 15/16"	53945A21	$27.40
1/16"	2 1/16"	53945A22	27.40
5/64"	2 3/16"	53945A23	27.40
3/32"	2 3/8"	53945A24	27.40
7/64"	2 1/2"	53945A25	27.40
1/8"	2 11/16"	53945A26	27.40
9/64"	2 15/16"	53945A27	32.12
5/32"	3 3/16"	53945A28	32.12
3/16"	3 1/2"	53945A29	36.47
7/32"	3 7/8"	53945A31	40.51
1/4"	4 1/4"	53945A32	45.18
5/16"	4 13/16"	53945A33	49.51

Size	O'all Lg.		
Inch Sizes (Cont.)			
3/8"	5 5/16"	53945A34	$92.99
Metric Sizes, mm			
1.5	2"	53945A41	29.35
2	2 3/16"	53945A42	29.35
2.5	2 5/16"	53945A43	30.99
3	2 1/2"	53945A44	30.99
4	2 11/16"	53945A45	32.11
5	3"	53945A46	36.47
6	3 3/8"	53945A47	40.52
8	4 1/4"	53945A48	49.51
10	5 5/16"	53945A49	93.00

Screw-Holding Torx L-Keys

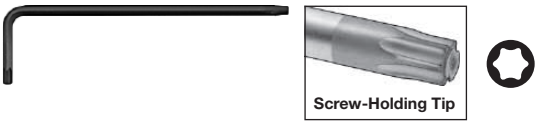

A retaining ring at the end of the key holds screws firmly in place. Made of steel with a black finish.

Size	O'all Lg.		
T6	3 1/4"	7943A11	$3.86
T7	3 9/16"	7943A12	3.88
T8	4 1/16"	7943A13	3.88
T9	4 7/16"	7943A14	3.88
T10	4 13/16"	7943A15	3.88
T15	5 7/16"	7943A16	3.88
T20	5 7/8"	7943A17	4.13
T25	6 7/16"	7943A18	4.69
T27	7"	7943A19	5.68
T30	7 9/16"	7943A21	5.92
T40	8 5/16"	7943A22	7.38

7-Piece Set—Includes sizes T6, T7, T8, T9, T10, T15, and T20. Packed in a plastic caddy.

7904A23 ..... $24.59

10-Piece Set—Includes T6, T7, T8, T9, T10, T15, T20, T25, T27, and T30 sizes.

7904A24 ..... $37.68

Tight-Clearance Flexible Hex L-Keys

Turn fasteners in hard-to-reach areas. These keys are longer than standard L-keys and have a flexible joint. Made of steel.

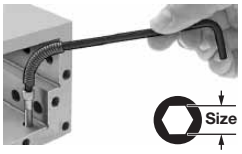

Size	O'all Lg.		
3/32"	4 3/16"	7153A21	$8.72
7/64"	4 3/16"	7153A22	8.88
1/8"	4 7/16"	7153A23	9.04
9/64"	4 11/16"	7153A24	9.20
5/32"	4 15/16"	7153A25	9.36
3/16"	5 7/16"	7153A26	9.52
7/32"	5 9/16"	7153A27	10.00

7-Piece Set—Includes one of each size L-key listed. Packed in a plastic pouch.

7153A11 ..... $62.42

Precise-Control Flag-Handle Torx Plus Keys

Use these flag-handle drivers exclusively on Torx Plus screws. The flag-handle design makes work in tight spaces easier. Keys are steel with a black finish; handles are rubber.



Size	Shaft Lg.	O'all Lg.		
IP6	2"	3 7/16"	7974A21	$2.72
IP7	2"	3 7/16"	7974A22	2.72
IP8	2"	3 7/16"	7974A23	2.72
IP9	2"	3 7/16"	7974A24	3.08
IP10	2"	3 1/2"	7974A25	3.08
IP15	2"	3 1/2"	7974A26	3.23
IP20	2"	3 1/2"	7974A27	3.59

7-Piece Set—Includes one of each size in a plastic stand.

7974A28 ..... $20.17

Ball-End L-Keys



You don't need exact alignment between the fastener and the tool—the ball end allows up to 20° angled entry to tighten and remove screws in hard-to-reach areas. Made of steel with a black finish.

Size	O'all Lg.		
Hex Sizes			
0.050"	2 7/8"	5503A13	$0.74
1/16"	3 1/16"	5503A14	.74
5/64"	3 3/8"	5503A15	.77
3/32"	3 9/16"	5503A16	.80
7/64"	3 3/4"	5503A17	.84
1/8"	3 15/16"	5503A18	.84
9/64"	4 3/16"	5503A19	.87
5/32"	4 7/16"	5503A21	.97
3/16"	4 11/16"	5503A22	1.19
7/32"	5 3/16"	5503A23	1.64
1/4"	5 7/8"	5503A24	1.74
5/16"	6 5/16"	5503A25	2.71
3/8"	7 3/16"	5503A26	4.06
7/16"	7 15/16"	5503A27	8.38
1/2"	8 13/16"	5503A28	9.27
9/16"	9 9/16"	5503A29	14.23
5/8"	10 7/16"	5503A31	15.93
3/4"	12 1/16"	5503A32	26.37
7/8"	13 11/16"	5503A33	31.11
1"	15 1/4"	5503A34	41.50
Metric Hex Sizes, mm			
1.3	2 7/8"	5503A35	.74
1.5	3 1/16"	5503A36	.77
2	3 3/8"	5503A37	.77
2.5	3 5/8"	5503A38	.80
3	4 1/16"	5503A39	.84
3.5	4 1/8"	5503A41	1.10
4	4 1/2"	5503A42	1.17
4.5	4 11/16"	5503A43	1.24
Metric Hex Sizes, mm (Cont.)			
5	5"	5503A44	$1.38
5.5	5 3/16"	5503A45	1.64
6	5 3/4"	5503A46	1.71
7	5 13/16"	5503A47	2.50
8	6 3/8"	5503A48	2.96
9	6 5/8"	5503A49	3.86
10	7 3/16"	5503A51	4.05
11	8 3/8"	5503A52	8.17
12	9 1/4"	5503A53	8.29
14	10 13/16"	5503A54	10.43
17	11 11/16"	5503A55	17.02
19	12 3/8"	5503A56	20.23
22	13 7/8"	5503A57	32.76
24	15 1/2"	5503A58	41.50
Torx Sizes			
T6	2 3/16"	54575A45	4.76
T7	2 1/2"	54575A46	4.76
T8	2 3/4"	54575A47	4.76
T9	3"	54575A31	4.76
T10	3 5/16"	54575A32	5.15
T15	3 7/16"	54575A33	5.33
T20	3 13/16"	54575A34	5.49
T25	4"	54575A35	5.90
T27	4 7/16"	54575A36	6.09
T30	4 7/8"	54575A37	6.27
T40	5 3/16"	54575A38	7.02
T45	5 3/4"	54575A39	8.36
T50	6 9/16"	54575A41	9.32
T55	7 3/16"	54575A42	12.57

Screw-Holding Ball-End Hex L-Keys



The ball end has a retaining ring to hold screws in place and allows up to 20° angled entry to tighten and remove screws in hard-to-reach areas. Made of steel with a chrome-plated finish.

Size	O'all Lg.		
Inch Sizes			
1/8"	4 13/16"	6450A51	$3.18
9/64"	5 7/16"	6450A52	3.18
5/32"	5 7/8"	6450A53	3.18
3/16"	6 7/16"	6450A54	3.18
7/32"	7"	6450A55	3.40
1/4"	7 9/16"	6450A56	3.79
5/16"	8 5/16"	6450A57	5.82
3/8"	9 3/16"	6450A58	7.45
Metric Sizes			
3 mm	5 1/16"	6450A24	3.22
4 mm	5 5/8"	6450A25	3.22
5 mm	6 1/2"	6450A26	3.44
6 mm	7 5/16"	6450A27	4.07
8 mm	8 3/16"	6450A28	5.74
10 mm	9 3/16"	6450A29	7.42

13-Piece Inch Set—Includes sizes 0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", and 3/8". Sizes 1/8" and larger have a ball end with a retaining ring. Packed in a plastic caddy.

6450A7 ..... $41.79

9-Piece Metric Set—Includes hex sizes 1.5, 2, 2.5, 3, 4, 5, 6, 8, and 10 mm. Sizes 3 mm and larger have a ball end with a retaining ring. Packed in a plastic caddy.

6450A6 ..... $33.29

L-Key Organizers

Keep your regular hex, ball end, spline, and Torx L-keys organized. Sizes are marked on holders for easy identification. All holders are plastic.

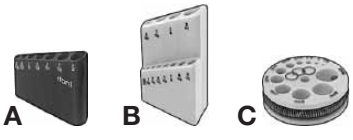

	For No. of Keys	For Drive Style	For Key Sizes		
A	6	Hex	1.5, 2, 2.5, 3, 4, 5 mm	53045A33	$0.97
A	7	Hex	5/64", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4"	53045A25	1.52
A	7	Hex	5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16"	53045A22	.97
A	7	Torx	T10, T15, T20, T25, T27, T30, T40	53045A71	1.52
B	9	Hex	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 mm	53045A31	1.21
B	12	Hex	0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16"	53045A42	1.21
B	13	Hex	0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	53045A19	1.46
C	11	Hex	1.5, 2, 2.5, 3, 4, 5, 6, 7, 8, 9, 10 mm	53045A62	4.93
C	13	Hex	0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	53045A61	5.12

Ball-End L-Key Sets



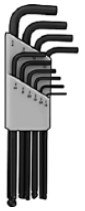
L-Key Set in Plastic Caddy


L-Key Set in Metal Case


Stubby L-Key Set in Plastic Caddy


Plastic Rack

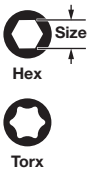

You don't need exact alignment between the fastener and the tool—the ball end allows up to 20° angled entry to tighten and remove screws in hard-to-reach areas. Keys are made of steel.

No. of Pieces	Sizes	Container		
Hex L-Key Sets				
7	5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16"	Plastic Caddy	5709A51	$6.53
8	0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32"	Plastic Caddy	5709A16	6.95
10	1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"	Plastic Caddy	5709A28	9.60
13	0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	Plastic Caddy	5709A52	15.40
13	0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	Metal Case	5709A14	36.17
15	0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8", 7/16", 1/2"	Vinyl Pouch	5709A15	38.84
Hex Stubby L-Key Sets				
10	1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"	Plastic Caddy	6112A11	11.57
13	0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	Plastic Caddy	6112A12	18.54
Hex Corrosion-Resistant Ultra-Coated L-Key Sets				
10	1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"	Plastic Caddy	5888A36	29.40
13	0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	Plastic Caddy	5888A38	48.11
Hex Metric L-Key Sets				
6	1.5, 2, 2.5, 3, 4, 5 mm	Plastic Caddy	5709A44	5.68
9	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 mm	Plastic Caddy	5709A18	12.52
13	1.3, 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10, 12, 14, 17 mm	Metal Case	5709A22	69.40
15	1.3, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 7, 8, 9, 10 mm	Plastic Caddy	5709A45	21.63
Hex Metric Stubby L-Key Sets				
7	1.5, 2, 2.5, 3, 4, 5, 6 mm	Plastic Caddy	6112A21	9.15
9	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 mm	Plastic Caddy	6112A22	15.06
Hex Metric High-Visibility Blue L-Key Sets				
9	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 mm	Plastic Caddy	5786A2	31.38
15	1.3, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 7, 8, 9, 10 mm	Plastic Caddy	5786A1	60.78
Hex Inch/Metric L-Key Set				
200	10 each: 0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 1.5 mm, 2 mm, 2.5 mm, 3 mm, 4 mm, 5 mm, 6 mm; 5 each: 5/16", 3/8", 8 mm, 10 mm	Plastic Rack	6083A7	231.93
Torx L-Key Set				
8	T9, T10, T15, T20, T25, T27, T30, T40	Plastic Caddy	54575A44	40.25

Corrosion-Resistant Ball-End Hex L-Keys







The ball end allows up to 20° angled entry to tighten and remove screws in hard-to-reach areas. These keys can be sterilized to a maximum temperature of 600° F. Made of stainless steel.

Size	O'all Lg.		
Inch Sizes			
3/32"	5 1/16"	5020A33	$5.01
7/64"	4 7/8"	5020A34	4.69
1/8"	5"	5020A35	4.53
9/64"	5 3/8"	5020A36	4.38
5/32"	5 9/16"	5020A37	4.85
3/16"	6 1/4"	5020A38	5.77
1/4"	7 1/2"	5020A41	7.73
5/16"	8"	5020A42	9.54
3/8"	9 3/8"	5020A43	14.70
Metric Sizes			
1.5 mm	3 9/16"	5020A21	5.01
2 mm	4 1/8"	5020A22	4.67
2.5 mm	4 9/16"	5020A23	4.53
3 mm	5"	5020A24	4.38
4 mm	5 11/16"	5020A25	4.85
5 mm	6 5/16"	5020A26	5.77
6 mm	7"	5020A27	7.73
8 mm	8 1/16"	5020A28	9.54
10 mm	9 7/16"	5020A29	14.70

9-Piece Inch Set—Includes one of each inch key above. Packed in a canvas pouch.
5020A53 ..... $55.21

9-Piece Metric Set—Includes one of each metric key above. Packed in a rubber caddy.
5020A52 ..... $55.21

High-Visibility Gold Ball-End Hex L-Keys







The gold plating is easy to see and corrosion resistant. The ball end allows up to 20° angled entry to tighten and remove screws in hard-to-reach areas. Made of steel.

Size	O'all Lg.		
Inch Sizes			
0.050"	2 7/8"	7813A21	$0.94
1/16"	3 1/16"	7813A22	.94
5/64"	3 3/8"	7813A23	.94
3/32"	3 9/16"	7813A24	.97
7/64"	3 3/4"	7813A25	1.11
1/8"	3 15/16"	7813A26	1.16
9/64"	4 3/16"	7813A27	1.16
5/32"	4 7/16"	7813A28	1.20
3/16"	4 11/16"	7813A29	1.38
7/32"	5 3/16"	7813A31	1.75
1/4"	5 7/8"	7813A32	2.02
5/16"	6 5/16"	7813A33	3.20
3/8"	7 3/16"	7813A34	4.51

12-Piece Inch Set—Includes sizes 0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", and 5/16". Packed in a plastic caddy.
7813A11 ..... $14.67

13-Piece Inch Set—Includes sizes 0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", and 3/8". Packed in a plastic caddy.
7813A12 ..... $18.81

Size	O'all Lg.		
Inch Sizes (Cont.)			
7/16"	7 15/16"	7813A35	$8.27
1/2"	8 13/16"	7813A36	10.32
Metric Sizes			
1.3	2 7/8"	7813A41	.94
1.5	3 1/16"	7813A42	.94
2	3 3/8"	7813A43	.94
2.5	3 5/8"	7813A44	.97
3	4 1/16"	7813A45	1.11
4	4 1/2"	7813A46	1.20
5	5"	7813A47	1.51
6	5 3/4"	7813A48	2.11
8	6 3/8"	7813A49	3.42
10	7 3/16"	7813A51	5.06

9-Piece Metric Set—Includes sizes 1.5, 2, 2.5, 3, 4, 5, 6, 8, and 10 mm. Packed in a plastic caddy.
7813A13 ..... $15.23

15-Piece Metric Set—Includes sizes 1.3, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 7, 8, 9, and 10 mm. Packed in a plastic caddy.
7813A15 ..... $26.14

High-Torque Ball-End Hex L-Keys

Also known as hex-plus keys, the short-leg end has a unique profile that provides greater contact with the fastener recess for up to 20% more torque than standard keys. The long leg has a ball end for angled entry to tighten and remove screws in hard-to-reach areas. Made of steel with a black finish.





Inch

Size	O'all Lg.			Size	O'all Lg.		
5/64"	4 1/8"	57185A43	$0.79	3/16"	6 1/2"	57185A14	$1.54
3/32"	4 9/16"	57185A11	.82	7/32"	7 5/16"	57185A15	1.58
7/64"	4 7/8"	57185A44	.83	1/4"	7 3/4"	57185A16	1.88
1/8"	5 1/8"	57185A12	.92	5/16"	8 5/16"	57185A17	2.54
9/64"	5 3/8"	57185A45	.93	3/8"	8 3/4"	57185A18	3.72
5/32"	5 11/16"	57185A13	1.31				

13-Piece Inch Set— Includes sizes 0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", and 3/8". Packed in a rubber caddy.

57185A61 ..... $24.10

Metric

Size	O'all Lg.			Size	O'all Lg.		
1.5 mm	3 9/16"	57185A34	$0.74	5 mm	6 9/16"	57185A25	$1.32
2 mm	4 1/8"	57185A21	.79	6 mm	7 5/16"	57185A26	1.55
2.5 mm	4 9/16"	57185A22	.85	8 mm	8 3/8"	57185A28	2.54
3 mm	5 1/8"	57185A23	.89	10 mm	9 1/8"	57185A31	4.36
4 mm	5 11/16"	57185A24	1.11				

9-Piece Metric Set— Includes one of each metric L-key above. Packed in a rubber caddy.

57185A33 ..... $13.13

High-Torque T-Handle Hex Keys





Also known as hex-plus keys, the tip has a unique profile that provides greater contact with the fastener recess for up to 20% more torque than standard keys. Keys are steel; handles are plastic.

Inch Sizes— Black Finish

Size	O'all Lg.			Size	O'all Lg.		
3/32"	5"	6625A41	$4.40	3/16"	7 11/16"	6625A46	$5.74
7/64"	5"	6625A42	4.92	7/32"	7 11/16"	6625A47	6.18
1/8"	5 1/4"	6625A43	4.80	1/4"	9 5/8"	6625A48	7.82
9/64"	7 1/4"	6625A44	5.12	5/16"	9 5/8"	6625A49	9.90
5/32"	7 1/4"	6625A45	5.32	3/8"	9 5/8"	6625A51	11.34

Metric Sizes— Nickel-Plated Finish

Size	O'all Lg.			Size	O'all Lg.		
2 mm	5"	6625A61	$4.52	6 mm	9 5/8"	6625A66	$7.13
2.5 mm	5"	6625A62	4.04	7 mm	9 5/8"	6625A67	8.57
3 mm	5 1/4"	6625A63	4.81	8 mm	9 5/8"	6625A68	10.40
4 mm	7 1/4"	6625A64	5.29	10 mm	9 5/8"	6625A69	11.90
5 mm	7 11/16"	6625A65	6.51				

Two-Tip T-Handle Torx Keys

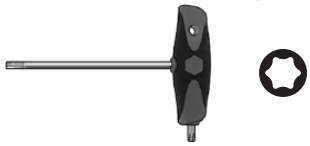

Use the long shaft to access hard-to-reach fasteners and the short shaft when you need more torque. Shafts are chrome-plated steel; handles are plastic.

Size	O'all Lg.	Length: Short Shaft	Length: Long Shaft		
T10	4 15/16"	1/2"	4"	6186A61	$6.13
T15	4 15/16"	1/2"	4"	6186A62	6.85
T20	5 1/8"	11/16"	4"	6186A63	7.57
T25	7 1/8"	5/8"	6"	6186A64	7.79
T27	7 1/8"	5/8"	6"	6186A65	8.91
T30	7 1/8"	5/8"	6"	6186A66	8.99
T40	7 1/8"	5/8"	6"	6186A67	9.62

7-Piece Set— Includes one of each key above.

6186A72 ..... $56.43

Deep-Reach T-Handle Hex Keys with Replaceable Tips

A set screw locks the tip firmly in place. Shafts are zinc-plated steel; handles are plastic.

To change tips, use a hex L-key (not included) to loosen the set screw; refer to the hex key size below for the correct hex key size. Replacement tips listed are compatible with any length key listed on the same line.

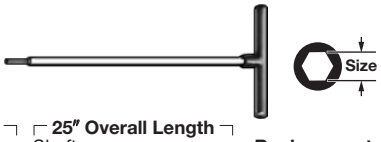

Size	Hex Key Size for Set Screw	7" Overall Length: Shaft Lg.			13" Overall Length: Shaft Lg.			19" Overall Length: Shaft Lg.			25" Overall Length: Shaft Lg.			Replacement Tips	
Inch Sizes															
5/64"	0.050"	5 1/2"	7300A8	$15.51	11 1/2"	7300A28	$19.59	17 1/2"	7300A88	$23.53	23 1/2"	7300A6	$30.32	7300A4	$1.72
3/32"	0.050"	5 1/2"	7300A9	16.84	11 1/2"	7300A29	20.63	17 1/2"	7300A89	24.58	23 1/2"	7300A7	27.99	7300A5	1.72
7/64"	0.050"	5 1/2"	7300A11	16.03	11 1/2"	7300A31	17.89	17 1/2"	7300A51	23.79	23 1/2"	7300A21	29.15	7300A41	1.77
1/8"	0.050"	5 1/2"	7300A12	16.85	11 1/2"	7300A32	18.66	17 1/2"	7300A52	25.10	23 1/2"	7300A22	30.46	7300A42	1.77
9/64"	0.050"	5 1/2"	7300A13	17.61	11 1/2"	7300A33	19.59	17 1/2"	7300A53	25.75	23 1/2"	7300A23	31.63	7300A43	1.77
5/32"	0.050"	5 1/2"	7300A14	18.66	11 1/2"	7300A34	20.63	17 1/2"	7300A54	26.68	23 1/2"	7300A24	32.54	7300A44	1.77
3/16"	0.050"	5 1/2"	7300A15	19.59	11 1/2"	7300A35	21.55	17 1/2"	7300A55	27.86	23 1/2"	7300A61	37.20	7300A45	1.77
7/32"	0.050"	5 1/2"	7300A16	20.63	11 1/2"	7300A36	22.87	17 1/2"	7300A56	28.77	23 1/2"	7300A25	43.09	7300A46	1.77
1/4"	0.050"	5 1/2"	7300A17	21.55	11 1/2"	7300A37	23.79	17 1/2"	7300A57	29.82	23 1/2"	7300A62	41.51	7300A47	2.52
5/16"	1/16"	5 1/2"	7300A18	22.74	11 1/2"	7300A38	25.10	17 1/2"	7300A58	31.02	23 1/2"	7300A63	42.69	7300A48	2.84
3/8"	1/16"	5 1/2"	7300A19	23.65	11 1/2"	7300A39	26.16	17 1/2"	7300A59	32.34	23 1/2"	7300A64	43.99	7300A49	1.77
Metric Sizes															
2 mm	0.050"	5 1/2"	7167A21	16.84	11 1/2"	7167A41	18.66	17 1/2"	7167A61	24.58	23 1/2"	7167A11	33.19	7167A51	1.88
2.5 mm	0.050"	5 1/2"	7167A22	17.61	11 1/2"	7167A42	19.59	17 1/2"	7167A62	25.75	23 1/2"	7167A12	34.49	7167A52	1.88
3 mm	0.050"	5 1/2"	7167A23	18.54	11 1/2"	7167A43	20.50	17 1/2"	7167A63	26.56	23 1/2"	7167A13	35.79	7167A53	1.88
4 mm	0.050"	5 1/2"	7167A24	19.59	11 1/2"	7167A44	21.55	17 1/2"	7167A64	27.60	23 1/2"	7167A14	37.09	7167A54	1.88
5 mm	0.050"	5 1/2"	7167A25	20.63	11 1/2"	7167A45	22.87	17 1/2"	7167A65	28.77	23 1/2"	7167A15	38.52	7167A55	1.88
6 mm	0.050"	5 1/2"	7167A26	21.68	11 1/2"	7167A46	24.04	17 1/2"	7167A66	30.09	23 1/2"	7167A16	39.82	7167A56	1.88
7 mm	0.050"	5 1/2"	7167A29	22.07	11 1/2"	7167A35	24.70	17 1/2"	7167A37	33.90	23 1/2"	7167A84	42.09	7167A39	2.53
8 mm	1/16"	5 1/2"	7167A27	23.00	11 1/2"	7167A47	26.16	17 1/2"	7167A67	32.33	23 1/2"	7167A17	43.97	7167A57	2.09
9 mm	1/16"	5 1/2"	7167A34	23.65	11 1/2"	7167A36	26.95	17 1/2"	7167A38	33.12	23 1/2"	7167A85	46.91	7167A59	2.27
10 mm	1/16"	5 1/2"	7167A28	26.95	11 1/2"	7167A48	30.61	17 1/2"	7167A68	36.76	23 1/2"	7167A18	52.43	7167A58	2.09

7-Piece Inch Sets— Include sizes 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", and 1/4", plus a 0.050" hex L-key to loosen the set screw. Packed in a metal stand.

7" Overall Length ..... 7300A69 ..... $131.88
13" Overall Length ..... 7300A71 ..... 140.64

7-Piece Metric Bit Sets— Includes one each of sizes 2, 2.5, 3, 4, 5, 6, and 8 mm, plus 0.050" and 1/16" hex L-keys to loosen the set screw. Packed in a metal stand.

7" Overall Length ..... 7167A69 ..... $135.91
13" Overall Length ..... 7167A71 ..... 146.92

Electrical-Insulating T-Handle Hex Keys

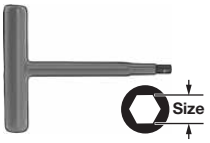

These keys have an insulated plastic handle and a plastic-coated steel shaft to protect against accidental contact with live electrical circuits. They are tested to 1,000 volts to meet ASTM F1505-01 and IEC 60900.

Size	Overall Length	Shaft Length		
1/8"	6 1/2"	6"	7434A31	$27.02
5/32"	6 1/2"	6"	7434A32	29.35
3/16"	6 3/4"	6"	7434A33	29.35
7/32"	6 3/4"	6"	7434A34	31.41
1/4"	6 3/4"	6"	7434A35	31.41
5/16"	6 3/4"	6"	7434A36	$34.24
3/8"	6 3/4"	6"	7434A37	37.06
7/16"	6 3/4"	6"	7434A38	41.43
1/2"	6 3/4"	6"	7434A39	45.04

T-Handle Keys

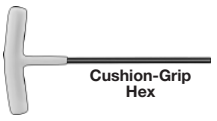





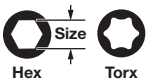

Keys are steel with a plastic handle. They have a black finish, except cushion-grip torx sizes are chrome plated.

Ultra Grip—Have a textured grip that provides comfort and extra torque.

Standard and Long Length

Size	Standard Length O'all Lg.	Standard Length Shaft Lg.			Long Length O'all Lg.	Long Length Shaft Lg.		
Cushion-Grip Hex Keys								
3/32"	6"	4"	5374A11	$3.70	9"	7"	5374A51	$5.60
7/64"	6"	4"	5374A12	3.78	9"	7"	5374A52	5.97
1/8"	6"	4"	5374A13	4.19	9"	7"	5374A53	6.33
9/64"	6"	4"	5374A14	4.47	9"	7"	5374A54	6.51
5/32"	6"	4"	5374A15	4.70	9"	7"	5374A55	6.71
3/16"	6"	4"	5374A16	5.20	9"	7"	5374A56	6.84
7/32"	6"	4"	5374A17	5.33	9"	7"	5374A57	8.07
1/4"	6"	4"	5374A18	6.06	9"	7"	5374A58	8.26
5/16"	6"	4"	5374A19	8.30	9"	7"	5374A59	10.18
3/8"	6"	4"	5374A21	9.24	9"	7"	5374A61	11.24
Cushion-Grip Metric Hex Keys								
2 mm	6"	4"	6954A19	3.78	9"	7"	6954A31	6.33
2.5 mm	6"	4"	6954A21	3.78	9"	7"	6954A32	6.33
3 mm	6"	4"	6954A22	4.13	9"	7"	6954A33	6.71
4 mm	6"	4"	6954A23	4.70	9"	7"	6954A34	6.84
5 mm	6"	4"	6954A24	5.14	9"	7"	6954A35	7.86
6 mm	6"	4"	6954A25	6.55	9"	7"	6954A36	8.55
8 mm	6"	4"	6954A26	10.31	9"	7"	6954A37	12.27
10 mm	6"	4"	6954A27	11.45	9"	7"	6954A38	13.44
Cushion-Grip Torx Keys								
T9	4 15/16"	3 15/16"	6963A19	5.17	—	—	—	—
T10	4 15/16"	3 15/16"	6963A21	5.48	—	—	—	—
T15	—	—	—	—	8 7/8"	7 7/8"	6963A22	6.39
T20	—	—	—	—	9 1/8"	7 7/8"	6963A23	7.19
T25	—	—	—	—	9 3/16"	7 7/8"	6963A31	7.42
T27	—	—	—	—	9 1/8"	7 7/8"	6963A32	8.63
T30	—	—	—	—	9 3/16"	7 7/8"	6963A24	8.48
Cushion-Grip Torx Keys (Cont.)								
T40	—	—	—	—	9 1/8"	7 7/8"	6963A25	$9.35
T45	—	—	—	—	7 7/16"	5 15/16"	6963A26	10.89
T50	—	—	—	—	11 3/8"	9 7/8"	6963A33	13.44
Ultra-Grip Hex Keys								
3/32"	6 5/8"	6"	4973A11	$2.51	9 5/8"	9"	4973A31	2.78
5/64"	6 5/8"	6"	4973A51	2.47	9 5/8"	9"	4973A81	2.72
7/64"	6 5/8"	6"	4973A12	2.60	9 5/8"	9"	4973A32	2.84
1/8"	6 5/8"	6"	4973A13	2.82	9 5/8"	9"	4973A33	3.13
9/64"	6 5/8"	6"	4973A14	3.06	9 5/8"	9"	4973A34	3.15
5/32"	6 5/8"	6"	4973A15	3.18	9 5/8"	9"	4973A35	3.37
3/16"	6 13/16"	6"	4973A16	3.52	9 13/16"	9"	4973A36	3.68
7/32"	6 13/16"	6"	4973A17	3.65	9 13/16"	9"	4973A37	4.12
1/4"	6 13/16"	6"	4973A18	4.98	9 13/16"	9"	4973A38	5.19
5/16"	7"	6"	4973A19	6.95	10"	9"	4973A39	7.01
3/8"	7"	6"	4973A21	7.41	10"	9"	4973A41	7.64
Ultra-Grip Metric Hex Keys								
2 mm	6 5/8"	6"	4973A22	2.44	9 5/8"	9"	4973A42	2.69
2.5 mm	6 5/8"	6"	4973A23	2.51	9 5/8"	9"	4973A43	2.87
3 mm	6 5/8"	6"	4973A24	2.77	9 5/8"	9"	4973A44	3.07
4 mm	6 5/8"	6"	4973A25	3.62	9 5/8"	9"	4973A45	3.61
5 mm	6 13/16"	6"	4973A26	3.69	9 13/16"	9"	4973A46	4.05
6 mm	6 13/16"	6"	4973A27	4.71	9 13/16"	9"	4973A47	5.19
7 mm	7"	6"	4973A53	7.35	10"	9"	4973A83	8.24
8 mm	7"	6"	4973A28	7.44	10"	9"	4973A48	8.39
9 mm	7"	6"	4973A54	8.16	10"	9"	4973A84	8.69
10 mm	7"	6"	4973A29	8.29	10"	9"	4973A49	8.85

8-Piece Cushion-Grip Hex Sets—Include sizes 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", and 1/4". Packed in a vinyl pouch.

Standard Length	5422A43	$24.08
Long Length	5422A45	34.89

10-Piece Cushion-Grip Hex Sets—Include sizes 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", and 3/8". Packed in a plastic stand.

Standard Length	5422A13	$46.87
Long Length	5422A15	64.94

6-Piece Cushion-Grip Metric Hex Set— Includes sizes 2, 2.5, 3, 4, 5, and 6 mm. Packed in a vinyl pouch.

Standard Length	6954A43	$23.64

7-Piece Cushion-Grip Torx Sets—Include sizes T10, T15, T20, T25, and T30. 6963A58 also includes sizes T9 and T27. 6963A71 also includes T40 and T50, and is packed in a metal stand.

6963A58	$49.02
6963A71	70.86

9-Piece Ultra-Grip Hex Sets—Include sizes 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", and 1/4". Packed in a vinyl pouch.

Standard Length	4973A63	$27.36
Long Length	4973A64	31.15

11-Piece Ultra-Grip Hex Sets—Include sizes 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", and 3/8". Packed in a vinyl pouch.

Standard Length	4973A61	$42.42
Long Length	4973A65	47.16

6-Piece Ultra-Grip Metric Hex Sets—Include sizes 2, 2.5, 3, 4, 5, and 6 mm. Packed in a vinyl pouch.

Standard Length	4973A73	$19.78
Long Length	4973A74	24.50

8-Piece Ultra-Grip Metric Hex Sets—Include sizes 2, 2.5, 3, 4, 5, 6, 8, and 10 mm. Packed in a vinyl pouch.

Standard Length	4973A71	$32.98
Long Length	4973A72	37.70

Stubby

Size	O'all Lg.	Shaft Lg.		
Hex Keys				
3/32"	4 1/8"	2"	7041A51	$3.30
7/64"	4 1/8"	2"	7041A52	3.37
1/8"	4 1/8"	2"	7041A53	3.74
9/64"	4 1/8"	2"	7041A54	3.98
5/32"	4 1/8"	2"	7041A55	4.18
3/16"	4 1/8"	2"	7041A56	4.62
7/32"	4 1/8"	2"	7041A57	4.75
1/4"	4 1/8"	2"	7041A58	5.40
5/16"	4 1/8"	2"	7041A59	8.76
3/8"	4 1/8"	2"	7041A61	9.75

10-Piece Stubby Hex Set—Includes sizes 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", and 3/8". Packed in a plastic stand.

7041A91	$44.68

Size	O'all Lg.	Shaft Lg.		
Metric Hex Keys				
2 mm	4 1/8"	2"	7041A81	$3.37
2.5 mm	4 1/8"	2"	7041A82	3.37
3 mm	4 1/8"	2"	7041A83	3.68
4 mm	4 1/8"	2"	7041A84	4.18
5 mm	4 1/8"	2"	7041A85	4.57
6 mm	4 1/8"	2"	7041A86	5.83

6-Piece Stubby Metric Hex Set—Includes sizes 2, 2.5, 3, 4, 5, and 6 mm. Packed in a vinyl pouch.

7041A93	$20.60

Looped T-Handle Hex Keys

Keys are steel with a black finish. **Plain grip** keys have a steel handle; **cushion grip** keys have a plastic handle.

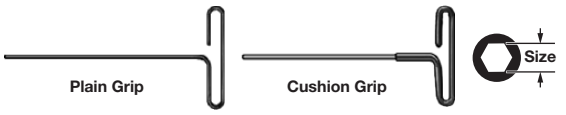

Size	Plain Grip 6″ Shaft		Plain Grip 9″ Shaft		Cushion Grip 4 13/16″ Shaft		Cushion Grip 7 13/16″ Shaft	
Inch Sizes								
5/64″	7391A49	$1.31	7391A69	$1.47	5419A29	$2.12	5419A59	$2.20
3/32″	7391A51	1.39	7391A71	1.55	5419A31	2.18	5419A61	2.30
7/64″	7391A52	1.47	7391A72	1.60	5419A32	2.20	5419A62	2.36
1/8″	7391A53	1.47	7391A73	1.60	5419A33	2.20	5419A63	2.36
9/64″	7391A54	1.60	7391A74	1.78	5419A34	2.41	5419A64	2.65
5/32″	7391A55	1.73	7391A75	1.97	5419A35	2.52	5419A65	2.75
3/16″	7391A56	2.12	7391A76	2.44	5419A36	2.94	5419A66	3.25
7/32″	7391A57	2.86	7391A77	3.28	5419A37	3.67	5419A67	4.14
1/4″	7391A58	3.22	7391A78	3.91	5419A38	4.19	5419A68	4.90
5/16″	7391A59	5.85	7391A79	6.63	5419A39	7.10	5419A69	7.94
3/8″	7391A61	7.21	7391A81	8.31	5419A41	8.94	5419A71	10.04
7/16″	—	—	—	—	5419A42	15.11	5419A72	16.91
1/2″	—	—	—	—	5419A43	20.53	5419A73	22.96
Metric Sizes								
2 mm	5334A31	1.78	5334A41	1.97	5629A61	2.52	5629A71	2.75
2.5 mm	5334A32	1.78	5334A42	1.97	5629A62	2.52	5629A72	2.75
3 mm	5334A33	1.78	5334A43	1.97	5629A63	2.52	5629A73	2.75
4 mm	5334A34	2.07	5334A44	2.31	5629A64	2.91	5629A74	3.20
5 mm	5334A35	2.75	5334A45	3.04	5629A65	3.59	5629A75	3.91
6 mm	5334A36	3.22	5334A46	3.62	5629A66	4.19	5629A76	4.64
8 mm	5334A37	5.92	5334A47	6.71	5629A67	7.26	5629A77	8.02
10 mm	5334A38	7.47	5334A48	8.60	5629A68	9.23	5629A78	10.30
11 mm	—	—	—	—	5629A69	15.39	5629A79	17.13
12 mm	—	—	—	—	5629A81	21.26	5629A91	23.65

Sets are packed in a vinyl pouch, unless noted.

Inch Sets—*8 piece sets* include hex sizes 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, and 1/4″. *10-piece sets* include all hex sizes in the 8-piece sets plus sizes 5/16″ and 3/8″.

Metric Sets—*6-piece sets* include hex sizes 2, 2.5, 3, 4, 5, and 6 mm. *8-piece sets* include all of the hex sizes in the 6-piece sets plus sizes 8 and 10 mm.

No. of Pieces	Plain Grip Shaft Lg.			Cushion Grip Shaft Lg.		
Inch Sets						
8	6″	8366A11	$14.56	4 13/16″	5419A21	$20.04
8	9″	8366A12	16.78	7 13/16″	5419A22	22.03
10	6″	7391A25★	30.24	4 13/16″	5419A23	34.49
10	9″	7391A27★	33.74	7 13/16″	5419A24	37.99
10	6″	8366A15	26.46	4 13/16″	5419A25★	38.30
10	9″	8366A16	29.99	7 13/16″	5419A26★	41.76
Metric Sets						
6	6″	5334A27	13.80	4 13/16″	5629A51	16.89
6	9″	5334A28	15.45	7 13/16″	5629A52	18.47
8	6″	5334A23	23.22	4 13/16″	5629A53	29.98
8	9″	5334A24	26.29	7 13/16″	5629A54	33.08
8	9″	5334A56★	31.61	7 13/16″	5629A58★	38.37

★ Packed in a plastic stand.

Corrosion-Resistant T-Handle Hex Keys

Keys 1/4″ (6 mm) and smaller are not suitable for high-torque applications. Keys are stainless steel with a plastic handle.

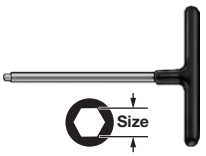

Size	6″ Overall Length Shaft Lg.			12″ Overall Length Shaft Lg.		
Inch Sizes						
7/64″	4 1/2″	83375A21	$21.31	10 1/2″	83375A41	$23.26
1/8″	4 1/2″	83375A22	22.15	10 1/2″	83375A42	24.23
9/64″	4 1/2″	83375A23	23.11	10 1/2″	83375A43	25.06
5/32″	4 1/2″	83375A24	24.23	10 1/2″	83375A44	26.32
3/16″	4 1/2″	83375A25	27.16	10 1/2″	83375A45	29.52
7/32″	4 1/2″	83375A26	28.27	10 1/2″	83375A46	30.65
1/4″	4 1/2″	83375A27	31.34	10 1/2″	83375A47	33.99
5/16″	4 1/2″	83375A28	32.73	10 1/2″	83375A48	35.37
3/8″	4 1/2″	83375A29	33.71	10 1/2″	83375A49	36.49
1/2″	4″	83375A32	38.86	10″	83375A51	48.75
9/16″	4″	83375A31	48.55	10″	83375A52	55.70
5/8″	4″	83375A33	57.12	10″	83375A53	63.83
3/4″	4″	83375A34	74.65	10″	83375A54	81.63
Metric Sizes						
2 mm	4 1/2″	83375A61	21.24	10 1/2″	83375A81	24.23
2.5 mm	4 1/2″	83375A62	23.11	10 1/2″	83375A82	25.06
3 mm	4 1/2″	83375A63	24.10	10 1/2″	83375A83	26.18
4 mm	4 1/2″	83375A64	27.16	10 1/2″	83375A84	29.52
5 mm	4 1/2″	83375A65	28.27	10 1/2″	83375A85	30.78
6 mm	4 1/2″	83375A66	31.62	10 1/2″	83375A86	34.12
8 mm	4 1/2″	83375A67	33.15	10 1/2″	83375A87	36.49
10 mm	4 1/2″	83375A68	37.05	10 1/2″	83375A88	40.74
12 mm	4 1/2″	83375A69	40.74	10″	83375A89	45.28
14 mm	4 1/2″	83375A71	46.57	10″	83375A91	52.94

Precise-Control T-Handle Torx Keys

Small enough for delicate assembly work, turn these keys with your fingertips. Keys are steel with a black finish; handle is plastic.



Size	O'all Lg.	Shaft Lg.		
T6	2 3/4″	1 7/16″	7273A51	$3.51
T7	2 3/4″	1 7/16″	7273A52	3.51
T8	2 15/16″	1 5/8″	7273A53	3.51
T9	2 15/16″	1 5/8″	7273A54	3.57
T10	2 15/16″	1 5/8″	7273A55	3.57
T15	3 1/8″	1 13/16″	7273A56	3.57
T20	3 1/8″	1 13/16″	7273A57	3.57

7-Piece Set—Includes sizes T6, T7, T8, T9, T10, T15, and T20. Packed in a metal stand.

7273A61 ..... $26.41

Corrosion-Resistant Two-Tip T-Handle Hex Keys

Use the long shaft to access hard-to-reach fasteners and the short shaft when you need more torque. Keys are stainless steel; handles are plastic.

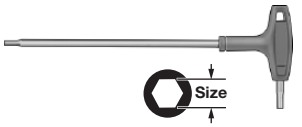

Size	O'all Lg.	Length Short Shaft	Long Shaft		
Inch Sizes					
3/32″	6″	5/8″	4 1/2″	1183N7	$22.00
7/64″	6″	5/8″	4 1/2″	1183N71	22.00
1/8″	7″	3/4″	5″	1183N72	23.21
9/64″	7″	3/4″	5″	1183N73	23.21
5/32″	8″	13/16″	5 1/2″	1183N74	24.41
3/16″	8″	7/8″	5 1/2″	1183N75	24.93
7/32″	8 11/16″	1″	6″	1183N76	26.65
1/4″	9 1/4″	1 3/16″	6 1/2″	1183N77	29.05
5/16″	10″	1 7/16″	7 1/8″	1183N78	31.96
3/8″	11 1/4″	1 7/8″	8 1/8″	1183N79	35.16
Metric Sizes					
2.5 mm	6″	5/8″	4 1/2″	1183N1	21.33
3 mm	6″	5/8″	4 1/2″	1183N2	22.50
4 mm	7″	3/4″	5″	1183N3	23.67
5 mm	7 13/16″	7/8″	5 1/2″	1183N4	25.83
6 mm	8 3/4″	1″	6″	1183N5	28.17

5-Piece Metric Set—Includes one each of the metric sizes.

1183N6 ..... $109.50

Precise-Control Screw-Holding T-Handle Torx Keys

A retaining ring on the tip holds the screw in place while you turn the key with your fingertips. Keys are steel with a black finish. Handles are plastic.

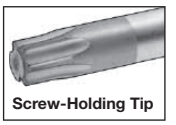

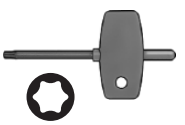

Size	O'all Lg.	Shaft Lg.		
T6	2 3/4″	1 7/16″	4147A12	$4.87
T7	2 3/4″	1 7/16″	4147A14	5.01
T8	3″	1 5/8″	4147A16	5.01
T9	3″	1 5/8″	4147A18	5.01
T10	3″	1 5/8″	4147A22	5.07
T15	3 1/8″	1 13/16″	4147A24	5.07
T20	3 1/8″	1 13/16″	4147A26	5.51

7-Piece Set—Includes sizes T6, T7, T8, T9, T10, T15, and T20. Packed in a metal stand.

7904A25 ..... $38.26

Ball-End T-Handle Hex Keys

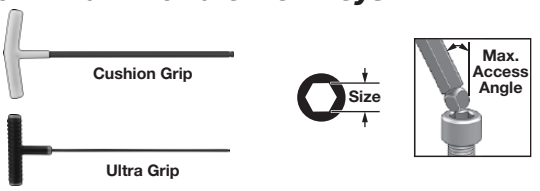

You don't need exact alignment between the socket fastener and the tool—the ball end allows up to 20° angled entry to tighten and remove screws in hard-to-reach areas. Keys are steel with a black finish. Handles are plastic.

Ultra grip have a textured grip for comfort and extra torque.

Cushion Grip

Size	O'all Lg.			Size	O'all Lg.		
Inch Sizes				**Metric Sizes, mm**			
5/32"	9 1/8"	37095A35	$3.54	4	8 3/4"	37165A63	$3.76
3/16"	9 13/16"	37095A36	3.63	5	9 3/4"	37165A64	4.35
7/32"	10 5/16"	37095A37	4.54	6	10 1/2"	37165A65	4.88
1/4"	10 13/16"	37095A38	4.63	8	11 1/4"	37165A66	7.52
5/16"	11 7/16"	37095A39	7.12	10	12 1/8"	37165A67	8.24
3/8"	11 13/16"	37095A41	8.19				

Ultra Grip

Size	O'all Lg.			Size	O'all Lg.		
Inch Sizes				**Metric Sizes, mm**			
5/64"	9 5/8"	37095A31	$3.15	2	9 5/8"	37165A59	$3.21
3/32"	9 5/8"	37095A2	3.27	2.5	9 5/8"	37165A61	3.21
7/64"	9 5/8"	37095A21	3.31	3	9 5/8"	37165A62	3.21
1/8"	9 5/8"	37095A22	3.34	4	9 5/8"	37165A41	3.77
9/64"	9 5/8"	37095A23	3.38	5	9 13/16"	37165A42	4.09
5/32"	9 5/8"	37095A24	3.69	6	9 13/16"	37165A43	5.49
3/16"	9 13/16"	37095A25	3.85	7	10"	37165A44	9.17
7/32"	9 13/16"	37095A26	5.23	8	10"	37165A45	8.51
1/4"	9 13/16"	37095A27	5.50	9	10"	37165A46	10.04
5/16"	10"	37095A28	8.17	10	10"	37165A47	9.32
3/8"	10"	37095A29	9.02				

6-Piece Cushion-Grip Inch Set—Includes one each of the cushion-grip inch sizes. Packed in a vinyl pouch.
37095A45 ..... $30.48

11-Piece Ultra-Grip Inch Set—Includes one each of the ultra-grip inch sizes. Packed in a vinyl pouch.
37095A44 ..... $51.81

5-Piece Cushion-Grip Metric Set—Includes one each of the cushion-grip metric sizes. Packed in a vinyl pouch.
37165A18 ..... $27.22

8-Piece Ultra-Grip Metric Set—Includes one each of the ultra-grip metric sizes, except the 7 and 9 mm sizes. Packed in a vinyl pouch.
37165A69 ..... $38.70

Two-Tip Ball-End T-Handle Hex Keys

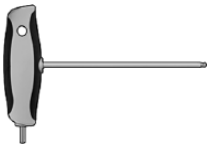

The long shaft has a ball end, and the short shaft provides more torque. The ball end allows entry at angles up to 20° to tighten and remove screws in hard-to-reach areas, so you don't need exact alignment between the socket fastener and the tool. Keys are chrome-plated steel; handles are plastic.

Size	O'all Lg.	Length: Short Shaft	Length: Long Shaft		
Inch Sizes					
3/32"	6 7/8"	1/2"	5 3/4"	6286A13	$6.61
7/64"	6 7/8"	1/2"	5 3/4"	6286A15	6.85
1/8"	6 7/8"	1/2"	5 3/4"	6286A17	6.99
9/64"	6 7/8"	1/2"	5 3/4"	6286A19	6.99
5/32"	6 7/8"	1/2"	5 3/4"	6286A23	7.10
3/16"	7 1/8"	5/8"	5 3/4"	6286A25	7.12
7/32"	7 1/8"	5/8"	5 3/4"	6286A27	7.62
1/4"	7 1/8"	5/8"	5 3/4"	6286A29	7.76
5/16"	9 1/8"	5/8"	7 13/16"	6286A33	8.84
3/8"	9 1/8"	3/4"	7 13/16"	6286A35	13.34
Metric Sizes					
2 mm	6 7/8"	1/2"	5 13/16"	6286A12	6.92
2.5 mm	6 7/8"	1/2"	5 13/16"	6286A14	7.13
3 mm	6 7/8"	1/2"	5 13/16"	6286A16	7.22
4 mm	6 7/8"	1/2"	5 13/16"	6286A18	7.33
5 mm	7 1/8"	1/2"	5 3/4"	6286A22	7.93
6 mm	7 1/8"	5/8"	5 3/4"	6286A24	8.07
8 mm	9 1/8"	5/8"	7 3/4"	6286A26	9.18
10 mm	9 1/8"	7/8"	7 3/4"	6286A28	13.90

10-Piece Inch Set—Includes one each of the inch sizes above.
6286A88 ..... $76.05

8-Piece Metric Set—Includes one each of the metric sizes above.
6286A89 ..... $66.03

Deep-Reach Ball-End T-Handle Hex Keys with Replaceable Tips



A set screw secures the ball-end tip. To change tips, use a hex L-key (not included) to loosen the set screw. You don't need exact alignment between the socket fastener and the tool—the ball end allows entry at angles up to 20° to tighten and remove screws in hard-to-reach places. Keys are steel with a zinc-plated finish. Handles are plastic.

Size	O'all Lg.	Shaft Lg.	Hex Key Size for Set Screw	Keys		Replacement Tips	
Inch Sizes							
5/64"	19"	17 1/2"	0.05"	37095A47	$24.65	37095A57	$4.43
5/32"	19"	17 1/2"	0.05"	37095A51	26.15	37095A61	3.77
3/16"	19"	17 1/2"	0.05"	37095A52	27.83	37095A62	3.77
7/32"	19"	17 1/2"	0.05"	37095A53	29.27	37095A63	4.25
1/4"	19"	17 1/2"	0.05"	37095A54	30.82	37095A64	5.37
5/16"	19"	17 1/2"	1/16"	37095A55	32.37	37095A65	7.41
3/8"	19"	17 1/2"	1/16"	37095A56	35.48	37095A66	9.78
Metric Sizes							
2 mm	19"	17 1/2"	0.05"	37165A76	22.94	37165A55	2.17
2.5 mm	19"	17 1/2"	0.05"	37165A83	23.78	37165A56	2.33
3 mm	19"	17 1/2"	0.05"	37165A84	27.00	37165A57	2.52
4 mm	19"	17 1/2"	0.05"	37165A71	27.83	37165A77	4.20
5 mm	19"	17 1/2"	0.05"	37165A72	29.27	37165A78	4.52
6 mm	19"	17 1/2"	0.05"	37165A73	30.83	37165A79	5.02
8 mm	19"	17 1/2"	1/16"	37165A74	33.93	37165A81	5.55
10 mm	19"	17 1/2"	1/16"	37165A75	38.63	37165A82	10.92

Screw-Holding Ball-End T-Handle Hex Keys



The end has a retaining ring to hold screws in place. You don't need exact alignment between the socket fastener and the tool—the ball end allows entry at angles up to 20° to tighten and remove screws in hard-to-reach places. Keys are chrome-plated steel; handles are plastic.

Size	O'all Lg.			Size	O'all Lg.		
Inch Sizes				**Metric Sizes, mm**			
5/32"	6 15/16"	5361A52	$4.12	4	6 15/16"	5361A42	$4.11
3/16"	7 1/4"	5361A53	4.84	5	7 1/8"	5361A43	4.78
7/32"	7 1/4"	5361A54	5.76	6	7 1/8"	5361A44	5.78
1/4"	7 1/4"	5361A55	6.15	8	9 1/8"	5361A45	7.64
5/16"	9 5/16"	5361A56	7.55	10	9 5/16"	5361A46	9.83
3/8"	9 5/16"	5361A57	9.81				

6-Piece Inch Set—Includes one each of the inch sizes above.
5361A5 ..... $38.59

5-Piece Metric Set—Includes one each of the metric sizes above.
5361A4 ..... $31.29

T-Handle Key Stands





Each slot is marked with the size. These freestanding plastic organizers can also be wall mounted.

Stands are 7 3/4" Lg. × 6" Wd. × 2" Ht., except the stand for 22 keys is 5 1/2" Lg. × 7 1/2" Wd. × 6" Ht.

For No. of Keys	For Drive Style	For Key Sizes		
8	Hex	2, 2.5, 3, 4, 5, 6, 8, 10 mm	53045A38	$3.25
8	Torx	T9, T10, T15, T20, T25, T27, T30, T40	53045A39	3.25
10	Hex	3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"	53045A37	3.25
22	Hex, Torx	0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8", 1.3, 2, 2.5, 3, 4, 5, 6, 8, 10 mm, T6, T8, T10, T15, T20, T25, T27, T30, T40, T45, T50	53045A36	11.24

Nutdrivers



All have a steel shaft and plastic handle. The shaft is hollow to give you the clearance necessary to remove nuts from long bolts, except 7320A11 and A12 have a solid shaft. **Inch size** nutdrivers are color-coded by size.



Fastener-holding nutdrivers have a magnet in the tip to hold nuts in place.

Inch Sizes

Size	Bolt Clearance	O'all Lg.	Color		
Standard					
3/16"	3 1/4"	7"	Black	8358A21	$6.95
3/16"	6"	9 5/8"	Black	7142A11	9.38
7/32"	3"	6 5/8"	Brown	8358A22	7.43
1/4"	3 1/4"	7"	Red	8358A23	7.04
1/4"	6"	10 1/8"	Red	7142A12	9.79
9/32"	3"	6 5/8"	Orange	8358A24	7.58
5/16"	3 1/4"	7 1/2"	Yellow	8358A25	7.97
5/16"	6"	10 1/8"	Yellow	7142A13	9.85
5/16"	18"	21 5/8"	Yellow	7142A26	25.50
11/32"	3 1/4"	7 1/2"	Green	8358A26	8.51
11/32"	6"	10 1/8"	Green	7142A14	10.29
3/8"	3 1/4"	7 1/2"	Blue	8358A27	8.03
3/8"	6"	10 1/8"	Blue	7142A15	10.29
7/16"	4"	8 3/4"	Brown	8358A28	13.30
7/16"	6"	10"	Brown	7142A16	11.33
1/2"	4"	8 3/4"	Red	8358A29	14.48
1/2"	6"	10"	Red	7142A17	12.09
9/16"	4"	8 1/2"	Red	8358A31	13.05
5/8"	4"	8 1/2"	Red	8358A32	14.64
Stubby					
1/4"	1 1/2"	3 3/4"	Red	8358A33	7.66
5/16"	1 1/2"	3 3/4"	Yellow	8358A34	7.75
3/8"	1 1/2"	3 3/4"	Blue	8358A35	7.96
Fastener-Holding					
3/16"	1/8"	6 3/4"	Black	7320A11	13.68
3/16"	1/8"	9 3/4"	Black	7320A12	14.32
1/4"	3"	6 3/4"	Red	7320A1	14.17
1/4"	6"	9 3/4"	Red	7320A3	15.96
1/4"	18"	21 3/4"	Red	7320A5	28.14
5/16"	3"	6 3/4"	Yellow	7320A2	15.23
5/16"	6"	9 3/4"	Yellow	7320A4	17.36
5/16"	18"	21 3/4"	Yellow	7320A6	30.56
11/32"	3"	6 3/4"	Green	7320A21	15.98
11/32"	5 1/2"	9 3/4"	Green	7320A22	16.54
3/8"	3"	6 3/4"	Blue	7320A31	16.85
3/8"	5 1/2"	9 3/4"	Blue	7320A32	17.40
7/16"	3"	7 5/16"	Brown	7320A41	18.87
7/16"	5 1/2"	10 5/16"	Brown	7320A42	19.67
1/2"	3"	7 5/16"	Red	7320A51	20.00
1/2"	5 1/2"	10 5/16"	Red	7320A52	20.83

7-Piece Inch Set—Includes sizes 3/16"×7", 1/4"×7", 5/16"×7 1/2", 11/32"×7 1/2", 3/8"×7 1/2", 7/16"×8 3/4", and 1/2"×8 3/4".

5586A18 ..... $51.10

7-Piece Inch Set—Includes sizes 3/16"×9 5/8", 1/4"×9 5/8", 5/16"×9 5/8", 11/32"×9 5/8", 3/8"×9 5/8", 7/16"×10", and 1/2"×10".

7142A51 ..... $67.48

11-Piece Inch Set—Includes sizes 3/16"×7", 7/32"×7", 1/4"×7", 9/32"×7", 5/16"×7 1/2", 11/32"×7 1/2", 3/8"×7 1/2", 7/16"×8 3/4", 1/2"×8 3/4", 9/16"×8 3/4", and 5/8"×8 3/4". Packed in a fabric pouch.

5586A29 ..... $93.13

11-Piece Compact Nutdriver Set—This set includes a secondary handle that slips over the regular handle to provide greater torque and a more comfortable grip. Overall length is 3 1/2". Includes sizes 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", and 3/8". Packed in a plastic case.

7382A31 ..... $46.20

Metric Sizes

Size	Bolt Clearance	O'all Lg.		
4 mm	3"	6 5/8"	7299A16	$8.61
4.5 mm	3"	6 5/8"	7299A17	8.61
5 mm	3"	6 5/8"	7299A18	8.61
5.5 mm	3"	6 5/8"	7299A19	8.61
6 mm	3"	6 5/8"	7299A21	8.73
7 mm	3"	6 5/8"	7299A22	8.73
8 mm	3"	6 5/8"	7299A23	8.83
9 mm	3"	6 5/8"	7299A24	8.95
10 mm	3"	7"	7299A25	9.07
11 mm	3"	7"	7299A29	10.24
12 mm	3"	7"	7299A31	12.42
13 mm	7 1/32"	7 1/4"	7299A32	14.78

10-Piece Metric Set—Includes sizes 4, 4.5, 5, 5.5, 6, 7, 8, 9, 10, and 11 mm. Includes metal stand.

7299A28 ..... $84.46

Precise-Control Hex Nutdrivers

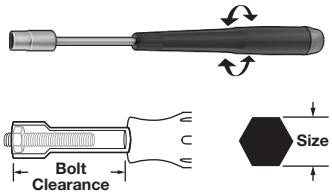

Press the rotating end cap on the handle with your palm or index finger to apply constant pressure while turning the body of the nutdriver with your fingertips. Shaft is steel; handle is plastic.

Static-control nutdrivers are also known as ESD-safe nutdrivers. The handle drains static away from your application, preventing buildup from electrostatic discharge (ESD) that can damage sensitive equipment.

Warning: Because the handle conducts electricity, tools must not come in contact with sources of electrical power.

Standard

Size	Bolt Clearance	O'all Lg.		
Inch Sizes				
3/32"	13/32"	6 1/8"	7278A33	$4.70
7/64"	5/8"	6 1/8"	7278A34	4.89
1/8"	5/8"	6 1/8"	7278A35	5.11
5/32"	5/8"	6 1/8"	7278A37	5.11
9/64"	5/8"	6 1/8"	7278A36	5.11
3/16"	5/8"	6 1/8"	7278A38	5.29
7/32"	3/4"	6 3/4"	7278A39	5.29
1/4"	3/4"	6 3/4"	7278A41	5.29
Metric Sizes				
1.5 mm	1/8"	5 1/2"	52965A22	4.64
1.8 mm	1/8"	5 1/2"	52965A23	4.64
2 mm	7/32"	5 1/2"	52965A24	4.66
2.5 mm	13/32"	6 1/8"	52965A11	4.80
3 mm	21/32"	6 1/8"	52965A12	4.89
3.2 mm	5/8"	6 1/8"	52965A25	5.07
3.5 mm	21/32"	6 1/8"	52965A13	5.07
4 mm	21/32"	6 1/8"	52965A14	5.23
4.5 mm	21/32"	6 1/8"	52965A15	5.23
5 mm	23/32"	6 1/8"	52965A16	5.23
5.5 mm	23/32"	6 3/4"	52965A17	5.46
6 mm	23/32"	6 3/4"	52965A18	5.64
7 mm	23/32"	6 3/4"	52965A19	5.64

8-Piece Inch Set—Includes sizes 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", and 1/4".

7278A57 ..... $40.56

8-Piece Metric Set—Includes sizes 2.5, 3, 3.5, 4, 4.5, 5, 5.5, and 6 mm.

52965A21 ..... $41.27

Static Control

Size	Bolt Clearance	O'all Lg.		
Inch Sizes				
5/64"	9/32"	6 1/4"	7278A31	$6.26
3/32"	9/32"	6 1/4"	7278A42	8.85
7/64"	9/32"	6 1/4"	7278A43	8.85
1/8"	1/2"	6 1/4"	7278A44	9.63
5/32"	1/2"	6 1/4"	7278A45	10.02
3/16"	1/2"	6 1/4"	7278A46	10.02
7/32"	1/2"	6 1/4"	7278A47	10.02
1/4"	1/2"	6 1/4"	7278A48	10.02
Metric Sizes				
2 mm	9/32"	6 1/4"	52965A31	8.85
2.2 mm	9/32"	6 1/4"	52965A32	8.85
2.5 mm	9/32"	6 1/4"	52965A33	8.85
3 mm	1/2"	6 1/4"	52965A34	9.26
3.5 mm	1/2"	6 1/4"	52965A35	9.02
4 mm	1/2"	6 1/4"	52965A36	10.02
4.5 mm	1/2"	6 1/4"	52965A37	10.02
5 mm	1/2"	6 1/4"	52965A38	10.02
5.5 mm	1/2"	6 1/4"	52965A39	10.02
6 mm	1/2"	6 1/4"	52965A41	10.02

8-Piece Inch Set—Includes sizes 5/64", 3/32", 7/64", 1/8", 5/32", 3/16", 7/32", and 1/4". Packed in a vinyl pouch.

7278A58 ..... $55.00

8-Piece Metric Set—Includes sizes 2, 2.2, 2.5, 3, 3.5, 4, 4.5, and 5 mm. Packed in a vinyl pouch.

52965A28 ..... $55.56

Nonmagnetic Hex Nutdrivers



Made entirely of composite materials, these nutdrivers won't attract loose metal parts and shavings. They're also corrosion resistant, lightweight, and color-coded by size.

Size	Bolt Clearance	O'all Lg.	Color		
3/16"	1 1/8"	7 1/2"	White	4860A22	$30.82
1/4"	1 1/8"	7 1/2"	Red	4860A23	30.82
5/16"	1 3/8"	7 1/2"	Yellow	4860A24	32.18
3/8"	1 7/16"	7 1/2"	Blue	4860A26	32.18
1/2"	1 1/2"	7 1/2"	Orange	4860A28	32.64
9/16"	1 1/2"	7 1/2"	Yellow	4860A29	32.64

Ball-End Hex Driver Shafts



The ball end allows entry at angles up to 25° to tighten and remove screws in hard-to-reach areas. Shafts are steel with a black finish.

Size	O'all Lg.			Size	O'all Lg.		
Inch Sizes				**Metric Sizes, mm**			
0.050"	3 7/16"	6972A13	$0.90	1.3	3 7/16"	6972A43	$0.90
1/16"	3 1/2"	6972A14	.92	1.5	3 5/8"	6972A44	.90
5/64"	3 5/8"	6972A15	.92	2	3 13/16"	6972A45	.92
3/32"	3 13/16"	6972A16	.94	2.5	4 1/4"	6972A46	.97
7/64"	4 5/16"	6972A17	1.05	3	4 5/8"	6972A47	1.07
1/8"	4 1/2"	6972A18	1.08	3.5	4 13/16"	6972A48	1.12
9/64"	4 13/16"	6972A19	1.08	4	5 1/4"	6972A49	1.14
5/32"	5 1/8"	6972A21	1.14	4.5	5 1/2"	6972A51	1.33
3/16"	5 1/2"	6972A22	1.33	5	5 13/16"	6972A52	1.45
7/32"	5 15/16"	6972A23	1.61	5.5	6 1/8"	6972A53	1.68
1/4"	6 3/4"	6972A24	1.84	6	6 3/4"	6972A54	1.94
5/16"	7 5/16"	6972A25	2.89	7	7 5/16"	6972A55	2.63
3/8"	8 1/4"	6972A26	4.06	8	7 13/16"	6972A56	3.11
7/16"	9 1/8"	6972A27	8.43	9	8 7/16"	6972A57	3.71
1/2"	10 1/8"	6972A28	10.80	10	9"	6972A58	4.51
9/16"	10 15/16"	6972A29	13.18	11	9 5/8"	6972A59	8.33
5/8"	11 13/16"	6972A31	14.75	12	10 1/2"	6972A61	10.02
3/4"	13 1/2"	6972A32	24.41	14	12 1/2"	6972A62	12.51

12-Piece Inch Set—Includes sizes 0.05", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32, 3/16", 7/32", 1/4", and 5/16". Packed in a vinyl pouch.

5709A61 ..... $15.41

Corrosion-Resistant Hex Nutdrivers



These nutdrivers have a stainless steel shaft and plastic handle. They can be sterilized to a maximum temperature of 350° F.

Size	Bolt Clearance	O'all Lg.		
3/16"	11/32"	8"	5964A1	$112.50
1/4"	23/32"	8"	5964A2	115.00
5/16"	23/32"	8"	5964A3	117.50
3/8"	11/16"	8"	5964A4	120.00
7/16"	13/32"	8"	5964A5	120.00
1/2"	13/32"	8"	5964A6	122.50
9/16"	11/32"	8"	5964A7	125.00

7-Piece Set—Includes sizes 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", and 9/16".

5964A9 ..... $816.39

Electrical-Insulating Hex Nutdrivers

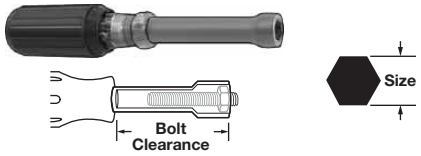

These nutdrivers are insulated to protect against accidental contact with live electrical circuits. They are tested to 1,000 volts to meet ASTM F1505 and IEC 60900.

Inch sizes are color-coded by size.

Size	Bolt Clearance	O'all Lg.	Color		
Inch					
3/16"	6"	9 3/4"	Black	54425A51	$21.03
1/4"	6"	9 3/4"	Red	54425A52	21.26
5/16"	6"	9 3/4"	Yellow	54425A53	21.49
11/32"	6"	9 3/4"	Green	54425A54	21.67
3/8"	6"	10 5/16"	Blue	54425A55	21.90
7/16"	6"	10 5/16"	Brown	54425A56	23.91
1/2"	6"	11 3/8"	Red	54425A57	24.84
9/16"	6"	11 3/8"	Orange	54425A58	27.83
5/8"	6"	11 3/8"	Yellow	54425A59	31.01
Metric					
5 mm	1"	8 7/16"	____	54425A61	34.38
6 mm	1"	8 7/16"	____	54425A62	34.92
7 mm	5 29/32"	8 7/16"	____	54425A63	35.48
8 mm	5 29/32"	8 7/16"	____	54425A64	35.77
10 mm	5 29/32"	8 7/16"	____	54425A65	36.07
13 mm	1"	8 7/16"	____	54425A66	36.67

Adjustable-Length Changeable-Shaft Nutdriver Sets



Press down on the handle's collar to adjust shaft length or change shaft size. Set includes a nutdriver handle and seven interchangeable shafts in sizes 3/16", 1/4", 5/16", 11/32", 3/8", 7/16", and 1/2". Packed in a canvas pouch.

1398N1 ..... $60.46

Six-Flute Spline Bits and Ratcheting Screwdrivers



Also known as Bristol bits. The hex shank has a knurled end for finger tightening. Made of steel with a six-flute design. Bits must be used with the tight-clearance ratcheting bit screwdriver (sold separately). Wrench is not compatible with standard 1/4" hex-shank bits.

Six-Flute Spline Bits—To Order Please specify diameter: 0.060", 0.072", 0.096", 0.111", or 0.145".

5697A888 ..... $2.69

Tight-Clearance Ratcheting Bit Screwdriver—Made of stainless steel. Overall length is 3 3/4".

5697A12 ..... $7.44

6-Piece Spline Bit Set—Includes one 3 3/4" long tight-clearance ratcheting bit screwdriver and five spline bits in the sizes listed above. Packed in a plastic pouch.

5697A28 ..... $20.02

Tri-Groove Sockets and Drivers



Sockets are steel. Drivers have steel blades and plastic handles. Sockets and handles sold separately.

Square-Drive Sockets									Square-Drive Handles			
	For Round Head		For Countersunk Head		For Nuts							
Socket No.	Screw Size	Screw Head Dia.	Screw Size	Screw Head Dia.	Nut Size	Nut Head Dia.			Square Drive	O'all Lg.		
4	4	0.13"	6	0.268"	____	____	7393A34	$11.90	1/4"	7"	5521A65	$10.68
6	6, 8	0.208"	8, 10	0.372"	____	____	7393A35	11.90	1/4"	7"	5521A65	10.68
10	10, 12, 1/4"	0.334"	1/4"	0.492"	6, 8	0.406"	7393A36	11.67	1/4"	7"	5521A65	10.68
20	5/16"	0.585"	___	_____	1/4", 10	0.661"	7393A37	27.17	3/8"	7 1/4"	5522A77	11.48
30	___	_____	___	_____	3/8", 5/16"	0.864"	7393A38	30.43	3/8"	7 1/4"	5522A77	11.48

4-Piece Tri-Groove Set—Includes a handle and sockets in sizes 4, 6, and 10. ..... 7393A41 48.08

Extractors



Drill a hole in the broken part, insert the extractor, and turn. The part will back out without damaging the threads around it. Use on right-hand threads. Made of steel.

Extractors

Trade No.	For Screw Size	For Pipe Size	Use Drill Size	O'all Lg.		
1	No. 8-1/4" (M2.5-M6)	—	5/64"	2"	2563A11	$3.39
2	No. 12-5/16" (M6-M8)	—	7/64"	2 3/8"	2563A12	3.49
3	5/16"-7/16" (M8-M12)	—	5/32"	2 3/4"	2563A13	3.69
4	7/16"-9/16" (M12-M14)	1/8	1/4"	3"	2563A14	4.32
5	9/16"-3/4" (M14-M20)	1/8, 1/4	9/32"	3 3/8"	2563A15	5.23
5 1/4	11/16"-7/8" (M18-M24)	1/4	23/64"	3 3/8"	2563A16	8.47
6	3/4"-1" (M20-M24)	3/8	13/32"	3 3/4"	2563A17	11.22
6 3/8	1"-1 1/8" (M24-M27)	3/8	31/64"	3 3/4"	2563A18	12.29
7	1"-1 3/8" (M26-M33)	1/2	17/32"	4 1/8"	2563A19	20.34
7 1/2	1 1/8"-1 1/2" (M30-M36)	1/2	39/64"	4 1/8"	2563A21	16.91
8	1 3/8"-1 3/4" (M36-M42)	3/4	13/16"	4 3/8"	2563A22	26.82
9	1 3/4"-2" (M48)	1	11/16"	4 5/8"	2563A23	40.95
10	2 1/4"-2 1/2" (M56)	1 1/4	15/16"	5"	2563A24	51.12
11	2 1/2"-3"	1 1/2	1 9/16"	5 5/8"	2563A25	69.48
12	3"-3 1/2"	2	1 15/16"	6 1/4"	2563A26	102.39

Extractor and Extractor/Drill Bit Sets

Left-hand drill bits can also be used to extract.

Trade Nos. in Set	Container		
Extractor Sets			
1, 2, 3, 4, 5	Vinyl Pouch	2563A27	$16.44
1, 2, 3, 4, 5, 6	Vinyl Pouch	2563A28	26.09
6, 7, 8, 9	Vinyl Pouch	2563A29	82.93
5, 5 1/4, 6 3/8, 7 1/2	Vinyl Pouch	2563A32	48.53
5, 5 1/4, 6 3/8, 7 1/2, 8, 9	Vinyl Pouch	2563A33	81.62
1, 2, 3, 4, 5, 6, 7, 8, 9	Wood Block	2563A35	67.71
Extractor Set with Right-Hand High-Speed Steel Drill Bits			
1, 2, 3, 4, 5, 6	Vinyl Pouch	2729A48	35.26
Extractor Set with Right-Hand Cobalt Steel Drill Bits			
1, 2, 3, 4, 5	—	2729A44	28.23
Extractor Set with Left-Hand Cobalt Steel Drill Bits			
1, 2, 3, 4, 5	Metal Case	2729A46	39.95

Case for Extractors and Drill Bits—Case is steel and has compartments for screw-extractor Nos. 1-5 and corresponding drill bits.

27475A16 ..... $6.18

Tight-Clearance Extractors



The short and stocky design provides a strong grip without needing to drill a deep hole in the broken part. After drilling, insert the extractor and turn. The part will back out without damaging the threads around it. Use on right-hand threads. Made of steel.

For Screw Thread Dia.	For Screw Size	Use Drill Size	O'all Lg.		
0.22"-0.23"	No. 12 (M6)	1/8"	1 1/4"	57195A511	$3.18
0.24"-0.25"	1/4" (M6)	5/32"	1 1/4"	57195A512	3.18
0.31"-0.32"	5/16" (M8)	3/16"	1 1/4"	57195A513	3.18
0.38"-0.39"	3/8" (M10)	7/32"	1 1/4"	57195A514	3.18
0.43"-0.44"	7/16"	1/4"	1 1/4"	57195A515	3.18
0.48"-0.50"	1/2" (M12)	9/32"	1 1/4"	57195A516	3.18
0.62"-0.63"	5/8" (M16)	11/32"	1 1/4"	57195A518	3.18
0.67"-0.68"	11/16"	3/8"	1 1/4"	57195A519	3.18
0.56"-0.78"	9/16" (M14)	5/16"	1 1/4"	57195A517	3.18
0.75"-0.78"	3/4" (M20)	13/32"	1 1/4"	57195A521	3.53
0.82"	—	7/16"	1 1/4"	57195A522	3.52
0.87"	7/8" (M22)	15/32"	1 1/4"	57195A523	3.52
0.94"	M24	1/2"	1 1/4"	57195A524	3.52
0.99"-1.00"	1"	17/32"	1 1/4"	57195A525	3.32
1.06"-1.07"	M27	9/16"	1 1/4"	57195A526	3.32
1.11"-1.12"	1 1/8"	19/32"	1 1/4"	57195A527	3.32
1.18"-1.19"	M30	5/8"	1 1/4"	57195A528	3.32
1.23"-1.25"	1 1/4"	21/32"	1 1/4"	57195A531	3.87
1.30"-1.31"	M33	11/16"	1 1/4"	57195A532	3.87
1.37"-1.38"	1 3/8"	23/32"	1 1/4"	57195A533	3.87
1.42"-1.43"	M36	3/4"	1 1/4"	57195A534	3.87
1.50"	1 1/2"	25/32"	1 1/4"	57195A541	4.62
1.54"-1.56"	—	13/16"	1 1/4"	57195A542	4.62
1.62"	1 5/8"	27/32"	1 1/4"	57195A543	4.62
1.66"-1.68"	M42	7/8"	1 1/4"	57195A544	4.62

10-Piece Set—Includes extractors in sizes No. 12 to 3/4". Packed in a plastic case.

57195A31 ..... $29.86

25-Piece Set—Includes one each of the extractors listed. Packed in a plastic case.

57195A32 ..... $70.43

Extra-Grip Extractors



Deep flutes provide a strong grip and reduced expansion of the part you need to extract. Drill a hole in the broken part, insert the extractor, and turn. The part will back out without damaging the threads around it. Use on right-hand threads. Made of steel.

Also Available: Extractors for left-hand threads. Please ask for 2566A51 and specify trade number.

Extractors

Trade No.	For Screw Size	For Pipe Size	Use Drill Size	O'all Lg.		
1	3/8" (M10)	1/8	13/64"	1 1/2"	2566A15	$8.03
2	1/2" (M12)	1/4	9/32"	1 1/2"	2566A16	13.03
3	5/8"-3/4" (M16-M20)	3/8	13/32"	1 3/4"	2566A17	15.00
4	—	1/2	—	2"	2566A18	18.28
5	1 1/8"-1 1/4" (M30)	3/4	23/32"	2 1/2"	2566A21	25.33
6	1 1/2"-1 3/4" (M40-M42)	1	29/32"	2 3/4"	2566A22	33.93
7	2"	1 1/4	1 3/16"	3 3/8"	2566A23	47.87
8	2 1/4"-2 1/2" (M56)	1 1/2	1 15/32"	3 1/2"	2566A24	78.85
9	3"-3 1/2"	2	2 1/16"	4 3/8"	2566A25	127.21
10	7/8"-1" (M22-M24)	—	1/2"	2 1/2"	2566A19	22.30

Extractor Sets—Packed in a plastic case

Trade Nos. in Set		
1, 2, 3, 4, 5	2566A11	$85.66
1, 2, 3, 4, 5, 6	2566A12	120.66
1, 2, 3, 4, 5, 6, 10	2566A13	143.44
All 10 sizes	2566A14	400.95

Straight-Flute Extractors



Pipe Extractor



Screw Extractor

These extractors provide the tightest fit and the most contact with the part to be removed but also cause the most expansion. Insert directly into pipe or drill a hole in a fitting. Tap the extractor in with a hammer and turn. The part will back out without damaging the threads around it. Use on right-hand and left-hand threads. Made of steel.

Pipe Extractors

For Pipe Size	Use Drill Size	O'all Lg.		
1/8	1/4"	2 1/4"	2562A15	$14.17
1/4	3/8"	2 1/2"	2562A16	15.38
3/8	1/2"	2 3/4"	2562A17	15.57
1/2	5/8"	3"	2562A18	18.16
3/4	13/16"	3 1/4"	2562A19	22.26
1	1 1/16"	3 1/2"	2562A21	32.22
1 1/4	1 3/8"	3 3/4"	2562A22	50.92
1 1/2	1 9/16"	4"	2562A23	62.19
2	2 1/16"	4 1/2"	2562A24	121.15

Extractor Sets

4-Piece Pipe Extractor Set—Includes extractors for pipe sizes 1/8, 1/4, 3/8, and 1/2. Packed in a vinyl pouch.

2562A11 ..... $55.02

6-Piece Pipe Extractor Set—Includes extractors for pipe sizes 1/8, 1/4, 3/8, 1/2, 3/4, and 1. Packed in a vinyl pouch.

2562A14 ..... $101.60

5-Piece Screw Extractor Set—Includes extractors for screw diameters 1/4", 5/16", 3/8", 7/16", 9/16", and 1/2".

2564A22 ..... $36.94

Sets with Drill Bits and Bearings

20-Piece Screw Extractor Set—Includes five extractors for screw diameters 1/4", 5/16", 3/8", 7/16", and 1/2" to 9/16"; five corresponding high-speed steel drills; and 10 drill bushings. Packed in a plastic case.

2565A2 ..... $102.58

63-Piece Pipe- and Screw Extractor Set—Includes six pipe extractors in pipe sizes 1/8 to 1, eight screw extractors in sizes 1/4" to 1", nine drills in sizes 1/8" to 5/8", and 40 drill bushings. Packed in a plastic case.

2565A1 ..... $523.85

Extractors for Soft Materials and Thin-Walled Parts



The tapered wedge shape of these extractors won't expand the broken part, making it easier to remove. After drilling, tap in with a hammer and turn. The part will back out without damaging the threads around it. Use on right-hand and left-hand threads. Made of steel.

Extractors

For Screw Size	For Pipe Size	Use Drill Size	O'all Lg.		
3/16"-5/16" (M5-M8)	—	9/64"	2 1/2"	8289A31	$2.48
3/8" (M10)	—	3/16"	2 5/8"	8289A32	2.76
7/16"	—	15/64"	3"	8289A33	3.05
1/2"-9/16" (M12-M14)	1/8	5/16"	3 1/8"	8289A34	3.58
5/8" (M16)	1/4	3/8"	3 3/8"	8289A35	4.79
3/4" (M20)	3/8	15/32"	4"	8289A36	7.08
7/8" (M22)	1/2	9/16"	4 3/4"	8289A37	9.34
1"-1 1/8" (M26-M27)	1/2	21/32"	4 7/8"	8289A38	15.42
1 1/4"-1 3/8" (M33)	3/4	13/16"	5 3/8"	8289A39	17.94
1 1/2"	1	11/16"	5 1/2"	8289A41	23.70

Extractor and Extractor/Drill Bit Sets

Number of Pieces	For Screw Size		
Extractor Sets			
5	1/4"-5/8"	8289A11	$16.54
6	3/16"-3/4"	8289A45	20.88
Extractor Sets with Cobalt Steel Drill Bits			
10	No. 10-5/8"	2729A45	41.03
12	No. 10-3/4"	2729A51	49.89

Combination Extractor/Drill Bits



Drill and remove broken screws, bolts, and studs with a single tool. After drilling, insert the extractor and turn. The part will back out without damaging the threads around it. Use on right-hand threads. Made of steel.

For Screw Size	Shank Dia.		
No. 5-No. 6 (M3-M3.5)	0.103"	53405A41	$12.22
No. 8 (M4)	0.136"	53405A42	13.97
No. 10 (M5)	0.136"	53405A44	13.97
1/4" (M6)	0.172"	53405A43	17.48
5/16" (M8)	0.177"	53405A47	20.98
3/8" (M10)	0.216"	53405A48	22.73
1/2" (M12)	0.275"	53405A49	26.23

4-Piece Set—Includes four extractors (not listed) for removing screw/bolt sizes No. 4 to 3/8". Shank diameters are 0.248" and 0.342".

5997A6 ..... $40.43

7-Piece Set—Includes one each of the extractors listed.

53405A39 ..... $93.31

Knurled-Grip Extractors



Use a 1/2" square-drive wrench to tighten the knurled wheel, which grips and extracts threaded studs and rods as you turn. The part will back out without damaging the threads around it. Removes 1/4" to 3/4" size studs. Use on right-hand and left-hand threads. Made of steel.

2537A11 ..... $41.34

Miniature Screw Extractors





Remove small stripped and damaged screws such as those used in eyeglasses and electronics. Place the extractor in the stripped recess and twist out the fastener without damaging the threads around it. Extractors have reversible tips. Use on right-hand and left-hand threads. Made of steel; handle is aluminum.

For Screw Recess Width	O'all Lg.		
1.1 mm, 1.5 mm	4 1/2"	5054A11	$6.82
1.25 mm	4 1/2"	5054A12	6.82
1.5 mm	4 1/2"	5054A13	6.82
2 mm	4 1/2"	5054A14	6.82

External-Grip Extractors



Place these extractors over stripped or deformed bolt heads that can be difficult to grip with a wrench. Tap in place with a hammer and turn to extract without damaging the threads around the fastener. Use on right-hand and left-hand threads. Made of steel.

For OD			For OD		
3/16" (5 mm)	2769A12	$45.57	7/16" (10 mm)	2769A16	$50.71
1/4" (6 mm)	2769A13	46.43	1/2" (12 mm)	2769A17	52.86
5/16" (8 mm)	2769A14	47.14	3/4" (18 mm)	2769A21	74.14
3/8" (9 mm)	2769A15	47.86			

6-Piece Set—Includes one each of the extractors listed, except the 3/4" (18 mm) size. Packed in a plastic case.

2769A31 ..... $253.75

External-Grip Extractor Socket Sets



Fit these square-drive sockets over a damaged fastener, tap in place with a hammer, and turn to extract the fastener without damaging the threads around it. Turn extractors with a square-drive tool or impact wrench. Use on right-hand and left-hand threads. Made of steel.

For OD	Drive Size	No. of Pieces		
1/4"-3/8" (6-10 mm)	1/4"	16	6792A14	$127.50
1/4"-3/4" (8-19 mm)	3/8"	13	6792A13	131.42
5/16"-3/4" (8-19 mm)	3/8"	9	6792A12	91.64
3/4"-1" (19-24 mm)	1/2"	5	6792A11	90.87

External-Grip Extractor Sets for Power Tools



Use a power tool to quickly extract a fastener without damaging the threads around it. Use on right-hand and left-hand threads. Made of steel.

For OD	Hex Shank Drive Size	No. of Pieces		
3/16"-1/2" (8-11 mm)	1/4"	7	6792A15	$43.88

Socket Head Cap Screw Extractor Sets



Extract socket head cap screws that have damaged or rounded recesses without drilling. Tap these extractors into the screw's recess with a hammer and twist out the screw without damaging the threads around it. Use on right-hand and left-hand threads. Made of steel. Packed in a vinyl pouch.

Also Available: Individual extractors. Please ask for 2643A11 and specify screw type and size.

For Screw Size	For Socket-Head Cap Screws		For Flat-Head Socket Cap Screws		For Button-Head Socket Cap Screws		For Socket Set Screws	
Inch Sets								
No. 6, No. 8, No. 10, 1/4"	2643A41	$35.00	2643A58	$35.00	2643A65	$35.00	2643A49	$35.00
1/4", 5/16", 3/8", 7/16", 1/2"	2643A42	44.00	2643A59	44.00	—	—	2643A51	44.00
1/4", 5/16", 3/8", 1/2", 5/8"	—	—	—	—	2643A66	44.00	—	—
5/8", 3/4"	2643A43	32.00	2643A61	32.00	—	—	2643A52	32.00
7/8", 1"	2643A44	35.00	2643A62	35.00	—	—	2643A53	35.00
Metric Sets								
M3, M4, M5, M6	2643A54	35.00	2643A63	35.00	2643A67	35.00	2643A56	35.00
M6, M8, M10, M12	—	—	—	—	2643A68	44.00	—	—
M6, M8, M10, M12, M14	2643A55	44.00	—	—	—	—	—	—
M16, M18, M20, M24	2643A71	71.00	—	—	—	—	—	—

About Nonsparking Metal Tools

Made from aluminum-bronze, beryllium copper, and other copper-based alloys (such as bronze and nickel copper) that are Factory Mutual approved, these nonmagnetic, corrosion-resistant tools inhibit sparking. They satisfy OSHA requirements that specify nonsparking tools for locations where flammable vapors and combustible residues are present. Iron or steel tools could produce sparks and be an ignition source. Nonsparking tools are not, however, classified as antistatic because they do conduct electricity.

Note: Do not use these tools in direct contact with acetylene.

Aluminum-Bronze—Has high strength for impact and torque applications. Most tools are beryllium free.

Beryllium Copper—With maximum strength for impact and torque applications, it's the most desirable material for tools with cutting edges or gripping teeth. This alloy contains approximately 2% beryllium.

Adjustable and Pipe Wrenches

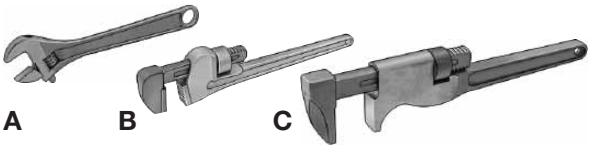

Style A are made of aluminum-bronze.
Style B have a beryllium copper jaw insert and aluminum-bronze hook.
Style C are made of aluminum-bronze. Also known as railroad wrenches, these tools have smooth jaws.

O'all Lg.	Jaw Cap.		
(A) Adjustable Wrenches			
6″	15/16″	6502A1	$62.06
8″	1 1/8″	6502A2	70.70
10″	1 5/16″	6502A3	95.20
12″	1 1/2″	6502A4	121.29
15″	1 11/16″	6502A5	222.63
(B) Aluminum Pipe Wrenches			
10″	2 1/2″	6461A21	183.21
14″	2 13/16″	6461A22	212.50
18″	3 3/16″	6461A23	256.50
24″	4 1/4″	6461A24	316.23
36″	5 11/16″	6461A25	477.45

O'all Lg.	Jaw Cap.		
(B) Aluminum-Bronze Pipe Wrenches			
8″	1 15/16″	6498A1	$166.96
10″	2 1/2″	6498A2	174.42
14″	2 13/16″	6498A3	216.35
18″	3 3/16″	6498A4	241.47
24″	4 1/4″	6498A5	335.99
36″	5 11/16″	6498A6	580.11
(C) Nonmarring Pipe Wrenches			
15″	2 13/16″	6482A12	242.57
18″	3″	6482A16	306.01

Repl. Jaw Insert for Style B Pipe Wrenches—
To Order: Specify pipe wrench overall length. 6461A71

Adjustable-Hook Spanner Wrenches

Made of aluminum-bronze. The head adjusts to accommodate a range of diameters.



For Circle Dia.	Hook Dp.	O'all Lg.		
1 1/4″-3″	9/32″	8″	6504A1	$69.43
2″-4 3/4″	9/32″	11″	6504A2	80.35
4 1/2″-6 3/8″	1/4″	12″	6504A3	80.29

Combination Wrenches

Each wrench has a 15° angled open end and 12-point, 15° offset box end of the same size.



Size	O'all Lg.		
Beryllium Copper			
3/8″	5″	6506A12	$50.53
7/16″	5 1/2″	6506A13	53.23
1/2″	6″	6506A14	53.24
9/16″	6 3/4″	6506A15	54.32
5/8″	7 3/4″	6506A16	55.67
11/16″	8 3/4″	6506A17	56.44
3/4″	9 1/2″	6506A18	75.94
7/8″	11″	6506A19	102.42
15/16″	12 1/2″	6506A33	105.98
1″	12 1/2″	6506A21	111.38
1 1/16″	14″	6506A22	122.80
1 1/8″	14 1/2″	6506A23	126.58
1 1/4″	16 1/4″	6506A24	156.72
1 5/16″	17″	6506A25	169.32
1 3/8″	19″	6506A26	205.38
1 7/16″	19″	6506A27	214.84

Size	O'all Lg.		
Beryllium Copper (Cont.)			
1 1/2″	19″	6506A28	$232.42
1 5/8″	21″	6506A29	245.92
Aluminum-Bronze			
8 mm	4 1/2″	6506A51	57.10
10 mm	6 3/8″	6506A52	44.44
11 mm	6 7/8″	6506A31	41.02
12 mm	7 1/2″	6506A32	42.10
13 mm	8 1/8″	6506A53	48.52
14 mm	8 1/8″	6506A34	44.79
15 mm	8 7/8″	6506A35	49.26
16 mm	8 7/8″	6506A36	49.26
17 mm	9 5/8″	6506A54	58.21
18 mm	9 5/8″	6506A37	53.73
19 mm	10 5/8″	6506A55	65.74
22 mm	11 5/8″	6506A56	74.72

6-Pc. Inch Set—Includes sizes 7/16″, 1/2″, 9/16″, 5/8″, 3/4″, and 1 1/8″ in a plastic pouch.
6506A41 $385.88

7-Pc. Inch Set—Includes sizes 3/8″, 7/16″, 1/2″, 9/16″, 5/8″, 3/4″, and 7/8″ in a plastic pouch.
6506A42 $402.40

Open-End Wrenches

Made of aluminum-bronze. Heads are angled 15°.



Size	O'all Lg.		
1/4″ x 5/16″	5 1/4″	6499A31	$35.97
3/8″ x 7/16″	5 1/4″	6499A32	35.97
7/16″ x 1/2″	5 1/4″	6499A11	35.97
1/2″ x 5/8″	6″	6499A12	43.45
9/16″ x 5/8″	6″	6499A13	43.45
9/16″ x 3/4″	6 3/4″	6499A14	52.30
1 1/16″ x 7/8″	8 1/4″	6499A36	54.26
3/4″ x 13/16″	8 1/8″	6499A41	53.48
3/4″ x 7/8″	8 1/8″	6499A37	52.98
7/8″ x 15/16″	9 1/4″	6499A17	62.92
1″ x 1 1/8″	10 1/4″	6499A18	72.76
1 1/16″ x 1 1/4″	12 3/8″	6499A19	83.28
1 1/8″ x 1 5/16″	12 3/8″	6499A21	84.06

Striking Box Wrenches

Place the wrench on a stuck fastener and strike the handle with a hammer to break it free. Made of aluminum-bronze. Wrenches have a standard (straight), 6-point head.



Size	O'all Lg.		
1 1/2″	8 3/4″	6507A18	$116.72
1 13/16″	9 7/8″	6507A26	153.04
1 5/8″	8 3/4″	6507A22	120.38
1 7/16″	7 1/2″	6507A16	111.53
1/4″	6 1/2″	6507A12	100.53
2″	10 5/8″	6507A32	162.28

Two-Head Box Wrenches

Made of aluminum-bronze, wrenches have 12-point, 15° offset heads.



Size	O'all Lg.		
7/16″ x 1/2″	7 3/4″	6505A31	$36.38
1/2″ x 9/16″	9 1/2″	6505A13	42.35
9/16″ x 5/8″	9 1/2″	6505A15	45.53
3/4″ x 7/8″	12 1/4″	6505A33	62.76
15/16″ x 1″	14 3/4″	6505A34	85.22
15/16″ x 1 1/16″	15 1/8″	6505A21	89.96

Nonsparking Screwdrivers

Drivers have a beryllium copper shaft and plastic handle.



Size	O'all Lg.		
Slotted			
1/8″	9 1/2″	6525A6	$17.06
3/16″	13″	6525A7	25.25
1/4″	5″	6525A5	21.13
5/16″	6 1/2″	6525A1	18.40
5/16″	10 1/8″	6525A2	25.77
3/8″	13″	6525A3	37.59
3/8″	17″	6525A4	45.90

Size	O'all Lg.		
Slotted (Cont.)			
3/8″	24 3/8″	6525A8	$83.70
Phillips			
No. 1	6 1/2″	6529A1	14.66
No. 2	7 1/2″	6529A2	17.88
No. 3	10 1/8″	6529A3	27.66
No. 4	13″	6529A4	36.83

4-Piece Slotted/Phillips Set—Includes slotted 5/16″ x 3″, 5/16″ x 6″, 3/8″ x 8″ and Phillips No. 2 x 4″ sizes. Packed in a canvas roll-up pouch.
6525A21 $93.11

6-Piece Slotted/Phillips Set—Includes slotted 5/16″ x 3″, 5/16″ x 6″, 3/8″ x 8″ and Phillips No. 1 x 3″, No. 2 x 4″, No. 3 x 6″ sizes. Packed in a canvas roll-up pouch.
6525A22 $130.19

1/2" Square Drive Sockets and Drive Tools



Made of aluminum bronze. Sockets are 6-point.

Sockets

Size	O'all Lg.			Size	O'all Lg.		
7/16"	1 1/4"	6503A22	$39.42	1 1/8"	1 5/8"	6503A36	$79.68
1/2"	1 1/4"	6503A23	40.38	1 1/4"	1 5/8"	6503A37	92.31
9/16"	1 1/4"	6503A24	41.05	10 mm	1 1/4"	6503A51	44.33
5/8"	1 1/2"	6503A26	42.60	13 mm	1 1/4"	6503A53	45.49
3/4"	1 1/2"	6503A28	47.80	17 mm	1 1/2"	6503A55	51.38
7/8"	1 1/2"	6503A32	65.91	19 mm	1 1/2"	6503A57	54.04
15/16"	1 1/2"	6503A33	70.16	24 mm	1 1/2"	6503A59	72.32
1"	1 1/2"	6503A34	73.14	30 mm	1 5/8"	6503A62	104.64
1 1/16"	1 1/2"	6503A35	77.33				

Drive Tools

10" Ratchet Wrench	6503A3	$180.31
10" Extension	6503A14	132.14

21-Pc. Inch Set—You'll get a 10" long ratchet wrench, 10" extension bar, 11" sliding-head wrench, 12" flex-head wrench, plus one each of the following 6-point sockets: 5/16", 3/8", 7/16", 1/2", 9/16", 19/32", 5/8", 11/16", 3/4", 25/32", 13/16", 7/8", 15/16", 1", 1 1/16", 1 1/8", and 1 1/4".

6503A1 ..... $1,199.05

3/4" Square Drive Sockets and Wrenches



Made of aluminum bronze. Sockets are 6-point.

Size	O'all Lg.			Size	O'all Lg.		
15/16"	2"	6490A11	$129.68	1 5/8"	2 1/4"	6490A16	$150.19
1 7/16"	2"	6490A13	132.92	1 3/4"	2 9/16"	6490A18	150.22
1 1/2"	2 1/16"	6490A14	134.18	2"	2 9/16"	6490A22	151.66
18" Ratchet Wrench						6490A31	357.27

1/2" Square Drive Impact Sockets



All are 12-point and made of beryllium copper.

Size	O'all Lg.	OD		
3/4"	1 1/2"	1 3/8"	6527A11	$141.32
15/16"	1 1/2"	1 1/2"	6527A13	155.55
1 1/16"	1 3/4"	1 3/4"	6527A14	179.04
1 1/8"	1 3/4"	1 15/16"	6527A15	191.34
1 1/4"	2 1/4"	1 15/16"	6527A16	241.79

Crow, Pry, and Wrecking Bars

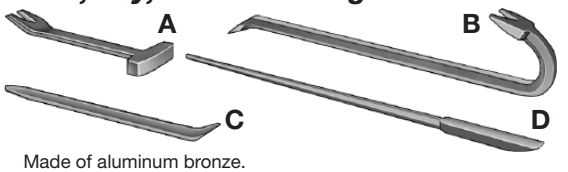

Made of aluminum bronze.

Lg.	Wt., lbs.	Bar Size		
(A) Claw and Hammer Bars				
9"	7/8	3/4" Wd. x 5/16" Thick.	6489A14	$47.46
(B) Chisel and Claw Bars				
18"	1 7/8	5/8" Hex	6466A1	110.54
24"	3 3/4	3/4" Hex	6466A2	132.46
30"	6	7/8" Hex	6466A3	184.56
36"	7 1/4	7/8" Hex	6466A4	195.06
(C) Crow Bars—With bent chisel tip.				
18"	2 1/4	3/4" Hex	6467A1	52.33
30"	5 1/8	7/8" Hex	6467A2	141.15
36"	8 3/4	1" Hex	6467A3	237.68
(D) Pinch Bars—With straight chisel tip.				
60"	18 3/4	1 1/4" Sq.	6467A4	489.54

Pliers

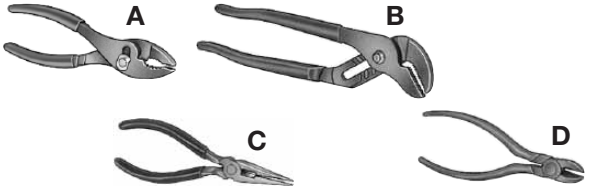

O'all Lg.	Jaw Lg.	Max. Jaw Opening	Material		
(A) Combination Slip-Joint Pliers					
6 1/2"	7/8"	—	Aluminum Bronze	6511A4	$60.10
8"	7/8"	—	Aluminum Bronze	6511A5	67.43
(B) Tongue-and-Groove Pliers with 6 Positions					
10"	—	1 1/2"	Aluminum Bronze	6513A5	113.31
12"	—	2 1/8"	Aluminum Bronze	6513A6	137.22
(C) Long-Nose Pliers with Side Cutter and 1/8" Tip					
7"	1 1/4"	—	Aluminum Bronze	6544A18	99.97
(C) Long-Nose Pliers with Side Cutter and 5/32" Tip					
6 3/4"	2 1/4"	—	Beryllium Copper	6515A16	134.97
(D) Diagonal-Cutting Pliers					
6"	25/32"	15/16"	Beryllium Copper	6521A12	220.18

Hex L-Keys



Made of beryllium copper.

Size	O'all Lg.			Size	O'all Lg.		
1/16"	1 13/16"	6522A11	$9.58	1/2"	5 3/4"	6522A23	$45.21
5/64"	1 7/8"	6522A12	9.80	3/4"	8"	6522A27	125.07
3/32"	2"	6522A13	10.10	1.5 mm	2 9/16"	6522A51	6.81
1/8"	2 7/16"	6522A14	10.15	2 mm	2 5/8"	6522A52	8.31
5/32"	2 11/16"	6522A15	10.65	2.5 mm	2 5/8"	6522A53	8.54
3/16"	3 1/16"	6522A16	10.88	3 mm	2 5/8"	6522A54	9.13
7/32"	3 3/8"	6522A17	11.53	4 mm	2 15/16"	6522A56	9.34
1/4"	4 1/8"	6522A18	17.84	5 mm	3 5/16"	6522A57	11.59
5/16"	4 7/16"	6522A31	20.84	6 mm	3 13/16"	6522A58	15.47
3/8"	4 7/8"	6522A21	27.21	8 mm	4 5/16"	6522A59	23.28

10-Piece Inch Set—Sizes 1/16", 5/64", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 5/16", and 3/8" in a canvas pouch.

6522A41 ..... $131.08

Hex Nutdrivers



Made of aluminum bronze with a plastic handle.

Size	Bolt Clearance	O'all Lg.		
3/16"	1"	6 7/8"	3940A51	$46.81
7/32"	1"	6 7/8"	3940A52	46.81
1/4"	1"	6 7/8"	3940A53	46.81
5/16"	1"	6 7/8"	3940A54	57.57
3/8"	1"	7 7/16"	3940A55	74.85
7/16"	1"	7 7/16"	3940A56	74.85
1/2"	1"	7 7/16"	3940A57	90.55
4 mm	1"	8 1/2"	3940A61	46.81
7 mm	1"	8 1/2"	3940A66	57.57
8 mm	1"	8 1/2"	3940A67	57.57
10 mm	1"	9 1/16"	3940A69	74.85

Wedges

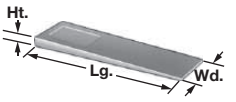

Made of aluminum bronze.

Lg.	Wd.	Ht.			Lg.	Wd.	Ht.		
3"	1/2"	1/4"	6517A1	$10.42	7"	2"	3/8"	6517A22	$27.01
3 1/2"	2"	3/8"	6517A11	18.66	7"	2"	3/4"	6517A16	34.65
4"	3/4"	1/2"	6517A12	10.26	8"	1 1/2"	1"	6517A18	37.39
6"	1"	1/2"	6517A13	14.09	8"	1 1/2"	1 5/8"	6517A17	48.54
6"	1 1/2"	3/4"	6517A14	23.51	8"	2"	3/4"	6517A19	41.13
7"	1 1/4"	1/2"	6517A15	19.68	8 1/2"	2"	1 1/4"	6517A21	50.72

For information about nonsparking metal tools, see page 2843.

Hammers

All have a smooth aluminum bronze striking face and fiberglass handles to reduce vibration.



Head Wt., lbs.	Face Size	O'all Lg.		
(A) Nail Hammers				
3/4	7/8" Dia.	14"	6484A19	$60.28
1	1" Dia.	14"	6484A21	64.16
1 1/4	1 1/8" Dia.	14"	6484A22	96.56
(B) Ball Peen Hammers				
1/4	3/4" Dia.	9 3/4"	6481A43	40.38
3/4	1" Dia.	14"	6481A31	52.94
1	1 1/4" Dia.	14"	6481A33	58.72
1 1/2	1 5/16" Dia.	14"	6481A35	66.28
2	1 9/16" Dia.	14"	6481A37	77.37
2 1/4	1 5/8" Dia.	14"	6481A39	88.24
2 3/4	1 3/4" Dia.	14"	6481A41	89.75
(C) Blacksmiths' Hammers				
1 1/2	1 5/16" Sq.	14"	6462A22	91.42
2 1/2	1 1/2" Sq.	15"	6462A23	108.12
3 1/2	1 7/8" Sq.	15"	6462A24	123.31
3	1 5/8" Sq.	15"	6486A14	104.48
(D) Round Heavyweight Hammers				
2	1 3/8" Dia.	14"	6486A11	72.36
2	1 1/2" Dia.	14"	6463A21	76.54
2 1/2	1 7/16" Dia.	14"	6486A12	80.59
2 3/4	1 1/2" Dia.	15"	6486A13	100.95
3	1 9/16" Dia.	15"	6486A14	104.48
4	2" Dia.	15"	6463A22	113.28
6	2 3/16" Dia.	15"	6463A23	180.66
(E) Sledge Hammers				
3	1 3/4" Sq.	15"	6488A21	116.70
6	2" Sq.	33"	6488A22	155.16
8	2 1/8" Sq.	33"	6488A23	227.40
10	2 1/4" Sq.	33"	6488A24	267.73
16	2 11/16" Sq.	33"	6488A25	395.23

Chisels

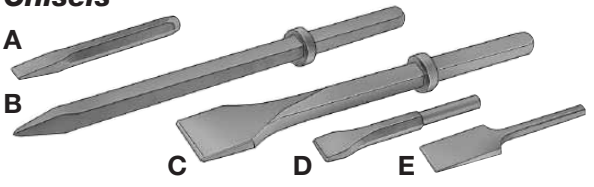

Made of aluminum bronze.

	Cutting Wd.	Shank Size	O'all Lg.		
Hand Chisels					
A	1/4"	1/4" Oct.	5 1/4"	6458A72	$17.80
A	7/16"	3/8" Hex	5 3/4"	6458A81	23.78
A	9/16"	1/2" Hex	6 1/2"	6458A89	20.15
A	9/16"	1/2" Oct.	12"	6458A82	30.92
A	11/16"	5/8" Oct.	9 1/8"	6458A91	32.67
A	3/4"	5/8" Oct.	6"	6458A74	23.54
A	3/4"	3/4" Oct.	9"	6458A92	35.78
A	13/16"	3/4" Hex	8"	6458A75	30.24
A	7/8"	3/4" Hex	12"	6458A96	42.90
A	7/8"	7/8" Oct.	9"	6458A93	40.03
A	1 1/16"	1" Hex	9 1/4"	6458A94	47.99
Air-Powered Chisels					
B	—	1 1/8" Hex	21"	6455A1▲	210.02
C	3"	1 1/8" Hex	18"	6456A1•	279.09
D	1 1/2"	11/16" Dia.	7 3/4"	6470A11	100.62
D	2 1/2"	11/16" Dia.	9"	6470A13	104.21
E	2"	1/2" Sq.	7 3/4"	6472A14	76.57

▲15" shank length under round collar.
• 12" shank length under round collar.

Knives



Handles are wood.

Style	Blade Lg.	Blade Wd.		
Nickel-Copper Alloy				
Paring	3 1/8"	5/8"	3925A1	$15.70
Butcher	5 3/4"	7/8"	3925A2	25.68
Beryllium Copper				
Produce	4"	7/8"	6548A11	27.60

Scrapers

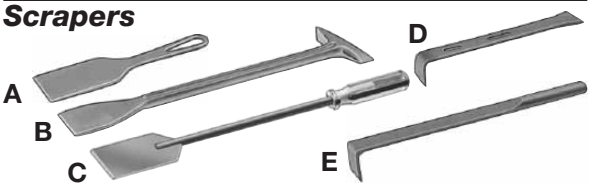

Made of aluminum bronze. Style C has a plastic handle.

	Blade Wd.	Blade Lg.	O'all Lg.		
A	3"	4"	9 1/4"	3628A11	$34.84
B	3"	3 1/2"	17 3/4"	6474A14	65.04
C	3 3/4"	3 3/4"	18 3/4"	6497A11	115.22
D	7/8"	—	7 7/8"	6473A3	27.43
D	2"	—	12"	6473A1	37.90
E	1 1/2"	—	15"	6473A2	80.34

Scraper Heads

Made of aluminum bronze. Use scrapers with the optional handle (sold below).

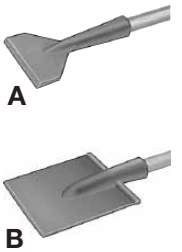

	Blade Wd.	Blade Lg.	Blade Thick.		
A	3"	1 1/2"	1/4"	6494A11	$54.63
A	3"	2 1/2"	1/4"	6471A1	50.22
A	4"	1 1/2"	1/4"	6494A12	71.10
A	4"	2 1/2"	1/4"	6471A2	69.09
A	5"	1 1/4"	1/4"	6494A13	78.54
A	5"	2 1/2"	1/4"	6471A3	76.00
A	6"	1 1/2"	1/4"	6494A14	74.90
A	6"	2 1/4"	1/4"	6471A4	76.65
B	6"	6"	1/8"	6476A1	72.75
Optional 54" Lg. Wood Handle				7349T14	6.64

Sheet Metal Cutters

Made of aluminum-bronze, these cutters cut steel and stainless steel up to 1/32" thick. Use them for straight cuts. Also known as tinners' snips.



O'all Lg.	Cut Lg.		
8"	2"	6514A21	$94.78
12"	3"	6514A25	113.24

Punches

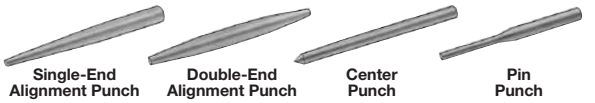

Single- and **double-end alignment punches** are made of aluminum bronze. **Center** and **pin punches** are made of beryllium copper, except 6477A35 is aluminum bronze.

Point Dia.	Handle Size	O'all Lg.		
Single-End Alignment Punches				
1/4"	1/2"	6"	6480A11	$14.73
9/32"	11/16"	6"	6480A14	20.08
5/16"	13/16"	8"	6480A12	29.52
7/16"	15/16"	10"	6480A13	37.35
1/2"	1 1/8"	10"	6480A15	48.26
Double-End Alignment Punches				
3/16"	11/16"	8"	6479A11	26.12
5/16"	13/16"	8"	6479A12	36.10
7/16"	15/16"	8"	6479A13	44.17
11/16"	1 3/16"	8"	6479A14	64.78
Center Punches				
1/8"	1/4"	4 1/2"	3495A21	43.51
1/4"	3/8"	5"	3495A22	43.64
3/8"	1/2"	6"	3495A23	44.37
15/32"	5/8"	8"	3495A24	46.67
Pin Punches				
1/8"	3/8"	5"	6477A31	24.05
1/4"	1/2"	6"	6477A32	32.93
3/8"	5/8"	7"	6477A33	40.44
1/2"	5/8"	7 3/4"	6477A34	44.77
5/8"	13/16"	9"	6477A35	56.26

Awls

Blade is tapered for marking and piercing. Made of beryllium copper with a plastic handle.



Blade Lg.	O'all Lg.		
4"	7 1/4"	6453A11	$43.25
10 1/8"	15 1/4"	6453A14	48.14

Nonsparking Metal Tools

For information about nonsparking metal tools, see page 2843.

Wire Brushes


Flexible-Bristle Cup


Rigid-Bristle Cup


Flexible-Bristle Wheel


Rigid-Bristle Wheel

Made of phosphorus bronze. Choose ***flexible-bristle brushes*** for soft brushing; ***rigid-bristle brushes*** for heavy duty work on pipe, structural steel, and welds.

Brush Dia.	Bristle Dia.	Arbor Hole	Bristle Lg.	Wheel Thick.	Max. rpm		
Flexible-Bristle Cup Brushes							
3″	0.014″	5/8″-11	1″	—	12,500	6530A3	$110.04
4″	0.014″	5/8″-11	1 1/2″	—	8,000	6530A4	172.79
Rigid-Bristle Cup Brushes							
3″	0.020″	5/8″-11	1 1/8″	—	12,500	6530A6	80.81
4″	0.020″	5/8″-11	1 1/2″	—	7,000	6530A7	149.28
Flexible-Bristle Wheel Brushes							
6″	0.014″	1/2″	1″	1″	4,500	4851A17	179.59
6″	0.014″	5/8″	1″	1″	4,500	4851A2	179.59
6″	0.014″	3/4″	1″	1″	4,500	4851A61	181.41
6″	0.014″	1″	1″	1″	4,500	4851A62	168.94
Rigid-Bristle Wheel Brushes							
4″	0.020″	5/8″-11	3/4″	11/32″	20,000	4851A33	83.14
6″	0.020″	5/8″-11	1 3/8″	1/2″	9,000	4851A34	157.19

Aluminum Bronze Arbor— Use this arbor to mount 1/2″ arbor size wire brushes in portable tools and drill presses that have a 1/4″ capacity chuck. Arbor has a 1/4″ diameter shank, hex nut, and washer.

4851A45 ..... $8.97

Loop-Handle Brushes



Made of phosphorus bronze.

Brush Dia.	Brush Lg.	O'all Lg.		
13/16″	4″	12 1/2″	3746A77	$37.76

Wet-Mop Handles



Made of aluminum bronze with a fiberglass handle. Head width is 6 1/2″. Overall length is 68″.

6536A14 ..... $137.69

Pick Heads



Made of aluminum bronze with a 2 5/8″ × 1 1/2″ eye. Both sides of the blade are equal length. Use picks with the *optional handle* (sold separately below).

Blade Wd.	Blade Lg.		
1″	21″	6518A11	$180.82
1 1/4″	25″	6518A12	198.61
Optional 36″ Lg. Fiberglass Handle		62715A21	31.41

Hoes


Standard

Made of aluminum bronze with a fiberglass handle.

Blade Wd.	Blade Ht.	O'all Lg.		
Standard				
6″	4 1/2″	55″	6537A14	$195.44
8″	5″	55 1/2″	6537A22	237.27
Angled				
7 3/4″	6 3/4″	55″	6537A12	162.80

Packing Seal Tools


Screw

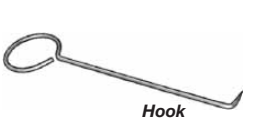
Hook

Made of beryllium copper.

Style	O'all Lg.		
Screw	10″	6491A12	$58.76
Hook	10″	6475A11	58.77

Hand Brushes

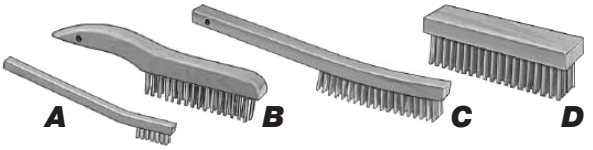

Made of phosphorus bronze with a wood handle.

	Brush Face Wd.	Brush Face Lg.	Bristle Lg.	O'all Lg.		
A	5/16″	1 3/8″	1/2″	7 3/4″	6531A5	$4.39
B	7/8″	5″	1 1/8″	10″	6531A1	29.13
C	1″	6 1/8″	1 1/8″	13 3/4″	6531A2	26.37
D	1 3/4″	6 1/2″	1 3/4″	7 1/4″	6531A3	52.41

Dust Pans and Scoops


Dust Pan


Scoop

Made of aluminum bronze.

Wd.	Dp.	Ht.		
Dust Pans				
4″	8″	1 1/2″	6535A1	$87.31
9″	7 1/2″	1 1/2″	6535A2	111.09
Scoops				
3″	5″	2″	6535A3	184.74
4 7/8″	8″	3 1/2″	6535A4	189.20
5 1/2″	10″	4″	6535A5	214.20

Shovels

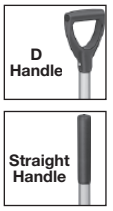


Rounded Digging


Squared Scooping

Made of aluminum bronze with a one-piece blade, hollow socket, and fiberglass handle. Shovel blades are 9″ Wd. × 11″ Ht.

Handle Style	Handle Lg.	O'all Lg.	Rounded Digging		Squared Scooping	
D	26″	37″	6204A2	$206.27	6204A3	$236.80
Straight	46″	57″	6204A5	213.11	6204A6	239.47

Tool Sets


16-Piece Set

Screwdrivers are made of beryllium copper; the other tools are made of aluminum bronze, unless noted.

6-Piece Set— Includes a slotted screwdriver (9/32″ × 3″ blade), Phillips screwdriver (#2 × 4″ blade), 6 1/2″ combination pliers, 10″ tongue-and-groove pliers, 8″ adjustable wrench, and a 9″ hammer/claw crate opener. Comes in a roll-up nylon pouch.

6533A7 ..... $326.86

16-Piece Set— Includes a slotted screwdriver (5/16″ × 6″ blade); Phillips screwdriver (#2 × 4″ blade); 6 1/2″ and 8″ combination pliers; 10″ tongue-and-groove pliers; 10″ adjustable wrench; 14″ pipe wrench; 12-point box wrenches in sizes 5/16″ × 3/8″, 7/16″ × 1/2″, 9/16″ × 5/8″, and 3/4″ × 7/8″; 1 1/4″ putty knife; paring knife (3 1/8″ wide blade); 14″ long, 1-lb. claw hammer; 10″ shoe handle brush; and 12″ long deck scraper. Brush is made of phosphorus bronze, and knives are made of nickel copper. Packed in a heavy duty plastic box.

6534A2 ..... $893.91

About Dead Blow Hammers and Sledges

You don't need a big swing to produce a powerful striking force—dead blow hammers and sledges have heads loaded with metal shot to add weight for controlled impact with minimal rebound. The shot also ensures that the striking force is transmitted solidly, reducing worker fatigue and injuries. Dead blow hammers and sledges (except for ball peen) are nonmarring.

Dead Blow Hammers and Sledges


Standard


Slimline

Faces are soft to absorb impact, reduce noise, and prevent marring of the work surface. Head is loaded with steel shot. Handle has a textured grip and is nonreplaceable. ***High-visibility polyurethane*** hammers and sledges are bright safety orange, so they're easy to spot. All have a steel-reinforced handle and are fully encased in polyurethane. ***Black PVC*** hammers have a steel-reinforced handle and are fully encased in PVC.

O'all Wt., lbs.	Face Dia.	O'all Lg.		Each
High-Visibility Polyurethane				
Standard Hammers				
5/8	1 13/64"	10 1/8"	6051A29	$22.97
1 1/8	1 39/64"	11 1/4"	6051A31	27.02
1 5/16	1 51/64"	12 7/8"	6051A34	31.44
2 5/8	2 7/64"	14 1/4"	6051A37	44.34
3 1/4	2 33/64"	15 1/4"	6051A41	61.24
Slimline Hammers				
15/16	1 1/4"	10 13/32"	6073A11	26.58
1 5/16	1 35/64"	11 21/32"	6073A12	32.14
Sledges				
5	2 55/64"	19 5/8"	6072A11	92.23
8	2 61/64"	29 7/8"	6072A12	135.26
10 1/2	3 25/64"	29 7/8"	6072A14	184.33
11 1/2	3 25/64"	36 1/8"	6072A15	232.12
Black PVC				
Standard Hammers				
1 5/32	1 21/32"	10 5/8"	6085A11	18.83
1 9/16	1 23/32"	11 13/16"	6085A12	21.02
2	1 15/16"	12 13/16"	6085A13	24.90
2 5/32	2 3/32"	13 3/8"	6085A14	27.67
2 31/32	2 5/16"	13 25/32"	6085A15	31.28
3 9/32	2 5/8"	14 9/16"	6085A16	34.89

Hard Nylon Dead Blow Hammers



Made of nylon, the head is encapsulated in PVC for durability; it will not chip or "mushroom" when striking. The PVC casing also minimizes bounce. Head is loaded with steel shot. Faces are hard. The handle is made of fiberglass to withstand impact. It has a safety grip (unless noted) and is nonreplaceable.

O'all Wt., lbs.	Face Dia.	O'all Lg.		Each
1 1/16	1"	10 3/4"	5969A15★	$21.32
1 7/16	1 9/16"	12 1/4"	5969A11	25.06
2	2"	14"	5969A12	29.42
2	2"	14"	5969A17■	30.39
2	2"	14"	5969A19▲	31.61
2 11/16	2 11/32"	14 1/4"	5969A13	38.18
3 3/8	2 11/16"	15 1/4"	5969A14	49.35

★ Smooth grip. ■ One face is steel. ▲ One face is brass.

High-Visibility Polyurethane Dead Blow Ball Peen Hammers



You won't overlook these ball peen hammers—they have a bright orange polyurethane body. The peen end and striking face are alloy steel. Head is loaded with steel shot. The ball peen design handles any job from light duty tapping to heavy duty forming. Use for striking chisels and punches, as well as for setting rivets. The peen end is especially good for forming unhardened metal. The striking face is slightly rounded with beveled edges. Handle is made of steel-reinforced polyurethane; it has a textured grip and is nonreplaceable.

O'all Wt., lbs.	Face Dia.	O'all Lg.		Each
2 1/8	1 19/32"	12 7/8"	5949A12	$57.38
2 11/16	1 25/32"	13 5/8"	5949A13	66.22

Urethane Replaceable-Face Dead Blow Hammers and Sledges


Hammer

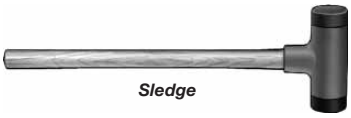
Sledge

Screw-on urethane faces absorb impact without marring or deforming your work surface. Faces resist cracking and are impervious to oils and solvents. Head is loaded with iron shot. Complete hammers and sledges include a lightweight aluminum or iron head, a replaceable hickory handle (see pg. 2856 for replacement handles), and two replaceable faces: medium (green) on one end; extra-hard (black) on the other.

To Order: For replacement faces, please specify soft (burnt orange), medium (green), hard (red), or extra hard (black). *Note:* For information about face hardness, see page 2848.

Hammers

O'all Wt., lbs.	Face Dia.	Thread Size	O'all Lg.	Complete Hammers	Each	Repl. Faces	Each♠
Aluminum Head							
5/8	1"	1/4"-20	11"	6047A81	$43.32	6047A1	$8.28
7/8	1 1/4"	5/16"-18	12"	6047A83	47.95	6047A2	9.20
1 3/8	1 1/2"	5/16"-18	13"	6047A15	56.68	6047A3	14.57
2 3/8	2"	3/8"-16	15"	6047A17	78.98	6047A4	15.16
4 1/8	2 1/2"	7/16"-14	17"	6047A19	139.29	6047A5	27.68
Iron Head							
7/8	1"	1/4"-20	11"	6047A82	43.86	6047A1	8.28
1 3/8	1 1/4"	5/16"-18	12"	6047A14	47.55	6047A2	9.20
1 7/8	1 1/2"	5/16"-18	13"	6047A16	56.71	6047A3	14.57
3 1/2	2"	3/8"-16	15"	6047A18	77.82	6047A4	15.16

♠ Extra-hard (black) faces are approximately 30% higher in price.

Sledges

O'all Wt., lbs.	Face Dia.	Thread Size	O'all Lg.	Complete Sledges	Each	Repl. Faces	Each♠
Aluminum Head							
7 1/2	3"	1/2"-13	35"	5947A2	$247.20	6047A6	$37.58
Iron Head							
6 1/4	2 1/2"	7/16"-14	17"	6047A21	120.39	6047A5	27.68
7 1/8	2 1/2"	7/16"-14	32"	5947A1	191.36	6047A5	27.68
11 1/4	3"	1/2"-13	35"	5947A3	263.98	6047A6	37.58

♠ Extra-hard (black) faces are approximately 30% higher in price.

High-Visibility Polyurethane Replaceable-Face Dead Blow Hammers



Head and handle are one-piece molded polyurethane with a bright orange color for high visibility. Head is loaded with steel shot. Faces screw on to the head and are made of polyurethane to absorb impact, resist oils and solvents, and protect your work surface from marring. Complete hammers include a medium hard (red) face on one end, an extra hard (black) face on the other end, and a steel-reinforced polyurethane handle. Handle has a textured grip and is nonreplaceable.

To Order: For replacement faces, please specify extra soft (clear), soft (blue), medium (green), medium hard (red), hard (amber), or extra hard (black). *Note:* For information about face hardness, see page 2848.

O'all Wt., lbs.	Face Dia.	Thread Size♣	O'all Lg.	Complete Hammers	Each	Replacement Faces	Each
3/4	13/8"	3/4"	10"	60515A1	$43.38	60515A61	$9.78
1 1/2	1 3/4"	1"	11"	60515A2	53.43	60515A62	16.60
2	1 7/8"	1"	11 3/4"	60515A3	65.22	60515A63	16.61
3	2 1/2"	1 1/4"	13 5/8"	60515A4	82.03	60515A64	23.88
4 1/2	2 7/8"	1 1/2"	14 3/4"	60515A5	129.06	60515A65	26.76
7	2 7/8"	1 1/2"	19 1/4"	60515A6●	192.79	60515A65	26.76

♣ Has NPT threads. ● Also known as a sledge.

Hard UHMW Polyethylene Replaceable-Face Dead Blow Hammers



Faces screw on to the hammer head and are made of ultra-high molecular weight (UHMW) polyethylene, which resists abrasion, cracking, and chipping. Handle and head are one-piece aluminum alloy to provide high strength, durability, and perfect balance. Head is loaded with steel shot. Handle has a ribbed grip and is nonreplaceable.

O'all Wt., lbs.	Face Dia.	Thread Size	O'all Lg.	Complete Hammers	Each	Repl. Faces	Each
1 5/16	1 1/2"	5/8"-11	10 3/4"	5875A1	$67.02	5875A4	$9.37
2 1/4	2"	5/8"-11	11 7/8"	5875A3	77.32	5875A6	12.42

Replaceable-Face Nonmarring Hammers

About Replaceable Plastic Hammer Faces

Replaceable plastic faces range in hardness from extra soft to extra hard. Use the diagram below to determine which hardness is best for your application. *Note:* The color indicating a plastic's grade is not standardized and may vary among manufacturers.

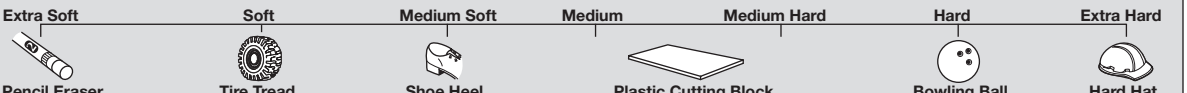

Create-Your-Own Replaceable-Face Hammers, Sledges, and Dead Blows



Hammer with Textured Handle Grip (Shown with Faces, Sold Separately)



Hammer with Safety Handle Grip (Shown with Faces, Sold Separately)

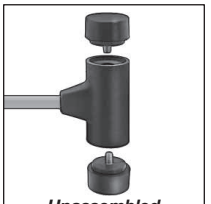

Unassembled (Faces Sold Separately)

Design the perfect striking tool. The bodies and faces are sold separately, so you can customize a hammer, sledge, or dead blow to fit your needs.

Hammer and Sledge Bodies (Without Faces)— Consist of a hammer head and a nonreplaceable solid fiberglass handle for optimal strength. Head is glass-filled nylon to eliminate metal contamination as well as scratching and marring caused by metal-to-metal contact. *Safety handle grip* is ribbed to prevent your hand from slipping.

Dead Blow Hammer and Dead Blow Sledge Bodies (Without Faces)— Consist of a hammer head loaded with steel shot and a nonreplaceable reinforced-fiberglass handle. *PVC head* eliminates metal contamination as well as scratching and marring caused by metal-to-metal contact.

Faces— Screw on to the head. *Plastic* faces are tough, nonmarring PVC. *Brass* faces are medium hard and nonsparking. *Steel* faces are hardened for extra durability.

Hammer and Sledge Bodies (Without Faces)

O'all Wt., lbs.	Face Dia.	O'all Lg.	Handle Grip		Each
Hammer Bodies with Glass-Filled Nylon Head					
3/8	1"	11"	Textured	5877A152	$15.28
1/2	1"	11"	Textured	5877A151	15.66
3/4	1 3/8"	11 3/4"	Textured	5877A115	17.12
13/16	1 1/2"	12 1/2"	Textured	5877A153	17.77
1 1/16	1 1/2"	12 1/2"	Textured	5877A155	18.38
1 1/16	2"	14"	Textured	5877A154	19.66
1 11/16	2"	14"	Textured	5877A157	21.73
1 3/4	1 5/8"	12 1/4"	Textured	5877A116	22.62
1 13/16	2 1/2"	15"	Textured	5877A156	33.62
1 13/16	2 1/2"	15"	Safety	5877A241	34.52

O'all Wt., lbs.	Face Dia.	O'all Lg.	Handle Grip		Each
Hammer Bodies with Glass-Filled Nylon Head (Cont.)					
2 7/8	3"	15"	Textured	5877A158	$43.32
2 7/8	3"	15"	Safety	5877A243	44.23
3 3/8	2 1/2"	15"	Textured	5877A159	42.02
3 3/8	2 1/2"	15"	Safety	5877A242	42.93
4 7/8	3"	15"	Textured	5877A161	52.61
4 7/8	3"	15"	Safety	5877A244	53.52
Sledge Bodies with Glass-Filled Nylon Head					
5 7/8	3"	32"	Textured	5877A245	68.04
6 5/16	3"	32"	Textured	5877A246	73.67
6 5/16	3"	32"	Safety	5877A247	74.58

Dead Blow Hammer and Dead Blow Sledge Bodies (Without Faces)

O'all Wt., lbs.	Face Dia.	O'all Lg.	Handle Grip		Each
Dead Blow Hammer Bodies with PVC Head					
11/16	1"	11 1/2"	Textured	59895A66	$17.10
13/16	1 1/2"	12 1/2"	Textured	59895A72	20.58
1 3/4	2"	13 1/2"	Textured	59895A73	32.56
2 11/16	2 1/2"	14 1/2"	Textured	59895A74	53.04

O'all Wt., lbs.	Face Dia.	O'all Lg.	Handle Grip		Each
Dead Blow Hammer Bodies with PVC Head (Cont.)					
4 1/4	3"	15 1/2"	Safety	5989A44	$64.91
Dead Blow Sledge Bodies with Aluminum Head					
10 9/16	4"	34"	Textured	5989A57	343.44
12 15/16	4"	34"	Textured	5989A59	369.53

Plastic Faces

Face Dia.	Thread Size	*Extra Soft (Gray)*	Each	*Soft (Brown)*	Each	*Medium Soft (Red)*	Each	*Medium (Green)*	Each	*Medium Hard (Cream)*	Each	*Hard (Black)*	Each	*Extra Hard (Yellow)*	Each
1"	1/4"-20	5877A31	$5.32	5877A41	$4.17	5877A51	$4.17	5877A61	$4.17	5877A71	$5.07	5877A81	$5.07	5877A91	$5.07
1 3/8"	1/4"-20	_____	___	5877A131	3.76	5877A132	3.76	5877A133	3.76	5877A134	6.99	_____	___	_____	___
1 1/2"	5/16"-18	5877A32	9.86	5877A42	6.14	5877A52	6.14	5877A62	6.14	5877A72	9.80	5877A82	9.80	5877A92	9.80
1 5/8"	5/16"-18	_____	___	5877A141	4.04	5877A142	4.04	5877A143	4.04	5877A144	9.78	_____	___	_____	___
2"	3/8"-16	5877A33	15.76	5877A43	9.37	5877A53	9.37	5877A63	9.37	5877A73	15.62	5877A83	15.70	5877A93	15.70
2 1/2"	7/16"-14	5877A34	26.57	5877A44	16.16	5877A54	16.16	5877A64	16.16	5877A74	26.07	5877A84	25.19	5877A94	25.19
3"	1/2"-13	5877A35	47.19	5877A45	24.53	5877A55	24.53	5877A65	24.53	5877A75	46.28	5877A85	46.28	5877A95	46.28
4"	1/2"-13	_____	___	5877A57	63.91	5877A96	63.91	5877A87	63.91	5877A58	82.28	5877A88	82.28	5877A59	82.28

Metal Faces

Face Dia.	Thread Size	*Soft Brass*	Each	*Steel*	Each
1 1/2"	5/16"-18	5877A22	$14.25	5877A101	$12.42
2"	3/8"-16	5877A23	$22.70	5877A102	$16.84

Create-Your-Own Replaceable-Face Split-Head Hammers



Hammer Body (Shown with Faces, Sold Separately)

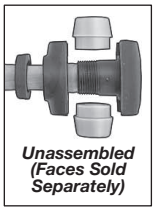

Unassembled (Faces Sold Separately)

It's faster and easier to change the faces on these split-head hammers than on press-fit style hammers. Just loosen the nut under the head, remove the face, insert the new face, and tighten the nut. The hammer bodies and faces are sold separately, so you can create a custom hammer for your application.

Bodies consist of a two-piece malleable iron hammer head, a nut to secure the assembly, and a replaceable hickory handle. ***Faces*** are available in your choice of materials. *Lead* consists of 94% lead and 6% antimony. *Rawhide* provides soft blows—great for assembly work. *Copper* allows high-impact blows but is soft enough not to damage precision parts. *Hard nitrile rubber* is green and is similar in hardness to a bowling ball. *Hard plastic* is made of yellow ultra-high molecular weight (UHMW) polyethylene and is similar in hardness to a hard hat.

Also Available: Replacement handles. Please ask for 5911A61 and specify the McMaster-Carr body part number.

Bodies (Without Faces)

O'all Wt., lbs.	Face Dia.	O'all Lg.		Each
1 1/2	1 1/4"	11"	5911A11	$32.69
1 3/4	1 1/2"	12 1/2"	5911A12	34.62
2 1/2	1 3/4"	13"	5911A13	38.46
3 1/2	2"	14"	5911A14	42.31
5 1/4	2 3/4"	15 3/4"	5911A15	59.62
7	2 3/4"	36"	5911A25	99.62

Faces

Face Dia.	*Lead*	Each	*Rawhide*	Each	*Copper*	Each	*Hard Rubber*	Each	*Hard Plastic*	Each
1 1/4"	5911A36	$40.57	5907A18	$9.00	5905A22	$7.02	5911A16	$11.61	5911A27	$7.29
1 1/2"	5911A37	46.93	5907A19	10.50	5905A23	9.42	5911A17	12.42	5911A28	8.33
1 3/4"	5911A38	70.26	5907A21	15.00	5905A24	13.08	5911A18	13.77	5911A29	11.46
2"	5911A39	94.44	5907A22	18.00	5905A25	19.23	5911A19	14.64	5911A31	13.54
2 3/4"	_____	___	5907A23	33.00	_____	___	5911A21	20.38	5911A51	25.00
2 3/4"	_____	___	5907A23	33.00	_____	___	5911A21	20.38	5911A51	25.00

Air-Powered Replaceable-Face Hammers



Palm-sized tools fit into tight spaces where swinging a hammer is not possible. They can deliver a single blow or up to 1,000 blows per minute. Both have a 1/4" NPT female air inlet and require compressed air at 60-125 psi, depending on force of impact required. Faces are 1 1/2" dia. and are replaceable. Hammers are 3 1/2" high and weigh 2 lbs.

Leather tool cover provides a comfortable grip and muffles sound. ***Maintenance/repair kit*** has six O-rings and a 0.05-oz. tube of lubricant.

		Each
Complete Hammers		
With Hard Plastic Face	6081A11	$269.79
With Steel Face	6081A12	290.62
Replacement Faces		
Extra-Soft Plastic (Red)	6081A15	24.48
Soft Plastic (Blue)	6081A16	24.48
Medium Plastic (Black)	6081A17	24.48
Hard Plastic (Yellow)	6081A13	24.48
Aluminum	6081A23	31.30
Steel	6081A14	42.20
Accessories		
Leather Tool Cover	6081A21	40.83
Maintenance/Repair Kit	6081A22	21.75

Hard Nylon Replaceable-Face Hammers



Made of nylon, the faces on these hammers resist chemicals and abrasion and won't mark your work. Faces screw on to the head. They're off-white and are similar in hardness to a bowling ball. Complete hammers include a chrome-plated zinc alloy head, two screw-on nylon faces, and a replaceable ash handle (unless noted).

For replacement handles, see page 2856.

O'all Wt., lbs.	Face Dia.	Thread Size	O'all Lg.	Complete Hammers	Each	Replacement Faces	Each
1/2	1"	7/16"-14	10"	5914A17	$15.89	5914A18	$2.66
3/4	1 1/4"	9/16"-12	11"	5914A1	17.65	5914A6	3.40
1 1/4	1 1/2"	5/8"-11	11 1/4"	5914A2	20.38	5914A7	4.40
1 1/2	1 3/4"	3/4"-12	12"	5914A3	24.14	5914A8	5.40
2 1/2	2"	13/16"-12	13"	5914A4★	39.15	5914A9	7.14
4 1/2	2 1/2"	1"-10	14"	5914A5★▲	52.62	5914A11	9.00

★ Replaceable hickory handle. ▲ Head is black-painted malleable iron.

Hard/Soft Plastic Replaceable-Face Hammers



Ideal for assembly applications where the components vary in hardness, hammers have a press-fit hard plastic face on one end and a press-fit soft plastic face on the other.

Hard face is yellow Surlyn, which is similar to the hardness of a bowling ball. Soft face is red Kraton, which is similar to the hardness of a shoe heel. Hammers have a forged steel head and a replaceable hickory handle. For replacement handles, see pg. 2856. **To Order:** For replacement faces, please specify hard or soft.

O'all Wt., lbs.	Face Dia.	O'all Lg.	Complete Hammers	Each	Repl. Faces	Each
9/16	1"	10 1/2"	3755A45	$15.55	3755A61	$2.10
1 1/8	1 3/8"	11 1/4"	3755A46	17.28	3755A62	2.18

Hard/Soft Rubber Replaceable-Face Hammer



You have two hardness options with this hammer. The white rubber face won't mark your work; it's medium hard and is similar in hardness to a plastic cutting block. The black rubber face is for general use; it's medium soft and similar in hardness to a shoe heel. Faces are replaceable and press-fit onto the head. Complete hammer has a forged steel head for extra driving power and a replaceable hickory handle. For replacement handles, see page 2856.

O'all Wt., lbs.	Face Dia.	O'all Lg.		Each
2 3/16	2"	14"	5939A11	$20.48
Black Replacement Face (Medium Soft)			5939A12	2.98
White Replacement Face (Medium Hard)			5939A13	2.98

Rawhide Replaceable-Face Hammers



Rawhide faces provide nonmarring blows on steel, brass, aluminum, and other soft metals. Faces press-fit onto the head. Worn faces can be removed by drilling out the center of the face. Complete hammers have a cast steel head, two press-fit rawhide faces, and a replaceable hickory handle (unless noted). **Also Available:** Replacement hickory handles. Please ask for 5907A25 and specify face diameter.

O'all Wt., lbs.	Face Dia.	O'all Lg.	Complete Hammers	Each	Repl. Faces	Each
3/4	1"	9"	5907A11●	$20.45	5907A17	$10.16
1	1 1/4"	10 7/8"	5907A12	38.50	5907A18	9.00
1 1/2	1 1/2"	10 7/8"	5907A13	45.42	5907A19	10.50
2 1/2	1 3/4"	12 1/4"	5907A14	54.17	5907A21	15.00
4	2"	13 1/2"	5907A15	62.92	5907A22	18.00
6 1/4	2 3/4"	13 1/2"	5907A16	97.83	5907A23	33.00

● Has a malleable iron head and replaceable ash handle.

Copper Replaceable-Face Hammers



Copper faces allow high-impact blows, yet are soft enough to reduce the possibility of damage to precision parts. Use on bronze, brass, aluminum, and ferrous alloys. Faces press-fit onto the head. Worn faces can be removed by drilling out the center of the face. Complete hammers come with a malleable iron head, two press-fit copper faces, and a replaceable hickory handle (unless noted). For replacement handles, see page 2856.

O'all Wt., lbs.	Face Dia.	O'all Lg.	Complete Hammers	Each	Repl. Faces	Each
1	1"	9"	5905A11■	$19.94	5905A21	$4.54
1 3/4	1 1/4"	10 3/4"	5905A12■	28.54	5905A22	7.02
2 3/4	1 1/2"	12"	5905A13	39.79	5905A23	9.42
4	1 3/4"	12"	5905A14	49.31	5905A24	13.08
6 1/2	2"	14"	5905A15	78.87	5905A25	19.23

■ Replaceable ash handle.

Extra-Hard UHMW Polyethylene Replaceable-Face Hammers



Made of ultra-high molecular weight (UHMW) polyethylene, the faces on these hammers screw on to the head and shrug off abrasion, impact, and corrosion. They're unaffected by water and coolants. Faces are yellow and similar in hardness to a hard hat. Complete hammers include a steel head, two screw-on UHMW polyethylene faces, and a nonreplaceable hickory handle (unless noted).

O'all Wt., lbs.	Face Dia.	Thread Size	O'all Lg.	Complete Hammers	Each	Replacement Faces	Each
1/8	5/8"	1/4"-20	8 1/8"	5912A21♠	$11.62	5912A18	$2.48
1/4	7/8"	5/16"-18	9 1/8"	5912A11♠	14.78	5912A16	3.16
7/16	1"	7/16"-14	10 1/4"	5912A22	17.80	5951A8	3.72
1/2	1 1/4"	7/16"-14	12"	5912A12	20.44	5912A17	4.02
1	1 1/4"	7/16"-14	12"	5912A13	21.89	5912A17	4.02
1 1/2	1 3/4"	1/2"-13	12 3/4"	5912A14	34.55	5912A19	6.29
2	1 3/4"	1/2"-13	12 3/4"	5912A15	36.20	5912A19	6.29

♠ Has an acetal handle with a cushion grip.

Acetal/Brass Replaceable-Face Hammer



Lightweight and versatile, this hammer has a screw-on acetal face on one side and a screw-on brass face on the other. Acetal is similar in hardness to a hard hat. Complete hammer includes an aluminum head, two screw-on faces (one acetal, one brass), a nonreplaceable maple handle, and a spanner wrench to remove and replace the faces. ***Replacement face set*** includes one acetal face, one brass face, and a spanner wrench.

O'all Wt., lbs.	Face Dia.	Thread Size	O'all Lg.	Complete Hammer	Each	Replacement Face Set	Each
1/4	1/2"	5/8"-32	9"	6086A13	$17.21	6086A15	$7.37

Rubber Hammers



White Rubber with Hardwood Handle



Black Rubber with Fiberglass Handle and Cushion Grip

Also known as rubber mallets, these hammers deliver a heavy blow, yet they have soft faces that won't damage your work. Made of a blend of natural and synthetic rubber, the head is molded and cured for strength. Handle is nonreplaceable, unless noted.

Rubber hammers are offered with either a hardwood handle or a fiberglass handle. 5917A7 and *A8* include a cushion grip. *White* hammers are nonmarking. ***No-bounce rubber*** hammers have fibrous layers in the head to greatly reduce bounce and rebound.

O'all Wt., lbs.	Face Dia.	O'all Lg.	Black	Each	White	Each
Rubber with Hardwood Handle						
5/8	1 5/8"	12 1/2"	5917A1	$10.85	5878A3	$11.71
1	2 1/4"	12 1/2"	5917A2	12.41	5878A5	15.12
1 1/2	2 1/4"	14"	5917A3	13.43	5878A4	16.95
2 1/8	2 1/2"	15 1/2"	5917A6	17.45	5878A6	20.73
2 5/8	2 1/2"	16"	5917A4	20.72	5878A7	24.76
4	3 1/8"	16 1/2"	5917A5	36.10	5878A8	38.90
Rubber with Fiberglass Handle						
15/16	1 3/4"	12 1/2"	5917A7★	18.74		
1 3/8	2 1/8"	12 1/2"			5878A11	16.04
1 7/8	2 1/2"	15 3/4"	5917A8★	25.03		
2 1/2	2 1/2"	15 1/2"			5878A12	20.57
3 1/8	2 1/2"	16"	5917A11	22.45		
5	3 1/8"	16 1/2"	5917A12	34.91		
No-Bounce Rubber with Hickory Handle						
5/8	2"	12"	5916A1	44.55		
1 1/4	2 1/2"	14"	5916A2	58.18		
1 3/4	2 7/8"	14"	5916A3	60.00		
2 1/2	3 1/2"	14"	5916A4	89.98		

★ Handle is replaceable. For replacement handles, see page 2856.

Soft Alloy Replaceable-Head Hammers



An excellent alternative to lead hammers. The head is cast of a heavy zinc-aluminum material that's soft and ductile like lead, but more wear-resistant and longer lasting. To replace the head, simply remove the socket cap screw. Handle is steel and has a textured nonslip rubber grip that resists water, oil, and chemicals.

Also Available Replacement steel handles. Please ask for 6042A61 and specify face diameter.

O'all Wt., lbs.	Face Dia.	O'all Lg.	Hammers	Each	Repl. Heads	Each
3/4	31/32"	7 3/4"	6042A32	$46.25	6042A52	$16.59
1	1 3/16"	11 3/4"	6042A41	52.71	6042A55	20.73
2	1 7/16"	11 3/4"	6042A42	58.64	6042A56	26.91
3	1 3/4"	12"	6042A43	66.32	6042A57	34.77
4	1 15/16"	12"	6042A44	72.89	6042A58	44.07
5	2 3/64"	12"	6042A45	84.66	6042A59	54.19
14 3/4	2 43/64"	31 1/2"	6042A46●	164.36	6042A53	77.53

● Also known as a sledge.

Hickory Hammers



Made entirely of hickory, these top-quality hammers are well-balanced and coated with a clear, waterproof sealer. They're also known as wooden mallets. Use them on wood and for light duty sheet metal work. Handle is nonreplaceable.

O'all Wt., lbs.	Face Dia.	O'all Lg.		Each
3/16	7/8"	9 1/2"	5899A23	$6.75
3/8	1 3/8"	11"	5899A24	7.45
5/8	2"	12 7/8"	5899A15	10.45
7/8	2 1/4"	13"	5899A16	10.74
1	2 1/2"	13"	5899A17	12.09
1 1/8	2 3/4"	13 1/4"	5899A18	14.80
1 3/8	3"	13 1/2"	5899A19	15.96
1 7/8	3 1/2"	14 7/8"	5899A21	17.84

Rawhide and Weighted Rawhide Hammers



Rawhide hammers cause minimal surface distortion. Also known as rawhide mallets, they're great for bending and fabricating sheet materials such as brass, copper, and steel. Handle is hickory and is replaceable. For replacement handles, see page 2856. ***Rawhide*** hammers have large-diameter faces that are great for use on broad surfaces. ***Weighted rawhide*** hammers are filled with lead to give a heavier, balanced blow.

O'all Wt., lbs.	Face Dia.	O'all Lg.		Each
Rawhide				
1/8	1"	8"	5908A11	$16.13
1/4	1 1/4"	9 1/4"	5908A12	16.28
3/8	1 1/2"	10"	5908A13	19.05
9/16	1 3/4"	11 1/2"	5908A14	24.40
11/16	2"	11 3/4"	5908A15	28.02
1 3/8	2 3/4"	13 1/2"	5908A16	49.74
1 1/2	2 3/4"	13 1/2"	5908A17	54.22
Weighted Rawhide				
1/2	1 1/4"	9 1/4"	5908A51	34.50
3/4	1 1/2"	9 1/2"	5908A19	38.05
1	1 3/4"	11 1/2"	5908A21	44.21
1 1/4	2"	11 3/4"	5908A22	58.06
2 1/2	2 3/4"	13 1/2"	5908A23	96.56

Plastic Hammers



Sometimes called plastic mallets, these hammers deliver a soft blow. The head is made of opaque-yellow ultra-high molecular weight (UHMW) polyethylene; it's similar in hardness to a plastic cutting board. Handle is hickory and is nonreplaceable.

O'all Wt., lbs.	Face Dia.	O'all Lg.		Each
5/16	1 1/4"	10 3/4"	5913A1	$7.58
7/16	1 1/2"	10 3/4"	5913A3	9.12
1/2	1 3/4"	10 3/4"	5913A6	9.75
3/4	1 3/4"	13 1/2"	5913A5	13.35

Lead Hammers and Hammer Molds



Complete Hammer with Steel Handle



Complete Hammer with Hickory Handle

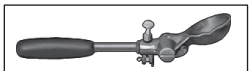

Clamping Mold and Handle

Hammer heads are made of 95% lead and 5% antimony, giving them a longer life than heads made of 100% lead. Although lead is the softest metal offered within nonmarring hammers, it produces a heavy blow with minimal rebound and no surface blemishes. Use on plastics and soft, nonferrous metals such as copper and aluminum.

Hammers with Steel Handle—*Complete hammers* have a steel handle with a comfortable rubber grip. You can also make your own steel-handle hammers using molds, handles, and lead hammer metal, all sold separately. *Molds* have a built-in ladle that holds the exact amount of molten lead needed to form the hammer head. A C-clamp and thumb screw hold the mold together until the metal has set. *Handles* are reusable and made of solid steel with a rubber grip. *Lead hammer metal* is 94.25% lead and 5.75% antimony and comes in a 5-lb. bar. Pouring temp. range is 650° to 700° F. Melting point is slightly lower. ***Hammers with Hickory Handle—***Have a nonreplaceable hickory handle.

Steel-Handle Hammers

O'all Wt., lbs.	Face Dia.	O'all Lg.	Complete Hammers	Each	Molds	Each	Handles	Each
1 1/4	3/4"	10"	5961A41	$28.50	5961A12	$80.50	5961A31	$19.00
2 1/4	1 3/16"	10 1/8"	5961A42	34.00	5961A13	90.00	5961A31	19.00
3	1 5/8"	10 1/8"	5961A43	38.50	5961A14	108.00	5961A33	22.50
4	1 9/16"	10 1/4"	5961A44	43.00	5961A15	98.50	5961A33	22.50
5	1 5/8"	10 1/2"	5961A45	45.50	5961A16	112.50	5961A33	22.50
6	1 3/4"	11"	5961A46	48.00	5961A17	118.76	5961A33	22.50
12 1/2	2"	27 1/8"	5961A52●	77.00				

Lead Hammer Metal (For Steel Handle Only) ..... 9045K11 Each $28.77

● Also known as a sledge.

Hickory-Handle Hammers

O'all Wt., lbs.	Face Dia.	O'all Lg.		Each
3/4	7/8"	9 1/2"	5910A1	$17.68
1 1/2	1 1/4"	12"	5910A2	20.92
2 1/2	1 1/2"	12 1/2"	5910A3	25.75
4 1/2	2"	14"	5910A4	37.09
7 1/2	2"	18"	5910A5	54.78
10	2 1/2"	36"	5910A22●	77.29

● Also known as a sledge.

One-Piece Aluminum Hammers

Aluminum alloy hammers are soft like copper, but lighter in weight. Good for use on steel molds and brass and copper alloys. Handle is grooved for a sure grip and is nonreplaceable.

O'all Wt., lbs.	Face Dia.	O'all Lg.		Each
1	1¼"	10¾"	5930A1	$11.58
1½	1⅞"	11"	5930A2	16.19
2	2"	12¾"	5930A3	21.06
3	2½"	14¾"	5930A4	28.60



Copper Hammers and Sledges

Slightly softer than brass, copper is the perfect choice when striking aluminum, brass, bronze, ferrous alloys, and other brittle surfaces.

Styles A&C— All have a replaceable hickory handle with a textured, nonslip coating. **Also Available:** Replacement hickory handles. Please ask for 5915A5 and specify overall weight.

Style B— Hammers have a replaceable fiberglass handle with a cushion grip. All have a handle guard to prevent breakage if you miss your mark. For replacement handles, see page 2856.





	O'all Wt., lbs.	Face Dia.	O'all Lg.		Each
Hammers					
A	½	13/16"	10"	5915A12	$20.97
A	1	1 1/16"	12"	5915A13	34.27
A	1½	1¼"	13"	5915A14	40.27
A	2	1½"	13"	5915A15	49.02
A	2½	1 9/16"	13"	5915A18	57.24
A	3	1 11/16"	14"	5915A16	65.56
A	4	1¾"	16"	5915A17	83.33
A	5	1⅞"	16"	5915A24	102.40
B	1 3/16	1 1/16"	13"	6181A15	31.96
Hammers (Cont.)					
B	1⅜	1 3/16"	14"	6181A11	$43.73
B	1⅞	1¼"	14 1/2"	6181A12	51.82
B	2½	1 5/16"	14 1/2"	6181A13	69.64
B	3 11/16	1¾"	15"	6181A14	89.64
Sledges					
C	6	1⅞"	24"	5915A19	123.38
C	8	2"	24"	5915A21	171.91
C	10	2¼"	24"	5915A22	217.78
C	12	2⅜"	30"	5915A23	260.53
C	15	2½"	36"	5915A25	420.66

Brass Hammers and Sledges

A medium-hard material, brass can be used to strike steel, iron, stone, and other hard surfaces. Also used to bend and form sheet metal.

Styles D&H— Have a replaceable hickory handle with a textured, nonslip coating. **Also Available:** Replacement handles. Please ask for 5978A5 and specify overall weight.

Styles E&J— Have a nonreplaceable tubular steel handle with a textured, nonslip coating.

Style F— Have a nonreplaceable aluminum handle with a textured grip, except for ¼- and ⅝-lb. hammers, which have a smooth grip.

Style G— Have a replaceable fiberglass handle with safety grip to prevent your hand from slipping. A handle guard prevents breakage if you miss your mark. For replacement handles, see pg. 2856.









	O'all Wt., lbs.	Face Dia.	O'all Lg.		Each
Hammers					
D	½	13/16"	10"	5978A11	$22.97
D	1	1 1/16"	12"	5978A12	29.65
D	1½	1¼"	14"	5978A13	34.23
D	2	1½"	14"	5978A14	39.96
D	2½	1⅜"	14"	5978A15	45.50
D	3	1 11/16"	14"	5978A16	49.93
D	4	1¾"	16"	5978A17	65.33
D	5	1⅞"	16"	5978A18	78.80
E	1	15/16"	10"	59805A24	24.62
E	1½	1 3/16"	13"	59805A25	25.43
E	2	1¼"	13"	59805A26	30.67
E	2½	1 7/16"	13"	59805A27	31.33
E	3	1 5/16"	13"	59805A28	40.63
E	4	1¾"	15"	59805A29	57.73
E	5	1 15/16"	15"	59805A31	72.67
F	¼	¾"	5 1/2"	6024A4	10.66
F	⅝	15/16"	7 1/4"	6024A5	17.03
Hammers (Cont.)					
F	1	1⅛"	9 1/16"	6024A6	$21.98
F	1¼	1¼"	9 7/8"	6024A7	26.00
F	2	1½"	10 1/2"	6024A8	43.19
F	3	1¾"	12 1/4"	6024A9	58.67
G	2 1/16	1"	12"	6088A32	42.06
G	2¾	1¼"	12"	6088A34	65.07
G	4	1⅝"	12"	6088A36	110.34
Sledges					
H	6	1⅞"	24"	5978A19	99.54
H	8	2"	24"	5978A21	132.11
H	10	2¼"	24"	5978A22	165.56
H	12	2⅜"	30"	5978A23	204.67
H	15	2½"	36"	5978A24	331.91
J	6	1 13/16"	20"	59805A32	91.44
J	8	2"	20"	59805A33	120.98
J	10	2⅛"	30"	59805A34	153.67
J	12	2¼"	30"	59805A35	185.00
J	15	2½"	30"	59805A36	221.11

Bronze Hammers and Sledges

Bronze is the hardest nonmarring material. It's ideal for striking tool steel and other hard metals.

Style K— Hammers have two square faces and a replaceable hickory handle. The handle is grooved to prevent your hand from slipping.

Style L— Have two square faces and a fiberglass handle. The handle is encapsulated in urethane and has a textured grip. Handle is nonreplaceable.

Style M— Hammers have one round face and one extended tapered nose for access to hard-to-reach areas. Handle is made of hickory and is replaceable. The handle is grooved to prevent your hand from slipping.

Style N— Slimline design has a round face on one end and a needle nose on the other for reaching into tight spaces. Handle is made of hickory and is replaceable.

Style P— These sledges have two square faces and a replaceable hickory handle.

Also Available: Replacement hickory handles. Please ask for 5893A35 and specify overall weight.











	O'all Wt., lbs.	Face Dia.	O'all Lg.		Each
Hammers					
K	1⅜	7/8" sq.	12"	5893A11	$42.70
K	2¼	1¼" sq.	13"	5893A12	63.92
K	4¼	1½" sq.	14"	5893A13	105.20
L	1 7/16	7/8" sq.	12"	5854A71	75.70
L	2⅜	1¼" sq.	12"	5854A72	95.74
L	4⅜	1½" sq.	14"	5854A73	103.28
M	¾	13/16"	11"	5897A21	32.52
Hammers (Cont.)					
M	1¼	1"	12"	5897A22	$37.94
M	1½	1⅛"	13"	5897A23	47.86
N	3/16	7/16"	10"	5897A11	23.44
N	⅜	½"	11"	5897A12	26.86
Sledges					
P	4½	1½" sq.	24"	5943A1	122.98
P	8¼	2" sq.	32"	5943A2	199.87

Ball Peen Hammers

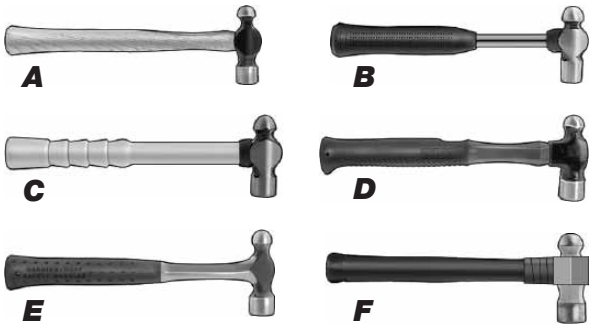

A slightly rounded striking face with a beveled edge gives these hammers the ability to handle any job from light duty tapping to heavy duty forming. Use them for striking chisels and punches, as well as for setting rivets. The peen end is especially good for forming unhardened metal.

Style A—These classic style hammers have a steel head and a replaceable hickory handle. For replacement handles, see page 2856.

Styles B&C—Have a steel head with a solid fiberglass handle. All have a handle guard to prevent breakage if you miss your mark. For replacement handles, see page 2856. *Style B* has a smooth grip. *Style C* has a safety grip that's ribbed to prevent your hand from slipping.

Style D—Has a steel head and a sturdy graphite handle that's encased in molded PVC to prevent breakage if you miss your mark. The handle has a textured grip and is nonreplaceable.

Style E—Made from one piece of solid steel, these hammers have a cushion grip. The handle is nonreplaceable.

Style F—Head is steel. Handle is made of heat-treated steel rods that are surrounded by abrasion-resistant rubber. The rubber absorbs shock and reduces fatigue. Handle is unbreakable and nonreplaceable.

	Head Wt., oz.	Face Dia.	O'all Lg.		Each
A	2	1/2″	10 1/4″	**5855A11**	$10.73
A	4	3/4″	10 1/4″	**5855A12**	10.73
A	8	1″	11 3/4″	**5855A13**	11.09
A	12	1 1/8″	12″	**5855A14**	12.14
A	16	1 1/4″	13 3/4″	**5855A15**	13.09
A	20	1 5/16″	15″	**5855A16**	14.29
A	24	1 3/8″	15 1/4″	**5855A17**	15.95
A	32	1 1/2″	15 3/4″	**5855A18**	17.91
A	40	1 21/32″	16″	**5855A19**	21.72
A	48	1 13/16″	16″	**5855A21**	25.58
B	4	3/4″	11″	**5968A21**	18.05
B	8	15/16″	11″	**5968A11**	19.30
B	12	1″	12″	**5968A12**	20.60
C	16	1 3/16″	13 3/4″	**5968A13**	21.85
C	20	1 7/32″	13 3/4″	**5968A22**	23.50
C	24	1 5/16″	14″	**5968A14**	25.96
C	32	1 13/32″	14″	**5968A15**	28.41
C	40	1 9/16″	16″	**5968A16**	34.80
C	48	1 13/16″	16″	**5968A17**	43.44
D	16	1 9/32″	12 3/4″	**58945A31**	19.48
E	8	31/32″	11″	**5858A15**	21.14
E	12	1 5/64″	11″	**5858A16**	21.48
E	16	1 5/16″	13″	**5858A11**	23.01
E	24	1 15/32″	13 1/2″	**5858A12**	23.64
E	32	1 41/64″	14 1/2″	**5858A13**	25.72
F	24	1 7/32″	14″	**5518A12**	44.22
F	32	1 21/64″	14″	**5518A14**	49.52

Extra-Hard UHMW Polyethylene Replaceable-Face Tapping Hammers



Here's a hammer without a handle that's great for tapping work into position. These nonmarring hammers have a hex-shaped steel body that won't roll when you set it down. Hammers include two screw-on faces that are made of ultra-high molecular weight (UHMW) polyethylene to resist abrasion, impact, and corrosion. Faces are yellow and similar in hardness to a hard hat.

O'all Wt., lbs.	Face Dia.	Thread Size	O'all Lg.	***Complete Hammers***	Each	***Replacement Faces***	Each
5/8	5/8″	1/4″-20	6 1/4″	**5951A1**	$15.38	**5912A18**	$2.48
1 1/4	1″	7/16″-14	6 3/4″	**5951A4**	22.52	**5951A8**	3.72

Riveting and Setting Hammers

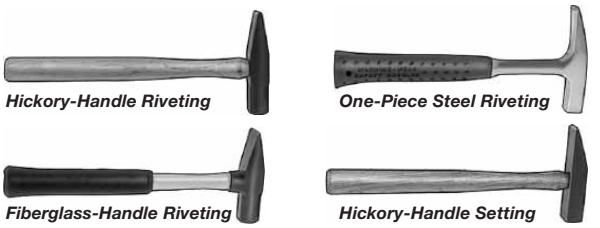

Riveting Hammers—Also known as tinners' hammers, these are great for driving and spreading rivets in sheet metal.

Setting Hammer—Also known as paneing or seaming hammers. Use to form sheet metal corners, close seams, and insert glazing points.

Hickory-handle models have a forged steel head and replaceable handle. For replacement handles, see page 2856. ***One-piece steel*** models are forged from a single piece of steel and have a nylon vinyl hand grip to reduce shock. Handle is nonreplaceable. ***Fiberglass-handle*** model has a forged steel head, slip-resistant PVC hand grip, and nonreplaceable handle.

Head Wt., oz.	Handle Material	O'all Lg.		Each
Riveting Hammers				
8	Hickory	11″	**5860A5**	$24.31
12	Hickory	13 1/2″	**5860A1**	25.13
12	One-Piece Steel	11″	**6069A5**	33.90
16	Hickory	14″	**5860A3**	34.15
16	Fiberglass	12 1/2″	**58605A1**	21.03
18	One-Piece Steel	12″	**6069A6**	34.71
Setting Hammer				
16	Hickory	13 1/2″	**5860A4**	35.81

Bricklayers', Masons', and Tilesetters' Hammers



Hammers have a carbon steel head with a square flat face on one end and a curved chisel on the other for trimming, shaping, and cutting bricks, concrete blocks, and masonry tiles. They're also good for chipping mortar off bricks. The handles can be replaced on the steel-head hammers (see page 2856 for replacement handles); the handles are not replaceable on the one-piece hammers.

Head Wt., oz.	Face Size	O'all Lg.		Each
Steel Head with Hickory Handle				
16	15/16″ × 15/16″	10 3/4″	**5863A3**	$24.48
24	1 1/16″ × 15/16″	11 1/4″	**5863A1**	26.55
Steel Head with Fiberglass Handle				
25	1″ × 1″	12″	**5847A16**	43.08
One-Piece Steel with Cushion Grip				
16	13/16″ × 13/16″	11″	**6063A11**	26.60
20	29/32″ × 7/8″	11″	**6063A2**	27.59
24	7/8″ × 59/64″	11″	**6063A3**	29.15

One-Piece Steel Pick Hammers



Also known as geologists' picks, these hammers have a pointed tip on one end for prying and removing rock; the other face is square and flat with beveled edges. Hammers are forged from a single piece of carbon steel. Handles are nonreplaceable and have a shock-reducing cushion grip (unless noted).

Head Wt., oz.	Face Size	O'all Lg.		Each
14	23/32″ × 3/4″	11″	**6064A1**	$26.86
22	13/16″ × 7/8″	13″	**6064A2**	27.05
22	13/16″ × 7/8″	16 1/2″	**6064A7**	30.83
22	13/16″ × 57/64″	12 1/2″	**6064A5**■	35.09

■ Has a double-lacquered leather grip.

Heavyweight Hammers

Strike a powerful blow, even when swing area is limited. Hammers have a shorter handle than sledges for use in confined work areas. All heads have a polished striking face with beveled edges.

One-Piece Steel Hammers—Head and handle are forged from a single piece of steel, unless noted. Head is made of painted carbon steel. Handle is nonreplaceable; a cushion grip reduces shock.

Hickory Handle Hammers—Head is made of carbon steel with a lacquered finish. Hammers have a hickory handle that is replaceable. For replacement handles, see page 2856.

Fiberglass Handle Hammers—Head is made of painted carbon steel. Handle is fiberglass and encapsulated in polypropylene, which prevents handle from breaking if you miss your mark. Handles are replaceable. For replacement handles, see page 2856.


A *One-Piece Steel*


A *w/Hickory Handle*


B *One-Piece Steel*


C *w/Fiberglass Handle*

Style A

This is the most popular style within the heavyweight hammer family. Also called engineers' hammers, they're for forming metal and for driving punches, cold chisels, and rock drills.

Head Wt., lbs.	Face Dia.	O'all Lg.		Each
One-Piece Steel				
2½	1 35/64"	13½"	6066A13	$27.17
Hickory Handle				
2½	1½"	15½"	5882A1	18.85
3	1¾"	15½"	5882A2	18.15
4	2"	15½"	5882A3	18.73
6	2"	15½"	5882A4	26.02
8	2"	15½"	5882A5	30.87
Fiberglass Handle				
2	1½"	14"	60485A11	24.96
3	1 5/8"	14"	60485A12	28.20
4	1¾"	14"	60485A13	31.08
6	2 1/8"	16"	6048A21	38.12
8	2¼"	16"	6048A23	44.22
10	2½"	16"	6048A24	53.35

Style B

Also known as drilling, club, and crack hammers, these rugged striking tools are just what you need for demolishing masonry. Also for driving steel chisels, masonry drills, and hardened nails.

Head Wt., lbs.	Face Dia.	O'all Lg.		Each
One-Piece Steel				
2	1 3/32"	10½"	5922A1	$28.70
3	1 17/64"	11"	5922A2	27.77
4	1 17/64"	11½"	5922A3	31.30
4	1 19/64"	16"	5922A4	32.72
Hickory Handle				
2	1½"	9 7/8"	5902A1	14.12
3	1 5/8"	9 7/8"	5902A2	15.99
4	1¾"	9 7/8"	5902A3	18.35
Fiberglass Handle				
2	1¼"	10"	5850A55	26.81
3	1 3/8"	10"	5850A56	28.20
4	1 9/16"	10"	5850A57	29.86

Style C

Often called blacksmiths' or cross peen hammers. One end has a beveled face for striking unhardened metal, concrete, and stone; the other end has a cross peen for shaping and bending unhardened metal.

Head Wt., lbs.	Face Dia.	O'all Lg.		Each
One-Piece Steel				
1½	1 5/16"	13"	5318A11★	$31.26
2	1 7/16"	13"	5318A12★	32.56
2½	1 5/8"	14"	5318A13★	33.48
Hickory Handle				
2½	1½"	15"	5881A2	20.40
3	1¾"	15"	5881A4	23.77
4	1 7/8"	15"	5881A5	29.72
Fiberglass Handle				
3	1 5/8"	14"	5923A61	33.94
4	1¾"	14"	5923A62	37.37

★Head and handle are two-piece welded construction.

Sledges

Also known as blacksmith-style sledges, these tools provide maximum striking power for all of your extra-tough jobs. All sledges have crowned and beveled striking faces. Use them for striking stone, concrete, and hardened nails, unless noted.

Hickory Handle



Heads are made of clear lacquer-coated carbon steel and have polished faces. Handles are hickory and can be replaced. For replacement handles, see page 2856.

Head Wt., lbs.	Face Dia.	O'all Lg.		Each
6	2 13/64"	35"	5884A14	$24.33
8	2 3/8"	35"	5884A15	27.56
10	2½"	35"	5884A16	37.11
12	2 5/8"	35"	5884A17	40.72
16	2 7/8"	35"	5884A18	54.94
20	3¼"	35"	5884A19	70.05

Fiberglass Handle



Heads are made of painted carbon steel and have polished faces. Handles are solid fiberglass that is coated with polypropylene to reduce impact and prevent breakage if you miss your mark. Handles are replaceable. For replacement handles, see page 2856.

Head Wt., lbs.	Face Dia.	O'all Lg.		Each
6	2 1/8"	32"	6048A14	$41.37
8	2¼"	32"	6048A15	47.10
10	2½"	32"	6048A16	52.90
12	2 5/8"	32"	6048A17	61.32
16	2 7/8"	34½"	6048A18	79.36
20	3¼"	34¼"	6048A19	115.34

Steel-Reinforced Rubber Handle



Handles are unbreakable—they are reinforced with heat-treated steel rods and covered with heavy duty molded rubber to reduce shock and fatigue. Heads are tempered steel and coated with high-visibility green paint. Handles are nonreplaceable.

Head Wt., lbs.	Face Dia.	O'all Lg.		Each
8	2 1/8"	24"	5895A44	$97.11
8	2 1/8"	30"	5895A45	104.17
14	2 13/32"	30"	5895A48	151.84

Shock-Absorbing Safety Sledges

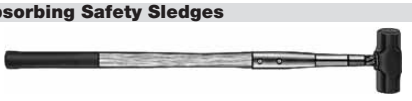

A 1" diameter steel cable connects the replaceable hickory handle to the painted carbon steel head to reduce shock. The cable is protected by a stainless steel sheath. Faces are polished.

Head Wt., lbs.	Face Dia.	O'all Lg.		Each
6	2 1/8"	37"	5988A22	$169.25
8	2¼"	37½"	5988A23	180.09
10	2½"	37¾"	5988A24	186.07
12	2½"	38"	5988A25	196.93
16	2 7/8"	38"	5988A26	230.56
Replacement Hickory Handle			5988A29	Each $29.24

Driving Maul

A maul is similar to a sledge hammer, but has a longer, slimmer head. It's often used to drive and punch out pins when aligning structural steel components or maintaining machines. Also known as a spike maul, this tool is great for driving railroad spikes. Head is made of carbon steel with a painted finish. Handle is hickory and can be replaced; for a replacement handle, see page 2856.



Head Wt., lbs.	Face Dia.	O'all Lg.		Each
10	1¼", 1 5/8"	36"	5932A8	$104.76

Sledge and Ax Handle Protectors

Add a durable rubber collar to your tool's handle to protect it from cracking and the wear that can occur if you miss your mark.


A **B** **C** **D**

	Inside Lg.	Inside Wd.		Each
For Most Sledges and Splitting Maul Handles				
A	1 3/16"	15/16"	5955A11	$9.38
B	1 5/8"	1"	5955A12	9.38
For Sledges and Splitting Mauls w/Ax-Eye Handles				
C	1 7/8"	11/16"	5955A13	9.00
For Single-Bit Ax Handles				
D	2"	½"	5955A14	9.00



Sheet Metal Forming Tools

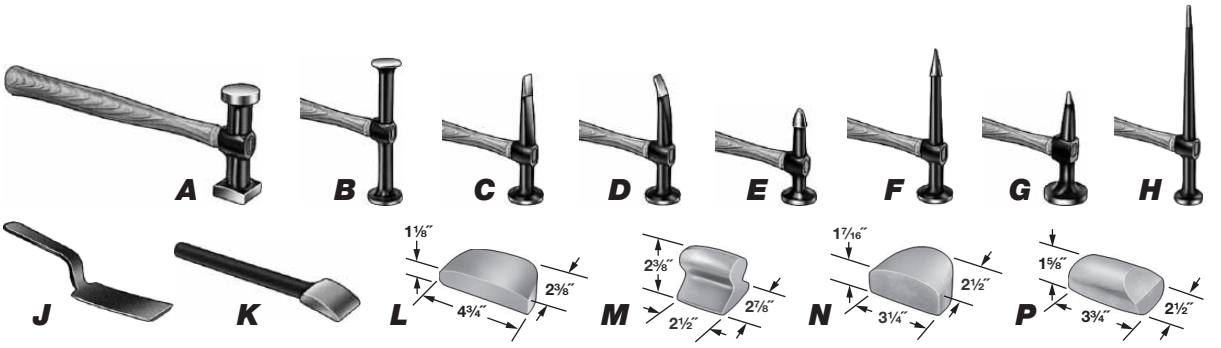

Also known as body and fender tools, these tools are excellent for forming and repairing dents in sheet metal components. All are made of forged steel.

(A-H) Hammers— All measure approximately 12″ long and have a smooth face (except where noted).

(J) Dinging Spoon— To protect the finish of your workpiece, place this tool against the workpiece you're forming or repairing and strike with a hammer. It's often used to smooth ridges.

(K) Dolly Block with Handle— A long handle allows this tool to get into hard-to-reach spots.

(L-P) Dolly Blocks— Place blocks on the back side of your workpiece to act as a support when you strike the workpiece.

Replacement Handles

Designed for use with hammers A-H. All are approximately 12″ long.

Material		Each
Hickory	6689A3	$8.62
Fiberglass	6689A71	15.81

Hammers

	Head Wt., lbs.	Head Lg.	Face Size	With Hickory Handle	Each	With Fiberglass Handle	Each
A	9⁄16	4″	1¼″ Round End●, 1⅛″ Square End	6689A1	$45.55	6689A44	$50.27
A	⅞	4″	1¼″ Round End, 1³⁄₁₆″ Square End	6689A21	34.90	6689A45	39.61
B	¾	6″	1¼″ Round End, 1⁹⁄₁₆″ Round End	6689A22	36.60	6689A54	41.29
C	½	5½″	⅝″ Chisel End, 1⁹⁄₁₆″ Round End	6689A31	34.43	6689A41	39.10
D	½	5½″	⅝″ Chisel End, 1⁹⁄₁₆″ Round End	6689A51	37.36	6689A42	42.05
E	½	4″	Rounded Cone End, 1⁹⁄₁₆″ Round End	6689A69	32.78	6689A46	37.50
F	9⁄16	6⅜″	Pointed Cone End, 1⁹⁄₁₆″ Round End	6689A68	34.79	6689A43	39.42
G	9⁄16	4½″	Pick End, 1⅞″ Round End	6689A35	36.09	6689A56	40.78
H	9⁄16	8⅛″	Pick End, 1¼″ Round End	6689A32	35.90	6689A55	40.56

● Has a milled (serrated) face.

Dinging Spoon

	Spoon Base Size	O'all Lg.	Wt., lbs.	Each
J	4⁵⁄₁₆″ Lg. × 2″ Wd. × 5⁄32″ Thick.	10″	½	6689A28 $25.16

Dolly Block with Handle

	Head Size	O'all Lg.	Wt., lbs.	Each
K	3″ Lg. × 2½″ Wd. × 1″ Thick.	14″	4³⁄₁₆	6689A49 $47.29

Dolly Blocks

	Wt., lbs.	Each
L	3	6689A23 $49.16
M	3	6689A24 50.30
N	2¹¹⁄₁₆	6689A26 41.21
P	3⅛	6689A48 48.64

Welders' Chipping and Scaling Hammers



Chip away unwanted weld spatter and slag as well as rust and paint from metals. All hammers have a steel head and shank (unless stated otherwise). Handles are replaceable, except for the handle on Style R hammers. ***Styles T*** and ***U*** have a wire coil handle that provides a flexible grip and dissipates heat. ***Style U*** also has a replaceable wire brush and is made entirely of steel.

Head Wt., lbs.	Head Lg.	Head Style	O'all Lg.		Each
(Q) Hickory Handle					
1	7¾″	Pick/Chisel	12″	5866A2	$16.69
1	8¼″	Pick/Cross Chisel	12″	5866A1	17.13
(R) One-Piece Forged Steel with Cushion-Grip Handle					
⅞	7¼″	Pick/Chisel	11″	5938A14	31.50
(S) Hickory Hand-Grip Handle					
⅝	6½″	Pick/Chisel	10½″	7905A11	12.30
(S) Type 420 Stainless Steel Head with Hickory Hand-Grip Handle					
⅝	6½″	Pick/Chisel	10½″	7905A32	20.26
(T) Wire Coil Handle					
⅝	6½″	Pick/Chisel	10½″	7842A11	9.94
⅝	6½″	Pick/Cross Chisel	10½″	7842A13	9.94

Head Wt., lbs.	Head Lg.	Head Style	O'all Lg.		Each
(T) Wire Coil Handle (Cont.)					
⅝	6½″	Cross Chisel/Chisel	10½″	7842A12	$9.94
(T) Type 420 Stainless Steel Head with Wire Coil Handle					
⅝	6½″	Pick/Chisel	10½″	7842A14	20.20
(U) Combination Wire Brush and Chisel with Wire Coil Handle					
½	3⅞″	Chisel/Brush	11½″	7954A11	19.67
Replacement Handles and Brushes					
Replacement Handle for Style Q				5866A3	5.30
Replacement Handle for Style S				7905A65	3.98
Replacement Handle for Style T and Style U				7842A65	1.74
Replacement Steel Wire Brush for Style U				7954A14	3.59
Optional Type 302 Stainless Steel Brush for Style U				7954A16	7.72

Magnetic Tack Hammers



Also known as upholstery hammers, these hammers have a tapered head for driving tacks in confined areas. For added convenience, one end of the hammer head is permanently magnetized to hold tacks. The head is forged steel with a polished finish; handle is hickory and nonreplaceable.

Head Wt., lbs.	Head Lg.	O'all Lg.		Each
¼	3½″	11″	5861A2	$36.21
5⁄16	4⅛″	11″	5861A6	39.80
½	4⅜″	10½″	5861A7	41.02

Magnetic Brad Driver



The magnetic point holds the brad; push the handle to easily drive and countersink 16-ga. brads up to 1½″ long. Shaft is carbon steel; handle is hardwood. Overall length is 6″.

5702A11 ..... Each $6.84

For replacement handles, see page 2856.

Nail Hammers

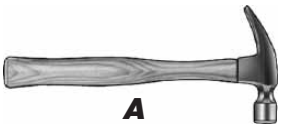









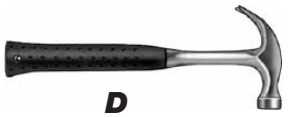

Hit the nail on the head with any one of these hammers. All have a polished head. Choose hammers with a ***straight claw*** for ripping and prying; hammers with a ***curved claw*** are for removing nails. Hammers with a ***milled (serrated) face*** prevent the head from slipping when striking.

Style A have a hickory handle that's replaceable.

Style B have a fiberglass handle that resists breakage if you miss your mark. Handles are nonreplaceable. *Straight claw* hammers have a hollow core that reduces vibration and a smooth cushion grip that reduces fatigue. *Curved claw* hammers have a solid core that reduces impact and wear. A cushioned safety grip prevents your hand from slipping.

Style C have a graphite handle with a graphite core and a molded polycarbonate casing that reduces shock and prevents breakage if you miss your mark. Hammers also have a ribbed cushion grip for added shock reduction. Handles are nonreplaceable.

Style D have a cushion grip that reduces shock. The handles are nonreplaceable.

Head Wt., oz.	O'all Lg.	Face Style	Straight Claw	Each	Curved Claw	Each
(A) Forged Steel Head with Hickory Handle						
10	11″	Smooth	5874A3	$16.14	5852A6	$17.84
13	12½″	Smooth	_____	____	5852A3	17.82
16	13″	Smooth	5874A1	19.66	5852A2	19.97
20	14″	Smooth	5874A4	21.14	5852A1	21.55
20	14″	Milled	5874A8	23.44	_____	____
20	16″	Smooth	5874A6	21.54	_____	____
20	16″	Milled	5874A9	24.02	_____	____
24	17″	Milled	5874A17	27.36	_____	____
32	18″	Milled	5874A19	31.56	_____	____
(B) Forged Steel Head with Fiberglass Handle						
13	13″	Smooth	_____	____	5924A62	31.83
16	13″	Smooth	6044A13	21.87	5924A63	31.89
20	14″	Smooth	6044A11	23.23	5924A64	33.93
20	16″	Milled	6044A14	27.43	_____	____
24	17″	Milled	6044A15	31.57	_____	____

Head Wt., oz.	O'all Lg.	Face Style	Straight Claw	Each	Curved Claw	Each
(C) Forged Steel Head with Graphite Handle						
16	13¼″	Smooth	_____	____	1580A31	$20.34
20	13¼″	Smooth	1580A34	$23.09	_____	____
(D) One-Piece Forged Steel with Cushion-Grip Handle						
12	11″	Smooth	6062A1	22.71	6061A1	24.04
16	13″	Smooth	6062A2	22.72	6061A2	24.06
20	13½″	Smooth	6062A3	26.00	6061A3	25.39
20	13½″	Milled	6062A6	30.81	_____	____
22	16″	Smooth	6062A11	32.05	6061A6	35.78
22	16″	Milled	6062A12	34.01	6061A7	39.20
24	16″	Smooth	6062A14	34.76	_____	____
24	16″	Milled	6062A16	36.23	_____	____
25	18″	Smooth	6062A47	35.34	_____	____
25	18″	Milled	6062A67	36.79	_____	____
30	16″	Milled	6062A22	39.44	_____	____

One-Piece Steel Carpenters' Hatchets

One side of the head has a hammer face for driving unhardened nails and wood or plastic stakes; the other side has a hatchet for cutting, splitting, and trimming. Tools are one-piece forged steel with a fully polished head and a cushion grip to reduce shock. 5966A3 has a milled (serrated) hammer face to prevent the head from slipping when striking.



Head Wt., lbs.	Hammer Face Style	Cutting Edge Lg.	O'all Lg.		Each
1 3/16	Smooth	3 5/8″	13″	5966A2	$41.40
1 3/8	Milled (Serrated)	3½″	16¾″	5966A3	44.34

Axes







Axes have a forged steel head with a sharpened cutting edge. Handle is hickory and can be replaced.

Utility Ax— With its short handle, this ax is great for confined spaces. It has a painted red enamel finish with a clear lacquer-coated cutting edge to resist rust and scratches.

Lumberjack Ax— With its longer handle and larger cutting edge, this ax is the choice for big cutting jobs. It has a painted red enamel finish with a clear lacquer-coated cutting edge to resist rust and scratches.

Firefighters' Axes— Axes have the traditional bright red head for easy visibility. One end has a cutting edge for chopping; the other end has a pick end for ripping.

	Head Wt., lbs.	Cutting Edge Lg.	O'all Lg.		Each
Utility Ax	2	3¼″	14″	5784A2	$28.42
Lumberjack Ax	3½	4¾″	35″	5960A2	33.51
Firefighters' Ax	2¼	4″	28″	6084A14	57.84
Firefighters' Ax	6	5″	36″	6084A12	75.40

Slide-Bar Hammers









Shown with Optional 7/8″ Dia. Face

No need for a separate hammer and chisel. These hammers have a slide bar that acts as a sledge, eliminating the danger of swinging a traditional sledge hammer. To use, extend the slide bar's handle and forcefully push it into the hammer's steel chamber. The bar strikes against the removable driver face, delivering accurate driving power. Perfect for one-person jobs on heavy equipment and for limited-space areas where it would be difficult to swing a regular sledge. A slide lock keeps the bar in place when not in use. Hammers are made of steel. Furnished with a 2″ dia. steel face. ***Optional 7/8″ dia. face*** fits both hammers below.

O'all Wt., lbs.	Face Dia.	O'all Lg.		Each
14	2″	30″	6861A34	$627.31
21	2″	46″	6861A37	691.19
Optional 7/8″ Dia. Face (11½″ Lg.)			6861A41	99.51

Hickory Replacement Handles

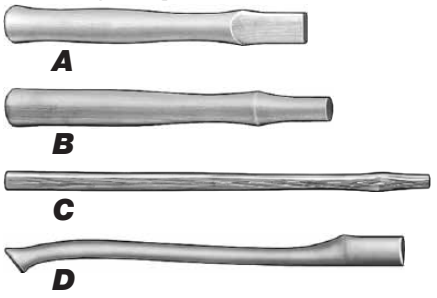

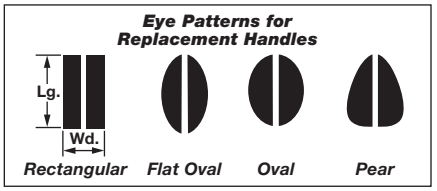

Handles are slotted and made of quality hickory. Styles A-C come with one steel and one wood wedge (unless noted) to use together for a secure fit. Style D handles come with one wood wedge (unless noted).

***All-White Grade AA*—**The highest grade available. This straight-grain, smooth and dense hickory is free from defects. Handles have a wax finish that provides a longer service life than Grade A hickory. 5976A18 and 5976A33 are red and white.

***Flame-Tempered Grade A*—**Fire-finished hickory is coated with a clear lacquer to resist aging, dirt, moisture, and weathering.

For Head Wt. Range	O'all Lg.	Eye Size, Lg. x Wd.	Eye Pattern	All-White Grade AA	Each	Flame-Tempered Grade A	Each
(A) Nail Hammer Handles							
7-10 oz.	12″	7/8″ x 1/2″	Rectangular	5976A18	$4.69		
13 oz.	13″	1″ x 1/2″	Rectangular	5976A31	5.00		
16 oz.	14″	1 1/16″ x 9/16″	Rectangular	5976A19	5.00		
20-24 oz.	14″	1 1/16″ x 5/8″	Rectangular	5976A15	5.00		
28-32 oz.	16″	1 3/16″ x 3/4″	Rectangular	5976A32	5.08		
28-32 oz.	18″	1 3/16″ x 3/4″	Rectangular	5976A33	4.91		
(B) Ball Peen, Riveting, Setting, Tack, Bricklayers', Tilesetters', Masons' Hammer Handles							
2 oz.	10″	7/16″ x 1/4″	Flat Oval			5976A27■	$4.02
4-6 oz.	10″	9/16″ x 5/16″	Flat Oval			5976A57■	4.02
8-12 oz.	12″	3/4″ x 7/16″	Flat Oval	5976A22■	5.00		
16-20 oz.	14″	29/32″ x 17/32″	Flat Oval	5976A23	5.00		
24-28 oz.	16″	1 1/16″ x 19/32″	Flat Oval	5976A24	5.08		
32-48 oz.	18″	1 3/16″ x 1 1/16″	Flat Oval	5976A25	5.25		
(B) Heavyweight, Blacksmiths', Engineers' Hammer Handles							
1 1/2-2 1/2 lbs.	12″	7/8″ x 5/8″	Oval			5976A51	4.02
1 1/2-2 1/2 lbs.	14″	7/8″ x 5/8″	Oval	5976A69	5.00		
3 1/2 lbs.-Up	16″	1 1/4″ x 1″	Oval	5976A13	5.08		
3 1/2 lbs.-Up	18″	1 1/4″ x 1″	Oval	5976A14	5.50		
(B) Heavyweight, Blacksmiths', Engineers', Drilling Hammer Handles							
2-3 lbs.	14″	1 3/16″ x 1 1/16″	Flat Oval	5976A12	5.00		
2-4 lbs.	10 1/2″	1″ x 3/4″	Oval	5976A67	5.29		
3-4 lbs.	16″	1″ x 3/4″	Oval	5976A68	5.08		
(C) Sledge Handles							
22-26 lbs.	36″	1 3/4″ x 1 1/4″	Oval	5973A14	11.61		
(C) Sledge, Driving Maul Handles							
6-8 lbs.	30″	1 1/4″ x 1″	Oval	5973A11	10.06		
6-16 lbs.	32″	1 1/4″ x 1″	Oval	5973A16	9.56		
6-16 lbs.	36″	1 1/4″ x 1″	Oval	5973A12	9.65		
18-24 lbs.	36″	1 1/2″ x 1 1/4″	Oval	5973A13	11.61		
(D) Ax Handles							
1 1/4 lbs.	14″	15/8″ x 19/32″	Pear	5976A82	6.12		
3-5 lbs.	32″	2 5/16″ x 3/4″	Pear			5976A75	9.68
3-5 lbs.	36″	2 5/16″ x 3/4″	Pear	5976A83	12.21		
3 1/2-6 lbs.	36″	2 1/2″ x 3/4″	Pear			5976A78▲	12.17

■ Not slotted; has one steel wedge. ▲ Has two steel wedges and one wood wedge.

Fiberglass Replacement Handles


With Smooth Grip


With Safety Grip


Ax Handle with Smooth Grip

Solid fiberglass handles are durable and impact resistant. They won't split like wood handles.

***Wedge-Style Handles*—**Furnished with two synthetic wedges for quick and easy assembly (does not require epoxy). The wedges are ribbed to ensure a tight fit. Choose handles with a smooth cushion grip or a ribbed safety grip that prevents your hand from slipping. 36155A22 and *A24* are encapsulated in polypropylene to prevent breakage if you miss your mark.

***Epoxy-Style Handles*—**Furnished with epoxy bonding compound, mixing stick, and tape seal. Just pour mixed epoxy into the tool head, place the handle in the tool head, and let the epoxy cure. Epoxy fills in around the handle, compensating for different eye patterns and ensuring a secure fit. Choose handles with a smooth cushion grip (except for ax-handle style, which is not cushioned) or a ribbed safety grip that prevents your hand from slipping.

For Head Wt. Range	O'all Lg.	For Hammer Type	Handle Grip		Each
Wedge-Style Handles					
Nail Hammer Handle					
16-20 oz.	13″	Nail	Smooth	36155A29	$11.12
Sledge, Blacksmiths', Maul Hammer Handles					
2-4 lbs.	14″	Sledge, Blacksmiths'	Safety	36155A31	12.23
2-4 lbs.	16″	Sledge, Blacksmiths'	Safety	36155A33	12.42
6-16 lbs.	32″	Sledge, Maul	Safety	36155A22●	20.78
6-16 lbs.	36″	Sledge, Maul	Safety	36155A24●	22.58
Epoxy-Style Handles					
Nail, Ball Peen, Sledge Hammer Handles					
4 oz.	11″	Ball Peen	Smooth	5982A12	10.51
7-12 oz.	13″	Nail, Ball Peen	Smooth	5982A13	11.59
8 oz.	12″	Ball Peen	Smooth	5982A1	10.86
13-20 oz.	13″	Nail, Ball Peen	Safety	5982A2	12.90
13-20 oz.	16″	Nail, Ball Peen	Smooth	58615A17	12.42
16-32 oz.	14″	Nail, Ball Peen, Sledge	Safety	5982A3	14.01
40 oz.	16″	Ball Peen	Safety	5982A8	13.85
48 oz.	16″	Ball Peen	Safety	5982A9	15.05
Blacksmiths', Engineers', Drilling, Sledge, Maul Hammer Handles					
1-2 lbs.	14″	Blacksmiths', Engineers', Sledge	Smooth	58615A21	12.42
2 lbs.	10″	Drilling	Smooth	58615A22	12.42
2-4 lbs.	10″	Drilling	Safety	5982A14	10.54
3-4 lbs.	10″	Drilling	Smooth	5982A4	12.16
3-4 lbs.	14″	Blacksmiths', Engineers', Sledge	Smooth	58615A23	16.21
3-4 lbs.	14″	Sledge	Safety	5982A5	14.17
6-20 lbs.	16″	Sledge, Maul	Smooth	5982A15◆	20.43
6-20 lbs.	32″	Sledge, Maul	Safety	5982A16◆	26.40
6-20 lbs.	36″	Sledge, Maul	Safety	5982A17◆	27.74
Ax Handle					
3-5 lbs.	34″	Single Bit Ax	Smooth	58615A36	23.75
Replacement 12-gram Epoxy Pack				5982A84	4.23
Replacement 24-gram Epoxy Pack				5982A79	4.87

● Head weight range is 6-16 lbs. for sledge heads; 6-8 lbs. for maul heads.
◆ Head weight range is 6-20 lbs. for sledge heads; 6-8 lbs. for maul heads.

Steel Wedges for Hammer Handles

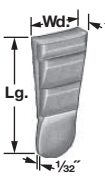

Drive one of these steel wedges in the handle of your hammer, sledge, or ax to ensure a snug-fitting head. Their ridged edges keep them from working loose.

For Use With	For Head Wt. Range	Size, Lg. x Wd.	Pkg. Qty.		Per Pkg.
Small Hammers	2-6 oz.	13/16″ x 5/16″	36	6676A1	$7.45
Nail Hammers	4-24 oz.	1 1/16″ x 1/2″	36	6676A3	8.32
Large Hammers	2-8 lbs.	1 1/16″ x 3/4″	36	6676A4	9.18
Sledges	3 1/2-16 lbs.	1 1/16″ x 1″	36	6676A5	9.53
Axes	3-5 lbs.	1 3/16″ x 1 1/4″	12	6676A6	7.97

***252-Piece Steel Wedge Assortment*—**Contains 36 wedges for small hammers, 36 wedges for nail hammers, 36 wedges for large hammers, 36 wedges for sledges, 12 wedges for axes, 12 round wedges (9/16″ dia.), and 12 round wedges (3/4″ dia.). Also includes 72 steel rivets (3/16″ Dia. x 1 5/8″ Lg.). Wedges are smooth. Comes in a plastic box.

6676A9 ..... **Each** $49.94

Standard 0.401″ Shank Air-Powered Hammers

Also known as zip guns, these air-powered hammers easily handle metal cutting, chipping, scraping, and staking applications. They have a metering trigger that controls the number of blows per minute. Their piston stroke determines the hammering power; the longer the piston stroke, the greater the power. For example, a light duty hammer has a short piston stroke for fast-hitting, but has less power than a slower-hitting heavy duty hammer, which has a longer piston stroke. All hammers use standard 0.401″ shank chisels (sold separately, see 7117A on this page) and have a maximum operating pressure of 90 psi.

A-C** Nonriveting Hammers*—Have an aluminum housing, alloy steel barrel, and mechanical aid spring retainer (for replacement see 59005A24 on this page). Not suitable for driving rivets. ***Hammer sets include the hammer and one each of the following: 3/4″ Wd. x 7 3/4″ Lg. edging tool, 3/4″ Wd. x 7 3/4″ Lg. muffler/tail pipe cutter, 3/4″ Wd. x 7 3/4″ Lg. flat chisel, 3/4″ Wd. x 7 3/4″ Lg. cutting chisel, and 15/32″ Dia. x 7 3/4″ Lg. tapered punch. Connections: NPT female.

D** Medium Duty Riveting Hammer*—Can accept up to 3/16″ size soft iron and aluminum rivets. It has an aluminum housing, heat-treated steel barrel, and beehive spring retainer (for replacement see 59005A23 on this page). ***Hammer set includes the hammer; air regulator; and one each of the following: 1/8″, 5/32″, and 3/16″ dia. round rivet setters. Furnished in a plastic box. Connections: NPT female.

E&F** Heavy Duty Riveting Hammers*—Can accept up to 3/8″ size soft iron and aluminum rivets. They have an aluminum housing, heat-treated steel barrel, and beehive spring retainer (for replacement see 59005A23 on this page). ***Hammer sets include the hammer and one each of the following: 3/16″ and 1/4″ dia. round rivet setters. Connections: NPT female.

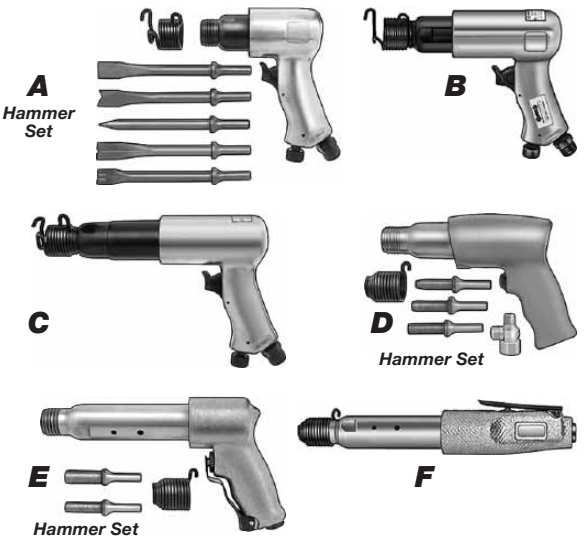

		Blows per Minute	Piston Stroke	cfm @ 90 psi	Air Inlet	Min. Hose ID	O'all Lg.	Wt., lbs.	Hammers Each		Hammer Sets Per Set	
Nonriveting												
A	Light Duty	0-5,000	1 5/8″	2	1/4″	3/8″	6 7/64″	2.6	59145A23	$48.04	59145A24	$66.32
B	Medium Duty	0-3,500	2 5/8″	3	1/4″	3/8″	7 13/16″	3.4	58955A67	54.70	58955A68	73.10
C	Heavy Duty	0-2,000	3 1/2″	3	1/4″	3/8″	9 29/32″	4.1	5981A11	68.72	5981A12	81.04
Riveting												
D	Medium Duty	0-3,400	2 1/2″	4	1/4″	1/4″	8 1/2″	4	5872A92	219.93	5872A91	341.32
E	Heavy Duty	0-2,200	4″	4	1/4″	3/8″	10 1/2″	4.75	6104A44	440.82	6104A45	514.43
F	Heavy Duty	0-2,200	4″	4	1/4″	3/8″	13″	6.25	6104A46	440.82	6104A47	520.53

Standard 0.401″ Shank Chisels and Tools

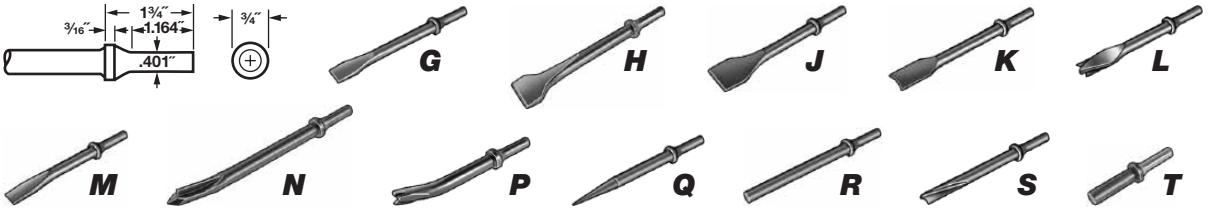

Chisels are compatible with air-powered hammers (zip guns) that accept standard 0.401″ dia. shanks, as well as any air-powered hammer that has a quick-change hammer retainer that accepts standard 0.401″ shank tools. ***Style T*** tools require a riveting hammer.

All chisels and tools are made of heat-treated alloy steel.

		Blade Size	O'all Lg.		Each
G	Flat Chisel	1/2″ Wd.	6 1/2″	7117A32	$14.92
G	Flat Chisel	3/4″ Wd.	6 1/2″	7117A25	12.25
G	Flat Chisel	3/4″ Wd.	11″	7117A33	16.27
G	Flat Chisel	3/4″ Wd.	18″	7117A26	27.02
H	Wide Flat Chisel	1 1/2″ Wd.	6 1/2″	7117A31	16.71
H	Wide Flat Chisel	2″ Wd.	7″	7117A34	23.85
J	Wide Chisel/Scraper	15/16″ Wd.	6 1/4″	7117A22	15.82
K	Cutter	1″ Wd.	6 7/8″	7117A21	15.14
K	Cutter	1 1/4″ Wd.	8 1/2″	7117A37	14.14

4-Piece Set—Includes one each of 7117A32, 7117A25, 7117A24, and 7117A27.

7117A43 ..... **Per Set** $52.29

		Blade Size	O'all Lg.		Each
L	Panel Cutter	3/4″ Wd.	6″	7117A24	$16.06
M	Rivet Cutter	5/8″ Wd.	5 3/4″	7117A28	12.31
N	Muffler/Tail Pipe Cutter	17/32″ Dia.	7 1/2″	7117A38	15.53
P	Claw Ripper	5/8″ Wd.	5 3/8″	7117A23	16.71
Q	Tapered Punch	3/16″ Dia.	6 1/2″	7117A27	12.25
R	Straight Punch/Blank	1/2″ Dia.	6 1/2″	7117A29	11.04
S	Bushing Splitter	1/2″ Dia.	6 1/4″	7117A39	16.67
T	Rivet Setter	3/16″ Dia.	3 1/2″	6104A48	14.47
T	Rivet Setter	1/4″ Dia.	3 1/2″	6104A49	15.35

9-Piece Set—Includes one each of 7117A25, 7117A22, 7117A37, 7117A24, 7117A28, 7117A38, 7117A23, 7117A27, and 7117A39.

7117A41 ..... **Per Set** $126.14

Air-Powered Hammer Retainers

All of these retainers accept standard 0.401″ shank chisels and tools. ***Quick-change retainers*** can replace retainers on air-powered hammers that have a threaded barrel. *Type 1 compatible quick-change retainer* has a pliable insert for a tight fit; *Type 2 compatible quick-change retainer* has a set screw adjustment. ***Spring retainers*** are replacements for air-powered hammers equipped with spring retainers.

Type 1 Compatible—Retainers are compatible with Chicago Pneumatic models 9311, 9315, 711, 714, 715, and 4444; Dayton; Cleco E3, E4, E15, and E16; Universal Tool; Florida Pneumatic; Snap-On models PH45 and PH50; and Ingersoll-Rand models 115, 116, and 117.

Type 2 Compatible—Retainers are compatible with Ingersoll-Rand models MC121 (700 series) and AV 10-12-13 as well as all Superior Pneumatic models.

	Type 1 Compatible	Each	Type 2 Compatible	Each
Quick-Change Retainers	59005A21	$49.74	59005A22	$53.19
Beehive Spring Retainer	59005A23	4.70		
Mechanical Aid Spring Retainers	59005A24	5.44	59005A25	6.87


Quick-Change Retainer


Beehive Spring Retainer


Mechanical Aid Spring Retainer

Quick-Change Air-Powered Hammers



Straight Handle



Pistol Handle

A good choice for applications that require fast hitting and light tapping. Hammers have a compact design and work well for scaling, trimming, cutting, chipping, piercing, and peening. Not suitable for driving rivets. A quick-change retainer lets you easily change chisels and lock them in place, even at various angles. The chuck is not removable. Hammers have an aluminum handle and a heat-treated steel barrel. The longer the piston stroke, the greater the force the hammer delivers. A metering trigger controls the blows per minute. Operating pressure is 90 psi. Connections: NPT female.

Note: The 0-13,000 bpm hammers only accept the 6027A octagon shank chisels and tools sold separately below; the 0-9,000 bpm hammers only accept the 6027A hex shank chisels and tools sold separately below.

Hammers

Blows per Minute	Piston Stroke	cfm @ 90 psi	Air Inlet	Min. Hose ID	Wt., lbs.	Straight Handle O'all Lg.		Each	Pistol Handle O'all Lg.		Each
0-13,000	3/4"	3	1/4"	1/4"	1 1/4	7 1/4"	6022A11	$293.24	6"	6022A12	$293.24
0- 9,000	1 5/32"	6	1/4"	1/4"	2 1/4	9 1/8"	6022A13	371.13	6"	6022A14	371.13

Chisels and Tools—For use with the 6022A air-powered hammers on this page.



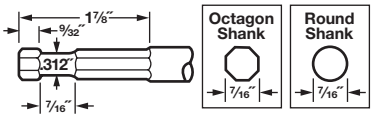

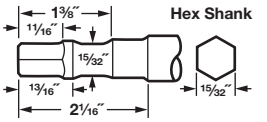

	Shank Style	O'all Lg. × Blade Wd.		For 0-13,000 bpm Hammers Each	Shank Style	O'all Lg. × Blade Wd.		For 0-9,000 bpm Hammers Each
A.. Scaling Tool	Octagon	3 1/2" × 7/16"	6027A11	$22.66	Hex	5" × 5/8"	6027A45	$26.84
B.. Flat Chisel	Octagon	4" × 9/16"	6027A14	19.55	Hex	6" × 5/8"	6027A32	29.85
B.. Flat Chisel	Octagon	7" × 9/16"	6027A73	21.45	Hex	6" × 1"	6027A33	26.84
C.. Offset Flat Chisel	Octagon	3 1/2" × 3/4"	6027A82	26.84	Hex	7" × 3/4"	6027A47	39.62
D.. Peening Tool	Round	3 1/2" × 5/16"	6027A16	19.86	Hex	5" × 3/32"	6027A44	30.22
E.. Blank	Octagon	3" × 7/16"	6027A74	17.54	Hex	5" × 5/8"	6027A76	26.52
F.. Scraper	Octagon	12" × 1 1/2"	6027A21	36.88	Hex	12" × 2"	6027A48	49.50

Air-Powered Chipping Hammers



Gooseneck Handle



D Handle

For a listing of repair parts for these hammers, go to mcmaster.com and search for **5957AAC** for gooseneck handle or **57225AAC** for D handle.

Put these hammers to work on heavy construction jobs as well as in foundry and fabrication shops. The longer the piston stroke, the greater the force the hammer delivers. All of these chipping hammers use United States Navy (U.S.N.) style shank oval-collar flat chisels or oval-collar moil points (7083A sold separately on this page). Maximum operating pressure is 90 psi. Connections: NPT female.

The retainer on these hammers has a black-oxide coating. ***Gooseneck-handle*** hammers allow a firm grip and a quick release. They have a carbon steel handle with a hardened steel barrel and a plated piston for reduced wear. The ***D-handle*** hammers offer a firm grip with added safety. They have a forged steel handle with a heat-treated steel barrel and a plain piston. ***Swivel hose connectors*** eliminate cracked hoses due to kinking and broken inlet bushings. The connectors screw into the air inlet and allow hose to swivel with the hammer. ***Mufflers*** cover the tool's exhaust ports to reduce sound.

Blows per Minute	Piston Stroke	cfm @ 90 psi	Air Inlet	Min. Hose ID	O'all Lg.	Wt., lbs.	For 0.580" Hex Shank	Each	For 0.680" Round Shank	Each
Gooseneck-Handle Hammers										
2,500	1"	28	3/8"	1/2"	15 1/2"	14 3/4	5957A11	$531.74	5957A15	$531.74
2,300	2"	28	3/8"	1/2"	16"	15 1/8	5957A12	531.74	5957A16	531.74
1,725	3"	29	3/8"	1/2"	17 7/8"	16 5/8	5957A13	558.33	5957A17	558.33
1,480	4"	29	3/8"	1/2"	18 7/8"	17 1/2	5957A14	558.33	5957A18	558.33
Swivel Hose Connector for Gooseneck-Handle Hammers									5957A41 Each	$25.08
D-Handle Hammers										
2,450	1"	28	3/8"	1/2"	12"	16	57225A32	426.05	57225A51	426.05
2,300	2"	28	3/8"	1/2"	14"	18	57225A33	449.91	57225A52	449.91
2,100	3"	28	3/8"	1/2"	15 1/4"	19	57225A34	484.47	57225A53	484.47
1,700	4"	28	3/8"	1/2"	16 1/2"	20	57225A35	519.10	57225A54	519.10
Swivel Hose Connector for D-Handle Hammers									57225A84 Each	$21.55
Muffler for D-Handle Hammers									57225A85 Each	$13.04

Chipping Hammer Chisels



Flat Chisel



Moil Point

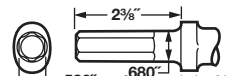

Oval Collar Hex Shank

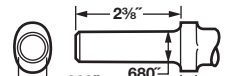

Oval Collar Round Shank

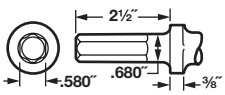

Round Collar Hex Shank

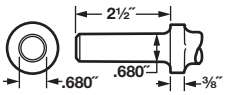

Round Collar Round Shank

Chisels have United States Navy (U.S.N.) style shanks that are specifically for use with air-powered chipping hammers. Made of heat-treated alloy steel. The ***oval collar*** tools work with 5957A and 57225A chipping hammers (sold separately on this page).

O'all Lg.	Blade Wd.	0.580" Hex Shank	Each	0.680" Round Shank	Each
Oval Collar					
Flat Chisels					
9"	1"	7083A46	$15.13	7083A44	$15.13
9"	2"	7083A75	21.84	7083A74	21.84
9"	3"	7083A79	28.31	7083A78	28.31
12"	1"	7083A47	18.05	7083A45	18.05
12"	2"	7083A86	25.31	7083A85	25.31
18"	1"	7083A82	23.55	7083A81	23.55
24"	1"	7083A84	30.91	7083A83	30.91
Moil Points					
9"	—	7083A37	15.15	7083A35	15.15
12"	—	7083A38	18.05	7083A36	18.05
Round Collar					
Flat Chisels					
9"	3"	7083A77	28.31	7083A76	28.31
12"	1"	7083A43	18.05	7083A41	18.05
24"	1"	7083A93	30.92	7083A92	30.91

Electric Demolition Hammers



DeWalt


Milwaukee

Easily break through concrete walls and floors with these demolition hammers. The side handle rotates 360° for maximum control. Operate on 120 VAC, 50/60 Hz. Hammers use 3/4″ hex shank chisels that are for electric demolition hammers; see 59305A sold separately on this page. Meet OSHA requirements.

DeWalt— Soft rubber-coated grips and an anti-vibration system provide fast cutting with less fatigue. Hammer has locking on/off switch. You can rotate the chisel to one of 12 positions to align the bit according to your needs. Hammer body is made of magnesium and aluminum, and the dust seals are spring loaded for longer life. Operates on 15 amps. Comes with a 13-ft. cord with a three-prong plug, and a nylon case. UL listed and CSA certified.

Milwaukee— Hammer has ball and roller bearing construction, a two-finger trigger switch, and a speed lock-on button. The body is made of aluminum; handles are glass-reinforced nylon with a cushion grip. The back handle has vibration isolation for less fatigue and a soft grip for extra comfort. Hammer operates on 14 amps. It comes with a 10-ft. cord with a two-prong, double-insulated plug and a steel carrying case. UL listed and C-UL listed.

Model No.	Blows per Minute	Piston Stroke	O'all Lg.	Wt., lbs.		Each
DeWalt						
D25941K	1,620	1 31/32″	29 11/16″	27.2	7882A23	$1,061.19
Milwaukee						
5337-21	975-1,950	1 9/16″	27 1/2″	24	59025A22	841.26

Bosch Brute Electric Pavement-Breaker Hammer



This heavy duty hammer delivers a powerful blast for heavy pavement-breaking and asphalt-cutting jobs. It's double insulated, has ball bearing construction, and has a brush system that turns off the hammer when brushes are worn. Hammer is made of cast aluminum. Handles absorb shock to reduce fatigue. Operates on 120 VAC/DC, 60 Hz, 15 amps, or a 2,500-watt portable generator. Comes with an 8-ft. cord with two-prong plug. Meets OSHA requirements and is CSA certified.

Hammer uses 1 1/8″ hex shank chisels that are for electric pavement-breaker hammers; see 3615A, 3613A, 3617A, and 3616A sold separately on this page.

Bosch Model No.	Blows per Minute	Piston Stroke	O'all Lg.	Wt., lbs.		Each
BH2760VC	1,000	3 5/16″	30 1/2″	63	59045A51	$1,650.84

Air-Powered Pavement-Breaker Hammers

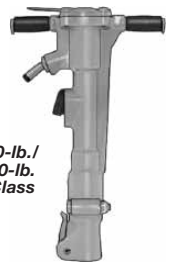
60-lb./ 90-lb. Class

One-piece housing eliminates side rods and springs, which reduces your cost for parts. These hammers have a built-in lubricator and a safety throttle that shuts off instantly when released. Cylinder is made of ductile iron. The latch-type front head is foot-operated for rapid tool changes. Max. operating pressure is 90 psi with a 3/4″ min. hose ID. Air inlet is 3/4″. Connections: NPT male.

The ***60-*** and ***90-lb. class models*** also have an exhaust deflector, a piston cycle that transfers blow energy to the tool, a four-bolt back-head plate for easy maintenance, and a special spring-loaded anvil bushing that can be serviced without a hydraulic press.

Use hex shank chisels that are for air-powered pavement-breaker hammers; see 3615A, 3613A, 3617A, and 3616A sold separately on this page.

Class	Blows per Minute	Piston Stroke	cfm @ 90 psi	Hex Shank Size	O'all Lg.	Wt., lbs.		Each
35 lb.	1,250	6 1/4″	48	1″	24 19/32″	44	58655A52	$1,218.58
60 lb.	1,250	5 3/4″	75	1 1/8″	27 1/2″	69	58655A54	1,299.04
90 lb.	1,250	5 3/4″	89	1 1/8″	27 1/2″	86	58655A57	1,428.86

Demolition Hammer and Pavement-Breaker Chisels

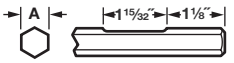

Chisel for Electric Demolition Hammers

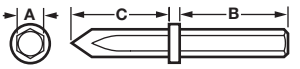

Chisel for Electric and Air-Powered Pavement-Breaker Hammers



For Electric Demolition Hammers

Made of alloy steel.

	Hex Shank (A)	O'all Lg.		Each
Moil Points—1/8″ Blade Tip Dia.				
1	3/4″	12″	59305A33	$11.94
1	3/4″	18″	59305A34	16.02
Cutting Chisel—3″ Wd. Blade				
2	3/4″	12″	59305A41	25.62
Narrow Chisels—1″ Wd. Blade				
3	3/4″	12″	59305A55	11.94
3	3/4″	18″	59305A57	16.02
Asphalt Cutter—5″ Wd. × 6″ Lg. Blade				
4	3/4″	15 1/2″	59305A61	80.64
Clay Spade—4 1/2″ Wd. × 5 1/2″ Lg. Blade				
5	3/4″	15 1/2″	59305A72	65.35
Ground Rod Driver—1 1/2″ OD × 13/16″ ID				
6	3/4″	10 1/2″	59305A37	77.18

For Electric and Air-Powered Pavement-Breaker Hammers

Made of heat-treated carbon steel.

	Shank		Lg. Under	Blade		
	Hex (A)	Lg. (B)	Collar (C)	Tip Dia.		Each
Moil Points						
1	1″	4 1/4″	14″	3/16″	3615A38	$26.04
1	1″	4 1/4″	18″	3/16″	3615A39	29.52
1	1 1/8″	6″	14″	1/4″	3615A41	29.52
1	1 1/8″	6″	18″	1/4″	3615A51	33.02
1	1 1/4″	6″	14″	5/16″	3615A42	34.04
1	1 1/4″	6″	18″	5/16″	3615A52	37.19
Cutting Chisels—3″ Wd. Blade						
2	1″	4 1/4″	14″	—	3613A6	35.30
2	1″	4 1/4″	18″	—	3613A7	40.83
2	1 1/8″	6″	14″	—	3613A1	39.40
2	1 1/8″	6″	18″	—	3613A2	42.77
2	1 1/4″	6″	14″	—	3613A3	43.34
Narrow Chisels—1 1/4″ Wd. Blade						
3	1″	4 1/4″	14″	—	3615A33	26.04
3	1 1/8″	6″	14″	—	3615A11	29.52
3	1 1/8″	6″	18″	—	3615A21	33.02
3	1 1/4″	6″	14″	—	3615A12★	33.93
Asphalt Cutters—5″ Wd. × 6″ Lg. Blade						
4	1″	4 1/4″	11″	—	3617A1	97.72
4	1 1/8″	6″	11″	—	3617A2	97.96
4	1 1/4″	6″	11″	—	3617A3	101.57
Clay Spades—5 1/2″ Wd. × 6 1/2″ Lg. Blade						
7	1″	4 1/4″	16″	—	3616A2	113.17
7	1 1/8″	6″	16″	—	3616A4	120.45
7	1 1/4″	6″	16″	—	3616A6	123.94

★ Blade width is 1 5/16″.

Combination Air-Powered Chipper/Scraper



Remove weld flux, spatter after welding, and perform a wide variety of light chipping applications with one tool. This combination chipper/scraper has an alloy steel body and a straight steel handle. It is equipped with a curved flat chisel that has a 1″ Wd. × 6 3/32″ Lg. blade. Maximum operating pressure is 85 psi.

Connections: NPT female.

Blows per Minute	Piston Stroke	cfm @ 85 psi	Air Inlet	Min. Hose ID	O'all Lg.	Wt., lbs.		Each
4,000	1 1/8″	7.1	3/8″	3/8″	12″	3 3/4	6018A48	$255.86

Air-Powered Demolition Hammer



Demolish bricks and concrete walls and foundations. Barrel is hardened steel with a durable, forged-steel handle that has a leakproof throttle valve for positive shutoff. Piston and barrel design provides an air cushion between piston and accessory for maximum accessory life. A lock assembly keeps accessories firmly attached. Max. operating pressure is 90 psi with a ½″ min. hose ID. Use with 0.890″ demolition hammer chisels; see 36205A on this page. Weight is 24¾ lbs. Connections: NPT female.

Blows per Minute	Piston Stroke	cfm @ 90 psi	Air Inlet	O'all Lg.		Each
900	9″	40	½″	22½″	6019A21	$1,459.39

0.890″ Demolition Hammer Chisels



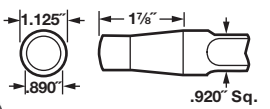

Use with air-powered demolition hammers that accept 0.890″ jumbo four-sided shanks. The chisels are compatible with Ingersoll-Rand models 8001A and 9001, as well as Chicago Pneumatic models 81X, 11X, and 4181.

O'all Lg.	Blade Wd.		Each
Flat Chisels—*Heat-Treated Alloy Steel*			
9½″	15⁄16″	36205A41	$22.67
12″	15⁄16″	36205A42	27.42
18″	15⁄16″	36205A43	38.80

O'all Lg.	Blade Dia.		Each
Moil Points—*Carbon Steel*			
10″	⅛″	36205A48	$22.67
12″	⅛″	36205A49	27.42
18″	⅛″	36205A51	38.80

Air-Powered Needle Scalers















Mini needles tap surfaces to gently remove unwanted rust, scale, paint, and weld spatter. They generate very little dust and are excellent for use on irregular-shaped and hard-to-reach areas. Piston stroke determines the force of a scaler; the longer the piston stroke, the greater the force. Scalers are lever operated, except for Style C, which is button-operated. All come with flat blunt-tip needles. Connections: NPT female.

A Economy Needle Scaler—Scaler is made of steel. Needle housing holds and is furnished with 12 (3 mm×7″) steel needles. Operating pressure is 80 to 100 psi. ***Scaler set*** includes scaler, three sets of 12 (3 mm×7″) steel needles, two 7″ Lg.×¾″ Wd. narrow chisels, a 7″ Lg.×1⅜″ Wd. wide chisel, a 7″ Lg.×1⅜″ Wd. angle chisel, a return spring, and a chisel adapter. Comes in a metal carrying case.

B&C Adjustable-Blow Needle Scalers—Change the number of blows per minute by adjusting the amount of pressure you place on the button. Scalers are steel with an aluminum handle and include two sets of nine (⅛″×5″) steel needles. Needle housing holds one set of needles. Operating pressure is 90 psi. ***Scaler sets*** include a scaler, two sets of nine (⅛″×5″) steel needles, and one each of: 7″ long gouge chisel, 4″ Lg.×9⁄16″ Wd. flat chisel, 7″ long grooving chisel, 3½″ long peening chisel, and a chisel adapter. Comes in a plastic case.

D Spring-Less Needle Scaler—Scaler has no internal springs to break, ensuring consistent performance. Made of aluminum. Comes with 28 (3 mm×7″) steel needles, a set of 14 (4 mm×7″) steel needles, a 4 mm needle holder, an installation tool for needle holders, and a ⅜″ hose nipple. Max. operating pressure is 85 psi.

E&F Low Vibration Needle Scalers—Scalers produce 80-90% less vibration than conventional tools. All are made of steel. Maximum operating pressure is 90 psi. *Style E* includes two sets of 18 (⅛″×7″) steel needles. Needle housing holds one set of needles. *Style F* holds and is furnished with 19 (⅛″×7″) steel needles.

G Combination Needle Scalers/Scaling Hammers—Tools are made of steel. They hold and are furnished with 19 (⅛″×5″) steel needles. Scalers have a built-in chisel retainer. Use scaling hammer chisels to convert tools into scaling hammers. For scaling hammer chisels, see 6097A sold separately on this page. Meet Mil. Spec. MIL-S-23492A. Maximum operating pressure is 90 psi. ***Scaler sets*** include a needle scaler, two sets of 19 (⅛″×5″) steel needles, one set of 19 (⅛″×7″) steel needles, and one each of the following: 6⅛″ Lg.×1⅜″ Wd. angle chisel, 6⅛″ Lg.×1⅜″ Wd. straight chisel, and 7″ Lg.×¾″ Wd. narrow chisel. Come in a vinyl carrying case.

Needle Scalers

	Blows per Minute	Piston Stroke	cfm @ 90 psi	Air Inlet	Min. Hose ID	Needle Size	O'all Lg.	Wt., lbs.	*Scaling Tools*	Each	*Needle Scaler Sets*	Per Set
A	4,850	1″	3.5	¼″	⅜″	3 mm×7″	13½″	3½	5898A11	$192.24	5898A31	$336.21
B	0-13,000	¾″	3	¼″	¼″	⅛″×5″	12½″	2½	6106A31	439.85	6106A36	581.34
C	0-13,000	¾″	3	¼″	¼″	⅛″×5″	11½″	2½	6106A33	439.85	6106A39	581.34
D	4,500	21⁄32″	12.4 ♦	⅜″	⅜″	3 mm×7″ & 4 mm×7″	13 1⁄16″	7¾	6011A32	493.82		
E	9,000	¼″	3	¼″	⅜″	⅛″×7″	14 3⁄16″	4¼	36175A43	489.50		
F	3,400	⅞″	4	¼″	⅜″	⅛″×7″	14″	5¾	36175A45	605.87		
G	5,500	5⁄16″	12	¼″	5⁄16″	⅛″×5″	13¾″	5¼	6012A15	477.90	6012A19	637.30
G	4,000	1 1⁄16″	13	¼″	5⁄16″	⅛″×5″	15″	5¾	6012A21	587.13	6012A32	757.44

♦ Operates @ 85 psi.

Replacement Needles

Size	Material	Pkg. Qty.		Per Pkg.
⅛″×5″	Stainless Steel	10	36125A44	$10.08
⅛″×5″	Beryllium Copper	2	36125A46	11.98
⅛″×7″	Stainless Steel	10	36125A45	12.40
⅛″×7″	Beryllium Copper	2	36125A47	13.33

Size	Material	Pkg. Qty.		Per Pkg.
2 mm×7″	Steel	10	36125A38	$11.12
3 mm×5″	Steel	10	36125A41	5.52
3 mm×5″	Stainless Steel	10	36125A34	10.40
3 mm×7″	Steel	10	36125A42	5.77
4 mm×7″	Steel	14	36125A43	13.04

Chisels for Needle Scalers



Made of heat-treated alloy steel. Use ***Style 1 shank*** chisels with the Economy Needle Scaler and Combination Needle Scalers/Scaling Hammers on this page as well as Chicago Pneumatic model CP 0456, Jet model F-25, and Chicago Monarch brands. Use ***Style 2 shank*** chisels with Cleco model BI-C, Chicago Pneumatic model 9356, Ingersoll-Rand model 125, Jet model JSG-9121, and Universal Tool model 8630.

For chisels compatible with the Adjustable-Blow Needle Scalers on this page and all Superior Pneumatic models, see chisels for 0-13,000 bpm hammers (6027A) on page 2858.

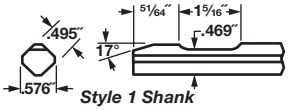

Style 1 Shank

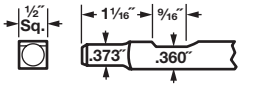

Style 2 Shank

Blade Style	O'all Lg.	Blade Wd.	*Style 1 Shank*	Each	*Style 2 Shank*	Each
H Narrow Flat	7″	¾″	6097A32	$10.68	60975A61	$10.68
J Wide Flat	7″	1⅜″	6097A33	11.40	60975A62	11.40
J Wide Flat	12″	1⅜″	6097A34	14.60	60975A63	14.60
K Wide Angle	7″	1⅜″	6097A35	11.40	60975A64	11.40
L Scraper	7″	2″	6097A36	25.98	60975A65	25.98
L Scraper	7½″	3″	6097A37	32.02	60975A66	32.02

Long-Reach Air-Powered Combination Scaler/Scrapers



Remove paint and rust from hard-to-reach areas. Scaler/scrapers have a 1½″ dia. straight steel handle with a 9″ Lg. × 4″ Wd. flat chisel. Operating pressure is 90 psi. Connections: NPT female. ***Accessory Set—*** Includes a needle scaler nose assembly; one set of 28 (3 mm × 7″ Lg.) blunt tip steel needles; and one each of 1 9/16″, 2″, and 4″ Wd. × 9″ Lg. chisels. Furnished in a molded plastic carrying case.

Blows per Minute	Piston Stroke	cfm @ 90 psi	Air Inlet	Min. Hose ID	24″ Long Wt., lbs.	24″ Long	Each	48″ Long Wt., lbs.	48″ Long	Each	60″ Long Wt., lbs.	60″ Long	Each
2,200	1½″	7	¼″	⅜″	8¾	5864A31	$314.67	14	5864A41	$372.33	15¼	5864A61	$397.33
Replacement 9″ Lg. × 4″ Wd. Chisel												5864A63	Each $53.90
Accessory Set												5864A81	Each $374.55

Wrecking and Pry Bars

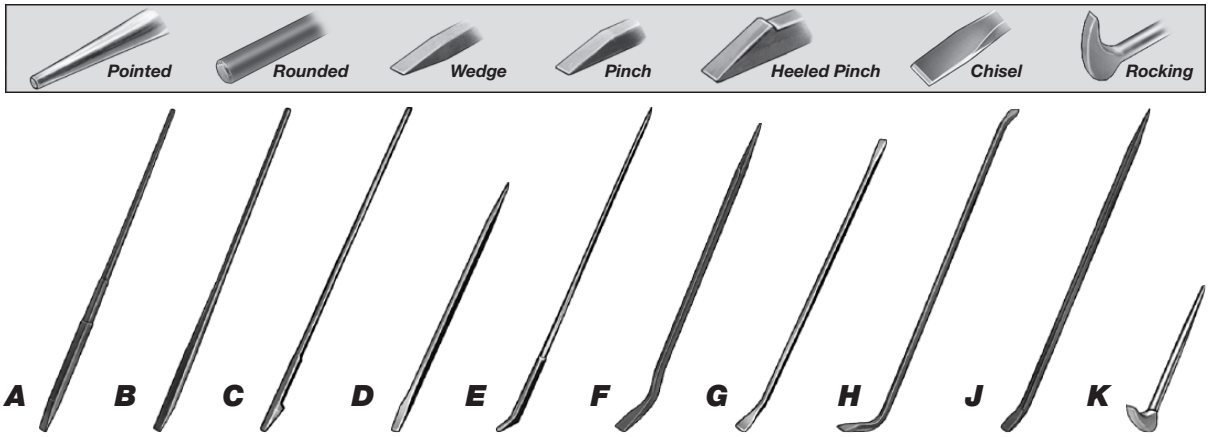

Some of these bars have pointed ends, which work well for aligning bolt holes in steel construction. *End width* is measured at the wedge, pinch, chisel, or rocking end of the bar. ***Offset (bent-tip) bars*** have at least one bent end to provide better leverage for lifting and moving.

Straight Bars

***A* Wedge- and Rounded-End Bars—** Ideal for prying and moving heavy objects with wedge leverage. Forged from high-carbon steel square bar with a painted finish.

***B* Pinch- and Rounded-End Bars—** Tools have a single taper that forms the pinch tip—they're great for getting into small crevices. Forged from high-carbon steel square bar with a painted finish.

	Lg.	Wt., lbs.	Bar Size	End Wd.		Each
A	36″	6	1⅛″	1⅛″	5891A22	$29.77
A	48″	10	1⅛″	1⅛″	5891A12	35.72
A	60″	18	1¼″	1¼″	5891A19	55.59
A	64″	22	1⅜″	1⅜″	5891A18	64.55
A	66″	26	1½″	1½″	5891A21	83.22
B	36″	6	1⅛″	1⅛″	5995A24	33.56
B	48″	10	1⅛″	1⅛″	5995A25	39.68
B	54″	14	1⅛″	1⅛″	5995A27	46.30
B	60″	18	1¼″	1¼″	5995A29	50.85
B	64″	22	1⅜″	1⅜″	5995A31	63.11

***C* Heeled-Pinch and Rounded-End Bar—** The heeled end provides extra leverage to tackle your heavy moving jobs. Forged from high-carbon steel square bar with a painted finish.

***D* Chisel- and Pointed-End Bars—** Also known as pinch bars, these tools are specially designed with a chisel end for prying and a pointed end for aligning. Forged from alloy steel hex bar.

	Lg.	Wt., lbs.	Bar Size	End Wd.		Each
B	66″	26	1½″	1½″	5995A33	$70.00
C	66″	26	1½″	1½″	5889A34	193.77
D	14″	¾	½″	⅝″	5986A7	9.11
D	16″	1¼	⅝″	¾″	5986A1	12.64
D	20″	2¼	¾″	⅞″	5986A2	14.95
D	24″	2¾	¾″	1″	5986A3	28.80
D	30″	4¾	⅞″	1″	5986A5	41.00
D	36″	5¾	⅞″	1″	5986A6	44.25
D	36″	8	1″	1⅜″	5986A8	54.66

Offset (Bent-Tip) Bars

***E* Offset-Wedge and Pointed-End Bars—** Also known as warehouse/loading bars, these tools have a rounded handle that's tapered for prodding. Forged from high-carbon steel square bar with a painted finish.

***F* Gooseneck-Chisel and Pointed-End Bars—** The gooseneck end provides extra leverage. Made of forged alloy steel hex bar.

***G* Double-Chisel-End Wrecking Bars—** Have an offset chisel on one end and a straight chisel on the other. Forged from high-carbon steel hex bar with a painted finish.

	Lg.	Wt., lbs.	Bar Size	End Wd.		Each
E	60″	18	1¼″	1¼″	6045A33	$93.22
E	66″	26	1½″	1½″	6045A42	136.72
F	30″	5	⅞″	1⅛″	6043A36	35.00
F	48″	10¾	1″	1¼″	6043A38	63.00
G	36″	8¼	1″	1⅛″, 2″	5993A21	37.90
G	48″	11	1″	1⅛″, 2″	5993A11	47.22
G	60″	14¼	1″	1⅛″, 2″	5993A31	61.11
H	36″	5¼	¾″	1″, 1″	5999A4	47.69
H	42″	8½	⅞″	1¼″, 1¼″	5999A5	59.80
H	48″	12½	1″	1½″, 1½″	5999A6	71.59
H	72″	18	1″	1⅛″, 1⅛″	5999A7	72.60
H	96″	25	1″	1⅛″, 1⅛″	5999A8	113.30

★ Made of forged alloy steel hex bar.

***H* Double-Offset Chisel-End Bars—** Also known as stripping bars. Each end has an offset chisel for easy prying. Forged from high-carbon steel hex bar with a painted finish.

***J* Offset-Chisel and Pointed-End Bars—** Forged from high-carbon steel hex bar with a painted finish, unless noted.

***K* Rocking-Head Wedge and Pointed-End Bars—** Have a rocking head that provides maximum leverage. Forged from heat-treated steel round bar with a nickel-chrome finish.

	Lg.	Wt., lbs.	Bar Size	End Wd.		Each
J	14″	¾	½″	⅝″	58875A54★	$15.29
J	16″	1¼	⅝″	¾″	58875A55★	17.36
J	20″	2¼	¾″	⅞″	58875A58★	20.72
J	24″	2¾	¾″	¾″	58875A53	27.15
J	30″	5¼	⅞″	⅞″	58875A51	27.44
J	36″	8	1″	1″	58875A52	33.00
J	48″	11	1″	1″	58875A56	42.62
J	60″	14¼	1″	1″	58875A61	56.84
K	6″	3/16	5/16″	5/16″	5987A3	25.76
K	12″	⅝	7/16″	7/16″	5987A4	27.73
K	16″	1½	9/16″	11/16″	5987A1	35.16
K	18″	2½	¾″	⅞″	5987A2	39.86

Pry Bars and Nail Pullers

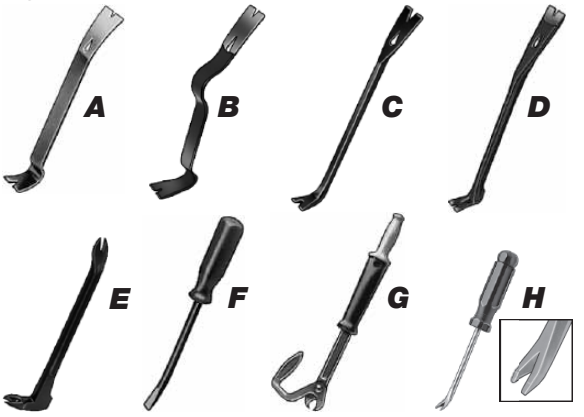

A&B ***Gooseneck-Claw and Offset-Claw Bars—*** Sharp, tapered thin blades handle prying, scraping, and nail pulling. Both ends have claws. Bars have three nail slots. Forged from high-carbon steel.

Style A has a gooseneck rocking head for extra leverage.

Style B has an arch for more swing during pulling and prying without the need for a block for leverage.

	Lg.	Wt., lbs.	Bar Size	Claw Wd.	Finish		Each
A	5 1/4"	1/16	1/2"	1/2", 1/2"	Plain	6000A3	$3.80
A	7 1/4"	5/16	1"	1", 1"	Plain	6000A2	4.25
A	15"	1 1/2	1 3/8"	1 3/4", 1 7/8"	Painted	6000A1	10.24
A	21"	2	1 3/8"	1 3/4", 1 7/8"	Painted	6000A4	12.71
B	15 1/2"	1 3/4	1 3/8"	1 3/4", 1 3/4"	Painted	6769A12	12.13

C-E ***Double-Offset Claw Bars—*** Both ends have claws. Forged from high-carbon steel with a painted finish.

Style C bar is hex shaped and has three nail slots.

Style D has an I-beam design to give you extra strength without adding weight to the tool. The rocking head provides maximum leverage. Bar has three nail slots.

Style E is also known as a bear claw. Flat claw is for easy wedging with minimal wood damage; extra-heavy rocking head provides maximum leverage.

	Lg.	Wt., lbs.	Bar Size	Claw Wd.		Each
C	18"	2 1/2	3/4"	1 7/8", 1 3/8"	5990A2	$13.42
D	18"	1 3/8	3/8"★	1 3/4", 1 3/8"	6004A11	20.87
E	7 3/4"	11/16	3/8"	5/8", 5/8"	37205A68	11.26
E	10 1/2"	7/8	1/2"	13/16", 13/16"	37205A71	13.76
E	11 3/4"	1 1/8	1/2"	7/8", 7/8"	37205A72	16.54
E	14 1/4"	1 5/8	5/8"	1", 1"	37205A74	19.82

★ I-beam thickness.

F ***Screwdriver Pry Bars—*** The curved screwdriver blade gives you the extra leverage you need to handle tough prying jobs. Bars are made of hardened and tempered alloy steel. Bars 31" and shorter have a hard plastic handle. Bars 36" and longer have a cushion-grip handle for a comfortable and secure grip; they also have a capped end that allows you to strike the pry bar without damaging the handle.

O'all Lg.	Blade Lg.	Wt., lbs.	Bar Size	Tip Wd.		Each
12"	7"	3/8	3/8"	5/8"	60025A65	$12.98
17"	12"	1/2	3/8"	5/8"	60025A66	13.88
25"	18"	1 1/2	1/2"	3/4"	60025A67	21.78
31"	24"	2	1/2"	3/4"	60025A68	25.58
36"	29"	4	5/8"	1"	60025A69	65.03
42"	35"	5 1/2	5/8"	1"	60025A71	70.33
48"	38"	7 1/2	3/4"	1"	60025A72	97.27

3-Piece Set (12", 17", and 25" bars) ..... 60025A7 **Per Set** $42.74

G ***Nail Puller—*** Excellent for removing deeply embedded nails. The lower handle controls the opening and closing of the jaw to get a good grip on the nail head and provides extra leverage for easy nail removal. Handle is cast iron with a vinyl grip; other parts are forged steel.

Lg.	Wt., lbs.	Claw Wd. Range		Each
17 3/4"	5 1/16	0"-1/2"	6094A31	$57.25

H ***Tack-Brad-Staple Puller—*** Great for opening paint-style cans without marring. Forged from high-carbon steel. Has an easy-grip plastic handle.

O'all Lg.	Blade Lg.	Wt., lbs.	Bar Size	Claw Wd.		Each
7 1/8"	3 3/4"	1/8	1/4"	7/16"	5865A11	$4.14

Claw and Chisel Bars

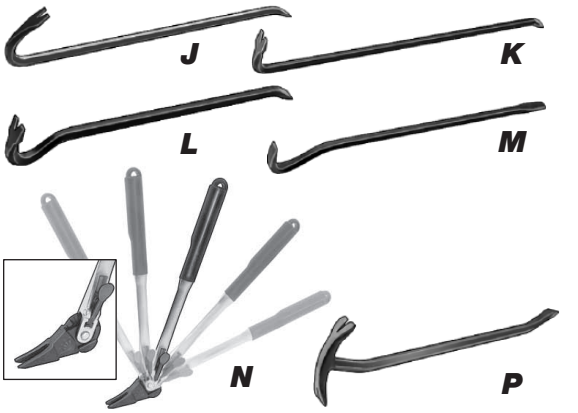

J ***U-Shaped Claw and Offset-Chisel Bars—*** Also known as crowbars. Bars are hex shaped. Forged from high-carbon steel with a painted finish.

Lg.	Wt., lbs.	Bar Size	Claw Wd.	Chisel Wd.		Each
12"	1	1/2"	1 1/8"	3/4"	5992A12	$6.64
18"	2	5/8"	1 1/8"	15/16"	5992A16	9.50
24"	3 1/2	3/4"	1 3/8"	1"	5992A13	13.20
30"	4 1/4	3/4"	1 3/8"	1"	5992A14	16.64
36"	5 1/4	3/4"	1 3/8"	1"	5992A15	18.18
36"	8 1/4	1"	2 1/4"	1 1/2"	5992A6	24.17
42"	8 3/4	7/8"	1 5/8"	1 1/8"	5992A5	23.47
48"	12 1/2	1"	2 1/8"	1 5/8"	5992A17	30.20
60"	15 1/2	1"	2 1/4"	1 1/2"	5992A7	35.03

K ***Offset-Claw and Offset-Chisel Bars—*** Commonly used for stripping and removing wooden concrete forms after concrete has set. Bars are hex shaped. Forged from high-carbon steel with a painted finish.

Lg.	Wt., lbs.	Bar Size	Claw Wd.	Chisel Wd.		Each
36"	5 1/4	3/4"	1 5/16"	1"	58835A1	$26.01
42"	8	7/8"	1 7/8"	1 3/8"	58835A2	26.22
48"	12	1"	2"	1 1/4"	58835A3	33.56
60"	14	1"	2"	1 1/4"	58835A4	38.99

L ***Gooseneck-Claw and Offset-Chisel Bars—*** Use bars for pulling nails in corners and other tight spots. Bars are hex shaped. Forged from high-carbon steel with a painted finish.

Lg.	Wt., lbs.	Bar Size	Claw Wd.	Chisel Wd.		Each
24"	4	3/4"	1 3/8"	1"	5956A11	$27.40
36"	5 1/2	3/4"	1 3/8"	1"	5956A13	38.44

M ***Gooseneck-Chisel and Straight-Chisel Bars—*** Also known as die bars, these tools are useful for separating die sets. Bars are hex shaped. Forged from high-carbon steel. All have a painted finish, unless noted. The curved heel and tip of 5927A31 and 5927A34 are coated with aluminum bronze, which won't scratch die blocks.

Lg.	Wt., lbs.	Bar Size	U-Chisel Wd.	Straight Chisel Wd.		Each
Carbon Steel						
7"	1/2	5/16"	5/16"	5/16"	5927A41	$17.16
12"	1	7/16"	7/16"	7/16"	5927A42	21.43
18"	1 3/4	5/8"	5/8"	5/8"	5927A11	21.59
30"	4	3/4"	3/4"	3/4"	5927A18	27.26
Carbon Steel with Aluminum Bronze-Coated Heel and Tip						
22"	2 3/16	5/8"	3/4"	3/4"	5927A31●	32.49
42"	7	7/8"	1"	1"	5927A34	73.42

● Has a waxed finish.

N ***Adjustable-Angle Claw Bars—*** The pry head can lock in at five different angles (straight, 80°, 105°, 130°, and 155°) for prying in tight and awkward spaces. Press the thumb lever to adjust the head; release the lever to lock in place. Head and bar are forged from high carbon steel with a powder-coated finish that resists rust and scratches.

Lg.	Wt., lbs.	Bar Size	Claw Wd.		Each
16"	1 1/2	13/16"	3/4"	6035A11	$36.11
20"	1 3/4	13/16"	3/4"	6035A12	44.15

P ***Double-Claw and Offset-Chisel Bars—*** The double-claw end has a rocking head for leverage in hard-to-reach places. Bars are hex shaped. Forged from high-carbon steel with a powder-coated finish and polished tips.

Lg.	Wt., lbs.	Bar Size	Claw Wd.	Chisel Wd.		Each
24"	4	3/4"	1 1/2"	1"	6006A12	$24.76
30"	4 7/8	3/4"	1 1/2"	1"	6006A13	29.08
36"	8 1/2	7/8"	1 1/2"	1 3/8"	6006A14	48.82
48"	11	7/8"	1 1/2"	1 3/8"	6006A16	65.53

Tire Irons

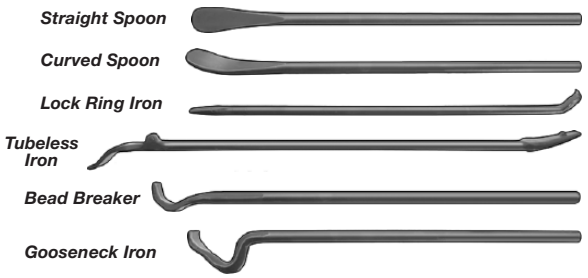

Use with large trucks, bus tires, and in other heavy duty prying situations. Tire irons are made of heat-treated alloy steel for extra strength.

See page 610 for other tire and automobile service tools; see page 2771 for lug wrenches.

	Lg.	Bar Size	Wt., lbs.		Each
Straight Spoon	30″	7/8″	4 3/4	6002A2	$48.31
Curved Spoon	30″	7/8″	4 1/2	6002A3	48.31
Lock Ring Iron	30″	11/16″	3 1/8	6002A9	35.06
Tubeless Iron	37″	3/4″	5	6002A8	87.65
Bead Breaker	33″	7/8″	5 1/2	6002A1	61.83
Gooseneck Iron	30″	7/8″	5 1/4	6002A6	65.69

Plastic Wedges

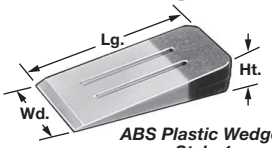

ABS Plastic Wedge, Style 1



ABS Plastic Wedge, Style 2



Three-Piece Set

Wedges are made of plastic, so they won't damage material.

ABS Plastic Wedges— Lightweight, yet strong. *Style 1* wedges are for separating and holding material. They won't chip or shatter, even in subzero temperatures. For use with wood and other soft materials. *Style 2* wedge is for leveling, aligning, and prying apart materials. It's ideal for use in larger, heavier jobs such as framework and doors.

	Blade				
Lg.	Wd.	Ht.	Wt.		Each
Style 1					
5 1/2″	2 1/2″	1″	5 oz.	5868A91	$6.90
7 1/2″	3″	1 1/4″	9 oz.	5868A92	10.08
10″	3″	1″	10 oz.	5868A93	10.38
12″	3 1/2″	1 1/4″	1 lb.	5868A94	13.69
Style 2					
14″	1 7/8″	1 5/8″	1/2 lb.	6036A11	13.98

Three-Piece Sets— Wedges are for leveling, aligning, and prying apart materials. Include a 5″ Lg.×7/8″ Wd.×1 1/2″ Ht. short wedge, a 7″ Lg.×1″ Wd.×5/8″ Ht. long wedge, and a 7″ Lg.×2″ Wd.×5/8″ Ht. curved tip wedge. Each wedge weighs less than 2 oz. Use the *polyethylene wedge set* for soft and brittle materials and the *polycarbonate wedge set* for hard materials such as wood and fiberglass.

Three-Piece Polyethylene Set	6036A22	**Per Set** $11.98
Three-Piece Polycarbonate Set	6036A21	**Per Set** $12.98

Carbon Steel Wedges

Drive wedges into narrow openings to separate and hold wood. Ideal for use in the lumber industry, including splitting operations. Made of forged carbon steel.

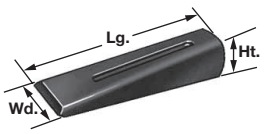

	Blade				
Lg.	Wd.	Ht.	Wt.		Each
7 1/2″	2 1/4″	1 1/4″	3 lbs.	5948A1	$16.09
8 1/4″	2 1/4″	1 1/4″	4 lbs.	5948A2	18.59
9 1/8″	2 1/2″	1 1/2″	5 lbs.	5948A3	22.38
10 1/4″	2 5/8″	1 1/2″	6 lbs.	5948A4	24.76
11″	2 7/8″	1 3/4″	8 lbs.	5948A5	37.00

4-Piece Pry Bar Set



You'll get four pry bars in this convenient set. All are made from forged alloy steel hex stock.

End width is measured at the chisel or wedge end of the bar.

	Lg.	Bar Size	End Wd.	Wt., lbs.
Gooseneck-Chisel and Pointed-End Bar	16″	1/2″	5/8″	1
Offset-Wedge and Pointed-End Bar	14″	1/2″	5/8″	3/4
Offset-Wedge and Pointed-End Bar	20″	3/4″	7/8″	2 1/4
Chisel- and Rounded-End Bar	18″	3/4″	7/8″	2 1/4

5958A71 ..... **Per Set** $56.64

Pallet Buster

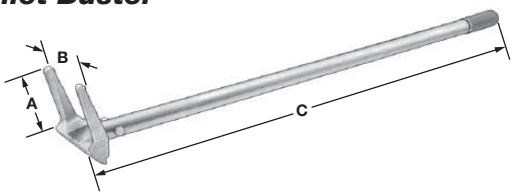

Easily disassemble pallets and skids to be recycled. Tool has a zinc-plated steel breaker head and a 1 1/4″ tubular aluminum handle. Position forks in pallet slats, and push handle down. The breaker head provides prying leverage. There is a 3″ space between the forks.

(A)	(B)	(C)	Wt., lbs.		Each
8 7/8″	4″	44 1/16″	8	58585A65	$74.20

Pipe Flange Wedges





Ideal for breaking open pipe flanges in refineries, as well as for pipeline maintenance. ***Beryllium copper*** wedges are nonsparking.

Style A— Surfaces interlock when used in pairs.

	Blade		Tip	Wt.,	Carbon Steel		Beryllium Copper	
Lg.	Ht.	Wd.	Thick.	lbs.		Each		Each
A 11″	7/8″	7/8″	3/32″	1 1/4	5775A1	$12.83	58725A67	$93.91
B 12″	13/16″	13/16″	3/32″	1 1/2	5952A1	14.81	58805A67	93.89

Dent Puller



An economical way to make minor repairs, this tool pulls dents out of sheet metal panels from the front side. It has a 1/2″-20 threaded shaft and comes with nosepiece, "L" puller with two screws, and a door edge tool with two nuts.

6873A11 ..... $42.98

T-Handle Pipe Flange Spreaders



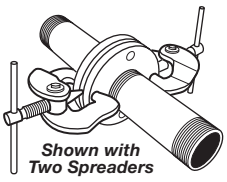

Shown with Two Spreaders

Make gasket replacement fast and easy, even in hard-to-reach locations. Spreaders are made of steel with a black-oxide finish. They exert extreme pressure smoothly and evenly with minimal operator effort. To use, place hooks in flange bolt holes and turn the T-handle. Units allow you to part flanges quickly and hold them in perfect alignment without damaging flange faces. *Note:* Use in pairs for even distribution of pressure. Capacities are for standard raised-face flanges.

PIPE SIZE RANGE					
Cast-Iron Flange		Steel Flange			
125-lb.	250-lb.	150-lb.	300-lb.		Per Pair
2″ to 20″	1″ to 12″	2″ to 20″	3/4″ to 12″	59125A1	$292.69
16″ to 48″	12″ to 30″	18″ to 24″	12″ to 24″	59125A2	588.05

Flange Spreaders & Alignment Pins

Wrench-Driven Flange Spreaders

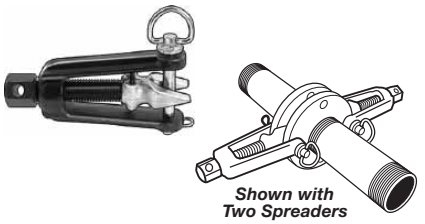

High-quality, alloy-steel spreaders are heat-treated to handle tough jobs without distortion or breakage. Compact in size, units are perfect for use on standard pipe and ring-type joint flanges. They're easy to use—remove bolt from flange to insert support rod, and turn the hex bolt to drive the spreader.

Note: A spreader is required on each side of the flange for even distribution of pressure.

Pipe Size Range		Hex	Spreaders		Replacement Spreaders	
150-lb. Flange	300-lb. Flange	Screw Size	Pkg. Qty.	Pkg.		Each
2″ to 6″	¾″ to 2½″	1½″	2	59135A32 $472.15	59135A22	$248.50
5″ to 16″	2½″ to 6″	1½″	2	59135A34 488.49	59135A24	257.10
14″ to 42″	10″ to 22″	1⅝″	2	59135A36 618.70	59135A26	325.63
22″ to 42″	16″ to 36″	1⅝″	2	59135A38 820.55	59135A28	431.87

Ratchet-Action Pipe Flange Spreaders

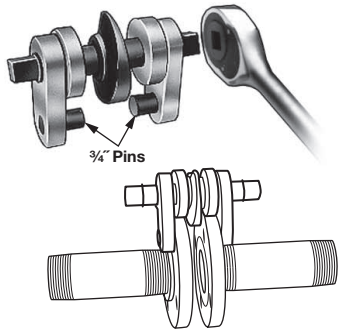

Slip these lightweight, easy-to-use spreaders over pipe flanges to separate stubborn connections. They're safe to use—no more hammer blows, chisels, or flying wedges. All are made of steel.

Spreaders have two ¾″ pins that fit into the bolt holes on your flanges. Applying pressure to the ratchet handle forces a circular cam wedge between flanges to separate them. Use spreaders on standard raised-face flanges. Multi-range spreader is also suitable for large-diameter flanges with up to 750° F steam. All come with a female square-drive reversible ratchet. Furnished with a metal carrying case for the spreader; case for standard range spreader also holds the ratchet.

Standard Range— For 150-lb. flanges up to 20″ pipe size; 300-lb. flanges up to 6″ pipe size.

Multi-Range—*For standard raised-face flanges:* 150-lb. flanges 12″ to 24″ pipe size; 300-lb. flanges up to 24″ pipe size. *For large-diameter flanges with up to 750° F steam:* 150-lb. flanges 26″ to 72″ pipe size; 300-lb. flanges 26″ to 42″ pipe size.

Deluxe Range— For 400-lb. flanges up to 24″ pipe size; 600-lb. flanges up to 20″ pipe size; 900-lb. flanges up to 16″ pipe size; 1500-lb. flanges up to 8″ pipe size; 2500-lb. flanges up to 5″ pipe size.

	Ratchet Size		Each
Standard Range	¾″	59115A1	$918.75
Multi-Range	1″	59115A2	1,130.00
Deluxe Range	1″	59115A3	1,142.50

Tapered Alignment Pins

Use alignment pins to align structural components such as I-beams and angle irons for bolting, riveting, and welding. Pins are made of carbon steel, unless noted.

Styles A-E— To align bolt holes, simply drive pins into the drilled holes of two structural components. When ordering, select a pin with a diameter that is 1/16″ larger than the diameter of the bolt or rivet being used. Diameter is measured at the widest part of the pin, unless noted.

Style F— To align bolt holes, fit the tapered end of the pin into the bolt holes and use a wrench on the hex head to rotate and align the holes. If your bolt hole is in between the sizes listed, choose the smaller size pin.

(A) Single-End Alignment Pins



Dia.	O'all Lg.	Taper Lg.	Point Size		Each
7/16″	6″	2½″	3/16″	6054A1	$7.15
9/16″	6″	2¾″	1/4″	6054A2	7.83
11/16″	6″	2¾″	5/16″	6054A3	7.47
13/16″	8″	3¾″	5/16″	6054A4	9.12
15/16″	8″	3¾″	3/8″	6054A5	12.22
1 1/16″	8″	3¾″	1/2″	6054A6	13.84

(B) Extra-Long Taper Single-End Alignment Pins



Also known as pull or bull pins.

Dia.	O'all Lg.	Taper Lg.	Point Size		Each
15/16″	12″	10″	5/16″	6055A7	$13.41
15/16″	15″	10″	5/16″	6055A1	14.73
1 1/16″	12″	10″	3/8″	6055A4	14.81
1 1/16″	15″	10″	3/8″	6055A2	16.58
1 3/16″	12″	10½″	7/16″	6055A6	17.31
1 3/16″	15″	10½″	7/16″	6055A3	19.42
1 1/4″	12″	10½″	7/16″	6055A5	20.08
1 1/4″	15″	10½″	7/16″	6055A8	20.03

(C) Double-End Alignment Pins



Also known as barrel drift pins, these pins are tapered on both ends.

Dia.	O'all Lg.	Taper Lg.	Point Size		Each
7/16″	6″	2″	3/16″	6053A1	$6.10
9/16″	6″	2″	1/4″	6053A2	6.45
11/16″	7½″	2″	5/16″	6053A3	6.99
13/16″	8″	2½″	3/8″	6053A4	7.32
15/16″	8″	2½″	7/16″	6053A5	8.20
1 1/16″	8″	2½″	9/16″	6053A6	9.50
1 3/16″	8″	2½″	3/4″	6053A9	16.65
1 3/16″	10″	3″	1/4″	6053A7	24.91
1 5/16″	8″	2½″	3/4″	6053A11	18.15
1 5/16″	11″	3″	5/16″	6053A8	26.89

(D) Long Taper Single-End Alignment Pins



Dia.	O'all Lg.	Taper Lg.	Point Size		Each
9/16″	7″	6″	1/8″	6059A2	$8.70
11/16″	7 1/2″	6 1/2″	3/16″	6059A3	8.51
13/16″	8″	7″	3/16″	6059A4	9.05
15/16″	8″	7″	1/4″	6059A5	9.97
1 1/16″	8″	7″	5/16″	6059A6	11.08

(E) Broad-Head Alignment Pins



Often called bull pins, these pins are designed to resist mushrooming caused by repeated pounding. The large striking surface allows you to drive the pins quickly and efficiently. Flat surfaces are forged below the head for use as a wrenching surface.

Dia. ♦	O'all Lg.	Taper Lg.	Point Size		Each
1 1/16″	10″	5 1/2″	1/4″	6057A11	$27.52
1 1/4″	13″	6″	5/16″	6057A12	38.36

♦ Diameter at the top of the pin, below the pin head.

(F) No Strike Hex-Head Alignment Pins



A specially designed shaft eliminates the need for hammering and prying when aligning bolt holes. Unlike most other pins, these are reusable—use them for your next aligning job. Pins are heat-treated alloy steel with cadmium plating for corrosion resistance. Great for use on flanges and steel framing.

For Bolt Hole Size	O'all Lg.	Taper Lg.	Point Size		Each
3/4″	4″	1 7/8″	5/8″	6851A22	$57.09
7/8″	4 1/4″	1 15/16″	5/8″	6851A23	65.62
1″	4 3/4″	2 1/4″	3/4″	6851A24	76.62
1 1/2″	7 3/4″	3 1/2″	1 1/4″	6851A28	181.03

6-Piece Set— Includes two each of ¾″, ⅞″, and 1″ sizes. Furnished in a plastic carrying case.

6851A39 **Per Set** $466.87

Hardware

Window Hardware & Coverings	2866
Access Doors	2868
Weatherstripping	2870
Steel Doors	2874
Overhead Doors	2875
Folding Gates	2876
Swinging Doors & Air Curtains	2877
Vinyl Strip Doors	2878
Door Track & Hangers	2881
Door Holders & Stops	2885
Door Plates	2888
Door Handles, Knobs & Locks	2890
Electric Strikes	2895
Door Openers	2896
Door Closers	2898
Exit Devices	2902
Magnetic Contacts	2905
Video Surveillance	2906
Key Control	2907
Lockouts	2910
Padlocks	2914
Hasps	2926
Cam Locks & Latches	2928
Cabinet & Drawer Locks	2934
Latches	2936
Grab Latches	2949
Pull Handles	2951
Hinges	2958
Lid Supports	2979
Drawer Slides	2980
Brackets	2983
Tool Holders	2986
Pegboard	2988
Hooks & Hangers	2990



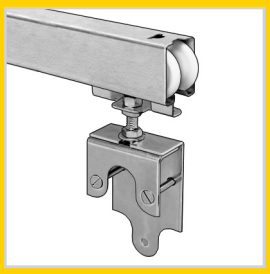
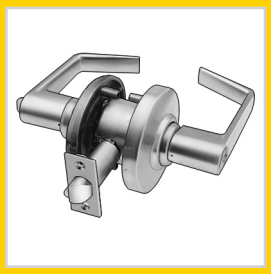


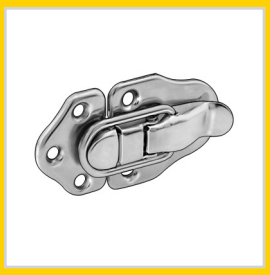

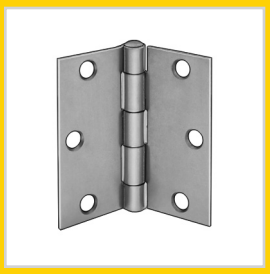


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Window Latches and Openers

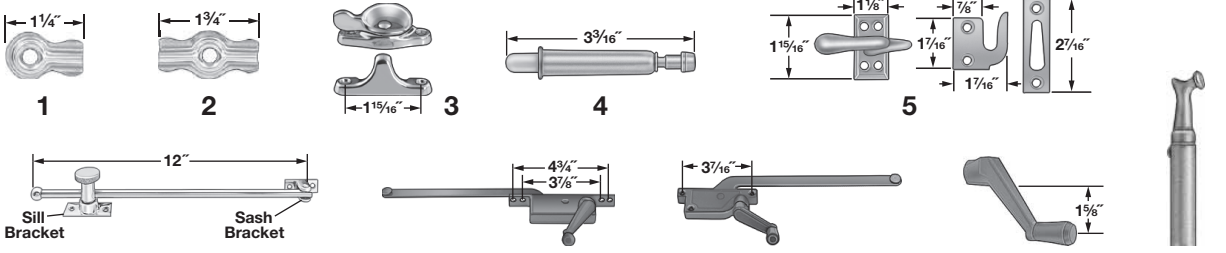

1 2 3 4 5 6 7 Right Hand Shown 8 Left Hand Shown 9 10

Mounting screws are included where applicable.

Latches—Secure windows and screens in the closed position. *Style 4* has a spring bolt and requires a ⅜″ dia. hole for installation. *Style 5* includes a surface strike and a mortise strike.

	Material		Pkg. of 10
Latches			
For Storm Windows and Screens			
1	Zinc-Plated Steel	**1076A1**	$3.76
2	Zinc-Plated Steel	**1076A3**	4.16
For Single- and Double-Hung Windows			Each
3	Aluminum with Brass Finish	**1069A2**	$2.26
3	Brass	**1069A4**	13.42
For Windows and Screens			
4	Zinc-Plated Steel	**1075A2**	2.18
For Casement Windows			
5	Zinc Handle and Catch with Brass Finish	**1073A1**	8.82
6	Brass	**1058A11**	33.17

Hand Cranks—Fit most 18″-30″ wide casement windows. *Style 9* fit a ⅜″ dia. spline shaft.

Hooks—Open and close hard-to-reach transom windows. Hooks have a ½″ dia. tip.

	Material		Each
Hand Cranks			
For Metal Frame—Please specify right- or left-hand mount.			
7	Zinc with Bronze Finish	**1060A3**	$23.74
For Wood Frame—Please specify right- or left-hand mount.			
8	Zinc with Bronze Finish	**1060A4**	12.76
Replacement Handles			
9	Zinc with Bronze Finish	**1064A11**	5.00
9	Zinc with Aluminum Finish	**1064A12**	5.00
Hooks			
10	Galvanized Steel Pole with Bronze Hook (5 ft.)	**1096A55**	26.70
10	Galvanized Steel Pole with Bronze Hook (12 ft.)	**1096A57**	61.13

Glass-Mounting Points and Drivers

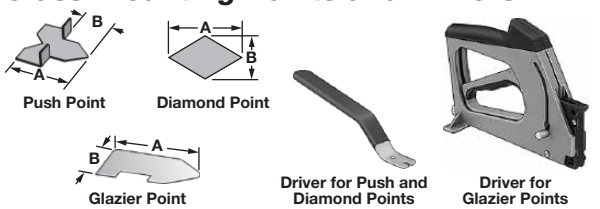

Drive points into frames to secure glass in place. Also known as glazing points, all are galvanized steel. Use a driver (sold separately) to install. *Driver for push and diamond points* includes 30 push points.

		Points			Drivers	
(A)	(B)	Pkg. Qty.				
Push Points						
7⁄16″	¼″	100	**1010A36**	$2.76	**1010A37**	$8.64
Diamond Points						
⅜″	3⁄16″	500	**1045A11**	11.23	**1010A37**	8.64
½″	¼″	500	**1045A12**	11.62	**1010A37**	8.64
Glazier Points						
⅜″	⅛″	1,000	**1052A24**	6.91	**1052A22**	101.22

Glass-Holding Clips



Also known as glazing clips and sash clips, these temporarily hold glass in a window frame before putty is applied.

Wire Dia.	O'all Wd.		Pkg. of 250
0.054″	15⁄16″	**1007A21**	$14.94

Screening Splines and Installation Tools

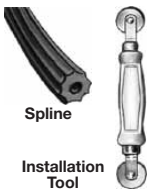

Splines are black serrated vinyl and hold screening in a frame.

Installation tool has a wood handle.

Dia.	Lg.		
1⁄8″	25 ft.	**1087A21**	$2.11
9⁄64″	25 ft.	**1087A22**	2.38
5⁄32″	25 ft.	**1087A23**	2.44
11⁄64″	25 ft.	**1087A24**	2.71
Installation Tool (8⅜″ Lg.)		**1028A12**	3.43

Transparent Shatter-Preventing Film

Keep windows from producing dangerous flying glass if they break. This scratch-resistant transparent polyester film bonds to the inside of glass windows to hold them together if broken.

Thick., mils	Wd.	10-ft. Roll		25-ft. Roll	
2	60″	**2293A76**	$77.85	**2293A16**	$170.30
4	60″	**2293A78**	91.23	**2293A18**	199.57

Insect Screening

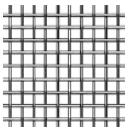

All screening resists corrosion.

Aluminum is the most popular insect screening.

Fiberglass won't crease or dent.

Type 316 stainless steel and **bronze** have superior corrosion resistance.

Width	Choose a Finish		7-ft. Roll	25-ft. Roll	100-ft. Roll
Aluminum—0.011″ Dia. Wire					
24″	Bright, Dark Gray	**1023A75**	$6.76	$22.78	$71.18
30″	Bright, Dark Gray	**1023A76**	8.45	28.47	88.96
36″	Bright, Dark Gray	**1023A77**	10.14	34.16	106.76
42″	Bright, Dark Gray	**1023A78**	11.83	39.86	124.56
48″	Bright, Dark Gray	**1023A79**	13.52	45.54	142.32
60″	Bright, Dark Gray	**1023A81**	16.90	56.93	177.92
Fiberglass—0.011″ Dia. Wire					
24″	Gray, Dark Gray	**1017A85**	4.64	16.23	46.38
30″	Dark Gray	**1017A86**	5.80	20.29	57.96
36″	Gray, Dark Gray	**1017A87**	6.96	24.35	69.56
42″	Gray, Dark Gray	**1017A88**	8.12	28.41	81.16
48″	Gray, Dark Gray	**1017A89**	9.28	32.47	92.76
60″	Gray, Dark Gray	**1017A91**	11.59	40.58	115.94
Steel—0.009″ Dia. Wire					
24″	Zinc Plated	**1016A35**	11.79	39.30	98.26
30″	Zinc Plated	**1016A36**	14.43	48.10	120.24
36″	Zinc Plated	**1016A37**	17.53	58.43	146.08
48″	Zinc Plated	**1016A38**	23.37	77.91	194.78
Type 304 Stainless Steel—0.009″ Dia. Wire					
24″	Bright	**1021A11**	25.08	86.64	228.00
36″	Bright	**1021A12**	37.84	130.72	344.00
48″	Bright	**1021A13**	51.63	178.37	469.39
Type 316 Stainless Steel—0.009″ Dia. Wire					
24″	Bright	**1667A11**	29.88	89.62	298.75
36″	Bright	**1667A12**	45.92	137.75	459.18
48″	Bright	**1667A13**	59.77	179.32	597.74
Bronze—0.011″ Dia. Wire					
24″	Bright	**1022A12**	42.06	140.19	350.47
36″	Bright	**1022A13**	63.09	210.28	525.71
48″	Bright	**1022A14**	83.73	279.10	697.74

Mini Blinds

Adjustable slats offer light control and privacy. Slats are 1″ wide. Blinds include universal hardware for inside, outside, and ceiling mounting. Inside mounting requires a mounting surface of at least 1½″ for vinyl blinds and ⅝″ for aluminum blinds.

Aluminum blinds are more durable than vinyl.



Vinyl—Color is white

Wd.	Lg.			Wd.	Lg.		
23″	42″	1038A711	$18.12	35″	64″	1038A728	$19.12
23″	64″	1038A712	15.43	36″	64″	1038A729	19.67
24″	36″	1038A713	18.73	39″	64″	1038A731	21.29
25″	42″	1038A714	13.80	43″	64″	1038A732	25.60
26″	36″	1038A715	17.50	45″	48″	1038A733	24.86
27″	36″	1038A716	12.76	46″	42″	1038A734	30.77
27″	64″	1038A717	17.02	46″	48″	1038A735	20.29
28″	36″	1038A718	18.23	46″	64″	1038A736	27.37
29″	64″	1038A719	16.51	48″	36″	1038A737	19.86
30″	36″	1038A721	9.61	48″	48″	1038A738	23.66
30″	42″	1038A723	22.16	48″	64″	1038A749	28.57
30″	48″	1038A722	12.17	60″	48″	1038A741	33.11
31″	64″	1038A724	16.93	60″	64″	1038A742	42.80
32″	64″	1038A725	17.48	62″	72″	1038A743	38.13
33″	64″	1038A726	18.03	72″	64″	1038A744	39.35
34″	48″	1038A727	16.75				

Other Sizes—Please specify width (22″-62″ in 1″ increments) and length (36″, 48″, 60″).

1038A327 ..... Per Sq. Ft. $2.95

Aluminum

Wd.	Lg.	Choose a Color		
23″	42″	White, Dark Brown	1038A311	$32.38
24″	36″	White, Dark Brown	1038A414	40.21
26″	36″	White, Dark Brown	1038A415	42.80
39″	64″	White, Dark Brown	1038A222	68.60
46″	64″	White, Dark Brown	1038A224	78.70
48″	48″	White, Dark Brown	1038A315	85.50
72″	64″	White, Dark Brown	1038A227	112.90

Other Sizes—Please specify color (white, dark brown), width (24″-102″ in 1″ increments), and length (36″, 48″, 60″, 72″, 84″, 96″).

1038A36 ..... Per Sq. Ft. $4.65

Light-Reducing Shades

Dim incoming light without blocking the view. Made of see-through metalized polyester, shades block up to 99% of UV rays. Shades include universal hardware for inside, outside, and ceiling mounting. Inside mounting requires a mounting surface of at least 3″.

Embossed shades have a raised pattern for scratch resistance.

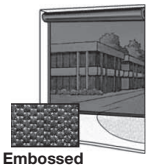

Embossed

Mounting Wd.	Lg., ft.	Light Blocked	Gray Smooth		Gray Embossed	
37¼″	6	80%	1035A23	$272.76	1230A11	$261.38
46¼″	6	80%	1035A24	285.05	1230A12	272.55
55¼″	6	80%	1035A25	297.33	1230A13	285.96
73¼″	6	80%	1035A26	321.90	1230A14	308.30

Other Sizes—Please specify texture (smooth, embossed), width (24″-96″ in 1″ increments), and length (36″, 48″, 60″, 72″, 84″, 96″) 1035A7

Transparent Heat-Shrink Insulating Film

Keep drafts out. Film mounts to the window frame and shrinks when heated to create a tight seal around windows. It is clear polyethylene and includes tape with adhesive on both sides. For indoor use.



Wd.	Lg., ft.		
62″	7	1014A52	$13.01
62″	17	1014A54	26.82
84″	9	1014A56	18.16
84″	19	1014A58	28.50
Additional Tape with Adhesive on Both Sides (½″×500″ roll)		1014A6	6.83

Privacy Shades

Shades are opaque to completely block the view. They include universal hardware for inside, outside, and ceiling mounting. Inside mounting requires a mounting surface of at least 1½″. Shades are flame retardant vinyl-coated fiberglass and meet Fed. Spec. CCC-C-521E.



Mounting Wd.	Lg., ft.	Color		
37¼″	6	White	1031A65	$168.00
46¼″	6	White	1031A66	175.00
55¼″	6	White	1031A67	180.25
73¼″	6	White	1031A68	194.25

Other Sizes—Please specify color (white, black), width (24″-96″ in 1″ increments), and length (36″, 48″, 60″, 72″, 84″, 96″) 1031A11

Privacy Film and Sprays

Apply to windows to prevent outsiders from seeing in.

Film

Nonreusable polyester film is for indoor use on single- and dual-pane windows. It blocks up to 98% of UV rays. Apply to window with a soap and water solution.

Reusable vinyl film is for indoor use on single-pane windows. Apply to window with water. Film is not recommended for use on dual-pane, wire, or tinted windows because heat buildup could crack the glass.

Application kit includes spray bottle of solution, blade, and squeegee.

Wd.	Lg., ft.	Translucent White Light Blocked			Opaque Black Light Blocked		
Nonreusable Polyester—1 mil thick							
48″	6½	23%	4936A21	$29.06	—	—	—
Reusable Vinyl—10 mils thick							
54″	6	26%	1015A13	29.44	95%	1015A15	$29.44
54″	25	26%	1015A67	74.26	95%	1015A71	74.26
54″	100	26%	1015A54	212.73	95%	1015A55	212.73
Application Kit						1037A75	10.74

Spray

Create a translucent frosted effect on windows. Spray covers 20 sq. ft.

12-oz. Spray Can ..... 1008A12 ..... $7.29

Light- and Glare-Reducing Film

Cut down on glare and filter sunlight with this reusable vinyl film. Use as directed or heat buildup could crack the glass

Wet-mount film is for use on the inside of single-pane windows. It is not for use on dual-pane, wire, or tinted windows. *Application kit* includes spray bottle of solution, blade, and squeegee.

Static-cling mount film is for use on the inside or outside of single-pane windows and the outside of dual-pane windows. It is not for inside use on dual-pane windows.

Wet Mount—10 mils thick

Wd.	Lg., ft.	Dark Gray Light Blocked			Golden Brown Light Blocked		
54″	6	53%	1015A19	$29.44	79%	1015A18	$29.44
54″	25	53%	1015A63	75.00	79%	1015A62	75.00
54″	100	53%	1015A47	212.73	79%	1015A43	212.73
Application Kit						1037A75	10.74

Static-Cling Mount—7 mils thick

Wd.	Lg., ft.	Bronze Light Blocked			Dark Gray Light Blocked		
36″	6½	70%	4803A2	$20.66	80%	4803A1	$20.66

Light-Reducing Insulating Film

Reduce heat transfer through your windows and maintain privacy. In the summer, film reflects the sun's heat; in the winter, it minimizes heat loss. Film is metalized polyester that adheres to glass to dim incoming light and to block up to 99% of UV rays.

For indoor use on single- and dual-pane windows with ⅛″-¼″ thick glass. Apply with a solution of soap and water.

Application kit includes spray bottle of solution, blade, and squeegee.

Color	Light Blocked	Thick., mils	Wd.	15-ft. Roll		100-ft. Roll	
Light Gray	60%	1	36″	1037A59	$39.39	1037A63	$195.15
Silver	82%	1	36″	1037A26	39.56	1037A27	179.05
Application Kit						1037A75	$10.74

Access Doors

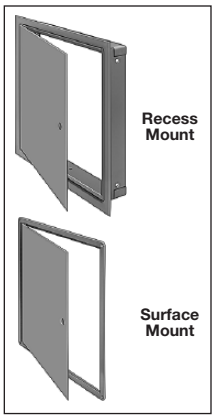

Standard Shown

Gain access to pipes, pumps, wiring, and controls behind walls and ceilings. The door opening is up to 5/8" smaller than the cutout. Mounting fasteners are not included. *Steel* doors have a white primer finish.

Standard doors have screwdriver-operated cam latches. Panel and frame are 14-16 ga.

Standard key-locking doors are keyed alike and include two keys. *Steel* panel and frame are 16 ga. *Type 304 stainless steel* panel is 16 ga; frame is 18 ga.

Tight-seal doors have a 1/16" thick neoprene gasket to keep out dust and moisture. They have screwdriver-operated cam latches. Panel and frame are 16 ga.

Fire-rated doors contain 2" of fire-rated insulation and are UL rated for 1 1/2 hours in fire-rated walls. They have a latch that is operated by the included turn ring or key. Panel is 20 ga.; frame is 16 ga. Doors that are *fire rated for walls and ceilings* are also Warnock-Hersey listed for 1-hour combustible and 3-hour noncombustible ceilings.

Doors **with drywall flange** have a perforated flange that can be covered with joint compound. They have screwdriver-operated cam latches. Panel is 14 ga.; frame is 16 ga.

Insulated doors have polystyrene or fiberglass insulation to prevent heat from passing through them. *Aluminum* doors have screwdriver-operated cam latches. Panel and frame are 16 ga. *Aluminum/galvanized steel* doors have handles. They do not have mounting holes; drill your own as needed. Panel is 24-ga. galvanized steel; frame is 15-ga. aluminum.


Tight Seal


Fire Rated


With Drywall Flange


Insulated Aluminum


Insulated Aluminum/ Galvanized Steel

Fits Cutout Lg.	Fits Cutout Wd.	Fits Cutout Dp.	Steel Overall Lg.	Steel Overall Wd.	Steel Mount. Holes			Type 304 Stainless Steel Overall Lg.	Type 304 Stainless Steel Overall Wd.	Type 304 Stainless Steel Mount. Holes		
Recess Mount												
Standard												
6 3/8"	6 3/8"	2"	7 1/2"	7 1/2"	1/4"	8143A13	$23.96	7 5/8"	7 5/8"	1/4"	8450A19	$45.71
8 3/8"	8 3/8"	2"	9 1/2"	9 1/2"	1/4"	8143A11	23.96	9 5/8"	9 5/8"	1/4"	8450A21	55.52
10 3/8"	10 3/8"	2"	11 1/2"	11 1/2"	1/4"	8143A14	28.32	11 5/8"	11 5/8"	1/4"	8450A27	63.78
12 3/8"	12 3/8"	2"	13 1/2"	13 1/2"	1/4"	8143A12	28.32	13 5/8"	13 5/8"	1/4"	8450A22	73.92
14 3/8"	14 3/8"	2"	15 1/2"	15 1/2"	1/4"	8143A16	32.68	15 5/8"	15 5/8"	1/4"	8450A28	91.36
16 3/8"	16 3/8"	2"	17 1/2"	17 1/2"	1/4"	8143A15	35.58	17 5/8"	17 5/8"	1/4"	8450A23	99.37
18 3/8"	18 3/8"	2"	19 1/2"	19 1/2"	1/4"	8143A17	39.96	19 5/8"	19 5/8"	1/4"	8450A24	114.09
24 3/8"	18 3/8"	2"	25 1/2"	19 1/2"	1/4"	8143A18	57.23	25 5/8"	19 5/8"	1/4"	8450A31	162.00
24 3/8"	24 3/8"	2"	25 1/2"	25 1/2"	1/4"	8143A19	61.63	25 5/8"	25 5/8"	1/4"	8450A25	170.84
30 3/8"	22 3/8"	2"	31 1/2"	23 1/2"	1/4"	8143A22	78.83	31 5/8"	23 5/8"	1/4"	8450A32	211.42
30 3/8"	30 3/8"	2"	31 1/2"	31 1/2"	1/4"	8143A32	93.23	31 5/8"	31 5/8"	1/4"	8450A43	224.34
36 3/8"	24 3/8"	2"	37 1/2"	25 1/2"	1/4"	8143A21	92.23	37 5/8"	25 5/8"	1/4"	8450A26	229.84
36 3/8"	36 3/8"	2"	37 1/2"	37 1/2"	1/4"	8143A33	116.20	37 5/8"	37 5/8"	1/4"	8450A44	268.31
48 3/8"	24 3/8"	2"	49 1/2"	25 1/2"	1/4"	8143A31	127.15	49 5/8"	25 5/8"	1/4"	8450A42	297.17
Standard Key Locking												
12 3/8"	12 3/8"	1 3/4"	13"	13"	7/32"	8143A43	135.80	13"	13"	7/32"	8143A53	206.10
16 3/8"	16 3/8"	1 3/4"	17"	17"	7/32"	8143A45	145.80	17"	17"	7/32"	8143A55	227.20
18 3/8"	18 3/8"	1 3/4"	19"	19"	7/32"	8143A47	149.90	19"	19"	7/32"	8143A57	236.20
24 3/8"	24 3/8"	1 3/4"	25"	25"	7/32"	8143A49	172.10	25"	25"	7/32"	8143A59	381.50
Replacement Keys (Set of 2)											8143A65	17.40
Tight Seal												
12 1/4"	12 1/4"	1 3/4"	13 7/8"	13 7/8"	1/4"	1370A41	47.79	13 7/8"	13 7/8"	1/4"	1370A51	114.38
16 1/4"	16 1/4"	1 3/4"	17 7/8"	17 7/8"	1/4"	1370A42	63.04	17 7/8"	17 7/8"	1/4"	1370A52	161.96
18 1/4"	18 1/4"	1 3/4"	19 7/8"	19 7/8"	1/4"	1370A43	69.27	19 7/8"	19 7/8"	1/4"	1370A53	198.31
24 1/4"	24 1/4"	1 3/4"	25 7/8"	25 7/8"	1/4"	1370A44	99.06	25 7/8"	25 7/8"	1/4"	1370A54	238.07
36 1/4"	24 1/4"	1 3/4"	37 7/8"	25 7/8"	1/4"	1370A45	145.27	37 7/8"	37 7/8"	1/4"	1370A55	338.90
Fire Rated for Walls and Ceilings												
8 3/8"	8 3/8"	2 3/8"	10"	10"	1/4"	1124A31	96.37	10"	10"	1/4"	1083A43	154.90
10 3/8"	10 3/8"	2 3/8"	12"	12"	1/4"	1124A69	98.75	12"	12"	1/4"	1083A41	186.25
12 3/8"	12 3/8"	2 3/8"	14"	14"	1/4"	1124A32	104.88	14"	14"	1/4"	1083A44	193.28
14 3/8"	14 3/8"	2 3/8"	16"	16"	1/4"	1124A1	112.00	16"	16"	1/4"	1083A31	226.53
16 3/8"	16 3/8"	2 3/8"	18"	18"	1/4"	1124A33	124.12	18"	18"	1/4"	1083A45	262.83
18 3/8"	18 3/8"	2 3/8"	20"	20"	1/4"	1124A34	142.88	20"	20"	1/4"	1083A46	306.32
24 3/8"	18 3/8"	2 3/8"	26"	20"	1/4"	1124A2	192.62	26"	20"	1/4"	1083A32	337.27
24 3/8"	24 3/8"	2 3/8"	26"	26"	1/4"	1124A35	176.88	26"	26"	1/4"	1083A47	370.91
30 3/8"	22 3/8"	2 3/8"	32"	24"	1/4"	1124A37	187.00	32"	24"	1/4"	1083A49	407.09
36 3/8"	22 3/8"	2 3/8"	38"	24"	1/4"	1124A67	240.50	38"	24"	1/4"	1083A42	486.82
36 3/8"	24 3/8"	2 3/8"	38"	26"	1/4"	1124A36	248.37	38"	26"	1/4"	1083A48	535.00
Fire Rated for Walls												
30 3/8"	30 3/8"	2 3/8"	32"	32"	1/4"	1124A4	289.53	32"	32"	1/4"	1083A34	520.91
36 3/8"	36 3/8"	2 3/8"	38"	38"	1/4"	1124A5	409.77	38"	38"	1/4"	1083A35	697.27
48 3/8"	24 3/8"	2 3/8"	50"	26"	1/4"	1124A3	283.37	50"	26"	1/4"	1083A33	658.18
With Drywall Flange												
8 3/8"	8 3/8"	2"	10"	10"	1/4"	11995A61	28.00					
12 3/8"	12 3/8"	2"	14"	14"	1/4"	11995A62	32.46					
16 3/8"	16 3/8"	2"	18"	18"	1/4"	11995A65	41.50					
18 3/8"	18 3/8"	2"	20"	20"	1/4"	11995A63	45.74					
24 3/8"	24 3/8"	2"	26"	26"	1/4"	11995A64	65.62					
Insulated			**Aluminum**					**Aluminum/Galvanized Steel**				
12 5/8"	12 5/8"	1 1/2"	14 7/8"	14 7/8"	9/32"	1369A11	101.64					
18 5/8"	18 5/8"	1 1/2"	20 7/8"	20 7/8"	9/32"	1369A12	123.73					
24 5/8"	24 5/8"	1 1/2"	26 7/8"	26 7/8"	9/32"	1369A13	139.27					
30 5/8"	30 5/8"	1 1/2"	32 7/8"	32 7/8"	9/32"	1369A16	209.45					
36 5/8"	24 5/8"	1 1/2"	38 7/8"	26 7/8"	9/32"	1369A14	198.55					
36 5/8"	36 5/8"	1 1/2"	38 7/8"	38 7/8"	9/32"	1369A17	238.91					
48 1/4"	18 1/4"	1 1/2"						50 1/2"	20 1/2"		10165A62	273.58
48 1/4"	24 1/4"	1 1/2"						50 1/2"	26 1/2"		10165A64	292.45
48 5/8"	24 5/8"	1 1/2"	50 7/8"	26 7/8"	9/32"	1369A15	257.64					
60 1/4"	18 1/4"	1 1/2"						62 1/2"	20 1/2"		10165A63	292.45
Surface Mount												
Standard			**Steel**					**Type 304 Stainless Steel**				
8"	8"		8 1/2"	8 1/2"	3/16"	8131A29	30.00	10"	10"	7/16"	10195A41	97.00
12"	12"		12 1/2"	12 1/2"	3/16"	8131A31	34.50	14"	14"	7/16"	10195A42	101.20
16"	16"		16 1/2"	16 1/2"	3/16"	8131A35	44.00	18"	18"	7/16"	10195A43	215.00
24"	24"		24 1/2"	24 1/2"	3/16"	8131A37	69.80	26"	26"	7/16"	10195A44	320.58

Adjustable Access Doors



Slide the frame apart using its notched tabs to adjust its length and width in 3/8" increments. Recess mount in walls or ceilings that are at least 3/8" thick. The door opening is 1 1/4" smaller than the cutout. Panel is 20-ga. steel with a white finish and attaches to the frame magnetically. Frame is 24-ga. galvanized steel and plastic.

Fits Cutout Lg.	Fits Cutout Wd.	Overall Lg.	Overall Wd.		
6"-7 1/2"	6"-7 1/2"	9 7/8"	9 7/8"	7399A11	$26.18
8"-9 1/2"	8"-9 1/2"	11 7/8"	11 7/8"	7399A12	29.11
10"-11 1/2"	10"-11 1/2"	13 7/8"	13 7/8"	7399A13	30.93
12"-13 1/2"	12"-13 1/2"	15 7/8"	15 7/8"	7399A14	35.17
14"-15 1/2"	14"-15 1/2"	17 7/8"	17 7/8"	7399A15	40.02

Tight-Seal Access Doors



Rectangular Recess Mount



Round Recess Mount



Round Surface Mount

Create a weathertight point of access to concealed objects. The door opening is up to 1 1/4" smaller than the cutout.

Rectangular recess-mount doors have a neoprene/EPDM gasket and mount into floors. They have a slam latch that can be pulled open. Doors can support 180 lbs.

Round recess-mount doors are flexible and resist heat and chemicals. The panel fits snugly into the frame for a watertight seal; pull on the panel's tab to open it. They are often used to inspect insulated pipes for corrosion. Frame has locking ridges to secure it in insulation that is at least 3/4" thick; no mounting screws or caulk needed.

Round surface-mount doors have an EPDM gasket and mount to floors. They have a T-handle latch. *Aluminum* doors can support 300 lbs.

Fits Cutout Lg.	Fits Cutout Wd.	Overall Lg.	Overall Wd.	Screw Size		
Rectangular Recess Mount						
White Polypropylene—Maximum temperature is 120° F						
12 1/2"	8 5/8"	15 1/8"	10 3/4"	No. 12	1358A311	$48.51
20 3/4"	10 3/4"	23 1/4"	13"	No. 12	1358A321	83.80
Round Recess Mount						
Gray Silicone—Maximum temperature is 500° F						
2 1/2" Dia.	—	3 3/8" Dia.	—	—	7522A25	14.14
5" Dia.	—	5 7/8" Dia.	—	—	7522A55	33.43
Round Surface Mount						
White Polypropylene—Maximum temperature is 150° F						
6 3/8" Dia.	—	8 3/8" Dia.	—	No. 8	1486A13	33.98
8 1/2" Dia.	—	10 9/16" Dia.	—	No. 8	1486A17	40.76
10 1/2" Dia.	—	12 1/2" Dia.	—	No. 8	1486A23	47.56
Aluminum—Maximum temperature is 150° F						
6 3/8" Dia.	—	8 3/8" Dia.	—	No. 10	1486A4	354.67
8 1/2" Dia.	—	10 9/16" Dia.	—	No. 10	1486A5	368.32
10 1/2" Dia.	—	12 1/2" Dia.	—	No. 10	1486A6	385.00

Weld-On Access Doors



Rectangular



Round

Often used for inspecting conveyors, hoppers, and tanks, these doors have gaskets to shut out dust and moisture. They have padlock hasps that accept up to a 5/16" dia. shackle. The door opening is the same size as the cutout.

Rectangular doors have a polyethylene gasket and a handle latch. Panel is 13 ga.; frame is 10 ga.

Round doors have a Buna-N gasket and a flip latch. Panel and frame are 10 ga.

Fits Cutout Lg.	Fits Cutout Wd.	Overall Lg.	Overall Wd.	Ht.		Steel	Stainless Steel
Rectangular—Temperature range is –95° to 175° F							
8"	5"	9"	6 1/4"	2 1/2"	10605A81	$189.92	$440.82
12"	8"	13"	9"	2 1/2"	10605A82	221.28	486.10
19 3/4"	13 3/4"	20 3/4"	15"	2 1/2"	10605A83	339.75	778.82
23 1/2"	19 3/4"	24 3/4"	20 3/4"	3 1/2"	10605A84	494.83	1,010.55
Round—Temperature range is –40° to 250° F							
8" Dia.		13 5/8" Dia.		4 3/8"	10605A85	274.93	635.00
10" Dia.		13 3/8" Dia.		4 1/8"	10605A86	298.33	670.00
20" Dia.		23 13/16" Dia.		4 5/8"	10605A87	593.99	1,359.68
24" Dia.		28 3/8" Dia.		5 1/2"	10605A89	1,081.67	2,863.24

Light Duty Access Doors



Rectangular



Round

An economical option, doors have an 1/8" thick white plastic panel and frame. They surface mount to walls or ceilings and have a door opening that is up to 3/8" smaller than the cutout.

Rectangular doors have a snap catch that can be opened with a screwdriver. They can be mounted with adhesive or by drilling mounting holes.

Round door has a slide bolt latch. It requires No. 6 screws for mounting.

Fits Cutout Lg.	Fits Cutout Wd.	Overall Lg.	Overall Wd.		
Rectangular					
8"	8"	9 3/4"	9 3/4"	1243A71	$16.21
8 1/4"	8 1/4"	10 1/4"	10 1/4"	1243A63	17.39
9 3/8"	6 3/8"	11 1/4"	8 1/4"	1243A62	17.01
14"	14"	16 1/4"	16 1/4"	1243A82	21.55
14"	14"	17"	17"	1243A64	21.34
22"	22"	24 5/8"	24 5/8"	1243A84	38.98
29 1/8"	14"	32 1/4"	17"	1243A65	55.14
Round					
3 7/8" Dia.	—	6" Dia.	—	1123A42	8.23

See-Through Access Doors



Keep an eye on drains, hoses, wires, and valves behind walls and ceilings. Door surface mounts and has two snap latches. It has a polyurethane gasket to create a tight seal. The door opening is the same size as the cutout. Panel is UV-resistant transparent gray polycarbonate; frame is gray polycarbonate. Mounting screws are included.

Fits Cutout Lg.	Fits Cutout Wd.	Overall Lg.	Overall Wd.		
8 3/8"	7 3/16"	9 3/4"	8 9/16"	1363A15	$49.00
11 5/8"	9 1/2"	13"	10 7/8"	1363A16	107.93

Load-Rated Access Doors



Designed for installation in new floors and sidewalks, these doors can support 300 lbs./sq. ft. They mount in wet concrete using the included 3/4" anchor flange. Door is self-locking. Unlock from above using the included key; unlock from below using the turn handle. The door opening is the same size as the cutout. Panel is 1/4" thick diamond-tread aluminum; frame is 1/4" thick aluminum with a 1 1/2 NPT female coupling for drainage.

Fits Cutout Lg.	Fits Cutout Wd.	Overall Lg.	Overall Wd.	Ht.		
24"	24"	31 1/2"	31 1/2"	3"	84375A41	$505.00
30"	30"	37 1/2"	37 1/2"	3"	84375A43	603.75
36"	30"	43 1/2"	37 1/2"	3"	84375A44	650.00
36"	36"	43 1/2"	43 1/2"	3"	84375A45	698.75
48"	30"	55 1/2"	37 1/2"	3"	84375A46	775.00

Roof Access Doors



Access your roof from inside your building. The lid has spring-assist supports, a hold-open arm, and a gray primer finish. Doors have a handle latch inside, a push-button release outside, a foam rubber gasket, and padlock hasps on the inside and outside. Padlock hasps accept up to a 1/2" dia. shackle. Sides have 1" of insulation. Surface mount to your roof; mounting flange is 4" wide and has 7/16" dia. mounting holes (fasteners not included).

Galvanized steel doors have a 14-ga. lid with a 22-ga. liner.

Aluminum doors have an 8-ga. lid with a 13-ga. liner.

Fits Cutout Lg.	Fits Cutout Wd.	Overall Lg.	Overall Wd.	Ht.	Galvanized Steel		Aluminum	
30"	30"	38"	38"	13 5/8"	8425A11	$686.40	8425A12	$914.55
30"	36"	38"	44"	13 5/8"	8425A27	512.18	8425A29	718.73
36"	36"	44"	44"	13 5/8"	8425A13	784.18	8425A14	1,131.45
Replacement Spring and Arm Set					8425A31		Set	$74.17

Frame-Mount Weatherstripping

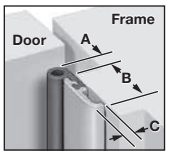

Shown Installed


Compressible Bulb


Noise Damping


Adjustable Projection


Flexible Brush


Flat


Magnetic Contact

Mount to the sides and top of your door frame to seal gaps. Weatherstripping has a metal flange with mounting holes and includes mounting screws. Meets UL 10B and 10C for use with wood fire doors rated for 1½ hours and metal fire doors rated for 3 hours, except noise-damping stripping does not meet UL 10C. *Silicone* resists UV and heat; *neoprene* resists abrasion; *polyurethane* resists UV, oil, tears, and abrasion.

Seal Material	Flange Material	Seal Proj. (A)	Flange Wd. (B)	Flange Proj. (C)	Lengths, ft.	Weatherstripping	Per Ft.	8-ft. Repl. Seals	Each
Compressible Bulb									
Gray Vinyl	Aluminum	1/4"	1/2"	1/4"	3, 4, 6, 7, 8	1114A1	$1.00	1114A41	$6.58
Black Silicone	Aluminum	1/4"	3/4"	1/4"	3, 4, 6, 7, 8	1114A3	2.14	1114A39	7.56
Gray Silicone	Anodized Aluminum	5/16"	7/8"	3/16"	3, 4, 6, 7, 8	8415A3	6.28	8415A41	15.87
Black Neoprene	Anodized Aluminum	5/16"	7/8"	3/16"	3, 4, 6, 7, 8	8415A1	4.81	8415A19	16.73
Black Polyurethane	Aluminum	5/16"	7/8"	5/16"	3, 4, 6, 7, 8	8415A5	3.70	8415A21	14.88
Black Polyurethane	Dark Brown Aluminum	5/16"	7/8"	5/16"	3, 4, 6, 7, 8	8415A6	5.47	8415A21	14.88
Noise Damping									
Black Neoprene	Anodized Aluminum	3/8"	15/16"	11/16"	3, 4, 6, 7, 8	1116A2	3.91	1116A29	14.24
Adjustable Projection—Seal adjusts with a screwdriver									
Gray Silicone	Anodized Aluminum	Up to 1/4"	1 1/4"	1/2"	3, 4, 6, 7, 8	1534A11	8.79	_____	____
Flexible Brush									
Gray Nylon	Aluminum	5/8"	7/16"	1/4"	3, 4, 6, 7, 8	1283A2	3.41	1283A29	10.95
Black Nylon	Dark Brown Aluminum	5/8"	7/16"	1/4"	3, 4, 6, 7, 8	1283A1	4.46	1283A19	10.95
Flat									
Black Neoprene	Aluminum	1/4"	1 1/4"	1/8"	3, 4, 6, 7, 8	17775A2	3.68	17775A91	10.27
Black Neoprene	Stainless Steel	1/8"	1"	3/16"	3, 4, 6, 7, 8	17775A8	14.07	17775A92	9.12
Black Neoprene	Stainless Steel	1/4"	1 3/16"	3/16"	3, 4, 6, 7, 8	17775A1	14.73	17775A91	10.27
Black Neoprene	Stainless Steel	1/2"	1 3/4"	3/8"	3, 4, 6, 7, 8	17775A7	15.38	17775A93	11.25
Magnetic Contact—For metal doors									
Gray Vinyl	Aluminum	1/8"	1 1/8"	5/8"	3, 4, 6, 7, 8	1478A8	6.17	_____	____
Gray Vinyl	Dark Brown Aluminum	1/8"	1 1/8"	5/8"	3, 4, 6, 7, 8	1478A9	7.69	_____	____

Adhesive-Back Weatherstripping

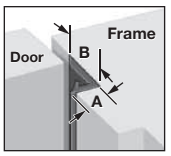

Shown Installed


Flexible Pile


Flat


Compressible Channel


Metal


Compressible Bulb

No need to drill mounting holes—apply this weatherstripping to the frame to close gaps in doors and windows.

Fire Rated—Meets UL 10B and UL 10C for use with wood fire doors rated for 1½ hours and metal fire doors rated for 3 hours, except metal weatherstripping does not meet UL 10C.

Fire and Smoke Rated—Meets UL 10B and 10C for use with wood fire doors rated for 1½ hours and metal fire doors rated for 3 hours, as well as UL 1784 for use as a smoke and draft control gasket.

Seal Material	Max. Door Gap	(A)	(B)	Lengths, ft.		Per Ft.
Vibration Damping—Flexible Pile						
Gray Polypropylene	1/8"	3/16"	1/4"	17	8435A21	$0.53
Fire Rated—Flat						
Gray Graphite	1/16"	1/16"	1/2"	4, 17, 21	1306A22	1.45
Fire Rated—Compressible Channel						
Gray Graphite	1/16"	7/16"	1 1/16"	4, 8	1306A21	3.40

Seal Material	Max. Door Gap	(A)	(B)	Lengths, ft.		Per Ft.	Each
Fire Rated—Metal							
Bronze	3/16"	3/16"	1"	7	1115A7	____	$9.87
Stainless Steel	3/16"	3/16"	1"	7	1115A8	____	14.28
Fire and Smoke Rated—Compressible Bulb							
Gray Silicone	1/4"	1/4"	1/2"	10, 25	1067A51	$1.24	_____

Double-Door Weatherstripping

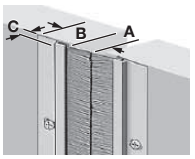

Flexible Brush


Flat


Adjustable Projection

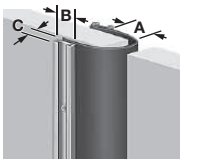

Wrap Around

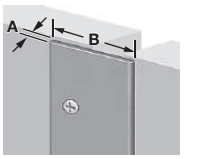

Plate

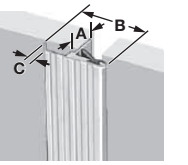

T-Shape

Seal the space between your double doors. Weatherstripping has a metal flange with mounting holes and comes with screws. Meets UL 10B for use with wood fire doors rated for 1½ hours and metal doors rated for 3 hours, except T-shape weatherstripping is not rated.

Flexible brush, **flat**, and **adjustable projection** weatherstripping come in a set of two. *Adjustable projection* seals adjust with a screwdriver up to 1/4".

Wrap-around weatherstripping fits doors up to 1¾" thick.

	Seal Material	Flange Material	Max. Door Gap	Seal Proj. (A)	Flange Wd. (B)	Flange Proj. (C)	Lengths, ft.	Weatherstripping	Per Ft.	8-ft. Repl. Seals	Each
Flexible Brush	Gray Nylon	Anodized Aluminum	7/8"	7/16"	5/8"	1/4"	7, 8	1131A41	$4.80	1131A51	$12.04
Flexible Brush	Black Nylon	Dark Brown Aluminum	7/8"	7/16"	5/8"	1/4"	7, 8	1131A42	6.92	1131A52	12.04
Flat	Gray EPDM	Anodized Aluminum	3/4"	3/8"	7/8"	3/16"	7, 8	18955A55	7.71	18955A59	11.52
Flat	Gray EPDM	Stainless Steel	3/4"	3/8"	1"	1/8"	7, 8	18955A65	29.30	18955A59	11.52
Adjustable Projection	Gray Polypropylene	Anodized Aluminum	9/16"	5/16"	1"	1/2"	7, 8	8111A24	13.51	8111A26	9.16
Wrap Around	Black Neoprene	Aluminum	1"	1/4"	1/2"	1/8"	7, 8	1125A25	6.95	1125A27	17.24
Plate	Steel	_____	1/8"	1/8"	2"	___	7, 8	10305A61	4.73	_____	____
Plate	Stainless Steel	_____	1/8"	1/8"	2"	___	7, 8	1307A65	20.66	_____	____
T-Shape	Gray Vinyl	Anodized Aluminum	1/8"	9/16"	1 3/8"	1/4"	7, 8	10085A32	4.57	10085A62	2.11
T-Shape	Black Vinyl	Dark Brown Aluminum	1/8"	9/16"	1 3/8"	1/4"	7, 8	10085A36	5.45	10085A61	2.11

Bottom-Mount Weatherstripping



Flat with Vinyl Seal


Flat with Neoprene Seal

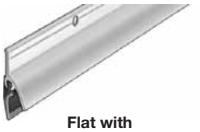
Flat with Drip Guard

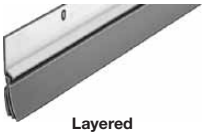
Layered


Flexible Brush

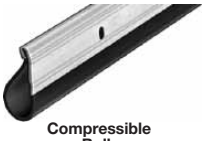
Compressible Bulb

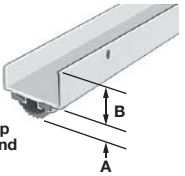

Wrap Around

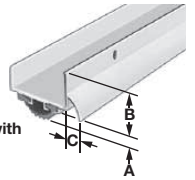

Wrap Around with Drip Guard

Cover the gap below your door. Weatherstripping has a metal flange with mounting holes to attach to the door's face with the included screws. Meets UL 10B for use with wood fire doors rated for 1½ hours and metal fire doors rated for 3 hours. Flexible-brush and wrap-around weatherstripping also meet UL 10C. *Vinyl* is an economical option; *neoprene* and *SBR* resist abrasion; *nylon* resists tears.

Seal Material	Flange Material	Seal Proj. (A)	Flange Ht. (B)	Flange Proj. (C)	Lengths, ft.	Weatherstripping	Per Ft.	Repl. Seals Lg., ft.		Each
Flat										
Gray Vinyl	Aluminum	7/8"	3/4"	1/4"	3, 4, 7, 8	1134A18	$2.11	8	1134A21	$11.41
Black Neoprene	Anodized Aluminum	7/16"	1 1/4"	1/4"	3, 4, 7, 8	8126A19	2.73	8	8126A31	14.26
Black Neoprene	Dark Brown Aluminum	7/16"	1 1/4"	1/4"	3, 4, 7, 8	8126A29	3.27	8	8126A31	14.26
Black Neoprene	Stainless Steel	7/16"	1 1/4"	3/16"	3, 4, 7, 8	17815A51	17.21	8	17815A61	12.32
Flat with Drip Guard										
Gray Vinyl	Aluminum	7/8"	1 3/8"	9/16"	3, 4, 7, 8	10465A71	2.90	8	10465A77	12.03
Layered										
Gray Vinyl	Aluminum	1"	1"	1/4"	3, 4, 7, 8	8409A19	1.44	8	8409A21	6.75
Flexible Brush										
Gray Nylon	Anodized Aluminum	9/16"	3/4"	5/16"	3, 4, 7, 8	1130A59	3.82	8	1130A82	13.76
Black Nylon	Dark Brown Aluminum	9/16"	3/4"	5/16"	3, 4, 7, 8	1130A79	5.40	8	1130A85	13.76
Flexible Brush with Drip Guard										
Gray Nylon	Aluminum	7/16"	1 1/2"	9/16"	3, 4, 7, 8	10465A61	4.81	8	10465A67	14.42
Compressible Bulb										
Black SBR	Aluminum	1"	1"	1/4"	3, 4, 7, 8	1144A11	3.42	—	—	—
Wrap Around—For 1 3/4" thick doors										
Gray Vinyl	Aluminum	1/2"	1"	—	3, 4	1113A13	3.62	4	1113A15	5.98
Gray Vinyl	Aluminum	1/2"	3"	—	3, 4	8441A35	10.41	4	8441A39	4.37
Wrap Around with Drip Guard—For 1 3/4" thick doors										
Gray Vinyl	Aluminum	1/2"	1"	1/2"	3, 4	1113A12	3.80	4	1113A14	5.98
Gray Vinyl	Aluminum	1/2"	3"	7/16"	3, 4	8441A36	10.97	4	8441A39	4.37

Automatic Bottom-Mount Weatherstripping

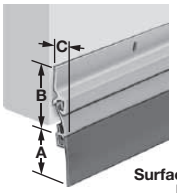

Surface Mount Flat


Surface Mount Compressible


Surface and Half-Mortise Mount

Avoid scuffing your floor and reduce wear on your seals—automatic weatherstripping has a plunger that lowers the seal as the door is closed and raises it as the door is opened. It has a metal flange with mounting holes and comes with screws. Meets UL 10B and UL 10C for use with wood fire doors rated for 1½ hours and metal fire doors rated for 3 hours. *Vinyl* is an economical option; *neoprene* resists abrasion; *santoprene* resists chemicals.

Surface Mount—Mount to the door's face. Weatherstripping can be cut down with a saw (up to 12" can be removed from *flat*; up to 4" can be removed from *compressible*).

Surface and Half-Mortise Mount—Mount to the door's face or in a cutout. Weatherstripping can be cut down with a saw (up to 2" can be removed from weatherstripping *with santoprene seal;* up to 4" can be removed from weatherstripping *with neoprene seal*).

Seal Material	Flange Material	Max. Seal Drop	Seal Proj. (A)	Flange Ht. (B)	Flange Proj. (C)	Lengths, ft.	Weatherstripping	Per Ft.	4-ft. Repl. Seals	Each
Surface Mount										
Flat										
Gray Vinyl	Anodized Aluminum	3/4"	1 1/8"	1 3/8"	5/16"	3	8120A11	$5.79	8120A13	$3.48
Compressible										
Black Neoprene	Anodized Aluminum	1"	1/4"	2 1/4"	9/16"	3, 4	1500A19	13.75	—	—
Black Neoprene	Dark Brown Aluminum	1"	1/4"	2 1/4"	9/16"	3, 4	1500A21	15.79	—	—
Black Neoprene	Stainless Steel	1"	1/4"	2 1/4"	9/16"	3, 4	1500A22	23.09	—	—
Surface and Half-Mortise Mount										
Compressible										
Black Santoprene	Anodized Aluminum	3/4"	7/16"	1 13/16"	9/16"	3, 4	14775A36	13.75	14775A34	4.90
Black Santoprene	Anodized Aluminum	3/4"	1/2"	1 3/4"	7/8"	3, 4	14775A37	22.21	—	—
Black Neoprene	Anodized Aluminum	7/8"	1/2"	2 5/16"	15/16"	3, 4	8403A74	22.99	8403A73	9.36
Black Neoprene	Dark Brown Aluminum	7/8"	1/2"	2 5/16"	15/16"	3, 4	8403A75	25.32	8403A73	9.36

Frame-Mount Overhead-Door Weatherstripping



Shown Installed



Vinyl Seal



Nylon Brush

Eliminate gaps between your overhead door and frame. Mounting screws are included.

Vinyl seal with aluminum flange is an economical option. Meets UL 10B for use with wood fire doors rated for 1½ hours and metal fire doors rated for 3 hours.

Nylon brush with aluminum flange have flexible nylon bristles that conform to fill gaps. The included weatherstripping covers both sides and the top of your door frame. Meet UL 10B and UL 10C for use with wood fire doors rated for 1 hour and metal fire doors rated for 3 hours.

Vinyl Seal with Aluminum Flange

Seal Proj. (A)	Flange Ht. (B)	Flange Proj. (C)	Lengths, ft.	Weatherstripping Per Ft.		8-ft. Repl. Seals Each	
1″	7/8″	3/8″	7, 8	8410A13	$1.07	8410A19	$6.00

Nylon Brush with Aluminum Flange

For Door Wd., ft.	Ht., ft.	Seal Proj. (A)	Flange Ht. (B)	Flange Proj. (C)	Weatherstripping Set		6-ft. Repl. Seals Each	
8	10	1″	15/16″	1/4″	1081A19	$120.75	1081A51	$13.56
8	10	2½″	19/16″	5/16″	1081A32	254.33	1081A52	47.89
8	10	4″	19/16″	5/16″	1081A42	308.93	1081A53	57.72
10	12	1″	15/16″	1/4″	1081A21	146.62	1081A51	13.56
10	12	2½″	19/16″	5/16″	1081A33	298.87	1081A52	47.89
10	12	4″	19/16″	5/16″	1081A43	363.03	1081A53	57.72
12	12	1 ″	15/16″	1/4″	1081A25	155.25	1081A51	13.56
12	12	2½″	19/16″	5/16″	1081A34	306.56	1081A52	47.89
12	12	4″	19/16″	5/16″	1081A44	372.38	1081A53	57.72

Bottom-Mount Overhead-Door Weatherstripping

Mount on overhead doors to close the gap between the door and the floor.

Base Mount



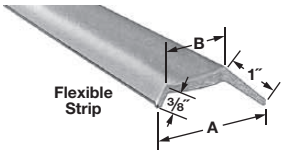

Seals conform to uneven surfaces. *Compressible bulb* weatherstripping comes with mounting screws. *Flexible strip* weatherstripping comes with nails.

Seal Size (A)	Top Wd. (B)	Flange Ht. (C)	Lengths, ft.	Weatherstripping Per Ft.		9-ft. Repl. Seals Each	
Compressible Bulb—Vinyl with Aluminum Flange							
1 1/8″	1 5/8″	1/4″	9,18	10505A41	$3.15	10505A19	$8.16
Flexible Strip—Neoprene							
2 3/8″	1 1/4″	—	9,16,100	8121A14	1.60	—	—

Face Mount



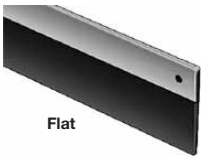

Often used on doors that are frequently opened and closed. Mounting screws are included.

Seal Size (A)	Flange Ht. (B)	Lengths, ft.	Weatherstripping Per Ft.		6-ft. Repl. Seals Each	
Compressible Bulb—Neoprene with Aluminum Flange						
1 13/16″	1 1/8″	6,8,10,15	8413A15	$27.76	8413A19	$113.31
Flat—EPDM with Steel Flange						
1 5/16″	1″	6,8,10,12	8116A15	19.35	8116A19	30.75

Floor Thresholds


1


2


3


4


5


6


7


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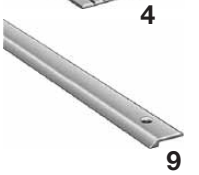
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10

Make a smooth transition between flooring surfaces. Thresholds have mounting holes and come with screws, except Style 6 requires you to drill your own holes and Styles 7 and 10 install with contact adhesive (see page 3458). Styles 1-6 meet UL 10B for use with wood fire doors rated for 1½ hours and metal fire doors rated for 3 hours. Styles 2, 3, 5, and 6 also meet UL 10C.

Standard thresholds are often used in doorways to reduce the gap between a door and the floor. *Style 3* have a nonskid coating. *Style 6* comes in three pieces; the middle piece can be installed with the smooth or ribbed side up.

Single-edge thresholds protect the edges of flooring materials.

Wd.	Ht.	Thick.	Lengths, ft.		Per Ft.
Standard					
(1) Aluminum					
2½″	1/4″	1/8″	3, 4, 6	1112A3	$3.33
(1) Type 304 Stainless Steel					
4″	1/2″	1/8″	3, 4, 6	19045A7	57.86
5″	1/2″	1/8″	3, 4, 6	19045A8	61.07
(2) Aluminum with Ribbed Top					
4″	1/2″	3/16″	3, 4, 6	1112A4	5.56
5″	1/4″	3/16″	3, 4, 6	1112A2	7.71
5″	1/2″	3/16″	3, 4, 6	1112A7	8.22
6″	1/2″	3/16″	3, 4, 6	1112A5	9.78
7″	1/2″	3/16″	3, 4, 6	1112A8	12.98
(3) Aluminum with Ribbed Top and Nonskid Surface					
5″	1/2″	3/16″	3, 4, 6	1094A7	25.65
5″	1/2″	5/16″	3, 4, 6	1094A5	42.22
6″	1/2″	3/16″	3, 4, 6	1094A8	31.08
6″	1/2″	5/16″	3, 4, 6	1094A6	55.38

Wd.	Ht.	Thick.	Lengths, ft.		Per Ft.
Standard (Cont.)					
(4) Aluminum with Ribbed Top and Vinyl Seal					
5″	1/2″	1/8″	3, 4, 6	1003A2	$6.39
(5) Aluminum with Ribbed Top and Vinyl Seal					
5″	1/2″	1/8″	3, 4, 6	12615A3	7.82
(6) Aluminum with Reversible Smooth/Ribbed Top					
6 3/4″	1/2″	1/4″	3, 4, 6	1483A1	16.50
(7) Vinyl					
5 1/2″	1/2″	1/2″	3, 4, 6	8105A12	13.93
(8) Adjustable-Height Aluminum with Ribbed Top and Vinyl Seal					
3 1/2″	7/8″-1 3/8″	1/16″	3	1056A61	6.17
Single Edge					
(9) Aluminum					
3/4″	1/8″	1/16″	3, 4, 6, 8	1110A41★	1.89
2½″	3/8″	3/16″	3, 4, 6	8422A21	7.08
(10) Vinyl					
2 3/4″	1/2″	1/2″	3, 4, 6	8105A11	5.00

★ Does not come with screws.

Above-the-Door Drip Guards

Shelter your door opening from rain, snow, and dust. Guards are 1/16″ thick aluminum and come with mounting screws.



Lg.	Flange Ht. (A)	O'all Ht. (B)	Proj. (C)		
3′4″	9/16″	1 1/2″	2 1/2″	8112A11	$12.02
4′4″	9/16″	1 1/2″	2 1/2″	8112A12	15.83
6′4″	9/16″	1 1/2″	2 1/2″	8112A13	23.13

Dock Door Seals

Keep heated and cooled air in and dust out when loading and unloading trailers. Seals consist of two 1-ft. Wd. × 8-ft. Ht. side pads and one 10-ft. Wd. × 1-ft. Ht. top pad that close gaps between a trailer and dock. Pads are foam covered with black nylon-reinforced vinyl and have a wood backing.

Mount seals to your dock wall using the included brackets and screws. Choose a seal that projects a maximum of 5″ beyond your dock bumper. If your dock has an edge-of-dock leveler, order the seal with a 20″ projection.



Projection	Fits Door Ht.	Fits Door Wd.		
10″	8 ft.	8 ft.	21735T11	$728.67
20″	8 ft.	8 ft.	21735T53	982.40

Dock Door Shelters

Protect your loading dock from the elements. Shelters are black vinyl and consist of two 21″ Wd. × 10 1/2-ft. Ht. side flaps and one 11-ft. Wd. × 3-ft. Ht. top flap. They can also be used to create a seal between oversized door openings and trailers. To mount in block or brick, 3/8″ or 1/2″ Dia. × 4″ Lg. anchors are required.

Rigid—Side covering is translucent white vinyl with aluminum and wood trim. Shelter includes two steel protectors to prevent damage from trailers.

Shock Absorbing—Shelter is spring loaded, allowing it to retract with trailers and eliminating the need for steel protectors. Side covering is white vinyl with steel trim.



Rigid

	Projection	Fits Door Ht.	Fits Door Wd.		
Rigid	24″	8-10 ft.	8-10 ft.	87645T75	$1,659.64
Shock Absorbing	24″	8-10 ft.	8-10 ft.	87645T76	1,792.88

Mail Slots

Pass mail through your door to keep it safe and dry. Slots have a spring-loaded front cover and come with mounting screws.

Optional sleeve covers the magazine-size cutout's rough edges and prevents mail from falling into hollow doors. It is for 1 3/4″ thick doors. Sleeve is stainless steel and comes with mounting screws.



Material	Fits Cutout Wd.	Fits Cutout Ht.	Overall Wd.	Overall Ht.		
Magazine Size						
Dull Aluminum	11 1/2″	2 11/16″	13″	3 9/16″	8023A1	$33.77
Bright Brass	11 1/2″	2 11/16″	13″	3 9/16″	8023A6	54.08
Optional Sleeve					8023A4	13.12
Letter Size						
Chrome-Plated Brass	6 7/8″	1 3/4″	8 3/4″	2 7/8″	8023A11	32.50
Bright Brass	6 7/8″	1 3/4″	8 3/4″	2 7/8″	8023A24	32.50

Floor Ramps

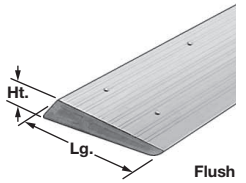

Flush



Overlapping

Create a gradual incline between uneven floor surfaces. Ramps are 0.11″ thick aluminum with a ribbed surface and come with mounting screws. Load capacity is 1,000 lbs. They are UL listed for use with fire-rated doors.

Overlapping ramps have a 3″ lip that fits over your threshold or raised entry.

For Door Wd.	Flush Lg.	Flush Ht.			Overlapping Lg.	Overlapping Ht.		
3 ft.	9″	3/4″	10045A111	$144.52	12″	1/2″	10045A171	$174.08
4 ft.	9″	3/4″	10045A121	161.65	12″	1/2″	10045A181	201.12
6 ft.	9″	3/4″	10045A131	195.77	12″	1/2″	10045A191	255.12

Door Windows and Frames

See outside your door without opening it. Windows and frames are for use in 1 3/4″ thick doors. They are UL listed for use in fire-rated doors.

Windows

Window frame is steel with a gray primer finish and comes with mounting screws.

Impact-resistant glass provides a clear, unobstructed view. It is 3/16″ thick and is also known as pyran.

Wired glass contains wire mesh that holds the glass together if broken. Glass is 1/4″ thick.

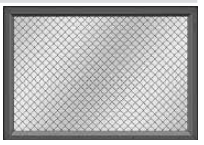

Wired Glass

	Viewing Size Wd.	Viewing Size Ht.	Fits Cutout Wd.	Fits Cutout Ht.		
Impact-Resistant Glass						
	3″	33″	5″	35″	3903A11	$242.83
	4″	25″	6″	27″	3903A12	205.10
	5″	20″	7″	22″	3903A13	209.91
	7″	7″	9″	9″	3903A15	180.63
	10″	10″	12″	12″	3903A14	178.39
Wired Glass						
	17 3/4″	28 3/4″	19 3/4″	30 3/4″	3903A18	255.01
	17 3/4″	32 3/4″	19 1/4″	34 3/4″	3903A19	275.30
	21 3/4″	28 3/4″	23 3/4″	30 3/4″	3903A22	272.49
	21 3/4″	32 3/4″	23 3/4″	34 3/4″	3903A23	296.95
	21 3/4″	44″	23 3/4″	46″	3903A25	375.68
	22″	28″	24″	30″	3903A16	255.63
	24″	30″	26″	32″	3903A17	307.40
	33 3/4″	32 3/4″	35 3/4″	34 3/4″	3903A27	390.34

Frames without Glass

Made of steel with a gray primer finish, these frames accept 3/16″, 1/4″, or 5/16″ thick glass (see pages 3689-3690).



Viewing Size Wd.	Viewing Size Ht.	Fits Cutout Wd.	Fits Cutout Ht.	Required Glass Size Wd.	Required Glass Size Ht.		
3″	33″	5″	35″	4″	34″	1361A1	$59.62
4″	25″	6″	27″	5″	26″	1361A2	54.86
5″	20″	7″	22″	6″	21″	1361A3	50.57
10″	10″	12″	12″	11″	11″	1361A4	47.61
22″	28″	24″	30″	23″	29″	1361A5	70.29
24″	30″	26″	32″	25″	31″	1361A6	99.43

One-Way Viewers

Maintain security and privacy—see outside your door without letting others see in. Also known as peepholes, viewers are brass with glass lenses. They are UL listed for use on fire-rated doors.



For Door Thickness	Mounting Hole Dia.	Eye Dia.	Angle of View	Finish		
1 3/8″-2 1/16″	1/2″	3/8″	120°	Dull Brass	8406A22	$8.74
1 3/8″-2 1/16″	1/2″	3/8″	120°	Dull Chrome	8406A26	8.74
1 3/8″-2 1/8″	9/16″	13/16″	190°	Dull Chrome	8406A21	17.99
1 3/8″-2 1/8″	9/16″	13/16″	190°	Bright Brass	8406A12	15.27
2 1/8″-2 5/8″	1/2″	3/8″	120°	Dull Brass	8406A24	12.89

Fire-Rated Doors & Frames

Fire-Rated Steel Doors

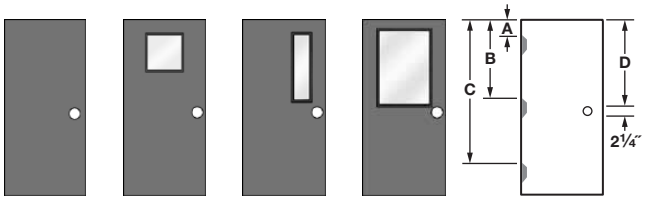

No Window | Square Window | Rectangular Window | Half-Door Window

These 18-ga. steel doors are UL fire-rated to help prevent the spread of fire. Doors are reversible for left- or right-hand installations and are 1¾″ thick with a solid polystyrene core and gray primer finish. Frames are sold separately below.

Doors are prepared for three 0.134″ or 0.18″ thick, 4½″×4½″ hinges (unless noted) and a lockset with a 2¾″ backset (the distance from the edge of the door to the center of the lockset's mounting hole). For hinges and locksets, see page 2875; for door closers, see pages 2898-2900.

Windows contain wired glass. Viewing size is 10″×10″ for **square windows**; 4″×25″ for **rectangular windows**; and approximately 20″×30″ for **half-door windows** (except for 48″ Wd. doors it's approximately 34″×30″ and for 96″ Ht. doors it's approximately 20″×44″).

Door Size, Wd.×Ht.	Hinge and Lockset Locations (A)	(B)	(C)	(D)	Door/Frame Style★		Window: None (3-hr. Rating)	Square (1½-hr. Rating)	Rectangular (1½-hr. Rating)	Half-Door (¾-hr. Rating)
32″×80″	7 3/8″	37 5/16″	67 1/4″	38 7/16″	1	14435A128	$489.42	$636.25	$685.19	$807.54
32″×84″	9 3/8″	39 5/16″	69 1/4″	42 7/16″	2	14435A129	524.85	682.31	734.79	866.00
36″×80″	4 7/8″	35 1/8″	65 3/8″	38 3/4″	3	1518A103	522.79	679.63	731.91	862.60
36″×80″	6 5/8″	37 5/8″	68 5/8″	36 15/16″	4	1607A111	497.88	647.24	697.03	821.50
36″×80″	7 3/8″	37 5/16″	67 1/4″	38 7/16″	5	14435A136	509.20	661.96	712.88	840.18
36″×84″	4 7/8″	37 1/8″	69 3/8″	42 3/4″	6	1518A104	536.49	697.44	751.09	885.21
36″×84″	6 5/8″	39 5/8″	72 5/8″	40 15/16″	7	1607A112	510.96	664.25	715.34	843.08
36″×84″	7 3/8″	39 5/16″	71 1/4″	42 7/16″	8	1383A101	510.96	664.25	715.34	843.08
36″×84″	9 3/8″	39 5/16″	69 1/4″	42 7/16″	9	14435A137	521.36	677.77	729.90	860.24
36″×96″	4 7/8″	30 3/8″	55 7/8″	54 7/16″	10	14435A138■	623.04	809.95	872.26	1,028.02
42″×84″	9 3/8″	39 5/16″	69 1/4″	42 7/16″	11	14435A139	590.25	767.33	826.35	973.91
44″×84″	9 3/8″	39 5/16″	69 1/4″	42 7/16″	12	14435A147	590.30	767.39	826.42	973.99
48″×84″	4 7/8″	37 1/8″	69 3/8″	42 3/4″	13	1518A105	635.46	826.10	889.64	1,048.51

★ Match doors to fire-rated frames with the same door/frame style. ■ Prepared for four hinges; 81 3/8″ to fourth cutout.

Fire-Rated Steel Door Frames

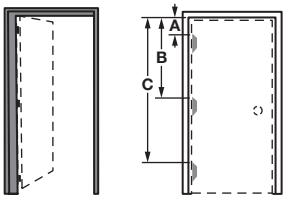

Left-Hand Door Frame

Made of 16-ga. steel, frames are sized to fit the Fire-Rated Steel Doors above that have the same door/frame style. Frames are UL fire-rated to help prevent the spread of fire. They accept three 0.134″ or 0.18″ thick, 4½″×4½″ hinges (unless noted) and a 4 7/8″ strike. All have a 2″ face and are reinforced to support a door closer (see pages 2898-2900). Frames are shipped unassembled.

To determine if you need a left-hand or right-hand frame, stand on the side of the door where it swings away from you. If it opens to the left, it's a left-hand door; if it opens to the right, it's a right-hand door.

Flush frames are for use in brick or block walls. They have a 5¾″ overall depth to fit a maximum 4 7/8″ thick wall. Frames include anchors.

Wrap-around frames are for use in drywall. They have a 5 7/8″ overall depth to fit a maximum 4 7/8″ thick wall.

For Door Size, Wd.×Ht.	Hinge Locations (A)	(B)	(C)	Door/Frame Style★	Flush Frames (3-hr. Rating): Approx. Cutout Size, Wd.×Ht.	Left Hand	Right Hand		Wrap-Around Frames (1½-hr. Rating): Approx. Cutout Size, Wd.×Ht.	Left Hand	Right Hand	
32″×80″	7½″	37 7/16″	67 3/8″	1	36½″×82¼″	14435A55	14435A51	$229.69	34¼″×80 7/8″	14435A65	14435A61	$241.17
32″×84″	9½″	39 7/16″	69 3/8″	2	36½″×86¼″	14435A56	14435A52	235.22	34¼″×84 7/8″	14435A66	14435A62	246.98
36″×80″	5″	35¼″	65½″	3	40½″×82¼″	1518A71	1518A72	230.95	38¼″×80 7/8″	1518A73	1518A74	242.50
36″×80″	6¾″	37¾″	68¾″	4	40½″×82¼″	1607A81	1607A82	230.95	38¼″×80 7/8″	1607A83	1607A84	242.50
36″×80″	7½″	37 7/16″	67 3/8″	5	40½″×82¼″	14435A57	14435A53	230.95	38¼″×80 7/8″	14435A67	14435A63	242.50
36″×84″	5″	37¼″	69½″	6	40½″×86¼″	1518A75	1518A76	235.22	38¼″×84 7/8″	1518A77	1518A78	246.98
36″×84″	6¾″	39¾″	72¾″	7	40½″×86¼″	1607A85	1607A86	235.22	38¼″×84 7/8″	1607A87	1607A88	246.98
36″×84″	7½″	39 7/16″	71 3/8″	8	40½″×86¼″	1383A95	1383A96	235.22	38¼″×84 7/8″	1383A97	1383A98	246.98
36″×84″	9½″	39 7/16″	69 3/8″	9	40½″×86¼″	14435A58	14435A54	235.22	38¼″×84 7/8″	14435A68	14435A64	246.98
36″×96″	5″	30½″	56″	10	40½″×98¼″	14435A69■	14435A99■	264.07	38¼″×96 7/8″	14435A98■	14435A93■	277.27
42″×84″	9½″	39 7/16″	69 3/8″	11	46½″×86¼″	14435A47	14435A48	242.69	44¼″×84 7/8″	14435A85	14435A42	254.82
44″×84″	9½″	39 7/16″	69 3/8″	12	48½″×86¼″	14435A49	14435A59	242.69	46¼″×84 7/8″	14435A83	14435A84	254.82
48″×84″	5″	37¼″	69½″	13	52½″×86¼″	1518A59	1518A19	242.03	50¼″×84 7/8″	1518A69	1518A49	254.13

★ Match frames to fire-rated doors with the same door/frame style. ■ Prepared for four hinges; 81½″ to fourth cutout.

Quick-Mount Fire-Rated Steel Doors

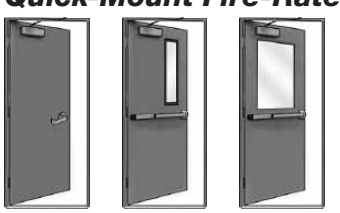

No Window Left-Hand | Rectangular Window Left-Hand | Half-Door Window Left-Hand

Doors come hung in a sub-frame that mounts into your existing door frame. These 18-ga. galvanized steel doors have a gray primer finish, are 1¾″ thick, and have 4½″×4½″ stainless steel hinges with a removable pin. They are UL fire-rated if installed into a fire-rated frame. All include a door closer, weatherstripping, a threshold, and mounting hardware.

To determine if you need a left-hand or right-hand door, stand on the side of the door where it swings away from you. If it opens to the left, it's a left-hand door; if it opens to the right, it's a right-hand door.

Doors with **no window** have a mortise lever lockset. Locks are keyed differently and come with two keys.

Doors with **rectangular window** and **half-door window** have a touch-bar exit device on one side and a lever and cylinder lock on the other side. Locks are keyed differently and come with two keys. Windows contain clear ceramic glass. Viewing size is 4″×25″ for *rectangular windows* and approximately 22″×30″ for *half-door windows*.

Door Size/ Approx. Cutout Size, Wd.×Ht.	No Window (1½-hr. Rating): Left Hand	Right Hand		Rectangular Window (1½-hr. Rating): Left Hand	Right Hand		Half-Door Window (¾-hr. Rating): Left Hand	Right Hand	
36″×80″	1378A871	1378A872	$1,609.19	1378A112	1378A111	$2,031.43	1378A121	1378A119	$2,174.37
36″×84″	1378A911	1378A912	1,619.12	1378A114	1378A113	2,031.43	1378A123	1378A122	2,243.17

Stainless Steel Doors with Frames

Able to withstand harsh environments, these 24-ga. stainless steel doors come hung in a 16-ga. stainless steel frame. Doors are 1¾″ thick and come with 0.094″ thick, 4″×4″ stainless steel hinges; an adjustable strike; a threshold; and weatherstripping. They are prepared to accept a lockset (see pages 2890-2892) with a 2¾″ backset (the distance from the edge of the door to the center of the lockset's mounting hole). Doors are not fire rated. Frames are 3½″ deep.

To determine if you need a left-hand or right-hand door, stand on the side of the door where it swings away from you. If it opens to the left, it's a left-hand door; if it opens to the right, it's a right-hand door.

Type 316 stainless steel is more corrosion resistant than Type 304 stainless steel.

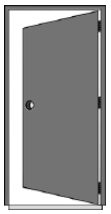

Door Size, Wd.×Ht.	Approx. Cutout Size, Wd.×Ht.	Type 304 Stainless Steel Left Hand	Type 304 Stainless Steel Right Hand		Type 316 Stainless Steel Left Hand	Type 316 Stainless Steel Right Hand	
30″×80″	32⅞″×81¾″	10365A12	10365A11	$1,449.33			
32″×80″	34⅞″×81¾″	10365A22	10365A21	1,449.33			
36″×80″	38⅞″×81¾″	10365A32	10365A31	1,449.33	1677A48	1677A55	$1,789.91
36″×84″	38⅞″×85¾″	10365A42	10365A41	1,510.37	1677A49	1677A57	1,865.31
48″×84″	50⅞″×85¾″	10365A52	10365A51	1,954.13			

Fire-Rated Steel Double Doors and Frames

Sized for wide openings, these double doors and frames are UL fire-rated to help prevent the spread of fire.

Doors are 18-ga. steel with a solid polystyrene core and gray primer finish. They are reversible; install so they open in or open out. Doors are prepared for three 0.134″ or 0.18″ thick, 4½″×4½″ hinges and a lockset with a 2¾″ backset (the distance from the edge of the door to the center of the lockset's mounting hole). Doors are 1¾″ thick and include weatherstripping. Locksets, strikes, and hinges are sold separately on this page.

Flush frames are for use in brick or block walls. They are 16-ga. and have a 5¾″ overall depth to fit a maximum 4⅞″ thick wall. Frames include anchors.

Wrap-around frames are for use in drywall. They are 16-ga. and have a 5⅞″ overall depth to fit a maximum 4⅞″ thick wall.

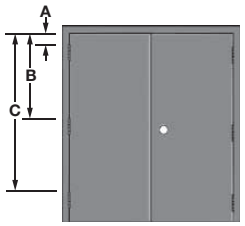

Door Size, Wd.×Ht.	Door Hinge Locations (A)	(B)	(C)	Doors (3-Hr. Rating)		Frames: Flush (3-Hr. Rating) Approx. Cutout Size, Wd.×Ht.		Frames: Wrap-Around (1½-Hr. Rating) Approx. Cutout Size, Wd.×Ht.	
					Pair		Each		Each
72″×80″	7⅜″	37⅝″	67¼″	15035A13	$1,051.07	76½″×82¼″	15035A35 $310.10	74¼″×80⅞″	15035A43 $325.61
72″×84″	9⅜″	39⅝″	69¼″	15035A14	1,095.45	76½″×86¼″	15035A36 314.29	74¼″×84⅞″	15035A44 330.00

Lockset, Strike, and Hinge Sets

Outfit your doors and double doors with hardware to complete their installation. Sets include a Schlage lockset, a 4⅞″ high strike, and 0.134″ thick, 4½″×4½″ mortise hinges with screws. All are reversible for left- and right-hand doors. Locksets have a backset of 2¾″ (the distance from the edge of the door to the center of the lockset's mounting hole).

Locking locksets have a Schlage C keyway on the outside and a turn button on the inside. Sets are keyed differently and come with two keys.

See pages 2890-2892 for additional locksets; see page 2895 for additional strikes; see pages 2966-2968 for additional hinges.

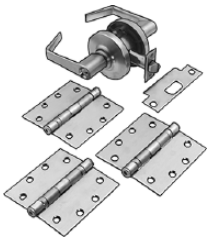

Finish	No. of Hinges	With Nonlocking Lockset Knob		With Nonlocking Lockset Lever		With Locking Lockset Knob		With Locking Lockset Lever	
Single Door Sets									
Dull Chrome	3	1899A33	$145.57	10275A93	$154.47	1899A23	$209.86	10275A73	$210.40
Dull Chrome	4	1899A42	153.38	10275A54	158.53	1899A46	212.83	10275A58	220.68
Dull Stainless Steel	3	1899A34	250.62			1899A21	305.20		
Dull Bronze▲	3	1899A31	165.83	10275A91	170.55	1899A13	219.91	10275A71	226.47
Double Door Sets									
Dull Chrome	6	1899A38	180.36	10275A98	267.70	1899A25	241.92	10275A83	233.66
Dull Stainless Steel	6	1899A39	343.60			1899A27	387.54		
Dull Bronze▲	6	1899A36	193.85	10275A96	256.53	1899A15	241.29	10275A81	284.07

▲Hinges have a gray primer finish.

Roll-Up Overhead Doors

Secure dock doorways and other large openings. Doors are 26-ga. galvanized steel with a white finish. They roll up and down in 16-ga. steel tracks that can be cut to size. Mount doors on the inside wall to wood, steel, brick, and block frames. Controls can be mounted on the left or right side. Doors include weatherstripping to seal the gap between the door and the ground, mounting hardware, and a slide bolt for security.



Door Opening Wd.	Door Opening Max. Ht.	Required Clearance Wd., Each Side	Required Clearance Ceiling		
Chain Operated					
8 ft.	10 ft.	9″	22″	1200A78	$796.92
9 ft.	10 ft.	9″	22″	1200A83	852.31
10 ft.	10 ft.	9″	22″	1200A79	923.08
10 ft.	12 ft.	9″	22″	1200A74	1,015.38
10 ft.	14 ft.	9″	24″	1200A81	1,136.92
12 ft.	10 ft.	9″	22″	1200A75	1,080.00
12 ft.	12 ft.	9″	22″	1200A76	1,173.85
12 ft.	14 ft.	9″	24″	1200A82	1,283.08
Rope Operated					
8 ft.	8 ft.	9″	20″	1200A61	655.38

Automatic Door Opener Adapter Kit—Add an adapter kit to use your roll-up overhead door with an automatic overhead door opener (jackshaft). Kit includes a #41 chain sprocket gear. For automatic overhead door openers, see page 2897.

1200A91 $75.00

Folding Gates



Standard Biparting Gate


Portable Gate

Secure an area without sacrificing visibility and air circulation. Built to withstand outdoor use, gates are heavy-gauge galvanized steel. They have a padlock hasp that accepts up to a 5/8″ dia. shackle.

Standard—The top of the gate mounts to the inside or outside of the frame; the bottom mounts into the floor. When folded, gates can swing out of the opening.

Single gates mount on one side of the doorway and lock on the other. Mount with 5/16″ dia. screws (not included). When folded, gate is 11″-15″ wide.

Biparting gates mount on each side of the doorway and lock together in the center. Mount with 1/4″ dia. screws (not included). When folded, each section is 11″-15″ wide. Add optional extra-clearance brackets to mount biparting gates adjacent to overhead door rails or other obstacles. Brackets project 9″ and provide 7 1/4″ of clearance between the wall and gate.

For Windows—Reversible for left- or right-hand installation, gates mount to the inside or outside of the frame with 5/16″ dia. screws (not included). When folded, the gate is 7″ wide.

Portable—Gate has six 3″ dia. rubber casters with side wheel brakes. When folded, gate is 27″ wide. Gate includes hardware for temporary wall mounting. *Add-on gate* bolts to end of the gate to add 6 feet of width. It includes two casters and mounting hardware. Multiple add-on gates can be combined.

Standard

Max. Wd.	6 1/2 ft. Ht. (6″ shorter when expanded)	Single Gates	Biparting Gates	7 1/2 ft. Ht. (6″ shorter when expanded)	Single Gates	Biparting Gates	8 1/2 ft. Ht. (6″ shorter when expanded)	Single Gates	Biparting Gates
4 ft.	6710T41	$180.30	—	6710T42	$207.34	—	6710T43	$225.38	—
5 ft.	6710T44	184.31	—	6710T45	211.96	—	6710T46	230.39	—
6 ft.	6710T51	189.00	—	6710T52	217.35	—	6710T53	236.25	—
6 1/2 ft.	6751T11	—	$256.73	6751T21	—	$295.24	6751T31	—	$320.91
7 ft.	6710T54	213.40	—	6710T55	245.41	—	6710T56	266.75	—
8 ft.	6710T11	220.71	261.34	6710T13	253.82	300.54	6710T15	275.89	326.67
9 ft.	6710T61	269.77	—	6710T62	310.24	—	6710T63	337.21	—
10 ft.	6710T12	277.95	277.17	6710T14	319.64	318.75	6710T16	347.44	346.46
12 ft.	6751T14	—	298.36	6751T24	—	343.11	6751T34	—	372.95
14 ft.	6751T15	—	340.53	6751T25	—	391.61	6751T35	—	425.66
16 ft.	6751T16	—	388.05	6751T26	—	446.26	6751T36	—	485.06
18 ft.	6751T17	—	459.33	6751T27	—	528.23	6751T37	—	574.16
20 ft.	6751T18	—	522.69	6751T28	—	601.09	6751T38	—	653.36
Optional Extra-Clearance Brackets for Biparting Gates (Pair)							6751T44		68.72

For Windows—Height is 4″ shorter when expanded

Max. Wd.	Ht.			Max. Wd.	Ht.		
4 ft.	31″	6747T12	$84.48	4 ft.	49″	6747T18	$115.42
4 ft.	33″	6747T13	86.94	4 ft.	59″	6747T42	122.09
4 ft.	37″	6747T14	90.62	4 ft.	61″	6747T23	131.27
4 ft.	40″	6747T15	96.60	4 ft.	63″	6747T24	133.68
4 ft.	43″	6747T16	105.83	4 ft.	66″	6747T25	141.17
4 ft.	46″	6747T17	109.35	4 ft.	71″	6747T27	144.19

Portable

	Max. Wd.	6 1/2 ft. Ht. (6″ shorter when expanded)	
Portable Gate	12 ft.	6692T51	$549.85
Add-On Gate	6 ft.	6692T52	317.52

Accordion Doors

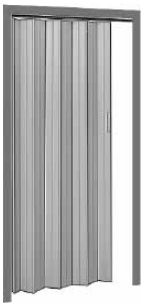

Often used on closets and storage areas, doors fold as you slide them open to provide access without occupying floor space. Doors are rigid vinyl and can be cut to fit the height of your opening. They include a ceiling-mount aluminum track, two wall-mount PVC end posts, mounting hardware, and a magnetic latch.

For Door Opening, Wd. × Ht.	White	Dark Brown	Tan	
2′8″×6′8″	8449A51	8449A61	8449A43	$186.39
3′0″×6′8″	8449A68	8449A62	8449A46	205.16
3′6″×6′8″	8449A69	8449A63	8449A52	239.44
4′0″×6′8″	8449A7	8449A64	8449A57	258.56
4′6″×8′0″	8449A75	8449A65	8449A58	332.76
5′0″×6′8″	8449A76	8449A66	8449A59	336.65
5′0″×8′0″	8449A77	8449A67	8449A6	336.65
6′0″×7′0″	8449A22	8449A24	8449A54	398.28

Other Sizes—Please specify single or biparting door, width (4′-10′ for single doors; 8′-20′ for biparting doors), height (2′1″-8′1″), and color (white, dark brown, or tan). Price is based on door width.

8449A13 ..... Per Ft. $72.03

Dock Door Screens



Let light and fresh air in; keep debris and insects out. Doors have a blue vinyl-coated polyester screen that resists mildew, stains, and UV light. Doors mount to the inside of the door frame, which must be at least 8″ deep. Mounting brackets, aluminum track, and weatherstripping are included.

Manual doors are spring-loaded to assist in raising and lowering the screen.

Motorized doors operate on 120 volts AC and have an 8-ft. power cord with three-prong plug and a wall switch.

For Door Opening, Wd. × Ht.	Manual		Motorized	
8 ft. × 8 ft.	1188A31	$1,170.96	—	—
8 ft. × 10 ft.	1188A32	1,231.25	—	—
9 ft. × 10 ft.	1188A33	1,286.76	—	—
10 ft. × 10 ft.	1188A34	1,332.72	—	—
10 ft. × 12 ft.	1188A35	1,380.51	1188A38	$1,766.54
10 ft. × 14 ft.	—	—	1188A39	1,867.65
12 ft. × 10 ft.	1188A36	1,609.19	—	—
12 ft. × 12 ft.	1188A37	1,686.03	—	—
12 ft. × 14 ft.	—	—	1188A41	2,240.81

Impact-Absorbing Door Bumpers



Prevent vehicles, carts, and other objects from damaging your door. Bumpers are made of black polyethylene and surface mount to doors (mounting hardware is included).

For Door Wd.	*Overall* Wd.	*Overall* Ht.	*Overall* Proj.	Thick.		
2′6″	24 1/4″	24″	3″	1/4″	91371A700	$123.08
3′	30 1/2″	24″	3″	1/4″	91371A900	123.08
3′	31″	42″	4″	1/4″	91371A300	252.63
4′	41″	42″	4″	1/4″	91371A500	252.63
4′6″	41″	42″	4″	1/4″	91371A800	252.63

Two-Way Swinging Doors

Gravity hinges allow these doors to swing closed after being pushed open from either direction. They are reversible for left- and right-hand installations and come with mounting hardware.

Lightweight aluminum doors are 0.063″ thick and have an anodized finish. Each door has a 9″×14″ acrylic window. The top of the door mounts to the inside of the frame; the bottom mounts to the floor.

Impact-resistant polyethylene doors are built to withstand forklift traffic, refrigeration, and washdowns. Doors are 1⅞″ thick and each has a 20½″×22½″ polycarbonate window, except 5-ft. wide doors have a 14½″×22½″ window. Doors mount to the inside of the frame. They are gray and have bumpers on both sides.



Impact-Resistant Polyethylene Double Door

Door Size, Wd.×Ht.	Lightweight Aluminum Single Doors	Lightweight Aluminum Double Doors	Impact-Resistant Polyethylene Single Doors	Impact-Resistant Polyethylene Double Doors
2′6″×6′8″	8138A2 $439.29	—	—	—
3 ft.×6′8″	8138A4 478.57	—	—	—
3 ft.×7 ft.	8138A6 478.57	—	1346A43 $1,460.00	—
4 ft.×6′8″	8138A21 —	$818.18	—	—
4 ft.×7 ft.	8138A22 —	818.18	1346A23 1,575.38	—
4 ft.×8 ft.	—	—	1346A33 1,640.00	—
5 ft.×6′8″	8138A24 —	878.57	—	—
5 ft.×7 ft.	8138A25 —	878.57	1346A14 —	$2,515.71
5 ft.×8 ft.	8138A32 —	892.86	1346A15 —	2,640.00
6 ft.×6′8″	8138A23 —	930.88	—	—
6 ft.×7 ft.	8138A26 —	930.88	1346A16 —	2,708.57
6 ft.×8 ft.	8138A34 —	954.84	1346A17 —	2,834.29
8 ft.×8 ft.	—	—	1346A18 —	3,575.36
8 ft.×10 ft.	—	—	1346A19 —	4,023.20
Repl. Mounting Hardware for Aluminum Doors			8138A75	133.20
Repl. Parts for Polyethylene Doors—Please specify top seals, edge gaskets, hinge adapters, pillow blocks, risers, or v-cams.				1346A44

Flexible Two-Way Swinging Doors



See-Through Double Door



Heavy Traffic Double Door

Similar to strip doors, these doors open only as much as needed. A gravity hinge allows the door to be pushed open from either direction before swinging back to the closed position. The hinge attaches at the top of the frame. Doors are reversible for left- and right-hand installation.

See-through doors are ⅛″ thick clear PVC. They meet NSF/ANSI standards and have a stainless steel hinge (unless noted). Mounting screws are included. Temperature range is 20° to 125° F.

Heavy traffic doors are ¼″ thick gray PVC for greater durability than see-through doors. Each door has a 15″×18″ clear PVC window. Hinge is galvanized steel and has ⅜″ dia. mounting holes (fasteners not included). Temperature range is –10° to 150° F.

Door Size, Wd.×Ht.	See-Through Double Doors	Heavy Traffic Single Doors	Heavy Traffic Double Doors
3 ft.×6′6″	12645A71 $244.68	—	—
3 ft.×7 ft.	12645A72 248.93	1027A69 $759.94	—
4 ft.×6′6″	12645A73 269.88	—	—
4 ft.×7 ft.	—	1027A71 949.18	—
4 ft.×8 ft.	12645A74 286.00	1027A79 968.98	—
5 ft.×7 ft.	—	1027A72 —	$1,138.39
5 ft.×8 ft.	12645A75 347.40	1027A73 —	1,225.37
6 ft.×7 ft.	12645A76 356.08	1027A76 —	1,364.21
6 ft.×8 ft.	12645A77 358.47	1027A74 —	1,431.37
8 ft.×8 ft.	12645A65★ 699.85	1027A75 —	1,764.87
8 ft.×9 ft.	—	1027A77 —	1,866.27

★ Door does not meet NSF/ANSI standards. Has an aluminum hinge.

Air Curtains

Produce a stream of air down a doorway or other opening to keep out dust, dirt, insects, and fumes while allowing personnel to pass through.

Single Phase

Air curtains mount to exterior or interior walls. Mounting hardware is not included. ETL listed for indoor and outdoor use. Temp. range is 0° to 120° F. For information about sound levels (dB), see pg. 673.

Low-profile curtains are often used in coolers, offices, and other locations with limited clearance above doorways. Housing is black powder-coated steel. Curtains have a variable-speed switch, ⅜″ dia. mounting holes, and an 8-ft. power cord with three-prong plug.

Standard curtains are commonly used in receiving areas and cold-storage rooms. Housing is steel. Curtains have 7⁄16″ dia. mounting holes and wire leads for hardwiring.

High-output curtains produce a strong stream of air to cover large doorways in receiving areas and hospitals. Housing is steel. Curtains have 7⁄16″ dia. mounting holes and wire leads for hardwiring. *Corrosion-resistant* curtains have a Type 304 stainless steel housing that can withstand corrosive and high-moisture environments. Motor can withstand washdowns.

Optional door switches turn air curtains on when the door is opened and off when it is closed.



Low Profile



Standard and High Output

Max. Door Opening Wd.	Ht.	Max. Airflow, scfm	Volume, dB	Overall Ht.	Overall Wd.	Overall Dp.	Motor Qty.	Motor hp per motor	Air Curtains 120V AC Amps	120V AC		208-230V AC Amps	208-230V AC		Optional Door Switches	
Low Profile																
3 ft.	8 ft.	900	49	8″	36″	8⅞″	1	1⁄6	2.4	10435A71	$699.77	1.2	10435A84	$699.77	1077A2	$90.00
4 ft.	8 ft.	1,200	52	8″	48″	8⅞″	1	1⁄6	2.4	10435A73	760.58	1.2	10435A85	760.58	1077A2	90.00
5 ft.	8 ft.	1,500	53	8″	60″	8⅞″	1	1⁄6	2.6	10435A82	793.20	1.4	10435A86	793.20	1077A2	90.00
6 ft.	8 ft.	1,800	53	8″	72″	8⅞″	1	1⁄6	2.6	10435A83	1,003.44	1.4	10435A87	1,003.44	1077A2	90.00
Standard																
3 ft.	10 ft.	2,550	66	10⅝″	36″	12¾″	1	½	5.1	1077A14	770.56	2.5	1077A42	770.56	1077A2	90.00
3′6″	10 ft.	2,550	66	10⅝″	42″	12¾″	1	½	5.1	1077A15	793.63	2.5	1077A43	793.63	1077A2	90.00
4 ft.	10 ft.	2,550	66	10⅝″	48″	12¾″	1	½	5.1	1077A31	817.74	2.5	1077A82	817.74	1077A2	90.00
6 ft.	10 ft.	5,100	68	10⅝″	72″	12¾″	2	½	10.2	1077A95	1,303.07	5	1077A96	1,303.07	1077A2	90.00
High Output																
4 ft.	12 ft.	4,000	70	14″	48″	15⅝″	1	1	9	1077A16	1,159.76	5	1077A44	1,159.76	1077A2	90.00
5 ft.	12 ft.	4,000	70	14″	60″	15⅝″	1	1	9	1077A17	1,190.05	5	1077A45	1,188.92	1077A2	90.00
High Output—Corrosion Resistant																
4 ft.	12 ft.	4,000	70	14″	48″	15⅝″	1	1	9	1345A68	4,076.31	5	1345A69	4,076.31	1345A95	144.20
5 ft.	12 ft.	4,000	70	14″	60″	15⅝″	1	1	9	1345A78	4,275.38	5	1345A79	4,275.38	1345A95	144.20

Three Phase

Curtains produce approximately twice as much airflow as single-phase high-output curtains and cost approximately twice as much. They require a control panel.

Air Curtains—Please specify door opening width (6, 7, 8, 10, or 12 ft.), door opening height (12 or 16 ft.), and voltage (230 or 460V AC). 1077A1

Control Panels—Please specify door opening width (6, 7, 8, 10, or 12 ft.), door opening height (12 or 16 ft.), and voltage (230 or 460V AC). 1077A3

Optional Door Switch 1077A2 $90.00

Heated

Maintain inside temperature when doors are open by setting the curtain's thermostat between 34° and 90° F. Max. door opening height is 8 ft. They cost approximately twice as much as standard curtains.

Single Phase—Please specify door opening width (3 or 4 ft.) and voltage (208 or 240V AC). 1059A1

Three Phase—Please specify door opening width (3, 4, 5, or 6 ft.) and voltage (208, 240, or 480V AC). 1059A2

Optional Door Switch 1059A21 $38.93

Vinyl Strip Doors



Allow personnel and vehicles to move freely through doorways while keeping heated or cooled air in and dirt, dust, and debris out. Strips overlap each other to prevent gaps and come in a variety of widths—narrow strips are easier to pass through while wider strips create a better seal. Strip doors consist of an aluminum mounting plate and vinyl strips with holes punched on 2″ centers. Fasteners for mounting to your wall or door frame are not included. Mounting holes for mounting plate with bolts are ½″ dia.; for mounting plate with press-on pegs they are ⅜″ dia. For replacement strips, see page 2880.

Mounting Plate with Bolts—Place strips on the threaded studs and use included nuts to hold securely in place.

Mounting Plate with Press-On Pegs—Press strips onto pegs for quick installation.

Standard doors are for indoor and outdoor use. Temperature range is 0° to 150° F. Doors include two orange strips to mark the wall location on each side. *Ribbed strips* hide scratches and wear.

Low-temperature doors are often hung in freezers and can be used in food service environments. They are for indoor use. Temperature range is –30° to 150° F. Strips are reinforced with nylon, except 16″ wide strips.

Static-resistant doors are commonly used in data centers and other areas where static build-up could be harmful. They are for indoor use. Temperature range is 0° to 150° F. Surface resistivity is 10^6 ohms.



Mounting Plate with Bolts

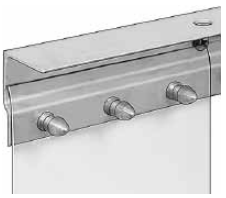

Mounting Plate with Press-on Pegs

Door Wd.	Door Ht.	No. of Strips	Standard Clear		Standard Clear Ribbed		Low Temperature Clear		Static Resistant Transparent Green	
Mounting Plate with Bolts										
6″ Wide × 0.06″ Thick Strips—2″ Overlap										
3 ft.	7 ft.	9	8447A57	$107.66	———	———	8448A57	$117.20	———	———
4 ft.	7 ft.	12	8447A58	143.82	———	———	8448A58	156.81	———	———
5 ft.	7 ft.	15	8447A59	184.30	———	———	8448A59	194.04	———	———
6 ft.	7 ft.	18	8447A6	186.92	———	———	8448A6	237.50	———	———
8″ Wide × 0.08″ Thick Strips—2″ Overlap										
3 ft.	7 ft.	6	8447A11	119.10	1883A11	$124.28	8448A11	122.56	1814A21	$159.63
4 ft.	7 ft.	8	8447A12	156.42	1883A12	164.97	8448A12	163.45	1814A22	212.85
4 ft.	8 ft.	8	8447A24	172.58	1883A24	181.52	8448A21	177.98	1814A13	234.95
5 ft.	7 ft.	10	8447A17	193.82	1883A19	204.24	8448A17	204.24	1814A11	266.04
5 ft.	8 ft.	10	8447A13	213.74	1883A13	225.65	8448A13	222.77	1814A23	293.72
6 ft.	7 ft.	12	8447A19	231.27	1883A23	244.25	8448A19	245.10	1814A12	319.26
6 ft.	8 ft.	12	8447A55	254.90	1883A63	269.80	8448A55	267.56	1814A24	352.45
6 ft.	9 ft.	12	8447A29	276.99	1883A27	295.36	8448A25	289.96	1814A16	315.79
7 ft.	8 ft.	14	8447A36	297.96	1883A28	325.58	8448A27	326.80	1814A17	352.99
8 ft.	8 ft.	16	8447A56	314.76	1883A64	347.38	8448A56	341.82	———	———
10 ft.	8 ft.	20	8447A25	359.54	1883A25	446.35	8448A23	446.72	1814A14	487.11
12 ft.	8 ft.	24	8447A27	501.86	1883A26	534.63	8448A24	536.89	1814A15	584.54
12″ Wide × 0.12″ Thick Strips—4″ Overlap										
7 ft.	10 ft.	11	8447A53	432.58	1883A41	526.34	———	———	———	———
8 ft.	8 ft.	12	8447A14	430.22	1883A14	500.52	8448A14	505.66	1814A33	577.66
8 ft.	10 ft.	12	8447A51	426.40	1883A15	606.22	8448A52	616.69	1814A34	690.89
8 ft.	12 ft.	12	8447A38	577.79	1883A29	705.26	8448A29	729.84	1814A18	803.59
9 ft.	9 ft.	14	8447A15	518.62	1883A16	631.77	8448A15	624.71	1814A35	709.65
10 ft.	10 ft.	15	8447A16	546.19	1883A17	757.78	8448A16	770.86	1814A36	823.45
10 ft.	12 ft.	15	8447A54	620.30	1883A42	889.91	———	———	———	———
12 ft.	12 ft.	18	8447A18	744.85	1883A18	1,067.89	8448A18	1,085.22	1814A37	1,150.55
16″ Wide × 0.16″ Thick Strips—4″ Overlap										
12 ft.	12 ft.	12	8447A26	1,150.28	1883A21	1,222.74	8448A26	1,085.57	———	———
14 ft.	14 ft.	14	8447A28	1,379.01	1883A22	1,560.42	8448A28	1,393.68	———	———
Other Sizes—Please specify door width and height in 1-ft. increments.										
Standard Clear (Choose 6″, 8″, 12″, or 16″ strip width)										8447A44
Standard Clear Ribbed (Choose 8″, 12″, or 16″ strip width)										8447A46
Mounting Plate with Press-On Pegs										
8″ Wide × 0.08″ Thick Strips—2″ Overlap										
3 ft.	7 ft.	6	8460A11	97.43	8460A31	126.40	8460A51	133.17	8460A91	189.29
4 ft.	7 ft.	8	8460A12	132.80	8460A32	178.86	8460A52	178.29	8460A92	248.06
4 ft.	8 ft.	8	8460A128	156.88	8460A48	199.19	8460A68	182.83	8460A88	276.58
5 ft.	7 ft.	10	8460A127	178.94	8460A47	217.85	8460A67	199.69	8460A87	302.50
5 ft.	8 ft.	10	8460A13	182.88	8460A33	250.44	8460A53	245.57	8460A93	363.23
6 ft.	7 ft.	12	8460A126	214.72	8460A46	242.75	8460A66	250.07	8460A86	393.23
6 ft.	8 ft.	12	8460A14	238.21	8460A34	294.67	8460A54	290.70	8460A94	435.88
6 ft.	9 ft.	12	8460A125	276.06	8460A45	312.14	8460A65	284.42	8460A85	466.69
7 ft.	8 ft.	14	8460A124	286.28	8460A44	323.70	8460A64	294.94	8460A84	483.98
8 ft.	8 ft.	16	8460A15	304.65	8460A35	398.74	8460A55	387.50	8460A95	495.90
10 ft.	8 ft.	20	8460A123	409.00	8460A43	479.50	8460A63	421.35	8460A83	691.40
12 ft.	8 ft.	24	8460A122	490.74	8460A42	575.41	8460A62	505.63	8460A82	829.65
12″ Wide × 0.12″ Thick Strips—4″ Overlap										
7 ft.	10 ft.	10	8460A121	425.97	8460A41	478.00	8460A61	565.23	8460A81	777.56
8 ft.	8 ft.	12	8460A1	398.74	8460A2	453.72	8460A3	532.19	8460A4	710.69
8 ft.	10 ft.	12	8460A16	520.63	8460A36	568.66	8460A56	620.94	8460A96	887.69
8 ft.	12 ft.	12	8460A5	673.37	8460A6	752.50	8460A7	624.70	8460A8	892.58
9 ft.	9 ft.	13	8460A111	583.80	8460A112	640.52	8460A113	649.31	8460A114	899.58
10 ft.	10 ft.	15	8460A17	603.75	8460A37	708.93	8460A57	795.54	8460A97	1,202.17
10 ft.	12 ft.	15	8460A18	730.20	8460A38	981.48	8460A58	1,030.78	8460A98	1,487.62
12 ft.	12 ft.	18	8460A19	908.94	8460A39	1,138.65	8460A59	1,081.35	8460A99	1,598.40

Short Vinyl Strip Doors



Sized to fit short openings, these strip doors are often used with conveyors to prevent the loss of heated or cooled air through unprotected openings. Doors consist of an aluminum mounting plate with bolts and vinyl strips with holes punched on 3″ centers. Place strips on the threaded studs and use the included nuts to hold them securely in place. Fasteners for mounting to your wall or door frame are not included. Plates have ⅜″ dia. mounting holes. For indoor and outdoor use. Temperature range is –10° to 150° F.

Door Wd.	Door Ht.	No. of Strips	Strip Doors		Replacement Strips	
4″ Wide × 0.06″ Thick Strips—1″ Overlap						
3 ft.	3 ft.	12	8454A21	$106.04	8454A31	$3.78
3 ft.	4 ft.	12	8454A22	106.04	8454A32	4.96
3 ft.	5 ft.	12	8454A23	107.16	8454A33	6.30
4 ft.	3 ft.	16	8454A24	107.16	8454A31	3.78
4 ft.	4 ft.	16	8454A25	110.65	8454A32	4.96
4 ft.	5 ft.	16	8454A26	127.65	8454A33	6.30
5 ft.	3 ft.	20	8454A27	106.04	8454A31	3.78
5 ft.	4 ft.	20	8454A28	127.88	8454A32	4.96
5 ft.	5 ft.	20	8454A29	159.81	8454A33	6.30

Ventilated Vinyl Strip Doors

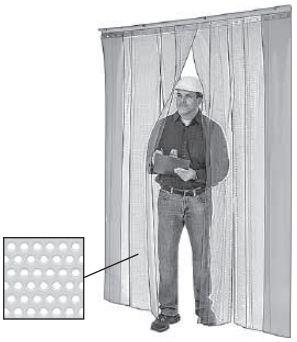

Strips are perforated with 3/16″ dia. ventilation holes that allow air to circulate between spaces while preventing debris, insects, and birds from entering. For indoor and outdoor use. Temperature range is –10° to 150°F.

Clear strips cover doorways without obstructing the view.

Amber strips partially block light.

Strip Doors

Doors consist of an aluminum mounting plate with press-on pegs and perforated vinyl strips with holes punched on 2″ centers. Press strips onto pegs for quick installation. Fasteners for mounting to your wall or door frame are not included. Plates have 3/8″ dia. mounting holes.

Door Wd.	Door Ht.	No. of Strips	Clear		Amber	
8″ Wide×0.08″ Thick Strips—2″ Overlap						
3 ft.	7 ft.	6	1389A11	$122.18	1389A22	$131.96
4 ft.	7 ft.	8	1389A12	162.18	1389A23	175.16
4 ft.	8 ft.	8	1389A15	186.18	1389A26	201.75
5 ft.	7 ft.	10	1389A13	202.18	1389A24	218.36
5 ft.	8 ft.	10	1389A16	231.27	1389A27	249.78
6 ft.	7 ft.	12	1389A14	243.64	1389A25	263.13
6 ft.	8 ft.	12	1389A17	279.27	1389A28	301.75
8 ft.	8 ft.	16	1389A18	371.64	1389A29	398.74

Ventilated Vinyl Rolls

Replace worn strips. Cut with shears or a utility knife and punch holes to hang strips.

Lg.	Clear		Amber	
8″ Wide×0.08″ Thick				
30 ft.	1389A33	$61.96	1389A35	$66.95
75 ft.	1389A34	112.67	1389A36	121.71
150 ft.	1389A19	204.87	1389A31	221.27

Food-Grade Vinyl Strip Doors



Suitable for food service and washdown environments, doors meet NSF/ANSI standards and can be used in USDA-inspected facilities. Doors are often used in freezers and consist of a polypropylene mounting plate with press-on pegs and vinyl strips. Press strips onto pegs for quick installation. A shield on the mounting plate covers strips and pegs so that dust won't collect. Fasteners for mounting to your wall or door frame are included. Strips are clear with holes punched on 2″ centers. For indoor and outdoor use. Temperature range is –20° to 140°F.

Door Wd.	Door Ht.	No. of Strips		
6″ Wide×0.06″ Thick Strips—2″ Overlap				
3′4″	6′8″	10	1174A11	$100.77
3′4″	7′2″	10	1174A12	105.89
8″ Wide×0.08″ Thick Strips—2″ Overlap				
3′4″	6′8″	7	1174A13	111.59
3′4″	7′2″	7	1174A14	116.13

Light-Blocking Vinyl Strip Doors



Seal out light, as well as dust, dirt, and debris. Doors consist of an aluminum mounting plate with bolts and vinyl strips with holes punched on 2″ centers. Place strips on threaded studs and use the included nuts to hold them securely in place. Fasteners for mounting to your wall or door frame are not included. Plates have 1/2″ dia. mounting holes. For indoor and outdoor use. Temperature range is 0° to 150°F. For replacement strips, see page 2880.

Opaque black strips completely block light to maintain darkness and privacy.

Dark amber strips partially block light and are often used as welding curtains.

Door Wd.	Door Ht.	No. of Strips	Opaque Black		Dark Amber	
8″ Wide×0.08″ Thick Strips—2″ Overlap						
3 ft.	7 ft.	6	8462A44	$128.16	8462A21	$128.16
4 ft.	7 ft.	8	8462A48	160.69	8462A22	170.91
5 ft.	8 ft.	10	8462A53	244.20	8462A23	244.20
6 ft.	8 ft.	12	8462A54	269.08	8462A24	269.08
8 ft.	8 ft.	16	8462A55	358.78	8462A25	358.78
12″ Wide×0.12″ Thick Strips—4″ Overlap						
8 ft.	8 ft.	12	8462A56	546.94	8462A31	546.94
8 ft.	10 ft.	12	8462A57	683.71	8462A32	683.69
10 ft.	10 ft.	15	8462A58	854.63	8462A34	854.63

Strip Door Mounting Plates

Create a customized strip door by combining a mounting plate and strips (not included, see page 2880). Use with strips that have 3/8″ dia. holes on 2″ centers. Fasteners for attaching the mounting plate to your wall or door frame are not included. Plates have 1/2″ dia. mounting holes, except plates with press-on pegs have 3/8″ dia. holes.

With Bolts—Place strips onto threaded studs and use the included nuts to hold them securely in place.

Heavy Traffic with Bolts—Plates have a hinge that swings when personnel or vehicles pass through, minimizing strain on the strips. Place strips onto threaded studs and use the included nuts to hold them securely in place.

With Press-On Pegs—Press strips onto pegs for quick installation.

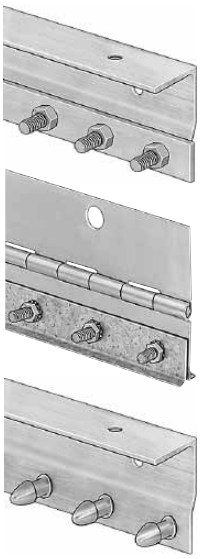

Wd.	Galvanized Steel		Aluminum		Type 304 Stainless Steel	
With Bolts						
1 ft.	1321A11	$11.28	_____	____	1317A21	$32.89
2 ft.	1321A12	22.40	1012A52	$33.14	1317A22	61.94
3 ft.	1321A13	33.79	1012A53	45.99	1317A23	93.18
8 ft.	1321A14	84.72	_____	____	1317A24	247.80
Heavy Traffic with Bolts						
3 ft.	1323A11	50.32	_____	____	_____	____
4 ft.	1323A12	67.13	_____	____	_____	____
5 ft.	1323A13	84.15	_____	____	_____	____
6 ft.	1323A14	99.74	_____	____	_____	____
With Press-On Pegs						
2 ft.	_____	____	8460A22	35.74	8460A26	128.50
4 ft.	_____	____	8460A23	61.60	8460A27	249.35

Vinyl and Fiberglass Strips and Rolls


Ready-to-Hang Strips


Ready-to-Hang Strips on a Roll


Rolls


Hole-Making Template Kit

Replace worn strips, combine with a mounting plate (see page 2879) to create a customized strip door, or use for applications such as surface protection. Strips and rolls are vinyl, except high-temperature strips are silicone-coated fiberglass.

Ready-to-Hang Strips—Holes are already punched in these individual strips for convenient installation. Holes are 3/8″ dia. on 2″ centers.

Ready-to-Hang Strips on a Roll—Rolls have perforations at specified strip lengths and are punched with 3/8″ dia. holes on 2″ centers.

Rolls—Cut to the length you need with shears or a utility knife and punch holes for hanging. *Optional hole-making template kit* helps to create ready-to-hang strips from rolls. Kit includes a stainless steel template for marking strips with 3/8″ dia. holes on 2″ centers and a drill bit for making the holes in strip material.

Standard strips and rolls are for indoor and outdoor use. Temperature range is 0° to 150° F. *Ribbed* strips hide scratches and wear. *Opaque black* strips completely block light. *Dark amber* strips partially block light. *Orange* strips can be used to mark the wall location on each side of a strip door.

Low-temperature strips and rolls are often hung in freezers and can be used in food service environments. They are for indoor use. Temperature range is –30° to 150° F, except rolls have a range of –20° to 140° F. *Reinforced* rolls are reinforced with nylon for added strength.

High-temperature strips have a temperature range of –65° to 500° F. They resist water, oil, and chemicals and are for indoor and outdoor use.

Static-resistant strips and rolls are commonly used in data centers and other areas where static build-up could be harmful. They are for indoor use. Temperature range is 0° to 150° F. Surface resistivity is 10^6 ohms.

Ready-to-Hang Strips

Strip Lg.	Standard Clear	Standard Clear Ribbed	Standard Opaque Black	Standard Dark Amber	Standard Orange	Low Temperature Clear	High Temperature Gray	Static Resistant Transparent Green
8″ Wide × 0.08″ Thick Strips								
7 ft.	8447A71 $10.57	$13.14	$15.74	$15.74	$15.58	8448A31 $12.80	1140A32★ $16.23	1814A51 $23.19
8 ft.	8447A72 13.79	14.61	19.21	19.21	17.80	8448A32 16.22	1140A31★ 17.63	1814A52 26.53
9 ft.	8447A73 15.46	16.44	—	—	20.23	8448A38 18.31	1140A33★ 17.64	1814A25 29.85
12″ Wide × 0.12″ Thick Strips								
8 ft.	8447A81 23.09	26.32	43.24	43.24	37.53	8448A33 22.94	1140A34★ 19.65	1814A63 28.16
9 ft.	8447A82 25.39	28.21	—	—	38.03	8448A34 25.81	1140A35★ 22.11	1814A64 31.67
10 ft.	8447A83 27.58	32.48	54.06	54.06	39.24	8448A35 28.68	1140A36★ 24.56	1814A65 33.00
12 ft.	8447A84 32.37	39.46	—	—	47.07	8448A37 33.10	1140A37★ 29.47	1814A66 38.00
16″ Wide × 0.16″ Thick Strips								
12 ft.	8447A91 67.41	76.43	—	—	92.39	8448A45 76.43	—	—
14 ft.	8447A92 78.64	87.09	—	—	105.21	8448A47 87.09	—	—

★ Strips are 0.015″ thick.

Ready-to-Hang Strips on a Roll

Strip Lg.	Roll Lg.	Strips per Roll	Standard Clear	Standard Clear Ribbed
8″ Wide × 0.08″ Thick Strips				
7 ft.	70 ft.	10	1138A41 $90.01	$126.07
7 ft.	147 ft.	21	1138A42 162.02	226.93
8 ft.	72 ft.	9	1138A43 90.01	126.07
8 ft.	144 ft.	18	1138A44 162.02	226.93
8″ Wide × 0.12″ Thick Strips				
10 ft.	70 ft.	7	1138A13 221.05	—
8″ Wide × 0.12″ Thick Strips (Cont.)				
12 ft.	72 ft.	6	1138A14 $221.05	—
12″ Wide × 0.12″ Thick Strips				
10 ft.	70 ft.	7	1138A51 222.38	$259.45
10 ft.	140 ft.	14	1138A52 400.28	467.01
12 ft.	72 ft.	6	1138A53 222.38	259.45
12 ft.	144 ft.	12	1138A54 400.28	467.01

Rolls

Wd.	Thick.	Lengths, ft.	Standard Clear Per Ft.	Standard Clear Ribbed Per Ft.	Standard Opaque Black Per Ft.	Standard Dark Amber Per Ft.	Low Temperature Clear Per Ft.	Low Temperature Clear Reinforced Per Ft.	Low Temperature Clear Ribbed Per Ft.	Static Resistant Transparent Green Per Ft.
4″	0.06″	30, 75, 150	1894A111 $0.92	—	$1.08	—	1894A127 $1.22	—	—	—
6″	0.06″	30, 75, 150	1894A112 .86	—	1.00	—	1894A128 1.06	$1.26	—	—
8″	0.08″	30, 75, 150	1894A113 1.40	$1.50	1.52	$1.52	1894A129 1.50	1.78	$2.40	1894A141 $1.75
12″	0.12″	30, 75, 150	1894A114 2.48	2.70	3.68	3.68	1894A131 2.70	2.89	3.00	1894A142 3.17
16″	0.16″	10, 50, 100	1894A115 4.94	5.36	—	—	1894A132 5.35	6.49	5.15	—
24″	0.08″	10, 30, 60	1894A116 3.92	—	—	—	—	—	—	—
24″	0.12″	10, 30, 60	1894A117 5.36	—	—	—	—	—	—	—
24″	0.16″	10, 30, 60	1894A118 7.16	—	—	—	—	—	—	—
36″	0.08″	10, 30, 60	1894A119 6.08	—	—	—	—	—	—	—
36″	0.12″	10, 30, 60	1894A121 8.28	—	—	—	—	—	—	—
36″	0.16″	10, 30, 60	1894A123 10.82	—	—	—	—	—	—	—
48″	0.08″	10, 30, 60	1894A124 8.56	—	—	—	—	—	—	—
48″	0.12″	10, 30, 60	1894A125 11.84	—	—	—	—	—	—	—
48″	0.16″	10, 30, 60	1894A126 15.56	—	—	—	—	—	—	—

Optional Hole-Making Template Kit 1139A11 $69.63

Replacement Track Rollers



Use rollers as replacements on an existing door hanger or as the starting point for a customized hanger. They have a hole so you can add a bolt or a mounting plate (not included) to attach doors. Made of zinc-plated steel.

For Inside Track Wd.	Capacity, lbs. per Pair	Roller Wd.	Roller Dia.	Bolt Hole Size		Each
1 3/4″	400	1 5/8″	2 3/16″	1/2″ Dia.	10075A42	$14.79

Replacement Overhead Door Rollers



Keep garage doors and other overhead doors rolling smoothly by replacing bent and broken rollers. These fit standard 2″ wide track and have a 7/16″ dia. steel stem. Roller has steel ball bearings.

Wheel Material	Wheel Dia.	Stem Length		1-9	10-Up
Nylon	1 7/8″	4 1/4″	1903A29	$4.47	$3.58
Steel	1 13/16″	3 11/16″	1903A31	2.75	2.20

Cabinet Drawer and Door Rollers

No need for drawer slides or roller track—add rollers to wood cabinet drawers and doors for smooth operation. To mount, create a cutout for the top of the roller in the underside of your drawer or door and secure with screws (not included). Roller housing is steel.

Roller Material	Roller Dia.	(A)	(B)	Screw Size		
Nylon	9/16"	17/8"	7/16"	No. 3	1714A5	$1.19
Nylon	5/8"	1 13/16"	5/8"	No. 5	1714A1	1.27
Steel	5/8"	1 13/16"	5/8"	No. 5	1714A2	1.43
Steel	3/4"	2"	1"	No. 6	1714A3	1.69

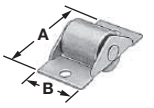

Track Sets for Bypassing Cabinet Doors


Plastic Track

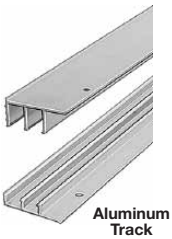
Aluminum Track


Steel Roller Track

Sets include an upper and lower track for hanging cabinet doors that slide past each other.

Plastic track sets have polystyrene track that works well with lightweight glass panels and lightweight wood cabinet doors. Upper track is 9/16" Ht. x 7/8" Wd. Bottom track is 5/16" Ht. x 7/8" Wd. Color is tan. To mount track, use glue or tape with adhesive on both sides.

Aluminum track sets are for use with lightweight wood cabinet doors. Upper track is 1/2" Ht. x 1 1/4" Wd. Bottom track is 1/4" Ht. x 1 1/4" Wd. Both tracks have a dull finish and 1/8" dia. mounting holes (fasteners not included).

Steel roller track sets are for use with lightweight glass panels. Sets include a 5/8" Ht. x 15/16" Wd. upper track and a 1" Ht. x 1" Wd. bottom track with two ball-bearing carriers that roll along the track. Track and carriers are zinc-plated steel. To mount, glue track in place. Height of cabinet door should not exceed twice its width.

Track Lg.	For Door Thick.	Plastic Track Sets		Aluminum Track Sets		Steel Roller Track Sets	
3 ft.	1/4"					1718A5	$48.22
4 ft.	1/4"	1717A1	$6.73	1720A22	$15.01	1718A2	55.88
5 ft.	1/4"					1718A3	73.34
6 ft.	1/4"	1717A3	9.60	1720A24	22.33	1718A4	76.54

Roller Track Sets for Bypassing Doors

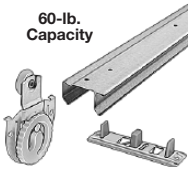
60-lb. Capacity

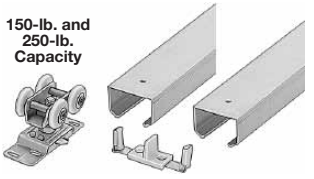
150-lb. and 250-lb. Capacity

Hang two doors that slide past each other. Sets include track, four hangers (two per door), adjustable door guides, and mounting hardware. Track can be cut to length with a saw. Capacity is per pair of hangers.

60-lb. capacity sets include one piece of steel track. Hangers have a plastic roller, mount to the side of the door, and adjust vertically allowing 1 1/4"-1 9/16" distance between the ceiling and the top of the door.

150-lb. and **250-lb. capacity sets** include two pieces of aluminum track. Hangers have four plastic rollers, mount to the top of the door, and adjust vertically allowing 1 3/4"-2 3/8" distance between the ceiling and the top of the door.

Track Lg.	Track Wd.	Track Ht.	For Door Thick.	Sets		Additional Hangers	Pair
60-lb. Capacity							
3'10"	2 1/16"	1 1/16"	3/4"-1 3/8"	1223A1	$18.38		
4'10"	2 1/16"	1 1/16"	3/4"-1 3/8"	1223A2	20.54		
5'10"	2 1/16"	1 1/16"	3/4"-1 3/8"	1223A3	22.33		
7'9"	2 1/16"	1 1/16"	3/4"-1 3/8"	1223A4	31.36		
150-lb. Capacity							
4 ft.	1 13/16"	1 3/16"	1 3/8"-1 3/4"	1223A6	44.80	1223A54	$7.87
5 ft.	1 13/16"	1 3/16"	1 3/8"-1 3/4"	1223A21	47.84	1223A54	7.87
6 ft.	1 13/16"	1 3/16"	1 3/8"-1 3/4"	1223A8	52.32	1223A54	7.87
8 ft.	1 13/16"	1 3/16"	1 3/8"-1 3/4"	1223A22	62.15	1223A54	7.87
250-lb. Capacity							
5 ft.	1 13/16"	1 3/16"	1 3/8"-1 3/4"	1223A32	116.82	1223A55	36.69
6 ft.	1 13/16"	1 3/16"	1 3/8"-1 3/4"	1223A33	123.40	1223A55	36.69
8 ft.	1 13/16"	1 3/16"	1 3/8"-1 3/4"	1223A34	138.18	1223A55	36.69

I-Beam Roller Track Sets for Doors

Use to hang doors and panels that are at least 1" thick. Capacity is per pair of hangers.

Sets include an aluminum I-beam track, two steel hangers with nylon wheels, a door guide, and mounting hardware. Track is 1 5/16" Ht. x 1 7/8" Wd. Hangers adjust vertically allowing 3"-3 1/2" distance between the ceiling and the top of the door.

Additional hangers and **track** let you create a longer run.


Track


Door Guide


225-lb. Capacity Hangers


325-lb. Capacity Hangers

Track Lg.	225-lb. Capacity Sets		Additional Hangers	Pair	325-lb. Capacity Sets		Additional Hangers	Pair
6 ft.	1225A21	$74.31	1225A33	$46.35	1225A11	$111.82	1225A38	$60.31
8 ft.					1225A12	128.63	1225A38	60.31
12 ft.	1225A23	102.52	1225A33	46.35	1225A14	140.26	1225A38	60.31
Additional 6 ft. Lg. Track							1225A41	46.04
Additional 8 ft. Lg. Track							1225A42	55.86
Additional 12 ft. Lg. Track							1225A43	80.73

Corrosion-Resistant I-Beam Roller Track for Doors and Curtains

Built to withstand harsh environments, track is marine-grade, black anodized aluminum and hangers are black chrome-plated Type 316 stainless steel. Combine track, hangers, track bolts, and pin stops to create a system.

Track mounts using track bolts (sold separately). For extra stability, an additional track can be mounted to the floor as a guide.

550-lb. capacity hangers have three clevis pins to hold doors and curtains up to 1/2" thick.

1,400-lb. capacity hangers have a loop with a 1/4" dia. opening which you can use to attach doors and curtains with carabiners, S-hooks, and shackles.

Track bolts are used to mount track. Nine bolts are required for every 3 ft. of track. Made of 300 series stainless steel.

Track pin stops are used at track ends to prevent hangers from sliding off. Made of 300 series stainless steel.


Track


550-lb. Cap. Hanger


1,400-lb. Cap. Hanger


Track Pin Stop

Cap., lbs.	Track Wd.	Track Ht.		3'3" Lg.	6'7" Lg.	9'10" Lg.	19'8" Lg.	Hangers		Track Bolts		Track Pin Stops	
550	3/4"	15/16"	9484T31	$46.33	$94.42	$141.21	$298.11	9484T21	$98.60	9484T71	$15.36	9484T11	$39.04
1,400	1 1/4"	1 1/4"	9484T33	80.18	159.53	240.39	507.49	9484T23	145.81	9484T72	15.36	9484T13	64.11

Roller Track for Doors

Combine track, mounting brackets, and hangers that fit the same inside track width to create a system for hanging doors. Some components that fit together are rated for different capacities; the capacity of your system is determined by the component with the lowest capacity.

Track

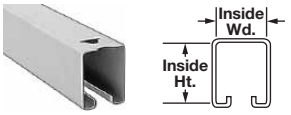

Powder-coated steel track is tan.

Cap., lbs.	Inside Wd.	Inside Ht.	Thick.		Powder-Coated Steel 6 ft.	Powder-Coated Steel 8 ft.	Powder-Coated Steel 10 ft.	Galvanized Steel 6 ft.	Galvanized Steel 8 ft.	Galvanized Steel 10 ft.	Type 304 Stainless Steel 6 ft.	Type 304 Stainless Steel 8 ft.	Type 304 Stainless Steel 10 ft.
400	1 3/4"	2 1/4"	0.06"	1207A111	$26.90	$35.59	$44.89	$24.52	$26.63	$39.54	$114.38	$126.35	$181.80
600	2 1/4"	3 1/4"	0.08"	1207A112	56.56	80.68	94.92	66.44	88.59	110.74	182.00	205.96	249.63
800	2 5/8"	3 1/4"	0.09"	1207A113	83.85	112.32	140.01						
1,000	2 5/8"	3 1/4"	0.14"	1207A114	132.89	174.81	219.90						
5,000	2 13/16"	3 3/16"	0.15"	1207A115	318.77	380.47	461.94						

Track Mounting Brackets









Mounting fasteners are not included. *Powder-coated steel* brackets are tan.

Wall Mount—Can be mounted above doorways.

Ceiling Mount—Bolt to joists or hang from threaded rod.

Double-Track Wall Mount—Support two parallel tracks for bypassing doors.

Suspended Ceiling Mount—Provide clearance between your track and ceiling.

Supports are required every 2 ft. of track.

Joints hold adjoining sections of track together and act as supports.

Ends cap track ends to contain the hangers.

For Track Cap., lbs.	For Inside Track Wd.	Ht.	Supports Powder-Coated Steel	Supports Galv. Steel	Supports Type 304 SS	Joints Powder-Coated Steel	Joints Galv. Steel	Joints Type 304 SS	Ends Powder-Coated Steel	Ends Galv. Steel	Ends Type 304 SS
Wall Mount											
400	1 3/4"	4 11/16"	1207A116 $8.69	$7.51	$15.79	1207A124 $17.40	$13.24	$31.59	1207A118 $12.26	$11.07	$23.58
600	2 1/4"	7 1/16"	1207A117 22.93	25.51	96.75	1207A125 32.24	33.43	110.20	1207A119 29.26	31.83	121.91
800	2 5/8"	7 3/16"	1207A54 29.27			1207A56 38.17			1207A55 38.95		
1,000	2 5/8"	7 5/16"	1207A64 44.29			1207A66 54.56			1207A65 54.82		
5,000	2 13/16"	8 3/16"	1207A94 61.09			1207A96 81.47			1207A95 72.18		
Ceiling Mount											
400	1 3/4"	3 3/16"	1207A126 10.69	9.31	13.85	1207A137 15.03	13.84	26.39	1207A128 14.24	12.86	21.63
600	2 1/4"	4 9/16"	1207A127 13.84	14.63	38.70	1207A138 19.57	21.48	51.08	1207A129 20.16	20.96	55.56
800	2 5/8"	4 3/4"	1207A92 19.38			1207A97 25.70			1207A93 29.06		
1,000	2 5/8"	5"	1207A22 24.91			1207A25 32.22			1207A23 33.61		
5,000	2 13/16"	6"	1207A121 48.84			1207A123 56.15			1207A122 59.93		
Double-Track Wall Mount											
400	1 3/4"	8"	1207A139 46.47	42.11		1207A142 50.62	45.47		1207A141 53.59	49.23	
Suspended Ceiling Mount											
400	1 3/4"	4 1/4"	1207A143 33.43	36.97		1207A145 30.06	31.65		1207A144 36.98	40.53	

Hangers with Bolt—For framed metal and wood doors











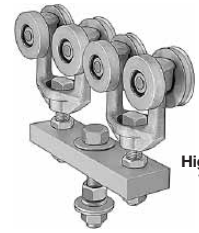

Use two hangers per door. Hangers bolt through the top of the door; adjust doors vertically within the bolt's thread length. Hangers have ball or roller bearings. Mounting hardware is included.

Horizontally adjustable hanger allows you to adjust the clearance between your door and wall by 3/4". **Offset** hanger has a 1/2" offset to provide clearance between your door and wall.

Cap. per Pair, lbs.	For Inside Track Wd.	Type	Rollers Number of	Rollers Dia.	O'all Ht.	Bolt Size	Bolt Thread Lg.	Hanger Material		Each
300	1 3/4"	Standard	1	2 1/16"	6 5/16"	1/2"-13	3 1/16"	Zinc-Plated Steel	1212A14	$27.15
400	1 3/4"	Standard	2	2 1/16"	5 1/8"	1/2"-13	3 1/16"	Zinc-Plated Steel	1215A32	29.16
400	1 3/4"	Standard	2	2 1/8"	3 15/16"	1/2"-13	1 3/8"	Zinc-Plated Steel	1143A61	20.06
400	1 3/4"	Standard	2	2 1/8"	4 13/16"	1/2"-13	2 3/16"	Type 304 Stainless Steel	1090A2	290.03
400	1 3/4"	Standard	2	2 1/8"	5 5/16"	1/2"-13	2 3/4"	Zinc-Plated Steel	1143A62	20.06
400	1 3/4"	Standard	2	2 1/8"	6 5/16"	1/2"-13	3 3/4"	Zinc-Plated Steel	1143A63	20.06
400	1 3/4"	Horizontally Adjustable	2	2 1/16"	11 5/8"	1/2"-13	7 5/8"	Zinc-Plated Steel	8440A12	35.80
400	1 3/4"	Offset	2	2 1/8"	11 1/4"	1/2"-13	7"	Zinc-Plated Steel	1143A71	25.26
600	2 1/4"	Standard	2	3"	6 5/8"	3/4"-10	3 1/8"	Zinc-Plated Steel	1215A14	47.53
600	2 1/4"	Standard	2	3"	6 5/8"	1/2"-13	3 1/4"	Type 304 Stainless Steel	1090A3	383.20
600	2 1/4"	Standard	2	3"	7 1/8"	5/8"-11	3 5/8"	Zinc-Plated Iron	1215A33	95.83
800	2 5/8"	Standard	2	2 3/4"	6 5/8"	3/4"-10	3 1/8"	Zinc-Plated Iron	1215A23	158.54
800	2 5/8"	Standard	2	3"	6 5/8"	3/4"-10	3 1/8"	Zinc-Plated Steel	1215A26	84.47
1,000	2 5/8"	Standard	2	3"	7"	5/8"-11	3 9/16"	Zinc-Plated Iron	1215A34	118.76
2,500	2 13/16"	High Capacity	2	3"	10 7/8"	7/8"-9	4 1/2"	Iron	1215A24	232.93
5,000	2 13/16"	High Capacity	4	3"	14 15/16"	1"-8	4 3/4"	Iron	1215A41	681.50

(Continued on following page)

Roller Track for Doors *(Continued from previous page)*

Hangers with Mounting Plate—For framed and solid metal and wood doors

Use two hangers per door. Hangers adjust vertically allowing 1¼"-2½" distance between the bottom of the track and the top of the door, except high capacity hangers allow 4½"-6½". All have ball or roller bearings and include mounting hardware.

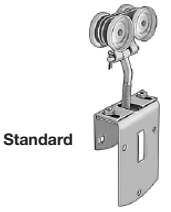
Standard


High Capacity

Cap. per Pair, lbs.	For Inside Track Wd.	Type	Fits Door Thick.	O'all Ht.	Mounting Plate Ht.	Rollers: Number of	Rollers: Dia.	Hanger Material		Each
400	1¾"	Standard	1½"-2¼"	11 1/16"	6"	2	2⅛"	Zinc-Plated Steel	1206A18	$68.30
400	1¾"	Standard	1½"-2¼"	10 13/16"	6"	2	2⅛"	Type 304 Stainless Steel	1090A5	384.71
400	1¾"	Standard	1¾"-2⅜"	12 13/16"	5 13/16"	2	2"	Zinc-Plated Steel	1206A41	54.45
600	2¼"	Standard	1¾"-2¼"	14 5/16"	7 11/16"	2	3"	Zinc-Plated Steel	1206A25	97.18
600	2¼"	Standard	1¾"-2¾"	14⅜"	7¼"	2	3"	Zinc-Plated Steel	1206A42	156.13
600	2¼"	Standard	1¾"-2¼"	12 11/16"	6 1/16"	2	3"	Type 304 Stainless Steel	1090A6	426.85
600	2¼"	Standard	2¼"-2¾"	14 5/16"	7 11/16"	2	3"	Zinc-Plated Steel	1206A26	97.79
600	2¼"	Standard	2¼"-2¾"	12 11/16"	6 1/16"	2	3"	Type 304 Stainless Steel	1090A8	434.30
800	2⅝"	Standard	1¾"-2¼"	14 5/16"	7 11/16"	2	3"	Tan Powder-Coated Steel	1206A56	115.97
800	2⅝"	Standard	2¼"-3"	14 5/16"	7 11/16"	2	3"	Tan Powder-Coated Steel	1206A59	124.42
1,000	2⅝"	Standard	2⅜"-3⅝"	15¾"	9¼"	2	3"	Zinc-Plated Steel	1206A43	173.17
2,500	2 13/16"	High Capacity	2¼"-3¾"	23⅛"	12¼"	2	3"	Iron	1206A92	347.72

Complete Roller Track Sets—For framed and solid metal and wood doors

Get everything you need to hang doors. Sets include tan powder-coated steel track; wall-mount support, joint, and end brackets; a pair of hangers with mounting plate; a roller guide; end stops; a bow handle and flush pull handle; and fasteners to mount hardware to door. Bolts for mounting sets to wall and floor are not included. Mounting brackets for 400-lb. capacity set require ⅜" bolts; brackets for 600-lb. capacity set require ⅝" bolts.

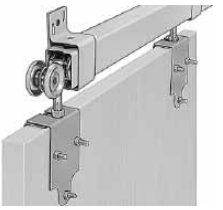

Track Lg.	400-lb. Capacity Sets: Fits Door Thick.			600-lb. Capacity Sets: Fits Door Thick.		
12 ft.	1½"-2¼"	8443A22	$433.34	1¾"-2¼"	8443A32	$579.31
16 ft.	1½"-2¼"	8443A23	445.57	1¾"-2¼"	8443A33	676.99
20 ft.	1½"-2¼"	8443A24	495.16	1¾"-2¼"	8443A34	771.66

Super Corrosion-Resistant Roller Track for Doors

Track and brackets are Type 316 stainless steel for excellent corrosion resistance. They cost approximately twice as much as the Type 304 stainless steel track and brackets in Roller Track for Doors. Hangers are Type 304 stainless steel. Combine components with the same capacity to create a complete system.

For pricing and the same specifications shown in Roller Track for Doors, go to mcmaster.com and search for a part number below.

	300-lb. Capacity	600-lb. Capacity
Track (Choose 6-ft. or 8-ft. Lg.)	10135A1	10135A5
Support Brackets (Choose Wall or Ceiling)	10135A2	10135A6
Joint Brackets (Choose Wall or Ceiling)	10135A3	10135A7
Hangers (Choose w/Bolt or w/Mounting Plate)	10135A4	10135A8
End Stops	10135A66	10135A67

Low-Profile Roller Track for Doors

Narrow track allows you to hang doors in tight spaces. Combine track and hangers to create a system.

Track with Mounting Brackets—150-lb. capacity

Track is galvanized steel and projects 1 3/16" from wall. It has zinc-plated steel brackets welded to it. Brackets are 4" high and have ⅜" dia. mounting holes (fasteners not included).



Track Lg.	Inside: Wd.	Inside: Ht.	Bracket Spacing Ctr.-to-Ctr.		
6 ft.	7/16"	2¼"	24"	12635A61	$59.34
8 ft.	7/16"	2¼"	30 3/16"	12635A62	79.16
10 ft.	7/16"	2¼"	38⅞"	12635A63	98.80

Hanger with Mounting Plate—150-lb. capacity per pair

Use to hang framed and solid metal and wood doors. Hanger has two 2⅛" dia. nylon rollers, a steel mounting plate, and includes fasteners. Use two hangers per door.



For Door Thick.	O'all Ht.	Mounting Plate Ht.		Each
Up to 1¾"	5½"	3"	12635A65	$19.10

Dust-Resistant Roller Track for Doors

Round track eliminates edges where dust and debris can accumulate. Combine track, hangers, and accessories to create a complete system.

Track with Mounting Brackets—600-lb. capacity

Track is galvanized steel with wall-mount brackets attached on 2-ft. centers. Brackets have 5/16" dia. mounting holes (fasteners not included).



Track Lg.	ID		
8 ft.	2¼"	1054A31	$28.96
10 ft.	2¼"	1054A33	36.20

Hangers with Bolt—600-lb. capacity per pair

Use to hang framed metal and wood doors. Hangers bolt through top of door; adjust doors vertically within the bolt's thread length. Hangers have two 2" dia. plastic rollers with ball bearings.



O'all Ht.	Bolt: Size	Bolt: Thread Lg.		Pair
9½"	½"-13	5"	1054A37	$34.36
12½"	½"-13	8"	1054A39	34.36

Hanger with Mounting Plate—600-lb. capacity per pair

Use to hang framed and solid metal and wood doors. Hanger adjusts vertically allowing 1¾"-3¼" distance between the bottom of the track and the top of the door. Hanger has two 2" dia. plastic rollers with ball bearings and includes mounting fasteners.



For Door Thick.	O'all Ht.	Mounting Plate Ht.		Pair
1½"-2⅜"	10"	4 7/16"	1054A35	$35.26

Accessories

End stop prevents hangers from rolling off the track.

Joint collar holds together adjoining sections of track.


End Stop

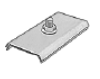
Joint Collar

End Stop	1054A23	$0.78
Joint Collar	1054A21	2.88

Curved Roller Track for Curtains, Strip Doors, and Doors

Curved track pieces allow you to create a wide variety of layouts for curtains, strip doors, and doors. Combine track, mounting brackets, and hangers that fit the same inside track width to create a system. Some components that fit together are rated for different capacities; the capacity of your system is determined by the component with the lowest capacity.

Track


Straight Track


90° Curved Track

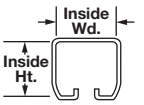


End Stop

100-lb. capacity track is galvanized steel. Add an **optional end stop** to prevent hangers from rolling off the track.

600-lb. capacity track is tan powder-coated steel.

	Inside Wd.	Inside Ht.	Thick.	Track Lg.	Track Radius		
100-lb. Capacity							
Straight	1 3/8"	1 1/8"	0.06"	8'	—	1040A21	$52.61
Straight	1 3/8"	1 1/8"	0.06"	10'	—	1040A22	65.20
90° Curved	1 3/8"	1 1/8"	0.06"	3'2"	2 ft.	1040A28	115.74
Optional End Stop						1040A24	4.21
600-lb. Capacity							
Straight	1 3/4"	2 5/16"	0.19"	10'	—	1862A26	110.43
90° Curved	1 3/4"	2 5/16"	0.19"	3'2"	2 ft.	1862A27	208.12
90° Curved	1 3/4"	2 5/16"	0.19"	4'9"	3 ft.	1862A28	238.18
90° Curved	1 3/4"	2 5/16"	0.19"	6'3"	4 ft.	1862A29	253.21

Track Mounting Brackets

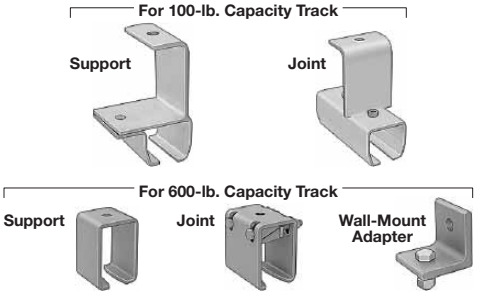

Brackets mount to ceiling joists or hang from threaded rod.

For 100-lb. Capacity Track—Brackets are galvanized steel with 3/8" dia. mounting holes (fasteners not included). One **support bracket** is required for every 4 ft. of track. **Joint bracket** holds adjoining sections of track together.

For 600-lb. Capacity Track—Brackets are tan powder-coated steel with 9/16" dia. mounting holes (fasteners not included). One **support bracket** is required for every 5 ft. of track. **Joint bracket** holds adjoining sections of track together. **Wall-mount adapter** converts a support or joint bracket into a wall-mount bracket.

For Inside Track Wd.	Supports		Joints		Wall-Mount Adapter	
For 100-lb. Capacity Track						
1 3/8"	1040A27	$13.55	1040A26	$13.55	—	—
For 600-lb. Capacity Track						
1 3/4"	1862A22	15.79	1862A21	51.35	1862A24	$20.52

For 100-lb. Capacity Track—Hangers for curtains and strip doors

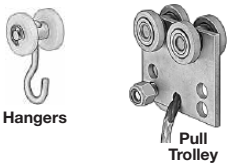

Hangers have a steel hook with a 3/16" OD that fits into holes on curtains and strip doors. Use at least two hangers per curtain or strip door.

Pull trolley bolts onto the leading edge of a curtain or strip door and has a 4-ft. pull cord for easy movement.

Cap. per Hanger, lbs.	For Inside Track Wd.	Roller Dia.	O'all Ht.	Hook Lg.		Each
25	1 3/8"	1 1/16"	2 7/16"	1 3/8"	5592T96	$2.73
40	1 3/8"	1 1/16"	2 1/2"	1 7/16"	1040A23	11.77
Optional Pull Trolley					1040A25	39.32

For 600-lb. Capacity Track—Hangers for curtains and strip doors



Hangers are zinc-plated steel and can be connected to curtains and strip doors using S-hooks (not included). Use two hangers per curtain or strip door.

Cap. per Hanger, lbs.	For Inside Track Wd.	Roller Dia.	O'all Ht.	Eyebolt ID		Each
75	1 3/4"	2 1/8"	3"	1/4"	1222A1	$28.51
225	1 3/4"	2 3/16"	6"	1"	1212A8	27.14
300	1 3/4"	2 1/16"	6"	1 1/4"	1212A21	55.26

For 600-lb. Capacity Track—Hangers for doors

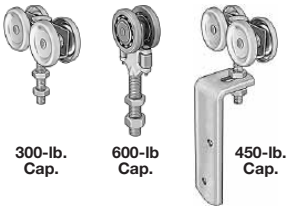

Hangers with bolt are for framed metal and wood doors. Hangers bolt through the top of the door; adjust doors vertically within the bolt's thread length. Made of steel.

Hanger with mounting plate is for framed and solid metal and wood doors. Hanger adjusts vertically allowing 5/8"-2 1/4" distance between the bottom of the track and the top of the door. It is made of steel and includes mounting fasteners.

Cap. per Pair, lbs.	For Inside Track Wd.	For Door Thick.	Roller Dia.	O'all Ht.	Bolt Size	Bolt Thread Lg.	Mount. Plate Ht.		Each
With Bolt									
300	1 3/4"	—	2 1/8"	4 3/4"	1/2"-13	2 1/4"	—	1291A41	$33.70
600	1 3/4"	—	2 1/8"	6 13/16"	5/8"-11	3 1/2"	—	1862A36	116.31
With Mounting Plate									
450	1 3/4"	1 1/2"-2"	2 1/8"	11 1/4"	—	—	6 5/8"	1291A31	41.44

Door Stops and Guides

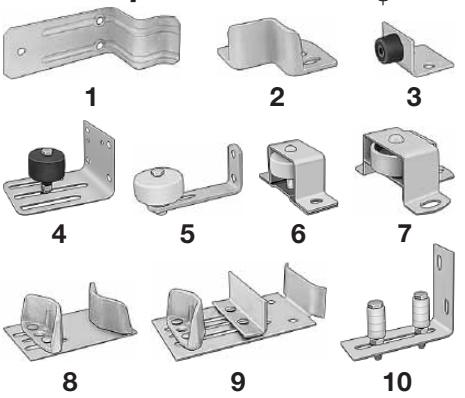

Stops and guides control your door's motion. Mounting screws are not included, except Styles 1, 8, and 9 include screws.

Stops block a door's movement. **Guides** prevent the bottom of the door from swinging.

	For Door Thick.	Overall Lg.	Overall Wd.	Overall Ht.	Material	Screw Size		
Stops								
1	Up to 2 1/4"	8"	3 1/2"	2 3/4"	Steel	5/16"	10245A31	$8.99
2	Any	4 5/8"	4 5/8"	2 1/4"	Iron	No. 18	1216A1	23.85
3	Any	3 1/2"	3"	2"	Stainless Steel	No. 18	10135A68	65.70
Guides								
4	Up to 3 3/4"	5 3/8"	3 1/2"	3 1/2"	Steel	No. 10	1217A4	15.99
5	1"-2 3/4"	5 1/16"	2 3/4"	2 9/16"	Stainless Steel	No. 12	1111A7	60.91
5	1 1/2"-2 3/4"	5 1/8"	2 1/2"	2 9/16"	Steel	No. 12	1217A1	20.29
6	Any	6"	2 9/16"	2 3/4"	Steel	No. 16	1217A2	37.71
7	Any	7 1/8"	5 7/16"	2 15/16"	Steel	No. 16	1217A3	94.26
8	Up to 3"	6"	4"	1 7/8"	Zinc-Plated Steel	No. 16	1443A11	27.20
9	Up to 3"	7 9/16"	4 1/2"	2"	Zinc-Plated Steel	No. 16, 5/16"	1443A12	37.02
10	Up to 3"	5 3/8"	2"	4 1/2"	Stainless Steel	No. 10	10135A65	127.85

Lever Door Holders

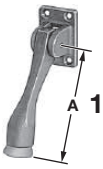





Flip holders down to keep doors open; flip up to release. All have nonmarring, replaceable rubber pads and include mounting screws.

Style 3 can be secured in the up position when not in use.

	Finish	(A)	Door-to-Floor Clearance		
Iron					
1	Brass	3¾″	¼″–2″	1414A22	$7.03
1	Brass	4¾″	¼″–3″	1414A25	7.56
1	Bronze	3¾″	¼″–2″	1414A21	7.03
1	Bronze	4¾″	¼″–3″	1414A24	7.56
1	Aluminum	3¾″	¼″–2″	1414A23	7.03
1	Aluminum	4¾″	¼″–3″	1414A26	7.56
Brass					
2	Dull Bronze	3¾″	¼″–2″	1415A1	15.17
2	Dull Bronze	4¾″	¼″–3″	1415A2	16.04
2	Dull Chrome	3¾″	¼″–2″	1415A7	15.17
2	Dull Chrome	4¾″	¼″–3″	1415A8	16.04
Steel					
3	Zinc Plated	4″	½″–5″	1410A11	8.11
3	Zinc Plated	5″	½″–6″	1410A12	8.67
3	Zinc Plated	6″	½″–7″	1410A13	9.33
3	Zinc Plated	8″	½″–9″	1410A14	10.22
3	Zinc Plated	12″	½″–13″	1410A16	11.56
Replacement Rubber Pads					
For Styles 1 and 2 (Pkg. of 6)				1413A34	4.41
For Style 3 (Pkg. of 2)				1410A31	4.44

Plunger Door Holders









Step on the spring-operated plunger to hold your door in place; tap on the release lever to free it. All have nonmarring, replaceable rubber pads and include mounting screws.

	Finish	Plunger Extension	(A)	(B)		
Zinc						
4	Polished Brass	1⅛″	7″	1⅝″	14045A52	$12.27
4	Dull Aluminum	1⅛″	7″	1⅝″	14045A51	12.27
4	Dark Brown	1⅛″	7″	1⅝″	14045A53	12.27
Brass						
5	Polished Brass	1¼″	5⅜″	1⅜″	1417A4	26.44
5	Dull Bronze	1¼″	5⅜″	1⅜″	1417A2	26.44
5	Dull Chrome	1¼″	5⅜″	1⅜″	1417A1	26.44
Aluminum						
6	Dull	1⅝″	6¼″	1½″	1417A3	25.17
Aluminum/Stainless Steel						
7	Dull Aluminum	2⅜″	7″	1¼″	14045A9	49.15
Replacement Rubber Pads						
For Style 4 (Pkg. of 6)					14045A61	7.20
For Style 5 (Pkg. of 6)					1417A8	8.68
For Style 6 (Pkg. of 6)					1417A9	8.58
For Style 7 (Each)					14045A95	14.44

Hook-to-Catch Door Holders

Latch your door to the wall or floor for a secure hold. Mounting screws are included, except 12975A35 requires No. 7 screws, 12975A36 requires No. 6 screws, and Style 11 require No. 10 screws.

Style 11 are often used on trailer doors.

Floor-mount holders require 1½″ or less clearance between the floor and bottom edge of the door.

				Holders		Repl. Rubber Pads	
	Finish	(A)	(B)		Each	Pkg. Qty.	
Wall Mount							
Brass							
8	Polished Brass	3⅝″	2¼″	1407A6	$24.70	6	1429A61 $5.59
8	Dull Bronze	3⅝″	2¼″	1407A4	25.37	6	1429A61 5.59
8	Dull Chrome	3⅝″	2¼″	1407A5	24.70	6	1429A61 5.59
9	Dull Bronze	3⅝″	2⅜″	1428A1	23.20	6	1430A9 4.90
9	Dull Chrome	3⅝″	2⅜″	1428A3	23.03	6	1430A9 4.90
Stainless Steel							
10	Polished	2½″	2″	12975A35	31.03	1	12975A45 2.36
10	Polished	4″	2″	12975A36	34.84	1	12975A45 2.36
11	Polished	4″	3″	1941A23	7.06	_	_____ ___
11	Polished	6″	3″	1941A24	8.51	_	_____ ___
Steel							
11	Zinc Plated	4″	3″	1941A21	2.48	_	_____ ___
11	Zinc Plated	6″	3″	1941A22	2.79	_	_____ ___
Nylon							
11	Gray	4″	3″	1941A25	3.12	_	_____ ___
11	Gray	6″	3″	1941A26	3.09	_	_____ ___
11	Gray	10″	3″	1941A27	3.03	_	_____ ___
Floor Mount							
Brass							
12	Polished Brass	2⅞″	2⅝″	1429A2	27.75	6	1423A36 5.40
12	Dull Bronze	2⅞″	2⅝″	1429A3	27.75	6	1423A36 5.40
12	Dull Chrome	2⅞″	2⅝″	1429A4	27.84	6	1423A36 5.40
13	Polished Brass	3⅝″	2½″	1429A31	21.83	6	1429A61 5.59
13	Dull Bronze	3⅝″	2½″	1429A32	22.53	6	1429A61 5.59
13	Dull Chrome	3⅝″	2½″	1429A33	19.26	6	1429A61 5.59
14	Dull Bronze	4⅞″	3½″	1366A11	89.02	_	_____ ___
14	Dull Chrome	4⅞″	3½″	1366A24	89.02	_	_____ ___

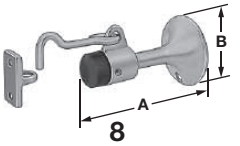

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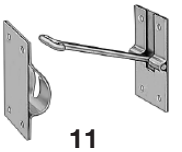
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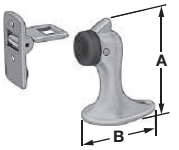

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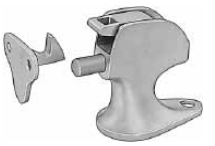
14

Hinge-Pin Door Holders

Place one of these wire springs onto your door's hinge pin to keep it open. Holders are for use with hinges that have a removable pin and doors that are 36″ Wd. × 96″ Ht. or smaller. Use one holder per hinge. Holders come with an installation tool.



For Door Type	Spring Coil Dia.	Pkg. Qty.		Pkg.
Hollow Core	0.33″	4	1621A21	$9.30
Solid Core	0.38″	3	1621A22	9.30

Magnetic-Catch Door Holders

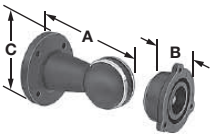

1



2



3

A magnet holds the door open; pull on the door to release.

Style 1 have a plastic housing and include screws for mounting to wood; hardware for mounting to concrete is sold separately. Holders can also be mounted to the floor.

Style 2 have a rubber housing and require No. 8 and No. 14 screws.

Style 3 have a plastic housing and require No. 7 and No. 8 screws.

	(A)	(B)	(C)	(D)	Holding Force, lbs.	Color		
Wall Mount								
1	3″	7/8″	2 1/4″	____	30	Brown	11305A22	$9.41
1	3″	7/8″	2 1/4″	____	30	Ivory	11305A23	9.41
2	2 3/4″	1/4″	2 7/8″	____	66	Brown	13065A25	43.42
2	2 3/4″	1/4″	2 7/8″	____	66	Gray	13065A14	43.42
Hardware for Mounting Style 1 in Concrete							11305A24	6.81
Floor Mount								
3	2 3/8″	1/8″	1 1/2″	1 7/8″	44	Brown	13775A48	29.83
3	2 3/8″	1/4″	1 1/2″	1 7/8″	44	Gray	13775A43	29.83

Frame-Mount Door Holders

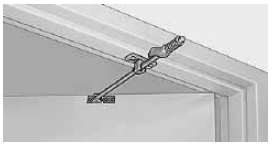

Standard



Heavy Duty

Hold doors open without adding clutter to your floor or walls. Holders are adjustable—open to any position within the 85° to 110° adjustment range. They can also be used to prevent doors from opening too far. Holders are reversible for right- and left-hand doors, mount on the top of the door frame, and include mounting screws. They are made of brass, steel, and stainless steel.

Standard holders have a 1/2″ dia. rod. Minimum required clearance at top of door is 7/8″.

Heavy duty holders have a broader mounting footprint than standard holders for increased stability. Minimum required clearance at top of door is 1 7/8″.

Standard

For Door Opening Wd.	Dull Bronze		Dull Chrome	
27 1/16″ to 33″	1439A61	$141.18	1439A21	$148.98
33 1/16″ to 39″	1439A62	141.18	1439A22	148.98

Heavy Duty

For Door Opening Wd.	Dull Stainless Steel	
27 1/16″ to 33″	1439A41	$187.20
33 1/16″ to 39″	1439A42	187.20
45 1/16″ to 54″	1439A45	187.20

Wedge Door Holders



Standard



Three Way

Three-way wedges can be inserted under the door, over the top corner of the door, or over the hinge pin to hold doors open.

Overall Lg.	Wd.	Ht.	Choose a Color		
Standard—Rubber					
4 3/4″	2 1/8″	1 1/4″	Black	8145A21	$2.16
6 3/4″	3 1/2″	2″	Black	8145A22	3.47
Three Way—Plastic					
3 1/2″	2 1/2″	2 1/8″	Black, Yellow, Neon Green, Neon Orange	1560A11	11.17

Push-to-Catch Door Holders

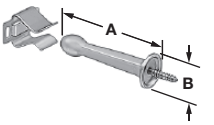

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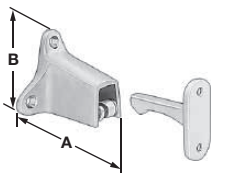

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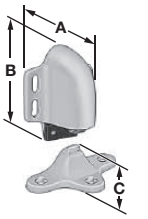

6

Push your door open to automatically engage the holder; pull on the door to release. Holders include mounting screws.

Style 4 has a steel spring clip that grasps the door stop to hold the door open.

Styles 5 and **6** have a spring-loaded roller mechanism that secures the door. *Style 6* have elongated mounting holes for positioning adjustments up to 15/16″.

Wall Mount

Finish	(A)	(B)		
Zinc				
4 Polished Brass	3″	1″	13635A45	$4.45
Brass				
5 Polished Brass	2 1/4″	2 3/8″	1420A15	27.67
5 Dull Bronze	2 1/4″	2 3/8″	1420A11	26.31
5 Dull Chrome	2 1/4″	2 3/8″	1420A12	30.68
Aluminum				
5 Polished	2 1/4″	2 3/8″	1420A13	25.86

Floor Mount

Finish	Door-to-Floor Clearance	(A)	(B)	(C)		
Brass						
6 Polished Bronze	Up to 1/2″	2″	3 3/4″	1 1/4″	1421A21	$47.66
6 Dull Chrome	Up to 1/2″	2″	3 3/4″	1 1/4″	1421A15	45.79
6 Dull Chrome	9/16″ to 1 1/16″	2″	3 3/4″	1 3/4″	1421A42	54.97
6 Dull Chrome	1 1/8″ to 1 9/16″	2″	3 3/4″	2 1/4″	1421A44	59.10

Wall-Mount Door Stops

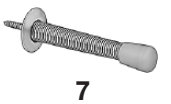

7



8



9

Styles 7 and **8** have a built-in self-tapping screw. No mounting screws required.

Style 9 comes with mounting screws.

Finish	Proj.	Base Dia.	Stops Each	Repl. Rubber Pads Pkg. Qty.	Pkg.
Steel Spring					
7 Polished Brass	3″	1″	8104A11 $1.02	5	8104A24 $2.08
Aluminum					
8 Dull	3″	1″	1431A11 1.40	5	1431A56 4.14
8 Dull	4″	1″	1431A14 3.32	5	1431A56 4.14
Brass					
8 Polished Brass	3″	1″	1431A15 7.69	5	1431A56 4.14
8 Dull Chrome	3″	1″	1431A21 7.69	5	1431A56 4.14
9 Polished Brass	3 3/4″	1 3/8″	1430A24 15.63	6	1430A9 4.90
9 Dull Bronze	3 3/4″	1 3/8″	1430A21 15.63	6	1430A9 4.90
9 Dull Chrome	3 3/4″	1 3/8″	1430A22 15.63	6	1430A9 4.90

Hinge-Pin Door Stops



Threaded Stud



Adjustment Screw



Slip a stop over your door's hinge pin to set and adjust your door's opening angle. Stops fit 1/4″-5/16″ dia. hinge pins, and have a brass finish and nonmarring, replaceable rubber pads. Stop with **threaded stud** is aluminum; stop with **adjustment screw** is steel.

Adjustment	Max. Door Opening	Stops Each	Repl. Rubber Pads Pkg. Qty.	Pkg.
Threaded Stud	85°–125°	1398A16 $1.27	5	1431A56 $4.14
Adjustment Screw	70°–100°	1398A14 3.12	10	1398A24 2.67

Circular Wall-Mount Door Stops

Stops are nonmarring. *Screw-mount* stops come with a mounting screw, as well as anchors for drywall installation.

Concave stops accommodate button-locking locksets.


Convex


Concave

Finish	Proj.	O'all Dia.	Convex		Concave	
Screw Mount—Stainless steel with vinyl insert						
Dull	1¼″	2⅜″	1422A55	$3.10	1399A75	$3.46
Screw Mount—Brass with vinyl insert						
Dull Brass	1¼″	2⅜″	1422A53	3.55	1399A73	4.38
Polished Brass	⅝″	1″	1273A31	3.59		
Polished Brass	1¼″	2⅜″	1422A49	3.55	1399A69	3.96
Dull Chrome	⅝″	1″	1273A33	3.91		
Dull Chrome	1¼″	2⅜″	1422A52	6.00	1399A72	5.71

Finish	Proj.	O'all Dia.	Convex		Concave	
Adhesive Back—Vinyl						
Gray	¾″	1⅞″			8095A22	$1.84
White	¾″	1⅞″			8095A25	1.84
Magnet Mount—Rubber						
Gray	¾″	1¾″			8095A23	10.51

Floor-Mount Door Stops

Nonmarring rubber pads stop doors.

Styles 1-3 include mounting screws.

Style 4 mount into a 1″ Dia.×2¾″ Dp. hole and set with grout.

Optional riser for Style 3 raises your stop ⅜″. Made of dull chrome-plated brass.

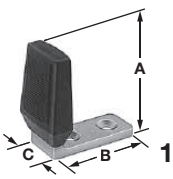

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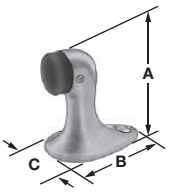

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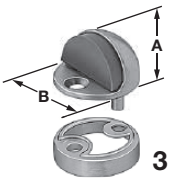

3 With Optional Riser



4

Finish	(A)	(B)	(C)		
For Wood and Concrete Floors					
Steel					
1 Dull Zinc	2¾″	2½″	1″	1154A56	$5.50
Brass					
2 Polished Brass	2¾″	2½″	1½″	1423A16	17.63
2 Dull Bronze	2¾″	2½″	1½″	1423A13	20.65
2 Dull Chrome	2¾″	2½″	1½″	1423A22	20.15
3 Dull Brass	1″	1¾″	—	1426A33	4.74
3 Dull Brass	1⅜″	1¾″	—	1426A43	4.94
3 Polished Brass	1″	1¾″	—	1426A38	4.74
3 Polished Brass	1⅜″	1¾″	—	1426A44	4.94
3 Dull Chrome	1″	1¾″	—	1426A34	4.74
3 Dull Chrome	1⅜″	1¾″	—	1426A41	4.94

Finish	(A)	(B)		
For Wood and Concrete Floors (Cont.)				
Stainless Steel				
3 Dull	1″	1¾″	1426A36	$7.18
3 Dull	1⅜″	1¾″	1426A46	8.02
For Concrete Floors				
Rubber				
4 Black	1½″	2″	12275A64	28.32
4 Black	3½″	2″	12275A66	38.27
Replacement Pads and Optional Riser				
Pads for Style 2 (Pkg. of 6)			1423A36	5.40
Pads for Style 3 (Pkg. of 6)			1426A51	3.86
Optional Riser for Style 3			1426A52	2.50

Chain and Spring Door Stops


Standard Duty


Heavy Duty

Prevent doors from opening too far. One end mounts to your frame and the other to your door. Mounting screws are included.

Standard duty stop is zinc-plated steel. A spring on one end absorbs shock.

Heavy duty stops are chrome-plated steel and include a gray vinyl cover. Each end has a spring for greater shock absorption than standard duty stops.

Chain Length	For Door Width		
Standard Duty—For screen and storm doors			
18″	Up to 36″	1472A12	$4.38
Heavy Duty—For exterior doors			
20½″	30″	1472A33	25.24
25½″	36″	1472A35	26.92
30½″	42″	1472A37	29.77

Frame-Mount Door Bumpers


Push Mount for Metal Frame


Push Mount for Wood Frame


Adhesive Back

Prevent a closing door from banging into its frame. Bumpers mount to the frame and require ⅛″ clearance between door and frame. Color is gray. **Push-mount** bumpers mount into a drilled hole in the door frame. They are vinyl. **Adhesive-back** bumper is rubber.

For Frame Type	Wd.	Ht.	Drilled Hole Dia.	Pkg. Qty.		Pkg.
Push Mount						
Metal	½″ Dia.	—	5/16″	100	1432A11	$12.06
Wood	⅜″	¾″	¼″	100	1432A15	14.94
Adhesive Back						
Metal or Wood	½″ Dia.	—	—	50	1432A16	11.23

Door Edge Plates


Side Edge Plate Two Sided


Side Edge Plate Three Sided

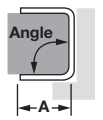

For Standard Doors

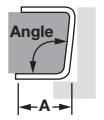

For Beveled Doors

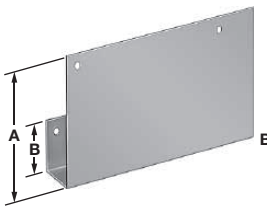

Combination Kick Plate/ Bottom Edge Plate

Fortify door edges and conceal damage. Plates fit 1¾″ thick doors, have mounting holes, and include screws.

Side edge plates are made of dull stainless steel.

Side Edge Plates

Lg.	Thick.	(A)	Two Sided Angle		Three Sided Angle	
For Standard Doors						
36″	0.05″	1¼″	90° 1433A23	$38.08	90° 1433A43	$60.65
42″	0.05″	1¼″	90° 1433A33	41.06	90° 1433A53	64.57
83⅛″	0.06″	¾″	90° 1042A21	143.90	90° 1042A11	156.88
For Beveled Doors						
36″	0.05″	1¼″	93° 1433A22	38.08	93° 1433A42	60.65
42″	0.05″	1¼″	93° 1433A32	41.06	93° 1433A52	64.57
83⅛″	0.06″	¾″	92° 1042A22	143.90	91° 1042A12	156.88

Combination Kick Plates/Bottom Edge Plates

Wd.	Thick	(A)	(B)	Dull Stainless Steel		Dull Aluminum	
29½″	0.05″	7″	1⅞″	1622A61	$59.79	1622A21	$40.00
31½″	0.05″	7″	1⅞″	1622A62	60.67	1622A22	40.60
35½″	0.05″	7″	1⅞″	1622A63	64.11	1622A23	42.27

Door Plates & Lockset Accessories

Kick Plates

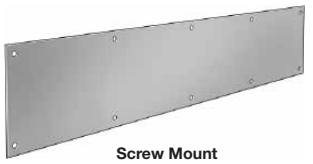

Screw Mount

Also known as door plates, armor plates, and mop plates, kick plates protect door bottoms from damage caused by foot traffic and equipment. Choose a kick plate with a width that is 2″ narrower than the overall width of your door to prevent interference with the door's opening and closing. Plates are 0.05″ thick.

Screw-mount kick plates include mounting screws. *Type 316 stainless steel* has greater corrosion resistance than Type 304 stainless steel.

Plate Wd.	Plate Ht.		Screw Mount: Dull Type 304 SS	Screw Mount: Dull Type 316 SS	Screw Mount: Dull Aluminum	Screw Mount: Dull Bronze	Screw Mount: Polished Brass	Adhesive Back: Dull Type 304 SS
24″	34″	1401A1	$90.03	$138.93	$56.61	$216.03	$177.54	$93.52
28″	6″	1401A2	17.77	34.97	13.01	47.82	41.18	22.11
28″	8″	1401A3	20.73	46.63	15.86	60.35	53.49	27.84
28″	10″	1401A4	29.60	58.26	19.59	75.94	52.89	34.81
28″	12″	1401A5	35.51	69.92	23.51	91.15	78.89	41.80
28″	36″	1401A6	98.99	189.85	67.51	259.69	242.48	115.53
28″	42″	1401A7	142.30	225.30	78.77	294.73	276.16	134.76
30″	6″	1401A8	19.03	37.46	13.64	51.24	43.90	23.71
30″	8″	1401A9	22.20	47.83	16.80	65.09	57.03	29.85
30″	10″	1401A11	31.71	62.42	20.98	81.37	71.13	37.29
30″	12″	1401A12	38.06	74.91	25.18	97.64	85.34	44.77
34″	6″	1401A13	21.57	42.45	15.36	58.10	44.79	26.87
34″	8″	1401A14	25.15	54.18	19.02	73.80	64.09	33.82
34″	10″	1401A15	35.94	70.76	23.80	92.22	80.16	42.29
34″	12″	1401A16	43.14	84.90	28.55	110.62	96.18	50.74
34″	16″	1401A17	66.60	113.21	38.04	158.90	130.58	61.00
34″	34″	1401A18	122.33	201.34	75.74	299.17	271.47	132.48
34″	36″	1401A19	117.76	234.52	78.84	304.73	288.36	140.29
34″	46″	1401A22	169.55	273.79	102.46	386.78	367.29	179.25
36″	8″	1401A23	26.65	57.39	20.17	66.22	67.63	35.81
36″	10″	1401A24	38.06	74.91	25.18	97.64	84.67	44.77
36″	12″	1401A25	45.66	89.89	30.23	117.19	101.58	53.71
48″	8″	1401A26	37.39	77.47	26.78	89.13	92.29	47.74
48″	12″	1401A27	56.08	119.83	40.16	125.15	138.44	71.64
48″	16″	1401A28	83.55	160.14	53.56	175.96	184.57	86.15

Push and Pull Plates

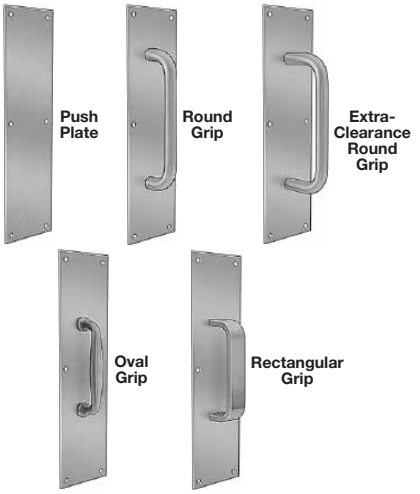

Protect doors while making them easy to open. Plates have beveled edges and include mounting screws.

Type 316 stainless steel has greater corrosion resistance than Type 304 stainless steel.

Wd.	Ht.	Handle: Lg.	Handle: Thick.	Handle: Clearance		Dull Type 304 SS	Dull Type 316 SS	Dull Aluminum	Polished Brass
Push Plates									
Without Handle—0.05″ Thick Plate									
3½″	15″	—	—	—	1403A53	$10.34	$15.29	$7.70	$20.84
4″	16″	—	—	—	1403A54	11.89	17.58	8.85	23.97
4″	20″	—	—	—	1403A55	13.65	20.18	10.16	27.51
Without Handle—0.125″ Thick Plate									
3½″	15″	—	—	—	1403A56	27.52	34.01	19.64	46.10
4″	16″	—	—	—	1403A57	31.65	39.11	22.59	53.02
4″	20″	—	—	—	1403A58	36.33	44.89	25.92	60.85
Pull Plates									
Round-Grip Handle—0.05″ Thick Plate									
3½″	15″	5½″	⅝″	1⅜″	1404A47	26.43	—	21.70	48.18
3½″	15″	8″	¾″	1½″	1375A27	—	54.49	—	—
4″	16″	5½″	⅝″	1⅜″	1404A48	27.75	—	22.79	50.59
4″	16″	8″	¾″	1½″	1375A28	—	57.21	—	—
Extra-Clearance Round-Grip Handle—0.05″ Thick Plate									
3½″	15″	8″	¾″	2½″	1404A49	37.42	60.88	28.16	55.90
4″	16″	8″	¾″	2½″	1404A51	39.29	63.92	29.57	58.70
Oval-Grip Handle—0.05″ Thick Plate									
3½″	15″	5½″	½″	1⅜″	1404A43	33.17	—	21.07	37.84
4″	16″	5½″	½″	1⅜″	1404A44	34.83	—	22.12	39.73
Oval-Grip Handle—0.125″ Thick Plate									
3½″	15″	5½″	½″	1⅜″	1404A41	55.73	—	33.16	68.77
4″	16″	5½″	½″	1⅜″	1404A42	58.52	—	34.82	72.21
Rectangular-Grip Handle—0.05″ Thick Plate with 1¼″ Wide Handle									
3½″	15″	6″	⅜″	1⅝″	1404A45	36.60	—	24.64	52.67
4″	16″	6″	⅜″	1⅝″	1404A46	38.43	—	25.87	55.89

Padlockable Door Lock Plates



Temporarily secure doors while repairing or replacing a handle. Fasten this reusable steel plate to a metal door frame (min. 2″ depth) using the screw holes from your existing strike plate. Secure with a padlock (not included, 5/16″ max. shackle dia.). Plate is for right- and left-swinging doors that have a thickness of 1¾″. Mounting hardware is included.

Lock Plate	1944A11	$64.06
Optional Steel Padlock with Two Keys	1189A31	3.29

Door Knob-to-Handle Converters



Restyle door knobs as easy-open handles without replacing the knobs. Converter fits 2⅛″-2⅜″ dia. knobs and is for right- and left-swinging doors. Made of tan plastic.

Handle Lg.	Depth		
5″	1¼″	12015A15	$11.17

Lock Rekeying Pin Kits



Change your lock's pins so you can open it with a different key. Kits include pin charts, upper and lower pins, springs, and a case. Pins are 0.115″ dia., except Arrow and Falcon pins are 0.108″ dia. and Yale pins are 0.095″ dia.

Tool set includes followers to hold the upper pins and springs in place while pinning, a pin length gauge, and tweezers.

For Manufacturer	No. of Sizes	Pins per Size	Pin Lg. Increments		
Arrow, Falcon	25	25	0.013″	1287A39	$66.67
Kwikset	16	25	0.023″	1287A56	66.67
Sargent	23	25	0.02″	1287A47	66.67
Schlage	22	25	0.015″	1287A46	67.59
Yale	20	25	0.019″	1287A48	66.67
Tool Set				1287A11	56.67

Lockset-Protecting Bumpers

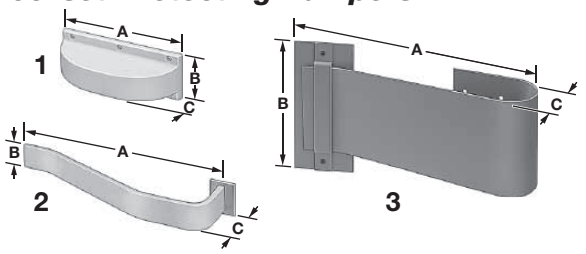

Protect doorknobs and other hardware from wall impacts and damage caused by carts, dollies, and other equipment. Plates include mounting screws.

Style 2 is 3/8″ thick.

Style 3 are 1/8″ thick and come with mounting screws for 1 3/4″ thick doors. *Steel* plates have a primed finish that can be painted.

	Material	(A)	(B)	(C)		
1	Beige Plastic	8 1/2″	3″	3 1/2″	**8026A54**	$29.40
1	Brown Plastic	8 1/2″	3″	3 1/2″	**8026A52**	29.40
2	Dull Stainless Steel	13 1/4″	1 1/2″	3 1/4″	**80205A25**	69.10
3	Primed Steel	20 1/8″	8″	4″	**1533A22**	101.70
3	Primed Steel	33 1/8″	8″	4″	**1533A27**	126.17
3	Dull Stainless Steel	20 1/8″	8″	4″	**1533A31**	267.38
3	Dull Stainless Steel	33 1/8″	8″	4″	**1533A35**	332.34

Locking Door Handle and Knob Guards

Block access to door knobs and handles. Guards are gray-painted aluminum and include two keys. Inside depth is 1 7/8″.

Knob—For 1 1/2″-2 5/16″ dia. knobs.

Lever—For use on right- and left-hand levers.

Keyed differently guards open with different keys. **Keyed alike** guards open with the same key.


Knob


Lever

	ID	OD	Knob		Lever	
Keyed Differently	2 3/8″	2 7/8″	**12035A12**	$43.93	**12035A31**	$55.59
Keyed Alike	2 3/8″	2 7/8″	**12035A13**	43.93	**12035A32**	55.59

Strike Plates


1 2 3 4 5

Mount strike plates to door frames with the included mounting hardware. They can be used with wood and metal door frames, except Styles 2 and 5 cannot be used with metal frames. Plates are 0.095″ thick, except Style 3 are 0.05″ thick.

Style 3 has an extended lip to prevent latches from damaging door frames when your door is set deep in the frame.

	Ht.	Wd.	Polished Brass		Polished Steel		Dull Stainless Steel	
For Door Handles and Knobs								
1	4 7/8″	1 3/4″	**80185A25**	$6.79	**80185A15**	$7.12	**80185A21**	$8.42
2	4 7/8″	1 3/4″	**80185A58**★	6.15	**80185A61**	6.15		
3	2 1/4″	2 1/2″	**80185A63**	6.45			**80185A65**	8.00
3	2 1/4″	3″	**80185A67**	6.10			**80185A69**	7.56
For Deadbolt Door Locks								
4	4 7/8″	1 5/8″	**80185A33**★	6.27	**80185A35**	6.27		
5	4 7/8″	1 1/4″	**80185A53**★	8.12	**80185A56**	8.12	**80185A52**	10.28

★ Brass coated steel.

Mounting Plates for Door Handles and Knobs

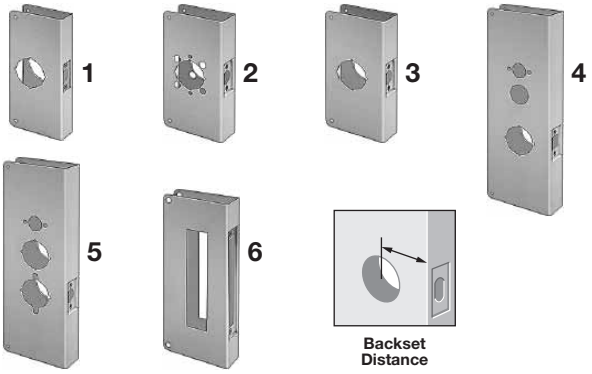

Use these mounting plates to reinforce the door around your handle to guard against forced entry. Plates are for wood and metal doors and include mounting hardware.

Styles 1-5 have 2 1/8″ dia. through holes. *Style 3* are for Best 93K and 7000 series door handles and knobs. *Style 4* are for Simplex 1000 series door handles and knobs. *Style 5* are for Alarm Lock DL 2700 series door handles.

Style 6 are for pry-resistant, mortise-mount door handles and knobs.

	Material	Ht.	Wd.	2 3/8″ Backset Distance		Wd.	2 3/4″ Backset Distance	
For 1 3/8″ Thick Doors								
1	Polished Brass	9″	4″	**1884A15**	$21.28	4 1/4″	**1884A22**	$21.28
1	Dull SS	9″	4″	**1884A17**	18.17	4 1/4″	**1884A24**	18.17
For 1 3/4″ Thick Doors								
1	Polished Brass	9″	4″	**1884A16**	21.28	4 1/4″	**1884A23**	21.28
1	Dull SS	9″	4″	**1884A18**	18.17	4 1/4″	**1884A25**	18.17
2	Dull SS	9″	4 3/4″	**12785A74**	24.60	4 3/4″	**12785A54**	24.60
3	Dull SS	9″	4 3/4″	**12785A78**	24.60	4 3/4″	**12785A68**	24.60
4	Dull SS	15″	5″	**12785A76**	27.00	5″	**12765A36**	27.00
5	Dull SS	15″	5″	**12785A86**	31.50	5″	**12765A46**	31.50
6	Dull SS	12″	5″	**12785A88**	33.75	5″	**12735A38**	33.75

Door Latch and Knob Guards


1 2 3

Guards include mounting hardware.

Latch Guards

Cover the gap between your door and frame to protect the latch bolt from being pried open.

	Lg.	Wd.	Steel with Chrome Finish		Brown-Painted Steel		Dull Stainless Steel	
For Doors That Open Toward You								
1	7″	2 3/4″	**13055A51**	$9.49	**13055A53**	$9.49	**13055A57**	$16.10
1	11″	3″	**13055A54**	10.29	**13055A56**	10.29	**13055A58**	16.80
For Doors That Open Away From You								
2	6″	1/2″	**13055A64**	10.67	**13055A66**	10.67		
2	12″	1/2″	**13055A77**	11.80	**13055A79**	11.80		

Knob Guards

Protect your door knobs from being broken off to gain entry. Guards are for a max. faceplate dia. of 2 11/16″. They are gray-painted steel.

	Lg.	Wd.	Proj.		
3	3 1/2″	3 1/2″	3″	**13055A81**	$30.80

Door Hole Covers

Style 1 hide gaps around door handles and knobs.

Style 2 eliminate gaps around deadbolt locks.

Style 3 conceal up to 2 1/8″ dia. holes created when you remove a door handle.

	OD	ID	Material		
1	3 1/2″	2 1/8″	Polished Brass	**13185A21**	$3.33
1	3 1/2″	2 1/8″	Dull Stainless Steel	**13185A25**	3.11
2	3 1/2″	1 1/2″	Polished Brass	**13185A33**	3.33
2	3 1/2″	1 1/2″	Dull Stainless Steel	**13185A37**	3.11
3	2 5/8″	—	Dull Steel	**12965A41**	3.28
3	2 5/8″	—	Steel with Polished Brass Finish	**12965A42**	5.60
3	2 5/8″	—	Steel with Polished Chrome Finish	**12965A43**	5.30

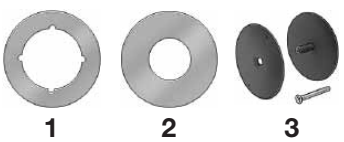
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About Door Handles and Knobs

Door Handle and Knob Types



Nonlocking—Also known as passage handles, these do not lock.



Button Locking—Lock the outside handle with the button on the inside handle. Turn the inside handle to release the lock or release it from the outside with a slotted screwdriver. Also known as privacy handles.

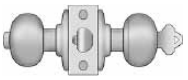

Key and Button Locking—Once the outside handle is locked with the button on the inside handle, turn the inside handle to release the lock or unlock it with a key from the outside. Also known as entrance handles.



Key Locking—The outside handle locks and unlocks with a key while the inside handle can always open the door. Also known as classroom handles.

Self Locking with Key—The outside handle is always locked and has to be unlocked with a key while the inside handle can always open the door. Also known as storeroom handles.

Keying Types



Keyed Differently—Each lock opens with a different key. Locks have random key numbers.



Keyed Alike—Locks with the same part number open with the same key.

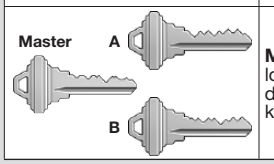

Master Keyed—Each lock opens with a different key; a master key opens all locks.

Door Handles



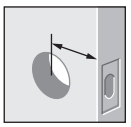

Backset Distance

These Schlage door handles are for right- and left-swinging doors and include a strike plate, mounting hardware, and installation instructions. They are UL listed for three-hour fire doors and have a 3 7/16″ dia. faceplate. Select a handle with the correct backset distance (the distance from the door's edge to the center of the handle's mounting hole) for your door.

Standard—These AL series handles have a 4 1/4″ long handle that projects 2 1/2″ from the door's face. Latch bolt extends 1/2″ from the door's edge. Meet ANSI A156.2 Grade 2 for 400,000 cycles.

High Traffic—For frequently used doors, these ND series handles last twice as long as standard door handles. Handle is 4 9/16″ long and projects 2 15/16″ from the door's face. Latch bolt extends 1/2″ from the door's edge. Meet ANSI A156.2 Grade 1 standards for 800,000 cycles.

Keyed handles include two Schlage C style keys. Choose handles *without lock cylinders* if you want to use your own compatible lock cylinder. Master keys for master-keyed handles are sold separately. To Order: For master keys, please specify the handle's backset (2 3/8″ or 2 3/4″) where applicable and the handle's finish (dull chrome or dark bronze).

ⓘ For other door handle brands, go to mcmaster.com and search for Yale, Sargent, or Corbin Russwin door handles.

Keying	For Door Thick.	2 3/8″ Backset Distance	Dull Chrome	Dark Bronze	2 3/4″ Backset Distance	Dull Chrome	Dark Bronze	Master Keys	
Standard									
Nonlocking									
No Key	1 3/8″-1 7/8″	13045A115	$109.22	$128.70	13045A116	$109.22	$128.70		
Button Locking									
No Key	1 3/8″-1 7/8″	13045A135	124.15	143.65	13045A145	124.15	143.65		
Key and Button Locking									
Keyed Differently	1 3/8″-1 7/8″	13045A155	158.60	178.10	13045A166	158.60	178.10		
Keyed Alike	1 3/8″-1 7/8″	13045A175	163.85	183.75	13045A185	163.85	183.75		
Master Keyed	1 3/8″-1 7/8″	13045A195	169.91	189.41	13045A215	169.91	189.41	13045A911	$6.70
Without Lock Cylinder	1 3/8″-1 7/8″	13045A225	122.85	142.35	13045A235	122.85	142.35		
Key Locking									
Keyed Differently	1 3/8″-1 7/8″	13045A435	173.02	194.82	13045A445	173.02	194.82		
Keyed Alike	1 3/8″-1 7/8″	13045A455	178.73	201.01	13045A465	178.73	201.01		
Master Keyed	1 3/8″-1 7/8″	13045A475	185.36	207.19	13045A485	185.36	207.19	13045A913	6.70
Without Lock Cylinder	1 3/8″-1 7/8″	13045A495	134.02	155.29	13045A515	134.02	155.29		
Self Locking with Key									
Keyed Differently	1 3/8″-1 7/8″	13045A245	158.60	178.10	13045A255	158.60	178.10		
Keyed Alike	1 3/8″-1 7/8″	13045A265	164.25	183.75	13045A275	164.25	183.75		
Master Keyed	1 3/8″-1 7/8″	13045A285	169.91	189.41	13045A295	169.91	189.41	13045A912	6.70
Without Lock Cylinder	1 3/8″-1 7/8″	13045A415	122.85	142.35	13045A425	122.85	142.35		
High Traffic									
Nonlocking									
No Key	1 5/8″-2 1/8″				11325A315	250.86	267.18		
Button Locking									
No Key	1 5/8″-2 1/8″				11325A345	288.39	309.24		
Key and Button Locking									
Keyed Differently	1 5/8″-2 1/8″				11325A375	336.20	356.70		
Keyed Alike	1 5/8″-2 1/8″				11325A415	342.14	362.64		
Master Keyed	1 5/8″-2 1/8″				11325A445	347.61	368.11	11325A911	7.01
Without Lock Cylinder	1 5/8″-2 1/8″				11325A765	315.77	341.61		
Key Locking									
Keyed Differently	1 5/8″-2 1/8″				11325A825	325.35	345.19		
Keyed Alike	1 5/8″-2 1/8″				11325A835	330.68	350.95		
Master Keyed	1 5/8″-2 1/8″				11325A845	336.40	356.24	11325A913	6.93
Without Lock Cylinder	1 5/8″-2 1/8″				11325A855	309.58	331.53		
Self Locking with Key									
Keyed Differently	1 5/8″-2 1/8″				11325A515	320.19	334.41		
Keyed Alike	1 5/8″-2 1/8″				11325A545	331.11	350.95		
Master Keyed	1 5/8″-2 1/8″				11325A575	336.40	356.24	11325A912	7.22
Without Lock Cylinder	1 5/8″-2 1/8″				11325A815	309.58	330.74		

For information about door handles and knobs, see page 2890.

Door Knobs



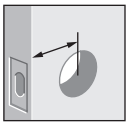

Backset Distance

These Schlage door knobs are for right- and left-swinging doors and include a strike plate, mounting hardware, and installation instructions. They are UL listed for three-hour fire doors. Select a knob with the correct backset distance (the distance from the door's edge to the center of the knob's mounting hole) for your door.

Standard—These A series knobs have a 2 1/8" dia. knob that projects 2 3/8" from the door's face. Faceplate is 2 5/8" dia. Latch bolt extends 1/2" from the door's edge. Meet ANSI A156.2 Grade 2 standards for 400,000 cycles.

High Traffic—For frequently used doors, these D series knobs last twice as long as standard door knobs. Knob is 2 1/4" dia. and projects 2 5/8" from the door's face. Faceplate is 2 5/8" dia. Latch bolt extends 1/2" from the door's edge. Meet ANSI A156.2 Grade 1 standards for 800,000 cycles.

Keyed knobs include two Schlage C style keys. Choose knobs *without lock cylinders* if you want to use your own compatible lock cylinder. Master keys for master-keyed knobs are sold separately. **To Order:** For master keys, please specify the knob's backset (2 3/8" or 2 3/4") where applicable and the knob's finish (dull chrome, dark bronze, or dull stainless steel).

ⓘ For other door knob brands, go to mcmaster.com and search for Yale or Sargent door knobs.

Keying	For Door Thick.	2 3/8" Backset Distance	Dull Chrome	Dark Bronze	Dull Stainless Steel	2 3/4" Backset Distance	Dull Chrome	Dark Bronze	Dull Stainless Steel	Master Keys	
Standard											
Nonlocking											
No Key	1 3/8"-1 7/8"	12895A411	$90.76	$112.04	$112.04	12895A426	$90.76	$112.04	$112.04		
Button Locking											
No Key	1 3/8"-1 7/8"	12895A412	90.76	112.04	112.04	12895A427	90.76	112.04	112.04		
Key and Button Locking											
Keyed Differently	1 3/8"-1 7/8"	12895A413	160.96	182.24	182.24	12895A428	160.96	182.24	182.24		
Keyed Alike	1 3/8"-1 7/8"	12895A414	167.13	188.41	188.41	12895A429	167.13	188.41	188.41		
Master Keyed	1 3/8"-1 7/8"	12895A415	160.96	194.57	182.24	12895A431	160.96	194.57	182.24	12895A911	$6.92
Without Lock Cylinder	1 3/8"-1 7/8"	12895A416	123.08	143.24	143.24	12895A432	123.08	143.24	143.24		
Key Locking											
Keyed Differently	1 3/8"-1 7/8"	12895A422	168.63	190.91	190.91	12895A437	168.63	190.91	190.91		
Keyed Alike	1 3/8"-1 7/8"	12895A423	175.09	197.38	197.38	12895A438	175.09	197.38	197.38		
Master Keyed	1 3/8"-1 7/8"	12895A424	181.55	203.84	203.84	12895A439	181.55	203.84	203.84	12895A913	6.92
Without Lock Cylinder	1 3/8"-1 7/8"	12895A425	131.53	154.47	154.47	12895A441	131.53	154.47	154.47		
Self Locking with Key											
Keyed Differently	1 3/8"-1 7/8"	12895A417	160.96	182.24	182.24	12895A433	160.96	182.24	182.24		
Keyed Alike	1 3/8"-1 7/8"	12895A418	167.13	188.41	188.41	12895A434	167.13	188.41	188.41		
Master Keyed	1 3/8"-1 7/8"	12895A419	173.30	194.57	194.57	12895A435	173.30	194.57	194.57	12895A912	6.92
Without Lock Cylinder	1 3/8"-1 7/8"	12895A421	123.08	143.24	143.24	12895A436	123.08	143.24	143.24		
High Traffic											
Nonlocking											
No Key	1 3/8"-2"					12905A1	288.60	308.10	308.10		
Button Locking											
No Key	1 3/8"-2"					12905A2	360.75	380.25	380.25		
Key and Button Locking											
Keyed Differently	1 3/8"-2"					12905A4	420.55	440.05	440.05		
Keyed Alike	1 3/8"-2"					12905A5	438.48	445.70	445.70		
Master Keyed	1 3/8"-2"					12905A6	431.86	451.36	451.36	12905A911	6.92
Without Lock Cylinder	1 3/8"-2"					12905A7	384.80	404.30	404.30		
Key Locking											
Keyed Differently	1 3/8"-2"					12905A13	420.55	440.05	440.05		
Keyed Alike	1 3/8"-2"					12905A14	426.20	445.70	445.70		
Master Keyed	1 3/8"-2"					12905A16	431.86	451.36	451.36	12905A913	6.92
Without Lock Cylinder	1 3/8"-2"					12905A27	384.80	404.30	404.30		
Self Locking with Key											
Keyed Differently	1 3/8"-2"					12905A8	420.55	440.05	440.05		
Keyed Alike	1 3/8"-2"					12905A9	426.20	445.70	444.22		
Master Keyed	1 3/8"-2"					12905A11	431.86	451.36	451.36	12905A912	6.92
Without Lock Cylinder	1 3/8"-2"					12905A12	384.80	384.80	404.30		

Washdown High-Traffic Door Knobs



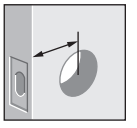

Backset Distance

In addition to lasting twice as long as standard door knobs, these Falcon X series knobs are made of dull stainless steel and other corrosion-resistant materials to stand up to washdown and marine environments. They are for right- and left-swinging doors and include a strike plate, mounting hardware, and installation instructions. Knob is 2 1/8" dia. and projects 2 3/4" from the door's face. Faceplate is 2 5/8" dia. Latch bolt extends 9/16" from the door's edge. Knobs are UL listed for three-hour fire doors and meet ANSI A156.2 Grade 1 standards for 800,000 cycles. Select a knob with the correct backset distance (the distance from the door's edge to the center of the knob's mounting hole) for your door.

	For Door Thick.	2 3/8" Backset Distance		2 3/4" Backset Distance	
Nonlocking	1 3/8"-1 7/8"	2146A18	$311.76	2146A14	$311.76
Button Locking	1 3/8"-1 7/8"	2146A17	357.12	2146A13	357.12
Key and Button Locking (Keyed Differently)	1 3/8"-1 7/8"	2146A15	387.36	2146A11	387.36
Key Locking (Keyed Differently)	1 3/8"-1 7/8"	2146A21	387.36	2146A19	387.36
Self Locking with Key (Keyed Differently)	1 3/8"-1 7/8"	2146A16	387.36	2146A12	387.36

Swing-Bar Door Latches

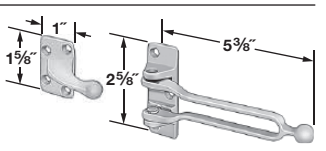

Maintain security by keeping your door latched as you open it up to 3". Latches are brass and include mounting hardware.

Finish	Projection		
Dull Chrome	1"	7036A2	$20.96
Polished Brass	1"	7036A1	20.96

High-Traffic Door Handles for Easy-Change Lock Cylinders



Key and replace lock cores without dismantling the entire door handle. Also known as interchangeable-core door handles, choose these Falcon T series handles if you want to use your own compatible easy-change lock cylinders. Handles are compatible with Arrow, Best, Falcon, and Simplex lock cylinders (not included, see Easy-Change Lock Cylinders below). They are for right- and left-swinging doors and include a strike plate, mounting hardware, and installation instructions. Handle is 5½" long and projects 3¼" from the door's face. Faceplate is 3½" dia. Latch bolt extends 9/16" from the door's edge. Door handles have a dull chrome finish. They are UL listed for three-hour fire doors and meet ANSI A156.2 Grade 1 standards for 800,000 cycles.

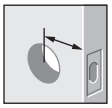

Backset Distance

For Door Thick.	Backset Distance	Key and Button Locking		Key Locking		Self Locking with Key	
1¾"-2⅛"	2¾"	2185A11	$223.75	2185A21	$223.75	2185A31	$223.75

Easy-Change Lock Cylinders



These lock cylinders are for use in the High-Traffic Door Handles above, as well as Alarm Lock, Arrow, Best, Falcon, and Simplex interchangeable-core handles. Lock cylinders have a six-pin tumbler locking mechanism and include two keys. If you are unsure of which keyway style to choose, Best E keyways are more prevalent in the industry.

A **control key** (sold separately) is required to install and remove the cylinders.

A **master key** (sold separately) is required for a master-keyed cylinder.

Keying	Choose a Finish	Best E Keyway		Best A Keyway	
Keyed Differently	Dull Chrome, Dull Brass	12795A85	$17.44	12795A95	$17.44
Keyed Alike	Dull Chrome, Dull Brass	12795A86	18.02	12795A96	18.02
Master Keyed	Dull Chrome, Dull Brass	12795A87	20.60	12795A97	20.60
Control Key for All Lock Cylinders		12795A78	1.89	12795A81	1.89
Master Key for Master-Keyed Lock Cylinders		12795A66	1.89	12795A72	1.89

Pry-Resistant High-Traffic Door Handles



Key and Button Locking

In addition to lasting twice as long as standard door handles, these Schlage L9000 handles mortise mount into a 6⅛" Ht.×1 1/16" Wd.×4½" Dp. cutout in the door to withstand vandalism. They are for right- and left-swinging doors and include a strike plate, mounting hardware, and installation instructions. Handles are 4⅝" long and project 2¾" from the door's face. Faceplate is 2⅛" dia. Latch bolt extends ¾" from the door's edge. Handles are UL listed for three-hour fire doors and meet ANSI A156.13 Grade 1 standards for 1,000,000 cycles.

Keyed handles are keyed differently and include two Schlage C style keys.

Door Handle Type	For Door Thick.	Backset Distance	Dull Chrome		Dark Bronze		Dull Stainless Steel	
Nonlocking	1¾"	2¾"	12195A52	$415.77	12195A53	$436.66	12195A54	$436.66
Key and Button Locking	1¾"	2¾"	12195A55	550.18	12195A56	571.07	12195A57	571.07
Self Locking with Key	1¾"	2¾"	12195A58	533.46	12195A59	554.36	12195A61	554.36

Push/Pull Door Levers



A slight push or pull on the lever opens your door. These nonlocking Glynn-Johnson HL6 series levers are for right- and left-swinging doors and include a strike plate and mounting screws. Latch bolt extends ⅝" from the door's edge. Faceplates are 5½" Ht.×2 9/16" Wd. Handles are 4½" Lg.×1½" Wd. and project 2⅝" from the door's face. Levers have a dull finish and are UL listed for three-hour fire doors. Select a lever with the correct backset distance (the distance from the door's edge to the center of the lever's mounting hole) for your door.

Material	For Max. Door Thick.	2¾" Backset Distance		5" Backset Distance	
Push/Pull Door Levers with Latch Bolts					
Zinc	1¾"	1247A33	$220.21	1247A45	$220.21
Stainless Steel	1¾"	1247A35	251.80	1247A47	251.80
Replacement Latch Bolts					
Brass	1¾"	1247A61	34.04	1247A64	34.04

Storm Door Handles and Knobs



Pull Handle with Thumb Piece

These handles and knobs can lock with a button from the inside. Mounting hardware is included.

Pull handle with thumb piece has a 6" Lg.×⅞" Wd. handle and a 2¼" Lg.×2¼" Wd. inside handle. Handles project 1½" from the door's face.

Knob is 1⅝" dia. and projects 1⅞". Inside handle is 4¼" long and projects 1½".

	For Door Thick.	Choose a Color		
Pull Handle w/Thumb Piece	¾"-1¼"	Black, Silver	8765T11	$9.17
Knob	¾"-1⅛"	Silver	8765T122	9.60

Push-Button Combination Deadbolt Door Locks



Outside View



Manual Slide Bolt (Inside View)



Self Locking (Inside View)

Enter a 5-number combination and turn the turnpiece to unlock these locks from the outside. These Kaba Simplex 900 series locks are for right- and left-swinging doors and include a strike plate, mounting hardware, and installation instructions.

Locks are for wood doors and frames (for metal door installations, use adapter kit, sold separately). Outside faceplate is 3¾" Ht.×2 9/16" Wd. and projects 15/16"; inside faceplate is 5" Ht.×3 1/16" Wd. and projects 1 9/16". Backset distance is 2½".

Manual Slide Bolt—To lock, turn the inside or outside turnpiece. Latch bolt extends 1" from the door's edge.

Self Locking—Automatically lock when you close the door. Locks have a latch bolt that extends ⅝" from the door's edge and a deadlocking latch. The latch can be held in the retracted position to allow unrestricted entry.

Self Locking with Key—Gain access from the outside with a combination or a key. Locks include one key and are keyed differently (each lock opens with a different key).

Metal door adapter kits include a surface-mounted strike plate, a riser plate, and shims for metal door installations.

For Door Thick.	Manual Slide Bolt		Self Locking		Self Locking with Key	
Dull Chrome						
1⅜"-1½"	8052A51	$124.90	8052A11	$145.36	8052A29	$192.05
1¾"-2⅛"	8052A53	124.90	8052A15	145.36	8052A44	192.05
Dull Brass						
1⅜"-1½"	8052A52	124.90	8052A21	145.36	8052A32	192.05
1¾"-2⅛"	8052A54	124.90	8052A23	145.36	8052A45	192.05
Dull Chrome Metal Door Adapter Kit					8052A13	30.71
Dull Brass Metal Door Adapter Kit					8052A31	30.71

For information about door handles and knobs, see page 2890.

Deadbolt Door Locks

Secure your door by supplementing your existing door handle or knob with a deadbolt lock. All unlock with a key on the outside. They are for right- and left-swinging doors and include a strike plate, two keys, mounting hardware, and installation instructions.

Style 1 has a latch bolt that extends 1″ from the door's edge. Locks are brass with a 2½″ dia. inside faceplate.

Style 2 has a latch bolt that extends 1⅛″ from the door's edge. Locks are zinc with a 3⅜″ Ht. × 3½″ Wd. inside faceplate.

Style 3 has a guard over the latch to prevent tampering. Locks are bronze with a 2 15/16″ Ht. × 3⅝″ Wd. inside faceplate.

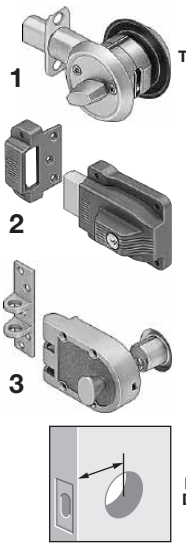

Finish	For Door Thick.	2⅜″ Backset Distance: Turnpiece Inside		2⅜″ Backset Distance: Keyed Inside		2¾″ Backset Distance: Turnpiece Inside		2¾″ Backset Distance: Keyed Inside	
Style 1									
Keyed Differently									
Polished Brass	1⅜″-1¾″	1789A38	$40.78	1789A57	$47.56	1789A46	$40.81	1789A59	$47.56
Dull Chrome	1⅜″-1¾″	1789A27	40.78	1789A53	47.56	1789A36	40.78	1789A55	47.56
Keyed Alike									
Polished Brass	1⅜″-1¾″	1789A39	42.47	1789A58	49.25	1789A47	44.92	1789A61	49.25
Dull Chrome	1⅜″-1¾″	1789A28	42.47	1789A54	49.25	1789A37	42.47	1789A56	49.25
Style 2									
Keyed Differently									
Dull Brass	1¼″-2¼″	8047A47	57.65	8047A49	67.68				
Style 3									
Keyed Differently									
Dull Brass	1″-2¾″	1336A2	65.32						
Dull Chrome	1″-2¾″	1336A22	72.44						
Keyed Alike									
Dull Brass	1″-2¾″	1336A6	65.32						
Dull Chrome	1″-2¾″	1336A24	72.44						

Deadbolt Locks for Double Doors

These locks have a latch bolt to secure doors in the closed position.

Manual—*Surface-mount* locks are steel with a chrome finish; *mortise-mount* locks are brass with a chrome finish.

Automatic—Locks retract when one double door is opened to allow the other door to open. Made of stainless steel.

Automatic and Manual—Locks include an automatic bolt lock for the bottom of a door and a manual bolt lock for the top. Made of stainless steel.

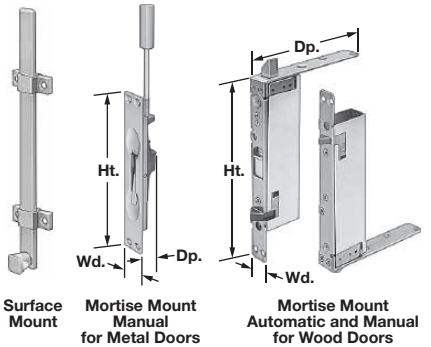

Surface Mount | Mortise Mount Manual for Metal Doors | Mortise Mount Automatic and Manual for Wood Doors

Type	Wd.	For Wood Doors: Ht.	Dp.			For Metal Doors: Ht.	Dp.		
Surface Mount									
Manual	¾″	12″	¼″	8558T11	$42.25	12″	¼″	8558T11	$42.25
Mortise Mount									
Manual	1″	6¾″	2½″	8558T12	24.11	6¾″	1⅛″	8558T15	14.11
Automatic	1″	8½″	6″	8558T14	129.84	6¾″	2″	8558T17	124.16
Automatic and Manual	1″	8½″	6″	8558T13	131.04	6¾″	2″	8558T16	124.16

Occupied/Vacant Deadbolt Door Locks



Often used on restroom doors, a message on the outside of the door changes when the lock is engaged or disengaged. Locks open with a turnpiece inside and an emergency access tool outside. They can be installed in doors with a 2⅜″ or 2¾″ backset and are for right- and left-swinging doors. Latch bolt extends 1″ from the door's edge. Locks are zinc and include a drill template, mounting hardware, and an emergency access tool.

For Door Thick.	Ht.	Wd.	Brass Finish		Chrome Finish	
1⅜″-2″	2 1/16″	3½″	14055A39	$94.83	14055A32	$94.83
Replacement Emergency Access Tool					14055A35	13.79

Deadbolt Locks for Wire Partition Doors

Secure doors in wire and chain link partitions. Locks open with a turnpiece on one side and have an opening for a pry-resistant lock cylinder for mortise-mount locks (sold separately) on the other. Locks are aluminum and have a ½″ Wd. × 3/16″ Dp. groove around its body for mounting.

Swinging-Door Lock—Requires a 1″ Ht. × ½″ Wd. cutout. Latch bolt extends 1⅛″ from the door's edge.

Sliding-Door Lock—Requires a 4″ Ht. × 2⅛″ Wd. cutout. Latch bolt extends 1½″ from the door's edge. A **strike plate** (sold separately) is required.

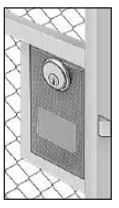

Swinging Door (Shown with Lock Cylinder)



Latch on Sliding Door | Strike Plate for Sliding Door

	Ht.	Wd.		
Swinging-Door Lock	6¼″	3⅝″	1396A55	$80.21
Sliding-Door Lock	6¼″	3⅝″	1396A65	80.21
Required Lock Cylinder with 2 Keys			1301A3	12.28
Required Strike Plate for Sliding-Door Locks			1396A12	20.47

Lock Cylinders



For Surface-Mount Locks | For Mortise-Mount Locks | Cylinder Lg.



Standard Cam | Adams-Rite Cam

Commonly used in deadbolt door locks and touch bars with alarms, lock cylinders are brass and have a five-pin tumbler locking mechanism. They include two keys. Lock cylinders that are *keyed differently* each open with a different key. Lock cylinders that are *keyed alike* open with the same key.

Cylinders **for surface-mount locks** are also known as rim lock cylinders.

Cylinders **for mortise-mount locks** are for use in locks that are mounted into a cutout in the door. Cylinders have either a standard cam or a cam specifically for Adams-Rite locks.

To Order: Please specify finish: dull chrome or polished brass.

Keyway Style	For Door Thick.	Keyed Differently		Keyed Alike	
For Surface-Mount Locks					
Schlage C	1⅜″-2¼″	1385A11	$12.16	1385A12	$14.32
Yale Y8	1⅜″-2¼″	1385A33	12.16	1385A34	14.32

Keyway Style	Cylinder Lg.	Keyed Differently		Keyed Alike	
For Mortise-Mount Locks					
With Standard Cam					
Schlage C	15/16″	1301A1	$12.28	1301A2	$14.57
Schlage C	1⅛″	1301A23	12.37	1301A26	14.66
Schlage C	1¼″	1301A41	12.48	1301A54	14.77
Yale Y8	1⅛″	1301A27	12.37	1301A42	14.66
With Adams-Rite Cam					
Schlage C	15/16″	1301A11	12.28	1301A12	14.63
Yale Y8	15/16″	1301A15	12.28	1301A16	14.63

Combination Door Handles & Knobs

For information about door handles and knobs, see page 2890.

Push-Button Combination Door Handles and Knobs



Knob

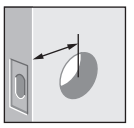

Backset Distance

Gain access from the outside with a resettable 5-number combination; the inside handle is always unlocked. These Kaba Simplex 1000 handles are mechanical and do not require electrical wiring or batteries.

Door handles and knobs are for indoor and outdoor use and include a strike plate, mounting hardware, and installation instructions. Latch bolt extends 1/2" from the door's edge. Faceplate is 7 3/8" Ht. x 3 1/8" Wd and projects 3 13/16". UL listed for three-hour fire doors.

Knob—For right- and left-swinging doors.

Lever—To determine if you need a right- or left-swinging door handle, stand on the side of the door where it swings away from you. If it opens to the right, select a right handle; if it opens to the left, select a left handle.

Handles and knobs **with nonlocking turnpiece** are for doors that need to be unlocked for long periods of time. The turnpiece is on the inside and overrides the combination so the door can be opened freely from the outside.

Handles **with key option** accept an easy-change lock cylinder (see page 2892) so you can open the lock with either the combination or a key.

	For Door Thick.	Backset Distance	Choose a Finish	Knob: For Right- and Left-Swinging Doors		Lever: For Right-Swinging Doors		Lever: For Left-Swinging Doors	
Standard	1 3/8"-2 1/4"	2 3/4"	Dull Brass, Dull Chrome, Polished Brass	8114A99	$389.07	8114A97	$466.80	8114A96	$466.80
With Nonlocking Turnpiece	1 3/8"-2 1/4"	2 3/4"	Dull Brass, Dull Chrome, Polished Brass	8114A98	419.58	8114A94	509.98	8114A95	509.98
With Key Option	1 3/8"-2 1/4"	2 3/4"	Dull Brass, Dull Chrome, Polished Brass			8114A9	531.80	8114A8	531.80

Keypad Combination Door Handles



Battery Powered with Key Option

These handles are programmable so you can assign different combinations to different people and restrict access when necessary. Open the outside handle with a combination or the included key; the inside handle is always unlocked.

Door handles are for right- and left-swinging doors and have a dull chrome finish. Latch bolt extends 1/2" from the door's edge. Handles include a strike plate, mounting hardware, and installation instructions. Meet ANSI A156.2 Grade 1 standards for 800,000 cycles and are UL listed for three-hour fire doors.

Battery Powered—Can be programmed for up to 100 unique 5-number combinations. These Alarm Lock DL2700 units operate on five AA batteries (included) and have a low-battery indicator. Faceplate is 8" Ht. x 3 1/4" Wd. and projects 3 3/8". Handle *for use outdoors* has a double-sealed keypad.

Self Powered—The movement of the lever from opening and closing the door generates the power this handle needs. This Kaba PowerPlex 2000 handle supports up to 100 unique 8-number combinations. Faceplate is 8 15/16" Ht. x 3 5/16" Wd. and projects 3 3/16". For outdoor use, add the *optional weather shield*.

Keyed-differently handles come with two Schlage C style keys.

Handles **with key option** accept an easy-change lock cylinder (see page 2892) so you can open the lock with either the combination or a key.

Keying	For Door Thick.	Backset Distance	For Use Indoors		For Use Outdoors	
Battery Powered						
Keyed Differently	1 5/8"-1 7/8"	2 3/4"	12825A41	$574.30	12825A62	$617.85
With Key Option	1 5/8"-1 7/8"	2 3/4"	12825A52	576.73	12825A63	619.58
Self Powered						
Keyed Differently	1 3/8"-2 1/2"	2 3/4"	1577A26	420.20		
Optional Weather Shield for Self-Powered Door Handle					1577A33	54.55

Battery-Powered Touch-Screen Combination Door Handles



The easy-to-read backlit screen turns on when touched and enters sleep mode when inactive to conserve battery life. Open this Yale inTouch door handle from the outside with a combination or the included keys; the inside handle is always unlocked. This door handle is programmable so you can assign different combinations to different people and restrict access when necessary. It accepts up to 500 unique 12-number combinations. Door handle is for right- and left-swinging doors and is for indoor and outdoor use. It includes two keys.

Latch bolt extends 1/2" from the door's edge. Door handle has a dull chrome finish. Faceplate is 8 1/8" Ht. x 3 3/4" Wd. Handle projects 3 5/16". It operates on four AA batteries (included) and has a low battery indicator. Door handle comes with a strike plate, mounting hardware, and installation instructions. Meets ANSI A156.2 Grade 1 standards for 800,000 cycles and is UL listed for three-hour fire doors.

For Door Thick.	Backset Distance		
1 3/4"	2 3/4"	9632T3	$403.20

Battery-Powered Keypad Combination Door Handles with Proximity Reader



This Sargent Profile Series v.G1.5 handle accepts optional HID-compatible proximity cards or key fobs to regulate access for up to 2,000 employees. They are programmable so you can assign different combinations to different people and restrict access when necessary. Unlock the outside handle with a combination or the included key as well as with the optional proximity card or key fob. The inside handle is always unlocked. Door handle accepts 6-number combinations and includes two keys. It is for right- and left-swinging doors and for indoor and outdoor use. UL listed.

Latch bolt extends 1/2" from the door's edge. Door handle has a polished chrome finish. Faceplate is 14 1/4" Ht. x 3 3/4" Wd. Handle projects 2 1/2". It operates on six AA batteries (included), has a low battery indicator, and includes a strike plate and mounting hardware.

Optional transfer device with tracking software lets you program the time of day the combinations and proximity cards are in effect and tracks employee traffic. It operates on Windows XP or later.

For Door Thick.	Backset Distance		
1 3/4"	2 3/4"	1625A1	$976.83
HID Proximity Card		1625A3	5.43
HID Proximity Key Fob		1625A4	8.60
Optional Transfer Device with Tracking Software		1625A9	504.00

Keypad Door Controls

Enter a combination to operate electromagnetic locks, electric door strikes, and other access control devices.

Standard control accepts a 4-number combination and is often used with alarm systems and motion detectors. It surface mounts, operates on 6 or 12 volts DC, and is made of white plastic.

Weather-resistant control accepts 3-8 number combinations. Built to mount outdoors, the keypad is made of stainless steel. It includes a control box that you mount indoors, a 15-ft. cable to connect the keypad to the control box, and mounting hardware. Operates on 12 or 24 volts AC. Hardwire the control to an existing power source or use a *transformer* (sold separately) to convert 120 volts AC. Connect an *additional keypad* with an *additional cable* (each sold separately) to the control box to regulate access to a second doorway.

Control **with built-in proximity reader** accepts 6-number combinations as well as optional HID-compatible proximity cards or key fobs (sold separately) to regulate access for up to 2,000 employees. Control is black plastic. Hardwire the control to an existing power source or use a *transformer* (sold separately) to convert 100-240 volts AC. *Optional transfer device with tracking software* lets you program the time of day the combinations and proximity cards are in effect and tracks employee traffic. It operates on Windows XP or later.


Standard


Weather Resistant


With Built-In Proximity Reader

Controls

	Manufacturer Series	Ht.	Wd.	Dp.		
Standard	Telsar T3-WH	4 1/4"	3 1/4"	1"	8056A38	$104.54
Weather Resistant	Essex KE-265	6 5/8"	2 1/4"	1/2"	8088A22	379.81
With Built-In Proximity Reader	Sargent 4293	5 1/4"	2 3/4"	1 5/8"	1625A7	708.75

Accessories for Weather-Resistant Controls

Transformer, 120V AC to 12V AC	8088A28	$24.00
Transformer, 120V AC to 24V AC	8088A29	24.00
Additional Keypad	8088A19	145.00
Additional 15-ft. Cable	8088A31	90.00

Accessories for Controls with Built-In Proximity Reader

HID Proximity Card	1625A3	$5.43
HID Proximity Key Fob	1625A4	8.60
Transformer, 100-240V AC to 12V DC	7010K35	72.78
Optional Transfer Device w/ Tracking Software	1625A9	504.00

Electric Door Strike Plates

Regulate access to doors by holding or releasing a lock's latch with a signal from a push-button switch, keypad control, or card reader.

When replacing an electric strike plate, first select one that will work with your lock type so that the latch will align properly with the plate. Next, choose a strike plate that can accommodate your latch bolt projection (how far the latch bolt extends from the door's edge). Then, match the size of the strike plate to your door frame cutout. If you don't find an exact match, choose a strike plate with a smaller size than your cutout.

Strike plates must be hardwired and are for right- and left-swinging doors. All have a holding force of at least 1,000 lbs. They are for metal and wood door frames, except ROFU 1505 strike plates are for wood frames only. Mounting hardware is included. Rutherford and Von Duprin strike plates meet UL 1034 for burglary resistance.

Universal Electric Strike Plate—Adjusts to fit a range of lock types.

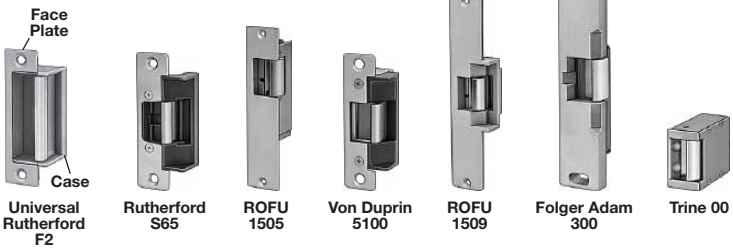

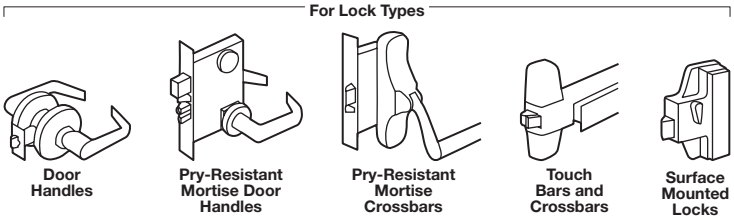

Universal Strike Plate

Manufacturer Series	For Max. Latch Bolt Proj.	For Cutout Ht.	For Cutout Wd.	For Cutout Dp.	Faceplate Ht.	Faceplate Wd.	Voltage	Finish		
For Door Handles and Pry-Resistant Mortise Door Handles and Crossbars										
Rutherford F2	3/4"	3 1/4"	1 5/8"	1 5/8"	4 7/8"	1 1/4"	12-24V AC, 12/24V DC	Stainless Steel	1373A1	$382.50

Standard Strike Plates

Manufacturer Series	For Max. Latch Bolt Proj.	For Cutout Ht.	For Cutout Wd.	For Cutout Dp.	Faceplate Ht.	Faceplate Wd.	Voltage	Choose a Finish		
For Door Handles and Pry-Resistant Mortise Door Handles										
Rutherford S65	3/4"	3 3/8"	5/8"	1 3/16"	4 7/8"	1 1/4"	12-24V AC, 12/24V DC	Stainless Steel	8064A31	$135.59
ROFU 1505	5/8"	3 1/2"	7/8"	1 1/8"	5 7/8"	1 1/4"	8-16V AC, 3-6V DC	Brass, Chrome	1552A21	109.69
For Door Handles										
Von Duprin 5100	1/2"	3 3/8"	1"	1 3/8"	4 7/8"	1 1/4"	12/24V DC	Aluminum, Dark Brown	1497A8	179.45
ROFU 1509	5/8"	3 1/2"	1"	1 1/8"	7 15/16"	1 7/16"	8-16V AC, 3-6V DC	Aluminum	1552A28	101.25
For Touch Bars and Crossbars										
Folger Adam 300	3/4"	5 5/8"	1 1/8"	1 1/4"	9"	1 3/4"	12V DC	Stainless Steel	1373A88	394.14
Folger Adam 300	3/4"	5 5/8"	1 1/8"	1 1/4"	9"	1 3/4"	24V DC	Stainless Steel	1373A28	394.14
For Surface Mounted Locks										
Trine 00	5/8"	2 1/8"	1 3/16"	3 5/16"	—	—	8-16V AC, 4-6V DC	Brass	1552A27	98.18

120V AC Transformers

Voltage Output (AC)		
Hardwired		
8/16/24	1373A96	$24.30
24	7708K21	13.78
Plug-In		
12	70235K14	19.47
16	70235K51	19.47
24	70235K54	19.35

AC-to-DC Converters

For Strike Plate	Output Voltage		
ROFU 1505, ROFU 1509, Trine 00	8-24V DC	1552A31	$4.86
Von Duprin 5100	12V DC	1497A6	30.80
Von Duprin 5100	24V DC	1497A5	30.80
Folger Adam 300	12-24V DC	8081A55	51.95

Accessories

Push-Button Switch	69755K31	$6.22
Buzzer (5-28V DC)	5670T31	10.30

Electromagnetic Door and Gate Locks

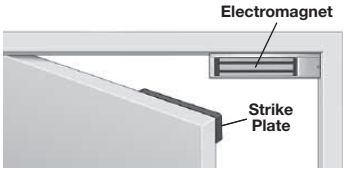

Flush Mount

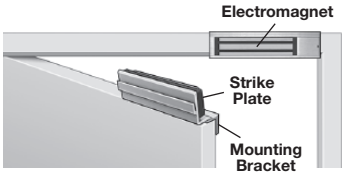

Offset Mount

For use alone or as part of an access-control system, these locks use electromagnetic force to hold doors closed. Control the locks with a push-button switch or keypad door control (sold separately on page 2895). Locks operate on 12-24 volts DC and must be hardwired. When power is interrupted, they instantly release. Mounting hardware is included.

With Delayed Locking Action—Delay locking by 0.5 to 30 seconds.

Flush-mount locks mount under the door frame header. For locks with 500 lbs. and 1,500 lbs. of holding strength, a 5/8″ thick filler plate (sold separately) is required if the mounting surface on the frame is less than 2″ wide. Lock *for double doors* includes two strike plates and controls two doors at once.

Offset-mount locks mount on the door frame header and include a mounting bracket that extends the strike plate above the door. Lock *for gates* mounts vertically on the gate's side.

Transformer accepts 120-240 volts AC and produces 12 or 24 volts DC output. It has overload protection and screw terminal connections. Housing is a NEMA 1 key-locking enclosure for indoor use. UL listed. *Battery backup pack* supplies power during power interruptions.

Locking Action	Holding Strength, lbs.	*Electromagnet* Ht.	Wd.	Dp.	*Strike Plate* Ht.	Wd.	Dp.	Manufacturer Series	Flush Mount		Offset Mount	
For Single Doors												
Instant	300	1 1/2″	6 9/16″	13/16″	1 1/4″	5 1/8″	3/8″	RCI 8375	10455A64	$159.30	10455A73	$226.12
Instant	500	2 1/2″	9″	1 1/2″	1 3/4″	5 5/16″	5/8″	Schlage M420	10455A76	332.93	10455A85	406.94
Delayed	1,500	3″	12 1/2″	1 3/4″	2 1/4″	8 3/4″	1/2″	Schlage M490P	1251A54	468.13	1251A94	564.58
For Double Doors												
Instant	1,500	3″	25 1/16″	1 3/4″	2 1/4″	—	1/2″	Schlage M492	1251A96	857.25	—	—
For Gates												
Instant	1,500	11″	3″	1 3/4″	10 1/2″	2 5/8″	1″	Schlage M490G	—	—	13585A49	330.48
Accessories												
Transformer (Size is 14″ Ht. × 12″ Wd. × 4″ Dp.)											1251A12	263.57
Battery Backup Pack (Includes two 12V batteries)											1251A11	114.08
Filler Plate for Flush-Mount Locks (Not for use with 10455A64; 2 are required for 1251A96)											1251A14	46.37

Fusible Links

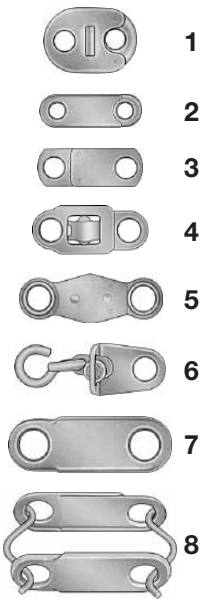

Automatically close fire doors, windows, and lids in the event of a fire. High temperatures melt the solder bond between links, causing them to separate and release their load. Install with S-hooks or chain (not included). UL listed. Styles 4 and 5 are FM approved.

To ensure safety, replace links annually and do not paint or coat them. Use links in straight-pull applications only.

	Fusing Temp. Rating	*Load Rating, lbs.* Min.	Max.	*Mounting Holes* Ctr.-to-Ctr.	Dia.	*Overall* Lg.	Ht.		
1	135° F	3	45	5/8″	1/4″	1 3/16″	13/16″	1449A41	$9.40
1	165° F	3	45	5/8″	1/4″	1 3/16″	13/16″	1449A42	4.79
2	165° F	1	8	7/8″	3/16″	1 5/16″	7/16″	1147A25	2.18
3	135° F	3	10	15/16″	1/4″	1 3/8″	1/2″	1204A22	4.64
3	165° F	3	10	15/16″	1/4″	1 3/8″	1/2″	1204A23	2.60
4	165° F	5	50	1″	1/4″	1 1/2″	5/8″	6501T22	23.09
4	210° F	5	50	1″	1/4″	1 1/2″	5/8″	6501T23	24.22
4	285° F	5	50	1″	1/4″	1 1/2″	5/8″	6501T24	25.13
5	135° F	3	20	1 5/8″	3/8″	2 3/8″	3/4″	1147A56	8.29
5	165° F	3	20	1 5/8″	3/8″	2 3/8″	3/4″	1147A18	4.53
5	210° F	3	20	1 5/8″	3/8″	2 3/8″	3/4″	1147A19	4.73
5	280° F	3	20	1 5/8″	3/8″	2 3/8″	3/4″	1147A21	4.73
5	360° F	3	20	1 5/8″	3/8″	2 3/8″	3/4″	1147A22	4.73
6	135° F	10	40	1 11/16″	5/16″	2 1/4″	13/16″	1449A21	8.48
6	165° F	10	40	1 11/16″	5/16″	2 1/4″	13/16″	1449A22	7.02
7	165° F	1	30	1 3/4″	7/16″	2 1/2″	3/4″	1147A26	11.70
7	210° F	1	30	1 3/4″	7/16″	2 1/2″	3/4″	1147A14	13.05
8	165° F	2	60	1 3/4″	7/16″	2 1/2″	3/4″	1148A17	30.85

Chain-Reel Overhead Door Openers



Openers have a solid hub that you can bore to the size you need. Housing is solid, except opener with 8″ dia. hub has a spoked housing. Chain (sold separately) is zinc-plated low carbon steel.

All openers are designed for use only with the chain listed—do not substitute other chain.

Hub Dia.	Thick.	Max. Bore	**Openers** Material			**Non-Load-Rated Chain**		**Load-Rated Chain** Cap., lbs.		
4 5/8″	1 1/2″	2″	Aluminum	3172T111	$192.98	3172T41	$18.88	900	3171T51	$24.00
5 7/8″	1 3/8″	1 1/2″	Cast Iron	3172T112	217.90	3172T41	18.88	900	3171T51	24.00
7 3/4″	2 1/4″	3 1/2″	Cast Iron	3171T114	492.27	—	—	1,140	3171T54	32.14
8″	1 5/16″	1 1/4″	Cast Iron	3172T128	337.11	3172T58	23.06	—	—	—
10″	3 1/2″	3″	Cast Iron	3171T121	603.75	—	—	2,200	3171T82	36.26

Automatic Overhead Door Openers



Also known as jackshafts, these openers operate 18-ga. or thinner overhead doors that are a maximum 14 ft. Ht. × 14 ft. Wd. The opener will stop and reverse the door's downward motion if it encounters an obstruction when closing or the beam between the opener's two safety photo eyes is interrupted. Photo eyes have a water-tight housing with metal mounting brackets.

Openers have a heavy duty ½-hp motor that runs on 120 volts AC. Motor is capable of 12 cycles per hour, up to 50 cycles per day. Openers have a black powder-coated steel frame. They are 18⅞″ Ht. × 15¾″ Wd. × 9¼″ Dp. and have a ¼″ keyway, 1″ drive shaft, and #41 chain. Meet UL 325.

Controllers mount to a wall and have open, close, and stop buttons. They are wired to the opener and run on 24 volts AC. *Optional remote control transmitter* has three buttons (open, close, and stop) and is powered by a 12-volt battery (included). During a power failure, use the manual chain hoist to move the door.

When facing the side of the door with the opener, a **right-side mount** opener is located on the right side of the door, **left-side mount** is on the left.

For Door Style	Right-Side Mount		Left-Side Mount	
Roll Up	12185A71	$786.03	12185A72	$786.03
Sectional	12185A81	786.03	12185A82	786.03
Optional Remote Control Transmitter			1221A71	37.90

Remote Control Transmitters and Receivers



Keypad



Three-Button Keychain



One Button



Three Button



Universal Receiver

Replace your existing transmitter or team a transmitter and receiver to remotely operate your overhead door opener. All are made by Liftmaster and include batteries.

Universal Transmitters—Compatible with rolling code, DIP switch, billion code, and security +2.0 door opener technologies to operate openers from Liftmaster, Genie, Stanley, Multicode, Chamberlain, and Craftsman. *Two-button* transmitter can operate two devices and includes a visor clip. *Keypad* transmitter operates one device and accepts a 4-digit PIN. The keypad is backlit and mounts to a wall (mounting screws included).

Rolling-Code Transmitter—For Liftmaster openers with a rolling-code receiver, transmitter sends a different code every time the door is opened or closed. Transmitter has three buttons to operate up to three devices.

DIP-Switch Transmitters—For Liftmaster openers with a DIP-switch receiver, transmitter has a series of DIP (dual in-line package) switches to match the code on your opener or receiver. Transmitters have one set of 12 DIP switches and include a visor clip. *One-button* transmitter operates one opener. *Three-button* transmitter operates one opener and has open, close, and stop functions.

Universal receiver must be wired directly to the opener for its power supply. It can control up to three door openers and support up to 90 remote controls. Receiver is for indoor use.

	Lg.	Wd.	Dp.	Transmitters Model			Universal Receiver Model		
Universal									
Two-Button	3¼″	2″	¾″	375UT	8129A24	$39.29	850LM	8129A59	$65.90
Keypad	6½″	2¾″	1⅝″	387LM	8129A54	49.33	850LM	8129A59	65.90
Rolling Code									
Three-Button Keychain	4½″	2¾″	1″	890MAX	8129A83	40.33	850LM	8129A59	65.90
DIP Switch									
One-Button	3⅛″	1¾″	¾″	811LM	8129A85	18.00	850LM	8129A59	65.90
Three-Button	3⅛″	1¾″	¾″	813LM	8129A74	45.91	850LM	8129A59	65.90

Push-Button and Key-Activated Door Switches



1



2



3



4



Lock Not Included

5

Open electromagnetic locks, electric strikes, and automatic door openers. Switches contain UL listed contact blocks and must be hard-wired. All include an installation tool and mounting screws; Style 2 includes tamper-resistant spanner head screws.

Instant open switches provide immediate access.

Time delay switches allow time to reach the door before it opens.

Turn-to-open/turn-to-close switch operates by holding the key in the turned position to open and close the door.

Push Button—All are CSA certified. *Styles 1* and *2* have a red plastic button and screw terminal connections. Style 1 has a stainless steel plate; Style 2 has an aluminum plate. *Styles 3* and *4* are stainless steel with spade terminal connections.

Key Activated—Often used to reset fire panels, switches have an aluminum plate with wire leads. Lock not included; use a 1¼″ long mortise lock with standard cam (see page 2893).

	Switch Action	Voltage	Button Size	O'all Ht.	O'all Wd.		
Push Button							
1	Instant Open	24V DC	1⅝″ Dia.	4½″	2¾″	13425A11	$68.17
1	Time Delay	24V DC	1⅝″ Dia.	4½″	2¾″	13425A12	117.82
2	Instant Open	24V DC	2⅜″ Dia.	4¾″	3″	13425A42	86.40
3	Instant Open	250V AC	6″ Dia.	6″ Dia.	____	13425A52	71.28
4	Instant Open	250V AC	2¾″ Wd. × 4½″ Ht.	4½″	2¾″	13425A51	67.24
Key Activated							
5	Instant Open	125V AC	_____	4¾″	3″	10475A32	63.95
5	Time Delay	125V DC	_____	4¾″	3″	10475A33	239.25
5	Turn-to-Open/Turn-to-Close	125V AC	_____	4¾″	3″	10475A31	68.21

About Door Closers

When replacing an existing closer, remove the cover and match the model number and/or mounting hole pattern to a closer in our offering. Or, use one of our closers and a universal mounting plate (see page 2899) which matches most hole patterns.

If you are installing a new closer, choose one that works for your door width. Due to added resistance from wind, closers typically accommodate smaller exterior doors than interior doors.

Mounting Positions

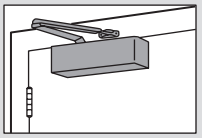

Door Mount, Opens In

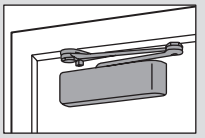

Door Mount, Opens Out

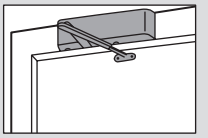

Frame Mount, Opens Out

There are three typical mounting positions for door closers; many of our closers are versatile and can be mounted in any of these positions.

Door Mount, Opens In—Also known as regular arm mount, this position allows the door to open in toward the closer.

Door Mount, Opens Out—Also known as parallel arm mount, this installation folds the arm in.

Frame Mount, Opens Out—Also known as top frame mount, this position is often used for exterior doors.

Door Closers

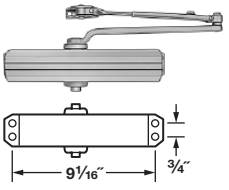

Norton 1601/9300

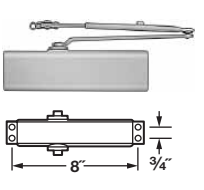

Norton 1700

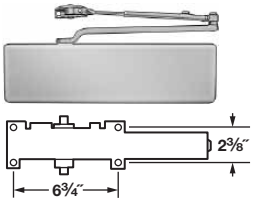

Norton 7500

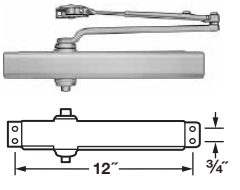

Norton 8301

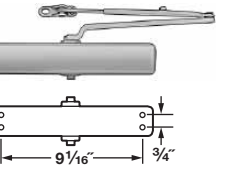

LCN 1261

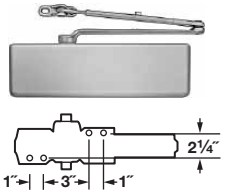

LCN 4040XP/4041

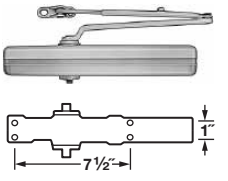

LCN 1460/1461

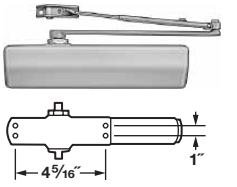

Corbin Russwin DC3000

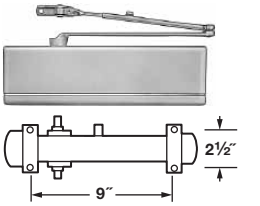

Sargent 351

All closers are reversible for right- and left-hand doors and have adjustable opening/closing speed. As listed, some of the closers also have adjustable tension to handle a large range of door sizes. They can replace Yale, Dorma, Falcon, Stanley, Parker, and Cal Royal models with the same mounting hole pattern. Norton and Sargent door closers have an aluminum body; LCN and Corbin Russwin closers are iron. Mounting hardware and installation instructions are included.

Standard closers are UL listed and comply with UL 10C positive pressure fire test. **Hold-open** closers hold the door open until it is released by a slight push or pull on the door.

Heavy Traffic—Use on doors that are frequently opened and closed, such as entrance doors. Closers meet ANSI A156.4 Grade 1 standards for 2,000,000 cycles. Closers *with built-in door stop* prevent doors from opening too far. Closers *with delayed closing* hold doors open for up to 60 seconds before closing. *Norton 1601 BF* closers allow for a lower tension for interior doors.

Moderate Traffic—Often used on office doors, closers meet ANSI A156.4 Grade 2 standards for 1,000,000 cycles.

Light Traffic—Commonly used on storage room doors, closers meet ANSI A156.4 Grade 3 standards.

For Width Interior Doors	*For Width* Exterior Doors	*Mounting Position* Door Mount, Opens In	*Mounting Position* Door Mount, Opens Out	*Mounting Position* Frame Mount, Opens Out	Adjustable Tension	Max. Open Angle	Choose a Color	Standard		Hold Open	
Heavy Traffic											
Norton 7500											
32″-54″	30″-48″	Yes	Yes	Yes	Yes	180°	Brown, Silver	15615A55	$222.63	15615A56	$243.27
Norton 7500 with Built-In Door Stop											
30″-48″	32″-48″	No	Yes	No	Yes	110°	Brown, Silver	15615A35	257.44	15615A36	281.86
Norton 1601											
32″-48″	30″-48″	Yes	Yes	Yes	Yes	180°	Brown, Silver	1475A811	102.65	1475A813	119.68
Norton 1601 with Built-In Door Stop											
28″-48″	28″-48″	No	Yes	No	Yes	110°	Brown, Silver	1475A251	125.67	1475A261	147.76
Norton 1601 with Built-In Door Stop and Shock Absorber											
28″-32″	27″	No	Yes	No	Yes	110°	Brown, Silver	1475A451	191.49	1475A461	220.03
33″-41″	28″-36″	No	Yes	No	Yes	110°	Brown, Silver	1475A291	191.49	1475A351	220.03
42″-48″	37″-48″	No	Yes	No	Yes	110°	Brown, Silver	1475A381	191.49	1475A391	220.03
Norton 1601 BF											
32″-48″	—	Yes	Yes	Yes	Yes	180°	Brown, Silver	1475A812	102.65	1475A814	119.68
Norton 1601 BF with Built-In Door Stop											
28″-48″	—	No	Yes	No	Yes	110°	Brown, Silver	1475A271	125.67	1475A281	147.76
Norton 1601 BF with Built-In Door Stop and Shock Absorber											
28″-32″	—	No	Yes	No	Yes	110°	Brown, Silver	1475A361	191.49	1475A371	220.03
Norton 8301											
30″-48″	30″-48″	Yes	Yes	Yes	Yes	180°	Brown, Silver	15565A22	154.83	15565A26	172.56
Norton 8301 with Built-In Door Stop											
28″-48″	28″-48″	No	Yes	No	Yes	110°	Brown, Silver	15565A23	178.79	15565A27	201.80

(Continued on following page)

Door Closers *(Continued from previous page)*

For Width: Interior Doors	For Width: Exterior Doors	Mounting Position: Door Mount, Opens In	Mounting Position: Door Mount, Opens Out	Mounting Position: Frame Mount, Opens Out	Adjustable Tension	Max. Open Angle	Choose a Color	Standard		Hold Open	
Heavy Traffic (Cont.)											
LCN 4040XP											
24″-60″	24″-48″	Yes	Yes	Yes	Yes	120°	Brown, Silver	8082A61	$290.40	8082A62	$321.54
LCN 4040XP with Built-In Door Stop											
24″-60″	24″-48″	No	Yes	No	Yes	110°	Brown, Silver	1164A71	350.53	1164A72	387.26
LCN 4041 with Delayed Closing											
24″-60″	24″-48″	Yes	Yes	Yes	Yes	120°	Brown, Silver	8082A51	310.71	8082A52	341.85
LCN 1460/1461											
24″-60″	24″-48″	Yes	Yes	Yes	Yes	180°	Brown, Silver	1587A83	208.57	1587A87	227.28
LCN 1460/1461 with Delayed Closing											
24″-60″	24″-48″	Yes	Yes	Yes	Yes	180°	Brown, Silver	1587A84	229.35	1587A88	248.06
LCN 1460/1461 with Built-In Door Stop											
24″-60″	24″-48″	No	Yes	No	Yes	100°	Brown, Silver	1587A82	241.13	1587A86	275.78
LCN 1261											
24″-54″	24″-42″	Yes	Yes	Yes	Yes	180°	Brown, Silver	1493A31	129.33	1493A32	144.22
Corbin Russwin DC3000											
28″-54″	30″-48″	Yes	Yes	Yes	Yes	180°	Bronze, Silver	7249T21	215.33	7249T31	253.33
Sargent 351											
24″-60″	24″-48″	Yes	Yes	Yes	Yes	160°	Bronze, Silver	7277T21	339.64	7277T31	381.82
Moderate Traffic											
Norton 1700											
32″-36″	———	Yes	Yes	Yes	No	180°	Bronze, Brown, Silver	1892A41	105.45	1892A42	120.75
36″-42″	———	Yes	Yes	Yes	No	180°	Bronze, Brown, Silver	1892A51	105.45	1892A52	120.75
Light Traffic											
Norton 9300											
35″-40″	31″-34″	Yes	Yes	Yes	No	180°	Brown, Silver	11985A21	126.14	11985A22	151.36
41″-48″	35″-40″	Yes	Yes	Yes	No	180°	Brown, Silver	11985A31	130.23	11985A32	151.36

Nonreversible Door Closers

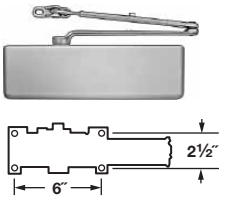

Use on doors that are frequently opened and closed, such as entrance doors. Closers meet ANSI A156.4 Grade 1 standards for 2,000,000 cycles. To determine if you need right or left hand, stand on the side of the door where it swings away from you. If it opens to the right, it's a right-hand door; if it opens to the left, it's a left-hand door. Closers have a cast iron body. They have adjustable opening/closing speed and adjustable tension to handle a range of door sizes. Mounting hardware and installation instructions are included.

Standard closers are UL listed and comply with UL 10C positive pressure fire test. **Hold-open** closers hold the door open until it is released by a slight push or pull on the door.

Closers *with delayed closing* hold doors open for up to 60 seconds before closing.

For Width: Interior Doors	For Width: Exterior Doors	Mounting Position: Door Mount, Opens In	Mounting Position: Door Mount, Opens Out	Mounting Position: Frame Mount, Opens Out	Choose a Color	Standard: Max. Open Angle	Standard: Right Hand	Standard: Left Hand		Hold Open: Max. Open Angle	Hold Open: Right Hand	Hold Open: Left Hand	
LCN 4011													
24″-54″	24″-42″	Yes	No	No	Brown, Silver	140°	1489A19	1489A91	$278.33	140°	1489A67	1489A95	$295.38
LCN 4011 with Delayed Closing													
24″-54″	24″-42″	Yes	No	No	Brown, Silver	140°	1489A24	1489A92	298.79	140°	1489A68	1489A96	315.85
LCN 4021													
24″-54″	24″-42″	No	No	Yes	Brown, Silver	180°	1489A25	1489A93	278.33	140°	1489A79	1489A97	295.38
LCN 4111													
28″-54″	28″-42″	No	Yes	No	Brown, Silver	180°	1489A29	1489A94	278.33	180°	1489A89	1489A98	295.38

Universal Door Closers and Plates



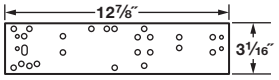

No need to drill new holes—this closer's mounting plate fits the hole patterns of most closers from Norton, LCN, Corbin Russwin, Dorma, and Yale.

Closer with mounting plate is for frequently used interior and exterior doors and is reversible for right- and left-hand doors. It can mount to the door and open in or out, or to the frame and open out. Tension is adjustable. Body is aluminum. Mounting screws are included. Closer meets ANSI A156.4 Grade 1 standards for 2,000,000 cycles. UL listed and complies with UL 10C positive pressure fire test.

Mounting plate lets you match any closer to your existing hole pattern.

	For Door Width	Max. Open Angle	Color		
Closer with Mounting Plate	24″-48″	180°	Silver	2008A11	$137.25
Mounting Plate				2008A12	60.00

High-Capacity Door Closers

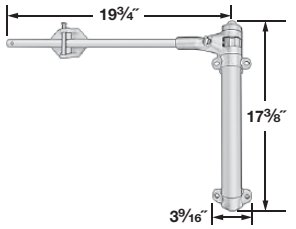

Close heavy doors weighing 200 lbs. or more, such as large freezer doors. Closer is reversible for right- and left-hand doors and mounts above the door's lowest hinge. The door's face cannot project more than ⅞″ from the frame. Opening/closing speed is adjustable. Closer is iron with a steel rod and a zinc-plated finish. Mounting hardware is included.

Max. Open Angle		
175°	1261A22	$504.87

Door Closers, Holders & Openers

For information about door closers, see page 2898.

Fire Alarm-Activated Door Closers and Holders

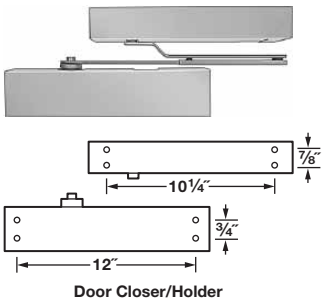

Door Closer/Holder

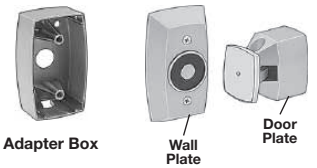

Door Holder

Wired directly into your fire alarm system, holders release doors when the alarm goes off. They have an aluminum finish and are UL listed. Mounting hardware and installation instructions are included.

Door closers/holders contain an electromagnet that holds the door open; when activated by a fire alarm, the magnet shuts off and releases the door. They are reversible for right- and left-hand doors and are made of steel and aluminum. Meet ANSI 156.15 Grade 1 standards. For *door mount, opens in* closers/holders, the frame cannot project more than 1/8″ from the door's face. For *door mount, opens out* closers/holders, the frame cannot project more than 3 1/2″ from the door's face.

Door holder is often used with doors that already have a closer. Holder keeps doors open with an electromagnet. When activated by a fire alarm, the magnet shuts off and releases the door. Holder comes with a plastic wall plate with metal bracket and a plastic door plate with metal bracket. Mount the electromagnet in an electrical outlet box or use the *wall-mount adapter box* (sold separately). Adapter box mounts directly to the wall with the included fasteners.

Door Closers/Holders

For Door Wd.	Max. Open Angle	24V AC/DC		120V AC	
Door Mount, Opens In—Rixson-Firemark 0600					
30″-48″	145°	1202A29	$453.16	1202A33	$453.16
Door Mount, Opens Out—Rixson-Firemark 0601					
30″-48″	135°	1202A31	453.16	1202A34	453.16

Door Holder—Rixson-Firemark 998

Voltage	Wall Plate Ht.	Wall Plate Wd.	Wall Plate Proj.	Door Plate Ht.	Door Plate Wd.	Door Plate Proj.		
12V DC, 24V AC/DC, 120V AC	4 5/8″	2 3/4″	1″	1 13/16″	2 9/16″	2 5/8″	1444A3	$173.29
Wall-Mount Adapter Box (1 1/2″ Projection)							1444A8	42.13

Motion-Sensing Door Closers/Holders

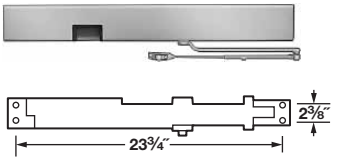

Equipped with a motion sensor to automatically close doors after people have safely passed through the doorway. Doors must be opened manually; door closing can be delayed for up to 20 seconds after the doorway is clear of traffic. Closers have adjustable tension to handle a large range of door sizes. They are for interior installations. To determine if you need a right- or left-hand closer, stand on the side of the door where it swings away from you. If it opens to the right, it's a right-hand door; if it opens to the left, it's a left-hand door. Closers must be hardwired. They have an aluminum body, include mounting hardware, and comply with UL 10C positive pressure fire test.

For Door Wd.	Max. Open Angle	Choose a Voltage	Right Hand		Left Hand	
Frame Mount, Opens In—Norton 7114SZ						
28″-44″	180°	24V DC, 120V AC	7213T31	$611.64	7213T21	$611.64
Frame Mount, Opens Out—Norton 7124SZ						
28″-44″	180°	24V DC, 120V AC	7213T41	611.64	7213T51	611.64

Automatic Door Openers/Closers

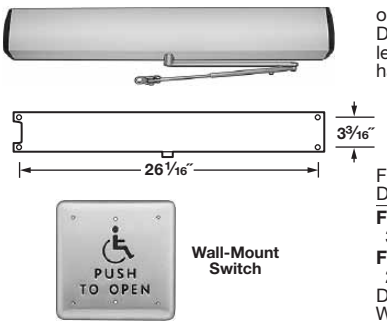

Wall-Mount Switch

Automatic operation provides hands-free passage through doorways. Nudge your door and the opener will open it the rest of the way, or wire the opener to a push-button switch (sold separately). Door closing can be delayed by up to 30 seconds. These openers/closers are reversible for right- and left-hand doors that weigh up to 200 lbs. They are cast iron with an aluminum finish and must be hardwired to a 120 volt AC line. Mounting hardware is included. UL listed for fire-rated applications.

Switches can be wired directly to these openers. Mounting screws are included.

For Door Wd.	Max. Open Angle		
Frame Mount, Opens In—LCN 9130			
30″-48″	90°	10535A12	$1,950.61
Frame Mount, Opens Out—LCN 9140			
26″-48″	90°	10535A11	1,950.61
Door Frame-Mount Switch (4 3/4″ × 1 1/2″)		10535A55	97.37
Wall-Mount Switch (4 3/4″ × 4 3/4″)		10535A56	142.76

Pot-Belly Door Closers

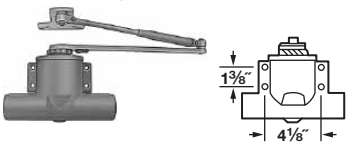

A traditional design that is often found in older installations, these pot-belly closers are reversible for right- and left-hand doors. Opening/closing speed is adjustable. Closers also have adjustable tension to handle a large range of door sizes. Housing is aluminum with a dull bronze finish. Closers meet ANSI A156.4 Grade 3 standards and include mounting hardware.

Standard closers are UL listed and comply with UL 10C positive pressure fire test.

Hold-open closers hold the door open until it is released by a slight push or pull on the door.

Top frame mounting bracket allows closers that open in to mount to the underside of the top door frame when space is limited.

For Width: Interior Doors	For Width: Exterior Doors	Max. Open Angle	Norton 78 Series: Standard		Norton 78 Series: Hold Open		Yale 1900 Series: Standard		Yale 1900 Series: Hold Open		Replacement Springs	
Door Mount, Opens In												
30″-48″	30″-36″	135°	1452A31	$479.98	1452A41	$502.48	8084A11	$512.85	8084A13	$536.90	1461A283	$95.45
30″-48″	37″-44″	135°	1452A32	479.98	1452A42	502.48	8084A12	512.85	8084A14	536.90	1461A305	106.36
Top Frame Mounting Bracket for Door Mount, Opens In Closers											1452A66	111.82
Door Mount, Opens Out												
21″-42″	21″-36″	180°	1454A34	479.98			8084A15	512.85			1461A283	95.45
21″-42″	37″-44″	180°	1454A35	479.98			8084A16	512.85			1461A305	106.36

Door and Gate Spring Closers

1 2  3  4  5 

An economical option for screen doors, storm doors, and gates, one end of the spring attaches to your door or gate and the other end attaches to the frame. Springs are steel wire.

Extension Springs

Springs retract to pull the door or gate closed. Springs with a large OD have more force than those with a small OD. Mounting hardware is not included. *Style 2* consists of two interconnected springs that can be twisted to adjust force.

	Spring OD	Overall Lg.	Black		Zinc-Plated	
1	5/16"	16 3/8"	9629K3	$2.12	9629K23	$2.12
1	3/8"	16 3/8"	9629K4	2.41	9629K24	2.41
1	7/16"	16 3/8"	9629K5	2.55	9629K25	2.55
1	15/32"	16 3/8"	9629K6	2.69	9629K26	2.69
1	1/2"	16 3/8"	9629K7	2.97	9629K27	2.97
1	11/8"	16 1/4"	9629K8	7.98	9629K28	7.98
2	1/2"	15"-18 1/2"			1474A11	4.47

Torsion Springs

Mount springs diagonally so that one end is higher than the other. The motion of an opening door tightens the spring; as it unwinds, it closes the door. Force is adjustable. Mounting hardware is included.

	Spring OD	Spring Lg.	Overall Lg.	Black	
3	3/4"	6 1/2"	8 5/16"	1474A29	$10.32
3	15/16"	7 1/2"	9 5/16"	1474A31	11.04
3	1"	9 1/16"	11 5/8"	1474A32	14.90
3	1 1/8"	10 1/4"	12 3/4"	1474A43	17.29
4	3/4"	6 1/2"	10 7/16"	1474A35	11.46
4	1"	9 1/16"	13 7/16"	1474A36	15.94
4	1 1/8"	10 1/4"	14 5/8"	1474A37	19.16
5	15/16"	5"	9"	1474A12	17.00
5	15/16"	7"	11"	1474A13	20.52
5	15/16"	9"	13"	1474A14	20.52

Lightweight Door Closers

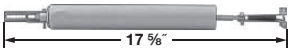

Standard

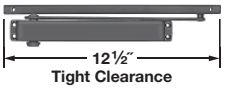

Tight Clearance

The most common closers for screen and storm doors, these are reversible for right- and left-hand doors and have adjustable opening/closing speed. Cylinders are aluminum. Mounting hardware is included. Door-to-door clearance is the space required between two doors.

Standard closers can also hold doors open. Cylinder is 1 1/2" dia. **Tight-clearance** closers have a 1 1/4" Ht. × 2 1/4" Dp. housing.

	Max. Open Angle	Door-to-Door Clearance	Finish		
Standard	90°	3"	Aluminum	1448A11	$9.96
Standard	90°	3"	Black	1448A12	9.96
Tight Clearance	110°	2"	Dull Brass	10205A85	35.60
Tight Clearance	110°	2"	Dark Brown	10205A86	35.60

Roller-Arm Door and Gate Closers

Simple and compact, closers have an arm that rolls along lightweight doors and gates to push them closed. Closers mount to the door frame and open in. They are reversible for right- and left-hand doors. Opening/closing speed is adjustable. Closers are 4 1/2" Ht. × 15/16" Wd. with a 1 1/4" projection and have a die cast zinc housing with a powder-coated finish. Mounting hardware is included.

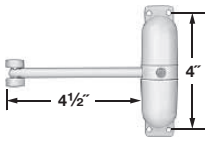

Max. Door Weight	Max. Open Angle	Brown		White	
150 lbs.	120°	1234A82	$14.85	1234A83	$14.85

Hinge-Pin Door Closers

There's no need to mount a closer to your door or frame—this closer takes the place of an existing hinge pin. Closer fits 3 1/2" × 3 1/2" and 4" × 4" hinges. Opening/closing speed is adjustable. The closer projects 2 5/16" from the top of the hinge. Made of steel with a brass finish.

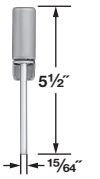

Max. Door Weight		
30 lbs.	1490A11	$8.54

Hydraulic Door Closers

Shut doors smoothly and quietly. Hydraulic closers are reversible for right- and left-hand doors and include mounting hardware.

Closer **for screen and storm doors** mounts to the door and opens in or out. Opening/closing speed is adjustable.

Closer **for exterior doors** is weather-resistant. It mounts to the door and opens in. Opening/closing speed is adjustable.

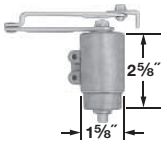

For Screen and Storm Doors

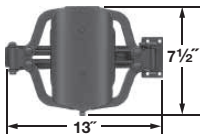

For Exterior Doors

	Max. Door Weight	Max. Open Angle	Material		
For Screen and Storm Doors	35 lbs.	180°	Aluminum	1255A14	$45.91
For Exterior Doors	150 lbs.	90°	Steel	1469A31	77.13

Roller-Ball Door Latches

Often used on walk-in freezer doors, latches have a holder arm that rolls into the catch as the door closes for a secure hold. A firm tug releases the roller and opens the door. Mounting hardware is included.

Flush—Use when your closed door is even with its frame.

Offset—For doors that have 7/8"-1 5/8" between the frame and the door face when closed.

Hydraulic latches prevent doors from slamming. Latch with a *steel* housing has a polished chrome finish and an enclosed gas-filled cylinder. Latch with a *stainless steel* housing has a polished finish and an exposed fluid-filled cylinder.

Spring-loaded latches overcome resistance caused by gaskets and air pressure to close doors tightly.


Hydraulic Flush


Spring Loaded Offset

	Housing Material	*Overall* Lg.	*Overall* Wd.	Flush Proj.			Offset Proj.		
Hydraulic	Steel	10 1/8"	2 1/2"	2 5/16"	11935A74	$185.69	3 5/16"	11935A75	$191.42
Hydraulic	Stainless Steel	7 7/8"	1 15/16"	2 1/2"	11935A84	180.00			
Spring Loaded	Steel	6 1/2"	2 1/2"	2 1/2"	10555A82	150.56	2 1/2"	10555A83	156.59

Touch Bars

Often used on emergency exits, touch bars open doors with a push. You can use them alone or mount an optional handle on the outside of the door. All touch bars and handles are for right- and left-swinging doors.

Touch Bars



Standard Surface Mount

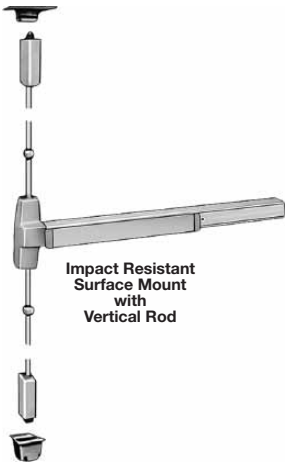

Impact Resistant Surface Mount with Vertical Rod

Touch bars are for 1¾″-2¼″ thick doors and can be cut to fit a range of door widths. They project 3⅞″ from the door's face. Use the built-in retainer to hold touch bars in the unlatched position to allow traffic to pass freely through doorways; fire-rated touch bars do not have a built-in retainer. Mounting hardware, strike plate, and installation instructions are included. UL listed and meet ANSI A156.3 Grade 1 standards for 500,000 cycles.

Standard—Housing and bar are steel.

Impact Resistant—Rugged construction withstands impact from carts, dollies, and other equipment. Housing is steel and bar is aluminum with a hydraulic damper for quiet operation. *Fire-rated* touch bar is UL listed for three-hour fire doors.

Surface mount touch bars require a center support (sold separately) when used on double doors.

Surface mount with vertical rod touch bars latch into strike plates mounted on the floor and ceiling. Often used on double doors, touch bars fit doors up to 7 ft. high.

	For Door Wd.	O'all Wd.	Latch Bolt Proj.	Choose a Finish		
Standard—Von Duprin 22 Series						
Surface Mount	28″-36″	33⅛″	¾″	Aluminum, Brown	8080A45	$318.48
Surface Mount	34″-48″	45⅛″	¾″	Aluminum, Brown	8080A531	326.16
Surface Mount with Vertical Rod	27″-36″	33⅛″	⅝″	Aluminum, Brown	8080A521	543.37
Surface Mount with Vertical Rod	33″-48″	45⅛″	⅝″	Aluminum, Brown	8080A59	547.66
Impact Resistant—Von Duprin 99 Series						
Surface Mount	28″-36″	33″	¾″	Aluminum	8042A25	655.09
Surface Mount	28″-36″	33″	¾″	Dull Bronze, Dull Chrome	8042A41	731.03
Surface Mount	34″-48″	45″	¾″	Aluminum	8042A45	758.00
Surface Mount	34″-48″	45″	¾″	Dull Bronze, Dull Chrome	8042A51	824.69
Fire-Rated Surface Mount	28″-36″	33″	¾″	Dull Chrome	8042A15	920.96
Surface Mount with Vertical Rod	28″-36″	33″	⅝″	Aluminum	8042A65	1,093.05
Surface Mount with Vertical Rod	28″-36″	33″	⅝″	Dull Bronze, Dull Chrome	8042A62	1,116.44
Surface Mount with Vertical Rod	34″-48″	45″	⅝″	Aluminum	8042A66	1,107.86
Surface Mount with Vertical Rod	34″-48″	45″	⅝″	Dull Bronze, Dull Chrome	8042A63	1,212.78

Optional Handles



Nonlocking Pull Handle



Key Locking Pull Handle



Key Locking Pull Handle with Thumb Piece



Key Locking Knob



Key Locking Lever for Standard Touch Bars



Key Locking Lever for Impact-Resistant Touch Bars



Self Locking Combination Lever

For Standard Touch Bars—Handles are steel. They are not compatible with impact-resistant devices.

For Impact-Resistant Touch Bars—Handles are brass. They are not compatible with standard devices.

Key locking handles include a Schlage C style keyway and two keys.

Self locking combination lever handle doesn't require electricity or batteries and acceps a 5-number combination. This Kaba Simplex 5000 series handle also accepts an easy-change lock cylinder (see page 2892), so you can use a key to override the combination. UL listed for three-hour fire doors and meets ANSI A156.3 Grade 1 standards for 800,000 cycles.

	For Standard Touch Bars			For Impact-Resistant Touch Bars		
	Choose a Finish			Choose a Finish		
Nonlocking Pull Handle	Aluminum, Brown	8080A47	$81.93	Dull Bronze, Dull Chrome	8042A21	$172.21
Key Locking Pull Handle	Aluminum, Brown	8080A48	141.53	Dull Bronze, Dull Chrome	8042A69	229.61
Key Locking Pull Handle with Thumb Piece	Aluminum, Brown	8080A46	225.87	Dull Bronze, Dull Chrome	8042A19	253.85
Key Locking Knob	Aluminum, Brown	8080A511	191.20			
Key Locking Lever	Aluminum, Brown	8080A49	226.60	Dull Bronze, Dull Chrome	8042A32	429.73
Self Locking Combination Lever for Surface Mount Touch Bars (Not for touch bars with vertical rod)				Dull Chrome	8042A89	536.13

Removable Center Supports

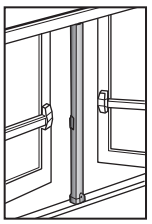

Also known as mullions, these 7′2″ steel posts allow surface-mount exit devices to be used on double doors. They accept the strike plates included with standard and impact-resistant devices. Supports are removable to allow large equipment through. Mounting hardware is included.

Finish		
Aluminum	8080A81	$348.49
Dark Brown	8080A82	348.49

Corrosion-Resistant Touch Bars

Made of 304 stainless steel, these touch bars stand up to corrosive environments. Often used on emergency exits, they open doors with a push. You can use them alone or mount an optional handle on the outside of the door. All devices and handles have a dull finish and are for right- and left-swinging doors.

Touch Bars—Trans Atlantic ED-S551 Series



Touch bars are for 1¾″ thick doors and can be cut to fit a range of door widths. They project 2½″ from the door's face. Use the built-in retainer to hold touch bars in the unlatched position to allow traffic to pass freely through doorways. Mounting hardware, strike plate, and installation instructions are included. UL listed and meet ANSI A156.3 Grade 1 standards for 500,000 cycles.

	For Door Wd.	O'all Wd.	Latch Bolt Proj.		
Surface Mount	23½″-36″	34″	¾″	13755A51	$201.02
Surface Mount	24″-48″	43″	¾″	13755A61	218.58

Optional Handles

Key locking handles include a Schlage C style keyway and two keys.

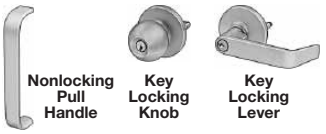

	Material		
Nonlocking Pull Handle	Aluminum	13755A58	$12.30
Key Locking Pull Handle	Aluminum	13755A71	20.86
Key Locking Knob	Stainless Steel	13755A56	33.18
Key Locking Lever	Steel	13755A57	63.60

Crossbars

This traditional design is common in older installations. Crossbars open doors with a push and are often used on emergency exits. You can use them alone or mount an optional handle on the outside of the door.

Crossbars—Von Duprin 88 Series


Surface Mount


Pry Resistant for Left-Swinging Door

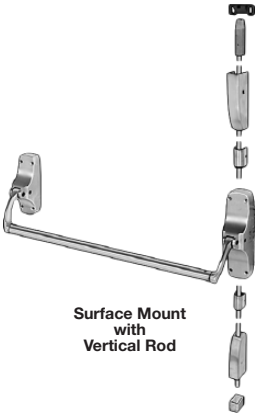
Surface Mount with Vertical Rod

Crossbars are for 1¾″ thick doors and can be cut to fit a range of door widths. Bars are made of 1″ dia. tubing and project 4⅞″ from the door's face. Mounting hardware, strike plate, and installation instructions are included. UL listed and meet ANSI A156.3 Grade 1 standards for 500,000 cycles.

Housing is brass. Bars with *dark bronze finish* are brass; bars with *dull chrome finish* are stainless steel.

Surface mount crossbars are for right- and left-swinging doors. When used on double doors, a center support is required (see page 2902).

Surface mount with vertical rod crossbars latch into strike plates mounted on the floor and ceiling. Often used on double doors, crossbars fit doors up to 10 ft. high and are for right- and left-swinging doors.

Pry-resistant crossbars mortise mount into a 4½″ deep cutout in the door to withstand vandalism better than other crossbars. To determine door swing direction, stand on the side of the door where it swings away from you. If it opens to the right, select a crossbar for a right-swinging door; if it opens to the left, select one for a left-swinging door.

	For Max. Door Wd.	O'all Wd.	Latch Bolt Proj.	Choose a Finish		
Surface Mount	48″	46½″	¾″	Dark Bronze, Dull Chrome	8044A58	$840.82
Surface Mount with Vertical Rod	48″	46½″	⅝″	Dark Bronze, Dull Chrome	8044A66	1,293.34
Pry Resistant for Left-Swinging Door	48″	45⅛″	¾″	Dark Bronze, Dull Chrome	8044A41	1,147.06
Pry Resistant for Right-Swinging Door	48″	45⅛″	¾″	Dark Bronze, Dull Chrome	8044A38	1,147.06

Optional Handles

All are brass. *Pull handles* and *knobs* are for right- and left-swinging doors. *Key locking* handles include a Schlage C style keyway and two keys.


Key Locking Lever for Left-Swinging Door


Key Locking Knob


Nonlocking Pull Handle

	Dark Bronze		Dull Chrome	
For Surface-Mount Crossbars				
Nonlocking Pull Handle	8044A112	$161.17	8044A212	$161.17
Key Locking Pull Handle with Thumb Piece	8044A111	265.40	8044A211	265.40
Key Locking Knob	8044A119	327.59	8044A219	327.59
Key Locking Lever for Left-Swinging Door	8044A373	551.70	8044A374	551.70
Key Locking Lever for Right-Swinging Door	8044A613	551.70	8044A614	551.70
For Surface-Mount Crossbars with Vertical Rod				
Nonlocking Pull Handle	8044A1	161.17	8044A2	161.17
Key Locking Pull Handle with Thumb Piece	8044A115	265.40	8044A215	265.40
Key Locking Knob	8044A361	327.59	8044A362	327.59
Key Locking Lever for Left-Swinging Door	8044A117	551.70	8044A217	551.70
Key Locking Lever for Right-Swinging Door	8044A114	551.70	8044A214	551.70
For Pry-Resistant Crossbars				
Nonlocking Pull Handle	8044A221	161.17	8044A222	161.17
Key Locking Pull Handle with Thumb Piece	8044A341	265.40	8044A342	265.40
Key Locking Knob	8044A363	327.59	8044A364	327.59
Key Locking Lever for Left-Swinging Door	8044A371	551.70	8044A372	551.70
Key Locking Lever for Right-Swinging Door	8044A611	551.70	8044A612	551.70

Crossbar Retainers

Hold crossbars in the open position so traffic can pass freely through doorways. Push the release button to return to the latched position. Retainers are aluminum and include mounting hardware for wood and metal doors. Not for use on fire-rated doors.

Add an *optional extension shim* if your crossbar projects more than the maximum reach.

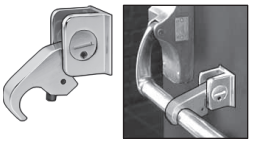

For Bar Shape	For Max. Bar Dia.	Reach		
Round	1 1/16″	3 7/16″-4″	8110A15	$50.81
Oval	15/16″	2¾″-3 5/16″	8110A25	50.81
Optional ⅝″ Extension Shim			8110A64	14.15

Alarmed Push Levers and Touch Bars for Emergency Exits



Standard Push Lever


Self Locking Push Lever



Self Locking Touch Bar

A 95 dB alarm sounds when these push levers and touch bars are pushed to open doors. A lock cylinder (sold separately) is required to arm and disarm the alarm. You can mount an additional lock cylinder on the exterior of the door to use as a door lock. All are for right- and left-swinging doors and operate on a 9-volt battery (included). Mounting hardware and installation instructions are included. UL listed.

Standard—Has a bolt that locks your door when the alarm is armed. Housing is zinc.

Self Locking—In addition to a bolt that locks your door when the alarm is armed, these have a latch that automatically locks the door when it's closed. Housing is aluminum. Touch bar **for outdoor use** is waterproof and can be used in washdown areas.

Lock cylinder has a Schlage C style keyway. It is keyed differently, includes two keys, and has a dull chrome finish. One cylinder is required to arm and disarm the alarm; you can mount an additional lock cylinder on the exterior of the door to use as a door lock.

	Manufacturer Series	Faceplate Ht.	Faceplate Wd.	Proj.	O'all Wd.	Latch Bolt Proj.	For Indoor Use		For Outdoor Use	
Standard										
Push Lever	Detex ECL-230D	10 3/8"	5 3/4"	3 3/4"	12 7/8"	1/2"	8049A23	$250.00	—	—
Self Locking										
Push Lever	Alarm Lock 250	8 1/2"	4 3/16"	3 1/4"	13 1/4"	1"	8049A24	313.72	8049A241	$346.92
Touch Bar	Alarm Lock 700	8 1/2"	4 3/16"	3 1/4"	28 5/16"	1"	8049A25	394.06	8049A251	412.06
Replacement 9V Battery							71455K56	3.95	8049A26	20.42
Required Lock Cylinder									1385A55	12.16

Magnetic-Contact Chimes



Receive an audible signal when your door is opened. No electricity or batteries are needed—as the door opens, the magnet and contact disc are separated, sounding the mechanical chime. Chime can be deactivated. It has a brown plastic cover and includes mounting hardware and installation instructions. For indoor use only.

Ht.	Wd.	Dp.	Volume, dB		
2"	5 3/4"	2 3/4"	75	8096A61	$39.28

Checkpoint Recorders



Touch a hand-held electronic recorder to buttons installed at checkpoints to record the location, date, and time. Also known as watchmen's clocks, recorders are often used to ensure that security guards make their scheduled rounds. Recorder stores up to 5,400 reads and operates on a 3-volt battery (included). After collecting data, return the recorder to the base station and use the included software to transfer data to your Windows-based PC.

Recorder is 1" Dia. × 5 1/4" Lg. Mounting brackets for buttons are 2" Lg. × 1 1/4" Wd. Kit includes an electronic recorder, leather holster, 11 buttons with mounting brackets, a base station for two recorders, a 9-pin cable to connect to a PC, and software. Mounting brackets for buttons require two No. 10 screws (not included).

Recorder System	1708T1	$850.93
Additional Recorder	1708T5	373.10
Additional Button with Mounting Bracket	1708T6	5.00

Hand-Held Metal Detectors



Maintain security by detecting concealed objects. Detector beeps when it senses metal up to 12" away, depending on the alloy, object size, and search speed. It runs on a 9-volt battery (sold separately) and has a low-battery warning. Case is high-impact black plastic. The metal detecting face is 8" long; overall length is 16".

Metal Detector	6606T64	$142.86
9-Volt Battery	71455K56	3.95

Motion-Sensing Chimes

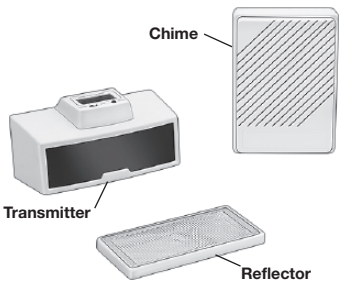



A chime announces when someone passes through the infrared light beam and a counter keeps track of each entrance and exit. Mount the infrared transmitter and reflector between 2 and 20 feet apart. The chime's volume is adjustable up to 85 dB. Housing is plastic. System includes 26 ft. of 24-ga. wire, a plug-in transformer to supply 12 volts AC, mounting hardware, and installation instructions.

Transmitter is 2 3/4" Ht. × 5" Wd. × 2 1/2" Dp. Chime is 5" Ht. × 3 3/4" Wd. × 1 1/2" Dp. Beam reflector is 2" Ht. × 4" Wd.

Chime system cannot be sold in California.

Chime System	80405A18	$155.88
Additional Chime	80405A23	63.70

Motion Sensors


Alarm Activating


Verbal Alert

Detect movement in restricted areas. For indoor use only.

Alarm-activating sensor wires to your existing alarm system and sends a signal when it detects motion. It covers a 90° area that's 40 feet high and 40 feet wide and can be set to ignore objects that weigh less than 40 or 80 lbs. It detects motion using an infrared sensor. Mount from 4-7 1/2 feet high. Sensor operates on 9-15 volts DC. Housing is white plastic and includes mounting hardware. UL listed.

Verbal-alert sensor plays a recorded message up to 6 seconds in length when someone passes within 6 1/2 feet. It detects motion using a light sensor. Unit has an on/off switch and operates on three AA batteries (included). Housing is black plastic.

	Ht.	Wd.	Dp.		
Alarm Activating	4 3/4"	2 3/4"	1 3/4"	8068A86	$22.92
Verbal Alert	3 3/4"	2 1/2"	1 1/4"	1314A7	46.80

Magnetic Contacts



Surface Mount
Plastic with Screw Connections



Surface Mount
Aluminum



Floor Mount



Mortise Mount

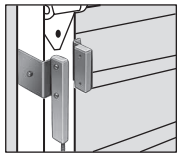

Track Mount

Wire contacts to your alarm system to alert when doors or windows are opened. Contacts consist of a magnet that mounts to your door or window and a switch that mounts to the frame; your alarm will be activated when the magnet is moved away from the switch. Switches are sealed for corrosion resistance and are UL listed.

Single Circuit—Connect to an alarm system. Switch is single pole single throw, normally open (SPST-NO).

Double Circuit—Connect to an alarm system and another item such as a motion detector. Switch is single pole double throw (SPDT).

Surface-mount plastic contacts come with mounting screws, except 8039A21 has an adhesive back. For indoor use.

Surface-mount aluminum and **floor-mount** contacts have flexible stainless steel conduit permanently attached to the switch housing and include mounting screws. Can be used outdoors.

Mortise-mount contacts mount in 3⁄8" dia. drilled holes on the door frame and door to sit flush with the surface. Can be used outdoors.

Track-mount contacts mount directly to a track or channel and an overhead door. They come with mounting hardware and stainless steel armored cable. 80425A31 is for indoor use; 80535A42 can be used outdoors.

Max. Switch/ Magnet Distance	Connection	Finish	Housing Lg.	Housing Wd.	Housing Ht.	Single Circuit Voltage	Single Circuit Max. Amps			Double Circuit Voltage	Double Circuit Max. Amps		
For Doors and Windows													
Surface Mount—Plastic													
5⁄8"	22 AWG (12" Lg.)	White	1 1⁄2"	1⁄4"	3⁄8"	100V AC/DC	0.5	**8039A21**	$4.12				
3⁄4"	No. 6 screw	Gray	2 1⁄2"	9⁄16"	1⁄2"	100V AC/DC	0.5	**8039A12**	5.72				
3⁄4"	No. 6 screw	White	2 1⁄2"	9⁄16"	1⁄2"	100V AC/DC	0.5	**8039A14**	5.72	30V AC/DC	0.25	**8039A47**	$10.27
1 1⁄4"	No. 6 screw	Gray	3 15⁄16"	3⁄4"	5⁄8"	100V AC/DC	0.5	**8073A11**	11.44				
1 1⁄4"	No. 6 screw	White	3 15⁄16"	3⁄4"	5⁄8"	100V AC/DC	0.5	**8073A13**	11.44	30V AC/DC	0.25	**8073A28**	17.73
1 1⁄4"	No. 6 screw	Brown	3 15⁄16"	3⁄4"	5⁄8"	100V AC/DC	0.5	**8073A16**	11.44				
Surface Mount—Aluminum													
3"	3-ft. cable lead	Aluminum	3"	1⁄2"	1"	100V AC/DC	0.5	**8039A51**	46.22	30V AC/DC	0.25	**8039A52**	50.47
Floor Mount—Aluminum													
3"	3-ft. cable lead	Aluminum	3 1⁄2"	1 1⁄2"	1 1⁄2"	100V AC/DC	0.5	**8135A11**	46.22	30V AC/DC	0.25	**8135A32**	50.58
Mortise Mount—Brass													
1⁄2"	22 AWG (12" Lg.)	Nickel	1 1⁄2"	3⁄8" Dia.	—					130V DC	0.05	**12495A53**	16.67
11⁄16"	22 AWG (12" Lg.)	Nickel	5⁄8"	3⁄8" Dia.	—	130V DC	0.05	**12495A41**	8.33				
1 1⁄8"	22 AWG (12" Lg.)	Nickel	1 1⁄2"	3⁄8" Dia.	—	130V DC	0.05	**12495A51**	12.50				
For Overhead Doors													
Track Mount—Aluminum													
3"	2-ft. cable lead	Aluminum	3 5⁄8"	11⁄16"	3"	100V AC/DC	0.5	**80425A31**	52.55				
6"	1 1⁄2-ft. cable lead	Aluminum	6 1⁄8"	1⁄2"	1"	100V AC/DC	0.5	**80535A42**	60.57				

Alarmed Magnetic Contacts



Standard with Strobe



Low Profile Key Controlled



Low Profile Keypad Controlled



Optional Exterior Keypad

Sound an alarm when a door is opened without authorization. Alarms surface mount on a door and a magnet mounts on the door frame; the alarm sounds when they are separated. Housing is aluminum. Alarmed magnetic contacts are for indoor use and include mounting hardware, batteries, and installation instructions. Mount an optional rim lock cylinder (see 1385A on page 2893) on the opposite side of the door to arm and disarm the lock from the outside. *Key-controlled* alarms require a mortise lock cylinder (sold separately and includes two keys).

For information about sound levels, see page 673.

Low profile alarms take up less space than standard alarms. They can be set to sound continuously or announce openings with a two-second tone. An LED flashes when the alarm sounds. *Keypad-controlled* alarms accept one 3-5 digit code to arm and disarm the alarm. *Optional exterior keypad* allows the alarm to be armed and disarmed from the outside. It is aluminum with a dull finish.

	Ht.	Wd.	Proj.	Volume, dB	Finish	Alarmed Magnetic Contacts		Required Lock Cylinder	
Standard									
Key Controlled	8 1⁄2"	4 1⁄4"	3 1⁄4"	95	Dull	**1292A22**	$177.93	**1301A57**	$12.48
Key Controlled with Strobe	10 1⁄2"	4 1⁄4"	3 1⁄4"	95	Dull	**1292A24**	188.21	**1301A57**	12.48
Replacement Battery for 1292A22 and A24								**1292A28**	19.98
Low Profile									
Key Controlled	9"	2 1⁄2"	2 3⁄8"	95	Dull	**8108A21**	189.00	**1301A57**	12.48
Key Controlled	9"	2 1⁄2"	2 3⁄8"	95	Brown	**8108A23**	189.00	**1301A57**	12.48
Keypad Controlled	9"	2 1⁄2"	2 3⁄8"	95	Dull	**8108A44**	224.02		
Keypad Controlled	9"	2 1⁄2"	2 3⁄8"	95	Brown	**8108A47**	224.02		
Optional Exterior Keypad								**8108A63**	107.89

Surveillance Systems


Camera


Smart Camera


Network Video Recorder

Create a network of surveillance cameras and view live or recorded footage remotely on any computer or mobile device. Cameras record in color and automatically adjust to maintain sharp focus in bright or low-lit areas. They are standalone IP cameras, so you can stream audio and video through a web browser or the included software. Use the network video recorder (sold separately) to record and replay past footage. For networking equipment, see Ethernet cords and switches.

Camera has a dome cover that makes it more inconspicuous than the smart camera. Remove the dome to manually pan 350°, tilt 130°, and rotate 330°. Camera operates on 120 volts AC and has a cord with a two-prong plug. It's also Power over Ethernet (PoE) enabled, which means you can use one cable to power and access the camera in facilities with a PoE setup. PoE power input is 48 volts DC. Housing is plastic; meets NEMA 4X and IP66 for protection against dust, rain, splashing, and power jets of water. Mounting fasteners are included.

Smart camera automatically detects motion within user designated zones, highlighting objects in view that enter restricted areas or cross a threshold such as a fence. It also focuses on and provides high-quality images of important details such as faces and license plates. The included mounting bracket allows you to manually pan 360° and tilt 180°. Camera operates on 120 volts AC and has a cord with a two-prong plug. Housing is aluminum; meets NEMA 4X and IP66 for protection against dust, rain, splashing, and power jets of water. Mounting fasteners are not included.

Network video recorder has built-in search functions that allow you to quickly find footage from specific dates and times. It has 4 TB of storage and records video and audio from up to 32 cameras at a time. Housing is plastic. Recorder operates on 100/240 volts AC and has a cord with a three-prong plug.

	Ht.	Lg.	Wd.	Resolution	Image Format	Focal Lg., mm	Shutter Speed, sec.	Temperature Range	Mounting Holes Number	Mounting Holes Dia.		
Camera	5 1/2"	—	6" Dia.	720p	1/2.7"	3.3-10	1/12-1/15,000	–40° to 120°F	6	0.13"	56735T3	$690.28
Smart Camera	10 1/2"	22"	7"	720p	1/3"	3.8-13	1/60	–40° to 120°F	4	0.35"	56735T1	1,604.39
Network Video Recorder	7 1/2"	8 1/2"	8"	—	—	—	—	50° to 90°F	—	—	56735T124	1,741.54

Dummy Surveillance Cameras


Standard


Flashing Light


Dome

Deter vandalism with the illusion of surveillance. Standard and flashing-light cameras can be used outdoors; dome camera is for indoor use only. Mounting hardware is included.

Flashing-light camera operates on two C batteries (sold separately).

	Overall Ht.	Overall Lg.	Overall Wd.	Material		
Standard	3 1/2"	3 3/4"	2"	Aluminum	6685T42	$21.74
Flashing Light	5"	15"	5"	Aluminum	6685T37	71.67
Dome	5"	6 1/4"	6 1/4"	Polycarbonate	6685T41	85.83
C Batteries (Pkg. of 6)					71455K54	6.49

Bluetooth Padlocks

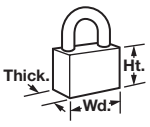


For Indoor Use


For Outdoor Use

No more lost keys or forgotten combinations—these padlocks open with your Bluetooth-enabled smartphone. Each padlock has a code for registering the lock with a free app to control it via Bluetooth. In addition to locking and unlocking the padlock, you can permanently or temporarily share access to the padlock with others, monitor when and who had access to the padlock, and receive tamper alerts.

Padlocks operate on one battery (included) and provide a low-battery warning. If your phone is not available, you can also open the padlock using a seven-button combination on the padlock keypad. The body is zinc. The shackle is hardened boron alloy for superior cut resistance. Color is silver and black.

Padlock for outdoor use has a black rubber cover.

Master Lock Model No.	Shackle Dia.	Shackle Clearance Vert.	Shackle Clearance Horiz.		
For Indoor Use—Body is 2" Ht. × 1 15/16" Wd. × 1 1/16" Thick.					
4400D	9/32"	7/8"	13/16"	8018A11	$53.67
Replacement Battery for 4400D				7701K58	4.17
For Outdoor Use—Body is 2 15/16" Ht. × 2 1/4" Wd. × 1 1/16" Thick.					
4401DLH	11/32"	2"	15/16"	8018A12	68.23
Replacement Battery for 4401DLH				7821K62	11.00

Control Cabinet Keys

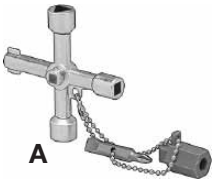
A

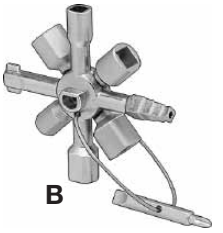
B


Square Key


Triangle Key


Two-Way Key


Half-Moon Key


Stepped Square Key

With a number of different key profiles, these keys are for use on a wide range of facility locking and shut-off systems. All keys include a No. 2 Phillips × 9/32" slotted reversible bit. Keys are zinc.

Style A has a 5, 6, and 8 mm square key; 9 mm triangle key; 3-5 mm two-way key; and 6-point/hex adapter for 1/4" (6.35 mm) bits.

Style B includes two four-arm keys held together with a magnet. It has a 5-11 mm square key, 7-12 mm triangle key, 3-5 mm two-way key, 6 mm half-moon key, and 6-9 mm stepped square key.

Style A	1330N1	$38.17
Style B	1330N2	50.63

Key Blanks

Find the key blanks you need to cut keys for padlocks, cabinet doors, and locksets. Match the equivalent key number on the key blank to the number printed on your key. Blanks are nickel-plated brass, except Sargent key blanks are nickel-silver.
Additional Key Numbers: Please ask for 10655A271 and specify key number.



ⓘ Not sure which key number you have? For actual-size drawings for all the key blanks we offer, go to mcmaster.com and search for 10655AAC.

Equivalent Key Number		Pkg. of 10
American		
1041C, AM1	10655A111	$6.68
1045, AM3	10655A112	6.67
Arrow		
1179, AR1	10655A115	6.67
1179A, AR4	10655A116	9.72
Best		
A1114A, BE2	10655A118	6.67
Chicago		
101AM, AP1, CH12, K101	10655A128	7.08
102AM, AP2, CH13, K102	10655A129	7.08
103AM, AP3, CH14, K103	10655A255	7.08
1041G, CG1	10655A125	6.67
1041T, CG16	10655A126	7.08
104AM, AP4, CH11	10655A131	7.08
Corbin		
1000V, CO26	10655A136	6.67
1003M, CO106	10655A256	6.67
A1001AH, CO91	10655A815	7.08
A1001EH, CO88	10655A138	6.67
Dexter		
D1054K, DE6	10655A143	6.67
ESP		
1502	10655A221	11.80
Fort		
FR2, L1054G	10655A147	7.08
Haworth		
1597, HAW1	10655A914	10.55

Equivalent Key Number		Pkg. of 10
Haworth (Cont.)		
1598, HAW2	10655A915	$10.55
1599, HAW3	10655A916	10.55
ILCO		
IN8, L1054B	10655A156	6.67
Illinois		
1043B	10655A223	7.08
Kwikset		
1176, KW1	10655A258	6.67
A1176ST, KW10	10655A161	7.08
Master		
1092, M1	10655A163	6.67
1092-6000, M20	10655A911	7.08
1092B, M2	10655A164	6.67
1092D, M12	10655A814	7.08
1092N, M10	10655A165	6.67
1092NR, M16, MS3R	10655A166	7.08
1092R, M15, M1RV	10655A168	7.92
1092V, M4	10655A167	6.67
1092VM, M5	10655A813	6.67
National		
1069G, RO7	10655A811	6.67
1069LB, NA12	10655A174	6.67
1069N, NCR6, RO3	10655A175	6.67
Russwin		
1011D1, RU45	10655A179	6.67
A1011D1, RU46	10655A261	6.67
A1011D41, RU53	10655A812	10.55

Equivalent Key Number		Pkg. of 10
Sargent		
1007LA, S22 1/2	10655A184	$7.92
O1007LA, S22	10655A183	10.55
Schlage		
1145, SC1	10655A187	6.67
1145A, SC4	10655A188	6.67
1145E, SC8	10655A189	6.67
A1145E, SC9	10655A262	6.67
A1145EF, SH6	10655A192	7.92
A1145F, SC10, SH7	10655A194	6.67
A1145L, SC20	10655A913	10.55
Segal		
1022, SE1	10655A193	6.67
Timberline		
1043J, IL11	10655A195	7.08
Weiser		
1054WB, WR3	10655A197	6.67
Westlock		
1175N, WK2	10655A263	6.67
Yale		
01122B, Y103	10655A816	6.67
997E, Y52	10655A818	6.67
998, Y4	10655A817	6.67
999, Y1	10655A206	6.67
999A, Y2	10655A207	6.67
O1122, Y11	10655A208	6.67
O1122A, Y12	10655A209	6.67
O1122R, Y13	10655A1	6.67

Extend and Retract Key Holders



A Belt-Clip Holder **B** Belt-Loop Holder **C** **D** with Split Ring

A cable or chain extends for reach and then retracts automatically. No need to detach keys for use. Key end swivels 360°. Cable and chain are stainless steel, unless noted. *Steel holders* are chrome plated. *Plastic holders* are black.

Ball-socket style holders have a slit that allows cable to be pulled out on the side or directly up, relieving stress on the cable. When the cable is fully retracted, the ball locks in place to prevent extension.

Belt-Clip Holders—Hook onto your belt.

360° Belt-Clip Holders—The belt clip hooks onto your belt and rotates 360°. On *steel holders* the belt clip is detachable. *Plastic holder* has a detachable split ring and a locking latch to keep cable extended.

Belt-Loop Holders—Slide onto your belt. *Standard style* fits belts up to 1¾″ wide. *Ball-socket style* fits belts up to 2¼″ wide.

Bolt-Down Holders—Keep important keys and tools from leaving the area. Holders have two mounting tabs with 3/16″ dia. holes; two #8 screws are required (not included). Bracket has 3/16″ dia. holes.

	Mat'l	Case Size	Holders with 48″ Cable		Holders with 24″ Chain	
Belt-Clip Holders with Split Ring						
A Standard	Steel	2 1/16″ Dia.	1324A22	$15.58	1324A1	$11.00
B Ball Socket	Plastic	2¾″×2 5/16″	1324A14	15.58	—	—
360° Belt-Clip Holders with Split Ring						
A Standard	Steel	2 1/16″ Dia.	1324A12	16.21	1324A11	12.58
C Standard	Plastic	2 5/8″×2 3/16″	1893A3■	25.07	—	—
Belt-Loop Holders with Split Ring						
A Standard	Steel	2 1/16″ Dia.	1324A33	15.58	1324A5	11.00
B Ball Socket	Plastic	2¾″×2 5/16″	1324A13	19.56	—	—
Bolt-Down Holder with Split Ring						
D Standard	Steel	2 1/16″ Dia.	1324A27	14.88	1324A7	11.79
Bolt-Down Holder with Clamp						
D Standard	Steel	2 1/16″ Dia.	1324A24	15.91	1324A2	12.81
Bolt-Down Holder with Bracket						
D Standard	Steel	2 1/16″ Dia.	1324A29	15.35	—	—

■ Has 42″ nylon cable.

Key Duplicating Machines

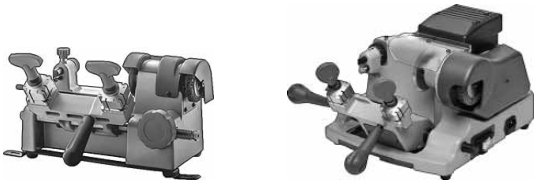

Manual-Guide Intermittent Duty **Manual-Guide Continuous Duty**

Machines accept large-head keys up to 3½″ wide. They operate on 120 volts AC and have an 8-ft. cord with three-prong plug. Housing is metal. Machines come with instructions.

Manual-Guide Machines—Maneuver the machine cutters by hand to duplicate keys. *Intermittent-duty* machine is 1/3 hp with 2,900 rpm. Includes a deburring tool. *Continuous-duty* machine is 1/3 hp with 1,350 rpm. Includes a deburring brush.

Automatic Machine—To duplicate keys, press the cycle start switch to begin the cutting operation and this machine will do the rest. Machine is 1/3 hp with 1,350 rpm. Includes a deburring brush.

Also Available: Replacement parts. Please order 1334A5 and specify machine style and part needed: cutting wheel, drive belt, or nylon brush. Note: Nylon brush is not available for the manual-guide intermittent-duty machine.

	Ht.	Wd.	Dp.		
Manual-Guide					
Intermittent Duty	8¾″	12¼″	9½″	1335A12	$555.88
Continuous Duty	10¼″	18⅛″	18½″	1334A11	964.29
Automatic					
Continuous Duty	11¾″	18⅞″	18½″	1334A13	1,263.89

Keyhead Covers

These assortments of high-visibility covers fit most standard-size keys to make them easy to identify. They will not fit large-head automotive or hotel keys. Each assortment contains 200 pieces. There are 25 each of the following colors: black, dark blue, light blue, green, pink, purple, red, and yellow.



Half Round **Round**

Half Round	10755A78	$21.11
Round	10755A76	21.11

Key Holders & Key Boxes

Locking Key Holders





A lock protects your keys from being removed and duplicated. The lock is aluminum. Holders include two keys.

Flexible—These holders have a flexible key cable that can also be used to secure small tools to workbenches. They have a 1″ Dia.×2 1/8″ Lg. black body. Key cable is nylon-coated stainless steel.

Rigid Choose-a-Color—These holders come in a variety of colors for easy key identification. Choose them if you need several holders that open with the same key. They have a rigid 304 stainless steel key ring that separates from the body and is interchangeable, so you can quickly transfer a set of keys from one lock to another. **To Order:** Please specify color: black, blue, green, orange, red, or yellow.

Key No.	Cable Lg.	Flexible		Rigid Choose-a-Color Ring OD		
Keyed Differently						
———	12″	13255A21	$42.35	___	_____	_____
———	24″	13255A24	42.35	___	_____	_____
Keyed Alike						
R17134	12″	13255A32	42.35	1 1/2″	1835A41	$37.79
R21085	24″	13255A36	42.35	2 1/2″	1835A42	37.79

Key Holders

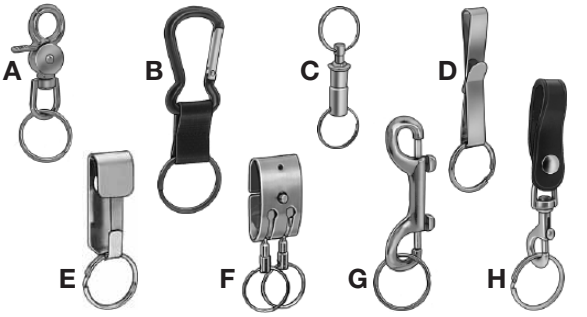

		Lg.		
Standard				
A	Snap Hook	3 1/2″	11115A17	$2.91
B	Carabiner	4 1/2″	11115A19	3.30
Releasable				
C	Ring with Push-Button Release	3 1/8″	1839A11	1.58
D	Belt Clip with Slide-Off Release	3 7/8″	11115A18	2.48
E	Belt Loop with Lever Release	3 1/4″	11115A12	2.03
F	Belt Loop with Push-Button Release	3 1/4″	1839A13	2.45
G	Snap Hook with Snap Hook Release	4 1/2″	1839A12	3.24
H	Strap with Snap Hook Release	6 1/2″	11115A11	6.61

Locking Key-Access Boxes



Store and secure keys and other small objects in these resettable combination lock boxes. *Styles B-G* can be used outdoors.

(A) Wall-Mount Emergency Key Boxes—For emergency access to stored keys, break the glass with the attached tool. Choose keyed differently boxes if you need boxes that each open with a different key. Choose keyed alike boxes if you need several boxes that open with the same key. Both come with mounting screws and two keys.

(B) Wall-Mount Key Boxes with Push-Button Combination—The two-key capacity box includes mounting screws; the seven-key capacity box requires four 1/4″ mounting screws.

(C) Wall-Mount Key Boxes with Dial Combination—Includes mounting screws.

(D) Wall-Mount Key Boxes with Rolling-Digit Combination—Has a magnet for mounting.

(E & F) Door-Mount Key Boxes with Combination—Attach like a padlock onto doorknobs. The box and steel shackle have a rubber protector to prevent marring. Overall height is 5 3/4″. Vertical shackle clearance is 1 3/4″; horizontal shackle clearance is 1 1/2″.

(G) Door-Mount Key Boxes with Dial Combination—Mounts over the top edge of doors up to 1 7/8″ thick and secures with the included screws. The box has plastic on the back to protect your door's surface.

	Key Cap.	Material	Ht.	Wd.	Dp.	Color		
Wall-Mount Key Boxes								
A Keyed Differently	5	Steel	6 7/8″	6 3/4″	2″	Red	1536A36	$49.74
A Keyed Alike—Opens with JC01	5	Steel	6 7/8″	6 3/4″	2″	Red	1536A43	49.74
B With Push-Button Combination	2	Zinc	3 7/8″	2 1/4″	1 5/8″	Gray	13275A44	38.53
B With Push-Button Combination	7	Zinc	4 7/8″	3 1/2″	2 3/4″	Black	13275A45	67.78
C With Dial Combination	5	Zinc	4 1/8″	2 1/2″	1 7/8″	Gray	1689A21	34.23
D With Rolling-Digit Combination	1	Plastic	3 1/4″	2 1/4″	3/4″	Gray	1869A11	11.47
Door-Mount Key Boxes								
E With Dial Combination	3	Zinc	3 7/8″	2 1/2″	1 3/4″	Black	1689A11	38.53
F With Push-Button Combination	3	Zinc	3 7/8″	2 1/2″	1 3/4″	Black	13275A46	45.11
G With Dial Combination	5	Zinc	2 5/8″	4 1/2″	2 3/8″	Black	1689A24	38.53
Replacement Glass for Style A							1536A37	4.90

Key Collection Boxes



Drop keys, access cards, and other small objects into the slot at the top of the box, and only the person with the access key can retrieve them. Slots are 2 5/16″ Lg.×1/2″ Wd. Boxes come with two keys. They are steel with a gray powder-coated finish. Wall mount with the included screws.

Key Cap.	Ht.	Wd.	Dp.		
Keyed Differently					
30	7 1/4″	4 3/8″	3 1/4″	19055A21	$54.94
Keyed Alike—Opens with Key No. BL01					
30	7 1/4″	4 3/8″	3 1/4″	19055A27	54.94

Key-Control Cases



Organize, transport, and store keys in these portable zippered cases. They come with blank, reusable key tags and a marker. The key tags securely mount to strips inside the case with hook-and-loop fasteners. Cases are black vinyl.

Key Cap.	Ht.	Wd.	Dp.		
24	8 1/2″	7″	1 3/8″	11075A14	$41.14
48	11 3/4″	8 5/8″	1 3/8″	11075A18	67.88

Single-Use Key-Access Boxes



Once you snap these boxes closed to secure keys, access control cards, passwords, or codes, you have to break them open to access the contents. These boxes are not reusable.

Write your name or a message in the space provided to ensure the contents will not be used and replaced in another box without your knowledge. All are plastic. Size is 4 3/4″ Ht.×3″ Wd.×3/4″ Dp.

To Order: Please specify color: blue, clear, red, or yellow.

12665A5 ..... $9.17

Locking Key-Control Cabinets

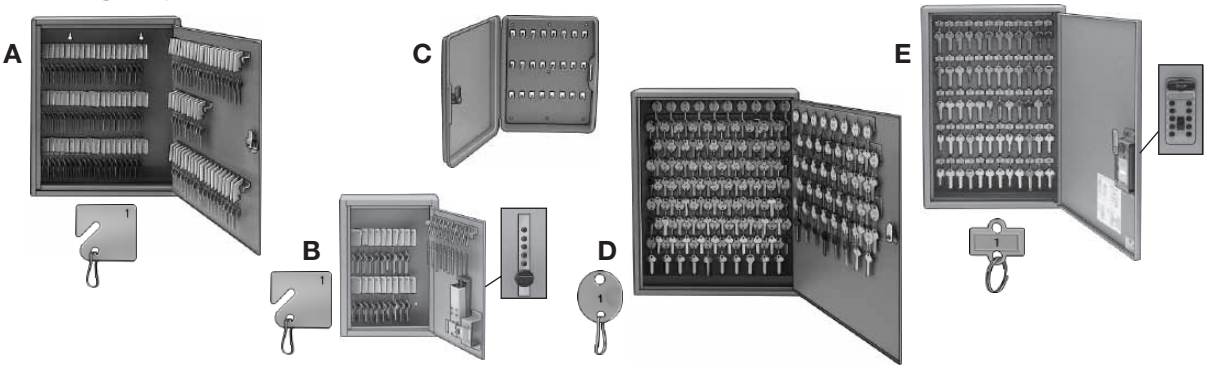

Lock and keep track of keys in these wall-mount cabinets. Mounting screws are included.

Style A—Includes consecutively numbered, reusable key tags and "out key" tags (one for every 10 key positions) to hang in place of a loaned key. For keys up to 3¼" long. Locks come with two keys. Cabinet is steel. **To Order:** Please specify color: beige or white, unless noted.

Style B—Includes consecutively numbered, reusable key tags and "out key" tags (one for every 10 key positions) to hang in place of a loaned key. It has a resettable push-button combination with 1,000 possible combinations. For keys up to 3" long. Cabinet is steel with a beige powder-coated finish.

Style C—Has consecutively numbered hooks and does not include key tags. Each hook holds one key and accommodates keys up to 2½" long. Lock comes with two keys; key tags sold separately below. Cabinet is beige plastic.

Style D—Includes consecutively numbered, reusable key tags. Each hook holds up to five keys and accommodates keys up to 3" long. Locks come with two keys. Cabinet is steel with a gray powder-coated finish.

Style E—Includes consecutively numbered, reusable key tags. It has a resettable push-button combination with 1,000 possible combinations. Each hook holds one key and accommodates keys up to 2⅜" long. Cabinet is steel with a beige powder-coated finish.

Slotted Style

	Key Cap.	Material	Ht.	Wd.	Dp.		
With Key Lock							
A	10	Steel	6¾"	6⅞"	2"	1338A421★	$28.82
A	30	Steel	12⅛"	8"	2⅝"	1338A43	51.50
A	60	Steel	12⅛"	10⅝"	3"	1338A44	77.60
A	110	Steel	17⅛"	14"	3⅛"	1338A45	133.04
A	160	Steel	20⅛"	16½"	4⅞"	1338A46	171.42
A	240	Steel	20⅛"	16½"	4⅞"	1338A47	234.54

★Not available in white.

	Key Cap.	Material	Ht.	Wd.	Dp.		
With Key Lock (Cont.)							
A	320	Steel	20⅛"	16½"	4⅞"	1338A5★	$265.34
With Push-Button Combination Lock							
B	30	Steel	12⅛"	8"	2⅝"	1286A11	137.24
B	60	Steel	12⅛"	10⅝"	3"	1286A12	166.76
B	120	Steel	20⅛"	16½"	4⅞"	1286A13	199.75

Hook Style

	Key Cap.	Material	Ht.	Wd.	Dp.		
With Key Lock							
C	24	Plastic	10½"	8½"	1¾"	1695A11	$26.96
D	120	Steel	20⅛"	16½"	5"	1347A61	145.78
D	240	Steel	20⅛"	16½"	5"	1347A62	197.52
D	300	Steel	31⅛"	16½"	5"	1347A63	240.26
D	390	Steel	31⅛"	16½"	5"	1347A64	323.76

	Key Cap.	Material	Ht.	Wd.	Dp.		
With Key Lock (Cont.)							
D	700	Steel	31⅛"	16½"	7"	1347A65	$645.35
With Push-Button Combination Lock							
E	30	Steel	11¾"	7⅞"	2⅜"	1185A1	75.93
E	60	Steel	19¼"	13⅜"	4"	1185A2	111.64
E	120	Steel	19¼"	13⅜"	4"	1185A3	161.62

Blank Key Tags for Style C Cabinet (Pkg. of 20) 1333A21 5.23

Loan-One and Keep-One Locking Key-Control Cabinets

For a higher level of key control than other wall-mountable cabinets, these have hooks that each hold two keys—a control key and a duplicate loaner key. The control key remains in the cabinet when its loaner key is removed. All cabinets include consecutively numbered key tags and 250 "out key" tags to hang in place of a loaned key. Once the control key is attached to the tag, you may only remove it by destroying the tag. The loaner key tag is reusable. Cabinets are steel with a gray powder-coated finish. Requires four ¼" mounting screws.

Cabinets with key lock include two keys.

Cabinets with push-button combination lock have a resettable combination with 2,200 possible combinations.

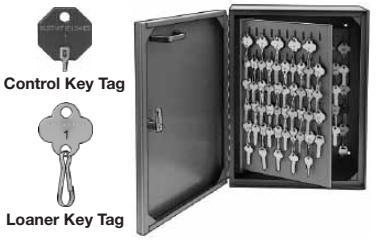

For Keys Up to 2½" Long

Key Cap.	Ht.	Wd.	Dp.	With Key Lock		With Push-Button Combination Lock	
25	16¼"	12⅛"	5"	1331A8	$117.26	1331A31	$187.43
50	16¼"	12⅛"	5"	1331A7	161.57	1331A32	238.93
75	16¼"	12⅛"	5"	1331A1	192.63	1331A33	260.65

Key Cap.	Ht.	Wd.	Dp.	With Key Lock		With Push-Button Combination Lock	
125	16¼"	12⅛"	5"	1331A2	$259.93	1331A34	$309.34
250	27"	13"	7⅞"	_____	_____	1331A21	487.65
350	27"	13"	7⅞"	1331A23	539.91	_____	_____

For Keys Up to 4" Long

Key Cap.							
Total	For Keys Up to 2"	For Keys Up to 4"	Ht.	Wd.	Dp.	With Key Lock	
45	25	20	16¼"	12⅛"	5"	1350A41	$248.73
65	25	40	16¼"	12⅛"	5"	1350A42	270.33

Key Cap.							
Total	For Keys Up to 2"	For Keys Up to 4"	Ht.	Wd.	Dp.	With Key Lock	
85	50	35	27"	13"	7⅞"	1350A43	$276.33
120	50	70	27"	13"	7⅞"	1350A44	382.65

Lockout Devices

For choose-a-color lockout padlocks, see page 2915. For lockout/tagout danger tags, see pages 1915-1916.

Lockout Hasps



Lock out a single energy control on machinery and electrical equipment so it can't be used. *Vinyl-coated* hasps won't mar surfaces.
Hasps **with chain** attach to equipment so they won't get lost.
Hasps **with label** have an attached label to record employee name and department.

Hasp Clearance Vertical	Hasp Clearance Horizontal	Hasp Thick.	For Max. No. of Padlocks	For Max. Padlock Shackle Dia.	Overall Lg.	Overall Wd.	Material		
(A) Lockout Hasps									
1″	1″	1/4″	6	7/16″	4 3/8″	1 1/2″	Vinyl-Coated Aluminum	12005A61	$9.61
1″	1″	1/4″	6	7/16″	4 7/16″	1 1/2″	Vinyl-Coated 304 Stainless Steel	12025A71	40.17
1 1/4″	1 1/4″	1/4″	6	5/16″	4 9/16″	1 1/2″	Vinyl-Coated 304 Stainless Steel	12025A72	40.17
1 1/2″	1 1/2″	1/4″	6	7/16″	4 7/8″	1 1/2″	Vinyl-Coated Aluminum	12005A63	11.40
(A) Lockout Hasps with 6″ Chain									
1″	1″	1/4″	6	7/16″	4 3/8″	1 1/2″	Vinyl-Coated Aluminum	12005A62	12.62
1 1/2″	1 1/2″	1/4″	6	7/16″	4 7/8″	1 1/2″	Vinyl-Coated Aluminum	12005A64	13.97
(A) Pry-Resistant Interlocking-Hasp Lockouts									
1″	1″	1/8″	6	3/8″	4 1/2″	1 1/2″	Vinyl-Coated Steel	11525A71	6.17
1 1/2″	1 1/2″	1/8″	6	3/8″	5″	1 1/2″	Vinyl-Coated Steel	11525A73	8.10
(A) Pry-Resistant Interlocking-Hasp Lockouts with 8″ Chain									
1″	1″	1/8″	6	3/8″	4 1/2″	1 1/2″	Vinyl-Coated Steel	11525A72	7.13
1 1/2″	1 1/2″	1/8″	6	3/8″	5″	1 1/2″	Vinyl-Coated Steel	11525A74	8.93
(B) Pry-Resistant Interlocking-Hasp Valve Lockout with 8″ Chain									
1″	1″	1/8″	6	3/8″	4 1/2″	1 1/2″	Vinyl-Coated Steel	11525A75	11.87
(C) Low-Profile Lockout Hasps									
1″	1 1/4″	1/4″	7	3/8″	3″	3″	Nickel-Plated Steel	11545A71	8.89
1″	1 1/4″	1/4″	7	3/8″	3″	3″	304 Stainless Steel	11545A85	20.00
(C) Low-Profile Lockout Hasps with Label									
1″	1 1/4″	1/4″	7	3/8″	3″	3″	Nickel-Plated Steel	11545A83	11.11
(D) Choose-a-Color Lockout Hasps with Label—To Order: Please specify color: blue, green, or red.									
1 1/16″	1 3/8″	3/16″	6	5/16″	7 3/8″	3″	Anodized Aluminum	10915A51	16.90
(E) Pry-Resistant Lockout Hasps									
1 1/4″	1″	1/4″	6	3/8″	5″	2 5/16″	Vinyl-Coated Steel	11465A78	24.18
3″	1″	1/4″	6	3/8″	6 3/4″	2 1/4″	Zinc-Plated Steel	11465A77	13.16
(F) Pry-Resistant Lockout Hasps with Padlock Slot									
1″	1″	1/8″	5	5/16″	3 1/4″	2 1/4″	Zinc-Plated Steel	11465A71	10.49
1″	1″	1/4″	5	5/16″	3 1/4″	2 1/4″	Zinc-Plated Steel	11465A72	10.49
3″	1″	1/8″	9	5/16″	6 5/8″	2 1/4″	Zinc-Plated Steel	11465A74	10.93
3″	1″	1/4″	9	5/16″	6 3/4″	2 1/4″	Zinc-Plated Steel	11465A75	11.91
(G) Nonconductive Lockout Hasps									
3″	1 1/8″	3/8″	6	1/4″	7 13/16″	1 9/16″	Red Plastic	11755A65	5.30
(H) Dual-Jaw Lockout Hasps									
1/2″, 1″	1/2″, 1″	5/16″	6	5/16″	7 3/4″	1 3/8″	Zinc-Plated Steel	11505A81	6.25
1″, 1 1/2″	1″, 1 1/2″	1/4″	8	9/32″	5 7/8″	2″	Aluminum	11375A31	8.87

Lockout Cables



These flexible cables wrap around and through panel boxes, freestanding equipment, and multiple gate valves to keep them inoperable. Body is plastic.

Pinch Point—Thread the free end of the cable through the looped end and into the lockout clamping hole; pull tight and close handle to pinch the cable for a secure fit. Cable is nylon-coated steel so it won't mar surfaces.

Pull Tight—After locking, pull the cable tight for a secure fit. Cable is plastic-coated steel so it won't mar surfaces. It includes write-on labels in English, French, and Spanish.

Self Retracting—Extend the cable and place its loop in the body opening. Rotate the body to lock the cable for a secure fit. When unlocked, the cable retracts into the body with the push of a button. Cable is red nylon.

Color	For Max. No. of Padlocks	For Max. Padlock Shackle Dia.	5-ft. Cable		10-ft. Cable	
Pinch Point—3/16″ dia. Cable; Body is 4 1/2″ Lg. x 1″ Wd. x 5/8″ Thick.						
Orange	3	3/16″	10565A31	$20.57	10565A32	$24.90
Red	3	1/4″	10565A41	20.57	10565A42	24.90
Yellow	3	9/32″	10565A51	20.57	10565A52	24.90

Color	For Max. No. of Padlocks	For Max. Padlock Shackle Dia.	6-ft. Cable		8-ft. Cable	
Pull Tight—3/16″ dia. Cable; Body is 2 3/4″ Lg. x 2 3/4″ Wd. x 1″ Thick.						
Red	4	9/32″	3294A11	$24.43		
Self Retracting—1/16″ dia. Cable; Body is 4″ Dia. x 1 3/4″ Thick.						
Red	6	9/32″			1811A11	$40.02

Wall Switch Lockouts



Mount this lockout over toggle- and rocker-style wall switches to make the switch inaccessible. Switches can be locked out in either the on or off position. When not in use, the cover flips up to allow normal switch operation. Lockout mounts using the screws from your switch cover plate. It requires one padlock (not included) with a 9/32″ maximum shackle diameter. Lockout is plastic. Overall size is 4 3/4″ Lg. x 1 3/4″ Wd. x 1″ Dp. Color is red. It includes English/Spanish and English/French labels.

12135A72 ... $8.21

For choose-a-color lockout padlocks, see page 2915. For lockout/tagout danger tags, see pages 1915-1916.

Group Lockout Boxes

Lock out a machine with fewer padlocks when a team is working. After locking one padlock to each electrical control and placing the keys in the box, workers lock their own padlocks to the box. The keys are only accessible when all the workers remove their padlocks for group safety.

Portable—Minimum padlock shackle vertical clearance is 5⁄8″.

Wall Mount—This box has six key hooks inside and a plastic window for viewing contents. Requires three #4 mounting screws (not included).

Portable/Wall Mount—These boxes have 12 key hooks inside. Require four #8 screws (not included) for wall mounting.



Portable


Wall Mount


Portable/ Wall Mount

(Padlocks Not Included)

Material	Color	Lg.	Wd.	Ht.	For Max. No. of Padlocks	For Max. Padlock Shackle Dia.		
Portable								
Steel	Red	9″	3 1⁄2″	6″	12	9⁄32″	12605A18	$86.35
Wall Mount								
Plastic	Red	4″	5 1⁄2″	6 1⁄4″	8	9⁄32″	12605A25	55.95
Portable/Wall Mount								
Steel	Red	6 3⁄8″	3 1⁄2″	12 3⁄4″	14	9⁄32″	12605A19	71.72
Steel	Yellow	6 3⁄8″	3 1⁄2″	12 3⁄4″	14	9⁄32″	12605A21	71.72

Valve Handle Lockouts


A

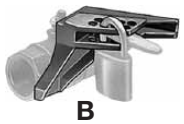
B


C

(Padlocks Not Included)

Prevent valve handles from turning. Color is red.

(A) Slide the lockout onto the valve handle; the valve body prevents the handle from turning. Made of plastic. Temperature range is -50° to 360°F.

(B) Slide the lockout onto the valve handle; the valve body prevents the handle from turning. Minimum padlock shackle vertical clearance is 1″. Made of steel, except 48635K81 is plastic (temperature range is -40° to 248°F).

(C) Close your valve, remove the handle, and store the handle in the lockout's zippered pouch. The lockout fits around the pipe, covers the valve stem, and secures the pouch's zipper to prevent valve operation. Minimum padlock vertical shackle clearance is 3⁄4″. Lockout is plastic. Write-on labels in English, French, and Spanish are included. Temperature range is -40° to 250°F.

	For Pipe Size	For Handle Lg.	For Max. No. of Padlocks	For Max. Padlock Shackle Dia.		
Slide On, Locks in Open and Closed Position						
A	3⁄8-1 1⁄4	5 3⁄8″-7 1⁄2″	7	1⁄4″	45075K27	$24.05
Slide On, Locks in Closed Position						
A	1 1⁄2-2 1⁄2	7 1⁄2″-10″	7	1⁄4″	45075K37	40.48
A	2-8	12″-17 1⁄2″	5	1⁄4″	45075K47	78.35
B	1⁄4-1	_____	6	3⁄8″	48635K32	33.08
B	1⁄4-1	_____	8	9⁄32″	48635K81	33.95
B	1 1⁄4-3	_____	6	9⁄32″	48635K33	48.60
B	1 1⁄4-3	_____	7	3⁄8″	48635K38	48.44
Wraparound, Locks in Closed Position						
C	3⁄8-4	Up to 11″	3	9⁄32″	3299A11	30.30

Lockouts for Valve Hand Wheels


Two Piece


Hinged


Nestable

Cover your valve's hand wheel and secure with a padlock (not included) to prevent the wheel from turning. Made of plastic. Temperature range is -50° to 350°F.

Two Piece—Fits a wide range of sizes. To Order: Please specify color: red or yellow.

Hinged—A hinged design makes mounting these lockouts easy. To Order: Please specify color: blue, green, red, or yellow.

Nestable—Each lockout rotates into itself, making installation in tight spaces easier than other lockouts. Lockouts are red and include write-on labels in English, French, and Spanish.

For Hand Wheel Dia.	For Max. No. of Padlocks	For Max. Padlock Shackle Dia.		
Two Piece				
1″-6 1⁄2″	3	3⁄8″	48195K11	$88.20
Hinged				
1″-2 1⁄2″	1	1⁄4″	47235K51	17.10
2 1⁄2″-5″	3	1⁄4″	47235K52	25.50
5″-6 1⁄2″	3	1⁄4″	47235K53	35.33
6 1⁄2″-10″	3	1⁄4″	47235K54	42.12
10″-14″	3	1⁄4″	47235K55★	62.40
Nestable				
1″-3″	2	9⁄32″	3286A11	14.33
2″-5″	3	9⁄32″	3286A12	21.81
4″-6 1⁄2″	4	9⁄32″	3286A13	29.67
6″-10″	4	9⁄32″	3286A14	40.21
8″-13″	4	9⁄32″	3286A15	69.00
Set of 5 Nestable Lockouts (1 of each above)			3286A16	166.04

★Not available in blue or green.

Air Hose Lockouts


(Padlock Not Included)

Isolate air-powered equipment from a compressed air source. This lockout fits most 1⁄4, 3⁄8, and 1⁄2 quick-disconnect hose couplings—each arm of the lockout accepts a different size. Use with one padlock that has a maximum shackle diameter of 9⁄32″. Lockout is 3″ wide. Made of red plastic. Maximum temperature is 482°F.

3423A11 ..... $23.05

Electrical Plug Lockouts

Lock out an electrical plug so it can't be used.

(A) Put the plug into the cylinder and lock the cover with a single padlock (not included; 5⁄16″ maximum shackle dia.). Lockout fits cords up to 1 1⁄4″ dia. and plugs up to 5 1⁄2″ Lg.×3″ Wd. It is 6 1⁄4″ Lg.×3 1⁄2″ Dia. Made of plastic. Color is yellow. Temperature range is 32° to 275°F.

10645A65 ..... $16.18


A

(Padlock Not Included)

(B) Secure a wide range of electrical plugs. Lockout fits a maximum plug size of 4 3⁄4″ Lg.×2 3⁄4″ Wd., minimum plug width of 1 1⁄2″, and maximum cord diameter of 1 1⁄8″. Accepts up to four padlocks (not included; 3⁄8″ maximum shackle diameter). Lockout is 7 1⁄4″ Lg.×4 1⁄4″ Dia. Color is yellow. Temperature range is -20° to 140°F.

15515A41 ..... $23.92


B

(Padlock Not Included)

(C) These lockouts plug into standard two- and three-prong plugs and lock with keys so the plug can't be used. Lockouts are 1 3⁄4″ Lg.× 1 1⁄4″ Wd.×3⁄4″ Dp. Made of steel with a red plastic coating. Temperature range is -40° to 194°F. Two keys are included.

Keyed Differently Lockout	10715A15	$17.00
Keyed Alike Lockout—Opens with key no. 4001	10715A19	17.00


C

Lockout Sets

A



B

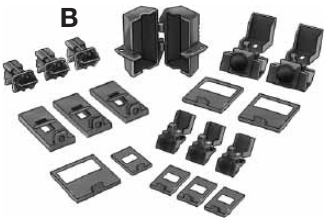

C



D



Sets include a variety of lockouts to help keep machines and electrical equipment inoperable when repairs are being made. Padlocks, hasps, and lockouts are red.

(A) Lockout Set with Keyed Alike Padlocks—Includes three padlocks (open with the same key, have a 1/4″ dia. shackle, and include labels), a hasp, 12 tags, and a waist pouch.

4974A11 ..... $90.94

(B) Electrical Lockout Set without Padlocks—Includes three wall-switch lockouts, an electrical plug lockout, three multipole circuit-breaker lockouts, three 277V AC no-hole circuit-breaker lockouts, two 480/600V AC no-hole circuit-breaker lockouts, a 277V AC cleat, a 480/600V AC cleat, and a zippered bag.

12865A32 ..... $122.62

(C) Electrical and Valve Lockout Set with Keyed Alike Padlocks—Includes three padlocks (open with the same key, have a 1/4″ dia. shackle, and include labels), a circuit breaker padlock, five circuit-breaker lockouts, a wall-switch lockout, a cable lockout, three valve-wheel lockouts (for wheel diameters 1″-3″, 2″-5″, and 4″-6 1/2″), two valve-handle lockouts (fit pipe sizes 3/8-4; max. 11″ long valve handle), a hasp, a snap-on hasp, 12 tags, and a plastic box.

4974A13 ..... $314.12

(D) Electrical and Valve Lockout Set with Keyed Differently Padlocks—Includes six padlocks (each opens with a different key, has a 1/4″ dia. shackle, and includes labels), two circuit-breaker padlocks, nine circuit-breaker lockouts, two wall-switch lockouts, a cable lockout, three valve-wheel lockouts (for wheel diameters 1″-3″, 2″-5″, and 4″-6 1/2″), two valve-handle lockouts (fit pipe sizes 3/8-4; max. 11″ long valve handle), two plug covers (one for 120/220V AC plugs and one for 220/550V AC plugs), a hasp, a snap-on hasp, 24 tags, and a plastic bag.

4974A15 ..... $456.06

Wall-Mount Lockout Sets



A&B



C

Sets contain items for group lockouts and are furnished in a yellow plastic case that mounts to the wall to keep the items organized in a central location. Each padlock in these sets opens with a different key. Padlocks have a 1/4″ dia. shackle and include labels. Padlocks, hasps, and lockouts are red.

(A&B) Lockout Sets with Padlocks—Sets require four #6 mounting screws (not included).

(C) Electrical and Valve Lockout Set—Set requires eight #10 mounting screws (not included). In addition to the items listed, this set comes with two plug lockouts. Valve wheel lockouts fit wheel diameters 1″-3″, 2″-5″, 4″-6 1/2″, and 6″-10″. Valve handle lockouts fit pipe sizes 3/8-4.

			Includes									
	Padlocks	Hasps	Snap-On Hasps	Circuit Breaker Lockouts	Cable Lockouts	Wall Switch Lockouts	Valve Wheel Lockouts	Valve Handle Lockouts	Tags	Ht.	Wd.	Dp.		
Lockout Sets with Padlocks														
A	4	2	0	0	0	0	0	0	12	12 1/4″	16″	1 3/4″	**4977A11**	$166.51
B	10	2	0	0	0	0	0	0	24	15 1/2″	22″	1 3/4″	**4977A12**	306.28
Electrical and Valve Lockout Set with Padlocks														
C	6	2	1	8	1	2	4	2	24	27″	23 1/2″	4 1/2″	**4977A15**	693.87

Circuit Breaker Lockouts



Single Pole



Tie-Bar Multipole



No Hole

Prevent electrical circuits from being energized. Lockouts accept a single padlock with a maximum shackle diameter of 9/32″ (padlock not included). All are compatible with Square D circuit breakers. Made of red plastic. Temperature range is 0° to 175° F.

Single-pole lockout works with most 120V AC circuit breakers that have a hole through the breaker lever.

Tie-bar multipole lockout is suitable for most multipole breakers that have a tie bar, including Bryant, Challenger, GE, General Switch, ITE, Sylvania, and Westinghouse.

No-hole lockouts work on most single-pole circuit breakers that don't have a hole through the breaker lever.

	Overall				
	Lg.	Wd.	Dp.		
Single Pole	2 1/8″	13/16″	5/16″	**12365A61**	$5.08
Tie-Bar Multipole	2 1/4″	1 1/4″	1 1/16″	**12365A75**	10.98
No-Hole 120/277V AC	2″	1 3/8″	7/8″	**12365A71**	11.42
No-Hole 480/600V AC	2 3/4″	1 3/4″	1 13/16″	**12365A72**	12.77

DIN-Rail Circuit Breaker Lockouts

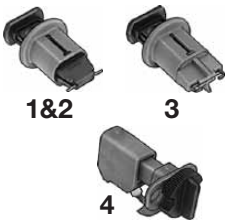



Style 1 Shown Mounted

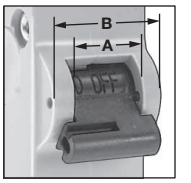

Lock out circuit breakers that are designed to mount on DIN rails. All of these lockouts accept one padlock with a 9/32″ maximum shackle diameter (padlock not included). Made of red plastic. Not rated for temperature.

Styles 1-3 work with single and multipole breakers. **Style 4** works with multipole breakers that have a tie bar. A thumb wheel simplifies use.

		For		*Overall*				
		(A)	(B)	Lg.	Wd.	Dp.		
1	Pin Out	3/8″	—	1 3/4″	15/16″	15/16″	**7243A11**	$14.24
2	Pin Out	3/4″	—	1 3/4″	15/16″	15/16″	**7243A13**	14.24
3	Pin In	—	9/16″	1 3/4″	15/16″	15/16″	**7243A12**	14.24
4	Tie Bar	—	—	2 1/2″	1 1/4″	15/16″	**7243A14**	14.24

Lockout Labels and Sleeves for Padlocks

Comply with lockout/tagout procedures. All labels and sleeves have space for employee's name and department.

(A) Adhesive-Back Labels—Apply directly to locks. Supplied with a clear plastic strip to cover and protect the label. Color is red.

(B) Labels with Heat-Shrink Sleeve—Use a heat gun to apply the clear, shrink-to-fit sleeve over the label for protection from dirt and moisture. Color is blue. 5028T52 allows you to add the employee's picture for identification.

(C) Heat-Shrink Sleeves—Use a heat gun to apply these solid-colored sleeves to locks. **To Order:** Please specify color: blue, green, red, or yellow.



5028T44

A



5028T53

B

5028T52



C

(Padlocks Not Included)

	Message	Fits Lock Bodies Up to	Label Size Lg.	Label Size Ht.	Sleeve Size Dia.	Sleeve Size Ht.	Pkg. Qty.		Pkg.
A	Danger—Do not remove this lock	4⅝″ around	5″	¾″	—	—	10	5028T44	$7.78
A	Danger—Do not operate	3⅝″ around	4″	⅝″	—	—	5	5028T53	8.19
A	Peligro—Equipo bloqueado (Spanish)	4⅛″ around	4½″	¾″	—	—	6	5028T61	10.38
A	Danger—Verrouillée (French)	4⅛″ around	4½″	¾″	—	—	6	5028T62	10.38
B	Do not remove this lock my safety depends on it	6¼″ around	6½″	1″	2⅛″	1½″	5	5028T51	9.26
B	Locked out by (insert photo and name)	6¼″ around	6½″	1¼″	2⅛″	1½″	5	5028T52	9.26
C	Danger—Locked out	4 11/16″ around	—	—	1½″	2⅛″	10	5028T23	12.31

Gas Cylinder Lockouts

Prohibit access to the main valve on a gas cylinder. Lockout accommodates neck rings up to 3½″ dia. and accepts one padlock with a 9/32″ max. shackle diameter. Lockout is 6 1/16″ long. Made of red plastic. Max. temperature is 172° F.



(Padlock Not Included)

3409A11 ..... $17.49

Lockout Bags



(Padlocks Not Included)

Canvas



Nylon

Lock out hoist controls, large electrical connectors, and other odd-sized controls. Bags have a cinch top to close.

Canvas bag is yellow. **Nylon** bag has the message "Locked Out—Do Not Remove" in English, French, and Spanish. Color is red.

Material	Overall Lg.	Overall Wd.	For Max. No. of Padlocks	For Max. Padlock Shackle Dia.		
Canvas	18″	9¾″	1	9/32″	12605A15	$50.12
Nylon	17″	7″	6	9/32″	1573A11	26.32

Lockout/Tagout Reference Media

Understand important lockout/tagout regulations. Reference media explains OSHA's specifications and procedures.

Compliance manual provides the information you need to start your own safety lockout/tagout program.

Video programs include a 21-minute DVD, instructor's guide, schedule, attendance forms, and quizzes.

Compliance Manual	9401T55	$137.46
Video Program—English	9401T581	269.23
Video Program—Spanish	9401T582	269.23

Padlockable Bars for Drawer Cabinets

Bars have a spring hinge and fold over the edge of your cabinet drawers to keep contents secure. Lock the drawers closed with a padlock (not included).

Bars are made of gray-painted steel and are 1½″ wide. They mount to the surface of your cabinet with the included hardware. Bars require a minimum mounting width of ¼″ for installation. When mounting the bar next to a drawer pull, you'll need a minimum of ½″ clearance from the drawer pull as well as ½″ of mounting width on the cabinet edge.

Lg.	For Max. Padlock Shackle Dia.		
12″	5/16″	12485A81	$39.02
22½″	5/16″	12485A82	41.78
34½″	5/16″	12485A83	46.09



(Padlock Not Included)

Padlockable and Locking Bars for File Cabinets



Style A

(Padlock Not Included)

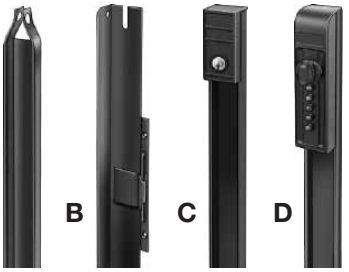

Surface mount these bars on nonlocking cabinets to secure the contents. The bar slides over a notched pin at the bottom, fits into a notched or clevis pin at the top, and locks at the top. All bars are 1½″ Wd. x 1/8″ Thick. black-painted steel and can be cut to the length you need. They come with ⅜″ clevis pins, washers, notch pins, and nuts for mounting. Instructions are included.

Padlockable Bars

Padlocks are not included.

(A) Standard—Mount on the front of the cabinet. For access to cabinet drawers, remove the bar.

(B) Easy Access—Bars have hinges and swing out of the way for easy access to cabinet drawers. Mount them to either corner to secure the contents. Bars require a minimum mounting width of ½″ for installation. Hinges are 8″ Lg. x ½″ Wd.

Lg.	For No. of Drawers	For Max. Padlock Shackle Dia.		
(A) Standard				
27″	2	7/16″	1687A16	$59.20
29″	2	7/16″	1687A11	45.43
51¼″	4	7/16″	1687A13	48.88
59″	5	7/16″	1687A14	52.32
64″	5	7/16″	1687A15	59.20
(B) Easy Access				
27″	2	⅜″	1687A26	67.46
29″	2	⅜″	1687A21	56.45
51¼″	4	⅜″	1687A23	61.28
59″	5	⅜″	1687A24	64.03
64″	5	⅜″	1687A25	67.46

Locking Bars

Mount these bars on the front of the cabinet.

(C) Keyed—Locks have a C keyway and include two keys.

(D) Push-Button Combination—Choose your combination from 2,000 possibilities.

Lg.	For No. of Drawers	Key No.		
(C) Keyed—Each Bar Opens with a Random Key				
29″	2	_____	1687A31	$74.97
51¼″	4	_____	1687A33	81.31
59″	5	_____	1687A34	84.96
64″	5	_____	1687A75	93.17
(C) Keyed Alike—Each Bar Opens with the Same Key				
29″	2	41767	1687A55	74.97
51¼″	4	25767	1687A57	81.31
59″	5	47767	1687A58	84.96
64″	5	63767	1687A74	93.17
(D) Push-Button Combination				
29″	2	_____	1687A81	126.25
51¼″	4	_____	1687A84	131.67
59″	5	_____	1687A87	134.18

About Padlocks

You'll find our basic padlocks on pages 2914-2915. They have random key numbers. If you want to add padlocks or keys to an existing system, purchase a padlock with more than two keys, or create systems of locks (keyed alike or master keyed), see pages 2916-2924. For combination padlocks, see page 2925.

Most padlocks have a locking mechanism with multiple pins or discs. When choosing between padlocks with different numbers of pins or discs, the lock with more pins or discs will be harder to pick.

Strength and corrosion resistance are important factors to consider in selecting a padlock. See the chart at right for the relative strength and corrosion resistance of padlock materials.

Strength		Corrosion Resistance
Solid Steel	Greatest ↑	Brass
Laminated Steel, Plastic-Covered Laminated Steel		Stainless Steel
		Plastic-Covered Laminated Steel
		Plastic
Stainless Steel		Aluminum
Aluminum		Zinc
Brass, Zinc		Solid Steel
Plastic		Laminated Steel

Padlocks

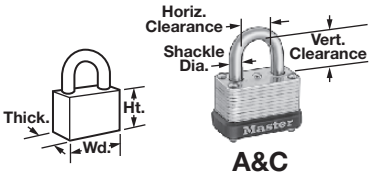

A&C



B



D&E


F


G


H



J


K

• Include two keys.

A steel body and shackle give Styles A-J strength. Style K has a zinc body which is not as strong, but has better corrosion resistance. Choose these locks if you need locks that each open with a different key. All locks have random key numbers.

(A&B) Master Lock Warded Laminated Steel—Have a basic warded locking mechanism and a gray bumper. Shackle is steel. *Style B* have an adjustable vertical shackle clearance.

(C-F) Master Lock Laminated Steel—*Style C* have a blue bumper, a steel shackle, and a four-pin tumbler. *Style D* have gray bumpers, a hardened steel shackle, and a four-pin tumbler. *Style E* have gray bumpers, a hardened steel shackle, and a five-pin tumbler. *Style F* has a hardened steel shackle and a five-pin tumbler.

(G&H) Master Lock Solid Steel—Have a hardened steel shackle and a five-pin tumbler. *Style H* has a protected shackle.

(J) American Lock Solid Steel—Have a hardened steel shackle and a five-pin tumbler.

(K) Zinc—Have a hardened steel shackle and a six-disc tumbler. Body is tan.

	Shackle Clearance Dia.	Shackle Clearance Vert.	Shackle Clearance Horiz.	Body Ht.	Body Wd.	Body Thick.	Model No.		1-5	6-Up
A	5/32"	7/16"	3/8"	3/4"	1"	5/16"	10	1189A41	$2.46	$2.23
A	3/16"	1/2"	1/2"	1 1/8"	1 1/8"	5/8"	105	1189A21	3.14	2.84
A	1/4"	5/8"	9/16"	1 1/8"	1 1/2"	3/4"	22	1189A31	3.29	2.97
A	9/32"	13/16"	13/16"	1 3/16"	1 3/4"	7/8"	500	1189A1	3.96	3.58
B	9/32"	7/8"-2"	13/16"	1 3/16"	1 3/4"	7/8"	510	1182A5	6.23	5.63
B	9/32"	3 1/8"-5 3/8"	13/16"	1 3/16"	1 3/4"	7/8"	517	1182A1	6.59	5.95
C	3/16"	9/16"	1/2"	1 1/8"	1 1/8"	3/4"	7	1176A12	6.70	6.05
C	3/16"	1 1/2"	1/2"	1 1/8"	1 1/8"	3/4"	7	1176A16	8.11	7.32
C	3/16"	2 1/2"	1/2"	1 1/8"	1 1/8"	3/4"	7	1176A61	8.43	7.61
D	9/32"	3/4"	5/8"	1 3/8"	1 9/16"	1 1/16"	3	1176A13	8.43	7.61
D	9/32"	1 1/2"	5/8"	1 3/8"	1 9/16"	1 1/16"	3	1176A17	9.82	8.87
D	9/32"	2"	5/8"	1 3/8"	1 9/16"	1 1/16"	3	1176A65	10.80	9.76
D	5/16"	15/16"	3/4"	1 3/8"	1 3/4"	1 1/8"	1	1176A14	9.68	8.74
D	5/16"	1 1/2"	3/4"	1 3/8"	1 3/4"	1 1/8"	1	1176A18	11.09	10.02
D	5/16"	2 1/2"	3/4"	1 3/8"	1 3/4"	1 1/8"	1	1176A62	11.41	10.31
D	5/16"	5 3/4"	3/4"	1 3/8"	1 3/4"	1 1/8"	1	1176A21	14.61	13.19
D	3/8"	1"	15/16"	1 9/16"	2"	1 1/4"	5	1176A15	12.30	11.11
D	3/8"	1 1/2"	15/16"	1 9/16"	2"	1 1/4"	5	1176A19	13.70	12.37
D	3/8"	2 1/2"	15/16"	1 9/16"	2"	1 1/4"	5	1176A39	14.04	12.68
E	5/16"	15/16"	3/4"	1 7/16"	1 3/4"	1 1/8"	81	1193A11	13.54	12.23
E	5/16"	1 1/2"	3/4"	1 7/16"	1 3/4"	1 1/8"	81	1193A18	14.93	13.48
E	5/16"	2 1/2"	3/4"	1 7/16"	1 3/4"	1 1/8"	81	1193A19	15.25	13.77
E	7/16"	2"	1 3/16"	2"	2 1/2"	1 1/2"	15	1179A15	24.34	21.98
F	5/16"	3"	2 1/4"	1 9/16"	3 1/4"	1 1/8"	101	1905A12	26.21	23.68
G	5/16"	1 3/16"	7/8"	1 15/16"	1 3/4"	7/8"	7040	1491A1	16.95	15.31
H	5/16"	1 3/16"	7/8"	3 3/8"	1 3/4"	7/8"	7045	1491A2	30.04	27.13
J	7/16"	1 1/16"	15/16"	2 1/8"	2 1/2"	1 1/8"	700	12705A21	32.84	29.80
J	7/16"	2"	15/16"	2 1/8"	2 1/2"	1 1/8"	701	12705A25	34.31	31.13
K	1/4"	3/4"	3/4"	1 3/8"	1 1/2"	3/4"	___	1199A1	9.27	8.34
K	1/4"	1 1/4"	3/4"	1 3/8"	1 1/2"	3/4"	___	1199A31	10.13	9.12
K	1/4"	2 3/4"	3/4"	1 3/8"	1 1/2"	3/4"	___	1155A6★	13.24	11.92
K	1/4"	5"	3/4"	1 3/8"	1 1/2"	3/4"	___	1155A7★	13.49	12.14

★Has a brass identification tag.

Weather-Resistant Padlocks


A&B



C



D

• Include two keys.

Choose these strong and corrosion-resistant locks if you need locks that each open with a different key. All locks have random key numbers and pins in the tumbler.

(A&B) Abus Lock—Have a stainless steel body. 1831A31 and 1831A11 have a stainless steel shackle. 1831A24 has a hardened steel shackle.

(C&D) Master Lock Pro Series—Have a laminated-steel body with black plastic cover. Shackle is hardened steel. *Style D* have a protected shackle.

	Shackle Clearance Dia.	Shackle Clearance Vert.	Shackle Clearance Horiz.	Body Ht.	Body Wd.	Body Thick.	No. of Pins	Model No.		1-5	6-Up
A	5/16"	1/2"	3/4"	2 3/8" Dia.	___	1 1/16"	4	24/60	1831A31	$23.82	$21.32
B	3/8"	3/4"	3/4"	2 3/4" Dia.	___	1 3/16"	5	24/70	1831A11	26.47	23.68
B	15/32"	5/8"	1"	3 5/8" Dia.	___	1 3/16"	5	26/90	1831A24	61.76	55.26
C	5/16"	1 1/8"	7/8"	2 5/16"	2 1/8"	1 1/2"	5	6121	10885A21	20.12	18.18
C	3/8"	1 3/8"	7/8"	2 5/16"	2 3/8"	1 1/2"	5	6125	10885A22	23.38	21.11
C	7/16"	1 3/8"	7/8"	2 5/16"	2 5/8"	1 1/2"	5	6127	10885A23	27.20	24.56
D	5/16"	3/4"	7/8"	2 5/16"	2 1/8"	1 1/2"	5	6321	11345A23	27.68	25.00
D	3/8"	3/4"	7/8"	2 5/16"	2 3/8"	1 1/2"	5	6325	11345A24	32.75	29.58
D	7/16"	3/4"	7/8"	2 5/16"	2 5/8"	1 1/2"	5	6327	11345A25	37.77	34.11

Weather-Resistant Brass-Body Padlocks

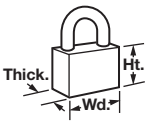

• Include two keys.

Tough enough to stand up to corrosion, high humidity, and atmospheric pollution, these padlocks are well-suited for refineries and marine applications. Choose these locks if you need locks that each open with a different key. All locks have random key numbers and pins in the tumbler.

(A) Master Lock Laminated Brass—Have a blue bumper. Model 8 locks have a steel shackle. Model 2, 4, and 6 locks have a hardened steel shackle.

(B-D) Solid Brass—*Style B* have a brass shackle. *Styles C* and *D* have a hardened steel shackle.

	Shackle			Body			No. of	Model			
	Dia.	Clearance Vert.	Clearance Horiz.	Ht.	Wd.	Thick.	Pins	No.		1-5	6-Up
A	3/16″	9/16″	1/2″	1 3/16″	1 1/8″	3/4″	4	8	1315A32	$9.14	$8.26
A	3/16″	1 1/2″	1/2″	1 3/16″	1 1/8″	3/4″	4	8	1315A31	10.55	9.53
A	9/32″	3/4″	5/8″	1 7/16″	1 9/16″	3/4″	4	4	1315A33	11.32	10.23
A	9/32″	2″	5/8″	1 7/16″	1 9/16″	3/4″	4	4	1315A36	13.71	12.39
A	5/16″	15/16″	3/4″	1 7/16″	1 3/4″	1″	4	2	1315A34	13.25	11.97
A	5/16″	1 1/2″	3/4″	1 7/16″	1 3/4″	1″	4	2	1315A37	14.66	13.24
A	5/16″	2 1/2″	3/4″	1 7/16″	1 3/4″	1″	4	2	1315A38	14.98	13.53
A	5/16″	5 3/4″	3/4″	1 7/16″	1 3/4″	1″	4	2	1315A91	18.18	16.42
A	3/8″	1″	15/16″	1 9/16″	2″	1 1/4″	4	6	1315A35	16.46	14.87
A	3/8″	1 1/2″	15/16″	1 9/16″	2″	1 1/4″	4	6	1315A45	17.88	16.15
A	3/8″	2 1/2″	15/16″	1 9/16″	2″	1 1/4″	4	6	1315A21	18.20	16.44
B	3/16″	5/8″	5/8″	1 1/8″	1 1/8″	9/16″	4	_	1557A24	10.96	9.87
B	3/16″	2″	5/8″	1 1/8″	1 1/8″	9/16″	4	_	1557A51	12.50	11.25
B	1/4″	7/8″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1557A21	11.15	10.03
B	1/4″	2″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1557A54	13.23	11.91
B	1/4″	4″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1557A55	15.09	13.58
B	1/4″	6″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1557A56	15.91	14.32
B	1/4″	8″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1557A57	15.91	14.32
B	3/8″	1″	1″	1 1/2″	2″	1″	5	_	1557A23	15.45	13.90
B	3/8″	2″	1″	1 1/2″	2″	1″	5	_	1557A61	18.40	16.56
B	3/8″	4″	1″	1 1/2″	2″	1″	5	_	1557A62	20.69	18.62
C	1/4″	13/16″	13/16″	1 1/2″	1 1/2″	1/2″	4	_	1834A21	6.49	5.86
C	1/4″	1″	15/16″	1 1/2″	1 3/4″	1/2″	4	_	1834A25	7.71	6.96
D	1/4″	7/8″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1742A11★	10.90	9.81
D	1/4″	15/16″	1″	1 3/4″	2″	9/16″	5	_	1834A27	10.15	9.17
D	1/4″	2″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1742A12★	13.20	11.89
D	1/4″	3″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1742A13★	14.31	12.88
D	1/4″	4″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1742A14★	13.85	12.46
D	1/4″	5″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1742A15★	15.18	13.66
D	1/4″	8″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1742A16★	15.18	13.66

★Has a brass identification tag.

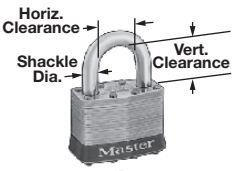

A



B-D

Choose-a-Color Lockout Padlocks

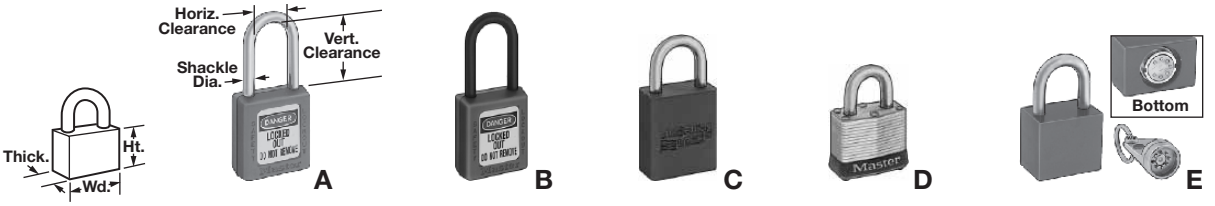

• Include two keys, unless noted.

Lockout padlocks come in a variety of colors for lockout identification compliance. Choose these locks if you need locks that each open with a different key. All locks have random key numbers and pins in the tumbler.

(A) Master Lock Plastic Body—Entire body is colored. Shackle is hardened steel. Locks include a Danger label as well as a write-on label marked Property of. **To Order:** Please specify body color: black, blue, green, orange, purple, red, teal, or yellow.

(B) Master Lock Plastic Body with Plastic Shackle—All external parts are plastic, making this lock nonconductive, nonsparking, and nonmagnetic. Entire body is colored. Shackle is plastic. Lock includes a Danger label as well as a write-on label marked Property of. **To Order:** Please specify body color: black, blue, green, orange, purple, red, teal, or yellow.

(C) American Lock Aluminum Body—Entire body is colored. Shackle is hardened steel. **To Order:** Please specify body color: black, blue, brown, gold, green, orange, purple, or red.

(D) Master Lock Laminated-Steel Body—Locks have a colored bumper. Shackle is hardened steel. **To Order:** Please specify bumper color: black, blue, green, red, white, or yellow.

(E) Aluminum Body with No-Copy Key—Locks have specially designed keys that cannot be duplicated and cannot be removed when the lock is open. Entire body is colored. Shackle is stainless steel. **To Order:** Please specify body color: black, blue, bronze, gold, red, or tan.

	Shackle			Body			No. of	Model			
	Dia.	Clearance Vert.	Clearance Horiz.	Ht.	Wd.	Thick.	Pins	No.		1-5	6-Up
A	1/4″	1 1/2″	13/16″	1 3/4″	1 1/2″	3/4″	6	410	13305A11■	$13.22	$11.82
A	1/4″	1 1/2″	13/16″	3″	1 1/2″	3/4″	6	411	13305A15■	14.61	13.07
B	1/4″	1 1/2″	3/4″	1 3/4″	1 1/2″	3/4″	6	406	1191A19■	12.48	11.28
C	1/4″	1″	3/4″	1 13/16″	1 1/2″	3/4″	5	A1105	12095A11	13.57	12.31
C	1/4″	3″	3/4″	1 13/16″	1 1/2″	3/4″	5	1107	12095A15	16.45	14.93
D	9/32″	3/4″	5/8″	1 3/8″	1 9/16″	1 1/8″	4	3	11775A11	8.73	7.89
D	9/32″	2″	5/8″	1 3/8″	1 9/16″	1 1/8″	4	3	11775A15	11.11	10.03
E	1/4″	1″	13/16″	1 5/16″	1 1/2″	1″	7	_	13355A11	35.14	31.72
E	1/4″	2″	13/16″	1 5/16″	1 1/2″	1″	7	_	13355A12	35.91	32.41
E	3/8″	1″	1″	1 5/8″	2″	1″	7	_	13355A13	37.35	33.79
E	3/8″	2″	1″	1 5/8″	2″	1″	7	_	13355A14	38.20	34.48

■ Includes one key.

Padlocks & Additional Keys

For information about padlocks, see page 2914. For padlocks with random key numbers, see pages 2914-2915.

About Padlock Keying Options

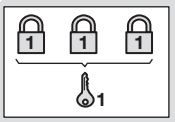

Keyed Alike Padlocks (pages 2916-2920)—Choose these locks if you need several locks that open with the same key. You can also find locks and keys to match a specific key number.

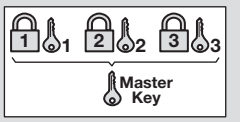

Master Keyed Padlocks and Sets (pages 2922-2924)—Choose these locks if you want individual locks or groups of locks that open with their own key, but also open with a master key.

Keyed Alike Padlocks

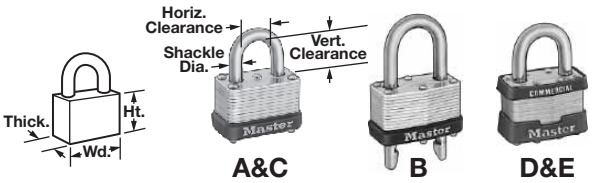



• Include two keys.

Choose these locks if you need several locks that open with the same key. A steel body and shackle give Styles A-J strength. Style K has a zinc body which is not as strong, but has better corrosion resistance. If the lock or key with the key number you want isn't listed, order the "Other Key Nos." and specify your desired key number.

(A&B) Master Lock Warded Laminated Steel—Have a basic warded locking mechanism and a gray bumper. Shackle is steel. *Style B* have an adjustable vertical shackle clearance.

(C-F) Master Lock Laminated Steel—*Style C* have a blue bumper, steel shackle, and four-pin tumbler. *Style D* have gray bumpers, a hardened steel shackle, and a four-pin tumbler. *Styles E* and *F* have gray bumpers, a hardened steel shackle, and a five-pin tumbler.

(G&H) Master Lock Solid Steel—Have a hardened steel shackle and a five-pin tumbler. *Style H* has a protected shackle.

(J) American Lock Solid Steel—Have a hardened steel shackle and a five-pin tumbler.

(K) Zinc—Have a hardened steel shackle and a six-disc tumbler. Body is tan.

	Shackle			Body	Model		Padlocks			Additional Key	
		Clearance									
	Dia.	Vert.	Horiz.	Ht. × Wd. × Thick.	No.	Key Number		1-5	6-Up		
A	3/16"	1/2"	1/2"	1 1/8" × 1 1/8" × 5/8"	105	048	1189A211	$3.89	$3.52		
						075	1189A22	3.89	3.52		
A	1/4"	5/8"	9/16"	1 1/8" × 1 1/2" × 3/4"	22	280	1189A32	4.02	3.63		
						338	1189A713	4.02	3.63		
						Other Key Nos.	1189A322	4.02	3.63		
A	9/32"	13/16"	13/16"	1 3/16" × 1 3/4" × 7/8"	500	227	1189A512	4.68	4.23		
						370	1189A2	4.68	4.23		
						Other Key Nos.	1189A201	4.68	4.23		
B	9/32"	7/8"-2"	13/16"	1 3/16" × 1 3/4" × 7/8"	510	F27	1182A6	6.91	6.24		
B	9/32"	3 1/8"-5 3/8"	13/16"	1 3/16" × 1 3/4" × 7/8"	517	F29	1182A3	7.25	6.55		
C	3/16"	9/16"	1/2"	1 1/8" × 1 1/8" × 3/4"	7	P139	1176A31	7.57	6.84	1176A1	$3.66
						P225	1176A312	7.57	6.84	1176A172	3.66
						Other Key Nos.	1176A311	7.57	6.84	1176A5	3.66
C	3/16"	1 1/2"	1/2"	1 1/8" × 1 1/8" × 3/4"	7	P619	1176A353	8.96	8.10	1176A174	3.66
						P734	1176A35	8.96	8.10	1176A2	3.66
						Other Key Nos.	1176A351	8.96	8.10	1176A5	3.66
C	3/16"	2 1/2"	1/2"	1 1/8" × 1 1/8" × 3/4"	7	P349	1176A63	9.29	8.39	1176A3	3.66
						P518	1176A632	9.29	8.39	1176A176	3.66
						Other Key Nos.	1176A631	9.29	8.39	1176A5	3.66
D	9/32"	3/4"	5/8"	1 3/8" × 1 9/16" × 1 1/16"	3	0356	1176A323	9.29	8.39	1176A128	3.66
						0400	1176A302	9.29	8.39	1176A144	3.66
						0464	1176A325	9.29	8.39	1176A142	3.66
						3210	1176A322	9.29	8.39	1176A136	3.66
						3581	1176A32	9.29	8.39	1176A11	3.66
						Other Key Nos.	1176A328	9.29	8.39	1176A5	3.66
D	9/32"	1 1/2"	5/8"	1 3/8" × 1 9/16" × 1 1/16"	3	0536	1176A36	10.68	9.65	1176A111	3.66
						3210	1176A362	10.68	9.65	1176A136	3.66
						3753	1176A365	10.68	9.65	1176A129	3.66
						Other Key Nos.	1176A361	10.68	9.65	1176A5	3.66
D	9/32"	2"	5/8"	1 3/8" × 1 9/16" × 1 1/16"	3	0344	1176A662	11.68	10.55	1176A145	3.66
						3975	1176A66	11.68	10.55	1176A154	3.66
						Other Key Nos.	1176A661	11.68	10.55	1176A5	3.66
D	5/16"	15/16"	3/4"	1 3/8" × 1 3/4" × 1 1/8"	1	2001	1176A337	10.55	9.53	1176A222	3.66
						2004	1176A336	10.55	9.53	1176A147	3.66
						2344	1176A33	10.55	9.53	1176A113	3.66
						2402	1176A334	10.55	9.53	1176A114	3.66
						Other Key Nos.	1176A181	10.55	9.53	1176A5	3.66

(Continued on following page)

Keyed Alike Padlocks *(Continued from previous page)*

	Shackle			Body	Model		Padlocks			
	Dia.	Clearance Vert.	Clearance Horiz.	Ht. × Wd. × Thick.	No.	Key Number		1-5	6-Up	Additional Key
D	5/16″	1 1/2″	3/4″	1 3/8″ × 1 3/4″ × 1 1/8″	1	2016	1176A374	$11.95	$10.79	1176A137 $3.66
						2126	1176A372	11.95	10.79	1176A161 3.66
						2402	1176A37	11.95	10.79	1176A114 3.66
						Other Key Nos.	1176A376	11.95	10.79	1176A5 3.66
D	5/16″	2 1/2″	3/4″	1 3/8″ × 1 3/4″ × 1 1/8″	1	2126	1176A641	12.27	11.08	1176A161 3.66
						2863	1176A64	12.27	11.08	1176A115 3.66
						Other Key Nos.	1176A643	12.27	11.08	1176A5 3.66
D	5/16″	5 3/4″	3/4″	1 3/8″ × 1 3/4″ × 1 1/8″	1	X2282	1176A22	15.48	13.98	1176A116 3.66
						Other Key Nos.	1176A227	15.48	13.98	1176A5 3.66
D	3/8″	1″	15/16″	1 9/16″ × 2″ × 1 1/4″	5	A124	1176A345	13.16	11.89	1176A177 3.66
						A506	1176A34	13.16	11.89	1176A117 3.66
						Other Key Nos.	1176A341	13.16	11.89	1176A5 3.66
D	3/8″	1 1/2″	15/16″	1 9/16″ × 2″ × 1 1/4″	5	A243	1176A383	14.57	13.16	1176A165 3.66
						A389	1176A38	14.57	13.16	1176A118 3.66
						Other Key Nos.	1176A381	14.57	13.16	1176A5 3.66
D	3/8″	2 1/2″	15/16″	1 9/16″ × 2″ × 1 1/4″	5	A152	1176A412	14.89	13.45	1176A171 3.66
						Other Key Nos.	1176A411	14.89	13.45	1176A5 3.66
E	5/16″	15/16″	3/4″	1 7/16″ × 1 3/4″ × 1 1/8″	81	10R34	1193A123	14.39	13.00	1176A211 3.66
						Other Key Nos.	1193A122	14.39	13.00	1176A5 3.66
E	5/16″	1 1/2″	3/4″	1 7/16″ × 1 3/4″ × 1 1/8″	81	10R20	1193A312	15.79	14.26	1176A215 3.66
						10R21	1193A313	15.79	14.26	1176A185 3.66
						Other Key Nos.	1193A311	15.79	14.26	1176A5 3.66
E	5/16″	2 1/2″	3/4″	1 7/16″ × 1 3/4″ × 1 1/8″	81	10R16	1193A325	16.12	14.56	1176A216 3.66
						Other Key Nos.	1193A321	16.12	14.56	1176A5 3.66
E	7/16″	1 1/4″	13/16″	2″ × 2 1/2″ × 1 1/2″	15	19N473	1179A16	22.80	20.60	1176A126 3.66
						Other Key Nos.	1179A161	22.80	20.60	1176A5 3.66
E	7/16″	2″	13/16″	2″ × 2 1/2″ × 1 1/2″	15	10N104	1179A17	25.20	22.76	1176A127 3.66
						Other Key Nos.	1179A171	25.20	22.76	1176A5 3.66
E	7/16″	1″	3/4″	1 3/4″ × 2″ × 1 3/8″	17	19T461	1179A42	17.11	15.45	1176A124 3.66
						Other Key Nos.	1179A421	17.11	15.45	1176A5 3.66
E	7/16″	2″	3/4″	1 3/4″ × 2″ × 1 3/8″	17	10T424	1179A46	19.48	17.60	1176A125 3.66
						Other Key Nos.	1179A461	19.48	17.60	1176A5 3.66
F	5/16″	3″	2 1/4″	1 9/16″ × 3 1/4″ × 1 1/8″	101	10L255	1905A14	27.09	24.47	1905A711 3.87
						Other Key Nos.	1905A141	27.09	24.47	1905A7 3.87
G	5/16″	13/16″	7/8″	1 15/16″ × 1 3/4″ × 7/8″	7040	10G050	1491A3	17.80	16.08	1176A218 3.66
						Other Key Nos.	1491A111	17.80	16.08	1491A5 2.83
H	5/16″	13/16″	7/8″	3 3/8″ × 1 3/4″ × 7/8″	7045	10G054	1491A4	30.89	27.90	1176A219 3.66
						Other Key Nos.	1491A112	30.89	27.90	1491A5 2.83
J	7/16″	1 1/16″	15/16″	2 1/8″ × 2 1/2″ × 1 1/8″	700	26868	12705A22	33.82	30.69	12705A112 2.30
						Other Key Nos.	12705A221	33.82	30.69	12705A11 2.30
J	7/16″	2″	15/16″	2 1/8″ × 2 1/2″ × 1 1/8″	701	27234	12705A26	35.31	32.04	12705A111 2.30
						Other Key Nos.	12705A261	35.31	32.04	12705A11 2.30
K	1/4″	3/4″	3/4″	1 3/8″ × 1 1/2″ × 3/4″	—	CAT15	1199A5	9.27	8.34	1199A21 3.56
						Other Key Nos.	1199A41	9.27	8.34	1199A2 3.56
K	1/4″	1 1/4″	3/4″	1 3/8″ × 1 1/2″ × 3/4″	—	CAT60	1199A32	10.13	9.12	1199A23 3.56
						Other Key Nos.	1199A42	10.13	9.12	1199A2 3.56
K	1/4″	2 3/4″	3/4″	1 3/8″ × 1 1/2″ × 3/4″	—	AUE1	1155A1★	13.89	12.50	1155A91 3.56
						Other Key Nos.	1155A111★	13.89	12.50	1155A9 3.56
K	1/4″	5″	3/4″	1 3/8″ × 1 1/2″ × 3/4″	—	AUE1	1155A2★	14.38	12.94	1155A91 3.56
						Other Key Nos.	1155A211★	14.38	12.94	1155A9 3.56

★Has a brass identification tag.

Match-Your-Key Padlocks

Insert your key into the keying tool (sold separately) and place the key in the padlock. Then, strike the tool with a hammer to set the padlock's key pattern. Padlocks can be matched to your key from Master Lock padlock Model Nos. 1, 3, or 5. Locks have a laminated-steel body, a hardened steel shackle, and a four-pin tumbler.

Note: Locks cannot be master keyed.

Shackle			Body			For			Required	
Dia.	Clearance Vert.	Clearance Horiz.	Ht.	Wd.	Thick.	Model No.	Padlocks		Keying Tool	
9/32″	3/4″	5/8″	1 7/16″	1 9/16″	15/16″	3	8381A32	$7.89	8381A49	$40.50
9/32″	1 1/2″	5/8″	1 7/16″	1 9/16″	15/16″	3	8381A36	9.14	8381A49	40.50
5/16″	15/16″	3/4″	1 7/16″	1 3/4″	1 1/16″	1	8381A21	9.05	8381A49	40.50
5/16″	2 1/2″	3/4″	1 7/16″	1 3/4″	1 1/16″	1	8381A25	10.61	8381A49	40.50
3/8″	1″	15/16″	1 5/8″	2″	1 1/4″	5	8381A41	11.46	8381A49	40.50
3/8″	1 1/2″	15/16″	1 5/8″	2″	1 1/4″	5	8381A45	12.71	8381A49	40.50





Keying Tool

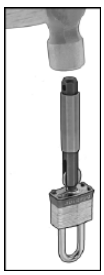

Padlocks & Additional Keys

For information about padlocks, see page 2914. For information about keying options, see page 2916.

About Keyed Alike Padlocks

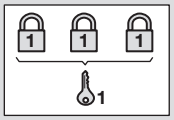

Choose these locks if you need several locks that open with the same key. You can also find locks and keys to match a specific key number. For example, use keyed alike locks if you have multiple tool boxes and want them to open with the same key.

Weather-Resistant Keyed Alike Padlocks

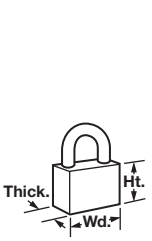



A



B&C



D



E



F

- Include two keys.

A step above ordinary padlocks, these are made for strength and corrosion resistance. Choose these locks if you need several locks that open with the same key. If the lock or key with the key number you want isn't listed, order the "Other Key Nos." and specify your desired key number.

(A) Master Lock Titanium Series—Has a stainless steel body, a hardened steel shackle, a black bumper, and a four-pin tumbler.

(B&C) Abus Lock—Have a stainless steel body. *Style B* have a stainless steel shackle and a four-pin tumbler. *Style C* has a hardened steel shackle and a five-pin tumbler.

(D&E) Master Lock Pro Series—Have a laminated-steel body with black plastic cover, a hardened steel shackle, and a five-pin tumbler.

(F) Stainless Steel with No-Copy Key—Has specially designed keys that cannot be duplicated and cannot be removed when the lock is open. Lock has a stainless steel body and shackle and a seven-disc tumbler.

	Shackle			Body	Model		Padlocks				
		Clearance								Additional Key	
	Dia.	Vert.	Horiz.	Ht. × Wd. × Thick.	No.	Key Number		1-5	6-Up		
A	5/16"	15/16"	3/4"	3 9/16" × 2 5/16" × 1 5/16"	187	3475	1039A14	$15.65	$13.89	1039A24	$3.64
B	5/16"	1/2"	3/4"	2 3/8" Dia. × 1 1/16"	24/60	0261	1831A32	24.66	22.07	1831A44	3.48
						Other Key Nos.	1831A322	24.66	22.07	____	____
B	3/8"	3/4"	3/4"	2 3/4" Dia. × 1 3/16"	24/70	0123	1831A12	27.31	24.43	1831A42	3.48
						Other Key Nos.	1831A122	27.31	24.43	____	____
C	15/32"	5/8"	1"	3 3/8" Dia. × 1 3/16"	26/90	0377	1831A38	62.60	56.01	1831A43	3.48
						Other Key Nos.	1831A252	62.60	56.01	____	____
D	5/16"	1 1/8"	7/8"	2 5/16" × 2 1/8" × 1 1/2"	6121	10G012	10885A252	21.00	18.97	10885A312	3.66
						12G100	10885A25	21.00	18.97	10885A318	3.66
						Other Key Nos.	10885A251	21.00	18.97	10885A3	3.66
D	3/8"	1 3/8"	7/8"	2 5/16" × 2 3/8" × 1 1/2"	6125	12G100	10885A262	24.23	21.89	10885A318	3.66
						12G101	10885A26	24.23	21.89	10885A313	3.66
						Other Key Nos.	10885A261	24.23	21.89	10885A3	3.66
D	7/16"	1 3/8"	7/8"	2 5/16" × 2 5/8" × 1 1/2"	6127	12G100	10885A272	28.05	25.34	10885A318	3.66
						12G102	10885A27	28.05	25.34	10885A314	3.66
						Other Key Nos.	10885A271	28.05	25.34	10885A3	3.66
E	5/16"	3/4"	7/8"	2 5/16" × 2 1/8" × 1 1/2"	6321	12G103	11345A33	28.55	25.79	11345A51	3.66
						Other Key Nos.	11345A332	31.39	28.35	10885A3	3.66
E	3/8"	3/4"	7/8"	2 5/16" × 2 3/8" × 1 1/2"	6325	12G104	11345A34	33.62	30.37	11345A52	3.66
						Other Key Nos.	11345A342	36.98	33.40	10885A3	3.66
E	7/16"	3/4"	7/8"	2 5/16" × 2 5/8" × 1 1/2"	6327	12G105	11345A35	38.62	34.89	11345A53	3.66
						Other Key Nos.	11345A352	42.50	38.39	10885A3	3.66
F	1/4"	9/16"	5/8"	2 3/16" × 2 3/16" × 1 3/16"	____	MAJY4S3K6L	1527A42	62.45	55.51	1527A63	9.97

Breakable-Shackle Padlocks



A



B

- Include two keys.

In an emergency, use a hammer to quickly break the shackle on these keyed alike locks. They are often used for sprinkler shutoff valves and fire hose housings. Locks have a specific key number, a zinc shackle, and a basic warded locking mechanism.

Style A are Master Lock laminated-steel body padlocks with a gray bumper. **Style B** has a steel body.

	Shackle			Body					
		Clearance							
	Dia.	Vert.	Horiz.	Ht.	Wd.	Thick.	Key Number		
A	9/32"	13/16"	13/16"	1 1/16"	1 3/4"	1 1/16"	197	1165A235	$5.96
A	9/32"	13/16"	13/16"	1 1/16"	1 3/4"	1 1/16"	229	1165A233	5.96
A	9/32"	13/16"	13/16"	1 1/16"	1 3/4"	1 1/16"	267	1165A23	5.96
B	9/32"	15/16"	1 1/16"	1 3/4"	2"	1/2"	6500	1165A31	14.46

For information about padlocks, see page 2914. For information about keying options, see page 2916.

Weather-Resistant Keyed Alike Brass-Body Padlocks

• Include two keys.

A brass body gives these padlocks the ability to withstand corrosion. Choose these locks if you need several locks that open with the same key. If the lock or key with the key number you want isn't listed, order the "Other Key Nos." and specify your desired key number.

(A) Master Lock Laminated Brass—Have a blue bumper and a four-pin tumbler. Model 8 have a steel shackle. Model 2, 4, and 6 have a hardened steel shackle.

(B-D) Solid Brass—Have a five-pin tumbler, unless noted. *Style B* have a brass shackle. *Style C* have a stainless steel shackle. *Style D* have a hardened steel shackle.

(E&F) Solid Brass with No-Copy Key—Locks have specially designed keys that cannot be duplicated and cannot be removed when the lock is open. Locks have an 11-disc tumbler. *Style E* has a stainless steel shackle. *Style F* has a hardened steel shackle.

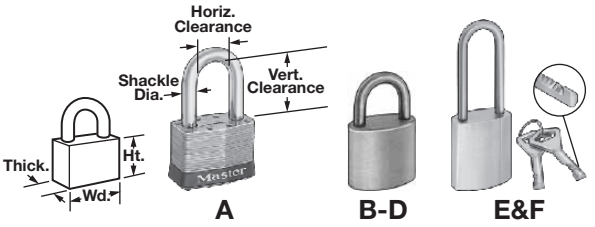

	Shackle			Body	Model		Padlocks				
		Clearance								Additional Key	
	Dia.	Vert.	Horiz.	Ht. × Wd. × Thick.	No.	Key Number		1-5	6-Up		
A	3/16"	9/16"	1/2"	1 3/16" × 1 1/8" × 3/4"	8	P150	1315A412	$10.02	$9.05	1315A111	$3.66
						Other Key Nos.	1315A411	10.02	9.05	1315A7	3.66
A	3/16"	1 1/2"	1/2"	1 3/16" × 1 1/8" × 3/4"	8	P120	1315A46	11.41	10.31	1315A2	3.66
						P761	1315A463	11.41	10.31	1315A113	3.66
						Other Key Nos.	1315A461	11.41	10.31	1315A7	3.66
A	9/32"	3/4"	5/8"	1 7/16" × 1 9/16" × 3/4"	4	0356	1315A473	12.20	11.02	1176A128	3.66
						Other Key Nos.	1315A471	12.20	11.02	1315A7	3.66
A	9/32"	2"	5/8"	1 7/16" × 1 9/16" × 3/4"	4	0455	1315A48	14.57	13.16	1315A4	3.66
						Other Key Nos.	1315A481	14.57	13.16	1315A7	3.66
A	5/16"	15/16"	3/4"	1 7/16" × 1 3/4" × 1"	2	2004	1315A423	14.12	12.76	1176A147	3.66
						2007	1315A424	14.12	12.76	1315A128	3.66
						Other Key Nos.	1315A421	14.12	12.76	1315A7	3.66
A	5/16"	1 1/2"	3/4"	1 7/16" × 1 3/4" × 1"	2	2402	1315A495	15.52	14.02	1176A114	3.66
						2508	1315A49	15.52	14.02	1315A6	3.66
						Other Key Nos.	1315A491	15.52	14.02	1315A7	3.66
A	5/16"	2 1/2"	3/4"	1 7/16" × 1 3/4" × 1"	2	2357	1315A512	15.84	14.31	1315A137	3.66
						X2241	1315A51	15.84	14.31	1315A8	3.66
A	5/16"	5 3/4"	3/4"	1 7/16" × 1 3/4" × 1"	2	2265	1315A922	19.05	17.21	1315A138	3.66
						2413	1315A92	19.05	17.21	1315A9	3.66
A	3/8"	1"	15/16"	1 9/16" × 2" × 1 1/4"	6	A112	1315A432	17.34	15.66	1315A143	3.66
						Other Key Nos.	1315A431	17.34	15.66	1315A7	3.66
A	3/8"	1 1/2"	15/16"	1 9/16" × 2" × 1 1/4"	6	A188	1315A57	18.73	16.92	1315A12	3.66
						Other Key Nos.	1315A571	18.73	16.92	1315A7	3.66
A	3/8"	2 1/2"	15/16"	1 9/16" × 2" × 1 1/4"	6	A112	1315A222	19.05	17.21	1315A143	3.66
						A520	1315A22	19.05	17.21	1315A13	3.66
B	3/16"	5/8"	5/8"	1 1/8" × 1 1/8" × 9/16"	–	MC40	1557A252▲	12.33	10.96	1557A112	2.91
						Other Key Nos.	1557A251▲	12.33	10.96	1557A11	2.91
B	3/16"	2"	5/8"	1 1/8" × 1 1/8" × 9/16"	–	MC45	1557A522	14.06	12.50	1557A126	2.91
						Other Key Nos.	1557A521	14.06	12.50	1557A11	2.91
B	9/32"	3"	3/4"	1 3/8" × 1 1/2" × 13/16"	–	MC11	1557A63	15.71	13.96	1557A127	2.91
						Other Key Nos.	1557A631	15.71	13.96	1557A11	2.91
B	1/4"	7/8"	13/16"	1 3/8" × 1 1/2" × 13/16"	–	MC56	1557A263	12.54	11.15	1557A116	2.91
						Other Key Nos.	1557A261	12.54	11.15	1557A11	2.91
B	1/4"	2"	13/16"	1 3/8" × 1 1/2" × 13/16"	–	MC3	1557A64	14.88	13.23	1557A87	2.91
						Other Key Nos.	1557A641	14.88	13.23	1557A11	2.91
C	9/32"	7/8"	13/16"	1 3/8" × 1 1/2" × 13/16"	–	MC34	1496A51	14.88	13.23	1557A1	2.91
C	5/16"	2"	7/8"	1 1/2" × 1 3/4" × 7/8"	–	MC6	1496A53	18.57	16.50	1557A3	2.91
C	3/8"	2"	1"	1 1/2" × 2" × 1"	–	MC12	1496A55	23.07	20.51	1557A5	2.91
D	1/4"	13/16"	13/16"	1 1/2" × 1 1/2" × 1/2"	–	5402	1834A32▲	7.21	6.52	_____	____
D	1/4"	1"	15/16"	1 1/2" × 1 3/4" × 1/2"	–	5453	1834A36▲	8.44	7.62	_____	____
D	1/4"	2"	13/16"	1 3/8" × 1 1/2" × 13/16"	–	MC51	1742A283★	14.86	13.21	1742A115	2.28
						Other Key Nos.	1742A281★	14.86	13.21	1742A1	2.28
D	1/4"	3"	13/16"	1 3/8" × 1 1/2" × 13/16"	–	MC56	1742A292★	16.09	14.31	1557A116	2.91
						Other Key Nos.	1742A291★	16.09	14.31	1742A1	2.28
D	1/4"	4"	13/16"	1 3/8" × 1 1/2" × 13/16"	–	MC65	1742A314★	15.58	13.85	1557A131	2.91
						Other Key Nos.	1742A311★	15.58	13.85	1742A1	2.28
D	1/4"	5"	13/16"	1 3/8" × 1 1/2" × 13/16"	–	MC73	1742A667★	17.07	15.18	1742A146	2.28
						Other Key Nos.	1742A661★	17.07	15.18	_____	____
D	1/4"	8"	13/16"	1 3/8" × 1 1/2" × 13/16"	–	MC31	1742A32★	17.07	15.18	1742A136	2.28
D	9/32"	15/16"	1"	1 3/4" × 2" × 9/16"	–	5502	1834A39	10.88	9.83	_____	____
E	13/64"	1 15/16"	11/16"	1 1/2" × 1 5/16" × 3/4"	–	6166214411	10835A54	39.35	36.02	1698A553	5.56
F	25/64"	1 15/16"	1 1/16"	2 1/16" × 2 1/4" × 1"	–	4727924931	1698A54	82.06	75.34	1698A552	5.56

▲Has a four-pin tumbler. ★Has a brass identification tag.

About Keyed Alike Padlocks

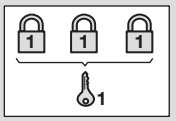

Choose these locks if you need several locks that open with the same key. You can also find locks and keys to match a specific key number. For example, use keyed alike locks if you have multiple tool boxes and want them to open with the same key.

Choose-a-Color Keyed Alike Lockout Padlocks

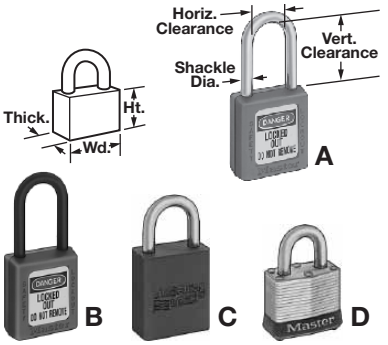

• Include two keys, unless noted.

Lockout padlocks come in a variety of colors for lockout identification compliance. Choose these locks if you need several locks that open with the same key. If the lock or key with the key number you want isn't listed, order the "Other Key Nos." and specify your desired key number and lock color.

(A) Master Lock Plastic Body—Entire body is colored. Locks have a hardened steel shackle and a six-pin tumbler. They include a Danger label as well as a write-on label marked Property of.

(B) Master Lock Plastic Body with Plastic Shackle—All external parts are plastic, making these locks nonconductive, nonsparking, and nonmagnetic. Entire body is colored. Locks have a six-pin tumbler and include a Danger label as well as a write-on label marked Property of.

(C) American Lock Aluminum Body—Entire body is colored. Locks have a hardened steel shackle and a five-pin tumbler. **Additional Keys:** Please ask for 12095A1 and specify key number.

(D) Master Lock Laminated-Steel Body—Have a colored bumper, a hardened steel shackle, and a four-pin tumbler. **Additional Keys:** Please ask for 11775A2 and specify key number.

	Shackle			Body	Model	Color (Key Number)				1-5	6-Up
	Dia.	*Clearance* Vert.	Horiz.	Ht. × Wd. × Thick.	No.						
A	1/4"	1 1/2"	13/16"	1 3/4" × 1 1/2" × 3/4"	410	Black (5XX2250)	13305A381 ■	Purple (600F207)	13305A127 ■	$14.16	$12.67
						Black (600F208)	13305A128 ■	Red (3XX0011)	13305A311 ■		
						Blue (600F205)	13305A125 ■	Red (600F201)	13305A121 ■		
						Green (600F204)	13305A124 ■	Teal (600F206)	13305A126 ■		
						Orange (600F201)	13305A212 ■	Yellow (600F203)	13305A123 ■		
						Orange (600F202)	13305A122 ■	(Other Key Nos.)	13305A6 ■		
A	1/4"	1 1/2"	13/16"	3" × 1 1/2" × 3/4"	411	Black (600F308)	13305A168 ■	Red (600F301)	13305A161 ■	15.57	13.93
						Blue (600F305)	13305A165 ■	Red (600F302)	13305A625 ■		
						Green (600F304)	13305A164 ■	Teal (600F306)	13305A166 ■		
						Orange (600F302)	13305A162 ■	Yellow (600F303)	13305A163 ■		
						Purple (600F307)	13305A167 ■	(Other Key Nos.)	13305A7 ■		
B	1/4"	1 1/2"	3/4"	1 3/4" × 1 1/2" × 3/4"	406	Black (605F125)	1191A101 ■	Orange (605F128)	1191A128 ■	13.35	12.06
						Blue (605F126)	1191A011 ■	Red (605F130)	1191A146 ■		
						Green (605F127)	1191A119 ■	(Other Key Nos.)	1191A1 ■		
C	1/4"	1"	3/4"	1 13/16" × 1 1/2" × 3/4"	1105	Black (22676)	12095A352	Green (22452)	12095A33	14.56	13.20
						Black (23754)	12095A35	Green (23534)	12095A332		
						Blue (22337)	12095A323	Orange (74256)	12095A122		
						Blue (22367)	12095A322	Orange (76383)	12095A192		
						Blue (22386)	12095A32	Purple (53684)	12095A191		
						Brown (26852)	1158A312	Red (22358)	12095A313		
						Brown (27635)	1158A31	Red (26248)	12095A314		
						Brown (42256)	1158A314	Red (27676)	12095A31		
						Gold (21323)	12095A34	Red (46327)	12095A312		
						Gold (22347)	12095A342	(Other Key Nos.)	12095A7		
C	1/4"	3"	3/4"	1 13/16" × 1 1/2" × 3/4"	1107	Black (25747)	12095A75	Orange (43568)	12095A762	17.44	15.83
						Black (42672)	12095A752	Orange (76383)	12095A162		
						Blue (25683)	12095A72	Purple (53684)	12095A161		
						Blue (42734)	12095A722	Red (22447)	12095A712		
						Brown (27635)	1158A322	Red (23227)	12095A713		
						Brown (34665)	1158A32	Red (36247)	12095A71		
						Gold (22473)	12095A74	Red (43568)	12095A714		
						Green (23534)	12095A73	(Other Key Nos.)	12095A8		
D	9/32"	3/4"	5/8"	1 3/8" × 1 9/16" × 1 1/8"	3	Black (0863)	11775A31	Red (0641)	11775A332	10.67	9.37
						Blue (0310)	11775A362	Red (0643)	11775A333		
						Blue (0312)	11775A363	Red (0645)	11775A335		
						Blue (3581)	11775A36	White (3230)	11775A322		
						Green (3044)	11775A342	Yellow (0911)	11775A352		
						Green (3918)	11775A34	(Other Key Nos.)	11775A807		
D	9/32"	2"	5/8"	1 3/8" × 1 9/16" × 1 1/8"	3	Black (3359)	11775A71	Red (3300)	11775A732	13.46	11.81
						Black (3650)	11775A712	Red (3462)	11775A73		
						Blue (0590)	11775A762	White (3431)	11775A72		
						Blue (3975)	11775A76	Yellow (3408)	11775A752		
						Green (3711)	11775A74	(Other Key Nos.)	11775A806		

■ Includes one key.

For information about padlocks, see page 2914.

Cable Locks

• Include two keys.

Secure tools and equipment with these flexible Master Lock cable locks that wrap around and through objects. Choose these locks if you need locks that each open with a different key. They have a four-wafer cylinder. The body is weather-resistant aluminum. The cable is steel and has a black vinyl coating to prevent scratches and add weather resistance.



Cable				
Lg.	Dia.			
6 ft.	3/8"	8030A16	$13.15
6 ft.	5/8"	8030A18	34.83

Adjustable-Length Cable Locks

• Include two keys.

These Master Lock cable locks have a cinching collar that allows you to tighten and loosen the cable around equipment.

Locks are made of weather-resistant aluminum with a black bumper. They have a four-wafer cylinder. Size is 2 3/4" Ht. × 4" Wd. × 1 7/16" Thick. Cables are 6-ft. long and are made of 3/8" dia. black vinyl-coated steel to prevent scratches and add weather resistance.



Each Lock Opens with a Different Key	1033A31	$24.35
Each Lock Opens with Key No. 3221	1033A32	24.35

Anchored Cable Locks

• Include two keys.

Often used to secure computer equipment, this cable lock has a lock at both ends to secure two pieces of equipment. Each lock fits into the standard built-in female security slot in PCs, laptops, and notebooks. The body is corrosion-resistant stainless steel. The cable is steel and has a clear nylon coating to prevent scratches and add weather resistance. Choose these locks if you need locks that each open with a different key. The included keys are designed to be difficult to duplicate.

To attach this lock to equipment without a built-in security slot, use an optional adapter kit (sold separately). Optional adapter kit adds a security slot. Includes preparation pad and adhesive.



Cable			
Lg.	Dia.		
7 ft.	3/16"	1349A15	$70.00
Optional Adapter Kit		1349A7	8.33

Removable-Shackle Padlocks

• Include two keys.

The entire shackle separates from the body, making it easy to secure and remove these Master Lock seven-pin locks. Locks have a vinyl cover, a steel body, and a hardened steel shackle. Lock with 11" vertical shackle clearance is useful for securing bulky items.



Clearance		Body			
Dia.	Vert.	Horiz.	Dia.	Wd.		
1/2"	2"	1 5/8"	1"	3 15/16"	1026A11	$22.65
1/2"	11"	5 1/8"	1 1/8"	8 1/4"	1026A13	32.51

Cut-Resistant Chain with Cover—Not for Lifting

Not only is this chain made of hardened zinc-plated steel for cut resistance, it has a black nylon sleeve to protect against abrasion. Not rated for capacity.



Inside Wd.	Thick.	2-ft. Length		10-ft. Length	
0.38"	0.24"	1585A73	$13.84	1585A81	$68.51
0.50"	0.31"	1585A75	21.66	1585A82	107.22
0.63"	0.39"	1585A77	30.71	1585A83	152.01

Padlock Cables

Use these cables with any style padlock. Cables are steel with a clear vinyl coating. Aluminum sleeves secure the looped ends. **Coiled** cables return to a compact, coiled position after use, making storage easy. **Straight braided** cables provide increased cut resistance.



Coiled

Cable			
Lg.	Dia.		
Coiled			
6 ft.	1/4"	1585A56	$11.05
6 ft.	5/16"	1585A57	9.24
Straight			
6 ft.	3/8"	1585A58	12.83
15 ft.	3/8"	1585A14	29.20
Straight Braided			
7 ft.	3/8"	1585A61	14.57
15 ft.	3/8"	1585A13	24.60

Padlock Chains, Collars, and Tags

Use these chains, collars, and tags to anchor padlocks to your equipment.

Chains

Chains are made of zinc-plated steel and fit the collars sold separately below. They have a 1 9/16" Lg. × 3/4" Wd. mounting tab with two 3/16" dia. holes (screws not included).

Sash chain has flat links that have been stamped into shape; **machine** chain is made of welded links, which are stronger.



Sash Chain

Chain			Pkg.	
	Thick.	Lg.	Qty.	Pkg.
Sash	0.032"	9"	6	13205A11	$10.25
Machine	1/8"	9"	3	13205A12	7.98

Collars

Collars allow you to attach a padlock to the 13205A series chain sold separately above. Made of zinc-plated steel. Include hardware for attaching collar to shackle.



For Max. Shackle Dia.	Pkg. of 12	
1/4"	13205A14	$11.21
9/32"	13205A15	11.21
5/16"	13205A16	11.21
3/8"	13205A17	11.21
7/16"	13205A18	11.21

Chains with Collars

Each chain includes an interlocking loop to fit your padlock shackle and a mounting bracket to anchor the chain. Made of zinc-plated steel. Mounting hardware is included.



For Max. Shackle Dia.	Chain Thick.	Chain Lg.		
9/32"	3/16"	8"	1084A51	$7.50
5/16"	3/16"	8"	1084A57	8.56

Tags

Tags are brass and have an overlapping ring. They are 1 3/4" Lg. × 1/2" Wd.



11695A44	Pkg. of 12	$16.88

Master Keyed Padlocks

For information about padlocks, see page 2914. For information about keying options, see page 2916.

About Master Keyed Padlocks

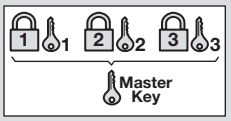

Choose these locks if you want individual locks or groups of locks that open with their own key, but also open with a master key. An example is locker assignments. Each person uses a padlock that has a random key number—each person can open only their own locker. In a master keyed system, one person has a master key that opens all of the lockers.

We also offer master keyed padlock sets. Master keyed sets have padlocks (or groups of padlocks) with different key numbers. Each person can open their own lock (or the locks in their group). One person has a master key that opens every lock in the set. For master keyed padlock sets, see pages 2922 and 2923.

Master Keyed Padlocks

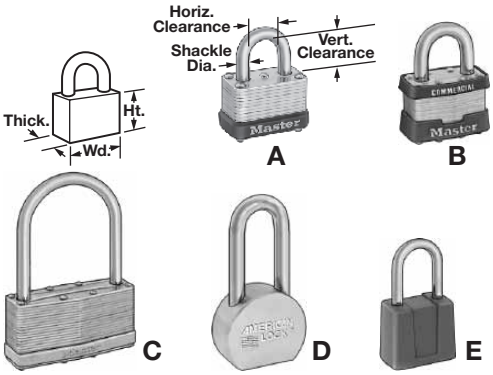

• Include two keys.

Choose these locks if you want individual locks or groups of locks that open with their own key, but also open with a master key. A steel body and shackle give Styles A-D strength. Style E has a zinc body which is not as strong, but has better corrosion resistance. The included keys have random key numbers; master keys are sold separately.

(A-C) Master Lock Laminated Steel—*Style A* have a blue bumper, a steel shackle, and a four-pin tumbler. *Style B* have gray bumpers, a hardened steel shackle, and a four-pin tumbler. *Style C* has a hardened steel shackle and a five-pin tumbler.

(D) American Lock Solid Steel—Has a hardened steel shackle and a five-pin tumbler.

(E) Zinc—Have a hardened steel shackle and a six-disc tumbler. Body is tan.

Individual Padlocks—Locks have random key numbers and also open with a master key (sold separately).

		Shackle			Body			Model				
			Clearance						Padlocks		Master Key	
	Master Key No.	Dia.	Vert.	Horiz.	Ht.	Wd.	Thick.	No.				
A	SM74	3/16″	9/16″	1/2″	1 1/8″	1 1/8″	3/4″	7	1176A45	$10.77	1176A81	$3.87
A	SM74	3/16″	1 1/2″	1/2″	1 1/8″	1 1/8″	3/4″	7	1176A51	12.16	1176A81	3.87
A	SM71	3/16″	2 1/2″	1/2″	1 1/8″	1 1/8″	3/4″	7	1176A67	12.50	1176A72	3.87
B	SB732	9/32″	3/4″	5/8″	1 3/8″	1 9/16″	1 1/16″	3	1176A464	12.50	1176A465	3.87
B	SM737	9/32″	3/4″	5/8″	1 3/8″	1 9/16″	1 1/16″	3	1176A46	12.50	1176A54	3.87
B	SK14	9/32″	1 1/2″	5/8″	1 3/8″	1 9/16″	1 1/16″	3	1176A53	13.89	1176A82	3.87
B	SB757	9/32″	2″	5/8″	1 3/8″	1 9/16″	1 1/16″	3	1176A68	14.88	1176A73	3.87
B	SM936	5/16″	15/16″	3/4″	1 3/8″	1 3/4″	1 1/8″	1	1176A85	13.75	1176A56	3.87
B	SM22	5/16″	1 1/2″	3/4″	1 3/8″	1 3/4″	1 1/8″	1	1176A55	15.14	1176A83	3.87
B	AM968	5/16″	2 1/2″	3/4″	1 3/8″	1 3/4″	1 1/8″	1	1176A69	15.48	1176A74	3.87
B	SM866	3/8″	1″	15/16″	1 9/16″	2″	1 1/4″	5	1176A48	16.38	1176A58	3.87
B	SM866	3/8″	1 1/2″	15/16″	1 9/16″	2″	1 1/4″	5	1176A57	17.77	1176A58	3.87
C	ST415	5/16″	3″	2 1/4″	1 9/16″	3 1/4″	1 1/8″	101	1905A16	30.29	1905A26	3.87
D	407M5	7/16″	2″	15/16″	2 1/8″	2 1/2″	1 1/8″	701	12705A27	38.96	12705A28	2.30
E	M8003	1/4″	3/4″	3/4″	1 7/16″	1 1/2″	3/4″	—	1199A6	9.91	1155A5	4.42
E	M8001	1/4″	1 1/4″	3/4″	1 7/16″	1 1/2″	3/4″	—	1199A33	14.80	1199A34	3.54
E	M8003	1/4″	2 3/4″	3/4″	1 7/16″	1 1/2″	3/4″	—	1155A3★	14.90	1155A5	4.42
E	M8003	1/4″	5″	3/4″	1 7/16″	1 1/2″	3/4″	—	1155A4★	15.18	1155A5	4.42

★Has a brass identification tag.

Master Keyed Sets and Additional Padlocks, Keys, and Master Keys

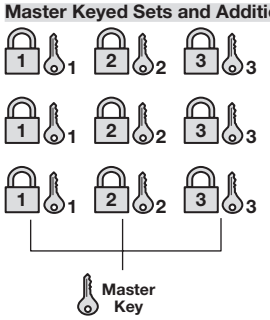

Master keyed sets come with nine padlocks that are divided into three groups of three. Each group of padlocks opens with a specific key number and includes a master key that opens all of the padlocks. If you want to expand your set, order additional padlocks, keys, and master keys (sold separately).

			Shackle						
				Clearance		Body	Model		
	Master Key No.	Padlock Key No. (Qty.)	Dia.	Vert.	Horiz.	Ht. × Wd. × Thick.	No.		
A	SM124	X373 (3) X397 (3) X405 (3)	3/16″	1 1/2″	1/2″	1 1/8″ × 1 1/8″ × 3/4″	7	6310A81	$116.85
B	AE	AE1 (3) AE2 (3) AE3 (3)	9/32″	3/4″	5/8″	1 3/8″ × 1 9/16″ × 1 1/16″	3	6310A82	119.14

Additional Padlock			Additional Key			Additional Master Key		
Key No.			Key No.			Key No.		
For Adding to Set 6310A81								
X373	6310A31	$12.98	X373	6310A41	$3.65	SM124	6310A23	$3.69
X397	6310A32	12.98	X397	6310A42	3.65	SM124	6310A23	3.69
X405	6310A33	12.98	X405	6310A43	3.65	SM124	6310A23	3.69
For Adding to Set 6310A82								
AE1	6310A51	13.36	AE1	6310A55	3.65	AE	6310A54	3.65
AE2	6310A52	13.36	AE2	6310A56	3.65	AE	6310A54	3.65
AE3	6310A53	13.36	AE3	6310A57	3.65	AE	6310A54	3.65

For information about padlocks, see page 2914. For information about keying options, see page 2916.

Weather-Resistant Master Keyed Padlocks

• Include two keys. Master keys sold separately.

Choose these strong and corrosion-resistant locks if you want individual locks or groups of locks that open with their own key, but also open with a master key. The included keys have random key numbers; master keys are sold separately.

(A&B) Abus Lock—Have a stainless steel body. *Style A* have a stainless steel shackle. *Style B* has a hardened steel shackle.

(C&D) Master Lock Pro Series—Have a laminated-steel body with black plastic cover. Shackle is hardened steel.

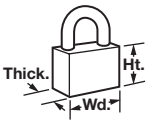



A&B



C



D

	Master Key No.	Shackle Dia.	Shackle Clearance Vert.	Shackle Clearance Horiz.	Body Ht.	Body Wd.	Body Thick.	No. of Pins	Model No.	Padlocks		Master Key	
A	0240	5/16″	1/2″	3/4″	2 3/8″ Dia.	—	1 1/16″	4	24IB/60	1831A33	$27.93	1831A34	$5.87
A	0244	3/8″	3/4″	3/4″	2 3/4″ Dia.	—	1 3/16″	4	24IB/70	1831A13	30.57	1831A16	5.87
B	0244	15/32″	5/8″	1″	2 3/4″ Dia.	—	1 3/16″	5	26/90	1831A35	65.87	1831A16	5.87
C	SG409	5/16″	1 1/8″	7/8″	2 5/16″	2 1/8″	1 1/2″	5	6121	10885A28	24.20	10885A41	3.32
C	SG410	3/8″	1 3/8″	7/8″	2 5/16″	2 3/8″	1 1/2″	5	6125	10885A29	27.43	10885A42	3.32
C	SG412	7/16″	1 3/8″	7/8″	2 5/16″	2 5/8″	1 1/2″	5	6127	10885A31	31.25	10885A43	3.32
D	SG414	5/16″	3/4″	7/8″	2 5/16″	2 1/8″	1 1/2″	5	6321	11345A43	31.75	11345A46	3.79
D	SG423	3/8″	3/4″	7/8″	2 5/16″	2 3/8″	1 1/2″	5	6325	11345A44	36.82	11345A47	3.79
D	SG424	7/16″	3/4″	7/8″	2 5/16″	2 5/8″	1 1/2″	5	6327	11345A45	41.84	11345A48	3.79

Weather-Resistant Master Keyed Brass-Body Padlocks

• Include two keys. Master keys sold separately.

Tough enough to stand up to corrosion, high humidity, and atmospheric pollution, these padlocks are well-suited for refineries and marine applications. Choose these locks if you want individual locks or groups of locks that open with their own key, but also open with a master key. The included keys have random key numbers; master keys are sold separately. Locks have a tumbler with pins.

(A) Master Lock Laminated Brass—Have a blue bumper and a hardened steel shackle.

(B&C) Solid Brass—*Style B* have a brass shackle. *Style C* have a hardened steel shackle.

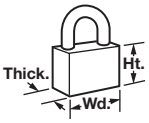

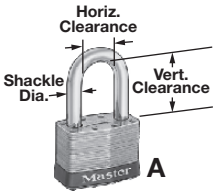

A



B&C

	Master Key No.	Shackle Dia.	Shackle Clearance Vert.	Shackle Clearance Horiz.	Body Ht.	Body Wd.	Body Thick.	No. of Pins	Model No.	Padlocks		Master Key	
A	SM77	3/16″	9/16″	1/2″	1 3/16″	1 1/8″	3/4″	4	8	1315A52	$12.24	1315A61	$3.24
A	SM167	3/16″	9/16″	1/2″	1 3/16″	1 1/8″	3/4″	4	8	1315A522	12.24	1315A528	3.24
A	SM71	3/16″	1 1/2″	1/2″	1 3/16″	1 1/8″	3/4″	4	8	1315A58	14.87	1315A64	3.87
A	SM175	3/16″	1 1/2″	1/2″	1 3/16″	1 1/8″	3/4″	4	8	1315A582	14.87	1315A588	3.24
A	SB53	9/32″	3/4″	5/8″	1 7/16″	1 9/16″	3/4″	4	4	1315A592	15.67	1315A598	3.24
A	SM737	9/32″	3/4″	5/8″	1 7/16″	1 9/16″	3/4″	4	4	1315A59	15.67	1315A65	3.87
A	SB701	9/32″	2″	5/8″	1 7/16″	1 9/16″	3/4″	4	4	1315A712	18.09	1315A718	3.24
A	AM935	5/16″	15/16″	3/4″	1 7/16″	1 3/4″	1″	4	2	1315A532	17.64	1315A538	3.24
A	SM201	5/16″	1 1/2″	3/4″	1 7/16″	1 3/4″	1″	4	2	1315A722	19.05	1315A728	3.24
A	AM6	5/16″	2 1/2″	3/4″	1 7/16″	1 3/4″	1″	4	2	1315A73	19.40	1315A68	3.24
B	2446	3/16″	5/8″	5/8″	1 1/8″	1 1/8″	9/16″	4	_	1557A912	17.64	1557A918	2.91
B	3573	3/16″	2″	5/8″	1 1/8″	1 1/8″	9/16″	4	_	1557A84	19.39	1557A39	2.91
B	40604	1/4″	7/8″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1557A92	17.90	1557A96	2.91
B	26884	1/4″	2″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1557A742	20.21	1557A748	2.91
C	66842	1/4″	2″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1742A38★	20.14	1742A62	2.28
C	55773	1/4″	3″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1742A39★	21.45	1742A55	2.28
C	24468	1/4″	4″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1742A46★	20.93	1742A63	2.28
C	77513	1/4″	5″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1742A68★	22.38	1742A65	2.28
C	17735	1/4″	8″	13/16″	1 3/8″	1 1/2″	13/16″	5	_	1742A47★	22.38	1742A64	2.28

★Has a brass identification tag.

Master Keyed Lockout Padlock Sets

• Each padlock includes two keys. Master key included in set.

The body of each padlock in this set is a different color for lockout identification compliance. Padlocks are American Lock model 1105 with an aluminum body and hardened steel shackle. They have a five-pin tumbler. Shackle diameter is 1/4″. Vertical shackle clearance is 1″. Horizontal shackle clearance is 3/4″. Body is 1 13/16″ Ht. × 1 1/2″ Wd. × 3/4″ Thick. Padlocks open with a specific key number and a master key that opens all of the padlocks.



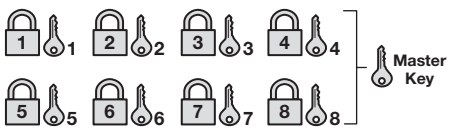

Master Keyed Padlock Set

This master keyed set includes eight padlocks in different colors (and key numbers): one each in black (0030), blue (0020), brown (0040), green (0015), orange (0025), purple (0045), red (0005), and yellow (0010). The included master key opens all the locks.

1455A21 ..... $131.71

Additional Master Key—Master key number is M58501.

The master key opens all the padlocks in the set.

1455A9 ..... $2.27

Additional Padlocks and Keys

Color (Key No.)	Additional Padlock		Additional Key	
Black (0030)	1455A6	$16.81	1455A16	$2.27
Blue (0020)	1455A4	16.81	1455A14	2.27
Brown (0040)	1455A7	16.81	1455A17	2.27
Green (0015)	1455A3	16.81	1455A13	2.27
Orange (0025)	1455A5	16.81	1455A15	2.27
Purple (0045)	1455A8	16.81	1455A18	2.27
Red (0005)	1455A1	16.81	1455A11	2.27
Yellow (0010)	1455A2	16.81	1455A12	2.27

Master Keyed Padlocks

For information about padlocks, see page 2914. For information about keying options, see page 2916.

About Master Keyed Padlocks

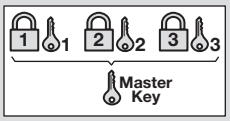

Choose these locks if you want individual locks or groups of locks that open with their own key, but also open with a master key. An example is locker assignments. Each person uses a padlock that has a random key number—each person can open only their own locker. In a master keyed system, one person has a master key that opens all of the lockers.

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Choose-a-Color Master Keyed Lockout Padlocks

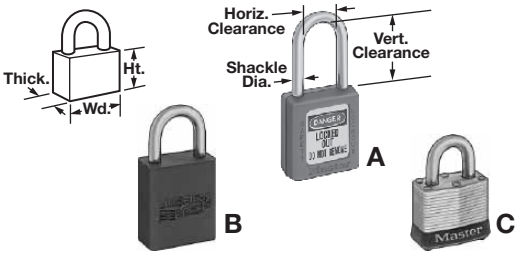

• Include two keys, unless noted. Master keys sold separately.

Padlocks come in a variety of colors for lockout identification compliance. Choose these locks if you want individual locks or groups of locks that open with their own key, but also open with a master key. The included keys have random key numbers; master keys are sold separately. If the lock keyed to the master key number you want isn't listed, order "Other Padlocks" and specify your desired master key number and lock color.

(A) Master Lock Plastic Body—Entire body is colored. Locks include a Danger label as well as a write-on label marked Property of.

(B) American Lock Aluminum Body—Entire body is colored. Locks have a five-pin tumbler.

(C) Master Lock Laminated-Steel Body—Have a colored bumper and a four-pin tumbler.

	Shackle			Body	Model	Padlocks				Master Key	
	Dia.	Clearance Vert.	Clearance Horiz.	Ht. × Wd. × Thick.	No.	Color	Master Key No.				
A	1/4"	1 1/2"	13/16"	1 3/4" × 1 1/2" × 3/4"	410	Black	BY8	13305A138■	$17.69	13305A148	$3.87
						Blue	BY5	13305A135■	17.69	13305A145	3.87
						Green	BY4	13305A134■	17.69	13305A144	3.87
						Orange	BY2	13305A132■	17.69	13305A142	3.87
						Purple	BY7	13305A137■	17.69	13305A147	3.87
						Red	BY1	13305A131■	17.69	13305A141	3.87
						Teal	BY6	13305A136■	17.69	13305A146	3.87
						Yellow	BY3	13305A133■	17.69	13305A143	3.87
						Other Padlocks		13305A4■	17.69		
A	1/4"	1 1/2"	13/16"	3" × 1 1/2" × 3/4"	411	Black	BY16	13305A178■	19.08	13305A188	3.87
						Blue	BY13	13305A175■	19.08	13305A185	3.87
						Green	BY12	13305A174■	19.08	13305A184	3.87
						Orange	BY10	13305A172■	19.08	13305A182	3.87
						Red	BY9	13305A171■	19.08	13305A181	3.87
						Yellow	BY11	13305A173■	19.08	13305A183	3.87
						Other Padlocks		13305A5■	19.08		
B	1/4"	1"	3/4"	1 13/16" × 1 1/2" × 3/4"	1105	Black	404M	12095A45	18.20	12095A55	2.45
						Blue	401M	12095A42	18.20	12095A52	2.45
						Brown	412M	1158A51	18.20	1158A81	2.45
						Gold	403M	12095A44	18.20	12095A54	2.45
						Green	402M	12095A43	18.20	12095A53	2.45
						Orange	425M	12095A132	18.20	12095A142	2.45
						Purple	423M	12095A131	18.20	12095A141	2.45
						Red	405M	12095A41	18.20	12095A51	2.45
						Other Padlocks		12095A101	18.20		
B	1/4"	3"	3/4"	1 13/16" × 1 1/2" × 3/4"	1107	Black	409M	12095A85	21.10	12095A95	2.45
						Blue	406M	12095A82	21.10	12095A92	2.45
						Gold	408M	12095A84	21.10	12095A94	2.45
						Green	407M	12095A83	21.10	12095A93	2.45
						Orange	427M	12095A172	21.10	12095A182	2.45
						Purple	428M	12095A171	21.10	12095A181	2.45
						Red	410M	12095A81	21.10	12095A91	2.45
						Other Padlocks		12095A102	21.10		
C	9/32"	3/4"	5/8"	1 3/8" × 1 9/16" × 1 1/8"	3	Black	SB742	11775A41	12.50	11775A51	3.87
						Blue	SM737	11775A46	12.50	1176A54	3.87
						Green	SB734	11775A44	12.50	11775A54	3.87
						Red	SB730	11775A43	12.50	11775A53	3.87
						Other Padlocks		11775A6	12.50		
C	9/32"	2"	5/8"	1 3/8" × 1 9/16" × 1 1/8"	3	Black	SB743	11775A81	14.88	11775A91	3.87
						Blue	SB757	11775A86	14.88	1176A73	3.87
						Green	SB734	11775A84	14.88	11775A94	3.87
						Red	SB729	11775A83	14.88	11775A93	3.87
						Yellow	SB730	11775A85	14.88	11775A95	3.87
						Other Padlocks		11775A7	14.88		

■ Includes one key.

Combination Padlocks

These Master Lock padlocks have a three-digit combination and a stainless steel body. Shackle is hardened steel. Dial is black with white numbers.

Standard—Body is 1⅞" Dia. × 1" Thick.

High Security—Dial rim is recessed and reinforced to prevent tampering. Body is 2³⁄₁₆" Dia. × 1½" Thick.

Key-controlled locks let you open the shackle with a control key (sold separately) instead of the combination. All have a four-pin tumbler. *Factory-registered* locks give you an exclusive keying system that is unique to your locks. **To Order:** If matching factory-registered locks to an existing group, please specify key number.



Standard



Key Controlled High Security

Combination

Shackle Clearance Dia.	Vert.	Horiz.	Model No.		
Standard					
9/32"	3/4"	13/16"	1500	1180A11	$5.95
9/32"	1 1/2"	13/16"	1500	1180A12	7.34
9/32"	2"	13/16"	1500	1180A13	8.32
High Security					
5/16"	1"	15/16"	2001	1876A21	16.64

Key-Controlled Combination

Shackle Clearance Dia.	Vert.	Horiz.	Model No.	Padlocks		Control Key	
Standard—Not Factory Registered							
9/32"	3/4"	13/16"	1525	1186A22	$8.75	1186A23	$3.28
9/32"	1 1/2"	13/16"	1525	1186A24	10.38	1186A23	3.28
Standard—Factory Registered							
9/32"	3/4"	13/16"	1525	1186A11	8.75	1186A12	3.28
9/32"	1 1/2"	13/16"	1525	1186A13	10.38	1186A12	3.28
9/32"	2"	13/16"	1525	1186A14	11.52	1186A12	3.28
High Security—Factory Registered							
5/16"	1"	15/16"	2010	1876A51	21.28	1876A52	3.28

Quick-Access Combination Padlocks

Push-button controls make it easy to enter the five-digit code to open this lock. Body is chrome-plated zinc. Shackle is steel. Body is 2¼" Ht. × 1½" Wd. × 7⁄16" Thick.



Shackle Clearance Dia.	Vert.	Horiz.		
7/32"	1"	15/16"	5203A21	$9.33

Quick-Attach Combination Padlocks

Select a resettable three-digit combination out of 1,000 possible combinations. Body and shackle are zinc with a black finish; latch is chrome-plated steel. Body is 3⁵⁄₁₆" Ht. × 1 15⁄16" Wd. × ½" Thick.



Shackle Clearance Dia.	Vert.	Horiz.		
3/16"	13/16"	13/16"	1367A11	$5.79

Resettable-Combination Padlocks

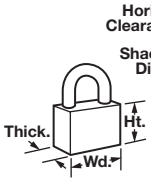

Sesamee



Laminated 3-Digit



Master Lock Key Controlled



Master Lock Protected Shackle



Abus Lock 4-Digit



Letter Combination



Side 3-Digit



TSA Accessible

Set your own combination and change it at any time. Three-digit locks have 1,000 possible combinations; four-digit locks have 10,000 possible combinations; and five-letter lock has 50,000 possible combinations. **Bottom-digit** and **front-digit** locks have a hardened steel shackle, except 1836A23 has a boron-carbide shackle. **Side-digit** locks have a steel shackle.

Super Sesamee—Locks have a hardened-steel body for extra toughness.

Laminated—Locks have a black bumper.

Plastic-Covered Zinc—Locks have a black bumper.

Key Controlled—Locks can open with a control key (sold separately).

Letter Combination—Use letters instead of numbers to unlock the shackle. Dials are plastic.

TSA Accessible—Lock secures your equipment cases during travel, but allows Transportation Security Administration personnel to open your luggage. An opened indicator changes from green to red to alert you if the lock was opened.

No. of Digits	Shackle Clearance Dia.	Vert.	Horiz.	Body Ht.	Wd.	Thick.		
Bottom Digit								
Sesamee with Black Epoxy-Coated Zinc Body								
4	5/16"	1"	1"	1 11/16"	1 7/8"	7/8"	1160A6	$21.52
Sesamee with Brass Body								
4	5/16"	1"	1"	1 11/16"	1 7/8"	7/8"	1160A1	25.07
4	5/16"	2 1/4"	1"	1 11/16"	1 7/8"	7/8"	1160A2	26.29
4	5/16"	4"	1"	1 11/16"	1 7/8"	7/8"	1160A7	28.67
Super Sesamee with Black Epoxy-Coated Hardened Steel Body								
4	7/16"	1"	7/8"	2 1/4"	2 1/2"	1 3/8"	1160A71	41.95
4	7/16"	2"	7/8"	2 1/4"	2 1/2"	1 3/8"	1160A72	43.14
Super Sesamee Protected Shackle with Black Epoxy-Coated Hardened Steel Body								
4	7/16"	1"	7/8"	3"	2 1/2"	1 3/8"	1160A73	55.52
Laminated with Nickel-Plated Steel Body								
3	1/4"	15/16"	13/16"	15/16"	1 1/2"	1 1/16"	11805A12	10.69
4	5/16"	2 1/4"	15/16"	1 1/2"	2"	1 1/4"	11805A15	10.98
Gray Plastic-Covered Zinc Body								
4	5/16"	1 1/2"	1"	2 7/16"	2 5/16"	1 1/8"	1836A21	16.16
4	5/16"	2 1/2"	1"	2 7/16"	2 5/16"	1 1/8"	1836A22	16.98
Master Lock Key Controlled with Brass Body								
4	5/16"	1"	1"	1 7/8"	2"	15/16"	1836A17	23.71
4	5/16"	2 1/8"	1"	1 7/8"	2"	15/16"	1836A18	26.47
Control Key for Key-Controlled Padlocks							1836A19	3.18

No. of Digits	Shackle Clearance Dia.	Vert.	Horiz.	Body Ht.	Wd.	Thick.		
Bottom Digit (Cont.)								
Master Lock Protected Shackle with Brass Body								
4	3/8"	1 1/16"	15/16"	2"	2 1/4"	1 1/4"	1836A23	$25.36
Front Digit								
Abus Lock with Chrome-Plated Steel Body								
3	1/4"	7/8"	15/16"	1 3/4"	1 1/2"	5/16"	1836A11	19.66
4	5/16"	1"	1 1/8"	2 1/16"	2"	3/4"	1836A12	22.18
Chrome-Plated Zinc Body								
4	5/16"	1"	1 1/16"	2 1/8"	2 1/8"	3/4"	1836A13	19.12
4	5/16"	2 9/16"	1 1/16"	2 1/8"	2 1/8"	3/4"	1836A14	20.29
Letter Combination with Black Zinc Body								
5	1/4"	1 1/8"	1 3/8"	1 1/4"	2 3/4"	1 1/4"	1214A1	9.80
Side Digit								
Nickel-Plated Zinc Body								
3	1/8"	13/16"	5/16"	1 7/16"	7/8"	1/2"	1559A54	6.97
3	1/4"	15/16"	1/2"	1 7/16"	1 1/4"	1/2"	1559A55	6.90
4	1/8"	13/16"	5/16"	1 11/16"	7/8"	1/2"	1559A56	6.47
Brass-Plated Aluminum Body								
4	1/4"	7/8"	1"	1 13/16"	1 9/16"	5/8"	1559A21	10.42
Choose-a-Color Powder-Coated Zinc Body								
To Order: Please specify body color: black, green, or red.								
3	1/8"	7/8"	5/16"	1 7/16"	7/8"	1/2"	1559A64	6.98
TSA Accessible with Black Zinc Body								
3	1/4"	1 1/2"	1"	1 5/8"	1 1/8"	1/2"	1198A1	11.16

Enclosed-Shackle Padlocks and Hasp



Padlock with Optional Hasp

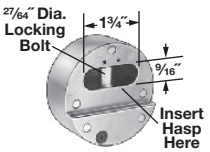

Back View of Lock

- Include two keys. Master keys sold separately for 1749A13.

Also called hockey puck locks, these eliminate the most vulnerable part of any padlock—the shackle. Use with optional hasp (sold separately) or any hasp with a minimum 7/16″ dia. hole. The locking bolt passes through the hasp eye to protect against bolt cutters, hacksaws, and pry bars. Padlocks are chrome-plated steel with a six-pin tumbler.

Optional hasp is 1/4″ thick steel and requires six 3/8″ dia. carriage bolts.

Body Dia.	Body Thick.	Model No.	Padlocks Key Number			Master Key	
Each Lock Opens with a Random Key							
2 7/8″	1 1/2″	2000	—	1749A11	$28.66	—	—
Keyed Alike—Each Lock Opens with the Same Key							
2 7/8″	1 1/2″	2000	13041	1749A12	31.19	—	—
2 7/8″	1 1/2″	2000	84500	1749A123	31.19	—	—
Master Keyed—Each Lock Opens with a Random Key and a Master Key							
2 7/8″	1 1/2″	2000	401M6▲	1749A13	39.77	1749A21	$3.68
Optional Hasp (4 1/2″ Ht. × 9″ Lg.)						1749A25	24.25

▲401M6 is a master key number.

Padlockable Hasps

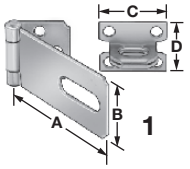

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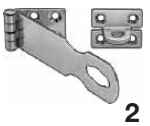

2



3



4

Styles 1-3—Padlock eye cannot be adjusted after installation.

Style 4—You can turn the padlock eye to fasten these hasps without a padlock.

Style 1—Hasps with Fixed Padlock Eye

(A)	(B)	(C)	(D)	Proj.	Arm Thick.	Eye ID★		
Zinc-Plated Steel—Screws included								
2 1/2″	1″	15/16″	1″	3/4″	1/8″	5/16″	1546A5	$2.65
3 1/4″	1 1/2″	1 5/8″	1 3/8″	15/16″	1/8″	3/8″	1546A6	2.92
4 7/16″	1 1/2″	1 5/8″	1 3/8″	15/16″	1/8″	3/8″	1546A7	4.00
6″	1 3/4″	1 5/8″	1 3/8″	15/16″	1/8″	3/8″	1546A8	5.62
7″	2 1/2″	2 1/4″	1 15/16″	1 7/16″	3/16″	3/4″	1546A11	14.67
Galvanized Hardened Steel—Screws included								
5 1/4″	1 13/16″	1 15/16″	1 1/2″	1 1/16″	1/8″	1/2″	1546A101	7.74
Dull Aluminum—No. 8 screws required								
3 1/2″	1 1/2″	1 1/2″	1 1/2″	7/8″	1/8″	1/2″	7030A1	20.89
Polished 304 Stainless Steel—No. 6 screws required								
2 7/16″	1 3/16″	1 3/8″	1 3/16″	15/16″	1/16″	1/2″	1304A31	8.55
3 1/4″	1 3/16″	1 3/8″	1 3/16″	15/16″	1/16″	1/2″	1304A32	9.43
Dull 304 Stainless Steel—No. 8 screws required								
6″	2″	1 1/8″	2″	3/4″	1/8″	9/32″	1304A28	32.05

★ For maximum padlock shackle diameter.

Style 2—Hasps with Fixed Padlock Eye

(A)	(B)	(C)	(D)	Proj.	Arm Thick.	Eye ID★		
Zinc-Plated Steel—Screws included								
2 7/16″	1″	1 1/16″	1″	3/4″	1/16″	9/32″	1547A1	$2.45
Polished 304 Stainless Steel—No. 5 screws required								
2 7/16″	1″	1 1/4″	1 1/8″	11/16″	1/16″	5/16″	1304A24	5.22
3 7/16″	1″	1 1/4″	1 1/8″	11/16″	1/16″	5/16″	1304A26	5.72
4 1/4″	1″	1 1/4″	1 1/8″	11/16″	1/16″	5/16″	1304A33	6.01

★ For maximum padlock shackle diameter.

Style 3—Hasps with Fixed Padlock Eye

(A)	(B)	(C)	(D)	Proj.	Arm Thick.	Eye ID★		
Zinc-Plated Steel—Screws included								
3 1/2″	1 1/2″	1 1/2″	1 1/2″	7/8″	1/4″	11/32″	1545A1	$4.29
4 1/2″	1 13/16″	1 1/2″	1 1/2″	1 1/8″	5/16″	1/2″	1545A2	5.33
6″	2 3/8″	2 1/16″	2 1/16″	1 7/16″	7/16″	9/16″	1545A3	10.10

★ For maximum padlock shackle diameter.

Style 4—Hasps with Rotating Padlock Eye

(A)	(B)	(C)	(D)	Proj.	Arm Thick.	Eye ID★		
Black-Painted Steel—Screws included								
3 5/16″	1 1/2″	1 9/16″	1 9/16″	1″	1/8″	3/8″	1544A7	$6.42
4 5/16″	1 1/2″	1 9/16″	1 9/16″	1″	1/8″	3/8″	1544A8	7.17
Zinc-Plated Steel—Screws included								
3 5/16″	1 1/2″	1 9/16″	1 9/16″	1″	1/8″	3/8″	1544A4	4.92
4 5/16″	1 1/2″	1 9/16″	1 9/16″	1″	1/8″	3/8″	1544A5	5.60
6″	1 3/4″	1 5/8″	1 5/8″	1 1/4″	1/8″	3/8″	1544A6	7.49
Polished Brass—No. 6 screws required								
2 5/8″	1″	1″	1 1/8″	1″	3/16″	5/16″	1205A1	8.73
Chrome-Plated Brass—No. 6 screws required								
2 5/8″	1″	1″	1 1/8″	1″	3/16″	5/16″	1205A2	7.86
Polished 304 Stainless Steel—Screws included								
1 1/2″	7/8″	7/8″	5/8″	7/8″	1/16″	13/64″	1912A15	11.00
1 7/8″	7/8″	7/8″	3/4″	15/16″	1/16″	7/32″	1912A16	11.50
2 7/16″	15/16″	15/16″	1″	1″	1/16″	17/64″	1912A17	13.00
2 7/8″	1 1/16″	1 1/16″	1 1/8″	1 1/16″	1/16″	11/32″	1912A18	18.00
3 3/4″	1 7/16″	1 7/16″	1 7/16″	1 1/16″	1/8″	27/64″	1912A19	35.00
4 9/16″	1 5/8″	1 5/8″	1 5/8″	1 1/4″	1/8″	27/64″	1912A21	46.00
Polished 304 Stainless Steel—No. 8 screws required								
2 5/8″	1 1/8″	1 1/16″	1 1/4″	15/16″	1/8″	21/64″	16295A32	12.66
Polished 316 Stainless Steel—Screws included								
3 1/2″	1 1/2″	1 1/2″	1 1/2″	1 3/8″	1/8″	25/64″	7033A1	18.17
4 1/2″	1 1/2″	1 1/2″	1 1/2″	1 3/8″	1/8″	25/64″	7033A2	21.25
6″	2″	1 1/2″	1 1/2″	1 3/8″	1/8″	25/64″	7033A3	27.50
Polished 316 Stainless Steel—No. 8 screws required								
2 11/16″	1″	1 1/16″	1 1/16″	1 3/16″	3/16″	11/32″	7033A4	26.46

★ For maximum padlock shackle diameter.

Replacement Zinc-Plated Steel Padlock Eyes

(C)	(D)	Thick.	Proj.	Eye ID★		
Fixed Padlock Eyes—Screws included						
1 3/16″	1 1/8″	1/8″	3/4″	5/16″	1724A4	$1.64
1 5/8″	1 3/8″	1/8″	15/16″	3/8″	1724A1	1.94
Fixed Padlock Eyes—No. 10 screws required						
2 1/4″	1 7/8″	1/8″	1 7/16″	27/32″	1724A3	4.04
Rotating Padlock Eyes—Screws included						
1 5/8″	1 5/8″	1/8″	1 1/4″	3/8″	1724A8	3.19

★ For maximum padlock shackle diameter.

Padlockable Hasps without Mounting Holes

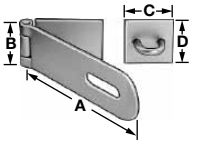

These hasps have a fixed padlock eye that cannot be adjusted after installation.

To mount **steel** and **316 stainless steel** hasps, weld in place. To mount **plastic** hasp, use adhesive (see 7528A13 on page 3466).

(A)	(B)	(C)	(D)	Proj.	Arm Thick.	Eye ID★		
Dull Steel								
1 5/8″	1″	3/4″	7/8″	3/4″	1/16″	25/64″	1750A12	$1.03
1 7/8″	1 1/8″	3/4″	7/8″	3/4″	1/16″	25/64″	1750A11	1.70
3 3/8″	1 1/2″	1 1/8″	1 1/2″	1 1/16″	1/16″	1/2″	1750A53	4.54
Polished 316 Stainless Steel								
3 1/2″	1 1/2″	1 1/2″	1 1/2″	13/16″	1/8″	25/64″	1047A41	10.67
4 1/2″	1 1/2″	1 1/2″	1 1/2″	13/16″	1/8″	25/64″	1047A43	13.75
6″	2″	1 1/2″	1 1/2″	13/16″	1/8″	25/64″	1047A45	20.00
Clear Plastic								
2 3/16″	15/16″	15/16″	15/16″	5/8″	1/8″	3/16″	3538A42	.92

★ For maximum padlock shackle diameter.

Extra-Reach Padlockable Corner Hasps

Hinged leaves allow you to mount these hasps around complex curves, angles, and corners that other corner hasps can't reach. All have a fixed padlock eye that cannot be adjusted after installation. Mounting screws are included.

Pry-resistant hasps include a padlock shackle protector to prevent the shackle from being cut or pried open. They are designed for use with concealed-shackle padlocks.

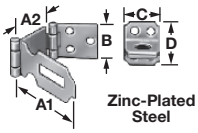

Zinc-Plated Steel

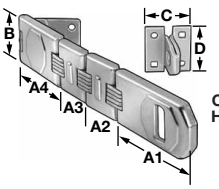

Chrome-Plated Hardened Steel (4 Leaves)

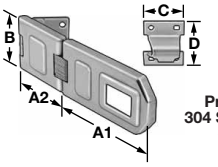

Pry-Resistant 304 Stainless Steel (2 Leaves)

No. of Leaves	O'all Lg.	(A1)	(A2)	(A3)	(A4)	(B)	(C)	(D)	Eye ID★		
Zinc-Plated Steel—1 3/16" Proj.; 1/16" Arm Thick.											
2	4 11/16"	3"	1 11/16"	—	—	1"	1 1/16"	1 7/16"	7/16"	**1359A6**	$5.13
Chrome-Plated Hardened Steel—1 1/16" Proj.; 3/8" Arm Thick.											
2	6"	3 5/16"	2 3/4"	—	—	1 13/16"	1 1/2"	1 5/8"	31/64"	**1837A11**	10.80
3	7 3/4"	3 5/16"	1 7/16"	2 3/4"	—	1 13/16"	1 1/2"	1 5/8"	31/64"	**1837A12**	14.40
4	9"	3 5/16"	1 7/16"	1 7/16"	2 3/4"	1 13/16"	1 1/2"	1 5/8"	31/64"	**1837A13**	15.30
Pry-Resistant Dull 304 Stainless Steel—1 1/16" Proj.; 7/16" Arm Thick.											
1	4 3/4"	4 3/4"	—	—	—	2 1/4"	1 5/8"	1 15/16"	21/32"	**1192A34**	13.99
2	7 1/2"	4 3/4"	2 3/4"	—	—	2 1/4"	1 5/8"	1 15/16"	21/32"	**1192A37**	18.27

★For maximum padlock shackle diameter.

Pry-Resistant Padlockable Hasps

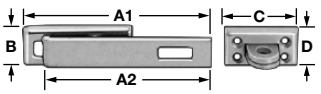

Face Mount

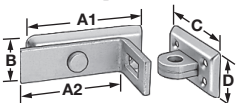

Corner Mount

These padlockable hasps have a 1/4" thick, heavy sliding arm to resist prying. They have a fixed padlock eye that cannot be adjusted after installation. **Zinc-plated steel** hasps come with mounting screws. Projection is 1". **Polished 304 stainless steel** hasp requires 1/4" screws. Projection is 1 5/8".

	(A1)	(A2)	(B)	(C)	(D)	Eye ID★		
Zinc-Plated Steel								
Face Mount	7 3/4"	6 3/4"	1 5/8"	3"	1 3/4"	9/16"	**1848A41**	$11.40
Corner Mount	5 3/16"	5 3/16"	1 3/4"	3"	1 3/4"	17/32"	**1630A11**	12.18
Polished 304 Stainless Steel								
Face Mount	7 9/16"	6 5/8"	1 3/4"	3"	1 3/4"	9/16"	**1848A42**	35.07

★For maximum padlock shackle diameter.

Padlockable Corner Hasps

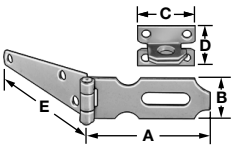

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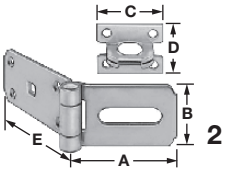

2

Mount these hasps around an inside or outside corner. Hasps have a fixed padlock eye that cannot be adjusted after installation. They are zinc-plated steel and include mounting screws. **Style 1** hasps are 1/8" thick. **Style 2** hasps are 3/16" thick.

(A)	(B)	(C)	(D)	(E)	Proj.	Eye ID★		
Style 1								
2 7/16"	1 1/8"	1 1/8"	1 1/16"	2 7/8"	3/4"	5/16"	**1543A31**	$3.00
2 7/16"	1 3/16"	1 1/8"	1 1/16"	3 7/8"	3/4"	5/16"	**1543A32**	4.00
3 15/16"	1 9/16"	1 5/8"	1 3/8"	5 7/8"	7/8"	7/16"	**1543A33**	5.37
Style 2								
3 3/16"	1 7/8"	2 1/4"	1 7/8"	4 1/8"	1 7/16"	11/16"	**1543A44**	15.08

★For maximum padlock shackle diameter.

Keyed Hasps

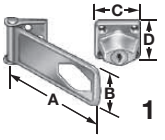

1


2

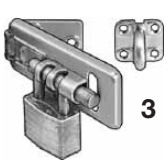
3

Hasps come with two keys and mounting screws.

Style 1—The strike plate has a five-wafer lock. 16885A22 is zinc-plated steel. 16885A25 is chrome-plated steel.

Style 2—The hasp arm has a four-wafer lock. Hasp is polished 304 stainless steel.

Style 3—A 1 3/4" wide padlock with a hard-to-pick four-pin tumbler is permanently attached to a 3/8" dia. slide bolt. Hasp is chrome-plated steel. Master key is sold separately.

(A)	(B)	(C)	(D)	Proj.	Arm Thick.	Key No.		
Each Hasp Opens with a Random Key								
1	4 5/16"	1 1/2"	1 5/8"	1 1/2"	1 1/4"	1/8"	—	**16885A22**	$7.35
2	2 3/4"	1 1/4"	1 11/16"	1 3/16"	3/4"	1/16"	—	**16885A26**	9.35
3	4 1/2"	1 13/16"	1 1/2"	1 1/2"	1"	5/16"	—	**8031A14**	16.00
Keyed Alike—Each Hasp Opens with the Same Key								
1	4 1/2"	1 5/8"	1 5/8"	1 5/8"	1 1/4"	1/16"	620	**16885A25**	6.55
3	4 1/2"	1 13/16"	1 1/2"	1 1/2"	1"	5/16"	2523	**8031A16**	18.40
Master Keyed—Each Hasp Opens with a Random Key and Master Key								
3	4 1/2"	1 13/16"	1 1/2"	1 1/2"	1"	5/16"	—	**8031A18**	19.16
Master Key Number SK92 for 8031A18								**8031A19**	4.04

Padlockable Eyes

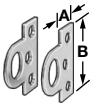

Edge Mount

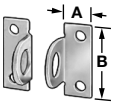

Face Mount

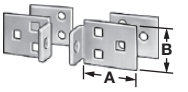

Reinforced Face Mount

Each comes with two padlock eyes.

Edge-mount eyes mount on the inside edge of a door and door frame. **Face-mount** eyes mount to the front of a door and door frame. **Reinforced face-mount** eyes have two backing plates for added support.

(A)	(B)	Proj.	Strike Plate Thick.	Eye ID★		
Zinc-Plated Steel—Screws included						
Edge Mount	13/16"	2 1/8"	1 7/8"	1/8"	9/16"	**1183A11**	$2.70
Reinforced Face Mount	2 1/2"	2"	1 11/16"	1/4"	1/2"	**8062A12**	8.78
Nickel-Cadmium Plated Steel—Screws included						
Face Mount	13/16"	2 1/8"	1 1/8"	1/8"	1/2"	**1183A12**	3.60
Polished 304 Stainless Steel—1/4" screws required						
Edge Mount	7/8"	2 1/8"	1 15/16"	3/16"	5/8"	**1183A21**	12.60
Face Mount	7/8"	2 1/8"	1 1/4"	3/16"	5/8"	**1183A22**	10.25

★For maximum padlock shackle diameter.

Padlockable Hasps for Cam Locks

Install this hasp over a cam lock and secure it with your padlock to increase security on cabinets and chests. It is designed for cam locks with up to a 1 1/16" dia. head and has a fixed padlock eye that cannot be adjusted after installation. Hasp is polished 304 stainless steel and includes mounting screws.

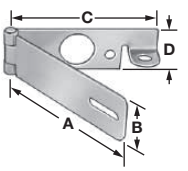

(A)	(B)	(C)	(D)	Proj.	Arm Thick.	Eye ID★		
4 7/8"	1 3/8"	4 1/2"	1 3/8"	1 1/8"	1/8"	7/16"	**12475A57**	$23.57

★For maximum padlock shackle diameter.

About Cam Latches and Locks

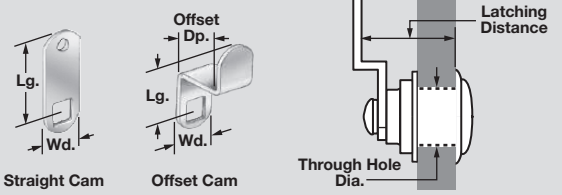

Cam latches and locks have an attached metal arm that rotates to lock cabinet doors and file drawers. The cam mechanism is either straight or offset. Offset cams are often reversible, which means they can be mounted to reach two different latching distances.

Latching distance is the distance between the outside mounting surface and the inside face of the cam. We provide the maximum latching distance possible after installation of the latch or lock. Some latches and locks have a latching distance range because their cams are adjustable. Latches and locks with fixed values for latching distance have cams that are not adjustable.

Keyed Cam Locks CAD



Locks are zinc and come with a straight cam and a reversible offset cam to accommodate different latching distances. They come with two keys. Note: Master keys for master-keyed locks are sold separately.

Locks **for 1/2″ dia. through hole** are for mounting in metal and plastic. Head is 5/8″ dia. Locks come with a 1 1/8″ Lg. × 3/8″ Wd. straight cam, a 1 1/8″ Lg. × 3/8″ Wd. reversible offset cam (3/8″ offset), and mounting hardware.

Locks **for 3/4″ dia. through hole** are for mounting in metal and wood. Head is 7/8″ dia. Locks come with a 1 1/2″ Lg. × 5/8″ Wd. straight cam, a 1 1/8″ Lg. × 5/8″ Wd. reversible offset cam (3/8″ offset), and mounting hardware. Replacement washers for mounting in metal and wood are sold separately.

Each Lock Opens with a Random Key

For Max. Thick.	Max. Latching Distance	Polished Nickel Finish		Polished Brass Finish	
For 1/2″ Dia. Through Hole (Turn right 90° to unlock)					
13/32″	1″	11125A11	$6.99		
For 3/4″ Dia. Through Hole (Turn right 90° to unlock)					
7/64″	3/4″	1770A51	6.32	15165A11	$7.93
15/64″	15/16″	1770A3	6.32	15165A21	7.93
5/8″	1 1/4″	1770A54	6.32	15165A14	7.93
7/8″	1 1/2″	1770A7	6.32	15165A27	7.93
For 3/4″ Dia. Through Hole (Turn right 90° to unlock) (Cont.)					
1 1/8″	1 3/4″	1770A41	$6.32	15165A31	$7.96
For 3/4″ Dia. Through Hole (Turn left 90° to unlock)					
15/64″	15/16″	1770A11	6.32	15165A41	8.81
7/8″	1 1/2″	1770A5	7.44	15165A24	8.81
For 3/4″ Dia. Through Hole (Turn right 90° or 180° to unlock)					
1 7/16″	2 1/16″	1770A71	7.81	15165A34	10.66

Keyed Alike—Each Lock Opens with the Same Key

For Max. Thick.	Max. Latching Distance	Key No.	Polished Nickel Finish		Polished Brass Finish	
For 1/2″ Dia. Through Hole (Turn right 90° to unlock)						
13/32″	1″	105	11125A12	$6.99		
For 3/4″ Dia. Through Hole (Turn right 90° to unlock)						
7/64″	3/4″	C346A	1770A527	6.32	15165A12	$7.93
		C390A	1770A526	6.32		
		C413A	1770A523	6.32	15165A203	7.93
		C415A	1770A524	6.32	15165A204	7.93
		C420A	1770A525	6.32		
		C642A	1770A52	6.32		
15/64″	15/16″	C346A	1770A412	6.32	15165A231	7.93
		C390A	1770A413	6.32		
		C413A	1770A4	6.32	15165A233	7.93
		C415A	1770A415	6.32	15165A22	7.93
		C420A	1770A414	6.32		
		C642A	1770A416	6.32		
5/8″	1 1/4″	C346A	1770A557	6.32	15165A241	7.93
		C390A	1770A55	6.32		
		C413A	1770A553	6.32	15165A15	7.93
		C415A	1770A555	6.32	15165A243	7.93
		C420A	1770A558	6.32		
		C642A	1770A554	6.32		
7/8″	1 1/2″	C346A	1770A813	6.32	15165A261	7.93
		C390A	1770A814	6.32	15165A262	7.93
		C413A	1770A815	6.32	15165A263	7.93
		C415A	1770A812	6.32	15165A264	7.93
		C420A	1770A816	6.32	15165A265	7.93
		C642A	1770A8	6.32	15165A28	7.93
For 3/4″ Dia. Through Hole (Turn right 90° to unlock) (Cont.)						
1 1/8″	1 3/4″	C346A	1770A42	$6.32	15165A32	$7.93
		C390A	1770A422	6.32	15165A271	7.93
		C413A	1770A425	6.32	15165A272	7.93
		C415A	1770A426	6.32	15165A273	7.93
		C420A	1770A424	6.32	15165A274	7.93
		C642A	1770A423	6.32	15165A275	7.93
For 3/4″ Dia. Through Hole (Turn left 90° to unlock)						
15/64″	15/16″	C346A	1770A123	6.93	15165A221	8.14
		C390A	1770A122	6.93		
		C413A	1770A12	6.93	15165A223	8.14
		C415A	1770A124	6.93	15165A42	8.14
		C420A	1770A126	6.93		
		C642A	1770A125	6.93		
7/8″	1 1/2″	C346A	1770A316	6.93	15165A251	7.93
		C390A	1770A312	6.93	15165A252	7.93
		C413A	1770A315	6.93	15165A253	7.93
		C415A	1770A31	6.93	15165A254	7.93
		C420A	1770A314	6.93	15165A25	7.93
		C642A	1770A313	6.93	15165A255	7.93
For 3/4″ Dia. Through Hole (Turn right 90° or 180° to unlock)						
1 7/16″	2 1/16″	C346A	1770A72	7.81	15165A281	10.66
		C390A	1770A723	7.81	15165A35	10.66
		C413A	1770A726	7.81	15165A282	10.66
		C415A	1770A724	7.81	15165A283	10.66
		C420A	1770A725	7.81	15165A284	10.66
		C642A	1770A722	7.81	15165A285	10.66

Also Available: Additional keys for locks that open with the same key (except 11125A12). Please ask for 1770A2 and specify key number.

Master Keyed—Each Lock Opens with a Random Key and a Master Key (Master key sold separately)

For Max. Thick.	Max. Latching Distance	Polished Nickel Finish: Master Key No.	Locks		Master Key		Polished Brass Finish: Master Key No.	Locks		Master Key	
For 3/4″ Dia. Through Hole (Turn right 90° to unlock)											
7/64″	3/4″	E041A, E41A	1770A53	$7.62	1770A25	$3.18	E041A, E41A	15165A13	$12.66	1770A25	$3.18
15/64″	15/16″	E041A, E41A	1770A1	7.75	1770A25	3.18	E041A, E41A	15165A23	12.66	1770A25	3.18
5/8″	1 1/4″	E041A, E41A	1770A56	7.75	1770A25	3.18	E041A, E41A	15165A16	12.66	1770A25	3.18
7/8″	1 1/2″	E041A, E41A	1770A9	7.75	1770A25	3.18	E041A, E41A	15165A29	12.66	1770A25	3.18
1 1/8″	1 3/4″	E041A, E41A	1770A43	7.75	1770A25	3.18	E041A, E41A	15165A33	12.66	1770A25	3.18
For 3/4″ Dia. Through Hole (Turn left 90° to unlock)											
15/64″	15/16″	E01A, E1A	1770A13	8.58	1770A26	3.18	E041A, E41A	15165A43	12.41	1770A25	3.18
7/8″	1 1/2″	E02A, E2A	1770A32	8.58	1770A28	3.18	E041A, E41A	15165A26	12.40	1770A25	3.18
For 3/4″ Dia. Through Hole (Turn right 180° to unlock)											
1 7/16″	2 1/16″	E041A, E41A	1770A73	8.71	1770A25	3.18	E041A, E41A	15165A36	14.26	1770A25	3.18

Replacement Cams and Washers—For locks that fit in a 3/4″ dia. through hole.

Straight Cam (1 1/2″ Lg. × 5/8″ Wd.)	1770A111	$1.19	Washer for Mounting in Metal	1770A113	$1.02
Offset Cam (1 1/8″ Lg. × 5/8″ Wd. × 3/8″ Offset)	1770A112	1.97	Washer for Mounting in Wood	1770A114	.44

Circular-Keyway Cam Locks



Offering more security than standard keyed cam locks, these have circular keys that are difficult to duplicate and a tubular pin tumbler that is difficult to pick. Turn key 90° or 180° to the right or left to unlock. Locks are polished nickel-plated zinc. Head dia. is 7/8".

Locks come with two keys, a 1 9/16" Lg. × 5/8" Wd. straight cam, a 1 7/16" Lg. × 5/8" Wd. reversible offset cam (1/4" offset), and mounting hardware. Mount in metal, plastic, or wood. Note: Master key for master-keyed locks is sold separately.

Also Available: Replacement keys for locks that open with the same key. Please ask for 1682A41 and specify key number.

For Max. Thick.	Max. Latching Distance	For Through Hole Dia.	Key No.		
Each Lock Opens with a Random Key					
3/16"	15/16"	3/4"	____	1682A51	$21.70
1/2"	15/16"	3/4"	____	1682A31	21.68
5/8"	1 3/16"	3/4"	____	1682A11	22.66
7/8"	1 3/8"	3/4"	____	1682A21	22.36
1 3/16"	1 7/8"	3/4"	____	1682A54	22.36
Keyed Alike—Each Lock Opens with the Same Key					
3/16"	15/16"	3/4"	27379	1682A52	21.70
1/2"	15/16"	3/4"	27379	1682A32	21.68
5/8"	1 3/16"	3/4"	PL505	1682A12	22.37
7/8"	1 3/8"	3/4"	PL505	1682A22	22.37
1 3/16"	1 7/8"	3/4"	PL505	1682A55	22.36
Master Keyed—Each Lock Opens with a Random Key and Master Key					
1/2"	15/16"	3/4"	Y18A	1682A33	23.63
5/8"	1 3/16"	3/4"	Y18A	1682A13	23.63
7/8"	1 3/8"	3/4"	Y18A	1682A23	24.31
Master Key Y18A				1682A15	5.26

Keyed Cam Locks with No-Copy Keys



For added security, these highly pick-resistant locks have specially designed half-moon shape keys that cannot be duplicated. Turn key 180° to the right to unlock. Keys can only be removed in the locked position. Locks are polished chrome-plated brass. Head diameter is 7/8".

Locks come with two keys, a 1 1/8" Lg. × 5/8" Wd. straight cam, a 1 1/2" Lg. × 5/8" Wd. reversible offset cam (3/8" offset), and mounting hardware. Mount in metal, plastic, or wood. Note: Master keys for master-keyed locks are sold separately.

For Max. Thick.	Max. Latching Distance	For Through Hole Dia.	Key No.		
Each Lock Opens with a Random Key					
7/16"	1 1/8"	3/4"	____	10765A31	$27.37
7/8"	1 1/2"	3/4"	____	10765A34	35.94
Keyed Alike—Each Lock Opens with the Same Key					
7/16"	1 1/8"	3/4"	6791738411	10765A32	27.37
7/8"	1 1/2"	3/4"	6946904531	10765A35	34.38
Master Keyed—Each Lock Opens with a Random Key and Master Key					
7/16"	1 1/8"	3/4"	93-0801-11S	10765A33	35.22
7/8"	1 1/2"	3/4"	93-0802-11S	10765A36	43.30
Master Key 93-0801-11S				10765A38	5.34
Master Key 93-0802-11S				10765A39	5.34

Plastic Keyed Cam Locks



Made of plastic, these locks resist corrosion. Turn key 90° to the right to unlock. Head diameter is 7/8".

Locks come with two keys, a 1 1/4" Lg. × 5/8" Wd. straight cam, a 1 1/4" Lg. × 5/8" Wd. reversible offset cam (1/4" offset), and mounting hardware. Mount in metal or plastic. Temperature range is 15° to 185° F.

For Max. Thick.	Max. Latching Distance	For Through Hole Dia.	Silver		Black	
Each Lock Opens with a Random Key						
1/4"	7/8"	3/4"	1561A11	$4.13	1561A12	$4.13
9/16"	1 1/8"	3/4"	1561A13	4.29	1561A14	4.29
13/16"	1 3/8"	3/4"	1561A15	4.45	1561A16	4.45
Keyed Alike—Each Lock Opens with Key No. 750						
1/4"	7/8"	3/4"	1561A21	4.13	1561A22	4.13
9/16"	1 1/8"	3/4"	1561A23	4.29	1561A24	4.29
13/16"	1 3/8"	3/4"	1561A25	4.45	1561A26	4.45

Miniature Circular-Keyway Cam Locks



With a head diameter of 5/8", these locks are well-suited for tight spaces. They have circular keys that are difficult to duplicate. Turn key 90° to unlock. You select the turn direction when you mount the cam. Keys can only be removed in the locked position. Locks are polished chrome-plated brass.

Locks come with two keys, a 1 1/8" Lg. × 7/16" Wd. straight cam, a 1 1/8" Lg. × 7/16" Wd. reversible offset cam (1/8" offset), and mounting hardware. Mount in metal or plastic.

For Max. Thick.	Max. Latching Distance	For Through Hole Dia.	Key No.		
Each Lock Opens with a Random Key					
9/16"	1"	1/2"	____	13515A62	$7.47
Keyed Alike—Each Lock Opens with the Same Key					
9/16"	1"	1/2"	601	13515A64	7.47

Weather-Resistant Keyed Cam Locks



A 304 stainless steel shutter blocks liquid and dry contaminants from entering the cylinder where they can cause internal damage. Turn key 180° to unlock. You select the turn direction when you mount the cam. Lock is zinc. Head diameter is 7/8".

Locks come with two keys, a 2 3/4" Lg. × 5/8" Wd. straight cam (which can be cut to size), two 15/16" Lg. × 5/8" Wd. reversible offset cams (1/4" offset and 7/8" offset), and mounting hardware. Mount in metal or plastic.

For Max. Thick.	Max. Latching Distance	For Through Hole Dia.	Key No.		
Each Lock Opens with a Random Key					
5/16"	1 1/2"	3/4"	____	13105A71	$7.58
9/16"	1 3/4"	3/4"	____	13105A72	7.58
Keyed Alike—Each Lock Opens with the Same Key					
5/16"	1 1/2"	3/4"	200R	13105A75	7.58
9/16"	1 3/4"	3/4"	200R	13105A76	7.58

Universal Mailbox Keyed Cam Locks



Lock meets U.S. postal guidelines for mailbox locks. Turn key 90° to the left to unlock. Keys can only be removed in the locked position. Lock is nickel-plated zinc. Head diameter is 7/8".

Lock comes with two keys, nine reversible offset cams (lengths range from 3/4"-1 1/2"; offsets from 1/16"-7/16"), and mounting hardware. Mount in metal or plastic.

For Max. Thick.	Max. Latching Distance	For Through Hole Dia.		
3/16"	15/16"	3/4"	1285A13	$6.56

Ring-Handle Cam Latches and Locks



Keyed Lock

The ring handle is recessed to stay out of the way when not in use; turn 180° to the right to open. Latch and lock are chrome-plated brass.

They come with a 2" Lg. × 5/8" Wd. straight cam, a 2" Lg. × 5/8" Wd. reversible offset cam (3/8" offset), and mounting hardware. Mount in metal, plastic, or wood.

Keyed lock comes with two keys.

For Max. Thick.	Max. Latching Distance	For Through Hole Dia.	Handle Proj.		
Nonlocking Latch					
1 1/8"	1 11/16"	3/4"	3/16"	1379A11	$16.20
Keyed Lock—Each Lock Opens with Key No. S001					
1 1/8"	1 11/16"	3/4"	3/16"	1379A13	19.97

Combination Cam Locks



To unlock, dial the three-number combination, push the knob in and turn it 90° to the right. Locks are zinc. Head diameter is 1″.

Locks come with a 1½″ Lg.×⅝″ Wd. straight cam, a 1¼″ Lg.×⅝″ Wd. reversible offset cam (¼″ offset), and mounting hardware. Mount in metal or wood.

For Max. Thick.	Max. Latching Distance	For Through Hole Dia.	Combination		
Each Lock Opens with a Random Combination					
⅜″	1¼″	¾″	____	1593A47	$11.86
⅝″	1¼″	¾″	____	1593A49	12.91
⅞″	1¼″	¾″	____	1593A53	12.93
Each Lock Opens with the Same Combination					
⅜″	1¼″	¾″	10-5-10	1593A16	11.74
⅝″	1¼″	¾″	10-5-10	1593A18	12.83
⅞″	1¼″	¾″	10-5-10	1593A22	12.83

Resettable Combination Cam Locks



Set your own combination out of 1,000 possible combinations and change it at any time by using a paper clip. After dialing the three-number combination, turn the knob 90° to unlatch. You select the turn direction when you mount the cam. Locks are zinc. Head diameter is 1½″.

Locks come with a ¾″ Lg.×½″ Wd. straight cam, a 1½″ Lg.×½″ Wd. straight cam, a 1½″ Lg.×½″ Wd. reversible offset cam (¼″ offset), and mounting hardware. Mount in metal, plastic, or wood.

For Max. Thick.	Max. Latching Distance	For Through Hole Dia.	Chrome Plated		Black Painted	
⅜″	⅝″	¾″	7138A11	$8.50	7138A14	$8.50
⅝″	⅞″	¾″	7138A12	8.84	7138A16	8.84
⅞″	1⅛″	¾″	7138A13	8.84	7138A15	8.84

Wing-Handle Cam Latches



Turn 90° right or left to unlatch; you select the turn direction of these latches when you mount the cam. Latches are nickel-plated zinc. Handle is 1½″ long.

Latches come with a 1¼″ Lg.×⅝″ Wd. straight cam, a 1⅛″ Lg.×⅝″ Wd. reversible offset cam (¼″ offset), and mounting hardware. Mount in metal, plastic, or wood.

For Max. Thick.	Latching Distance	Handle Proj.	For Through Hole Dia.		
¼″	⅜″, ⅝″, ⅞″	½″	¾″	1820A21	$4.45
9⁄16″	⅝″, ⅞″, 1⅛″	½″	¾″	1820A22	4.45
⅞″	⅞″, 1⅛″, 1⅜″	½″	¾″	1820A26	4.45

Slotted Cam Latches



These latches require a slotted screwdriver to open, making them more secure than handle and knob cam latches. You select both the amount (90° or 180°) and direction of turn for the latch when you mount the cam. Latches are nickel-plated zinc.

Latches come with a 1½″ Lg.×⅝″ Wd. straight cam, a 1½″ Lg.×⅝″ Wd. reversible offset cam (3⁄16″ offset), and mounting hardware. Mount in metal or wood.

For Max. Thick.	Max. Latching Distance	For Through Hole Dia.	Head Dia.		
¼″	13⁄16″	¾″	⅞″	10335A75	$5.87

Knob Cam Latches



Turn the collar under the knob to set your latching distance exactly where you need it. To unlock, turn the knob 90° to the right or left. Knob is plastic; latch is zinc-plated steel.

Latches come with a reversible offset cam and mounting hardware. Mount in metal, plastic, or wood.

For Max. Thick.	Latching Distance	For Through Hole Dia.	*Knob* Dia.	*Knob* Proj.		
3⁄16″	3⁄16″-11⁄16″	5⁄16″	½″	½″	1702A39	$16.93
¼″	⅛″-15⁄16″	7⁄16″	¾″	11⁄16″	1702A41	17.45
½″	3⁄16″-27⁄16″	⅝″	1⅛″	1″	1702A42	20.02

Miniature Slotted Cam Latches



Latch has a small head that is good for limited-space areas. It requires a slotted screwdriver to open, making it more secure than handle and knob cam latches. To unlatch, turn the head 90° right or left. This latch doesn't require any tools for installation—insert the shaft through a drilled hole and use the push-on retainer to tension-mount the latch against the inside surface. Latch is polished nickel-plated steel.

Latches come with a 15⁄16″ Lg.×½″ Wd. straight cam and mounting hardware. Mount in metal, plastic, or wood.

For Max. Thick.	Latching Distance	For Through Hole Dia.	Head Dia.		
¾″	¼″-1″	¼″	9⁄16″	1340A31	$5.62

L- and T-Handle Cam Latches and Locks



Standard Nonlocking L-Handle Latch



Tamper-Resistant Keyed T-Handle Lock

Use alone or with a three-point locking system commonly seen on filing cabinet doors. Mount the cam to latch at a single point; for additional strength, position it to drive a bar or rod into as many as two additional latch points. Latches and locks are chrome-plated zinc. They have a 2 5⁄16″ Lg.× 1 3⁄16″ Wd. mounting plate and fit into a ⅞″ dia. through hole.

Latches and locks come with a 1¾″ Lg.×⅝″ Wd. straight cam. Mount in metal, plastic, or wood.

L-Handle—All are 3 5⁄16″ long and have a 1 11⁄16″ projection.

T-Handle—All are 3 3⁄16″ long and have a 1 13⁄16″ projection.

Standard latches and **locks** require two M4 screws. They have a 5⁄16″ Sq.×3 3⁄16″ Lg. spindle.

Tamper-resistant latches and **locks** include mounting screws. When installed, the screws are concealed to prevent tampering. Latches and locks have a 5⁄16″ Sq.×9⁄16″ Lg. spindle.

Locks come with two keys. Note: Master key for master-keyed locks is sold separately.

Also Available: Replacement keys for keyed locks. Please ask for 1210A77 and specify key number.

	For Max. Thick.	Latching Distance	*L-Handle* Key No.	*L-Handle* Turn Left 90° to Unlatch		*L-Handle* Turn Right 90° to Unlatch		*T-Handle* Key No.	*T-Handle* Turn Left 90° to Unlatch		*T-Handle* Turn Right 90° to Unlatch	
Nonlocking Latches												
Standard	2 15⁄16″	3 1⁄4″	____	1226A42	$12.40	1226A72	$12.40	____	1210A92	$11.67	1210A52	$11.67
Tamper Resistant	⅛″	⅜″	____	1226A41	12.74	1226A71	12.74	____	1210A91	11.31	1210A51	11.31
Keyed Locks—Each Lock Opens with a Random Key												
Standard	2 15⁄16″	3 1⁄4″	____	1226A45	14.36	1226A63	14.36	____	1210A83	14.29	1210A55	14.29
Tamper Resistant	⅛″	⅜″	____	1226A43	14.48	1226A61	14.48	____	1210A81	13.93	1210A53	13.93
Keyed Alike Locks—Each Lock Opens with the Same Key												
Standard	2 15⁄16″	3 1⁄4″	92304	1226A46	14.36	1226A64	14.36	92302	1210A84	14.29	1210A56	14.29
Tamper Resistant	⅛″	⅜″	92303	1226A44	14.48	1226A62	14.48	92301	1210A82	13.93	1210A54	13.93
Master Keyed Locks—Each Lock Opens with a Random Key and a Master Key												
Standard	2 15⁄16″	3 1⁄4″	92	1226A48	15.96	1226A52	15.96	92	1210A72	16.51	1210A58	16.51
Tamper Resistant	⅛″	⅜″	92	1226A47	16.09	1226A51	16.09	92	1210A71	16.16	1210A57	16.16
Replacement Tamper-Resistant L-Handle											1226A81	8.00
Master Key—Key No. 92											1226A77	5.51

For information about cam latches and locks, see page 2928.

L-Handle Padlockable Cam Latches

These padlockable latches are commonly used on heavy doors, such as those found on trucks and large cabinets. The handle and latch are each sold separately. Turn the handle 90° to unlatch; you select the turn direction when you mount the cam. Mount in metal, plastic, or wood. All have a dull finish.

Handles—Require No. 10 mounting screws.

Latch—Comes with a 5/8" Lg. x 11/16" Wd. straight cam. Latch projects 11/32" and requires No. 14 mounting screws.

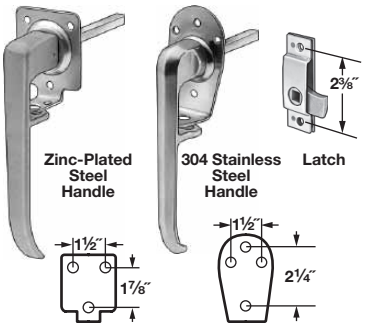

Material	For Max. Thick.	For Through Hole Dia.	Mounting Plate Ht.	Mounting Plate Wd.	Handle Lg.	Handle Proj.	Shaft Lg.	For Max. Padlock Shackle Dia.		
Handles										
Zinc-Plated Steel	3"	1/2"	2 3/4"	2 1/4"	6 7/8"	1 7/8"	3 3/4"	1/2"	1654A11	$16.71
304 SS	3"	1/2"	3 1/2"	2"	6 1/16"	1 13/16"	3 1/4"	3/8"	1654A21	40.98
Latch										
Zinc-Plated Steel	—	—	3"	1"	—	—	—	—	13465A43	4.69

Washdown Cam Latches and Locks

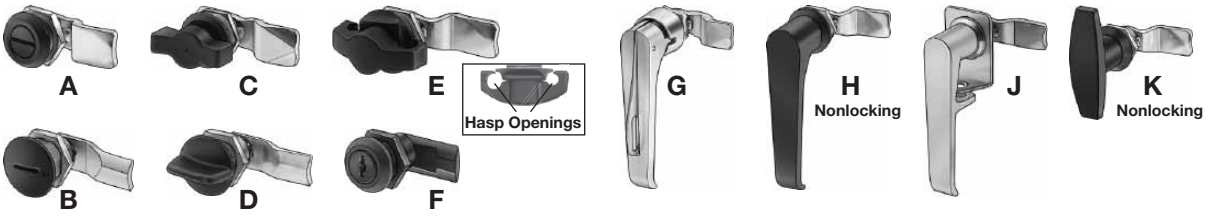

These latches and locks are IP65 and NEMA 4 rated for protection against dust, dirt, and washdowns. Unlatch with a 90° turn to the right or left. Mount into a 7/8" dia. through hole.

All come with three nonreversible cams with a variety of offsets, except Styles B and D come with one nonreversible cam (5/16" offset). Cams are 1 3/4" Lg. x 3/4" Wd., except cam for Style F is 1 3/8" Lg. x 3/4" Wd.

Keyed locks include 2 keys.

Style E has two hasp openings that accommodate padlocks with a 3/16" and 3/8" maximum diameter shackle.

Style F has a temperature range of 0° to 190° F.

Styles G and **J** have a hasp that accommodates a padlock with a maximum shackle diameter of 5/16".

Zinc Latches and Locks

	For Max. Thick.	Latching Distance	Handle Proj.	Handle/Head Lg.	Handle/Head Wd.	Chrome Plated		Black Painted	
Nonlocking Latches									
A Slotted	3/16"	3/8", 11/16", 1 1/4"	—	1 1/8" Dia.	—	12265A51	$13.06	12265A53	$12.48
B Slotted	35/64"	5/8"	—	1 1/4" Dia.	—	80625A32	9.43	80625A34	8.50
C Wing-Handle	3/16"	3/8", 11/16", 1 1/4"	7/8"	2"	1 1/8"	12265A55	16.48	12265A57■	15.63
D Wing-Handle	35/64"	5/8"	13/16"	1 1/4"	3/16"	80625A36	7.88	80625A38	8.50
H L-Handle	5/16"	11/16", 13/16", 1 1/16"	1 9/16"	4 3/16"	1"	80625A46	29.44	80625A52★	21.46
K T-Handle	5/16"	11/16", 13/16", 1 1/16"	1 9/16"	3 1/16"	13/16"	80625A45	22.30	80625A54★	19.16
Padlockable Latches									
E Wing-Handle	5/16"	11/16", 13/16", 1 1/16"	13/16"	2"	1/2"	—	—	80625A41	23.98
G L-Handle	5/16"	3/8", 3/4", 13/16"	2 1/8"	4 9/16"	1"	80625A74	40.04	80625A56	40.04
Keyed Locks—Each Lock Opens with Key Number EK333									
H L-Handle	5/16"	11/16", 13/16", 1 1/16"	1 9/16"	4 3/16"	1"	80625A49	42.24	80625A53★	30.92
K T-Handle	5/16"	11/16", 13/16", 1 1/16"	1 9/16"	3 1/16"	13/16"	80625A48	35.22	80625A55★	28.46

■ Latching distances are 3/8", 11/16", 1 1/16"; handle is 1 5/8" Lg. x 13/16" Wd. ★ Black nylon handle; temp. range is -20° to 210° F.

Stainless Steel Latches and Locks

	For Max. Thick.	Latching Distance	Handle Proj.	Handle/Head Lg.	Handle/Head Wd.	Dull 304 SS		Dull 316 SS	
Nonlocking Latches									
A Slotted	5/16"	11/16", 13/16", 1 1/16"	—	1 1/8" Dia.	—	80625A67	$40.38	80625A58	$91.80
C Wing-Handle	5/16"	11/16", 13/16", 1 1/16"	13/8"	2"	13/16"	80625A68★	42.84	—	—
H L-Handle	5/16"	11/16", 13/16", 1 1/16"	1 9/16"	4 3/16"	1"	—	—	1416A12	84.64
K T-Handle	5/16"	11/16", 13/16", 1 1/16"	1 9/16"	3 3/16"	13/16"	—	—	1416A11	100.44
Padlockable Latches									
J L-Handle	5/16"	11/16", 13/16", 1 1/16"	1 5/16"	4 1/16"	13/16"	80625A75	176.52	1416A13	218.64
Keyed Locks—Each Lock Opens with Key Number 1333								**Polished 316 SS**	
H L-Handle	5/16"	11/16", 13/16", 1 1/16"	1 1/2"	4 5/8"	5/8"	—	—	1416A22	$89.84
K T-Handle	5/16"	11/16", 13/16", 1 1/16"	1 1/2"	3 1/8"	7/16"	—	—	1416A21	81.35

★ Black nylon handle; temp. range is -20° to 210° F.

Plastic Lock

	For Max. Thick.	Latching Distance	Head Dia.	Black	
Keyed Lock					
F Key Slot	5/16"	11/16", 13/16", 1 1/16"	1 1/8"	80625A61	$20.42

Two-Handle Padlockable Bolt Latches

Operate these latches from either side of your door—there is a handle on both sides. Latches are reversible for right- and left-hand mounting. They require a 3/4" dia. through hole in your door for installation. Latches are zinc-plated steel and accept a padlock with a max. shackle diameter of 3/8". Mounting screws are included.

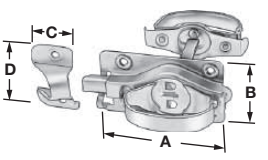

For Max. Thick.	(A)	(B)	(C)	(D)	Proj.		
2"	5"	2 13/16"	1 3/4"	2 3/4"	2 1/2"	1355A11	$13.45
3"	5"	2 13/16"	1 3/4"	2 3/4"	2 1/2"	1355A12	13.80

Deadbolt Drawer Locks and Cam Locks without Lock Cylinders

Choose these locks if you want to use your own compatible lock cylinder to match the keying of an existing system. They also give you the option of changing the cylinder without replacing the entire lock.

Locks



Deadbolt Drawer



Cam

Locks accept a 5⁄8″ dia. cylinder. Mount in wood.

Deadbolt drawer lock has a 1 1⁄4″ Ht. × 1 3⁄4″ Wd. × 1⁄2″ Dp. case. It is zinc and has a latch bolt projection of 3⁄8″.

Cam lock has a 5⁄8″ Ht. × 1 11⁄16″ Wd. × 1⁄8″ Thick. mounting plate and comes with a 1 1⁄4″ Lg. × 5⁄8″ Wd. straight cam and a 13⁄16″ Lg. × 5⁄8″ Wd. offset cam. Lock is zinc-plated steel.

	For Max. Thick.		
Deadbolt Drawer	3⁄4″	17825A21	$2.86
Cam	3⁄4″	17825A22	4.55

Lock Cylinders



Lock cylinders snap into compatible cam and deadbolt lock bodies. Removal requires the lock cylinder removal tool (sold separately).

Cylinders come with two keys and a trim ring adapter that adapts the cylinder for use in 3⁄4″ diameter holes. Note: Master key for master-keyed lock is sold separately.

To Order: Please specify black, brass, or nickel finish.

Dia.	Key No.		
Each Cylinder Opens with a Random Key			
5⁄8″	____	17825A42	$4.75
Keyed Alike—Each Cylinder Opens with the Same Key			
5⁄8″	598T	17825A47	4.74
5⁄8″	599T	17825A45	4.75
5⁄8″	600T	17825A46	4.75
Master Keyed—Each Cylinder Opens with a Random Key and Master Key			
5⁄8″	7T	17825A44	4.75
Master Key 7T		17825A34	3.46
Cylinder Removal Tool		17825A33	7.10

Spring-Cam Latches



Knob



Slotted



T-Handle

These latches have a spring-wire cam that slips under a receiving catch to create tension and hold doors and drawers closed. Turn the head 90° to the left to release the tension and unlatch. They can be screwed, riveted, or welded to your mounting surface.

All have a dull finish. Mount in metal, plastic, or wood. Mounting screws are not included.

Handle Style	For Max. Thick.	Latching Distance	For Through Hole Dia.	Screw Size	Center-to-Center (A)	Handle Proj.	*Mounting Plate* Lg.	*Mounting Plate* Wd.	Knob/ Head Dia.	Spring Cam Lg.		
Zinc-Plated Steel												
Knob	1⁄8″	1⁄16″-1⁄8″	5⁄16″	No. 3	7⁄8″	1⁄2″	1 1⁄16″	5⁄16″	5⁄16″	1 1⁄16″	1866A1	$4.60
Knob	1⁄4″	1⁄16″-1⁄4″	7⁄16″	No. 3	1 5⁄16″	1⁄2″	1 9⁄16″	7⁄16″	3⁄8″	1 1⁄16″	1866A3	3.40
Knob	3⁄8″	1⁄16″-3⁄8″	9⁄16″	No. 6	1 15⁄16″	1 1⁄16″	2 5⁄16″	5⁄8″	9⁄16″	1 9⁄16″	1866A12	4.22
Slotted	1⁄8″	1⁄16″-1⁄8″	5⁄16″	No. 3	7⁄8″	____	1 1⁄16″	5⁄16″	1⁄4″	1 1⁄16″	1866A2	3.37
Slotted	1⁄4″	1⁄16″-1⁄4″	7⁄16″	No. 3	1 5⁄16″	____	1 9⁄16″	7⁄16″	3⁄8″	1 1⁄16″	1866A4	2.75
Slotted	3⁄8″	1⁄16″-3⁄8″	1⁄2″	No. 6	1 15⁄16″	____	2 5⁄16″	5⁄8″	1⁄2″	1 9⁄16″	1866A31	3.27
Slotted	9⁄16″	1⁄8″-9⁄16″	13⁄16″	No. 10	2 15⁄16″	____	3 1⁄2″	15⁄16″	3⁄4″	2 5⁄16″	1866A5	9.45
T-Handle	1⁄4″	1⁄16″-3⁄8″	9⁄16″	No. 6	1 15⁄16″	3⁄4″	2 5⁄16″	5⁄8″	9⁄16″	1 9⁄16″	1866A33	6.08
T-Handle	5⁄16″	1⁄8″-9⁄16″	13⁄16″	No. 10	2 15⁄16″	1 1⁄16″	3 1⁄2″	15⁄16″	13⁄16″	2 5⁄16″	1866A6	13.75
300 Series Stainless Steel												
Knob	3⁄8″	1⁄16″-3⁄8″	9⁄16″	No. 6	1 15⁄16″	1 1⁄16″	2 5⁄16″	5⁄8″	9⁄16″	1 9⁄16″	1866A14	10.12
Slotted	1⁄4″	1⁄16″-3⁄8″	1⁄2″	No. 6	1 15⁄16″	____	2 5⁄16″	5⁄8″	1⁄2″	1 9⁄16″	1866A32	8.10

Lift-and-Turn Tight-Hold Cam Latches and Locks



L-Handle Latch



Keyed Paddle-Handle Lock

Also known as compression cam latches and locks, these reach full compression when you lift the handle, turn it a quarter-turn, and then push it down for a secure hold. You select the turn direction when you mount the cam.

Latches and locks are zinc. They come with a reversible offset cam (unless noted) and mounting hardware. The offset cam provides variable latching-distance ranges depending on the cam position. Mount in metal, plastic, or wood.

Keyed paddle-handle locks include two keys. They open with key number CH751.

For Max. Thick.	*Latching Distance* Short	*Latching Distance* Long	*For Through Hole* Ht.	*For Through Hole* Wd.	*Projection* Handle	*Projection* Rear	*Cam* Lg.	*Cam* Wd.	Max. Clamping Force, lbs.	**Chrome Plated**		**Black Painted**	
L-Handle Latches													
1 3⁄8″ Lg. × 1⁄2″ Wd. Handle													
3⁄16″	0″-1⁄8″	1 1⁄8″-1 5⁄16″	3⁄8″ Dia.	____	1 1⁄16″	1 1⁄16″	1 1⁄16″	1⁄2″	50	1619A51	$13.12	1619A54	$10.32
3⁄16″	3⁄16″-3⁄8″	7⁄8″-1 1⁄16″	3⁄8″ Dia.	____	1 1⁄16″	1 1⁄16″	1 1⁄16″	1⁄2″	50	1619A52	13.12	1619A55	10.40
3⁄16″	7⁄16″-5⁄8″	5⁄8″-7⁄8″	3⁄8″ Dia.	____	1 1⁄16″	1 1⁄16″	1 1⁄16″	1⁄2″	50	1619A53	13.12	1619A56	10.53
2 3⁄16″ Lg. × 3⁄4″ Wd. Handle													
1⁄4″	1⁄8″-7⁄16″	1 1⁄4″-1 5⁄8″	1 1⁄16″ Dia.	____	1 1⁄4″	1 9⁄16″	1 11⁄16″	5⁄8″	125	1619A11	18.68	1619A34	12.97
1⁄4″	1⁄2″-7⁄8″	7⁄8″-1 1⁄4″	1 1⁄16″ Dia.	____	1 1⁄4″	1 9⁄16″	1 11⁄16″	5⁄8″	125	1619A12	18.68	1619A35	12.97
1⁄4″	____	1 11⁄16″-2″	1 1⁄16″ Dia.	____	1 1⁄4″	1 9⁄16″	1 11⁄16″	5⁄8″	125	1619A13★	18.68	1619A36★	13.10
Paddle-Handle Latches													
1 13⁄16″ Lg. × 7⁄8″ Wd. Handle													
1⁄8″	3⁄16″-3⁄8″	1 3⁄8″-1 9⁄16″	1 5⁄8″	11⁄16″	1⁄16″	1 3⁄8″	1 1⁄16″	1⁄2″	50	1619A15	30.37	1619A38	24.55
1⁄8″	7⁄16″-5⁄8″	1 1⁄8″-1 5⁄16″	1 5⁄8″	11⁄16″	1⁄16″	1 3⁄8″	1 1⁄16″	1⁄2″	50	1619A16	30.37	1619A39	24.55
3 3⁄8″ Lg. × 1 5⁄8″ Wd. Handle													
1⁄4″	1⁄4″-5⁄8″	2 1⁄4″-2 9⁄16″	2 7⁄8″	1 3⁄16″	3⁄16″	2 1⁄4″	1 11⁄16″	5⁄8″	100	1619A17	36.35	1619A43	28.05
1⁄4″	5⁄8″-1″	1 13⁄16″-2 13⁄16″	2 7⁄8″	1 3⁄16″	3⁄16″	2 1⁄4″	1 11⁄16″	5⁄8″	100	1619A18	36.35	1619A44	28.05
1⁄4″	1 1⁄16″-1 3⁄8″	1 7⁄16″-1 13⁄16″	2 7⁄8″	1 3⁄16″	3⁄16″	2 1⁄4″	1 11⁄16″	5⁄8″	100	1619A19	36.35	1619A45	28.05
Keyed Paddle-Handle Locks													
3 3⁄8″ Lg. × 1 5⁄8″ Wd. Handle													
1⁄4″	1⁄4″-5⁄8″	2 1⁄4″-2 9⁄16″	2 7⁄8″	1 3⁄16″	3⁄16″	2 1⁄4″	1 11⁄16″	5⁄8″	100	1619A24	52.85	1619A47	40.35
1⁄4″	5⁄8″-1″	1 13⁄16″-2 13⁄16″	2 7⁄8″	1 3⁄16″	3⁄16″	2 1⁄4″	1 11⁄16″	5⁄8″	100	1619A25	52.85	1619A48	40.35
1⁄4″	1 1⁄16″-1 3⁄8″	1 7⁄16″-1 13⁄16″	2 7⁄8″	1 3⁄16″	3⁄16″	2 1⁄4″	1 11⁄16″	5⁄8″	100	1619A26	52.85	1619A49	40.35

★Cam is not reversible.

For information about cam latches and locks, see page 2928.

Tight-Hold Cam Latches and Locks

Also known as compression cam latches and locks, turn the handle a quarter-turn to latch, then another quarter-turn to draw the cam firmly against the door or drawer surface for a secure hold. Turn the handle a continuous half-turn to unlatch.

Styles A-B and **D-F** have a maximum clamping force of 100 lbs. They are zinc with a black-painted finish and come with a reversible offset cam to provide variable latching-distance ranges depending on the cam position. Mount in metal, plastic, or wood with the included hardware.

Style C is not rated for maximum clamping force. It is dull aluminum and comes with a straight cam. Mount in metal.

(A) Hex Socket Latch—Cam offset is 1/2″. To unlatch, use a 5/16″ hex key (not included).

(B) Slotted Latch—Cam offset is 1 1/16″. To unlatch, use a slotted screwdriver.

(C) L-Handle Latch—Cam is straight. Latch has a 3″ Lg. × 1 1/4″ Wd. mounting plate and requires four No. 10 mounting screws.

(D) T-Handle Latch—Cam offset is 1/2″.

(E) Circular-Keyway Lock—Cam offset is 1 1/16″. Lock comes with one key.

(F) T-Handle Lock—Cam offset is 1/2″. Lock comes with two keys.



A



B

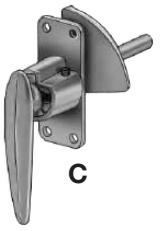

C



D

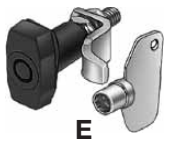

E



F

		For Max. Thick.	Latching Distance Short	Latching Distance Long	For Through Hole Dia.	Handle Proj.	Handle/Head Lg.	Handle/Head Wd.	Cam Lg.	Cam Wd.	Key No.		
Nonlocking Latches													
A	Hex Socket	1/8″	13/16″-1 1/2″	1 13/16″-2 1/2″	13/16″	7/16″	1 9/16″	7/8″	1 11/16″	5/8″		**1337A32**	$19.68
B	Slotted	3/4″	1/2″-1 1/8″	2 5/8″-3″	7/8″	—	1 1/8″ Dia.	—	1 11/16″	3/4″		**1337A35**	20.97
C	L-Handle	2″	5/16″-2 1/2″	—	1/2″	1 3/4″	3 3/4″	3/4″	2″	2 1/4″		**1337A37**	15.07
D	T-Handle	3/16″	1/4″-1 5/16″	1 1/4″-1 15/16″	13/16″	1 1/4″	3″	15/16″	1 11/16″	5/8″		**1337A31**	27.80
Keyed Locks													
E	Circular Keyway	3/16″	5/16″-1 5/16″	2 1/2″-3″	13/16″	7/16″	1 9/16″	7/8″	1 11/16″	3/4″	E3-5-15	**1337A39**	26.20
F	T-Handle	3/4″	1″-1 5/8″	2 1/8″-2 11/16″	7/8″	1 5/16″	3 1/4″	7/8″	1 11/16″	3/4″	CH751	**1337A33**	39.67

Adjustable-Tension Tight-Hold Cam Latches



A

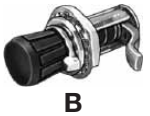

B



C



D



E



F



Latch Cover for Styles C and F

Also known as adjustable compression cam latches, these adjust to compensate for door or drawer misalignment. To latch, turn the knob a quarter-turn and then continue turning it as much as you need to draw the cam firmly against the door or drawer surface for a secure hold.

Latches come with a nonreversible offset cam, unless noted. Mount in metal, plastic, or wood. All have a dull finish.

Styles A, B, D, and **E** include mounting hardware.

Styles C and **F** require two No. 10 screws (screw holes are 1 1/4″ center-to-center).

Slotted—Use a screwdriver to latch and unlatch.

		For Max. Thick.	Latching Distance	For Through Hole Dia.	Projection Knob	Projection Rear	Knob/Head Dia.	Cam Lg.	Cam Wd.	Max. Clamping Force, lbs.	Zinc-Plated Steel		300 Series Stainless Steel	
Knob														
A		3/16″	1/16″-1/4″	5/16″	11/16″	9/16″	5/16″	1/2″	1/4″	35	**1626A42**	$10.82	**1626A41**	$14.05
B		3/16″	1/16″-1/2″	3/4″	7/8″	1 5/16″	3/4″	15/16″	5/16″	—	**1626A53**	26.82	—	—
B		3/16″	1/8″-3/8″	9/16″	3/4″	1″	1/2″	3/4″	1/4″	50	**1887A52**	15.82	—	—
B		3/16″	3/8″-5/8″	9/16″	3/4″	1″	1/2″	3/4″	1/4″	50	**1887A53**♣	15.82	—	—
B		3/16″	3/8″-13/16″	3/4″	7/8″	1 5/16″	3/4″	15/16″	5/16″	75	**1886A56**♣	28.35	—	—
C		3/4″	1/8″-3/8″▲	5/8″	15/16″	15/16″	5/8″	15/16″	5/16″	110	**1626A34**	9.70	**1626A31**	26.05
C		3/4″	3/8″-3/4″▲	5/8″	15/16″	15/16″	5/8″	15/16″	5/16″	110	**1626A35**♣	9.70	**1626A32**♣	26.05
C		3/4″	3/4″-1 1/8″▲	5/8″	15/16″	15/16″	5/8″	15/16″	5/16″	110	**1626A36**	9.70	**1626A33**	26.05
Slotted														
D		3/16″	1/8″-3/8″	9/16″	—	1″	1/2″	3/4″	1/4″	50	**1887A54**	17.20	—	—
D		3/16″	3/8″-5/8″	9/16″	—	1″	1/2″	3/4″	1/4″	50	**1887A55**♣	17.20	—	—
D		3/16″	5/8″-7/8″	9/16″	—	1″	1/2″	3/4″	1/4″	50	**1887A57**	17.20	—	—
E		3/16″	1/16″-1/4″	5/16″	—	9/16″	5/16″	1/2″	1/4″	35	—	—	**1626A43**	13.85
F		3/4″	1/8″-3/8″▲	9/16″	—	1 5/16″	1/2″	15/16″	5/16″	110	**1626A27**	10.15	**1626A22**	26.05
F		3/4″	3/8″-3/4″▲	9/16″	—	1 5/16″	1/2″	15/16″	5/16″	110	**1626A28**♣	10.15	**1626A23**♣	26.05
F		3/4″	3/4″-1 1/8″▲	9/16″	—	1 5/16″	1/2″	15/16″	5/16″	110	**1626A29**	10.15	**1626A24**	26.05
Latch Covers for Styles C and E													**1626A45**	5.50

▲ Measured from back of door to front of cam. ♣ Includes a straight cam.

Push-Button Tight-Hold Paddle-Handle Cam Latches and Locks

Push the raised button and the handle snaps open; push the handle shut to close and create a secure hold. Latches and locks are zinc. They come with mounting hardware, and mount in metal, plastic, or wood.

Keyed locks each open with key number CH751. They come with two keys.

To Order: Please specify chrome-plated or black-painted finish.

For Max. Thick.	Latching Distance	For Through Hole Ht.	For Through Hole Wd.	Projection Handle	Projection Rear	Max. Clamping Force, lbs.	Nonlocking Latches		Keyed Locks	
1/4″	1/16″-15/16″	3 3/8″	1″	7/8″	3 5/16″	250	**1653A21**	$21.58	**1653A42**	$30.97
1/4″	15/16″-1 13/16″	3 3/8″	1″	7/8″	3 5/16″	250	**1653A24**	21.58	**1653A45**	30.97



Keyed Lock

Cabinet Door & Drawer Locks

About Cabinet Door and Drawer Locks

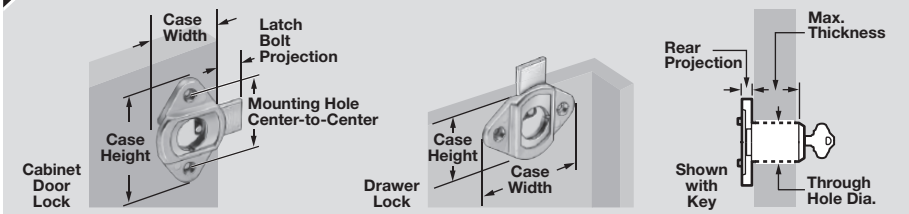

Cabinet door and drawer locks are usually used in wood doors and come with wood screws. Keys can be removed in both the locked and unlocked positions.

Deadbolt Cabinet Door and Drawer Locks


Diamond Case for Cabinet Door


Diamond Case for Drawer


Rectangular Case for Cabinet Door


Rectangular Case for Drawer

Locks come with two keys and mounting hardware. Note: Master keys for master-keyed locks are sold separately.

Locks with Diamond Case—Case and cylinder are zinc. Latch bolt projection is 3/8″. Screw holes are 17/16″ center-to-center. Case is 2″ Ht. × 1 3/8″ Wd. for door; 1 3/8″ Ht. × 2″ Wd. for drawer.

Pry-Resistant Locks with Rectangular Case—Thicker bodies and longer bolts resist prying to provide more security than other deadbolt cabinet door and drawer locks. Case is zinc; cylinder is brass. Latch bolt projection is 3/4″. Screw holes are 1 5/16″ center-to-center. Case is 1 5/8″ Ht. × 1 1/4″ Wd. for door; 1 1/4″ Ht. × 1 5/8″ Wd. for drawer.

Locks with Diamond Case

For Max. Thick.	For Through Hole Dia.	Rear Proj.	Key No.	For Cabinet Doors: Dull Brass Finish		For Cabinet Doors: Polished Nickel Finish		For Drawers: Dull Brass Finish		For Drawers: Polished Nickel Finish	
Each Lock Opens with a Random Key											
3/4″	7/8″	1/4″	____	1686A91	$9.26	1686A22	$9.26	1686A3	$9.26	1686A25	$9.26
7/8″	7/8″	1/4″	____	1686A94	9.26	1686A23	9.26	1686A1	9.26	1686A26	9.26
1 1/8″	7/8″	1/4″	____	1686A97	9.26	1686A24	9.26	1686A11	9.26	1686A27	9.26
Keyed Alike—Each Lock Opens with the Same Key											
3/4″	7/8″	1/4″	EB018	1686A92	9.26	1686A292	9.26	1686A162	9.26	1686A322	9.26
3/4″	7/8″	1/4″	EB079	1686A169	9.26	1686A293	9.26	1686A4	9.26	1686A323	9.26
3/4″	7/8″	1/4″	EB121	1686A165	9.26	1686A294	9.26	1686A167	9.26	1686A324	9.26
3/4″	7/8″	1/4″	EB127	1686A239	9.26	1686A295	9.26	1686A237	9.26	1686A325	9.26
7/8″	7/8″	1/4″	EB019	1686A95	9.26	1686A302	9.26	1686A186	9.26	1686A342	9.26
7/8″	7/8″	1/4″	EB092	1686A193	9.26	1686A303	9.26	1686A2	9.26	1686A343	9.26
7/8″	7/8″	1/4″	EB123	1686A188	9.26	1686A304	9.26	1686A191	9.26	1686A344	9.26
7/8″	7/8″	1/4″	EB129	1686A197	9.26	1686A305	9.26	1686A195	9.26	1686A345	9.26
1 1/8″	7/8″	1/4″	EB020	1686A98	9.26	1686A314	9.26	1686A699	9.26	1686A352	9.26
1 1/8″	7/8″	1/4″	EB021	____	___	1686A315	9.26	1686A71	9.26	1686A353	9.26
1 1/8″	7/8″	1/4″	EB125	1686A214	9.26	1686A316	9.26	1686A216	9.26	1686A354	9.26
1 1/8″	7/8″	1/4″	EB131	1686A223	9.26	1686A317	9.26	1686A221	9.26	1686A355	9.26
Master Keyed—Each Lock Opens with a Random Key and a Master Key											
3/4″	7/8″	1/4″	Z001	1686A179	11.36	1686A124	11.36	1686A5	11.36	1686A102	11.36
3/4″	7/8″	1/4″	Z002	1686A93	11.36	1686A125	11.36	1686A173	11.36	1686A103	11.36
7/8″	7/8″	1/4″	Z011	1686A312	11.36	1686A146	11.36	1686A208	11.36	1686A362	11.36
1 1/8″	7/8″	1/4″	Z005	1686A232	11.36	1686A153	11.36	1686A72	11.36	1686A373	11.36

Master Key Z001 — 1686A7 $1.88
Master Key Z002 — 1686A8 1.88
Master Key Z011 — 1686A76 $1.88
Master Key Z005 — 1686A9 1.88

Pry-Resistant Locks with Rectangular Case

For Max. Thick.	For Through Hole Dia.	Rear Proj.	Key No.	For Cabinet Doors: Dull Brass Finish		For Cabinet Doors: Dull Chrome Finish		For Drawers: Dull Brass Finish		For Drawers: Dull Chrome Finish	
Each Lock Opens with a Random Key											
7/8″	15/16″	1/2″	___	1505A11	$30.51	1505A112	$30.51	1259A21	$31.49	1259A31	$30.01
1 1/8″	15/16″	1/2″	___	1505A22	33.08	1505A231	33.09	1259A33	28.30	1259A451	28.30
Keyed Alike—Each Lock Opens with the Same Key											
7/8″	15/16″	1/2″	107	1505A81	26.15	1505A113	25.37	1259A116	28.05	1259A117	27.47
7/8″	15/16″	1/2″	915	1505A114	26.15	1505A115	25.37	1259A71	28.05	1259A32	27.47
1 1/8″	15/16″	1/2″	101	1505A83	29.18	1505A241	27.51	1259A121	28.30	1259A122	27.50
1 1/8″	15/16″	1/2″	103	1505A118	29.18	1505A119	27.51	1259A73	28.30	1259A46	27.50
Master Keyed—Each Lock Opens with a Random Key and a Master Key											
7/8″	15/16″	1/2″	D4299/GM1	1505A82	24.77	1505A14	25.86	1259A132	33.58	1259A133	33.57
1 1/8″	15/16″	1/2″	M1	1505A84	31.12	1505A25	34.70	1259A135	33.58	1259A134	33.58

Master Key D4299/GM1 — 1873A37 $3.45
Master Key M1 — 1505A85 $3.45

Interchangeable-Bolt Drawer Locks



Two included bolts allow you to choose a 5/16″ or 7/16″ latch bolt projection. Locks are dull 400 series stainless steel with a zinc lock cylinder. Head dia. is 7/8″.

Locks come with two keys and mounting hardware. Note: Master key for master-keyed lock is sold separately.

For Max. Thick.	For Through Hole Dia.	Key No.		
Each Lock Opens with a Random Key				
5/8″	11/16″	___	1506A11	$12.45
Keyed Alike—Each Lock Opens with the Same Key				
5/8″	11/16″	215	1506A12	12.56
Master Keyed—Each Lock Opens with a Random Key and Master Key				
5/8″	11/16″	F226	1506A13	13.70
Master Key F226			1506A14	4.93

Strikes for Deadbolt Cabinet and Drawer Locks



This strike has a 3 3/8″ Lg. × 1/4″ Wd. slot that works with most deadbolt cabinet and drawer locks. Mount it on the right or left side of a wood cabinet door or drawer. Strike is dull steel.

Overall size is 4″ Lg. × 2 13/16″ Wd. × 1/16″ Thick. It has a 3/16″ dia. mounting hole (screws not included).

8051A11 ..... $3.73

For information about cabinet door and drawer locks, see page 2934.

Keyed File Cabinet Locks

Replace locks in file cabinets that have existing mounting brackets. Locks are 13/16″ Ht. × 9/16″ Wd. They include two keys and a mounting screw, unless noted.

All locks are zinc. Locks *with round bolt* have a dull nickel finish. Locks *with rectangular bolt* have a dull chrome finish.

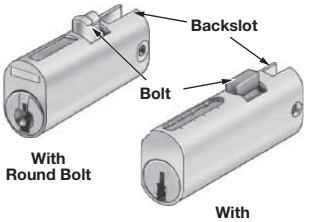

Latch Bolt Shape	Key No.	Backslot Lg.	Backslot Wd.	Backslot Dp.	Latch Bolt Proj.		
Each Lock Opens with a Random Key							
Round	____	1 3/4″	1/8″	5/16″	1/8″	1657A33	$10.50
Round	____	1 3/4″	1/8″	5/16″	1/8″	1657A39■	10.50
Round	____	1 3/4″	1/8″	1/2″	1/8″	1657A36	10.50
Round	____	1 3/4″	1/8″	1/2″	1/8″	1657A38■	10.50
Rectangular	____	2″	1/8″	5/16″	1/8″	1657A21	17.68
Keyed Alike—Each Lock Opens with the Same Key							
Round	L009	1 3/4″	1/8″	5/16″	1/8″	1657A34	10.50
Round	L008	1 3/4″	1/8″	5/16″	1/8″	1657A43■	10.50
Round	L006	1 3/4″	1/8″	1/2″	1/8″	1657A37	10.50
Round	L007	1 3/4″	1/8″	1/2″	1/8″	1657A44■	10.50
Rectangular	3X5	2″	1/8″	5/16″	1/8″	1657A22	17.68

■ Has a 0.095″ spring pin (also called a roll pin or tension pin) for mounting.

Spring-Loaded Padlockable Slide-Bolt Latches

With its spring-loaded bolt, this latch is often used on 2″ and 3″ track to keep sectional overhead doors closed. It is galvanized steel. Maximum padlock shackle diameter is 5/16″.

Latch is reversible for right- and left-hand mounting and requires 1/4″ dia. mounting screws.

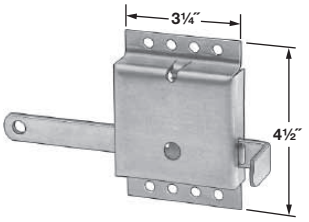

Proj.		
7/8″	15585A51	$7.03

Adjustable-Bolt Sliding Window Locks

Secure overlapping sliding glass windows like those in bookcases and display cases. Locks are 4 5/8″ Lg. × 5/8″ Wd.

The lock has a ratchet bar with thumbscrew adjustment. To lock, slide the ratchet bar through the lock cylinder; to unlock, turn the key 90° to the right and remove the ratchet bar from the lock cylinder. Locks are zinc with a dull nickel finish. They include two keys and mounting hardware.



For Max. Window Thick.	Key No.		
Each Lock Opens with a Random Key			
3/8″	____	1703A51	$12.10
Keyed Alike—Each Lock Opens with the Same Key			
3/8″	DF54	1703A52	12.10
Replacement Key Number DF54		1703A302	.91

Push-Bolt Sliding Window Locks

Lock sliding windows in a closed position, or slightly open for ventilation. To lock, push in the cylinder; to unlock, turn the key 45° to the right or left. Lock is zinc with a dull aluminum finish.

Lock is 1 3/8″ Lg. × 1 3/4″ Wd. with a 1″ projection. The latch bolt extends 1/2″ from the window's edge. The strike plate has a 3/8″ inside dia. and requires a 1/2″ dia. mounting hole. Lock includes two number 801 keys and mounting hardware.



1048A14 ..... $12.36

Keyed Locker Locks

Surface mount these locks to the back of a locker door. They are for right- and left-swinging doors. The latch bolt moves horizontally and projects 5/16″ from the door's edge. The key is removable only in the locked position. Locks are cadmium-plated steel.

Case is 2 11/16″ Ht. × 2″ Wd. Rear projection is 15/16″. Mounting holes are 2 3/16″ center-to-center. Locks include two keys and mounting hardware. Note: Master key for master-keyed lock is sold separately.

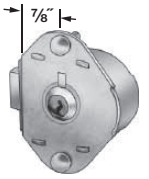

For Max. Door Thick.	For Through Hole Dia.	Key No.	Locks		Replacement Key	
Each Lock Opens with a Random Key						
3/16″	5/8″	____	1782A14	$11.34	____	____
Keyed Alike—Each Lock Opens with the Same Key						
3/16″	5/8″	40H001	1782A16	11.87	1782A221	$3.64
3/16″	5/8″	40H142	1782A42	11.87	1782A35	3.64
3/16″	5/8″	40H140	1782A43	11.87	1782A36	3.64
3/16″	5/8″	20H502	1782A44	11.87	1782A37	3.64
Master Keyed—Each Lock Opens with a Random Key and Master Key						
3/16″	5/8″	SL30	1782A18	16.76	____	____
Master Key SL30			1782A21		3.64	

Resettable-Combination Locker Locks



For Right-Swinging Doors

For security, you can change the combination of these Master Lock locks in seconds. The back of each lock has a push-button combination changer that allows you to switch between five three-number combinations. A control key overrides the combination (sold separately).

Locks are steel with a black plastic dial. They mount in an 1 1/16″ dia. through hole in doors up to 1/8″ thick. Case is 2 7/8″ Ht. × 1 7/8″ Wd. All locks have concealed mounting bolts to prevent tampering. Mounting holes are 2 3/16″ center-to-center. Mounting hardware is included.

Self Locking with Vertical Latch—For lockers with pull-up handles and automatic bar-and-rod releases. Latch bolt projects 5/16″ from the door's edge.

Self Locking with Horizontal Latch—For lockers without handles. Latch bolt projects 1/4″ from the door's edge.

Manual Locking—For metal mesh lockers and lockers with automatic bar-and-rod releases. Latch bolt projects 5/16″ from the door's edge.

Control key overrides the combination.

To Order: For locks, please specify if order is for a new system or an existing system. If you are ordering for a new system, you must order a control key (sold separately). If you are matching an existing group of locks, please specify key number.

	Latching Direction	For Right-Swinging Doors♦		For Left-Swinging Doors♦	
Self Locking	Vertical	1504A11	$16.02	1504A12	$16.02
Self Locking	Horizontal	1504A21	17.84	1504A22	17.84
Manual Locking	Horizontal	1504A33	18.53	1504A35	18.53
Control Key				1504A31	3.76

♦To determine door swing direction, stand facing your locker. If the hinges are on your right, you need a right lock; if they're on the left, you need a left lock.

Deadbolt Locks for Sliding Cabinet Doors

Also known as push-bolt locks, these locks secure sliding doors, such as those found on display cases. To lock, push in the cylinder. To unlock, use the key. Locks are brass with a dull finish.

Rear projection is 7/16″. Strike is 7/16″ Dia. × 3/8″ Lg. and has a 5/8″ collar, unless noted. Mounting holes are 1 3/8″ center-to-center (screws not included). All come with two keys.

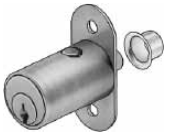

For Max. Thick.	For Through Hole Dia.	Key No.	Screw Size		
Each Lock Opens with a Random Key					
7/8″	7/8″	____	#5	1680A11▲	$45.97
1 1/8″	15/16″	____	#8	1680A17	45.33
1 3/8″	15/16″	____	#8	1680A19	45.33
Keyed Alike—Each Lock Opens with the Same Key					
7/8″	7/8″	4T362	#5	1680A23▲	45.97
1 1/8″	15/16″	107	#8	1680A92	45.33
1 3/8″	15/16″	915	#8	1680A91	45.33

▲Strike is 7/16″ Dia. × 1/2″ Lg. and has a 9/16″ dia. collar.

Slide-Bolt Latches

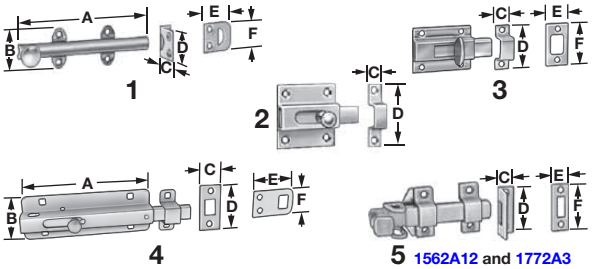

5 1562A12 and 1772A3

These latches are reversible for right- and left-hand mounting. They come with mounting screws.

Style 1—(E) is 1 3/8". (F) is 1 1/8".

Style 3—(E) is 7/8". (F) is 1 1/2" for 1913A33; 1 7/8" for 1913A35.

Style 4—A flat spring puts tension on the bolt to hold it in position. Maximum padlock shackle diameter is 3/8". (E) is 2 3/8". (F) is 1 1/2".

Style 5—Maximum padlock shackle diameter is 3/8". For 1562A11 and 1562A12, (E) is 3/4" and (F) is 2 7/8". For 1772A3, (E) is 15/16" and (F) is 2 1/2".

	(A)	(B)	(C)	(D)	Bolt Wd.	Bolt Thick.		
Nonlocking								
Brass—Polished Finish; Projection is 1"								
1	4"	1 9/16"	1 1/16"	1 1/8"	5/8"	5/16"	1438A2	$12.60
1	6"	1 9/16"	1 1/16"	1 1/8"	5/8"	5/16"	1438A3	14.48
1	9"	1 9/16"	1 1/16"	1 1/8"	5/8"	5/16"	1438A4	15.71
1	12"	1 9/16"	1 1/16"	1 1/8"	5/8"	5/16"	1438A5	17.51
Brass—Polished Finish; Projection is 15/16"								
2	2"	2"		1/2"	2"	9/16"	3/16"	12835A21	34.90
Chrome-Plated Brass—Dull Finish; Projection is 1"								
1	4"	1 9/16"	1 1/16"	1 1/8"	5/8"	5/16"	1438A6	13.60
1	6"	1 9/16"	1 1/16"	1 1/8"	5/8"	5/16"	1438A7	14.00
Chrome-Plated Brass—Polished Finish; Projection is 15/16"								
2	2"	2"		1/2"	2"	9/16"	3/16"	12835A22	45.61
304 Stainless Steel—Dull Finish; Projection is 1 1/16"								
3	2"	1 1/2"		1/2"	1 9/16"	5/8"	1/4"	1913A33	14.66
3	3"	1 15/16"		1 3/16"	1 7/8"	5/8"	5/16"	1913A35	33.78
Padlockable								
Zinc-Plated Steel—Dull Finish; Projection is 1 7/16"								
4	6 1/2"	2 1/8"	1 1/8"	2 3/16"	5/8"	1/2"	1244A3 ★	17.27
5	5"	2 1/16"	3/4"	2"	3/4"	1/4"	1562A11 ♦	24.00
5	8"	2 1/16"	3/4"	2"	3/4"	1/4"	1562A12	25.00
304 Stainless Steel—Dull Finish; Projection is 1 5/16"								
5	8"	2"		7/8"	2 1/2"	3/4"	1/4"	1772A3	50.40

★ Projection is 1 7/8". ♦ Has one bracket.

Extended-Reach Slide-Bolt Latches

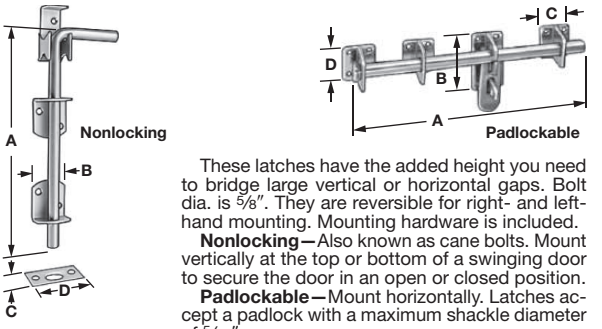

These latches have the added height you need to bridge large vertical or horizontal gaps. Bolt dia. is 5/8". They are reversible for right- and left-hand mounting. Mounting hardware is included.

Nonlocking—Also known as cane bolts. Mount vertically at the top or bottom of a swinging door to secure the door in an open or closed position.

Padlockable—Mount horizontally. Latches accept a padlock with a maximum shackle diameter of 5/16".

(A)	(B)	(C)	(D)		
Nonlocking—Projection is 1 3/8"					
Zinc-Plated Steel					
12"	2"	1 3/8"	2 3/4"	1236A11	$22.33
18"	2"	1 3/8"	2 3/4"	1236A12	25.89
24"	2"	1 3/8"	2 3/4"	1236A13	34.17
Polished 304 Stainless Steel					
12"	2"	1 3/8"	2 3/4"	1236A51	36.82
18"	2"	1 3/8"	2 3/4"	1236A52	40.73
24"	2"	1 3/8"	2 3/4"	1236A53	44.62
Padlockable—Projection is 1 1/2"					
Polished 304 Stainless Steel					
11 7/8"	3 1/4"	1 5/8"	1 7/8"	1161A42	155.70
17 3/4"	3 1/4"	1 5/8"	1 7/8"	1161A44	199.74
23 5/8"	3 1/4"	1 5/8"	1 7/8"	1161A47	237.30

Foot-Operated Slide-Bolt Latches

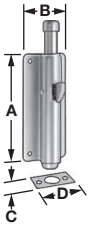

No hands needed—step on the top cap to latch the bolt; retract it by pressing the side release button. Latches are zinc-plated steel and come with mounting screws.

Projection is 1 1/2" for 1436A2 and 1 9/16" for 1436A4.

(A)	(B)	(C)	(D)	Bolt Dia.		
3 3/8"	1 1/2"	1 1/8"	1 7/8"	5/8"	1436A2	$16.41
4 15/16"	2 3/16"	1 3/8"	2 1/4"	3/4"	1436A4	18.98

Spring-Loaded Slide-Bolt Latches

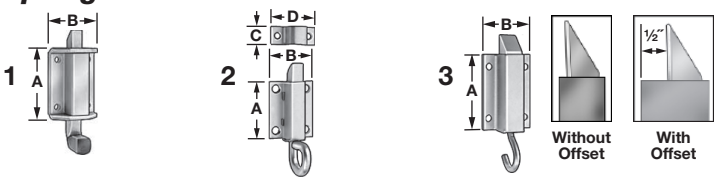

Bolts are spring-loaded to keep doors closed—the bolts stay in the extended (latched) position until you activate the pull. Latches are reversible for right- and left-hand mounting. Mount vertically or horizontally.

Styles 3-5 have bolts that can be rotated 180°, so they can be used with both push and pull doors. **Styles 4** and **5** come with a chain and a clip to hold down the chain. *Style 4* chain is 24"; *Style 5* chain is 60".

To Order: For Style 3, please specify without offset or with 1/2" offset (distance between the door face and the frame).

Material	(A)	(B)	(C)	(D)	(E)	(F)	Bolt Wd.	Bolt Thick.	Proj.	Screw Size		
Knob Pull with Black Vinyl Cap												
1 Zinc-Plated Steel	1 1/2"	1 1/4"	—	—	—	—	3/8"	3/8"	1"	No. 8	2206A21	$16.02
1 Zinc-Plated Steel	2"	1 5/8"	—	—	—	—	7/16"	7/16"	1 1/4"	No. 10	2206A23	17.70
1 Zinc-Plated Steel	2 7/8"	2"	—	—	—	—	1/2"	1/2"	1 3/8"	1/4"	2206A25	19.90
1 Dull 304 Stainless Steel	1 1/2"	1 1/4"	—	—	—	—	3/8"	3/8"	1"	No. 8	2206A34	19.20
Ring Pull												
2 Zinc-Plated Steel	2"	1 5/8"	5/8"	1 5/8"	—	—	7/16"	7/16"	1 5/16"	Included	1066A11	17.54
Hook Pull—Bolts can be rotated 180°												
3 Zinc-Plated Steel	3 1/8"	2 1/8"	—	—	—	—	3/4"	3/4"	3/4"	1/4"	1178A3	7.87
3 Zinc-Plated Steel	3 1/8"	2 1/8"	—	—	—	—	3/4"	3/4"	1 1/4"	1/4"	1178A31	10.57
Chain Pull—Bolts can be rotated 180°												
4 Zinc-Plated Steel	2 1/2"	1 1/2"	5/8"	1 5/8"	7/8"	1 1/2"	3/8"	3/8"	11/16"	Included	1437A1	15.70
4 Zinc-Plated Steel	3 3/8"	1 9/16"	3/4"	1 7/8"	7/8"	1 1/2"	7/16"	7/16"	7/8"	Included	1437A2	20.39
4 Zinc-Plated Steel	5"	2 3/16"	1 1/16"	2 13/16"	1 3/16"	2 3/16"	1/2"	1/2"	9/16"	Included	1437A4	17.80
5 Tan-Painted Iron	9"	4 1/4"	2 1/4"	4 5/8"	—	—	1 3/16"	1"	2"	Included	1235A11	169.89

Lift-and-Drop Barrel Slide-Bolt Latches

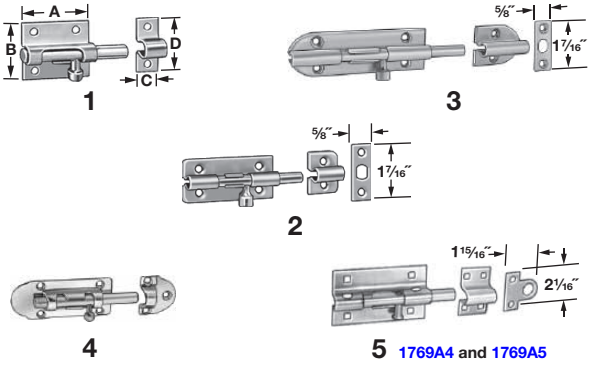

Slide the bolt and drop the knob into the notch to secure your door. The knob stays out of the way when not in use. All latches are reversible for right- and left-hand mounting. They include mounting screws, except Style 4.

Style 4—Latches require No. 6 screws.

Style 5—1441A21 and 1441A42 have a 1/4″ maximum padlock shackle diameter; they do not have a second strike plate. 1769A4 and 1769A5 have a 3/8″ maximum padlock shackle diameter.

	(A)	(B)	(C)	(D)	Bolt Dia.	Proj.		
Nonlocking								
Steel—Black-Painted Finish								
1	1 3/4″	1 1/2″	9/16″	1 1/2″	5/16″	1/2″	1441A12	$2.66
1	2 1/8″	1 9/16″	9/16″	1 9/16″	5/16″	1/2″	1441A13	3.00
1	3″	1 9/16″	9/16″	1 9/16″	5/16″	1/2″	1441A14	3.41
Steel—Zinc-Plated Finish								
1	1 3/4″	1 1/2″	9/16″	1 1/2″	5/16″	1/2″	1441A32	2.44
1	2 1/8″	1 9/16″	9/16″	1 9/16″	5/16″	1/2″	1441A33	2.54
1	3″	1 9/16″	9/16″	1 9/16″	5/16″	1/2″	1441A53	4.59
1	3″	1 5/8″	13/16″	1 5/8″	7/16″	11/16″	1441A34	4.51
1	4 5/8″	1 5/8″	13/16″	1 5/8″	7/16″	11/16″	1441A45	6.55
Steel—Brass-Plated Finish								
1	1 3/4″	1 1/2″	9/16″	1 1/2″	5/16″	1/2″	1441A62	2.82
1	2 1/8″	1 9/16″	9/16″	1 9/16″	5/16″	1/2″	1441A63	3.07
1	3″	1 9/16″	9/16″	1 9/16″	5/16″	1/2″	1441A64	3.39
1	3 7/8″	1 9/16″	9/16″	1 9/16″	5/16″	1/2″	1441A65	4.82
304 Stainless Steel with Nickel-Plated Brass Bolt—Dull Finish								
2	2 3/8″	1″	1″	13/16″	1/4″	9/16″	1907A21	13.52
3	3 9/16″	1 1/16″	1 7/16″	1 1/16″	5/16″	11/16″	1907A23	19.15
3	5 15/16″	1 1/16″	1 7/16″	1 1/16″	5/16″	11/16″	1907A25	22.54
3	9 1/2″	1 1/16″	1 7/16″	1 1/16″	5/16″	11/16″	1907A27	33.80
316 Stainless Steel—Polished Finish								
4	2 1/4″	1 1/2″	1 7/16″	1 1/2″	3/8″	5/8″	1093A23	17.62
4	2 7/8″	1 1/2″	1 7/16″	1 1/2″	3/8″	5/8″	1093A27	23.31
Padlockable								
Steel—Black-Painted Finish								
5	4 5/8″	1 5/8″	1 1/4″	1 5/8″	7/16″	11/16″	1441A21	7.84
Steel—Zinc-Plated Finish								
5	4 1/2″	2 11/16″	1 1/2″	2 11/16″	5/8″	1″	1769A4	7.92
5	4 5/8″	1 5/8″	13/16″	1 5/8″	7/16″	11/16″	1441A42	8.28
5	6″	2 11/16″	1 1/2″	2 11/16″	5/8″	1″	1769A5	8.45

Easy-Grip Lift-and-Drop Barrel Slide-Bolt Latches

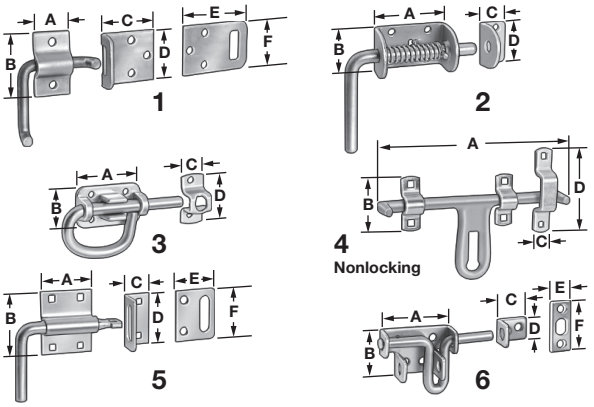

Large handles make gripping these latches easier than other lift-and-drop barrel slide-bolt latches. Slide the bolt and drop the handle to secure your door. The handle stays out of the way when not in use. All latches are reversible for right- and left-hand mounting. They include mounting screws, except Styles 1, 2, and padlockable Style 4.

Style 1—(E) is 3 7/8″ and (F) is 2 1/2″. Requires 3/8″ dia. screws.

Style 2—Requires 1/4″ dia. screws.

Style 3—1754A24 has an additional strike plate; (E) is 1″ and (F) is 2 3/16″.

Style 4—Requires No. 10 screws. 1241A3 and 1241A4 have a maximum padlock shackle diameter of 5/8″.

Style 5—Maximum padlock shackle diameter is 3/8″, (E) is 2″, and (F) is 2 1/4″.

Style 6—For 10635A45 the maximum padlock shackle diameter is 1/4″, (E) is 5/8″, and (F) is 1 1/4″. 10635A65 and 10635A85 have a maximum padlock shackle diameter of 3/8″. For 10635A65 (E) is 3/4″; (F) is 1 5/8″. For 10635A85 (E) is 7/8″; (F) is 1 7/8″.

	(A)	(B)	(C)	(D)	Bolt Dia.	Proj.		
Nonlocking								
Steel—Dull Finish								
1	1 3/4″	2 7/8″	3″	2 1/2″	1/2″	1 5/16″	13395A55	$12.86
Steel—Zinc-Plated Finish								
2	3″	1 3/4″	1 1/4″	1 3/4″	1/2″	1 3/4″	3356A77	9.20
3	1 3/4″	1″	5/8″	1 5/16″	5/16″	5/8″	1754A21	7.66
3	2 3/8″	1 3/8″	11/16″	1 15/16″	3/8″	3/4″	1754A24	12.87
Iron—Tan-Painted Finish								
4	8″	2 3/16″	3/4″	3 5/8″	1/2″	1 1/8″	1241A1	23.73
4	12″	3 1/16″	1 1/16″	4 1/8″	3/4″	1 5/16″	1241A2	49.91
Padlockable								
Steel—Zinc-Plated Finish								
5	2 1/4″	2 11/16″	1 1/4″	2 1/4″	1/2″	1 1/16″	1386A11	15.59
Iron with Zinc-Plated Steel Padlock Eye—Tan-Painted Finish								
4	8″	2 3/16″	3/4″	3 5/8″	1/2″	1 1/4″	1241A3	31.91
4	12″	3 1/16″	1 1/16″	4 1/8″	3/4″	1 5/16″	1241A4	58.10
304 Stainless Steel—Dull Finish								
6	1 13/16″	1 1/8″	7/8″	9/16″	1/4″	7/8″	10635A45	8.60
6	2 9/16″	1 5/8″	1 3/16″	13/16″	3/8″	1 3/16″	10635A65	21.00
6	3 3/8″	1 13/16″	1 3/8″	1″	1/2″	1 3/8″	10635A85	34.40

Tamper-Resistant Slide-Bolt Latches and Locks

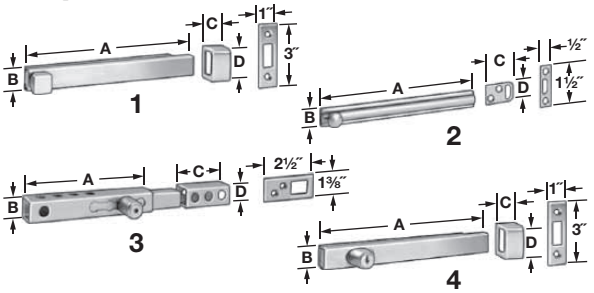

The mounting screws on these latches and locks are concealed to prevent tampering. All are reversible for right- and left-hand mounting. Mount vertically or horizontally with the included hardware.

Padlockable Latch—You can lock the slide bolt in any of four locking positions. Padlock must have a vertical shackle clearance that exceeds 1″. Maximum padlock shackle diameter is 7/16″.

Locks—Slide bolts can be locked in the open or closed position. Locks come with two keys.

	(A)	(B)	(C)	(D)	Bolt Wd.	Bolt Thick.		
Nonlocking Latches								
Steel—Dull Chrome Finish; Projection is 1 5/8″								
1	8″	7/8″	1″	1 1/2″	7/8″	7/16″	1245A51	$18.03
Brass—Dull Chrome Finish; Projection is 1″								
2	3″	5/8″	1″	1 1/4″	1/2″	1/4″	12215A32	7.50
2	4″	5/8″	1″	1 1/4″	1/2″	1/4″	12215A36	8.30
2	6″	5/8″	1″	1 1/4″	1/2″	1/4″	12215A39	9.90
Brass—Polished Finish; Projection is 1″								
2	3″	5/8″	1″	1 1/4″	1/2″	1/4″	12215A21	7.04
2	4″	5/8″	1″	1 1/4″	1/2″	1/4″	12215A23	7.77
2	6″	5/8″	1″	1 1/4″	1/2″	1/4″	12215A25	9.30
Padlockable Latch								
Steel—Polished Chrome Finish; Projection is 2 5/16″								
3	6″	7/8″	2 1/2″	7/8″	3/4″	3/4″	1253A11	24.03
Keyed Lock—Each Lock Opens with a Random Key								
Steel—Dull Chrome Finish; Projection is 1 5/8″								
4	8″	7/8″	1″	1 1/2″	7/8″	7/16″	1245A52	52.12
Keyed Alike Lock—Each Lock Opens with Key Number 820								
Steel—Dull Chrome Finish; Projection is 1 5/8″								
4	8″	7/8″	1″	1 1/2″	7/8″	7/16″	1245A55	52.12

Slide-Bolt & Swinging Latches

Toilet Partition Slide-Bolt and Swinging Bar Latch Sets

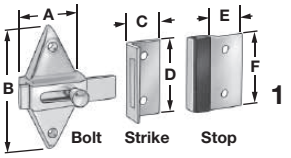

1



2

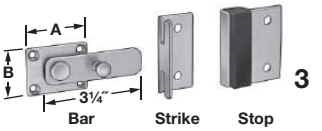

3

All are reversible for right- and left-hand mounting. Mounting hardware is included. **Complete sets** come with a latch, strike plate, and door stop for toilet partitions. *Style 1* bolt is ¾″ Wd. × 3⁄16″ Thick. *Style 2* bolt is 1″ Wd. × 3⁄16″ Thick. *Style 3* bar is ⅞″ Wd. × ⅛″ Thick.

Door stops have a rubber bumper that is ½″ wide on Styles 1 and 2 and ⅞″ wide on Style 3.

	(A)	(B)	(C)	(D)	(E)	(F)	Proj.	Complete Sets		Latches		Strike Plates		Door Stops	
Slide Bolt															
Zinc—Chrome Plated															
1	2″	4″	1⅛″	2½″	1¼″	2½″	1⁹⁄16″	12815A13	$25.53	12815A31	$16.02	12815A23	$7.00	12815A24	$10.04
2	1⅞″	4½″	1⅛″	2½″	1¼″	2½″	1⁹⁄16″	12815A15	30.71	12815A32	18.74	12815A23	7.00	12815A24	10.04
304 Stainless Steel—Dull Finish															
1	2″	4″	1⅛″	2½″	1¼″	2½″	1⁹⁄16″	12815A14	58.02	12815A54	32.80	12815A27	13.65	12815A28	18.62
2	1⅞″	4½″	1⅛″	2½″	1¼″	2½″	1⁹⁄16″	12815A16	62.86	12815A56	38.36	12815A27	13.65	12815A28	18.62
Swinging Bar															
304 Stainless Steel—Dull Finish															
3	2″	1½″	1⁵⁄16″	2½″	1⅛″	2½″	¾″	11655A25	45.44	11655A31	25.36	11655A33	11.06	11655A35	11.06

Swinging Bar Latches

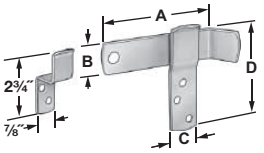

Standard

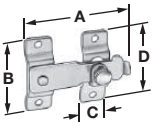

Screw Tight

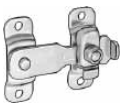
Push Button

These latches are reversible for right- and left-hand mounting. Mounting hardware is included.

Standard—The strike creates a sleeve to hold the bar. A back catch holds the bar when it's not latched.

Screw Tight—Tighten the screw to secure the bar and prevent accidental unlatching.

Push Button—Latches snap shut when the bar is placed in the strike to prevent accidental unlatching. Push the button on the bottom of the strike to release the bar.

(A)	(B)	(C)	(D)	Proj.		
Standard—Zinc-Plated Steel						
4⅞″	1⅛″	1⅛″	3¹³⁄16″	1¼″	1614A11	$8.90
Screw Tight—304 Stainless Steel with Polished Finish						
1⁹⁄16″	1⅜″	7⁄16″	1⅜″	½″	1915A14	7.89
2⅜″	1¹³⁄16″	⅝″	1¹³⁄16″	¾″	1915A16	14.74
3⅜″	2⁹⁄16″	13⁄16″	2⁹⁄16″	15⁄16″	1915A17	23.00
Push Button—304 Stainless Steel with Polished Finish						
1¹⁵⁄16″	1⅝″	9⁄16″	1⅝″	11⁄16″	1915A31	15.30
2½″	1¹³⁄16″	⅝″	1¹³⁄16″	13⁄16″	1915A32	20.00
4⅛″	3³⁄16″	1″	3³⁄16″	1¹⁄16″	1915A34	42.73

Heavy Duty Swinging Bar Latches

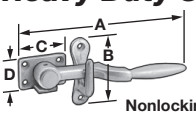

Nonlocking

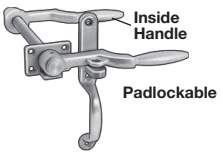

You'll often see these latches on refrigerators and truck doors because they stand up to heavy use. Latches are reversible for right- and left-hand mounting. Mounting screws are not included.

Nonlocking—Latch is zinc-plated steel.

Padlockable—Latch comes with two handles for access from the inside as well as the outside. Latch is zinc-plated iron with a zinc handle. Minimum door thickness is 2″. Maximum padlock shackle diameter is ⅜″. Latch has a through-door rod that is 9⁄16″ Dia. × 8¾″ Lg.; thread length is 7″.

(A)	(B)	(C)	(D)	Proj.	Screw Size		
Nonlocking							
7¼″	3⅜″	1½″	2¼″	2⅛″	No. 10	1250A21	$141.37
Padlockable							
7¼″	7⅜″	1½″	2¼″	2⅛″	No. 10	1249A11	177.88

Pry-Resistant Deadbolt Locks for Double Doors

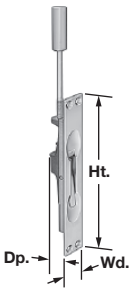

Designed to withstand vandalism better than other deadbolt locks for double doors, these mortise mount into a cutout in the doors. They have a latch bolt to secure doors in the closed position. Locks are brass and include two strike plates. They are for metal doors.

Ht.	Wd.	Dp.		
Brass Finish				
6¾″	1″	1″	1427A24	$13.97
6¾″	1¼″	1¹⁄16″	1427A12	16.94
Bronze Finish				
6¾″	1″	1″	1427A25	13.97
6¾″	1¼″	1¹⁄16″	1427A13	16.94
Chrome Finish				
6¾″	1″	1″	1427A22	13.97
6¾″	1¼″	1¹⁄16″	1427A14	16.94

Swinging Hook Latches



1


2

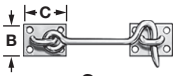

3


4


5

Style 2—A spring-action hook creates tension on the arm to prevent accidental unlatching.

Style 3—Latch comes with mounting screws.

Style 4—A bushing in the eye prevents accidental unlatching due to vibration. Mounting screws are not included.

Style 5—Mounting screws are not included.

	(A)	(B)	(C)	Proj.	Screw Size	Pkg. Qty.		Pkg.
Steel—Zinc-Plated Finish								
1	2″	—	—	⅝″	—	5	1779A13	$2.78
1	2½″	—	—	⅝″	—	5	1779A15	3.15
1	4″	—	—	¾″	—	5	1779A18	5.91
1	6″	—	—	1″	—	5	1779A21	6.99
1	12″	—	—	1″	—	1	1779A22	3.21
2	2″	—	—	½″	—	1	1779A31	2.28
2	2½″	—	—	½″	—	1	1779A32	2.35
3	5″	1⁵⁄16″	1⅝″	⅞″	No. 8	1	1727A4	5.16
304 Stainless Steel—Polished Finish								
4	2⁵⁄16″	1⅝″	⅝″	¾″	No. 8	1	17345A22	6.26
4	3″	1⅝″	⅝″	¾″	No. 8	1	17345A26	6.52
4	4″	1⅝″	⅝″	¾″	No. 8	1	17345A29	6.78
316 Stainless Steel—Polished Finish								
5	3″	1½″	1½″	13⁄16″	No. 8	1	18995A31	15.93
5	4″	1½″	1½″	13⁄16″	No. 8	1	18995A32	19.02

Cam Latches and Latch Kits

Latches arrive ready for single-point latching. For more holding power, add a latch kit (sold separately) for two-point latching, or add two latch kits for three-point latching (except 11595A41 is for single-point latching only). For multiple-point latching, use Style A on 7″-68″ high doors and Styles B-E on 20″-118″ high doors.

(A) Nonlocking with Ring Handle—The ring handle is recessed to stay out of the way when not in use. Lift and turn the handle 90° to unlatch; you select the turn direction when you mount the cam. Latch is chrome-plated steel and comes with a reversible offset cam and mounting hardware. **Latch kit** has a rod and a rod guide. Guide requires #10 mounting screws.

(B&C) Nonlocking with T-Handle—Turn the handle 90° to unlatch; you select the turn direction when you mount the cam. Latches are zinc-plated steel and zinc and come with a cam and mounting hardware. 11595A41 has two handles (one inside and one outside). **Latch kits** have a rod and a rod guide. Guide requires M6 mounting screws.

(D&E) With Folding T-Handle—Turn the handle 90° to unlatch. Latches are dull 300 series stainless steel with a chrome-plated zinc handle. They come with a straight cam and mounting hardware. **Latch kits** have a rod and a rod guide. Guide requires M6 mounting screws.

To Order: For Styles D and E, please specify unlatching direction: counterclockwise to unlatch or clockwise to unlatch.


Style D Shown with two Latch Kits

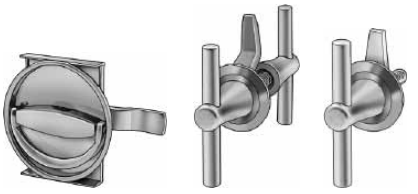
A B 11595A41 C


D Counterclockwise to Unlatch E Clockwise to Unlatch

For Max. Thick.	Latching Distance Short	Latching Distance Long	Cutout Size	Handle Lg.	Projection Handle	Projection Rear	Latches		Latch Kits	
(A) Nonlocking with Ring Handle										
1″	13/16″-1″	1 1/8″-1 3/8″	2 13/16″ Dia.	—	—	1 13/16″	1231A11	$38.25	1231A15	$9.03
(B) Nonlocking with T-Handle—Offset Cam										
1/2″	0″-1/2″	1″-1 1/2″	3/8″ Dia.	2 3/16″	1 1/4″	1 3/8″	11595A11	20.16	11595A51	22.30
3/4″	1/16″-13/16″	1 1/16″-1 13/16″	3/8″ Dia.	3″	1 3/4″	1 7/8″	11595A12	24.89	11595A52	26.19
1 1/2″	1/8″-2″	—	3/8″ Dia.	3″	1 3/4″	2 9/16″	11595A41	38.11	—	—
(C) Nonlocking with T-Handle—Straight Cam										
1/2″	1/2″-1″	—	3/8″ Dia.	2 3/16″	1 1/4″	1 3/8″	11595A31	19.19	11595A51	22.30
3/4″	9/16″-1 5/16″	—	3/8″ Dia.	3″	1 3/4″	1 7/8″	11595A32	24.89	11595A52	26.19
(D) Nonlocking with Folding T-Handle										
5/16″	1 1/8″-1 9/16″	—	3 13/16″ Ht. × 2 13/16″ Wd.	3 1/4″	—	2 9/16″	11055A32	64.82	11595A52	26.19
(E) Keyed with Folding T-Handle—Comes with two keys; opens with key number CH751										
5/16″	1 1/8″-1 9/16″	—	3 13/16″ Ht. × 2 13/16″ Wd.	3 1/4″	—	2 9/16″	11055A33	78.34	11595A52	26.19

Two-Point Push-to-Close Latches and Locks with Paddle Handle

A paddle handle activates the top and bottom spring-loaded latching points to secure large doors. The handle does not latch. Mount vertically or horizontally. Latch and lock are zinc-plated steel with a black-painted zinc handle and a plastic latch bolt that extends 5/8″ from the door's edge. Handle fits in a 4″ Ht. × 1 11/16″ Wd. cutout. Projection is 1 3/16″; rear projection is 1 13/16″.

Latch and lock come with a mounting bracket and two 1/4″ Dia. × 48″ Lg. connecting rods that can be cut to size. Mounting holes are 1 3/4″ and 1 1/4″ center-to-center. Require 10-24 mounting screws.

Keyed lock has a random key number. It comes with two keys.


Keyed Lock

For Max. Door Thick.	For Door Ht.	Latch Bolt Housing Ht.	Latch Bolt Housing Wd.		
Nonlocking Latch					
2″	3-8 ft.	4 1/2″	2 1/4″	13835A85	$82.72
Keyed Lock					
2″	3-8 ft.	4 1/2″	2 1/4″	13835A87	103.36

L-Handle Three-Point Cam Latches and Locks

Side, top, and bottom latching points secure large, heavy doors that are subject to strenuous use, such as those found on trucks and large access doors. They are zinc-plated steel and have two handles: a 7 1/2″ long outside handle with a 5/8″ Sq. × 6″ long spindle that mounts through the door and a 9 1/4″ long inside safety-release handle that opens the latch even if the outside handle is locked.

They have a 3 1/16″ long straight cam for side latching. For top and bottom latching, rods connect the top and bottom slide bolts, which have a 1 1/2″ latching distance. Use a hacksaw to cut rods and spindle to size. Require 1/4″ mounting screws. Screw holes on handle plate are 7 3/8″ and 1 1/4″ center-to-center; on latch plates they are 3 1/8″ and 2 3/4″ center-to-center.

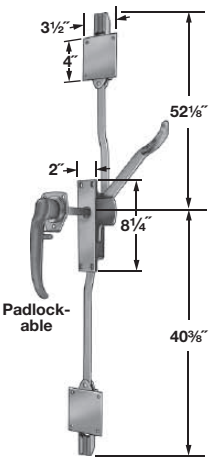

For Max. Thick.	For Door Ht.	Projection Handle	Projection Rear		
Padlockable Latch—7/16″ max. padlock shackle dia.					
5″	27″-90″	2 1/4″	2 3/8″	1272A11	$95.62
Keyed Lock—Comes with two keys; opens with key number 1250					
5″	27″-90″	2 1/4″	2 3/8″	1272A12	106.80

Push-to-Close Latches with Remote Push-Button Release

Operate latches around corners and other obstructions—a flexible cable connects the latch and the T-handle. Pull on the handle to retract the spring-loaded latch bolt. Bend radius of the cable is 1 1/2″. The maximum cumulative bend is 720°. Through-hole mount the handle and bolt housing or surface mount them using the included mounting plates. The through-hole mounting size is 1/2″ for the handle and 9/16″ for the bolt housing.

Latches are zinc-plated steel with a plastic handle and stainless steel strike plates. Mounting requires 1/4″ dia. and No. 10 screws.


With Two Latch Points

To Order: Please specify cable length from those listed. Note: For latches with two latch points, cable length is for each length of cable.

No. of Latch Points	Cable Dia.	Bolt Dia.	Latch Bolt Proj.	Handle Wd.	Handle Proj.	Strike Plate Lg.	Strike Plate Ht.	Strike Plate Proj.	Mounting Plate Lg.	Mounting Plate Wd.	Mounting Plate Proj.	Choose a Cable Length, ft.		
1	1/4″	3/8″	1/2″	2 1/4″	1 5/8″	2 3/4″	1 3/4″	2″	2 3/8″	1 9/16″	1 1/2″	2, 3, 4, 5, 6, 7, 8, 9	3985A41	$75.28
2	1/4″	3/8″	1/2″	2 1/4″	1 5/8″	2 3/4″	1 3/4″	2″	2 3/8″	1 9/16″	1 1/2″	2, 3, 4, 5, 6, 7, 8, 9	3985A42	88.84

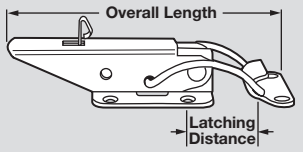

About Draw Latches

Draw latches operate by pulling surfaces together and holding them closed. They are also known as tension latches.

Latching distance is how far apart a mounted latch can be from the surface it's drawing to itself. Specifically, it's the distance between the center of the mounting hole closest to the latch arm and the farthest inside surface of the latching arm when the latch is closed.

The **overall length** listed includes the strike plate.

Draw Latches and Locks

A 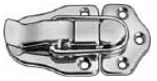

B  Nonlocking Latch

C 

D 

E 

F 

G  Nonlocking Latch

H 

J 

K 

L 

Latch and pull the handle down to close these latches, which are also known as tension latches. Latches have a fixed latching distance. Mounting screws are not included.

Styles C and **G** are strikeless; they hook into a lip or notch in the item being latched.

Style C has a vinyl-coated arm so it won't scratch surfaces.

Style F has a safety catch to prevent accidental opening.

Style L opens with key number 931A and comes with one key.

	Latching Distance	Overall Lg.	Overall Wd.	Proj.	Screw Size	For Max. Padlock Shackle Dia.	Finish	Pkg. Qty.		Pkg.
Nonlocking Latches—Steel										
A	3/4"	2 3/4"	1 7/16"	3/8"	No. 6	—	Brass Plated	5	1766A1	$9.89
A	3/4"	2 3/4"	1 7/16"	3/8"	No. 6	—	Nickel Plated	5	1766A2	9.89
A	15/16"	3 5/16"	1 3/4"	7/16"	No. 6	—	Brass Plated	5	1766A3	10.05
A	15/16"	3 5/16"	1 3/4"	7/16"	No. 6	—	Nickel Plated	5	1766A4	10.05
B	1 1/16"	2 5/16"	15/16"	1/2"	♦	—	Dull	10	1767A14	10.00
B	1 1/16"	2 5/16"	15/16"	1/2"	No. 5, No. 6	—	Zinc Plated	10	1590A13	10.57
B	1 5/16"	3 9/16"	1 1/4"	9/16"	♦	—	Dull	5	1590A23	12.85
B	1 5/16"	3 9/16"	1 1/4"	9/16"	No. 12	—	Zinc Plated	3	1590A21	8.92
										Each
C	1 1/2"	3 3/4"	1 7/8"	15/16"	No. 12	—	Zinc Plated	—	1863A21	$5.73
D	1 5/8"	4 1/2"	1 7/8"	1 1/16"	♦	—	Zinc Plated	—	1863A18	4.37
D	1 5/8"	4 1/2"	1 7/8"	1 1/16"	No. 5, No. 12	—	Zinc Plated	—	1863A22	4.00
Nonlocking Latches—300 Series Stainless Steel										
B	1 1/16"	2 5/16"	15/16"	1/2"	No. 5, No. 6	—	Dull	—	1590A43	4.83
E	13/16"	1 7/8"	1 3/8"	1/2"	No. 6	—	Dull	—	1889A34	5.34
F	7/8"	3 7/16"	1 3/16"	7/8"	No. 6	—	Dull	—	1889A43	7.06
G	1 7/16"	2 1/8"	7/8"	9/16"	No. 6	—	Dull	—	1889A22	5.60
H	1 3/8"	3 3/4"	7/8"	1/2"	No. 6	—	Dull	—	1889A37	5.83
Padlockable Latches—Steel										Pkg.
B	1"	5 1/2"	1 1/2"	15/16"	No. 6, No. 8	3/16"	Galvanized	1	1767A45	$4.51
B	1 5/16"	3 7/8"	1 5/16"	15/16"	♦	5/16"	Dull	3	1767A42	9.30
B	1 5/16"	3 7/8"	1 5/16"	15/16"	No. 10	5/16"	Zinc Plated	3	1767A41	10.95
G	1 1/2"	3 1/8"	7/8"	13/16"	No. 6	5/16"	Zinc Plated	5	1767A43	7.62
J	1 1/8"	2 5/8"	1 1/2"	5/8"	No. 6	1/4"	Nickel Plated	10	1766A61	27.32
K	1 1/16"	2 9/16"	1 5/8"	13/16"	♦	1/4"	Dull	10	1767A15	12.75
K	1 1/16"	2 9/16"	1 5/8"	13/16"	No. 6	1/4"	Zinc Plated	5	1590A14	8.99
Padlockable Latches—300 Series Stainless Steel										Each
B	13/16"	3 1/8"	1 1/4"	1/2"	No. 4	3/16"	Polished	—	1889A46	$14.38
K	1 1/16"	2 9/16"	1 5/8"	13/16"	No. 6	1/4"	Dull	—	1590A45	7.49
Keyed Lock—Steel										
L	1 7/16"	2 1/2"	1 1/4"	1/2"	No. 5	—	Nickel Plated	—	1863A23	6.76

♦ No mounting holes; designed for welding.

Plastic and Rubber Draw Latches

A 

B 

C 

Nonmetal bodies make these latches corrosion resistant. Latching distance is fixed. Mounting screws are not included.

Plastic latches have a temperature range of 32° to 150° F.

Rubber latches absorb vibration and stretch to compensate for slight misalignment. They have 300 series stainless steel strike plates. Temperature range is -20° to 120° F.

	Latching Distance	Overall Lg.	Overall Wd.	Proj.	Screw Size	For Max. Padlock Shackle Dia.	Color	Pkg. Qty.		Pkg.
Nonlocking—Plastic										
A	3/4"	1 3/4"	3/4"	1/4"	No. 4	—	Black	10	1891A48	$12.02
A	1"	2 3/16"	1 1/4"	5/16"	No. 4	—	Black	10	1891A49	15.45
Nonlocking—Rubber										Each
B	1 1/16"	3 1/8"	1 1/4"	13/16"	No. 8	—	Black	—	1070A79	$22.17
B	1 9/16"	4 3/16"	1 1/4"	13/16"	No. 8	—	Black	—	1070A81	14.82
B	1 9/16"	6 1/2"	1 13/16"	1 3/16"	No. 10	—	Black	—	1070A82	23.82
Padlockable—Rubber										
C	3 9/16"	4 3/16"	1 1/4"	15/16"	No. 8	5/16"	Black	—	1070A91	16.45

Slide-Snap Draw Latches



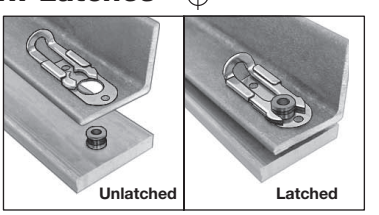

To secure overlapping components, pull the slide over the stud until they snap together. These latches resist shock and vibration. They are dull 304 stainless steel. Latches are 1 3/4" Lg. × 1 11/16" Wd. and project 1/2". Stud has a 3/8" dia. head. Latching distance is fixed. Latches require M3 mounting screws.

1872A72 includes a steel spacer for installation.

For Mounting Surface Thickness	Latching Distance		
0.046"-0.080"	5/8"	1872A71	$6.12
0.081"-0.128"	5/8"	1872A72	6.51

Weather-Resistant Draw Latches

Rubber bodies make these latches corrosion resistant. They also absorb vibration and stretch to compensate for slight misalignment. Color is black. Mounting screws are not included.

With Metal Strike Plate

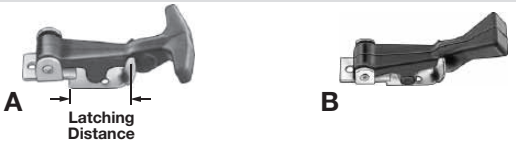

Temperature range is 0° to 200°F, except those with a 15/16" latching distance are not rated for temperature.

Latching Distance	Overall Lg.	Overall Wd.	Proj.	Screw Size	Zinc-Plated Steel Strike		300 Series SS Strike	
Style A								
15/16"	2 1/2"	1 1/2"	1 3/16"	No. 8	1685A13	$4.09	1685A29	$6.91
1 1/4"	3 7/16"	1 7/8"	3/4"	No. 5	1685A22	7.06	1685A32	7.73
1 9/16"	4 11/16"	2 7/16"	1 1/4"	No. 10	1685A24	9.20	1685A34	12.32
2 1/8"	5 7/8"	3 1/8"	1 1/4"	No. 10	1685A26	12.82	1685A36	17.85
6 3/16"	10 1/2"	3 1/8"	1 1/4"	No. 10	1685A38	21.98	1685A42	26.87
Style B								
9/16"	2 7/16"	9/16"	11/16"	No. 4	_____	___	1685A51	7.92
13/16"	3 1/8"	3/4"	1"	No. 4	1685A52	8.52	_____	___

With Plastic Strike Plate



Temperature range is -20° to 140°F, except 12065A81 is not rated for temperature.

Latching Distance	Overall Lg.	Overall Wd.	Proj.	Screw Size		
Style C						
1 15/16"	4 7/16"	1 7/8"	1 1/4"	No. 10	12065A63	$9.08
3 3/16"	6 11/16"	1 7/8"	1 1/8"	No. 10	12065A82	11.20
4 9/16"	8 3/4"	1 7/8"	1 1/8"	No. 10	12065A64	12.35
Style D						
1 15/16"	4 7/16"	1 7/8"	1 1/4"	No. 10	12065A73	9.08
3 3/16"	6 11/16"	1 7/8"	1 1/8"	No. 10	12065A81	11.20
4 9/16"	8 3/4"	1 13/16"	1 1/8"	No. 10	12065A74	12.35

T-Handle Tight-Hold Draw Latches

These latches are typically used to secure hoods and covers. Designed with a spring loaded handle, they withstand vibration better than other draw latches for a more secure hold. Mounting screws are not included.



	Latching Distance	Overall Lg.	Overall Wd.	Proj.	Screw Size		
T-Handle							
Black-Painted Steel	3 1/4"	3 7/8"	2 11/16"	1 5/16"	1/4"	1344A21	$6.45
Polished Chrome-Plated Steel	3 1/4"	3 7/8"	2 11/16"	1 5/16"	1/4"	1344A22	6.45
Polished 304 Stainless Steel	3 1/4"	3 7/8"	2 11/16"	1 5/16"	1/4"	1344A23	16.63
90° T-Handle							
Black-Painted Steel	3 1/2"	4 1/2"	2 11/16"	1 5/16"	1/4"	1344A24	6.82
Polished Chrome-Plated Steel	3 1/2"	4 1/2"	2 11/16"	1 5/16"	1/4"	1344A25	6.82
Polished 304 Stainless Steel	3 1/2"	4 1/2"	2 11/16"	1 5/16"	1/4"	1344A26	16.89

Adjustable-Grip Draw Latches

A threaded rod lets you adjust the latching distance to compensate for gasketing and misalignment. The overall length listed includes the strike plate; it is measured with the rod extended to maximum latching distance. Mounting screws are not included.

Nonlocking Latches—*Black plastic* has a temperature range of -20° to 175°F.

Nonlocking Latches with Safety Catch—Have a safety catch to prevent accidental opening.

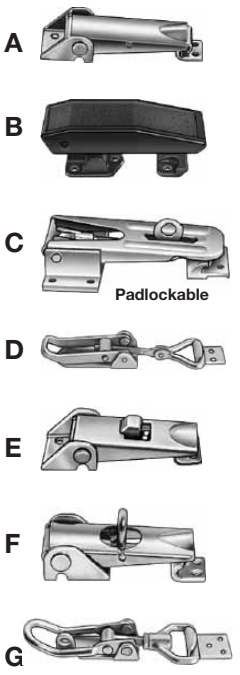

Material	Latching Distance	Overall Lg.	Overall Wd.	Proj.	Screw Size	For Max. Padlock Shackle Dia.		
Nonlocking								
A Zinc-Plated Steel	1 3/4"-2 3/8"	3 1/8"	1 1/8"	11/16"	No. 6	___	1864A22	$7.22
A Zinc-Plated Steel	2 1/2"-3"	4 1/4"	1 5/16"	7/8"	No. 10	___	1864A25	18.69
A Zinc Yellow-Chromate Plated Steel	2"-2 1/2"	3 1/16"	1 1/8"	5/8"	No. 6	___	1864A11	7.51
A Dull 300 Series SS	2"-2 1/2"	3 1/16"	1 1/8"	5/8"	No. 6	___	1864A13	14.46
A Dull 300 Series SS	2 1/2"-3"	4 1/4"	1 5/16"	7/8"	No. 10	___	1864A27	26.40
B Black Plastic	1 1/16"-1 3/8"	3 3/4"	1 1/2"	11/16"	No. 10	___	1525A31	11.90
C Zinc-Plated Steel	2 3/4"-3 1/4"	5 3/16"	3"	1 1/16"	No. 10	___	1807A57▲	17.26
D Galvanized Steel	1 1/2"-2 1/2"	5 3/4"	1 5/16"	3/4"	No. 6	___	13435A63	6.22
D Dull 304 SS	1 1/2"-2 1/2"	5 3/4"	1 5/16"	3/4"	No. 6	___	13435A67	17.82
Nonlocking with Safety Catch								
E Zinc-Plated Steel	1 3/4"-2 3/8"	3 1/8"	1 1/8"	13/16"	No. 6	___	1864A23	8.61
E Zinc Yellow-Chromate Plated Steel	2"-2 1/2"	3 1/16"	1 1/8"	13/16"	No. 6	___	1864A15	7.73
E Dull 300 Series SS	2"-2 1/2"	3 1/16"	1 1/8"	13/16"	No. 6	___	1864A17	15.42
Padlockable								
C Zinc-Plated Steel	2 3/4"-3 1/4"	5 3/16"	3"	1 5/8"	No. 10	3/8"	1807A58▲	12.88
F Zinc-Plated Steel	2 1/2"-3"	4 1/4"	1 5/16"	1 1/8"	No. 10	1/4"	1864A26	30.95
F Zinc Yellow-Chromate Plated Steel	1"-1 9/16"	2 3/4"	1 1/8"	11/16"	No. 6	1/4"	1864A19	14.79
F Dull 300 Series SS	1"-1 9/16"	2 3/4"	1 1/8"	11/16"	No. 6	1/4"	1864A21	21.58
F Dull 300 Series SS	2 1/2"-3"	4 1/4"	1 5/16"	1 1/8"	No. 10	1/4"	1864A28	38.91
G Galvanized Steel	1 5/8"-2 1/8"	6 7/8"	1 13/16"	7/8"	No. 6, No. 10	1/4"	13435A61	17.70

▲Strike plate is aluminum.

Capacity-Rated Draw Latches and Locks


A

Nonlocking Latch with Button Strike Plate


B

Padlockable


C


D


E


F

Padlockable


G


H


J


K


L

Here's a capacity-rated solution for securing enclosures, containers, and cases. Mounting screws are not included.

Nonlocking Latches with Safety Catch—Have a safety catch to prevent accidental opening.

Padlockable Latches—Maximum padlock shackle diameter is 5/16" for Style A, 3/8" for Style B, and 1/4" for Style F.

Note: Capacity is the maximum amount of force the latch can withstand.

Material	Latching Distance	Overall Lg.	Overall Wd.	Proj.	Capacity, lbs.	Screw Size	With Square Strike Plate		With Button Strike Plate	
Nonlocking Latches										
A Zinc-Plated Steel	15/16"	1 7/8"	1/2"	5/16"	85	No. 4	1844A51	$6.12	1844A41	$6.12
A Zinc-Plated Steel	1 11/16"	3 3/8"	15/16"	9/16"	285	No. 8	1844A52	8.48	1844A42	8.48
A Black-Painted Steel	2 5/16"	4 15/16"	1 3/16"	3/4"	160	No. 10	1844A63	19.76	1844A61	19.76
A Polished 17-7 PH Stainless Steel	15/16"	1 7/8"	1/2"	5/16"	85	No. 4	1844A31	12.05	1844A21	11.33
A Polished 400 Series Stainless Steel	1 11/16"	3 3/8"	15/16"	9/16"	200	No. 8	1844A32	16.02	1844A22	16.33
B Zinc-Plated Steel	1 9/16"	4"	1 7/8"	5/8"	400	No. 5, No. 12	1863A16	6.39		
B Polished 300 Series Stainless Steel	1 9/16"	4"	1 7/8"	5/8"	380	No. 5, No. 12	1863A17	11.01		
C Zinc-Plated Steel	2 1/16"	4 5/16"	2 1/16"	1 3/16"	335	No. 8	1501A32	7.54		
C Polished 300 Series Stainless Steel	2 1/16"	4 5/16"	2 1/16"	1 3/16"	325	No. 8	1501A34	13.98		
D Black-Painted Steel	1"	2 7/8"	1 1/2"	9/16"	230	No. 6	6082A15	7.37		
D Polished 304 Stainless Steel	1"	2 7/8"	1 1/2"	9/16"	250	No. 6	6082A16	7.81		
E Black-Painted Steel	1 1/4"	4 3/16"	3/4"	1/2"	220	No. 6	6082A13	7.37		
F Zinc-Plated Steel	1 3/8"	4 9/16"	1 3/16"	3/4"	660	No. 10	6082A17♠	7.63		
F Polished 304 Stainless Steel	1 3/8"	4 9/16"	1 3/16"	3/4"	425	No. 10	6082A18♠	16.66		
G Zinc-Plated Steel	1 7/16"	3 5/8"	1 7/8"	1 1/16"	150	No. 10	6082A22♠	7.63		
H Polished 304 Stainless Steel	1/2"	1 3/4"	7/8"	3/8"	130	No. 5	6082A12	6.77		
J Polished 304 Stainless Steel	15/16"	1 5/8"	15/16"	3/8"	85	No. 5	6082A11	9.00		
Nonlocking Latches with Safety Catch										
K Zinc-Plated Steel	1 13/16"	3 1/2"	7/8"	7/8"	40	No. 6	6082A25♠	6.94		
K Polished 304 Stainless Steel	1 13/16"	3 1/2"	7/8"	7/8"	24	No. 6	6082A26♠	14.17		
Padlockable Latches										
A Zinc-Plated Steel	1 11/16"	3 3/8"	15/16"	15/16"	285	No. 8	1844A53	8.48	1844A43	8.48
A Polished 17-7 PH Stainless Steel	1 11/16"	3 3/8"	15/16"	15/16"	200	No. 8	1844A33	16.33	1844A23	16.33
B Polished 300 Series Stainless Steel	1 9/16"	4"	1 7/8"	7/8"	380	No. 12	1863A31	11.81		
F Zinc-Plated Steel	1 3/8"	4 9/16"	1 3/16"	15/16"	660	No. 10	6082A19♠	7.91		
F Polished 304 Stainless Steel	1 3/8"	4 9/16"	1 3/16"	15/16"	425	No. 10	6082A21♠	17.60		
Keyed Locks—Come with two keys; locks open with key number S-010										
L Black-Painted Zinc	1 3/8"	2 7/8"	1 1/4"	3/4"	270	No. 4	6694A61	18.29		
L Black-Painted Zinc	1 5/8"	3 5/16"	1 3/8"	7/8"	270	No. 4	6694A62	16.37		

♠ Latch is strikeless; it hooks into a lip or notch in the item being latched.

Capacity-Rated Weather-Resistant Draw Latches


A


B

Rubber bodies make these latches corrosion resistant. They also absorb vibration and stretch to compensate for slight misalignment. Mounting screws are not included.

Style A latches have a temperature range of -40° to 175° F.

Style B latches have a temperature range of 0° to 200° F.

Note: Capacity is the maximum amount of force the latch can withstand.

	Latching Distance	Overall Lg.	Overall Wd.	Proj.	Capacity, lbs.	Screw Size	Strike Plate and Handle Material	Color		
A	2 7/8"	10"	1 15/16"	1 1/4"	175	No. 10	Plastic	Black	4015A31	$29.86
A	4 1/4"	11 13/16"	1 7/8"	1 1/4"	425	1/4"	316 Stainless Steel	Black	4015A43♣	112.28
A	6 13/16"	14 15/16"	1 15/16"	1 1/4"	270	No. 10	Plastic	Black	4015A32	48.81
B	7 3/4"	14 5/8"	1 7/8"	1 3/16"	400	No. 10	Steel	Black	4015A21	40.43
B	7 3/4"	14 3/4"	1 7/8"	1 3/16"	400	No. 10	302 Stainless Steel	Black	4015A22	57.17

♣ Strike plate is plastic.

Gasket-Sealing Draw Latches with Safety Catch


Nonlocking


Padlockable





In addition to a safety catch to prevent accidental opening, these latches use downward compression to pull surfaces together for sealing gasketed doors. Mounting screws are not included.

Padlockable latches have a maximum padlock shackle diameter of 1/4".

Note: Capacity is the maximum amount of force the latch can withstand.

Material	Latching Distance	Overall Lg.	Overall Wd.	Proj.	Capacity, lbs.	Screw Size		
Nonlocking								
Zinc-Plated Steel	1"	4 3/16"	1 13/16"	5/8"	415	No. 10	4567A1	$12.86
Zinc-Plated Steel	1 3/16"	3 1/8"	1 5/8"	3/4"	220	No. 8	4567A14	8.63
Dull 304 SS	1"	4 3/16"	1 13/16"	5/8"	405	No. 10	4567A11	25.99
Dull 304 SS	1 3/16"	3 1/8"	1 5/8"	3/4"	350	No. 8	4567A15	20.46
Padlockable								
Zinc-Plated Steel	1"	4 3/16"	1 13/16"	3/4"	415	No. 10	4567A12	12.86
Dull 304 SS	1"	4 3/16"	1 13/16"	3/4"	405	No. 10	4567A13	25.99

Multiple-Strike Draw Latches

Each latch comes with a variety of strike plates, so you can choose the best mounting direction for your application. Mounting screws are not included.

Nonlocking with Safety Catch—Latches have a safety catch to prevent accidental opening.

Note: Capacity is the maximum amount of force the latch can withstand.



Nonlocking



Nonlocking with Safety Catch

Latching Distance	Overall★ Lg.	Wd.	Proj.	Capacity, lbs.	Screw Size	No. of Strike Plates	Zinc-Plated Steel		Polished 300 Series Stainless Steel	
Nonlocking										
1 3/8"	3 15/16"	1 5/8"	9/16"	60	No. 6	4	6139A27	$9.11	6139A29	$16.46
1 3/8"	6 7/16"	2 3/8"	1 1/16"	330	No. 10	6	6139A21	20.23	6139A24	43.11
Nonlocking with Safety Catch										
1 3/8"	3 15/16"	1 5/8"	1 1/16"	60	No. 6	4	6139A28	10.97	6139A31	19.86
1 3/8"	6 7/16"	2 3/8"	1 1/16"	330	No. 10	6	6139A22	29.97	6139A25	54.26

★The overall length and width listed includes the longest and widest strike.

Capacity-Rated Adjustable-Grip Draw Latches

Adjust the latching distance in applications that require capacity ratings. A threaded rod lets you adjust the latching distance to compensate for gasketing and misalignment. Mounting screws are not included. **Style D** latches have a yellow vinyl-coated handle.

Nonlocking with Safety Catch—Latches have a safety catch to prevent accidental opening.

Note: Capacity is the maximum amount of force the latch can withstand.

A



Padlockable

B



Nonlocking

C



D



E



F



G



H



J



Material	Latching Distance	Overall■ Lg.	Wd.	Proj.	Capacity, lbs.	Screw Size	For Max. Padlock Shackle Dia.		
Nonlocking									
A Dull 304 SS	1 3/8"-2 1/2"	5 1/4"	1 3/4"	1 1/4"	800	No. 10	—	1807A61	$38.17
B Zinc-Plated Steel	1 11/16"-2"	7 1/4"	2"	7/8"	660	No. 10	—	6200A35	28.20
C Zinc-Plated Steel	1 5/16"-2"	4 1/2"	1 1/16"	13/16"	40	No. 10	—	11605A12	13.57
C Zinc-Plated Steel	1 5/16"-2 5/8"	7 1/16"	1 9/16"	1 1/4"	200	1/4"	—	11605A13	23.60
C Dull 304 SS	1 5/16"-2"	4 1/2"	1 1/16"	13/16"	40	No. 10	—	11605A16	24.88
C Dull 304 SS	1 5/16"-2 5/8"	7 1/16"	1 9/16"	1 1/4"	200	1/4"	—	11605A14	40.07
D Zinc-Plated Steel	1 1/2"-2 1/4"	4 7/8"	1 1/16"	13/16"	270	No. 10	—	11605A17▲	20.86
D Zinc-Plated Steel	3 3/16"-4 7/16"	8 3/4"	1 9/16"	1 1/4"	400	1/4"	—	11605A19▲	33.67
D Dull 304 SS	1 1/2"-2 1/4"	4 7/8"	1 1/16"	13/16"	270	No. 10	—	11605A18▲	31.19
D Dull 304 SS	3 3/16"-4 7/16"	8 3/4"	1 9/16"	1 1/4"	400	1/4"	—	11605A21▲	54.14
Nonlocking with Safety Catch									
B Zinc-Plated Steel	1 11/16"-2"	7 1/4"	2"	15/16"	660	No. 10	—	6200A36	33.86
E Polished 304 SS	15/16"-1 7/16"	3 1/8"	1 3/16"	13/16"	150	No. 6	—	6200A31	31.69
F Polished 304 SS	7/8"-1 1/4"	4 1/2"	1 5/8"	13/16"	660	No. 6	—	6200A34	59.31
Padlockable									
A Dull 304 SS	1 3/8"-2 1/2"	5 1/4"	1 3/4"	1 1/4"	800	No. 10	5/16"	1807A62	33.84
G Zinc-Plated Steel	1 3/16"-1 7/16"	4"	1 3/16"	1 1/16"	220	No. 8	3/16"	13435A31	12.78
G Zinc-Plated Steel	2"-2 1/2"	5 3/8"	1 5/16"	1 1/16"	660	No. 10	3/16"	13435A32	15.71
G Zinc-Plated Steel	2 5/16"-2 3/4"	7 1/8"	1 5/8"	1"	1,100	No. 10	3/8"	13435A33	24.74
G Polished 316 SS	1 3/16"-1 7/16"	4"	1 3/16"	1 1/16"	220	No. 8	3/16"	13435A41	33.26
G Polished 316 SS	2"-2 1/2"	5 3/8"	1 5/16"	1 1/16"	660	No. 10	3/16"	13435A42	46.03
G Polished 316 SS	2 5/16"-2 3/4"	7 1/8"	1 5/8"	1"	1,100	No. 10	3/8"	13435A43	53.42
H Zinc-Plated Steel	2 1/8"-2 7/8"	6 1/4"	2"	15/16"	1,100	No. 10	3/8"	13435A36	49.87
H Zinc-Plated Steel	2 5/16"-3"	7 11/16"	2"	15/16"	1,300	No. 10	3/8"	13435A35	58.72
J Zinc-Plated Steel	2 1/8"-2 11/16"	6 11/16"	1 5/8"	1"	1,100	No. 10	3/16"	13435A51	24.03
J Polished 316 SS	2 1/8"-2 11/16"	6 11/16"	1 5/8"	1"	1,100	No. 10	3/16"	13435A52	65.42

■ Overall length includes the strike plate; it is measured with the rod extended to maximum latching distance.

▲Latch is strikeless; it hooks into a lip or notch in the item being latched.

High-Capacity-Rated Adjustable-Grip Draw Latches

Demanding applications require latches with the highest capacity ratings we offer. A threaded rod lets you adjust the latching distance to compensate for gasketing and misalignment. Mounting screws are not included.

Nonlocking with Safety Catch—Latches have a safety catch to prevent accidental opening.

Note: Capacity is the maximum amount of force the latch can withstand.



Nonlocking with Safety Catch

Latching Distance	Overall Lg.	Wd.	Proj.	Screw Size	For Max. Padlock Shackle Dia.	Zinc-Plated Steel Capacity, lbs.			Polished 304 Stainless Steel Capacity, lbs.		
Nonlocking with Safety Catch											
1 5/16"-1 7/8"	10 3/16"	1 1/2"	1 1/2"	5/16"	—	4,400	6304A52	$60.26	5,500	6304A54	$114.86
1 5/16"-3 5/8"	11 15/16"	1 1/2"	1 1/2"	5/16"	—	4,400	6304A56	62.86	5,500	6304A58	118.31
Padlockable											
1 5/16"-1 7/8"	10 3/16"	1 3/8"	1 1/2"	5/16"	5/16"	4,400	6304A51	54.74	5,500	6304A53	108.36
1 5/16"-3 5/8"	11 15/16"	1 3/8"	1 1/2"	5/16"	5/16"	4,400	6304A55	57.37	5,500	6304A57	111.86

Ultra-Tight-Hold Draw Latches



Door-Face Mount



Inside-Corner Mount



Outside-Corner Mount

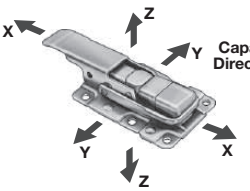

An integrated slide bolt extends into the strike plate to resist pull and vibration from side-to-side, front-to-back, and up-and-down forces. Mounting screws are not included.

Nonlocking with Safety Catch—Latches have a safety catch to prevent accidental opening.

Padlockable—Latches accept padlocks with a 3/16″ max. shackle diameter.

Note: Capacity is the maximum amount of force the latch can withstand.

Material	Latching Distance	Overall Lg.	Overall Wd.	Proj.	Capacity, lbs. X	Capacity, lbs. Y	Capacity, lbs. Z	Screw Size	Nonlocking with Safety Catch		Padlockable	
Door-Face Mount												
Zinc-Plated Steel	3/4″	3 15/16″	1 13/16″	1 1/16″	880	880	1,950	No. 6	6682A33	$30.06	6682A31	$26.20
Polished 304 SS	3/4″	3 15/16″	1 13/16″	1 1/16″	1,300	1,300	1,950	No. 6	6682A34	50.74	6682A32	48.31
Inside-Corner Mount												
Zinc-Plated Steel	3/4″	4 3/16″	1 13/16″	1 1/8″	880	220	220	No. 6	6682A37	32.90	6682A35	33.69
Polished 304 SS	3/4″	4 3/16″	1 13/16″	1 1/8″	1,300	220	220	No. 6	6682A38	57.23	6682A36	54.80
Outside-Corner Mount												
Zinc-Plated Steel	3/4″	4 3/16″	1 13/16″	1 13/16″	880	330	220	No. 6	6682A42	32.90	6682A39	33.66
Polished 304 SS	3/4″	4 3/16″	1 13/16″	1 13/16″	1,300	330	220	No. 6	6682A43	57.23	6682A41	54.80

Tight-Hold Draw Latches



A

Designed with compression springs to withstand vibration better than other draw latches, these offer a more secure hold. Mounting screws are not included.

Nonlocking with Safety Catch—Latches have a safety catch to prevent accidental opening.

Note: Capacity is the maximum amount of force the latch can withstand.



B



C

Padlockable



D

Padlockable

	Latching Distance	Overall Lg.	Overall Wd.	Proj.	Capacity, lbs.	Screw Size	For Max. Padlock Shackle Dia.	Zinc-Plated Steel		Polished 300 Series Stainless Steel	
Nonlocking											
A	3/8″	1 7/16″	1/2″	1/4″	200	No. 2	—	—	—	1794A51	$6.02
B	1 5/16″	2 3/4″	1 3/16″	7/16″	400	No. 6	—	1794A41	$3.81	1794A43	7.38
C	1 1/4″	2 3/8″	1 3/8″	1/2″	Not Rated	No. 6	—	1734A12	4.90	—	—
C	1 1/4″	2 3/8″	1 3/8″	1/2″	Not Rated	▲	—	1734A14■	6.62	—	—
C	1 3/8″	2 11/16″	1 1/2″	9/16″	Not Rated	No. 5	—	—	—	1734A27	7.61
C	1 3/8″	3 1/2″	1 15/16″	5/8″	Not Rated	No. 10, No. 12	—	1734A26	9.87	—	—
C	1 3/8″	3 13/16″	1 15/16″	5/8″	Not Rated	No. 5, No. 12	—	—	—	1734A13	15.32
Nonlocking with Safety Catch											
D	1 5/16″	2 3/4″	1 3/16″	5/8″	400	No. 6	—	—	—	1794A55	11.18
Padlockable											
C	1 1/16″	3″	1 3/8″	13/16″	Not Rated	No. 6	5/16″	1734A11	6.30	—	—
C	1 1/4″	3 5/8″	1 13/16″	15/16″	Not Rated	No. 10, No. 12	3/8″	1734A15	12.33	—	—
D	1 5/16″	2 3/4″	1 3/16″	15/16″	400	No. 6	3/8″	—	—	1794A54	9.36

▲ No mounting holes; designed for welding. ■ Made of plain steel.

Corner-Mount Tight-Hold Draw Latches



Nonlocking with 90° Angle Strike Plate



Padlockable with Safety Catch and Straight Strike Plate

Mount these latches on a corner to draw perpendicular surfaces together. Designed with compression springs to withstand vibration better than other draw latches, they offer a more secure hold. Latches are polished 304 stainless steel. Mounting screws are not included.

Padlockable with Safety Catch—Latch has a safety catch to prevent accidental opening. It accepts a padlock with a 3/16″ max. shackle diameter.

Latching Distance	Overall Lg.	Overall Wd.	Proj.	Screw Size	Strike Plate Type		
Nonlocking							
1 1/8″	2 1/4″	1 9/16″	5/8″	M4	90° Angle	6148A15	$21.50
1 1/8″	2 1/4″	1 9/16″	5/8″	M4	Straight	6148A16	21.50
Padlockable with Safety Catch							
1 1/8″	2 9/16″	1 9/16″	5/8″	M4	Straight	6148A25	16.00

Hex-Socket Draw Latches



A

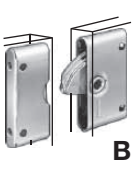

B

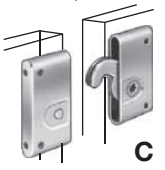

C

Use a 5/16″ hex key to open and close these latches. A hole must be drilled in your panel for hex key access. Latches are zinc-plated steel. Mounting screws are not included.

Style A has front tab mounting holes for mortise mounting.

Styles B and **C** have both side and back mounting holes, so they attach to the side of the panel or mortise into the panel.

Note: Capacity is the maximum amount of force the latch can withstand.

	Mounting Style	Capacity, lbs.	Latch Ht.	Latch Wd.	Latch Dp.	Strike Plate Ht.	Strike Plate Wd.	Strike Plate Dp.	For Cutout Ht.	For Cutout Wd.	For Cutout Dp.	Screw Size		
A	Mortise	900	5 7/8″	5/8″	1 13/16″	5 7/8″	5/8″	1 1/4″	5 15/16″	1 1/16″	1 7/8″	No. 10	1393A39	$17.76
B	Mortise, Surface	1,400	3 3/8″	5/8″	1 3/4″	3 3/8″	5/8″	1 1/4″	3 7/16″	1 1/16″	1 13/16″	1/4″	1393A34	9.40
C	Mortise, Surface	2,500	3 11/16″	5/8″	1 3/4″	3 11/16″	5/8″	1 3/4″	3 3/4″	1 1/16″	1 13/16″	1/4″	1393A37	27.24

Snap-Down Draw Latches

These latches snap in place to eliminate rattling and hold access doors, screens, windows, and panels together. Arm width is 7/16". Latches require No. 10 mounting screws.

Zinc-plated steel latches have one mounting hole. **Polished 304 stainless steel** latches have two mounting holes (9/16" center-to-center).

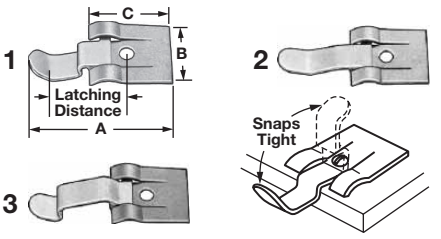

	Latching Distance	(A)	(B)	(C)	Zinc-Plated Steel Pkg. Qty.			Polished 304 Stainless Steel Pkg. Qty.		
							Pkg.			Pkg.
1	1 1/8"	2 1/8"	1"	1 1/4"	20	**13295A52**	$14.29	10	**13295A72**	$15.14
2	1 3/16"	2 3/8"	1"	1 1/4"	20	**13295A53**	14.29	10	**13295A73**	15.14
3	1 5/16"	2 1/2"	1"	1 1/4"	20	**13295A54**	14.29	10	**13295A74**	15.14

Turn-to-Open Draw Latches and Locks



Nonlocking | Padlockable | Keyed

Lift and turn the handle 180° to open and close these latches and locks. Mounting screws are not included.

Tight Hold—A spring-loaded handle provides a tight hold and compensates for misalignment.

Padlockable latches accept padlocks with a 3/8" max. shackle diameter.

Keyed lock comes with two keys and opens with key number 801.

Note: Capacity is the maximum amount of force the latch can withstand.

	Latching Distance	*Overall* Lg.	*Overall* Wd.	Proj.	Capacity, lbs.	Screw Size		
Standard								
Nonlocking Latches—Zinc-Plated Steel								
	3/4"	2 3/8"	1 1/2"	5/8"	300	No. 4	**1406A42**	$4.85
	3/4"	2 3/4"	2 3/16"	13/16"	400	No. 8	**1406A47**	8.82
	1 7/8"	4 15/16"	2 3/4"	1 1/16"	500	No. 10	**1406A71**	9.09
Nonlocking Latches—Dull 300 Series SS								
	3/4"	2 3/8"	1 1/2"	5/8"	300	No. 4	**1406A46**	11.06
	1 7/8"	4 15/16"	2 3/4"	1 1/16"	500	No. 10	**1406A72**	18.89
Padlockable Latch—Zinc-Plated Steel								
	3/4"	2 9/16"	1 1/2"	15/16"	300	No. 4	**1406A54**	6.32
Padlockable Latch—Dull 300 Series SS								
	3/4"	2 9/16"	1 1/2"	15/16"	300	No. 4	**1406A43**	12.21
Tight Hold								
Nonlocking Latches—Zinc-Plated Steel								
	3/4"	2 3/8"	1 15/16"	5/8"	300	No. 4	**1406A48**	6.20
	3/4"	2 3/4"	2 1/2"	13/16"	400	No. 8	**1406A45**	8.70
	1 7/8"	4 15/16"	3 1/4"	13/16"	500	No. 10	**1406A73**	11.91
Nonlocking Latches—Dull 300 Series SS								
	3/4"	2 3/8"	1 15/16"	5/8"	300	No. 4	**1406A51**	12.38
	1"	2 7/8"	2 1/16"	3/4"	190	No. 8	**1406A61**	26.88
	1 7/8"	4 15/16"	3 1/4"	13/16"	500	No. 10	**1406A74**	23.43
Keyed Lock—Zinc-Plated Steel								
	3/4"	3 1/2"	2 1/2"	13/16"	400	No. 8	**1406A57**	21.09

Mortise-Mount Tight-Hold Turn-to-Open Draw Latches

After it's mounted, the latch creates a nearly flat surface that protects it from damage. With a spring-loaded handle, these hold tighter than other turn-to-open draw latches and compensate for misalignment. Lift and turn the handle 180° to open and close these latches. Made of zinc-plated steel. Mounting screws are not included.



Nonlocking

	Latching Distance	*Overall* Lg.	*Overall* Wd.	*For Cutout* Ht.	*For Cutout* Wd.	*For Cutout* Dp.	Screw Size		
Nonlocking									
	1/2"	4 1/8"	4"	3 1/8"	3"	9/16"	No. 10	**10425A82**	$13.82
	1 1/16"	6 1/4"	5"	5"	3 13/16"	9/16"	No. 10	**10425A84**	20.00
Padlockable—3/8" max. padlock shackle dia.									
	1 1/16"	6 1/4"	5"	5 1/8"	3 13/16"	9/16"	No. 10	**10425A86**	22.12

Push-to-Open Latches

Close and open these latches with a push—there's no need for a handle. Latches are for surface mounting. Mounting screws are included.

Roller latch is brass-plated steel with a brown plastic strike plate. Not rated for temperature.

Grab latches are plastic. 1 7/16" high latch is black; 1 5/8" high latch is brown. Temperature range is 32° to 105°F.

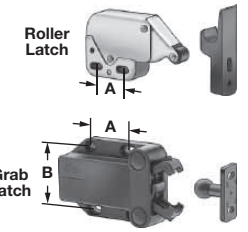

	Latch Ht.	*Latch* Wd.	*Latch* Proj.	*Strike Plate* Ht.	*Strike Plate* Wd.	*Mounting Hole, Ctr.-to-Ctr.* (A)	*Mounting Hole, Ctr.-to-Ctr.* (B)		
Roller Latch									
	1 1/16"	1 9/16"	7/16"	1 1/4"	7/16"	9/16"	—	**18785A61**	$2.25
Grab Latches									
	1 7/16"	1 13/16"	9/16"	1 1/16"	9/16"	13/16"	7/8"	**10825A28**	5.80
	1 5/8"	2 13/16"	5/8"	1 5/16"	5/8"	15/16"	1 1/4"	**10825A26**	6.90

Gate Latches and Locks

All surface mount and are for right- and left-swinging gates. Latches and locks *with straight bolt* are for gates that close flush with the post. Latches *with 90° bolt* are for gates that overlap the post when closed.

Nonlocking Latches—A hidden push-button release on the bottom of these latches retracts the latch bolt; this discourages unwanted entries, but allows access to those who know it's there. Latch bolt extends 7/16" from the door's edge.

Padlockable Latches—Push to close and pull up on the latch arm to open these latches. They have a 3/16" dia. hole for a pull cord or chain, except zinc-plated steel Style 2 has a 1/8" dia. hole.

Keyed Lock—With a key-locking mechanism, this lock provides more security than gate latches.

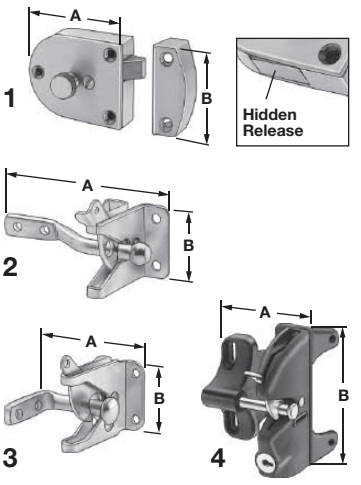

	Bolt Shape	(A)	(B)	Proj.	Material	Screw Size		
Nonlocking Latches								
1	Straight	2 1/2"	2 1/8"	1 1/4"	Dull Brass	Included	**1309A25**	$28.56
1	Straight	2 1/2"	2 1/8"	1 1/4"	Dull Chrome-Plated Brass	Included	**1309A28**	29.13
Padlockable Latches—5/16" max. padlock shackle dia.								
2	Straight	4 7/16"	1 3/4"	2 3/8"	Zinc-Plated Steel	Included	**1774A44**	6.32
2	Straight	4 3/4"	1 3/4"	2 3/4"	Dull 304 Stainless Steel	No. 8	**1771A12**	23.78
3	90°	3 7/8"	1 13/16"	2 1/4"	Zinc-Plated Steel	Included	**1774A47**	6.31
3	90°	4"	1 3/4"	2 3/4"	Dull 304 Stainless Steel	No. 8	**1771A13**	21.22
Keyed Lock—Comes with two keys; opens with key number 62462								
4	Straight	3 3/4"	4 1/2"	1 3/4"	Black Plastic and 300 Series SS	Included	**1262A11**	31.32

Push-to-Close Latches

About Push-to-Close Latches

When choosing between a face-mount latch and an edge-mount latch, consider the offset of your door. **Offset** is the space between the front of the door and the frame.



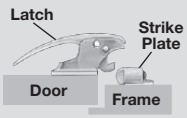

Face-Mount Latches—Mount horizontally to the front of the door with the strike plate mounted on the frame. Strike plate accommodates flush or offset doors.

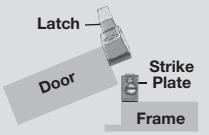

Edge-Mount Latches—Mount vertically to the side edge of the door with the strike plate mounted behind it on the face of the frame. Latches need a minimum 3/4" offset.

Face-Mount Push-to-Close Latches and Locks with Handle

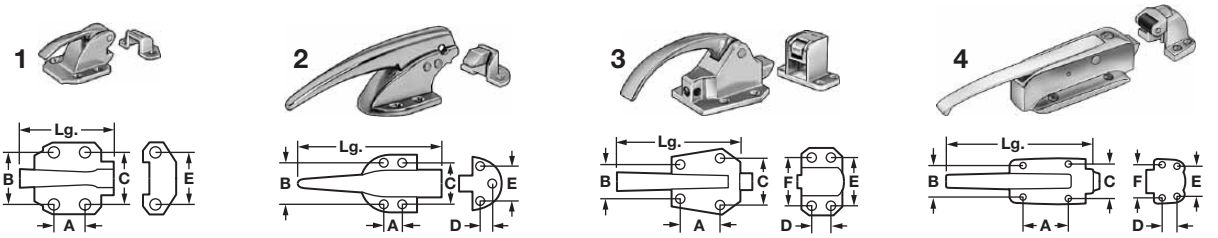

Keep doors on refrigerators and industrial enclosures closed. Mount these latches and locks horizontally to the face of your door with the strike plate mounted on the frame. Styles 2-4 can mount to oven doors. Mount on the right or left side of the door. Mounting screws are not included.

Nonlocking Latches—Come with three fixed strike plates to accommodate different door offsets. They are not recommended for use on oven doors.

Padlockable Latches—Have an adjustable strike plate to compensate for changes in offset caused by sagging doors and worn or flattened gaskets. Maximum padlock shackle diameter is 1/4".

Keyed Locks—Have an adjustable strike plate to compensate for changes in offset caused by sagging doors and worn or flattened gaskets. Locks come with two keys and open with key number 105. Meet NSF/ANSI standards.

Proj.	Lg.	Center-to-Center (A)	(B)	(C)	(D)	(E)	(F)	Screw Size	For Smaller Offsets Offset Range			For Larger Offsets Offset Range		
Nonlocking Latches—Chrome-Plated Zinc														
1	1 1/8"	2 1/4"	1 1/16"	1 1/8"	1 1/8"	—	1 1/8"	—	No. 6	0", 1/8", 3/8"	**15755A13**	$31.76	—	—	—
1	1 5/16"	2 13/16"	7/8"	1 7/16"	1 7/16"	—	1 7/16"	—	No. 8	0", 1/8", 3/8"	**15755A11**	43.98	—	—	—
Padlockable Latches—Chrome-Plated Zinc														
2	2 1/16"	5 15/16"	1 3/16"	1 3/8"	1 1/2"	1/2"	1 1/2"	—	No. 8	0" to 3/8"	**1266A5**	107.66	3/4" to 1 1/4"	**1266A1**★	$113.04
Padlockable Latches—Polished 304 Stainless Steel														
2	2"	5 1/4"	7/8"	1 5/16"	1 1/2"	7/8"	1 1/2"	—	No. 8	0" to 5/16"	**1266A6**	73.22	5/8" to 1 1/4"	**1266A7**	76.88
3	2 5/16"	5 1/4"	1 1/4"	1 3/4"	2 1/16"	3/4"	2 1/16"	2 1/16"	No. 10	0" to 3/8"	**1256A1**	94.33	1/2" to 1 1/4"	**1256A2**	99.05
3	2 1/2"	4 1/4"	1 3/8"	1 1/8"	1 5/8"	5/8"	1 5/8"	1 5/8"	No. 8	0" to 1/2"	**1256A3**	85.89	9/16" to 1 1/4"	**1256A4**	90.18
Keyed Locks—Dull Zinc														
4	2 7/16"	11"	3 3/8"	2 1/8"	2 1/2"	15/16"	2 5/16"	2 9/16"	1/4"	-1/8" to 1/4"	**1576A51**	296.17	3/4" to 1 1/2"	**1576A52**	288.06

★(D) dimension is 7/8".

Face-Mount Push-to-Close Latches and Locks with Emergency Release Handle

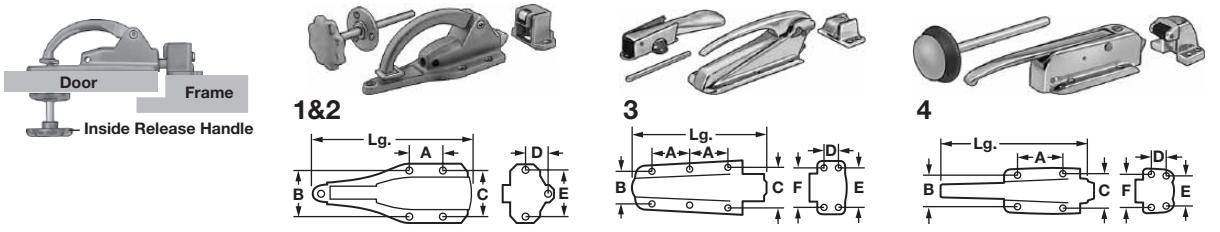

An emergency release handle offers a means of escape if the door closes with someone inside your enclosure. Mount these latches and locks horizontally to the face of doors on refrigerators, ovens, and industrial enclosures with the strike plate mounted on the frame. They have an adjustable strike plate to compensate for changes in offset caused by sagging doors and worn or flattened gaskets.

Mount on the right or left side of the door. Mounting screws are not included. Latches and locks require 1/4" mounting screws, except Style 1 latches with 4 1/8" projection require No. 10 screws. *Style 4* locks also require No. 10 screws.

Style 1 is silver-painted iron. **Style 2** is polished 304 stainless steel. **Styles 3&4** are chrome-plated zinc.

Keyed Locks—Come with two keys and open with key number 105. They also accept a padlock. Locks *with fiberglass rod* work in temperatures down to -40° F.

Proj.	Lg.	Center-to-Center (A)	(B)	(C)	(D)	(E)	(F)	For Max. Padlock Shackle Dia.	For Smaller Offsets Offset Range			For Larger Offsets Offset Range		
Padlockable Latches—Iron Release Handle with Steel Rod														
1	3 1/2"	8"	1 3/4"	2 3/8"	2 3/8"	1 3/16"	2 7/16"	—	5/16"	0" to 1/2"	**1840A23**	$64.15	5/8" to 1 1/4"	**1840A25**	$64.15
1	4 1/8"	10 5/8"	1 15/16"	3"	3"	1 1/2"	3 1/8"	—	11/32"	0" to 1 1/16"	**1840A12**	106.11	1 1/16" to 1 1/2"	**1840A14**	106.11
Padlockable Latches—Stainless Steel Release Handle with Stainless Steel Rod														
2	3 1/2"	8"	1 3/4"	2 3/8"	2 3/8"	1 3/16"	2 7/16"	—	5/16"	0" to 1/2"	**1840A31**	196.60	5/8" to 1 1/4"	**1840A32**	208.79
Padlockable Latches—Steel Release Handle with Steel Rod														
3	4"	11 3/4"	3 5/16"	2 7/8"	3 3/8"	1 1/4"	3 1/4"	3 1/4"	5/16"	0" to 3/16"	**1267A1**	669.54	1 3/8" to 1 7/8"	**1267A3**	637.09
Keyed Locks—Plastic Release Handle with Steel Rod														
4	2 1/4"	11"	3 3/8"	2 1/8"	2 1/2"	15/16"	2 5/16"	2 9/16"	5/16"	-1/8" to 1/4"	**1354A304**	329.13	3/4" to 1 1/2"	**1354A444**	321.25
Keyed Locks—Plastic Release Handle with Fiberglass Rod														
4	2 1/4"	11"	3 3/8"	2 1/8"	2 1/2"	15/16"	2 5/16"	2 9/16"	5/16"	-1/8" to 1/4"	**1354A424**	340.90	3/4" to 1 1/2"	**1354A454**	333.01

For information about push-to-close latches, see page 2946.

Pressure-Venting Face-Mount Push-to-Close Latches with Handle



Internal pressure in equipment such as spray booths and drying ovens automatically opens these latches. Manually open them by pulling on the handle. Mounting screws not included. FM approved.

Release force is the amount of pressure an enclosed area can sustain before the latch opens. Adjust the catch to make the latch more or less sensitive to pressure. Styles 1 and 2 adjust with a slotted screwdriver. Style 3 adjusts with a 3/16" hex key.

Styles 1&2 are reversible for right- and left-side door mounting.

Style 3 is not reversible. **To Order:** For Style 3, please specify right or left door mounting location. To determine door mounting location, look at the outside face of your door: if the hinges are on the right, order a right-side latch; if the hinges are on the left, order a left-side latch.

Material	Proj.	Lg.	Ctr.-to-Ctr. (A)	Ctr.-to-Ctr. (B)	Screw Size	For Smaller Offsets: Offset Range			For Larger Offsets: Offset Range		
(1) Release Force: 4 to 17 lbs./sq. ft.											
Polished 316 Stainless Steel	2 5/16"	2 3/8"	—	1 3/8"	1/4"	0" to 3/16"	1260A1	$150.45	—	—	—
(2) Release Force: 10 to 45 lbs./sq. ft.											
Dull Iron	3 1/4"	3 3/4"	—	2"	5/16"	0" to 3/16"	1260A13	141.93	1/4" to 13/16"	1260A14	$150.07
(3) Release Force: 43 to 180 lbs./sq. ft.											
Dull Steel	3 1/2"	7 3/4"	1 3/4"	2 7/8"	3/8"	0" to 3/16"	1260A31	239.02	3/16" to 1 1/16"	1260A32	251.77

Edge-Mount Push-to-Close Latches and Locks

Mount these latches and locks vertically to the side edge of doors on refrigerators, ovens, and industrial enclosures. They require a 3/4" offset between the door face and the frame when the door is closed and have an adjustable strike plate to compensate for changes in offset caused by sagging doors and worn or flattened gaskets. They are chrome-plated zinc, except Style 3 has a black plastic handle. Mount on the right or left side of the door. Mounting screws are not included.

Padlockable Latch—Maximum padlock shackle diameter is 5/16".

Keyed Locks—Come with two keys. *Style 2* opens with key number 01. *Style 3* opens with key number 1313 and has a magnetic strike plate for airtight closure.

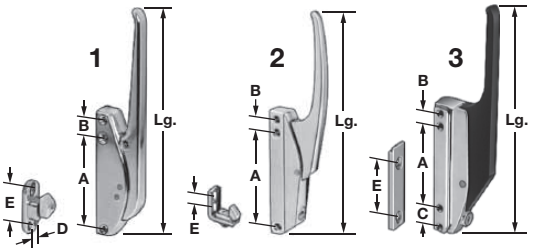

	Proj.	Lg.	Center-to-Center (A)	(B)	(C)	(D)	(E)	Screw Size		
Padlockable Latch										
1	1 15/16"	9 5/16"	3 3/4"	3/4"	—	7/16"	1 9/16"	No. 10	1268A1	$98.27
Keyed Locks										
2	2 5/8"	10 1/2"	4 5/8"	5/8"	—	—	1/2"	No. 10	15775A28	49.62
3	2 7/8"	11 1/2"	4 3/16"	5/8"	1"	—	3 1/2"	No. 10	15775A31	94.00

Push-to-Close Latches and Locks with Push-Button Release

To open, push in the knob and pull the tab. Latch and lock are black plastic. They require No. 6 mounting screws. Latch bolt projects 5/16". Temperature range is 0° to 150° F.

Note: Maximum latching distance is the maximum possible space between the bolt and the front surface of the door.

Keyed Lock—Comes with two keys.


Keyed Lock

	For Max. Door Thick.	Max. Latching Distance	For Through Hole Dia.	Dia.	Proj.	Rear Proj.	Key No.		
Nonlocking Latch	3/8"	15/16"	1"	1 1/8"	5/8"	1 1/2"	—	1219A81	$12.31
Keyed Lock	3/8"	15/16"	1"	1 1/8"	5/8"	1 1/2"	CH751	1219A82	17.42

Push-to-Close Latches and Locks with Paddle Handle

Also known as paddle latches and locks, these are often seen on electrical panels, cabinets, and lockers. They are zinc-plated steel.

Style 1—Mount on the right or left side of the door. They include mounting hardware.

Style 2—To determine door mounting location, look at the outside face of your door: if the hinges are on the right, order a right-side latch; if the hinges are on the left, order a left-side latch. Require No. 8 screws.

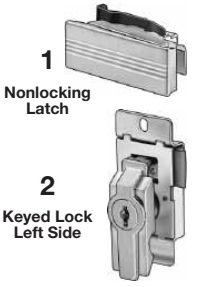

For Max. Door Thick.	Style 1: Wd.	Ht.	Proj.	Rear Proj.			Style 2: Wd.	Ht.	Proj.	Rear Proj.	Right Side		Left Side	
Nonlocking Latches														
1/8"	2 3/4"	1"	7/8"	1/2"	1517A55	$8.84	1 3/8"	3"	3/4"	1/2"	1709A25	$8.50	1709A26	$8.50
Keyed Locks—Come with two keys; locks open with key number CAT60														
1/8"	2 3/4"	1"	7/8"	1/2"	1517A42	14.72	1 3/8"	3"	3/4"	1/2"	1709A12	14.03	1709A14	14.03

Vibration-Resistant Face-Mount Push-to-Close Latches with Handle

Their spring-loaded design withstands vibration, rattling, and shaking for a secure hold. Activate the handle to unlatch; release the handle to engage. Mounting screws are included.

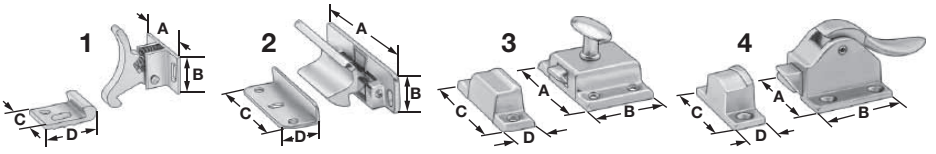

	Material	(A)	(B)	(C)	(D)	Proj.	Latch Bolt Proj.		
1	Polished Nickel-Plated Brass	1 3/16"	5/8"	3/4"	15/16"	1 3/16"	—	11265A71	$4.67
1	Polished Brass	1 3/16"	5/8"	3/4"	15/16"	1 3/16"	—	11265A61	4.30
2	Polished 316 Stainless Steel	2 5/8"	3/4"	1 13/16"	11/16"	1 1/8"	—	11265A81	44.80
3	Polished Brass-Plated Steel	1 7/8"	1 1/4"	1 7/8"	9/16"	1 1/8"	3/16"	1663A21	6.27
4	Dull Chrome-Plated Brass	1 1/2"	1 3/8"	1 1/2"	9/16"	1 1/8"	1/4"	1665A3	37.92
4	Dull Brass	1 1/2"	1 3/8"	1 1/2"	9/16"	1 1/8"	1/4"	1665A1	31.59

Push-to-Close Latches

Mortise-Mount Push-to-Close Latches and Locks with Paddle Handle



1 Keyed Lock



2 Keyed Lock



3

Also known as paddle latches and locks, these are often seen on electrical panels, cabinets, and lockers. They mount to the right or left side of doors. Maximum latching distance is the maximum possible space between the bolt and the front surface of the door.

Style 1 latches and locks mount with the included hardware. *Keyed locks* come with two keys and open with key number CH751.

Style 2 latch and lock mount with No. 6 screws (not included) or weld in place. *Keyed lock* comes with one key and opens with key number CH501.

Style 3 latch mounts with No. 8 screws (not included).

	Material	For Max. Door Thick.	Max. Latching Distance	For Cutout Ht.	For Cutout Wd.	Ht.	Wd.	Rear Proj.	Mounting Hole Ctr.-to-Ctr.	Latch Bolt Proj.		
Nonlocking Latches												
1	Black-Painted Steel	1/4"	5/16"	2 3/16"	2 13/16"	2 11/16"	3 5/16"	1 7/16"	_____	5/16"	**11585A71**	$26.13
1	Black-Painted Steel	3/8"	1/2"	3 1/4"	4 1/4"	4"	5"	1 15/16"	_____	7/16"	**11585A72**	34.10
1	Dull Stainless Steel	1/16"	1/8"	1"	1 9/16"	1 1/8"	1 3/4"	5/16"	_____	7/16"	**11585A11**	12.21
1	Dull Stainless Steel	1/16"	3/16"	1 7/16"	1 7/8"	1 7/8"	2 1/4"	1"	_____	1/2"	**11585A12**	20.84
1	Dull Stainless Steel	1/4"	5/16"	2 3/16"	2 13/16"	2 11/16"	3 5/16"	1 7/16"	_____	5/16"	**11585A13**	41.02
1	Dull Stainless Steel	3/8"	1/2"	3 1/4"	4 1/4"	4"	5"	1 15/16"	_____	7/16"	**11585A14**	60.53
2	Dull Nickel-Plated Steel	1/8"	1/8"	1 1/2"	2"	2"	2 5/8"	1 1/16"	1 5/8", 2 1/4"	5/16"	**1675A1**	9.76
3	Dull Stainless Steel	3/16"	3/16"	3 1/8"	2"	3 5/16"	2 1/4"	1/2"	2"	1/4"	**11585A77**	82.29
Keyed Locks												
1	Black-Painted Steel	3/8"	1/2"	3 1/4"	4 1/4"	4"	5"	1 15/16"	_____	7/16"	**11585A73**	45.93
1	Dull Stainless Steel	3/8"	1/2"	3 1/4"	4 1/4"	4"	5"	1 15/16"	_____	7/16"	**11585A21**	74.69
2	Dull Nickel-Plated Steel	1/8"	1/8"	1 1/2"	3 3/16"	2"	3 1/2"	1 1/16"	1 5/8", 2 7/8"	5/16"	**1675A3**	23.82

Ring-Handle Push-to-Close Latches



Plastic

When you release the spring-loaded ring it returns to its recessed position to stay out of your way. These latches open from the inside as well as the outside. From the outside, pull the recessed ring to unlatch. From the inside, slide the release tab on the back of the latch to unlatch. Latches are nonlocking. They have a stainless steel strike plate and require No. 10 screws. Maximum latching distance is the maximum possible space between the bolt and the front surface of the door.

Plastic latches have a temperature range of 0° to 140° F.

For Door Thick.	Max. Latching Distance	Dia.	For Cutout Dia.	Proj.	Rear Proj.	Latch Bolt Proj.	**Black Plastic**		**Polished 316 SS**	
1/8"-1/4"	1"	2 7/16"	2"	1/8"	1 7/16"	1/4"	**1065A41**	$16.73	**1731A11**	$42.00
5/16"-7/16"	1"	2 7/16"	2"	1/8"	1 7/16"	1/4"	**1065A42**	16.73	**1731A12**	42.00
1/2"-5/8"	1"	2 7/16"	2"	1/8"	1 7/16"	1/4"	**1065A43**	16.73	**1731A13**	42.00
1 1/16"-7/8"	1"	2 7/16"	2"	1/8"	1 7/16"	1/4"	**1065A44**	16.73	**1731A14**	42.00

Push-to-Close Latches and Locks



1



2



3



Optional Sealed Cover for Style 3

Latches and locks open with a turn of the knob or key. All are for through-hole mounting. Latch bolt projects 5/16". Maximum latching distance is the maximum possible space between the bolt and the front surface of the door.

Style 1—All are chrome-plated zinc. They require No. 6 mounting screws. Temperature range is 0° to 150° F. *Keyed locks* come with two keys.

Style 2—When not in use, you can push the knob in so it's flush and out of the way; it pops out with a touch. Latches can be secured with the knob in or out. They are plastic with a stainless steel strike plate and require No. 10 mounting screws. Temperature range is -20° to 140° F. 1248A11 is dull black; 1248A12 is polished silver.

Style 3—The low-profile design means less of the lock is exposed, reducing the potential for damage. Locks are chrome-plated zinc and require No. 6 mounting screws. They come with two keys. *Optional sealed covers* protect these latches from dirt and debris. They are black plastic. Temperature range is -40° to 175° F.

	For Max. Door Thick.	Max. Latching Distance	For Through Hole Dia.	Dia.	Proj.	Rear Proj.	Key No.		
Nonlocking Latches									
1	3/8"	13/16"	3/4"	7/8"	1 1/16"	1 3/16"	_____	**11885A31**	$21.42
1	1/2"	1"	1"	1 1/8"	7/8"	1 7/16"	_____	**11885A32**	22.58
2	3/4"	1 3/8"	1 1/4"	1 1/2"	1/4"	1 7/8"	_____	**1248A11**	14.27
2	3/4"	1 3/8"	1 1/4"	1 1/2"	1/4"	1 7/8"	_____	**1248A12**	17.87
Keyed Locks									
1	3/8"	13/16"	3/4"	7/8"	1 1/16"	1 3/16"	CH751	**11885A11**	28.73
1	1/2"	1"	1"	1 1/8"	7/8"	1 7/16"	CH751	**11885A12**	29.44
3	3/8"	13/16"	3/4"	7/8"	3/16"	1 3/16"	CH751	**11885A21**	23.69
3	1/2"	1"	1"	1 1/8"	3/16"	1 7/16"	CH751	**11885A22**	26.76
Optional Sealed Cover for 11885A21 (Style 3)								**11885A43**	2.19
Optional Sealed Cover for 11885A22 (Style 3)								**11885A44**	2.36

Snap-Arm Roller Latches

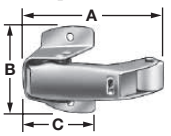

You don't need a mating strike plate for this latch—its spring-loaded arm snaps to engage when you close the door. Open the door to release the latch. Latch is zinc-plated steel with a rubber roller. Surface mount with the included screws.

(A)	(B)	(C)	Proj.	Mounting Hole Ctr.-to-Ctr.		
2 3/4"	2 1/2"	1 3/16"	1 3/4"	2 1/8"	**1302A11**	$6.16

Roller Latches

Doors stay closed with the pressure of plastic rollers against the strike plate. Latches include mounting screws, except Style 1.

Style 1 has elongated mounting holes that allow for adjustment. Max. temp. is 150° F.

Style 2 has elongated mounting holes that allow for adjustment. Not rated for temperature.

Styles 3-5 have a projection adjustment screw that allows you to adjust the roller projection from 0″ to 3⁄8″ to compensate for misalignment. Temp. range is -100° to 300° F.

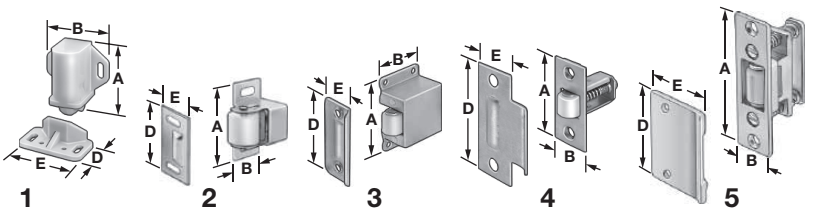

Max. Pull Strength, lbs.	Latch (A)	Latch (B)	Strike Plate (D)	Strike Plate (E)	Mounting Hole Ctr.-to-Ctr. Latch	Mounting Hole Ctr.-to-Ctr. Strike Plate	Screw Size	Material		
Surface Mount										
1 Not Rated	1 3⁄16″	1 3⁄8″	13⁄16″	1 3⁄8″	1″	1″	No. 8	White Plastic	**8040A3**	$7.86
2 Not Rated	1 15⁄16″	1″	1 3⁄4″	1″	1 3⁄8″	1 1⁄4″	No. 6	Zinc-Plated Steel	**8040A12**	1.94
3 17	2″	1 7⁄16″	2 1⁄8″	1″	1″	1 1⁄2″	No. 6	Dull 304 Stainless Steel	**8040A14**	15.23
Mortise Mount										
4 17	2 1⁄4″	1″	2 3⁄4″	1 1⁄8″	1 5⁄8″	2 1⁄8″	No. 8	Dull 304 Stainless Steel	**8040A21**	12.55
5 17	3 3⁄8″	1″	2 1⁄4″	1 11⁄16″	2 7⁄8″	1 11⁄16″	No. 10	Chrome-Plated Brass	**8040A33**	12.73

Grab Latches

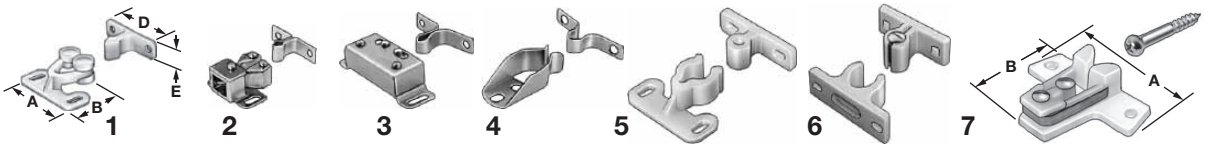

A catch grabs and holds the strike plate to keep doors shut. Mounting screws are not included, except Styles 2, 4, and 7 come with screws.

Plastic latches have a temperature range of -20° to 150° F.

Style 6 has a screw for adjusting the gripping force on the strike plate.

Max. Pull Strength, lbs.	Latch (A)	Latch (B)	Strike Plate (D)	Strike Plate (E)	Strike Plate Proj.	Mounting Hole Ctr.-to-Ctr. Latch	Mounting Hole Ctr.-to-Ctr. Strike Plate	Screw Size	Material		
Roller Style—Rollers are plastic											
1 4	1 3⁄16″	13⁄16″	1 1⁄16″	5⁄16″	7⁄16″	7⁄8″	13⁄16″	No. 3	White Plastic	**1659A2**	$1.06
1 7	1 1⁄4″	1″	1 1⁄4″	5⁄16″	1⁄2″	15⁄16″	15⁄16″	No. 3	White Plastic	**1659A3**	1.15
2 4	1 5⁄16″	1 1⁄8″	1 1⁄4″	3⁄8″	9⁄16″	15⁄16″	15⁄16″	No. 5	Zinc-Plated Steel	**1659A1**	1.13
3 6	1 7⁄8″	5⁄8″	1 5⁄16″	1⁄4″	5⁄8″	1 9⁄16″	1″	No. 4	Dull 304 Stainless Steel	**1659A7**	6.67
Snap Style											
4 4	9⁄16″	1 7⁄16″	1 3⁄8″	3⁄8″	1⁄2″	7⁄16″	7⁄8″	No. 6	Zinc-Plated Steel	**1659A16**	1.33
5 16	1 3⁄8″	1 1⁄16″	1 7⁄16″	7⁄16″	1⁄2″	1 1⁄16″	7⁄8″	No. 3	White Plastic	**1659A5**	1.36
6 18-44	2 11⁄16″	1 1⁄4″	2 5⁄16″	1″	1 1⁄4″	2 1⁄16″	1 5⁄8″	No. 10	Black Plastic	**1739A22**	10.13
7 5	1 13⁄16″	1 1⁄4″	—	—	11⁄16″	3⁄8″, 1 3⁄8″	—	No. 4	White Plastic	**1659A15**	2.17

Multidirectional Ball-Style Grab Latches

Each latch has top and bottom spring-loaded balls that can grab the strike plate from the direction that's best for your application: left, right, front, and/or back. Mounting screws are included. *Brass* latches have a force adjustment screw that allows you to adjust the force needed to open and close the latches.

Two Way—Grab the strike plate from the left or right. Surface mount. Balls are 304 stainless steel. Meet ANSI 156.9.

Three Way—Grab the strike plate from the left, right, or front. Surface mount. *Brass* latches have steel balls. *316 stainless steel* latches have 316 stainless steel balls.

Four Way—Grab the strike plate from the left, right, front, or back. Surface or mortise mount. Balls are 304 stainless steel. Meet ANSI 156.9.

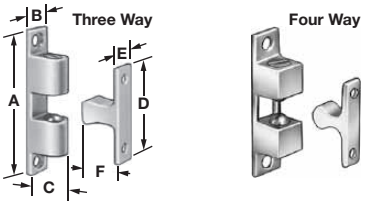

Max. Pull Strength, lbs.	Latch (A)	Latch (B)	Latch (C)	Strike Plate (D)	Strike Plate (E)	Strike Plate (F)	Mounting Hole Ctr.-to-Ctr. Latch	Mounting Hole Ctr.-to-Ctr. Strike Plate	Dull Chrome-Plated Brass		Dull Brass		Polished 316 Stainless Steel	
Two Way 4	2 3⁄16″	1⁄2″	1⁄2″	1 3⁄8″	3⁄8″	5⁄8″	1 3⁄4″	15⁄16″	**1669A4**	$6.03	**1669A16**	$6.04	____	____
Three Way Not Rated	1 11⁄16″	5⁄16″	7⁄16″	1″	5⁄16″	3⁄8″	1 3⁄8″	9⁄16″	**1790A22**	2.43	**1790A21**	2.43	____	____
Three Way Not Rated	1 15⁄16″	3⁄8″	7⁄16″	1 1⁄8″	5⁄16″	7⁄16″	1 9⁄16″	3⁄4″	**1790A15**	3.07	**1790A11**	3.07	____	____
Three Way Not Rated	2 5⁄16″	7⁄16″	9⁄16″	1 7⁄16″	3⁄8″	9⁄16″	1 15⁄16″	1″	**1790A14**	5.13	**1790A12**	5.13	____	____
Three Way Not Rated	2 3⁄4″	9⁄16″	5⁄8″	1 11⁄16″	7⁄16″	5⁄8″	2 1⁄4″	1 3⁄16″	**1790A17**	7.23	**1790A16**	7.23	____	____
Three Way 3	1 11⁄16″	5⁄16″	7⁄16″	1″	5⁄16″	7⁄16″	1 3⁄8″	5⁄8″	____	____	____	____	**1328A1**	$32.00
Three Way 4	2″	7⁄16″	1⁄2″	1 3⁄16″	3⁄8″	9⁄16″	1 9⁄16″	1 3⁄16″	____	____	____	____	**1328A2**	36.44
Three Way 9	2 3⁄4″	9⁄16″	11⁄16″	1 11⁄16″	7⁄16″	3⁄4″	2 3⁄8″	1 3⁄16″	____	____	____	____	**1328A3**	48.01
Four Way 4	3″	3⁄4″	3⁄4″	1 3⁄4″	7⁄16″	7⁄8″	2 1⁄2″	1 1⁄4″	**1316A5**	9.94	**1316A2**	9.94	____	____

Vibration-Resistant Grab Latches

Their spring-loaded design withstands vibration, rattling, and shaking better than other push-to-close grab latches for a more secure hold. Latches are black plastic and are for surface mounting. Mounting screws are not included.

Latches—Temperature range is -20° to 140° F. Meet UL 94HB for flammability.

Latches with Electrical Switch—An electrical switch allows these latches to power a light or other signal to indicate whether your door is open or closed. They are not for use as access safety switches. Temperature range is -40° to 140° F. Meet UL 94V0 for flammability.

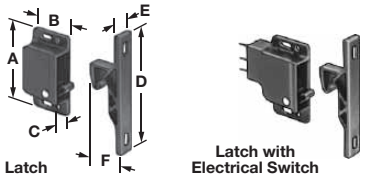

Max. Pull Strength, lbs.	Latch (A)	Latch (B)	Latch (C)	Strike Plate (D)	Strike Plate (E)	Strike Plate (F)	Mounting Hole Ctr.-to-Ctr. Latch	Mounting Hole Ctr.-to-Ctr. Strike Plate	Screw Size	Latches		Latches with Electrical Switch	
3	1 15⁄16″	1 1⁄8″	9⁄16″	2 7⁄8″	1⁄2″	15⁄16″	1 5⁄8″	2 3⁄16″	No. 4, No. 8	**12855A33**	$5.69	**12855A61**	$13.38
5	1 15⁄16″	1 1⁄8″	9⁄16″	2 7⁄8″	1⁄2″	15⁄16″	1 5⁄8″	2 3⁄16″	No. 4, No. 8	**12855A11**	5.69	**12855A62**	13.38
10	1 15⁄16″	1 1⁄8″	9⁄16″	2 7⁄8″	1⁄2″	15⁄16″	1 5⁄8″	2 3⁄16″	No. 4, No. 8	**12855A12**	5.69	**12855A63**	13.38

Magnetic Latches

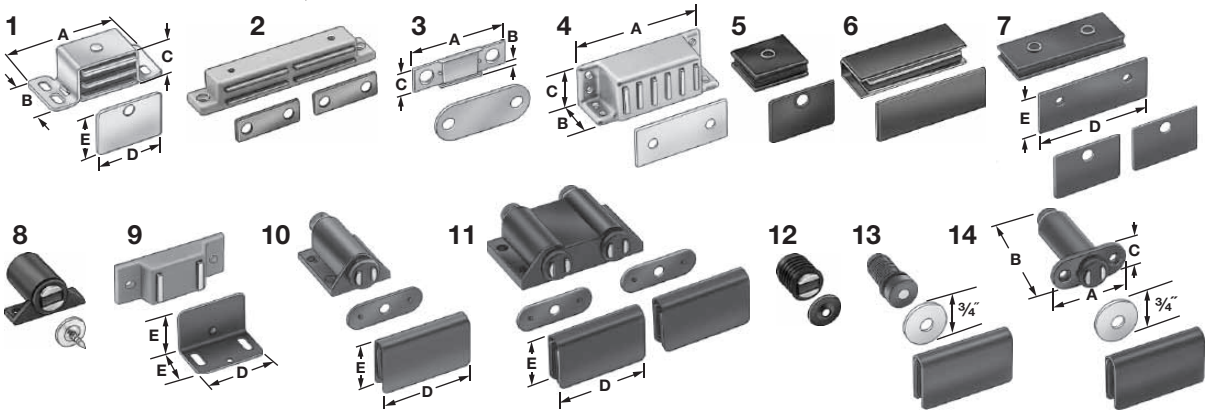

Magnets on the latch and strike plate meet to hold doors shut. These latches can often be found on audio/visual cabinets. Strike plates are steel or stainless steel. Not rated for temperature.

Note: Maximum pull-strength rating given is based on installation with the furnished strike plate; pull strength may be different based on your application.

Style 6 has adhesive on the back for installation.

	Max. Pull Strength, lbs.	Latch (A)	Latch (B)	Latch (C)	Strike Plate (D)	Strike Plate (E)	Mounting Hole Ctr.-to-Ctr. Latch	Mounting Hole Ctr.-to-Ctr. Strike Plate	Screw Size	Material		
Surface Mount—Pull-to-Open												
1	6	2 1/8″	1 1/16″	1/2″	1 3/16″	7/8″	1 5/8″	—	Included	Tan Plastic	1674A17	$1.29
1	7	2 1/16″	1″	3/4″	1 1/8″	13/16″	7/16″, 1 9/16″	—	Included	Dull Aluminum	1676A11	2.46
1	13	2 1/16″	1″	3/4″	1 1/8″	13/16″	7/16″, 1 9/16″	—	Included	Dull Aluminum	1676A12	2.77
1	15	2 1/8″	7/8″	9/16″	1″	13/16″	1 5/8″	—	Included	Tan Plastic	1672A15	2.57
1	34	3 1/2″	2″	15/16″	2 11/16″	3/4″	7/8″, 2 13/16″	2 5/16″	Included	Dull Brass	1310A1	63.59
1	34	3 1/2″	2″	15/16″	2 11/16″	3/4″	7/8″, 2 13/16″	2 5/16″	Included	Dull Chrome-Plated Brass	1310A2	65.57
2	10	3 1/4″	1 3/8″	7/16″	1 1/4″	7/8″	2 7/8″	—	Included	Dull Aluminum	1101A12	8.97
2	11	3 7/16″	1 1/16″	9/16″	1 3/16″	7/16″	3 1/16″	13/16″	Included	White Plastic	1101A13	9.00
2	12	4 3/16″	1 3/16″	5/8″	1 1/2″	9/16″	3 11/16″	1″	Included	White Plastic	1101A14	10.00
3	4	1 7/16″	3/16″	3/8″	1 15/16″	5/8″	1 3/16″	1 5/8″	M3★	Dull Steel	1745A18	4.38
3	6	1 3/8″	1/8″	1/2″	1 3/8″	5/8″	1″	1″	Included	Nickel-Plated Steel	1745A12	8.37
3	7	1 9/16″	3/16″	7/16″	1 15/16″	5/8″	1 3/16″	1 5/8″	M3★	Dull 304 Stainless Steel	1745A16	5.06
3	9	1 5/8″	1/8″	11/16″	1 3/16″	5/8″	1 1/8″	5/8″	Included	Nickel-Plated Steel	1745A15	6.20
3	22	3 3/16″	9/16″	11/16″	2 3/16″	11/16″	2 13/16″	1 7/16″	M3★	Nickel-Plated Brass	1745A17	6.17
4	24	2 7/16″	3/4″	13/16″	1 3/4″	3/4″	2″	1 1/8″	No. 4★	Dull Steel	18325A61	15.43
4	31	3 3/16″	3/4″	13/16″	2 3/8″	3/4″	2 13/16″	1 5/8″	No. 4★	Dull Steel	18325A62	18.29
5	6	1″	15/16″	5/16″	1 1/8″	13/16″	—	—	Included	Black Zinc-Plated Steel	1674A61	1.75
6	10	1 1/4″	3/4″	3/8″	1 1/4″	3/4″	—	—	Included	Dull Aluminum	1733A1	5.83
6	14	2″	3/4″	7/16″	2″	3/4″	—	—	Included	Dull Aluminum	1733A2	7.00
7	11	2″	13/16″	5/16″	2″	13/16″	1″	1 1/4″	Included	Black Zinc-Plated Steel	1674A62	3.27
7	22	3″	13/16″	5/16″	3″	13/16″	2″	2 5/16″	Included	Black Zinc-Plated Steel	1674A63	4.64
8	8	1 1/4″	7/8″	11/16″	1/2″	—	15/16″	—	No. 5★	Brown Plastic	10935A33	1.91
9	5	2″	3/4″	7/16″	1 1/8″	3/4″	1 1/2″	3/4″	Included	Tan Plastic	18325A51	2.48
Surface Mount—Push-to-Open												
10	3	1 1/8″	1 13/16″	5/8″	1 5/8″	1″	1 1/16″, 7/8″	—	Included	Black Plastic	1860A21	3.09
10	3	1 1/8″	1 13/16″	5/8″	1 5/8″	1″	1 1/16″, 7/8″	—	Included	Black Plastic ■	1860A22	3.20
11	4	2 5/16″	1 13/16″	11/16″	1 5/8″	1″	3/4″, 2″	—	Included	Black Plastic	1860A23	5.51
11	4	2 5/16″	1 13/16″	11/16″	1 5/8″	1″	3/4″, 2″	—	Included	Black Plastic ■	1860A24	5.74
Mortise Mount—Pull-to-Open												
12	4	5/8″	7/8″	—	3/4″	—	—	—	Included	Dull Aluminum	15735A67	2.63
12	6	5/16″	9/16″	—	1/2″	—	—	—	No. 4★	Black Plastic	15735A62	3.03
12	13	1/2″	11/16″	—	9/16″	—	—	—	No. 4★	Brown Plastic	15735A64	1.73
Mortise Mount—Push-to-Open												
13	Not Rated	7/16″	1 1/16″	9/16″	1 5/8″	1″	—	—	Included	Black Plastic	15735A66	2.54
14	Not Rated	1 3/8″	1 7/8″	5/8″	1 5/8″	1″	15/16″	—	No. 5★	Black Plastic	15735A65	3.14

★Mounting screws are not included. ■ Strike plate has chrome-plated finish.

Specialty Magnetic Latches

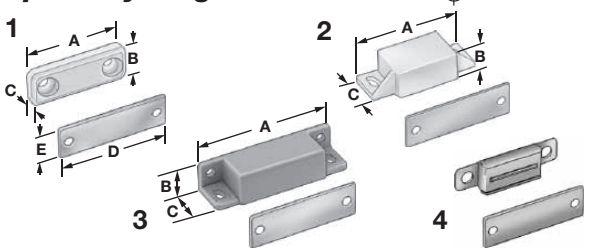

Keep doors shut in clean room, food service, and high-temperature environments. Mounting screws are not included.

(1&2) Clean Room—For use in sanitary environments, the magnet is encapsulated in white plastic so it won't release particles when it meets the stainless steel strike plate. Temperature range is 15° to 175° F.

(3) Food Safe—Designed to meet NSF/ANSI standards, this latch has a magnet completely sealed in gray plastic to eliminate crevices that can trap food particles. Strike plate is stainless steel. Temperature range is 15° to 175° F.

(4) High Temperature—This dull 304 stainless steel latch can withstand temperatures up to 480° F. Minimum temperature is 15° F.

		Max. Pull Strength, lbs.	Latch (A)	Latch (B)	Latch (C)	Strike Plate (D)	Strike Plate (E)	Mounting Hole Ctr.-to-Ctr. Latch	Mounting Hole Ctr.-to-Ctr. Strike Plate	Screw Size		
1	Clean Room	7	1 13/16″	11/16″	1/4″	1 15/16″	5/8″	1 3/16″	1 9/16″	No. 6, No. 8	6680A12	$9.74
2	Clean Room	7	2″	9/16″	7/8″	1 15/16″	5/8″	1 9/16″	1 9/16″	No. 6, No. 8	6680A15	12.94
3	Food Safe	11	2 1/2″	3/4″	9/16″	1 15/16″	5/8″	2 1/8″	1 5/8″	M3.5, No. 6	6680A21	20.23
4	High Temperature	11	1 9/16″	7/16″	5/16″	1 15/16″	5/8″	1 3/16″	1 5/8″	No. 6, No. 8	6680A22	17.75

Ball-Style Grab Latches

Also known as bullet catches, these latches have a spring-loaded ball that grabs and holds the strike plate to keep doors shut.

Style 1—Latch is nickel-plated steel and requires No. 4 mounting screws.

Style 2—Latches are dull brass with a steel ball and strike plate. Mounting hardware is included.

Style 3—These latches are adjustable; push the ball in and rotate it to adjust force as well as compensate for misalignment. Latches are dull brass. Mounting hardware is included.

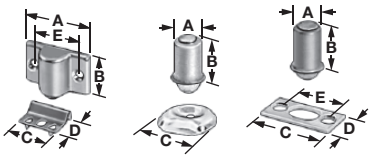

	Mounting Style	Strike Plate Type	(A)	(B)	(C)	(D)	(E)		
1	Surface	Fixed	13/16"	3/4"	3/4"	5/8"	13/16"	**1662A13**	$0.77
2	Mortise	Fixed	1/4"	3/8"	9/16"	—	—	**1662A21**	1.40
2	Mortise	Fixed	3/8"	1/2"	5/8"	—	—	**1662A11**	1.49
3	Mortise	Adjustable	3/8"	5/8"	1 1/16"	9/16"	11/16"	**1662A31**	1.71
3	Mortise	Adjustable	1/2"	1 1/16"	1 1/4"	11/16"	13/16"	**1662A32**	2.40

Recessed Pull Handles

Mount handles into a cutout so they are flush with your door. **Styles 4, 5, 6 & 10** come with mounting screws, except 1655A7 welds to your door. **Style 5** mounting holes are on the short sides of the handle. **Styles 7-9** do not include mounting screws. **Style 11** snap into a cutout.



	Cutout Ht.	Cutout Wd.	(A)	(B)	Back Proj.	Screw Size	Thread Depth		
With Unthreaded Through Holes									
Formed Steel—Tan Powder-Coated Finish									
4	3 5/8"	2"	6"	4"	7/8"	3/8", #12	—	**1218A1**	$23.76
Formed Steel—Brushed Zinc Finish									
5	2 7/16"	1 3/8"	3 1/4"	1 3/4"	9/16"	#4	—	**1655A1**	6.84
Formed Brass—Polished Finish									
5	2 7/16"	1 3/8"	3 1/4"	1 3/4"	9/16"	#4	—	**1655A2**	6.95
Stamped Type 304 Stainless Steel—Dull Finish									
6	3 3/4"	2 13/16"	5"	3 1/2"	7/8"	#8	—	**1634A44**	20.30
Stamped Type 316 Stainless Steel—Dull Finish									
6	3 3/4"	2 13/16"	5"	3 1/2"	7/8"	#8	—	**1572A11**	32.12
Cast Iron—Tan Powder-Coated Finish									
7	4 7/8"	4 1/8"	6 3/4"	5 1/8"	1 11/16"	5/16"	—	**1218A3**	58.57
Stamped Steel—Coated with Black Rubber (32° to 104°F)									
7	6 15/16"	4 15/16"	9 1/16"	6 11/16"	1 3/16"	#10	—	**1218A5**	34.00
Acetal—Black (–30° to 280°F)									
8	1 11/16" Dia.	—	2 3/16"	2 3/16"	5/8"	#6	—	**13155A24**	1.71
9	3 1/16"	1 11/16"	3 5/8"	2 3/8"	5/8"	#6	—	**13155A61**	2.11
With Threaded Studs									
Stamped Type 304 Stainless Steel—Dull Finish									
10	3 9/16"	1 5/8"	4 13/16"	2 7/16"	5/8"	M5	3/16"	**1655A8**	5.84
With Threaded Holes									
Stamped Type 304 Stainless Steel—Dull Finish									
10	3 9/16"	1 5/8"	4 13/16"	2 7/16"	5/8"	M4	6 mm	**1655A9**	5.36
Weld-On									
Stamped Type 304 Stainless Steel—Dull Finish									
10	3 9/16"	1 5/8"	4 13/16"	2 7/16"	5/8"	—	—	**1655A7**	4.80

	Cutout Ht.	Cutout Wd.	(A)	(B)	Back Proj.	For Panel Thickness		
Snap-In								
ABS Plastic—Dull Black Finish (–60° to 140°F)								
11	1 13/64"	3 7/16"	1 7/16"	3 11/16"	11/16"	0.040"-0.055"	**1098A91**	$3.20
11	1 13/64"	3 7/16"	1 7/16"	3 11/16"	11/16"	0.055"-0.070"	**1098A92**	3.20
11	1 13/64"	3 7/16"	1 7/16"	3 11/16"	11/16"	0.070"-0.085"	**1098A93**	3.20
11	1 13/64"	3 7/16"	1 7/16"	3 11/16"	11/16"	0.085"-0.100"	**1098A94**	3.20
11	1 13/64"	5 3/16"	1 7/16"	5 7/16"	11/16"	0.040"-0.055"	**1098A61**	3.58
11	1 13/64"	5 3/16"	1 7/16"	5 7/16"	11/16"	0.055"-0.070"	**1098A62**	3.58
11	1 13/64"	5 3/16"	1 7/16"	5 7/16"	11/16"	0.070"-0.085"	**1098A63**	3.58
11	1 13/64"	5 3/16"	1 7/16"	5 7/16"	11/16"	0.085"-0.100"	**1098A64**	3.58

Open-Ended Pull Handles and Knobs

Access handles and knobs from multiple angles. Mounting screws are included, except Style 15 mounts with adhesive (for adhesive, see 7528A13 on page 3466).

Style 13—Maximum temperature is 194°F.

Style 14—*Type 304 stainless steel knobs* meet NSF/ANSI standards. *ABS plastic knobs* are not rated for temperature.

Style 15—Not rated for temperature.



	(A)	(B)	(C)	Proj.	Screw Size		
Handles with Threaded Holes							
Extruded Aluminum—Black Anodized Finish							
12	2 1/4"	3/8"	1/2"	1 1/4"	8-32	**11625A11**	$5.89
12	2 1/4"	1/2"	1/2"	1 1/4"	10-24	**11625A12**	7.22
Handles with Unthreaded Through Holes							
Plastic—Black							
13	5 1/16"	1 3/16"	3/4"	1 7/8"	M5	**1187A2**	13.06
Knobs with Threaded Holes							
Stamped Type 304 Stainless Steel—Polished Finish							
14	1"	—	3/4"	7/8"	M4	**11705A12**	9.09
14	1 3/16"	—	13/16"	15/16"	M4	**11705A13**	10.78
14	1 1/2"	—	1"	1 1/16"	M5	**11705A14**	13.00
14	2"	—	1 7/16"	1 3/8"	M5	**11705A15**	14.78

	(A)	(B)	(C)	Proj.	Screw Size		
Knobs with Unthreaded Hole							
ABS Plastic—Polished Chrome Finish							
14	1 5/16"	—	3/4"	1"	#8	**11645A13**	$1.64
ABS Plastic—Polished Brass Finish							
14	1 5/16"	—	3/4"	1"	#8	**11645A12**	1.64
ABS Plastic—Black							
14	1 5/16"	—	3/4"	1"	#8	**11645A11**	1.12
Knobs with Adhesive Mount							
Clear Acrylic							
15	1"	—	1/2"	3/4"	—	**1660A24**	1.00

About Pull Handles



Round Grip—A circular gripping surface allows your hand to pivot in any direction.



Oval Grip—A rounded edge on the gripping surface conforms to your hand and offers more control than round grip.



Rectangular Grip—The flat gripping surface prevents your hand from slipping or repositioning, but may be less comfortable than round and oval.

Handle strength varies by fabrication process and material.

Fabrication Process		Material
Forged	**Strongest** ↑	Titanium, Stainless Steel
Cast		Steel
Extruded		Zinc
Formed		Aluminum, Brass
Stamped		Plastic, Rubber

Pull Handles with Threaded Holes

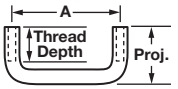

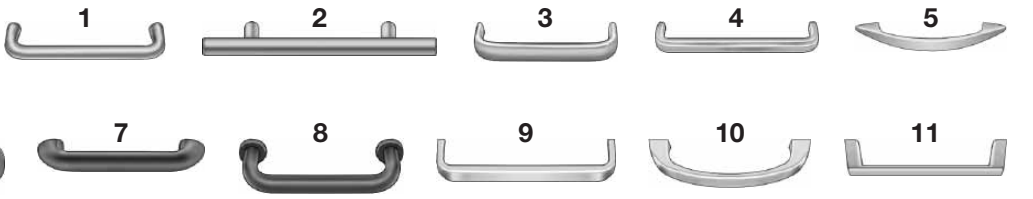

Mounting screws are completely hidden because these handles mount from behind your material. Furnished with mounting screws, unless noted. **Style 1**—*ABS plastic handles* are not rated for temperature. Mounting holes are not threaded, but accommodate #8×1⅛″ self-tapping screws (included). **Style 7**—Minimum temperature is not rated. Maximum temperature is 215°F. **Style 8**—Temperature range is –40° to 320°F.

Round Grip—Styles 1&2

	(A)	Proj.	Grip Size, Dia.	Thread Size	Thread Depth		
Extruded Aluminum—Dull Anodized Finish							
1	¾″	½″	⅛″	2-56	3⁄16″	1568A65	$3.98
1	⅞″	½″	⅛″	2-56	3⁄16″	1568A66	4.18
1	1″	1″	3⁄16″	4-40	¼″	1568A61	3.31
1	1¼″	1″	3⁄16″	4-40	¼″	1568A62	3.40
1	2″	1″	3⁄16″	4-40	¼″	1568A63	3.51
1	3″	15⁄16″	5⁄16″	8-32	½″	1568A11	3.86
1	3″	2″	½″	10-32	⅜″	1568A71	5.73
1	3½″	15⁄16″	5⁄16″	8-32	½″	1568A21	4.13
1	4″	15⁄16″	5⁄16″	8-32	½″	1568A12	3.91
1	4″	17⁄8″	½″	10-32	¾″	1568A14	7.66
1	49⁄16″	1½″	5⁄16″	8-32	5⁄16″	1568A69	4.20
1	5″	17⁄16″	5⁄16″	8-32	½″	1568A15	4.67
1	5″	3″	½″	10-32	¾″	1568A26	8.61
1	6″	25⁄8″	¾″	¼″-20	9⁄16″	1435A41	12.86
1	8″	3″	1″	¼″-20	9⁄16″	1435A43	18.86
1	10″	3″	1″	¼″-20	9⁄16″	1435A47	19.43
1	331⁄16″	21⁄4″	1″	3⁄8″-24	1″	1435A5	42.30
1	451⁄16″	21⁄4″	1″	3⁄8″-24	1″	1435A7	77.62
Extruded Aluminum—Black Anodized Finish							
1	¾″	½″	⅛″	2-56	3⁄16″	1568A67	3.98
1	⅞″	½″	⅛″	2-56	3⁄16″	1568A68	4.18
1	1″	1″	3⁄16″	4-40	¼″	1568A41	3.39
1	1¼″	1″	3⁄16″	4-40	¼″	1568A42	3.35
1	2″	1″	3⁄16″	4-40	¼″	1568A64	3.51
1	3″	15⁄16″	5⁄16″	8-32	½″	1568A43	4.12
1	3″	2″	½″	10-32	⅜″	1568A72	5.73
1	3½″	15⁄16″	5⁄16″	8-32	½″	1568A44	4.39
1	4″	15⁄16″	5⁄16″	8-32	½″	1568A45	6.62
1	49⁄16″	1½″	5⁄16″	8-32	5⁄16″	1568A7	4.20
1	5″	17⁄16″	5⁄16″	8-32	½″	1568A46	7.52
1	6″	17⁄16″	5⁄16″	8-32	½″	1568A47	8.59
Metric Extruded Aluminum—Dull Anodized Finish							
1	64 mm	33 mm	8 mm	M4	12 mm	1568A48	3.00
1	96 mm	33 mm	8 mm	M4	12 mm	1568A49	3.43
1	128 mm	33 mm	8 mm	M4	12 mm	1568A51	3.85
1	160 mm	33 mm	8 mm	M4	12 mm	1568A52	4.23
Extruded Brass—Dull Chrome Finish							
1	3″	15⁄16″	5⁄16″	8-32	½″	1568A31	2.68
1	4″	15⁄16″	5⁄16″	8-32	½″	1568A33	3.17
Extruded Type 303 Stainless Steel—Dull Finish							
1	2″	1″	3⁄16″	4-40	¼″	1726A43	5.79
1	3″	1″	3⁄16″	4-40	¼″	1726A44	6.36
1	4″	4″	¼″	6-32	⅜″	1726A1	10.40
1	5″	4″	¼″	6-32	⅜″	1726A2	10.71
1	6″	4″	¼″	6-32	⅜″	1726A3	10.72
1	7″	4″	¼″	6-32	⅜″	1726A4	11.60
Forged Type 303 Stainless Steel—Polished Finish							
1	3″	1½″	5⁄16″	8-32	5⁄16″	1726A71	4.78
1	3½″	1½″	5⁄16″	8-32	5⁄16″	1726A72	4.91

	(A)	Proj.	Grip Size, Dia.	Thread Size	Thread Depth		
Forged Type 303 Stainless Steel—Polished Finish (Cont.)							
1	4″	1½″	5⁄16″	8-32	5⁄16″	1726A73	$5.00
1	5″	1½″	5⁄16″	8-32	5⁄16″	1726A74	5.29
1	6″	1½″	5⁄16″	8-32	5⁄16″	1726A75	5.44
Extruded Type 304 Stainless Steel—Dull Finish							
1	3″	15⁄16″	5⁄16″	8-32	½″	1726A31	8.14
1	3½″	15⁄16″	5⁄16″	8-32	½″	1726A32	8.71
1	4″	15⁄16″	5⁄16″	8-32	½″	1726A33	9.37
1	5″	213⁄16″	5⁄16″	10-32	¾″	1858A62	10.05
1	6″	25⁄8″	¾″	¼″-20	5⁄8″	1435A25	24.20
1	8″	3½″	1″	¼″-20	¾″	1435A27	43.37
1	10″	3½″	1″	¼″-20	¾″	1435A29	48.96
Extruded Type 304 Stainless Steel—Polished Finish							
1	1″	½″	⅛″	3-56	¼″	1726A5	7.94
1	3″	1″	¼″	6-32	¼″	1726A6	7.98
1	4″	1½″	5⁄16″	10-32	¼″	1726A8	9.57
1	5″	1″	¼″	6-32	¼″	1726A7	8.46
1	5″	1½″	5⁄16″	10-32	¼″	1726A9	9.96
1	515⁄16″	1⅛″	⅜″	M4	8 mm	1726A46	13.31
Extruded Type 316 Stainless Steel—Dull Finish							
1	3″	15⁄16″	5⁄16″	8-32	5⁄16″	18645A21	8.49
1	3½″	15⁄16″	5⁄16″	8-32	5⁄16″	18645A22	8.63
1	4″	15⁄16″	5⁄16″	8-32	5⁄16″	18645A23	8.98
1	4″	13⁄8″	7⁄16″	8-32	5⁄16″	1726A91	8.11
1	5″	13⁄8″	7⁄16″	8-32	5⁄16″	1726A92	9.60
1	5″	19⁄16″	3⁄8″	M5	19 mm	1020A11	19.37
1	6″	13⁄8″	7⁄16″	8-32	5⁄16″	1726A93	10.40
1	813⁄16″	19⁄16″	3⁄8″	M5	19 mm	1020A12	24.90
1	9″	13⁄8″	7⁄16″	8-32	5⁄16″	1726A94	12.34
1	12″	13⁄8″	7⁄16″	8-32	5⁄16″	1726A95	14.29
1	129⁄16″	19⁄16″	3⁄8″	M5	19 mm	1020A13	31.70
Extruded Titanium—Polished Finish							
1	315⁄16″	13⁄16″	3⁄8″	M5	5⁄16″	1568A81	41.45
1	43⁄4″	15⁄8″	7⁄16″	M6	5⁄16″	1568A82	58.39
1	57⁄8″	2″	½″	M8	3⁄8″	1568A83	87.92
ABS Plastic—Polished Chrome Finish							
1	3″	11⁄4″	7⁄16″	#8	3⁄8″	11945A13	1.67
1	4″	13⁄8″	7⁄16″	#8	¼″	11945A23	1.80
ABS Plastic—Black							
1	3″	11⁄4″	7⁄16″	#8	3⁄8″	11945A11	.87
1	4″	13⁄8″	7⁄16″	#8	¼″	11945A21	.93
Extruded Steel—Nickel Finish							
2	3″	17⁄16″	½″	8-32	½″	1325A2	3.29
2	3½″	17⁄16″	½″	8-32	½″	1325A21	3.42
2	33⁄4″	17⁄16″	½″	8-32	½″	1325A22	3.42
2	51⁄16″	17⁄16″	½″	8-32	½″	1325A23	3.64
2	79⁄16″	17⁄16″	½″	8-32	½″	1325A24	4.58
2	101⁄16″	17⁄16″	½″	8-32	½″	1325A25	5.78

(Continued on following page)

Pull Handles with Threaded Holes *(Continued from previous page)*

Round Grip (Cont.)—Style 2

	(A)	Proj.	Grip Size, Dia.	Thread Size	Thread Depth		
Extruded Type 304 Stainless Steel—Polished Finish							
2	3″	1 7/16″	1/2″	8-32	1/2″	1325A1	$5.82
2	3 1/2″	1 7/16″	1/2″	8-32	1/2″	1325A11	6.07
2	3 3/4″	1 7/16″	1/2″	8-32	1/2″	1325A12	6.07
2	5 1/16″	1 7/16″	1/2″	8-32	1/2″	1325A13	$7.67
2	7 9/16″	1 7/16″	1/2″	8-32	1/2″	1325A14	8.69
2	10 1/16″	1 7/16″	1/2″	8-32	1/2″	1325A15	10.29

Oval Grip—Styles 3-8

	(A)	Proj.	Grip Size Ht.	Grip Size Wd.	Thread Size	Thread Depth		
Extruded Aluminum—Dull Finish								
3	2″	1 1/2″	7/16″	5/16″	10-32	5/16″	1897A92	$4.55
3	3″	1 5/16″	5/8″	5/16″	10-32	9/16″	1897A49	4.12
3	3 1/2″	1 1/2″	7/16″	5/16″	10-32	5/16″	1897A95	4.65
3	4″	1 5/16″	5/8″	5/16″	10-32	9/16″	1897A52	4.38
3	4″	1 1/2″	5/8″	5/16″	10-32	9/16″	1897A56	4.50
3	4 9/16″	1 1/2″	5/8″	5/16″	10-32	9/16″	1897A59	4.56
3	6″	1 1/2″	5/8″	5/16″	10-32	9/16″	1897A62	5.00
3	6″	1 3/4″	5/8″	5/16″	10-32	9/16″	1897A73	5.16
3	8″	1 3/4″	5/8″	5/16″	10-32	5/16″	1897A88	6.43
3	9″	1 3/4″	5/8″	5/16″	10-32	5/16″	1897A9	6.65
Extruded Aluminum—Black Anodized Finish								
3	2″	1 1/2″	7/16″	5/16″	10-32	5/16″	1897A91	8.11
3	3″	1 5/16″	5/8″	5/16″	10-24	9/16″	1897A21	6.00
3	3 1/2″	1 1/2″	7/16″	5/16″	10-32	5/16″	1897A94	8.25
3	4″	1 1/2″	5/8″	5/16″	10-32	9/16″	1897A24	7.08
3	4 9/16″	1 1/2″	5/8″	5/16″	10-24	9/16″	1897A35	7.15
3	6″	1 1/2″	5/8″	5/16″	10-32	9/16″	1897A36	8.55
3	6″	1 3/4″	5/8″	5/16″	10-24	9/16″	1897A37	8.63
3	8″	1 3/4″	5/8″	5/16″	10-32	5/16″	1897A89	10.86
3	9″	1 3/4″	5/8″	5/16″	10-24	9/16″	1897A41	11.04
Extruded Type 303 Stainless Steel—Dull Finish								
3	2″	1 1/2″	7/16″	5/16″	10-32	5/16″	11245A93	8.78
3	3″	1 5/16″	5/8″	5/16″	10-32	5/16″	11245A8	15.30
3	3″	1 5/16″	5/8″	5/16″	10-32	9/16″	11245A61	22.22
3	3 1/2″	1 1/2″	7/16″	5/16″	10-32	5/16″	11245A96	9.93
3	4″	1 5/16″	5/8″	5/16″	10-32	5/16″	11245A81	17.10
3	4″	1 1/2″	5/8″	5/16″	10-32	5/16″	11245A82	17.65
3	4 9/16″	1 1/2″	5/8″	5/16″	10-32	5/16″	11245A83	18.83
3	4 9/16″	1 1/2″	5/8″	5/16″	10-32	9/16″	11245A63	24.89
3	6″	1 1/2″	5/8″	5/16″	10-32	5/16″	11245A84	21.40
3	6″	1 3/4″	5/8″	5/16″	10-32	5/16″	11245A85	22.30
3	8″	1 3/4″	5/8″	5/16″	10-32	5/16″	11245A86	25.95
3	9″	1 3/4″	5/8″	5/16″	10-32	5/16″	11245A87	27.75
3	9″	1 3/4″	5/8″	5/16″	10-32	9/16″	11245A67	30.27
Extruded Type 303 Stainless Steel—Polished Finish								
3	3 15/16″	1 5/8″	9/16″	5/16″	M5	11 mm	11245A42	$28.11
3	4 15/16″	1 5/8″	9/16″	5/16″	M5	11 mm	11245A43	30.78
3	5 15/16″	2″	9/16″	5/16″	M5	11 mm	11245A44	37.89
Food Grade Extruded Type 303 Stainless Steel—Dull Finish								
4	4 7/16″	1 7/16″	11/16″	7/16″	M5	15 mm	1855A1	35.56
4	5 5/8″	1 1/2″	11/16″	7/16″	M5	15 mm	1855A2	38.06
4	6 13/16″	1 5/8″	11/16″	7/16″	M5	15 mm	1855A3	42.67
4	8 3/8″	1 11/16″	11/16″	7/16″	M5	15 mm	1855A4	44.43
4	11 1/2″	1 3/4″	11/16″	7/16″	M5	15 mm	1855A5	57.78
Extruded Type 316 Stainless Steel—Dull Finish								
4	3 1/2″	1 5/16″	9/16″	5/16″	8-32	3/8″	1855A71	12.34
4	4″	1 5/16″	9/16″	5/16″	8-32	3/8″	1855A73	12.80
4	5″	1 5/16″	9/16″	5/16″	8-32	3/8″	1855A75	13.71
4	6″	1 5/16″	9/16″	5/16″	8-32	3/8″	1855A77	14.74
Extruded Type 316 Stainless Steel—Polished Finish								
4	3 1/2″	1 5/16″	9/16″	5/16″	8-32	3/8″	1855A7	12.34
4	4″	1 5/16″	9/16″	5/16″	8-32	3/8″	1855A72	12.80
4	5″	1 5/16″	9/16″	5/16″	8-32	3/8″	1855A74	13.71
4	6″	1 5/16″	9/16″	5/16″	8-32	3/8″	1855A76	14.74
Cast Zinc—Chrome Finish								
5	3″	3/4″	7/16″	1/8″	8-32	5/16″	1786A11	3.83
Cast Zinc—Bright Brass Finish								
5	3″	3/4″	7/16″	1/8″	8-32	5/16″	1786A1	3.71
Cast Type 304 Stainless Steel—Dull Finish								
5	2 3/4″	13/16″	11/16″	1/8″	8-32	1/2″	1786A15■	13.07
Cast Aluminum—Dull Anodized Finish								
6	5 1/2″	2 1/4″	3/4″	3/4″	1/4″-20	5/8″	1402A19	14.72
6	7 1/2″	2 3/8″	3/4″	3/4″	1/4″-20	5/8″	1402A24	21.34
Nylon—Black								
7	4″	15/16″	5/8″	3/16″	10-24	3/8″	1815A52■	2.91
8	3 7/16″	1 9/16″	1/2″	3/8″	M5	7.5 mm	1967A1■	6.32
8	3 15/16″	1 9/16″	1/2″	3/8″	M5	7.5 mm	1967A2■	5.94
8	4 3/4″	1 9/16″	1/2″	3/8″	M5	7.5 mm	1967A3■	6.46

■ Mounting screws not included.

Rectangular Grip—Styles 9-11

	(A)	Proj.	Grip Size Ht.	Grip Size Wd.	Thread Size	Thread Depth		
Extruded Aluminum—Dull Finish								
9	2″	1 1/2″	1/2″	1/4″	8-32	7/16″	15145A31	$6.62
9	4″	1 1/2″	1/2″	1/4″	8-32	7/16″	15145A41	6.95
9	4 9/16″	1 1/2″	1/2″	1/4″	8-32	7/16″	15145A51	7.08
9	6″	1 1/2″	1/2″	1/4″	8-32	7/16″	15145A61	7.30
Extruded Aluminum—Black Anodized Finish								
9	2″	1 1/2″	1/2″	1/4″	8-32	7/16″	15145A33	7.97
9	4″	1 1/2″	1/2″	1/4″	8-32	7/16″	15145A43	8.38
9	4 9/16″	1 1/2″	1/2″	1/4″	8-32	7/16″	15145A53	8.55
9	6″	1 1/2″	1/2″	1/4″	8-32	7/16″	15145A63	8.80
Food Grade Extruded Type 303 Stainless Steel—Polished Finish								
9	2 9/16″	7/8″	7/16″	1/4″	M3	10 mm	1855A61	10.13
9	3 3/8″	15/16″	7/16″	1/4″	M3	10 mm	1855A62	11.18
Extruded Type 304 Stainless Steel—Polished Finish								
9	4″	15/16″	7/16″	1/4″	6-32	5/16″	1855A64	$9.00
Extruded Aluminum—Dull Finish								
10	3″	1 1/16″	7/16″	3/16″	10-24	3/8″	1651A2	3.86
10	4″	1 1/16″	5/8″	3/16″	10-24	3/8″	1651A1	4.26
Extruded Aluminum—Black Anodized Finish								
10	4″	1 1/16″	5/8″	3/16″	10-24	3/8″	1651A4	4.26
Cast Zinc—Dull Chrome Finish								
11	4″	7/8″	3/8″	3/16″	10-24	1/2″	1678A56	2.07

Pull Handles with Threaded Studs

Handles have a round grip.

	(A)	Proj.	Grip Size, Dia.	Thread Size	Thread Length		
Extruded Aluminum—Black Anodized Finish							
12	4 1/4″	1 3/16″	5/16″	5/16″-18	1 1/16″	11665A11	$11.97
12	6″	1 3/16″	5/16″	5/16″-18	1 1/16″	11665A12	13.25
13	4″	2 1/4″	5/16″	1/4″-20	1/2″	11665A6	12.60
Extruded Brass—Polished Nickel Finish							
12	4 1/4″	1 3/16″	5/16″	5/16″-18	1 1/16″	11665A21	12.03
12	6″	1 3/16″	5/16″	5/16″-18	1 1/16″	11665A22	13.27
Extruded Type 303 Stainless Steel—Dull Finish							
12	4 1/4″	1 3/16″	5/16″	5/16″-18	1 1/16″	11665A31	15.70
12	6″	1 3/16″	5/16″	5/16″-18	1 1/16″	11665A32	16.60
Extruded Type 303 Stainless Steel—Polished Finish							
12	4″	1 3/16″	3/8″	3/8″-24	5/8″	11665A4	16.34
12	5″	1 3/16″	5/16″	5/16″-18	1 1/16″	11665A3	17.04
13	5″	2 1/4″	5/16″	1/4″-20	1/2″	11665A7	17.50

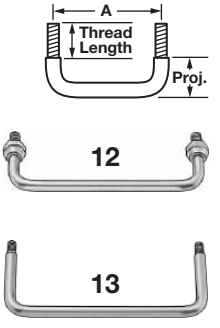

Pull Handles with Unthreaded Through Holes

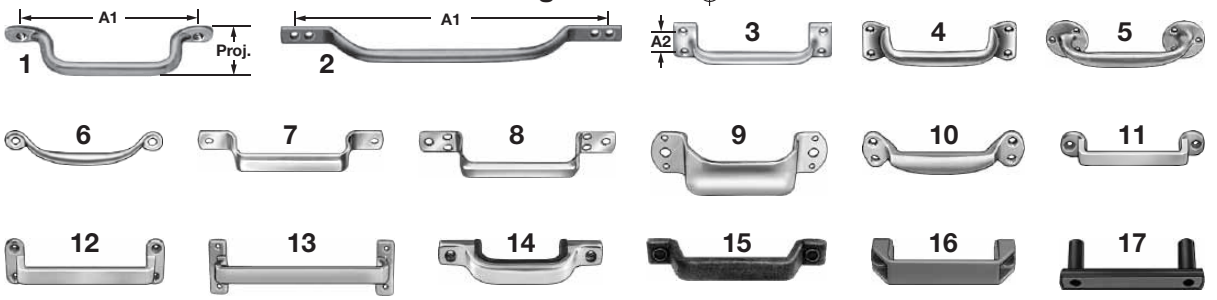

Handles surface mount from the front, so you don't have to drill a hole all the way through your material. Furnished with mounting screws, unless noted. **Style 15—**1973A1 and 1973A2 have caps to conceal screws.

Round Grip—Styles 1-3

	(A1)	(A2)	Proj.	Grip Size, Dia.	Screw Size		
Formed Steel—Dull Finish							
1	8"	—	2 5/8"	5/8"	5/16"	17135A41★	$7.35
1	10"	—	2 5/8"	5/8"	5/16"	17135A42★	7.45
1	12"	—	2 5/8"	5/8"	5/16"	17135A43★	8.47
1	14"	—	2 5/8"	5/8"	5/16"	17135A44★	11.41
Formed Type 304 Stainless Steel—Dull Finish							
1	8"	—	2 5/8"	5/8"	5/16"	5186A5★	24.45
1	10"	—	2 5/8"	5/8"	5/16"	5186A6★	31.25
1	12"	—	2 5/8"	5/8"	5/16"	5186A7★	33.01
1	14"	—	2 5/8"	5/8"	5/16"	5186A8★	35.25
Formed Type 304 Stainless Steel—Polished Finish							
1	22 3/4"	—	2 5/8"	5/8"	5/16"	5186A1★■	23.99
1	28 3/4"	—	2 5/8"	5/8"	5/16"	5186A2★■	29.04
1	40 3/4"	—	2 5/8"	5/8"	5/16"	5186A3★■	39.94
Formed Aluminum—Dull Finish							
2	12 1/8"	—	2 1/16"	1/2"	1/4"	1871A65★	$4.81
Formed Steel—Chrome Plated							
2	12 1/8"	—	2 1/16"	1/2"	1/4"	1871A64★	5.30
2	22 3/4"	—	2 5/8"	5/8"	5/16"	1871A82★	16.40
2	28 3/4"	—	2 5/8"	5/8"	5/16"	1871A83★	19.68
2	40 3/4"	—	2 5/8"	5/8"	5/16"	1871A84★	26.45
Formed Type 304 Stainless Steel—Polished Finish							
2	12 1/8"	—	2 1/16"	1/2"	1/4"	1871A67★	16.31
Cast Brass—Polished Finish							
3	3 15/16"	5/8"	1 1/8"	3/8"	#7	16545A2	11.76
Cast Zinc—Polished Chrome Finish							
3	3 3/8"	3/4"	1 1/16"	5/16"	#6	16545A1	3.92
3	4 1/2"	13/16"	1 1/4"	7/16"	#8	16545A23★	13.27

★ Mounting screws not included. ■ Has four inline mounting holes.

Oval Grip—Styles 4-6

	(A1)	(A2)	Proj.	Grip Size Ht.	Grip Size Wd.	Screw Size		
Stamped Tubular Steel—Zinc Plated								
4	4 1/8"	11/16"	1 5/16"	9/16"	3/8"	#8	1646A13	$2.07
4	4 3/4"	7/8"	1 7/16"	3/4"	7/16"	#8	1646A18	2.20
4	5 1/2"	15/16"	1 9/16"	7/8"	7/16"	#10	1646A24	2.23
4	6 9/16"	1 5/16"	2 1/16"	1"	5/8"	#12	1646A36	4.47
Stamped Tubular Steel—Dull Brass Finish								
4	4 7/8"	7/8"	1 3/8"	11/16"	7/16"	#8	1646A14	3.65
Stamped Tubular Steel—Black Finish								
4	4 1/8"	11/16"	1 5/16"	9/16"	3/8"	#8	1646A11	2.27
4	4 3/4"	7/8"	1 7/16"	3/4"	7/16"	#8	1646A16	2.37
4	5 1/2"	15/16"	1 9/16"	7/8"	7/16"	#10	1646A22	2.47
4	6 9/16"	1 5/16"	2 1/16"	1"	5/8"	#12	1646A27	4.40
Stamped Type 304 Stainless Steel—Polished Finish								
4	4 3/16"	11/16"	1 5/16"	9/16"	3/8"	#8	5189A3★	7.20
4	4 3/4"	15/16"	1 7/16"	3/4"	7/16"	#8	5189A4★	11.24
4	5 1/2"	15/16"	1 9/16"	7/8"	7/16"	#10	5189A5★	14.90
4	6 9/16"	1 5/16"	2"	1"	5/8"	#12	5189A6★	19.47
Cast Aluminum—Dull Finish								
4	4 15/16"	1 1/8"	1 1/2"	11/16"	3/8"	#8	1646A34	5.43
Cast Brass—Polished Finish								
4	4 15/16"	1 1/8"	1 1/2"	11/16"	3/8"	#8	1646A35	$18.44
Cast Iron—Tan Powder-Coated Finish								
4	5 3/8"	7/8"	1 1/2"	1"	3/8"	#12	1232A1	20.70
4	6 13/16"	1 3/8"	2 1/16"	1"	9/16"	#14	1232A2	21.60
Cast Aluminum—Dull Anodized Finish								
5	6 7/8"	1"	2 1/4"	3/4"	3/4"	#8	1402A11	14.72
5	8 7/8"	1 13/16"	2 3/8"	3/4"	3/4"	#8	1402A4	21.34
Cast 300 Series Stainless Steel—Dull Finish								
5	6 7/8"	1"	2 1/4"	3/4"	3/4"	#8	1402A16	38.27
Stamped Tubular Steel—Zinc Plated								
6	4 1/16"	—	1 1/8"	5/8"	5/16"	#6	1645A2	1.52
Stamped Tubular Steel—Black								
6	4 1/16"	—	1 1/8"	5/8"	5/16"	#6	1645A1	1.77
Stamped Tubular Steel—Yellow Zinc-Plated								
6	4 1/16"	—	1 1/8"	5/8"	5/16"	#6	1645A3	1.70
Formed Steel—Dull Finish								
6	4 11/16"	—	1 1/2"	1/2"	1/4"	#12	14895A41★	2.00
Formed Steel—Zinc Plated								
6	4 11/16"	—	1 1/2"	1/2"	1/4"	#12	14895A42★	2.05

★ Mounting screws not included.

Rectangular Grip—Styles 7-17

	(A1)	(A2)	Proj.	Grip Size Ht.	Grip Size Wd.	Screw Size		
Stamped Steel—Zinc Plated								
7	5 3/4"	—	1 1/4"	7/8"	1/4"	#10	1696A11	$2.61
7	11 1/8"	—	1 1/2"	1"	1/8"	5/16"	1696A15★	3.54
Stamped Type 304 Stainless Steel—Dull Finish								
7	5 3/4"	—	1 1/4"	7/8"	1/4"	#10	5185A1★	6.00
7	11 1/8"	—	1 1/2"	1"	1/8"	5/16"	5185A5★	16.33
Stamped Steel—Zinc Plated								
8	7 1/8"	5/8"	1 5/8"	1 1/8"	5/16"	#10	1696A12	4.72
Stamped Type 304 Stainless Steel—Polished Finish								
8	7 1/8"	5/8"	1 5/8"	1 1/8"	5/16"	#10	5185A4★	13.97
Stamped Steel—Zinc Plated								
9	6 1/2"	1 3/8"	2 1/2"	1 1/2"	5/8"	#12	1696A1	9.36
Cast Zinc—Bright Chrome Finish								
10	7"	1"	1 3/4"	1"	5/8"	1/4"	80275A33★	13.16
Cast Type 304 Stainless Steel—Polished Finish								
11	2 1/4"	—	5/8"	5/16"	3/16"	M3.1	11255A11	14.33
11	2 7/8"	—	13/16"	5/16"	3/16"	M3.1	11255A12	16.38
11	3 1/2"	—	1"	7/16"	1/4"	M3.8	11255A13	25.44
12	4 3/16"	15/16"	1 1/16"	1/2"	1/4"	M3.8	11255A14	30.78
12	5 3/16"	1 3/16"	1 5/16"	5/8"	1/4"	M5.1	11255A15	47.49
Cast Type 316 Stainless Steel—Polished Finish								
13	6 7/8"	1 3/4"	2"	7/8"	7/16"	M6	13725A23	$57.60
Stamped Type 304 Stainless Steel with Rubber Grip—Polished Finish (32° to 104° F)								
14	2 1/8"	—	1 1/8"	11/16"	5/16"	M3.1	1298A31	11.67
14	4"	—	1 1/4"	3/4"	7/16"	M3.5	1298A32	17.25
14	5 1/2"	—	1 1/2"	7/8"	9/16"	M4.1	1298A33	22.55
Stamped Steel Covered with Black Rubber (32° to 104° F)								
15	6 5/16"	—	2 1/16"	1"	13/16"	M7	1973A1★	15.64
15	9 7/8"	—	2 1/4"	1"	13/16"	M7	1973A2★	19.64
Rubber—Black (Temperature Not Rated)								
15	6 7/16"	—	1 7/8"	1"	11/16"	1/4"	13665A27★	6.21
15	9 7/8"	—	2 5/16"	1"	13/16"	1/4"	13665A29★	7.70
Plastic—(–20° to 300° F) To Order. Please specify black or orange.								
16	3 11/16"	—	1 1/2"	7/8"	1/4"	M6	1078A1★	3.80
16	4 5/8"	—	1 5/8"	1 1/16"	5/16"	M8	1078A2★	4.17
16	5 3/16"	—	1 3/4"	1 1/16"	5/16"	M8	1078A3★	6.03
16	7 1/16"	—	1 15/16"	1 1/8"	5/16"	M8	1078A4★	7.42
16	9 1/4"	—	2 1/8"	1 3/16"	3/8"	M10	1078A5★	15.18
Phenolic—Black (–30° to 400° F)								
17	4 1/4"	—	1 3/4"	1"	3/8"	1/4"	10995A19★	4.00

Load-Rated Pull Handles

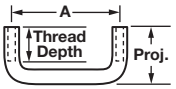




Force Pulling Straight Out from the Handle

Meet the demands of your heavy duty applications. Note: Load cap. stated is for force pulling straight out from the handle.
Round Grip— Mounting screws not included.
Oval Grip— Mounting screws not included. *Nylon* and *plastic handles* have a temperature range of –20° to 230° F.
Rectangular Grip— Temperature range is –40° to 140° F. Styles 6 and 7 come with mounting screws. Styles 8-10 do not include mounting screws. Styles 9 and 10 have a snap-on cover to conceal screws.

Round Grip with Threaded Holes

	(A)	Proj.	Grip Size, Dia.	Load Cap., lbs.	Screw Size	Thread Depth		
Formed Type 303 Stainless Steel—Dull Finish								
1	3 7/16"	1 11/16"	7/16"	899	M5	7/16"	**7088A7**	$12.85
1	3 15/16"	1 11/16"	7/16"	854	M5	7/16"	**7088A71**	13.29
1	4 3/4"	1 11/16"	7/16"	674	M5	7/16"	**7088A72**	13.98
1	7 1/8"	1 11/16"	7/16"	505	M5	7/16"	**7088A73**	16.26
1	7 7/8"	1 11/16"	7/16"	337	M5	7/16"	**7088A74**	17.41
1	9 1/4"	1 11/16"	7/16"	314	M5	7/16"	**7088A75**	19.19

Oval Grip with Threaded Holes

	(A)	Proj.	Grip Size, Ht.	Load Cap., lbs.	Screw Size	Thread Depth		
Extruded Aluminum—Dull Anodized Finish								
2	4 7/16"	2 3/16"	1 1/16"	1,345	5/16"-18	7/16"	**5190A34**	$14.71
2	4 7/16"	2 3/16"	1 1/16"	1,345	M8	7/16"	**5190A37**	14.71
2	6 5/16"	2 1/4"	1 1/16"	1,124	5/16"-18	7/16"	**5190A35**	17.43
2	7 9/16"	2 1/4"	1 1/16"	904	5/16"-18	7/16"	**5190A36**	21.28
2	11 13/16"	2 1/4"	1 1/16"	341	M8	7/16"	**5190A38**	26.84
2	15 3/4"	2 1/4"	1 1/16"	176	M8	7/16"	**5190A39**	32.47
2	19 11/16"	2 1/4"	1 1/16"	337	M8	7/16"	**5190A4**	46.37
Extruded Aluminum—Black Powder-Coated Finish								
2	3 15/16"	1 7/8"	13/16"	472	M6	3/8"	**5190A8**	12.54
2	4 3/8"	1 15/16"	13/16"	494	1/4"-20	3/8"	**5190A16**	13.66
2	4 3/8"	2 3/16"	1 1/16"	1,573	M8	7/16"	**5190A9**	15.46
2	5 1/16"	2 3/16"	1 1/16"	1,011	5/16"-18	7/16"	**5190A17**	17.12
2	6 5/16"	2 1/4"	1 1/16"	786	5/16"-18	7/16"	**5190A18**	18.31
2	7 9/16"	2 1/4"	1 1/16"	674	5/16"-18	7/16"	**5190A19**	22.35
2	11 13/16"	2 1/4"	1 1/16"	505	M8	7/16"	**5190A14**	28.18
2	15 3/4"	2 1/4"	1 1/16"	393	M8	7/16"	**5190A15**	34.08
2	19 11/16"	2 1/4"	1 1/16"	337	M8	7/16"	**5190A41**	46.37
Formed Type 304 Stainless Steel—Dull Finish								
2	4 7/16"	1 15/16"	13/16"	1,798	M6	3/8"	**5191A1**	37.45
2	5 1/16"	2 1/16"	13/16"	1,573	M6	3/8"	**5191A2**	39.98
Nylon with Brass Inserts—Black								
3	4 1/8"	1 1/2"	15/16"	484	1/4"-20	5/16"	**1661A1**	5.14
3	4 5/16"	1 5/8"	15/16"	506	1/4"-20	5/16"	**1661A4**	5.58
3	4 5/8"	1 5/8"	15/16"	506	5/16"-18	5/16"	**1661A2**	5.83
Plastic with Type 303 SS Inserts—White								
4	4 5/8"	2 1/8"	1 3/16"	1,121	M8	1/2"	**4529A1**	19.51
4	7 1/16"	2 7/16"	1 3/16"	538	M8	1/2"	**4529A2**	26.60

Oval Grip with Unthreaded Through Holes

	(A)	Proj.	Grip Size, Ht.	Load Cap., lbs.	Screw Size		
Extruded Aluminum—Dull Anodized Finish							
5	4 9/16"	2 3/16"	1 1/16"	1,345	1/4"	**5190A3**	$16.50
5	5 3/16"	2 3/16"	1 1/16"	1,012	1/4"	**5190A31**	16.93
5	6 7/16"	2 1/4"	1 1/16"	783	1/4"	**5190A32**	18.35
5	7 3/4"	2 1/4"	1 1/16"	618	1/4"	**5190A33**	19.73
Extruded Aluminum—Black Powder-Coated Finish							
5	4 9/16"	2 3/16"	1 1/16"	1,124	1/4"	**5190A21**	17.32
5	5 3/16"	2 3/16"	1 1/16"	899	1/4"	**5190A22**	17.79
5	6 7/16"	2 1/4"	1 1/16"	809	1/4"	**5190A23**	19.26
5	7 3/4"	2 1/4"	1 1/16"	674	1/4"	**5190A24**	20.73

Rectangular Grip with Threaded Holes

	(A)	Proj.	Grip Size Ht.	Grip Size Wd.	Load Cap., lbs.	Screw Size	Thread Depth		
ABS Plastic—Black									
6	4 3/8"	1 5/8"	1 1/16"	3/8"	125	M6	16 mm	**1661A39**	$6.84

Rectangular Grip with Unthreaded Holes

	(A)	Proj.	Grip Size Ht.	Grip Size Wd.	Load Cap., lbs.	Screw Size		
ABS Plastic—Black								
7	6 3/4"	2"	1 3/16"	5/8"	175	M7.5	**12375A61**	$9.07

Rectangular Grip with Unthreaded Through Holes

	(A)	Proj.	Grip Size Ht.	Grip Size Wd.	Load Cap., lbs.	Screw Size		
Nylon—Black								
8	3 15/16"	1 5/16"	11/16"	3/8"	100	M5	**5193A1**	$12.62
8	4 3/4"	1 9/16"	13/16"	7/16"	100	M6	**5193A2**	15.42
8	5 1/2"	1 13/16"	1"	1/2"	100	M8	**5193A3**	19.89
8	6 5/16"	2 1/16"	1 1/8"	9/16"	100	M8	**5193A4**	28.02
8	7 1/16"	2 5/16"	1 1/4"	5/8"	100	M10	**5193A5**	40.20
ABS Plastic—Black								
9	4 3/8"	1 5/8"	1 1/16"	3/8"	125	#10	**12375A71**	6.47
10	6 3/4"	2"	1 3/16"	5/8"	175	#10	**12375A63**	8.30

Weld-On Pull Handles



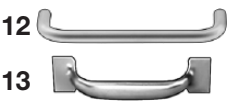

	O'all Lg.	Proj.	Grip Size, Dia.	*Mounting Surface* Ht.	Wd.		
Round Grip							
Formed Steel—Dull Finish							
11	13"	2 1/16"	1/2"	11/16"	1 3/4"	**1871A69**	$3.37
Formed Type 304 Stainless Steel—Dull Finish							
11	13"	2 1/16"	1/2"	11/16"	1 3/4"	**1871A4**	14.45
Formed 300 Series Stainless Steel—Dull Finish							
12	5 7/16"	2 1/16"	1/2"	1/2" Dia.	____	**7088A1**	14.82
12	6 13/16"	2 1/16"	1/2"	1/2" Dia.	____	**7088A2**	16.18
12	8 3/8"	2 1/16"	1/2"	1/2" Dia.	____	**7088A3**	17.56
Oval Grip							
Stamped Steel—Dull Finish							
13	5 3/4"	1 1/4"	5/8" × 7/16"	1 1/2"	7/8"	**1650A1**	2.10
13	6 5/16"	1 1/2"	13/16" × 1/2"	1 5/8"	15/16"	**1650A2**	2.36
Stamped Type 304 Stainless Steel—Dull Finish							
13	5 3/4"	1 1/4"	5/8" × 7/16"	1 9/16"	7/8"	**5187A1**	7.70
13	6 5/16"	1 1/2"	13/16" × 1/2"	1 5/8"	15/16"	**5187A2**	8.97

Coated Pull Handles

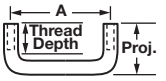



A step above ordinary, these handles have a coating which inhibits the growth of microbes and protects the handle from degradation. Handles have a round grip with threaded holes. For indoor use.
Cast aluminum handles do not include mounting screws.
Formed Type 303 stainless steel handles come with mounting screws.

(A)	Proj.	Grip Size, Dia.	Screw Size	Thread Depth		
Cast Aluminum—White Finish						
3 1/2"	1 1/2"	5/16"	10-32	3/8"	**6195A61**	$19.10
5"	1 1/2"	5/16"	10-32	3/8"	**6195A62**	19.10
Formed Type 303 Stainless Steel—Dull Finish						
4"	1 1/4"	5/16"	8-32	5/8"	**6195A51**	9.33
6"	2 5/8"	3/4"	1/4"-20	5/8"	**6195A52**	26.96
8"	3 1/2"	1"	1/4"-20	5/8"	**6195A53**	47.40
10"	3 1/2"	1"	1/4"-20	5/8"	**6195A54**	51.88

Folding Pull Handles



When you release the handle, it drops out of your way. Mounting screws not included.

Style 4 handle has a cap to conceal screws.

	(A)	Proj.	Grip Size, Dia.	Screw Size	Thread Length		
90° Folding with Threaded Studs—Round Grip							
Formed Aluminum—Black Anodized Finish							
1	4″	1 7/8″	5/16″	5/16″-24	3/8″	**1948A4**	$14.90
1	5″	1 7/8″	5/16″	5/16″-24	3/8″	**1948A5**	15.16
1	6″	1 7/8″	5/16″	5/16″-24	3/8″	**1948A6**	15.44
180° Folding with Unthreaded Through Holes—Round Grip							
Formed Tubular Steel—Zinc Plated							
2	5 3/4″	2″	9/16″	#8	—	**11905A12**	2.00
Stamped Tubular Steel Coated w/ Black Plastic (Temp. Not Rated)							
2	5 3/4″	1 15/16″	9/16″	#8	—	**11905A14**	3.58
180° Folding with Unthreaded Through Holes—Rectangular Grip							
Stamped Steel Covered with Black Vinyl (40° to 80° F)							
3	5 3/4″	2 7/8″	13/16″ × 1 3/16″	#6	—	**12535A25**	9.63
Black Polyethylene—Textured Finish (40° to 80° F)							
4	2 7/16″	2 13/16″	5/8″ × 15/16″	#6	—	**12535A29**	5.95
5	4 1/8″	2 3/8″	5/8″ × 15/16″	#6	—	**11905A21**	3.56
6	5 3/4″	2 13/16″	9/16″ × 15/16″	#6	—	**12535A17**	3.56

Cut-to-Length Pull Handles

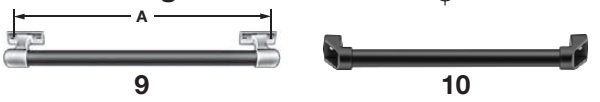

Remove the ends of the handles and cut the grip to the length you need before mounting. Handles have a round grip and unthreaded through holes. Mounting screws not included.

Style 9 is not rated for temperature.

	Max. (A)	Proj.	Grip Size, Dia.	Screw Size		
Extruded Aluminum—Polished Finish with Black Rubber Grip						
9	24 5/8″	3 7/8″	1 1/4″	1/4″	**18715A61**	$63.62
Formed Steel—Coated with Black Plastic (–22° to 400° F)						
10	27 9/16″	3 3/16″	1 3/16″	M8	**1550A5**	36.38

Choose-a-Color Pull Handles

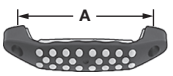

Use color to identify contents of drawers and cabinets. Handle is black nylon with colored dots that offer a secure gripping surface. Grip is rectangular with unthreaded through holes. Requires 1/4″ mounting screws (not included). Temperature range is –40° to 150° F.

To Order: Please specify dot color.

		Grip Size Ht.	Wd.			
(A)	Proj.			Available Dot Colors		
4 3/4″	1 11/16″	1 3/16″	11/16″	Gray, Orange, Red, Yellow	**1950A5**	$10.13

Edge Pulls



Pulls have threaded holes and come with mounting screws.

Style 11—Made of 5/16″ thick extruded aluminum.

Style 12—Made of 1/4″ thick extruded aluminum.

	O'all Lg.	(A)	(B)	Proj.	Screw Size	Thread Depth		
11	5″	4″	1 1/8″	1 3/16″	8-32	3/8″	**1471A11**	$10.88
12	4″	3″	7/16″	1″	8-32	3/8″	**1471A14**	5.88
12	5″	4″	7/16″	1″	8-32	3/8″	**1471A15**	6.25
12	6″	5″	7/16″	1″	8-32	3/8″	**1471A16**	6.68

Stay-Put Folding Pull Handles

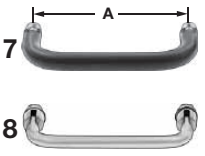

Detents keep the handles in the extended or folded position—they won't move until you reposition them. Ideal for use on instrumentation cases or anywhere rattling is undesirable. Grip is round. **Style 7** handles come with mounting screws.

90° folding handles have two positions. **180° folding handles** have three positions.

	(A)	Proj.	Grip Size, Dia.	Screw Size	Thread Depth/Length		
90° Folding with Threaded Holes							
Extruded Aluminum—Black Powder-Coated Finish							
7	4″	2″	3/8″	8-32	1/4″	**1327A1**	$31.89
7	5″	2″	3/8″	8-32	1/4″	**1327A2**	32.44
7	6″	2″	3/8″	8-32	1/4″	**1327A3**	33.00
90° Folding with Threaded Studs							
Extruded Aluminum—Dull Anodized Finish							
8	3″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A12**	13.98
8	4″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A13**	14.18
8	5″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A14**	14.33
8	6″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A15**	14.56
Forged Type 303 Stainless Steel—Dull Finish							
8	3″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A16**	22.44
8	4″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A17**	22.84
8	5″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A18**	23.33
8	6″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A19**	23.89
180° Folding with Threaded Studs							
Extruded Aluminum—Dull Anodized Finish							
8	3″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A4**	13.98
8	4″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A5**	14.18
8	5″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A6**	14.33
8	6″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A7**	14.56
Forged Type 303 Stainless Steel—Dull Finish							
8	3″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A8**	22.44
8	4″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A9**	22.84
8	5″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A21**	23.33
8	6″	1 9/16″	5/16″	3/8″-24	5/8″	**1327A11**	23.89

Offset Pull Handles

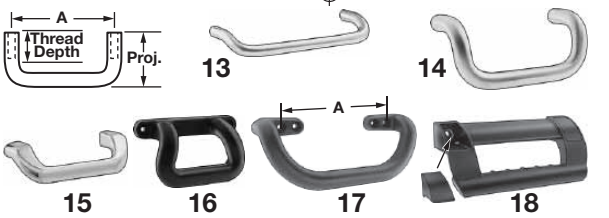

Because the grip is positioned away from the mounting surface, you have room to fully grasp the handle. **Styles 13 & 14** come with mounting screws. **Styles 15-18** do not include mounting screws.

Style 14—Help you comply with ADA when properly installed.

Style 15—Handle meets NSF/ANSI standards.

Styles 16-18—All have snap-on covers to conceal screws.

	(A)	Proj.	Grip Size, Dia.	Screw Size	Thread Depth		
Round Grip with Threaded Holes							
30° Offset, Formed Aluminum—Dull Finish							
13	3″	1 1/2″	5/16″	8-32	5/16″	**5245A5**	$4.93
13	4″	1 1/2″	5/16″	8-32	5/16″	**5245A6**	5.02
13	6″	1 1/2″	5/16″	8-32	5/16″	**5245A8**	5.38
30° Offset, Extruded Type 303 Stainless Steel—Bright Finish							
13	3″	1″	1/4″	6-32	3/8″	**5248A9**	8.40
13	4″	1 1/2″	5/16″	10-32	9/16″	**5248A11**	9.65
13	6″	1 1/2″	5/16″	10-32	9/16″	**5248A13**	10.40
90° Offset, Formed Aluminum—Dull Finish							
14	8″	3 1/2″	1″	1/4″-20	5/8″	**5245A9**	27.54
14	10″	3 1/2″	1″	1/4″-20	5/8″	**5245A12**	28.56
90° Offset, Formed Type 303 Stainless Steel—Dull Finish							
14	8″	3 1/2″	1″	1/4″-20	5/8″	**5248A1**	48.45
14	10″	3 1/2″	1″	1/4″-20	5/8″	**5248A3**	52.75
Oval Grip with Threaded Holes							
45° Offset, Cast Zinc—Polished Chrome Finish							
15	5″	1 5/8″	5/8″ Ht. × 1/4″ Wd.		1/4″-20	7/8″	**1656A1**	14.05
Round Grip with Unthreaded Through Holes							
90° Offset, Stamped Steel Covered with Black Polyurethane (32° to 104° F)							
16	5 15/16″	2 5/8″	1 1/8″	#12	—	**1979A3**	38.84
17	8 3/8″	2 15/16″	1 1/16″	#12	—	**1979A4**	39.67
Oval Grip with Unthreaded Through Holes							
90° Offset, Black Glass-Reinforced Nylon (–20° to 230° F)							
18	7 7/8″	3 15/16″	1 5/16″	M8	—	**1979A5**	32.22

Surface-Mount Folding Pull Handles

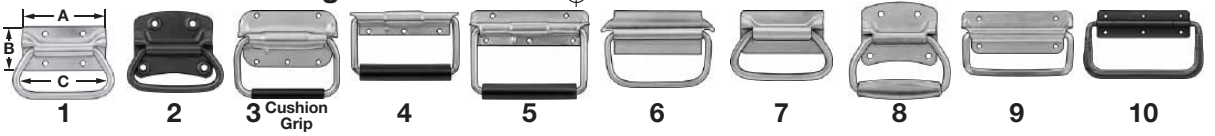

Also known as case handles, these pull handles fold to stay out of your way when not in use. Great for use on trash cans, chests, boxes, and cabinets. Mounting plates have unthreaded through holes (except mounting plates on weld-on handles). Plates are 1/16" thick. Mounting screws not included.

Handles have a 90° stop, except Styles 6 and 10. Style 6 has a 120° stop. Style 10 does not have a stop; the handle automatically drops when you release it.

Spring-loaded handles snap flat to stay out of the way when not in use. **Cushion-grip handles** have a rubber grip (except Style 10 has a vinyl grip) for comfort. Temperature range is –40° to 150° F for rubber; vinyl grip is not rated.

	(A)	(B)	(C)	Grip Size, Dia.	Screw Size		
Round Grip							
Steel—Zinc Plated							
1	3 3/8"	1 3/4"	3 1/2"	5/16"	#10	**1647A42**	$2.63
Steel—Black Finish							
1	3 3/8"	1 3/4"	3 1/2"	5/16"	#8, #10	**1647A41**	2.49
2	3 3/8"	2 7/8"	3 1/2"	5/16"	#10	**1647A14**	4.03
Type 304 Stainless Steel—Dull Finish							
3	4 3/4"	2 3/4"	4 1/2"	5/16"	#10	**1856A63**	15.39
Round Cushion Grip							
300 Series Stainless Steel—Dull Finish							
3	4 3/4"	2 3/4"	4 1/2"	9/16"	#10	**1856A65**	18.89
Spring-Loaded Round Grip							
300 Series Stainless Steel—Dull Finish							
3	4 3/4"	2 3/4"	4 1/2"	5/16"	#10	**1856A71**	19.40
Spring-Loaded Round Cushion Grip							
Steel—Zinc Plated							
3	4 3/4"	2 3/4"	4 1/2"	9/16"	#10	**1764A25**	16.34
4	5 1/8"	1 3/16"	4 1/2"	3/4"	#10	**1764A31**	7.20
5	5 5/8"	1 5/8"	4 7/8"	3/4"	#8	**1764A33**	12.60
Steel—Black Finish							
4	4 3/16"	1 1/16"	4 1/2"	9/16"	#10	**1764A35**	8.48

	(A)	(B)	(C)	Grip Size, Dia.	Screw Size		
Spring-Loaded Round Cushion Grip (Cont.)							
300 Series Stainless Steel—Dull Finish							
3	4 3/4"	2 3/4"	4 1/2"	9/16"	#10	**1856A73**	$16.15
300 Series Stainless Steel—Bright Finish							
4	4 3/16"	1 1/16"	4 1/2"	9/16"	#10	**1764A34**	12.17
Weld-On Round Grip							
Type 304 Stainless Steel—Dull Finish							
6	3 1/2"	1 3/8"	2 15/16"	1/4"	—	**1856A57**	5.77
7	3 3/8"	1 3/4"	3 1/2"	5/16"	—	**1856A61**	9.63
Oval Grip							
Steel—Nickel Plated							
8	3 3/8"	2 7/8"	3 7/8"	1" × 5/8"	#10	**15265A81**	8.09
Weld-On Oval Grip							
Steel—Dull Finish							
8	3 3/8"	2 7/8"	3 7/8"	1" × 5/8"	—	**15265A83**	6.69
Rectangular Grip							
Steel—Nickel Plated							
9	4 1/2"	1 3/4"	3 7/8"	1/4" × 1/4"	#8	**15675A51**	5.17
Rectangular Cushion Grip							
Aluminum—Black Finish							
10	4 1/8"	1 1/4"	4 5/8"	1 11/16" × 5/16"	#6	**11895A11**	14.45

Recessed Folding Pull Handles

Fold handles into the mounting plate—they're recessed to stay flush with the mounting surface. Handles have a 90° stop, except Styles 11 and 12 have a 110° stop. All require a cutout in your mounting surface.

Styles 11-16—Mounting plates have unthreaded through holes. *Style 11* comes with screws. *Styles 12-16* do not include screws.

Style 17—Mounting plate has 3/8" deep threaded holes. Mounting screws are included.

Spring-loaded handles snap flat to stay out of the way when not in use. **Cushion-grip handles** have a rubber grip for comfort. *Style 15* handles have a temperature range of –40° to 240° F. *Style 17* handle has a temperature range of –10° to 200° F.

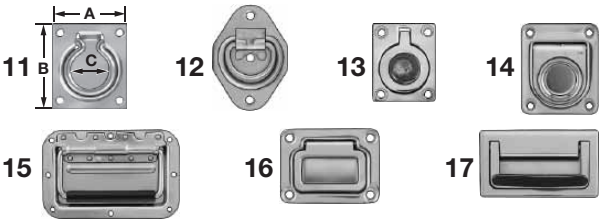

	(A)	(B)	(C)	Grip Size Ht.	Grip Size Wd.	Screw Size		
Ring Handle—Round Grip								
Steel—Zinc Plated								
11	3"	3 1/2"	1 1/2"	5/16" Dia.	—	#7	**1313A21**	$6.04
12	3 1/2"	5"	1 7/8"	1/4" Dia.	—	1/4"	**1759A28**	2.62
Ring Handle—Oval Grip								
Cast Type 316 Stainless Steel—Polished Finish								
13	1 9/16"	1 7/8"	3/4"	1/8"	1/8"	#8	**12315A31**	12.20
Spring-Loaded Ring Handle—Oval Grip								
Stamped Type 304 Stainless Steel—Polished Finish								
14	1 1/2"	1 3/4"	1 1/16"	1/8"	3/16"	#6	**12315A41**	6.97
14	2 3/16"	2 9/16"	1 1/16"	1/4"	1/4"	#8	**12315A51**	7.72

	(A)	(B)	(C)	Grip Size Ht.	Grip Size Wd.	Screw Size		
Spring-Loaded Rectangular Handle—Round Cushion Grip								
Steel—Zinc Plated								
15	6 1/8"	4"	4 5/16"	9/16" Dia.	—	#10	**13195A51**	$6.58
15	7"	5"	4 3/4"	3/4" Dia.	—	#10	**13195A65**	11.02
Steel—Black Finish								
15	7"	5"	4 3/4"	3/4" Dia.	—	#10	**13195A63**	13.12
Spring-Loaded Rectangular Handle—Rectangular Grip								
Stamped Type 304 Stainless Steel—Polished Finish								
16	3"	2 1/4"	1 11/16"	1/4"	1/4"	#8	**13165A31**	8.89
Spring-Loaded Rectangular Handle—Rectangular Cushion Grip								
Cast Zinc—Bright Chrome Finish								
17	5 9/16"	3 3/16"	3 3/4"	1 1/16"	9/16"	M5	**10815A42**	71.10

Load-Rated Folding Pull Handles

A load rating lets you know the capability of these handles. Fold them out of the way when not in use. Handles have a 90° stop and a round grip. Mounting plates are 1/16" thick and have unthreaded through holes. Note: Load capacity is based on the use of one handle.

Style 18—Surface mount with the included mounting screws.

Styles 19&20—Handles are spring loaded, so they snap flat when not in use. All have a glass-filled nylon grip; temp. range is 14° to 212° F. Mounting screws not included. *Style 19* handles surface mount. *Style 20* handles are recessed into the mounting plate.

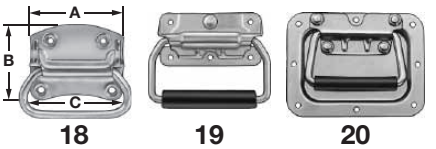

	Load Cap., lbs.	(A)	(B)	(C)	Grip Size, Dia.	Screw Size		
Steel—Zinc Plated								
18	200	2 3/4"	2 1/16"	2 13/16"	1/4"	#6	**1647A31**	$3.77
18	200	3 1/2"	2 13/16"	3 9/16"	3/8"	#10	**1647A34**	5.08
18	180	4"	2 7/8"	4 1/8"	3/8"	#10	**1647A35**	6.70
18	175	4 13/16"	4 1/4"	4 1/2"	7/16"	#12	**1647A36**	10.18
19	496	4 9/16"	2 3/8"	4 3/4"	13/16"	#10	**1885A13**	19.89
19	220	7 1/2"	2 3/8"	7 5/8"	13/16"	#10	**1885A15**	29.72

	Load Cap., lbs.	(A)	(B)	(C)	Grip Size, Dia.	Screw Size		
Steel—Zinc Plated (Cont.)								
20	88	6"	4 1/2"	3 3/4"	5/8"	#10	**1881A11**	$16.00
20	330	7 1/8"	5"	4 3/4"	13/16"	#10	**1881A12**	29.11
Type 304 Stainless Steel—Dull Finish								
19	496	4 9/16"	2 3/8"	4 3/4"	13/16"	#10	**1885A14**	50.50
20	165	6"	4 1/2"	3 3/4"	5/8"	#10	**1881A13**	44.69

About Hinges

Leaf Thickness

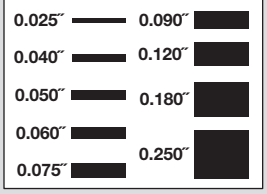

Pin Diameter

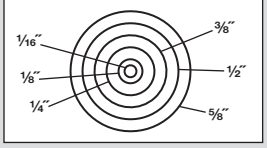

Knuckle Length

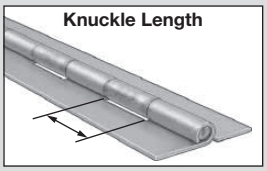

Range of Motion

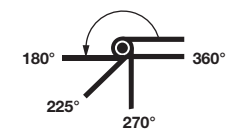

Hinge Styles	Door Closed	Door Open	Pages
Surface Mount—The most common type of hinge.	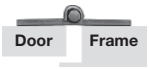		2958-2967; 2969
Extra Clearance—Hinge leaves are offset to accommodate a gasket or trim between the door and frame.		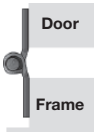	2963
Tight Clearance—Hinge leaves fold closely together to minimize the gap between the door and the frame. Also known as swaged, they're often used on electrical enclosures.		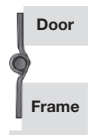	2963
Mortise Mount—Hinge leaves fit into cutouts (mortises) to mount flush with the door and frame edges. They require minimal space between the door and frame.		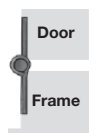	2967-2968
Half Surface/Half Mortise Mount—Surface mount one leaf and mortise mount the other. They are often used to hang a hollow door on a solid frame.	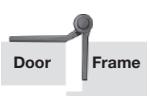	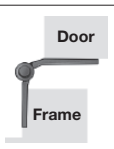	2968

Cutting and Installing Piano Hinges—Most metal piano hinges can be cut between the knuckles with a hacksaw; hinges with a leaf thickness of 0.180″ and thicker may require a band saw. Install *hinges without holes* by spot welding or drilling holes for rivets or screws.

Piano Hinges

For technical drawings and 3-D models, go to mcmaster.com.

Don't see the piano hinge you need? Just tell us what you're looking for and we'll get it for you.

Unfinished Steel Piano Hinges without Holes

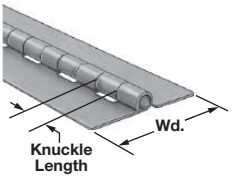

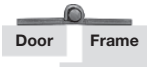

Door Closed



Door Open

Hinges have a full range of motion of 270°. All are surface mount. Note: Prices are 15% to 20% lower when you buy 10 or more hinges of the same size.

Wd.	Pin Dia.	Knuckle Lg.		1 ft.	2 ft.	3 ft.	4 ft.	5 ft.	6 ft.	7 ft.	8 ft.
0.025″ Thick Leaf											
3/4″	1/16″	1/4″	15665A901	$1.12	$1.44	$2.07	$2.87	$3.09	$3.19	$4.47	$4.79
1″	1/16″	1/4″	15665A902	1.33	1.71	2.48	3.43	3.70	3.81	5.33	5.71
0.035″ Thick Leaf											
3/4″	5/64″	1/4″	15665A903	1.28	1.64	2.37	2.92	3.35	3.65	4.38	4.93
1 1/16″	5/64″	1/4″	15665A904	1.32	1.69	2.44	3.01	3.45	3.76	4.51	5.08
1 1/4″	5/64″	1/4″	15665A905	1.40	1.80	2.60	3.20	3.67	4.00	4.80	5.40
1 1/2″	5/64″	1/4″	15665A906	1.60	2.06	2.97	3.66	4.19	4.57	5.48	6.17
0.040″ Thick Leaf											
1 1/16″	3/32″	1/2″	15665A907	1.43	2.04	2.66	3.27	3.75	4.09	5.73	6.13
1 1/4″	3/32″	1/2″	15665A908	1.55	2.22	2.89	3.55	4.07	4.44	6.22	6.66
1 1/2″	3/32″	1/2″	15665A909	2.02	2.89	3.76	4.62	5.30	5.78	8.09	8.67
2″	3/32″	1/2″	15665A911	2.16	3.09	4.02	4.94	5.67	6.18	8.65	9.27
0.050″ Thick Leaf											
1 1/16″	1/8″	1/2″	15665A284	1.93	2.48	3.58	4.41	5.05	5.51	7.71	8.27
1 1/4″	1/8″	1/2″	15665A244	2.55	3.64	4.73	5.82	6.68	7.28	10.19	10.92
1 1/2″	1/8″	1/2″	15665A247	2.60	3.71	4.83	5.94	6.81	7.43	10.40	11.14
2″	1/8″	1/2″	15665A286	2.76	3.94	5.13	6.31	7.24	7.89	11.05	11.44
0.060″ Thick Leaf											
1 1/16″	1/8″	1/2″	15665A287	2.28	3.26	4.24	5.22	5.98	6.52	8.48	8.80
1 1/4″	1/8″	1/2″	15665A293	2.50	3.56	4.63	5.70	6.54	7.13	9.98	10.70
1 1/2″	1/8″	1/2″	15665A294	2.69	3.85	5.00	6.15	7.05	7.69	10.77	11.54
1 1/2″	3/16″	1/2″	15665A295	3.01	4.30	5.59	6.88	7.89	8.60	12.04	12.90
1 1/2″	3/16″	1″	15665A299	3.00	4.28	5.56	6.85	7.85	8.56	11.98	12.84
1 3/4″	1/8″	1/2″	15665A301	3.05	4.36	5.66	6.97	8.27	8.71	12.19	13.07
2″	1/8″	1/2″	15665A302	3.45	4.94	6.24	7.74	8.85	9.32	13.51	14.45
2″	3/16″	1/2″	15665A398	3.50	5.00	6.50	8.00	9.17	10.00	14.00	15.00
2″	3/16″	1″	15665A304	3.56	5.08	6.60	8.13	9.32	10.16	13.72	14.73
2 1/2″	1/8″	1/2″	15665A305	3.83	5.47	7.12	8.76	10.04	10.95	14.23	15.11
2 1/2″	3/16″	1/2″	15665A306	3.96	5.65	7.35	9.04	10.36	11.30	14.69	15.26
2 1/2″	3/16″	1″	15665A307	3.91	5.58	7.25	8.93	10.23	11.16	14.51	15.07

(Continued on following page)

Unfinished Steel Piano Hinges without Holes *(Continued from previous page)*

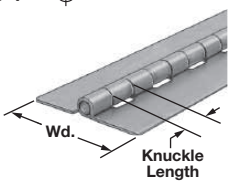

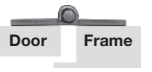

Door Closed



Door Open

Wd.	Pin Dia.	Knuckle Lg.		1 ft.	2 ft.	3 ft.	4 ft.	5 ft.	6 ft.	7 ft.	8 ft.
0.060″ Thick Leaf (Cont.)											
3″	1/8″	1/2″	15665A308	$4.11	$5.87	$7.62	$9.38	$10.76	$11.73	$15.25	$15.84
3″	3/16″	1/2″	15665A309	4.35	6.21	8.07	9.94	11.39	12.42	16.15	16.77
4″	1/8″	1/2″	15665A311	4.43	6.33	8.23	10.13	11.61	12.66	16.46	17.09
4″	3/16″	1/2″	15665A312	4.85	6.93	9.02	11.10	12.72	13.87	18.03	18.72
0.072″ Thick Leaf											
1 1/2″	1/4″	1″	15665A313	5.10	7.29	9.48	11.66	13.37	14.58	18.95	19.68
2″	1/4″	1″	15665A494	6.09	8.70	11.30	13.91	15.95	17.39	22.61	23.48
2 1/2″	1/4″	1″	15665A499	6.61	9.45	12.29	15.12	17.33	18.90	24.57	25.52
3″	1/4″	1″	15665A503	7.47	10.67	13.87	17.07	19.57	21.34	27.74	28.81
3 1/2″	1/4″	1″	15665A507	8.04	11.48	14.93	18.38	21.06	22.97	29.86	31.01
4″	1/4″	1″	15665A512	8.47	12.10	15.72	19.35	22.18	24.19	31.45	32.66
0.075″ Thick Leaf											
1 1/2″	3/16″	1″	15665A542	3.76	5.38	6.99	8.60	9.86	10.75	13.97	14.51
2″	3/16″	1″	15665A546	4.37	6.25	8.12	9.99	11.45	12.49	16.24	16.86
2 1/2″	3/16″	1″	15665A559	4.99	7.13	9.28	11.42	13.09	14.27	18.55	19.26
3″	3/16″	1″	15665A565	6.15	8.79	11.43	14.06	16.12	17.58	22.85	23.73
4″	3/16″	1″	15665A571	7.03	10.04	13.06	16.07	18.42	20.09	26.12	27.12
0.090″ Thick Leaf											
2″	1/4″	1″	15665A381	8.80	11.31	16.33	20.10	23.04	25.13	32.67	33.93
3″	1/4″	1″	15665A386	10.81	13.90	20.09	24.72	28.34	30.90	40.17	41.72
4″	1/4″	1″	15665A393	12.40	15.94	23.02	28.34	32.48	35.42	46.05	47.82
5″	1/4″	1″	15665A397	16.11	20.71	29.91	36.82	42.20	46.02	59.83	62.13
0.120″ Thick Leaf											
2″	1/4″	2″	15665A581	6.50	12.55	18.13	22.32	26.50	27.90	36.27	39.62
2″	3/8″	2″	15665A588	6.90	13.33	19.25	23.70	28.14	29.62	38.51	39.99
2 1/2″	3/8″	2″	15665A596	7.01	13.72	19.82	24.39	28.97	30.49	39.64	41.16
3″	1/4″	2″	15665A602	8.18	15.80	22.83	28.10	33.36	35.12	45.66	47.41
3″	3/8″	2″	15665A604	9.07	17.51	25.29	31.13	36.96	38.91	50.58	52.53
3″	1/2″	2″	15665A516	17.37	33.56	48.47	59.66	70.84	74.57	96.94	100.67
3 1/2″	3/8″	2″	15665A608	7.80	15.06	21.76	26.78	31.80	33.47	43.51	45.18
4″	3/8″	2″	15665A611	8.37	16.16	23.34	28.73	34.11	35.91	46.68	48.48
5″	3/8″	2″	15665A615	11.62	22.44	32.41	39.89	47.37	49.86	64.82	67.31
6″	3/8″	2″	15665A618	12.59	24.32	35.13	43.24	51.35	54.05	70.27	72.97
0.180″ Thick Leaf											
3″	1/2″	2″	15665A623	18.08	34.92	50.45	62.09	71.17	77.61	93.13	104.77
4″	1/2″	2″	15665A627	19.07	36.83	53.20	65.47	75.05	81.84	98.21	110.48
5″	1/2″	2″	15665A634	20.24	39.09	56.46	69.49	79.65	86.86	104.23	117.26
6″	1/2″	2″	15665A642	21.17	40.89	59.06	72.69	83.32	90.86	109.03	122.66
0.250″ Thick Leaf											
3″	5/8″	1 1/2″	15665A521	54.63	83.77	118.37	154.79	166.99	182.11	218.53	245.85
4″	5/8″	1 1/2″	15665A526	57.31	87.87	124.16	162.37	175.17	191.02	229.22	257.88
5″	5/8″	1 1/2″	15665A535	60.38	92.58	130.82	171.07	184.56	201.26	241.51	271.70
6″	5/8″	1 1/2″	15665A265	83.02	106.74	154.18	189.76	218.22	237.20	284.64	320.22

Unfinished Steel Piano Hinges with Brass Pins and without Holes

Brass pins resist corrosion and wear better than steel pins for a longer service life. Hinges have a full range of motion of 270°. All are surface mount.

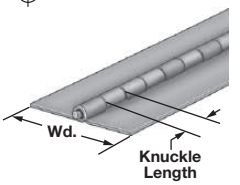

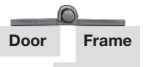

Door Closed



Door Open

Wd.	Pin Dia.	Knuckle Lg.		1 ft.	3 ft.	6 ft.
0.025″ Thick Leaf						
3/4″	1/16″	1/4″	11815A81	—	$4.89	$7.53
1″	1/16″	1/4″	11815A82	—	6.11	9.40
0.040″ Thick Leaf						
1 1/2″	3/32″	1/2″	11815A83	—	6.94	10.67
2″	3/32″	1/2″	11815A84	—	7.85	12.07
0.060″ Thick Leaf						
1 1/2″	1/8″	1/2″	11815A85	—	7.44	11.44
2″	1/8″	1/2″	11815A86	—	8.27	12.72
3″	1/8″	1/2″	11815A87	—	12.57	19.34
0.075″ Thick Leaf						
1 1/2″	1/4″	1″	11815A88	$6.22	20.22	31.11
2″	1/4″	1″	11815A89	6.47	21.04	32.37
3″	1/4″	1″	11815A91	7.30	23.73	36.51
0.090″ Thick Leaf						
2″	1/4″	1″	11815A92	9.13	29.66	45.63
3″	1/4″	1″	11815A93	12.11	39.37	60.57
4″	1/4″	1″	11815A94	13.49	43.83	67.43

Zinc-Plated Steel Piano Hinges without Holes

Often used in heating, ventilating, and air conditioning applications, zinc plating provides good corrosion resistance. Hinges have a full range of motion of 270°. All are surface mount.

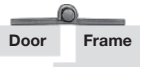

Door Closed

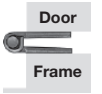

Door Open

Wd.	Pin Dia.	Knuckle Lg.		1 ft.	3 ft.	6 ft.
0.042″ Thick Leaf						
1 1/2″	3/32″	1/2″	12145A21	$2.93	$5.95	$9.16
2″	3/32″	1/2″	12145A22	4.28	8.70	13.38
0.062″ Thick Leaf						
1 1/2″	1/8″	1/2″	12145A23	3.61	7.33	11.28
2″	1/8″	1/2″	12145A24	4.89	9.93	15.28
3″	1/8″	1/2″	12145A25	5.40	10.97	16.88

Type 304 Stainless Steel Piano Hinges without Holes

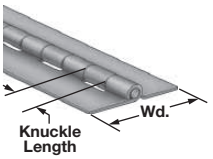

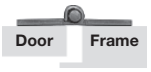

Door Closed



Door Open

Choose Type 304 stainless steel hinges for greater corrosion resistance than steel. The full range of motion is 270°. All are surface mount. Note: Prices are 15% to 20% lower when you buy 10 or more hinges of the same size.

Wd.	Pin Dia.	Knuckle Lg.		1 ft.	2 ft.	3 ft.	4 ft.	5 ft.	6 ft.	7 ft.	8 ft.
0.025″ Thick Leaf											
3/4″	1/16″	1/4″	1582A167	$2.75	$3.87	$5.58	$6.87	$8.16	$8.59	$11.17	$11.60
1″	1/16″	1/4″	1582A457	3.25	4.57	6.60	8.13	9.65	10.16	13.21	13.72
0.035″ Thick Leaf											
3/4″	3/32″	1/4″	1582A175	4.15	5.84	8.44	10.38	11.90	12.98	15.58	17.52
1 1/16″	3/32″	1/4″	1582A183	4.73	6.65	9.61	11.82	13.55	14.78	17.74	19.95
1 1/4″	3/32″	1/4″	1582A191	5.63	7.92	11.43	14.07	16.13	17.59	21.11	23.75
1 1/2″	3/32″	1/4″	1582A198	6.35	8.93	12.90	15.88	18.20	19.85	23.82	26.80
0.040″ Thick Leaf											
1 1/16″	3/32″	1/2″	1582A202	5.32	7.48	10.81	13.30	15.25	16.63	19.96	22.45
1 1/4″	3/32″	1/2″	1582A206	5.99	8.42	12.16	14.97	17.16	18.71	22.45	25.26
1 1/2″	3/32″	1/2″	1582A211	6.59	9.26	13.38	16.46	18.87	20.58	24.70	27.78
2″	3/32″	1/2″	1582A216	8.74	12.29	17.75	21.85	25.04	27.31	32.77	36.87
0.050″ Thick Leaf											
1 1/16″	1/8″	1/2″	1582A222	6.08	8.55	12.35	15.20	17.42	19.00	22.80	25.65
1 1/4″	1/8″	1/2″	1582A228	6.77	9.52	13.75	16.92	19.39	21.15	25.38	28.55
1 1/2″	1/8″	1/2″	1582A238	7.67	10.79	15.59	19.18	21.99	23.98	28.78	32.37
2″	1/8″	1/2″	1582A245	9.61	13.51	19.51	24.02	27.53	30.02	36.02	40.53
2 1/2″	1/8″	1/2″	1582A252	11.39	16.02	23.14	28.48	32.65	35.60	42.72	48.06
3″	1/8″	1/2″	1582A256	13.41	18.86	27.24	33.53	38.43	41.91	50.29	56.58
0.060″ Thick Leaf											
1 1/16″	1/8″	1/2″	1582A261	4.39	6.17	8.91	10.97	12.57	13.71	16.45	18.51
1 1/4″	1/8″	1/2″	1582A263	5.94	8.36	12.07	14.86	17.03	18.57	22.28	25.07
1 1/2″	1/8″	1/2″	1582A265	6.41	9.01	13.02	16.02	18.37	20.03	24.04	27.04
1 1/2″	3/16″	5/8″	1582A268	7.90	11.11	16.05	19.75	22.64	24.69	29.63	33.33
2″	1/8″	1/2″	1582A271	8.01	11.26	16.27	20.02	22.95	25.03	30.04	33.79
2″	3/16″	5/8″	1582A274	9.40	13.22	19.09	23.50	26.93	29.37	35.24	39.65
2 1/2″	1/8″	1/2″	1582A277	9.64	13.55	19.57	24.09	27.61	30.11	36.13	40.65
2 1/2″	3/16″	5/8″	1582A282	11.03	15.51	22.40	27.57	31.60	34.46	41.35	46.52
3″	1/8″	1/2″	1582A286	11.14	15.66	22.62	27.84	31.91	34.80	41.76	46.98
3″	3/16″	5/8″	1582A289	12.71	17.87	25.81	31.77	36.41	39.71	47.65	53.61
4″	1/8″	1/2″	1582A294	14.45	20.33	29.36	36.14	41.42	45.17	54.20	60.98
0.075″ Thick Leaf											
2″	3/16″	1″	1582A298	10.63	14.95	21.59	26.58	30.46	33.22	39.86	44.85
2″	1/4″	1″	1582A302	10.96	15.42	22.27	27.41	31.42	34.26	41.11	46.25
2 1/2″	1/4″	1″	1582A306	12.43	17.48	25.25	31.07	35.62	38.84	46.61	52.43
3″	1/4″	1″	1582A311	13.88	19.53	28.20	34.71	39.79	43.39	52.07	58.58
3 1/2″	1/4″	1″	1582A315	15.35	21.59	31.18	38.38	43.99	47.97	57.56	64.76
4″	1/4″	1″	1582A342	16.81	23.63	34.14	42.02	48.16	52.52	63.02	70.90
0.090″ Thick Leaf											
2″	1/4″	1″	1582A362	15.71	22.10	34.37	39.28	46.15	49.10	61.38	66.29
3″	1/4″	1″	1582A376	19.91	28.00	43.55	49.78	58.49	62.22	77.78	84.00
4″	1/4″	1″	1582A381	22.78	32.04	49.84	56.96	66.93	71.20	89.00	96.12
0.120″ Thick Leaf											
2″	1/4″	2″	1582A385	24.08	33.87	52.68	60.21	70.74	75.26	97.84	101.60
2″	3/8″	2″	1582A389	26.43	37.17	57.82	66.08	77.64	82.60	107.38	111.51
3″	1/4″	2″	1582A394	30.91	43.47	67.62	77.28	90.80	96.60	125.58	130.41
3″	3/8″	2″	1582A397	32.88	46.23	71.92	82.19	96.58	102.74	133.56	138.70
4″	1/4″	2″	1582A402	37.73	53.06	82.54	94.33	110.84	117.91	153.28	159.18
4″	3/8″	2″	1582A406	39.03	54.89	85.38	97.58	114.65	121.97	158.56	164.66
5″	3/8″	2″	1582A409	45.11	63.44	98.68	112.78	132.51	140.97	183.26	190.31
0.187″ Thick Leaf											
3″	1/2″	2″	1582A414	118.20	166.22	240.09	295.50	338.71	369.37	443.24	498.65
4″	1/2″	2″	1582A421	130.13	183.00	264.33	325.33	372.91	406.66	487.99	548.99
5″	1/2″	2″	1582A428	142.06	199.77	288.55	355.14	407.08	443.93	532.72	599.31
6″	1/2″	2″	1582A448	153.99	216.55	312.79	384.98	441.28	481.22	577.46	649.65

Bright-Finish Type 304 Stainless Steel Piano Hinges without Holes

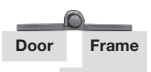

Door Closed



Door Open

Good for use in marine environments, these hinges have a bright-annealed finish for greater corrosion resistance than plain Type 304 stainless steel. The full range of motion is 270°. All are surface mount.

Wd.	Pin Dia.	Knuckle Lg.		1 ft.	3 ft.	6 ft.
0.040″ Thick Leaf						
1 1/16″	3/32″	1/2″	6573A5	$5.82	$10.92	$18.20
1 1/4″	3/32″	1/2″	6573A6	6.22	12.04	20.07
1 1/2″	3/32″	1/2″	6573A7	6.73	13.03	21.72
2″	3/32″	1/2″	6573A8	8.87	17.17	28.62

Brass Piano Hinges without Holes

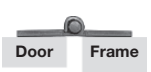

Door Closed



Door Open

Often selected for its decorative quality, brass also provides good corrosion resistance. Hinges have a full range of motion of 270°. All are surface mount.

Wd.	Pin Dia.	Knuckle Lg.		1 ft.	3 ft.	6 ft.
0.040″ Thick Leaf						
1 1/16″	3/32″	1/2″	1578A21	$14.55	$33.77	$51.95
1 1/4″	3/32″	1/2″	1578A22	14.87	34.52	53.10
1 1/2″	3/32″	1/2″	1578A23	15.81	36.69	56.45
2″	3/32″	1/2″	1578A24	17.18	39.88	61.36
0.062″ Thick Leaf						
2″	1/8″	1/2″	1578A25	27.19	63.13	97.12

Type 316 Stainless Steel Piano Hinges without Holes

Able to withstand harsh environments, Type 316 stainless steel provides superior corrosion resistance and durability. Hinges have a full range of motion of 270°. All are surface mount.

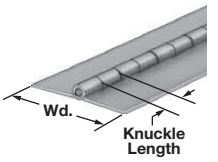

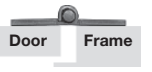

Door Closed

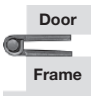

Door Open

Wd.	Pin Dia.	Knuckle Lg.		1 ft.	2 ft.	3 ft.	4 ft.	5 ft.	6 ft.	7 ft.	8 ft.
0.040″ Thick Leaf											
1 1/16″	3/32″	1/2″	13795A103	$7.13	$10.03	$14.49	$17.83	$20.44	$22.29	$27.86	$30.09
1 1/4″	3/32″	1/2″	13795A118	7.92	11.14	16.09	19.81	22.70	24.76	30.95	33.43
1 1/2″	3/32″	1/2″	13795A128	8.98	12.63	18.24	22.45	25.73	28.06	35.07	37.88
2″	3/32″	1/2″	13795A138	11.20	15.75	22.76	28.01	32.10	35.01	43.76	47.26
0.060″ Thick Leaf											
1 1/2″	1/8″	1/2″	13795A503	9.98	14.04	20.28	24.96	28.61	31.20	39.00	42.12
2″	1/8″	1/2″	13795A603	12.19	17.14	24.77	30.48	34.94	38.10	47.62	51.44
3″	1/8″	1/2″	13795A705	16.59	23.32	33.69	41.46	47.53	51.83	64.79	69.97
0.072″ Thick Leaf											
2″	1/4″	1″	13795A535	26.16	40.88	53.14	65.41	74.97	81.76	102.20	110.38
3″	1/4″	1″	13795A545	37.66	58.84	76.49	94.14	107.91	117.68	147.10	158.87
0.090″ Thick Leaf											
2″	1/4″	1″	13795A645	29.63	41.67	64.81	74.07	—	92.59	—	125.00
0.120″ Thick Leaf											
3″	3/8″	2″	13795A255	42.79	82.64	119.37	146.92	168.41	183.65	220.38	247.93
0.187″ Thick Leaf											
3″	1/2″	2″	13795A795	142.60	200.54	289.67	356.51	408.65	445.64	534.77	601.61
4″	1/2″	2″	13795A845	157.98	222.16	320.90	394.95	452.71	493.69	592.43	666.48

Aluminum Piano Hinges without Holes

Get good corrosion resistance at a lighter weight than steel or brass hinges. The full range of motion is 270°. All are surface mount. Hinges with a 0.032″ thick leaf and thinner are Alloy 3004; all others are Alloy 5052. Note: Prices are 15% to 20% lower when you buy 10 or more hinges of the same size.

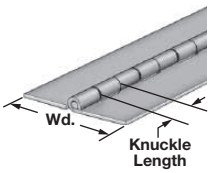

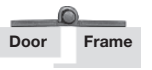

Door Closed



Door Open

Wd.	Pin Dia.	Knuckle Lg.		1 ft.	2 ft.	3 ft.	4 ft.	5 ft.	6 ft.	7 ft.	8 ft.
0.025″ Thick Leaf											
3/4″	1/16″	1/4″	1581A23	$1.94	$2.73	$3.95	$5.46	$5.77	$6.07	$7.89	$8.86
1″	1/16″	1/4″	1581A29	2.07	2.91	4.21	5.82	6.15	6.47	8.41	9.45
0.032″ Thick Leaf											
3/4″	3/32″	1/4″	1581A96	1.72	2.43	3.50	4.58	5.12	5.39	7.28	7.87
1 1/16″	3/32″	1/4″	1581A111	1.89	2.66	3.85	5.03	5.62	5.92	7.99	8.64
1 1/4″	3/32″	1/4″	1581A191	2.03	2.85	4.11	5.38	6.01	6.33	8.55	9.24
1 1/2″	3/32″	1/4″	1581A237	2.36	3.33	4.80	6.28	7.02	7.39	9.98	10.79
0.040″ Thick Leaf											
1 1/16″	3/32″	1/2″	1581A251	1.74	2.45	3.54	4.63	5.18	5.45	6.81	7.96
1 1/4″	3/32″	1/2″	1581A261	1.81	2.55	3.68	4.81	5.38	5.66	7.08	8.26
1 1/2″	3/32″	1/2″	1581A281	1.95	2.75	3.96	5.18	5.79	6.10	7.62	8.91
2″	3/32″	1/2″	1581A341	2.28	3.20	4.63	6.05	6.76	7.12	8.90	10.40
0.050″ Thick Leaf											
1″	1/8″	1/2″	1581A311	1.92	2.70	3.90	4.80	5.50	6.00	8.10	8.80
1 1/4″	1/8″	1/2″	1581A901	2.08	2.93	4.23	5.21	5.97	6.51	8.79	9.55
1 1/2″	1/8″	1/2″	1581A921	2.21	3.11	4.49	5.53	6.34	6.91	9.33	10.14
2″	1/8″	1/2″	1581A371	2.52	3.55	5.13	6.31	7.24	7.89	10.65	11.57
0.060″ Thick Leaf											
1 1/16″	1/8″	1/2″	1581A315	2.38	3.34	4.83	5.94	6.81	7.43	9.29	10.90
1 1/4″	1/8″	1/2″	1581A511	2.42	3.41	4.92	6.06	6.94	7.57	9.46	11.11
1 1/2″	1/8″	1/2″	1581A521	2.60	3.65	5.27	6.49	7.44	8.11	10.14	11.90
1 3/4″	1/8″	1/2″	1581A531	2.81	3.95	5.70	7.02	8.04	8.77	10.96	12.87
2″	1/8″	1/2″	1581A541	2.98	4.19	6.05	7.45	8.54	9.31	11.64	13.66
2 1/2″	1/8″	1/2″	1581A551	3.42	4.81	6.95	8.55	9.80	10.69	13.36	15.68
3″	1/8″	1/2″	1581A441	3.80	5.35	7.73	9.51	10.90	11.89	14.86	17.44
4″	1/8″	1/2″	1581A411	4.59	6.45	9.32	11.47	13.15	14.34	17.93	21.04
0.075″ Thick Leaf											
2″	3/16″	1/2″	1581A481	6.20	9.69	12.59	15.50	17.76	19.37	24.21	28.42
2 1/2″	3/16″	1/2″	1581A321	7.08	11.07	14.39	17.71	20.30	22.14	27.68	32.48
3″	3/16″	1/2″	1581A331	8.01	12.52	16.27	20.02	22.95	25.03	31.29	36.72
0.090″ Thick Leaf											
2″	1/4″	1″	1581A561	6.28	8.83	12.76	15.70	18.00	19.63	25.52	28.80
2 1/2″	1/4″	1″	1581A611	7.07	9.95	14.37	17.68	20.27	22.10	28.73	32.42
3″	1/4″	1″	1581A631	7.85	11.04	15.94	19.62	22.49	24.53	31.89	35.99
4″	1/4″	1″	1581A621	9.43	13.26	19.16	23.58	27.02	29.47	38.31	43.23
0.120″ Thick Leaf											
2″	1/4″	2″	1581A851	7.59	14.66	21.18	26.06	30.95	32.58	42.35	43.98
3″	1/4″	2″	1581A861	8.08	15.61	22.55	27.75	32.96	34.69	45.10	46.83
3″	3/8″	2″	1581A831	9.34	18.03	26.05	32.06	38.07	40.07	52.09	54.09
4″	1/4″	2″	1581A881	9.71	18.76	27.10	33.35	39.61	41.69	54.20	56.28
4″	3/8″	2″	1581A271	11.86	22.90	33.08	40.71	48.35	50.89	66.16	68.70
5″	1/4″	2″	1581A911	11.87	22.92	33.10	40.74	48.38	50.93	66.21	68.76

Titanium Piano Hinges without Holes

Titanium provides the corrosion resistance of stainless steel and the strength of steel at a much lighter weight. Hinges have a full range of motion of 270°. All are surface mount.

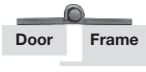

Door Closed

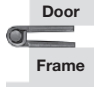

Door Open

Wd.	Pin Dia.	Knuckle Lg.		1 ft.	3 ft.	6 ft.
0.060″ Thick Leaf						
1 1/2″	1/8″	1″	6152A21	$87.34	$240.19	$436.71
2″	1/8″	1″	6152A22	101.17	278.22	505.85
3″	1/8″	1″	6152A23	126.83	348.79	634.17

Piano Hinges with Holes

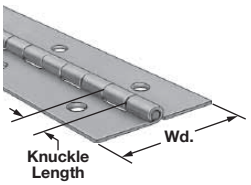

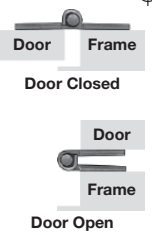

Spend less time on preparation—these hinges have holes so they're ready to install. The full range of motion is 270°. All are surface mount. Holes are countersunk; mounting screws are not included.

Zinc-plated steel and primed steel provide better corrosion resistance than plain steel. *Zinc-plated steel* is often used with sheet metal in heating, ventilating, and air conditioning applications. *Primed steel* has a black electrocoated finish that can be painted.

Type 304 stainless steel has greater corrosion resistance than steel.

Type 316 stainless steel provides greater corrosion resistance than Type 304 stainless steel.

Aluminum has good corrosion resistance and is lighter in weight than steel or brass. *Aluminum with a clear anodized finish* provides greater corrosion resistance than unfinished aluminum.

Polished brass has an attractive finish and provides good corrosion resistance.

Steel

Wd.	Knuckle Lg.		Unfinished 4 ft.	Unfinished 6 ft.	Black Painted 4 ft.	Black Painted 6 ft.	Nickel Plated 4 ft.	Nickel Plated 6 ft.	Brass Plated 4 ft.	Brass Plated 6 ft.	Chrome Plated 4 ft.	Chrome Plated 6 ft.	Bronze Plated 4 ft.	Bronze Plated 6 ft.
0.025″ Thick Leaf—1/16″ Pin Dia., No. 4 Screw Size, except 3/4″ Wd. Hinges require No. 3 screws														
3/4″	1/4″	1569A21	$7.37	$9.21	____	____	____	____	____	____	____	____	____	____
1″	1/4″	1569A22★	7.42	9.27	$20.07	$25.09	$14.75	$18.44	____	____	____	____	____	____
0.040″ Thick Leaf—3/32″ Pin Dia., No. 4 Screw Size, except Black Painted and Bronze Plated require No. 5 screws														
1 1/16″	1/2″	1569A23	4.40	5.50	18.38	22.97	14.50	18.13	$14.70	$18.37	$23.27	$29.09	$12.18	$15.23
1 1/4″	1/2″	1569A24	4.66	5.83	13.60	17.00	15.36	19.20	15.52	19.40	____	____	12.93	16.16
1 1/2″	1/2″	1569A25	5.02	6.27	21.02	26.27	15.74	19.67	15.94	19.93	23.62	29.53	14.72	18.40
2″	1/2″	1569A26	5.68	7.10	21.36	26.70	18.10	22.63	18.26	22.83	____	____	18.26	22.83
0.060″ Thick Leaf—1/8″ Pin Dia., No. 6 Screw Size														
1 1/4″	1/2″	1569A27	6.18	7.72	24.34	30.43	16.30	20.37	16.84	21.05	____	____	____	____
1 1/2″	1/2″	1569A28	6.67	8.34	24.73	30.91	16.69	20.86	16.86	21.07	32.47	40.59	23.45	29.31
2″	1/2″	1569A29	7.70	9.62	25.18	31.48	19.73	24.66	20.02	25.03	33.05	41.31	26.84	33.55
2 1/2″	1/2″	1569A31	8.74	10.93	26.06	32.57	26.50	33.13	20.96	26.20	____	____	27.23	34.04
3″	1/2″	1569A32	9.77	12.21	30.87	38.59	26.67	33.34	26.93	33.66	58.21	72.76	36.53	45.66
0.090″ Thick Leaf—1/4″ Pin Dia., No. 10 Screw Size, except Black Painted require No. 6 screws														
2″	1″	1569A33■	19.23	24.04	45.76	57.20	____	____	____	____	____	____	____	____
3″	1″	1569A34■	22.18	27.73	49.39	61.74	____	____	____	____	____	____	____	____
4″	1″	1569A35■	24.59	30.74	55.47	69.34	____	____	____	____	____	____	____	____
5″	1″	1569A36■	27.05	33.81	60.54	75.68	____	____	____	____	____	____	____	____

★Black-painted and nickel-plated hinges have 0.030″ leaf thickness. ■Black-painted hinges have a 2″ knuckle length.

Zinc-Plated and Primed Steel

Wd.	Knuckle Lg.	Zinc Plated Screw Size		Zinc Plated 1 ft.	Zinc Plated 3 ft.	Zinc Plated 6 ft.	Primed Screw Size		Primed 1 ft.	Primed 3 ft.	Primed 6 ft.
0.040″ Thick Leaf—3/32″ Pin Dia.											
1 1/16″	1/2″	No. 4	1608A41	$4.51	$7.02	$10.03	No. 4	1904A71	$5.36	$9.96	$15.32
1 1/4″	1/2″	No. 5	1608A42	4.76	7.41	10.58	No. 5	1904A72	5.52	10.24	15.76
1 1/2″	1/2″	No. 6	1608A43	5.09	7.92	11.32	No. 6	1904A73	5.68	10.56	16.24
2″	1/2″	No. 6	1608A44	5.75	8.94	12.77	No. 6	1904A74	6.05	11.23	17.28
0.060″ Thick Leaf—1/8″ Pin Dia.											
1 1/4″	1/2″	No. 6	1608A51	6.04	9.39	13.42	No. 6	1904A81	5.54	10.28	15.82
1 1/2″	1/2″	No. 6	1608A52	6.52	10.14	14.48	No. 6	1904A82	5.76	10.71	16.47
2″	1/2″	No. 6	1608A53	7.48	11.63	16.62	No. 6	1904A83	6.41	11.91	18.32
3″	1/2″	No. 6	1608A54	9.38	14.59	20.84	No. 6	1904A84	7.46	13.85	21.30

Type 304 Stainless Steel

Wd.	Knuckle Lg.	Unfinished Screw Size		Unfinished 1 ft.	Unfinished 3 ft.	Unfinished 6 ft.	Polished Screw Size		Polished 1 ft.	Polished 3 ft.	Polished 6 ft.
0.025″ Thick Leaf—1/16″ Pin Dia.											
3/4″	1/4″	No. 3	1658A11	$9.02	$13.93	$20.49	No. 3	12075A81	$11.23	$16.59	$25.52
1″	1/4″	No. 4	1658A12	9.62	14.87	21.87	No. 4	12075A82	11.94	17.63	27.13
0.042″ Thick Leaf—3/32″ Pin Dia.											
1 1/16″	1/2″	No. 4	1658A13	5.17	7.63	11.74	No. 5	12075A83	8.19	22.86	35.17
1 1/4″	1/2″	No. 4	1658A14	5.37	11.63	17.90	No. 5	12075A84	8.48	23.65	36.38
1 1/2″	1/2″	No. 4	1658A15	5.72	12.39	19.06	No. 6	12075A85	8.84	24.65	37.93
2″	1/2″	No. 4	1658A16	8.39	21.83	33.58	No. 6	12075A86	10.36	28.89	44.45
0.060″ Thick Leaf—1/8″ Pin Dia.											
1 1/4″	1/2″	No. 6	1658A17	8.95	13.23	20.35	____	____	____	____	____
1 1/2″	1/2″	No. 6	1658A18	9.01	13.31	20.48	No. 6	12075A87	9.43	26.31	40.47
2″	1/2″	No. 6	1658A19	10.82	15.98	24.58	No. 6	12075A88	11.07	30.89	47.53
3″	1/2″	No. 6	1658A21	14.44	21.33	32.81	____	____	____	____	____
0.090″ Thick Leaf—1/4″ Pin Dia.											
2″	1″	No. 10	1658A22	22.89	46.49	71.52	No. 10	12075A89	24.37	49.51	76.17
3″	1″	No. 10	1658A23	27.41	55.67	85.65	No. 10	12075A91	29.51	59.94	92.22
4″	1″	No. 10	1658A24	31.99	64.98	99.97	No. 10	12075A92	33.15	67.34	103.60
5″	1″	No. 10	1658A25	37.23	75.63	116.35	No. 10	12075A93	39.17	79.56	122.40

Type 316 Stainless Steel

Wd.	Knuckle Lg.	Unfinished Screw Size		Unfinished 1 ft.	Unfinished 3 ft.	Unfinished 6 ft.	Polished Screw Size		Polished 1 ft.	Polished 3 ft.	Polished 6 ft.
0.040″ Thick Leaf—3/32″ Pin Dia.											
1 1/16″	1/2″	No. 4	1605A71	$13.85	$21.55	$30.78	No. 4	1605A81	$19.51	$30.34	$43.35
1 1/4″	1/2″	No. 5	1605A72	14.86	23.11	33.02	No. 5	1605A82	20.52	31.92	45.60
1 1/2″	1/2″	No. 6	1605A73	16.20	25.20	36.00	No. 6	1605A83	21.85	33.98	48.55
2″	1/2″	No. 6	1605A74	18.88	29.36	41.95	No. 6	1605A84	25.80	40.13	57.33

(Continued on following page)

Piano Hinges with Holes *(Continued from previous page)*

Type 316 Stainless Steel (Cont.)

Wd.	Knuckle Lg.	Unfinished Screw Size		1 ft.	3 ft.	6 ft.	Polished Screw Size		1 ft.	3 ft.	6 ft.
0.060″ Thick Leaf—1/8″ Pin Dia.											
1 1/4″	1/2″	No. 6	1605A75	$14.31	$29.07	$44.73	No. 6	1605A85	$18.34	$37.24	$57.30
1 1/2″	1/2″	No. 6	1605A76	15.71	31.92	49.10	No. 6	1605A86	19.73	40.07	61.65
2″	1/2″	No. 6	1605A77	18.51	37.60	57.85	No. 6	1605A87	23.44	47.61	73.25
3″	1/2″	No. 6	1605A78	24.11	48.96	75.33	No. 6	1605A88	24.11	48.96	75.33

Aluminum

Wd.	Knuckle Lg.	Unfinished Screw Size		1 ft.	3 ft.	6 ft.	Clear Anodized Screw Size		1 ft.	3 ft.	6 ft.
0.040″ Thick Leaf—3/32″ Pin Dia.											
1 1/16″	1/2″	No. 4	1575A61	$1.92	$3.62	$5.32	No. 4	1575A71	$3.02	$8.81	$12.95
1 1/4″	1/2″	No. 4	1575A62	3.05	5.75	8.46	____	____	____	____	____
1 1/2″	1/2″	No. 4	1575A63	3.15	5.94	8.74	No. 4	1575A72	3.02	8.81	12.95
2″	1/2″	____	____	____	____	____	No. 4	1575A73	4.32	12.61	18.54
0.060″ Thick Leaf—1/8″ Pin Dia.											
1 1/2″	1/2″	No. 6	1575A64	3.22	6.09	8.95	No. 6	1575A74	4.46	13.03	19.16
2″	1/2″	No. 6	1575A65	3.45	6.51	9.57	No. 6	1575A75	4.54	13.25	19.49
3″	1/2″	No. 6	1575A66	3.81	7.19	10.57	No. 6	1575A76	7.05	20.58	30.27
0.090″ Thick Leaf—1/4″ Pin Dia.											
2″	1″	No. 10	1575A67	11.65	22.01	32.37	No. 10	1575A77	12.52	23.64	34.77
3″	1″	No. 10	1575A68	13.32	25.16	37.00	No. 10	1575A78	14.19	26.81	39.43
4″	1″	No. 10	1575A69	14.76	27.88	41.00	No. 10	1575A79	16.63	31.42	46.20

Polished Brass

Wd.	Knuckle Lg.	Screw Size		6 ft.
0.040″ Thick Leaf—7/64″ Pin Dia.				
1 1/16″	1/2″	No. 4	1584A47	$56.62
1 1/2″	1/2″	No. 4	1584A72	65.35

Wd.	Knuckle Lg.	Screw Size		6 ft.
0.060″ Thick Leaf—1/8″ Pin Dia.				
2″	1/2″	No. 6	1584A75	$111.68

Extra-Clearance Offset Piano Hinges without Holes

When the door is closed, the distance between the leaves is larger than the pin diameter, creating an offset to accommodate a gasket or trim. The full range of motion is at least 225°. All are surface mount.

Type 304 stainless steel hinges are more corrosion resistant than unfinished steel.

Wd.	Pin Dia.	(A)	Knuckle Lg.	Unfinished Steel		3 ft.	6 ft.	Knuckle Lg.	Type 304 Stainless Steel	1 ft.	3 ft.	6 ft.
0.040″ Thick Leaf												
1 1/2″	3/32″	1/4″	1/2″	1567A41		$9.00	$13.84	1/2″	14835A71	$5.81	$16.20	$24.93
2″	3/32″	1/4″	1/2″	1567A42		9.49	14.60	1/2″	14835A72	6.85	19.11	29.40
0.060″ Thick Leaf												
1 1/16″	1/8″	5/16″	1/2″	1567A43		9.57	14.72	1/2″	14835A73	5.11	14.25	21.93
1 1/2″	3/16″	3/8″	1/2″	1567A44		11.47	17.64	5/8″	14835A74	8.64	24.10	37.07
2″	3/16″	3/8″	1/2″	1567A45		12.51	19.24	5/8″	14835A75	9.95	27.76	42.70
0.075″ Thick Leaf												
2″	1/4″	1/2″	1″	1567A46		14.56	22.40	1″	14835A76	11.08	27.70	55.40
3″	1/4″	1/2″	1″	1567A47		16.77	25.80	1″	14835A77	16.19	45.16	69.47
0.090″ Thick Leaf												
2″	1/4″	9/16″	1″	1567A48		18.46	28.40	1″	14835A78	12.51	34.89	53.67
3″	1/4″	9/16″	1″	1567A49		21.58	33.20	1″	14835A79	15.70	43.79	67.37
0.120″ Thick Leaf												
2″	1/4″	11/16″	2″	1567A51		29.04	44.68	2″	14835A81	23.88	66.62	102.50
3″	1/4″	11/16″	2″	1567A52		34.71	53.40	2″	14835A82	30.06	83.85	129.00

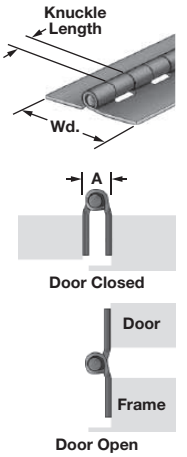

Tight-Clearance Piano Hinges without Holes

The leaves of these hinges almost touch when the door is closed. Often used in electrical enclosures. The full range of motion is 270°. All are surface mount.

Type 304 stainless steel hinges are more corrosion resistant than unfinished steel.

Wd.	Pin Dia.	Knuckle Lg.	Unfinished Steel		3 ft.	6 ft.	Type 304 Stainless Steel		1 ft.	3 ft.	6 ft.
0.040″ Thick Leaf											
1 1/2″	3/32″	1/2″	11785A51		$9.00	$13.84	11555A61		$5.05	$14.10	$21.69
2″	3/32″	1/2″	11785A52		9.49	14.60	11555A62		5.90	16.47	25.34
0.060″ Thick Leaf											
1 1/16″	1/8″	1/2″	11785A53		11.47	17.64	11555A63		5.14	14.34	22.06
1 1/2″	3/16″	5/8″	11785A54		15.11	23.24	11555A64		7.43	20.74	31.91
2″	3/16″	1/2″	11785A55		16.61	25.55	____		____	____	____
2″	3/16″	5/8″	____		____	____	11555A65		11.36	31.70	48.77
3″	3/16″	5/8″	11785A56		17.11	26.32	11555A66		13.61	37.98	58.43
0.075″ Thick Leaf											
1 1/2″	1/4″	1″	11785A57		15.86	24.40	____		____	____	____
2″	1/4″	1″	11785A58		16.95	26.08	11555A67		11.07	30.87	47.49
2 1/2″	1/4″	1″	11785A59		18.07	27.80	____		____	____	____
3″	1/4″	1″	11785A61		19.16	29.48	11555A68		13.87	38.70	59.54
0.090″ Thick Leaf											
2″	1/4″	1″	11785A62		20.85	32.08	____		____	____	____
3″	1/4″	1″	11785A63		23.97	36.88	____		____	____	____
4″	1/4″	1″	11785A64		27.09	41.68	____		____	____	____
0.120″ Thick Leaf											
2″	1/4″	2″	11785A65		31.36	48.24	11555A69		20.46	57.09	87.83
3″	1/4″	2″	11785A66		36.76	56.56	11555A71		25.70	71.69	110.29

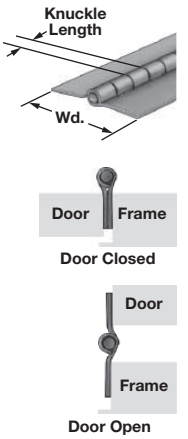

Plastic Piano Hinges without Holes

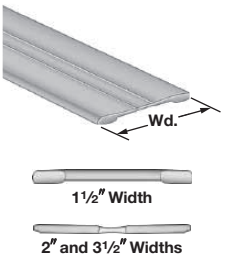

A lightweight and corrosion-resistant alternative to metal hinges, these plastic hinges provide smooth, silent operation. Mount on the surface of doors and frames with adhesive or fasteners. All are for indoor use. Temperature range is 45° to 150°F, except 11195A11 has a temperature range of 45° to 100°F. Center is white, except 11195A11 is clear.

Acrylic leaves have greater clarity than PVC.

PETG leaves have greater clarity and durability than acrylic.

Leaf Thick.	Wd.	Range of Motion	Color		6 ft.
PVC					
0.078"	2"	360°	Clear	11195A43	$20.27
0.078"	2"	360°	White	11195A45	21.50
0.094"	1½"	180°	Clear	11195A41	12.00
0.094"	1½"	180°	White	11195A42	12.00
0.094"	3½"	360°	Clear	11195A44	35.22
0.094"	3½"	360°	White	11195A46	37.27
Acrylic					
0.078"	2"	360°	Clear	11195A22	$19.42
0.090"	1½"	360°	Clear	11195A21	11.25
0.090"	3½"	360°	Clear	11195A23	30.70
PETG					
0.078"	2"	360°	Clear	11195A12	20.25
0.094"	3½"	360°	Clear	11195A13	35.38
0.125"	1½"	360°	Clear	11195A11	36.00

Harsh Environment Plastic Piano Hinges without Holes

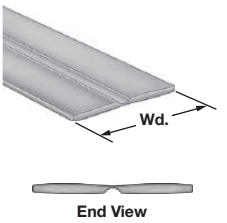

Made of polyolefin plastic to resist salt water, oil, solvents, extreme temperatures, and UV rays. Hinges have rigid leaves and a flexible center for smooth, silent operation. Mount on the surface of doors and frames with adhesive or fasteners. Hinges can be cut with a box cutter or razor. All are for indoor and outdoor use. The full range of motion is 280°. Temperature range is –40° to 180°F.

Wd.	Available Lengths	Black	Per Ft.	Gray	Per Ft.	White	Per Ft.
0.125" Thick Leaf							
1⅛"	4 ft., 8 ft., 25 ft.	1588A714	$4.03	1588A711	$4.03	1588A712	$4.03
1½"	4 ft., 8 ft., 25 ft.	1588A724	4.73	1588A721	4.73	1588A723	4.73
2"	4 ft., 8 ft., 25 ft.	1588A733	6.92	1588A736	6.92	1588A731	6.92
3"	4 ft., 8 ft., 25 ft.	1588A742	10.02	1588A741	10.02	1588A744	10.02

Slip-On Plastic Piano Hinges without Holes

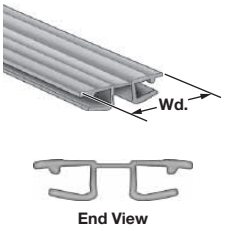

Hang panels without drilling holes or welding—channels grip panel edges for a secure fit. Hinges have rigid leaves and a flexible center. All are for indoor use.

Polypropylene leaves have greater durability than PVC or acrylic. The leaves and center are the same color. Not rated for temperature.

PVC leaves resist chemicals better than the other plastics. They have a white center. Temperature range is 30° to 150°F.

Acrylic leaves have good clarity. Center is white. Temperature range is –40° to 150°F.

PETG leaves have greater clarity and durability than the other plastics. Center is clear. Temperature range is 45° to 100°F.

For Panel Thick.	Wd.	Leaf Thick.	Range of Motion	Available Colors		6 ft.
Polypropylene						
⅛"	13/16"	0.047"	90°	Black, White	1793A61	$13.40
3/16"	11/16"	0.047"	90°	Black, White	1793A62	13.80
¼"	13/16"	0.047"	90°	Black, White	1793A63	14.40
PVC						
¼"	1½"	0.063"	180°	Clear, White	11565A35	19.00
Acrylic						
¼"	15/16"	0.055"	180°	Clear	11565A11	21.00
PETG						
¼"	1⅛"	0.050"	180°	Clear	11565A12	51.43

Load-Rated Piano Hinges with Holes

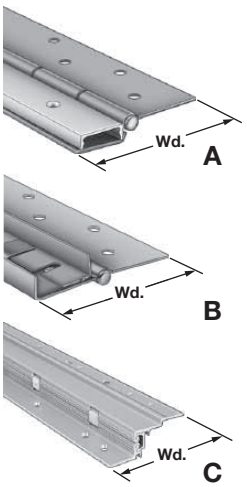

Ensure smooth operation of heavy doors. Hinges have nylon bearings spaced evenly along the length to distribute door weight. The full range of motion is 180°. Fasteners included.

Styles A and B are UL fire-rated for 90 minutes on hollow metal and composite core wood doors. Maximum door thickness is 1¾". *Style A* have one leaf that mounts to the surface of the door, while the other mounts to the frame. *Style B* has one leaf that mounts around the edge of the door, while the other mounts to the frame.

Style C come with a snap-on cover that protects hinge from tampering and creates a finished appearance. Both leaves are surface mount.

Note: Load capacity is based on a maximum door size of 4′ Wd. ×7′ Ht.

Wd.	Leaf Thick.	Pin Dia.	Knuckle Lg.	Load Cap., lbs.		6′11"
(A) Zinc-Plated Steel						
4"	0.075"	3/16"	2"	600	14225A22	$267.02
(A) Type 304 Stainless Steel						
4"	0.078"	3/16"	2"	600	14225A24	399.90
(B) Type 304 Stainless Steel						
4½"	0.078"	3/16"	2"	600	14225A26	434.56
(C) Anodized Aluminum						
4"	0.063"	—	—	160	1382A18	216.94
4"	0.063"	—	—	320	1382A23	267.70

Mil. Spec. Piano Hinges without Holes

Hinges conform to military specifications for material, design, and construction. All provide good corrosion resistance. The full range of motion is at least 270°. All are surface mount.

Type 302 stainless steel has better corrosion resistance than aluminum.

Aluminum is lighter in weight than Type 302 stainless steel. Leaves are Alloy 2024-T3511 and pins are cadmium-plated Type 302 stainless steel.

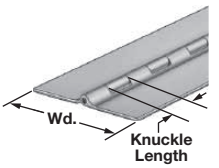



Door Closed



Door Open

Wd.	Pin Dia.	Knuckle Lg.	Mil. Spec. No.		1 ft.	3 ft.	6 ft.
Type 302 Stainless Steel							
0.040″ Thick Leaf							
1¼″	3/32″	1/2″	A-A-55590B	1792A61	$21.62	$40.16	$61.78
1½″	3/32″	1/2″	A-A-55590B	1792A62	22.50	41.78	64.28
2″	3/32″	1/2″	A-A-55590B	1792A63	23.28	43.24	66.52
0.060″ Thick Leaf							
2″	1/8″	5/8″	A-A-55592B	1792A64	33.42	62.07	95.49
Aluminum							
0.044″ to 0.056″ Thick Leaf							
1 1/16″	3/32″	1/2″	MS20001-2	1792A71	41.14	83.57	128.57
1¼″	3/32″	1/2″	MS20001-3	1792A72	44.19	89.77	138.10
1½″	3/32″	1/2″	MS20001-4	1792A73	45.48	92.37	142.11
2″	3/32″	1/2″	MS20001-6	1792A74	46.70	94.87	145.95
2½″	3/32″	1/2″	MS20001-9	1792A75	61.33	124.59	191.67
0.064″ to 0.076″ Thick Leaf							
2″	3/16″	1/2″	MS20001-8	1792A76	108.80	221.00	340.00

Self-Closing Steel Hinges for Swinging Doors

Open your door or gate in either direction and these hinges will return it to the closed position. The full range of motion is 180°. Hinges are nontemplate—the mounting hole pattern does not meet an industry standard. All come with mounting screws and a tool to adjust the spring tension. Note: Load capacity is based on two hinges per door with the maximum door size listed in the table.

Mortise-mount door hinges have leaves that fit in cutouts (mortises) in your door's edge. They mount to the surface of the frame.

Surface-mount door hinges have leaves that fit around your door's edge. They mount to the surface of the frame.

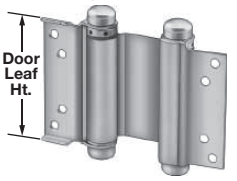

Mortise-Mount Door


Surface-Mount Door

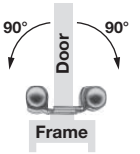

Door Leaf Ht.	Door Leaf Wd.	Door Size Min. Ht.	Door Size Max. Wd.	Door Size Thick.	Load Cap., lbs.		
Mortise-Mount Door—Primed							
0.075″ Thick Leaf							
2 3/16″	1½″	3′6″	1′6″	7/8″-1″	15	14905A41	$22.44
2 3/16″	1 13/16″	3′6″	1′6″	1⅛″-1½″	15	14905A51	23.67
3″	1½″	5′	2′	¾″-1″	35	1479A18	32.89
0.091″ Thick Leaf							
4″	1¾″	6′8″	2′4″	7/8″-1 1/4″	60	1479A19	34.78
5″	2″	6′8″	2′8″	1⅛″-1½″	65	1479A21	43.40
0.105″ Thick Leaf							
4½″	2⅜″	7′	2′8″	1¾″	75	1479A25	53.10
6″	2 3/16″	7′	2′8″	1¼″-1¾″	75	1479A22	47.80
0.114″ Thick Leaf							
7″	2 9/16″	7′	3′	1⅜″-2″	80	1479A23	59.20
0.128″ Thick Leaf							
8″	2 13/16″	7′	3′6″	1½″-2″	100	1479A24	87.00
Mortise-Mount Door—Painted Black							
0.075″ Thick Leaf							
3″	1½″	5′	2′	¾″-1″	35	1479A11	32.89
0.091″ Thick Leaf							
4″	1¾″	6′8″	2′4″	7/8″-1 1/4″	60	1479A12	34.78
5″	2″	6′8″	2′8″	1⅛″-1½″	65	1479A13	43.40
0.105″ Thick Leaf							
4½″	2⅜″	7′	2′8″	1¾″	75	1479A37	53.10
6″	2 3/16″	7′	2′8″	1¼″-1¾″	75	1479A14	47.80
0.114″ Thick Leaf							
7″	2 9/16″	7′	3′	1⅜″-2″	80	1479A15	59.20
0.128″ Thick Leaf							
8″	2 13/16″	7′	3′6″	1½″-2″	100	1479A16	87.00
Mortise-Mount Door—Dull Zinc							
0.075″ Thick Leaf							
2 3/16″	1½″	3′6″	1′6″	7/8″-1″	15	14905A42	28.11
2 3/16″	1 13/16″	3′6″	1′6″	1⅛″-1½″	15	14905A52	29.56
Mortise-Mount Door—Dull Chrome							
0.075″ Thick Leaf							
3″	1½″	5′	2′	¾″-1″	35	1479A71	47.40
0.091″ Thick Leaf							
4″	1¾″	6′8″	2′4″	7/8″-1 1/4″	60	1479A72	50.10
5″	2″	6′8″	2′8″	1⅛″-1½″	65	1479A73	69.40
0.105″ Thick Leaf							
4½″	2⅜″	7′	2′8″	1¾″	75	1479A39	85.00
6″	2 3/16″	7′	2′8″	1¼″-1¾″	75	1479A74	76.40
0.114″ Thick Leaf							
7″	2 9/16″	7′	3′	1⅜″-2″	80	1479A75	94.60
0.128″ Thick Leaf							
8″	2 13/16″	7′	3′6″	1½″-2″	100	1479A76	139.30

Door Leaf Ht.	Door Leaf Wd.	Door Size Min. Ht.	Door Size Max. Wd.	Door Size Thick.	Load Cap., lbs.		
Mortise-Mount Door—Dull Brass							
0.075″ Thick Leaf							
3″	1½″	5′	2′	¾″-1″	35	1479A26	$37.00
0.091″ Thick Leaf							
4″	1¾″	6′8″	2′4″	7/8″-1 1/4″	60	1479A27	39.20
5″	2″	6′8″	2′8″	1⅛″-1½″	65	1479A28	54.20
0.105″ Thick Leaf							
4½″	2⅜″	7′	2′8″	1¾″	75	1479A38	103.75
6″	2 3/16″	7′	2′8″	1¼″-1¾″	75	1479A29	59.80
0.114″ Thick Leaf							
7″	2 9/16″	7′	3′	1⅜″-2″	80	1479A31	74.10
0.128″ Thick Leaf							
8″	2 13/16″	7′	3′6″	1½″-2″	100	1479A32	108.70
Mortise-Mount Door—Bright Brass							
0.075″ Thick Leaf							
2 3/16″	1½″	3′6″	1′6″	7/8″-1″	15	14905A43	31.44
2 3/16″	1 13/16″	3′6″	1′6″	1⅛″-1½″	15	14905A53	32.89
Surface-Mount Door—Primed							
0.091″ Thick Leaf							
4″	1 11/16″	6′8″	2′4″	7/8″	60	1540A11	69.00
4″	1 11/16″	6′8″	2′4″	1″	60	1540A12	69.00
4″	1 11/16″	6′8″	2′4″	1⅛″	60	1540A13	69.00
0.105″ Thick Leaf							
6″	1 9/16″	7′	2′8″	1¼″	75	1540A17	89.10
6″	1 9/16″	7′	2′8″	1⅜″	75	1540A18	89.10
6″	1 9/16″	7′	2′8″	1½″	75	1540A19	89.10
0.128″ Thick Leaf							
8″	2½″	7′	3′6″	1¾″	100	1540A92	141.00
Surface-Mount Door—Painted Black							
0.091″ Thick Leaf							
4″	1 11/16″	6′8″	2′4″	7/8″	60	1540A41	69.00
4″	1 11/16″	6′8″	2′4″	1″	60	1540A42	69.00
4″	1 11/16″	6′8″	2′4″	1⅛″	60	1540A43	69.00
0.105″ Thick Leaf							
6″	1 9/16″	7′	2′8″	1¼″	75	1540A47	89.10
6″	1 9/16″	7′	2′8″	1⅜″	75	1540A48	89.10
6″	1 9/16″	7′	2′8″	1½″	75	1540A49	89.10
0.128″ Thick Leaf							
8″	2½″	7′	3′6″	1¾″	100	1540A91	141.00
Surface-Mount Door—Dull Chrome							
0.091″ Thick Leaf							
4″	1 11/16″	6′8″	2′4″	7/8″	60	1540A31	109.90
4″	1 11/16″	6′8″	2′4″	1″	60	1540A32	109.90
4″	1 11/16″	6′8″	2′4″	1⅛″	60	1540A33	109.90
0.105″ Thick Leaf							
6″	1 9/16″	7′	2′8″	1¼″	75	1540A37	142.70

Surface-Mount Hinges without Holes

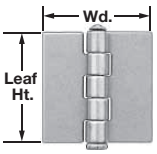

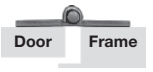

Door Closed



Door Open

Don't worry about matching a mounting hole pattern—you'll have options when installing these hinges since they don't have holes. *Steel, stainless steel, aluminum, HDPE, and PVDF* hinges mount by welding in place or drilling holes. *Acrylic and polycarbonate* hinges mount with solvent-based adhesive. Full range of motion is at least 265°, except polycarbonate, HDPE, and PVDF hinges have a 180° range of motion. Choose hinges with a nonremovable pin to deter tampering.

Galvanized and zinc-plated steel provide better corrosion resistance than unfinished steel.
Type 304 stainless steel has greater corrosion resistance than steel.
Type 316 stainless steel provides greater corrosion resistance than Type 304 stainless steel.
Aluminum is Alloy 5052. It has good corrosion resistance and is lighter in weight than steel.
Acrylic, polycarbonate, HDPE, and PVDF hinges are lighter in weight and more corrosion resistant than metal hinges.

Note: Prices are 15% to 25% lower when you buy 10 or more hinges of the same size.

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Nonremovable Pin		Removable Pin	
Unfinished Steel							
1″	1″	0.047″	7/64″	16175A12	$1.62	16175A561	$1.73
1 1/2″	1 3/8″	0.047″	7/64″	16175A131	1.73	16175A562	1.83
1 1/2″	1 1/2″	0.050″	1/8″	16175A11	1.73		
2″	1 1/2″	0.060″	1/8″	16175A181	1.70		
2″	1 9/16″	0.063″	9/64″	16175A182	2.00	16175A563	2.29
2″	2″	0.060″	1/8″	16175A14	2.03		
2″	2″	0.083″	3/16″	16175A15	2.33	16175A57	2.68
2″	2″	0.107″	3/16″	16175A16	2.94	16175A58	3.36
2 1/2″	1 11/16″	0.063″	9/64″	16175A25	2.78	16175A564	2.91
2 1/2″	2″	0.075″	3/16″	16175A17	3.65		
2 1/2″	2 1/2″	0.089″	13/64″	16175A21	4.17	16175A62	4.35
2 1/2″	2 1/2″	0.120″	1/4″	16175A22	4.24	16175A63	5.61
3″	1 15/16″	0.072″	11/64″	16175A27	2.20		
3″	2″	0.075″	3/16″			16175A61	4.45
3″	2″	0.090″	3/16″	16175A19	3.71		
3″	2 1/2″	0.120″	1/4″	16175A23	5.39	16175A64	5.76
3″	3″	0.093″	15/64″	16175A24	3.62	16175A65	5.23
3″	3″	0.120″	1/4″	16175A26	4.29	16175A66	4.42
3 1/2″	3 5/16″	0.123″	17/64″	16175A32	5.75	16175A73	8.85
3 1/2″	3 1/2″	0.150″	5/16″			16175A74	10.43
4″	3″	0.120″	1/4″	16175A28	5.08	16175A68	5.63
4″	3 1/2″	0.165″	5/16″	16175A33	10.98	16175A75	11.48
4″	3 15/16″	0.130″	17/64″			16175A76	9.71
4″	4″	0.120″	1/4″	16175A35	5.10	16175A77	6.55
4″	4″	0.150″	5/16″	16175A36	12.36		
4″	4″	0.180″	3/8″	16175A37	9.81	16175A78	10.21
4″	4″	0.250″	5/8″	16175A38	24.77	16175A79	25.20
4 1/2″	4 1/2″	0.120″	1/4″	16175A42	6.53	16175A83	7.20
4 1/2″	4 1/2″	0.185″	11/32″	16175A43	21.86	16175A84	23.10
5″	4″	0.180″	3/8″	16175A41	11.23	16175A82	12.27
5″	5″	0.120″	1/4″	16175A44	7.44		
5″	5″	0.150″	5/16″	16175A45	20.76	16175A85	22.13
5″	5″	0.180″	3/8″	16175A46	12.29	16175A86	13.10
5″	5″	0.250″	5/8″	16175A47	24.84	16175A87	25.51
6″	3″	0.180″	3/8″	16175A29	11.69	16175A72	12.53
6″	5″	0.180″	3/8″	16175A48	14.42	16175A88	15.78
6″	5″	0.250″	5/8″	16175A49	27.10		
6″	6″	0.165″	3/8″	16175A51	17.42		
6″	6″	0.180″	3/8″	16175A52	15.81	16175A91	17.78
6″	6″	0.250″	5/8″	16175A53	32.08	16175A92	36.09
8″	6″	0.180″	3/8″	16175A55	21.06		
Galvanized Steel—Brass Pin							
2″	2″	0.105″	3/16″	1623A11	8.68		
2 1/2″	2 3/8″	0.120″	3/16″	1623A12	10.75		
3″	3″	0.135″	1/4″	1623A13	11.29		
3 1/2″	3 1/2″	0.165″	5/16″	1623A14	18.80		
Zinc-Plated Steel—Steel Pin							
2″	2″	0.090″	1/8″	1623A1	15.30		
3″	3″	0.120″	3/16″	1623A2	16.16		
Zinc-Plated Steel—Brass Pin							
4″	4″	0.180″	5/16″	1623A15	22.73		
4″	4″	0.250″	1/2″	1623A3	35.12		
4 1/2″	4 1/2″	0.180″	5/16″	1623A16	31.54		
5″	5″	0.180″	5/16″	1623A17	28.31		
5″	5″	0.250″	1/2″	1623A4	38.13		
6″	6″	0.180″	1/2″	1623A18	35.09		
Unfinished Type 304 Stainless Steel							
1 1/2″	1 1/2″	0.050″	1/8″	1624A61	2.15		
2″	1 1/2″	0.060″	1/8″	1624A62	3.11		
2″	2″	0.060″	1/8″	1624A64	3.19	1624A51	4.33
2″	2″	0.075″	3/16″	1624A65	5.76		
2″	2″	0.090″	3/16″	1624A66	7.42		
2 1/2″	2″	0.060″	1/8″	1624A72	3.56		
2 1/2″	2 1/2″	0.060″	1/8″	1624A69	5.68		
2 1/2″	2 1/2″	0.075″	3/16″	1624A71	7.02	1624A53	7.22
3″	2″	0.090″	3/16″	1624A67	6.05		
3″	2″	0.120″	1/4″	1624A68	7.34	1624A52	8.42
3″	3″	0.060″	1/8″	1624A78	4.52		
3″	3″	0.075″	3/16″	1624A93	8.05		
3″	3″	0.090″	3/16″	1624A73	6.58	1624A54	9.55
3″	3″	0.120″	1/4″	1624A74	7.63	1624A55	9.24
3 1/2″	3″	0.060″	1/8″	1624A88	4.88		
3 1/2″	3″	0.090″	3/16″	1624A75	7.11		
3 1/2″	3 1/2″	0.090″	3/16″	1624A77	7.53		
4″	3″	0.120″	1/4″	1624A76	9.13	1624A56	10.79
4″	3 1/2″	0.075″	3/16″	1624A94	8.93		
4″	3 1/2″	0.090″	3/16″	1624A95	9.38		
4″	4″	0.060″	1/8″	1624A79	11.24		
4″	4″	0.120″	1/4″	1624A81	10.71	1624A57	12.05
4″	4″	0.180″	3/8″	1624A82	22.26		
4″	4″	0.250″	5/8″	1624A83	51.00		
5″	4 1/2″	0.090″	3/16″	1624A96	12.60		
5″	5″	0.120″	1/4″	1624A85	14.68	1624A58	14.71
5″	5″	0.180″	3/8″	1624A86	33.55		
5″	5″	0.250″	5/8″	1624A87	67.40		
6″	6″	0.120″	1/4″	1624A89	17.89	1624A59	18.31
6″	6″	0.180″	3/8″	1624A91	46.26		
6″	6″	0.250″	5/8″	1624A92	76.48		
Unfinished Type 316 Stainless Steel							
1 1/2″	1 1/2″	0.060″	1/8″	15095A32	4.03		
2″	1 1/2″	0.060″	1/8″	15095A33	3.97		
2″	2″	0.060″	1/8″	15095A34	4.03		
2″	2″	0.075″	3/16″	15095A41	10.33		
2″	2″	0.090″	3/16″	15095A39	10.23		
2 1/2″	2 1/2″	0.060″	1/8″	15095A35	5.52		
3″	2″	0.090″	3/16″	15095A54	11.78		
3″	2″	0.120″	1/4″	15095A55	13.18		
3″	3″	0.060″	1/8″	15095A36	5.80		
3″	3″	0.075″	3/16″	15095A37	12.26		
3″	3″	0.090″	3/16″	15095A42	12.36		
3″	3″	0.120″	1/4″	15095A43	14.67		
4″	3″	0.120″	1/4″	15095A56	17.36		
4″	3 1/2″	0.075″	3/16″	15095A38	19.88		
4″	4″	0.120″	1/4″	15095A44	20.36		
4″	4″	0.180″	3/8″	15095A57	78.55		
5″	4 1/2″	0.090″	3/16″	15095A45	19.54		
5″	5″	0.120″	1/4″	15095A46	25.57		
Unfinished Aluminum							
1 1/2″	1 1/2″	0.064″	1/8″	1609A12	6.00		
2″	2″	0.060″	1/8″	1609A5	2.44		
2″	2″	0.064″	1/8″			1609A41	7.58
2″	2″	0.075″	3/16″	1609A14	6.45		
2″	2″	0.090″	3/16″	1609A53	7.80		
2 1/2″	2 1/2″	0.080″	3/16″	1609A16	7.06		
2 1/2″	2 1/2″	0.120″	1/4″	1609A21	7.00	1609A42	7.58
3″	2″	0.120″	1/4″	1609A25	6.76		
3″	3″	0.060″	1/8″	1609A51	2.92		
3″	3″	0.075″	3/16″	1609A24	6.88		
3″	3″	0.090″	3/16″	1609A17	6.97		
3″	3″	0.120″	1/4″	1609A22	7.18	1609A43	7.55
3 1/2″	3 1/2″	0.090″	3/16″	1609A27	7.82		
4″	3″	0.120″	1/4″	1609A26	7.88		
4″	3 1/2″	0.075″	3/16″	1609A52	8.60		
4″	4″	0.120″	1/4″	1609A23	8.58	1609A44	8.79
4″	4″	0.250″	3/8″			1609A1	26.69
5″	4 1/2″	0.090″	3/16″	1609A54	9.60		
5″	5″	0.120″	1/4″	1609A55	10.91		
5″	5″	0.250″	3/8″			1609A2	31.96
Clear Acrylic—Nylon Pin (Not rated for temperature)							
1 1/2″	1 3/8″	0.125″	1/8″			11185A141	.92
1 3/4″	1 1/2″	0.187″	1/8″			11185A11	1.00
Clear Polycarbonate (Maximum temperature is 250° F)							
2 1/2″	2 1/8″	0.200″	1/8″	11185A18	2.62		
White HDPE (Maximum temperature is 160° F)							
2 1/2″	2 1/8″	0.200″	1/8″	11185A19	2.38		
White PVDF (Maximum temperature is 200° F)							
2 1/2″	2 1/8″	0.200″	1/8″	11185A17	7.50		

Miniature Surface-Mount Hinges without Holes

Tiny and lightweight, these are our smallest hinges. Mount with solder or adhesive. They have unfinished brass leaves with a riveted middle instead of a pin. The full range of motion is 180°.



Leaf Ht.	Wd.	Leaf Thick.		1-9	10-Up
1/8"	7/16"	0.036"	1600A11	$7.39	$6.52
3/16"	9/16"	0.036"	1600A12	7.45	6.57

Clean Room Surface-Mount Hinges

Keep your environment free of contaminants—polyacetal bushings prevent metal-to-metal contact that can release particles as hinges open and close. Hinges have aluminum leaves and a Type 304 stainless steel pin. The full range of motion is 270°. Mounting screws are not included.

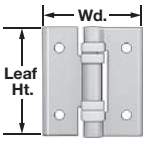

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Screw Size	No. of Holes		
2 9/16"	2 3/8"	0.137"	13/64"	No. 12	4	1795A1	$23.23
3 15/16"	2 3/8"	0.137"	13/64"	No. 12	6	1795A2	27.87

Mortise-Mount Template Hinges

Hinge leaves fit into cutouts (mortises) to mount flush with door and frame edges. The mounting holes form an industry-standard half-moon shape. The leaves fold closely together to fit into tight spaces. For use on wood and hollow metal doors. The full range of motion is at least 180°. Hinges have eight holes for No. 12 screws, except hinges with 3" and 3 1/2" leaf heights have six holes for No. 9 screws. All include mounting screws. Holes are countersunk. Load capacity is based on three hinges per door with a maximum door size of 7 ft. Ht. × 3 ft. Wd. × 1 3/4" Thick. Choose hinges with a nonremovable pin to deter tampering. *Type 304 stainless steel* hinges are more corrosion resistant than steel.

Hinges without bearings are for use on doors without a door closer.

Hinges with bearings are for use on doors with or without a door closer.

Security hinge has concealed bearings. A stud projects from the back of each leaf to prevent the door from being forced open. Includes tamper-resistant screws.

Also Available: Mortise-mount hinges with concealed bearings. Please ask for 16745A55 and specify finish, leaf height, and width.



Door Closed

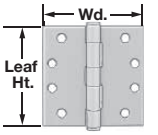

Without Bearings

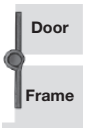

Door Open


With Bearings

Steel

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Load Cap., lbs.	Daily Openings	Primed		Dull Chrome		Dull Bronze		Dull Brass		Bright Brass	
Hinges without Bearings—Removable Pin															
3"	3"	0.097"	15/64"	40	45	1494A42	$7.63	1494A51	$12.10	1494A18	$10.27	1494A59	$7.63	1494A71	$15.07
3 1/2"	3 1/2"	0.119"	17/64"	45	205	1494A11	4.87	1494A52	8.07	1494A21	6.70	1494A61	4.87	1494A72	9.02
4"	4"	0.129"	17/64"	60	205	1494A12	6.67	1494A53	8.03	1494A22	7.90	1494A62	6.70	1494A73	9.70
4 1/2"	4"	0.134"	5/16"	75	205	1494A43	6.67	1494A54	7.60	1494A19	8.00	1494A63	6.80	1494A74	14.18
4 1/2"	4 1/2"	0.134"	5/16"	75	205	1494A13	6.77	1494A55	7.52	1494A23	7.87	1494A64	6.80	1494A75	8.88
5"	4 1/2"	0.145"	21/64"	100	205	1494A15	18.07	1494A56	21.45	1494A24	22.33	1494A65	25.80	1494A76	33.67
5"	5"	0.145"	21/64"	100	205	1494A14	18.07	1494A57	17.12	1494A25	22.33	1494A66	18.43	1494A77	25.52
Hinges with Bearings—Nonremovable Pin															
4 1/2"	4 1/2"	0.134"	5/16"	150	205	1502A89	14.00	1502A91	16.65	1502A92	14.65	1502A93	14.70	1502A94	20.27
4 1/2"	4 1/2"	0.180"	21/64"	150	340	1511A18	30.45	1511A19	33.17	1511A21	29.27	1511A22	29.27	1511A23	39.98
Hinges with Bearings—Removable Pin															
3 1/2"	3 1/2"	0.119"	17/64"	100	205	1502A11	14.66	1502A51	19.49	1502A21	16.94	1502A81	14.80	1502A31	22.11
4"	4"	0.129"	17/64"	125	205	1502A12	16.63	1502A52	20.51	1502A22	18.26	1502A83	16.80	1502A32	24.23
4 1/2"	4"	0.134"	5/16"	150	205	1502A14	14.45	1502A54	17.94	1502A24	15.48	1502A84	14.74	1502A33	21.19
4 1/2"	4"	0.180"	21/64"	150	340	1511A71	33.61	1511A29	36.45	1511A61	34.91	1511A52	35.58	1511A66	43.48
4 1/2"	4 1/2"	0.134"	5/16"	150	205	1502A13	14.03	1502A53	17.42	1502A23	15.48	1502A85	14.45	1502A34	20.97
4 1/2"	4 1/2"	0.180"	21/64"	150	340	1511A11	33.30	1511A31	36.45	1511A62	34.91	1511A54	34.91	1511A67	42.67
5"	4"	0.145"	21/64"	175	205	1502A16	22.06	1502A55	26.00	1502A25	33.00	1502A86	30.67	1502A35	43.36
5"	4"	0.190"	21/64"	175	340	1511A72	39.39	1511A33	41.82	1511A63	40.61	1511A53	44.42	1511A68	55.45
5"	4 1/2"	0.145"	21/64"	175	205	1502A15	22.06	1502A56	26.00	1502A26	26.33	1502A87	25.48	1502A36	35.39
5"	4 1/2"	0.190"	21/64"	175	340	1511A12	39.39	1511A32	41.82	1511A64	40.61	1511A55	41.39	1511A69	55.24
5"	5"	0.145"	21/64"	175	205	1502A17	21.85	1502A57	26.00	1502A27	26.33	1502A88	22.06	1502A37	30.94
5"	5"	0.190"	21/64"	175	340	1511A13	39.39	1511A34	41.82	1511A65	49.03	1511A56	40.64	1511A73	55.24

Type 304 Stainless Steel

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Load Cap., lbs.	Daily Openings	Dull	
Hinges without Bearings—Removable Pin							
3"	3"	0.097"	15/64"	40	45	1781A41	$38.13
3 1/2"	3 1/2"	0.119"	17/64"	45	205	1781A42	39.54
4"	4"	0.129"	17/64"	60	205	1781A43	40.30
4 1/2"	4"	0.134"	5/16"	75	205	1781A44	40.79
4 1/2"	4 1/2"	0.134"	5/16"	75	205	1781A45	41.48
Hinges with Bearings—Nonremovable Pin							
4 1/2"	4 1/2"	0.134"	5/16"	150	205	1499A32	48.68
4 1/2"	4 1/2"	0.180"	21/64"	150	340	1281A55	80.20
Hinges with Bearings—Removable Pin							
4"	4"	0.129"	17/64"	125	205	1499A12	43.43

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Load Cap., lbs.	Daily Openings	Dull	
Hinges with Bearings—Removable Pin (Cont.)							
4 1/2"	4"	0.134"	5/16"	150	205	1499A19	$45.65
4 1/2"	4"	0.180"	21/64"	150	340	1281A48	77.33
4 1/2"	4 1/2"	0.134"	5/16"	150	205	1499A14	45.23
4 1/2"	4 1/2"	0.180"	21/64"	150	340	1281A49	76.24
5"	4 1/2"	0.190"	21/64"	175	340	1281A51	88.01
5"	5"	0.145"	21/64"	175	205	1499A17	65.24
5"	5"	0.190"	21/64"	175	340	1281A53	88.01
Security Hinge with Bearings—Nonremovable Pin							
4 1/2"	4 1/2"	0.187"	3/8"	250	55	1819A46	67.24

Mortise Cutters

Create precise outlines for your hinge mortises (cutouts). Position the cutter on your wood door or frame and hit it with a hammer to cut the outline. Use a chisel to remove the wood and make the mortise. Cutters have a scriber for marking the correct depth. Made of heat-treated alloy steel with a black finish.

Leaf Ht.	(A)		
3"	1 1/8"	12565A61	$10.92
3 1/2"	1 1/8"	12565A62	11.20
4"	1 5/16"	12565A63	11.64





Mortise-Mount Hinges with Nonstandard Mounting Hole Pattern

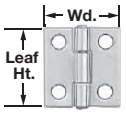

Square Corners with 4 Holes



Round Corners with 6 Holes



Round Corners with 8 Holes

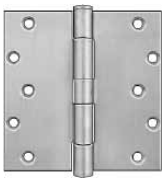

Square Corners with 10 Holes



Door Closed

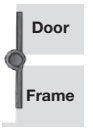

Door Open

The mounting hole pattern on these hinges does not follow an industry standard, which means you can work around worn mounting holes when replacing template hinges. Also known as nontemplate hinges, they are for use on solid and hollow-core wood doors. Holes are countersunk. The full range of motion is at least 270°. Hinges are not for use on doors with a door closer. Mounting screws are not included, unless noted. Hinges with a leaf height of 1″ to 1½″ have three knuckles; all others have five knuckles. Choose hinges with a nonremovable pin to deter tampering.

Zinc-plated steel and Type 304 stainless steel are more corrosion resistant than unfinished steel.

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Screw Size	No. of Holes	Unfinished Steel		Zinc-Plated Steel		Dull Type 304 Stainless Steel	
Square Corners—Nonremovable Pin											
1″	1″	0.050″	3/32″	No. 4	4	1598A12	$0.77	1598A52	$1.07	—	—
1 7/16″	3 1/2″	0.072″	1/8″	No. 8	6	—	—	1826A13■	2.63	—	—
1 1/2″	1 3/8″	0.050″	1/8″	No. 5	4	1598A14	1.03	1598A53	1.23	—	—
2″	1 9/16″	0.050″	1/8″	No. 6	4	1598A15	1.17	1598A54	1.20	—	—
2″	2″	0.077″	3/16″	No. 7	4	1514A11	2.80	—	—	—	—
2 1/2″	1 3/4″	0.055″	1/8″	No. 6	6	1598A17	1.20	1598A55	1.20	—	—
2 1/2″	2 1/2″	0.090″	7/32″	No. 8	6	1514A12	3.40	—	—	—	—
3″	2″	0.062″	5/32″	No. 7	6	1598A18	1.83	1598A56	1.98	—	—
3″	3″	0.080″	15/64″	No. 9	6	1514A13	3.57	—	—	—	—
3 1/2″	3 1/2″	0.110″	17/64″	No. 9	6	1514A28	4.40	—	—	—	—
4″	4″	0.110″	17/64″	No. 10	8	1514A15	4.32	—	—	—	—
6″	6″	0.160″	3/8″	1/4″	10	1514A18■	31.20	—	—	—	—
Square Corners—Removable Pin											
1″	1″	0.050″	3/32″	No. 4	4	1597A12	1.01	1597A41	.82	—	—
1 1/2″	1 7/16″	0.050″	1/8″	No. 5	4	1597A13	1.40	1597A42	1.40	—	—
2″	1 9/16″	0.050″	1/8″	No. 6	4	1597A14	1.80	1597A43	1.80	—	—
2″	2″	0.077″	3/16″	No. 7	4	1513A11	2.45	—	—	—	—
2 1/2″	1 11/16″	0.055″	1/8″	No. 6	6	1597A15	2.97	1597A44	1.94	—	—
2 1/2″	2 1/2″	0.077″	7/32″	No. 8	6	1513A13	3.07	—	—	—	—
3″	2″	0.062″	5/32″	No. 7	6	1597A16	1.98	1597A45	1.98	—	—
3″	3″	0.080″	17/64″	No. 9	6	1513A14	2.50	—	—	—	—
3″	3″	0.085″	15/64″	No. 9	6	—	—	1513A27	2.95	1513A37	$14.56
3 1/2″	3 1/2″	0.085″	15/64″	No. 9	6	—	—	1513A61	3.43	1513A38	14.56
3 1/2″	3 1/2″	0.110″	17/64″	No. 9	6	1513A15	3.08	—	—	—	—
4″	4″	0.085″	15/64″	No. 9	8	—	—	1513A31	5.15	1513A39	16.87
4″	4″	0.110″	17/64″	No. 10	8	1513A16	4.31	—	—	—	—
6″	6″	0.160″	3/8″	1/4″	10	1513A19■	27.50	—	—	—	—
Round Corners—Removable Pin											
3 1/2″	3 1/2″	0.085″	15/64″	No. 9	6	1513A51★	1.41	1513A28	1.64	1513A58	16.64
4″	4″	0.085″	15/64″	No. 9	8	1513A52★	2.15	1513A29	2.55	1513A59	18.04

■ Mounting screws are included. ★ Hinges are primed steel.

Half-Mortise/Half-Surface Mount Template Hinges





You only need one cutout (mortise) for these hinges—the offset design allows you to mortise mount one leaf and surface mount the other. Often used when it is difficult to mortise the door or frame, such as when hanging a hollow door on a solid frame. The mounting holes form an industry-standard half-moon shape. Pins are removable. Holes are countersunk. The full range of motion is at least 180°. Mounting screws included.

Hinges without bearings are for doors without a door closer.

Hinges with bearings provide smooth operation on doors with or without a door closer.

	Door Leaf		*Frame Leaf*								
Leaf Ht.	Wd.	No. of Holes	Wd.	No. of Holes	Leaf Offset	Leaf Thick.	Pin Dia.	Screw Size	Daily Openings	Primed Steel	Dull Chrome-Plated Steel
Surface-Mount Door Leaf/Mortise-Mount Frame Leaf											
Hinges without Bearings											
3 1/2″	1 5/8″	3	1 9/16″	3	7/16″	0.119″	5/16″	No. 10	45	1498A12 $10.20	1498A31 $16.30
4 1/2″	2 9/16″	3	2″	4	1/2″	0.134″	5/16″	No. 12, 1/4″	205	1498A15 15.72	1498A32 21.12
Hinges with Bearings											
4 1/2″	2 9/16″	3	2″	4	1/2″	0.134″	5/16″	No. 12, 1/4″	205	1498A41 28.27	1498A43 35.77
Mortise-Mount Door Leaf/Surface-Mount Frame Leaf											
Hinges with Bearings											
4 1/2″	2″	4	1 1/2″	3	3/8″	0.134″	5/16″	No. 12	205	1356A1 30.07	1356A4 36.65
4 1/2″	2 1/16″	4	1 1/2″	3	7/16″	0.180″	5/16″	No. 12	205	1509A11 65.42	1509A13 95.60
5″	2 1/16″	4	1 1/2″	4	7/16″	0.190″	5/16″	No. 12	205	1509A12 83.78	1509A14 102.20

Sectional-Door Hinges



#1

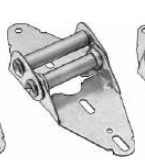

#2 & #3

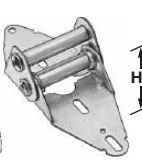

#4, #5 & #6

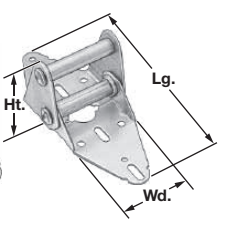

#7, #8 & #9

Commonly used on garage doors, these hinges are made of steel with a hot-dipped galvanized finish. Pins are nonremovable. Leaves are 0.110″-0.118″ thick. Screw size is 1/4″ (screws not included).

Trade No.	Range of Motion	*Overall Size* Wd.	Lg.	Ht.	No. of Holes		
#1	180°	2 13/16″	7 5/16″	1 1/4″	9	13925A41	$4.30
#2	115°	2 13/16″	7 5/16″	1 1/2″	9	13925A42	4.79
#3	110°	2 13/16″	7 5/16″	1 3/4″	9	13925A43	5.00
#4	90°	2 13/16″	7 5/16″	2″	9	13925A44	5.18
#5	95°	2 13/16″	7 5/16″	2 1/4″	9	13925A45	5.39
#6	110°	2 3/4″	7 5/16″	2 1/2″	9	13925A46	5.61
#7	95°	2 3/4″	7 3/8″	2 7/8″	9	13925A47	7.64
#8	95°	2 3/4″	7 3/8″	3 1/16″	9	13925A48	7.86
#9	100°	2 13/16″	7 3/8″	3 3/8″	9	13925A49	8.13

Load-Rated Heavy Duty Surface-Mount Hinges

Thick leaves and a large diameter pin make these hinges strong enough for use with heavy doors, such as those on vaults. All have a nonremovable steel pin, which deters tampering. The full range of motion is at least 180°. Hinges with a 5″ leaf height have bearings; those with a 3″ leaf height do not. *Hinges without holes* install by spot welding or drilling holes for rivets or screws. *Hinges with holes* have countersunk holes and include screws, unless noted.

Adjustable hinges have a set screw you can turn to move the door 1/8″ up or down after it's hung. **To Order:** Please specify right-hand or left-hand mount. Use a right-hand hinge if, from the push side of the door, the hinge is on the right; use a left-hand hinge if it is on the left.

Note: Load capacity is based on two hinges per door.



Nonadjustable without Holes



Adjustable with Holes

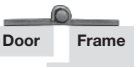

Door Closed



Door Open

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Daily Openings	Without Holes: Load Cap., lbs.			With Holes: Load Cap., lbs.	Screw Size	No. of Holes		
Nonadjustable—Reversible for right-hand or left-hand mounting												
Primed Steel												
3″	4″	0.203″	7/16″	135	____	____	____	150	3/8″	4	1852A61■	$32.41
3″	4″	0.375″	3/8″	20-210	____	____	____	150	3/8″	4	1852A59	65.40
5″	4″	0.500″	3/4″	210-350	1,000	1805A15	$180.50	500	1/2″	6	1484A31	180.88
5″	5 1/4″	0.500″	3/4″	210-350	1,000	1805A16	180.50	500	1/2″	6	1484A32	180.88
5″	6″	0.500″	5/8″	270	2,000	10855A46	235.42	2,000	1/2″	6	10855A32▲	262.50
5″	6″	0.500″	5/8″	340	800	10855A44	172.50	____	____	____	____	____
5″	6 1/2″	0.500″	3/4″	210-350	1,000	1805A14	178.80	____	____	____	____	____
Unfinished Type 304 Stainless Steel												
5″	6″	0.500″	5/8″	270	2,000	10855A54	533.33	____	____	____	____	____
Adjustable—Available in right-hand or left-hand mount												
Primed Steel												
5″	4 1/4″	0.375″	1/2″	270	1,000	1828A27	318.18	1,000	3/8″	6	1828A21▲	350.00
5″	6 9/16″	0.500″	7/8″	270	3,000	1828A28	498.18	3,000	1/2″	6	1828A22▲	498.18
Unfinished Type 304 Stainless Steel												
5″	4 1/4″	0.375″	1/2″	270	1,000	1828A64	510.00	____	____	____	____	____

■ Holes are not countersunk. ▲ Holes are not countersunk; mounting screws are not included.

Plastic Surface-Mount Hinges

These one-piece polyolefin hinges resist corrosion and harsh weather. The pinless design provides smooth, silent operation. Temperature range is –40° to 180°F. Holes are countersunk, except hinges with a 1″ high leaf. Mounting screws are not included. The full range of motion is 270°.

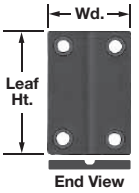

End View

Leaf Ht.	Wd.	Leaf Thick.	Screw Size	No. of Holes	Black		White	
1″	3″	0.125″	No. 5	4	1637A743	$1.54	1637A742	$1.54
1 1/2″	1″	0.094″	No. 6	4	1637A713	1.15	1637A712	1.15
2″	1 1/2″	0.125″	No. 5	4	1637A723	1.50	1637A722	1.50
3″	2 1/2″	0.188″	No. 8	6	1637A733	3.18	1637A732	3.18
3 1/2″	3 1/2″	0.250″	No. 8	6	1637A753	4.04	1637A751	4.04
4″	4″	0.250″	No. 12	8	1637A762	3.84	1637A761	3.84

Surface-Mount Hinges

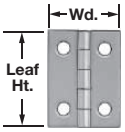

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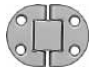

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7

Use in light duty applications, such as hanging cabinet doors. The full range of motion is at least 180°, except Style 2 hinges with nonremovable pin, which have a 90° range of motion. Holes are countersunk and mounting screws are not included, unless noted.

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Screw Size	No. of Holes		
Removable Pin							
(1) Zinc-Plated Steel							
3″	2 1/2″	0.080″	1/4″	No. 8	6	1798A25♣	$5.68
(1) Dull Black Steel							
3″	2 1/2″	0.080″	1/4″	No. 8	6	1798A21♣	6.82
(1) Galvanized Steel							
3″	2 1/2″	0.080″	1/4″	No. 8	6	1798A22♣	13.55
(1) Unfinished Type 430 Stainless Steel							
3″	2 5/8″	0.075″	3/16″	No. 10	6	1488A11	5.60
(1) Unfinished Type 304 Stainless Steel							
6″	1 1/2″	0.050″	1/8″	No. 6	6	1586A12■	9.16
6″	1 3/4″	0.050″	1/8″	No. 6	6	1586A13■	9.69
6″	2″	0.050″	1/8″	No. 6	6	1586A16■	10.28
6″	3″	0.050″	1/8″	No. 6	6	1586A21■	12.47
(2) Clear Polycarbonate (Maximum temperature is 250° F)							
2 1/2″	2 1/8″	0.200″	1/8″	1/4″	4	1635A24	3.50
(2) White HDPE (Maximum temperature is 160° F)							
2 1/2″	2 1/8″	0.200″	1/8″	1/4″	4	1635A25	3.25
(2) White PVDF (Maximum temperature is 200° F)							
2 1/2″	2 1/8″	0.200″	1/8″	1/4″	4	1635A23	8.38
Nonremovable Pin							
(1) Polished Type 316 Stainless Steel—Type 304 SS Pin							
1 1/2″	1 5/8″	0.187″	3/16″	No. 10	4	1488A12	8.60
1 15/16″	1 15/16″	0.187″	13/64″	No. 10	4	1488A13	10.50
2 3/8″	2 3/8″	0.315″	5/16″	5/16″	4	1488A1	29.60
(1) Bright Brass							
3/4″	5/8″	0.020″	5/64″	No. 2	4	1603A2	1.43
1″	3/4″	0.020″	5/64″	No. 2	4	1603A3	1.61

Leaf Ht.	Open Wd.	Leaf Thick.	Pin Dia.	Screw Size	No. of Holes		
Nonremovable Pin (Cont.)							
(1) Bright Brass (Cont.)							
1″	1″	0.020″	5/64″	No. 2	4	1603A23	$1.84
2″	1″	0.040″	7/64″	No. 5	6	1603A7	3.95
2″	1 3/16″	0.040″	7/64″	No. 5	6	1603A24	4.10
2″	1 3/8″	0.040″	7/64″	No. 5	6	1603A27	4.42
(2) White Polypropylene—Nylon Pin (Not rated for temperature)							
2″	2″	0.187″	1/4″	No. 10	4	1635A12	2.88
(2) Black Polypropylene—Nylon Pin (Not rated for temperature)							
2″	2″	0.187″	1/4″	No. 10	4	1635A22	2.88
(3) Polished Type 304 Stainless Steel							
1 1/2″	2 3/4″	0.062″	3/16″	No. 8	4	1549A57	4.83
(4) Polished Type 304 Stainless Steel							
1 1/2″	3″	0.080″	7/32″	No. 8	6	1549A59	7.38
(4) Polished Type 316 Stainless Steel—Type 304 SS Pin							
1 1/2″	3″	0.160″	3/16″	No. 10	6	11175A13	11.29
1 1/2″	4 1/8″	0.180″	13/64″	No. 10	6	11175A14	13.38
(5) Polished Type 316 Stainless Steel							
1 1/4″	2 3/8″	0.135″	5/32″	No. 10	4	1549A44	14.95
(6) Polished Type 304 Stainless Steel							
1 1/2″	2″	0.062″	3/16″	No. 8	4	1549A49	5.92
1 1/2″	3″	0.062″	3/16″	No. 8	6	1549A51	6.10
(7) Polished Type 304 Stainless Steel							
1 1/2″	2 1/4″	0.080″	7/32″	No. 8	5	1549A64	7.35
(7) Polished Type 316 Stainless Steel							
1 1/2″	2 7/8″	0.187″	3/16″	No. 10	5	11175A12	12.32

♣ Sold per pair. Mounting screws are included. ■ Holes are not countersunk.

Strap Hinges

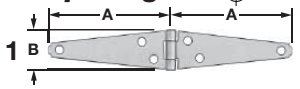









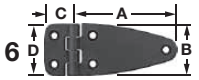



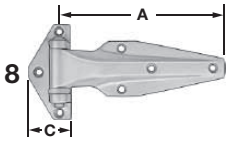



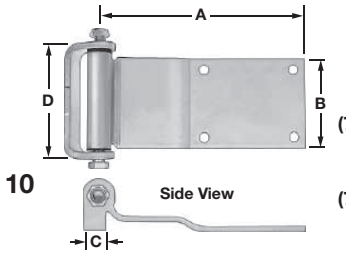

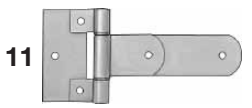





Surface mount these hinges on flush-mounted gates and doors. Pins are nonremovable, except Styles 8 and 10. Mounting screws are not included.

Styles 8 and 9 are for service doors, refrigerators, freezers, and industrial enclosures. *Style 8* have nylon bearings for smooth operation. *Style 9* has a nylon bushing for smooth operation.

Style 10 has a 1 3/8" offset to accommodate a door seal.

Styles 11 and 12 have door leaves constructed from multiple layers of metal for extra strength.

Style 13 is often used on self-closing gates. It is spring-loaded and the tension is adjustable.

Door Leaf (A)	Door Leaf (B)	Frame Leaf (C)	Frame Leaf (D)	Leaf Thick.	Pin Dia.	Range of Motion	Screw Size	No. of Holes		Each
(1) Zinc-Plated Steel—Steel Pin										
1 7/8"	1"	___	___	0.050"	1/8"	270°	No. 5	6	1526A43	$1.63
3"	1 1/16"	___	___	0.056"	1 1/64"	270°	No. 6	6	1526A44	1.68
3 13/16"	1 3/16"	___	___	0.056"	1 3/64"	270°	No. 7	6	1526A51	2.21
4 13/16"	1 7/16"	___	___	0.072"	1 3/64"	270°	No. 7	6	1526A52	3.56
5 13/16"	1 9/16"	___	___	0.072"	1 3/64"	270°	No. 9	6	1526A53	4.28
7 7/16"	3"	___	___	0.112"	1 1/32"	270°	No. 12	8	1526A54	9.68
9 3/4"	3 5/8"	___	___	0.125"	1 3/64"	270°	No. 9	8	1526A55	11.82
12"	4 7/16"	___	___	0.158"	1 31/64"	270°	No. 16	10	1526A56	21.38
(1) Polished Type 304 Stainless Steel										
1 15/16"	1 1/16"	___	___	0.060"	1/8"	250°	No. 8	4	1528A32	6.35
2"	1"	___	___	0.080"	1/8"	180°	No. 8	4	1528A18	9.33
2"	1 1/2"	___	___	0.060"	1/8"	250°	No. 8	4	1528A33	6.97
2 3/4"	1 1/2"	___	___	0.080"	1/8"	180°	No. 8	6	1528A19	12.71
3"	1 1/2"	___	___	0.060"	1/8"	250°	No. 8	6	1528A31	7.62
3 9/16"	1 9/16"	___	___	0.080"	9/64"	180°	No. 8	6	1528A25	17.36
(1) Dull Type 304 Stainless Steel										
4"	2"	___	___	0.090"	1/4"	270°	No. 12	8	1704A11	28.52
6"	2 1/2"	___	___	0.125"	3/8"	270°	No. 12	8	1704A12	38.75
8"	3"	___	___	0.125"	3/8"	270°	No. 14	8	1704A13	47.55
10"	3 1/2"	___	___	0.125"	3/8"	270°	No. 14	8	1704A14	58.17
(1) Polished Type 316 Stainless Steel										
2 1/16"	1"	___	___	0.200"	3/16"	180°	No. 10	4	1528A21	8.36
2 15/16"	1 1/8"	___	___	0.175"	1/4"	180°	No. 10	4	1528A23	10.75
(2) Polished Type 316 Stainless Steel										
3 5/16"	3/4"	___	___	0.193"	1/4"	180°	No. 10	4	1528A24	10.97
(3) Polished Type 316 Stainless Steel										
2"	1 1/8"	___	___	0.190"	7/64"	360°	No. 10	4	1528A27	15.75
3"	1 5/8"	___	___	0.230"	7/64"	360°	No. 10	6	1528A28	24.07
(4) Black Plastic—Monel Pin (Temperature range is 0° to 190° F)										
2"	1 1/2"	___	___	0.188"	1/8"	270°	No. 8	6	1711A11	3.42
(5) Black Plastic—Monel Pin (Temperature range is 0° to 190° F)										
3"	1 1/2"	___	___	0.188"	1/8"	270°	No. 8	6	1711A12	3.46
(6) Black Plastic—Monel Pin (Temperature range is 0° to 190° F)										
3"	1 1/2"	7/8"	1 1/2"	0.188"	1/8"	270°	No. 8	5	1711A13	2.93
(7) Zinc-Plated Steel—Steel Pin										
1 7/8"	7/8"	9/16"	1 13/16"	0.048"	1/8"	270°	No. 6	6	1530A31	1.22
2 7/8"	1 1/16"	13/16"	2 1/4"	0.056"	1 1/64"	270°	No. 6	6	1530A32	1.42
3 13/16"	1 3/16"	7/8"	2 7/16"	0.056"	3/16"	270°	No. 7	6	1530A33	1.75
3 13/16"	1 9/16"	1 1/8"	3 1/8"	0.077"	1 3/64"	270°	No. 9	6	1530A51	3.54
4 3/4"	1 3/4"	1 5/16"	3 9/16"	0.077"	2 1/64"	270°	No. 9	7	1530A52	4.28
4 13/16"	1 1/8"	1 1/16"	2 7/8"	0.072"	1 3/64"	270°	No. 9	6	1530A24	2.23
5 11/16"	2 1/16"	1 9/16"	4 1/4"	0.104"	1 3/64"	270°	No. 10	8	1530A53	4.74
5 13/16"	1 9/16"	1 1/16"	3 1/8"	0.072"	1 3/64"	270°	No. 9	6	1530A25	2.67
7 11/16"	2 11/16"	2"	5 1/2"	0.112"	1 1/32"	270°	No. 12	8	1530A54	7.88
9 5/8"	3 7/16"	2 5/16"	6 5/8"	0.125"	2 7/64"	270°	No. 14	9	1530A55	13.45
11 5/8"	3 13/16"	2 11/16"	7 11/16"	0.139"	2 7/64"	270°	No. 14	10	1530A56	34.42
(7) Galvanized Steel—Zinc Pin										
3 13/16"	1 9/16"	1 1/8"	3 1/8"	0.077"	1 3/64"	270°	No. 9	6	1530A71	9.59
5 11/16"	2 1/8"	1 9/16"	4 1/4"	0.104"	1 3/64"	270°	No. 10	8	1530A72	15.29
7 11/16"	2 11/16"	2"	5 1/2"	0.112"	1 1/32"	270°	No. 12	8	1530A73	24.21
(7) Polished Type 304 Stainless Steel										
3"	1 1/2"	1 1/4"	2 1/8"	0.060"	1/8"	250°	No. 8	5	1528A61	8.83
3 1/8"	1 1/8"	15/16"	2 1/16"	0.099"	15/64"	270°	No. 10	4	1364A11	9.46
4 3/4"	1 1/2"	1 7/16"	2 11/16"	0.158"	5/16"	270°	No. 12	4	1364A12	18.45
(7) Dull Type 304 Stainless Steel										
4"	2"	1 1/2"	3 1/2"	0.090"	1/4"	270°	No. 12	8	1632A21	23.14
6"	2"	1 3/4"	4 1/2"	0.125"	3/8"	270°	No. 12	8	1632A22	31.96
8"	3"	2 1/4"	5 1/2"	0.125"	3/8"	270°	No. 12	9	1632A23	36.52
10"	3 1/2"	2 1/4"	7"	0.125"	3/8"	270°	No. 14	9	1632A24	43.68
(8) Polished Type 304 Stainless Steel										
5 1/8"	1 3/4"	1 3/8"	3"	0.171"	5/16"	180°	No. 8	7	1264A12	32.55
6 1/16"	2 1/8"	1 1/2"	3 11/16"	0.204"	5/16"	180°	No. 10	7	1264A13	48.69
(9) Zinc—400 Series Stainless Steel Pin										
4 5/8"	1 15/16"	1 1/4"	3 1/4"	0.781"	1/2"	180°	No. 10	6	1276A49	44.58
(10) Galvanized Steel—Steel Pin										
9"	4"	7/8"	4 7/8"	0.250"	1/2"	270°	3/8"	4	12395A42	21.14
(11) Zinc-Plated Steel—Steel Pin										
3 3/4"	2"	2"	5"	0.171"	1/2"	180°	5/16"	4	1796A25	10.04
8"	2 1/4"	3 5/16"	5"	0.160"	1/2"	180°	5/16"	5	1796A14	15.22
(12) Zinc-Plated Steel—Steel Pin										
12"	2 1/4"	3 5/16"	5"	0.160"	1/2"	180°	5/16"	6	1796A12	21.25
16"	2 1/4"	3 5/16"	5"	0.160"	1/2"	180°	5/16"	6	1796A13	23.87
19"	2 1/4"	3 5/16"	5"	0.160"	1/2"	180°	5/16"	6	1796A15	26.38
(12) Brushed Type 304 Stainless Steel										
12"	2 1/4"	5"	5"	0.135"	1/2"	270°	5/16"	6	1796A23	47.88
(13) Steel										Pair
7 5/16"	1 7/8"	2"	7 1/8"	0.104"	5/32"	180°	5/16"	5	13125A51	$20.29

Load-Rated Strap Hinges

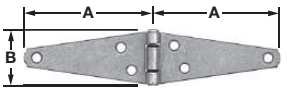

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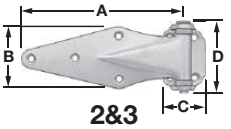

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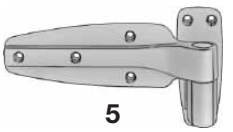

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All are surface mount with countersunk holes. Screws not included.

Style 1—For use on flush-mounted gates and doors. Hinges have a nonremovable steel pin. The full range of motion is 180°. Load capacity is based on one hinge per door.

Styles 2-5—Often used on service doors, refrigerators, freezers, and industrial enclosures. The full range of motion is 180°. Load capacity is based on two hinges per door. Hinges have a removable stainless steel pin, except Styles 2 and 5 have a steel pin. *Style 2* also has nylon washers for smooth operation. *Style 5* has a lift-off design that allows quick removal of the door from the frame. Hinge is reversible and self-lubricating for smooth operation.

	Door Leaf (A)	Door Leaf (B)	Frame Leaf (C)	Frame Leaf (D)	Leaf Thick.	Pin Dia.	Screw Size	No. of Holes	Load Cap. lbs.	Load Cap. Door Wd.	Available Offsets		
Galvanized Steel													
1	4″	1½″	___	___	0.082″	7/32″	No. 16	6	20	24″	Flush	1526A71	$5.53
1	5¾″	2 5/16″	___	___	0.100″	21/64″	No. 12	8	40	24″	Flush	1526A72	10.00
1	7 11/16″	3″	___	___	0.110″	25/64″	No. 12	8	60	24″	Flush	1526A73	16.40
Zinc-Plated Steel													
2	6 3/16″	2 3/8″	1 5/8″	2 7/16″	0.188″	5/16″	No. 10	8	100	36″	Flush, 3/8″, 3/4″, 1 1/8″	1276A71	60.03
Chrome-Plated Zinc													
3	5 1/16″	2″	1 3/8″	3 1/16″	0.219″	5/16″	No. 8	7	60	21″	Flush, 1/4″, 3/8″, 5/8″, 3/4″, 7/8″, 1″, 1 1/8″	1276A81	57.76
4	3 3/8″	2 3/4″	1 3/8″	3 1/16″	0.125″	5/16″	No. 8	6	60	21″	Flush, 1 1/8″	1276A91	62.71
5	9″	2 7/8″	2 1/8″	5 1/2″	0.375″	7/16″	1/4″	7	180	42″	Flush, 1 1/8″, 1 1/4″, 1 3/8″, 1 1/2″, 1 3/4″	14845A41	72.34

Load-Rated Heavy Duty Strap Hinges

Thick leaves, large diameter pins, and a ball-bearing design make these hinges strong enough for heavy duty applications. All hinges are for surface mounting on flush-mounted doors. Hinges are steel with a tan powder-coated finish. The pin is removable and the full range of motion is 180°. Holes are punched and mounting screws are not included. *Style 6* is for manual doors. *Style 7* works with manual and power-operated doors.

Note: Load capacity is based on the number of hinges listed per door with the maximum door size listed.

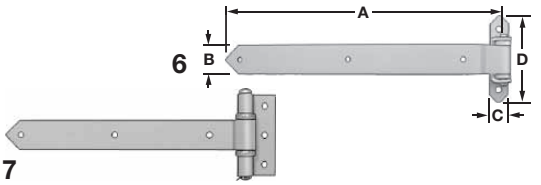

7

	Door Leaf (A)	Door Leaf (B)	Frame Leaf (C)	Frame Leaf (D)	Leaf Thick.	Pin Dia.	Screw Size	No. of Holes	Load Capacity lbs.	Load Capacity Hinges per Door	Load Capacity Max. Door Ht.	Load Capacity Max. Door Wd.		
6	19″	2½″	1¾″	8″	0.250″	½″	3/8″, ½″	5	745	3	7 ft.	3 ft.	1233A41	$158.37
6	24″	2½″	1¾″	8″	0.250″	½″	3/8″, ½″	5	745	3	7 ft.	3 ft.	1233A44	162.69
6	36″	2½″	1¾″	8″	0.313″	½″	3/8″, ½″	6	695	3	7 ft.	5 ft.	1233A48	186.92
7	24″	3″	3¼″	8″	0.375″	¾″	½″	6	3,625	4	10 ft.	5 ft.	1233A42	445.67

Self-Closing Gravity Hinges for Partitions

The weight of your door returns these hinges to a closed position without the help of springs. They are often used on restroom doors. A pair includes one hinge for the top of the door and one for the bottom of the door.

Surface-Mount Hinges

Hinges mount to the surface of flush-mounted doors. Pins are removable. The full range of motion is 180°. Hinges come with one-way, tamper-resistant, No. 10 shoulder screws with barrel nuts.

Choose a right-hand or a left-hand hinge. Use a right-hand hinge if, from the push side of the door, the hinge is on the right; use a left-hand hinge if it is on the left.

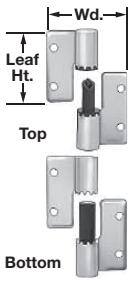

For Door Thick.	For Frame Thick.	Leaf Ht.	Wd.	Leaf Thick.	Right Hand	Left Hand	Pair
Chrome-Plated Brass—Black Nylon Pin							
3/4″	3/4″	2 7/8″	3″	0.094″	12125A273	12125A243	$67.11
3/4″	1″	2 7/8″	3″	0.094″	12125A275	12125A245	72.00
7/8″	1 1/4″	2 7/8″	3″	0.094″	12125A271	12125A241	78.76
1″	1″	2 7/8″	3″	0.094″	12125A274	12125A244	82.72
1″	1 1/4″	2 7/8″	3″	0.094″	12125A272	12125A242	91.37
Dull Type 304 Stainless Steel							
3/4″	3/4″	2 7/8″	3 5/16″	0.125″	12125A333	12125A313	63.27
3/4″	1″	2 7/8″	3 5/16″	0.125″	12125A335	12125A315	66.14
1″	1″	2 7/8″	3 5/16″	0.125″	12125A334	12125A314	76.10
1″	1 1/4″	2 7/8″	3 5/16″	0.125″	12125A332	12125A312	77.17

Mortise-Mount Hinges

The pins on these hinges fit into cutouts (mortises) in doors. Hinges are chrome-plated zinc with a removable steel pin. All are reversible for right-hand and left-hand doors. The full range of motion is 110°. Mounting fasteners are included.

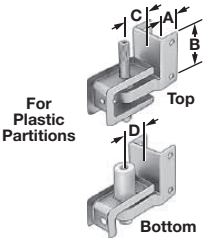

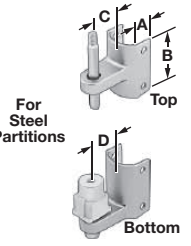

For Partition Material	For Door Thick.	For Partition Thick.	(A)	(B)	(C)	(D)		Pair
Plastic	7/8″	1 1/4″	1″	2 1/4″	1 1/4″	1 1/4″	15345A12	$30.52
Plastic	1″	1 1/4″	1″	2 1/4″	1 1/4″	1 1/4″	15345A13	38.98
Steel	1″	1 1/4″	11/16″	2 3/16″	1 1/8″	1 11/16″	15345A25	39.10

Surface-Mount Lift-Off Hinges

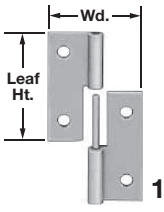

Right Hand with Holes

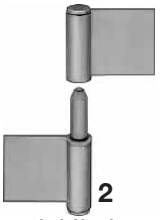

Left Hand



Right Hand



Right Hand



Reversible without Holes

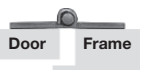

Door Closed

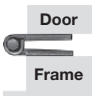

Door Open

The pin in these hinges is permanently attached to the frame leaf so you can quickly lift the door off the hinge without removing the pin. Note: Load capacity is based on two hinges per door.

Hinges *without holes* install by welding or drilling holes for rivets or screws. Hinges *with holes* have four holes. *Styles 4* and *5* are punched prior to plating for better corrosion resistance. Mounting screws are not included. Choose a right-hand hinge if, from the pull side of the door, the hinge is on the right; use a left-hand hinge if it's on the left.

Stainless steel is more corrosion resistant than steel. *Type 316 stainless steel* is more corrosion resistant than Type 304 stainless steel. *Polished Type 304 stainless steel hinge with plastic gasket* keeps the hinge and mounting surface from touching, which prevents corrosion.

Aluminum has good corrosion resistance and is lighter in weight than steel or brass. *Clear anodized aluminum* hinges have plastic bushings to prevent metal-to-metal contact that can release particles as hinges open and close. Often used in clean rooms.

Nylon is lighter in weight and more corrosion resistant than metal.

Chrome-plated brass has a polished finish and provides good corrosion resistance.

Zinc-plated steel is more corrosion resistant than steel, and is often used with sheet metal in heating, ventilating, and air conditioning applications.

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Range of Motion	Load Cap., lbs.	Without Holes: Right Hand	Without Holes: Left Hand		With Holes: Screw Size	With Holes: Right Hand	With Holes: Left Hand	
(1) Unfinished Steel												
2″	1 11/16″	0.072″	1/8″	270°	—	15195A12	15195A11	$2.75	No. 10	1151A62	1151A61	$2.89
2″	2″	0.080″	3/16″	270°	—	15195A16	15195A15	3.50	No. 8	1151A66	1151A65	3.68
2 1/2″	1 7/8″	0.075″	3/16″	270°	—	15195A14	15195A13	3.36	—	—	—	—
2 1/2″	1 7/8″	0.080″	3/16″	270°	—	—	—	—	No. 10	1151A64	1151A63	3.54
2 1/2″	2 1/2″	0.093″	3/16″	270°	—	15195A18	15195A17	4.71	No. 10	1151A68	1151A67	4.96
3″	3″	0.093″	1/4″	270°	—	15195A21	15195A19	5.80	1/4″	1151A71	1151A69	6.11
4″	3″	0.120″	1/4″	270°	—	15195A23	15195A22	9.21	5/16″	1151A72	1151A73	9.69
4″	4″	0.120″	1/4″	270°	—	15195A25	15195A24	9.37	5/16″	1151A74	1151A75	9.86
(1) Unfinished Type 304 Stainless Steel												
2″	1 11/16″	0.080″	3/16″	270°	—	15195A32	15195A31	4.82	No. 8	1151A82	1151A81	5.07
2 1/2″	2 1/2″	0.075″	3/16″	270°	—	15195A36	15195A35	7.94	—	—	—	—
2 1/2″	2 1/2″	0.080″	3/16″	270°	—	—	—	—	No. 10	1151A86	1151A85	8.36
3″	2″	0.090″	3/16″	270°	—	—	—	—	1/4″	1151A84	1151A83	9.96
3″	2″	0.093″	3/16″	270°	—	15195A34	15195A33	9.46	—	—	—	—
3″	3″	0.093″	1/4″	270°	—	15195A38	15195A37	12.11	1/4″	1151A88	1151A87	12.75
4″	3″	0.120″	1/4″	270°	—	15195A46	15195A45	12.26	5/16″	1151A89	1151A91	12.91
4″	4″	0.120″	1/4″	270°	—	15195A44	15195A43	13.17	5/16″	1151A92	1151A93	13.86
(1) Unfinished Aluminum—Type 304 Stainless Steel Pin												
2″	1 11/16″	0.080″	3/16″	270°	—	15195A48	15195A47	4.07	—	—	—	—
(1) Polished Type 304 Stainless Steel with Plastic Gasket												
2 1/2″	2″	0.070″	1/4″	180°	—	—	—	—	1/4″	1151A94	1151A96	6.80
(2) Dull Type 304 Stainless Steel												
1 15/16″	4 5/16″	0.118″	15/32″	360°	85	12575A631	12575A621	25.33	—	—	—	—
2 15/16″	4 5/16″	0.156″	15/32″	360°	195	12575A651	12575A641	33.49	—	—	—	—
(3) Clear Anodized Aluminum—Type 303 Stainless Steel Pin												
2 9/16″	2 3/8″	0.141″	13/64″	180°	15	—	—	—	No. 10	3116A2	3116A1	32.00
(3) Black Nylon—Type 303 Stainless Steel Pin (not rated for temperature)												
2 7/8″	2 3/8″	0.250″	3/8″	180°	65	—	—	—	No. 9	18585A26	18585A23	14.12
(4) Chrome-Plated Brass												
1 1/4″	3 7/8″	0.187″	7/16″	180°	—	—	—	—	No. 10	1799A42	1799A41	10.64
(4) Polished Type 316 Stainless Steel												
1 7/16″	3 1/2″	0.187″	3/8″	180°	—	—	—	—	No. 10	1799A45	1799A43	10.69
(5) Dull Zinc-Plated Steel—Hinge is reversible												
1 1/4″	5 3/8″	0.344″	1/2″	270°	—	15195A49	15195A49	5.20	5/16″	1151A95	1151A95	6.54

Mortise-Mount Lift-Off Hinges


Template Right Hand

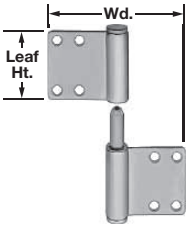

Hinge with Nonstandard Mounting Hole Pattern



Door Closed

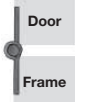

Door Open

Mount these hinges into recessed cutouts (mortises) in your door's edge and frame for a neat, flush mount that requires minimal clearance between the door and the frame. The pin is attached to the frame leaf, allowing you to quickly lift the door off the hinge without removing the pin. Mounting screws included. *Primed steel* is corrosion resistant and can be painted. *Type 304 stainless steel* is more corrosion resistant than steel.

Template hinges have screw holes placed in the industry-standard half-moon pattern. The full range of motion is at least 180°. Choose a right-hand hinge if, from the push side of the door, the hinge is on the right; use a left-hand hinge if it is on the left. Screw holes are countersunk. Note: Load capacity is based on three hinges per door, 50-100 daily openings, with a maximum door size of 7′ Ht.×3′ Wd.×1 3/4″ Thick.

Hinges with nonstandard mounting hole pattern do not follow the industry standard, so you can work around worn mounting holes when replacing template hinges. The full range of motion is 270°. Hinges are reversible for right- and left-hand doors. Note: Load capacity is based on two hinges per door.

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Screw Size	No. of Holes	Load Cap., lbs.	Primed Steel		Dull Chrome-Plated Steel		Dull Type 304 Stainless Steel	
Template Hinges—Available in right-hand or left-hand mount												
4 1/2″	4″	0.134″	5/16″	No. 12	8	150	1849A91	$16.73	1849A92	$21.26	1849A93	$70.15
4 1/2″	4 1/2″	0.134″	5/16″	No. 12	8	150	1849A94	16.90	1849A95	21.26	1849A96	70.15
Hinges with Nonstandard Mounting Hole Pattern—Reversible												
2″	3 15/16″	0.118″	25/64″	No. 8	8	85	—	—	—	—	12575A72	22.22
2 1/2″	3 9/16″	0.118″	15/32″	No. 6	8	110	—	—	—	—	12575A74	22.66

Narrow-Profile Weld-On Lift-Off Hinges

Weld these narrow hinges in place horizontally or vertically—they can mount flush to the door or offset. They're the right size for tight spaces, narrow frames, and areas close to corners. The pin is permanently attached to the frame leaf so you can quickly lift the door off the hinge without removing the pin. Hinges have a small triangular surface to weld to your door frame, unless noted.

Hinges are reversible for right- and left-hand doors. The full range of motion is 360°, except 13615A54, 13615A55, 13615A56, and 13615A57 have a 270° range of motion.

Steel with grease fitting hinges are easy to lubricate.

Type 316 stainless steel hinges are corrosion resistant.

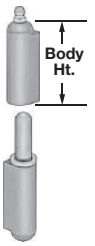

Steel with Grease Fitting



Top View

Body Ht.	O'all Wd.		
Steel			
25/32"	5/16"	1071A29	$1.70
1 11/64"	25/64"	1071A31	1.76
1 3/8"	29/64"	1071A22	2.35
1 37/64"	33/64"	1071A33	2.89
1 31/32"	5/8"	1071A34	4.05
2 3/8"	5/8"	1071A23	5.78
2 21/32"	45/64"	1071A24	7.43
2 61/64"	25/32"	1071A36	8.62
3 35/64"	25/32"	1071A25	10.62
3 15/16"	29/32"	1071A38	15.57
Steel with Grease Fitting—Brass Pin			
1 17/32"	33/64"	3636A1	4.46
1 15/16"	5/8"	3636A2	6.14
2 5/16"	5/8"	3636A3	8.08
2 59/64"	25/32"	3636A4	10.24
Steel with Grease Fitting (Cont.)			
3 33/64"	25/32"	3636A5	$15.18
3 31/32"	29/32"	3636A6	19.09
Type 304 Stainless Steel			
1 11/64"	25/64"	1071A51	4.24
1 3/8"	29/64"	1071A52	5.42
1 37/64"	33/64"	1071A53	6.04
1 31/32"	5/8"	1071A54	10.16
2 21/32"	45/64"	1071A57	20.98
2 61/64"	25/32"	1071A59	22.32
Type 316 Stainless Steel			
25/32"	5/16"	13615A57★	38.98
1"	25/64"	13615A56★	41.42
1 11/64"	25/64"	1071A61	9.97
1 3/8"	33/64"	13615A54★	46.17
1 37/64"	33/64"	1071A66	17.13
Type 316 Stainless Steel (Cont.)			
1 37/64"	5/8"	13615A55★	$50.77
1 31/32"	5/8"	1071A67	31.60
Aluminum—Stainless Steel Pin			
51/64"	5/16"	3991A1	2.86
63/64"	5/16"	3991A2	3.03
1 3/16"	25/64"	3991A3	3.46
1 3/8"	29/64"	3991A4	4.22
1 9/16"	33/64"	3991A5	5.14
1 31/32"	5/8"	3991A6	8.38
2 21/32"	45/64"	3991A7	13.76
2 61/64"	25/32"	3991A8	14.29
3 35/64"	25/32"	3991A9	18.44
3 15/16"	29/32"	3991A11	27.44

★Weld the round body directly to your door frame.

Narrow-Profile Screw-Mount Lift-Off Hinges

When space is limited, these narrow, block-style hinges are a good choice. The pin is permanently attached to the frame leaf, allowing you to quickly lift your door off the hinge without removing the pin. Hinges have four mounting holes; mounting screws not included. Screws are concealed when the hinge is closed. The full range of motion is 180°. Note: Load capacities are listed per hinge, except Style 1 hinge capacities are based on two hinges per door.

Overlay—Hinges are reversible to work with both right- and left-hand doors that overlay their frames.

Flush—Hinges are for use on flush-mounted doors. Choose a right-hand hinge if, from the pull side of the door, the hinge is on the right; use a left-hand hinge if it's on the left.

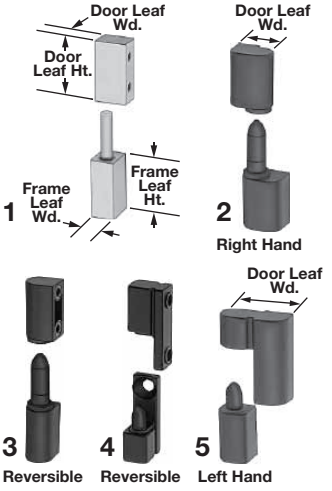

Door Leaf Ht.	Door Leaf Wd.	Frame Leaf Ht.	Frame Leaf Wd.	Screw Size	Load Cap., lbs.	Overlay Reversible	Flush Right Hand	Flush Left Hand	
Dull Type 303 Stainless Steel									
1 1 1/4"	1/2"	1 1/4"	1/2"	M5	185	19035A71			$50.36
1 1 1/2"	1/2"	1 1/2"	1/2"	M6	300	19035A73			53.46
1 1 15/16"	3/4"	1 15/16"	3/4"	M8	440	19035A75			81.56
Black Nylon (Temperature range is –4° to 140° F)									
2 1 3/16"	9/16"	1 3/16"	9/16"	10-24	150		11835A16	11835A17	4.56
2 1 5/8"	3/4"	1 5/8"	3/4"	M6	300	11835A18			5.64
3 1 3/16"	9/16"	1 3/16"	9/16"	10-24	150	11835A13			4.56
3 1 5/8"	3/4"	1 5/8"	3/4"	M6	300		11835A22	11835A21	5.91
Black-Coated Zinc									
3 1 1/4"	9/16"	1 1/4"	9/16"	10-32	300	11955A73			8.18
4 1 1/8"	5/16"	1 1/8"	5/16"	6-32	250	11955A63			8.97
5 1"	13/16"	5/8"	3/8"	6-32	250		11955A66	11955A67	8.97
5 2 1/2"	1 1/4"	1 1/4"	9/16"	10-32	300		11955A76	11955A77	10.07

Two-Way-Swinging Self-Closing Pivot Hinges

For smooth swinging in two directions, surface mount these steel hinges to a door or gate frame. Hinges are spring loaded, so they return to the closed position on their own. Adjust the spring tension with the included tool.

The full range of motion is 270°. Hinges are reversible for right- and left-hand doors. Screw holes are countersunk; mounting screws included. Note: Load capacity is based on one hinge per door, with a max. door size of 36" Wd. × 2 1/2" Thick.

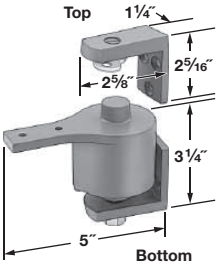

Finish	Screw Size	No. of Holes	Load Cap., lbs.		
Primed	No. 10, No. 12	6	75	1482A13	$110.90
Painted Black	No. 10, No. 12	6	75	1482A11	110.90
Dull Zinc	No. 10, No. 12	6	75	1482A15	149.40

Reinforcing Pivot Hinges

Surface mount these hinges to the top edge of a door to reinforce loose or damaged hinges. Use on doors that swing in one direction and are flush with the frame or have up to a 1/8" offset.

The full range of motion is 270°. Made of zinc-plated steel with bronze bushings. Choose a right-hand hinge if, from the push side of the door, the hinge is on the right; use a left-hand hinge if it's on the left. Hinge width is for the existing door hinge. Screw holes are countersunk. Furnished with 1/4" and No. 14 screws. Meet ANSI 156.1/156.7.

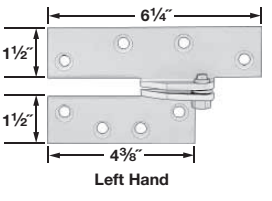



For Hinge Wd.	Max. Door Thick.	Leaf Thick.	Right Hand	Left Hand	
3 1/2"	1 3/8"	0.187"	1725A11	1725A15	$83.31
4"	1 3/4"	0.187"	1725A12	1725A16	83.31
4 1/2"	1 3/4"	0.187"	1725A13	1725A17	83.31
5"	1 3/4"	0.187"	1725A14	1725A18	83.31

Overlay Door Pivot Hinges

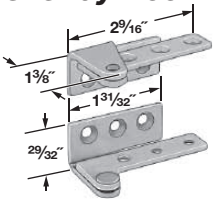

Use this hinge on doors up to 13/16" thick that overlay their frames. It surface mounts at the top and bottom of the door and the frame. Made of dull Type 430 stainless steel and reversible for right- and left-hand doors. The full range of motion is 270°. The screw holes are countersunk; mounting screws not included. A pair is for one door and includes one top and one bottom hinge.

Note: Load capacity is based one pair of hinges per door.

Leaf Thick.	Screw Size	No. of Holes	Load Cap., lbs.		Pair
0.118"	No. 6	12	5	12255A64	$22.62

Quick-Disconnect Latch Hinges

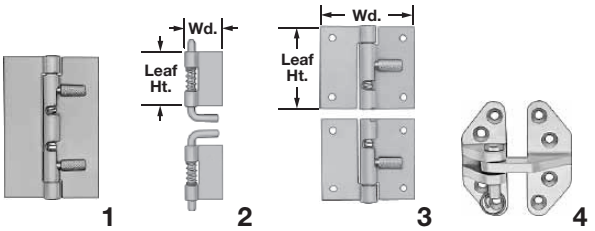

1 Without Holes 2 Without Holes 3 With Holes 4

Retract the pins in these hinges to disconnect your door without having to lift it. You can also use them as a latch on cabinet lids, electrical enclosure doors, and computer equipment housings. All surface mount. Bolt extension is the distance the pin must be moved to disconnect the hinge.

Style 1—Squeeze the handles together to retract the pin; release the handles and the pin snaps back. Reversible for right- and left-hand mounting. The full range of motion is 270°.

Styles 2 and 3—Hinges are spring loaded; pull the handle back to retract the pin; release the handle and the pin snaps back. Springs are stainless steel. A set includes one left-hand and one right-hand hinge. *Style 3* hinges have a groove to hold the handle in the retracted position for easy door removal and replacement. The full range of motion is 270°.

Style 4—Remove the ring to pull out the pin. Pins are Type 304 stainless steel. Reversible for right- and left-hand mounting. The full range of motion is 180°.

Without Holes—Weld in place or drill screw holes

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Bolt Extension	300 Series Stainless Steel	Each	Zinc-Plated Steel	Each
1 3"	2"	0.050"	1/4"	3/8"	15185A29	$19.70		
1 4"	2"	0.050"	1/4"	3/8"	15185A31	18.27		
						Pair		Pair
2 7/8"	1/2"	0.040"	1/8"	3/16"	1305A51	$8.20	1305A29	$6.85
2 1 3/8"	3/4"	0.040"	5/32"	1/4"	1305A52	8.20	1305A31	7.40
2 2"	7/8"	0.050"	3/16"	3/8"	1305A53	8.41	1305A38	7.50
2 2 3/4"	1"	0.062"	1/4"	1/2"	1305A54	10.37	1305A42	9.08
3 1 3/4"	2"	0.050"	1/4"	3/8"	13525A73	19.98	13525A72	15.22

With Holes—Screws not included

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Bolt Extension	Screw Size	No. of Holes		Each
300 Series Stainless Steel								
1 3"	2"	0.050"	1/4"	3/8"	No. 4	4	15185A41	$19.70
1 4"	2"	0.050"	1/4"	3/8"	No. 5	4	15185A42	18.27

With Holes—Screws not included

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Bolt Extension	Screw Size	No. of Holes		Each
Polished Type 316 Stainless Steel								
4 2 7/8"	2 5/8"	0.250"	5/16"	—	No. 10	8	1803A33	$26.03
4 2 7/8"	3 1/2"	0.250"	5/16"	—	No. 10	8	1803A35	25.31
Chrome-Plated Brass								
4 3"	2 1/2"	0.250"	5/16"	—	No. 10	7	1803A31	25.34
Zinc-Plated Steel								Pair
2 2"	1 1/8"	0.125"	3/8"	1 1/4"	1/4"	4	1305A81	$14.38
2 3"	1 1/4"	0.187"	1/2"	1 1/2"	5/16"	4	1305A82	26.68
3 1 3/4"	2"	0.050"	1/4"	3/8"	No. 5	4	13525A74	19.02
300 Series Stainless Steel								
2 2"	1 1/8"	0.125"	3/8"	1 1/4"	1/4"	4	1305A83	23.85
2 3"	1 1/4"	0.187"	1/2"	1 1/2"	5/16"	4	1305A84	49.50
3 1 3/4"	2"	0.050"	1/4"	3/8"	No. 5	4	13525A75	24.98

Mortise-Mount Self-Closing Spring Hinges

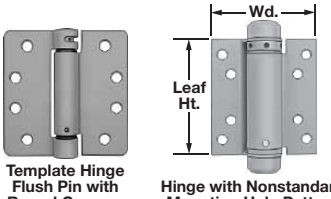

Template Hinge Flush Pin with Round Corners

Hinge with Nonstandard Mounting Hole Pattern

Spring-loaded so doors automatically swing closed. To adjust the spring tension, use the included tool. Hinges mount into recessed cutouts (mortises) in your door's edge and frame so they have a neat, flush appearance that requires minimal clearance between the door and frame.

Reversible for right- and left-hand doors. The full range of motion is 180°. Screw holes are countersunk and mounting screws are included. UL listed for labeled fire doors, unless noted. Note: Load capacity is based on three hinges per door with a maximum door size of 7' Ht. x 3' Wd., unless noted.

Template hinges have screw holes placed in the industry-standard half-moon pattern. *Type 304 stainless steel* hinges have steel springs with a corrosion-resistant coating.

Hinges with nonstandard mounting hole pattern do not follow the industry standard, which means you can work around worn mounting holes when replacing template hinges.

Leaf Ht.	Wd.	Leaf Thick.	Screw Size	No. of Holes	Max. Door Thick.	Load Cap., lbs.	Primed Steel		Dull Chrome-Plated Steel		Dull Brass-Plated Steel		Dull Type 304 Stainless Steel	
Template Hinges														
Flush Pin with Square Corners														
3 1/2"	3 1/2"	0.130"	No. 10	6	1 3/8"	90	8401A17	$13.83	8401A23	$20.67	8401A51	$16.00	8401A73	$46.29
4"	4"	0.130"	No. 12	8	1 3/4"	110	8401A19	17.00	8401A21	24.83	8401A52	17.67	8401A74	64.67
4 1/2"	4"	0.134"	No. 12	8	1 3/4"	150	8401A16	27.50	8401A24	40.17	8401A53	32.50	8401A71	82.29
4 1/2"	4 1/2"	0.134"	No. 12	8	1 3/4"	150	8401A18	27.50	8401A22	40.17	8401A54	32.50	8401A72	82.29
Flush Pin with Round Corners														
3 1/2"	3 1/2"	0.130"	No. 10	6	1 3/8"	90	8401A32	13.83	8401A36	20.67	8401A61	16.00	8401A65	49.43
4"	4"	0.130"	No. 12	8	1 3/4"	110	8401A33	17.00	8401A37	24.83	8401A62	17.67	8401A66	68.67
4 1/2"	4"	0.134"	No. 12	8	1 3/4"	150	8401A35	27.50	8401A39	40.17	8401A63	32.50	8401A67	85.14
4 1/2"	4 1/2"	0.134"	No. 12	8	1 3/4"	150	8401A34	27.50	8401A38	40.17	8401A64	32.50	8401A68	85.14
											Zinc-Plated Steel		Black-Painted Steel	
Extended Pin with Square Corners														
4 1/2"	5"	0.134"	No. 12	8	1 3/4"	155 ■	1554A24	37.97	1554A26	61.09	1554A25	$47.66	1479A51	$37.97
Extended Pin with Round Corners														
3 1/2"	3 1/2"	0.096"	No. 10	6	1 3/8"	90	1479A33	12.81	1479A82	19.22	1479A34	13.19	1479A47	12.81
Hinges with Nonstandard Mounting Hole Pattern														
Extended Pin with Square Corners														
3"	2 3/4"	0.075"	No. 7	8	3/4"-1"	65 ▲	1479A48 ♦	20.31	1479A81 ♦	31.88	1479A62 ♦	25.00	1479A42 ♦	20.31
6"	4 1/8"	0.105"	No. 10	10	1 3/4"	155 ■	1479A52	34.69	1479A83	55.47	1479A35	43.28	1479A45	34.69
7"	4 1/2"	0.114"	No. 12	10	2"	175 ■	1479A36	43.28	1479A84	66.09	1479A67	51.72	1479A46	43.28

■ Based on a 7' Ht. x 4' Wd. door. ▲ Based on a 7' Ht. x 2'8" Wd. door. ♦ Not UL listed.

Glass Door Pivot Hinges

Support, hold, and pivot glass doors with these hinges. They mount to the top and bottom of 3/16" to 1/4" thick flush glass doors. Hinges are made of steel and are reversible for right- and left-hand doors. The full range of motion is at least 110°. A pair is for one door and includes one top hinge and one bottom hinge.

Top/Bottom Mount—Require a 11/32" Dia. x 5/16" Dp. hole in case or frame to accommodate the pin and included bushing. Set screws are included.

Side Mount—Surface mount the pivot arm to the case or frame. Hinges require four No. 4 screws for mounting (not included). The screw holes are punched prior to plating for better corrosion resistance.

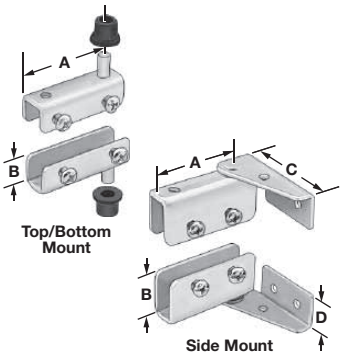

Finish	(A)	(B)	(C)	(D)		Pair
Top/Bottom Mount						
Chrome	1 11/32"	1/2"	____	____	18455A61	$3.19
Chrome	1 1/2"	13/16"	____	____	18455A63	4.12
Brass	1 11/32"	1/2"	____	____	18455A62	3.19
Brass	1 1/2"	13/16"	____	____	18455A64	4.12
Black	1 3/16"	25/32"	____	____	18455A71	2.30
Side Mount						
Chrome	1 1/4"	3/4"	1 1/2"	19/32"	18455A65	3.84
Brass	1 1/4"	3/4"	1 1/2"	19/32"	18455A66	3.84

Lightweight Surface-Mount Spring Hinges

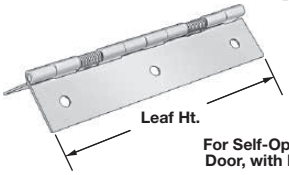

For Self-Opening Door, with Holes



Spring Direction for Self-Closing Door



Spring Direction for Self-Opening Door

Springs return lightweight doors to the open or closed position, depending on the style of hinge you choose. All surface mount, have fixed spring tension, and are reversible for right- and left-hand doors. Hinges are unfinished, unless noted. The full range of motion is 270°. Mounting screws not included.

For Self-Closing Door—Hinges automatically return the door to a closed position.

For Self-Opening Door—A light push on a closed door causes it to swing fully open.

Leaf Ht.	Wd.	Leaf Thick.	Screw Size	No. of Holes	*For Self-Closing Door* Steel		*For Self-Closing Door* Type 304 Stainless Steel		*For Self-Opening Door* Steel		*For Self-Opening Door* Type 304 Stainless Steel	
Without Holes—Weld or drill holes for rivets or screws												
1 1/4"	3/4"	0.025"	____	__	15205A32	$1.67	15205A33	$2.93	15205A39	$1.97	15205A42	$2.93
1 3/4"	1 1/2"	0.035"	____	__	15205A35	3.00	15205A36	3.13	____	____	____	____
3 1/4"	1 1/2"	0.060"	____	__	15205A48	9.88	15205A71	22.71	____	____	____	____
3 1/2"	1 1/2"	0.040"	____	__	15205A11	2.57	15205A55	4.70	15205A77	2.57	15205A79	4.70
5"	2"	0.050"	____	__	15205A12	4.90	15205A56	7.23	15205A78	4.90	15205A81	7.23
5 3/8"	1 1/2"	0.060"	____	__	15205A53	12.07	15205A72	28.29	____	____	____	____
8 3/4"	1 1/2"	0.050"	____	__	15205A54	10.86	15205A73	30.60	15205A88	15.36	15205A92	30.60
With Holes												
2"	1"	0.040"	No. 6	4	15205A21 ♣	1.60	15205A24 ▲	2.10	15205A82 ♣	1.60	15205A83 ▲	2.10
3 1/4"	1 1/2"	0.060"	No. 6	6	15205A26	12.52	15205A74	29.76	____	____	____	____
3 1/2"	1 1/2"	0.040"	No. 6	4	15205A13 ♣	3.07	15205A61	4.70	15205A84 ♣	3.07	15205A85	4.70
5"	2"	0.050"	No. 8	6	15205A14 ♣	5.47	15205A62	7.23	15205A86 ♣	5.47	15205A87	7.23
5 3/8"	1 1/2"	0.060"	No. 6	10	15205A27	14.86	15205A75	35.74	____	____	____	____
8 3/4"	1 1/2"	0.050"	No. 10, 1/4"	4	15205A28	10.86	15205A76	35.57	15205A95	15.36	15205A98	35.57

♣ Bright zinc finish. ▲ Leaf is 0.035" thick.

Lightweight Self-Closing Spring Hinges

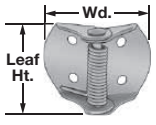

1

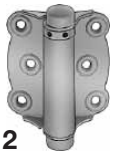

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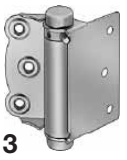

3



4



5

Springs automatically swing doors and gates closed behind you. Reversible for right- and left-hand use. The full range of motion is at least 170°. Hinges surface mount, except Style 3 surface mounts on the door leaf and mortise mounts on the frame leaf. Mounting screws included, except for Style 4.

Style 1—Spring tension is fixed.

Styles 2 and 3—To adjust spring tension, use the included tool. Screw holes are countersunk.

Styles 4 and 5—Made of black glass-filled nylon with stainless steel springs for corrosion resistance. Adjust spring tension with a screwdriver (not included). Temperature range is –40° to 140°F. *Style 4* includes a snap-on cover.

	Leaf Ht.	Wd.	Leaf Thick.	Screw Size	No. of Holes	Primed Steel		Black-Painted Steel		Dull Brass-Plated Steel		Bright Nickel-Plated Steel	
1	1 1/16"	1 11/16"	0.031"	No. 5	4	1613A13	$2.54	1613A14	$2.54	1613A11	$1.96	1613A12	$1.96
1	2"	1 3/4"	0.045"	No. 6	6	1613A15	4.40	1613A16	4.40	1613A2	4.04	1613A4	4.04
2	2 3/4"	2 13/16"	0.060"	No. 7	6	1481A12	10.25	1481A11	10.25	1481A13	11.62	1481A14	18.00
2	3"	3"	0.075"	No. 7	6	1481A32	13.62	1481A31	13.62	1481A21	14.75	1481A22	24.25
3	2 3/4"	3"	0.060"	No. 7	6	1481A16	10.75	1481A15	10.75	____	____	____	____
3	3"	3 1/8"	0.075"	No. 7	6	1481A33	14.12	1481A25	14.12	1481A26	15.62	____	____
						Black Nylon							
4	3 3/4"	3"	0.350"	No. 10	4	2133A31	$15.80	____	____	____	____	____	____
4	4 3/4"	4 1/2"	0.400"	No. 12	6	2133A42	26.28	____	____	____	____	____	____
5	3 3/4"	4"	0.500"	No. 10	8	2133A43	37.86	____	____	____	____	____	____

About Position, Lever-Lock, and Friction Hinges

Position, lever-lock, and friction hinges hold small doors, lids, and hatches in position, eliminating the need for latches, door holders, and other secondary support mechanisms. For example, position hinges are often found on lids and machine covers, and friction hinges are used on laptop computers.

Selecting a Hinge for a Horizontally Mounted Door

Hinges on horizontally mounted doors (hatches or lids) must resist the downward pull of gravity; the operation of hinges on vertically mounted doors is not effected. To select the correct hinge(s) for your horizontally mounted door, find the approximate force needed to move the door (torque force). Then, calculate the torque rating your hinge should have.

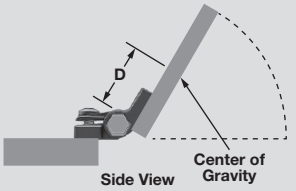

1. To find torque force, multiply the weight of your door (in pounds) by the distance (D) between the hinges and the door's center of gravity (in inches).
2. Divide the torque force of your door by the number of hinges you wish to use. The result is the torque rating you should exceed per hinge.

Example: Suppose your door weighs 3 lbs., D = 12″, and you wish to use two hinges.
1. Multiply: 3 × 12 = 36. The door's torque force is approximately 36 in.-lbs.
2. Divide: 36 ÷ 2 = 18. The torque rating for each hinge should be greater than 18 in.-lbs.

Incremental-Angle Position Hinges



Push the plastic button to adjust the hinge angle and release it to lock the position. They are strong enough for use on machine guards and racks. Reversible for right- and left-hand doors. The full range of motion is 220°. Mounting screws are not included.

Square arm hinge has a hollow tube so it fits over a 3/4″ wide or into a 1 1/2″ wide square tube. Made of black plastic without screw holes. It is not temperature rated.

Round arm hinge is steel with a black PTFE coating. Each arm has two 1/4″-20 mounting holes. Holes are tapped prior to coating for better corrosion resistance.

	O'all Ht.	Adjustable Increments	Torque, in.-lbs.		
1 1/4″ Square Arm	6 1/8″	10°	450	1258A1	$31.80
3/4″ Round Arm	5 1/4″	10°	1,200	1258A12	123.70

Set-Angle Position Hinges



A detent on these hinges holds doors open at a set angle, but they can be further opened to 180°. Surface mount them on flush-mounted doors such as access doors, machine covers, panels, and lids. Reversible for right- and left-hand doors. Note: Load capacity is based on one hinge per door.

Made of plastic with a nonremovable pin. Temperature range is 32° to 180° F. Hinges require four No. 10 screws (not included), except hinges with a 90° set angle require four No. 8 screws. Furnished with snap-on, plastic covers to conceal the mounting screws.

Set Angle	Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Load Cap., lbs.	Torque, in.-lbs.		
Black Plastic								
80°	1 15/16″	2 1/4″	0.360″	29/64″	100	10	14965A41	$16.85
90°	2″	2 3/8″	0.313″	11/64″	1.3	5	14965A46	11.20
115°	1 15/16″	2 1/4″	0.360″	29/64″	100	10	14965A43	16.85
150°	1 15/16″	2 1/4″	0.360″	29/64″	100	10	14965A45	16.85
White Plastic								
90°	2″	2 3/8″	0.313″	11/64″	1.3	5	14965A47	11.20

Lever-Lock Hinges

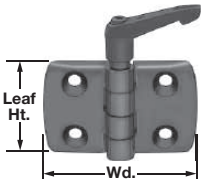

Tighten the lever to lock these hinges in any position from 0° to 180°. Mount on lids, panels, and doors.

Hinges are made of black nickel-plated aluminum with a black nylon handle and a nonremovable Type 304 stainless steel pin. All have four mounting holes; screws not included.

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Screw Size		
1 7/8″	2 3/8″	0.315″	1/4″	M6	1604A43	$16.56
1 7/8″	3″	0.315″	1/4″	M6	1604A41	16.96
1 7/8″	3 13/16″	0.315″	1/4″	M6	1604A44	18.07
1 7/8″	4 9/16″	0.315″	1/4″	M6	1604A45	19.27

Friction Hinges

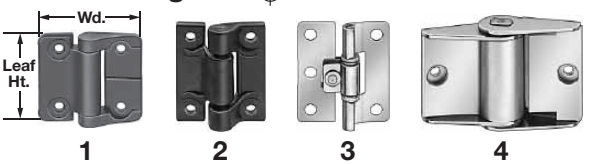

Constant resistance through the full range of motion holds lids, panels, and doors at any angle. Apply force to change the hinge position. The full range of motion is 180°, except Style 2 have a 270° range of motion. All are surface mount, reversible for right- and left-hand doors, and have a nonremovable pin. *Styles 1* and *2* have four mounting holes, *Style 3* have five holes, and *Style 4* have six holes; screws not included.

Black nylon hinges have a temperature range of 32° to 140° F.

Polished Type 304 stainless steel hinges include a matching plastic cover to conceal mounting screws.

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Screw Size	Torque, in.-lbs.		
(1) Black-Painted Aluminum—Steel Pin							
1 1/2″	1 9/16″	0.125″	13/32″	No. 8	8	2190A21	$20.80
1 1/2″	1 9/16″	0.125″	13/32″	No. 8	15	2190A22	20.80
(1) Black-Painted Zinc—Steel Pin							
2″	2 1/4″	0.180″	1/2″	No. 10	15	2190A12	24.75
2″	2 1/4″	0.180″	1/2″	No. 10	20	2190A13	23.35
2″	2 1/4″	0.180″	1/2″	No. 10	30	2190A14	22.40
(2) Black Nylon—Steel Pin							
2 1/2″	2 1/4″	0.236″	5/8″	M6	30	1467A1	15.00
2 1/2″	2 1/4″	0.236″	5/8″	M6	40	1467A2	16.88
2 1/2″	2 1/4″	0.236″	5/8″	M6	50	1467A3	16.88
(3) Type 304 Stainless Steel—Type 303 SS Pin							
1 9/16″	1 3/8″	0.063″	5/32″	No. 8	4	1460A1	21.00
1 15/16″	1 11/16″	0.078″	15/64″	No. 8	8	1460A2	26.50
1 15/16″	1 11/16″	0.078″	15/64″	No. 8	15	1460A3	26.50
3 9/16″	3 1/4″	0.094″	5/16″	No. 8	30	1460A4	68.00
3 9/16″	3 1/4″	0.094″	5/16″	No. 8	50	1460A5	74.00
(4) Polished Type 304 Stainless Steel—Type 303 SS Pin							
2 1/8″	1 11/16″	0.078″	17/32″	No. 6, No. 8	20	1783A1	32.89
2 1/8″	1 11/16″	0.078″	17/32″	No. 6, No. 8	30	1783A2	32.89
2 1/8″	3 1/8″	0.078″	29/32″	No. 8, No. 10	40	1783A3	50.67
2 1/8″	3 1/8″	0.078″	29/32″	No. 8, No. 10	60	1783A4	50.67

Adjustable-Friction Hinges



Hold your doors closed or open at any angle up to 180° by tightening or loosening the adjustment screw to change the hinge resistance. Hinges move easily when you apply force and are load rated to handle heavy doors. Surface mount hinges on flush-mounted doors. Reversible for right- and left-hand doors. Note: Load capacity is based on one hinge per door.

Made of plastic with a nonremovable pin and stainless steel adjustment screw and nut. Temperature range is 20° to 150° F. All have four mounting holes; screws not included.

Leaf Ht.	Wd.	Leaf Thick.	Pin Dia.	Screw Size	Load Cap., lbs.	Torque, in.-lbs.		
Black Plastic								
1 11/16″	1 7/16″	0.230″	23/64″	No. 8	200	7	1791A44	$6.92
2 1/2″	2 1/4″	0.200″	37/64″	1/4″	450	35	1791A48	11.15
White Plastic								
1 11/16″	1 7/16″	0.230″	23/64″	No. 8	200	7	1791A51	7.38
2 1/2″	2 1/4″	0.200″	37/64″	1/4″	450	35	1791A52	11.15

360° Friction Hinges

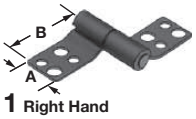

1 Right Hand



2 Right Hand

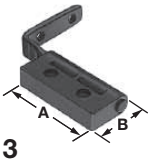

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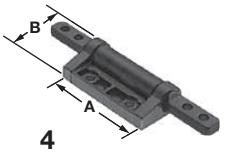

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5 Left Hand

Designed to allow unlimited 360° motion while providing constant resistance, these hinges hold lids, panels, and doors at any angle and move when you apply force. All are surface mount. Made of zinc and steel (unless noted) with a black epoxy finish. Pin is steel and nonremovable. Mounting screws not included.

	(A)	(B)	Pin Dia.	Screw Size	No. of Holes	Torque, in.-lbs.	Reversible		Right Hand		Left Hand	
1	1/2"	7/8"	3/16"	No. 4, No. 8	8	5			1541A1	★$12.50	1541A2	★$12.50
2	11/16"	5/8"	3/16"	No. 4	4	4			1541A4	17.50	1541A3	17.50
2	2"	1"	3/8"	No. 8	4	20			1541A8	45.33	1541A7	45.33
3	1 5/8"	13/16"	1/4"	No. 4, No. 8	4	10	1541A5	$33.33				
4	2"	1"	3/8"	No. 8	6	20	1541A12	42.67				
5	2"	1"	3/8"	No. 8	4	30			1541A14	53.33	1541A13	53.33

★Hinge is steel.

Soft-Close Hinges

These hinges hold lids open at their widest angle and close slowly to prevent them from slamming shut. Mounting screws not included.

Leaf Thick.	Pin Dia.	Screw Size	No. of Holes	Torque, in.-lbs.		Each	Set
Surface Mount							
(6) Dark Gray Plastic—The full range of motion is 115°							
0.413"	51/64"	M5, No. 11	4	40	2116A13	$41.33	____
0.413"	51/64"	M5, No. 11	4	60	2116A15	41.33	____
(7) Dark Gray Plastic—The full range of motion is 125°							
0.413"	51/64"	M5, No. 11	4	40	2116A11	____	$41.78
0.413"	51/64"	M5, No. 11	4	60	2116A12	____	43.26
Mortise Mount							
(8) Black Plastic—The full range of motion is 105°							
0.125"	13/16"	M4, No. 8	12	70	2116A18	____	46.40
(8) White Plastic—The full range of motion is 105°							
0.125"	13/16"	M4, No. 8	12	70	2116A19	____	46.40

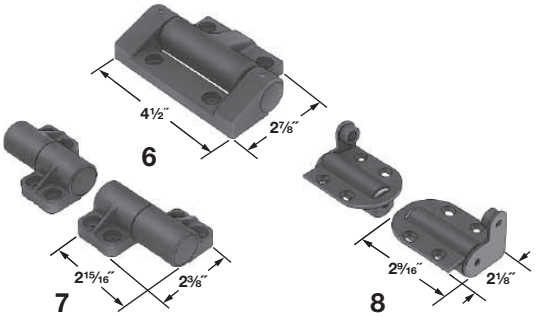

Surface-Mount Cabinet Hinges

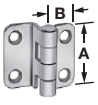

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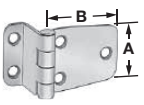

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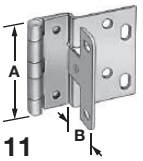

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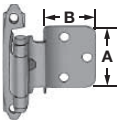

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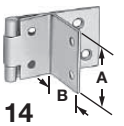

14

Surface mount these hinges to your cabinet's door and frame. Hinges are reversible for right- and left-hand doors. The full range of motion is 180°, except for Styles 11 and 14, which have a 270° range of motion. Pins are nonremovable. *Styles 13* and *14* come with mounting screws.

Overlay Style—For use on doors that overlay their frames. Leaf thickness for *styles 9* and *10* is 0.063". *Style 11* has a tapered pin for tamper resistance; it's for use on large doors. Leaf thickness is 0.095". *Style 13* have a spring that pulls the door closed when it's open less than 35° and keeps it closed without a catch or latch. Leaf thickness is 0.063".

Inset Style—For use on inset doors. *Style 12* has a pin adjustment screw that allows a 1/16" vertical adjustment and screw holes that allow 1/32" horizontal adjustment. Leaf thickness is 0.250". Screw holes are countersunk. Pin is nickel-plated brass. *Style 13* have a built-in spring that pulls the door closed when it's open less than 35° and keeps it closed without the need for a catch or latch. Leaf thickness is 0.063".

Flush Style—For flush-mounted doors that are at least 3/4" thick. Leaf thickness is 0.080".

	For Door Thick.	*Door Leaf* (A)	(B)	Pin Dia.	Screw Size	No. of Holes		Each
Overlay Style								
Polished Finish Type 304 Stainless Steel								
9	3/8"	1 1/2"	1 1/16"	3/16"	No. 8	4	1549A61	$5.85
10	3/8"	1 7/16"	2"	3/16"	No. 8	5	1549A65	6.44
10	3/4"	1 1/2"	1 15/16"	3/16"	No. 8	5	1549A63	5.85
Dull Chrome Steel								
11	3/4"	2 3/4"	1 1/2"	3/16"	No. 8	9	1804A25	7.56
Polished Chrome-Plated Steel								Pair
13	3/4"	1 1/2"	1 1/4"	11/64"	No. 6	5	1787A39	$6.45
Polished Brass-Plated Steel								
13	3/4"	1 5/8"	1 1/4"	11/64"	No. 6	5	1787A63	3.12
Antique Brass-Plated Steel								
13	3/4"	1 5/8"	1 1/4"	11/64"	No. 6	5	1787A64	3.12

	For Door Thick.	*Door Leaf* (A)	(B)	Pin Dia.	Screw Size	No. of Holes		Each
Inset Style								
Black Die Cast Zinc								
12	3/4"	3 15/16"	5/8"	1/4"	M5	4	13675A51	$20.11
Polished Chrome-Plated Steel								Pair
13	3/4"	1 1/2"	1 1/8"	11/64"	No. 5	5	1787A38	$6.45
Polished Brass-Plated Steel								
13	3/4"	1 7/16"	1 1/16"	11/64"	No. 6	5	1787A61	3.12
Antique Brass-Plated Steel								
13	3/4"	1 7/16"	1 1/16"	11/64"	No. 5	5	1787A62	3.12
Flush Style								
Zinc-Plated Steel								
14	3/4"	1 1/2"	1 5/16"	1/8"	No. 7	8	1627A42	9.12
Brass-Plated Steel								
14	3/4"	1 1/2"	1 5/16"	1/8"	No. 7	8	1631A21	9.12

Concealed Surface-Mount Cabinet Hinges

When external appearance is important, surface mount these hinges to the inside of cabinets with flush-mounted doors. When the door is closed, you can't see the hinges from the outside. Reversible for right- and left-hand doors. The full range of motion is 180°. Mounting screws not included.

Material	For Door Thick.	*Door Leaf* (A)	(B)	*Frame Leaf* (C)	(D)	Leaf Thick.	Screw Size	No. of Holes		
Zinc-Plated Steel	5/32"	1 3/16"	1/2"	1 3/16"	1/2"	0.078"	No. 10	4	1995A1	$17.75
Unfinished Stainless Steel	5/32"	1 3/16"	1/2"	1 3/16"	1/2"	0.078"	No. 10	4	1995A2	24.91

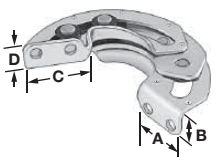

Concealed Half-Mortise/Half-Surface Mount Cabinet Hinges

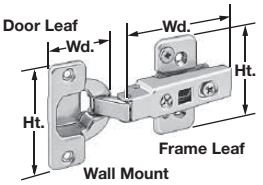

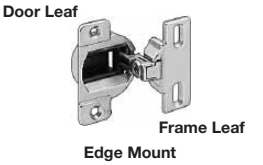

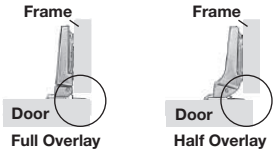

Completely hidden from the outside when the door is closed, these hinges (also known as European hinges) have a door leaf that mounts into a recessed cutout (mortise) on the inside of your cabinet door. The door leaf requires a 1 3/8" (35 mm) dia. mortise—we recommend you use a wood boring bit (see 3216A29 on page 2479).

Reversible for right- and left-hand doors. The pin is nonremovable. Steel and zinc hinges have screw holes that are countersunk. All are furnished with mounting screws.

Wall Mount—Attach the frame leaf to the interior cabinet wall. *Steel* hinges have a quick-release clip for easy door removal. *Type 304 stainless steel* hinges screw into a Type 304 stainless steel mounting plate.

Edge Mount—Attach the frame leaf to the inside edge of the cabinet frame. Hinges have a steel pin and spring.

Hold-closed models have a built-in spring that pulls the door closed when it's open less than 10° and keeps it closed without a catch or latch.

Range of Motion	Mortise Depth	Door Leaf Ht.	Door Leaf Wd.	Frame Leaf Ht.	Frame Leaf Wd.	For Full Overlay Doors		For Half Overlay Doors	
Wall Mount									
Nickel-Plated Steel									
100°	7/16"	2 1/4"	1 1/2"	2 1/4"	2 15/16"	1100A1	$5.60	1100A2	$6.09
110°	1/2"	2 1/4"	1 7/16"	2 1/4"	3 1/16"	1100A3	6.67	1100A4	7.14
170°	7/16"	2 1/4"	1 7/8"	2 1/4"	4 5/8"	1100A5	12.14	1100A6	15.11
Nickel-Plated Steel—Hold closed									
100°	7/16"	2 1/4"	1 1/2"	2 1/4"	2 7/8"	1100A7	5.40	1100A11	5.91
120°	1/2"	2 1/4"	1 7/16"	2 1/4"	3"	1100A8	6.49	1100A12	7.14
170°	7/16"	2 1/4"	1 7/8"	2 1/4"	3 5/16"	1100A9	11.91	1100A13	14.91
Polished Type 304 Stainless Steel									
100°	7/16"	2 1/8"	1 1/2"	1 7/8"	2 3/16"	15215A15	14.44	15215A11	15.06
Polished Type 304 Stainless Steel—Hold closed									
100°	7/16"	2 1/8"	1 1/2"	1 7/8"	2 3/16"	15215A16	15.66	15215A12	15.79
Edge Mount									
Nickel-Plated Zinc—Hold closed									
110°	1/2"	2 1/4"	1 7/16"	2 1/8"	3/4"	1100A68	6.89	1100A69	6.77

Concealed Mortise-Mount Cabinet Hinges

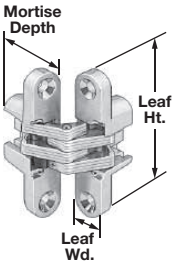

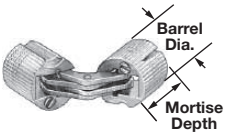

When your door is closed, these hinges are completely hidden from both sides to prevent tampering and to provide a neat appearance. Both leaves mount into recessed cutouts (mortises) on your door's edge and frame, so they don't take up space in the cabinet itself. All hinges are reversible for right- and left-hand doors. The full range of motion is 180°.

Zinc Hinges with Steel Leaves—Have nonremovable steel pins. Furnished with mounting screws. The *Router Guide* is a wood template that makes it easy to install the hinges.

Brass Hinges—Require two wood screws (not included) for mounting and adjusting tension.

Zinc Hinges with Steel Leaves

Min. Door Thick.	Mortise Depth	Leaf Ht.	Leaf Wd.	Screw Size	No. of Holes	Dull Chrome Finish		Dull Brass Finish		Router Guide	
1/2"	7/16"	1"	3/8"	No. 5	4	1612A21	$10.12	1612A2	$10.12		
1/2"	7/16"	1 11/16"	3/8"	No. 5	4	1612A22	13.47	1612A1	13.47	1612A811	$36.63
11/16"	5/8"	1 1/2"	1/2"	No. 5	4	1612A23	10.03	1612A5	10.03		
3/4"	9/16"	1 1/2"	1/2"	No. 6	4	1612A24	11.97	1612A3	11.97	1612A812	36.63
3/4"	11/16"	1 3/4"	1/2"	No. 6	4	1612A25	14.93	1612A4	14.93	1612A813	36.63
3/4"	11/16"	2 3/8"	1/2"	No. 7	4	1612A26	15.38	1612A6	15.38	1612A814	36.63
1"	7/8"	2 3/4"	5/8"	No. 8	4	1612A27	16.84	1612A7	16.84	1612A815	36.63
1 1/8"	1 1/16"	3 3/4"	3/4"	No. 10	4	1612A28	31.24	1612A8	31.24	1612A816	36.63
1 3/8"	1 7/16"	4 5/8"	1"	No. 14	4	1612A41	45.91	1612A53	45.91	1612A817	36.63
1 3/4"	1 5/8"	4 5/8"	1 1/8"	No. 10	8	1612A42	48.56	1612A55	48.56	1612A818	36.63

Brass Hinges

Min. Door Thick.	Barrel Dia.	Mortise Depth	Screw Size	Dull Brass Finish		Min. Door Thick.	Barrel Dia.	Mortise Depth	Screw Size	Dull Brass Finish	
1/2"	3/8"	7/16"	No. 3	17725A41	$3.94	3/4"	9/16"	5/8"	No. 6	17725A44	$9.20
11/16"	7/16"	1/2"	No. 6	17725A43	6.20	7/8"	5/8"	5/8"	No. 6	17725A45	6.67

Folding Leg Brackets

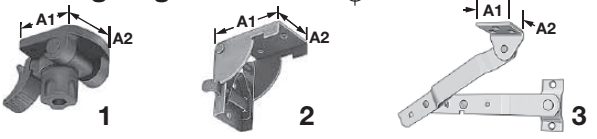

Make your own folding table—use these brackets to mount table legs to a table top. Brackets do not include mounting screws, except Style 3.

Style 1 press-fits into 0.78" ID legs. Made of plastic.

Styles 2 and **3** have mounting holes to connect legs. *Style 2* is for 1 1/2" square legs. Made of bronze-plated steel. *Style 3* includes one right-hand and one left-hand bracket made of zinc-plated steel.

	Length, (A1, A2)	Extended Lg.	Load Cap., lbs.	Screw Size		Each
For Tubular Legs						
1	1 5/8", 1 5/8"	____	Not Rated	No. 6	1173A21	$5.05
For Square Legs						
2	2 1/2", 1 1/2"	____	75	No. 5	18095A51	5.72
For Tubular and Square Legs						Set
3	1 1/4", 3/4"	13 1/2"	75	No. 8	1571A11	$26.30
3	2 1/8", 1 1/2"	16 5/8"	200	No. 12	1570A11	57.95

Folding Shelf Braces

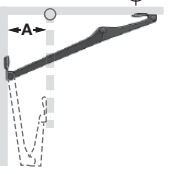

Extend drop-leaf shelves when they're needed and fold them down after use. Braces are spring loaded and are designed to be used in pairs. To ensure proper operation, do not exceed the maximum overhang (A) listed. Braces do not include mounting screws, except black epoxy-coated steel brace.

Release Style	Extended Lg.	Max. (A)	Load Cap. per Pair, lbs.	Screw Size		Each
Dull Steel						
Pull Ring	12"	3"	60	No. 8	1756A4	$7.79
Black Epoxy-Coated Steel						
Push	10"	2 1/2"	100	No. 8	1756A3	9.66
Polished Type 304 Stainless Steel						
Pull Ring	11 9/16"	3 15/16"	13	No. 10	1756A41	27.08

Open-Up Lid Supports

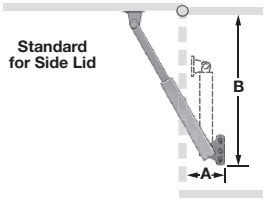

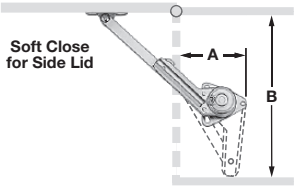

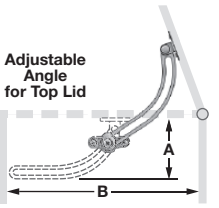

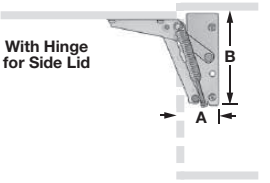

Hold lids and doors open at the angle listed for access to cabinets and chests. Lid supports can be used individually or in pairs for added strength and stability. Many supports are reversible; if you choose a handed support, mounting position is determined as you look into your cabinet or chest. Standard lid supports and lid supports with hinge do not include mounting screws; soft close and adjustable angle lid supports include mounting screws.

Lid Supports without Spring Assist—To open lids, raise them until the hold-open mechanism is engaged.

Standard lid supports open and close at the speed you move them. Supports are Type 304 stainless steel.

Soft-close lid supports have dampers that prevent the lid from slamming closed and an adjustment screw to control the opening/closing speed, except 1227A73 does not have an adjustment screw. Calculate your lid's torque and make sure it falls within the range listed—too much torque will cause your lid to slam; too little will prevent it from closing. Supports are nickel-plated steel and nickel-plated zinc alloy.

Adjustable-angle lid supports hold lids open in any position up to 70°. Open your lid and tighten the adjustment screw to set the angle. Supports are brass-plated steel.

Lid Supports with Spring Assist—To open lids, raise them partially and a spring will help lift them the rest of the way. When the lids are closed, the spring keeps them in position.

Standard lid supports are Type 304 stainless steel.

Lid supports *with hinge* are a hinge and lid support in one. Supports are white epoxy-coated steel. The spring is nickel-plated steel.

For Lid Position	Min. Mounting Depth (A)	Min. Mounting Clearance (B)	Hold-Open Angle	Load Cap., lbs.	Torque Range, in.-lbs. ★	Screw Size	No. of Holes	⌐ *Holds Lid* ¬ Closed	Open	Mounting Position		
Without Spring Assist												
Standard												
Side	1.81″	9.21″	75°	33	____	No. 6, No. 8	5	No	Yes	Reversible	11615A11	$34.20
Side	1.81″	11.3″	90°	33	____	No. 6, No. 8	5	No	Yes	Reversible	11615A12	39.90
Side	2″	14.66″	90°	290	____	No. 10	6	No	Yes	Reversible	1351A51	130.00
Side	2″	18.66″	90°	210	____	No. 10	6	No	Yes	Reversible	1351A52	145.00
Soft Close												
Side	3.03″	7.95″	80°, 90°, 100°	4	19-60	No. 6	6	No	Yes	Right Side	1227A46	17.62
Side	3.03″	7.95″	80°, 90°, 100°	4	19-60	No. 6	6	No	Yes	Left Side	1227A47	17.62
Side	3.32″	9.14″	90°	8	35-60	No. 6	6	Yes	Yes	Reversible	1227A73	20.00
Top	4.84″	5.84″	70°, 105°	4	19-60	No. 6	6	No	Yes	Right Side	1227A44	17.62
Top	4.84″	5.84″	70°, 105°	4	19-60	No. 6	6	No	Yes	Left Side	1227A45	17.62
Adjustable Angle												
Side, Top	2.75″	9.13″	0°-70°	12	____	No. 6	4	No	Yes	Right Side	1800A33	5.94
Side, Top	2.75″	9.13″	0°-70°	12	____	No. 6	4	No	Yes	Left Side	1800A34	5.94
With Spring Assist												
Standard												
Side	2.2″	10.83″	90°	2	____	No. 6	5	Yes	Yes	Reversible	11615A13	40.50
Side, Top	2.2″	15.43″	90°	3	____	No. 6	5	Yes	Yes	Reversible	11615A14	53.00
Top	2.2″	14.13″	110°	2	____	No. 6	5	Yes	Yes	Reversible	11615A15	51.00
With Hinge												
Side	1.69″	4.94″	75°, 90°	5	____	No. 10	5	Yes	Yes	Right Side	14785A53	16.97
Side	1.69″	4.94″	75°, 90°	5	____	No. 10	5	Yes	Yes	Left Side	14785A51	16.97

★ Torque = Lid Height (inches) × 0.5 × Lid Weight (lbs.)

Open-Down Lid Supports

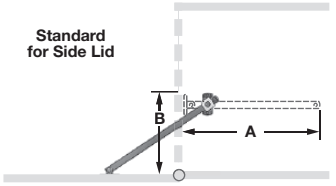

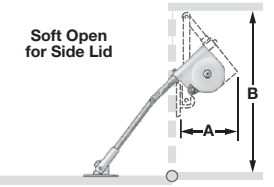

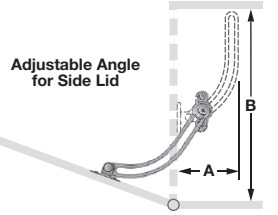

Designed for downward-opening cabinets and chests, these supports hold lids open so you don't have to. Lid supports can be used individually or in pairs for added strength and stability. If you choose a handed support, mounting position is determined as you look into your cabinet or chest. For supports that do not hold lids closed, add a latch (not included) to secure them in the closed position. Mounting screws are included, except standard lid supports.

Standard lid supports open and close at the speed you move them. Supports are Type 304 stainless steel.

Soft-open lid supports have dampers that prevent the lid from slamming open and an adjustment screw to control the opening/closing speed. Calculate your lid's torque and make sure it falls within the range listed—too much torque will cause your lid to slam; too little will prevent it from closing. Supports are nickel-plated steel and nickel-plated zinc alloy.

Adjustable-angle lid supports hold lids open in any position up to 70°. Open your lid and tighten the adjustment screw to set the angle. Supports are brass-plated steel.

For Lid Position	Min. Mounting Depth (A)	Min. Mounting Clearance (B)	Hold-Open Angle	Load Cap., lbs.	Torque Range, in.-lbs. ★	Screw Size	No. of Holes	⌐ *Holds Lid* ¬ Closed	Open	Mounting Position		
Standard												
Side	7.09″	5″	90°	22	____	No. 8	4	No	Yes	Reversible	15175A51	$13.78
Side	8.27″	8.25″	90°	26	____	No. 8	4	No	Yes	Reversible	15175A52	14.25
Side	9.45″	9.44″	90°	28	____	No. 8	4	No	Yes	Reversible	15175A53	15.67
Soft Open												
Side	2.84″	8.31″	90°	4	19-60	No. 6	6	Yes	Yes	Right Side	1227A42	17.62
Side	2.84″	8.31″	90°	4	19-60	No. 6	6	Yes	Yes	Left Side	1227A43	17.62
Side	3.32″	8.86″	90°	7	30-43	No. 6	6	Yes	Yes	Reversible	1227A71	20.48
Adjustable Angle												
Side	2.75″	9.13″	0°-70°	12	____	No. 6	4	No	Yes	Right Side	1800A33	5.94
Side	2.75″	9.13″	0°-70°	12	____	No. 6	4	No	Yes	Left Side	1800A34	5.94

★ Torque = Lid Height (inches) × 0.5 × Lid Weight (lbs.)

Side-Mount Drawer Slides

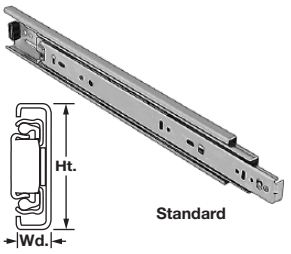

Standard

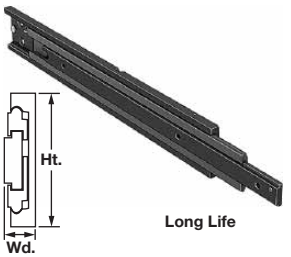

Long Life

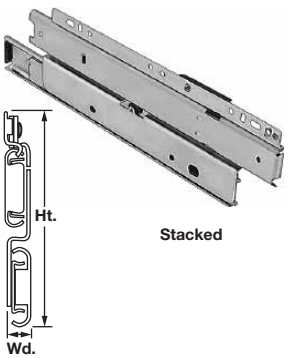

Stacked

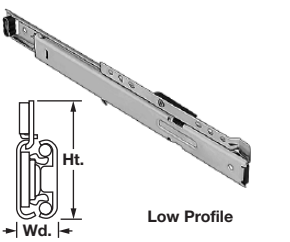

Low Profile

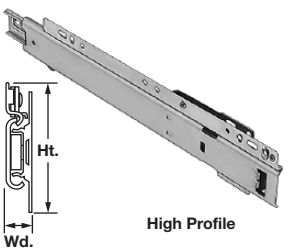

High Profile

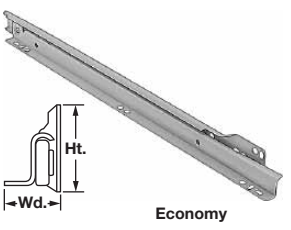

Economy

The most commonly used slides, these are sized to fit most drawer openings in desks and cabinets. Standard, stacked, low profile, and high profile slides have ball bearings for smooth, quiet operation. Long-life slides have tight fitting components that are coated with a dry film lubricant. Economy slides have a plastic wheel. Steel slides include mounting screws. Stainless steel and aluminum slides require No. 8 mounting screws.

Full Extension—Allow access to items in the back of drawers.

Partial Extension—Slides extend approximately ¾ of the closed length to reduce the chance that a heavy load will cause your cabinet to tip.

Long-life slides have fewer moving parts and collect less debris than other slides for a longer service life. They are black anodized aluminum.

Stacked slides have higher capacities than standard slides.

Low-profile slides require less vertical clearance than standard slides for use on short drawers.

High-profile slides have an older design that can still be found on many drawers.

Economy slides are often used in light duty applications.

Self-closing slides automatically pull the drawer closed when it approaches the closed position. *Push-to-open* slides propel drawer open when you push on the drawer. *Hold-open* slides have a detent to hold the drawer open; push firmly on the drawer to close. *Lock-open* slides have a lever to lock the drawer in the open position. To close it, push the levers on both slides.

Add optional *brackets* to standard lock-open slides to mount them on vertical rails, such as those on electronic equipment. Add optional *brackets* to economy slides to mount them to the rear wall of a cabinet.

Closed Lg.	Extension	Wd.	Ht.	Feature	Load Rating, lbs./pair	Drawer Release		Pair
Full Extension								
Standard—Steel								
10″	10″	½″	1 13/16″	None	50	Lever	11435A11	$16.50
12″	11¼″	½″	1 13/16″	Self Closing	60	Lever	2712A2	18.11
12″	12″	½″	1 13/16″	None	60	Lever	11435A12	16.50
12″	12″	½″	1 13/16″	Push to Open	60	Lever	11435A32	19.75
12″	12″	½″	1 13/16″	Hold Open	60	Lever	1057A42	19.04
12″	13″	½″	2″	Lock Open	150	Lever	63835A41	67.14
14″	14″	½″	1 13/16″	None	75	Lever	11435A13	16.86
14″	14″	½″	1 13/16″	Self Closing	75	Lever	2712A3	18.50
14″	14″	½″	1 13/16″	Push to Open	75	Lever	11435A33	20.10
14″	14″	½″	1 13/16″	Hold Open	75	Lever	1057A43	19.39
14″	15″	½″	2″	Lock Open	145	Lever	63835A42	70.34
16″	16″	½″	1 13/16″	None	100	Lever	11435A14	17.32
16″	16″	½″	1 13/16″	Self Closing	100	Lever	2712A4	18.93
16″	16″	½″	1 13/16″	Push to Open	100	Lever	11435A34	20.61
16″	16″	½″	1 13/16″	Hold Open	100	Lever	1057A44	19.89
16″	17″	½″	2″	Lock Open	145	Lever	63835A43	72.76
18″	18″	½″	1 13/16″	None	100	Lever	11435A25	17.79
18″	18″	½″	1 13/16″	Self Closing	100	Lever	2712A5	19.43
18″	18″	½″	1 13/16″	Push to Open	100	Lever	11435A35	21.07
18″	18″	½″	1 13/16″	Hold Open	100	Lever	1057A45	20.36
18″	19″	½″	2″	Lock Open	146	Lever	63835A44	75.21
20″	20″	½″	1 13/16″	None	100	Lever	11435A26	18.50
20″	20″	½″	1 13/16″	Self Closing	100	Lever	2712A6	20.11
20″	20″	½″	1 13/16″	Push to Open	100	Lever	11435A36	21.82
20″	20″	½″	1 13/16″	Hold Open	100	Lever	1057A46	21.07
20″	21″	½″	2″	Lock Open	145	Lever	63835A45	77.59
22″	22″	½″	1 13/16″	None	100	Lever	11435A27	19.71
22″	22″	½″	1 13/16″	Self Closing	100	Lever	2712A7	21.39
22″	22″	½″	1 13/16″	Push to Open	100	Lever	11435A37	23.08
22″	22″	½″	1 13/16″	Hold Open	100	Lever	1057A47	22.32
22″	23″	½″	2″	Lock Open	140	Lever	63835A46	80.00
24″	24″	½″	1 13/16″	None	85	Lever	11435A28	21.54
24″	24″	½″	1 13/16″	Self Closing	85	Lever	2712A8	23.21
24″	24″	½″	1 13/16″	Push to Open	85	Lever	11435A38	24.93
24″	24″	½″	1 13/16″	Hold Open	85	Lever	1057A48	24.18
24″	25″	½″	2″	Lock Open	135	Lever	63835A47	82.41
26″	26″	½″	1 13/16″	None	70	Lever	11435A29	22.39
26″	26″	½″	1 13/16″	Self Closing	70	Lever	2712A9	24.11
26″	26″	½″	1 13/16″	Push to Open	70	Lever	11435A39	25.85
26″	26″	½″	1 13/16″	Hold Open	70	Lever	1057A49	25.07
26″	27″	½″	2″	Lock Open	125	Lever	63835A48	84.83
28″	28″	½″	1 13/16″	None	60	Lever	11435A31	24.11
28″	28″	½″	1 13/16″	Push to Open	60	Lever	11435A41	27.68
28″	28″	½″	1 13/16″	Hold Open	60	Lever	1057A51	26.86
28″	29″	½″	2″	Lock Open	120	Lever	63835A49	87.21
Optional Brackets for Standard Lock-Open Drawer Slides (Set of 2)							63835A64	25.05
Standard—Type 304 Stainless Steel								
10″	9 9/16″	½″	1¾″	None	115	Lever	13875A11	26.20
12″	12″	½″	1¾″	None	110	Lever	13875A12	31.00
14″	14″	½″	1¾″	None	105	Lever	13875A13	36.00
16″	16″	½″	1¾″	None	100	Lever	13875A14	40.80
18″	18″	½″	1¾″	None	100	Lever	13875A15	45.60
20″	20″	½″	1¾″	None	97	Lever	13875A16	50.50
22″	22″	½″	1¾″	None	95	Lever	13875A17	56.30
24″	24″	½″	1¾″	None	92	Lever	13875A18	62.10
26″	26″	½″	1¾″	None	90	Lever	13875A19	67.00
28″	28″	½″	1¾″	None	87	Lever	13875A21	72.80
Standard—Aluminum								
6″	6″	3/8″	1 9/16″	None	105	Lever	1694A11	133.42
8″	8″	3/8″	1 9/16″	None	105	Lever	1694A12	142.00
10″	10″	3/8″	1 9/16″	None	110	Lever	1694A13	150.04
12″	12″	3/8″	1 9/16″	None	120	Lever	1694A14	159.46

(Continued on following page)

Side-Mount Drawer Slides *(Continued from previous page)*

Closed Lg.	Extension	Wd.	Ht.	Feature	Load Rating, lbs./pair	Drawer Release		Pair
Full Extension (Cont.)								
Standard—Aluminum (Cont.)								
14″	14″	3/8″	19/16″	None	115	Lever	1694A15	$166.21
16″	16″	3/8″	19/16″	None	115	Lever	1694A16	175.03
20″	20″	3/8″	19/16″	None	100	Lever	1694A18	209.87
Long Life—Aluminum								
10″	10″	3/8″	111/16″	Lock Open	135	Lever	1694A42	256.00
12″	12″	3/8″	111/16″	Lock Open	130	Lever	1694A43	264.80
14″	14″	3/8″	111/16″	Lock Open	125	Lever	1694A44	273.60
16″	16″	3/8″	111/16″	Lock Open	120	Lever	1694A45	282.40
18″	18″	3/8″	111/16″	Lock Open	115	Lever	1694A46	291.20
20″	20″	3/8″	111/16″	Lock Open	110	Lever	1694A47	298.74
22″	22″	3/8″	111/16″	Lock Open	105	Lever	1694A48	312.00
24″	24″	3/8″	111/16″	Lock Open	100	Lever	1694A49	324.00
26″	26″	3/8″	111/16″	Lock Open	95	Lever	1694A51	336.00
28″	28″	3/8″	111/16″	Lock Open	90	Lever	1694A52	348.00
Stacked—Steel								
12″	121/4″	1/2″	313/16″	None	140	Lift Out	17165A29	30.66
14″	143/16″	1/2″	313/16″	None	145	Lift Out	17165A31	31.93
16″	161/8″	1/2″	313/16″	None	150	Lift Out	17165A32	33.12
18″	181/8″	1/2″	313/16″	None	150	Lift Out	17165A33	34.04
20″	20″	1/2″	313/16″	None	145	Lift Out	17165A34	36.07
22″	2115/16″	1/2″	313/16″	None	140	Lift Out	17165A35	37.43
24″	243/8″	1/2″	313/16″	None	135	Lift Out	17165A36	43.07
26″	265/16″	1/2″	313/16″	None	130	Lift Out	17165A37	45.07
28″	281/4″	1/2″	313/16″	None	130	Lift Out	17165A38	47.71
Low Profile—Steel								
8″	8″	1/2″	15/8″	None	50	Lift Out	11965A171	27.47
10″	10″	1/2″	15/8″	None	57	Lift Out	11965A19	27.43
Partial Extension								
Standard—Steel								
12″	8″	3/8″	13/8″	Lock Open	140	Lever	63835A31	53.03
14″	10″	3/8″	13/8″	Lock Open	130	Lever	63835A32	54.03
16″	12″	3/8″	13/8″	Lock Open	120	Lever	63835A33	55.79
18″	13″	3/8″	13/8″	Lock Open	110	Lever	63835A34	57.45
20″	15″	3/8″	13/8″	Lock Open	92	Lever	63835A35	59.17
22″	16″	3/8″	13/8″	Lock Open	85	Lever	63835A36	61.59
24″	17″	3/8″	13/8″	Lock Open	78	Lever	63835A37	63.97
26″	19″	3/8″	13/8″	Lock Open	70	Lever	63835A38	66.38
28″	20″	3/8″	13/8″	Lock Open	60	Lever	63835A39	68.79
Optional Brackets for Standard Lock-Open Drawer Slides (Set of 2)							63835A62	25.05
Standard—Type 304 Stainless Steel								
12″	9″	3/8″	13/8″	None	105	Pull Out	12155A22	32.16
14″	11″	3/8″	13/8″	None	100	Pull Out	12155A24	40.71
16″	12″	3/8″	13/8″	None	94	Pull Out	12155A26	46.14
18″	13″	3/8″	13/8″	None	90	Pull Out	12155A28	48.86
20″	15″	3/8″	13/8″	None	81	Pull Out	12155A31	52.93
22″	16″	3/8″	13/8″	None	74	Pull Out	12155A32	59.71
24″	17″	3/8″	13/8″	None	66	Pull Out	12155A34	63.79
26″	19″	3/8″	13/8″	None	59	Pull Out	12155A36	71.93
28″	20″	3/8″	13/8″	None	55	Pull Out	12155A38	76.00
High Profile—Steel								
12″	8″	1/2″	21/2″	None	67	Lift Out	11965A131	20.60
14″	10″	1/2″	21/2″	None	71	Lift Out	11965A134	20.93
16″	12″	1/2″	21/2″	None	75	Lift Out	11965A133	21.60
18″	14″	1/2″	21/2″	None	75	Lift Out	11965A124	22.27
20″	16″	1/2″	21/2″	None	75	Lift Out	11965A125	22.87
22″	18″	1/2″	21/2″	None	71	Lift Out	11965A126	23.80
24″	19″	1/2″	21/2″	None	67	Lift Out	11965A127	24.70
26″	20″	1/2″	21/2″	None	63	Lift Out	11965A132	25.63
28″	21″	1/2″	21/2″	None	59	Lift Out	11965A128	26.53
Economy—Steel								
16″	12″	1/2″	17/16″	Self Closing	55	Lift Out	14325A74	7.88
18″	131/2″	1/2″	17/16″	Self Closing	55	Lift Out	14325A66	8.86
20″	15″	1/2″	17/16″	Self Closing	55	Lift Out	14325A68	9.12
22″	161/2″	1/2″	17/16″	Self Closing	55	Lift Out	14325A71	9.30
Optional Brackets for Economy Drawer Slides (Set of 2)							14325A81	1.54

Under-Mount Drawer Slides

Mount slides to the underside of countertops, desktops, shelves, and tables. Often used to hold keyboard trays, these are also known as under-the-counter drawer slides. Slides are partial extension; they extend approximately 3/4 of the closed length to reduce the chance that a heavy load will cause your cabinet to tip. They are made of steel and have ball bearings for smooth, quiet operation. A detent holds the drawer in place when opened; push firmly on the drawer to close. Slides include mounting screws and adjustable-height mounting brackets that are reversible for inward and outward mounting.

Closed Lg.	Extension	Wd.	Ht. Range	Feature	Load Rating, lbs./pair	Drawer Release		Pair
12″	81/16″	11/16″	27/16″-33/4″	Hold Open	60	Lever	11675A41	$21.56
14″	101/4″	11/16″	27/16″-33/4″	Hold Open	65	Lever	11675A42	21.81
16″	111/16″	11/16″	27/16″-33/4″	Hold Open	70	Lever	11675A43	22.09
18″	13″	11/16″	27/16″-33/4″	Hold Open	75	Lever	11675A44	22.33
20″	1413/16″	11/16″	27/16″-33/4″	Hold Open	70	Lever	11675A45	22.89
22″	165/16″	11/16″	27/16″-33/4″	Hold Open	65	Lever	11675A46	23.58
24″	173/4″	11/16″	27/16″-33/4″	Hold Open	60	Lever	11675A47	26.74
26″	193/16″	11/16″	27/16″-33/4″	Hold Open	55	Lever	11675A48	28.70

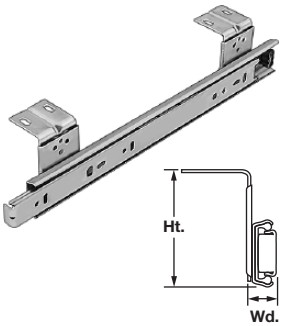

High-Capacity Side-Mount Drawer Slides

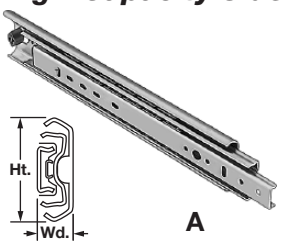

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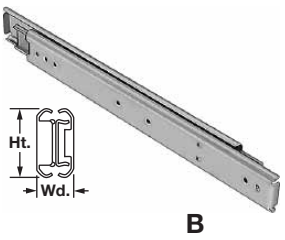

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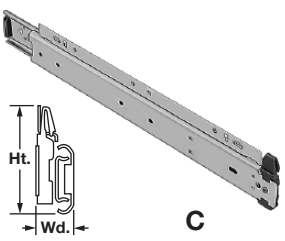

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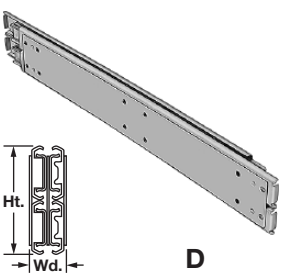

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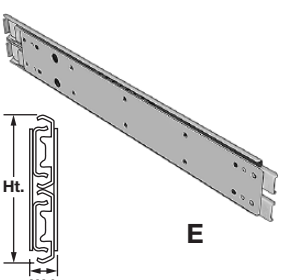

E

Built wide and tall to handle heavy loads, these slides are often used in tool cabinets, shelving units, and vehicles. Slides have ball bearings for smooth, quiet operation. *Style A* slides include mounting screws, except *lock open/closed* slides require 1/4″ screws. *Styles B-E* require No. 8 screws.

Full Extension—Allow access to items in the back of drawers.

Partial Extension—Slides extend approximately 3/4 of the closed length to reduce the chance that a heavy load will cause your cabinet to tip.

Lock-open/closed slides have a lever that locks the drawer in place when fully opened or closed. Push the lever on the right-hand slide to release the lock.

Closed Lg.	Extension	Wd.	Ht.	Feature	Load Rating, lbs./pair	Drawer Release		Pair
Full Extension								
Style A—Steel								
12″	12″	3/4″	21/16″	None	270	None	**1277A78**	$57.07
14″	14″	3/4″	21/16″	None	265	None	**1277A79**	60.07
14″	14″	3/4″	3″	Lock Open/Closed	400	None	**6603A43**	97.58
16″	16″	3/4″	21/16″	None	260	None	**1277A81**	56.07
16″	16″	3/4″	3″	Lock Open/Closed	450	None	**6603A44**	105.44
18″	18″	3/4″	21/16″	None	250	None	**1277A82**	61.39
18″	18″	3/4″	3″	Lock Open/Closed	500	None	**6603A45**	113.68
20″	20″	3/4″	21/16″	None	240	None	**1277A83**	65.39
20″	20″	3/4″	3″	Lock Open/Closed	500	None	**6603A46**	119.96
22″	22″	3/4″	21/16″	None	230	None	**1277A84**	69.39
22″	22″	3/4″	3″	Lock Open/Closed	500	None	**6603A47**	129.40
24″	24″	3/4″	21/16″	None	220	None	**1277A85**	73.39
24″	24″	3/4″	3″	Lock Open/Closed	500	None	**6603A48**	141.58
26″	26″	3/4″	21/16″	None	200	None	**1277A86**	77.39
26″	26″	3/4″	3″	Lock Open/Closed	500	None	**6603A49**	150.60
28″	28″	3/4″	21/16″	None	180	None	**1277A89**	82.71
28″	28″	3/4″	3″	Lock Open/Closed	500	None	**6603A51**	159.23
30″	30″	3/4″	3″	Lock Open/Closed	480	None	**6603A52**	171.02
32″	32″	3/4″	3″	Lock Open/Closed	500	None	**6603A53**	183.58
36″	36″	3/4″	3″	Lock Open/Closed	460	None	**6603A55**	202.04
40″	40″	3/4″	3″	Lock Open/Closed	440	None	**6603A56**	240.53
48″	48″	3/4″	3″	Lock Open/Closed	400	None	**6603A58**	331.61
60″	60″	3/4″	3″	Lock Open/Closed	350	None	**6603A59**	447.86
Style B—Type 304 Stainless Steel								
12″	12 13/16″	3/4″	17/16″	None	130	None	**13875A51**	52.36
14″	14 13/16″	3/4″	17/16″	None	130	None	**13875A52**	58.91
16″	16 13/16″	3/4″	17/16″	None	125	None	**13875A53**	68.07
18″	18 13/16″	3/4″	17/16″	None	120	None	**13875A54**	74.62
20″	20 13/16″	3/4″	17/16″	None	115	None	**13875A55**	82.47
22″	22 13/16″	3/4″	17/16″	None	110	None	**13875A56**	89.02
24″	24 13/16″	3/4″	17/16″	None	105	None	**13875A57**	95.56
26″	26 13/16″	3/4″	17/16″	None	100	None	**13875A58**	100.80
28″	28 13/16″	3/4″	17/16″	None	99	None	**13875A59**	106.04
Style C—Type 304 Stainless Steel								
12″	13 3/4″	3/4″	23/16″	None	140	Button	**12345A22**	85.71
14″	15 3/4″	3/4″	23/16″	None	130	Button	**12345A24**	93.57
16″	17 3/4″	3/4″	23/16″	None	130	Button	**12345A26**	104.29
18″	19 3/4″	3/4″	23/16″	None	120	Button	**12345A28**	110.71
20″	21 3/4″	3/4″	23/16″	None	110	Button	**12345A31**	122.86
22″	23 3/4″	3/4″	23/16″	None	110	Button	**12345A32**	132.86
24″	25 3/4″	3/4″	23/16″	None	105	Button	**12345A34**	147.14
26″	27 3/4″	3/4″	23/16″	None	94	Button	**12345A36**	154.29
28″	29 3/4″	3/4″	23/16″	None	94	Button	**12345A38**	164.29
Style D—Type 304 Stainless Steel								
12″	12 9/16″	15/16″	2 13/16″	None	595	None	**12555A22**	209.00
14″	14 9/16″	15/16″	2 13/16″	None	590	None	**12555A24**	251.07
16″	16 9/16″	15/16″	2 13/16″	None	570	None	**12555A26**	264.64
18″	18 9/16″	15/16″	2 13/16″	None	550	None	**12555A28**	290.43
20″	20 9/16″	15/16″	2 13/16″	None	530	None	**12555A31**	324.36
22″	22 9/16″	15/16″	2 13/16″	None	500	None	**12555A32**	348.79
24″	24 9/16″	15/16″	2 13/16″	None	475	None	**12555A34**	370.50
26″	26 9/16″	15/16″	2 13/16″	None	440	None	**12555A36**	404.43
28″	28 9/16″	15/16″	2 13/16″	None	400	None	**12555A38**	428.86
Partial Extension								
Style E—Type 304 Stainless Steel								
12″	8 3/4″	1/2″	2 13/16″	None	250	None	**12805A22**	110.20
18″	13 3/4″	1/2″	2 13/16″	None	220	None	**12805A28**	156.00
20″	14 1/4″	1/2″	2 13/16″	None	215	None	**12805A31**	168.00
22″	16 3/4″	1/2″	2 13/16″	None	205	None	**12805A32**	192.00
24″	17 3/4″	1/2″	2 13/16″	None	195	None	**12805A34**	223.20
28″	19 3/4″	1/2″	2 13/16″	None	175	None	**12805A38**	252.00

Revolving Tool Holders


Bench Top


Clamp Mount

Your frequently used tools are only a spin away. Holders are steel and have twelve 1″ dia. openings, six 1 1/2″ dia. openings, and twelve S-hooks to hang tools.

Clamp-mount tool holder mounts to tubes and pipes up to 2 3/8″ dia.

	For Tool Dia.	Ht.	Overall Dia.		
Bench Top	1″-1 1/2″	9 1/2″	9 1/4″	**1921A27**	$89.23
Clamp Mount	1″-1 1/2″	9 1/2″	7 3/4″	**1921A25**	89.23

Base-Mount Drawer Slides

When you don't have enough clearance for side-mount slides, mount these slides to the base of your drawer or shelf. Slides have ball bearings for smooth, quiet operation. Style A slides require 1/4" screws. Style B slides include mounting screws. Styles C and D slides require No. 8 screws.

Full Extension—Allow access to items in the back of drawers.

Partial Extension—Slides extend approximately 3/4 of the closed length to reduce the chance that a heavy load will cause your cabinet to tip.

Hold-closed slides have a detent to hold the drawer in place when closed. Pull firmly on the drawer to open. **Soft-open** slides gradually slow the drawer's motion to prevent it from slamming open.

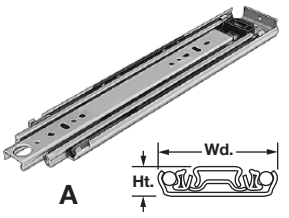

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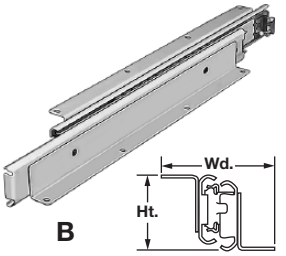

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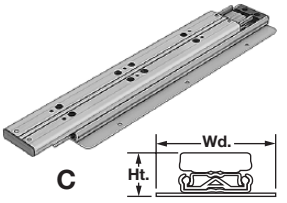

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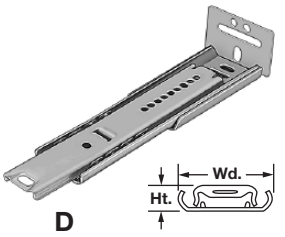

D

Closed Lg.	Extension	Wd.	Ht.	Feature	Load Rating, lbs./pair	Drawer Release		Pair
Full Extension								
Style A—Steel								
14"	14"	3"	3/4"	None	150	None	1102A63	$81.82
16"	16"	3"	3/4"	None	150	None	1102A64	89.04
18"	18"	3"	3/4"	None	150	None	1102A65	96.57
20"	20"	3"	3/4"	None	150	None	1102A66	102.29
22"	22"	3"	3/4"	None	150	None	1102A67	110.93
24"	24"	3"	3/4"	None	150	None	1102A68	122.07
26"	26"	3"	3/4"	None	150	None	1102A69	130.36
28"	28"	3"	3/4"	None	150	None	1102A71	138.21
30"	30"	3"	3/4"	None	150	None	1102A72	149.04
32"	32"	3"	3/4"	None	150	None	1102A73	160.50
36"	36"	3"	3/4"	None	150	None	1102A75	177.39
40"	40"	3"	3/4"	None	150	None	1102A76	212.61
48"	48"	3"	3/4"	None	150	None	1102A78	295.93
60"	60"	3"	3/4"	None	150	None	1102A79	402.29
Style B—Steel								
14"	14 13/16"	1 9/16"	2 1/4"	Hold Closed	145	None	15765A11	69.94
16"	16 13/16"	1 9/16"	2 1/4"	Hold Closed	140	None	15765A12	71.20
18"	18 13/16"	1 9/16"	2 1/4"	Hold Closed	130	None	15765A13	72.98
20"	20 13/16"	1 9/16"	2 1/4"	Hold Closed	120	None	15765A14	74.80
22"	22 13/16"	1 9/16"	2 1/4"	Hold Closed	110	None	15765A25	77.55
24"	24 13/16"	1 9/16"	2 1/4"	Hold Closed	100	None	15765A26	80.32
26"	26 13/16"	1 9/16"	2 1/4"	Hold Closed	95	None	15765A27	90.62
28"	28 13/16"	1 9/16"	2 1/4"	Hold Closed	85	None	15765A28	94.03
Style C—Type 304 Stainless Steel								
11 13/16"	13 3/16"	1 1/16"	2 15/16"	None	100	None	10845A41	287.11
15 3/4"	17 1/8"	1 1/16"	2 15/16"	None	99	None	10845A42	329.33
19 11/16"	21 1/16"	1 1/16"	2 15/16"	None	93	None	10845A43	405.33
23 5/8"	25 1/16"	1 1/16"	2 15/16"	None	88	None	10845A44	515.11
31 1/2"	32 7/8"	1 1/16"	2 15/16"	None	71	None	10845A45	644.35
39 3/8"	40 3/4"	1 1/16"	2 15/16"	None	55	None	10845A46	760.00
Partial Extension								
Style D—Type 304 Stainless Steel								
12 3/4"	8 1/4"	1 3/8"	3/8"	Soft Open	36	Pull Out	1265A42	54.04
14 3/4"	10 1/2"	1 3/8"	3/8"	Soft Open	34	Pull Out	1265A44	69.24
16 3/4"	12"	1 3/8"	3/8"	Soft Open	30	Pull Out	1265A46	77.69
18 3/4"	12 1/2"	1 3/8"	3/8"	Soft Open	30	Pull Out	1265A48	86.13
20 3/4"	14 1/2"	1 3/8"	3/8"	Soft Open	28	Pull Out	1265A51	94.58
22 3/4"	16 1/2"	1 3/8"	3/8"	Soft Open	26	Pull Out	1265A52	99.74
24 3/4"	17 1/2"	1 3/8"	3/8"	Soft Open	24	Pull Out	1265A54	108.09

Panel Hanging Brackets

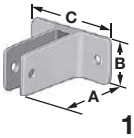

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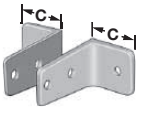

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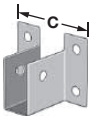

5

Often found in washrooms, these brackets are used to mount panels and partitions.

Stainless steel brackets have a dull finish. **Aluminum** brackets have a white powder-coated finish.

Styles 1-4—Include mounting screws and one-way security screws. *Style 4* brackets consist of two pieces.

Style 5—Do not include mounting screws. *Aluminum* brackets require 5/16" dia. screws; *stainless steel* brackets require 1/4" dia. screws.

	Max. Panel Thick.	(A)	(B)	Chrome-Plated Zinc (C)			Stainless Steel (C)		
1	1/2"	2 1/2"	1 1/2"	2 3/4"	1755A1	$10.48	2 3/4"	1755A11	$22.93
1	3/4"	2 1/2"	1 1/2"	3"	1755A31	12.41	3"	1755A71	22.43
1	7/8"	2 1/2"	1 1/2"	3 1/2"	1755A2	11.39	3 1/2"	1755A12	24.90
1	1"	2 1/2"	1 1/2"	4"	1755A32	8.77	4"	1755A72	24.74
1	1"	3 1/2"	1 1/2"	4"	1755A33	15.73	—	—	—
1	1 1/4"	2 1/2"	1 1/2"	4"	1755A34	15.78	4"	1755A73	25.79
1	1 1/4"	3 1/2"	1 1/2"	4"	1755A35	13.97	—	—	—
2	1/2"	2 1/2"	1 1/2"	1 3/4"	1755A3	9.51	1 3/4"	1755A13	25.09
2	3/4"	2 1/2"	1 1/2"	2"	1755A41	11.42	2"	1755A74	23.89
2	7/8"	2 1/2"	1 1/2"	2 1/8"	1755A4	9.70	2 1/8"	1755A14	25.47
2	1"	2 1/2"	1 1/2"	2 5/8"	1755A42	11.61	2 5/8"	1755A75	21.71
2	1"	3 1/2"	1 1/2"	2 5/8"	1755A5	15.00	—	—	—
2	1 1/4"	2 1/2"	1 1/2"	2 3/4"	1755A44	10.31	2 3/4"	1755A76	22.32
2	1 1/4"	3 1/2"	1 1/2"	2 3/4"	1755A45	17.65	—	—	—

	Max. Panel Thick.	(A)	(B)	Chrome-Plated Zinc (C)			Stainless Steel (C)		
3	1/2"	1 3/8"	1 1/2"	3/4"	1755A6	$7.25	3/4"	1755A15	$15.89
3	3/4"	1 3/8"	1 1/2"	1"	1755A51	8.54	1"	1755A77	16.12
3	7/8"	1 3/8"	1 1/2"	1 1/8"	1755A7	6.43	1 1/8"	1755A16	18.74
3	1"	1 3/8"	1 1/2"	1 1/4"	1755A52	4.03	1 1/4"	1755A78	14.16
3	1"	2 1/2"	1 1/2"	1 1/4"	1755A8	8.76	—	—	—
3	1 1/4"	1 3/8"	1 1/2"	1 1/2"	1755A54	7.97	—	—	—
3	1 1/4"	2 1/2"	1 1/2"	1 1/2"	1755A9	8.80	—	—	—
4	Any	2 1/2"	1 1/2"	1 1/2"	1755A61	10.43	1 1/2"	1755A79	29.47
4	Any	3 1/2"	1 1/2"	1 1/2"	1755A62	13.11	1 1/2"	1755A81	27.82
				Aluminum			Stainless Steel		
5	1/4"	1 1/2"	2"	2 1/4"	1755A94	$4.98	2 1/2"	1755A84	$5.78
5	1/2"	1 1/2"	2"	2 1/2"	1755A95	4.98	2 1/2"	1755A85	6.00
5	3/4"	1 1/2"	2"	2 3/4"	1755A96	4.98	2 1/2"	1755A86	6.22

Brackets

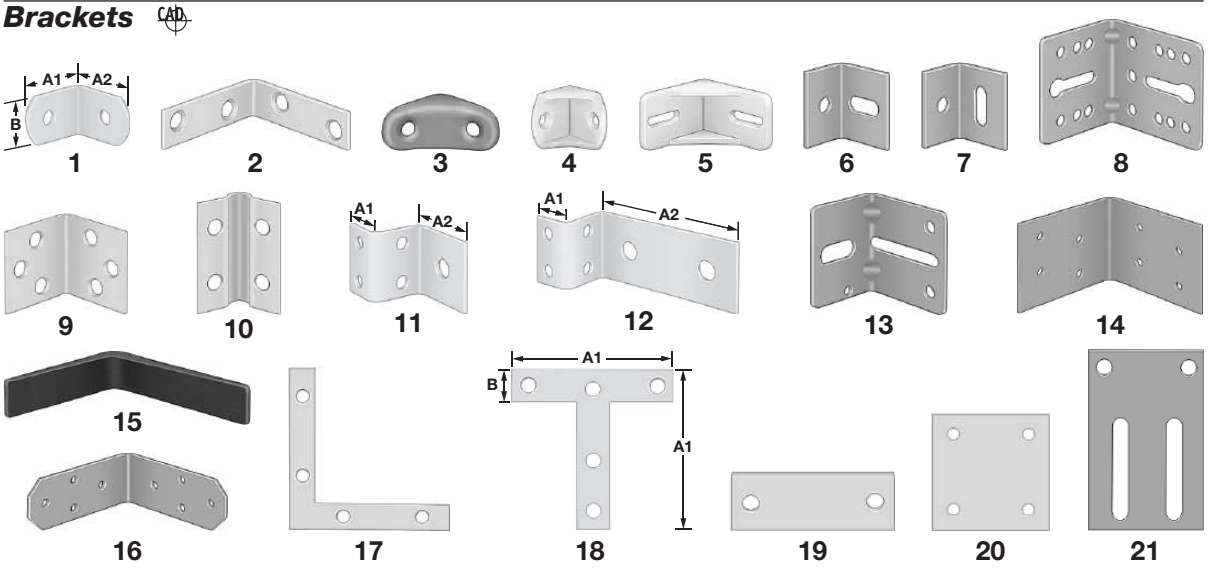

Also known as angle brackets, corner brackets, and mending plates, these brackets support corners and joints. They do not include mounting fasteners, except Style 2 stainless steel brackets. **Styles 11** and **12** have an offset (7/8" for 1030A11; 1 1/8" for 1030A12 and 1030A13).

Note: Prices are approximately 25% lower when you buy 50 or more of the same bracket.

	Length (A1), (A2)	Wd. (B)	Thick.	Screw/ Nail Size	No. of Holes		
Zinc-Plated Steel							
1	5/8", 1"	1/2"	0.12"	No. 9	2	1556A26	$0.63
1	7/8"	5/8"	0.08"	No. 9	2	1556A24	.43
1	1 1/2"	7/8"	0.05"	No. 10	2	15705A45	.83
Type 304 Stainless Steel							
1	5/8", 1"	1/2"	0.12"	No. 8	2	1556A65	1.80
1	7/8"	5/8"	0.08"	No. 8	2	1556A64	1.09
Zinc-Plated Steel							
2	1"	1/2"	0.07"	No. 7	2	1556A61	.63
2	1 1/2"	5/8"	0.08"	No. 7	4	1556A63	.73
2	2"	5/8"	0.08"	No. 8	4	1556A54	.91
2	2 3/8"	5/8"	0.08"	No. 8	4	15705A11	.87
2	2 1/2"	5/8"	0.1"	No. 8	4	1556A55	1.11
2	3"	3/4"	0.11"	No. 9	4	1556A36	1.23
2	3 1/2"	3/4"	0.12"	No. 9	4	1556A37	1.38
2	4"	7/8"	0.12"	No. 10	4	1556A17	2.01
2	5"	1"	0.16"	No. 10	6	1556A39	3.05
2	6"	1 1/8"	0.19"	No. 12	6	1556A49	3.90
2	8"	1 1/4"	0.22"	No. 12	6	1556A21	7.60
2	10"	1 1/4"	0.25"	No. 12	8	1556A22	8.18
Galvanized Steel							
2	1"	1/2"	0.07"	No. 6	2	1556A41	.84
2	1 1/2"	1/2"	0.07"	No. 6	4	1556A42	1.09
2	2"	5/8"	0.07"	No. 6	4	1556A43	1.18
2	2 1/2"	1/2"	0.07"	No. 6	4	1556A44	1.42
2	3"	5/8"	0.1"	No. 8	4	1556A45	2.81
2	4"	7/8"	0.13"	No. 10	4	1556A46	4.82
2	5"	7/8"	0.17"	No. 10	6	1556A47	4.61
2	6"	1 1/8"	0.18"	No. 12	6	1556A48	7.04
Polished Type 304 Stainless Steel—Meet NSF/ANSI standards							
2	1 1/8"	3/8"	0.1"	No. 4	4	19155A34	5.30
2	1 3/4"	1/2"	0.12"	No. 4	4	19155A36	6.50
2	2 3/8"	1/2"	0.12"	No. 6	4	19155A38	8.10
Polished Copper-Finish Steel							
3	1 3/8"	3/4"	0.03"	No. 8	2	1564A1	.94
3	2 1/8"	3/4"	0.05"	No. 9	2	1564A2	1.58
White Polyethylene							
4	7/8"	7/8"	0.14"	No. 8	2	13135A59	.33
5	1 1/2"	1"	0.14"	No. 8	2	13135A61	.50
Nickel-Plated Steel							
6	5/8", 3/4"	7/8"	0.06"	No. 8	2	15275A51	.69
7	5/8", 3/4"	7/8"	0.06"	No. 8	2	15275A53	.88
8	1 3/4", 2 3/16"	2"	0.08"	No. 8	17	15275A57	2.04
Zinc-Plated Steel							
9	1 1/2"	1 1/2"	0.06"	No. 8	6	17715A43	1.50
9	2"	1 1/2"	0.06"	No. 8	6	17715A44	1.88
9	2 1/2"	1 1/2"	0.06"	No. 8	6	17715A45	2.24
10	1"	2"	0.04"	No. 8	4	1556A51	1.55
11	3/4", 1 1/4"	1 1/2"	0.13"	1/4", 3/8"	5	1030A11	1.17
11	3/4", 1 3/8"	1 1/2"	0.13"	1/4", 3/8"	5	1030A12	1.24
12	3/4", 4 1/8"	1 1/2"	0.13"	1/4", 3/8"	6	1030A13	2.50
Galvanized Steel							
13	1 7/8", 2 3/8"	2 3/8"	0.1"	No. 8, 1/4"	5	15275A63	1.81
13	1 7/8", 3"	2 3/8"	0.1"	No. 8, 1/4"	5	15275A64	2.07
Galvanized Steel (Cont.)							
13	1 7/8", 3 1/2"	2 3/8"	0.1"	No. 8, 1/4"	5	15275A66	$2.30
14	2 5/8"	2"	0.11"	16d	8	17715A11	4.94
14	3 5/8"	2"	0.11"	16d	8	17715A66	4.26
Plain Steel—Weld-On							
15	6", 8"	1 1/2"	0.31"	____	____	11765A11	29.05
15	6", 8"	2"	0.31"	____	____	11765A12	14.64
Galvanized Steel							
16	3 1/8"	1 1/4"	0.11"	16d	8	17715A67	4.28
16	4 3/4"	1 1/4"	0.11"	16d	10	17715A68	4.42
16	6 1/2"	1 1/4"	0.11"	16d	12	17715A12	8.49
16	8 1/4"	1 1/4"	0.11"	16d	14	17715A13	9.83
Zinc-Plated Steel							
17	1 1/2"	3/8"	0.06"	No. 5	4	1558A11	.58
17	2"	3/8"	0.07"	No. 5	4	1558A12	.72
17	2 1/2"	1/2"	0.06"	No. 6	4	1558A14	.82
17	3"	1/2"	0.06"	No. 6	4	1558A15	.95
17	3 1/2"	5/8"	0.07"	No. 8	4	1558A16	.83
17	4"	5/8"	0.07"	No. 8	4	1558A19	1.31
17	5"	7/8"	0.07"	No. 8	4	1558A21	2.06
17	6"	1"	0.08"	No. 9	6	1558A23	2.91
18	2 1/2"	1/2"	0.07"	No. 7	5	1555A1	1.22
18	3"	5/8"	0.07"	No. 8	5	1555A2	1.68
18	4"	3/4"	0.07"	No. 8	5	1555A3	2.54
18	5"	1"	0.07"	No. 9	5	1555A4	4.56
19	1 1/2"	1/2"	0.06"	No. 5	2	1394A23	.75
19	2"	1/2"	0.07"	No. 7	2	1394A31	.57
19	3"	5/8"	0.07"	No. 7	4	1394A45	.77
19	3"	1"	0.18"	1/4"	2	1030A4	1.46
19	4"	5/8"	0.07"	No. 8	4	1394A34	.91
19	12"	1 1/8"	0.19"	No. 12	6	1394A41	3.99
Galvanized Steel							
19	5"	5/8"	0.1"	No. 8	4	1394A35	1.35
19	6"	3/4"	0.1"	No. 9	4	1394A36	1.58
19	8"	7/8"	0.14"	No. 10	4	1394A37	2.47
19	10"	1"	0.16"	No. 12	6	1394A18	4.29
Type 304 Stainless Steel							
19	1 1/2"	1/2"	0.06"	No. 5	2	1394A61	1.29
19	2"	1/2"	0.08"	No. 7	2	1394A62	.57
19	3"	5/8"	0.08"	No. 7	4	1394A63	1.04
19	4"	5/8"	0.08"	No. 8	4	1394A64	.97
19	5"	5/8"	0.11"	No. 8	4	1394A65	1.26
19	6"	3/4"	0.11"	No. 9	4	1394A66	1.32
Zinc-Plated Steel							
20	1 7/8"	1 7/8"	0.06"	No. 10	4	1030A15	1.14
20	4"	4"	0.18"	3/8"	4	1030A5	7.12
20	5 1/2"	5 1/2"	0.18"	3/8"	4	1030A6	9.21
Galvanized Steel							
21	2 3/8"	3 5/8"	0.1"	1/4"	4	15275A71	1.63
21	2 3/8"	4 1/8"	0.1"	1/4"	4	15275A72	1.89
21	2 3/8"	4 5/8"	0.1"	1/4"	4	15275A73	2.15

Heavy Duty Brackets

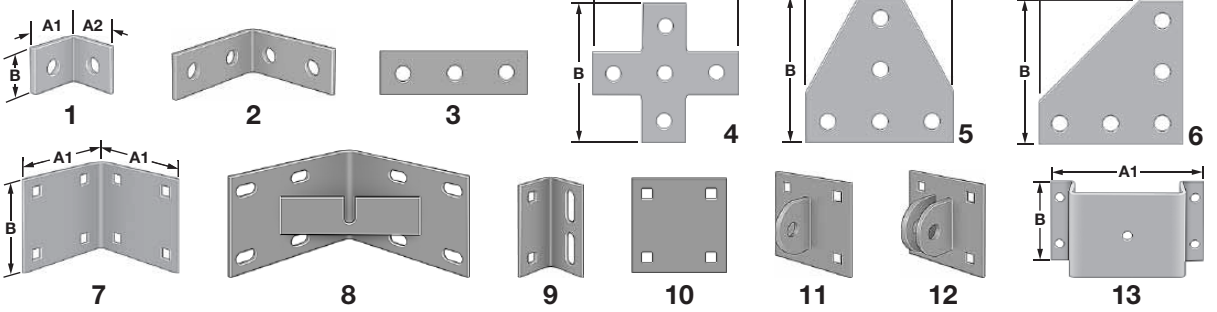

Built thicker than other brackets for greater strength and durability. Mounting screws are not included.

Styles 1-6 are compatible with 1⅝″ wide strut channel. Use strut channel nuts (not included, please see page 1954) to connect to strut channels.

	Length (A1), (A2)	Wd. (B)	Thick.	Screw Size	No. of Holes		
Type 304 Stainless Steel							
1	2″, 1⅞″	1⅝″	0.25″	½″	2	33125T11	$5.63
2	3⅞″, 3¾″	1⅝″	0.25″	½″	4	33125T12	9.88
3	5⅜″	1⅝″	0.25″	½″	3	33125T74	7.13
4	5⅜″	5⅜″	0.25″	½″	5	33125T76	35.22
5	5⅜″	5⅜″	0.25″	½″	5	33125T78	35.11
6	5⅜″	5⅜″	0.25″	½″	5	33125T83	40.44
Galvanized Steel							
7	2½″	5¼″	0.13″	⅜″	4	1845A31	9.22
7	5⅞″	5¼″	0.13″	⅜″	8	1845A33	12.43
7	5⅞″	5¼″	0.19″	½″	8	1845A34	19.82

Styles 11 and **12** fit together; secure with a bolt or pin. They are often used to assemble marine docks.

Style 13 fit standard wood 2×4s.

	Length (A1), (A2)	Wd. (B)	Thick.	Screw Size	No. of Holes		
Galvanized Steel (Cont.)							
7	10″	5¼″	0.19″	½″	8	1845A35	$31.70
8	8¼″	5¼″	0.19″	½″	8	1845A38	37.73
9	2½″	5¼″	0.19″	½″	4	1845A41	10.78
10	5¼″	5¼″	0.13″	½″	4	1845A45	7.83
11	5¼″	5¼″	0.19″	½″	4	1845A46	16.98
12	5¼″	5¼″	0.19″	½″	4	1845A47	22.05
Zinc-Plated Steel							
13	5½″	3″	0.13″	5/16″	5	18725A61	5.50
Black-Painted Steel							
13	5½″	3″	0.13″	5/16″	5	18725A62	5.50

Load-Rated Corner Brackets



All have a 90° corner. **Styles 14** and **15** come with mounting screws. **Style 16** require 10d nails. **Style 17** require No. 8 countersunk screws. **Style 18** require ½″ bolts.

	Length (A1), (A2)	Wd. (B)	Thick.	No. of Holes	Load Cap., lbs.		
Type 304 Stainless Steel with Polished Finish							
14	2¾″	¾″	0.24″	4	52	15655A71	$26.78
14	3½″	¾″	0.24″	6	37	15655A72	31.67
14	4⅝″	¾″	0.24″	6	28	15655A74	37.00
14	5⅞″	¾″	0.24″	6	22	15655A76	42.32
Type 304 Stainless Steel with Dull Finish							
15	2⅝″, 3⅜″	½″	0.19″	4	33	15655A21	15.55
15	3⅞″, 4⅝″	½″	0.19″	4	44	15655A22	18.66
15	5¾″, 7⅛″	½″	0.19″	6	55	15655A23	28.45
15	7¾″, 9⅜″	⅝″	0.31″	6	61	15655A24	46.22
15	9⅜″, 11¾″	¾″	0.31″	6	77	15655A25	55.12

	Length (A1), (A2)	Wd. (B)	Thick.	No. of Holes	Load Cap., lbs.		
Galvanized Steel							
16	1⅜″	2¾″	0.06″	8	135	17715A73★	$2.44
16	1½″	1¼″	0.06″	4	105	17715A75★	1.22
Zinc-Plated Steel							
17	2″	½″	0.06″	7	20	15655A31	2.27
Galvanized Steel							
18	2⅞″, 6⅛″	3⅛″	0.06″	5	500	15655A28	11.33
Type 316 Stainless Steel							
18	2⅞″, 6⅛″	3⅛″	0.06″	5	500	15655A29	22.35

★ Prices are approximately 25% lower when you buy in quantities of 50 or more.

Corner-Reinforcing Brackets

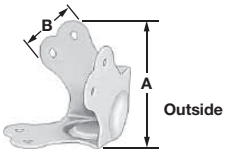

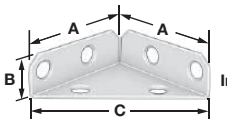

Fortify the corners of cases and crates. Brackets are zinc-plated steel. Mounting screws are not included.

Outside brackets mount to outside corners. Brackets have dimples that fit together so crates can be stacked.

Inside brackets mount to inside corners to strengthen joints.

(A)	(B)	(C)	Thick.	Screw Size	No. of Holes		
Outside							
2½″	1⅝″	____	0.08″	No. 10	6	15705A34	$2.22
Inside							
2″	⅝″	2¾″	0.06″	No. 8	6	1088A31	2.00
3″	¾″	4⅛″	0.06″	No. 8	6	1088A32	2.67
4″	⅞″	5⅝″	0.1″	No. 8	6	1088A33	3.80

Interlocking Connecting Brackets

Fit brackets together to assemble truck racks, gates, crates, and fences. Each set has a top and bottom piece. All are steel with a black zinc finish. Mount with 5/16″ dia. screws (not included).

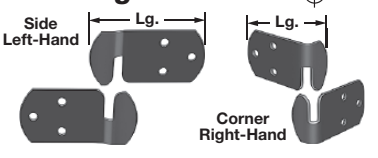

Bracket Position	Lg.	Ht.	Thick.	Left Hand	Set	Right Hand	Set
Side	5⅛″	2½″	0.16″	18445A42	$7.79	18445A41	$7.79
Corner	4″	2½″	0.17″	18445A52	7.79	18445A51	7.79

Wristband Magnetic Holders

Keep nails, nuts, screws, and other easily lost magnetic items on hand. Wristband has a hook and loop closure and fits up to a 10″ circumference. Magnet is 2⅛″ Dia.×⅜″ Proj.



1846A21 ..... $17.85

Tool Holders

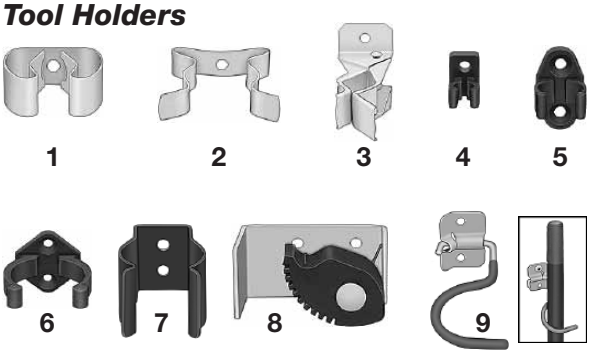

Store tools such as brooms, screwdrivers, and flashlights for convenient access. Mounting screws are included, unless noted.

Styles 1-7 are spring-action clips that securely hold tools. *Style 3* is measured in the closed position. *Styles 4-6* are nonconductive, nonmagnetic, and noncorrosive.

Styles 8 and **9** use the tension created by your tool's weight to secure the tool.

For Tool Dia.	Overall Wd.	Overall Ht.	Overall Proj.	Screw Size	Pkg. Qty.		Pkg.
Zinc-Plated Steel							
1	3/8"-5/8"	1 3/8"	1/2"	7/8"	No. 6	10	**1723A21**	$9.47
1	3/4"-1 1/8"	1 5/8"	5/8"	1 1/4"	No. 6	10	**1723A22**	12.93
1	1"-1 1/2"	1 3/4"	5/8"	1 1/4"	No. 6	10	**1723A24**	13.05
Black Vinyl-Coated Steel							
1	3/8"-5/8"	1 3/8"	1/2"	7/8"	No. 6	1	**1723A63**	2.12
1	3/4"-1 1/8"	1 5/8"	5/8"	1 1/4"	No. 6	1	**1723A64**	2.27
1	2"-2 1/2"	2 1/2"	5/8"	2"	No. 6	1	**1723A65**	3.77
Nickel-Plated Steel							
2	3/16"-3/8"	3/8"	1/4"	5/8"	No. 4	10	**1722A41**	5.40
2	5/16"-3/4"	1 1/4"	3/8"	1 3/8"	No. 6	10	**1722A42**	7.60
2	5/8"-1 1/4"	1 5/8"	3/8"	1 7/8"	No. 8	10	**1722A43**	11.88
2	1"-1 7/8"	2 1/8"	1/2"	2 1/2"	No. 8	10	**1722A44**	13.53
2	2"-2 3/4"	2 1/8"	1/2"	2 5/8"	No. 8	5	**1722A19**	10.26
White Nylon-Coated Steel							
2	1/8"-3/8"	3/8"	1/4"	5/8"	No. 4	1	**1722A16**★	3.05
2	5/16"-3/4"	3/4"	1/2"	1"	No. 6	1	**1722A32**★	4.29
2	5/8"-1 1/4"	1 5/8"	3/8"	1 7/8"	No. 8	1	**1722A35**★	4.72
2	7/8"-1 1/4"	1 1/8"	1/2"	1 1/4"	No. 8	1	**1722A33**★	4.29
2	1"-1 7/8"	2 1/8"	1/2"	2 1/2"	No. 8	1	**1722A36**★	5.15
2	2"-2 3/4"	2 1/8"	1/2"	2 5/8"	No. 8	1	**1722A18**★	5.09
Type 302 Stainless Steel							
2	3/8"-1/2"	1/2"	3/8"	7/8"	No. 6	5	**13985A24**	9.11
2	5/8"-7/8"	1 1/8"	1/2"	1 1/2"	No. 8	5	**13985A26**	9.46
2	5/8"-1 1/4"	1 1/4"	1/2"	1 5/8"	No. 6	5	**13985A27**	10.14
Zinc-Plated Steel							
3	9/16"-1 1/2"	1"	2"	3 1/2"	No. 8	1	**17765A19**	1.91
3	5/8"-7/8"	1"	2"	2 1/2"	No. 8	2	**17765A15**	2.87
Black Plastic							
4	3/16"-5/16"	1/4"	3/8"	5/8"	No. 4	1	**1171A68**★	.88
5	7/16"-9/16"	5/8"	1 1/4"	1"	No. 6	1	**1171A69**★	1.69
5	11/16"-13/16"	3/4"	1 1/4"	7/8"	No. 6	1	**1171A71**★	1.73
6	15/16"-1 1/16"	1 1/8"	1 1/4"	1 1/8"	No. 6	1	**1171A72**★	1.76
6	1 3/16"-1 5/16"	1 3/8"	1 1/4"	1 3/8"	No. 6	1	**1171A73**★	1.84
6	1 7/16"-1 9/16"	1 5/8"	1 1/4"	1 3/4"	No. 6	1	**1171A74**★	1.97
6	1 11/16"-1 13/16"	1 7/8"	1 1/4"	2"	No. 6	1	**1171A75**★	2.22
6	1 15/16"-2 1/16"	2 1/8"	1 1/4"	2 1/4"	No. 6	1	**1171A76**★	2.42
Black Nylon-Coated Steel							
7	1 1/2"-1 7/8"	1 1/2"	1 1/4"	1 7/8"	No. 6	1	**17185A51**★	3.12
Black Rubber with Nickel-Plated Steel Base							
8	7/8"-1 1/4"	2 1/2"	1 1/4"	1 1/8"	No. 8	1	**18505A71**	2.89
Black Rubber with Brass-Plated Steel Base							
8	7/8"-1 1/4"	2 1/2"	1 1/4"	1 1/8"	No. 10	1	**18505A72**★	3.18
Black Rubber with White Powder-Coated Steel Base							
8	7/8"-1 1/4"	2 1/2"	1 1/4"	1 1/8"	No. 10	1	**18505A73**★	3.89
Red Vinyl-Coated Steel							
9	1/16"-1"	1 1/2"	1 1/2"	3"	No. 8	2	**1723A66**	1.54

★ Mounting screws not included.

Mountable Magnetic Discs



Add a magnetic surface to tool holders, doors, and other objects. The magnet attaches to the included studded mounting plate. To install, mount the plate to your object and then screw the magnet onto the plate. The plate is 1/8" thick and has four 0.1" dia. mounting holes.

Dia.	Proj.		
2 1/4"	5/8"	**1046A5**	$8.63

Magnet-Mount Tool Holders

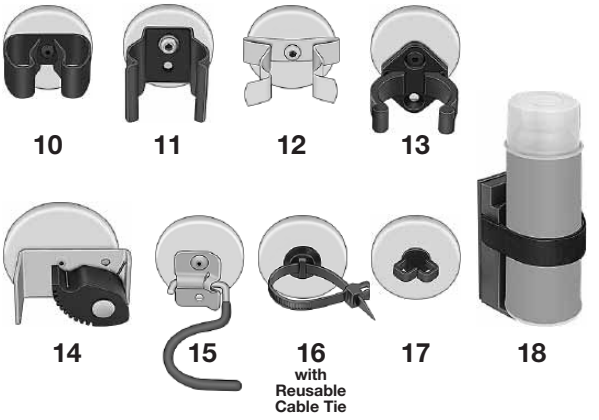

Mount and reposition tools on magnetic walls, cabinets, and desks.

Styles 10-13 have a spring-action clip mounted to a corrosion-resistant steel base.

Styles 14 and **15** use the tension created by your tool's weight to secure the tool.

Style 16 has a slot for a cable tie.

Style 17 has two prongs for holding tools with lanyards and cords.

Style 18 has an adjustable hook and loop strap. Base is red polypropylene.

For Tool Dia.	Hold Power, lbs.	Overall Wd.	Overall Ht.	Overall Proj.		
Zinc-Plated Steel Clip						
10	3/8"-5/8"	7	1 3/8"	1 1/4"	1 1/8"	**1777A21**	$8.76
10	3/4"-1 1/8"	11	1 5/8"	1 3/8"	1 1/2"	**1777A22**	9.70
10	1"-1 1/2"	11	1 3/4"	1 3/8"	1 1/2"	**1777A23**	9.67
Black Vinyl-Coated Steel Clip						
10	3/8"-5/8"	7	1 3/8"	1 1/4"	1 1/8"	**1777A11**	10.39
10	3/4"-1 1/8"	11	1 5/8"	1 3/8"	1 1/2"	**1777A12**	11.15
10	2"-2 1/2"	19	2 5/8"	2 1/8"	2 1/4"	**1777A13**	14.77
11	1 1/2"-1 7/8"	19	2 1/8" Dia.	—	2 1/8"	**1777A14**	12.61
Nickel-Plated Steel Clip						
12	3/16"-3/8"	7	1 1/4" Dia.	—	7/8"	**1777A31**	9.80
12	5/16"-3/4"	11	1 3/8" Dia.	—	1 1/2"	**1777A32**	10.58
12	5/8"-1 1/4"	19	2 1/8" Dia.	—	2 1/4"	**1777A33**	12.15
12	1"-1 7/8"	41	2 5/8" Dia.	—	2 1/2"	**1777A34**	15.78
White Nylon-Coated Steel Clip						
12	5/16"-3/4"	11	1 3/8" Dia.	—	1 5/8"	**1777A43**	15.63
12	5/8"-1 1/4"	19	2 1/8" Dia.	—	2 1/4"	**1777A44**	17.10
12	1"-1 7/8"	41	2 5/8" Dia.	—	2 7/8"	**1777A45**	20.70
Type 302 Stainless Steel Clip						
12	3/8"-1/2"	7	1 1/4" Dia.	—	1 1/8"	**1777A35**	11.40
12	5/8"-7/8"	11	1 3/8" Dia.	—	1 7/8"	**1777A36**	12.07
12	7/8"-1 1/8"	11	1 3/8" Dia.	—	2 1/8"	**1777A37**	12.13
Black Plastic Clip						
13	7/8"-1 1/8"	7	1 1/8"	1 1/4"	1 1/4"	**1777A51**	11.47
13	1 1/8"-1 3/8"	11	1 3/8"	1 1/4"	1 3/8"	**1777A52**	12.12
13	1 7/8"-2 1/8"	19	2 1/8"	1 1/4"	2 1/4"	**1777A53**	13.65
Black Rubber Clip with Nickel-Plated Steel Base						
14	7/8"-1 1/4"	41	2 1/2"	1 1/4"	1 1/4"	**1777A54**	15.28
Red Vinyl-Coated Steel Hook						
15	1/16"-1"	19	1 1/2"	1 1/2"	3"	**1777A55**	13.52
Black Nylon Slot (with Reusable Cable Tie)						
16	1/2"-2"	35	1 1/4" Dia.	—	1 1/2"	**1777A58**	14.51
Black Nylon Slot (without Cable Tie)						
16	1/2"-2"	7	1 1/4" Dia.	—	3/8"	**1777A56**	6.38
Black Nylon Clip						
17	1/8"-1/2"	7	1 1/4" Dia.	—	5/8"	**1777A57**	6.37
Hook and Loop Band						
18	1/4"-5"	2	2 5/8"	4 3/4"	2 1/2"	**12205A25**	9.20

Snap-Close Hooks



The spring-loaded latch on these hooks snaps closed to hold items securely.

Cast brass hooks require two No. 8 screws. Type 304 stainless steel hook includes mounting screws.

Ht.	Proj.		
Cast Brass with Polished Chrome Finish			
1 3/8"	1"	**11855A33**	$4.36
1 3/4"	1 1/4"	**11855A34**	6.10
Type 304 Stainless Steel with Dull Finish			
1 3/8"	7/8"	**11855A22**	30.67

Tool Holder Racks


1


2


3


4


5

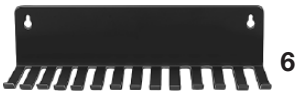
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7


8

Styles 1-7 are screw-mount and include mounting screws, except Style 1 requires No. 10 screws, Style 5 requires No. 8 screws, and Style 6 requires 3⁄8″ screws. *Style 8* is magnet-mount; attach it to steel walls and other magnetic surfaces.

Styles 3, 4, and *7* allow you to position the holders anywhere along the base.

Style 5 is mounted to a drawer slide for use in confined spaces.

	For Tool Dia.	No. of Holders	Load Cap., lbs.	Overall Wd.	Overall Ht.	Overall Proj.	Base Material	Holder Material		
1	7⁄8″-1 1⁄4″	3	50	26″	3″	1 3⁄4″	Stainless Steel	Black Rubber	**6582A73**	$37.71
1	7⁄8″-1 1⁄4″	4	70	36″	3″	1 3⁄4″	Stainless Steel	Black Rubber	**6582A74**	49.71
2	3⁄4″-1 1⁄8″	11	50	34″	7 1⁄2″	5 1⁄2″	White-Painted Steel	Black Rubber	**6582A75**	62.26
3	5⁄8″-1 1⁄2″	3	50	18″	2 7⁄8″	1 5⁄8″	White Polymer	Black Polymer	**1051A21**	40.12
4	9⁄16″-1 1⁄2″	3	15	8″	1″	3″	Zinc-Plated Steel	Zinc-Plated Steel	**13535A81**	4.45
4	9⁄16″-1 1⁄2″	4	20	11″	1″	3″	Zinc-Plated Steel	Zinc-Plated Steel	**13535A82**	5.78
4	9⁄16″-1 1⁄2″	5	25	17″	1″	3″	Zinc-Plated Steel	Zinc-Plated Steel	**13535A83**	7.28
5	5⁄16″-1 1⁄4″	5	9	23″	2″	2 1⁄2″	Black-Painted Aluminum	Nickel-Plated Steel	**1847A2**	47.94
6	1⁄4″	7	28	5″	3″	3 3⁄8″	Black-Painted Steel	Black-Painted Steel	**13535A84**	11.69
6	1⁄4″-1⁄2″	14	56	11 7⁄8″	3″	3 3⁄8″	Black-Painted Steel	Black-Painted Steel	**13535A85**	16.25
7	1 1⁄4″-1 7⁄8″	5	180	48″	5 1⁄4″	13″	Black-Painted Steel	Black Vinyl-Coated Steel	**13535A76**	56.55
8	1⁄2″-1 1⁄8″	64	8	20″	4 3⁄4″	5″	Black-Painted Steel	Black-Painted Steel	**1051A22**	57.14

Magnetic Tool Holder Racks


9


10


11


12

No need for clips or hooks—these racks hold steel tools in place magnetically. *Styles 9, 10,* and *11* are screw-mount; *Styles 9* and *10* include mounting screws and *Style 11* requires 10-24 screws. *Style 12* is magnet-mount; attach it to steel walls and other magnetic surfaces.

	Load Cap., lbs.	Overall Wd.	Overall Ht.	Overall Proj.		
Black-Painted Steel						
9	120	6″	3⁄4″	1 1⁄8″	**6613A21**	$11.07
9	260	13″	3⁄4″	1 1⁄8″	**6613A23**	16.18
9	360	18″	3⁄4″	1 1⁄8″	**6613A4**	20.05
9	480	24″	3⁄4″	1 1⁄8″	**6613A5**	21.82
Nickel-Plated Steel						
9	120	6″	3⁄4″	1 1⁄8″	**6613A61**	14.57
9	260	13″	3⁄4″	1 1⁄8″	**6613A63**	20.90
9	360	18″	3⁄4″	1 1⁄8″	**6613A65**	24.85
9	480	24″	3⁄4″	1 1⁄8″	**6613A67**	28.80
Stainless Steel						
10	120	12″	2″	1 1⁄8″	**6613A24**	38.75
10	180	18″	2″	1 1⁄8″	**6613A25**	45.62

	Load Cap., lbs.	Overall Wd.	Overall Ht.	Overall Proj.		
Stainless Steel (Cont.)						
10	240	24″	2″	1 1⁄8″	**6613A26**	$52.51
11	9	2 1⁄2″	1″	1⁄2″	**12415A21**	17.35
11	21	4 1⁄2″	1″	1⁄2″	**12415A22**	25.70
11	25	12″	1 1⁄2″	1⁄4″	**12325A36**	46.60
11	29	6 1⁄2″	1″	1⁄2″	**12415A23**	35.07
11	60	12 1⁄2″	1″	1⁄2″	**12415A24**	63.30
11	150	12″	2 1⁄2″	5⁄8″	**12325A34**	73.92
Steel						
12	15	10 3⁄4″	2 1⁄4″	3⁄8″	**1916A11**	18.78
12	25	6″	12″	1⁄8″	**1916A14**	41.50
12	25	12″	6″	1⁄8″	**1916A12**	41.50
12	40	12″	12″	1⁄8″	**1916A13**	71.33

Slatwall

Slide slatwall hooks and pegboard hooks anywhere along the built-in channels. Slatwall hooks and pegboard hooks are sold separately (see pages 2988-2989). To install slatwall, drill mounting holes and fasten with screws. Channels are 3″ apart.

Black composite board is an economical option.

Metal-covered composite board resists wear better than black composite board. It is covered with alternating strips of diamond-tread aluminum and brushed stainless steel.

Aluminum has all-metal construction for greater strength and durability than metal-covered composite board. It comes in eight interconnecting strips. *Clear-anodized aluminum* is more durable than unfinished aluminum.


Metal-Covered Composite Board

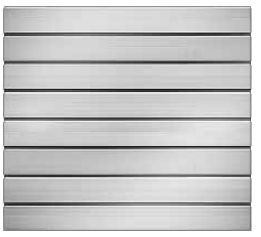
Aluminum

Ht.	Wd.	Load Cap., lbs.		
Black Composite Board—Aluminum Channels				
24″	48″	500	**1181A21**	$53.33
48″	24″	500	**1181A23**	63.33
48″	48″	1,000	**1181A25**	90.00
Metal-Covered Composite Board—Aluminum Channels				
6″	48″	200	**1181A41**	51.67
6″	96″	400	**1181A42**	88.33
24″	48″	1,000	**1181A31**	171.67
48″	24″	1,000	**1181A33**	186.67
48″	48″	2,000	**1181A35**	313.33

Ht.	Wd.	Load Cap., lbs.		
Unfinished Aluminum				
48″	48″	3,000	**1181A38**	$266.67
Clear Anodized Aluminum				
48″	48″	3,000	**1181A39**	331.67

Optional End Caps for Composite Board Slatwall—Add these aluminum caps to composite board slatwall for a finished appearance.

For 6″ High Composite Board Slatwall (Pair)	**1181A43**	$10.83
For 24″ High Composite Board Slatwall (Pair)	**1181A36**	30.00
For 48″ High Composite Board Slatwall (Pair)	**1181A37**	38.57

Slatwall Hooks and Containers

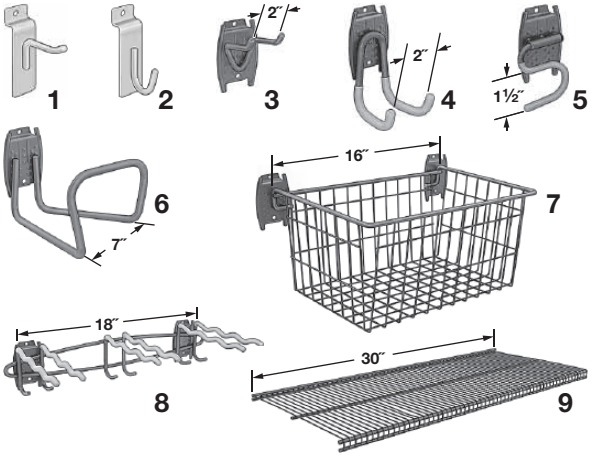

Components fit slatwall that has 3″ between channels (see pg. 2987).
Style 9 requires mounting brackets (sold separately) to attach to wall.

	Proj.	Pkg. Qty.		Pkg.
Chrome-Plated Steel				
1	2″	10	**8669A12**	$4.17
1	4″	10	**8669A13**	4.33
1	10″	10	**8669A16**	5.67
2	1 3/8″	5	**8669A11**	8.17
Black-Painted Steel				
3	2 3/4″	1	**8669A23**	16.67
3	8 1/2″	1	**8669A24**	21.67
4	3″	1	**8669A21**	$16.67
4	5 1/4″	1	**8669A22**	21.67
5	4 1/4″	1	**8669A25**	15.00
6	9 1/2″	1	**8669A26**	25.00
7	11″	1	**8669A33**	38.33
8	9 1/2″	1	**8669A28**	46.67
9	12″	1	**8669A29**	23.34
Required Mounting Brackets for Style 9 (Pkg. of 2)			**8669A32**	23.34

Pegboards

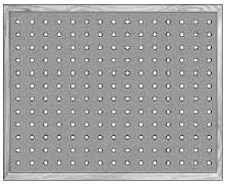

Framed Hardboard

Holes are on 1″ centers. Pegboards with *3/16″ dia. holes* are 1/8″ thick; those with *9/32″ dia. holes* are 1/4″ thick.

Unframed pegboards are an economical option. Mounting hardware is sold separately. *Polypropylene* resists abrasion and chemicals better than hardboard.

Framed pegboards resist warping and have built-in hangers. Mounting screws are not included. Oak frames are lacquered; aluminum frames are unfinished. *Combination dry-erase/hardboard* pegboards have a 10 1/2″ wide section of dry-erase board with a marker tray.

Unframed Pegboards

Wd.	Ht.	3/16″ Dia. Holes		9/32″ Dia. Holes	
Hardboard—Color is brown					
36″	24″	**18575A11**	$8.49	**18575A21**	$11.74
48″	24″	**18575A13**	9.28	**18575A23**	12.85
48″	36″	**18575A15**	16.53	**18575A25**	17.58
48″	48″	**18575A17**	18.08	**18575A27**	22.89
96″	48″	**18575A19**	33.07	**18575A29**	45.76
Polypropylene—Color is translucent white					
36″	24″	**18615A21**	30.78	**18615A22**	49.78
48″	36″	**18615A27**	58.89	**18615A28**	87.40
48″	48″	**18615A29**	58.89	**18615A32**	97.11
72″	48″	**18615A31**	97.40	**18615A34**	163.65
96″	48″	**18615A33**	101.46	**18615A36**	177.29

Mounting Hardware Package—Includes six No. 8 x 1 1/4″ long screws and six 3/8″ Dia. x 1/2″ Thick. plastic spacers to provide wall clearance.
18575A51 ... $1.72

Framed Pegboards—9/32″ Dia. Holes

Wd.	Ht.	Oak Frame		Aluminum Frame	
Hardboard—Color is brown					
36″	24″	**18575A41**	$48.71	**18575A31**	$52.51
48″	36″	**18575A43**	71.78	**18575A33**	76.58
48″	48″	**18575A44**	94.71	**18575A34**	102.44
60″	48″	**18575A45**	109.44	**18575A35**	113.54
72″	48″	**18575A47**	130.67	**18575A37**	136.46
96″	48″	**18575A49**	157.44	**18575A39**	162.98
Combination Dry-Erase/Hardboard—Color is brown and white					
36″	24″	**2271A33**	58.38	**2271A21**	62.96
48″	36″	**2271A34**	89.07	**2271A22**	95.02
48″	48″	**2271A35**	113.47	**2271A23**	122.73
72″	48″	**2271A36**	167.74	**2271A24**	176.08
96″	48″	**2271A39**	196.22	**2271A26**	203.14

Heavy Duty Metal Pegboards and Pegboard Strips

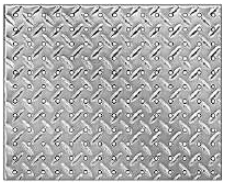

Diamond-Tread Aluminum

All-metal construction provides greater strength and durability than wood or plastic pegboards. Holes are on 1″ centers. Boards and strips project 3/4″ from the wall, except aluminum strips project 1/2″. All require 1/4″ mounting screws.

Stainless steel resists corrosion.

Aluminum is lighter than steel and stainless steel.

Pegboards—9/32″ Dia. Holes

Finish	Load Rating, lbs.	Wd.	Ht.	Thick.		
Steel						
Galvanized	1,000	45 1/2″	21 1/2″	0.03″	**1928A31**	$72.94
Stainless Steel						
Brushed	1,000	45 1/2″	21 1/2″	0.03″	**1928A41**	145.88
Aluminum						
Brushed	1,000	45 1/2″	21 1/2″	0.04″	**1928A21**	87.06
Diamond Tread	1,000	45 1/2″	21 1/2″	0.05″	**1928A11**	108.24
Diamond Tread	1,500	45 1/2″	45 1/2″	0.05″	**1928A12**	216.47
Diamond Tread	2,000	93 1/2″	45 1/2″	0.05″	**1928A13**	345.88

Pegboard Strips—9/32″ Dia. Holes

Finish	Load Rating, lbs.	Wd.	Ht.	Thick.		
Steel						
White Epoxy	250	12″	3 3/8″	0.06″	**3079A3**	$15.94
White Epoxy	250	23″	3 3/8″	0.06″	**3079A1**	18.65
White Epoxy	250	34″	3 3/8″	0.06″	**3079A2**	19.73
Stainless Steel						
Polished	250	12″	3 3/8″	0.05″	**3079A6**	22.49
Polished	250	23″	3 3/8″	0.05″	**3079A4**	31.25
Polished	250	34″	3 3/8″	0.05″	**3079A5**	42.28
Aluminum						
Brushed	300	24″	4″	0.04″	**3079A22**	28.24
Brushed	600	48″	4″	0.04″	**3079A23**	40.00
Brushed	1,000	96″	4″	0.04″	**3079A9**	75.29
Diamond Tread	300	24″	4″	0.05″	**3079A12**	30.59
Diamond Tread	600	48″	4″	0.05″	**3079A13**	44.71
Diamond Tread	1,000	96″	4″	0.05″	**3079A8**	84.71

Pegboard Containers



Bin

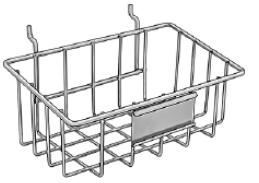

Basket with Slotted Card Holder



Jar

Containers fit 3/16″ and 9/32″ dia. pegboard holes on 1″ centers.

Bins have a zinc-plated steel clip that screws into the pegboard. Mounting screws are included.

Baskets that are 8 3/8″ wide have a slotted card holder.

Wd.	O'all Ht.	Proj.	Available Colors		
Plastic Bins					
4 1/8″	3 7/8″	10 7/8″	Blue, Red, Yellow	**18555A7**	$7.53
5 1/2″	4 7/8″	10 7/8″	Blue, Red, Yellow	**18555A9**	10.28
8 1/4″	6 7/8″	10 5/8″	Blue, Red, Yellow	**18555A8**	11.25
Powder-Coated Steel Baskets					
8 3/8″	3 3/8″	4 7/8″	Black, Blue, Green, Red, Yellow	**18525A15**	53.04
14″	4″	8″	Black, Blue, Green, Red, Yellow	**18525A12**	57.54
Chrome-Plated Steel Baskets					
8 3/8″	3 3/8″	4 7/8″		**18525A3**	57.46
14″	4″	8″		**18525A4**	57.54
Plastic Jar					
2 1/4″	3 3/8″	2 1/4″	Clear with blue lid	**11735A7**	1.57

Pegboard Magnetic Discs





Hold steel tools, nails, nuts, screws, and other magnetic items on your pegboard. Screw the threaded fastener into 3/16″ or 9/32″ dia. pegboard holes. The magnet has a black rubber housing.

Dia.	Proj.		Pkg. of 3
1 1/2″	5/8″	**2130A11**	$14.99

Pegboard Hooks

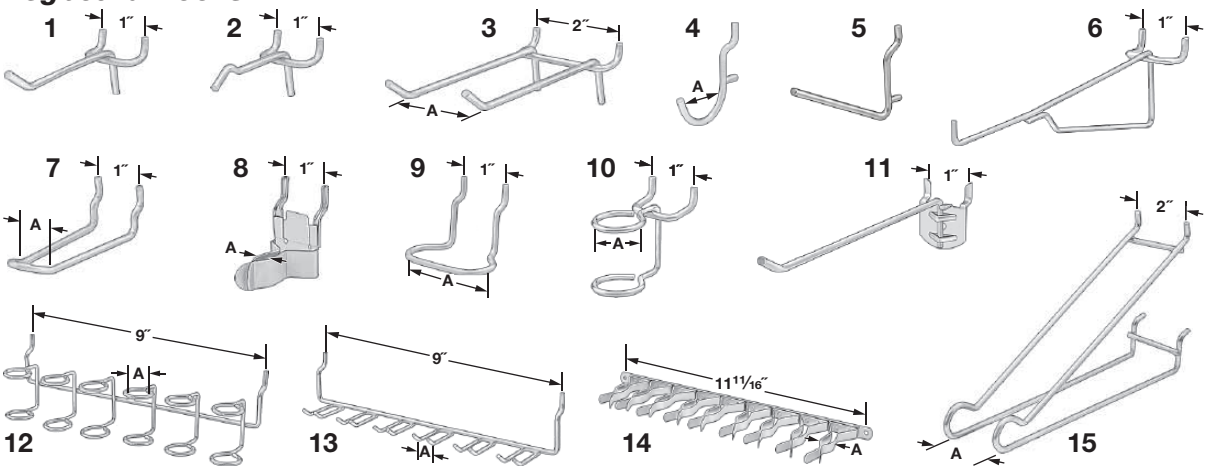

Styles 4 and **5** have a lock nub, except Style 4 hooks with a 5/8″ projection do not. **Style 6** hold shelves. **Style 11** hooks can be folded flat against the board when not in use. **Style 14** holders mount into the board with screws (18535A59 includes screws; 8670A63 requires No. 6 screws).

Light Wire—Fit 3/16″ and 9/32″ dia. holes

	Proj.	(A)	Zinc-Plated Steel Pkg. Qty.		Zinc-Plated Steel Pkg.	Type 304 Stainless Steel	Type 304 Stainless Steel Each
1	3 1/8″	____	20	18535A11	$5.81	8670A1	$1.48
1	5 1/8″	____	20	18535A12	5.88	8670A2	3.66
1	7″	____	20	18535A13	7.56	8670A3	2.85
1	9″	____	20	18535A14	8.59	8670A41	3.39
1	11 1/8″	____	20	18535A15	9.52	8670A42	3.78
2	3 1/8″	____	20	18535A16	6.52	8670A21	2.28
2	7 3/4″	____	20	18535A17	8.12	8670A22	1.71
2	11″	____	20	18535A18	9.96	8670A23	2.96
3	3″	1 1/2″	20	18535A21	9.04	8670A43	4.80
3	5 1/8″	1 1/2″	20	18535A22	10.28	8670A44	2.56
3	9″	1 1/2″	20	18535A24	13.12	8670A45	6.02
4	5/8″	3/8″	100	18535A25	9.07	8670A46	.87
4	1 1/16″	5/8″	100	18535A32	11.12	8670A47	1.66
4	1 1/2″	1″	100	18535A33	12.40	8670A48	2.07
5	1 1/8″	____	100	18535A36	10.64	8670A49	2.04
5	1 3/4″	____	100	18535A37	$11.56	8670A51	$2.07
5	2 3/4″	____	100	18535A38	12.40	8670A52	1.75
6	6″★	____	10	18535A46	7.04	8670A53	6.07
6	8″★	____	10	18535A47	8.48	8670A54	6.67
6	10″★	____	10	18535A29	8.80	8670A55	7.33
7	3 1/4″	1/2″	10	18535A41	7.11	8670A31	3.08
7	5 1/4″	3/8″	10	18535A42	8.63	8670A32	4.09
7	8 3/4″	3/8″	10	18535A43	11.26	8670A33	5.03
8	1 5/8″	1/2″-1″	20	18535A56	12.34	8670A56▲	13.20
9	1 1/4″	1 3/4″	20	18535A55	5.89	8670A57	2.56
10	1 1/4″	1/2″	20	18535A34	8.00	8670A58	6.40
10	1 7/8″	3/4″	20	18535A35	8.69	8670A59	6.72
12	2″	3/4″	1	18535A57	1.62	8670A61	29.82
13	1 1/2″	3/8″	1	18535A58	1.54	8670A62	9.74
14	2 3/4″	1/2″-1″	1	18535A59	3.93	8670A63♣	45.97

★ Depth of a shelf that the hanger can accommodate. ▲ (A) is 1/4″-1/2″. ♣ (A) is 1/2″-3/4″.

Heavy Wire—Fit 9/32″ dia. holes

	Proj.	(A)	Zinc-Plated Steel Pkg. Qty.		Zinc-Plated Steel Pkg.	Type 304 Stainless Steel	Type 304 Stainless Steel Each
1	4 1/4″	____	10	18535A62	$6.32	8670A65	$3.89
1	6 3/4″	____	10	18535A63	7.97	8670A66	4.11
1	9″	____	10	18535A64	8.38	8670A67	4.50
1	11″	____	10	18535A65	9.58	8670A68	5.10
1	13″	____	10	18535A66	10.44	8670A69	5.80
1	15 1/2″	____	10	18535A67	13.72	8670A71	6.26
1	18 5/8″	____	10	18535A69	13.30	8670A72	6.09
3	4 1/8″	1 1/2″	10	18535A76	11.97	8670A73	5.50
3	6″	1 1/2″	10	18535A72	12.74	8670A74	5.85
3	9 1/8″	1 1/2″	5	18535A77	9.20	8670A75	10.27
3	12 5/8″	1 3/8″	5	18535A78	13.29	8670A76	10.65
3	16″	1 1/2″	5	18535A79	14.71	8670A77	11.29
4	1 1/8″	5/8″	50	18535A83	11.56	8670A79	2.09
4	1 7/8″	1 1/2″	50	18535A84	13.64	8670A81	2.02
5	1 3/4″	____	50	18535A89	$12.44	8670A82	$3.48
6	8″★	____	10	18535A91	11.81	8670A83	8.09
6	10″★	____	5	18535A92	7.55	8670A84	8.89
6	12″★	____	5	18535A93	8.60	8670A85	9.78
6	16″★	____	5	18535A94	14.00	8670A86	10.33
11	4″	____	10	18565A21	5.42	8670A87	7.96
11	6″	____	10	18565A22	7.29	8670A88	7.87
11	9″	____	10	18565A23	10.21	8670A89	9.57
11	10 3/4″	____	5	18565A24	5.87	8670A91	7.96
11	13 1/2″	____	5	18565A25	6.23	8670A92	7.62
11	15 1/2″	____	5	18565A26	7.68	8670A93	9.93
11	18 5/8″	____	5	18565A27	10.21	8670A94	10.62
15	12″	2″	1	18535A87	7.04	8670A95	35.69
15	18 1/4″	2″	1	18535A88	7.69	8670A96	39.61

★ Depth of a shelf that the hanger can accommodate.

Assortments

Light Wire—Includes 37 pieces: Style 3 (2), Style 4 (13), Style 5 (11), Style 6 (2), Style 8 (2), Style 9 (2), Style 10 (4), and Style 13 (1).

Zinc-Plated Steel	18545A11	$10.15
Type 304 Stainless Steel	8670A64	100.65

Heavy Wire—Includes 21 pieces: Style 1 (2), Style 3 (2), Style 4 (9), Style 5 (6), and Style 6 (2).

Zinc-Plated Steel	18545A12	$8.40
Type 304 Stainless Steel	8670A97	86.17

Pegboard Hook Retainers and End Caps

Hook retainers snap into pegboards to keep hooks from falling out when you remove tools. Use with pegboards that have 3/16″ or 9/32″ dia. holes on 1″ centers. Made of black plastic.

End caps are red plastic.

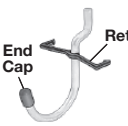

	Pkg. Qty.		Pkg.
Hook Retainers	50	1169A85	$14.90
End Caps for 3/16″ dia. (Light Wire) Hooks	100	18535A44	7.41
End Caps for 9/32″ dia. (Heavy Wire) Hooks	100	18535A86	9.04

Wall-Mount Strap Hooks

Hang large and awkward items, such as coils of rope. Wrap the strap around your item and then hook the buckle onto the mounting plate for a secure hold. The strap is black nylon and the buckle and mounting plate are steel. Mounting plate is 3 3/16″ Ht. × 1 1/2″ Wd. and includes mounting screws.



Strap Lg.	Load Cap., lbs.		
32″	50	1802A11	$6.80
48″	50	1802A12	7.40

Stay-Put Pegboard Hooks

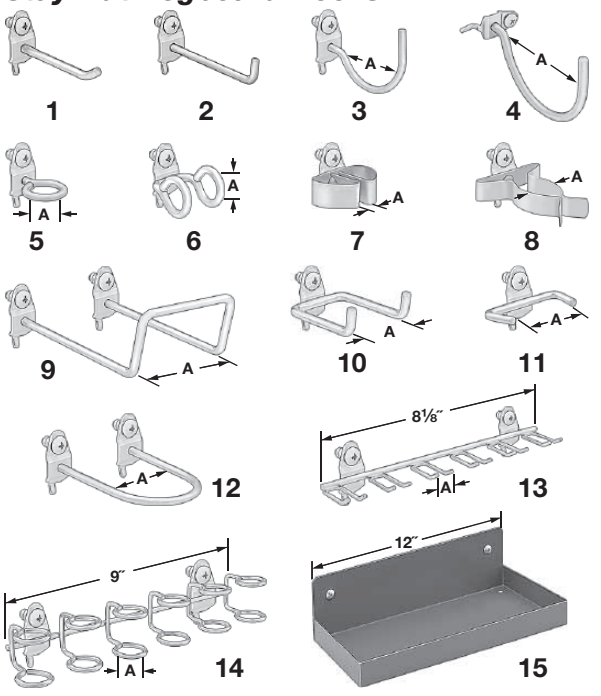

A locking tab and mounting screw secure these hooks firmly in place on hardboard pegboards. Hooks install from the front, so there's no need to remove the board to install or rearrange them. Secure in 3/16″ or 9/32″ dia. holes on 1″ centers with the included screws. You can insert and remove the screws without damaging the pegboard. Hooks are zinc-plated steel, except Styles 7 and 8 are chrome-plated steel and Style 15 is blue-painted steel.

	Proj.	(A)	Pkg. Qty		Pkg.
1	2″	—	10	**18515A151**	$9.18
1	3″	—	10	**18515A111**	9.36
1	4⅝″	—	10	**18515A112**	9.72
1	6⅝″	—	10	**18515A113**	10.53
1	8⅝″	—	5	**18515A114**	9.68
2	1½″	—	10	**18515A122**	9.37
2	3″	—	10	**18515A123**	9.55
2	6⅜″	—	10	**18515A124**	10.84
3	2¾″	2″	10	**18515A118**	10.39
4	4⅛″	3⅛″	10	**18515A119**	13.01
5	1⅝″	¾″	10	**18515A126**	10.01
6	1⅞″	¾″	10	**18515A116**	11.52
7	1⅛″	¼″-½″	10	**18515A137**	9.68
7	1⅜″	½″-1″	10	**18515A138**	10.48
8	1″	¼″-½″	10	**18515A154**	8.37
8	2″	¾″-1¼″	10	**18515A136**	11.34
8	2⅝″	1″-2″	5	**18515A125**	11.89
8	2⅞″	1⅞″-2¾″	5	**18515A139**	9.81
9	5½″	2¾″	5	**18515A141**	15.16
9	8⅝″	2¾″	1	**18515A142**	3.86
10	3¼″	1⅝″	10	**18515A144**	11.93
10	6⅛″	1⅝″	5	**18515A143**	9.70
10	8¾″	1⅝″	5	**18515A153**	12.28
11	1″	1½″	10	**18515A152**	10.44
12	3⅛″	1¾″	5	**18515A155**	10.48
13	1½″	⅜″	5	**18515A156**	13.23
14	2″	¾″	2	**18515A127**	9.14
15	6″	—	1	**18515A131**	31.73

26-Piece Assortment— Includes Style 1 (6), Style 3 (2), Style 6 (1), Style 7 (1), Style 8 (3), Style 9 (1), Style 10 (3), Style 11 (2), Style 12 (2), and Style 13 (1). Also includes yellow polypropylene bins (2) and bin clips (2).

18515A157 ..... $22.63

64-Piece Assortment— Includes Style 1 (20), Style 3 (8), Style 5 (6), Style 7 (4), Style 8 (8), Style 10 (2), and Style 11 (8). Also includes black polypropylene bins (4) and bin clips (4).

18515A128 ..... $47.45

95-Piece Assortment— Includes Style 1 (20), Style 3 (10), Style 7 (10), Style 8 (15), Style 9 (5), Style 10 (10), and Style 12 (5). Also includes yellow polypropylene bins (10) and bin clips (10).

18515A129 ..... $84.18

Under-Mount Hooks

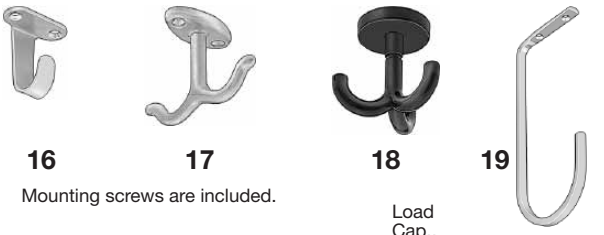

Mounting screws are included.

	Material	Ht.	Proj.	Load Cap., lbs.		
16	Stainless Steel	1¾″	⅞″	22	**11515A42**	$5.34
17	Zinc with Aluminum Finish	2¼″	3¼″	25	**1721A22**	2.09
17	Zinc with Brass Finish	2¼″	3¼″	25	**1721A1**	2.28
18	Black Nylon	2¾″	3¼″	75	**13765A66**	19.18
19	Stainless Steel	7⅛″	3¼″	22	**19075A17**	37.15
19	Stainless Steel	10⅛″	4¼″	33	**19075A18**	55.75

Swinging Hooks

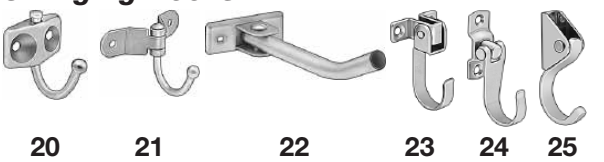

Hooks and bases are stainless steel. Mounting screws are included.

Hooks that **swing side to side** can be folded against the wall to save space. *Style 21* has a pivoting bracket so it can also be mounted on inside or outside corners.

Hooks that **swing up and down** can mount to the wall or ceiling. *Style 24* also swivels 360° when ceiling mounted.

	Ht.	Proj.	Load Cap., lbs.		
Swing Side to Side					
20	1½″	1⅜″	17	**7168A6**	$2.20
21	1⅜″	1⅝″	6	**7168A7**	5.78
22	1⅜″	9⅝″	6	**7168A8**	22.23
Swing Up and Down					
23	2⅛″	1¼″	12	**7168A2**	5.78
23	2⅜″	1⅜″	14	**7168A3**	6.76
24	2⅜″	1⅛″	14	**7168A4**	8.00
24	2⅞″	1⅜″	19	**7168A5**	8.89
25	2⅞″	1⅝″	110	**7168A1**	37.60

Jumbo Foam-Padded Hooks

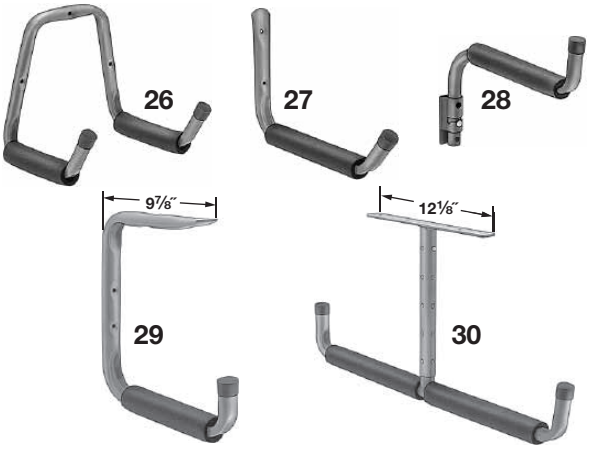

Sized to hang large objects, hooks are gray-painted tubular steel with black foam padding. Mounting screws are included.

Style 28 has a three-position lock (right, left, and center) that allows 180° side-to-side movement. **Style 30** has a five-position height adjustment and can rotate 90°.

	Ht.	Proj.	Tube OD	Load Cap., lbs.		
26	9¾″	8¾″	⅞″	75	**1716A14**	$5.75
27	9⅞″	15½″	1⅛″	50	**1716A12**	5.67
28	10″	12¼″	⅞″	50	**1716A15**	3.92
29	16½″	12⅛″	1⅛″	50	**1716A13**	5.58
30	14½″-22½″	27¼″	1″	50	**1716A11**	11.75

Hooks

Hooks include mounting screws, unless noted. **Styles 5, 9, 10, 13,** and **14** meet NSF/ANSI standards for use in food-service environments.

	Material	Ht.	Proj.	Load Cap., lbs.	Screw Size		
Single Hook							
1	Aluminum	1½″	1⅝″	—	No. 7	1760A1	$1.50
1	Aluminum with Brass Finish	1½″	1⅝″	—	No. 7	1760A5	1.27
1	Brass	1½″	1⅝″	—	No. 7	1760A6	2.50
1	Brass with Dull Chrome Finish	1½″	1⅝″	—	No. 7	1760A2	2.74
2	Brass with Polished Chrome Finish	1⅞″	2″	15	No. 8	1760A7	3.69
3	Brass	2″	1¾″	15	No. 7	13785A27	2.88
4	Black Nylon	2″	1¾″	—	No. 8	13765A55	13.39
4	Black Nylon	2⅜″	2½″	—	No. 10	13765A56	23.02
4	Black Nylon	2¾″	3⅞″	—	No. 10	13765A57	24.23
4	Black Nylon	2¾″	4⅛″	—	No. 10	13765A62	30.66
5	Stainless Steel	1⅜″	1¾″	22	No. 5	11845A11	10.54
5	Stainless Steel	1⅝″	2½″	26	No. 7	11845A12	12.57
6	Zinc-Plated Steel	1¾″	2⅛″	150	No. 10	1362A13	3.11
7	Zinc-Plated Steel	2″	5½″	—	No. 10	1419A11	9.69
7	Zinc-Plated Steel	2″	10″	—	No. 10	1419A12	9.84
8	Stainless Steel	⅞″	½″	—	No. 6	11855A21■	1.12
9	Stainless Steel	1″	1″	44	No. 4	11855A15	9.82
9	Stainless Steel	1¼″	1¼″	44	No. 6	11855A16	12.43
10	Stainless Steel	1¾″	1⅜″	35	No. 8	11855A43	46.94
10	Stainless Steel	1⅞″	1⅝″	35	No. 8	11855A44	47.77
11	Stainless Steel	1⅛″	⅞″	35	No. 5	11855A11	9.31
11	Stainless Steel	1⅜″	1¼″	35	No. 5	11855A12	9.02
12	Zinc-Plated Steel	2⅝″	1⅜″	—	No. 8	15295A1	1.92
12	Zinc-Plated Steel	3¾″	1¾″	—	No. 12	15295A2	2.22
12	Zinc-Plated Steel	4⅞″	1⅞″	—	No. 12	15295A3	2.58
12	Stainless Steel	1⅝″	1″	44	No. 4	11855A13	10.03
12	Stainless Steel	2⅛″	1¼″	44	No. 6	11855A14	13.13
12	Black Nylon	2⅞″	1⅞″	—	No. 8	13765A51	15.45
13	Stainless Steel	2¾″	1¾″	22	No. 6	19075A11	16.36
13	Stainless Steel	4⅝″	2⅝″	22	No. 8	19075A12	28.31
13	Stainless Steel	7⅞″	4¼″	26	No. 11	19075A13	48.00
14	Stainless Steel	2⅞″	1⅞″	26	No. 6	19075A14	16.78
14	Stainless Steel	4½″	3⅛″	44	No. 8	19075A15	29.72
14	Stainless Steel	7⅞″	4⅝″	48	No. 11	19075A16	49.06
15	Zinc-Plated Steel	3¾″	5″	50	No. 10	1362A21▲	4.80
16	White Powder-Coated Steel	6½″	6⅜″	50	No. 14	6558A63■	4.47
16	White Powder-Coated Steel	6⅝″	4¼″	50	No. 14	6558A62■	4.03
16	White Powder-Coated Steel	7⅞″	10⅝″	50	No. 14	6558A64■	5.46
17	Zinc-Plated Steel	9¼″	11″	25	No. 8	15295A4	2.43
18	Orange Vinyl-Coated Steel	5½″	2½″	100	No. 12	1730A91■	2.90
18	Orange Vinyl-Coated Steel	5½″	3¾″	87	No. 12	1730A92■	3.90
18	Orange Vinyl-Coated Steel	9⅝″	6″	40	No. 12	1730A93■	6.45
19	Orange Vinyl-Coated Steel	6⅞″	4⅛″	87	No. 12	1730A94■	4.05
Multi Hook							
20	Red Vinyl-Coated Steel	½″	5⅞″	10	No. 4	1728A88■	1.09
21	Zinc	3¼″	3″	—	No. 7	1465A12	2.09
21	Zinc with Brass Finish	3¼″	3″	—	No. 7	1465A11	2.32
21	Brass	3¼″	3⅛″	—	No. 7	1465A24	5.08
21	Brass with Dull Chrome Finish	3¼″	3⅛″	—	No. 7	1465A26	5.66
22	Aluminum	2⅛″	3″	—	No. 6	1719A1	1.43
22	Aluminum with Brass Finish	2⅛″	3″	—	No. 6	1719A3	1.60
22	Brass	2⅛″	3″	—	No. 6	1719A4	4.65
22	Brass with Dull Chrome Finish	2⅛″	3″	—	No. 6	1719A5	4.77
23	Stainless Steel	1¼″	1″	44	No. 5	11855A18	27.02
23	Stainless Steel	1⅝″	1¼″	44	No. 6	11855A19	27.87
24	Aluminum	1½″	1⅛″	—	No. 7	1760A3	1.27
24	Aluminum with Brass Finish	1½″	1⅛″	—	No. 7	1760A4	1.45
24	Brass	2″	1″	—	No. 8	1760A9	3.60
24	Brass with Polished Chrome Finish	2″	1″	—	No. 8	1760A8	3.19
25	Brass	4½″	3⅛″	—	No. 10	19105A42	10.45
25	Brass with Polished Chrome Finish	4½″	3⅛″	—	No. 10	19105A45	11.48
26	Aluminum	6⅛″	3⅝″	—	No. 7	1761A11	2.33
26	Aluminum with Brass Finish	6⅛″	3⅝″	—	No. 7	1761A12	2.58
27	Stainless Steel	2¾″	1⅛″	11	No. 4	11855A41	5.06
28	Stainless Steel	3⅞″	⅞″	—	No. 4	11855A42	3.98
29	Steel with Dull Chrome Finish	6⅞″	3¾″	50	No. 10	11045A11	13.74
30	Stainless Steel	5½″	4″	—	No. 10	12845A24■	16.43
31	Stainless Steel	5⅜″	2½″	—	No. 8	12845A21■	9.06
31	Black Nylon	6½″	4¼″	—	No. 8	13765A53	20.48
32	Brass with Dull Chrome Finish	2½″	3¾″	—	No. 8	1776A1	40.10
32	Brass with Polished Chrome Finish	2½″	3¾″	—	No. 8	1776A4	46.28

■ Mounting screws not included. ▲Sold in package of 2.

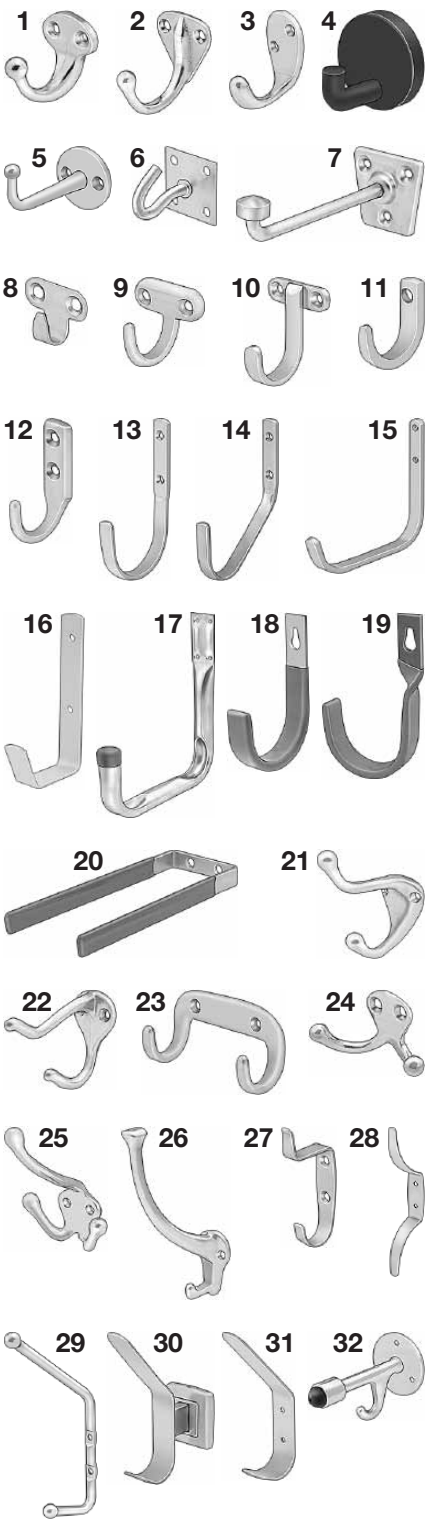

T-Slotted Track

Slide ¼″-20 hex head bolts anywhere along the slotted track for use as hangers. Bolts are sold separately. T-slotted track is also used to position clamps and jigs on workbenches and table saws. Track is clear-anodized aluminum. Mounting holes are on 3″ centers and require No. 8 pan head screws.

Lg.	Ht.	Proj.		
18″	¾″	½″	1850A11	$4.97
24″	¾″	½″	1850A14	6.34
36″	¾″	½″	1850A17	9.38
48″	¾″	½″	1850A19	12.35
Aluminum ¼″-20 Bolts (Pkg. of 10)			93306A555	11.74



Hooks

Multi-Hook Racks

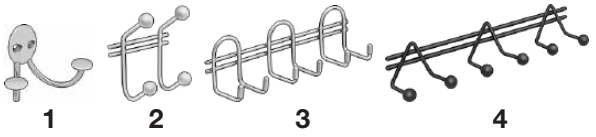

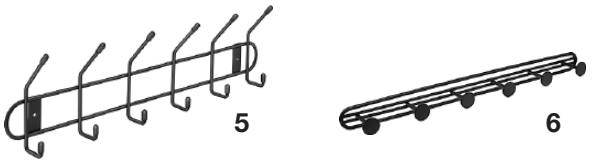

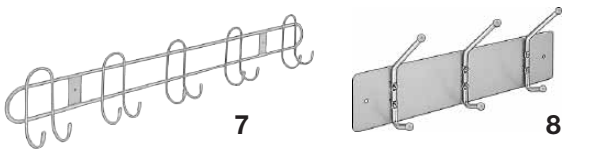

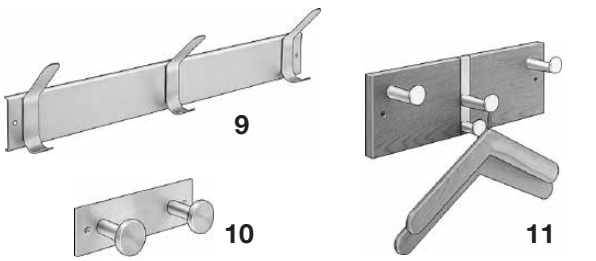

Mounting screws are included, except Styles 3, 5, and 7 require No. 8 screws and Style 9 require No. 10 screws.

Style 11 racks include two coat hangers.

	No. of Hooks	Overall Ht.	Overall Wd.	Proj.		
Steel with Polished Chrome Finish						
1	2	27⁄8″	33⁄4″	23⁄4″	13685A3	$5.20
2	2	51⁄8″	4″	31⁄4″	13685A2	8.50
3	6	21⁄2″	8″	13⁄4″	13685A41	5.32
Steel with Black Powder-Coated Finish						
4	6	11⁄2″	103⁄8″	11⁄2″	13685A21	8.55
5	6	53⁄8″	193⁄4″	2″	13685A22	8.36
6	6	11⁄2″	201⁄2″	21⁄8″	13685A39	10.62
Steel with White Powder-Coated Finish						
7	10	4″	301⁄2″	2″	13685A37	10.70
Aluminum Panel with Dull Chrome Hooks						
8	3	67⁄8″	18″	33⁄4″	11045A14	55.96
8	6	67⁄8″	36″	33⁄4″	11045A16	70.82
Type 304 Stainless Steel with Dull Finish						
9	3	53⁄8″	24″	27⁄8″	12845A32	48.14
9	4	53⁄8″	36″	27⁄8″	12845A33	59.82
9	5	53⁄8″	48″	27⁄8″	12845A35	73.15
9	6	53⁄8″	60″	27⁄8″	12845A36	106.83
Aluminum with Dull Finish						
10	2	21⁄2″	81⁄2″	21⁄4″	17645A65	63.42
10	3	21⁄2″	16″	21⁄4″	17645A72	95.92
Mahogany Panel with Polished Chrome Hooks						
11	4	6″	18″	31⁄2″	11085A41	147.03
Oak Panel with Polished Chrome Hooks						
11	4	6″	18″	31⁄2″	11085A43	147.03
Walnut Panel with Polished Chrome Hooks						
11	4	6″	18″	31⁄2″	11085A42	147.03

Vacuum Hooks and Holders

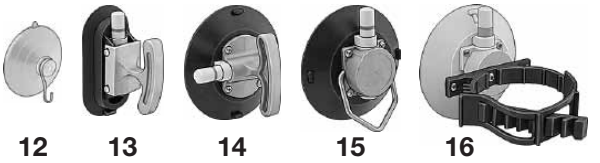



Designed for temporary mounting, vacuum hooks are easy to remove and reposition. They are for use on smooth surfaces.

Light Duty—Have a plastic cup and a zinc-plated steel hook.

Load Rated—Have a built-in pump to create a strong vacuum. *Styles 13* and *14* have a black rubber cup and aluminum hook. *Style 15* has a black rubber cup and stainless steel hook. *Style 16* has a white rubber cup and black rubber strap. *Style 17* has a white rubber cup and plastic hook.

	Ht.	Proj.	Load Cap., lbs.	Pkg. Qty.		Pkg.
Light Duty						
12	11⁄8″	3⁄8″	—	25	65825A2	$7.50
12	11⁄2″	5⁄8″	—	25	65825A3	9.68
12	2″	5⁄8″	—	25	65825A4	11.06
12	23⁄8″	3⁄4″	—	10	65825A5	7.98
Load Rated						Each
13	6″	4″	40	—	65825A51	$61.53
14	6″	31⁄2″	70	—	65825A6	59.02
15	6″	21⁄8″	70	—	65825A61	63.93
16	6″	11″	70	—	65825A7	98.49
17	91⁄2″	61⁄4″	40	—	65825A8	65.66

Reusable Adhesive-Back Hooks



Special adhesive strips let you remove and reuse these hooks without damaging the wall. Hooks are plastic, except Style 18 has a metal hook and Style 23 is steel.

	Ht.	Proj.	Load Cap., lbs.	Color	No. of Strips Included	Pkg. Qty.		Pkg.
Hooks								
18	15⁄8″	3⁄4″	1⁄2	White	4 Small	3	1024A28	$3.39
19	23⁄8″	5⁄8″	1	White	4 Small	2	1024A21	3.21
19	23⁄8″	1″	2	Clear	4 Medium Clear	2	1024A31	4.43
19	3″	11⁄8″	3	White	4 Medium	2	1024A22	3.43
20	41⁄8″	11⁄2″	5	White	2 Large	1	1024A26	3.70
20	41⁄8″	11⁄2″	5	Silver	2 Large	1	1024A33	6.36
21	37⁄8″	11⁄4″	5	White	2 Large	1	1024A23	3.43
21	41⁄4″	13⁄8″	7	White	4 Large	1	1024A25	4.41
Clip								
22	3″	3⁄4″	1⁄2	White	2 Medium	1	1024A27	4.28
Stud								
23	3″	3⁄8″	5	Silver	2 Large, 4 Small	1	1024A32	3.76
Replacement Adhesive Strips								
Small						20	1024A38	3.86
Medium Clear						9	1024A35	3.39
Medium						9	1024A37	2.79
Large						6	1024A36	3.39
Assortment—8 Small, 4 Medium, 4 Large						16	1024A24	3.71

Over-the-Door Hooks

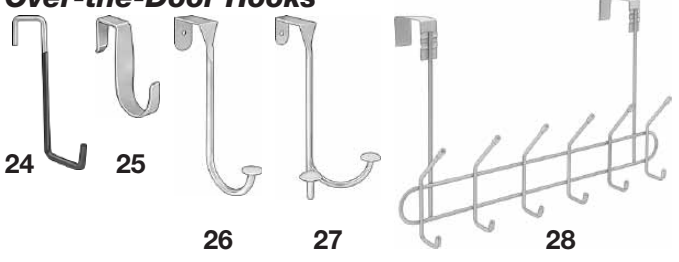

Style 24 is zinc-plated steel with a red vinyl coating.
Style 25 is Type 304 stainless steel.
Styles 26 and **27** are chrome-plated zinc.
Style 28 is white powder-coated steel. Overall width is 20″.

	Max. Door Thick.	Ht.	Proj.	Pkg. Qty.		Pkg.
24	13⁄4″	6″	23⁄8″	10	1728A91	$9.32
25	1⁄2″	17⁄8″	11⁄8″	1	12175A81	4.71
26	13⁄8″	63⁄4″	3″	1	12175A1	5.67
27	13⁄8″	63⁄4″	27⁄8″	1	12175A3	6.11
28	21⁄4″	111⁄4″	23⁄8″	1	12175A4	8.89

Magnet-Mount Hooks

Mount and reposition hooks on steel walls, cabinets, and other magnetic surfaces.
Style 8 has a 10-24 × 1″ threaded stud with two hex nuts to hold items in place.
Style 11 has a magnet that can be turned on and off for easy removal. The base is shaped so it can also attach to curved surfaces.
Style 16 has a bumper to protect walls when used on doors.

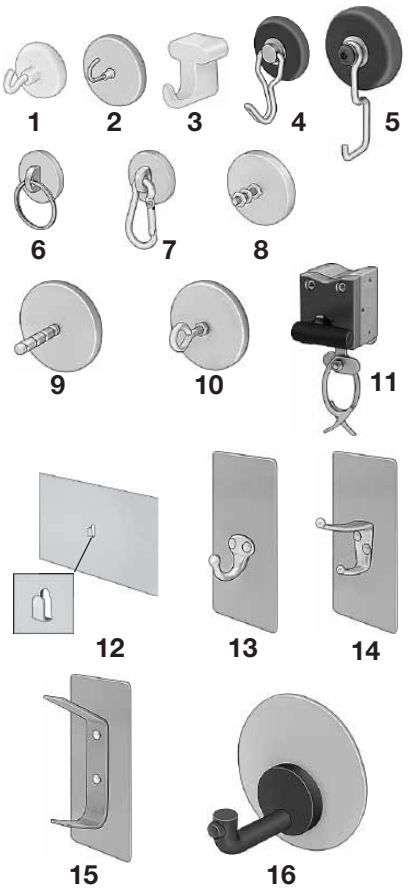

	Load Cap., lbs.	O'all Ht.	Wd.	Proj.	Hook/Base Material		
1	5	1″	1″	1″	White-Painted Steel	**14025A46**	$1.82
1	8	1 1/4″	1 1/4″	1 1/8″	White-Painted Steel	**14025A47**	2.60
1	10	7/8″	7/8″	1 1/4″	White-Painted Steel	**14025A25**	6.00
1	15	1 7/8″	1 7/8″	1 3/8″	White-Painted Steel	**14025A31**	3.65
1	33	2 3/4″	2 3/4″	1 1/2″	White-Painted Steel	**14025A32**	5.71
1	36	1 1/4″	1 1/4″	1 1/4″	White-Painted Steel	**14025A26**	8.43
2	12	2″	2″	1 1/8″	Zinc-Plated Steel/Nickel-Plated Steel	**14025A18**	4.86
2	24	1 3/8″	1 3/8″	1 1/8″	Chrome-Plated Steel/Nickel-Plated Steel	**14025A27**	9.96
3	4	1 5/8″	1 1/2″	1 5/8″	White Plastic	**13735A22**	3.80
4	39	2 1/4″	1 1/4″	1 1/8″	Chrome-Plated Steel/Black-Painted Steel	**14025A28**	11.25
5	—	4 1/8″	2 1/4″	1 1/8″	Zinc-Plated Steel/Blue Plastic	**1046A3**	13.62
6	35	1 1/2″	1 1/8″	1″	Nickel-Plated Steel	**14025A51**	8.44
7	27	2 3/8″	1 1/8″	1 1/8″	Chrome-Plated Steel	**14025A29**	8.75
8	21	2″	2″	1 1/8″	Zinc-Plated Steel/Chrome-Plated Steel	**14025A23**	3.80
8	54	2″	2″	1 1/8″	Zinc-Plated Steel/Chrome-Plated Steel	**14025A24**	14.58
9	57	3 1/8″	3 1/8″	2 1/8″	Nickel-Plated Steel	**14025A44**	12.29
9	120	4 7/8″	4 7/8″	2 1/2″	Nickel Plated Steel	**14025A52**	15.69
10	21	2″	2″	2 1/8″	Zinc-Plated Steel/Chrome-Plated Steel	**14025A21**	4.06
10	54	2″	2″	2 1/8″	Zinc-Plated Steel/Chrome-Plated Steel	**14025A22**	13.49
10	57	3 1/8″	3 1/8″	2 1/8″	Zinc-Plated Steel/Nickel-Plated Steel	**14025A43**	8.83
10	120	4 7/8″	4 7/8″	2 1/2″	Nickel-Plated Steel/Chrome-Plated Steel	**14025A33**	13.00
11	35	2 3/4″	1 3/4″	2 3/4″	Stainless Steel/Nickel-Plated Steel	**14025A55**	59.57
11	110	4 5/8″	2 1/2″	4 5/8″	Stainless Steel/Nickel-Plated Steel	**14025A56**	191.67
12	2	2″	3″	1/4″	Zinc-Plated Steel	**13375A41**	7.90
12	5	2″	4″	1/4″	Zinc-Plated Steel	**13375A42**	9.20
12	12	4″	4″	1/4″	Zinc-Plated Steel	**13375A43**	15.20
12	20	4″	8″	1/4″	Zinc-Plated Steel	**13375A44**	27.10
13	5	4 1/8″	3 1/8″	1 3/4″	Polished Aluminum/Beige-Painted Steel	**1092A41**	9.24
13	10	7 5/8″	3 1/8″	1 3/4″	Polished Aluminum/Beige-Painted Steel	**1092A42**	11.32
14	10	7 5/8″	3 1/8″	2 1/2″	Polished Aluminum/Beige-Painted Steel	**1092A43**	12.46
15	15	8″	3 1/8″	2 3/8″	Polished Aluminum/Beige-Painted Steel	**1092A46**	17.62
16	10	6 1/8″	6 1/8″	4 3/4″	Black Plastic/Beige-Painted Steel	**1092A49**	66.46

Screw-In Hooks



17


18


19


20


21
With Two Hex Nuts and Washers

Style 21— Insert hook through a mounting hole and secure it from the back with a hex nut. Hooks *with two hex nuts* can be secured from the front and back.

	Dia.	(A)	O'all Ht.	Proj.	Pkg. Qty.		Pkg.
Zinc-Plated Steel							
17	0.08″	1/4″	1/2″	7/8″	100	**9587T18**	$12.15
17	0.105″	3/8″	3/4″	1 1/4″	50	**9587T17**	7.81
17	0.135″	1/2″	7/8″	1 1/2″	50	**9587T16**	8.22
17	0.162″	5/8″	1″	1 7/8″	50	**9587T21**	9.54
17	0.192″	1 1/8″	1 1/2″	2 1/4″	50	**9587T22**	13.16
17	0.225″	1 3/8″	1 5/8″	2 1/2″	25	**9587T23**	9.04
17	0.243″	1 1/2″	1 1/2″	2 3/4″	25	**9587T31**	9.52
17	0.262″	1 1/2″	2 1/8″	2 7/8″	25	**9587T24**	12.61
17	0.306″	1 5/8″	2 1/8″	3 1/4″	10	**9587T25**	7.16
17	0.362″	2″	2 1/8″	2 7/8″	10	**9587T33**	8.40
Type 304 Stainless Steel							
17	0.243″	1 1/2″	1 1/2″	3″	1	**9580T11**	4.72
17	0.306″	1 5/8″	1 3/4″	2 7/8″	1	**9580T12**	7.59
17	0.362″	2″	2 1/8″	2 7/8″	1	**9580T13**	8.59
Polished Brass							
18	0.072″	1/4″	3/8″	1/2″	50	**9585T1**	7.17
18	0.08″	1/4″	3/8″	5/8″	50	**9585T2**	7.76
18	0.091″	1/4″	1/2″	3/4″	50	**9585T3**	8.49
18	0.105″	3/8″	5/8″	7/8″	25	**9585T24**	6.19
18	0.12″	3/8″	3/4″	1″	25	**9585T25**	7.94
18	0.148″	1/2″	1″	1 1/4″	10	**9585T26**	5.63
18	0.148″	1/2″	1 1/8″	1 1/2″	10	**9585T27**	6.78
18	0.177″	5/8″	1 1/2″	2″	10	**9585T28**	11.71
Zinc-Plated Steel							
19	0.08″	1/4″	3/8″	5/8″	100	**9594T16**	11.25
19	0.105″	3/8″	1/2″	7/8″	100	**9594T15**	10.13
19	0.135″	1/2″	5/8″	1 1/8″	100	**9594T14**	12.43
19	0.162″	5/8″	3/4″	1 1/2″	50	**9594T13**	8.25
19	0.192″	3/4″	7/8″	1 7/8″	50	**9594T24**	12.28

	Dia.	(A)	O'all Ht.	Proj.	Pkg. Qty.		Pkg.
Zinc-Plated Steel (Cont.)							
19	0.225″	7/8″	1″	2 1/8″	25	**9594T11**	$8.06
Steel with Polished-Brass Finish							
19	0.091″	3/8″	1/2″	7/8″	100	**9595T15**	12.29
19	0.135″	1/2″	3/4″	2 3/8″	50	**9595T13**	8.95
19	0.148″	5/8″	3/4″	3 3/8″	50	**9595T12**	11.82
Polished Brass							
20	0.072″	1/8″	1/4″	1/2″	100	**9586T1**	12.91
20	0.08″	1/8″	1/4″	5/8″	50	**9586T2**	7.29
20	0.091″	1/8″	3/8″	3/4″	50	**9586T3**	8.36
20	0.105″	1/4″	3/8″	7/8″	50	**9586T4**	7.20
20	0.12″	1/4″	1/2″	1″	25	**9586T21**	7.88
20	0.148″	3/8″	3/8″	1 1/4″	25	**9586T22**	13.45
20	0.148″	3/8″	3/8″	1 1/2″	10	**9586T23**	6.21
20	0.177″	1/2″	1/2″	2″	10	**9586T24**	12.09

	Thread Size	(A)	O'all Ht.	Proj.	Pkg. Qty.		Pkg.
Zinc-Plated Steel Bolts with One Hex Nut							
21	8-32	1″	5/8″	5/8″	10	**9491T11**	$3.93
21	10-24	1 1/8″	5/8″	3/4″	10	**9491T12**	4.17
21	12-24	1 1/4″	3/4″	7/8″	10	**9491T13**	5.35
21	1/4″-20	1 5/8″	7/8″	1″	10	**9491T14**	5.97
21	5/16″-18	1 7/8″	1 1/8″	1 1/4″	10	**9491T15**	7.66
21	3/8″-16	2 1/4″	1 1/2″	1 1/2″	10	**9491T16**	12.43
21	3/8″-16	3 3/4″	1 1/2″	1 3/8″	5	**9491T17**	7.88
Zinc-Plated Steel Bolts with Two Hex Nuts and Washers							
21	1/4″-20	2 7/8″	1 1/4″	1 3/8″	10	**9492T13**	9.33
21	5/16″-18	4″	1 1/2″	2″	10	**9492T14**	13.01
21	3/8″-16	4 1/2″	1 7/8″	2 1/2″	5	**9492T12**	8.25
21	3/8″-16	5 1/2″	1 7/8″	2 1/2″	5	**9492T15**	8.73

Load-Rated Screw-In Hooks



All are Type 304 stainless steel.

	Dia.	(A)	Ht.	Proj.	Load Cap., lbs.	Pkg. Qty.		Pkg.
1	0.106″	3/8″	1/2″	3/4″	6	10	**29905T31**	$5.62
1	0.118″	1/2″	5/8″	1 1/8″	6	10	**29905T32**	6.62
1	0.137″	1/2″	3/4″	1 1/8″	15	10	**29905T33**	7.62
1	0.157″	1/2″	7/8″	1 3/8″	15	10	**29905T46**	10.62
1	0.177″	1/2″	1 1/8″	1 5/8″	17	5	**29905T26**	7.67
2	0.106″	3/8″	3/4″	3/4″	6	10	**29905T36**	6.62
2	0.137″	1/2″	1 1/8″	1 1/8″	15	10	**29905T37**	12.62
2	0.177″	3/4″	1 3/8″	1 1/2″	26	5	**29905T28**	8.12
3	0.106″	3/8″	1/2″	5/8″	11	10	**29905T39**	6.03
3	0.106″	3/8″	3/4″	7/8″	11	10	**29905T4**	6.42
3	0.137″	1/2″	7/8″	1 1/8″	11	10	**29905T47**	9.32
3	0.177″	3/4″	1 1/4″	1 1/2″	26	5	**29905T45**	8.53

Vinyl-Coated Screw-In and Nail-In Hooks

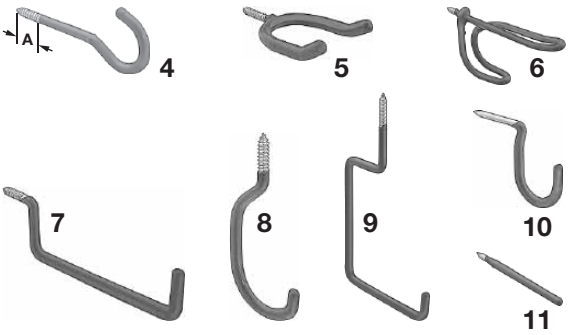

Hooks are zinc-plated steel with a vinyl coating to protect items from scratches.

	Dia.	(A)	Ht.	Proj.	Load Cap., lbs.	Pkg. Qty.		Pkg.
Screw-In								
Red Vinyl Coating								
4	0.192″	7/8″	1 1/2″	2 1/2″	—	10	**1728A73**	$9.88
4	0.235″	1 3/8″	1 3/4″	3 3/4″	20	10	**1728A75**	6.58
5	0.264″	1 1/8″	5/8″	3″	—	10	**1728A84**	8.84
6	0.120″	5/8″	1 3/4″	3 1/8″	4	10	**1728A86**	8.47
7	0.264″	1 1/4″	1 13/16″	6 3/4″	—	10	**1728A83**	13.65
8	0.264″	1″	2 3/4″	5″	—	10	**1728A82**	8.74
9	0.235″	1 3/8″	4 1/4″	6 1/8″	20	10	**1728A85**	9.32
Black Vinyl Coating								
5	0.375″	1 3/8″	3/4″	3 5/8″	50	1	**5238A2**	1.63
7	0.375″	1 3/4″	3 1/8″	9 3/4″	50	1	**5238A1**	2.14
8	0.375″	1 5/8″	4 1/4″	7″	40	1	**5238A6**	1.97
9	0.375″	1 3/4″	6 3/8″	7 1/4″	50	1	**5238A3**	2.54
Nail-In								
Red Vinyl Coating								
10	0.235″	1 1/2″	1 3/8″	1 1/2″	20	10	**1728A87**	6.03
11	0.176″	3/4″	—	2 3/8″	2	10	**1728A89**	6.03

Anchor Hooks

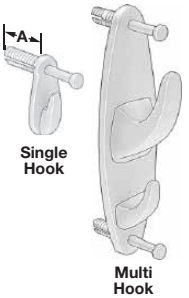

Mount hooks securely—the built-in anchor flares out to firmly grip the wall. To install, drill a 5/16″ dia. hole, insert the anchor, and hammer in the pin. Hooks are white nylon.

(A)	Ht.	Proj.	Load Cap., lbs.	Pkg. Qty.		Pkg.
Single Hook						
1″	1 5/8″	3/8″	35	6	**14175A72**	$5.61
1″	1 5/8″	3/4″	35	6	**14175A71**	5.61
1″	1 5/8″	1″	35	6	**14175A73**	5.61
Multi Hook						
7/8″	5 1/2″	1 3/8″	100	1	**14175A74**	4.68

Nail-In Hooks



Hooks come with nails.

Picture hanging kit includes three 10-lb. capacity nail-in hooks, three 20-lb. capacity nail-in hooks, 15 feet of wire, and 12 screw eyes.

Material	Ht.	Proj.	Load Cap., lbs.	Pkg. Qty.		Pkg.
Single Mount						
Plastic	1 1/8″	1/8″	25	5	**6109T6**	$2.36
Steel	1/2″	1/8″	10	60	**6109T1**	11.77
Steel	3/4″	1/8″	20	48	**6109T2**	11.77
Steel	7/8″	1/4″	30	36	**6109T3**	11.77
Double Mount						
Steel	1 1/8″	1/4″	50	24	**6109T4**	11.77
Triple Mount						
Steel	1 3/8″	1/4″	75	12	**6109T5**	11.77
Mounting Brackets—1/4″ Ht. x 1 1/4″ Wd. (Pkg. of 5)					**6109T8**	1.45
Mounting Brackets—1/4″ Ht. x 2 1/4″ Wd. (Pkg. of 4)					**6109T7**	1.66
Screw Eyes (Pkg. of 16)					**1311T18**	1.39
Picture Hanging Kit					**1311T11**	3.25

Adhesive-Back Hangers

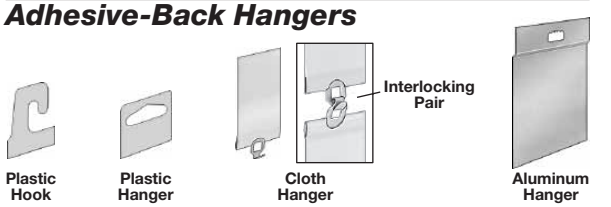

Attach a hanger to your item to hang it on a hook.

Clear plastic hook, clear plastic hanger, and **aluminum hanger** have a peel-off backing.

White cloth hanger with zinc-plated steel hook has a water-activated adhesive. Two hangers can be used as an interlocking pair: one mounts to the wall and the other to the item you're hanging.

Ht.	Wd.	Proj.	Hole Ht.	Hole Wd.	Load Cap.	Pkg. Qty.		Pkg.
Clear Plastic Hook								
1 1/2″	1 1/2″	—	1/4″	1/4″	12 oz.	20	**1701A7**	$1.85
Clear Plastic Hanger								
1 1/4″	1 5/8″	—	3/8″	1 1/4″	14 oz.	20	**1701A6**	1.74
White Cloth Hanger with Zinc-Plated Steel Hook								
2 1/4″	1 1/8″	1/8″	1/8″	1/8″	10 lbs.	6	**6112T13**	1.61
Aluminum Hanger								
8 1/4″	6″	—	1/2″	1 1/4″	40 lbs.	1	**1701A3**	10.86

Interlocking Bracket Hangers

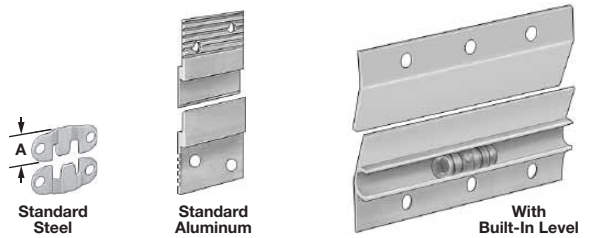

Hang mirrors, cabinets, and panels with interlocking brackets that slide together for a secure hold. Mount one hanger to the wall and another to your item. Hangers require No. 8 screws, except standard steel hanger requires No. 6 screws.

Cut-to-size hangers can be cut with a hacksaw.

Hangers with **built-in level** make it easy to mount objects straight.

Material	(A)	Wd.	Proj.	Load Cap., lbs.	Pkg. Qty.		Pkg.
Standard							
Steel	5/8″	1 1/2″	1/8″	—	10 Pairs	**17565A31**	$9.01
Aluminum	1 7/8″	1 1/2″	1/8″	—	10 Pairs	**1201A24**	11.49
Cut to Size							
Aluminum	1 7/8″	72″	1/8″	—	1 Piece	**1201A38**	14.04
With Built-In Level							
Aluminum	2 1/4″	6″	1/4″	75	1 Pair	**2152A11**	7.37
Aluminum	2 1/4″	10″	1/4″	100	1 Pair	**2152A12**	9.47
Aluminum	2 1/4″	18″	1/4″	200	1 Pair	**2152A13**	13.37
Aluminum	2 1/4″	30″	1/4″	300	1 Pair	**2152A14**	15.17

Fastening & Sealing

Fastening

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Thread-Forming & Thread-Cutting Screws	3006
Drilling Screws	3010
Drywall & Wood Screws	3017
Machine Screws	3024
Set Screws	3058
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Captive Panel Screws	3084
Binding Posts	3086
Shoulder Screws	3089
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Cap Screws & Bolts	3144
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Shaft Seals	3558
Compression Packing Seals	3562



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About Tapping Screws

While other screws and bolts require holes with threads, tapping screws create their own threads.



Pointed screws are the most common tapping screw. They have a pointed end to penetrate thin materials such as sheet metal, and soft materials such as wood and drywall. In thicker materials, they generally need a starter hole.



Thread-forming and **thread-cutting screws** create reusable threads in metals and plastics. They require a drilled or punched hole to install. Thread-forming screws press threads into material without leaving debris, while thread-cutting screws eject material as they're turned.



Drilling screws save you time and effort by drilling their own holes, creating reusable threads, and fastening materials in a single operation. Use them to fasten metal.

Tapping Screw Selection Guide

	Pointed Pages	Thread Forming and Thread Cutting Pages	Drilling Pages
For Use In			
Sheet Metal	2997-3005	3005-3009	3010-3013
Steel	—	3007	3010-3013
Iron	—	3006-3007	—
Stainless Steel	—	—	3010-3013
Aluminum and Copper	—	3008	3011
Plastics	3014	3014-3016	—
Composites such as Plastic Lumber	3018	—	—
Wood	3018-3023	—	—
Plywood and Particleboard	3014, 3019	—	—
Drywall	3017	—	3017
For Joining Dissimilar Materials			
Metal to Wood	3005	—	—
Wood to Metal	—	3023	3019
Plastics to Wood	3015	—	—
Insulation to Metal	—	—	3009

Materials

Type 316 Stainless Steel—Our most corrosion resistant stainless steel. Withstands pitting caused by chloride and sulfur. May be mildly magnetic.

18-8 Stainless Steel—Has excellent corrosion resistance. May be mildly magnetic.

Type 410 Stainless Steel—Stronger than Type 316 and 18-8 stainless steel but less corrosion resistant. Not for use with aluminum. Magnetic.

Brass—Nonmagnetic with very good corrosion resistance. An excellent conductor of electricity, it's usually softer than steel and stainless steel.

Aluminum—It's nonmagnetic and one-third the weight of steel. Offers mild resistance to corrosion.

Steel—This low-strength general purpose metal is often plated with zinc for rust resistance.

Finishes

Zinc Plated and **Black Zinc-Plated—**Enhances rust resistance. Black adds a decorative finish.

Black Oxide and **Black Phosphate—**Provides a dark look, adds mild rust resistance, and makes screws easier to thread.

Black Coated—Delivers corrosion resistance and deep, consistent color that won't rub off with repeated use.

Chrome Plated—Bright and attractive. Offers good rust resistance.

Nickel Plated—A decorative finish that's more rust resistant than zinc plating and less expensive than chrome plating.

PTFE Coated—This slick coating prevents fasteners from sticking and binding.

Weather-Resistant Coated—Resists corrosion better than zinc plating and minimizes reactions between dissimilar metals.

How to Read a Screw Size

The screw size listed for thread-forming, thread-cutting, and drilling screws is the size of the threads they create.

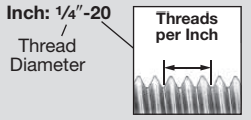



Decimal Equivalents for Inch Screw Sizes

Inch Screw Size	Screw No. 0	1	2	3	4	5	6	7	8	9	10
Decimal Size	0.060″	0.073″	0.086″	0.099″	0.112″	0.125″	0.138″	0.151″	0.164″	0.177″	0.190″

Inch Screw Size	Screw No. 12	14	1/4″	16	18	5/16″	20	24	3/8″	1/2″	5/8″
Decimal Size	0.216″	0.242″	0.250″	0.268″	0.294″	0.312″	0.320″	0.372″	0.375″	0.500″	0.625″

About Installing Screws for Sheet Metal

Screws penetrate 0.025″ and thinner sheet metal. In 0.026″ and thicker metals, they generally need a starter hole. The actual hole size varies according to the material and thickness you're fastening. Our reference drill sizes typically allow adequate thread engagement. We suggest, however, that you test to determine the ideal hole size for your application.

Screw Size	No. 0	No. 1	No. 2	No. 4	No. 5	No. 6	No. 7	No. 8	No. 10	No. 12	No. 14	1/4″	No. 17	5/16″	3/8″
Approximate Threads per Inch	52	48	32	24	22	18	16	15	12	11	10	10	10	10	9
Drill Size	#55	#52	#48	#44	#36	#32	#30	#29	#21	3/16″	5.5 mm	5.5 mm	1/4″	6.9 mm	21/64″

Phillips Screws for Sheet Metal CAD

These are our most popular sheet metal screws. They have a pan head and a flat bearing surface. Length is measured from under the head.



Type 316 Stainless Steel

No. 2—#1 Drive

Lg.	Pkg. Qty.		Pkg.
1/4″	100	90184A050	$5.37
3/8″	100	90184A058	5.49
1/2″	100	90184A064	6.00
5/8″	100	90184A071	7.00
3/4″	100	90184A080	7.99

No. 4—#1 Drive

Lg.	Pkg. Qty.		Pkg.
1/4″	100	90184A100	5.60
3/8″	100	90184A105	5.31
1/2″	100	90184A108	5.56
5/8″	100	90184A110	7.02
3/4″	100	90184A111	7.73
1″	100	90184A115	11.99

No. 6—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/4″	100	90184A120	6.61
3/8″	100	90184A127	6.91
1/2″	100	90184A138	7.20
5/8″	100	90184A146	8.89
3/4″	100	90184A152	9.48
7/8″	100	90184A154	11.66
1″	50	90184A155	6.08
1 1/4″	50	90184A158	8.34
1 1/2″	50	90184A161	8.79
1 3/4″	50	90184A164	9.26
2″	50	90184A168	9.78

No. 8—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/4″	100	90184A220	8.58
3/8″	100	90184A216	8.38
1/2″	100	90184A224	8.73
5/8″	100	90184A236	11.24
3/4″	50	90184A247	5.70
7/8″	50	90184A260	8.23
1″	50	90184A273	8.00
1 1/4″	50	90184A276	10.10
1 1/2″	50	90184A278	10.51
2″	25	90184A281	7.27
2 1/2″	25	90184A287	8.37
3″	25	90184A294	8.90

No. 10—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8″	100	90184A340	$11.05
1/2″	50	90184A342	6.49
5/8″	50	90184A361	8.51
3/4″	50	90184A374	8.57
7/8″	50	90184A376	9.61
1″	50	90184A378	9.54
1 1/4″	25	90184A385	6.57
1 1/2″	25	90184A397	6.84
1 3/4″	25	90184A399	8.17
2″	25	90184A400	9.04
2 1/4″	25	90184A404	9.63
2 1/2″	25	90184A409	10.26
3″	25	90184A414	10.94
3 1/2″	25	90184A420	11.71
4″	25	90184A425	12.56

No. 12—#3 Drive

Lg.	Pkg. Qty.		Pkg.
1/2″	50	90184A448	11.97
5/8″	25	90184A450	9.01
3/4″	25	90184A452	6.99
1″	25	90184A457	9.42
1 1/4″	25	90184A463	12.50
1 1/2″	25	90184A471	13.71
2″	10	90184A489	7.56
2 1/2″	10	90184A496	8.06

No. 14—#3 Drive

Lg.	Pkg. Qty.		Pkg.
1/2″	25	90184A501	8.48
5/8″	25	90184A509	9.01
3/4″	25	90184A513	8.68
1″	25	90184A517	11.57
1 1/4″	10	90184A536	6.22
1 1/2″	10	90184A542	6.65
1 3/4″	10	90184A549	7.40
2″	10	90184A556	9.20
2 1/2″	10	90184A563	9.86
3″	10	90184A568	10.58

18-8 Stainless Steel

No. 0—#0 Drive

Lg.	Pkg. Qty.		Pkg.
1/8″	50	92470A015	6.67
3/16″	50	92470A018	6.74
1/4″	10	92470A022	7.42
5/16″	50	92470A024	6.95
3/8″	10	92470A026	7.59
7/16″	50	92470A028	7.14
1/2″	10	92470A031	7.78
5/8″	50	92470A041	7.50
3/4″	50	92470A045	10.48

No. 1—#0 Drive

Lg.	Pkg. Qty.		Pkg.
1/8″	50	92470A048	6.41
3/16″	50	92470A049	6.31
1/4″	10	92470A050	7.08
5/16″	50	92470A055	6.67
3/8″	10	92470A054	7.29
7/16″	50	92470A056	6.83
1/2″	10	92470A057	7.50
5/8″	50	92470A061	7.26
3/4″	50	92470A065	8.10

No. 2—#1 Drive

Lg.	Pkg. Qty.		Pkg.
1/8″	50	92470A089	6.55
3/16″	50	92470A091	6.20
1/4″	100	92470A095	4.00
5/16″	100	92470A099	3.76

No. 2 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3/8″	100	92470A097	4.06
7/16″	100	92470A102	4.05
1/2″	100	92470A098	4.34
5/8″	100	92470A101	4.49
3/4″	100	92470A103	4.65

No. 4—#1 Drive

Lg.	Pkg. Qty.		Pkg.
3/16″	100	92470A106	4.62
1/4″	100	92470A107	3.92
5/16″	100	92470A109	4.67
3/8″	100	92470A108	3.98
7/16″	100	92470A111	4.95
1/2″	100	92470A110	5.05
5/8″	100	92470A112	5.64
3/4″	100	92470A113	6.46
1″	100	92470A115	7.25
1 1/2″	50	92470A117	8.93

No. 5—#1 Drive

Lg.	Pkg. Qty.		Pkg.
1/4″	100	92470A119	5.00
5/16″	100	92470A122	5.24
3/8″	100	92470A125	5.48
1/2″	50	92470A121	7.30
5/8″	100	92470A128	6.19
3/4″	50	92470A123	8.14

18-8 Stainless Steel (Cont.)

No. 6—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/16″	50	92470A137	$8.98
1/4″	100	92470A144	4.59
5/16″	100	92470A145	6.19
3/8″	100	92470A146	5.15
7/16″	100	92470A147	6.43
1/2″	100	92470A148	4.33
5/8″	100	92470A150	4.81
3/4″	100	92470A151	5.45
7/8″	100	92470A152	7.92
1″	100	92470A153	6.57
1 1/4″	100	92470A155	8.31
1 1/2″	100	92470A157	8.89
1 3/4″	100	92470A158	10.53
2″	50	92470A159	5.73
2 1/2″	50	92470A162	8.50

No. 7—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8″	100	92470A168	5.42
1/2″	100	92470A170	6.27
3/4″	100	92470A173	7.16
1″	100	92470A175	9.27

No. 8—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/4″	100	92470A190	5.78
3/8″	100	92470A192	6.01
1/2″	100	92470A194	5.60
5/8″	100	92470A196	6.09
3/4″	100	92470A197	6.60
7/8″	100	92470A198	7.06
1″	100	92470A199	8.13
1 1/4″	100	92470A201	9.14
1 1/2″	100	92470A203	10.84
1 3/4″	50	92470A204	7.76
2″	100	92470A205	12.91
2 1/2″	50	92470A207	8.70
3″	50	92470A209	9.44

No. 10—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/4″	100	92470A239	8.71
3/8″	100	92470A240	8.12
1/2″	100	92470A242	7.17
5/8″	100	92470A244	8.53
3/4″	100	92470A245	8.67

No. 10 (Cont.)

Lg.	Pkg. Qty.		Pkg.
7/8″	50	92470A246	$9.07
1″	50	92470A247	8.51
1 1/4″	50	92470A249	7.24
1 1/2″	50	92470A251	7.24
1 3/4″	50	92470A252	6.84
2″	50	92470A253	8.39
2 1/4″	50	92470A254	9.33
2 1/2″	50	92470A255	10.81
3″	50	92470A257	13.01
3 1/2″	25	92470A259	7.77
4″	25	92470A262	10.83

No. 12—#3 Drive

Lg.	Pkg. Qty.		Pkg.
3/8″	100	92470A289	8.92
1/2″	100	92470A291	10.22
5/8″	50	92470A293	5.98
3/4″	100	92470A294	12.68
1″	50	92470A296	7.37
1 1/4″	50	92470A298	7.91
1 1/2″	50	92470A299	10.23
1 3/4″	50	92470A300	11.05
2″	50	92470A301	12.68
2 1/2″	25	92470A303	7.38
3″	25	92470A304	8.53
3 1/2″	10	92470A306	4.99
4″	10	92470A308	5.88

No. 14—#3 Drive

Lg.	Pkg. Qty.		Pkg.
1/2″	50	92470A310	7.85
5/8″	50	92470A312	6.97
3/4″	50	92470A313	9.05
1″	50	92470A315	10.35
1 1/4″	50	92470A316	13.51
1 1/2″	50	92470A317	13.58
1 3/4″	25	92470A318	7.24
2″	25	92470A319	7.25
2 1/2″	25	92470A321	9.14
3″	10	92470A323	4.48
3 1/2″	10	92470A325	6.24
4″	10	92470A330	7.35
5″	10	92470A335	10.83
6″	5	92470A340	7.11

Black-Oxide 18-8 Stainless Steel

No. 6—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8″	100	90356A211	8.28
1/2″	100	90356A215	8.86
5/8″	100	90356A218	11.55
3/4″	100	90356A222	11.79
1″	50	90356A225	7.69

No. 8—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8″	100	90356A256	11.25
1/2″	100	90356A259	11.58
5/8″	50	90356A264	6.94
3/4″	50	90356A267	7.77
1″	50	90356A271	9.71

No. 10—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/2″	50	90356A285	8.19
5/8″	50	90356A287	9.05

No. 10 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3/4″	50	90356A291	9.29
1″	25	90356A294	7.05
1 1/4″	25	90356A297	7.04
1 1/2″	25	90356A306	7.11

No. 12—#3 Drive

Lg.	Pkg. Qty.		Pkg.
3/4″	25	90356A327	6.74
1″	25	90356A331	8.20
1 1/4″	25	90356A335	10.67
1 1/2″	25	90356A339	10.79

No. 14—#3 Drive

Lg.	Pkg. Qty.		Pkg.
3/4″	25	90356A352	10.43
1″	25	90356A355	11.39
1 1/4″	10	90356A357	5.49
1 1/2″	10	90356A359	6.17

Aluminum

No. 6—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8″	50	93080A310	9.88
1/2″	25	93080A330	8.97
1″	25	93080A390	9.72

No. 8—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8″	10	93080A420	5.71
1″	25	93080A480	9.74
1 1/2″	25	93080A520	12.53

(Continued on following page)

Phillips Screws for Sheet Metal *(Continued from previous page)*



These are our most popular sheet metal screws. They have a pan head and a flat bearing surface. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
Type 410 Stainless Steel			
No. 6—#2 Drive			
1/4"	100	96832A155	$3.83
3/8"	100	96832A160	3.90
1/2"	100	96832A165	4.24
5/8"	100	96832A170	4.31
3/4"	100	96832A175	4.84
1"	100	96832A180	5.79
1 1/4"	50	96832A185	3.89
1 1/2"	50	96832A190	4.34
No. 8—#2 Drive			
3/8"	100	96832A210	5.06
1/2"	100	96832A215	5.37
Zinc-Plated Steel			
No. 0—#0 Drive			
1/4"	10	90190A020	6.56
3/8"	10	90190A024	6.61
1/2"	10	90190A028	6.65
No. 1—#0 Drive			
1/4"	10	90190A051	6.36
3/8"	10	90190A054	6.41
1/2"	10	90190A057	6.45
No. 2—#1 Drive			
1/8"	50	90190A069	7.37
3/16"	50	90190A073	2.13
1/4"	50	90190A075	7.58
5/16"	50	90190A077	2.28
3/8"	50	90190A079	7.90
7/16"	50	90190A081	4.58
1/2"	50	90190A083	8.14
5/8"	50	90190A086	6.18
3/4"	50	90190A089	6.38
No. 4—#1 Drive			
1/8"	50	90190A101	3.59
3/16"	100	90190A103	1.70
1/4"	100	90190A106	1.93
5/16"	100	90190A107	2.03
3/8"	100	90190A108	2.12
7/16"	100	90190A109	2.23
1/2"	100	90190A110	2.36
5/8"	100	90190A112	2.40
3/4"	100	90190A113	2.59
7/8"	100	90190A120	3.71
1"	100	90190A125	3.57
No. 6—#2 Drive			
3/16"	100	90190A142	4.50
1/4"	100	90190A144	4.23
5/16"	100	90190A145	7.03
3/8"	100	90190A146	2.40
7/16"	100	90190A147	8.40
1/2"	100	90190A148	2.64
5/8"	100	90190A150	2.72
3/4"	100	90190A151	4.58
7/8"	100	90190A152	5.99
1"	100	90190A153	5.60
1 1/4"	100	90190A155	6.69
No. 6 (Cont.)			
1 1/2"	100	90190A157	6.84
1 3/4"	100	90190A158	8.52
2"	100	90190A159	7.15
2 1/2"	100	90190A162	7.86
No. 7—#2 Drive			
3/8"	100	90190A168	5.23
1/2"	100	90190A170	4.05
5/8"	100	90190A172	4.40
3/4"	100	90190A173	4.55
7/8"	100	90190A174	5.19
1"	100	90190A175	5.76
1 1/4"	100	90190A178	8.61
1 1/2"	100	90190A181	8.86
No. 8—#2 Drive			
1/4"	100	90190A191	4.67
3/8"	100	90190A192	4.19
1/2"	100	90190A194	4.67
5/8"	100	90190A196	5.40
3/4"	100	90190A197	5.81
7/8"	100	90190A198	7.01
1"	100	90190A199	6.19
1 1/4"	100	90190A201	7.76
1 1/2"	100	90190A203	8.95
1 3/4"	100	90190A204	8.67
2"	100	90190A205	8.74
2 1/2"	50	90190A207	10.49
3"	50	90190A209	10.17
No. 10—#2 Drive			
1/4"	100	90190A239	5.17
3/8"	100	90190A240	6.00
1/2"	100	90190A242	5.91
5/8"	100	90190A244	6.04
3/4"	100	90190A245	6.20
7/8"	100	90190A246	6.36
1"	100	90190A247	8.13
1 1/4"	100	90190A249	9.57
1 1/2"	100	90190A251	9.62
1 3/4"	50	90190A252	5.80
2"	100	90190A253	11.96
2 1/2"	50	90190A255	10.12
3"	50	90190A257	10.05

Lg.	Pkg. Qty.		Pkg.
Zinc-Plated Steel (Cont.)			
No. 12—#3 Drive			
1/2"	100	90190A291	$8.37
5/8"	100	90190A293	9.72
3/4"	100	90190A294	8.48
7/8"	100	90190A295	8.46
1"	100	90190A296	8.01
1 1/4"	100	90190A298	9.31
1 1/2"	100	90190A299	9.74
1 3/4"	50	90190A300	7.71
2"	100	90190A301	13.29
2 1/2"	50	90190A303	9.71
3"	25	90190A304	7.87
Black-Oxide Steel			
No. 2—#1 Drive			
1/4"	50	90935A101	8.32
3/8"	50	90935A104	8.58
1/2"	50	90935A107	8.78
No. 4—#1 Drive			
1/4"	100	90935A131	3.39
3/8"	100	90935A133	3.69
1/2"	100	90935A135	3.77
3/4"	100	90935A137	4.38
No. 6—#2 Drive			
1/4"	100	90935A143	3.16
3/8"	100	90935A146	3.47
1/2"	100	90935A148	3.48
5/8"	100	90935A149	3.54
3/4"	100	90935A151	4.59
1"	100	90935A153	5.62
1 1/4"	100	90935A155	7.71
1 1/2"	100	90935A140	9.72
No. 8—#2 Drive			
1/4"	100	90935A187	5.44
3/8"	100	90935A190	4.85
1/2"	100	90935A194	5.11
5/8"	100	90935A196	5.55
3/4"	100	90935A197	6.24
7/8"	100	90935A198	8.10
1"	100	90935A199	7.17
1 1/4"	100	90935A201	8.62
1 1/2"	50	90935A203	5.01
No. 8 (Cont.)			
1 3/4"	50	90935A206	9.09
2"	50	90935A209	9.28
2 1/2"	50	90935A211	10.30
No. 10—#2 Drive			
3/8"	100	90935A240	8.62
1/2"	100	90935A243	6.79
5/8"	100	90935A244	8.19
3/4"	100	90935A245	8.38
1"	50	90935A247	5.01
1 1/4"	50	90935A249	5.38
1 1/2"	50	90935A251	6.87
1 3/4"	50	90935A255	8.77
2"	50	90935A260	9.09
2 1/2"	25	90935A265	9.35
No. 12—#3 Drive			
1/2"	50	90935A302	11.24
3/4"	100	90935A305	12.81
1"	100	90935A310	14.09
1 1/4"	100	90935A315	14.11
1 1/2"	50	90935A320	9.50
1 3/4"	25	90935A325	7.50
No. 14—#3 Drive			
3/4"	50	90935A355	9.08
1"	50	90935A360	10.85
1 1/2"	25	90935A365	10.26
2"	10	90935A370	7.05

Lg., mm	Pkg. Qty.		Pkg.
Metric 18-8 Stainless Steel—DIN 7981			
M2.2—#1 Drive			
6.5	100	94997A125	$11.89
9.5	100	94997A130	12.27
M2.9—#1 Drive			
6.5	100	94997A225	12.38
9.5	100	94997A250	13.21
13	100	94997A275	12.86
M3.5—#2 Drive			
13	50	94997A300	$11.42
19	50	94997A325	13.44
25	50	94997A350	13.83
M3.9—#2 Drive			
13	50	94997A400	11.97
19	25	94997A425	8.62
25	25	94997A450	12.69

Slotted Screws for Sheet Metal



Screws have a pan head and a flat bearing surface. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel			
No. 2			
1/4"	100	91632A077	$3.36
3/8"	100	91632A079	3.74
No. 4			
3/8"	100	91632A108	4.83
1/2"	100	91632A110	4.99
No. 6			
3/8"	100	91632A146	4.89
1/2"	100	91632A148	5.33
5/8"	100	91632A150	5.76
3/4"	100	91632A151	6.79
1"	100	91632A153	7.55
No. 8			
3/8"	100	91632A192	$5.81
1/2"	100	91632A194	7.58
5/8"	100	91632A196	7.96
3/4"	100	91632A197	8.43
1"	100	91632A199	10.78
No. 10			
3/8"	100	91632A240	9.54
1/2"	100	91632A242	11.19
5/8"	100	91632A244	11.26
3/4"	100	91632A245	12.01
1"	50	91632A247	7.35

Lg.	Pkg. Qty.		Pkg.
Zinc-Plated Steel			
No. 2			
1/4"	100	90053A077	$6.57
3/8"	100	90053A079	6.64
No. 4			
1/4"	100	90053A106	3.19
3/8"	100	90053A108	2.91
1/2"	100	90053A110	2.74
No. 6			
1/4"	100	90053A144	3.06
3/8"	100	90053A146	3.24
1/2"	100	90053A148	3.66
3/4"	100	90053A151	3.67
1"	100	90053A153	4.38
No. 8			
3/8"	100	90053A192	$5.15
1/2"	100	90053A194	5.90
3/4"	100	90053A197	5.31
1"	100	90053A199	5.96
No. 10			
1/2"	100	90053A242	3.53
3/4"	100	90053A245	5.91
1"	100	90053A247	7.24
No. 12			
1/2"	100	90053A291	6.70
3/4"	100	90053A294	6.42
1"	100	90053A296	6.95

Combination Drive Screws for Sheet Metal

The combination drive accepts Phillips and slotted drivers. Screws have a pan head and a flat bearing surface. Length is measured from under the head.



18-8 Stainless Steel

No. 4—#1 Phillips Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	100	92465A135	$4.17
3/8"	100	92465A140	4.60
1/2"	100	92465A142	5.18
5/8"	100	92465A141	5.55
3/4"	100	92465A143	6.28

No. 6—#2 Phillips Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	92465A146	5.31
1/2"	100	92465A148	6.19
5/8"	100	92465A150	6.95
3/4"	100	92465A151	7.23
1"	100	92465A154	8.90
1 1/4"	50	92465A155	6.67
1 1/2"	50	92465A157	7.68

No. 8—#2 Phillips Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	92465A192	6.45
1/2"	100	92465A194	7.75
5/8"	100	92465A195	8.52
3/4"	100	92465A197	9.59
1"	100	92465A199	10.87
1 1/4"	50	92465A210	6.85
1 1/2"	50	92465A212	7.92
2"	50	92465A218	10.90

No. 10—#2 Phillips Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	100	92465A242	9.61
5/8"	50	92465A243	6.07
3/4"	50	92465A245	$6.34
1"	50	92465A247	7.97
1 1/4"	50	92465A249	9.45
1 1/2"	50	92465A252	10.34
2"	25	92465A254	6.51
2 1/2"	25	92465A256	9.08
3"	25	92465A257	10.97

No. 10 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1/2"	50	92465A258	7.93
5/8"	50	92465A259	8.32
3/4"	50	92465A260	8.86
1"	50	92465A264	10.14
1 1/4"	50	92465A265	11.88
1 1/2"	25	92465A266	7.98
2"	25	92465A267	9.08
2 1/2"	25	92465A290	12.04
3"	10	92465A292	6.00

No. 12—#3 Phillips Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	50	92465A258	7.93
5/8"	50	92465A259	8.32
3/4"	50	92465A260	8.86
1"	50	92465A264	10.14
1 1/4"	50	92465A265	11.88
1 1/2"	25	92465A266	7.98
2"	25	92465A267	9.08
2 1/2"	25	92465A290	12.04
3"	10	92465A292	6.00

No. 14—#3 Phillips Drive

Lg.	Pkg. Qty.		Pkg.
3/4"	50	92465A270	10.93
1"	25	92465A274	6.76
1 1/4"	25	92465A275	7.98
1 1/2"	25	92465A276	8.66
2"	25	92465A280	11.18
2 1/2"	10	92465A282	5.27
3"	10	92465A284	5.79

Zinc-Plated Steel

No. 4—#1 Phillips Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	100	90077A106	1.35
3/8"	100	90077A108	1.45
1/2"	100	90077A110	2.04
5/8"	100	90077A112	2.83
3/4"	100	90077A113	2.86
1"	100	90077A115	2.89

Zinc-Plated Steel (Cont.)

No. 6—#2 Phillips Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	100	90077A144	$3.20
3/8"	100	90077A146	2.56
1/2"	100	90077A148	2.45
5/8"	100	90077A150	2.38
3/4"	100	90077A151	2.62
1"	100	90077A153	3.37
1 1/4"	100	90077A155	4.00
1 1/2"	100	90077A157	4.86
2"	100	90077A159	5.34

No. 8—#2 Phillips Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	90077A192	3.06
1/2"	100	90077A194	2.97
5/8"	100	90077A196	3.21
3/4"	100	90077A197	3.58
1"	100	90077A199	4.27
1 1/4"	100	90077A201	5.28
1 1/2"	100	90077A203	6.59
1 3/4"	100	90077A204	7.76
2"	100	90077A205	7.86
2 1/2"	100	90077A207	9.82
3"	100	90077A209	11.38

No. 10—#2 Phillips Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	90077A240	3.94
1/2"	100	90077A242	3.79
5/8"	100	90077A244	5.28
3/4"	100	90077A245	4.26
1"	100	90077A247	5.03
1 1/4"	100	90077A249	$4.65
1 1/2"	100	90077A251	6.02
1 3/4"	100	90077A252	7.85
2"	100	90077A253	10.10
2 1/2"	50	90077A255	6.97
3"	50	90077A257	8.53

No. 10 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1/2"	100	90077A291	6.01
5/8"	100	90077A293	6.99
3/4"	100	90077A294	6.52
1"	100	90077A296	6.96
1 1/4"	100	90077A298	10.41
1 1/2"	100	90077A299	12.27
2"	50	90077A301	7.40
2 1/2"	50	90077A303	8.30
3"	50	90077A304	9.98

No. 12—#3 Phillips Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	100	90077A310	7.95
5/8"	100	90077A312	6.38
3/4"	100	90077A313	9.59
1"	100	90077A315	11.07
1 1/4"	100	90077A316	13.30
1 1/2"	100	90077A317	13.27
1 3/4"	50	90077A318	10.91
2"	50	90077A319	10.97
2 1/2"	50	90077A321	10.62
3"	50	90077A323	12.81

Brass

No. 10—#2 Phillips Drive

Lg.	Pkg. Qty.		Pkg.
3/4"	25	90077A910	13.52

Square Drive Screws for Sheet Metal

The square drive reduces driver slippage and allows for more driving power than a Phillips drive can take. Screw length is measured from under the head.

Pan head screws have a flat bearing surface. **Pan washer head** screws have a wide, one-piece head that reduces the likelihood of crushing thin materials.

For drivers, see 5830A on page 2819; for bits, see 7185A on page 2814.



Pan Head



Pan Washer Head

Type 316 Stainless Steel—Pan Head

No. 6—#1 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	100	97188A210	$9.05
5/8"	100	97188A215	9.76
3/4"	100	97188A220	10.47
1"	100	97188A225	10.95

No. 8—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	100	97188A305	10.62
5/8"	100	97188A310	12.80
3/4"	50	97188A315	9.40
1"	50	97188A320	9.29
1 1/4"	50	97188A325	9.83
1 1/2"	50	97188A330	10.49

No. 10—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	50	97188A405	$9.05
5/8"	50	97188A410	10.21
3/4"	50	97188A415	11.31
1"	50	97188A420	13.57
1 1/4"	50	97188A425	14.76
1 1/2"	25	97188A430	8.69
2"	25	97188A435	10.83

No. 12—#3 Drive

Lg.	Pkg. Qty.		Pkg.
3/4"	50	97188A510	12.14
1"	25	97188A515	9.40
1 1/2"	25	97188A525	9.48

18-8 Stainless Steel—Pan Head

No. 4—#0 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	94155A090	5.08
1/2"	100	94155A092	6.04
5/8"	100	94155A094	7.44
3/4"	100	94155A096	7.18

No. 6—#1 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	94155A099	5.53
1/2"	100	94155A101	5.31
5/8"	100	94155A103	6.45
3/4"	100	94155A105	7.02
1"	100	94155A107	8.25
1 1/4"	100	94155A109	11.61
1 1/2"	50	94155A111	6.16
2"	50	94155A116	8.89

No. 8—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	94155A113	7.12
1/2"	100	94155A115	7.05
5/8"	100	94155A117	7.88
3/4"	100	94155A119	9.03
1"	50	94155A121	5.36
1 1/4"	50	94155A123	5.92
1 1/2"	50	94155A125	7.43
1 3/4"	50	94155A126	8.53

No. 8 (Cont.)

Lg.	Pkg. Qty.		Pkg.
2"	50	94155A127	9.42
2 1/2"	25	94155A130	7.71

No. 10—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	50	94155A131	5.92
5/8"	50	94155A133	6.05
3/4"	50	94155A135	6.34
1"	50	94155A137	7.62
1 1/4"	50	94155A139	10.04
1 1/2"	50	94155A141	10.15
1 3/4"	25	94155A143	5.35
2"	25	94155A145	6.62
2 1/2"	25	94155A147	7.94
3"	25	94155A149	9.20

No. 12—#3 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	50	94155A164	7.23
5/8"	50	94155A166	8.13
3/4"	50	94155A167	8.24
1"	50	94155A169	8.98
1 1/4"	25	94155A171	6.90
1 1/2"	25	94155A173	7.05
2"	25	94155A177	7.48
2 1/2"	25	94155A179	10.65
3"	10	94155A182	5.09

18-8 Stainless Steel—Pan Head (Cont.)

No. 14—#3 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	50	94155A150	$11.39
3/4"	25	94155A151	6.81
1"	25	94155A153	7.63
1 1/4"	25	94155A155	9.26
1 1/2"	25	94155A157	10.64

No. 14 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1 3/4"	10	94155A159	$4.64
2"	10	94155A161	5.36
2 1/2"	10	94155A163	5.46
3"	10	94155A165	6.70

Zinc-Plated Steel—Pan Head

No. 6—#1 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	90395A146	5.35
1/2"	100	90395A148	4.09
3/4"	100	90395A151	3.81
1"	100	90395A153	4.81
1 1/4"	100	90395A158	6.29
1 1/2"	100	90395A165	8.47

No. 8—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	90395A192	4.48
1/2"	100	90395A194	4.80
3/4"	100	90395A197	5.72
1"	100	90395A199	6.81
1 1/4"	100	90395A201	8.08
1 1/2"	100	90395A203	10.06
2"	50	90395A205	6.43

No. 10—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	100	90395A242	7.95
3/4"	100	90395A245	11.01
1"	100	90395A247	9.14
1 1/4"	100	90395A249	11.01
1 1/2"	50	90395A251	7.67
2"	50	90395A253	8.10

No. 12—#3 Drive

Lg.	Pkg. Qty.		Pkg.
3/4"	100	90395A294	10.23
1"	100	90395A296	12.42
1 1/2"	50	90395A299	9.53

No. 14—#3 Drive

Lg.	Pkg. Qty.		Pkg.
3/4"	50	90395A326	8.93
1"	50	90395A331	9.95
1 1/2"	25	90395A335	8.28
2"	25	90395A339	8.86

Zinc-Plated Steel—Pan Washer Head (unless noted)

No. 8—#2 Drive; Washer OD: 0.361"

Lg.	Pkg. Qty.		Pkg.
1/2"	100	91655A194	6.63
5/8"	100	91655A196	8.41
3/4"	100	91655A197	7.65
1"	100	91655A199	8.91
1 1/4"	100	91655A201	10.53
1 1/2"	100	91655A202	10.87
2"	100	91655A206	13.30
2 1/2"	50	91655A207	11.14
3"	50	91655A209★	12.69

★ Has a truss head.

No. 10—#2 Drive; Washer OD: 0.423"

Lg.	Pkg. Qty.		Pkg.
1/2"	100	91655A244	11.75
3/4"	100	91655A245	8.06
1"	100	91655A247	10.72
1 1/4"	100	91655A249	12.61
1 1/2"	50	91655A252	8.42
2"	50	91655A254	9.98

No. 12—#3 Drive; Washer OD: 0.499"

Lg.	Pkg. Qty.		Pkg.
3/4"	50	91655A294	8.10
1"	50	91655A296	8.31

Pointed Tapping Screws for Sheet Metal

For technical drawings and 3-D models, go to mcmaster.com.

For information about tapping screws, see page 2996. For information about installation, see page 2997.

Torx Drive Screws for Sheet Metal



The torx drive makes more contact with your screwdriver than Phillips, square, and slotted styles, which reduces slipping and increases the amount of force you can apply. Screws have a pan head, flat bearing surface, and are made from zinc-plated steel. Length is measured from under the head.

For drivers see page 2820; for bits see pages 2813-2814.

Lg.	Pkg. Qty.		Pkg.
No. 4—T10 Drive			
1/4"	100	90925A106	$10.86
3/8"	100	90925A108	11.39
1/2"	100	90925A110	11.67
5/8"	100	90925A115	12.78
No. 6—T15 Drive			
3/8"	100	90925A146	12.17
1/2"	100	90925A148	12.63
5/8"	50	90925A150	7.70
No. 6 (Cont.)			
3/4"	50	90925A151	$7.59
7/8"	50	90925A153	7.47
1"	50	90925A155	8.17
1 1/4"	50	90925A157	7.78
No. 8—T20 Drive			
1/2"	100	90925A194	11.73
3/4"	50	90925A196	8.50
7/8"	50	90925A198	7.55
No. 8 (Cont.)			
1"	50	90925A199	$7.89
1 1/4"	50	90925A201	8.47
1 1/2"	50	90925A203	8.47
No. 10—T25 Drive			
1/2"	50	90925A242	7.84
5/8"	50	90925A243	8.29
3/4"	50	90925A245	8.41
1"	50	90925A247	9.76
No. 10 (Cont.)			
1 1/4"	50	90925A249	$11.04
1 1/2"	50	90925A251	11.83
1 3/4"	25	90925A255	8.54
2"	25	90925A257	8.83
No. 12—T27 Drive			
3/4"	50	90925A259	12.43
1"	50	90925A260	11.95
1 1/4"	25	90925A265	9.70

Flat Head Phillips Screws for Sheet Metal

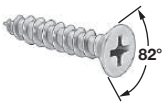

Screws are beveled under the head for use in countersunk holes. Length is measured from the top of the head. Sizes marked with a ★ have an undercut head that allows more threading. Metric screws have an 80° head.

Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
No. 2—#1 Drive			
1/4"	100	90198A051	$6.55
3/8"	100	90198A055	7.13
1/2"	100	90198A059	8.13
No. 4—#1 Drive			
1/4"	100	90198A100★	6.63
3/8"	100	90198A103★	6.32
1/2"	100	90198A105	6.89
5/8"	100	90198A107	8.55
3/4"	100	90198A108	9.76
1"	100	90198A110	13.44
No. 6—#2 Drive			
1/4"	100	90198A141★	6.09
3/8"	100	90198A144★	6.22
1/2"	100	90198A147	6.46
5/8"	100	90198A154	7.39
3/4"	100	90198A158	8.29
1"	100	90198A173	10.13
1 1/4"	50	90198A182	7.50
1 1/2"	50	90198A198	9.27
2"	50	90198A202	10.01
No. 8—#2 Drive			
3/8"	100	90198A211★	7.29
1/2"	100	90198A216	7.80
5/8"	100	90198A221	10.06
3/4"	100	90198A236	11.31
7/8"	100	90198A242	11.97
1"	50	90198A249	6.70
1 1/4"	50	90198A253	9.37
1 1/2"	50	90198A279	12.28
1 3/4"	25	90198A280	7.78
No. 8 (Cont.)			
2"	25	90198A284	$7.95
2 1/2"	25	90198A286	8.69
3"	25	90198A288	12.12
No. 10—#2 Drive			
1/2"	50	90198A302★	6.67
5/8"	50	90198A306★	6.92
3/4"	50	90198A309	7.12
1"	50	90198A316	8.08
1 1/4"	25	90198A325	5.97
1 1/2"	25	90198A339	6.08
1 3/4"	25	90198A340	9.25
2"	25	90198A444	10.11
2 1/2"	25	90198A446	11.58
3"	10	90198A448	5.71
No. 12—#3 Drive			
3/4"	25	90198A567	7.01
1"	25	90198A573	8.65
1 1/4"	25	90198A579	10.22
1 1/2"	10	90198A583	5.84
2"	10	90198A589	6.10
2 1/2"	10	90198A772	7.56
3"	10	90198A774	9.16
No. 14—#3 Drive			
3/4"	25	90198A713	10.32
1"	10	90198A721	5.45
1 1/4"	10	90198A729	6.31
1 1/2"	10	90198A742	6.84
2"	10	90198A769	7.71
2 1/2"	10	90198A770	9.31
18-8 Stainless Steel			
No. 0—#0 Drive			
1/8"	50	90065A013★	6.00
3/16"	50	90065A015★	4.67
1/4"	10	90065A020	5.38
5/16"	50	90065A022	4.83
3/8"	10	90065A024	5.70
1/2"	10	90065A028	5.63
No. 1—#0 Drive			
1/8"	50	90065A044★	7.07
3/16"	50	90065A047★	5.43
1/4"	10	90065A051	5.13
5/16"	50	90065A053	3.86
3/8"	10	90065A054	5.28
1/2"	10	90065A057	5.43
No. 2—#1 Drive			
1/8"	50	90065A071★	6.33
3/16"	50	90065A075★	4.58
1/4"	100	90065A077	2.90
5/16"	50	90065A078	4.67
3/8"	100	90065A079	2.94
1/2"	100	90065A082	4.33
No. 4—#1 Drive			
1/4"	100	90065A106★	3.38
5/16"	100	90065A107	3.83
No. 4 (Cont.)			
3/8"	100	90065A108	3.43
1/2"	100	90065A110	3.66
5/8"	100	90065A112	4.26
3/4"	100	90065A113	5.21
1"	100	90065A115	5.64
1 1/4"	50	90065A117	5.36
1 1/2"	50	90065A119	5.64
No. 5—#2 Drive			
1/2"	10	90065A121	1.06
5/8"	10	90065A124	1.15
3/4"	10	90065A127	1.18
No. 6—#2 Drive			
1/4"	100	90065A144★	3.64
3/8"	100	90065A146	3.32
3/8"	100	98903A200★	5.15
1/2"	100	90065A148	3.40
1/2"	100	98903A203★	5.24
5/8"	100	90065A149	3.89
5/8"	100	98903A206★	6.16
3/4"	100	90065A151	4.28
3/4"	100	98903A209★	6.86
7/8"	100	90065A152	5.37
1"	100	90065A153	5.39
18-8 Stainless Steel (Cont.)			
No. 6 (Cont.)			
1 1/4"	100	90065A154	$6.18
1 1/2"	100	90065A155	7.12
2"	100	90065A157	10.04
2 1/2"	50	90065A160	8.21
No. 7—#2 Drive			
5/8"	50	90065A172	4.76
No. 8—#2 Drive			
3/8"	100	90065A192★	8.08
1/2"	100	90065A194	4.92
1/2"	100	98903A250★	7.47
5/8"	100	90065A195	5.50
5/8"	100	98903A253★	8.58
3/4"	100	90065A197	5.79
3/4"	100	98903A256★	9.34
7/8"	100	90065A198	5.57
1"	100	90065A199	6.30
1"	100	98903A259★	10.50
1 1/4"	100	90065A201	8.41
1 1/2"	100	90065A203	8.86
1 3/4"	50	90065A204	5.87
2"	100	90065A205	12.59
2 1/2"	100	90065A207	13.91
3"	50	90065A209	8.55
3 1/2"	50	90065A212	11.07
No. 10—#2 Drive			
3/8"	100	90065A240★	6.04
1/2"	100	90065A242★	6.03
5/8"	100	90065A243	6.08
5/8"	100	98903A308★	9.69
3/4"	100	90065A245	7.61
3/4"	100	98903A311★	10.80
7/8"	100	90065A246	9.97
1"	100	90065A247	9.55
1"	50	98903A314★	6.88
1 1/4"	100	90065A249	10.26
1 1/2"	100	90065A251	12.56
No. 10 (Cont.)			
1 3/4"	50	90065A252	$8.81
2"	50	90065A253	8.20
2 1/2"	50	90065A255	8.59
3"	50	90065A257	9.72
3 1/2"	25	90065A259	7.43
4"	25	90065A263	9.39
No. 12—#3 Drive			
1/2"	100	90065A290★	8.43
5/8"	100	90065A292★	10.07
3/4"	100	90065A294	11.36
3/4"	50	98903A361★	9.01
1"	100	90065A296	13.62
1 1/4"	50	90065A298	7.18
1 1/2"	50	90065A299	8.83
1 3/4"	50	90065A300	8.95
2"	50	90065A301	9.12
2 1/2"	50	90065A303	11.85
3"	50	90065A305	13.89
3 1/2"	25	90065A307	10.29
4"	25	90065A308	11.25
No. 14—#3 Drive			
1/2"	50	90065A310★	5.60
5/8"	50	90065A312★	5.74
3/4"	50	90065A313	7.25
3/4"	50	98903A364★	13.22
1"	50	90065A315	8.74
1 1/4"	50	90065A316	8.54
1 1/2"	25	90065A317	5.73
1 3/4"	25	90065A318	6.18
2"	25	90065A319	6.79
2 1/2"	25	90065A321	8.95
3"	25	90065A323	10.35
3 1/2"	10	90065A325	5.74
4"	10	90065A329	6.79
5"	10	90065A335	12.13
6"	5	90065A340	8.02
Type 410 Stainless Steel			
No. 6—#2 Drive			
1/2"	100	97740A205	3.72
3/4"	100	97740A210	4.05
No. 8—#2 Drive			
1/2"	100	97740A250	4.46
5/8"	100	97740A255	5.20
No. 8 (Cont.)			
3/4"	100	97740A260	5.60
1"	100	97740A265	6.40
No. 10—#2 Drive			
3/4"	100	97740A310	6.91
1"	100	97740A315	8.06
Zinc-Plated Steel			
No. 0—#0 Drive			
1/4"	10	90048A020	6.52
3/8"	10	90048A024	6.56
1/2"	10	90048A028	6.76
No. 1—#0 Drive			
1/4"	10	90048A051	6.31
3/8"	10	90048A054	6.35
1/2"	10	90048A057	6.39
No. 2—#1 Drive			
1/4"	50	90048A075	6.20
3/8"	50	90048A079	6.30
1/2"	50	90048A083	7.10
No. 4—#1 Drive			
1/4"	100	90048A106★	1.76
3/8"	100	90048A108	1.75
1/2"	100	90048A110	1.84

★ Has an undercut head.

(Continued on following page)

Flat Head Phillips Screws for Sheet Metal *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
Zinc-Plated Steel (Cont.)			
No. 4 (Cont.)			
5/8"	100	90048A111	$2.20
3/4"	100	90048A113	2.44
1"	100	90048A117	2.52
1 1/4"	50	90048A119	5.08
1 1/2"	50	90048A123	6.50
No. 6—#2 Drive			
1/4"	100	90048A144★	3.62
3/8"	100	90048A146	2.20
1/2"	100	90048A148	2.20
5/8"	100	90048A150	2.20
3/4"	100	90048A151	2.64
7/8"	100	90048A152	3.76
1"	100	90048A153	3.76
1 1/4"	100	90048A154	4.36
1 1/2"	100	90048A155	4.80
1 3/4"	100	90048A156	6.20
2"	100	90048A157	5.80
2 1/2"	25	90048A160	9.77
3"	25	90048A164	9.63
No. 8—#2 Drive			
3/8"	100	90048A192★	2.96
1/2"	100	90048A194	3.00
5/8"	100	90048A196	2.92
3/4"	100	90048A197	3.84
7/8"	100	90048A198	4.20
1"	100	90048A199	4.56
1 1/4"	100	90048A201	5.62
1 1/2"	100	90048A203	6.00
1 3/4"	100	90048A204	7.48
2"	100	90048A205	8.16
2 1/2"	100	90048A207	10.64
3"	100	90048A209	11.12
No. 10—#2 Drive			
3/8"	100	90048A240★	6.00
1/2"	100	90048A242★	4.56
No. 10 (Cont.)			
5/8"	100	90048A244	$4.20
3/4"	100	90048A245	4.52
7/8"	100	90048A246	6.32
1"	100	90048A247	5.80
1 1/4"	100	90048A249	6.52
1 1/2"	100	90048A251	7.72
1 3/4"	100	90048A252	10.00
2"	100	90048A253	11.24
2 1/4"	100	90048A254	11.12
2 1/2"	50	90048A255	7.74
3"	50	90048A257	7.53
No. 12—#3 Drive			
1/2"	100	90048A290★	7.07
5/8"	100	90048A292	6.20
3/4"	100	90048A294	7.36
7/8"	100	90048A295	13.07
1"	100	90048A296	8.72
1 1/4"	100	90048A297	9.64
1 1/2"	100	90048A299	11.92
1 3/4"	50	90048A300	7.52
2"	50	90048A301	7.84
2 1/2"	50	90048A303	9.92
3"	50	90048A305	10.76
No. 14—#3 Drive			
1/2"	50	90048A308★	8.46
5/8"	100	90048A310★	12.24
3/4"	100	90048A313	10.64
7/8"	100	90048A314	12.40
1"	100	90048A315	11.36
1 1/4"	100	90048A316	12.92
1 1/2"	50	90048A317	7.82
1 3/4"	50	90048A318	8.00
2"	50	90048A319	9.20
2 1/2"	50	90048A321	13.22
3"	25	90048A323	7.50
Black-Oxide Steel			
No. 4—#1 Drive			
3/8"	100	90033A105	4.46
1/2"	100	90033A110	4.71
5/8"	100	90033A115	5.29
3/4"	100	90033A118	6.41
No. 6—#2 Drive			
1/2"	100	90033A150	4.36
5/8"	100	90033A153	5.37
3/4"	100	90033A155	5.40
No. 6 (Cont.)			
1"	100	90033A160	5.54
1 1/4"	100	90033A164	9.24
1 1/2"	100	90033A168	9.98
No. 8—#2 Drive			
3/8"	100	90033A201★	8.32
1/2"	100	90033A205	6.22
5/8"	100	90033A208	9.94
3/4"	100	90033A210	5.84
Black-Oxide Steel (Cont.)			
No. 8 (Cont.)			
1"	100	90033A215	$8.12
1 1/4"	100	90033A220	10.25
1 1/2"	100	90033A225	10.72
2"	50	90033A230	8.17
2 1/2"	25	90033A235	7.50
No. 8 (No. 6 Head)—#2 Drive			
1/2"	100	90033A260	8.84
1"	100	90033A270	9.93
1 1/2"	100	90033A280	10.72
No. 10—#2 Drive			
1/2"	100	90033A310★	$8.80
3/4"	100	90033A315	10.09
1"	100	90033A320	10.47
1 1/4"	50	90033A325	9.79
1 1/2"	50	90033A328	9.82
2"	25	90033A331	9.07
2 1/2"	25	90033A334	10.63
3"	25	90033A338	11.52
Nickel-Plated Steel			
No. 4—#1 Drive			
1/2"	25	96231A100	11.08
5/8"	25	96231A120	11.16
3/4"	25	96231A150	11.80
No. 5—#1 Drive			
1/2"	25	96231A200	10.84
3/4"	10	96231A250	6.52
No. 6—#2 Drive			
1/2"	25	96231A300	10.84
5/8"	25	96231A320	10.88
3/4"	25	96231A350	11.44
No. 8—#2 Drive			
5/8"	25	96231A360	11.80
3/4"	10	96231A380	6.77
Zinc-Plated Steel with Brass-Colored Head			
No. 4—#1 Drive			
1/2"	25	96231A400	11.56
5/8"	25	96231A420	11.64
3/4"	25	96231A450	12.28
No. 5—#1 Drive			
1/2"	25	96231A500	11.28
3/4"	10	96231A550	6.68
No. 6—#2 Drive			
1/2"	25	96231A600	11.40
5/8"	25	96231A620	11.44
3/4"	25	96231A650	11.96
No. 8—#2 Drive			
5/8"	25	96231A660	12.36
3/4"	10	96231A680	6.36
Zinc-Plated Steel with Black-Coated Head			
No. 4—#1 Drive			
1/2"	25	96231A700	10.68
5/8"	25	96231A720	10.72
3/4"	25	96231A750	11.36
No. 5—#1 Drive			
1/2"	25	96231A800	10.40
3/4"	10	96231A850	6.32
No. 6—#2 Drive			
1/2"	25	96231A900	10.48
5/8"	25	96231A920	10.52
3/4"	25	96231A950	11.08
No. 8—#2 Drive			
5/8"	25	96231A960	11.44
3/4"	10	96231A980	6.00

Lg., mm	Pkg. Qty.		Pkg.
Metric 18-8 Stainless Steel—Meets DIN 7982 Type C			
M2.9—#1 Drive			
9.5	50	95844A225	$11.86
13	50	95844A250	11.58
19	50	95844A275	12.48
M3.5—#2 Drive			
13	50	95844A300	10.80
19	50	95844A325	14.45
25	50	95844A350	14.63
M3.9—#2 Drive			
13	50	95844A400	$11.75
19	50	95844A425	11.89
25	25	95844A450	12.48
M4.2—#2 Drive			
13	50	95844A500	13.48
19	50	95844A525	13.68
25	10	95844A550	7.61

★ Has an undercut head.

Flat Head Square Drive Screws for Sheet Metal

The square drive is designed to prevent slipping. Screws are beveled under the head for use in countersunk holes. Made from 18-8 stainless steel. Length is measured from the top of the head.

For drivers, see 5830A on page 2819; for bits, see 7185A on page 2814.



Lg.	Pkg. Qty.		Pkg.
No. 6—#1 Drive			
1/2"	100	93945A001	$4.99
3/4"	100	93945A003	6.36
1"	100	93945A005	6.97
1 1/4"	100	93945A007	8.51
1 1/2"	100	93945A008	10.91
No. 8—#2 Drive			
1/2"	100	93945A011	5.99
5/8"	100	93945A013	6.40
3/4"	100	93945A015	7.28
1"	100	93945A017	8.09
1 1/4"	100	93945A019	9.00
1 1/2"	50	93945A022	6.57
1 3/4"	50	93945A024	7.75
2"	50	93945A026	7.68
2 1/2"	50	93945A028	10.80
3"	25	93945A030	8.71
No. 10—#2 Drive			
3/4"	100	93945A033	10.09
1"	50	93945A035	6.43
1 1/4"	50	93945A037	7.35
No. 10 (Cont.)			
1 1/2"	50	93945A039	$7.97
1 3/4"	50	93945A042	10.16
2"	25	93945A044	5.94
2 1/2"	25	93945A046	6.61
3"	25	93945A048	8.22
No. 12—#3 Drive			
1"	50	93945A051	8.81
1 1/4"	50	93945A053	11.32
1 1/2"	25	93945A055	6.28
1 3/4"	25	93945A057	7.17
2"	25	93945A059	8.06
2 1/2"	25	93945A062	9.96
3"	25	93945A064	10.84
No. 14—#3 Drive			
1"	50	93945A066	12.24
1 1/4"	25	93945A068	8.06
1 1/2"	25	93945A071	8.76
1 3/4"	25	93945A073	9.58
2"	25	93945A075	11.85
2 1/2"	10	93945A077	5.57
3"	10	93945A079	6.31

Oval Head Screws with Washer for Sheet Metal

A permanently attached, freely rotating washer distributes holding force, which prevents the screw from crushing thin materials. Washer OD is 1/2". Together, the head and washer are 0.102" to 0.123" thick. Screws have a Phillips drive. Length is measured from the edge of the head.



Lg.	Pkg. Qty.		Pkg.
Black-Phosphate Steel			
No. 6—#2 Drive			
5/8"	50	90399A150	$8.38
3/4"	100	90399A151	13.97
1"	100	90399A153	14.62
No. 8 (No. 6 Head)—#2 Drive			
1/2"	50	90399A194■	8.62
5/8"	100	90399A196	11.03
3/4"	100	90399A197	12.28
No. 8 (Cont.)			
1"	100	90399A199	$12.76
1 1/4"	100	90399A201	14.28
No. 10—#2 Drive			
1/2"	50	90399A242	8.97
5/8"	50	90399A244	8.62
3/4"	50	90399A245	8.97
1"	50	90399A247	10.00
1 1/4"	50	90399A249	10.17
Chrome-Plated Steel			
No. 6—#2 Drive			
5/8"	50	90398A150	11.79
3/4"	50	90398A151	10.10
1"	50	90398A153	13.14
No. 8 (No. 6 Head)—#2 Drive			
5/8"	100	90398A196	11.38
3/4"	100	90398A197	11.38
1"	100	90398A199	10.61
No. 8 (Cont.)			
1 1/4"	100	90398A201	13.64
1 1/2"	50	90398A203	12.82
No. 10—#2 Drive			
5/8"	50	90398A244	10.17
3/4"	50	90398A245	10.86
1"	50	90398A247	12.07
1 1/4"	50	90398A249	12.34

■ Black-oxide steel.

Oval Head Screws for Sheet Metal

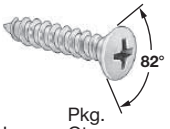

Screws are beveled under the head for use in countersunk holes. All have a Phillips drive. Length is measured from the edge of the head. Sizes marked with a ★ have an undercut head that allows more threading.

Type 316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
No. 4—#1 Drive			
3/8″	100	95639A301	$5.24
1/2″	100	95639A304	5.42
5/8″	100	95639A307	6.11
3/4″	100	95639A309	6.38
1″	100	95639A312	6.55
No. 6—#2 Drive			
3/8″	100	95639A322	5.41
1/2″	100	95639A325	5.72
5/8″	100	95639A328	6.38
3/4″	100	95639A331	7.20
1″	100	95639A341	8.21
1 1/4″	100	95639A344	10.27
1 1/2″	100	95639A347	12.73
No. 8—#2 Drive			
3/8″	100	95639A362★	7.93
1/2″	100	95639A364	8.03
5/8″	100	95639A367	8.34
3/4″	100	95639A369	11.13
1″	50	95639A371	7.95
1 1/4″	50	95639A374	9.26
1 1/2″	50	95639A377	10.40
1 3/4″	50	95639A379	10.17
2″	50	95639A381	11.72
2 1/2″	50	95639A384	13.28
3″	25	95639A387	7.30
No. 10—#2 Drive			
1/2″	100	95639A401★	$9.83
5/8″	100	95639A404	11.62
3/4″	50	95639A406	7.78
1″	50	95639A409	8.03
1 1/4″	50	95639A412	8.76
1 1/2″	50	95639A415	11.55
1 3/4″	50	95639A418	11.98
2″	25	95639A421	6.38
2 1/2″	25	95639A423	8.36
3″	25	95639A426	8.45
No. 12—#3 Drive			
3/4″	50	95639A442	9.65
1″	50	95639A445	9.91
1 1/4″	50	95639A447	13.27
1 1/2″	25	95639A449	7.12
2″	25	95639A452	9.31
2 1/2″	25	95639A454	10.00
3″	25	95639A457	12.84
No. 14—#3 Drive			
3/4″	25	95639A471	9.71
1″	25	95639A474	10.60
1 1/4″	25	95639A476	10.24
1 1/2″	25	95639A479	11.81
1 3/4″	25	95639A482	12.37
2″	25	95639A485	13.71
2 1/2″	10	95639A488	7.70
3″	10	95639A493	8.36

18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
No. 4—#1 Drive			
3/8″	100	90315A401	3.43
1/2″	100	90315A403	3.66
5/8″	100	90315A406	4.28
3/4″	100	90315A409	5.02
1″	100	90315A412	5.65
No. 6—#2 Drive			
3/8″	100	90315A421	3.35
1/2″	100	90315A423	3.67
5/8″	100	90315A426	3.98
3/4″	100	90315A429	4.52
7/8″	100	90315A432	5.95
1″	100	90315A435	5.99
1 1/4″	100	90315A437	6.27
1 1/2″	100	90315A439	7.38
No. 6 (Cont.)			
1 3/4″	100	90315A440	9.54
2″	50	90315A442	5.30
No. 8—#2 Drive			
3/8″	100	90315A461★	5.68
1/2″	100	90315A464	6.04
5/8″	100	90315A467	6.26
3/4″	100	90315A471	6.34
7/8″	100	90315A474	7.97
1″	100	90315A476	8.24
1 1/4″	100	90315A479	8.51
1 1/2″	50	90315A481	4.92
1 3/4″	50	90315A484	6.24
2″	50	90315A487	6.76
2 1/2″	50	90315A489	6.99
3″	50	90315A492	10.08

★ Has an undercut head.

18-8 Stainless Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
No. 10—#2 Drive			
3/8″	100	90315A495★	$7.52
1/2″	100	90315A498★	7.25
5/8″	100	90315A501★	7.67
3/4″	100	90315A504	8.39
7/8″	100	90315A507	10.00
1″	100	90315A511	10.91
1 1/4″	50	90315A513	6.16
1 1/2″	50	90315A516	6.05
1 3/4″	50	90315A519	7.99
2″	50	90315A522	8.14
2 1/2″	25	90315A525	5.45
3″	25	90315A527	6.59
3 1/2″	25	90315A530	9.13
4″	25	90315A531	10.37
No. 12—#3 Drive			
1/2″	100	90315A542★	9.41
3/4″	50	90315A545	5.98
1″	50	90315A548	6.12
No. 12 (Cont.)			
1 1/4″	50	90315A551	$7.38
1 1/2″	50	90315A555	8.94
1 3/4″	25	90315A558	5.93
2″	25	90315A561	6.51
2 1/2″	25	90315A564	7.17
3″	25	90315A567	8.29
4″	10	90315A572	5.25
No. 14—#3 Drive			
1/2″	50	90315A579	6.36
3/4″	50	90315A581	7.30
1″	50	90315A584	8.32
1 1/4″	25	90315A586	4.57
1 1/2″	25	90315A589	6.12
1 3/4″	25	90315A591	7.92
2″	25	90315A593	8.43
2 1/2″	10	90315A595	3.93
3″	10	90315A597	4.66
4″	10	90315A599	7.63

Black-Oxide Steel

Lg.	Pkg. Qty.		Pkg.
No. 4—#1 Drive			
3/8″	100	91775A513	4.89
1/2″	100	91775A515	4.41
5/8″	100	91775A517	5.21
3/4″	100	91775A519	5.43
1″	100	91775A521	9.66
No. 6—#2 Drive			
3/8″	100	91775A640	6.18
1/2″	100	91775A648	5.42
5/8″	100	91775A650	5.48
3/4″	100	91775A651	5.80
7/8″	100	91775A652	5.83
1″	100	91775A653	6.37
1 1/4″	100	91775A655	6.19
1 1/2″	100	91775A663	10.07
No. 8—#2 Drive			
3/8″	100	91775A690★	5.64
1/2″	100	91775A694	6.98
5/8″	100	91775A696	5.50
3/4″	100	91775A697	5.50
7/8″	100	91775A698	7.42
1″	100	91775A699	6.81
1 1/4″	100	91775A701	9.46
1 1/2″	100	91775A703	8.70
No. 8 (Cont.)			
1 3/4″	50	91775A710	8.13
2″	50	91775A715	8.22
No. 8 (No. 6 Head)—#2 Drive			
1/2″	100	91775A718	8.99
3/4″	100	91775A720	10.08
No. 10—#2 Drive			
1/2″	100	91775A743★	7.26
5/8″	100	91775A744	8.76
3/4″	100	91775A745	8.90
7/8″	100	91775A746	11.60
1″	100	91775A747	10.77
1 1/4″	100	91775A749	11.42
1 1/2″	100	91775A751	12.65
1 3/4″	50	91775A752	9.30
2″	50	91775A754	9.24
No. 10 (No. 8 Head)—#2 Drive			
3/4″	100	91775A760	10.35
1″	50	91775A765	8.42
1 1/2″	50	91775A775	7.99
No. 12—#3 Drive			
3/4″	100	91775A820	12.07
1″	50	91775A825	7.66
1 1/4″	50	91775A830	8.42
1 1/2″	50	91775A835	9.92

Large Diameter (Truss) Head Screws for Sheet Metal



With a wider head than both pan and round head screws, these screws reduce the risk of crushing thin metal. They have a Phillips drive. Length is measured from under the head.

Type 316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
No. 4—#1 Drive			
1/4″	100	93406A107	$6.38
3/8″	100	93406A109	8.66
1/2″	100	93406A111	9.00
No. 6—#2 Drive			
1/4″	100	93406A145	11.00
3/8″	100	93406A147	11.33
1/2″	100	93406A149	11.66
5/8″	100	93406A152	12.66
3/4″	50	93406A154	7.08
1″	50	93406A156	8.17
No. 8—#2 Drive			
3/8″	50	93406A193	7.42
1/2″	50	93406A195	8.08
5/8″	50	93406A198	8.92
3/4″	50	93406A202	9.92
1″	50	93406A206	11.58
1 1/4″	25	93406A208	6.83
1 1/2″	25	93406A209	7.66
No. 10—#2 Drive			
3/8″	50	93406A241	$10.66
1/2″	50	93406A243	11.16
5/8″	50	93406A246	12.33
3/4″	50	93406A248	13.41
1″	25	93406A255	7.96
1 1/4″	25	93406A256	9.21
1 1/2″	25	93406A257	10.08
2″	25	93406A259	12.54
No. 12—#3 Drive			
1/2″	25	93406A291	7.75
3/4″	25	93406A295	9.08
1″	25	93406A297	10.45
1 1/2″	25	93406A299	13.62
No. 14—#3 Drive			
3/4″	10	93406A314	5.31
1″	10	93406A316	6.10
1 1/2″	10	93406A319	7.93

18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
No. 0—#0 Drive			
1/4″	50	93406A008	$5.50
3/8″	50	93406A012	5.64
1/2″	50	93406A017	5.71
No. 1—#0 Drive			
1/4″	50	93406A040	5.07
3/8″	50	93406A044	5.29
1/2″	50	93406A048	5.43
No. 2—#1 Drive			
1/4″	100	93406A071	5.09
3/8″	100	93406A075	5.20
1/2″	100	93406A079	5.60
5/8″	100	93406A083	5.94
3/4″	100	93406A086	6.30
No. 4—#1 Drive			
3/16″	50	93406A095	5.89
1/4″	100	93406A106	3.86
3/8″	100	93406A108	4.02
1/2″	100	93406A110	4.15
5/8″	100	93406A100	4.82
No. 4 (Cont.)			
3/4″	100	93406A102	$5.51
1″	100	93406A104	6.40
No. 6—#2 Drive			
3/16″	50	93406A140	6.64
1/4″	100	93406A144	4.75
3/8″	100	93406A146	4.89
1/2″	100	93406A148	5.20
5/8″	100	93406A150	5.76
3/4″	100	93406A151	6.67
1″	100	93406A153	8.18
1 1/4″	100	93406A155	8.30
1 1/2″	100	93406A158	9.07
No. 8—#2 Drive			
3/8″	100	93406A192	6.63
1/2″	100	93406A194	6.97
5/8″	100	93406A196	7.79
3/4″	100	93406A197	8.35
1″	100	93406A199	9.98
1 1/4″	50	93406A201	5.69

(Continued on following page)

Large Diameter (Truss) Head Screws for Sheet Metal *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
No. 8 (Cont.)			
1½″	50	93406A203	$6.60
1¾″	50	93406A204	7.64
2″	50	93406A205	8.11
No. 10—#2 Drive			
⅜″	100	93406A240	8.50
½″	100	93406A242	9.34
⅝″	100	93406A244	10.59
¾″	50	93406A245	5.92
No. 10 (Cont.)			
1″	50	93406A247	$7.08
1¼″	50	93406A249	6.97
1½″	50	93406A251	8.94
1¾″	50	93406A252	10.17
2″	50	93406A253	10.95
2½″	25	93406A254	7.03
3″	25	93406A258	9.11
18-8 Stainless Steel (Cont.)			
No. 12—#3 Drive			
½″	50	93406A290	$6.98
¾″	50	93406A294	8.76
1″	50	93406A296	8.99
1¼″	25	93406A298	4.89
1½″	25	93406A302	5.87
2″	25	93406A304	6.06
2½″	25	93406A307	10.81
3″	10	93406A310	5.52
No. 14—#3 Drive			
½″	50	93406A311	$8.45
⅝″	50	93406A312	8.83
¾″	50	93406A313	9.24
1″	25	93406A315	5.40
1¼″	25	93406A317	5.69
1½″	25	93406A318	6.59
2″	25	93406A320	8.63
2½″	10	93406A322	4.71
3″	10	93406A324	5.69

Extra-Large Diameter Head Screws for Sheet Metal

Wider than a truss head, the washer head is less likely to crush thin metal. Screws have a Phillips drive. Length is measured from under the washer.



Lg.	Pkg. Qty.		Pkg.
Black Weather-Resistant Coated Steel			
No. 6—#2 Drive			
½″	100	90930A148	$6.47
¾″	100	90930A151★	6.65
1″	100	90930A153★	6.79
No. 8—#2 Drive			
½″	100	90930A194	7.80
⅝″	100	90930A196	8.65
¾″	100	90930A197	9.81
No. 8 (Cont.)			
1″	100	90930A199	$9.80
1¼″	50	90930A201	5.74
1½″	50	90930A203	7.15
No. 10—#2 Drive			
¾″	50	90930A245	6.18
1″	50	90930A247	6.41
1¼″	50	90930A249	8.10
Zinc-Plated Steel			
No. 8—#2 Drive			
½″	100	90930A500	5.94
⅝″	100	90930A505	7.12
No. 8 (Cont.)			
¾″	100	90930A510	8.22
1″	100	90930A515	7.89
1¼″	50	90930A520	4.35

★ Black-oxide finish.

Round Head Screws for Sheet Metal

Screws have a thick, decorative head and a flat bearing surface. All have a Phillips drive and are made from 18-8 stainless steel. Length is measured from under the head.



Lg.	Pkg. Qty.		Pkg.
No. 6—#2 Drive			
⅜″	100	94005A335	$4.19
½″	100	94005A337	5.03
¾″	100	94005A339	6.14
1″	100	94005A341	7.25
No. 8—#2 Drive			
½″	100	94005A411	6.56
¾″	100	94005A413	7.71
1″	100	94005A415	9.66
No. 10—#2 Drive			
½″	100	94005A521	$9.11
¾″	50	94005A523	5.88
1″	50	94005A525	6.27
1¼″	50	94005A527	8.62
1½″	50	94005A529	8.70
No. 12—#3 Drive			
¾″	50	94005A641	7.53
1″	50	94005A643	7.94
1½″	25	94005A645	5.41

Hex Washer Head Screws for Sheet Metal

The washer head with its large flat bearing surface reduces the likelihood of crushing thin materials. Length is measured from under the washer.



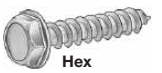

Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel—Slotted Hex			
No. 6—Hex Size: ¼″			
⅜″	50	99663A150	$6.10
½″	50	99663A153	7.78
¾″	50	99663A156	8.08
No. 8—Hex Size: ¼″			
⅜″	50	99663A210	7.23
½″	50	99663A213	9.09
⅝″	50	99663A216	9.70
¾″	50	99663A219	9.82
1″	25	99663A222	6.23
1¼″	25	99663A225	7.00
1½″	25	99663A228	7.62
No. 10—Hex Size: 5⁄16″			
½″	50	99663A315	12.16
⅝″	50	99663A318	12.21
No. 10 (Cont.)			
¾″	25	99663A321	$6.23
1″	25	99663A324	7.03
1¼″	25	99663A327	9.20
1½″	25	99663A330	9.32
No. 12—Hex Size: 5⁄16″			
¾″	25	99663A410	9.97
1″	25	99663A413	11.30
1¼″	10	99663A416	6.53
1½″	10	99663A419	7.70
No. 14—Hex Size: ⅜″			
¾″	10	99663A450	5.20
1″	10	99663A453	6.00
1¼″	10	99663A456	7.42
1½″	10	99663A459	7.44
18-8 Stainless Steel—Slotted Hex			
No. 6—Hex Size: ¼″			
¼″	100	90286A144	4.78
⅜″	100	90286A146	4.80
½″	100	90286A148	5.18
¾″	100	90286A151	6.15
1″	100	90286A153	7.65
No. 8—Hex Size: ¼″			
⅜″	100	90286A192	5.28
½″	100	90286A194	5.89
¾″	100	90286A197	7.41
1″	100	90286A199	8.04
1¼″	100	90286A201	8.47
1½″	50	90286A203	6.23
2″	50	90286A205	7.19
No. 10—Hex Size: 5⁄16″			
⅜″	100	90286A240	7.54
½″	100	90286A242	7.32
⅝″	100	90286A244	8.69
¾″	100	90286A245	9.27
⅞″	100	90286A246	10.39
1″	50	90286A247	6.11
1¼″	50	90286A249	6.57
1½″	50	90286A251	6.80
No. 10 (Cont.)			
2″	25	90286A253	4.88
2½″	25	90286A255	6.67
3″	25	90286A257	8.00
No. 12—Hex Size: 5⁄16″			
½″	50	90286A291	6.07
⅝″	50	90286A293	7.11
¾″	50	90286A294	7.33
1″	50	90286A296	7.96
1¼″	50	90286A298	8.92
1½″	25	90286A299	6.16
2″	25	90286A301	6.64
3″	25	90286A305	10.64
No. 14—Hex Size: ⅜″			
½″	50	90286A310	9.35
⅝″	50	90286A312	10.17
¾″	50	90286A313	9.86
1″	25	90286A315	6.12
1¼″	25	90286A316	6.40
1½″	25	90286A317	7.04
2″	25	90286A319	8.23
2½″	10	90286A321	5.87
3″	10	90286A323	6.11
Type 410 Stainless Steel—Hex			
No. 6—Hex Size: ¼″			
⅜″	100	91675A311	$7.46
½″	100	91675A313	7.87
⅝″	100	91675A315	8.32
¾″	100	91675A317	9.13
No. 8—Hex Size: ¼″			
⅜″	100	91675A321	10.52
½″	100	91675A323	10.99
⅝″	100	91675A325	10.01
¾″	100	91675A327	10.99
Zinc-Plated Steel—Slotted Hex			
No. 6—Hex Size: ¼″			
⅜″	100	90054A146	3.86
½″	100	90054A148	3.84
⅝″	100	90054A150	4.20
¾″	100	90054A151	4.06
1″	100	90054A153	4.71
No. 8—Hex Size: ¼″			
⅜″	100	90054A192	5.69
½″	100	90054A194	4.22
⅝″	100	90054A196	6.00
¾″	100	90054A197	5.28
1″	100	90054A199	5.81
1¼″	100	90054A201	6.81
1½″	100	90054A203	8.38
2″	100	90054A205	11.66
2½″	100	90054A208	11.92
No. 10—Hex Size: 5⁄16″			
⅜″	100	90054A240	5.95
½″	100	90054A242	6.19
⅝″	100	90054A244	6.77
¾″	100	90054A245	6.80
1″	100	90054A247	6.80
1¼″	100	90054A249	8.12
1½″	100	90054A251	10.32
1¾″	100	90054A252	12.08
2″	100	90054A253	12.64
2½″	50	90054A255	7.79
3″	50	90054A260	10.67
No. 8 (Cont.)			
1″	100	91675A331	$13.19
1¼″	50	91675A333	7.99
1½″	50	91675A335	8.47
No. 10—Hex Size: 5⁄16″			
⅜″	100	91675A351	11.69
½″	100	91675A353	12.74
¾″	100	91675A357	14.67
1″	50	91675A359	8.11
1½″	25	91675A361	5.05
No. 12—Hex Size: 5⁄16″			
½″	100	90054A291	9.90
⅝″	100	90054A293	8.68
¾″	100	90054A294	9.90
1″	100	90054A296	10.83
1½″	50	90054A299	7.17
2″	50	90054A301	9.07
2½″	50	90054A305	10.76
3″	25	90054A307	7.22
No. 14—Hex Size: ⅜″			
½″	100	90054A310	12.68
⅝″	100	90054A312	11.91
¾″	100	90054A313	13.08
1″	50	90054A315	8.07
1¼″	50	90054A316	9.17
1½″	50	90054A317	11.36
2″	50	90054A319	13.46
3″	25	90054A325	9.90
5⁄16″—Hex Size: ½″			
½″	25	90054A405	8.75
¾″	25	90054A410	7.75
1″	25	90054A415	9.89
1½″	25	90054A420	10.93
2″	25	90054A425	10.90
⅜″—Hex Size: 9⁄16″			
¾″	25	90054A505	8.89
1″	10	90054A510	5.25
1½″	10	90054A515	5.02
2″	10	90054A520	5.42

Vibration-Damping Screws for Sheet Metal

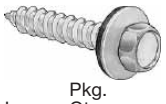

A rubber washer cushions the screw to reduce loosening from vibration. Screw length is measured from under the hex head and does not include the thickness of the washer.

18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
No. 14—Hex Size: 3/8" Washer OD: 5/8"			
3/4"	25	91644A313	$13.96
1"	10	91644A315	7.33
1 1/2"	10	91644A317	8.43
2"	10	91644A319	13.37
2 1/2"	5	91644A321	9.33
3"	5	91644A323	11.48
4"	1	91644A326	2.94
No. 14 (Cont.)			
5"	1	91644A329	$3.01
6"	1	91644A331	3.18
No. 17—Hex Size: 3/8" Washer OD: 5/8"			
3/4"	10	91644A821	11.56
1"	10	91644A825	12.33

Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
No. 14—Hex Size: 3/8" Washer OD: 5/8"			
5/8"	25	90066A312	$6.58
3/4"	50	90066A313	9.86
1"	50	90066A315	10.78
1 1/4"	50	90066A316	14.25
1 1/2"	50	90066A317	13.26
2"	25	90066A319	8.78
2 1/2"	25	90066A321	11.59
No. 14 (Cont.)			
3"	25	90066A323	$14.81
4"	10	90066A324	9.95
5"	5	90066A327	8.57
No. 17—Hex Size: 3/8" Washer OD: 5/8"			
3/4"	25	90066A821	9.89
1"	25	90066A823	8.88

Tamper-Resistant Screws for Sheet Metal

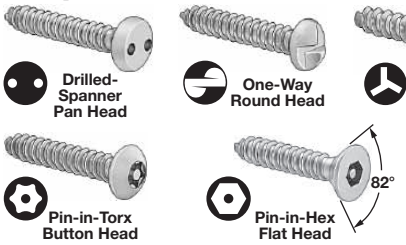

Unique drivers are required for installation and removal. All screws are 18-8 stainless steel. Length is measured from under the head for all but flat head screws, which are measured from the top of the head.

Drilled Spanner—For drivers, see 94062A on page 2820; for bits, see 52775A on page 2815.

One Way—Screws install with a standard slotted screwdriver, but require a special removal tool (see 7392A on page 2820).

Tri-Wing®—For bits, see 7175A on page 2815.

Pin-in-Torx—For drivers, see page 2819; for bits, see pages 2814-2815.

Pin-in-Hex—For drivers, see 7253A on page 2820; for bits, see 7257A on page 2811.

Drilled Spanner—Pan Head

Lg.	Pkg. Qty.		Pkg.
No. 6—#6 Drive			
1/2"	25	94065A148	$8.59
3/4"	25	94065A151	8.97
1"	25	94065A153	9.23
1 1/2"	25	94065A157	10.48
No. 8—#8 Drive			
3/8"	25	94065A192	9.29
1/2"	25	94065A194	9.66
3/4"	25	94065A197	9.65
1"	25	94065A199	9.82
1 1/2"	25	94065A203	11.43
2"	25	94065A205	13.00
No. 10—#10 Drive			
1/2"	25	94065A242	$9.69
3/4"	25	94065A245	9.92
1"	25	94065A247	10.24
1 1/4"	25	94065A249	11.69
1 1/2"	25	94065A251	12.97
2"	10	94065A253	6.32
No. 12—#12 Drive			
1"	25	94065A296	11.47
1 1/2"	25	94065A299	13.14
2"	10	94065A301	6.23
No. 14—#14 Drive			
3/4"	25	94065A313	14.84
1"	10	94065A315	6.06
2"	10	94065A319	7.04

Drilled Spanner—Flat Head

Lg.	Pkg. Qty.		Pkg.
No. 6—#6 Drive			
1/2"	25	95115A115	8.51
3/4"	25	95115A117	8.59
1"	25	95115A119	8.84
No. 8—#8 Drive			
1/2"	25	95115A120	9.66
3/4"	25	95115A122	10.09
1"	25	95115A124	10.26
1 1/4"	25	95115A125	10.52
1 1/2"	25	95115A205	11.43
No. 10—#10 Drive			
1/2"	25	95115A225	9.68
3/4"	25	95115A126	9.94
1"	25	95115A128	10.25
1 1/2"	25	95115A130	12.97
2"	25	95115A135	14.96
No. 12—#12 Drive			
1"	25	95115A150	11.47
1 1/4"	25	95115A155	11.76
1 1/2"	25	95115A160	13.14
2"	10	95115A165	6.78

One Way—Round Head

Lg.	Pkg. Qty.		Pkg.
No. 6			
3/8"	100	90090A145★	13.07
1/2"	100	90090A148	10.83
3/4"	100	90090A151	12.48
1"	50	90090A153	8.93
No. 8			
3/8"	50	90090A191★	8.66
1/2"	50	90090A194	8.84
3/4"	50	90090A197	8.93
1"	50	90090A199	9.13
1 1/4"	50	90090A201	10.18
1 1/2"	50	90090A203	7.64
No. 10			
1/2"	50	90090A242	9.34
3/4"	50	90090A245	9.62
1"	50	90090A247	11.36
No. 10 (Cont.)			
1 1/2"	50	90090A251	10.54
2"	25	90090A253	8.95
No. 12			
1/2"	50	90090A291■	14.68
3/4"	25	90090A293■	8.97
1"	25	90090A296■	8.17
1 1/2"	25	90090A299■	10.34
2"	25	90090A300■	13.10
No. 14			
1/2"	50	90090A310	9.34
3/4"	25	90090A313	7.05
1"	25	90090A315	8.23
1 1/2"	25	90090A317	10.49
2"	25	90090A319	11.50
3"	10	90090A323	6.88

Tri-Wing®—Pan Head

Lg.	Pkg. Qty.		Pkg.
No. 6—#3 Drive			
1/2"	50	95641A148	10.34
3/4"	50	95641A151	11.03
1"	25	95641A153	6.21
No. 8—#4 Drive			
1/2"	50	95641A194	11.72
3/4"	50	95641A197	12.41
No. 8—#4 Drive (Cont.)			
1"	50	95641A199	$13.79
1 1/4"	25	95641A201	8.62
1 1/2"	25	95641A205	10.35
No. 10—#5 Drive			
1/2"	50	95641A242	$13.10
3/4"	25	95641A245	8.62
1"	25	95641A247	8.28

★Has an 82° oval head. ■Has a pan head.

Pin-in-Torx—Button Head

Lg.	Pkg. Qty.		Pkg.
No. 6—T10 Drive			
1/2"	25	95638A148	9.83
3/4"	25	95638A151	11.43
1"	25	95638A153	12.32
1 1/2"	25	95638A155	12.93
No. 8—T15 Drive			
1/2"	25	95638A194	7.98
3/4"	25	95638A197	8.15
1"	25	95638A199	8.49
1 1/4"	25	95638A201	9.48
1 1/2"	25	95638A205	9.58
No. 10—T25 Drive			
1/2"	25	95638A242	9.27
3/4"	25	95638A245	9.35
1"	25	95638A247	9.48
1 1/4"	25	95638A249	10.13
1 1/2"	10	95638A251	7.21
No. 14—T27 Drive			
1/2"	10	95638A313	8.05
3/4"	10	95638A314	7.69
1"	10	95638A315	8.03
1 1/2"	10	95638A317	9.61

Pin-in-Torx—Flat Head

Lg.	Pkg. Qty.		Pkg.
No. 6—T15 Drive			
1/2"	25	95015A292	10.21
3/4"	25	95015A294	11.43
1"	25	95015A296	11.63
No. 8—T20 Drive			
1/2"	25	95015A298	10.67
3/4"	25	95015A301	10.26
1"	25	95015A303	10.60
1 1/4"	25	95015A305	11.36
No. 10—T25 Drive			
1/2"	25	95015A450	10.45
3/4"	25	95015A307	10.24
1"	25	95015A309	11.56
1 1/2"	10	95015A313	5.36
1/4"—T30 Drive			
3/4"	10	95015A314	6.90
1"	10	95015A620	8.17
1 1/4"	10	95015A315	7.14

Pin-in-Hex—Button Head

Lg.	Pkg. Qty.		Pkg.
No. 6—1/8" Drive			
1/2"	25	96612A140	9.85
3/4"	25	96612A145	10.06
1"	25	96612A150	10.17
No. 8—5/32" Drive			
1/2"	25	96612A205	9.97
5/8"	25	96612A210	10.17
3/4"	25	96612A215	10.29
1"	25	96612A220	10.69
1 1/4"	25	96612A225	11.57
1 1/2"	25	96612A230	11.65
No. 10—5/32" Drive			
1/2"	25	96612A250	10.15
3/4"	25	96612A260	10.49
1"	25	96612A265	11.16
1 1/4"	25	96612A270	12.03
1 1/2"	25	96612A275	12.57
2"	25	96612A280	14.06
No. 14—5/32" Drive			
3/4"	25	96612A320	13.63
1"	25	96612A325	14.25
1 1/2"	10	96612A335	6.38

Pin-in-Hex—Flat Head

Lg.	Pkg. Qty.		Pkg.
No. 6—1/8" Drive			
1/2"	25	95829A150	9.85
3/4"	25	95829A155	10.06
1"	25	95829A160	10.17
No. 8—5/32" Drive			
1/2"	25	95829A205	9.97
3/4"	25	95829A215	10.29
1"	25	95829A220	10.69
No. 10—5/32" Drive			
1/2"	25	95829A250	10.15
3/4"	25	95829A260	10.49
No. 10 (Cont.)			
1"	25	95829A265	11.16
1 1/4"	25	95829A270	12.03
1 1/2"	25	95829A275	12.57
No. 14—5/32" Drive			
3/4"	10	95829A350	5.97
1"	10	95829A355	6.05
1 1/4"	10	95829A360	6.42
1 1/2"	10	95829A365	6.38

Sheet Metal Screw Assortments

230-Piece Assortments

Include pan and flat head Phillips screws.

Size	No. of Pcs.	Lengths
No. 4	40	3/8", 1/2"
No. 6	60	1/2", 3/4", 1"
No. 8	80	1/2", 3/4", 1", 1 1/4"
No. 10	50	3/4", 1", 1 1/2"

18-8 Stainless Steel	90345A342	$31.88
Zinc-Plated Steel	99005A640	24.43

790-Piece Assortment—Zinc-Plated Steel

Includes pan head Phillips screws.

Size	No. of Pcs.	Lengths
No. 6	285	1/2", 5/8", 3/4", 1"
No. 8	335	1/2", 5/8", 3/4", 1", 1 1/4", 1 1/2", 2"
No. 10	170	3/4", 1", 1 1/4", 1 1/2", 2"

99005A590 $41.96

1,250-Piece Assortment—18-8 Stainless Steel

Includes pan head Phillips screws.

Size	No. of Pcs.	Lengths
No. 6	400	3/8", 1/2", 3/4", 1"
No. 8	350	1/2", 3/4", 1", 1 1/2"
No. 10	350	1/2", 3/4", 1", 1 1/4", 1 1/2"
No. 12	150	3/4", 1", 1 1/2"

90345A216 $123.24

2,000-Piece Assortment—Zinc-Plated Steel

Includes pan head Phillips screws.

Size	No. of Pcs.	Lengths
No. 4	200	1/4", 1/2"
No. 6	400	3/8", 1/2", 3/4", 1"
No. 8	500	3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2"
No. 10	400	1/2", 3/4", 1", 1 1/4", 1 1/2"
No. 12	300	1/2", 3/4", 1", 1 1/2"
No. 14	200	3/4", 1", 1 1/2"

90365A124 $128.89

3,225-Piece Assortment—Zinc-Plated Steel

Includes pan and flat head Phillips sheet metal screws, round head combination drive machine screws, flat and lock washers, and nuts.

Size	No. of Pcs.	Lengths
Sheet Metal Screws		
No. 6	400	1/2", 3/4"
No. 8	400	1/2", 3/4", 1"
No. 10	400	3/4", 1"
Machine Screws		
10-24	200	3/4", 1"
1/4"-20	200	3/4", 1"

Size	No. of Pcs.
Washers	
No. 6	200
No. 8	200
No. 10	200
1/4"	200
5/16"	200
3/8"	100
Nuts	
No. 6-32	100
No. 8-32	100
10-24	100
10-32	100
1/4"-20	50
5/16"-18	50
3/8"-16	25

92630A111 $162.22

Screws for Joining Metal to Wood



Fasten thin metal to wood framing. Screws have a needle point that easily penetrates overlapping panels. A rubber washer bonded to the hex washer head provides a watertight seal. Made from weather-resistant coated steel. The coating provides 1,000 hours of salt spray resistance. Length is measured from under the washer.

Lg.	Pkg. Qty.		Pkg.
10-16—Hex Size: 1/4"; Washer OD: 0.314"			
1"	100	98392A480	$11.30
1 1/2"	100	98392A520	13.08
2"	50	98392A560	9.04
2 1/2"	50	98392A610	11.14
3"	50	98392A650	13.32

Screws for Thick Sheet Metal



Hex



Slotted Hex



Vibration Resistant

Screws have a needle point to penetrate sheet metal up to 0.050" thick. The hex washer head provides a large bearing surface that reduces the possibility of crushing surfaces. Length is measured from under the washer.

Vibration-resistant zinc-plated steel have serrations that slow the screw when they touch the surface to minimize stripping and resist loosening.

Lg.	Pkg. Qty.		Pkg.
Type 410 Stainless Steel—Hex			
No. 6—Hex Size: 1/4"			
3/8"	50	92650A120	$9.09
1/2"	50	92650A150	9.81
No. 8—Hex Size: 1/4"			
1/2"	50	92650A155	11.22
3/4"	50	92650A160	13.02
No. 10—Hex Size: 1/4"			
1"	25	92650A207	$10.09
1 1/2"	25	92650A210	10.87
2"	25	92650A213	12.60
Zinc-Plated Steel—Slotted Hex			
No. 6—Hex Size: 1/4"			
3/8"	100	90197A146	5.00
No. 7—Hex Size: 1/4"			
1/2"	100	90197A170	5.67
No. 8—Hex Size: 1/4"			
1/2"	100	90197A194	4.72
3/4"	100	90197A198	5.46
1"	100	90197A199	5.54
1 1/2"	100	90197A203	8.67
2"	50	90197A205	5.74
No. 10—Hex Size: 5/16"			
1/2"	100	90197A641	7.52
3/4"	100	90197A645	7.92
1"	100	90197A648	9.12
1 1/2"	100	90197A651	9.95
No. 10 (No. 8 Head)—Hex Size: 1/4"			
1/2"	100	90197A242	5.62
3/4"	100	90197A245	6.78
1"	100	90197A247	7.67
Vibration-Resistant Zinc-Plated Steel—Slotted Hex			
No. 6—Hex Size: 1/4"			
3/8"	100	90063A146	6.76
No. 7—Hex Size: 1/4"			
1/2"	100	90063A170	7.06
No. 8—Hex Size: 1/4"			
1/2"	100	90063A194	7.51
No. 10—Hex Size: 1/4"			
1/2"	100	90063A242	10.34
3/4"	100	90063A245	10.52

Thread-Forming Screws for Sheet Metal



Also known as Fastite fasteners, these screws have an undercut head that pulls in material to ensure secure, tight assemblies. Made from zinc-plated steel, they have a pan head and a Torx drive. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
2-56—T8 Drive			
1/4"	25	92750A058	$14.25
3/8"	25	92750A054	14.25
1/2"	25	92750A063	14.25
5/8"	25	92750A066	14.25
4-40—T10 Drive			
1/4"	25	92750A104	10.62
3/8"	25	92750A107	10.62
1/2"	25	92750A110	10.62
5/8"	25	92750A114	10.62
3/4"	25	92750A119	10.62
6-32—T15 Drive			
1/4"	25	92750A153	10.95
3/8"	25	92750A157	10.95
1/2"	25	92750A161	10.95
5/8"	25	92750A165	10.95
3/4"	25	92750A168	10.95
8-32—T20 Drive			
1/4"	25	92750A205	$11.25
3/8"	25	92750A209	11.25
1/2"	25	92750A213	11.25
5/8"	25	92750A217	11.25
3/4"	25	92750A221	11.25
10-24—T25 Drive			
3/8"	25	92750A256	13.12
1/2"	25	92750A259	13.12
5/8"	25	92750A262	13.12
3/4"	25	92750A267	13.12
1"	25	92750A270	13.12
10-32—T25 Drive			
3/8"	25	92750A307	13.00
1/2"	25	92750A310	13.00
5/8"	25	92750A314	13.00
3/4"	25	92750A319	13.00
1"	25	92750A324	13.00

Lg., mm	Pkg. Qty.		Pkg.
M2—T8 Drive			
6	25	92750A556	$14.25
8	25	92750A559	14.25
M2.5—T8 Drive			
6	25	92750A611	13.00
8	25	92750A615	13.00
M3—T10 Drive			
4	25	92750A652	$10.50
6	25	92750A656	10.50
8	25	92750A661	10.50
10	25	92750A665	10.50
M4—T20 Drive			
6	25	92750A712	10.62
8	25	92750A716	10.62
10	25	92750A720	10.62

About Installing Thread-Forming and Thread-Cutting Screws for Metal

Thread-forming screws press threads into material without leaving debris, while thread-cutting screws eject material as they're turned.

Determining Drill Size

The hole size required to install these screws varies according to the material and thickness you're fastening. Our drill sizes are based on industry data and typically allow adequate thread engagement. We suggest, however, that you test to determine the drill size for your application.

Countersinking

To install, create a hole with a countersink that matches the head angle of your screw. Use a countersink (see pg. 2484) to create a recess for flat and oval head screws.

Screw Size	No. 0	No. 1	No. 2	No. 4	No. 5	No. 6	No. 7	No. 8	No. 10	No. 12	No. 14	1/4"	5/16"	3/8"
Thread Forming Drill Sizes	#56	#53	#48	#44	#36	#32	#30	#29	#21	3/16"	5.5 mm	5.5 mm	6.9 mm	21/64"
Thread Cutting Drill Sizes	—	—	#49	#41	—	#31	—	#26	#17	#8	—	1	L	T

Thread-Forming Screws for Sheet Metal and Iron CAD

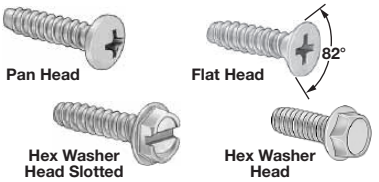

These Type B thread-forming screws form widely spaced threads in sheet metal and soft metal such as cast iron. They have a blunt tip with an incomplete thread near the end for easy entry. Screws indicated with a ★ have an undercut head to allow more threading.

Pan head screws have a flat bearing surface. Length is measured from under the head.

Flat head screws are beveled under the head for use in countersunk holes. Length is measured from the top of the head.

Hex washer head screws have a wide, one-piece head that reduces the possibility of crushing thin material. Length is measured from under the washer.

Pan Head Phillips—Type 316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
4-24—#1 Drive			
1/4"	100	92525A604	$6.73
5/16"	100	92525A608	7.77
3/8"	100	92525A611	8.96
1/2"	100	92525A615	9.66
6-20—#2 Drive			
1/4"	100	92525A703	7.52
5/16"	100	92525A707	8.47
3/8"	100	92525A712	9.84
1/2"	100	92525A716	10.55
8-18—#2 Drive			
1/4"	50	92525A805	$5.46
5/16"	50	92525A809	6.14
3/8"	50	92525A814	6.25
1/2"	50	92525A818	6.90
5/8"	50	92525A820	8.13
3/4"	50	92525A825	8.82
10-16—#2 Drive			
3/8"	50	92525A909	8.32
1/2"	50	92525A912	9.16
5/8"	50	92525A917	9.86
3/4"	50	92525A921	10.19

Pan Head Phillips—18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
2-32—#1 Drive			
1/8"	50	92525A102	4.86
3/16"	50	92525A106	5.00
1/4"	100	92525A110	4.14
5/16"	100	92525A114	4.29
3/8"	100	92525A118	4.57
4-24—#1 Drive			
3/16"	50	92525A198	2.83
1/4"	100	92525A201	3.29
5/16"	100	92525A203	3.37
3/8"	100	92525A205	3.56
1/2"	100	92525A207	3.72
5/8"	100	92525A209	4.00
3/4"	100	92525A213	4.31
6-20—#2 Drive			
3/16"	50	92525A308	4.94
1/4"	100	92525A311	3.60
5/16"	100	92525A313	4.11
3/8"	100	92525A315	4.35
1/2"	100	92525A317	4.47
6-20 (Cont.)			
5/8"	100	92525A319	5.20
3/4"	100	92525A323	5.36
8-18—#2 Drive			
1/4"	100	92525A420	5.10
5/16"	100	92525A422	5.34
3/8"	100	92525A424	5.79
1/2"	100	92525A426	6.02
5/8"	100	92525A428	6.87
3/4"	100	92525A430	7.45
1"	100	92525A440	8.62
1 1/4"	50	92525A451	6.34
10-16—#2 Drive			
1/4"	100	92525A549	7.28
5/16"	100	92525A550	7.66
3/8"	100	92525A551	7.72
1/2"	100	92525A553	8.01
5/8"	100	92525A555	8.99
3/4"	50	92525A557	5.62
1"	50	92525A560	6.12

Pan Head Phillips—Type 410 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
6-20—#2 Drive			
1/2"	100	95901A210	4.24
5/8"	100	95901A215	4.90
3/4"	100	95901A220	5.12
8-18—#2 Drive			
3/8"	100	95901A225	5.18
1/2"	100	95901A230	5.73
8-18 (Cont.)			
5/8"	100	95901A235	6.16
3/4"	100	95901A240	6.44
10-16—#2 Drive			
1/2"	100	95901A245	7.51
3/4"	100	95901A250	8.84

Pan Head Phillips—Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
2-32—#1 Drive			
1/8"	100	90056A074	7.31
3/16"	100	90056A075	7.38
1/4"	100	90056A077	7.48
2-32 (Cont.)			
5/16"	100	90056A078	7.41
3/8"	100	90056A079	7.52

★ Has an undercut head.

Pan Head Phillips—Zinc-Plated Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
4-24—#1 Drive			
3/16"	100	90056A105	$6.41
1/4"	100	90056A106	6.41
5/16"	100	90056A107	6.62
3/8"	100	90056A108	6.62
1/2"	100	90056A110	7.07
6-20—#2 Drive			
3/16"	100	90056A143	7.00
1/4"	100	90056A144	7.00
5/16"	100	90056A145	7.55
3/8"	100	90056A146	7.55
1/2"	100	90056A148	7.97
5/8"	100	90056A150	8.17
3/4"	100	90056A151	8.55
8-18—#2 Drive			
1/4"	100	90056A190	$8.66
3/8"	100	90056A192	8.66
1/2"	100	90056A194	9.31
5/8"	100	90056A196	9.79
3/4"	100	90056A197	10.38
1"	100	90056A199	11.52
10-16—#2 Drive			
3/8"	100	90056A240	10.24
1/2"	100	90056A242	10.97
5/8"	100	90056A244	11.38
3/4"	100	90056A245	12.07
1"	100	90056A247	14.76
1/4"-14—#3 Drive			
1/2"	50	90056A310	10.34

Pan Head Phillips—Black Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
4-24—#1 Drive			
1/4"	50	92115A211	8.60
3/8"	50	92115A213	8.74
1/2"	50	92115A215	8.69
6-20—#2 Drive			
1/4"	50	92115A217	8.93
3/8"	50	92115A219	8.91
1/2"	50	92115A222	9.45
3/4"	50	92115A224	9.81
8-18—#2 Drive			
3/8"	50	92115A226	9.86
1/2"	50	92115A228	10.21
3/4"	50	92115A231	10.81
1"	50	92115A233	11.43
10-16—#2 Drive			
3/8"	50	92115A235	10.74
1/2"	50	92115A236	11.15
3/4"	25	92115A239	6.34
1"	25	92115A242	7.09

Flat Head Phillips—18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
4-24—#1 Drive			
1/4"	100	93195A110★	3.15
3/8"	100	93195A113	3.11
1/2"	100	93195A116	3.47
6-20—#2 Drive			
3/8"	100	93195A221	4.14
1/2"	100	93195A223	4.24
3/4"	100	93195A266	5.27
8-18—#2 Drive			
3/8"	100	93195A322★	4.71
1/2"	100	93195A325	5.22
3/4"	100	93195A327	6.56
10-16—#2 Drive			
3/8"	100	93195A426★	6.11
1/2"	100	93195A429★	10.02
3/4"	100	93195A431	8.58

Flat Head Phillips—Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
4-24—#1 Drive			
1/4"	100	90055A106★	6.72
3/8"	100	90055A108	6.97
1/2"	100	90055A111	7.41
6-20—#2 Drive			
3/8"	100	90055A146	7.93
1/2"	100	90055A148	8.38
5/8"	100	90055A152	8.59
3/4"	100	90055A156	8.97
1"	100	90055A158	10.90
8-18—#2 Drive			
3/8"	100	90055A192★	9.10
1/2"	100	90055A294	9.79
5/8"	100	90055A296	10.28
3/4"	100	90055A197	10.90
1"	100	90055A299	12.10
10-16—#2 Drive			
3/8"	100	90055A309★	10.76
1/2"	100	90055A312★	11.52
5/8"	100	90055A317	11.97
3/4"	100	90055A322	12.69
1"	100	90055A326	14.97

(Continued on following page)

Thread-Forming Screws for Sheet Metal and Iron *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
Hex Washer Head Slotted—Zinc-Plated Steel			
4-24—Hex Size: 3/16"			
1/4"	100	93880A106	$6.72
3/8"	100	93880A108	6.67
6-20—Hex Size: 1/4"			
1/4"	100	93880A144	6.83
3/8"	100	93880A146	7.38
1/2"	100	93880A148	7.76
8-18—Hex Size: 1/4"			
1/4"	100	93880A190	8.65
3/8"	100	93880A192	8.65
8-18 (Cont.)			
1/2"	100	93880A194	$9.31
3/4"	100	93880A197	10.52
1"	100	93880A199	11.73
10-16—Hex Size: 5/16"			
3/8"	100	93880A240	10.17
1/2"	100	93880A242	11.07
3/4"	100	93880A245	12.31
1"	50	93880A247	7.33
Hex Washer Head Slotted (Cont.)			
1/4"-14—Hex Size: 3/8"			
3/8"	50	93880A535	$11.87
1/2"	50	93880A310	12.44
5/8"	50	93880A539	13.31
3/4"	25	93880A313	7.05
1/4"-14 (Cont.)			
1"	25	93880A542	$8.20
1 1/4"	25	93880A544	9.12
1 1/2"	25	93880A546	9.93
Hex Washer Head—Zinc-Plated Steel			
5/16"-12—Hex Size: 1/2"			
1/2"	25	93880A578	9.41
5/8"	25	93880A580	9.79
3/4"	25	93880A581	10.57
1"	25	93880A583	11.88
3/8"-12—Hex Size: 9/16"			
3/4"	10	93880A622	8.56
1"	10	93880A624	9.71

Quick-Install Thread-Forming Screws for Sheet Metal and Iron



Pan Head



Hex Washer Head Slotted



Hex Washer Head

The leading threads grab material to reduce the initial torque necessary to drive these screws. Also called Swageform screws, they have a blunt tip. Use them in sheet and cast metal. All are made from zinc-plated steel.

Pan head screws have a flat bearing surface. Length is measured from under the head.

Hex washer head screws have a wide, one-piece head that reduces the possibility of crushing thin materials. Length is measured from under the washer.

Lg.	Pkg. Qty.		Pkg.
Pan Head—Phillips			
4-40—#1 Drive			
1/4"	100	93878A106	$9.21
5/16"	100	93878A107	9.34
3/8"	100	93878A108	9.89
1/2"	100	93878A110	10.10
6-32—#2 Drive			
1/4"	100	93878A144	9.34
5/16"	100	93878A145	9.55
3/8"	100	93878A146	9.72
1/2"	100	93878A148	10.06
5/8"	100	93878A150	11.99
3/4"	100	93878A149	11.89
8-32—#2 Drive			
1/4"	100	93878A191	10.41
5/16"	100	93878A192	10.92
3/8"	100	93878A193	11.31
1/2"	100	93878A194	11.64
5/8"	100	93878A196	13.39
8-32 (Cont.)			
3/4"	50	93878A195	$6.65
1"	50	93878A199	8.38
10-24—#2 Drive			
3/8"	50	93878A211	6.60
1/2"	50	93878A213	7.19
5/8"	50	93878A215	7.69
3/4"	50	93878A217	9.75
10-32—#2 Drive			
3/8"	100	93878A827	12.91
1/2"	100	93878A829	13.97
5/8"	50	93878A830	8.37
3/4"	50	93878A831	8.47
1/4"-20—#3 Drive			
1/2"	25	93878A536	8.75
3/4"	25	93878A540	9.31
1"	25	93878A542	11.14
1 1/4"	25	93878A543	11.81
Hex Washer Head—Slotted			
4-40—Hex Size: 3/16"			
1/4"	50	93882A106	6.09
3/8"	50	93882A108	6.23
6-32—Hex Size: 1/4"			
1/4"	100	93882A144	11.44
5/16"	100	93882A145	11.46
3/8"	100	93882A146	11.66
1/2"	100	93882A148	12.49
3/4"	50	93882A149	7.38
8-32—Hex Size: 1/4"			
1/4"	100	93882A191	12.64
5/16"	100	93882A192	12.64
3/8"	100	93882A193	12.74
1/2"	100	93882A194	12.95
5/8"	50	93882A196	7.31
3/4"	50	93882A195	7.62
1"	50	93882A199	9.33
10-24—Hex Size: 5/16"			
3/8"	50	93882A211	9.01
1/2"	50	93882A213	9.10
5/8"	50	93882A215	9.62
3/4"	50	93882A217	10.00
1"	50	93882A219	11.22
10-32—Hex Size: 5/16"			
3/8"	50	93882A827	8.98
1/2"	50	93882A829	9.11
5/8"	50	93882A830	9.62
3/4"	50	93882A831	10.00
1"	50	93882A832	11.66
1/4"-20—Hex Size: 3/8"			
1/2"	25	93882A536	10.43
5/8"	25	93882A538	10.81
3/4"	25	93882A540	11.80
1"	25	93882A542	12.05
1 1/4"	10	93882A543	5.80
Hex Washer Head			
5/16"-18—Hex Size: 1/2"			
1/2"	25	93882A578	12.00
3/4"	25	93882A581	12.15
1"	25	93882A583	13.01
1 1/4"	10	93882A585	7.82
3/8"-16—Hex Size: 9/16"			
3/4"	10	93882A654	9.51
1"	10	93882A657	9.74
1 1/4"	10	93882A659	10.31

Thread-Forming Screws for Steel



Made from hardened steel to penetrate hard metals, these are our strongest thread-forming screws. Also known as Tap-Flex screws, they have a one-piece hex washer head that reduces the possibility of crushing thin materials, a five-lobed shank with a blunt tip, and a weather-resistant coating. Length is measured from under the washer.

Lg.	Pkg. Qty.		Pkg.
3/8"-16—Hex Size: 9/16"			
1 1/2"	5	94077A105	$5.18
2"	5	94077A115	5.60
2 1/2"	5	94077A125	6.15
1/2"-13—Hex Size: 3/4"			
1 1/2"	5	94077A205	9.29
2"	5	94077A215	10.22
1/2"-13 (Cont.)			
2 1/2"	5	94077A225	$11.39
5/8"-11—Hex Size: 3/4"			
1 1/2"	5	94077A305	12.42
2"	5	94077A315	13.34
2 1/2"	5	94077A325	14.31

Sealing Thread-Forming Screws for Sheet Metal and Iron



A rubber O-ring under the head creates a seal that withstands liquid and gas pressure. Also known as Type B thread-forming screws, they form threads in thin and soft metals such as cast iron. Each has a Phillips drive, a pan head with a flat bearing surface, and a blunt tip. Made from 18-8 stainless steel. Length is measured from under the head. O-ring temperature range is –40° to 225° F.

Lg.	Pkg. Qty.		Pkg.
4-24—#1 Drive			
1/4"	10	93035A334	$7.43
5/16"	10	93035A331	8.29
3/8"	10	93035A336	7.71
1/2"	10	93035A339	7.71
5/8"	10	93035A342	8.00
3/4"	10	93035A344	8.29
6-20—#2 Drive			
1/4"	10	93035A417	7.71
5/16"	10	93035A420	8.29
3/8"	10	93035A422	7.71
1/2"	10	93035A426	7.71
6-20 (Cont.)			
5/8"	10	93035A430	$8.57
3/4"	10	93035A433	8.57
8-18—#2 Drive			
1/4"	10	93035A506	9.43
5/16"	10	93035A510	8.29
3/8"	10	93035A513	8.29
1/2"	10	93035A517	8.57
5/8"	10	93035A522	9.71
3/4"	10	93035A525	9.71
1"	10	93035A528	10.57

Thread-Cutting Screws for Soft Metals



These Type 23 screws cut threads into soft metals such as cast iron. A wide cutting slot at the end of the shank clears chips. All have a Phillips drive and a pan head with a flat bearing surface. Made from Type 410 stainless steel. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
4-40—#1 Drive			
1/4"	100	98273A110	$4.86
3/8"	100	98273A115	4.82
1/2"	100	98273A120	5.25
6-32—#2 Drive			
1/4"	100	98273A155	5.69
3/8"	100	98273A160	5.66
1/2"	100	98273A165	6.17
8-32—#2 Drive			
1/4"	100	98273A215	6.84
3/8"	100	98273A220	6.80
1/2"	100	98273A225	7.36
10-24—#2 Drive			
3/8"	100	98273A250	$8.23
1/2"	50	98273A255	5.41
3/4"	50	98273A260	6.54
10-32—#2 Drive			
3/8"	100	98273A310	8.04
1/2"	50	98273A315	5.46
3/4"	50	98273A320	6.56
1/4"-20—#3 Drive			
1/2"	50	98273A355	9.97
3/4"	25	98273A360	6.78
1"	25	98273A365	7.76

Thread-Forming Screws for Soft Metals



The triangular shank presses tightly as it forms threads, so screws resist loosening in soft metals such as brass, aluminum, and copper. Also known as Taptite® screws, they have a pan head with a flat bearing surface, a Torx drive, and a blunt tip. Length is measured from under the head.

Black-Coated Steel

Lg.	Pkg. Qty.		Pkg.
0-80—T5 Drive			
1/8"	50	94209A430	$13.22
1/4"	50	94209A435	13.25
3/8"	50	94209A440	13.97
1/2"	50	94209A445	13.38
2-56—T7 Drive			
1/8"	50	94209A450	12.39
1/4"	50	94209A455	12.47
3/8"	50	94209A460	12.56
1/2"	50	94209A465	12.67
5/8"	50	94209A470	12.79
3/4"	50	94209A475	12.93
4-40—T10 Drive			
1/4"	50	94209A480	11.09
3/8"	50	94209A485	11.19
1/2"	50	94209A490	11.24
5/8"	25	94209A495	6.44
3/4"	25	94209A500	6.58
7/8"	25	94209A505	6.62
6-32—T15 Drive			
1/4"	50	94209A510	11.20
3/8"	50	94209A515	11.55
6-32 (Cont.)			
1/2"	25	94209A520	$6.69
3/4"	25	94209A525	6.77
7/8"	25	94209A530	6.94
8-32—T20 Drive			
3/8"	50	94209A540	11.71
1/2"	25	94209A545	6.75
3/4"	25	94209A550	6.84
7/8"	25	94209A555	6.94
1"	25	94209A560	7.05
10-24—T25 Drive			
1/2"	25	94209A570	7.09
3/4"	25	94209A575	7.24
1"	25	94209A580	7.40
10-32—T25 Drive			
1/2"	25	94209A590	7.21
3/4"	25	94209A595	7.24
1"	25	94209A600	7.40
1/4"-20—T30 Drive			
1/2"	25	94209A700	9.75
3/4"	25	94209A705	10.28
1"	25	94209A710	10.91
1 1/2"	25	94209A715	11.81

Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
0-80—T5 Drive			
1/8"	50	94209A005	11.90
1/4"	50	94209A010	11.93
3/8"	50	94209A015	11.98
1/2"	50	94209A020	12.05
2-56—T7 Drive			
1/8"	50	94209A025	11.15
1/4"	50	94209A030	11.24
3/8"	50	94209A035	11.30
1/2"	50	94209A040	11.42
5/8"	50	94209A045	11.52
3/4"	50	94209A050	11.65
4-40—T10 Drive			
1/4"	50	94209A055	9.98
3/8"	50	94209A060	10.07
1/2"	50	94209A065	10.12
5/8"	50	94209A070	10.20
3/4"	50	94209A075	10.23
7/8"	25	94209A078	5.96
6-32—T15 Drive			
1/4"	50	94209A080	10.08
3/8"	50	94209A085	10.41
1/2"	50	94209A090	10.56
3/4"	25	94209A095	6.10
7/8"	25	94209A098	6.24

Zinc-Plated Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
8-32—T20 Drive			
3/8"	50	94209A100	$10.54
1/2"	50	94209A105	10.64
3/4"	25	94209A120	6.17
7/8"	25	94209A125	6.24
1"	25	94209A130	6.35
10-24—T25 Drive			
1/2"	50	94209A135	10.79
3/4"	25	94209A140	6.53
1"	25	94209A145	6.67
10-32—T25 Drive			
1/2"	25	94209A150	$6.11
3/4"	25	94209A155	6.53
1"	25	94209A160	6.67
1/4"-20—T30 Drive			
1/2"	25	94209A170	8.78
3/4"	25	94209A175	9.25
1"	25	94209A180	9.83
1 1/2"	25	94209A190	10.64

Lg., mm	Pkg. Qty.		Pkg.
Zinc-Plated Steel			
M1.4x0.3—T5 Drive			
3	25	94209A111	$9.52
4	25	94209A112	9.54
5	25	94209A113	9.56
6	25	94209A114	9.59
M1.6x0.35—T5 Drive			
3	25	94209A211	8.54
4	25	94209A212	8.55
5	25	94209A213	8.57
6	25	94209A214	8.59
M2x0.4—T6 Drive			
3	25	94209A311	8.28
4	25	94209A312	8.30
5	25	94209A313	8.32
6	25	94209A314	8.34
8	25	94209A315	8.36
10	25	94209A316	8.39
12	25	94209A317	8.42
M2.5x0.45—T8 Drive			
3	25	94209A411	7.87
4	25	94209A412	7.91
5	25	94209A413	7.95
6	25	94209A414	7.99
8	25	94209A415	8.03
10	25	94209A416	8.07
12	25	94209A417	8.11
M3x0.5—T10 Drive			
6	25	94209A615	$7.47
8	25	94209A619	7.52
10	25	94209A622	7.61
12	25	94209A626	7.64
M3.5x0.6—T15 Drive			
8	25	94209A651	7.52
10	25	94209A654	7.54
12	25	94209A659	7.56
M4x0.7—T20 Drive			
8	25	94209A676	7.69
10	25	94209A678	7.77
12	25	94209A682	7.80
16	25	94209A685	7.88
20	25	94209A687	7.98
25	25	94209A690	8.13
M5x0.8—T25 Drive			
10	25	94209A740	7.99
12	25	94209A744	8.16
16	25	94209A747	8.32
20	25	94209A751	8.44
M6x1—T30 Drive			
12	25	94209A782	10.91
16	25	94209A787	11.66
20	25	94209A791	12.03
25	25	94209A796	12.45

Thread-Cutting Screws

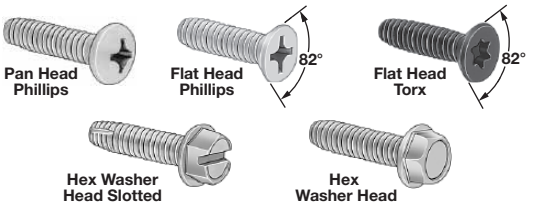

Cut threads in a variety of materials including heavy gauge sheet metal, cast iron, aluminum, brass, and plastic with these Type F screws.

Pan head screws rest above the material surface when installed. The head has a low profile and a flat bearing surface. Length is measured from under the head.

Flat head screws sit flush within countersunk holes. Screws indicated with a ★ have an undercut head to allow more threading. Length is measured from the top of the head.

Hex washer head screws have a wide, one-piece head that reduces the possibility of crushing thin material. Length is measured from under the washer.

Pan Head Phillips—Type 410 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
4-40—#1 Drive			
1/4"	100	90410A106	$3.80
3/8"	100	90410A107	4.33
1/2"	100	90410A108	4.72
6-32—#2 Drive			
1/4"	100	90410A144	4.41
3/8"	100	90410A146	4.69
1/2"	100	90410A148	4.87
5/8"	100	90410A149	5.56
3/4"	100	90410A151	5.91
8-32—#2 Drive			
1/4"	100	90410A190	5.82
3/8"	100	90410A192	6.20
1/2"	100	90410A194	6.69
5/8"	100	90410A195	7.55
3/4"	100	90410A197	8.00
1"	100	90410A199	9.31
10-24—#2 Drive			
3/8"	100	90410A240	$7.97
1/2"	100	90410A242	8.52
5/8"	100	90410A243	9.42
3/4"	100	90410A245	10.32
1"	100	90410A247	11.84
10-32—#2 Drive			
3/8"	100	90410A827	7.97
1/2"	100	90410A829	8.52
5/8"	100	90410A830	9.46
3/4"	100	90410A831	10.32
1"	100	90410A833	11.85
1/4"-20—#3 Drive			
1/2"	50	90410A320	7.89
3/4"	50	90410A323	8.82
1"	50	90410A326	9.89

Pan Head Phillips—Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
2-56—#1 Drive			
3/16"	100	90087A101	5.62
1/4"	100	90087A102	6.03
3/8"	100	90087A103	6.22
4-40—#1 Drive			
3/16"	100	90087A105	7.67
1/4"	100	90087A106	6.50
3/8"	100	90087A107	6.69
1/2"	100	90087A108	7.16

Pan Head Phillips—Zinc-Plated Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
6-32—#2 Drive			
3/16"	100	90087A143	$7.73
1/4"	100	90087A144	6.78
5/16"	100	90087A145	7.16
3/8"	100	90087A146	7.34
1/2"	100	90087A148	7.72
5/8"	100	90087A150	7.91
3/4"	100	90087A151	8.31
1"	100	90087A153	9.98
8-32—#2 Drive			
1/4"	100	90087A190	8.44
5/16"	100	90087A191	8.44
3/8"	100	90087A192	8.44
1/2"	100	90087A194	9.09
5/8"	100	90087A196	9.56
3/4"	100	90087A197	9.95
1"	100	90087A199	11.19
10-24—#2 Drive			
3/8"	100	90087A240	9.97
1/2"	100	90087A242	10.62
5/8"	100	90087A243	10.97
3/4"	100	90087A245	11.69
1"	50	90087A247	7.64
10-24 (Cont.)			
1 1/4"	50	90087A249	$8.73
1 1/2"	50	90087A250	9.56
10-32—#2 Drive			
3/8"	100	90087A827	9.97
1/2"	100	90087A829	10.62
5/8"	100	90087A830	10.97
3/4"	100	90087A831	11.69
1"	50	90087A833	7.64
1 1/4"	50	90087A835	8.73
1 1/2"	50	90087A836	9.56
12-24—#3 Drive			
1/2"	50	90087A703	10.80
3/4"	50	90087A707	11.97
1/4"-20—#3 Drive			
1/2"	25	90087A537	5.83
5/8"	25	90087A538	6.11
3/4"	25	90087A540	6.42
1"	25	90087A542	7.20
1 1/4"	25	90087A544	7.73
1 1/2"	25	90087A546	8.50
2"	25	90087A548	10.97

(Continued on following page)

Thread-Cutting Screws *(Continued from previous page)*

Pan Head Phillips—Black Zinc-Plated Steel

4-40—#1 Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	50	91715A101	$7.94
3/8"	50	91715A103	8.05

6-32—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	50	91715A114	8.09
1/2"	50	91715A116	8.59
3/4"	50	91715A118	8.58

8-32—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	50	91715A122	8.97
1/2"	50	91715A124	9.32
3/4"	50	91715A126	9.85
1"	50	91715A128	10.45

10-24—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	50	91715A132	9.82
1/2"	50	91715A134	10.17
3/4"	50	91715A136	10.73

10-32—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	50	91715A142	$9.82
1/2"	50	91715A144	10.17
3/4"	50	91715A146	10.73
1"	25	91715A148	6.52

12-24—#3 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	25	91715A152	8.23
3/4"	25	91715A154	8.85

1/4"-20—#3 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	25	91715A162	8.23
3/4"	25	91715A164	8.85
1"	25	91715A166	9.70
1 1/2"	25	91715A168	11.11
2"	10	91715A172	6.01

Flat Head Phillips—Type 410 Stainless Steel

6-32—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	92485A613	4.50
1/2"	100	92485A615	5.76
5/8"	100	92485A617	7.51
3/4"	100	92485A619	7.56
1"	100	92485A621	7.80

8-32—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	92485A622 ★	6.04
1/2"	100	92485A624	6.73
5/8"	100	92485A626	7.35
3/4"	100	92485A628	7.76
1"	50	92485A630	4.86

10-24—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	100	92485A405 ★	7.64
3/4"	100	92485A415	12.42
1"	50	92485A420	7.71
1 1/4"	50	92485A425	10.16
1 1/2"	50	92485A430	12.53

10-32—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	100	92485A633 ★	11.59
5/8"	50	92485A634	6.74
3/4"	100	92485A635	11.21
1"	50	92485A640	7.71

1/4"-20—#3 Drive

Lg.	Pkg. Qty.		Pkg.
3/4"	25	92485A705	6.49
1"	25	92485A710	6.81

Flat Head Phillips—Zinc-Plated Steel

6-32—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	100	90086A144 ★	6.58
3/8"	100	90086A146	7.12
1/2"	100	90086A148	7.49
3/4"	100	90086A151	8.06

8-32—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	90086A192 ★	8.18
1/2"	100	90086A194	8.82
3/4"	100	90086A197	9.76

10-24—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	100	90086A242 ★	10.30
3/4"	100	90086A245	11.33
1"	50	90086A247	7.41

10-32—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	100	90086A829 ★	10.30
3/4"	100	90086A831	11.33
1"	50	90086A833	7.41

1/4"-20—#3 Drive

Lg.	Pkg. Qty.		Pkg.
3/4"	25	90086A540	6.22
1"	25	90086A542	6.98
1 1/4"	25	90086A544	7.50
1 1/2"	25	90086A545	8.24
2"	25	90086A550	10.63
2 1/2"	25	90086A552	13.31
3"	10	90086A554	7.62

★ Has an undercut head.

Hinge Screws

Commonly used with door hinge hardware, these Type F steel screws cut threads in materials such as aluminum, brass, and plastic. All have a Phillips drive and a flat head that's beveled underneath for use in countersunk holes. Screws are undercut to allow more threading. Length is measured from the top of the head.



Finish	Size	Lg.	Drive	Pkg. Qty.		Pkg.
Brass	12-24	1/2"	#3	10	93380A100	$5.83
Chrome	12-24	1/2"	#3	25	93380A300	13.39
Bronze	12-24	1/2"	#3	25	93380A200	11.93
Zinc Plated	12-24	1/2"	#3	25	93380A400	6.44

Electrical Grounding Screws

The green color identifies these as grounding screws. They have Type F threads that cut threads in metal. The slotted, one-piece hex washer head provides a large flat bearing surface for making solid electrical connections. Made from zinc-plated steel. Length is measured from under the washer.



6-32—Hex Size: 1/4"

Lg.	Pkg. Qty.		Pkg.
3/8"	25	92597A100	$7.46

8-32—Hex Size: 1/4"

Lg.	Pkg. Qty.		Pkg.
3/8"	25	92597A200	7.75
1/2"	25	92597A300	7.92

10-32—Hex Size: 5/16"

Lg.	Pkg. Qty.		Pkg.
3/8"	25	92597A400	$8.21
1/2"	25	92597A500	8.38

Flat Head Torx—Black-Phosphate Steel

1/4"-20—T30 Drive

Lg.	Pkg. Qty.		Pkg.
1"	100	90390A535	$13.34
1 1/4"	100	90390A540	13.87
1 1/2"	50	90390A545	8.41
2"	50	90390A550	9.26
2 1/4"	50	90390A551	11.84
2 1/2"	50	90390A552	12.38
3"	25	90390A554	7.53

1/4"-20 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3 1/2"	25	90390A555	$9.73
4"	25	90390A556	12.76

5/16"-18—T40 Drive

Lg.	Pkg. Qty.		Pkg.
2"	50	90390A591	13.28
2 1/4"	25	90390A592	8.44
2 1/2"	25	90390A593	9.46
3"	25	90390A595	12.57

Hex Washer Head Slotted—Zinc-Plated Steel

4-40—Hex Size: 3/16"

Lg.	Pkg. Qty.		Pkg.
1/4"	100	90096A106	6.43
3/8"	100	90096A108	6.94

6-32—Hex Size: 1/4"

Lg.	Pkg. Qty.		Pkg.
1/4"	100	90096A144	7.97
3/8"	100	90096A146	7.03
1/2"	100	90096A148	7.34

8-32—Hex Size: 1/4"

Lg.	Pkg. Qty.		Pkg.
1/4"	100	90096A191	7.68
3/8"	100	90096A192	7.68
1/2"	100	90096A194	8.74
3/4"	100	90096A197	9.97

10-24—Hex Size: 5/16"

Lg.	Pkg. Qty.		Pkg.
3/8"	100	90096A240	9.80
1/2"	100	90096A242	10.43
5/8"	100	90096A243	11.00

10-24 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3/4"	100	90096A245	11.57
1"	100	90096A247	12.90

10-32—Hex Size: 5/16"

Lg.	Pkg. Qty.		Pkg.
3/8"	100	90096A827	9.53
1/2"	100	90096A829	10.43
5/8"	100	90096A830	11.00
3/4"	100	90096A831	11.57
1"	100	90096A832	12.95

1/4"-20—Hex Size: 3/8"

Lg.	Pkg. Qty.		Pkg.
3/8"	50	90096A535	10.56
1/2"	50	90096A537	10.56
5/8"	50	90096A539	11.20
3/4"	50	90096A540	11.50
1"	25	90096A542	7.25
1 1/4"	25	90096A544	8.02
1 1/2"	25	90096A546	8.44
2"	25	90096A550	9.98

Hex Washer Head—Type 410 Stainless Steel

8-32—Hex Size: 1/4"

Lg.	Pkg. Qty.		Pkg.
3/8"	100	96024A110	5.66
1/2"	100	96024A120	5.73

10-24—Hex Size: 5/16"

Lg.	Pkg. Qty.		Pkg.
1/2"	100	96024A220	8.25
3/4"	100	96024A230	9.75

10-32—Hex Size: 5/16"

Lg.	Pkg. Qty.		Pkg.
1/2"	100	96024A310	8.19
3/4"	100	96024A320	9.66

1/4"-20—Hex Size: 3/8"

Lg.	Pkg. Qty.		Pkg.
1/2"	50	96024A410	8.81
3/4"	50	96024A420	9.77
1"	50	96024A430	11.91
1 1/4"	50	96024A440	13.26
1 1/2"	25	96024A450	7.21

Hex Washer Head—Zinc-Plated Steel

5/16"-18—Hex Size: 1/2"

Lg.	Pkg. Qty.		Pkg.
1/2"	25	90096A578	10.40
5/8"	25	90096A580	9.74
3/4"	25	90096A581	9.85
1"	25	90096A583	10.98
1 1/4"	25	90096A585	12.95
1 1/2"	10	90096A587	6.37

3/8"-16—Hex Size: 9/16"

Lg.	Pkg. Qty.		Pkg.
5/8"	10	90096A620	7.84
3/4"	10	90096A622	8.26
1"	10	90096A624	8.73
1 1/4"	10	90096A626	10.08
1 1/2"	10	90096A628	10.89
2"	10	90096A630	13.46

Drilling Screws for Joining Insulation to Metal





Steel Washer



Plastic Washer

Use these long, hardened steel roofing screws to fasten rigid insulation board to steel decking. All have a weather-resistant coating. Maximum recommended steel thickness is 0.047". Screws have a pan head with a flat bearing surface and a Phillips drive. They're partially threaded (unless noted). Length is measured from under the head. Screws are FM approved.

Screw washers (sold separately) provide a 3" bearing surface that reduces the possibility of crushing material. The plastic screw washer is FM approved.

Screws

12-13—#3 Drive

Lg.	Pkg. Qty.		Pkg.
2 7/8"	20	90694A800 ■	$7.14
3 3/4"	20	90694A802	9.46
4 1/2"	20	90694A803	11.27
5"	20	90694A804	12.85
6"	10	90694A805	7.61
7"	10	90694A806	11.28
8"	10	90694A807	12.33

15-13—#3 Drive

Lg.	Pkg. Qty.		Pkg.
2"	50	90694A814 ■	$12.61
3"	25	90694A817 ■	8.09
4"	25	90694A820	10.65
5"	20	90694A823	11.11
6"	10	90694A826	7.77
7"	10	90694A829	10.23
8"	10	90694A831	11.75
10"	5	90694A834	8.09

■ Fully threaded.

Screw Washers

Material	Shape	Pkg. Qty.		Pkg.
Steel	Hex	50	90320A350	$16.04
Plastic	Round	25	90320A380	12.99

About Installing Drilling Screws

Drilling screws save you time and effort by drilling their own hole, tapping a reusable thread, and fastening material in a single operation. Install them with a power driver. The screw's drill point must penetrate the total material thickness before the first thread engages.

Screw Size	No. 6		No. 8		No. 10		No. 11	No. 12					¼″				5/16″	
Hex Size	¼″		¼″		5/16″		—	5/16″					3/8″				3/8″	
Drill Point	#1	#2	#1	#2	#2	#3	#4	#2	#3	#4	#4.5	#5	#1	#3	#4	#5	#3	#4
Max. Material Thick.	.035″	.090″	.035″	.098″	.106″	.150″	.312″	.140″	.187″	.210″	.375″	.500″	.048″	.210″	.236″	.500″	.250″	.187″
Approx. Drill Point Length	7/64″	9/64″	1/8″	3/16″	13/64″	1/4″	5/16″	1/2″	9/32″	9/32″	1/2″	45/64″	5/16″			45/64″	5/16″	15/32″

Drilling Screws for Metals


Hex Head


Slotted Hex Head

Screws have a one-piece hex washer head with a wide flat bearing surface. Use them in materials such as steel and stainless steel. They're fully threaded (unless noted). Length is measured from under the washer.

High-strength corrosion-resistant stainless steel is a blend of Type 316 and Type 410 stainless steel. **High-strength stainless steel** is Type 410 stainless steel.

For fastening aluminum, see Drilling Screws for Aluminum on page 3011.

High-Strength Corrosion-Resistant Stainless Steel—Hex

Lg.	Pkg. Qty.		Pkg.
8-18—Drill Point #2			
1/2″	50	90106A103	$14.49
3/4″	25	90106A105	9.63
1″	25	90106A108	11.65
1 1/4″	25	90106A109	14.06
1 1/2″	10	90106A114	7.08
10-16—Drill Point #2			
1/2″	25	90106A211	12.40
10-16—Drill Point #3			
3/4″	25	90106A216	14.05
1″	10	90106A219	6.74
1 1/4″	10	90106A226	7.71
1 1/2″	10	90106A229	8.60
2″	10	90106A233	10.33
3/4″	10	90106A317	$7.27
1″	10	90106A321	8.25
1 1/4″	10	90106A325	9.12
1 1/2″	10	90106A329	10.27
2″	10	90106A346	12.63
2 1/2″	10	90106A351	14.74
1/4″-14—Drill Point #3			
3/4″	10	90106A543	9.93
1″	10	90106A546	11.79
1 1/4″	10	90106A549	13.17
1 1/2″	10	90106A556	14.69
2″	5	90106A557	8.90
2 1/2″	5	90106A562	10.25

High-Strength Stainless Steel—Hex

Lg.	Pkg. Qty.		Pkg.
6-20—Drill Point #1			
3/8″	100	90822A146	5.37
6-20—Drill Point #2			
1/2″	100	90822A148	5.93
5/8″	100	90822A149	6.68
3/4″	100	90822A152	6.60
1″	100	90822A153	7.37
1 1/4″	100	90822A155	8.71
1 1/2″	50	90822A158	6.02
8-18—Drill Point #1			
3/8″	100	90822A327	6.18
8-18—Drill Point #2			
1/2″	100	90822A330	6.72
5/8″	100	90822A345	7.25
3/4″	100	90822A350	7.97
1″	100	90822A360	8.95
1 1/4″	100	90822A370	10.66
1 1/2″	50	90822A380	10.81
1 3/4″	50	90822A382	11.76
2″	50	90822A386	12.57
10-16—Drill Point #2			
1/2″	50	90822A430	7.07
10-16—Drill Point #3			
5/8″	50	90822A440	8.00
3/4″	50	90822A450	8.78
1″	50	90822A460	10.05
1 1/4″	50	90822A470	11.52
10-16—Drill Point #3 (Cont.)			
1 1/2″	50	90822A480	13.21
1 3/4″	25	90822A484	7.66
2″	25	90822A520	8.20
2 1/2″	25	90822A524	10.65
3″	25	90822A528	12.04
12-14—Drill Point #3			
3/4″	50	90822A580	11.88
1″	50	90822A581	14.39
1 1/4″	25	90822A587	8.08
1 1/2″	25	90822A582	9.16
1 3/4″	25	90822A585	9.84
2″	25	90822A583	11.36
2 1/2″	25	90822A591	14.19
3″	10	90822A594	7.12
4″	10	90822A598	11.34
1/4″-14—Drill Point #3			
3/4″	25	90822A610	9.31
1″	25	90822A620	9.93
1 1/4″	25	90822A625	12.03
1 1/2″	25	90822A630	12.74
1 3/4″	10	90822A635	5.96
2″	10	90822A640	6.01
2 1/2″	10	90822A670	8.19
3″	10	90822A690	10.09
4″	10	90822A710	13.64
5″	1	90822A750 ★	5.47

High-Strength Stainless Steel with White Painted Head—Hex

Lg.	Pkg. Qty.		Pkg.
8-18—Drill Point #2			
1/2″	50	97899A400	12.60
3/4″	25	97899A420	8.48
1″	25	97899A440	9.57
10-16—Drill Point #2			
1/2″	25	97899A510	10.54
10-16—Drill Point #3			
1″	25	97899A530	11.96
1 1/2″	25	97899A550	13.26
1/4″-14—Drill Point #3			
1″	10	97899A930	9.84
1 1/2″	10	97899A950	11.56

Weather-Resistant Coated Steel—Hex

Lg.	Pkg. Qty.		Pkg.
8-18—Drill Point #2			
1/2″	100	91324A330	8.10
5/8″	100	91324A340	9.63
3/4″	100	91324A350	9.61
1″	100	91324A360	10.54
10-16—Drill Point #1			
3/4″	100	91324A400	12.07
10-16—Drill Point #2			
1/2″	100	91324A430	10.61
5/8″	100	91324A440	10.63
3/4″	100	91324A450	10.72
1″	100	91324A460	12.14
1 1/4″	100	91324A461	13.24
1 1/2″	100	91324A462	14.35

★ Has at least 2 1/2″ of thread.

Weather-Resistant Coated Steel—Hex (Cont.)

Lg.	Pkg. Qty.		Pkg.
10-16—Drill Point #3			
1/2″	100	91324A501	$9.70
5/8″	100	91324A504	10.03
3/4″	100	91324A507	10.57
1″	100	91324A510	12.33
1 1/4″	100	91324A513	13.27
1 1/2″	50	91324A516	7.29
10-24—Drill Point #3			
3/4″	100	91324A551	13.10
1″	50	91324A556	7.56
12-14—Drill Point #1			
3/4″	50	91324A570	9.13
12-14—Drill Point #3			
3/4″	50	91324A580	8.33
1″	50	91324A581	9.11
1 1/4″	50	91324A578	9.58
1 1/2″	50	91324A582	11.74
2″	50	91324A583	12.51
2 1/2″	25	91324A805	7.60
3″	25	91324A810	9.09
4″	25	91324A815	11.02
12-24—Drill Point #4			
7/8″	50	91324A585	9.43
12-24—Drill Point #4.5			
1 1/4″	50	91324A587	10.00
12-24—Drill Point #5			
1 1/4″	25	91324A590	$7.44
1 1/2″	25	91324A591	8.50
2″	25	91324A592	9.88
3″	10	91324A595	7.82
1/4″-14—Drill Point #1			
7/8″	50	91324A605	12.18
1/4″-14—Drill Point #3			
3/4″	50	91324A610	10.15
1″	50	91324A620	11.19
1 1/4″	50	91324A625	13.12
1 1/2″	10	91324A630	3.55
2″	10	91324A632	3.92
2 1/2″	25	91324A635	8.93
3″	10	91324A638	4.95
4″	10	91324A641	6.74
1/4″-20—Drill Point #5			
5″	10	91324A645 ★	10.11
6″	10	91324A651 ★	12.68
1/4″-28—Drill Point #5			
3″	10	91324A710	9.14
4″	10	91324A715	13.43
5″	5	91324A718 ★	12.74
6″	5	91324A720 ★	12.32
8″	5	91324A725 ★	13.29

Zinc-Plated Steel—Hex

Lg.	Pkg. Qty.		Pkg.
6-20—Drill Point #2			
3/8″	100	90064A146	6.02
1/2″	100	90064A148	6.11
5/8″	100	90064A150	6.27
3/4″	100	90064A151	6.54
1″	100	90064A153	7.36
8-18—Drill Point #2			
1/2″	100	90064A330	5.64
5/8″	100	90064A340	6.68
3/4″	100	90064A350	6.77
1″	100	90064A360	7.06
1 1/4″	100	90064A370	10.11
1 1/2″	100	90064A380	10.67
10-16—Drill Point #3			
1/2″	100	90064A430	7.97
5/8″	100	90064A440	10.02
3/4″	100	90064A450	10.61
1″	100	90064A460	10.88
1 1/4″	100	90064A461	11.03
1 1/2″	100	90064A462	11.37
1 3/4″	100	90064A470	12.39
2″	100	90064A463	11.96
3″	25	90064A464	6.71
10-24—Drill Point #2			
1/2″	100	90064A480	8.43
12-14—Drill Point #3			
3/4″	100	90064A580	11.96
1″	100	90064A581	13.09
12-14 (Cont.)			
1 1/4″	100	90064A590	13.22
1 1/2″	50	90064A582	8.51
1 3/4″	50	90064A591	7.12
2″	50	90064A583	8.98
2 1/2″	50	90064A584	11.24
3″	25	90064A585	6.72
4″	25	90064A587	8.39
1/4″-14—Drill Point #3			
3/4″	100	90064A610	14.44
1″	50	90064A620	8.44
1 1/4″	50	90064A622	9.14
1 1/2″	50	90064A630	10.24
1 3/4″	50	90064A631	10.41
2″	50	90064A632	10.93
2 1/2″	25	90064A633	6.61
3″	25	90064A634	9.65
4″	10	90064A636	6.84
1/4″-14—Drill Point #4			
5″	5	90064A638 ★	10.45
1/4″-14—Drill Point #5			
6″	5	90064A640 ★	10.75
5/16″-18—Drill Point #3			
1″	10	90064A705	5.66
1 1/4″	10	90064A709	6.22
1 1/2″	10	90064A713	7.26

Zinc-Plated Steel—Slotted Hex

Lg.	Pkg. Qty.		Pkg.
8-18—Drill Point #2			
1/2″	100	94056A330	6.57
5/8″	100	94056A196	7.51
3/4″	100	94056A350	8.39
8-18 (Cont.)			
1″	100	94056A360	9.85
10-16—Drill Point #3			
3/4″	100	94056A380	11.27

Strip-Resistant Drilling Screws for Metals

Serrations under the head act as a brake to stop the screw. The one-piece hex washer head provides a wide flat bearing surface. All screws are fully threaded and made from zinc-plated steel, except wide-head screws are coated steel. Length is measured from under the washer.

Thin head screws leave the most clearance above the head.
Medium head screws give you the choice to install with a wrench or a Torx driver.
High head screws are the easiest to grasp with a socket driver.
Wide head screws have the largest serrated area, so they're the best at resisting vibration.

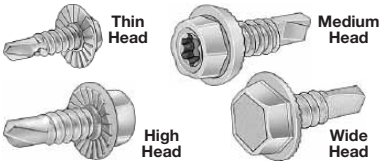

Lg.	Pkg. Qty.		Pkg.
Thin Head			
8-18—Drill Point #2; Washer OD: 0.385″			
9/16″	25	**92685A300**	$6.79
Medium Head with Torx Drive			
8-18—T20 Drive; Drill Point #2; Washer OD: 0.360″			
1/2″	100	**94425A510**	11.63
3/4″	100	**94425A530**	12.15
10-16—T25 Drive; Drill Point #3; Washer OD: 0.435″			
3/4″	100	**94425A640**	12.45
1″	100	**94425A660**	13.16
Medium Head with Torx Drive (Cont.)			
12-14—T27 Drive; Drill Point #3; Washer OD: 0.435″			
3/4″	50	**94425A770**	$10.23
1″	50	**94425A790**	10.41
1/4″-14—T30 Drive; Drill Point #3; Washer OD: 0.540″			
3/4″	50	**94425A810**	10.37
1″	50	**94425A830**	10.73
High Head			
8-18—Drill Point #2; Washer OD: 0.375″			
1/2″	100	**92685A210**	7.40
3/4″	100	**92685A220**	8.40
1″	100	**92685A230**	10.05
High Head (Cont.)			
10-16—Drill Point #3; Washer OD: 0.465″			
3/4″	100	**92685A330**	$11.57
1″	100	**92685A340**	14.29
12-14—Drill Point #3; Washer OD: 0.520″			
3/4″	50	**92685A420**	9.45
1″	50	**92685A430**	10.50
1/4″-14—Drill Point #3; Washer OD: 0.595″			
3/4″	50	**92685A520**	11.84
1″	50	**92685A530**	13.23
1 1/4″	50	**92685A535**	14.39
Wide Head			
1/4″-14—Drill Point #3; Washer OD: 0.610″			
3/4″	50	**92685A600**	8.72
1″	50	**92685A610**	9.85

Corrosion-Resistant Drilling Screws for Metals

Coated to increase corrosion resistance, these 18-8 stainless steel screws have a hardened drill point to penetrate steel. Screws are fully threaded, except 2 13/16″ to 8″ long screws, which are partially threaded.

Hex washer head screws have a wide, one-piece head that reduces the possibility of crushing thin material. Length is measured from under the washer.

Flat head Phillips screws are beveled under the head for use in countersunk holes. Length is measured from the top of the head.



Lg.	Pkg. Qty.		Pkg.
Hex Washer Head—Hex			
8-18—Drill Point #2			
1/2″	25	**90420A330**	$7.55
3/4″	25	**90420A350**	8.57
1″	25	**90420A360**	9.54
1 1/4″	25	**90420A370**	11.35
10-16—Drill Point #2			
3/4″	10	**90420A401**	6.41
1 1/2″	10	**90420A405**	6.88
10-16—Drill Point #3			
3/4″	25	**90420A450**	11.79
1″	25	**90420A460**	13.33
1 1/4″	10	**90420A470**	6.27
12-14—Drill Point #2			
1″	10	**90420A511**	6.89
1 1/2″	10	**90420A520**	8.39
12-14—Drill Point #2 (Cont.)			
2″	10	**90420A525**	$9.67
12-14—Drill Point #3			
3/4″	10	**90420A580**	7.07
1″	10	**90420A585**	7.96
1 1/2″	10	**90420A587**	9.66
2 1/2″	10	**90420A590**	12.54
12-24—Drill Point #4			
1 1/4″	10	**90420A595**	8.78
12-24—Drill Point #5			
1 1/2″	10	**90420A610**	9.66
2″	10	**90420A612**	11.85
1/4″-14—Drill Point #2			
1″	10	**90420A614**	10.59
1 1/2″	10	**90420A516**	10.89
Hex Washer Head—Hex (Cont.)			
1/4″-14—Drill Point #2 (Cont.)			
2″	10	**90420A518**	$12.49
1/4″-14—Drill Point #3			
1″	10	**90420A620**	10.33
1/4″-20—Drill Point #3			
1″	10	**90420A650**	11.24
1 1/2″	10	**90420A655**	12.23
2″	10	**90420A659**	14.35
Flat Head—Phillips			
10-16—Drill Point #3			
1 1/2″	10	**90420A720**	8.73
12-14—Drill Point #2			
1″	10	**90420A760**	7.29
1 1/2″	10	**90420A763**	8.84
12-14—Drill Point #5			
2 13/16″	5	**90420A724**	7.95
1/4″-20—Drill Point #3 (Cont.)			
2 1/2″	5	**90420A662**	$8.71
3″	5	**90420A665**	9.19
4″	5	**90420A667**	11.41
1/4″-20—Drill Point #5			
2″	10	**90420A681**	14.13
8″	5	**90420A684**	14.51
1/4″-20—Drill Point #3			
3″	5	**90420A766**	8.47
4″	5	**90420A769**	11.00
1/4″-20—Drill Point #5			
2 13/16″	5	**90420A728**	9.23

Drilling Screws for Aluminum

Fasten aluminum panels to aluminum framing. Also for fastening aluminum panels to steel framing (unless noted). Screws have a one-piece hex washer head that provides a large flat bearing surface that reduces the possibility of crushing surfaces. All screws are fully threaded. Length is measured from under the washer.



Lg.	Pkg. Qty.		Pkg.
Weather-Resistant Coated Alloy Steel			
10-16—Drill Point #3			
3/4″	25	**90122A313**	$10.63
12-14—Drill Point #3			
7/8″	25	**90122A316** ♠	11.57
1″	25	**90122A319**	12.01
1 1/2″	25	**90122A321**	13.80
2″	25	**90122A324**	15.04
12-24—Drill Point #5			
1 3/4″	10	**90122A327**	9.90
1/4″-14—Drill Point #3			
1″	10	**90122A329**	$8.47
1 1/2″	10	**90122A333**	8.86
2″	10	**90122A334**	9.71
1/4″-20—Drill Point #4			
1 1/8″	10	**90122A335**	9.15
1 1/2″	10	**90122A338**	9.72
2″	10	**90122A341**	10.04
2 1/2″	10	**90122A345**	12.43
Aluminum			
8-18—Drill Point #2			
1/2″	10	**98248A220**	6.80
3/4″	10	**98248A250**	7.50
1″	10	**98248A270**	7.55
10-16—Drill Point #2			
1/2″	10	**98248A430**	7.74
3/4″	10	**98248A470**	8.77
1″	10	**98248A490**	10.22
18-8 Stainless Steel with Protective Gray Finish			
8-18—Drill Point #2			
1/2″	50	**90821A330**	$11.84
3/4″	25	**90821A350**	7.78
10-16—Drill Point #3			
1/2″	25	**90821A355**	9.17
3/4″	25	**90821A357**	9.88
1″	25	**90821A359**	10.25
12-14—Drill Point #3			
3/4″	25	**90821A374**	10.89
1″	25	**90821A377**	11.05
1 1/4″	25	**90821A380**	13.11
1 1/2″	25	**90821A390**	13.29
12-14 (Cont.)			
2″	10	**90821A420**	$6.67
2 1/2″	10	**90821A460**	7.52
3″	10	**90821A510**	8.20
1/4″-14—Drill Point #3			
3/4″	25	**90821A550**	11.95
1″	25	**90821A553**	12.95
1 1/2″	10	**90821A559**	5.92
1/4″-20—Drill Point #4			
1″	10	**90821A610**	6.22
1 1/2″	10	**90821A613**	6.74

♠ For use in aluminum only.

Drilling Screw Assortments for Metals

Each set of 525 unslotted hex washer head screws includes 150 No. 8 screws in 1/2″, 3/4″, and 1″ lengths, 200 No. 10 screws in 1/2″, 5/8″, 3/4″, and 1″ lengths, 100 No. 12 screws in 3/4″ and 1″ lengths, and 75 1/4″ screws in 3/4″, 1″, and 1 1/2″ lengths.

Type 410 Stainless Steel	**91690A600**	$172.32
Zinc-Plated Steel	**90430A112**	92.42
Weather-Resistant Coated Steel	**90960A412**	109.87

Sealing/Drilling Screws for Metals



Drive the screw to compress the rubber washer and form a tight seal. The rubber washer is bonded to a free-spinning metal washer (unless noted). Screws are fully threaded. Length is measured from under the head.

Steel with corrosion-resistant head screws have an 18-8 stainless steel cap covering their head.

Lg.	Pkg. Qty.		Pkg.
Steel with Corrosion-Resistant Head			
12-14—Drill Point #2; Washer OD: 7/16″			
1″	25	95135A210 ★	$8.70
1 1/4″	25	95135A215 ★	9.11
1 1/2″	25	95135A220 ★	10.68
12-24—Drill Point #5; Washer OD: 7/16″			
2″	10	95135A530 ★	7.92
1/4″-14—Drill Point #1; Washer OD: 7/16″			
7/8″	25	95135A615 ★	8.78
1 1/8″	25	95135A625 ★	9.44
Zinc-Plated Type 410 Stainless Steel			
8-18—Drill Point #2; Washer OD: 1/2″			
1/2″	25	94058A105	8.43
3/4″	25	94058A110	9.09
1″	25	94058A111	9.93
1 1/4″	25	94058A112	10.50
10-16—Drill Point #3; Washer OD: 1/2″			
5/8″	25	94058A117	9.11
3/4″	25	94058A120	10.08
1″	25	94058A125	11.33
1 1/4″	25	94058A127	9.21
1 1/2″	25	94058A129	11.36
2″	25	94058A131	13.07
12-14—Drill Point #3; Washer OD: 9/16″			
3/4″	25	94058A294	13.49
1″	25	94058A296	14.94
1 1/4″	10	94058A297	6.64
1 1/2″	10	94058A298	7.46
2″	10	94058A311	7.94
2 1/2″	10	94058A315	8.37
3″	10	94058A319	11.51
12-24—Drill Point #4; Washer OD: 9/16″			
1 1/4″	10	94058A299	8.59
12-24—Drill Point #5; Washer OD: 9/16″			
2″	5	94058A321	5.12
12-24—Drill Point #5; Washer OD: 5/8″			
1 1/4″	10	94058A301	8.90
1/4″-14—Drill Point #1; Washer OD: 5/8″			
7/8″	10	94058A541	7.67
1/4″-14—Drill Point #3; Washer OD: 5/8″			
3/4″	10	94058A540	6.64
1″	10	94058A542	7.99

★ The rubber washer is not bonded to a free-spinning washer.

Lg.	Pkg. Qty.		Pkg.
Zinc-Plated Type 410 Stainless Steel (Cont.)			
1/4″-14—Drill Point #3; Washer OD: 5/8″ (Cont.)			
1 1/4″	10	94058A543	$8.47
1 1/2″	10	94058A544	9.17
2″	10	94058A548	10.86
2 1/2″	10	94058A550	11.68
3″	10	94058A555	12.50
4″	5	94058A559	9.86
Weather-Resistant Coated Steel			
10-16—Drill Point #2; Washer OD: 1/2″			
1″	50	90628A286	11.87
10-16—Drill Point #3; Washer OD: 1/2″			
3/4″	50	90628A284 ★	9.96
2″	50	90628A290	12.28
10-16—Drill Point #4; Washer OD: 1/2″			
1 1/2″	50	90628A288 ★	10.89
12-14—Drill Point #2; Washer OD: 9/16″			
1″	50	90628A296 ★	12.31
1 1/4″	50	90628A298 ★	12.93
1 1/2″	25	90628A301 ★	7.23
2″	25	90628A303 ★	8.14
12-14—Drill Point #3; Washer OD: 9/16″			
3/4″	50	90628A294 ★	11.35
2 1/2″	25	90628A305	12.43
3″	10	90628A307	7.78
4″	10	90628A311	8.23
12-24—Drill Point #4; Washer OD: 9/16″			
7/8″	50	90628A321	12.43
12-24—Drill Point #4.5; Washer OD: 9/16″			
1 1/4″	25	90628A323	10.67
1 1/2″	25	90628A326	8.47
12-24—Drill Point #5; Washer OD: 9/16″			
1 1/4″	25	90628A331	13.32
1 1/2″	10	90628A333	5.98
2″	10	90628A335	6.86
3″	10	90628A340	8.67
1/4″-14—Drill Point #1; Washer OD: 9/16″			
7/8″	25	90628A541 ★	6.44
1/4″-14—Drill Point #3; Washer OD: 9/16″			
3/4″	25	90628A641 ★	6.57
1″	25	90628A542 ★	6.91
1 1/4″	25	90628A643 ★	8.06

Lg.	Pkg. Qty.		Pkg.
Weather-Resistant Coated Steel (Cont.)			
1/4″-14—Drill Point #3; Washer OD: 9/16″ (Cont.)			
1 1/2″	25	90628A546 ★	$7.76
2″	25	90628A645	10.37
3″	10	90628A647	8.70
4″	10	90628A652	9.41
Zinc-Plated Steel			
8-18—Drill Point #2; Washer OD: 1/2″			
3/4″	50	94059A201	5.13
1″	50	94059A203	5.35
1 1/2″	50	94059A205	5.80
10-16—Drill Point #3; Washer OD: 1/2″			
3/4″	100	94059A245	11.05
1″	100	94059A247	11.61
1 1/4″	50	94059A249	6.39
1 1/2″	50	94059A251	6.92
12-14—Drill Point #3; Washer OD: 9/16″			
3/4″	100	94059A294	11.77
1″	100	94059A296	12.88
1 1/4″	50	94059A298	7.35
1 1/2″	50	94059A299	8.41
2″	50	94059A301	8.96
2 1/2″	25	94059A303	5.62
3″	25	94059A305	6.15
12-24—Drill Point #4; Washer OD: 9/16″			
7/8″	50	94059A261	8.73
1 1/4″	25	94059A265	10.57
12-24—Drill Point #5; Washer OD: 9/16″			
1 1/4″	50	94059A311	12.32
1 1/2″	25	94059A313	9.79
2″	25	94059A315	10.21
1/4″-14—Drill Point #1; Washer OD: 5/8″			
7/8″	50	94059A615	8.08
1/4″-14—Drill Point #3; Washer OD: 5/8″			
3/4″	50	94059A541	7.65
1″	50	94059A542	8.09
1 1/4″	50	94059A544	9.29
1 1/2″	50	94059A546	10.57
2″	50	94059A550	11.52
2 1/2″	25	94059A552	7.18
3″	25	94059A551	7.39

Oval Head Drilling Screws for Metals



Screws have a rounded top that's beveled underneath for use in countersunk holes. They accept a #2 Phillips drive and are fully threaded. Made from zinc-plated steel. Length is measured from the edge of the head.

Lg.	Pkg. Qty.		Pkg.
6-20—Drill Point #2			
1″	100	94061A153	$6.40
1 1/4″	100	94061A155	7.17
8-18—Drill Point #2			
3/4″	100	94061A197	6.86
1″	100	94061A199	7.66
1 1/4″	100	94061A201	8.40
10-16—Drill Point #2			
3/4″	100	94061A245	9.06
1″	100	94061A247	9.94
1 1/4″	100	94061A249	11.11

Oval Head Drilling Screws with Washer for Metals



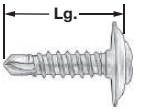

Attach fabrics such as tarps and other nonmetallic materials to metal. The freely rotating washer provides a large bearing surface that won't crush thin material. The head is rounded for a finished appearance. Screws accept a #2 Phillips drive and are fully threaded. Length is measured from the edge of the head.

Lg.	Pkg. Qty.		Pkg.
Zinc-Plated Steel			
8-18—Drill Point #2; Washer OD: 0.493″			
3/4″	50	92715A320	$10.68
1″	50	92715A330	11.36
1 1/4″	50	92715A340	11.66

Lg.	Pkg. Qty.		Pkg.
Black Zinc-Plated Steel			
8-18—Drill Point #2; Washer OD: 0.493″			
3/4″	25	92715A620	$9.06
1″	25	92715A630	9.57
1 1/4″	25	92715A640	10.26

Round Washer Head Drilling Screws for Metals

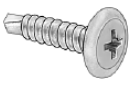

Also known as metal lath screws, you can use these screws to secure metal wire to steel framing. The one-piece washer and round head provide a large flat bearing surface. Screws accept a #2 Phillips drive and are fully threaded. Made from zinc-plated steel. Length is measured from under the washer head.

Lg.	Pkg. Qty.		Pkg.
8-18—Drill Point #2; Washer OD: 0.440″			
1/2″	100	91515A100	$4.40
3/4″	100	91515A200	5.14
1″	100	91515A300	7.89
1 1/4″	100	91515A400	9.37

Pan Head Drilling Screws for Metals

Screws have a rounded top and a flat bearing surface. Those with a square drive handle more torque with less slipping than those with a Phillips drive. All are fully threaded. Length is measured from under the head.





Lg.	Pkg. Qty.		Pkg.
Phillips Drive—18-8 Stainless Steel with Hardened Drill Point			
8-18—#2 Drive; Drill Point #2			
1/2"	25	90415A330	$8.43
3/4"	25	90415A350	9.65
Phillips Drive—Type 410 Stainless Steel			
6-20—#2 Drive; Drill Point #1			
3/8"	100	92364A146	6.06
6-20—#2 Drive; Drill Point #2			
1/2"	100	92364A148	5.40
5/8"	100	92364A150	5.65
3/4"	100	92364A151	6.85
1"	100	92364A153	7.48
1 1/4"	100	92364A157	8.44
1 1/2"	50	92364A160	5.94
8-18—#2 Drive; Drill Point #1			
3/8"	100	92364A192	5.79
8-18—#2 Drive; Drill Point #2			
1/2"	100	92364A194	7.00
5/8"	100	92364A196	7.08
3/4"	100	92364A197	8.09
1"	100	92364A199	8.41
1 1/4"	100	92364A200	11.37
1 1/2"	50	92364A203	11.02
2"	25	92364A206	6.98
10-16—#2 Drive; Drill Point #2			
1/2"	100	92364A242	13.05
10-16—#2 Drive; Drill Point #3			
5/8"	50	92364A244	8.10
3/4"	50	92364A245	8.96
10-16—#2 Drive; Drill Point #3			
3/4"	25	90415A450	$12.91
1"	25	90415A460	14.79
10-16—#2 Drive; Drill Point #3 (Cont.)			
1"	50	92364A247	9.93
1 1/4"	50	92364A249	11.63
1 1/2"	50	92364A253	13.03
2"	25	92364A256	8.78
2 1/2"	25	92364A258	13.23
3"	25	92364A260	14.18
12-14—#3 Drive; Drill Point #3			
3/4"	50	92364A263	11.77
1"	25	92364A265	6.99
1 1/4"	25	92364A267	8.20
1 1/2"	25	92364A269	8.94
2"	25	92364A271	11.13
2 1/2"	10	92364A272	6.41
3"	10	92364A273	7.94
1/4"-14—#3 Drive; Drill Point #3			
3/4"	25	92364A275	8.97
1"	25	92364A278	9.39
1 1/4"	25	92364A281	9.74
1 1/2"	25	92364A284	10.86
2"	10	92364A287	5.65
2 1/2"	10	92364A290	6.86
3"	10	92364A294	8.32
Phillips Drive—Zinc-Plated Steel			
6-20—#2 Drive; Drill Point #2			
3/8"	100	94060A146	$4.58
1/2"	100	94060A148	4.68
5/8"	100	94060A150	5.41
3/4"	100	94060A151	5.53
1"	100	94060A153	5.83
8-18—#2 Drive; Drill Point #2			
1/2"	100	94060A194	4.90
5/8"	100	94060A196	5.98
3/4"	100	94060A197	6.08
1"	100	94060A199	6.44
1 1/4"	100	94060A201	8.33
1 1/2"	100	94060A203	9.23
10-16—#2 Drive; Drill Point #2			
1/2"	100	94060A242	$6.86
5/8"	100	94060A244	7.67
3/4"	100	94060A245	7.66
1"	100	94060A247	9.40
1 1/4"	100	94060A249	11.38
1 1/2"	100	94060A251	12.62
12-14—#3 Drive; Drill Point #3			
3/4"	50	94060A400	6.99
1"	50	94060A405	7.69
1/4"-14—#3 Drive; Drill Point #3			
3/4"	50	94060A455	9.55
1"	50	94060A460	10.03
Square Drive—18-8 Stainless Steel			
10-16—#2 Drive; Drill Point #3			
1"	25	90203A112	8.70
1 1/4"	25	90203A115	9.59
10-16 (Cont.)			
1 1/2"	25	90203A118	9.59
2"	25	90203A121	12.52
Square Drive—Type 410 Stainless Steel			
6-20—#1 Drive; Drill Point #1			
3/8"	100	90203A205	6.20
6-20—#1 Drive; Drill Point #2			
1/2"	100	90203A250	6.70
3/4"	100	90203A253	7.94
8-18—#2 Drive; Drill Point #2			
1/2"	100	90203A310	7.02
3/4"	50	90203A313	4.58
1"	50	90203A316	6.25
10-16—#2 Drive; Drill Point #2			
1/2"	50	90203A412	7.30
10-16—#2 Drive; Drill Point #3			
3/4"	50	90203A415	8.50
1"	50	90203A418	9.48

Flat Head Drilling Screws for Metals

Screws are beveled under the head for use in countersunk holes. They have a Phillips drive and are fully threaded. Length is measured from the top of the head.

Coated alloy steel screw is weather resistant.

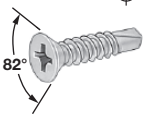

Lg.	Pkg. Qty.		Pkg.
Type 410 Stainless Steel			
6-20—#2 Drive; Drill Point #2			
1/2"	100	94195A110	$6.68
5/8"	100	94195A115	11.66
3/4"	100	94195A120	8.33
1"	100	94195A125	9.10
1 1/4"	100	94195A130	10.24
1 1/2"	50	94195A133	6.49
8-18—#2 Drive; Drill Point #2			
1/2"	100	94195A135	8.00
5/8"	100	94195A137	8.56
3/4"	100	94195A140	8.77
1"	100	94195A145	10.23
1 1/4"	50	94195A150	6.88
1 1/2"	50	94195A160	12.44
10-16—#2 Drive; Drill Point #3			
3/4"	50	94195A170	9.73
1"	50	94195A175	10.90
1 1/4"	50	94195A177	13.04
1 1/2"	50	94195A180	13.94
1 3/4"	25	94195A183	10.68
2"	25	94195A187	11.48
2 1/2"	10	94195A190	6.52
3"	10	94195A193	7.40
12-14—#3 Drive; Drill Point #3			
3/4"	50	94195A210	13.79
1"	25	94195A220	8.21
Type 410 Stainless Steel (Cont.)			
12-14 (Cont.)			
1 1/4"	25	94195A230	$9.52
1 1/2"	25	94195A240	10.01
1 3/4"	25	94195A243	13.34
2"	25	94195A246	13.97
2 1/2"	10	94195A249	7.82
3"	10	94195A255	9.20
1/4"-14—#3 Drive; Drill Point #3			
3/4"	25	94195A310★	8.60
1"	25	94195A320	10.40
1 1/4"	25	94195A330	11.50
1 1/2"	25	94195A340	14.32
2"	10	94195A343	8.29
2 1/2"	10	94195A346	9.71
3"	5	94195A349	6.55
3 1/2"	5	94195A355	8.52
4"	5	94195A360	10.33
Zinc-Plated Steel			
8-18—#2 Drive; Drill Point #2			
3/4"	100	92365A340	6.40
1"	100	92365A350	7.23
Coated Alloy Steel			
12-14—#3 Drive; Drill Point #3			
1"	25	90122A617	12.65

★ Head is undercut to allow more threading.

Tamper-Resistant Drilling Screws for Metals



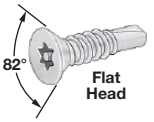

The pin-in-torx drive makes these screws difficult to remove without the proper tools. All are fully threaded.

Pan head screws have a rounded top and a flat bearing surface. Maximum material thickness is 0.076". Length is measured from under the head.

Flat head screws are beveled under the head for use in countersunk holes. Maximum material thickness is 0.100" for 8-18 screws and 0.175" for 10-16 screws. Length is measured from the top of the head.

Lg.	Pkg. Qty.		Pkg.
Pan Head—Type 410 Stainless Steel			
8-18—T20 Drive; Drill Point #2			
1/2"	25	92970A201	$11.90
3/4"	25	92970A203	11.90
1"	10	92970A205	6.09
1 1/4"	10	92970A208	7.40
10-16—T25 Drive; Drill Point #2			
1/2"	10	92970A209	$6.47
3/4"	10	92970A211	6.47
1"	10	92970A213	6.76
1 1/4"	10	92970A216	7.43
1 1/2"	10	92970A218	11.31
Flat Head—Zinc-Plated Steel			
8-18—T15 Drive; Drill Point #2			
1 1/4"	50	94625A315	11.07
10-16—T20 Drive; Drill Point #3			
3/4"	50	94625A423	10.19
1 1/2"	50	94625A425	16.57
2"	25	94625A427	9.29

Low-Profile Drilling Screws for Metals

Use these thin, wide-head screws to attach framing to metal up to 3/16" thick. Also known as pancake head screws, they have a combination drive that accepts both #2 Phillips and #2 square drivers and are fully threaded. Made from zinc-plated steel. Length is measured from under the head. Head is 7/16" Wd. × 3/32" Thick.



Lg.	Pkg. Qty.		Pkg.
10-16—#2 Drive; Drill Point #3			
1"	50	94090A100	$7.44
12-14—#2 Drive; Drill Point #3			
1"	50	94090A200	9.05

About Installing Screws for Plastics

Determining Drill Size

The hole size required to install these screws varies according to the material and thickness you're fastening. Our drill sizes are based on industry data and typically allow adequate thread engagement. We suggest, however, that you test to determine the drill size for your application.

Countersinking

To install, create a hole with a countersink that matches the head angle of your screw. Use a countersink (see pg. 2484) to create a recess for flat and oval head screws.

Screw Size	No. 000	No. 00	No. 0	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 8	No. 10	1/4"
Thread Cutting Drill Sizes	—	—	—	—	—	—	#41	—	#31	#26	—	—
Thread Forming Drill Sizes	#69	#60	#56	#53	#48	#46	#44	#36	#32	#29	#21	#4

Pointed Screws for Plastics and Particleboard



A sharp point pierces a hole—reducing the chance you'll crack the material you're fastening. Screws have a Phillips drive, a pan head with a flat bearing surface, and deep, coarse threads. All are Type 410 stainless steel. Length is measured from under the head.

6-13—#2 Drive

Lg.	Pkg. Qty.		Pkg.
5/8"	100	92325A301	$8.79
3/4"	100	92325A303	9.19
1"	100	92325A305	9.97
2"	50	92325A309	8.34

8-11—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	100	92325A311	$9.90
5/8"	100	92325A313	11.12
3/4"	100	92325A315	11.78
1"	100	92325A317	13.41
1 1/4"	100	92325A319	14.50
1 1/2"	50	92325A321	7.65

Thread-Cutting Screws for Soft Plastics



These Type 25 screws have a wide cutting slot to clear chips and coarse threads that grip soft plastic. Each has a Phillips drive and a pan head with a flat bearing surface. All are Type 410 stainless steel. Length is measured from under the head.

4-24—#1 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	94629A550	$4.47
1/2"	100	94629A560	4.66

6-20—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	94629A670	4.90
1/2"	100	94629A680	5.30
3/4"	100	94629A690	6.09

8-18—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	94629A710	$6.36
1/2"	100	94629A720	6.37
3/4"	100	94629A730	7.76

Thread-Forming Screws for Plastics



Pan Head Phillips

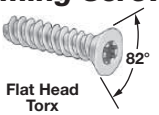

Flat Head Torx

Material locks against the triangular (tri-lobular) shank to ensure a vibration-resistant connection. Also known as Plastite screws, they have coarse, sharply angled threads and a blunt tip. They provide maximum holding strength with minimal stress in formable plastics such as polypropylene and polycarbonate. Length is measured from under the head for pan head screws and from the top of the head for flat head screws.

Pan Head Phillips—Type 316 Stainless Steel

2-28—#1 Drive

Lg.	Pkg. Qty.		Pkg.
3/16"	25	99461A171	$10.63
1/4"	25	99461A173	10.63
3/8"	25	99461A175	10.63
1/2"	25	99461A177	10.63

4-20—#1 Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	25	99461A282	9.38
3/8"	25	99461A284	9.38
1/2"	25	99461A286	9.38

6-19—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	25	99461A310	10.25
1/2"	25	99461A312	10.25

6-19 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3/4"	25	99461A315	$10.25

8-16—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	25	99461A405	11.00
1/2"	25	99461A409	11.00
3/4"	25	99461A412	11.00
1"	25	99461A416	11.00

10-14—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	10	99461A573	8.75
3/4"	10	99461A576	8.75
1"	10	99461A579	8.75

Pan Head Phillips—18-8 Stainless Steel

0-42—#0 Drive

Lg.	Pkg. Qty.		Pkg.
1/8"	50	99461A505	11.35
3/16"	50	99461A510	11.47
1/4"	50	99461A515	11.61
3/8"	50	99461A520	11.68
1/2"	50	99461A530	11.88

1-32—#0 Drive

Lg.	Pkg. Qty.		Pkg.
1/8"	50	99461A605	11.50
1/4"	50	99461A615	11.63
3/8"	50	99461A620	11.78
1/2"	50	99461A630	11.93

2-28—#1 Drive

Lg.	Pkg. Qty.		Pkg.
3/16"	50	99461A710	11.19
1/4"	50	99461A715	11.24
5/16"	50	99461A720	11.34
3/8"	50	99461A725	11.44
1/2"	50	99461A735	12.32

3-24—#1 Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	50	99461A815	12.16
3/8"	50	99461A825	12.32

4-20—#1 Drive

Lg.	Pkg. Qty.		Pkg.
1/8"	50	99461A105	10.39
1/4"	50	99461A110	10.88
3/8"	50	99461A120	11.64

4-20 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1/2"	50	99461A130	12.14
5/8"	50	99461A140	13.29
3/4"	50	99461A150	14.02

6-19—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	50	99461A220	12.79
3/8"	25	99461A230	7.47
1/2"	25	99461A240	7.54
5/8"	25	99461A250	8.22
3/4"	25	99461A260	8.71

8-16—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	25	99461A330	7.62
3/8"	25	99461A340	7.95
1/2"	25	99461A350	8.75
5/8"	25	99461A360	9.51
3/4"	25	99461A370	10.17
7/8"	25	99461A380	10.50
1"	25	99461A390	10.74

10-14—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	25	99461A440	9.61
1/2"	25	99461A450	9.64
3/4"	25	99461A460	10.30
7/8"	25	99461A470	10.69
1"	25	99461A480	10.97

Pan Head Phillips—Zinc-Plated Steel

2-28—#1 Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	50	90380A005	$3.52
5/16"	50	90380A008	3.55
3/8"	50	90380A011	3.59
1/2"	50	90380A014	7.56

4-20—#1 Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	100	90380A106	6.60
5/16"	50	90380A107	4.21
3/8"	100	90380A108	6.90
1/2"	100	90380A110	7.21
5/8"	100	90380A115	7.57
3/4"	100	90380A120	8.04

6-19—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	100	90380A144	7.25
5/16"	50	90380A145	4.26
3/8"	100	90380A146	7.29
7/16"	50	90380A147	4.89
1/2"	100	90380A148	7.57

6-19 (Cont.)

Lg.	Pkg. Qty.		Pkg.
5/8"	50	90380A152	$4.93
3/4"	50	90380A155	5.11
1"	50	90380A158	5.51

8-16—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	100	90380A190	8.79
5/16"	50	90380A191	4.82
3/8"	100	90380A192	7.53
1/2"	50	90380A194	4.97
5/8"	50	90380A196	5.09
3/4"	50	90380A198	5.21
1"	50	90380A202	7.16

10-14—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	50	90380A240	5.39
1/2"	50	90380A242	5.65
5/8"	50	90380A245	5.71
3/4"	50	90380A248	5.84
1"	50	90380A251	10.00

Pan Head Phillips—Black Zinc-Plated Steel

4-20—#1 Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	25	92295A100	2.81
3/8"	25	92295A101	2.94
1/2"	25	92295A103	3.06
5/8"	25	92295A106	3.17
3/4"	25	92295A109	3.46

6-19—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	25	92295A203	2.96
3/8"	25	92295A205	3.04
1/2"	25	92295A207	3.17
5/8"	25	92295A209	4.11
3/4"	25	92295A212	4.32

8-16—#2 Drive

Lg.	Pkg. Qty.		Pkg.
1/4"	25	92295A308	5.78
3/8"	25	92295A311	3.12
1/2"	25	92295A313	3.37
5/8"	25	92295A315	3.54
3/4"	25	92295A317	6.62
1"	25	92295A319	6.85

10-14—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	25	92295A415	6.27
1/2"	25	92295A417	6.39

Pan Head Torx—18-8 Stainless Steel

00-51—T3 Drive

Lg.	Pkg. Qty.		Pkg.
3/32"	25	96001A050	8.04
1/8"	25	96001A053	8.07
3/16"	25	96001A056	8.13
1/4"	25	96001A059	8.20

0-42—T5 Drive

Lg.	Pkg. Qty.		Pkg.
1/8"	50	96001A098	11.35
3/16"	50	96001A101	11.49
1/4"	50	96001A103	9.32
3/8"	50	96001A107	9.32

(Continued on following page)

Thread-Forming Screws for Plastics *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
Pan Head Torx—18-8 Stainless Steel (Cont.)			
1-32—T6 Drive			
1/8"	50	96001A121	$11.50
1/4"	50	96001A124	11.63
3/8"	50	96001A127	11.78
2-28—T7 Drive			
3/16"	50	96001A149	11.93
1/4"	50	96001A152	10.47
3/8"	50	96001A156	10.47
1/2"	50	96001A160	10.47
3/4"	50	96001A164	10.47
4-20—T10 Drive			
1/4"	50	96001A202	9.19
3/8"	50	96001A206	9.19
1/2"	50	96001A210	9.19
4-20 (Cont.)			
3/4"	50	96001A214	$9.19
7/8"	50	96001A217	5.64
6-19—T15 Drive			
1/4"	50	96001A256	10.89
3/8"	50	96001A260	10.89
1/2"	50	96001A264	10.89
3/4"	50	96001A268	10.89
1"	50	96001A274	13.48
8-16—T20 Drive			
3/8"	50	96001A318	10.97
1/2"	50	96001A322	10.97
3/4"	50	96001A326	13.00
1"	50	96001A329	13.42
Pan Head Torx—Zinc-Plated Steel			
0-42—T5 Drive			
3/16"	50	99512A108	10.04
1/4"	50	99512A111	10.04
3/8"	50	99512A117	10.04
2-28—T7 Drive			
1/4"	100	99512A153	10.09
3/8"	100	99512A159	10.09
1/2"	100	99512A162	10.09
4-20—T10 Drive			
1/4"	100	99512A210	9.05
3/8"	100	99512A216	9.05
1/2"	100	99512A219	9.05
3/4"	100	99512A225	9.05
6-19—T15 Drive			
1/4"	100	99512A250	10.65
1/2"	100	99512A259	10.65
3/4"	100	99512A265	10.68
8-16—T20 Drive			
1/4"	100	99512A310	10.95
1/2"	100	99512A316	10.95
3/4"	100	99512A322	10.95
1"	100	99512A325	10.95
10-14—T25 Drive			
1/2"	50	99512A450	7.59
3/4"	50	99512A456	7.59
1"	50	99512A459	7.59
1 1/4"	50	99512A462	7.59
1 1/2"	50	99512A465	7.59

Lg.	Pkg. Qty.		Pkg.
Pan Head Torx—Zinc-Plated Steel (Cont.)			
1/4"-10—T30 Drive			
1/2"	50	99512A510	$12.37
3/4"	50	99512A516	12.37
1"	50	99512A519	12.37
1/4"-10 (Cont.)			
1 1/4"	50	99512A522	$12.37
1 1/2"	50	99512A525	12.38
Flat Head Torx—18-8 Stainless Steel			
0-42—T3 Drive			
3/16"	50	95893A501	12.79
1/4"	50	95893A505	12.93
3/8"	50	95893A510	13.12
2-28—T6 Drive			
1/4"	50	95893A550	12.24
1/2"	50	95893A560	12.34
4-20—T8 Drive			
1/4"	50	95893A601	11.35
1/2"	50	95893A615	11.63
6-19—T10 Drive			
1/4"	50	95893A705	12.06
1/2"	50	95893A715	12.34
3/4"	50	95893A725	12.62
8-16—T15 Drive			
1/4"	50	95893A805	12.54
1/2"	50	95893A815	12.92
3/4"	50	95893A825	13.38
10-14—T20 Drive			
1/2"	25	95893A920	9.35
3/4"	25	95893A930	10.10
Flat Head Torx—Zinc-Plated Steel			
0-42—T3 Drive			
3/16"	50	95893A113	10.13
1/4"	50	95893A116	10.13
3/8"	50	95893A119	10.13
2-28—T6 Drive			
1/4"	50	95893A153	6.79
1/2"	50	95893A156	6.79
4-20—T8 Drive			
1/4"	50	95893A212	6.13
3/8"	50	95893A215	6.13
1/2"	50	95893A218	6.13
6-19—T10 Drive			
1/4"	50	95893A252	6.18
1/2"	50	95893A255	6.18
3/4"	50	95893A258	6.18
8-16—T15 Drive			
1/4"	50	95893A321	7.46
1/2"	50	95893A325	7.46
3/4"	50	95893A329	7.46
10-14—T20 Drive			
1/2"	50	95893A356	8.64
3/4"	50	95893A360	8.64
1 1/4"	50	95893A364	8.64
1 1/2"	50	95893A368	8.64

Metric Thread-Forming Screws for Plastics



The triangular (tri-lobular) shank forms a vibration-resistant connection in formable plastics such as polypropylene and polycarbonate. Also known as Plastite screws, each has a Torx drive, a pan head with a flat bearing surface, and a blunt tip. Length is measured from under the head.

Note: The drill sizes listed are recommendations. We suggest you test to determine the drill size for your application.

Lg., mm	Pkg. Qty.		Pkg.
18-8 Stainless Steel			
M1.59×0.6—T5 Drive; #54 Drill			
2	50	99397A006	$11.30
3	50	99397A009	11.32
4	50	99397A012	11.34
5	50	99397A015	11.35
6	50	99397A018	11.39
8	50	99397A022	11.44
M1.91×0.79—T6 Drive; #54 Drill			
3	50	99397A061	11.44
4	50	99397A064	11.47
5	50	99397A066	11.50
6	50	99397A068	11.55
8	50	99397A072	11.58
10	50	99397A074	11.61
12	50	99397A077	11.66
M2.26×0.91—T6 Drive; #47 Drill			
3	50	99397A180	11.81
4	50	99397A182	11.85
5	50	99397A185	11.88
6	50	99397A187	11.91
8	50	99397A189	11.95
10	50	99397A192	12.76
12	50	99397A195	12.87
M2.63×1.06—T8 Drive; #42 Drill			
3	50	99397A342	11.95
4	50	99397A344	11.98
5	50	99397A347	12.01
6	50	99397A349	12.05
8	50	99397A351	12.08
M2.63×1.06 (Cont.)			
10	50	99397A354	$12.13
12	50	99397A356	14.19
14	50	99397A359	14.40
M3.12×1.27—T10 Drive; #37 Drill			
4	50	99397A433	10.33
5	50	99397A436	10.36
6	50	99397A438	10.39
8	50	99397A441	10.43
10	50	99397A445	10.46
12	50	99397A448	11.30
14	50	99397A450	11.45
M3.63×1.34—T15 Drive; 1/8" Drill			
4	50	99397A475	10.99
5	50	99397A477	11.04
6	50	99397A480	11.09
8	50	99397A482	11.14
10	50	99397A484	12.03
12	50	99397A486	12.24
14	50	99397A489	12.44
M4.55×1.59—T20 Drive; #23 Drill			
5	50	99397A756	12.03
6	50	99397A758	12.11
8	50	99397A761	12.21
10	50	99397A764	13.78
12	50	99397A767	13.84
14	50	99397A770	13.98
16	50	99397A772	14.06

Lg., mm	Pkg. Qty.		Pkg.
Zinc-Plated Steel			
M1.59×0.6—T5 Drive; #54 Drill			
2	50	99397A151	$9.25
3	50	99397A121	9.26
4	50	99397A122	9.28
5	50	99397A123	9.28
6	50	99397A124	9.32
8	50	99397A164	9.36
M1.91×0.79—T6 Drive; #54 Drill			
3	50	99397A221	9.36
4	50	99397A222	9.39
5	50	99397A223	9.42
6	50	99397A224	9.44
8	50	99397A264	9.47
10	50	99397A267	9.49
12	50	99397A269	9.55
M2.26×0.91—T6 Drive; #47 Drill			
3	50	99397A321	10.48
4	50	99397A322	9.70
5	50	99397A323	9.71
6	50	99397A324	9.74
8	50	99397A325	9.76
10	50	99397A326	10.42
12	50	99397A327	10.53
M2.63×1.06—T8 Drive; #42 Drill			
3	50	99397A411	9.76
4	50	99397A412	9.79
5	50	99397A413	9.82
6	50	99397A414	9.83
8	50	99397A415	9.86
M2.63×1.06 (Cont.)			
10	50	99397A416	$9.92
12	50	99397A417	11.59
14	50	99397A583	11.78
M3.12×1.27—T10 Drive; #37 Drill			
4	50	99397A611	8.45
5	50	99397A614	8.48
6	50	99397A616	8.50
8	50	99397A619	8.53
10	50	99397A622	8.56
12	50	99397A626	9.25
14	50	99397A628	9.37
M3.63×1.34—T15 Drive; 1/8" Drill			
4	50	99397A670	8.99
5	50	99397A673	9.03
6	50	99397A675	9.07
8	50	99397A677	9.11
10	50	99397A679	9.85
12	50	99397A682	10.01
14	50	99397A686	10.17
M4.55×1.59—T20 Drive; #23 Drill			
5	50	99397A721	9.85
6	50	99397A724	9.91
8	50	99397A726	10.00
10	50	99397A729	11.27
12	50	99397A731	11.32
14	50	99397A734	11.43
16	50	99397A737	11.50

Screws for Joining Plastics to Wood

Screws allow plastic panels to expand and contract without cracking. A rubber washer seals out contaminants. Length is measured from under the head.

Coated steel screws are corrosion resistant. Those with a low-profile head have a combination drive.



Hex Washer Head



Low-Profile Head

Lg.	18-8 Stainless Steel Pkg. Qty.		Pkg.	Coated Steel Pkg. Qty.		Pkg.
12-11—Hex Washer Head						
1 1/4"	25	92879A173	$7.46	25	92879A161	$4.84
1 3/4"	25	92879A176	9.10	—	—	—
2"	25	92879A178	9.40	25	92879A164	5.60

Lg.	Coated Steel Pkg. Qty.		Pkg.
12-11—Low-Profile Head			
1 1/4"	25	92879A167	$4.84
2"	25	92879A170	5.60

Thread-Forming Screws for Thin Plastics



With a round shank, blunt tip, and deeper, more sharply angled threads than other thread-forming screws, these screws require less driving torque and they won't crack thin plastics. Also known as Delta PT screws, they have a Torx drive and a pan head with a flat bearing surface. Length is measured from under the head.

Note: Although the drill sizes listed typically allow adequate thread engagement, we suggest you test to determine the drill size for your application.

18-8 Stainless Steel

Lg., mm	Pkg. Qty.		Pkg.
M1 x 0.44—T2 Drive; #67 Drill			
2	25	96817A701	$11.58
3	25	96817A704	11.63
4	25	96817A707	11.69
M1.2 x 0.51—T3 Drive; #62 Drill			
2	25	96817A742	11.83
3	25	96817A744	11.88
4	25	96817A746	11.93
5	25	96817A748	11.98
M1.4 x 0.57—T3 Drive; #56 Drill			
3	25	96817A780	7.19
4	25	96817A783	7.25
5	25	96817A785	7.30
6	25	96817A787	7.76
M1.6 x 0.64—T5 Drive; #55 Drill			
3	25	96817A795	6.88
4	25	96817A797	6.93
5	25	96817A799	6.99
6	25	96817A800	7.45
M1.8 x 0.71—T6 Drive; #54 Drill			
3	25	96817A812	6.96
4	25	96817A814	6.99
5	25	96817A816	7.45
6	25	96817A818	7.52
M2 x 0.78—T6 Drive; #52 Drill			
3	25	96817A838	7.09
4	25	96817A840	7.14
5	25	96817A842	7.60
6	25	96817A844	7.67
8	25	96817A846	7.74
M2.2 x 0.85—T6 Drive; #50 Drill			
4	25	96817A861	6.03
5	25	96817A863	6.50
6	25	96817A865	6.56
M2.2 x 0.85 (Cont.)			
8	25	96817A867	$6.63
10	25	96817A869	7.14
M2.5 x 0.95—T8 Drive; #45 Drill			
5	25	96817A890	6.57
6	25	96817A892	6.63
8	25	96817A894	6.70
10	25	96817A896	7.26
12	25	96817A899	7.33
M3 x 1.12—T10 Drive; #41 Drill			
5	25	96817A904	6.78
6	25	96817A906	6.85
8	25	96817A908	7.41
10	25	96817A910	8.63
12	25	96817A912	8.81
M3.5 x 1.29—T15 Drive; #34 Drill			
6	25	96817A932	7.14
10	25	96817A935	7.89
12	25	96817A938	8.05
M4 x 1.46—T20 Drive; #30 Drill			
8	25	96817A950	7.43
10	25	96817A953	8.26
12	25	96817A956	8.33
14	25	96817A959	8.44
M4.5 x 1.63—T20 Drive; #27 Drill			
8	25	96817A971	8.35
10	25	96817A973	8.46
12	25	96817A975	9.70
14	25	96817A977	9.92
M5 x 1.80—T25 Drive; #21 Drill			
10	25	96817A984	9.26
12	25	96817A987	9.37
M6 x 2.14—T30 Drive; #12 Drill			
12	25	96817A992	10.86
14	25	96817A996	11.08

Zinc-Plated Steel

Lg., mm	Pkg. Qty.		Pkg.
M1 x 0.44—T2 Drive; #67 Drill			
2	25	96817A007	$9.65
3	25	96817A009	9.69
4	25	96817A011	9.73
M1.2 x 0.51—T3 Drive; #62 Drill			
2	25	96817A031	9.86
3	25	96817A034	9.90
4	25	96817A036	9.94
5	25	96817A039	9.98
M1.4 x 0.57—T3 Drive; #56 Drill			
3	25	96817A082	6.00
4	25	96817A085	6.04
5	25	96817A088	6.08
6	25	96817A090	6.12
M1.6 x 0.64—T5 Drive; #55 Drill			
3	25	96817A110	5.83
4	25	96817A113	5.87
5	25	96817A115	5.92
6	25	96817A118	5.97
M1.8 x 0.71—T6 Drive; #54 Drill			
3	25	96817A150	5.89
4	25	96817A152	5.92
5	25	96817A154	5.97
6	25	96817A156	6.02
M2 x 0.78—T6 Drive; #52 Drill			
3	25	96817A201	6.00
4	25	96817A204	6.05
5	25	96817A207	6.10
6	25	96817A209	6.15
8	25	96817A212	6.21
M2.2 x 0.85—T6 Drive; #50 Drill			
4	25	96817A218	5.25
5	25	96817A219	5.30
6	25	96817A220	5.35
M2.2 x 0.85 (Cont.)			
8	25	96817A240	$5.41
10	25	96817A260	6.20
M2.5 x 0.95—T8 Drive; #45 Drill			
5	25	96817A263	5.36
6	25	96817A265	5.41
8	25	96817A268	5.47
10	25	96817A271	6.32
12	25	96817A274	6.38
M3 x 1.12—T10 Drive; #41 Drill			
5	25	96817A300	5.44
6	25	96817A310	5.51
8	25	96817A330	6.33
10	25	96817A350	6.40
12	25	96817A370	6.46
M3.5 x 1.29—T15 Drive; #34 Drill			
6	25	96817A420	5.75
10	25	96817A440	6.10
12	25	96817A460	6.17
M4 x 1.46—T20 Drive; #30 Drill			
8	25	96817A500	6.30
10	25	96817A510	6.37
12	25	96817A520	6.43
14	25	96817A522	8.10
M4.5 x 1.63—T20 Drive; #27 Drill			
8	25	96817A541	6.44
10	25	96817A544	6.54
12	25	96817A547	8.21
14	25	96817A552	8.41
M5 x 1.80—T25 Drive; #21 Drill			
10	25	96817A620	7.78
12	25	96817A640	7.88
M6 x 2.14—T30 Drive; #12 Drill			
12	25	96817A663	9.04
14	25	96817A668	9.22

Thread-Forming Screws for Brittle Plastics

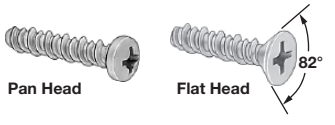

Alternating high and low threads minimize cracking and splitting in brittle materials such as phenolic and glass-filled plastics. All screws have a Phillips drive and a blunt tip.

Pan head screws have a higher profile and slightly smaller head diameter than standard pan head screws. The bearing surface is flat. Length is measured from under the head.

Flat head screws are beveled under the head for use in countersunk holes. Length is measured from the top of the head.

Pan Head—18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
4-24—#1 Drive			
3/8"	100	97349A100	$5.31
6-19—#2 Drive			
3/8"	100	97349A200	6.00
1/2"	100	97349A210	6.68
8-18—#2 Drive			
1/2"	100	97349A300	7.78
3/4"	100	97349A310	9.41

Pan Head—Type 410 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
4-24—#1 Drive			
3/8"	100	97975A110	5.17
1/2"	100	97975A115	5.39
6-19—#2 Drive			
3/8"	100	97975A205	5.62
1/2"	100	97975A210	5.88
5/8"	100	97975A215	6.43
3/4"	100	97975A220	6.98
8-18—#2 Drive			
3/8"	100	97975A315	6.55
1/2"	100	97975A320	7.23
5/8"	100	97975A325	7.98
3/4"	100	97975A330	8.62

Pan Head—Type 410 Stainless Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
10-16—#2 Drive			
3/8"	100	97975A410	$9.00
1/2"	100	97975A415	9.32
5/8"	100	97975A420	10.10
3/4"	100	97975A425	11.31

Pan Head—Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
4-24—#1 Drive			
1/4"	100	90385A106	13.73
5/16"	100	90385A107	14.07
3/8"	100	90385A108	14.57
1/2"	50	90385A110	7.70
6-19—#2 Drive			
1/4"	100	90385A144	14.77
5/16"	50	90385A145	7.65
3/8"	50	90385A146	7.83
1/2"	50	90385A148	8.48
3/4"	50	90385A151	12.30
1"	50	90385A155	13.03
8-18—#2 Drive			
1/4"	50	90385A191	8.00
3/8"	50	90385A192	8.48
1/2"	50	90385A194	8.82

Pan Head—Zinc-Plated Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
8-18—#2 Drive (Cont.)			
5/8"	50	90385A196	$8.97
3/4"	50	90385A197	9.92
1"	50	90385A199	11.52
10-16—#2 Drive			
3/8"	50	90385A240	10.08
1/2"	50	90385A242	10.55
5/8"	25	90385A244	6.16
3/4"	25	90385A245	6.51
1"	50	90385A247	14.80

Flat Head—Type 410 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
4-24—#1 Drive			
1/2"	100	96068A105	5.19
6-19—#2 Drive			
1/2"	100	96068A153	5.51
5/8"	100	96068A156	6.01
3/4"	100	96068A159	6.72
8-18—#2 Drive			
1/2"	100	96068A213	6.40
5/8"	100	96068A216	7.37
3/4"	100	96068A219	7.65

About Installing Screws for Drywall, Composite Wood, and Wood

Screws for Drywall

Drywall screws have a sharp, pointed end that can penetrate drywall without the need for a pilot hole. They come with either coarse threads for holding drywall to wood or fine threads for holding drywall to metal.

Screws for Composite Wood

These screws are designed for use in materials made from a mixture of wood fiber and plastic, such as those commonly used for decking. To prevent splitting, drill a pilot hole slightly smaller than the screw you're installing. Screws with an auger point require a pilot hole only when being used near an edge. See page 2462 for drill bits.

Screws for Wood

Screws for wood can be used to fasten hard wood such as walnut and oak and soft wood such as pine and cedar. To prevent splitting, drill a pilot hole slightly smaller than the screw you're installing. Screws with an auger point require a pilot hole only when used near an edge. See page 2462 for drill bits.

Materials

Type 316 Stainless Steel—Our most corrosion resistant stainless steel, it withstands solvents and pitting caused by chloride and sulfur. It's a good choice for ACQ-treated (arsenic-free) lumber and may be mildly magnetic.

18-8 Stainless Steel—Has excellent corrosion resistance and is a good choice for ACQ-treated (arsenic-free) lumber. It may be mildly magnetic.

Brass—Material is nonmagnetic and has very good corrosion resistance.

Finishes

Zinc Plated and **Black Zinc-Plated**—Enhances rust resistance.

Black Oxide and **Black Phosphate**—Adds mild rust resistance.

Weather-Resistant Coated—Resists corrosion better than zinc plating and minimizes reactions between dissimilar metals.

Hot-Dipped Galvanized—This thick plating provides superior rust resistance compared to zinc-plated steel. A good choice for ACQ-treated (arsenic-free) lumber.

Drill Sizes for Screws for Composite Wood and Wood

Screw Size		No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 12	No. 14	No. 16	No. 18	No. 20	No. 24
Decimal Equivalent		0.086″	0.099″	0.112″	0.125″	0.138″	0.151″	0.164″	0.177″	0.190″	0.216″	0.242″	0.268″	0.294″	0.320″	0.372″
Drill Size	Hard Wood	3/64″	1/16″	1/16″	5/64″	5/64″	3/32″	3/32″	7/64″	7/64″	1/8″	9/64″	5/32″	3/16″	13/64″	7/32″
	Soft Wood	1/32″	3/64″	3/64″	1/16″	1/16″	1/16″	5/64″	5/64″	3/32″	7/64″	7/64″	9/64″	9/64″	11/64″	3/16″

For Phillips power bits see pages 2808-2809; for square drive power bits see page 2814; for Torx drive power bits see page 2813.

Screws for Drywall

A curved neck sinks into drywall without tearing its paper surface. All screws have a Phillips drive and are made from steel with a rust-resistant finish. Length is measured from the top of the head.

Drywall to Drywall—Hold sheets of drywall together until glue sets. Also hold drywall to metal studs up to 0.036″ thick. Finish is black phosphate.

Drywall to Wood—Hang drywall to wood framing. Screws have a zinc yellow-chromate plating.

Drywall to Wood (High Hold)—Alternating high and low threads maximize holding power. Use to attach drywall to wood framing and metal studs up to 0.036″ thick. Finish is black phosphate.

Drywall to Metal—Attach drywall to metal studs up to 0.036″ thick. Finish is black phosphate.

Drywall to Metal (Coated)—Screws have a gray coating that provides 500 hours of salt spray resistance. Use them to hold drywall to metal studs up to 0.036″ thick.

Drywall to Metal (Drilling)—Have a #2 drill point that powers through drywall and into metal studs up to 0.105″ thick. Finish is black phosphate.

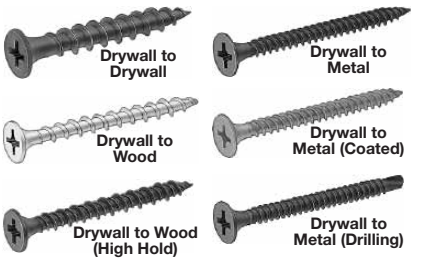

Lg.	Pkg. Qty.		Pkg.
Drywall to Drywall			
10-9—#2 Drive			
1½″	100	90093A400	$6.81
Drywall to Wood			
6-9—#2 Drive			
1″	100	99136A100	3.05
1¼″	100	99136A200	3.25
1⅝″	100	99136A300	3.95
8-8—#2 Drive			
2½″	100	99136A600	9.32
3″	50	99136A700	6.72
Drywall to Wood (High Hold)			
6-18—#2 Drive			
1″	100	90305A112	2.31
1¼″	100	90305A114	2.93
1⅝″	100	90305A116	3.82
2″	100	90305A118	4.80

Lg.	Pkg. Qty.		Pkg.
Drywall to Wood (High Hold)			
6-18—#2 Drive (Cont.)			
2¼″	100	90305A120	$6.47
8-18—#2 Drive			
2½″	100	90305A132	8.32
3″	100	90305A126	12.25
Drywall to Metal			
6-18—#2 Drive			
1″	500	90092A112	6.10
1⅛″	500	90092A113	6.24
1¼″	500	90092A114	7.40
1⅝″	250	90092A116	5.56
2″	250	90092A118	7.38
2¼″	100	90092A120	2.87
8-18—#2 Drive			
2½″	100	90092A132	4.42
3″	100	90092A133	5.22

Lg.	Pkg. Qty.		Pkg.
Drywall to Metal			
10-12—#2 Drive			
3½″	100	90092A140	$11.46
3¾″	50	90092A141	7.82
4″	50	90092A150	7.89
4½″	50	90092A142	8.82
5″	50	90092A143	9.91
6″	25	90092A145	7.29
Drywall to Metal (Coated)			
6-17—#2 Drive			
1″	100	95616A153	3.23
1¼″	100	95616A155	4.46
1⅝″	100	95616A158	6.63
2″	100	95616A162	5.69
8-15—#2 Drive			
2½″	100	95616A207	8.87
3″	100	95616A209	10.49

Lg.	Pkg. Qty.		Pkg.
Drywall to Metal (Coated)			
10-12—#2 Drive			
3¾″	50	95616A262	$11.75
4½″	25	95616A265	9.44
5″	25	95616A270	9.75
6″	25	95616A280	13.33
Drywall to Metal (Drilling)			
6-20—#2 Drive			
1″	100	90093A114	4.26
1⅛″	100	90093A115	4.55
1¼″	100	90093A116	4.68
1⅝″	100	90093A118	5.30
1⅞″	100	90093A121	6.13
8-18—#2 Drive			
2⅜″	100	90093A152	8.22
2⅝″	100	90093A153	9.94
3″	50	90093A154	8.19

Small Head Screws for Drywall

Heads are one-third smaller than those of other drywall screws. Made from rust-resistant black-finish steel. Length is measured from the top of the head.

Sharp Point—Fasten drywall to wood or metal trim and framing up to 0.036″ thick.

Drilling—Have a #2 drill point that bores through drywall and into metal studs up to 0.105″ thick.



Lg.	Pkg. Qty.	Phillips	Pkg.	Square Drive	Pkg.
Sharp Point					
6-18—#1 Drive					
1⅝″	100	90091A112	$2.85	90330A116	$3.54
2¼″	100	90091A114	4.79	90330A120	5.06
8-18—#2 Drive					
3″	100	—	—	90330A154	7.74
Drilling					
6-20—#1 Drive					
1⅝″	100	90091A400	7.12	90330A500	6.74
2¼″	100	90091A500	9.52	90330A600	9.14

Strip-Resistant Screws for Drywall

Ribs under the head act as a brake as the curved neck sinks flush into drywall. Use these screws to join cement board and other dense materials to wood and metal studs. All have a Phillips drive. They're made from steel and coated to resist up to 500 hours of salt spray. Length is measured from the top of the head.

Sharp Point—Fasten drywall to wood and metal studs up to 0.036″ thick.

Drilling—Have a drill point that bores through drywall and into metal studs up to 0.105″ thick.

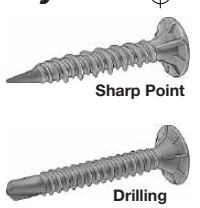

Lg.	Pkg. Qty.		Pkg.
Sharp Point			
9-15—#2 Drive			
1¼″	100	92050A100	$6.97
1⅝″	100	92050A200	7.39
2¼″	100	92050A300	10.09

Lg.	Pkg. Qty.		Pkg.
Drilling			
8-18—#2 Drive			
1¼″	100	92050A400	$9.87
1⅝″	100	92050A500	9.34
2¼″	100	92050A600	10.61

Screws for Metal Framing CAD



Attach metal framing to metal studs in preparation for hanging drywall. Screws are made from rust-resistant black-phosphate steel. Heads have a Phillips drive and a flat bearing surface. Length is measured from under the head.

Sharp Point—Fasten metal up to 0.036″ thick.

Drilling—Have a #2 drill point to penetrate metal up to 0.105″ thick.

Lg.	Pkg. Qty.		Pkg.
Sharp Point			
7-16—#2 Drive			
7/16″	250	94074A169	$6.69
Drilling			
6-20—#2 Drive			
7/16″	250	94074A147	9.72

Screws for Composite Wood and Wood

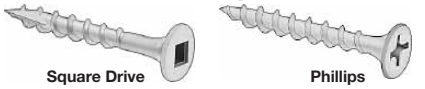

These general purpose flat head screws have a curved neck that sinks into materials so they sit flush with the surface when installed. Also called bugle-head deck screws, they are threaded at least two-thirds of their length.

Square Drive—Have a Type 17 auger point that eases penetration.

Phillips—Made from hardened steel with a coating that resists at least 500 hours of salt spray.

Lg.	Pkg. Qty.		Pkg.
Square Drive—Type 316 Stainless Steel			
No. 8—#2 Drive			
1 1/4″	50	90000A281	$8.53
1 5/8″	50	90000A290	9.66
2″	50	90000A291	10.77
2 1/2″	25	90000A287	11.48
No. 10—#2 Drive			
2″	25	90000A292	8.56
2 1/2″	25	90000A293	10.23
3″	25	90000A294	12.17
3 1/2″	25	90000A295	11.69
No. 12—#3 Drive			
2 1/2″	25	90000A297	$11.40
3″	25	90000A298	12.37
3 1/2″	10	90000A299	7.97
4″	10	90000A300	8.89
4 1/2″	10	90000A303	9.26
5″	10	90000A305	11.69
6″	10	90000A310	14.37
Square Drive—18-8 Stainless Steel			
No. 6—#2 Drive			
5/8″	100	90000A143	11.68
3/4″	100	90000A147	11.89
1″	100	90000A151	13.11
1 1/4″	100	90000A155	12.49
1 5/8″	100	90000A159	12.69
No. 8—#2 Drive			
3/4″	100	90000A188	10.97
1 1/4″	100	90000A196	13.94
No. 8 (Cont.)			
1 5/8″	50	90000A200	10.20
2″	50	90000A205	9.03
2 1/4″	50	90000A210	10.46
2 1/2″	50	90000A215	10.74
3″	50	90000A219	12.51
No. 10—#2 Drive			
1″	100	90000A220	13.09
1 1/4″	100	90000A222	14.09

Lg.	Pkg. Qty.		Pkg.
Square Drive—18-8 Stainless Steel (Cont.)			
No. 10 (Cont.)			
1 1/2″	50	90000A224	$8.60
1 3/4″	50	90000A226	10.20
2″	50	90000A228	10.20
2 1/2″	25	90000A255	7.60
3″	25	90000A257	9.69
3 1/2″	25	90000A260	10.29
3 3/4″	25	90000A265	13.63
No. 12—#3 Drive			
2 1/2″	25	90000A601	11.17
3″	25	90000A606	11.83
No. 12 (Cont.)			
3 1/2″	10	90000A611	$6.42
4″	10	90000A616	7.27
4 1/2″	10	90000A622	7.93
5″	10	90000A627	9.00
6″	10	90000A633	12.44
No. 14—#3 Drive			
3″	10	90000A738	7.00
3 1/2″	10	90000A744	11.37
4″	10	90000A749	9.97
5″	10	90000A755	11.37
Phillips—Weather-Resistant Coated Steel			
No. 6—#2 Drive			
1 1/4″	100	90095A414	2.65
1 5/8″	100	90095A416	2.76
2″	100	90095A418	3.38
No. 8—#2 Drive			
2 1/2″	100	90095A432	5.52
3″	100	90095A433	6.87
No. 10—#2 Drive			
3 1/2″	100	90095A438	10.27
4″	100	90095A442	11.18

Small Head Screws for Composite Wood and Wood

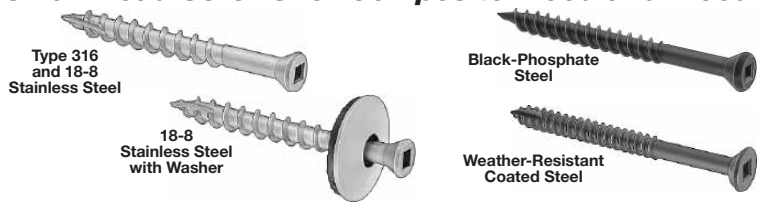

With a small flat head and slender shank, these general purpose screws are also known as trim head screws. They have a square drive and are threaded at least half their length. Stainless steel and weather-resistant coated steel screws have a Type 17 auger point that eases penetration.

18-8 stainless steel screws with washer have a neoprene-backed sealing washer with a 0.63″ OD. Overall washer height is 0.2″.

Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
No. 7—#1 Drive			
1 5/8″	50	90076A710	$9.15
2 1/4″	25	90076A720	10.68
No. 7 (Cont.)			
3″	25	90076A730	$11.81
18-8 Stainless Steel			
No. 7—#1 Drive			
1″	50	91530A771	14.16
1 5/8″	50	91530A774	13.66
2″	50	91530A776	13.53
2 1/4″	50	91530A778	13.60
2 1/2″	50	91530A782	15.21
3″	25	91530A400	8.86
No. 9—#1 Drive			
3 1/2″	10	91530A420	7.66
No. 9—#2 Drive			
4″	10	91530A425	9.00

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel Screws with Washer			
No. 7—#1 Drive			
1″	25	91540A100	$13.88
1 5/8″	25	91540A200	14.84
No. 7 (Cont.)			
2 1/4″	10	91540A300	$15.48
3″	10	91540A400	14.95
Black-Phosphate Steel			
No. 6—#1 Drive			
1 5/8″	100	91520A150	7.06
2 1/4″	100	91520A160	11.21
No. 8—#2 Drive			
3″	50	91520A171	11.07
Weather-Resistant Coated Steel			
No. 6—#1 Drive			
1 5/8″	50	91520A301	8.10
2″	50	91520A303	9.17
No. 8—#2 Drive			
2 1/2″	50	91520A305	10.92
3″	25	91520A306	10.17
3 1/2″	25	91520A307	11.62

Screws for Composite Wood



Threads change direction to cut into composites without distorting the surface around the hole. Screws have a small, discreet pan head with a star-shaped drive that's compatible with Torx drivers and bits. Each is fully threaded and has a Type 17 auger point that eases penetration.

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel			
No. 10—T20 Drive Size			
2 1/2″	25	98419A330	$11.86
3″	25	98419A440	13.83

Lg.	Pkg. Qty.	Head Color		Pkg.
18-8 Stainless Steel with Painted Head				
No. 10—T20 Drive Size				
2 1/2″	10	Gray	98419A114	$7.62
2 1/2″	10	Brown	98419A116	7.62
2 1/2″	10	Tan	98419A118	7.62
No. 10 (Cont.)				
3″	10	Brown	98419A216	$8.69
3″	10	Tan	98419A218	8.69

Serrated-Thread Screws for Plywood

Serrated threads penetrate dense material and provide extra holding power. Stainless steel screws 1″ long and under are fully threaded; those over 1″ long are threaded at least 3/4″. All zinc-plated steel screws are fully threaded. Phillips/square screws can be used with Phillips and square drivers.

Stainless steel screws are also suitable for use in fiberglass.



69° Flat Head—Type 316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
No. 6—#2 Phillips			
1/2″	100	93360A105	$12.60
3/4″	100	93360A110	14.00
1″	50	93360A115	8.20
No. 8—#2 Phillips			
3/4″	100	93360A125	$13.00
1″	50	93360A130	7.70
No. 10—#2 Phillips			
1 1/2″	50	93360A415	12.63

81° Flat Head—18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
No. 9—#2 Phillips/#2 Square			
1 1/2″	50	90027A211	9.90
2″	50	90027A216	11.24
2 1/2″	25	90027A225	8.38
No. 10—#2 Phillips/#2 Square			
2 1/2″	25	90027A250	10.41
3″	25	90027A255	13.17

90° Flat Head—Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
No. 6—#2 Phillips/#1 Square			
5/8″	100	91550A150	3.37
3/4″	100	91550A151	3.74
1″	100	91550A153	4.43
1 1/4″	100	91550A155	5.15
1 1/2″	100	91550A157	5.71
No. 8—#2 Phillips/#2 Square			
3/4″	100	91550A199	4.46
1″	100	91550A201	5.16
No. 8 (Cont.)			
1 1/2″	100	91550A203	6.82
2″	100	91550A205	9.04
No. 10—#2 Phillips/#2 Square			
3/4″	100	91550A245	6.82
1″	100	91550A247	7.44
1 1/4″	100	91550A249	8.78
1 1/2″	100	91550A251	9.85
2″	100	91550A253	10.77

80° to 82° Oval Head—Type 316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
No. 8—#2 Phillips			
3/4″	50	93360A350	$8.12
1″	50	93360A355	7.98
No. 10—#2 Phillips			
1 1/2″	50	93360A515	$12.23

Pan Head—Type 316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
No. 6—#2 Phillips			
1/2″	100	93360A220	11.90
3/4″	100	93360A225	12.37
1″	50	93360A230	8.40
No. 8—#2 Phillips			
3/4″	100	93360A240	14.63
1″	50	93360A245	8.60
No. 8 (Cont.)			
1 1/4″	50	93360A250	10.07
1 1/2″	25	93360A255	6.37
No. 10—#2 Phillips			
3/4″	50	93360A603	7.64
1″	50	93360A607	11.60
1 1/4″	50	93360A609	13.36
1 1/2″	50	93360A615	13.13

Pan Head—Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
No. 6—#2 Phillips/#1 Square			
5/8″	100	91070A150	4.18
3/4″	100	91070A151	4.57
No. 8—#2 Phillips/#2 Square			
3/4″	100	91070A199	5.66
1″	100	91070A201	6.35
No. 8 (Cont.)			
1 1/2″	100	91070A203	8.53
2″	100	91070A205	9.98
No. 10—#2 Phillips/#2 Square			
5/8″	100	91070A244	8.42
3/4″	100	91070A245	9.04
1″	100	91070A247	9.77

Screws for Plywood and Particleboard





Sharp angled threads provide excellent holding power and cut into plywood and particleboard without splitting. Screws have a Phillips drive and are threaded at least two-thirds their length. All are made from hardened steel and have a black-oxide finish.

Flat Head

Lg.	Pkg. Qty.		Pkg.
No. 6—#1 Drive			
3/4″	100	90252A104	$6.67
1″	100	90252A106	6.88
1 1/4″	100	90252A108	7.54
1 1/2″	100	90252A110	9.03
No. 8—#2 Drive			
3/4″	100	90252A111	7.06
1″	100	90252A112	6.29
1 1/4″	100	90252A114	7.71
1 1/2″	100	90252A115	9.22
1 5/8″	100	90252A116	10.01
2″	100	90252A118	11.96
2 1/4″	100	90252A119	13.94
No. 9—#2 Drive			
2 1/2″	50	90252A232	$9.21
3″	50	90252A234	10.88
No. 10—#2 Drive			
1″	100	90252A235	10.48
1 1/4″	100	90252A237	12.36
1 1/2″	100	90252A239	14.36
2″	50	90252A242	9.68
2 1/2″	50	90252A244	12.79

Pan Head

Lg.	Pkg. Qty.		Pkg.
No. 6—#1 Drive			
1/2″	100	91555A101	6.21
No. 8—#2 Drive			
1/2″	100	91555A102	6.73
3/4″	100	91555A104	7.21
1″	100	91555A108	7.83
No. 8 (Cont.)			
1 1/4″	100	91555A109	8.15
1 3/4″	100	91555A110	8.88
2″	100	91555A111	9.26
No. 10—#2 Drive			
1″	100	91555A112	9.95

Drilling Screws for Wood to Metal

Speed installation by drilling and tapping in a single operation. Screw length is measured from the top of the head. Those marked with a ■ have cutting wings that break off when they contact metal, so the screw can tap the remainder of the hole.

Corrosion-resistant coated steel are a good choice for ACQ-treated (arsenic-free) lumber.

Zinc-plated steel screws offer good rust resistance.





Corrosion-Resistant Coated Steel—Phillips Drive

Lg.	Recommended Material Thickness For Wood	For Metal	Pkg. Qty.		Pkg.
10-16—#2 Drive; Drill Point #3					
1 1/2″	1/4″-3/4″	0.04″-0.18″	100	94054A251	$11.38
10-24—#2 Drive; Drill Point #3					
3/4″	1/4″-3/8″	0.04″-0.17″	100	94054A245	8.16
1″	1/4″-1/2″	0.04″-0.17″	100	94054A247	8.61
1 1/4″	1/4″-3/4″	0.04″-0.17″	100	94054A249	9.74
1 7/16″	1/4″-3/4″	0.06″-0.17″	50	94054A301 ■	12.13
11-16—#3 Drive; Drill Point #4					
2 15/16″	1″-2″	0.06″-0.31″	10	94054A320 ■	7.43
3 7/16″	1 1/2″-2 1/2″	0.06″-0.31″	10	94054A325 ■	9.72
12-24—#3 Drive; Drill Point #4					
1 5/8″	3/4″-1 1/8″	0.13″-0.25″	50	94054A401 ■	10.77
2 1/4″	3/4″-1 3/8″	0.13″-0.25″	10	94053A110 ■	7.25
2 3/4″	3/4″-1 5/8″	0.13″-0.25″	10	94053A120 ■	7.84
1/4″-20—#3 Drive; Drill Point #4					
3″	3/4″-2″	0.13″-0.25″	25	94053A130 ■	8.01

Zinc-Plated Steel—Torx Drive

Lg.	Recommended Material Thickness For Wood	For Metal	Pkg. Qty.		Pkg.
10-16—T25 Torx Size; Drill Point #3					
1″	1/4″-3/8″	0.11″-0.21″	100	90425A460	14.63
1 1/4″	3/8″-1/2″	0.11″-0.21″	100	90425A461	15.18

Screws for Hard Wood

Penetrate hard wood with a strong ribbed shank and a Type 17 auger point. Screws also have a square drive and a flat head with ribs underneath to prevent loosening. All are threaded two-thirds of their length. Made from 18-8 stainless steel.



Lg.	Pkg. Qty.		Pkg.
No. 8—#2 Drive			
1 5/8″	25	98643A350	$6.36
2″	25	98643A370	7.58
2 1/2″	10	98643A390	4.02
No. 10—#2 Drive			
2 1/2″	10	98643A610	$5.23
3″	10	98643A640	6.19

Screws for Wood



These flat head screws are beveled under the head, so they sit flush with the surface when installed.

Phillips—Type 316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
No. 4—#1 Drive			
3/8"	50	90294A504	$8.07
1/2"	50	90294A509	8.21
5/8"	50	90294A512	8.57
3/4"	50	90294A515	8.86
1"	50	90294A519	10.36
No. 6—#2 Drive			
3/8"	50	90294A607	10.71
1/2"	50	90294A611	11.33
5/8"	50	90294A616	11.50
3/4"	50	90294A622	11.86
1"	25	90294A627	6.32
1 1/4"	25	90294A633	6.46
1 1/2"	25	90294A638	6.61
2"	25	90294A644	7.50
No. 8—#2 Drive			
1/2"	25	90294A713	$6.07
5/8"	25	90294A718	6.25
3/4"	25	90294A724	6.54
1"	25	90294A729	6.76
1 1/2"	25	90294A735	8.28
2"	25	90294A738	10.14
No. 10—#2 Drive			
5/8"	25	90294A804	7.39
3/4"	25	90294A809	7.50
1"	25	90294A813	7.89
1 1/2"	25	90294A818	10.89
2"	10	90294A822	5.26
2 1/2"	10	90294A827	6.14
3"	10	90294A831	6.63

Phillips—18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
No. 4—#1 Drive			
3/8"	100	90294A108	5.11
1/2"	100	90294A110	5.52
5/8"	100	90294A112	6.00
3/4"	100	90294A113	7.42
1"	100	90294A115	9.88
No. 5—#2 Drive			
1/2"	50	90294A122	8.97
5/8"	50	90294A124	9.43
3/4"	50	90294A127	9.86
No. 6—#2 Drive			
3/8"	100	90294A146	5.86
1/2"	100	90294A148	6.39
5/8"	100	90294A150	7.60
3/4"	100	90294A151	8.92
1"	50	90294A153	5.87
1 1/4"	50	90294A155	7.12
1 1/2"	50	90294A157	9.09
2"	50	90294A159	11.09
No. 7—#2 Drive			
5/8"	50	90294A170	9.93
No. 8—#2 Drive			
1/2"	100	90294A194	8.66
5/8"	100	90294A196	11.90
3/4"	100	90294A197	9.95
7/8"	50	90294A198	6.67
1"	100	90294A199	11.48
1 1/4"	50	90294A201	8.10
1 1/2"	50	90294A203	9.45
1 3/4"	25	90294A204	6.95
No. 8 (Cont.)			
2"	25	90294A205	7.06
2 1/2"	25	90294A207	9.18
3"	25	90294A209	11.24
No. 10—#2 Drive			
5/8"	50	90294A244	7.77
3/4"	50	90294A245	8.35
1"	50	90294A247	9.84
1 1/4"	50	90294A249	10.55
1 1/2"	25	90294A251	5.52
1 3/4"	25	90294A252	8.17
2"	25	90294A253	7.91
2 1/2"	25	90294A255	11.23
3"	10	90294A257	6.08
No. 12—#3 Drive			
3/4"	50	90294A294	11.08
1"	50	90294A296	11.93
1 1/4"	25	90294A298	7.48
1 1/2"	25	90294A299	8.32
1 3/4"	25	90294A300	10.13
2"	25	90294A301	11.32
2 1/2"	10	90294A303	6.34
3"	10	90294A304	7.46
No. 14—#3 Drive			
1"	25	90294A315	11.60
1 1/4"	25	90294A316	12.93
1 1/2"	10	90294A317	6.67
2"	10	90294A319	7.89
2 1/2"	10	90294A321	8.78
3"	10	90294A323	10.53

Phillips—Brass

Lg.	Pkg. Qty.		Pkg.
No. 2—#1 Drive			
1/4"	100	92114A077	4.08
3/8"	100	92114A079	4.55
1/2"	100	92114A081	4.47
No. 3—#1 Drive			
3/8"	100	92114A094	4.17
1/2"	100	92114A096	4.88
5/8"	100	92114A098	5.59
3/4"	100	92114A099	6.24
No. 4—#1 Drive			
1/4"	100	92114A106	4.34
3/8"	100	92114A108	4.69
1/2"	100	92114A110	5.30
5/8"	100	92114A112	6.37
3/4"	100	92114A113	6.53
7/8"	100	92114A114	8.74
1"	100	92114A115	8.91
1 1/4"	100	92114A117	10.62
No. 5—#2 Drive			
1/2"	100	92114A128	7.01
5/8"	100	92114A130	7.25
3/4"	100	92114A131	8.19
7/8"	100	92114A132	10.65
1"	100	92114A133	10.71
1 1/4"	100	92114A135	12.97
1 1/2"	50	92114A138	8.21
No. 6—#2 Drive			
3/8"	100	92114A146	6.23
1/2"	100	92114A148	7.93
No. 6 (Cont.)			
5/8"	100	92114A150	8.45
3/4"	100	92114A151	9.57
7/8"	100	92114A152	11.83
1"	100	92114A153	12.06
1 1/4"	50	92114A155	7.37
1 1/2"	50	92114A157	8.42
2"	50	92114A159	11.19
2 1/2"	25	92114A161	7.05
No. 7—#2 Drive			
1/2"	100	92114A170	9.18
5/8"	100	92114A172	10.51
3/4"	100	92114A173	12.21
1"	50	92114A175	7.45
1 1/2"	50	92114A179	10.42
No. 8—#2 Drive			
1/2"	100	92114A194	9.73
5/8"	100	92114A196	11.66
3/4"	100	92114A197	13.39
7/8"	50	92114A198	8.25
1"	50	92114A199	8.75
1 1/4"	50	92114A201	12.68
1 1/2"	25	92114A203	6.70
1 3/4"	25	92114A204	7.36
2"	50	92114A205	14.00
2 1/2"	25	92114A207	9.76
3"	25	92114A209	12.43

Phillips—Brass (Cont.)

Lg.	Pkg. Qty.		Pkg.
No. 9—#2 Drive			
5/8"	50	92114A213	$7.88
3/4"	50	92114A215	8.83
1"	50	92114A223	11.62
1 1/2"	50	92114A327	13.62
No. 10—#2 Drive			
5/8"	50	92114A244	8.82
3/4"	50	92114A245	9.79
1"	50	92114A247	11.91
1 1/4"	25	92114A249	7.18
1 1/2"	25	92114A251	7.93
1 3/4"	25	92114A252	9.65
2"	25	92114A253	10.02
2 1/2"	10	92114A255	5.61
3"	10	92114A257	6.62
3 1/2"	10	92114A259	8.64
No. 12—#3 Drive			
3/4"	25	92114A294	$6.96
1"	25	92114A296	8.31
1 1/4"	25	92114A298	8.82
1 1/2"	25	92114A299	9.81
1 3/4"	25	92114A300	11.80
2"	10	92114A301	5.90
2 1/2"	10	92114A303	6.80
3"	10	92114A305	8.39
3 1/2"	10	92114A306	9.59
No. 14—#3 Drive			
1 1/2"	10	92114A317	6.21
2"	10	92114A319	7.51
2 1/2"	10	92114A321	8.83
3"	10	92114A323	10.67
4"	10	92114A325	13.65

Phillips—Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
No. 4—#1 Drive			
3/8"	100	90031A108	1.85
1/2"	100	90031A110	2.87
5/8"	100	90031A112	3.10
3/4"	100	90031A113	3.24
1"	100	90031A115	3.33
1 1/4"	100	90031A117	4.41
No. 5—#2 Drive			
1/2"	100	90031A128	3.53
5/8"	100	90031A130	3.53
3/4"	100	90031A131	3.70
1"	100	90031A133	4.00
1 1/4"	100	90031A135	5.72
No. 6—#2 Drive			
3/8"	100	90031A146	4.00
1/2"	100	90031A148	2.57
5/8"	100	90031A150	2.95
3/4"	100	90031A151	3.47
1"	100	90031A153	3.99
1 1/4"	100	90031A155	4.76
1 1/2"	100	90031A157	6.00
2"	100	90031A159	8.66
No. 7—#2 Drive			
1/2"	100	90031A170	3.30
5/8"	100	90031A172	4.83
3/4"	100	90031A173	4.31
1"	100	90031A175	6.40
1 1/4"	100	90031A177	3.66
1 1/2"	100	90031A179	4.25
No. 8—#2 Drive			
1/2"	100	90031A194	4.50
5/8"	100	90031A196	4.47
3/4"	100	90031A197	4.36
7/8"	100	90031A198	4.81
1"	100	90031A199	6.67
1 1/4"	100	90031A201	3.44
1 1/2"	100	90031A203	3.84
1 3/4"	100	90031A204	8.44
2"	100	90031A205	9.68
2 1/2"	100	90031A207	7.41
3"	100	90031A209	11.86
No. 9—#2 Drive			
5/8"	100	90031A219	5.83
3/4"	100	90031A221	4.03
1"	100	90031A223	3.80
No. 9 (Cont.)			
1 1/4"	100	90031A225	5.43
1 1/2"	100	90031A327	5.67
2"	100	90031A229	7.43
3"	50	90031A233	7.01
No. 10—#2 Drive			
5/8"	100	90031A244	8.90
3/4"	100	90031A245	6.65
1"	100	90031A247	3.55
1 1/4"	100	90031A249	4.03
1 1/2"	100	90031A251	4.83
1 3/4"	100	90031A252	6.62
2"	100	90031A253	5.96
2 1/4"	100	90031A254	7.12
2 1/2"	100	90031A255	12.00
3"	100	90031A257	11.85
3 1/2"	50	90031A259	9.52
No. 12—#3 Drive			
3/4"	100	90031A294	7.51
1"	100	90031A296	9.28
1 1/4"	100	90031A298	5.60
1 1/2"	100	90031A299	6.49
1 3/4"	100	90031A300	7.01
2"	100	90031A301	10.29
2 1/2"	100	90031A303	9.93
3"	100	90031A305	11.16
3 1/2"	100	90031A306	14.04
No. 14—#3 Drive			
1"	100	90031A315	6.28
1 1/4"	100	90031A316	6.28
1 1/2"	100	90031A317	7.75
2"	100	90031A319	9.59
2 1/2"	100	90031A321	11.56
3"	100	90031A323	14.44
3 1/2"	25	90031A334	8.76
4"	25	90031A335	10.86
No. 16—#3 Drive			
1 1/2"	25	90031A372	9.48
2"	25	90031A375	12.30
2 1/2"	10	90031A378	5.70
3"	10	90031A380	5.51
4"	10	90031A383	8.40
5"	10	90031A386	11.48

Square Drive—Brass

Lg.	Pkg. Qty.		Pkg.
No. 6—#2 Drive			
3/4"	100	95188A310	10.64
1"	100	95188A320	13.42
1 1/4"	100	95188A330	14.82
No. 8—#2 Drive			
3/4"	100	95188A440	13.03
1"	50	95188A450	8.77
1 1/4"	50	95188A460	10.84

Square Drive—Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
No. 4—#0 Drive			
1/2"	100	90610A110	5.38
3/4"	100	90610A113	6.03
1"	100	90610A115	6.20
No. 6—#1 Drive			
1/2"	100	90610A148	4.09
3/4"	100	90610A151	5.20
1"	100	90610A153	5.60
No. 6 (Cont.)			
1 1/4"	100	90610A155	6.88
1 1/2"	100	90610A157	7.85
No. 8—#2 Drive			
1/2"	100	90610A194	6.95
3/4"	100	90610A197	7.17
1"	100	90610A199	9.55
1 1/4"	100	90610A201	11.31

(Continued on following page)

Screws for Wood *(Continued from previous page)*

Square Drive—Zinc-Plated Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
No. 8—#2 Drive			
1½″	50	90610A203	$6.83
2″	50	90610A205	8.28
2½″	50	90610A607	10.32
3″	25	90610A609	5.09
No. 10—#2 Drive			
¾″	50	90610A245	7.03
1″	100	90610A247	9.83
1¼″	100	90610A249	12.81
1½″	50	90610A251	7.01
1¾″	50	90610A652	9.59
No. 10—#2 Drive (Cont.)			
2″	50	90610A253	$10.34
2½″	25	90610A655	6.32
3″	25	90610A657	7.07
No. 12—#3 Drive			
1″	50	90610A296	7.92
1½″	50	90610A299	8.81
2″	50	90610A681	11.29
2½″	25	90610A683	8.25
3″	25	90610A685	8.18

Slotted—18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
No. 4			
½″	100	91606A110	10.91
¾″	100	91606A113	11.46
No. 6			
½″	100	91606A148	9.36
¾″	50	91606A151	6.23
No. 8			
¾″	50	91606A197	6.10
1″	50	91606A199	7.90
1¼″	50	91606A201	10.10
1½″	50	91606A203	11.90
No. 10			
¾″	50	91606A245	8.62
1″	50	91606A247	10.23
1¼″	50	91606A249	11.82
1½″	25	91606A251	7.09
2″	25	91606A253	9.10
3″	10	91606A257	6.34
No. 12			
2″	25	91606A301	11.52

Slotted—Brass

Lg.	Pkg. Qty.		Pkg.
No. 2			
¼″	100	92406A077	4.58
⅜″	100	92406A079	4.62
½″	100	92406A081	4.65
No. 3			
⅜″	100	92406A094	4.69
½″	100	92406A096	4.75
No. 4			
⅜″	100	92406A108	5.01
½″	100	92406A110	5.42
⅝″	100	92406A112	6.01
¾″	100	92406A113	6.88
1″	100	92406A115	8.33
No. 5			
½″	100	92406A128	6.95
⅝″	100	92406A130	7.72
¾″	100	92406A131	8.65
No. 6			
⅜″	100	92406A146	7.17
½″	100	92406A148	7.83
⅝″	100	92406A150	8.99
¾″	100	92406A151	10.00
1″	100	92406A153	12.21
1¼″	50	92406A155	7.40
1½″	50	92406A157	8.63
No. 7			
¾″	100	92406A173	12.33
1″	100	92406A175	14.40
No. 8			
½″	100	92406A194	10.89
¾″	100	92406A197	13.76
1″	50	92406A199	8.68
1¼″	50	92406A201	10.38
1½″	50	92406A203	11.62
2″	25	92406A205	7.83

Slotted—Brass (Cont.)

Lg.	Pkg. Qty.		Pkg.
No. 10			
¾″	50	92406A245	$9.31
1″	50	92406A247	11.49
1¼″	50	92406A249	13.61
1½″	25	92406A251	8.27
2″	25	92406A253	10.93
2½″	25	92406A255	13.92
No. 12			
1″	50	92406A296	$13.32
1¼″	25	92406A297	9.14
1½″	25	92406A299	10.31
2″	25	92406A301	13.43

Slotted—Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
No. 2			
¼″	100	90006A077	3.08
⅜″	100	90006A079	5.05
½″	100	90006A081	5.48
No. 3			
½″	100	90006A096	5.39
⅝″	100	90006A098	5.71
No. 4			
⅜″	100	90006A108	2.95
½″	100	90006A110	2.97
⅝″	100	90006A112	2.40
¾″	100	90006A113	4.18
1″	100	90006A115	3.80
1¼″	100	90006A117	3.44
1½″	100	90006A119	5.86
No. 5			
⅜″	100	90006A126	3.66
½″	100	90006A128	2.96
⅝″	100	90006A130	3.84
¾″	100	90006A131	3.22
1″	100	90006A133	3.40
1¼″	100	90006A136	3.92
1½″	100	90006A138	4.68
No. 6			
⅜″	100	90006A146	3.00
½″	100	90006A148	3.25
⅝″	100	90006A150	3.52
¾″	100	90006A151	3.55
1″	100	90006A153	3.79
1¼″	100	90006A155	5.36
1½″	100	90006A157	5.96
No. 8			
½″	100	90006A194	3.45
¾″	100	90006A197	2.16
No. 8 (Cont.)			
1″	100	90006A199	4.90
1¼″	100	90006A201	5.93
1½″	100	90006A203	6.97
2″	100	90006A205	4.61
No. 10			
¾″	100	90006A245	5.67
⅞″	100	90006A246	6.54
1″	100	90006A247	4.71
1¼″	100	90006A249	4.40
1½″	100	90006A251	4.56
1¾″	100	90006A252	5.68
2″	100	90006A253	5.26
2½″	100	90006A255	7.95
3″	100	90006A257	9.77
No. 12			
¾″	100	90006A294	4.99
1″	100	90006A296	5.29
1¼″	100	90006A298	6.20
1½″	100	90006A299	9.55
2″	100	90006A301	8.18
2½″	100	90006A303	10.47
3″	50	90006A304	5.71
No. 14			
¾″	100	90006A313	14.09
1″	100	90006A315	7.13
1¼″	100	90006A316	7.16
1½″	100	90006A317	8.03
1¾″	100	90006A318	9.65
2″	100	90006A319	10.23
2½″	50	90006A321	7.69
3″	50	90006A323	8.32
4″	50	90006A325	10.99

Oval Head Screws for Wood

Screws have a domed head that rests just above the surface for a decorative appearance.



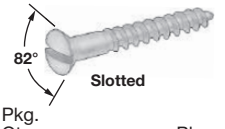

Phillips—Brass

Lg.	Pkg. Qty.		Pkg.
No. 6—#2 Drive			
½″	100	99917A515	$9.20
⅝″	100	99917A517	11.14
¾″	100	99917A520	11.86
1″	100	99917A525	12.76
1¼″	50	99917A530	8.39
1½″	50	99917A535	9.97
No. 8—#2 Drive			
¾″	100	99917A540	$14.35
1″	50	99917A545	9.52
1¼″	50	99917A550	11.50
1½″	50	99917A555	13.69
No. 10—#2 Drive			
1″	50	99917A560	12.55
1¼″	25	99917A565	8.01
1½″	25	99917A570	9.62

Slotted—18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
No. 4			
½″	100	91608A110	10.57
¾″	100	91608A113	10.59
No. 5			
¾″	50	91608A130	7.43
No. 6			
½″	100	91608A148	10.20
¾″	50	91608A151	6.93
1″	50	91608A153	7.90
1½″	50	91608A157	11.24

Slotted—18-8 Stainless Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
No. 8			
¾″	50	91608A197	$6.84
1″	50	91608A199	8.78
1½″	50	91608A203	12.44
No. 10			
1″	50	91608A247	$13.03
1¼″	50	91608A249	14.89
1½″	25	91608A251	8.35

Slotted—Brass

Lg.	Pkg. Qty.		Pkg.
No. 4			
½″	100	92408A110	6.60
¾″	100	92408A113	8.05
No. 5			
¾″	100	92408A131	9.68
No. 6			
½″	100	92408A148	8.85
⅝″	100	92408A150	9.98
¾″	100	92408A151	11.23
1″	100	92408A153	13.44
No. 6 (Cont.)			
1¼″	50	92408A155	8.66
1½″	50	92408A157	10.22
No. 8			
¾″	50	92408A197	8.24
1″	50	92408A199	10.10
1¼″	50	92408A201	12.15
1½″	50	92408A204	13.44
No. 10			
1″	50	92408A247	14.23
1½″	25	92408A251	10.22

Wood Screw Assortments

220-Piece Assortments

Include 110 flat head Phillips and 110 round head slotted screws.

Size	Qty.	Lengths
No. 4	20	½″
No. 6	60	½″, ¾″, 1″
No. 8	80	½″, ¾″, 1″, 1¼″
No. 10	60	¾″, 1″, 1½″, 2″

18-8 Stainless Steel	90105A200	$49.74
Zinc-Plated Steel	90105A300	30.01

2,000-Piece Assortment

Includes flat head Phillips screws.

Size	Qty.	Lengths
No. 4	200	½″, ¾″
No. 6	500	½″, ¾″, 1″, 1¼″, 1½″
No. 8	550	½″, ¾″, 1″, 1¼″, 1½″, 2″
No. 10	600	¾″, 1″, 1¼″, 1½″, 1¾″, 2″, 2½″, 3″
No. 12	150	1½″, 2″, 3″

Zinc-Plated Steel	90105A124	$135.43

Round Head Screws for Wood





Screws have a flat bearing surface and a decorative domed head.

Lg.	Pkg. Qty.		Pkg.
Phillips—Brass			
No. 2—#1 Drive			
1/4"	100	98685A220	$4.71
3/8"	100	98685A225	4.90
No. 4—#1 Drive			
1/2"	100	98685A330	5.75
3/4"	100	98685A350	7.70
Slotted—18-8 Stainless Steel			
No. 4			
1/2"	100	91607A110	11.56
No. 6			
1/2"	100	91607A148	11.24
3/4"	100	91607A151	13.85
1"	50	91607A153	7.67
No. 8			
1/2"	100	91607A194	11.21
3/4"	50	91607A197	8.07
Slotted—Brass			
No. 2			
1/4"	100	92407A077	4.11
3/8"	100	92407A079	4.14
1/2"	100	92407A081	4.17
No. 3			
3/8"	100	92407A094	4.33
1/2"	100	92407A096	4.31
No. 4			
3/8"	100	92407A108	4.83
1/2"	100	92407A110	5.28
5/8"	100	92407A112	6.32
3/4"	100	92407A113	6.37
No. 6—#2 Drive			
1/2"	100	98685A430	$8.27
5/8"	50	98685A440	5.40
No. 8 (Cont.)			
1"	50	91607A199	9.88
1 1/4"	50	91607A201	11.29
1 1/2"	50	91607A203	12.26
No. 10			
3/4"	50	91607A245	9.82
1"	50	91607A247	13.16
1 1/2"	25	91607A251	8.21
2"	25	91607A253	9.75
No. 5			
1/2"	100	92407A128	6.45
3/4"	100	92407A131	8.03
No. 6			
3/8"	100	92407A146	6.48
1/2"	100	92407A148	7.32
5/8"	100	92407A150	8.61
3/4"	100	92407A151	9.54
1"	100	92407A153	11.30
1 1/4"	50	92407A155	6.96
1 1/2"	50	92407A157	8.53
Slotted—Brass (Cont.)			
No. 8			
1/2"	100	92407A194	$10.11
5/8"	100	92407A196	11.87
3/4"	50	92407A197	7.28
1"	50	92407A199	8.44
1 1/4"	50	92407A201	10.00
1 1/2"	50	92407A203	11.42
2"	25	92407A205	7.49
No. 10			
3/4"	50	92407A245	9.61
1"	50	92407A247	12.26
No. 10 (Cont.)			
1 1/4"	25	92407A249	$7.20
1 1/2"	25	92407A251	8.79
2"	25	92407A253	9.97
2 1/2"	25	92407A255	13.00
No. 12			
1"	50	92407A296	14.44
1 1/2"	25	92407A299	10.03
2"	25	92407A301	11.86
Slotted—Zinc-Plated Steel			
No. 2			
1/4"	100	90011A077	2.48
1/2"	100	90011A081	4.05
No. 4			
3/8"	100	90011A108	2.81
1/2"	100	90011A110	2.81
3/4"	100	90011A113	2.90
1"	100	90011A115	3.10
1 1/4"	100	90011A117	3.95
No. 6			
1/2"	100	90011A148	3.33
3/4"	100	90011A151	4.16
1"	100	90011A153	3.54
1 1/4"	100	90011A155	4.80
1 1/2"	100	90011A157	5.76
No. 8			
1/2"	100	90011A194	2.88
5/8"	100	90011A196	3.08
3/4"	100	90011A197	4.08
No. 8 (Cont.)			
1"	100	90011A199	4.44
1 1/4"	100	90011A201	5.55
1 1/2"	100	90011A203	5.79
No. 10			
3/4"	100	90011A245	5.07
1"	100	90011A247	6.25
1 1/4"	100	90011A249	7.21
1 1/2"	100	90011A251	10.77
2"	100	90011A253	9.21
2 1/2"	50	90011A255	7.10
3"	50	90011A257	8.72
No. 12			
3/4"	100	90011A294	7.46
1"	100	90011A296	8.59
1 1/4"	100	90011A298	9.80
1 1/2"	100	90011A299	12.78

Lag Screws for Wood

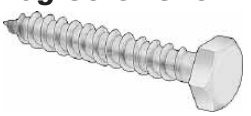

Also known as lag bolts, these screws come in longer lengths than traditional wood screws. Screws are threaded at least two-thirds their length (unless noted). Length is measured from under head. Hex size is measured from flat to flat. All screws meet ASME B18.2.1.

Hot-dipped galvanized steel conforms to ASTM A307 or SAE J429; zinc coating conforms to ASTM 153.

Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
1/4" Dia.—Hex Size 7/16"			
1"	25	90123A113	$10.44
1 1/4"	10	90123A116	5.67
1 1/2"	10	90123A119	5.74
2"	10	90123A124	7.27
2 1/2"	10	90123A127	8.74
3"	10	90123A131	9.18
3 1/2"	5	90123A139	6.12
4"	5	90123A146	7.00
4 1/2"	5	90123A154	8.22
5"	5	90123A161	8.64
6"	1	90123A172	2.03
5/16" Dia.—Hex Size 1/2"			
1"	10	90123A206	8.03
1 1/4"	10	90123A211	8.64
1 1/2"	10	90123A227	9.58
2"	10	90123A234	10.57
2 1/2"	5	90123A238	6.21
3"	5	90123A242	7.45
3 1/2"	5	90123A247	8.11
4"	5	90123A256	9.48
4 1/2"	1	90123A261	2.43
5"	1	90123A269	2.64
6"	1	90123A278	3.24
3/8" Dia.—Hex Size 9/16"			
1"	5	90123A340	5.41
1 1/4"	5	90123A345	6.39
1 1/2"	10	90123A374	12.86
2"	5	90123A377	7.58
2 1/2"	5	90123A379	8.62
3"	5	90123A383	10.76
3 1/2"	1	90123A386	2.31
3/8" Dia. (Cont.)			
4"	1	90123A389	$2.41
4 1/2"	1	90123A393	3.39
5"	1	90123A401	3.77
6"	1	90123A407	4.60
7"	1	90123A413	13.02
8"	1	90123A417 ★	13.63
10"	1	90123A419 ★	15.77
1/2" Dia.—Hex Size 3/4"			
1 1/2"	1	90123A421	2.84
2"	1	90123A425	2.52
2 1/2"	1	90123A429	2.97
3"	1	90123A436	3.40
3 1/2"	1	90123A439	4.06
4"	1	90123A443	4.35
4 1/2"	1	90123A449	6.73
5"	1	90123A457	7.11
6"	1	90123A465	8.33
7"	1	90123A473	16.70
8"	1	90123A481 ★	17.62
10"	1	90123A486 ★	17.82
12"	1	90123A489 ★	23.98
5/8" Dia.—Hex Size 15/16"			
2 1/2"	1	90123A506	17.62
3"	1	90123A514	17.77
4"	1	90123A522	18.85
5"	1	90123A530	20.07
6"	1	90123A537	21.45
7"	1	90123A545	22.83
8"	1	90123A553 ★	24.37
10"	1	90123A561 ★	28.35
Type 316 Stainless Steel (Cont.)			
3/4" Dia.—Hex Size 1 1/8"			
4"	1	90123A634	$25.28
5"	1	90123A642	28.65
6"	1	90123A650	31.26
7"	1	90123A657	32.94
3/4" Dia. (Cont.)			
8"	1	90123A665	$35.09
10"	1	90123A673 ★	39.69
12"	1	90123A681 ★	44.13
18-8 Stainless Steel			
1/4" Dia.—Hex Size 7/16"			
1"	50	92351A542	7.64
1 1/4"	25	92351A544	5.26
1 1/2"	25	92351A546	5.91
1 3/4"	25	92351A548	6.65
2"	25	92351A550	7.38
2 1/2"	25	92351A552	8.60
3"	10	92351A554	4.58
3 1/2"	10	92351A556	5.23
4"	10	92351A558	5.40
4 1/2"	10	92351A559	5.84
5"	10	92351A562	6.70
6"	10	92351A566	8.06
5/16" Dia.—Hex Size 1/2"			
1"	25	92351A583	7.09
1 1/4"	25	92351A585	7.77
1 1/2"	25	92351A587	8.58
1 3/4"	10	92351A588	4.73
2"	10	92351A591	4.89
2 1/2"	10	92351A593	5.79
3"	10	92351A595	6.40
3 1/2"	10	92351A597	7.32
4"	10	92351A599	7.94
4 1/2"	10	92351A601	9.27
5"	5	92351A603	5.39
6"	5	92351A607	5.93
3/8" Dia.—Hex Size 9/16"			
1"	10	92351A624	4.31
1 1/4"	10	92351A626	5.20
1 1/2"	10	92351A628	5.46
1 3/4"	10	92351A630	6.18
2"	10	92351A632	6.72
2 1/2"	10	92351A634	8.13
3"	10	92351A636	8.65
3 1/2"	5	92351A638	5.00
4"	5	92351A640	5.59
4 1/2"	5	92351A642	6.67
5"	5	92351A644	6.67
6"	5	92351A648	7.80
7"	1	92351A656	10.53
8"	1	92351A662	10.95
10"	1	92351A671★	8.30
1/2" Dia.—Hex Size 3/4"			
1 1/2"	5	92351A712	5.34
2"	5	92351A720	5.93
2 1/2"	5	92351A722	6.15
3"	5	92351A724	6.77
3 1/2"	1	92351A726	1.30
4"	1	92351A728	1.49
4 1/2"	1	92351A730	1.63
5"	1	92351A732	2.01
6"	1	92351A736	2.19

★ Threaded at least 4".

(Continued on following page)

Lag Screws for Wood *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
1/2" Dia. (Cont.)			
7"	1	92351A740	$11.76
8"	1	92351A746	12.24
10"	1	92351A754★	9.53
12"	1	92351A757★	9.74
5/8" Dia.—Hex Size 15/16"			
2 1/2"	1	92351A801	9.04
3"	1	92351A807	9.32
4"	1	92351A819	10.00
5"	1	92351A825	10.60
6"	1	92351A831	11.26
7"	1	92351A837	11.93
8"	1	92351A843	12.58
5/8" Dia. (Cont.)			
10"	1	92351A849★	$13.87
12"	1	92351A857★	17.68
3/4" Dia.—Hex Size 1 1/8"			
3"	1	92351A896	11.30
4"	1	92351A903	13.33
5"	1	92351A911	13.54
6"	1	92351A919	14.53
7"	1	92351A927	15.43
8"	1	92351A935	17.11
10"	1	92351A943★	21.11
12"	1	92351A951★	23.33
Hot-Dipped Galvanized Steel			
1/4" Dia.—Hex Size 7/16"			
1"	100	94048A212	12.49
1 1/4"	100	94048A215	12.86
1 1/2"	100	94048A218	13.63
2"	100	94048A221	13.95
2 1/2"	50	94048A224	8.28
3"	50	94048A227	9.73
3 1/2"	50	94048A230	10.13
4"	50	94048A233	11.87
4 1/2"	25	94048A236	6.67
5"	25	94048A239	8.32
6"	25	94048A245	12.70
5/16" Dia.—Hex Size 1/2"			
1"	50	94048A248	11.10
1 1/4"	50	94048A251	11.23
1 1/2"	50	94048A254	11.66
2"	50	94048A257	11.74
2 1/2"	50	94048A260	13.61
3"	50	94048A263	13.85
3 1/2"	25	94048A266	9.24
4"	25	94048A269	9.73
4 1/2"	25	94048A274	9.02
5"	25	94048A275	11.29
6"	25	94048A278	14.32
3/8" Dia.—Hex Size 9/16"			
1 1/4"	50	94048A281	9.39
1 1/2"	50	94048A284	11.00
1 3/4"	50	94048A287	11.56
2"	50	94048A290	14.81
2 1/2"	25	94048A293	9.28
3"	25	94048A296	10.19
3 1/2"	25	94048A299	11.83
4"	25	94048A302	13.29
3/8" Dia. (Cont.)			
4 1/2"	10	94048A305	6.34
5"	10	94048A308	7.20
6"	10	94048A314	8.03
7"	10	94048A317	9.45
8"	10	94048A320	10.80
10"	5	94048A324★	6.63
1/2" Dia.—Hex Size 3/4"			
2"	10	94048A329	6.39
2 1/2"	10	94048A332	7.46
3"	10	94048A335	7.92
3 1/2"	10	94048A338	8.30
4"	10	94048A341	10.20
4 1/2"	10	94048A344	12.50
5"	10	94048A347	13.05
6"	5	94048A353	7.89
7"	5	94048A356	9.67
8"	5	94048A359	9.59
10"	1	94048A363★	2.55
12"	1	94048A366★	2.69
5/8" Dia.—Hex Size 15/16"			
3"	5	94048A374	7.09
4"	5	94048A380	9.13
5"	5	94048A386	11.39
6"	1	94048A389	2.77
7"	1	94048A392	3.33
8"	1	94048A396	3.81
10"	1	94048A399	4.62
12"	1	94048A402★	5.37
3/4" Dia.—Hex Size 1 1/8"			
4"	1	94048A404	3.33
5"	1	94048A407	3.98
6"	1	94048A410	4.51

★Threaded at least 4".

Lg.	Pkg. Qty.		Pkg.
Hot-Dipped Galvanized Steel (Cont.)			
3/4" Dia. (Cont.)			
7"	1	94048A420	$3.87
8"	1	94048A430	4.72
3/4" Dia. (Cont.)			
10"	1	94048A440★	$6.72
12"	1	94048A450★	7.60
Zinc-Plated Steel			
1/4" Dia.—Hex Size 7/16"			
1"	100	91478A542	6.01
1 1/4"	100	91478A544	6.62
1 1/2"	100	91478A546	7.72
1 3/4"	100	91478A548	10.45
2"	100	91478A550	11.67
2 1/2"	100	91478A552	12.12
3"	50	91478A554	7.49
3 1/2"	50	91478A556	8.42
4"	50	91478A558	10.20
5"	50	91478A562	12.06
6"	25	91478A566	7.68
5/16" Dia.—Hex Size 1/2"			
1"	100	91478A583	9.75
1 1/4"	100	91478A585	10.90
1 1/2"	100	91478A587	13.07
1 3/4"	50	91478A588	7.41
2"	50	91478A591	7.81
2 1/2"	50	91478A593	9.54
3"	50	91478A595	11.55
3 1/2"	50	91478A597	13.16
4"	25	91478A599	8.25
5"	25	91478A603	9.35
6"	25	91478A607	11.53
3/8" Dia.—Hex Size 9/16"			
1"	50	91478A624	7.76
1 1/4"	50	91478A626	7.85
1 1/2"	50	91478A628	8.84
1 3/4"	50	91478A630	11.32
2"	50	91478A632	12.20
2 1/2"	25	91478A634	7.19
3/8" Dia. (Cont.)			
3"	25	91478A636	7.53
3 1/2"	25	91478A638	8.77
4"	25	91478A640	9.83
4 1/2"	25	91478A642	11.71
5"	25	91478A644	12.24
6"	10	91478A648	6.58
7"	10	91478A650★	7.87
8"	5	91478A652★	4.28
1/2" Dia.—Hex Size 3/4"			
1 1/2"	25	91478A712	9.49
2"	25	91478A720	11.77
2 1/2"	10	91478A722	5.92
3"	10	91478A724	6.39
3 1/2"	10	91478A726	6.32
4"	5	91478A728	3.29
4 1/2"	10	91478A730	8.94
5"	10	91478A732	9.15
6"	10	91478A736	11.69
7"	10	91478A738★	13.09
8"	5	91478A740★	7.52
5/8" Dia.—Hex Size 15/16"			
3"	5	91478A806	6.18
4"	5	91478A810	6.77
5"	5	91478A814	8.55
7"	1	91478A820★	2.44
3/4" Dia.—Hex Size 1 1/8"			
3"	5	91478A840	11.09
4"	5	91478A842	11.93
5"	5	91478A843	12.26
6"	1	91478A844	2.79
Black Zinc-Plated Steel			
1/4" Dia.—Hex Size 7/16"			
1"	100	92371A412	12.57
1 1/2"	50	92371A416	8.22
2"	50	92371A420	9.14
2 1/2"	50	92371A424	10.09
3"	50	92371A428	11.62
5/16" Dia.—Hex Size 1/2"			
1 1/2"	50	92371A521	12.13
2"	50	92371A525	13.15
5/16" Dia. (Cont.)			
2 1/2"	50	92371A529	12.95
3"	25	92371A533	8.02
3/8" Dia. Hex Size 9/16"			
1 1/2"	25	92371A571	9.09
2"	25	92371A574	8.94
2 1/2"	10	92371A578	4.61
3"	25	92371A581	14.41
4"	10	92371A585	7.29

Flange Head Lag Screws for Wood

A flange distributes pressure to reduce the risk of crushing material around the hole.

Type 316 stainless steel screws have at least 2 3/8" of thread.

Hot-dipped galvanized steel screws meet ASTM A153 and are threaded at least half their length.



Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
3/16" Dia.—Hex Size 5/16"; Flange Dia.: 0.68"			
4"	10	91428A500	$15.29
6"	5	91428A600	12.24
8"	1	91428A700	2.82
1/4" Dia.—Hex Size 1/2"; Flange Dia.: 0.68"			
10"	1	91428A800	$4.84
Hot-Dipped Galvanized Steel			
1/4" Dia.—Hex Size 3/8"; Flange Dia.: 0.56"			
1"	100	95526A100	13.48
1 1/2"	50	95526A125	9.00
2"	50	95526A150	10.09
2 1/2"	50	95526A175	10.93
3"	50	95526A200	12.95
5/16" Dia.—Hex Size 1/2"; Flange Dia.: 0.68"			
1"	50	95526A325	11.48
1 1/2"	50	95526A350	12.44
5/16" Dia. (Cont.)			
2"	50	95526A375	12.41
2 1/2"	25	95526A400	7.91
3/8" Dia.—Hex Size 9/16"; Flange Dia.: 0.81"			
1 1/2"	25	95526A500	10.36
2"	25	95526A525	9.52
2 1/2"	25	95526A550	11.17
3"	25	95526A575	13.27
4"	10	95526A600	6.70

Thread-Forming Screws for Wood to Metal

Also known as Flortorx screws, these screws press threads into material and resist stripping and pullout. They have triangular leading threads, a blunt tip, and a Torx drive that prevents driver slippage. The flat head is beveled underneath, so screws sit flush with the surface when installed. All are made from steel and have a rust-resistant black phosphate finish. Length is measured from the top of the head.



Lg.	Pkg. Qty.		Pkg.
1/4"-20—T30 Torx Size			
1"	50	91087A120	$15.09
1 1/4"	50	91087A122	14.88
1 1/2"	50	91087A124	14.37
1 3/4"	50	91087A129	13.77
2"	50	91087A128	13.92
2 1/4"	50	91087A130	14.01
2 1/2"	25	91087A132	8.84
3"	25	91087A134	9.52
1/4"-20 (Cont.)			
3 1/2"	10	91087A135	$7.34
4"	10	91087A136	9.40
5/16"-18—T40 Torx Size			
1 3/4"	25	91087A238	9.32
2"	25	91087A241	9.27
2 1/4"	10	91087A243	6.73
2 1/2"	25	91087A245	12.07
3"	10	91087A247	7.87

About Machine Screws

Head Styles

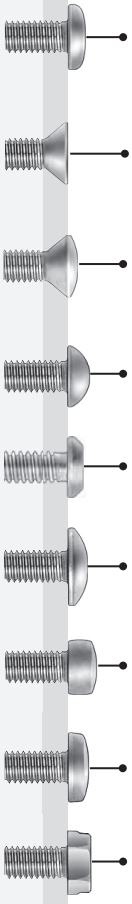

Pan head screws (pages 3025-3035) are general purpose screws with moderate head height and head diameter.

Flat head screws (pages 3036-3044) are angled under the head to provide a flush surface when countersunk in a hole. To install, create a hole with a countersink that matches the head angle of your screw.

Oval head screws (pages 3044-3045) are angled under the head so they can be countersunk in a hole. When installed, the rounded top sits above the surface. To install, create a hole with a countersink that matches the head angle of your screw.

Round head screws (pages 3045-3049) have a thick, decorative round head that provides a finished appearance.

Low-profile button head screws (page 3048) are similar to pan heads but with a shallower head.

Large-diameter truss head screws (pages 3049-3050) have a rounded head that's wider than other head styles for a strong hold in thin materials.

High-profile fillister and **high-profile cheese** head screws (pages 3050-3052) maximize driving power by combining the greatest head height with the smallest head diameter you can get in a machine screw.

Binding head screws (pages 3052-3053) are slightly wider than pan head screws and are often used for making electrical connections.

Hex head screws (pages 3053-3054) have flat sides for tightening with a wrench.

Materials

Type 316 Stainless Steel—Our most corrosion resistant stainless steel. Withstands solvents and pitting caused by chloride and sulfur. May be mildly magnetic.

18-8 Stainless Steel—Has excellent corrosion resistance. May be mildly magnetic.

Titanium—Resists corrosion from salt water and stands up to more chemicals than stainless steel. It's strong, yet 40% lighter than steel.

Brass—Nonmagnetic with very good corrosion resistance. An excellent conductor of electricity, it's usually softer than steel and stainless steel.

Aluminum—Offers mild resistance to corrosion. It's nonmagnetic and one-third the weight of steel.

Steel—This low-strength general purpose metal is often plated with zinc for rust resistance.

Plastic—Plastic screws (pages 3055-3057) come in economical *nylon*; impact-resistant *polycarbonate*; nonstick *PTFE*; and high-strength, water- and steam-resistant *PEEK*.

Ceramic—(Page 3055) Won't melt, rust, seize, or become brittle at high temperatures. Highly resistant to corrosive gases. Nonconductive.

Finishes

Black Oxide—Provides a decorative finish, adds mild rust resistance, and makes screws easier to thread.

Zinc Plated—Enhances rust resistance.

Chrome Plated—Bright and attractive. Offers good rust resistance.

Cadmium Plated—Adds superior corrosion protection and makes screws easier to thread.

Black Coated—Delivers corrosion resistance and deep, consistent color that won't rub off with repeated use.

PTFE Coated—This slick coating prevents fasteners from sticking and binding.

Passivated—Protects from oxidation and corrosion.

Drive Styles



Phillips drives are the most common cross-style drive. Use a screwdriver that matches your screw's drive size: #0, #1, #2, #3, or #4.



Slotted drives accept readily available flat-head slotted screwdrivers.



Combination drives accept both slotted and Phillips screwdrivers.



Torx drives make the most contact with your driver, which reduces slippage and improves driving power. They require compatible driving tools in sizes specified by a Torx number such as T10.



Hex drives have flat sides, so they're easy to tighten with a wrench. Hex size is measured from flat to flat.



Tamper-resistant drives (pages 3054-3055) add a level of security. They come in a variety of non-standard shapes that are difficult to remove without special tools.

Thread Fit

Thread fit is a measure of how tightly threads fit together. Most of our screws have a standard thread fit: inch sizes are Class 2A (unless noted); metric sizes are Class 6g, except zinc plated, which are Class 6h.

How to Read a Screw Size

Inch: ¼″-20

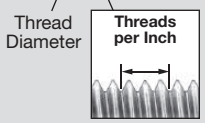

Metric: M2, Pitch: 0.4 mm

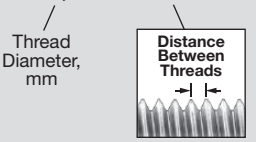

Decimal Equivalents for Inch Screw Sizes

Inch Screw Size	000	00	0	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 8	No. 10	No. 12	¼″	5⁄16″	⅜″	½″
Decimal Size	.034″	.047″	.060″	.073″	.086″	.099″	.112″	.125″	.138″	.164″	.190″	.216″	.250″	.312″	.375″	.500″

Metric Pitch

Metric Screw Size	M1	M1.2	M1.4	M1.6	M2	M2.5	M2.6	M3	M3.5	M4	M5	M6	M8	M10
Standard Pitch, mm	0.25	0.25	0.30	0.35	0.4	0.45	0.45	0.5	0.6	0.7	0.8	1	1.25	1.5

Screw Dimensions

CAD For technical drawings and 3-D models, go to mcmaster.com and search by part number.

Pan Head Phillips

Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from under the head.



Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
2-56—#1 Drive			
1/8″	100	91735A003	$9.99
3/16″	100	91735A007	10.00
1/4″	100	91735A010	10.58
5/16″	100	91735A013	11.02
3/8″	50	91735A017	5.52
7/16″	50	91735A019	5.75
1/2″	50	91735A021	6.18
5/8″	50	91735A025	6.60
3/4″	50	91735A029	7.10
1″	50	91735A033	8.50
4-40—#1 Drive			
3/16″	50	91735A101	5.39
1/4″	50	91735A102	3.73
5/16″	50	91735A103	4.33
3/8″	50	91735A104	4.59
7/16″	50	91735A105	5.50
1/2″	50	91735A106	4.84
5/8″	50	91735A109	6.97
3/4″	50	91735A113	7.71
7/8″	50	91735A115	8.93
1″	50	91735A117	9.90
6-32—#2 Drive			
3/16″	50	91735A142	5.85
1/4″	50	91735A144	3.85
5/16″	50	91735A145	5.10
3/8″	50	91735A146	5.02
7/16″	50	91735A147	6.72
1/2″	50	91735A148	4.93
5/8″	50	91735A150	6.05
3/4″	50	91735A151	6.44
7/8″	50	91735A152	7.71
1″	50	91735A154	7.39
1¼″	50	91735A161	8.94
1½″	25	91735A165	6.61
2″	25	91735A170	9.44
8-32—#2 Drive			
1/4″	50	91735A190	4.86
5/16″	50	91735A191	5.15
3/8″	50	91735A192	5.18
7/16″	50	91735A193	7.86
8-32 (Cont.)			
1/2″	50	91735A194	$5.82
5/8″	50	91735A196	8.11
3/4″	50	91735A197	7.61
7/8″	25	91735A198	6.42
1″	25	91735A199	5.40
1¼″	25	91735A205	7.99
1½″	25	91735A208	8.64
2″	10	91735A210	5.31
2½″	10	91735A215	6.53
10-24—#2 Drive			
3/8″	50	91735A240	7.10
1/2″	25	91735A242	5.02
5/8″	25	91735A243	6.39
3/4″	25	91735A245	5.61
1″	25	91735A247	5.70
1¼″	25	91735A251	9.95
1½″	10	91735A255	5.10
10-32—#2 Drive			
1/4″	50	91735A821	8.92
5/16″	50	91735A824	9.95
3/8″	50	91735A827	8.08
1/2″	25	91735A829	4.95
5/8″	25	91735A830	5.59
3/4″	25	91735A831	5.61
7/8″	25	91735A832	7.98
1″	25	91735A833	5.70
1¼″	25	91735A837	9.95
1½″	10	91735A841	4.35
2″	10	91735A845	7.24
¼″-20—#3 Drive			
1/4″	25	91735A530	9.91
3/8″	25	91735A535	9.81
1/2″	25	91735A537	9.83
5/8″	25	91735A539	9.88
3/4″	25	91735A540	7.75
1″	25	91735A542	9.50
1¼″	25	91735A544	11.64
1½″	10	91735A546	5.89
2″	10	91735A548	7.24
18-8 Stainless Steel			
0-80—#0 Drive			
3/32″	100	91772A049	5.86
1/8″	100	91772A052	7.07
5/32″	100	91772A051	6.05
3/16″	100	91772A054	7.29
7/32″	100	91772A058	6.21
1/4″	100	91772A055	7.51
9/32″	100	91772A061	6.30
5/16″	100	91772A056	7.69
11/32″	100	91772A062	6.51
3/8″	100	91772A057	7.87
7/16″	100	91772A064	6.67
1/2″	100	91772A059	8.05
5/8″	100	91772A060	9.34
3/4″	100	91772A071	9.95
7/8″	100	91772A069	7.09
1″	50	91772A102	8.22
1-64—#0 Drive			
1/4″	100	91772A166	11.83
3/8″	100	91772A168	12.67
1/2″	100	91772A170	13.81
1-72—#0 Drive			
1/8″	100	91772A063	10.15
3/16″	100	91772A065	10.99
1/4″	100	91772A066	11.83
5/16″	100	91772A067	12.25
3/8″	100	91772A068	12.67
1/2″	100	91772A070	13.81
5/8″	100	91772A072	9.70
3/4″	100	91772A075	10.92
1″	50	91772A187	11.09
2-56—#1 Drive			
1/8″	100	91772A074	6.91
5/32″	100	91772A073	3.00
3/16″	100	91772A076	5.74
1/4″	100	91772A077	4.49
5/16″	100	91772A078	4.49
2-56 (Cont.)			
3/8″	100	91772A079	4.71
7/16″	100	91772A080	5.54
1/2″	100	91772A081	5.29
9/16″	100	91772A265	3.10
5/8″	100	91772A082	4.15
3/4″	100	91772A084	4.27
7/8″	100	91772A085	4.66
1″	100	91772A086	4.82
1¼″	100	91772A266	9.83
1½″	50	91772A267	11.63
3-48—#1 Drive			
1/8″	100	91772A089	7.87
3/16″	100	91772A091	8.00
1/4″	100	91772A092	8.13
5/16″	100	91772A093	8.26
3/8″	100	91772A094	8.60
1/2″	100	91772A096	9.77
5/8″	100	91772A097	11.18
3/4″	100	91772A099	13.19
1″	50	91772A101	8.23
3-56—#1 Drive			
1/4″	100	91772A030	7.70
5/16″	100	91772A032	8.43
3/8″	100	91772A050	9.17
1/2″	100	91772A053	9.77
4-40—#1 Drive			
1/8″	100	91772A103	4.27
3/16″	100	91772A105	3.92
1/4″	100	91772A106	3.98
5/16″	100	91772A107	4.20
3/8″	100	91772A108	4.30
7/16″	100	91772A109	4.36
1/2″	100	91772A110	4.45
9/16″	100	91772A111	4.41
5/8″	100	91772A112	4.32
11/16″	100	91772A117	4.57
18-8 Stainless Steel (Cont.)			
4-40 (Cont.)			
3/4″	100	91772A113	$4.95
7/8″	100	91772A114	5.03
1″	100	91772A115	5.29
1 1/8″	100	91772A118	6.49
1 1/4″	100	91772A116	6.57
1 3/8″	100	91772A122	8.78
1 1/2″	100	91772A119	6.85
1 3/4″	100	91772A120	8.86
2″	100	91772A121	9.40
2 1/2″	50	91772A137	9.86
2 3/4″	50	91772A127	9.34
3″	25	91772A138	6.81
4-48—#1 Drive			
1/4″	100	91772A741	9.98
3/8″	100	91772A742	9.79
1/2″	50	91772A743	8.27
5-40—#2 Drive			
3/16″	100	91772A123	6.22
1/4″	100	91772A124	5.28
5/16″	100	91772A125	5.80
3/8″	100	91772A126	6.36
1/2″	100	91772A128	7.01
5/8″	100	91772A130	8.92
3/4″	100	91772A131	9.95
1″	50	91772A133	7.97
6-32—#2 Drive			
1/8″	100	91772A142	5.27
3/16″	100	91772A143	6.19
1/4″	100	91772A144	4.55
5/16″	100	91772A145	4.60
3/8″	100	91772A146	4.49
7/16″	100	91772A149	4.73
1/2″	100	91772A148	5.14
9/16″	100	91772A162	4.63
5/8″	100	91772A150	5.60
3/4″	100	91772A151	6.28
7/8″	100	91772A152	6.67
1″	100	91772A153	7.43
1 1/8″	100	91772A154	6.58
1 1/4″	100	91772A155	8.39
1 3/8″	100	91772A156	7.68
1 1/2″	100	91772A157	10.14
1 5/8″	100	91772A159	9.96
1 3/4″	100	91772A158	8.32
1 7/8″	100	91772A164	9.34
2″	100	91772A160	9.88
2 1/4″	50	91772A167	6.93
2 1/2″	50	91772A161	6.23
2 3/4″	50	91772A165	6.67
3″	50	91772A163	7.84
8-32—#2 Drive			
1/8″	100	91772A188	9.98
3/16″	100	91772A189	9.06
1/4″	100	91772A190	6.42
5/16″	100	91772A191	6.56
3/8″	100	91772A192	6.88
7/16″	100	91772A193	6.64
1/2″	100	91772A194	7.54
9/16″	100	91772A200	7.20
5/8″	100	91772A196	8.33
3/4″	100	91772A197	9.16
7/8″	100	91772A198	9.36
1″	100	91772A199	10.45
1 1/8″	100	91772A211	8.89
1 1/4″	100	91772A201	10.47
1 3/8″	50	91772A202	6.83
1 1/2″	50	91772A203	7.36
1 3/4″	50	91772A204	7.68
2″	50	91772A205	9.91
2 1/4″	50	91772A206	8.73
2 1/2″	50	91772A207	9.05
2 3/4″	50	91772A208	11.58
3″	25	91772A209	6.24
3 1/2″	10	91772A213	4.80
4″	10	91772A217	5.47
10-24—#2 Drive			
1/4″	100	91772A238	9.10
5/16″	100	91772A239	9.16
10-24 (Cont.)			
3/8″	100	91772A240	$9.79
7/16″	100	91772A241	9.98
1/2″	100	91772A242	10.48
5/8″	100	91772A244	11.27
3/4″	100	91772A245	12.03
7/8″	100	91772A246	13.80
1″	50	91772A247	7.28
1 1/8″	50	91772A248	7.82
1 1/4″	50	91772A249	8.31
1 1/2″	50	91772A251	9.20
1 3/4″	50	91772A252	8.64
2″	50	91772A253	13.21
2 1/4″	50	91772A254	12.30
2 1/2″	25	91772A255	7.50
2 3/4″	25	91772A256	7.06
3″	25	91772A257	8.16
3 1/2″	10	91772A264	4.71
4″	10	91772A269	5.36
10-32—#2 Drive			
3/16″	100	91772A824	8.22
1/4″	100	91772A825	8.90
5/16″	100	91772A826	9.43
3/8″	100	91772A827	9.64
7/16″	100	91772A818	10.23
1/2″	100	91772A829	10.75
9/16″	100	91772A819	10.49
5/8″	100	91772A830	11.15
3/4″	100	91772A831	12.43
7/8″	100	91772A832	14.16
1″	50	91772A833	7.84
1 1/8″	50	91772A834	7.82
1 1/4″	50	91772A835	8.38
1 3/8″	50	91772A820	10.07
1 1/2″	50	91772A836	9.51
1 3/4″	50	91772A837	12.47
2″	25	91772A838	7.65
2 1/4″	25	91772A839	6.15
2 1/2″	25	91772A840	8.02
2 3/4″	25	91772A841	7.06
3″	25	91772A842	8.99
3 1/2″	25	91772A846	10.96
4″	25	91772A850	12.47
4 1/2″	10	91772A854	5.36
12-24—#3 Drive			
3/8″	100	91772A289	7.92
1/2″	100	91772A291	9.61
5/8″	50	91772A292	5.64
3/4″	50	91772A294	6.11
1″	50	91772A296	7.78
1 1/4″	50	91772A297	10.22
1 1/2″	50	91772A299	11.74
2″	25	91772A302	7.46
¼″-20—#3 Drive			
1/4″	50	91772A533	6.46
5/16″	50	91772A534	7.04
3/8″	50	91772A535	6.91
1/2″	50	91772A537	10.28
5/8″	50	91772A539	7.70
3/4″	50	91772A540	13.09
7/8″	50	91772A541	9.48
1″	25	91772A542	8.76
1 1/8″	25	91772A543	6.88
1 1/4″	25	91772A544	7.97
1 3/8″	25	91772A545	7.76
1 1/2″	25	91772A546	9.39
1 3/4″	25	91772A548	7.50
2″	25	91772A550	12.13
2 1/4″	25	91772A551	10.25
2 1/2″	25	91772A552	13.21
2 3/4″	10	91772A553	5.24
3″	10	91772A554	6.06
3 1/2″	10	91772A701	6.27
4″	10	91772A703	8.53
4 1/2″	10	91772A556	9.01
5″	5	91772A706	6.55
6″	5	91772A709	8.13

(Continued on following page)

Pan Head Phillips *(Continued from previous page)*



Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from under the head.

18-8 Stainless Steel (Cont.)

¼″-28—#3 Drive

Lg.	Pkg. Qty.		Pkg.
⅜″	50	91772A555	$8.30
½″	50	91772A557	8.85
⅝″	50	91772A560	9.70
¾″	25	91772A559	6.34
1″	25	91772A561	6.84
1¼″	25	91772A563	8.84
1½″	25	91772A564	9.61
2″	25	91772A568	10.56
2½″	25	91772A572	12.11
3″	10	91772A575	5.52

5/16″-18—#4 Drive

½″	25	91772A620	9.02
⅝″	25	91772A621	8.83
¾″	25	91772A622	9.86
1″	10	91772A624	4.83
1¼″	10	91772A625	5.19
1½″	10	91772A628	6.90
1¾″	10	91772A630	6.99
2″	10	91772A632	7.75
2½″	10	91772A634	9.25

Black-Oxide 18-8 Stainless Steel

0-80—#0 Drive

⅛″	50	91249A010	8.67
3/16″	50	91249A013	5.68
¼″	50	91249A016	7.03
5/16″	50	91249A019	7.45
⅜″	50	91249A021	8.45
½″	50	91249A024	10.25

2-56—#1 Drive

⅛″	100	91249A042	7.75
3/16″	100	91249A046	4.28
¼″	100	91249A050	3.34
5/16″	100	91249A052	3.34
⅜″	100	91249A054	3.83
7/16″	100	91249A047	5.12
½″	100	91249A058	4.08
⅝″	100	91249A060	6.33
¾″	100	91249A063	7.16
1″	100	91249A066	8.02

4-40—#1 Drive

⅛″	100	91249A101	5.05
3/16″	100	91249A102	5.86
¼″	100	91249A105	3.86
5/16″	100	91249A107	6.14
⅜″	100	91249A108	4.17
7/16″	100	91249A109	6.14
½″	100	91249A111	4.72
9/16″	100	91249A112	6.77
⅝″	100	91249A115	7.81
¾″	100	91249A119	8.05
⅞″	100	91249A120	8.61
1″	100	91249A123	10.05
1½″	50	91249A126	8.25
2″	50	91249A129	10.44

6-32—#2 Drive

⅛″	100	91249A139	11.50
3/16″	100	91249A141	7.09
¼″	100	91249A144	4.41
5/16″	100	91249A145	7.26
⅜″	100	91249A146	5.06
7/16″	100	91249A147	8.29
½″	100	91249A148	5.90
⅝″	50	91249A151	9.29

Chrome-Plated 18-8 Stainless Steel

4-40—#1 Drive

¼″	10	94836A210	6.20
⅜″	10	94836A213	6.23
½″	10	94836A216	6.26

6-32—#2 Drive

¼″	10	94836A250	6.26
⅜″	10	94836A253	6.29
½″	10	94836A256	3.10
¾″	10	94836A259	3.43

8-32—#2 Drive

½″	10	94836A310	6.51
¾″	10	94836A313	6.69

5/16″-18 (Cont.)

2¾″	10	91772A635	$9.35
3″	10	91772A636	11.88
3½″	5	91772A638	8.02
4″	5	91772A640	9.02
5″	1	91772A648	3.43
6″	1	91772A656	5.35

⅜″-16—#4 Drive

½″	10	91772A673	7.31
¾″	10	91772A675	6.98
1″	10	91772A677	7.58
1¼″	10	91772A679	10.81
1½″	10	91772A681	10.45
1¾″	10	91772A682	10.87
2″	5	91772A683	7.60
2½″	5	91772A685	8.77
3″	5	91772A687	9.97
4″	1	91772A691	2.75
5″	1	91772A695	4.67
6″	1	91772A711	6.17

6-32 (Cont.)

¾″	50	91249A155	6.60
⅞″	50	91249A156	7.56
1″	50	91249A159	9.82
1¼″	50	91249A161	10.45
1½″	50	91249A164	9.15

8-32—#2 Drive

¼″	100	91249A189	9.86
5/16″	100	91249A190	10.15
⅜″	100	91249A192	7.14
½″	100	91249A194	7.91
⅝″	100	91249A196	8.39
¾″	100	91249A197	8.84
1″	50	91249A201	10.18
1¼″	25	91249A204	10.24
1½″	25	91249A207	10.34

10-24—#2 Drive

⅜″	100	91249A240	9.30
½″	100	91249A242	10.29
⅝″	100	91249A244	11.39
¾″	50	91249A245	7.20
1″	25	91249A248	11.14
1½″	10	91249A251	6.03

10-32—#2 Drive

¼″	100	91249A258	13.16
5/16″	50	91249A259	13.31
⅜″	100	91249A260	9.30
½″	100	91249A263	10.54
⅝″	100	91249A266	11.39
¾″	50	91249A269	7.20
⅞″	25	91249A270	10.78
1″	50	91249A272	13.10
1¼″	10	91249A275	5.57
1½″	10	91249A278	6.31

¼″-20—#3 Drive

¼″	25	91249A528	12.41
⅜″	10	91249A531	5.59
½″	50	91249A537	11.34
⅝″	25	91249A539	6.81
¾″	25	91249A541	8.07
1″	25	91249A547	12.36
1½″	10	91249A550	12.66
2″	5	91249A553	7.26

8-32 (Cont.)

1″	10	94836A316	3.40
1½″	10	94836A319	6.43

10-32—#2 Drive

½″	10	94836A360	5.93
¾″	10	94836A363	3.16
1″	10	94836A366	7.03
1½″	10	94836A369	7.43

¼″-20—#3 Drive

¾″	10	94836A420	4.32
1″	10	94836A423	5.20
1½″	10	94836A426	6.40
2″	10	94836A429	6.57

Brass

0-80—#0 Drive

¼″	100	94070A031	$7.24
⅜″	100	94070A035	8.30
½″	100	94070A039	8.66

1-64—#0 Drive

¼″	50	94070A043	7.36
⅜″	50	94070A047	8.08
½″	50	94070A051	9.11

2-56—#1 Drive

⅛″	100	94070A074	4.20
3/16″	100	94070A076	4.29
¼″	100	94070A077	4.42
⅜″	100	94070A079	4.98
½″	100	94070A081	5.21
¾″	100	94070A084	6.90

4-40—#1 Drive

3/16″	100	94070A105	5.66
¼″	100	94070A106	5.76
5/16″	100	94070A107	5.98
⅜″	100	94070A108	6.30
½″	100	94070A110	6.80
⅝″	100	94070A112	7.46
¾″	100	94070A113	8.07
1″	100	94070A115	10.97

5-40—#2 Drive

¼″	100	94070A124	8.59
½″	100	94070A128	10.54
¾″	100	94070A131	13.08

6-32—#2 Drive

3/16″	100	94070A142	7.32
¼″	100	94070A144	6.77
5/16″	100	94070A145	7.14
⅜″	100	94070A146	7.43
½″	100	94070A148	8.54
⅝″	100	94070A150	9.50
¾″	100	94070A151	10.60
1″	50	94070A153	7.14
1¼″	50	94070A155	8.83
1½″	50	94070A157	10.89
2″	25	94070A159	7.07

8-32—#2 Drive

¼″	100	94070A190	9.33
5/16″	100	94070A191	10.55

8-32 (Cont.)

⅜″	100	94070A192	$10.75
½″	50	94070A194	6.63
⅝″	50	94070A196	7.82
¾″	50	94070A197	8.15
1″	50	94070A199	9.82
1¼″	25	94070A201	6.97
1½″	25	94070A203	8.16
2″	25	94070A205	10.32

10-24—#2 Drive

¼″	50	94070A236	7.63
5/16″	50	94070A238	8.99
⅜″	50	94070A240	8.95
½″	50	94070A242	9.81
⅝″	50	94070A244	10.92
¾″	25	94070A245	6.64
1″	25	94070A247	7.43
1¼″	25	94070A249	9.24
1½″	25	94070A251	10.46
2″	10	94070A255	5.57

10-32—#2 Drive

3/16″	50	94070A824	7.36
¼″	50	94070A825	7.82
5/16″	50	94070A826	8.99
⅜″	50	94070A827	8.22
½″	50	94070A829	9.81
⅝″	50	94070A830	10.92
¾″	25	94070A831	6.64
1″	25	94070A833	7.43
1¼″	25	94070A835	9.24
1½″	25	94070A836	10.46
2″	10	94070A838	5.57

¼″-20—#3 Drive

⅜″	25	94070A535	9.81
½″	25	94070A537	9.23
⅝″	25	94070A539	10.02
¾″	25	94070A540	11.09
1″	10	94070A542	5.41
1¼″	10	94070A544	6.71
1½″	10	94070A546	7.97
2″	10	94070A550	9.23

Zinc-Plated Steel

0-80—#0 Drive

⅛″	50	90272A020	8.08
3/16″	50	90272A025	6.68
¼″	50	90272A030	6.70

1-72—#0 Drive

⅛″	50	90272A040	7.58
3/16″	50	90272A045	6.78
¼″	50	90272A050	6.84

2-56—#1 Drive

⅛″	100	90272A075	4.33
3/16″	100	90272A076	5.01
¼″	100	90272A077	2.64
5/16″	100	90272A078	3.28
⅜″	100	90272A079	3.28
7/16″	100	90272A080	7.28
½″	100	90272A081	4.61
9/16″	100	90272A082	9.40
⅝″	100	90272A083	8.71
¾″	100	90272A084	7.94
⅞″	100	90272A085	6.73
1″	100	90272A086	6.20
1¼″	50	90272A087	5.98
1½″	25	90272A088	6.53

3-48—#1 Drive

3/16″	100	90272A091	6.08
¼″	100	90272A092	6.14
5/16″	100	90272A093	7.85
⅜″	100	90272A094	9.10
½″	100	90272A096	8.00
⅝″	100	90272A097	7.80
¾″	100	90272A098	10.16

4-40—#1 Drive

⅛″	100	90272A103	8.78
3/16″	100	90272A105	1.62
¼″	100	90272A106	1.46

4-40 (Cont.)

5/16″	100	90272A107	1.52
⅜″	100	90272A108	1.60
7/16″	100	90272A109	2.53
½″	100	90272A110	1.75
9/16″	50	90272A111	3.50
⅝″	100	90272A112	2.10
¾″	100	90272A113	2.32
⅞″	100	90272A114	2.85
1″	100	90272A115	3.00
1¼″	100	90272A117	9.10
1½″	50	90272A119	5.22
2″	50	90272A121	6.30

5-40—#2 Drive

¼″	100	90272A124	8.74
5/16″	100	90272A125	8.20
⅜″	100	90272A126	7.87
½″	100	90272A128	9.46
⅝″	100	90272A129	8.58
¾″	100	90272A130	10.04

6-32—#2 Drive

⅛″	100	90272A142	7.69
3/16″	100	90272A143	1.89
¼″	100	90272A144	1.83
5/16″	100	90272A145	1.99
⅜″	100	90272A146	2.12
7/16″	100	90272A147	2.16
½″	100	90272A148	2.33
⅝″	100	90272A150	2.68
¾″	100	90272A151	3.00
⅞″	100	90272A152	3.29
1″	100	90272A153	3.53
1¼″	100	90272A155	3.94
1½″	100	90272A157	4.42

(Continued on following page)

Pan Head Phillips *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
Zinc-Plated Steel (Cont.)			
6-32 (Cont.)			
2″	100	90272A159	$6.61
2½″	25	90272A161	9.12
3″	25	90272A163	10.69
4″	5	99117A110★	5.22
6″	5	99117A130★	9.05
8″	5	99117A150★	9.55
8-32—#2 Drive			
3/16″	100	90272A189	6.08
1/4″	100	90272A190	2.62
5/16″	100	90272A191	2.72
3/8″	100	90272A192	2.92
7/16″	100	90272A193	4.58
1/2″	100	90272A194	3.14
5/8″	100	90272A196	3.70
3/4″	100	90272A197	4.10
7/8″	100	90272A198	4.98
1″	100	90272A199	4.86
1¼″	100	90272A201	5.70
1½″	100	90272A203	6.45
1¾″	100	90272A204	7.67
2″	100	90272A205	8.43
2½″	25	90272A750	3.60
3″	25	90272A209	3.84
4″	5	99117A300★	5.60
6″	5	99117A320★	5.67
8″	5	99117A340★	6.90
10″	5	99117A360★	10.04
12″	5	99117A380★	10.75
10-24—#2 Drive			
1/4″	100	90272A238	$3.62
5/16″	100	90272A239	6.44
3/8″	100	90272A240	3.93
7/16″	100	90272A241	4.02
1/2″	100	90272A242	4.31
5/8″	100	90272A244	4.97
3/4″	100	90272A245	5.37
7/8″	100	90272A248	5.52
1″	100	90272A247	6.35
1¼″	100	90272A249	7.42
1½″	100	90272A251	8.48
1¾″	100	90272A252	9.24
2″	100	90272A253	10.90
2½″	100	90272A255	13.33
3″	50	90272A257	8.60
3½″	10	90272A259	7.17
4″	10	90272A261	10.30
6″	5	99117A530★	6.46
8″	5	99117A550★	8.23
10″	5	99117A570★	9.53
12″	5	99117A590★	10.30
14″	5	99117A610★	11.05
10-32—#2 Drive			
1/4″	100	90272A825	3.93
5/16″	100	90272A826	3.92
3/8″	100	90272A827	3.95
7/16″	100	90272A828	4.12
1/2″	100	90272A829	4.53

★ Has a combination drive that accepts both Phillips and slotted drivers.

Lg.	Pkg. Qty.		Pkg.
Zinc-Plated Steel (Cont.)			
10-32 (Cont.)			
5/8″	100	90272A830	$5.02
3/4″	100	90272A831	5.87
7/8″	100	90272A832	6.22
1″	100	90272A833	6.68
1¼″	100	90272A835	7.29
1½″	100	90272A836	9.06
1¾″	100	90272A837	10.84
2″	100	90272A838	10.69
2½″	50	90272A840	7.56
3″	50	90272A842	8.28
4″	5	99117A700★	5.26
6″	5	99117A720★	6.37
8″	5	99117A740★	9.06
10″	5	99117A760★	10.39
12″	5	99117A780★	11.28
12-24—#3 Drive			
3/8″	50	90272A289	6.28
1/2″	100	90272A291	5.93
3/4″	100	90272A294	7.14
1″	100	90272A296	8.54
1½″	25	90272A299	7.23
2″	25	90272A301	9.25
1/4″-20—#3 Drive			
1/4″	100	90272A531	11.45
3/8″	100	90272A535	7.43
1/2″	100	90272A537	8.44
5/8″	100	90272A539	8.66
3/4″	100	90272A540	9.92
1/4″-20 (Cont.)			
7/8″	100	90272A541	$10.40
1″	100	90272A542	10.88
1¼″	100	90272A544	13.19
1½″	50	90272A546	8.06
1¾″	50	90272A547	8.00
2″	50	90272A550	9.92
2½″	50	90272A552	10.69
3″	25	90272A554	7.67
3½″	10	90272A556	7.80
4″	10	90272A558	8.38
6″	5	99117A870★	3.81
8″	5	99117A890★	8.77
10″	5	99117A910★	11.34
12″	5	99117A930★	11.95
14″	5	99117A950★	12.55
16″	1	99117A970★	2.72
1/4″-28—#3 Drive			
3/8″	50	90272A610	4.62
1/2″	50	90272A620	9.58
3/4″	50	90272A630	9.84
5/16″-18—#4 Drive			
1/2″	25	90272A575	6.62
5/8″	25	90272A580	6.02
3/4″	25	90272A581	4.57
1″	25	90272A583	6.16
2″	25	90272A591	10.57
3″	25	90272A592	12.43

Pan Head Slotted

Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from under the head.



Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
6-32			
1/4″	100	93923A372	$9.83
3/8″	50	93923A375	5.57
1/2″	50	93923A378	6.31
8-32			
1/4″	50	93923A421	6.97
3/8″	50	93923A424	8.11
1/2″	50	93923A427	8.93
18-8 Stainless Steel			
0-80			
1/8″	100	91792A052	7.55
3/16″	100	91792A054	8.71
1/4″	100	91792A055	11.14
3/8″	100	91792A057	11.38
1/2″	50	91792A059	8.56
3/4″	50	91792A071	9.03
1″	50	91792A102	10.69
1-64			
1/4″	50	91792A166	8.92
3/8″	50	91792A168	8.87
1/2″	50	91792A170	9.42
1-72			
1/8″	100	91792A063	12.01
3/16″	100	91792A065	12.24
1/4″	50	91792A066	7.58
5/16″	50	91792A067	7.12
3/8″	50	91792A068	7.68
1/2″	50	91792A070	8.21
1″	25	91792A187	7.06
2-56			
1/8″	100	91792A074	9.32
3/16″	100	91792A076	3.94
1/4″	100	91792A077	4.02
5/16″	100	91792A078	4.11
3/8″	100	91792A079	4.05
7/16″	100	91792A080	4.87
1/2″	100	91792A081	5.01
5/8″	100	91792A083	5.51
3/4″	100	91792A084	6.15
7/8″	100	91792A085	6.73
1″	100	91792A086	7.28
1¼″	50	91792A266	10.48
3-48			
1/8″	50	91792A089	6.91
3/16″	100	91792A091	9.52
10-32			
3/8″	50	93923A533	$9.53
1/2″	50	93923A536	9.89
1/4″-20			
1/2″	25	93923A701	7.75
3/4″	25	93923A704	9.18
1″	25	93923A707	9.98
3-48 (Cont.)			
1/4″	100	91792A092	7.31
5/16″	100	91792A093	8.32
3/8″	100	91792A094	8.58
1/2″	100	91792A096	9.95
3/4″	50	91792A099	7.29
1″	50	91792A101	10.56
4-40			
1/8″	100	91792A103	10.26
3/16″	100	91792A105	4.70
1/4″	100	91792A106	4.18
5/16″	100	91792A107	4.22
3/8″	100	91792A108	4.28
7/16″	100	91792A109	4.68
1/2″	100	91792A110	4.69
5/8″	100	91792A112	5.17
3/4″	100	91792A113	5.26
7/8″	100	91792A114	6.39
1″	100	91792A115	7.07
1¼″	100	91792A117	8.98
1½″	100	91792A119	11.93
4-48			
1/4″	50	91792A741	8.02
1/2″	50	91792A743	10.26
5-40			
3/16″	100	91792A123	9.85
1/4″	100	91792A124	5.63
5/16″	100	91792A125	6.11
3/8″	100	91792A126	6.46
1/2″	100	91792A128	6.78
5/8″	100	91792A130	7.48
3/4″	100	91792A131	8.07
1″	100	91792A133	11.37
1½″	50	91792A135	9.06

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
6-32			
1/8″	100	91792A142	$11.18
3/16″	100	91792A143	6.09
1/4″	100	91792A144	4.05
5/16″	100	91792A145	4.49
3/8″	100	91792A146	4.53
7/16″	100	91792A147	4.91
1/2″	100	91792A148	5.41
5/8″	100	91792A150	5.68
3/4″	100	91792A151	5.91
7/8″	100	91792A152	6.59
1″	100	91792A153	7.24
1¼″	100	91792A155	9.93
1½″	100	91792A157	10.45
1¾″	50	91792A158	6.81
2″	50	91792A159	8.71
2½″	50	91792A161	10.12
3″	25	91792A163	6.30
8-32			
3/16″	100	91792A189	5.04
1/4″	100	91792A190	4.98
5/16″	100	91792A191	5.11
3/8″	100	91792A192	5.13
7/16″	100	91792A193	6.06
1/2″	100	91792A194	5.46
5/8″	100	91792A196	6.28
3/4″	100	91792A197	7.20
7/8″	100	91792A198	8.98
1″	100	91792A199	8.71
1¼″	50	91792A201	5.92
1½″	50	91792A203	6.11
1¾″	50	91792A204	8.41
2″	50	91792A205	8.22
2¼″	50	91792A206	11.44
2½″	50	91792A207	12.01
2¾″	25	91792A208	6.65
3″	25	91792A209	7.01
10-24			
1/4″	100	91792A238	6.33
5/16″	100	91792A241	6.54
3/8″	100	91792A240	6.67
1/2″	100	91792A242	8.10
10-24 (Cont.)			
5/8″	100	91792A244	$9.40
3/4″	100	91792A245	10.39
7/8″	50	91792A246	5.65
1″	50	91792A247	6.19
1¼″	50	91792A249	7.84
1½″	50	91792A251	9.85
1¾″	50	91792A252	10.38
2″	25	91792A253	6.04
2¼″	25	91792A254	7.36
2½″	25	91792A255	7.87
3″	25	91792A257	8.51
10-32			
1/4″	100	91792A825	6.67
5/16″	100	91792A826	6.54
3/8″	100	91792A827	6.67
1/2″	100	91792A829	8.10
5/8″	100	91792A830	9.40
3/4″	100	91792A831	10.39
7/8″	50	91792A832	5.65
1″	50	91792A833	6.19
1¼″	50	91792A835	7.84
1½″	50	91792A836	9.85
1¾″	50	91792A837	10.38
2″	25	91792A838	6.04
2¼″	25	91792A839	7.36
2½″	25	91792A840	7.87
3″	25	91792A842	8.51
12-24			
3/8″	50	91792A289	6.36
1/2″	50	91792A291	7.81
3/4″	50	91792A294	8.06
1″	50	91792A296	9.76
1¼″	25	91792A295	6.46
1½″	25	91792A299	6.86
1/4″-20			
1/4″	50	91792A533	9.87
3/8″	50	91792A535	6.08
1/2″	50	91792A537	6.58
5/8″	50	91792A539	7.81
3/4″	50	91792A540	8.82
7/8″	25	91792A541	5.01

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Pan Head Slotted *(Continued from previous page)*



Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
¼″-20 (Cont.)			
1″	25	91792A542	$5.74
1¼″	25	91792A544	6.74
1½″	25	91792A546	6.89
1¾″	25	91792A548	8.33
2″	25	91792A550	9.77
2½″	25	91792A552	11.39
3″	10	91792A554	5.02
¼″-28			
⅜″	50	91792A555	9.89
½″	50	91792A557	9.88
¾″	25	91792A559	7.33
1″	25	91792A561	9.17
1¼″	25	91792A563	10.56
Brass			
2-56			
⅛″	100	92446A074	4.62
3⁄16″	100	92446A076	4.64
¼″	100	92446A077	4.65
⅜″	100	92446A079	4.66
½″	100	92446A081	4.77
¾″	100	92446A084	5.58
3-48			
¼″	100	92446A092	4.91
⅜″	100	92446A094	5.48
½″	100	92446A096	5.56
¾″	100	92446A099	7.08
4-40			
⅛″	100	92446A103	4.59
3⁄16″	100	92446A105	4.91
¼″	100	92446A106	5.30
⅜″	100	92446A108	5.72
½″	100	92446A110	6.05
⅝″	100	92446A112	6.36
¾″	100	92446A113	7.50
1″	100	92446A115	8.33
1½″	100	92446A119	11.63
5-40			
¼″	100	92446A124	6.26
¾″	100	92446A131	9.89
1½″	50	92446A137	8.98
6-32			
¼″	100	92446A144	6.37
5⁄16″	100	92446A145	7.34
⅜″	100	92446A146	6.79
½″	100	92446A148	7.37
⅝″	100	92446A150	9.26
¾″	100	92446A151	9.47
1″	100	92446A153	12.20
1¼″	50	92446A155	7.50
6-32 (Cont.)			
1½″	50	92446A157	8.70
2″	50	92446A159	11.47
8-32			
3⁄16″	100	92446A189	8.28
¼″	100	92446A190	8.45
5⁄16″	100	92446A191	9.25
⅜″	100	92446A192	9.63
½″	100	92446A194	10.84
⅝″	50	92446A196	7.44
¾″	50	92446A197	7.17
1″	50	92446A199	9.64
1¼″	50	92446A201	11.99
1½″	50	92446A203	13.51
2″	25	92446A206	8.45
3″	25	92446A209	12.78
10-24			
⅜″	50	92446A240	7.02
½″	50	92446A242	8.41
¾″	50	92446A245	10.20
1″	25	92446A247	6.41
10-32			
3⁄16″	100	92446A824	13.24
¼″	50	92446A825	7.09
5⁄16″	50	92446A826	7.20
⅜″	50	92446A827	7.02
½″	50	92446A829	8.41
⅝″	50	92446A830	9.31
¾″	50	92446A831	10.20
1″	25	92446A833	6.41
1½″	25	92446A836	8.93
2″	25	92446A838	11.20
3″	10	92446A842	7.06
¼″-20			
⅜″	25	92446A535	7.14
½″	25	92446A537	8.00
Brass (Cont.)			
¼″-20 (Cont.)			
¾″	25	92446A540	$10.34
1″	25	92446A542	11.71
Zinc-Plated Steel			
2-56			
¼″	100	90283A077	3.61
⅜″	100	90283A079	3.92
½″	100	90283A081	3.81
⅝″	100	90283A083	4.02
¾″	100	90283A084	4.16
4-40			
⅛″	100	90283A103	3.28
3⁄16″	100	90283A105	3.60
¼″	100	90283A106	2.39
5⁄16″	100	90283A107	4.75
⅜″	100	90283A108	2.18
½″	100	90283A110	2.60
⅝″	100	90283A112	2.60
¾″	100	90283A113	2.60
⅞″	100	90283A114	3.28
1″	100	90283A115	2.02
1¼″	100	90283A117	4.75
5-40			
¼″	100	90283A124	3.85
⅜″	100	90283A126	4.76
½″	100	90283A128	4.07
6-32			
3⁄16″	100	90283A143	2.35
¼″	100	90283A144	2.41
5⁄16″	100	90283A145	2.59
⅜″	100	90283A146	2.71
7⁄16″	100	90283A147	4.07
½″	100	90283A148	2.71
⅝″	100	90283A150	2.54
¾″	100	90283A151	3.35
⅞″	100	90283A152	4.67
1″	100	90283A153	3.94
1¼″	100	90283A155	3.87
1½″	100	90283A157	4.01
2″	100	90283A159	6.46
8-32			
3⁄16″	100	90283A189	3.56
¼″	100	90283A190	2.66
5⁄16″	100	90283A191	3.96
⅜″	100	90283A192	2.83
7⁄16″	100	90283A193	2.97
½″	100	90283A194	3.01
⅝″	100	90283A196	3.13
¾″	100	90283A197	4.28
⅞″	100	90283A198	4.88
¼″-20 (Cont.)			
1½″	10	92446A546	$6.38
2″	10	92446A550	8.46
8-32 (Cont.)			
1″	100	90283A199	5.36
1¼″	100	90283A201	5.86
1½″	100	90283A203	6.72
1¾″	100	90283A204	8.67
2″	100	90283A205	8.08
10-24			
¼″	100	90283A238	3.54
⅜″	100	90283A240	3.84
½″	100	90283A242	5.44
⅝″	100	90283A244	5.24
¾″	100	90283A245	5.40
1″	100	90283A247	6.00
1¼″	100	90283A249	6.61
1½″	100	90283A251	8.48
2″	100	90283A253	10.27
3″	100	90283A257	14.50
10-32			
¼″	100	90283A825	4.12
5⁄16″	100	90283A826	4.56
⅜″	100	90283A827	5.38
½″	100	90283A829	4.97
⅝″	100	90283A830	6.16
¾″	100	90283A831	5.80
⅞″	100	90283A832	8.01
1″	100	90283A833	6.48
1¼″	100	90283A835	9.64
1½″	100	90283A836	7.96
2″	100	90283A838	13.46
2½″	50	90283A840	6.97
3″	50	90283A842	9.77
¼″-20			
⅜″	100	90283A535	7.56
½″	100	90283A537	8.14
⅝″	100	90283A539	8.97
¾″	100	90283A540	9.91
1″	100	90283A542	10.68
1¼″	100	90283A544	10.48
1½″	50	90283A546	7.74
1¾″	50	90283A548	11.70
2″	50	90283A550	8.33
2½″	50	90283A552	10.63
3″	50	90283A554	13.24
5⁄16″-18			
¾″	50	90283A581	9.66
1″	50	90283A583	12.29

Pan Head Combination Drive



The combination drive accepts both Phillips and slotted drivers. Screws are 18-8 stainless steel and fully threaded. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
6-32—#2 Phillips Drive			
¼″	100	90604A144	$4.82
⅜″	100	90604A146	4.95
½″	100	90604A148	5.62
¾″	100	90604A150	6.29
1″	100	90604A152	7.36
8-32—#2 Phillips Drive			
⅜″	100	90604A192	6.30
8-32 (Cont.)			
½″	100	90604A194	$7.03
⅝″	100	90604A196	7.77
¾″	100	90604A197	8.36
1″	100	90604A199	11.09
10-24—#2 Phillips Drive			
⅜″	50	90604A240	4.47
½″	50	90604A242	4.95
10-24 (Cont.)			
¾″	50	90604A245	$6.31
1″	50	90604A248	6.69
10-32—#2 Phillips Drive			
⅜″	50	90604A260	4.70
½″	50	90604A263	5.12
⅝″	50	90604A266	5.35
¾″	50	90604A269	6.31
10-32 (Cont.)			
1″	50	90604A272	$6.69
¼″-20—#3 Phillips Drive			
½″	50	90604A537	8.89
⅝″	50	90604A539	9.68
¾″	25	90604A541	5.11
1″	25	90604A545	5.79
1½″	25	90604A549	7.31

Pan Head Torx



With more drive surface than Phillips and slotted screws, you can apply extra force without slipping. For drivers, see page 2820; for bits, see pages 2813-2814.

Screws are fully threaded. Length is measured from under the head. **Black-coated steel** screws have a Class 3A thread fit.

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel			
000-120—T1 Torx Size			
⅛″	25	96710A001	$11.13
3⁄16″	25	96710A005	11.28
¼″	25	96710A009	11.44
00-90—T2 Torx Size			
⅛″	25	96710A050	$10.53
3⁄16″	25	96710A054	10.60
¼″	25	96710A058	10.68
18-8 Stainless Steel (Cont.)			
0-80—T5 Torx Size			
⅛″	50	96710A110	$6.62
3⁄16″	50	96710A113	6.80
¼″	50	96710A116	6.83
2-56—T7 Torx Size			
3⁄16″	50	96710A150	$5.67
¼″	50	96710A153	5.85
5⁄16″	25	96710A155	7.30

(Continued on following page)

Pan Head Torx *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
2-56 (Cont.)			
3/8"	25	96710A158	$7.37
4-40—T10 Torx Size			
3/16"	50	96710A213	10.15
1/4"	50	96710A215	5.94
5/16"	50	96710A216	10.40
3/8"	50	96710A218	5.88
1/2"	50	96710A221	6.23
6-32—T15 Torx Size			
1/4"	50	96710A255	7.38
5/16"	50	96710A257	10.41
3/8"	50	96710A258	7.87
1/2"	50	96710A261	8.30
5/8"	50	96710A264	8.72
3/4"	50	96710A267	9.14
1"	50	96710A270	9.57
8-32—T20 Torx Size			
1/4"	50	96710A312	8.59
3/8"	50	96710A315	9.26
1/2"	50	96710A318	9.92
5/8"	50	96710A321	10.59
8-32 (Cont.)			
3/4"	50	96710A324	$11.26
1"	50	96710A327	11.92
10-24—T25 Torx Size			
3/8"	50	96710A461	11.30
1/2"	50	96710A465	11.91
3/4"	25	96710A471	6.66
1"	25	96710A475	7.00
10-32—T25 Torx Size			
1/4"	50	96710A572	10.57
3/8"	50	96710A576	11.30
1/2"	25	96710A578	7.52
5/8"	25	96710A580	6.39
3/4"	25	96710A584	6.67
1"	25	96710A586	6.94
1/4"-20—T30 Torx Size			
1/2"	25	96710A733	6.91
3/4"	25	96710A737	7.18
1"	25	96710A742	7.46
1 1/2"	25	96710A745	8.01
2"	25	96710A748	8.56
Zinc-Plated Steel			
2-56—T8 Torx Size			
3/16"	100	90022A088	12.14
1/4"	100	90022A090	12.31
5/16"	100	90022A094	12.45
3/8"	100	90022A096	12.61
4-40—T10 Torx Size			
1/4"	100	90022A110	5.87
5/16"	100	90022A112	6.15
3/8"	100	90022A114	6.18
1/2"	100	90022A116	6.20
Zinc-Plated Steel (Cont.)			
6-32—T15 Torx Size			
1/4"	100	90022A142	$6.68
3/8"	100	90022A145	6.62
1/2"	100	90022A148	7.17
3/4"	100	90022A151	7.86
8-32—T20 Torx Size			
1/4"	100	90022A180	8.08
3/8"	100	90022A185	8.24
1/2"	100	90022A188	8.63
3/4"	100	90022A191	9.98
10-24—T25 Torx Size			
3/8"	100	90022A240	$10.19
1/2"	100	90022A242	10.93
3/4"	100	90022A245	12.39
1"	50	90022A247	7.59
10-32—T25 Torx Size			
3/8"	100	90022A264	10.19
1/2"	100	90022A267	10.93
3/4"	100	90022A269	12.39
1"	50	90022A271	7.59
Black-Coated Steel			
00-90—T2 Torx Size			
1/8"	50	93701A001	11.85
3/16"	50	93701A003	11.98
1/4"	50	93701A005	12.11
0-80—T5 Torx Size			
1/8"	50	93701A100	10.08
3/16"	50	93701A103	10.22
1/4"	50	93701A106	10.38
2-56—T7 Torx Size			
3/16"	50	93701A200	9.62
1/4"	50	93701A203	9.93
5/16"	50	93701A206	10.22
3/8"	50	93701A209	10.53
4-40—T10 Torx Size			
3/16"	50	93701A250	8.73
1/4"	50	93701A253	8.88
5/16"	50	93701A256	9.17
4-40 (Cont.)			
3/8"	50	93701A259	9.48
1/2"	50	93701A262	9.78
6-32—T15 Torx Size			
1/4"	50	93701A300	9.48
3/8"	50	93701A304	9.78
1/2"	50	93701A308	10.22
5/8"	50	93701A312	10.53
3/4"	50	93701A315	10.83
1"	50	93701A318	11.28
8-32—T20 Torx Size			
1/4"	50	93701A400	10.08
3/8"	50	93701A404	10.38
1/2"	50	93701A408	10.68
5/8"	50	93701A412	10.98
3/4"	50	93701A416	11.28
1"	50	93701A420	11.73

Mil. Spec. Pan Head Phillips

Strict military standards ensure performance and reliability. Materials and dimensions meet Fed. Spec. FF-S-92. Screws are fully threaded. Length is measured from under the head.

300 series stainless steel screws are passivated to meet QQ-P-35. **Cadmium-plated steel** screws meet QQ-P-416 and have a Class 3A thread fit.



Lg.	Dash No.	Pkg. Qty.		Pkg.
300 Series Stainless Steel				
0-80—#0 Drive; Meet MS-51958				
1/8"	120	100	91400A030	$12.50
3/16"	121	100	91400A035	14.25
1/4"	122	100	91400A041	10.78
5/16"	123	100	91400A043	14.29
3/8"	124	100	91400A046	14.77
7/16"	125	25	91400A047	10.00
1/2"	126	25	91400A049	10.00
2-56—#1 Drive; Meet MS-51957				
1/8"	1	100	91400A050	5.00
3/16"	2	100	91400A052	5.00
1/4"	3	100	91400A054	5.25
5/16"	4	100	91400A056	5.36
3/8"	5	100	91400A058	5.67
7/16"	6	100	91400A060	6.25
1/2"	7	100	91400A062	6.49
9/16"	141	100	91400A063	12.50
5/8"	8	100	91400A064	8.75
3/4"	9	100	91400A066	8.75
7/8"	10	25	91400A068	10.00
4-40—#1 Drive; Meet MS-51957				
1/8"	11	100	91400A101	8.75
3/16"	12	100	91400A104	5.88
1/4"	13	100	91400A106	5.89
5/16"	14	100	91400A107	6.04
3/8"	15	100	91400A108	6.13
7/16"	16	100	91400A112	6.92
1/2"	17	100	91400A110	7.92
9/16"	120	100	91400A111	9.59
5/8"	18	100	91400A114	6.75
3/4"	19	100	91400A116	11.75
7/8"	20	50	91400A118	4.38
1"	21	50	91400A119	8.75
1 1/8"	121	50	91400A121	11.25
1 1/4"	22	50	91400A124	10.63
1 3/8"	122	50	91400A127	14.63
1 1/2"	23	10	91400A130	6.00
6-32—#2 Drive; Meet MS-51957				
1/8"	24	50	91400A142	$9.00
3/16"	25	100	91400A143	10.50
1/4"	26	100	91400A144	7.00
5/16"	27	100	91400A145	7.75
3/8"	28	100	91400A146	7.75
7/16"	29	100	91400A149	8.82
1/2"	30	100	91400A148	9.00
9/16"	123	50	91400A147	10.00
5/8"	31	50	91400A150	5.65
3/4"	32	50	91400A151	7.00
7/8"	33	50	91400A152	7.30
1"	34	50	91400A154	7.39
1 1/8"	124	25	91400A155	7.50
1 1/4"	35	25	91400A156	6.56
1 3/8"	125	25	91400A157	11.25
1 1/2"	36	25	91400A158	6.88
1 3/4"	37	25	91400A160	10.00
2"	38	25	91400A162	12.50
6-40—#2 Drive; Meet MS-51958				
1/4"	26	25	91400A170	12.50
5/16"	27	25	91400A173	12.50
3/8"	28	25	91400A176	13.13
8-32—#2 Drive; Meet MS-51957				
3/16"	40	50	91400A189	8.75
1/4"	41	50	91400A190	7.63
5/16"	42	50	91400A191	4.75
3/8"	43	50	91400A192	5.25
7/16"	44	50	91400A193	6.38
1/2"	45	50	91400A194	5.50
9/16"	126	25	91400A195	11.25
5/8"	46	25	91400A196	3.29
3/4"	47	25	91400A197	4.21
7/8"	48	25	91400A198	5.69
1"	49	25	91400A199	6.88
1 1/4"	50	25	91400A201	10.38
1 1/2"	51	25	91400A203	11.25
2"	53	25	91400A206	14.38
10-24—#2 Drive; Meet MS-51957				
3/8"	61	50	91400A240	$8.63
1/2"	63	50	91400A242	13.13
5/8"	64	50	91400A244	10.25
3/4"	65	25	91400A245	9.19
1"	67	25	91400A247	10.00
1 1/4"	68	25	91400A251	13.75
1 1/2"	69	25	91400A255	10.62
2"	71	10	91400A257	8.00
10-32—#2 Drive; Meet MS-51958				
1/4"	59	50	91400A821	14.81
5/16"	60	50	91400A825	14.85
3/8"	61	50	91400A827	7.25
7/16"	62	50	91400A828	11.25
1/2"	63	50	91400A829	7.63
5/8"	64	50	91400A830	10.25
3/4"	65	25	91400A831	5.31
7/8"	66	25	91400A832	6.25
1"	67	25	91400A833	6.88
1 1/4"	68	25	91400A836	10.94
1 1/2"	69	25	91400A838	14.77
2"	71	10	91400A841	8.00
1/4"-20—#3 Drive; Meet MS-51957				
1/2"	79	25	91400A537	8.13
5/8"	80	25	91400A539	14.69
3/4"	81	25	91400A540	10.66
7/8"	82	10	91400A541	7.00
1"	83	10	91400A542	7.75
1 1/4"	84	10	91400A544	8.75
1 1/2"	85	10	91400A546	7.25
1/4"-28—#3 Drive; Meet MS-51958				
1/2"	79	25	91400A850	14.20
5/8"	80	25	91400A851	14.89
3/4"	81	10	91400A853	7.75
7/8"	82	10	91400A854	12.00
1"	83	10	91400A856	8.75
1 1/4"	84	10	91400A859	11.50
1 1/2"	85	10	91400A862	14.76
Cadmium-Plated Steel				
2-56—#1 Drive; Meet MS-35206				
1/8"	201	25	96880A108	8.41
3/16"	202	25	96880A112	8.52
1/4"	203	25	96880A115	8.70
2-56 (Cont.)				
5/16"	204	25	96880A119	8.83
3/8"	205	25	96880A123	8.95
1/2"	207	25	96880A127	9.14
4-40—#1 Drive; Meet MS-35206				
1/4"	213	25	96880A216	9.32
5/16"	214	25	96880A220	9.36
3/8"	215	25	96880A224	9.49

(Continued on following page)

Mil. Spec. Pan Head Phillips *(Continued from previous page)*



Strict military standards ensure performance and reliability. Materials and dimensions meet Fed. Spec. FF-S-92. Screws are fully threaded. Length is measured from under the head.

Cadmium-plated steel screws meet QQ-P-416 and have a Class 3A thread fit.

Lg.	Dash No.	Pkg. Qty.		Pkg.
Cadmium-Plated Steel (Cont.)				
4-40—#1 Drive; Meet MS-35206 (Cont.)				
7/16″	216	25	96880A228	$9.69
1/2″	217	25	96880A233	9.80
9/16″	323	25	96880A237	9.96
5/8″	218	25	96880A242	10.08
3/4″	219	25	96880A246	10.24
1″	221	25	96880A250	10.33
6-32—#2 Drive; Meet MS-35206				
1/4″	226	25	96880A311	8.85
5/16″	227	25	96880A315	8.97
6-32 (Cont.)				
3/8″	228	25	96880A320	$9.04
7/16″	229	25	96880A326	9.13
1/2″	230	25	96880A329	9.25
5/8″	231	25	96880A332	9.40
3/4″	232	25	96880A336	9.48
1″	234	25	96880A339	9.55
8-32—#2 Drive; Meet MS-35206				
5/16″	242	25	96880A410	9.63
3/8″	243	25	96880A413	9.81
8-32 (Cont.)				
1/2″	245	25	96880A417	$9.87
5/8″	246	25	96880A421	10.12
1″	249	25	96880A426	10.28
10-32—#2 Drive; Meet MS-35207				
3/8″	261	25	96880A513	9.21
1/2″	263	25	96880A518	9.28
5/8″	264	25	96880A522	9.35
3/4″	265	25	96880A526	9.41
1″	267	25	96880A530	9.49

Titanium Pan Head Phillips



Not only are these screws durable and corrosion resistant, they're about 40% lighter than steel screws and have a high strength-to-weight ratio. Fully threaded. Length is measured from under the head.

Lg.		Each
4-40—#1 Drive		
1/4″	90234A170	$4.47
3/8″	90234A175	4.60
1/2″	90234A180	5.13
6-32—#2 Drive		
1/4″	90234A200	4.73
3/8″	90234A205	5.00
1/2″	90234A210	5.20
3/4″	90234A215	5.93
8-32—#2 Drive		
1/2″	90234A294	6.60
1″	90234A299	8.67
1 1/2″	90234A300	9.93
10-24—#2 Drive		
1″	90234A425	$9.98
1 1/2″	90234A426	9.90
1/4″-20—#3 Drive		
1/2″	90234A910	7.77
3/4″	90234A915	8.11
1″	90234A920	8.47
1 1/2″	90234A930	9.15
2″	90234A935	9.87

PTFE-Coated Pan Head Phillips



FDA compliant for food contact, these screws won't stick or bind. They meet FDA 21 CFR 175.300 and are made from 18-8 stainless steel. Fully threaded. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
6-32—#2 Drive			
1/4″	50	95233A110	$8.20
3/8″	50	95233A113	8.44
1/2″	50	95233A117	8.46
3/4″	50	95233A120	8.50
8-32—#2 Drive			
1/4″	50	95233A150	8.07
3/8″	50	95233A153	9.84
1/2″	50	95233A156	9.84
3/4″	25	95233A159	8.12
10-32—#2 Drive			
3/8″	50	95233A180	$11.96
1/2″	50	95233A183	12.48
3/4″	25	95233A186	8.20
1″	25	95233A189	9.43
1/4″-20—#3 Drive			
1/2″	25	95233A250	12.88
3/4″	10	95233A253	6.33
1″	10	95233A256	6.80
1 1/2″	10	95233A259	9.84

Pan Head Phillips with Split Lock Washer



When compressed, the split washer bites into surfaces, holding tension constant and keeping screws tight. Also known as Sems screws, the washer rotates freely, but won't fall off.

Screws are fully threaded. Length is measured from under the head.

Lg.	18-8 Stainless Steel Pkg. Qty.		Pkg.	Zinc-Plated Steel Pkg. Qty.		Pkg.
4-40—#1 Drive; Washer OD: 0.222″						
1/4″	10	96909A406	$8.92	100	93405A106	$7.32
5/16″	10	96909A407	9.10	100	93405A107	8.64
3/8″	10	96909A408	9.21	100	93405A108	9.36
1/2″	10	96909A410	9.48	100	93405A110	8.64
6-32—#2 Drive; Washer OD: 0.261″						
1/4″	10	96909A444	9.57	100	93405A144	8.64
5/16″	10	96909A445	9.76	100	93405A145	5.76
3/8″	10	96909A446	9.88	100	93405A146	6.00
1/2″	10	96909A448	10.23	100	93405A148	6.00
5/8″	10	96909A450	10.61	100	93405A150	6.40
8-32—#2 Drive; Washer OD: 0.319″						
3/8″	10	96909A492	11.68	100	93405A192	7.80
1/2″	10	96909A494	12.17	100	93405A194	7.20
5/8″	10	96909A496	12.73	100	93405A196	12.52
3/4″	10	96909A497	13.20	100	93405A197	12.84
10-32—#2 Drive; Washer OD: 0.373″						
3/8″	10	96909A527	14.27	100	93405A827	8.18
1/2″	5	96909A529	7.51	100	93405A829	7.60

Pan Head Phillips with Spring-Tension Lock Washer



Ensure a tight fit without scratching surfaces. Also known as Square Cone Sems screws, each has a curved washer that flexes to keep tension constant. The washer rotates freely, but won't fall off. Screws are fully threaded. Length is measured from under the head.

18-8 stainless steel screws have a magnetic Type 410 stainless steel washer.

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel			
4-40—#1 Drive; Washer OD: 0.250″			
1/4″	25	91241A412	$5.96
5/16″	25	91241A414	8.44
3/8″	25	91241A416	7.36
7/16″	25	91241A418	8.84
1/2″	25	91241A420	7.52
5/8″	25	91241A422	8.24
6-32—#2 Drive; Washer OD: 0.320″			
1/4″	25	91241A526	5.72
5/16″	25	91241A529	6.60
3/8″	25	91241A532	6.80
7/16″	25	91241A536	7.36
1/2″	25	91241A539	6.72
5/8″	25	91241A543	6.52
8-32—#2 Drive; Washer OD: 0.383″			
3/8″	25	91241A652	8.36
1/2″	25	91241A657	8.40
5/8″	25	91241A658	9.40
18-8 Stainless Steel (Cont.)			
10-32—#2 Drive; Washer OD: 0.446″			
1/2″	25	91241A773	$11.04
5/8″	25	91241A775	10.56
Zinc-Plated Steel			
6-32—#2 Drive; Washer OD: 0.320″			
1/4″	100	90400A144	9.44
3/8″	100	90400A146	9.88
1/2″	100	90400A148	10.28
3/4″	100	90400A151	12.04
1″	50	90400A153	11.80
8-32—#2 Drive; Washer OD: 0.383″			
3/8″	100	90400A192	12.36
1/2″	100	90400A194	12.60
3/4″	50	90400A197	7.20
1″	50	90400A199	8.36

Pan Head Phillips with Flat and Split Lock Washer



Protect delicate surfaces from damage while ensuring a tight, vibration-resistant hold. The washers rotate freely, but won't fall off. Made from 300 series stainless steel. Screws are fully threaded. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
4-40—#1 Drive; Washer OD: 0.375″			
1/4″	10	95092A316	$10.71
5/16″	10	95092A320	10.77
3/8″	10	95092A324	10.80
1/2″	10	95092A328	10.86
6-32—#2 Drive; Washer OD: 0.437″			
1/4″	10	95092A410	$12.89
5/16″	10	95092A414	12.91
3/8″	10	95092A418	12.97
1/2″	10	95092A422	13.06
8-32—#2 Drive; Washer OD: 0.500″			
1/4″	10	95092A512	$11.00
5/16″	10	95092A516	11.06
3/8″	10	95092A520	11.11
1/2″	10	95092A524	11.23
10-32—#2 Drive; Washer OD: 0.563″			
5/16″	10	95092A615	$12.23
3/8″	10	95092A619	12.31
1/2″	10	95092A623	12.46
3/4″	10	95092A627	12.77

Pan Head Phillips with Lock Washer

Sharp teeth dig into surfaces to resist vibration and keep screws tight. Also called Sems screws, each has a washer that rotates freely, but won't fall off. Screws are fully threaded. Length is measured from under the head.

18-8 stainless steel screws have magnetic Type 410 stainless steel washers. **Screws with internal-tooth lock washer** won't snag along the outer edge and have a smoother appearance than screws with external-tooth washers. **Screws with external-tooth lock washer** offer maximum holding power.



With Internal-Tooth Lock Washer



With External-Tooth Lock Washer

Screws with Internal-Tooth Lock Washer

Lg.	18-8 Stainless Steel Pkg. Qty.		Pkg.	Zinc-Plated Steel Pkg. Qty.		Pkg.
2-56—#1 Drive; Washer OD: 0.185″						
3/16″	50	95345A012	$10.80	50	90403A077	$8.88
1/4″	50	95345A014	10.96	50	90403A079	8.76
3/8″	50	95345A016	11.12	50	90403A081	8.52
1/2″	50	95345A018	14.92	50	90403A083	10.32
5/8″	10	95345A019	5.84	50	90403A085	10.36
3/4″	10	95345A020	6.09	50	90403A087	10.40
4-40—#1 Drive; Washer OD: 0.268″						
3/16″	50	95345A021	10.67	100	90403A104	8.60
1/4″	50	95345A023	7.52	100	90403A106	5.16
5/16″	50	95345A025	7.60	100	90403A107	6.48
3/8″	50	95345A027	7.80	100	90403A108	5.76
7/16″	50	95345A029	11.73	100	90403A109	6.60
1/2″	50	95345A031	7.96	100	90403A110	6.16
5/8″	50	95345A033	10.57	25	90403A112	6.56
3/4″	25	95345A034	9.55	25	90403A115	6.60
7/8″	25	95345A035	7.80	25	90403A118	6.64
1″	25	95345A037	10.73	25	90403A121	7.24
6-32—#2 Drive; Washer OD: 0.288″						
3/16″	50	95345A041	14.36	100	90403A142	7.00
1/4″	50	95345A043	7.60	100	90403A144	4.96
5/16″	50	95345A045	7.80	100	90403A145	8.88
3/8″	50	95345A047	8.04	100	90403A146	6.00
7/16″	50	95345A049	11.53	100	90403A147	8.40
1/2″	50	95345A051	8.24	100	90403A148	5.60
5/8″	50	95345A053	13.00	100	90403A150	7.28
3/4″	50	95345A055	14.11	100	90403A151	7.16
7/8″	25	95345A059	12.20	100	90403A152	9.32
1″	25	95345A061	12.36	100	90403A153	9.08
1 1/4″	5	95345A056	10.04	50	90403A155	7.00
1 1/2″	5	95345A057	10.44	25	90403A157	7.56
1 3/4″	5	95345A058	10.50	25	90403A159	5.16
8-32—#2 Drive; Washer OD: 0.338″						
1/4″	50	95345A063	13.00	100	90403A190	6.00
5/16″	50	95345A067	14.80	100	90403A191	8.18
3/8″	50	95345A071	13.72	100	90403A192	6.48
7/16″	25	95345A075	11.52	100	90403A193	10.45
1/2″	25	95345A077	7.87	100	90403A194	6.56
5/8″	25	95345A081	11.44	50	90403A196	7.29
3/4″	25	95345A085	14.22	50	90403A197	4.92
1″	25	95345A089	12.04	50	90403A199	6.92
1 1/4″	10	95345A087	14.71	50	90403A201	8.40
10-24—#2 Drive; Washer OD: 0.383″						
3/8″	25	95345A200	8.80	50	90403A238	5.52
1/2″	25	95345A205	9.28	50	90403A242	5.04
5/8″	25	95345A208	9.72	50	90403A246	6.24
10-32—#2 Drive; Washer OD: 0.383″						
1/4″	25	95345A090	13.00	50	90403A823	7.60
3/8″	25	95345A091	8.84	50	90403A827	4.56
1/2″	25	95345A095	9.04	50	90403A829	5.96
5/8″	25	95345A097	14.40	50	90403A830	7.20
3/4″	25	95345A099	14.70	50	90403A831	5.80
1/4″-20—#3 Drive; Washer OD: 0.478″						
3/8″	1	95345A108	2.25	25	90403A535	7.14
1/2″	1	95345A110	2.30	25	90403A537	6.40
5/8″	1	95345A113	2.45	25	90403A538	8.12
3/4″	1	95345A116	2.47	25	90403A540	6.08
1″	1	95345A119	2.52	25	90403A551	7.08

Screws with External-Tooth Lock Washer

Lg.	18-8 Stainless Steel Pkg. Qty.		Pkg.	Zinc-Plated Steel Pkg. Qty.		Pkg.
4-40—#1 Drive; Washer OD: 0.230″						
3/16″	50	95345A422	$10.44	100	90402A104	$7.86
1/4″	50	95345A426	8.36	100	90402A106	6.55
5/16″	50	95345A428	8.40	100	90402A107	8.37
3/8″	50	95345A432	8.48	100	90402A108	6.62
7/16″	50	95345A436	12.04	100	90402A109	9.62
1/2″	50	95345A438	11.04	100	90402A110	7.11
5/8″	50	95345A442	12.84	100	90402A112	11.91
3/4″	25	95345A444	9.50	100	90402A114	11.95
7/8″	25	95345A446	9.88	50	90402A117	7.38
1″	25	95345A450	12.92	50	90402A120	7.38
6-32—#2 Drive; Washer OD: 0.285″						
3/16″	25	95345A454	10.84	100	90402A142	7.92
1/4″	25	95345A458	6.04	100	90402A144	6.29
5/16″	25	95345A464	6.24	100	90402A145	6.81
3/8″	25	95345A468	6.36	100	90402A146	6.95
7/16″	25	95345A474	7.44	100	90402A149	7.76
1/2″	25	95345A476	6.48	100	90402A148	7.24
5/8″	25	95345A478	6.36	100	90402A150	8.52
3/4″	25	95345A482	7.40	100	90402A151	9.24
7/8″	25	95345A486	11.52	100	90402A152	10.67
1″	25	95345A488	11.96	100	90402A153	11.86
1 1/4″	10	95345A489	13.28	100	90402A155	13.60
1 1/2″	10	95345A490	13.56	50	90402A158	9.76
8-32—#2 Drive; Washer OD: 0.320″						
1/4″	50	95345A522	13.12	100	90402A190	7.09
5/16″	50	95345A526	13.73	100	90402A191	8.96
3/8″	50	95345A530	14.32	100	90402A192	6.43
7/16″	25	95345A536	10.32	100	90402A195	9.36
1/2″	25	95345A538	8.26	100	90402A194	7.67
5/8″	25	95345A544	11.12	100	90402A196	9.85
3/4″	25	95345A548	9.20	100	90402A197	9.71
1″	25	95345A554	13.32	50	90402A200	7.51
1 1/4″	25	95345A555	11.16	50	90402A201	8.57
10-24—#2 Drive; Washer OD: 0.383″						
3/8″	25	95345A557	8.80	100	90402A527	8.48
1/2″	25	95345A558	9.28	100	90402A242	9.19
5/8″	10	95345A559	7.68	50	90402A246	6.43
10-32—#2 Drive; Washer OD: 0.383″						
1/4″	25	95345A561	10.47	50	90402A821	8.13
3/8″	25	95345A562	8.84	50	90402A827	4.28
1/2″	25	95345A566	9.08	50	90402A829	4.04
5/8″	25	95345A568	9.72	50	90402A830	7.14
3/4″	25	95345A572	10.68	50	90402A831	4.96
1″	10	95345A574	8.96	50	90402A835	10.00
1 1/4″	10	95345A576	9.36	50	90402A839	10.62
1 1/2″	5	95345A578	7.52	25	90402A842	4.05
12-24—#3 Drive; Washer OD: 0.410″						
1/2″	10	95345A585	10.24	50	90402A605	10.81
1/4″-20—#3 Drive; Washer OD: 0.510″						
3/8″	1	95345A599	5.93	25	90402A610	12.67
1/2″	1	95345A601	4.05	25	90402A537	5.48
5/8″	1	95345A603	3.96	25	90402A538	9.67
3/4″	1	95345A606	4.04	25	90402A540	6.95
7/8″	1	95345A607	6.07	25	90402A546	7.62
1″	1	95345A609	4.40	25	90402A551	7.81

Thread-Locking Pan Head Phillips

A nylon anti-vibration patch is bonded to the threads so screws resist loosening. The patch has a temperature range of –70° to 250° F. Screws are made from 18-8 stainless steel and are fully threaded. Length is measured from under the head.



Lg.	Pkg. Qty.		Pkg.
2-56—#1 Drive			
1/4″	50	96562A020	$7.22
3/8″	50	96562A024	7.38
1/2″	50	96562A028	7.52
4-40—#1 Drive			
1/4″	50	96562A106	7.87
3/8″	50	96562A108	8.02
1/2″	50	96562A110	8.15
5/8″	25	96562A112	4.98
3/4″	25	96562A113	5.21
6-32—#2 Drive			
1/4″	50	96562A144	8.08
3/8″	50	96562A146	8.09

Lg.	Pkg. Qty.		Pkg.
6-32—#2 Drive (Cont.)			
1/2″	50	96562A148	$8.81
5/8″	50	96562A150	9.46
3/4″	25	96562A151	5.08
1″	25	96562A153	5.18
1 1/2″	25	96562A157	6.87
8-32—#2 Drive			
3/8″	25	96562A192	4.72
1/2″	25	96562A194	4.93
5/8″	25	96562A196	4.99
3/4″	25	96562A197	5.15
1″	25	96562A199	5.75
1 1/4″	25	96562A201	7.07

Lg.	Pkg. Qty.		Pkg.
10-24—#2 Drive			
3/8″	25	96562A240	$5.14
1/2″	25	96562A242	5.51
5/8″	25	96562A244	5.66
3/4″	25	96562A245	5.98
1″	25	96562A247	6.48
1 1/2″	10	96562A251	3.58
10-32—#2 Drive			
3/8″	25	96562A827	5.14
1/2″	25	96562A829	5.51
5/8″	25	96562A830	5.66
3/4″	25	96562A831	5.98

Lg.	Pkg. Qty.		Pkg.
10-32—#2 Drive (Cont.)			
1″	25	96562A833	$6.48
1 1/4″	25	96562A835	8.30
1 1/2″	10	96562A836	3.58
1/4″-20—#3 Drive			
1/2″	25	96562A537	7.53
5/8″	25	96562A539	8.41
3/4″	25	96562A540	9.23
1″	10	96562A542	4.27
1 1/4″	10	96562A544	4.79
1 1/2″	10	96562A546	5.21

Sealing Pan Head Phillips



Prevent leaks and protect equipment. O-rings stop liquid and gas pressure up to 6,000 psi when used in the hole size range listed. Screws are made from 18-8 stainless steel and are fully threaded. Screw length is measured from under the head.

Buna-N rubber O-rings withstand abrasive environments and exposure to water. Temperature range is –40° to 225°F.

Silicone rubber O-rings are good for the widest range of temperatures: –80° to 400°F.

Fluoroelastomer rubber O-rings are resistant to acids and oils. Temperature range is –20° to 400°F.

Lg.	Pkg. Qty.	Buna-N O-Ring	Pkg.	Silicone O-Ring	Pkg.	Fluoroelastomer O-Ring	Pkg.
0-80—#0 Drive; Max. Hole Size: 0.068″							
1/8″	10	90825A102	$12.00	90825A515	$12.00	90825A302	$12.00
3/16″	10	90825A107	12.29	90825A520	12.29	90825A307	12.29
1/4″	10	90825A109	12.57	90825A525	12.57	90825A309	12.57
2-56—#1 Drive; Max. Hole Size: 0.095″							
1/8″	10	90825A120	8.00	90825A560	8.00	90825A320	8.00
3/16″	10	90825A122	8.00	90825A565	8.00	90825A322	8.00
1/4″	10	90825A125	8.57	90825A570	8.57	90825A325	8.57
3/8″	10	90825A127	8.57	90825A575	8.57	90825A327	8.57
1/2″	10	90825A129	8.86	90825A580	8.86	90825A329	8.86
4-40—#1 Drive; Max. Hole Size: 0.127″							
1/4″	10	90825A140	6.86	90825A613	6.86	90825A340	6.86
5/16″	10	90825A142	6.86	90825A614	6.86	90825A342	6.86
3/8″	10	90825A144	6.28	90825A615	6.28	90825A344	6.28
1/2″	10	90825A146	6.28	90825A618	6.28	90825A346	6.28
5/8″	10	90825A148	6.57	90825A619	6.57	90825A348	6.57
3/4″	10	90825A150	6.90	90825A622	6.90	90825A350	6.90
7/8″	10	90825A152	7.08	90825A628	7.08	90825A352	7.08
6-32—#2 Drive; Max. Hole Size: 0.150″							
1/4″	10	90825A160	6.86	90825A713	6.86	90825A360	6.86
5/16″	10	90825A162	6.86	90825A714	6.86	90825A362	6.86
3/8″	10	90825A164	6.29	90825A715	6.29	90825A364	6.29
1/2″	10	90825A166	6.29	90825A717	6.29	90825A366	6.29
6-32 (Cont.)							
5/8″	10	90825A168	$7.15	90825A719	$7.15	90825A368	$7.15
3/4″	10	90825A170	7.35	90825A721	7.35	90825A370	7.35
1″	10	90825A172	7.72	90825A725	7.72	90825A372	7.72
1 1/4″	10	90825A174	10.57	90825A731	10.57	90825A374	10.57
1 1/2″	10	90825A176	11.71	90825A738	11.71	90825A376	11.71
8-32—#2 Drive; Max. Hole Size: 0.177″							
1/4″	10	90825A180	7.72	90825A800	7.72	90825A380	7.72
3/8″	10	90825A182	6.86	90825A814	6.86	90825A382	6.86
1/2″	10	90825A185	7.14	90825A816	7.14	90825A385	7.14
3/4″	10	90825A187	8.00	90825A819	8.00	90825A387	8.00
1″	10	90825A189	8.86	90825A825	8.86	90825A389	8.86
10-32—#2 Drive; Max. Hole Size: 0.200″							
3/8″	10	90825A192	8.86	90825A900	8.86	90825A392	8.86
1/2″	10	90825A194	8.90	90825A916	9.22	90825A394	8.90
5/8″	10	90825A196	8.95	90825A918	9.24	90825A396	8.95
3/4″	10	90825A199	9.43	90825A919	9.71	90825A399	9.43
1″	10	90825A201	10.86	90825A921	11.14	90825A401	10.86
1/4″-20—#3 Drive; Max. Hole Size: 0.265″							
1/2″	5	90825A210	6.57	90825A950	6.86	90825A410	6.57
3/4″	5	90825A213	7.00	90825A953	7.29	90825A413	7.00
1″	5	90825A216	7.86	90825A955	8.14	90825A416	7.86

Sealing and Thread-Locking Pan Head Phillips



A vibration-resistant patch locks threads in place so screws won't come loose and cause seals to leak. Screws are made from 18-8 stainless steel. They have a silicone O-ring that stops liquid and gas pressure up to 6,000 psi when used in the hole size range listed. They also have a nylon locking patch with a temperature range of –40° to 225° F. Screw length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
0-80—#0 Drive; Max. Hole Size: 0.068″			
1/8″	5	93802A215	$8.43
3/16″	5	93802A218	8.57
1/4″	5	93802A221	8.71
2-56—#1 Drive; Max. Hole Size: 0.095″			
1/8″	5	93802A315	6.43
3/16″	5	93802A318	6.43
1/4″	5	93802A321	6.71
3/8″	5	93802A325	6.71
1/2″	5	93802A329	6.86
4-40—#1 Drive; Max. Hole Size: 0.127″			
1/4″	5	93802A421	5.71
5/16″	5	93802A423	6.14
4-40 (Cont.)			
3/8″	5	93802A425	$6.21
1/2″	5	93802A429	6.31
5/8″	5	93802A433	6.40
3/4″	5	93802A438	6.50
7/8″	5	93802A442	6.75
6-32—#2 Drive; Max. Hole Size: 0.150″			
1/4″	5	93802A521	5.86
5/16″	5	93802A523	6.14
3/8″	5	93802A525	6.21
1/2″	5	93802A529	6.31
5/8″	5	93802A533	6.38
3/4″	5	93802A538	6.47
1″	5	93802A545	6.71
6-32 (Cont.)			
1 1/4″	5	93802A548	$8.71
1 1/2″	5	93802A553	9.00
8-32—#2 Drive; Max. Hole Size: 0.177″			
1/4″	5	93802A621	6.71
3/8″	5	93802A625	6.78
1/2″	5	93802A629	6.88
3/4″	5	93802A638	6.96
1″	5	93802A645	7.29
10-32—#2 Drive; Max. Hole Size: 0.200″			
3/8″	5	93802A725	7.29
1/2″	5	93802A729	7.38
10-32 (Cont.)			
5/8″	5	93802A733	$7.50
3/4″	5	93802A738	7.71
1″	5	93802A745	8.14
1/4″-20—#3 Drive; Max. Hole Size: 0.265″			
1/2″	5	93802A829	9.86
3/4″	5	93802A838	10.29
1″	5	93802A845	11.29

Metric Pan Head Phillips



All are fully threaded. Length is measured from under the head.

Lg., mm	Pkg. Qty.		Pkg.
Type 316 Stainless Steel—DIN 7985			
M2—#1 Drive; Pitch: 0.4 mm			
3	100	90116A007	$8.67
4	100	90116A008	6.78
5	100	90116A009	6.90
6	100	90116A010	4.41
8	100	90116A015	7.67
10	100	90116A020	9.98
12	100	90116A022	10.48
16	100	90116A025	10.95
20	100	90116A027	12.00
M2.5—#1 Drive; Pitch: 0.45 mm			
4	100	90116A105	6.55
5	100	90116A107	5.76
6	100	90116A110	5.76
8	100	90116A112	6.24
10	100	90116A113	7.36
12	100	90116A114	8.72
16	100	90116A118	10.28
20	100	90116A124	11.52
25	50	90116A127	8.80
M3—#1 Drive; Pitch: 0.5 mm			
4	100	90116A147	$6.15
5	100	90116A150	8.64
6	100	90116A151	6.76
8	100	90116A153	6.95
10	100	90116A155	7.52
12	100	90116A157	7.90
14	100	90116A160	9.72
16	100	90116A161	8.64
18	100	90116A163	9.75
20	100	90116A165	9.28
25	100	90116A169	9.72
30	100	90116A174	10.80
35	100	90116A179	11.88
40	100	90116A184	13.36
45	50	90116A186	12.76
50	25	90116A188	7.59
Type 316 Stainless Steel—DIN 7985 (Cont.)			
M4—#2 Drive; Pitch: 0.7 mm			
5	100	90116A201	$10.80
6	100	90116A202	11.00
8	100	90116A205	11.92
10	50	90116A207	6.92
12	50	90116A209	7.24
14	50	90116A211	9.14
16	50	90116A213	7.70
18	50	90116A215	9.71
20	50	90116A217	9.68
25	50	90116A221	10.44
30	50	90116A225	11.22
35	50	90116A227	13.26
40	50	90116A233	12.40
45	25	90116A237	11.12
50	25	90116A240	11.90
60	10	90116A243	6.20
M5—#2 Drive; Pitch: 0.8 mm			
6	25	90116A246	$8.40
8	25	90116A248	9.10
10	50	90116A250	10.36
12	50	90116A252	11.36
14	25	90116A254	7.85
16	50	90116A256	11.42
18	25	90116A258	8.42
20	25	90116A260	5.98
25	10	90116A262	6.36
30	10	90116A264	7.00
35	10	90116A267	7.60
40	10	90116A270	8.16
50	10	90116A276	9.32
60	10	90116A279	10.56
70	10	90116A281	11.88
80	5	90116A283	9.08

(Continued on following page)

Metric Pan Head Phillips *(Continued from previous page)*

Type 316 Stainless Steel—DIN 7985 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
M6—#3 Drive; Pitch: 1 mm			
8	10	90116A303	$7.52
10	25	90116A305	5.97
12	25	90116A307	7.91
16	25	90116A311	8.59
20	25	90116A315	9.79
25	10	90116A317	9.68
30	10	90116A319	10.52
35	10	90116A321	11.24
40	5	90116A323	6.74
45	5	90116A325	7.14
50	5	90116A327	7.56
60	5	90116A329	8.42
70	5	90116A331	9.30
M6 (Cont.)			
80	5	90116A333	$10.16
M8—#4 Drive; Pitch: 1.25 mm			
12	5	90116A405	8.42
16	5	90116A408	8.52
20	5	90116A411	9.08
25	5	90116A413	9.92
30	5	90116A415	10.70
35	5	90116A417	11.94
40	1	90116A419	2.21
45	1	90116A450	2.46
50	1	90116A423	2.53
60	1	90116A425	2.86

18-8 Stainless Steel—DIN 7985

Lg., mm	Pkg. Qty.		Pkg.
M1.6—#0 Drive; Pitch: 0.35 mm			
3	100	92000A001	10.69
4	100	92000A002	10.87
5	100	92000A003	11.38
6	100	92000A004	11.58
8	100	92000A005	12.06
10	50	92000A006	8.45
12	50	92000A007	10.86
M2—#1 Drive; Pitch: 0.4 mm			
3	50	92000A010	9.55
4	100	92000A011	5.33
5	100	92000A012	4.10
6	100	92000A013	4.41
8	100	92000A015	4.52
10	100	92000A017	4.59
12	100	92000A019	4.76
14	100	92000A020	4.83
16	100	92000A022	5.31
18	100	92000A024	5.72
20	100	92000A026	6.10
M2.5—#1 Drive; Pitch: 0.45 mm			
3	100	92000A100	4.48
4	100	92000A102	3.36
5	100	92000A103	3.40
6	100	92000A104	3.44
8	100	92000A105	3.48
10	100	92000A106	3.76
12	100	92000A107	3.80
14	100	92000A108	3.84
16	100	92000A109	4.20
20	100	92000A111	5.24
25	100	92000A112	4.96
M3—#1 Drive; Pitch: 0.5 mm			
4	100	92000A113	3.92
5	100	92000A114	4.00
6	100	92000A116	5.16
8	100	92000A118	4.04
10	100	92000A120	4.56
12	100	92000A122	4.88
14	100	92000A124	7.93
16	100	92000A126	5.57
18	100	92000A127	8.27
20	100	92000A128	6.08
25	100	92000A130	6.48
30	100	92000A132	6.88
35	100	92000A134	8.72
40	100	92000A136	9.60
45	100	92000A138	11.59
50	50	92000A139	5.56
M3.5—#2 Drive; Pitch: 0.6 mm			
5	100	92000A150	7.24
6	100	92000A151	9.00
8	100	92000A153	9.12
10	100	92000A155	9.28
12	100	92000A157	9.66
16	100	92000A160	11.03
20	50	92000A163	7.24
25	50	92000A167	8.45
M4—#2 Drive; Pitch: 0.7 mm			
5	100	92000A215	6.32
6	100	92000A216	8.06
M4 (Cont.)			
8	100	92000A218	6.52
10	100	92000A220	7.84
12	100	92000A222	7.88
14	100	92000A224	8.50
16	100	92000A226	7.96
18	100	92000A227	9.50
20	100	92000A228	9.93
25	100	92000A230	10.04
30	100	92000A234	11.52
35	50	92000A238	9.36
40	50	92000A242	10.80
45	25	92000A243	6.00
50	25	92000A244	6.08
60	25	92000A248	6.80
M5—#2 Drive; Pitch: 0.8 mm			
6	50	92000A317	5.40
8	50	92000A318	5.72
10	50	92000A320	5.96
12	50	92000A322	6.73
14	50	92000A324	8.01
16	50	92000A326	7.66
18	50	92000A327	8.50
20	50	92000A328	7.97
25	50	92000A330	9.02
30	25	92000A332	6.05
35	25	92000A335	6.40
40	25	92000A338	6.58
45	25	92000A342	8.40
50	25	92000A340	7.44
60	10	92000A343	4.04
70	10	92000A345	4.05
80	10	92000A348	6.72
M6—#3 Drive; Pitch: 1 mm			
8	25	92000A417	5.38
10	25	92000A420	5.18
12	25	92000A424	5.34
16	25	92000A426	5.51
20	25	92000A428	5.85
25	25	92000A430	7.50
30	25	92000A438	7.60
35	25	92000A439	8.41
40	25	92000A440	9.00
45	25	92000A442	9.43
50	25	92000A441	10.10
60	10	92000A444	5.16
70	10	92000A447	5.56
80	10	92000A450	5.78
90	5	92000A470	3.78
M8—#4 Drive; Pitch: 1.25 mm			
12	10	92000A518	4.03
16	10	92000A526	4.90
20	10	92000A528	5.20
25	10	92000A530	5.79
30	10	92000A532	6.30
35	10	92000A534	7.49
40	10	92000A536	7.59
45	10	92000A538	11.44
50	10	92000A540	8.49
60	5	92000A562	6.20

Black-Oxide 18-8 Stainless Steel

Lg., mm	Pkg. Qty.		Pkg.
M2—#1 Drive; Pitch: 0.4 mm			
3	100	95836A103	$9.74
4	100	95836A105	10.29
5	100	95836A107	10.75
6	100	95836A109	11.26
8	100	95836A111	12.81
10	100	95836A113	13.19
12	100	95836A115	13.52
M2.5—#1 Drive; Pitch: 0.45 mm			
4	100	95836A251	10.42
6	100	95836A253	11.59
8	100	95836A255	13.17
10	100	95836A257	13.55
12	50	95836A259	8.36
M3—#1 Drive; Pitch: 0.5 mm			
4	50	95836A201	7.27
5	50	95836A203	7.59
6	50	95836A205	7.79
8	50	95836A207	7.38
10	50	95836A209	7.70
M3 (Cont.)			
12	50	95836A211	$6.65
16	50	95836A215	10.31
M4—#2 Drive; Pitch: 0.7 mm			
5	50	95836A332	11.85
6	50	95836A333	12.50
8	50	95836A335	11.69
10	50	95836A337	11.69
12	50	95836A339	14.59
16	25	95836A343	9.75
20	25	95836A347	10.92
M5—#2 Drive; Pitch: 0.8 mm			
8	25	95836A447	10.88
10	25	95836A449	10.95
12	25	95836A451	11.44
16	10	95836A455	7.48
M6—#3 Drive; Pitch: 1 mm			
10	25	95836A678	11.66
12	10	95836A680	7.45
16	10	95836A684	7.55
20	10	95836A688	12.52

Brass

Lg., mm	Pkg. Qty.		Pkg.
M2—#1 Drive; Pitch: 0.4 mm			
4	100	96741A011	8.50
5	100	96741A012	8.57
6	100	96741A013	9.14
8	100	96741A015	9.76
10	100	96741A017	10.12
M3—#1 Drive; Pitch: 0.5 mm			
4	100	96741A113	9.03
5	100	96741A114	9.81
6	100	96741A116	10.12
8	100	96741A118	11.38
10	50	96741A120	5.82
12	50	96741A122	6.37
M4—#2 Drive; Pitch: 0.7 mm			
6	50	96741A216	8.83
8	50	96741A218	9.97
M4 (Cont.)			
10	25	96741A220	5.65
12	25	96741A222	6.02
16	25	96741A226	7.67
M5—#2 Drive; Pitch: 0.8 mm			
8	10	96741A318	4.74
10	10	96741A320	4.75
12	10	96741A322	5.44
16	10	96741A326	6.27
M6—#3 Drive; Pitch: 1 mm			
10	10	96741A420	6.31
12	10	96741A424	7.76
16	5	96741A426	4.53
20	5	96741A428	5.14

Zinc-Plated Steel—DIN 7985

Lg., mm	Pkg. Qty.		Pkg.
M1.6—#0 Drive; Pitch: 0.35 mm			
2	50	92005A001	8.83
3	50	92005A002	9.34
4	25	92005A003	6.65
5	25	92005A004	6.65
6	25	92005A005	7.11
8	25	92005A006	7.45
M2—#1 Drive; Pitch: 0.4 mm			
2	100	92005A010	9.17
3	100	92005A011	5.04
4	100	92005A016	3.67
5	100	92005A019	3.21
6	100	92005A023	3.67
8	100	92005A029	3.67
10	100	92005A033	3.67
12	100	92005A035	4.13
14	100	92005A036	6.00
16	100	92005A037	4.13
20	100	92005A039	5.96
M2.5—#1 Drive; Pitch: 0.45 mm			
3	100	92005A052	5.04
4	100	92005A056	5.04
5	100	92005A061	3.67
6	100	92005A066	4.13
8	100	92005A069	4.13
10	100	92005A071	4.13
12	100	92005A075	4.13
14	100	92005A074	6.25
16	100	92005A076	4.13
20	100	92005A077	5.04
25	100	92005A078	5.50
30	100	92005A079	9.17
M3—#1 Drive; Pitch: 0.5 mm			
3	100	92005A111	4.13
4	100	92005A112	2.48
5	100	92005A114	2.56
6	100	92005A116	2.60
8	100	92005A118	2.64
10	100	92005A120	2.60
12	100	92005A122	2.64
14	100	92005A124	4.24
16	100	92005A126	2.88
M3 (Cont.)			
18	100	92005A127	6.94
20	100	92005A128	3.08
22	100	92005A129	6.59
25	100	92005A130	3.28
30	100	92005A132	3.80
35	100	92005A133	7.79
40	100	92005A135	8.25
45	50	92005A136	7.93
50	25	92005A137	4.93
60	10	92005A140	5.45
M3.5—#2 Drive; Pitch: 0.6 mm			
5	100	92005A710	11.00
6	100	92005A712	4.13
8	100	92005A714	4.58
10	100	92005A716	4.58
12	100	92005A719	5.04
16	100	92005A721	7.79
20	100	92005A723	8.71
25	25	92005A725	2.41
30	25	92005A727	4.70
M4—#2 Drive; Pitch: 0.7 mm			
4	100	92005A211	5.50
5	100	92005A212	4.58
6	100	92005A215	3.28
8	100	92005A218	3.52
10	100	92005A220	3.32
12	100	92005A222	3.64
14	100	92005A223	5.04
16	100	92005A226	4.32
18	100	92005A227	9.63
20	100	92005A228	4.64
25	100	92005A230	5.12
30	100	92005A232	5.72
35	100	92005A234	10.09
40	100	92005A236	7.80
45	100	92005A238	9.68
50	100	92005A240	10.46
55	25	92005A242	4.80
60	25	92005A245	6.19
70	10	92005A248	3.44
80	10	92005A251	4.91

(Continued on following page)

Metric Pan Head Phillips *(Continued from previous page)*



All are fully threaded. Length is measured from under the head.

Zinc-Plated Steel—DIN 7985 (Cont.)

M5—#2 Drive; Pitch: 0.8 mm

Lg., mm	Pkg. Qty.		Pkg.
5	50	92005A315	$6.88
6	100	92005A316	4.32
8	100	92005A318	4.40
10	100	92005A320	4.72
12	100	92005A322	4.92
14	100	92005A324	7.43
16	100	92005A326	5.68
18	100	92005A327	7.73
20	100	92005A328	6.08
25	100	92005A330	7.36
30	100	92005A332	8.40
35	100	92005A334	9.20
40	50	92005A336	9.86
45	25	92005A338	8.60
50	25	92005A342	6.80
60	25	92005A345	8.05
70	10	92005A348	6.42
80	5	92005A351	3.69

M6—#3 Drive; Pitch: 1 mm

Lg., mm	Pkg. Qty.		Pkg.
6	50	92005A416	$7.56
8	100	92005A418	10.19
10	100	92005A420	7.40
12	100	92005A422	8.08
14	100	92005A423	10.42
16	100	92005A426	8.88
18	25	92005A427	8.60
20	100	92005A428	10.15
22	25	92005A429	9.86
25	50	92005A430	5.74
30	50	92005A435	6.30
35	50	92005A440	6.82
40	50	92005A442	7.54
45	50	92005A444	9.26
50	50	92005A446	10.42
60	25	92005A450	8.50
65	10	92005A449	8.75
70	10	92005A451	5.91

Zinc-Plated Steel—DIN 7985 (Cont.)

M6 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
75	10	92005A452	$5.70
80	5	92005A454	4.91
90	5	92005A457	6.06
100	5	92005A460	6.25

M8—#4 Drive; Pitch: 1.25 mm

Lg., mm	Pkg. Qty.		Pkg.
10	10	92005A519	6.42
12	10	92005A521	5.91
16	25	92005A526	6.42
20	25	92005A528	7.40
25	25	92005A530	8.48
30	10	92005A532	6.42
35	10	92005A533	7.38
40	10	92005A535	9.08
45	5	92005A537	5.94
50	5	92005A539	7.04
60	5	92005A541	8.92

M8 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
70	1	92005A543	$2.04
80	1	92005A545	2.73
90	1	92005A548	2.90
100	1	92005A552	3.72

M10—#4 Drive; Pitch: 1.5 mm

Lg., mm	Pkg. Qty.		Pkg.
16	1	92005A623	3.11
20	1	92005A626	3.00
25	1	92005A629	3.53
30	1	92005A633	3.04
35	1	92005A635	2.95
40	1	92005A637	3.84
45	1	92005A640	2.20
50	1	92005A643	2.40
60	1	92005A646	2.45
70	1	92005A649	2.60
80	1	92005A652	2.68

Metric Pan Head Slotted



All are fully threaded. Meet DIN 85, except thread size M2.6. Length is measured from under the head.

18-8 Stainless Steel

M2—Pitch: 0.4 mm

Lg., mm	Pkg. Qty.		Pkg.
5	100	91200A100	$4.57
6	100	91200A102	4.80
8	100	91200A104	4.86
10	100	91200A106	5.04
12	100	91200A108	5.38
16	100	91200A110	5.71

M3—Pitch: 0.5 mm

Lg., mm	Pkg. Qty.		Pkg.
6	100	91200A112	6.86
8	100	91200A114	7.00
10	100	91200A116	7.43
12	100	91200A118	9.48
16	100	91200A120	9.75
20	100	91200A122	9.95
25	100	91200A124	9.98

M4—Pitch: 0.7 mm

Lg., mm	Pkg. Qty.		Pkg.
6	100	91200A128	6.24
8	100	91200A130	8.19

M4 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
10	100	91200A132	$8.33
12	100	91200A134	9.81
16	100	91200A136	13.57
25	50	91200A140	9.76

M5—Pitch: 0.8 mm

Lg., mm	Pkg. Qty.		Pkg.
8	50	91200A150	11.40
10	50	91200A152	6.24
12	50	91200A154	7.95
16	50	91200A156	8.98

M6—Pitch: 1 mm

Lg., mm	Pkg. Qty.		Pkg.
10	50	91200A172	11.72
12	50	91200A174	12.45
16	50	91200A176	12.64
20	25	91200A178	6.07
25	25	91200A180	9.38

Brass

M2.5—Pitch: 0.45 mm

Lg., mm	Pkg. Qty.		Pkg.
5	50	90928A205	8.61
6	25	90928A207	5.24
8	25	90928A209	4.93
10	25	90928A211	4.16

M3—Pitch: 0.5 mm

Lg., mm	Pkg. Qty.		Pkg.
5	50	90928A300	11.92
6	50	90928A301	10.95
8	50	90928A305	12.14
10	50	90928A309	14.76
12	50	90928A313	11.90
16	50	90928A317	13.03
20	25	90928A319	8.46
25	25	90928A321	9.15

M4—Pitch: 0.7 mm

Lg., mm	Pkg. Qty.		Pkg.
6	25	90928A327	8.33
8	25	90928A331	10.00

M4 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
10	25	90928A337	10.00
12	25	90928A342	10.87
16	25	90928A344	10.95
20	25	90928A346	12.06
25	10	90928A348	6.27

M5—Pitch: 0.8 mm

Lg., mm	Pkg. Qty.		Pkg.
8	10	90928A355	6.05
10	10	90928A356	6.16
12	10	90928A357	6.38
16	10	90928A358	7.21
20	10	90928A359	7.15

M6—Pitch: 1 mm

Lg., mm	Pkg. Qty.		Pkg.
10	10	90928A378	10.48
12	10	90928A382	11.43
16	10	90928A385	11.43
20	10	90928A388	11.20

Zinc-Plated Steel

M2.5—Pitch: 0.45 mm

Lg., mm	Pkg. Qty.		Pkg.
4	100	90353A001	$11.49
5	100	90353A002	7.04
6	100	90353A003	7.42
8	100	90353A004	9.64
10	100	90353A005	9.64
12	100	90353A006	9.63
20	100	90353A007	7.41

M2.6—Pitch: 0.45 mm

Lg., mm	Pkg. Qty.		Pkg.
4	100	90353A110	6.30
5	100	90353A111	5.42
6	100	90353A112	5.26
8	100	90353A113	5.26
10	100	90353A114	5.12
12	100	90353A115	5.12
25	100	90353A120	11.04

M3—Pitch: 0.5 mm

Lg., mm	Pkg. Qty.		Pkg.
4	100	90353A140	3.09
5	100	90353A141	3.09
6	100	90353A142	3.09
8	100	90353A143	3.09
10	100	90353A144	3.20
12	100	90353A145	3.52
16	100	90353A146	3.52
20	100	90353A148	3.52
25	100	90353A150	3.97
30	100	90353A151	5.29
35	100	90353A152	5.74
40	100	90353A154	6.74

M3.5—Pitch: 0.6 mm

Lg., mm	Pkg. Qty.		Pkg.
5	100	90353A170	4.41
6	100	90353A171	4.41
8	100	90353A172	4.41
10	100	90353A173	4.41
12	100	90353A174	4.41

M3.5 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
16	100	90353A175	$4.85
20	100	90353A177	4.85
25	100	90353A178	4.01
30	100	90353A180	6.17
35	100	90353A182	7.49

M4—Pitch: 0.7 mm

Lg., mm	Pkg. Qty.		Pkg.
6	100	90353A211	3.97
8	100	90353A212	3.97
10	100	90353A213	4.41
12	100	90353A214	4.41
14	100	90353A228	4.85
16	100	90353A215	4.85
20	100	90353A217	5.29
25	100	90353A219	5.29
30	100	90353A221	6.17
35	100	90353A222	8.30
40	100	90353A223	7.49

M5—Pitch: 0.8 mm

Lg., mm	Pkg. Qty.		Pkg.
6	100	90353A250	5.29
8	100	90353A251	5.29
10	100	90353A252	5.74
12	100	90353A253	5.74
16	100	90353A254	7.64
20	100	90353A256	7.93
25	100	90353A258	7.93
30	100	90353A260	9.69
40	100	90353A262	11.91

M6—Pitch: 1 mm

Lg., mm	Pkg. Qty.		Pkg.
10	100	90353A311	7.49
12	100	90353A312	7.49
14	100	90353A329	10.58
16	100	90353A314	9.69
20	100	90353A315	11.46
25	100	90353A317	11.91

Metric Japanese Industrial Standard Pan Head Phillips



Screws meet JIS B1111 for a smaller head diameter and shorter head height than most other metric pan head screws. They're made from zinc-plated steel and are fully threaded. Length is measured from under the head. For JIS drivers, see 53325A on page 2819. **Also Available:** 18-8 stainless steel screws in sizes marked with a ★. Please ask for 94102A650 and specify thread size and screw length.

M3—#2 Drive; Pitch: 0.5 mm

Lg., mm	Pkg. Qty.		Pkg.
4	25	94387A203★	$2.55
6	25	94387A206★	2.67
8	25	94387A209★	3.76
10	25	94387A212★	3.94

M3 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
12	25	94387A215★	$3.79
16	25	94387A218★	4.42
20	25	94387A221★	4.85
25	25	94387A224★	7.24

M3 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
30	25	94387A227★	$7.24
35	25	94387A229★	8.24
40	25	94387A231★	10.03
45	25	94387A233	10.33

M4—#2 Drive; Pitch: 0.7 mm

Lg., mm	Pkg. Qty.		Pkg.
8	25	94387A240	$4.52
10	25	94387A245	4.58
12	25	94387A250★	4.70
16	25	94387A253★	5.79

(Continued on following page)

Metric Japanese Industrial Standard Pan Head Phillips *(Continued from previous page)*

Also Available: 18-8 stainless steel screws in sizes marked with a ★. Please ask for 94102A650 and specify thread size and screw length.

Lg., mm	Pkg. Qty.		Pkg.
M4 (Cont.)			
20	25	94387A256★	$6.64
25	25	94387A259★	8.12
30	25	94387A262	8.94
35	25	94387A265	10.88
40	25	94387A268★	12.97
45	25	94387A271	14.70
50	10	94387A274★	7.71
60	10	94387A280	8.61
M5—#2 Drive; Pitch: 0.8 mm			
8	25	94387A320★	$7.33
10	25	94387A323★	8.21
12	25	94387A326★	9.33
16	25	94387A329★	10.45
20	25	94387A332★	11.48
25	25	94387A335★	12.52
30	25	94387A338★	13.21
35	25	94387A341★	13.94
40	10	94387A344	6.30
M5 (Cont.)			
45	10	94387A347	$6.94
50	10	94387A350★	8.48
60	10	94387A356	11.82
M6—#3 Drive; Pitch: 1 mm			
10	25	94387A420★	10.00
12	25	94387A423★	10.76
16	25	94387A426★	11.73
20	25	94387A429★	13.55
M6 (Cont.)			
25	10	94387A432★	$7.97
30	10	94387A435★	8.79
35	10	94387A438★	8.57
40	10	94387A441★	8.33
50	10	94387A447	10.52
60	10	94387A453	12.91
70	10	94387A459	13.97
80	5	94387A465	9.97

Metric Pan Head Phillips with Lock Washer

Sharp teeth dig into surfaces to resist vibration and keep screws tight. Also called Sems screws, each has a washer that rotates freely, but won't fall off. All are 18-8 stainless steel and have magnetic Type 410 stainless steel washers. Screws are fully threaded. Length is measured from under the head.



With Internal-Tooth Lock Washer



With External-Tooth Lock Washer

Screws with internal-tooth lock washer won't snag along the outer edge and have a smoother appearance than screws with external-tooth washers. **Screws with external-tooth lock washer** offer maximum holding power.

Lg., mm	Pkg. Qty.		Pkg.
Screws with Internal-Tooth Lock Washer			
M2.5—#1 Drive; Pitch: 0.45 mm; Washer OD: 5.8 mm			
4	25	90317A100	$10.97
5	25	90317A103	11.03
6	25	90317A106	11.06
8	25	90317A105■	8.22
10	25	90317A108■	7.09
12	10	90317A109	7.63
M3—#1 Drive; Pitch: 0.5 mm; Washer OD: 7.4 mm			
4	25	90317A110	11.18
5	25	90317A111■▲	8.95
6	25	90317A112	10.40
8	25	90317A115	10.80
10	10	90317A118	5.44
12	10	90317A121	5.68
16	10	90317A125■▲	4.87
M4—#2 Drive; Pitch: 0.7 mm; Washer OD: 8.8 mm			
6	10	90317A162	$6.80
8	10	90317A165	6.80
10	10	90317A168	10.24
12	5	90317A171	11.40
16	10	90317A175	4.66
20	5	90317A176	9.24
25	5	90317A179	9.30
M5—#2 Drive; Pitch: 0.8 mm; Washer OD: 10 mm			
8	10	90317A198	8.40
10	10	90317A201■	5.93
12	10	90317A205■	6.32
14	5	90317A208	9.64
16	5	90317A211	9.67
M6—#3 Drive; Pitch: 1 mm; Washer OD: 12 mm			
12	5	90317A230	12.63
Screws with External-Tooth Lock Washer			
M2.5—#1 Drive; Pitch: 0.45 mm; Washer OD: 5.5 mm			
4	25	90317A400	10.03
5	25	90317A402	10.07
6	25	90317A404	10.10
8	25	90317A406	10.20
10	25	90317A408	10.27
12	10	90317A410	6.07
M3—#1 Drive; Pitch: 0.5 mm; Washer OD: 5.9 mm			
4	25	90317A550	10.27
5	25	90317A553■▲	8.15
6	25	90317A523	10.40
8	25	90317A526	10.80
10	10	90317A529	5.44
12	10	90317A532	5.68
16	10	90317A555■▲	3.79
M4—#2 Drive; Pitch: 0.7 mm; Washer OD: 8.3 mm			
6	10	90317A571	6.80
8	10	90317A573	6.80
10	10	90317A575	6.80
12	10	90317A579	7.44
16	10	90317A582	5.61
20	5	90317A585	5.80
25	5	90317A590	5.90
M5—#2 Drive; Pitch: 0.8 mm; Washer OD: 10 mm			
8	10	90317A598	7.10
10	10	90317A600■	7.36
12	10	90317A602	7.30
14	10	90317A605	7.43
16	10	90317A607	7.53
M6—#3 Drive; Pitch: 1 mm; Washer OD: 12 mm			
12	10	90317A630■	9.10

■ Washer is 18-8 stainless steel.
▲ Has a #2 drive and washer OD of 6.5 mm.

Metric Thread-Locking Pan Head Phillips



A nylon anti-vibration patch fused to the threads prevents loosening. The patch has a temperature range of –70° to 250°F.

Screws are 18-8 stainless steel and fully threaded. Length is measured from under the head.

Lg., mm	Pkg. Qty.		Pkg.
M2—#0 Drive; Pitch: 0.4 mm			
3	25	95911A104	$8.33
4	25	95911A107	8.47
5	25	95911A111	9.17
6	25	95911A114	9.32
8	25	95911A118	9.48
M2.5—#1 Drive; Pitch: 0.45 mm			
3	25	95911A154	10.00
4	25	95911A159	10.83
5	25	95911A161	11.02
6	25	95911A164	11.21
8	25	95911A168	11.40
10	25	95911A171	11.61
M3—#1 Drive; Pitch: 0.5 mm			
4	25	95911A204	$10.83
5	25	95911A207	11.02
6	25	95911A211	10.18
8	25	95911A214	11.40
10	25	95911A218	11.61
12	25	95911A221	11.82
M4—#2 Drive; Pitch: 0.7 mm			
6	25	95911A254	11.67
8	25	95911A257	11.86
10	25	95911A261	12.50
M5—#2 Drive; Pitch: 0.8 mm			
10	10	95911A304	5.33
12	10	95911A307	5.42
16	10	95911A311	5.67

Metric Sealing Pan Head Phillips



Seal out contaminants and prevent leaks. Made from 18-8 stainless steel, screws have a silicone rubber O-ring that stops liquid and gas pressure up to 6,000 psi when used in the hole size range listed. Temperature range is –80° to 400°F. Screws are fully threaded. Length is measured from under the head.

Lg., mm	Pkg. Qty.		Pkg.
M2—#1 Drive; Pitch: 0.4 mm; Max. Hole Size: 2.44 mm			
3	10	93627A206	$8.00
4	10	93627A210	8.00
5	10	93627A214	6.86
6	10	93627A218	6.86
8	10	93627A222	6.86
M2.5—#1 Drive; Pitch: 0.45 mm; Max. Hole Size: 2.95 mm			
3	10	93627A313	8.57
4	10	93627A317	8.57
5	10	93627A321	6.00
6	10	93627A325	6.57
8	10	93627A329	6.57
M3—#1 Drive; Pitch: 0.5 mm; Max. Hole Size: 3.45 mm			
4	10	93627A404	8.86
5	10	93627A408	7.43
6	10	93627A412	6.86
M3 (Cont.)			
8	10	93627A413	$7.43
10	10	93627A420	6.86
12	10	93627A424	6.86
M4—#2 Drive; Pitch: 0.7 mm; Max. Hole Size: 4.55 mm			
5	10	93627A507	9.43
6	10	93627A511	8.57
8	10	93627A515	7.43
10	10	93627A519	7.71
12	10	93627A524	8.00
16	10	93627A529	8.86
M5—#2 Drive; Pitch: 0.8 mm; Max. Hole Size: 5.56 mm			
6	10	93627A610	10.57
8	10	93627A615	8.86
10	10	93627A620	9.71
12	10	93627A625	8.86
16	10	93627A630	9.43

Pan Head Phillips Machine Screw Assortments

Keep the screws you need convenient and organized. Assortments come in a steel box.

Inch assortment includes 1,200 size 4-40, 6-32, 8-32, and 10-32 18-8 stainless steel screws in lengths from ¼″ to 1″.

Metric assortment includes 1,500 size M3, M4, M5, and M6 zinc-plated steel screws in lengths from 6 to 20 mm.



Inch Assortment	93175A212	$106.10
Metric Assortment	92020A116	99.74

Flat Head Phillips

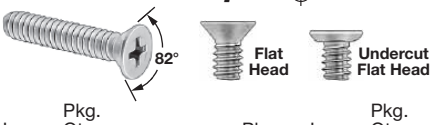

Screws have a standard 82° bevel under the head. Those marked with a ★ have an undercut head to allow more threading. Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from the top of the head.

Type 316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
2-56—#1 Drive			
1/8″	100	91500A080★	$8.00
3/16″	100	91500A082	8.40
1/4″	100	91500A084	8.80
5/16″	100	91500A086	6.80
3/8″	100	91500A088	7.20
1/2″	100	91500A090	8.00
4-40—#1 Drive			
3/16″	100	91500A120★	8.60
1/4″	100	91500A122	8.70
5/16″	100	91500A124	8.80
3/8″	100	91500A126	9.20
1/2″	100	91500A128	9.80
6-32—#2 Drive			
1/4″	100	91500A144	8.72
5/16″	100	91500A145	9.09
3/8″	100	91500A146	9.07
1/2″	100	91500A148	9.48
3/4″	50	91500A151	5.72
1″	25	91500A153	3.36
1 1/4″	25	91500A155	7.45
1 1/2″	25	91500A157	8.84
8-32—#2 Drive			
1/4″	50	91500A190★	6.44
3/8″	50	91500A192	5.11
1/2″	50	91500A194	5.97
3/4″	50	91500A197	8.83
1″	25	91500A199	5.59
1 1/4″	25	91500A201	8.38
1 1/2″	25	91500A203	9.95
10-24—#2 Drive			
3/8″	25	91500A240	4.04
1/2″	25	91500A242	5.16
10-24 (Cont.)			
3/4″	25	91500A245	$5.37
1″	25	91500A247	5.92
1 1/4″	25	91500A249	9.51
1 1/2″	10	91500A251	4.52
10-32—#2 Drive			
3/8″	50	91500A827	8.37
1/2″	25	91500A829	5.01
3/4″	25	91500A831	5.28
1″	25	91500A833	5.72
1 1/4″	25	91500A835	9.51
1 1/2″	10	91500A836	4.21
1/4″-20—#3 Drive			
1/2″	25	91500A537	6.14
5/8″	25	91500A538	7.38
3/4″	25	91500A540	7.16
1″	10	91500A542	4.08
1 1/4″	10	91500A544	4.88
1 1/2″	10	91500A546	5.85
2″	10	91500A550	6.72
2 1/2″	10	91500A552	8.73
3″	10	91500A554	9.16
5/16″-18—#4 Drive			
3/4″	10	91500A581	6.90
1″	10	91500A583	7.16
1 1/4″	10	91500A585	10.07
1 1/2″	10	91500A587	10.96
2″	5	91500A591	6.78
3/8″-16—#4 Drive			
3/4″	10	91500A622	11.56
1″	10	91500A624	11.73
1 1/4″	5	91500A626	6.91
2″	5	91500A632	9.24

18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
0-80—#0 Drive			
1/8″	100	91771A052★	8.41
5/32″	100	91771A053	8.62
3/16″	100	91771A054	8.66
7/32″	100	91771A040	9.63
1/4″	100	91771A055	9.01
9/32″	100	91771A041	9.75
5/16″	100	91771A056	9.24
11/32″	100	91771A042	9.97
3/8″	100	91771A057	9.44
7/16″	100	91771A058	11.80
1/2″	100	91771A059	9.67
5/8″	100	91771A060	10.93
3/4″	100	91771A071	10.63
1″	100	91771A102	14.43
1-64—#0 Drive			
1/8″	100	91771A063★	9.84
3/16″	100	91771A065	10.66
1/4″	100	91771A066	11.48
3/8″	100	91771A068	12.29
1/2″	100	91771A070	14.12
3/4″	50	91771A176	9.96
1-72—#0 Drive			
1/8″	100	91771A164★	10.24
3/16″	100	91771A165	11.08
1/4″	100	91771A166	11.93
5/16″	100	91771A167	12.36
3/8″	100	91771A168	12.78
1/2″	100	91771A170	13.93
1″	50	91771A175	9.64
2-56—#1 Drive			
1/8″	100	91771A074★	4.71
5/32″	100	91771A075	5.33
3/16″	100	91099A101★	3.63
3/16″	100	91771A076	4.95
7/32″	100	91771A077	5.94
1/4″	100	91099A104★	3.75
1/4″	100	91771A104	4.24
5/16″	100	91099A107★	3.97
5/16″	100	91771A078	4.69
3/8″	100	91771A105	6.25
7/16″	100	91771A080	6.98
1/2″	100	91771A081	6.94
2-56—#1 Drive (Cont.)			
9/16″	100	91771A082	4.74
5/8″	100	91771A083	4.64
3/4″	100	91771A084	4.76
7/8″	100	91771A085	5.19
1″	100	91771A140	4.92
1 1/4″	100	91771A141	5.29
1 1/2″	50	91771A267	10.22
3-48—#1 Drive			
1/8″	100	91771A089★	8.45
3/16″	100	91771A091	8.60
1/4″	100	91771A092	8.74
5/16″	100	91771A093	8.87
3/8″	100	91771A094	9.07
1/2″	100	91771A096	9.95
5/8″	100	91771A098	10.81
3/4″	100	91771A099	12.74
1″	50	91771A101	8.29
4-40—#1 Drive			
1/8″	100	91771A103★	7.95
3/16″	100	91099A152★	3.97
1/4″	100	91099A155★	3.60
1/4″	100	91771A106	3.75
5/16″	100	91099A160★	4.21
5/16″	100	91771A107	4.53
3/8″	100	91099A165★	4.59
3/8″	100	91771A108	4.56
7/16″	100	91771A109	4.53
1/2″	100	91099A167★	5.18
1/2″	100	91771A110	4.61
9/16″	100	91771A121	5.12
5/8″	100	91099A169★	5.67
5/8″	100	91771A112	5.17
11/16″	100	91771A043	6.52
3/4″	100	91771A113	5.42
7/8″	100	91771A114	5.27
1″	100	91771A115	6.33
1 1/8″	50	91771A116	6.55
1 1/4″	50	91771A117	4.40
1 1/2″	50	91771A119	4.99
1 3/4″	50	91771A122	5.14
2″	50	91771A120	5.45
2 1/2″	50	91771A123	5.86
4-48—#1 Drive			
1/4″	100	91771A741	$11.69
3/8″	100	91771A742	13.96
1/2″	50	91771A743	8.89
1″	50	91771A746	12.20
5-40—#2 Drive			
1/4″	100	91771A124	5.67
5/16″	100	91771A125	6.23
3/8″	100	91771A126	6.83
1/2″	100	91771A128	7.53
3/4″	100	91771A129	10.84
1″	50	91771A133	7.89
6-32—#2 Drive			
3/16″	100	91099A201★	4.30
1/4″	100	91099A205★	4.55
1/4″	100	91771A144	5.25
5/16″	100	91099A210★	4.70
5/16″	100	91771A145	4.25
3/8″	100	91099A215★	4.91
3/8″	100	91771A146	5.13
7/16″	100	91099A218★	5.35
7/16″	100	91771A142	5.36
1/2″	100	91099A220★	5.58
1/2″	100	91771A148	5.24
9/16″	100	91771A169	5.37
5/8″	100	91099A222★	5.69
5/8″	100	91771A150	5.75
3/4″	100	91099A224★	5.96
3/4″	100	91771A151	5.50
7/8″	100	91771A152	7.09
1″	100	91099A228★	8.64
1″	100	91771A153	7.37
1 1/8″	100	91771A154	7.60
1 1/4″	100	91771A155	9.46
1 1/2″	100	91771A157	9.84
1 3/4″	100	91771A156	8.96
1 7/8″	50	91771A158	6.73
2″	100	91771A159	9.26
2 1/4″	50	91771A160	7.33
2 1/2″	50	91771A161	7.37
2 3/4″	50	91771A162	7.56
3″	50	91771A163	8.05
8-32—#2 Drive			
3/16″	100	91771A189★	4.71
1/4″	100	91099A252★	4.79
5/16″	100	91099A255★	4.87
5/16″	100	91771A191	5.80
3/8″	100	91099A260★	5.06
3/8″	100	91771A192	5.98
7/16″	100	91099A263★	5.28
7/16″	100	91771A195	5.95
1/2″	100	91099A265★	5.29
1/2″	100	91771A194	7.26
5/8″	100	91099A266★	7.72
5/8″	100	91771A196	7.42
3/4″	100	91099A268★	8.44
3/4″	100	91771A197	8.86
7/8″	100	91771A198	10.08
1″	100	91099A270★	9.96
1″	100	91771A199	9.95
1 1/8″	100	91771A200	8.67
1 1/4″	100	91771A201	13.39
1 1/2″	50	91771A203	7.26
1 3/4″	50	91771A204	6.60
2″	50	91771A205	10.02
2 1/4″	50	91771A206	9.92
2 1/2″	50	91771A207	9.00
2 3/4″	50	91771A208	9.92
3″	50	91771A209	11.89
3 1/2″	10	91771A211	3.69
4″	10	91771A213	4.90
10-24—#2 Drive			
1/4″	100	91771A238★	9.34
5/16″	100	91771A239★	9.19
3/8″	100	91099A315★	7.59
3/8″	100	91771A240	7.75
10-24 (Cont.)			
7/16″	100	91771A241	$9.63
1/2″	100	91099A320★	8.71
1/2″	100	91771A242	8.95
5/8″	100	91771A244	12.47
3/4″	100	91099A325★	12.20
3/4″	100	91771A245	12.21
7/8″	100	91771A246	13.33
1″	50	91099A329★	8.20
1″	50	91771A247	6.87
1 1/8″	50	91771A248	6.72
1 1/4″	50	91771A249	8.01
1 3/8″	50	91771A250	10.30
1 1/2″	50	91771A251	10.50
1 3/4″	50	91771A254	8.96
2″	50	91771A253	12.00
2 1/4″	25	91771A255	8.32
2 1/2″	25	91771A256	9.07
2 3/4″	25	91771A260	8.19
3″	25	91771A257	8.71
3 1/2″	10	91771A259	4.69
4″	10	91771A261	5.37
5″	10	91771A263	10.78
6″	5	91771A265	7.13
10-32—#2 Drive			
1/4″	100	91771A825★	9.96
5/16″	100	91099A340★	6.29
3/8″	100	91099A355★	7.59
3/8″	100	91771A827	7.92
7/16″	100	91771A847	9.47
1/2″	100	91099A360★	8.20
1/2″	100	91771A829	8.95
9/16″	100	91771A800	10.89
5/8″	100	91099A362★	10.92
5/8″	100	91771A830	10.95
3/4″	100	91099A365★	12.20
3/4″	100	91771A831	12.60
7/8″	50	91771A832	6.99
1″	50	91099A367★	8.81
1″	50	91771A833	7.49
1 1/8″	50	91771A834	6.72
1 1/4″	50	91771A835	9.12
1 1/2″	50	91771A836	9.97
1 3/4″	50	91771A837	11.40
2″	50	91771A838	12.80
2 1/4″	50	91771A839	12.99
2 1/2″	25	91771A840	8.03
2 3/4″	25	91771A841	9.05
3″	25	91771A842	9.64
3 1/2″	10	91771A844	4.69
4″	10	91771A846	4.63
12-24—#3 Drive			
3/8″	100	91771A289★	7.07
1/2″	100	91099A415★	9.32
1/2″	100	91771A291	9.07
5/8″	100	91771A293	11.23
3/4″	50	91099A420★	8.07
3/4″	100	91771A294	11.47
7/8″	50	91771A295	7.57
1″	50	91099A425★	10.24
1″	50	91771A296	7.65
1 1/4″	50	91771A298	7.69
1 1/2″	50	91771A299	11.62
2″	25	91771A301	7.69
3″	25	91771A305	11.65
4″	10	91771A309	8.23
1/4″-20—#3 Drive			
3/8″	100	91771A535★	7.51
1/2″	50	91099A450★	8.27
1/2″	50	91771A537	8.64
5/8″	50	91771A539	5.97
3/4″	50	91099A453★	10.59
3/4″	50	91771A540	11.09
7/8″	50	91771A541	10.56
1″	25	91099A456★	6.47

★ Head is undercut to allow more threading.

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Flat Head Phillips *(Continued from previous page)*

18-8 Stainless Steel (Cont.)

1/4"-20 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1"	50	91771A542	$12.22
1 1/8"	50	91771A543	10.07
1 1/4"	25	91771A544	8.00
1 1/2"	25	91771A546	8.80
1 3/4"	25	91771A548	7.63
2"	25	91771A550	11.27
2 1/4"	25	91771A551	11.27
2 1/2"	25	91771A552	13.21
2 3/4"	10	91771A553	5.22
3"	10	91771A554	6.48
3 1/2"	10	91771A571	6.19
4"	10	91771A573	7.79
4 1/2"	10	91771A574	12.39
5"	5	91771A576	6.87
5 1/2"	5	91771A572	7.00
6"	5	91771A577	8.73

1/4"-28—#3 Drive

3/8"	50	91771A555★	7.82
1/2"	50	91771A557	8.87
5/8"	50	91771A558	9.80
3/4"	25	91771A559	6.34
1"	25	91771A561	6.24
1 1/8"	25	91771A562	9.52
1 1/4"	25	91771A563	8.57
1 1/2"	25	91771A564	8.77
2"	25	91771A566	12.17

5/16"-18—#4 Drive

1/2"	25	91771A578★	7.42
5/8"	25	91771A580	9.32
3/4"	25	91771A581	9.24

5/16"-18 (Cont.)

7/8"	10	91771A582	$3.72
1"	10	91771A583	3.83
1 1/4"	10	91771A585	4.40
1 1/2"	10	91771A587	5.04
1 3/4"	10	91771A589	5.13
2"	10	91771A591	6.90
2 1/4"	10	91771A592	9.67
2 1/2"	10	91771A593	9.77
3"	10	91771A595	10.43
3 1/2"	5	91771A597	6.55
4"	5	91771A599	7.34
5"	5	91771A602	13.40

3/8"-16—#4 Drive

1/2"	10	91771A619★	5.35
5/8"	10	91771A620	5.92
3/4"	10	91771A622	6.06
1"	10	91771A624	6.88
1 1/4"	10	91771A626	8.82
1 1/2"	10	91771A628	9.16
1 3/4"	10	91771A630	9.84
2"	10	91771A632	11.33
2 1/2"	5	91771A634	7.03
2 3/4"	5	91771A635	9.06
3"	5	91771A636	8.83
3 1/2"	5	91771A638	9.60
4"	5	91771A640	10.57
4 1/2"	5	91771A642	11.89
5"	1	91771A644	3.41
6"	1	91771A648	5.58

Black-Oxide 18-8 Stainless Steel

0-80—#0 Drive

1/8"	100	96640A002★	8.42
3/16"	100	96640A005	8.63
1/4"	100	96640A008	9.20

2-56—#1 Drive

1/8"	100	96640A019★	5.39
3/16"	100	96640A021	5.86
1/4"	100	96640A023	3.84
5/16"	100	96640A024	5.54
3/8"	100	96640A025	4.35
1/2"	100	96640A027	4.78

4-40—#1 Drive

1/8"	100	96640A050★	5.58
3/16"	100	96640A052★	5.70
1/4"	100	96640A054	4.11
5/16"	100	96640A055	6.06
3/8"	100	96640A056	5.17
7/16"	100	96640A057	7.20
1/2"	100	96640A058	7.03
5/8"	100	96640A059	7.14
3/4"	100	96640A061	7.29
1"	100	96640A064	9.04

6-32—#2 Drive

1/4"	100	96640A110	5.27
5/16"	100	96640A113	6.23
3/8"	100	96640A115	5.41
1/2"	100	96640A117	5.98
5/8"	100	96640A118	10.86

6-32 (Cont.)

3/4"	100	96640A120	10.71
1"	100	96640A121	10.15
1 1/2"	50	96640A125	7.38
2"	50	96640A128	9.01

8-32—#2 Drive

1/4"	100	96640A122★	6.58
3/8"	100	96640A123	8.13
1/2"	100	96640A126	8.26
5/8"	100	96640A127	13.51
3/4"	100	96640A129	10.54

10-24—#2 Drive

3/8"	50	96640A132	6.46
1/2"	50	96640A135	7.10
3/4"	50	96640A137	8.87
1"	50	96640A139	11.19

10-32—#2 Drive

3/8"	50	96640A141	6.46
1/2"	50	96640A144	7.10
5/8"	50	96640A145	8.47
3/4"	50	96640A146	8.87
1"	50	96640A148	11.19

1/4"-20—#3 Drive

1/2"	50	96640A150	12.27
3/4"	25	96640A153	7.31
1"	25	96640A155	9.63
1 1/4"	25	96640A157	13.16
1 1/2"	10	96640A158	5.04

Brass

4-40—#1 Drive

1/4"	100	92480A106	4.45
3/8"	100	92480A108	5.06
1/2"	100	92480A110	5.69

6-32—#2 Drive

1/4"	100	92480A144	5.21
3/8"	100	92480A146	5.62
1/2"	100	92480A148	6.14
5/8"	100	92480A149	7.16
3/4"	100	92480A151	8.07
1"	100	92480A153	11.44
1 1/4"	100	92480A155	13.70
1 1/2"	50	92480A157	8.16
2"	50	92480A160	12.65

8-32—#2 Drive

3/8"	100	92480A192	7.08
1/2"	100	92480A194	8.41

8-32—#2 Drive (Cont.)

5/8"	100	92480A195	10.26
3/4"	50	92480A197	6.02
1"	50	92480A199	7.98
1 1/4"	50	92480A202	9.41
1 1/2"	50	92480A204	11.35
2"	25	92480A207	7.60

10-24—#2 Drive

3/8"	100	92480A240	9.57
1/2"	50	92480A242	6.26
3/4"	50	92480A245	7.97
1"	25	92480A247	5.51
1 1/4"	25	92480A249	6.74
1 1/2"	25	92480A251	7.59
2"	25	92480A254	9.61

★ Head is undercut to allow more threading.

Brass (Cont.)

10-32—#2 Drive

Lg.	Pkg. Qty.		Pkg.
3/8"	100	92480A827	$9.69
1/2"	50	92480A829	6.26
3/4"	50	92480A831	7.97
1"	25	92480A833	5.51
1 1/4"	25	92480A835	6.74
1 1/2"	25	92480A837	7.59
2"	25	92480A839	9.61

1/4"-20—#3 Drive

1/2"	25	92480A537	$5.66
3/4"	25	92480A541	6.76
1"	25	92480A545	8.50
1 1/4"	25	92480A549	9.89
1 1/2"	10	92480A553	5.34
2"	10	92480A556	6.45
3"	5	92480A602	5.68

Aluminum

4-40—#1 Drive

3/16"	10	97124A125★	9.43
1/4"	10	97124A128	9.57
5/16"	10	97124A131	9.71
1/2"	10	97124A139	9.43
3/4"	10	97124A142	9.57
1"	10	97124A145	9.71

6-32—#2 Drive

3/16"	10	97124A225★	9.29
1/4"	10	97124A228	9.43
3/8"	10	97124A236	9.57
1/2"	10	97124A239	9.71
5/8"	10	97124A240	9.86
3/4"	10	97124A242	10.00
1"	10	97124A245	10.14

8-32—#2 Drive

1/4"	10	97124A328★	10.29
3/8"	10	97124A336	10.86
1/2"	10	97124A339	11.43

8-32 (Cont.)

3/4"	10	97124A342	11.71
1"	10	97124A346	12.00

10-24—#2 Drive

1/2"	10	97124A439	11.57
3/4"	10	97124A442	12.14
1"	10	97124A445	12.71

10-32—#2 Drive

1/2"	10	97124A539	11.57
3/4"	10	97124A542	12.14
1"	10	97124A545	12.71

1/4"-20—#3 Drive

1/2"	5	97124A639	10.71
1"	5	97124A645	11.43
1 1/2"	5	97124A649	12.14

5/16"-18—#4 Drive

3/4"	5	97124A742	11.43
1"	5	97124A745	12.14
1 1/2"	5	97124A749	12.86
2"	5	97124A753	13.57

Zinc-Plated Steel

0-80—#0 Drive

1/8"	50	90273A005	9.20
3/16"	50	90273A010	7.60
1/4"	50	90273A015	7.80

2-56—#1 Drive

3/16"	100	90273A050	2.76
1/4"	100	90273A055	2.88
5/16"	100	90273A060	2.96
3/8"	100	90273A065	3.08
1/2"	100	90273A070	4.44

4-40—#1 Drive

3/16"	100	90273A105★	9.22
1/4"	100	90273A106	3.47
5/16"	100	90273A107	3.46
3/8"	100	90273A108	3.14
1/2"	100	90273A110	3.81
5/8"	100	90273A112	2.66
3/4"	100	90273A113	3.58
7/8"	100	90273A114	4.22
1"	100	90273A115	4.80
1 1/4"	100	90273A117	7.61
1 1/2"	100	90273A119	7.63

6-32—#2 Drive

3/16"	100	90273A143★	9.16
1/4"	100	90273A144	3.32
5/16"	100	90273A145	3.34
3/8"	100	90273A146	3.42
7/16"	100	90273A147	3.24
1/2"	100	90273A148	3.71
5/8"	100	90273A150	3.71
3/4"	100	90273A151	3.73
7/8"	100	90273A152	5.59
1"	100	90273A153	4.44
1 1/4"	100	90273A155	4.66
1 1/2"	100	90273A157	5.35
2"	100	90273A159	7.75
2 1/2"	100	90273A161	9.14
3"	100	90273A163	10.65

8-32—#2 Drive

1/4"	100	90273A190★	4.26
5/16"	100	90273A191	5.36
3/8"	100	90273A192	3.92
7/16"	100	90273A193	3.94
1/2"	100	90273A194	3.58
5/8"	100	90273A196	3.74
3/4"	100	90273A197	3.90
7/8"	100	90273A198	5.29
1"	100	90273A199	4.84

8-32 (Cont.)

1 1/4"	100	90273A201	5.41
1 1/2"	100	90273A203	6.06
2"	100	90273A205	8.52
2 1/2"	50	90273A207	6.12
3"	50	90273A209	7.56

10-24—#2 Drive

5/16"	100	90273A239★	7.25
3/8"	100	90273A240	5.11
7/16"	100	90273A241	8.12
1/2"	100	90273A242	6.02
5/8"	100	90273A244	4.76
3/4"	100	90273A245	5.16
1"	100	90273A247	5.20
1 1/4"	100	90273A249	6.77
1 1/2"	100	90273A251	6.89
2"	100	90273A254	10.40
2 1/2"	50	90273A255	7.95
3"	50	90273A257	8.34
4"	50	90273A261	9.71

10-32—#2 Drive

1/4"	100	90273A825★	6.67
5/16"	100	90273A826★	7.79
3/8"	100	90273A827	5.87
7/16"	100	90273A828	9.35
1/2"	100	90273A829	4.61
5/8"	100	90273A830	4.69
3/4"	100	90273A831	5.16
7/8"	100	90273A832	7.54
1"	100	90273A833	5.22
1 1/4"	100	90273A835	5.26
1 1/2"	100	90273A836	7.24
2"	100	90273A838	10.31
2 1/2"	50	90273A840	6.92
3"	50	90273A842	7.30

12-24—#3 Drive

3/8"	100	90273A289★	5.85
1/2"	100	90273A291	5.89
5/8"	100	90273A293	9.19
3/4"	100	90273A294	9.14
7/8"	50	90273A297	7.33
1"	50	90273A296	5.08
1 1/4"	50	90273A298	6.21
1 1/2"	50	90273A299	6.50

1/4"-20—#3 Drive

3/8"	100	90273A535★	9.19
1/2"	100	90273A537	7.71

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Flat Head Phillips *(Continued from previous page)*

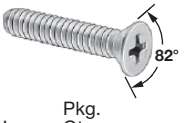

Screws have a standard 82° bevel under the head. Those marked with a ★ have an undercut head to allow more threading. Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from the top of the head.

Zinc-Plated Steel (Cont.)

¼″-20—#3 Drive (Cont.)

Lg.	Pkg. Qty.		Pkg.
⅝″	100	90273A539	$7.71
¾″	100	90273A540	8.52
⅞″	100	90273A541	8.55
1″	100	90273A542	9.43
1¼″	100	90273A544	11.49
1½″	50	90273A546	7.34
1¾″	50	90273A548	7.44

¼″-20 (Cont.)

Lg.	Pkg. Qty.		Pkg.
2″	50	90273A550	$8.36
2¼″	50	90273A551	8.49
2½″	50	90273A552	8.00
3″	50	90273A554	8.93
3½″	50	90273A571	11.88
4″	50	90273A572	12.33

¼″-28—#3 Drive

Lg.	Pkg. Qty.		Pkg.
½″	50	90273A557	$9.69
¾″	50	90273A559	14.03

5/16″-18—#4 Drive

Lg.	Pkg. Qty.		Pkg.
½″	50	90273A578★	7.11
¾″	50	90273A581	8.00
1″	50	90273A583	8.11
1¼″	50	90273A585	8.86
1½″	50	90273A587	10.55

5/16″-18 (Cont.)

Lg.	Pkg. Qty.		Pkg.
2″	10	90273A501	$4.09
2½″	10	90273A593	3.02
3″	10	90273A505	5.58

⅜″-16—#4 Drive

Lg.	Pkg. Qty.		Pkg.
1″	25	90273A624	6.61
1½″	10	90273A628	3.03
3″	10	90273A636	5.42

★ Head is undercut to allow more threading.

Flat Head Slotted

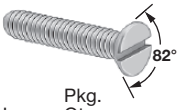

Each screw has an 82° bevel under the head. Screws marked with a ★ have an undercut head to allow more threading. Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from the top of the head.

Type 316 Stainless Steel

6-32

Lg.	Pkg. Qty.		Pkg.
¼″	100	91858A144	$8.54
⅜″	100	91858A146	8.82
½″	100	91858A148	10.53
¾″	100	91858A151	12.56
1″	50	91858A153	7.48
1½″	25	91858A157	6.11

8-32

Lg.	Pkg. Qty.		Pkg.
⅜″	100	91858A192	11.57
½″	50	91858A194	7.36
¾″	50	91858A197	7.60
1″	50	91858A199	9.91
1½″	25	91858A203	8.63

10-24

Lg.	Pkg. Qty.		Pkg.
⅜″	50	91858A240	6.98
½″	50	91858A242	7.69
¾″	50	91858A245	9.53
1″	25	91858A247	6.71
1¼″	25	91858A249	9.04
1½″	25	91858A251	11.37

10-32

Lg.	Pkg. Qty.		Pkg.
⅜″	50	91858A827	6.98
½″	50	91858A829	7.69
¾″	50	91858A831	12.11
1″	25	91858A833	6.71
1½″	25	91858A836	12.00

¼″-20

Lg.	Pkg. Qty.		Pkg.
½″	25	91858A537	9.00
¾″	25	91858A540	10.51

¼″-20 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1″	10	91858A542	$4.63
1¼″	10	91858A544	5.42
1½″	10	91858A546	6.00
2″	10	91858A550	7.68
2½″	10	91858A552	9.65
3″	10	91858A554	10.95

5/16″-18

Lg.	Pkg. Qty.		Pkg.
½″	10	91858A578★	9.42
¾″	10	91858A581	9.58
1″	10	91858A583	9.85
1¼″	10	91858A585	12.76
1½″	5	91858A587	6.41
2″	5	91858A591	8.23
2½″	5	91858A593	9.57

⅜″-16

Lg.	Pkg. Qty.		Pkg.
¾″	5	91858A622	6.80
1″	5	91858A624	6.98
1¼″	5	91858A626	8.79
1½″	5	91858A628	10.42
2″	1	91858A632	2.76
2½″	1	91858A634	2.94
3″	1	91858A636	3.24

½″-13

Lg.	Pkg. Qty.		Pkg.
1″	5	91858A712	11.90
1½″	1	91858A716	3.39
2″	1	91858A720	4.15

18-8 Stainless Steel

0-80

Lg.	Pkg. Qty.		Pkg.
⅛″	100	91781A052★	7.55
3/16″	100	91781A054	8.09
¼″	100	91781A055	9.99
⅜″	100	91781A057	11.08
7/16″	100	91781A058	11.86
½″	50	91781A059	6.90
1″	50	91781A102	10.69

1-64

Lg.	Pkg. Qty.		Pkg.
⅛″	50	91781A063★	8.20
3/16″	50	91781A065	8.98
¼″	50	91781A066	8.93
1″	50	91781A177	13.19

1-72

Lg.	Pkg. Qty.		Pkg.
⅛″	100	91781A164★	12.03
3/16″	100	91781A165	12.25
¼″	50	91781A166	7.58
⅜″	50	91781A168	7.68
¾″	50	91781A172	11.90

2-56

Lg.	Pkg. Qty.		Pkg.
⅛″	100	91781A074★	6.96
3/16″	100	91781A076	3.18
5/16″	100	91781A078	3.60
⅜″	100	91781A079	3.69
½″	100	91781A081	4.01
⅝″	100	91781A083	5.51
¾″	100	91781A084	5.78
1″	100	91781A140	7.28

2-56 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1¼″	50	91781A266	10.48
1½″	25	91781A267	7.84

3-48

Lg.	Pkg. Qty.		Pkg.
¼″	100	91781A092	7.61
½″	100	91781A096	9.96

4-40

Lg.	Pkg. Qty.		Pkg.
⅛″	100	91781A103★	7.21
3/16″	100	91781A105★	3.88
¼″	100	91781A106	3.40
5/16″	100	91781A107	3.85
⅜″	100	91781A108	3.90
7/16″	100	91781A109	4.33
½″	100	91781A110	4.36
⅝″	100	91781A112	4.58
¾″	100	91781A113	4.75
⅞″	100	91781A114	5.03
1″	100	91781A115	5.18
1¼″	100	91781A117	7.58
1½″	100	91781A119	9.95
2″	50	91781A121	8.26

4-48

Lg.	Pkg. Qty.		Pkg.
½″	50	91781A743	10.25

5-40

Lg.	Pkg. Qty.		Pkg.
3/16″	100	91781A122★	8.94
¼″	100	91781A124	5.63
⅜″	100	91781A126	6.49

18-8 Stainless Steel (Cont.)

5-40 (Cont.)

Lg.	Pkg. Qty.		Pkg.
½″	100	91781A128	$6.78
1″	100	91781A133	11.37

6-32

Lg.	Pkg. Qty.		Pkg.
3/16″	100	91781A143★	6.01
¼″	100	91781A144	3.75
5/16″	100	91781A145	3.84
⅜″	100	91781A146	3.96
7/16″	100	91781A147	4.42
½″	100	91781A148	4.50
⅝″	100	91781A150	4.53
¾″	100	91781A151	5.12
⅞″	100	91781A152	5.89
1″	100	91781A153	6.17
1¼″	100	91781A155	8.25
1½″	100	91781A157	8.62
1¾″	50	91781A158	6.34
2″	50	91781A159	7.49
2½″	50	91781A161	11.06
3″	50	91781A163	12.56

8-32

Lg.	Pkg. Qty.		Pkg.
3/16″	100	91781A189★	10.47
¼″	100	91781A190★	4.91
5/16″	100	91781A191	5.06
⅜″	100	91781A192	5.10
7/16″	100	91781A193	5.14
½″	100	91781A194	5.22
⅝″	100	91781A196	5.86
¾″	100	91781A197	6.28
⅞″	100	91781A198	7.51
1″	100	91781A199	7.83
1¼″	100	91781A201	10.10
1½″	100	91781A203	10.54
2″	50	91781A205	7.13
3″	25	91781A209	6.37
3½″	10	91781A211	6.17
4″	10	91781A215	9.10

10-24

Lg.	Pkg. Qty.		Pkg.
¼″	100	91781A238★	5.75
5/16″	100	91781A239★	5.89
⅜″	100	91781A240	5.91
½″	100	91781A242	7.68
⅝″	100	91781A244	8.42
¾″	100	91781A245	8.68
1″	50	91781A247	5.78
1¼″	50	91781A249	7.70
1½″	50	91781A251	7.86
2″	25	91781A253	4.90
2¼″	25	91781A256	6.05
2½″	25	91781A255	6.71
2¾″	25	91781A258	7.14
3″	25	91781A257	7.38
3½″	25	91781A259	11.55
4″	10	91781A261	5.86
5″	5	91781A265	9.50
6″	5	91781A269	9.56

10-32

Lg.	Pkg. Qty.		Pkg.
¼″	100	91781A825★	$5.75
5/16″	100	91781A826★	5.89
⅜″	100	91781A827	6.68
½″	100	91781A829	8.55
⅝″	100	91781A830	9.47
¾″	100	91781A831	9.68
⅞″	50	91781A832	5.85
1″	50	91781A833	6.09
1¼″	50	91781A835	7.01
1½″	50	91781A836	8.37
1¾″	25	91781A837	4.64
2″	25	91781A838	4.90
2¼″	25	91781A841	6.05
2½″	25	91781A840	6.23
3″	25	91781A842	8.34
3½″	10	91781A844	5.15
4″	10	91781A846	5.86

12-24

Lg.	Pkg. Qty.		Pkg.
⅜″	100	91781A289★	10.90
½″	100	91781A291	10.92
¾″	50	91781A294	7.39
1″	50	91781A296	7.68
2″	25	91781A301	7.97
3″	10	91781A305	5.90

¼″-20

Lg.	Pkg. Qty.		Pkg.
⅜″	50	91781A535★	6.89
½″	50	91781A537	6.44
⅝″	50	91781A539	6.91
¾″	50	91781A540	7.28
⅞″	25	91781A541	4.72
1″	25	91781A542	4.93
1¼″	25	91781A544	5.77
1½″	25	91781A546	6.46
1¾″	25	91781A548	7.47
2″	25	91781A550	8.90
2¼″	10	91781A551	4.36
2½″	10	91781A552	4.84
2¾″	10	91781A553	5.26
3″	10	91781A554	5.19
3½″	10	91781A571	7.13
4″	10	91781A572	7.44
4½″	10	91781A574	7.76
5″	10	91781A576	12.63
6″	5	91781A577	9.11

¼″-28

Lg.	Pkg. Qty.		Pkg.
½″	50	91781A557	12.33
¾″	25	91781A559	7.15
1″	25	91781A561	9.03

5/16″-18

Lg.	Pkg. Qty.		Pkg.
½″	25	91781A578★	9.67
¾″	25	91781A581	10.35
1″	10	91781A583	4.60
1¼″	10	91781A585	5.06
1½″	10	91781A587	5.09
1¾″	10	91781A589	5.55
2″	10	91781A591	5.61

★ Head is undercut to allow more threading.

(Continued on following page)

Flat Head Slotted *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
5/16"-18 (Cont.)			
2 1/2"	10	91781A593	$7.92
3"	10	91781A595	9.52
4"	5	91781A599	8.43
5"	1	91781A604	3.41
6"	1	91781A608	6.58
3/8"-16			
1/2"	10	91781A619★	5.23
3/4"	10	91781A622	5.70
1"	10	91781A624	6.84
1 1/4"	10	91781A626	8.09
1 1/2"	10	91781A628	8.35
1 3/4"	10	91781A630	11.25
2"	5	91781A632	5.73
2 1/2"	5	91781A634	7.39
3"	5	91781A636	9.29
Brass			
1-72			
1/4"	100	92451A010	10.53
1/2"	50	92451A015	6.63
2-56			
1/8"	100	92451A074★	5.51
3/16"	100	92451A076	4.23
1/4"	100	92451A077	4.23
3/8"	100	92451A079	4.25
1/2"	100	92451A081	4.72
3/4"	100	92451A084	5.27
7/8"	100	92451A085	5.85
3-48			
1/4"	100	92451A092	4.21
1/2"	100	92451A096	5.52
3/4"	100	92451A099	6.91
4-40			
1/8"	100	92451A103★	4.25
3/16"	100	92451A105★	4.77
1/4"	100	92451A106	4.29
5/16"	100	92451A107	4.76
3/8"	100	92451A108	5.04
1/2"	100	92451A110	5.12
3/4"	100	92451A113	6.10
1"	100	92451A115	6.16
1 1/2"	100	92451A119	10.12
5-40			
1/4"	100	92451A124	5.27
3/8"	100	92451A126	5.92
1/2"	100	92451A128	6.31
6-32			
1/4"	100	92451A144	5.48
3/8"	100	92451A146	5.58
1/2"	100	92451A148	6.32
5/8"	100	92451A150	7.09
3/4"	100	92451A151	7.36
1"	100	92451A153	9.69
1 1/4"	100	92451A155	13.71
1 1/2"	50	92451A157	7.39
2"	50	92451A159	8.43
3"	10	92451A163	9.38
8-32			
1/4"	100	92451A190★	6.67
3/8"	100	92451A192	7.46
1/2"	100	92451A194	8.32
5/8"	100	92451A196	10.99
3/4"	100	92451A197	11.14
1"	50	92451A199	6.94
1 1/4"	50	92451A201	9.90
1 1/2"	50	92451A203	11.29
2"	25	92451A205	8.03
2 1/2"	25	92451A207	10.26
3"	25	92451A209	11.81
10-24			
3/8"	100	92451A240	10.52
1/2"	100	92451A242	11.16
5/8"	50	92451A244	8.13
3/4"	50	92451A245	8.12
1"	50	92451A247	10.93
1 1/4"	25	92451A249	7.75
Aluminum			
6-32			
3/4"	50	99468A136	10.63
8-32			
1/4"	25	99468A139★	11.51
1/2"	25	99468A143	8.79
10-24 (Cont.)			
1 1/2"	25	92451A251	8.16
2"	25	92451A253	10.35
2 1/2"	25	92451A255	12.39
10-32			
1/4"	100	92451A825★	7.44
3/8"	100	92451A827	10.52
1/2"	100	92451A829	11.16
5/8"	50	92451A830	8.13
3/4"	50	92451A831	8.12
1"	50	92451A833	10.93
1 1/4"	50	92451A835	14.76
1 1/2"	25	92451A836	8.16
2"	25	92451A838	10.35
2 1/2"	25	92451A840	12.39
3"	10	92451A842	7.22
4"	5	92451A846	8.90
12-24			
1/2"	50	92451A291	9.42
3/4"	50	92451A294	11.44
1"	25	92451A296	7.11
1 1/2"	25	92451A299	10.27
2"	25	92451A301	13.13
1/4"-20			
3/8"	50	92451A535★	11.03
1/2"	50	92451A537	11.20
5/8"	50	92451A539	13.39
3/4"	25	92451A540	7.42
7/8"	25	92451A541	9.78
1"	25	92451A542	10.24
1 1/4"	25	92451A544	12.33
1 1/2"	25	92451A546	13.13
2"	10	92451A550	7.60
2 1/2"	10	92451A552	8.96
3"	10	92451A554	10.39
5/16"-18			
1/2"	25	92451A578★	11.14
3/4"	10	92451A581	5.82
1"	10	92451A583	7.08
1 1/4"	10	92451A585	9.56
1 1/2"	10	92451A587	9.61
2"	10	92451A591	12.78
2 1/2"	5	92451A593	8.34
3"	5	92451A595	9.02
3/8"-16			
3/4"	10	92451A622	7.95
1"	10	92451A624	10.29
1 1/4"	10	92451A626	12.35
1 1/2"	5	92451A628	7.23
2"	5	92451A632	9.29
2 1/2"	5	92451A634	11.12
3"	1	92451A636	2.56
1/2"-13			
1"	5	92451A712	12.34
1 1/4"	1	92451A714	3.01
1 1/2"	1	92451A716	2.98
2"	1	92451A720	3.74
2 1/2"	1	92451A722	4.59
8-32 (Cont.)			
3/4"	25	99468A147	9.59
1"	25	99468A152	11.13

★ Head is undercut to allow more threading.

Lg.	Pkg. Qty.		Pkg.
Aluminum (Cont.)			
10-24			
1"	25	99468A156	$11.54
1 1/4"	25	99468A163	11.91
10-32			
3/8"	25	99468A169	10.66
1/2"	25	99468A179	11.13
Zinc-Plated Steel			
3-48			
3/16"	100	90275A091	7.72
1/4"	100	90275A092	8.25
5/16"	100	90275A093	9.12
3/8"	100	90275A094	7.03
1/2"	100	90275A096	5.20
3/4"	100	90275A099	6.41
1"	100	90275A101	7.03
4-40			
1/8"	100	90275A103★	9.10
3/16"	100	90275A105★	6.58
1/4"	100	90275A106	3.86
5/16"	100	90275A107	3.82
3/8"	100	90275A108	3.30
1/2"	100	90275A110	3.34
5/8"	100	90275A112	2.94
3/4"	100	90275A113	3.49
1"	100	90275A115	3.50
1 1/2"	100	90275A119	5.16
5-40			
1/4"	100	90275A124	5.95
5/16"	100	90275A125	5.64
1/2"	100	90275A128	4.52
5/8"	100	90275A130	8.36
3/4"	100	90275A131	11.38
1"	100	90275A133	6.14
1 1/4"	100	90275A135	9.30
2"	100	90275A139	12.90
6-32			
3/16"	100	90275A143★	2.92
1/4"	100	90275A144	2.64
5/16"	100	90275A145	2.14
3/8"	100	90275A146	2.61
7/16"	100	90275A147	3.88
1/2"	100	90275A148	2.31
5/8"	100	90275A150	2.69
3/4"	100	90275A151	3.45
7/8"	100	90275A152	3.24
1"	100	90275A153	2.97
1 1/4"	100	90275A155	4.04
1 1/2"	100	90275A157	4.17
1 3/4"	100	90275A158	5.48
2"	100	90275A159	5.14
2 1/4"	100	90275A160	7.32
2 1/2"	100	90275A161	7.65
3"	100	90275A164	9.67
4"	50	90275A168	8.64
8-32			
3/16"	100	90275A189★	10.11
1/4"	100	90275A190★	2.62
5/16"	100	90275A191	7.45
3/8"	100	90275A192	3.34
1/2"	100	90275A194	3.59
5/8"	100	90275A196	3.79
3/4"	100	90275A197	3.79
7/8"	100	90275A198	6.68
1"	100	90275A199	4.59
1 1/4"	100	90275A201	3.93
1 1/2"	100	90275A203	5.48
1 3/4"	100	90275A204	6.48
2"	100	90275A205	6.83
2 1/4"	100	90275A206	9.42
2 1/2"	100	90275A207	8.86
3"	100	90275A209	9.95
4"	50	90275A213	8.57
10-24			
1/4"	100	90275A238★	3.88
3/8"	100	90275A240	3.44
1/2"	100	90275A242	3.99
5/8"	100	90275A244	3.85
3/4"	100	90275A245	4.14
1/4"-20			
3/8"	25	99468A184★	$11.69
1/2"	25	99468A188	12.01
1"	25	99468A195	12.79
1 1/2"	25	99468A205	13.96
1 3/4"	10	99468A210	8.41
5/16"-18			
3/4"	10	99468A215	8.93
10-24 (Cont.)			
7/8"	100	90275A246	6.21
1"	100	90275A247	5.04
1 1/4"	100	90275A249	5.81
1 1/2"	100	90275A251	6.64
1 3/4"	100	90275A252	7.15
2"	100	90275A253	8.39
2 1/2"	100	90275A255	9.85
3"	100	90275A257	9.90
3 1/2"	50	90275A259	8.33
4"	50	90275A261	8.66
5"	25	90275A264	6.51
6"	25	90275A267	7.56
10-32			
1/4"	100	90275A825★	3.37
5/16"	100	90275A826★	4.92
3/8"	100	90275A827	3.33
1/2"	100	90275A829	3.35
5/8"	100	90275A830	4.03
3/4"	100	90275A831	4.43
7/8"	100	90275A832	4.43
1"	100	90275A833	4.53
1 1/4"	100	90275A835	5.05
1 1/2"	100	90275A836	6.64
1 3/4"	100	90275A837	8.20
2"	100	90275A838	8.35
2 1/2"	100	90275A840	10.60
3"	100	90275A842	12.30
3 1/2"	50	90275A844	13.15
4"	50	90275A846	13.07
12-24			
3/8"	100	90275A289★	4.75
1/2"	100	90275A291	5.15
5/8"	100	90275A293	5.70
3/4"	100	90275A294	6.49
1"	100	90275A296	8.14
1 1/2"	100	90275A299	8.80
2"	100	90275A301	9.85
2 1/2"	50	90275A303	6.90
1/4"-20			
3/8"	100	90275A535★	5.17
1/2"	100	90275A537	5.50
5/8"	100	90275A539	6.13
3/4"	100	90275A540	6.15
7/8"	100	90275A541	8.78
1"	100	90275A542	6.84
1 1/8"	100	90275A543	7.69
1 1/4"	100	90275A544	6.16
1 1/2"	100	90275A546	7.24
1 3/4"	100	90275A548	8.92
2"	100	90275A550	8.34
2 1/4"	100	90275A551	9.93
2 1/2"	100	90275A552	12.16
2 3/4"	25	90275A553	11.76
3"	25	90275A554	3.85
3 1/2"	25	90275A571	5.83
4"	25	90275A573	6.21
4 1/2"	25	90275A575	7.22
5"	25	90275A577	7.14
5 1/2"	10	90275A579	8.44
6"	10	90275A576	4.84
1/4"-28			
1/2"	25	90275A557	9.08
5/8"	25	90275A558	10.71
3/4"	10	90275A559	4.93
1"	10	90275A561	5.01
5/16"-18			
1/2"	50	90275A578★	7.55
5/8"	50	90275A580	7.73
3/4"	50	90275A581	7.22
7/8"	50	90275A582	7.48
1"	50	90275A583	7.20

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Flat Head Slotted *(Continued from previous page)*

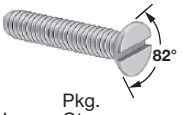

Each screw has an 82° bevel under the head. Screws marked with a ★ have an undercut head to allow more threading. Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from the top of the head.

Zinc-Plated Steel (Cont.)

5/16″-18 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1¼″	50	90275A585	$8.38
1½″	50	90275A587	8.93
1¾″	25	90275A589	6.21
2″	25	90275A591	6.90
2¼″	25	90275A592	7.79
2½″	25	90275A593	7.40
3″	25	90275A595	8.54
3½″	25	90275A597	9.44
4″	10	90275A599	4.93
4½″	10	90275A602	5.67
5″	10	90275A604	$6.43
6″	10	90275A608	6.55

3/8″-16

Lg.	Pkg. Qty.		Pkg.
½″	50	90275A619★	8.30
¾″	25	90275A622	6.02
1″	25	90275A624	4.97
1¼″	25	90275A626	5.31
1½″	25	90275A628	7.01
2″	25	90275A632	8.42
2½″	25	90275A634	9.75
3″	10	90275A636	$5.59
3½″	10	90275A638	5.16
4″	10	90275A640	5.31
4½″	10	90275A642	5.98
5″	10	90275A645	6.67
5½″	10	90275A646	6.87
6″	10	90275A648	6.28

1/2″-13

Lg.	Pkg. Qty.		Pkg.
1″	25	90275A712	8.47
1¼″	10	90275A714	7.25
1½″	10	90275A716	$7.35
2″	10	90275A720	7.50
2½″	10	90275A722	7.89
3″	10	90275A724	11.12
3½″	5	90275A726	7.33
4″	5	90275A729	8.40
5″	5	90275A733	7.37
6″	5	90275A737	8.92

★ Head is undercut to allow more threading.

Flat Head Torx

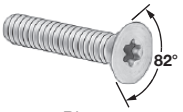

With more drive contact than Phillips and slotted screws, you can apply extra force without your driver slipping. For drivers, see page 2820; for bits, see pages 2813-2814.

Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from the top of the head.

18-8 Stainless Steel

2-56—T6 Torx Size

Lg.	Pkg. Qty.		Pkg.
⅛″	50	92703A100	$6.50
3/16″	50	92703A103	6.53
¼″	50	92703A105	6.58
5/16″	50	92703A107	6.67
⅜″	50	92703A109	6.84

4-40—T8 Torx Size

Lg.	Pkg. Qty.		Pkg.
3/16″	50	92703A203	7.29
¼″	50	92703A205	7.37
5/16″	50	92703A207	7.72
⅜″	50	92703A209	7.90
½″	50	92703A211	8.34
¾″	50	92703A213	8.95
1″	50	92703A215	9.48

6-32—T10 Torx Size

Lg.	Pkg. Qty.		Pkg.
¼″	50	92703A251	11.40
⅜″	50	92703A253	11.85
½″	50	92703A255	12.19
¾″	50	92703A257	12.34
1″	50	92703A259	12.60

8-32—T15 Torx Size

Lg.	Pkg. Qty.		Pkg.
¼″	50	92703A301	$11.49
⅜″	50	92703A304	11.96
½″	50	92703A307	12.08
¾″	50	92703A310	12.18
1″	50	92703A313	12.57

10-24—T20 Torx Size

Lg.	Pkg. Qty.		Pkg.
⅜″	25	92703A353	7.82
½″	25	92703A356	8.12
¾″	25	92703A359	8.57
1″	25	92703A363	9.10

1/4″-20—T27 Torx Size

Lg.	Pkg. Qty.		Pkg.
½″	10	92703A405	6.62
¾″	10	92703A408	7.07
1″	10	92703A411	7.82
1¼″	10	92703A414	9.09
1½″	10	92703A417	9.72
2″	10	92703A420	11.13

Zinc-Plated Steel

4-40—T8 Torx Size

Lg.	Pkg. Qty.		Pkg.
½″	100	90920A110	$9.20
⅝″	100	90920A120■	11.97
¾″	100	90920A113	10.40
1″	100	90920A115	10.84

6-32—T10 Torx Size

Lg.	Pkg. Qty.		Pkg.
⅜″	100	90920A146■	11.63
½″	100	90920A148	9.16
¾″	100	90920A151	11.32
1″	100	90920A153	11.96
1¼″	25	90920A156■	7.49
1½″	25	90920A159■	8.10
2″	25	90920A162■	9.60

8-32—T15 Torx Size

Lg.	Pkg. Qty.		Pkg.
½″	100	90920A194	9.68
¾″	100	90920A197	12.04
1″	50	90920A199	7.50
1¼″	25	90920A202■	7.44
1½″	25	90920A205■	8.95

10-24—T20 Torx Size

Lg.	Pkg. Qty.		Pkg.
½″	100	90920A242	$12.56
¾″	50	90920A245	7.52
1″	50	90920A247■	9.56
1¼″	25	90920A250■	8.40
1½″	25	90920A253■	9.90
2″	25	90920A256■	11.80
2½″	25	90920A255■	12.35

1/4″-20—T27 Torx Size

Lg.	Pkg. Qty.		Pkg.
¾″	100	90920A540	12.97
1″	50	90920A542	11.24
1¼″	50	90920A544	10.36
1½″	10	90920A547■	6.59
2″	10	90920A550■	7.95
2½″	10	90920A553■	10.36
3″	10	90920A556■	11.82

■ Thread fit is Class 3A.

Mil. Spec. Stainless Steel Flat Head Phillips

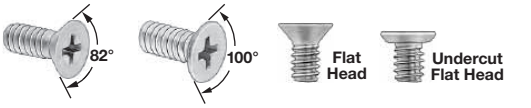

Meet additional military standards to ensure performance and reliability. Made from 18-8 stainless steel, material and dimensions meet Fed. Spec. FF-S-92. All are passivated to meet QQ-P-35. Length is measured from the top of the head.

82° screws marked with a ★ have an undercut head to allow more threading.

100° screws have a larger bearing surface to distribute holding force, making them a better choice than standard 82° flat head screws for soft materials.

82° Screws

0-80—#0 Drive; Meet MS-51960

Lg.	Dash No.	Pkg. Qty.		Pkg.
⅛″	1	10	96877A070★	$4.93
3/16″	2	50	96877A076	7.25
¼″	3	10	96877A078	3.00

2-56—#1 Drive; Meet MS-51959

Lg.	Dash No.	Pkg. Qty.		Pkg.
⅛″	1	50	96877A110★	6.05
3/16″	2	100	96877A115	6.80
¼″	3	100	96877A118	8.36
5/16″	4	100	96877A121	8.42
⅜″	5	100	96877A123	8.62
7/16″	6	50	96877A117	8.75
½″	7	100	96877A134	10.62
⅝″	8	50	96877A138	6.34
¾″	9	50	96877A146	11.88
⅞″	10	25	96877A147	4.23

4-40—#1 Drive; Meet MS-51959

Lg.	Dash No.	Pkg. Qty.		Pkg.
3/16″	12	50	96877A198★	6.00
¼″	13	100	96877A200	9.56
5/16″	14	100	96877A205	9.88
⅜″	15	100	96877A209	10.28
7/16″	16	50	96877A199	9.90

4-40 (Cont.)

Lg.	Dash No.	Pkg. Qty.		Pkg.
½″	17	50	96877A216	$6.56
⅝″	18	50	96877A222	7.31
¾″	19	50	96877A224	13.75

6-32—#2 Drive; Meet MS-51959

Lg.	Dash No.	Pkg. Qty.		Pkg.
3/16″	25	25	96877A301★	4.34
¼″	26	50	96877A305	6.06
5/16″	27	50	96877A310	6.32
⅜″	28	50	96877A315	7.05
7/16″	29	50	96877A304	9.90
½″	30	50	96877A320	7.28
⅝″	31	50	96877A323	12.50
¾″	32	50	96877A330	8.87

8-32—#2 Drive; Meet MS-51959

Lg.	Dash No.	Pkg. Qty.		Pkg.
¼″	41	50	96877A398★	13.33
5/16″	42	50	96877A401	8.16
⅜″	43	50	96877A405	8.53
7/16″	44	50	96877A408	13.48
½″	45	50	96877A411	9.73
⅝″	46	50	96877A413	13.64
¾″	47	25	96877A418	6.59

10-24—#2 Drive; Meet MS-51959

Lg.	Dash No.	Pkg. Qty.		Pkg.
⅜″	61	25	96877A500	$6.72
½″	63	25	96877A510	7.12
⅝″	64	25	96877A515	7.60
¾″	65	25	96877A520	8.45

10-32—#2 Drive; Meet MS-51960

Lg.	Dash No.	Pkg. Qty.		Pkg.
¼″	61	10	96877A084★	8.50
5/16″	62	10	96877A087	8.00
⅜″	63	25	96877A091	6.46
7/16″	64	10	96877A092	6.75
½″	65	25	96877A093	7.10
⅝″	66	25	96877A096	8.06
¾″	67	25	96877A098	8.62
⅞″	68	10	96877A100	7.00
1″	69	10	96877A105	7.90

1/4″-20—#3 Drive; Meet MS-51959

Lg.	Dash No.	Pkg. Qty.		Pkg.
½″	79	10	96877A615	7.82
⅝″	80	10	96877A617	7.99
¾″	81	10	96877A619	8.38
⅞″	82	10	96877A102	8.49
1″	83	10	96877A624	9.58

★ Head is undercut to allow more threading.

(Continued on following page)

Mil. Spec. Stainless Steel Flat Head Phillips *(Continued from previous page)*

100° Screws

Lg.	Dash No.	Pkg. Qty.		Pkg.
2-56—#1 Drive; Meet MS-24693				
1/8″	C16	50	93085A010	$5.62
5/32″	C17	50	93085A013	6.05
2-56—#1 Drive; Meet NAS-662C				
3/16″	2R3	100	93085A015	7.16
1/4″	2R4	100	93085A017	7.99
5/16″	2R5	100	93085A019	8.64
3/8″	2R6	100	93085A021	9.02
1/2″	2R8	100	93085A023	8.74
4-40—#1 Drive; Meet MS-24693				
3/16″	C1	100	93085A105	8.80
1/4″	C2	100	93085A106	8.60
5/16″	C3	100	93085A107	9.84
3/8″	C4	100	93085A108	10.00
7/16″	C5	100	93085A109	10.40
1/2″	C6	100	93085A110	11.00
5/8″	C7	100	93085A112	12.40
3/4″	C8	100	93085A113	13.20
7/8″	C9	50	93085A116	9.56
1″	C10	25	93085A119	5.07
1 1/8″	C11	25	93085A122	5.42
6-32—#2 Drive; Meet MS-24693				
3/16″	C23	100	93085A143	10.60
1/4″	C24	100	93085A144	11.56
5/16″	C25	100	93085A145	11.35
3/8″	C26	100	93085A146	12.79
7/16″	C27	50	93085A147	7.03
1/2″	C28	50	93085A148	7.24
6-32 (Cont.)				
5/8″	C29	50	93085A150	$7.67
3/4″	C30	50	93085A151	8.25
7/8″	C31	50	93085A152	10.49
1″	C32	25	93085A154	5.35
1 1/8″	C33	25	93085A155	7.68
1 1/4″	C34	25	93085A157	7.28
1 1/2″	C36	10	93085A159	3.98
2″	C40	10	93085A163	6.01
8-32—#2 Drive; Meet MS-24693				
1/4″	C46	50	93085A190	8.92
5/16″	C47	50	93085A191	7.87
3/8″	C48	50	93085A192	8.00
7/16″	C49	50	93085A193	6.98
1/2″	C50	50	93085A194	8.16
5/8″	C51	50	93085A196	9.98
3/4″	C52	50	93085A197	11.20
7/8″	C53	25	93085A198	7.09
1″	C54	25	93085A199	8.23
1 1/8″	C55	25	93085A201	10.12
1 1/4″	C56	25	93085A203	10.58
1 1/2″	C58	10	93085A205	4.87
10-24—#2 Drive; Meet MS-24693				
3/8″	C70	25	93085A239	7.02
1/2″	C72	25	93085A242	7.93
5/8″	C73	25	93085A244	7.52
3/4″	C74	10	93085A245	6.90
10-32—#2 Drive; Meet MS-24693				
1/4″	C268	50	93085A825	$15.00
5/16″	C269	25	93085A823	7.00
3/8″	C270	50	93085A827	12.40
7/16″	C271	50	93085A828	12.80
1/2″	C272	50	93085A829	15.00
5/8″	C273	50	93085A830	13.66
3/4″	C274	25	93085A831	7.98
7/8″	C275	25	93085A832	9.23
1″	C276	25	93085A833	10.80
1 1/4″	C278	10	93085A835	6.74
1 1/2″	C280	10	93085A837	7.38
1/4″-20—#3 Drive; Meet MS-24693				
1/2″	C94	10	93085A537	7.36
5/8″	C95	10	93085A539	7.91
3/4″	C96	25	93085A540	14.95
1″	C98	10	93085A542	7.05
1 1/4″	C100	10	93085A544	10.74
1/4″-28—#3 Drive; Meet MS-24693				
1/2″	C294	10	93085A557	6.35
5/8″	C295	10	93085A558	8.35
3/4″	C296	10	93085A559	8.16
7/8″	C297	10	93085A560	9.04
1″	C298	10	93085A561	8.90
1 1/4″	C300	10	93085A563	11.39

100° Flat Head Phillips

With a larger bearing surface to distribute holding force, these screws are better than standard 82° flat head screws in soft materials like aluminum. Made from zinc-plated steel. Fully threaded. Length is measured from the top of the head.



Lg.	Pkg. Qty.		Pkg.
2-56—#1 Drive			
3/16″	100	90471A110	$10.69
1/4″	100	90471A115	6.09
5/16″	100	90471A120	5.76
3/8″	100	90471A130	5.86
4-40—#1 Drive			
3/16″	100	90471A150	8.83
1/4″	100	90471A155	5.20
5/16″	100	90471A157	6.67
3/8″	100	90471A160	5.45
1/2″	100	90471A163	9.95
6-32—#2 Drive			
1/4″	100	90471A205	$7.76
5/16″	100	90471A210	7.38
3/8″	100	90471A215	5.82
1/2″	100	90471A220	7.34
3/4″	50	90471A223	7.18
1″	100	90471A226	12.76
8-32—#2 Drive			
1/4″	100	90471A250	8.68
5/16″	100	90471A255	8.20
3/8″	100	90471A260	8.91
8-32 (Cont.)			
1/2″	100	90471A270	$9.00
3/4″	100	90471A273	13.08
1″	50	90471A276	7.44
10-24—#2 Drive			
1/2″	100	90471A310	10.47
3/4″	100	90471A315	11.64
1″	50	90471A318	10.80
10-32—#2 Drive			
3/8″	100	90471A350	9.55
1/2″	100	90471A355	9.52
10-32 (Cont.)			
3/4″	100	90471A360	$11.60
1″	50	90471A363	10.30
1/4″-20—#3 Drive			
3/8″	50	90471A405	5.92
1/2″	50	90471A410	10.24
3/4″	25	90471A413	7.49
1″	25	90471A416	8.20
1 1/4″	25	90471A419	12.54
1 1/2″	10	90471A422	5.74

Thread-Locking Flat Head Phillips

A nylon anti-vibration patch is bonded to the threads so screws resist loosening. The patch has a temperature range of –70° to 250° F. Screws are 18-8 stainless steel and fully threaded. Length is measured from the top of the head.



Lg.	Pkg. Qty.		Pkg.
4-40—#1 Drive			
1/4″	50	93082A110	$8.22
3/8″	50	93082A120	8.43
1/2″	50	93082A130	8.77
6-32—#2 Drive			
3/8″	50	93082A220	8.83
1/2″	50	93082A230	9.17
6-32 (Cont.)			
3/4″	50	93082A240	$9.26
8-32—#2 Drive			
3/8″	50	93082A310	8.24
1/2″	50	93082A320	8.32
3/4″	25	93082A330	5.76
1″	25	93082A350	6.10
10-24—#2 Drive			
1/2″	25	93082A410	$5.84
3/4″	25	93082A420	6.33
1″	25	93082A430	7.04
10-32—#2 Drive			
1/2″	25	93082A520	5.84
3/4″	25	93082A530	6.33
10-32 (Cont.)			
1″	25	93082A540	$7.04
1/4″-20—#3 Drive			
1/2″	25	93082A610	8.52
3/4″	25	93082A620	8.88
1″	25	93082A630	8.84
1 1/4″	25	93082A640	9.09
1 1/2″	25	93082A650	9.23

Sealing Flat Head Phillips

Each screw has a silicone rubber O-ring that stops leaks at pressures up to 20,000 psi when used in the hole size listed. O-ring has a temperature range of –150° to 500° F. Screws are 18-8 stainless steel and fully threaded. Screws are beveled 100°, except size 2-56, which are beveled 82°. Screw length is measured from the top of the head.

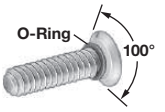

Lg.	Pkg. Qty.		Pkg.
2-56—#1 Drive; Max. Hole Size: 0.095″			
3/16″	10	98070A073	$10.28
1/4″	10	98070A079	10.28
3/8″	10	98070A084	10.28
4-40—#1 Drive; Max. Hole Size: 0.129″			
3/16″	10	98070A106	7.42
1/4″	10	98070A110	6.00
5/16″	10	98070A120	7.14
3/8″	10	98070A130	6.29
1/2″	10	98070A150	6.29
6-32—#1 Drive; Max. Hole Size: 0.152″			
1/4″	10	98070A210	$6.00
5/16″	10	98070A220	7.42
3/8″	10	98070A230	6.29
1/2″	10	98070A250	6.57
5/8″	10	98070A260	9.15
3/4″	10	98070A270	7.14
8-32—#2 Drive; Max. Hole Size: 0.179″			
1/4″	10	98070A310	7.74
3/8″	10	98070A320	8.00
8-32 (Cont.)			
1/2″	10	98070A330	$6.86
5/8″	10	98070A340	9.15
3/4″	10	98070A360	8.00
10-24—#2 Drive; Max. Hole Size: 0.204″			
1/2″	10	98070A410	10.03
3/4″	10	98070A440	11.43
10-32—#2 Drive; Max. Hole Size: 0.204″			
1/2″	10	98070A450	8.29
1″	10	98070A470	11.14

Titanium Flat Head Phillips

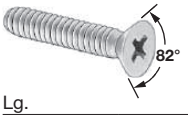

Screws are durable, corrosion resistant, about 40% lighter than steel, and have a high strength-to-weight-ratio. Fully threaded. Length is measured from the top of the head.

Lg.		Each
4-40—#1 Drive		
1/4"	90233A400	$3.93
3/8"	90233A405	4.07
1/2"	90233A410	4.73
6-32—#2 Drive		
1/4"	90233A541	4.13
3/8"	90233A546	4.40
1/2"	90233A548	4.60
3/4"	90233A551	5.33
8-32—#2 Drive		
3/8"	90233A592	5.98
1/2"	90233A594	6.30
1"	90233A599	6.90
10-24—#2 Drive		
1/2"	90233A815	$5.53
3/4"	90233A820	6.92
1"	90233A825	7.22
1 1/2"	90233A835	7.88
1/4"-20—#3 Drive		
1/2"	90233A910	7.28
3/4"	90233A915	7.34
1"	90233A920	7.70
1 1/2"	90233A930	8.40
2"	90233A935	10.74

PTFE-Coated Flat Head Phillips



FDA compliant for food contact, these screws won't stick or bind. They meet FDA 21 CFR 175.300 and are made from 18-8 stainless steel. Fully threaded. Length is measured from the top of the head.

Lg.	Pkg. Qty.		Pkg.
6-32—#2 Drive			
1/4"	50	96653A109	$8.12
3/8"	50	96653A112	8.12
1/2"	50	96653A115	8.56
3/4"	50	96653A118	7.70
8-32—#2 Drive			
1/4"	50	96653A149	7.70
3/8"	50	96653A152	8.43
1/2"	50	96653A155	8.79
3/4"	50	96653A158	9.84
10-32—#2 Drive			
3/8"	50	96653A179	$11.48
1/2"	50	96653A182	11.92
3/4"	50	96653A185	12.88
1"	25	96653A188	8.52
1/4"-20—#3 Drive			
3/8"	25	96653A249	11.92
1/2"	25	96653A252	13.16
3/4"	25	96653A255	13.64
1"	10	96653A258	6.61
1 1/2"	10	96653A261	7.10

Metric Flat Head Phillips

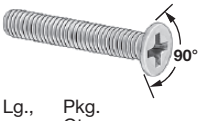

Head is beveled 90°. Screws meet DIN 965 and are fully threaded. Length is measured from the top of the head.

Lg., mm	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
M2—#1 Drive; Pitch: 0.4 mm			
4	50	91801A105	$8.03
5	25	91801A106	5.02
6	25	91801A107	5.10
8	25	91801A109	5.18
10	25	91801A111	5.24
M2.5—#1 Drive; Pitch: 0.45 mm			
4	50	91801A133	6.67
5	25	91801A134	3.98
6	25	91801A135	4.26
8	25	91801A137	4.45
M3—#1 Drive; Pitch: 0.5 mm			
4	25	91801A149	7.40
5	100	91801A150	7.50
6	100	91801A151	7.40
8	100	91801A154	9.42
10	100	91801A156	7.62
12	100	91801A158	8.33
16	50	91801A162	11.82
20	50	91801A164	12.37
M4—#2 Drive; Pitch: 0.7 mm			
6	100	91801A210	10.10
8	100	91801A212	10.38
10	50	91801A214	7.60
12	50	91801A216	7.90
16	50	91801A220	8.76
M4 (Cont.)			
20	50	91801A224	$9.66
25	25	91801A227	11.94
M5—#2 Drive; Pitch: 0.8 mm			
10	50	91801A254	10.67
12	50	91801A256	9.22
16	50	91801A260	12.09
20	25	91801A264	9.79
25	25	91801A268	14.29
30	10	91801A270	7.15
40	10	91801A273	7.86
M6—#3 Drive; Pitch: 1 mm			
10	25	91801A305	9.79
12	25	91801A307	9.94
16	25	91801A311	9.75
20	10	91801A315	6.12
25	10	91801A320	6.40
30	10	91801A325	9.51
35	10	91801A329	10.48
40	10	91801A333	12.86
M8—#4 Drive; Pitch: 1.25 mm			
12	5	91801A402	5.12
16	5	91801A406	7.21
20	5	91801A410	5.75
25	5	91801A415	6.49
18-8 Stainless Steel			
M2—#0 Drive; Pitch: 0.4 mm			
4	100	92010A001	4.00
5	100	92010A002	4.05
6	100	92010A003	4.10
8	100	92010A004	4.24
10	100	92010A005	4.29
12	100	92010A006	4.52
16	100	92010A008	4.57
20	100	92010A010	4.62
M2.5—#1 Drive; Pitch: 0.45 mm			
4	100	92010A012	4.00
5	100	92010A014	3.24
6	100	92010A016	3.81
8	100	92010A018	4.19
10	100	92010A020	3.71
12	100	92010A022	4.14
16	100	92010A024	4.29
20	100	92010A026	4.71
M3—#1 Drive; Pitch: 0.5 mm			
4	100	92010A112	3.76
5	100	92010A114	3.81
6	100	92010A116	4.00
8	100	92010A118	4.05
10	100	92010A120	4.33
12	100	92010A122	4.43
16	100	92010A126	5.76
20	100	92010A128	5.76
25	100	92010A130	7.43
M3 (Cont.)			
30	100	92010A138	7.52
35	50	92010A143	10.38
40	50	92010A146	10.17
M4—#2 Drive; Pitch: 0.7 mm			
5	100	92010A212	5.86
6	100	92010A216	5.14
8	100	92010A218	5.48
10	100	92010A220	6.62
12	100	92010A222	7.05
16	100	92010A226	7.76
20	100	92010A228	8.81
25	100	92010A230	10.90
30	100	92010A238	13.38
35	50	92010A240	7.19
40	50	92010A242	9.21
45	50	92010A244	9.40
50	50	92010A246	9.64
60	10	92010A250	3.20
M5—#2 Drive; Pitch: 0.8 mm			
6	100	92010A314	8.48
8	100	92010A318	8.57
10	100	92010A320	8.90
12	100	92010A322	9.33
16	50	92010A326	6.57
20	50	92010A328	7.43
18-8 Stainless Steel (Cont.)			
M5 (Cont.)			
25	50	92010A330	$8.57
30	50	92010A332	9.88
35	50	92010A340	10.86
40	25	92010A342	7.43
45	25	92010A344	7.50
50	25	92010A346	7.56
60	10	92010A350	3.91
70	10	92010A355	3.99
80	10	92010A360	8.83
100	5	92010A370	6.55
M6—#3 Drive; Pitch: 1 mm			
8	50	92010A416	6.79
10	50	92010A420	6.43
12	50	92010A424	6.36
16	50	92010A426	7.05
20	50	92010A428	9.24
25	50	92010A430	11.67
30	25	92010A438	7.39
35	25	92010A440	7.50
40	25	92010A442	8.00
45	25	92010A444	8.06
50	25	92010A446	10.93
60	10	92010A450	5.83
70	10	92010A458	6.20
M6 (Cont.)			
80	5	92010A466	$4.78
100	5	92010A482	7.65
M8—#4 Drive; Pitch: 1.25 mm			
10	25	92010A520	9.42
12	25	92010A524	9.51
16	25	92010A526	6.74
20	25	92010A528	7.63
25	25	92010A530	10.51
30	25	92010A538	10.12
35	10	92010A540	9.59
40	10	92010A542	6.71
45	10	92010A544	7.72
50	10	92010A546	6.90
60	5	92010A550	2.78
M10—#4 Drive; Pitch: 1.5 mm			
20	5	92010A630	7.37
25	5	92010A635	7.90
30	1	92010A640	1.98
35	1	92010A646	2.33
40	1	92010A651	2.74
45	1	92010A657	3.63
50	1	92010A663	4.09
60	1	92010A669	4.33
Black-Oxide 18-8 Stainless Steel			
M2—#1 Drive; Pitch: 0.4 mm			
4	100	91698A200	9.32
5	100	91698A201	9.56
6	100	91698A202	9.72
8	100	91698A204	9.84
10	100	91698A206	9.92
M2.5—#1 Drive; Pitch: 0.45 mm			
4	100	91698A240	9.52
5	100	91698A241	9.68
6	100	91698A242	9.84
8	100	91698A244	9.96
M3—#1 Drive; Pitch: 0.5 mm			
4	50	91698A300	7.92
5	50	91698A301	6.68
6	50	91698A302	6.95
8	50	91698A304	6.10
10	50	91698A306	6.49
12	50	91698A308	8.57
16	50	91698A312	8.54
M4—#2 Drive; Pitch: 0.7 mm			
5	50	91698A423	7.92
6	50	91698A424	8.57
8	50	91698A426	6.29
10	50	91698A428	6.29
12	50	91698A430	7.53
16	50	91698A435	8.64
M5—#2 Drive; Pitch: 0.8 mm			
8	50	91698A534	10.65
10	50	91698A536	10.89
12	50	91698A538	10.89
16	25	91698A542	7.61
M6—#3 Drive; Pitch: 1 mm			
10	25	91698A645	8.06
12	25	91698A647	9.21
16	25	91698A651	10.46
Brass			
M3—#1 Drive; Pitch: 0.5 mm			
6	100	99658A524	9.46
8	100	99658A526	10.19
10	100	99658A528	10.69
M4—#2 Drive; Pitch: 0.7 mm			
8	50	99658A641	9.39
10	50	99658A643	10.46
12	25	99658A645	5.85
M5—#2 Drive; Pitch: 0.8 mm			
10	25	99658A764	10.63
12	25	99658A766	11.24
16	10	99658A770	5.78
M6—#3 Drive; Pitch: 1 mm			
12	10	99658A810	6.02
16	10	99658A814	6.67
20	10	99658A818	8.17

(Continued on following page)

Metric Flat Head Phillips *(Continued from previous page)*

Lg., mm	Pkg. Qty.		Pkg.
Zinc-Plated Steel			
M2—#1 Drive; Pitch: 0.4 mm			
3	100	91420A011	$4.06
4	100	91420A001	5.52
5	100	91420A002	3.52
6	100	91420A003	4.74
8	100	91420A004	3.17
10	100	91420A005	4.80
12	100	91420A006	5.20
16	100	91420A007	5.16
20	100	91420A008	11.53
M2.5—#1 Drive; Pitch: 0.45 mm			
4	100	91420A012	3.67
5	100	91420A014	3.67
6	100	91420A016	3.67
8	100	91420A018	3.21
10	100	91420A020	4.13
12	100	91420A022	4.13
16	100	91420A024	4.13
20	100	91420A026	4.13
25	100	91420A028	5.04
M3—#1 Drive; Pitch: 0.5 mm			
4	100	91420A112	6.40
5	100	91420A114	3.83
6	100	91420A116	2.40
8	100	91420A118	2.80
10	100	91420A120	2.81
12	100	91420A122	3.20
14	100	91420A124	3.96
16	100	91420A126	3.96
M3 (Cont.)			
18	100	91420A127	$4.14
20	100	91420A128	3.60
25	100	91420A130	4.00
30	100	91420A134	6.80
35	100	91420A135	8.00
40	100	91420A136	8.80
45	50	91420A138	8.40
50	50	91420A140	9.00
60	10	91420A143	7.59
M3.5—#2 Drive; Pitch: 0.6 mm			
6	100	91420A173	2.30
8	100	91420A175	3.21
10	100	91420A177	4.13
12	100	91420A179	3.33
16	100	91420A183	5.18
20	100	91420A187	6.68
25	100	91420A192	10.08
30	50	91420A194	5.20
M4—#2 Drive; Pitch: 0.7 mm			
5	100	91420A214	5.50
6	100	91420A216	3.00
8	100	91420A218	3.45
10	100	91420A220	3.00
12	100	91420A222	3.40
14	100	91420A224	4.40
16	100	91420A226	3.60
18	100	91420A277	4.80
20	100	91420A228	4.00
Zinc-Plated Steel (Cont.)			
M4 (Cont.)			
22	100	91420A231	$6.67
25	100	91420A230	5.20
30	100	91420A235	7.20
35	100	91420A240	6.42
40	50	91420A250	8.69
45	50	91420A260	6.79
50	50	91420A265	5.39
60	50	91420A270	8.60
70	25	91420A280	11.00
80	25	91420A290	7.00
M5—#2 Drive; Pitch: 0.8 mm			
6	100	91420A316	4.02
8	100	91420A318	4.02
10	100	91420A320	4.05
12	100	91420A322	4.49
14	100	91420A324	7.00
16	100	91420A326	5.84
18	100	91420A329	7.11
20	100	91420A328	6.17
25	100	91420A330	7.20
30	100	91420A332	8.00
35	100	91420A340	9.13
40	100	91420A342	10.92
50	100	91420A346	11.59
60	25	91420A350	6.00
70	25	91420A370	12.15
80	10	91420A380	5.44
M6—#3 Drive; Pitch: 1 mm			
8	50	91420A410	$7.79
10	100	91420A420	6.40
12	100	91420A424	8.71
14	100	91420A425	8.00
16	100	91420A426	9.17
20	100	91420A428	10.09
25	100	91420A430	11.46
30	100	91420A438	13.20
35	100	91420A440	12.38
40	50	91420A442	7.47
45	50	91420A444	12.00
50	50	91420A446	9.24
60	25	91420A460	6.50
70	10	91420A470	5.16
80	10	91420A480	5.45
M8—#4 Drive; Pitch: 1.25 mm			
12	10	91420A515	6.78
14	10	91420A517	8.00
16	50	91420A526	12.09
20	50	91420A528	14.00
25	50	91420A530	16.20
30	25	91420A538	9.39
35	25	91420A540	8.82
40	25	91420A542	9.94
50	25	91420A546	11.37
60	10	91420A552	8.72
80	5	91420A568	7.00

Metric Japanese Industrial Standard Flat Head Phillips

Screws meet JIS B1111 for a larger head diameter than screws that meet DIN specifications. Head is beveled 90°. Screws are zinc-plated steel and fully threaded. Length is measured from the top of the head. For JIS drivers, see 53325A on page 2819.

Also Available: 18-8 stainless steel screws in sizes marked with a ▲. Please ask for 97613A550 and specify thread size and screw length.

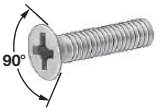

Lg., mm	Pkg. Qty.		Pkg.
M4—#2 Drive; Pitch: 0.7 mm			
8	25	96477A120▲	$4.91
10	25	96477A123▲	4.97
14	25	96477A126	5.09
16	25	96477A129▲	5.58
20	25	96477A132▲	6.33
M5—#2 Drive; Pitch: 0.8 mm			
8	25	96477A162▲	$7.42
10	25	96477A165▲	8.39
16	25	96477A168▲	9.24
30	25	96477A171▲	11.58
35	25	96477A174	13.09
M6—#3 Drive; Pitch: 1 mm			
8	25	96477A218▲	$8.55
10	25	96477A221▲	9.18
12	25	96477A224▲	9.76
M6 (Cont.)			
14	25	96477A227▲	$11.09
16	25	96477A230▲	11.42
20	25	96477A233▲	14.24

Metric Flat Head Slotted

Head is beveled 90°. Screws meet DIN 963 and are fully threaded. Length is measured from the top of the head.



Lg., mm	Pkg. Qty.		Pkg.
18-8 Stainless Steel			
M1.6—Pitch: 0.35 mm			
4	25	91430A003	$8.70
5	25	91430A005	10.45
8	25	91430A007	2.95
10	25	91430A009	3.84
M2—Pitch: 0.4 mm			
4	100	91430A050	5.26
5	100	91430A052	6.32
6	100	91430A054	7.01
8	100	91430A056	6.05
10	100	91430A058	7.26
12	100	91430A060	5.00
16	100	91430A062	6.98
M2.5—Pitch: 0.45 mm			
4	100	91430A075	7.64
5	100	91430A077	5.81
6	100	91430A079	7.50
8	100	91430A081	7.63
10	100	91430A083	7.21
12	100	91430A085	7.57
M3—Pitch: 0.5 mm			
5	100	91430A114	7.26
6	100	91430A116	6.61
8	100	91430A118	6.35
10	100	91430A120	6.61
12	100	91430A122	6.65
M3 (Cont.)			
16	100	91430A126	$6.70
20	100	91430A128	6.43
M4—Pitch: 0.7 mm			
6	100	91430A216	6.57
8	100	91430A218	7.91
10	100	91430A220	8.09
12	100	91430A222	8.61
16	100	91430A226	10.74
20	100	91430A228	12.30
M5—Pitch: 0.8 mm			
10	100	91430A320	11.48
12	100	91430A322	12.09
16	100	91430A326	12.61
20	100	91430A328	13.00
25	50	91430A330	8.89
M6—Pitch: 1 mm			
10	50	91430A420	10.48
12	50	91430A419	11.13
16	50	91430A426	11.52
20	50	91430A428	12.46
25	50	91430A430	13.62
30	25	91430A432	8.72
M8—Pitch: 1.25 mm			
16	25	91430A526	13.47
20	25	91430A528	13.66
25	25	91430A530	14.81
Brass			
M2—Pitch: 0.4 mm			
6	50	96686A150	$12.69
10	50	96686A153	12.89
12	50	96686A156	14.80
M3—Pitch: 0.5 mm			
6	50	96686A210	8.66
8	50	96686A213	7.11
10	50	96686A216	7.11
12	50	96686A219	8.70
16	50	96686A222	8.68
M4—Pitch: 0.7 mm			
8	50	96686A255	12.60
10	50	96686A258	13.80
12	50	96686A261	13.80
16	25	96686A264	7.49
Zinc-Plated Steel			
M2—Pitch: 0.4 mm			
4	100	90274A017	5.00
5	100	90274A018	2.79
6	100	90274A019	3.00
M3—Pitch: 0.5 mm			
5	100	90274A114	4.58
6	100	90274A116	3.67
8	100	90274A118	3.67
10	100	90274A120	3.67
16	100	90274A126	4.13
M4 (Cont.)			
20	25	96686A267	$10.50
25	25	96686A270	10.50
M5—Pitch: 0.8 mm			
10	25	96686A305	9.80
12	25	96686A308	10.40
16	25	96686A311	11.60
20	25	96686A314	14.30
25	25	96686A317	16.50
M6—Pitch: 1 mm			
12	25	96686A350	14.40
16	10	96686A353	7.20
20	10	96686A356	9.20
25	10	96686A359	9.20
30	10	96686A362	12.00
M4—Pitch: 0.7 mm			
5	100	90274A214	8.25
6	100	90274A216	3.68
8	100	90274A218	4.58
10	100	90274A220	4.58
12	100	90274A222	4.58
16	100	90274A226	5.04
20	100	90274A228	5.04
25	100	90274A230	6.64
35	100	90274A234	8.04

(Continued on following page)

Metric Flat Head Slotted *(Continued from previous page)*

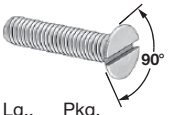

Head is beveled 90°. Screws meet DIN 963 and are fully threaded. Length is measured from the top of the head.

Lg., mm	Pkg. Qty.		Pkg.
Zinc-Plated Steel (Cont.)			
M5—Pitch: 0.8 mm			
8	100	91802A318	$5.04
10	100	91802A320	6.42
12	100	91802A322	6.88
16	100	91802A326	8.25
25	100	91802A330	10.80
M6—Pitch: 1 mm			
10	100	91802A420	$9.60
12	100	91802A419	8.40
16	100	91802A426	10.00
20	100	91802A428	12.10
25	100	91802A430	14.80
Zinc-Plated Steel (Cont.)			
M6 (Cont.)			
40	50	91802A436	$12.60
50	50	91802A440	14.00
M8—Pitch: 1.25 mm			
16	50	91802A526	9.42
25	50	91802A530	12.60
M10—Pitch: 1.5 mm			
20	25	91802A638	$12.50
25	25	91802A640	12.00
35	10	91802A643	6.29
40	10	91802A644	8.00

Oval Head

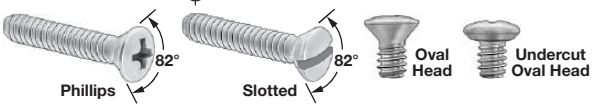

Inch sizes have an 82° beveled head; **metric** sizes have a 90° beveled head.

Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Sizes marked with a ★ have an undercut head to allow more threading. Length is measured from the top of the bevel.

Lg.	Pkg. Qty.		Pkg.
Phillips—18-8 Stainless Steel			
2-56—#1 Drive			
1/8″	100	91802A074★	$5.36
3/16″	100	91802A076	5.40
1/4″	100	91802A077	5.41
5/16″	100	91802A078	5.47
3/8″	100	91802A079	5.52
1/2″	100	91802A081	5.59
5/8″	100	91802A083	5.86
3/4″	100	91802A084	6.13
4-40—#1 Drive			
1/8″	100	91802A103★	9.90
3/16″	100	91802A105★	5.21
1/4″	100	91802A106	3.41
5/16″	100	91802A107	3.64
3/8″	100	91802A108	3.75
7/16″	100	91802A109	3.83
1/2″	100	91802A110	4.05
5/8″	100	91802A112	4.36
3/4″	100	91802A113	4.73
1″	100	91802A115	5.83
6-32—#2 Drive			
3/16″	100	91802A143★	9.34
1/4″	100	91802A144	4.03
5/16″	100	91802A145	3.56
3/8″	100	91802A146	4.16
7/16″	100	91802A147	3.65
1/2″	100	91802A148	4.50
5/8″	100	91802A150	4.81
3/4″	100	91802A151	5.08
7/8″	100	91802A152	5.34
1″	100	91802A153	4.78
1¼″	100	91802A155	5.90
1½″	100	91802A157	6.51
1¾″	100	91802A159	8.22
2″	100	91802A162	8.09
8-32—#2 Drive			
1/4″	100	91802A190★	4.76
5/16″	100	91802A191	5.08
3/8″	100	91802A192	5.18
7/16″	100	91802A193	5.36
1/2″	100	91802A194	5.21
5/8″	100	91802A196	6.08
3/4″	100	91802A197	7.14
7/8″	100	91802A198	8.46
1″	100	91802A199	7.85
1¼″	100	91802A201	8.70
1½″	50	91802A203	6.77
1¾″	50	91802A204	7.36
2″	50	91802A205	6.92
2½″	50	91802A207	9.38
3″	50	91802A209	9.45
10-24—#2 Drive			
5/16″	100	91802A239★	6.85
3/8″	100	91802A240	6.99
7/16″	100	91802A241	8.19
1/2″	100	91802A242	8.20
5/8″	100	91802A244	8.71
3/4″	100	91802A245	8.64
7/8″	100	91802A246	9.57
10-24 (Cont.)			
1″	50	91802A247	$6.31
1¼″	50	91802A259	7.82
1½″	50	91802A251	8.20
1¾″	50	91802A252	10.11
2″	50	91802A253	10.62
2¼″	25	91802A254	6.82
2½″	25	91802A255	6.61
3″	25	91802A257	7.82
3½″	10	91802A258	5.81
4″	10	91802A261	6.09
10-32—#2 Drive			
5/16″	100	91802A826★	9.95
3/8″	100	91802A827	6.99
7/16″	100	91802A828	8.28
1/2″	100	91802A829	7.48
5/8″	100	91802A830	8.71
3/4″	100	91802A831	8.64
7/8″	100	91802A832	9.57
1″	50	91802A833	6.31
1¼″	50	91802A835	7.80
1½″	50	91802A836	8.20
1¾″	50	91802A837	10.24
2″	25	91802A838	5.60
2½″	25	91802A840	6.44
3″	25	91802A845	7.82
12-24—#3 Drive			
1/2″	50	91802A371	7.73
3/4″	50	91802A374	7.01
1″	50	91802A376	8.85
1¼″	50	91802A378	10.58
1½″	25	91802A381	6.81
1/4″-20—#3 Drive			
3/8″	50	91802A535★	7.66
1/2″	50	91802A537	7.47
5/8″	50	91802A539	8.99
3/4″	50	91802A540	9.60
1″	25	91802A542	6.05
1¼″	25	91802A544	5.76
1½″	25	91802A546	6.96
1¾″	25	91802A547	8.95
2″	25	91802A550	9.52
2¼″	10	91802A551	4.88
2½″	10	91802A552	5.34
2¾″	10	91802A553	5.60
3″	10	91802A554	6.65
3½″	10	91802A556	7.59
4″	10	91802A572	9.82
4½″	5	91802A573	7.45
5″	5	91802A575	9.01
6″	5	91802A577	9.95
5/16″-18—#4 Drive			
3/4″	10	91802A581	5.10
1″	10	91802A583	5.69
1¼″	10	91802A585	6.80
1½″	10	91802A587	6.89
2″	10	91802A591	8.20
2½″	10	91802A593	9.56
3″	5	91802A595	5.97

★ Head is undercut to allow more threading.

Lg.	Pkg. Qty.		Pkg.
Phillips—Chrome-Plated 18-8 Stainless Steel			
4-40—#1 Drive			
1/4″	10	95145A106	$5.63
3/8″	10	95145A110	5.73
6-32—#2 Drive			
3/8″	10	95145A147	5.45
1/2″	10	95145A150	5.49
3/4″	10	95145A153	5.55
8-32—#2 Drive			
1/2″	10	95145A194	4.03
3/4″	10	95145A197	4.09
1″	10	95145A201	4.20
10-32—#2 Drive			
1/2″	10	95145A240	$6.00
3/4″	10	95145A243	6.65
1″	10	95145A246	7.00
1½″	10	95145A249	7.25
1/4″-20—#3 Drive			
3/4″	10	95145A305	6.21
1″	10	95145A308	6.55
1½″	10	95145A311	7.59
2″	10	95145A314	7.88
2½″	10	95145A317	8.79
Slotted—18-8 Stainless Steel			
4-40			
1/4″	100	91790A105	4.18
3/8″	100	91790A108	4.59
1/2″	100	91790A110	4.97
3/4″	100	91790A115	5.26
1″	100	91790A120	7.07
6-32			
1/4″	100	91790A144	4.36
5/16″	100	91790A145	4.74
3/8″	100	91790A146	4.83
7/16″	100	91790A147	4.91
1/2″	100	91790A148	5.32
5/8″	100	91790A150	5.69
3/4″	100	91790A151	5.91
1″	100	91790A153	7.24
1¼″	100	91790A155	9.93
1½″	100	91790A157	8.50
2″	50	91790A159	9.50
8-32			
1/4″	100	91790A190★	5.31
3/8″	100	91790A192	5.53
1/2″	100	91790A194	5.70
3/4″	100	91790A197	7.19
1″	100	91790A199	8.71
1¼″	50	91790A201	5.92
1½″	50	91790A203	6.11
10-24			
3/8″	100	91790A240	7.12
1/2″	100	91790A242	9.04
10-24 (Cont.)			
5/8″	50	91790A244	4.87
3/4″	50	91790A245	5.19
1″	50	91790A247	6.19
1¼″	50	91790A249	7.84
1½″	50	91790A251	9.14
10-32			
3/8″	100	91790A827	7.12
1/2″	100	91790A829	9.04
5/8″	50	91790A830	5.06
3/4″	50	91790A831	5.54
1″	50	91790A833	6.73
1¼″	50	91790A835	8.67
1½″	50	91790A836	9.14
12-24			
3/8″	50	91790A310★	6.36
1/2″	50	91790A315	7.81
1″	25	91790A320	5.66
1¼″	25	91790A323	7.50
1/4″-20			
1/2″	50	91790A537	7.97
5/8″	50	91790A539	7.61
3/4″	25	91790A540	5.63
1″	25	91790A542	6.69
1¼″	25	91790A544	7.67
1½″	25	91790A546	6.89
2″	25	91790A550	9.41
2½″	10	91790A552	5.19
Slotted—Brass			
6-32			
1/4″	100	91700A142	6.91
3/8″	100	91700A146	8.27
1/2″	100	91700A148	8.58
3/4″	100	91700A151	10.36
1″	50	91700A153	7.26
1¼″	50	91700A158	7.81
1½″	50	91700A161	9.23
8-32			
1/4″	100	91700A190★	9.96
3/8″	100	91700A192	11.56
1/2″	100	91700A194	12.16
5/8″	50	91700A195	7.42
3/4″	50	91700A197	7.79
1″	50	91700A199	10.98
10-24			
1/2″	50	91700A242	9.81
3/4″	50	91700A245	11.97
1″	25	91700A247	7.83
1½″	25	91700A249	9.48
10-32			
1/2″	50	91700A829	9.81
3/4″	50	91700A831	11.97
1″	25	91700A833	7.83
1½″	25	91700A835	9.48
1/4″-20			
1/2″	25	91700A537	8.99
3/4″	25	91700A540	10.85
1″	25	91700A542	11.93
1½″	10	91700A546	6.78

(Continued on following page)

Oval Head & Round Head Machine Screws

For information about machine screws, see page 3024.

Oval Head *(Continued from previous page)*

Metric Phillips—18-8 Stainless Steel (DIN 966)

Lg., mm	Pkg. Qty.		Pkg.
M2.5—#1 Drive; Pitch: 0.45 mm			
6	100	90258A103	$9.08
8	50	90258A109	5.62
10	50	90258A115	4.01
12	50	90258A121	5.12
M3—#1 Drive; Pitch: 0.5 mm			
5	50	90258A173	9.51
6	100	90258A176	4.90
8	100	90258A178	5.18
10	100	90258A181	5.19
12	100	90258A183	5.43
16	100	90258A187	7.00
20	100	90258A189	9.00
M4—#2 Drive; Pitch: 0.7 mm			
6	100	90258A210	$5.14
8	100	90258A212	5.67
10	100	90258A214	6.69
12	100	90258A218	9.05
16	100	90258A221	8.00
20	100	90258A224	12.90
25	50	90258A229	6.86
30	25	90258A232	3.68
M5—#2 Drive; Pitch: 0.8 mm			
10	100	90258A246	9.30
12	50	90258A249	6.17
16	50	90258A251	6.34
20	50	90258A253	8.12
M5 (Cont.)			
25	50	90258A255	$11.62
30	25	90258A258	6.38
35	25	90258A261	6.55
M6—#3 Drive; Pitch: 1 mm			
10	50	90258A279	5.55
12	50	90258A281	6.17
16	50	90258A285	11.22
20	25	90258A288	5.98
M6 (Cont.)			
25	25	90258A291	$7.00
30	25	90258A294	7.10
35	25	90258A297	7.20
M8—#4 Drive; Pitch: 1.25 mm			
20	25	90258A308	7.36
25	25	90258A312	8.76
30	10	90258A316	8.55

Metric Phillips (Cont.)

Color	Size	Lg.	Pkg. Qty.		Pkg.
Slotted—Painted Steel (Wall Plate Screws)					
Brown	6-32	1/2"	10	99050A215	$3.11
White	6-32	1/2"	10	99050A315	3.11
Ivory	6-32	1/2"	10	99050A415	3.11

Round Head Phillips

Screws up to 2" long are fully threaded; those longer than 2" have at least 1 1/2" of thread. Length is measured from under the head.



18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
0-80—#0 Drive			
1/8"	100	91773A052	$8.20
3/16"	100	91773A054	8.45
1/4"	100	91773A055	8.71
3/8"	100	91773A057	9.12
1/2"	100	91773A059	9.34
3/4"	100	91773A071	10.72
1"	100	91773A102	14.43
1-64—#0 Drive			
3/16"	100	91773A165	10.66
1/4"	100	91773A166	11.48
3/8"	100	91773A168	12.29
1/2"	100	91773A170	13.41
1"	50	91773A175	11.66
1-72—#0 Drive			
3/16"	100	91773A065	11.08
1/4"	100	91773A066	11.93
3/8"	100	91773A068	12.78
1/2"	100	91773A070	13.93
3/4"	50	91773A140	8.58
1"	50	91773A186	11.66
2-56—#1 Drive			
1/8"	100	91773A074	5.19
3/16"	100	91773A076	3.89
1/4"	100	91773A077	4.01
5/16"	100	91773A078	4.17
3/8"	100	91773A079	4.33
1/2"	100	91773A081	4.62
5/8"	100	91773A083	4.82
3/4"	100	91773A084	4.72
7/8"	100	91773A085	4.50
1"	100	91773A187	4.92
1 1/4"	100	91773A266	12.55
1 1/2"	50	91773A267	13.06
3-48—#1 Drive			
1/4"	100	91773A092	8.21
3/8"	100	91773A094	8.89
1/2"	100	91773A096	9.47
5/8"	100	91773A098	10.84
3/4"	100	91773A099	12.79
1"	50	91773A101	7.98
4-40—#1 Drive			
1/8"	100	91773A103	6.36
3/16"	100	91773A105	4.54
1/4"	100	91773A106	3.54
5/16"	100	91773A107	3.64
3/8"	100	91773A108	3.75
7/16"	100	91773A109	3.83
1/2"	100	91773A110	4.05
5/8"	100	91773A112	4.36
3/4"	100	91773A113	4.73
1"	100	91773A115	5.83
1 1/4"	100	91773A117	9.50
1 1/2"	100	91773A119	8.90
4-48—#1 Drive			
1/4"	100	91773A741	12.15
1/2"	50	91773A743	8.02
1"	50	91773A746	12.30
5-40—#2 Drive			
3/16"	100	91773A123	$8.05
1/4"	100	91773A124	6.12
3/8"	100	91773A126	7.38
1/2"	100	91773A128	8.12
3/4"	100	91773A131	9.82
1"	50	91773A133	7.97
6-32—#2 Drive			
1/8"	100	91773A142	9.18
3/16"	100	91773A143	3.54
1/4"	100	91773A144	3.61
5/16"	100	91773A145	3.69
3/8"	100	91773A146	3.79
1/2"	100	91773A148	3.92
5/8"	100	91773A150	4.46
3/4"	100	91773A151	5.02
7/8"	100	91773A152	5.66
1"	100	91773A153	5.60
1 1/4"	100	91773A155	6.27
1 1/2"	100	91773A157	7.43
1 3/4"	100	91773A158	10.43
2"	100	91773A159	11.12
2 1/2"	50	91773A161	8.23
3"	50	91773A163	10.57
8-32—#2 Drive			
3/16"	100	91773A189	5.21
1/4"	100	91773A190	4.24
5/16"	100	91773A191	4.68
3/8"	100	91773A192	4.63
1/2"	100	91773A194	4.69
5/8"	100	91773A196	5.66
3/4"	100	91773A197	6.30
7/8"	100	91773A198	7.07
1"	100	91773A199	6.93
1 1/4"	100	91773A201	9.12
1 1/2"	100	91773A203	12.75
1 3/4"	50	91773A204	7.04
2"	50	91773A205	7.97
2 1/2"	50	91773A207	10.61
3"	25	91773A209	6.91
4"	10	91773A213	4.22
10-24—#2 Drive			
1/4"	100	91773A238	6.29
3/8"	100	91773A240	6.46
7/16"	100	91773A241	7.30
1/2"	100	91773A242	7.52
5/8"	100	91773A246	8.67
3/4"	100	91773A245	9.08
1"	50	91773A247	6.15
1 1/4"	50	91773A249	7.44
1 1/2"	50	91773A251	7.86
1 3/4"	50	91773A252	10.12
2"	50	91773A253	11.18
2 1/2"	25	91773A256	8.46
3"	25	91773A257	9.09
4"	10	91773A261	5.81

18-8 Stainless Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
10-32—#2 Drive			
1/4"	100	91773A825	$6.29
5/16"	100	91773A826	6.58
3/8"	100	91773A827	6.46
1/2"	100	91773A829	7.52
5/8"	100	91773A830	8.67
3/4"	100	91773A831	9.08
7/8"	100	91773A832	9.45
1"	50	91773A833	6.15
1 1/8"	50	91773A834	8.46
1 1/4"	50	91773A835	7.44
1 1/2"	50	91773A836	7.86
1 3/4"	50	91773A837	10.12
2"	50	91773A838	11.18
2 1/2"	25	91773A840	7.75
3"	25	91773A841	9.09
12-24—#3 Drive			
1/2"	50	91773A291	6.89
3/4"	50	91773A294	8.27
1"	50	91773A296	9.73
1 1/2"	25	91773A299	7.28
2"	25	91773A301	8.54
1/4"-20—#3 Drive			
1/4"	25	91773A533	6.79
3/8"	25	91773A535	4.13
1/2"	25	91773A537	4.10
5/8"	25	91773A539	4.90
3/4"	25	91773A540	5.36
7/8"	25	91773A541	6.74
1"	25	91773A542	6.64
1 1/4"	25	91773A544	7.13
1 1/2"	25	91773A546	7.63
1 3/4"	25	91773A548	9.25
1/4"-20 (Cont.)			
2"	25	91773A550	$8.87
2 1/4"	25	91773A551	11.35
2 1/2"	10	91773A552	5.22
3"	10	91773A554	5.84
3 1/2"	10	91773A571	7.31
4"	10	91773A572	9.86
1/4"-28—#3 Drive			
1/2"	50	91773A557	11.09
5/8"	50	91773A558	12.79
3/4"	25	91773A559	7.33
1"	25	91773A561	9.02
1 1/4"	25	91773A563	10.25
1 1/2"	25	91773A564	10.40
5/16"-18—#3 Drive			
1/2"	25	91773A578	9.88
5/8"	25	91773A580	10.23
3/4"	25	91773A581	11.00
1"	10	91773A583	5.33
1 1/4"	10	91773A584	6.88
1 1/2"	10	91773A586	7.66
2"	10	91773A591	8.71
2 1/2"	10	91773A593	10.20
3"	5	91773A595	7.19
3 1/2"	5	91773A597	7.18
3/8"-16—#4 Drive			
3/4"	10	91773A622	7.77
1"	10	91773A624	8.60
1 1/2"	10	91773A626	12.54
2"	5	91773A632	8.19
3"	5	91773A636	11.71
4"	5	91773A641	12.28

Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
2-56—#1 Drive			
1/4"	100	90279A077	9.85
5/16"	100	90279A078	10.43
3/8"	100	90279A079	7.68
1/2"	100	90279A081	8.36
3/4"	100	90279A084	8.44
3-48—#1 Drive			
1/4"	100	90279A092	8.43
1/2"	100	90279A096	6.64
5/8"	100	90279A097	9.68
4-40—#1 Drive			
3/16"	100	90279A105	6.54
1/4"	100	90279A106	2.75
5/16"	100	90279A107	4.51
3/8"	100	90279A108	4.21
1/2"	100	90279A110	3.96
5/8"	100	90279A112	5.84
3/4"	100	90279A103	4.66
7/8"	100	90279A114	4.96
1"	100	90279A115	5.37
1 1/4"	100	90279A117	13.03
5-40—#2 Drive			
3/8"	100	90279A126	6.99
1/2"	100	90279A128	7.47
1"	100	90279A133	8.39
6-32—#2 Drive			
1/4"	100	90279A144	2.71
5/16"	100	90279A145	4.94
3/8"	100	90279A146	2.52
1/2"	100	90279A148	2.85
5/8"	100	90279A150	3.49
3/4"	100	90279A151	3.45
7/8"	100	90279A152	10.70
1"	100	90279A153	3.79
1 1/4"	100	90279A155	4.42
1 1/2"	100	90279A157	5.26
1 3/4"	50	90279A158	10.09
8-32—#2 Drive			
1/4"	100	90279A190	3.16
5/16"	100	90279A191	6.83
3/8"	100	90279A192	3.20
1/2"	100	90279A194	3.63
5/8"	100	90279A196	3.11

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Round Head Phillips *(Continued from previous page)*



Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
Zinc-Plated Steel (Cont.)			
8-32—#2 Drive (Cont.)			
¾″	100	90279A197	$3.85
1″	100	90279A199	4.23
1¼″	100	90279A201	4.88
1½″	100	90279A203	6.57
1¾″	100	90279A204	6.74
2″	100	90279A205	7.79
10-24—#2 Drive			
¼″	100	90279A238	3.58
5/16″	100	90279A239	5.85
⅜″	100	90279A240	4.30
½″	100	90279A242	3.92
⅝″	100	90279A104	4.93
¾″	100	90279A245	4.42
⅞″	100	90279A246	10.56
1″	100	90279A247	4.88
10-24 (Cont.)			
1¼″	100	90279A249	$6.92
1½″	100	90279A251	7.45
1¾″	100	90279A252	8.48
2″	100	90279A254	9.31
10-32—#2 Drive			
¼″	100	90279A825	4.46
5/16″	100	90279A826	8.30
⅜″	100	90279A827	4.36
½″	100	90279A829	4.91
⅝″	100	90279A830	5.31
¾″	100	90279A831	4.88
⅞″	100	90279A832	8.93
1″	100	90279A833	5.22
1¼″	100	90279A835	6.67
1½″	100	90279A836	7.75
Zinc-Plated Steel (Cont.)			
10-32 (Cont.)			
1¾″	100	90279A837	$8.42
2″	100	90279A838	9.31
12-24—#3 Drive			
⅜″	100	90279A289	7.82
½″	100	90279A291	5.73
⅝″	100	90279A293	10.03
¾″	100	90279A294	7.20
1″	100	90279A296	9.47
1¼″	100	90279A298	8.79
1½″	100	90279A299	9.65
¼″-20—#3 Drive			
¼″	100	90279A533	13.97
⅜″	100	90279A535	7.70
½″	100	90279A537	5.89
⅝″	100	90279A539	5.43
¼″-20 (Cont.)			
¾″	100	90279A540	$5.14
⅞″	100	90279A541	10.44
1″	100	90279A542	9.22
1¼″	100	90279A544	7.73
1½″	100	90279A546	9.43
1¾″	100	90279A548	10.86
2″	100	90279A550	11.11
2¼″	50	90279A551	9.08
2½″	50	90279A552	8.24
5/16″-18—#3 Drive			
¾″	50	90279A581	6.63
1″	25	90279A583	5.96
1½″	25	90279A587	5.94

Round Head Slotted



Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
6-32			
¼″	100	91857A144	$9.24
⅜″	100	91857A146	11.71
½″	100	91857A148	12.71
¾″	50	91857A151	8.88
1″	50	91857A153	9.09
1¼″	50	91857A155	11.31
8-32			
¼″	50	91857A190	6.79
⅜″	50	91857A192	7.40
½″	50	91857A194	8.77
¾″	50	91857A197	9.60
1″	25	91857A199	6.81
1½″	25	91857A203	8.91
10-24			
⅜″	50	91857A240	7.44
½″	50	91857A242	7.92
¾″	25	91857A245	6.05
1″	25	91857A247	8.15
10-24 (Cont.)			
1¼″	25	91857A249	$10.63
1½″	25	91857A251	12.31
10-32			
¼″	50	91857A825	7.10
⅜″	50	91857A827	7.44
½″	50	91857A829	7.92
¾″	25	91857A831	6.29
1″	25	91857A833	8.14
1¼″	25	91857A835	10.28
1½″	25	91857A836	12.31
¼″-20			
⅜″	25	91857A535	8.58
½″	25	91857A537	9.74
¾″	10	91857A540	4.91
1″	10	91857A542	5.50
1¼″	10	91857A544	6.38
1½″	10	91857A546	6.83
2″	10	91857A550	11.71
18-8 Stainless Steel			
0-80			
1/8″	100	91783A052	7.55
3/16″	100	91783A054	8.09
1/4″	100	91783A055	9.99
3/8″	100	91783A057	11.08
7/16″	100	91783A058	11.86
1/2″	50	91783A059	6.90
1″	50	91783A102	10.69
1-64			
1/8″	50	91783A063	8.20
3/16″	50	91783A165	8.98
1/4″	50	91783A166	8.93
1″	50	91783A175	13.19
1-72			
1/8″	100	91783A164	12.03
3/16″	100	91783A065	12.25
1/4″	50	91783A066	7.58
3/8″	50	91783A068	7.68
3/4″	50	91783A140	11.90
2-56			
1/8″	100	91783A074	6.96
3/16″	100	91783A076	3.18
1/4″	100	91783A077	3.41
5/16″	100	91783A078	3.60
3/8″	100	91783A079	3.69
1/2″	100	91783A081	4.01
5/8″	100	91783A083	5.51
3/4″	100	91783A084	5.78
1″	100	91783A187	7.28
1¼″	50	91783A266	10.48
1½″	25	91783A267	7.84
3-48			
1/4″	100	91783A092	7.61
1/2″	100	91783A096	9.96
4-40			
1/8″	100	91783A103	7.21
3/16″	100	91783A105	3.88
1/4″	100	91783A106	3.40
5/16″	100	91783A107	3.85
3/8″	100	91783A108	3.90
7/16″	100	91783A109	4.33
1/2″	100	91783A110	4.36
5/8″	100	91783A112	4.58
3/4″	100	91783A113	4.75
7/8″	100	91783A114	5.03
1″	100	91783A115	5.18
1¼″	100	91783A117	7.58
1½″	100	91783A119	9.95
2″	50	91783A121	8.26
4-48			
1/2″	50	91783A743	10.25
5-40			
3/16″	100	91783A123	8.94
1/4″	100	91783A124	5.63
3/8″	100	91783A126	6.49
1/2″	100	91783A128	6.78
1″	100	91783A133	11.37
6-32			
1/8″	100	91783A142	8.40
3/16″	100	91783A143	6.01
1/4″	100	91783A144	3.75
5/16″	100	91783A145	3.84
18-8 Stainless Steel (Cont.)			
6-32 (Cont.)			
⅜″	100	91783A146	$3.96
7/16″	100	91783A147	4.42
½″	100	91783A148	4.50
⅝″	100	91783A150	4.53
¾″	100	91783A151	5.12
⅞″	100	91783A152	5.89
1″	100	91783A153	6.17
1¼″	100	91783A155	8.25
1½″	100	91783A157	8.62
1¾″	50	91783A158	6.34
2″	50	91783A159	7.49
2½″	50	91783A161	11.06
3″	50	91783A163	12.56
8-32			
3/16″	100	91783A189	10.47
1/4″	100	91783A190	4.91
5/16″	100	91783A191	5.06
3/8″	100	91783A192	5.10
7/16″	100	91783A193	5.14
1/2″	100	91783A194	5.22
5/8″	100	91783A196	5.86
3/4″	100	91783A197	6.28
7/8″	100	91783A198	7.51
1″	100	91783A199	7.83
1¼″	100	91783A201	10.10
1½″	100	91783A203	10.54
2″	50	91783A205	7.13
3″	25	91783A209	6.37
3½″	10	91783A211	6.17
4″	10	91783A213	9.10
10-24			
1/4″	100	91783A238	5.75
5/16″	100	91783A239	5.89
3/8″	100	91783A240	5.91
1/2″	100	91783A242	7.68
5/8″	100	91783A244	8.42
3/4″	100	91783A245	8.68
1″	50	91783A247	5.78
1¼″	50	91783A249	7.70
1½″	50	91783A251	7.86
2″	25	91783A253	4.90
2¼″	25	91783A254	6.05
2½″	25	91783A255	6.71
2¾″	25	91783A256	7.14
3″	25	91783A257	7.38
3½″	25	91783A259	11.55
4″	10	91783A261	5.86
5″	5	91783A265	9.50
6″	5	91783A269	9.56
10-32			
1/4″	100	91783A825	$5.75
5/16″	100	91783A826	5.89
3/8″	100	91783A827	6.68
1/2″	100	91783A829	8.55
5/8″	100	91783A830	9.47
3/4″	100	91783A831	9.68
7/8″	50	91783A832	5.85
1″	50	91783A833	6.09
1¼″	50	91783A835	7.01
1½″	50	91783A836	8.37
1¾″	25	91783A837	4.64
2″	50	91783A838	4.90
2¼″	25	91783A839	6.05
2½″	25	91783A840	6.23
3″	25	91783A842	8.34
3½″	10	91783A844	5.15
4″	10	91783A846	5.86
12-24			
3/8″	100	91783A289	10.90
1/2″	100	91783A291	10.92
3/4″	50	91783A294	7.39
1″	50	91783A296	7.68
2″	25	91783A301	7.97
3″	10	91783A305	5.90
¼″-20			
1/4″	50	91783A533	8.65
3/8″	50	91783A535	6.89
1/2″	50	91783A537	6.44
5/8″	50	91783A539	6.91
3/4″	50	91783A540	7.28
7/8″	25	91783A541	4.72
1″	25	91783A542	4.93
1¼″	25	91783A544	5.77
1½″	25	91783A546	6.46
1¾″	25	91783A548	7.47
2″	25	91783A550	8.90
2¼″	10	91783A551	4.36
2½″	10	91783A552	4.84
2¾″	10	91783A553	5.26
3″	10	91783A554	5.19
3½″	10	91783A571	7.13
4″	10	91783A572	7.44
4½″	10	91783A574	7.76
5″	10	91783A576	12.63
6″	5	91783A577	9.11
¼″-28			
1/2″	50	91783A557	12.33
3/4″	25	91783A559	7.15
1″	25	91783A561	9.03

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Round Head Slotted *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
5/16"-18			
1/2"	25	91783A578	$9.67
3/4"	25	91783A581	10.35
1"	10	91783A583	4.60
1 1/4"	10	91783A585	5.06
1 1/2"	10	91783A587	5.09
1 3/4"	10	91783A589	5.55
2"	10	91783A592	5.61
2 1/2"	10	91783A594	7.92
3"	10	91783A596	9.52
4"	5	91783A599	8.43
5"	1	91783A604	3.41
6"	1	91783A608	6.58
3/8"-16			
1/2"	10	91783A621	5.23
3/4"	10	91783A623	5.70
1"	10	91783A624	6.84
1 1/4"	10	91783A626	8.09
1 1/2"	10	91783A628	8.35
Brass			
000-120			
1/4"	10	92482A147	6.38
00-90			
1/4"	25	92482A227	9.87
1/2"	10	92482A235	7.12
0-80			
5/32"	25	92482A264	8.57
1/4"	25	92482A267	9.87
3/8"	10	92482A271	5.80
1/2"	10	92482A275	6.26
1-72			
1/4"	25	92482A307	9.87
1/2"	10	92482A315	6.02
2-56			
1/8"	100	92453A074	4.79
3/16"	100	92453A076	4.24
1/4"	100	92453A077	4.25
5/16"	100	92453A078	4.43
3/8"	100	92453A079	4.66
1/2"	100	92453A081	4.87
5/8"	100	92453A083	5.68
3/4"	100	92453A084	5.59
1"	100	92453A086	6.29
3-48			
1/8"	100	92453A089	5.05
3/16"	100	92453A091	4.81
1/4"	100	92453A092	4.91
3/8"	100	92453A094	5.48
1/2"	100	92453A096	5.57
3/4"	100	92453A099	7.08
7/8"	100	92453A100	7.78
4-40			
1/8"	100	92453A103	4.78
3/16"	100	92453A105	4.98
1/4"	100	92453A106	5.24
5/16"	100	92453A107	5.52
3/8"	100	92453A108	5.61
1/2"	100	92453A110	6.05
5/8"	100	92453A112	6.21
3/4"	100	92453A113	6.48
1"	100	92453A115	8.32
1 1/8"	100	92453A116	10.13
1 1/4"	100	92453A117	9.91
1 1/2"	100	92453A119	11.63
2"	50	92453A121	7.44
5-40			
1/4"	100	92453A124	5.79
3/8"	100	92453A126	6.54
1/2"	100	92453A128	7.90
5/8"	100	92453A130	8.63
3/4"	100	92453A131	9.36
1"	100	92453A133	10.83
1 1/4"	100	92453A135	11.96
1 1/2"	50	92453A137	7.21
6-32			
1/8"	100	92453A142	5.88
3/16"	100	92453A143	6.14
1/4"	100	92453A144	6.19
5/16"	100	92453A145	6.52
3/8"	100	92453A146	6.65
1/2"	100	92453A148	6.92
5/8"	100	92453A150	8.43
3/8"-16 (Cont.)			
1 3/4"	10	91783A630	$11.25
2"	5	91783A632	5.73
2 1/2"	5	91783A635	7.39
3"	5	91783A638	9.29
3 1/2"	5	91783A639	9.30
4"	5	91783A641	10.44
5"	1	91783A644	4.00
6"	1	91783A648	4.92
1/2"-13			
3/4"	10	91783A710	13.45
1"	5	91783A712	8.82
1 1/4"	5	91783A714	9.59
1 1/2"	5	91783A716	9.73
2"	5	91783A720	11.29
2 1/2"	1	91783A722	2.62
3"	1	91783A724	3.21
3 1/2"	1	91783A726	3.15
4"	1	91783A728	4.95
Brass			
6-32 (Cont.)			
3/4"	100	92453A151	9.29
7/8"	100	92453A152	10.03
1"	100	92453A153	10.80
1 1/4"	50	92453A155	6.93
1 1/2"	50	92453A157	8.37
1 3/4"	50	92453A158	8.66
2"	50	92453A159	10.01
8-32			
3/16"	100	92453A189	7.21
1/4"	100	92453A190	7.51
5/16"	100	92453A191	8.23
3/8"	100	92453A192	8.23
1/2"	100	92453A194	9.07
5/8"	100	92453A196	11.17
3/4"	50	92453A197	6.56
7/8"	50	92453A198	8.51
1"	50	92453A199	8.23
1 1/4"	50	92453A201	10.92
1 1/2"	50	92453A203	12.10
2"	25	92453A205	8.62
2 1/2"	25	92453A207	11.21
3"	25	92453A209	12.77
10-24			
1/4"	100	92453A238	11.38
3/8"	100	92453A240	11.70
1/2"	50	92453A242	6.96
5/8"	50	92453A244	8.95
3/4"	50	92453A245	9.27
1"	50	92453A247	11.68
1 1/4"	25	92453A249	8.19
1 1/2"	25	92453A251	8.63
2"	25	92453A253	11.14
2 1/2"	10	92453A255	5.79
3"	10	92453A257	6.59
10-32			
1/4"	100	92453A825	11.38
5/16"	100	92453A826	11.47
3/8"	100	92453A827	11.70
1/2"	50	92453A829	6.96
5/8"	50	92453A830	8.95
3/4"	50	92453A831	9.27
7/8"	50	92453A832	11.97
1"	50	92453A833	11.68
1 1/4"	25	92453A835	7.80
1 1/2"	25	92453A836	8.63
1 3/4"	25	92453A837	9.66
2"	25	92453A838	11.14
2 1/2"	10	92453A840	5.79
3"	10	92453A842	7.25
12-24			
3/8"	50	92453A289	10.04
1/2"	50	92453A291	10.54
3/4"	25	92453A294	6.92
1"	25	92453A296	9.18
1 1/2"	25	92453A299	11.98
2"	10	92453A301	6.34
1/4"-20			
1/4"	50	92453A533	11.78
3/8"	25	92453A535	6.56
1/2"	25	92453A537	6.70
Brass (Cont.)			
1/4"-20 (Cont.)			
5/8"	25	92453A539	$8.67
3/4"	25	92453A540	9.49
1"	25	92453A542	10.44
1 1/4"	25	92453A544	13.78
1 1/2"	10	92453A546	6.07
1 3/4"	10	92453A548	7.52
2"	10	92453A550	7.88
2 1/2"	10	92453A552	9.92
3"	10	92453A554	11.79
Aluminum			
6-32			
1/4"	100	93143A144	13.00
1/2"	100	93143A148	13.30
3/4"	50	93143A151	7.06
1"	50	93143A153	11.68
8-32			
1/4"	50	93143A190	7.03
3/8"	50	93143A192	8.85
1/2"	50	93143A194	8.56
5/8"	25	93143A195	9.51
3/4"	25	93143A197	9.85
1"	50	93143A199	9.72
10-24			
1/2"	50	93143A242	7.53
3/4"	50	93143A245	10.25
1"	50	93143A247	12.93
1 1/2"	10	93143A249	4.21
Zinc-Plated Steel			
3-48			
1/2"	100	90276A096	6.30
3/4"	100	90276A099	7.33
1"	100	90276A101	6.33
4-40			
1/8"	100	90276A103	6.57
3/16"	100	90276A105	5.62
1/4"	100	90276A106	2.59
5/16"	100	90276A107	4.78
3/8"	100	90276A108	2.05
1/2"	100	90276A110	1.98
5/8"	100	90276A112	2.18
3/4"	100	90276A113	2.46
7/8"	100	90276A114	3.86
1"	100	90276A115	2.67
1 1/4"	100	90276A117	7.59
1 1/2"	100	90276A119	5.50
5-40			
3/16"	100	90276A123	5.24
1/4"	100	90276A124	3.52
3/8"	100	90276A126	5.31
1/2"	100	90276A128	6.22
5/8"	100	90276A130	7.48
3/4"	100	90276A131	7.91
1"	100	90276A133	8.45
1 1/4"	100	90276A135	12.26
1 1/2"	100	90276A137	12.41
2"	50	90276A139	7.30
6-32			
1/8"	100	90276A142	5.56
3/16"	100	90276A143	2.59
1/4"	100	90276A144	2.26
5/16"	100	90276A145	2.50
3/8"	100	90276A146	2.83
7/16"	100	90276A147	2.59
1/2"	100	90276A148	2.08
5/8"	100	90276A150	2.45
3/4"	100	90276A151	2.59
7/8"	100	90276A152	2.55
1"	100	90276A153	2.91
1 1/4"	100	90276A155	3.26
1 1/2"	100	90276A157	3.65
1 3/4"	100	90276A158	4.31
2"	100	90276A159	5.47
2 1/2"	100	90276A161	5.43
3"	100	90276A163	7.22
4"	100	90276A167	9.48
8-32			
3/16"	100	90276A189	1.96
1/4"	100	90276A190	2.86
5/16"	100	90276A191	2.29
5/16"-18			
1/2"	10	92453A578	$5.83
3/4"	10	92453A581	6.60
1"	10	92453A583	8.31
1 1/2"	10	92453A587	11.11
2"	5	92453A591	6.78
3/8"-16			
3/4"	5	92453A622	6.85
1"	5	92453A624	7.25
2"	5	92453A632	10.61
Aluminum			
10-32			
1/2"	50	93143A829	10.04
3/4"	50	93143A831	12.04
1"	25	93143A833	7.04
1 1/4"	25	93143A835	6.92
1 1/2"	25	93143A837	6.83
1/4"-20			
1/2"	50	93143A537	9.21
3/4"	25	93143A540	9.19
1"	25	93143A542	9.51
1 1/4"	25	93143A545	12.47
1 1/2"	25	93143A546	12.51
2"	25	93143A550	13.37
2 1/2"	10	93143A552	11.80
Zinc-Plated Steel			
8-32 (Cont.)			
3/8"	100	90276A192	2.65
7/16"	100	90276A193	4.34
1/2"	100	90276A194	2.73
5/8"	100	90276A196	2.91
3/4"	100	90276A197	3.48
7/8"	100	90276A198	4.13
1"	100	90276A199	4.32
1 1/4"	100	90276A201	4.90
1 1/2"	100	90276A203	5.97
1 3/4"	100	90276A204	7.24
2"	100	90276A205	7.14
2 1/4"	100	90276A206	8.48
2 1/2"	100	90276A207	8.48
2 3/4"	100	90276A208	10.21
3"	100	90276A209	11.17
3 1/2"	100	90276A211	12.75
4"	50	90276A213	8.38
5"	10	90276A217	9.05
6"	10	90276A221	13.57
10-24			
1/4"	100	90276A238	3.03
5/16"	100	90276A239	3.03
3/8"	100	90276A240	3.32
1/2"	100	90276A242	3.31
5/8"	100	90276A244	3.74
3/4"	100	90276A245	4.03
7/8"	100	90276A246	5.76
1"	100	90276A247	4.90
1 1/4"	100	90276A249	5.21
1 1/2"	100	90276A251	6.97
1 3/4"	100	90276A252	7.79
2"	100	90276A253	8.21
2 1/4"	100	90276A254	9.62
2 1/2"	100	90276A255	9.93
2 3/4"	100	90276A256	10.32
3"	100	90276A257	12.86
3 1/2"	50	90276A259	8.22
4"	50	90276A261	7.92
5"	50	90276A265	10.48
6"	50	90276A269	14.07
10-32			
1/4"	100	90276A825	3.62
5/16"	100	90276A826	3.62
3/8"	100	90276A827	3.79
7/16"	100	90276A828	3.33
1/2"	100	90276A829	3.99
5/8"	100	90276A830	3.67
3/4"	100	90276A831	4.46
7/8"	100	90276A832	5.74
1"	100	90276A833	4.91

(Continued on following page)

Round Head Slotted *(Continued from previous page)*



Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
Zinc-Plated Steel (Cont.)			
10-32 (Cont.)			
1⅛″	100	90276A834	$8.59
1¼″	100	90276A835	5.34
1½″	100	90276A836	6.10
1¾″	100	90276A837	7.33
2″	100	90276A838	8.02
2¼″	100	90276A839	9.09
2½″	100	90276A840	9.69
2¾″	50	90276A841	8.60
3″	50	90276A842	6.47
3½″	50	90276A844	8.45
4″	50	90276A846	7.91
5″	50	90276A850	11.83
6″	25	90276A854	8.27
12-24			
¼″	100	90276A287	8.93
⅜″	100	90276A289	4.70
½″	100	90276A291	4.75
⅝″	100	90276A293	6.84
¾″	100	90276A294	6.97
1″	100	90276A296	7.65
1¼″	100	90276A298	7.96
12-24 (Cont.)			
1½″	100	90276A299	$10.22
2″	100	90276A301	9.40
2½″	50	90276A303	7.10
3″	50	90276A305	7.53
¼″-20			
¼″	100	90276A533	10.65
5⁄16″	100	90276A534	10.72
⅜″	100	90276A535	6.86
½″	100	90276A537	7.28
⅝″	100	90276A539	7.59
¾″	100	90276A540	7.63
⅞″	100	90276A541	6.03
1″	100	90276A542	8.24
1⅛″	100	90276A543	9.18
1¼″	100	90276A544	8.13
1½″	100	90276A546	9.90
1¾″	100	90276A548	10.34
2″	100	90276A550	11.07
2¼″	100	90276A551	13.25
2½″	100	90276A552	12.74
2¾″	50	90276A553	7.48
Zinc-Plated Steel (Cont.)			
¼″-20 (Cont.)			
3″	50	90276A554	$8.02
3½″	50	90276A571	12.33
4″	50	90276A572	10.38
4½″	25	90276A573	6.63
5″	25	90276A270	6.40
6″	25	90276A274	7.88
¼″-28			
½″	100	90276A557	11.79
¾″	100	90276A559	13.63
1″	50	90276A561	9.97
1½″	50	90276A563	11.30
2″	50	90276A564	11.62
5⁄16″-18			
⅜″	50	90276A576	7.25
½″	50	90276A578	6.89
⅝″	50	90276A580	7.37
¾″	50	90276A581	7.49
1″	50	90276A583	8.24
1¼″	50	90276A585	8.19
1½″	50	90276A587	9.40
2″	25	90276A591	5.63
5⁄16″-18 (Cont.)			
2¼″	25	90276A592	$7.04
2½″	25	90276A593	6.92
3″	25	90276A595	7.50
4″	10	90276A599	4.41
5″	10	90276A603	5.79
⅜″-16			
½″	25	90276A619	7.55
¾″	25	90276A622	6.39
1″	25	90276A624	6.45
1½″	25	90276A628	7.65
2″	25	90276A632	9.32
3″	10	90276A636	5.44
4″	10	90276A640	5.89
5″	10	90276A644	6.23
½″-13			
1″	10	90276A712	5.93
1½″	10	90276A716	7.38
2″	10	90276A720	8.14
3″	10	90276A724	10.87
4″	5	90276A728	7.36

Round Head Combination Drive

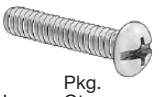

The combination drive accepts Phillips and slotted drivers. Screws are zinc-plated steel and fully threaded. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
6-32—#2 Phillips Drive			
⅜″	100	91440A144	$4.85
½″	100	91440A148	2.53
¾″	100	91440A151	3.27
1″	100	91440A153	3.27
1¼″	100	91440A155	4.36
1½″	100	91440A157	4.72
2″	100	91440A159	5.85
3″	100	91440A161	8.14
4″	50	91440A163	7.43
8-32—#2 Phillips Drive			
¼″	100	91440A189	5.65
⅜″	100	91440A192	3.54
½″	100	91440A195	3.20
¾″	100	91440A197	3.34
8-32 (Cont.)			
1″	100	91440A199	$3.56
1¼″	100	91440A201	4.21
1½″	100	91440A203	4.97
2″	100	91440A205	6.72
2½″	100	91440A209	8.64
3″	100	91440A213	9.95
10-24—#2 Phillips Drive			
½″	100	91440A242	3.26
¾″	100	91440A245	5.05
1″	100	91440A247	5.09
1¼″	100	91440A249	5.81
1½″	100	91440A251	6.42
2″	100	91440A253	8.02
10-24 (Cont.)			
4″	50	91440A257	$10.26
5″	25	91440A259	8.70
10-32—#2 Phillips Drive			
⅜″	100	91440A503	3.66
½″	100	91440A506	4.63
¾″	100	91440A509	4.88
1″	100	91440A512	5.01
1¼″	100	91440A516	5.52
1½″	100	91440A519	6.42
2″	100	91440A522	8.02
¼″-20—#3 Phillips Drive			
⅜″	100	91440A535	5.14
½″	100	91440A537	5.14
¼″-20 (Cont.)			
¾″	100	91440A540	$5.33
1″	100	91440A542	7.26
1¼″	100	91440A544	8.13
1½″	100	91440A546	9.58
2″	100	91440A550	9.90
2½″	50	91440A552	7.60
3″	50	91440A554	8.89
4″	25	91440A556	9.92
5″	25	91440A558	10.00
6″	25	91440A560	12.23
⅜″-16—#4 Phillips Drive			
4″	5	91440A620	8.03

Low-Profile Button Head Torx



Use these shallow-head screws in tight spaces. With more driver contact than Phillips and slotted screws, you can apply extra force without your driver slipping. For drivers, see page 2820; for bits, see pages 2813-2814.

Screws up to 2½″ are fully threaded; those longer than 2½″ have at least 2″ of thread. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel			
000-120—T1 Drive			
⅛″	25	90910A600	$13.43
3⁄16″	25	90910A603	13.62
¼″	25	90910A606	13.80
00-90—T2 Drive			
⅛″	25	90910A630	12.71
3⁄16″	25	90910A632	12.80
¼″	25	90910A634	12.89
0-80—T5 Drive			
⅛″	25	90910A665	10.98
3⁄16″	25	90910A667	11.07
¼″	25	90910A669	11.16
2-56—T6 Drive			
⅛″	25	90910A781	8.38
3⁄16″	25	90910A680	8.62
¼″	25	90910A682	8.71
5⁄16″	25	90910A683	8.80
⅜″	25	90910A686	8.90
½″	25	90910A782	9.04
4-40—T8 Drive			
⅛″	25	90910A783	$7.91
3⁄16″	25	90910A710	8.08
¼″	25	90910A712	8.17
5⁄16″	25	90910A714	8.26
⅜″	25	90910A716	8.35
½″	25	90910A718	8.44
6-32—T10 Drive			
¼″	25	90910A730	8.53
⅜″	25	90910A732	8.71
½″	25	90910A735	8.90
⅝″	25	90910A738	9.08
¾″	25	90910A741	9.26
1″	25	90910A744	9.44
8-32—T15 Drive			
¼″	25	90910A765	8.90
⅜″	25	90910A768	9.17
½″	25	90910A771	9.62
⅝″	25	90910A774	9.89
¾″	25	90910A777	10.26
1″	25	90910A780	10.80
Zinc-Plated Steel			
2-56—T6 Drive			
3⁄16″	50	90910A112	$9.23
¼″	50	90910A114	9.38
5⁄16″	50	90910A116	9.70
⅜″	50	90910A118	10.00
4-40—T8 Drive			
3⁄16″	50	90910A120	8.46
¼″	50	90910A123	8.61
5⁄16″	50	90910A126	8.93
⅜″	50	90910A129	9.23
6-32—T10 Drive			
⅜″	100	90910A146	9.07
½″	50	90910A148	10.15
¾″	50	90910A151	10.61
1¼″	100	90910A155	12.83
1½″	50	90910A157	7.45
2″	50	90910A159	7.55
8-32—T15 Drive			
½″	50	90910A194	7.41
¾″	100	90910A197	12.14
⅞″	50	90910A193	12.33
1″	50	90910A199	7.24
8-32 (Cont.)			
1¼″	50	90910A201	$7.57
1½″	50	90910A202	7.64
2″	50	90910A204	7.64
10-24—T25 Drive			
½″	100	90910A242	12.59
¾″	100	90910A245	13.45
1″	50	90910A247	7.78
1¼″	50	90910A249	9.22
1½″	50	90910A251	9.84
2″	50	90910A255	10.71
2½″	25	90910A260	8.33
¼″-20—T27 Drive			
½″	25	90910A537	9.46
¾″	50	90910A540	7.59
1″	50	90910A542	8.71
1¼″	50	90910A543	5.48
1½″	50	90910A546	9.72
2″	25	90910A550	7.54
2½″	25	90910A555	9.27
3″	25	90910A558	10.16

Additional Sizes—18-8 Stainless Steel

Choose a Thread Size	Choose a Screw Length	
10-32, ¼″-20, 5⁄16″-18, ⅜″-16	¼″, ⅜″, ½″, ⅝″, ¾″, 1″, 1¼″, 1½″	90600A205

Round Head Slotted with Nut

For your convenience each screw comes with a nut. All are zinc-plated steel. Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from under the head.



Lg.	Pkg. Qty.		Pkg.
10-24			
2″	100	90232A516	$10.45
2½″	100	90232A518	12.31
3″	50	90232A520	7.41
¼″-20			
⅜″	100	90232A535	$8.10
½″	100	90232A537	10.03
⅝″	100	90232A539	11.21
¾″	100	90232A540	12.03
¼″-20 (Cont.)			
1″	100	90232A542	$12.14
1¼″	50	90232A544	7.48
1½″	50	90232A546	7.90
1¾″	50	90232A548	7.84
¼″-20 (Cont.)			
2″	50	90232A550	$8.19
3″	50	90232A554	10.43
4″	25	90232A558	7.64
5″	25	90232A562	8.56

Large-Diameter Truss Head

Truss head screws have a wider head than both round and pan head screws. The large diameter holds thin materials better. Screws up to 2″ or 25 mm long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from under the head.



Lg.	Pkg. Qty.		Pkg.
Phillips—Type 316 Stainless Steel			
4-40—#1 Drive			
3/16″	100	94792A321	$12.06
¼″	100	94792A326	9.67
⅜″	100	94792A331	11.32
½″	50	94792A335	6.19
6-32—#2 Drive			
¼″	100	94792A416	9.96
⅜″	100	94792A419	11.31
½″	50	94792A424	6.49
¾″	50	94792A427	7.62
Phillips—18-8 Stainless Steel			
2-56—#1 Drive			
3/16″	100	91770A071	3.40
¼″	100	91770A076	4.00
5/16″	100	91770A073	4.40
⅜″	100	91770A075	4.80
7/16″	100	91770A077	5.00
½″	100	91770A078	5.40
4-40—#1 Drive			
3/16″	100	91770A090	5.20
¼″	100	91770A092	4.10
5/16″	100	91770A095	4.23
⅜″	100	91770A108	4.35
½″	100	91770A096	4.70
⅝″	100	91770A011	5.45
¾″	100	91770A113	5.48
⅞″	100	91770A116	6.75
1″	100	91770A115	6.77
1¼″	100	91770A117	9.50
1½″	100	91770A179	9.60
5-40—#1 Drive			
¼″	100	91770A124	6.12
⅜″	100	91770A126	10.97
½″	100	91770A128	12.60
6-32—#2 Drive			
3/16″	100	91770A143	4.28
¼″	100	91770A144	4.35
5/16″	100	91770A145	4.45
⅜″	100	91770A146	4.59
7/16″	100	91770A147	4.72
½″	100	91770A148	4.83
⅝″	100	91770A150	5.48
¾″	100	91770A151	5.90
⅞″	100	91770A114	6.59
1″	100	91770A153	6.62
1¼″	100	91770A155	7.27
1½″	100	91770A158	8.76
1¾″	50	91770A160	7.20
2″	50	91770A162	8.10
8-32—#2 Drive			
3/16″	100	91770A188	6.04
¼″	100	91770A190	4.48
5/16″	100	91770A191	5.43
⅜″	100	91770A192	5.36
7/16″	100	91770A193	5.68
½″	100	91770A194	5.41
⅝″	100	91770A196	6.64
¾″	100	91770A197	7.06
⅞″	100	91770A198	7.99
1″	100	91770A199	7.59
1¼″	100	91770A201	8.81
1½″	50	91770A203	7.31
1¾″	50	91770A204	7.77
2″	50	91770A205	9.35
8-32—#2 Drive			
¼″	50	94792A510	$6.18
⅜″	50	94792A513	6.19
½″	50	94792A517	7.38
¾″	50	94792A520	9.68
10-32—#2 Drive			
⅜″	50	94792A611	10.34
½″	50	94792A614	11.25
⅝″	25	94792A619	6.21
¾″	25	94792A623	6.94
1″	25	94792A626	8.09
10-24—#2 Drive			
¼″	100	91770A238	7.31
⅜″	100	91770A240	7.50
½″	100	91770A242	8.36
⅝″	100	91770A244	10.06
¾″	100	91770A245	9.78
⅞″	50	91770A246	5.66
1″	50	91770A247	6.82
1¼″	50	91770A248	8.63
1½″	50	91770A251	9.47
1¾″	50	91770A252	11.39
2″	25	91770A253	6.49
2½″	25	91770A259	8.55
3″	25	91770A304	10.53
10-32—#2 Drive			
¼″	100	91770A825	7.31
5/16″	100	91770A826	7.62
⅜″	100	91770A827	7.50
½″	100	91770A829	8.36
⅝″	100	91770A830	10.06
¾″	100	91770A831	9.78
1″	50	91770A833	6.82
1¼″	50	91770A835	8.63
1½″	50	91770A836	9.47
1¾″	50	91770A837	11.40
2″	25	91770A838	6.49
2½″	25	91770A843	8.55
3″	25	91770A847	10.54
12-24—#3 Drive			
½″	25	91770A291	3.45
¾″	25	91770A296	3.99
¼″-20—#3 Drive			
⅜″	50	91770A535	7.99
½″	50	91770A537	8.03
⅝″	50	91770A539	9.78
¾″	50	91770A540	10.06
⅞″	25	91770A541	6.47
1″	25	91770A542	6.84
1¼″	25	91770A544	7.76
1½″	25	91770A546	8.45
1¾″	25	91770A548	10.73
2″	25	91770A550	11.05
2¼″	10	91770A551	5.26
2½″	10	91770A552	6.06
2¾″	10	91770A559	6.91
3″	10	91770A554	6.85
4″	10	91770A562	9.82
5/16″-18—#4 Drive			
½″	10	91770A578	4.99
⅝″	10	91770A580	5.06
¾″	10	91770A581	5.33
Phillips—18-8 Stainless Steel (Cont.)			
5/16″-18 (Cont.)			
1″	10	91770A583	$6.52
1¼″	10	91770A585	7.12
1½″	10	91770A587	8.70
2″	10	91770A590	9.71
2½″	10	91770A594	10.23
Phillips—Black-Oxide 18-8 Stainless Steel			
4-40—#1 Drive			
3/16″	100	94779A300	8.72
¼″	100	94779A303	8.84
⅜″	100	94779A306	9.16
½″	100	94779A309	9.32
6-32—#2 Drive			
3/16″	50	94779A408	6.04
¼″	50	94779A410	7.49
5/16″	50	94779A420	7.10
⅜″	50	94779A430	8.11
½″	50	94779A450	8.73
8-32—#2 Drive			
¼″	25	94779A520	6.55
5/16″	50	94779A530	9.22
⅜″	25	94779A550	6.60
½″	25	94779A580	6.71
⅝″	25	94779A585	7.81
¾″	25	94779A590	8.54
1″	25	94779A595	9.25
Slotted—18-8 Stainless Steel			
4-40			
3/16″	100	91785A089	5.00
¼″	100	91785A092	4.58
⅜″	100	91785A108	4.83
½″	100	91785A096	5.17
1″	100	91785A115	7.88
6-32			
3/16″	100	91785A142	6.09
¼″	100	91785A144	4.87
5/16″	100	91785A145	5.00
⅜″	100	91785A146	5.00
½″	100	91785A148	5.41
¾″	100	91785A151	6.23
1″	100	91785A153	7.31
8-32			
¼″	100	91785A190	5.88
5/16″	100	91785A191	6.55
⅜″	100	91785A192	6.57
7/16″	100	91785A193	8.02
½″	100	91785A194	7.31
⅝″	100	91785A196	8.32
¾″	100	91785A197	8.92
1″	100	91785A199	10.34
1¼″	100	91785A201	13.16
1½″	50	91785A203	7.27
10-24			
¼″	100	91785A238	7.99
⅜″	100	91785A240	8.50
½″	100	91785A242	8.51
⅝″	100	91785A244	11.07
¾″	100	91785A245	11.78
1″	50	91785A247	7.36
1¼″	50	91785A248	8.50
1½″	50	91785A251	9.38
2″	25	91785A253	7.41
10-32			
¼″	100	91785A825	7.99
5/16″	100	91785A826	8.50
⅜″	100	91785A827	8.58
3/8″-16—#4 Drive			
½″	10	91770A649	$9.50
¾″	10	91770A651	9.99
1″	10	91770A653	9.68
1½″	5	91770A655	7.36
2″	5	91770A657	9.68
10-24—#2 Drive			
⅜″	25	94779A610	6.95
½″	25	94779A620	7.93
¾″	10	94779A630	5.00
1″	10	94779A635	5.10
10-32—#2 Drive			
⅜″	25	94779A720	6.95
½″	25	94779A750	7.93
⅝″	25	94779A755	10.58
¾″	10	94779A780	5.00
1″	10	94779A782	5.06
¼″-20—#3 Drive			
½″	10	94779A820	6.55
¾″	10	94779A840	8.36
1″	10	94779A860	9.23
1¼″	10	94779A880	10.99
1½″	5	94779A900	6.37
10-32 (Cont.)			
½″	100	91785A829	9.20
⅝″	100	91785A830	10.70
¾″	100	91785A831	11.78
1″	50	91785A833	7.36
1¼″	50	91785A835	8.50
1½″	50	91785A836	9.38
2″	25	91785A838	7.41
12-24			
½″	50	91785A291	8.64
1″	50	91785A296	9.90
¼″-20			
⅜″	50	91785A535	9.33
½″	50	91785A537	9.58
⅝″	50	91785A539	9.75
¾″	25	91785A540	5.90
⅞″	25	91785A541	6.03
1″	25	91785A542	7.40
1¼″	25	91785A544	9.35
1½″	25	91785A546	9.37
1¾″	25	91785A548	9.98
2″	10	91785A550	4.56
2½″	10	91785A552	5.40
3″	10	91785A554	6.31
¼″-28			
⅝″	25	91785A558	8.33
1″	25	91785A561	9.57
5/16″-18			
½″	25	91785A578	9.76
¾″	25	91785A581	11.87
1″	10	91785A583	5.67
1½″	10	91785A587	7.76
2″	10	91785A591	9.67
3/8″-16			
¾″	10	91785A622	7.87
1″	10	91785A624	9.87
1½″	10	91785A628	12.92
2″	10	91785A632	14.55

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Large-Diameter Truss Head *(Continued from previous page)*

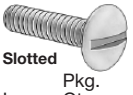
Slotted

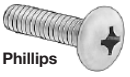
Phillips

Truss head screws have a wider head than both round and pan head screws. The large diameter holds thin materials better. Screws up to 2″ or 25 mm long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from under the head.

Slotted—Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
6-32			
¼″	100	90271A144	$2.73
⅜″	100	90271A146	3.17
½″	100	90271A148	2.54
¾″	100	90271A151	3.59
1″	100	90271A153	5.84
8-32			
¼″	100	90271A190	3.00
⅜″	100	90271A192	3.50
½″	100	90271A194	3.81
¾″	100	90271A197	4.18
1″	100	90271A199	4.76
1½″	100	90271A203	5.73
10-24			
⅜″	100	90271A240	4.47
½″	100	90271A242	5.07
¾″	100	90271A245	5.04
1″	100	90271A247	5.84
1¼″	100	90271A249	8.15
1½″	100	90271A251	7.51
10-32			
⅜″	100	90271A827	$3.16
½″	100	90271A829	3.81
¾″	100	90271A831	6.59
1″	100	90271A833	9.48
1¼″	100	90271A835	8.74
1½″	50	90271A836	5.82
¼″-20			
⅜″	100	90271A535	6.49
½″	100	90271A537	7.64
⅝″	100	90271A539	7.93
¾″	100	90271A540	8.64
1″	100	90271A542	9.30
1¼″	100	90271A544	12.00
1½″	100	90271A546	12.24
2″	50	90271A550	10.33
2½″	50	90271A552	11.95
3″	50	90271A554	14.65
5/16″-18			
½″	50	90271A578	9.60
¾″	50	90271A581	7.59

Slotted—Zinc-Plated Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
5/16″-18 (Cont.)			
1″	25	90271A583	$5.31
1½″	25	90271A587	5.93
2″	25	90271A591	8.06
2½″	10	90271A593	4.49
3″	10	90271A595	4.93
⅜″-16			
¾″	25	90271A622	$6.00
1″	10	90271A624	5.10
2″	10	90271A632	8.63
3″	10	90271A636	10.85

Metric Phillips—18-8 Stainless Steel

Lg., mm	Pkg. Qty.		Pkg.
M3—#1 Drive; Pitch: 0.5 mm			
5	100	92467A115	$9.67
6	100	92467A117	9.83
8	100	92467A119	10.33
M4—#2 Drive; Pitch: 0.7 mm			
6	50	92467A215	8.00
8	50	92467A217	9.00
10	50	92467A219	9.33
12	50	92467A221	10.00
16	25	92467A225	6.17
20	25	92467A229	7.00
M5—#2 Drive; Pitch: 0.8 mm			
8	25	92467A318	$7.00
10	25	92467A320	7.83
12	25	92467A322	8.17
16	25	92467A326	9.17
20	25	92467A330	10.17
M6—#3 Drive; Pitch: 1 mm			
10	10	92467A420	5.00
12	10	92467A422	5.27
16	10	92467A424	5.93
20	10	92467A426	6.53
25	10	92467A430	7.47

Low-Profile Wide Head Slotted



Sneak these screws into spaces where other wide-head machine screws won't fit. Also known as shutter screws, the head width reduces the likelihood of crushing mating surfaces. Screws are 18-8 stainless steel and fully threaded. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
¼″-20			
¾″	10	90015A410	$6.78
1″	10	90015A414	8.20
1¼″	10	90015A417	8.67
1½″	10	90015A419	9.25
¼″-20 (Cont.)			
2″	10	90015A423	$11.95
5/16″-18			
1″	5	90015A471	8.22

Extra-Wide Head with Internal Hex



Also known as flange button head screws, the wide head reduces the likelihood of crushing mating surfaces. All are aluminum and fully threaded. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
6-32—Hex Size: 5/64″			
¼″	5	94559A111	$9.74
⅜″	5	94559A114	10.11
½″	5	94559A118	10.51
8-32—Hex Size: 3/32″			
⅜″	5	94559A211	10.51
½″	5	94559A214	10.89
¾″	5	94559A218	11.23
10-24—Hex Size: 1/8″			
½″	5	94559A311	$11.54
¾″	5	94559A314	12.11
1″	5	94559A318	12.37
10-32—Hex Size: 1/8″			
½″	5	94559A411	11.54
¾″	5	94559A414	12.11
1″	5	94559A418	12.37
¼″-20—Hex Size: 5/32″			
½″	1	94559A511	$3.60
¾″	1	94559A514	3.94
1″	1	94559A518	4.71
1½″	1	94559A522	5.66
5/16″-18—Hex Size: 3/16″			
½″	1	94559A611	5.37
¾″	1	94559A614	5.66
1″	1	94559A618	5.97
1½″	1	94559A622	6.91

High-Profile Fillister Head


Phillips


Slotted

Fillister head screws maximize driving power by combining the greatest head height with the smallest head diameter you can get in a machine screw. Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from under the head.

Also Available: Mil. Spec. 35275/35276 stainless steel wire-lockable drilled-fillister-head screws in sizes marked with a ■. Passivated to meet QQ-P-35. Please ask for 90350A100 and specify screw size and length.

Phillips—18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
2-56—#1 Drive			
3/16″	100	91737A047	$4.86
¼″	100	91737A051	4.02
5/16″	100	91737A053	5.07
⅜″	100	91737A054	4.13
4-40—#1 Drive			
3/16″	100	91737A069	4.22
¼″	100	91737A072	4.30
5/16″	100	91737A076	4.49
⅜″	100	91737A079	4.54
½″	100	91737A084	5.23
6-32—#2 Drive			
¼″	100	91737A105	5.10
5/16″	100	91737A106	5.34
⅜″	100	91737A107	5.61
½″	100	91737A109	5.92
¾″	100	91737A114	7.25
8-32—#2 Drive			
¼″	100	91737A123	6.94
5/16″	100	91737A126	7.08
8-32 (Cont.)			
⅜″	100	91737A125	$7.22
½″	100	91737A127	7.71
⅝″	50	91737A128	5.97
¾″	50	91737A129	5.54
1″	50	91737A133	7.59
10-24—#2 Drive			
⅜″	50	91737A150	7.14
½″	50	91737A152	7.65
¾″	50	91737A156	9.06
10-32—#2 Drive			
¼″	100	91737A203	11.44
⅜″	50	91737A205	7.14
½″	50	91737A207	7.65
¾″	50	91737A210	9.06
¼″-20—#3 Drive			
½″	25	91737A252	7.06
¾″	25	91737A256	8.81
1″	25	91737A259	9.97

Slotted—18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
0-80			
1/8″	100	91794A052	$7.55
3/16″	100	91794A054	9.46
¼″	100	91794A055	11.50
5/16″	100	91794A056	11.66
⅜″	100	91794A057	12.09
½″	50	91794A059	9.00
⅝″	50	91794A060	9.24
¾″	50	91794A071	9.03
1″	50	91794A102	10.69
1-72			
1/8″	100	91794A063	12.02
3/16″	100	91794A065	12.25
¼″	50	91794A066	7.58
⅜″	50	91794A068	7.68
½″	50	91794A070	8.21
⅝″	50	91794A120	9.97
¾″	50	91794A130	11.50
1″	25	91794A186	6.73
2-56			
1/8″	100	91794A074	$8.44
3/16″	100	91794A076	4.41
¼″	100	91794A077■	4.03
5/16″	100	91794A078■	4.16
⅜″	100	91794A079■	4.33
7/16″	100	91794A080	5.04
½″	100	91794A081■	5.31
⅝″	100	91794A083	5.51
¾″	100	91794A084	6.15
⅞″	100	91794A085	6.73
1″	100	91794A086	7.28
2-64			
½″	50	91794A218	10.55
3-48			
1/8″	100	91794A089	9.98
3/16″	100	91794A091	9.52
¼″	100	91794A092	7.61
5/16″	100	91794A093	8.31
⅜″	100	91794A094	8.66

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High-Profile Fillister Head *(Continued from previous page)*

Also Available: Mil. Spec. 35275/35276 stainless steel wire-lockable drilled-fillister-head screws in sizes marked with a ■. Passivated to meet QQ-P-35. Please ask for 90350A100 and specify screw size and length.

Slotted—18-8 Stainless Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
3-48 (Cont.)			
1/2"	100	91794A096	$9.96
5/8"	100	91794A098	12.43
3/4"	50	91794A099	7.29
1"	50	91794A101	10.37
4-40			
1/8"	100	91794A103	8.50
3/16"	100	91794A105■	5.46
1/4"	100	91794A106■	5.31
5/16"	100	91794A107■	4.83
3/8"	100	91794A108■	4.83
7/16"	100	91794A109	5.00
1/2"	100	91794A110■	5.18
5/8"	100	91794A112	5.87
3/4"	100	91794A113	6.11
1"	100	91794A115	7.88
1 1/4"	100	91794A117	9.92
1 1/2"	100	91794A119	10.84
4-48			
1/4"	50	91794A741	8.02
3/8"	50	91794A742	8.99
1/2"	50	91794A743	10.41
3/4"	50	91794A745	12.46
1"	25	91794A746	8.87
5-40			
3/16"	100	91794A123	8.94
1/4"	100	91794A124	6.04
5/16"	100	91794A125	6.11
3/8"	100	91794A126	6.45
1/2"	100	91794A128	6.78
3/4"	100	91794A131	8.07
1"	100	91794A133	11.37
6-32			
3/16"	100	91794A143■	6.09
1/4"	100	91794A144■	4.87
5/16"	100	91794A145■	5.00
3/8"	100	91794A146■	5.00
1/2"	100	91794A148■	5.41
5/8"	100	91794A150	6.19
3/4"	100	91794A151■	6.23
7/8"	100	91794A152	7.51
1"	100	91794A153	7.31
1 1/4"	100	91794A155	9.98
1 1/2"	100	91794A157	12.32
2"	50	91794A159	9.02
8-32			
3/16"	100	91794A189	9.99
1/4"	100	91794A190	5.88
5/16"	100	91794A191	6.54
3/8"	100	91794A192■	6.57
1/2"	100	91794A194■	7.30
5/8"	100	91794A196	8.31
3/4"	100	91794A197■	9.27
7/8"	100	91794A198	10.05
1"	100	91794A199	10.34
8-32 (Cont.)			
1 1/4"	50	91794A201	$6.80
1 1/2"	50	91794A203	7.26
1 3/4"	50	91794A204	8.60
2"	50	91794A205	10.14
2 1/2"	25	91794A207	6.40
10-24			
5/16"	100	91794A239	8.50
3/8"	100	91794A240	8.57
1/2"	100	91794A242	9.20
5/8"	100	91794A244	11.07
3/4"	50	91794A245	6.09
1"	50	91794A247	7.36
1 1/4"	50	91794A249	8.49
1 1/2"	50	91794A251	10.68
2"	25	91794A253	7.40
3"	25	91794A257	11.45
10-32			
1/4"	100	91794A825	7.99
5/16"	100	91794A826	8.50
3/8"	100	91794A827■	8.57
7/16"	100	91794A828	8.98
1/2"	100	91794A829■	9.20
5/8"	100	91794A830	11.07
3/4"	50	91794A831■	6.09
7/8"	50	91794A832	6.84
1"	50	91794A833	7.36
1 1/4"	50	91794A835	8.49
1 1/2"	50	91794A836	10.68
1 3/4"	50	91794A837	11.83
2"	25	91794A838	7.41
2 1/4"	25	91794A839	7.89
2 1/2"	25	91794A840	8.15
3"	25	91794A842	11.45
12-24			
1/2"	50	91794A291	8.64
5/8"	50	91794A293	8.80
3/4"	50	91794A295	9.01
1/4"-20			
1/2"	50	91794A537	9.58
5/8"	50	91794A539	9.94
3/4"	25	91794A540	5.90
1"	25	91794A542	7.40
1 1/4"	25	91794A544	9.35
1 1/2"	25	91794A546	9.91
2"	25	91794A550	11.40
1/4"-28			
1/2"	25	91794A557	7.55
5/8"	25	91794A558	8.33
3/4"	25	91794A559	8.29
5/16"-18			
1/2"	25	91794A578	9.96
3/4"	10	91794A581	5.45
1"	10	91794A583	5.64
1 3/4"	10	91794A589	9.89

Slotted—Brass

Lg.	Pkg. Qty.		Pkg.
2-56			
1/4"	100	90114A124	$5.01
3/8"	100	90114A127	5.21
1/2"	100	90114A131	5.31
4-40			
1/4"	100	90114A511	5.41
3/8"	100	90114A514	6.50
1/2"	100	90114A516	6.59
3/4"	100	90114A518	7.40
6-32			
1/4"	100	90114A523	7.62
3/8"	100	90114A527	8.23
1/2"	100	90114A529	8.79
5/8"	100	90114A531	9.71
3/4"	100	90114A534	10.88
1"	100	90114A537	14.19
8-32			
1/4"	100	90114A543	10.39
3/8"	100	90114A546	11.99
1/2"	100	90114A548	12.89
5/8"	50	90114A552	8.05
8-32 (Cont.)			
3/4"	50	90114A556	$8.84
1"	50	90114A559	10.99
10-24			
3/8"	50	90114A561	8.35
1/2"	50	90114A565	9.50
5/8"	50	90114A567	10.58
3/4"	50	90114A571	12.66
1"	25	90114A574	7.25
10-32			
1/4"	100	90114A578	14.12
3/8"	50	90114A583	7.95
1/2"	50	90114A586	9.50
5/8"	50	90114A589	10.58
3/4"	50	90114A594	12.05
1"	25	90114A597	7.25
1/4"-20			
3/8"	25	90114A608	8.07
1/2"	25	90114A612	9.08
5/8"	25	90114A615	10.46
3/4"	25	90114A619	11.04
1"	25	90114A623	12.30

Slotted—Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
4-40			
1/4"	100	90280A106	4.64
3/8"	100	90280A108	5.10
1/2"	100	90280A110	5.41
6-32			
1/4"	100	90280A144	4.81
5/16"	100	90280A145	4.42
3/8"	100	90280A146	3.40
1/2"	100	90280A148	4.08
5/8"	100	90280A150	4.37
3/4"	100	90280A151	5.09
1"	100	90280A153	8.87
8-32			
1/4"	100	90280A190	4.64
5/16"	100	90280A191	4.96
3/8"	100	90280A192	4.99
1/2"	100	90280A194	5.19
5/8"	100	90280A196	5.51
3/4"	100	90280A197	5.49
1"	100	90280A199	6.62
1 1/4"	100	90280A201	7.88
1 1/2"	100	90280A203	9.07
10-24			
3/8"	100	90280A240	6.24
1/2"	100	90280A242	5.82
3/4"	100	90280A245	6.96
1"	100	90280A247	7.06
1 1/4"	100	90280A249	9.06
1 1/2"	100	90280A251	11.79
2"	50	90280A253	7.31
10-32			
1/4"	100	90280A825	6.02
3/8"	100	90280A827	5.83
1/2"	100	90280A829	5.64
5/8"	100	90280A830	7.29
3/4"	100	90280A831	7.61
1"	100	90280A833	8.32
1 1/4"	100	90280A835	9.54
1 1/2"	100	90280A836	10.69
1 3/4"	50	90280A837	6.35
2"	50	90280A838	6.49
12-24			
1/2"	100	90280A291	7.04
3/4"	100	90280A294	8.30
1"	100	90280A296	10.48
1 1/4"	50	90280A298	6.20
1 1/2"	25	90280A299	11.06
2"	25	90280A301	13.40
1/4"-20			
1/2"	100	90280A537	10.34
5/8"	100	90280A539	11.11
3/4"	100	90280A540	12.00
1"	100	90280A542	13.57
1 1/4"	50	90280A544	10.19
1 1/2"	50	90280A546	11.66
2"	25	90280A550	11.54
3"	10	90280A555	9.29
5/16"-18			
3/4"	50	90280A581	11.43
1"	50	90280A583	15.12

Metric High-Profile Cheese Head

Cheese head screws maximize driving power by combining the greatest head height with the smallest head diameter you can get in a metric machine screw. Slotted screws meet DIN 84. Fully threaded. Length is measured from under the head.


Phillips


Slotted

Phillips—18-8 Stainless Steel

Lg., mm	Pkg. Qty.		Pkg.
M2—#1 Drive; Pitch: 0.4 mm			
3	50	94017A100	$6.60
4	50	94017A101	6.72
5	50	94017A102	7.00
6	50	94017A106	8.40
M2.5—#1 Drive; Pitch: 0.45 mm			
4	50	94017A150	7.60
6	50	94017A152	8.60
8	50	94017A154	8.95
10	50	94017A156	9.40
M3—#2 Drive; Pitch: 0.5 mm			
4	50	94017A200	9.40
6	50	94017A202	9.68
8	50	94017A204	9.81
10	50	94017A206	9.96
M4—#2 Drive; Pitch: 0.7 mm			
8	25	94017A250	$7.31
10	25	94017A252	7.60
12	25	94017A254	8.70
M5—#2 Drive; Pitch: 0.8 mm			
8	25	94017A300	8.30
10	25	94017A302	9.50
12	10	94017A304	6.72
M6—#3 Drive; Pitch: 1 mm			
8	10	94017A360	5.24
12	10	94017A364	6.12
16	10	94017A368	6.56

Slotted—Type 316 Stainless Steel

Lg., mm	Pkg. Qty.		Pkg.
M1.6—Pitch: 0.35 mm			
3	50	91613A019	$9.29
4	50	91613A020	9.43
5	50	91613A021	9.56
6	50	91613A022	9.70
8	50	91613A024	9.85
10	50	91613A025	10.00
12	50	91613A026	10.20
M2—Pitch: 0.4 mm			
3	100	91613A031	7.71
4	100	91613A032	5.86
5	100	91613A034	6.57
6	100	91613A036	6.13
8	100	91613A038	6.05
10	100	91613A040	7.79
M2.5—Pitch: 0.45 mm			
4	100	91613A060	$8.57
5	100	91613A061	9.15
6	100	91613A062	9.15
8	100	91613A064	9.43
10	100	91613A066	9.43
M3—Pitch: 0.5 mm			
5	100	91613A143	10.90
6	100	91613A145	11.81
8	100	91613A147	13.29
10	100	91613A149	13.38
12	50	91613A151	7.80
20	50	91613A159	10.00
M3.5—Pitch: 0.6 mm			
5	25	91613A181	6.82
6	25	91613A182	7.26

(Continued on following page)

Metric High-Profile Cheese Head *(Continued from previous page)*



Cheese head screws maximize driving power by combining the greatest head height with the smallest head diameter you can get in a metric machine screw. All meet DIN 84 and are fully threaded. Length is measured from under the head.

Lg., mm	Pkg. Qty.		Pkg.
Slotted—Type 316 Stainless Steel (Cont.)			
M3.5—Pitch: 0.6 mm (Cont.)			
8	25	91613A184	$7.76
10	25	91613A186	9.48
M4—Pitch: 0.7 mm			
5	25	91613A223	5.63
6	50	91613A224	4.25
8	50	91613A226	5.98
10	50	91613A228	8.19
12	50	91613A230	12.34
16	25	91613A240	7.82
Slotted—18-8 Stainless Steel			
M1—Pitch: 0.25 mm			
2	5	91800A050	8.00
3	5	91800A052	7.52
4	5	91800A056	7.85
5	5	91800A057	7.46
6	5	91800A058	8.00
8	5	91800A060	8.76
10	5	91800A062	8.00
M1.2—Pitch: 0.25 mm			
2	10	91800A075	8.50
3	10	91800A077	7.26
4	10	91800A079	10.69
5	10	91800A081	14.00
6	10	91800A083	13.77
8	10	91800A085	13.97
10	5	91800A087	6.95
M1.4—Pitch: 0.3 mm			
3	10	91800A030	9.95
4	10	91800A032	9.96
5	10	91800A034	9.98
6	10	91800A036	9.99
8	10	91800A038	10.00
10	10	91800A040	10.50
M1.6—Pitch: 0.35 mm			
2	5	91800A002	3.57
3	10	91800A003	1.15
4	10	91800A004	1.38
5	25	91800A005	3.18
6	25	91800A006	2.95
8	10	91800A008	1.86
10	25	91800A009	4.06
12	25	91800A010	4.17
16	25	91800A011	4.93
M2—Pitch: 0.4 mm			
3	100	91800A108	6.43
4	100	91800A110	6.82
5	100	91800A012	3.91
6	100	91800A013	3.93
8	100	91800A015	4.40
10	100	91800A017	5.00
12	100	91800A019	4.17
14	100	91800A018	6.20
16	100	91800A021	6.23
20	100	91800A022	8.33
25	50	91800A023	7.45
M2.5—Pitch: 0.45 mm			
3	50	91800A602	9.96
4	100	91800A606	7.30

Lg., mm	Pkg. Qty.		Pkg.
M5—Pitch: 0.8 mm			
8	25	91613A337	$8.05
10	25	91613A339	7.08
12	25	91613A341	9.99
16	25	91613A348	12.33
30	25	91613A364	14.90
M6—Pitch: 1 mm			
8	10	91613A416	6.90
10	25	91613A418	8.80
12	10	91613A420	6.42
16	10	91613A422	5.02
M2.5 (Cont.)			
5	100	91800A608	6.90
6	100	91800A610	7.14
8	100	91800A612	7.82
10	100	91800A614	8.51
12	100	91800A616	8.76
14	100	91800A617	10.68
16	100	91800A618	12.07
20	100	91800A619	14.18
25	50	91800A624	8.10
30	50	91800A626	7.54
M3—Pitch: 0.5 mm			
4	100	91800A113	9.71
5	50	91800A114	4.41
6	100	91800A116	6.42
8	100	91800A118	7.12
10	100	91800A120	7.11
12	100	91800A122	7.58
14	100	91800A124	8.33
16	100	91800A126	8.42
20	100	91800A128	9.21
25	100	91800A130	9.26
30	100	91800A132	11.11
35	100	91800A134	11.59
40	100	91800A136	12.09
45	50	91800A138	12.65
50	25	91800A140	7.60
M3.5—Pitch: 0.6 mm			
6	100	91800A175	6.60
8	100	91800A178	7.36
10	100	91800A181	9.50
12	100	91800A184	9.17
16	50	91800A190	6.00
20	50	91800A193	9.15
25	50	91800A196	9.60
40	50	91800A199	11.57
M4—Pitch: 0.7 mm			
5	100	91800A214	12.68
6	100	91800A216	6.83
8	100	91800A218	9.64
10	100	91800A220	10.04
12	100	91800A222	10.75
14	100	91800A224	10.79
16	100	91800A226	12.63
18	100	91800A227	12.64
20	50	91800A228	7.61
25	50	91800A230	7.94

Lg., mm	Pkg. Qty.		Pkg.
Slotted—18-8 Stainless Steel (Cont.)			
M4 (Cont.)			
30	50	91800A232	$8.63
35	50	91800A234	8.80
40	50	91800A236	10.30
45	50	91800A238	13.80
50	25	91800A240	7.76
60	25	91800A242	10.16
70	25	91800A246	11.68
80	10	91800A250	6.83
M5—Pitch: 0.8 mm			
6	50	91800A316	5.99
8	50	91800A318	6.34
10	50	91800A320	6.42
12	50	91800A322	7.72
14	50	91800A324	9.76
16	50	91800A326	8.37
18	25	91800A327	7.64
20	25	91800A328	5.98
25	25	91800A330	5.72
30	25	91800A332	8.89
35	25	91800A334	9.56
40	25	91800A336	10.41
45	25	91800A338	13.15
50	10	91800A340	6.96
60	10	91800A344	6.96
Slotted—Zinc-Plated Steel			
M1.6—Pitch: 0.35 mm			
2	10	91460A001	6.67
3	10	91460A002	6.76
4	10	91460A003	7.33
5	10	91460A004	8.67
6	10	91460A005	10.44
8	10	91460A007	8.85
M2—Pitch: 0.4 mm			
3	100	91460A021	8.19
4	100	91460A023	6.00
5	100	91460A025	6.00
6	100	91460A027	6.00
8	100	91460A015	6.00
10	100	91460A018	6.00
12	100	91460A019	6.55
M2.5—Pitch: 0.45 mm			
3	50	91460A068	10.43
4	50	91460A069	5.66
5	100	91460A070	5.71
6	100	91460A071	3.82
8	100	91460A073	3.82
10	100	91460A075	4.36
12	100	91460A077	4.91
M3—Pitch: 0.5 mm			
4	100	91460A109	5.33
5	100	91460A110	5.10
6	100	91460A111	5.15
8	100	91460A113	6.00
10	100	91460A115	6.00
12	100	91460A117	6.00
16	100	91460A120	6.00
20	100	91460A123	6.00
25	100	91460A125	6.00

Lg., mm	Pkg. Qty.		Pkg.
M5 (Cont.)			
70	10	91800A348	$9.00
80	10	91800A352	11.60
M6—Pitch: 1 mm			
8	50	91800A418	13.15
10	50	91800A420	12.91
12	50	91800A424	11.07
16	50	91800A426	11.84
20	50	91800A428	12.80
25	50	91800A430	14.17
30	25	91800A438	8.79
35	25	91800A440	9.28
40	25	91800A442	13.80
45	25	91800A444	13.61
50	10	91800A446	5.86
60	10	91800A448	7.34
70	10	91800A450	7.52
M8—Pitch: 1.25 mm			
12	10	91800A550	8.03
16	10	91800A558	8.27
20	10	91800A562	6.97
25	10	91800A566	8.79
30	10	91800A568	11.54
40	10	91800A570	10.68
M4—Pitch: 0.7 mm			
5	100	91460A138	6.00
6	100	91460A139	6.00
8	100	91460A140	6.55
10	100	91460A144	6.55
12	100	91460A148	6.55
16	100	91460A154	6.55
20	100	91460A168	6.55
25	100	91460A176	6.55
30	100	91460A180	6.55
35	100	91460A184	9.27
40	50	91460A187	9.55
M5—Pitch: 0.8 mm			
6	100	91460A220	9.27
8	100	91460A222	10.92
10	100	91460A224	10.92
12	100	91460A228	11.47
16	100	91460A232	9.82
20	100	91460A242	9.82
25	100	91460A252	10.92
30	100	91460A254	12.55
35	50	91460A256	7.54
40	25	91460A258	6.95
M6—Pitch: 1 mm			
8	100	91460A312	10.37
10	100	91460A316	12.00
12	100	91460A318	13.10
16	50	91460A321	7.81
20	50	91460A326	8.33
25	50	91460A330	8.35
30	25	91460A332	8.19
35	25	91460A334	8.59
40	25	91460A336	8.87

Binding Head Slotted



Screws have a large flat bearing surface for making solid electrical connections. Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1½″ of thread. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel			
0-80			
1/8″	100	91793A052	$8.76
3/16″	100	91793A054	10.10
1/4″	100	91793A055	12.93
5/16″	100	91793A056	13.60
3/8″	100	91793A057	13.21
1/2″	50	91793A059	9.93
3/4″	50	91793A071	10.47
1-72			
5/16″	50	91793A067	$7.77
1/2″	50	91793A070	10.21
2-56			
1/8″	100	91793A074	7.72
3/16″	100	91793A076	4.80
1/4″	100	91793A077	4.69
5/16″	100	91793A078	4.79

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
2-56 (Cont.)			
3/8″	100	91793A079	$4.90
7/16″	100	91793A080	5.65
1/2″	100	91793A081	5.78
5/8″	100	91793A083	6.39
3/4″	100	91793A084	7.14
7/8″	100	91793A086	7.81
1″	100	91793A187	8.45
2-56 (Cont.)			
1 1/4″	50	91793A266	$12.16
1 1/2″	50	91793A267	13.10
3-48			
3/16″	100	91793A091	9.86
1/4″	100	91793A092	8.84
3/8″	100	91793A094	9.88
1/2″	100	91793A096	11.10

(Continued on following page)

Binding Head Slotted *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
3-48 (Cont.)			
3/4"	50	91793A099	$8.14
7/8"	50	91793A100	10.20
1"	50	91793A101	10.37
4-40			
1/8"	100	91793A103	8.50
3/16"	100	91793A105	5.05
1/4"	100	91793A106	4.83
5/16"	100	91793A107	5.21
3/8"	100	91793A108	5.25
7/16"	100	91793A109	5.43
1/2"	100	91793A110	5.75
9/16"	100	91793A111	7.01
5/8"	100	91793A112	5.92
3/4"	100	91793A113	6.10
7/8"	100	91793A114	7.49
1"	100	91793A115	8.20
1 1/4"	100	91793A117	10.42
1 1/2"	100	91793A119	12.04
5-40			
3/16"	100	91793A123	9.87
1/4"	100	91793A124	6.69
5/16"	100	91793A125	7.20
3/8"	100	91793A126	7.72
1/2"	100	91793A128	7.86
1"	100	91793A133	13.19
6-32			
1/8"	100	91793A142	9.79
3/16"	100	91793A143	7.06
1/4"	100	91793A144	5.06
5/16"	100	91793A145	5.50
3/8"	100	91793A146	5.63
7/16"	100	91793A147	5.70
1/2"	100	91793A148	6.20
5/8"	100	91793A150	6.59
3/4"	100	91793A151	6.84
7/8"	100	91793A152	7.65
1"	100	91793A153	8.39
1 1/4"	100	91793A155	11.52
1 1/2"	50	91793A157	6.06
1 3/4"	50	91793A158	7.83
2"	50	91793A159	10.11
8-32			
3/16"	100	91793A189	5.86
1/4"	100	91793A190	6.16
8-32 (Cont.)			
5/16"	100	91793A191	$6.21
3/8"	100	91793A192	6.32
7/16"	100	91793A193	7.03
1/2"	100	91793A194	6.61
5/8"	100	91793A196	7.33
3/4"	100	91793A197	8.35
7/8"	100	91793A198	10.41
1"	100	91793A199	10.10
1 1/4"	50	91793A201	6.87
1 1/2"	50	91793A203	7.08
1 3/4"	50	91793A204	9.76
2"	50	91793A205	9.53
2 1/2"	25	91793A207	6.93
10-24			
1/4"	100	91793A238	7.74
3/8"	100	91793A240	8.25
1/2"	100	91793A242	10.45
5/8"	50	91793A244	5.46
3/4"	50	91793A245	6.03
1"	50	91793A247	7.17
1 1/4"	50	91793A249	8.44
1 1/2"	25	91793A251	5.71
2"	25	91793A253	7.00
10-32			
1/4"	100	91793A825	7.74
5/16"	100	91793A826	7.98
3/8"	100	91793A827	8.24
1/2"	100	91793A829	10.04
5/8"	50	91793A830	5.46
3/4"	50	91793A831	6.03
1"	50	91793A833	7.17
1 1/4"	25	91793A835	4.55
1 1/2"	25	91793A836	5.57
2"	25	91793A838	6.94
12-24			
1/2"	50	91793A291	9.06
5/8"	50	91793A293	9.25
3/4"	50	91793A294	9.34
1"	50	91793A296	11.32
1/4"-20			
3/8"	25	91793A535	4.23
1/2"	25	91793A537	4.62
5/8"	25	91793A539	5.55
1/4"-20 (Cont.)			
3/4"	25	91793A540	$6.20
1"	25	91793A542	7.55
1 1/4"	25	91793A544	8.90
Brass			
2-56			
1/8"	100	92443A074	4.62
3/16"	100	92443A076	4.64
1/4"	100	92443A077	4.65
4-40			
3/16"	100	92443A105	4.91
1/4"	100	92443A106	5.30
5/16"	100	92443A107	5.57
3/8"	100	92443A108	5.72
1/2"	100	92443A110	6.05
6-32			
3/16"	100	92443A143	6.39
1/4"	100	92443A144	6.55
5/16"	100	92443A145	7.34
3/8"	100	92443A146	7.43
1/2"	100	92443A148	7.89
3/4"	100	92443A151	9.47
8-32			
1/4"	100	92443A190	8.93
5/16"	100	92443A191	9.25
Zinc-Plated Steel			
4-40			
3/16"	100	90277A105	5.32
1/4"	100	90277A106	3.28
5/16"	100	90277A107	4.87
3/8"	100	90277A108	3.14
1/2"	100	90277A110	3.72
5/8"	100	90277A112	5.97
6-32			
1/8"	100	90277A142	5.83
3/16"	100	90277A143	3.91
1/4"	100	90277A144	4.00
5/16"	100	90277A145	3.91
3/8"	100	90277A146	4.44
7/16"	100	90277A147	6.57
1/2"	100	90277A148	3.91
5/8"	100	90277A150	3.91
3/4"	100	90277A151	5.78
1"	100	90277A153	9.75
1 1/4"	100	90277A155	11.57
8-32			
1/4"	100	90277A190	4.50
5/16"	100	90277A191	4.36
3/8"	100	90277A192	4.49
1/2"	100	90277A194	4.91
5/8"	100	90277A196	4.43
3/4"	100	90277A197	6.59
1"	100	90277A199	5.27
10-24			
1/2"	100	90277A242	6.37
3/4"	100	90277A245	9.00
10-32			
1/4"	100	90277A825	9.35
3/8"	100	90277A827	6.20
1/2"	100	90277A829	6.63
5/8"	100	90277A830	6.50
3/4"	100	90277A831	8.40
1"	100	90277A833	6.84

Hex Head

Hex drives have flat sides, so they're easy to tighten with a wrench. Screws up to 2" long are fully threaded; those longer than 2" have at least 1 1/2" of thread. Length is measured from under head. For more hex head screws, see pages 3144-3170.

Stainless steel screws have a smooth head.

Zinc-plated steel screws have an indented head.

Zinc-plated steel screws with external-tooth lock washer are also known as Sems screws. They have an indented head and come with a freely rotating but permanently attached washer for extra holding power.



Stainless Steel



Zinc-Plated Steel with External-Tooth Lock Washer

Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
6-32—Hex Size: 1/4"			
3/8"	25	91720A142	$8.46
1/2"	25	91720A149	8.86
3/4"	25	91720A154	9.95
8-32—Hex Size: 1/4"			
3/8"	25	91720A192	7.42
1/2"	10	91720A194	4.62
3/4"	10	91720A197	5.06
10-24—Hex Size: 5/16"			
3/8"	25	91720A240	10.65
1/2"	25	91720A242	11.58
3/4"	10	91720A245	6.63
10-24 (Cont.)			
1"	10	91720A247	$7.78
1 1/4"	10	91720A249	6.84
1 1/2"	10	91720A255	7.52
10-32—Hex Size: 5/16"			
3/8"	25	91720A827	9.99
1/2"	25	91720A829	11.58
3/4"	10	91720A831	5.67
1"	10	91720A833	6.50
1 1/4"	10	91720A849	6.84
1 1/2"	10	91720A855	7.52
18-8 Stainless Steel			
4-40—Hex Size: 3/16"			
1/4"	100	92314A106	7.69
5/16"	100	92314A107	8.32
3/8"	100	92314A108	8.76
1/2"	100	92314A110	10.14
5/8"	100	92314A112	9.20
3/4"	100	92314A113	10.23
1"	50	92314A115	8.12
6-32—Hex Size: 1/4"			
1/4"	100	92314A144	7.80
5/16"	100	92314A145	7.78
3/8"	100	92314A146	8.76
1/2"	100	92314A148	9.58
5/8"	50	92314A150	5.81
3/4"	50	92314A151	6.85
1"	50	92314A153	9.13
1 1/4"	25	92314A155	6.10
1 1/2"	25	92314A157	9.21
18-8 Stainless Steel (Cont.)			
8-32—Hex Size: 1/4"			
1/4"	100	92314A190	$11.08
5/16"	100	92314A191	11.19
3/8"	100	92314A192	11.25
1/2"	100	92314A194	11.24
5/8"	50	92314A196	7.54
3/4"	50	92314A197	7.64
7/8"	50	92314A198	9.19
1"	50	92314A199	10.09
1 1/4"	25	92314A201	5.91
1 1/2"	25	92314A203	7.23
2"	25	92314A205	8.97
10-24—Hex Size: 5/16"			
1/4"	50	92314A239	7.35
3/8"	50	92314A240	7.74
1/2"	50	92314A242	7.79
5/8"	50	92314A244	8.17
3/4"	50	92314A245	11.04
7/8"	25	92314A248	6.62
1"	25	92314A247	6.61
1 1/4"	25	92314A249	8.04
1 1/2"	25	92314A251	9.01
2"	25	92314A253	9.87
10-24 (Cont.)			
2 1/2"	25	92314A255	$12.97
3"	10	92314A257	7.25
10-32—Hex Size: 5/16"			
1/4"	100	92314A825	12.71
5/16"	50	92314A826	8.62
3/8"	50	92314A827	7.31
1/2"	50	92314A829	7.60
5/8"	50	92314A830	7.62
3/4"	50	92314A831	8.84
7/8"	50	92314A832	10.19
1"	50	92314A833	10.56
1 1/4"	25	92314A835	6.74
1 1/2"	25	92314A836	8.43
2"	25	92314A838	10.43
2 1/2"	25	92314A840	13.10
3"	10	92314A842	7.82
12-24—Hex Size: 5/16"			
1/2"	25	92314A291	8.42
5/8"	25	92314A293	9.36
3/4"	25	92314A294	10.76
1"	25	92314A296	12.13

(Continued on following page)

Hex Head *(Continued from previous page)*



Zinc-Plated Steel



Zinc-Plated Steel with External-Tooth Lock Washer

Hex drives have flat sides, so they're easy to tighten with a wrench. Screws are fully threaded. Length is measured from under head. For more hex head screws, see pages 3144-3170.

Zinc-plated steel screws have an indented head.

Zinc-plated steel screws with external-tooth lock washer are also known as Sems screws. They have an indented head and come with a freely rotating but permanently attached washer for extra holding power.

Zinc-Plated Steel

6-32—Hex Size: 1/4″

Lg.	Pkg. Qty.		Pkg.
3/8″	100	93075A146	$7.24
1/2″	100	93075A148	4.43
5/8″	100	93075A150	6.44
3/4″	100	93075A151	6.45
1″	100	93075A153	10.88
1 1/4″	100	93075A544	9.24
1 1/2″	100	93075A546	10.55

8-32—Hex Size: 1/4″

Lg.	Pkg. Qty.		Pkg.
3/8″	100	93075A192	5.90
1/2″	100	93075A194	9.86
5/8″	100	93075A196	8.64
3/4″	100	93075A197	10.20
1″	100	93075A199	8.28
1 1/4″	100	93075A201	9.12
1 1/2″	100	93075A203	13.46

10-24—Hex Size: 5/16″

Lg.	Pkg. Qty.		Pkg.
3/8″	100	93075A240	$4.85
1/2″	100	93075A242	6.33
5/8″	100	93075A244	5.52
3/4″	100	93075A245	7.24
1″	100	93075A247	7.28
1 1/4″	100	93075A249	8.76
1 1/2″	50	93075A251	9.10

10-32—Hex Size: 5/16″

Lg.	Pkg. Qty.		Pkg.
3/8″	100	93075A827	9.36
1/2″	100	93075A829	8.60
5/8″	100	93075A830	8.48
3/4″	100	93075A831	10.80
1″	100	93075A833	9.50
1 1/4″	100	93075A835	12.12
1 1/2″	50	93075A836	7.50

Zinc-Plated Steel (Cont.)

12-24—Hex Size: 5/16″

Lg.	Pkg. Qty.		Pkg.
3/8″	50	93075A289	$8.90
1/2″	50	93075A291	6.11
5/8″	25	93075A293	6.27

12-24 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3/4″	25	93075A294	$5.80
1″	25	93075A296	4.52
1 1/2″	25	93075A299	8.63

Zinc-Plated Steel with External-Tooth Lock Washer

6-32—Hex Size: 1/4″; Washer OD: 0.285″

Lg.	Pkg. Qty.		Pkg.
1/4″	100	90401A144	11.16
3/8″	100	90401A146	11.52
1/2″	100	90401A148	12.32

8-32—Hex Size: 5/16″; Washer OD: 0.317″

Lg.	Pkg. Qty.		Pkg.
1/4″	100	90401A190	14.35
3/8″	100	90401A192	14.17
1/2″	100	90401A194	14.80

10-24—Hex Size: 5/16″; Washer OD: 0.381″

Lg.	Pkg. Qty.		Pkg.
3/8″	100	90401A240	13.55

10-24 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1/2″	100	90401A242	13.65

10-32—Hex Size: 5/16″; Washer OD: 0.381″

Lg.	Pkg. Qty.		Pkg.
3/8″	100	90401A827	12.75
1/2″	100	90401A829	12.10

1/4″-20—Hex Size: 7/16″; Washer OD: 0.475″

Lg.	Pkg. Qty.		Pkg.
3/8″	100	90401A535	11.65
1/2″	50	90401A537	11.75
3/4″	50	90401A540	12.06
1″	25	90401A542	9.13

Hex Washer Head Slotted



Cover oversized holes with an indented one-piece hex head and washer. Screws are 18-8 stainless steel and fully threaded. Length is measured from under the washer.

6-32—Hex Size: 1/4″; Washer OD: 0.328″

Lg.	Pkg. Qty.		Pkg.
1/4″	100	90316A160	$4.36
3/8″	100	90316A165	6.01
1/2″	100	90316A168	6.03

8-32—Hex Size: 1/4″; Washer OD: 0.348″

Lg.	Pkg. Qty.		Pkg.
1/4″	100	90316A190	5.68
3/8″	100	90316A192	6.21
1/2″	100	90316A194	7.63
5/8″	100	90316A196	7.53
3/4″	100	90316A197	8.50

8-32 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1″	100	90316A199	$9.61
1 1/4″	50	90316A203	6.30
1 1/2″	50	90316A207	7.12

10-24—Hex Size: 5/16″; Washer OD: 0.414″

Lg.	Pkg. Qty.		Pkg.
3/8″	100	90316A240	8.64
1/2″	100	90316A242	8.84
5/8″	100	90316A244	9.62
3/4″	50	90316A245	5.39
1″	50	90316A247	6.53
1 1/4″	25	90316A251	4.50

10-24 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1 1/2″	25	90316A255	$4.66
2″	25	90316A259	5.70

10-32—Hex Size: 5/16″; Washer OD: 0.414″

Lg.	Pkg. Qty.		Pkg.
1/4″	100	90316A837	8.02
3/8″	100	90316A827	8.32
1/2″	100	90316A829	8.84
5/8″	100	90316A830	9.62
3/4″	50	90316A831	5.61
1″	50	90316A833	6.31
1 1/4″	25	90316A841	4.49

10-32 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1 1/2″	25	90316A845	$4.66
2″	25	90316A849	6.15

1/4″-20—Hex Size: 3/8″; Washer OD: 0.520″

Lg.	Pkg. Qty.		Pkg.
1/2″	50	90316A537	7.78
5/8″	25	90316A538	4.66
3/4″	25	90316A540	5.28
1″	25	90316A542	5.60
1 1/4″	10	90316A544	3.34
1 1/2″	10	90316A549	3.79
2″	10	90316A553	5.45

Tamper Resistant



Drilled Spanner Pan Head



Drilled Spanner Flat Head



Drilled Spanner Large Diameter Truss Head



One Way Round Head



Tri-Groove Head



Pin-in-Torx Flat Head

Discourage tampering with screws that require unique drivers. Made from 18-8 stainless steel except tri-groove screws, which are made from zinc-plated steel. Screws up to 2″ long are fully threaded; those longer than 2″ have at least 1 1/2″ of thread.

Drilled Spanner—For drivers, see 94062A on page 2820; for bits, see 52775A on page 2815.

One Way—Install with a slotted screwdriver. For removal tools, see 7392A on page 2820.

Tri-Groove—For sockets and drivers, see 7393A on page 2840.

Pin-in-Torx—For L-keys, see page 2830; for bits, see page 2814.

Also Available One-way screws made from zinc-plated steel. Please ask for 90287A660 and specify thread size and screw length.

Drilled Spanner—Pan Head

4-40—#4 Drive

Lg.	Pkg. Qty.		Pkg.
3/8″	25	94066A108	$7.51
1/2″	25	94066A110	7.08

6-32—#6 Drive

Lg.	Pkg. Qty.		Pkg.
1/4″	25	94066A144	7.11
3/8″	25	94066A146	7.93
1/2″	25	94066A148	7.85
3/4″	25	94066A151	7.93
1″	25	94066A153	8.41

8-32—#8 Drive

Lg.	Pkg. Qty.		Pkg.
3/8″	25	94066A192	8.85
1/2″	25	94066A195	9.09
3/4″	25	94066A197	9.21
1″	25	94066A199	9.26
1 1/4″	25	94066A201	10.53
1 1/2″	25	94066A203	11.43

10-24—#10 Drive

Lg.	Pkg. Qty.		Pkg.
3/8″	25	94066A240	$9.22
1/2″	25	94066A242	9.13
3/4″	25	94066A245	9.38
1″	25	94066A247	9.70
1 1/2″	25	94066A251	12.97
2″	10	94066A253	6.10

10-32—#10 Drive

Lg.	Pkg. Qty.		Pkg.
3/8″	25	94066A827	9.50
1/2″	25	94066A829	9.54
3/4″	25	94066A831	9.38
1″	25	94066A833	9.70
1 1/2″	25	94066A836	12.97
2″	10	94066A838	6.10

1/4″-20—#14 Drive

Lg.	Pkg. Qty.		Pkg.
3/8″	25	94066A535	13.97
1/2″	25	94066A537	14.08

1/4″-20 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3/4″	10	94066A540	$5.85
1″	10	94066A542	5.88
1 1/2″	10	94066A546	6.42

Drilled Spanner—Pan Head (Cont.)

1/4″-20 (Cont.)

Lg.	Pkg. Qty.		Pkg.
2″	10	94066A550	$7.09
3″	10	94066A554	11.94

Drilled Spanner—Flat Head

4-40—#4 Drive

Lg.	Pkg. Qty.		Pkg.
1/4″	25	94063A063 ★	7.66
3/8″	25	94063A066	7.77
1/2″	25	94063A069	7.88

6-32—#6 Drive

Lg.	Pkg. Qty.		Pkg.
3/8″	25	94063A146	7.92
1/2″	25	94063A148	8.10
3/4″	25	94063A151	8.18
1″	25	94063A153	8.41
1 1/2″	25	94063A157	10.21
2″	25	94063A159	12.14

8-32—#8 Drive

Lg.	Pkg. Qty.		Pkg.
3/8″	25	94063A192	8.85
1/2″	25	94063A194	9.66
3/4″	25	94063A197	9.79
1″	25	94063A199	9.82
1 1/4″	25	94063A201	10.52
1 1/2″	25	94063A203	11.43
2″	25	94063A206	13.00

10-24—#10 Drive

Lg.	Pkg. Qty.		Pkg.
1/2″	25	94063A242	9.69
3/4″	25	94063A245	9.94
1″	25	94063A247	10.25

★ Head is undercut to allow more threading.

(Continued on following page)

Tamper Resistant *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
Drilled Spanner—Flat Head (Cont.)			
10-24 (Cont.)			
1 1/4"	25	94063A249	$11.41
1 1/2"	25	94063A251	12.68
2"	10	94063A254	6.10
10-32—#10 Drive			
1/2"	25	94063A829	9.69
3/4"	25	94063A831	10.03
1"	25	94063A833	11.69
1 1/4"	25	94063A835	12.22
1 1/2"	25	94063A836	12.97
2"	10	94063A838	6.21
2 1/2"	10	94063A842	7.90
12-24—#12 Drive			
1/2"	10	94063A291★	$5.79
3/4"	10	94063A294	5.80
1/4"-20—#14 Drive			
1/2"	25	94063A537★	14.62
3/4"	25	94063A540	14.84
1"	25	94063A542	14.92
1 1/4"	10	94063A544	6.53
1 1/2"	10	94063A546	6.62
2"	10	94063A550	7.09
2 1/2"	10	94063A552	9.20
Drilled Spanner—Large-Diameter Truss Head			
8-32—#8 Drive			
1/2"	10	94135A121	4.34
3/4"	10	94135A123	4.41
1"	10	94135A125	4.83
1 1/4"	10	94135A127	4.97
1 1/2"	10	94135A130	4.83
2 1/2"	10	94135A135	7.81
10-24—#10 Drive			
1/2"	10	94135A231	4.83
3/4"	10	94135A233	4.83
10-32—#10 Drive			
3/4"	10	94135A341	4.83
1/4"-20—#14 Drive			
1/2"	10	94135A451	6.67
1"	10	94135A453	6.67
5/16"-18—#14 Drive			
3/4"	10	94135A581	10.67
1"	10	94135A583	9.33
1 1/4"	10	94135A585	10.00
1 1/2"	10	94135A587	11.33
2"	10	94135A591	11.33
2 1/2"	10	94135A593	14.67
3/8"-16—#14 Drive			
3/4"	10	94135A622	12.67
1"	10	94135A624	13.33
1 1/4"	10	94135A626	14.67
1 1/2"	10	94135A628	15.00
2"	5	94135A632	10.03
2 1/2"	5	94135A634	10.70
3"	5	94135A636	12.00
One Way—Round Head			
4-40			
3/8"	100	90288A108	9.79
1/2"	100	90288A110	10.10
6-32			
3/16"	100	90288A143	10.10
1/4"	100	90288A144	10.38
3/8"	100	90288A146	10.69
1/2"	100	90288A148	10.86
3/4"	100	90288A151	12.48
1"	50	90288A153	8.34
1 1/2"	50	90288A157	8.79
8-32			
1/4"	50	90288A190	7.57
3/8"	50	90288A192	7.88
1/2"	50	90288A194	8.55
3/4"	50	90288A197	8.80
1"	50	90288A199	8.55
1 1/2"	50	90288A203	10.66
10-24			
1/2"	50	90288A242	8.76
3/4"	50	90288A245	9.07
1"	50	90288A247	11.34
1 1/4"	50	90288A249	13.21
1 1/2"	25	90288A251	7.85
10-32			
1/2"	50	90288A829	9.09
5/8"	50	90288A830	9.86
3/4"	50	90288A831	9.96
1"	50	90288A833	11.75
1 1/4"	25	90288A835	7.14
1 1/2"	25	90288A836	7.85
1/4"-20			
1/2"	25	90288A537	4.86
3/4"	25	90288A540	6.31
1"	25	90288A542	6.85
1 1/2"	25	90288A546	10.09
2"	10	90288A550	6.40
Tri-Groove			
6-32—#6 Drive			
3/8"	100	90058A146■	15.91
1/2"	100	90058A148■	16.96
3/4"	100	90058A151■	17.57
8-32—#6 Drive			
3/8"	100	90058A192■	17.65
1/2"	100	90058A194■	20.69
3/4"	100	90058A197■	21.55
Tri-Groove (Cont.)			
8-32 (Cont.)			
1"	50	90058A199■	$11.21
1 1/4"	50	90058A201■	10.45
1 1/2"	50	90058A203■	14.14
10-24—#10 Drive			
1/2"	50	90058A242■	10.34
3/4"	50	90058A245■	10.69
1"	25	90058A247■	5.60
1 1/2"	25	90058A251■	6.90
10-32—#10 Drive			
1/2"	50	90058A829■	12.24
3/4"	50	90058A831■	13.79
10-32 (Cont.)			
1"	50	90058A833■	$14.55
1 1/2"	25	90058A836■	10.26
1/4"-20—#10 Drive			
1/2"	50	90058A538■	18.27
3/4"	50	90058A540■	20.69
1"	25	90058A542■	10.78
1 1/2"	25	90058A546■	11.42
2"	25	90058A550■	12.93
2 1/2"	10	90058A552■	7.24
5/16"-18—#20 Drive			
5/8"	25	90058A580■	15.52
3/4"	25	90058A581■	16.38
1"	25	90058A583■	18.10
Pin-in-Torx—Flat Head			
6-32—T10 Drive			
1/2"	25	91870A148	8.97
3/4"	25	91870A151	8.97
1"	25	91870A153	8.97
6-32—T15 Drive			
3/8"	25	91870A145■	11.03
8-32—T15 Drive			
3/8"	25	91870A192	9.66
8-32—T20 Drive			
1/2"	25	91870A194■	11.31
3/4"	25	91870A197■	11.69
1"	25	91870A199■	12.16
1 1/4"	25	91870A203■	13.16
1 1/2"	10	91870A206■	5.80
10-24—T25 Drive			
3/8"	25	91870A238■	11.38
1/2"	25	91870A242■	11.53
5/8"	25	91870A243■	11.65
10-24 (Cont.)			
3/4"	25	91870A245■	11.91
1"	25	91870A247■	12.67
1 1/4"	10	91870A259■	5.77
1 1/2"	10	91870A261■	5.84
10-32—T25 Drive			
3/8"	25	91870A826■	11.38
1/2"	25	91870A829■	11.53
3/4"	25	91870A831■	11.91
1"	25	91870A833■	12.67
1 1/4"	10	91870A835■	5.77
1 1/2"	10	91870A838■	5.84
1/4"-20—T30 Drive			
3/4"	10	91870A618■	6.50
1"	10	91870A622■	6.59
1 1/4"	10	91870A627■	7.22
1 1/2"	10	91870A631■	7.57
2"	10	91870A638■	8.49

Lg., mm	Pkg. Qty.		Pkg.
Metric Pin-in-Torx—Flat Head			
M3—T10 Drive			
10	25	91870A306	$5.38
12	25	91870A308	5.60
16	25	91870A312	5.76
M3.5—T15 Drive			
10	25	91870A362	5.96
12	25	91870A364	6.18
20	25	91870A370	6.78
30	25	91870A380	7.79
M4—T20 Drive			
10	25	91870A406	6.93
12	25	91870A408	7.29
16	25	91870A412	7.73
20	25	91870A416	8.11
30	25	91870A426	9.79
M5—T25 Drive			
10	25	91870A452	$8.46
12	25	91870A464	8.68
16	25	91870A460	9.26
20	25	91870A467	9.79
30	25	91870A475	12.04
M6—T30 Drive			
12	10	91870A521	5.46
16	10	91870A523	5.88
20	10	91870A528	6.19
30	10	91870A534	7.68
40	10	91870A540	8.42

★ Head is undercut to allow more threading. ■ Class 3A thread fit.

Ceramic Hex Head



Ceramic won't melt, rust, seize, or become brittle—even at temperatures up to 3000° F. Screws are also highly resistant to corrosive gases and are nonconductive. Fully threaded. Color is off-white.

Length is measured from under the head. For matching ceramic nuts, see page 3209.

Lg.	Each
2-56—Hex Size: 1/8"	
1/4"	94555A077 $23.98
3/8"	94555A079 25.56
1/2"	94555A081 28.35
4-40—Hex Size: 3/16"	
3/8"	94555A108 27.43
1/2"	94555A110 30.23
6-32—Hex Size: 1/4"	
1/4"	94555A144 28.11
3/8"	94555A146 30.35
3/4"	94555A161 36.61
1"	94555A153 38.36
8-32—Hex Size: 1/4"	
3/8"	94555A192 $32.36
1/2"	94555A194 36.21
1"	94555A199 41.12
1 1/4"	94555A201 42.88
1/4"-20—Hex Size: 7/16"	
1/2"	94555A317 40.09
3/4"	94555A319 43.81
1"	94555A321 45.81
1 1/4"	94555A323 47.52

PEEK Machine Screws

Reliable in hostile environments, PEEK machine screws withstand water, steam, and temperatures up to 500° F. They're fully threaded and nonconductive. Color is tan.

Pan head screws have a #2 Phillips drive. Length is measured from under the head. **Flat head** screw length is measured from the top of the head.

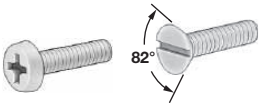

Lg.	Pan Head Phillips	Flat Head Slotted	Each
6-32			
3/8"	96367A451	96367A651	$5.34
1/2"	96367A464	96367A664	5.41
3/4"	96367A477	96367A677	5.45
8-32			
3/8"	96367A554	96367A754	5.48
1/2"	96367A567	96367A767	5.60
3/4"	96367A580	96367A780	5.67
10-32			
3/8"	96367A657	96367A857	5.67
1/2"	96367A671	96367A871	5.80
3/4"	96367A685	96367A885	5.93

Nylon Machine Screws CAD

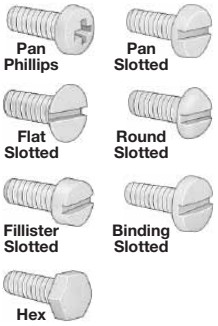

Our nylon screws are fully threaded, nonconductive, and resistant to oils, greases, and solvents (except mineral acids). Temperature range is –40° to 185° F. Length is measured from under the head, unless otherwise stated. Note: Nylon absorbs moisture, which can affect dimensions and other properties.

Flat head screw length is measured from the top of the head. Screws with an 82° bevel are considered standard. Those with a 100° bevel distribute holding force over a wider area, so they're better for soft materials.

To Order: Please specify head style: pan Phillips, pan slotted, 82° flat, 100° flat, round, fillister, binding, or hex.

Lg.	Pkg. Qty.	Off-White	Pkg.	Black	Pkg.
0-80—#0 Phillips Drive; Hex Size: 1/8″					
1/8″	100	95000A065★	$7.66	95111A065★	$8.03
3/16″	100	95000A067★	7.93	95111A067★	8.33
1/4″	100	95000A069★	8.22	95111A069★	8.64
2-56—#1 Phillips Drive; Hex Size: 1/8″					
3/32″	100	95000A073	5.60	95111A073	5.87
1/8″	100	95000A074	5.15	95111A074	5.48
3/16″	100	95000A076	5.19	95111A076	5.52
1/4″	100	95000A077	5.22	95111A077	5.55
5/16″	100	95000A078	5.26	95111A078	5.59
3/8″	100	95000A079	5.30	95111A079	5.63
7/16″	100	95000A080	5.31	95111A080	5.65
1/2″	100	95000A081	5.31	95111A081	5.67
3/4″	100	95000A084	5.40	95111A084	5.75
1″	100	95000A086	5.43	95111A086	5.79
4-40—#1 Phillips Drive; Hex Size: 3/16″					
3/16″	100	95000A105	5.19	95111A105	5.52
1/4″	100	95000A106	5.28	95111A106	5.55
9/32″	100	95000A107	5.30	95111A107	5.56
5/16″	100	95000A109	5.33	95111A109	5.59
3/8″	100	95000A108	5.37	95111A108	5.63
1/2″	100	95000A110	5.41	95111A110	5.67
5/8″	100	95000A112	5.44	95111A112	5.71
3/4″	100	95000A113	5.48	95111A113	5.75
1″	100	95000A115	5.52	95111A115	5.79
6-32—#2 Phillips Drive; Hex Size: 1/4″					
3/16″	100	95000A143	5.44	95111A143	5.71
1/4″	100	95000A144	5.48	95111A144	5.75
5/16″	100	95000A145	5.51	95111A145	5.78
3/8″	100	95000A146	5.55	95111A146	5.82
1/2″	100	95000A148	5.59	95111A148	5.87
5/8″	100	95000A150	5.63	95111A150	5.90
3/4″	100	95000A151	5.66	95111A151	5.94
1″	100	95000A153	5.70	95111A153	5.98
8-32—#2 Phillips Drive; Hex Size: 1/4″					
1/4″	100	95000A190	5.68	95111A190	5.96
3/8″	100	95000A192	5.71	95111A192	5.99
1/2″	100	95000A194	5.75	95111A194	6.03
5/8″	100	95000A196	5.76	95111A196	6.05
3/4″	100	95000A197	5.80	95111A197	6.08
1″	100	95000A199	5.82	95111A199	6.11
1 1/4″	100	95000A204	5.95	95111A204	6.25
1 1/2″	100	95000A203	6.03	95111A203	6.32
10-24—#2 Phillips Drive; Hex Size: 5/16″					
1/4″	100	95000A238	6.07	95111A238	6.37
1/2″	100	95000A242	6.19	95111A242	6.49
3/4″	100	95000A245	6.26	95111A245	6.56
1″	100	95000A247	6.30	95111A247	6.61
1 1/2″	100	95000A251	6.44	95111A251	6.76
10-32—#2 Phillips Drive; Hex Size: 5/16″					
1/8″	100	95000A848■	6.04	95111A848■	6.33
1/4″	100	95000A825	6.07	95111A825	6.37
3/8″	100	95000A827	6.16	95111A827	6.46
1/2″	100	95000A829	6.19	95111A829	6.49
5/8″	100	95000A830	6.22	95111A830	6.52
3/4″	100	95000A831	6.26	95111A831	6.56
1″	100	95000A833	6.30	95111A833	6.61
1 1/2″	100	95000A836	6.44	95111A836	6.76
2″	100	95000A838	7.12	95111A838	7.46
1/4″-20—#3 Phillips Drive; Hex Size: 3/8″					
1/4″	100	95000A533	6.92	95111A533	7.25
1/2″	100	95000A537	7.00	95111A537	7.35
5/8″	100	95000A539	7.03	95111A539	7.38
3/4″	100	95000A540	7.07	95111A540	7.41
1″	100	95000A542	7.12	95111A542	7.47
1 1/2″	100	95000A546	7.29	95111A546	7.65
2″	100	95000A550	8.00	95111A550	8.40

★ Not available with 100° flat head.
■ Not available with 82° or 100° flat head.

Polycarbonate Machine Screws CAD

Screws are impact resistant, moisture resistant, fully threaded, and nonconductive. Temperature range is –40° to 212° F. Color is clear.

Pan head screw length is measured from under the head.

Flat head screw length is measured from the top of the head.



Lg.	Pkg. Qty.	Pan Head Phillips	Flat Head Slotted	Pkg.
2-56—#1 Phillips Drive				
1/8″	25	93140A300	93140A350	$6.98
3/16″	25	93140A305	93140A354	7.10
1/4″	25	93140A310	93140A358	7.10
3/8″	25	93140A315	93140A361	7.22
1/2″	25	93140A320	93140A364	7.22
4-40—#1 Phillips Drive				
3/16″	50	93140A403	93140A404	12.70
1/4″	50	93140A106	93140A706	13.55
3/8″	50	93140A108	93140A708	13.79
1/2″	25	93140A109	93140A709	7.39
6-32—#2 Phillips Drive				
1/4″	25	93140A144	93140A744	7.50
3/8″	25	93140A146	93140A746	7.50
1/2″	25	93140A148	93140A748	7.68
8-32—#2 Phillips Drive				
1/4″	25	93140A166	93140A766	8.36
3/8″	25	93140A169	93140A769	7.87
10-32—#2 Phillips Drive				
1/4″	25	93140A173	93140A773	7.91
3/8″	25	93140A175	93140A775	8.02
1/2″	25	93140A178	93140A778	8.65
5/8″	25	93140A181	93140A781	8.13
3/4″	25	93140A184	93140A784	8.19
1″	25	93140A187	93140A787	8.24
1/4″-20—#3 Phillips Drive				
3/4″	10	93140A239	93140A839	5.35
1″	10	93140A246	93140A846	5.47

PTFE Machine Screws CAD

Screws are nonstick, resistant to wear, and unaffected by grease, oil, detergents, and most mineral acids. Temperature range is –100° to 500° F. Color is white. They're fully threaded and nonconductive.

Pan, round, and **hex head** screw length is measured from under the head.

Flat head screw length is measured from the top of the head.

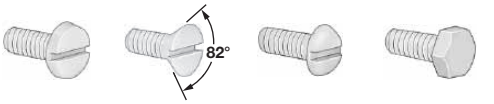

Lg.	Pan Head Slotted	Flat Head Slotted	Round Head Slotted	Hex Head	Each
4-40					
1/4″	_____	_____	94700A106	_____	$3.21
3/8″	_____	_____	94700A108	_____	3.26
5/8″	_____	_____	94700A112	_____	3.26
6-32—Hex Size: 1/4″					
1/4″	94701A207	94701A210	94700A144	94701A212	3.75
3/8″	94701A223	94701A226	94700A146	94701A228	3.75
1/2″	94701A231	94701A148	94700A148	94701A236	4.11
3/4″	94701A239	94701A151	94700A151	94701A244	4.46
1″	94701A247	94701A154	94700A153	94701A252	5.32
8-32—Hex Size: 1/4″					
1/4″	94701A303	94701A306	94700A190	94701A308	4.46
3/8″	94701A314	94701A317	94700A192	94701A319	4.64
1/2″	94701A325	94701A194	94700A194	94701A330	4.82
3/4″	94701A336	94701A198	94700A196	94701A341	5.54
1″	_____	94701A199	94700A199	_____	5.54
10-32—Hex Size: 5/16″					
1/4″	94701A404	94701A407	_____	94701A409	5.18
3/8″	94701A416	94701A419	94700A827	94701A421	5.18
1/2″	94701A428	94701A829	94700A829	94701A433	5.75
3/4″	94701A440	94701A832	94700A831	94701A445	5.75
1″	94701A452	94701A833	94700A833	94701A457	5.75
1/4″-20—Hex Size: 7/16″					
1/2″	_____	94701A537	_____	_____	6.57
3/4″	94701A523	94701A540	94700A540	94701A528	6.57
1″	94701A535	94701A542	94700A542	94701A541	6.57

Metric Nylon Machine Screws

Like our inch sized nylon machine screws, our metric versions are fully threaded, nonconductive, and resistant to oils, greases, and solvents (except mineral acids). Length is measured from under the head, unless otherwise stated. Temperature range is –40° to 185° F. Note: Nylon absorbs moisture, which can affect dimensions and properties.

Pan head Phillips M2 size screws have a #0 drive, M3 have a #1 drive, M4 and M5 have a #2 drive, M6 has a #3 drive, and M8 has a #4 drive.

Flat head screw length is measured from the top of the head.

To Order: Please specify pan Phillips, pan slotted, cheese, or flat head style.

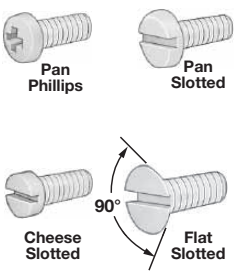

Lg., mm	Pkg. Qty.	Off-White	Pkg.	Black	Pkg.
M2—Pitch: 0.4 mm					
8	100	94310A104	$7.28	91905A104	$7.63
10	100	94310A106	7.34	91905A106	7.70
12	100	94310A108	7.41	91905A108	7.77
16	100	94310A110	7.45	91905A110	7.82
M3—Pitch: 0.5 mm					
5	100	94310A114	7.21	91905A114	7.56
6	100	94310A116	7.22	91905A116	7.58
8	100	94310A118	7.28	91905A118	7.63
10	100	94310A120	7.34	91905A120	7.70
12	100	94310A122	7.41	91905A122	7.77
16	100	94310A126	7.45	91905A126	7.82
20	100	94310A128	7.49	91905A128	7.87
25	100	94310A130	7.55	91905A130	7.92
30	100	94310A132	7.61	91905A132	7.98
M4—Pitch: 0.7 mm					
6	100	94310A216	7.81	91905A216	8.19
8	100	94310A218	7.82	91905A218	8.21
10	100	94310A220	7.85	91905A220	8.24
12	100	94310A222	8.23	91905A222	8.28
16	100	94310A226	7.93	91905A226	8.31
20	100	94310A228	7.99	91905A228	8.38
25	100	94310A230	8.00	91905A230	8.40
30	100	94310A232	8.23	91905A232	8.63
35	100	94310A234	8.31	91905A234	8.72
M5—Pitch: 0.8 mm					
8	100	94310A318	8.45	91905A318	8.86
10	100	94310A320	8.50	91905A320	9.09
12	100	94310A322	8.56	91905A322	8.98
16	100	94310A326	8.60	91905A326	9.09
20	100	94310A328	8.66	91905A328	9.09
25	100	94310A330	8.72	91905A330	9.09
30	100	94310A332	8.83	91905A332	9.27
40	100	94310A336	8.94	91905A336	9.09
M6—Pitch: 1 mm					
8	100	94310A418	9.70	91905A416	10.18
10	100	94310A420	9.73	91905A420	10.20
12	100	94310A419	9.76	91905A419	10.23
16	100	94310A426	9.80	91905A426	10.28
20	100	94310A428	9.89	91905A428	10.38
25	100	94310A430	9.95	91905A430	10.43
30	100	94310A432	10.08	91905A432	10.57
35	100	94310A433	10.20	91905A433	10.70
40	100	94310A436	10.27	91905A436	10.77
45	100	94310A438	10.33	91905A438	10.84
50	100	94310A440	10.36	91905A440	10.87
M8—Pitch: 1.25 mm					
16	25	94310A527	7.53	91905A527	7.90
20	25	94310A529	7.54	91905A529	7.91
25	25	94310A531	7.58	91905A531	7.95
30	25	94310A533	7.59	91905A533	7.96
50	25	94310A541	7.98	91905A541	8.37

Nylon Machine Screw Assortments

Keep this selection of 757 slotted machine screws, set screws, nuts, and washers at the ready. Assortment includes pan, binding, and hex head screws in 4-40, 6-32, 8-32, and 10-32 sizes; and round head, high-profile fillister head, and set screws in 4-40, 6-32, 8-32, 10-32, and 1/4″-20 sizes. Screw lengths range from 1/4″ to 1″. You'll also get 100 hex nuts and 125 flat washers in matching sizes. All come in a plastic box.



90188A415 ..... $71.77

Machine Screw Assortments

Machine Screws

Screws have a pan head with a Phillips drive and come in a steel box.

Inch assortment includes 1,200 size 4-40, 6-32, 8-32, and 10-32 18-8 stainless steel screws in lengths from 1/4″ to 1″.

Metric assortment includes 1,500 size M3, M4, M5, and M6 zinc-plated steel screws in lengths from 6 to 20 mm.

Pieces	Material		
Inch			
1,200	18-8 Stainless Steel	93175A212	$106.10
Metric			
1,500	Zinc-Plated Steel	92020A116	99.74

Machine Screws and Nuts

Assortments include 6-32, 8-32, 10-32, and 1/4″-20 size screws, plus matching nuts. Each comes in a plastic box.

300-piece assortments include 240 pan and flat head Phillips screws in lengths from 1/4″ to 1″ and 60 nuts.

1,280-piece assortment includes 880 pan and flat head Phillips screws in lengths from 1/2″ to 2″ and 400 nuts.

1,520-piece assortments include 1,120 round and flat head slotted screws in lengths from 1/2″ to 2″ and 400 nuts.

Pieces	Material		
Inch			
300	18-8 Stainless Steel	96256A500	$45.00
300	Zinc-Plated Steel	96256A100	35.09
1,280	18-8 Stainless Steel	91885A228	118.35
1,520	18-8 Stainless Steel	98519A188	139.16
1,520	Zinc-Plated Steel	98519A114	104.38

Machine Screws, Nuts, and Washers

Inch assortment includes 360 size 4-40, 6-32, 8-32, 10-24, 10-32, and 1/4″-20 pan head Phillips, as well as pan, flat, and round head slotted screws in lengths from 1/4″ to 1 1/2″; plus, a matching set of 360 nuts, 360 split-lock washers, and 360 flat washers. All come in an 18 1/2″ Lg. × 15″ Wd. × 6 1/2″ Dp. plastic storage cabinet.

Metric assortment includes 600 M3 and M4 pan and flat head Phillips screws in lengths from 6 to 16 mm, 600 nuts, and 1,000 split-lock and flat washers in sizes M3, M4, M5, M6, M8, and M10. All come in a metal box.

Pieces	Material		
Inch			
1,440	18-8 Stainless Steel	94852A430	$237.50
Metric			
2,200	18-8 Stainless Steel	91470A150	190.76

Maintenance Assortments

Machine Screws, Sheet Metal Screws, Nuts, and Washers

Assortments contain flat and pan head Phillips sheet metal and machine screws, plus a variety of nuts and washers. Each includes 600 No. 6, 8, and 10 size sheet metal screws in lengths from 3/8″ to 1 1/2″; 150 size 10-24 and 1/4″-20 machine screws in lengths from 3/4″ to 1″; 250 size 6-32, 8-32, 10-24, 1/4″-20, 5/16″-18, and 3/8″-16 nuts; and 500 No. 6, 8, 10, 1/4″, 5/16″, and 3/8″ size lock washers and flat washers for a total of 1,500 pieces.



18-8 Stainless Steel Assortment

18-8 stainless steel assortment comes with an additional 50 size 10-32 machine screw nuts for a total of 1,550 pieces. Comes in a metal box.

90970A350 ..... $142.60

Zinc-plated steel assortment comes in a plastic box.

90970A670 ..... $112.00

Assorted Screws, Nuts, Washers, and Electrical Terminals

This 3,342-piece assortment includes 480 round head slotted machine screws in sizes 6-32, 8-32, 10-24, and 1/4″-20 in lengths from 1/2″ to 1 1/2″; a matching set of 490 nuts, 490 lock washers, and 490 flat washers; 700 No. 4, 6, 8, 10, and 14 size pan head combination drive tapping screws in lengths from 1/2″ to 1 1/2″; 500 No. 4, 6, and 8 size flat head slotted wood screws in lengths from 1/2″ to 1″; 55 size 6-32, 8-32, 10-24, 10-32, 1/4″-20, 1/4″-28, 5/16″-18, 5/16″-24, 3/8″-16, 1/2″-13, and 5/8″-11 socket head screws in lengths from 1/8″ to 5/8″; 37 size 8-32, 10-24, 10-32, 1/4″-20, 5/16″-18, and 3/8″-16 socket head cap screws in lengths from 1/2″ to 2″; and 100 electrical terminals including ring, spade, and butt connectors.

All are zinc-plated steel except socket screws, which have a black-oxide finish. Come with a plastic 18 1/2″ Lg. × 15″ Wd. × 6 1/2″ Dp. storage cabinet.

92250A680 ..... $223.56

About Set Screws

Unlike screws that hold materials together with threads, set screws exert pressure at the tip to hold objects in place.

Points



Cup (pgs. 3058-3066)—The cup has a thin edge that digs into the contact surface for high holding power.



Knurl-Grip Cup (pgs. 3063-3064)—A variation of the cup point, this style has knurls for a strong grip.



Flat (pgs. 3066-3068)—The blunt tip won't dig into the contact area, which minimizes surface damage.



Oval (pg. 3068)—A small rounded contact surface allows you to make slight adjustments without loosening the screw and also causes minimal surface damage.



Cone (pg. 3069)—A sharp tip wedges into the contact area for the highest holding power of all set screw styles.



Extended (pgs. 3070-3073)—Also known as dog point, a protruding tip locks within a mating hole or slot in your workpiece. Often used in place of a dowel pin.

How to Read a Screw Size

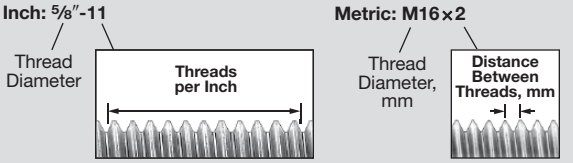

Materials

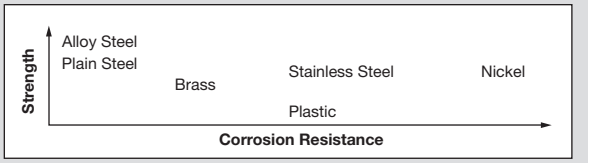

Stainless Steel—May be mildly magnetic. Minimum Rockwell hardness is B80 (unless noted). *18-8 stainless steel* is the most common. *Type 316 stainless steel* is more resistant to corrosion, solvents, and pitting caused by chlorides and sulfates than 18-8 stainless steel.

Nickel—Good for marine and chemical-processing environments, material is comparable to Monel. It's strong, heat resistant, and slightly magnetic. Not rated for hardness.

Brass—Nonmagnetic and an excellent conductor of electricity, it has a minimum Rockwell hardness of B55.

Alloy Steel and **Plain Steel**—Both have a minimum Rockwell hardness of C45 (unless noted).

Plastic—Nonconductive and resistant to chemicals and solvents, except mineral acids. Exposure to moisture may cause it to expand.

Inch Hex Sizes

Screw Size	No. 0	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 8	No. 10	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	3/4"	7/8"	1"	1 1/4"	1 1/2"
Dec. Equiv.	.060"	.073"	.086"	.099"	.112"	.125"	.138"	.164"	.190"	.250"	.312"	.375"	.437"	.500"	.562"	.625"	.750"	.875"	1.00"	1.25"	1.50"
Hex Size	.028"	.035"	.035"	.050"	.050"	1/16"	1/16"	5/64"	3/32"	1/8"	5/32"	3/16"	7/32"	1/4"	1/4"	5/16"	3/8"	1/2"	9/16"	5/8"	3/4"

Metric Hex Sizes

Screw Size	M1.6	M2	M2.5	M3	M4	M5	M6	M8	M10	M12	M16	M20	M24	M30	M36
Hex Size, mm	0.7	0.9	1.3	1.5	2	2.5	3	4	5	6	8	10	12	14	14

Cup Point Set Screws



Screws have a hex socket and a Class 3A thread fit. All dimensions meet ASME B18.3. Length listed is the overall length. **Alloy steel** meets ASTM F912.

Type 316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
2-56			
1/16"	10	92313A010	$9.55
3/32"	10	92313A013	9.52
1/8"	10	92313A016	9.70
3/16"	5	92313A019	4.53
1/4"	5	92313A022	5.38
4-40			
1/16"	10	92313A099	9.63
3/32"	50	92313A102	7.83
1/8"	25	92313A103	3.09
3/16"	25	92313A105	2.97
1/4"	25	92313A106	3.23
3/8"	50	92313A017	6.00
1/2"	50	92313A109	8.70
6-32			
1/8"	50	92313A142	4.55
3/16"	50	92313A143	4.64
1/4"	25	92313A144	2.43
5/16"	50	92313A411	5.05
3/8"	25	92313A146	3.07
1/2"	50	92313A148	8.43
5/8"	25	92313A412	6.26
3/4"	25	92313A154	6.90
8-32			
1/8"	25	92313A188	3.24
3/16"	25	92313A189	2.83
1/4"	25	92313A190	2.52
5/16"	25	92313A191	2.75
3/8"	25	92313A192	2.84
1/2"	50	92313A194	5.67
8-32 (Cont.)			
5/8"	25	92313A198	$7.27
3/4"	10	92313A204	3.41
10-24			
3/16"	25	92313A237	3.00
1/4"	25	92313A238	3.13
5/16"	25	92313A239	3.12
3/8"	25	92313A240	3.36
1/2"	25	92313A242	3.84
3/4"	25	92313A248	4.81
1"	25	92313A254	6.85
10-32			
1/8"	50	92313A820	6.14
3/16"	25	92313A824	3.00
1/4"	25	92313A825	3.13
5/16"	25	92313A826	3.12
3/8"	25	92313A827	3.36
1/2"	25	92313A829	3.64
5/8"	25	92313A831	3.72
3/4"	25	92313A832	4.81
1"	25	92313A834	6.85
1 1/4"	10	92313A842	4.35
1/4"-20			
3/16"	25	92313A532	3.15
1/4"	25	92313A533	3.28
5/16"	25	92313A534	3.67
3/8"	25	92313A535	3.93
1/2"	25	92313A537	4.50
5/8"	25	92313A539	6.08
3/4"	25	92313A540	7.05

Type 316 Stainless Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
1/4"-20 (Cont.)			
1"	10	92313A542	$4.07
1 1/4"	10	92313A546	5.81
1 1/2"	10	92313A549	6.31
1/4"-28			
1/4"	10	92313A100	5.02
3/8"	10	92313A150	6.92
1/2"	10	92313A413	8.32
5/8"	10	92313A414	10.40
5/16"-18			
1/4"	25	92313A574	4.71
5/16"	25	92313A575	5.04
3/8"	25	92313A576	5.79
1/2"	25	92313A578	7.47
5/8"	10	92313A580	4.51
3/4"	10	92313A581	4.68
1"	10	92313A583	5.82
5/16"-24			
1/4"	10	92313A200	8.29
3/8"	10	92313A250	9.31
1/2"	10	92313A415	9.10
5/8"	10	92313A416	11.13
3/8"-16			
5/16"	25	92313A418	9.57
3/8"	10	92313A617	3.75
1/2"	10	92313A619	4.25
5/8"	10	92313A621	5.56
3/4"	10	92313A622	6.52
7/8"	10	92313A417	8.39
1"	10	92313A624	9.02
3/8"-16 (Cont.)			
1 1/4"	5	92313A419	$6.50
1 1/2"	5	92313A421	6.73
3/8"-24			
3/8"	10	92313A300	10.08
1/2"	5	92313A350	6.41
1"	1	92313A422	2.66
7/16"-14			
1"	5	92313A423	9.39
1/2"-13			
1/2"	10	92313A707	8.42
5/8"	5	92313A709	5.27
3/4"	5	92313A710	5.91
1"	5	92313A712	8.11
1 1/4"	1	92313A425	2.26
1 1/2"	1	92313A718	2.83
2"	1	92313A426	4.55
1/2"-20			
1/2"	1	92313A400	2.02
3/4"	1	92313A427	2.82
1"	1	92313A428	3.44
5/8"-11			
5/8"	1	92313A429	18.25
3/4"	1	92313A431	20.43
1"	1	92313A432	23.04
1 1/2"	1	92313A433	27.58
3/4"-10			
5/8"	1	92313A434	24.24
3/4"	1	92313A435	25.06
1"	1	92313A436	26.16
1 1/2"	1	92313A437	31.87

(Continued on following page)

Cup Point Set Screws *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel			
0-80			
1/16"	50	92311A050	$8.78
3/32"	50	92311A051	8.67
1/8"	25	92311A052	4.95
5/32"	25	92311A053	7.29
3/16"	10	92311A054	2.76
1/4"	25	92311A055	5.82
5/16"	25	92311A311	6.91
1-72			
1/16"	25	92311A909	4.67
3/32"	25	92311A910	4.81
1/8"	25	92311A912	5.00
3/16"	25	92311A916	5.55
1/4"	25	92311A312	6.05
2-56			
1/16"	100	92311A072	10.16
3/32"	100	92311A073	10.02
1/8"	100	92311A074	9.38
5/32"	100	92311A313	10.56
3/16"	100	92311A076	8.79
1/4"	50	92311A077	5.27
5/16"	50	92311A078	5.97
3/8"	50	92311A079	6.00
1/2"	50	92311A083	6.60
5/8"	50	92311A314	7.34
3/4"	50	92311A315	9.00
2-64			
3/32"	10	92311A316	4.44
1/8"	10	92311A317	5.51
3-48			
3/32"	100	92311A088	10.17
1/8"	100	92311A089	9.57
3/16"	50	92311A091	5.19
1/4"	50	92311A092	5.56
4-40			
1/16"	100	92311A101	10.19
3/32"	100	92311A102	4.20
1/8"	100	92311A103	4.21
5/32"	25	92311A318	3.81
3/16"	100	92311A105	3.93
1/4"	100	92311A106	3.99
5/16"	100	92311A107	4.72
3/8"	100	92311A108	4.84
7/16"	100	92311A109	6.50
1/2"	100	92311A110	6.32
5/8"	100	92311A112	7.23
3/4"	100	92311A113	7.12
1"	50	92311A115	5.11
1 1/4"	25	92311A319	4.85
4-48			
1/8"	25	92311A321	4.96
3/16"	25	92311A322	5.83
1/4"	25	92311A323	6.23
1/2"	25	92311A324	8.99
5-40			
1/8"	100	92311A121	5.71
3/16"	100	92311A123	5.51
1/4"	100	92311A124	5.64
5/16"	100	92311A325	6.24
3/8"	100	92311A126	6.57
1/2"	100	92311A128	7.25
5/8"	100	92311A326	9.36
3/4"	50	92311A327	7.46
1"	25	92311A328	6.04
6-32			
3/32"	100	92311A141	6.03
1/8"	100	92311A142	4.06
3/16"	100	92311A143	4.15
1/4"	100	92311A144	4.25
5/16"	100	92311A145	5.05
3/8"	100	92311A146	5.31
7/16"	100	92311A147	6.03
1/2"	100	92311A148	5.62
5/8"	100	92311A150	7.79
3/4"	100	92311A151	9.09
1"	50	92311A153	5.96
1 1/2"	25	92311A329	9.19
6-40			
3/16"	100	92311A170	$11.75
1/4"	50	92311A172	7.20
3/8"	25	92311A331	6.06
8-32			
1/8"	100	92311A188	4.39
3/16"	100	92311A189	4.51
1/4"	100	92311A190	4.51
5/16"	100	92311A191	4.81
3/8"	100	92311A192	5.15
7/16"	100	92311A193	5.63
1/2"	100	92311A194	6.09
5/8"	100	92311A196	6.82
3/4"	100	92311A197	8.98
7/8"	50	92311A198	6.97
1"	50	92311A199	7.79
1 1/4"	50	92311A201	9.12
1 1/2"	25	92311A203	7.53
10-24			
1/8"	100	92311A235	4.49
3/16"	100	92311A237	4.27
1/4"	100	92311A238	4.45
5/16"	100	92311A239	4.46
3/8"	100	92311A240	4.67
7/16"	100	92311A332	5.09
1/2"	100	92311A242	5.75
5/8"	100	92311A243	6.26
3/4"	50	92311A245	5.47
7/8"	50	92311A246	6.51
1"	50	92311A248	7.65
1 1/4"	25	92311A251	6.49
1 1/2"	25	92311A253	8.53
10-32			
1/8"	100	92311A422	4.61
3/16"	100	92311A424	4.27
1/4"	100	92311A425	4.69
5/16"	100	92311A426	4.46
3/8"	100	92311A427	4.67
7/16"	100	92311A428	5.64
1/2"	100	92311A429	5.75
5/8"	100	92311A430	6.26
3/4"	50	92311A431	5.45
7/8"	50	92311A832	6.04
1"	25	92311A433	3.82
1 1/4"	25	92311A435	6.49
1 1/2"	25	92311A437	8.53
1 3/4"	10	92311A333	5.40
2"	10	92311A334	6.06
1/4"-20			
3/16"	100	92311A532	4.67
1/4"	100	92311A533	4.70
5/16"	100	92311A534	5.67
3/8"	100	92311A535	7.11
7/16"	100	92311A536	9.43
1/2"	100	92311A537	9.95
5/8"	100	92311A539	13.80
3/4"	50	92311A540	8.75
7/8"	25	92311A541	5.57
1"	25	92311A542	5.95
1 1/4"	25	92311A544	7.16
1 1/2"	25	92311A546	8.21
1 3/4"	25	92311A548	10.16
2"	25	92311A550	11.05
2 1/2"	10	92311A552	7.40
3"	5	92311A554	5.17
1/4"-28			
3/16"	100	92311A555	5.36
1/4"	100	92311A556	5.40
5/16"	100	92311A557	6.39
3/8"	100	92311A558	8.31
7/16"	100	92311A335	8.67
1/2"	100	92311A560	9.84
5/8"	50	92311A561	7.51
3/4"	50	92311A562	8.21
7/8"	50	92311A563	10.73
1"	50	92311A564	11.87
1 1/4"	25	92311A566	9.26
1 1/2"	25	92311A568	10.19
2"	10	92311A571	5.64
18-8 Stainless Steel (Cont.)			
5/16"-18			
1/4"	100	92311A574	$7.57
5/16"	100	92311A575	9.37
3/8"	100	92311A576	11.42
7/16"	50	92311A336	6.67
1/2"	50	92311A578	7.55
5/8"	50	92311A580	11.78
3/4"	50	92311A581	12.82
7/8"	25	92311A582	7.87
1"	25	92311A583	9.24
1 1/4"	25	92311A584	9.66
1 1/2"	10	92311A587	5.85
1 3/4"	10	92311A588	6.72
2"	10	92311A589	7.11
2 1/2"	5	92311A337	6.21
5/16"-24			
1/4"	100	92311A594	9.35
5/16"	100	92311A596	10.56
3/8"	50	92311A597	7.30
7/16"	50	92311A338	9.03
1/2"	25	92311A598	5.02
5/8"	50	92311A599	10.13
3/4"	25	92311A600	7.17
7/8"	25	92311A339	7.83
1"	25	92311A603	9.69
1 1/4"	10	92311A605	6.07
1 1/2"	10	92311A607	7.06
2"	10	92311A341	8.54
3/8"-16			
1/4"	25	92311A615	4.57
5/16"	25	92311A616	4.64
3/8"	25	92311A617	4.60
1/2"	25	92311A619	6.67
5/8"	25	92311A621	7.91
3/4"	25	92311A622	8.16
7/8"	25	92311A623	10.21
1"	25	92311A624	12.84
1 1/4"	10	92311A626	6.33
1 1/2"	10	92311A628	7.50
1 3/4"	5	92311A627	4.93
2"	5	92311A631	5.54
2 1/2"	10	92311A632	13.20
3"	1	92311A633	2.49
3 1/2"	1	92311A342	3.64
3/8"-24			
1/4"	25	92311A634	4.97
5/16"	50	92311A934	9.32
3/8"	25	92311A635	5.94
1/2"	25	92311A636	6.01
5/8"	25	92311A650	7.30
3/4"	10	92311A637	4.15
7/8"	10	92311A343	5.12
1"	10	92311A639	6.26
1 1/4"	10	92311A640	7.23
1 1/2"	5	92311A642	4.25
2"	5	92311A344	10.56
Nickel			
10-24			
3/16"	1	93386A261	3.67
1/4"	1	93386A265	3.40
3/8"	1	93386A273	3.67
1/2"	1	93386A277	3.91
10-32			
3/16"	1	93386A310	3.67
1/4"	1	93386A315	3.40
3/8"	1	93386A321	3.67
1/2"	1	93386A326	3.91
1/4"-20			
3/16"	1	93386A436	5.62
1/4"	1	93386A442	5.62
Brass			
4-40			
1/8"	50	92991A103	5.77
3/16"	50	92991A105	6.63
1/4"	50	92991A106	6.08
3/8"	50	92991A211	7.11
6-32			
1/8"	50	92991A142	4.94
3/16"	50	92991A143	4.82
1/4"	50	92991A144	5.21
7/16"-14			
3/8"	25	92311A937	$12.60
1/2"	10	92311A641	5.01
3/4"	10	92311A643	5.57
1"	10	92311A939	7.30
7/16"-20			
3/8"	10	92311A345	4.70
1/2"	10	92311A663	5.12
3/4"	10	92311A346	5.80
1"	10	92311A347	7.77
1/2"-13			
3/8"	25	92311A705	10.27
1/2"	25	92311A707	10.06
5/8"	10	92311A706	6.44
3/4"	10	92311A710	7.00
7/8"	10	92311A348	7.77
1"	10	92311A712	8.91
1 1/4"	5	92311A714	6.32
1 1/2"	5	92311A716	6.34
1 3/4"	5	92311A718	8.08
2"	5	92311A720	10.26
2 1/4"	1	92311A349	2.19
2 1/2"	1	92311A721	2.80
3"	1	92311A723	3.42
1/2"-20			
3/8"	10	92311A725	6.13
1/2"	10	92311A727	5.07
5/8"	10	92311A728	6.39
3/4"	10	92311A729	7.01
1"	10	92311A731	9.19
1 1/4"	5	92311A735	6.72
1 1/2"	5	92311A741	8.25
1 3/4"	5	92311A747	10.38
5/8"-11			
1/2"	5	92311A789	5.15
5/8"	5	92311A791	5.16
3/4"	5	92311A792	5.37
7/8"	5	92311A351	6.30
1"	5	92311A794	6.68
1 1/4"	1	92311A795	1.39
1 1/2"	1	92311A797	1.64
1 3/4"	1	92311A352	2.15
3/4"-10			
1/2"	1	92311A353	1.57
3/4"	1	92311A833	1.25
1"	1	92311A835	1.61
1 1/4"	1	92311A837	2.82
1 1/2"	1	92311A839	3.19
2"	1	92311A841	4.34
7/8"-9			
1"	1	92311A942	7.81
1 1/2"	1	92311A944	10.20
2"	1	92311A947	14.34
1"-8			
1"	1	92311A951	5.26
1 1/2"	1	92311A954	7.22
2"	1	92311A957	9.60
1/4"-20 (Cont.)			
5/16"	1	93386A448	6.25
3/8"	1	93386A454	6.49
1/2"	1	93386A460	7.34
5/16"-18			
5/16"	1	93386A496	4.77
3/8"	1	93386A502	5.13
1/2"	1	93386A508	5.96
3/8"-16			
3/8"	1	93386A616	5.56
1/2"	1	93386A622	6.36
3/4"	1	93386A628	7.09
1"	1	93386A634	7.95
6-32 (Cont.)			
3/8"	50	92991A212	5.21
1/2"	50	92991A213	9.98
8-32			
1/8"	50	92991A188	5.87
3/16"	50	92991A189	5.73
1/4"	50	92991A190	6.42
3/8"	50	92991A192	6.43
1/2"	25	92991A194	5.20

(Continued on following page)

Cup Point Set Screws *(Continued from previous page)*



Screws have a hex socket and a Class 3A thread fit. All dimensions meet ASME B18.3. Length listed is the overall length.
Alloy steel meets ASTM F912.

Brass (Cont.)

Lg.	Pkg. Qty.		Pkg.
10-24			
3/16"	25	92991A237	$3.65
1/4"	25	92991A238	2.96
3/8"	25	92991A240	3.78
1/2"	25	92991A243	3.99
10-32			
3/16"	50	92991A824	6.64
1/4"	25	92991A825	2.79
5/16"	25	92991A214	4.32
3/8"	25	92991A827	3.66
1/2"	25	92991A829	3.68
3/4"	25	92991A833	9.03
1/4"-20			
1/4"	25	92991A533	3.51
5/16"	25	92991A215	4.80
3/8"	25	92991A535	5.15
1/2"	25	92991A537	5.89
5/8"	25	92991A216	8.13
3/4"	10	92991A540	4.08
1/4"-20 (Cont.)			
1"	10	92991A542	$6.81
1 1/2"	10	92991A217	9.55
5/16"-18			
1/4"	25	92991A574	5.25
5/16"	25	92991A218	10.37
3/8"	25	92991A576	6.31
1/2"	10	92991A578	4.26
5/8"	10	92991A219	4.59
3/4"	10	92991A581	6.22
1"	10	92991A583	8.16
3/8"-16			
3/8"	25	92991A617	10.87
1/2"	10	92991A619	6.09
5/8"	10	92991A221	6.61
3/4"	10	92991A922	8.26
1"	10	92991A624	11.32
1/2"-13			
1/2"	10	92991A650	8.93
3/4"	5	92991A655	9.66
1"	5	92991A660	10.57

Alloy Steel

Lg.	Pkg. Qty.		Pkg.
0-80			
1/16"	25	91375A050	14.02
3/32"	25	91375A051	14.14
1/8"	25	91375A052	14.42
5/32"	10	91375A053	9.11
3/16"	10	91375A054	6.09
1/4"	10	91375A055	6.37
5/16"	10	91375A056	10.75
3/8"	10	91375A057	12.97
1-64			
1/8"	10	91375A018	6.22
3/16"	10	91375A019	6.54
1/4"	10	91375A020	6.95
1-72			
1/16"	25	91375A061	14.24
3/32"	25	91375A062	14.63
1/8"	10	91375A063	6.01
5/32"	10	91375A942	5.43
3/16"	10	91375A064	6.23
1/4"	10	91375A065	6.58
5/16"	10	91375A067	8.99
3/8"	5	91375A069	5.30
2-56			
1/16"	25	91375A072	15.18
3/32"	25	91375A073	14.55
1/8"	25	91375A074	14.33
5/32"	25	91375A075	6.29
3/16"	25	91375A076	10.47
1/4"	25	91375A077	10.67
5/16"	25	91375A078	7.69
3/8"	25	91375A079	8.35
1/2"	25	91375A081	13.28
5/8"	10	91375A082	6.52
3/4"	10	91375A083	6.05
2-64			
1/8"	10	91375A921	4.07
3/16"	10	91375A923	4.23
1/4"	10	91375A925	3.89
3-48			
1/16"	50	91375A085	11.31
3/32"	25	91375A088	10.13
1/8"	25	91375A089	9.83
3/16"	25	91375A091	10.99
1/4"	25	91375A092	9.90
5/16"	25	91375A095	7.94
1/2"	25	91375A097	12.33
5/8"	10	91375A098	6.49
4-40			
1/16"	10	91375A101	6.80
3/32"	10	91375A102	5.97
1/8"	100	91375A103	9.94
3/16"	100	91375A105	10.10
1/4"	100	91375A106	10.36
5/16"	100	91375A107	10.77
3/8"	100	91375A108	10.84
7/16"	25	91375A109	10.61
1/2"	100	91375A110	12.43
4-40 (Cont.)			
5/8"	100	91375A112	14.79
3/4"	25	91375A113	10.71
7/8"	25	91375A170	11.44
1"	25	91375A171	12.16
4-48			
1/8"	100	91375A114	10.11
3/16"	100	91375A115	10.13
1/4"	100	91375A116	10.44
5/16"	25	91375A117	9.43
1/2"	25	91375A118	9.97
5/8"	25	91375A119	10.58
5-40			
3/32"	25	91375A120	5.31
1/8"	100	91375A121	10.61
3/16"	100	91375A123	10.22
1/4"	100	91375A124	10.44
5/16"	100	91375A125	10.68
3/8"	100	91375A126	10.87
1/2"	100	91375A128	12.70
5/8"	100	91375A130	15.36
3/4"	50	91375A131	9.15
7/8"	25	91375A133	10.93
1"	25	91375A134	12.82
5-44			
1/8"	100	91375A221	9.32
3/16"	100	91375A223	9.70
1/4"	100	91375A224	10.91
5/16"	25	91375A225	10.36
3/8"	25	91375A227	10.80
6-32			
3/32"	25	91375A141	6.06
1/8"	100	91375A142	10.30
3/16"	100	91375A143	10.38
1/4"	100	91375A144	10.61
5/16"	100	91375A145	10.67
3/8"	100	91375A146	11.63
1/2"	100	91375A148	12.60
5/8"	50	91375A150	8.57
3/4"	50	91375A151	8.73
7/8"	50	91375A152	13.91
1"	50	91375A153	12.38
1 1/4"	25	91375A154	14.60
1 1/2"	10	91375A155	8.51
1 3/4"	10	91375A156	8.88
2"	5	91375A157	4.74
6-40			
1/8"	100	91375A160	10.31
3/16"	100	91375A161	10.36
1/4"	100	91375A162	10.68
5/16"	100	91375A164	10.41
3/8"	100	91375A163	11.58
8-32			
3/32"	10	91375A187	8.78
1/8"	100	91375A188	10.32

Alloy Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
8-32 (Cont.)			
3/16"	100	91375A189	$10.45
1/4"	100	91375A190	10.65
5/16"	100	91375A191	10.93
3/8"	100	91375A192	10.89
7/16"	100	91375A193	12.50
1/2"	100	91375A194	12.69
5/8"	50	91375A196	8.58
3/4"	50	91375A197	10.08
7/8"	50	91375A198	10.17
1"	50	91375A199	13.31
1 1/4"	10	91375A176	8.36
1 1/2"	10	91375A177	7.78
1 3/4"	10	91375A178	9.43
2"	5	91375A179	4.82
8-36			
1/8"	100	91375A203	9.38
3/16"	100	91375A204	10.38
1/4"	100	91375A205	10.74
5/16"	100	91375A206	8.80
3/8"	50	91375A207	8.52
1/2"	100	91375A208	9.32
10-24			
1/8"	25	91375A235	4.65
3/16"	100	91375A237	10.74
1/4"	100	91375A238	10.86
5/16"	100	91375A239	11.08
3/8"	100	91375A240	11.97
1/2"	50	91375A242	9.50
5/8"	50	91375A244	8.60
3/4"	50	91375A245	13.45
1"	25	91375A247	10.14
1 1/4"	25	91375A249	8.62
1 1/2"	10	91375A250	8.17
1 3/4"	10	91375A251	5.47
2"	10	91375A252	6.08
2 1/2"	10	91375A253	10.71
10-32			
1/8"	50	91375A436	14.59
3/16"	100	91375A437	10.83
1/4"	100	91375A438	10.75
5/16"	100	91375A439	11.05
3/8"	100	91375A440	12.02
7/16"	25	91375A443	6.82
1/2"	100	91375A442	12.61
5/8"	50	91375A444	8.56
3/4"	50	91375A445	9.85
7/8"	25	91375A446	9.71
1"	25	91375A447	7.31
1 1/4"	25	91375A449	9.38
1 1/2"	10	91375A450	8.96
1 3/4"	10	91375A451	8.55
2"	10	91375A452	9.09
2 1/2"	5	91375A453	5.31
1/4"-20			
3/16"	50	91375A532	8.50
1/4"	50	91375A533	8.52
5/16"	50	91375A534	8.60
3/8"	50	91375A535	8.73
1/2"	50	91375A537	9.48
5/8"	50	91375A539	12.88
3/4"	50	91375A540	13.30
7/8"	50	91375A541	10.48
1"	25	91375A542	9.25
1 1/8"	25	91375A543	7.15
1 1/4"	25	91375A544	11.76
1 1/2"	25	91375A546	11.05
1 3/4"	25	91375A548	12.34
2"	25	91375A550	13.81
2 1/4"	25	91375A551	11.99
2 1/2"	1	91375A553	6.25
2 3/4"	5	91375A552	4.13
3"	5	91375A554	9.59
3 1/2"	1	91375A573	10.94
4"	1	91375A579	17.00
5"	1	91375A584	18.30
1/4"-28			
3/16"	50	91375A555	$8.77
1/4"	50	91375A556	8.90
5/16"	100	91375A557	11.55
3/8"	100	91375A558	11.66
1/2"	100	91375A559	12.65
5/8"	50	91375A560	7.49
3/4"	50	91375A561	9.14
1"	50	91375A563	12.56
1 1/4"	25	91375A565	8.89
1 1/2"	10	91375A566	8.95
1 3/4"	10	91375A567	3.68
2 1/2"	10	91375A570	6.58
3"	10	91375A572	10.83
4"	1	91375A569	18.20
5/16"-18			
1/4"	50	91375A574	9.87
5/16"	100	91375A575	11.69
3/8"	100	91375A576	11.77
7/16"	50	91375A577	8.79
1/2"	100	91375A578	13.26
5/8"	50	91375A580	8.92
3/4"	50	91375A581	10.22
7/8"	50	91375A582	13.84
1"	50	91375A583	13.57
1 1/4"	25	91375A585	9.11
1 1/2"	25	91375A587	12.28
1 3/4"	10	91375A589	7.67
2"	10	91375A591	8.29
2 1/4"	25	91375A592	12.00
2 1/2"	5	91375A593	10.23
2 3/4"	10	91375A594	8.76
5/16"-24			
1/4"	50	91375A595	9.93
5/16"	100	91375A596	11.65
3/8"	100	91375A597	12.04
1/2"	100	91375A599	13.19
5/8"	50	91375A601	8.95
3/4"	50	91375A602	10.23
1"	50	91375A604	13.66
1 1/4"	25	91375A605	11.58
1 1/2"	25	91375A606	13.67
1 3/4"	25	91375A607	12.46
2"	25	91375A608	13.08
2 1/4"	25	91375A609	12.90
3/8"-16			
1/4"	50	91375A615	12.85
5/16"	50	91375A616	12.82
3/8"	50	91375A617	10.04
7/16"	50	91375A618	7.31
1/2"	50	91375A619	10.67
5/8"	50	91375A621	12.59
3/4"	50	91375A622	9.78
7/8"	50	91375A623	11.33
1"	25	91375A624	7.55
1 1/4"	25	91375A626	9.58
1 1/2"	25	91375A628	12.53
1 3/4"	10	91375A630	6.61
2"	10	91375A632	7.34
2 1/4"	10	91375A633	7.70
2 1/2"	10	91375A634	9.40
2 3/4"	10	91375A635	8.38
3"	10	91375A636	12.66
3 1/2"	10	91375A637	11.39
4"	1	91375A638	4.69
4 1/2"	1	91375A639	22.04
5"	1	91375A643	23.00
3/8"-24			
1/4"	50	91375A640	9.90
5/16"	50	91375A641	11.06
3/8"	50	91375A642	10.01
1/2"	50	91375A644	10.70
5/8"	50	91375A645	12.52
3/4"	50	91375A646	12.80
1"	25	91375A648	7.52
1 1/4"	25	91375A649	10.99
1 1/2"	25	91375A650	12.23

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Cup Point Set Screws *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
Alloy Steel (Cont.)			
3/8"-24 (Cont.)			
1 3/4"	25	91375A651	$14.24
2"	5	91375A652	12.36
2 1/4"	5	91375A653	6.84
3"	5	91375A656	7.71
3 1/2"	1	91375A658	11.56
4"	1	91375A659	13.98
7/16"-14			
3/8"	25	91375A662	9.62
7/16"	25	91375A663	10.42
1/2"	25	91375A664	10.58
5/8"	25	91375A666	11.59
3/4"	25	91375A667	12.44
7/8"	25	91375A668	13.18
1"	10	91375A669	6.79
1 1/4"	10	91375A670	7.97
1 1/2"	10	91375A673	9.22
1 3/4"	10	91375A674	5.48
2"	10	91375A675	10.54
2 1/4"	10	91375A676	10.06
2 1/2"	10	91375A677	12.72
2 3/4"	5	91375A678	8.00
7/16"-20			
3/8"	25	91375A680	13.12
7/16"	25	91375A681	12.91
1/2"	25	91375A682	11.18
5/8"	25	91375A683	10.43
3/4"	10	91375A684	11.08
7/8"	10	91375A685	4.88
1"	10	91375A686	10.23
1 1/4"	10	91375A687	5.33
1 1/2"	5	91375A688	10.52
1 3/4"	5	91375A689	4.92
2"	5	91375A690	13.86
2 1/2"	5	91375A692	7.84
3"	5	91375A694	8.15
1/2"-13			
1/4"	1	91375A706	7.81
3/8"	25	91375A705	15.21
1/2"	25	91375A707	10.55
5/8"	25	91375A709	11.55
1/2"-13 (Cont.)			
3/4"	25	91375A710	$12.49
7/8"	10	91375A711	8.22
1"	10	91375A712	6.79
1 1/4"	10	91375A714	8.15
1 1/2"	10	91375A716	9.33
1 3/4"	10	91375A718	10.18
2"	10	91375A720	11.33
2 1/4"	5	91375A721	8.40
2 1/2"	5	91375A722	10.54
2 3/4"	5	91375A723	9.40
3"	5	91375A724	11.34
3 1/2"	5	91375A725	10.51
4"	1	91375A726	4.46
4 1/2"	1	91375A728	2.89
5"	1	91375A727	3.18
1/2"-20			
3/8"	25	91375A729	7.95
1/2"	25	91375A730	11.57
5/8"	25	91375A731	12.31
3/4"	10	91375A732	7.49
1"	10	91375A734	8.84
1 1/4"	5	91375A736	5.88
1 1/2"	5	91375A738	6.34
1 3/4"	5	91375A739	11.73
2"	5	91375A740	12.79
2 1/2"	1	91375A742	3.19
3"	5	91375A744	9.76
3 1/2"	5	91375A746	11.23
4"	5	91375A748	14.91
9/16"-12			
1/2"	1	91375A275	1.99
5/8"	1	91375A279	2.60
3/4"	1	91375A283	2.65
1"	1	91375A287	2.82
1 1/4"	1	91375A291	2.93
1 1/2"	1	91375A295	3.05
5/8"-11			
1/2"	10	91375A789	9.77
5/8"	10	91375A791	10.75
Alloy Steel (Cont.)			
5/8"-11 (Cont.)			
3/4"	10	91375A792	$11.39
1"	10	91375A794	14.06
1 1/4"	5	91375A796	8.49
1 1/2"	5	91375A798	8.79
1 3/4"	5	91375A799	10.14
2"	5	91375A802	11.92
2 1/4"	5	91375A803	10.83
2 1/2"	5	91375A804	13.86
2 3/4"	5	91375A805	10.76
3"	5	91375A806	13.65
3 1/4"	5	91375A807	13.31
3 1/2"	5	91375A808	14.86
4"	1	91375A809	4.30
5/8"-18			
3/8"	1	91375A815	12.70
1/2"	10	91375A811	11.26
5/8"	10	91375A810	9.30
3/4"	10	91375A812	11.94
7/8"	10	91375A813	13.31
1"	10	91375A814	14.06
1 1/2"	1	91375A820	3.45
1 3/4"	5	91375A821	9.58
2"	5	91375A822	10.42
2 1/2"	5	91375A824	11.60
3/4"-10			
1/2"	1	91375A831	12.06
5/8"	5	91375A832	6.20
3/4"	5	91375A833	6.55
7/8"	5	91375A834	6.57
1"	5	91375A835	8.25
1 1/4"	5	91375A837	8.84
1 1/2"	5	91375A839	10.15
1 3/4"	5	91375A840	9.20
2"	5	91375A843	13.04
2 1/4"	1	91375A844	2.55
2 1/2"	1	91375A845	2.57
3"	1	91375A847	3.41
3 1/2"	1	91375A849	3.76
4"	1	91375A851	3.94
3/4"-16			
1/2"	1	91375A854	$13.98
5/8"	1	91375A855	15.00
3/4"	5	91375A856	7.70
1"	1	91375A857	4.54
1 1/2"	5	91375A859	10.99
1 3/4"	5	91375A860	12.07
2"	5	91375A861	13.91
3"	1	91375A865	4.49
7/8"-9			
7/8"	1	91375A871	4.08
1"	1	91375A872	4.28
1 1/2"	1	91375A876	5.05
2"	1	91375A878	8.26
2 1/2"	1	91375A880	7.62
3"	1	91375A882	8.56
7/8"-14			
1"	5	91375A893	11.32
1"-8			
3/4"	1	91375A902	19.02
7/8"	1	91375A901	19.50
1"	1	91375A904	3.13
1 1/2"	1	91375A908	4.10
2"	1	91375A912	5.46
2 1/2"	1	91375A914	7.69
3"	1	91375A916	7.17
4"	1	91375A922	22.20
4 1/2"	1	91375A924	23.80
5"	1	91375A926	25.00
1"-12			
1"	1	91375A917	24.98
1 1/2"	1	91375A918	26.02
2"	1	91375A919	27.50
1"-14			
1 1/2"	1	91375A927	26.02
2"	1	91375A929	27.50
1 1/4"-7			
1"	1	91375A935	13.28
1 1/2"-6			
1"	1	91375A953	29.30
1 1/4"	1	91375A956	30.14
1 1/2"	1	91375A959	30.76

Metric Cup Point Set Screws

Screws have a hex socket and meet DIN 916/ISO 4029. Length listed is the overall length.
Stainless steel screws have a Class 6g thread fit. **Alloy steel** screws have a Class 5g6g thread fit.



Lg., mm	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
M2×0.4			
3	10	92029A085	$8.71
4	10	92029A087	7.31
5	10	92029A089	9.82
6	10	92029A091	10.88
M2.5×0.45			
3	50	92029A093	6.98
4	50	92029A095	12.18
5	50	92029A097	8.29
M3×0.5			
3	50	92029A100	9.91
4	50	92029A101	10.92
5	25	92029A102	5.57
6	25	92029A103	5.53
8	25	92029A105	6.29
10	25	92029A107	13.10
12	25	92029A109	8.61
16	10	92029A110	7.14
M4×0.7			
4	50	92029A140	11.03
5	50	92029A141	11.62
6	50	92029A142	11.50
8	25	92029A144	6.17
10	25	92029A146	6.26
12	25	92029A149	13.09
16	10	92029A152	6.19
20	10	92029A155	7.73
M4×0.7 (Cont.)			
25	10	92029A158	$9.52
30	5	92029A160	6.24
M5×0.8			
5	50	92029A205	12.49
6	25	92029A206	7.00
8	25	92029A208	6.80
10	25	92029A210	7.13
12	25	92029A213	11.90
16	25	92029A215	7.73
20	10	92029A218	6.67
25	10	92029A221	8.33
30	10	92029A224	11.98
40	10	92029A226	11.20
M6×1			
6	25	92029A250	6.39
8	25	92029A252	7.04
10	25	92029A254	7.51
12	25	92029A256	7.62
16	10	92029A258	7.62
20	10	92029A260	4.26
25	10	92029A263	8.58
30	10	92029A266	12.39
M8×1.25			
8	25	92029A301	7.83
10	25	92029A303	8.64
12	25	92029A305	9.47
Type 316 Stainless Steel (Cont.)			
M8×1.25 (Cont.)			
16	10	92029A307	$5.28
20	10	92029A309	6.38
25	10	92029A310	7.07
30	10	92029A315	8.43
40	5	92029A325	10.48
50	1	92029A330	2.98
M10×1.5			
10	10	92029A410	10.48
12	10	92029A415	11.90
16	5	92029A418	5.58
20	5	92029A420	9.52
18-8 Stainless Steel			
M1.6×0.35			
2.5	5	92015A205	6.96
3	10	92015A087	7.26
4	10	92015A088	6.53
5	10	92015A089	8.74
6	10	92015A206	3.97
M2×0.4			
2.5	25	92015A207	5.87
3	25	92015A090	4.36
4	25	92015A091	5.06
5	25	92015A092	6.22
6	25	92015A093	6.81
8	25	92015A194	8.06
10	10	92015A195	4.75
M10×1.5 (Cont.)			
25	1	92029A425	$1.90
30	1	92029A430	2.97
40	1	92029A435	4.10
M12×1.75			
12	5	92029A567	6.99
16	5	92029A572	8.62
20	1	92029A577	3.27
25	1	92029A583	3.62
30	1	92029A589	3.69
50	1	92029A524	8.35
M2.5×0.45			
3	50	92015A094	7.28
4	50	92015A095	7.02
5	50	92015A096	8.59
6	25	92015A097	7.14
8	25	92015A098	5.73
10	10	92015A099	3.71
12	10	92015A100	4.02
M3×0.5			
3	100	92015A101	9.34
4	100	92015A102	9.58
5	50	92015A103	7.36
6	50	92015A104	7.51
8	50	92015A105	8.55

(Continued on following page)

Metric Cup Point Set Screws *(Continued from previous page)*



Screws have a hex socket and meet DIN 916/ISO 4029. Length listed is the overall length.
Stainless steel screws have a Class 6g thread fit. **Alloy steel** screws have a Class 5g6g thread fit.

18-8 Stainless Steel (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
M3×0.5 (Cont.)			
10	50	92015A106	$8.61
12	50	92015A107	8.95
16	50	92015A108	7.54
20	25	92015A109	5.46
30	10	92015A199	8.19
M4×0.7			
4	100	92015A110	9.70
5	100	92015A111	9.90
6	100	92015A112	9.95
8	50	92015A113	8.14
10	50	92015A114	8.61
12	50	92015A115	8.94
16	50	92015A116	9.69
20	25	92015A201	7.77
25	25	92015A203	6.83
30	10	92015A204	4.86
35	10	92015A209	5.57
40	10	92015A211	6.26
M5×0.8			
5	50	92015A117	9.08
6	50	92015A118	9.26
8	50	92015A119	9.26
10	50	92015A121	6.47
12	25	92015A122	4.36
16	25	92015A123	5.32
20	25	92015A124	7.91
25	25	92015A125	7.76
30	10	92015A535	3.75
35	10	92015A538	4.75
40	10	92015A539	7.09
M6×1			
6	50	92015A126	8.45
8	50	92015A127	8.61
10	50	92015A128	8.92
12	50	92015A129	9.90
16	25	92015A131	5.69
20	25	92015A133	7.05
25	10	92015A135	5.47
30	10	92015A136	6.47
35	10	92015A555	5.26
M6×1 (Cont.)			
40	10	92015A558	$7.03
45	5	92015A212	4.62
50	5	92015A560	4.75
M8×1.25			
8	50	92015A139	9.08
10	50	92015A141	9.36
12	50	92015A142	9.91
16	25	92015A143	8.00
20	10	92015A145	4.56
25	10	92015A147	4.64
30	10	92015A148	6.90
35	10	92015A149	7.81
40	10	92015A150	9.31
45	5	92015A213	6.26
50	5	92015A151	7.12
M10×1.5			
10	10	92015A155	4.80
12	10	92015A156	5.60
16	10	92015A157	7.46
20	10	92015A159	6.77
25	10	92015A162	8.00
30	10	92015A163	11.00
35	5	92015A164	5.78
40	5	92015A165	7.76
45	5	92015A214	11.91
50	5	92015A166	8.64
M12×1.75			
12	5	92015A169	5.00
16	10	92015A170	7.00
20	5	92015A173	6.35
25	5	92015A175	8.40
30	5	92015A176	8.83
35	5	92015A177	8.90
40	5	92015A178	12.07
45	1	92015A215	4.14
50	5	92015A180	14.05
60	1	92015A216	5.48
M16×2			
16	5	92015A623	6.42
20	1	92015A628	2.62

Alloy Steel

Lg., mm	Pkg. Qty.		Pkg.
M1.6×0.35			
3	1	91390A087	3.01
4	1	91390A088	3.11
5	1	91390A089	3.41
M2×0.4			
3	25	91390A090	6.87
4	50	91390A091	13.20
5	50	91390A092	9.22
6	50	91390A093	9.33
8	50	91390A002	10.93
10	25	91390A005	8.29
M2.5×0.45			
3	50	91390A094	7.83
4	50	91390A095	7.89
5	50	91390A096	8.33
6	50	91390A256	7.04
8	50	91390A258	9.15
10	50	91390A260	9.47
M3×0.5			
3	100	91390A097	4.10
4	100	91390A098	4.60
5	100	91390A099	4.77
6	100	91390A100	4.78
8	100	91390A101	4.79
10	100	91390A103	8.86
12	100	91390A105	12.15
16	50	91390A107	7.56
M3×0.5 (Cont.)			
20	25	91390A108	7.18
25	25	91390A109	12.81
M4×0.7			
3	50	91390A403	7.30
4	100	91390A110	3.91
5	100	91390A111	4.02
6	100	91390A112	3.90
8	100	91390A113	4.31
10	100	91390A114	4.90
12	100	91390A115	11.60
16	50	91390A116	10.30
20	50	91390A218	7.58
25	25	91390A220	7.02
30	25	91390A430	11.01
35	10	91390A550	5.91
40	10	91390A440	6.12
M5×0.8			
5	100	91390A117	4.20
6	100	91390A118	3.89
8	100	91390A119	4.55
10	100	91390A121	5.27
12	100	91390A122	6.50
16	100	91390A124	8.06
20	50	91390A226	9.75
25	50	91390A228	9.92
30	25	91390A230	5.10

Alloy Steel (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
M5×0.8 (Cont.)			
35	25	91390A232	$8.46
40	10	91390A540	6.29
M6×1			
5	100	91390A551	4.04
6	100	91390A126	5.20
8	100	91390A127	5.95
10	100	91390A128	7.22
12	100	91390A129	7.93
16	100	91390A132	10.04
20	50	91390A133	7.76
25	50	91390A135	9.29
30	25	91390A136	4.88
35	25	91390A138	7.47
40	25	91390A140	9.75
50	25	91390A552	9.99
M6×0.75 (Fine)			
6	10	99642A111	6.50
8	10	99642A114	10.90
10	5	99642A117	7.22
12	5	99642A121	6.90
16	5	99642A124	7.96
20	5	99642A127	11.25
M8×1.25			
6	100	91390A553	5.24
8	100	91390A139	11.47
10	100	91390A141	11.47
12	50	91390A142	8.05
16	50	91390A143	9.78
20	25	91390A145	6.82
25	25	91390A147	9.77
30	25	91390A148	10.64
35	25	91390A149	11.09
40	25	91390A150	12.69
45	10	91390A151	12.62
50	10	91390A152	8.74
60	5	91390A153	3.78
70	5	91390A554	6.93
M8×1 (Fine)			
8	10	99642A130	8.00
10	10	99642A133	8.46
12	10	99642A136	9.26
16	10	99642A139	11.00
20	10	99642A142	10.90
25	5	99642A145	7.45
30	5	99642A148	8.45
40	5	99642A151	13.25
M10×1.5			
8	25	91390A555	6.38
10	50	91390A155	8.05
12	50	91390A156	8.61
16	25	91390A157	7.29
20	25	91390A159	9.51
25	25	91390A162	12.14
30	10	91390A163	6.65
35	10	91390A164	5.95
40	10	91390A265	6.55
45	10	91390A267	10.70
50	5	91390A167	4.12
60	5	91390A168	7.88
M10×1.25 (Fine)			
10	5	99642A181	8.13
12	5	99642A184	8.95
16	5	99642A187	11.62
20	1	99642A190	3.02
25	1	99642A193	3.36
M10×1 (Extra Fine)			
10	5	99642A154	7.45
12	5	99642A157	10.76
16	5	99642A160	10.26
M10×1 (Extra Fine) (Cont.)			
20	5	99642A163	$10.45
25	5	99642A166	10.45
30	5	99642A169	11.45
M12×1.75			
12	25	91390A169	7.91
16	25	91390A171	11.30
20	10	91390A173	6.47
25	10	91390A175	7.96
30	10	91390A176	9.82
35	10	91390A177	9.65
40	10	91390A178	9.90
45	5	91390A179	4.31
50	5	91390A180	6.15
60	5	91390A181	10.65
80	1	91390A572	4.19
M12×1.5 (Fine)			
12	5	99642A229	13.67
16	5	99642A232	13.75
20	1	99642A235	3.68
25	1	99642A238	3.67
M12×1.25 (Extra Fine)			
12	5	99642A205	10.01
16	1	99642A208	2.94
20	1	99642A211	3.12
25	1	99642A214	3.68
M14×2			
16	5	91390A557	6.93
20	5	91390A558	4.14
25	5	91390A559	12.71
30	5	91390A561	7.31
35	1	91390A562	2.82
40	1	91390A573	3.10
50	1	91390A574	4.05
M16×2			
16	10	91390A183	8.51
20	10	91390A185	9.39
25	10	91390A186	9.95
30	5	91390A187	7.04
35	1	91390A188	3.84
40	5	91390A189	12.15
45	1	91390A192	3.30
50	1	91390A191	2.34
55	1	91390A194	4.70
60	1	91390A193	4.47
70	1	91390A195	5.16
80	1	91390A197	5.27
M20×2.5			
20	1	91390A210	4.09
25	1	91390A213	4.19
30	1	91390A216	4.33
35	1	91390A217	4.18
40	1	91390A219	3.64
50	1	91390A222	4.45
60	1	91390A225	5.64
M24×3			
25	1	91390A575	8.81
30	1	91390A576	8.57
35	1	91390A577	12.38
40	1	91390A578	12.86
50	1	91390A579	14.29
60	1	91390A581	15.71
M30×3.5			
25	1	91390A582	40.95
40	1	91390A583	48.57
50	1	91390A584	61.90
M36×4			
40	1	91390A585	88.57
50	1	91390A586	105.71

Cup Point Set Screw Assortments

All set screws have a hex socket. Set screws in the 300-piece alloy steel assortment have a knurl-grip cup point.

For assortment contents, please go to mcmaster.com and search by part number.

No. of Set Screws	Sizes	Lengths		
18-8 Stainless Steel				
200	6-32 to 3/8"-24	3/16" to 1/2"	92045A338	$63.80
900	4-40 to 10-32	1/8" to 1/2"	92055A218	102.43
2,100	4-40 to 3/8"-16	1/8" to 3/4"	92045A224	204.85
Alloy Steel				
200	6-32 to 3/8"-24	3/16" to 1/2"	98606A010	47.14
300	8-32 to 1/2"-13	1/4" to 1/2"	92170A111	99.02
2,100	4-40 to 3/8"-16	1/8" to 3/4"	92065A524	187.50

No. of Set Screws	Sizes	Lengths		
Alloy Steel with 48 Hex Keys				
288	4-40 to 10-24	1/8" to 3/8"	98581A130	$165.67
Metric 18-8 Stainless Steel				
120	M4 to M8	5 to 12 mm	92550A111	36.13
Metric Alloy Steel				
1,100	M3 to M8	3 to 12 mm	92560A222	97.50

Slotted Cup Point Set Screws

Also known as headless set screws and grub screws, these slotted set screws install with a slotted screwdriver. Screws have a Class 2A thread fit. Length listed is the overall length.

Type 316 stainless steel screw dimensions meet ANSI B18.3. **18-8 stainless steel** screw dimensions meet ASME B18.6.2.



Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
6-32			
1/8"	25	98057A267	$10.32
3/16"	25	98057A271	10.90
1/4"	25	98057A276	11.30
3/8"	25	98057A280	11.63
1/2"	25	98057A284	11.88
8-32			
1/8"	25	98057A403	10.65
3/16"	10	98057A408	4.46
1/4"	10	98057A411	4.59
5/16"	10	98057A414	4.65
3/8"	10	98057A417	4.72
1/2"	10	98057A421	4.72
10-24			
3/16"	10	98057A476	4.75
1/4"	10	98057A481	4.82
3/8"	10	98057A487	4.91
10-32			
3/16"	10	98057A526	$4.75
1/4"	10	98057A531	4.82
3/8"	10	98057A537	4.91
1/4"-20			
1/4"	10	98057A652	5.50
3/8"	10	98057A658	5.70
1/2"	10	98057A663	5.96
5/16"-18			
3/8"	10	98057A712	7.34
1/2"	10	98057A718	8.26
3/8"-16			
3/8"	5	98057A832	5.41
1/2"	5	98057A838	6.06

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel			
6-32			
1/8"	50	94025A125	$6.84
3/16"	50	94025A127	6.85
1/4"	50	94025A129	6.88
3/8"	50	94025A130	7.33
1/2"	50	94025A400	12.24
8-32			
1/8"	50	94025A131	6.70
3/16"	50	94025A133	6.80
1/4"	50	94025A135	6.85
5/16"	50	94025A502	7.05
3/8"	50	94025A136	7.16
1/2"	50	94025A137	7.61
10-24			
3/16"	50	94025A139	6.96
1/4"	50	94025A141	7.47
3/8"	25	94025A143	4.41
10-32			
3/16"	25	94025A160	$3.70
1/4"	25	94025A162	3.74
3/8"	25	94025A164	4.41
1/4"-20			
1/4"	25	94025A145	3.75
3/8"	25	94025A146	5.29
1/2"	25	94025A147	6.26
5/16"-18			
3/8"	25	94025A149	6.76
1/2"	10	94025A150	4.10
3/8"-16			
3/8"	10	94025A151	3.86
1/2"	10	94025A154	6.61

Knurl-Grip Cup Point Set Screws

The cup edge is knurled for gripping strength so these screws resist loosening. All have a hex socket. Length listed is the overall length.

Inch sizes have a Class 3A thread fit and dimensions that meet ASME B18.3.

Metric sizes have a Class 6g thread fit.



Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel			
4-40			
1/8"	50	93445A170	$11.26
3/16"	50	93445A175	13.03
1/4"	50	93445A180	12.05
6-32			
1/8"	50	93445A210	10.85
3/16"	50	93445A215	11.31
1/4"	50	93445A220	9.00
3/8"	50	93445A225	9.93
8-32			
1/8"	50	93445A310	13.42
3/16"	50	93445A315	11.54
1/4"	50	93445A320	7.73
3/8"	50	93445A330	11.25
1/2"	25	93445A332	7.98
10-24			
3/16"	25	93445A348	9.15
1/4"	50	93445A350	8.55
3/8"	50	93445A355	9.53
Alloy Steel			
4-40			
1/8"	100	90289A103	10.00
1/4"	100	90289A106	7.69
3/8"	100	90289A109	8.72
1/2"	50	90289A112	8.65
4-48			
1/8"	50	90289A130	10.00
5-40			
1/8"	100	90289A121	9.93
3/16"	100	90289A123	9.49
10-32			
1/4"	50	93445A380	$8.55
3/8"	25	93445A385	4.39
1/2"	25	93445A376	10.60
1/4"-20			
1/4"	50	93445A420	9.47
3/8"	25	93445A425	5.45
1/2"	25	93445A427	11.82
3/4"	10	93445A440	5.74
1"	10	93445A453	3.91
5/16"-18			
1/4"	10	93445A520	6.12
5/16"	10	93445A523	5.70
3/8"	10	93445A525	6.76
1/2"	10	93445A528	7.15
3/8"-16			
3/8"	10	93445A610	7.15
1/2"	10	93445A613	10.01
5/8"	10	93445A615	11.34
3/4"	10	93445A618	12.52

Lg.	Pkg. Qty.		Pkg.
5-40 (Cont.)			
1/4"	100	90289A124	9.59
5/16"	100	90289A125	9.79
6-32			
1/8"	100	90289A142	11.93
3/16"	100	90289A143	11.65
1/4"	100	90289A144	12.40
6-40			
1/8"	50	90289A160	9.32
3/16"	50	90289A161	9.46
1/4"	50	90289A162	9.66
Alloy Steel (Cont.)			
8-32			
1/8"	100	90289A188	$12.66
3/16"	100	90289A189	11.65
1/4"	100	90289A190	11.95
5/16"	100	90289A191	12.09
3/8"	100	90289A192	13.50
7/16"	25	90289A193	10.26
1/2"	50	90289A194	6.03
3/4"	50	90289A197	9.14
1"	50	90289A199	11.99
10-24			
1/8"	25	90289A235	10.90
3/16"	50	90289A237	9.34
1/4"	100	90289A238	10.93
5/16"	100	90289A239	9.03
3/8"	50	90289A240	8.80
1/2"	50	90289A242	9.34
10-32			
1/8"	25	90289A335	7.43
3/16"	100	90289A337	12.09
1/4"	100	90289A338	12.60
3/8"	100	90289A340	13.45
7/16"	50	90289A341	8.78
1/2"	50	90289A342	8.97
5/8"	50	90289A344	7.34
1/4"-20			
3/16"	100	90289A532	14.55
1/4"	100	90289A533	14.62
5/16"	100	90289A534	11.72
3/8"	100	90289A535	12.87
7/16"	50	90289A536	8.50
1/2"	50	90289A537	8.63

Lg.	Pkg. Qty.		Pkg.
1/4"-20 (Cont.)			
5/8"	50	90289A539	$9.16
3/4"	50	90289A540	9.38
7/8"	25	90289A541	7.76
1"	25	90289A542	8.00
1 1/2"	10	90289A546	7.62
2"	10	90289A550	9.31
1/4"-28			
3/16"	50	90289A350	10.52
1/4"	50	90289A351	9.23
5/16"	50	90289A352	9.07
3/8"	50	90289A353	8.70
1/2"	50	90289A559	7.76
3/4"	50	90289A561	9.06
5/16"-18			
1/4"	100	90289A574	12.28
5/16"	50	90289A575	8.37
3/8"	50	90289A576	8.39
7/16"	25	90289A577	10.64
1/2"	50	90289A578	8.45
5/8"	50	90289A580	10.15
3/4"	25	90289A582	5.72
1"	25	90289A584	5.94
1 1/2"	10	90289A587	6.80
2"	5	90289A591	8.33
5/16"-24			
1/4"	50	90289A358	11.94
5/16"	50	90289A359	9.51
3/8"	50	90289A360	9.73
1/2"	50	90289A361	9.79

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Knurl-Grip Cup Point Set Screws *(Continued from previous page)*



The cup edge is knurled for gripping strength so these screws resist loosening. All have a hex socket. Length listed is the overall length.

Inch sizes have a Class 3A thread fit and dimensions that meet ASME B18.3.

Metric sizes have a Class 6g thread fit.

Lg.	Pkg. Qty.		Pkg.
Alloy Steel (Cont.)			
3/8"-16			
1/4"	25	90289A615	$8.31
5/16"	25	90289A616	7.47
3/8"	50	90289A617	9.28
7/16"	25	90289A618	11.82
1/2"	50	90289A619	13.37
5/8"	25	90289A621	6.23
3/4"	25	90289A622	6.15
1"	25	90289A624	7.45
1 1/4"	25	90289A626	9.40
1 1/2"	10	90289A628	8.33
2"	5	90289A632	9.00
3/8"-24			
5/16"	25	90289A363	6.97
3/8"	50	90289A365	9.13
1/2"	50	90289A366	8.94
1/2"-13			
3/8"	10	90289A705	8.43
1/2"	10	90289A707	7.94
1/2"-13 (Cont.)			
5/8"	10	90289A709	$5.40
3/4"	10	90289A711	5.66
1"	10	90289A713	7.17
1 3/4"	5	90289A718	9.86
2"	5	90289A720	10.63
1/2"-20			
3/4"	5	90289A750	9.34
7/8"	5	90289A753	8.66
1"	5	90289A756	8.45
1 1/4"	5	90289A759	11.43
1 1/2"	5	90289A764	12.37
5/8"-11			
1/2"	1	90289A789	3.38
5/8"	5	90289A791	10.60
3/4"	1	90289A792	3.45
1"	1	90289A794	5.56
3/4"-10			
3/4"	5	90289A833	8.63

Lg., mm	Pkg. Qty.		Pkg.
Metric 18-8 Stainless Steel			
M3×0.5			
3	25	91313A116	$4.78
4	25	91313A119	4.78
5	25	91313A122	6.22
M4×0.7			
4	25	91313A134	$5.99
5	25	91313A137	6.30
6	25	91313A139	6.46
Metric 18-8 Stainless Steel (Cont.)			
M5×0.8			
5	25	91313A142	$6.55
6	25	91313A145	6.58
10	25	91313A149	6.71
M6×1			
6	25	91313A151	7.11
10	25	91313A156	7.17
12	25	91313A159	7.14
M8×1.25			
8	10	91313A167	$3.51
10	10	91313A172	4.02
12	10	91313A175	4.55
Metric Alloy Steel			
M3×0.5			
3	50	94285A310	9.84
4	50	94285A315	10.04
5	50	94285A320	10.13
6	50	94285A325	10.13
8	25	94285A327	8.35
M4×0.7			
4	50	94285A350	10.20
5	50	94285A355	10.29
6	50	94285A360	10.52
8	50	94285A365	10.96
10	25	94285A367	8.66
M5×0.8			
5	50	94285A450	10.60
6	50	94285A455	10.96
M5×0.8 (Cont.)			
8	50	94285A460	11.05
10	50	94285A465	11.38
M6×1			
6	50	94285A510	11.05
8	50	94285A515	11.38
10	50	94285A520	11.50
12	50	94285A525	12.28
20	25	94285A530	10.27
M8×1.25			
8	50	94285A610	11.50
10	50	94285A615	12.05
12	50	94285A620	12.39
20	10	94285A630	5.45
25	10	94285A633	5.96
30	10	94285A636	6.95

Mil. Spec. Cup Point Set Screws



Screws meet stringent military specifications and resist corrosion. They have a hex socket and a Class 3A thread fit. Length listed is the overall length.

18-8 Stainless Steel—Sizes 2-56 to 8-32 meet MS 51021; sizes 10-32 and 1/4"-28 meet MS 51023. All are passivated to meet QQ-P-35. Not rated for hardness.

Cadmium-Plated Alloy Steel—Sizes 2-56 to 8-32 and 1/4"-20 meet MS 51963; sizes 10-32 and 1/4"-28 meet MS 51964.

Lg.	18-8 Stainless Steel Dash No.			Cadmium-Plated Alloy Steel Dash No.		
2-56						
1/8"	1	97705A139	$1.86	1	98637A016	$2.86
3/16"	2	97705A142	1.86	2	98637A019	2.87
1/4"	3	97705A145	1.88	3	98637A022	2.89
4-40						
1/8"	9	97705A226	2.14	9	98637A103	3.05
3/16"	10	97705A228	1.86	10	98637A105	3.07
1/4"	11	97705A234	1.88	11	98637A111	3.09
3/8"	13	97705A242	2.04	—	—	—
1/2"	15	97705A246	2.05	15	98637A123	3.59
6-32						
1/8"	21	97705A265	2.43	20	98637A142	2.29
3/16"	22	97705A269	2.44	21	98637A146	2.30
1/4"	23	97705A274	2.46	22	98637A151	2.31
3/8"	25	97705A282	2.48	24	98637A155	2.57
8-32						
1/8"	—	—	—	33	98637A278	2.85
3/16"	31	97705A401	2.71	34	98637A283	3.32
1/4"	32	97705A406	2.73	35	98637A286	2.29
3/8"	34	97705A412	2.76	37	98637A289	2.30
1/2"	36	97705A415	2.78	39	98637A292	2.86
10-32						
3/16"	48	97705A474	2.71	48	98637A351	2.57
1/4"	49	97705A479	2.73	49	98637A356	2.59
3/8"	51	97705A485	2.75	51	98637A365	3.05
1/2"	52	97705A488	2.76	53	98637A368	2.89
1/4"-20						
1/4"	—	—	—	63	98637A401	3.15
3/8"	—	—	—	65	98637A410	3.57
1/2"	—	—	—	67	98637A416	3.59
1/4"-28						
3/16"	60	97705A647	3.00	—	—	—
1/4"	61	97705A650	3.45	64	98637A527	3.29
5/16"	62	97705A656	3.47	65	98637A533	3.45
3/8"	63	97705A661	3.49	66	98637A538	3.61
1/2"	—	—	—	68	98637A542	3.63

Vented Cup Point Set Screws



Typically found in vacuum systems, these screws vent fluids and gases while holding parts securely in place. All have a hex socket. They are not rated for hardness. Length listed is the overall length.

Inch sizes have a Class 3A thread fit. **Metric** sizes have a Class 3g thread fit.

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel			
2-56—Vent Hole Dia.: 0.028"			
3/32"	10	91979A202	$7.73
1/8"	10	91979A207	5.16
3/16"	10	91979A209	5.67
4-40—Vent Hole Dia.: 0.035"			
1/8"	10	91979A307	5.16
3/16"	10	91979A309	5.67
1/4"	10	91979A311	5.93
3/8"	10	91979A313	6.70
6-32—Vent Hole Dia.: 0.038"			
1/8"	10	91979A331	5.16
3/16"	10	91979A334	5.67
1/4"	10	91979A337	5.93
3/8"	10	91979A341	6.70
8-32—Vent Hole Dia.: 0.042"			
1/8"	10	91979A399	5.16
3/16"	10	91979A403	6.61
1/4"	10	91979A408	7.10
3/8"	5	91979A411	4.65
1/2"	10	91979A415	7.22
3/4"	5	91979A418	5.41
10-32—Vent Hole Dia.: 0.046"			
1/8"	10	91979A573	$5.16
3/16"	10	91979A576	6.86
1/4"	10	91979A581	7.35
3/8"	5	91979A587	4.41
1/2"	5	91979A593	5.14
3/4"	5	91979A601	4.64
1"	5	91979A605	5.80
1/4"-20—Vent Hole Dia.: 0.062"			
1/4"	5	91979A652	3.92
3/8"	5	91979A658	4.41
1/2"	5	91979A663	4.90
3/4"	5	91979A675	4.64
1"	5	91979A679	6.44
5/16"-18—Vent Hole Dia.: 0.078"			
3/8"	5	91979A712	4.41
1/2"	5	91979A718	4.65
3/4"	5	91979A724	5.51
3/8"-16—Vent Hole Dia.: 0.093"			
3/8"	5	91979A832	4.65
1/2"	5	91979A838	5.14
3/4"	5	91979A846	5.88
1"	5	91979A852	7.73

Lg., mm	Pkg. Qty.		Pkg.
Metric 18-8 Stainless Steel			
M2.5×0.45			
Vent Hole Dia.: 1 mm			
4	5	91979A681	$6.84
5	5	91979A682	7.22
M3×0.5			
Vent Hole Dia.: 1.2 mm			
4	5	91979A691	4.12
5	5	91979A692	4.52
6	5	91979A693	4.90
M4×0.7			
Vent Hole Dia.: 1.5 mm			
4	5	91979A701	6.18
5	5	91979A702	4.26
M4×0.7 (Cont.)			
6	5	91979A703	$4.90
8	5	91979A704	5.55
M5×0.8			
Vent Hole Dia.: 2 mm			
5	5	91979A713	6.58
6	5	91979A714	4.64
8	5	91979A715	5.03

Thread-Locking Cup Point Set Screws

A nylon locking element adds holding power so screws resist loosening. The locking element remains effective up to 250° F. Screws have a locking patch, except those marked with a ★ have a solid locking pellet. All screws are reusable. They have a hex socket and a Class 3A thread fit. Dimensions meet ASME B18.3. Length listed is the overall length.

Alloy steel screws meet ASTM F912.



Type 316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
4-40			
1/8"	10	90251A167	$8.08
3/16"	10	90251A168	7.97
1/4"	10	90251A169	12.26
6-32			
1/8"	10	90251A171	8.05
3/16"	10	90251A172	7.91
1/4"	10	90251A173	7.95
8-32			
1/8"	10	90251A174	7.46
3/16"	10	90251A175	6.14
1/4"	10	90251A176	6.71
10-32			
1/8"	10	90251A177	$13.88
3/16"	10	90251A178	7.88
1/4"	10	90251A179	7.09
1/4"-20			
3/16"	10	90251A181	7.66
1/4"	10	90251A182	7.57
3/8"	10	90251A183	7.46
1/2"	10	90251A184	7.35

18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
4-40			
1/8"	25	90251A108	8.19
3/16"	25	90251A110	13.97
1/4"	25	90251A112	15.20
6-32			
1/8"	25	90251A141	7.08
3/16"	25	90251A143	12.72
1/4"	25	90251A144	14.55
3/8"	25	90251A146	15.00
1/2"	10	90251A148	8.30
8-32			
1/8"	25	90251A187	7.59
3/16"	25	90251A189	12.85
1/4"	25	90251A190	13.75
5/16"	25	90251A191	15.07
3/8"	25	90251A193	15.56
1/2"	25	90251A194	15.68
10-24			
1/8"	25	90251A233	9.42
3/16"	25	90251A235	15.02
1/4"	25	90251A237	15.07
3/8"	25	90251A240	16.83
1/2"	10	90251A242	7.95
10-32			
1/8"	25	90251A248	9.42
3/16"	25	90251A250	14.55
1/4"	25	90251A252	14.86
5/16"	25	90251A254	16.91
10-32 (Cont.)			
3/8"	25	90251A256	16.66
1/2"	10	90251A258	7.64
5/8"	10	90251A260	7.75
3/4"	25	90251A264	9.25
1/4"-20			
3/16"	25	90251A531	9.33
1/4"	25	90251A533	16.11
5/16"	10	90251A534	7.71
3/8"	10	90251A535	7.73
1/2"	10	90251A537	7.83
5/8"	10	90251A539	8.06
3/4"	10	90251A540	8.19
1"	10	90251A541	6.85
1 1/4"	10	90251A542	6.90
1 1/2"	10	90251A543	8.62
1/4"-28			
1/4"	10	90251A550	7.91
5/16"-18			
5/16"	10	90251A574	8.26
3/8"	10	90251A576	8.27
1/2"	10	90251A578	10.22
3/8"-16			
3/8"	10	90251A617	12.23
1/2"	10	90251A619	12.45
5/8"	10	90251A620	14.49
3/4"	10	90251A622	15.23

Alloy Steel

Lg.	Pkg. Qty.		Pkg.
4-40			
1/8"	10	91385A152	8.06
3/16"	10	91385A105	7.43
1/4"	10	91385A106	7.43
3/8"	10	91385A108	7.59
5-40			
3/16"	10	91385A123	6.96
1/4"	10	91385A124	7.41
3/8"	10	91385A126	6.31
6-32			
1/8"	10	91385A153	8.15
3/16"	25	91385A143	10.46
1/4"	25	91385A144	7.86
3/8"	25	91385A146	12.87
1/2"	25	91385A148	15.58
3/4"	10	91385A911★	9.80
8-32			
1/8"	10	91385A154	8.27
3/16"	25	91385A189	11.09
8-32 (Cont.)			
1/8"	10	91385A190	$11.96
5/16"	25	91385A191	13.68
3/8"	25	91385A192	13.84
1/2"	25	91385A194	12.56
3/4"	25	91385A197	14.99
10-24			
3/16"	25	91385A237	12.66
1/4"	25	91385A238	12.15
3/8"	25	91385A240	12.46
1/2"	25	91385A242	12.33
3/4"	10	91385A244	7.00
10-32			
1/8"	10	91385A155	12.97
3/16"	25	91385A337	12.77
1/4"	25	91385A338	12.88
5/16"	25	91385A156	11.06
3/8"	25	91385A340	12.70
1/2"	25	91385A342	12.99
5/8"	25	91385A344	14.51
3/4"	25	91385A345	15.14
1"	10	91385A915★	9.03
1/4"-20			
3/16"	25	91385A157	11.48
1/4"	25	91385A533	12.49
5/16"	25	91385A534	12.57
3/8"	25	91385A535	12.63
1/2"	25	91385A537	13.11
5/8"	25	91385A539	14.78
3/4"	25	91385A540	15.08
1"	10	91385A542	7.49
1 1/4"	10	91385A544	8.24
1 1/2"	10	91385A546	10.25
2"	10	91385A548	11.96
1/4"-28			
3/16"	25	91385A158	11.51
1/4"	25	91385A351	12.92
5/16"	25	91385A352	13.03
3/8"	25	91385A353	13.15
1/2"	25	91385A355	13.69
5/8"	25	91385A357	14.95
3/4"	10	91385A358	6.95
1"	10	91385A363	7.63
1 1/4"	10	91385A362	8.25
5/16"-18			
1/4"	25	91385A159	13.94
5/16"	25	91385A575	13.10
3/8"	25	91385A576	13.19
1/2"	25	91385A578	13.50
5/8"	25	91385A580	14.93
3/4"	10	91385A581	6.93
1"	10	91385A583	7.72
1 1/4"	10	91385A161	11.97
1 1/2"	10	91385A585	10.50
2"	10	91385A586	12.52
5/16"-24			
1/4"	10	91385A162	$8.45
5/16"	25	91385A356	14.44
3/8"	25	91385A360	13.68
1/2"	25	91385A361	13.96
5/8"	10	91385A584	6.88
3/4"	10	91385A163	9.39
1"	10	91385A164	9.67
3/8"-16			
5/16"	25	91385A616	14.38
3/8"	25	91385A617	14.13
1/2"	10	91385A619	6.92
5/8"	10	91385A621	6.82
3/4"	10	91385A622	7.07
1"	10	91385A624	8.16
1 1/4"	10	91385A625	10.75
1 1/2"	10	91385A626	11.48
2"	10	91385A628	14.40
2 1/2"	5	91385A165	9.21
3"	5	91385A166	12.94
3/8"-24			
3/8"	25	91385A365	14.65
1/2"	10	91385A366	7.03
1"	10	91385A167	9.73
2"	5	91385A168	8.94
1/2"-13			
1/2"	10	91385A707	11.17
3/4"	10	91385A710	13.17
1"	10	91385A712	15.14
1 1/4"	5	91385A169	9.97
1 1/2"	5	91385A714	9.81
2"	5	91385A918★	8.90
2 1/2"	1	91385A171	3.06
3"	1	91385A172	4.00
1/2"-20			
1/2"	10	91385A173	10.24
3/4"	10	91385A750	11.18
1"	5	91385A753	6.88
1 1/4"	5	91385A174	11.57
1 1/2"	5	91385A175	11.97
2"	5	91385A176	13.90
5/8"-11			
1/2"	5	91385A177	11.00
5/8"	5	91385A921★	9.29
3/4"	5	91385A924★	11.00
1"	5	91385A927★	10.94
3/4"-10			
5/8"	5	91385A178	13.70
3/4"	5	91385A179	13.90
1"	5	91385A934★	13.95
1 1/4"	1	91385A935★	3.70
3/4"-16			
3/4"	5	91385A181	14.64
1"	1	91385A182	3.57
1"-8			
1"	1	91385A183	7.49

★ Has a locking pellet; minimum Rockwell hardness is C28.

Metric Thread-Locking Cup Point Set Screws

These metric screws have a nylon locking patch that adds holding power. The patch remains effective up to 250° F. Screws are reusable. They have a hex socket and meet DIN 916/ISO 4029. Length listed is the overall length.

18-8 stainless steel screws have a Class 6g thread fit. **Alloy steel** screws have a Class 5g6g thread fit.



18-8 Stainless Steel

Lg., mm	Pkg. Qty.		Pkg.
M2×0.4			
3	10	90251A151	$12.57
4	10	90251A152	12.46
M2.5×0.45			
3	10	90251A153	12.32
4	10	90251A154	12.34
M3×0.5			
3	25	90251A155	13.20
4	25	90251A156	13.11
M4×0.7			
4	25	90251A157	13.05
5	25	90251A158	13.20
M4×0.7 (Cont.)			
6	25	90251A159	$13.06
8	25	90251A161	13.28
M5×0.8			
5	25	90251A162	13.17
6	25	90251A163	13.46
M6×1			
6	25	90251A164	14.09
8	25	90251A165	14.32
10	25	90251A166	14.69

Alloy Steel

Lg., mm	Pkg. Qty.		Pkg.
M2×0.4			
3	10	91385A201	$12.89
4	10	91385A202	11.86
M2.5×0.45			
3	10	91385A203	12.82
4	10	91385A204	11.77
M3×0.5			
3	25	91385A205	12.66
4	25	91385A206	12.63
M4×0.7			
4	25	91385A207	13.25
5	25	91385A208	13.34
M4×0.7 (Cont.)			
6	25	91385A209	$13.63
8	25	91385A210	13.77
M5×0.8			
5	25	91385A211	12.86
6	25	91385A212	12.92
M6×1			
6	25	91385A213	13.11
8	25	91385A214	13.25
10	25	91385A215	13.54

Square Head Cup Point Set Screws



Use the prominent square head to turn these screws by hand, or use a wrench when you need more torque. All have a cup point that digs into the contact surface for a strong grip. They're fully threaded and have a Class 2A thread fit. Dimensions meet ASME B18.6.2. Screws have a minimum Rockwell hardness of B80, except 5/8"-11 and 3/4"-10 18-8 stainless steel screws have a minimum Rockwell hardness of B70 and alloy steel screws have a minimum Rockwell hardness of C45. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
1/4"-20			
1/2"	10	94087A114	$5.82
3/4"	10	94087A116	7.90
1"	10	94087A118	9.46
5/16"-18			
3/4"	10	94087A123	12.90
1"	5	94087A127	6.61
3/8"-16			
1"	5	94087A131	9.56
1 1/4"	5	94087A135	13.29
3/8"-16 (Cont.)			
1 1/2"	1	94087A139	$2.88
2"	1	94087A144	3.62
1/2"-13			
1"	1	94087A162	3.95
1 1/4"	1	94087A165	4.56
1 1/2"	1	94087A168	4.83
2"	1	94087A171	7.11
2 1/2"	1	94087A175	8.44
18-8 Stainless Steel			
1/4"-20			
3/8"	10	92308A535	3.53
1/2"	10	92308A537	3.88
5/8"	10	92308A538	4.04
3/4"	10	92308A540	4.34
1"	10	92308A542	4.45
1 1/4"	10	92308A544	5.11
1 1/2"	10	92308A546	6.57
5/16"-18			
1/2"	10	92308A575	5.43
5/8"	10	92308A591	5.53
3/4"	10	92308A581	6.01
1"	10	92308A583	6.49
1 1/4"	10	92308A595	6.92
1 1/2"	10	92308A597	7.20
3/8"-16			
3/4"	10	92308A622	6.85
1"	10	92308A624	7.34
1 1/4"	5	92308A626	4.98
1 1/2"	5	92308A628	5.68
2"	5	92308A632	6.89
2 1/2"	1	92308A636	1.45
3"	1	92308A639	1.67
1/2"-13			
3/4"	5	92308A710	6.95
1"	5	92308A712	7.49
1 1/4"	1	92308A714	1.53
1 1/2"	1	92308A716	1.64
2"	1	92308A720	1.92
2 1/2"	1	92308A724	2.38
3"	1	92308A726	2.81
3 1/2"	1	92308A732	3.61
4"	1	92308A736	3.63
5/8"-11			
1 1/2"	1	92308A806	3.59
2"	1	92308A811	3.49
3"	1	92308A818	5.21
4"	1	92308A825	7.54
3/4"-10			
2"	1	92308A933	7.59
3"	1	92308A938	10.01
4"	1	92308A946	10.39
5"	1	92308A949	12.85
Alloy Steel			
1/4"-20			
1/2"	10	91416A110	8.95
5/8"	10	91416A115	9.32
3/4"	10	91416A120	9.59
1"	10	91416A125	10.51
1 1/4"	10	91416A130	11.40
1 1/2"	10	91416A135	11.74
2"	1	91416A550	7.84
5/16"-18			
1/2"	10	91416A210	9.37
3/4"	10	91416A215	10.74
5/16"-18 (Cont.)			
1 1/2"	5	91416A220	6.39
2 1/2"	1	91416A593	9.34
3/8"-16			
3/4"	10	91416A310	10.49
1"	5	91416A315	7.17
1 1/4"	5	91416A320	9.32
1 1/2"	5	91416A325	9.19
2"	5	91416A330	11.19
Alloy Steel (Cont.)			
1/2"-13			
3/4"	5	91416A410	$10.13
1 1/2"	5	91416A415	12.21
2"	5	91416A420	14.38
3"	1	91416A425	5.88
4"	1	91416A728	8.61
5/8"-11			
2"	1	91416A510	6.29
3"	1	91416A515	8.29
5/8"-11 (Cont.)			
4"	1	91416A520	$10.84
5"	1	91416A814	11.89
3/4"-10			
3 1/2"	1	91416A610	9.45
4"	1	91416A615	10.43
5"	1	91416A855	16.20
Plain Steel			
1/4"-20			
3/8"	50	91410A535	5.11
1/2"	50	91410A537	5.46
5/8"	50	91410A538	6.60
3/4"	50	91410A540	6.85
1"	50	91410A542	10.37
1 1/2"	25	91410A546	5.05
2"	10	91410A550	3.65
5/16"-18			
1/2"	50	91410A578	5.94
3/4"	50	91410A581	7.20
1"	50	91410A583	8.80
1 1/4"	50	91410A585	10.64
1 1/2"	25	91410A587	6.07
2"	25	91410A942	9.80
3"	10	91410A943	5.99
3/8"-16			
1/2"	50	91410A619	11.07
3/4"	50	91410A622	12.84
1"	25	91410A624	9.00
1 1/4"	25	91410A626	9.14
1 1/2"	25	91410A628	10.60
2"	25	91410A632	11.70
2 1/2"	10	91410A634	6.48
3"	10	91410A636	7.25
3 1/2"	10	91410A639	8.32
4"	5	91410A642	7.79
4 1/2"	1	91410A645	2.99
5"	1	91410A648	2.72
7/16"-14			
1"	10	91410A669	5.61
2"	5	91410A677	4.77
1/2"-13			
3/4"	10	91410A710	7.76
1"	10	91410A712	8.57
1/2"-13 (Cont.)			
1 1/4"	10	91410A714	7.20
1 1/2"	10	91410A716	7.72
2"	10	91410A720	8.34
2 1/2"	10	91410A722	11.80
3"	5	91410A724	7.21
3 1/2"	5	91410A726	8.13
4"	5	91410A728	8.84
5"	1	91410A730	2.79
6"	1	91410A735	3.42
5/8"-11			
1 1/2"	5	91410A798	7.03
2"	5	91410A802	7.93
2 1/2"	1	91410A804	2.00
3"	1	91410A806	2.09
3 1/2"	1	91410A808	2.79
4"	1	91410A810	3.15
5"	1	91410A814	3.75
6"	1	91410A818	3.97
3/4"-10			
2"	1	91410A843	2.88
2 1/2"	1	91410A845	2.73
3"	1	91410A847	3.07
3 1/2"	1	91410A849	3.62
4"	1	91410A851	3.61
5"	1	91410A855	4.10
6"	1	91410A859	5.59
7/8"-9			
4"	1	91410A888	5.75
6"	1	91410A896	7.89
1"-8			
4"	1	91410A920	6.40
5"	1	91410A926	7.72
6"	1	91410A928	9.73

Nonmarring Flat Point Set Screws



Make frequent adjustments with minimal surface damage. Screws have a hex socket. Length listed is the overall length. **Inch** sizes have a Class 3A thread fit and dimensions that meet ASME B18.3. *Alloy steel* screws meet ASTM F912. **Metric** sizes meet DIN 913/ISO 4026. *Type 316* and *18-8 stainless steel* screws have a Class 6g thread fit. *Alloy steel* screws have a Class 5g6g thread fit.

Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
2-56			
1/8"	10	92158A311	$12.20
3/16"	10	92158A312	12.55
4-40			
1/8"	10	92158A119	3.93
3/16"	10	92158A121	4.12
1/4"	10	92158A127	4.46
3/8"	10	92158A135	4.59
6-32			
1/8"	10	92158A158	4.12
3/16"	10	92158A162	4.36
1/4"	10	92158A167	4.52
3/8"	10	92158A171	4.65
8-32			
1/8"	10	92158A313	6.71
3/16"	10	92158A314	5.07
1/4"	10	92158A199	4.59
8-32 (Cont.)			
3/8"	10	92158A202	$4.72
1/2"	10	92158A205	4.88
10-24			
1/4"	10	92158A248	4.82
3/8"	10	92158A252	4.91
10-32			
3/16"	10	92158A367	4.75
1/4"	10	92158A372	4.82
3/8"	10	92158A378	4.91
1/2"	10	92158A381	5.18
1/4"-20			
1/4"	10	92158A417	5.50
3/8"	10	92158A426	5.70
1/2"	10	92158A432	5.97
18-8 Stainless Steel			
2-56			
3/32"	50	94355A211	$10.13
1/8"	50	94355A080	7.70
3/16"	50	94355A085	9.13
1/4"	50	94355A212	10.10
5/16"	50	94355A213	10.92
3/8"	50	94355A214	13.08
4-40			
1/16"	50	94355A215	6.59
1/8"	50	94355A130	5.79
3/16"	50	94355A135	4.43
1/4"	50	94355A140	4.44
5/16"	50	94355A216	6.91
3/8"	50	94355A141	9.16
1/2"	50	94355A217	8.67
5-40			
5/32"	50	94355A218	10.89
6-32			
1/8"	50	94355A142	$4.71
5/32"	50	94355A219	4.11
3/16"	50	94355A143	5.05
1/4"	25	94355A144	2.42
5/16"	25	94355A221	2.31
3/8"	25	94355A146	2.74
1/2"	25	94355A148	4.86
1"	25	94355A222	7.87
8-32			
1/8"	50	94355A180	4.14
3/16"	50	94355A182	4.51
1/4"	25	94355A190	2.46
5/16"	25	94355A191	2.77
3/8"	25	94355A192	2.98
1/2"	25	94355A194	5.41

(Continued on following page)

Nonmarring Flat Point Set Screws *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
8-32 (Cont.)			
5/8"	25	94355A198	$7.01
3/4"	25	94355A223	8.61
1"	25	94355A224	9.92
10-24			
3/16"	50	94355A225	6.93
1/4"	25	94355A238	2.71
5/16"	50	94355A226	5.17
3/8"	25	94355A240	3.07
1/2"	50	94355A227	4.80
10-32			
1/8"	50	94355A228	9.98
3/16"	50	94355A328	5.12
1/4"	25	94355A330	2.71
5/16"	25	94355A239	3.03
3/8"	25	94355A335	3.07
Alloy Steel			
3-48			
1/8"	10	94105A020	9.47
3/16"	10	94105A022	10.47
4-40			
1/8"	100	94105A104	13.88
3/16"	50	94105A105	8.04
1/4"	50	94105A106	7.34
5-40			
1/8"	50	94105A120	8.93
6-32			
1/8"	50	94105A142	7.52
3/16"	50	94105A143	8.01
1/4"	50	94105A144	8.10
3/8"	50	94105A146	8.46
8-32			
1/8"	50	94105A187	7.31
3/16"	50	94105A189	8.21
1/4"	50	94105A190	8.43
3/8"	50	94105A192	8.83
1/2"	25	94105A193	5.72
10-24			
3/16"	50	94105A237	8.46
1/4"	50	94105A238	9.10
5/16"	50	94105A239	8.58
3/8"	50	94105A240	8.67
10-32			
1/8"	25	94105A188	8.93
3/16"	50	94105A824	9.46
1/4"	50	94105A825	8.72
3/8"	50	94105A826	7.81
1/2"	50	94105A828	9.38
3/4"	50	94105A830	11.28
1"	25	94105A835	9.23
1/4"-20			
3/16"	50	94105A532	9.90
1/4"	50	94105A533	9.90
5/16"	50	94105A534	8.79
3/8"	50	94105A535	9.57
1/2"	50	94105A537	10.35
5/8"	25	94105A538	5.60
3/4"	25	94105A539	8.00
1"	25	94105A541	9.88
1 1/2"	10	94105A544	10.85
2"	10	94105A547	12.91

Lg.	Pkg. Qty.		Pkg.
10-32 (Cont.)			
1/2"	25	94355A337	$3.34
5/8"	25	94355A229	6.40
3/4"	25	94355A341	7.39
1"	10	94355A343	4.62
1/4"-20			
1/4"	25	94355A533	3.36
5/16"	25	94355A231	3.06
3/8"	25	94355A535	4.26
1/2"	25	94355A540	4.90
3/4"	10	94355A544	2.87
1"	10	94355A548	3.40
1/4"-28			
1/4"	10	94355A602	4.01
3/8"	10	94355A608	4.34
1/2"	10	94355A614	4.78
1/4"-28			
3/16"	50	94105A625	8.06
1/4"	50	94105A630	9.73
3/8"	50	94105A635	9.38
1/2"	25	94105A638	8.84
5/8"	25	94105A641	10.74
5/16"-18			
1/4"	50	94105A574	9.91
5/16"	50	94105A575	10.63
3/8"	50	94105A576	11.36
1/2"	50	94105A578	11.66
5/8"	50	94105A579	12.60
3/4"	25	94105A580	8.03
1"	25	94105A583	7.89
5/16"-24			
3/8"	10	94105A588	2.59
1/2"	25	94105A590	7.45
5/8"	25	94105A593	8.18
3/4"	25	94105A596	10.82
3/8"-16			
1/4"	10	94105A603	2.48
3/8"	50	94105A605	11.45
1/2"	50	94105A610	11.41
5/8"	25	94105A613	7.42
3/4"	10	94105A614	4.15
1"	10	94105A615	4.61
3/8"-24			
1/4"	25	94105A616	9.95
3/8"	50	94105A617	11.49
1/2"	50	94105A619	12.42
3/4"	10	94105A621	4.22
1/2"-13			
3/8"	25	94105A706	14.90
1/2"	10	94105A707	6.28
5/8"	10	94105A708	6.81
3/4"	10	94105A710	7.05
1"	10	94105A712	8.71
1 1/4"	5	94105A715	10.84
1/2"-20			
1/2"	25	94105A730	15.42
5/8"-11			
5/8"	5	94105A740	10.20
3/4"	5	94105A742	12.30
1"	5	94105A744	12.29

Lg., mm	Pkg. Qty.		Pkg.
Metric Type 316 Stainless Steel			
M2×0.4			
3	5	92605A501	$8.47
4	5	92605A502	9.59
M3×0.5			
3	50	92605A511	8.81
4	50	92605A512	9.52
6	50	92605A514	9.76
8	50	92605A516	9.55
M4×0.7			
4	50	92605A522	7.62
6	50	92605A524	8.10
8	50	92605A526	9.29
10	50	92605A528	9.76
Metric 18-8 Stainless Steel			
M1.4×0.3			
5	5	92605A011	12.77

Lg., mm	Pkg. Qty.		Pkg.
M5×0.8			
5	50	92605A533	$9.52
6	50	92605A534	9.76
8	25	92605A536	6.07
10	25	92605A538	7.02
M6×1			
6	25	92605A544	6.43
8	25	92605A546	7.26
10	25	92605A548	7.50
12	25	92605A549	9.17
M8×1.25			
8	10	92605A561	4.86
10	10	92605A563	6.10
12	10	92605A565	6.33
16	10	92605A569	7.76
M1.6×0.35			
2.5	25	92605A021	8.97
3	25	92605A024	6.24
4	25	92605A027	8.37

Lg., mm	Pkg. Qty.		Pkg.
Metric 18-8 Stainless Steel (Cont.)			
M1.6×0.35 (Cont.)			
5	25	92605A030	$10.89
6	25	92605A033	7.69
M2×0.4			
3	50	92605A042	11.71
4	25	92605A043	10.60
5	25	92605A044	6.42
6	25	92605A047	6.86
M2.5×0.45			
4	50	92605A064	6.60
6	50	92605A067	6.79
8	50	92605A070	7.21
10	25	92605A073	6.61
M3×0.5			
3	25	92605A097	2.73
4	50	92605A098	5.19
5	50	92605A099	5.33
6	25	92605A100	2.57
8	25	92605A102	2.77
10	50	92605A104	5.14
12	50	92605A106	6.41
16	50	92605A108	6.73
18	25	92605A114	7.80
20	25	92605A109	5.34
25	10	92605A118	5.74
30	10	92605A120	6.53
M4×0.7			
3	25	92605A009	3.39
4	25	92605A110	2.91
5	25	92605A111	2.46
6	25	92605A112	3.08
8	25	92605A113	3.22
10	50	92605A115	7.86
12	50	92605A117	6.78
16	50	92605A121	7.90
20	50	92605A123	8.64
25	25	92605A124	5.72
30	10	92605A126	4.71
40	10	92605A130	6.73
M5×0.8			
4	50	92605A227	5.02
5	50	92605A228	3.88
6	50	92605A229	3.77
8	50	92605A231	3.44
10	50	92605A233	6.38
12	50	92605A235	6.55
16	50	92605A239	6.74
20	25	92605A243	4.83
25	25	92605A248	5.56

Lg., mm	Pkg. Qty.		Pkg.
M5×0.8 (Cont.)			
30	25	92605A253	$6.00
40	10	92605A263	7.08
50	5	92605A273	7.35
M6×1			
5	50	92605A122	5.28
6	50	92605A125	12.33
8	25	92605A127	3.37
10	25	92605A128	3.88
12	25	92605A129	3.94
16	10	92605A132	3.43
20	10	92605A134	2.68
25	10	92605A136	3.52
30	10	92605A137	4.84
35	10	92605A138	5.20
40	5	92605A140	5.12
50	5	92605A143	6.84
M8×1.25			
8	25	92605A139	5.37
10	10	92605A141	2.77
12	10	92605A142	3.32
16	10	92605A144	4.76
20	10	92605A148	5.90
25	10	92605A150	5.94
30	10	92605A152	7.10
35	10	92605A153	7.66
40	5	92605A154	6.44
50	5	92605A158	8.91
60	5	92605A162	12.00
70	1	92605A172	4.52
M10×1.5			
10	25	92605A155	13.64
12	10	92605A156	7.62
16	10	92605A157	9.55
20	10	92605A161	8.98
25	5	92605A166	5.14
30	5	92605A171	6.95
35	5	92605A176	7.23
40	1	92605A180	2.47
50	1	92605A190	3.19
60	1	92605A200	3.41
M12×1.75			
12	10	92605A300	8.52
16	10	92605A304	7.99
20	5	92605A308	10.15
25	5	92605A313	8.26
30	5	92605A318	7.89
40	5	92605A328	13.12
50	1	92605A338	4.18
Metric Alloy Steel			
M3×0.5			
3	100	93245A097	7.64
4	100	93245A098	8.19
5	100	93245A099	9.28
6	100	93245A100	9.28
8	100	93245A102	9.82
10	100	93245A104	9.82
12	100	93245A106	12.01
16	50	93245A107	8.06
M4×0.7			
4	100	93245A110	7.64
5	100	93245A111	8.19
6	100	93245A112	9.28
8	100	93245A113	9.28
10	100	93245A114	11.46
12	100	93245A115	13.10
16	50	93245A117	7.54
20	50	93245A119	9.82
M5×0.8			
4	100	93245A210	9.03
5	100	93245A213	8.19
6	100	93245A215	8.19
8	100	93245A219	9.82
10	50	93245A222	7.54
12	50	93245A225	7.54
16	50	93245A228	7.54
20	50	93245A231	12.83
25	50	93245A234	12.83
M6×1			
5	50	93245A125	8.61
6	100	93245A126	7.64
8	100	93245A127	8.19
10	100	93245A128	9.28

Lg., mm	Pkg. Qty.		Pkg.
M6×1 (Cont.)			
12	100	93245A129	12.83
16	100	93245A131	13.10
20	25	93245A133	5.18
M8×1.25			
8	100	93245A139	11.52
10	100	93245A141	12.01
12	50	93245A142	7.91
16	50	93245A143	11.19
20	25	93245A145	6.82
25	25	93245A147	8.05
30	25	93245A149	9.41
M10×1.5			
10	50	93245A155	9.28
12	25	93245A156	6.00
16	25	93245A157	6.69
20	25	93245A159	9.55
25	25	93245A161	17.05
30	25	93245A163	17.09
35	10	93245A164	9.52
40	10	93245A165	11.67
50	10	93245A167	14.29
60	5	93245A168	8.57
M12×1.75			
12	25	93245A169	10.11
16	10	93245A171	5.45
20	10	93245A173	7.27
25	10	93245A175	8.64
30	10	93245A177	10.48
35	10	93245A179	10.95
40	10	93245A181	15.71
50	10	93245A183	16.00

Thread-Locking Nonmarring Flat Point Set Screws



A nylon locking patch on the threads ensures a secure grip. The patch remains effective up to 250° F. Screws are reusable and have a blunt tip that minimizes surface damage. They are made from alloy steel, have a hex socket, and a Class 3A thread fit. All meet ASTM F912 and ASME B18.3. Length listed is the overall length.

Lg.	Pkg. Qty.		Pkg.
4-40			
1/8"	10	94495A197	$10.64
3/16"	25	94495A201	9.75
6-32			
1/8"	10	94495A203	10.76
1/4"	10	94495A208	9.00
3/8"	25	94495A210	9.40
8-32			
1/8"	10	94495A215	10.72
1/4"	25	94495A221	8.93
3/8"	25	94495A223	9.05
1/2"	25	94495A225	9.28
10-32			
1/8"	10	94495A227	$16.64
3/16"	25	94495A231	9.17
1/4"	25	94495A235	9.40
3/8"	10	94495A237	9.88
1/2"	10	94495A239	10.08
1/4"-20			
1/4"	25	94495A241	9.17
3/8"	25	94495A243	9.52
1/2"	25	94495A245	10.29
3/4"	25	94495A247	11.29
1"	10	94495A249	10.60
1/4"-28			
1/4"	25	94495A251	$9.17
3/8"	25	94495A253	9.52
5/16"-18			
5/16"	25	94495A261	9.75
3/8"	10	94495A263	7.37
1/2"	10	94495A264	9.40
5/8"	10	94495A265	6.79
1"	10	94495A268	12.08
5/16"-24			
5/16"	25	94495A271	9.93
3/8"-16			
3/8"	10	94495A301	$11.36
1/2"	10	94495A304	11.40
3/4"	10	94495A307	11.64
1"	10	94495A310	13.64
3/8"-24			
3/8"	25	94495A281	11.47
1/2"	25	94495A283	12.18
1/2"-13			
1/2"	10	94495A331	13.54
3/4"	10	94495A334	13.70
1"	10	94495A337	14.91

Plastic Nonmarring Flat Point Set Screws



Made of nylon, these screws offer chemical resistance at an economical price. They also have a flat point that minimizes surface damage. All have a Class 2A thread fit. Temperature range is –40° to 185° F. Color is off-white.

For **hex-socket** screws, length listed is the overall length.

For **slotted** screws, length does not include the drive portion.

Lg.	Pkg. Qty.		Pkg.
Hex Socket			
6-32			
1/8"	100	94564A021	$5.41
3/16"	100	94564A022	5.44
1/4"	100	94564A023	5.48
3/8"	100	94564A025	5.55
1/2"	100	94564A027	5.59
8-32			
1/8"	100	94564A032	5.63
3/16"	100	94564A034	5.66
1/4"	100	94564A036	5.68
3/8"	100	94564A037	5.71
1/2"	100	94564A039	5.75
10-32			
1/4"	100	94564A045	6.08
3/8"	100	94564A046	6.15
1/2"	100	94564A047	6.20
1/4"-20			
1/4"	100	94564A065	6.92
5/16"	100	94564A075	6.93
3/8"	100	94564A070	6.96
1/2"	100	94564A080	7.00
5/8"	100	94564A085	7.03
3/4"	100	94564A090	7.07
1"	100	94564A095	7.12
1 1/2"	100	94564A100	7.30
1 3/4"	100	94564A105	7.95
2"	100	94564A110	8.00
2 1/2"	100	94564A115	12.50
1/4"-28			
3/16"	100	94564A205	$7.46
1/4"	100	94564A210	7.48
3/8"	100	94564A215	7.54
5/8"	100	94564A220	7.61
3/4"	100	94564A225	7.65
1"	100	94564A230	7.71
5/16"-18			
1/2"	50	94564A305	11.07
3/4"	50	94564A310	11.22
1"	50	94564A315	11.37
3/8"-16			
1/2"	50	94564A405	11.74
3/4"	50	94564A410	12.21
1"	50	94564A415	12.67
1/2"-13			
1/2"	25	94564A505	11.01
3/4"	25	94564A510	11.47
1"	25	94564A515	11.70
1 1/4"	25	94564A520	12.04
5/8"-11			
1/2"	25	94564A605	11.83
3/4"	25	94564A610	12.21
1"	25	94564A615	12.60
1 1/2"	25	94564A620	13.52
3/4"-10			
1/4"	25	94564A705	11.54
Slotted			
4-40			
1/8"	100	95862A103	5.46
1/4"	100	95862A106	5.52
3/8"	100	95862A108	5.61
1"	100	95862A115	5.77
6-32			
1/8"	100	95862A142	5.65
1/4"	100	95862A144	5.72
3/8"	100	95862A146	5.80
1/2"	100	95862A148	5.84
8-32			
1/8"	100	95862A188	5.88
1/4"	100	95862A190	5.94
8-32 (Cont.)			
3/8"	100	95862A192	5.97
1/2"	100	95862A194	6.01
10-32			
1/4"	100	95862A253	6.34
3/8"	100	95862A254	6.43
1/2"	100	95862A255	6.47
1"	100	95862A258	6.59
1/4"-20			
1/4"	100	95862A533	7.23
1/2"	100	95862A537	7.32
3/4"	100	95862A540	7.38
1"	100	95862A542	7.44

Easy-Adjust Oval Point Set Screws



A small rounded contact surface allows you to make slight adjustments without loosening the screw and also causes minimal surface damage. Screws have a hex socket and a Class 3A thread fit. All dimensions meet ASME B18.3. Length listed is the overall length.

Alloy steel screws meet ASTM F912.

Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
4-40			
1/8"	25	99553A140	$9.83
3/16"	10	99553A142	4.26
1/4"	10	99553A148	4.46
3/8"	10	99553A156	4.72
6-32			
1/4"	10	99553A179	4.52
3/8"	10	99553A183	4.65
1/2"	10	99553A188	4.75
8-32			
1/4"	10	99553A220	4.59
18-8 Stainless Steel			
4-40			
1/8"	50	92778A040	5.32
3/16"	50	92778A044	5.33
1/4"	50	92778A047	5.35
3/8"	50	92778A052	5.89
6-32			
1/8"	25	92778A067	3.12
3/16"	25	92778A069	2.94
1/4"	25	92778A071	2.95
3/8"	25	92778A074	3.21
1/2"	25	92778A079	5.27
8-32			
1/4"	25	92778A113	5.45
3/8"	25	92778A114	3.58
Alloy Steel			
4-40			
1/8"	50	92765A002	8.20
3/16"	50	92765A005	8.38
6-32			
3/16"	50	92765A020	8.25
1/4"	50	92765A023	8.24
8-32			
1/4"	50	92765A152	7.76
5/16"	50	92765A155	8.81
3/8"	50	92765A157	9.03
10-32			
3/16"	50	92765A210	8.71
1/4"	50	92765A212	8.84
5/16"	50	92765A214	9.19
3/8"	50	92765A216	9.01
1/2"	50	92765A219	11.53
3/4"	25	92765A223	12.25
1"	10	92765A226	7.31
1/4"-20			
3/8"	50	92765A304	15.27
1/2"	25	92765A305	9.52
3/4"	25	92765A308	9.48
1"	25	92765A311	10.17
1 1/4"	10	92765A314	8.34
1 1/2"	10	92765A317	10.76
1/4"-28			
1/4"	50	92765A350	9.50
3/8"	50	92765A353	9.99
1/2"	10	92765A356	4.87
8-32 (Cont.)			
3/8"	10	99553A223	$4.72
1/2"	10	99553A226	4.88
10-32			
3/16"	10	99553A388	4.75
1/4"	10	99553A393	4.82
3/8"	10	99553A399	4.91
1/2"	10	99553A402	5.18
1/4"-20			
3/8"	10	99553A447	5.70
1/2"	10	99553A453	5.96
8-32 (Cont.)			
1/2"	25	92778A115	6.05
10-32			
3/16"	25	92778A117	5.45
1/4"	25	92778A119	3.23
3/8"	25	92778A120	3.24
1/2"	25	92778A121	3.61
3/4"	25	92778A122	8.64
1/4"-20			
3/8"	25	92778A123	11.10
1/2"	25	92778A127	12.24
3/8"-16			
5/8"	10	92778A135	9.00
1/4"-28 (Cont.)			
3/4"	10	92765A359	5.68
1"	10	92765A361	6.14
5/16"-18			
5/16"	50	92765A405	9.04
3/8"	50	92765A408	9.33
1/2"	50	92765A411	11.61
5/8"	25	92765A414	7.40
3/4"	25	92765A417	9.51
1"	25	92765A420	12.17
3/8"-16			
1/2"	25	92765A502	9.76
5/8"	25	92765A504	11.55
3/4"	25	92765A507	11.92
1"	10	92765A510	7.12
1 1/2"	10	92765A512	14.08
3/8"-24			
1/2"	25	92765A548	8.57
5/8"	10	92765A550	7.14
3/4"	10	92765A553	10.20
1"	10	92765A559	12.24
1 1/2"	5	92765A562	8.16
1/2"-13			
1"	10	92765A614	10.92
1/2"-20			
3/4"	5	92765A647	8.42
1"	5	92765A650	11.48
3/4"-10			
3/4"	1	92765A705	4.34
1"	1	92765A708	5.13

High Hold Cone Point Set Screws

The sharp tip wedges into contact surfaces for a superior grip. All screws have a hex socket. Length listed is the overall length.

Inch sizes meet ASME B18.3 and have a Class 3A thread fit. *Alloy steel* screws also meet ASTM F912.

Metric sizes meet DIN 914/ISO 4027. *Metric 18-8 stainless steel* screws have a Class 6g thread fit; *metric alloy steel* screws have a Class 5g6g thread fit.



Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
2-56			
1/8"	10	90778A016	$7.98
3/16"	10	90778A019	8.40
1/4"	10	90778A022	8.78
4-40			
1/8"	10	90778A103	4.94
3/16"	10	90778A105	5.13
1/4"	10	90778A111	5.51
3/8"	10	90778A119	5.89
6-32			
1/8"	10	90778A142	5.17
3/16"	10	90778A146	5.40
1/4"	10	90778A151	5.70
3/8"	10	90778A155	5.82
1/2"	10	90778A159	6.08
8-32			
3/16"	10	90778A178	5.62
1/4"	10	90778A183	5.78
3/8"	10	90778A186	5.93
1/2"	10	90778A189	6.08
10-24			
3/16"	10	90778A227	$5.93
1/4"	10	90778A232	6.08
3/8"	10	90778A236	6.31
1/2"	10	90778A243	6.61
10-32			
3/16"	10	90778A351	5.93
1/4"	10	90778A356	6.08
3/8"	10	90778A362	6.31
1/2"	10	90778A365	6.61
1/4"-20			
1/4"	10	90778A401	6.92
5/16"	10	90778A405	6.99
3/8"	10	90778A410	7.07
1/2"	10	90778A416	7.37
3/4"	10	90778A422	8.36
1/4"-28			
1/4"	10	90778A450	7.41
5/16"-18			
3/8"	10	90778A533	9.12
1/2"	10	90778A538	10.26
3/4"	5	90778A542	5.70
18-8 Stainless Steel			
2-56			
1/8"	50	92785A050	11.49
3/16"	25	92785A053	8.25
1/4"	25	92785A055	8.82
4-40			
1/8"	50	92785A110	5.69
3/16"	50	92785A114	5.94
1/4"	50	92785A116	6.67
3/8"	25	92785A118	5.28
5-40			
1/4"	25	92785A123	6.27
6-32			
1/8"	50	92785A128	5.76
3/16"	50	92785A142	5.80
1/4"	25	92785A144	3.71
3/8"	25	92785A146	4.02
1/2"	25	92785A148	5.89
8-32			
1/8"	50	92785A186	6.54
3/16"	50	92785A189	6.20
1/4"	25	92785A190	3.28
5/16"	25	92785A191	4.09
3/8"	25	92785A192	4.11
1/2"	25	92785A195	5.68
10-24			
3/16"	50	92785A237	6.87
1/4"	25	92785A238	3.95
3/8"	25	92785A240	4.12
1/2"	25	92785A243	4.20
10-32			
3/16"	25	92785A330	3.71
1/4"	25	92785A332	3.90
5/16"	25	92785A333	4.06
3/8"	25	92785A334	4.20
1/2"	25	92785A337	4.16
1/4"-20			
1/4"	25	92785A433	3.90
5/16"	10	92785A434	1.94
3/8"	25	92785A435	4.79
1/2"	10	92785A437	2.90
3/4"	10	92785A439	3.09
1"	10	92785A443	3.63
1/4"-28			
3/16"	25	92785A449	9.37
1/4"	25	92785A451	9.46
5/16"-18			
3/8"	10	92785A467	2.59
1/2"	10	92785A472	2.89
3/4"	10	92785A476	3.99
Alloy Steel			
2-56			
1/16"	10	92695A005	7.58
1/8"	10	92695A007	7.85
4-40			
1/8"	50	92695A105	7.50
3/16"	50	92695A110	7.31
1/4"	25	92695A112	7.20
4-48			
1/8"	25	92695A115	10.72
3/16"	25	92695A120	11.38
5-40			
3/16"	50	92695A126	7.09
1/4"	50	92695A125	9.24
3/8"	10	92695A127	5.62
6-32			
1/8"	50	92695A130	9.01
3/16"	50	92695A131	7.44
1/4"	50	92695A132	7.50
5/16"	50	92695A134	7.63
3/8"	50	92695A136	7.82
1/2"	25	92695A140	8.03
3/4"	25	92695A144	10.99
8-32			
3/16"	50	92695A150	7.31
1/4"	50	92695A152	8.01
3/8"	50	92695A153	8.31
1/2"	50	92695A155	8.76
3/4"	25	92695A157	11.23
1"	10	92695A160	5.87
10-24			
1/4"	50	92695A202	11.72
5/16"	100	92695A203	13.78
3/8"	50	92695A204	11.63
1/2"	50	92695A206	10.69
3/4"	25	92695A207	11.54
1"	10	92695A208	6.63
10-32			
3/16"	50	92695A210	9.87
1/4"	50	92695A211	8.28
3/8"	50	92695A213	8.78
1/2"	50	92695A215	10.57
3/4"	25	92695A217	11.54
1"	10	92695A219	6.63
1/4"-20			
1/4"	50	92695A302	8.82
5/16"	50	92695A303	7.85
3/8"	50	92695A304	10.16
1/2"	25	92695A305	9.44
5/8"	25	92695A306	6.84
3/4"	25	92695A307	11.62
1"	25	92695A308	13.40
1 1/2"	10	92695A310	11.51
1/4"-28			
1/4"	50	92695A311	8.47
3/8"	50	92695A312	9.88
1/2"	25	92695A314	12.17
3/4"	10	92695A316	5.62
Alloy Steel (Cont.)			
5/16"-18			
5/16"	50	92695A402	$9.43
3/8"	50	92695A403	10.37
1/2"	50	92695A404	10.90
5/8"	25	92695A405	7.20
3/4"	25	92695A406	9.78
1"	25	92695A409	11.37
5/16"-24			
5/16"	50	92695A420	9.43
3/8"	50	92695A424	9.67
3/8"-16			
3/8"	25	92695A502	12.24
1/2"	50	92695A503	18.82
3/8"-16 (Cont.)			
3/4"	25	92695A505	$10.64
1"	10	92695A507	7.04
3/8"-24			
3/8"	25	92695A520	8.38
1/2"	25	92695A523	9.93
1/2"-13			
1/2"	10	92695A605	8.18
3/4"	10	92695A610	9.83
1"	10	92695A615	10.89
1 1/2"	5	92695A618	12.58

Lg., mm	Pkg. Qty.		Pkg.
Metric 18-8 Stainless Steel			
M2×0.4			
3	25	91217A011	$7.98
4	25	91217A012	8.41
5	25	91217A013	8.96
10	25	91217A018	8.16
M3×0.5			
3	25	91217A050	4.31
4	25	91217A055	2.68
5	25	91217A060	2.74
6	25	91217A065	3.40
8	25	91217A070	4.32
10	10	91217A076	2.17
12	5	91217A078	3.26
16	5	91217A082	4.01
20	25	91217A086	11.38
M4×0.7			
4	25	91217A105	1.43
5	25	91217A110	2.68
6	25	91217A115	2.63
8	25	91217A120	2.79
10	25	91217A125	2.98
12	25	91217A130	2.98
16	25	91217A134	7.05
20	10	91217A138	6.75
M5×0.8			
5	25	91217A155	2.00
6	25	91217A160	4.17
M5×0.8 (Cont.)			
8	25	91217A165	$2.12
10	25	91217A170	4.70
12	25	91217A175	2.82
30	5	91217A193	4.74
M6×1			
6	25	91217A210	3.63
8	25	91217A215	2.45
10	25	91217A220	2.92
12	25	91217A225	4.20
16	25	91217A230	8.29
20	25	91217A240	10.46
30	10	91217A250	6.31
M8×1.25			
8	25	91217A303	5.69
10	25	91217A305	4.23
12	10	91217A310	3.87
16	10	91217A315	5.17
20	10	91217A320	3.66
30	10	91217A325	8.88
M10×1.5			
10	10	91217A458	5.31
12	10	91217A460	5.68
16	10	91217A464	7.57
20	5	91217A468	5.42
25	1	91217A473	1.40
30	5	91217A478	6.85
Metric Alloy Steel			
M2.5×0.45			
3	10	91210A038	3.70
6	10	91210A042	3.62
M3×0.5			
3	50	91210A097	7.22
4	50	91210A098	7.68
5	50	91210A099	7.60
6	50	91210A100	8.25
8	50	91210A101	8.70
M4×0.7			
4	50	91210A110	6.36
5	50	91210A111	5.58
6	50	91210A112	6.90
8	50	91210A113	5.90
10	50	91210A114	7.26
12	50	91210A115	7.63
16	25	91210A117	2.07
20	25	91210A120	6.72
M5×0.8			
5	50	91210A200	7.68
6	50	91210A210	7.42
8	50	91210A215	7.14
10	50	91210A220	6.45
12	50	91210A225	6.50
16	50	91210A230	6.62
20	25	91210A235	5.52
M6×1			
6	50	91210A300	7.71
8	50	91210A310	6.49
10	50	91210A315	6.57
12	50	91210A320	7.89
16	50	91210A325	8.77
20	25	91210A330	4.02
M6×1 (Cont.)			
25	25	91210A335	10.31
30	25	91210A340	11.31
M8×1.25			
8	50	91210A410	12.14
10	50	91210A415	7.05
12	50	91210A420	9.12
16	25	91210A425	7.91
20	25	91210A430	8.86
22	10	91210A435	8.87
25	10	91210A437	4.74
30	10	91210A440	5.26
40	10	91210A445	7.79
50	10	91210A450	9.52
M10×1.5			
10	25	91210A515	7.79
12	25	91210A520	9.11
16	25	91210A525	10.65
20	25	91210A530	8.30
25	10	91210A535	6.49
30	10	91210A540	7.96
40	10	91210A545	11.88
50	10	91210A550	16.00
M12×1.75			
12	10	91210A620	6.88
16	10	91210A625	6.87
20	10	91210A630	8.25
25	10	91210A635	8.73
30	10	91210A640	10.08
40	5	91210A645	8.48
50	5	91210A650	8.86
M16×2			
25	5	91210A835	10.26
50	1	91210A850	2.41

Fine-Adjustment Set Screws



Set Screws



These screws are finely threaded for precise adjustment. All have a rounded point that minimizes damage to contact surfaces. To install screws in unthreaded holes, use the optional threaded inserts (sold separately). Screws and inserts are not rated for hardness.

Screws have a hex socket and a Class 3A thread fit. They're made of 18-8 stainless steel. Length listed is the overall length.

Optional threaded inserts are made of brass and have a Class 3B thread fit.

Lg.		Each
Screws		
3/16"-100—Hex Size: 3/32" Tip Dia.: 5/32"		
3/8"	98625A110	$7.76
1/2"	98625A130	8.29
3/4"	98625A160	9.00
1"	98625A190	9.05
1 1/4"	98625A220	9.10
1 1/2"	98625A230	9.15
1 3/4"	98625A250	9.20
2"	98625A280	9.26

Lg.		Each
1/4"-80—Hex Size: 3/32" Tip Dia.: 5/32"		
3/8"	98625A620	$9.10
1/2"	98625A650	9.17
3/4"	98625A680	9.20
1"	98625A710	9.41
1 1/4"	98625A740	9.50
1 1/2"	98625A750	9.55
1 3/4"	98625A770	9.60
2"	98625A800	9.75

Lg.	Dia.	Flange Dia.	Flange Thick.		Each
Optional Threaded Inserts					
For 3/16"-100 Screws					
5/16"	1/4"	0.290"	0.015"	98625A320	$6.88
7/16"	1/4"	0.290"	0.015"	98625A330	6.88
5/8"	1/4"	0.290"	0.015"	98625A340	6.88
3/4"	1/4"	0.290"	0.015"	98625A350	6.88
For 1/4"-80 Screws					
5/16"	5/16"	0.352"	0.015"	98625A950	7.86
7/16"	5/16"	0.352"	0.015"	98625A960	7.86
5/8"	5/16"	0.352"	0.015"	98625A970	7.86
3/4"	5/16"	0.352"	0.015"	98625A980	7.86

Extended Point Set Screws

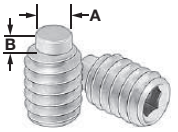

Also known as dog point and pilot point set screws, their long tip fits into a mating hole on your workpiece to keep parts aligned. Screws have a hex socket and a Class 3A thread fit. All dimensions meet ASME B18.3. Length listed is the overall length.

Alloy steel screws meet ASTM F912.

Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel			
4-40—(A) 0.075"; (B) 0.030"			
1/8"	10	92845A001	$4.71
3/16"	10	92845A004	7.39
1/4"	10	92845A007	9.29
6-32—(A) 0.092"; (B) 0.038"			
3/16"	10	92845A024	5.45
1/4"	10	92845A027	5.89
3/8"	5	92845A029	10.07
8-32—(A) 0.109"; (B) 0.043"			
1/4"	10	92845A044	6.07
3/8"	5	92845A047	8.39
10-24—(A) 0.127"; (B) 0.049"			
1/4"	5	92845A064	8.21
3/8"	1	92845A067	2.51
18-8 Stainless Steel			
3-56—(A) 0.066"; (B) 0.027"			
1/8"	25	92845A091	8.13
4-40—(A) 0.075"; (B) 0.030"			
1/8"	50	92845A105	9.84
3/16"	50	92845A110	10.08
1/4"	25	92845A113	6.18
3/8"	25	92845A117	6.71
6-32—(A) 0.092"; (B) 0.038"			
3/16"	50	92845A140	10.70
1/4"	50	92845A144	10.57
5/16"	50	92845A145	10.87
3/8"	25	92845A146	5.22
1/2"	25	92845A148	7.27
5/8"	25	92845A151	7.62
8-32—(A) 0.109"; (B) 0.043"			
1/8"	25	92845A182	7.15
3/16"	25	92845A185	6.53
1/4"	25	92845A190	4.95
5/16"	25	92845A191	7.33
3/8"	25	92845A192	5.07
1/2"	25	92845A195	8.37
10-24—(A) 0.127"; (B) 0.049"			
1/4"	25	92845A238	5.15
5/16"	25	92845A239	7.63
3/8"	25	92845A240	5.25
1/2"	25	92845A245	8.55
3/4"	25	92845A249	8.70
10-32—(A) 0.127"; (B) 0.049"			
3/16"	50	92845A328	8.53
1/4"	25	92845A330	5.22
5/16"	25	92845A333	7.76

Lg.	Pkg. Qty.		Pkg.
10-32—(A) 0.127"; (B) 0.049"			
3/16"	10	92845A082	$8.75
1/4"	10	92845A085	7.96
3/8"	5	92845A088	6.79
1/4"-20—(A) 0.156"; (B) 0.067"			
1/4"	5	92845A123	9.11
3/8"	5	92845A126	7.29
1/2"	1	92845A129	2.36
5/16"-18—(A) 0.203"; (B) 0.082"			
3/8"	1	92845A164	3.73
1/2"	1	92845A167	3.90
3/8"-16—(A) 0.250"; (B) 0.099"			
1/2"	1	92845A175	4.54
3/4"	1	92845A179	5.06
10-32 (Cont.)			
3/8"	25	92845A335	3.75
1/2"	25	92845A340	6.76
1/4"-20—(A) 0.156"; (B) 0.067"			
1/4"	25	92845A528	8.45
5/16"	25	92845A530	8.72
3/8"	10	92845A535	4.00
1/2"	10	92845A537	4.14
5/8"	10	92845A540	4.72
3/4"	10	92845A542	6.48
1"	10	92845A545	7.24
1/4"-28—(A) 0.156"; (B) 0.067"			
1/4"	10	92845A561	5.96
3/8"	10	92845A564	6.42
5/16"-18—(A) 0.203"; (B) 0.082"			
5/16"	10	92845A605	4.26
3/8"	10	92845A610	4.51
1/2"	10	92845A615	5.10
3/4"	10	92845A618	6.82
1"	10	92845A620	7.43
3/8"-16—(A) 0.250"; (B) 0.099"			
3/8"	10	92845A645	6.41
1/2"	10	92845A650	6.57
5/8"	10	92845A653	7.44
3/4"	5	92845A655	4.37
1"	5	92845A658	4.68
3/8"-24—(A) 0.250"; (B) 0.099"			
3/8"	10	92845A671	6.63
1"	5	92845A676	11.52

Lg.	Pkg. Qty.		Pkg.
Alloy Steel			
4-40—(A) 0.075"; (B) 0.030"			
1/8"	25	92505A065	$5.09
3/16"	25	92505A070	5.40
1/4"	50	92505A075	5.38
5-40—(A) 0.083"; (B) 0.030"			
1/8"	25	92505A080	5.93
3/16"	25	92505A083	6.48
1/4"	25	92505A085	6.60
3/8"	25	92505A090	6.80
6-32—(A) 0.092"; (B) 0.038"			
1/8"	25	92505A101	7.16
3/16"	25	92505A105	5.97
1/4"	50	92505A110	6.35
3/8"	50	92505A115	6.62
8-32—(A) 0.109"; (B) 0.043"			
1/8"	25	92505A181	8.00
3/16"	50	92505A189	6.49
1/4"	50	92505A190	7.00
5/16"	50	92505A191	7.57
3/8"	50	92505A192	7.33
1/2"	50	92505A194	7.68
10-24—(A) 0.127"; (B) 0.049"			
3/16"	50	92505A235	6.51
1/4"	50	92505A238	6.97
5/16"	50	92505A239	7.50
3/8"	50	92505A240	7.59
1/2"	50	92505A242	7.78
10-32—(A) 0.127"; (B) 0.049"			
3/16"	50	92505A637	7.33
1/4"	50	92505A638	7.57
3/8"	50	92505A640	7.76
1/2"	50	92505A642	7.92
5/8"	25	92505A644	6.97
3/4"	25	92505A646	8.25
1"	10	92505A648	4.85
1/4"-20—(A) 0.156"; (B) 0.067"			
1/4"	50	92505A533	7.67
5/16"	50	92505A534	7.84
3/8"	50	92505A535	7.85
1/2"	50	92505A537	8.40
5/8"	25	92505A538	5.47
3/4"	25	92505A540	6.00
1"	25	92505A542	7.85
1 1/4"	10	92505A545	5.56
1 1/2"	10	92505A548	6.14
1/4"-28—(A) 0.156"; (B) 0.067"			
1/4"	50	92505A633	6.98
5/16"	50	92505A634	5.38
3/8"	50	92505A635	6.08
1/2"	25	92505A639	5.40
3/4"	25	92505A645	6.58

Lg.	Pkg. Qty.		Pkg.
5/16"-18—(A) 0.203"; (B) 0.082"			
1/4"	50	92505A574	$9.25
5/16"	50	92505A575	7.10
3/8"	50	92505A576	8.00
1/2"	25	92505A578	4.77
5/8"	25	92505A579	5.43
3/4"	25	92505A581	6.06
1"	25	92505A583	7.26
1 1/2"	5	92505A585	7.12
2"	5	92505A588	5.88
5/16"-24—(A) 0.203"; (B) 0.082"			
3/8"	25	92505A594	4.51
1/2"	25	92505A596	4.91
3/4"	25	92505A598	8.44
1"	10	92505A599	6.10
1 1/4"	10	92505A601	6.75
3/8"-16—(A) 0.250"; (B) 0.099"			
3/8"	25	92505A617	4.10
1/2"	25	92505A619	6.02
5/8"	25	92505A621	5.98
3/4"	25	92505A622	6.15
1"	25	92505A624	7.80
1 1/4"	25	92505A626	9.43
1 1/2"	5	92505A628	4.39
3/8"-24—(A) 0.250"; (B) 0.099"			
1/2"	25	92505A650	7.40
5/8"	10	92505A654	5.16
3/4"	10	92505A657	5.25
1"	10	92505A660	6.50
1/2"-13—(A) 0.343"; (B) 0.130"			
1/2"	10	92505A707	5.54
5/8"	10	92505A709	6.23
3/4"	10	92505A710	6.69
1"	10	92505A712	7.88
1 1/4"	10	92505A714	8.90
1 1/2"	5	92505A723	7.35
2"	5	92505A731	10.11
2 1/2"	5	92505A738	11.67
1/2"-20—(A) 0.343"; (B) 0.130"			
1/2"	5	92505A750	5.83
3/4"	5	92505A755	4.89
1"	5	92505A761	7.02
2"	1	92505A768	3.30
2 1/2"	1	92505A775	3.65
5/8"-11—(A) 0.468"; (B) 0.164"			
1"	10	92505A794	10.63
1 1/2"	1	92505A803	3.50
2"	1	92505A811	3.65
5/8"-18—(A) 0.468"; (B) 0.164"			
1"	1	92505A855	3.02
1 1/2"	1	92505A861	3.76

Metric Extended Point Set Screws

Also known as dog point and pilot point set screws, these have a long tip that fits into a mating hole on your workpiece. Screws have a hex socket and a Class 6g thread fit. Meet DIN 915/ISO 4028. Length listed is the overall length.

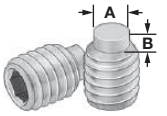

Lg., mm	Pkg. Qty.		Pkg.
18-8 Stainless Steel			
M3×0.5—(A) 2 mm; (B) 1 mm			
3	25	92775A010	$4.40
4	10	92775A104	4.28
M3×0.5—(A) 2 mm; (B) 1.75 mm			
5	10	92775A105	4.33
6	25	92775A106	8.69
8	25	92775A108	9.31
10	25	92775A110	9.38
M4×0.7—(A) 2.5 mm; (B) 1.25 mm			
6	25	92775A116	5.21
M4×0.7—(A) 2.5 mm; (B) 2.25 mm			
8	25	92775A118	5.21
10	25	92775A120	5.21
12	25	92775A122	7.29
16	25	92775A126	7.29
M5×0.8—(A) 3.5 mm; (B) 1.5 mm			
5	10	92775A154	3.82
6	10	92775A155	3.94
M5×0.8—(A) 3.5 mm; (B) 2.75 mm			
8	25	92775A157	5.21
10	10	92775A159	5.03
12	10	92775A161	6.60
16	25	92775A165	5.66
20	25	92775A169	7.72
25	10	92775A174	5.18
M6×1—(A) 4 mm; (B) 1.75 mm			
6	10	92775A210	5.45
8	50	92775A212	6.57
Alloy Steel			
M3×0.5—(A) 2 mm; (B) 1 mm			
4	100	92905A051	4.67
5	100	92905A053	4.97
M3×0.5—(A) 2 mm; (B) 1.75 mm			
8	100	92905A056	5.40
M6×1—(A) 4 mm; (B) 3.25 mm			
10	50	92775A214	$12.13
12	25	92775A216	6.67
16	25	92775A218	8.19
20	10	92775A223	6.67
25	10	92775A228	5.00
M8×1.25—(A) 5.5 mm; (B) 2.25 mm			
8	25	92775A308	6.96
10	25	92775A310	8.38
M8×1.25—(A) 5.5 mm; (B) 4.3 mm			
12	25	92775A312	8.48
16	25	92775A314	13.17
20	10	92775A316	6.01
25	10	92775A319	10.47
30	5	92775A324	8.76
M10×1.5—(A) 7 mm; (B) 2.75 mm			
10	10	92775A410	6.25
12	10	92775A412	7.21
M10×1.5—(A) 7 mm; (B) 5.3 mm			
16	10	92775A414	10.92
20	10	92775A416	9.41
25	10	92775A418	14.34
M12×1.75—(A) 8.5 mm; (B) 3.25 mm			
12	5	92775A512	6.67

Lg., mm	Pkg. Qty.		Pkg.
Alloy Steel (Cont.)			
M4×0.7—(A) 2.5 mm; (B) 1.25 mm			
5	100	92905A084	$4.64
6	100	92905A085	4.43
M4×0.7—(A) 2.5 mm; (B) 2.25 mm			
8	100	92905A087	5.70
10	100	92905A089	6.78
12	100	92905A091	6.94
M5×0.8—(A) 3.5 mm; (B) 1.5 mm			
6	100	92905A112	5.30
M5×0.8—(A) 3.5 mm; (B) 2.75 mm			
8	100	92905A114	4.79
12	100	92905A118	5.69
M6×1—(A) 4 mm; (B) 1.75 mm			
6	25	92905A210	4.50
8	50	92905A212	7.80
M6×1—(A) 4 mm; (B) 3.25 mm			
10	50	92905A214	8.00
12	50	92905A216	7.60
16	50	92905A218	7.66
18	25	92905A219	7.48
20	25	92905A220	5.50
25	25	92905A222	6.50
30	25	92905A225	8.22
35	25	92905A228	11.00
50	10	92905A241	6.30
M8×1.25—(A) 5.5 mm; (B) 2.25 mm			
10	25	92905A310	4.95
M8×1.25—(A) 5.5 mm; (B) 4.3 mm			
12	50	92905A312	8.51
16	25	92905A314	6.20
M8×1.25—(A) 5.5 mm; (B) 4.3 mm (Cont.)			
20	25	92905A316	$8.00
25	25	92905A319	10.21
30	25	92905A322	12.48
40	10	92905A325	8.00
50	10	92905A327	8.40
M10×1.5—(A) 7 mm; (B) 2.75 mm			
12	25	92905A412	8.00
M10×1.5—(A) 7 mm; (B) 5.3 mm			
16	25	92905A414	10.00
20	25	92905A416	12.00
25	25	92905A418	13.50
30	10	92905A420	7.20
35	10	92905A423	8.40
40	10	92905A426	9.17
45	10	92905A429	13.22
50	10	92905A432	12.79
60	5	92905A435	8.34
M12×1.75—(A) 8.5 mm; (B) 3.25 mm			
12	10	92905A512	4.00
16	25	92905A514	12.74
M12×1.75—(A) 8.5 mm; (B) 6.3 mm			
20	10	92905A516	7.20
25	10	92905A518	7.32
30	10	92905A520	9.21
35	10	92905A524	10.40
40	10	92905A528	13.20
45	10	92905A531	15.20
50	5	92905A535	9.12
60	5	92905A538	10.52

Thread-Locking Extended Point Set Screws

A nylon locking patch on the threads provides a secure hold at temperatures up to 250° F. Also known as dog point and pilot point set screws, they have a protruding tip that fits into a mating hole on your workpiece. Each has a hex socket and a Class 3A thread fit. Screws are made of alloy steel and meet ASTM F912. All dimensions meet ASME B18.3. Length listed is the overall length.



Lg.	Pkg. Qty.		Pkg.
8-32—(A) 0.109″; (B) 0.043″			
3/16″	10	95235A497	$9.64
1/4″	10	95235A501	4.28
5/16″	10	95235A503	4.30
3/8″	10	95235A505	4.30
1/2″	10	95235A507	4.32
10-24—(A) 0.127″; (B) 0.049″			
1/4″	10	95235A515	5.22
3/8″	5	95235A517	5.36
10-32—(A) 0.127″; (B) 0.049″			
3/16″	10	95235A522	9.80
1/4″	10	95235A525	4.34
3/8″	5	95235A527	5.40
1/2″	10	95235A531	12.53
1/4″-20—(A) 0.156″; (B) 0.067″			
1/4″	10	95235A529	8.96
5/16″	10	95235A530	8.09
3/8″	10	95235A532	8.11
1/2″	10	95235A534	8.51
5/8″	10	95235A536	9.11
3/4″	5	95235A537	13.80
1″	1	95235A538	4.66
5/16″-18—(A) 0.203″; (B) 0.082″			
5/16″	5	95235A540	7.56
3/8″	10	95235A541	8.34
5/16″-18 (Cont.)			
1/2″	5	95235A542	$11.57
5/8″	10	95235A543	9.43
3/4″	10	95235A545	9.11
1″	5	95235A548	3.42
3/8″-16—(A) 0.25″; (B) 0.099″			
3/8″	10	95235A550	8.57
1/2″	10	95235A551	9.97
5/8″	10	95235A553	11.51
3/4″	10	95235A555	11.94
1″	10	95235A558	13.51
1 1/4″	5	95235A560	10.18
1 1/2″	5	95235A563	10.70
3/8″-24—(A) 0.25″; (B) 0.099″			
1/2″	10	95235A570	8.78
3/4″	10	95235A574	11.43
1″	10	95235A578	12.88
1/2″-13—(A) 0.344″; (B) 0.13″			
1/2″	5	95235A621	7.63
3/4″	5	95235A626	7.98
1″	5	95235A632	8.67
1/2″-20—(A) 0.344″; (B) 0.13″			
1/2″	5	95235A650	10.83

Extra-Long Extended Point Set Screws

The tip is twice as long as the tip on other extended point screws for greater engagement in deep mating holes. Also known as dog point and pilot point set screws, they have a hex socket and a Class 3A thread fit. All dimensions meet ASME B18.3. Length listed is the overall length.

Alloy steel screws meet ASTM F912.



Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel			
6-32—(A) 0.092″; (B) 0.075″			
3/16″	10	95289A003	$5.58
1/4″	10	95289A006	5.76
8-32—(A) 0.109″; (B) 0.082″			
3/16″	10	95289A013	5.76
1/4″	10	95289A016	5.76
10-32—(A) 0.127″; (B) 0.095″			
3/16″	10	95289A023	5.41
1/4″	10	95289A026	5.55
3/8″	10	95289A029	5.58
1/4″-20—(A) 0.156″; (B) 0.13″			
3/8″	10	95289A033	6.11
1/2″	10	95289A036	6.55
3/8″-16—(A) 0.25″; (B) 0.193″			
1/2″	10	95289A055	7.15
3/4″	10	95289A058	7.33
Alloy Steel			
6-32—(A) 0.092″; (B) 0.075″			
3/16″	25	95289A102	7.14
1/4″	25	95289A105	5.89
8-32—(A) 0.109″; (B) 0.082″			
3/16″	25	95289A122	11.30
1/4″	25	95289A125	5.61
10-32—(A) 0.127″; (B) 0.098″			
1/4″	25	95289A205	6.68
3/8″	25	95289A216	7.23
1/4″-20—(A) 0.156″; (B) 0.134″			
1/4″	25	95289A314	$6.86
3/8″	25	95289A325	7.34
1/2″	25	95289A336	8.72
3/4″	10	95289A347	5.61
1″	10	95289A358	6.26
5/16″-18—(A) 0.203″; (B) 0.164″			
3/8″	25	95289A403	8.38
1/2″	10	95289A414	6.18
3/4″	10	95289A425	5.96
3/8″-16—(A) 0.25″; (B) 0.198″			
3/8″	10	95289A521	5.87
1/2″	10	95289A532	6.25
3/4″	10	95289A543	7.91
1″	10	95289A554	9.89
1/2″-13—(A) 0.343″; (B) 0.26″			
3/4″	5	95289A602	9.01
1″	1	95289A613	2.00
1 1/4″	1	95289A624	2.18
1 1/2″	1	95289A635	2.67
2″	1	95289A646	4.20
5/8″-11—(A) 0.468″; (B) 0.328″			
1″	1	95289A657	3.45
1 1/2″	1	95289A668	4.30
2″	1	95289A679	5.84

Conformable Soft-Tip Set Screws

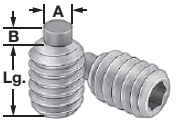

Nylon and Brass Tip



Silver Tip

The soft tip grips textured and curved surfaces. Screws have a hex socket and a Class 3A thread fit. All dimensions meet ASME B18.3. Length listed does not include the tip. *Alloy steel* screws have a minimum Rockwell hardness of C28.

Nylon tip is extra soft and nonconductive. Temperature range is –50° to 250° F. Color is green. **Silver tip** is softer than brass. It's conductive and resists mild chemicals, heat, and wear. **Brass tip** is conductive.

Nylon-Tip 18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
2-56—(A) 1/32″; (B) 1/32″			
1/8″	10	90291A074	$9.70
1/4″	10	90291A077	9.66
4-40—(A) 1/16″; (B) 1/32″			
1/8″	25	90291A103	15.86
3/16″	10	90291A105	7.42
1/4″	10	90291A106	7.76
3/8″	10	90291A108	8.34
6-32—(A) 1/16″; (B) 1/32″			
1/8″	10	90291A142	7.76
3/16″	10	90291A143	7.97
1/4″	10	90291A144	7.97
3/8″	10	90291A146	11.55
1/2″	10	90291A148	10.43
8-32—(A) 3/32″; (B) 3/64″			
1/8″	10	90291A183	11.06
3/16″	25	90291A189	15.97
1/4″	25	90291A190	16.00
3/8″	10	90291A192	7.84
5/8″	10	90291A194	9.94
10-24—(A) 3/32″; (B) 3/64″			
3/16″	10	90291A234	7.62
1/4″	10	90291A238	7.94
3/8″	10	90291A240	8.49
3/4″	10	90291A242	9.63
10-32—(A) 3/32″; (B) 3/64″			
3/16″	25	90291A826	16.49
1/4″	25	90291A825	15.60
3/8″	25	90291A827	15.34
1/2″	25	90291A829	16.09
3/4″	10	90291A831	10.12
1/4″-20—(A) 1/8″; (B) 1/16″			
3/16″	10	90291A529	$10.91
1/4″	10	90291A533	7.43
5/16″	10	90291A534	7.55
3/8″	10	90291A535	7.65
1/2″	10	90291A537	8.11
3/4″	10	90291A540	9.88
1″	10	90291A542	10.52
1/4″-28—(A) 1/8″; (B) 1/16″			
1/4″	10	90291A303	7.96
3/8″	10	90291A305	7.89
5/16″-18—(A) 3/16″; (B) 3/32″			
3/8″	10	90291A576	10.11
1/2″	10	90291A578	9.82
3/4″	10	90291A581	13.17
1″	5	90291A583	8.72
5/16″-24—(A) 3/16″; (B) 3/32″			
3/8″	10	90291A405	10.11
1/2″	10	90291A407	10.29
3/8″-16—(A) 3/16″; (B) 3/32″			
3/8″	10	90291A617	11.83
1/2″	10	90291A619	15.62
3/4″	5	90291A622	8.63
1″	5	90291A624	9.50
3/8″-24—(A) 3/16″; (B) 3/32″			
3/8″	10	90291A444	14.17
3/4″	10	90291A449	16.37
1/2″-13—(A) 1/4″; (B) 1/8″			
5/8″	5	90291A709	13.54
3/4″	5	90291A710	14.41
1″	1	90291A712	3.87

Nylon-Tip Alloy Steel

Lg.	Pkg. Qty.		Pkg.
2-56—(A) 1/32″; (B) 1/32″			
1/8″	10	94115A051	11.86
1/4″	10	94115A056	12.14
4-40—(A) 1/16″; (B) 1/32″			
1/8″	10	94115A103	10.03
3/16″	25	94115A105	16.37
1/4″	25	94115A106	14.45
3/8″	25	94115A107	16.37
6-32—(A) 1/16″; (B) 1/32″			
1/8″	10	94115A142	11.26
3/16″	25	94115A143	16.52
1/4″	25	94115A144	14.11
3/8″	25	94115A164	15.40
1/2″	25	94115A184	16.68
8-32—(A) 3/32″; (B) 3/64″			
1/8″	10	94115A188	7.79
3/16″	10	94115A189	7.22
1/4″	25	94115A190	14.94
3/8″	25	94115A192	15.92
1/2″	10	94115A198	7.55
5/8″	10	94115A196	7.89
10-24—(A) 3/32″; (B) 3/64″			
3/16″	10	94115A237	10.43
1/4″	25	94115A238	14.87
5/16″	25	94115A239	15.43
3/8″	25	94115A240	15.78
1/2″	25	94115A242	16.18
3/4″	10	94115A246	7.99
10-32—(A) 3/32″; (B) 3/64″			
3/16″	10	94115A824	10.43
1/4″	25	94115A825	14.87
5/16″	25	94115A826	15.43
3/8″	25	94115A827	15.78
1/2″	25	94115A829	16.15
3/4″	10	94115A831	7.79
1/4″-20—(A) 1/8″; (B) 1/16″			
1/4″	25	94115A533	14.11
5/16″	25	94115A534	14.35
3/8″	25	94115A535	14.51
1/2″	25	94115A537	15.15
5/8″	25	94115A539	16.52
3/4″	10	94115A541	7.52
1″	10	94115A547	8.54
1 1/4″	5	94115A551	13.48
1 1/2″	5	94115A558	13.82
1/4″-28—(A) 1/8″; (B) 1/16″			
1/4″	25	94115A303	14.11
3/8″	25	94115A305	14.51
1/2″	25	94115A307	15.62
5/16″-18—(A) 3/16″; (B) 3/32″			
1/4″	10	94115A574	11.12
5/16″	10	94115A575	8.01
3/8″	10	94115A576	8.09
1/2″	10	94115A578	8.37
3/4″	10	94115A581	10.37
1″	10	94115A583	12.32
5/16″-24—(A) 3/16″; (B) 3/32″			
3/8″	10	94115A406	8.09
3/8″-16—(A) 3/16″; (B) 3/32″			
1/4″	10	94115A614	8.89
3/8″	10	94115A617	7.89
1/2″	10	94115A619	8.51
3/4″	10	94115A622	10.59
1″	10	94115A624	12.34
3/8″-24—(A) 3/16″; (B) 3/32″			
3/8″	10	94115A417	8.11
1/2″	10	94115A408	8.51
1/2″-13—(A) 1/4″; (B) 1/8″			
1/2″	10	94115A707	15.78
3/4″	5	94115A710	8.99
1″	5	94115A712	10.12

Silver-Tip 18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
2-56			
1/8″	5	99934A140	11.01
4-40			
1/8″	5	99934A210	11.26
1/4″	5	99934A220	10.99
6-32			
1/8″	5	99934A330	11.33
1/4″	5	99934A340	12.06
8-32			
3/16″	5	99934A440	11.88
3/8″	5	99934A450	11.88
10-24			
3/8″	5	99934A510	12.06
10-32			
3/16″	5	99934A620	12.32
3/8″	5	99934A640	12.57

Silver-Tip 18-8 Stainless Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
1/4″-20			
1/4″	1	99934A750	$2.79
3/8″	5	99934A760	12.73
5/16″-18			
1/2″	1	99934A830	3.10
5/16″-18 (Cont.)			
3/4″	5	99934A840	$8.75
3/8″-16			
1/2″	1	99934A960	3.10

Brass-Tip 18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
2-56—(A) 1/32″; (B) 1/32″			
1/8″	10	90669A074	13.35
1/4″	10	90669A077	13.35
4-40—(A) 1/16″; (B) 1/32″			
1/8″	10	90669A103	10.22
1/4″	10	90669A106	8.48
6-32—(A) 1/16″; (B) 1/32″			
1/8″	10	90669A142	10.51
1/4″	10	90669A143	8.57
8-32—(A) 3/32″; (B) 3/64″			
3/16″	10	90669A189	8.34
1/4″	10	90669A190	8.37
3/8″	10	90669A192	10.30
10-24—(A) 3/32″; (B) 3/64″			
1/4″	10	90669A238	8.11
3/8″	10	90669A240	9.85
10-32—(A) 3/32″; (B) 3/64″			
3/16″	10	90669A337	8.67
1/4″	10	90669A338	8.12
10-32 (Cont.)			
3/8″	10	90669A340	10.21
1/2″	10	90669A342	12.25
3/4″	10	90669A346	13.17
1/4″-20—(A) 1/8″; (B) 1/16″			
1/4″	10	90669A533	7.62
3/8″	10	90669A535	7.96
1/2″	10	90669A537	8.09
3/4″	10	90669A540	10.20
1/4″-28—(A) 1/8″; (B) 1/16″			
1/4″	10	90669A351	8.84
3/8″	10	90669A353	9.91
5/16″-18—(A) 3/16″; (B) 3/32″			
3/8″	10	90669A576	10.98
1/2″	10	90669A578	11.28
3/8″-16—(A) 3/16″; (B) 3/32″			
1/2″	10	90669A619	16.50
3/4″	5	90669A622	9.69

Brass-Tip Alloy Steel

Lg.	Pkg. Qty.		Pkg.
2-56—(A) 1/32″; (B) 1/32″			
1/8″	5	91381A074	9.32
1/4″	5	91381A077	9.53
4-40—(A) 1/16″; (B) 1/32″			
1/8″	10	91381A670	11.46
3/16″	10	91381A681	10.81
1/4″	10	91381A671	10.03
3/8″	10	91381A675	11.43
1/2″	10	91381A686	11.89
6-32—(A) 1/16″; (B) 1/32″			
1/8″	10	91381A672	10.81
3/16″	10	91381A691	10.12
1/4″	10	91381A673	8.51
3/8″	10	91381A674	8.66
1/2″	10	91381A677	9.83
8-32—(A) 3/32″; (B) 3/64″			
1/8″	10	91381A191	10.29
3/16″	10	91381A189	8.86
1/4″	10	91381A190	7.97
5/16″	10	91381A195	8.11
3/8″	10	91381A192	8.29
1/2″	10	91381A194	8.34
5/8″	10	91381A196	10.06
10-24—(A) 3/32″; (B) 3/64″			
3/16″	10	91381A236	7.76
1/4″	10	91381A238	5.59
3/8″	10	91381A240	5.91
1/2″	10	91381A242	6.02
3/4″	10	91381A244	7.82
10-32—(A) 3/32″; (B) 3/64″			
3/16″	25	91381A337	14.48
1/4″	25	91381A338	13.38
3/8″	25	91381A340	14.07
1/2″	25	91381A342	14.40
3/4″	10	91381A344	7.68
1/4″-20—(A) 1/8″; (B) 1/16″			
3/16″	25	91381A532	15.22
1/4″	25	91381A533	13.73
5/16″	25	91381A534	13.94
3/8″	25	91381A535	14.17
1/2″	25	91381A537	14.97
5/8″	25	91381A539	16.00
3/4″	10	91381A540	7.03
1″	10	91381A542	8.07
1 1/4″	5	91381A547	14.48
1 1/2″	5	91381A555	14.97
1/4″-28—(A) 1/8″; (B) 1/16″			
1/4″	25	91381A351	13.73
3/8″	25	91381A353	14.17
1/2″	25	91381A357	16.00
3/4″	10	91381A391	7.75
1″	10	91381A359	8.49
5/16″-18—(A) 3/16″; (B) 3/32″			
1/4″	25	91381A574	15.22
5/16″	25	91381A575	15.43
3/8″	25	91381A576	15.65
1/2″	10	91381A578	7.12
5/8″	10	91381A580	7.56
3/4″	10	91381A581	7.99
1″	10	91381A583	10.14
1 1/4″	5	91381A588	16.15
1 1/2″	5	91381A593	16.68
5/16″-24—(A) 3/16″; (B) 3/32″			
1/4″	10	91381A358	7.29
3/8″	10	91381A360	6.69
1/2″	10	91381A361	7.12
5/8″	10	91381A363	7.62
3/4″	10	91381A367	8.43
1″	10	91381A364	9.88
3/8″-16—(A) 3/16″; (B) 3/32″			
1/4″	10	91381A615	7.67
5/16″	10	91381A616	7.99
3/8″	10	91381A617	7.24
1/2″	10	91381A619	7.76
5/8″	10	91381A621	8.09
3/4″	10	91381A622	8.34
1″	10	91381A624	10.28
1 1/4″	1	91381A633	3.65
1 1/2″	1	91381A639	3.75
3/8″-24—(A) 3/16″; (B) 3/32″			
3/8″	10	91381A365	7.74
1/2″	10	91381A366	7.83
5/8″	10	91381A368	7.94
3/4″	10	91381A369	8.34
1″	10	91381A374	10.28
1/2″-13—(A) 1/4″; (B) 1/8″			
1/2″	10	91381A664	13.54
5/8″	10	91381A666	13.51
3/4″	10	91381A667	14.44
1″	10	91381A669	16.46
1 1/4″	1	91381A678	4.06
1 1/2″	1	91381A682	4.20
1/2″-20—(A) 1/4″; (B) 1/8″			
1/2″	10	91381A381	13.63
3/4″	10	91381A379	15.03
1″	5	91381A385	8.97
5/8″-11—(A) 3/8″; (B) 9/64″			
1/2″	1	91381A709	5.51
3/4″	1	91381A717	5.06
1″	1	91381A723	5.28
1 1/4″	1	91381A729	5.43
1 1/2″	1	91381A735	5.51

Metric Conformable Soft-Tip Set Screws

With their soft tip, these metric screws conform to curved surfaces without marring. All have a hex socket and meet ANSI/ASME B18.3.6M. Length listed does not include the tip. *18-8 stainless steel* screws have a Class 6g thread fit. *Alloy steel* screws have a Class 5g6g thread fit, a minimum Rockwell hardness of C28, and meet ASTM F912.

Nylon tip is softer than brass and nonconductive. Temperature range is –50° to 250° F. Color is green. **Brass tip** is conductive.

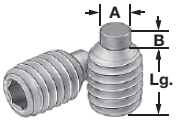

Nylon-Tip 18-8 Stainless Steel

Lg., mm	Pkg. Qty.		Pkg.
M2×0.4—(A) 0.8 mm; (B) 0.8 mm			
3	1	93285A009	$4.09
4	1	93285A014	4.20
5	1	93285A018	4.26
6	1	93285A023	4.34
M3×0.5—(A) 1.6 mm; (B) 0.8 mm			
3	5	93285A110	10.57
4	5	93285A112	10.60
5	5	93285A114	10.60
6	5	93285A115	10.63
8	1	93285A119	2.34
10	1	93285A125	2.37
M4×0.7—(A) 2.4 mm; (B) 1.2 mm			
4	5	93285A210	10.60
5	5	93285A211	10.63
6	5	93285A212	10.74
10	5	93285A216	11.03
M5×0.8—(A) 2.4 mm; (B) 1.2 mm			
6	5	93285A312	$10.66
8	5	93285A314	10.77
10	5	93285A316	10.89
14	1	93285A321	2.43
20	1	93285A327	2.80
M6×1—(A) 3.2 mm; (B) 1.6 mm			
6	5	93285A412	10.80
10	5	93285A416	11.03
16	1	93285A420	2.60
25	1	93285A425	2.89
M8×1.25—(A) 4.8 mm; (B) 2.4 mm			
6	1	93285A501	4.66
8	1	93285A513	3.14
10	1	93285A526	3.17
12	1	93285A538	3.20

Nylon-Tip Alloy Steel

Lg., mm	Pkg. Qty.		Pkg.
M3×0.5—(A) 1.6 mm; (B) 0.8 mm			
3	5	94095A020	6.97
4	5	94095A021	6.97
5	5	94095A024	6.97
6	5	94095A025	7.01
M4×0.7—(A) 2.4 mm; (B) 1.2 mm			
4	5	94095A110	6.43
6	5	94095A112	6.43
8	5	94095A113	6.43
10	5	94095A114	6.43
M5×0.8—(A) 2.4 mm; (B) 1.2 mm			
5	5	94095A120	6.46
6	5	94095A121	6.46
8	5	94095A124	6.51
M6×1—(A) 3.2 mm; (B) 1.6 mm			
6	5	94095A126	6.51
8	5	94095A127	6.54
M6×1 (Cont.)			
10	5	94095A128	6.54
12	5	94095A129	6.54
16	5	94095A133	7.29
M8×1.25—(A) 4.8 mm; (B) 2.4 mm			
6	1	94095A136	4.20
8	5	94095A139	6.74
10	5	94095A140	6.77
12	5	94095A142	6.83
16	5	94095A143	6.83
20	5	94095A145	6.91
M10×1.5—(A) 4.8 mm; (B) 2.4 mm			
10	5	94095A155	7.23
16	5	94095A157	7.51
25	5	94095A162	7.97

Brass-Tip 18-8 Stainless Steel

Lg., mm	Pkg. Qty.		Pkg.
M3×0.5—(A) 1.6 mm; (B) 0.8 mm			
3	5	90418A101	$12.00
4	5	90418A103	12.03
5	5	90418A105	12.06
6	5	90418A107	12.23
10	5	90418A111	13.54
M4×0.7—(A) 2.4 mm; (B) 1.2 mm			
4	5	90418A223	12.03
6	5	90418A226	12.29
8	5	90418A229	12.43
10	5	90418A234	12.57
M5×0.8—(A) 2.4 mm; (B) 1.2 mm			
5	5	90418A341	12.23
6	5	90418A343	12.29
M5×0.8 (Cont.)			
8	5	90418A345	$12.34
10	5	90418A347	12.43
M6×1—(A) 3.2 mm; (B) 1.6 mm			
6	5	90418A441	12.37
8	5	90418A443	12.43
10	5	90418A447	12.54
12	5	90418A451	13.54
M8×1.25—(A) 4.8 mm; (B) 2.4 mm			
6	1	90418A662	5.09
8	1	90418A664	3.46
10	1	90418A668	3.57
12	1	90418A671	3.63
16	1	90418A676	3.69

Brass-Tip Alloy Steel

Lg., mm	Pkg. Qty.		Pkg.
M3×0.5—(A) 1.6 mm; (B) 0.8 mm			
3	5	94085A090	7.97
4	5	94085A091	7.97
5	5	94085A092	7.97
6	5	94085A093	8.00
M4×0.7—(A) 2.4 mm; (B) 1.2 mm			
4	5	94085A100	7.34
6	5	94085A112	7.37
8	5	94085A113	7.37
10	5	94085A114	7.37
M5×0.8—(A) 2.4 mm; (B) 1.2 mm			
5	5	94085A119	7.26
6	5	94085A120	7.26
8	5	94085A122	7.29
10	5	94085A123	7.29
M6×1—(A) 3.2 mm; (B) 1.6 mm			
6	5	94085A126	7.51
8	5	94085A127	7.51
10	5	94085A128	7.51
M6×1 (Cont.)			
12	5	94085A129	7.54
16	5	94085A131	7.54
20	5	94085A133	7.63
25	5	94085A136	8.43
M8×1.25—(A) 4.8 mm; (B) 2.4 mm			
6	1	94085A137	4.26
8	5	94085A139	7.69
10	5	94085A141	7.69
12	5	94085A142	7.69
16	5	94085A143	7.74
25	5	94085A145	8.77
30	5	94085A148	9.54
M10×1.5—(A) 4.8 mm; (B) 2.4 mm			
10	5	94085A155	8.11
12	5	94085A156	8.37
16	5	94085A157	8.80
20	5	94085A161	7.80
25	5	94085A162	9.17

Square Head Extended Point Set Screws

A square head allows you to tighten these screws by hand or with a wrench. Also known as dog point and pilot point set screws, their long tip fits into a mating hole in your workpiece. All are made from alloy steel.

Inch sizes have a Class 2A thread fit and meet ASTM F912.

Metric sizes have a Class 6g thread fit and meet DIN 479. Minimum Rockwell hardness is C20 for M6 to M16 screws; C23 for M20 screws.

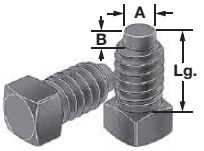

Inch

Lg.		Each
1/4″-20—(A) 5/32″; (B) 1/16″		
1/2″	91418A540	$3.89
1″	91418A542	2.11
2″	91418A550	4.14
5/16″-18—(A) 13/64″; (B) 5/64″		
1″	91418A583	3.38
1 1/4″	91418A585	3.74
1 1/2″	91418A587	3.49
3/8″-16—(A) 1/4″; (B) 3/32″		
3/4″	91418A622	3.50
1″	91418A625	3.91
1 1/4″	91418A626	2.54
1 1/2″	91418A628	3.09
2″	91418A632	3.89
2 1/2″	91418A634	4.46
3″	91418A636	5.14
1/2″-13—(A) 11/32″; (B) 1/8″		
1″	91418A712	6.19
1 1/4″	91418A714	6.23
1 1/2″	91418A716	4.57
1/2″-13 (Cont.)		
2″	91418A720	$5.57
2 1/2″	91418A722	5.89
3″	91418A724	7.00
4″	91418A730	8.77
5/8″-11—(A) 15/32″; (B) 5/32″		
2″	91418A802	7.86
3″	91418A806	9.71
4″	91418A810	12.51
5″	91418A814	16.40
3/4″-10—(A) 9/16″; (B) 3/16″		
2″	91418A843	12.46
2 1/2″	91418A845	11.80
3″	91418A847	12.80
4″	91418A851	16.40
5″	91418A855	21.20

Metric

Lg., mm	Pkg. Qty.		Pkg.
M6×1—(A) 4 mm; (B) 1.75 mm			
12	10	92635A254	$9.66
16	10	92635A256	9.34
20	10	92635A258	9.66
25	10	92635A260	9.66
35	10	92635A264	14.55
M8×1.25—(A) 5.5 mm; (B) 2.25 mm			
25	5	92635A314	5.52
30	5	92635A316	5.52
35	5	92635A318	9.31
40	5	92635A320	7.59
50	5	92635A324	7.04
M10×1.5—(A) 7 mm; (B) 2.75 mm			
25	5	92635A352	8.11
30	5	92635A354	8.62
35	5	92635A355	9.31
40	5	92635A358	10.34
50	5	92635A363	11.20
60	5	92635A370	13.44
M12×1.75—(A) 8.5 mm; (B) 3.25 mm			
35	1	92635A419	$3.21
40	1	92635A421	3.10
50	1	92635A426	3.10
60	1	92635A430	3.62
70	1	92635A433	6.34
80	1	92635A436	5.52
100	1	92635A439	7.58
M16×2—(A) 12 mm; (B) 4.3 mm			
50	1	92635A540	5.51
60	1	92635A543	6.55
80	1	92635A546	7.42
100	1	92635A549	10.34
M20×2.5—(A) 15 mm; (B) 5.3 mm			
60	1	92635A633	17.24
70	1	92635A636	20.00
80	1	92635A639	18.62
100	1	92635A641	22.64

Hollow-Lock Set Screws



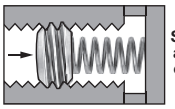

Screw used to adjust spring compression.

Also known as jam set screws, these lock other set screws in place, hold pins, and adjust spring tension. All have a hex socket. Thread fit is Class 3A. Length listed is the overall length.

Thread Size	Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel				
4-40	5/64"	10	**91318A010**	$7.98
6-32	3/32"	10	**91318A110**	9.69
8-32	7/64"	10	**91318A210**	10.57
10-24	1/8"	10	**91318A310**	9.35
10-32	1/8"	10	**91318A350**	9.35
1/4"-20	1/8"	10	**91318A410**	10.00
1/4"-28	1/8"	10	**91318A450**	11.38
5/16"-18	5/32"	10	**91318A510**	16.02
5/16"-24	5/32"	5	**91318A550**	9.14
3/8"-16	3/16"	5	**91318A610**	10.12
3/8"-24	3/16"	5	**91318A650**	11.06

Thread Size	Lg.	Pkg. Qty.		Pkg.
Black Alloy Steel				
4-40	5/64"	25	**91301A005**	$11.53
6-32	3/32"	25	**91301A007**	11.88
8-32	7/64"	25	**91301A009**	11.88
10-24	1/8"	25	**91301A011**	9.06
10-32	1/8"	25	**91301A130**	9.06
1/4"-20	1/8"	25	**91301A029**	10.00
1/4"-28	1/8"	25	**91301A140**	10.00
5/16"-18	5/32"	25	**91301A030**	11.56
5/16"-24	5/32"	25	**91301A150**	11.56
3/8"-16	3/16"	25	**91301A031**	13.50
3/8"-24	3/16"	25	**91301A160**	13.44

Thread Size	Lg.	Pkg. Qty.		Pkg.
Black Alloy Steel (Cont.)				
7/16"-14	7/32"	10	**91301A032**	$6.88
7/16"-20	7/32"	10	**91301A170**	7.75
1/2"-13	1/4"	10	**91301A033**	9.25
1/2"-20	1/4"	10	**91301A180**	9.25
5/8"-11	5/16"	5	**91301A035**	6.75
5/8"-18	5/16"	5	**91301A190**	6.75
3/4"-10	3/8"	5	**91301A036**	9.19
3/4"-16	3/8"	5	**91301A200**	9.19
7/8"-9	7/16"	5	**91301A037**	14.35
7/8"-14	7/16"	5	**91301A210**	14.35
1"-8	1/2"	1	**91301A038**	4.40
1"-14	1/2"	1	**91301A220**	4.40

Swivel Set Screws for Angled Surfaces



Flat Point



Round Point

A ball bearing swivels to align screws with angled and uneven surfaces. They're also known as ball-ended thrust screws. All have a hex socket drive. Length listed is the overall length.

Inch sizes have a Class 2A thread fit. *Metric* sizes have a Class 6g thread fit.

18-8 stainless steel screws have a minimum Rockwell hardness of C54 and a hard, Type 440 stainless steel ball bearing with a minimum Rockwell hardness of C54. *Alloy steel* screws have a minimum Rockwell hardness of C39 and ball bearing with a minimum Rockwell hardness of C54.

Flat-point screws have a flat-faced ball bearing that swivels 9°. **Round-point** screws have a completely round ball bearing that swivels 360°.

Lg.		Each
Flat Point—18-8 Stainless Steel		
1/4"-20—Tip Dia.: 0.120"		
1/2"	**91688A208**	$9.38
3/4"	**91688A216**	9.51
5/16"-18—Tip Dia.: 0.147"		
3/4"	**91688A222**	11.22
1"	**91688A228**	11.45
3/8"-16—Tip Dia.: 0.192"		
3/4"	**91688A234**	12.89
1"	**91688A240**	13.16
1/2"-13—Tip Dia.: 0.290"		
1"	**91688A247**	15.67
1 1/2"	**91688A253**	16.00
5/8"-11—Tip Dia.: 0.372"		
1"	**91688A258**	24.76
1 1/2"	**91688A263**	25.22
Flat Point—Alloy Steel		
1/4"-20—Tip Dia.: 0.120"		
1/2"	**91943A510**	5.63
3/4"	**91943A514**	5.74
5/16"-18—Tip Dia.: 0.147"		
3/4"	**91943A561**	6.63
1"	**91943A564**	6.85
3/8"-16—Tip Dia.: 0.192"		
3/4"	**91943A601**	7.77
1"	**91943A612**	7.95
1/2"-13—Tip Dia.: 0.290"		
1"	**91943A648**	9.62
1 1/2"	**91943A657**	9.93
5/8"-11—Tip Dia.: 0.372"		
1"	**91943A714**	14.33
1 1/2"	**91943A723**	14.77
Round Point—18-8 Stainless Steel		
1/4"-20—Tip Dia.: 0.157"		
1/2"	**91658A147**	5.29
3/4"	**91658A154**	5.37
5/16"-18—Tip Dia.: 0.216"		
3/4"	**91658A159**	5.91
1"	**91658A163**	6.07
3/8"-16—Tip Dia.: 0.275"		
3/4"	**91658A168**	6.57
1"	**91658A172**	6.72

Lg.		Each
Round Point—18-8 Stainless Steel (Cont.)		
1/2"-13—Tip Dia.: 0.334"		
1"	**91658A183**	$8.18
1 1/2"	**91658A189**	8.44
5/8"-11—Tip Dia.: 0.472"		
1"	**91658A194**	14.56
1 1/2"	**91658A198**	14.99
Round Point—Alloy Steel		
1/4"-20—Tip Dia.: 0.157"		
1/2"	**91677A106**	3.67
3/4"	**91677A110**	3.74
5/16"-18—Tip Dia.: 0.216"		
3/4"	**91677A114**	3.91
1"	**91677A118**	4.00
3/8"-16—Tip Dia.: 0.275"		
3/4"	**91677A122**	4.56
1"	**91677A126**	4.71
1/2"-13—Tip Dia.: 0.334"		
1"	**91677A130**	5.67
1 1/2"	**91677A134**	5.82
5/8"-11—Tip Dia.: 0.472"		
1"	**91677A138**	8.22
1 1/2"	**91677A142**	8.66

Lg., mm		Each
Metric Flat Point—Alloy Steel		
M5×0.8—Tip Dia.: 2.2 mm		
9.5	**92123A101**	$8.54
15.5	**92123A103**	8.69
24.5	**92123A105**	8.85
M6×1—Tip Dia.: 3.2 mm		
16	**92123A112**	7.91
20	**92123A114**	7.91
25	**92123A116**	7.97
M8×1.25—Tip Dia.: 4.5 mm		
20	**92123A121**	9.19
25	**92123A123**	9.29
30	**92123A125**	9.29
M10×1.5—Tip Dia.: 6 mm		
16	**92123A133**	9.29
25	**92123A136**	9.54
35	**92123A138**	9.98

Lg., mm		Each
Metric Flat Point—Alloy Steel (Cont.)		
M12×1.75—Tip Dia.: 7.2 mm		
16	**92123A141**	$12.74
30	**92123A145**	13.17
40	**92123A147**	13.46
Metric Round Point—Alloy Steel		
M4×0.7—Tip Dia.: 2.5 mm		
6	**93339A062**	5.41
8	**93339A064**	5.35
12	**93339A066**	5.35
M5×0.8—Tip Dia.: 3 mm		
8	**93339A121**	4.98
12	**93339A124**	4.98
20	**93339A128**	5.22
M6×1—Tip Dia.: 4 mm		
10.8	**93339A205**	4.98
12.8	**93339A208**	4.98
16.8	**93339A211**	4.98
20.8	**93339A214**	5.22
25.8	**93339A217**	5.22
M8×1.25—Tip Dia.: 5.5 mm		
11.2	**93339A221**	4.98
13.2	**93339A223**	4.98
17.2	**93339A226**	4.98
21.2	**93339A227**	4.98
31.2	**93339A229**	5.99
M10×1.5—Tip Dia.: 7 mm		
17.7	**93339A230**	5.86
21.7	**93339A231**	6.01
26.7	**93339A232**	6.01
36.7	**93339A235**	6.21
M12×1.75—Tip Dia.: 8.5 mm		
22	**93339A238**	6.52
27	**93339A239**	7.14
32	**93339A241**	7.14
42	**93339A244**	7.91

Sure-Joint Fastener Clamps



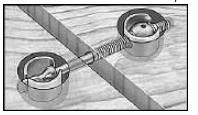

Create a secure joint between two 3/4" thick boards or countertops. Clamps are zinc-plated steel and adjust from 2" to 3 1/2" center to center on a 4" long draw bolt. They come with a bit for drilling 7/8" Dia. × 5/8" Dp. holes and a tightening tool. Not rated for holding capacity.

Fastener Clamps (Pkg. of 25) **5079A55** $53.65

Swivel Pad Set Screws for Angled Surfaces

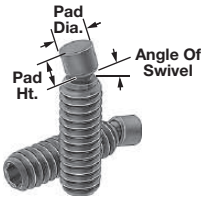

For Limited Clearance



For Gripping Strength

As you tighten these screws, a self-aligning pad swivels to make contact against angled and uneven surfaces. All screws have a hex socket and Class 2A thread fit.

Screws for Limited Clearance—Their narrow pad allows you to thread these screws through holes where clearance is limited. Pad is not removable. Pad and screw are alloy steel. The pad has a minimum Rockwell hardness of C30; the screw has a minimum Rockwell hardness of C45.

Screws for Gripping Strength—With a pad that is wider than the screw, you'll get more gripping power. To use, remove the pad, thread the screw through the hole, and attach the pad on the other side. Pad and screw are made from 12L14 steel and are not rated for Rockwell hardness. For replacement pads, see 90165A on page 3080.

O'all Lg.	Pad Dia.	Pad Ht.		Each
Screws for Limited Clearance—7½° Swivel Pad				
10-32				
½″	9/64″	1/8″	92432A452	$5.20
¼″-20				
½″	3/16″	5/32″	92432A454	6.26
¾″	3/16″	5/32″	92432A456	5.49
1″	3/16″	5/32″	92432A458	5.03
1½″	3/16″	5/32″	92432A460	5.11
5/16″-18				
¾″	1/4″	3/16″	92432A462	6.06
1″	1/4″	3/16″	92432A464	6.27
1½″	1/4″	3/16″	92432A466	5.58
2″	1/4″	3/16″	92432A468	6.48
3/8″-16				
¾″	19/64″	15/64″	92432A470	5.78
1″	19/64″	15/64″	92432A472	5.35
1½″	19/64″	15/64″	92432A474	5.63
2″	19/64″	15/64″	92432A476	6.48
½″-13				
¾″	13/32″	17/64″	92432A478	9.96
1″	13/32″	17/64″	92432A480	7.57
1½″	13/32″	17/64″	92432A482	9.02
2″	13/32″	17/64″	92432A484	9.60
3″	13/32″	17/64″	92432A486	9.88
5/8″-11				
2″	1/2″	11/32″	92432A490	10.00
3″	1/2″	11/32″	92432A491	10.79
¾″-10				
1½″	5/8″	7/16″	92432A494	14.36
2½″	5/8″	7/16″	92432A496	14.10
Screws for Gripping Strength—10° Swivel Pad				
¼″-20				
1 7/8″	5/16″	3/16″	91925A111	5.37
2 5/8″	5/16″	3/16″	91925A115	5.50
3 3/8″	5/16″	3/16″	91925A119	5.72
5/16″-18				
2 3/16″	3/8″	7/32″	91925A127	5.72
2 15/16″	3/8″	7/32″	91925A131	5.90
4 7/16″	3/8″	7/32″	91925A133	6.90
3/8″-16				
2 5/16″	7/16″	1/4″	91925A143	6.27
3 1/16″	7/16″	1/4″	91925A147	6.57
3 13/16″	7/16″	1/4″	91925A151	7.20
5 5/16″	7/16″	1/4″	91925A159	8.50
½″-13				
3 3/16″	9/16″	5/16″	91925A163	7.52
3 15/16″	9/16″	5/16″	91925A167	8.28
4 11/16″	9/16″	5/16″	91925A171	8.92
6 3/16″	9/16″	5/16″	91925A179	9.66
5/8″-11				
3 9/16″	11/16″	13/32″	91925A183	9.38
5 1/16″	11/16″	13/32″	91925A187	10.02
6 9/16″	11/16″	13/32″	91925A192	11.78

Set Screws for Carbide Insert Holders



Clamp Style



Lock-Pin Style

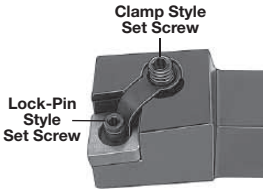

Screws used in a tool holder

Use these set screws to fasten carbide inserts to tool holders. When it's time to replace the screws, use the reference number typically found on your tool holder to determine the size you need. Set screws have a hex drive in both ends (unless noted) and are made from heat-treated alloy steel. Minimum Rockwell hardness is C42. Length listed is the overall length.

Clamp style screws hold insert-holding clamps at the proper height for tooling. They have right-hand threads on one end, left-hand threads on the other, and a Class 3A thread fit.

Lock-pin style screws hold the insert in place. They have right-hand threads on one end.

Clamp Style

O'all Lg.	Thread Lg. Right Hand	Thread Lg. Left Hand	Hex Size	Reference No.		Each
10-32						
0.590″	0.190″	0.190″	3/32″	CS-205	91442A210	$1.55
0.750″	0.250″	0.250″	3/32″	CS-220	91442A250	3.17
0.840″	0.310″	0.310″	3/32″	CS-228	91442A260	1.66
0.875″	0.500″	0.250″	3/32″	CS-230	91442A270	2.56
¼″-28						
0.564″	0.221″	0.221″	1/8″	CS-304	91442A310★	3.37
0.690″	0.280″	0.280″	1/8″	CS-306	91442A320	4.00
0.810″	0.280″	0.280″	3/32″	CS-321	91442A370	2.89
0.810″	0.280″	0.280″	1/8″	CS-320	91442A360	1.63
1.000″	0.370″	0.370″	1/8″	CS-330	91442A390	2.88
1.160″	0.450″	0.450″	1/8″	CS-335	91442A400	1.63
5/16″-24						
1.000″	0.250″	0.500″	5/32″	CS-410	91442A410	1.63
1.120″	0.410″	0.470″	5/32″	CS-420	91442A440	1.81
1.125″	0.375″	0.375″	5/32″	CS-416	91442A430■	3.52
1.156″	0.406″	0.500″	5/32″	CS-425	91442A450	1.63
1.250″	0.500″	0.500″	5/32″	CS-430	91442A460	2.55

★ Left-hand thread size is ¼″-32. Has a hex drive in one end only.
■ Left-hand thread size is 5/16″-32. Has a hex drive in one end only.

Lock-Pin Style

O'all Lg.	Hex Size	Reference No.		Each
8-32				
0.322″	1/16″	NL-23	91442A520▲	$6.81
10-32				
0.347″	5/64″	NL-33	91442A530	6.80
0.410″	5/64″	NL-33L	91442A540	6.80
0.425″	5/64″	NL-43	91442A570	7.20
0.452″	5/64″	NL-34	91442A550	6.91
0.513″	5/64″	NL-34L	91442A560	6.91
¼″-28				
0.519″	3/32″	NL-44	91442A580	7.20
0.676″	3/32″	NL-46	91442A590	7.48
0.733″	3/32″	NL-46L	91442A600	7.48
5/16″-24				
0.646″	1/8″	NL-55	91442A610	8.98
0.701″	1/8″	NL-56	91442A620	8.98
0.802″	1/8″	NL-57	91442A630	8.98
0.857″	1/8″	NL-58	91442A640	8.98
0.885″	1/8″	NL-58L	91442A650	8.98
3/8″-24				
0.701″	9/64″	NL-66	91442A660	8.52
0.821″	9/64″	NL-66L	91442A670	8.52
0.857″	9/64″	NL-68	91442A680	9.32
0.948″	9/64″	NL-68L	91442A690	9.32
7/16″-20				
1.167″	5/32″	NL-810	91442A700	10.66

▲ Has a hex drive in one end only.

About Thumb Screw and Binding Post Materials

Stainless Steel—May be mildly magnetic.

Steel and **Iron**—These general purpose metals often come with a plating or finish. Zinc plating adds protection in dry, indoor conditions. Black-oxide adds a dark color, but no protection.

Brass—An excellent conductor of electricity, brass is often selected for its decorative properties. It is nonmagnetic.

Aluminum—At one-third the weight of steel, aluminum is strong and nonmagnetic.

Plastic—It's the ultimate lightweight material and is also nonconductive.

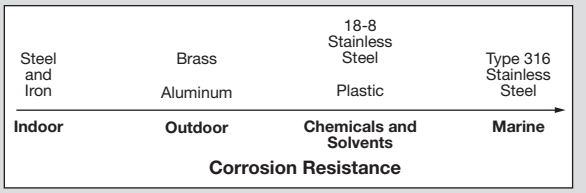

Thumb Screws

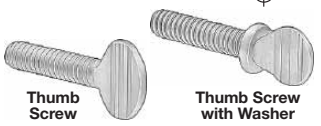

These fully threaded screws are also known as spade head screws. Length is measured from under the head. Inch sizes have a Class 2A thread fit. Metric sizes have a Class 8g thread fit.

Screws with washer sit high above the mounting surface so they're easy to grasp.

Also Available: Thumb screws in other materials and styles. Please ask for the part number and specify thread size and length. *Brass thumb screws* (part number 92427A100) are available in sizes marked with a ★. *Zinc-plated steel thumb screws with a nylon tip* (part number 90772A111) are available in sizes marked with a ■. *Zinc-plated steel thumb screws with a washer* (part number 97008A100) are available in sizes marked with a ▲.

Thumb Screws—18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
6-32			
3/8"	10	91745A192	$8.87
1/2"	10	91745A194	9.20
5/8"	5	91745A196	5.68
3/4"	5	91745A197	6.35
1"	5	91745A199	5.93
10-24			
3/8"	10	91745A240	9.13
1/2"	10	91745A242 ★	9.53
3/4"	5	91745A245 ★	5.29
1"	5	91745A247 ★	6.73
1 1/2"	5	91745A250	7.98
10-32			
3/8"	10	91745A827	9.13
1/2"	10	91745A829 ★	9.53
3/4"	5	91745A831 ★	5.29
1"	5	91745A833 ★	5.56
1 1/2"	5	91745A836	7.98
1/4"-20			
3/8"	5	91745A534	5.02
1/2"	10	91745A537 ★	9.87
1/4"-20 (Cont.)			
5/8"	5	91745A539	$5.86
3/4"	5	91745A540 ★	6.04
1"	5	91745A542 ★	6.84
1 1/4"	5	91745A544	7.52
1 1/2"	5	91745A546 ★	8.23
2"	5	91745A550 ★	8.35
5/16"-18			
1/2"	5	91745A578	10.79
3/4"	5	91745A581 ★	9.79
1"	5	91745A583 ★	10.28
1 1/4"	5	91745A585	11.33
1 1/2"	5	91745A587 ★	12.28
2"	1	91745A591 ★	2.99
3/8"-16			
3/4"	1	91745A622	3.16
1"	1	91745A624 ★	3.18
1 1/4"	1	91745A625	3.51
1 1/2"	1	91745A628 ★	3.84
2"	1	91745A632 ★	4.18

Thumb Screws—Zinc-Plated Steel

Lg.	Pkg. Qty.		Pkg.
6-32			
3/8"	25	96966A110	8.74
1/2"	25	96966A113 ■	8.91
3/4"	25	96966A116	8.98
1"	25	96966A119	9.09
8-32			
3/8"	25	96966A130	9.01
1/2"	25	96966A133 ■	9.09
3/4"	25	96966A136 ■	9.00
1"	25	96966A139	9.54
10-24			
3/8"	25	96966A220	9.48
1/2"	25	96966A223	9.59
3/4"	25	96966A226	9.77
1"	25	96966A229	9.93
10-32			
3/8"	25	96966A260	9.48
1/2"	25	96966A263 ■	9.59
3/4"	25	96966A266 ■	9.77
1"	25	96966A269 ■	9.93
1 1/2"	25	96966A272	10.32
2"	25	96966A275	11.34
1/4"-20			
1/2"	25	96966A622 ■	10.31
3/4"	25	96966A624 ■	10.71
1"	25	96966A626 ■	11.11
1 1/4"	25	96966A628	11.43
1 1/2"	25	96966A630	11.81
2"	25	96966A632	13.20
5/16"-18			
1/2"	10	96966A740 ■	6.57
3/4"	10	96966A742 ■	6.79
1"	10	96966A744 ■	7.53
1 1/4"	10	96966A746	7.73
1 1/2"	10	96966A748	7.98
2"	10	96966A750	8.63
3/8"-16			
3/4"	10	96966A850	8.47
1"	10	96966A852 ■	8.77
1 1/4"	10	96966A854	9.07
1 1/2"	10	96966A856 ■	9.37
2"	10	96966A857	10.10

Thumb Screws—Plain Steel

Lg.	Pkg. Qty.		Pkg.
6-32			
1/4"	50	90181A144	13.28
3/8"	50	90181A146	11.62
1/2"	50	90181A148	11.81
3/4"	50	90181A151	11.97
1"	50	90181A153	12.18
8-32			
3/8"	50	90181A192	12.01
1/2"	50	90181A194	12.19
3/4"	50	90181A197	12.40
1"	50	90181A199	13.07
10-24			
3/8"	50	90181A240	12.91
1/2"	50	90181A242	13.18
3/4"	50	90181A245	13.54
1"	50	90181A247	13.87
1 1/2"	50	90181A251	14.64
10-32			
3/8"	50	90181A827	12.81
1/2"	50	90181A829	13.18
3/4"	50	90181A831	13.54
1"	50	90181A833	13.78
1 1/2"	50	90181A836	14.64
2"	25	90181A838	8.58
1/4"-20			
1/2"	25	90181A537	7.61
3/4"	25	90181A540	7.99
1"	25	90181A542	8.36
1 1/4"	25	90181A544	8.43
1 1/2"	25	90181A546	8.75
2"	25	90181A550	10.21
2 1/2"	25	90181A552	10.83
3"	10	90181A556	5.72

Thumb Screws—Plain Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
1/4"-28			
1/2"	10	90181A560	$7.52
3/4"	10	90181A565	7.85
1"	10	90181A568	8.10
5/16"-18			
1/2"	25	90181A578	10.32
3/4"	25	90181A581	10.82
1"	25	90181A583	11.32
1 1/4"	25	90181A585	11.81
1 1/2"	25	90181A587	12.45
2"	10	90181A591	6.06
5/16"-24			
3/4"	10	90181A600	$8.49
1"	10	90181A605	8.99
1 1/2"	10	90181A610	9.30
3/8"-16			
3/4"	25	90181A622	13.68
1"	25	90181A624	14.43
1 1/4"	10	90181A626	6.08
1 1/2"	10	90181A628	6.37
2"	10	90181A632	7.43
3"	10	90181A636	8.78

Thumb Screws with Washer—18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
8-32			
3/8"	10	91744A192	10.69
1/2"	10	91744A194	10.51
3/4"	5	91744A197	6.21
1"	5	91744A199	6.32
10-24			
3/8"	10	91744A240	10.91
1/2"	5	91744A242	5.94
3/4"	5	91744A245	6.45
1"	5	91744A247	7.06
10-32			
3/8"	10	91744A827	9.96
1/2"	5	91744A829	5.94
3/4"	5	91744A831	6.28
1"	5	91744A833	6.84
1/4"-20			
1/2"	5	91744A537	5.77
5/8"	5	91744A538	6.48
3/4"	5	91744A540	6.67
1"	5	91744A542	6.65
1 1/4"	5	91744A545	7.40
1 1/2"	5	91744A548	9.30
5/16"-18			
3/4"	1	91744A581	3.11
1"	1	91744A583	3.39
1 1/2"	1	91744A587	3.33
3/8"-16			
1"	1	91744A624	3.64
1 1/2"	1	91744A628	3.98

Thumb Screws with Washer—Plain Steel

Lg.	Pkg. Qty.		Pkg.
6-32			
1/4"	25	90179A144 ▲	11.74
3/8"	25	90179A146 ▲	8.21
1/2"	25	90179A148	8.36
3/4"	25	90179A151	8.47
1"	25	90179A153	8.80
8-32			
3/8"	25	90179A192 ▲	8.52
1/2"	25	90179A194 ▲	8.64
10-24			
3/8"	25	90179A240	8.88
1/2"	25	90179A242 ▲	8.98
3/4"	25	90179A245 ▲	9.14
1"	25	90179A247 ▲	9.48
1 1/2"	25	90179A251	10.47
2"	25	90179A253	11.92
10-32			
3/8"	25	90179A827 ▲	8.88
1/2"	25	90179A829 ▲	8.46
3/4"	25	90179A831 ▲	9.14
1"	25	90179A833 ▲	9.31
1 1/2"	25	90179A836 ▲	10.47
2"	25	90179A838	11.92
1/4"-20			
1/2"	25	90179A537 ▲	9.66
3/4"	25	90179A540 ▲	10.92
1"	25	90179A542 ▲	11.24
1 1/4"	25	90179A544 ▲	11.40
1 1/2"	25	90179A546 ▲	12.09
2"	25	90179A550 ▲	13.70
2 1/2"	10	90179A552 ▲	6.03
5/16"-18			
1/2"	25	90179A578 ▲	13.21
3/4"	25	90179A581 ▲	13.85
1"	10	90179A583 ▲	6.31
1 1/2"	10	90179A587 ▲	6.29
2"	10	90179A591 ▲	7.61
2 1/2"	10	90179A593	8.81
3/8"-16			
3/4"	10	90179A622 ▲	7.52
1"	10	90179A624 ▲	7.69
1 1/4"	10	90179A626	8.05
1 1/2"	10	90179A628 ▲	8.35
2"	10	90179A632 ▲	9.06
2 1/2"	10	90179A634	10.56
3"	10	90179A636	12.97

Metric Thumb Screws—Zinc-Plated Cast Iron

Lg., mm	Pkg. Qty.		Pkg.
M5—Pitch: 0.8 mm			
10	5	90359A100	$9.88
16	5	90359A110	11.06
20	5	90359A120	10.28
M6—Pitch: 1 mm			
10	1	90359A130	2.56
16	5	90359A150	11.46
M6 (Cont.)			
20	5	90359A160	$13.44
30	1	90359A170	2.92
M8—Pitch: 1.25 mm			
16	1	90359A180	3.09
20	1	90359A200	3.72

Wing Head Thumb Screws

With more gripping surface than spade head screws, you'll get plenty of leverage for turning and tightening. Screws are fully threaded. Length is measured from under the head. Inch sizes have a Class 2A thread fit. Metric sizes have a 6g thread fit.

Metric screws meet DIN 316.

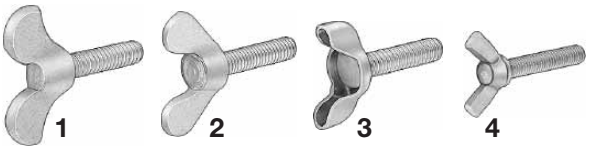

Lg.	Pkg. Qty.		Pkg.
Zinc-Plated Steel and Iron			
8-32—Style 3			
1/4"	10	91510A104	$10.89
3/8"	10	91510A112	10.96
1/2"	10	91510A116	11.03
10-24—Style 1			
1/2"	1	91404A505	3.64
3/4"	1	91404A508	3.73
1"	1	91404A510	3.85
1 1/2"	1	91404A514	4.20
10-32—Style 3			
1/2"	10	91510A109	12.26
3/4"	10	91510A117	12.92
1"	10	91510A118	13.09
1/4"-20—Style 1			
1/2"	1	91404A537	3.55
3/4"	1	91404A540	3.68
1"	1	91404A542	3.81
1 1/2"	1	91404A546	4.07
2"	1	91404A550	4.34
2 1/2"	1	91404A552	4.72
3"	1	91404A554	4.95
1/4"-20—Style 3			
3/8"	10	91510A141	12.84
1/2"	10	91510A145	12.94
5/8"	10	91510A149	13.10
3/4"	10	91510A153	13.20

Lg.	Pkg. Qty.		Pkg.
1/4"-20—Style 3 (Cont.)			
1"	5	91510A157	$6.76
1 1/2"	5	91510A161	7.22
5/16"-18—Style 2			
3/4"	1	97568A581	4.59
1"	1	97568A583	4.65
1 1/2"	1	97568A587	4.92
2"	1	97568A591	5.02
2 1/2"	1	97568A595	5.13
3"	1	97568A599	5.24
5/16"-18—Style 3			
1/2"	5	91510A165	7.52
3/4"	5	91510A169	7.76
1"	5	91510A173	8.03
3/8"-16—Style 2			
3/4"	1	97568A622	5.19
1"	1	97568A624	5.26
1 1/2"	1	97568A628	5.35
2"	1	97568A632	5.50
3"	1	97568A636	6.36
1/2"-13—Style 2			
1"	1	97568A712	6.43
2"	1	97568A720	6.74
2 1/2"	1	97568A722	7.15
3"	1	97568A724	7.19

Lg., mm		Each
Metric Zinc-Plated Iron		
M4—Pitch: 0.7 mm; Style 2		
8	92595A195	$2.01
10	92595A200	2.06
16	92595A205	2.11

Lg., mm		Each
M4 (Cont.)		
20	92595A206	$2.21
40	92595A209	2.36

Lg., mm		Each
Metric Zinc-Plated Iron (Cont.)		
M5—Pitch: 0.8 mm; Style 2		
10	92595A304	$2.26
12	92595A307	2.31
16	92595A309	2.36
20	92595A310	2.38
25	92595A311	2.41
40	92595A314	2.81
M6—Pitch: 1 mm; Style 2		
10	92595A405	2.41
12	92595A406	2.50
16	92595A407	2.58
20	92595A408	2.65
25	92595A409	2.70

Lg., mm		Each
M6 (Cont.)		
30	92595A410	$2.75
50	92595A414	2.94
60	92595A416	3.04
M8—Pitch: 1.25 mm; Style 2		
12	92595A503	3.53
16	92595A504	3.63
20	92595A505	3.68
25	92595A506	3.83
30	92595A507	3.92
40	92595A509	4.08
50	92595A512	4.17
80	92595A518	6.82

Lg., mm		Each
Metric Stainless Steel		
M3—Pitch: 0.5 mm; Style 4		
12	92625A106	2.11
20	92625A108	1.73
30	92625A110	2.19
M4—Pitch: 0.7 mm; Style 4		
10	92625A205	2.95
12	92625A203	3.27
16	92625A207	2.87
M5—Pitch: 0.8 mm; Style 4		
10	92625A309	3.30
12	92625A307	3.29
16	92625A311	3.33
20	92625A313	2.31
25	92625A315	3.41
30	92625A317	3.46
35	92625A319	5.05

Lg., mm		Each
M6—Pitch: 1 mm; Style 4		
10	92625A412	2.80
12	92625A413	3.25
16	92625A414	3.56
20	92625A416	3.66
25	92625A418	2.89
30	92625A420	3.86
40	92625A424	4.83
M8—Pitch: 1.25 mm; Style 4		
16	92625A516	5.59
20	92625A518	4.25
25	92625A520	4.52
30	92625A525	4.54
40	92625A529	6.09
50	92625A533	8.24
M10—Pitch: 1.5 mm; Style 4		
20	92625A611	9.15
30	92625A613	9.66

Hex Head Thumb Screws

When your thumb screw needs to be more than finger-tight, these allow you to use a wrench for more torque. They're fully threaded and have a Class 2A thread fit. Length is measured from under the head.



Lg.		Each
18-8 Stainless Steel		
4-40		
1/2"	90113A110	$3.98
6-32		
1/2"	90113A120	3.83
8-32		
1/2"	90113A130	4.01
3/4"	90113A136	4.17
10-32		
1/2"	90113A150	4.01
5/8"	90113A153	4.12
3/4"	90113A156	4.72
1/4"-20		
5/8"	90113A160	4.72
3/4"	90113A163	4.91
1"	90113A166	5.97
1 1/4"	90113A169	6.50

Lg.		Each
Black-Oxide Steel		
4-40		
1/2"	90732A310	$2.63
6-32		
1/2"	90732A320	2.67
8-32		
1/2"	90732A330	2.70
3/4"	90732A340	2.78
10-32		
1/2"	90732A350	2.81
5/8"	90732A360	2.82
3/4"	90732A370	3.19
1/4"-20		
5/8"	90732A380	3.25
3/4"	90732A390	3.62
1"	90732A410	3.93
1 1/4"	90732A420	4.07

Quick-Latch Thumb Screws

The head fits through a slit in a latch or panel to hold it in place. Also known as quarter-turn thumb screws, they're made from black-oxide steel and have a Class 2A thread fit. Length is measured from under the head.

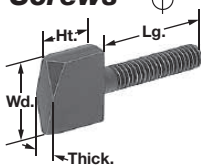

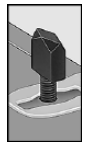

Lg.	Thread Lg.	Head Wd.	Head Ht.	Head Thick.		Each
10-24						
1"	7/8"	1/2"	1/2"	3/16"	90017A251	$5.42
10-32						
1"	7/8"	1/2"	1/2"	3/16"	90017A252	5.77
1 1/2"	1 3/8"	1/2"	1/2"	3/16"	90017A254	6.50
1/4"-20						
1 1/4"	1"	3/4"	5/8"	1/4"	90017A547	5.83
1 3/4"	1 1/2"	3/4"	5/8"	1/4"	90017A553	7.50
5/16"-18						
1 1/2"	1 1/4"	1"	3/4"	5/16"	90017A592	6.82
2"	1 3/4"	1"	3/4"	5/16"	90017A597	7.90
3/8"-16						
1 1/2"	1 1/4"	1"	1"	3/8"	90017A633	8.53

Fine-Adjustment Thumb Screws

Fine threads give you precise control. Screws have a ball bearing tip that adjusts to angled surfaces. Length is measured from under the head. The head is black plastic and withstands temperatures up to 180° F. The shaft is 18-8 stainless steel. It's fully threaded and has a Class 3A thread fit.

Use brass threaded bushings to install thumb screws in existing holes (see 98625A on page 3070).

Lg.		Each
3/16"-100—Tip Dia.: 1/8"		
3/4"	97424A110	$16.87
1"	97424A140	19.62
1 1/4"	97424A170	26.31
1 1/2"	97424A200	22.73
1 3/4"	97424A230	32.27

Lg.		Each
1/4"-80—Tip Dia.: 3/16"		
3/4"	97424A560	$11.69
1"	97424A590	7.96
1 1/4"	97424A620	8.24
1 1/2"	97424A650	8.66
2"	97424A680	9.34
3"	97424A740	12.61
3 1/2"	97424A770	19.20



Knurled Head Thumb Screws



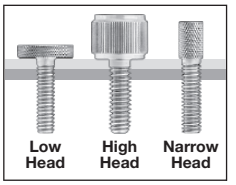

Roll the finely knurled, slip-resistant screw head between your fingers for controlled adjustment. Screws are fully threaded (unless noted). Length is measured from under the head. Inch sizes have a Class 2A thread fit. Metric sizes have a Class 6g thread fit.

Also Available: Low-head and narrow-head 18-8 stainless steel screws with a slotted drive in the sizes listed below. Please ask for 91746A155 and specify the corresponding unslotted part number.

Low Head—18-8 Stainless Steel

Lg.	Head Dia.	Head Ht.		Each
4-40				
5/16"	5/16"	3/16"	91746A113	$1.57
3/8"	5/16"	3/16"	91746A114	1.96
3/8"	3/8"	1/8"	91746A116▲	2.32
1/2"	5/16"	3/16"	91746A119	2.50
6-32				
5/16"	5/16"	3/16"	91746A535	4.32
3/8"	5/16"	3/16"	91746A124	2.50
1/2"	5/16"	3/16"	91746A127	2.86
5/8"	5/16"	3/16"	91746A537	4.54
8-32				
3/8"	3/8"	3/16"	91746A218	2.86
1/2"	3/8"	1/8"	91746A220▲	2.86
1/2"	3/8"	3/16"	91746A222	3.04
5/8"	3/8"	3/16"	91746A224	3.04
3/4"	3/8"	3/16"	91746A226	3.21
10-24				
3/4"	3/8"	3/16"	91746A312	3.11
3/4"	1/2"	3/16"	91746A318	3.50
3/4"	3/4"	3/16"	91746A324	4.00
1"	3/8"	3/16"	91746A512▲	5.07
1 1/2"	5/8"	3/16"	91746A330	6.86
1 1/2"	3/4"	3/16"	91746A514▲	5.46
2"	5/8"	3/16"	91746A332	7.64
10-32				
3/8"	7/16"	3/16"	91746A358	2.50
1/2"	3/8"	3/16"	91746A360▲	2.86
1/2"	7/16"	3/16"	91746A361	3.04
5/8"	7/16"	3/16"	91746A362	3.04
3/4"	7/16"	3/16"	91746A363	3.21
3/4"	1/2"	3/16"	91746A364	5.32
3/4"	3/4"	3/16"	91746A372	5.61
1"	1/2"	3/16"	91746A109▲	5.71
1 1/4"	1/2"	3/16"	91746A368	5.14
1 1/4"	3/4"	3/16"	91746A376	7.25
1 1/2"	5/8"	3/16"	91746A378	7.00
2"	5/8"	3/16"	91746A380	7.50
1/4"-20				
1/2"	3/4"	3/16"	91746A421	6.03
5/8"	3/4"	3/16"	91746A422	6.03
3/4"	3/4"	3/16"	91746A412	6.18
1"	3/4"	3/16"	91746A414	6.43
1"	1"	3/16"	91746A525▲	8.92
1 1/4"	3/4"	3/16"	91746A416	7.00
1 1/2"	3/4"	3/16"	91746A418	7.32
1 5/8"	3/4"	3/16"	91746A521▲	8.04
2"	3/4"	3/16"	91746A420▲	9.93
2"	1"	3/16"	91746A428▲	14.46
2 1/2"	1 1/16"	7/32"	91746A431▲	10.71
5/16"-18				
1"	3/4"	1/4"	91746A437	7.89
1 1/2"	3/4"	1/4"	91746A439	8.61
1 3/4"	3/4"	1/4"	91746A442	8.50
2 1/4"	3/4"	1/4"	91746A445	10.79
3"	3/4"	1/4"	91746A448	13.18
3/8"-16				
1"	7/8"	5/16"	91746A451	10.71
1 1/2"	7/8"	5/16"	91746A452	12.14
2"	7/8"	5/16"	91746A453	12.68
2 1/2"	7/8"	5/16"	91746A456	14.07
3"	7/8"	5/16"	91746A459	15.50
1/2"-13				
1 1/2"	1"	3/8"	91746A460	13.75
2"	1"	3/8"	91746A461	15.07
2 1/2"	1"	3/8"	91746A462	16.71
3"	1"	3/8"	91746A463	15.50

Low Head—Brass

Lg.	Head Dia.	Head Ht.		Each
4-40				
5/16"	5/16"	3/16"	95488A123	2.89
3/8"	5/16"	3/16"	95488A127	2.97
6-32				
3/8"	5/16"	3/16"	95488A152	$3.10
1/2"	5/16"	3/16"	95488A156	3.17
8-32				
3/8"	3/8"	3/16"	95488A194	3.38
1/2"	3/8"	3/16"	95488A199	3.62
10-24				
1/2"	3/8"	3/16"	95488A250	3.83
5/8"	3/8"	3/16"	95488A255	3.83
10-32				
1/2"	3/8"	3/16"	95488A266	3.83
5/8"	3/8"	3/16"	95488A272	3.97
1/4"-20				
3/4"	1/2"	3/16"	95488A307	4.14
1"	1/2"	3/16"	95488A312	4.41

Low Head—Black-Oxide Steel

Lg.	Head Dia.	Head Ht.		Each
10-24				
1 1/2"	5/8"	3/16"	90200A251	3.75
2"	5/8"	3/16"	90200A253	2.77
10-32				
1/2"	5/8"	3/16"	90200A254	3.09
3/4"	5/8"	3/16"	90200A255	3.23
1"	5/8"	3/16"	90200A256	3.28
1 1/2"	5/8"	3/16"	90200A257	2.53
2"	5/8"	3/16"	90200A264	2.75
1/4"-20				
1/2"	11/16"	7/32"	90200A545	3.09
3/4"	11/16"	7/32"	90200A546	3.23
1"	11/16"	7/32"	90200A547	3.28
1 1/2"	11/16"	7/32"	90200A549	2.91
2 1/2"	11/16"	7/32"	90200A552	4.16
5/16"-18				
1 3/4"	3/4"	1/4"	90200A586	3.28
2 1/4"	3/4"	1/4"	90200A591	3.86
3"	3/4"	1/4"	90200A595	5.36
3/8"-16				
2"	7/8"	5/16"	90200A629	4.52
2 1/2"	7/8"	5/16"	90200A632	5.23
3"	7/8"	5/16"	90200A636	6.05
1/2"-13				
3"	1"	3/8"	90200A724	6.83

High Head—18-8 Stainless Steel

Lg.	Head Dia.	Head Ht.		Each
6-32				
1/2"	3/8"	5/16"	93585A015	6.34
3/4"	3/8"	5/16"	93585A016	6.48
8-32				
1/2"	1/2"	3/8"	93585A035	7.14
3/4"	1/2"	3/8"	93585A036	7.29
10-32				
1/2"	1/2"	3/8"	93585A055	7.14
3/4"	1/2"	3/8"	93585A056	7.29
1/4"-20				
1/2"	5/8"	1/2"	93585A180	7.65
3/4"	5/8"	1/2"	93585A190	7.88
1"	5/8"	1/2"	93585A193	8.09
1 1/4"	5/8"	1/2"	93585A194	8.14
5/16"-18				
3/4"	3/4"	9/16"	93585A290	9.09
1"	3/4"	9/16"	93585A295	10.23
1 1/4"	3/4"	9/16"	93585A297	10.40
3/8"-16				
3/4"	7/8"	11/16"	93585A390	11.71
1"	7/8"	11/16"	93585A395	12.80
1 1/2"	7/8"	11/16"	93585A398	13.28
1/2"-13				
3/4"	1"	13/16"	93585A450	13.42
1"	1"	13/16"	93585A460	14.58
1 1/2"	1"	13/16"	93585A464	14.80

High Head—Black-Oxide Steel

Lg.	Head Dia.	Head Ht.		Each
1/4"-20				
1/2"	5/8"	1/2"	90200A110	$4.79
3/4"	5/8"	1/2"	90200A120	5.07
1"	5/8"	1/2"	90200A548	6.16
5/16"-18				
3/4"	3/4"	9/16"	90200A220	4.96
1"	3/4"	9/16"	90200A230	5.24
3/8"-16				
3/4"	7/8"	11/16"	90200A320	5.83
1"	7/8"	11/16"	90200A330	6.07
1/2"-13				
3/4"	1"	13/16"	90200A420	6.28
1"	1"	13/16"	90200A430	6.55

Narrow Head—18-8 Stainless Steel

Lg.	Head Dia.	Head Ht.		Each
4-40				
3/8"	1/4"	1/8"	91746A019	5.72
1/2"	1/4"	1/2"	91746A112▲	2.14
5/8"	3/16"	3/8"	91746A018	4.53
3/4"	1/4"	1/2"	91746A532▲	2.32
1"	3/16"	3/8"	91746A118	3.50
1"	1/4"	1/2"	91746A529	3.75
4-48				
1/2"	1/4"	1/2"	91746A020	7.38
3/4"	1/4"	1/2"	91746A023	7.58
1"	1/4"	1/2"	91746A026	8.53
6-32				
3/8"	3/16"	3/8"	91746A131	4.65
1/2"	1/4"	1/2"	91746A536▲	2.32
5/8"	3/16"	3/8"	91746A132	4.68
3/4"	1/4"	1/2"	91746A539▲	4.25
1"	3/16"	3/8"	91746A122	3.04
1 1/4"	3/16"	3/8"	91746A133	4.74
6-48				
1/2"	1/4"	1/2"	91746A551	8.58
3/4"	1/4"	1/2"	91746A554	8.96
1"	1/4"	1/2"	91746A557	9.30
8-32				
3/8"	3/16"	3/8"	91746A216	4.58
1/2"	3/16"	3/8"	91746A219	3.39
1/2"	1/4"	1/2"	91746A541▲	2.50
3/4"	3/16"	3/8"	91746A225	4.68
1"	3/16"	3/8"	91746A228	3.54
1"	1/4"	1/2"	91746A545▲	3.04
1 1/4"	3/16"	3/8"	91746A229	4.74
8-40				
1/2"	1/4"	1/2"	91746A241	9.10
3/4"	1/4"	1/2"	91746A244	9.44
1"	1/4"	1/2"	91746A247	10.38
10-24				
1/2"	1/4"	1/2"	91746A310	3.75
1"	1/4"	1/2"	91746A326	3.57
10-32				
1/2"	1/4"	1/2"	91746A359	3.14
3/4"	1/4"	1/2"	91746A365	4.74
1"	1/4"	1/2"	91746A374	3.54
1 1/4"	1/4"	1/2"	91746A366	4.86
1/4"-20				
1/2"	5/16"	1/2"	91746A410	3.75
3/4"	5/16"	1/2"	91746A411	4.74
1"	5/16"	1/2"	91746A413	4.46
1 1/4"	5/16"	1/2"	91746A417	4.86
1 1/2"	5/16"	1/2"	91746A415	4.96
1/4"-28				
1/2"	5/16"	1/2"	91746A472	10.96
1"	5/16"	1/2"	91746A475	11.16
1 1/2"	5/16"	1/2"	91746A478	16.31
5/16"-18				
1/2"	3/8"	5/8"	91746A603	5.82
1"	3/8"	5/8"	91746A609	6.07
1 1/2"	3/8"	5/8"	91746A612	6.39

▲Partially threaded. For thread length, view CAD on mcmaster.com.

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Knurled Head Thumb Screws *(Continued from previous page)*

Lg., mm	Head Dia., mm	Head Ht., mm		Each
Metric Low Head—18-8 Stain. Steel				
M3—Pitch: 0.5 mm				
8	8	5	92545A111	$2.56
9	8	5	92545A115	2.61
11	8	5	92545A119	2.73
13	8	5	92545A123	2.85
M3.5—Pitch: 0.6 mm				
8	8	5	92545A127	2.60
9	8	5	92545A131	2.65
11	8	5	92545A135	2.77
13	8	5	92545A139	2.89
M4—Pitch: 0.7 mm				
9	10	5	92545A143	3.33
11	10	5	92545A147	3.51
13	10	5	92545A151	3.69
14	10	5	92545A155	3.86
16	10	5	92545A159	4.09
M5—Pitch: 0.8 mm				
9	11	5	92545A163	4.20
11	11	5	92545A167	4.35
13	11	5	92545A171	4.47
14	11	5	92545A175	4.53
16	11	5	92545A179	4.71

Lg., mm	Head Dia., mm	Head Ht., mm		Each
Metric Low Head—18-8 Stain. Steel (Cont.)				
M6—Pitch: 1 mm				
13	13	6	92545A183	$5.79
15	13	6	92545A187	5.89
16	13	6	92545A191	6.11
18	13	6	92545A195	6.30
19	13	6	92545A199	6.38
Metric Low Head—Black-Oxide Steel				
M3—Pitch: 0.5 mm				
6	12	2.5	92552A411	2.31
10	12	2.5	92552A414	2.31
16	12	2.5	92552A418	2.37
M4—Pitch: 0.7 mm				
8	16	3.5	92552A423	2.66
10	16	3.5	92552A426	2.74
12	16	3.5	92552A429	2.80
16	16	3.5	92552A431	3.20
20	16	3.5	92552A434	3.71
M5—Pitch: 0.8 mm				
10	20	4	92552A438	3.40
12	20	4	92552A442	3.51
16	20	4	92552A445	3.71
20	20	4	92552A447	4.23

Lg., mm	Head Dia., mm	Head Ht., mm		Each
Metric Low Head—Black-Oxide Steel (Cont.)				
M6—Pitch: 1 mm				
12	24	5	92552A453	$4.51
16	24	5	92552A456	4.63
20	24	5	92552A459	4.80
30	24	5	92552A462	6.20
40	24	5	92552A465	7.71
M8—Pitch: 1.25 mm				
16	30	6	92552A471	6.37
20	30	6	92552A474	7.09
25	30	6	92552A478	7.29
30	30	6	92552A482	8.43
40	30	6	92552A484	10.81
Metric Narrow Head—18-8 Stain. Steel				
M3.5—Pitch: 0.6 mm				
19	4.8	9.5	92545A140	5.95
25	4.8	9.5	92545A141	6.19
31	4.8	9.5	92545A142	6.33
M4—Pitch: 0.7 mm				
19	4.8	9.5	92545A160	5.95
25	4.8	9.5	92545A161	6.19

Knurled Head Thumb Screws with Shoulder

A shoulder lifts the head up from the work surface and nonslip knurls provide a secure grip. All screws are fully threaded. Length is measured from under the head. **Inch sizes** have a Class 2A thread fit. **Metric sizes** have a Class 6g thread fit.

Also Available: Brass thumb screws. Screws with a straight shoulder come in sizes marked with a ★. Please ask for 98816A100 and specify thread size and length. Screws with a flared shoulder come in sizes marked with a ■. Please ask for 92421A100 and specify thread size and length. Head and shoulder dimensions vary; please see mcmaster.com.

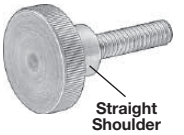



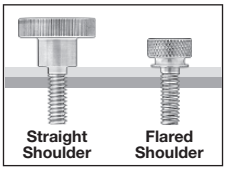

Lg.	Shoulder Dia.	Shoulder Lg.		Each
Straight Shoulder—18-8 Stain. Steel				
4-40—Head: Dia. 3/8", Ht. 3/32"				
1/4"	1/4"	1/8"	91830A101★	$3.12
3/8"	1/4"	1/8"	91830A102★	3.21
7/16"	1/4"	1/8"	91830A104	3.21
1/2"	1/4"	1/8"	91830A105	3.28
6-32—Head: Dia. 7/16", Ht. 7/32"				
3/8"	3/8"	1/8"	91830A200	3.60
7/16"	3/8"	1/8"	91830A202★	4.11
1/2"	3/8"	1/8"	91830A203	3.67
9/16"	3/8"	1/8"	91830A204★	4.11
8-32—Head: Dia. 7/16", Ht. 7/32"				
5/16"	3/8"	1/8"	91830A205	4.11
3/8"	3/8"	1/8"	91830A206	4.11
7/16"	3/8"	1/8"	91830A207	4.11
1/2"	3/8"	1/8"	91830A208	4.38
9/16"	3/8"	1/8"	91830A209	4.38
8-32—Head: Dia. 1/2", Ht. 7/32"				
5/16"	3/8"	1/8"	91830A301	5.16
3/8"	3/8"	1/8"	91830A302★	5.16
7/16"	3/8"	1/8"	91830A303	5.31
1/2"	3/8"	1/8"	91830A304★	5.42
5/8"	3/8"	1/8"	91830A305★	5.42
10-32—Head: Dia. 1/2", Ht. 7/32"				
5/16"	3/8"	1/8"	91830A401	5.18
3/8"	3/8"	1/8"	91830A402★	5.18
7/16"	3/8"	1/8"	91830A403	5.30
1/2"	3/8"	1/8"	91830A404★	5.43
9/16"	3/8"	1/8"	91830A405	5.43
5/8"	3/8"	1/8"	91830A406★	5.43
3/4"	3/8"	1/8"	91830A407	5.53
1/4"-20—Head: Dia. 1", Ht. 1/4"				
5/16"	1/2"	3/8"	91830A562	10.62
3/8"	1/2"	3/8"	91830A566	10.95
1/2"	1/2"	3/8"	91830A569★	11.36
5/8"	1/2"	3/8"	91830A573★	12.23
3/4"	1/2"	3/8"	91830A577★	13.00
1"	1/2"	3/8"	91830A581	13.87
1 1/4"	1/2"	3/8"	91830A582	13.87
5/16"-18—Head: Dia. 1 1/4", Ht. 1/4"				
1/2"	5/8"	1/2"	91830A631	15.62
5/8"	5/8"	1/2"	91830A634	16.25
3/4"	5/8"	1/2"	91830A636	17.43
1"	5/8"	1/2"	91830A639	18.88
1 1/4"	5/8"	1/2"	91830A642	20.63
1 1/2"	5/8"	1/2"	91830A645	21.62

Lg.	Shoulder Dia.	Shoulder Lg.		Each
Straight Shoulder—18-8 Stain. Steel (Cont.)				
3/8"-16—Head: Dia. 1 3/8", Ht. 5/16"				
5/8"	3/4"	11/16"	91830A713	$25.38
3/4"	3/4"	11/16"	91830A716	26.37
1"	3/4"	11/16"	91830A719	27.38
1 1/4"	3/4"	11/16"	91830A721	28.26
1 1/2"	3/4"	11/16"	91830A723	28.76
1/2"-13—Head: Dia. 1 3/8", Ht. 5/16"				
1"	7/8"	11/16"	91830A741	27.38
1 1/2"	7/8"	11/16"	91830A742	28.63
2"	7/8"	11/16"	91830A743	29.38
Straight Shoulder—Black-Oxide Steel				
4-40—Head: Dia. 3/8", Ht. 3/32"				
1/4"	1/4"	1/8"	91882A216	2.65
3/8"	1/4"	1/8"	91882A219	2.60
7/16"	1/4"	1/8"	91882A221	2.60
6-32—Head: Dia. 7/16", Ht. 7/32"				
3/8"	3/8"	1/8"	91882A224	2.95
7/16"	3/8"	1/8"	91882A226	2.98
1/2"	3/8"	1/8"	91882A227	2.98
9/16"	3/8"	1/8"	91882A229	2.98
8-32—Head: Dia. 7/16", Ht. 7/32"				
5/16"	3/8"	1/8"	91882A335	2.98
3/8"	3/8"	1/8"	91882A338	2.98
7/16"	3/8"	1/8"	91882A342	2.95
1/2"	3/8"	1/8"	91882A346	3.33
9/16"	3/8"	1/8"	91882A349	3.33
8-32—Head: Dia. 1/2", Ht. 7/32"				
5/16"	3/8"	1/8"	91882A352	3.38
3/8"	3/8"	1/8"	91882A355	3.46
7/16"	3/8"	1/8"	91882A358	3.63
5/8"	3/8"	1/8"	91882A366	3.85
10-32—Head: Dia. 1/2", Ht. 7/32"				
5/16"	3/8"	1/8"	91882A371	3.53
3/8"	3/8"	1/8"	91882A374	3.53
7/16"	3/8"	1/8"	91882A378	3.66
1/2"	3/8"	1/8"	91882A382	3.85
9/16"	3/8"	1/8"	91882A386	3.85
5/8"	3/8"	1/8"	91882A389	3.85
3/4"	3/8"	1/8"	91882A383	3.98
1/4"-20—Head: Dia. 1", Ht. 1/4"				
5/16"	1/2"	3/8"	91882A412	5.41
3/8"	1/2"	3/8"	91882A415	5.50
1/2"	1/2"	3/8"	91882A419	6.01
5/8"	1/2"	3/8"	91882A423	6.12

Lg.	Shoulder Dia.	Shoulder Lg.		Each
Straight Shoulder—Black-Oxide Steel (Cont.)				
1/4"-20—Head: Dia. 1", Ht. 1/4" (Cont.)				
3/4"	1/2"	3/8"	91882A425	$6.42
1"	1/2"	3/8"	91882A429	7.15
1 1/4"	1/2"	3/8"	91882A430	7.26
5/16"-18—Head: Dia. 1 1/4", Ht. 1/4"				
1/2"	5/8"	1/2"	91882A431	7.96
5/8"	5/8"	1/2"	91882A434	8.15
3/4"	5/8"	1/2"	91882A437	8.56
1"	5/8"	1/2"	91882A439	9.62
1 1/4"	5/8"	1/2"	91882A442	10.05
1 1/2"	5/8"	1/2"	91882A445	11.26
3/8"-16—Head: Dia. 1 3/8", Ht. 5/16"				
5/8"	3/4"	11/16"	91882A451	11.38
3/4"	3/4"	11/16"	91882A453	12.50
1"	3/4"	11/16"	91882A455	13.93
1 1/4"	3/4"	11/16"	91882A458	15.25
1 1/2"	3/4"	11/16"	91882A463	16.58
1/2"-13—Head: Dia. 1 3/8", Ht. 5/16"				
1"	7/8"	11/16"	91882A475	13.88
1 1/2"	7/8"	11/16"	91882A476	16.50
2"	7/8"	11/16"	91882A477	17.38

Lg.	Shoulder Dia.	Shoulder Lg.	Pkg. Qty.		Pkg.
Flared Shoulder—18-8 Stain. Steel					
4-40—Head: Dia. 19/64", Ht. 1/8"					
5/16"	1/4"	1/8"	5	99607A103	$10.88
3/8"	1/4"	1/8"	5	99607A106	10.63
7/16"	1/4"	1/8"	5	99607A109	10.62
6-32—Head: Dia. 25/64", Ht. 1/8"					
1/4"	3/8"	3/16"	5	99607A112■	8.75
3/8"	3/8"	3/16"	5	99607A116■	10.63
1/2"	3/8"	3/16"	5	99607A120■	10.62
3/4"	3/8"	3/16"	5	99607A124■	11.12
1"	3/8"	3/16"	5	99607A128■	11.88
8-32—Head: Dia. 27/64", Ht. 5/32"					
3/8"	3/8"	3/16"	5	99607A132■	10.38
1/2"	3/8"	3/16"	5	99607A135■	11.00
3/4"	3/8"	3/16"	5	99607A137■	11.88
1"	3/8"	3/16"	5	99607A139■	13.76
10-24—Head: Dia. 29/64", Ht. 5/32"					
3/8"	3/8"	3/16"	5	99607A142■	10.62
1/2"	3/8"	3/16"	5	99607A145■	11.88
3/4"	3/8"	3/16"	5	99607A148■	12.38
1"	3/8"	3/16"	5	99607A152■	13.76

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Knurled Head Thumb Screws with Shoulder *(Continued from previous page)*

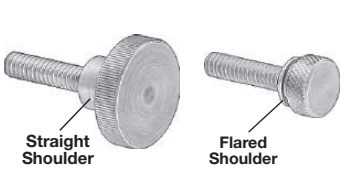

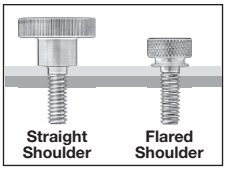

A shoulder lifts the head up from the work surface and nonslip knurls provide a secure grip. All screws are fully threaded. Length is measured from under the head. **Inch sizes** have a Class 2A thread fit. **Metric sizes** have a Class 6g thread fit.

Also Available: Brass thumb screws with a flared shoulder in sizes marked with a ■. Please ask for 92421A100 and specify thread size and length. Head and shoulder dimensions vary; please see mcmaster.com.

Lg.	Shoulder Dia.	Shoulder Lg.	Pkg. Qty.		Pkg.
Flared Shoulder—18-8 Stain. Steel (Cont.)					
10-32—Head: Dia. 29/64″, Ht. 5/32″					
3/8″	3/8″	3/16″	5	99607A163■	$11.00
1/2″	3/8″	3/16″	5	99607A167■	11.88
3/4″	3/8″	3/16″	5	99607A169■	12.38
1″	3/8″	3/16″	5	99607A172■	13.76
1/4″-20—Head: Dia. 37/64″, Ht. 1/4″					
3/8″	1/2″	1/8″	1	99607A184■	3.26
1/2″	1/2″	1/8″	1	99607A186■	3.37
3/4″	1/2″	1/8″	1	99607A189■	3.83
1″	1/2″	1/8″	1	99607A193■	4.62
Flared Shoulder—Aluminum					
4-40—Head: Dia. 3/8″, Ht. 3/16″					
5/16″	3/8″	1/8″	1	94567A120	1.36
3/8″	3/8″	1/8″	1	94567A150	1.40
7/16″	3/8″	1/8″	1	94567A180	1.43
6-32—Head: Dia. 3/8″, Ht. 3/16″					
3/8″	3/8″	1/8″	1	94567A210	1.42
7/16″	3/8″	1/8″	1	94567A240	1.66
1/2″	3/8″	1/8″	1	94567A270	1.52
8-32—Head: Dia. 7/16″, Ht. 3/16″					
3/8″	3/8″	1/8″	1	94567A300	1.72
1/2″	3/8″	1/8″	1	94567A330	1.83
5/8″	3/8″	1/8″	1	94567A360	1.93
10-32—Head: Dia. 7/16″, Ht. 3/16″					
3/8″	3/8″	1/8″	1	94567A390	1.72
1/2″	3/8″	1/8″	1	94567A420	1.83
5/8″	3/8″	1/8″	1	94567A450	1.93
1/4″-20—Head: Dia. 1/2″, Ht. 1/4″					
3/8″	3/8″	1/8″	1	94567A480	2.20
1/2″	3/8″	1/8″	1	94567A510	2.27
5/8″	3/8″	1/8″	1	94567A540	2.33
3/4″	3/8″	1/8″	1	94567A570	2.39

Lg., mm	Shoulder Dia., mm	Shoulder Lg., mm		Each
Metric Straight Shoulder—18-8 Stain. Steel				
M4—Pitch: 0.7 mm; Head: Dia. 16 mm, Ht. 3.5 mm				
8	8	6	92558A100	$6.95
10	8	6	92558A110	7.26
12	8	6	92558A120	7.25
16	8	6	92558A130	7.38
M5—Pitch: 0.8 mm; Head: Dia. 20 mm, Ht. 4 mm				
10	10	7.5	92558A150	8.50
12	10	7.5	92558A160	8.82
16	10	7.5	92558A170	9.21
20	10	7.5	92558A180	9.63
M6—Pitch: 1 mm; Head: Dia. 24 mm, Ht. 5 mm				
12	12	11	92558A200	11.38
16	12	11	92558A210	12.46
20	12	11	92558A220	13.01
30	12	11	92558A230	14.80
M8—Pitch: 1.25 mm; Head: Dia. 30 mm, Ht. 6 mm				
16	16	12	92558A250	17.62
20	16	12	92558A260	18.75
30	16	12	92558A270	22.12
Metric Straight Shoulder—Black-Oxide Steel				
M3—Pitch: 0.5 mm; Head: Dia. 12 mm, Ht. 2.5 mm				
6	6	5	92581A120	2.88
10	6	5	92581A130	2.88
12	6	5	92581A140	2.88
16	6	5	92581A150	2.88
M4—Pitch: 0.7 mm; Head: Dia. 16 mm, Ht. 3.5 mm				
5	8	6	92581A223	2.88
8	8	6	92581A230	3.00

Lg., mm	Shoulder Dia., mm	Shoulder Lg., mm		Each
Metric Straight Shoulder—Black-Oxide Steel				
M4 (Cont.)				
10	8	6	92581A240	$3.50
12	8	6	92581A250	3.65
16	8	6	92581A260	3.92
20	8	6	92581A270	4.46
25	8	6	92581A280	4.62
M5—Pitch: 0.8 mm; Head: Dia. 20 mm, Ht. 4 mm				
8	10	7.5	92581A320	4.13
10	10	7.5	92581A330	4.21
12	10	7.5	92581A340	4.65
16	10	7.5	92581A350	4.76
20	10	7.5	92581A360	5.08
M6—Pitch: 1 mm; Head: Dia. 24 mm, Ht. 5 mm				
8	12	11	92581A410	5.38
10	12	11	92581A420	5.55
12	12	11	92581A430	6.01
16	12	11	92581A440	6.15
20	12	11	92581A450	6.50
25	12	11	92581A460	6.98
M8—Pitch: 1.25 mm; Head: Dia. 30 mm, Ht. 6 mm				
20	16	12	92581A530	8.70
25	16	12	92581A540	9.90
30	16	12	92581A550	10.38
40	16	12	92581A560	10.41
M10—Pitch: 1.5 mm; Head: Dia. 36 mm, Ht. 8 mm				
15	20	15	92581A620	11.98
20	20	15	92581A630	13.25
25	20	15	92581A640	14.86
30	20	15	92581A650	16.17
40	20	15	92581A660	17.59

Swivel-Pad Thumb Screws for Angled Surfaces



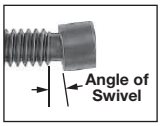



Pads swivel in all directions for maximum contact with angled surfaces. They stop rotating when they touch the workpiece to reduce marring. Screws are made from steel with a black-oxide finish and are fully threaded. Length is measured from under the head.

Screws with pad for limited clearance have a pad that can pass through tapped holes. They come with your choice of a permanent pad that swivels 7½° or a removable pad that swivels 10°. The removable pad is left-hand threaded, so it won't fall off when you tighten the screw.

Screws with pad for gripping strength provide the most holding power. To use, thread the screw through the hole, then snap the pad on from the other side. A retaining spring holds the pad in place. The pad swivels 10°. *Optional extra-large steel pad* offers more gripping strength. *Optional plastic pad* is soft, nonmarring, and made of acetal.

Also Available: Replacement retaining springs for screws with a large diameter pad. Please ask for 90165A700 and specify thread size.

Screws with Pad for Limited Clearance

To Order: Please specify permanent pad (7½° swivel) or removable pad (10° swivel), except ½″-13 is only available with a permanent pad.

Lg.		Each
1/4″-20—Pad: Dia. 1/8″, Lg. 1/4″		
1 1/2″	90282A210	$7.94
2″	90282A220	8.09
5/16″-18—Pad: Dia. 1/8″, Lg. 1/4″		
1 1/2″	90282A230	9.54
2″	90282A250	10.22
2 1/2″	90282A260	9.78
3/8″-16—Pad: Dia. 1/4″, Lg. 3/8″		
1 1/2″	90282A270	8.93
2″	90282A280	9.81

Lg.		Each
3/8″-16 (Cont.)		
2 1/2″	90282A310	$8.93
3″	90282A320	11.74
1/2″-13—Pad: Dia. 3/8″, Lg. 3/8″		
1 1/2″	90282A237	19.12
2″	90282A241	11.38
2 1/2″	90282A245	12.70
3″	90282A249	20.12

Screws with Pad for Gripping Strength

Lg.		Each
1/4″-20—Pad: Dia. 3/8″, Lg. 1/4″		
1 1/4″	90165A412	$8.25
2″	90165A414	8.40
2 3/4″	90165A416	8.62
3 1/2″	90165A418	9.15

Lg.		Each
5/16″-18—Pad: Dia. 3/8″, Lg. 1/4″		
1 5/16″	90165A420	$9.28
2 1/16″	90165A422	9.55
2 13/16″	90165A424	9.90
3 9/16″	90165A426	9.38

Screws with Pad for Gripping Strength (Cont.)

Lg.		Each
3/8″-16—Pad: Dia. 1/2″, Lg. 1/4″		
1 5/16″	90165A512	$9.91
2 1/16″	90165A514	10.42
2 13/16″	90165A516	11.00
3 9/16″	90165A518	11.53
4 5/16″	90165A520	11.80
1/2″-13—Pad: Dia. 5/8″, Lg. 3/8″		
2 1/16″	90165A522	11.90
2 13/16″	90165A524	12.58

Lg.		Each
1/2″-13 (Cont.)		
3 9/16″	90165A526	$13.40
4 5/16″	90165A527	14.13
5 1/16″	90165A528	14.46
5/8″-11—Pad: Dia. 3/4″, Lg. 1/2″		
2 5/16″	90165A532	15.72
3 1/16″	90165A533	16.67
3 13/16″	90165A535	17.64
4 9/16″	90165A537	18.43
5 5/16″	90165A540	18.87

Optional Pads for Screws with Pad for Gripping Strength

For Screw Size	Extra-Large Steel Pads Dia.	Lg.		Each	Plastic Pads Dia.	Lg.		Each
1/4″-20	5/8″	1/4″	90165A301	$1.72	1/4″	1/4″	90165A602	$1.38
5/16″-18	3/4″	1/4″	90165A311	1.88	3/8″	1/4″	90165A612	1.45
3/8″-16	3/4″	3/8″	90165A321	1.95	1/2″	1/4″	90165A622	1.53
1/2″-13	7/8″	3/8″	90165A331	2.05	5/8″	3/8″	90165A632	1.65
5/8″-11	1″	1/2″	90165A341	2.25	3/4″	1/2″	90165A642	1.85

Extended Point Thumb Screws

Also called dog- and pilot-point thumb screws, insert the point into a drilled hole or slot to lock items in place. Length is measured from under the head. **Inch sizes** have a Class 2A thread fit. **Metric sizes** have a Class 6g thread fit.

Fluted head screws are fully threaded.





Lg.	Thread Lg.		Each
Knurled Head—18-8 Stainless Steel Head and Shaft			
10-24—Tip: Dia. 1/8″, Lg. 1/8″			
1 1/4″	15/16″	93015A211	$7.43
1 5/8″	1 5/16″	93015A212	7.43
2″	1 11/16″	93015A213	7.83
10-32—Tip: Dia. 1/8″, Lg. 1/8″			
1″	5/8″	93015A208	7.43
1 1/2″	1 1/8″	93015A209	7.43
2″	1 5/8″	93015A210	7.83
1/4″-20—Tip: Dia. 3/16″, Lg. 1/8″			
1″	5/8″	93015A214	8.25
1 1/2″	1 1/8″	93015A215	8.93
2″	1 5/8″	93015A216	9.08
2 1/2″	2 1/8″	93015A217	8.95
5/16″-18—Tip: Dia. 15/64″, Lg. 3/16″			
1″	1 1/16″	93015A218	9.38
1 1/2″	1″	93015A219	9.83
5/16″-18 (Cont.)			
1 3/4″	1 1/4″	93015A220	$9.95
2 1/4″	1 3/4″	93015A221	10.36
2 3/4″	2 1/4″	93015A222	10.57
3″	2 1/2″	93015A223	10.57
3/8″-16—Tip: Dia. 9/32″, Lg. 3/16″			
1 1/2″	15/16″	93015A224	12.38
2″	1 7/16″	93015A225	12.38
2 1/2″	1 15/16″	93015A226	12.88
3″	2 7/16″	93015A227	13.01
3 1/2″	2 15/16″	93015A228	13.51
4″	3 7/16″	93015A229	14.43
1/2″-13—Tip: Dia. 25/64″, Lg. 1/4″			
2 1/2″	1 3/4″	93015A230	16.56
3″	2 1/4″	93015A232	17.08
3 1/2″	2 3/4″	93015A233	17.38
Knurled Head—Black-Oxide Steel Head and Shaft, unless noted			
10-24—Tip: Dia. 1/8″, Lg. 3/32″			
1″	5/8″	90079A247	3.28
1 1/2″	1 1/8″	90079A251	2.96
2″	1 5/8″	90079A253	3.53
10-32—Tip: Dia. 1/8″, Lg. 1/8″			
1″	5/8″	90079A225	4.38
1 1/2″	1 1/4″	90079A227	3.58
2″	1 5/8″	90079A229	4.98
1/4″-20—Tip: Dia. 5/32″, Lg. 1/8″			
1″	5/8″	90079A245	5.06
1 1/2″	1 1/4″	90079A546	3.67
2″	1 5/8″	90079A548	3.69
2 1/2″	2 1/8″	90079A255	3.68
5/16″-18—Tip: Dia. 13/64″, Lg. 5/32″			
1″	1 1/16″	90079A585	5.85
1 1/2″	1 1/4″	90079A587	4.28
★Head is steel.			
5/16″-18 (Cont.)			
2″	1 1/2″	90079A588★	4.17
2 1/2″	2 1/16″	90079A589★	4.38
3″	2 1/2″	90079A590	6.06
3/8″-16—Tip: Dia. 1/4″, Lg. 3/16″			
1 1/2″	15/16″	90079A630	6.36
2″	1 9/16″	90079A632	4.65
2 1/2″	2 1/16″	90079A633	5.12
3″	2 1/2″	90079A634★	4.97
3 1/2″	2 15/16″	90079A635	7.70
4″	3 7/16″	90079A636	8.26
1/2″-13—Tip: Dia. 11/32″, Lg. 1/4″			
2 1/2″	1 3/4″	90079A668	6.75
3″	2 1/2″	90079A672★	6.50
3 1/2″	2 3/4″	90079A670	7.75

Lg.	Thread Lg.		Each
Fluted Head—Steel Head and Black-Oxide Steel Shaft			
1/4″-20—Tip: Dia. 5/32″, Lg. 1/8″			
1″		93005A551	$4.80
1 1/2″		93005A552	5.15
2″		93005A581	8.49
5/16″-18—Tip: Dia. 13/64″, Lg. 5/32″			
1 3/4″		93005A553	5.37
2 1/2″		93005A554	5.73
3″		93005A585	9.59
3/8″-16—Tip: Dia. 1/4″, Lg. 3/16″			
1 1/2″		93005A555	6.22
2″		93005A556	7.02
3/8″-16 (Cont.)			
2 1/2″		93005A557	$7.61
3″		93005A589	11.20
1/2″-13—Tip: Dia. 11/32″, Lg. 1/4″			
1 1/2″		93005A558	8.39
2 1/2″		93005A561	9.66
3″		93005A563	10.54
5/8″-11—Tip: Dia. 15/32″, Lg. 5/16″			
3″		93005A570	12.95

Lg., mm	Thread Lg., mm		Each
Metric Knurled Head—18-8 Stainless Steel Head and Shaft			
M4—Pitch: 0.7 mm			
Tip: Dia. 2 mm, Lg. 3 mm			
32	26	98014A601	$7.35
41	35	98014A603	7.58
M6—Pitch: 1 mm			
Tip: Dia. 4 mm, Lg. 3 mm			
25	19	98014A625	8.00
38	32	98014A629	8.30
51	45	98014A633	8.56
M8—Pitch: 1.25 mm			
Tip: Dia. 6 mm, Lg. 4 mm			
25	18	98014A641	$9.13
38	31	98014A644	9.30
57	50	98014A652	10.08
M10—Pitch: 1.5 mm			
Tip: Dia. 7 mm, Lg. 4 mm			
38	31	98014A662	11.01
51	44	98014A665	11.88
76	69	98014A673	12.33

Lg., mm		Each
Metric Fluted Head—Zinc-Plated Cast Iron Head and Black-Oxide Steel Shaft		
M6—Pitch: 1 mm		
Tip: Dia. 4.5 mm, Lg. 3 mm		
26	98052A416	$7.63
38	98052A419	8.05
M8—Pitch: 1.25 mm		
Tip: Dia. 6 mm, Lg. 4.5 mm		
44.5	98052A426	8.21
M10—Pitch: 1.5 mm		
Tip: Dia. 7 mm, Lg. 4.5 mm		
38	98052A431	$9.63
51	98052A435	10.56

Plastic Thumb Screws

These lightweight nylon screws do not conduct electricity. They have knurls on the head for a nonslip grip. All are fully threaded, have a Class 2A thread fit, and withstand temperatures from –40° to 185° F. Length is measured from under the head. Exposure to moisture may cause nylon to expand.

Nylon with Slotted Head—Can be turned with a screwdriver if space for fingers is limited.

Nylon and **High-Strength Nylon with Shoulder**—The head is raised above your work surface, so it's easy to grasp. **High-strength nylon** are made from glass-reinforced nylon, so they're extremely strong.

Also Available: Wear-resistant nylatron thumb screws. Color is black. Please ask for 94955A111 and specify thread size: 6-32, 8-32, 10-24, 10-32, 1/4″-20, or 5/16″-18; and length: 3/8″, 1/2″, 3/4″, 1″, or 1 1/4″.





Lg.	Pkg. Qty.		Pkg.
Nylon with Slotted Head—Available colors: black, off-white			
4-40			
1/4″	100	94320A331	$7.01
6-32			
1/4″	100	94320A346	7.27
1/2″	100	94320A348	7.44
3/4″	100	94320A351	7.24
1″	100	94320A353	7.59
8-32			
3/16″	100	94320A390	6.96
3/8″	100	94320A393	7.03
1/2″	100	94320A395	7.08
3/4″	100	94320A397	7.13
1″	100	94320A399	7.17
1 1/4″	100	94320A403	7.35
10-32			
1/4″	100	94320A430	$7.50
3/8″	100	94320A440	7.61
1/2″	100	94320A445	7.65
3/4″	100	94320A448	7.74
1″	100	94320A973	7.79
1 1/2″	100	94320A976	7.98
1/4″-20			
1/2″	100	94320A737	8.71
3/4″	100	94320A740	8.78
1″	100	94320A742	8.87
1 1/4″	100	94320A744	8.97
1 1/2″	100	94320A746	9.08
1 3/4″	100	94320A748	9.94
Nylon with Shoulder—Available colors: black, off-white			
6-32			
1/4″	50	94323A581	9.05
3/8″	50	94323A583	9.07
1/2″	50	94323A585	9.10
3/4″	50	94323A587	9.95
1″	50	94323A589	10.01
8-32			
3/16″	50	94323A591	9.98
3/8″	50	94323A592	9.35
8-32 (Cont.)			
1/2″	50	94323A594	10.19
3/4″	50	94323A596	10.25
1″	50	94323A598	10.31
10-24			
1/2″	50	94323A611	10.50
3/4″	50	94323A613	10.55
1″	50	94323A615	10.61

Lg.	Pkg. Qty.		Pkg.
Nylon with Shoulder—Available colors: black, off-white (Cont.)			
10-32			
3/8″	50	94323A727	$9.66
1/2″	50	94323A729	9.65
3/4″	50	94323A731	10.55
1″	50	94323A733	10.62
2″	50	94323A735	10.77
1/4″-20			
1/2″	50	94323A837	9.93
3/4″	50	94323A840	10.10
1″	50	94323A841	10.16
1 1/4″	50	94323A843	10.26
1 1/2″	50	94323A845	10.48
5/16″-18			
1/2″	25	94323A921	$9.94
1″	25	94323A922	10.22
1 1/2″	25	94323A923	10.50
2″	25	94323A924	10.79
3/8″-16			
1/2″	25	94323A952	10.56
1″	25	94323A958	11.09
1 1/2″	25	94323A963	12.56
2″	25	94323A967	13.40
High-Strength Nylon with Shoulder—Color is off-white			
6-32			
1/4″	25	90462A200	7.94
3/8″	25	90462A210	8.00
1/2″	25	90462A220	8.00
8-32			
3/8″	25	90462A330	8.19
1/2″	25	90462A340	8.25
3/4″	25	90462A350	12.07
10-32			
3/8″	25	90462A500	8.44
1/2″	25	90462A510	8.44
10-32 (Cont.)			
3/4″	25	90462A520	8.50
1″	25	90462A530	8.56
1 1/2″	25	90462A540	8.63
1/4″-20			
1/2″	25	90462A650	8.69
3/4″	25	90462A660	8.81
1″	25	90462A670	8.88
1 1/2″	25	90462A680	9.19

Plastic Head Thumb Screws

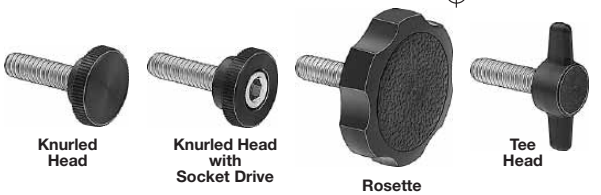

Plastic heads withstand temperatures from 32° to 180° F. Screw shafts are 18-8 stainless steel and fully threaded, unless noted. Length is measured from under the head. Inch sizes have a Class 3A thread fit. Metric sizes have a Class 4g6g thread fit.

Knurled head screws roll between your fingers for controlled adjusting.

Knurled head with socket drive can be tightened with a hex key for more torque.

Rosette head screws have a large gripping surface.

Tee head screws have flat surfaces to push against. Head diameter is measured from end to end.

Knurled Head—Available colors: black, red

Lg.	Pkg. Qty.		Pkg.
4-40—Head Dia.: 5/16″			
1/4″	25	91185A233	$8.43
3/8″	25	91185A237	8.65
1/2″	25	91185A241	9.11
5/8″	25	91185A245	9.85
3/4″	25	91185A249	9.84
1″	25	91185A253▲	11.99
6-32—Head Dia.: 3/8″			
1/4″	25	91185A257	8.92
3/8″	25	91185A261	8.96
1/2″	25	91185A265	9.88
5/8″	25	91185A269	9.99
3/4″	25	91185A273	10.37
7/8″	25	91185A277	11.97
1″	25	91185A281	12.49
8-32—Head Dia.: 1/2″			
1/4″	25	91185A285	9.13
3/8″	25	91185A289	10.81
1/2″	25	91185A293	11.28
5/8″	25	91185A297	11.69
3/4″	25	91185A301	12.34
7/8″	25	91185A305	14.09
1″	25	91185A309	14.60
10-24—Head Dia.: 5/8″			
3/8″	25	91185A342	13.08
1/2″	25	91185A346	13.11
5/8″	25	91185A350	13.37
3/4″	25	91185A354	14.29
7/8″	10	91185A358	7.28
1″	10	91185A362	7.62
10-32—Head Dia.: 5/8″			
3/8″	25	91185A366	13.08
1/2″	25	91185A370	13.11
5/8″	25	91185A374	13.37
3/4″	25	91185A378	14.29
7/8″	10	91185A382	7.28
1″	10	91185A386	7.49
1 1/2″	10	91185A390▲	9.13
1/4″-20—Head Dia.: 3/4″			
3/8″	10	91185A394	$8.00
1/2″	10	91185A398	8.38
5/8″	10	91185A402	8.62
3/4″	10	91185A406	9.12
7/8″	10	91185A410	9.76
1″	10	91185A414	10.00
1 1/4″	10	91185A418	11.00
1 1/2″	10	91185A422▲	11.76
1 3/4″	10	91185A426▲	13.12
2″	5	91185A430▲	8.13
1/4″-28—Head Dia.: 3/4″			
3/8″	10	91185A455	9.12
1/2″	10	91185A459	9.26
5/8″	10	91185A463	9.38
3/4″	10	91185A467	9.88
7/8″	10	91185A471	11.08
1″	10	91185A475	11.12
1 1/4″	10	91185A479	11.88
5/16″-18—Head Dia.: 1″			
1/2″	10	91185A483	13.12
5/8″	10	91185A487	13.25
3/4″	5	91185A491	7.50
7/8″	5	91185A495	7.88
1″	5	91185A499	8.38
1 1/4″	5	91185A503	8.88
1 1/2″	5	91185A507	9.57
5/16″-24—Head Dia.: 1″			
1/2″	5	91185A511	9.00
5/8″	5	91185A515	9.76
3/4″	5	91185A519	8.07
7/8″	5	91185A523	8.60
1″	5	91185A527	8.63
1 1/4″	5	91185A531	9.20
1 1/2″	5	91185A535	10.13

Knurled Head with Socket Drive—Color is black

Lg.	Pkg. Qty.		Pkg.
4-40—Head Dia.: 5/16″			
9/32″	25	98704A105	9.86
13/32″	25	98704A110	10.29
17/32″	25	98704A115	10.43
21/32″	10	98704A120	5.72
25/32″	10	98704A125	6.00
29/32″	10	98704A130▲	7.14
6-32—Head Dia.: 3/8″			
9/32″	10	98704A200	5.57
13/32″	10	98704A205	5.86
17/32″	10	98704A210	6.00
21/32″	10	98704A215	6.14
25/32″	10	98704A220	6.43
29/32″	10	98704A225	6.71
8-32—Head Dia.: 1/2″			
9/32″	10	98704A310	6.14
13/32″	10	98704A315	6.43
17/32″	10	98704A320	6.57
21/32″	10	98704A325	6.85
25/32″	10	98704A330	7.28
29/32″	10	98704A335	7.71
10-24—Head Dia.: 5/8″			
3/8″	10	98704A415	7.57
1/2″	10	98704A420	7.71
5/8″	10	98704A425	8.00
3/4″	10	98704A430	8.29
7/8″	10	98704A435	8.43
1 1/8″	10	98704A440▲	9.57
10-32—Head Dia.: 5/8″			
3/8″	10	98704A520	7.57
1/2″	10	98704A525	8.00
10-32 (Cont.)			
5/8″	10	98704A530	8.29
3/4″	10	98704A535	8.43
7/8″	10	98704A540	9.57
1 1/8″	10	98704A545▲	9.57
1/4″-20—Head Dia.: 3/4″			
3/8″	10	98704A605	9.57
1/2″	10	98704A610	9.86
5/8″	10	98704A615	10.43
3/4″	10	98704A620	10.86
7/8″	10	98704A625	11.43
1 1/8″	10	98704A630	12.57
1 3/8″	10	98704A635▲	13.43
1/4″-28—Head Dia.: 3/4″			
3/8″	10	98704A705	10.57
1/2″	10	98704A710	10.72
5/8″	10	98704A715	11.29
3/4″	10	98704A720	12.66
7/8″	10	98704A725	12.71
1 1/8″	10	98704A730	13.57
1 3/8″	10	98704A735▲	14.37
5/16″-18—Head Dia.: 1″			
1/2″	5	98704A800	8.29
5/8″	5	98704A805	8.56
3/4″	5	98704A810	9.01
7/8″	5	98704A815	9.57
1 1/8″	5	98704A820	10.15
1 3/8″	5	98704A825	10.95
5/16″-24—Head Dia.: 1″			
1/2″	5	98704A900	11.14
5/8″	5	98704A905	9.22

▲Partially threaded. For thread length, view CAD on mcmaster.com.

Knurled Head with Socket Drive (Cont.)

Lg.	Pkg. Qty.		Pkg.
5/16″-24 (Cont.)			
3/4″	5	98704A910	$12.66
7/8″	5	98704A915	9.85
5/16″-24 (Cont.)			
1 1/8″	5	98704A920	$10.51
1 3/8″	5	98704A925	11.58

Rosette Head—Color is black

Lg.	Pkg. Qty.		Pkg.
1/4″-20—Head Dia.: 1 1/2″			
3/8″	10	91185A801	10.38
1/2″	10	91185A803	10.75
5/8″	10	91185A805	11.01
3/4″	10	91185A807	11.63
7/8″	10	91185A809	12.00
1″	10	91185A811	12.38
1 1/4″	10	91185A813	13.38
1 1/2″	10	91185A815▲	14.12
1 3/4″	5	91185A817▲	8.38
2″	5	91185A819▲	8.75
1/4″-28—Head Dia.: 1 1/2″			
3/8″	10	91185A821	11.63
1/2″	10	91185A823	11.62
5/8″	10	91185A825	11.88
3/4″	10	91185A827	12.26
7/8″	10	91185A829	14.62
1″	10	91185A831	13.50
1 1/4″	10	91185A833	14.25
5/16″-18—Head Dia.: 1 1/2″			
1/2″	10	91185A835	14.76
5/8″	5	91185A837	8.12
3/4″	5	91185A839	8.38
7/8″	5	91185A841	8.75
1″	5	91185A843	9.12
1 1/4″	5	91185A845	9.75
1 1/2″	5	91185A847	10.51
5/16″-24—Head Dia.: 1 1/2″			
1/2″	5	91185A849	9.88
5/8″	5	91185A851	9.80
3/4″	5	91185A853	9.85
7/8″	5	91185A855	9.90
1″	5	91185A857	9.95
1 1/4″	5	91185A859	10.00
1 1/2″	5	91185A861	11.45
3/8″-16—Head Dia.: 1 1/2″			
3/4″	5	91185A863	10.38
7/8″	5	91185A865	11.08
1″	5	91185A867	11.25
1 1/4″	5	91185A869	12.23
1 1/2″	5	91185A871	13.12

Tee Head—Color is black

Lg.	Pkg. Qty.		Pkg.
10-24—Head Ht.: 1″			
1/2″	25	91185A891	13.26
5/8″	25	91185A893	13.63
3/4″	25	91185A895	14.12
1″	10	91185A899	7.38
10-32—Head Ht.: 1″			
3/8″	25	91185A901	12.88
1/2″	25	91185A903	13.26
5/8″	25	91185A905	13.63
3/4″	25	91185A907	14.12
7/8″	10	91185A909	7.25
1″	10	91185A911	7.38
1 1/2″	10	91185A913▲	9.13
1/4″-20—Head Ht.: 1 1/4″			
3/8″	10	91185A915	8.00
1/2″	10	91185A917	8.51
1/4″-20 (Cont.)			
5/8″	10	91185A919	8.63
3/4″	10	91185A921	9.25
7/8″	10	91185A923	9.63
1″	10	91185A925	10.12
1 1/4″	10	91185A927	11.12
1 1/2″	10	91185A929▲	11.88
2″	5	91185A933▲	8.08
5/16″-18—Head Ht.: 1 1/2″			
1/2″	10	91185A955	12.75
5/8″	10	91185A957	12.88
3/4″	5	91185A959	7.37
7/8″	5	91185A961	7.76
1″	5	91185A963	8.12
1 1/4″	5	91185A965	8.76
1 1/2″	5	91185A967	9.50

Metric Knurled Head—Color is black

Lg., mm	Pkg. Qty.		Pkg.
M3—Pitch: 0.5 mm			
6	10	96016A051	$5.25
12	10	96016A054	5.25
16	10	96016A058	5.38
20	10	96016A062	5.50
M4—Pitch: 0.7 mm			
10	10	96016A117	5.38
12	10	96016A121	5.51
16	10	96016A125	5.76
20	10	96016A129	6.00
M5—Pitch: 0.8 mm			
10	10	96016A233	6.25
12	10	96016A237	6.63
16	10	96016A241	7.12
M5 (Cont.)			
20	10	96016A245	$7.38
25	10	96016A249	8.25
M6—Pitch: 1 mm			
10	10	96016A353	8.01
12	10	96016A357	8.12
16	10	96016A361	8.63
20	10	96016A365	9.00
25	10	96016A369	9.75
M8—Pitch: 1.25 mm			
12	5	96016A473	7.62
16	5	96016A477	7.88
20	5	96016A481	8.25
25	5	96016A485	8.75

Metric Rosette Head—Color is black

Lg., mm	Pkg. Qty.		Pkg.
M6—Pitch: 1 mm			
10	10	96016A501	10.38
12	10	96016A505	10.50
16	10	96016A509	11.00
20	10	96016A513	11.38
25	10	96016A517	12.26
M8—Pitch: 1.25 mm			
12	5	96016A602	8.87
16	5	96016A606	8.75
20	5	96016A610	9.12
25	5	96016A614	9.50

Plastic Head Thumb Screws with Graduations



Heads are etched in increments of 0.005″ for precision adjustment. Use the included locknut to hold the screw in place. The head and locknut are made from black plastic and have a temperature range of 32° to 180°F. Screws have a fully threaded, 1/4″-20 black alloy steel shaft with a Class 3A thread fit.

Lg.		Each	Lg.		Each
Knurled Head			**Rosette Head**		
2″	93228A150	$3.75	3″	93228A250	$4.38

Big-Grip Thumb Screw Heads

Convert cap screws into thumb screws so large you can grip them with heavy work gloves. Head diameter is 2¾″; gripping surface is knurled. Made from aluminum. Screw heads *for hex head cap screws* can also be used with hex nuts.



Fits Screw Size		Each	Fits Screw Size		Each
For Hex Head Cap Screws			**For Socket Head Cap Screws**		
1/4″	91363A100	$15.78	1/4″	91363A400	$16.38
3/8″	91363A150	15.87	3/8″	91363A450	16.48
1/2″	91363A200	15.97	1/2″	91363A500	16.59
5/8″	91363A250	16.07	5/8″	91363A550	16.70
3/4″	91363A300	16.17	3/4″	91363A600	16.80
1″	91363A350	16.27	1″	91363A650	16.91

Plastic Thumb Screw Heads

Build your own thumb screw. Choose the head style you prefer and pair it with a socket head cap screw of the same screw size (please see pages 3101-3128 for socket head cap screws). Press the head and screw together using a bench vise or arbor press. All screw heads have a temperature range of 32° to 180°F.

Screw Heads

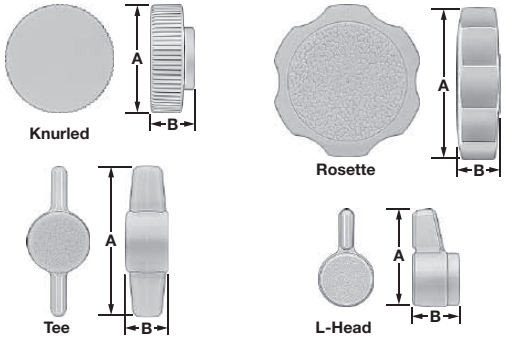

To Order: Please specify black, gray, red, or yellow.

Fits Screw Size	(A)	(B)	Pkg. Qty.		Pkg.
Knurled					
No. 4	5/16″	11/64″	100	94052A021	$12.75
No. 6	3/8″	3/16″	100	94052A023	13.12
No. 8	1/2″	7/32″	100	94052A025	13.38
No. 10	5/8″	1/4″	50	94052A031	9.00
1/4″	3/4″	5/16″	50	94052A033	9.38
1/4″	1″	5/16″	50	94052A034	13.00
5/16″	1″	13/32″	25	94052A036	7.25
Rosette					
1/4″	1 1/2″	15/32″	10	94052A041	5.10
5/16″	1 1/2″	13/32″	10	94052A043	5.10
3/8″	1 1/2″	15/32″	10	94052A046	5.22
Tee					
No. 10	1″	1/4″	50	94052A051	9.00
1/4″	1 1/4″	5/16″	50	94052A053	9.75
5/16″	1 1/2″	13/32″	25	94052A055	6.45
3/8″	1 3/4″	15/32″	25	94052A057	6.83
L-Head					
No. 10	13/16″	11/32″	50	94052A014	9.00
1/4″	31/32″	7/16″	50	94052A016	9.72
5/16″	1 3/16″	17/32″	50	94052A018	11.40
Metric Knurled					
M3	9.6 mm	4.4 mm	50	91175A061	8.48
M4	13.0 mm	5.5 mm	50	91175A062	9.21
M5	16.0 mm	6.5 mm	50	91175A063	10.20
M6	19.0 mm	7.6 mm	25	91175A064	6.12
M6	26.0 mm	7.8 mm	25	91175A065	7.77
M8	26.0 mm	9.8 mm	25	91175A066	7.92
Metric Rosette					
M6	38.0 mm	12.2 mm	10	91175A071	5.10
M8	38.0 mm	10.0 mm	10	91175A072	5.10
M10	38.0 mm	12.5 mm	10	91175A073	5.23
Metric Tee					
M5	26.0 mm	6.6 mm	50	91175A081	8.44
M6	30.0 mm	7.8 mm	50	91175A082	10.00
M8	38.0 mm	10.0 mm	50	91175A083	11.57
M10	45.0 mm	12.5 mm	25	91175A084	6.83

Screw Head Assortments

Each assortment includes various head styles in the sizes listed. Heads are black.

No. of Pieces	Head Styles	Fits Screw Sizes		
Inch Assortment				
295	Knurled, Rosette, Tee, L-Head	No. 4 to 3/8″	91165A880	$91.88
Metric Assortment				
260	Knurled, Rosette, Tee	M3 to M10	91165A440	91.88

Screw Heads with Graduations

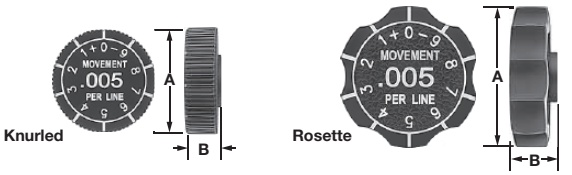

For accurate adjustments, these heads are etched with graduations in increments of 0.005″. Color is black.

Fits Screw Size	(A)	(B)		Each
Knurled				
1/4″-20	1″	5/16″	93228A400	$1.88
Rosette				
1/4″-20	1 1/2″	15/32″	93228A500	2.50

Screw Heads with Message

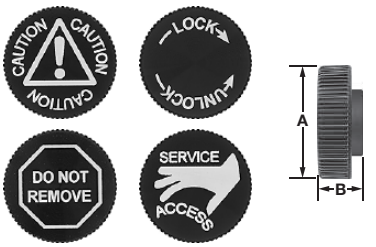

Put important messages exactly where they're needed. Messages are etched into the screw head. The edges are knurled to prevent slipping. Color is black.

To Order: Please specify message: Caution, Lock/Unlock, Do Not Remove, or Service Access.

Fits Screw Size	(A)	(B)	Pkg. Qty.		Pkg.
Knurled					
No. 8	1/2″	7/32″	5	92144A100	$4.38
No. 10	5/8″	1/4″	5	92144A200	4.63
1/4″	3/4″	5/16″	5	92144A300	5.25
5/16″	1″	13/32″	5	92144A400	6.50

Captive Panel Screws

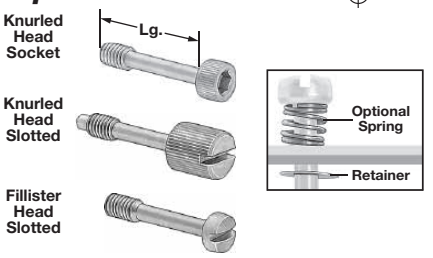

Use these screws for panel assemblies, cabinets, and enclosures. To hold them captive in a panel, use a retainer (sold separately). Screws, retainers, and springs are 18-8 stainless steel.

Knurled head socket screws have a Class 3A thread fit.

Knurled and **fillister head slotted screws** have a Class 2A thread fit and meet ASTM A581 and A582.

Optional springs (sold separately) provide even compression against panels.

Also Available: Metric slotted screws, retainers, and springs in M3, M3.5, and M4 screw sizes. For screws, please ask for 95536A110 and specify size and length. For retainers, please ask for 91065A800 and specify screw size. For springs, please ask for 94125K472.

Knurled Head Socket Screws

Lg.	Head Dia.	Head Ht.		Each★
4-40—Thread Lg.: 5/32″				
1/4″	0.180″	0.110″	95966A121	$3.89
5/16″	0.180″	0.110″	95966A125	3.89
3/8″	0.180″	0.110″	95966A130	3.89
7/16″	0.180″	0.110″	95966A135	4.16
1/2″	0.180″	0.110″	95966A140	4.17
5/8″	0.180″	0.110″	95966A145	4.17
6-32—Thread Lg.: 3/16″				
3/8″	0.222″	0.136″	95966A211	3.62
7/16″	0.222″	0.136″	95966A216	3.89
1/2″	0.222″	0.136″	95966A221	3.89
9/16″	0.222″	0.136″	95966A226	4.18
5/8″	0.222″	0.136″	95966A231	4.17
3/4″	0.222″	0.136″	95966A237	4.16
1″	0.222″	0.136″	95966A239	4.45
8-32—Thread Lg.: 3/16″				
1/2″	0.266″	0.162″	95966A316	4.17
9/16″	0.266″	0.162″	95966A323	4.17
8-32 (Cont.)				
5/8″	0.266″	0.162″	95966A329	$4.17
3/4″	0.266″	0.162″	95966A332	4.16
7/8″	0.266″	0.162″	95966A339	4.17
1″	0.266″	0.162″	95966A341	4.45
10-32—Thread Lg.: 1/4″				
1/2″	0.308″	0.187″	95966A410	4.69
9/16″	0.308″	0.187″	95966A414	4.72
5/8″	0.308″	0.187″	95966A419	4.72
3/4″	0.308″	0.187″	95966A423	4.73
7/8″	0.308″	0.187″	95966A428	4.98
1″	0.308″	0.187″	95966A432	4.99
1 1/4″	0.308″	0.187″	95966A437	5.28
1 3/8″	0.308″	0.187″	95966A441	5.28
1 1/2″	0.308″	0.187″	95966A445	5.28
1 3/4″	0.308″	0.187″	95966A449	5.25
1/4″-20—Thread Lg.: 1/4″				
5/8″	0.370″	0.247″	95966A512	$5.27
3/4″	0.370″	0.247″	95966A516	5.27
7/8″	0.370″	0.247″	95966A523	5.28
1″	0.370″	0.247″	95966A529	5.49
1 1/4″	0.370″	0.247″	95966A531	5.50
1 1/2″	0.370″	0.247″	95966A537	5.84
1 3/4″	0.370″	0.247″	95966A543	6.11
2″	0.370″	0.247″	95966A549	6.39
5/16″-18—Thread Lg.: 3/8″				
3/4″	0.469″	0.312″	95966A613	5.50
1″	0.469″	0.312″	95966A618	6.67
1 1/2″	0.469″	0.312″	95966A624	7.50
3/8″-16—Thread Lg.: 3/8″				
1″	0.556″	0.372″	95966A634	8.06
1 1/2″	0.556″	0.372″	95966A638	9.72

Knurled Head Slotted Screws

Lg.	Head Dia.	Head Ht.		Each★
4-40—Thread Lg.: 1/8″				
3/8″	1/4″	1/4″	91035A190	3.00
1/2″	1/4″	1/4″	91035A210	3.84
5/8″	1/4″	1/4″	91035A220	4.20
3/4″	1/4″	1/4″	91035A230	5.00
7/8″	1/4″	1/4″	91035A240	4.40
1″	1/4″	1/4″	91035A250	4.40
6-32—Thread Lg.: 7/32″				
1/2″	5/16″	5/16″	91035A330	3.40
5/8″	5/16″	5/16″	91035A340	3.60
3/4″	5/16″	5/16″	91035A350	4.20
7/8″	5/16″	5/16″	91035A360	3.96
1″	5/16″	5/16″	91035A370	4.18
8-32—Thread Lg.: 7/32″				
1/2″	5/16″	5/16″	91035A390	3.60
5/8″	5/16″	5/16″	91035A400	3.80
3/4″	5/16″	5/16″	91035A410	4.60
7/8″	5/16″	5/16″	91035A420	4.40
1″	5/16″	5/16″	91035A430	5.00
10-24—Thread Lg.: 1/4″				
1/2″	3/8″	7/16″	91035A450	3.96
5/8″	3/8″	7/16″	91035A460	4.80
3/4″	3/8″	7/16″	91035A470	4.60
7/8″	3/8″	7/16″	91035A480	4.60
1″	3/8″	7/16″	91035A490	5.00
1 1/8″	3/8″	7/16″	91035A495	5.80
1 1/4″	3/8″	7/16″	91035A497	6.40
1 3/8″	3/8″	7/16″	91035A499	6.97
1 1/2″	3/8″	7/16″	91035A501	7.60
10-32—Thread Lg.: 1/4″				
1/2″	3/8″	7/16″	91035A510	3.96
5/8″	3/8″	7/16″	91035A508	4.80
3/4″	3/8″	7/16″	91035A530	4.60
7/8″	3/8″	7/16″	91035A540	5.00
1″	3/8″	7/16″	91035A550	5.20
1 1/8″	3/8″	7/16″	91035A570	5.80
1 1/4″	3/8″	7/16″	91035A590	6.40
10-32 (Cont.)				
1 3/8″	3/8″	7/16″	91035A593	6.97
1 1/2″	3/8″	7/16″	91035A595	7.60
1/4″-20—Thread Lg.: 5/16″				
5/8″	1/2″	9/16″	91035A610	6.00
3/4″	1/2″	9/16″	91035A615	6.00
7/8″	1/2″	9/16″	91035A620	7.20
1″	1/2″	9/16″	91035A625	8.00
1 1/4″	1/2″	9/16″	91035A640	9.20
1 1/2″	1/2″	9/16″	91035A650	8.40
1/4″-28—Thread Lg.: 5/16″				
5/8″	1/2″	9/16″	91035A710	6.60
3/4″	1/2″	9/16″	91035A730	6.00
7/8″	1/2″	9/16″	91035A750	9.65
1″	1/2″	9/16″	91035A770	9.40
1 1/4″	1/2″	9/16″	91035A790	11.20
1 1/2″	1/2″	9/16″	91035A810	12.33

Fillister Head Slotted Screws

Lg.	Head Dia.	Head Ht.		Each★
4-40—Thread Lg.: 3/16″				
1/2″	11/64″	0.107″	94375A320	3.00
3/4″	11/64″	0.107″	94375A340	4.50
6-32—Thread Lg.: 7/32″				
1/2″	7/32″	0.132″	94375A405	3.00
3/4″	7/32″	0.132″	94375A425	3.65
1″	7/32″	0.132″	94375A445	4.25
8-32—Thread Lg.: 7/32″				
1/2″	1/4″	0.156″	94375A520	3.00
3/4″	1/4″	0.156″	94375A540	4.00
1″	1/4″	0.156″	94375A560	4.21
10-24—Thread Lg.: 9/32″				
1/2″	5/16″	0.180″	94375A615	3.23
3/4″	5/16″	0.180″	94375A635	4.50
1″	5/16″	0.180″	94375A655	4.95
10-32—Thread Lg.: 9/32″				
1/2″	5/16″	0.180″	94375A715	3.23
3/4″	5/16″	0.180″	94375A735	4.50
1″	5/16″	0.180″	94375A755	4.75

★ Prices are 15% lower when you buy in multiples of five.

Retainers and Optional Springs

Fits Screw Size	Retainers ID	OD	Thick.		Pkg. of 25	Springs	Pkg. of 5
4-40	0.093″	0.171″	0.010″	91065A620	$10.09	9435K24	$5.29
6-32	0.112″	0.171″	0.010″	91065A640	10.09	9435K24	5.29
8-32	0.146″	0.312″	0.012″	91065A660	10.09	9435K36	5.56
10-24	0.166″	0.312″	0.012″	91065A680	10.09	9435K36	5.56
10-32	0.166″	0.312″	0.012″	91065A720	$10.09	9435K36	$5.56
1/4″-20	0.204″	0.312″	0.012″	91065A740	10.09	9435K5	6.65
1/4″-28	0.214″	0.312″	0.012″	91065A770	9.71	9435K5	6.65

Vibration-Resistant Captive Panel Screws

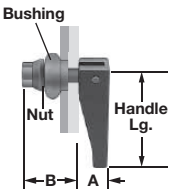



An expanding rubber bushing damps vibration while holding panels together. To install, push the threaded end through a hole in the outer panel, slide on the bushing, and tighten the nut. Next, insert the assembly through the inner panel hole and flip the handle to fasten. When installed, fasteners become a permanent part of the panel. Total panel thickness is the outer plus the inner panel thickness.

Handle and nut are nylon. Color is black. 90702A810 has a zinc screw. 90702A910 has a brass screw.

Max. Outer Panel Thick.	Max. Install. Thick.	Outer Panel Cutout Ht.	Outer Panel Cutout Wd.	Inner Panel Hole Dia.	Handle Lg.	(A)	(B)		
0.13″	0.26″	0.161″	0.130″	0.375″	1.09″	0.31″	0.52″	90702A810	$6.27
0.19″	0.38″	0.228″	0.177″	0.547″	1.53″	0.45″	0.75″	90702A910	6.73

Easy-to-Install Captive Panel Screws

Fasteners snap in without special tools. Each consists of a plunger and a grommet. To install, press the grommet into a hole in the outer panel. To fasten, insert the plunger to expand the grommet behind the inner panel. Pull the plunger to release. When installed, fasteners become a permanent part of the outer panel, so they won't fall out. Total panel thickness is the outer plus the inner panel thickness.

Fasteners meet UL 94V2 for flame retardance. They're made from plastic and have a temperature range of –20° to 185°F. Color is black.

Max. Outer Panel Thick.	Installation Thickness	Head Dia.	Head Ht.	Pkg. Qty.		Pkg.
Hole Dia.: 0.294″ Outer Panel, 0.316″ Inner Panel						
0.042″	0.059″-0.148″	3/8″	19/64″	10	93040A101	$15.82
0.065″	0.084″-0.173″	3/8″	19/64″	10	93040A102	16.56
0.098″	0.118″-0.207″	3/8″	19/64″	10	93040A103	15.82
0.162″	0.182″-0.271″	3/8″	19/64″	10	93040A104	15.80
Hole Dia.: 0.238″ Outer Panel, 0.250″ Inner Panel						
0.042″	0.059″-0.148″	5/16″	9/32″	10	93040A106	15.84
0.065″	0.084″-0.173″	5/16″	9/32″	10	93040A107	15.83
0.098″	0.118″-0.207″	5/16″	9/32″	10	93040A108	15.83
0.162″	0.182″-0.271″	5/16″	9/32″	10	93040A109	15.56
Hole Dia.: 0.180″ Outer Panel, 0.189″ Inner Panel						
0.042″	0.056″-0.153″	1/4″	17/64″	10	93040A110	15.29
0.065″	0.079″-0.176″	1/4″	17/64″	10	93040A111	15.29
0.098″	0.112″-0.209″	1/4″	17/64″	10	93040A112	15.38
0.138″	0.152″-0.249″	1/4″	17/64″	10	93040A113	15.28

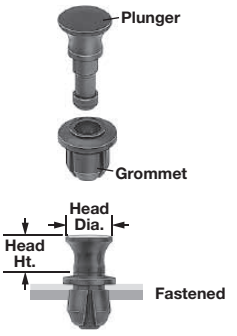

Quarter-Turn Captive Panel Screws with Nut

Lock and release access panels, doors, and covers with a quarter-turn. The screw is held to the outer panel by a retainer. Each screw includes a nut and retainer. Length is measured from under the screw head.

Screws **with clip-on nut** allow you to mount the screws near the edge of thin panels.

Screws **with rivet-mount nut** can be riveted into thin panels for a flush fit. They can be mounted without space between the panels. Rivets are not included.

Screws **with back press-fit nut** press into the back of a panel in applications where both sides are accessible.

Screws **with front press-fit nut** press into a closed-end hole or thick panel in applications where the back of the panel is not accessible.

Zinc-plated steel is corrosion resistant. An installation tool (sold separately) is required. Retainer is 18-8 stainless steel. **Acetal** is chemical resistant and lightweight. Temp. range is –40° to 190°F. Color is black.

For Hole Dia.	Thick.	For Inner Panel Thick.	Lg.	Wing	Each	Phillips	Each	Slotted	Each
Zinc-Plated Steel with Clip-On Nut—For a minimum of 0.026″ between panels									
0.312″	0.12″-0.14″	0.02″-0.114″	0.46″	91382A310	$2.59	91382A210	$2.34	91382A110	$2.31
0.312″	0.14″-0.16″	0.02″-0.134″	0.48″	91382A320	2.59	91382A220	2.34	91382A120	2.31
0.312″	0.16″-0.18″	0.02″-0.154″	0.5″	91382A330	2.59	91382A230	2.34	91382A130	2.31
0.312″	0.18″-0.2″	0.02″-0.174″	0.52″	91382A340	2.59	91382A240	2.34	91382A140	2.31
0.312″	0.2″-0.22″	0.02″-0.194″	0.54″	91382A350	2.59	91382A250	2.34	91382A150	2.31
0.312″	0.22″-0.24″	0.02″-0.214″	0.56″	91382A360	2.59	91382A260	2.34	91382A160	2.31
Acetal with Clip-On Nut—For a minimum of 0.04″ between panels									
0.512″	0.19″-0.24″	0.03″-0.09″	0.85″					94188A310	2.28
0.512″	0.24″-0.29″	0.03″-0.09″	0.9″					94188A320	2.28
0.512″	0.29″-0.34″	0.03″-0.09″	0.95″	94188A410	2.60				
0.512″	0.34″-0.39″	0.03″-0.09″	1″	94188A420	2.60			94188A330	2.28
0.512″	0.44″-0.49″	0.03″-0.09″	1.1″	94188A430	2.60			94188A340	2.28
Zinc-Plated Steel with Rivet-Mount Nut—Require 3/32″ rivets and a 0.24″ dia. outer panel hole									
0.44″	0.15″-0.17″	—	0.46″	91382A610	3.20	91382A510	2.97	91382A410	2.91
0.44″	0.17″-0.19″	—	0.48″	91382A620	3.20	91382A520	2.97	91382A420	2.91
0.44″	0.19″-0.21″	—	0.5″	91382A630	3.20	91382A530	2.97	91382A430	2.91
0.44″	0.21″-0.23″	—	0.52″	91382A640	3.20	91382A540	2.97	91382A440	2.91
0.44″	0.23″-0.25″	—	0.54″	91382A650	3.20	91382A550	2.97	91382A450	2.91
0.44″	0.25″-0.27″	—	0.56″	91382A660	3.20	91382A560	2.97	91382A460	2.91
Acetal with Rivet-Mount Nut—Require 1/8″ rivets and a 0.39″ dia. outer panel hole									
0.438″	0.15″-0.2″	—	0.85″					94188A110	2.40
0.438″	0.2″-0.25″	—	0.9″					94188A120	2.40
0.438″	0.25″-0.3″	—	0.95″	94188A210	2.76				
0.438″	0.3″-0.35″	—	1″	94188A220	2.76			94188A130	2.40
0.438″	0.4″-0.45″	—	1.1″	94188A230	2.76			94188A140	2.40
Zinc-Plated Steel with Back Press-Fit Nut—For a minimum of 0.01″ between panels									
0.437″	0.05″-0.07″	0.037″ min.	0.46″	91382A570	7.23	91382A370	6.97	91382A170	6.94
0.437″	0.07″-0.09″	0.037″ min.	0.48″	91382A580	7.23	91382A380	6.97	91382A180	6.94
0.437″	0.09″-0.11″	0.037″ min.	0.5″	91382A590	7.23	91382A390	6.97	91382A190	6.94
0.437″	0.11″-0.13″	0.037″ min.	0.52″	91382A670	7.23	91382A470	6.97	91382A270	6.94
0.437″	0.13″-0.15″	0.037″ min.	0.54″	91382A680	7.23	91382A480	6.97	91382A280	6.94
0.437″	0.15″-0.17″	0.037″ min.	0.56″	91382A690	7.23	91382A490	6.97	91382A290	6.94
Zinc-Plated Steel with Front Press-Fit Nut—For a minimum of 0.01″ between panels									
0.469″	0.01″-0.03″	0.08″ min.	0.46″	91382A910	6.11	91382A810	5.86	91382A710	5.83
0.469″	0.03″-0.05″	0.08″ min.	0.48″	91382A920	6.11	91382A820	5.86	91382A720	5.83
0.469″	0.05″-0.07″	0.08″ min.	0.5″	91382A930	6.11	91382A830	5.86	91382A730	5.83
0.469″	0.07″-0.09″	0.08″ min.	0.52″	91382A940	6.11	91382A840	5.86	91382A740	5.83
0.469″	0.09″-0.11″	0.08″ min.	0.54″	91382A950	6.11	91382A850	5.86	91382A750	5.83
0.469″	0.11″-0.13″	0.08″ min.	0.56″	91382A960	6.11	91382A860	5.86	91382A760	5.83
Replacement Retainers for Zinc-Plated Steel Panel Screws (Pkg. of 10)								93450A437	1.80
Replacement Retainers for Acetal Panel Screws (Pkg. of 10)								93442A311	4.92
Installation Tool for Stainless Steel Retainers								93450A400	26.28

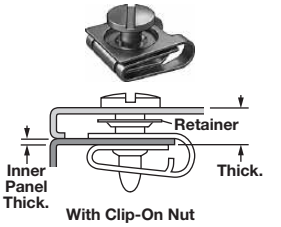

With Clip-On Nut

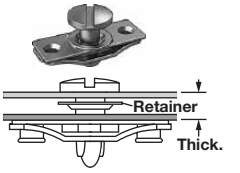

With Rivet-Mount Nut

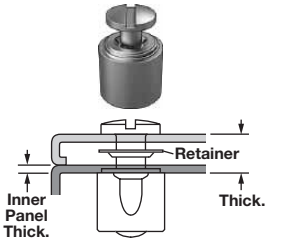

With Back Press-Fit Nut

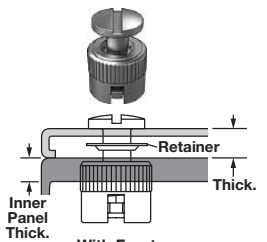

With Front Press-Fit Nut

Low-Profile Captive Panel Screws

When installed, screws become a permanent part of the outer panel. The screw head is protected inside a shell that mounts flush against the outer panel's surface. Install in aluminum and low-carbon steel with a press or punch.

Use with flush-mount press-in nuts (sold separately on page 3238).

Thread Size	Min. Outer Panel Thick.	Head Dia.	Head Ht.	Lg.	Hole Dia.		Each
Phillips—Type 430 Stainless Steel							
8-32	0.06″	13/32″	1/8″	11/32″	0.375″	94350A130	$2.01
8-32	0.06″	13/32″	1/8″	3/8″	0.375″	94350A135	2.01
8-32	0.06″	13/32″	1/8″	29/64″	0.375″	94350A145	2.01
Slotted—18-8 Stainless Steel							
4-40	0.05″	9/32″	1/16″	5/16″	0.257″	94350A180	1.89
6-32	0.06″	5/16″	5/64″	3/8″	0.295″	94350A195	2.01
8-32	0.06″	13/32″	3/32″	7/16″	0.375″	94350A220	2.01

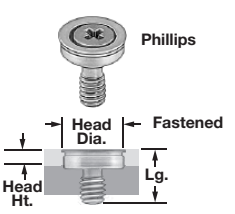

Permanently Attached Captive Panel Screws

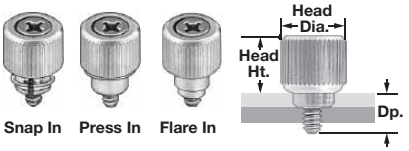

Screws become a permanent part of the panel when installed, so they won't fall out and get lost. Made from stainless steel. Use with flush-mount press-in nuts (sold separately on page 3238).

Snap In— Use in material up to 0.125″ thick. They install without tools.

Press In— For sheet metal with a minimum thickness of 0.036″ and a Rockwell hardness of B85 or softer. Use an arbor press or similar tool for installation.

Flare In— For near-edge applications in panels up to 0.312″ thick. Install with a flare-in installation tool (required; sold separately) and an arbor press. Requires a 90° flared hole.

Also Available Flare-in installation tools. Please ask for 92060A888 and specify thread size.

Thread Size	For Outer Panel Thickness	Head Dia.	Head Ht.	Dp.	Hole Dia.		Each
Snap In							
6-32	0.020″-0.039″	29/64″	27/64″	7/32″	1/4″	92060A010	$3.96
6-32	0.039″-0.063″	29/64″	27/64″	9/32″	1/4″	92060A015	3.96
8-32	0.039″-0.063″	33/64″	7/16″	11/32″	1/4″	92060A110	4.57
8-32	0.063″-0.098″	33/64″	7/16″	11/32″	1/4″	92060A116	4.12
8-32	0.098″-0.125″	33/64″	7/16″	9/32″	1/4″	92060A120	4.44
10-32	0.039″-0.063″	33/64″	7/16″	11/32″	1/4″	92060A210	4.47
10-32	0.063″-0.098″	33/64″	7/16″	11/32″	1/4″	92060A215	4.47
10-32	0.098″-0.125″	33/64″	7/16″	13/32″	1/4″	92060A220	4.83
Press In							
4-40	0.036″ min.	9/32″	3/8″	11/64″	7/32″	94465A410	2.79
4-40	0.036″ min.	9/32″	3/8″	19/64″	7/32″	94465A415	2.79
4-40	0.036″ min.	27/64″	21/64″	3/16″	7/32″	92060A310	2.31
6-32	0.036″ min.	5/16″	13/32″	9/32″	1/4″	94465A425	2.83
6-32	0.036″ min.	5/16″	13/32″	19/64″	1/4″	94465A420	2.83
6-32	0.036″ min.	29/64″	13/32″	7/32″	1/4″	92060A316	2.31
8-32	0.036″ min.	33/64″	7/16″	7/32″	5/16″	92060A320	2.69

Thread Size	For Outer Panel Thickness	Head Dia.	Head Ht.	Dp.	Hole Dia.		Each
Press In (Cont.)							
10-32	0.036″ min.	33/64″	7/16″	7/32″	5/16″	92060A325	$2.72
1/4″-20	0.036″ min.	37/64″	17/32″	9/32″	3/8″	92060A330	4.36
Flare In							
4-40	0.031″-0.058″	27/64″	21/64″	5/32″	3/16″	92060A510	2.31
4-40	0.095″-0.156″	9/32″	3/8″	9/32″	3/16″	94465A125	2.79
6-32	0.058″-0.125″	5/16″	3/8″	9/32″	7/32″	94465A130	2.83
6-32	0.058″-0.125″	29/64″	13/32″	1/4″	7/32″	92060A516	2.31
6-32	0.059″-0.125″	29/64″	13/32″	3/8″	7/32″	92060A530	2.31
6-32	0.059″-0.125″	29/64″	13/32″	7/16″	7/32″	92060A535	2.31
6-32	0.126″-0.187″	5/16″	3/8″	11/32″	7/32″	94465A135	2.83
8-32	0.058″-0.125″	33/64″	7/16″	23/64″	17/64″	92060A550	2.69
8-32	0.059″-0.125″	33/64″	7/16″	19/64″	17/64″	92060A545	2.69
10-32	0.059″-0.125″	33/64″	7/16″	5/16″	17/64″	92060A565	2.72
10-32	0.059″-0.125″	33/64″	7/16″	7/16″	17/64″	92060A570	2.72
10-32	0.251″-0.312″	33/64″	7/16″	7/16″	17/64″	92060A560	2.72
1/4″-20	0.058″-0.125″	37/64″	1/2″	5/16″	21/64″	92060A575	4.37

Low-Profile Binding Posts

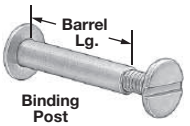



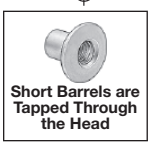



Also known as Chicago binding posts, these unobtrusive two-part fasteners have a thin, large-diameter (truss) head on each end. The screw head has a slotted drive; the barrel head is smooth, except stainless steel, steel, and brass barrels 1/4″ and shorter, and aluminum barrels 3/8″ and shorter are tapped through the head.

Barrel Extensions— Add length to the binding post barrel. Made from aluminum. Maximum usable thread depth is 3/8″, except 1/4″ long barrels have a usable thread depth of 3/16″.

Binding Posts— Barrel Dia.: 13/64″; Thread Size: 8-32

For Material Thick.	Barrel Lg.		18-8 Stainless Steel Pkg. Qty.	18-8 Stainless Steel Pkg.	Zinc-Plated Steel Pkg. Qty.	Zinc-Plated Steel Pkg.	Aluminum Pkg. Qty.	Aluminum Pkg.	Black Anodized Aluminum Pkg. Qty.	Black Anodized Aluminum Pkg.	Brass Pkg. Qty.	Brass Pkg.
1/8″-3/16″	1/8″	93121A311	25	$28.61	25	$22.05	50	$10.44	25	$11.25	25	$14.81
3/16″-1/4″	3/16″	93121A391	25	29.14	25	23.69	50	10.44	25	11.25	25	18.98
1/4″-3/8″	1/4″	93121A392★	25	29.67	25	23.96	50	9.60	25	11.31	25	20.78
3/8″-5/8″	3/8″	93121A393■	10	13.53	25	19.88	50	9.80	25	11.56	25	21.06
1/2″-3/4″	1/2″	93121A394▲	10	13.08	25	20.96	50	9.97	25	13.31	25	22.16
5/8″-7/8″	5/8″	93121A395	10	13.88	25	21.78	50	10.51	25	15.20	25	22.22
3/4″-1″	3/4″	93121A396	10	14.86	25	23.14	50	11.26	25	15.93	25	23.17
7/8″-1 1/8″	7/8″	93121A397	—	—	—	—	50	12.06	—	—	10	22.59
1″-1 1/4″	1″	93121A398	10	17.11	10	14.42	25	6.69	10	8.70	10	12.09
1 1/4″-1 1/2″	1 1/4″	93121A399	10	19.80	10	15.52	25	7.66	10	10.70	10	16.31
1 1/2″-1 3/4″	1 1/2″	93121A401	10	23.40	10	16.06	25	8.23	10	11.20	10	17.91
1 3/4″-2″	1 3/4″	93121A402	10	23.40	10	16.88	25	9.00	10	11.52	10	18.45
2″-2 1/4″	2″	93121A403	5	18.78	10	17.70	25	9.54	10	12.18	10	19.78
2 1/4″-2 1/2″	2 1/4″	93121A404	5	19.88	—	—	25	10.37	—	—	5	18.29
2 1/2″-2 3/4″	2 1/2″	93121A405	5	19.60	—	—	25	10.69	1	4.00	5	20.25
2 3/4″-3″	2 3/4″	93121A406	5	20.15	—	—	10	6.20	—	—	5	21.18
3″-3 1/4″	3″	93121A407	5	20.96	—	—	10	6.86	1	4.00	5	23.14
3 1/2″-3 3/4″	3 1/2″	93121A408	5	21.78	—	—	10	7.05	—	—	5	26.02
4″-4 1/4″	4″	93121A409	5	23.96	—	—	10	9.26	1	4.12	1	7.93
5″-5 1/4″	5″	93121A411	5	27.67	—	—	5	7.31	1	4.25	1	9.20
6″-6 1/4″	6″	93121A412	—	—	—	—	5	10.60	1	4.30	—	—

★ For black anodized aluminum, material thickness is 1/4″-1/2″. ■ For 18-8 stainless steel, material thickness is 1/2″-5/8″. For zinc-plated steel, material thickness is 3/8″-7/16″. ▲ For black anodized aluminum, material thickness is 5/8″-3/4″.

Barrel Extensions— Barrel Dia.: 13/64″; Thread Size: 8-32

Barrel Lg.	Pkg. Qty.		Pkg.	Barrel Lg.	Pkg. Qty.		Pkg.
1/4″	50	93122A325	$11.41	3/4″	25	93122A335	$7.08
1/2″	50	93122A330	11.64	1″	25	93122A340	7.28

Plastic Binding Posts

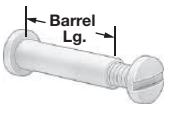

To install, press the barrel through a hole and press-in the screw. The barrel diameter is 0.24″. Temperature range is –60° to 200°F.

To Order: Please specify off-white or black.

For Material Thick.	Barrel Lg.	Pkg. Qty.		Pkg.
1/4″	1/4″	100	90249A610	$9.69
3/8″	3/8″	100	90249A620	10.80
1/2″	1/2″	100	90249A630	10.93
3/4″	3/4″	100	90249A640	11.20
7/8″	7/8″	100	90249A710	14.41

For Material Thick.	Barrel Lg.	Pkg. Qty.		Pkg.
1″	1″	100	90249A720	$14.46
1 1/4″	1 1/4″	100	90249A730	14.63
1 1/2″	1 1/2″	100	90249A740	14.73
2″	2″	50	90249A750	9.49

Binding Posts

Barrels and screws team up to hold items together. Each has a large-diameter (truss) head and a combination drive on both ends that accepts both Phillips and slotted screwdrivers, unless noted.

Also Available: Replacement barrels, replacement machine screws, and 1/4" long shoulder screws. For barrels, please ask for 98002A401 and specify material, barrel diameter, and length. For machine screws, please ask for 98002A501 and specify material and thread size. For shoulder screws, please ask for 98002A601 and specify material and thread size.



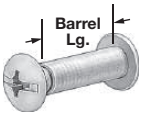

For Material Thick. Min.	Max.	Barrel Lg.	Type 316 Stainless Steel	Each	18-8 Stainless Steel	Each	Zinc-Plated Steel Pkg. Qty	Pkg.
1/4" Barrel Dia.—Thread Size: 10-24								
1/4"	3/8"	1/4"	92463A401♠	$2.56	99637A301♠	$1.57	10	98002A201♠ $4.13
3/8"	1/2"	3/8"	92463A402	2.66	99637A302	1.60	10	98002A202 4.15
1/2"	5/8"	1/2"	92463A403	2.78	99637A303	1.71	10	98002A203 4.24
5/8"	3/4"	5/8"	92463A404	2.93	99637A304	1.69	10	98002A204 4.36
3/4"	7/8"	3/4"	92463A405	3.05	99637A305	1.81	10	98002A205 4.44
1"	1 1/8"	1"	92463A406	3.31	99637A306	1.85	10	98002A206 4.55
1 1/4"	1 3/8"	1 1/4"	92463A407	3.52	99637A307	1.96	10	98002A207 4.59
1 1/2"	1 5/8"	1 1/2"	92463A408	3.64	99637A308	2.12	10	98002A208 5.43
2"	2 1/8"	2"	92463A409	3.86	99637A309	2.28	10	98002A209 6.12
5/16" Barrel Dia.—Thread Size: 1/4"-20								
3/8"	1/2"	3/8"	92463A411	3.18	99637A311	2.35	10	98002A301 7.40
1/2"	5/8"	1/2"	92463A412	3.40	99637A312	2.91	10	98002A302 7.59
5/8"	3/4"	5/8"	92463A413	3.61	99637A313	2.68	10	98002A303■ 7.68
3/4"	7/8"	3/4"	92463A414	3.78	99637A314	3.08	10	98002A304 7.73
7/8"	1"	7/8"	92463A415	4.15	99637A315	2.76	10	98002A305▲ 8.40
1"	1 1/8"	1"	92463A416	3.79	99637A316	3.24	10	98002A306 7.88
1 1/4"	1 3/8"	1 1/4"	92463A417	4.34	99637A317	3.97	10	98002A307 8.93
1 1/2"	1 5/8"	1 1/2"	92463A418	4.64	99637A318	4.95	10	98002A308 9.75

♠ Barrel drive is slotted. ■ Barrel length is 1/2". ▲ Barrel length is 3/4".

Socket Drive Binding Posts

A deep socket drive allows you to tighten these fasteners with plenty of torque. All are 18-8 stainless steel.

Button head screws have a smooth dome that sits above the panel surface and provides a finished appearance.

Flat head screws have an 82° bevel under the head. They sit flush in countersunk holes leaving panel surfaces even and snag-free.

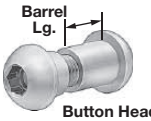



For Material Thick. Min.	Max.	Barrel Lg.	Each
Button Head			
1/4" Barrel Dia.—Thread Size: 10-24			
1/2"	5/8"	1/2"	97851A101 $9.49
3/4"	7/8"	1/2"	97851A102 9.49
1"	1 1/8"	3/4"	97851A103 9.87
1 1/4"	1 3/8"	1"	97851A104 10.37
1 1/2"	1 5/8"	1 1/4"	97851A105 10.50
3/8" Barrel Dia.—Thread Size: 1/4"-20			
1/2"	3/4"	1/2"	97851A201 15.23
3/4"	1"	3/4"	97851A202 16.13
1"	1 1/4"	1"	97851A203 18.26
1 3/8"	1 5/8"	1"	97851A204 21.72
1 5/8"	1 7/8"	1"	97851A205 22.46
1/2" Barrel Dia.—Thread Size: 3/8"-16			
5/8"	7/8"	1/2"	97851A301 19.19
7/8"	1 1/8"	3/4"	97851A302 21.04
1 1/8"	1 3/8"	1"	97851A303 22.32
1 5/8"	1 7/8"	1"	97851A304 22.32
2 1/8"	2 3/8"	1 1/2"	97851A305 27.67

For Material Thick. Min.	Max.	Barrel Lg.	Each
Flat Head			
1/4" Barrel Dia.—Thread Size: 10-24			
11/16"	3/4"	5/16"	98096A101 $12.47
15/16"	1"	9/16"	98096A102 12.92
1 1/4"	1 1/2"	13/16"	98096A103 14.48
1 1/2"	1 3/4"	1 1/16"	98096A104 16.19
1 1/2"	2"	1 1/16"	98096A105 16.72
3/8" Barrel Dia.—Thread Size: 1/4"-20			
1"	1 1/8"	1/4"	98096A201 16.45
1 1/8"	1 1/4"	1/2"	98096A202 17.72
1 3/8"	1 1/2"	3/4"	98096A203 20.17
1/2" Barrel Dia.—Thread Size: 3/8"-16			
1 1/8"	1 1/4"	1/2"	98096A301 20.59
1 3/8"	1 1/2"	3/4"	98096A302 23.16
1 7/8"	2"	1 1/4"	98096A303 25.43
2 3/8"	2 1/2"	1 3/4"	98096A304 28.04
3 3/8"	3 1/2"	2 3/4"	98096A305 29.43

Tamper-Resistant Binding Posts

These binding posts have a nonstandard drive that can only be loosened with a matching driver. All are 18-8 stainless steel.

Pin-in-star binding posts are compatible with tamper-resistant Torx drivers and bits.

One-way binding posts are also known as partition bolts. They install with a standard slotted screwdriver, but require a special tool to remove (see 7392A63 on page 2820).

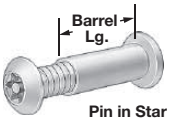



For Material Thick.	Barrel Lg.	Each
Pin in Star		
1/4" Barrel Dia.—Thread Size: 10-24; T20 Drive		
3/8"-1/2"	3/8"	96754A101 $5.38
1/2"-5/8"	1/2"	96754A102 5.82
5/8"-3/4"	5/8"	96754A103 6.06
3/4"-7/8"	3/4"	96754A104 6.22
1"-1 1/8"	1"	96754A105 6.12
1 1/4"-1 3/8"	1 1/4"	96754A106 6.37
1 1/2"-1 5/8"	1 1/2"	96754A107 7.06
2"-2 1/8"	2"	96754A108 8.88

For Material Thick.	Barrel Lg.	Each
Pin in Star (Cont.)		
5/16" Barrel Dia.—Thread Size: 1/4"-20; T27 Drive		
1/2"-5/8"	1/2"	96754A109 $7.77
5/8"-3/4"	1/2"	96754A111 8.06
3/4"-1"	3/4"	96754A112 8.76
7/8"-1"	3/4"	96754A113 9.06
1"-1 1/4"	1"	96754A114 9.72
1 1/4"-1 1/2"	1 1/4"	96754A115 12.87
1 1/2"-1 5/8"	1 1/4"	96754A116 13.21

For Material Thick.	Barrel Lg.	Pkg. Qty.	Pkg.
One Way			
1/4" Barrel Dia.—Thread Size: 10-24			
1/2"-5/8"	3/8"	5	90650A401 $6.86
3/4"-1"	1/2"	5	90650A402 7.42
1 1/8"-1 3/8"	3/4"	5	90650A403 7.73
1 3/8"-1 5/8"	1"	5	90650A404 8.40

Quick-Install Binding Posts



To install, tap the cap into the barrel with a hammer.

Metal binding posts come complete with a barrel and a cap. Barrels are aluminum and fit a 7/32" hole. Caps are nickel-plated steel and 7/16" dia. Once installed, they cannot be removed.

Plastic binding post barrels and caps are sold separately. Both are black and withstand temperatures from 20° to 120°F. Barrels fit a 1/4" hole. Caps are 7/16" dia. Once installed, **permanent caps** cannot be removed. **Removable caps** have a slotted drive for removal with a screwdriver.

Metal Binding Posts

Barrel Lg.	Pkg. Qty.		Pkg.	Barrel Lg.	Pkg. Qty.		Pkg.
3/8"	25	99172A128	$7.91	3/4"	25	99172A142	$8.30
1/2"	25	99172A133	8.06	7/8"	25	99172A147	8.52
5/8"	25	99172A139	8.24	1"	25	99172A152	8.64

Plastic Binding Post Barrels and Caps

Barrel Lg.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
Barrels				**Permanent Caps**		
1/2"	100	93120A100	$9.51	100	93120A190	$5.62
5/8"	100	93120A105	9.56	**Removable Caps**		
3/4"	100	93120A110	9.05	100	93120A195	5.62
1"	50	93120A115	9.77			
1 1/4"	50	93120A120	9.87			
1 1/2"	50	93120A125	9.92			

Binding Screws for Furniture

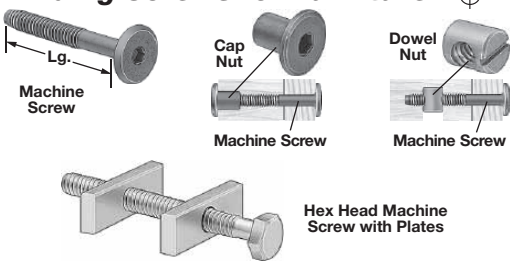

Create strong joints in wood and wood composite furniture.

Machine screws have a low-profile head and require a cap nut or a dowel nut (sold separately). Use a *cap nut* for a finished look on the back of a through hole and a *dowel nut* for an extra strong joint in a blind hole.

Hex head machine screws with plates join mitered corners. They come with one threaded and one unthreaded plate.

Lg.	Thread Size	Thread Lg.	Pkg. Qty.		Pkg.
Machine Screws—Bronze-Plated Steel; Socket Drive					
50 mm	1/4"-20	30 mm	25	90835A108	$5.65
70 mm	1/4"-20	40 mm	25	90835A110	4.41
Cap Nuts—Bronze-Plated Steel; Socket Drive					
12 mm	1/4"-20	____	25	90835A300	9.70
17 mm	1/4"-20	____	25	90835A310	12.15
Dowel Nuts—Plain Steel; Slotted Drive; Body Dia.: 10 mm					
12 mm	1/4"-20	____	25	90835A200	5.83
16 mm	1/4"-20	____	25	90835A210	6.99
Hex Head Machine Screws with Plates—Zinc-Plated Steel; Plates: 7/16" Wd. x 1 1/4" Lg. x 3/16" Thick.					
3 1/2"	1/4"-20	3"	10	91560A120	9.08

Sealing and Thread-Locking Binding Posts



Also called Camtainer fasteners, these binding posts have a PVC seal under the head to keep contaminants out and adhesive on the threads to resist loosening. Temperature range is –40° to 300°F. Made from zinc-plated steel.

Screws have a tamper-resistant, low-profile head with a knurled shoulder that resists rotation. Barrels have a low-profile head with a Torx drive. Barrel diameter is 25/64".

For Material Thick.	Barrel Lg.	Pkg. Qty.		Pkg.
0.695"-0.744"	3/8"	5	90216A351	$11.69
0.720"-0.814"	3/8"	5	90216A352	11.09
0.820"-0.869"	1/2"	5	90216A356	11.81
0.820"-0.939"	1/2"	5	90216A357	11.20
0.845"-0.939"	1/2"	5	90216A358	11.23
0.935"-0.984"	5/8"	5	90216A363	12.12
0.935"-1.054"	5/8"	5	90216A364	11.48
0.935"-1.179"	5/8"	5	90216A365	$11.54
0.970"-1.064"	3/8"	5	90216A353	11.23
0.970"-1.189"	1/2"	5	90216A359	11.31
0.970"-1.304"	5/8"	5	90216A366	11.63
1.220"-1.314"	3/8"	5	90216A354	11.81
1.220"-1.439"	1/2"	5	90216A361	11.96
1.220"-1.554"	5/8"	5	90216A367	12.25
1.320"-1.369"	1"	5	90216A369	$12.69
1.320"-1.564"	1"	5	90216A372	12.87
1.320"-1.689"	1"	5	90216A373	12.90
1.320"-1.939"	1"	5	90216A374	12.98
1.401"-1.495"	3/8"	5	90216A355	11.99
1.401"-1.62"	1/2"	5	90216A362	12.12
1.401"-2.12"	1"	5	90216A375	13.09

Binding Posts for Door Hardware

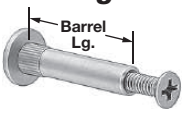

Also known as architectural bolts, you can use these fasteners to anchor hardware such as door closers and kick-plates. Screws have a Phillips drive and an 82° flat head that sits flush with the surface for a finished look. They protrude from the barrel to leave room for hardware. Barrels have a smooth, large-diameter (truss) head, so there's no drive to be tampered with on the outside of your door. Install in a hole with a diameter equal to the barrel diameter.

For Material Thick.	Barrel Lg.	*Type 316 SS* Each	*18-8 SS* Each	*Brass* Chrome Finish Each	*Brass* Dull Brass Finish Each	*Brass* Dark Bronze Finish Each
1/4" Barrel Dia.—8-32 Thread						
1 3/8"	1 3/16"	93544A472 $10.25	98975A122 $6.11	92437A122 $6.32	92436A122 $4.40	91135A122 $5.68
1 3/4"	1 9/16"	93544A475 11.51	98975A125 6.71	92437A125 6.82	92436A125 4.64	91135A125 6.20
5/16" Barrel Dia.—10-32 Thread						
1 3/8"	1 3/16"	93544A603 11.13	98975A253 4.09	92437A253 4.57	92436A253 2.79	91135A253 4.02
1 3/4"	1 9/16"	93544A612 12.58	98975A252 4.51	92437A252 4.38	92436A252 3.19	91135A252 4.30
5/16" Barrel Dia.—12-24 Thread						
1 3/8"	1 3/16"	____ ____	98975A361 4.36	92437A361 4.23	92436A361 3.25	91135A361 4.08
1 3/4"	1 9/16"	____ ____	98975A365 4.60	92437A365 4.30	92436A365 3.62	91135A365 4.45
3/8" Barrel Dia.—1/4"-20 Thread						
1 3/16"	1"	93544A755 11.39	98975A388 4.45	92437A381 4.46	92436A391 4.03	____ ____
1 3/4"	1 9/16"	93544A898 14.97	98975A548 4.84	92437A548 4.71	92436A548 3.83	91135A548 4.91
2 1/4"	2 1/16"	93544A901 17.54	98975A551 5.56	92437A551 5.42	92436A551 4.45	91135A551 5.89
3 3/16"	3"	93544A904 20.23	98975A554 11.88	92437A554 11.37	92436A556 9.40	____ ____
1/2" Barrel Dia.—5/16"-18 Thread						
2 1/4"	2 1/16"	93544A942 19.41	98975A592 6.95	92437A592 6.73	92436A592 5.09	91135A592 6.75
3 3/16"	3"	93544A944 27.14	98975A594 14.14	92437A594 12.36	92436A596 12.08	____ ____

About Shoulder Screws

Also called stripper bolts and shoulder bolts, these screws have a cylindrical shoulder under the head that, like an axle or shaft, allows moving parts to rotate around or slide along its length. They also serve as fulcrums and pivots.
Shims for lengthening or shortening shoulders are available on pages 3286-3287.

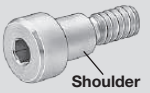

Material Properties

Alloy Steel—Screws made from alloy steel are comparable to Grade 8 screws. They have a shear strength of 84,000 psi, except 1¼″ and 1½″ diameter and tight-tolerance shoulder screws are not rated.

Stainless Steel—May be mildly magnetic.

18-8 stainless steel is the most common.

Type 316 stainless steel is more resistant to corrosion, solvents, and pitting caused by chlorides and sulfates than 18-8 stainless steel.

Type 416 stainless steel and *17-4 PH stainless steel* offer the corrosion resistance of 18-8 stainless steel with strength close to that of alloy steel.

Nickel—Good for marine and chemical-processing environments, this material is comparable to Monel. It is heat resistant and slightly magnetic.

Titanium—Strong and lightweight, this material is roughly 40% lighter than steel. It is nonmagnetic.

Brass—It's nonmagnetic and an excellent conductor of electricity.

Aluminum—Lightweight and nonmagnetic, it has mild corrosion resistance.

Plastic—Nonconductive and resistant to chemicals and solvents, except mineral acids. Exposure to moisture may cause it to expand.

Comparing Strength and Corrosion Resistance

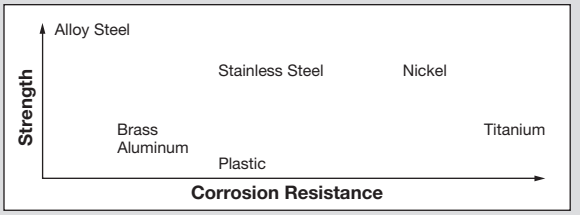

	Min. Rockwell Hardness	Min. Tensile Strength, psi
Alloy Steel	C32	140,000
Stainless Steel—18-8	B55	70,000
Stainless Steel—Type 316	B79	70,000
Stainless Steel—Type 416	C26	123,000
Stainless Steel—17-4 PH	C28	135,000
Nickel	B60	70,000
Titanium	B80	45,000
Brass	B55	45,000
Aluminum	—	42,000
Plastic	—	—

Head Dimensions for Shoulder Screws

Shoulder Dia.	3/32″	1/8″	5/32″	3/16″	7/32″	1/4″	5/16″	3/8″	1/2″	5/8″	3/4″	1″	1 1/4″	1 1/2″
Head Dia.	3/16″	1/4″	9/32″	5/16″	5/16″	3/8″	7/16″	9/16″	3/4″	7/8″	1″	1 5/16″	1 3/4″	2 1/8″
Head Ht.	1/8″	1/8″	1/8″	5/32″	5/32″	3/16″	7/32″	1/4″	5/16″	3/8″	1/2″	5/8″	3/4″	1″

Shoulder Dia., mm	3	4	5	6	8	10	12	16	20	24
Head Dia., mm	5	6	9	10	13	16	20	24	30	36
Head Ht., mm	2	3	4	5	6	7	9	11	14	16

■ Head heights for low profile screws are 1/3 to 2/3 shorter than the dimensions listed above. Dimensions do not apply to tight-tolerance or friction-resistant shoulder screws.

Shoulder Screws

Inch Sizes—Screws have a Class 3A thread fit. Shoulder diameter tolerance is –0.004″ to –0.002″. Shoulder length tolerance is ±0.005″. Screws with a 1/4″ and larger shoulder diameter meet ANSI/ASME B18.3, unless noted. *Alloy steel* screws with a 1″ and smaller shoulder diameter meet ASTM A574.

Metric Sizes—Screws have a Class 5g6g thread fit. Dimensions meet ISO 7379 (unless noted). Shoulder diameter tolerance is –0.072 mm to –0.01 mm. Shoulder length tolerance is +0.25 mm.

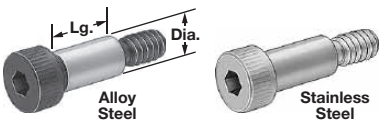

Alloy Steel

Shoulder Lg.		Each★
1/8″ Shoulder Dia. Thread: 4-40, 5/32″ Lg.		
1/8″	91259A153	$1.92
3/16″	91259A154	1.93
1/4″	91259A155	1.95
3/8″	91259A156	1.97
1/2″	91259A157	1.99
5/32″ Shoulder Dia. Thread: 6-32, 3/16″ Lg.		
1/8″	91259A158	1.97
3/16″	91259A159	1.98
1/4″	91259A161	2.00
3/8″	91259A162	2.03
1/2″	91259A163	2.08
3/16″ Shoulder Dia. Thread: 8-32, 3/16″ Lg.		
1/8″	91259A164	2.01
1/4″	91259A165	2.03
1/2″	91259A166	2.11
3/4″	91259A167	2.19
1″	91259A168	2.22
1/4″ Shoulder Dia. Thread: 10-24, 3/8″ Lg.		
1/8″	91259A169	2.29
1/4″	91259A533	1.08
5/16″	91259A534	1.06
3/8″	91259A535	1.08
1/2″	91259A537	1.09
5/8″	91259A539	1.11
3/4″	91259A540	1.13
1/4″ Shoulder Dia. (Cont.)		
7/8″	91259A541	$3.03
1″	91259A542	1.20
1 1/4″	91259A544	1.29
1 1/2″	91259A546	1.34
1 3/4″	91259A102	1.60
2″	91259A103	1.69
2 1/4″	91259A104	1.85
2 1/2″	91259A105	1.96
3″	91259A106	2.00
3 1/4″	91259A101	4.40
3 1/2″	91259A110	4.67
3 3/4″	91259A107	8.42
4″	91259A115	6.47
1/4″ Shoulder Dia.▲ Thread: 10-32, 1/4″ Lg.		
1/4″	91259A171	2.35
1/2″	91259A172	2.44
3/4″	91259A173	2.50
1″	91259A174	2.63
5/16″ Shoulder Dia. Thread: 1/4″-20, 7/16″ Lg.		
1/4″	91259A574	1.24
5/16″	91259A175	2.35
3/8″	91259A576	1.29
1/2″	91259A578	1.28
5/8″	91259A580	1.29
5/16″ Shoulder Dia. (Cont.)		
3/4″	91259A581	$1.35
7/8″	91259A582	3.13
1″	91259A583	1.38
1 1/4″	91259A585	1.50
1 1/2″	91259A587	1.63
1 3/4″	91259A589	1.67
2″	91259A591	1.70
2 1/4″	91259A108	5.40
2 1/2″	91259A109	5.65
3″	91259A111	6.25
3 1/2″	91259A225	3.32
4″	91259A121	4.72
4 1/2″	91259A910	11.49
5″	91259A914	12.58
3/8″ Shoulder Dia. Thread: 5/16″-18, 1/2″ Lg.		
1/4″	91259A615	1.49
5/16″	91259A176	2.76
3/8″	91259A617	1.50
1/2″	91259A619	1.52
5/8″	91259A621	1.53
3/4″	91259A622	1.56
7/8″	91259A623	4.70
1″	91259A624	1.57
1 1/4″	91259A626	1.66
1 1/2″	91259A628	1.70
1 3/4″	91259A630	1.74
3/8″ Shoulder Dia. (Cont.)		
2″	91259A632	$1.86
2 1/4″	91259A633	1.96
2 1/2″	91259A634	1.99
2 3/4″	91259A635	2.09
3″	91259A636	2.26
3 1/4″	91259A637	2.56
3 1/2″	91259A638	2.76
3 3/4″	91259A639	3.26
4″	91259A640	3.17
4 1/2″	91259A112	6.37
5″	91259A113	6.80
5 1/2″	91259A651	7.22
6″	91259A114	15.14
6 1/2″	91259A660	18.51
7″	91259A664	20.17
1/2″ Shoulder Dia. Thread: 3/8″-16, 5/8″ Lg.		
3/8″	91259A705	2.20
1/2″	91259A707	2.27
5/8″	91259A709	2.37
3/4″	91259A710	2.34
7/8″	91259A711	3.07
1″	91259A712	2.40
1 1/4″	91259A714	2.45
1 1/2″	91259A716	2.50
1 3/4″	91259A718	2.64
2″	91259A720	2.65
2 1/4″	91259A721	2.89
1/2″ Shoulder Dia. (Cont.)		
2 1/2″	91259A722	$2.98
2 3/4″	91259A723	3.15
3″	91259A724	3.33
3 1/4″	91259A725	3.68
3 1/2″	91259A726	3.91
3 3/4″	91259A727	4.56
4″	91259A728	4.31
4 1/4″	91259A729	5.21
4 1/2″	91259A730	5.17
4 3/4″	91259A731	5.76
5″	91259A732	5.92
5 1/2″	91259A116	17.34
6″	91259A117	18.99
6 1/2″	91259A740	21.85
7″	91259A744	29.82
8″	91259A901	27.66
5/8″ Shoulder Dia. Thread: 1/2″-13, 3/4″ Lg.		
3/8″	91259A903	9.10
1/2″	91259A118	7.38
5/8″	91259A119	6.47
3/4″	91259A792	3.57
1″	91259A794	3.66
1 1/4″	91259A796	3.55
1 1/2″	91259A798	3.75
1 3/4″	91259A800	3.85
2″	91259A802	3.98
2 1/4″	91259A803	4.39

▲ Do not meet ANSI/ASME B18.3.

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⋆Prices are 15% lower when you buy in multiples of five.

Shoulder Screws *(Continued from previous page)*

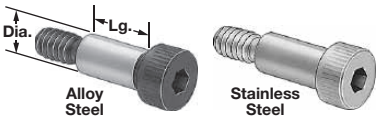

Inch Sizes—Screws have a Class 3A thread fit. Shoulder diameter tolerance is –0.004″ to –0.002″. Shoulder length tolerance is ±0.005″. Screws with a 1/4″ and larger shoulder diameter meet ANSI/ASME B18.3, unless noted. *Alloy steel* screws with a 1″ and smaller shoulder diameter meet ASTM A574.

Metric Sizes—Screws have a Class 5g6g thread fit. Dimensions meet ISO 7379 (unless noted). Shoulder diameter tolerance is –0.072 mm to –0.01 mm. Shoulder length tolerance is +0.25 mm.

Alloy Steel (Cont.)

5/8″ Shoulder Dia.
Thread: 1/2″-13, 3/4″ Lg. (Cont.)

Shoulder Lg.		Each★
2 1/2″	91259A804	$4.69
2 3/4″	91259A805	5.06
3″	91259A806	5.37
3 1/4″	91259A807	6.23
3 1/2″	91259A808	6.96
3 3/4″	91259A809	8.10
4″	91259A810	8.47
4 1/4″	91259A811	9.51
4 1/2″	91259A812	9.62
4 3/4″	91259A813	10.46
5″	91259A814	11.01
5 1/2″	91259A816	16.01
6″	91259A818	20.54
6 1/2″	91259A822	27.76
7″	91259A826	30.67

3/4″ Shoulder Dia.
Thread: 5/8″-11, 7/8″ Lg.

Shoulder Lg.		Each★
1/2″	91259A122	$10.76
3/4″	91259A123	9.02
7/8″	91259A904	6.89
1″	91259A124	9.58
1 1/4″	91259A125	10.39
1 1/2″	91259A839	7.76
1 3/4″	91259A841	7.91
2″	91259A843	8.13
2 1/4″	91259A844	8.34
2 1/2″	91259A845	9.06
2 3/4″	91259A846	10.08
3″	91259A847	10.25
3 1/4″	91259A848	10.45
3 1/2″	91259A849	11.03
3 3/4″	91259A850	11.92

3/4″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
4″	91259A851	$12.13
4 1/4″	91259A852	13.45
4 1/2″	91259A853	13.61
4 3/4″	91259A854	15.03
5″	91259A855	15.00
5 1/2″	91259A857	18.38
6″	91259A860	22.42
6 1/2″	91259A864	29.99
7″	91259A230	37.00
7 1/2″	91259A232	38.13
8″	91259A235	39.85

1″ Shoulder Dia.
Thread: 3/4″-10, 1″ Lg.

Shoulder Lg.		Each★
1″	91259A130	20.26
1 1/2″	91259A132	22.09
1 3/4″	91259A133	22.78

1″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
2″	91259A134	$23.83
2 1/2″	91259A136	25.94
3″	91259A138	28.00
3 1/2″	91259A140	30.00
4″	91259A141	34.47
4 1/2″	91259A906	31.89
5″	91259A142	37.01
5 1/2″	91259A143	35.86
6″	91259A145	38.92
6 1/2″	91259A149	39.65
7″	91259A152	42.31

1 1/4″ Shoulder Dia.
Thread: 7/8″-9, 1 1/8″ Lg.

Shoulder Lg.		Each★
1 1/2″	91259A301	48.54
1 3/4″	91259A304	48.86
2″	91259A307	49.20
2 1/2″	91259A310	49.84

1 1/4″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
3″	91259A313	$50.60
3 1/2″	91259A316	51.14
4″	91259A319	51.80
5″	91259A322	53.10
6″	91259A323	54.40

1 1/2″ Shoulder Dia.
Thread: 1 1/8″-7, 1 1/2″ Lg.

Shoulder Lg.		Each★
1 1/2″	91259A351	51.82
1 3/4″	91259A354	52.20
2″	91259A357	52.60
2 1/2″	91259A360	53.36
3″	91259A363	54.12
3 1/2″	91259A366	54.88
4″	91259A370	55.64
5″	91259A373	57.18
6″	91259A376	58.70

18-8 Stainless Steel

1/8″ Shoulder Dia.
Thread: 4-40, 5/32″ Lg.

Shoulder Lg.		Each★
1/8″	90298A201	2.27
3/16″	90298A202	2.24
1/4″	90298A203	2.29
3/8″	90298A204	2.33
1/2″	90298A205	2.36

5/32″ Shoulder Dia.
Thread: 6-32, 3/16″ Lg.

Shoulder Lg.		Each★
1/8″	90298A206	2.32
3/16″	90298A207	2.28
1/4″	90298A208	2.35
3/8″	90298A209	2.40
1/2″	90298A211	2.48

3/16″ Shoulder Dia.
Thread: 8-32, 3/16″ Lg.

Shoulder Lg.		Each★
1/8″	90298A212	2.38
1/4″	90298A213	2.44
1/2″	90298A214	2.58
3/4″	90298A215	2.67
1″	90298A216	2.78

1/4″ Shoulder Dia.
Thread: 10-24, 3/8″ Lg.

Shoulder Lg.		Each★
1/8″	90298A525	2.46
3/16″	90298A530	2.35
1/4″	90298A534	2.38
5/16″	90298A520	2.38
3/8″	90298A535	2.41
1/2″	90298A537	2.39
5/8″	90298A539	2.48
3/4″	90298A540	2.52
1″	90298A542	2.64
1 1/4″	90298A544	2.80
1 1/2″	90298A546	2.94
1 3/4″	90298A547	3.12
2″	90298A548	3.64
2 1/4″	90298A549	4.40
2 1/2″	90298A550	5.41

1/4″ Shoulder Dia.
Thread: 10-24, 3/8″ Lg. (Cont.)

Shoulder Lg.		Each★
2 3/4″	90298A551	6.69
3″	90298A552	6.83
3 1/2″	90298A555	9.91
4″	90298A559	9.98

1/4″ Shoulder Dia.▲
Thread: 10-32, 1/4″ Lg.

Shoulder Lg.		Each★
1/4″	90298A217	2.79
1/2″	90298A218	2.83
3/4″	90298A219	2.93
1″	90298A221	3.12

5/16″ Shoulder Dia.
Thread: 1/4″-20, 7/16″ Lg.

Shoulder Lg.		Each★
1/4″	90298A574	2.55
5/16″	90298A575	2.60
3/8″	90298A576	2.63
1/2″	90298A578	2.73
5/8″	90298A580	2.82
3/4″	90298A581	2.92
1″	90298A583	3.11
1 1/4″	90298A585	3.34
1 1/2″	90298A587	3.53
1 3/4″	90298A589	3.72
2″	90298A591	3.91
2 1/4″	90298A592	5.29
2 1/2″	90298A593	5.91
2 3/4″	90298A594	7.44
3″	90298A595	7.98
3 1/2″	90298A597	8.73
4″	90298A599	9.89
4 1/2″	90298A603	14.63
5″	90298A607	18.20

3/8″ Shoulder Dia.
Thread: 5/16″-18, 1/2″ Lg.

Shoulder Lg.		Each★
1/4″	90298A615	4.13
3/8″	90298A617	4.28
1/2″	90298A619	4.41

3/8″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
5/8″	90298A621	4.56
3/4″	90298A622	4.71
1″	90298A624	5.04
1 1/4″	90298A626	4.62
1 1/2″	90298A628	4.87
1 3/4″	90298A630	5.12
2″	90298A632	5.41
2 1/4″	90298A633	6.86
2 1/2″	90298A634	7.12
2 3/4″	90298A635	7.45
3″	90298A636	7.71
3 1/4″	90298A637	8.57
3 1/2″	90298A638	8.92
3 3/4″	90298A639	10.34
4″	90298A640	11.66
4 1/2″	90298A641	16.22
5″	90298A643	18.89
5 1/2″	90298A644	23.71
6″	90298A645	25.90
6 1/2″	90298A649	27.70
7″	90298A653	29.69

1/2″ Shoulder Dia.
Thread: 3/8″-16, 5/8″ Lg.

Shoulder Lg.		Each★
3/8″	90298A705	5.06
1/2″	90298A707	5.29
5/8″	90298A709	5.52
3/4″	90298A710	5.78
1″	90298A712	6.24
1 1/4″	90298A714	6.71
1 1/2″	90298A716	7.19
1 3/4″	90298A718	8.84
2″	90298A720	9.26
2 1/4″	90298A721	10.07
2 1/2″	90298A722	11.55
2 3/4″	90298A723	12.20
3″	90298A724	12.74
3 1/4″	90298A725	13.69
3 1/2″	90298A726	14.05

1/2″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
3 3/4″	90298A727	14.22
4″	90298A728	14.51
4 1/4″	90298A729	18.77
4 1/2″	90298A730	19.40
4 3/4″	90298A731	20.28
5″	90298A732	20.87
5 1/2″	90298A733	26.78
6″	90298A735	40.15
6 1/2″	90298A739	31.92
7″	90298A743	35.74

5/8″ Shoulder Dia.
Thread: 1/2″-13, 3/4″ Lg.

Shoulder Lg.		Each★
1/2″	90298A790	13.80
5/8″	90298A791	14.48
3/4″	90298A792	15.29
1″	90298A794	16.86
1 1/4″	90298A796	17.55
1 1/2″	90298A798	18.25
1 3/4″	90298A800	18.73
2″	90298A802	19.19
2 1/4″	90298A803	19.86
2 1/2″	90298A804	20.61
2 3/4″	90298A805	21.19
3″	90298A806	22.49
3 1/4″	90298A807	23.48
3 1/2″	90298A808	23.39
3 3/4″	90298A809	24.64
4″	90298A810	24.96
4 1/2″	90298A812	26.59
4 3/4″	90298A813	29.01
5″	90298A814	31.97
5 1/2″	90298A815	35.05
6″	90298A817	40.44
6 1/2″	90298A821	46.96
7″	90298A825	50.82

3/4″ Shoulder Dia.
Thread: 5/8″-11, 7/8″ Lg.

Shoulder Lg.		Each★
1/2″	90298A832	22.33
5/8″	90298A834	23.11

3/4″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
3/4″	90298A835	23.91
1″	90298A836	23.97
1 1/4″	90298A837	25.02
1 1/2″	90298A839	26.09
1 3/4″	90298A841	26.64
2″	90298A843	27.17
2 1/4″	90298A844	30.80
2 1/2″	90298A845	30.62
2 3/4″	90298A846	32.58
3″	90298A847	32.26
3 1/4″	90298A848	34.37
3 1/2″	90298A849	34.47
3 3/4″	90298A850	38.55
4″	90298A851	38.05
4 1/4″	90298A852	40.73
4 1/2″	90298A853	42.31
4 3/4″	90298A854	43.72
5″	90298A855	45.45
5 1/2″	90298A856	48.60
6″	90298A859	51.74
6 1/2″	90298A863	55.10
7″	90298A867	59.13
7 1/2″	90298A871	64.27
8″	90298A876	70.07

1″ Shoulder Dia.
Thread: 3/4″-10, 1″ Lg.

Shoulder Lg.		Each★
1″	90298A870	43.47
1 1/2″	90298A872	46.16
1 3/4″	90298A874	48.87
2″	90298A875	52.61
2 1/2″	90298A877	58.00
3″	90298A879	63.38
3 1/2″	90298A881	70.09
4″	90298A883	72.79
5″	90298A885	75.48
6″	90298A887	90.35

Type 316 Stainless Steel

1/8″ Shoulder Dia.
Thread: 4-40, 5/32″ Lg.

Shoulder Lg.		Each★
1/8″	97345A410	3.02
5/32″	97345A101	3.28
3/16″	97345A413	3.03
7/32″	97345A102	3.33
1/4″	97345A416	3.04
9/32″	97345A103	3.41
5/16″	97345A419	3.06
3/8″	97345A422	3.07
7/16″	97345A425	2.38

1/8″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1/2″	97345A428	3.15
5/8″	97345A104	4.26
3/4″	97345A105	5.32
7/8″	97345A106	8.78
1″	97345A107	8.82

5/32″ Shoulder Dia.
Thread: 6-32, 3/16″ Lg.

Shoulder Lg.		Each★
1/8″	97345A441	2.42
5/32″	97345A111	3.38
3/16″	97345A443	2.76

5/32″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
7/32″	97345A112	3.56
1/4″	97345A446	2.87
9/32″	97345A113	3.64
5/16″	97345A449	2.72
3/8″	97345A452	3.06
7/16″	97345A455	3.41
1/2″	97345A458	4.08
5/8″	97345A114	6.27
3/4″	97345A115	8.64

5/32″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
7/8″	97345A116	10.15
1″	97345A117	10.32

3/16″ Shoulder Dia.
Thread: 8-32, 3/16″ Lg.

Shoulder Lg.		Each★
1/8″	97345A472	2.89
5/32″	97345A121	3.44
3/16″	97345A476	2.70
7/32″	97345A122	3.46
1/4″	97345A480	3.15

3/16″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
9/32″	97345A123	3.49
5/16″	97345A483	3.47
3/8″	97345A486	3.79
7/16″	97345A124	3.62
1/2″	97345A489	3.95
9/16″	97345A125	3.36
5/8″	97345A492	4.86
3/4″	97345A495	6.24
7/8″	97345A126	4.54

▲ Do not meet ANSI/ASME B18.3.

(Continued on following page)

★ ***Prices are 15% lower when you buy in multiples of five.***

Shoulder Screws *(Continued from previous page)*

Type 316 Stainless Steel (Cont.)

3/16" Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1"	97345A499	$7.40
1 1/8"	97345A127	4.87
1 1/4"	97345A502	9.34
1 3/8"	97345A128	5.32
1 1/2"	97345A506	9.81
1 5/8"	97345A129	11.78
1 3/4"	97345A131	14.10
2"	97345A132	16.89

7/32" Shoulder Dia. Thread: 8-32, 3/16" Lg.

Shoulder Lg.		Each★
1/8"	97345A141	5.63
1/4"	97345A142	6.11
3/8"	97345A143	6.42
1/2"	97345A144	7.62
5/8"	97345A145	11.31
3/4"	97345A146	11.90
1"	97345A147	14.51
1 1/4"	97345A148	14.45
1 1/2"	97345A149	20.77
2"	97345A151	28.53

1/4" Shoulder Dia. Thread: 10-24, 3/8" Lg.

Shoulder Lg.		Each★
1/8"	97345A161	3.48
3/16"	97345A162	3.74
1/4"	97345A529	3.80
5/16"	97345A163	3.77
3/8"	97345A531	3.98
7/16"	97345A164	3.27
1/2"	97345A537	4.83
9/16"	97345A165	5.42

1/4" Shoulder Dia. Thread: 10-24, 3/8" Lg. (Cont.)

Shoulder Lg.		Each★
5/8"	97345A539	$5.34
3/4"	97345A540	5.80
7/8"	97345A166	7.60
1"	97345A542	6.04
1 1/8"	97345A167	6.82
1 1/4"	97345A556	6.50
1 3/8"	97345A168	7.39
1 1/2"	97345A561	6.76
1 5/8"	97345A169	8.13
1 3/4"	97345A563	6.16
1 7/8"	97345A171	8.52
2"	97345A565	6.72
2 1/2"	97345A172	13.67
3"	97345A173	18.76

1/4" Shoulder Dia.▲ Thread: 10-32, 1/4" Lg.

Shoulder Lg.		Each★
1/8"	97345A181	4.06
1/4"	97345A182	4.85
1/2"	97345A183	5.32
3/4"	97345A184	6.30
1"	97345A185	8.25
1 1/4"	97345A186	8.65
1 1/2"	97345A187	8.78
1 3/4"	97345A188	9.04
2"	97345A189	9.44
2 1/2"	97345A191	17.95
3"	97345A192	24.39

5/16" Shoulder Dia. Thread: 1/4"-20, 7/16" Lg.

Shoulder Lg.		Each★
1/8"	97345A201	$3.93
3/16"	97345A202	3.77
1/4"	97345A567	3.91
5/16"	97345A203	4.19
3/8"	97345A571	3.62
7/16"	97345A204	3.49
1/2"	97345A578	4.38
9/16"	97345A205	4.64
5/8"	97345A579	4.71
3/4"	97345A581	5.16
7/8"	97345A206	5.41
1"	97345A583	5.21
1 1/8"	97345A207	6.13
1 1/4"	97345A588	4.75
1 3/8"	97345A208	6.75
1 1/2"	97345A593	4.34
1 5/8"	97345A209	7.59
1 3/4"	97345A211	9.41
2"	97345A569	6.94
2 1/2"	97345A212	15.02
3"	97345A213	20.23

3/8" Shoulder Dia.▲ Thread: 1/4"-20, 3/4" Lg.

Shoulder Lg.		Each★
1/4"	97345A241	7.39
3/8"	97345A242	8.39
1/2"	97345A243	8.65
5/8"	97345A244	9.18
3/4"	97345A245	9.44
1"	97345A246	9.84

3/8" Shoulder Dia.▲ Thread: 1/4"-20, 3/4" Lg. (Cont.)

Shoulder Lg.		Each★
1 1/4"	97345A247	$10.88
1 1/2"	97345A248	11.27
1 3/4"	97345A249	11.79
2"	97345A251	10.86
2 1/2"	97345A252	17.86
3"	97345A253	19.57

3/8" Shoulder Dia. Thread: 5/16"-18, 1/2" Lg.

Shoulder Lg.		Each★
3/16"	97345A221	4.85
1/4"	97345A599	5.26
5/16"	97345A222	4.85
3/8"	97345A601	5.54
7/16"	97345A223	5.19
1/2"	97345A619	5.95
9/16"	97345A224	5.22
5/8"	97345A621	6.29
3/4"	97345A622	6.75
7/8"	97345A225	8.52
1"	97345A624	5.89
1 1/8"	97345A226	10.62
1 1/4"	97345A632	5.99
1 3/8"	97345A227	10.75
1 1/2"	97345A644	5.48
1 5/8"	97345A228	11.01
1 3/4"	97345A651	8.02
2"	97345A656	6.86
2 1/4"	97345A229	15.94
2 1/2"	97345A231	16.11

3/8" Shoulder Dia. Thread: 5/16"-18, 1/2" Lg. (Cont.)

Shoulder Lg.		Each★
2 3/4"	97345A232	$16.64
3"	97345A233	17.55

1/2" Shoulder Dia. Thread: 3/8"-16 5/8" Lg.

Shoulder Lg.		Each★
1/4"	97345A261	7.21
5/16"	97345A262	7.73
3/8"	97345A698	6.11
7/16"	97345A263	6.05
1/2"	97345A700	7.31
5/8"	97345A703	7.66
3/4"	97345A707	8.02
7/8"	97345A264	9.30
1"	97345A712	8.50
1 1/4"	97345A714	8.26
1 1/2"	97345A716	8.77
1 3/4"	97345A718	9.96
2"	97345A720	10.64
2 1/4"	97345A723	14.47
2 1/2"	97345A727	15.36
3"	97345A732	20.49

5/8" Shoulder Dia. Thread: 1/2"-13, 3/4" Lg.

Shoulder Lg.		Each★
1/4"	97345A271	16.45
1/2"	97345A743	17.42
3/4"	97345A747	18.45
1"	97345A754	18.06
1 1/4"	97345A758	19.53
1 1/2"	97345A762	19.48

17-4 PH Stainless Steel

1/8" Shoulder Dia. Thread: 4-40, 5/32" Lg.

Shoulder Lg.		Each★
1/8"	90292A005	3.56
3/16"	90292A008	3.67
1/4"	90292A012	3.80
5/16"	90292A016	3.92
3/8"	90292A020	4.07
1/2"	90292A024	4.44

5/32" Shoulder Dia. Thread: 6-32, 3/16" Lg.

Shoulder Lg.		Each★
1/8"	90292A030	3.61
3/16"	90292A034	3.75

5/32" Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1/4"	90292A038	3.87
5/16"	90292A042	4.00
3/8"	90292A046	4.17
1/2"	90292A050	4.64

3/16" Shoulder Dia. Thread: 8-32, 3/16" Lg.

Shoulder Lg.		Each★
1/8"	90292A056	3.67
3/16"	90292A060	3.80
1/4"	90292A064	3.92

3/16" Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
5/16"	90292A068	4.05
3/8"	90292A072	4.17
1/2"	90292A076	4.85
3/4"	90292A080	6.64
1"	90292A084	8.67

1/4" Shoulder Dia. Thread: 10-24, 3/8" Lg.

Shoulder Lg.		Each★
1/4"	90292A090	4.64
3/8"	90292A094	5.49

1/4" Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1/2"	90292A098	6.40
3/4"	90292A102	8.41
1"	90292A106	10.66

5/16" Shoulder Dia. Thread: 1/4"-20, 7/16" Lg.

Shoulder Lg.		Each★
1/4"	90292A112	5.27
3/8"	90292A116	6.15
1/2"	90292A120	7.11
3/4"	90292A124	9.21
1"	90292A128	11.56

3/8" Shoulder Dia. Thread: 5/16"-18, 1/2" Lg.

Shoulder Lg.		Each★
1/2"	90292A134	7.89
3/4"	90292A138	10.09
1"	90292A142	12.53

1/2" Shoulder Dia. Thread: 3/8"-16, 5/8" Lg.

Shoulder Lg.		Each★
1/2"	90292A148	9.51
3/4"	90292A152	11.89
1"	90292A156	14.53

▲ Do not meet ANSI/ASME B18.3.

Nickel, Titanium, and Aluminum

	Choose a Shoulder Diameter (Thread Size)	Choose a Shoulder Length	
Nickel	1/8" (4-40), 3/16" (8-32), 1/4" (10-24)	1/8", 3/16", 1/4", 5/16", 3/8", 1/2", 3/4", 1"	96125A555
Titanium	1/8" (4-40), 3/16" (8-32), 1/4" (10-24)	1/8", 3/16", 1/4", 5/16", 3/8", 1/2", 3/4", 1"	98256A333
Aluminum	1/8" (4-40), 3/16" (8-32), 1/4" (10-24)	1/8", 3/16", 1/4", 5/16", 3/8", 1/2", 3/4", 1"	97381A888

Metric Alloy Steel

4 mm Shoulder Dia.■ Thread: M3, 4 mm Lg. Pitch: 0.5 mm

Shoulder Lg., mm		Each★
6	92981A141	$2.31
8	92981A142	2.33
12	92981A143	2.35
16	92981A144	2.39
20	92981A145	2.43

5 mm Shoulder Dia.■ Thread: M4, 8.3 mm Lg. Pitch: 0.7 mm

Shoulder Lg., mm		Each★
6	92981A146	2.35
8	92981A147	2.37
10	92981A030	6.79
12	92981A034	6.79
16	92981A038	7.86
20	92981A042	8.21
25	92981A050	8.57
30	92981A055	9.29

6 mm Shoulder Dia.■ Thread: M5, 9.5 mm Lg. Pitch: 0.8 mm

Shoulder Lg., mm		Each★
6	92981A148	2.83
8	92981A108	1.34

6 mm Shoulder Dia.■ (Cont.)

Shoulder Lg., mm		Each★
10	92981A100	$1.23
12	92981A101	1.29
14	92981A149	2.88
16	92981A102	1.31
20	92981A103	1.35
25	92981A104	1.37
30	92981A105	1.43
35	92981A120	1.51
40	92981A106	1.53
45	92981A130	1.98
50	92981A107	1.89
60	92981A109	2.98

8 mm Shoulder Dia. Thread: M6, 11 mm Lg. Pitch: 1 mm

Shoulder Lg., mm		Each★
6	92981A196	2.12
8	92981A198	1.57
10	92981A200	1.36
12	92981A201	1.39
14	92981A151	2.94
16	92981A202	1.45

8 mm Shoulder Dia. (Cont.)

Shoulder Lg., mm		Each★
20	92981A203	$1.51
25	92981A204	1.47
30	92981A205	1.68
35	92981A220	2.72
40	92981A206	2.03
45	92981A250	3.17
50	92981A207	2.84
55	92981A210	6.30
60	92981A215	3.97
70	92981A217	4.14
80	92981A230	3.93

10 mm Shoulder Dia. Thread: M8, 13 mm Lg. Pitch: 1.25 mm

Shoulder Lg., mm		Each★
10	92981A299	1.86
12	92981A300	2.23
14	92981A152	3.32
16	92981A302	1.85
20	92981A303	2.05
25	92981A304	2.73
30	92981A305	2.41

10 mm Shoulder Dia. (Cont.)

Shoulder Lg., mm		Each★
35	92981A325	$2.85
40	92981A306	2.57
45	92981A335	2.89
50	92981A307	2.58
55	92981A340	2.98
60	92981A308	2.88
70	92981A309	2.92
80	92981A310	3.12
90	92981A312	4.72
100	92981A314	5.20

12 mm Shoulder Dia.■ Thread: M10, 16 mm Lg. Pitch: 1.5 mm

Shoulder Lg., mm		Each★
10	92981A153	10.57
12	92981A400	4.43
14	92981A154	10.82
16	92981A402	3.82
20	92981A403	3.87
25	92981A404	3.96
30	92981A405	4.06
35	92981A415	4.16

12 mm Shoulder Dia.■ (Cont.)

Shoulder Lg., mm		Each★
40	92981A406	$4.21
45	92981A420	4.96
50	92981A407	4.90
55	92981A430	5.75
60	92981A408	5.04
70	92981A409	5.53
80	92981A410	5.78
90	92981A411	6.67
100	92981A412	7.15
120	92981A418	7.88

16 mm Shoulder Dia. Thread: M12, 18 mm Lg. Pitch: 1.75 mm

Shoulder Lg., mm		Each★
14	92981A155	14.09
20	92981A495	6.61
25	92981A500	6.63
30	92981A505	6.62
35	92981A520	7.24
40	92981A506	7.00
45	92981A535	7.82
50	92981A507	7.68

■ Dimensions do not meet ISO 7379.

(Continued on following page)

★ ***Prices are 15% lower when you buy in multiples of five.***

Shoulder Screws *(Continued from previous page)*



Metric Sizes—Screws have a Class 5g6g thread fit. Dimensions meet ISO 7379 (unless noted). Shoulder diameter tolerance is –0.072 mm to –0.01 mm. Shoulder length tolerance is +0.25 mm.

Metric Alloy Steel (Cont.)

16 mm Shoulder Dia.
Thread: M12, 18 mm Lg.
Pitch: 1.75 mm (Cont.)

Shoulder Lg., mm		Each★
55	92981A545	$11.36
60	92981A508	10.27
70	92981A509	10.29
80	92981A510	10.70
90	92981A511	10.89
100	92981A512	11.33
120	92981A513	12.22

20 mm Shoulder Dia.
Thread: M16, 22 mm Lg.
Pitch: 2 mm

Shoulder Lg., mm		Each★
20	92981A156	$29.98
25	92981A157	30.53
30	92981A595	18.52
35	92981A600	18.88
40	92981A606	15.15
45	92981A625	15.25
50	92981A607	10.46

20 mm Shoulder Dia.
(Cont.)

Shoulder Lg., mm		Each★
55	92981A635	$13.80
60	92981A608	12.31
70	92981A609	13.89
80	92981A610	14.61
90	92981A611	19.93
100	92981A612	31.12
120	92981A613	27.69

24 mm Shoulder Dia. ■
Thread: M20, 27 mm Lg.
Pitch: 2.5 mm

Shoulder Lg., mm		Each★
40	92981A158	$52.55
45	92981A159	54.03
50	92981A705	74.32
55	92981A161	55.51
60	92981A711	75.71

24 mm Shoulder Dia. ■
(Cont.)

Shoulder Lg., mm		Each★
80	92981A720	$78.04
90	92981A725	81.75
100	92981A730	81.75
120	92981A735	85.47

Metric 18-8 Stainless Steel

3 mm Shoulder Dia. ■
Thread: M2, 3.8 mm Lg.
Pitch: 0.4 mm

Shoulder Lg., mm		Each★
4	90265A111	2.84
5	90265A112	2.91
6	90265A113	2.99
8	90265A114	3.08
10	90265A115	3.18

4 mm Shoulder Dia. ■
Thread: M3, 4.5 mm Lg.
Pitch: 0.5 mm

Shoulder Lg., mm		Each★
4	90265A116	2.37
5	90265A117	2.64
6	90265A118	2.91
8	90265A119	3.75
10	90265A121	2.58
12	90265A122	2.66
16	90265A123	3.11
20	90265A124	4.00

5 mm Shoulder Dia. ■
Thread: M4, 4.5 mm Lg.
Pitch: 0.7 mm

Shoulder Lg., mm		Each★
4	90265A125	2.70
5	90265A126	3.02
6	90265A127	4.76
8	90265A128	4.05
10	90265A129	2.70
12	90265A131	3.11
16	90265A132	3.60
20	90265A133	4.59
25	90265A134	5.22
30	90265A135	5.58

6 mm Shoulder Dia. ■
Thread: M5, 9.5 mm Lg.
Pitch: 0.8 mm

Shoulder Lg., mm		Each★
4	90265A136	2.98
5	90265A137	3.51

6 mm Shoulder Dia. ■
(Cont.)

Shoulder Lg., mm		Each★
6	90265A138	4.05
8	90265A139	4.59
10	90265A141	2.93
12	90265A142	3.97
16	90265A143	4.32
20	90265A144	5.22
25	90265A145	5.53
30	90265A146	6.16
40	90265A147	6.43

8 mm Shoulder Dia.
Thread: M6, 11 mm Lg.
Pitch: 1 mm

Shoulder Lg., mm		Each★
8	90265A148	5.41
10	90265A149	3.47
12	90265A151	4.68

8 mm Shoulder Dia.
(Cont.)

Shoulder Lg., mm		Each★
16	90265A152	5.09
20	90265A153	6.16
25	90265A154	6.52
30	90265A155	7.27
40	90265A156	6.76
50	90265A157	7.50

10 mm Shoulder Dia.
Thread: M8, 13 mm Lg.
Pitch: 1.25 mm

Shoulder Lg., mm		Each★
8	90265A158	5.59
10	90265A159	4.60
12	90265A161	4.90
16	90265A162	5.40
20	90265A163	6.52
25	90265A164	6.79
30	90265A165	6.67

10 mm Shoulder Dia.
(Cont.)

Shoulder Lg., mm		Each★
40	90265A166	7.00
50	90265A167	7.18

12 mm Shoulder Dia. ■
Thread: M10, 16 mm Lg.
Pitch: 1.5 mm

Shoulder Lg., mm		Each★
8	90265A168	6.91
10	90265A169	5.65
12	90265A171	6.17
16	90265A172	7.55
20	90265A173	7.87
25	90265A174	8.26
30	90265A175	8.48
40	90265A176	9.19
50	90265A177	9.84
60	90265A178	10.74

Metric Type 316 Stainless Steel

3 mm Shoulder Dia. ■
Thread: M2, 3.8 mm Lg.
Pitch: 0.4 mm

Shoulder Lg., mm		Each★
4	90269A111	5.36
5	90269A112	5.32
6	90269A113	5.53
8	90269A114	6.27
10	90269A115	6.62

4 mm Shoulder Dia. ■
Thread: M3, 4.5 mm Lg.
Pitch: 0.5 mm

Shoulder Lg., mm		Each★
4	90269A116	5.07
5	90269A117	5.50
6	90269A118	6.05
8	90269A119	7.28
10	90269A121	5.16
12	90269A122	6.56
16	90269A123	7.12
20	90269A124	8.54

5 mm Shoulder Dia. ■
Thread: M4, 4.5 mm Lg.
Pitch: 0.7 mm

Shoulder Lg., mm		Each★
4	90269A125	5.67
5	90269A126	6.34
6	90269A127	7.00
8	90269A128	8.64
10	90269A129	5.76
12	90269A131	6.62
16	90269A132	7.68
20	90269A133	9.79
25	90269A134	11.14
30	90269A135	11.90

6 mm Shoulder Dia. ■
Thread: M5, 9.5 mm Lg.
Pitch: 0.8 mm

Shoulder Lg., mm		Each★
4	90269A136	6.34
5	90269A137	7.38

6 mm Shoulder Dia. ■
(Cont.)

Shoulder Lg., mm		Each★
6	90269A138	8.51
8	90269A139	9.79
10	90269A141	6.10
12	90269A142	8.34
16	90269A143	8.99
20	90269A144	10.97
25	90269A145	11.81
30	90269A146	12.95
40	90269A147	13.73

8 mm Shoulder Dia.
Thread: M6, 11 mm Lg.
Pitch: 1 mm

Shoulder Lg., mm		Each★
8	90269A148	10.87
10	90269A149	7.28
12	90269A151	9.73

8 mm Shoulder Dia.
(Cont.)

Shoulder Lg., mm		Each★
16	90269A152	10.70
20	90269A153	12.82
25	90269A154	13.71
30	90269A155	15.28
40	90269A156	15.98
50	90269A157	18.01

10 mm Shoulder Dia.
Thread: M8, 13 mm Lg.
Pitch: 1.25 mm

Shoulder Lg., mm		Each★
8	90269A158	11.76
10	90269A159	10.84
12	90269A161	11.01
16	90269A162	12.34
20	90269A163	13.71
25	90269A164	14.50
30	90269A165	15.63

10 mm Shoulder Dia.
(Cont.)

Shoulder Lg., mm		Each★
40	90269A166	16.80
50	90269A167	17.24

12 mm Shoulder Dia. ■
Thread: M10, 16 mm Lg.
Pitch: 1.5 mm

Shoulder Lg., mm		Each★
8	90269A168	12.71
10	90269A169	11.36
12	90269A171	12.62
16	90269A172	14.76
20	90269A173	15.53
25	90269A174	17.14
30	90269A175	17.82
40	90269A176	19.32
50	90269A177	20.68
60	90269A178	22.56

■ Dimensions do not meet ISO 7379.

Left-Hand Threaded Shoulder Screws

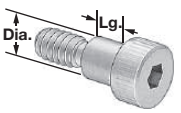

Prevent loosening in parts subject to counterclockwise motion with these left-hand threaded screws. They're made of 18-8 stainless steel and have a Class 3A thread fit. Shoulder diameter tolerance is –0.004″ to –0.002″. Shoulder length tolerance is ±0.005″.

1/8″ Shoulder Dia.
Thread: 4-40, 5/32″ Lg.

Shoulder Lg.		Each★
1/8″	90324A005	$3.18
3/16″	90324A008	3.31
1/4″	90324A012	3.52
3/8″	90324A016	4.42
1/2″	90324A020	5.14

5/32″ Shoulder Dia.
Thread: 6-32, 3/16″ Lg.

Shoulder Lg.		Each★
1/8″	90324A026	3.73
3/16″	90324A030	4.19

5/32″ Shoulder Dia.
Thread: M16, 22 mm Lg.
Pitch: 2 mm

Shoulder Lg.		Each★
1/4″	90324A034	$4.74
3/8″	90324A038	5.79
1/2″	90324A042	6.84

3/16″ Shoulder Dia.
Thread: 8-32, 3/16″ Lg.

Shoulder Lg.		Each★
1/8″	90324A048	4.53
3/16″	90324A052	3.07
1/4″	90324A056	3.24
3/8″	90324A060	3.56
1/2″	90324A064	4.04

3/16″ Shoulder Dia.
(Cont.)

Shoulder Lg.		Each★
3/4″	90324A068	$4.36
1″	90324A072	4.69

1/4″ Shoulder Dia.
Thread: 10-24, 3/8″ Lg.

Shoulder Lg.		Each★
1/4″	90324A078	3.24
3/8″	90324A082	3.39
1/2″	90324A086	3.87
5/8″	90324A090	4.15
3/4″	90324A094	4.53
1″	90324A098	4.84

5/16″ Shoulder Dia.
Thread: 1/4″-20, 7/16″ Lg.

Shoulder Lg.		Each★
1/4″	90324A102	$3.24
3/8″	90324A106	3.39
1/2″	90324A110	3.56
5/8″	90324A114	3.73
3/4″	90324A118	3.87
1″	90324A122	4.21

3/8″ Shoulder Dia.
Thread: 5/16″-18, 1/2″ Lg.

Shoulder Lg.		Each★
1/2″	90324A128	5.49
3/4″	90324A132	5.98

3/8″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1″	90324A136	$6.32
1 1/2″	90324A140	7.60
2″	90324A144	9.37

1/2″ Shoulder Dia.
Thread: 3/8″-16, 5/8″ Lg.

Shoulder Lg.		Each★
1/2″	90324A152	6.95
3/4″	90324A156	7.89
1″	90324A160	8.25
1 1/2″	90324A164	8.88
2″	90324A168	10.61

★ ***Prices are 15% lower when you buy in multiples of five.***

Thread-Locking Shoulder Screws

A nylon locking element bonded to the threads helps these screws resist loosening. It withstands temperatures from –50° to 250° F. Screws have a locking patch, except inch sizes in alloy steel have a locking pellet.

Inch Sizes—Screws have a Class 3A thread fit and meet ANSI/ASME B18.3. Shoulder diameter tolerance is –0.004″ to –0.002″. Shoulder length tolerance is ±0.005″. *Alloy steel* screws meet ASTM A574.

Metric Sizes—Screws have a 5g6g thread fit. Dimensions meet ISO 7379 (unless noted). Shoulder diameter tolerance is –0.049 mm to –0.010 mm. Shoulder length tolerance is +0.25 mm.

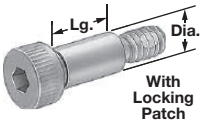

Alloy Steel

¼″ Shoulder Dia.
Thread: 10-24, ⅜″ Lg.

Shoulder Lg.		Each★
¼″	91264A252	$2.68
⅜″	91264A240	1.92
½″	91264A242	2.05
⅝″	91264A244	2.00
¾″	91264A245	2.08
1″	91264A247	2.10
1¼″	91264A249	2.34
1½″	91264A251	2.32

5⁄16″ Shoulder Dia.
Thread: ¼″-20, 7⁄16″ Lg.

Shoulder Lg.		Each★
¼″	91264A554	2.74
⅜″	91264A535	2.13
½″	91264A537	2.19

5⁄16″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
⅝″	91264A539	$2.22
¾″	91264A540	2.25
1″	91264A542	2.28
1¼″	91264A544	2.49
1½″	91264A547	2.61
1¾″	91264A550	2.66
2″	91264A553	2.73

⅜″ Shoulder Dia.
Thread: 5⁄16″-18, ½″ Lg.

Shoulder Lg.		Each★
⅜″	91264A576	2.40
½″	91264A578	2.44
⅝″	91264A580	2.53
¾″	91264A581	2.54
1″	91264A583	2.59

⅜″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1¼″	91264A585	$2.57
1½″	91264A587	2.68
1¾″	91264A589	2.80
2″	91264A591	2.94
2¼″	91264A592	3.08
2½″	91264A593	3.34
2¾″	91264A594	3.48
3″	91264A595	3.67

½″ Shoulder Dia.
Thread: ⅜″-16, ⅝″ Lg.

Shoulder Lg.		Each★
½″	91264A619	3.65
⅝″	91264A621	3.70
¾″	91264A622	3.61

½″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1″	91264A624	$3.85
1¼″	91264A626	3.90
1½″	91264A628	3.97
1¾″	91264A630	4.10
2″	91264A632	4.16
2¼″	91264A635	4.60
2½″	91264A640	4.75
2¾″	91264A645	5.04
3″	91264A650	5.19

⅝″ Shoulder Dia.
Thread: ½″-13, ¾″ Lg.

Shoulder Lg.		Each★
½″	91264A721	11.43
¾″	91264A722	12.89
1″	91264A723	14.26

⅝″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1¼″	91264A714	$6.13
1½″	91264A716	6.22
1¾″	91264A718	6.95
2″	91264A720	7.18

¾″ Shoulder Dia.
Thread: ⅝″-11, ⅞″ Lg.

Shoulder Lg.		Each★
1″	91264A805	17.41
1¼″	91264A806	18.03
1½″	91264A798	8.99
1¾″	91264A800	9.25
2″	91264A802	9.52
2½″	91264A804	10.40
3″	91264A807	11.26

18-8 Stainless Steel

⅛″ Shoulder Dia.
Thread: 4-40, 5⁄32″ Lg.

Shoulder Lg.		Each★
⅛″	91327A281	2.22
¼″	91327A282	2.24
⅜″	91327A283	2.28
½″	91327A284	2.32
¾″	91327A285	2.41
1″	91327A286	2.40

5⁄32″ Shoulder Dia.
Thread: 6-32, 3⁄16″ Lg.

Shoulder Lg.		Each★
⅛″	91327A287	2.27
¼″	91327A288	2.30
⅜″	91327A289	2.36
½″	91327A291	2.43
¾″	91327A292	2.48
1″	91327A293	2.53

3⁄16″ Shoulder Dia.
Thread: 8-32, 3⁄16″ Lg.

Shoulder Lg.		Each★
⅛″	91327A294	2.34
¼″	91327A295	2.39
⅜″	91327A296	2.44
½″	91327A297	2.53
¾″	91327A298	2.62
1″	91327A299	2.72

¼″ Shoulder Dia.
Thread: 10-24, ⅜″ Lg.

Shoulder Lg.		Each★
⅛″	91327A301	2.40
¼″	91327A104	2.15
⅜″	91327A107	2.25
½″	91327A112	2.32
⅝″	91327A114	2.37
¾″	91327A116	2.53
1″	91327A119	2.85
1¼″	91327A123	3.37

¼″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1½″	91327A126	3.62
2″	91327A128	4.99

5⁄16″ Shoulder Dia.
Thread: ¼″-20, 7⁄16″ Lg.

Shoulder Lg.		Each★
⅛″	91327A302	2.76
¼″	91327A132	2.89
⅜″	91327A134	2.99
½″	91327A136	3.17
⅝″	91327A137	3.24
¾″	91327A139	3.34
1″	91327A143	3.95
1¼″	91327A146	4.17
1½″	91327A148	4.28
2″	91327A133	6.34

⅜″ Shoulder Dia.
Thread: 5⁄16″-18, ½″ Lg.

Shoulder Lg.		Each★
¼″	91327A150	3.70
⅜″	91327A151	3.91

⅜″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
½″	91327A152	4.08
⅝″	91327A155	4.18
¾″	91327A156	4.29
1″	91327A161	4.95
1¼″	91327A163	5.34
1½″	91327A165	6.41
2″	91327A167	7.67

½″ Shoulder Dia.
Thread: ⅜″-16, ⅝″ Lg.

Shoulder Lg.		Each★
¼″	91327A303	5.74
⅜″	91327A168	6.77
½″	91327A170	7.44
⅝″	91327A172	7.51
¾″	91327A173	7.78
1″	91327A177	8.55
1¼″	91327A183	8.89
1½″	91327A188	9.48

½″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1¾″	91327A193	12.71
2″	91327A197	15.07

⅝″ Shoulder Dia.
Thread: ½″-13, ¾″ Lg.

Shoulder Lg.		Each★
½″	91327A304	13.52
⅝″	91327A305	14.19
¾″	91327A223	28.43
1″	91327A228	31.96
1¼″	91327A235	38.64
1½″	91327A252	39.96
2″	91327A259	43.60

¾″ Shoulder Dia.
Thread: ⅝″-11, ⅞″ Lg.

Shoulder Lg.		Each★
1″	91327A266	45.43
1½″	91327A273	46.13
2″	91327A280	46.39

Type 316 Stainless Steel

⅛″ Shoulder Dia.
Thread: 4-40, 5⁄32″ Lg.

Shoulder Lg.		Each★
⅛″	90311A111	5.76
3⁄16″	90311A112	5.89
¼″	90311A113	6.03
5⁄16″	90311A114	6.19
⅜″	90311A115	6.89
½″	90311A116	7.35

5⁄32″ Shoulder Dia.
Thread: 6-32, 3⁄16″ Lg.

Shoulder Lg.		Each★
⅛″	90311A121	5.85
3⁄16″	90311A122	6.01
¼″	90311A123	6.23
5⁄16″	90311A124	6.53

5⁄32″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
⅜″	90311A125	6.78
½″	90311A126	7.16

3⁄16″ Shoulder Dia.
Thread: 8-32, 3⁄16″ Lg.

Shoulder Lg.		Each★
⅛″	90311A131	6.76
3⁄16″	90311A132	5.46
¼″	90311A133	5.62
5⁄16″	90311A134	5.76
⅜″	90311A135	5.89
½″	90311A136	6.35
⅝″	90311A137	6.49
¾″	90311A138	6.62
1″	90311A139	6.92

¼″ Shoulder Dia.
Thread: 10-24, ⅜″ Lg.

Shoulder Lg.		Each★
¼″	90311A141	5.62
⅜″	90311A142	5.76
½″	90311A143	6.19
⅝″	90311A144	6.43
¾″	90311A145	6.76
1″	90311A146	7.05
1¼″	90311A147	7.35
1½″	90311A148	7.78
1¾″	90311A149	8.22
2″	90311A151	8.51

5⁄16″ Shoulder Dia.
Thread: ¼″-20, 7⁄16″ Lg.

Shoulder Lg.		Each★
¼″	90311A161	5.62
⅜″	90311A162	5.76
½″	90311A163	5.89
¾″	90311A164	6.19
1″	90311A165	6.49
1¼″	90311A166	6.78
1½″	90311A167	8.08
1¾″	90311A168	13.92
2″	90311A169	12.32

⅜″ Shoulder Dia.
Thread: 5⁄16″-18, ½″ Lg.

Shoulder Lg.		Each★
½″	90311A171	7.65
¾″	90311A172	8.08

⅜″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1″	90311A173	8.38
1¼″	90311A174	9.24
1½″	90311A175	9.54
1¾″	90311A176	9.97
2″	90311A177	11.14

½″ Shoulder Dia.
Thread: ⅜″-16, ⅝″ Lg.

Shoulder Lg.		Each★
½″	90311A181	8.95
¾″	90311A182	9.81
1″	90311A183	10.11
1¼″	90311A184	10.41
1½″	90311A185	10.70
1¾″	90311A186	8.86
2″	90311A187	9.81

Metric Alloy Steel

6 mm Shoulder Dia.■
Thread: M5, 9.5 mm Lg.
Pitch: 0.8 mm

Shoulder Lg., mm		Each★
10	91319A202	$5.36
12	91319A203	5.41
16	91319A204	5.43
20	91319A205	5.46
25	91319A206	5.48

8 mm Shoulder Dia.
Thread: M6, 11 mm Lg.
Pitch: 1 mm

Shoulder Lg., mm		Each★
10	91319A207	$5.46
12	91319A208	5.49
16	91319A209	5.54
20	91319A211	5.56
25	91319A212	5.61

8 mm Shoulder Dia. (Cont.)

Shoulder Lg., mm		Each★
30	91319A213	$5.69
35	91319A214	6.01
40	91319A215	5.97

10 mm Shoulder Dia.
Thread: M8, 13 mm Lg.
Pitch: 1.25 mm

Shoulder Lg., mm		Each★
12	91319A216	$5.97
16	91319A217	6.02
20	91319A218	6.20

10 mm Shoulder Dia. (Cont.)

Shoulder Lg. mm,		Each★
25	91319A219	$6.33
30	91319A221	6.51
35	91319A222	6.82

★ Prices are 15% lower when you buy in multiples of five. ■ Dimensions do not meet ISO 7379.

Shoulder Screw Assortments

Screws have a socket drive.



For assortment contents, please go to mcmaster.com and search by part number.

Material	No. of Screws	Shoulder Dia.	Shoulder Lg.	Thread Sizes		
Alloy Steel	60	¼″ to ½″	½″ to 1″	10-24, ¼″-20, 5⁄16″-18, ⅜″-16	97315A201	$139.98
18-8 Stainless Steel	60	¼″ to ½″	½″ to 1″	10-24, ¼″-20, 5⁄16″-18, ⅜″-16	93305A101	166.67

Tight-Tolerance Shoulder Screws



Shoulder tolerances for these screws are twice as precise as those for our standard shoulder screws. **Inch Sizes—**All screws have a Class 2A thread fit. Shoulder diameter tolerance is –0.001″ to +0″. Shoulder length tolerance is –0″ to +0.002″. **Socket drive** screws marked with a ♠ meet MS 51576. **Slotted drive** screws marked with a ■ meet MS 51575.

Metric Sizes—Screws have a Class 6g thread fit. Shoulder diameter tolerance is –0.025 mm to +0 mm. Shoulder length tolerance is –0 mm to +0.050 mm.

Type 316 Stainless Steel—Socket Drive

Shoulder Lg.		Each★
3/32″ Shoulder Dia. Thread: 2-56, 1/8″ Lg.		
1/16″	96126A111	$3.42
3/32″	96126A112	3.44
1/8″	96126A113	3.46
3/16″	96126A114	3.48
1/4″	96126A115	3.63
5/16″	96126A116	3.65
3/8″	96126A117	3.79
1/2″	96126A118	3.97
1/8″ Shoulder Dia. Thread: 4-40, 5/32″ Lg.		
1/16″	96126A119	3.42
3/32″	96126A121	3.44
1/8″	96126A122	3.57
1/8″ Shoulder Dia. (Cont.)		
3/16″	96126A123	$3.58
1/4″	96126A124	3.63
5/16″	96126A125	3.65
3/8″	96126A126	3.79
1/2″	96126A127	3.97
5/8″	96126A128	5.10
3/4″	96126A129	6.29
1″	96126A131	10.47
5/32″ Shoulder Dia. Thread: 6-32, 3/16″ Lg.		
1/16″	96126A132	3.63
3/32″	96126A133	3.66
1/8″	96126A134	3.69
3/16″	96126A135	3.73
5/32″ Shoulder Dia. (Cont.)		
1/4″	96126A136	$3.89
5/16″	96126A137	3.92
3/8″	96126A138	4.09
1/2″	96126A139	4.84
5/8″	96126A141	7.44
3/4″	96126A142	10.24
1″	96126A143	12.18
3/16″ Shoulder Dia. Thread: 8-32, 3/16″ Lg.		
1/16″	96126A144	3.71
3/32″	96126A145	3.75
1/8″	96126A146	3.79
3/16″	96126A147	3.82
1/4″	96126A148	3.98
3/16″ Shoulder Dia. (Cont.)		
5/16″	96126A149	$4.11
3/8″	96126A151	4.51
1/2″	96126A152	4.68
5/8″	96126A153	5.75
3/4″	96126A154	7.43
1″	96126A155	8.78
1 1/4″	96126A156	11.11
1 1/2″	96126A157	11.63
1 3/4″	96126A158	16.77
2″	96126A159	20.10
1/4″ Shoulder Dia. Thread: 10-32, 1/4″ Lg.		
1/16″	96126A161	4.33
3/32″	96126A162	4.35
1/4″ Shoulder Dia. (Cont.)		
1/8″	96126A163	$4.80
3/16″	96126A164	4.44
1/4″	96126A165	5.73
5/16″	96126A166	4.55
3/8″	96126A167	4.55
1/2″	96126A168	6.30
5/8″	96126A169	4.95
3/4″	96126A171	7.49
1″	96126A172	9.80
1 1/4″	96126A173	10.29
1 1/2″	96126A174	10.38
1 3/4″	96126A175	10.70
2″	96126A176	11.21

18-8 Stainless Steel—Socket Drive

Shoulder Lg.		Each★
3/32″ Shoulder Dia. Thread: 2-56, 1/8″ Lg.		
1/16″	94035A111	2.10
3/32″	94035A112	2.11
1/8″	94035A113	2.11
5/32″	94035A114	2.12
3/16″	94035A115	2.12
7/32″	94035A116	2.13
1/4″	94035A117	2.25
5/16″	94035A118	2.27
3/8″	94035A119	2.28
7/16″	94035A121	2.29
1/2″	94035A122	2.31
5/8″	94035A123	2.44
3/4″	94035A124	2.47
1″	94035A125	2.64
1/8″ Shoulder Dia. Thread: 4-40, 5/32″ Lg.		
1/16″	94035A126	2.16
3/32″	94035A127	2.17
1/8″	94035A511♠	2.56
5/32″	94035A128	2.18
3/16″	94035A513♠	2.57
7/32″	94035A129	2.21
1/4″	94035A515♠	2.58
9/32″	94035A131	2.22
5/16″	94035A517♠	2.02
11/32″	94035A132	2.24
3/8″	94035A519♠	2.60
13/32″	94035A133	2.26
7/16″	94035A521	2.23
15/32″	94035A134	2.28
1/2″	94035A522	2.64
9/16″	94035A135	2.53
5/8″	94035A136	2.55
1/8″ Shoulder Dia. (Cont.)		
11/16″	94035A137	2.57
3/4″	94035A138	2.59
7/8″	94035A139	2.75
1″	94035A141	2.78
5/32″ Shoulder Dia. Thread: 6-32, 3/16″ Lg.		
1/16″	94035A142	2.62
3/32″	94035A143	2.63
1/8″	94035A523	2.64
5/32″	94035A144	2.65
3/16″	94035A524	2.65
7/32″	94035A145	2.66
1/4″	94035A525	2.73
9/32″	94035A146	2.81
5/16″	94035A526	2.29
11/32″	94035A147	2.84
3/8″	94035A527	2.85
13/32″	94035A148	2.86
7/16″	94035A528	2.69
15/32″	94035A149	2.88
1/2″	94035A529	3.03
9/16″	94035A151	2.99
5/8″	94035A152	3.01
11/16″	94035A153	3.03
3/4″	94035A154	3.05
7/8″	94035A155	3.26
1″	94035A156	3.31
3/16″ Shoulder Dia. Thread: 8-32, 3/16″ Lg.		
1/16″	94035A157	2.25
3/32″	94035A158	2.26
1/8″	94035A201♠	2.77
5/32″	94035A159	2.28
3/16″ Shoulder Dia. (Cont.)		
3/16″	94035A202♠	2.06
7/32″	94035A161	2.30
1/4″	94035A203♠	2.82
9/32″	94035A162	2.44
5/16″	94035A200♠	2.46
11/32″	94035A163	2.45
3/8″	94035A204♠	2.59
7/16″	94035A164	2.49
1/2″	94035A205♠	3.09
9/16″	94035A165	2.66
5/8″	94035A206♠	2.93
11/16″	94035A166	2.72
3/4″	94035A207♠	3.86
7/8″	94035A167	2.90
1″	94035A208♠	4.30
1 1/8″	94035A168	3.71
1 1/4″	94035A209♠	4.70
1 3/8″	94035A169	3.94
1 1/2″	94035A211	4.90
1 5/8″	94035A171	4.17
1 3/4″	94035A172	4.34
2″	94035A173	4.68
1/4″ Shoulder Dia. Thread: 10-24, 3/8″ Lg.		
1/8″	94035A554	3.49
3/16″	94035A557	3.49
1/4″	94035A560	3.76
5/16″	94035A563	3.90
3/8″	94035A566	4.03
1/2″	94035A569	4.30
5/8″	94035A572	4.57
3/4″	94035A575	4.98
1″	94035A578	5.38
1/4″ Shoulder Dia. Thread: 10-24, 3/8″ Lg. (Cont.)		
5/16″	94035A581	5.65
1 1/2″	94035A584	6.05
1/4″ Shoulder Dia. Thread: 10-32, 1/4″ Lg.		
1/16″	94035A174	2.44
3/32″	94035A175	2.47
1/8″	94035A531	2.79
5/32″	94035A176	2.50
3/16″	94035A533♠	2.86
7/32″	94035A177	2.54
1/4″	94035A534♠	3.06
9/32″	94035A178	2.70
5/16″	94035A532♠	3.13
11/32″	94035A179	2.74
3/8″	94035A535♠	3.26
7/16″	94035A181	2.80
1/2″	94035A537♠	3.60
9/16″	94035A182	3.00
5/8″	94035A539♠	4.59
11/16″	94035A183	3.08
3/4″	94035A540♠	4.66
7/8″	94035A184	3.32
1″	94035A542♠	4.80
1 1/8″	94035A185	4.21
1 1/4″	94035A544♠	5.24
1 3/8″	94035A186	4.49
1 1/2″	94035A546♠	5.65
1 5/8″	94035A187	4.80
1 3/4″	94035A188	5.00
2″	94035A189	5.28
5/16″ Shoulder Dia. Thread: 1/4″-20, 7/16″ Lg.		
1/8″	94035A191	3.41
1/4″	94035A301	3.50
5/16″ Shoulder Dia. (Cont.)		
5/16″	94035A302	3.61
3/8″	94035A303	3.71
1/2″	94035A304♠	4.13
5/8″	94035A305♠	4.34
3/4″	94035A306♠	4.60
7/8″	94035A192	4.39
1″	94035A193	4.60
3/8″ Shoulder Dia. Thread: 1/4″-20, 7/16″ Lg.		
5/16″	94035A307	6.15
3/8″	94035A308	6.23
1/2″	94035A309	6.43
5/8″	94035A311	6.64
3/8″ Shoulder Dia. Thread: 5/16″-18, 1/2″ Lg.		
1/8″	94035A194	5.49
3/16″	94035A195	5.59
1/4″	94035A196	4.97
5/16″	94035A401	5.17
3/8″	94035A402	5.24
1/2″	94035A403	5.35
5/8″	94035A404♠	5.70
3/4″	94035A197	6.11
7/8″	94035A198	7.11
1″	94035A199	6.23
1/2″ Shoulder Dia. Thread: 3/8″-16, 5/8″ Lg.		
1/2″	94035A501	6.84
5/8″	94035A502♠	7.17
3/4″	94035A503♠	7.59
1″	94035A504♠	8.21

18-8 Stainless Steel—Slotted Drive

Shoulder Lg.		Each★
1/8″ Shoulder Dia. Thread: 4-40, 5/32″ Lg.		
1/8″	91829A511■	1.37
3/16″	91829A513■	1.43
1/4″	91829A515■	1.50
5/16″	91829A517■	1.57
3/8″	91829A519■	1.57
7/16″	91829A521	1.78
1/2″	91829A522	1.91
5/32″ Shoulder Dia. Thread: 6-32, 3/16″ Lg.		
1/8″	91829A523	1.72
3/16″	91829A524	1.79
1/4″	91829A525	1.86
5/16″	91829A526	1.93
3/8″	91829A527	2.06
7/16″	91829A528	2.41
1/2″	91829A529	2.75
3/16″ Shoulder Dia. Thread: 8-32, 3/16″ Lg.		
1/8″	91829A201■	1.57
3/16″	91829A202■	1.64
1/4″	91829A203■	1.91
5/16″	91829A200■	1.98
3/8″	91829A204■	2.12
1/2″	91829A205■	2.12
5/8″	91829A206■	2.39
3/4″	91829A207■	3.20
1″	91829A208■	3.58
1 1/4″	91829A209■	3.85
1 1/2″	91829A211	3.99
1/4″ Shoulder Dia. Thread: 10-24, 3/8″ Lg.		
1/8″	91829A554	2.75
3/16″	91829A557	2.89
1/4″	91829A560	3.03
1/4″ Shoulder Dia. Thread: 10-24, 3/8″ Lg. (Cont.)		
5/16″	91829A563	3.17
3/8″	91829A566	3.31
1/2″	91829A569	3.58
5/8″	91829A572	4.13
3/4″	91829A575	4.41
1″	91829A578	4.81
1 1/4″	91829A581	5.23
1 1/2″	91829A584	5.65
1/4″ Shoulder Dia. Thread: 10-32, 1/4″ Lg.		
1/8″	91829A531■	2.25
3/16″	91829A533■	2.32
1/4″	91829A534■	2.46
5/16″	91829A532■	2.46
3/8″	91829A535■	2.66
1/4″ Shoulder Dia. Thread: 10-32, 1/4″ Lg. (Cont.)		
1/2″	91829A537■	3.00
5/8″	91829A539■	3.72
3/4″	91829A540■	3.79
1″	91829A542■	3.93
1 1/4″	91829A544■	4.13
1 1/2″	91829A546■	4.39
5/16″ Shoulder Dia. Thread: 1/4″-20, 7/16″ Lg.		
1/4″	91829A301■	4.68
5/16″	91829A302■	4.13
3/8″	91829A303	4.19
1/2″	91829A304	4.25
5/8″	91829A305	4.43
3/4″	91829A306	4.67
3/8″ Shoulder Dia. Thread: 1/4″-20, 7/16″ Lg.		
5/16″	91829A307	4.13
3/8″	91829A308	4.19
1/2″	91829A309	4.31
5/8″	91829A311	4.49
3/8″ Shoulder Dia. Thread: 5/16″-18, 1/2″ Lg.		
5/16″	91829A401	5.37
3/8″	91829A402	5.44
1/2″	91829A403	5.62
5/8″	91829A404	6.04
1/2″ Shoulder Dia. Thread: 3/8″-16, 5/8″ Lg.		
1/2″	91829A501■	8.16
5/8″	91829A502	8.46
3/4″	91829A503	8.76
1″	91829A504	9.39

(Continued on following page)

★ ***Prices are 15% lower when you buy in multiples of five.***

Tight-Tolerance Shoulder Screws *(Continued from previous page)*

Type 416 Stainless Steel—Socket Drive

1/8" Shoulder Dia.
Thread: 4-40, 5/32" Lg.

Lg.		Each★
1/8"	93985A511	$2.22
3/16"	93985A513	2.22
1/4"	93985A515	2.41
5/16"	93985A517	2.52
3/8"	93985A519	2.59
7/16"	93985A521	3.14
1/2"	93985A522	3.33

5/32" Shoulder Dia.
Thread: 6-32, 3/16" Lg.

Lg.		Each★
1/8"	93985A523	2.59
3/16"	93985A524	1.74
1/4"	93985A525	1.66
5/16"	93985A526	2.70

5/32" Shoulder Dia. (Cont.)

Lg.		Each★
3/8"	93985A527	$2.97
7/16"	93985A528	3.33
1/2"	93985A529	3.52

3/16" Shoulder Dia.
Thread: 8-32, 3/16" Lg.

Lg.		Each★
1/8"	93985A201	2.59
3/16"	93985A202	2.59
1/4"	93985A203	2.78
5/16"	93985A200	2.89
3/8"	93985A204	2.97
1/2"	93985A205	3.08
5/8"	93985A206	3.15
3/4"	93985A207	3.52
1"	93985A208	3.52

3/16" Shoulder Dia. (Cont.)
Thread: 10-32, 1/4" Lg.

Lg.		Each★
1 1/4"	93985A209	$4.07
1 1/2"	93985A211	4.26

1/4" Shoulder Dia.
Thread: 10-32, 1/4" Lg.

Lg.		Each★
1/8"	93985A531	2.96
3/16"	93985A533	2.96
1/4"	93985A534	3.15
5/16"	93985A532	3.33
3/8"	93985A535	3.34
1/2"	93985A537	3.52
5/8"	93985A539	3.89
3/4"	93985A540	4.26
1"	93985A542	4.45

1/4" Shoulder Dia. (Cont.)

Lg.		Each★
1 1/4"	93985A544	$4.62
1 1/2"	93985A546	5.00

5/16" Shoulder Dia.
Thread: 1/4"-20, 7/16" Lg.

Lg.		Each★
1/4"	93985A301	5.18
5/16"	93985A302	5.56
3/8"	93985A303	5.67
1/2"	93985A304	6.11
5/8"	93985A305	6.11
3/4"	93985A306	6.11

3/8" Shoulder Dia.
Thread: 1/4"-20, 7/16" Lg.

Lg.		Each★
5/16"	93985A307	5.93
3/8"	93985A308	5.93

3/8" Shoulder Dia.
Thread: 1/4"-20, 7/16" Lg. (Cont.)

Lg.		Each★
1/2"	93985A309	$6.11
5/8"	93985A311	6.11

3/8" Shoulder Dia.
Thread: 5/16"-18, 1/2" Lg.

Lg.		Each★
5/16"	93985A401	6.49
3/8"	93985A402	6.67
1/2"	93985A403	7.59
5/8"	93985A404	8.34

1/2" Shoulder Dia.
Thread: 3/8"-16, 5/8" Lg.

Lg.		Each★
1/2"	93985A501	9.81
5/8"	93985A502	11.11
3/4"	93985A503	11.67
1"	93985A504	12.41

Alloy Steel—Socket Drive

1/8" Shoulder Dia.
Thread: 4-40, 5/32" Lg.

Lg.		Each★
1/8"	92012A511	4.29
3/16"	92012A513	4.39
1/4"	92012A515	4.71
5/16"	92012A517	4.72
3/8"	92012A519	4.99
7/16"	92012A521	6.20
1/2"	92012A522	6.43
5/8"	92012A505	6.18
3/4"	92012A506	6.67
7/8"	92012A507	6.91
1"	92012A508	7.62

5/32" Shoulder Dia.
Thread: 6-32, 3/16" Lg.

Lg.		Each★
1/8"	92012A523	4.76
3/16"	92012A524	4.76
1/4"	92012A525	5.24
5/16"	92012A526	5.24
3/8"	92012A527	5.71
7/16"	92012A528	5.95
1/2"	92012A529	6.43

5/32" Shoulder Dia. (Cont.)

Lg.		Each★
5/8"	92012A561	7.38
3/4"	92012A562	7.86
7/8"	92012A563	8.57
1"	92012A564	9.29

3/16" Shoulder Dia.
Thread: 8-32, 3/16" Lg.

Lg.		Each★
1/8"	92012A201	5.24
3/16"	92012A202	5.24
1/4"	92012A203	5.23
5/16"	92012A200	5.71
3/8"	92012A204	5.71
7/16"	92012A571	8.81
1/2"	92012A205	5.95
5/8"	92012A206	6.19
3/4"	92012A207	6.52
7/8"	92012A572	9.29
1"	92012A208	7.62
1 1/4"	92012A209	8.33
1 1/2"	92012A211	8.58
1 3/4"	92012A573	10.71
2"	92012A574	14.29

1/4" Shoulder Dia.
Thread: 10-24, 3/8" Lg.

Lg.		Each★
1/8"	92012A581	5.00
3/16"	92012A582	5.72
1/4"	92012A583	6.18
5/16"	92012A584	6.19
3/8"	92012A585	6.67
7/16"	92012A586	6.90
1/2"	92012A587	7.15
5/8"	92012A588	7.14
3/4"	92012A589	7.38
7/8"	92012A590	7.62
1"	92012A591	7.62
1 1/4"	92012A592	8.10
1 1/2"	92012A593	9.05
1 3/4"	92012A594	11.43
2"	92012A595	13.33

1/4" Shoulder Dia.
Thread: 10-32, 1/4" Lg.

Lg.		Each★
1/8"	92012A531	5.95
3/16"	92012A533	5.95
1/4"	92012A534	6.43

1/4" Shoulder Dia.
Thread: 10-32, 1/4" Lg. (Cont.)

Lg.		Each★
5/16"	92012A532	6.43
3/8"	92012A535	6.67
7/16"	92012A596	6.90
1/2"	92012A537	6.91
5/8"	92012A539	8.10
3/4"	92012A540	8.81
7/8"	92012A597	7.62
1"	92012A542	9.04
1 1/4"	92012A544	9.28
1 1/2"	92012A546	9.47
1 3/4"	92012A598	11.43
2"	92012A599	13.10

5/16" Shoulder Dia.
Thread: 1/4"-20, 7/16" Lg.

Lg.		Each★
1/4"	92012A301	10.71
5/16"	92012A302	11.19
3/8"	92012A303	11.67
1/2"	92012A304	11.66
5/8"	92012A305	12.38
3/4"	92012A306	12.38

3/8" Shoulder Dia.
Thread: 1/4"-20, 7/16" Lg.

Lg.		Each★
5/16"	92012A307	12.38
3/8"	92012A308	12.38
1/2"	92012A309	12.38
5/8"	92012A311	12.63

3/8" Shoulder Dia.
Thread: 5/16"-18, 1/2" Lg.

Lg.		Each★
5/16"	92012A401	13.10
3/8"	92012A402	14.23
1/2"	92012A403	14.77
5/8"	92012A404	16.19

1/2" Shoulder Dia.
Thread: 3/8"-16, 5/8" Lg.

Lg.		Each★
1/2"	92012A501	19.53
5/8"	92012A502	19.77
3/4"	92012A503	20.24
1"	92012A504	23.10

Metric Type 316 Stainless Steel—Socket Drive

3 mm Shoulder Dia.
Thread: M2, 4 mm Lg.
Pitch: 0.4 mm

Lg., mm		Each★
2	90263A111	$5.88
3	90263A112	6.12
4	90263A113	6.60
5	90263A114	6.72
6	90263A115	6.87
8	90263A116	7.90
10	90263A117	8.19

4 mm Shoulder Dia.
Thread: M3, 4 mm Lg.
Pitch: 0.5 mm

Lg., mm		Each★
2	90263A118	6.02
3	90263A119	6.11
4	90263A121	6.13
5	90263A122	6.79
6	90263A123	7.44
8	90263A124	8.74
10	90263A125	6.65
12	90263A126	7.94

4 mm Shoulder Dia. (Cont.)

Lg., mm		Each★
14	90263A127	$7.91
16	90263A128	8.67
20	90263A129	10.19
25	90263A131	9.47
30	90263A132	10.11

5 mm Shoulder Dia.
Thread: M4, 5 mm Lg.
Pitch: 0.7 mm

Lg., mm		Each★
2	90263A233	6.46
3	90263A234	6.78
4	90263A235	6.97
5	90263A236	7.69
6	90263A237	8.49
8	90263A238	10.43
10	90263A239	6.98
12	90263A241	8.02
14	90263A242	5.18
16	90263A243	9.27

5 mm Shoulder Dia. (Cont.)

Lg., mm		Each★
20	90263A244	$11.68
25	90263A245	13.34
30	90263A246	14.29

6 mm Shoulder Dia.
Thread: M5, 6 mm Lg.
Pitch: 0.8 mm

Lg., mm		Each★
2	90263A247	7.34
3	90263A248	7.48
4	90263A249	7.68
5	90263A251	8.95
6	90263A252	10.33
8	90263A253	11.68
10	90263A254	7.58
12	90263A255	10.18
14	90263A256	5.78
16	90263A257	10.99
20	90263A258	13.30
25	90263A259	14.13

6 mm Shoulder Dia. (Cont.)

Lg., mm		Each★
30	90263A261	$15.71
35	90263A262	12.08
40	90263A263	16.70

8 mm Shoulder Dia.
Thread: M6, 11 mm Lg.
Pitch: 1 mm

Lg., mm		Each★
4	90263A164	8.57
5	90263A165	9.44
6	90263A166	8.32
8	90263A167	13.85
10	90263A168	9.00
12	90263A169	12.17
14	90263A171	11.06
16	90263A172	13.10
20	90263A173	15.69
25	90263A174	16.69
30	90263A175	18.57
35	90263A176	14.51
40	90263A177	19.55

10 mm Shoulder Dia.
Thread: M8, 12 mm Lg.
Pitch: 1.25 mm

Lg., mm		Each★
8	90263A278	$14.46
10	90263A279	13.26
12	90263A281	13.61
14	90263A282	10.20
16	90263A283	14.83
20	90263A284	16.61
25	90263A285	17.28
30	90263A286	19.14

12 mm Shoulder Dia.
Thread: M10, 16 mm Lg.
Pitch: 1.5 mm

Lg., mm		Each★
8	90263A187	15.44
10	90263A188	13.64
12	90263A189	15.17
14	90263A191	16.99
16	90263A192	17.64
20	90263A193	18.93

Metric 18-8 Stainless Steel—Socket Drive

3 mm Shoulder Dia.
Thread: M2, 4 mm Lg.
Pitch: 0.4 mm

Lg., mm		Each★
2	90278A431	4.52
3	90278A432	4.67
4	90278A433	5.26
5	90278A434	5.33
6	90278A435	5.52
7	90278A436	5.48
8	90278A437	5.71

3 mm Shoulder Dia. (Cont.)

Lg., mm		Each★
10	90278A438	5.95
12	90278A439	6.19
14	90278A440	6.43
16	90278A441	6.67
18	90278A442	6.90
20	90278A443	7.14
25	90278A444	7.38

4 mm Shoulder Dia.
Thread: M3, 4 mm Lg.
Pitch: 0.5 mm

Lg., mm		Each★
2	90278A541	5.00
3	90278A542	5.24
4	90278A311	4.36
5	90278A312	2.52
6	90278A313	4.28
7	90278A543	5.95
8	90278A316	4.28

4 mm Shoulder Dia. (Cont.)

Lg., mm		Each★
10	90278A317	2.76
12	90278A544	6.67
14	90278A545	6.90
16	90278A546	7.14
18	90278A547	7.38
20	90278A548	7.62
25	90278A549	8.10
30	90278A550	8.57

4 mm Shoulder Dia. (Cont.)

Lg., mm		Each★
35	90278A551	9.05
40	90278A552	9.52
45	90278A553	10.00
50	90278A554	10.48

5 mm Shoulder Dia.
Thread: M4, 5 mm Lg.
Pitch: 0.7 mm

Lg., mm		Each★
2	90278A501	5.48
3	90278A502	5.71

(Continued on following page)

★ ***Prices are 15% lower when you buy in multiples of five.***

Tight-Tolerance Shoulder Screws *(Continued from previous page)*



Shoulder tolerances for these screws are twice as precise as those for our standard shoulder screws.

Metric Sizes—Screws have a Class 6g thread fit. Shoulder diameter tolerance is –0.025 mm to +0 mm. Shoulder length tolerance is –0 mm to +0.050 mm.

Metric 18-8 Stainless Steel—Socket Drive (Cont.)

5 mm Shoulder Dia.
Thread: M4, 5 mm Lg.
Pitch: 0.7 mm (Cont.)

Shoulder Lg., mm		Each★
4	90278A319	$5.06
5	90278A321	4.28
6	90278A323	4.28
7	90278A503	6.43
8	90278A326	4.28
10	90278A328	4.98
12	90278A371	3.33
14	90278A372	3.47
16	90278A373	3.74
18	90278A504	7.86
20	90278A374	4.00
25	90278A375	4.27
30	90278A376	4.67
35	90278A505	9.52
40	90278A506	10.00
45	90278A507	10.48
50	90278A508	10.95

6 mm Shoulder Dia.
Thread: M5, 6 mm Lg.
Pitch: 0.8 mm

Shoulder Lg., mm		Each★
2	90278A302	$5.95
3	90278A303	6.19
4	90278A301	3.20
5	90278A329	4.28
6	90278A331	4.28
7	90278A304	6.90
8	90278A333	4.28
10	90278A334	3.95
12	90278A335	4.05
14	90278A403	4.04
16	90278A404	4.27
18	90278A305	8.33
20	90278A406	4.53
25	90278A408	4.81
30	90278A410	5.20
35	90278A306	10.00
40	90278A307	11.87
45	90278A308	10.95
50	90278A309	11.43

6 mm Shoulder Dia.
(Cont.)

Shoulder Lg., mm		Each★
55	90278A310	$11.67
60	90278A299	11.90

8 mm Shoulder Dia.
Thread: M6, 11 mm Lg.
Pitch: 1 mm

Shoulder Lg., mm		Each★
4	90278A211	7.14
5	90278A212	7.86
6	90278A337	6.90
7	90278A214	8.57
8	90278A341	6.90
10	90278A342	6.33
12	90278A344	6.90
14	90278A221	9.29
16	90278A423	6.67
18	90278A225	10.00
20	90278A427	7.35
25	90278A232	12.08
30	90278A237	13.52
35	90278A242	12.14
40	90278A247	12.86

8 mm Shoulder Dia.
(Cont.)

Shoulder Lg., mm		Each★
45	90278A252	$13.57
50	90278A257	14.05

10 mm Shoulder Dia.
Thread: M6, 11 mm Lg.
Pitch: 1 mm

Shoulder Lg., mm		Each★
8	90278A336	6.67
10	90278A345	7.14
12	90278A346	7.00
16	90278A362	8.34

10 mm Shoulder Dia.
Thread: M8, 12 mm Lg.
Pitch: 1.25 mm

Shoulder Lg., mm		Each★
8	90278A411	10.31
10	90278A414	10.01
12	90278A417	10.69
14	90278A418	7.62
16	90278A419	12.01
18	90278A421	8.52
20	90278A422	9.43
25	90278A424	12.60
30	90278A425	12.33

10 mm Shoulder Dia.
Thread: M8, 12 mm Lg.
Pitch: 1.25 mm (Cont.)

Shoulder Lg., mm		Each★
35	90278A426	$12.14
40	90278A428	13.05
45	90278A429	13.95
50	90278A430	14.86

12 mm Shoulder Dia.
Thread: M10, 16 mm Lg.
Pitch: 1.5 mm

Shoulder Lg., mm		Each★
8	90278A351	12.86
10	90278A352	13.71
12	90278A347	13.33
14	90278A353	14.57
16	90278A348	16.02
18	90278A354	15.43
20	90278A349	16.68
25	90278A350	18.02
30	90278A355	16.29
35	90278A356	17.14
40	90278A357	18.00
45	90278A358	18.86
50	90278A359	19.71

Metric 18-8 Stainless Steel—Slotted Drive

Choose a Shoulder Diameter (Screw Size)	Choose a Shoulder Length	
4 mm (M3), 5 mm (M4), 6 mm (M5), 8 mm (M6), 10 mm (M8), 12 mm (M10)	4 mm, 5 mm, 6 mm, 8 mm, 10 mm, 12 mm, 14 mm,16 mm, 20 mm, 25 mm, 30 mm	90270A111

Thread-Locking Tight-Tolerance Shoulder Screws



With a nylon locking patch bonded to the threads, these 18-8 stainless steel screws provide a secure grip in high-vibration applications. Plus, they have shoulder tolerances that are twice as precise as those of our standard shoulder screws. The patch withstands temperatures from –70° to 250°F.

Inch Sizes—Screws have a Class 2A thread fit. Shoulder diameter tolerance is –0.001″ to +0″. Shoulder length tolerance is –0″ to +0.002″.

Metric Sizes—Screws have a 6g thread fit. Shoulder diameter tolerance is –0.025 mm to +0 mm. Shoulder length tolerance is –0 mm to +0.050 mm.

Inch Sizes—Choose a drive: socket or slotted

1/8″ Shoulder Dia.
Thread: 4-40, 5/32″ Lg.

Shoulder Lg.		Each★
1/8″	93996A110	$3.42
3/16″	93996A120	3.68
1/4″	93996A130	3.68
5/16″	93996A140	3.68
3/8″	93996A150	3.68
7/16″	93996A160	4.16
1/2″	93996A170	4.21

5/32″ Shoulder Dia.
Thread: 6-32, 3/16″ Lg.

Shoulder Lg.		Each★
1/8″	93996A180	$3.95
3/16″	93996A190	3.95
1/4″	93996A220	3.95
5/16″	93996A230	4.21
3/8″	93996A240	4.21
7/16″	93996A250	4.47
1/2″	93996A260	5.00

3/16″ Shoulder Dia.
Thread: 8-32, 3/16″ Lg.

Shoulder Lg.		Each★
1/8″	93996A270	$3.68
3/16″	93996A280	3.68
1/4″	93996A290	3.95
5/16″	93996A310	4.20
3/8″	93996A320	4.47
7/16″	93996A330	4.74
1/2″	93996A340	4.72
5/8″	93996A350	5.26

3/16″ Shoulder Dia.
(Cont.)

Shoulder Lg.		Each★
3/4″	93996A360	$5.79
1″	93996A370	6.32
1 1/4″	93996A380	6.58
1 1/2″	93996A390	6.84

1/4″ Shoulder Dia.
Thread: 10-32, 1/4″ Lg.

Shoulder Lg.		Each★
1/8″	93996A410	5.79
3/16″	93996A420	5.79

1/4″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1/4″	93996A440	$6.05
5/16″	93996A450	6.05
3/8″	93996A460	6.05
7/16″	93996A470	6.32
1/2″	93996A480	6.58
5/8″	93996A490	6.58
3/4″	93996A510	6.84
1″	93996A520	7.38
1 1/4″	93996A530	7.63
1 1/2″	93996A540	8.42

Metric Sizes—Socket Drive

4 mm Shoulder Dia.
Thread: M3, 4 mm Lg.
Pitch: 0.5 mm

Shoulder Lg., mm		Each★
4	96654A111	$5.17
5	96654A112	5.22
6	96654A113	5.37
8	96654A114	5.51
10	96654A115	5.56
12	96654A116	5.65
14	96654A117	5.75
16	96654A118	5.99
20	96654A119	6.27
25	96654A121	7.46
30	96654A122	8.27

5 mm Shoulder Dia.
Thread: M4, 5 mm Lg.
Pitch: 0.7 mm

Shoulder Lg., mm		Each★
4	96654A123	$5.08
5	96654A124	5.13
6	96654A125	5.22
8	96654A126	5.46
10	96654A127	5.51
12	96654A128	5.84
14	96654A129	5.89
16	96654A131	6.08
20	96654A132	6.42
25	96654A133	6.46
30	96654A134	8.12

6 mm Shoulder Dia.
Thread: M5, 6 mm Lg.
Pitch: 0.8 mm

Shoulder Lg., mm		Each★
4	96654A135	$5.51
5	96654A136	5.56
6	96654A137	5.65
8	96654A138	5.99
10	96654A139	6.03
12	96654A141	6.32
14	96654A142	6.46
16	96654A143	6.61
20	96654A144	6.89
25	96654A145	7.07
30	96654A146	8.83

8 mm Shoulder Dia.
Thread: M6, 11 mm Lg.
Pitch: 1 mm

Shoulder Lg., mm		Each★
6	96654A149	$8.83
8	96654A151	8.93
10	96654A152	9.04
12	96654A153	9.56
16	96654A154	9.88
20	96654A155	10.35
25	96654A156	10.61
30	96654A157	13.38

10 mm Shoulder Dia.
Thread: M8, 12 mm Lg.
Pitch: 1.25 mm

Shoulder Lg., mm		Each★
8	96654A161	12.23
10	96654A162	12.28

10 mm Shoulder Dia.
(Cont.)

Shoulder Lg., mm		Each★
12	96654A163	$12.80
16	96654A164	13.27
20	96654A165	14.00
25	96654A166	14.16
30	96654A167	19.70

12 mm Shoulder Dia.
Thread: M10, 16 mm Lg.
Pitch: 1.5 mm

Shoulder Lg., mm		Each★
8	96654A168	13.79
10	96654A169	13.85
12	96654A171	14.37
16	96654A172	14.84
20	96654A173	19.49
25	96654A174	19.65
30	96654A175	22.83

★ ***Prices are 15% lower when you buy in multiples of five.***

Friction-Resistant Shoulder Screws

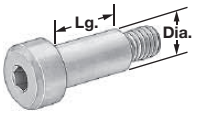

With a slippery surface, these screws withstand wear to help rotating or sliding components move smoothly. **TiCN-coated 18-8 stainless steel** screws have a thin layer of titanium carbonitride that makes the head and shoulder slippery. **Brass** screws have a naturally slick surface.

Inch Sizes—All screws have a Class 2A thread fit. Shoulder diameter tolerance is –0.002″ to +0″. Shoulder length tolerance is –0″ to +0.003″.

Metric Sizes—All screws have a Class 6g thread fit. Shoulder diameter tolerance is –0.025 mm to +0 mm. Shoulder length tolerance is –0 mm to +0.050 mm.

TiCN-Coated 18-8 Stainless Steel

Shoulder Lg.		Each★
⅛″ Shoulder Dia. Thread: 4-40, ⅝″ Lg.		
⅛″	91054A461	$6.88
3⁄16″	91054A462	6.88
¼″	91054A463	7.13
⅜″	91054A464	7.26
½″	91054A465	7.50
¾″	91054A466	7.76
1″	91054A467	7.88
5⁄32″ Shoulder Dia. Thread: 6-32, 3⁄16″ Lg.		
⅛″	91054A468	7.31
3⁄16″	91054A469	7.50
¼″	91054A471	7.88
⅜″	91054A472	8.38
½″	91054A473	9.13
5⁄32″ Shoulder Dia. (Cont.)		
¾″	91054A474	$9.63
1″	91054A475	9.88
3⁄16″ Shoulder Dia. Thread: 8-32, 3⁄16″ Lg.		
⅛″	91054A476	8.12
3⁄16″	91054A477	8.83
¼″	91054A478	9.13
⅜″	91054A479	9.88
½″	91054A481	11.00
¾″	91054A482	11.88
1″	91054A483	12.13
¼″ Shoulder Dia. Thread: 10-32, ¼″ Lg.		
⅛″	91054A484	9.50
3⁄16″	91054A485	10.00
¼″ Shoulder Dia. (Cont.)		
¼″	91054A100	$9.88
⅜″	91054A486	10.62
½″	91054A120	11.32
⅝″	91054A487	11.33
¾″	91054A140	11.62
1″	91054A160	12.12
1¼″	91054A488	12.88
1½″	91054A489	13.50
2″	91054A491	15.50
5⁄16″ Shoulder Dia. Thread: ¼″-20, ⅜″ Lg.		
⅛″	91054A492	10.25
3⁄16″	91054A493	10.63
5⁄16″ Shoulder Dia. (Cont.)		
¼″	91054A210	$14.38
⅜″	91054A494	12.00
½″	91054A230	15.00
⅝″	91054A495	13.26
¾″	91054A250	15.00
1″	91054A270	15.00
1¼″	91054A496	15.00
1½″	91054A497	15.00
2″	91054A498	17.50
⅜″ Shoulder Dia. Thread: 5⁄16″-18, ½″ Lg.		
¼″	91054A501	12.51
⅜″	91054A502	12.51
⅜″ Shoulder Dia. (Cont.)		
½″	91054A340	$20.88
⅝″	91054A503	15.00
¾″	91054A360	19.62
1″	91054A380	21.07
1½″	91054A390	25.00
½″ Shoulder Dia. Thread: ⅜″-16, ⅝″ Lg.		
¼″	91054A504	17.50
⅜″	91054A505	18.38
½″	91054A410	24.88
⅝″	91054A506	20.00
¾″	91054A430	24.38
1″	91054A450	26.32
1½″	91054A460	27.50

Brass

Shoulder Lg.		Each★
⅛″ Shoulder Dia. Thread: 4-40, 5⁄32″ Lg.		
⅛″	95446A110	2.42
3⁄16″	95446A130	2.42
¼″	95446A160	2.56
5⁄16″	95446A631	2.67
⅜″	95446A190	2.56
7⁄16″	95446A632	3.04
½″	95446A633	3.10
¾″	95446A634	3.40
1″	95446A635	3.76
5⁄32″ Shoulder Dia. Thread: 6-32, 3⁄16″ Lg.		
⅛″	95446A636	2.55
3⁄16″	95446A637	2.62
¼″	95446A638	2.67
5⁄16″	95446A639	2.70
⅜″	95446A641	2.72
7⁄16″	95446A642	2.79
½″	95446A643	2.86
¾″	95446A644	3.04
1″	95446A645	3.28
3⁄16″ Shoulder Dia. Thread: 8-32, 3⁄16″ Lg.		
⅛″	95446A220	1.73
3⁄16″	95446A240	1.73
¼″	95446A260	1.83
5⁄16″	95446A646	2.70
⅜″	95446A280	1.83
7⁄16″	95446A647	2.79
½″	95446A320	1.92
⅝″	95446A340	2.47
¾″	95446A360	2.72
1″	95446A380	2.72
1¼″	95446A648	3.40
1½″	95446A649	3.52
¼″ Shoulder Dia. Thread: 10-32, ¼″ Lg.		
⅛″	95446A410	2.44
3⁄16″	95446A430	2.44
¼″	95446A450	2.57
5⁄16″	95446A651	2.70
⅜″	95446A470	2.57
7⁄16″	95446A652	2.79
½″	95446A490	2.57
⅝″	95446A510	2.92
¾″	95446A530	2.92
1″	95446A550	2.92
1¼″	95446A653	3.40
1½″	95446A654	3.52
⅜″ Shoulder Dia. Thread: 5⁄16″-18, ½″ Lg.		
½″	95446A655	3.20
¾″	95446A656	3.40
1″	95446A657	3.62
1½″	95446A658	3.88
½″ Shoulder Dia. Thread: ⅜″-16, ⅝″ Lg.		
½″	95446A659	6.16
¾″	95446A661	7.01
1″	95446A662	7.30
1½″	95446A663	7.91

Metric TiCN-Coated 18-8 Stainless Steel

Shoulder Lg., mm		Each★
4 mm Shoulder Dia. Thread: M3, 4 mm Lg. Pitch: 0.5 mm		
4	98621A111	$7.16
5	98621A112	7.35
6	98621A113	7.54
8	98621A114	7.92
10	98621A115	8.11
12	98621A116	8.32
14	98621A117	8.51
16	98621A118	8.70
20	98621A119	9.11
25	98621A121	9.27
5 mm Shoulder Dia. Thread: M4, 5 mm Lg. Pitch: 0.7 mm		
4	98621A122	$8.65
5	98621A123	9.14
6	98621A124	9.62
8	98621A125	10.59
10	98621A126	11.08
12	98621A127	11.57
14	98621A128	12.05
16	98621A129	12.54
18	98621A131	13.03
20	98621A132	13.51
25	98621A133	14.00
6 mm Shoulder Dia. Thread: M5, 6 mm Lg. Pitch: 0.8 mm		
4	98621A134	$9.19
5	98621A135	9.68
6	98621A136	10.16
8	98621A137	11.14
10	98621A138	11.62
12	98621A139	12.11
14	98621A141	12.59
16	98621A142	13.08
20	98621A143	14.05
25	98621A144	14.54
8 mm Shoulder Dia. Thread: M6, 11 mm Lg. Pitch: 1 mm		
8	98621A145	$11.35
10	98621A146	11.81
12	98621A147	12.27
16	98621A148	13.19
20	98621A149	14.11
25	98621A151	14.57
10 mm Shoulder Dia. Thread: M8, 12 mm Lg. Pitch: 1.25 mm		
8	98621A152	15.14
10	98621A153	15.51
10 mm Shoulder Dia. (Cont.)		
12	98621A154	$15.89
16	98621A155	16.65
20	98621A156	18.22
25	98621A157	18.59
12 mm Shoulder Dia. Thread: M10, 16 mm Lg. Pitch: 1.5 mm		
12	98621A158	24.32
16	98621A159	26.49
20	98621A161	27.57
25	98621A162	28.11

Metric Brass

Choose a Shoulder Diameter (Screw Size)	Choose a Shoulder Length	
4 mm (M3), 5 mm (M4), 6 mm (M5), 8 mm (M6), 10 mm (M8)	4 mm, 5 mm, 6 mm, 8 mm, 10 mm, 12 mm, 16 mm, 18 mm, 20 mm	98451A211

Internally Threaded Shoulders



Internal threads allow you to screw these shoulders onto a stud. Use them to create pivots and to join parts when a tapped hole is not available. All sizes are 18-8 stainless steel with a socket drive. They have a Class 2B thread fit. Shoulder diameter tolerance is –0.004″ to –0.002″. Shoulder length tolerance is ±0.005″.

Shoulder Lg.		Each★
¼″ Shoulder Dia. Thread: 4-40, Dp. ¼″		
½″	96655A111	$5.78
¾″	96655A112	6.86
1″	96655A113	7.84
1¼″	96655A114	8.13
1½″	96655A115	8.72
2″	96655A116	10.29
5⁄16″ Shoulder Dia. Thread: 6-32, Dp.¼″		
½″	96655A117	$5.68
¾″	96655A118	6.86
1″	96655A119	8.13
1¼″	96655A121	8.53
1½″	96655A122	9.11
2″	96655A123	10.58
⅜″ Shoulder Dia. Thread: 8-32, Dp. ¼″		
½″	96655A124	$5.59
¾″	96655A125	6.96
1″	96655A126	8.33
1¼″	96655A127	9.11
1½″	96655A128	10.09
2″	96655A129	12.25
½″ Shoulder Dia. Thread: 10-32, Dp.¼″		
½″	96655A131	$6.79
¾″	96655A132	8.73
1″	96655A133	10.77
1¼″	96655A134	11.15
1½″	96655A135	12.51
2″	96655A136	16.39

★ ***Prices are 15% lower when you buy in multiples of five.***

Low-Profile Shoulder Screws

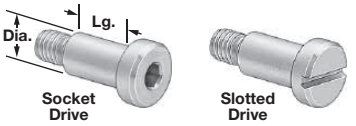

The shallow head make these screws the right size to hold components in tight spaces. **Low-profile** screws are 2/3 the head height of standard shoulder screws. **Ultra-low profile** screws are 1/3 the standard head height.

Inch Sizes—All screws have a Class 2A thread fit. Shoulder diameter tolerance is –0.001″ to +0″. Shoulder length tolerance is –0″ to +0.002″.

Metric Sizes—All screws have a Class 6g thread fit. Shoulder diameter tolerance is –0.025 mm to +0 mm. Shoulder length tolerance is –0 mm to +0.050 mm.

Low Profile 18-8 Stainless Steel—Choose a drive: socket or slotted

Shoulder Lg.		Each★
3/32″ Shoulder Dia.		
Head: Dia. 3/16″, Ht. 1/16″		
Thread: 2-56, 1/8″ Lg.		
1/16″	90337A111	$4.87
3/32″	90337A112	4.93
1/8″	90337A113	4.89
5/32″	90337A114	5.13
3/16″	90337A115	5.27
1/4″	90337A116	4.91
5/16″	90337A117	5.73
3/8″	90337A118	5.00
1/8″ Shoulder Dia.		
Head: Dia. 1/4″, Ht. 3/32″		
Thread: 4-40, 5/32″ Lg.		
1/16″	90337A119	5.53
3/32″	90337A121	5.73

Shoulder Lg.		Each★
1/8″ Shoulder Dia. (Cont.)		
1/8″	90337A122	$4.01
5/32″	90337A123	6.13
3/16″	90337A124	6.33
1/4″	90337A125	3.95
5/16″	90337A126	5.63
3/8″	90337A127	3.67
5/32″ Shoulder Dia.		
Head: Dia. 9/32″, Ht. 3/32″		
Thread: 6-32, 3/16″ Lg.		
1/8″	90337A128	5.68
3/16″	90337A129	6.11
1/4″	90337A131	6.53

Shoulder Lg.		Each★
5/32″ Shoulder Dia. (Cont.)		
5/16″	90337A132	$6.95
3/8″	90337A133	7.37
3/16″ Shoulder Dia.		
Head: Dia. 5/16″, Ht. 7/64″		
Thread: 8-32, 3/16″ Lg.		
1/8″	90337A134	5.53
3/16″	90337A135	6.11
1/4″	90337A136	4.04
5/16″	90337A137	7.37
3/8″	90337A138	4.30
1/2″	90337A139	4.67
5/8″	90337A141	9.79

Shoulder Lg.		Each★
1/4″ Shoulder Dia.		
Head: Dia. 3/8″, Ht. 1/8″		
Thread: 10-32, 1/4″ Lg.		
1/8″	90337A142	$6.00
3/16″	90337A143	6.63
1/4″	90337A144	5.00
5/16″	90337A145	7.95
3/8″	90337A146	5.26
1/2″	90337A147	5.79
5/8″	90337A148	10.47

Ultra-Low Profile Type 316 Stainless Steel—Socket Drive

Shoulder Lg.		Each★
3/32″ Shoulder Dia.		
Head: Dia. 3/16″, Ht. 1/32″		
Thread: 2-56, 1/8″ Lg.		
1/8″	90318A101	4.26
1/4″	90318A102	4.29
3/8″	90318A103	4.33
1/8″ Shoulder Dia.		
Head: Dia. 1/4″, Ht. 3/64″		
Thread: 4-40, 5/32″ Lg.		
1/8″	90318A201	4.29
1/4″	90318A202	4.33
3/8″	90318A203	4.36
3/16″ Shoulder Dia.		
Head: Dia. 5/16″, Ht. 3/64″		
Thread: 8-32, 3/16″ Lg.		
1/4″	90318A301	4.55
3/8″	90318A302	4.58
1/2″	90318A303	4.61
1/4″ Shoulder Dia.		
Head: Dia. 3/8″, Ht. 1/16″		
Thread: 10-32, 1/4″ Lg.		
1/4″	90318A401	4.91
3/8″	90318A402	4.94
1/2″	90318A403	4.95

Ultra-Low Profile Type 316 Stainless Steel—Slotted Drive

Shoulder Lg.		Each★
3/32″ Shoulder Dia.		
Head: Dia. 3/16″, Ht. 1/32″		
Thread: 2-56, 1/8″ Lg.		
1/8″	92381A101	4.26
1/4″	92381A102	4.29
3/8″	92381A103	4.33
1/8″ Shoulder Dia.		
Head: Dia. 1/4″, Ht. 3/64″		
Thread: 4-40, 5/32″ Lg.		
1/8″	92381A201	4.29
1/4″	92381A202	4.33
3/8″	92381A203	4.36
3/16″ Shoulder Dia.		
Head: Dia. 5/16″, Ht. 3/64″		
Thread: 8-32, 3/16″ Lg.		
1/4″	92381A301	4.55
3/8″	92381A302	4.58
1/2″	92381A303	4.61
1/4″ Shoulder Dia.		
Head: Dia. 3/8″, Ht. 1/16″		
Thread: 10-32, 1/4″ Lg.		
1/4″	92381A501	4.91
3/8″	92381A502	4.94
1/2″	92381A503	4.97

Metric Low Profile 18-8 Stainless Steel—Socket Drive

Shoulder Lg., mm		Each★
4 mm Shoulder Dia.		
Head: Dia. 6 mm, Ht. 2 mm		
Thread: M3, 4 mm Lg.		
Pitch: 0.5 mm		
4	90323A211	$2.74
5	90323A212	2.77
6	90323A213	2.90
8	90323A214	2.97
10	90323A215	3.08
12	90323A216	3.24
16	90323A217	3.55
20	90323A218	3.87
5 mm Shoulder Dia.		
Head: Dia. 9 mm, Ht. 2.5 mm		
Thread: M4, 5 mm Lg.		
Pitch: 0.7 mm		
4	90323A321	3.40
5	90323A322	3.46

Shoulder Lg., mm		Each★
5 mm Shoulder Dia. (Cont.)		
6	90323A323	$3.61
8	90323A324	3.80
10	90323A325	3.92
12	90323A326	4.11
16	90323A327	4.11
20	90323A328	5.12
6 mm Shoulder Dia.		
Head: Dia. 10 mm, Ht. 3 mm		
Thread: M5, 6 mm Lg.		
Pitch: 0.8 mm		
4	90323A331	4.08
5	90323A332	4.14
6	90323A333	4.22
8	90323A334	4.41

Shoulder Lg., mm		Each★
6 mm Shoulder Dia. (Cont.)		
10	90323A335	$4.54
12	90323A336	4.72
16	90323A337	5.18
20	90323A338	5.74
8 mm Shoulder Dia.		
Head: Dia. 13 mm, Ht. 3.5 mm		
Thread: M6, 11 mm Lg.		
Pitch: 1 mm		
6	90323A241	4.53
8	90323A242	4.70
10	90323A243	4.88
12	90323A244	5.07
16	90323A245	5.59
20	90323A246	6.11

Shoulder Lg., mm		Each★
10 mm Shoulder Dia.		
Head: Dia. 16 mm, Ht. 4.5 mm		
Thread: M8, 13 mm Lg.		
Pitch: 1.25 mm		
8	90323A251	$6.37
10	90323A252	6.69
12	90323A253	7.00
16	90323A254	7.63
20	90323A255	8.31
12 mm Shoulder Dia.		
Head: Dia. 18 mm, Ht. 6 mm		
Thread: M10, 16 mm Lg.		
Pitch: 1.5 mm		
8	90323A261	7.42
10	90323A262	7.73
12	90323A263	8.05
16	90323A264	8.67
20	90323A265	9.35

Shoulder Screws with Socket Drive at the Tip

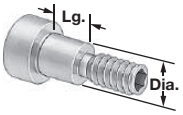

These screws have a socket drive at the tip as well as the head, so you can drive them with a hex key even when the head cannot be reached. All sizes are 18-8 stainless steel. They have a Class 3A thread fit. Shoulder diameter tolerance is –0.004″ to –0.002″. Shoulder length tolerance is ±0.005″.

Shoulder Lg.		Each★
3/16″ Shoulder Dia.		
Thread: 8-32, 3/16″ Lg.		
1/8″	96706A101	$6.00
3/16″	96706A102	6.24
1/4″	96706A103	6.34
5/16″	96706A104	6.60
3/8″	96706A105	6.94
1/2″	96706A106	7.22
5/8″	96706A107	7.38

Shoulder Lg.		Each★
3/16″ Shoulder Dia. (Cont.)		
3/4″	96706A108	$7.74
1″	96706A109	8.80
1/4″ Shoulder Dia.		
Thread: 10-24, 3/8″ Lg.		
1/4″	96706A201	7.20
3/8″	96706A202	7.90
1/2″	96706A203	8.20
5/8″	96706A204	8.40

Shoulder Lg.		Each★
1/4″ Shoulder Dia. (Cont.)		
3/4″	96706A205	$8.80
1″	96706A206	10.00
5/16″ Shoulder Dia.		
Thread: 1/4″-20, 7/16″ Lg.		
1/4″	96706A301	8.20
3/8″	96706A302	8.90
1/2″	96706A303	9.40

Shoulder Lg.		Each★
5/16″ Shoulder Dia. (Cont.)		
3/4″	96706A304	$10.40
1″	96706A305	11.80
3/8″ Shoulder Dia.		
Thread: 5/16″-18, 1/2″ Lg.		
1/2″	96706A401	9.50
3/4″	96706A402	11.80
1″	96706A403	12.90

★ Prices are 15% lower when you buy in multiples of five.

Hex Head Shoulder Screws

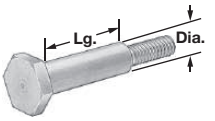

Also known as wheel or axle bolts, hex head shoulder screws are often used on vehicle axles. All sizes have a Class 2A thread fit and a minimum tensile strength of 70,000 psi, but are not rated for shear strength. Shoulder diameter tolerance is –0.004″ to +0″. Shoulder length tolerance is ±0.005″.

18-8 stainless steel screws have a minimum Rockwell hardness of B55.

Zinc-plated steel screws have a minimum Rockwell hardness of B80.

18-8 Stainless Steel

3⁄8″ Shoulder Dia.
Head: Wd. 5⁄8″, Ht. 3⁄16″
Thread: 1⁄4″-20, 3⁄4″ Lg.

Shoulder Lg.		Each★
1 5⁄16″	94731A610	$11.83
1 3⁄8″	94731A630	11.53
1 7⁄16″	94731A650	12.94
1 1⁄2″	94731A680	14.64
1 9⁄16″	94731A700	16.32

3⁄8″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1 5⁄8″	94731A710	$17.65
1 3⁄4″	94731A730	20.74
1 7⁄8″	94731A750	22.22
2″	94731A770	22.35
2 1⁄8″	94731A790	23.46
2 1⁄4″	94731A820	25.06
2 1⁄2″	94731A840	27.78

1⁄2″ Shoulder Dia.
Head: Wd. 3⁄4″, Ht. 1⁄4″
Thread: 3⁄8″-16, 3⁄4″ Lg.

Shoulder Lg.		Each★
1 5⁄16″	94731A360	$12.42
1 3⁄8″	94731A380	12.12
1 7⁄16″	94731A400	13.63
1 1⁄2″	94731A430	15.16
1 9⁄16″	94731A450	16.64

1⁄2″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1 5⁄8″	94731A460	$18.15
1 3⁄4″	94731A480	21.19
1 7⁄8″	94731A500	22.72
2″	94731A520	22.72
2 1⁄8″	94731A540	24.22
2 1⁄4″	94731A570	25.75
2 1⁄2″	94731A590	28.74

Zinc-Plated Steel

3⁄8″ Shoulder Dia.
Head: Wd. 5⁄8″, Ht. 3⁄16″
Thread: 1⁄4″-20, 3⁄4″ Lg.

Shoulder Lg.		Each★
1 5⁄16″	94496A460	5.86
1 3⁄8″	94496A480	5.65
1 7⁄16″	94496A500	6.17
1 1⁄2″	94496A520	6.35
1 9⁄16″	94496A540	6.95

3⁄8″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1 5⁄8″	94496A560	7.55
1 3⁄4″	94496A580	8.79
1 7⁄8″	94496A600	9.46
2″	94496A620	9.53
2 1⁄8″	94496A640	10.02
2 1⁄4″	94496A670	10.66
2 1⁄2″	94496A690	11.93

1⁄2″ Shoulder Dia.
Head: Wd. 3⁄4″, Ht. 1⁄4″
Thread: 3⁄8″-16, 3⁄4″ Lg.

Shoulder Lg.		Each★
1 5⁄16″	94496A210	5.63
1 3⁄8″	94496A230	5.63
1 7⁄16″	94496A250	5.63
1 1⁄2″	94496A270	5.63
1 9⁄16″	94496A290	5.63

1⁄2″ Shoulder Dia. (Cont.)

Shoulder Lg.		Each★
1 5⁄8″	94496A310	5.63
1 3⁄4″	94496A330	7.22
1 7⁄8″	94496A350	7.22
2″	94496A370	7.22
2 1⁄8″	94496A390	7.52
2 1⁄4″	94496A420	7.52
2 1⁄2″	94496A440	7.52

★ Prices are 15% lower when you buy in multiples of five.

Extended-Thread Shoulder Screws

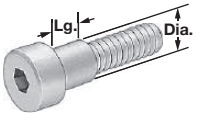

Screws have extra-long threads for use with nuts and washers or thick materials. All sizes are 18-8 stainless steel and have a Class 2A thread fit. Shoulder diameter tolerance is –0.001″ to +0″. Shoulder length tolerance is –0″ to +0.002″.

1⁄8″ Shoulder Dia.
Thread: 4-40, 5⁄16″ Lg.

Shoulder Lg.		Each★
1⁄8″	90325A151	$2.84
1⁄4″	90325A152	2.98
3⁄8″	90325A153	3.01
1⁄2″	90325A154	3.04

5⁄32″ Shoulder Dia.
Thread: 6-32, 3⁄8″ Lg.

Shoulder Lg.		Each★
1⁄8″	90325A161	3.37
1⁄4″	90325A162	3.50
3⁄8″	90325A163	3.53
1⁄2″	90325A164	3.56

3⁄16″ Shoulder Dia.
Thread: 8-32, 3⁄8″ Lg.

Shoulder Lg.		Each★
1⁄8″	90325A171	$2.91
1⁄4″	90325A172	3.06
3⁄8″	90325A173	3.09
1⁄2″	90325A174	3.12

1⁄4″ Shoulder Dia.
Thread: 10-24, 3⁄4″ Lg.

Shoulder Lg.		Each★
1⁄4″	90325A181	3.50
3⁄8″	90325A182	3.71
1⁄2″	90325A183	3.84
3⁄4″	90325A184	4.01
1″	90325A185	4.25

★ Prices are 15% lower when you buy in multiples of five.

Same-Size Thread Shoulder Screws

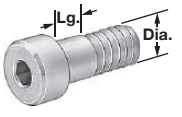

With threads the same size as the shoulder, these screws can handle heavier loads than standard shoulder screws. They are 18-8 stainless steel and have a Class 2A thread fit. Shoulder diameter tolerance is –0.004″ to –0.002″. Shoulder length tolerance is ±0.005″.

1⁄4″ Shoulder Dia.
Thread: 1⁄4″-20, 3⁄8″ Lg.

Shoulder Lg.		Each★
1⁄4″	91273A301	$4.46
1⁄2″	91273A302	5.42
3⁄4″	91273A303	5.98
1″	91273A304	7.12

5⁄16″ Shoulder Dia.
Thread: 5⁄16″-18, 7⁄16″ Lg.

Shoulder Lg.		Each★
1⁄4″	91273A305	5.42
1⁄2″	91273A306	6.56
3⁄4″	91273A307	7.50
1″	91273A308	8.84

3⁄8″ Shoulder Dia.
Thread: 3⁄8″-16, 1⁄2″ Lg.

Shoulder Lg.		Each★
1⁄2″	91273A309	$6.67
3⁄4″	91273A311	8.84
1″	91273A312	9.88
1 1⁄2″	91273A313	11.68

1⁄2″ Shoulder Dia.
Thread: 1⁄2″-13, 5⁄8″ Lg.

Shoulder Lg.		Each★
1⁄2″	91273A314	8.56
3⁄4″	91273A315	10.74
1″	91273A316	11.78
1 1⁄2″	91273A317	13.58

★ Prices are 15% lower when you buy in multiples of five.

Plastic Shoulder Screws

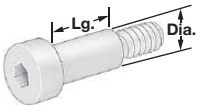

Our plastic shoulder screws are a lightweight, nonconductive alternative to metal fasteners. All sizes have a Class 2A thread fit.

Nylon Screws—These screws withstand temperatures from –40° to 185° F. Shoulder diameter tolerance is –0.012″ to –0.002″. Shoulder length tolerance is ±0.015″.

Wear-Resistant Nylatron Screws—This material is more wear resistant than nylon. Not rated for temperature. Shoulder diameter and length tolerances are ±0.005″.

Nylon—Choose a color: black, off-white

1⁄4″ Shoulder Dia.
Thread: 10-24, 3⁄8″ Lg.

Shoulder Lg.	Pkg. Qty		Pkg.
1⁄4″	25	93897A236	$6.34
3⁄8″	25	93897A254	6.40
1⁄2″	25	93897A263	6.47
5⁄8″	25	93897A271	6.54
3⁄4″	25	93897A279	6.67
1″	25	93897A288	6.74
1 1⁄4″	25	93897A296	6.88
1 1⁄2″	25	93897A305	7.01
1 3⁄4″	25	93897A313	7.15
2″	25	93897A320	7.29

5⁄16″ Shoulder Dia.
Thread: 1⁄4″-20, 7⁄16″ Lg.

Shoulder Lg.	Pkg. Qty		Pkg.
1⁄4″	25	93897A401	$6.72
5⁄16″	25	93897A410	6.79
3⁄8″	25	93897A417	6.82
1⁄2″	25	93897A425	6.93
5⁄8″	25	93897A433	7.03
3⁄4″	25	93897A440	7.14
1″	25	93897A448	7.35
1 1⁄2″	25	93897A464	7.79
2″	25	93897A480	8.20

3⁄8″ Shoulder Dia.
Thread: 5⁄16″-18, 1⁄2″ Lg.

Shoulder Lg.	Pkg. Qty		Pkg.
1⁄4″	25	93897A517	$7.37
3⁄8″	25	93897A525	7.52
1⁄2″	25	93897A534	7.67
5⁄8″	25	93897A542	7.83
3⁄4″	25	93897A551	7.98
1″	25	93897A559	8.28
1 1⁄4″	25	93897A567	8.59
1 1⁄2″	25	93897A575	8.89
1 3⁄4″	25	93897A580	9.19
2″	25	93897A588	9.50

1⁄2″ Shoulder Dia.
Thread: 3⁄8″-16, 5⁄8″ Lg.

Shoulder Lg.	Pkg. Qty		Pkg.
3⁄8″	10	93897A658	$5.64
1⁄2″	10	93897A664	5.76
5⁄8″	10	93897A671	5.87
3⁄4″	10	93897A677	5.97
1″	10	93897A686	6.19
1 1⁄4″	10	93897A694	6.40
1 1⁄2″	10	93897A701	6.61
1 3⁄4″	10	93897A708	6.84
2″	10	93897A716	7.05

Wear-Resistant Nylatron—Color is black

1⁄4″ Shoulder Dia.
Thread: 10-24, 3⁄8″ Lg.

Shoulder Lg.		Each
1⁄4″	97435A101	$8.72
3⁄8″	97435A102	8.79
1⁄2″	97435A103	8.44
3⁄4″	97435A104	9.13
1″	97435A105	9.38

5⁄16″ Shoulder Dia.
Thread: 1⁄4″-20, 7⁄16″ Lg.

Shoulder Lg.		Each
1⁄4″	97435A201	$9.47
3⁄8″	97435A202	7.78
1⁄2″	97435A203	9.36
3⁄4″	97435A204	9.70
1″	97435A205	9.75

3⁄8″ Shoulder Dia.
Thread: 5⁄16″-18, 1⁄2″ Lg.

Shoulder Lg.		Each
3⁄8″	97435A301	$9.35
1⁄2″	97435A302	6.29
3⁄4″	97435A303	6.65
1″	97435A304	6.73
1 1⁄2″	97435A305	6.83

1⁄2″ Shoulder Dia.
Thread: 3⁄8″-16, 5⁄8″ Lg.

Shoulder Lg.		Each
3⁄8″	97435A401	$6.47
1⁄2″	97435A402	9.53
3⁄4″	97435A403	10.08
1″	97435A404	7.24
1 1⁄2″	97435A405	8.04

About Socket Cap Screws

Choosing a Head Style

Consider the shape of the hole and the clearance above the surface when selecting a head style.



Socket heads (pages 3101-3128) are the standard for high-strength fastening. They can be installed in a counterbored hole or above the surface.

Flanged socket heads distribute the holding force to relieve stress at the point of contact.

Low socket heads are about half the height of standard socket heads for use in tight spaces.



Flat heads (pages 3128-3135) are angled under the head and provide a flush surface when countersunk. Most are angled 82°, but some have a shallower 100° angle for use in thin materials. They are not recommended for high-strength fastening.

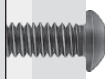

Button heads (pages 3136-3143) have a low head and provide a finished appearance. They are not recommended for high-strength fastening.

Flanged button heads have a built-in washer that keeps the screw head from crushing thin or soft materials.

Understanding Screw Size

Inch screw sizes are specified by diameter and threads per inch. For those with a diameter smaller than ¼″, diameter is indicated by a number (e.g., #1 or No.1).

Metric screw sizes are specified by diameter and pitch.

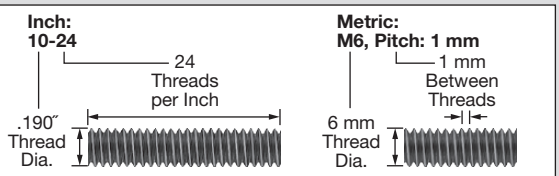

Inch Equivalents for Numbered Screw Sizes

#0	#1	#2	#3	#4	#5	#6	#8	#10	#12
.060″	.073″	.086″	.099″	.112″	.125″	.138″	.164″	.190″	.216″

Understanding Thread Length

Fully threaded screws can be screwed all the way into a threaded hole. **Partially threaded** screws have an unthreaded portion under the head for more holding power when force is applied from the side. The unthreaded portion is stronger than the threaded portion of a screw.

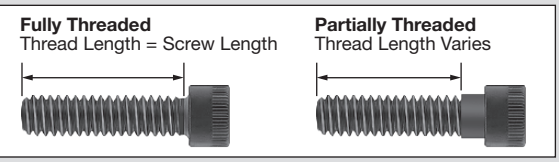

Comparing Materials by Strength and Corrosion Resistance

Use this chart to compare the trade-offs between strength and corrosion resistance in different environments.

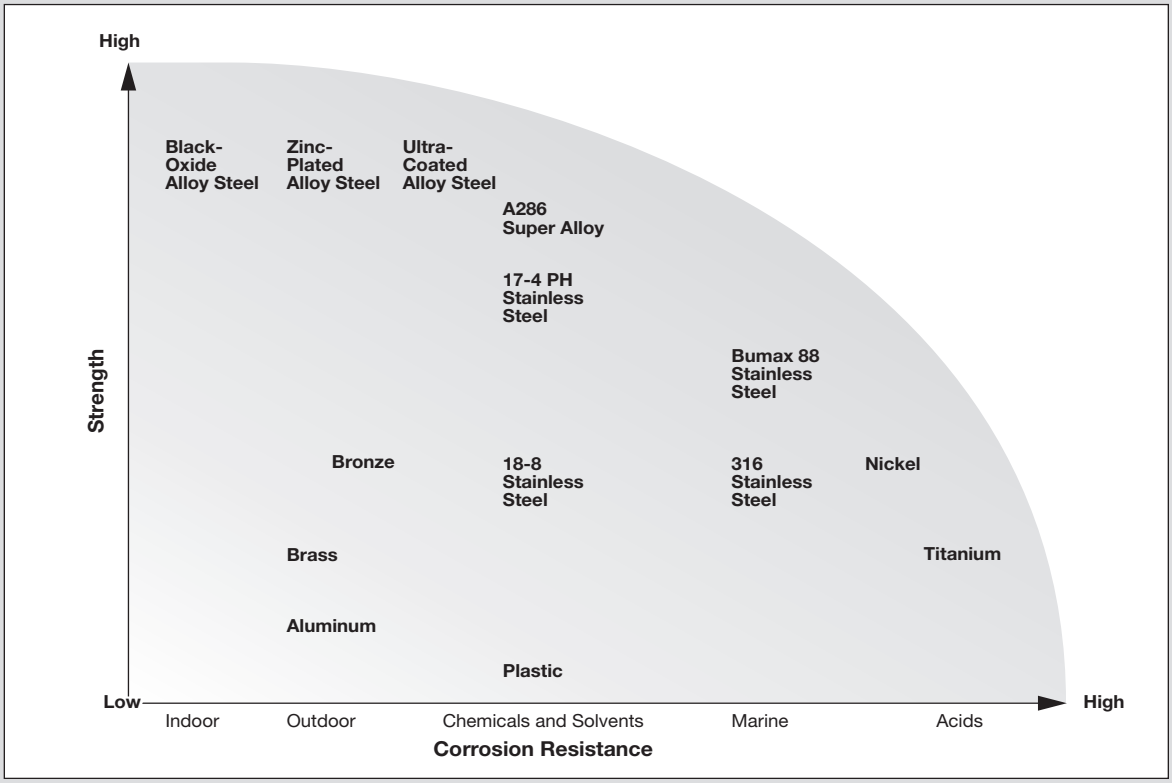

Other Material Properties to Consider

Alloy Steel is magnetic.
Stainless Steel and **Nickel** may be mildly magnetic.
Brass and **Bronze** are nonmagnetic and conduct electricity.
Aluminum is extremely lightweight—it's 70% lighter than steel.

Titanium is prized for its high strength-to-weight ratio. It's 40% lighter than steel and comparable in strength to Grade 2 steel.
Plastic is nonconductive and resists chemicals and solvents.

Alloy Steel Socket Head Cap Screws

The standard among high-strength fasteners, these screws are stronger than Grade 8 steel screws and have been heat treated for hardness, which results in a dark surface color. They conform to ASTM A574, have a minimum Rockwell hardness of C37, and a minimum tensile strength of 170,000 psi. Screw sizes through 1″ have a Class 3A thread fit; screw sizes larger than 1″ have a Class 2A thread fit. Length is measured from under the head.





Black-Oxide Alloy Steel

0-80—Head: Dia. 0.096″, Ht. 0.060″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/16″	Full	50	91251A051	$13.09
3/32″	Full	10	91251A431	7.42
1/8″	Full	50	91251A052	3.13
5/32″	Full	10	91251A445	12.37
3/16″	Full	50	91251A054	3.24
1/4″	Full	50	91251A055	3.26
5/16″	Full	25	91864A002	7.30
3/8″	Full	25	91864A003	6.53
7/16″	Full	5	91251A447	8.25
1/2″	Full	25	91251A059	6.29
9/16″	Full	5	91251A449	10.31
5/8″	Full	5	91864A078	4.26
3/4″	Full	5	91864A072	4.63
7/8″	Full	5	91251A457	12.37
1″	Full	10	91251A777	8.00
1 1/8″	Full	1	90044A277	5.89
1 1/4″	Full	1	90044A278	7.36
1 1/2″	1/2″ to 5/8″	1	90044A279	8.10

1-64—Head: Dia. 0.118″, Ht. 0.073″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/8″	Full	10	90044A280	7.14
3/16″	Full	10	90044A281	7.93
1/4″	Full	10	90044A282	8.72
3/8″	Full	10	90044A283	9.12
1/2″	Full	10	90044A284	9.92
5/8″	Full	5	90044A285	6.94
3/4″	Full	5	90044A286	7.93
1″	3/4″ to 7/8″	5	90044A287	8.92

1-72—Head: Dia. 0.118″, Ht. 0.073″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/16″	Full	5	91251A465	11.90
1/8″	Full	25	91864A006	9.18
3/16″	Full	25	91864A007	9.28
1/4″	Full	50	91251A066	4.32
5/16″	Full	10	91864A008	7.25
3/8″	Full	50	91251A068	4.40
1/2″	Full	10	91864A009	7.27
5/8″	Full	50	91251A070	14.00
3/4″	Full	25	91251A071	7.72
1″	3/4″ to 7/8″	5	91251A466	10.91

2-56—Head: Dia. 0.140″, Ht. 0.086″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/16″	Full	25	91251A213	10.50
3/32″	Full	5	91251A470	12.37
1/8″	Full	25	91251A072	8.14
5/32″	Full	10	91864A010	7.86
3/16″	Full	100	91251A076	6.33
1/4″	Full	100	91251A077	6.43
5/16″	Full	25	91864A005	6.53
3/8″	Full	100	91251A079	6.52
7/16″	Full	25	91251A060	9.94
1/2″	Full	100	91251A081	6.62
9/16″	Full	5	91251A471	7.22
5/8″	Full	50	91251A102	17.18
3/4″	Full	50	91251A103	14.65
7/8″	5/8″ to Full	25	91251A826	10.39
1″	5/8″ to 7/8″	25	91251A109	10.48
1 1/8″	Full	5	91251A501	12.37
1 1/4″	5/8″ to 7/8″	5	91251A195	7.80
1 3/8″	5/8″ to 7/8″	1	91251A512	3.09
1 1/2″	5/8″ to 7/8″	1	91251A200	2.60
1 3/4″	5/8″ to 7/8″	1	90044A288	7.36
2″	5/8″ to 7/8″	1	90044A289	8.10
2 1/2″	5/8″ to 7/8″	1	90044A290	8.83

2-64—Head: Dia. 0.140″, Ht. 0.086″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/8″	Full	25	91251A745	11.25
3/16″	Full	25	91251A746	11.50
1/4″	Full	25	91251A747	11.80
5/16″	Full	5	91251A097	11.00
3/8″	Full	25	91251A748	12.00
1/2″	Full	25	91251A749	13.00
3/4″	Full	5	90044A241	7.00
1″	5/8″ to Full	10	90044A242	10.00

3-48—Head: Dia. 0.161″, Ht. 0.099″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/8″	Full	10	91251A228	10.40
3/16″	Full	100	91251A091	6.04
1/4″	Full	100	91251A092	6.13
5/16″	Full	25	91864A089	9.29

3-48 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/8″	Full	100	91251A094	$6.22
7/16″	Full	10	91251A229	10.80
1/2″	Full	100	91251A096	6.35
5/8″	Full	25	91251A952	7.50
3/4″	Full	10	91864A080	7.35
7/8″	5/8″ to Full	10	91251A230	10.99
1″	5/8″ to 7/8″	25	91251A953	9.72
1 1/4″	5/8″ to 7/8″	5	90044A243	7.50

3-56—Head: Dia. 0.161″, Ht. 0.099″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/8″	Full	10	90044A244	12.50
3/16″	Full	5	90044A245	6.34
1/4″	Full	5	90044A246	6.45
5/16″	Full	5	90044A247	6.75
3/8″	Full	5	90044A248	7.00
1/2″	Full	5	90044A249	7.20
3/4″	5/8″ to Full	5	90044A250	8.00
1″	5/8″ to Full	5	90044A251	9.00

4-40—Head: Dia. 0.183″, Ht. 0.112″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/32″	Full	10	91251A231	6.38
1/8″	Full	10	91864A018	4.14
5/32″	Full	10	91251A232	6.39
3/16″	Full	100	91251A105	8.12
1/4″	Full	100	91251A106	8.20
5/16″	Full	100	91251A107	8.25
3/8″	Full	100	91251A108	8.07
7/16″	Full	50	91864A081	8.52
1/2″	Full	100	91251A110	8.47
9/16″	Full	10	91864A028	6.38
5/8″	Full	100	91251A112	8.25
3/4″	Full	100	91251A113	8.42
7/8″	Full	100	91251A114	10.30
1″	3/4″ to Full	50	91251A115	5.40
1″	Full	25	90044A111	7.50
1 1/8″	3/4″ to Full	10	91864A029	6.47
1 1/4″	3/4″ to 1″	50	91251A078	5.25
1 3/8″	3/4″ to 1 1/4″	25	91251A210	14.50
1 1/2″	3/4″ to 1″	50	91251A149	11.66
1 5/8″	3/4″ to 1 1/4″	5	91251A233	7.00
1 3/4″	3/4″ to 1″	10	91251A160	7.10
2″	3/4″ to 1 1/4″	10	91251A162	5.36
2 1/4″	3/4″ to 1 1/4″	10	91251A211	8.60
2 1/2″	3/4″ to 1″	5	91251A834	8.86
2 3/4″	3/4″ to 1″	1	91251A513	8.83
3″	Full	1	91251A212	3.00
3 1/2″	3/4″ to 1″	1	90044A291	10.02
4″	3/4″ to 1″	1	90044A292	11.15

4-48—Head: Dia. 0.183″, Ht. 0.112″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/8″	Full	10	91251A234	7.50
3/16″	Full	10	91251A235	5.50
1/4″	Full	10	91864A020	3.78
5/16″	Full	10	91251A236	5.40
3/8″	Full	10	91864A083	3.82
7/16″	Full	10	91251A237	8.30
1/2″	Full	25	91864A021	8.32
5/8″	Full	25	91251A840	9.70
3/4″	Full	25	91251A842	10.50
1″	3/4″ to Full	25	91251A168	11.60
1 1/4″	1″ to 1 1/8″	1	91251A514	4.42
1 1/2″	3/4″ to 1″	10	91251A838	12.16
1 3/4″	1″ to 1 1/8″	1	90044A293	5.89
2″	3/4″ to 1″	1	90044A294	7.36

5-40—Head: Dia. 0.205″, Ht. 1/8″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/32″	Full	10	91251A243	8.30
1/8″	Full	25	91251A170	9.02
5/32″	Full	10	91251A266	6.60
3/16″	Full	50	91251A171	8.28
1/4″	Full	100	91251A124	10.01
5/16″	Full	25	91864A017	10.03
3/8″	Full	100	91251A126	8.90
7/16″	Full	10	91864A030	7.90
1/2″	Full	100	91251A128	8.92
9/16″	Full	10	91251A267	8.80
5/8″	Full	10	91251A130	8.98
3/4″	Full	100	91251A131	10.31

5-40 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
7/8″	Full	10	91864A022	$7.95
1″	3/4″ to Full	50	91251A080	5.07
1 1/8″	3/4″ to Full	25	91251A217	12.85
1 1/4″	3/4″ to Full	25	91251A173	8.57
1 3/8″	3/4″ to 1″	1	91251A515	4.77
1 1/2″	3/4″ to 1 1/4″	10	91251A175	9.46
1 3/4″	3/4″ to 1 1/4″	10	91251A218	9.00
2″	3/4″ to 1 1/4″	10	91251A219	9.20
2 1/2″	3/4″ to 1″	1	91251A516	8.59
3″	Full	5	91251A220	11.00

5-44—Head: Dia. 0.205″, Ht. 1/8″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4″	Full	10	90044A252	8.80
3/8″	Full	10	90044A253	9.12
1/2″	Full	10	90044A254	9.20
3/4″	Full	10	90044A255	11.90
1″	3/4″ to Full	5	90044A256	6.60

6-32—Head: Dia. 0.226″, Ht. 0.138″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/32″	Full	10	91251A268	8.20
1/8″	Full	10	91864A084	4.71
5/32″	Full	10	91251A269	7.00
3/16″	Full	10	91864A085	3.76
1/4″	Full	100	91251A144	8.46
5/16″	Full	50	91864A019	7.92
3/8″	Full	100	91251A146	8.42
7/16″	Full	25	91864A023	5.50
1/2″	Full	100	91251A148	8.25
9/16″	Full	25	91864A086	10.43
5/8″	Full	100	91251A150	8.46
3/4″	Full	100	91251A151	8.63
7/8″	Full	100	91251A152	8.89
1″	Full	100	91251A153	9.07
1 1/8″	Full	25	91251A870	14.91
1 1/4″	3/4″ to 1 1/8″	50	91251A155	9.61
1 1/4″	Full	10	90044A112	8.81
1 3/8″	3/4″ to 1 1/4″	10	91251A874	8.27
1 1/2″	3/4″ to 1 1/8″	50	91251A157	9.94
1 5/8″	3/4″ to 1 1/4″	10	91251A875	10.80
1 3/4″	3/4″ to 1 1/8″	50	91251A158	7.10
1 7/8″	3/4″ to 1 1/4″	10	91251A270	10.00
2″	3/4″ to 1 1/8″	50	91251A159	7.32
2 1/4″	3/4″ to 1 1/4″	10	91251A876	10.60
2 1/2″	3/4″ to 1 1/8″	10	91251A871	8.80
2 3/4″	3/4″ to 1 1/8″	10	91251A872	10.00
3″	3/4″ to 1 1/8″	5	91251A873	6.54
3 1/2″	3/4″ to 1 1/8″	1	90044A295	11.45
4″	1 1/4″ to 1 5/8″	1	90044A296	12.89

6-40—Head: Dia. 0.226″, Ht. 0.138″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/16″	Full	10	91864A042	5.36
1/4″	Full	100	91251A406	8.50
5/16″	Full	10	91864A043	4.52
3/8″	Full	100	91251A408	8.76
1/2″	Full	100	91251A410	9.07
5/8″	Full	100	91251A411	9.33
3/4″	Full	100	91251A413	9.63
7/8″	Full	25	91251A425	8.22
1″	Full	10	91864A044	5.46
1 1/8″	Full	10	91251A412	7.26
1 1/4″	3/4″ to Full	25	91251A415	8.00
1 1/2″	3/4″ to Full	5	90044A257	7.50

8-32—Head: Dia. 0.270″, Ht. 0.164″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/32″	Full	10	91251A271	7.00
1/8″	Full	25	91251A179	5.48
5/32″	Full	10	91251A272	7.60
3/16″	Full	50	91251A180	9.02
1/4″	Full	100	91251A190	9.02
5/16″	Full	100	91251A191	8.98
3/8″	Full	100	91251A192	9.07
7/16″	Full	25	91864A024	7.90
1/2″	Full	100	91251A194	10.23
9/16″	Full	25	91864A033	9.14
5/8″	Full	100	91251A196	10.53
3/4″	Full	100	91251A197	12.90
7/8″	Full	100	91251A198	11.22
1″	Full	50	91251A199	7.63

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Alloy Steel Socket Head Cap Screws *(Continued from previous page)*



The standard among high-strength fasteners, these screws are stronger than Grade 8 steel screws and have been heat treated for hardness, which results in a dark surface color. They conform to ASTM A574, have a minimum Rockwell hardness of C37, and a minimum tensile strength of 170,000 psi. Screw sizes through 1″ have a Class 3A thread fit; screw sizes larger than 1″ have a Class 2A thread fit. Length is measured from under the head.

Black-Oxide Alloy Steel (Cont.)

8-32—Head: Dia. 0.270″, Ht. 0.164″ (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1⅛″	Full	10	91864A025	$6.77
1¼″	⅞″ to Full	50	91251A201	7.47
1⅜″	⅞″ to Full	10	91864A026	6.97
1½″	⅞″ to 1¼″	50	91251A203	8.16
1⅝″	⅞″ to 1⅜″	5	91864A027	5.66
1¾″	⅞″ to 1¼″	25	91251A082	8.02
1⅞″	⅞″ to 1⅜″	10	91251A188	8.40
2″	⅞″ to 1¼″	25	91251A205	5.19
2″	Full	10	90044A113	6.00
2¼″	⅞″ to 1¼″	10	91251A184	8.88
2½″	⅞″ to 1¼″	25	91251A207	10.36
2¾″	⅞″ to 1¼″	10	91251A827	9.46
3″	⅞″ to 1¼″	5	91251A086	4.20
3¼″	⅞″ to 1⅜″	5	91251A189	7.90
3½″	⅞″ to 1⅜″	5	91251A186	6.80
3¾″	⅞″ to 1⅜″	5	91251A285	10.00
4″	⅞″ to 1⅜″	5	91251A193	8.29
4½″	1¼″ to 1¾″	1	90044A297	11.78
5″	1¾″ to 2″	1	90044A298	13.26

8-36—Head: Dia. 0.270″, Ht. 0.164″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
¼″	Full	50	91251A491	8.38
5⁄16″	Full	50	91251A492	10.80
⅜″	Full	100	91251A493	8.76
½″	Full	100	91251A494	9.07
⅝″	Full	25	91864A057	8.45
¾″	Full	50	91864A056	13.83
1″	Full	25	91251A829	9.00
1¼″	⅞″ to Full	25	91251A500	12.00
1½″	⅞″ to 1¼″	10	91251A830	9.48
1¾″	⅞″ to Full	5	90044A258	6.50
2″	⅞″ to Full	5	90044A259	10.00

10-24—Head: Dia. 0.312″, Ht. 0.190″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3⁄32″	Full	5	91251A517	12.41
3⁄16″	Full	10	91251A286	8.33
¼″	Full	50	91251A083	5.62
5⁄16″	Full	10	91864A032	4.22
⅜″	Full	100	91251A240	10.08
7⁄16″	Full	25	91864A090	7.49
½″	Full	100	91251A242	10.27
9⁄16″	Full	25	91864A091	10.69
⅝″	Full	100	91251A244	10.62
¾″	Full	100	91251A245	11.04
⅞″	Full	100	91251A246	11.50
1″	Full	100	91251A247	12.80
1⅛″	⅞″ to Full	25	91251A248	9.10
1¼″	⅞″ to Full	50	91251A249	10.71
1¼″	Full	50	90044A114	14.00
1⅜″	⅞″ to Full	25	91251A250	9.82
1½″	⅞″ to 1⅜″	50	91251A251	11.19
1½″	Full	50	90044A115	14.50
1⅝″	⅞″ to 1⅜″	10	91864A092	6.57
1¾″	⅞″ to 1⅜″	50	91251A252	11.44
1⅞″	⅞″ to 1⅜″	10	91251A978	6.51
2″	⅞″ to 1⅜″	50	91251A253	12.23
2″	Full	25	90044A116	8.30
2¼″	⅞″ to 1⅜″	25	91251A254	9.73
2½″	⅞″ to 1⅜″	25	91251A255	10.54
2½″	Full	25	90044A117	10.98
2¾″	⅞″ to 1⅜″	10	91251A256	7.38
3″	⅞″ to 1⅜″	10	91251A084	6.12
3¼″	⅞″ to 1⅜″	10	91251A980	10.35
3½″	⅞″ to 1⅜″	5	91251A085	7.71
3¾″	⅞″ to 1⅜″	5	91251A257	6.68
4″	⅞″ to 1⅜″	5	91251A088	5.19
4¼″	⅞″ to 1⅜″	5	91251A258	9.26
4⅜″	⅞″ to 1⅜″	1	91251A259	3.15
4½″	⅞″ to 1⅜″	1	91251A891	2.80
4¾″	⅞″ to 1⅜″	1	91251A260	2.96
5″	⅞″ to 1⅜″	1	91251A897	2.72
5¼″	⅞″ to 1⅜″	1	91251A994	2.83
5½″	⅞″ to 1⅜″	1	91251A995	3.19
6″	⅞″ to 1⅜″	1	91251A899	3.63
6½″	⅞″ to 1⅜″	1	91251A904	8.81

10-24 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
6¾″	⅞″ to 1⅜″	1	91251A921	$9.81
7″	⅞″ to 1⅜″	1	91251A934	14.11
7½″	⅞″ to 1⅜″	1	90044A260	16.67
8″	⅞″ to 1⅜″	1	90044A261	19.44

10-32—Head: Dia. 0.312″, Ht. 0.190″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
5⁄32″	Full	5	91251A518	12.41
3⁄16″	Full	10	91251A901	3.79
¼″	Full	50	91251A338	14.22
5⁄16″	Full	50	91251A337	13.42
⅜″	Full	100	91251A340	9.42
7⁄16″	Full	50	91251A350	10.11
½″	Full	100	91251A342	9.25
9⁄16″	Full	50	91251A356	10.30
⅝″	Full	100	91251A344	9.89
¾″	Full	100	91251A345	10.28
⅞″	Full	50	91251A346	6.10
1″	Full	50	91251A347	8.10
1⅛″	⅞″ to Full	5	91251A348	6.50
1¼″	⅞″ to Full	50	91251A349	11.33
1½″	⅞″ to 1⅜″	50	91251A351	9.94
1½″	Full	25	90044A118	7.20
1⅝″	⅞″ to 1⅜″	10	91251A287	10.15
1¾″	⅞″ to 1⅜″	25	91251A352	5.92
1¾″	Full	25	90044A119	9.94
1⅞″	⅞″ to 1⅜″	10	91251A288	11.11
2″	⅞″ to 1⅜″	25	91251A353	6.36
2″	Full	25	90044A120	10.61
2¼″	⅞″ to 1⅜″	25	91251A354	9.89
2½″	⅞″ to 1⅜″	25	91251A355	10.77
2½″	Full	25	90044A121	13.64
2¾″	⅞″ to 1⅜″	10	91251A359	9.68
3″	⅞″ to 1⅜″	25	91251A360	11.22
3″	Full	10	90044A122	7.58
3½″	⅞″ to 1⅜″	5	91251A361	7.18
3¾″	⅞″ to 1⅜″	5	91251A289	11.55
4″	⅞″ to 1⅜″	5	91251A364	6.71
4½″	⅞″ to 1⅜″	5	91251A357	9.93
5″	⅞″ to 1⅜″	5	91251A358	11.93
5½″	⅞″ to 1⅜″	1	91251A906	7.14
6″	⅞″ to 1⅜″	1	91251A907	7.86
6½″	⅞″ to 1⅜″	1	90044A262	8.00
7″	⅞″ to 1⅜″	1	90044A263	8.43

12-24—Head: Dia. 0.324″, Ht. 0.216″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
¼″	Full	5	91251A290	6.46
5⁄16″	Full	5	91251A291	6.68
⅜″	Full	10	91251A452	4.17
7⁄16″	Full	5	91251A292	7.32
½″	Full	25	91251A453	10.81
⅝″	Full	10	91864A052	7.57
¾″	Full	10	91251A460	6.00
⅞″	Full	10	91251A461	6.25
1″	Full	25	91251A454	13.32
1¼″	Full	5	91864A050	4.69
1½″	1″ to 1⅜″	5	91864A051	5.18
1¾″	Full	10	91251A480	7.81
2″	1″ to 1⅜″	10	91251A889	9.06
2¼″	Full	10	91251A481	10.47
2½″	Full	10	91251A482	11.41
2¾″	1″ to Full	1	90044A264	2.86
3″	1″ to Full	1	90044A265	2.91

¼″-20—Head: Dia. ⅜″, Ht. ¼″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
¼″	Full	50	91251A533	9.69
5⁄16″	Full	10	91864A061	4.50
⅜″	Full	50	91251A535	9.94
7⁄16″	Full	10	91864A062	5.31
½″	Full	100	91251A537	10.45
9⁄16″	Full	25	91251A538	10.66
⅝″	Full	50	91251A539	7.44
¾″	Full	50	91251A540	7.20
⅞″	Full	50	91251A541	8.09
1″	Full	50	91251A542	7.84
1⅛″	Full	25	91251A560	8.70
1¼″	Full	50	91251A544	11.42

(Continued on following page)

¼″-20 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1⅜″	Full	10	91251A543	$6.04
1½″	1″ to Full	50	91251A546	10.79
1½″	Full	50	90044A123	12.14
1¾″	1″ to 1½″	50	91251A548	11.47
1¾″	Full	50	90044A124	9.34
2″	1″ to 1½″	25	91251A550	6.32
2″	Full	25	90044A125	7.71
2¼″	1″ to 1½″	25	91251A551	8.10
2¼″	Full	25	90044A126	9.80
2½″	1″ to 1½″	25	91251A552	8.79
2½″	Full	25	90044A127	9.83
2¾″	1″ to 1½″	25	91251A553	9.72
2¾″	Full	25	90044A128	13.13
3″	1″ to 1½″	25	91251A554	11.63
3″	Full	25	90044A129	14.20
3¼″	1″ to 1½″	10	91251A555	8.24
3½″	1″ to 1½″	10	91251A556	9.38
3½″	Full	5	90044A316	5.30
3¾″	1″ to 1½″	10	91251A087	10.88
4″	1″ to 1½″	10	91251A558	10.81
4″	Full	10	90044A131	8.39
4¼″	1″ to 1½″	5	91251A559	12.70
4½″	1″ to 1½″	5	91251A089	8.26
5″	1″ to 1½″	5	91251A090	7.34
5¼″	1″ to 1½″	1	91251A293	5.41
5½″	1″ to 1½″	1	91251A093	2.04
5¾″	1″ to 1½″	1	91251A294	7.81
6″	1″ to 1½″	1	91251A095	3.77
6¼″	1″ to 1½″	1	91251A562	2.71
6½″	1″ to 1½″	1	91251A563	3.37
7″	1″ to 1½″	1	91251A908	3.91
7½″	1″ to 1½″	1	91251A923	9.38
8″	1″ to 1½″	1	91251A566	8.77
8½″	1″ to 1½″	1	90044A299	14.25
9″	1¼″ to 2″	1	90044A311	14.92
10″	2¼″ to 3″	1	90044A312	17.64

¼″-28—Head: Dia. ⅜″, Ht. ¼″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
¼″	Full	50	91251A462	11.14
5⁄16″	Full	10	91864A040	6.75
⅜″	Full	50	91251A435	8.81
7⁄16″	Full	10	91864A041	6.81
½″	Full	50	91251A437	7.55
9⁄16″	Full	10	91864A047	5.27
⅝″	Full	50	91251A439	6.24
¾″	Full	50	91251A440	7.69
⅞″	Full	50	91251A441	7.69
1″	Full	50	91251A442	11.20
1⅛″	Full	10	91864A048	5.53
1¼″	Full	50	91251A444	11.34
1⅜″	1″ to Full	10	91251A295	7.83
1½″	1″ to Full	25	91251A446	5.99
1½″	Full	25	90044A132	12.91
1⅝″	1″ to 1½″	10	91251A296	7.87
1¾″	1″ to 1½″	25	91251A448	6.56
1¾″	Full	10	90044A317	5.86
1⅞″	1″ to 1½″	10	91251A297	8.12
2″	1″ to 1½″	25	91251A450	7.33
2″	Full	10	90044A354	8.57
2¼″	1″ to 1½″	25	91251A451	9.96
2½″	1″ to 1½″	25	91251A463	12.92
2½″	Full	10	90044A318	6.13
2¾″	1″ to 1½″	10	91251A464	6.67
3″	1″ to 1½″	10	91251A467	6.98
3″	Full	5	90044A356	5.86
3¼″	1″ to 1½″	10	91251A458	7.14
3½″	1″ to 1½″	5	91251A468	11.41
3¾″	1″ to 1½″	5	91251A298	12.53
4″	1″ to 1½″	5	91251A469	6.09
4″	Full	5	90044A137	4.83
4½″	1″ to 1¼″	1	90044A183	5.83
5″	1″ to 1¼″	1	90044A184	6.13
5½″	1″ to 1½″	1	90044A185	6.38
6″	1″ to 1½″	1	91251A927	6.74

Alloy Steel Socket Head Cap Screws *(Continued from previous page)*

Black-Oxide Alloy Steel (Cont.)

5/16"-18—Head: Dia. 15/32", Ht. 5/16"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4"	Full	10	91251A575	$8.44
5/16"	Full	10	91251A577	8.00
3/8"	Full	50	91251A576	11.42
1/2"	Full	50	91251A578	12.14
5/8"	Full	50	91251A580	8.36
3/4"	Full	50	91251A581	8.39
7/8"	Full	50	91251A582	10.00
1"	Full	50	91251A583	10.56
1 1/8"	Full	25	91251A613	12.61
1 1/4"	Full	50	91251A585	11.33
1 3/8"	Full	25	91251A620	13.91
1 1/2"	Full	50	91251A587	12.28
1 5/8"	1 1/8" to Full	5	91251A299	5.78
1 3/4"	1 1/8" to Full	25	91251A589	7.17
1 3/4"	Full	10	90044A138	9.59
1 7/8"	1 1/8" to 1 3/4"	5	91251A310	10.22
2"	1 1/8" to 1 3/4"	25	91251A591	7.50
2"	Full	10	90044A139	10.32
2 1/4"	1 1/8" to 1 3/4"	25	91251A592	9.23
2 1/4"	Full	5	90044A140	9.22
2 1/2"	1 1/8" to 1 3/4"	25	91251A593	10.02
2 1/2"	Full	5	90044A141	6.30
2 3/4"	1 1/8" to 1 3/4"	10	91251A594	5.73
2 3/4"	Full	5	90044A142	10.68
3"	1 1/8" to 1 3/4"	10	91251A595	5.89
3"	Full	5	90044A143	9.14
3 1/4"	1 1/8" to 1 3/4"	10	91251A596	6.18
3 1/2"	1 1/8" to 1 3/4"	10	91251A597	6.41
3 3/4"	1 1/8" to 1 3/4"	5	91251A598	8.57
4"	1 1/8" to 1 3/4"	10	91251A600	7.56
4 1/4"	1 1/8" to 1 3/4"	5	91251A657	8.21
4 1/2"	1 1/8" to 1 3/4"	5	91251A098	6.60
4 3/4"	1 1/8" to 1 3/4"	1	91251A658	2.39
5"	1 1/8" to 1 3/4"	5	91251A099	6.77
5 1/4"	1 1/8" to 1 3/4"	1	91251A311	2.97
5 1/2"	1 1/8" to 1 3/4"	1	91251A100	2.87
5 3/4"	1 1/8" to 1 3/4"	1	91251A318	4.05
6"	1 1/8" to 1 3/4"	1	91251A101	3.66
6 1/4"	1 1/8" to 1 3/4"	1	91251A659	3.75
6 1/2"	1 1/8" to 1 3/4"	1	91251A660	4.05
7"	1 1/8" to 1 3/4"	1	91251A661	4.12
7 1/2"	1 1/8" to 1 3/4"	1	91251A008	13.20
8"	1 1/8" to 1 3/4"	1	91251A662	5.60
8 1/2"	1 1/8" to 1 3/4"	1	90044A266	9.00
9"	1 1/8" to 1 3/4"	1	90044A313	7.36
10"	1 1/8" to 1 3/4"	1	90044A314	8.55

5/16"-24—Head: Dia. 15/32", Ht. 5/16"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/2"	Full	50	91251A378	11.12
5/8"	Full	50	91251A380	8.27
3/4"	Full	25	91251A381	5.47
7/8"	Full	25	91251A382	5.69
1"	Full	25	91251A383	6.13
1 1/8"	Full	5	91864A039	4.01
1 1/4"	Full	25	91251A385	6.45
1 3/8"	1 1/8" to Full	1	91251A327	2.67
1 1/2"	Full	25	91251A387	7.16
1 5/8"	1 1/8" to Full	1	91251A328	2.93
1 3/4"	1 1/8" to Full	25	91251A389	7.91
1 3/4"	Full	10	90044A144	12.90
1 7/8"	1 1/8" to 1 3/4"	1	91251A329	2.32
2"	1 1/8" to 1 3/4"	25	91251A391	8.59
2 1/4"	1 1/8" to 1 3/4"	25	91251A392	10.09
2 1/2"	1 1/8" to 1 3/4"	25	91251A393	9.43
2 3/4"	1 1/8" to 1 3/4"	5	91251A394	9.85
3"	1 1/8" to 1 3/4"	5	91251A370	7.27
3 1/4"	1 1/8" to 1 3/4"	1	91251A332	3.25
3 1/2"	1 1/8" to 1 3/4"	5	91251A395	8.77
3 3/4"	1 1/8" to 1 3/4"	1	91251A333	3.93
4"	1 1/8" to 1 3/4"	5	91251A371	9.00
5"	1 1/8" to 1 3/4"	5	90044A239	11.87
5 1/2"	1 1/8" to 1 3/4"	1	90044A267	6.29

3/8"-16—Head: Dia. 9/16", Ht. 3/8"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/8"	Full	10	91251A663	8.07
1/2"	Full	25	91251A619	8.41
5/8"	Full	25	91251A621	7.31
3/4"	Full	25	91251A622	7.72
7/8"	Full	25	91251A623	8.30
1"	Full	25	91251A624	8.62
1 1/8"	Full	5	91251A588	5.17
1 1/4"	Full	25	91251A626	9.27

3/8"-16 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1 3/8"	Full	5	91251A590	$6.87
1 1/2"	Full	25	91251A628	9.91
1 5/8"	1 1/4" to Full	10	91251A334	11.00
1 3/4"	1 1/4" to Full	25	91251A630	10.15
1 3/4"	Full	10	90044A145	11.47
1 7/8"	1 1/4" to Full	5	91251A335	8.89
2"	1 1/4" to Full	25	91251A632	11.23
2"	Full	10	90044A146	11.94
2 1/4"	1 1/4" to 2"	25	91251A633	12.23
2 1/4"	Full	5	90044A147	7.34
2 1/2"	1 1/4" to 2"	10	91251A634	5.93
2 1/2"	Full	5	90044A148	8.06
2 3/4"	1 1/4" to 2"	10	91251A635	7.04
3"	1 1/4" to 2"	10	91251A636	7.67
3"	Full	5	90044A149	8.60
3 1/4"	1 1/4" to 2"	10	91251A637	7.02
3 1/2"	1 1/4" to 2"	5	91251A638	4.36
3 1/2"	Full	5	90044A150	11.13
3 3/4"	1 1/4" to 1 7/8"	5	91251A639	10.09
4"	1 1/4" to 2"	5	91251A640	4.61
4"	Full	1	90044A151	2.32
4 1/4"	1 1/4" to 1 7/8"	5	91251A649	7.64
4 1/2"	1 1/4" to 2"	5	91251A642	5.16
4 1/2"	Full	1	90044A152	2.90
4 3/4"	1 1/4" to 1 7/8"	5	91251A650	10.16
5"	1 1/4" to 2"	5	91251A644	5.29
5"	Full	1	90044A153	3.06
5 1/4"	1 1/4" to 1 7/8"	1	91251A651	2.99
5 1/2"	1 1/4" to 1 7/8"	1	91251A104	2.35
5 1/2"	Full	1	90044A154	3.12
5 3/4"	1 1/4" to 2"	1	91251A645	3.49
6"	1 1/4" to 2"	1	91251A648	2.04
6"	Full	1	90044A156	3.79
6 1/4"	1 1/4" to 1 7/8"	1	91251A652	2.65
6 1/2"	1 1/4" to 2"	1	91251A111	3.26
7"	1 1/4" to 2"	1	91251A116	3.74
7 1/4"	1 1/4" to 1 7/8"	1	91251A653	3.75
7 1/2"	1 1/4" to 1 7/8"	1	91251A655	3.89
8"	1 1/4" to 2"	1	91251A117	4.59
8 1/2"	1 1/4" to 1 7/8"	1	91251A341	5.25
9"	1 1/4" to 2"	1	91251A013	10.03
9 1/2"	1 1/4" to 1 7/8"	1	91251A656	8.13
10"	1 1/4" to 1 7/8"	1	91251A925	10.00
11"	1 1/4" to 1 7/8"	1	91251A362	15.00
12"	1 1/4" to 1 7/8"	1	91251A919	12.50

3/8"-24—Head: Dia. 9/16", Ht. 3/8"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/8"	Full	10	91251A420	9.38
1/2"	Full	25	91251A618	7.20
5/8"	Full	10	91864A045	6.03
3/4"	Full	25	91251A422	7.91
7/8"	Full	10	91864A046	6.31
1"	Full	25	91251A424	8.53
1 1/8"	Full	1	91251A336	2.81
1 1/4"	Full	25	91251A426	9.23
1 3/8"	Full	1	91251A339	2.81
1 1/2"	Full	25	91251A428	10.02
1 3/4"	1 1/4" to Full	25	91251A430	11.15
1 3/4"	Full	5	90044A157	9.58
2"	1 1/4" to Full	25	91251A432	12.90
2"	Full	5	90044A158	9.76
2 1/4"	1 1/4" to 2"	10	91251A433	6.09
2 1/2"	1 1/4" to 2"	10	91251A434	6.50
2 1/2"	Full	5	90044A159	11.00
2 3/4"	1 1/4" to 2"	10	91251A472	8.17
3"	1 1/4" to 2"	10	91251A436	7.06
3 1/4"	1 1/4" to 1 7/8"	10	91251A478	12.44
3 1/2"	1 1/4" to 2"	5	91251A473	7.34
4"	1 1/4" to 1 7/8"	5	91251A474	7.06
4 1/2"	1 1/4" to 1 7/8"	5	91251A039	11.64
4 3/4"	1 1/4" to 1 7/8"	5	91251A479	8.93
5"	1 1/4" to 1 7/8"	5	91251A475	10.75
5 1/2"	1 1/4" to 1 7/8"	5	91251A476	10.57
6"	1 1/4" to 1 7/8"	5	91251A477	12.25

7/16"-14—Head: Dia. 21/32", Ht. 7/16"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/8"	Full	10	91251A363	6.44
1/2"	Full	10	91251A664	6.26
5/8"	Full	10	91251A665	6.51
3/4"	Full	25	91251A667	9.77
7/8"	Full	25	91251A668	10.05

7/16"-14 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	25	91251A669	$10.31
1 1/8"	Full	10	91251A670	14.19
1 1/4"	Full	10	91251A671	5.30
1 3/8"	Full	1	91251A365	3.09
1 1/2"	Full	10	91251A673	5.74
1 3/4"	Full	10	91251A675	6.23
2"	1 3/8" to Full	10	91251A677	8.02
2"	Full	1	90044A160	5.71
2 1/4"	1 3/8" to Full	10	91251A678	8.71
2 1/2"	1 3/8" to 2 1/4"	10	91251A679	9.30
2 1/2"	Full	1	90044A161	6.14
2 3/4"	1 3/8" to 2 1/4"	10	91251A680	8.80
3"	1 3/8" to 2 1/4"	5	91251A681	5.82
3"	Full	1	90044A162	6.43
3 1/4"	1 3/8" to 2"	5	91251A682	5.06
3 1/2"	1 3/8" to 2 1/4"	5	91251A683	5.80
3 3/4"	1 3/8" to 2"	5	91251A684	13.51
4"	1 3/8" to 2 1/4"	5	91251A685	6.23
4 1/2"	1 3/8" to 2"	5	91251A118	9.84
5"	1 3/8" to 2"	5	91251A119	10.23
5 1/2"	1 3/8" to 2"	1	91251A688	2.97
5 3/4"	1 3/8" to 2"	1	91251A689	4.22
6"	1 3/8" to 2"	1	91251A690	4.29
6 1/2"	1 3/8" to 2"	1	91251A691	5.21
7"	1 3/8" to 2"	1	91251A692	5.71
7 1/2"	1 3/8" to 2"	1	91251A693	6.43
8"	1 3/8" to 2"	1	91251A694	6.71

7/16"-20—Head: Dia. 21/32", Ht. 7/16"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/8"	Full	5	91251A366	12.50
1/2"	Full	5	91251A957	6.25
3/4"	Full	5	91864A073	8.23
7/8"	Full	10	91251A782	9.69
1"	Full	10	91251A001	6.23
1 1/8"	Full	1	91251A367	3.33
1 1/4"	Full	10	91251A002	6.68
1 3/8"	Full	1	91251A368	3.33
1 1/2"	Full	10	91251A003	7.18
1 3/4"	Full	5	91864A074	9.01
2"	1 3/8" to Full	10	91251A004	8.52
2 1/4"	1 3/8" to 2"	1	91251A959	1.15
2 1/2"	1 3/8" to 2 1/4"	5	91251A005	7.44
2 3/4"	1 3/8" to 2"	5	91251A987	9.50
3"	1 3/8" to 2 1/4"	5	91251A006	8.23
3 1/4"	1 5/8" to 2"	1	90044A186	4.25
3 1/2"	1 3/8" to 2 1/4"	5	91251A007	9.14
3 3/4"	1 3/8" to 2"	1	91251A369	5.44
4"	1 3/8" to 2"	1	91251A988	2.50
4 1/4"	1 5/8" to 2"	1	90044A187	6.05
4 1/2"	1 5/8" to 1 3/4"	1	90044A188	6.15
5"	1 5/8" to 1 3/4"	1	90044A189	6.48
5 1/2"	1 3/8" to 2"	1	91251A986	6.43
6"	1 3/8" to 2"	1	90044A268	10.29

1/2"-13—Head: Dia. 3/4", Ht. 1/2"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/2"	Full	10	91251A707	9.46
5/8"	Full	10	91251A708	12.00
3/4"	Full	10	91251A710	12.08
7/8"	Full	10	91251A711	8.78
1"	Full	10	91251A712	9.41
1 1/8"	Full	10	91251A372	13.33
1 1/4"	Full	10	91251A714	9.93
1 3/8"	Full	1	91251A715	4.15
1 1/2"	Full	10	91251A716	10.32
1 5/8"	Full	1	90044A190	3.20
1 3/4"	Full	10	91251A718	10.86
1 7/8"	1 1/2" to Full	1	91251A373	2.96
2"	Full	10	91251A720	12.46
2 1/4"	1 1/2" to Full	10	91251A721	12.70
2 1/4"	Full	1	90044A163	2.34
2 1/2"	1 1/2" to 2 3/8"	10	91251A722	12.97
2 1/2"	Full	1	90044A164	2.48
2 3/4"	1 1/2" to 2 3/8"	5	91251A723	6.12
2 3/4"	Full	1	90044A165	2.56
3"	1 1/2" to 2 3/8"	5	91251A724	6.20
3"	Full	1	90044A166	2.67
3 1/4"	1 1/2" to 2 3/8"	5	91251A725	6.37
3 1/2"	1 1/2" to 2 3/8"	5	91251A726	6.80
3 1/2"	Full	1	90044A167	4.86
3 3/4"	1 1/2" to 2 3/8"	5	91251A120	7.06
4"	1 1/2" to 2 3/8"	5	91251A728	7.37

(Continued on following page)

Alloy Steel Socket Head Cap Screws *(Continued from previous page)*


Full Threads


Partial Threads

The standard among high-strength fasteners, these screws are stronger than Grade 8 steel screws and have been heat treated for hardness, which results in a dark surface color. They conform to ASTM A574, have a minimum Rockwell hardness of C37, and a minimum tensile strength of 170,000 psi. Screw sizes through 1″ have a Class 3A thread fit; screw sizes larger than 1″ have a Class 2A thread fit. Length is measured from under the head.

Black-Oxide Alloy Steel (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
½″-13—Head: Dia. ¾″, Ht. ½″ (Cont.)				
4″	Full	1	90044A168	$5.00
4¼″	1½″ to 2⅜″	1	91251A015	2.57
4½″	1½″ to 2⅜″	5	91251A730	7.78
4¾″	1½″ to 2⅜″	1	91251A731	4.95
5″	1½″ to 2⅜″	1	91251A732	2.99
5″	Full	1	90044A169	6.22
5¼″	1½″ to 2⅜″	1	91251A733	5.46
5½″	1½″ to 2⅜″	1	91251A734	2.79
5¾″	1½″ to 2⅜″	1	91251A735	6.34
6″	1½″ to 2⅜″	1	91251A736	2.63
6″	Full	1	90044A170	6.91
6¼″	1½″ to 2⅜″	1	91251A739	8.75
6½″	1½″ to 2⅜″	1	91251A737	3.18
6¾″	1½″ to 2½″	1	91251A374	7.06
7″	1½″ to 2⅜″	1	91251A738	3.39
7½″	1½″ to 2⅜″	1	91251A121	5.54
8″	1½″ to 2⅜″	1	91251A740	4.15
8½″	1½″ to 2⅜″	1	91251A122	7.30
9″	1½″ to 2⅜″	1	91251A123	7.48
9½″	1½″ to 2⅜″	1	91251A127	8.69
10″	1½″ to 2⅜″	1	91251A129	8.89
11″	1½″ to 2⅜″	1	91251A132	10.12
12″	1½″ to 2⅜″	1	91251A741	11.53
½″-20—Head: Dia. ¾″, Ht. ½″				
½″	Full	5	91251A965	6.05
⅝″	Full	5	91251A063	6.07
¾″	Full	5	91251A011	4.80
⅞″	Full	1	91251A519	3.87
1″	Full	5	91251A012	5.50
1⅛″	Full	1	90044A191	3.30
1¼″	Full	5	91251A014	5.71
1⅜″	Full	5	91251A074	7.73
1½″	Full	5	91251A016	5.78
1¾″	Full	5	91251A018	5.95
1⅞″	Full	1	90044A192	3.70
2″	Full	5	91251A020	6.73
2¼″	1½″ to Full	5	91251A019	6.44
2½″	1½″ to 2⅜″	5	91251A022	7.16
2½″	Full	1	90044A171	3.54
2¾″	1½″ to 2½″	5	91251A027	7.02
3″	1½″ to 2⅜″	5	91251A024	7.27
3″	Full	1	90044A172	3.66
3¼″	1½″ to 2½″	1	91864A031	2.81
3½″	1½″ to 2½″	5	91251A028	8.77
3¾″	1½″ to 2½″	5	91251A227	8.75
4″	1½″ to 2½″	5	91251A029	10.00
4½″	1½″ to 2½″	5	91251A030	12.41
4¾″	1½″ to 2½″	1	91251A375	6.23
5″	1½″ to 2½″	1	91864A031	2.72
5½″	1½″ to 2½″	1	91251A032	2.77
6″	1½″ to 2½″	1	91251A033	3.37
6½″	2″ to 2⅜″	1	90044A193	12.22
7″	1½″ to 2½″	1	91251A037	6.34
8″	1½″ to 2½″	1	91251A038	7.18
⁹⁄₁₆″-12—Head: Dia. ²⁷⁄₃₂″, Ht. ⁹⁄₁₆″				
1″	Full	1	91251A753	2.78
1¼″	Full	1	91251A755	2.94
1½″	Full	1	91251A757	3.15
1¾″	Full	1	91251A758	3.96
2″	Full	1	91251A759	4.57
2¼″	Full	1	91251A761	4.52
2½″	Full	1	91251A762	4.36
2¾″	1⅝″ to Full	1	91251A763	4.51
3″	Full	1	91251A971	5.59
3½″	Full	1	91251A972	6.37
4″	1⅝″ to 3″	1	91251A764	6.39
⁹⁄₁₆″-18—Head: Dia. ²⁷⁄₃₂″, Ht. ⁹⁄₁₆″				
¾″	Full	1	91251A696	6.44
1″	Full	1	91251A697	3.17
1½″	Full	1	91251A698	6.77
1¾″	Full	1	91251A699	3.50
2″	Full	1	91251A700	3.90
2½″	Full	1	91251A701	4.58
⁹⁄₁₆″-18 (Cont.)				
3″	1⅝″ to Full	1	91251A702	$7.14
4″	1½″ to Full	1	90044A269	7.59
⅝″-11—Head: Dia. ¹⁵⁄₁₆″, Ht. ⅝″				
½″	Full	1	91251A791	2.97
⅝″	Full	5	91251A792	8.13
¾″	Full	5	91251A793	8.59
⅞″	Full	1	90044A194	3.81
1″	Full	5	91251A794	6.77
1⅛″	Full	1	90044A195	5.19
1¼″	Full	5	91251A796	7.19
1⅜″	Full	1	90044A196	5.34
1½″	Full	5	91251A798	7.79
1¾″	Full	5	91251A800	8.23
1⅞″	Full	1	90044A197	5.75
2″	Full	5	91251A802	8.64
2¼″	Full	5	91251A803	9.09
2½″	1¾″ to Full	5	91251A804	9.90
2½″	Full	1	90044A173	4.33
2¾″	1¾″ to Full	5	91251A805	10.47
3″	1¾″ to 2⅞″	5	91251A806	10.21
3″	Full	1	90044A174	5.00
3¼″	1¾″ to 2⅞″	1	91251A807	2.18
3½″	1¾″ to 2⅞″	1	91251A808	2.25
3½″	Full	1	90044A175	5.51
3¾″	1¾″ to 2¾″	1	91251A817	3.28
4″	1¾″ to 2⅞″	1	91251A810	2.77
4″	Full	1	90044A176	5.83
4¼″	1¾″ to 2¾″	1	91251A811	3.57
4½″	1¾″ to 2⅞″	1	91251A812	3.32
4¾″	1¾″ to 2¾″	1	91251A813	5.48
5″	1¾″ to 2⅞″	1	91251A814	3.35
5″	Full	1	90044A177	7.78
5¼″	1¾″ to 2¾″	1	91251A815	9.52
5½″	1¾″ to 2⅞″	1	91251A816	3.65
6″	1¾″ to 2⅞″	1	91251A818	4.20
6″	Full	1	90044A178	7.88
6½″	1¾″ to 2⅞″	1	91251A819	5.27
7″	1¾″ to 2⅞″	1	91251A820	6.35
7½″	1¾″ to 2⅞″	1	91251A821	7.61
8″	1¾″ to 2⅞″	1	91251A822	7.72
8½″	1¾″ to 2⅞″	1	91251A823	10.28
9″	1¾″ to 2⅞″	1	91251A133	10.28
9½″	1¾″ to 2¾″	1	91251A824	17.47
10″	1¾″ to 2⅞″	1	91251A134	10.50
11″	1¾″ to 2⅞″	1	91251A136	12.29
12″	1¾″ to 2⅞″	1	91251A137	14.10
13″	1¾″ to 2¾″	1	91251A966	11.69
14″	1¾″ to 2⅞″	1	90044A240	18.41
⅝″-18—Head: Dia. ¹⁵⁄₁₆″, Ht. ⅝″				
¾″	Full	1	91864A055	5.83
1″	Full	5	91251A495	6.62
1¼″	Full	5	91251A496	6.60
1½″	Full	5	91251A498	7.96
1¾″	Full	5	91251A400	10.11
2″	Full	5	91251A402	10.54
2¼″	Full	5	91251A484	11.16
2½″	1¾″ to Full	5	91251A404	11.75
2¾″	1¾″ to Full	5	91251A485	12.97
3″	1¾″ to 2⅞″	5	91251A486	13.39
3¼″	1¾″ to 2¾″	1	91251A503	5.14
3½″	1¾″ to 2⅞″	1	91251A487	3.36
3¾″	1¾″ to 2¾″	1	91251A506	3.99
4″	1¾″ to 2⅞″	1	91251A488	3.37
4½″	1¾″ to 2⅞″	1	91251A489	3.84
5″	1¾″ to 2⅞″	1	91251A490	4.05
5½″	1¾″ to 2¾″	1	91251A508	8.54
6″	1¾″ to 2⅞″	1	91251A617	6.10
6½″	1¾″ to 2¾″	1	91251A510	5.31
7″	1¾″ to 2¾″	1	91251A511	6.94
¾″-10—Head: Dia. 1⅛″, Ht. ¾″				
¾″	Full	1	91251A833	7.39
1″	Full	1	91251A835	3.65
1¼″	Full	1	91251A837	2.35
1⅜″	Full	1	91251A520	9.67
¾″-10 (Cont.)				
1½″	Full	1	91251A839	$2.42
1¾″	Full	1	91251A841	2.48
2″	Full	1	91251A843	2.62
2¼″	Full	1	91251A844	2.72
2½″	Full	1	91251A845	3.06
2¾″	Full	1	91251A846	3.14
3″	2″ to Full	1	91251A847	3.35
3″	Full	1	90044A179	5.92
3¼″	2″ to Full	1	91251A848	3.52
3½″	2″ to 3¼″	1	91251A849	3.74
3½″	Full	1	90044A180	6.31
3¾″	2″ to 3¼″	1	91251A138	3.77
4″	2″ to 3¼″	1	91251A851	3.99
4″	Full	1	90044A181	6.68
4¼″	2″ to 3¼″	1	91251A061	5.51
4½″	2″ to 3¼″	1	91251A853	4.35
4¾″	2″ to 3¼″	1	91251A075	6.39
5″	2″ to 3¼″	1	91251A855	4.74
5″	Full	1	90044A182	7.23
5¼″	2″ to 3¼″	1	91251A376	10.42
5½″	2″ to 3¼″	1	91251A857	5.15
5¾″	2″ to 3¼″	1	91251A377	10.97
6″	2″ to 3¼″	1	91251A859	5.49
6½″	2″ to 3¼″	1	91251A860	7.20
6¾″	2″ to 3¼″	1	91251A379	11.11
7″	2″ to 3¼″	1	91251A861	8.14
7½″	2″ to 3¼″	1	91251A139	10.55
8″	2″ to 3¼″	1	91251A863	10.12
8½″	2″ to 3¼″	1	91251A140	15.09
9″	2″ to 3¼″	1	91251A141	12.71
9½″	2″ to 3¼″	1	91251A865	13.97
10″	2″ to 3¼″	1	91251A142	16.56
10½″	2″ to 3¼″	1	91251A239	18.01
11″	2″ to 3¼″	1	91251A143	16.84
12″	2″ to 3¼″	1	91251A147	19.32
13″	2″ to 3¼″	1	91251A868	20.43
14″	2″ to 3¼″	1	91251A869	24.09
15″	2″ to 3¼″	1	91251A910	21.25
20″	2″ to 3¼″	1	91251A998	72.76
¾″-16—Head: Dia. 1⅛″, Ht. ¾″				
1¼″	Full	1	91251A041	2.64
1½″	Full	1	91251A042	2.78
1¾″	Full	1	91251A043	2.95
2″	Full	1	91251A044	3.24
2¼″	Full	1	91251A045	3.37
2½″	Full	1	91251A046	3.60
2¾″	Full	1	91251A047	4.26
3″	2″ to Full	1	91251A048	4.46
3¼″	2″ to Full	1	91251A050	4.47
3½″	2″ to 3¼″	1	91251A049	4.87
3¾″	2″ to 3¼″	1	91251A300	5.29
4″	2″ to 3¼″	1	91251A301	5.29
4½″	2″ to 3¼″	1	91251A302	5.91
5″	2″ to 3¼″	1	91251A303	6.35
5½″	2″ to 3¼″	1	91251A304	6.76
6″	2″ to 3¼″	1	91251A305	7.17
7″	2″ to 3¼″	1	91251A306	11.04
8″	2″ to 3¼″	1	91251A040	12.62
9″	2″ to 2½″	1	90044A198	21.03
10″	2″ to 2½″	1	90044A199	23.43
⅞″-9—Head: Dia. 1⅝″, Ht. ⅞″				
1¼″	Full	1	91251A877	7.43
1½″	Full	1	91251A878	7.69
1¾″	Full	1	91251A879	7.08
2″	Full	1	91251A880	4.49
2¼″	Full	1	91251A881	4.63
2½″	Full	1	91251A882	4.82
2¾″	Full	1	91251A883	5.15
3″	Full	1	91251A884	5.42
3¼″	2¼″ to Full	1	91251A991	5.65
3½″	2¼″ to Full	1	91251A886	6.11
3¾″	2¼″ to Full	1	91251A887	9.46
4″	2¼″ to 3¾″	1	91251A888	6.85
4½″	2¼″ to 3¾″	1	91251A890	7.54

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Alloy Steel Socket Head Cap Screws *(Continued from previous page)*

Black-Oxide Alloy Steel (Cont.)

7/8"-9—Head: Dia. 1 5/16", Ht. 7/8" (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
5"	2 1/4" to 3 3/4"	1	91251A892	$8.26
5 1/2"	2 1/4" to 3 3/4"	1	91251A894	8.97
6"	2 1/4" to 3 3/4"	1	91251A896	9.66
6 1/2"	2 1/4" to 3 3/4"	1	91251A895	10.83
7"	2 1/4" to 3 3/4"	1	91251A898	13.61
7 1/2"	2 1/4" to 3 5/8"	1	91251A386	23.05
8"	2 1/4" to 3 3/4"	1	91251A900	15.84
8 1/2"	2 1/4" to 3 3/4"	1	91251A968	17.70
9"	2 1/4" to 3 3/4"	1	91251A902	18.05
10"	2 1/4" to 3 3/4"	1	91251A903	21.44
12"	2 1/4" to 3 3/4"	1	91251A905	28.18

7/8"-14—Head: Dia. 1 5/16", Ht. 7/8"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2 1/4"	Full	1	91251A307	5.04
2 1/2"	Full	1	91251A308	6.67
3"	Full	1	91251A309	6.40
3 1/2"	2 1/4" to Full	1	91251A312	7.06
4"	2 1/4" to 3 3/4"	1	91251A313	8.43
4 1/2"	2 1/4" to 3 3/4"	1	91251A319	9.18
5"	2 1/4" to 3 3/4"	1	91251A314	9.54
6"	2 1/4" to 3 3/4"	1	91251A317	16.26
7"	2 1/4" to 3 3/4"	1	91251A316	20.00

1"-8—Head: Dia. 1 1/2", Ht. 1"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1 1/2"	Full	1	91251A909	8.25
1 3/4"	Full	1	91251A911	7.41
2"	Full	1	91251A912	6.39
2 1/4"	Full	1	91251A913	5.46
2 1/2"	Full	1	91251A914	5.58
2 3/4"	Full	1	91251A915	5.78
3"	Full	1	91251A916	6.06
3 1/4"	Full	1	91251A917	6.27
3 1/2"	2 1/2" to Full	1	91251A918	6.68
3 3/4"	2 1/2" to Full	1	91251A154	8.63
4"	2 1/2" to Full	1	91251A920	8.80
4 1/2"	2 1/2" to 4 1/8"	1	91251A922	9.33
5"	2 1/2" to 4 1/8"	1	91251A924	10.03
5 1/2"	2 1/2" to 4 1/8"	1	91251A926	10.98
6"	2 1/2" to 4 1/8"	1	91251A928	11.92
6 1/2"	2 1/2" to 4 1/8"	1	91251A929	14.97
7"	2 1/2" to 4 1/8"	1	91251A930	16.90
7 1/2"	2 1/2" to 4 1/8"	1	91251A931	18.58
8"	2 1/2" to 4 1/8"	1	91251A932	20.73
9"	2 1/2" to 4 1/8"	1	91251A156	22.03
10"	2 1/2" to 4 1/8"	1	91251A161	21.45
10 1/2"	2 1/2" to 4 1/8"	1	91251A990	29.87
12"	2 1/2" to 4 1/8"	1	91251A935	31.62
14"	2 1/2" to 4 1/8"	1	91251A936	39.18
16"	2 1/2" to 4 1/8"	1	91251A947	46.88
18"	2 1/2" to 4 1/8"	1	91251A933	108.50
20"	2 1/2" to 4 1/8"	1	91251A946	109.78

1"-12—Head: Dia. 1 1/2", Ht. 1"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2"	Full	1	90044A270	9.75
3"	2 1/2" to Full	1	90044A271	10.50
4"	2 1/2" to 3 7/8"	1	90044A272	13.13
6"	2 1/2" to 3 7/8"	1	90044A273	17.25

1"-14—Head: Dia. 1 1/2", Ht. 1"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2"	Full	1	91251A416	5.80
2 1/4"	Full	1	91251A417	6.25
2 1/2"	Full	1	91251A009	6.75
2 3/4"	Full	1	91251A418	7.00
3"	Full	1	91251A419	7.46
3 1/4"	Full	1	91251A765	8.09
3 1/2"	2 1/2" to Full	1	91251A320	8.21
4"	2 1/2" to Full	1	91251A321	9.60

1"-14 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
4 1/2"	2 1/2" to 4 1/8"	1	91251A322	$11.05
5"	2 1/2" to 4 1/8"	1	91251A323	12.17
5 1/2"	2 1/2" to 4 1/8"	1	91251A324	20.52
6"	2 1/2" to 4 1/8"	1	91251A325	14.19
7"	2 1/2" to 4 1/8"	1	91251A326	19.61
8"	2 1/2" to 4 1/8"	1	91251A331	23.84

1 1/8"-7—Head: Dia. 1 11/16", Ht. 1 1/8"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3"	Full	1	91251A163	15.20
3 1/2"	2 7/8" to Full	1	91251A388	14.27
4"	2 7/8" to Full	1	91251A165	16.17
4 1/2"	2 7/8" to Full	1	91251A390	15.00
5"	2 7/8" to 4 3/4"	1	91251A169	18.09
5 1/2"	2 7/8" to 4 3/4"	1	91251A398	18.38
6"	2 7/8" to 4 3/4"	1	91251A167	20.20
6 1/2"	2 7/8" to 4 3/4"	1	91251A399	21.25
7"	2 7/8" to 4 3/4"	1	91251A174	23.27
8"	2 7/8" to 4 3/4"	1	91251A176	28.39
9"	2 7/8" to 4 3/4"	1	91251A177	39.57
10"	2 7/8" to 4 3/4"	1	91251A181	41.53

1 1/8"-12—Head: Dia. 1 11/16", Ht. 1 1/8"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3"	2 7/8" to Full	1	90044A274	10.88
4"	2 7/8" to Full	1	90044A275	14.38
5"	2 7/8" to 4 3/4"	1	90044A276	15.63

1 1/4"-7—Head: Dia. 1 7/8", Ht. 1 1/4"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2 1/2"	Full	1	91251A937	20.27
3"	Full	1	91251A938	14.05
3 1/4"	3 1/8" to Full	1	90044A211	16.67
3 1/2"	Full	1	91251A939	14.79
3 3/4"	3 1/8" to Full	1	90044A212	17.33
4"	3 1/8" to Full	1	91251A940	15.85
4 1/4"	3 1/8" to Full	1	91251A401	28.21
4 1/2"	3 1/8" to Full	1	91251A941	16.86
5"	3 1/8" to Full	1	91251A942	17.59
5 1/2"	3 1/8" to 5 1/8"	1	91251A943	17.78
6"	3 1/8" to 5 1/8"	1	91251A944	19.04
6 1/2"	3 1/8" to 5 1/8"	1	91251A945	29.50
7"	3 1/8" to 5 1/8"	1	91251A021	22.62
7 1/2"	3 1/8" to 5 1/8"	1	91251A967	31.83
8"	3 1/8" to 5 1/8"	1	91251A948	25.88
9"	3 1/8" to 5 1/8"	1	91251A023	27.44
10"	3 1/8" to 5 1/8"	1	91251A949	35.22
11"	3 1/8" to 5 1/8"	1	91251A025	50.31
12"	3 1/8" to 5 1/8"	1	91251A950	51.38
16"	3 1/8" to 5 1/8"	1	91251A996	93.60
20"	3 1/8" to 5 1/8"	1	91251A954	115.80

1 1/4"-12—Head: Dia. 1 7/8", Ht. 1 1/4"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2 1/2"	Full	1	91251A616	15.95
2 3/4"	Full	1	91251A403	16.43
3"	Full	1	91251A601	16.49
3 1/2"	Full	1	91251A017	16.93
4"	3 1/8" to Full	1	91251A602	17.38
4 1/2"	3 1/8" to Full	1	91251A026	19.11
5"	3 1/8" to Full	1	91251A603	20.01
5 1/2"	3 1/8" to 5 1/8"	1	91251A625	21.98
6"	3 1/8" to 5 1/8"	1	91251A604	22.15
6 1/2"	3 1/8" to 5 1/8"	1	91251A409	17.86
7"	3 1/8" to 5 1/8"	1	91251A427	23.57
8"	3 1/8" to 5 1/8"	1	91251A605	28.91
9"	3 1/8" to 5 1/8"	1	91251A606	32.82
10"	3 1/8" to 5 1/8"	1	91251A615	31.99

1 3/8"-6—Head: Dia. 2 1/16", Ht. 1 3/8"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
5"	Full	1	91251A771	62.20
6"	3 3/8" to 5 3/4"	1	91251A773	68.80

1 3/8"-6 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
8"	3 3/8" to 5 3/4"	1	91251A775	$79.20
10"	3 3/8" to 5 3/4"	1	91251A778	90.20
12"	3 3/8" to 5 3/4"	1	91251A780	117.60

1 1/2"-6—Head: Dia. 2 1/4", Ht. 1 1/2"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3"	Full	1	91251A034	20.09
3 1/4"	Full	1	91251A429	18.81
3 1/2"	Full	1	91251A955	20.33
4"	Full	1	91251A956	25.87
4 1/2"	Full	1	91251A961	29.40
5"	3 3/4" to Full	1	91251A958	33.27
5 1/2"	3 3/4" to Full	1	91251A962	34.57
6"	3 3/4" to Full	1	91251A960	35.36
6 1/2"	3 3/4" to 6 1/8"	1	91251A036	39.84
7"	3 3/4" to 6 1/8"	1	91251A053	41.97
8"	3 3/4" to 6 1/8"	1	91251A963	38.50
9"	3 3/4" to 6 1/8"	1	91251A058	64.31
10"	3 3/4" to 6 1/8"	1	91251A964	64.94
12"	3 3/4" to 6 1/8"	1	91251A976	69.57
14"	3 3/4" to 6 1/8"	1	91251A979	88.60
18"	3 3/4" to 6 1/8"	1	91251A981	135.40

1 1/2"-12—Head: Dia. 2 1/4", Ht. 1 1/2"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3"	Full	1	91251A607	27.18
3 1/2"	Full	1	91251A035	28.82
4"	Full	1	91251A608	28.56
4 1/2"	Full	1	91251A641	35.30
5"	3 3/4" to Full	1	91251A609	35.68
5 1/2"	3 3/4" to Full	1	91251A643	41.23
6"	3 3/4" to Full	1	91251A610	39.45
7"	3 3/4" to 6 1/8"	1	91251A611	38.24
8"	3 3/4" to 6 1/8"	1	91251A612	44.19

1 3/4"-5—Head: Dia. 2 5/8", Ht. 1 3/4"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
4"	Full	1	90044A213	39.56
6"	4 3/8" to Full	1	90044A214	42.44
8"	4 3/8" to 7 1/8"	1	90044A215	55.56
10"	4 3/8" to 7 1/8"	1	90044A216	62.22

2"-4 1/2—Head: Dia. 3", Ht. 2"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
4"	Full	1	90044A217	70.80
6"	5" to Full	1	90044A218	86.80
8"	5" to Full	1	90044A219	91.09
10"	5" to 8 1/8"	1	90044A220	102.27

2"-8—Head: Dia. 3", Ht. 2"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
6"	5" to Full	1	90044A221	88.73
8"	5" to Full	1	90044A222	91.09
12"	5" to 8 1/8"	1	90044A223	96.84

2 1/4"-4 1/2—Head: Dia. 3 3/8", Ht. 2 1/4"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
4"	Full	1	90044A224	114.00
6"	5 5/8" to Full	1	90044A225	129.50
8"	5 5/8" to Full	1	90044A226	135.50
10"	5 5/8" to 9"	1	90044A227	144.17

2 1/4"-8—Head: Dia. 3 3/8", Ht. 2 1/4"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
6"	5 5/8" to Full	1	90044A228	137.67
8"	5 5/8" to Full	1	90044A229	143.50
10"	5 5/8" to 9"	1	90044A230	152.08

2 1/2"-4—Head: Dia. 3 3/4", Ht. 2 1/2"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
4"	Full	1	90044A231	143.50
6"	Full	1	90044A232	163.83
8"	6 1/4" to Full	1	90044A233	180.33
10"	6 1/4" to Full	1	90044A234	194.00

2 1/2"-8—Head: Dia. 3 3/4", Ht. 2 1/2"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
4"	Full	1	90044A235	152.33
6"	Full	1	90044A236	172.67
8"	6 1/4" to Full	1	90044A237	189.67
10"	6 1/4" to Full	1	90044A238	201.83

Left-Hand Threaded Black-Oxide Alloy Steel

6-32—Head: Dia. 0.226", Ht. 0.138"

Lg.	Thread Lg.		Each
3/8"	Full	91670A146	$11.69
1/2"	Full	91670A148	13.10

8-32—Head: Dia. 0.270", Ht. 0.164"

Lg.	Thread Lg.		Each
1/2"	Full	91670A194	7.41
1"	Full	91670A199	9.03

10-32—Head: Dia. 0.312", Ht. 0.190"

Lg.	Thread Lg.		Each
1/2"	Full	91670A310	7.24
3/4"	Full	91670A313	8.10
1"	Full	91670A316	10.21
1 1/2"	Full	91670A319	12.07

1/4"-20—Head: Dia. 3/8", Ht. 1/4"

Lg.	Thread Lg.		Each
1/2"	Full	91670A537	$7.20
5/8"	Full	91670A539	8.00
3/4"	Full	91670A540	8.45
1"	Full	91670A542	9.86
1 1/4"	Full	91670A544	10.00
1 1/2"	Full	91670A546	11.21

5/16"-18—Head: Dia. 15/32", Ht. 5/16"

Lg.	Thread Lg.		Each
3/4"	Full	91670A581	10.00
1"	Full	91670A583	10.34
1 1/4"	Full	91670A585	10.69

5/16"-18 (Cont.)

Lg.	Thread Lg.		Each
1 1/2"	Full	91670A587	$12.07
2"	Full	91670A589	13.79

3/8"-16—Head: Dia. 9/16", Ht. 3/8"

Lg.	Thread Lg.		Each
3/4"	Full	91670A622	12.41
1"	Full	91670A624	14.14
1 1/4"	Full	91670A626	14.48

1/2"-13—Head: Dia. 3/4", Ht. 1/2"

Lg.	Thread Lg.		Each
1"	Full	91670A713	13.14
1 1/2"	Full	91670A716	16.21
2"	Full	91670A720	16.90

(Continued on following page)

Alloy Steel Socket Head Cap Screws *(Continued from previous page)*





The standard among high-strength fasteners, these screws are stronger than Grade 8 hex head cap screws and have been heat treated for hardness, which results in a dark surface color. They conform to ASTM A574, have a minimum Rockwell hardness of C37, and minimum tensile strength of 170,000 psi. Screw sizes through 1" have a Class 3A thread fit; screw sizes larger than 1" have a Class 2A thread fit. Length is measured from under the head.

Black-Oxide Alloy Steel Assortments

Thread Sizes	Screw Lengths	No. of Screws		
6-32, 8-32, 10-32, 1/4"-20, 5/16"-18, 3/8"-16	1/2" to 1 1/2"	170	91965A512	$75.00
6-32, 8-32, 10-24, 10-32, 1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24	1/4" to 1 3/4"	400	92135A536	186.00

Black-Oxide Alloy Steel with Torx-Plus Drive

Choose a Thread Size	Choose a Screw Length	
4-40, 5-40, 6-32, 8-32, 10-24, 10-32, 1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16	1/4"-3"	92610A555

Metric Alloy Steel Socket Head Cap Screws





Made from a high-strength alloy steel, these are the metric sizes of our popular alloy steel screws. They have a Class 5g6g thread fit, a minimum Rockwell hardness of C38, and minimum tensile strength of 170,000 psi, except the black-oxide Class 8.8 alloy steel assortment. Dimensions meet DIN 912/ISO 4762. Length is measured from under the head.

Black-oxide Class 12.9 alloy steel screws have a dark surface color.

High-visibility blue Class 12.9 alloy steel screws have a distinctive blue color that makes them easy to distinguish from inch screws and are zinc plated for corrosion resistance.

Black-Oxide Class 12.9 Alloy Steel

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
M1.4—Pitch: 0.3 mm				
Head: Dia. 2.5 mm, Ht. 1.4 mm				
3	Full	10	91290A014	$9.20
4	Full	10	91290A016	10.80
5	Full	10	91290A018	12.40
6	Full	5	91290A039	7.60
M1.6—Pitch: 0.35 mm				
Head: Dia. 3 mm, Ht. 1.6 mm				
3	Full	25	91290A020	2.72
4	Full	25	91290A021	3.11
5	Full	25	91290A022	2.94
6	Full	25	91290A023	3.72
8	Full	25	91290A041	3.01
12	Full	25	91290A043	7.10
M2—Pitch: 0.4 mm				
Head: Dia. 3.8 mm, Ht. 2 mm				
3	Full	50	91290A010	10.81
4	Full	100	91290A011	12.22
5	Full	100	91290A012	12.80
6	Full	100	91290A013	11.09
8	Full	100	91290A015	13.26
10	Full	100	91290A017	11.00
12	Full	100	91290A019	11.63
14	Full	100	91290A045	9.52
16	Full	100	91290A047	9.56
20	Full	100	91290A049	11.16
M2.5—Pitch: 0.45 mm				
Head: Dia. 4.5 mm, Ht. 2.5 mm				
3	Full	25	91290A051	11.20
4	Full	50	91290A099	8.47
5	Full	50	91290A100	11.02
6	Full	50	91290A101	8.18
8	Full	50	91290A102	8.07
10	Full	50	91290A103	7.67
12	Full	50	91290A104	8.74
14	Full	50	91290A053	5.52
16	Full	50	91290A106	8.85
20	Full	25	91290A108	7.10
25	Full	50	91290A055	7.02
30	Full	50	91290A059	7.62
M2.6—Pitch: 0.45 mm				
Head: Dia. 5 mm, Ht. 2.6 mm				
4	Full	25	91290A071	7.20
6	Full	25	91290A073	8.20
8	Full	50	91290A031	7.55
10	Full	50	91290A033	8.32
12	Full	50	91290A035	9.98
16	Full	10	91290A075	8.40
M3—Pitch: 0.5 mm				
Head: Dia. 5.5 mm, Ht. 3 mm				
4	Full	100	91290A109	9.53
5	Full	100	91290A110	8.21
6	Full	100	91290A111	8.02
8	Full	100	91290A113	6.78
10	Full	100	91290A115	7.01
12	Full	100	91290A117	7.98
14	Full	100	91290A119	10.57
16	Full	100	91290A120	8.44
M3 (Cont.)				
18	Full	100	91290A121	$10.54
20	Full	100	91290A123	9.99
22	Full	100	91290A124	9.18
25	18 to Full	100	91290A125	12.28
30	18 to Full	100	91290A130	15.07
30	Full	10	91290A171	9.16
35	18 to Full	50	91290A135	9.49
40	18 to Full	25	91290A136	2.39
45	18 to Full	25	91290A079	3.35
50	18 to Full	25	91290A137	3.49
60	18 to Full	25	91290A181	7.59
M4—Pitch: 0.7 mm				
Head: Dia. 7 mm, Ht. 4 mm				
5	Full	100	91290A138	13.56
6	Full	100	91290A139	8.10
8	Full	100	91290A140	9.14
10	Full	100	91290A144	8.29
12	Full	100	91290A148	8.48
14	Full	100	91290A150	9.84
16	Full	100	91290A154	9.49
18	Full	100	91290A164	11.31
20	Full	100	91290A168	9.99
22	Full	50	91290A170	10.61
25	Full	50	91290A176	7.19
30	20 to Full	50	91290A180	7.17
30	Full	5	91290A172	4.83
35	20 to Full	50	91290A182	8.41
35	Full	5	91290A173	5.00
40	20 to Full	50	91290A184	8.77
40	Full	5	91290A174	3.60
45	20 to Full	50	91290A145	10.52
45	Full	1	91290A175	1.72
50	20 to Full	50	91290A186	10.94
50	Full	1	91290A193	1.72
55	20 to Full	25	91290A187	7.90
60	20 to Full	25	91290A188	10.09
65	20 to Full	25	91290A083	6.91
70	20 to Full	10	91290A190	6.54
75	20 to Full	25	91290A085	7.85
80	20 to Full	10	91290A192	4.64
90	20 to Full	10	91290A183	6.42
100	20 to Full	10	91290A185	7.56
M5—Pitch: 0.8 mm				
Head: Dia. 8.5 mm, Ht. 5 mm				
6	Full	100	91290A221	9.64
8	Full	100	91290A222	9.03
10	Full	100	91290A224	9.84
12	Full	100	91290A228	11.31
14	Full	100	91290A230	12.05
15	Full	100	91290A231	14.72
16	Full	100	91290A232	11.93
18	Full	100	91290A238	12.82
20	Full	100	91290A242	12.09
22	Full	50	91290A248	8.54
M5 (Cont.)				
25	Full	50	91290A252	$7.57
30	22 to Full	50	91290A254	8.23
30	Full	10	91290A194	7.41
35	22 to Full	50	91290A256	10.11
35	Full	10	91290A195	9.00
40	22 to Full	50	91290A258	11.23
40	Full	10	91290A196	9.26
45	22 to Full	50	91290A260	11.76
45	Full	5	91290A197	5.19
50	22 to Full	50	91290A262	12.98
50	Full	5	91290A198	4.63
55	22 to Full	25	91290A264	3.68
60	22 to Full	25	91290A268	3.21
60	Full	5	91290A199	7.93
65	22 to Full	25	91290A270	3.26
70	22 to Full	25	91290A272	2.09
70	Full	1	91290A201	2.35
75	22 to Full	25	91290A274	3.88
80	22 to Full	25	91290A276	9.58
85	22 to Full	25	91290A105	10.38
90	22 to Full	10	91290A278	7.21
100	22 to Full	10	91290A280	7.63
110	22 to Full	10	91290A134	12.22
120	22 to Full	10	91290A290	6.80
130	22 to Full	5	91290A141	7.96
140	22 to Full	5	91290A142	9.26
M6—Pitch: 1 mm				
Head: Dia. 10 mm, Ht. 6 mm				
6	Full	50	91290A310	3.35
8	Full	50	91290A312	8.82
10	Full	100	91290A316	10.71
12	Full	100	91290A318	10.57
14	Full	100	91290A319	13.92
15	Full	100	91290A320	10.28
16	Full	100	91290A321	11.68
18	Full	100	91290A323	13.85
20	Full	100	91290A326	13.45
22	Full	50	91290A328	9.72
25	Full	50	91290A330	7.28
30	Full	50	91290A332	7.84
35	24 to Full	50	91290A334	8.37
35	Full	10	91290A202	5.08
40	24 to Full	50	91290A336	9.18
40	Full	10	91290A203	6.90
45	24 to Full	50	91290A338	9.07
45	Full	10	91290A204	5.52
50	24 to Full	50	91290A340	10.31
50	Full	10	91290A205	9.31
55	24 to Full	50	91290A342	13.96
55	Full	5	91290A206	8.97
60	24 to Full	25	91290A344	9.13
60	Full	5	91290A207	6.90
65	24 to Full	25	91290A346	12.81
70	24 to Full	25	91290A348	11.21
70	Full	5	91290A208	7.76

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Metric Alloy Steel Socket Head Cap Screws *(Continued from previous page)*

Black-Oxide Class 12.9 Alloy Steel (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
M6—Pitch: 1 mm				
Head: Dia. 10 mm, Ht. 6 mm (Cont.)				
75	24 to Full	25	91290A349	$12.26
80	24 to Full	25	91290A351	12.61
80	Full	5	91290A209	12.07
85	24 to Full	25	91290A037	12.73
90	24 to Full	10	91290A352	7.14
100	24 to Full	10	91290A360	7.89
110	24 to Full	10	91290A355	12.38
120	24 to Full	5	91290A357	9.87
130	24 to Full	10	91290A107	7.74
140	24 to Full	10	91290A112	8.66
150	24 to Full	5	91290A570	7.17
160	24 to Full	5	91290A077	9.67
180	24 to Full	5	91290A114	10.83
200	24 to Full	5	91290A155	12.00
M6—Pitch: 0.75 mm (Fine)				
Head: Dia. 10 mm, Ht. 6 mm				
12	Full	1	96144A111	3.33
16	Full	1	96144A116	3.33
20	Full	1	96144A120	3.38
25	Full	1	96144A125	3.54
30	24 to Full	1	96144A130	3.91
35	24 to Full	1	96144A135	5.83
40	24 to Full	1	96144A140	6.25
50	24 to Full	1	96144A150	7.91
60	24 to Full	1	96144A160	8.33
M7—Pitch: 1 mm				
Head: Dia. 12 mm, Ht. 7 mm				
16	Full	1	91290A162	3.91
20	Full	1	91290A165	4.69
25	Full	1	91290A166	5.31
30	26 to Full	1	91290A167	5.63
50	26 to Full	1	91290A169	6.25
M8—Pitch: 1.25 mm				
Head: Dia. 13 mm, Ht. 8 mm				
10	Full	50	91290A414	7.99
12	Full	50	91290A416	8.23
14	Full	50	91290A417	7.57
16	Full	50	91290A418	6.69
18	Full	25	91290A422	4.28
20	Full	50	91290A426	7.16
22	Full	50	91290A428	8.31
25	Full	50	91290A432	7.86
30	Full	50	91290A434	8.46
35	Full	50	91290A438	9.19
40	28 to Full	50	91290A442	10.23
40	Full	10	91290A210	10.00
45	28 to Full	50	91290A446	11.00
45	Full	10	91290A211	11.48
50	28 to Full	25	91290A448	6.61
50	Full	5	91290A212	7.59
55	28 to Full	25	91290A452	7.19
55	Full	5	91290A213	9.17
60	28 to Full	25	91290A456	7.64
60	Full	5	91290A214	9.07
65	28 to Full	25	91290A458	7.61
70	28 to Full	25	91290A460	8.71
70	Full	1	91290A215	2.03
75	28 to Full	25	91290A461	9.46
80	28 to Full	25	91290A462	9.63
80	Full	1	91290A216	2.25
85	28 to Full	10	91290A116	7.48
90	28 to Full	10	91290A466	4.99
90	Full	1	91290A217	3.90
100	28 to Full	10	91290A468	5.59
110	28 to Full	5	91290A470	3.21
120	28 to Full	5	91290A472	3.39
130	28 to Full	5	91290A474	3.81
140	28 to Full	5	91290A476	4.04
150	28 to Full	5	91290A478	4.80
160	28 to Full	5	91290A480	5.76
180	28 to Full	5	91290A482	8.29
200	28 to Full	1	91290A484	2.07
220	28 to Full	1	91290A118	2.51
240	28 to Full	1	91290A122	2.79
M8—Pitch: 1 mm (Fine)				
Head: Dia. 13 mm, Ht. 8 mm				
12	Full	1	96144A212	2.50
16	Full	10	96144A216	8.33
20	Full	50	96144A211	11.50
25	Full	50	96144A215	12.00
M8—Pitch: 1 mm (Fine)				
Head: Dia. 13 mm, Ht. 8 mm (Cont.)				
30	Full	25	96144A219	$3.37
35	Full	25	96144A223	3.71
40	28 to Full	25	96144A227	8.33
50	28 to Full	25	96144A231	9.75
60	28 to Full	25	96144A235	12.25
80	28 to Full	10	96144A239	6.27
M10—Pitch: 1.5 mm				
Head: Dia. 16 mm, Ht. 10 mm				
10	Full	10	91290A126	6.21
12	Full	25	91290A510	11.19
14	Full	25	91290A127	7.29
15	Full	25	91290A511	11.00
16	Full	25	91290A512	6.54
18	Full	25	91290A514	8.33
20	Full	25	91290A516	6.41
22	Full	25	91290A518	7.99
25	Full	25	91290A520	6.84
30	Full	25	91290A522	7.41
35	Full	25	91290A526	8.11
40	Full	25	91290A528	8.54
45	32 to Full	25	91290A530	9.40
50	32 to Full	25	91290A532	9.85
50	Full	1	91290A218	1.87
55	32 to Full	10	91290A534	5.09
55	Full	1	91290A219	2.34
60	32 to Full	10	91290A536	5.39
60	Full	1	91290A220	2.66
65	32 to Full	10	91290A540	5.83
70	32 to Full	10	91290A542	5.91
70	Full	1	91290A223	2.81
75	32 to Full	10	91290A541	6.40
80	32 to Full	10	91290A544	6.44
80	Full	1	91290A225	2.82
85	32 to Full	10	91290A128	8.47
90	32 to Full	10	91290A546	7.24
90	Full	1	91290A226	3.03
100	32 to Full	10	91290A548	7.87
100	Full	1	91290A227	3.75
110	32 to Full	5	91290A550	4.76
120	32 to Full	5	91290A129	6.49
130	32 to Full	5	91290A554	5.44
140	32 to Full	5	91290A556	5.96
150	32 to Full	5	91290A558	5.89
160	32 to Full	5	91290A560	7.65
180	32 to Full	1	91290A562	1.61
200	32 to Full	1	91290A564	1.78
220	32 to Full	1	91290A160	2.61
240	32 to Full	1	91290A189	2.76
260	32 to Full	1	91290A191	3.06
300	32 to Full	1	91290A251	3.79
M10—Pitch: 1.25 mm (Fine)				
Head: Dia. 16 mm, Ht. 10 mm				
12	Full	1	96144A251	11.11
16	Full	10	96144A255	6.25
20	Full	25	96144A252	9.17
25	Full	25	96144A256	9.75
30	Full	25	96144A261	11.00
35	32 to Full	10	96144A257	8.67
40	Full	10	96144A265	6.00
50	32 to Full	10	96144A269	6.50
60	32 to Full	10	96144A273	7.77
70	32 to Full	10	96144A258	10.00
80	32 to Full	10	96144A277	9.27
100	32 to Full	5	96144A259	10.36
M10—Pitch: 1 mm (Extra Fine)				
Head: Dia. 16 mm, Ht. 10 mm				
20	Full	10	96144A262	6.25
30	Full	10	96144A263	6.67
40	32 to Full	10	96144A264	7.92
50	32 to Full	10	96144A266	10.42
60	32 to Full	5	96144A267	14.59
80	32 to Full	1	96144A268	4.81
M12—Pitch: 1.75 mm				
Head: Dia. 18 mm, Ht. 12 mm				
12	Full	1	91290A601	11.29
16	Full	10	91290A610	5.96
18	Full	10	91290A603	12.90
20	Full	10	91290A612	4.13
22	Full	10	91290A604	8.39
M12—Pitch: 1.75 mm				
Head: Dia. 18 mm, Ht. 12 mm (Cont.)				
25	Full	25	91290A616	$8.73
30	Full	25	91290A618	10.26
35	Full	25	91290A620	11.04
40	Full	10	91290A622	5.37
45	Full	10	91290A624	5.12
50	Full	10	91290A626	6.01
55	36 to Full	10	91290A628	6.75
55	Full	1	91290A233	5.14
60	36 to Full	10	91290A630	6.95
60	Full	1	91290A234	2.48
65	36 to Full	10	91290A632	6.62
70	36 to Full	10	91290A634	7.74
70	Full	1	91290A235	3.33
75	36 to Full	10	91290A635	8.67
80	36 to Full	10	91290A636	8.77
80	Full	1	91290A236	3.03
85	36 to Full	5	91290A605	6.77
90	36 to Full	10	91290A638	9.68
90	Full	1	91290A237	4.54
100	36 to Full	5	91290A640	5.80
100	Full	1	91290A239	4.69
110	36 to Full	5	91290A642	6.17
120	36 to Full	5	91290A643	6.59
130	36 to Full	5	91290A649	7.04
140	36 to Full	5	91290A644	7.48
150	36 to Full	5	91290A646	8.44
160	36 to Full	1	91290A648	1.74
180	36 to Full	1	91290A606	2.84
200	36 to Full	1	91290A652	2.43
220	36 to Full	1	91290A654	2.86
240	36 to Full	1	91290A253	3.64
260	36 to Full	1	91290A250	3.77
300	36 to Full	1	91290A257	4.32
M12—Pitch: 1.5 mm (Fine)				
Head: Dia. 18 mm, Ht. 12 mm				
20	Full	1	96144A296	3.33
25	Full	10	96144A298	9.26
30	Full	10	96144A299	8.15
40	36 to Full	10	96144A301	8.89
50	36 to Full	10	96144A302	9.82
60	36 to Full	1	96144A304	2.07
80	36 to Full	1	96144A305	2.22
M12—Pitch: 1.25 mm (Extra Fine)				
Head: Dia. 18 mm, Ht. 12 mm				
20	Full	10	96144A292	10.71
25	Full	10	96144A294	9.80
30	Full	10	96144A293	8.27
35	Full	10	96144A295	9.66
40	Full	10	96144A297	9.40
50	Full	10	96144A303	11.00
60	36 to Full	10	96144A307	11.33
70	36 to Full	10	96144A313	12.67
80	36 to Full	5	96144A317	7.33
M14—Pitch: 2 mm				
Head: Dia. 21 mm, Ht. 14 mm				
16	Full	10	91290A259	10.34
20	Full	10	91290A710	10.75
25	Full	10	91290A712	8.53
30	Full	10	91290A714	6.35
35	Full	10	91290A720	7.48
40	Full	5	91290A725	4.50
45	Full	5	91290A727	4.25
50	Full	5	91290A735	4.46
55	Full	5	91290A737	5.28
60	40 to Full	5	91290A745	5.11
65	40 to Full	5	91290A747	6.34
70	40 to Full	5	91290A749	5.69
75	40 to Full	5	91290A751	6.93
80	40 to Full	5	91290A765	6.89
90	40 to Full	5	91290A767	7.61
100	40 to Full	5	91290A769	8.30
110	40 to Full	5	91290A770	8.20
120	40 to Full	1	91290A772	1.51
130	40 to Full	1	91290A774	1.89
140	40 to Full	1	91290A776	2.32
150	40 to Full	1	91290A778	2.13
160	40 to Full	1	91290A780	2.52
180	40 to Full	1	91290A261	3.59
200	40 to Full	1	91290A784	3.26

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Metric Alloy Steel Socket Head Cap Screws *(Continued from previous page)*





Made from a high-strength alloy steel, these are the metric sizes of our popular alloy steel screws. They have a Class 5g6g thread fit, a minimum Rockwell hardness of C38, and minimum tensile strength of 170,000 psi, except the black-oxide Class 8.8 alloy steel assortment. Dimensions meet DIN 912/ISO 4762. Length is measured from under the head.

Black-oxide Class 12.9 alloy steel screws have a dark surface color.

High-visibility blue Class 12.9 alloy steel screws have a distinctive blue color that makes them easy to distinguish from inch screws and are zinc plated for corrosion resistance.

Black-Oxide Class 12.9 Alloy Steel (Cont.)

M16—Pitch: 2 mm
Head: Dia. 24 mm, Ht. 16 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
20	Full	5	91290A786	$5.68
25	Full	5	91290A788	5.38
30	Full	5	91290A800	4.96
35	Full	5	91290A805	5.23
40	Full	5	91290A810	5.33
45	Full	5	91290A815	5.77
50	Full	5	91290A820	6.00
55	Full	5	91290A825	6.52
60	Full	5	91290A830	6.54
65	44 to Full	5	91290A835	7.07
70	44 to Full	5	91290A837	7.44
70	Full	1	91290A240	5.15
75	44 to Full	5	91290A838	7.84
80	44 to Full	5	91290A840	8.11
80	Full	1	91290A241	6.06
85	44 to Full	5	91290A263	12.79
90	44 to Full	5	91290A841	8.86
90	Full	1	91290A243	9.09
100	44 to Full	5	91290A842	9.58
100	Full	1	91290A244	8.94
110	44 to Full	5	91290A844	10.56
120	44 to Full	1	91290A846	1.92
130	44 to Full	1	91290A848	2.06
140	44 to Full	1	91290A025	2.19
150	44 to Full	1	91290A027	2.32
160	44 to Full	1	91290A024	2.63
180	44 to Full	1	91290A026	3.03
200	44 to Full	1	91290A028	3.51
220	44 to Full	1	91290A900	4.06
240	44 to Full	1	91290A265	5.39
260	44 to Full	1	91290A905	5.29
300	44 to Full	1	91290A910	6.33

M16—Pitch: 1.5 mm (Fine)
Head: Dia. 24 mm, Ht. 16 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
30	Full	5	96144A331	11.11
35	Full	5	96144A332	12.38
40	Full	5	96144A330	7.63
50	Full	5	96144A334	8.38
60	Full	5	96144A338	9.88
80	44 to Full	1	96144A342	2.30
100	44 to Full	1	96144A333	7.41

M18—Pitch: 2.5 mm
Head: Dia. 27 mm, Ht. 18 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
30	Full	5	91290A030	8.29
35	Full	1	91290A029	1.38
40	Full	5	91290A032	7.78
45	Full	5	91290A034	8.13
50	Full	5	91290A036	8.61
55	Full	5	91290A038	8.91
60	Full	5	91290A040	9.51
65	Full	5	91290A042	10.18
70	48 to Full	1	91290A044	1.59
75	48 to Full	1	91290A046	1.96
80	48 to Full	1	91290A048	1.99
90	48 to Full	1	91290A050	2.26
100	48 to Full	1	91290A052	2.47
110	48 to Full	1	91290A054	2.64
120	48 to Full	1	91290A056	3.04
130	48 to Full	1	91290A058	3.20
140	48 to Full	1	91290A060	3.49
150	48 to Full	1	91290A062	3.66
160	48 to Full	1	91290A064	4.44
180	48 to Full	1	91290A066	5.16
200	48 to Full	1	91290A068	6.02

M20—Pitch: 2.5 mm
Head: Dia. 30 mm, Ht. 20 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
25	Full	1	91290A131	2.71
30	Full	5	91290A061	10.14
35	Full	1	91290A132	2.28

M20—Pitch: 2.5 mm
Head: Dia. 30 mm, Ht. 20 mm (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
40	Full	5	91290A063	$8.15
45	Full	5	91290A065	9.42
50	Full	5	91290A850	9.92
55	Full	5	91290A851	10.43
60	Full	5	91290A852	10.69
65	Full	1	91290A853	2.00
70	Full	1	91290A854	1.95
75	52 to Full	1	91290A855	2.25
80	52 to Full	1	91290A856	2.19
85	52 to Full	1	91290A133	3.15
90	52 to Full	1	91290A067	2.48
90	Full	1	91290A245	9.09
100	52 to Full	1	91290A069	2.68
100	Full	1	91290A246	9.63
110	52 to Full	1	91290A070	2.89
120	52 to Full	1	91290A072	3.14
130	52 to Full	1	91290A074	3.35
140	52 to Full	1	91290A076	3.58
150	52 to Full	1	91290A078	3.80
160	52 to Full	1	91290A080	4.46
180	52 to Full	1	91290A082	5.19
200	52 to Full	1	91290A084	5.94
220	52 to Full	1	91290A086	6.83
240	52 to Full	1	91290A089	7.75
260	52 to Full	1	91290A088	9.74
300	52 to Full	1	91290A090	11.90
320	52 to Full	1	91290A146	21.13
340	52 to Full	1	91290A161	23.74
360	52 to Full	1	91290A147	29.03
400	52 to Full	1	91290A149	32.26

M20—Pitch: 1.5 mm (Fine)
Head: Dia. 30 mm, Ht. 20 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
50	Full	1	96144A343	3.52
60	52 to Full	1	96144A344	3.70
80	52 to Full	1	96144A345	9.26
100	52 to Full	1	96144A346	8.89

M22—Pitch: 2.5 mm
Head: Dia. 33 mm, Ht. 22 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
40	Full	1	91290A963	3.24
50	Full	1	91290A966	2.84
60	Full	1	91290A970	3.12
70	Full	1	91290A978	3.42
80	56 to Full	1	91290A984	3.65
100	56 to Full	1	91290A988	4.36
110	56 to Full	1	91290A992	4.71
120	56 to Full	1	91290A994	5.04

M24—Pitch: 3 mm
Head: Dia. 36 mm, Ht. 24 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
40	Full	1	91290A091	3.48
45	Full	1	91290A092	3.28
50	Full	1	91290A093	2.87
55	Full	1	91290A266	3.45
60	Full	1	91290A869	3.09
65	Full	1	91290A870	3.45
70	Full	1	91290A871	3.35
75	Full	1	91290A872	3.75
80	Full	1	91290A873	3.64
90	60 to Full	1	91290A874	4.01
90	Full	1	91290A247	16.36
100	60 to Full	1	91290A875	4.27
100	Full	1	91290A249	16.36
110	60 to Full	1	91290A876	4.69
120	60 to Full	1	91290A877	4.97
130	60 to Full	1	91290A878	5.27
140	60 to Full	1	91290A879	5.93
150	60 to Full	1	91290A880	6.28
160	60 to Full	1	91290A094	7.44
180	60 to Full	1	91290A267	9.32
200	60 to Full	1	91290A096	9.25

M24—Pitch: 3 mm
Head: Dia. 36 mm, Ht. 24 mm (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
220	60 to Full	1	91290A097	$11.49
240	60 to Full	1	91290A269	14.28
260	60 to Full	1	91290A925	14.00
300	60 to Full	1	91290A098	15.15

M27—Pitch: 3 mm
Head: Dia. 40 mm, Ht. 27 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
60	Full	1	91290A271	7.25
70	Full	1	91290A273	6.82
80	Full	1	91290A275	6.12
100	66 to Full	1	91290A277	8.63
120	66 to Full	1	91290A279	9.53
140	66 to Full	1	91290A291	9.82
180	66 to Full	1	91290A292	11.81
200	66 to Full	1	91290A293	13.43

M30—Pitch: 3.5 mm
Head: Dia. 45 mm, Ht. 30 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
60	Full	1	91290A915	7.23
70	Full	1	91290A881	7.87
80	Full	1	91290A882	8.30
90	Full	1	91290A883	8.89
100	Full	1	91290A884	9.40
110	72 to Full	1	91290A885	10.02
120	72 to Full	1	91290A886	10.51
130	72 to Full	1	91290A887	11.28
140	72 to Full	1	91290A888	11.92
150	72 to Full	1	91290A889	12.54
160	72 to Full	1	91290A890	13.16
180	72 to Full	1	91290A891	14.49
200	72 to Full	1	91290A971	15.74
240	72 to Full	1	91290A976	19.39
300	72 to Full	1	91290A892	25.06

M33—Pitch: 3.5 mm
Head: Dia. 50 mm, Ht. 33 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
80	Full	1	91290A281	9.57
90	Full	1	91290A282	13.51
100	Full	1	91290A283	14.11
120	78 to Full	1	91290A284	14.32
180	78 to Full	1	91290A285	19.10
200	78 to Full	1	91290A286	21.01

M36—Pitch: 4 mm
Head: Dia. 54 mm, Ht. 36 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
60	Full	1	91290A151	19.64
70	Full	1	91290A152	20.33
80	Full	1	91290A893	14.25
90	Full	1	91290A933	14.92
100	Full	1	91290A894	15.89
110	Full	1	91290A935	16.13
120	84 to Full	1	91290A895	17.28
130	84 to Full	1	91290A938	18.62
140	84 to Full	1	91290A896	19.42
150	84 to Full	1	91290A897	19.97
160	84 to Full	1	91290A898	22.10
180	84 to Full	1	91290A944	22.10
200	84 to Full	1	91290A901	28.05
240	84 to Full	1	91290A956	27.99
300	84 to Full	1	91290A153	59.18

M42—Pitch: 4.5 mm
Head: Dia. 63 mm, Ht. 42 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
100	Full	1	91290A287	20.31
120	Full	1	91290A288	21.64
180	96 to Full	1	91290A289	27.92
200	96 to Full	1	91290A294	29.94

M48—Pitch: 5 mm
Head: Dia. 72 mm, Ht. 48 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
140	108 to Full	1	91290A156	56.46
180	108 to Full	1	91290A157	67.44
200	108 to Full	1	91290A158	73.20
260	108 to Full	1	91290A159	88.02
300	108 to Full	1	91290A163	103.64

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Metric Alloy Steel Socket Head Cap Screws *(Continued from previous page)*

High-Visibility Blue Class 12.9 Alloy Steel

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
M3—Pitch: 0.5 mm				
Head: Dia. 5.5 mm, Ht. 3 mm				
5	Full	100	91502A101	$10.23
6	Full	100	91502A102	10.29
8	Full	100	91502A103	10.33
10	Full	100	91502A104	10.67
12	Full	100	91502A105	10.95
14	Full	100	91502A106	11.48
16	Full	100	91502A107	12.19
18	Full	100	91502A108	12.58
20	Full	50	91502A109	6.85
25	18 to Full	50	91502A110	7.81
30	18 to Full	50	91502A111	8.85
35	18 to Full	25	91502A112	6.67
40	18 to Full	25	91502A113	7.50
50	18 to Full	25	91502A114	9.09
M4—Pitch: 0.7 mm				
Head: Dia. 7 mm, Ht. 4 mm				
5	Full	100	91502A121	10.52
6	Full	100	91502A122	10.81
8	Full	100	91502A123	10.86
10	Full	100	91502A124	10.91
12	Full	100	91502A125	11.05
14	Full	100	91502A126	11.29
16	Full	100	91502A127	11.33
18	Full	100	91502A128	11.52
20	Full	100	91502A129	12.10
25	Full	100	91502A130	13.14
30	20 to Full	50	91502A131	7.81
35	20 to Full	50	91502A132	8.83
40	20 to Full	50	91502A133	10.55
45	20 to Full	50	91502A134	12.26
50	20 to Full	50	91502A135	13.43
60	20 to Full	25	91502A136	8.38
80	20 to Full	10	91502A137	8.32
M5—Pitch: 0.8 mm				
Head: Dia. 8.5 mm, Ht. 5 mm				
6	Full	100	91502A141	9.96
8	Full	100	91502A142	10.10
10	Full	100	91502A143	10.33
12	Full	100	91502A144	10.43
14	Full	100	91502A145	10.57
16	Full	100	91502A146	11.86
18	Full	100	91502A147	12.48
20	Full	100	91502A148	12.77
25	Full	100	91502A149	13.67
30	22 to Full	50	91502A150	7.14
35	22 to Full	50	91502A151	8.34
40	22 to Full	50	91502A152	9.33
45	22 to Full	50	91502A153	10.38
50	22 to Full	50	91502A154	11.17
60	22 to Full	50	91502A155	15.90
70	22 to Full	25	91502A156	9.47
80	22 to Full	25	91502A157	11.52
90	22 to Full	25	91502A158	13.45
100	22 to Full	25	91502A159	15.37
M6—Pitch: 1 mm				
Head: Dia. 10 mm, Ht. 6 mm				
8	Full	100	91502A161	12.63
10	Full	100	91502A162	14.91
M6 (Cont.)				
12	Full	100	91502A163	$15.00
14	Full	100	91502A164	15.24
16	Full	100	91502A165	14.86
18	Full	50	91502A166	7.46
20	Full	50	91502A167	7.52
22	Full	50	91502A168	7.62
25	Full	50	91502A169	8.38
30	Full	50	91502A170	9.57
35	24 to Full	50	91502A171	10.52
40	24 to Full	50	91502A172	12.07
45	24 to Full	50	91502A173	13.29
50	24 to Full	50	91502A174	14.71
55	24 to Full	25	91502A175	8.30
60	24 to Full	25	91502A176	8.86
65	24 to Full	25	91502A177	9.44
70	24 to Full	25	91502A178	10.06
75	24 to Full	25	91502A179	11.13
80	24 to Full	25	91502A180	12.27
90	24 to Full	25	91502A181	13.27
100	24 to Full	10	91502A182	7.03
110	24 to Full	10	91502A183	8.44
120	24 to Full	10	91502A184	9.91
M8—Pitch: 1.25 mm				
Head: Dia. 13 mm, Ht. 8 mm				
10	Full	50	91502A191	11.67
12	Full	50	91502A192	11.70
16	Full	50	91502A193	11.74
18	Full	50	91502A194	11.79
20	Full	50	91502A195	11.83
22	Full	50	91502A196	11.92
25	Full	50	91502A197	12.14
30	Full	50	91502A198	13.56
35	28 to Full	25	91502A199	7.51
40	28 to Full	25	91502A401	8.32
45	28 to Full	25	91502A201	9.17
50	28 to Full	25	91502A202	9.76
55	28 to Full	25	91502A203	10.77
60	28 to Full	25	91502A204	11.62
65	28 to Full	10	91502A205	5.00
70	28 to Full	10	91502A206	5.28
75	28 to Full	10	91502A207	5.78
80	28 to Full	10	91502A208	6.05
90	28 to Full	10	91502A209	6.73
100	28 to Full	10	91502A210	7.43
110	28 to Full	10	91502A211	11.63
120	28 to Full	10	91502A212	14.00
M10—Pitch: 1.5 mm				
Head: Dia. 16 mm, Ht. 10 mm				
12	Full	25	91502A221	9.49
16	Full	25	91502A222	9.56
20	Full	25	91502A223	9.57
25	Full	25	91502A224	10.40
30	Full	25	91502A225	11.41
35	Full	25	91502A226	12.52
40	Full	25	91502A227	13.33
45	32 to Full	25	91502A228	14.62
50	32 to Full	10	91502A229	6.43
55	32 to Full	10	91502A230	7.00
60	32 to Full	10	91502A231	7.61
M10 (Cont.)				
65	32 to Full	10	91502A232	$8.03
70	32 to Full	10	91502A233	8.50
80	32 to Full	10	91502A234	9.52
90	32 to Full	10	91502A235	10.90
100	32 to Full	5	91502A236	6.01
110	32 to Full	5	91502A237	6.56
120	32 to Full	5	91502A238	7.08
150	32 to Full	5	91502A239	8.55
M12—Pitch: 1.75 mm				
Head: Dia. 18 mm, Ht. 12 mm				
16	Full	25	91502A241	13.62
20	Full	25	91502A242	13.64
25	Full	10	91502A243	5.98
30	Full	10	91502A244	6.67
35	Full	10	91502A245	7.20
40	Full	10	91502A246	7.79
45	Full	10	91502A247	8.57
50	Full	10	91502A248	9.26
55	36 to Full	10	91502A249	9.93
60	36 to Full	10	91502A250	10.79
65	36 to Full	10	91502A251	10.99
70	36 to Full	10	91502A252	12.22
80	36 to Full	5	91502A253	6.80
90	36 to Full	5	91502A254	7.46
100	36 to Full	5	91502A255	8.03
110	36 to Full	5	91502A256	9.06
120	36 to Full	5	91502A257	9.68
150	36 to Full	5	91502A258	12.23
M14—Pitch: 2 mm				
Head: Dia. 21 mm, Ht. 14 mm				
30	Full	5	91502A261	6.91
35	Full	5	91502A262	7.55
40	Full	5	91502A263	8.14
50	40 to Full	5	91502A264	9.26
60	40 to Full	5	91502A265	10.85
M16—Pitch: 2 mm				
Head: Dia. 24 mm, Ht. 16 mm				
25	Full	5	91502A271	6.86
30	Full	5	91502A272	6.96
35	Full	5	91502A273	7.32
40	Full	5	91502A274	7.94
45	44 to Full	5	91502A275	8.38
50	44 to Full	5	91502A276	9.10
60	44 to Full	5	91502A277	10.38
70	44 to Full	5	91502A278	11.74
80	44 to Full	5	91502A279	13.02
100	44 to Full	5	91502A280	15.68
M20—Pitch: 2.5 mm				
Head: Dia. 30 mm, Ht. 20 mm				
40	Full	1	91502A291	3.47
50	Full	1	91502A292	3.60
60	Full	1	91502A293	3.70
70	Full	1	91502A294	3.87
80	52 to Full	1	91502A295	4.30
100	52 to Full	1	91502A296	5.06
M24—Pitch: 3 mm				
Head: Dia. 36 mm, Ht. 24 mm				
80	60 to Full	1	91502A301	9.00
90	60 to Full	1	91502A302	9.80
100	60 to Full	1	91502A303	10.77

Left-Hand Threaded Class 12.9 Alloy Steel

Choose a Thread Size	Choose a Screw Length, mm	
M4, M5, M6, M8, M10, M12	6, 8, 10, 12, 16, 20, 25, 30, 35, 40, 50	90605A891

Assortments

Black-oxide Class 8.8 screws have a Rockwell hardness of C20. Min. tensile strength is 116,000 psi. Thread fit is 6g and dimensions meet DIN 912.

	Thread Sizes	Screw Lengths, mm	No. of Screws		
Black-Oxide Class 8.8 Alloy Steel	M3, M4, M5, M6, M8, M10	10 to 35	210	95874A113	$64.84
Black-Oxide Class 12.9 Alloy Steel	M4, M5, M6, M8, M10	10 to 40	240	92275A512	71.05
Black-Oxide Class 12.9 Alloy Steel	M4, M5, M6, M8, M10	10 to 40	880	92275A520	136.90
Black-Oxide Class 12.9 Alloy Steel	M4, M5, M6, M8	10 to 40	1,058	98573A010	185.00

Socket Screw Specification Charts

These handy slide charts list specifications and torque tightening guidelines for alloy steel socket screws.

Inch Specification Chart	92243A510	$4.64
Metric Specification Chart	92243A610	4.64

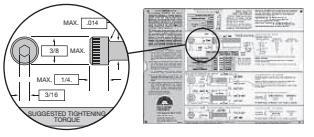

Corrosion-Resistant Coated Alloy Steel Socket Head Cap Screws



Full Threads



Partial Threads

Protective coatings add corrosion resistance. Screws are fully threaded, unless noted. They have a minimum Rockwell hardness of C37, and a minimum tensile strength of 170,000 psi. Length is measured from under the head. Inch screws have a Class 3A thread fit. Metric screws have a Class 5g6g thread fit.

Zinc-Plated Screws—Suitable for outdoor use. Inch sizes conform to ASTM A574. Metric sizes are Class 12.9 alloy steel and meet DIN 912/ISO 4762.

Zinc-Coated Screws—A thick zinc coating makes them 20 times as corrosion resistant as zinc-plated screws and comparable to Dacromet coated screws. They're made from Class 12.9 alloy steel. Dimensions meet DIN 912/ISO 4762.

Ultra Corrosion-Resistant Coated Screws—They have a zinc basecoat, an aluminum topcoat, and withstand 1,000 hours of salt spray per ASTM B117. Also known as Magni coated screws, they're about twice as corrosion resistant as zinc-coated screws and 40 times as corrosion resistant as zinc-plated screws. Inch sizes conform to ASTM A574 and meet ANSI/ASME B18.3. Metric sizes are made from Class 12.9 alloy steel and meet DIN 912/ISO 4762.

Zinc-Plated Alloy Steel

Lg.	Pkg. Qty.		Pkg.
2-56			
3/16"	50	90128A040	$10.61
1/4"	25	90128A042	6.07
5/16"	25	90128A044	6.08
3/8"	25	90128A046	6.10
1/2"	25	90128A050	6.44
5/8"	25	90128A054	6.15
3/4"	25	90128A058	8.06
1"	25	90128A101▲	12.80
4-40			
1/8"	50	90128A102	12.58
3/16"	10	90128A105	4.43
1/4"	25	90128A106	7.19
5/16"	10	90128A107	4.08
3/8"	25	90128A108	7.42
1/2"	25	90128A110	8.33
5/8"	10	90128A112	5.38
3/4"	10	90128A113	4.55
7/8"	10	90128A114	5.47
1"	10	90128A115▲	5.64
1 1/4"	10	90128A119▲	5.84
1 1/2"	10	90128A123▲	6.14
2"	10	90128A103▲	6.42
4-48			
1/4"	100	90128A104	12.43
3/8"	100	90128A109	11.52
1/2"	100	90128A111	12.12
3/4"	100	90128A116	13.24
1"	50	90128A117▲	10.64
5-40			
1/4"	10	90128A851	4.46
3/8"	10	90128A855	4.04
1/2"	10	90128A859	5.22
3/4"	10	90128A863	5.38
6-32			
1/8"	25	90128A118	14.22
3/16"	50	90128A121	4.34
1/4"	50	90128A144	7.29
5/16"	50	90128A145	7.97
3/8"	50	90128A146	7.85
1/2"	50	90128A148	8.41
5/8"	50	90128A150	7.89
3/4"	50	90128A151	9.85
7/8"	50	90128A152	10.69
1"	50	90128A153	10.53
1 1/4"	25	90128A160▲	7.68
1 1/2"	25	90128A164▲	9.22
1 3/4"	25	90128A168▲	10.75
2"	10	90128A172▲	6.45
8-32			
1/8"	50	90128A122	13.38
3/16"	100	90128A124	10.12
1/4"	50	90128A191	6.63
5/16"	100	90128A125	11.24
3/8"	50	90128A192	4.96
1/2"	50	90128A194	5.68
5/8"	50	90128A196	6.36
3/4"	50	90128A197	6.52
7/8"	50	90128A198	5.79
1"	50	90128A199	7.57
1 1/8"	50	90128A126▲	10.25
1 1/4"	50	90128A201▲	8.79
1 1/2"	25	90128A203▲	4.62
1 3/4"	10	90128A206▲	7.27
2"	10	90128A209▲	8.19
2 1/2"	10	90128A213▲	11.82
10-24			
1/4"	50	90128A127	7.21
3/8"	10	90128A218	1.24
1/2"	50	90128A220	6.31
10-24 (Cont.)			
5/8"	50	90128A221	$6.82
3/4"	50	90128A222	7.12
7/8"	50	90128A223	7.42
1"	50	90128A224	8.29
1 1/8"	25	90128A128▲	5.18
1 1/4"	25	90128A225▲	4.55
1 1/2"	25	90128A226▲	5.15
1 3/4"	25	90128A227▲	5.99
2"	25	90128A229▲	6.44
2 1/4"	10	90128A231▲	7.58
2 1/2"	10	90128A233▲	7.88
2 3/4"	5	90128A235▲	4.85
3"	5	90128A237▲	5.60
3 1/2"	5	90128A238▲	6.82
10-32			
3/16"	50	90128A129	9.83
1/4"	50	90128A932	8.33
5/16"	50	90128A131	5.06
3/8"	50	90128A940	6.21
1/2"	50	90128A942	6.36
5/8"	50	90128A944	6.82
3/4"	50	90128A945	7.12
7/8"	25	90128A946	3.71
1"	25	90128A947	4.09
1 1/4"	25	90128A948▲	4.55
1 3/8"	25	90128A132▲	7.50
1 1/2"	25	90128A951▲	5.15
1 3/4"	25	90128A953▲	5.99
2"	25	90128A955▲	6.44
2 1/4"	10	90128A957▲	9.10
2 1/2"	10	90128A961▲	9.70
2 3/4"	5	90128A965▲	6.82
3"	5	90128A969▲	7.27
3 1/2"	5	90128A973▲	9.62
4"	5	90128A977▲	10.13
1/4"-20			
1/4"	25	90128A239	6.55
3/8"	25	90128A241	4.39
1/2"	50	90128A242	9.09
5/8"	25	90128A243	4.70
3/4"	50	90128A245	10.00
7/8"	50	90128A246	10.15
1"	25	90128A247	6.06
1 1/8"	25	90128A133▲	6.94
1 1/4"	25	90128A250	6.44
1 3/8"	10	90128A301	6.45
1 1/2"	25	90128A251▲	7.11
1 3/4"	10	90128A252▲	3.24
2"	25	90128A253▲	8.78
2 1/4"	10	90128A254▲	4.85
2 1/2"	25	90128A255▲	14.69
2 3/4"	10	90128A259▲	6.06
3"	10	90128A554▲	6.36
3 1/4"	10	90128A557▲	9.75
3 1/2"	10	90128A560▲	10.30
3 3/4"	10	90128A563▲	10.80
4"	5	90128A566▲	7.10
4 1/2"	5	90128A569▲	7.40
5"	5	90128A572▲	7.72
5 1/2"	5	90128A575▲	8.33
6"	5	90128A577▲	8.95
1/4"-28			
1/4"	25	90128A134	11.89
3/8"	100	90128A135	12.67
1/2"	25	90128A361	4.70
5/8"	25	90128A363	4.73
3/4"	25	90128A365	5.23
7/8"	25	90128A369	5.38
1/4"-28 (Cont.)			
1"	25	90128A372	$6.06
1 1/4"	25	90128A376	7.05
1 1/2"	25	90128A380▲	7.27
1 3/4"	25	90128A384▲	8.25
2"	10	90128A388▲	3.79
5/16"-18			
3/8"	10	90128A136	7.15
1/2"	25	90128A578	7.27
5/8"	25	90128A580	7.35
3/4"	25	90128A581	7.42
7/8"	25	90128A582	7.39
1"	25	90128A583	9.17
1 1/8"	10	90128A137	10.15
1 1/4"	25	90128A586	9.32
1 3/8"	10	90128A138▲	11.84
1 1/2"	25	90128A587	10.15
1 3/4"	25	90128A589▲	10.41
2"	25	90128A591▲	12.13
2 1/4"	10	90128A592▲	6.24
2 1/2"	10	90128A593▲	5.97
2 3/4"	10	90128A594▲	6.46
3"	10	90128A595▲	8.03
3 1/4"	10	90128A596▲	8.38
3 1/2"	5	90128A597▲	4.73
4"	5	90128A599▲	5.64
4 1/2"	5	90128A603▲	6.33
5"	5	90128A607▲	6.61
5/16"-24			
1/2"	50	90128A139	10.91
5/8"	50	90128A141	10.59
3/4"	10	90128A745	2.95
7/8"	50	90128A142	12.66
1"	10	90128A749	3.60
1 1/4"	10	90128A753	3.59
1 1/2"	10	90128A757	4.00
1 3/4"	10	90128A761▲	4.78
2"	10	90128A765▲	5.03
3/8"-16			
3/8"	10	90128A143	7.56
1/2"	25	90128A619	6.41
5/8"	25	90128A621	7.40
3/4"	25	90128A622	11.74
7/8"	25	90128A623	11.01
1"	25	90128A624	12.21
1 1/8"	10	90128A147	10.45
1 1/4"	25	90128A627	14.55
1 3/8"	10	90128A149▲	12.24
1 1/2"	25	90128A628	13.18
1 3/4"	25	90128A630▲	14.69
2"	10	90128A632▲	6.46
2 1/4"	10	90128A633▲	8.67
2 1/2"	10	90128A634▲	7.84
2 3/4"	10	90128A635▲	8.35
3"	5	90128A636▲	4.88
3 1/4"	10	90128A303▲	10.22
3 1/2"	5	90128A637▲	5.45
3 3/4"	5	90128A305▲	6.33
4"	5	90128A638▲	5.06
4 1/2"	5	90128A642▲	6.61
5"	5	90128A647▲	6.62
5 1/2"	5	90128A652▲	7.15
6"	1	90128A657▲	2.09
7"	1	90128A662▲	4.47
3/8"-24			
1/2"	25	90128A154	8.69
5/8"	25	90128A155	8.76
3/4"	25	90128A362	11.76
7/8"	25	90128A156	10.27
3/8"-24 (Cont.)			
1"	10	90128A364	$4.81
1 1/8"	5	90128A157	7.32
1 1/4"	10	90128A367	5.68
1 3/8"	5	90128A158▲	7.93
1 1/2"	10	90128A370	6.41
1 3/4"	10	90128A373▲	6.81
2"	10	90128A377▲	7.27
2 1/2"	10	90128A379▲	9.32
7/16"-14			
1"	10	90128A402	7.27
1 1/4"	10	90128A406	8.22
1 1/2"	10	90128A410	8.73
1 3/4"	10	90128A414	9.73
2"	10	90128A418▲	10.59
7/16"-20			
1"	10	90128A451	9.73
1 1/2"	10	90128A455	10.81
2"	5	90128A459▲	9.46
1/2"-13			
1/2"	10	90128A159	10.86
5/8"	10	90128A161	10.26
3/4"	10	90128A710	9.65
1"	10	90128A712	12.36
1 1/8"	10	90128A162	13.87
1 1/4"	10	90128A714	9.97
1 3/8"	5	90128A163	8.47
1 1/2"	5	90128A716	5.21
1 3/4"	5	90128A718	5.27
2"	5	90128A720	6.30
2 1/4"	5	90128A721▲	6.41
2 1/2"	5	90128A722▲	7.90
2 3/4"	5	90128A723▲	8.46
3"	5	90128A724▲	8.91
3 1/4"	5	90128A725▲	9.84
3 1/2"	5	90128A726▲	10.35
3 3/4"	5	90128A727▲	10.51
4"	1	90128A728▲	2.28
4 1/2"	5	90128A732▲	12.24
5"	5	90128A735▲	13.31
5 1/2"	5	90128A738▲	9.68
6"	1	90128A741▲	4.38
6 1/2"	1	90128A744▲	5.49
7"	1	90128A747▲	5.75
8"	1	90128A750▲	7.48
1/2"-20			
1"	5	90128A840	5.20
1 1/4"	5	90128A842	5.65
1 1/2"	5	90128A844	6.06
1 3/4"	5	90128A846	6.62
2"	5	90128A848	7.12
2 1/2"	5	90128A852▲	8.52
3"	5	90128A856▲	9.98
5/8"-11			
1"	5	90128A510	9.35
1 1/4"	5	90128A513	8.90
1 1/2"	5	90128A798	9.00
1 3/4"	5	90128A516	9.24
2"	5	90128A802	10.07
2 1/4"	5	90128A519	10.62
2 1/2"	5	90128A804▲	11.19
2 3/4"	5	90128A522▲	12.04
3"	5	90128A806▲	12.50
3 1/2"	5	90128A525▲	14.28
4"	1	90128A810▲	3.96
4 1/2"	1	90128A528▲	4.65
5"	1	90128A531▲	4.93
5 1/2"	1	90128A534▲	7.09
6"	1	90128A537▲	6.54

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

(Continued on following page)

Corrosion-Resistant Coated Alloy Steel Socket Head Cap Screws (Continued)

Zinc-Plated Alloy Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
3/4"-10			
1"	1	90128A165	$4.30
1 1/2"	5	90128A901	12.69
1 3/4"	5	90128A905	13.50
2"	5	90128A909	14.38
2 1/4"	1	90128A913	3.00
2 1/2"	1	90128A915	3.19
2 3/4"	1	90128A917	3.44
3/4"-10 (Cont.)			
3"	1	90128A919▲	$3.69
3 1/2"	1	90128A921▲	4.12
4"	1	90128A923▲	4.54
4 1/2"	1	90128A925▲	5.15
5"	1	90128A927▲	5.50
6"	1	90128A935▲	7.39
7/8"-9			
2"	1	90128A166	$5.47
3"	1	90128A167▲	6.81
4"	1	90128A169▲	8.19
1"-8			
2"	1	90128A171	6.70
2 1/2"	1	90128A173	7.46
1"-8 (Cont.)			
3"	1	90128A980	$8.65
4"	1	90128A985▲	10.50
5"	1	90128A174▲	11.62
6"	1	90128A175▲	13.48

Ultra Corrosion-Resistant Coated Alloy Steel

Lg.	Pkg. Qty.		Pkg.
6-32			
1/4"	25	91274A004	9.86
3/8"	25	91274A008	10.06
1/2"	25	91274A012	8.70
5/8"	25	91274A016	9.08
3/4"	25	91274A020	9.06
7/8"	25	91274A024	7.67
1"	25	91274A028	8.14
1 1/4"	25	91274A032▲	9.10
1 1/2"	25	91274A036▲	10.63
1 3/4"	25	91274A040▲	11.77
2"	25	91274A044▲	12.76
8-32			
1/4"	50	91274A048	10.78
3/8"	50	91274A052	10.67
1/2"	50	91274A056	10.76
5/8"	50	91274A060	8.95
3/4"	50	91274A064	10.67
7/8"	50	91274A068	11.00
1"	50	91274A072	12.21
1 1/4"	50	91274A076▲	13.38
1 1/2"	25	91274A080▲	7.78
1 3/4"	25	91274A084▲	13.33
2"	25	91274A088▲	13.61
2 1/2"	10	91274A092▲	6.58
10-24			
1/4"	25	91274A096	8.11
3/8"	50	91274A100	8.07
1/2"	50	91274A104	8.27
5/8"	50	91274A108	8.87
3/4"	50	91274A112	9.44
7/8"	50	91274A116	11.43
1"	50	91274A120	10.93
1 1/4"	25	91274A124▲	7.36
1 1/2"	50	91274A128▲	13.58
1 3/4"	25	91274A132▲	8.25
2"	25	91274A136▲	10.13
2 1/4"	10	91274A140▲	7.43
2 1/2"	10	91274A144▲	6.40
10-32			
3/8"	50	91274A171	8.94
1/2"	50	91274A173	7.38
3/4"	50	91274A174	8.87
1"	50	91274A175▲	11.76
1/4"-20			
1/4"	25	91274A148	8.16
3/8"	50	91274A152	8.67
1/2"	50	91274A156	8.81
5/8"	50	91274A160	9.20
3/4"	50	91274A164	9.40
7/8"	50	91274A168	11.39
1"	50	91274A172	11.59
1 1/4"	50	91274A176	12.96
1 1/2"	25	91274A180▲	7.80
1 3/4"	25	91274A184▲	8.29
2"	25	91274A188▲	8.91
2 1/4"	25	91274A192▲	12.53
2 1/2"	25	91274A196▲	13.43
2 3/4"	10	91274A200▲	6.60
3"	10	91274A208▲	7.20
3 1/4"	10	91274A212▲	10.48
3 1/2"	10	91274A216▲	10.83
3 3/4"	10	91274A220▲	12.05
4"	10	91274A204▲	13.44
1/4"-28			
3/8"	50	91274A177	11.26
1/2"	50	91274A178	11.33
3/4"	50	91274A179	8.91
1"	50	91274A181	9.91
5/16"-18			
3/8"	25	91274A224	8.15
1/2"	25	91274A228	8.24
5/8"	25	91274A232	7.72
3/4"	25	91274A236	7.87
7/8"	25	91274A240	8.07
1"	25	91274A244	8.14
1 1/4"	25	91274A248	9.04
1 1/2"	25	91274A252	9.65
1 3/4"	25	91274A256▲	11.18
2"	25	91274A260▲	11.90
5/16"-18 (Cont.)			
2 1/4"	10	91274A264▲	6.18
2 1/2"	10	91274A268▲	7.14
2 3/4"	10	91274A272▲	9.29
3"	10	91274A276▲	10.67
3 1/4"	10	91274A280▲	11.64
3 1/2"	10	91274A284▲	12.88
4"	5	91274A288▲	8.89
3/8"-16			
1/2"	25	91274A292	12.78
5/8"	25	91274A296	13.46
3/4"	25	91274A300	11.12
7/8"	25	91274A304	11.76
1"	25	91274A308	11.79
1 1/4"	25	91274A312	12.97
1 1/2"	10	91274A316	5.89
1 3/4"	10	91274A320▲	6.53
2"	10	91274A324▲	6.88
2 1/4"	10	91274A328▲	8.67
2 1/2"	10	91274A332▲	8.31
2 3/4"	10	91274A336▲	11.33
3"	10	91274A340▲	14.47
3 1/4"	5	91274A344▲	7.40
3 1/2"	5	91274A348▲	8.32
4"	5	91274A352▲	9.76
4 1/2"	5	91274A356▲	12.09
5"	5	91274A360▲	13.01
5 1/2"	1	91274A364▲	6.42
6"	1	91274A368▲	3.98
7/16"-14			
5/8"	10	91274A376	9.43
1"	5	91274A384	4.17
1 1/4"	10	91274A388	9.11
1 1/2"	10	91274A392	10.38
1 3/4"	10	91274A396	11.12
2"	10	91274A400▲	11.96
2 1/4"	5	91274A404▲	8.59
2 1/2"	5	91274A408▲	7.42
3"	5	91274A416▲	9.09
3 1/2"	5	91274A420▲	10.85
4"	5	91274A424▲	13.30
1/2"-13			
1/2"	10	91274A428	12.43
5/8"	5	91274A432	9.89
3/4"	10	91274A436	10.63
7/8"	10	91274A440	9.72
1"	10	91274A444	9.62
1 1/4"	10	91274A448	9.70
1 1/2"	10	91274A452	10.69
1 3/4"	10	91274A456	11.42
2"	10	91274A460	12.17
2 1/4"	5	91274A464▲	7.45
2 1/2"	5	91274A468▲	7.72
2 3/4"	5	91274A472▲	10.69
3"	5	91274A476▲	9.91
3 1/4"	5	91274A480▲	10.71
3 1/2"	5	91274A484▲	11.00
3 3/4"	1	91274A488▲	4.29
4"	5	91274A492▲	13.82
4 1/2"	1	91274A496▲	3.38
5"	1	91274A500▲	3.60
5 1/2"	1	91274A504▲	3.99
6"	1	91274A508▲	4.62
6 1/2"	1	91274A512▲	5.82
7"	1	91274A516▲	6.44
8"	1	91274A520▲	7.95
5/8"-11			
1"	5	91274A182	8.33
1 1/4"	5	91274A183	7.90
1 1/2"	5	91274A185	7.97
1 3/4"	5	91274A186	8.17
2"	5	91274A187▲	8.91
3/4"-10			
1 1/2"	1	91274A189	2.93
1 3/4"	1	91274A191	4.04
2"	1	91274A193	3.31
2 1/2"	1	91274A194▲	3.69
3"	1	91274A195▲	4.24
1"-8			
2"	1	91274A197	5.89
3"	1	91274A198▲	5.00
4"	1	91274A199▲	9.07

Metric Zinc-Plated Class 12.9 Alloy Steel—Dimensions in millimeters

Lg.	Pkg. Qty.		Pkg.
M2—Pitch: 0.4 mm			
4	100	90128A176	12.34
5	100	90128A177	12.40
6	100	90128A178	12.43
8	100	90128A179	12.51
10	100	90128A181	12.88
12	100	90128A182	13.44
M2.5—Pitch: 0.45 mm			
6	100	90128A183	13.22
8	100	90128A184	13.43
10	100	90128A185	13.97
M3—Pitch: 0.5 mm			
5	100	90128A187	8.41
6	50	95263A110	5.66
8	50	95263A122	5.93
10	50	95263A134	6.27
12	50	95263A146	6.55
16	25	95263A158	3.90
20	100	90128A204▲	11.32
25	100	90128A205▲	11.97
M4—Pitch: 0.7 mm			
5	100	90128A207	8.24
6	100	90128A208	8.36
M4 (Cont.)			
8	100	90128A211	8.30
10	100	90128A212	8.09
12	100	90128A214	8.12
16	100	90128A215	8.48
20	100	90128A216	9.57
25	100	90128A217▲	10.34
30	100	90128A219▲	11.55
M5—Pitch: 0.8 mm			
6	100	90128A228	7.76
8	100	90128A232	7.79
10	100	90128A234	7.73
12	100	90128A236	8.12
16	100	90128A244	9.39
20	100	90128A248	10.13
25	100	90128A249▲	10.81
30	100	90128A256▲	11.19
40	100	90128A257▲	13.77
50	100	90128A258▲	14.67
M6—Pitch: 1 mm			
10	100	90128A261	11.94
12	100	90128A262	9.30
16	100	90128A263	10.36
M6 (Cont.)			
20	100	90128A264	11.97
25	100	90128A265▲	13.22
30	50	90128A266▲	7.84
35	50	90128A267▲	8.59
40	50	90128A268▲	9.47
50	50	90128A269▲	6.45
60	25	90128A271▲	6.43
M8—Pitch: 1.25 mm			
12	50	90128A272	13.61
16	50	90128A273	11.03
20	50	90128A274	12.33
25	50	90128A275	13.70
30	25	90128A276▲	7.65
35	25	90128A277▲	8.47
40	25	90128A278▲	9.38
50	25	90128A279▲	11.20
60	10	90128A281▲	5.23
80	10	90128A282▲	6.84
M10—Pitch: 1.5 mm			
12	25	90128A283	10.37
16	25	90128A284	9.42
20	25	90128A285	10.28
M10 (Cont.)			
25	25	90128A286	11.39
30	25	90128A287	12.49
35	25	90128A288▲	13.70
40	10	90128A289▲	5.84
50	10	90128A291▲	7.18
60	10	90128A292▲	8.30
M12—Pitch: 1.75 mm			
12	10	90128A293	8.09
16	10	90128A294	6.02
20	10	90128A295	5.96
25	10	90128A296	6.54
30	10	90128A297	7.32
40	10	90128A298▲	8.52
50	10	90128A299▲	10.11
60	10	90128A302▲	11.74
M16—Pitch: 2 mm			
30	5	90128A304	7.30
40	5	90128A306	8.44
50	5	90128A307▲	9.66
60	5	90128A308▲	11.09

Metric Zinc-Coated Class 12.9 Alloy Steel—Dimensions in millimeters

Lg.	Pkg. Qty.		Pkg.
M4—Pitch: 0.7 mm			
6	50	95263A221	5.03
8	50	95263A234	6.72
10	50	95263A247	5.86
M4 (Cont.)			
12	50	95263A260	6.67
16	50	95263A273	6.37
20	50	95263A286	7.57
M5—Pitch: 0.8 mm			
10	50	95263A332	8.13
12	50	95263A346	8.14
14	25	95263A360	5.07
M5 (Cont.)			
16	25	95263A374	4.34
20	25	95263A388	4.65
25	25	95263A402	4.86

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

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Corrosion-Resistant Coated Alloy Steel Socket Head Cap Screws *(Continued)*


Full Threads


Partial Threads

Protective coatings add corrosion resistance. Screws are fully threaded, unless noted. They have a minimum Rockwell hardness of C37, and a minimum tensile strength of 170,000 psi. Length is measured from under the head. Inch screws have a Class 3A thread fit. Metric screws have a Class 5g6g thread fit.

Zinc-Plated Screws—Suitable for outdoor use. Inch sizes conform to ASTM A574.

Zinc-Coated Screws—A thick zinc coating makes them 20 times as corrosion resistant as zinc-plated screws and comparable to Dacromet coated screws. They're made from Class 12.9 alloy steel. Dimensions meet DIN 912/ISO 4762.

Ultra Corrosion-Resistant Coated Screws—They have a zinc basecoat, an aluminum topcoat, and withstand 1,000 hours of salt spray per ASTM B117. Also known as Magni coated screws, they're about twice as corrosion resistant as zinc-coated screws and 40 times as corrosion resistant as zinc-plated screws. Metric sizes are made from Class 12.9 alloy steel and meet DIN 912/ISO 4762.

Metric Zinc-Coated Class 12.9 Alloy Steel (Cont.)—Dimensions in millimeters

M6—Pitch: 1 mm

Lg.	Pkg. Qty.		Pkg.
12	25	95263A516	$5.38
16	25	95263A531	5.48
20	25	95263A546	5.69
25	25	95263A561	6.62
30	25	95263A576	8.05

M8—Pitch: 1.25 mm

Lg.	Pkg. Qty.		Pkg.
16	25	95263A605	$9.34
20	10	95263A619	4.73
25	10	95263A633	4.31
30	10	95263A647	4.50
35	10	95263A661	4.87
40	10	95263A675	9.47

M10—Pitch: 1.5 mm

Lg.	Pkg. Qty.		Pkg.
20	10	95263A735	$6.02
25	10	95263A743	6.13
30	10	95263A751	7.46
35	10	95263A759	10.10
40	10	95263A767	11.14

M12—Pitch: 1.75 mm

Lg.	Pkg. Qty.		Pkg.
25	5	95263A846	$7.00
30	5	95263A859	7.16
40	5	95263A872	7.42
50	5	95263A885	8.84

Metric Ultra Corrosion-Resistant Coated Class 12.9 Alloy Steel—Dimensions in millimeters

Choose a Thread Size	Choose a Screw Length	
M3, M4, M5, M6, M8, M10, M12	5, 6, 8, 10, 12, 16, 20, 25, 30, 35, 40, 50	91274A600

Zinc-Plated Alloy Steel Assortments

Thread Sizes	Screw Lengths	No. of Pieces		
6-32, 8-32, 10-32, 1/4"-20, 5/16"-18, 3/8"-16	1/2" to 1 1/2"	170	91965A473	$174.83
6-32, 8-32, 10-24, 10-32, 1/4"-20, 5/16"-18	1/4" to 1 1/2"	400	92135A346	189.15

Locking Alloy Steel Socket Head Cap Screws


Thread Locking


With Captive Lock Washer


Flanged


Serrated Flange

Screws have a locking element to resist loosening. They're made from black-oxide alloy steel and are fully threaded, unless noted. Length is measured from under the head.

Thread-Locking Screws—A nylon patch bonded to the threads withstands temperatures from –70° to 250° F. Screws are reusable. *Inch sizes* have a Class 3A thread fit, a min. Rockwell hardness of C37, and a min. tensile strength of 170,000 psi. They conform to ASTM A574 and meet ANSI/ASME B18.3. *Metric sizes* have a Class 5g6g thread fit, a min. Rockwell hardness of C39, and a min. tensile strength of 175,000 psi. They meet DIN 912/ISO 4762.

Screws with Captive Lock Washer—A permanently attached but freely rotating split lock washer provides tension to resist loosening. Also known as Sems screws, they have a Class 3A thread fit, a Rockwell hardness of C39, and a min. tensile strength of 180,000 psi.

Flanged Screws—The flange distributes holding power and covers irregular or oversized holes. *Inch sizes* have a Class 3A thread fit, a min. Rockwell hardness of C20, and min. tensile strength of 100,000 psi. *Metric sizes* have a Class 6g thread fit, a min. Rockwell hardness of C39, and a min. tensile strength of 175,000 psi.

Serrated Flange Screws—Like flanged screws but with notches that dig into the surface to hold fast. The flange covers irregular or oversized holes. Screws have a Class 5g6g thread fit, a Rockwell hardness of C39, and a min. tensile strength of 145,000 psi.

Thread-Locking Screws

0-80

Lg.	Pkg. Qty.		Pkg.
1/8"	5	91205A030	$6.32
3/16"	5	91205A033	6.33
1/4"	5	91205A036	6.35

2-56

Lg.	Pkg. Qty.		Pkg.
1/8"	5	91205A050	8.28
3/16"	5	91205A053	8.11
1/4"	5	91205A060	6.50
3/8"	5	91205A063	6.55
1/2"	5	91205A066	6.60
3/4"	5	91205A069	8.65
1"	5	91205A072▲	8.88

4-40

Lg.	Pkg. Qty.		Pkg.
1/8"	10	91205A101	6.47
3/16"	10	91205A102	6.29
1/4"	25	91205A105	11.98
3/8"	25	91205A108	12.05
1/2"	25	91205A110	12.19
3/4"	10	91205A112	5.54
1"	10	91205A115▲	5.99

5-40

Lg.	Pkg. Qty.		Pkg.
3/8"	25	91205A120	11.40
1/2"	25	91205A124	11.70

6-32

Lg.	Pkg. Qty.		Pkg.
1/8"	10	91205A141	9.80
3/16"	10	91205A142	5.83
1/4"	25	91205A144	8.47
3/8"	25	91205A146	8.60
1/2"	25	91205A148	8.77
5/8"	25	91205A150	8.91
3/4"	25	91205A151	9.04
7/8"	25	91205A152	9.07
1"	25	91205A153	9.69

6-32 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1 1/2"	10	91205A156▲	$6.38
2"	10	91205A158▲	6.84

8-32

Lg.	Pkg. Qty.		Pkg.
1/4"	25	91205A191	12.25
3/8"	25	91205A192	8.94
1/2"	25	91205A194	9.07
5/8"	25	91205A195	9.23
3/4"	25	91205A197	9.36
7/8"	25	91205A198	9.69
1"	25	91205A193	10.32
1 1/4"	25	91205A201▲	10.49
1 1/2"	25	91205A203▲	11.22
2"	10	91205A205▲	6.77

10-24

Lg.	Pkg. Qty.		Pkg.
1/4"	25	91205A238	11.83
3/8"	25	91205A240	9.29
1/2"	25	91205A242	9.36
5/8"	25	91205A244	9.61
3/4"	25	91205A245	9.77
7/8"	25	91205A246	12.17
1"	25	91205A247	10.54
1 1/2"	25	91205A248▲	12.04
2"	10	91205A252▲	6.82

10-32

Lg.	Pkg. Qty.		Pkg.
1/4"	25	91205A338	11.83
3/8"	25	91205A340	9.29
1/2"	25	91205A342	9.36
5/8"	25	91205A344	9.62
3/4"	25	91205A345	9.77
7/8"	25	91205A346	10.12
1"	25	91205A347	10.54
1 1/4"	25	91205A349▲	10.87

10-32 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1 1/2"	25	91205A351▲	$11.67
1 3/4"	25	91205A353▲	12.13
2"	25	91205A355▲	12.66
2 1/2"	5	91205A357▲	7.34
3"	5	91205A359▲	8.06

1/4"-20

Lg.	Pkg. Qty.		Pkg.
1/4"	10	91205A531	6.76
5/16"	10	91205A533	5.45
3/8"	25	91205A535	9.78
7/16"	10	91205A536	6.05
1/2"	25	91205A537	10.02
9/16"	10	91205A538	6.67
5/8"	25	91205A539	10.11
3/4"	25	91205A540	10.26
7/8"	25	91205A541	10.63
1"	25	91205A542	11.03
1 1/4"	25	91205A544	11.34
1 1/2"	25	91205A546▲	12.12
1 3/4"	25	91205A548▲	12.58
2"	25	91205A550▲	13.16
2 1/4"	5	91205A675▲	8.70
2 1/2"	10	91205A552▲	6.61
3"	10	91205A554▲	8.07

1/4"-28

Lg.	Pkg. Qty.		Pkg.
1/2"	25	91205A560	10.04
5/8"	10	91205A561	5.89
3/4"	25	91205A563	10.26
7/8"	10	91205A564	7.82
1"	25	91205A565	11.03
1 1/4"	25	91205A667	11.37
1 1/2"	25	91205A669▲	12.12

1/4"-28 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1 3/4"	25	91205A671▲	$12.61
2"	25	91205A673▲	13.16

5/16"-18

Lg.	Pkg. Qty.		Pkg.
1/2"	25	91205A578	11.14
5/8"	10	91205A579	9.34
3/4"	25	91205A581	11.49
7/8"	10	91205A582	11.96
1"	25	91205A583	12.21
1 1/4"	10	91205A585	5.26
1 1/2"	10	91205A587	5.54
1 3/4"	10	91205A584▲	5.86
2"	10	91205A591▲	5.96
2 1/2"	10	91205A593▲	7.51
3"	10	91205A595▲	8.15

5/16"-24

Lg.	Pkg. Qty.		Pkg.
1/2"	10	91205A596	9.67
3/4"	25	91205A597	11.67
1"	25	91205A599	12.37
1 1/4"	25	91205A601	12.67
1 1/2"	25	91205A603	13.47
2"	5	91205A605▲	11.71

3/8"-16

Lg.	Pkg. Qty.		Pkg.
1/2"	5	91205A618	7.60
5/8"	5	91205A619	7.82
3/4"	10	91205A622	5.47
7/8"	10	91205A623	6.55
1"	10	91205A624	5.85
1 1/8"	5	91205A625	12.34
1 1/4"	10	91205A626	5.94
1 1/2"	10	91205A628	6.30
1 3/4"	10	91205A630▲	6.62
2"	10	91205A632▲	6.48

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

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Locking Alloy Steel Socket Head Cap Screws *(Continued from previous page)*

Thread-Locking Screws (Cont.)

3/8"-16 (Cont.)

Lg.	Pkg. Qty.		Pkg.
2 1/4"	10	91205A633▲	$7.57
2 1/2"	10	91205A634▲	9.57
3"	5	91205A636▲	6.20
3 1/2"	1	91205A648▲	3.22
4"	1	91205A668▲	3.82

3/8"-24

Lg.	Pkg. Qty.		Pkg.
1"	10	91205A621	6.16
1 1/4"	10	91205A627	$6.44
1 1/2"	10	91205A629	7.21

1/2"-13

Lg.	Pkg. Qty.		Pkg.
3/4"	5	91205A709	9.38
1"	10	91205A712	11.05
1 1/4"	5	91205A714	6.01
1 1/2"	5	91205A716	6.26
1 3/4"	5	91205A718	$6.61
2"	5	91205A720	6.93
2 1/4"	1	91205A721▲	3.18
2 1/2"	5	91205A722▲	8.81
3"	5	91205A724▲	10.26
4"	1	91205A726▲	3.71

5/8"-11

Lg.	Pkg. Qty.		Pkg.
1 1/2"	5	91205A728	$11.26
1 3/4"	5	91205A730	10.73
2"	5	91205A732	13.06
2 1/2"	1	91205A734▲	6.89
3"	1	91205A736▲	7.18

Screws with Captive Lock Washer

4-40—Washer Thick.: 0.030"

Lg.	Pkg. Qty.		Pkg.
1/4"	1	90342A111	1.99
3/8"	1	90342A112	2.00
1/2"	1	90342A113	2.00

6-32—Washer Thick.: 0.040"

Lg.	Pkg. Qty.		Pkg.
1/4"	1	90342A114	1.91
3/8"	1	90342A115	1.92
1/2"	1	90342A116	1.93

8-32—Washer Thick.: 0.047"

Lg.	Pkg. Qty.		Pkg.
3/8"	1	90342A117	1.96
1/2"	1	90342A118	1.97
5/8"	1	90342A119	1.99
3/4"	1	90342A120	2.02
1"	1	90342A121	2.03

10-32—Washer Thick.: 0.047"

Lg.	Pkg. Qty.		Pkg.
3/8"	1	90342A122	2.00
1/2"	1	90342A123	2.02
3/4"	1	90342A124	2.06
1"	1	90342A125	2.10

1/4"-20—Washer Thick.: 0.062"

Lg.	Pkg. Qty.		Pkg.
3/8"	1	90342A126	2.21
1/2"	1	90342A127	2.16
3/4"	1	90342A128	2.22
1"	1	90342A129	2.29
1 1/4"	1	90342A130	2.40
1 1/2"	1	90342A131	2.53

Flanged Screws

4-40—Flange Dia.: 1/4"

Lg.	Pkg. Qty.		Pkg.
1/4"	1	92235A501	3.19
3/8"	1	92235A502	3.21
1/2"	1	92235A503	3.27

6-32—Flange Dia.: 5/16"

Lg.	Pkg. Qty.		Pkg.
1/4"	1	92235A504	3.21
3/8"	1	92235A505	3.27
1/2"	1	92235A506	4.06

8-32—Flange Dia.: 3/8"

Lg.	Pkg. Qty.		Pkg.
3/8"	1	92235A507	3.14

8-32 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1/2"	1	92235A508	3.93
5/8"	1	92235A509	3.96
3/4"	1	92235A510	3.98
1"	1	92235A511▲	4.80

10-32—Flange Dia.: 7/16"

Lg.	Pkg. Qty.		Pkg.
3/8"	1	92235A512	3.19
1/2"	1	92235A513	3.98
3/4"	1	92235A514	4.03
1"	1	92235A515▲	4.08

1/4"-20—Flange Dia.: 9/16"

Lg.	Pkg. Qty.		Pkg.
3/8"	1	92235A516	3.47
1/2"	1	92235A517	4.29
3/4"	1	92235A518	4.42
1"	1	92235A519	4.54
1 1/4"	1	92235A520▲	4.83
1 1/2"	1	92235A521▲	4.94

3/8"-16—Flange Dia.: 13/16"

Lg.	Pkg. Qty.		Pkg.
3/4"	1	92235A522	4.49
1"	1	92235A523	4.62

3/8"-16 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1 1/4"	1	92235A524	4.90
1 1/2"	1	92235A525▲	5.01

1/2"-13—Flange Dia.: 1 1/16"

Lg.	Pkg. Qty.		Pkg.
3/4"	1	92235A526	6.71
1"	1	92235A527	6.98
1 1/4"	1	92235A528	8.09
1 1/2"	1	92235A529	8.37

Metric Thread-Locking Screws—Dimensions in millimeters

M4—Pitch: 0.7 mm

	Pkg. Qty.		
10	25	91760A144	12.05
12	25	91760A148	12.05
16	25	91760A154	12.05
20	25	91760A158	13.24
25	25	91760A162	13.12

M5—Pitch: 0.8 mm

	Pkg. Qty.		
10	25	91760A224	12.05
12	25	91760A232	12.05
16	25	91760A242	12.05

M5 (Cont.)

	Pkg. Qty.		
20	25	91760A245	12.50
25	25	91760A248	12.50

M6—Pitch: 1 mm

	Pkg. Qty.		
12	25	91760A318	12.05
16	25	91760A321	12.05
20	25	91760A326	12.50
25	25	91760A330	12.50
30	25	91760A332	12.50

M6 (Cont.)

	Pkg. Qty.		
35	25	91760A335▲	13.72
40	25	91760A338▲	14.06

M8—Pitch: 1.25 mm

	Pkg. Qty.		
16	10	91760A423	5.94
20	10	91760A426	5.94
25	10	91760A432	5.94
30	10	91760A434	5.83
40	10	91760A438▲	6.56

M10—Pitch: 1.5 mm

	Pkg. Qty.		
25	10	91760A510	7.19
30	10	91760A515	8.60
35	10	91760A520	8.20
40	10	91760A525	8.11

M12—Pitch: 1.75 mm

	Pkg. Qty.		
30	10	91760A553	11.57
35	10	91760A556	12.20
40	10	91760A559	14.06
50	10	91760A562	14.06

Metric Flanged Screws—Dimensions in millimeters

M4—Pitch: 0.7 mm; Flange Dia.: 9 mm

	Pkg. Qty.		
8	50	92235A105	11.70
10	50	92235A108	7.30
12	50	92235A111	7.40
16	50	92235A114	7.50
20	50	92235A117	10.85

M5—Pitch: 0.8 mm; Flange Dia.: 11 mm

	Pkg. Qty.		
10	25	92235A208	7.88
12	25	92235A210	7.82

M5 (Cont.)

	Pkg. Qty.		
16	25	92235A212	7.90
20	25	92235A214	8.78
25	25	92235A215▲	11.28
30	10	92235A216▲	7.47

M6—Pitch: 1 mm; Flange Dia.: 12.5 mm

	Pkg. Qty.		
16	10	92235A238	3.68
20	10	92235A240	4.21
25	10	92235A242	4.94
30	10	92235A217▲	6.17

M8—Pitch: 1.25 mm; Flange Dia.: 17 mm

	Pkg. Qty.		
20	5	92235A284	3.90
25	5	92235A286	3.94
30	5	92235A288	4.64
35	5	92235A218▲	5.92
40	5	92235A219▲	9.83

M10—Pitch: 1.5 mm; Flange Dia.: 21 mm

	Pkg. Qty.		
20	5	92235A328	6.10
25	5	92235A330	5.80
30	5	92235A332	7.14

M10 (Cont.)

	Pkg. Qty.		
35	5	92235A220	7.75
40	5	92235A334▲	7.55
50	5	92235A336▲	7.94
60	1	92235A221▲	2.91

M12—Pitch: 1.75 mm; Flange Dia.: 24 mm

	Pkg. Qty.		
30	5	92235A410	8.75
35	5	92235A415	10.17
40	5	92235A420	9.73
50	5	92235A425▲	10.77
60	1	92235A222▲	2.70

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Metric Serrated Flange Screws

Choose a Thread Size	Choose a Screw Length	
M5, M6, M8, M10, M12	10 mm, 12 mm, 16 mm, 20 mm, 25 mm, 30 mm, 35 mm, 40 mm, 50 mm	90074A100

Precise-Length Partially Threaded Stainless Steel Socket Head Cap Screws

Get the exact amount of threading you need. Screws have a flanged head that distributes holding power and covers irregular or oversized holes. Screws are made from 18-8 stainless steel. They have a Class 3A thread fit, a minimum Rockwell hardness of B83, and a minimum tensile strength of 85,000. Length is measured from under the head.



8-32

Grip Lg.	Thread Lg.			Each
1/4"	3/16"	7/16"	98201A111	$2.68
3/8"	3/16"	9/16"	98201A112	2.68
1/2"	3/16"	11/16"	98201A113	2.73
3/4"	3/16"	15/16"	98201A114	3.79
1"	3/16"	1 3/16"	98201A115	4.68

10-32

Grip Lg.	Thread Lg.			Each
1/4"	3/8"	5/8"	98201A211	2.68
3/8"	3/8"	3/4"	98201A212	2.76
1/2"	3/8"	7/8"	98201A213	2.81
3/4"	3/8"	1 1/8"	98201A214	3.94
1"	3/8"	1 3/8"	98201A215	5.03

1/4"-20

Grip Lg.	Thread Lg.			Each
1/2"	7/16"	15/16"	98201A311	$3.41
3/4"	7/16"	1 3/16"	98201A312	3.62
1"	7/16"	1 7/16"	98201A313	4.17
1 1/4"	7/16"	1 11/16"	98201A314	4.69
1 1/2"	7/16"	1 15/16"	98201A315	4.93
2"	7/16"	2 7/16"	98201A316	5.48

5/16"-18

Grip Lg.	Thread Lg.			Each
1/2"	1/2"	1"	98201A411	4.69
5/8"	1/2"	1 1/8"	98201A412	4.88
3/4"	1/2"	1 1/4"	98201A413	5.03
1"	1/2"	1 1/2"	98201A414	5.17

3/8"-16

Grip Lg.	Thread Lg.			Each
5/8"	5/8"	1 1/4"	98201A511	$5.00
3/4"	5/8"	1 3/8"	98201A512	5.17
1"	5/8"	1 5/8"	98201A513	5.41
1 1/4"	5/8"	1 7/8"	98201A514	5.70
1 1/2"	5/8"	2 1/8"	98201A515	5.83

1/2"-13

Grip Lg.	Thread Lg.			Each
3/4"	3/4"	1 1/2"	98201A611	7.49
1"	3/4"	1 3/4"	98201A612	7.67
1 1/4"	3/4"	2"	98201A613	8.64
1 1/2"	3/4"	2 1/4"	98201A614	9.32
2"	3/4"	2 3/4"	98201A615	9.80

Other Sizes and Lengths—To Order: Please specify thread size and grip length. 98201A999

Low-Profile Alloy Steel Socket Head Cap Screws



Full Threads



Partial Threads

For low-strength applications where clearance is limited, these screws have a head that's about half the height of a standard socket head. Screws are fully threaded, unless noted. Length is measured from under the head.

Inch Sizes—Meet ASTM A574. They have a Class 3A thread fit, a minimum Rockwell hardness of C39, and a minimum tensile strength of 145,000 psi.

Metric Sizes—Meet DIN 7984. They have a Class 6g thread fit, a minimum Rockwell hardness of C20, and a minimum tensile strength of 115,000 psi.

Black-Oxide Alloy Steel

4-40—Head Ht.: 0.059″

Lg.	Pkg. Qty.		Pkg.
1/4″	10	92220A121	$5.43
3/8″	10	92220A122	6.04
1/2″	10	92220A123	7.63
3/4″	10	92220A124	10.20

6-32—Head Ht.: 1/16″

Lg.	Pkg. Qty.		Pkg.
1/4″	25	92220A141	8.16
3/8″	25	92220A142	8.68
1/2″	25	92220A143	9.17
5/8″	25	92220A144	9.62
3/4″	25	92220A145	9.73
1″	10	92220A146	7.17

8-32—Head Ht.: 5/64″

Lg.	Pkg. Qty.		Pkg.
1/4″	50	92220A151	13.84
3/8″	100	92220A152	11.43
1/2″	100	92220A153	11.79
5/8″	100	92220A154	12.19
3/4″	50	92220A155	6.25
7/8″	10	92220A147	9.63
1″	50	92220A156	6.65
1 1/4″	10	92220A157▲	5.62
1 1/2″	10	92220A158▲	5.92

10-24—Head Ht.: 3/32″

Lg.	Pkg. Qty.		Pkg.
1/4″	25	92220A161	7.42
3/8″	50	92220A162	8.47

10-24 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1/2″	50	92220A163	$8.14
5/8″	50	92220A164	7.06
3/4″	50	92220A165	7.27
1″	50	92220A166	10.41

10-32—Head Ht.: 3/32″

Lg.	Pkg. Qty.		Pkg.
1/4″	25	92220A171	7.42
3/8″	50	92220A172	8.54
1/2″	50	92220A173	9.59
5/8″	50	92220A174	7.16
3/4″	50	92220A175	7.41
7/8″	25	92220A169	11.00
1″	50	92220A176	8.21
1 1/4″	10	92220A177▲	5.63
1 1/2″	10	92220A178▲	6.07

1/4″-20—Head Ht.: 1/8″

Lg.	Pkg. Qty.		Pkg.
1/4″	10	92220A181	7.48
3/8″	50	92220A182	11.50
1/2″	50	92220A183	9.15
5/8″	50	92220A184	9.14
3/4″	50	92220A185	9.13
7/8″	10	92220A204	8.59
1″	50	92220A186	11.84
1 1/4″	25	92220A205	8.20

1/4″-20 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1 1/2″	25	92220A187▲	$13.63
1 3/4″	10	92220A188▲	6.82
2″	10	92220A189▲	7.06
2 1/2″	1	92220A206	2.92
3″	1	92220A207	2.94

1/4″-28—Head Ht.: 1/8″

Lg.	Pkg. Qty.		Pkg.
3/8″	10	92220A208	4.44
1/2″	10	92220A211	5.47
5/8″	10	92220A209	5.44
3/4″	10	92220A212	5.59
1″	10	92220A213	6.72

5/16″-18—Head Ht.: 5/32″

Lg.	Pkg. Qty.		Pkg.
1/2″	50	92220A221	9.59
5/8″	25	92220A215	7.99
3/4″	25	92220A222	6.07
1″	25	92220A223	6.84
1 1/4″	25	92220A224	8.12
1 1/2″	25	92220A225	8.41
1 3/4″	5	92220A226▲	6.69
2″	5	92220A227▲	6.98

5/16″-24—Head Ht.: 5/32″

Lg.	Pkg. Qty.		Pkg.
1/2″	5	92220A231	5.13
3/4″	5	92220A232	5.59
1″	5	92220A233	5.98

3/8″-16—Head Ht.: 3/16″

Lg.	Pkg. Qty.		Pkg.
1/2″	25	92220A251	$8.50
5/8″	25	92220A257	10.66
3/4″	25	92220A252	9.26
7/8″	10	92220A258	7.55
1″	25	92220A253	10.36
1 1/4″	25	92220A254	10.80
1 1/2″	25	92220A255	11.79
1 3/4″	5	92220A259	7.81
2″	5	92220A256▲	5.77
2 1/2″	5	92220A266	12.13
3″	1	92220A267	4.37

3/8″-24—Head Ht.: 3/16″

Lg.	Pkg. Qty.		Pkg.
3/4″	5	92220A268	7.07
1″	5	92220A269	7.56

1/2″-13—Head Ht.: 1/4″

Lg.	Pkg. Qty.		Pkg.
3/4″	10	92220A271	12.07
1″	10	92220A261	7.63
1 1/4″	10	92220A262	7.95
1 1/2″	10	92220A263	8.84
1 3/4″	5	92220A264	11.70
2″	1	92220A265	2.90
2 1/2″	1	92220A272	6.25
3″	1	92220A273▲	6.58

Zinc-Plated Alloy Steel

8-32—Head Ht.: 5/64″

Lg.	Pkg. Qty.		Pkg.
3/8″	50	90665A111	6.67
1/2″	50	90665A112	8.48
5/8″	50	90665A113	8.78
3/4″	50	90665A114	8.79
1″	50	90665A115	9.85

10-24—Head Ht.: 3/32″

Lg.	Pkg. Qty.		Pkg.
3/8″	50	90665A125	7.27
1/2″	50	90665A126	7.27
5/8″	50	90665A127	8.63

10-24 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3/4″	50	90665A128	8.48
1″	50	90665A129	10.31

10-32—Head Ht.: 3/32″

Lg.	Pkg. Qty.		Pkg.
3/8″	50	90665A135	7.12
1/2″	50	90665A136	7.88
5/8″	50	90665A137	8.03
3/4″	50	90665A139	8.94
7/8″	50	90665A141	9.84
1″	50	90665A142	11.22

1/4″-20—Head Ht.: 1/8″

Lg.	Pkg. Qty.		Pkg.
3/8″	50	90665A155	12.03
1/2″	50	90665A156	11.95
5/8″	50	90665A157	14.58
3/4″	25	90665A158	7.80
7/8″	25	90665A159	8.01
1″	25	90665A161	8.46
1 1/2″	25	90665A162	8.79

5/16″-18—Head Ht.: 5/32″

Lg.	Pkg. Qty.		Pkg.
1/2″	25	90665A175	10.61
3/4″	25	90665A176	10.83

5/16″-18 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1″	25	90665A177	12.95
1 1/2″	10	90665A178	6.94

3/8″-16—Head Ht.: 3/16″

Lg.	Pkg. Qty.		Pkg.
1/2″	10	90665A185	5.49
3/4″	10	90665A186	6.52
1″	10	90665A187	7.88
1 1/2″	10	90665A188	10.34

1/2″-13—Head Ht.: 1/4″

Lg.	Pkg. Qty.		Pkg.
1″	5	90665A195	8.56
1 1/2″	5	90665A196	10.15

Metric Black-Oxide Class 8.8 Steel—Dimensions in millimeters

M3—Pitch: 0.5 mm
Head Ht.: 2 mm

Lg.	Pkg. Qty.		Pkg.
6	50	93070A061	8.71
8	50	93070A064	9.17
10	25	93070A067	5.50
12	25	93070A070	5.73
14	25	93070A071	5.96
16	50	93070A073	8.71
20	50	93070A076▲	12.38
30	25	93070A152▲	6.76

M4—Pitch: 0.7 mm
Head Ht.: 2.8 mm

Lg.	Pkg. Qty.		Pkg.
6	25	93070A095	5.50
8	50	93070A098	9.86
10	50	93070A101	10.09
12	50	93070A103	7.92
16	100	93070A105	13.29
20	50	93070A107	7.48
25	25	93070A109▲	6.88
30	50	93070A112▲	8.70
40	25	93070A154▲	6.22

M5—Pitch: 0.8 mm
Head Ht.: 3.5 mm

Lg.	Pkg. Qty.		Pkg.
6	50	93070A119	11.00
8	25	93070A120	5.39

M5 (Cont.)

Lg.	Pkg. Qty.		Pkg.
10	50	93070A121	9.40
12	50	93070A123	9.63
14	50	93070A124	9.86
16	50	93070A125	10.54
20	50	93070A127	10.21
25	50	93070A129	10.77
30	25	93070A131▲	6.19
40	25	93070A133▲	6.00
50	25	93070A158▲	11.09

M6—Pitch: 1 mm
Head Ht.: 4 mm

Lg.	Pkg. Qty.		Pkg.
10	50	93070A141	8.71
12	50	93070A143	9.06
14	50	93070A144	9.12
16	50	93070A145	9.63
18	50	93070A161	11.92
20	50	93070A147	9.86
25	50	93070A149	9.56
30	25	93070A151▲	6.07
35	25	93070A153▲	7.56
40	25	93070A155▲	9.63
45	25	93070A156▲	7.79
50	25	93070A157▲	11.12

M8—Pitch: 1.25 mm
Head Ht.: 5 mm

Lg.	Pkg. Qty.		Pkg.
10	10	93070A169	6.38
12	25	93070A170	9.90
14	25	93070A162	9.18
16	25	93070A171	7.33
18	25	93070A163	11.48
20	25	93070A173	8.14
25	25	93070A175	9.28
30	25	93070A177	9.40
35	25	93070A179▲	10.43
40	25	93070A181▲	11.35
45	25	93070A164▲	11.34
50	25	93070A183▲	12.61

M10—Pitch: 1.5 mm
Head Ht.: 6 mm

Lg.	Pkg. Qty.		Pkg.
16	10	93070A211	6.13
20	25	93070A213	11.12
25	25	93070A215	13.29
30	10	93070A217	6.50
35	10	93070A219	6.19
40	10	93070A221▲	7.79
45	10	93070A184▲	7.82
50	10	93070A223▲	8.48

M10 (Cont.)

Lg.	Pkg. Qty.		Pkg.
55	10	93070A185▲	9.24
60	10	93070A226▲	12.47
80	1	93070A186▲	2.67

M12—Pitch: 1.75 mm
Head Ht.: 7 mm

Lg.	Pkg. Qty.		Pkg.
20	10	93070A241	8.48
25	10	93070A243	8.76
30	10	93070A245	7.38
35	10	93070A247	8.16
40	10	93070A249	8.85
45	10	93070A187▲	12.49
50	10	93070A251▲	9.90
60	5	93070A189▲	8.72

M16—Pitch: 2 mm
Head Ht.: 9 mm

Lg.	Pkg. Qty.		Pkg.
30	5	93070A191	10.41
35	5	93070A272	12.59
40	1	93070A271	3.82
50	1	93070A273	4.48

M20—Pitch: 2.5 mm
Head Ht.: 11 mm

Lg.	Pkg. Qty.		Pkg.
40	1	93070A291	6.06
50	1	93070A293	9.70

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Metric Zinc-Plated Class 8.8 Steel—Dimensions in millimeters

Choose a Thread Size	Choose a Screw Length	
M4, M5, M6, M8, M10, M12	6, 8, 10, 12, 16, 20, 25, 30, 35, 40, 50	90327A990

Plastic Covers for Socket Head Cap Screws



For Head Style	Choose a Screw Size	Choose a Color	Temperature Range	Pkg. Qty.		Pkg.
Socket Head	No. 10, 1/4″, 5/16″	Black, Off-White	32° to 250° F	100	96306A100	$6.99
Button Head	No. 6, No. 8, No. 10, 1/4″	Black, Off-White	32° to 250° F	100	97697A400	7.54

Stainless Steel Socket Head Cap Screws

Choose stainless steel screws when you need corrosion resistance. They have a Class 3A thread fit, a minimum Rockwell hardness of B70, and a minimum tensile strength of 70,000 psi. Length is measured from under the head.


Full Threads


Partial Threads

Type 316 Stainless Steel

0-80—Head: Dia. 0.096″, Ht. 0.060″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/8″	Full	10	92185A051	$7.61
3/16″	Full	10	92185A052	6.81
1/4″	Full	10	92185A053	4.90
3/8″	Full	10	92185A054	5.31
1/2″	Full	10	92185A055	5.67

1-72—Head: Dia. 0.118″, Ht. 0.073″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/16″	Full	10	92185A061	7.31
1/4″	Full	10	92185A062	5.02
3/8″	Full	10	92185A063	5.36

2-56—Head: Dia. 0.140″, Ht. 0.086″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/8″	Full	10	92185A071	5.25
3/16″	Full	25	92185A073	3.78
1/4″	Full	25	92185A077	6.82
5/16″	Full	25	92185A078	3.23
3/8″	Full	25	92185A079	7.12
7/16″	Full	25	92185A081	3.49
1/2″	Full	25	92185A083	3.63
9/16″	Full	25	92185A086	3.69
5/8″	Full	50	92185A089	7.70
3/4″	5/8″ to Full	50	92185A092	8.28
7/8″	5/8″ to Full	25	92185A095	4.40
1″	Full	10	92185A072	11.03

3-48—Head: Dia. 0.161″, Ht. 0.099″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4″	Full	10	92185A096	6.03
3/8″	Full	10	92185A097	7.12
1/2″	Full	10	92185A098	7.94

4-40—Head: Dia. 0.183″, Ht. 0.112″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/8″	Full	25	92185A104	11.93
3/16″	Full	25	92185A105	8.39
1/4″	Full	50	92185A106	5.22
5/16″	Full	50	92185A107	5.79
3/8″	Full	50	92185A108	6.52
7/16″	Full	50	92185A109	7.20
1/2″	Full	50	92185A110	7.79
9/16″	Full	50	92185A124	8.12
5/8″	Full	50	92185A111	11.64
3/4″	Full	25	92185A112	5.44
7/8″	Full	25	92185A113	5.71
1″	3/4″ to Full	25	92185A115	8.26
1″	Full	25	92185A116	10.32
1 1/8″	3/4″ to 1″	25	92185A125	5.85
1 1/4″	3/4″ to 1″	25	92185A118	7.13
1 1/4″	Full	25	92185A119	12.18
1 3/8″	3/4″ to 1″	25	92185A127	7.90
1 1/2″	3/4″ to 1″	25	92185A126	9.68
1 1/2″	Full	10	92185A121	5.90
1 3/4″	3/4″ to 1″	25	92185A128	9.40
2″	3/4″ to 1″	25	92185A131	11.14

4-48—Head: Dia. 0.183″, Ht. 0.112″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4″	Full	50	92185A166	9.20
3/8″	Full	50	92185A167	9.20
1/2″	Full	50	92185A168	9.30

5-40—Head: Dia. 0.205″, Ht. 1/8″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4″	Full	50	92185A132	5.66
3/8″	Full	50	92185A134	6.26
1/2″	Full	50	92185A136	7.00
5/8″	Full	50	92185A138	7.72
3/4″	Full	25	92185A140	4.10
1″	3/4″ to Full	25	92185A142	4.71

5-44—Head: Dia. 0.205″, Ht. 1/8″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4″	Full	50	92185A169	7.50
3/8″	Full	50	92185A171	8.50
1/2″	Full	50	92185A172	9.40

6-32—Head: Dia. 0.226″, Ht. 0.138″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/8″	Full	25	92185A143	11.01
3/16″	Full	25	92185A146	7.29
1/4″	Full	25	92185A144	2.67
5/16″	Full	25	92185A145	2.57
3/8″	Full	25	92185A147	2.40
7/16″	Full	25	92185A163	4.74
1/2″	Full	25	92185A148	2.56
9/16″	Full	25	92185A164	6.37
5/8″	Full	25	92185A149	2.98
3/4″	Full	25	92185A151	3.07
7/8″	Full	25	92185A152	8.42

6-32 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1″	3/4″ to Full	25	92185A153	$3.42
1″	Full	25	92185A156	12.45
1 1/8″	3/4″ to Full	10	92185A154	3.57
1 1/4″	3/4″ to 1 1/8″	10	92185A155	4.34
1 1/4″	Full	10	92185A157	6.62
1 3/8″	3/4″ to 1 1/8″	10	92185A173	4.00
1 1/2″	3/4″ to 1 1/8″	10	92185A158	5.14
1 1/2″	Full	10	92185A159	7.05
1 5/8″	3/4″ to 1 1/8″	10	92185A174	4.37
1 3/4″	3/4″ to 1 1/8″	10	92185A161	4.48
2″	3/4″ to 1 1/8″	10	92185A165	4.77
2″	Full	10	92185A150	10.03
2 1/4″	3/4″ to 1 1/8″	10	92185A175	5.31
2 1/2″	3/4″ to 1 1/8″	10	92185A176	6.00
3″	3/4″ to 1 1/8″	10	92185A177	7.04

8-32—Head: Dia. 0.270″, Ht. 0.164″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/8″	Full	10	92185A180	5.90
3/16″	Full	25	92185A099	8.44
1/4″	Full	25	92185A190	3.30
5/16″	Full	25	92185A191	5.85
3/8″	Full	25	92185A192	2.91
7/16″	Full	25	92185A193	5.62
1/2″	Full	25	92185A194	3.15
9/16″	Full	25	92185A195	6.57
5/8″	Full	25	92185A196	3.39
3/4″	Full	25	92185A197	3.90
7/8″	Full	25	92185A198	8.36
1″	Full	25	92185A199	4.57
1 1/8″	Full	10	92185A200	3.96
1 1/4″	3/4″ to Full	10	92185A201	4.70
1 1/4″	Full	10	92185A202	6.89
1 3/8″	3/4″ to 1 1/4″	10	92185A178	4.42
1 1/2″	3/4″ to 1 1/4″	10	92185A203	5.70
1 1/2″	Full	10	92185A204	8.02
1 5/8″	3/4″ to 1 1/4″	10	92185A179	5.29
1 3/4″	3/4″ to 1 1/4″	10	92185A206	5.65
2″	3/4″ to 1 1/4″	10	92185A209	6.26
2″	Full	10	92185A207	11.43
2 1/4″	3/4″ to 1 1/4″	10	92185A181	7.12
2 1/2″	3/4″ to 1 1/4″	10	92185A213	7.71
2 3/4″	3/4″ to 1 1/4″	10	92185A182	8.37
3″	3/4″ to 1 1/4″	5	92185A217	4.48
3 1/2″	3/4″ to 1 1/4″	5	92185A183	5.82

10-24—Head: Dia. 0.312″, Ht. 0.190″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4″	Full	25	92185A238	6.68
5/16″	Full	25	92185A239	6.68
3/8″	Full	25	92185A240	3.93
7/16″	Full	25	92185A184	6.71
1/2″	Full	25	92185A242	4.04
9/16″	Full	25	92185A185	7.69
5/8″	Full	25	92185A243	4.59
3/4″	Full	25	92185A245	5.22
7/8″	Full	25	92185A246	12.41
1″	Full	25	92185A247	5.30
1 1/8″	7/8″ to 1 3/8″	25	92185A186	12.73
1 1/4″	7/8″ to Full	10	92185A249	5.58
1 1/4″	Full	10	92185A214	7.24
1 3/8″	7/8″ to Full	10	92185A187	6.50
1 1/2″	7/8″ to 1 3/8″	10	92185A251	5.65
1 1/2″	Full	10	92185A215	8.92
1 5/8″	7/8″ to 1 3/8″	10	92185A188	6.85
1 3/4″	7/8″ to 1 3/8″	10	92185A252	8.83
2″	7/8″ to 1 3/8″	10	92185A253	8.19
2″	Full	10	92185A216	12.00
2 1/4″	7/8″ to 1 3/8″	10	92185A189	10.19
2 1/2″	7/8″ to 1 3/8″	5	92185A257	5.65
2 1/2″	Full	5	92185A212	7.30
3″	7/8″ to 1 3/8″	5	92185A260	6.70
3″	Full	5	92185A211	9.51
3 1/4″	7/8″ to 1 3/8″	5	92185A218	6.96
3 1/2″	7/8″ to 1 3/8″	5	92185A219	7.44
4″	7/8″ to 1 3/8″	5	92185A221	9.83

10-32—Head: Dia. 0.312″, Ht. 0.190″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4″	Full	25	92185A986	$6.98
5/16″	Full	25	92185A987	8.17
3/8″	Full	25	92185A988	4.00
7/16″	Full	25	92185A969	8.44
1/2″	Full	25	92185A989	4.26
9/16″	Full	25	92185A971	8.79
5/8″	Full	25	92185A990	4.62
3/4″	Full	25	92185A991	5.12
7/8″	Full	25	92185A960	7.76
1″	Full	25	92185A992	5.84
1 1/8″	7/8″ to Full	10	92185A972	6.44
1 1/4″	7/8″ to Full	10	92185A993	5.58
1 1/4″	Full	10	92185A227	7.24
1 3/8″	7/8″ to Full	10	92185A222	6.50
1 1/2″	7/8″ to 1 3/8″	10	92185A994	6.11
1 1/2″	Full	10	92185A228	8.92
1 5/8″	7/8″ to 1 3/8″	10	92185A223	6.85
1 3/4″	7/8″ to 1 3/8″	10	92185A995	8.48
2″	7/8″ to 1 3/8″	10	92185A996	8.19
2″	Full	10	92185A229	12.00
2 1/4″	7/8″ to 1 3/8″	10	92185A224	10.19
2 1/2″	7/8″ to 1 3/8″	5	92185A997	5.75
2 1/2″	Full	5	92185A230	7.30
2 3/4″	7/8″ to 1 3/8″	5	92185A225	6.02
3″	7/8″ to 1 3/8″	5	92185A998	6.75
3″	Full	5	92185A231	9.51
3 1/2″	7/8″ to 1 3/8″	5	92185A226	7.44

12-24—Head: Dia. 0.324″, Ht. 0.216″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/2″	Full	10	92185A275	4.78
3/4″	Full	10	92185A276	5.56
1″	Full	10	92185A277	6.87

1/4″-20—Head: Dia. 3/8″, Ht. 1/4″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4″	Full	10	92185A501	4.56
5/16″	Full	10	92185A502	4.76
3/8″	Full	10	92185A535	3.35
7/16″	Full	10	92185A503	5.28
1/2″	Full	10	92185A537	2.97
9/16″	Full	10	92185A504	5.59
5/8″	Full	10	92185A539	3.05
3/4″	Full	10	92185A540	3.31
7/8″	Full	10	92185A541	4.65
1″	Full	10	92185A542	3.80
1 1/8″	Full	10	92185A505	6.02
1 1/4″	Full	10	92185A544	4.12
1 3/8″	1″ to Full	10	92185A506	6.30
1 1/2″	1″ to Full	10	92185A546	4.91
1 1/2″	Full	10	92185A516	9.28
1 5/8″	1″ to 1 1/2″	10	92185A507	7.07
1 3/4″	1″ to 1 1/2″	10	92185A548	5.43
2″	1″ to 1 1/2″	5	92185A550	3.42
2″	Full	5	92185A517	5.96
2 1/4″	1″ to 1 1/2″	5	92185A553	6.61
2 1/2″	1″ to 1 1/2″	5	92185A555	6.08
2 1/2″	Full	5	92185A518	8.07
2 3/4″	1″ to 1 1/2″	5	92185A508	4.56
3″	1″ to 1 1/2″	5	92185A557	7.12
3″	Full	5	92185A519	9.27
3 1/2″	1″ to 1 1/2″	5	92185A509	5.83
4″	1″ to 1 1/2″	5	92185A511	7.98
4 1/2″	1″ to 1 1/2″	1	92185A512	2.49
5″	1″ to 1 1/2″	1	92185A513	2.62
5 1/2″	1″ to 1 1/2″	1	92185A514	3.04
6″	1″ to 1 1/2″	1	92185A515	3.21

1/4″-28—Head: Dia. 3/8″, Ht. 1/4″

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4″	Full	10	92185A525	5.00
3/8″	Full	10	92185A526	5.44
1/2″	Full	10	92185A558	6.29
5/8″	Full	10	92185A559	7.78
3/4″	Full	10	92185A561	7.10
7/8″	Full	10	92185A527	6.56
1″	Full	10	92185A564	7.33
1 1/4″	Full	5	92185A566	6.16
1 1/2″	1″ to Full	5	92185A528	3.80
2″	1″ to 1 1/2″	5	92185A529	4.54

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Stainless Steel Socket Head Cap Screws *(Continued from previous page)*



Choose stainless steel screws when you need corrosion resistance. They have a Class 3A thread fit, a minimum Rockwell hardness of B70, and a minimum tensile strength of 70,000 psi. Length is measured from under the head.

Type 316 Stainless Steel (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
5/16"-18—Head: Dia. 15/32", Ht. 5/16"				
1/2"	Full	10	92185A578	$4.40
5/8"	Full	10	92185A579	4.90
3/4"	Full	10	92185A581	4.81
7/8"	Full	5	92185A582	3.57
1"	Full	10	92185A583	6.62
1 1/8"	Full	10	92185A567	9.70
1 1/4"	Full	10	92185A585	6.64
1 3/8"	Full	5	92185A568	5.70
1 1/2"	1 1/8" to Full	5	92185A587	4.08
1 1/2"	Full	5	92185A601	5.59
1 5/8"	1 1/8" to Full	5	92185A569	6.94
1 3/4"	1 1/8" to Full	5	92185A589	5.16
2"	1 1/8" to 1 3/4"	5	92185A591	5.18
2"	Full	5	92185A602	7.39
2 1/4"	1 1/8" to 1 3/4"	5	92185A592	6.09
2 1/2"	1 1/8" to 1 3/4"	5	92185A593	6.10
2 1/2"	Full	5	92185A603	8.96
2 3/4"	1 1/8" to 1 3/4"	5	92185A571	9.77
3"	1 1/8" to 1 3/4"	1	92185A597	1.76
3"	Full	5	92185A604	10.59
3 1/4"	1 1/8" to 1 3/4"	1	92185A572	2.24
3 1/2"	1 1/8" to 1 3/4"	1	92185A599	2.22
4"	1 1/8" to 1 3/4"	1	92185A605	3.48
4 1/2"	1 1/8" to 1 3/4"	1	92185A573	3.12
5"	1 1/8" to 1 3/4"	1	92185A574	3.46
5/16"-24—Head: Dia. 15/32", Ht. 5/16"				
1/2"	Full	5	92185A608	7.04
5/8"	Full	5	92185A611	7.69
3/4"	Full	5	92185A615	9.98
7/8"	Full	10	92185A612	7.69
1"	Full	5	92185A617	8.56
1 1/4"	Full	10	92185A613	9.81
1 1/2"	Full	10	92185A614	11.00
2"	1 1/8" to 1 3/4"	5	92185A618	7.06
3/8"-16—Head: Dia. 9/16", Ht. 3/8"				
1/2"	Full	1	92185A620	1.72
5/8"	Full	1	92185A621	1.80
3/4"	Full	5	92185A622	3.90
7/8"	Full	5	92185A616	5.38
1"	Full	5	92185A624	5.14
1 1/8"	Full	5	92185A619	6.63
1 1/4"	Full	5	92185A626	5.20
1 3/8"	Full	5	92185A623	7.50
3/8"-16 (Cont.)				
1 1/2"	1 1/4" to Full	5	92185A628	$5.44
1 1/2"	Full	5	92185A638	7.99
1 3/4"	1 1/4" to Full	5	92185A630	6.32
2"	1 1/4" to Full	1	92185A632	1.29
2"	Full	5	92185A639	9.17
2 1/4"	1 1/4" to 2"	1	92185A633	1.58
2 1/2"	1 1/4" to 2"	1	92185A634	1.53
2 1/2"	Full	5	92185A642	10.08
2 3/4"	1 1/4" to 2"	1	92185A635	2.42
3"	1 1/4" to 2"	1	92185A636	2.73
3"	Full	1	92185A643	3.55
3 1/4"	1 1/4" to 2"	1	92185A627	3.16
3 1/2"	1 1/4" to 2"	1	92185A641	2.96
4"	1 1/4" to 2"	1	92185A645	3.92
4 1/2"	1 1/4" to 2"	1	92185A629	3.88
5"	1 1/4" to 2"	1	92185A631	4.28
6"	1 1/4" to 2"	1	92185A637	5.12
3/8"-24—Head: Dia. 9/16", Ht. 3/8"				
3/4"	Full	1	92185A670	2.92
1"	Full	1	92185A673	3.55
1 1/4"	Full	1	92185A675	3.27
1 1/2"	Full	1	92185A677	3.92
1 3/4"	1 1/4" to Full	5	92185A665	9.63
2"	1 1/4" to Full	5	92185A666	10.73
2 1/2"	1 1/4" to 2"	1	92185A667	2.33
3"	1 1/4" to 2"	1	92185A668	2.70
7/16"-14—Head: Dia. 21/32", Ht. 7/16"				
1 1/4"	Full	1	92185A679	3.98
1 1/2"	Full	1	92185A681	4.84
2"	1 3/8" to Full	1	92185A683	5.75
1/2"-13—Head: Dia. 3/4", Ht. 1/2"				
3/4"	Full	1	92185A711	1.78
7/8"	Full	1	92185A709	2.96
1"	Full	1	92185A712	1.55
1 1/4"	Full	1	92185A714	1.84
1 1/2"	Full	1	92185A716	2.00
1 3/4"	1 1/2" to Full	1	92185A718	2.13
2"	1 1/2" to Full	1	92185A720	2.47
2"	Full	1	92185A706	3.11
2 1/4"	1 1/2" to Full	1	92185A721	3.78
2 1/2"	1 1/2" to Full	1	92185A722	2.95
2 1/2"	Full	1	92185A707	3.47
2 3/4"	1 1/2" to 2 1/2"	1	92185A723	3.47
1/2"-13 (Cont.)				
3"	1 1/2" to 2 1/2"	1	92185A724	$3.50
3"	Full	1	92185A708	4.23
3 1/2"	1 1/2" to 2 1/2"	1	92185A726	5.21
4"	1 1/2" to 2 1/2"	1	92185A728	7.21
5"	1 1/2" to 2 1/2"	1	92185A734	14.45
6"	1 1/2" to 2 1/2"	1	92185A737	20.07
1/2"-20—Head: Dia. 3/4", Ht. 1/2"				
1 1/2"	Full	1	92185A751	4.27
2"	Full	1	92185A752	5.09
3"	1 1/2" to 2 1/2"	1	92185A753	7.02
5/8"-11—Head: Dia. 15/16", Ht. 5/8"				
1"	Full	1	92185A794	3.59
1 1/4"	Full	1	92185A796	3.27
1 1/2"	Full	1	92185A798	3.51
1 3/4"	Full	1	92185A801	4.16
2"	1 3/4" to Full	1	92185A803	4.24
2 1/4"	1 3/4" to Full	1	92185A802	6.67
2 1/2"	1 3/4" to Full	1	92185A804	5.18
2 3/4"	1 3/4" to Full	1	92185A822	6.23
3"	1 3/4" to Full	1	92185A805	6.24
3 1/2"	1 3/4" to 3"	1	92185A806	11.50
4"	1 3/4" to 3"	1	92185A807	11.11
3/4"-10—Head: Dia. 1 1/8", Ht. 3/4"				
1 1/4"	Full	1	92185A859	8.45
1 1/2"	Full	1	92185A861	7.33
1 3/4"	Full	1	92185A863	7.37
2"	Full	1	92185A865	7.39
2 1/2"	2" to Full	1	92185A867	7.86
3"	2" to Full	1	92185A869	9.01
4"	2" to 3 1/2"	1	92185A871	12.05
4 1/2"	2" to 3 1/2"	1	92185A824	22.92
5"	2" to 3 1/2"	1	92185A828	24.26
7/8"-9—Head: Dia. 15/16", Ht. 7/8"				
2"	Full	1	92185A880	18.28
2 1/4"	Full	1	92185A881	21.66
2 1/2"	2 1/4" to Full	1	92185A883	22.04
3"	2 1/4" to Full	1	92185A886	23.23
4"	2 1/4" to 3 3/4"	1	92185A889	28.16
1"-8—Head: Dia. 1 1/2", Ht. 1"				
2"	Full	1	92185A909	27.65
2 1/2"	Full	1	92185A911	33.71
3"	2 1/2" to Full	1	92185A913	38.00
4"	2 1/2" to Full	1	92185A916	41.69

18-8 Stainless Steel

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
0-80—Head: Dia. 0.096", Ht. 0.060"				
1/16"	Full	50	92196A047	7.45
3/32"	Full	100	92196A051	6.41
1/8"	Full	100	92196A052	5.98
5/32"	Full	100	92196A053	6.74
3/16"	Full	100	92196A054	6.05
1/4"	Full	100	92196A055	6.21
5/16"	Full	100	92196A056	6.74
3/8"	Full	100	92196A057	6.82
7/16"	Full	100	92196A048	7.58
1/2"	Full	50	92196A070	10.32
9/16"	Full	100	92196A049	9.80
5/8"	1/2" to Full	50	92196A058	4.94
3/4"	1/2" to 5/8"	25	92196A059	3.13
1"	1/2" to 5/8"	25	92196A060	5.12
1 1/8"	1/2" to 1"	1	92196A939	6.88
1 1/4"	1/2" to 1"	1	92196A941	8.59
1 1/2"	1/2" to 1"	1	92196A942	9.45
1-64—Head: Dia. 0.118", Ht. 0.073"				
1/8"	Full	50	92196A451	5.25
3/16"	Full	50	92196A061	4.70
1/4"	Full	50	92196A459	4.72
5/16"	Full	50	92196A062	5.20
3/8"	Full	50	92196A064	5.29
1-72—Head: Dia. 0.118", Ht. 0.073"				
1/16"	Full	5	92196A943	12.37
3/32"	Full	5	92196A944	9.28
1/8"	Full	100	92196A063	6.74
5/32"	Full	100	92196A073	7.38
3/16"	Full	100	92196A065	6.57
1/4"	Full	100	92196A066	7.25
1-72 (Cont.)				
5/16"	Full	50	92196A067	4.07
3/8"	Full	100	92196A068	8.22
1/2"	Full	50	92196A069	4.25
5/8"	Full	50	92196A071	6.88
3/4"	Full	25	92196A072	5.02
2-56—Head: Dia. 0.140", Ht. 0.086"				
1/16"	Full	5	92196A945	13.14
3/32"	Full	5	92196A946	12.37
1/8"	Full	100	92196A074	7.10
5/32"	Full	100	92196A075	6.74
3/16"	Full	100	92196A076	5.60
1/4"	Full	100	92196A077	5.97
5/16"	Full	100	92196A078	6.19
3/8"	Full	100	92196A079	6.41
7/16"	Full	100	92196A082	5.94
1/2"	Full	100	92196A081	6.14
9/16"	Full	100	92196A085	8.02
5/8"	Full	100	92196A083	6.52
11/16"	Full	100	92196A088	8.62
3/4"	5/8" to Full	100	92196A084	7.52
7/8"	5/8" to Full	100	92196A086	8.20
1"	5/8" to 7/8"	50	92196A140	5.51
1 1/8"	5/8" to 1"	25	92196A089	8.07
1 1/4"	5/8" to 7/8"	10	92196A141	6.89
1 3/8"	5/8" to 1"	10	92196A090	9.42
1 1/2"	5/8" to 7/8"	10	92196A087	12.09
1 3/4"	5/8" to 1"	1	92196A947	9.20
2"	5/8" to 1"	1	92196A948	10.13
2-64—Head: Dia. 0.140", Ht. 0.086"				
1/8"	Full	100	92196A098	8.81
3/16"	Full	100	92196A099	9.26
1/4"	Full	100	92196A100	9.60
3/8"	Full	100	92196A104	10.78
1/2"	Full	100	92196A162	10.86
3-48—Head: Dia. 0.161", Ht. 0.099"				
1/8"	Full	5	92196A949	12.37
3/16"	Full	50	92196A091	9.34
1/4"	Full	50	92196A092	9.42
5/16"	Full	50	92196A094	4.40
3/8"	Full	50	92196A101	5.12
1/2"	Full	50	92196A102	5.71
5/8"	Full	50	92196A095	6.65
3/4"	Full	25	92196A096	6.34
1"	5/8" to 7/8"	25	92196A097	6.66
3-56—Head: Dia. 0.161", Ht. 0.099"				
1/8"	Full	100	92196A163	6.43
3/16"	Full	100	92196A182	7.35
1/4"	Full	25	92196A501	3.49
5/16"	Full	50	92196A183	8.14
3/8"	Full	25	92196A505	4.16
1/2"	Full	50	92196A184	8.51
5/8"	Full	50	92196A185	8.77
3/4"	Full	50	92196A186	8.85
4-40—Head: Dia. 0.183", Ht. 0.112"				
1/16"	Full	5	92196A951	13.14
3/32"	Full	5	92196A952	12.37
1/8"	Full	100	92196A103	6.10
5/32"	Full	100	92196A214	5.87
3/16"	Full	100	92196A105	4.81
1/4"	Full	100	92196A106	3.92

(Continued on following page)

Stainless Steel Socket Head Cap Screws *(Continued from previous page)*

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)				
4-40—Head: Dia. 0.183″, Ht. 0.112″ (Cont.)				
5/16″	Full	100	92196A107	$3.93
3/8″	Full	100	92196A108	3.98
7/16″	Full	100	92196A109	4.06
1/2″	Full	100	92196A110	4.10
9/16″	Full	100	92196A111	4.21
5/8″	Full	100	92196A112	4.37
3/4″	Full	100	92196A113	4.67
7/8″	Full	100	92196A114	4.90
1″	3/4″ to Full	100	92196A115	5.14
1″	Full	100	92196A031	7.01
1 1/8″	3/4″ to 1″	50	92196A117	4.22
1 1/4″	3/4″ to Full	100	92196A302	7.07
1 1/4″	Full	100	92196A032	8.34
1 3/8″	3/4″ to 1″	10	92196A118	5.86
1 1/2″	3/4″ to 1″	100	92196A119	8.03
1 1/2″	Full	100	92196A033	9.75
1 5/8″	3/4″ to 1 1/2″	10	92196A215	4.84
1 3/4″	3/4″ to 1″	10	92196A120	6.49
1 3/4″	Full	50	92196A034	9.17
2″	3/4″ to 1″	10	92196A121	7.98
2″	Full	50	92196A035	10.97
2 1/4″	3/4″ to 1 1/2″	10	92196A218	8.99
2 1/2″	3/4″ to 1″	10	92196A122	10.27
2 3/4″	3/4″ to 1 1/2″	5	92196A227	6.96
3″	3/4″ to 1″	5	92196A123	7.95
4-48—Head: Dia. 0.183″, Ht. 0.112″				
1/8″	Full	100	92196A228	8.95
3/16″	Full	100	92196A229	9.07
1/4″	Full	25	92196A171	2.29
3/8″	Full	25	92196A173	2.37
1/2″	Full	25	92196A175	2.85
5/8″	Full	50	92196A230	6.62
3/4″	Full	50	92196A231	7.01
5-40—Head: Dia. 0.205″, Ht. 1/8″				
3/16″	Full	50	92196A124	4.47
1/4″	Full	50	92196A125	2.78
5/16″	Full	50	92196A751	2.80
3/8″	Full	50	92196A126	2.85
7/16″	Full	50	92196A127	4.08
1/2″	Full	50	92196A128	3.04
9/16″	Full	50	92196A752	4.52
5/8″	Full	50	92196A130	12.16
3/4″	Full	25	92196A131	9.04
7/8″	3/4″ to Full	50	92196A753	3.61
1″	3/4″ to Full	50	92196A129	4.23
1 1/8″	3/4″ to 1″	50	92196A755	6.16
1 1/4″	3/4″ to 1″	10	92196A132	5.69
1 1/2″	3/4″ to 1″	5	92196A133	8.51
2″	3/4″ to 1 1/2″	5	92196A232	9.04
5-44—Head: Dia. 0.205″, Ht. 1/8″				
1/4″	Full	50	92196A233	3.37
1/2″	Full	50	92196A234	3.80
3/4″	Full	50	92196A235	4.25
6-32—Head: Dia. 0.226″, Ht. 0.138″				
3/32″	Full	1	92196A953	2.68
1/8″	Full	25	92196A139	8.14
5/32″	Full	1	92196A954	2.89
3/16″	Full	50	92196A143	9.80
1/4″	Full	100	92196A144	4.49
5/16″	Full	100	92196A145	4.68
3/8″	Full	100	92196A146	4.71
7/16″	Full	100	92196A147	5.18
1/2″	Full	100	92196A148	5.20
9/16″	Full	50	92196A149	12.05
5/8″	Full	100	92196A150	5.33
3/4″	Full	100	92196A151	5.83
7/8″	Full	100	92196A152	6.36
1″	3/4″ to Full	100	92196A153	6.80
1″	Full	100	92196A165	9.66
1 1/8″	3/4″ to Full	50	92196A154	4.65
1 1/4″	3/4″ to 1 1/8″	100	92196A155	8.54
1 1/4″	Full	50	92196A166	6.16
1 3/8″	3/4″ to Full	100	92196A236	10.04
1 1/2″	3/4″ to 1 1/8″	100	92196A157	10.17
1 1/2″	Full	50	92196A167	7.22
1 5/8″	3/4″ to 1 1/2″	25	92196A237	7.86
1 3/4″	3/4″ to 1 1/8″	25	92196A158	3.84
1 3/4″	Full	25	92196A168	4.88
1 7/8″	3/4″ to 1 1/2″	25	92196A238	11.66
2″	3/4″ to 1 1/8″	25	92196A159	4.33
6-32 (Cont.)				
2″	Full	25	92196A169	$5.67
2 1/4″	3/4″ to 1 1/8″	25	92196A160	7.36
2 1/2″	3/4″ to 1 1/8″	25	92196A161	9.13
2 3/4″	3/4″ to 1 1/2″	25	92196A263	9.40
3″	3/4″ to 1 1/8″	10	92196A164	3.83
3 1/2″	3/4″ to 1 1/2″	1	92196A955	12.89
4″	3/4″ to 1 1/2″	1	92196A956	14.49
6-40—Head: Dia. 0.226″, Ht. 0.138″				
1/8″	Full	50	92196A641	10.46
3/16″	Full	100	92196A643	9.87
1/4″	Full	50	92196A134	4.98
3/8″	Full	50	92196A136	10.32
1/2″	Full	50	92196A137	12.44
5/8″	Full	10	92196A138	1.70
3/4″	Full	10	92196A761	2.24
1″	3/4″ to Full	10	92196A765	3.72
8-32—Head: Dia. 0.270″, Ht. 0.164″				
1/8″	Full	25	92196A187	11.03
3/16″	Full	50	92196A189	6.45
1/4″	Full	100	92196A190	5.64
5/16″	Full	100	92196A191	5.98
3/8″	Full	100	92196A192	6.00
7/16″	Full	100	92196A193	6.27
1/2″	Full	100	92196A194	6.58
9/16″	Full	50	92196A195	12.83
5/8″	Full	100	92196A196	7.37
3/4″	Full	100	92196A197	8.20
7/8″	Full	100	92196A198	8.97
1″	Full	100	92196A199	9.05
1 1/8″	Full	50	92196A200	6.05
1 1/4″	3/4″ to Full	50	92196A201	6.52
1 1/4″	Full	50	92196A177	9.39
1 3/8″	3/4″ to 1 1/4″	25	92196A202	6.42
1 1/2″	3/4″ to 1 1/4″	50	92196A203	8.61
1 1/2″	Full	50	92196A178	10.73
1 5/8″	3/4″ to 1 1/4″	50	92196A208	9.50
1 3/4″	7/8″ to 1 1/4″	25	92196A204	8.28
1 3/4″	Full	25	92196A179	6.63
1 7/8″	3/4″ to 1 1/4″	50	92196A211	11.60
2″	3/4″ to 1 1/4″	25	92196A205	6.59
2″	Full	25	92196A181	7.49
2 1/4″	3/4″ to 1 1/4″	25	92196A206	6.48
2 1/2″	1 1/8″ to 1 3/8″	10	92196A207	9.32
2 3/4″	3/4″ to 1 1/4″	25	92196A212	7.60
3″	1 1/8″ to 1 3/8″	5	92196A209	9.88
3 1/2″	3/4″ to 1 1/4″	5	92196A210	7.47
4″	3/4″ to 1 1/4″	1	92196A213	3.87
4 1/2″	3/4″ to 2″	1	92196A957	12.89
5″	3/4″ to 2″	1	92196A958	14.49
8-36—Head: Dia. 0.270″, Ht. 0.164″				
1/4″	Full	25	92196A645	7.42
3/8″	Full	25	92196A216	10.27
1/2″	Full	25	92196A217	10.24
3/4″	Full	25	92196A219	10.59
1″	Full	50	92196A221	13.39
10-24—Head: Dia. 0.312″, Ht. 0.190″				
3/16″	Full	5	92196A959	11.90
1/4″	Full	50	92196A309	4.19
5/16″	Full	100	92196A239	7.42
3/8″	Full	100	92196A240	7.57
7/16″	Full	100	92196A241	8.72
1/2″	Full	100	92196A242	8.48
9/16″	Full	50	92196A243	5.82
5/8″	Full	100	92196A244	9.85
3/4″	Full	100	92196A245	10.83
7/8″	Full	100	92196A246	11.97
1″	Full	100	92196A247	12.85
1 1/8″	7/8″ to Full	50	92196A248	8.36
1 1/4″	7/8″ to Full	50	92196A249	8.01
1 1/4″	Full	50	92196A220	10.76
1 3/8″	7/8″ to Full	25	92196A250	5.21
1 1/2″	7/8″ to 1 3/8″	50	92196A251	9.01
1 1/2″	Full	50	92196A222	11.07
1 5/8″	7/8″ to 1 3/8″	25	92196A223	6.44
1 3/4″	7/8″ to 1 3/8″	50	92196A252	11.35
1 7/8″	7/8″ to 1 3/8″	25	92196A224	6.94
2″	7/8″ to 1 3/8″	25	92196A253	7.76
2″	Full	25	92196A704	8.93
2 1/4″	7/8″ to 1 1/8″	10	92196A254	7.31
2 1/2″	7/8″ to 1 3/8″	25	92196A255	8.63
10-24 (Cont.)				
2 3/4″	7/8″ to 1 1/8″	10	92196A256	$12.42
3″	1 1/8″ to 1 3/8″	5	92196A257	10.98
3 1/4″	7/8″ to 1 3/8″	5	92196A771	4.34
3 1/2″	1 1/8″ to 1 3/8″	1	92196A258	4.25
4″	1 1/8″ to 1 3/8″	1	92196A259	4.68
5″	7/8″ to 1 3/8″	1	92196A260	4.01
6″	7/8″ to 1 3/8″	1	92196A262	5.38
10-32—Head: Dia. 0.312″, Ht. 0.190″				
5/32″	Full	5	92196A961	12.89
3/16″	Full	25	92196A264	3.89
1/4″	Full	50	92196A265	4.19
5/16″	Full	100	92196A266	7.42
3/8″	Full	100	92196A267	7.57
7/16″	Full	100	92196A268	8.72
1/2″	Full	100	92196A269	8.48
9/16″	Full	25	92196A270	13.42
5/8″	Full	100	92196A271	9.85
3/4″	Full	100	92196A272	10.83
7/8″	Full	100	92196A273	11.97
1″	Full	100	92196A274	12.85
1 1/8″	Full	25	92196A275	11.63
1 1/4″	7/8″ to Full	50	92196A276	8.01
1 1/4″	Full	50	92196A705	11.37
1 3/8″	7/8″ to Full	25	92196A291	5.21
1 1/2″	7/8″ to 1 3/8″	50	92196A277	9.01
1 1/2″	Full	50	92196A225	11.44
1 5/8″	7/8″ to 1 3/8″	25	92196A292	10.79
1 3/4″	7/8″ to 1 3/8″	50	92196A278	11.35
1 7/8″	7/8″ to 1 3/8″	25	92196A298	7.31
2″	7/8″ to 1 3/8″	25	92196A279	7.76
2″	Full	25	92196A226	8.93
2 1/4″	7/8″ to 1 1/8″	10	92196A280	7.28
2 1/2″	7/8″ to 1 3/8″	25	92196A281	8.63
2 3/4″	7/8″ to 1 1/8″	10	92196A282	12.42
3″	1 1/8″ to 1 3/8″	10	92196A283	9.62
3 1/4″	7/8″ to 1 3/8″	5	92196A285	4.34
3 1/2″	1 1/8″ to 1 3/8″	5	92196A284	6.67
3 3/4″	7/8″ to 2″	5	92196A647	8.20
4″	7/8″ to 1 3/8″	5	92196A286	8.68
4 1/2″	7/8″ to 1 3/8″	1	92196A287	3.37
5″	7/8″ to 1 3/8″	1	92196A288	4.01
6″	7/8″ to 1 3/8″	1	92196A290	5.38
7″	7/8″ to 2″	1	92196A962	21.33
12-24—Head: Dia. 0.324″, Ht. 0.216″				
3/8″	Full	10	92196A293	4.42
1/2″	Full	10	92196A294	3.10
5/8″	Full	50	92196A299	11.61
3/4″	Full	10	92196A295	4.21
7/8″	Full	25	92196A301	9.45
1″	7/8″ to Full	10	92196A296	6.00
1 1/4″	7/8″ to Full	5	92196A261	3.27
1 1/2″	7/8″ to Full	5	92196A297	5.61
1 3/4″	7/8″ to 1 1/2″	10	92196A303	5.71
1/4″-20—Head: Dia. 3/8″, Ht. 1/4″				
3/16″	Full	1	92196A963	3.23
1/4″	Full	25	92196A533	4.00
5/16″	Full	50	92196A534	6.45
3/8″	Full	50	92196A535	6.08
7/16″	Full	50	92196A536	6.50
1/2″	Full	50	92196A537	7.31
9/16″	Full	25	92196A652	4.38
5/8″	Full	50	92196A539	7.53
3/4″	Full	50	92196A540	7.75
7/8″	Full	50	92196A541	8.90
1″	Full	50	92196A542	10.47
1 1/8″	Full	25	92196A543	8.03
1 1/4″	Full	25	92196A544	5.98
1 3/8″	1″ to Full	25	92196A545	5.71
1 1/2″	1″ to Full	25	92196A546	7.20
1 1/2″	Full	25	92196A706	8.77
1 5/8″	1″ to 1 1/2″	25	92196A304	7.62
1 3/4″	1″ to 1 1/2″	25	92196A548	7.79
1 3/4″	Full	25	92196A707	10.12
1 7/8″	1″ to 1 1/2″	25	92196A305	9.14
2″	1″ to 1 1/2″	25	92196A550	8.95
2″	Full	25	92196A801	11.17
2 1/4″	1″ to 1 1/2″	25	92196A551	9.54
2 1/4″	Full	25	92196A811	11.35
2 3/8″	1″ to 1 1/2″	10	92196A306	4.53
2 1/2″	1″ to 1 1/2″	25	92196A552	11.14

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Stainless Steel Socket Head Cap Screws *(Continued from previous page)*


Full Threads


Partial Threads

Choose stainless steel screws when you need corrosion resistance. They have a Class 3A thread fit, a minimum Rockwell hardness of B70, and a minimum tensile strength of 70,000 psi. Length is measured from under the head.

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)				
¼″-20—Head: Dia. ⅜″, Ht. ¼″ (Cont.)				
2½″	Full	25	92196A821	$12.01
2¾″	1″ to 1½″	10	92196A553	4.76
3″	1″ to 1½″	10	92196A554	4.84
3″	Full	10	92196A823	6.74
3¼″	1¼″ to 1½″	5	92196A555	5.94
3½″	1″ to 1½″	5	92196A556	3.13
3¾″	1¼″ to 1½″	1	92196A557	1.47
4″	1″ to 1½″	10	92196A558	7.37
4¼″	1″ to 1½″	10	92196A307	7.81
4½″	1″ to 1¼″	1	92196A559	1.93
5″	1″ to 1¼″	1	92196A561	2.47
5½″	1″ to 1½″	1	92196A563	2.60
6″	1″ to 1½″	1	92196A565	2.93
6½″	1″ to 1½″	1	92196A567	12.63
7″	1″ to 1½″	1	92196A569	12.79
7½″	1″ to 3″	1	92196A655	13.63
8″	1″ to 1½″	1	92196A571	13.87
10″	1″ to 3″	1	92196A656	16.15
¼″-28—Head: Dia. ⅜″, Ht. ¼″				
3/16″	Full	1	92196A964	3.23
¼″	Full	10	92196A313	4.71
5/16″	Full	50	92196A657	6.49
⅜″	Full	50	92196A315	6.54
7/16″	Full	50	92196A658	6.85
½″	Full	50	92196A317	7.42
9/16″	Full	50	92196A308	9.22
⅝″	Full	50	92196A319	8.13
¾″	Full	50	92196A321	9.25
⅞″	Full	25	92196A323	4.98
1″	Full	50	92196A325	10.77
1⅛″	Full	25	92196A311	7.32
1¼″	Full	25	92196A327	5.71
1⅜″	1″ to Full	10	92196A312	3.39
1½″	1″ to Full	25	92196A329	7.00
1¾″	1″ to 1½″	25	92196A330	7.71
2″	1″ to 1½″	25	92196A331	8.52
2¼″	1″ to 1½″	25	92196A340	10.54
2½″	1″ to 1½″	10	92196A332	4.61
2¾″	1″ to 1½″	10	92196A314	5.53
3″	1″ to 1½″	10	92196A333	5.84
3¼″	1″ to 1½″	10	92196A316	6.56
3½″	1″ to 1½″	1	92196A342	2.33
4″	1″ to 1¼″	1	92196A334	6.04
5/16″-18—Head: Dia. 15/32″, Ht. 5/16″				
¼″	Full	10	92196A965	13.26
⅜″	Full	10	92196A576	4.22
½″	Full	25	92196A578	6.45
⅝″	Full	25	92196A580	6.55
¾″	Full	25	92196A581	6.75
⅞″	Full	25	92196A582	6.92
1″	Full	25	92196A583	7.65
1⅛″	Full	10	92196A584	4.27
1¼″	Full	10	92196A585	4.09
1⅜″	Full	25	92196A318	9.93
1½″	1⅛″ to Full	10	92196A587	4.38
1½″	Full	10	92196A418	5.68
1⅝″	1⅛″ to Full	25	92196A322	12.00
1¾″	1⅛″ to Full	10	92196A589	4.31
1¾″	Full	10	92196A419	6.34
1⅞″	1⅛″ to 1¾″	10	92196A324	5.29
2″	1⅛″ to 1¾″	10	92196A591	5.03
2″	Full	10	92196A421	6.70
2¼″	1⅛″ to 1¾″	10	92196A592	6.69
2½″	1⅛″ to 1¾″	10	92196A593	5.91
2½″	Full	10	92196A422	7.73
2¾″	1⅛″ to 1¾″	10	92196A594	6.61
3″	1⅛″ to 1¾″	10	92196A595	6.72
3″	Full	10	92196A423	10.32
3¼″	1⅛″ to 1¾″	5	92196A596	4.45
3½″	1⅛″ to 1¾″	5	92196A597	4.71
3¾″	1⅛″ to 1¾″	5	92196A598	4.82
4″	1⅛″ to 1¾″	5	92196A142	4.80
4¼″	1⅛″ to 1¾″	5	92196A326	5.64
4½″	1⅛″ to 1¾″	1	92196A602	2.67
5/16″-18 (Cont.)				
5″	1⅛″ to 1¾″	1	92196A604	$2.78
5½″	1⅛″ to 1¾″	1	92196A336	2.89
6″	1⅛″ to 1¾″	1	92196A606	3.00
7″	1⅛″ to 1¾″	1	92196A607	4.18
8″	1⅛″ to 1¾″	1	92196A608	5.13
5/16″-24—Head: Dia. 15/32″, Ht. 5/16″				
¼″	Full	5	92196A966	4.24
⅜″	Full	10	92196A967	4.12
½″	Full	25	92196A335	7.04
⅝″	Full	25	92196A337	8.60
¾″	Full	25	92196A339	8.49
⅞″	Full	10	92196A338	4.08
1″	Full	25	92196A341	9.28
1⅛″	Full	10	92196A769	6.42
1¼″	Full	10	92196A343	4.88
1⅜″	Full	10	92196A659	8.00
1½″	1⅛″ to Full	10	92196A344	5.25
1¾″	1⅛″ to Full	10	92196A345	7.15
2″	1⅛″ to 1¾″	10	92196A346	6.15
2¼″	1⅛″ to 1¾″	10	92196A354	8.17
2½″	1⅛″ to 1¾″	10	92196A347	8.51
2¾″	1⅛″ to 1¾″	10	92196A348	12.05
3″	1⅛″ to 1¾″	5	92196A349	6.91
3½″	1⅛″ to 1¾″	5	92196A351	7.70
4″	1⅛″ to 1¾″	1	92196A353	2.59
⅜″-16—Head: Dia. 9/16″, Ht. ⅜″				
⅜″	Full	5	92196A618	3.89
½″	Full	10	92196A619	6.57
⅝″	Full	10	92196A621	6.42
¾″	Full	25	92196A622	11.60
⅞″	Full	10	92196A623	6.79
1″	Full	10	92196A624	6.64
1⅛″	Full	10	92196A625	7.67
1¼″	Full	10	92196A626	7.62
1⅜″	1¼″ to Full	10	92196A627	8.77
1½″	1¼″ to Full	10	92196A628	8.53
1½″	Full	10	92196A611	8.90
1⅝″	Full	10	92196A660	8.78
1¾″	1¼″ to Full	10	92196A630	9.55
1¾″	Full	10	92196A612	11.39
1⅞″	1¼″ to Full	10	92196A661	9.41
2″	1¼″ to Full	10	92196A632	10.13
2″	Full	10	92196A613	9.75
2¼″	1¼″ to 2″	10	92196A633	11.10
2½″	1¼″ to 2″	10	92196A634	12.06
2½″	Full	10	92196A614	13.03
2¾″	1¼″ to 2″	5	92196A635	6.99
3″	1¼″ to 2″	5	92196A636	7.17
3″	Full	5	92196A615	8.52
3¼″	1¼″ to 2″	5	92196A637	8.67
3½″	1¼″ to 2″	5	92196A638	8.36
3¾″	1¼″ to 2″	5	92196A639	10.42
4″	1¼″ to 2″	5	92196A640	9.55
4¼″	1¼″ to 3″	5	92196A662	7.87
4½″	1¼″ to 2″	1	92196A642	1.91
4¾″	1¼″ to 3″	5	92196A663	7.68
5″	1¼″ to 2″	1	92196A644	2.18
5½″	1½″ to 1⅞″	1	92196A646	3.58
6″	1¼″ to 2″	1	92196A648	1.75
6½″	1¼″ to 2″	1	92196A649	3.79
7″	1¼″ to 2″	1	92196A651	4.00
8″	1¼″ to 2″	1	92196A654	4.95
10″	1¼″ to 3″	1	92196A664	11.07
⅜″-24—Head: Dia. 9/16″, Ht. ⅜″				
½″	Full	10	92196A355	14.18
⅝″	Full	5	92196A356	5.78
¾″	Full	10	92196A357	5.93
⅞″	Full	10	92196A358	5.78
1″	Full	10	92196A359	6.16
1⅛″	Full	10	92196A666	9.07
1¼″	Full	10	92196A361	6.72
1⅜″	Full	10	92196A684	11.63
1½″	1¼″ to Full	10	92196A363	7.16
1⅝″	1¼″ to Full	10	92196A362	7.29
⅜″-24 (Cont.)				
1¾″	1¼″ to Full	10	92196A364	$9.48
2″	1¼″ to Full	5	92196A365	5.66
2¼″	1¼″ to 2″	5	92196A366	5.35
2½″	1¼″ to 2″	5	92196A367	6.35
2¾″	1¼″ to 2″	5	92196A368	6.51
3″	1¼″ to 2″	5	92196A369	6.62
3½″	1¼″ to 2″	1	92196A371	2.39
4″	1¼″ to 2″	1	92196A373	3.00
4½″	1¼″ to 2″	1	92196A374	3.79
5″	1¼″ to 2″	1	92196A376	4.00
6″	1¼″ to 2″	1	92196A378	5.22
7/16″-14—Head: Dia. 21/32″, Ht. 7/16″				
½″	Full	5	92196A665	8.39
¾″	Full	5	92196A667	5.66
1″	Full	5	92196A669	4.15
1¼″	Full	5	92196A671	4.21
1½″	Full	5	92196A673	4.93
1¾″	1⅜″ to Full	5	92196A675	5.25
2″	1⅜″ to Full	5	92196A677	6.42
2¼″	1⅜″ to Full	5	92196A678	6.63
2½″	1⅜″ to 1¾″	1	92196A679	5.05
3″	1⅜″ to 1¾″	1	92196A681	8.50
3½″	1⅜″ to 2¼″	1	92196A682	3.35
4″	1⅜″ to 2¼″	1	92196A683	4.09
7/16″-20—Head: Dia. 21/32″, Ht. 7/16″				
¾″	Full	5	92196A685	6.71
⅞″	Full	5	92196A686	6.65
1″	Full	5	92196A375	4.45
1⅛″	Full	5	92196A687	7.17
1¼″	Full	5	92196A380	5.10
1⅜″	Full	5	92196A688	8.89
1½″	Full	1	92196A377	1.07
2″	1⅜″ to Full	1	92196A379	1.34
½″-13—Head: Dia. ¾″, Ht. ½″				
½″	Full	1	92196A708	2.59
⅝″	Full	5	92196A709	10.96
¾″	Full	5	92196A710	7.16
⅞″	Full	5	92196A711	7.95
1″	Full	5	92196A712	6.99
1⅛″	Full	5	92196A689	10.46
1¼″	Full	5	92196A714	7.48
1⅜″	Full	5	92196A690	14.07
1½″	Full	5	92196A716	9.54
1⅝″	Full	5	92196A691	12.01
1¾″	1½″ to Full	5	92196A718	9.24
2″	1½″ to Full	5	92196A720	9.60
2″	Full	5	92196A701	11.10
2¼″	1½″ to Full	5	92196A721	10.95
2½″	1½″ to Full	5	92196A722	11.73
2½″	Full	5	92196A702	13.70
2¾″	1½″ to 2½″	1	92196A723	2.60
3″	1½″ to 2½″	1	92196A724	2.90
3″	Full	1	92196A703	3.90
3¼″	1¾″ to 2¼″	1	92196A725	3.91
3½″	1½″ to 2½″	1	92196A726	3.14
3¾″	1½″ to 2½″	1	92196A727	3.89
4″	1½″ to 2½″	1	92196A728	4.68
4½″	1½″ to 2½″	1	92196A730	4.12
5″	1½″ to 2½″	1	92196A732	4.46
5½″	1½″ to 2½″	1	92196A734	6.19
6″	1½″ to 2½″	1	92196A736	6.16
6½″	2″ to 2½″	1	92196A737	9.58
7″	1½″ to 2½″	1	92196A738	9.44
7½″	1½″ to 2½″	1	92196A739	17.54
8″	1½″ to 2½″	1	92196A740	17.89
9″	1½″ to 2½″	1	92196A742	18.23
10″	1½″ to 2½″	1	92196A744	18.34
12″	1½″ to 2½″	1	92196A746	19.55
½″-20—Head: Dia. ¾″, Ht. ½″				
¾″	Full	5	92196A384	7.96
⅞″	Full	5	92196A381	6.17
1″	Full	5	92196A385	6.95
1⅛″	Full	5	92196A692	11.26
1¼″	Full	5	92196A386	7.63
1½″	Full	5	92196A387	8.59

(Continued on following page)

Stainless Steel Socket Head Cap Screws *(Continued from previous page)*

18-8 Stainless Steel (Cont.)

½"-20—Head: Dia. ¾", Ht. ½" (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1¾"	1½" to Full	5	92196A388	$10.20
2"	1½" to Full	1	92196A389	2.00
2¼"	1½" to Full	1	92196A772	3.15
2½"	1½" to Full	1	92196A390	3.16
3"	1½" to 2½"	1	92196A392	3.18
3½"	1½" to 2½"	1	92196A610	3.88
4"	1½" to 2½"	1	92196A396	4.85
4½"	1½" to 2½"	1	92196A398	7.69
5"	1½" to 2½"	1	92196A400	8.34
6"	1½" to 2½"	1	92196A402	12.10

9/16"-12—Head: Dia. 27/32", Ht. 9/16"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	1	92196A693	8.25
1½"	Full	1	92196A694	8.45
2"	Full	1	92196A695	8.67

9/16"-18—Head: Dia. 27/32", Ht. 9/16"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	1	92196A696	9.16
1½"	Full	1	92196A697	9.40
2"	Full	1	92196A698	9.58

⅝"-11—Head: Dia. 15/16", Ht. ⅝"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	1	92196A794	2.29
1¼"	Full	1	92196A796	2.44
1½"	Full	1	92196A798	2.67
1¾"	Full	1	92196A800	3.15
2"	1¾" to Full	1	92196A802	3.31
2¼"	1¾" to Full	1	92196A803	3.69
2½"	1¾" to Full	1	92196A804	3.73
2¾"	1¾" to Full	1	92196A805	4.20
3"	1¾" to Full	1	92196A806	4.75
3¼"	1¾" to 3"	1	92196A807	4.84
3½"	1¾" to 3"	1	92196A808	5.00
4"	1¾" to 3"	1	92196A810	5.69

⅝"-11 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
4½"	1¾" to 3"	1	92196A812	$5.89
5"	1¾" to 3"	1	92196A814	6.95
5½"	1¾" to 3"	1	92196A816	8.47
6"	1¾" to 3"	1	92196A818	8.85
7"	1¾" to 3"	1	92196A820	12.35
8"	1¾" to 3"	1	92196A822	14.55

⅝"-18—Head: Dia. 15/16", Ht. ⅝"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
¾"	Full	1	92196A699	8.67
1"	Full	1	92196A700	5.96
1¼"	Full	1	92196A391	6.05
1½"	Full	1	92196A393	17.51
1¾"	Full	1	92196A394	23.55
2"	1¾" to Full	1	92196A395	7.98
2½"	1¾" to Full	1	92196A405	8.16
3"	1¾" to Full	1	92196A409	8.67
3½"	1¾" to 3"	1	92196A413	10.04
4"	1¾" to 3"	1	92196A417	11.20

¾"-10—Head: Dia. 1⅛", Ht. ¾"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	1	92196A835	4.99
1¼"	Full	1	92196A837	3.67
1½"	Full	1	92196A839	3.59
1¾"	Full	1	92196A840	3.46
2"	Full	1	92196A843	3.53
2¼"	2" to Full	1	92196A844	3.64
2½"	2" to Full	1	92196A845	3.85
2¾"	2" to Full	1	92196A846	4.30
3"	2" to Full	1	92196A847	5.42
3½"	2" to Full	1	92196A849	6.36
4"	2" to 3½"	1	92196A851	7.33
4½"	2" to 3½"	1	92196A853	9.14
5"	2" to 3½"	1	92196A856	9.40

¾"-10 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
5½"	2" to 3½"	1	92196A857	$10.01
6"	2" to 3½"	1	92196A858	10.48
7"	2" to 3½"	1	92196A860	11.47
8"	2" to 3½"	1	92196A862	12.73

¾"-16—Head: Dia. 1⅛", Ht. ¾"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	1	92196A713	6.48
1¼"	Full	1	92196A715	6.77
1½"	Full	1	92196A887	8.31
2"	Full	1	92196A891	10.21
2½"	2" to Full	1	92196A895	11.75
3"	2" to Full	1	92196A899	12.17
3½"	2" to Full	1	92196A903	12.89
4"	2" to 3½"	1	92196A907	18.14

⅞"-9—Head: Dia. 1 5/16", Ht. ⅞"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2"	Full	1	92196A880	10.83
2½"	2¼" to Full	1	92196A882	12.26
3"	2¼" to Full	1	92196A884	12.29
3½"	2¼" to Full	1	92196A888	14.08

1"-8—Head: Dia. 1½", Ht. 1"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2"	Full	1	92196A912	13.36
2½"	Full	1	92196A914	14.83
3"	2½" to Full	1	92196A916	17.88
3½"	2½" to Full	1	92196A918	18.51
4"	2½" to Full	1	92196A920	17.57
4½"	2½" to Full	1	92196A922	22.07
5"	2½" to 4½"	1	92196A924	24.48
6"	2½" to 4½"	1	92196A926	26.24
8"	2½" to 4½"	1	92196A928	42.93

1¼"-7—Head: Dia. 1 7/8", Ht. 1¼"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
4"	3" to Full	1	92196A930	34.46
5"	3" to Full	1	92196A934	39.06
6"	3" to Full	1	92196A938	48.13

Assortments

	Thread Sizes	Screw Lengths	No. of Screws		
18-8 Stainless Steel	4-40, 6-32, 8-32, 10-32, ¼"-20	¼" to 1"	300	92085A212	$69.08
18-8 Stainless Steel	4-40, 6-32, 8-32, 10-24, 10-32, ¼"-20, 5/16"-18, ⅜"-16	¼" to 1½"	1,300	92085A224	172.28
Type 316 Stainless Steel	6-32, 8-32, 10-32, ¼"-20, ⅜"-16	⅜" to 1½"	120	92085A111	112.68

Left-Hand Threaded 18-8 Stainless Steel

Choose a Thread Size	Choose a Screw Length	
8-32, 10-32, ¼"-20	⅜", ½", ⅝", ¾", 1", 1¼", 1½", 2"	92202A550

Metric Stainless Steel Socket Head Cap Screws

Use these screws when you need corrosion resistance in a metric screw that meets DIN standards. They have a Class 6g thread fit, a minimum tensile strength of 70,000 psi, and are not rated for hardness. Screws are fully threaded, unless noted. Length is measured from under the head.


Full Threads


Partial Threads

Type 316 Stainless Steel—DIN 912-A4

M1.4—Pitch: 0.3 mm

Lg., mm	Pkg. Qty.		Pkg.
3	10	92290A471	$5.28
4	10	92290A472	6.12
5	10	92290A473	6.96
6	10	92290A474	7.80

M1.6—Pitch: 0.35 mm

Lg., mm	Pkg. Qty.		Pkg.
3	50	92290A596	10.08
4	50	92290A597	10.40
5	50	92290A598	11.00
6	50	92290A599	11.40
8	25	92290A601	8.12
10	25	92290A602	9.20
12	25	92290A603	11.70

M2—Pitch: 0.4 mm

Lg., mm	Pkg. Qty.		Pkg.
3	25	92290A744	6.36
4	25	92290A745	6.40
5	25	92290A012	6.72
6	25	92290A013	6.84
8	25	92290A015	6.92
10	50	92290A017	4.66
12	50	92290A019	5.00
16	50	92290A746	9.77
20	50	92290A747	10.00

M2.5—Pitch: 0.45 mm

Lg., mm	Pkg. Qty.		Pkg.
4	50	92290A751	9.62
5	50	92290A055	3.71
6	25	92290A056	$1.94
8	25	92290A058	2.61
10	50	92290A060	5.52
12	25	92290A062	3.03
16	10	92290A065	3.92
20	25	92290A752	9.88
25	25	92290A753	10.80

M3—Pitch: 0.5 mm

Lg., mm	Pkg. Qty.		Pkg.
3	10	92290A109	7.20
4	25	92290A108	5.17
5	50	92290A110	11.62
6	50	92290A111	9.44
8	50	92290A113	9.63
10	50	92290A115	9.99
12	50	92290A117	9.99
14	50	92290A118	5.33
16	50	92290A120	10.20
18	50	92290A761	10.40
20	50	92290A122	11.44
22	50	92290A762	11.64
25	50	92290A124▲	13.44
30	25	92290A126▲	6.80
35	25	92290A763▲	7.00
40	25	92290A128▲	8.00

M3 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
45	25	92290A764▲	$8.20
50	25	92290A130▲	4.77
60	1	92290A131▲	4.29

M4—Pitch: 0.7 mm

Lg., mm	Pkg. Qty.		Pkg.
4	10	92290A138	10.00
5	10	92290A141	6.00
6	25	92290A139	7.26
8	25	92290A140	6.72
10	50	92290A144	11.99
12	50	92290A148	12.53
14	25	92290A150	6.30
16	50	92290A154	12.80
18	25	92290A161	6.45
20	25	92290A168	7.00
22	25	92290A771	7.20
25	25	92290A176	7.50
30	25	92290A180▲	8.00
35	25	92290A182▲	8.20
40	10	92290A184▲	3.40
45	25	92290A186▲	9.80
50	10	92290A188▲	5.04
60	10	92290A772▲	5.44
80	1	92290A189▲	2.44

M5—Pitch: 0.8 mm

Lg., mm	Pkg. Qty.		Pkg.
5	10	92290A277	$11.60
6	25	92290A781	6.18
8	50	92290A222	11.00
10	25	92290A224	7.45
12	25	92290A228	7.72
14	25	92290A230	8.06
16	25	92290A232	8.35
18	25	92290A237	8.76
20	25	92290A242	9.63
22	25	92290A782	9.90
25	25	92290A252	10.17
30	25	92290A254▲	11.80
35	10	92290A256▲	5.80
40	10	92290A258▲	5.99
45	10	92290A260▲	7.55
50	10	92290A265▲	7.77
55	10	92290A268▲	7.98
60	10	92290A270▲	10.23
70	10	92290A783▲	11.27
80	5	92290A784▲	6.97

M6—Pitch: 1 mm

Lg., mm	Pkg. Qty.		Pkg.
6	10	92290A791	5.90
8	25	92290A312	9.00
10	25	92290A316	9.60

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

(Continued on following page)

Metric Stainless Steel Socket Head Cap Screws *(Continued from previous page)*


Full Threads


Partial Threads

Use these screws when you need corrosion resistance in a metric screw that meets DIN standards. They have a Class 6g thread fit, a minimum tensile strength of 70,000 psi, and are not rated for hardness. Screws are fully threaded, unless noted. Length is measured from under the head.

Type 316 Stainless Steel—DIN 912-A4 (Cont.)

M6—Pitch: 1 mm (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
12	25	92290A318	$10.10
14	25	92290A320	10.20
16	25	92290A321	10.30
18	10	92290A323	4.24
20	25	92290A326	10.62
22	10	92290A311	7.50
25	25	92290A330	11.80
30	25	92290A332	12.98
35	10	92290A334▲	7.41
40	10	92290A336▲	7.48
45	10	92290A338▲	9.26
50	10	92290A339▲	9.69
55	10	92290A340▲	11.08
60	5	92290A342▲	7.50
65	5	92290A341▲	6.08
70	5	92290A344▲	7.55
75	5	92290A792▲	7.63
80	5	92290A346▲	8.29
90	5	92290A350▲	9.00
100	5	92290A354▲	9.25
110	5	92290A358▲	12.60
120	1	92290A793▲	2.96

M8—Pitch: 1.25 mm

Lg., mm	Pkg. Qty.		Pkg.
8	5	92290A413	$9.33
10	10	92290A414	6.87
12	10	92290A416	8.61
14	10	92290A801	9.98
16	10	92290A418	10.06
18	10	92290A802	10.96
20	10	92290A426	10.56
22	10	92290A412	12.80
25	10	92290A432	10.71
30	10	92290A434	11.01
35	10	92290A438	11.99
40	5	92290A442▲	7.37
45	5	92290A446▲	8.86
50	5	92290A449▲	10.26
55	5	92290A452▲	11.04
60	5	92290A455▲	11.43
65	5	92290A803▲	11.00
70	5	92290A458▲	10.86
75	5	92290A459▲	11.67
80	5	92290A461▲	11.75
85	1	92290A462▲	3.06
90	1	92290A464▲	2.26
100	1	92290A804▲	2.91
120	1	92290A805▲	2.84

M10—Pitch: 1.5 mm

Lg., mm	Pkg. Qty.		Pkg.
16	10	92290A512	$10.00
20	5	92290A516	7.70
25	5	92290A520	8.03
30	5	92290A522	9.30
35	1	92290A526	1.54
40	1	92290A528	1.85
45	1	92290A530▲	1.82
50	1	92290A535▲	2.08
55	1	92290A540▲	2.17
60	1	92290A544▲	2.29
70	1	92290A548▲	2.58
80	1	92290A552▲	2.82
100	1	92290A811▲	3.46
120	1	92290A553▲	6.90
140	1	92290A595▲	6.40

M12—Pitch: 1.75 mm

Lg., mm	Pkg. Qty.		Pkg.
16	5	92290A608	15.14
20	1	92290A612	2.09
25	1	92290A616	2.64
30	1	92290A618	2.56
35	1	92290A620	3.16
40	1	92290A622	3.36
45	1	92290A624	3.60

M12 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
50	1	92290A628	$3.64
55	1	92290A630▲	3.72
60	1	92290A632▲	3.76
70	1	92290A636▲	3.80
80	1	92290A640▲	3.84
100	1	92290A662▲	4.32

M14—Pitch: 2 mm

Lg., mm	Pkg. Qty.		Pkg.
30	1	92290A821	2.93
40	1	92290A670	6.03
50	1	92290A671▲	6.38
60	1	92290A822▲	4.09

M16—Pitch: 2 mm

Lg., mm	Pkg. Qty.		Pkg.
30	1	92290A831	3.72
35	1	92290A711	4.36
40	1	92290A715	4.42
50	1	92290A719	4.44
60	1	92290A728	5.69
80	1	92290A743▲	7.60
100	1	92290A832▲	7.11

M20—Pitch: 2.5 mm

Lg., mm	Pkg. Qty.		Pkg.
40	1	92290A841	7.16
50	1	92290A842	9.11
60	1	92290A843	10.44
80	1	92290A844▲	13.40

18-8 Stainless Steel—DIN 912-A2

M1.6—Pitch: 0.35 mm

Lg., mm	Pkg. Qty.		Pkg.
3	100	91292A260	11.76
4	100	91292A261	9.92
5	100	91292A262	11.24
6	100	91292A263	11.60
8	100	91292A264	12.00
10	50	91292A265	9.78
12	50	91292A266	12.40

M2—Pitch: 0.4 mm

Lg., mm	Pkg. Qty.		Pkg.
3	50	91292A003	7.74
4	100	91292A004	11.56
5	100	91292A005	10.46
6	100	91292A831	6.38
8	100	91292A832	6.00
10	100	91292A833	6.42
12	100	91292A834	3.64
14	50	91292A835	3.86
16	50	91292A002	12.84
18	25	91292A031▲	10.34
20	25	91292A013	7.43
25	10	91292A032▲	6.90
30	10	91292A034▲	8.97

M2.5—Pitch: 0.45 mm

Lg., mm	Pkg. Qty.		Pkg.
3	25	91292A035	6.00
4	25	91292A015	5.45
5	100	91292A009	4.40
6	100	91292A010	4.40
8	100	91292A012	4.80
10	100	91292A014	4.80
12	100	91292A016	4.80
14	50	91292A017	3.40
16	50	91292A018	3.00
18	50	91292A028	11.55
20	50	91292A019	11.43
25	10	91292A036▲	8.62
30	10	91292A037▲	7.93

M3—Pitch: 0.5 mm

Lg., mm	Pkg. Qty.		Pkg.
3	25	91292A021	11.11
4	50	91292A109	2.60
5	100	91292A110	4.40
6	100	91292A111	8.56
8	100	91292A112	4.00
10	100	91292A113	4.40
12	100	91292A114	4.40
14	100	91292A027	5.60
16	100	91292A115	5.20
18	100	91292A029	5.60
20	100	91292A123	6.00

M3 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
22	50	91292A801▲	4.00
25	100	91292A020▲	6.40
30	50	91292A022▲	3.80
35	25	91292A033▲	3.30
40	25	91292A024▲	2.90
45	50	91292A025▲	10.81
50	25	91292A026▲	3.50
60	50	91292A267▲	11.22

M4—Pitch: 0.7 mm

Lg., mm	Pkg. Qty.		Pkg.
4	10	91292A023	6.67
5	100	91292A105	6.00
6	100	91292A107	5.60
8	100	91292A108	6.00
10	100	91292A116	6.40
12	100	91292A117	6.40
14	100	91292A038	8.40
16	100	91292A118	7.20
18	100	91292A043	8.80
20	100	91292A121	8.00
22	50	91292A806	5.36
25	100	91292A122	8.80
30	100	91292A130▲	10.00
35	50	91292A131▲	6.60
40	50	91292A132▲	6.25
45	50	91292A133▲	8.21
50	25	91292A140▲	5.30
55	25	91292A268▲	8.35
60	25	91292A048▲	6.10
70	25	91292A269▲	9.07
80	25	91292A271▲	11.93
100	1	91292A039▲	4.31

M5—Pitch: 0.8 mm

Lg., mm	Pkg. Qty.		Pkg.
6	50	91292A189	4.63
8	100	91292A191	8.52
10	100	91292A124	8.15
12	100	91292A125	9.26
14	100	91292A058	11.11
16	100	91292A126	10.00
18	50	91292A127	7.78
20	100	91292A128	12.22
22	25	91292A060	8.33
25	50	91292A129	6.85
30	50	91292A192▲	7.96
35	25	91292A193▲	5.37
40	25	91292A194▲	5.37
45	25	91292A195▲	6.20
50	25	91292A196▲	7.13

M5 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
55	25	91292A690▲	8.15
60	10	91292A197▲	3.67
65	25	91292A811▲	10.09
70	10	91292A198▲	4.11
75	10	91292A272▲	4.29
80	10	91292A199▲	5.56
90	10	91292A200▲	6.41
100	10	91292A273▲	7.21

M6—Pitch: 1 mm

Lg., mm	Pkg. Qty.		Pkg.
6	25	91292A044	12.07
8	50	91292A201	5.86
10	50	91292A441	6.03
12	50	91292A134	7.22
14	50	91292A070	9.83
16	50	91292A135	7.07
18	50	91292A136	10.07
20	25	91292A137	4.31
22	25	91292A073	5.64
25	50	91292A138	8.79
30	50	91292A139	9.14
35	25	91292A141▲	6.64
40	25	91292A142▲	6.47
45	25	91292A143▲	7.16
50	25	91292A144▲	7.76
55	10	91292A410▲	5.28
60	10	91292A413▲	3.97
65	10	91292A416▲	5.24
70	10	91292A202▲	4.76
75	10	91292A816▲	6.03
80	10	91292A203▲	5.34
90	10	91292A204▲	5.41
100	5	91292A205▲	4.47
110	5	91292A420▲	6.33
120	5	91292A423▲	5.03
130	1	91292A424▲	2.54
140	1	91292A425▲	2.80
150	5	91292A426▲	7.55
180	1	91292A041▲	6.29
200	1	91292A042▲	9.87

M8—Pitch: 1.25 mm

Lg., mm	Pkg. Qty.		Pkg.
8	10	91292A045	10.60
10	25	91292A206	6.90
12	25	91292A207	7.41
14	25	91292A150	11.78
16	25	91292A145	7.07
18	10	91292A080	5.64
20	25	91292A147	7.84

M8 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
22	10	91292A082	6.85
25	25	91292A148	8.45
30	25	91292A149	8.97
35	25	91292A151	10.34
40	10	91292A152▲	5.41
45	10	91292A208▲	5.69
50	10	91292A154▲	5.86
55	10	91292A156▲	7.52
60	10	91292A209▲	6.62
65	10	91292A210▲	8.14
70	10	91292A211▲	7.41
75	5	91292A085▲	8.05
80	10	91292A212▲	8.28
85	5	91292A281▲	6.95
90	5	91292A213▲	5.83
100	5	91292A214▲	5.41
110	5	91292A520▲	6.14
120	5	91292A523▲	6.31
130	1	91292A525▲	1.14
140	1	91292A527▲	3.71
150	1	91292A529▲	4.08

M10—Pitch: 1.5 mm

Lg., mm	Pkg. Qty.		Pkg.
12	5	91292A822	4.33
16	10	91292A215	6.45
18	10	91292A046	8.89
20	10	91292A157	5.72
25	10	91292A158	6.17
30	10	91292A159	6.76
35	10	91292A161	8.45
40	10	91292A216	7.62
45	10	91292A217▲	9.10
50	10	91292A164▲	9.21
55	10	91292A218▲	9.69
60	5	91292A219▲	6.67
65	10	91292A251▲	11.24
70	5	91292A220▲	6.50
75	5	91292A090▲	12.17
80	5	91292A221▲	8.31
85	1	91292A826▲	1.81
90	5	91292A222▲	9.41
100	5	91292A223▲	9.21
110	1	91292A620▲	1.70
120	1	91292A623▲	1.74
130	1	91292A625▲	1.86
140	1	91292A628▲	4.90
150	1	91292A631▲	5.25
180	1	91292A047▲	15.63

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

(Continued on following page)

Metric Stainless Steel Socket Head Cap Screws *(Continued from previous page)*

18-8 Stainless Steel—DIN 912-A2 (Cont.)

M12—Pitch: 1.75 mm (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
16	10	91292A224	$9.51
20	10	91292A225	7.61
25	10	91292A226	7.58
30	10	91292A174	7.91
35	10	91292A227	11.21
40	5	91292A228	5.36
45	5	91292A229	5.44
50	5	91292A178	5.62
55	5	91292A230▲	7.74
60	5	91292A231▲	6.53
65	5	91292A650▲	7.63
70	5	91292A232▲	8.68
75	1	91292A095▲	2.18
80	5	91292A233▲	8.65

M12 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
90	1	91292A234▲	$1.63
100	1	91292A235▲	1.87
110	1	91292A670▲	2.36
120	1	91292A675▲	2.11
130	1	91292A676▲	2.10
140	1	91292A678▲	4.84
150	1	91292A679▲	6.33
160	1	91292A683▲	8.41

M14—Pitch: 2 mm

Lg., mm	Pkg. Qty.		Pkg.
30	1	91292A720	1.32
35	1	91292A725	1.85
40	1	91292A730	1.43
50	1	91292A735	1.63
60	1	91292A739▲	2.12

M16—Pitch: 2 mm

Lg., mm	Pkg. Qty.		Pkg.
25	5	91292A237	$10.29
30	5	91292A238	10.29
35	5	91292A239	11.24
40	1	91292A240	2.13
45	1	91292A241	1.96
50	1	91292A242	1.98
55	1	91292A243	2.20
60	1	91292A244	2.86
65	1	91292A245▲	2.50
70	1	91292A246▲	3.53
80	1	91292A247▲	3.10
90	1	91292A248▲	3.56
100	1	91292A249▲	4.68
110	1	91292A253▲	3.90
120	1	91292A256▲	7.27

M20—Pitch: 2.5 mm

Lg., mm	Pkg. Qty.		Pkg.
30	1	91292A274	$4.58
40	1	91292A750	3.39
50	1	91292A760	5.05
60	1	91292A765	5.87
70	1	91292A770	4.55
80	1	91292A775▲	5.51
90	1	91292A785▲	5.62
100	1	91292A275▲	5.00
120	1	91292A276▲	6.50

M24—Pitch: 3 mm

Lg., mm	Pkg. Qty.		Pkg.
50	1	91292A282	16.23
60	1	91292A277	16.88
80	1	91292A278	19.64
100	1	91292A279▲	20.83

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

18-8 Stainless Steel Assortments—DIN 912-A2

Thread Sizes	Screw Lengths	No. of Screws		
M2, M2.5, M3, M4, M5, M6, M8, M10	8 mm to 30 mm	240	92540A111	$74.63
M6, M8, M10, M12	16 mm to 60 mm	288	90110A032	243.45

Locking Stainless Steel Socket Head Cap Screws

Screws have a locking element to resist loosening. They have a minimum Rockwell hardness of B70 and a minimum tensile strength of 70,000 psi, except metric thread-locking screws are not rated for hardness. Screws are fully threaded, unless noted. Length is measured from under the head.

Thread-Locking Screws—A nylon patch bonded to the threads withstands temperatures from –70° to 250° F. Screws are reusable. *Inch sizes* have a Class 3A thread fit. Dimensions meet ANSI/ASME B18.3. *Metric sizes* have a 6g thread fit. Dimensions meet DIN 912.

Screws with Captive Lock Washer—A permanently attached but freely rotating split lock-washer provides constant tension. Also known as Sems screws, they have a Class 3A thread fit and meet ASTM F837.





Thread-Locking Screws—Type 316 Stainless Steel

4-40

Lg.	Pkg. Qty.		Pkg.
1/4"	50	96209A211	$9.38
3/8"	50	96209A212	9.93
1/2"	25	96209A213	6.09

6-32

Lg.	Pkg. Qty.		Pkg.
1/4"	25	96209A311	6.35
3/8"	25	96209A312	6.41
1/2"	25	96209A313	6.60
3/4"	25	96209A314	10.25

8-32

Lg.	Pkg. Qty.		Pkg.
1/4"	25	96209A411	$6.94
3/8"	25	96209A412	7.22
1/2"	25	96209A413	7.36
3/4"	25	96209A414	10.88
1"	25	96209A415	11.65

10-24

Lg.	Pkg. Qty.		Pkg.
3/8"	25	96209A511	10.96
1/2"	25	96209A512	11.55

10-24 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3/4"	10	96209A513	$5.06
1"	10	96209A514	5.41

10-32

Lg.	Pkg. Qty.		Pkg.
3/8"	25	96209A611	11.19
1/2"	25	96209A612	8.51
5/8"	25	96209A613	8.88
3/4"	25	96209A614	9.35
1"	10	96209A615	5.35

1/4"-20

Lg.	Pkg. Qty.		Pkg.
3/8"	10	96209A711	$6.64
1/2"	10	96209A712	4.63
5/8"	10	96209A713	5.08
3/4"	10	96209A714	5.34
1"	10	96209A715	5.94
1 1/4"	10	96209A716	8.15
1 1/2"	10	96209A717▲	9.47

Thread-Locking Screws—18-8 Stainless Steel

2-56

Lg.	Pkg. Qty.		Pkg.
3/16"	50	93705A111	6.90
1/4"	50	93705A112	6.29
3/8"	50	93705A113	6.52
1/2"	50	93705A114	6.85

4-40

Lg.	Pkg. Qty.		Pkg.
1/4"	50	93705A118	4.60
5/16"	50	93705A119	5.33
3/8"	50	93705A120	4.85
1/2"	50	93705A124	5.45

6-32

Lg.	Pkg. Qty.		Pkg.
1/4"	50	93705A144	5.08
5/16"	50	93705A145	5.70
3/8"	50	93705A146	5.34
1/2"	50	93705A148	5.99
5/8"	50	93705A195	7.28
3/4"	50	93705A197	7.49
1"	25	93705A154▲	5.78

8-32

Lg.	Pkg. Qty.		Pkg.
1/4"	50	93705A190	6.84
5/16"	50	93705A191	7.95

8-32 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3/8"	50	93705A192	6.27
1/2"	50	93705A194	6.73
5/8"	25	93705A201	4.60
3/4"	50	93705A196	8.49
1"	25	93705A198	4.96

10-24

Lg.	Pkg. Qty.		Pkg.
3/8"	50	93705A240	9.72
1/2"	50	93705A242	10.43
5/8"	25	93705A243	5.42
3/4"	25	93705A245	5.58
1"	25	93705A247	5.85
1 1/4"	25	93705A249▲	9.19
1 1/2"	25	93705A251▲	9.64

10-32

Lg.	Pkg. Qty.		Pkg.
1/4"	25	93705A258	4.56
5/16"	25	93705A259	4.73
3/8"	25	93705A260	4.86
1/2"	25	93705A264	4.99
5/8"	25	93705A265	5.39
3/4"	25	93705A266	5.51

10-32 (Cont.)

Lg.	Pkg. Qty.		Pkg.
7/8"	25	93705A267	5.76
1"	25	93705A268	5.87
1 1/4"	25	93705A271▲	9.19
1 1/2"	25	93705A274▲	9.64

1/4"-20

Lg.	Pkg. Qty.		Pkg.
1/4"	25	93705A534	6.72
3/8"	25	93705A535	6.34
1/2"	25	93705A537	5.78
5/8"	25	93705A538	6.47
3/4"	25	93705A540	6.62
7/8"	25	93705A541	8.50
1"	25	93705A542	8.67
1 1/4"	25	93705A544▲	9.97
1 1/2"	10	93705A546▲	5.25
2"	10	93705A548▲	6.90

1/4"-28

Lg.	Pkg. Qty.		Pkg.
3/8"	10	93705A711	4.04
1/2"	10	93705A714	3.95

1/4"-28 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3/4"	10	93705A717	4.38
1"	10	93705A722	5.37

5/16"-18

Lg.	Pkg. Qty.		Pkg.
3/4"	10	93705A581	4.89
1"	10	93705A583	5.55
1 1/4"	10	93705A585	6.94
1 1/2"	10	93705A587▲	8.62
2"	10	93705A589▲	8.69

3/8"-16

Lg.	Pkg. Qty.		Pkg.
3/4"	10	93705A622	7.96
1"	10	93705A624	8.66
1 1/4"	10	93705A626	9.35
1 1/2"	10	93705A628▲	9.66

1/2"-13

Lg.	Pkg. Qty.		Pkg.
1"	1	93705A637	2.17
1 1/4"	1	93705A639	2.35
1 1/2"	1	93705A641	2.50
2"	1	93705A643▲	3.09

Screws with Captive Lock Washer—18-8 Stainless Steel

6-32—Washer Thick.: 0.040"

Lg.	Pkg. Qty.		Pkg.
1/4"	1	94912A100	2.04
3/8"	1	94912A105	2.04
1/2"	1	94912A110	2.06
3/4"	1	94912A115	2.07

8-32—Washer Thick.: 0.047"

Lg.	Pkg. Qty.		Pkg.
3/8"	1	94912A220	2.09
1/2"	1	94912A225	2.10
5/8"	1	94912A230	2.11
3/4"	1	94912A235	2.13
1"	1	94912A240	2.16

10-32—Washer Thick.: 0.047"

Lg.	Pkg. Qty.		Pkg.
1/2"	1	94912A330	2.15
5/8"	1	94912A335	2.17
3/4"	1	94912A340	2.19
1"	1	94912A345	2.23

1/4"-20—Washer Thick.: 0.062"

Lg.	Pkg. Qty.		Pkg.
1/2"	1	94912A450	2.27
5/8"	1	94912A455	2.31
3/4"	1	94912A460	2.34
1"	1	94912A465	2.40
1 1/4"	1	94912A470	2.56

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Metric Thread-Locking Screws—18-8 Stainless Steel (Dimensions in millimeters)

Choose a Thread Size	Choose a Screw Length	
M2, M3, M4, M5, M6, M8, M10, M12	4, 5, 6, 8, 10, 12, 16, 20, 25, 30, 35, 40, 50	93705A800

Coated Stainless Steel Socket Head Cap Screws





Made of 18-8 stainless steel, these screws have a Class 3A thread fit, a minimum Rockwell hardness of B70, and a minimum tensile strength of 70,000 psi. They're fully threaded, unless noted. Length is measured from under the head.

Black oxide screws have a matte-black finish.

Silver plated screws offer mild lubricity to resist seizing.

Nickel-chrome plated screws have a decorative, mirror-like finish. Use them with optional plugs to block debris and provide a finished look.

Black Oxide

Lg.	Pkg. Qty.		Pkg.
2-56			
1/8"	100	96006A231	$10.02
3/16"	100	96006A232	8.49
1/4"	100	96006A233	8.85
3/8"	100	96006A234	9.23
4-40			
1/8"	100	96006A212	9.48
3/16"	100	96006A214	6.04
1/4"	100	96006A210	6.39
5/16"	100	96006A211	7.01
3/8"	100	96006A213	7.23
1/2"	100	96006A216	7.62
5/8"	100	96006A215	7.98
3/4"	100	96006A217	8.23
1"	100	96006A218▲	8.80
6-32			
1/4"	50	96006A251	$4.53
3/8"	50	96006A253	4.61
1/2"	50	96006A256	4.80
5/8"	50	96006A258	5.49
3/4"	50	96006A259	5.69
1"	50	96006A252	5.85
8-32			
1/4"	50	96006A614	5.56
3/8"	50	96006A613	5.75
1/2"	50	96006A616	6.13
5/8"	50	96006A617	7.02
3/4"	50	96006A619	7.15
1"	50	96006A618	7.41
10-24			
1/2"	50	96006A646	$9.36
5/8"	25	96006A648	5.61
3/4"	25	96006A649	6.20
1"	25	96006A652	6.90
10-32			
1/4"	50	96006A691	8.40
3/8"	50	96006A694	8.92
1/2"	50	96006A690	9.36
5/8"	25	96006A692	5.61
3/4"	25	96006A693	5.71
1"	25	96006A696	6.90
1/4"-20			
1/4"	25	96006A701	6.98
3/8"	25	96006A702	7.01
1/2"	25	96006A703	7.22
1/4"-20 (Cont.)			
5/8"	25	96006A705	$8.05
3/4"	25	96006A706	8.56
1"	25	96006A709	9.85
1 1/4"	10	96006A718▲	4.77
1 1/2"	10	96006A727▲	5.39
5/16"-18			
3/4"	10	96006A821	7.02
1"	10	96006A826	7.82
1 1/4"	10	96006A831▲	8.58
1 1/2"	5	96006A836▲	5.09
3/8"-16			
1"	5	96006A906	6.11
1 1/4"	5	96006A914	7.52
1 1/2"	5	96006A922▲	8.17

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Silver Plated

Choose a Thread Size	Choose a Screw Length	
2-56, 4-40, 6-32, 8-32, 10-24, 10-32, 1/4"-20	1/8", 3/16", 1/4", 3/8", 1/2", 5/8", 3/4", 1", 1 1/4", 1 1/2"	90008A111

Nickel-Chrome Plated

Choose a Thread Size	Choose a Screw Length		
Screws			
6-32, 8-32, 10-32, 1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-24	3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/4", 1 1/2", 2"	93595A311	
Optional Plugs			Each
1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-24		93595A777	$1.27

Mil. Spec. Socket Head Cap Screws





Screws meet stringent Military Specifications (MS) and National Aerospace Standards (NAS), except A286 super alloy screws meet NAS only. They have a Class 3A thread fit and are fully threaded, unless noted. Length is measured from under the head.

300 series stainless steel and **A286 super alloy** screws are passivated to QQ-P-35 and meet FF-S-86. *300 series stainless steel* screws have a minimum tensile strength of 80,000 psi and are not rated for hardness. *A286 super alloy screws* have a Rockwell hardness of C33 and a minimum tensile strength of 160,000 psi.

Cadmium-plated alloy steel screws have a minimum Rockwell hardness of C39 and a minimum tensile strength of 180,000 psi.

300 Series Stainless Steel

Lg.	MS Dash No.	NAS Dash No.	Pkg. Qty.		Pkg.
0-80—Meet MS 16996 and NAS 1351C					
1/8"	1	00-2	10	92200A052	$6.48
3/16"	2	00-3	10	92200A054	6.70
1/4"	3	00-4	10	92200A055	6.91
3/8"	4	00-6	10	92200A057	7.24
2-56—Meet MS 16995 and NAS 1352C					
3/16"	1	02-3	10	92200A076	3.24
1/4"	2	02-4	10	92200A077	3.31
3/8"	3	02-6	10	92200A079	3.43
1/2"	4	02-8	10	92200A081	4.15
4-40—Meet MS 16995 and NAS 1352C					
1/4"	9	04-4	10	92200A106	3.38
3/8"	10	04-6	10	92200A108	3.59
1/2"	11	04-8	10	92200A110	4.15
6-32—Meet MS 16995 and NAS 1352C					
1/4"	16	06-4	10	92200A144	3.51
3/8"	17	06-6	10	92200A146	3.57
1/2"	18	06-8	10	92200A148	3.69
5/8"	19	06-10	10	92200A150	3.80
3/4"	20	06-12	10	92200A151	3.96
8-32—Meet MS 16995 and NAS 1352C					
3/8"	25	08-6	10	92200A192	3.91
1/2"	26	08-8	10	92200A194	4.10
5/8"	27	08-10	10	92200A196	4.22
3/4"	28	08-12	10	92200A197	4.25
7/8"	29	08-14	10	92200A198	5.16
1"	30	08-16	10	92200A199	5.35
10-24—Meet MS 16995 and NAS 1352C					
3/8"	35	3-6	10	92200A240	$3.95
1/2"	36	3-8	10	92200A242	4.38
5/8"	37	3-10	10	92200A244	4.21
3/4"	38	3-12	10	92200A245	4.33
7/8"	39	3-14	10	92200A246	4.39
1"	40	3-16	10	92200A247	5.48
1 1/4"	41	3-20	10	92200A249▲	6.73
1 1/2"	42	3-24	10	92200A251▲	7.33
10-32—Meet MS 16996 and NAS 1351C					
3/8"	9	3-6	10	92200A340	4.20
1/2"	10	3-8	10	92200A342	4.26
5/8"	11	3-10	10	92200A344	4.33
3/4"	12	3-12	10	92200A345	4.39
7/8"	13	3-14	10	92200A346	4.44
1"	14	3-16	10	92200A347	5.40
1 1/4"	15	3-20	10	92200A349▲	7.25
1 1/2"	16	3-24	10	92200A351▲	7.66
1/4"-20—Meet MS 16995 and NAS 1352C					
3/8"	47	4-6	5	92200A535	7.60
1/2"	48	4-8	5	92200A537	7.80
5/8"	49	4-10	5	92200A539	8.01
3/4"	50	4-12	5	92200A540	8.21
7/8"	51	4-14	5	92200A541	8.40
1"	52	4-16	5	92200A542	8.50
1 1/4"	53	4-20	5	92200A544	8.74
1/4"-20 (Cont.)					
1 1/2"	54	4-24	5	92200A546▲	$8.93
1 3/4"	55	4-28	5	92200A548▲	12.21
2"	56	4-32	5	92200A550▲	13.27
1/4"-28—Meet MS 16996 and NAS 1351C					
1/2"	21	4-8	5	92200A580	8.89
5/8"	22	4-10	5	92200A582	9.09
3/4"	23	4-12	5	92200A584	9.31
1"	24	4-16	5	92200A586	9.51
1 1/4"	25	4-20	5	92200A588	9.71
1 1/2"	26	4-24	5	92200A590▲	9.96
5/16"-18—Meet MS 16995 and NAS 1352C					
3/8"	61	5-6	1	92200A620	7.21
1/2"	62	5-8	1	92200A622	7.26
5/8"	63	5-10	1	92200A624	7.30
3/4"	64	5-12	1	92200A626	7.36
7/8"	65	5-14	1	92200A628	7.41
1"	66	5-16	1	92200A630	7.46
1 1/4"	67	5-20	1	92200A632	7.55
1 1/2"	68	5-24	1	92200A634	7.60
1 3/4"	69	5-28	1	92200A636▲	7.64
2"	70	5-32	1	92200A638▲	12.90
2 1/4"	71	5-36	1	92200A640▲	14.56
2 1/2"	72	5-40	1	92200A642▲	14.89

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

(Continued on following page)

Mil. Spec. Socket Head Cap Screws *(Continued from previous page)*

300 Series Stainless Steel (Cont.)

5/16"-24—Meet MS 16996 and NAS 1351C

Lg.	MS Dash No.	NAS Dash No.	Pkg. Qty.		Pkg.
3/4"	31	5-12	1	92200A651	$7.20
1"	32	5-16	1	92200A653	7.54
1 1/4"	33	5-20	1	92200A655	7.59
1 1/2"	34	5-24	1	92200A657	7.64

3/8"-16—Meet MS 16995 and NAS 1352C

Lg.	MS Dash No.	NAS Dash No.	Pkg. Qty.		Pkg.
1/2"	77	6-8	1	92200A672	7.55
5/8"	78	6-10	1	92200A674	7.60
3/4"	79	6-12	1	92200A676	7.64
7/8"	80	6-14	1	92200A678	7.70
1"	81	6-16	1	92200A680	7.88

3/8"-16 (Cont.)

Lg.	MS Dash No.	NAS Dash No.	Pkg. Qty.		Pkg.
1 1/4"	82	6-20	1	92200A682	$9.54
1 1/2"	83	6-24	1	92200A684	10.06
1 3/4"	84	6-28	1	92200A686▲	11.22
2"	85	6-32	1	92200A690▲	12.90
2 1/4"	86	6-36	1	92200A692▲	14.55
2 1/2"	87	6-40	1	92200A694▲	14.89

3/8"-24—Meet MS 16996 and NAS 1351C

Lg.	MS Dash No.	NAS Dash No.	Pkg. Qty.		Pkg.
3/4"	39	6-12	1	92200A704	7.54
1"	40	6-16	1	92200A706	7.88

3/8"-24 (Cont.)

Lg.	MS Dash No.	NAS Dash No.	Pkg. Qty.		Pkg.
1 1/4"	41	6-20	1	92200A708	$9.56
1 1/2"	42	6-24	1	92200A709	10.04

1/2"-13—Meet MS 16995 and NAS 1352C

Lg.	MS Dash No.	NAS Dash No.	Pkg. Qty.		Pkg.
3/4"	92	8-12	1	92200A710	24.58
1"	94	8-16	1	92200A712	25.58
1 1/4"	95	8-20	1	92200A714	26.55
1 1/2"	96	8-24	1	92200A716	27.33
2"	98	8-32	1	92200A718	27.92
2 1/2"	100	8-40	1	92200A720▲	28.42
3"	102	8-48	1	92200A722▲	28.92

A286 Super Alloy

2-56—Meet NAS 1352N

Lg.	NAS Dash No.	Pkg. Qty.		Pkg.
3/16"	02-3	1	92423A411	2.17
1/4"	02-4	1	92423A413	2.26
5/16"	02-5	1	92423A416	2.40
3/8"	02-6	1	92423A419	2.06

4-40—Meet NAS 1352N

Lg.	NAS Dash No.	Pkg. Qty.		Pkg.
1/4"	04-4	1	92423A430	2.26
5/16"	04-5	1	92423A433	2.29
3/8"	04-6	1	92423A436	1.94
1/2"	04-8	1	92423A439	2.03
3/4"	04-12	1	92423A442	2.06

6-32—Meet NAS 1352N

Lg.	NAS Dash No.	Pkg. Qty.		Pkg.
1/4"	06-4	1	92423A452	2.31
5/16"	06-5	1	92423A455	2.34
3/8"	06-6	1	92423A458	2.40

6-32—Meet NAS 1352N (Cont.)

Lg.	NAS Dash No.	Pkg. Qty.		Pkg.
1/2"	06-8	1	92423A461	2.40
3/4"	06-12	1	92423A467	2.40
1"	06-16	1	92423A471	2.43

8-32—Meet NAS 1352N

Lg.	NAS Dash No.	Pkg. Qty.		Pkg.
3/8"	08-6	1	92423A480	2.43
1/2"	08-8	1	92423A483	2.43
5/8"	08-10	1	92423A486	2.43
3/4"	08-12	1	92423A489	2.43
1"	08-16	1	92423A491	2.63

10-32—Meet NAS 1351N

Lg.	NAS Dash No.	Pkg. Qty.		Pkg.
3/8"	3-6	1	92423A502	2.63
1/2"	3-8	1	92423A505	2.46
5/8"	3-10	1	92423A508	2.51
3/4"	3-12	1	92423A511	2.51

10-32—Meet NAS 1351N (Cont.)

Lg.	NAS Dash No.	Pkg. Qty.		Pkg.
7/8"	3-14	1	92423A513	2.63
1"	3-16	1	92423A516	2.74
1 1/4"	3-20	1	92423A519▲	6.14

1/4"-20—Meet NAS 1352N

Lg.	NAS Dash No.	Pkg. Qty.		Pkg.
1/2"	4-8	1	92423A531	5.00
5/8"	4-10	1	92423A533	5.00
3/4"	4-12	1	92423A536	5.06
1"	4-16	1	92423A539	6.86
1 1/4"	4-20	1	92423A543	9.14

3/8"-16—Meet NAS 1352N

Lg.	NAS Dash No.	Pkg. Qty.		Pkg.
1"	6-16	1	92423A573	17.23
1 1/2"	6-24	1	92423A577	18.91

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Cadmium-Plated Alloy Steel

Choose a Thread Size	Choose a Screw Length	MS No.	NAS No.	
2-56, 4-40, 6-32, 8-32, 10-24, 1/4"-20, 5/16"-18, 3/8"-16	3/16", 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/4", 2 1/2", 2 3/4"	16997	1352	92562A100
10-32, 1/4"-28	3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/4"	16998	1351	92562A200

High-Strength Corrosion-Resistant Socket Head Cap Screws


Full Threads


Partial Threads

These screws retain their strength in corrosive environments. They're fully threaded, unless noted. Length is measured from under the head.

17-4 PH Stainless Steel—Stronger than Grade 5 steel screws and as corrosion resistant as those made from 18-8 stainless steel, these have a minimum tensile strength of 135,000 psi. They also have a Class 3A thread fit and a minimum Rockwell hardness of C28.

Bumax 88 Stainless Steel—With strength comparable to Grade 5 steel screws and corrosion resistance similar to that of Type 316 stainless steel, these have a minimum tensile strength of 116,000 psi. They have a Class 2A thread fit and meet ANSI/ASME B18.3. Screws are not rated for hardness.

Nickel—Screws are more corrosion resistant than Type 316 and Bumax 88 stainless steel and resistant to salt water and some acids. They have a min. tensile strength of 70,000 psi, a Class 3A thread fit, and a min. Rockwell hardness of B60.

Titanium—Resistant to salt water, chemicals, and acids, these are our most corrosion resistant screws. Along with a high strength to weight ratio, they have a minimum tensile strength of 50,000 psi, a Class 2A thread fit, and a minimum Rockwell hardness of B80. All meet ASME B18.3.

17-4 PH Stainless Steel

Lg.	Each
2-56	
3/16"	91022A105 $2.07
1/4"	91022A106 2.28
3/8"	91022A107 3.22
4-40	
1/4"	91022A111 2.47
3/8"	91022A112 3.44
1/2"	91022A113 4.59
3/4"	91022A114 6.74
6-32	
3/8"	91022A121 4.21
1/2"	91022A122 5.45
6-32 (Cont.)	
3/4"	91022A123 $8.42
1"	91022A124▲ 11.37
8-32	
3/8"	91022A131 4.09
1/2"	91022A132 5.29
3/4"	91022A133 8.18
1"	91022A134▲ 10.89
10-32	
3/8"	91022A141 4.26
1/2"	91022A142 5.46
3/4"	91022A143 8.34
10-32 (Cont.)	
1"	91022A144▲ $8.75
1/4"-20	
1/2"	91022A151 5.31
5/8"	91022A152 6.64
3/4"	91022A153 8.11
1"	91022A154 10.35
1 1/4"	91022A155▲ 13.90
1 1/2"	91022A156▲ 18.00
5/16"-18	
5/8"	91022A161 6.54
3/4"	91022A162 6.76
5/16"-18 (Cont.)	
1"	91022A163 $9.39
3/8"-16	
3/4"	91022A171 7.30
1"	91022A172 9.20
1 1/4"	91022A173 12.36
1 1/2"	91022A174▲ 16.00
1/2"-13	
1"	91022A181 9.20
1 1/2"	91022A182 16.00
2"	91022A183▲ 26.16

Bumax 88 Stainless Steel

Lg.	Each
1/4"-20	
1/2"	92488A216 1.14
5/8"	92488A219 1.19
3/4"	92488A222 1.23
1"	92488A225 1.30
1 1/4"	92488A228 1.43
1 1/2"	92488A231▲ 1.96
5/16"-18	
1/2"	92488A251 3.56
5/8"	92488A254 1.54
3/4"	92488A257 1.59
7/8"	92488A261 1.66
1"	92488A264 1.73
1 1/4"	92488A267 1.89
1 1/2"	92488A272 2.04
5/16"-18 (Cont.)	
2"	92488A275▲ 2.33
3/8"-16	
3/4"	92488A283 3.27
7/8"	92488A287 3.38
1"	92488A291 3.05
1 1/4"	92488A295 3.60
1 1/2"	92488A298 3.37
3/8"-16 (Cont.)	
2"	92488A302▲ 4.75
1/2"-13	
1"	92488A321 5.72
1 1/4"	92488A324 6.23
1 1/2"	92488A328 7.45
2"	92488A331 7.40
3"	92488A334▲ 9.93

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Nickel

Choose a Thread Size	Choose a Screw Length	
2-56, 4-40, 6-32, 8-32, 10-32, 1/4"-20	3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 1", 1 1/4"	96146A990

Titanium

Choose a Thread Size	Choose a Screw Length	
0-80, 2-56, 4-40, 6-32, 8-32, 10-32, 1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13	1/8", 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4", 1 1/2", 2", 3"	95435A110

Low-Profile Stainless Steel Socket Head Cap Screws


Low Profile


Ultra-Low Profile

For use where space is limited, these screws have heads that are a fraction of the height of standard socket head cap screws. Not recommended for high-strength fastening, they have a minimum tensile strength of 70,000 psi. They are fully threaded, unless noted. Inch sizes have a minimum Rockwell hardness of B70 and a Class 3A thread fit, except ultra-low profile screws have a Class 2A thread fit. Metric sizes have a Class 6g thread fit and are not rated for hardness.

Low-profile screws have a head that's about half the height of standard socket head screws. Length is measured from under the head.

Ultra-low profile screws have a head that's 2/3 the height of low-profile screws and 1/3 the height of standard cap screws. It is wide and acts like a flange to reduce the likelihood of crushing thin or soft materials. Head strength is reinforced by a small shoulder and an unthreaded portion under the shoulder approximately 1 1/2 to 2 threads in length. Length is measured from under the shoulder.

Low Profile Type 316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
6-32—Head Ht.: 0.063″			
1/4″	10	90666A001	$7.04
3/8″	10	90666A002	7.15
1/2″	10	90666A003	7.23
8-32—Head Ht.: 0.078″			
1/4″	10	90666A004	7.46
3/8″	10	90666A005	7.64
1/2″	10	90666A006	7.67
10-24—Head Ht.: 0.094″			
3/8″	10	90666A008	$8.07
1/2″	10	90666A009	8.17
3/4″	10	90666A010	10.84
1″	10	90666A011	11.74
10-32—Head Ht.: 0.094″			
3/8″	10	90666A012	8.07
1/2″	10	90666A013	8.17
10-32 (Cont.)			
3/4″	10	90666A014	$10.84
1″	10	90666A015	11.74
1/4″-20—Head Ht.: 0.125″			
1/2″	5	90666A016	7.36
5/8″	5	90666A017	7.62
3/4″	5	90666A018	7.81
1″	5	90666A019	8.33
5/16″-18—Head Ht.: 0.156″			
1/2″	1	90666A020	$2.85
3/4″	1	90666A021	3.55
1″	1	90666A022	3.94
3/8″-16—Head Ht.: 0.188″			
3/4″	1	90666A023	4.16
1″	1	90666A024	4.49

Low Profile 18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
6-32—Head Ht.: 0.072″			
1/4″	25	93615A210	7.20
5/16″	25	93615A211	7.53
3/8″	25	93615A215	7.85
1/2″	25	93615A216	9.63
5/8″	25	93615A218	10.42
3/4″	25	93615A217	11.22
8-32—Head Ht.: 0.085″			
1/4″	25	93615A317	9.15
5/16″	25	93615A318	8.97
3/8″	25	93615A315	9.23
1/2″	25	93615A320	9.76
5/8″	25	93615A321	10.60
3/4″	10	93615A323	4.95
1″	10	93615A324	5.34
10-24—Head Ht.: 0.098″			
3/8″	25	93615A349	9.86
1/2″	25	93615A350	10.14
5/8″	10	93615A351	4.63
3/4″	10	93615A355	5.28
1″	10	93615A360	6.09
10-32—Head Ht.: 0.098″			
3/8″	25	93615A370	9.86
1/2″	25	93615A380	10.53
5/8″	10	93615A381	4.63
3/4″	10	93615A385	5.28
1″	10	93615A390	5.43
1/4″-20—Head Ht.: 0.127″			
3/8″	10	93615A405	4.96
7/16″	10	93615A409	5.04
1/4″-20 (Cont.)			
1/2″	10	93615A410	5.09
5/8″	10	93615A412	5.48
3/4″	10	93615A415	5.52
7/8″	10	93615A417	6.26
1″	10	93615A420	6.69
1 1/4″	5	93615A422	4.55
1 1/2″	5	93615A425	5.21
1/4″-28—Head Ht.: 0.127″			
3/8″	10	93615A430	5.92
1/2″	10	93615A431	6.18
5/8″	10	93615A432	6.63
3/4″	10	93615A433	6.75
1″	10	93615A434	7.82
5/16″-18—Head Ht.: 0.158″			
1/2″	5	93615A450	5.16
5/8″	5	93615A451	5.27
3/4″	5	93615A453	5.51
1″	5	93615A456	6.21
1 1/4″	5	93615A458	6.55
1 1/2″	5	93615A460	8.01
3/8″-16—Head Ht.: 0.192″			
1/2″	5	93615A510	6.64
5/8″	5	93615A512	7.03
3/4″	5	93615A515	7.19
1″	5	93615A520	8.02
1 1/4″	5	93615A524	8.42
1 1/2″	5	93615A526	9.20

Ultra-Low Profile Type 316 Stainless Steel

Choose a Thread Size	Choose a Screw Length	
10-32, 1/4″-20, 5/16″-18, 3/8″-16, 1/2″-13	3/8″, 1/2″, 3/4″, 1″, 1 1/4″, 1 1/2″, 2″	91223A211

Metric Low Profile Type 316 Stainless Steel—DIN 7984-A4 (Dimensions in millimeters)

Lg., mm	Pkg. Qty.		Pkg.
M3—Pitch: 0.5 mm; Head Ht.: 2 mm			
3	100	90666A100	$9.26
4	100	90666A101	7.31
5	100	90666A102	7.79
6	100	90666A103	8.35
8	100	90666A104	8.40
10	100	90666A105	9.19
12	100	90666A106	9.89
16	100	90666A107	11.22
20	50	90666A108▲	8.67
25	50	90666A109▲	9.35
M4—Pitch: 0.7 mm; Head Ht.: 2.8 mm			
4	100	90666A110	12.26
5	100	90666A111	12.48
6	50	90666A112	6.36
M4 (Cont.)			
8	50	90666A113	$6.64
10	50	90666A114	7.27
12	50	90666A115	7.94
16	50	90666A116	9.16
20	50	90666A117	10.51
25	25	90666A118▲	6.50
M5—Pitch: 0.8 mm; Head Ht.: 3.5 mm			
5	50	90666A119	11.28
6	50	90666A120	11.51
8	50	90666A121	12.00
10	25	90666A122	6.31
12	25	90666A123	6.38
16	25	90666A124	7.28
20	25	90666A125	8.52
25	25	90666A126	8.94
30	25	90666A127▲	9.67
M6—Pitch: 1 mm; Head Ht.: 4 mm			
6	25	90666A128	$7.87
8	25	90666A129	8.12
10	25	90666A130	8.32
12	25	90666A131	8.48
16	25	90666A132	8.89
20	25	90666A133	9.93
25	25	90666A134	11.17
30	10	90666A135▲	5.12
M8—Pitch: 1.25 mm; Head Ht.: 5 mm			
12	10	90666A136	5.95
16	10	90666A137	6.44
20	10	90666A138	7.06
25	10	90666A139	7.86
30	10	90666A140	8.64
M8 (Cont.)			
35	10	90666A141▲	$8.85
40	10	90666A142▲	9.66
M10—Pitch: 1.5 mm; Head Ht.: 6 mm			
16	10	90666A143	9.39
20	10	90666A144	10.61
25	5	90666A145	6.62
30	5	90666A146	7.45
35	5	90666A147	8.28
40	5	90666A148▲	9.50
M12—Pitch: 1.75 mm; Head Ht.: 7 mm			
20	5	90666A149	8.50
25	5	90666A150	10.15
30	5	90666A151	10.90
40	1	90666A152	2.66
50	1	90666A153▲	3.04

Metric Low Profile 18-8 Stainless Steel—DIN 7984-A2 (Dimensions in millimeters)

Lg., mm	Pkg. Qty.		Pkg.
M3—Pitch: 0.5 mm; Head Ht.: 2 mm			
4	50	92855A301	12.00
5	10	92855A304	1.68
6	25	92855A307	5.36
8	25	92855A309	5.54
10	25	92855A310	2.63
12	25	92855A313	2.67
16	25	92855A316	3.20
20	25	92855A319▲	4.83
25	25	92855A317▲	7.50
30	25	92855A335▲	8.40
M4—Pitch: 0.7 mm; Head Ht.: 2.8 mm			
4	10	92855A401	5.60
5	10	92855A402	4.80
6	25	92855A403	4.00
8	25	92855A408	5.90
10	50	92855A410	7.34
12	25	92855A413	4.13
16	25	92855A416	4.22
20	25	92855A419	5.33
M4 (Cont.)			
25	25	92855A422▲	5.48
30	25	92855A425▲	7.74
35	25	92855A428▲	10.35
50	10	92855A435▲	8.00
M5—Pitch: 0.8 mm; Head Ht.: 3.5 mm			
5	10	92855A501	8.80
6	10	92855A503	6.00
8	25	92855A507	8.90
10	50	92855A510	12.72
12	25	92855A513	6.89
16	25	92855A516	7.23
20	25	92855A519	8.50
25	25	92855A522	8.89
30	25	92855A525▲	9.45
35	25	92855A528▲	12.70
50	10	92855A537▲	8.23
60	10	92855A543▲	9.51
M6—Pitch: 1 mm; Head Ht.: 4 mm			
6	10	92855A604	4.81
M6 (Cont.)			
8	10	92855A606	3.00
10	25	92855A610	8.21
12	25	92855A613	8.39
14	25	92855A615	9.26
16	25	92855A616	8.47
18	25	92855A617	12.96
20	25	92855A619	9.53
25	25	92855A622	13.00
30	10	92855A625▲	5.26
35	10	92855A628▲	5.26
40	10	92855A631▲	6.57
50	10	92855A637▲	10.45
60	5	92855A643▲	7.11
70	5	92855A645▲	8.33
M8—Pitch: 1.25 mm; Head Ht.: 5 mm			
8	5	92855A708	7.04
10	10	92855A710	6.37
12	10	92855A713	7.08
14	10	92855A714	8.52
16	10	92855A716	7.13
M8 (Cont.)			
18	10	92855A718	8.52
20	10	92855A719	7.74
25	10	92855A722	7.86
30	10	92855A725	8.25
35	10	92855A728▲	8.56
40	10	92855A731▲	12.90
45	10	92855A734▲	12.79
50	10	92855A737▲	14.61
60	5	92855A743▲	9.67
M10—Pitch: 1.5 mm; Head Ht.: 6 mm			
16	10	92855A750	13.71
20	10	92855A753	12.14
25	10	92855A756	14.30
30	5	92855A759	7.95
60	5	92855A777▲	14.68
M12—Pitch: 1.75 mm; Head Ht.: 7 mm			
20	10	92855A825	21.39
25	10	92855A828	26.90
30	10	92855A832	27.60
40	5	92855A835▲	13.80

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Brass and Bronze Socket Head Cap Screws



Brass and bronze screws are corrosion resistant, nonmagnetic, and excellent conductors of electricity. They're also fully threaded and have a Class 3A thread fit. Length is measured from under the head.

Brass screws have a minimum Rockwell hardness of B55 and a minimum tensile strength of 55,000 psi.

Bronze screws are 30% stronger and more corrosion resistant than brass screws to salt water, gases, and sewage. They have a minimum Rockwell hardness of B70 and a minimum tensile strength of 70,000 psi.

Lg.	Pkg. Qty.		Pkg.
Brass			
0-80			
1/8"	1	93465A050	$3.63
3/16"	1	93465A051	3.63
1/4"	1	93465A052	3.75
2-56			
3/16"	10	93465A076	8.87
1/4"	10	93465A077	7.69
5/16"	10	93465A078	8.47
3/8"	10	93465A079	9.24
1/2"	1	93465A080	4.06
4-40			
3/16"	10	93465A103	7.10
1/4"	10	93465A106	7.58
5/16"	10	93465A107	7.79
3/8"	10	93465A108	7.88
1/2"	10	93465A110	8.18
5/8"	10	93465A111	9.33
3/4"	10	93465A113	10.36
1"	1	93465A114	4.00
6-32			
1/4"	10	93465A144	8.00
5/16"	10	93465A145	8.03
6-32 (Cont.)			
3/8"	10	93465A147	$8.12
1/2"	10	93465A148	8.25
5/8"	10	93465A150	8.25
3/4"	10	93465A151	10.67
1"	10	93465A153	11.71
8-32			
1/4"	10	93465A190	8.62
5/16"	10	93465A191	9.01
3/8"	10	93465A192	8.79
1/2"	10	93465A194	9.09
5/8"	10	93465A196	10.91
3/4"	10	93465A197	12.73
1"	5	93465A199	6.36
10-24			
3/8"	10	93465A240	12.73
1/2"	10	93465A242	10.15
5/8"	10	93465A244	10.43
3/4"	10	93465A245	10.91
1"	5	93465A247	5.61
10-32			
1/4"	1	93465A334	4.00
10-32 (Cont.)			
5/16"	1	93465A335	$4.25
3/8"	10	93465A320	9.39
1/2"	10	93465A323	10.00
5/8"	10	93465A324	10.61
3/4"	10	93465A326	10.61
1"	5	93465A329	5.45
1 1/4"	5	93465A331	10.45
1 1/2"	5	93465A333	11.57
1/4"-20			
3/8"	5	93465A535	7.68
1/2"	5	93465A537	7.42
5/8"	5	93465A538	7.58
3/4"	5	93465A540	7.88
7/8"	5	93465A541	9.05
1"	5	93465A542	9.64
1 1/4"	5	93465A544	8.77
1 1/2"	5	93465A546	11.81
1 3/4"	5	93465A548	11.57
2"	1	93465A550	4.09
2 1/2"	1	93465A552	4.23
5/16"-18			
1/2"	1	93465A778	$2.59
5/8"	1	93465A780	3.32
3/4"	1	93465A781	3.70
1"	1	93465A784	3.25
1 1/4"	1	93465A786	3.11
1 1/2"	1	93465A789	3.57
2"	1	93465A792	3.90
2 1/2"	1	93465A795	4.40
3/8"-16			
3/4"	1	93465A920	3.38
1"	1	93465A924	3.50
1 1/4"	1	93465A926	4.14
1 1/2"	1	93465A927	5.17
2"	1	93465A930	5.21
2 1/2"	1	93465A935	6.15
3"	1	93465A936	11.50
1/2"-13			
1"	1	93465A801	9.25
1 1/4"	1	93465A802	9.75
1 1/2"	1	93465A803	10.50
2"	1	93465A804	12.25
Bronze			
1/4"-20			
3/4"	1	97928A105	2.88
1"	1	97928A110	3.46
5/16"-18			
3/4"	1	97928A130	3.63
1"	1	97928A135	4.57
3/8"-16			
3/4"	1	97928A210	5.15
1"	1	97928A215	5.06

Aluminum Socket Head Cap Screws



Our aluminum socket head cap screws are extremely lightweight. They have a Class 3A thread fit and are not rated for hardness or tensile strength. Length is measured from under the head and screws are fully threaded, unless noted.

To Order: Please specify anodized blue, anodized red, or plain silver.

Lg.	Pkg. Qty.		Pkg.
2-56			
1/8"	10	98511A100	$10.00
3/16"	10	98511A110	10.13
1/4"	10	98511A120	10.13
1/2"	10	98511A130	10.90
4-40			
3/16"	10	98511A200	11.36
1/4"	10	98511A210	10.68
5/16"	10	98511A220	11.36
3/8"	10	98511A230	10.68
1/2"	10	98511A240	10.68
4-40 (Cont.)			
5/8"	10	98511A250	$12.04
3/4"	10	98511A150	13.16
1"	5	98511A160	9.57
6-32			
1/4"	10	98511A300	8.41
3/8"	10	98511A310	8.86
1/2"	10	98511A320	9.00
5/8"	10	98511A330	9.31
3/4"	10	98511A340	9.54
1"	10	98511A350	10.00
8-32			
1/4"	5	98511A400	$10.69
3/8"	10	98511A410	19.57
1/2"	5	98511A420	11.88
5/8"	5	98511A430	11.88
3/4"	10	98511A440	13.06
1"	1	98511A450	2.57
10-32			
1/4"	10	98511A500	19.57
3/8"	10	98511A510	20.00
10-32 (Cont.)			
1/2"	10	98511A520	$20.43
3/4"	10	98511A540	20.87
1/4"-20			
3/8"	10	98511A600	19.57
1/2"	10	98511A610	21.52
5/8"	5	98511A620	14.87
3/4"	5	98511A630	14.87
1"	1	98511A640	2.74
1 1/4"	1	98511A650	3.26
1 1/2"	1	98511A660★	3.26

★ Has partial threads. Thread length is 1" to 1 1/4".

Conformable Soft-Point Socket Head Cap Screws





The tip holds textured and curved material with minimal surface damage. These high-strength alloy steel screws have a black-oxide finish, strength comparable to Grade 8 steel screws, and conform to ASTM A574. They have a Class 3A thread fit, a minimum Rockwell hardness of C39, and a minimum tensile strength of 180,000 psi. Screws meet ANSI/ASME B18.3 and are reusable. They are fully threaded, unless noted. Length is measured from under the head.

Nylon Point—Softer than brass and nonconductive, the nylon point reduces vibration and eliminates damage from metal touching metal. Made from nylon 6/6, the point withstands temperatures from –50° to 250° F and has a minimum Rockwell hardness of R105.

Brass Point—The point is harder than nylon and conductive. Not rated for hardness.

Lg.	Nylon Point Each	Brass Point Each
6-32—Point: Dia. 1/16", Lg. 1/32"		
3/8"	90303A030 $3.48	90299A140 $4.44
1/2"	90303A035 3.50	90299A145 4.51
8-32—Point: Dia. 3/32", Lg. 3/64"		
3/8"	90303A060 3.42	90299A170 4.39
1/2"	90303A065 3.45	90299A175 4.44
3/4"	90303A070 3.45	90299A180 4.44
10-32—Point: Dia. 3/32", Lg. 3/64"		
3/8"	90303A108 3.27	90299A241 4.47
1/2"	90303A110 3.30	90299A242 4.49
5/8"	90303A112 3.42	90299A243 4.44
3/4"	90303A115 3.20	90299A245 4.37
1"	90303A120 3.27	90299A247 4.35
1/4"-20—Point: Dia. 1/8", Lg. 1/16"		
1/2"	90303A125 3.33	90299A537 4.34
5/8"	90303A128 3.42	90299A538 4.36
1/4"-20 (Cont.)		
3/4"	90303A130 $3.20	90299A540 $4.29
1"	90303A135 3.27	90299A542 4.40
1 1/4"	90303A137 3.33	90299A544 4.40
1 1/2"	90303A138■ 3.45	90299A545■ 4.44
5/16"-18—Point: Dia. 3/16", Lg. 3/32"		
3/4"	90303A140 3.10	90299A581 4.29
1"	90303A145 3.27	90299A583 4.47
1 1/2"	90303A148 3.42	90299A586 4.48
3/8"-16—Point: Dia. 3/16", Lg. 3/32"		
3/4"	90303A425 3.50	90299A710 4.68
1"	90303A430 3.58	90299A715 4.72
1 1/4"	90303A435 3.65	90299A720 4.82
1 1/2"	90303A440 3.77	90299A725 4.88

■ Has partial threads. Thread length is 3/4" to full.

Plastic Socket Head Cap Screws CAD


Full Threads


Partial Threads

These screws are lightweight, resistant to most chemicals and solvents, and electrically nonconductive. They're fully threaded, unless noted. Length is measured from under the head. They are not rated for hardness or tensile strength and are not recommended for high-strength fastening. Inch sizes have an approximate Class 2A thread fit. Metric sizes are not rated for thread fit.

Nylon—Temperature range is –40° to 185° F. Exposure to moisture may cause nylon to expand.

Glass-Filled Nylon—Reinforced with fiberglass, these screws have more than twice the strength of nylon. They are not rated for temperature. Exposure to moisture may cause nylon to expand.

Polypropylene—Screws are more resistant than nylon to acids, alkalies, oils, and grease. Unlike nylon screws, they won't absorb moisture. Temperature range is –20° to 212° F.

Nylon—Choose a color: black, off-white

Lg.	Pkg. Qty.		Pkg.
2-56			
1/8"	100	95868A130	$10.46
3/16"	100	95868A131	10.50
1/4"	100	95868A132	10.56
5/16"	100	95868A133	10.60
3/8"	100	95868A134	10.64
1/2"	100	95868A135	10.64
4-40			
3/32"	100	95868A252	6.14
1/8"	100	95868A254	5.73
9/64"	100	95868A253	6.19
3/16"	100	95868A255	5.61
1/4"	100	95868A256	5.75
9/32"	100	95868A251	5.82
5/16"	100	95868A257	5.71
3/8"	100	95868A258	5.75
7/16"	100	95868A259	5.90
1/2"	100	95868A260	5.79
9/16"	100	95868A261	6.43
5/8"	100	95868A262	5.96
11/16"	100	95868A270	6.45
3/4"	100	95868A263	5.87
7/8"	100	95868A264	6.04
1"	100	95868A265	5.90
1 1/8"	100	95868A266	6.70
1 1/4"	100	95868A267	6.33
1 3/8"	100	95868A268	6.53
1 1/2"	100	95868A269	6.56
6-32			
3/32"	100	95868A290	6.38
1/8"	100	95868A291	5.93
5/32"	100	95868A292	6.43
3/16"	100	95868A293	5.83
1/4"	100	95868A294	5.87
5/16"	100	95868A295	5.90
3/8"	100	95868A296	5.95
7/16"	100	95868A297	5.98
1/2"	100	95868A298	5.98
5/8"	100	95868A299	6.04
11/16"	100	95868A300	6.70
6-32 (Cont.)			
3/4"	100	95868A301	$6.07
7/8"	100	95868A302	6.24
1"	100	95868A304	6.10
1 1/8"	100	95868A303	6.28
1 1/4"	100	95868A305	6.14
1 1/2"	100	95868A307	6.31
1 3/4"	100	95868A310	7.13
1 7/8"	50	95868A311	4.49
2 1/4"	100	95868A312	10.60
6-40			
1/4"	100	95868A904	6.47
3/8"	100	95868A906	6.58
3/4"	100	95868A908	6.70
1"	100	95868A910	6.76
8-32			
1/8"	100	95868A337	6.18
3/16"	100	95868A338	6.06
1/4"	100	95868A340	6.08
9/32"	100	95868A339	6.74
5/16"	100	95868A341	6.10
3/8"	100	95868A342	6.12
7/16"	100	95868A343	6.29
1/2"	100	95868A344	6.18
5/8"	100	95868A346	6.18
3/4"	100	95868A347	6.21
7/8"	100	95868A348	6.38
1"	100	95868A349	6.24
1 1/8"	100	95868A350	7.02
1 1/4"	100	95868A351	6.40
1 3/8"	100	95868A352	7.10
1 1/2"	100	95868A353	6.46
1 3/4"	100	95868A354	7.20
2"	100	95868A355	7.32
10-24			
1/8"	100	95868A387	6.64
3/16"	100	95868A388	7.20
1/4"	100	95868A389	6.52
5/16"	100	95868A390	6.72
3/8"	100	95868A391	6.77
10-24 (Cont.)			
1/2"	100	95868A392	$6.64
5/8"	100	95868A393	6.87
3/4"	100	95868A395	6.72
1"	100	95868A397	6.77
1 1/4"	100	95868A398	6.87
1 1/2"	100	95868A399	6.93
10-32			
1/8"	100	95868A080	6.64
3/16"	100	95868A082	6.67
1/4"	100	95868A084	6.68
5/16"	100	95868A085	6.72
3/8"	100	95868A087	6.63
1/2"	100	95868A089	6.68
5/8"	100	95868A090	6.71
3/4"	100	95868A091	6.75
7/8"	100	95868A095	6.91
1"	100	95868A092	6.80
1 1/4"	100	95868A093	6.89
1 1/2"	100	95868A096	6.40
2"	100	95868A098	7.10
1/4"-20			
3/16"	100	95868A733	7.48
1/4"	100	95868A734	7.62
5/16"	100	95868A736	7.65
3/8"	100	95868A735	7.50
1/2"	100	95868A740	7.54
5/8"	100	95868A741	7.60
3/4"	100	95868A742	7.62
7/8"	100	95868A743	7.84
1"	100	95868A744	7.69
1 1/8"	100	95868A739	8.59
1 1/4"	100	95868A745	7.77
1 1/2"	100	95868A746	7.87
1 3/4"	100	95868A747	8.79
2"	100	95868A750▲	8.64
2 1/4"	50	95868A751▲	7.46
2 1/2"	100	95868A752▲	13.60
3"	25	95868A753	6.93
1/4"-28			
3/16"	100	95868A077	$8.24
1/4"	100	95868A078	8.26
3/8"	100	95868A079	8.33
3/4"	100	95868A081	8.46
1"	100	95868A094	7.78
5/16"-18			
1/2"	25	95868A810	6.55
3/4"	25	95868A812	6.63
1"	25	95868A814	6.71
1 1/4"	25	95868A815▲	7.12
1 1/2"	25	95868A816▲	6.88
2"	25	95868A817▲	7.39
2 1/2"	25	95868A818▲	7.56
3"	25	95868A819▲	7.74
3/8"-16			
1/2"	25	95868A821	6.92
3/4"	25	95868A824	6.92
1"	25	95868A826	6.97
1 1/4"	25	95868A828▲	6.94
1 1/2"	25	95868A830▲	6.97
2"	25	95868A834▲	6.96
2 1/2"	25	95868A836▲	4.80
3"	25	95868A837▲	9.87
1/2"-13			
1/2"	25	95868A631	10.85
3/4"	10	95868A633	5.87
1"	10	95868A636	6.03
1 1/4"	25	95868A650	11.88
1 1/2"	25	95868A654▲	12.23
2"	10	95868A657▲	6.65
2 1/2"	25	95868A663▲	13.60
3"	10	95868A664▲	7.28
5/8"-11			
1/2"	10	95868A963	6.08
3/4"	10	95868A964	6.26
1"	10	95868A965	6.44
1 1/2"	10	95868A966	6.85
2"	10	95868A967▲	7.28

Glass-Filled Nylon—Color is off-white

Lg.	Pkg. Qty.		Pkg.
2-56			
1/8"	25	91221A110	8.15
3/16"	25	91221A111	8.34
1/4"	25	91221A112	8.54
5/16"	25	91221A113	8.72
3/8"	25	91221A114	8.89
1/2"	25	91221A115	9.08
4-40			
1/8"	25	91221A211	8.17
3/16"	25	91221A212	8.19
1/4"	25	91221A213	8.23
5/16"	25	91221A214	10.58
3/8"	25	91221A216	7.36
4-40 (Cont.)			
1/2"	25	91221A217	8.13
5/8"	25	91221A218	11.29
3/4"	25	91221A219	12.18
1"	25	91221A221	13.18
6-32			
1/4"	10	91221A210	8.23
3/8"	10	91221A215	8.33
1/2"	10	91221A220	8.40
3/4"	10	91221A225	8.50
1"	10	91221A230	8.56
8-32			
3/8"	10	91221A440	8.63
1/2"	10	91221A445	8.64
8-32 (Cont.)			
5/8"	10	91221A450	8.68
3/4"	10	91221A455	8.69
1"	10	91221A460	8.73
10-24			
1/4"	25	91221A711	11.73
3/8"	25	91221A712	12.01
1/2"	25	91221A713	12.26
5/8"	25	91221A714	10.80
3/4"	25	91221A715	11.69
1"	25	91221A716	10.89
10-32			
1/2"	10	91221A680	9.01
3/4"	10	91221A685	9.11
10-32 (Cont.)			
1"	10	91221A690	9.16
1 1/4"	10	91221A695	9.31
1 1/2"	10	91221A705	9.45
2"	10	91221A710	9.60
1/4"-20			
5/8"	10	91221A960	9.84
3/4"	10	91221A965	9.93
7/8"	10	91221A970	9.98
1"	10	91221A975	10.02
1 1/4"	10	91221A980	10.18
1 1/2"	10	91221A985	10.34
2"	10	91221A990	10.51

Polypropylene—Color is off-white

Lg.	Pkg. Qty.		Pkg.
6-32			
1/4"	10	99477A110	4.69
3/8"	10	99477A120	4.76
1/2"	10	99477A130	4.82
3/4"	10	99477A140	4.90
1"	10	99477A150	4.94
8-32			
3/8"	10	99477A260	5.00
1/2"	10	99477A270	5.00
5/8"	10	99477A280	5.03
3/4"	10	99477A290	5.04
1"	10	99477A310	5.07
10-32			
1/2"	10	99477A440	5.28
3/4"	10	99477A450	5.36
1"	10	99477A460	5.40
1 1/4"	10	99477A470	5.51
1 1/2"	10	99477A480	5.62
2"	10	99477A490	5.73
1/4"-20			
5/8"	10	99477A610	5.91
3/4"	10	99477A620	5.98
7/8"	10	99477A630	6.02
1"	10	99477A640	6.05
1 1/4"	10	99477A650	6.17
1 1/2"	10	99477A660	6.29
2"	10	99477A670	6.42

Metric Nylon—Color is off-white. Dimensions in millimeters.

M8—Pitch: 1.25 mm

Lg.	Pkg. Qty.		Pkg.
16	10	93640A101	7.28
20	10	93640A106	6.60
25	10	93640A111	7.64
30	10	93640A117	7.84
35	10	93640A123	9.45

M10—Pitch: 1.5 mm

Lg.	Pkg. Qty.		Pkg.
20	1	93640A221	1.21
25	5	93640A225	7.83
30	5	93640A232	9.04
35	1	93640A238	2.11
40	1	93640A244	2.26

M12—Pitch: 1.75 mm

Lg.	Pkg. Qty.		Pkg.
20	1	93640A334	2.20
25	1	93640A339	2.26
30	1	93640A344	2.43
40	1	93640A348	2.46

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Wire-Lockable Socket Head Cap Screws

For more vibration resistance than a thread-locking patch or a lock washer, wire these screws together through a hole in the head (wire sold separately below). For wire-twisting pliers, see page 2747. Screws are fully threaded, unless noted. All have a Class 3A thread fit and meet ANSI/ASME B18.3. Length is measured from under the head.

Black-Oxide Alloy Steel—These screws have strength comparable to Grade 8 screws, a minimum Rockwell hardness of C37, and a minimum tensile strength of 170,000 psi.

18-8 Stainless Steel—Material meets ASTM F837. Screws have a minimum Rockwell hardness of B70 and a minimum tensile strength of 80,000 psi.


Full Threads


Partial Threads


Use wire (not included) to lock screws together.

Black-Oxide Alloy Steel

Lg.	Pkg. Qty.		Pkg.
2-56—Hole Dia.: 0.031″			
3/16″	5	90117A111	$9.16
1/4″	5	90117A112	8.59
3/8″	5	90117A113	8.78
1/2″	5	90117A114	8.97
4-40—Hole Dia.: 0.035″			
3/16″	10	90117A115	9.28
1/4″	10	90117A116	9.54
3/8″	10	90117A117	9.93
1/2″	10	90117A118	10.13
6-32—Hole Dia.: 0.035″			
1/4″	10	90117A119	8.40
3/8″	10	90117A121	8.78
1/2″	10	90117A122	9.16
3/4″	10	90117A123	9.54
8-32—Hole Dia.: 0.047″			
3/8″	10	90117A124	9.16
1/2″	10	90117A125	9.54
3/4″	10	90117A126	9.93
10-24—Hole Dia.: 0.047″			
3/8″	10	90117A183	7.94
1/2″	10	90117A187	8.00
10-24 (Cont.)			
3/4″	10	90117A188	$8.78
10-32—Hole Dia.: 0.047″			
3/8″	10	90117A191	7.84
1/2″	10	90117A193	7.97
5/8″	10	90117A194	8.72
3/4″	10	90117A195	9.12
1″	10	90117A196	9.94
1/4″-20—Hole Dia.: 0.047″			
1/4″	10	90117A534	7.91
3/8″	10	90117A535	6.83
1/2″	10	90117A537	6.97
5/8″	10	90117A539	7.06
3/4″	10	90117A540	7.30
1″	10	90117A542	7.45
1 1/4″	10	90117A544	7.63
1 1/2″	10	90117A546▲	7.83
1 3/4″	10	90117A562▲	8.24
2″	10	90117A550▲	8.25
2 1/4″	10	90117A551▲	9.22
2 1/2″	10	90117A565▲	9.53
1/4″-20 (Cont.)			
2 3/4″	10	90117A569▲	$10.17
3″	10	90117A572▲	10.67
3 1/2″	10	90117A575▲	11.38
1/4″-28—Hole Dia.: 0.047″			
3/4″	10	90117A200	7.45
1″	10	90117A205	7.79
5/16″-18—Hole Dia.: 0.047″			
3/4″	10	90117A581	8.25
1″	10	90117A583	8.41
1 1/4″	10	90117A585	8.64
1 1/2″	10	90117A587	8.95
5/16″-24—Hole Dia.: 0.047″			
3/4″	10	90117A230	8.50
1″	10	90117A235	8.64
3/8″-16—Hole Dia.: 0.064″			
3/4″	10	90117A622	8.76
1″	10	90117A624	8.96
1 1/4″	10	90117A626	9.79
1 1/2″	10	90117A628	9.98
1 3/4″	10	90117A630▲	10.33
3/8″-16 (Cont.)			
2 1/4″	10	90117A633▲	$11.28
2 1/2″	10	90117A634▲	11.68
3 1/2″	5	90117A638▲	8.07
3/8″-24—Hole Dia.: 0.064″			
1″	10	90117A250	9.68
1 1/4″	10	90117A255	10.35
1/2″-13—Hole Dia.: 0.064″			
1″	5	90117A715	8.97
1 1/4″	5	90117A717	9.41
1 1/2″	5	90117A716	10.27
1 3/4″	5	90117A718	10.55
2″	5	90117A720	10.97
2 1/2″	5	90117A722▲	11.76
1/2″-20—Hole Dia.: 0.064″			
1 1/4″	5	90117A270	10.52
1 3/4″	5	90117A275	11.23
2″	5	90117A280	11.38
5/8″-11—Hole Dia.: 0.064″			
2″	1	90117A802	2.97
2 1/2″	1	90117A804▲	3.12

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

18-8 Stainless Steel

Choose a Thread Size	Choose a Screw Length	
2-56, 4-40, 6-32, 8-32, 10-24, 10-32, 1/4″-20, 5/16″-18, 3/8″-16, 1/2″-13	1/8″, 3/16″, 1/4″, 5/16″, 3/8″, 1/2″, 5/8″, 3/4″, 1″, 1 1/4″, 1 1/2″, 1 3/4″, 2″	90152A105

Stainless Steel Wire

0.032″ dia. (1/4-lb. spool; 91 ft.)	8860K14	$6.10

Vented Socket Head Cap Screws

Used in vacuum systems, these precision manufactured screws are drilled through the shaft to vent fluid and gas. They're made from 18-8 stainless steel. Screws are fully threaded, unless noted. They are not rated for hardness or tensile strength. Length is measured from under the head.

Inch sizes have a Class 3A thread fit.

Metric sizes have a Class 4g6g thread fit.


Full Threads


Partial Threads

Inch Sizes

Lg.	Pkg. Qty.		Pkg.
2-56—Vent Dia.: 0.028″			
1/8″	5	93235A074	$5.26
3/16″	5	93235A076	5.35
1/4″	5	93235A077	5.76
5/16″	5	93235A078	7.46
3/8″	5	93235A079	8.12
1/2″	1	93235A081	2.81
4-40—Vent Dia.: 0.035″			
3/16″	5	93235A104	5.35
1/4″	5	93235A106	5.83
5/16″	5	93235A107	6.97
3/8″	5	93235A108	7.14
1/2″	5	93235A110	10.03
5/8″	1	93235A112	4.28
3/4″	1	93235A114	4.61
1″	1	93235A116▲	8.24
6-32—Vent Dia.: 0.038″			
3/16″	5	93235A142	4.86
1/4″	5	93235A144	4.52
5/16″	5	93235A145	4.69
6-32 (Cont.)			
3/8″	5	93235A146	$5.35
7/16″	5	93235A147	6.32
1/2″	5	93235A148	6.48
5/8″	5	93235A150	7.14
3/4″	5	93235A152	10.50
7/8″	1	93235A153	3.38
1″	1	93235A154	3.53
1 1/4″	1	93235A156▲	7.18
8-32—Vent Dia.: 0.042″			
1/4″	5	93235A186	5.14
5/16″	5	93235A190	6.43
3/8″	5	93235A192	5.99
1/2″	5	93235A194	7.14
5/8″	5	93235A196	8.44
3/4″	5	93235A197	10.40
7/8″	1	93235A198	2.93
1″	1	93235A199	2.81
1 1/4″	1	93235A202▲	7.75
1 1/2″	1	93235A204▲	9.54
10-24—Vent Dia.: 0.046″			
3/8″	5	93235A214	$4.07
1/2″	5	93235A216	5.41
5/8″	5	93235A218	6.32
3/4″	5	93235A220	7.46
1″	5	93235A224	12.36
10-32—Vent Dia.: 0.046″			
1/4″	5	93235A238	5.10
5/16″	5	93235A239	5.10
3/8″	5	93235A240	4.07
1/2″	5	93235A242	5.41
9/16″	5	93235A243	6.32
5/8″	5	93235A244	6.32
3/4″	5	93235A245	7.46
7/8″	5	93235A246	10.40
1″	5	93235A247	12.36
1 1/8″	1	93235A248	3.34
1 1/4″	1	93235A249▲	3.36
1 1/2″	1	93235A250▲	6.16
1/4″-20—Vent Dia.: 0.062″			
3/8″	5	93235A534	$5.71
1/2″	5	93235A537	5.83
5/8″	5	93235A539	6.97
3/4″	5	93235A540	7.46
7/8″	5	93235A541	9.38
1″	5	93235A542	9.42
1 1/4″	1	93235A544	3.36
1 1/2″	1	93235A545▲	5.30
1 3/4″	1	93235A546▲	5.89
5/16″-18—Vent Dia.: 0.078″			
3/4″	5	93235A781	8.26
1″	5	93235A783	9.31
3/8″-16—Vent Dia.: 0.093″			
1″	5	93235A924	9.68
1 1/2″	1	93235A926	3.81

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Metric Sizes—Dimensions in millimeters

	Pkg. Qty.		Pkg.
M2—Pitch: 0.4 mm Vent Dia.: 0.7 mm			
3	5	93235A301	8.89
4	5	93235A302	9.25
5	5	93235A303	9.60
6	5	93235A304	9.77
8	5	93235A305	10.66
M3—Pitch: 0.5 mm Vent Dia.: 0.9 mm			
6	5	93235A311	6.40
8	5	93235A312	8.00
10	5	93235A313	9.25
12	5	93235A314	12.79
16	1	93235A315	4.27
M4—Pitch: 0.7 mm Vent Dia.: 1 mm			
6	5	93235A321	7.46
8	5	93235A322	8.89
10	5	93235A333	9.77
12	5	93235A324	11.02
16	1	93235A325	2.84
20	1	93235A326	3.48
M5—Pitch: 0.8 mm Vent Dia.: 1.2 mm			
10	5	93235A331	8.35
12	5	93235A332	10.66
14	5	93235A334	11.37
16	5	93235A335	11.73
20	1	93235A336	2.67
25	1	93235A337	4.20

(Continued on following page)

Vented Socket Head Cap Screws *(Continued from previous page)*



Used in vacuum systems, these precision manufactured screws are drilled through the shaft to vent fluid and gas. They're made from 18-8 stainless steel. Screws are fully threaded, unless noted. They are not rated for hardness or tensile strength. Length is measured from under the head.

Metric sizes have a Class 4g6g thread fit.

Metric Sizes—Dimensions in millimeters (Cont.)

M6—Pitch: 1 mm, Vent Dia.: 1.6 mm

Lg.	Pkg. Qty.		Pkg.
12	5	93235A341	$10.31
16	5	93235A342	11.56
20	5	93235A343	12.79
25	1	93235A344	3.98
30	1	93235A345	5.69

M8—Pitch: 1.25 mm, Vent Dia.: 2 mm

Lg.	Pkg. Qty.		Pkg.
16	1	93235A351	$2.77
20	1	93235A352	2.92
25	1	93235A353	3.91
30	1	93235A354	4.83
35	1	93235A355	5.50
40	1	93235A356▲	7.41

M10—Pitch: 1.5 mm, Vent Dia.: 2.4 mm

Lg.	Pkg. Qty.		Pkg.
20	1	93235A361	$4.55
25	1	93235A362	5.40
30	1	93235A363	6.40
35	1	93235A364	6.75
40	1	93235A365	8.05

M12—Pitch: 1.75 mm, Vent Dia.: 2.5 mm

Lg.	Pkg. Qty.		Pkg.
25	1	93235A371	$6.75
30	1	93235A372	8.18
40	1	93235A373	9.67
50	1	93235A374	13.26

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Sealing Socket Head Cap Screws



A silicone O-ring under the head prevents fluids and gases from flowing into or out of a tapped hole. O-ring temperature range is –80° to 400° F. Screws are 18-8 stainless steel. They're fully threaded and have a Class 3A thread fit.

Minimum Rockwell hardness is B100 and minimum tensile strength is 55,000 psi. All meet ASME B18.3. Length is measured from under the head.

6-32

Lg.		Each
1/4"	93198A410	$2.13
3/8"	93198A415	2.24
1/2"	93198A420	2.33
3/4"	93198A425	2.45

8-32

Lg.		Each
3/8"	93198A530	$2.20
1/2"	93198A535	2.32
5/8"	93198A540	2.38
3/4"	93198A545	2.50
1"	93198A550	2.69

10-32

Lg.		Each
1/2"	93198A660	$2.33
5/8"	93198A665	2.45
3/4"	93198A670	2.50
1"	93198A675	2.64

1/4"-20

Lg.		Each
1/2"	93198A705	$2.53
5/8"	93198A710	2.66
3/4"	93198A715	2.80
1"	93198A720	2.95
1 1/4"	93198A725	2.98

Alloy Steel Flat-Head Socket Cap Screws



Full Threads



Thread Locking

Designed with a beveled neck and a flat head, these screws sit flush within countersunk holes. They have a minimum Rockwell hardness of C32 and a minimum tensile strength of 120,000 psi, except mil. spec. cadmium-plated screws have a minimum tensile strength of 145,000 psi and a minimum Rockwell hardness of C39. Screws are fully threaded, unless noted. Length is measured from the top of the head. These screws are not recommended for high-strength fastening.

Inch Screws—Have a Class 3A thread fit, an 82° bevel under the head, and meet ASTM F835. *Thread-locking* screws have a nylon patch bonded to the threads that prevents loosening. The patch withstands temperatures from –65° to 250° F. Screws are reusable.

Metric Screws—Have a Class 6g thread fit and a 90° bevel under the head. They meet DIN 7991/ISO 10642, unless noted. *High-visibility blue* screws have a distinctive blue color that makes them easy to distinguish from inch screws and are zinc plated for corrosion resistance.

Black-Oxide Alloy Steel

0-80

Lg.	Pkg. Qty.		Pkg.
1/8"	25	91253A029	$9.14
3/16"	25	91253A030	8.65
1/4"	25	91253A031	8.46
3/8"	25	91253A035	11.21
1/2"	10	91253A026	6.34

1-64

Lg.	Pkg. Qty.		Pkg.
3/16"	10	91253A971	10.00
1/4"	10	91253A972	10.60

1-72

Lg.	Pkg. Qty.		Pkg.
1/8"	25	91253A050	8.56
3/16"	25	91253A052	8.75
1/4"	25	91253A056	8.94
3/8"	25	91253A060	9.18
1/2"	25	91253A061	10.91

2-56

Lg.	Pkg. Qty.		Pkg.
1/8"	25	91253A073	10.38
5/32"	10	91253A076	8.72
3/16"	25	91253A075	5.08
1/4"	25	91253A077	5.38
5/16"	50	91253A078	11.06
3/8"	25	91253A079	5.60
7/16"	25	91253A080	7.01
1/2"	25	91253A081	5.76
5/8"	25	91253A083	4.79
3/4"	25	91253A085	10.17
1"	25	91253A087	12.50

2-64

Lg.	Pkg. Qty.		Pkg.
1/4"	5	91253A088	8.92
3/8"	5	91253A089	10.91
1/2"	5	91253A091	11.90

3-48

Lg.	Pkg. Qty.		Pkg.
3/16"	25	91253A093★	6.29
1/4"	25	91253A092	5.60
3/8"	25	91253A094	5.64
1/2"	25	91253A096	6.12

3-56

Lg.	Pkg. Qty.		Pkg.
1/4"	10	91253A097	$9.20
3/8"	10	91253A098	9.57
1/2"	10	91253A099	10.31

4-40

Lg.	Pkg. Qty.		Pkg.
1/8"	25	91253A102★	13.13
5/32"	10	91253A111	9.20
3/16"	50	91253A104	9.23
1/4"	100	91253A106	7.86
5/16"	100	91253A107	8.49
3/8"	100	91253A108	8.83
7/16"	50	91253A109	6.21
1/2"	100	91253A110	9.02
9/16"	10	91253A116	12.89
5/8"	100	91253A112	9.14
3/4"	100	91253A113	9.25
7/8"	25	91253A114	8.57
1"	25	91253A115	9.72
1 1/8"	5	91253A118	8.29
1 1/4"	25	91253A117	10.27
1 1/2"	10	91253A119▲	7.36

4-48

Lg.	Pkg. Qty.		Pkg.
1/4"	25	91253A141	8.29
3/8"	25	91253A142	8.74
1/2"	25	91253A143	9.21

5-40

Lg.	Pkg. Qty.		Pkg.
1/8"	10	91253A122★	11.29
3/16"	25	91253A123	12.05
1/4"	100	91253A124	9.28
5/16"	50	91253A125	8.84
3/8"	100	91253A126	8.98
1/2"	100	91253A128	9.10
5/8"	100	91253A130	9.41
3/4"	100	91253A131	9.64
1"	25	91253A135	11.38
1 1/2"	10	91253A139	5.80

5-44

Lg.	Pkg. Qty.		Pkg.
3/8"	10	91253A149	$9.20
1/2"	10	91253A154	11.04
3/4"	10	91253A156	12.89

6-32

Lg.	Pkg. Qty.		Pkg.
1/8"	10	91253A163★	11.04
5/32"	5	91253A164★	7.36
3/16"	25	91253A165★	11.04
1/4"	100	91253A144	8.79
5/16"	50	91253A145	4.49
3/8"	100	91253A146	9.02
7/16"	50	91253A147	6.25
1/2"	100	91253A148	9.71
9/16"	10	91253A166	12.89
5/8"	100	91253A150	9.91
3/4"	100	91253A151	10.14
7/8"	25	91253A152	9.38
1"	25	91253A153	11.19
1 1/4"	25	91253A155▲	8.48
1 1/2"	25	91253A157▲	10.18
1 3/4"	25	91253A158▲	11.25
2"	25	91253A159▲	13.17
2 1/2"	10	91253A167▲	12.89
3"	5	91253A168▲	6.88

6-40

Lg.	Pkg. Qty.		Pkg.
1/4"	25	91253A160	7.72
3/8"	25	91253A161	8.68
1/2"	25	91253A162	9.63
5/8"	10	91253A171	5.15
3/4"	10	91253A172	5.52

8-32

Lg.	Pkg. Qty.		Pkg.
5/32"	10	91253A185★	12.89
3/16"	25	91253A186★	10.47
1/4"	50	91253A189	14.73
5/16"	25	91253A190	13.62
3/8"	100	91253A192	8.98
7/16"	100	91253A193	10.55
1/2"	100	91253A194	12.08

8-32 (Cont.)

Lg.	Pkg. Qty.		Pkg.
9/16"	10	91253A187	$11.28
5/8"	100	91253A196	12.72
3/4"	100	91253A197	13.29
7/8"	25	91253A198	6.47
1"	100	91253A199	14.57
1 1/8"	5	91253A188	6.44
1 1/4"	25	91253A201▲	14.36
1 3/8"	5	91253A202▲	7.25
1 1/2"	10	91253A204▲	6.76
1 5/8"	5	91253A203	8.05
1 3/4"	10	91253A206▲	5.05
2"	10	91253A209▲	7.84
2 1/4"	10	91253A211▲	8.52
2 1/2"	10	91253A213▲	10.00
3"	10	91253A217▲	10.54

8-36

Lg.	Pkg. Qty.		Pkg.
1/2"	25	91253A220	9.86
3/4"	25	91253A223	11.28
1"	25	91253A224	12.08
1 1/4"	5	91253A226	7.66

10-24

Lg.	Pkg. Qty.		Pkg.
1/4"	25	91253A238	4.85
5/16"	25	91253A239	5.56
3/8"	100	91253A240	8.89
7/16"	25	91253A241	5.78
1/2"	100	91253A242	12.97
9/16"	10	91253A231	11.78
5/8"	100	91253A244	13.78
3/4"	100	91253A245	14.51
7/8"	25	91253A246	9.19
1"	50	91253A247	10.85
1 1/8"	5	91253A248	7.73
1 1/4"	50	91253A249	12.07
1 3/8"	5	91253A252▲	8.59
1 1/2"	25	91253A251▲	10.72
1 3/4"	25	91253A253▲	8.33

★ Head is undercut to allow more threading. ▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

(Continued on following page)

Alloy Steel Flat-Head Socket Cap Screws *(Continued from previous page)*

Black-Oxide Alloy Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
10-24 (Cont.)			
2″	10	91253A255▲	$7.87
2¼″	25	91253A256▲	9.45
2½″	5	91253A257▲	4.17
3″	5	91253A260▲	5.30
10-32			
3/16″	5	91253A265★	7.73
1/4″	50	91253A002	9.90
5/16″	25	91253A025	6.21
3/8″	50	91253A001	7.93
7/16″	50	91253A266	12.47
1/2″	100	91253A003	10.65
9/16″	5	91253A267	6.88
5/8″	100	91253A006	10.83
3/4″	100	91253A008	11.22
7/8″	50	91253A009	10.27
1″	50	91253A010	7.18
1⅛″	5	91253A268	7.73
1¼″	25	91253A012	4.62
1⅜″	5	91253A269	8.59
1½″	25	91253A014▲	4.88
1⅝″	5	91253A271▲	10.31
1¾″	25	91253A016▲	12.58
2″	25	91253A018▲	11.15
2¼″	10	91253A020▲	5.36
2½″	5	91253A022	4.41
3″	5	91253A024	8.59
12-24			
3/8″	10	91253A281	8.18
1/2″	10	91253A405	6.90
5/8″	10	91253A282	8.89
3/4″	10	91253A283	9.24
1″	10	91253A415	9.48
1¼″	10	91253A284	12.44
1½″	5	91253A285	6.75
2″	5	91253A286▲	8.00
1/4″-20			
1/4″	10	91253A533★	10.61
3/8″	50	91253A535	10.76
7/16″	25	91253A288	11.04
1/2″	50	91253A537	10.87
9/16″	10	91253A289	8.25
5/8″	50	91253A539	11.17
3/4″	50	91253A540	7.86
7/8″	25	91253A536	10.82
1″	50	91253A542	8.42
1⅛″	25	91253A291	12.52
1¼″	50	91253A544	8.33
1⅜″	10	91253A545	11.72
1½″	25	91253A546	5.49
1⅝″	5	91253A292▲	8.83
1¾″	25	91253A548▲	6.56
2″	25	91253A550▲	6.84
2¼″	10	91253A554▲	13.02
2½″	10	91253A556▲	14.94
2¾″	10	91253A558▲	9.50
3″	5	91253A560▲	9.72
3¼″	5	91253A562▲	5.30
3½″	5	91253A564▲	3.50
4″	1	91253A566▲	1.19
1/4″-28			
1/4″	5	91253A304★	7.36
5/16″	10	91253A306	10.31
3/8″	50	91253A301	10.50
7/16″	25	91253A308	8.89
1/2″	50	91253A303	11.33
9/16″	5	91253A310	6.63
5/8″	50	91253A305	11.67
3/4″	50	91253A307	8.65
7/8″	25	91253A302	4.53
1″	25	91253A309	5.20
1⅛″	5	91253A312	8.10
1¼″	25	91253A311	5.50
1⅜″	5	91253A314	8.83
1½″	25	91253A313	5.82
1¾″	10	91253A317▲	5.22
2″	10	91253A319▲	5.76
2¼″	10	91253A321▲	9.93
2½″	5	91253A322▲	5.09
1/4″-28 (Cont.)			
2¾″	5	91253A323▲	$7.24
3″	1	91253A324▲	1.16
5/16″-18			
3/8″	25	91253A576	6.87
1/2″	25	91253A578	5.95
5/8″	25	91253A580	7.04
3/4″	25	91253A581	6.41
7/8″	25	91253A582	10.86
1″	25	91253A583	6.92
1⅛″	25	91253A973	12.50
1¼″	25	91253A585	2.21
1⅜″	25	91253A974	12.86
1½″	25	91253A587	7.85
1¾″	10	91253A589	4.20
2″	10	91253A591▲	5.40
2¼″	10	91253A592▲	5.58
2½″	10	91253A593▲	5.88
2¾″	10	91253A594▲	7.47
3″	5	91253A595▲	12.92
3¼″	5	91253A597▲	3.88
3½″	5	91253A599▲	4.00
4″	5	91253A601▲	4.65
5/16″-24			
3/8″	10	91253A329	8.89
1/2″	25	91253A331	6.86
5/8″	25	91253A332	8.39
3/4″	25	91253A333	6.97
7/8″	10	91253A334	3.66
1″	25	91253A335	7.16
1⅛″	10	91253A975	9.29
1¼″	25	91253A337	8.66
1½″	10	91253A339	6.64
1¾″	10	91253A345	6.45
2″	5	91253A356▲	5.43
2¼″	5	91253A358▲	5.77
2½″	5	91253A362▲	6.07
3″	5	91253A363▲	6.34
3/8″-16			
3/8″	5	91253A346★	7.73
1/2″	25	91253A619	14.02
5/8″	25	91253A621	9.65
3/4″	25	91253A622	6.99
7/8″	10	91253A623	7.68
1″	25	91253A624	7.97
1⅛″	5	91253A347	9.98
1¼″	25	91253A626	8.21
1⅜″	5	91253A348	10.80
1½″	25	91253A628	12.00
1⅝″	5	91253A349	12.50
1¾″	25	91253A630	12.72
2″	10	91253A632	6.29
2¼″	10	91253A633▲	6.57
2½″	10	91253A634▲	7.05
2¾″	5	91253A635▲	6.97
3″	10	91253A636▲	7.78
3¼″	5	91253A638▲	6.75
3½″	5	91253A640▲	9.49
3¾″	5	91253A642▲	9.25
4″	5	91253A644▲	10.87
4½″	1	91253A646▲	7.50
5″	1	91253A648▲	8.13
5½″	1	91253A650▲	8.83
6″	1	91253A652▲	8.59
7″	1	91253A941▲	15.12
3/8″-24			
1/2″	10	91253A352	10.02
5/8″	25	91253A351	10.11
3/4″	25	91253A353	7.78
7/8″	10	91253A354	9.20
1″	25	91253A355	8.22
1¼″	25	91253A357	9.58
1½″	25	91253A359	12.62
1¾″	10	91253A361	7.17
2″	5	91253A365	9.18
2¼″	5	91253A366▲	6.36
2½″	1	91253A367▲	3.28
3″	5	91253A372▲	7.81
3½″	5	91253A376▲	9.05
7/16″-14			
1/2″	5	91253A425	$9.45
3/4″	10	91253A667	4.19
1″	10	91253A669	4.60
1¼″	10	91253A671	4.99
1½″	10	91253A673	5.40
1¾″	10	91253A675	6.55
2″	10	91253A677	6.97
2¼″	5	91253A672	6.03
2½″	5	91253A676▲	6.72
3″	5	91253A679▲	9.50
7/16″-20			
3/4″	5	91253A448	8.00
1″	5	91253A451	6.52
1¼″	5	91253A454	7.19
1½″	5	91253A456	8.89
2″	5	91253A458	12.89
1/2″-13			
1/2″	1	91253A706	4.17
3/4″	10	91253A710	4.94
7/8″	5	91253A708	7.00
1″	10	91253A712	5.47
1⅛″	5	91253A713	10.06
1¼″	10	91253A714	5.98
1⅜″	5	91253A715	10.69
1½″	10	91253A716	6.49
1⅝″	5	91253A717	11.32
1¾″	10	91253A718	6.79
2″	5	91253A720	4.55
2¼″	5	91253A721	4.72
2½″	5	91253A722▲	6.00
2¾″	5	91253A723▲	8.33
3″	5	91253A724▲	7.40
3¼″	5	91253A725▲	9.79
3½″	5	91253A726▲	11.03
3¾″	5	91253A727▲	11.83
4″	5	91253A728▲	13.23
4½″	1	91253A730▲	3.06
5″	1	91253A732▲	3.48
5½″	1	91253A734▲	4.77
6″	1	91253A740▲	4.60
6½″	1	91253A746▲	4.50
7″	1	91253A750▲	5.00
8″	1	91253A755▲	5.44
9″	1	91253A759▲	9.64
10″	1	91253A763▲	9.94
11″	1	91253A767▲	13.96
12″	1	91253A771▲	15.71
14″	1	91253A945▲	24.22
1/2″-20			
3/4″	10	91253A371	9.01
1″	10	91253A373	5.87
1¼″	10	91253A375	6.44
1½″	10	91253A377	6.87
1¾″	5	91253A379	4.50
2″	5	91253A381	4.83
2¼″	5	91253A383▲	7.50
2½″	5	91253A385▲	8.62
3″	5	91253A389▲	9.53
3½″	1	91253A393▲	2.78
4″	1	91253A951▲	11.25
6″	1	91253A953▲	22.11
5/8″-11			
3/4″	1	91253A976	4.86
1″	1	91253A794	3.23
1¼″	5	91253A796	7.68
1½″	5	91253A798	8.43
1¾″	5	91253A800	8.79
2″	5	91253A802	9.40
2¼″	5	91253A803	10.56
2½″	5	91253A804	11.01
2¾″	5	91253A805	12.75
3″	5	91253A806	11.70
3¼″	1	91253A807▲	2.71
3½″	1	91253A808▲	4.69
4″	1	91253A810▲	5.21
4½″	1	91253A812▲	4.14
5″	1	91253A814▲	4.87
5½″	1	91253A815▲	5.70
5/8″-11 (Cont.)			
6″	1	91253A816▲	$7.05
7″	1	91253A818▲	7.81
8″	1	91253A820▲	9.06
10″	1	91253A955▲	21.44
5/8″-18			
1″	1	91253A866	5.78
1¼″	1	91253A868	5.29
1½″	1	91253A870	4.38
1¾″	1	91253A871	5.86
2″	1	91253A873	6.56
2¼″	1	91253A874	6.86
2½″	1	91253A876	7.66
3″	1	91253A879	7.78
3½″	1	91253A881▲	10.54
4″	1	91253A958▲	19.73
3/4″-10			
1″	1	91253A837	3.03
1¼″	5	91253A838	14.88
1½″	5	91253A839	12.52
1¾″	5	91253A841	13.29
2″	5	91253A843	13.81
2¼″	1	91253A844	2.66
2½″	1	91253A845	3.20
2¾″	1	91253A846	3.86
3″	1	91253A847	4.06
3¼″	1	91253A848	4.43
3½″	1	91253A849▲	6.94
4″	1	91253A851▲	5.43
4½″	1	91253A853▲	9.88
5″	1	91253A855▲	7.14
5½″	1	91253A859▲	9.29
6″	1	91253A596▲	12.94
7″	1	91253A863▲	15.88
8″	1	91253A867▲	22.43
3/4″-16			
1½″	1	91253A830	5.94
1¾″	1	91253A831	7.60
2″	1	91253A832	8.34
2½″	1	91253A834	9.53
3″	1	91253A836	9.69
3½″	1	91253A840▲	11.57
4″	1	91253A842▲	14.44
7/8″-9			
1½″	1	91253A977	14.50
1¾″	1	91253A978	15.00
2″	1	91253A890	13.38
2½″	1	91253A894	16.47
3″	1	91253A898	19.00
3½″	1	91253A901	21.22
4″	1	91253A962▲	22.37
1″-8			
1½″	1	91253A979	20.50
2″	1	91253A912	12.18
2½″	1	91253A914	14.62
3″	1	91253A916	16.25
3½″	1	91253A918	15.22
4″	1	91253A920▲	16.78
4½″	1	91253A922▲	18.00
5″	1	91253A924▲	20.22
5½″	1	91253A926▲	22.93
6″	1	91253A928▲	24.86
8″	1	91253A932▲	38.78
1″-14			
2″	1	91253A980	21.00
2½″	1	91253A981	21.80
3″	1	91253A982	24.00
1⅛″-7			
3″	1	91253A983	40.38
4″	1	91253A984	42.31
1¼″-7			
3″	1	91253A985	30.00
4″	1	91253A986	37.00
5″	1	91253A987	42.31
1¼″-12			
3″	1	91253A988	33.00
1½″-6			
4″	1	91253A989	38.00
5″	1	91253A990	44.23
6″	1	91253A991▲	46.15

▲ Has partial threads. For thread length, go to mcmaster.com and search for the part number.
★ Head is undercut to allow more threading.

(Continued on following page)

Alloy Steel Flat-Head Socket Cap Screws *(Continued from previous page)*





Designed with a beveled neck and a flat head, these screws sit flush within countersunk holes. They have a minimum Rockwell hardness of C32 and a minimum tensile strength of 120,000 psi, except mil. spec. cadmium-plated screws have a minimum tensile strength of 145,000 psi and a minimum Rockwell hardness of C39. Screws are fully threaded, unless noted. Length is measured from the top of the head. These screws are not recommended for high-strength fastening.

Inch Screws—Have a Class 3A thread fit, an 82° bevel under the head, and meet ASTM F835. *Thread-locking* screws have a nylon patch bonded to the threads that prevents loosening. The patch withstands temperatures from –65° to 250°F. Screws are reusable.

Metric Screws—Have a Class 6g thread fit and a 90° bevel under the head. They meet DIN 7991/ISO 10642, unless noted. *High-visibility blue* screws have a distinctive blue color that makes them easy to distinguish from inch screws and are zinc plated for corrosion resistance.

Zinc-Plated Alloy Steel

Lg.	Pkg. Qty.		Pkg.
2-56			
1/8"	25	91263A115	$10.50
3/16"	25	91263A117	7.64
1/4"	25	91263A119	8.11
3-48			
1/4"	25	91263A125	8.59
3/8"	25	91263A127	9.55
1/2"	25	91263A129	11.45
4-40			
3/16"	100	91263A375	11.50
1/4"	100	91263A376	9.24
3/8"	50	91263A501	11.97
1/2"	50	91263A503	12.44
4-48			
1/4"	50	91263A381	7.95
3/8"	50	91263A382	9.33
1/2"	50	91263A383	12.31
5-40			
1/4"	100	91263A391	9.47
1/2"	100	91263A392	10.67
6-32			
3/16"	25	91263A505★	11.29
1/4"	25	91263A512	6.40
5/16"	100	91263A506	8.00
3/8"	25	91263A514	6.71
1/2"	25	91263A516	6.77
5/8"	100	91263A507	10.86
3/4"	25	91263A518	7.71
1"	25	91263A520	9.92
6-40			
1/4"	50	91263A508	8.52
3/8"	50	91263A509	9.80
1/2"	50	91263A510	10.65
8-32			
1/4"	100	91263A521★	8.53
5/16"	100	91263A523	9.72
3/8"	50	91263A522	12.23
1/2"	25	91263A524	6.67
8-32 (Cont.)			
5/8"	100	91263A525	$12.67
3/4"	25	91263A526	7.77
7/8"	100	91263A527	13.33
1"	25	91263A528	8.81
8-36			
1/2"	50	91263A529	8.90
3/4"	50	91263A530	10.58
1"	50	91263A532	11.36
10-24			
3/8"	25	91263A531	6.82
1/2"	25	91263A533	6.87
5/8"	50	91263A534	5.69
3/4"	25	91263A535	7.78
7/8"	50	91263A536	7.95
1"	25	91263A537	8.96
1 1/2"	10	91263A539▲	5.16
10-32			
1/4"	10	91263A540	6.94
3/8"	50	91263A542	12.98
1/2"	25	91263A544	6.87
5/8"	50	91263A543	5.62
3/4"	25	91263A546	7.78
7/8"	50	91263A547	7.95
1"	25	91263A548	8.96
1 1/2"	50	91263A550▲	11.38
12-24			
1/2"	25	91263A701	8.05
3/4"	25	91263A704	9.71
1"	25	91263A707	13.10
1/4"-20			
3/8"	25	91263A551	8.70
1/2"	25	91263A553	7.34
5/8"	25	91263A556	7.61
3/4"	25	91263A559	7.81
7/8"	25	91263A560	3.61
1"	25	91263A562	8.59
1 1/4"	25	91263A563	6.00
1/4"-20 (Cont.)			
1 1/2"	10	91263A564	$5.24
1 3/4"	25	91263A565▲	8.34
2"	10	91263A566▲	7.15
2 1/4"	10	91263A567▲	6.84
2 1/2"	10	91263A568▲	8.16
2 3/4"	10	91263A569▲	10.70
3"	10	91263A570▲	10.87
1/4"-28			
3/8"	25	91263A715	5.70
1/2"	25	91263A250	8.95
5/8"	25	91263A718	5.87
3/4"	25	91263A255	9.51
1"	25	91263A260	10.49
5/16"-18			
3/8"	25	91263A725	9.74
1/2"	25	91263A571	8.64
5/8"	25	91263A727	7.16
3/4"	25	91263A573	9.17
7/8"	25	91263A574	9.62
1"	25	91263A575	9.80
1 1/4"	10	91263A731	4.72
1 1/2"	10	91263A577	5.73
1 3/4"	10	91263A733	6.03
2"	10	91263A578▲	9.96
2 1/2"	10	91263A579▲	10.47
3"	10	91263A737▲	12.48
5/16"-24			
1/2"	25	91263A755	7.36
3/4"	25	91263A350	8.79
1"	10	91263A353	7.21
1 1/2"	10	91263A762	5.65
3/8"-16			
1/2"	10	91263A580	6.98
5/8"	10	91263A581	7.05
3/4"	10	91263A582	5.07
1"	10	91263A584	5.16
3/8"-16 (Cont.)			
1 1/4"	10	91263A585	$5.88
1 1/2"	10	91263A587	6.48
1 3/4"	10	91263A591	9.08
2"	10	91263A593	9.91
2 1/2"	5	91263A595▲	6.73
3"	5	91263A597▲	7.03
3 1/2"	5	91263A598▲	7.97
3/8"-24			
3/4"	10	91263A768	4.74
1"	10	91263A771	5.72
1 1/2"	10	91263A773	7.81
7/16"-14			
3/4"	10	91263A781	7.82
1"	10	91263A783	10.02
1 1/2"	10	91263A785	13.18
7/16"-20			
3/4"	10	91263A791	10.77
1"	10	91263A793	13.63
1/2"-13			
3/4"	5	91263A599	3.69
1"	5	91263A601	5.99
1 1/4"	5	91263A603	6.91
1 1/2"	5	91263A605	7.31
1 3/4"	5	91263A608	8.16
2"	5	91263A610	8.48
2 1/4"	5	91263A611	9.65
2 1/2"	1	91263A612▲	2.29
3"	1	91263A614▲	2.55
1/2"-20			
1"	5	91263A795	5.08
1 1/2"	5	91263A796	6.02
5/8"-11			
1"	1	91263A804	2.41
1 1/2"	1	91263A805	2.77
2"	1	91263A807	3.74
2 1/2"	1	91263A809	3.93
3"	1	91263A811	4.68

Thread-Locking Black-Oxide Alloy Steel

Lg.	Pkg. Qty.		Pkg.
2-56			
1/4"	10	91266A085	11.28
3/8"	10	91266A086	11.60
4-40			
1/4"	25	91266A109	8.05
3/8"	25	91266A108	8.97
1/2"	25	91266A110	9.37
6-32			
1/4"	25	91266A143	8.86
3/8"	25	91266A146	6.99
1/2"	25	91266A148	7.09
5/8"	25	91266A150	7.28
3/4"	25	91266A152	7.78
8-32			
1/4"	25	91266A191	9.67
3/8"	25	91266A192	7.27
1/2"	25	91266A194	7.39
5/8"	25	91266A196	7.57
3/4"	25	91266A198	7.74
1"	25	91266A200	8.41
10-24			
1/4"	10	91266A241	6.44
3/8"	25	91266A240	7.40
10-24 (Cont.)			
1/2"	25	91266A242	7.45
5/8"	25	91266A244	7.58
3/4"	25	91266A246	7.84
1"	25	91266A247	8.14
10-32			
1/4"	10	91266A251	6.44
3/8"	25	91266A250	7.40
1/2"	25	91266A252	7.45
5/8"	25	91266A253	7.58
3/4"	25	91266A254	7.84
1"	25	91266A256	8.71
1 1/4"	25	91266A258	8.70
1 1/2"	25	91266A260▲	9.97
1/4"-20			
3/8"	25	91266A535	8.05
1/2"	25	91266A537	8.19
5/8"	25	91266A539	8.36
3/4"	25	91266A540	9.43
7/8"	25	91266A541	8.59
1"	25	91266A542	10.03
1 1/4"	25	91266A544	11.21
1 1/2"	25	91266A546	11.89
1/4"-20 (Cont.)			
1 3/4"	10	91266A548▲	5.48
2"	10	91266A549▲	5.82
1/4"-28			
1/2"	25	91266A560	8.31
5/8"	25	91266A561	8.36
3/4"	25	91266A562	9.43
1"	25	91266A567	10.03
1 1/4"	10	91266A569	4.49
1 1/2"	10	91266A571	4.76
5/16"-18			
3/8"	10	91266A576	6.44
1/2"	25	91266A577	12.08
5/8"	25	91266A580	10.06
3/4"	25	91266A581	10.44
7/8"	25	91266A582	8.86
1"	25	91266A583	10.89
1 1/8"	10	91266A584	11.39
1 1/4"	25	91266A585	11.84
1 1/2"	25	91266A587	11.98
2"	10	91266A589▲	5.31
5/16"-24			
3/4"	25	91266A592	10.44
5/16"-24 (Cont.)			
1"	25	91266A593	10.66
1 1/2"	10	91266A597	5.46
3/8"-16			
3/4"	25	91266A622	13.50
7/8"	10	91266A623	4.83
1"	10	91266A624	5.47
1 1/8"	5	91266A625	8.83
1 1/4"	10	91266A626	5.56
1 1/2"	10	91266A628	5.86
1 3/4"	10	91266A629	6.40
2"	10	91266A632	6.91
3/8"-24			
3/4"	10	91266A650	5.40
1"	10	91266A652	5.84
1 1/4"	10	91266A654	5.28
1/2"-13			
3/4"	5	91266A709	4.18
1"	5	91266A712	4.91
1 1/4"	5	91266A714	5.50
1 1/2"	5	91266A716	6.05
1 3/4"	5	91266A718	6.24
2"	5	91266A720	6.32

★ Head is undercut to allow more threading. ▲ Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Mil. Spec. Cadmium-Plated Alloy Steel

Choose a Thread Size	Choose a Screw Length	Mil. Spec. No.	
4-40, 6-32, 8-32, 1/4"-20, 5/16"-18, 3/8"-16	1/4", 3/8", 1/2", 5/8", 3/4", 1"	MS-24667	93401A555

Black-Oxide Alloy Steel with Torx-Plus Drive

Choose a Thread Size	Choose a Screw Length	
4-40, 5-40, 6-32, 8-32, 10-24, 10-32, 1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16	1/4", 3/8", 1/2", 5/8", 3/4", 1", 1 1/4", 1 1/2", 2"	94414A101

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Alloy Steel Flat-Head Socket Cap Screws *(Continued from previous page)*

Metric Black-Oxide Class 10.9 Alloy Steel—Dimensions in millimeters

M2—Pitch: 0.4 mm♣

Lg.	Pkg. Qty.		Pkg.
4	25	91294A002	$6.42
5	25	91294A003	6.24
6	25	91294A004	6.42
8	25	91294A005	6.45
10	25	91294A006	6.65
12	25	91294A009	6.55
16	25	91294A538	6.20
20	25	91294A539	8.00

M2.5—Pitch: 0.45 mm♣

Lg.	Pkg. Qty.		Pkg.
5	25	91294A012	7.68
6	25	91294A014	6.40
8	25	91294A016	6.40
10	25	91294A018	6.50
12	25	91294A020	7.00
16	25	91294A022▲	10.34
20	25	91294A024▲	12.00
25	25	91294A540▲	8.30

M3—Pitch: 0.5 mm

Lg.	Pkg. Qty.		Pkg.
5	100	91294A125	5.00
6	100	91294A126	4.00
8	100	91294A128	4.27
10	100	91294A130	4.67
12	100	91294A132	5.38
14	100	91294A133	6.06
16	100	91294A134	7.95
18	100	91294A135	10.61
20	100	91294A136	8.09
22	50	91294A137	6.19
25	50	91294A138	6.83
30	50	91294A141	5.09
35	25	91294A536	9.66

M4—Pitch: 0.7 mm

Lg.	Pkg. Qty.		Pkg.
6	100	91294A186	4.49
8	100	91294A188	4.59
10	100	91294A190	4.68
12	100	91294A192	4.68
14	100	91294A193	9.17
16	100	91294A194	5.55
18	100	91294A195	9.46
20	100	91294A196	6.55
22	50	91294A197	9.92
25	100	91294A198	8.00
30	100	91294A200	13.14
35	50	91294A202	8.50
40	50	91294A204	9.43
50	25	91294A537	11.43

M5—Pitch: 0.8 mm

Lg.	Pkg. Qty.		Pkg.
6	25	91294A541	$8.00
8	100	91294A207	6.57
10	100	91294A208	7.59
12	100	91294A210	7.59
14	100	91294A211	7.60
16	100	91294A212	7.75
18	100	91294A213	11.00
20	100	91294A214	8.75
22	50	91294A215	9.17
25	100	91294A216	9.15
30	50	91294A217	5.88
35	50	91294A218	9.90
40	50	91294A219	10.57
45	50	91294A220	8.57
50	25	91294A221	4.26
55	25	91294A224	7.50
60	50	91294A542	16.08

M6—Pitch: 1 mm

Lg.	Pkg. Qty.		Pkg.
8	100	91294A232	10.36
10	100	91294A234	10.18
12	100	91294A236	10.60
14	100	91294A237	10.73
16	100	91294A238	11.27
18	100	91294A239	10.56
20	50	91294A240	5.24
22	50	91294A241	8.94
25	50	91294A242	5.00
30	50	91294A244	6.50
35	50	91294A246	6.50
40	50	91294A248	8.57
45	25	91294A249	9.00
50	25	91294A250	8.24
55	25	91294A251	10.09
60	25	91294A253	10.71
65	10	91294A543	7.64
70	25	91294A258	9.20
75	25	91294A544	11.34
80	25	91294A545	11.89
90	25	91294A546	14.04
100	25	91294A547	15.23

M8—Pitch: 1.25 mm

Lg.	Pkg. Qty.		Pkg.
10	50	91294A278	8.40
12	50	91294A280	8.48
14	25	91294A281	10.09
16	50	91294A282	9.47

M8 (Cont.)

Lg.	Pkg. Qty.		Pkg.
18	50	91294A283	$10.35
20	50	91294A284	9.33
22	25	91294A285	8.25
25	50	91294A286	10.52
30	25	91294A287	5.19
35	25	91294A288	6.20
40	25	91294A289	7.27
45	25	91294A290	8.26
50	25	91294A291	9.44
55	10	91294A292	6.28
60	10	91294A293	6.72
65	5	91294A294	4.86
70	5	91294A296	4.63
75	10	91294A548	10.00
80	10	91294A300	9.98
90	10	91294A549	11.12
100	10	91294A550	13.29
120	10	91294A551	13.72

M10—Pitch: 1.5 mm

Lg.	Pkg. Qty.		Pkg.
12	25	91294A320	13.10
16	25	91294A326	8.76
18	25	91294A552	11.03
20	25	91294A328	9.57
22	10	91294A553	4.40
25	25	91294A330	9.11
30	25	91294A332	10.01
35	10	91294A334	4.31
40	10	91294A335	5.25
45	10	91294A336	8.09
50	10	91294A337	8.42
55	10	91294A338	6.64
60	10	91294A339	9.22
70	5	91294A343	5.49
80	5	91294A345	4.82
90	5	91294A348	10.09
100	10	91294A350	12.28
120	5	91294A554	11.43

M12—Pitch: 1.75 mm

Lg.	Pkg. Qty.		Pkg.
18	25	91294A555	16.02
20	10	91294A352	6.76
25	10	91294A354	7.24
30	10	91294A356	8.61
35	10	91294A358	8.32
40	10	91294A359	9.18
45	10	91294A360	9.93

M12 (Cont.)

Lg.	Pkg. Qty.		Pkg.
50	10	91294A362	$10.48
55	10	91294A363	13.02
60	5	91294A364	5.13
65	10	91294A556	11.77
70	5	91294A366	8.21
80	5	91294A368	11.76
90	5	91294A370	12.63
100	1	91294A374	1.78
120	1	91294A378	2.10
130	1	91294A380▲	4.20

M14—Pitch: 2 mm

Lg.	Pkg. Qty.		Pkg.
30	5	91294A408	10.74
35	5	91294A410	11.73
40	5	91294A414	12.14
45	1	91294A415	2.49
50	1	91294A418	2.57
60	1	91294A420	3.34
70	1	91294A424	3.20
80	1	91294A426	3.81

M16—Pitch: 2 mm

Lg.	Pkg. Qty.		Pkg.
20	1	91294A557	4.44
25	1	91294A438	3.73
30	5	91294A440	9.29
35	5	91294A444	8.96
40	5	91294A448	9.84
45	1	91294A450	2.20
50	5	91294A452	8.65
55	5	91294A453	8.76
60	1	91294A454	2.74
70	1	91294A456	3.14
80	1	91294A458	3.49
90	1	91294A460	3.49
100	1	91294A462	4.97

M18—Pitch: 2.5 mm

Lg.	Pkg. Qty.		Pkg.
40	5	91294A558	10.11
50	5	91294A559	11.86
60	5	91294A560	12.86

M20—Pitch: 2.5 mm

Lg.	Pkg. Qty.		Pkg.
30	5	91294A561	12.29
40	1	91294A514	5.43
50	1	91294A518	5.93
60	1	91294A522	6.43
70	1	91294A526	7.87
80	1	91294A530	7.24
90	1	91294A532	4.98
100	1	91294A534	14.08

Metric High-Visibility Blue Class 10.9 Alloy Steel—Dimensions in millimeters

M3—Pitch: 0.5 mm

Lg.	Pkg. Qty.		Pkg.
8	50	91304A101	9.10
10	50	91304A102	9.24
12	50	91304A103	9.46
16	50	91304A104	11.52
20	25	91304A105	7.87
25	25	91304A106	9.72

M4—Pitch: 0.7 mm

Lg.	Pkg. Qty.		Pkg.
8	50	91304A111	7.98
10	50	91304A112	8.00
12	50	91304A113	8.19
16	50	91304A114	8.31
20	50	91304A115	9.90
25	50	91304A116	12.00
30	25	91304A117	7.81

M5—Pitch: 0.8 mm

Lg.	Pkg. Qty.		Pkg.
8	50	91304A121	8.81
10	50	91304A122	8.86
12	50	91304A123	9.11
16	50	91304A124	11.48
20	50	91304A125	13.57
25	50	91304A126	15.27
30	25	91304A127	7.92

M6—Pitch: 1 mm

Lg.	Pkg. Qty.		Pkg.
10	50	91304A131	10.83
12	50	91304A132	11.04
16	50	91304A133	11.78
20	50	91304A134	13.57
25	25	91304A135	8.38
30	25	91304A136	9.70

M6 (Cont.)

Lg.	Pkg. Qty.		Pkg.
35	25	91304A137	11.25
40	25	91304A138▲	13.18
45	25	91304A139▲	14.95
50	10	91304A141▲	6.67

M8—Pitch: 1.25 mm

Lg.	Pkg. Qty.		Pkg.
12	25	91304A151	6.91
16	25	91304A152	7.91
20	25	91304A153	9.12
25	25	91304A154	11.09
30	25	91304A155	12.47
35	25	91304A156	14.65
40	10	91304A157	6.50
50	10	91304A158▲	8.50

M10—Pitch: 1.5 mm

Lg.	Pkg. Qty.		Pkg.
16	10	91304A161	5.37
20	10	91304A162	6.20
25	10	91304A163	7.57
30	10	91304A164	8.11
35	10	91304A165	9.52
40	10	91304A166	10.21
50	10	91304A167	13.25

M12—Pitch: 1.75 mm

Lg.	Pkg. Qty.		Pkg.
20	10	91304A171	9.16
25	10	91304A172	11.15
35	10	91304A173	12.81
45	5	91304A174	8.70

Metric Zinc-Plated Class 10.9 Alloy Steel—Dimensions in millimeters

M3—Pitch: 0.5 mm

Lg.	Pkg. Qty.		Pkg.
5	100	91263A821	9.26
6	100	91263A822	9.57
8	100	91263A823	9.69
10	100	91263A824	9.92
12	100	91263A825	10.03

M4—Pitch: 0.7 mm

Lg.	Pkg. Qty.		Pkg.
6	100	91263A826	7.40
8	100	91263A827	7.79
10	100	91263A828	8.31

M4 (Cont.)

Lg.	Pkg. Qty.		Pkg.
12	100	91263A829	8.56
16	100	91263A830	9.38

M5—Pitch: 0.8 mm

Lg.	Pkg. Qty.		Pkg.
8	100	91263A831	7.40
10	100	91263A832	7.45
12	100	91263A833	10.05
16	100	91263A834	9.57
20	100	91263A835▲	11.39
25	100	91263A836▲	12.82

M6—Pitch: 1 mm

Lg.	Pkg. Qty.		Pkg.
12	50	91263A837	6.23
16	50	91263A838	6.52
20	50	91263A839	6.67
25	50	91263A840▲	7.06
30	50	91263A841▲	9.18
40	50	91263A842▲	12.12

M8—Pitch: 1.25 mm

Lg.	Pkg. Qty.		Pkg.
16	50	91263A843	13.26
20	50	91263A844	13.22

M8 (Cont.)

Lg.	Pkg. Qty.		Pkg.
25	50	91263A845	14.38
30	25	91263A846▲	7.45
40	25	91263A847▲	10.34

M10—Pitch: 1.5 mm

Lg.	Pkg. Qty.		Pkg.
20	25	91263A848	12.04
25	25	91263A849	12.38
30	25	91263A850	13.36
40	10	91263A851▲	7.38
50	10	91263A852▲	11.16

♣Do not meet DIN 7991/ISO 10642.

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Assortments

Finish, Fastener	Thread Sizes	Screw Lengths	No. of Screws		
Black-Oxide Alloy Steel	6-32, 8-32, 10-32, 1/4″-20, 5/16″-18	3/8″ to 1″	300	91995A512	$77.81
Metric Black-Oxide Class 10.9 Alloy Steel	M4, M5, M6, M8	10 mm to 40 mm	250	90115A031	61.53

Stainless Steel Flat-Head Socket Cap Screws

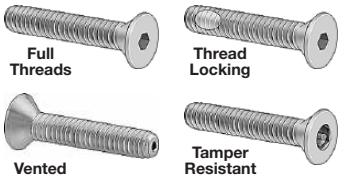

Use for light fastening jobs where you need a flush surface and corrosion resistance. Screws are fully threaded, unless noted. Length is measured from the top of the head.

Inch Screws—All have an 82° bevel under the head and a Class 3A thread fit. Minimum Rockwell hardness is B55 and minimum tensile strength is 70,000 psi, except vented screws are not rated for hardness or strength and mil. spec. screws are not rated for hardness.

Thread-locking screws have a nylon patch bonded to the threads to prevent loosening. The patch withstands temperatures from –65° to 250°F. Screws are reusable. *Vented* screws are drilled through the shaft to vent fluids and gas. *Mil. spec.* screws are passivated in accordance with QQ-P-35 for added protection against oxidation and corrosion. *Tamper-resistant* screws require a pin-in-hex driver.

Metric Screws—All have a 90° bevel under the head. They also have a Class 6g thread fit, a minimum tensile strength of 100,000 psi, and are not rated for hardness.

Type 316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
0-80			
1/8"	25	90585A015	$5.37
3/16"	25	90585A016	5.03
1/4"	25	90585A017	7.51
3/8"	25	90585A019	9.71
2-56			
1/8"	25	90585A021	6.61
3/16"	50	90585A023	7.53
1/4"	50	90585A024	7.86
5/16"	50	90585A116	6.56
3/8"	50	90585A120	6.88
1/2"	50	90585A124	7.78
4-40			
3/16"	10	90585A201	2.67
1/4"	10	90585A200	2.19
5/16"	10	90585A203	2.75
3/8"	10	90585A202	2.27
7/16"	25	90585A125	3.87
1/2"	10	90585A204	2.65
5/8"	10	90585A205	3.14
3/4"	10	90585A206	3.29
7/8"	25	90585A126	5.70
1"	25	90585A208	5.83
1 1/4"	25	90585A209	7.07
1 1/2"	25	90585A127	8.36
5-40			
1/4"	25	90585A014	5.53
3/8"	25	90585A018	4.37
1/2"	25	90585A022	4.41
6-32			
1/4"	25	90585A210	5.04
5/16"	25	90585A211	5.05
3/8"	25	90585A212	5.51
7/16"	25	90585A213	4.72
1/2"	25	90585A214	6.43
9/16"	25	90585A128	4.38
5/8"	25	90585A215	5.66
3/4"	25	90585A216	6.25
7/8"	25	90585A217	6.92
1"	25	90585A218	7.64
1 1/4"	25	90585A219	9.32
1 1/2"	25	90585A220	10.67
2"	25	90585A129	11.19
6-40			
1/4"	10	90585A131	2.19
3/8"	10	90585A132	2.35
1/2"	10	90585A133	2.71
8-32			
1/4"	10	90585A224	2.42
5/16"	10	90585A225	3.39
3/8"	10	90585A226	2.91
7/16"	10	90585A227	2.56
1/2"	10	90585A228	3.10
9/16"	10	90585A134	3.28
5/8"	10	90585A229	4.51
3/4"	10	90585A230	3.66
7/8"	10	90585A232	4.02
8-32 (Cont.)			
1"	10	90585A233	$3.70
1 1/8"	10	90585A135	4.76
1 1/4"	10	90585A235	5.36
1 1/2"	10	90585A237	6.24
2"	10	90585A136	8.28
10-24			
1/4"	10	90585A025★	3.04
5/16"	10	90585A026	3.06
3/8"	10	90585A240	3.04
7/16"	10	90585A027	3.41
1/2"	10	90585A242	3.35
5/8"	10	90585A243	3.44
3/4"	10	90585A245	4.27
7/8"	10	90585A246	5.33
1"	10	90585A247	4.85
1 1/8"	10	90585A028▲	6.46
1 1/4"	10	90585A252	6.83
1 1/2"	10	90585A254	7.88
1 3/4"	10	90585A029▲	7.94
2"	10	90585A031▲	8.26
2 1/2"	10	90585A032▲	9.56
10-32			
1/4"	25	90585A281★	9.10
5/16"	25	90585A283	9.38
3/8"	25	90585A287	7.60
7/16"	10	90585A292	3.83
1/2"	10	90585A989	3.12
5/8"	10	90585A990	3.14
3/4"	10	90585A991	3.79
7/8"	10	90585A296	5.57
1"	10	90585A992	3.88
1 1/8"	10	90585A137	4.12
1 1/4"	10	90585A994	3.86
1 3/8"	10	90585A138	4.29
1 1/2"	10	90585A996	4.13
1 3/4"	10	90585A139	5.69
2"	10	90585A299	6.03
2 1/2"	10	90585A141	7.48
3"	10	90585A143	9.74
12-24			
1/2"	1	90585A033	2.13
3/4"	1	90585A034	3.14
1"	1	90585A035	3.63
1/4"-20			
1/4"	10	90585A036★	4.55
5/16"	10	90585A037	4.59
3/8"	10	90585A535	3.44
7/16"	10	90585A038	3.55
1/2"	10	90585A537	3.67
9/16"	10	90585A144	4.92
5/8"	10	90585A358	4.06
3/4"	10	90585A540	4.24
7/8"	10	90585A541	6.16
1"	10	90585A542	5.14
1 1/8"	10	90585A039▲	6.16
1/4"-20 (Cont.)			
1 1/4"	10	90585A544	$5.62
1 3/8"	10	90585A041▲	7.08
1 1/2"	10	90585A546	6.31
1 5/8"	10	90585A042▲	10.65
1 3/4"	5	90585A548	4.22
2"	5	90585A550▲	4.15
2 1/4"	5	90585A043▲	4.55
2 1/2"	5	90585A552▲	4.97
2 3/4"	5	90585A044▲	7.09
3"	5	90585A554▲	7.61
3 1/2"	5	90585A045▲	11.73
4"	1	90585A046▲	3.00
1/4"-28			
1/4"	10	90585A047★	6.85
3/8"	10	90585A048	6.71
1/2"	5	90585A560	3.93
5/8"	5	90585A563	4.07
3/4"	5	90585A566	5.03
1"	5	90585A569	5.16
1 1/4"	5	90585A049▲	5.71
1 1/2"	5	90585A057▲	5.89
2"	5	90585A052▲	8.81
5/16"-18			
3/8"	10	90585A053	8.46
1/2"	10	90585A579	7.32
5/8"	5	90585A580	4.97
3/4"	5	90585A581	3.97
7/8"	5	90585A054	4.26
1"	5	90585A583	4.10
1 1/8"	5	90585A055	5.23
1 1/4"	5	90585A585	5.64
1 1/2"	5	90585A587	6.65
2"	5	90585A590	7.93
2 1/4"	5	90585A056▲	8.00
2 1/2"	1	90585A593▲	1.70
3"	1	90585A596▲	1.81
3 1/2"	1	90585A599▲	3.07
4"	1	90585A602▲	3.33
5/16"-24			
3/4"	5	90585A145	5.12
1"	5	90585A146	6.67
1 1/2"	5	90585A147	9.85
2"	5	90585A148	12.05
3/8"-16			
1/2"	5	90585A082★	7.96
5/8"	5	90585A058	5.13
3/4"	5	90585A622	5.23
7/8"	5	90585A059	5.25
1"	5	90585A624	5.24
1 1/8"	5	90585A061	9.26
1 1/4"	1	90585A626	1.12
1 3/8"	1	90585A062▲	2.05
1 1/2"	1	90585A628	1.31
1 5/8"	1	90585A063▲	2.38
1 3/4"	1	90585A630	1.50
3/8"-16 (Cont.)			
2"	1	90585A632	$1.75
2 1/4"	1	90585A064▲	1.88
2 1/2"	1	90585A635▲	2.36
2 3/4"	1	90585A065▲	2.39
3"	1	90585A637▲	2.26
3 1/2"	1	90585A639▲	2.60
4"	1	90585A641▲	3.16
4 1/2"	1	90585A149	3.95
5"	1	90585A151	4.44
3/8"-24			
3/4"	1	90585A066	2.76
1"	1	90585A067	2.79
1 1/2"	1	90585A068▲	3.25
2"	1	90585A069▲	4.00
7/16"-14			
1"	1	90585A071	5.31
2"	1	90585A072▲	7.32
1/2"-13			
3/4"	1	90585A710	3.03
1"	1	90585A712	3.22
1 1/8"	1	90585A073	3.29
1 1/4"	1	90585A714	3.32
1 3/8"	1	90585A074	4.24
1 1/2"	1	90585A716	3.29
1 3/4"	1	90585A718	3.80
2"	1	90585A720	4.38
2 1/2"	1	90585A722	4.85
3"	1	90585A724	5.44
3 1/2"	1	90585A726▲	6.67
4"	1	90585A728▲	7.53
1/2"-20			
1"	1	90585A075	5.45
1 1/2"	1	90585A076	6.32
2"	1	90585A077▲	7.57
5/8"-11			
1"	1	90585A822	6.36
1 1/4"	1	90585A825	7.50
1 1/2"	1	90585A831	8.07
1 3/4"	1	90585A833	8.39
2"	1	90585A834	8.83
2 1/2"	1	90585A837	9.45
3"	1	90585A841	11.20
3 1/2"	1	90585A854▲	14.02
4"	1	90585A857▲	15.28
3/4"-10			
1"	1	90585A078	9.37
1 1/2"	1	90585A961	11.37
2"	1	90585A964	11.99
2 1/2"	1	90585A967	13.01
3"	1	90585A971▲	13.05
3 1/2"	1	90585A974▲	17.23
4"	1	90585A977▲	15.50
1"-8			
2"	1	90585A079	15.99
2 1/2"	1	90585A081	17.33

18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
0-80			
1/8"	50	92210A010	3.91
3/16"	50	92210A011	4.20
1/4"	50	92210A012	4.91
5/16"	50	92210A013	5.91
3/8"	50	92210A014	6.78
1/2"	50	92210A016	7.32
1-72			
3/16"	100	92210A017	6.40
1/4"	100	92210A018	7.35
3/8"	100	92210A019	8.59
2-56			
1/8"	50	92210A075	7.25
3/16"	100	92210A076	5.18
1/4"	100	92210A077	5.26
5/16"	100	92210A078	6.22
3/8"	100	92210A079	6.42
1/2"	100	92210A081	7.95
5/8"	50	92210A083	4.65
3/4"	50	92210A085	6.98
7/8"	25	92210A086▲	4.37
1"	25	92210A087▲	7.11
3-48			
3/16"	100	92210A020	7.55
1/4"	100	92210A021	7.93
3/8"	100	92210A022	8.57
4-40			
3/16"	100	92210A103★	5.67
1/4"	100	92210A105	3.24
5/16"	100	92210A107	3.15
3/8"	100	92210A108	3.27
7/16"	100	92210A109	3.33
1/2"	100	92210A110	3.33
9/16"	100	92210A101	4.69
4-40 (Cont.)			
5/8"	100	92210A112	3.59
3/4"	100	92210A113	3.92
7/8"	100	92210A102	5.83
1"	100	92210A115	4.47
1 1/4"	25	92210A118▲	5.07
1 1/2"	25	92210A120▲	6.85
2"	25	92210A121	3.88
4-48			
1/4"	10	92210A023	6.38
3/8"	10	92210A024	6.99
1/2"	10	92210A025	7.51

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number. ★ Head is undercut to allow more threading.

(Continued on following page)

Stainless Steel Flat-Head Socket Cap Screws *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
5-40			
1/4"	100	92210A126	$4.41
3/8"	50	92210A127	2.44
1/2"	50	92210A128	2.60
5/8"	50	92210A130	2.89
3/4"	25	92210A131	2.75
5-44			
1/4"	10	92210A132	6.63
3/8"	10	92210A133	7.18
1/2"	10	92210A134	7.70
6-32			
3/16"	25	92210A142★	6.67
1/4"	100	92210A144	3.99
5/16"	100	92210A145	4.04
3/8"	100	92210A146	4.14
7/16"	100	92210A114	4.22
1/2"	100	92210A148	4.21
9/16"	50	92210A149	7.89
5/8"	100	92210A150	4.24
3/4"	100	92210A151	4.71
7/8"	100	92210A152	5.34
1"	100	92210A153	5.93
1 1/4"	100	92210A155▲	6.53
1 1/2"	100	92210A157▲	8.05
2"	25	92210A160▲	6.90
6-40			
3/8"	100	92210A161	7.14
1/2"	100	92210A162	7.90
3/4"	100	92210A163	9.69
8-32			
1/4"	100	92210A190	5.25
5/16"	100	92210A191	4.54
3/8"	100	92210A192	4.59
7/16"	100	92210A193	5.15
1/2"	100	92210A194	5.32
9/16"	100	92210A195	8.33
5/8"	100	92210A196	5.72
3/4"	100	92210A197	6.20
7/8"	100	92210A198	7.43
1"	100	92210A199	7.72
1 1/8"	50	92210A202	7.17
1 1/4"	50	92210A201▲	5.20
1 3/8"	50	92210A204	7.73
1 1/2"	50	92210A203▲	5.74
1 3/4"	25	92210A205▲	4.15
2"	25	92210A208▲	7.23
2 1/2"	25	92210A209	8.25
3"	25	92210A210	10.53
8-36			
1/2"	5	92210A211	4.22
3/4"	5	92210A212	5.40
1"	5	92210A213▲	6.60
10-24			
1/4"	25	92210A236★	5.38
5/16"	25	92210A238	2.03
3/8"	100	92210A240	6.34
7/16"	100	92210A241	8.67
1/2"	100	92210A242	7.12
9/16"	100	92210A243	9.14
5/8"	100	92210A244	8.06
3/4"	100	92210A245	8.35
7/8"	50	92210A246	6.25
1"	50	92210A247	5.72
1 1/8"	50	92210A248	7.68
1 1/4"	50	92210A249	6.96
10-24 (Cont.)			
1 3/8"	50	92210A250	$9.11
1 1/2"	50	92210A251▲	8.46
1 3/4"	25	92210A252▲	6.31
2"	25	92210A253▲	6.63
2 1/4"	25	92210A254	8.64
2 1/2"	10	92210A256▲	4.54
3"	10	92210A258▲	5.94
10-32			
1/4"	50	92210A297★	8.26
5/16"	50	92210A299	4.14
3/8"	100	92210A301	5.94
7/16"	100	92210A295	7.27
1/2"	100	92210A302	6.77
9/16"	100	92210A323	8.83
5/8"	100	92210A303	7.61
3/4"	100	92210A304	8.81
7/8"	50	92210A305	4.86
1"	50	92210A306	5.72
1 1/8"	50	92210A324	7.96
1 1/4"	50	92210A307	6.96
1 3/8"	50	92210A309	9.11
1 1/2"	50	92210A308▲	8.46
1 3/4"	25	92210A312▲	5.24
2"	25	92210A315▲	7.27
2 1/4"	25	92210A319	9.03
2 1/2"	10	92210A318▲	4.54
3"	10	92210A321▲	5.94
3 1/2"	10	92210A322	6.63
12-24			
1/2"	5	92210A026	4.02
3/4"	5	92210A027	7.38
1"	5	92210A028	8.03
1/4"-20			
3/8"	50	92210A535	5.09
7/16"	50	92210A536	6.54
1/2"	50	92210A537	5.95
9/16"	50	92210A538	7.80
5/8"	50	92210A539	6.68
3/4"	50	92210A540	6.97
7/8"	25	92210A541	4.57
1"	50	92210A542	8.84
1 1/8"	25	92210A543	5.32
1 1/4"	25	92210A544	5.47
1 3/8"	25	92210A545	6.95
1 1/2"	25	92210A546	6.56
1 5/8"	25	92210A547	7.95
1 3/4"	25	92210A548▲	7.42
2"	25	92210A550▲	8.05
2 1/4"	10	92210A551▲	5.11
2 1/2"	10	92210A552	5.67
2 3/4"	10	92210A553	6.35
3"	10	92210A555▲	6.13
3 1/4"	10	92210A556	7.07
3 1/2"	10	92210A557▲	8.63
4"	5	92210A559▲	5.99
4 1/2"	1	92210A563▲	2.86
5"	5	92210A566	6.57
6"	5	92210A568	7.44
1/4"-28			
3/8"	50	92210A569	5.14
1/2"	50	92210A331	5.97
5/8"	50	92210A332	6.70
3/4"	25	92210A334	4.58
7/8"	25	92210A571	4.79
1/4"-28 (Cont.)			
1"	25	92210A336	$4.87
1 1/4"	25	92210A337	6.69
1 1/2"	25	92210A338	7.31
1 3/4"	25	92210A572▲	9.90
2"	25	92210A573▲	11.02
5/16"-18			
1/2"	25	92210A578	4.85
5/8"	25	92210A580	5.86
3/4"	25	92210A581	6.55
7/8"	10	92210A584	3.54
1"	10	92210A583	3.69
1 1/8"	25	92210A582	11.14
1 1/4"	10	92210A585	4.17
1 3/8"	10	92210A586	5.33
1 1/2"	10	92210A587	4.62
1 5/8"	10	92210A588	6.02
1 3/4"	10	92210A589	4.99
1 7/8"	10	92210A590	6.48
2"	10	92210A591	5.74
2 1/4"	10	92210A592▲	6.67
2 1/2"	10	92210A593	6.75
2 3/4"	5	92210A594▲	4.75
3"	10	92210A595	8.20
3 1/2"	5	92210A597▲	6.64
4"	5	92210A599▲	7.78
4 1/2"	5	92210A861	8.88
5"	5	92210A862	9.34
5/16"-24			
1/2"	10	92210A600	6.43
5/8"	10	92210A601	6.53
3/4"	10	92210A602	6.57
7/8"	10	92210A606	6.79
1"	10	92210A603	6.83
1 1/4"	10	92210A604	8.94
1 1/2"	5	92210A605	4.79
2"	5	92210A610	5.57
3/8"-16			
1/2"	5	92210A619	4.81
5/8"	5	92210A621	3.46
3/4"	10	92210A622	4.14
7/8"	10	92210A623	4.69
1"	10	92210A624	4.78
1 1/8"	10	92210A625	6.71
1 1/4"	10	92210A626	5.49
1 3/8"	10	92210A627	7.32
1 1/2"	10	92210A628	6.31
1 5/8"	10	92210A629	8.62
1 3/4"	10	92210A630	6.62
1 7/8"	10	92210A631	9.48
2"	5	92210A632	4.26
2 1/4"	5	92210A633▲	4.76
2 1/2"	5	92210A634▲	5.15
2 3/4"	5	92210A635▲	6.82
3"	5	92210A636▲	5.94
3 1/2"	5	92210A637▲	9.64
4"	1	92210A638▲	2.13
4 1/2"	1	92210A648▲	2.94
5"	1	92210A639▲	8.10
6"	1	92210A660▲	10.05
3/8"-24			
5/8"	10	92210A641	8.64
3/4"	10	92210A640	9.39
1"	10	92210A642	8.98
1 1/4"	10	92210A643	9.53
3/8"-24 (Cont.)			
1 1/2"	1	92210A644	$1.35
2"	5	92210A647	8.81
7/16"-14			
3/4"	1	92210A677	2.87
1"	1	92210A669	3.46
1 1/4"	1	92210A671	3.50
1 1/2"	1	92210A673	3.65
2"	1	92210A676	4.61
7/16"-20			
3/4"	1	92210A681	4.47
1"	1	92210A682	5.52
1 1/4"	1	92210A683	6.64
1/2"-13			
3/4"	10	92210A710	6.93
7/8"	5	92210A711	5.50
1"	5	92210A712	4.68
1 1/8"	5	92210A715	8.02
1 1/4"	5	92210A714	5.11
1 3/8"	5	92210A717	9.98
1 1/2"	5	92210A716	5.57
1 3/4"	5	92210A718	6.03
1 7/8"	5	92210A719	8.33
2"	5	92210A720	6.71
2 1/4"	1	92210A721	1.43
2 1/2"	1	92210A722	1.45
2 3/4"	1	92210A723	2.70
3"	1	92210A724	1.76
3 1/4"	1	92210A725	3.20
3 1/2"	1	92210A726	1.95
4"	1	92210A728▲	2.30
4 1/2"	1	92210A730▲	6.74
5"	1	92210A732▲	8.97
6"	1	92210A734▲	11.15
1/2"-20			
3/4"	1	92210A740	1.36
1"	1	92210A742	1.71
1 1/2"	1	92210A744	2.39
2"	1	92210A746	2.73
5/8"-11			
1"	1	92210A794	3.35
1 1/4"	1	92210A796	3.41
1 1/2"	1	92210A798	4.17
1 3/4"	1	92210A800	4.40
2"	1	92210A802	4.98
2 1/2"	1	92210A804	5.69
3"	1	92210A806	7.03
3 1/2"	1	92210A808▲	8.02
4"	1	92210A810▲	8.81
4 1/2"	1	92210A811▲	11.64
5"	1	92210A812▲	17.72
6"	1	92210A814▲	23.11
3/4"-10			
1"	1	92210A836	8.23
1 1/4"	1	92210A837	6.64
1 1/2"	1	92210A839	7.43
1 3/4"	1	92210A841	7.60
2"	1	92210A843	8.62
2 1/2"	1	92210A845	8.69
3"	1	92210A847▲	10.28
3 1/2"	1	92210A849▲	12.45
4"	1	92210A851▲	14.06
5"	1	92210A853▲	21.59
Black-Oxide 18-8 Stainless Steel			
4-40			
1/4"	100	93791A407	7.51
5/16"	100	93791A408	7.57
3/8"	100	93791A409	7.81
6-32			
1/4"	100	93791A410	7.18
5/16"	100	93791A411	7.52
3/8"	100	93791A453	7.18
1/2"	100	93791A457	7.64
5/8"	100	93791A412	9.24
3/4"	100	93791A460	9.48
8-32			
3/8"	100	93791A472	7.53
1/2"	100	93791A475	8.22
5/8"	50	93791A413	5.64
3/4"	50	93791A479	5.92
10-24			
3/8"	50	93791A414	6.12
1/2"	50	93791A491	5.69
5/8"	50	93791A415	6.91
3/4"	50	93791A494	7.50
1"	50	93791A499	9.51
10-32			
3/8"	100	93791A508	10.68
1/2"	50	93791A512	5.37
5/8"	50	93791A516	6.59
3/4"	50	93791A518	7.17
1"	50	93791A523	8.71
1/4"-20			
3/8"	50	93791A416	9.94
1/2"	50	93791A546	10.01
5/8"	25	93791A552	5.53
3/4"	25	93791A557	6.51
7/8"	25	93791A417	7.44
1"	25	93791A563	7.55
1/4"-20 (Cont.)			
1 1/4"	25	93791A569	8.71
1 1/2"	25	93791A573	9.13
1 3/4"	10	93791A418▲	5.46
2"	10	93791A419▲	6.06
5/16"-18			
1/2"	10	93791A420	5.10
3/4"	10	93791A421	6.07
1"	10	93791A422	6.62
3/8"-16			
3/4"	5	93791A423	4.54
1"	5	93791A424	5.20
1 1/2"	5	93791A425	6.22

▲ Has partial threads. For thread length, go to mcmaster.com and search for the part number.
★ Head is undercut to allow more threading.

(Continued on following page)

Stainless Steel Flat-Head Socket Cap Screws *(Continued from previous page)*

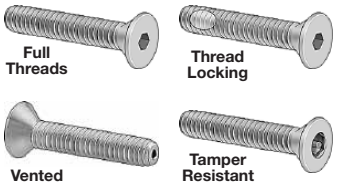

Use for light fastening jobs where you need a flush surface and corrosion resistance. Screws are fully threaded, unless noted. Length is measured from the top of the head.

Inch Screws—All have an 82° bevel under the head and a Class 3A thread fit. Minimum Rockwell hardness is B55 and minimum tensile strength is 70,000 psi, except vented screws are not rated for hardness or strength and mil. spec. screws are not rated for hardness.

Thread-locking screws have a nylon patch bonded to the threads to prevent loosening. The patch withstands temperatures from –65° to 250°F. Screws are reusable. *Vented* screws are drilled through the shaft to vent fluids and gas. *Mil. spec.* screws are passivated in accordance with QQ-P-35 for added protection against oxidation and corrosion. *Tamper-resistant* screws require a pin-in-hex driver.

Metric Screws—All have a 90° bevel under the head. They also have a Class 6g thread fit, a minimum tensile strength of 100,000 psi, and are not rated for hardness.

Thread-Locking 18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
2-56			
1/4"	25	92805A121	$7.68
3/8"	25	92805A122	7.88
1/2"	25	92805A123	8.01
4-40			
1/4"	50	92805A106	10.82
3/8"	50	92805A108	11.79
1/2"	10	92805A112	7.32
6-32			
1/4"	50	92805A144	11.72
3/8"	50	92805A146	12.72
1/2"	25	92805A148	6.84
6-32 (Cont.)			
5/8"	10	92805A150	$7.56
3/4"	10	92805A152	8.07
8-32			
3/8"	25	92805A192	7.80
1/2"	25	92805A194	7.99
5/8"	10	92805A195	7.74
3/4"	25	92805A197	8.01
10-24			
3/8"	25	92805A240	8.52
1/2"	25	92805A242	9.08
3/4"	25	92805A245	8.90
1"	25	92805A247	9.12
10-32			
3/8"	25	92805A260	$8.52
1/2"	25	92805A264	9.08
5/8"	10	92805A265	8.31
3/4"	25	92805A266	8.53
1"	25	92805A268	12.40
1/4"-20			
3/8"	25	92805A535	11.73
1/2"	25	92805A537	12.23
5/8"	10	92805A378	9.54
3/4"	25	92805A540	12.76
1/4"-20 (Cont.)			
7/8"	10	92805A541	$4.84
1"	25	92805A542	13.32
1 1/4"	10	92805A544	11.07
1 1/2"	10	92805A545▲	7.25
5/16"-18			
3/4"	5	92805A624	7.48
1"	5	92805A626	7.97
3/8"-16			
3/4"	5	92805A723	9.13
1"	5	92805A725	10.21
1 1/4"	5	92805A727	10.38

Metric Type 316 Stainless Steel—DIN 7991-A4 (Dimensions in millimeters)

Lg.	Pkg. Qty.		Pkg.
M2—Pitch: 0.4 mm			
3	25	93395A135	4.60
4	25	93395A136	4.65
5	25	93395A137	7.20
6	25	93395A138	9.35
8	10	93395A141	4.17
10	10	93395A144	4.13
12	10	93395A147	4.18
16	10	93395A150	5.49
M2.5—Pitch: 0.45 mm			
4	25	93395A172	3.10
5	25	93395A173	3.40
6	25	93395A174	4.00
8	10	93395A176	3.22
10	10	93395A179	2.85
12	10	93395A182	3.46
16	10	93395A185	4.12
M3—Pitch: 0.5 mm			
4	50	93395A196	7.14
5	50	93395A197	4.40
6	50	93395A198	6.72
8	100	93395A201	11.26
10	100	93395A204	10.53
12	100	93395A207	11.26
14	100	93395A209	9.76
16	100	93395A210	12.35
18	100	93395A212	11.43
20	50	93395A213	7.81
M3 (Cont.)			
25	50	93395A216	10.30
30	50	93395A217	7.74
35	25	93395A218	10.17
40	50	93395A223	10.36
50	50	93395A333	12.26
M4—Pitch: 0.7 mm			
5	25	93395A249	8.00
6	100	93395A252	10.53
8	100	93395A251	13.08
10	100	93395A254	13.44
12	50	93395A257	7.99
14	50	93395A259	7.50
16	50	93395A262	8.17
18	50	93395A261	8.48
20	50	93395A263	8.99
22	50	93395A264	9.06
25	25	93395A266	6.54
30	10	93395A267	5.01
40	25	93395A277	8.69
M5—Pitch: 0.8 mm			
6	25	93395A296	12.00
8	50	93395A348	8.02
10	50	93395A301	9.63
12	50	93395A304	9.63
14	50	93395A306	9.81
16	50	93395A307	10.17
M5 (Cont.)			
18	50	93395A309	11.76
20	25	93395A310	6.45
22	25	93395A312	7.20
25	25	93395A313	9.48
30	25	93395A316	10.03
35	25	93395A322	10.42
40	25	93395A327	11.20
50	25	93395A337	12.20
M6—Pitch: 1 mm			
8	25	93395A349	7.20
10	50	93395A351	11.08
12	25	93395A354	6.26
14	25	93395A356	9.69
16	25	93395A357	6.90
18	25	93395A359	9.85
20	25	93395A360	7.99
22	25	93395A362	11.82
25	25	93395A363	10.62
30	25	93395A366	10.90
35	10	93395A367	7.60
40	10	93395A368	7.77
45	10	93395A374	8.30
50	10	93395A379	8.49
60	10	93395A389	8.81
80	10	93395A395	11.37
M8—Pitch: 1.25 mm			
10	5	93395A398	4.20
12	5	93395A400	4.20
14	10	93395A402	7.60
16	10	93395A401	8.14
18	10	93395A403	8.40
20	10	93395A404	7.56
25	10	93395A407	8.14
30	10	93395A410	8.86
35	5	93395A412	5.90
40	5	93395A414	6.10
45	5	93395A419	6.21
50	5	93395A425	5.46
60	5	93395A435	6.30
M10—Pitch: 1.5 mm			
12	5	93395A444	10.40
16	5	93395A448	10.55
20	5	93395A451	6.50
25	5	93395A454	8.35
30	5	93395A457	10.31
40	5	93395A467	9.22
M12—Pitch: 1.75 mm			
20	5	93395A471	7.35
25	5	93395A476	9.85
30	5	93395A501	10.36
M16—Pitch: 2 mm			
25	1	93395A485	3.33
30	1	93395A491	3.45

Metric 18-8 Stainless Steel—DIN 7991-A2 (Dimensions in millimeters)

Lg.	Pkg. Qty.		Pkg.
M2—Pitch: 0.4 mm			
4	50	92125A050	9.20
5	50	92125A051	10.80
6	50	92125A052	11.00
8	25	92125A054	6.60
10	25	92125A056	6.20
12	25	92125A058	9.00
16	25	92125A059	10.00
M2.5—Pitch: 0.45 mm			
4	50	92125A082	12.00
5	25	92125A083	6.30
6	25	92125A084	6.50
8	25	92125A086	6.50
10	25	92125A088	6.00
12	25	92125A090	7.20
16	25	92125A085	8.00
M3—Pitch: 0.5 mm			
4	50	92125A127	7.69
5	100	92125A125	3.77
6	100	92125A126	4.50
8	100	92125A128	3.54
10	100	92125A130	5.81
12	100	92125A132	6.00
14	100	92125A133	7.50
16	100	92125A134	7.33
M3 (Cont.)			
18	100	92125A135	10.92
20	100	92125A136	9.43
25	100	92125A138	11.50
30	25	92125A140	5.06
35	50	92125A141	4.77
40	25	92125A150	3.83
50	50	92125A151	6.70
M4—Pitch: 0.7 mm			
5	50	92125A185	11.54
6	100	92125A186	6.12
8	100	92125A188	6.50
10	100	92125A190	7.23
12	100	92125A192	7.58
14	100	92125A193	10.31
16	100	92125A194	9.43
18	100	92125A196	13.62
20	100	92125A198	9.78
22	100	92125A201	9.81
25	100	92125A202	13.73
30	100	92125A203	13.92
35	50	92125A204	8.27
40	50	92125A205	9.60
45	25	92125A207	7.47
M4 (Cont.)			
50	25	92125A209	8.85
60	25	92125A221	7.38
M5—Pitch: 0.8 mm			
6	100	92125A217	7.69
8	50	92125A206	7.10
10	100	92125A208	10.83
12	100	92125A210	10.83
14	50	92125A211	6.42
16	50	92125A212	6.64
18	50	92125A213	8.88
20	50	92125A214	7.16
22	50	92125A215	9.50
25	50	92125A216	8.56
30	25	92125A220	6.55
35	25	92125A222	7.22
40	25	92125A224	7.92
45	25	92125A226	9.12
50	25	92125A228	9.13
55	25	92125A218	9.35
60	10	92125A230	4.33
70	10	92125A219	4.38
80	10	92125A223	4.96
M6—Pitch: 1 mm			
8	50	92125A232	8.91
10	50	92125A234	7.33
12	50	92125A236	8.91
14	25	92125A237	6.36
16	25	92125A238	5.33
18	25	92125A239	7.16
20	25	92125A240	5.41
22	25	92125A241	8.78
25	25	92125A242	5.76
30	25	92125A244	6.29
35	25	92125A246	7.16
40	25	92125A248	9.08
45	25	92125A250	10.04
50	10	92125A252	5.41
55	10	92125A253	5.49
60	10	92125A254	7.40
65	10	92125A255	6.57
70	5	92125A258	6.58
80	5	92125A260	6.60
90	5	92125A256	3.88
100	5	92125A257	5.24

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

(Continued on following page)

Stainless Steel Flat-Head Socket Cap Screws *(Continued from previous page)* CAD

Metric 18-8 Stainless Steel (Cont.)—DIN 7991-A2 (Dimensions in millimeters)

M8—Pitch: 1.25 mm (Cont.)

Lg.	Pkg. Qty.		Pkg.
10	25	92125A278	$10.08
12	25	92125A280	11.44
14	25	92125A281	10.94
16	25	92125A282	12.12
18	10	92125A283	5.20
20	25	92125A284	14.65
22	10	92125A285	6.43
25	25	92125A286	10.30
30	10	92125A290	5.24
35	10	92125A292	5.62
40	10	92125A294	5.80
45	10	92125A296	7.26
50	5	92125A298	4.44
55	5	92125A300	5.47
60	5	92125A302	5.24

M8 (Cont.)

Lg.	Pkg. Qty.		Pkg.
65	5	92125A303	$5.69
70	5	92125A304	7.82
80	5	92125A306	8.77
90	1	92125A309	2.41
100	1	92125A312	2.65
120	1	92125A313	2.82

M10—Pitch: 1.5 mm

Lg.	Pkg. Qty.		Pkg.
16	10	92125A330	9.70
20	10	92125A333	5.80
25	10	92125A336	6.78
30	10	92125A337	7.02
35	10	92125A339	8.49
40	10	92125A342	8.42
50	5	92125A348	6.27
60	5	92125A351	9.51

M10 (Cont.)

Lg.	Pkg. Qty.		Pkg.
70	5	92125A354	$10.51
80	5	92125A357	11.75
100	1	92125A363	4.07

M12—Pitch: 1.75 mm

Lg.	Pkg. Qty.		Pkg.
20	5	92125A410	7.12
25	5	92125A413	4.73
30	5	92125A416	5.76
35	5	92125A419	6.36
40	5	92125A423	6.58
50	5	92125A429	7.83
60	5	92125A432	10.20
70	1	92125A435	3.97
80	1	92125A438	4.65

M14—Pitch: 2 mm

Lg.	Pkg. Qty.		Pkg.
30	1	92125A445	$5.32
40	1	92125A442	6.25
50	1	92125A443	7.50

M16—Pitch: 2 mm

Lg.	Pkg. Qty.		Pkg.
25	1	92125A508	7.86
30	1	92125A510	7.88
35	1	92125A512	6.86
40	1	92125A515	5.49
45	1	92125A518	8.59
50	1	92125A520	6.30
60	1	92125A523	9.04

M20—Pitch: 2.5 mm

Lg.	Pkg. Qty.		Pkg.
40	1	92125A531	4.72
50	1	92125A532	5.16

18-8 Stainless Steel Assortments

Metric screws meet DIN 7991-A2.

	Thread Sizes	Screw Lengths	No. of Screws		
Inch	6-32, 8-32, 10-32, 1/4"-20, 5/16"-18	3/8" to 1"	300	91945A212	$67.75
Metric	M3, M4, M5, M6, M8	6 mm to 25 mm	300	92740A111	49.64

Vented 18-8 Stainless Steel

Choose a Thread Size	Choose a Screw Length	
2-56, 4-40, 6-32, 8-32, 10-24, 10-32, 1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13	3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 1", 1 1/4", 1 1/2", 1 3/4", 2"	90550A100

Mil. Spec. 300 Series Stainless Steel

Choose a Thread Size	Choose a Screw Length	Mil. Spec. No.	
4-40, 6-32, 8-32, 10-24, 1/4"-20, 5/16"-18, 3/8"-16	1/4", 3/8", 1/2", 5/8", 3/4", 1", 1 1/2"	MS-24671	94518A555

Tamper-Resistant 18-8 Stainless Steel with Pin-in-Hex Drive

Choose a Thread Size	Choose a Screw Length	
6-32, 8-32, 10-24, 10-32, 1/4"-20	3/8", 1/2", 5/8", 3/4", 1", 1 1/4", 1 1/2"	90517A100

Stainless Steel 100° Flat-Head Socket Cap Screws CAD



A shallower, wider bevel than standard flat heads makes these screws better for use in thin material. Made from Type 316 stainless steel, they have a 3A thread fit, a minimum Rockwell hardness of B70, and a minimum tensile strength of 70,000 psi. Screws are fully threaded with an undercut head. Length is measured from the top of the head. These screws are not recommended for high-strength fastening.

6-32

Lg.	Pkg. Qty.		Pkg.
3/8"	1	90729A111	$2.37
1/2"	1	90729A112	2.63
3/4"	1	90729A113	3.95

8-32

Lg.	Pkg. Qty.		Pkg.
3/8"	1	90729A211	2.63

8-32 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1/2"	1	90729A212	$3.16
3/4"	1	90729A213	4.47

10-32

Lg.	Pkg. Qty.		Pkg.
1/2"	1	90729A311	3.68
3/4"	1	90729A312	4.74
1"	1	90729A313	5.39

1/4"-20

Lg.	Pkg. Qty.		Pkg.
1/2"	1	90729A411	$5.00
3/4"	1	90729A412	5.79
1"	1	90729A413	6.75
1 1/4"	1	90729A414	7.75
1 1/2"	1	90729A415	8.81

5/16"-18

Lg.	Pkg. Qty.		Pkg.
3/4"	1	90729A511	$6.00
1"	1	90729A512	7.50
1 1/2"	1	90729A513	9.07

Brass Flat-Head Socket Cap Screws CAD



Full Threads

These screws are corrosion resistant, nonmagnetic, and excellent conductors of electricity. They have an 82° bevel under the head, a Class 3A thread fit, a minimum Rockwell hardness of B55, and a minimum tensile strength of 55,000 psi. Screws are fully threaded, unless noted. Length is measured from the top of the head. Not recommended for high-strength fastening.

2-56

Lg.	Pkg. Qty.		Pkg.
3/16"	5	97595A556	$6.97
1/4"	5	97595A557	7.19
3/8"	5	97595A558	7.41
1/2"	5	97595A559	7.71

4-40

Lg.	Pkg. Qty.		Pkg.
3/16"	5	97595A561	7.80
1/4"	5	97595A562	8.20
5/16"	5	97595A563	8.30
3/8"	5	97595A564	8.54
1/2"	5	97595A565	9.01

6-32

Lg.	Pkg. Qty.		Pkg.
1/4"	5	97595A566	9.08
5/16"	5	97595A567	9.43
3/8"	5	97595A568	9.80
1/2"	5	97595A569	10.53
5/8"	5	97595A571	11.26
3/4"	1	97595A572	2.40
1"	1	97595A573▲	2.69

8-32

Lg.	Pkg. Qty.		Pkg.
1/4"	5	97595A574	$10.88
5/16"	5	97595A575	11.11
3/8"	5	97595A576	11.61
1/2"	5	97595A577	12.62
5/8"	1	97595A578	2.73
3/4"	1	97595A579	2.93
1"	1	97595A581▲	3.33

10-24

Lg.	Pkg. Qty.		Pkg.
3/8"	25	97595A582	9.81
1/2"	25	97595A211	10.05
3/4"	25	97595A215	10.72
1"	25	97595A219	11.66

10-32

Lg.	Pkg. Qty.		Pkg.
3/8"	25	97595A583	9.81
1/2"	25	97595A232	10.05
3/4"	25	97595A236	10.72
1"	25	97595A240	11.66
1 1/2"	10	97595A584▲	8.31

1/4"-20

Lg.	Pkg. Qty.		Pkg.
1/2"	10	97595A251	$6.01
5/8"	10	97595A255	6.48
3/4"	10	97595A259	7.44
7/8"	1	97595A585	4.20
1"	10	97595A263	8.55
1 1/4"	10	97595A268	9.83
1 1/2"	10	97595A271	11.50

5/16"-18

Lg.	Pkg. Qty.		Pkg.
5/8"	1	97595A586	4.64
3/4"	10	97595A302	10.44
1"	10	97595A307	12.83
1 1/4"	5	97595A312	7.07
1 1/2"	5	97595A316	7.92

3/8"-16

Lg.	Pkg. Qty.		Pkg.
3/4"	5	97595A334	7.39
1"	5	97595A337	8.91
1 1/4"	5	97595A342	10.55

3/8"-16 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1 1/2"	5	97595A346	$12.55
2"	1	97595A587▲	3.18

1/2"-13

Lg.	Pkg. Qty.		Pkg.
1"	1	97595A365	3.07
1 1/4"	1	97595A369	3.65
1 1/2"	1	97595A374	4.14
2"	1	97595A378	5.01

5/8"-11

Lg.	Pkg. Qty.		Pkg.
1 1/2"	1	97595A588	7.11
2"	1	97595A589▲	7.62
2 1/2"	1	97595A591▲	8.14
3"	1	97595A592▲	10.73

3/4"-10

Lg.	Pkg. Qty.		Pkg.
1 1/2"	1	97595A593	15.94
2"	1	97595A594	17.58
2 1/2"	1	97595A595▲	21.45
3"	1	97595A596▲	27.53

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Stainless Steel Button-Head Socket Cap Screws



The button head provides a wide bearing surface, a low head, and a finished appearance. These screws are fully threaded, unless noted. Length is measured from under the head. Not recommended for high-strength fastening.

Inch Screws—Have a Class 3A thread fit. They also have a minimum Rockwell hardness of B55 and a minimum tensile strength of 70,000 psi. *Thread-locking* screws have a nylon patch bonded to the threads that prevents loosening. The patch withstands temperatures from –70° to 250° F.

Metric Screws—Have a Class 6g thread fit, a minimum tensile strength of 70,000 psi, and are not rated for hardness.

Type 316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
0-80			
1/8"	50	98164A420	$5.12
3/16"	50	98164A421	8.35
1/4"	50	98164A422	12.06
2-56			
1/8"	50	98164A423	5.40
3/16"	50	98164A424	5.70
1/4"	50	98164A425	6.63
5/16"	50	98164A426	7.29
3/8"	50	98164A427	7.66
1/2"	50	98164A511	5.90
5/8"	50	98164A512	6.20
4-40			
1/8"	50	98164A428	5.07
3/16"	50	98164A429	4.03
1/4"	50	98164A061	2.77
5/16"	50	98164A430	2.87
3/8"	50	98164A063	2.90
7/16"	50	98164A431	3.43
1/2"	50	98164A065	2.98
5/8"	50	98164A433	4.62
3/4"	50	98164A434	4.91
1"	50	98164A435▲	6.51
5-40			
1/4"	50	98164A436	4.69
3/8"	50	98164A437	5.76
1/2"	50	98164A438	6.83
6-32			
1/8"	100	98164A439	9.79
3/16"	100	98164A440	8.91
1/4"	100	98164A106	9.16
5/16"	100	98164A441	9.67
3/8"	100	98164A107	10.00
7/16"	100	98164A442	10.94
1/2"	50	98164A111	8.63
5/8"	50	98164A443	6.40
3/4"	50	98164A115	10.46
1"	50	98164A119	12.57
1 1/4"	50	98164A444▲	9.94
1 1/2"	50	98164A445▲	11.99
8-32			
1/8"	25	98164A446	$7.53
3/16"	50	98164A447	12.44
1/4"	50	98164A133	6.28
5/16"	50	98164A448	4.94
3/8"	50	98164A134	6.54
7/16"	50	98164A449	5.77
1/2"	50	98164A135	7.53
5/8"	50	98164A450	7.00
3/4"	25	98164A139	7.98
1"	25	98164A143	9.88
1 1/4"	25	98164A451▲	5.36
1 1/2"	25	98164A452▲	6.22
10-24			
1/4"	50	98164A453	5.33
5/16"	50	98164A454	6.23
3/8"	25	98164A152	7.87
7/16"	50	98164A455	7.25
1/2"	25	98164A154	8.44
5/8"	25	98164A156	9.37
3/4"	25	98164A158	11.31
1"	25	98164A162	12.27
1 1/4"	25	98164A456▲	7.75
1 1/2"	25	98164A457▲	8.29
2"	10	98164A458▲	5.42
10-32			
1/4"	50	98164A176	8.34
5/16"	50	98164A459	6.72
3/8"	50	98164A177	8.48
7/16"	50	98164A460	8.51
1/2"	50	98164A178	9.54
5/8"	25	98164A180	9.50
3/4"	25	98164A182	11.20
1"	25	98164A186	12.97
1 1/4"	25	98164A461▲	7.41
1 1/2"	25	98164A462▲	8.29
2"	25	98164A463▲	13.55
12-24			
1/2"	25	98164A513	9.00
3/4"	25	98164A514	10.20
1"	25	98164A515	11.90
1/4"-20			
1/4"	25	98164A516	$6.97
5/16"	25	98164A517	7.21
3/8"	25	98164A209	13.99
7/16"	25	98164A518	7.69
1/2"	25	98164A211	8.13
5/8"	25	98164A212	9.01
3/4"	25	98164A213	9.81
7/8"	25	98164A519	10.96
1"	25	98164A214	11.36
1 1/4"	10	98164A218	9.34
1 1/2"	10	98164A222	10.32
1 3/4"	10	98164A226▲	5.16
2"	10	98164A230▲	5.74
2 1/4"	10	98164A464▲	6.98
2 1/2"	5	98164A238▲	3.65
2 3/4"	5	98164A465▲	4.73
3"	5	98164A246▲	4.88
3 1/2"	5	98164A466▲	8.75
4"	5	98164A467▲	10.57
1/4"-28			
3/8"	25	98164A520	7.59
1/2"	25	98164A521	7.77
3/4"	25	98164A522	9.73
1"	25	98164A523	11.63
5/16"-18			
1/2"	10	98164A266	6.33
5/8"	10	98164A524	6.60
3/4"	10	98164A267	7.12
7/8"	10	98164A525	7.88
1"	10	98164A268	8.22
1 1/8"	5	98164A526	5.38
1 1/4"	5	98164A272	7.87
1 3/8"	5	98164A527	8.02
1 1/2"	5	98164A276	8.90
1 3/4"	5	98164A468▲	6.67
2"	5	98164A280▲	5.94
2 1/2"	5	98164A284▲	6.18
3"	5	98164A288▲	8.61
5/16"-24			
1/2"	10	98164A528	$6.73
3/4"	10	98164A529	9.04
1"	5	98164A530	5.80
1 1/4"	5	98164A531	7.61
1 1/2"	5	98164A532	8.61
3/8"-16			
1/2"	5	98164A469	6.91
3/4"	10	98164A303	11.13
7/8"	10	98164A533	10.63
1"	10	98164A304	12.02
1 1/8"	5	98164A534	6.58
1 1/4"	5	98164A305	5.11
1 3/8"	5	98164A535	7.26
1 1/2"	5	98164A306	7.59
1 3/4"	1	98164A309▲	1.12
2"	1	98164A313▲	1.32
2 1/2"	1	98164A317▲	1.57
3"	1	98164A321▲	1.94
3/8"-24			
3/4"	10	98164A536	10.17
1"	10	98164A537	11.67
1 1/4"	5	98164A538	6.81
1 1/2"	5	98164A539	7.33
1/2"-13			
3/4"	5	98164A540	9.16
1"	5	98164A541	10.79
1 1/2"	1	98164A410	4.99
1 3/4"	1	98164A542	3.22
2"	1	98164A418▲	5.48
2 1/2"	1	98164A543	4.22
3"	1	98164A544	4.93
1/2"-20			
3/4"	5	98164A545	9.44
1"	5	98164A546	11.52
1 1/4"	1	98164A547	2.69
1 1/2"	1	98164A548	3.04
5/8"-11			
1"	1	98164A470	8.14
1 1/2"	1	98164A471	9.46

18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
0-80			
1/8"	100	92949A050	5.12
3/16"	50	92949A052	3.38
1/4"	50	92949A054	4.11
5/16"	50	92949A311	5.21
3/8"	50	92949A312	6.41
1/2"	50	92949A313	6.78
1-64			
1/8"	25	92949A314	5.58
3/16"	25	92949A315	6.31
1/4"	100	92949A316	7.34
1-72			
1/8"	100	92949A317	6.85
3/16"	100	92949A318	6.02
1/4"	100	92949A319	6.82
2-56			
1/8"	100	92949A074	4.86
3/16"	100	92949A076	5.18
1/4"	100	92949A077	5.58
5/16"	100	92949A078	5.92
3/8"	100	92949A079	6.06
7/16"	100	92949A320	6.54
1/2"	100	92949A081	6.22
5/8"	50	92949A082	4.04
3/4"	50	92949A084	9.76
1"	25	92949A086▲	8.44
2-64			
1/4"	25	92949A321	7.59
3/8"	25	92949A322	8.71
1/2"	25	92949A323	9.65
3-48			
3/16"	100	92949A324	6.08
1/4"	100	92949A325	6.98
3/8"	100	92949A326	7.82
4-40			
1/8"	100	92949A103	3.75
3/16"	100	92949A105	2.76
1/4"	100	92949A106	2.71
5/16"	100	92949A107	2.88
3/8"	100	92949A108	2.91
7/16"	100	92949A111	3.41
1/2"	100	92949A110	3.12
9/16"	100	92949A811	4.66
5/8"	100	92949A112	3.49
3/4"	100	92949A113	4.03
7/8"	100	92949A114	4.73
1"	100	92949A116	4.43
1 1/8"	100	92949A812	8.00
1 1/4"	50	92949A118▲	7.70
1 3/8"	50	92949A813	5.19
1 1/2"	50	92949A120▲	9.24
1 3/4"	50	92949A814	8.06
4-48			
1/4"	10	92949A327	5.30
3/8"	10	92949A328	6.07
1/2"	10	92949A329	7.56
5-40			
3/16"	25	92949A330	7.13
1/4"	100	92949A131	3.73
5/16"	100	92949A132	3.84
3/8"	100	92949A133	3.90
1/2"	100	92949A135	4.88
5/8"	100	92949A331	5.33
3/4"	100	92949A332	6.63
1"	100	92949A333▲	7.86
6-32			
1/8"	100	92949A141	5.47
3/16"	100	92949A143	3.78
1/4"	100	92949A144	3.31
5/16"	100	92949A145	3.52
3/8"	100	92949A146	3.72
7/16"	100	92949A149	4.42
1/2"	100	92949A148	3.72
9/16"	100	92949A815	5.86
5/8"	100	92949A150	4.07
3/4"	100	92949A151	4.41
7/8"	100	92949A152	6.22
1"	100	92949A153	5.42
1 1/8"	100	92949A816	7.88
1 1/4"	100	92949A160▲	6.51
1 1/2"	50	92949A157▲	4.58
1 3/4"	50	92949A334▲	8.97
2"	50	92949A335▲	10.47
6-32 (Cont.)			
2 1/2"	50	92949A817	9.75
3"	25	92949A818	6.60
6-40			
3/16"	10	92949A336	5.87
1/4"	10	92949A337	6.29
3/8"	10	92949A338	7.73
8-32			
1/8"	50	92949A187	6.28
3/16"	100	92949A189	9.27
1/4"	100	92949A190	3.71
5/16"	100	92949A191	4.06
3/8"	100	92949A192	4.32
7/16"	100	92949A193	5.14
1/2"	100	92949A194	5.21
9/16"	100	92949A819	7.58
5/8"	100	92949A196	5.47
3/4"	100	92949A197	6.12
7/8"	100	92949A198	7.38
1"	100	92949A199	6.81
1 1/8"	50	92949A820	7.02
1 1/4"	100	92949A201▲	7.66
1 1/2"	100	92949A203▲	10.32
1 3/4"	50	92949A205▲	9.21
2"	25	92949A207▲	5.77
2 1/2"	25	92949A821	8.80

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

(Continued on following page)

Stainless Steel Button-Head Socket Cap Screws *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
10-24			
1/4"	100	92949A238	$5.42
5/16"	100	92949A239	5.28
3/8"	100	92949A240	5.65
7/16"	100	92949A822	7.19
1/2"	100	92949A242	5.70
5/8"	100	92949A244	7.55
3/4"	50	92949A245	2.26
7/8"	50	92949A246	5.25
1"	50	92949A247	2.79
1 1/8"	50	92949A823	6.72
1 1/4"	50	92949A249▲	6.65
1 3/8"	50	92949A824	7.86
1 1/2"	50	92949A251▲	7.05
1 3/4"	25	92949A252▲	4.68
2"	10	92949A253▲	2.51
2 1/4"	10	92949A825	3.09
2 1/2"	10	92949A255▲	4.06
3"	10	92949A257▲	4.62
10-32			
3/16"	50	92949A259	5.99
1/4"	100	92949A261	5.68
5/16"	100	92949A262	5.49
3/8"	100	92949A263	5.73
7/16"	100	92949A264	6.13
1/2"	100	92949A265	6.11
5/8"	100	92949A267	7.27
3/4"	100	92949A269	8.48
7/8"	50	92949A270	5.07
1"	50	92949A271	6.16
1 1/8"	50	92949A826	7.36
1 1/4"	50	92949A272▲	6.56
1 3/8"	50	92949A827	7.73
1 1/2"	50	92949A273▲	7.05
1 5/8"	50	92949A828	10.32
1 3/4"	25	92949A274▲	5.17
2"	10	92949A275▲	2.53
2 1/4"	10	92949A829	3.22
2 1/2"	10	92949A277▲	3.92
3"	10	92949A279▲	4.46
3 1/2"	10	92949A830	5.55
4"	10	92949A831	6.24
12-24			
3/8"	5	92949A339	3.68
1/2"	5	92949A340	4.23
5/8"	5	92949A341	4.99
3/4"	5	92949A342	5.97
1/4"-20			
1/4"	50	92949A832	7.03
5/16"	50	92949A533	5.90
3/8"	50	92949A535	4.54
7/16"	50	92949A833	5.86
1/2"	50	92949A537	4.67
9/16"	50	92949A834	7.76
1/4"-20 (Cont.)			
5/8"	50	92949A539	$6.12
3/4"	50	92949A540	6.81
7/8"	50	92949A541	6.94
1"	50	92949A542	8.09
1 1/8"	50	92949A835	12.04
1 1/4"	25	92949A544	5.48
1 3/8"	25	92949A836	6.94
1 1/2"	25	92949A546▲	5.92
1 5/8"	25	92949A837	7.11
1 3/4"	25	92949A548▲	6.32
1 7/8"	25	92949A838	8.26
2"	25	92949A550▲	7.43
2 1/4"	10	92949A551▲	4.17
2 1/2"	10	92949A552▲	4.44
2 3/4"	10	92949A553▲	6.02
3"	10	92949A554▲	6.33
3 1/2"	10	92949A556▲	7.63
4"	10	92949A558▲	8.66
4 1/2"	1	92949A343▲	2.55
5"	1	92949A344▲	5.22
6"	1	92949A345▲	6.00
1/4"-28			
1/4"	50	92949A559	8.37
5/16"	50	92949A840	7.59
3/8"	50	92949A560	8.71
7/16"	50	92949A841	10.00
1/2"	50	92949A562	7.95
9/16"	50	92949A842	10.58
5/8"	50	92949A563	9.89
3/4"	25	92949A564	5.43
7/8"	25	92949A843	6.70
1"	25	92949A566	5.67
1 1/8"	25	92949A844	7.50
1 1/4"	25	92949A567	8.74
1 3/8"	25	92949A845	8.20
1 1/2"	10	92949A571▲	3.84
1 5/8"	10	92949A846	4.34
1 3/4"	10	92949A847	4.64
2"	10	92949A573▲	4.65
2 1/2"	10	92949A848	5.60
3"	10	92949A849	6.13
3 1/2"	10	92949A850	7.06
4"	10	92949A851	7.82
5/16"-18			
3/8"	25	92949A576	5.01
7/16"	25	92949A852	6.21
1/2"	25	92949A578	5.17
9/16"	25	92949A853	6.47
5/8"	25	92949A580	5.35
3/4"	25	92949A581	5.84
7/8"	25	92949A583	7.17
1"	25	92949A582	7.28
1 1/8"	25	92949A854	9.22
1 1/4"	25	92949A585	8.62
5/16"-18 (Cont.)			
1 1/2"	10	92949A587▲	$4.46
1 5/8"	10	92949A855	5.46
1 3/4"	10	92949A589▲	4.70
1 7/8"	10	92949A856	5.52
2"	10	92949A591▲	5.47
2 1/4"	10	92949A611▲	7.19
2 1/2"	10	92949A593▲	7.54
2 3/4"	10	92949A857	8.78
3"	5	92949A594▲	4.70
3 1/4"	5	92949A858	5.33
3 1/2"	5	92949A711▲	5.17
4"	5	92949A592▲	5.77
4 1/2"	1	92949A346▲	2.54
5/16"-24			
3/8"	10	92949A595	4.93
1/2"	10	92949A597	5.25
5/8"	10	92949A598	5.43
3/4"	10	92949A599	6.00
7/8"	10	92949A859	7.14
1"	10	92949A603	6.02
1 1/8"	10	92949A860	7.27
1 1/4"	10	92949A605	6.86
1 3/8"	10	92949A861	8.81
1 1/2"	10	92949A607▲	7.51
1 3/4"	10	92949A862	9.64
2"	5	92949A609▲	6.60
2 1/2"	5	92949A863	7.28
3"	5	92949A864	7.61
3 1/2"	5	92949A865	8.27
4"	5	92949A866	9.74
3/8"-16			
1/2"	10	92949A619	5.03
5/8"	10	92949A621	4.51
3/4"	10	92949A622	3.99
7/8"	10	92949A623	4.65
1"	10	92949A624	4.71
1 1/8"	10	92949A867	5.97
1 1/4"	10	92949A626	5.02
1 3/8"	10	92949A868	6.37
1 1/2"	10	92949A628	5.88
1 5/8"	10	92949A869	8.10
1 3/4"	10	92949A630▲	6.72
1 7/8"	10	92949A870	8.83
2"	10	92949A632▲	7.55
2 1/4"	5	92949A633▲	5.32
2 1/2"	5	92949A634▲	5.68
2 3/4"	5	92949A635▲	6.63
3"	5	92949A636▲	7.04
3 1/4"	5	92949A637▲	7.29
3 1/2"	5	92949A639▲	7.78
4"	5	92949A641	9.25
4 1/2"	5	92949A871	10.58
5"	1	92949A645▲	6.29
3/8"-16 (Cont.)			
5 1/2"	1	92949A647▲	$7.59
6"	1	92949A872	2.22
3/8"-24			
1/2"	5	92949A347	4.58
5/8"	5	92949A348	4.80
3/4"	5	92949A650	5.01
1"	5	92949A652	5.54
1 1/4"	5	92949A653	5.69
1 1/2"	5	92949A655▲	6.07
1 3/4"	5	92949A873	4.63
2"	5	92949A874	5.06
2 1/2"	5	92949A875	6.37
3"	5	92949A876	7.49
7/16"-14			
3/4"	1	92949A349	2.63
1"	1	92949A350	2.92
1 1/2"	1	92949A351	3.04
1/2"-13			
1/2"	5	92949A708	7.73
5/8"	5	92949A352	7.92
3/4"	5	92949A710	4.99
7/8"	5	92949A877	5.60
1"	5	92949A712	4.89
1 1/4"	5	92949A714	5.74
1 1/2"	5	92949A716	5.94
1 3/4"	5	92949A718	6.71
2"	5	92949A720	7.46
2 1/4"	5	92949A878	9.59
2 1/2"	1	92949A722	1.46
2 3/4"	1	92949A879	2.10
3"	1	92949A724	1.97
3 1/4"	1	92949A880	2.55
3 1/2"	1	92949A726▲	2.84
4"	1	92949A728▲	3.54
5"	1	92949A734▲	7.73
6"	1	92949A353▲	9.19
1/2"-20			
3/4"	5	92949A749	7.58
7/8"	5	92949A882	7.28
1"	5	92949A751	7.82
1 1/4"	5	92949A753	8.29
1 1/2"	5	92949A756	10.02
1 3/4"	5	92949A883	12.37
2"	1	92949A884	2.62
2 1/2"	1	92949A885	3.11
3"	1	92949A886	3.61
5/8"-11			
1"	1	92949A763	4.53
1 1/4"	1	92949A354	4.71
1 1/2"	1	92949A765	5.03
1 3/4"	1	92949A355	6.17
2"	1	92949A769	6.29
2 1/2"	1	92949A356▲	6.89
Black-Oxide 18-8 Stainless Steel			
0-80			
1/8"	50	97763A311	6.67
3/16"	50	97763A312	7.00
1/4"	50	97763A313	7.26
2-56			
1/8"	50	97763A300	5.34
3/16"	50	97763A314	5.70
1/4"	50	97763A315	6.06
3/8"	50	97763A316	6.19
1/2"	50	97763A317	6.44
4-40			
1/8"	100	97763A318	6.07
3/16"	100	97763A319	4.46
1/4"	100	97763A102	4.54
5/16"	100	97763A302	4.96
3/8"	100	97763A103	5.22
1/2"	100	97763A104	5.81
5/8"	100	97763A321	6.14
3/4"	100	97763A322	6.57
1"	100	97763A323▲	6.95
6-32			
1/8"	50	97763A324	5.71
3/16"	100	97763A325	5.58
1/4"	100	97763A141	5.63
6-32 (Cont.)			
5/16"	100	97763A403	5.85
3/8"	100	97763A142	6.01
1/2"	50	97763A143	3.31
5/8"	100	97763A327	6.93
3/4"	100	97763A328	7.25
1"	100	97763A329▲	7.64
8-32			
1/8"	50	97763A330	7.86
3/16"	50	97763A331	6.61
1/4"	50	97763A176	3.53
5/16"	50	97763A504	3.80
3/8"	50	97763A177	3.84
1/2"	50	97763A178	4.36
5/8"	100	97763A333	9.03
3/4"	100	97763A334	9.37
1"	100	97763A335▲	10.16
10-24			
1/4"	50	97763A213	5.48
5/16"	50	97763A605	5.61
3/8"	50	97763A214	5.71
1/2"	50	97763A215	6.02
5/8"	50	97763A336	6.45
3/4"	50	97763A337	6.78
10-24 (Cont.)			
1"	50	97763A338▲	8.69
1 1/2"	50	97763A339▲	9.91
10-32			
1/4"	50	97763A230	5.40
5/16"	50	97763A706	5.52
3/8"	50	97763A231	5.77
1/2"	50	97763A232	6.06
5/8"	50	97763A340	6.35
3/4"	50	97763A341	6.52
1"	50	97763A342▲	8.69
1 1/2"	50	97763A343▲	9.91
1/4"-20			
1/4"	25	97763A344	7.88
5/16"	50	97763A345	8.87
3/8"	50	97763A262	7.82
1/2"	50	97763A263	7.84
5/8"	25	97763A264	5.38
3/4"	25	97763A265	5.74
7/8"	25	97763A346	6.19
1"	25	97763A267	6.72
1 1/4"	25	97763A347▲	7.63
1 1/2"	25	97763A348▲	10.38
2"	10	97763A349▲	5.26
1/4"-20 (Cont.)			
2 1/2"	10	97763A350▲	6.90
3"	10	97763A351▲	7.53
1/4"-28			
3/8"	25	97763A352	6.84
1/2"	25	97763A353	7.05
5/8"	25	97763A354	7.31
3/4"	25	97763A355	8.00
1"	25	97763A356	9.61
5/16"-18			
1/2"	10	97763A357	3.85
5/8"	10	97763A358	4.08
3/4"	10	97763A359	5.61
1"	10	97763A360	7.59
3/8"-16			
3/4"	10	97763A361	8.28
1"	10	97763A362	9.66
1 1/4"	5	97763A363	5.52
1 1/2"	5	97763A364▲	6.71
1/2"-13			
1"	5	97763A365	6.82
1 1/4"	5	97763A366	8.06
1 1/2"	5	97763A367	8.59
2"	5	97763A368	10.70

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

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Stainless Steel Button-Head Socket Cap Screws *(Continued from previous page)*





The button head provides a wide bearing surface, a low head, and a finished appearance. These screws are fully threaded, unless noted. Length is measured from under the head. Not recommended for high-strength fastening.

Inch Screws—Have a Class 3A thread fit. They also have a minimum Rockwell hardness of B55 and a minimum tensile strength of 70,000 psi. *Thread-locking* screws have a nylon patch bonded to the threads that prevents loosening. The patch withstands temperatures from –70° to 250° F.

Metric Screws—Have a Class 6g thread fit, a minimum tensile strength of 70,000 psi, and are not rated for hardness.

Thread-Locking 18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
2-56			
1/8"	10	93310A321	$9.20
1/4"	10	93310A323	4.78
3/8"	10	93310A324	4.97
4-40			
1/8"	5	93310A325	6.26
1/4"	50	93310A106	10.67
3/8"	50	93310A108	10.76
1/2"	10	93310A110	9.15
6-32			
3/16"	10	93310A327	6.63
1/4"	50	93310A144	11.75
5/16"	10	93310A328	6.81
3/8"	50	93310A146	11.89
1/2"	50	93310A148	12.21
5/8"	10	93310A150	7.10
8-32			
1/4"	50	93310A190	$12.26
3/8"	50	93310A192	12.63
1/2"	25	93310A194	7.09
5/8"	10	93310A196	8.87
3/4"	10	93310A198	8.69
10-24			
1/4"	10	93310A238	11.08
3/8"	25	93310A240	7.75
1/2"	25	93310A242	7.97
5/8"	10	93310A243	11.08
3/4"	25	93310A245	8.46
1"	5	93310A248	6.67
10-32			
1/4"	10	93310A255	7.10
5/16"	10	93310A332	8.10
10-32 (Cont.)			
3/8"	25	93310A260	$7.75
1/2"	25	93310A264	7.97
5/8"	10	93310A257	11.08
3/4"	25	93310A266	8.46
1"	10	93310A268	11.46
1/4"-20			
3/16"	10	93310A333	12.79
1/4"	10	93310A334	12.89
5/16"	10	93310A335	8.46
3/8"	25	93310A535	11.50
1/2"	25	93310A537	12.23
5/8"	10	93310A539	10.64
3/4"	10	93310A540	5.41
7/8"	10	93310A336	9.20
1"	10	93310A542	6.56
1/4"-20 (Cont.)			
1 1/4"	5	93310A337	$6.44
1 1/2"	5	93310A338	7.36
5/16"-18			
1/2"	10	93310A578	7.45
5/8"	5	93310A580	8.87
3/4"	10	93310A581	8.19
1"	10	93310A583	8.84
3/8"-16			
1/2"	5	93310A339	9.21
3/4"	5	93310A640	11.31
1 1/4"	5	93310A646	13.32
1/2"-13			
3/4"	1	93310A341	3.59
1"	1	93310A710	6.65
1 1/2"	1	93310A716	7.76

Metric Type 316 Stainless Steel—Dimensions in millimeters

Lg.	Pkg. Qty.		Pkg.
M3—Pitch: 0.5 mm			
6	100	94500A221	5.64
8	100	94500A222	5.55
10	100	94500A223	6.08
M4—Pitch: 0.7 mm			
6	100	94500A225	7.38
8	100	94500A226	7.27
10	100	94500A227	7.54
12	100	94500A228	8.98
M5—Pitch: 0.8 mm			
8	50	94500A230	6.15
12	50	94500A231	7.44
16	50	94500A232	8.77
20	50	94500A233	9.37
M6—Pitch: 1 mm			
8	50	94500A235	8.39
12	50	94500A236	8.67
16	50	94500A237	10.70
M6 (Cont.)			
20	25	94500A238	6.73
25	25	94500A239	7.22
30	25	94500A240	7.70
M8—Pitch: 1.25 mm			
12	10	94500A241	4.61
16	10	94500A242	4.86
20	10	94500A244	5.58
25	10	94500A245	5.93
M10—Pitch: 1.5 mm			
16	10	94500A246	7.43
20	10	94500A247	8.43
25	10	94500A248	9.75
M12—Pitch: 1.75 mm			
20	5	94500A249	7.32
25	5	94500A250	8.37
30	5	94500A251	9.37

Metric 18-8 Stainless Steel—Dimensions in millimeters

Lg.	Pkg. Qty.		Pkg.
M2—Pitch: 0.4 mm			
4	25	92095A451	3.75
5	25	92095A452	6.50
6	25	92095A453	8.04
8	25	92095A454	6.38
12	25	92095A455	7.44
M2.5—Pitch: 0.45 mm			
4	25	92095A456	7.97
5	25	92095A457	6.98
6	25	92095A458	7.07
8	25	92095A459	7.14
10	25	92095A460	8.51
12	25	92095A461	8.70
M3—Pitch: 0.5 mm			
4	100	92095A471	4.25
5	100	92095A177	5.42
6	100	92095A179	5.06
8	100	92095A181	9.37
10	100	92095A182	8.38
12	100	92095A183	4.00
14	50	92095A168	5.80
16	100	92095A184	8.85
18	100	92095A472	6.00
20	50	92095A185	5.13
22	50	92095A473	4.61
25	50	92095A186	6.13
30	50	92095A187	6.55
35	25	92095A201	4.57
40	25	92095A203	4.28
45	25	92095A474	4.22
50	25	92095A475	4.61
M4—Pitch: 0.7 mm			
4	100	92095A476	7.80
5	100	92095A477	8.40
6	100	92095A188	8.89
M4 (Cont.)			
8	100	92095A189	8.89
10	100	92095A190	9.05
12	100	92095A192	8.60
14	50	92095A193	7.92
16	100	92095A194	10.43
18	100	92095A478	10.95
20	50	92095A196	6.38
22	50	92095A479	6.70
25	50	92095A197▲	7.34
30	50	92095A198▲	9.85
35	25	92095A199	5.26
40	25	92095A200	7.07
45	25	92095A205	6.81
50	10	92095A209▲	4.61
60	10	92095A480	3.00
M5—Pitch: 0.8 mm			
6	25	92095A206	10.00
8	100	92095A207	11.98
10	100	92095A208	11.98
12	50	92095A210	7.34
14	25	92095A211	7.34
16	50	92095A212	8.31
18	50	92095A481	8.52
20	50	92095A214	9.08
22	50	92095A482	10.67
25	25	92095A216	5.60
30	25	92095A218	6.76
35	25	92095A220▲	7.34
40	25	92095A222▲	9.76
45	25	92095A223	11.69
50	25	92095A228▲	11.11
55	25	92095A483	11.44
60	10	92095A225▲	8.24
70	10	92095A484	5.52
M5 (Cont.)			
80	10	92095A485	5.96
100	10	92095A486	7.87
M6—Pitch: 1 mm			
8	25	92095A239	7.44
10	50	92095A224	8.50
12	50	92095A226	9.27
14	25	92095A227	9.95
16	25	92095A238	5.41
18	25	92095A487	5.83
20	25	92095A240	6.28
22	25	92095A488	6.61
25	25	92095A242	7.25
30	25	92095A244	8.31
35	25	92095A246▲	9.37
40	25	92095A248▲	11.01
45	10	92095A250	5.03
50	10	92095A252▲	7.11
55	10	92095A253▲	7.15
60	10	92095A254▲	7.65
65	10	92095A489	7.83
70	10	92095A490	7.93
80	10	92095A491	8.14
100	10	92095A492	10.14
M8—Pitch: 1.25 mm			
8	10	92095A493	4.68
10	10	92095A256	6.03
12	25	92095A258	11.30
14	25	92095A494	10.37
16	25	92095A260	10.72
18	25	92095A495	11.36
20	25	92095A284	12.07
22	10	92095A496	5.51
25	10	92095A286	5.76
30	10	92095A290	6.49
M8 (Cont.)			
35	10	92095A292	7.03
40	10	92095A294	7.38
45	10	92095A296▲	11.75
50	5	92095A298▲	5.58
55	5	92095A299▲	9.33
60	5	92095A300▲	7.34
70	5	92095A497	7.44
80	5	92095A498	7.73
100	5	92095A499	9.78
M10—Pitch: 1.5 mm			
16	10	92095A408	8.27
20	10	92095A410	8.66
25	10	92095A413	10.39
30	10	92095A416	10.82
35	5	92095A418	5.98
40	10	92095A420	11.90
45	5	92095A422▲	8.19
50	5	92095A424▲	7.61
55	5	92095A426▲	11.63
60	1	92095A429▲	2.60
80	1	92095A500	2.75
M12—Pitch: 1.75 mm			
20	5	92095A428	6.67
25	5	92095A427	6.72
30	5	92095A431	7.44
35	5	92095A432	10.51
40	1	92095A434	1.87
45	1	92095A435	2.45
50	1	92095A437	2.19
55	1	92095A440▲	3.38
60	1	92095A442▲	3.16
70	1	92095A446	9.60
80	1	92095A501	3.21
100	1	92095A502	3.74

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

18-8 Stainless Steel Assortments

	Thread Sizes	Screw Lengths	No. of Screws		
Inch	4-40, 6-32, 8-32, 10-32, 1/4"-20	1/4" to 1"	300	92145A212	$61.40
Metric	M3, M4, M5, M6, M8	8 mm to 30 mm	300	92600A111	49.75

Alloy Steel Button-Head Socket Cap Screws


Full Threads


Thread Locking

For a finished appearance, these screws have a low rounded head. A wide bearing surface distributes the load. They're fully threaded, unless noted. Length is measured from under the head. Not recommended for high-strength fastening.

Inch Screws—Meet ASTM F835. Strength is comparable to that of Grade 5 screws. They have a Class 3A thread fit, a minimum Rockwell hardness of C37, and a minimum tensile strength of 120,000 psi. *Thread-locking* screws have a nylon patch bonded to the threads to resist loosening. The patch withstands temperatures from –70° to 250° F.

Metric Screws—Have dimensions that meet ISO 7380, unless noted. Strength is comparable to that of Grade 8 screws. They have a Class 6g thread fit, a minimum Rockwell hardness of C32, and a minimum tensile strength of 142,000 psi, except Torx drive screws have a minimum Rockwell hardness of C22 and a minimum tensile strength of 115,000 psi. *High-visibility blue* screws are colored to distinguish them from inch sizes and are zinc plated for corrosion resistance.

Black-Oxide Alloy Steel

Lg.	Pkg. Qty.		Pkg.
0-80			
1/8"	25	91255A010	$6.25
3/16"	25	91255A011	6.34
1/4"	25	91255A012	6.47
3/8"	25	91255A001	7.65
1/2"	10	91255A008	7.36
1-64			
1/4"	10	91255A013	4.55
1-72			
1/8"	25	91255A014	6.34
3/16"	25	91255A015	6.47
1/4"	25	91255A016	6.70
2-56			
1/16"	25	91255A075	7.25
3/32"	25	91255A073	8.05
1/8"	25	91255A074	5.57
5/32"	25	91255A072	9.67
3/16"	25	91255A076	3.76
1/4"	25	91255A077	3.78
5/16"	25	91255A078	3.30
3/8"	25	91255A079	3.87
7/16"	25	91255A017	6.47
1/2"	25	91255A081	4.18
5/8"	25	91255A071	8.05
3/4"	25	91255A018	8.67
1"	25	91255A019	9.08
2-64			
1/4"	5	91255A082	7.25
3/8"	5	91255A083	8.86
1/2"	5	91255A084	9.67
3-48			
1/8"	25	91255A095	8.83
3/16"	10	91255A091	6.34
1/4"	10	91255A092	6.44
3/8"	10	91255A094	6.46
1/2"	50	91255A020	7.83
5/8"	25	91255A096	9.58
3-56			
1/4"	10	91255A099	7.36
3/8"	10	91255A101	7.66
1/2"	10	91255A102	8.25
4-40			
1/8"	50	91255A103	10.94
3/16"	100	91255A105	10.85
1/4"	100	91255A106	11.00
5/16"	100	91255A107	12.68
3/8"	100	91255A108	11.69
7/16"	100	91255A021	11.25
1/2"	100	91255A110	12.00
9/16"	50	91255A022	12.61
5/8"	50	91255A112	9.69
3/4"	50	91255A113	9.74
7/8"	50	91255A115	9.74
1"	50	91255A116▲	10.36
1 1/4"	25	91255A117	10.75
1 1/2"	10	91255A023	8.33
2"	10	91255A118	10.86
4-48			
1/4"	25	91255A003	7.25
3/8"	25	91255A004	7.65
1/2"	25	91255A005	8.05
5-40			
3/16"	50	91255A126	12.89
1/4"	100	91255A121	11.64
5/16"	50	91255A127	11.60
3/8"	50	91255A123	7.72
1/2"	50	91255A125	7.85
5/8"	50	91255A128	11.15
5-44			
1/4"	10	91255A129	9.20
3/8"	10	91255A131	10.66
5-44 (Cont.)			
1/2"	10	91255A132	$12.03
6-32			
1/8"	50	91255A140	11.43
3/16"	50	91255A142	10.75
1/4"	100	91255A144	11.03
5/16"	50	91255A145	9.51
3/8"	100	91255A146	11.14
7/16"	100	91255A133	11.77
1/2"	100	91255A148	12.01
9/16"	10	91255A134	9.49
5/8"	100	91255A150	13.13
3/4"	50	91255A151	9.71
7/8"	50	91255A152	10.11
1"	50	91255A153▲	10.38
1 1/8"	10	91255A135	12.20
1 1/4"	25	91255A155▲	7.44
1 1/2"	25	91255A157▲	9.21
1 3/4"	10	91255A136	6.19
2"	10	91255A137	6.36
6-40			
1/4"	25	91255A158	8.29
3/8"	25	91255A159	8.74
1/2"	25	91255A161	9.21
8-32			
1/8"	25	91255A162	8.86
5/32"	10	91255A163	8.05
3/16"	50	91255A189	9.08
1/4"	100	91255A190	12.08
5/16"	50	91255A191	6.68
3/8"	100	91255A192	12.83
7/16"	50	91255A164	9.28
1/2"	100	91255A194	12.92
9/16"	25	91255A165	9.67
5/8"	50	91255A196	7.76
3/4"	50	91255A197	8.01
7/8"	25	91255A166	6.70
1"	50	91255A199▲	10.63
1 1/8"	10	91255A167	10.31
1 1/4"	10	91255A201▲	10.46
1 3/8"	10	91255A168	11.28
1 1/2"	10	91255A203▲	11.14
1 3/4"	10	91255A169	8.24
2"	5	91255A205	6.31
2 1/4"	5	91255A206	9.38
8-36			
1/4"	50	91255A207	9.28
3/8"	50	91255A208	9.70
1/2"	50	91255A209	10.10
10-24			
3/16"	50	91255A233	10.08
1/4"	100	91255A238	13.31
5/16"	50	91255A234	8.84
3/8"	100	91255A240	13.52
7/16"	50	91255A235	9.58
1/2"	50	91255A242	7.41
9/16"	10	91255A236	6.88
5/8"	50	91255A244	7.74
3/4"	50	91255A245	8.24
7/8"	50	91255A246	9.40
1"	50	91255A247	8.76
1 1/8"	10	91255A237	9.02
1 1/4"	25	91255A248▲	11.02
1 1/2"	25	91255A250▲	11.32
2"	10	91255A252▲	6.16
10-32			
1/8"	10	91255A024	10.94
3/16"	25	91255A025	8.04
1/4"	100	91255A261	13.31
5/16"	25	91255A262	7.16
10-32 (Cont.)			
3/8"	100	91255A263	$13.52
7/16"	50	91255A026	7.86
1/2"	50	91255A265	7.41
9/16"	25	91255A027	8.43
5/8"	50	91255A267	8.01
3/4"	50	91255A269	11.19
7/8"	50	91255A271	11.22
1"	50	91255A273	11.31
1 1/8"	25	91255A028	10.00
1 1/4"	10	91255A274▲	9.94
1 1/2"	10	91255A275▲	7.84
1 3/4"	10	91255A276▲	5.97
2"	10	91255A278▲	6.16
2 1/2"	10	91255A029	6.25
3"	10	91255A030	6.82
12-24			
3/8"	10	91255A279	7.91
5/8"	10	91255A281	8.59
1/4"-20			
3/16"	10	91255A521	9.02
1/4"	25	91255A533	7.61
5/16"	25	91255A522	8.42
3/8"	50	91255A535	7.68
7/16"	25	91255A523	8.92
1/2"	50	91255A537	7.65
9/16"	10	91255A524	6.44
5/8"	50	91255A539	8.16
3/4"	50	91255A540	8.70
7/8"	50	91255A541	8.37
1"	50	91255A542	9.37
1 1/8"	10	91255A525	7.73
1 1/4"	25	91255A544▲	11.23
1 3/8"	10	91255A526	10.86
1 1/2"	10	91255A546	8.61
1 5/8"	10	91255A527	12.27
1 3/4"	10	91255A548▲	8.69
2"	10	91255A545▲	7.25
2 1/4"	10	91255A528	7.49
2 1/2"	10	91255A547▲	7.61
2 3/4"	10	91255A529	9.09
3"	10	91255A549▲	10.14
3 1/2"	10	91255A531	11.20
4"	10	91255A532	12.89
1/4"-28			
3/16"	10	91255A564	9.02
1/4"	25	91255A550	6.70
5/16"	25	91255A565	7.73
3/8"	50	91255A551	7.69
1/2"	50	91255A553	7.70
5/8"	50	91255A555	8.17
3/4"	50	91255A557	8.70
1"	50	91255A559	9.41
1 1/4"	25	91255A566	11.16
1 1/2"	25	91255A563▲	13.02
1 3/4"	25	91255A567	12.89
2"	10	91255A568	5.89
3"	10	91255A509	11.23
5/16"-18			
1/4"	25	91255A032	12.38
5/16"	25	91255A033	8.25
3/8"	50	91255A576	8.37
7/16"	10	91255A593	7.36
1/2"	50	91255A578	8.48
9/16"	10	91255A594	11.78
5/8"	50	91255A580	10.67
3/4"	50	91255A581	11.18
7/8"	50	91255A582	10.71
1"	50	91255A583	10.75
5/16"-18 (Cont.)			
1 1/8"	10	91255A595	$9.62
1 1/4"	10	91255A585▲	6.87
1 3/8"	10	91255A034	6.72
1 1/2"	10	91255A587▲	8.21
1 3/4"	10	91255A035	7.95
2"	10	91255A588	5.43
2 1/4"	10	91255A589▲	7.31
2 1/2"	10	91255A592	6.00
2 3/4"	10	91255A036	7.64
3"	10	91255A037	7.84
3 1/2"	10	91255A038	11.25
4"	10	91255A039	11.63
5/16"-24			
3/8"	50	91255A376	9.91
1/2"	25	91255A378	5.57
5/8"	25	91255A380	5.55
3/4"	25	91255A381	4.87
1"	25	91255A383	4.97
1 1/4"	25	91255A387	11.45
1 1/2"	25	91255A040	11.34
2"	10	91255A042	8.29
3/8"-16			
3/8"	10	91255A043	12.22
1/2"	50	91255A619	10.56
5/8"	50	91255A621	13.05
3/4"	25	91255A622	7.54
7/8"	25	91255A623	7.86
1"	25	91255A624	8.73
1 1/8"	10	91255A614	12.20
1 1/4"	25	91255A626	8.27
1 3/8"	10	91255A615	12.89
1 1/2"	10	91255A628▲	9.75
1 5/8"	5	91255A616	7.73
1 3/4"	10	91255A629▲	10.85
2"	10	91255A632▲	11.28
2 1/4"	10	91255A634▲	11.65
2 1/2"	10	91255A635	10.28
2 3/4"	10	91255A636▲	10.73
3"	10	91255A638▲	11.11
3 1/2"	5	91255A617	7.09
4"	5	91255A618	8.38
3/8"-24			
3/8"	5	91255A639	6.75
1/2"	50	91255A641	13.04
5/8"	50	91255A044	12.70
3/4"	25	91255A643	8.60
1"	25	91255A645	8.92
1 1/4"	25	91255A647	6.81
1 1/2"	10	91255A045	6.00
2"	10	91255A046	7.07
7/16"-14			
1 1/4"	1	91255A047	2.71
1 1/2"	1	91255A048	4.29
7/16"-20			
1"	1	91255A049	8.67
1/2"-13			
1/2"	5	91255A706	9.67
5/8"	5	91255A707	9.02
3/4"	10	91255A710	9.84
7/8"	10	91255A708	9.02
1"	10	91255A712	6.33
1 1/8"	10	91255A709	12.89
1 1/4"	10	91255A714	7.43
1 1/2"	10	91255A716	6.78
1 3/4"	10	91255A718	12.27
2"	10	91255A720	10.30
2 1/4"	5	91255A050	10.47
2 1/2"	5	91255A724▲	11.11
3"	5	91255A051	12.04

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

(Continued on following page)

Alloy Steel Button-Head Socket Cap Screws *(Continued from previous page)*


Full Threads


Thread Locking

For a finished appearance, these screws have a low rounded head. A wide bearing surface distributes the load. They're fully threaded, unless noted. Length is measured from under the head. Not recommended for high-strength fastening.

Inch Screws—Meet ASTM F835. Strength is comparable to that of Grade 5 screws. They have a Class 3A thread fit, a minimum Rockwell hardness of C37, and a minimum tensile strength of 120,000 psi. *Thread-locking* screws have a nylon patch bonded to the threads to resist loosening. The patch withstands temperatures from –70° to 250° F.

Metric Screws—Have dimensions that meet ISO 7380, unless noted. Strength is comparable to that of Grade 8 screws. They have a Class 6g thread fit, a minimum Rockwell hardness of C32, and a minimum tensile strength of 142,000 psi, except Torx drive screws have a minimum Rockwell hardness of C22 and a minimum tensile strength of 115,000 psi. *High-visibility blue* screws are colored to distinguish them from inch sizes and are zinc plated for corrosion resistance.

Black-Oxide Alloy Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
½″-20			
¾″	5	91255A052	$9.10
1″	5	91255A053	6.43
1¼″	5	91255A054	8.09
1½″	5	91255A055	9.36
⅝″-11			
¾″	1	91255A797	$2.83
1″	5	91255A114	13.43
1¼″	5	91255A796	13.77
1½″	5	91255A798	14.34
⅝″-11 (Cont.)			
1¾″	5	91255A810	$7.21
2″	1	91255A120	3.55
2½″	1	91255A056	3.80
3″	1	91255A057	4.05
⅝″-18			
1″	1	91255A058	$14.44
1½″	1	91255A059	15.56
2″	1	91255A060	17.78
¾″-10			
2″	1	91255A061	17.78
3″	1	91255A062	20.00

Zinc-Plated Alloy Steel

Lg.	Pkg. Qty.		Pkg.
2-56			
⅛″	100	91306A245	10.67
3⁄16″	100	91306A246	9.97
¼″	100	91306A247	10.60
⅜″	100	91306A248	11.60
½″	100	91306A249	11.87
3-48			
3⁄16″	100	91306A250	10.90
¼″	100	91306A251	11.54
⅜″	100	91306A252	12.36
4-40			
⅛″	50	91306A253	9.10
¼″	50	91306A311	8.56
⅜″	50	91306A315	8.89
½″	50	91306A318	9.23
⅝″	50	91306A254	5.62
¾″	50	91306A255	6.38
5-40			
¼″	50	91306A256	4.35
⅜″	50	91306A257	4.88
½″	50	91306A258	4.97
6-32			
⅛″	50	91306A259	9.30
3⁄16″	50	91306A260	4.28
¼″	50	91306A320	9.18
5⁄16″	50	91306A261	4.40
⅜″	50	91306A322	9.18
7⁄16″	50	91306A262	4.88
½″	50	91306A324	9.55
⅝″	50	91306A327	10.94
¾″	50	91306A263	5.53
8-32			
3⁄16″	50	91306A264	4.42
¼″	50	91306A333	9.31
5⁄16″	50	91306A265	5.40
⅜″	50	91306A335	9.68
7⁄16″	50	91306A266	6.01
½″	50	91306A337	10.14
⅝″	50	91306A338	11.02
¾″	50	91306A339	11.40
⅞″	50	91306A267	7.94
1″	25	91306A340	7.03
1½″	25	91306A268	7.97
10-24			
¼″	100	91306A269	7.44
5⁄16″	100	91306A270	7.90
⅜″	50	91306A341	9.89
7⁄16″	50	91306A271	8.61
½″	50	91306A343	10.80
⅝″	50	91306A345	11.33
¾″	50	91306A348	11.65
⅞″	25	91306A349	7.14
1″	25	91306A350	7.68
10-32			
¼″	50	91306A352	9.74
5⁄16″	50	91306A272	6.00
⅜″	50	91306A354	9.89
7⁄16″	50	91306A273	6.57
½″	50	91306A356	10.80
⅝″	50	91306A274	7.00
10-32 (Cont.)			
¾″	50	91306A358	11.65
⅞″	50	91306A275	7.83
1″	50	91306A276	8.25
1½″	50	91306A277	10.20
¼″-20			
¼″	50	91306A371	11.53
5⁄16″	50	91306A278	9.52
⅜″	50	91306A373	11.81
½″	50	91306A375	12.08
⅝″	50	91306A377	12.53
¾″	50	91306A379	12.91
⅞″	50	91306A279	7.93
1″	25	91306A383	7.75
1¼″	25	91306A280	8.89
1½″	25	91306A384	9.56
1¾″	25	91306A281	11.16
2″	25	91306A282	11.18
¼″-28			
⅜″	50	91306A283	6.28
½″	25	91306A512	6.58
¾″	25	91306A516	6.92
5⁄16″-18			
⅜″	25	91306A601	7.25
½″	25	91306A385	7.21
⅝″	25	91306A284	6.58
¾″	25	91306A387	8.06
⅞″	25	91306A285	9.21
1″	25	91306A391	9.29
5⁄16″-18 (Cont.)			
1¼″	25	91306A404	10.73
1⅜″	25	91306A286	12.60
1½″	10	91306A410	5.03
1¾″	10	91306A287	5.97
2″	10	91306A288	6.67
5⁄16″-24			
½″	25	91306A289	5.92
¾″	25	91306A290	5.44
1″	25	91306A291	8.02
⅜″-16			
½″	25	91306A414	10.78
⅝″	25	91306A292	10.80
¾″	10	91306A416	4.97
1″	10	91306A419	5.26
1¼″	10	91306A423	5.72
1½″	10	91306A427	5.61
1¾″	10	91306A293	7.00
2″	10	91306A294	7.87
⅜″-24			
½″	25	91306A295	12.65
¾″	10	91306A296	5.89
1″	10	91306A297	6.29
½″-13			
¾″	10	91306A298	8.18
1″	10	91306A432	9.24
1¼″	10	91306A435	10.50
1½″	10	91306A437	11.89
1¾″	10	91306A299	13.96
2″	5	91306A439	7.21

Thread-Locking Black-Oxide Alloy Steel

Lg.	Pkg. Qty.		Pkg.
2-56			
⅛″	5	92360A101	6.65
3⁄16″	5	92360A102	6.68
¼″	5	92360A103	6.75
⅜″	5	92360A104	6.93
4-40			
3⁄16″	25	92360A106	7.61
¼″	25	92360A105	7.72
⅜″	25	92360A107	7.89
½″	25	92360A109	8.07
6-32			
3⁄16″	25	92360A128	7.09
¼″	25	92360A130	5.32
5⁄16″	25	92360A132	5.38
⅜″	25	92360A134	5.42
6-32 (Cont.)			
½″	25	92360A138	5.54
⅝″	25	92360A142	7.92
8-32			
3⁄16″	25	92360A148	6.63
¼″	25	92360A150	5.85
5⁄16″	25	92360A152	5.98
⅜″	25	92360A154	5.87
½″	25	92360A158	5.94
⅝″	25	92360A162	6.03
¾″	25	92360A166	6.43
10-24			
¼″	25	92360A210	8.58
⅜″	25	92360A214	6.21
½″	25	92360A218	6.38
¾″	25	92360A222	6.47
10-32			
¼″	25	92360A240	6.12
5⁄16″	25	92360A212	6.18
⅜″	25	92360A244	6.21
½″	25	92360A248	6.38
⅝″	25	92360A219	6.43
¾″	25	92360A252	6.47
¼″-20			
¼″	10	92360A297	6.44
5⁄16″	25	92360A299	8.05
⅜″	25	92360A310	6.52
½″	25	92360A314	6.56
⅝″	25	92360A318	6.65
¾″	25	92360A322	6.74
⅞″	25	92360A324	8.86
1″	25	92360A326	7.19
¼″-20 (Cont.)			
1½″	25	92360A329	10.66
2″	25	92360A336	12.89
5⁄16″-18			
½″	10	92360A410	3.12
⅝″	10	92360A415	3.15
¾″	10	92360A420	3.26
1″	10	92360A425	3.52
⅜″-16			
¾″	10	92360A710	4.19
1″	10	92360A515	4.44
½″-13			
1″	10	92360A615	6.74
1¼″	10	92360A617	7.96
1½″	5	92360A620	4.13

Metric Black-Oxide Class 10.9 Alloy Steel—Dimensions in millimeters

Lg.	Pkg. Qty.		Pkg.
M2—Pitch: 0.4 mm★			
3	10	91239A700	6.80
4	10	91239A703	8.67
5	50	91239A701	7.11
6	25	91239A704	10.25
8	50	91239A705	7.50
10	50	91239A706	7.74
12	10	91239A707	6.37
16	25	91239A711	9.76
M2.5—Pitch: 0.45 mm★			
3	10	91239A752	7.36
4	25	91239A753	8.30
5	25	91239A754	7.62
6	25	91239A755	7.65
8	25	91239A756	7.67
10	25	91239A757	8.22
12	25	91239A758	10.50
14	25	91239A760	11.90
16	25	91239A762▲	9.43
20	25	91239A764▲	10.12
25	25	91239A769▲	10.71
M3—Pitch: 0.5 mm			
4	25	91239A109	8.50
5	50	91239A110	10.72
6	100	91239A111	6.88
8	100	91239A113	6.43
10	100	91239A115	6.88
12	100	91239A117	8.25
14	100	91239A118	12.38
16	100	91239A120	9.47
20	100	91239A122▲	8.55
25	50	91239A126▲	6.96
30	50	91239A127▲	10.00
M3 (Cont.)			
35	10	91239A128▲	8.80
40	5	91239A129▲	7.00
M4—Pitch: 0.7 mm			
5	50	91239A136	5.77
6	100	91239A138	5.78
8	100	91239A140	9.47
10	100	91239A144	9.47
12	100	91239A148	9.23
14	100	91239A149	12.84
16	100	91239A150	9.63
20	100	91239A152	10.54

★ Dimensions do not meet ISO 7380. ▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

(Continued on following page)

Alloy Steel Button-Head Socket Cap Screws *(Continued from previous page)*

Metric Black-Oxide Class 10.9 Alloy Steel (Cont.)—Dimensions in millimeters

M4—Pitch: 0.7 mm (Cont.)

Lg.	Pkg. Qty.		Pkg.
25	100	91239A154▲	$12.95
30	100	91239A156▲	12.84
35	50	91239A158▲	12.30
40	25	91239A160▲	8.42
50	25	91239A162	10.00

M5—Pitch: 0.8 mm

Lg.	Pkg. Qty.		Pkg.
6	100	91239A220	8.48
8	100	91239A222	11.02
10	100	91239A224	7.93
12	100	91239A228	8.12
14	100	91239A230	11.77
16	100	91239A232	8.82
18	50	91239A241	6.22
20	100	91239A233	10.09
22	50	91239A242	10.87
25	100	91239A234	11.00
30	100	91239A236	12.38
35	50	91239A238▲	10.30
40	10	91239A240▲	4.92
45	10	91239A244▲	4.72
50	10	91239A246	7.00

M6—Pitch: 1 mm

Lg.	Pkg. Qty.		Pkg.
6	50	91239A313	$9.62
8	100	91239A314	7.45
10	100	91239A316	10.14
12	100	91239A318	10.58
14	100	91239A319	9.97
16	100	91239A321	11.46
18	50	91239A323	10.57
20	100	91239A326	12.34
22	50	91239A324	7.38
25	50	91239A327	7.83
30	50	91239A328	9.40
35	25	91239A330▲	7.11
40	25	91239A332▲	7.16
45	25	91239A334▲	8.82
50	25	91239A336▲	11.68
55	10	91239A337▲	6.67
60	5	91239A340▲	2.47
70	10	91239A335	6.51
80	5	91239A338▲	9.91

M8—Pitch: 1.25 mm

Lg.	Pkg. Qty.		Pkg.
8	25	91239A412	15.38
10	25	91239A414	6.90

M8 (Cont.)

Lg.	Pkg. Qty.		Pkg.
12	25	91239A416	$6.72
14	25	91239A417	8.47
16	25	91239A418	6.09
18	25	91239A420	8.17
20	25	91239A426	6.06
25	25	91239A427	6.99
30	25	91239A428	7.91
35	25	91239A438	8.94
40	25	91239A442	9.74
45	10	91239A444▲	4.63
50	25	91239A448▲	10.77
55	10	91239A450▲	8.57
60	10	91239A453▲	8.89
65	10	91239A451	8.21
70	10	91239A455▲	11.15
80	10	91239A457▲	9.75
100	1	91239A459▲	3.00

M10—Pitch: 1.5 mm

Lg.	Pkg. Qty.		Pkg.
12	25	91239A516	13.71
16	25	91239A512	11.56
18	5	91239A511	7.02

M10 (Cont.)

Lg.	Pkg. Qty.		Pkg.
20	25	91239A513	$8.90
25	25	91239A514	10.40
30	25	91239A515	10.95
35	10	91239A518	5.90
40	10	91239A521	6.18
45	10	91239A523▲	7.08
50	5	91239A525▲	4.83
60	5	91239A527	5.83
80	5	91239A529	7.98

M12—Pitch: 1.75 mm

Lg.	Pkg. Qty.		Pkg.
16	5	91239A610	4.50
20	10	91239A612	7.86
25	10	91239A614	6.67
30	10	91239A616	8.27
35	5	91239A618	4.56
40	5	91239A620	5.22
45	5	91239A621	5.73
50	5	91239A622	5.53
60	5	91239A623	6.88
80	5	91239A625	9.56
100	5	91239A627	12.04

Metric High-Visibility Blue Class 10.9 Alloy Steel—Dimensions in millimeters

M3—Pitch: 0.5 mm

Lg.	Pkg. Qty.		Pkg.
8	50	91352A111	9.24
10	50	91352A112	9.28
12	50	91352A113	9.33
16	50	91352A114	9.90
20	50	91352A115	10.50

M4—Pitch: 0.7 mm

Lg.	Pkg. Qty.		Pkg.
8	50	91352A121	10.10
10	50	91352A122	10.16
12	50	91352A123	10.91
16	50	91352A124	11.15
20	50	91352A125	11.67
25	50	91352A126	12.17

M5—Pitch: 0.8 mm

Lg.	Pkg. Qty.		Pkg.
10	50	91352A131	11.67
12	50	91352A132	12.43
16	50	91352A133	13.36
20	50	91352A134	14.10
25	25	91352A135	8.28
30	25	91352A136	9.31

M6—Pitch: 1 mm

Lg.	Pkg. Qty.		Pkg.
10	50	91352A141	9.31
12	50	91352A142	10.59
16	50	91352A143	12.17
20	50	91352A144	13.57

M6 (Cont.)

Lg.	Pkg. Qty.		Pkg.
25	25	91352A145	8.12
30	25	91352A146	9.74
35	25	91352A147	10.35

M8—Pitch: 1.25 mm

Lg.	Pkg. Qty.		Pkg.
10	25	91352A151	8.09
12	25	91352A152	7.95
16	25	91352A153	8.63
20	25	91352A154	10.12
25	25	91352A155	11.58
30	10	91352A156	5.41
35	10	91352A157	6.14
40	10	91352A158	6.80

M10—Pitch: 1.5 mm

Lg.	Pkg. Qty.		Pkg.
16	10	91352A161	5.90
20	10	91352A162	7.02
25	10	91352A163	8.08
30	10	91352A164	8.87
35	10	91352A165	10.10
40	10	91352A166	11.74
50	10	91352A167	13.30

M12—Pitch: 1.75 mm

Lg.	Pkg. Qty.		Pkg.
20	5	91352A171	5.55
25	5	91352A172	6.65
30	5	91352A173	7.17

Metric Zinc-Plated Class 10.9 Alloy Steel—Dimensions in millimeters

M2—Pitch: 0.4 mm★

Lg.	Pkg. Qty.		Pkg.
3	50	91306A651	8.78
4	50	91306A652	9.15
6	50	91306A653	9.35
8	50	91306A654	9.58

M3—Pitch: 0.5 mm

Lg.	Pkg. Qty.		Pkg.
5	100	91306A655	10.80
6	100	91306A656	10.08
8	100	91306A657	9.20
12	100	91306A658	11.28

M4—Pitch: 0.7 mm

Lg.	Pkg. Qty.		Pkg.
6	100	91306A659	9.87
8	100	91306A660	12.04
12	100	91306A661	13.13
16	100	91306A662	13.62
20	100	91306A663	14.30

M5—Pitch: 0.8 mm

Lg.	Pkg. Qty.		Pkg.
6	100	91306A664	12.04
8	100	91306A665	12.18
12	100	91306A666	12.13

M5 (Cont.)

Lg.	Pkg. Qty.		Pkg.
16	100	91306A667	12.39
20	100	91306A668	14.10
25	50	91306A669	7.86

M6—Pitch: 1 mm

Lg.	Pkg. Qty.		Pkg.
8	100	91306A670	11.42
12	50	91306A671	7.38
16	50	91306A672	7.97
20	50	91306A673	8.23
25	50	91306A674	10.54
30	50	91306A675	12.59

M8—Pitch: 1.25 mm

Lg.	Pkg. Qty.		Pkg.
12	25	91306A676	7.25
16	25	91306A677	8.26
20	25	91306A678	8.47
25	25	91306A679	9.76

M10—Pitch: 1.5 mm

Lg.	Pkg. Qty.		Pkg.
16	25	91306A680	12.42
20	25	91306A681	12.31
25	25	91306A682	13.75

▲ Has partial threads. For thread length, go to mcmaster.com and search for the part number. ★ Dimensions do not meet ISO 7380.

Assortments

	Thread Sizes	Screw Lengths	No. of Screws		
Black-Oxide Alloy Steel	6-32, 8-32, 10-32, 1/4"-20, 5/16"-18	3/8" to 1"	300	91930A512	$74.92
Metric Black-Oxide Class 10.9 Alloy Steel	M4, M5, M6, M8	8 mm to 40 mm	250	90115A032	61.63

Torx-Plus Drive Black-Oxide Alloy Steel

Choose a Thread Size	Choose a Screw Length	
4-40, 6-32, 8-32, 10-24, 10-32, 1/4"-20, 5/16"-18, 3/8"-16	1/4", 3/8", 1/2", 5/8", 3/4", 1", 1 1/4"	96452A155

Metric Torx Drive Zinc-Coated Class 8.8 Alloy Steel—Dimensions in millimeters

Choose a Thread Size	Choose a Screw Length	
M2, M2.5, M3, M4, M5, M6	4, 5, 6, 8, 10, 12, 16, 20, 25	92832A200

Brass Button-Head Socket Cap Screws



These screws have a low, smooth, decorative head and are excellent conductors of electricity. They're fully threaded and have a Class 3A thread fit. Minimum Rockwell hardness is B55; minimum tensile strength is 55,000 psi. Screw length is measured from under the head. These screws are not recommended for high-strength fastening.

6-32

Lg.	Pkg. Qty.		Pkg.
1/4"	25	97715A102	$7.67
3/8"	25	97715A103	9.66
1/2"	25	97715A104	10.93

8-32

Lg.	Pkg. Qty.		Pkg.
1/4"	25	97715A141	8.52
3/8"	10	97715A142	4.78
1/2"	10	97715A143	4.79

10-24

Lg.	Pkg. Qty.		Pkg.
1/4"	10	97715A176	$4.83
3/8"	10	97715A177	4.85
1/2"	10	97715A178	4.88

10-32

Lg.	Pkg. Qty.		Pkg.
1/4"	10	97715A213	4.83
3/8"	10	97715A214	4.85
1/2"	10	97715A215	4.88

1/4"-20

Lg.	Pkg. Qty.		Pkg.
3/8"	10	97715A262	$5.92
1/2"	10	97715A263	6.59
5/8"	10	97715A264	7.08
3/4"	10	97715A265	7.66
1"	10	97715A267	8.60

5/16"-18

Lg.	Pkg. Qty.		Pkg.
1/2"	5	97715A303	5.89

5/16"-18 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3/4"	5	97715A304	$6.42
1"	5	97715A305	7.29

3/8"-16

Lg.	Pkg. Qty.		Pkg.
1/2"	5	97715A332	6.93
3/4"	5	97715A333	7.97
1"	5	97715A334	9.06
1 1/2"	5	97715A337	12.01

Flanged Button-Head Socket Cap Screws



A built-in washer keeps the screw head from crushing thin material. Screws are fully threaded, unless noted. Inch sizes have a Class 3A thread fit. Metric sizes have a Class 6g thread fit. Screw length is measured from under the flange. These screws are not recommended for high-strength fastening.

Stainless steel screws have a minimum Rockwell hardness of B70 and a minimum tensile strength of 70,000 psi.

Alloy steel screws have a minimum Rockwell hardness of C32 and a minimum tensile strength of 120,000 psi.

Type 316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
6-32—Flange Dia.: 0.292″			
1/4″	10	90909A511	$7.89
3/8″	10	90909A512	8.99
1/2″	10	90909A513	9.21
8-32—Flange Dia.: 0.357″			
1/4″	25	90909A514	9.59
3/8″	25	90909A515	10.02
1/2″	25	90909A516	10.40
10-24—Flange Dia.: 0.407″			
3/8″	25	90909A517	$10.45
1/2″	25	90909A518	10.85
3/4″	10	90909A519	4.62
1″	10	90909A520	9.42
10-32—Flange Dia.: 0.407″			
3/8″	25	90909A521	10.45
1/2″	25	90909A522	10.85
5/8″	25	90909A523	12.11
10-32 (Cont.)			
3/4″	25	90909A524	$11.53
1″	10	90909A525	9.42
1/4″-20—Flange Dia.: 0.560″			
3/8″	10	90909A526	5.31
1/2″	10	90909A527	6.19
5/8″	10	90909A528	6.99
3/4″	10	90909A529	6.99
1″	10	90909A530	8.77
5/16″-18—Flange Dia.: 0.680″			
1/2″	10	90909A531	$9.20
3/4″	10	90909A532	11.69
1″	10	90909A533	10.99
3/8″-16—Flange Dia.: 0.810″			
3/4″	5	90909A534	9.17
1″	5	90909A535	9.85
1 1/2″	1	90909A536	3.44

18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
4-40—Flange Dia.: 0.240″			
1/4″	10	97654A341	6.03
3/8″	10	97654A342	7.16
1/2″	10	97654A343	7.50
6-32—Flange Dia.: 0.292″			
1/4″	10	97654A344	7.15
3/8″	10	97654A345	8.16
1/2″	10	97654A346	8.35
8-32—Flange Dia.: 0.357″			
1/4″	25	97654A102	8.10
3/8″	25	97654A347	8.95
1/2″	25	97654A104	9.77
3/4″	25	97654A348	9.76
10-24—Flange Dia.: 0.407″			
3/8″	25	97654A141	9.25
1/2″	25	97654A142	9.51
5/8″	25	97654A143	10.99
3/4″	25	97654A144	11.53
1″	10	97654A349	8.15
1 1/2″	10	97654A350▲	9.80
10-32—Flange Dia.: 0.407″			
3/8″	25	97654A172	9.25
1/2″	25	97654A173	9.51
5/8″	25	97654A174	10.99
3/4″	25	97654A175	11.53
1″	10	97654A351	8.15
1 1/2″	10	97654A352▲	9.80
1/4″-20—Flange Dia.: 0.560″			
3/8″	25	97654A261	12.04
1/2″	10	97654A262	5.65
5/8″	10	97654A353	6.05
3/4″	10	97654A264	6.68
7/8″	10	97654A354	6.78
1″	10	97654A265	6.84
1 1/2″	5	97654A355▲	9.02
2″	5	97654A356▲	11.51
5/16″-18—Flange Dia.: 0.680″			
1/2″	10	97654A303	8.34
5/8″	10	97654A304	9.17
5/16″-18 (Cont.)			
3/4″	10	97654A305	9.66
1″	10	97654A306	10.63
1 1/2″	1	97654A357▲	2.98
2″	1	97654A358▲	3.15
3/8″-16—Flange Dia.: 0.810″			
3/4″	5	97654A332	8.33
1″	5	97654A333	8.93
1 1/4″	5	97654A334	10.08
1 1/2″	1	97654A359▲	3.24
1/2″-13—Flange Dia.: 1.150″			
2 1/2″	1	97654A360▲	9.72
3″	1	97654A361▲	11.84

Zinc-Plated Alloy Steel

Lg.	Pkg. Qty.		Pkg.
4-40—Flange Dia.: 0.240″			
1/4″	10	96660A151	6.48
3/8″	10	96660A152	9.42
1/2″	10	96660A153	10.31
6-32—Flange Dia.: 0.292″			
1/4″	10	96660A154	7.95
3/8″	10	96660A155	10.31
1/2″	10	96660A156	10.61
3/4″	10	96660A157	11.49
8-32—Flange Dia.: 0.357″			
1/4″	10	96660A158	8.25
3/8″	10	96660A159	10.90
1/2″	10	96660A160	11.49
3/4″	5	96660A161	6.63
10-24—Flange Dia.: 0.407″			
3/8″	10	96660A162	9.72
1/2″	10	96660A163	10.90
3/4″	5	96660A164	7.22
10-32—Flange Dia.: 0.407″			
1/4″	10	96660A165	9.72
3/8″	10	96660A166	9.72
1/2″	10	96660A167	10.90
3/4″	5	96660A168	7.22
1/4″-20—Flange Dia.: 0.560″			
1/4″	10	96660A169	10.01
3/8″	10	96660A170	10.01
1/2″	10	96660A171	11.20
3/4″	5	96660A172	6.77
1/4″-20 (Cont.)			
1″	5	96660A173	8.10
5/16″-18—Flange Dia.: 0.680″			
1/2″	5	96660A174	6.92
3/4″	5	96660A175	10.16
1″	5	96660A176	10.61
3/8″-16—Flange Dia.: 0.810″			
3/4″	5	96660A177	10.16
1″	5	96660A178	11.20
1 1/2″	5	96660A179	12.67

Black-Oxide Alloy Steel

Lg.	Pkg. Qty.		Pkg.
4-40—Flange Dia.: 0.240″			
1/8″	5	91355A151	6.44
3/16″	10	91355A152	7.36
1/4″	10	91355A153	6.26
5/16″	10	91355A154	7.73
3/8″	10	91355A155	9.20
1/2″	10	91355A156	10.68
6-32—Flange Dia.: 0.292″			
1/8″	5	91355A157	8.29
3/16″	10	91355A158	6.26
1/4″	10	91355A159	4.42
5/16″	10	91355A160	5.15
3/8″	10	91355A161	5.52
1/2″	10	91355A162	6.63
5/8″	10	91355A163	8.10
8-32—Flange Dia.: 0.357″			
3/16″	10	91355A164	9.67
1/4″	50	91355A072	13.75
5/16″	10	91355A165	8.10
3/8″	25	91355A074	7.07
8-32 (Cont.)			
1/2″	25	91355A075	7.13
5/8″	10	91355A166	5.15
3/4″	10	91355A167	5.89
1″	10	91355A168	7.36
10-24—Flange Dia.: 0.407″			
1/4″	10	91355A169	9.29
3/8″	50	91355A100	14.03
1/2″	25	91355A110	7.12
5/8″	25	91355A120	8.39
3/4″	25	91355A130	8.97
1″	10	91355A170	6.40
10-32—Flange Dia.: 0.407″			
1/4″	10	91355A171	7.58
5/16″	10	91355A172	6.63
3/8″	50	91355A076	14.03
1/2″	25	91355A077	7.12
5/8″	25	91355A078	8.06
3/4″	25	91355A079	8.97
1″	10	91355A173	6.63
10-32 (Cont.)			
1 1/2″	10	91355A174	9.02
2″	5	91355A175	7.03
1/4″-20—Flange Dia.: 0.560″			
1/4″	10	91355A176	10.31
5/16″	10	91355A177	8.89
3/8″	25	91355A080	7.85
1/2″	25	91355A081	8.10
5/8″	10	91355A178	7.22
3/4″	25	91355A082	8.10
7/8″	10	91355A179	7.82
1″	25	91355A083	9.93
1 1/2″	5	91355A180	6.22
2″	5	91355A181	8.05
2 1/2″	1	91355A182	2.41
3″	1	91355A183	2.90
1/4″-28—Flange Dia.: 0.560″			
1/4″	10	91355A184	9.72
1/2″	10	91355A185	8.40
1/4″-28 (Cont.)			
3/4″	10	91355A186	9.16
1″	10	91355A187	9.96
5/16″-18—Flange Dia.: 0.680″			
3/8″	25	91355A084	9.71
1/2″	25	91355A085	9.90
5/8″	25	91355A093	11.45
3/4″	25	91355A086	10.94
7/8″	10	91355A188	7.73
1″	25	91355A087	12.16
1 1/2″	5	91355A189	6.44
2″	5	91355A190	9.67
3/8″-16—Flange Dia.: 0.810″			
1/2″	10	91355A088	5.36
5/8″	10	91355A191	11.12
3/4″	10	91355A089	6.67
1″	10	91355A090	6.86
1 1/4″	10	91355A091	7.56
1 1/2″	5	91355A192	8.59
2″	5	91355A193	12.89

Metric 18-8 Stainless Steel—Dimensions in millimeters

Lg.	Pkg. Qty.		Pkg.
M4—Pitch: 0.7 mm; Flange Dia.: 9.4 mm			
6	10	97654A371	6.38
8	10	97654A372	6.51
10	10	97654A373	6.63
12	10	97654A374	6.76
M5—Pitch: 0.8 mm; Flange Dia.: 11.6 mm			
8	25	97654A375	9.09
10	25	97654A376	9.58
12	25	97654A377	10.09
M6—Pitch: 1 mm; Flange Dia.: 13.6 mm			
8	10	97654A378	4.73
10	10	97654A379	4.86
12	10	97654A380	6.06
16	10	97654A381	6.40
20	10	97654A382	6.74
M8—Pitch: 1.25 mm; Flange Dia.: 17.8 mm			
16	10	97654A383	10.32
20	10	97654A384	10.69
25	10	97654A385	10.84
30	5	97654A386	8.75

Metric Black-Oxide Class 10.9 Alloy Steel—Dimensions in millimeters

Lg.	Pkg. Qty.		Pkg.
M3—Pitch: 0.5 mm; Flange Dia.: 7 mm			
8	25	92137A250	9.59
10	50	92137A252	8.50
12	50	92137A254	8.89
16	50	92137A258	9.49
20	10	92137A262	6.29
M4—Pitch: 0.7 mm; Flange Dia.: 9.4 mm			
6	25	92137A301	9.59
8	25	92137A303	7.21
10	25	92137A305	7.80
12	25	92137A307	8.99
16	25	92137A311	9.10
M4 (Cont.)			
20	25	92137A315	9.19
25	25	92137A320	11.37
30	10	92137A325	6.47
M5—Pitch: 0.8 mm; Flange Dia.: 11.6 mm			
8	25	92137A412	5.93
M5 (Cont.)			
10	25	92137A414	7.31
12	25	92137A416	7.41
16	25	92137A420	7.51
20	25	92137A424	7.90
25	25	92137A429	9.98

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

(Continued on following page)

Flanged Button-Head Socket Cap Screws *(Continued from previous page)*

Metric Black-Oxide Class 10.9 Alloy Steel (Cont.)—Dimensions in millimeters

M6—Pitch: 1 mm; Flange Dia.: 13.6 mm

Lg.	Pkg. Qty.		Pkg.
8	25	92137A523	$6.81
10	25	92137A525	6.92
12	25	92137A527	7.01
16	25	92137A531	8.89
20	25	92137A535	11.66
25	25	92137A540	11.75

M6 (Cont.)

Lg.	Pkg. Qty.		Pkg.
30	25	92137A545	$11.96
35	25	92137A550	12.05
40	25	92137A555	12.74

M8—Pitch: 1.25 mm; Flange Dia.: 17.8 mm

Lg.	Pkg. Qty.		Pkg.
10	25	92137A634	10.77
12	25	92137A636	12.74

M8 (Cont.)

Lg.	Pkg. Qty.		Pkg.
16	10	92137A640	$7.39
20	10	92137A644	8.97
25	5	92137A649	7.57
30	5	92137A654	8.24
35	5	92137A659	8.44
40	5	92137A664	8.63

M10—Pitch: 1.5 mm; Flange Dia.: 22 mm

Lg.	Pkg. Qty.		Pkg.
16	5	92137A746	$7.84
20	5	92137A750	8.04
30	5	92137A755	8.63
35	5	92137A760	9.82

Tamper-Resistant Button-Head Socket Cap Screws

Difficult to remove without special tools, use these screws in public spaces to add safety and security. *18-8 stainless steel* have a minimum Rockwell hardness of B70 and a minimum tensile strength of 70,000 psi. *Black-oxide alloy steel* have a minimum Rockwell hardness of C38 and a minimum tensile strength of 135,000 psi. Screws are fully threaded, unless noted. Length is measured from under the head. These screws are not recommended for high-strength fastening.

Pin-in-Torx—Use with the tamper-resistant Torx drivers and bits on pages 2814 and 2819. Thread fit is Class 3A.

Pin-in-Hex—Use with the tamper-resistant hex drivers and bits on pages 2811 and 2820. Thread fit is Class 3A.

High Security—Have a unique drive that is sold only by McMaster-Carr. Thread fit is Class 2A. Use with the driver bits sold separately, below.

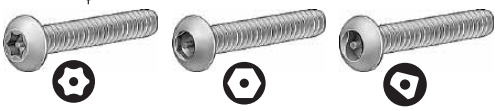

Pin-in-Torx Drive | Pin-in-Hex Drive | High-Security Drive

Pin-in-Torx Drive—18-8 Stainless Steel

4-40

Lg.	Pkg. Qty.		Pkg.
1/4"	25	91900A106	$9.03
3/8"	25	91900A834	8.30
1/2"	25	91900A110	9.66

6-32

Lg.	Pkg. Qty.		Pkg.
1/4"	25	91900A144	7.76
3/8"	25	91900A146	8.13
1/2"	25	91900A148	8.53
3/4"	25	91900A151	8.97
1"	25	91900A153	9.46

8-32

Lg.	Pkg. Qty.		Pkg.
1/4"	25	91900A835	6.89
3/8"	25	91900A192	8.49
1/2"	25	91900A194	8.48

8-32 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3/4"	25	91900A197	$9.14
1"	25	91900A199	9.19
1 1/4"	25	91900A836▲	9.62

10-24

Lg.	Pkg. Qty.		Pkg.
1/4"	25	91900A837	6.83
3/8"	25	91900A838	6.99
1/2"	25	91900A242	12.73
5/8"	25	91900A839	8.41
3/4"	25	91900A245	13.55
1"	25	91900A247	14.07
1 1/4"	10	91900A249	7.50
1 1/2"	10	91900A841▲	6.44

10-32

Lg.	Pkg. Qty.		Pkg.
3/8"	10	91900A827	$5.73
1/2"	25	91900A829	12.73
5/8"	25	91900A842	8.41
3/4"	25	91900A831	13.55
1"	25	91900A833	14.07
1 1/4"	10	91900A843▲	5.58
1 1/2"	10	91900A844▲	6.04

1/4"-20

Lg.	Pkg. Qty.		Pkg.
1/2"	10	91900A537	6.67
5/8"	10	91900A845	4.61
3/4"	10	91900A540	7.10
1"	10	91900A542	7.88

1/4"-20 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1 1/4"	10	91900A544	$9.68
1 1/2"	10	91900A546	9.68
2"	5	91900A549	5.93

5/16"-18

Lg.	Pkg. Qty.		Pkg.
3/4"	5	91900A605	6.51
1"	5	91900A608	6.79
1 1/4"	5	91900A611	7.61
1 1/2"	5	91900A614	6.31

3/8"-16

Lg.	Pkg. Qty.		Pkg.
3/4"	5	91900A650	6.45
1"	5	91900A653	7.69
1 1/4"	5	91900A656	8.11
1 1/2"	5	91900A659	8.50

Pin-in-Torx Drive—Black-Oxide Alloy Steel

6-32

Lg.	Pkg. Qty.		Pkg.
3/8"	50	96075A111	13.63
1/2"	25	96075A115	7.08
1"	25	96075A123	7.48

8-32

Lg.	Pkg. Qty.		Pkg.
3/8"	50	96075A135	13.75
1/2"	25	96075A139	7.16
3/4"	25	96075A143	7.33

8-32 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1"	25	96075A147	7.56
1 1/2"	25	96075A155	9.30

10-24

Lg.	Pkg. Qty.		Pkg.
1/2"	50	96075A163	14.00
3/4"	25	96075A167	7.56

10-24 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1"	25	96075A171	7.68
1 1/2"	25	96075A179	9.30

10-32

Lg.	Pkg. Qty.		Pkg.
3/8"	25	96075A183	7.19
1/2"	25	96075A187	7.22
3/4"	25	96075A191	7.56

10-32 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1"	25	96075A195	7.68
1 1/2"	25	96075A203	8.55

1/4"-20

Lg.	Pkg. Qty.		Pkg.
3/8"	25	96075A207	8.96
1/2"	25	96075A211	9.18
3/4"	25	96075A219	9.52
1"	25	96075A223	9.56
1 1/2"	25	96075A231	11.37

Pin-in-Hex Drive—18-8 Stainless Steel

6-32

Lg.	Pkg. Qty.		Pkg.
1/2"	25	95635A339	9.73
3/4"	25	95635A347	9.93

8-32

Lg.	Pkg. Qty.		Pkg.
1/2"	25	95635A375	9.84
3/4"	25	95635A383	10.17
1"	25	95635A387	11.02
1 1/2"	25	95635A391	11.41

10-24

Lg.	Pkg. Qty.		Pkg.
3/8"	25	95635A240	9.43
1/2"	25	95635A242	9.56

10-24 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3/4"	25	95635A245	9.87
1"	25	95635A403	10.50

10-32

Lg.	Pkg. Qty.		Pkg.
1/4"	25	95635A415	6.62
3/8"	25	95635A417	6.94
1/2"	25	95635A419	9.56
3/4"	25	95635A427	9.87
1"	25	95635A431	10.50

1/4"-20

Lg.	Pkg. Qty.		Pkg.
1/2"	25	95635A537	11.45
5/8"	10	95635A539	5.32
3/4"	10	95635A540	5.38
1"	10	95635A542	5.46
1 1/4"	10	95635A547	5.98
1 1/2"	10	95635A551	6.27
2"	10	95635A553▲	7.42

5/16"-18

Lg.	Pkg. Qty.		Pkg.
3/4"	10	95635A567	10.29
1"	10	95635A571	10.47

5/16"-18 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1 1/4"	5	95635A573▲	5.64
1 1/2"	5	95635A576▲	6.27
2"	5	95635A579▲	7.04

3/8"-16

Lg.	Pkg. Qty.		Pkg.
3/4"	5	95635A595	7.35
1"	5	95635A599	7.57
1 1/4"	5	95635A602	7.14
1 1/2"	5	95635A607	8.47

Pin-in-Hex Drive—Black-Oxide Alloy Steel

8-32

Lg.	Pkg. Qty.		Pkg.
3/8"	50	90484A137	14.44
1/2"	25	90484A139	7.70
3/4"	25	90484A143	7.87
1"	25	90484A145	7.85

10-24

Lg.	Pkg. Qty.		Pkg.
3/8"	25	90484A240	7.70
1/2"	25	90484A242	7.75

10-24 (Cont.)

Lg.	Pkg. Qty.		Pkg.
5/8"	25	90484A244	7.87
3/4"	25	90484A245	7.94
1"	25	90484A247	8.06

10-32

Lg.	Pkg. Qty.		Pkg.
1/2"	25	90484A257	7.76
3/4"	25	90484A261	7.94
1"	25	90484A263	8.06

12-24

Lg.	Pkg. Qty.		Pkg.
1/2"	25	90484A269	8.61

1/4"-20

Lg.	Pkg. Qty.		Pkg.
3/8"	25	90484A535	9.41
1/2"	25	90484A537	9.63
5/8"	25	90484A539	9.82
3/4"	25	90484A540	10.00
1"	25	90484A542	10.04

1/4"-20 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1 1/2"	25	90484A547	11.94

5/16"-18

Lg.	Pkg. Qty.		Pkg.
3/4"	10	90484A555	8.53
1"	10	90484A557	8.95

3/8"-16

Lg.	Pkg. Qty.		Pkg.
3/4"	10	90484A569	9.73
1"	10	90484A571	10.22

High-Security Drive—18-8 Stainless Steel

6-32—U10 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	5	99355A120	9.00
1"	5	99355A129	9.80

8-32—U10 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	5	99355A145	9.00
3/4"	5	99355A148	9.20
1"	5	99355A151	9.80

10-24—U10 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	5	99355A210	9.20
1"	5	99355A219	10.00
1 1/4"	5	99355A222	10.60
1 1/2"	5	99355A225	11.00

10-32—U10 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	5	99355A250	9.20
3/4"	5	99355A256	9.60
1"	5	99355A259	10.00
1 1/4"	5	99355A262	10.60
1 1/2"	5	99355A265	11.00

1/4"-20—U25 Drive

Lg.	Pkg. Qty.		Pkg.
1/2"	5	99355A305	11.20
3/4"	5	99355A311	12.00
1"	5	99355A314	12.40
1 1/4"	5	99355A317	13.00
1 1/2"	5	99355A320	13.60

U10 Driver Bit	99355A623	$20.59
U25 Driver Bit	99355A624	20.59

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

About Cap Screws and Bolts

Choosing a Style

Cap screws and bolts for general-purpose fastening are listed here. For machine T-slot bolts, T-handle bolts, hold-down bolts, anchor bolts, and hanger bolts, see pages 3180-3181.

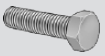

Hex Head Cap Screws (pages 3145-3170)

Fully threaded screws can be screwed all the way into a threaded or tapped hole. They are also known as tap bolts.

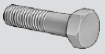

Partially threaded screws have an unthreaded portion under the head that adds strength but prevents them from being screwed all the way into a threaded hole.

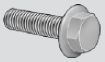

Flange Head Screws (pages 3170-3174)

A built-in washer covers oversized holes and distributes the load to reduce stress at the connection point.

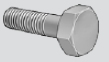

Heavy Hex Head Bolts (pages 3176-3177)

The wide head distributes the load and a precise unthreaded portion matches the thickness of the material being fastened.



Square Head Bolts (page 3177)

A square head provides more contact with a wrench than a hex head for a secure grip while tightening nuts.

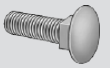

Carriage, Plow & Elevator Bolts (pages 3178-3179)

A square or ribbed neck keeps these bolts from turning when tightening a nut.

Comparing Materials by Strength and Corrosion Resistance

Use the chart below as a guide to understanding the relative strength and corrosion resistance of the screws and bolts we offer.

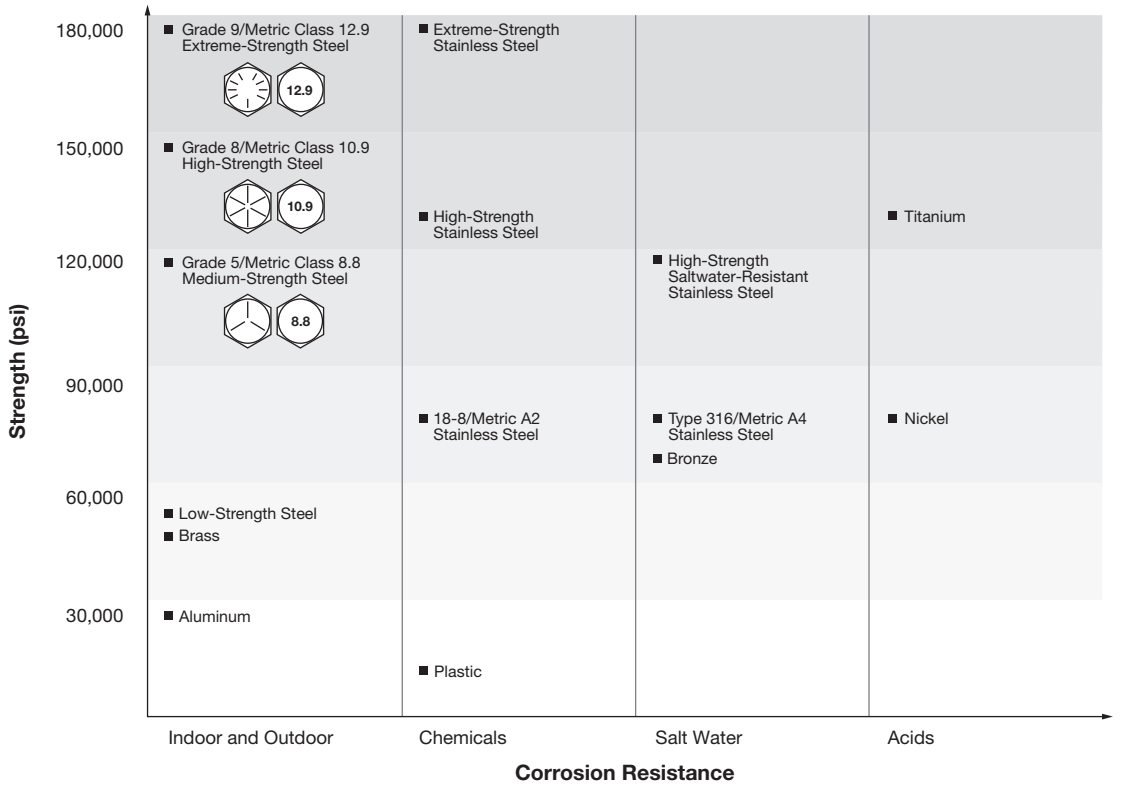

Other Material Properties to Consider

Steel is magnetic.

Stainless Steel may be mildly magnetic. 18-8 stainless steel includes Types 301, 302, 303, and 304.

Nickel may be mildly magnetic.

Brass and **Bronze** are nonmagnetic and conduct electricity.

Aluminum is extremely lightweight—it's 70% lighter than steel.

Titanium has a high strength-to-weight ratio. It's comparable in strength to medium-strength (Grade 5) steel, yet 40% lighter.

Plastic is nonconductive.

Decimal Equivalents for Inch and Metric Screw and Bolt Sizes

Inch Screw Size	No. 4	No. 6	No. 8	No. 10	1/4″	5/16″	3/8″	7/16″	1/2″	9/16″	5/8″	3/4″	7/8″	1″	2″
Decimal Size	0.112″	0.138″	0.164″	0.190″	0.250″	0.312″	0.375″	0.437″	0.500″	0.562″	0.625″	0.750″	0.875″	1.000″	2.000″

Metric Screw Size	M3	M4	M5	M6	M7	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30
Decimal Size	0.118″	0.157″	0.197″	0.236″	0.275″	0.315″	0.394″	0.472″	0.551″	0.630″	0.708″	0.787″	0.866″	0.945″	1.063″	1.181″

Extreme-Strength Steel Cap Screws—Grade 9

With a hefty head that's 20% taller than a standard cap screw head and a minimum tensile strength of 180,000 psi, these are our strongest cap screws. They are made from alloy steel with a zinc yellow-chromate plating for rust resistance. All have nine radial markings to indicate Grade 9. They have a minimum Rockwell hardness of C38 and a Class 2A thread fit. Length is measured from under the head.

For nuts, see page 3207; for washers, see page 3245.

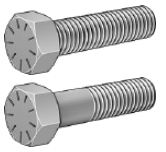

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4"-20—Head: Wd. 7/16", Ht. 3/16"				
1/2"	Full	25	90201A109	$9.57
3/4"	Full	25	90201A111	9.62
1"	Full	25	90201A113	9.82
1 1/4"	3/4" to 1"	25	90201A115	11.34
1 1/2"	3/4" to 1"	25	90201A117	12.22
2"	3/4" to 1"	25	90201A119	14.10
2 1/2"	3/4" to 1"	10	90201A121	5.89
3"	3/4" to 1"	10	90201A122	7.26
5/16"-18—Head: Wd. 1/2", Ht. 15/64"				
1/2"	Full	25	90201A222	9.23
3/4"	Full	25	90201A219	11.43
1"	Full	25	90201A221	12.69
1 1/4"	Full	25	90201A225	13.07
1 1/2"	7/8" to 1 3/16"	10	90201A228	6.16
2"	7/8" to 1 3/16"	10	90201A230	7.08
2 1/2"	7/8" to 1 3/16"	10	90201A231	8.01
3"	7/8" to 1 3/16"	10	90201A232	8.69
3/8"-16—Head: Wd. 9/16", Ht. 9/32"				
3/4"	Full	10	90201A312	7.21
1"	Full	10	90201A314	7.75
1 1/4"	Full	10	90201A316	7.95
1 1/2"	1" to 1 5/16"	10	90201A319	8.78
1 3/4"	1" to 1 5/16"	10	90201A321	9.21
2"	1" to 1 5/16"	10	90201A323	9.70
2 1/4"	1" to 1 5/16"	10	90201A324	11.37
2 1/2"	1" to 1 5/16"	10	90201A327	11.54
3"	1" to 1 5/16"	5	90201A331	7.28
3 1/2"	1" to 1 5/16"	5	90201A333	10.48
4"	1" to 1 5/16"	1	90201A336	2.88
3/8"-16 (Cont.)				
4 1/2"	1" to 1 5/16"	1	90201A339	$3.12
5"	1" to 1 5/16"	1	90201A342	3.39
6"	1" to 1 5/16"	1	90201A345	4.21
7/16"-14—Head: Wd. 5/8", Ht. 21/64"				
1 1/2"	Full	5	90201A360	7.54
2"	1 1/8" to 1 1/2"	5	90201A363	7.98
3"	1 1/8" to 1 1/2"	5	90201A366	10.09
4"	1 1/8" to 1 1/2"	1	90201A369	2.91
1/2"-13—Head: Wd. 3/4", Ht. 3/8"				
1"	Full	5	90201A415	6.30
1 1/4"	Full	5	90201A416	8.34
1 1/2"	Full	5	90201A418	8.77
1 3/4"	Full	5	90201A423	9.38
2"	1 1/4" to 1 11/16"	5	90201A426	10.38
2 1/2"	1 1/4" to 1 11/16"	5	90201A429	11.82
3"	1 1/4" to 1 11/16"	5	90201A433	13.49
3 1/2"	1 1/4" to 1 11/16"	1	90201A437	3.20
4"	1 1/4" to 1 11/16"	1	90201A440	3.71
4 1/2"	1 1/4" to 1 11/16"	1	90201A443	4.91
5"	1 1/4" to 1 11/16"	1	90201A446	5.47
6"	1 1/4" to 1 11/16"	1	90201A449	7.67
5/8"-11—Head: Wd. 15/16", Ht. 15/32"				
1 1/2"	Full	1	90201A525	3.15
1 3/4"	Full	1	90201A527	3.22
2"	Full	1	90201A531	3.34
2 1/4"	1 1/2" to 2"	1	90201A535	3.61
2 1/2"	1 1/2" to 2"	1	90201A536	3.85
2 3/4"	1 1/2" to 2"	1	90201A537	4.00
5/8"-11 (Cont.)				
3"	1 1/2" to 2"	1	90201A539	$4.44
3 1/2"	1 1/2" to 2"	1	90201A541	4.60
4"	1 1/2" to 2"	1	90201A544	5.91
4 1/2"	1 1/2" to 2"	1	90201A547	7.24
5"	1 1/2" to 2"	1	90201A550	7.68
6"	1 1/2" to 2"	1	90201A553	7.75
3/4"-10—Head: Wd. 1 1/8", Ht. 9/16"				
1 1/2"	Full	1	90201A638	4.18
2"	Full	1	90201A640	5.88
2 1/4"	Full	1	90201A642	6.15
2 1/2"	Full	1	90201A644	6.63
2 3/4"	1 3/4" to 2 1/4"	1	90201A646	7.04
3"	1 3/4" to 2 1/4"	1	90201A648	7.53
3 1/2"	1 3/4" to 2 1/4"	1	90201A651	7.82
4"	1 3/4" to 2 1/4"	1	90201A654	9.08
4 1/2"	1 3/4" to 2 1/4"	1	90201A657	10.37
5"	1 3/4" to 2 1/4"	1	90201A660	11.25
5 1/2"	1 3/4" to 2 1/4"	1	90201A663	12.55
6"	1 3/4" to 2 1/4"	1	90201A667	14.28
7"	2" to 2 1/2"	1	90201A670	16.24
8"	2" to 2 1/2"	1	90201A674	24.62
10"	2" to 2 1/2"	1	90201A678	31.88
1"-8—Head: Wd. 1 1/2", Ht. 3/4"				
2"	Full	1	90201A681	8.62
3"	Full	1	90201A682	10.85
4"	1 1/8" to 1 3/4"	1	90201A683	14.50
5"	2 1/8" to 2 3/4"	1	90201A684	18.81
6"	3 1/8" to 3 3/4"	1	90201A685	20.16

High-Strength Steel Cap Screws—Grade 8

The standard for high-strength cap screws, these are made from alloy steel and are marked on the head with six radial lines to indicate Grade 8. Screws have a minimum tensile strength of 150,000 psi, a minimum Rockwell hardness of C33, and a Class 2A thread fit. They also meet ASME B18.2.1 and SAE J429, unless noted. Length is measured from under the head.

Zinc yellow-chromate plated screws are rust resistant.

Uncoated screws have a dark surface color.



Lg.	Thread Lg.	Pkg. Qty.		Pkg.
Zinc Yellow-Chromate Plated				
4-40—Head: Wd. 3/16", Ht. 1/16"				
1/4"	Full	25	92620A401	$11.00
3/8"	Full	25	92620A402	11.25
1/2"	Full	25	92620A403	11.50
6-32—Head: Wd. 1/4", Ht. 3/32"				
3/8"	Full	25	92620A404	11.00
1/2"	Full	25	92620A405	11.25
3/4"	Full	25	92620A406	11.50
8-32—Head: Wd. 1/4", Ht. 7/64"				
3/8"	Full	25	92620A407	11.25
1/2"	Full	25	92620A408	11.50
3/4"	Full	25	92620A409	11.75
10-24—Head: Wd. 5/16", Ht. 1/8"				
3/8"	Full	25	92620A411	11.50
1/2"	Full	25	92620A412	11.75
3/4"	Full	25	92620A413	12.00
1"	Full	25	92620A414	12.25
10-32—Head: Wd. 5/16", Ht. 1/8"				
3/8"	Full	25	92620A415	11.50
1/2"	Full	25	92620A416	11.75
3/4"	Full	25	92620A417	12.00
1"	Full	25	92620A418	12.25
1/4"-20—Head: Wd. 7/16", Ht. 11/64"				
3/8"	Full	100	92620A535	12.30
1/2"	Full	100	92620A537	11.73
5/8"	Full	100	92620A539	11.85
3/4"	Full	100	92620A540	12.01
7/8"	Full	100	92620A541	11.90
1"	Full	100	92620A542	11.92
1 1/8"	Full	10	92620A545	3.03
1 1/4"	Full	25	92620A544	8.83
1 1/4"	3/4" to 1"	100	91257A544	12.46
1 3/8"	3/4" to 1"	25	91257A535	11.96
1/4"-20 (Cont.)				
1 1/2"	Full	25	92620A546	$10.49
1 1/2"	3/4" to 1"	50	91257A546	7.60
1 5/8"	3/4" to 1"	25	91257A549	12.53
1 3/4"	Full	25	92620A548	11.88
1 3/4"	3/4" to 1"	50	91257A548	11.14
2"	Full	10	92620A550	7.78
2"	3/4" to 1"	50	91257A550	9.66
2 1/4"	Full	25	92620A551	9.81
2 1/4"	3/4" to 1"	50	91257A551	10.06
2 1/2"	Full	10	92620A552	7.27
2 1/2"	3/4" to 1"	50	91257A552	12.11
2 3/4"	3/4" to 1"	25	91257A553	9.34
3"	Full	1	92620A553	2.96
3"	3/4" to 1"	25	91257A554	9.79
3 1/4"	3/4" to 1"	25	91257A555	10.23
3 1/2"	Full	1	92620A554	3.09
3 1/2"	3/4" to 1"	25	91257A556	10.68
3 3/4"	3/4" to 1"	25	91257A557	12.87
4"	Full	1	92620A555	3.29
4"	3/4" to 1"	10	91257A558	4.96
4 1/4"	3/4" to 1"	5	91257A103	8.36
4 1/2"	Full	1	92620A556	3.44
4 1/2"	3/4" to 1"	10	91257A559	6.88
4 3/4"	3/4" to 1"	5	91257A105	9.33
5"	Full	1	92620A557	3.73
5"	3/4" to 1"	10	91257A560	8.22
5 1/4"	3/4" to 1"	5	91257A107	9.92
5 1/2"	Full	1	92620A558	4.38
5 1/2"	3/4" to 1"	5	91257A561	5.83
6"	Full	1	92620A559	4.70
6"	3/4" to 1"	10	91257A562	8.29
1/4"-20 (Cont.)				
6 1/2"	1" to 1 1/4"	5	91257A563	$12.08
7"	1" to 1 1/4"	5	91257A411	10.23
7 1/2"	1" to 1 1/4"	5	91257A413	12.86
8"	1" to 1 1/4"	5	91257A415	11.14
9"	1" to 1 1/4"	1	91257A416	5.68
10"	1" to 3"	1	91257A418	5.90
12"	1" to 3"	1	91257A420	7.06
1/4"-28—Head: Wd. 7/16", Ht. 11/64"				
1/2"	Full	100	92620A562	12.90
5/8"	Full	100	92620A538	8.73
3/4"	Full	100	92620A563	12.69
7/8"	Full	100	92620A565	11.54
1"	Full	50	92620A564	8.52
1 1/8"	Full	5	92620A701	13.46
1 1/4"	Full	5	92620A572	14.56
1 1/4"	3/4" to 1"	50	91257A565	9.93
1 3/8"	3/4" to 1"	25	91257A112	13.11
1 1/2"	Full	1	92620A566	2.93
1 1/2"	3/4" to 1"	50	91257A566	11.18
1 3/4"	3/4" to 1"	50	91257A567	14.75
2"	Full	1	92620A567	3.00
2"	3/4" to 1"	25	91257A568	14.43
2 1/4"	3/4" to 1"	25	91257A572	8.75
2 1/2"	Full	1	92620A568	4.03
2 1/2"	3/4" to 1"	25	91257A569	9.29
2 3/4"	3/4" to 1"	25	91257A573	12.72
3"	Full	1	92620A569	4.42
3"	3/4" to 1"	25	91257A570	11.76
3 1/4"	3/4" to 1"	10	91257A574	7.44
3 1/2"	Full	1	92620A570	4.54
3 1/2"	3/4" to 1"	10	91257A575	8.07

(Continued on following page)

High-Strength Steel Cap Screws—Grade 8 *(Continued from previous page)*



The standard for high-strength cap screws, these are made from alloy steel and are marked on the head with six radial lines to indicate Grade 8. Screws have a minimum tensile strength of 150,000 psi, a minimum Rockwell hardness of C33, and a Class 2A thread fit. They also meet ASME B18.2.1 and SAE J429, unless noted. Length is measured from under the head.

Zinc yellow-chromate plated screws are rust resistant.

Uncoated screws have a dark surface color.

Zinc Yellow-Chromate Plated (Cont.)

1/4"-28—Head: Wd. 7/16", Ht. 11/64" (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3 3/4"	3/4" to 1"	10	91257A576	$7.10
4"	Full	1	92620A571	4.92
4"	3/4" to 1"	10	91257A571	6.46
4 1/2"	3/4" to 1"	5	91257A577	6.43
5"	3/4" to 1"	5	91257A421	7.99
5 1/2"	3/4" to 1"	5	91257A422	6.17
6"	3/4" to 1"	5	91257A423	8.81
6 1/2"	1" to 1 1/4"	5	91257A424	10.12
7"	1" to 1 1/4"	5	91257A426	11.50
7 1/2"	1" to 1 1/4"	5	91257A428	12.22
8"	1" to 1 1/4"	1	91257A430	2.80

5/16"-18—Head: Wd. 1/2", Ht. 7/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/2"	Full	50	92620A578	7.92
5/8"	Full	50	92620A579	8.58
3/4"	Full	50	92620A581	8.61
7/8"	Full	50	92620A582	9.83
1"	Full	50	92620A583	10.07
1 1/4"	Full	50	92620A585	10.11
1 3/8"	7/8" to 1 3/16"	25	91257A585	12.54
1 1/2"	Full	10	92620A587	7.25
1 1/2"	7/8" to 1 3/16"	50	91257A587	11.49
1 5/8"	7/8" to 1 3/16"	25	91257A588	13.11
1 3/4"	Full	10	92620A589	6.32
1 3/4"	7/8" to 1 3/16"	50	91257A589	12.29
2"	Full	10	92620A591	8.84
2"	7/8" to 1 3/16"	50	91257A591	13.41
2 1/4"	Full	25	92620A301	11.43
2 1/4"	7/8" to 1 3/16"	25	91257A592	8.07
2 1/2"	Full	10	92620A593	14.69
2 1/2"	7/8" to 1 3/16"	25	91257A593	8.62
2 3/4"	7/8" to 1 3/16"	25	91257A596	9.59
3"	Full	5	92620A595	5.38
3"	7/8" to 1 3/16"	25	91257A595	11.13
3 1/4"	7/8" to 1 3/16"	25	91257A594	12.14
3 1/2"	Full	5	92620A596	13.18
3 1/2"	7/8" to 1 3/16"	10	91257A597	6.72
3 3/4"	7/8" to 1 3/16"	10	91257A599	7.33
4"	Full	5	92620A597	14.65
4"	7/8" to 1 3/16"	10	91257A598	7.63
4 1/4"	7/8" to 1 3/16"	5	91257A607	8.48
4 1/2"	Full	5	92620A598	14.60
4 1/2"	7/8" to 1 3/16"	10	91257A600	10.62
4 3/4"	7/8" to 1 3/16"	5	91257A116	9.79
5"	Full	1	92620A599	3.91
5"	7/8" to 1 3/16"	5	91257A603	6.81
5 1/4"	7/8" to 1 3/16"	5	91257A118	11.05
5 1/2"	Full	1	92620A600	4.02
5 1/2"	7/8" to 1 3/16"	5	91257A601	6.94
5 3/4"	7/8" to 1 3/16"	5	91257A120	11.55
6"	Full	1	92620A601	4.54
6"	7/8" to 1 3/16"	5	91257A602	7.48
6 1/2"	1 1/8" to 1 7/16"	5	91257A604	10.40
7"	1 1/8" to 1 7/16"	5	91257A605	11.26
7 1/2"	1 1/8" to 1 7/16"	1	91257A606	2.35
8"	1 1/8" to 1 7/16"	1	91257A435	1.55
9"	1 1/8" to 1 7/16"	1	91257A122	6.53
10"	1 1/8" to 3"	1	91257A126	6.70
12"	1 1/8" to 3"	1	91257A130	8.08

5/16"-24—Head: Wd. 1/2", Ht. 7/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/2"	Full	50	92620A605	9.56
5/8"	Full	50	92620A609	10.21
3/4"	Full	50	92620A606	10.70
7/8"	Full	50	92620A610	10.80
1"	Full	50	92620A607	11.74
1 1/4"	Full	50	92620A608	13.22
1 1/2"	Full	1	92620A611	3.66
1 1/2"	7/8" to 1 3/16"	25	91257A609	10.13
1 3/4"	Full	1	92620A305	3.77
1 3/4"	7/8" to 1 3/16"	25	91257A610	11.07
2"	Full	1	92620A612	4.14
2"	7/8" to 1 3/16"	25	91257A611	12.45

5/16"-24 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2 1/4"	7/8" to 1 3/16"	25	91257A614	$13.00
2 1/2"	Full	1	92620A613	4.18
2 1/2"	7/8" to 1 3/16"	25	91257A612	12.47
2 3/4"	7/8" to 1 3/16"	10	91257A615	6.44
3"	Full	1	92620A614	4.65
3"	7/8" to 1 3/16"	10	91257A613	6.80
3 1/4"	7/8" to 1 3/16"	10	91257A616	7.62
3 1/2"	Full	1	92620A615	4.69
3 1/2"	7/8" to 1 3/16"	10	91257A617	8.10
4"	Full	1	92620A616	5.11
4"	7/8" to 1 3/16"	10	91257A441	9.93
4 1/2"	7/8" to 1 3/16"	5	91257A443	6.15
5"	7/8" to 1 3/16"	5	91257A445	8.93
5 1/2"	7/8" to 1 3/16"	5	91257A447	9.02
6"	7/8" to 1 3/16"	5	91257A449	13.09
6 1/2"	1 1/8" to 1 7/16"	1	91257A451	2.11
7"	1 1/8" to 1 7/16"	1	91257A453	2.89
8"	1 1/8" to 1 7/16"	1	91257A455	2.54

3/8"-16—Head: Wd. 9/16", Ht. 1/4"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/2"	Full	50	92620A619	12.12
5/8"	Full	50	92620A621	11.19
3/4"	Full	50	92620A622	11.29
7/8"	Full	25	92620A623	7.85
1"	Full	25	92620A624	7.87
1 1/8"	Full	10	92620A637	14.69
1 1/4"	Full	25	92620A626	8.13
1 3/8"	Full	5	92620A627	8.11
1 1/2"	Full	10	92620A628	8.39
1 1/2"	1" to 1 5/16"	50	91257A628	13.04
1 3/4"	Full	10	92620A630	10.77
1 3/4"	1" to 1 5/16"	25	91257A630	7.87
2"	Full	10	92620A632	11.50
2"	1" to 1 5/16"	25	91257A632	9.02
2 1/4"	Full	10	92620A633	8.29
2 1/4"	1" to 1 5/16"	25	91257A633	11.66
2 1/2"	Full	5	92620A634	7.99
2 1/2"	1" to 1 5/16"	25	91257A634	12.33
2 3/4"	Full	10	92620A635	12.74
2 3/4"	1" to 1 5/16"	10	91257A635	5.83
3"	Full	5	92620A636	9.95
3"	1" to 1 5/16"	10	91257A636	6.72
3 1/4"	1" to 1 5/16"	10	91257A637	8.07
3 1/2"	Full	5	92620A638	11.02
3 1/2"	1" to 1 5/16"	10	91257A638	8.45
3 3/4"	1" to 1 5/16"	10	91257A639	8.83
4"	Full	1	92620A639	4.03
4"	1" to 1 5/16"	10	91257A640	9.22
4 1/4"	1" to 1 5/16"	5	91257A651	8.85
4 1/2"	Full	1	92620A640	4.06
4 1/2"	1" to 1 5/16"	5	91257A642	7.23
4 3/4"	1" to 1 5/16"	5	91257A643	10.04
5"	Full	1	92620A641	4.51
5"	1" to 1 5/16"	5	91257A644	10.62
5 1/4"	1" to 1 5/16"	5	91257A645	11.19
5 1/2"	Full	1	92620A642	4.55
5 1/2"	1" to 1 5/16"	5	91257A646	9.99
5 3/4"	1" to 1 5/16"	5	91257A647	11.35
6"	Full	1	92620A643	4.76
6"	1" to 1 5/16"	5	91257A648	11.93
6 1/2"	1 1/4" to 1 9/16"	5	91257A649	12.42
7"	1 1/4" to 1 9/16"	5	91257A650	13.25
8"	1 1/4" to 1 9/16"	1	91257A652	3.22
8 1/2"	1 1/4" to 1 9/16"	1	91257A653	5.74
9"	1 1/4" to 1 9/16"	1	91257A654	6.15
10"	1 1/4" to 1 9/16"	1	91257A655	6.04
12"	1 1/4" to 1 9/16"	1	91257A656	7.31

3/8"-24—Head: Wd. 9/16", Ht. 1/4"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/2"	Full	25	92620A653	7.43
5/8"	Full	25	92620A657	6.46
3/4"	Full	25	92620A654	7.43
7/8"	Full	25	92620A658	7.90

3/8"-24 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	25	92620A655	$8.80
1 1/8"	Full	5	92620A702	14.83
1 1/4"	Full	25	92620A656	9.09
1 3/8"	Full	1	92620A703	3.18
1 1/2"	Full	1	92620A648	3.88
1 1/2"	1" to 1 5/16"	25	91257A657	12.29
1 3/4"	Full	1	92620A649	4.05
1 3/4"	1" to 1 5/16"	10	91257A658	6.52
2"	Full	1	92620A650	4.46
2"	1" to 1 5/16"	10	91257A659	6.60
2 1/4"	1" to 1 5/16"	10	91257A660	8.64
2 1/2"	Full	1	92620A659	4.55
2 1/2"	1" to 1 5/16"	10	91257A661	7.41
2 3/4"	1" to 1 5/16"	10	91257A662	8.30
3"	Full	1	92620A660	4.97
3"	1" to 1 5/16"	10	91257A663	9.30
3 1/4"	1" to 1 5/16"	10	91257A462	8.85
3 1/2"	Full	1	92620A661	4.97
3 1/2"	1" to 1 5/16"	10	91257A664	12.28
3 3/4"	1" to 1 5/16"	10	91257A464	11.75
4"	Full	1	92620A662	5.42
4"	1" to 1 5/16"	5	91257A665	7.54
4 1/4"	1" to 1 5/16"	5	91257A141	9.33
4 1/2"	1" to 1 5/16"	5	91257A666	8.62
4 3/4"	1" to 1 5/16"	5	91257A143	10.76
5"	1" to 1 5/16"	5	91257A466	9.18
5 1/4"	1" to 1 5/16"	5	91257A467	11.35
5 1/2"	1" to 1 5/16"	5	91257A468	10.06
5 3/4"	1" to 1 5/16"	5	91257A469	11.96
6"	1" to 1 5/16"	1	91257A470	2.43
6 1/2"	1 1/4" to 1 9/16"	1	91257A472	3.63
7"	1 1/4" to 1 9/16"	1	91257A474	2.80
8"	1 1/4" to 1 9/16"	1	91257A476	3.22
10"	1 1/4" to 1 9/16"	1	91257A478	10.94

7/16"-14—Head: Wd. 5/8", Ht. 19/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/4"	Full	25	92620A667	10.82
7/8"	Full	25	92620A668	12.17
1"	Full	25	92620A669	10.11
1 1/4"	Full	25	92620A671	10.93
1 1/2"	Full	25	92620A673	12.21
1 3/4"	1 1/8" to 1 1/2"	10	91257A675	7.03
2"	Full	1	92620A677	10.52
2"	1 1/8" to 1 1/2"	10	91257A677	7.51
2 1/4"	1 1/8" to 1 1/2"	10	91257A678	7.50
2 1/2"	Full	1	92620A681	10.80
2 1/2"	1 1/8" to 1 1/2"	10	91257A679	8.34
2 3/4"	1 1/8" to 1 1/2"	10	91257A680	9.13
3"	Full	1	92620A685	11.91
3"	1 1/8" to 1 1/2"	10	91257A681	9.43
3 1/4"	1 1/8" to 1 1/2"	10	91257A682	9.98
3 1/2"	1 1/8" to 1 1/2"	10	91257A683	10.53
3 3/4"	1 1/8" to 1 1/2"	5	91257A684	5.94
4"	1 1/8" to 1 1/2"	10	91257A685	11.57
4 1/4"	1 1/8" to 1 1/2"	5	91257A686	9.33
4 1/2"	1 1/8" to 1 1/2"	5	91257A687	9.01
4 3/4"	1 1/8" to 1 1/2"	5	91257A688	10.65
5"	1 1/8" to 1 1/2"	5	91257A689	10.03
5 1/4"	1 1/8" to 1 1/2"	5	91257A152	11.35
5 1/2"	1 1/8" to 1 1/2"	5	91257A690	10.09
6"	1 1/8" to 1 1/2"	5	91257A691	10.87
6 1/2"	1 3/8" to 1 3/4"	1	91257A692	3.13
7"	1 3/8" to 1 3/4"	1	91257A693	3.64
7 1/2"	1 3/8" to 1 3/4"	1	91257A694	3.79
8"	1 3/8" to 1 3/4"	1	91257A695	4.37
9"	1 3/8" to 1 3/4"	1	91257A696	6.90
10"	1 3/8" to 1 3/4"	1	91257A697	7.20
12"	1 3/8" to 1 3/4"	1	91257A699	8.04

7/16"-20—Head: Wd. 5/8", Ht. 19/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/4"	Full	25	92620A695	11.04
7/8"	Full	10	92620A698	6.69
1"	Full	25	92620A696	12.27

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High-Strength Steel Cap Screws—Grade 8 (Continued from previous page)

Zinc Yellow-Chromate Plated (Cont.)

7/16"-20—Head: Wd. 5/8", Ht. 19/64" (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1 1/4"	Full	25	92620A697	$13.45
1 1/2"	Full	10	92620A699	6.90
1 3/4"	1 1/8" to 1 1/2"	10	91257A698	7.01
2"	1 1/8" to 1 1/2"	10	91257A701	9.38
2 1/4"	1 1/8" to 1 1/2"	10	91257A700	8.92
2 1/2"	1 1/8" to 1 1/2"	10	91257A702	10.57
2 3/4"	1 1/8" to 1 1/2"	10	91257A703	12.62
3"	1 1/8" to 1 1/2"	10	91257A704	12.80
3 1/4"	1 1/8" to 1 1/2"	10	91257A708	12.89
3 1/2"	1 1/8" to 1 1/2"	5	91257A705	7.85
4"	1 1/8" to 1 1/2"	5	91257A706	8.33
4 1/2"	1 1/8" to 1 1/2"	5	91257A710	10.30
5"	1 1/8" to 1 1/2"	5	91257A707	11.63
5 1/2"	1 1/8" to 1 1/2"	1	91257A711	1.74
6"	1 1/8" to 1 1/2"	5	91257A481	13.15
6 1/2"	1 3/8" to 1 3/4"	1	91257A483	4.03
7"	1 3/8" to 1 3/4"	1	91257A485	4.11
8"	1 3/8" to 1 3/4"	1	91257A487	5.19

1/2"-13—Head: Wd. 3/4", Ht. 11/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/2"	Full	5	92620A707	14.27
3/4"	Full	25	92620A709	14.90
7/8"	Full	10	92620A710	7.08
1"	Full	25	92620A712	15.21
1 1/8"	Full	5	92620A713	5.72
1 1/4"	Full	10	92620A714	6.53
1 3/8"	Full	5	92620A725	8.87
1 1/2"	Full	10	92620A716	8.47
1 3/4"	Full	10	92620A718	8.47
2"	Full	5	92620A720	9.28
2"	1 1/4" to 1 11/16"	10	91257A720	9.20
2 1/4"	Full	5	92620A721	7.90
2 1/4"	1 1/4" to 1 11/16"	10	91257A721	10.41
2 1/2"	Full	5	92620A722	11.49
2 1/2"	1 1/4" to 1 11/16"	10	91257A722	10.70
2 3/4"	Full	5	92620A723	8.76
2 3/4"	1 1/4" to 1 11/16"	10	91257A723	12.23
3"	Full	5	92620A724	14.60
3"	1 1/4" to 1 11/16"	10	91257A724	13.21
3 1/4"	1 1/4" to 1 11/16"	10	91257A725	13.78
3 1/2"	Full	1	92620A726	3.93
3 1/2"	1 1/4" to 1 11/16"	10	91257A726	13.29
3 3/4"	1 1/4" to 1 11/16"	5	91257A727	8.11
4"	Full	1	92620A727	4.35
4"	1 1/4" to 1 11/16"	5	91257A728	8.69
4 1/4"	1 1/4" to 1 11/16"	1	91257A719	3.63
4 1/2"	Full	1	92620A728	5.29
4 1/2"	1 1/4" to 1 11/16"	5	91257A730	11.47
4 3/4"	1 1/4" to 1 11/16"	1	91257A731	3.85
5"	Full	1	92620A729	5.82
5"	1 1/4" to 1 11/16"	5	91257A732	11.57
5 1/4"	1 1/4" to 1 11/16"	1	91257A735	4.00
5 1/2"	Full	1	92620A730	5.10
5 1/2"	1 1/4" to 1 11/16"	5	91257A734	12.58
6"	Full	1	92620A731	6.61
6"	1 1/4" to 1 11/16"	5	91257A736	14.62
6 1/2"	1 1/2" to 1 7/8"	1	91257A737	3.83
7"	Full	1	92620A732	13.51
7"	1 1/2" to 1 7/8"	1	91257A738	4.31
8"	Full	1	92620A733	16.17
8"	1 1/2" to 1 7/8"	1	91257A740	5.49
8 1/2"	1 1/2" to 1 7/8"	1	91257A741	4.76
9"	1 1/2" to 1 7/8"	1	91257A742	5.82
10"	1 1/2" to 1 7/8"	1	91257A743	6.46
10 1/2"	1 1/2" to 1 7/8"	1	91257A163	10.17
11"	1 1/2" to 1 7/8"	1	91257A165	10.46
12"	1 1/2" to 1 7/8"	1	91257A167	10.58

1/2"-20—Head: Wd. 3/4", Ht. 11/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/4"	Full	10	92620A735	7.37
7/8"	Full	10	92620A737	6.12
1"	Full	10	92620A744	10.24
1 1/8"	Full	10	92620A852	9.19
1 1/4"	Full	10	92620A745	7.84
1 1/2"	Full	10	92620A746	7.80
1 3/4"	Full	10	92620A747	10.42
2"	Full	1	92620A748	4.90
2"	1 1/4" to 1 11/16"	10	91257A748	11.90
2 1/4"	1 1/4" to 1 11/16"	10	91257A749	14.69
2 1/2"	Full	1	92620A749	5.06
2 1/2"	1 1/4" to 1 11/16"	10	91257A750	15.02
2 3/4"	1 1/4" to 1 11/16"	5	91257A744	$8.01
3"	Full	1	92620A750	5.39
3"	1 1/4" to 1 11/16"	5	91257A751	9.67
3 1/4"	1 1/4" to 1 11/16"	5	91257A745	7.84
3 1/2"	Full	1	92620A751	5.43
3 1/2"	1 1/4" to 1 11/16"	5	91257A752	10.41
3 3/4"	1 1/4" to 1 11/16"	5	91257A757	9.82
4"	Full	1	92620A752	6.04
4"	1 1/4" to 1 11/16"	5	91257A753	11.14
4 1/4"	1 1/4" to 1 11/16"	1	91257A172	3.71
4 1/2"	Full	1	92620A753	5.89
4 1/2"	1 1/4" to 1 11/16"	5	91257A754	12.88
4 3/4"	1 1/4" to 1 11/16"	1	91257A174	3.78
5"	Full	1	92620A754	6.26
5"	1 1/4" to 1 11/16"	1	91257A755	2.31
5 1/2"	Full	1	92620A755	6.33
5 1/2"	1 1/4" to 1 11/16"	1	91257A758	3.00
6"	Full	1	92620A756	7.12
6"	1 1/4" to 1 11/16"	1	91257A756	3.18
6 1/2"	1 1/2" to 1 7/8"	1	91257A490	4.31
7"	1 1/2" to 1 7/8"	1	91257A491	4.71
7 1/2"	1 1/2" to 1 7/8"	1	91257A492	5.50
8"	1 1/2" to 1 7/8"	1	91257A493	5.67
9"	1 1/2" to 1 7/8"	1	91257A497	10.26
10"	1 1/2" to 1 7/8"	1	91257A501	10.46
12"	1 1/2" to 1 7/8"	1	91257A505	11.14

9/16"-12—Head: Wd. 13/16", Ht. 23/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	10	92620A758	8.46
1 1/4"	Full	10	92620A759	8.76
1 1/2"	Full	10	92620A761	9.18
1 3/4"	Full	5	92620A763	5.66
2"	Full	5	92620A765	5.98
2 1/4"	1 3/8" to 1 13/16"	5	91257A766	7.06
2 1/2"	1 3/8" to 1 13/16"	5	91257A767	7.49
2 3/4"	1 3/8" to 1 13/16"	5	91257A768	7.92
3"	1 3/8" to 1 13/16"	5	91257A769	8.36
3 1/4"	1 3/8" to 1 13/16"	5	91257A770	8.79
3 1/2"	1 3/8" to 1 13/16"	5	91257A771	9.31
3 3/4"	1 3/8" to 1 13/16"	5	91257A772	9.73
4"	1 3/8" to 1 13/16"	5	91257A773	10.15
4 1/2"	1 3/8" to 1 13/16"	1	91257A774	2.37
5"	1 3/8" to 1 13/16"	1	91257A775	4.44
5 1/2"	1 3/8" to 1 13/16"	1	91257A776	2.75
6"	1 3/8" to 1 13/16"	1	91257A777	3.01
6 1/2"	1 5/8" to 2 1/16"	1	91257A778	4.84
7"	1 5/8" to 2 1/16"	1	91257A779	5.69
8"	1 5/8" to 2 1/16"	1	91257A793	8.83

9/16"-18—Head: Wd. 13/16", Ht. 23/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	10	92620A778	9.28
1 1/4"	Full	10	92620A779	9.62
1 1/2"	Full	10	92620A780	10.08
2"	Full	10	92620A782	12.20
3"	1 3/8" to 1 13/16"	5	91257A784	9.22
3 1/2"	1 3/8" to 1 13/16"	5	91257A791	10.31
4"	1 3/8" to 1 13/16"	5	91257A785	11.29
4 1/2"	1 3/8" to 1 13/16"	1	91257A792	2.50
5"	1 3/8" to 1 13/16"	1	91257A786	2.99
6"	1 3/8" to 1 13/16"	1	91257A788	3.50

5/8"-11—Head: Wd. 15/16", Ht. 27/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/4"	Full	1	92620A792	3.78
1"	Full	10	92620A794	9.06
1 1/4"	Full	10	92620A796	9.75
1 1/2"	Full	10	92620A798	10.32
1 3/4"	Full	10	92620A800	11.14
2"	Full	10	92620A802	12.03
2 1/4"	Full	5	92620A807	12.70
2 1/4"	1 1/2" to 2"	5	91257A803	7.27
2 1/2"	Full	1	92620A804	3.43
2 1/2"	1 1/2" to 2"	5	91257A804	8.17
2 3/4"	Full	1	92620A805	2.99
2 3/4"	1 1/2" to 2"	5	91257A805	9.16
3"	Full	1	92620A806	4.16
3"	1 1/2" to 2"	5	91257A806	9.67
3 1/4"	1 1/2" to 2"	5	91257A811	10.87
3 1/2"	Full	1	92620A808	4.93
3 1/2"	1 1/2" to 2"	5	91257A808	10.79
3 3/4"	1 1/2" to 2"	5	91257A809	11.78
4"	Full	1	92620A809	6.86
4"	1 1/2" to 2"	5	91257A810	11.92
4 1/4"	1 1/2" to 2"	1	91257A815	$4.24
4 1/2"	Full	1	92620A810	6.90
4 1/2"	1 1/2" to 2"	1	91257A812	2.73
4 3/4"	1 1/2" to 2"	1	91257A839	4.82
5"	Full	1	92620A811	7.40
5"	1 1/2" to 2"	1	91257A814	2.94
5 1/2"	Full	1	92620A812	7.51
5 1/2"	1 1/2" to 2"	1	91257A816	3.53
6"	Full	1	92620A813	8.46
6"	1 1/2" to 2"	1	91257A818	4.34
6 1/2"	1 3/4" to 2 1/4"	1	91257A819	4.05
7"	1 3/4" to 2 1/4"	1	91257A820	4.56
7 1/2"	1 3/4" to 2 1/4"	1	91257A821	5.02
8"	1 3/4" to 2 1/4"	1	91257A822	5.28
8 1/2"	1 3/4" to 2 1/4"	1	91257A823	5.54
9"	1 3/4" to 2 1/4"	1	91257A824	6.45
9 1/2"	1 3/4" to 2 1/4"	1	91257A825	7.36
10"	1 3/4" to 2 1/4"	1	91257A170	7.77
10 1/2"	1 3/4" to 2 1/4"	1	91257A175	8.47
11"	1 3/4" to 2 1/4"	1	91257A178	8.87
12"	1 3/4" to 2 1/4"	1	91257A182	9.69

5/8"-18—Head: Wd. 15/16", Ht. 27/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	10	92620A815	11.99
1 1/4"	Full	10	92620A817	11.78
1 1/2"	Full	10	92620A824	12.25
1 3/4"	Full	10	92620A310	13.07
2"	Full	5	92620A825	7.80
2 1/4"	Full	1	92620A592	7.43
2 1/2"	Full	1	92620A826	7.54
2 1/2"	1 1/2" to 2"	5	91257A826	8.93
3"	Full	1	92620A827	7.95
3"	1 1/2" to 2"	5	91257A827	10.64
3 1/4"	1 1/2" to 2"	5	91257A830	11.23
3 1/2"	Full	1	92620A828	7.92
3 1/2"	1 1/2" to 2"	5	91257A828	11.90
3 3/4"	1 1/2" to 2"	5	91257A831	12.49
4"	Full	1	92620A829	8.58
4"	1 1/2" to 2"	1	91257A829	2.69
4 1/4"	1 1/2" to 2"	1	91257A840	4.55
4 1/2"	1 1/2" to 2"	1	91257A832	3.34
4 3/4"	1 1/2" to 2"	1	91257A191	4.59
5"	Full	1	92620A315	14.06
5"	1 1/2" to 2"	1	91257A833	2.69
6"	1 1/2" to 2"	1	91257A834	4.69
6 1/2"	1 3/4" to 2 1/4"	1	91257A193	4.12
7"	1 3/4" to 2 1/4"	1	91257A835	6.28
7 1/2"	1 3/4" to 2 1/4"	1	91257A195	5.02
8"	1 3/4" to 2 1/4"	1	91257A836	7.28
9"	1 3/4" to 2 1/4"	1	91257A837	9.93
10"	1 3/4" to 2 1/4"	1	91257A838	10.38
12"	1 3/4" to 2 1/4"	1	91257A199	14.70

3/4"-10—Head: Wd. 1 1/8", Ht. 1/2"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	5	92620A830	14.29
1 1/4"	Full	1	92620A832	2.94
1 1/2"	Full	5	92620A839	12.44
1 3/4"	Full	5	92620A834	15.15
2"	Full	5	92620A843	13.14
2 1/4"	Full	5	92620A846	13.67
2 1/2"	Full	5	92620A845	15.06
2 3/4"	1 3/4" to 2 1/4"	5	91257A844	14.92
3"	Full	1	92620A847	5.24
3"	1 3/4" to 2 1/4"	1	91257A847	3.16
3 1/4"	1 3/4" to 2 1/4"	1	91257A848	3.98
3 1/2"	Full	1	92620A849	6.41
3 1/2"	1 3/4" to 2 1/4"	1	91257A849	4.08
3 3/4"	1 3/4" to 2 1/4"	1	91257A850	5.09
4"	Full	1	92620A851	7.86
4"	1 3/4" to 2 1/4"	1	91257A851	4.73
4 1/4"	1 3/4" to 2 1/4"	1	91257A200	4.97
4 1/2"	Full	1	92620A853	9.64
4 1/2"	1 3/4" to 2 1/4"	1	91257A852	5.12
4 3/4"	1 3/4" to 2 1/4"	1	91257A854	5.68
5"	Full	1	92620A855	10.42
5"	1 3/4" to 2 1/4"	1	91257A855	5.21
5 1/4"	1 3/4" to 2 1/4"	1	91257A856	5.87
5 1/2"	Full	1	92620A856	9.48
5 1/2"	1 3/4" to 2 1/4"	1	91257A857	5.46
5 3/4"	1 3/4" to 2 1/4"	1	91257A858	6.03

(Continued on following page)

High-Strength Steel Cap Screws—Grade 8 *(Continued from previous page)*



The standard for high-strength cap screws, these are made from alloy steel and are marked on the head with six radial lines to indicate Grade 8. Screws have a minimum tensile strength of 150,000 psi, a minimum Rockwell hardness of C33, and a Class 2A thread fit. They also meet ASME B18.2.1 and SAE J429, unless noted. Length is measured from under the head.

Zinc yellow-chromate plated screws are rust resistant.

Uncoated screws have a dark surface color.

Zinc Yellow-Chromate Plated (Cont.)

¾"-10—Head: Wd. 1⅛", Ht. ½" (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
6"	Full	1	92620A857	$11.21
6"	1¾" to 2¼"	1	91257A859	6.30
6½"	2" to 2½"	1	91257A860	6.90
7"	2" to 2½"	1	91257A861	7.43
7½"	2" to 2½"	1	91257A862	9.56
8"	2" to 2½"	1	91257A863	9.82
8½"	2" to 2½"	1	91257A204	7.67
9"	2" to 2½"	1	91257A864	10.25
9½"	2" to 2½"	1	91257A865	8.21
10"	2" to 2½"	1	91257A866	11.67
10½"	2" to 2½"	1	91257A206	11.31
11"	2" to 2½"	1	91257A869	12.50
12"	2" to 2½"	1	91257A868	11.97

¾"-16—Head: Wd. 1⅛", Ht. ½"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	5	92620A868	11.27
1¼"	Full	5	92620A869	11.66
1½"	Full	5	92620A870	11.41
1¾"	Full	5	92620A871	11.59
2"	Full	5	92620A872	12.33
2½"	Full	1	92620A874	2.46
2¾"	1¾" to 2¼"	1	91257A876	2.66
3"	Full	1	92620A875	8.97
3"	1¾" to 2¼"	1	91257A877	2.83
3¼"	1¾" to 2¼"	1	91257A867	3.19
3½"	Full	1	92620A876	9.58
3½"	1¾" to 2¼"	1	91257A878	3.36
4"	Full	1	92620A877	10.32
4"	1¾" to 2¼"	1	91257A880	4.43
4¼"	1¾" to 2¼"	1	91257A211	5.86
4½"	Full	1	92620A878	10.35
4½"	1¾" to 2¼"	1	91257A879	5.38
4¾"	1¾" to 2¼"	1	91257A213	5.93
5"	Full	1	92620A879	11.17
5"	1¾" to 2¼"	1	91257A882	5.56
5½"	Full	1	92620A880	11.20
5½"	1¾" to 2¼"	1	91257A881	5.72
6"	Full	1	92620A881	12.06
6"	1¾" to 2¼"	1	91257A883	6.29
6½"	2" to 2½"	1	91257A884	6.62
7"	2" to 2½"	1	91257A885	6.99
7½"	2" to 2½"	1	91257A886	7.69
8"	2" to 2½"	1	91257A887	8.08
8½"	2" to 2½"	1	91257A889	8.74
9"	2" to 2½"	1	91257A890	9.13
9½"	2" to 2½"	1	91257A891	9.52
10"	2" to 2½"	1	91257A892	9.91

⅞"-9—Head: Wd. 1 5/16", Ht. 37/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1½"	Full	1	92620A893	$2.47
1¾"	Full	1	92620A892	2.56
2"	Full	1	92620A896	2.72
2½"	Full	1	92620A911	3.10
3"	Full	1	92620A912	12.37
3"	2" to 2 9/16"	1	91257A913	3.51
3½"	Full	1	92620A913	13.74
3½"	2" to 2 9/16"	1	91257A915	3.95
4"	Full	1	92620A914	16.82
4"	2" to 2 9/16"	1	91257A917	4.50
4¼"	2" to 2 9/16"	1	91257A918	7.73
4½"	Full	1	92620A915	17.78
4½"	2" to 2 9/16"	1	91257A919	4.64
4¾"	2" to 2 9/16"	1	91257A920	8.34
5"	Full	1	92620A916	20.37
5"	2" to 2 9/16"	1	91257A921	6.70
5½"	Full	1	92620A917	22.19
5½"	2" to 2 9/16"	1	91257A923	6.84
6"	Full	1	92620A918	30.40
6"	2" to 2 9/16"	1	91257A925	7.15
6½"	2¼" to 2 13/16"	1	91257A927	8.71
7"	2¼" to 2 13/16"	1	91257A929	9.09
7½"	2¼" to 2 13/16"	1	91257A224	10.58
8"	2¼" to 2 13/16"	1	91257A228	8.41
9"	2¼" to 2 13/16"	1	91257A930	10.50
10"	2¼" to 2 13/16"	1	91257A931	15.36

⅞"-14—Head: Wd. 1 5/16", Ht. 37/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1½"	Full	1	92620A920	4.30
1¾"	Full	1	92620A922	4.94
2"	Full	1	92620A924	5.09
2¼"	Full	1	92620A926	3.64
2½"	Full	1	92620A928	5.11
2¾"	Full	1	92620A930	4.96
3"	2" to 2 9/16"	1	91257A932	5.45
3¼"	2" to 2 9/16"	1	91257A933	6.74
3½"	2" to 2 9/16"	1	91257A936	6.80
3¾"	2" to 2 9/16"	1	91257A937	6.94
4"	2" to 2 9/16"	1	91257A934	7.52
4½"	2" to 2 9/16"	1	91257A939	8.24
5"	2" to 2 9/16"	1	91257A941	8.55
5½"	2" to 2 9/16"	1	91257A943	9.17
6"	2" to 2 9/16"	1	91257A945	9.86
6½"	2¼" to 2 13/16"	1	91257A946	10.59
7"	2¼" to 2 13/16"	1	91257A947	14.44
7½"	2¼" to 2 13/16"	1	91257A948	13.59

⅞"-14—Head: Wd. 1 5/16", Ht. 37/64" (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
8"	2¼" to 2 13/16"	1	91257A949	$17.55
8½"	2¼" to 2 13/16"	1	91257A950	17.59
9"	2¼" to 2 13/16"	1	91257A951	17.88
10"	2¼" to 2 13/16"	1	91257A952	19.90

1"-8—Head: Wd. 1½", Ht. 43/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1½"	Full	1	92620A951	3.56
1¾"	Full	1	92620A952	3.80
2"	Full	1	92620A953	3.84
2¼"	Full	1	92620A954	4.07
2½"	Full	1	92620A955	4.32
2¾"	Full	1	92620A956	4.59
3"	Full	1	92620A957	4.86
3¼"	Full	1	92620A959	12.47
3½"	Full	1	92620A961	17.19
3½"	2¼" to 2⅞"	1	91257A959	6.46
4"	Full	1	92620A962	20.00
4"	2¼" to 2⅞"	1	91257A961	7.31
4¼"	2¼" to 2⅞"	1	91257A962	10.38
4½"	Full	1	92620A963	20.40
4½"	2¼" to 2⅞"	1	91257A963	8.57
4¾"	2¼" to 2⅞"	1	91257A964	9.62
5"	Full	1	92620A964	22.64
5"	2¼" to 2⅞"	1	91257A965	9.93
5½"	Full	1	92620A965	23.19
5½"	2¼" to 2⅞"	1	91257A967	10.11
6"	Full	1	92620A966	25.89
6"	2¼" to 2⅞"	1	91257A969	9.76
6½"	2½" to 3⅛"	1	91257A970	10.45
7"	2½" to 3⅛"	1	91257A973	9.13
7½"	2½" to 3⅛"	1	91257A975	10.49
8"	2½" to 3⅛"	1	91257A977	10.89
8½"	2½" to 3⅛"	1	91257A979	12.66
9"	2½" to 3⅛"	1	91257A981	13.21
9½"	2½" to 3⅛"	1	91257A983	13.82
10"	2½" to 3⅛"	1	91257A985	14.79
10½"	2½" to 3⅛"	1	91257A993	14.40
11"	2½" to 3⅛"	1	91257A986	14.99
12"	2½" to 3⅛"	1	91257A987	15.86

1"-14—Head: Wd. 1½", Ht. 43/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
4"	2¼" to 2⅞"	1	91257A989	7.65
5"	2¼" to 2⅞"	1	91257A990	9.85
6"	2¼" to 2⅞"	1	91257A991	10.63
7"	2½" to 3⅛"	1	91257A992	12.41
8"	2½" to 3⅛"	1	91257A994	14.99
9"	2½" to 3⅛"	1	91257A996	16.72
10"	2½" to 3⅛"	1	91257A998	18.26

Uncoated

1⅛"-7—Head: Wd. 1 11/16", Ht. 11/16"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2½"	Full	1	91268A113	6.45
3"	Full	1	91268A115	6.36
3½"	Full	1	91268A117	6.39
4"	2½" to 3¼"	1	91268A119	7.96
4½"	2½" to 3¼"	1	91268A120	8.26
5"	2½" to 3¼"	1	91268A122	8.19
6"	2½" to 3¼"	1	91268A124	9.39
6½"	2¾" to 3½"	1	91268A125	13.47
8"	2¾" to 3½"	1	91268A128	15.66
10"	2¾" to 3½"	1	91268A132	17.84

1¼"-7—Head: Wd. 1⅞", Ht. 27/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2½"	Full	1	91268A213	7.22
3"	Full	1	91268A215	9.71
3½"	Full	1	91268A217	7.86
4"	2¾" to 3½"	1	91268A219	9.13
4½"	2¾" to 3½"	1	91268A221	9.79
5½"	2¾" to 3½"	1	91268A223	12.95
6½"	3" to 3¾"	1	91268A225	13.20

1¼"-7—Head: Wd. 1⅞", Ht. 27/32" (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
7"	3" to 3¾"	1	91268A226	14.38
8"	3" to 3¾"	1	91268A227	19.12
9"	3" to 3¾"	1	91268A228	19.66
10"	3" to 3¾"	1	91268A229	22.07
12"	3" to 3¾"	1	91268A230	33.01
14"	3" to 3¾"	1	91268A232	32.13
16"	3" to 3¾"	1	91268A235	38.30

1¼"-12—Head: Wd. 1⅞", Ht. 27/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
4"	2¾" to 3½"	1	91268A320	9.43
5"	2¾" to 3½"	1	91268A325	11.65
6"	2¾" to 3½"	1	91268A330	14.58
7"	3" to 3¾"	1	91268A335	20.14
8"	3" to 3¾"	1	91268A340	24.12
10"	3" to 3¾"	1	91268A345	25.84

1½"-6—Head: Wd. 2¼", Ht. 15/16"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3"	Full	1	91268A951	14.69
3½"	Full	1	91268A953	16.65
4"	3¼" to Full	1	91268A955	16.40

1½"-6—Head: Wd. 2¼", Ht. 15/16" (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
4½"	Full	1	91268A957	14.05
5"	3¼" to 4⅛"	1	91268A958	16.51
5½"	3¼" to 4⅛"	1	91268A959	26.12
6"	3¼" to 4⅛"	1	91268A960	20.00
7"	3½" to 4⅜"	1	91268A962	24.17
8"	3½" to 4⅜"	1	91268A963	26.13
8½"	3½" to 4⅜"	1	91268A402	30.25
9"	3½" to 4⅜"	1	91268A964	31.92
10"	3½" to 4⅜"	1	91268A965	32.09
12"	3½" to 4⅜"	1	91268A967	46.13
14"	3½" to 4⅜"	1	91268A969	53.93

1¾"-5—Head: Wd. 2⅝", Ht. 1 3/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
6"	3¾" to 4¾"	1	91268A450★	35.98
8"	4" to 5"	1	91268A460★	48.33
10"	4" to 5"	1	91268A470★	54.29

2"-4½—Head: Wd. 3", Ht. 1 7/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
8"	4½" to 5⅝"	1	91268A980★	62.53
9"	4½" to 5⅝"	1	91268A981★	85.30
10"	4½" to 5⅝"	1	91268A982★	76.74

★ Meets ASME B18.2.1 and ASTM A354BD. Screws are Grade 8 but may not have radial lines.

Screws with Material Certification

These zinc yellow-chromate plated steel screws come with a traceable lot number and a physical and chemical report.

Choose a Thread Size	Choose a Screw Length	
1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10	1/2", 5/8", 3/4", 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/2", 3", 3 1/2", 4"	90002A100

Corrosion-Resistant Coated High-Strength Steel Cap Screws—Grade 8

Also known as ultra coat and armor coat, these zinc-aluminum-plated screws have a silver-colored coating and are five times as corrosion resistant as standard zinc-plated screws. Screws are made from alloy steel and are marked on the head with six radial lines to indicate Grade 8. They have a minimum tensile strength of 150,000 psi, a minimum Rockwell hardness of C33, and a Class 2A thread fit. They also meet ASME B18.2.1 and SAE J429. Length is measured from under the head. For nuts, see page 3207. For washers, see page 3245.

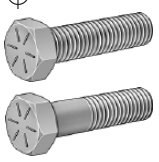

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4"-20—Head: Wd. 7/16", Ht. 5/32"				
3/8"	Full	100	91286A102	$9.23
1/2"	Full	100	91286A101	12.63
5/8"	Full	100	91286A103	13.56
3/4"	Full	50	91286A105	7.40
7/8"	Full	50	91286A109	7.53
1"	Full	50	91286A111	7.57
1 1/8"	Full	50	91286A112	10.48
1 1/4"	3/4" to 1"	50	91286A113	8.97
1 1/2"	3/4" to 1"	50	91286A116	10.60
1 3/4"	3/4" to 1"	50	91286A119	12.86
2"	3/4" to 1"	25	91286A121	7.54
2 1/4"	3/4" to 1"	25	91286A122	6.46
2 1/2"	3/4" to 1"	25	91286A123	8.63
2 3/4"	3/4" to 1"	25	91286A125	10.46
3"	3/4" to 1"	25	91286A128	11.03
4"	3/4" to 1"	10	91286A131	6.09
5"	3/4" to 1"	10	91286A133	11.06
1/4"-28—Head: Wd. 7/16", Ht. 5/32"				
1/2"	Full	50	91286A134	8.43
1"	Full	50	91286A135	10.26
1 1/4"	3/4" to 1"	50	91286A138	11.71
1 1/2"	3/4" to 1"	25	91286A141	7.37
1 3/4"	3/4" to 1"	25	91286A143	8.11
2"	3/4" to 1"	25	91286A146	9.23
2 1/2"	3/4" to 1"	25	91286A149	9.94
3"	3/4" to 1"	25	91286A151	13.86
4"	3/4" to 1"	10	91286A153	7.60
5/16"-18—Head: Wd. 1/2", Ht. 13/64"				
1/2"	Full	50	91286A608	9.69
5/8"	Full	50	91286A610	8.34
3/4"	Full	50	91286A154	8.64
7/8"	Full	50	91286A612	10.70
1"	Full	50	91286A155	11.74
1 1/8"	Full	50	91286A156	11.28
1 1/4"	Full	25	91286A157	7.37
1 1/2"	7/8" to 1 3/16"	25	91286A159	8.40
1 3/4"	7/8" to 1 3/16"	25	91286A162	9.34
2"	7/8" to 1 3/16"	25	91286A164	10.49
2 1/4"	7/8" to 1 3/16"	25	91286A165	8.20
2 1/2"	7/8" to 1 3/16"	25	91286A166	13.86
2 3/4"	7/8" to 1 3/16"	10	91286A169	5.86
3"	7/8" to 1 3/16"	10	91286A171	6.29
3 1/2"	7/8" to 1 3/16"	10	91286A174	7.46
4"	7/8" to 1 3/16"	10	91286A177	8.40
5"	7/8" to 1 3/16"	10	91286A179	13.51
5/16"-24—Head: Wd. 1/2", Ht. 13/64"				
3/4"	Full	50	91286A180	10.85
1"	Full	25	91286A182	7.80
1 1/4"	Full	25	91286A185	7.54
1 1/2"	7/8" to 1 3/16"	25	91286A189	8.89
1 3/4"	7/8" to 1 3/16"	25	91286A190	11.91
2"	7/8" to 1 3/16"	25	91286A193	13.60
2 1/2"	7/8" to 1 3/16"	10	91286A196	6.94
3"	7/8" to 1 3/16"	10	91286A199	6.80
3/8"-16—Head: Wd. 9/16", Ht. 15/64"				
1/2"	Full	25	91286A200	8.01
5/8"	Full	25	91286A621	7.60
3/4"	Full	25	91286A623	7.12
7/8"	Full	25	91286A625	8.34
1"	Full	25	91286A627	8.57
1 1/8"	Full	25	91286A202	8.33
1 1/4"	Full	50	91286A201	12.60
1 3/8"	1" to 1 5/16"	25	91286A203	12.22
1 1/2"	1" to 1 5/16"	25	91286A204	7.31
1 5/8"	1" to 1 5/16"	25	91286A207	15.39
1 3/4"	1" to 1 5/16"	10	91286A206	5.89
2"	1" to 1 5/16"	10	91286A208	6.17
2 1/4"	1" to 1 5/16"	25	91286A209	13.44
2 3/8"	1" to 1 5/16"	10	91286A801	9.30
2 1/2"	1" to 1 5/16"	10	91286A211	7.54
2 5/8"	1" to 1 5/16"	10	91286A212	9.93
2 3/4"	1" to 1 5/16"	10	91286A213	7.94
3"	1" to 1 5/16"	10	91286A216	8.89
3 1/4"	1" to 1 5/16"	10	91286A219	10.94
3/8"-16 (Cont.)				
3 1/2"	1" to 1 5/16"	10	91286A222	$10.94
3 3/4"	1" to 1 5/16"	10	91286A223	12.23
4"	1" to 1 5/16"	10	91286A224	11.80
4 1/4"	1" to 1 5/16"	5	91286A225	8.15
4 1/2"	1" to 1 5/16"	5	91286A226	8.49
4 3/4"	1" to 1 5/16"	5	91286A227	9.60
5"	1" to 1 5/16"	5	91286A229	9.20
5 1/2"	1" to 1 5/16"	5	91286A232	10.86
6"	1" to 1 5/16"	5	91286A235	10.46
6 1/2"	1 1/4" to 1 9/16"	5	91286A237	10.57
7"	1 1/4" to 1 9/16"	5	91286A239	12.37
8"	1 1/4" to 1 9/16"	1	91286A242	5.57
3/8"-24—Head: Wd. 9/16", Ht. 15/64"				
3/4"	Full	25	91286A241	8.06
1"	Full	25	91286A243	9.34
1 1/4"	Full	25	91286A244	12.54
1 1/2"	1" to 1 5/16"	25	91286A246	12.37
1 3/4"	1" to 1 5/16"	10	91286A249	6.03
2"	1" to 1 5/16"	10	91286A252	6.49
2 1/4"	1" to 1 5/16"	10	91286A254	6.80
2 1/2"	1" to 1 5/16"	10	91286A257	7.74
2 3/4"	1" to 1 5/16"	10	91286A260	8.46
3"	1" to 1 5/16"	10	91286A262	9.06
3 1/2"	1" to 1 5/16"	10	91286A264	10.74
4"	1" to 1 5/16"	10	91286A266	12.20
7/16"-14—Head: Wd. 5/8", Ht. 9/32"				
1"	Full	25	91286A267	12.04
1 1/4"	Full	25	91286A641	13.44
1 1/2"	Full	10	91286A268	6.80
1 3/4"	1 1/8" to 1 1/2"	10	91286A271	7.31
2"	1 1/8" to 1 1/2"	10	91286A273	8.83
2 1/2"	1 1/8" to 1 1/2"	10	91286A275	11.31
2 3/4"	1 1/8" to 1 1/2"	10	91286A279	11.49
3"	1 1/8" to 1 1/2"	10	91286A281	12.37
3 1/2"	1 1/8" to 1 1/2"	10	91286A283	13.00
4"	1 1/8" to 1 1/2"	5	91286A286	7.86
4 1/2"	1 1/8" to 1 1/2"	5	91286A289	10.80
5"	1 1/8" to 1 1/2"	5	91286A291	13.06
7/16"-20—Head: Wd. 5/8", Ht. 9/32"				
1"	Full	10	91286A292	6.24
1 1/4"	Full	10	91286A293	7.05
1 1/2"	Full	10	91286A294	7.49
1 3/4"	1 1/8" to 1 1/2"	10	91286A296	8.91
2"	1 1/8" to 1 1/2"	10	91286A299	9.97
2 1/2"	1 1/8" to 1 1/2"	10	91286A302	12.09
2 3/4"	1 1/8" to 1 1/2"	10	91286A305	13.14
3"	1 1/8" to 1 1/2"	5	91286A307	7.49
3 1/2"	1 1/8" to 1 1/2"	5	91286A310	8.57
4"	1 1/8" to 1 1/2"	5	91286A313	9.23
5"	1 1/8" to 1 1/2"	1	91286A316	3.00
1/2"-13—Head: Wd. 3/4", Ht. 5/16"				
3/4"	Full	10	91286A317	6.67
7/8"	Full	10	91286A802	4.99
1"	Full	10	91286A319	7.07
1 1/8"	Full	10	91286A803	8.62
1 1/4"	Full	10	91286A320	7.85
1 3/8"	Full	10	91286A804	9.26
1 1/2"	Full	10	91286A318	8.97
1 5/8"	Full	10	91286A321	11.07
1 3/4"	Full	5	91286A322	7.49
2"	1 1/4" to 1 11/16"	10	91286A325	10.97
2 1/4"	1 1/4" to 1 11/16"	10	91286A327	12.60
2 3/8"	1 1/4" to 1 11/16"	10	91286A328	13.07
2 1/2"	1 1/4" to 1 11/16"	10	91286A330	13.63
2 5/8"	1 1/4" to 1 11/16"	5	91286A331	6.86
2 3/4"	1 1/4" to 1 11/16"	5	91286A334	7.46
3"	1 1/4" to 1 11/16"	5	91286A337	7.89
3 1/4"	1 1/4" to 1 11/16"	5	91286A338	7.28
3 1/2"	1 1/4" to 1 11/16"	5	91286A339	8.94
3 3/4"	1 1/4" to 1 11/16"	5	91286A342	8.43
4"	1 1/4" to 1 11/16"	5	91286A344	10.37
4 1/4"	1 1/4" to 1 11/16"	5	91286A345	10.09
1/2"-13 (Cont.)				
4 1/2"	1 1/4" to 1 11/16"	5	91286A347	$13.00
4 3/4"	1 1/4" to 1 11/16"	5	91286A348	11.11
5"	1 1/4" to 1 11/16"	1	91286A351	2.80
5 1/2"	1 1/4" to 1 11/16"	1	91286A354	3.00
6"	1 1/4" to 1 11/16"	1	91286A357	3.26
6 1/2"	1 1/2" to 1 7/8"	1	91286A361	3.91
7"	1 1/2" to 1 7/8"	1	91286A364	4.14
8"	1 1/2" to 1 7/8"	1	91286A366	5.77
1/2"-20—Head: Wd. 3/4", Ht. 5/16"				
1"	Full	10	91286A367	8.02
1 1/4"	Full	10	91286A368	8.92
1 1/2"	Full	10	91286A369	10.57
1 3/4"	Full	10	91286A371	11.83
2"	1 1/4" to 1 11/16"	10	91286A373	13.09
2 1/4"	1 1/4" to 1 11/16"	5	91286A375	7.54
2 1/2"	1 1/4" to 1 11/16"	5	91286A377	8.17
3"	1 1/4" to 1 11/16"	5	91286A381	9.06
3 1/2"	1 1/4" to 1 11/16"	5	91286A383	10.34
4"	1 1/4" to 1 11/16"	5	91286A385	11.86
4 1/2"	1 1/4" to 1 11/16"	1	91286A387	3.31
5"	1 1/4" to 1 11/16"	1	91286A391	3.60
6"	1 1/4" to 1 11/16"	1	91286A394	4.26
5/8"-11—Head: Wd. 15/16", Ht. 25/64"				
1"	Full	5	91286A395	7.86
1 1/4"	Full	10	91286A805	15.44
1 1/2"	Full	5	91286A397	7.37
1 3/4"	Full	5	91286A396	7.83
2"	Full	5	91286A399	8.37
2 1/4"	1 1/2" to 2"	5	91286A402	8.68
2 1/2"	1 1/2" to 2"	5	91286A405	9.81
2 3/4"	1 1/2" to 2"	5	91286A407	11.03
3"	1 1/2" to 2"	5	91286A410	12.50
3 1/4"	1 1/2" to 2"	5	91286A411	14.20
3 1/2"	1 1/2" to 2"	5	91286A412	13.33
4"	1 1/2" to 2"	1	91286A415	3.39
4 1/2"	1 1/2" to 2"	1	91286A418	3.59
5"	1 1/2" to 2"	1	91286A421	4.30
5 1/2"	1 1/2" to 2"	1	91286A425	4.68
6"	1 1/2" to 2"	1	91286A431	5.05
7"	1 3/4" to 2 1/4"	1	91286A434	6.68
5/8"-18—Head: Wd. 15/16", Ht. 25/64"				
1 1/2"	Full	5	91286A435	9.11
2"	Full	5	91286A437	10.60
2 1/2"	1 1/2" to 2"	5	91286A442	12.37
3"	1 1/2" to 2"	1	91286A444	2.94
3 1/2"	1 1/2" to 2"	1	91286A447	3.26
4"	1 1/2" to 2"	1	91286A451	3.14
3/4"-10—Head: Wd. 1 1/8", Ht. 15/32"				
1 1/2"	Full	5	91286A453	11.88
1 3/4"	Full	5	91286A454	12.81
2"	Full	5	91286A455	13.66
2 1/4"	Full	1	91286A459	2.91
2 1/2"	Full	1	91286A462	3.11
2 3/4"	1 3/4" to 2 1/4"	1	91286A463	3.77
3"	1 3/4" to 2 1/4"	1	91286A464	3.69
3 1/4"	1 3/4" to 2 1/4"	1	91286A465	4.23
3 1/2"	1 3/4" to 2 1/4"	1	91286A467	4.26
3 3/4"	1 3/4" to 2 1/4"	1	91286A468	4.76
4"	1 3/4" to 2 1/4"	1	91286A471	4.57
4 1/2"	1 3/4" to 2 1/4"	1	91286A473	6.34
5"	1 3/4" to 2 1/4"	1	91286A475	7.14
5 1/2"	1 3/4" to 2 1/4"	1	91286A477	7.91
6"	1 3/4" to 2 1/4"	1	91286A483	7.37
7"	2" to 2 1/2"	1	91286A485	10.06
8"	2" to 2 1/2"	1	91286A492	11.57
3/4"-16—Head: Wd. 1 1/8", Ht. 15/32"				
2"	Full	1	91286A495	3.46
2 1/2"	Full	1	91286A501	4.06
2 3/4"	1 3/4" to 2 1/4"	1	91286A506	4.34
3"	1 3/4" to 2 1/4"	1	91286A509	4.66
3 1/2"	1 3/4" to 2 1/4"	1	91286A512	5.26
4"	1 3/4" to 2 1/4"	1	91286A514	5.89
4 1/2"	1 3/4" to 2 1/4"	1	91286A517	6.69
5"	1 3/4" to 2 1/4"	1	91286A520	6.89

Tension-Indicating Steel Cap Screws





Indicator color changes as tension increases.

An indicator dot changes from red to black when these screws are properly tightened. It then changes back to red if they come loose. The indicator is reliable at temperatures from –4° to 168°F. Screws are made from alloy steel and have a zinc yellow-chromate plating for rust resistance. They have a minimum Rockwell hardness of C33 and a Class 2A thread fit. Although not rated for strength, these screws have at least 85% of the tensile strength of equivalent size Grade 8 hex head cap screws. Length is measured from under the head.

Lg.	Thread Lg.	Tension Indicated, lbs. of Force		Each
1/2"-13—Head: Wd. 3/4", Ht. 3/8"				
1 1/2"	Full	11,000	93734A120	$29.01
1 3/4"	Full	11,000	93734A140	29.18
2"	1 1/4" to 1 5/8"	11,000	93734A160	29.39
2 1/2"	1 1/4" to 1 5/8"	13,000	93734A180	29.71
3"	1 1/4" to 1 5/8"	13,000	93734A200	29.95
5/8"-11—Head: Wd. 15/16", Ht. 29/64"				
1 1/2"	Full	17,000	93734A310	29.31
1 3/4"	Full	18,000	93734A330	29.53

Lg.	Thread Lg.	Tension Indicated, lbs. of Force		Each
5/8"-11 (Cont.)				
2"	Full	18,000	93734A350	$29.75
2 1/2"	1 1/2" to 2"	18,000	93734A370	30.11
3"	1 1/2" to 2"	19,000	93734A390	30.55
3/4"-10—Head: Wd. 1 1/8", Ht. 17/32"				
2"	Full	30,000	93734A520	30.33
2 1/2"	Full	30,000	93734A540	30.72
3"	1 3/4" to 2 1/4"	32,000	93734A560	31.78

Medium-Strength Steel Cap Screws—*Grade 5*



Full Threads



Partial Threads

An economical alternative to Grade 8 steel, these screws are at least 60% as strong. They're marked on the head with three radial lines to indicate Grade 5 and have a Class 2A thread fit. Screws meet ASME B18.2.1 and SAE J429, unless noted. Length is measured from under the head.

Zinc-plated screws have a minimum tensile strength of 120,000 psi and a minimum Rockwell hardness of C25.

Uncoated screws have a minimum tensile strength of 100,000 psi and a minimum Rockwell hardness of C19, unless noted.

Semi-gloss black and **matte black** screws have a minimum tensile strength of 120,000 psi and a minimum Rockwell hardness of C25. *Semi-gloss black* withstand 1,000 hours of salt spray per ASTM B117 and are our most corrosion resistant medium-strength screws. *Matte black* have a nonreflective surface that provides lubricity.

Zinc Plated

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4"-20—Head: Wd. 7/16", Ht. 11/64"				
3/8"	Full	100	92865A535	$10.93
1/2"	Full	100	92865A537	8.03
5/8"	Full	100	92865A938	8.75
3/4"	Full	100	92865A540	8.50
7/8"	Full	100	92865A541	9.83
1"	Full	100	92865A542	9.75
1 1/4"	Full	50	92865A544	7.54
1 1/4"	3/4" to 1"	100	91247A544	9.91
1 1/2"	Full	50	92865A546	8.62
1 1/2"	3/4" to 1"	100	91247A546	11.21
1 3/4"	Full	50	92865A548	10.62
1 3/4"	3/4" to 1"	100	91247A548	12.50
2"	Full	50	92865A549	12.04
2"	3/4" to 1"	50	91247A550	7.52
2 1/4"	Full	50	92865A551	13.11
2 1/4"	3/4" to 1"	50	91247A551	9.06
2 1/2"	Full	25	92865A552	7.89
2 1/2"	3/4" to 1"	50	91247A552	9.49
2 3/4"	3/4" to 1"	50	91247A553	10.06
3"	Full	10	92865A554	5.84
3"	3/4" to 1"	50	91247A554	10.34
3 1/4"	3/4" to 1"	25	91247A555	6.46
3 1/2"	Full	10	92865A556	6.40
3 1/2"	3/4" to 1"	25	91247A556	7.87
3 3/4"	3/4" to 1"	25	91247A557	8.41
4"	Full	10	92865A558	7.50
4"	3/4" to 1"	25	91247A558	8.60
4 1/2"	Full	10	92865A560	7.63
4 1/2"	3/4" to 1"	25	91247A560	9.01
5"	Full	5	92865A562	5.43
5"	3/4" to 1"	25	91247A562	9.76
5 1/2"	3/4" to 1"	25	91247A564	10.12
6"	Full	5	92865A564	5.30
6"	3/4" to 1"	10	91247A566	5.30
6 1/2"	Full	1	92865A566	8.35
6 1/2"	1" to 1 1/4"	10	91247A567	6.00
7"	Full	1	92865A568	8.90
7"	1" to 1 1/4"	10	91247A568	7.11
7 1/2"	Full	1	92865A570	9.40
7 1/2"	1" to 1 1/4"	5	91247A569	4.06
8"	Full	1	92865A572	9.72
8"	1" to 1 1/4"	5	91247A570	4.69
1/4"-28—Head: Wd. 7/16", Ht. 11/64"				
1/2"	Full	100	92865A002	8.36
5/8"	Full	100	92865A004	9.40
3/4"	Full	100	92865A006	9.68
1"	Full	100	92865A008	12.20
1 1/4"	Full	100	92865A010	12.71
1 1/4"	3/4" to 1"	100	91247A010	10.00
1 1/2"	Full	10	92865A012	13.13
1 1/2"	3/4" to 1"	50	91247A012	8.68

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4"-28 (Cont.)				
1 3/4"	Full	10	92865A014	$13.80
1 3/4"	3/4" to 1"	50	91247A014	7.87
2"	Full	5	92865A016	7.55
2"	3/4" to 1"	50	91247A016	11.06
2 1/4"	3/4" to 1"	50	91247A018	12.36
2 1/2"	Full	5	92865A018	9.76
2 1/2"	3/4" to 1"	25	91247A020	7.24
2 3/4"	3/4" to 1"	25	91247A022	7.90
3"	Full	5	92865A020	10.41
3"	3/4" to 1"	25	91247A024	8.15
3 1/4"	3/4" to 1"	25	91247A025	8.79
3 1/2"	3/4" to 1"	25	91247A026	8.52
3 3/4"	3/4" to 1"	25	91247A027	9.07
4"	3/4" to 1"	25	91247A028	9.36
4 1/2"	3/4" to 1"	10	91247A030	6.89
5"	3/4" to 1"	10	91247A032	5.59
5 1/2"	3/4" to 1"	10	91247A033	6.09
6"	3/4" to 1"	10	91247A034	8.39
6 1/2"	1" to 1 1/4"	5	91247A036	5.23
7"	1" to 1 1/4"	5	91247A039	5.36
7 1/2"	1" to 1 1/4"	5	91247A042	6.76
8"	1" to 1 1/4"	5	91247A045	7.15
5/16"-18—Head: Wd. 1/2", Ht. 7/32"				
1/2"	Full	100	92865A578	11.30
5/8"	Full	100	92865A580	12.70
3/4"	Full	100	92865A581	13.12
7/8"	Full	50	92865A582	7.36
1"	Full	50	92865A583	7.54
1 1/4"	Full	50	92865A585	8.41
1 1/2"	Full	50	92865A587	12.05
1 1/2"	7/8" to 1 3/16"	50	91247A587	8.64
1 3/4"	Full	50	92865A589	12.36
1 3/4"	7/8" to 1 3/16"	50	91247A589	9.33
2"	Full	25	92865A591	8.00
2"	7/8" to 1 3/16"	50	91247A591	10.17
2 1/4"	Full	25	92865A592	9.02
2 1/4"	7/8" to 1 3/16"	50	91247A592	11.72
2 1/2"	Full	25	92865A593	9.67
2 1/2"	7/8" to 1 3/16"	25	91247A593	7.18
2 3/4"	Full	25	92865A594	11.59
2 3/4"	7/8" to 1 3/16"	10	91247A594	3.35
3"	Full	25	92865A595	12.91
3"	7/8" to 1 3/16"	25	91247A595	7.98
3 1/4"	7/8" to 1 3/16"	25	91247A596	8.92
3 1/2"	Full	5	92865A597	4.31
3 1/2"	7/8" to 1 3/16"	25	91247A597	9.87
3 3/4"	7/8" to 1 3/16"	25	91247A598	9.99
4"	Full	5	92865A599	5.37
4"	7/8" to 1 3/16"	25	91247A599	11.11
4 1/2"	Full	5	92865A603	11.42
4 1/2"	7/8" to 1 3/16"	25	91247A601	13.36

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
5/16"-18 (Cont.)				
5"	Full	1	92865A605	$3.12
5"	7/8" to 1 3/16"	10	91247A603	6.10
5 1/2"	Full	1	92865A607	3.09
5 1/2"	7/8" to 1 3/16"	10	91247A605	6.89
6"	Full	1	92865A609	3.24
6"	7/8" to 1 3/16"	10	91247A607	7.25
6 1/2"	Full	1	92865A610	8.72
6 1/2"	1 1/8" to 1 7/16"	10	91247A608	8.16
7"	Full	1	92865A612	9.24
7"	1 1/8" to 1 7/16"	5	91247A609	4.63
7 1/2"	Full	1	92865A614	9.74
7 1/2"	1 1/8" to 1 7/16"	5	91247A610	4.73
8"	Full	1	92865A616	9.98
8"	1 1/8" to 1 7/16"	5	91247A611	4.88
5/16"-24—Head: Wd. 1/2", Ht. 7/32"				
1/2"	Full	50	92865A101	7.20
5/8"	Full	50	92865A103	8.53
3/4"	Full	50	92865A105	7.66
1"	Full	50	92865A107	8.05
1 1/4"	Full	50	92865A109	10.16
1 1/2"	Full	25	92865A113	7.52
1 1/2"	7/8" to 1 3/16"	50	91247A110	10.23
1 3/4"	7/8" to 1 3/16"	50	91247A112	12.83
2"	Full	25	92865A117	9.43
2"	7/8" to 1 3/16"	25	91247A114	7.10
2 1/4"	7/8" to 1 3/16"	25	91247A116	7.75
2 1/2"	7/8" to 1 3/16"	25	91247A118	10.11
2 3/4"	7/8" to 1 3/16"	25	91247A120	10.23
3"	Full	10	92865A121	5.70
3"	7/8" to 1 3/16"	25	91247A122	11.43
3 1/4"	7/8" to 1 3/16"	25	91247A124	12.62
3 1/2"	7/8" to 1 3/16"	25	91247A126	13.21
3 3/4"	7/8" to 1 3/16"	10	91247A127	6.72
4"	7/8" to 1 3/16"	10	91247A128	7.38
4 1/2"	7/8" to 1 3/16"	10	91247A130	7.81
5"	7/8" to 1 3/16"	10	91247A132	10.20
5 1/2"	7/8" to 1 3/16"	10	91247A134	11.21
6"	7/8" to 1 3/16"	10	91247A135	12.60
6 1/2"	1 1/8" to 1 7/16"	5	91247A138	8.41
7"	1 1/8" to 1 7/16"	5	91247A142	8.68
7 1/2"	1 1/8" to 1 7/16"	5	91247A146	8.99
8"	1 1/8" to 1 7/16"	5	91247A150	9.74
3/8"-16—Head: Wd. 9/16", Ht. 1/4"				
1/2"	Full	50	92865A619	8.01
5/8"	Full	50	92865A621	9.45
3/4"	Full	50	92865A622	9.47
7/8"	Full	50	92865A623	10.22
1"	Full	50	92865A624	10.37
1 1/4"	Full	50	92865A626	11.85
1 1/2"	Full	25	92865A628	8.48
1 1/2"	1" to 1 5/16"	50	91247A628	12.40

(Continued on following page)

Medium-Strength Steel Cap Screws—Grade 5 (Continued from previous page)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
Zinc Plated (Cont.)				
3/8"-16—Head: Wd. 9/16", Ht. 1/4" (Cont.)				
1 3/4"	Full	25	92865A630	$8.83
1 3/4"	1" to 1 5/16"	25	91247A630	6.91
2"	Full	25	92865A632	11.10
2"	1" to 1 5/16"	25	91247A632	7.49
2 1/4"	Full	10	92865A633	6.85
2 1/4"	1" to 1 5/16"	25	91247A633	9.06
2 1/2"	Full	10	92865A634	6.16
2 1/2"	1" to 1 5/16"	25	91247A634	10.08
2 3/4"	Full	10	92865A635	7.33
2 3/4"	1" to 1 5/16"	25	91247A635	10.18
3"	Full	10	92865A636	6.16
3"	1" to 1 5/16"	25	91247A636	10.42
3 1/4"	1" to 1 5/16"	25	91247A637	12.28
3 1/2"	Full	10	92865A638	7.16
3 1/2"	1" to 1 5/16"	25	91247A638	12.40
3 3/4"	1" to 1 5/16"	25	91247A639	12.72
4"	Full	5	92865A641	6.18
4"	1" to 1 5/16"	10	91247A640	6.06
4 1/2"	Full	5	92865A643	8.70
4 1/2"	1" to 1 5/16"	10	91247A642	6.44
5"	Full	5	92865A645	8.60
5"	1" to 1 5/16"	10	91247A644	7.77
5 1/2"	Full	5	92865A647	9.27
5 1/2"	1" to 1 5/16"	10	91247A646	8.91
6"	Full	1	92865A648	3.49
6"	1" to 1 5/16"	10	91247A648	8.86
6 1/2"	Full	1	92865A650	7.91
6 1/2"	1 1/4" to 1 9/16"	10	91247A649	9.64
7"	Full	1	92865A652	9.59
7"	1 1/4" to 1 9/16"	5	91247A650	6.35
7 1/2"	Full	1	92865A654	9.88
7 1/2"	1 1/4" to 1 9/16"	5	91247A651	7.51
8"	Full	1	92865A656	10.32
8"	1 1/4" to 1 9/16"	5	91247A652	7.65
8 1/2"	Full	1	92865A658	11.03
9"	Full	1	92865A660	11.48
9"	1 1/4" to 1 9/16"	5	91247A654	10.71
10"	1 1/4" to 1 9/16"	5	91247A658	10.88
3/8"-24—Head: Wd. 9/16", Ht. 1/4"				
1/2"	Full	25	92865A211	7.21
5/8"	Full	25	92865A212	8.34
3/4"	Full	50	92865A213	10.30
7/8"	Full	50	92865A214	12.57
1"	Full	50	92865A215	10.77
1 1/4"	Full	50	92865A217	12.77
1 1/2"	Full	10	92865A219	5.56
1 1/2"	1" to 1 5/16"	25	91247A219	8.29
1 3/4"	Full	25	92865A220	10.83
1 3/4"	1" to 1 5/16"	25	91247A221	9.15
2"	Full	5	92865A221	11.42
2"	1" to 1 5/16"	25	91247A223	9.57
2 1/4"	1" to 1 5/16"	25	91247A225	9.84
2 1/2"	Full	1	92865A223	3.06
2 1/2"	1" to 1 5/16"	25	91247A227	11.04
2 3/4"	1" to 1 5/16"	25	91247A229	11.85
3"	Full	1	92865A225	3.12
3"	1" to 1 5/16"	25	91247A231	12.94
3 1/4"	1" to 1 5/16"	10	91247A232	6.06
3 1/2"	Full	1	92865A227	3.24
3 1/2"	1" to 1 5/16"	10	91247A233	6.52
3 3/4"	1" to 1 5/16"	10	91247A234	7.59
4"	Full	1	92865A229	3.63
4"	1" to 1 5/16"	10	91247A235	8.49
4 1/2"	Full	1	92865A231	3.90
4 1/2"	1" to 1 5/16"	10	91247A237	11.18
5"	Full	1	92865A235	6.01
5"	1" to 1 5/16"	10	91247A239	11.47
5 1/2"	1" to 1 5/16"	10	91247A241	12.56
6"	Full	1	92865A239	6.30
6"	1" to 1 5/16"	10	91247A243	13.05
6 1/2"	1 1/4" to 1 9/16"	5	91247A245	7.94
7"	1 1/4" to 1 9/16"	5	91247A247	8.57
8"	1 1/4" to 1 9/16"	5	91247A251	10.69
7/16"-14—Head: Wd. 5/8", Ht. 19/64"				
3/4"	Full	25	92865A667	8.21
7/8"	Full	25	92865A668	6.72
1"	Full	25	92865A669	7.56
1 1/4"	Full	25	92865A671	9.26
1 1/2"	Full	25	92865A673	9.76
7/16"-14 (Cont.)				
1 3/4"	1 1/8" to 1 1/2"	25	91247A675	$11.01
2"	Full	5	92865A675	3.45
2"	1 1/8" to 1 1/2"	25	91247A677	11.34
2 1/4"	1 1/8" to 1 1/2"	25	91247A678	11.84
2 1/2"	Full	5	92865A677	3.58
2 1/2"	1 1/8" to 1 1/2"	25	91247A679	12.66
2 3/4"	1 1/8" to 1 1/2"	10	91247A680	6.02
3"	Full	5	92865A679	4.85
3"	1 1/8" to 1 1/2"	10	91247A681	7.38
3 1/2"	Full	1	92865A681	4.32
3 1/2"	1 1/8" to 1 1/2"	10	91247A683	8.37
3 3/4"	1 1/8" to 1 1/2"	10	91247A684	8.74
4"	Full	1	92865A683	5.82
4"	1 1/8" to 1 1/2"	10	91247A685	10.19
4 1/2"	Full	1	92865A685	6.42
4 1/2"	1 1/8" to 1 1/2"	10	91247A687	10.30
5"	Full	1	92865A687	6.76
5"	1 1/8" to 1 1/2"	10	91247A689	10.86
5 1/2"	Full	1	92865A689	7.84
5 1/2"	1 1/8" to 1 1/2"	10	91247A691	11.27
6"	Full	1	92865A672	9.16
6"	1 1/8" to 1 1/2"	5	91247A693	5.89
6 1/2"	1 3/8" to 1 3/4"	5	91247A694	6.86
7"	Full	1	92865A674	10.64
7"	1 3/8" to 1 3/4"	5	91247A695	7.91
7 1/2"	1 3/8" to 1 3/4"	5	91247A696	9.98
8"	1 3/8" to 1 3/4"	5	91247A698	10.13
7/16"-20—Head: Wd. 5/8", Ht. 19/64"				
3/4"	Full	25	92865A310	7.96
1"	Full	25	92865A312	8.82
1 1/4"	Full	25	92865A314	9.65
1 1/2"	Full	25	92865A316	11.45
1 3/4"	1 1/8" to 1 1/2"	10	91247A318	5.66
2"	Full	1	92865A318	4.32
2"	1 1/8" to 1 1/2"	10	91247A320	6.06
2 1/4"	1 1/8" to 1 1/2"	10	91247A322	6.23
2 1/2"	Full	1	92865A320	4.71
2 1/2"	1 1/8" to 1 1/2"	10	91247A324	7.28
2 3/4"	1 1/8" to 1 1/2"	10	91247A326	7.86
3"	Full	1	92865A322	4.89
3"	1 1/8" to 1 1/2"	10	91247A328	8.24
3 1/4"	1 1/8" to 1 1/2"	10	91247A331	9.32
3 1/2"	Full	1	92865A324	5.07
3 1/2"	1 1/8" to 1 1/2"	10	91247A329	9.10
3 3/4"	1 1/8" to 1 1/2"	10	91247A332	10.09
4"	Full	1	92865A326	5.35
4"	1 1/8" to 1 1/2"	10	91247A330	10.22
4 1/2"	Full	1	92865A328	5.59
4 1/2"	1 1/8" to 1 1/2"	10	91247A333	12.73
5"	Full	1	92865A334	8.59
5"	1 1/8" to 1 1/2"	1	91247A334	1.55
5 1/2"	1 1/8" to 1 1/2"	5	91247A335	7.56
6"	Full	1	92865A338	9.38
6"	1 1/8" to 1 1/2"	5	91247A339	9.90
6 1/2"	1 3/8" to 1 3/4"	5	91247A341	11.75
7"	1 3/8" to 1 3/4"	5	91247A343	12.49
7 1/2"	1 3/8" to 1 3/4"	1	91247A345	2.54
8"	1 3/8" to 1 3/4"	1	91247A347	2.64
1/2"-13—Head: Wd. 3/4", Ht. 11/32"				
3/4"	Full	25	92865A710	9.44
7/8"	Full	25	92865A711	10.02
1"	Full	25	92865A712	10.94
1 1/4"	Full	25	92865A714	11.97
1 1/2"	Full	25	92865A716	12.28
1 3/4"	Full	25	92865A718	13.07
2"	Full	10	92865A720	7.85
2"	1 1/4" to 1 11/16"	10	91247A720	5.75
2 1/4"	Full	10	92865A721	9.75
2 1/4"	1 1/4" to 1 11/16"	10	91247A721	6.58
2 1/2"	Full	10	92865A722	10.23
2 1/2"	1 1/4" to 1 11/16"	10	91247A722	6.67
2 3/4"	Full	5	92865A723	7.98
2 3/4"	1 1/4" to 1 11/16"	10	91247A723	7.16
3"	Full	5	92865A724	7.20
3"	1 1/4" to 1 11/16"	10	91247A724	7.61
3 1/4"	1 1/4" to 1 11/16"	10	91247A725	8.60
3 1/2"	Full	5	92865A726	8.73
3 1/2"	1 1/4" to 1 11/16"	10	91247A726	8.62
3 3/4"	1 1/4" to 1 11/16"	10	91247A729	9.14
1/2"-13 (Cont.)				
4"	Full	5	92865A728	$9.19
4"	1 1/4" to 1 11/16"	10	91247A728	9.27
4 1/2"	Full	1	92865A730	2.95
4 1/2"	1 1/4" to 1 11/16"	10	91247A730	12.26
5"	Full	1	92865A732	2.86
5"	1 1/4" to 1 11/16"	10	91247A732	12.36
5 1/2"	Full	1	92865A734	2.94
5 1/2"	1 1/4" to 1 11/16"	5	91247A734	7.29
6"	Full	1	92865A736	3.00
6"	1 1/4" to 1 11/16"	5	91247A736	7.71
6 1/2"	Full	1	92865A737	7.73
6 1/2"	1 1/2" to 1 7/8"	5	91247A737	8.73
7"	Full	1	92865A738	5.07
7"	1 1/2" to 1 7/8"	5	91247A738	8.76
7 1/2"	Full	1	92865A739	8.66
7 1/2"	1 1/2" to 1 7/8"	5	91247A739	10.64
8"	Full	1	92865A740	8.59
8"	1 1/2" to 1 7/8"	5	91247A740	11.09
8 1/2"	Full	1	92865A742	11.85
9"	Full	1	92865A744	12.84
9"	1 1/2" to 1 7/8"	1	91247A742	3.83
9 1/2"	Full	1	92865A746	13.89
10"	Full	1	92865A748	15.89
10"	1 1/2" to 1 7/8"	1	91247A746	3.91
1/2"-20—Head: Wd. 3/4", Ht. 11/32"				
3/4"	Full	10	92865A350	5.74
1"	Full	10	92865A352	6.04
1 1/4"	Full	10	92865A353	6.12
1 1/2"	Full	10	92865A354	6.24
1 3/4"	Full	10	92865A355	7.39
2"	Full	5	92865A356	6.85
2"	1 1/4" to 1 11/16"	10	91247A356	8.68
2 1/4"	1 1/4" to 1 11/16"	10	91247A357	9.18
2 1/2"	Full	1	92865A358	3.18
2 1/2"	1 1/4" to 1 11/16"	10	91247A358	10.15
2 3/4"	1 1/4" to 1 11/16"	10	91247A359	10.91
3"	Full	1	92865A360	3.39
3"	1 1/4" to 1 11/16"	10	91247A360	11.07
3 1/4"	1 1/4" to 1 11/16"	10	91247A361	11.39
3 1/2"	Full	1	92865A362	3.63
3 1/2"	1 1/4" to 1 11/16"	10	91247A362	12.57
4"	Full	1	92865A364	3.86
4"	1 1/4" to 1 11/16"	10	91247A364	12.97
4 1/2"	Full	1	92865A366	4.08
4 1/2"	1 1/4" to 1 11/16"	5	91247A366	8.01
5"	Full	1	92865A368	4.44
5"	1 1/4" to 1 11/16"	5	91247A368	9.88
5 1/2"	Full	1	92865A370	4.89
5 1/2"	1 1/4" to 1 11/16"	5	91247A369	10.60
6"	Full	1	92865A372	5.73
6"	1 1/4" to 1 11/16"	5	91247A370	11.36
6 1/2"	1 1/2" to 1 7/8"	1	91247A371	2.77
7"	1 1/2" to 1 7/8"	1	91247A372	3.22
7 1/2"	1 1/2" to 1 7/8"	1	91247A373	3.65
8"	1 1/2" to 1 7/8"	1	91247A374	3.75
9/16"-12—Head: Wd. 13/16", Ht. 23/64"				
1"	Full	10	92865A757	6.68
1 1/4"	Full	10	92865A759	7.31
1 1/2"	Full	10	92865A761	8.78
1 3/4"	Full	10	92865A763	9.31
2"	Full	10	92865A765	9.34
2 1/4"	1 3/8" to 1 13/16"	10	91247A766	10.02
2 1/2"	1 3/8" to 1 13/16"	10	91247A767	10.42
2 3/4"	1 3/8" to 1 13/16"	10	91247A768	11.98
3"	1 3/8" to 1 13/16"	10	91247A769	12.24
3 1/4"	1 3/8" to 1 13/16"	5	91247A770	7.25
3 1/2"	1 3/8" to 1 13/16"	5	91247A771	8.93
3 3/4"	1 3/8" to 1 13/16"	5	91247A772	9.06
4"	1 3/8" to 1 13/16"	5	91247A773	9.47
4 1/2"	1 3/8" to 1 13/16"	5	91247A775	9.95
5"	1 3/8" to 1 13/16"	5	91247A777	10.21
5 1/2"	1 3/8" to 1 13/16"	5	91247A779	11.61
6"	1 3/8" to 1 13/16"	5	91247A781	11.73
6 1/2"	1 5/8" to 2 1/16"	1	91247A783	3.81
7"	1 5/8" to 2 1/16"	1	91247A785	3.79
9/16"-18—Head: Wd. 13/16", Ht. 23/64"				
1"	Full	10	92865A401	8.44
1 1/4"	Full	10	92865A402	9.46
1 1/2"	Full	10	92865A403	7.46

(Continued on following page)

Medium-Strength Steel Cap Screws—Grade 5 *(Continued from previous page)*



An economical alternative to Grade 8 steel, these screws are at least 60% as strong. They're marked on the head with three radial lines to indicate Grade 5 and have a Class 2A thread fit. Screws meet ASME B18.2.1 and SAE J429, unless noted. Length is measured from under the head.

Zinc-plated screws have a minimum tensile strength of 120,000 psi and a minimum Rockwell hardness of C25.

Uncoated screws have a minimum tensile strength of 100,000 psi and a minimum Rockwell hardness of C19, unless noted.

Semi-gloss black and **matte black** screws have a minimum tensile strength of 120,000 psi and a minimum Rockwell hardness of C25. *Semi-gloss black* withstand 1,000 hours of salt spray per ASTM B117 and are our most corrosion resistant medium-strength screws. *Matte black* have a nonreflective surface that provides lubricity.

Zinc Plated (Cont.)

9/16"-18—Head: Wd. 13/16", Ht. 23/64" (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1¾"	Full	10	92865A404	$8.94
2"	Full	10	92865A405	8.99
2¼"	1⅜" to 1 13/16"	10	91247A406	12.41
2½"	1⅜" to 1 13/16"	5	91247A407	7.16
2¾"	1⅜" to 1 13/16"	5	91247A408	7.41
3"	1⅜" to 1 13/16"	5	91247A409	7.88
3¼"	1⅜" to 1 13/16"	5	91247A410	8.46
3½"	1⅜" to 1 13/16"	5	91247A411	8.81
4"	1⅜" to 1 13/16"	5	91247A413	9.14
4½"	1⅜" to 1 13/16"	5	91247A414	10.58
5"	1⅜" to 1 13/16"	5	91247A416	11.39
5½"	1⅜" to 1 13/16"	5	91247A418	12.48
6"	1⅜" to 1 13/16"	5	91247A420	13.24

5/8"-11—Head: Wd. 15/16", Ht. 27/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	10	92865A794	8.10
1¼"	Full	10	92865A796	7.66
1½"	Full	10	92865A798	8.37
1¾"	Full	10	92865A800	9.10
2"	Full	10	92865A802	10.36
2¼"	Full	1	92865A803	2.40
2¼"	1½" to 2"	10	91247A803	11.34
2½"	Full	5	92865A804	8.54
2½"	1½" to 2"	10	91247A804	11.61
2¾"	Full	5	92865A805	8.68
2¾"	1½" to 2"	10	91247A805	11.82
3"	Full	5	92865A806	10.41
3"	1½" to 2"	10	91247A806	11.97
3¼"	1½" to 2"	10	91247A807	13.46
3½"	Full	5	92865A808	12.12
3½"	1½" to 2"	5	91247A808	7.62
3¾"	1½" to 2"	5	91247A811	7.37
4"	Full	1	92865A810	2.55
4"	1½" to 2"	5	91247A810	7.76
4½"	Full	1	92865A812	5.00
4½"	1½" to 2"	5	91247A812	9.50
5"	Full	1	92865A814	4.80
5"	1½" to 2"	5	91247A814	10.11
5½"	Full	1	92865A816	5.56
5½"	1½" to 2"	5	91247A816	10.33
6"	Full	1	92865A818	6.07
6"	1½" to 2"	5	91247A818	11.73
6½"	Full	1	92865A822	15.61
6½"	1¾" to 2¼"	5	91247A819	12.31
7"	Full	1	92865A824	16.72
7"	1¾" to 2¼"	1	91247A820	3.07
7½"	Full	1	92865A825	17.41
7½"	1¾" to 2¼"	1	91247A821	3.21
8"	Full	1	92865A282	15.70
8"	1¾" to 2¼"	1	91247A822	3.37
8½"	Full	1	92865A284	16.20
8½"	1¾" to 2¼"	1	91247A823	5.00
9"	Full	1	92865A286	16.76
9"	1¾" to 2¼"	1	91247A824	5.41
9½"	Full	1	92865A288	17.70
10"	Full	1	92865A290	18.75
10"	1¾" to 2¼"	1	91247A826	5.67

5/8"-18—Head: Wd. 15/16", Ht. 27/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	10	92865A431	8.28
1¼"	Full	10	92865A432	10.14
1½"	Full	10	92865A433	11.13
1¾"	Full	10	92865A435	11.52
2"	Full	10	92865A436	12.12
2¼"	1½" to 2"	10	91247A437	8.98
2½"	Full	1	92865A438	9.24
2½"	1½" to 2"	10	91247A438	12.37
2¾"	1½" to 2"	5	91247A439	7.31
3"	Full	1	92865A440	9.74
3"	1½" to 2"	5	91247A440	7.42
3¼"	1½" to 2"	5	91247A441	8.66
3½"	Full	1	92865A442	10.21
3½"	1½" to 2"	5	91247A442	9.22

5/8"-18 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
4"	Full	1	92865A444	$10.69
4"	1½" to 2"	5	91247A444	9.84
4½"	Full	1	92865A446	11.21
4½"	1½" to 2"	1	91247A446	2.82
5"	Full	1	92865A448	12.19
5"	1½" to 2"	1	91247A448	2.71
5½"	Full	1	92865A450	12.66
5½"	1½" to 2"	1	91247A449	3.56
6"	Full	1	92865A452	13.10
6"	1½" to 2"	1	91247A450	4.00
6½"	1¾" to 2¼"	1	91247A451	4.37
7"	1¾" to 2¼"	1	91247A453	4.80
7½"	1¾" to 2¼"	1	91247A455	5.08
8"	1¾" to 2¼"	1	91247A457	5.06
8½"	1¾" to 2¼"	1	91247A459	5.38
9"	1¾" to 2¼"	1	91247A461	6.40
10"	1¾" to 2¼"	1	91247A463	7.13

3/4"-10—Head: Wd. 1⅛", Ht. ½"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	10	92865A835	12.08
1¼"	Full	5	92865A837	8.52
1½"	Full	5	92865A839	7.37
1¾"	Full	5	92865A841	7.24
2"	Full	5	92865A843	7.80
2¼"	Full	5	92865A844	9.28
2½"	Full	5	92865A845	9.57
2¾"	1¾" to 2¼"	5	91247A846	8.87
3"	Full	1	92865A847	2.98
3"	1¾" to 2¼"	5	91247A847	9.38
3¼"	1¾" to 2¼"	5	91247A848	10.11
3½"	Full	1	92865A849	3.33
3½"	1¾" to 2¼"	5	91247A849	10.45
3¾"	1¾" to 2¼"	5	91247A854	13.15
4"	Full	1	92865A851	3.88
4"	1¾" to 2¼"	5	91247A851	11.66
4½"	1¾" to 2¼"	5	91247A853	12.95
5"	Full	1	92865A855	4.04
5"	1¾" to 2¼"	1	91247A855	2.83
5½"	Full	1	92865A857	6.77
5½"	1¾" to 2¼"	1	91247A857	2.99
6"	Full	1	92865A859	10.88
6"	1¾" to 2¼"	1	91247A859	3.11
6½"	Full	1	92865A861	14.39
6½"	2" to 2½"	1	91247A860	4.06
7"	Full	1	92865A863	15.39
7"	2" to 2½"	1	91247A861	4.21
7½"	Full	1	92865A865	15.99
7½"	2" to 2½"	1	91247A862	5.49
8"	Full	1	92865A867	16.52
8"	2" to 2½"	1	91247A863	5.76
8½"	Full	1	92865A869	17.04
8½"	2" to 2½"	1	91247A864	6.07
9"	Full	1	92865A872	17.65
9"	2" to 2½"	1	91247A868	6.50
9½"	Full	1	92865A874	18.65
10"	Full	1	92865A879	22.21
10"	2" to 2½"	1	91247A866	6.53
12"	2" to 2½"	1	91247A870	9.65

3/4"-16—Head: Wd. 1⅛", Ht. ½"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	5	92865A471	8.40
1¼"	Full	5	92865A472	9.90
1½"	Full	5	92865A473	10.04
1¾"	Full	5	92865A878	10.14
2"	Full	5	92865A475	10.43
2½"	Full	5	92865A477	10.64
2¾"	1¾" to 2¼"	5	91247A478	9.81
3"	Full	1	92865A479	11.55
3"	1¾" to 2¼"	5	91247A479	13.04
3¼"	1¾" to 2¼"	5	91247A480	13.08
3½"	Full	1	92865A481	12.12
3½"	1¾" to 2¼"	1	91247A481	3.06

3/4"-16 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3¾"	1¾" to 2¼"	1	91247A482	$3.81
4"	Full	1	92865A483	3.82
4"	1¾" to 2¼"	1	91247A483	12.66
4½"	Full	1	92865A485	3.88
4½"	1¾" to 2¼"	1	91247A484	13.99
5"	Full	1	92865A487	4.36
5"	1¾" to 2¼"	1	91247A485	14.34
5½"	Full	1	92865A489	4.57
5½"	1¾" to 2¼"	1	91247A486	14.98
6"	Full	1	92865A502	5.15
6"	1¾" to 2¼"	1	91247A487	15.55
6½"	2" to 2½"	1	91247A488	6.42
7"	2" to 2½"	1	91247A489	6.57
7½"	2" to 2½"	1	91247A490	6.67
8"	2" to 2½"	1	91247A492	7.99
8½"	2" to 2½"	1	91247A494	8.91
9"	2" to 2½"	1	91247A496	9.00
10"	2" to 2½"	1	91247A498	10.29

7/8"-9—Head: Wd. 1 5/16", Ht. 37/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1½"	Full	5	92865A876	12.67
2"	Full	5	92865A880	11.82
2¼"	Full	5	92865A881	12.31
2½"	Full	1	92865A884	3.01
2¾"	Full	1	92865A883	3.19
3"	Full	1	92865A885	2.98
3"	2" to 2 9/16"	1	91247A884	8.01
3¼"	2" to 2 9/16"	5	91247A885	12.93
3½"	Full	1	92865A887	3.26
3½"	2" to 2 9/16"	1	91247A886	8.24
3¾"	2" to 2 9/16"	1	91247A887	3.30
4"	Full	1	92865A889	3.48
4"	2" to 2 9/16"	1	91247A888	9.48
4½"	Full	1	92865A891	3.86
4½"	2" to 2 9/16"	1	91247A890	9.74
5"	Full	1	92865A893	4.02
5"	2" to 2 9/16"	1	91247A892	10.32
5½"	2" to 2 9/16"	1	91247A894	4.53
6"	Full	1	92865A897	4.57
6"	2" to 2 9/16"	1	91247A896	11.98
6½"	2¼" to 2 13/16"	1	91247A897	5.34
7"	2¼" to 2 13/16"	1	91247A898	6.72
7½"	2¼" to 2 13/16"	1	91247A899	7.01
8"	2¼" to 2 13/16"	1	91247A900	7.12
8½"	2¼" to 2 13/16"	1	91247A901	7.45
9"	2¼" to 2 13/16"	1	91247A903	7.65
10"	2¼" to 2 13/16"	1	91247A906	8.50

7/8"-14—Head: Wd. 1 5/16", Ht. 37/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2"	Full	1	92865A501	2.73
2¾"	2" to 2 9/16"	1	92865A504	3.72
3"	Full	1	92865A506	4.08
3"	2" to 2 9/16"	1	91247A505	4.79
3¼"	2" to 2 9/16"	1	91247A506	4.16
3½"	2" to 2 9/16"	1	91247A508	4.11
3¾"	2" to 2 9/16"	1	91247A509	4.75
4"	Full	1	92865A510	4.72
4"	2" to 2 9/16"	1	91247A507	6.88
4½"	2" to 2 9/16"	1	91247A511	4.76
5"	2" to 2 9/16"	1	91247A513	4.91
5½"	2" to 2 9/16"	1	91247A510	5.53
6"	2" to 2 9/16"	1	91247A514	7.01
6½"	2¼" to 2 13/16"	1	91247A515	8.76
7"	2¼" to 2 13/16"	1	91247A516	9.37
7½"	2¼" to 2 13/16"	1	91247A517	10.05
8"	2¼" to 2 13/16"	1	91247A518	11.39
10"	2¼" to 2 13/16"	1	91247A521	14.72

1"-8—Head: Wd. 1½", Ht. 43/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1½"	Full	1	92865A908	4.48
1¾"	Full	1	92865A910	4.85
2"	Full	1	92865A912	4.97
2½"	Full	1	92865A914	4.44
3"	Full	1	92865A916	4.55

(Continued on following page)

Medium-Strength Steel Cap Screws—Grade 5 (Continued from previous page)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
Zinc Plated (Cont.)				
1"-8—Head: Wd. 1½", Ht. 43/64" (Cont.)				
3¼"	2¼" to 2⅞"	1	91247A917	$5.15
3½"	Full	1	92865A918	11.22
3½"	2¼" to 2⅞"	1	91247A918	4.90
3¾"	2¼" to 2⅞"	1	91247A919	5.15
4"	Full	1	92865A920	9.99
4"	2¼" to 2⅞"	1	91247A920	5.45
4½"	Full	1	92865A922	12.24
4½"	2¼" to 2⅞"	1	91247A922	5.71
5"	Full	1	92865A924	13.00
5"	2¼" to 2⅞"	1	91247A924	6.05
5½"	Full	1	92865A926	13.36
5½"	2¼" to 2⅞"	1	91247A926	6.77
1"-8 (Cont.)				
6"	Full	1	92865A928	$14.17
6"	2¼" to 2⅞"	1	91247A928	7.48
6½"	2½" to 3⅛"	1	91247A929	7.80
7"	2½" to 3⅛"	1	91247A930	8.27
7½"	2½" to 3⅛"	1	91247A931	8.61
8"	2½" to 3⅛"	1	91247A932	8.83
8½"	2½" to 3⅛"	1	91247A933	11.29
9"	2½" to 3⅛"	1	91247A935	12.05
10"	2½" to 3⅛"	1	91247A934	13.16
1"-14—Head: Wd. 1½", Ht. 43/64"				
2"	Full	1	92865A520	4.65
2½"	Full	1	92865A522	4.87
3"	Full	1	92865A524	5.24
1"-14 (Cont.)				
3¼"	2¼" to 2⅞"	1	91247A525	$5.15
3½"	2¼" to 2⅞"	1	91247A527	5.28
3¾"	2¼" to 2⅞"	1	91247A528	5.35
4"	2¼" to 2⅞"	1	91247A526	5.84
4½"	2¼" to 2⅞"	1	91247A531	6.01
5"	2¼" to 2⅞"	1	91247A532	6.11
5½"	2¼" to 2⅞"	1	91247A533	7.98
6"	2¼" to 2⅞"	1	91247A529	9.80
6½"	2½" to 3⅛"	1	91247A534	10.33
7"	2½" to 3⅛"	1	91247A499	10.35
8"	2½" to 3⅛"	1	91247A501	12.20
9"	2½" to 3⅛"	1	91247A502	16.38
10"	2½" to 3⅛"	1	91247A503	16.53
Uncoated				
1⅛"-7—Head: Wd. 1 11/16", Ht. 11/16"				
2"	Full	1	91283A128	4.73
2½"	Full	1	91283A132	4.90
3"	Full	1	91283A136	5.12
4"	2½" to 3¼"	1	91283A144	5.63
4½"	2½" to 3¼"	1	91283A148	6.00
5"	2½" to 3¼"	1	91283A150	6.09
5½"	2½" to 3¼"	1	91283A156	7.95
6½"	2¾" to 3½"	1	91283A151	9.16
7½"	2¾" to 3½"	1	91283A154	12.35
8"	2¾" to 3½"	1	91283A176	12.86
1¼"-7—Head: Wd. 1⅞", Ht. 27/32"				
2"	Full	1	91283A228	6.12
3"	Full	1	91283A236	6.29
3½"	Full	1	91283A240	7.17
4"	2¾" to 3½"	1	91283A244	7.49
4½"	2¾" to 3½"	1	91283A248	8.21
1¼"-7 (Cont.)				
5"	2¾" to 3½"	1	91283A252	9.15
5½"	2¾" to 3½"	1	91283A256	10.47
6"	2¾" to 3½"	1	91283A260	10.80
7"	3" to 3¾"	1	91283A268	12.58
8"	3" to 3¾"	1	91283A276	16.12
9"	3" to 3¾"	1	91283A278	17.50
10"	3" to 3¾"	1	91283A282	17.70
1¼"-12—Head: Wd. 1⅞", Ht. 27/32"				
4"	2¾" to 3½"	1	91283A310	9.90
5"	2¾" to 3½"	1	91283A315	11.66
6"	2¾" to 3½"	1	91283A320	13.86
7"	3" to 3¾"	1	91283A325	16.41
8"	3" to 3¾"	1	91283A330	19.82
1½"-6—Head: Wd. 2¼", Ht. 15/16"				
3"	Full	1	91283A436	9.36
3½"	Full	1	91283A440	10.02
1½"-6 (Cont.)				
4"	Full	1	91283A444	11.70
4½"	Full	1	91283A446	12.23
5"	3¼" to 4⅛"	1	91283A452	12.43
5½"	3¼" to 4⅛"	1	91283A450	14.19
6"	3¼" to 4⅛"	1	91283A460	14.47
7"	3½" to 4⅜"	1	91283A468	16.28
8"	3½" to 4⅜"	1	91283A476	20.69
1¾"-5—Head: Wd. 2⅝", Ht. 1 3/32"				
5"	4½" to Full	1	91283A552	★15.98
6"	3¾" to 4¾"	1	91283A554	★34.54
8"	4" to 5"	1	91283A576	★30.45
2"-4½—Head: Wd. 3", Ht. 1 7/32"				
5"	4 7/16" to Full	1	91283A652	★24.93
7"	4½" to 5⅝"	1	91283A668	★29.67

★ Meets ASME B18.2.1 and ASTM A449. Screws are Grade 5 but may not have radial lines. Minimum tensile strength is 90,000 psi. Minimum Rockwell hardness is B90.

Semi-Gloss Black

Choose a Thread Size	Choose a Screw Length	
1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13	1/2", 3/4", 1", 1 1/4", 1 1/2", 1 3/4", 2"	94967A111

Matte Black

Choose a Thread Size	Choose a Screw Length	
1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13	1/2", 3/4", 1", 1 1/4", 1 1/2", 2"	92965A888

Low-Strength Steel Cap Screws

Use these cap screws for general purpose applications. Made from steel with strength similar to that of Grade 2 steel, they have a minimum tensile strength of 60,000 psi, a minimum Rockwell hardness of B69, and a Class 2A thread fit. Length is measured from under the head. Screws meet ASME B18.2.1 and ASTM A307 (unless noted). For smaller screws, see hex-head machine screws on pages 3053-3054.

Zinc-plated screws have a thin layer of zinc for rust resistance.

Hot-dipped galvanized screws have a thick zinc coating that offers 10 times more rust resistance than zinc plating. They must be used with the hot-dipped galvanized nuts on page 3208.



Lg.	Thread Lg.	Pkg. Qty.		Pkg.
Zinc Plated				
1/4"-20—Head: Wd. 7/16", Ht. 11/64"				
3/8"	Full	100	91309A535■	$9.95
1/2"	Full	100	91309A537	3.18
5/8"	Full	100	91309A539	3.29
3/4"	Full	100	91309A540	4.14
7/8"	Full	100	91309A541	4.43
1"	Full	100	91309A542	5.61
1 1/4"	Full	100	91309A544	7.76
1 1/4"	3/4" to 1"	100	91236A544	5.59
1 1/2"	Full	100	91309A546	8.42
1 1/2"	3/4" to 1"	100	91236A546	6.94
1 3/4"	Full	100	91309A548	9.41
1 3/4"	3/4" to 1"	100	91236A548	7.25
2"	Full	50	91309A550	5.28
2"	3/4" to 1"	100	91236A550	7.91
2 1/4"	Full	25	91309A551	3.63
2 1/4"	3/4" to 1"	100	91236A551	9.44
2 1/2"	Full	25	91309A552	3.78
2 1/2"	3/4" to 1"	100	91236A552	9.94
2 3/4"	Full	25	91309A553	4.12
2 3/4"	3/4" to 1"	100	91236A553	10.63
3"	Full	25	91309A554	4.30
3"	3/4" to 1"	100	91236A554	10.80
1/4"-20 (Cont.)				
3 1/2"	Full	25	91309A556	$4.47
3 1/2"	3/4" to 1"	50	91236A556	9.16
4"	Full	25	91309A558	4.71
4"	3/4" to 1"	25	91236A558	5.23
4 1/2"	Full	25	91309A560	6.03
4 1/2"	3/4" to 1"	25	91236A560	6.99
5"	Full	25	91309A562	6.16
5"	3/4" to 1"	50	91236A562	13.47
5 1/2"	Full	25	91309A564	6.52
5 1/2"	3/4" to 1"	50	91236A564	13.54
6"	Full	25	91309A566	6.96
6"	3/4" to 1"	25	91236A566	9.33
7"	1" to 1 1/4"	10	91236A568	6.25
8"	1" to 1 1/4"	10	91236A570	7.93
1/4"-28—Head: Wd. 7/16", Ht. 5/32"				
1/2"	Full	100	91309A501■	9.86
3/4"	Full	100	91309A505■	11.78
5/16"-18—Head: Wd. 1/2", Ht. 7/32"				
1/2"	Full	100	91309A578	5.79
5/8"	Full	100	91309A580	6.18
3/4"	Full	100	91309A581	7.55
5/16"-18 (Cont.)				
7/8"	Full	100	91309A582	$7.70
1"	Full	100	91309A583	8.13
1 1/4"	Full	100	91309A585	9.29
1 1/2"	Full	50	91309A587	6.51
1 1/2"	7/8" to 1 3/16"	100	91236A587	9.56
1 3/4"	Full	25	91309A589	4.02
1 3/4"	7/8" to 1 3/16"	100	91236A589	10.32
2"	Full	25	91309A591	4.41
2"	7/8" to 1 3/16"	100	91236A591	11.67
2 1/4"	Full	50	91309A592	7.76
2 1/4"	7/8" to 1 3/16"	50	91236A592	6.95
2 1/2"	Full	50	91309A593	8.51
2 1/2"	7/8" to 1 3/16"	50	91236A593	8.38
2 3/4"	Full	25	91309A594	5.10
2 3/4"	7/8" to 1 3/16"	25	91236A594	5.74
3"	Full	25	91309A595	5.62
3"	7/8" to 1 3/16"	25	91236A595	5.92
3 1/2"	Full	10	91309A597	3.31
3 1/2"	7/8" to 1 3/16"	25	91236A597	6.90
4"	Full	10	91309A599	3.44
4"	7/8" to 1 3/16"	25	91236A599	7.83
4 1/2"	7/8" to 1 3/16"	25	91236A601	7.49

■ Meets ASME B18.2.1 and SAE J429.

(Continued on following page)

Low-Strength Steel Cap Screws *(Continued from previous page)*



Use these cap screws for general purpose applications. Made from steel with strength similar to that of Grade 2 steel, they have a minimum tensile strength of 60,000 psi, a minimum Rockwell hardness of B69, and a Class 2A thread fit. Length is measured from under the head. Screws meet ASME B18.2.1 and ASTM A307 (unless noted). For smaller screws, see hex-head machine screws on pages 3053-3054.

Zinc-plated screws have a thin layer of zinc for rust resistance.

Hot-dipped galvanized screws have a thick zinc coating that offers 10 times more rust resistance than zinc plating. They must be used with the hot-dipped galvanized nuts on page 3208.

Zinc Plated (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
5/16"-18—Head: Wd. 1/2", Ht. 7/32" (Cont.)				
5"	Full	10	91309A603	$5.05
5"	7/8" to 1 3/16"	25	91236A603	8.90
5 1/2"	7/8" to 1 3/16"	10	91236A605	5.18
6"	7/8" to 1 3/16"	25	91236A607	10.84
7"	1 1/8" to 1 7/16"	10	91236A609	6.47
8"	1 1/8" to 1 7/16"	10	91236A611	6.79
3/8"-16—Head: Wd. 9/16", Ht. 1/4"				
1/2"	Full	100	91309A619	7.64
5/8"	Full	50	91309A621■	9.64
3/4"	Full	100	91309A622	8.16
7/8"	Full	50	91309A623■	11.01
1"	Full	100	91309A624	9.69
1 1/4"	Full	25	91309A626	4.20
1 1/2"	Full	25	91309A628	4.33
1 1/2"	1" to 1 5/16"	50	91236A628	9.73
1 3/4"	Full	50	91309A630	9.67
1 3/4"	1" to 1 5/16"	25	91236A630	4.98
2"	Full	25	91309A632	5.86
2"	1" to 1 5/16"	25	91236A632	5.45
2 1/4"	Full	25	91309A633	6.86
2 1/4"	1" to 1 5/16"	50	91236A633	11.33
2 1/2"	Full	25	91309A634	6.52
2 1/2"	1" to 1 5/16"	50	91236A634	11.43
2 3/4"	Full	10	91309A635	3.49
2 3/4"	1" to 1 5/16"	50	91236A635	11.56
3"	Full	10	91309A636	3.83
3"	1" to 1 5/16"	25	91236A636	6.73
3 1/4"	1" to 1 5/16"	25	91236A637	7.64
3 1/2"	Full	25	91309A638	7.96
3 1/2"	1" to 1 5/16"	25	91236A638	8.38
4"	Full	10	91309A640	4.32
4"	1" to 1 5/16"	10	91236A640	4.49
4 1/2"	Full	10	91309A642	4.82
4 1/2"	1" to 1 5/16"	25	91236A642	11.70
5"	Full	10	91309A644	4.95
5"	1" to 1 5/16"	25	91236A644	12.32
5 1/2"	1" to 1 5/16"	25	91236A646	13.06
6"	Full	10	91309A648	5.63
6"	1" to 1 5/16"	10	91236A648	5.55
6 1/2"	1 1/4" to 1 9/16"	10	91236A649	6.80
7"	1 1/4" to 1 9/16"	10	91236A650	7.68
7 1/2"	1 1/4" to 1 9/16"	10	91236A651	8.08
8"	1 1/4" to 1 9/16"	10	91236A652	8.45
9"	1 1/4" to 1 9/16"	10	91236A654	9.49
10"	5 3/4" to 6 1/4"	5	91236A656	5.38
11"	5 3/4" to 6 1/4"	5	91236A657	5.67
12"	5 3/4" to 6 1/4"	5	91236A658	7.40
7/16"-14—Head: Wd. 5/8", Ht. 19/64"				
1"	Full	25	91309A669	4.51
1 1/4"	Full	50	91309A671	9.36
1 1/2"	1 1/8" to Full	50	91309A673	10.42
1 3/4"	1 1/8" to 1 1/2"	50	91236A675	12.90
2"	1 1/8" to 1 1/2"	25	91236A677	7.02
2 1/2"	1 1/8" to 1 1/2"	25	91236A679	9.44
3"	1 1/8" to 1 1/2"	10	91236A681	4.42
3 1/2"	1 1/8" to 1 1/2"	25	91236A683	12.15
4"	1 1/8" to 1 1/2"	25	91236A685	12.67
1/2"-13—Head: Wd. 3/4", Ht. 11/32"				
1/2"	Full	10	91309A706■	10.02
3/4"	Full	50	91309A710	10.46
7/8"	Full	25	91309A711■	11.25
1/2"-13 (Cont.)				
1"	Full	25	91309A712	$6.61
1 1/4"	Full	25	91309A714	7.52
1 1/2"	Full	25	91309A716	8.47
1 3/4"	Full	25	91309A718	8.91
2"	Full	25	91309A720	9.09
2"	1 1/4" to 1 11/16"	10	91236A720	3.73
2 1/4"	Full	10	91309A721	4.31
2 1/4"	1 1/4" to 1 11/16"	10	91236A721	4.61
2 1/2"	Full	10	91309A722	4.64
2 1/2"	1 1/4" to 1 11/16"	25	91236A722	11.23
2 3/4"	Full	10	91309A723	5.71
2 3/4"	1 1/4" to 1 11/16"	25	91236A723	11.95
3"	Full	10	91309A724	6.24
3"	1 1/4" to 1 11/16"	25	91236A724	12.17
3 1/4"	Full	5	91309A725	6.96
3 1/4"	1 1/4" to 1 11/16"	25	91236A725	12.94
3 1/2"	Full	10	91309A726	6.38
3 1/2"	1 1/4" to 1 11/16"	10	91236A726	5.48
3 3/4"	Full	5	91309A727	6.67
4"	Full	10	91309A728	6.68
4"	1 1/4" to 1 11/16"	10	91236A728	6.82
4 1/2"	Full	5	91309A730	6.84
4 1/2"	1 1/4" to 1 11/16"	10	91236A730	7.65
5"	Full	5	91309A732	4.31
5"	1 1/4" to 1 11/16"	10	91236A732	8.34
5 1/2"	1 1/4" to 1 11/16"	10	91236A734	9.07
6"	Full	5	91309A736	5.69
6"	1 1/4" to 1 11/16"	10	91236A736	11.89
6 1/2"	1 1/2" to 1 7/8"	10	91236A737	12.92
7"	1 1/2" to 1 7/8"	5	91236A738	7.07
8"	1 1/2" to 1 7/8"	5	91236A740	7.70
9"	1 1/2" to 1 7/8"	5	91236A742	7.41
10"	5 3/4" to 6 1/4"	5	91236A744	8.22
11"	5 3/4" to 6 1/4"	5	91236A746	9.97
12"	5 3/4" to 6 1/4"	5	91236A750	10.97
14"	5 3/4" to 6 1/4"	1	91236A969	2.65
16"	5 3/4" to 6 1/4"	1	91236A971	3.25
18"	5 3/4" to 6 1/4"	1	91236A972	2.84
20"	5 3/4" to 6 1/4"	1	91236A974	2.33
5/8"-11—Head: Wd. 15/16", Ht. 27/64"				
1"	Full	25	91309A794	9.86
1 1/4"	Full	25	91309A796	10.22
1 1/2"	Full	25	91309A798	10.99
1 3/4"	Full	10	91309A800	8.51
2"	Full	10	91309A802	8.83
2 1/4"	1 1/2" to 2"	10	91236A803	6.91
2 1/2"	Full	10	91309A804	11.23
2 1/2"	1 1/2" to 2"	10	91236A804	7.73
3"	Full	5	91309A806	6.55
3"	1 1/2" to 2"	10	91236A806	8.39
3 1/4"	1 1/2" to 2"	10	91236A807	9.39
3 1/2"	Full	5	91309A808	7.30
3 1/2"	1 1/2" to 2"	10	91236A808	10.37
4"	Full	5	91309A810	7.52
4"	1 1/2" to 2"	10	91236A810	11.94
4 1/2"	1 1/2" to 2"	5	91236A812	6.83
5"	Full	5	91309A814	8.65
5"	1 1/2" to 2"	5	91236A814	7.68
5 1/2"	1 1/2" to 2"	5	91236A816	7.63
5/8"-11 (Cont.)				
6"	Full	1	91309A818	$2.12
6"	1 1/2" to 2"	5	91236A818	7.71
6 1/2"	1 3/4" to 2 1/4"	5	91236A819	10.81
7"	1 3/4" to 2 1/4"	5	91236A820	11.09
8"	1 3/4" to 2 1/4"	5	91236A822	11.80
9"	1 3/4" to 2 1/4"	5	91236A824	12.88
10"	5 3/4" to 6 1/4"	1	91236A826	2.73
11"	5 3/4" to 6 1/4"	1	91236A827	3.25
12"	5 3/4" to 6 1/4"	1	91236A828	2.16
14"	5 3/4" to 6 1/4"	1	91236A978	2.91
3/4"-10—Head: Wd. 1 1/8", Ht. 1/2"				
1"	Full	10	91309A835	7.99
1 1/4"	Full	5	91309A837■	7.37
1 1/2"	Full	10	91309A839	7.74
1 3/4"	Full	10	91309A841	9.58
2"	Full	10	91309A843	9.64
2 1/4"	Full	5	91309A844	8.93
2 1/2"	Full	10	91309A845	10.69
2 3/4"	Full	5	91309A846	12.98
3"	Full	5	91309A847	6.77
3"	1 3/4" to 2 1/4"	5	91236A847	6.44
3 1/2"	Full	5	91309A849	8.04
3 1/2"	1 3/4" to 2 1/4"	5	91236A849	7.19
4"	Full	5	91309A851	10.06
4"	1 3/4" to 2 1/4"	5	91236A851	9.22
4 1/2"	1 3/4" to 2 1/4"	5	91236A853	10.38
5"	Full	5	91309A855	10.29
5"	1 3/4" to 2 1/4"	5	91236A855	10.72
5 1/2"	1 3/4" to 2 1/4"	5	91236A857	12.09
6"	Full	5	91309A859	11.67
6"	1 3/4" to 2 1/4"	1	91236A859	2.88
6 1/2"	2" to 2 1/2"	1	91236A860	2.75
7"	2" to 2 1/2"	1	91236A861	3.15
8"	2" to 2 1/2"	1	91236A863	2.20
9"	2" to 2 1/2"	1	91236A865	3.16
10"	5 3/4" to 6 1/4"	1	91236A866	3.28
12"	5 3/4" to 6 1/4"	1	91236A868	3.84
14"	5 3/4" to 6 1/4"	1	91236A872	4.07
7/8"-9—Head: Wd. 15/16", Ht. 37/64"				
1 1/2"	Full	5	91309A876	7.17
2"	Full	5	91309A880	8.91
2 1/2"	Full	1	91309A882	1.04
3"	2" to 2 9/16"	1	91236A884	1.18
4"	2" to 2 9/16"	1	91236A888	1.54
5"	2" to 2 9/16"	1	91236A892	1.76
7"	2 1/4" to 2 13/16"	1	91236A898	2.48
8"	2 1/4" to 2 13/16"	1	91236A899	2.73
1"-8—Head: Wd. 1 1/2", Ht. 43/64"				
1 1/2"	Full	1	91309A908■	3.62
2"	Full	5	91309A912	13.08
2 1/4"	Full	1	91309A913■	5.01
2 1/2"	Full	1	91309A914	1.43
2 3/4"	2 1/4" to Full	1	91309A918■	5.09
3"	2 1/4" to 2 7/8"	1	91309A922■	5.30
3 1/2"	2 1/4" to 2 7/8"	1	91236A918	1.81
4"	2 1/4" to 2 7/8"	1	91236A920	1.96
5"	2 1/4" to 2 7/8"	1	91236A924	2.34
6"	2 1/4" to 2 7/8"	1	91236A928	2.82
8"	2 1/2" to 3 1/8"	1	91236A932	4.34
10"	5 3/4" to 6 1/4"	1	91236A934	4.43
12"	5 3/4" to 6 1/4"	1	91236A936	5.33

Hot-Dipped Galvanized

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4"-20—Head: Wd. 7/16", Ht. 11/64"				
1"	Full	100	95373A142	6.84
1 1/2"	3/4" to 1"	100	95373A146	9.74
2"	3/4" to 1"	100	95373A150	11.72
2 1/2"	3/4" to 1"	25	95373A152	6.81
3"	3/4" to 1"	25	95373A154	8.04
3/8"-16—Head: Wd. 9/16", Ht. 1/4"				
1"	Full	50	95373A163	8.28
1 1/2"	1" to 1 5/16"	25	95373A165	5.84
2"	1" to 1 5/16"	25	95373A168	7.31
3/8"-16 (Cont.)				
2 1/2"	1" to 1 5/16"	25	95373A171	8.27
3"	1" to 1 5/16"	25	95373A174	9.65
3 1/2"	1" to 1 5/16"	5	95373A175	4.98
4"	1" to 1 5/16"	25	95373A176	11.24
5"	1" to 1 5/16"	10	95373A179	4.30
1/2"-13—Head: Wd. 3/4", Ht. 11/32"				
1 1/4"	Full	25	95373A184	9.22
1 1/2"	Full	25	95373A187	9.60
2"	1 1/4" to 1 11/16"	25	95373A193	11.91
1/2"-13 (Cont.)				
3"	1 1/4" to 1 11/16"	10	95373A198	6.45
3 1/2"	1 1/4" to 1 11/16"	5	95373A201	5.00
4"	1 1/4" to 1 11/16"	10	95373A205	8.20
5"	1 1/4" to 1 11/16"	10	95373A209	10.11
6"	1 1/4" to 1 11/16"	10	95373A213	11.53
5/8"-11—Head: Wd. 15/16", Ht. 27/64"				
2"	Full	10	95373A217	8.25
3"	1 1/2" to 2"	10	95373A221	11.26
4"	1 1/2" to 2"	10	95373A224	12.70

■ Meets ASME B18.2.1 and SAE J429.

Metric Extreme-Strength Steel Cap Screws—Class 12.9

Our strongest metric cap screws, these have a minimum tensile strength of 170,000 psi. They also have a dark surface color, a minimum Rockwell hardness of C39, and a Class 6g thread fit. All meet DIN 933. Length is measured from under the head.



Lg., mm	Thread Lg.	Pkg. Qty.		Pkg.
M6—Pitch: 1 mm				
Head: Wd. 10 mm, Ht. 4 mm				
20	Full	10	90373A011	$4.33
25	Full	10	90373A012	6.33
30	Full	10	90373A013	6.33
M8—Pitch: 1.25 mm				
Head: Wd. 13 mm, Ht. 5.3 mm				
16	Full	10	90373A101	4.67
20	Full	10	90373A102	5.15
25	Full	10	90373A103	5.80
30	Full	10	90373A104	6.50
35	Full	10	90373A105	7.20
40	Full	10	90373A106	7.80
50	Full	10	90373A107	10.00
M10—Pitch: 1.5 mm				
Head: Wd. 17 mm, Ht. 6.4 mm				
20	Full	10	90373A111	8.90
25	Full	10	90373A112	9.90
30	Full	10	90373A113	10.67
M10 (Cont.)				
35	Full	10	90373A114	$12.10
40	Full	5	90373A115	6.58
50	Full	5	90373A116	7.63
M12—Pitch: 1.75 mm				
Head: Wd. 19 mm, Ht. 7.5 mm				
25	Full	5	90373A121	7.15
30	Full	5	90373A122	7.88
35	Full	5	90373A123	8.68
40	Full	5	90373A124	9.48
50	Full	5	90373A125	9.67
60	Full	5	90373A126	11.83
M14—Pitch: 2 mm				
Head: Wd. 22 mm, Ht. 8.8 mm				
30	Full	1	90373A127	2.43
35	Full	1	90373A128	2.65
40	Full	1	90373A129	2.84
50	Full	1	90373A131	3.26
M16—Pitch: 2 mm				
Head: Wd. 24 mm, Ht. 10 mm				
30	Full	1	90373A132	$3.22
35	Full	1	90373A133	3.51
40	Full	1	90373A134	3.78
50	Full	1	90373A142	4.32
M20—Pitch: 2.5 mm				
Head: Wd. 30 mm, Ht. 12.5 mm				
40	Full	1	90373A135	6.58
50	Full	1	90373A136	7.44
60	Full	1	90373A137	7.50
M24—Pitch: 3 mm				
Head: Wd. 36 mm, Ht. 15 mm				
50	Full	1	90373A138	11.98
60	Full	1	90373A139	13.27
70	Full	1	90373A141	15.67

Metric High-Strength Steel Cap Screws—Class 10.9

The standard for high-strength metric cap screws, these are made from material that's comparable to Grade 8 steel. They have a minimum tensile strength of 150,000 psi and a minimum Rockwell hardness of C32. Length is measured from under the head. Fully threaded screws meet DIN 933. Partially threaded screws meet DIN 931.

Zinc yellow-chromate plated screws are rust resistant and have a Class 6h thread fit.

Uncoated screws have a dark surface color and a Class 6g thread fit.

High-visibility blue screws have a distinctive blue color that makes them easy to distinguish from inch screws and are zinc plated for corrosion resistance. They have a Class 6g thread fit.



Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
Zinc Yellow-Chromate Plated				
M6—Pitch: 1 mm				
Head: Wd. 10 mm, Ht. 4 mm				
12	Full	50	90854A127	$8.21
16	Full	50	90854A132	8.88
20	Full	50	90854A135	9.40
25	Full	50	90854A139	9.68
30	Full	50	90854A142	10.37
30	18 to 23	50	95327A521	10.34
35	Full	50	90854A145	12.57
40	Full	50	90854A148	13.22
40	18 to 23	25	95327A528	6.44
45	18 to 23	25	95327A531	7.07
50	18 to 23	25	95327A535	9.15
M8—Pitch: 1.25 mm				
Head: Wd. 13 mm, Ht. 5.3 mm				
16	Full	25	90854A161	8.02
20	Full	25	90854A164	7.15
25	Full	25	90854A167	8.97
30	Full	25	90854A170	9.40
30	22 to 29	25	95327A562	11.92
35	Full	25	90854A172	11.10
35	22 to 29	25	95327A566	10.14
40	Full	25	90854A175	10.97
40	22 to 29	25	95327A569	12.39
45	22 to 29	25	95327A573	13.01
50	Full	10	90854A178	6.37
50	22 to 29	10	95327A577	6.02
55	22 to 29	10	95327A581	6.78
60	Full	10	90854A180	7.05
60	22 to 29	10	95327A585	7.16
70	22 to 29	10	95327A589	8.05
75	22 to 29	10	95327A591	7.82
80	22 to 29	10	95327A594	9.54
90	22 to 29	10	95327A598	10.24
100	22 to 29	10	95327A603	10.30
M10—Pitch: 1.5 mm				
Head: Wd. 17 mm, Ht. 6.4 mm				
16	Full	25	90854A184	11.75
20	Full	25	90854A186	12.43
25	Full	10	90854A189	6.30
30	Full	10	90854A192	6.77
M10 (Cont.)				
35	Full	10	90854A195	$7.12
35	26 to 34	10	95327A618	7.53
40	Full	10	90854A197	7.65
40	26 to 34	10	95327A622	7.75
45	Full	10	90854A201	7.68
45	26 to 34	10	95327A626	8.54
50	Full	10	90854A205	9.37
50	26 to 34	10	95327A629	9.36
60	Full	10	90854A213	10.38
60	26 to 34	10	95327A633	10.50
65	26 to 34	10	95327A637	10.32
70	26 to 34	10	95327A641	11.87
75	26 to 34	10	95327A643	12.52
80	26 to 34	10	95327A644	12.71
90	26 to 34	10	95327A647	13.35
100	26 to 34	5	95327A652	8.14
110	26 to 34	5	95327A655	10.95
120	26 to 34	5	95327A659	11.26
M12—Pitch: 1.75 mm				
Head: Wd. 19 mm, Ht. 7.5 mm				
20	Full	10	90854A220	8.41
25	Full	10	90854A223	9.12
30	Full	10	90854A226	9.78
35	Full	10	90854A229	10.43
40	Full	10	90854A232	12.10
40	30 to 39	10	95327A673	12.22
45	Full	10	90854A235	12.33
45	30 to 39	10	95327A678	12.94
50	Full	10	90854A239	12.02
50	30 to 39	5	95327A681	5.94
55	30 to 39	5	95327A684	7.81
60	Full	5	90854A243	8.03
60	30 to 39	5	95327A688	7.89
65	30 to 39	5	95327A692	7.97
70	30 to 39	5	95327A695	9.20
75	30 to 39	5	95327A698	10.54
80	30 to 39	5	95327A701	10.85
90	30 to 39	5	95327A704	11.05
100	30 to 39	5	95327A708	11.73
110	30 to 39	1	95327A712	2.29
120	30 to 39	1	95327A716	2.38
M14—Pitch: 2 mm				
Head: Wd. 22 mm, Ht. 8.8 mm				
25	Full	5	90854A253	$6.86
30	Full	10	90854A256	12.66
35	Full	5	90854A258	7.07
40	Full	5	90854A261	8.21
45	Full	5	90854A264	9.15
50	Full	5	90854A267	9.52
50	34 to 44	5	95327A731	10.67
60	34 to 44	5	95327A733	12.31
70	34 to 44	1	95327A736	2.64
80	34 to 44	1	95327A739	2.68
90	34 to 44	1	95327A742	2.83
100	34 to 44	1	95327A745	3.09
M16—Pitch: 2 mm				
Head: Wd. 24 mm, Ht. 10 mm				
30	Full	5	90854A270	9.23
35	Full	5	90854A273	9.90
40	Full	5	90854A276	10.54
45	Full	5	90854A279	11.35
50	Full	5	90854A282	12.13
50	38 to 48	5	95327A761	12.03
55	Full	5	90854A286	12.50
55	38 to 48	5	95327A764	12.99
60	38 to 48	1	95327A767	2.44
65	38 to 48	1	95327A771	2.65
70	38 to 48	1	95327A774	2.76
75	38 to 48	1	95327A777	2.94
80	38 to 48	1	95327A782	3.28
90	38 to 48	1	95327A785	3.50
100	38 to 48	1	95327A789	3.55
110	38 to 48	1	95327A792	3.56
120	38 to 48	1	95327A795	4.06
M20—Pitch: 2.5 mm				
Head: Wd. 30 mm, Ht. 12.5 mm				
40	Full	1	90854A302	2.49
45	Full	1	90854A306	2.88
50	Full	1	90854A309	3.03
55	Full	1	90854A314	3.27
60	Full	1	90854A317	3.49
70	46 to 59	1	95327A810	4.15
80	46 to 59	1	95327A814	4.35

(Continued on following page)

Metric High-Strength Steel Cap Screws—Class 10.9 *(Continued from previous page)*



The standard for high-strength metric cap screws, these are made from material that's comparable to Grade 8 steel. They have a minimum tensile strength of 150,000 psi and a minimum Rockwell hardness of C32. Length is measured from under the head. Fully threaded screws meet DIN 933. Partially threaded screws meet DIN 931.

Zinc yellow-chromate plated screws are rust resistant and have a Class 6h thread fit.

Uncoated screws have a dark surface color and a Class 6g thread fit.

High-visibility blue screws have a distinctive blue color that makes them easy to distinguish from inch screws and are zinc plated for corrosion resistance. They have a Class 6g thread fit.

Zinc Yellow-Chromate Plated (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
M20—Pitch: 2.5 mm				
Head: Wd. 30 mm, Ht. 12.5 mm (Cont.)				
90	46 to 59	1	95327A818	$4.78
100	46 to 59	1	95327A820	5.65
110	46 to 59	1	95327A825	6.77
120	46 to 59	1	95327A829	7.29
M24—Pitch: 3 mm				
Head: Wd. 36 mm, Ht. 15 mm				
40	Full	1	90854A319	4.55
50	Full	1	90854A333	5.10
M24 (Cont.)				
60	Full	1	90854A336	$5.67
65	Full	1	90854A338	5.96
70	Full	1	90854A339	6.83
80	54 to 69	1	95327A842	6.95
90	54 to 69	1	95327A845	7.33
100	54 to 69	1	95327A849	7.80
110	54 to 69	1	95327A853	10.09
120	54 to 69	1	95327A859	10.83
M30—Pitch: 3.5 mm				
Head: Wd. 46 mm, Ht. 18.7 mm				
70	Full	1	90854A369	$11.74
80	Full	1	90854A375	12.26
90	Full	1	90854A379	14.35
100	Full	1	90854A382	15.13

Uncoated

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
M5—Pitch: 0.8 mm				
Head: Wd. 8 mm, Ht. 3.5 mm				
10	Full	25	91310A121	6.93
12	Full	25	91310A122	7.27
16	Full	25	91310A123	7.73
20	Full	25	91310A124	8.18
25	Full	25	91310A125	8.64
M6—Pitch: 1 mm				
Head: Wd. 10 mm, Ht. 4 mm				
10	Full	50	91310A126	6.43
12	Full	50	91310A330	7.92
16	Full	50	91310A332	9.60
20	Full	50	91310A333	9.24
25	Full	50	91310A335	9.98
25	18 to 23	100	91310A334	14.08
30	Full	50	91310A338	10.04
30	18 to 23	50	91310A438	9.51
35	Full	50	91310A341	12.00
40	Full	25	91310A342	7.21
40	18 to 23	50	91310A442	9.64
45	18 to 23	50	91310A444	10.65
50	Full	25	91310A127	7.16
50	18 to 23	50	91310A446	11.79
60	Full	25	91310A128	8.07
M8—Pitch: 1.25 mm				
Head: Wd. 13 mm, Ht. 5.3 mm				
12	Full	50	91310A131	10.00
16	Full	50	91310A530	9.85
20	Full	50	91310A533	10.57
25	Full	50	91310A535	11.05
30	Full	25	91310A536	6.80
30	22 to 29	25	91310A538	7.91
35	Full	25	91310A539	9.23
40	Full	25	91310A541	9.50
40	22 to 29	25	91310A542	8.48
45	Full	25	91310A132	11.59
45	22 to 29	25	91310A544	9.02
50	Full	25	91310A543	11.65
50	22 to 29	25	91310A546	9.56
55	22 to 29	25	91310A548	11.30
60	Full	25	91310A545	13.08
60	22 to 29	25	91310A550	11.30
70	Full	10	91310A133	7.51
70	22 to 29	25	91310A554	11.43
75	22 to 29	10	91310A556	6.54
80	Full	10	91310A134	8.09
80	22 to 29	10	91310A558	6.34
90	22 to 29	10	91310A562	8.23
100	22 to 29	10	91310A566	9.38
M10—Pitch: 1.5 mm				
Head: Wd. 17 mm, Ht. 6.4 mm				
10	Full	10	91310A135	10.45
12	Full	25	91310A136	12.04
16	Full	25	91310A620	9.99
20	Full	25	91310A623	11.00
25	Full	25	91310A626	12.12
30	Full	10	91310A630	6.25
35	Full	10	91310A633	6.67
35	26 to 34	25	91310A636	11.55
M10 (Cont.)				
40	Full	10	91310A635	7.56
40	26 to 34	25	91310A638	11.96
45	Full	10	91310A637	7.85
45	26 to 34	10	91310A640	6.64
50	Full	10	91310A639	8.03
50	26 to 34	10	91310A642	6.71
60	Full	10	91310A641	8.76
60	26 to 34	10	91310A646	7.06
65	26 to 34	10	91310A648	8.39
70	Full	10	91310A137	11.03
70	26 to 34	10	91310A650	9.61
75	26 to 34	10	91310A653	10.09
80	Full	10	91310A138	11.13
80	26 to 34	10	91310A654	10.13
90	Full	10	91310A139	15.51
90	26 to 34	10	91310A655	10.97
100	Full	10	91310A141	13.20
100	26 to 34	10	91310A658	11.40
110	26 to 34	5	91310A662	6.91
120	26 to 34	5	91310A665	6.95
M12—Pitch: 1.75 mm				
Head: Wd. 19 mm, Ht. 7.5 mm				
20	Full	10	91310A706	6.14
25	Full	10	91310A709	6.71
30	Full	10	91310A712	7.56
35	Full	10	91310A715	8.14
40	Full	10	91310A718	9.48
40	30 to 39	10	91310A720	7.58
45	Full	10	91310A142	11.52
45	30 to 39	10	91310A722	8.54
50	Full	10	91310A727	10.08
50	30 to 39	10	91310A724	9.00
55	30 to 39	10	91310A726	9.12
60	Full	10	91310A725	11.12
60	30 to 39	10	91310A728	9.27
65	30 to 39	10	91310A730	10.19
70	Full	10	91310A143	12.68
70	30 to 39	10	91310A732	11.18
80	Full	10	91310A144	13.20
80	30 to 39	10	91310A736	11.79
90	Full	10	91310A145	13.47
90	30 to 39	5	91310A740	7.65
100	Full	5	91310A146	8.40
100	30 to 39	5	91310A742	8.30
110	30 to 39	5	91310A746	9.11
120	30 to 39	5	91310A750	9.40
M14—Pitch: 2 mm				
Head: Wd. 22 mm, Ht. 8.8 mm				
25	Full	10	91310A760	10.54
30	Full	10	91310A762	11.28
35	Full	10	91310A764	11.57
40	Full	10	91310A766	11.71
45	Full	10	91310A768	12.28
50	Full	10	91310A147	13.24
50	34 to 44	5	91310A786	7.96
60	Full	10	91310A148	13.74
60	34 to 44	5	91310A788	8.00
70	34 to 44	5	91310A790	8.91
M14 (Cont.)				
80	34 to 44	5	91310A792	10.50
90	34 to 44	5	91310A794	10.70
100	34 to 44	5	91310A796	12.99
M16—Pitch: 2 mm				
Head: Wd. 24 mm, Ht. 10 mm				
25	Full	5	91310A149	8.44
30	Full	5	91310A830	7.56
35	Full	5	91310A833	8.69
40	Full	5	91310A836	8.78
45	Full	5	91310A839	9.27
50	Full	5	91310A842	10.00
50	38 to 48	5	91310A844	8.50
55	38 to 48	5	91310A846	9.11
60	Full	5	91310A845	10.67
60	38 to 48	5	91310A848	8.86
70	Full	5	91310A151	11.63
70	38 to 48	5	91310A852	9.55
75	38 to 48	1	91310A853	2.10
80	Full	5	91310A152	12.50
80	38 to 48	5	91310A856	10.63
90	Full	5	91310A153	13.33
100	Full	5	91310A154	13.69
100	38 to 48	5	91310A860	12.38
110	38 to 48	5	91310A864	13.27
120	38 to 48	1	91310A868	2.83
M18—Pitch: 2.5 mm				
Head: Wd. 27 mm, Ht. 11.5 mm				
55	37 to 47	5	91310A113	7.67
60	37 to 47	5	91310A114	8.19
70	37 to 47	5	91310A115	8.99
80	37 to 47	5	91310A116	9.00
100	37 to 47	5	91310A117	10.65
M20—Pitch: 2.5 mm				
Head: Wd. 30 mm, Ht. 12.5 mm				
30	Full	5	91310A155	13.68
35	Full	5	91310A156	14.04
40	Full	1	91310A870	1.68
45	Full	1	91310A873	1.74
50	Full	1	91310A876	1.86
60	Full	1	91310A879	3.41
70	Full	1	91310A881	3.78
70	46 to 59	1	91310A889	3.02
80	Full	1	91310A157	3.78
80	46 to 59	1	91310A956	3.30
90	Full	1	91310A158	4.02
90	46 to 59	1	91310A957	3.35
100	Full	1	91310A159	4.38
100	46 to 59	1	91310A958	3.87
110	46 to 59	1	91310A960	4.06
120	46 to 59	1	91310A964	4.56
M24—Pitch: 3 mm				
Head: Wd. 36 mm, Ht. 15 mm				
40	Full	1	91310A403	3.70
50	Full	1	91310A406	4.14
60	Full	1	91310A409	4.60
65	Full	1	91310A412	4.75
70	Full	1	91310A415	5.96

(Continued on following page)

Metric High-Strength Steel Cap Screws—Class 10.9 *(Continued from previous page)*

Uncoated (Cont.)

M24—Pitch: 3 mm
Head: Wd. 36 mm, Ht. 15 mm (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
80	Full	1	91310A161	$5.75
80	54 to 69	1	91310A417	6.28
90	Full	1	91310A162	6.16
90	54 to 69	1	91310A419	6.54

M24 (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
100	Full	1	91310A163	$6.64
100	54 to 69	1	91310A421	7.27
120	54 to 69	1	91310A422	8.17

M30—Pitch: 3.5 mm
Head: Wd. 46 mm, Ht. 18.7 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
50	Full	1	91310A111	7.05
60	Full	1	91310A112	7.55

M30 (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
70	Full	1	91310A425	$7.77
80	Full	1	91310A427	8.44
90	Full	1	91310A429	8.49
100	Full	1	91310A431	9.90

High-Visibility Blue

M6—Pitch: 1 mm
Head: Wd. 10 mm, Ht. 4 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
16	Full	50	90180A611	10.93
20	Full	50	90180A612	12.40
25	Full	50	90180A613	14.70
30	18 to 23	25	90180A614	8.51
35	18 to 23	25	90180A615	9.35
40	18 to 23	25	90180A616	9.97
50	18 to 23	25	90180A617	11.91

M8—Pitch: 1.25 mm
Head: Wd. 13 mm, Ht. 5.3 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
16	Full	25	90180A618	10.39
20	Full	25	90180A619	11.29
25	Full	25	90180A621	12.29
30	Full	25	90180A622	13.69
35	22 to 29	10	90180A623	7.54
40	22 to 29	10	90180A624	7.79
50	22 to 29	10	90180A625	7.87
60	22 to 29	10	90180A626	9.51
70	22 to 29	10	90180A627	10.46
80	22 to 29	10	90180A628	12.45

M10—Pitch: 1.5 mm
Head: Wd. 17 mm, Ht. 6.4 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
20	Full	10	90180A629	7.61
25	Full	10	90180A631	8.51
30	Full	10	90180A632	9.13
35	Full	10	90180A633	10.01
40	26 to 34	10	90180A634	11.23
50	26 to 34	5	90180A635	6.58

M10 (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
60	26 to 34	5	90180A636	7.91
70	26 to 34	5	90180A637	8.95
75	26 to 34	5	90180A638	9.10
80	26 to 34	5	90180A639	10.06
90	26 to 34	5	90180A641	11.09
100	26 to 34	5	90180A642	14.04
120	26 to 34	1	90180A643	3.65

M12—Pitch: 1.75 mm
Head: Wd. 19 mm, Ht. 7.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
20	Full	5	90180A644	5.57
25	Full	5	90180A645	5.95
30	Full	5	90180A646	6.57
35	Full	5	90180A647	7.21
40	Full	5	90180A648	7.92
45	Full	5	90180A649	8.53
50	30 to 39	5	90180A651	9.85
60	30 to 39	5	90180A652	11.35
70	30 to 39	5	90180A653	12.81
80	30 to 39	1	90180A654	2.83
90	30 to 39	1	90180A655	3.03
100	30 to 39	1	90180A656	3.51
110	30 to 39	1	90180A657	3.69
120	30 to 39	1	90180A658	3.77

M16—Pitch: 2 mm
Head: Wd. 24 mm, Ht. 10 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
30	Full	5	90180A659	13.97
35	Full	5	90180A661	15.00

M16 (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
40	Full	5	90180A662	15.71
45	Full	1	90180A663	3.40
50	Full	1	90180A664	3.60
60	38 to 48	1	90180A665	3.97
70	38 to 48	1	90180A666	4.74
80	38 to 48	1	90180A667	5.40
100	38 to 48	1	90180A668	6.67
120	38 to 48	1	90180A669	7.54
140	38 to 48	1	90180A671	8.69

M20—Pitch: 2.5 mm
Head: Wd. 30 mm, Ht. 12.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
60	Full	1	90180A672	6.00
70	46 to 59	1	90180A673	4.16
80	46 to 59	1	90180A674	7.61
90	46 to 59	1	90180A675	7.61
100	46 to 59	1	90180A676	9.22
120	46 to 59	1	90180A677	10.68
140	46 to 59	1	90180A678	12.35

M24—Pitch: 3 mm
Head: Wd. 36 mm, Ht. 15 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
80	54 to 69	1	90180A679	12.80
90	54 to 69	1	90180A681	14.00
100	54 to 69	1	90180A682	21.52
120	54 to 69	1	90180A683	15.80
140	54 to 69	1	90180A684	20.21
150	54 to 69	1	90180A685	20.70

Metric Medium-Strength Steel Cap Screws—Class 8.8

Screws are made from heat-treated steel that's comparable to Grade 5 steel. They have a minimum tensile strength of 115,000 psi and a minimum Rockwell hardness of C21. Length is measured from under the head. Sizes M6 and larger are marked on the head with 8.8. Zinc-plated and zinc yellow-chromate plated screws are rust resistant. Uncoated screws have a dark surface color.

Zinc Plated and **Uncoated**—Screws have a Class 6h thread fit. Fully threaded screws meet DIN 933, except fine and extra-fine pitch screws meet DIN 961. Partially threaded screws meet DIN 931, except fine and extra-fine pitch screws meet DIN 960.

JIS Zinc Yellow-Chromate Plated—Made to Japanese Industrial Standards, these screws meet JIS B 1180. They have a Class 6g thread fit.

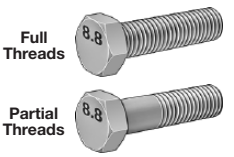

Zinc Plated

M3—Pitch: 0.5 mm
Head: Wd. 5.5 mm, Ht. 2 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
6	Full	100	91280A102	$7.71
8	Full	100	91280A104	7.80
10	Full	100	91280A106	8.05
12	Full	100	91280A108	8.78
16	Full	100	91280A112	9.80
20	Full	100	91280A116	10.00
25	Full	100	91280A121	11.11

M4—Pitch: 0.7 mm
Head: Wd. 7 mm, Ht. 2.8 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
6	Full	100	91280A127	6.13
8	Full	100	91280A128	6.35
10	Full	100	91280A132	6.43
12	Full	100	91280A134	6.48
14	Full	50	91280A135	4.12
16	Full	100	91280A136	6.61
20	Full	100	91280A140	7.19
22	Full	50	91280A142	6.04
25	Full	100	91280A144	7.20
30	Full	100	91280A148	8.20
35	Full	100	91280A150	9.09
40	Full	100	91280A152	10.39
45	13 to 18	25	91280A149	2.65
50	13 to 18	100	91280A154	10.86

M5—Pitch: 0.8 mm
Head: Wd. 8 mm, Ht. 3.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
6	Full	100	91280A221	$9.37
8	Full	100	91280A223	9.39
10	Full	100	91280A222	8.91
12	Full	100	91280A224	8.50
14	Full	100	91280A225	9.50
16	Full	100	91280A226	10.01
20	Full	100	91280A230	10.89
22	Full	100	91280A232	13.09
25	Full	100	91280A234	11.68
30	Full	50	91280A238	7.96
35	Full	50	91280A240	8.23
40	Full	50	91280A242	9.05
45	Full	50	91280A244	9.27
50	Full	50	91280A246	9.52
60	Full	25	91280A248	4.78
65	16 to 20	25	91280A249	7.96
70	16 to 20	25	91280A254	5.78
80	16 to 20	25	91280A264	6.73

M6—Pitch: 1 mm
Head: Wd. 10 mm, Ht. 4 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
6	Full	100	91280A975	12.00
8	Full	100	91280A321	6.59
10	Full	100	91280A322	7.38
12	Full	100	91280A324	8.11

M6 (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
14	Full	100	91280A325	$8.78
16	Full	100	91280A326	12.13
18	Full	100	91280A328	9.92
20	Full	100	91280A330	10.47
22	Full	100	91280A332	11.09
25	Full	100	91280A334	11.73
30	Full	50	91280A338	7.65
35	Full	50	91280A340	7.98
40	Full	50	91280A342	8.04
45	Full	50	91280A344	8.13
50	Full	50	91280A346	8.37
55	Full	50	91280A976	8.33
55	18 to 23	50	91280A348	9.74
60	Full	50	91280A349	9.96
60	18 to 23	25	91280A350	5.77
65	Full	10	91280A361	2.83
65	18 to 23	25	91280A351	6.54
70	Full	25	91280A366	7.21
70	18 to 23	25	91280A352	6.82
80	Full	25	91280A376	8.59
80	18 to 23	25	91280A354	8.88
90	Full	25	91280A386	6.52
90	18 to 23	25	91280A356	9.63
100	Full	25	91280A396	6.50
100	18 to 23	25	91280A358	9.94
110	18 to 23	10	91280A368	4.62

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Metric Medium-Strength Steel Cap Screws—Class 8.8 *(Continued from previous page)*



Screws are made from heat-treated steel that's comparable to Grade 5 steel. They have a minimum tensile strength of 115,000 psi and a minimum Rockwell hardness of C21. Length is measured from under the head. Sizes M6 and larger are marked on the head with 8.8. Zinc-plated and zinc yellow-chromate plated screws are rust resistant. Uncoated screws have a dark surface color.

Zinc Plated and **Uncoated**—Screws have a Class 6h thread fit. Fully threaded screws meet DIN 933, except fine and extra-fine pitch screws meet DIN 961. Partially threaded screws meet DIN 931, except fine and extra-fine pitch screws meet DIN 960.

JIS Zinc Yellow-Chromate Plated—Made to Japanese Industrial Standards, these screws meet JIS B 1180. They have a Class 6g thread fit.

Zinc Plated (Cont.)

M7—Pitch: 1 mm
Head: Wd. 11 mm, Ht. 4.8 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
10	Full	25	91280A977	$4.45
12	Full	25	91280A410	4.72
16	Full	25	91280A412	6.01
20	Full	25	91280A414	6.64
25	Full	25	91280A416	6.62
30	Full	25	91280A418	7.95
35	Full	10	91280A421	3.26
40	Full	25	91280A423	8.33
45	Full	25	91280A426	8.85
50	Full	25	91280A429	9.64

M8—Pitch: 1.25 mm
Head: Wd. 13 mm, Ht. 5.3 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
8	Full	50	91280A978	8.39
10	Full	50	91280A522	7.62
12	Full	50	91280A524	8.72
14	Full	50	91280A525	8.94
16	Full	50	91280A526	10.16
18	Full	50	91280A527	10.12
20	Full	50	91280A530	10.61
22	Full	25	91280A532	5.93
25	Full	50	91280A534	10.76
30	Full	50	91280A538	11.05
35	Full	50	91280A540	11.29
40	Full	50	91280A542	12.04
45	Full	50	91280A544	13.05
50	Full	25	91280A546	8.83
55	Full	25	91280A551	9.12
55	22 to 29	25	91280A548	8.61
60	Full	25	91280A556	10.57
60	22 to 29	25	91280A550	8.80
65	Full	25	91280A979	10.28
65	22 to 29	25	91280A552	9.37
70	Full	25	91280A566	10.61
70	22 to 29	25	91280A554	9.45
75	22 to 29	25	91280A557	11.03
80	Full	10	91280A576	6.39
80	22 to 29	25	91280A558	11.12
85	22 to 29	10	91280A559	5.66
90	Full	10	91280A981	5.88
90	22 to 29	10	91280A560	6.31
100	Full	10	91280A596	6.90
100	22 to 29	10	91280A562	6.33
110	22 to 29	10	91280A565	8.33
120	22 to 29	10	91280A567	11.22
130	22 to 29	10	91280A569	11.62
140	22 to 29	10	91280A571	11.64
150	22 to 29	10	91280A574	11.79
160	22 to 29	10	91280A577	11.88
180	22 to 29	5	91280A580	6.83

M8—Pitch: 1 mm (Fine)
Head: Wd. 13 mm, Ht. 5.3 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
10	Full	25	91180A525	11.00
12	Full	25	91180A901	5.70
16	Full	25	91180A527	6.48
20	Full	50	91180A530	9.46
25	Full	50	91180A534	10.51
30	Full	50	91180A538	12.99
35	Full	25	91180A539	7.91
40	Full	25	91180A540	9.68
40	22 to 29	25	91180A542	10.31
45	Full	10	91180A351	4.23
45	22 to 29	10	91180A544	6.23
50	Full	10	91180A352	4.32
50	22 to 29	25	91180A546	11.00
55	22 to 29	10	91180A548	5.69
60	22 to 29	10	91180A550	6.52
80	22 to 29	10	91180A407	8.56
100	22 to 29	1	91180A559	1.39

M10—Pitch: 1.5 mm
Head: Wd. 17 mm, Ht. 6.4 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
10	Full	25	91280A616	$11.69
12	Full	25	91280A618	8.94
16	Full	25	91280A622	9.35
18	Full	25	91280A982	7.83
20	Full	25	91280A626	8.10
25	Full	25	91280A630	9.39
30	Full	25	91280A634	9.69
35	Full	25	91280A636	9.74
40	Full	25	91280A638	10.24
45	Full	25	91280A640	10.58
50	Full	25	91280A642	11.06
55	Full	25	91280A645	12.01
55	26 to 34	25	91280A643	12.14
60	Full	10	91280A647	7.69
60	26 to 34	25	91280A644	12.85
65	Full	10	91280A983	7.67
65	26 to 34	10	91280A648	6.65
70	Full	10	91280A662	8.42
70	26 to 34	10	91280A649	7.80
75	26 to 34	10	91280A652	7.75
80	Full	10	91280A672	10.40
80	26 to 34	10	91280A654	8.01
90	Full	10	91280A682	10.66
90	26 to 34	10	91280A656	8.68
100	Full	10	91280A692	11.81
100	26 to 34	10	91280A658	11.23
110	26 to 34	10	91280A660	13.02
120	Full	10	91280A702	11.73
120	26 to 34	5	91280A661	7.51
130	26 to 34	5	91280A663	8.87
140	26 to 34	5	91280A666	9.10
150	26 to 34	5	91280A668	8.87
160	26 to 34	5	91280A670	8.88
180	26 to 34	5	91280A674	9.86
200	26 to 34	5	91280A680	12.08

M10—Pitch: 1.25 mm (Fine)
Head: Wd. 17 mm, Ht. 6.4 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
16	Full	25	91180A624	12.46
20	Full	25	91180A626	11.21
25	Full	25	91180A630	11.23
30	Full	25	91180A634	12.03
35	Full	10	91180A636	6.12
35	26 to 34	10	91180A635	9.99
40	Full	10	91180A639	7.24
40	26 to 34	10	91180A638	8.01
45	Full	10	91180A375	11.73
45	26 to 34	10	91180A640	8.10
50	Full	10	91180A376	7.49
50	26 to 34	10	91180A642	7.79
55	26 to 34	10	91180A643	10.53
60	Full	10	91180A904	9.80
60	26 to 34	10	91180A644	10.48
65	26 to 34	10	91180A646	10.93
70	26 to 34	10	91180A649	9.81
75	26 to 34	5	91180A652	7.52
80	26 to 34	10	91180A654	10.82
90	26 to 34	5	91180A658	6.48
100	26 to 34	5	91180A662	7.57
110	26 to 34	5	91180A663	2.91
120	26 to 34	5	91180A664	11.21

M10—Pitch: 1 mm (Extra Fine)
Head: Wd. 17 mm, Ht. 6.4 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
16	Full	10	91180A363	6.50
20	Full	10	91180A552	6.61
25	Full	10	91180A553	7.15
30	Full	10	91180A555	8.03
35	Full	10	91180A557	8.73
40	Full	10	91180A364	7.75
40	26 to 34	10	91180A620	7.07

(Continued on following page)

M10—Pitch: 1 mm (Extra Fine)
Head: Wd. 17 mm, Ht. 6.4 mm (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
45	Full	10	91180A902	$8.05
45	26 to 34	10	91180A622	8.38
50	Full	10	91180A365	12.16
50	26 to 34	10	91180A625	10.93
60	Full	10	91180A903	9.52
60	26 to 34	5	91180A627	7.16
80	26 to 34	5	91180A632	8.70
100	26 to 34	5	91180A415	10.57

M12—Pitch: 1.75 mm
Head: Wd. 19 mm, Ht. 7.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
12	Full	25	91280A984	11.17
16	Full	25	91280A710	12.35
20	Full	25	91280A712	12.21
25	Full	25	91280A714	11.84
30	Full	25	91280A716	12.25
35	Full	25	91280A718	12.65
40	Full	25	91280A720	12.66
45	Full	10	91280A722	6.23
50	Full	10	91280A724	6.42
55	Full	10	91280A727	9.35
60	Full	10	91280A729	10.86
60	30 to 39	10	91280A728	9.23
65	30 to 39	10	91280A730	9.83
70	Full	10	91280A733	12.84
70	30 to 39	10	91280A732	10.08
75	Full	5	91280A010	7.96
75	30 to 39	10	91280A734	10.40
80	Full	5	91280A750	8.43
80	30 to 39	10	91280A735	10.93
90	Full	5	91280A760	9.26
90	30 to 39	10	91280A737	12.06
100	Full	5	91280A770	8.20
100	30 to 39	5	91280A739	7.39
110	30 to 39	5	91280A740	7.48
120	30 to 39	5	91280A741	7.76
130	30 to 39	5	91280A745	9.87
140	30 to 39	5	91280A747	10.53
160	30 to 39	5	91280A752	10.95
180	30 to 39	5	91280A755	11.21
200	30 to 39	5	91280A758	11.75

M12—Pitch: 1.5 mm (Fine)
Head: Wd. 19 mm, Ht. 7.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
16	Full	10	91180A906	7.13
20	Full	10	91180A743	8.34
25	Full	10	91180A745	7.23
30	Full	10	91180A747	7.55
35	Full	10	91180A749	8.97
40	Full	10	91180A751	9.31
40	30 to 39	5	91180A750	8.76
45	Full	10	91180A907	9.88
50	Full	5	91180A752	7.75
50	30 to 39	10	91180A753	11.74
55	30 to 39	5	91180A754	8.68
60	Full	5	91180A908	7.57
60	30 to 39	10	91180A755	13.20
65	30 to 39	5	91180A756	8.21
70	30 to 39	5	91180A757	7.68
75	30 to 39	5	91180A758	12.24
80	30 to 39	5	91180A760	8.11
90	30 to 39	5	91180A762	11.79
100	30 to 39	5	91180A765	13.00

M12—Pitch: 1.25 mm (Extra Fine)
Head: Wd. 19 mm, Ht. 7.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
20	Full	10	91180A711	8.34
25	Full	10	91180A714	8.01
30	Full	10	91180A716	8.20
35	Full	10	91180A718	8.62
40	Full	10	91180A720	9.31
40	30 to 39	5	91180A715	8.85

Metric Medium-Strength Steel Cap Screws—Class 8.8 (Continued from previous page)

Zinc Plated (Cont.)

M12—Pitch: 1.25 mm (Extra Fine)
Head: Wd. 19 mm, Ht. 7.5 mm (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
45	Full	10	91180A725	$11.68
45	30 to 39	10	91180A717	11.05
50	Full	5	91180A390	4.79
50	30 to 39	5	91180A724	11.78
55	30 to 39	5	91180A726	7.30
60	Full	10	91180A905	10.18
60	30 to 39	10	91180A728	12.47
65	30 to 39	5	91180A730	10.95
70	30 to 39	5	91180A731	7.48
75	30 to 39	5	91180A733	7.90
80	30 to 39	5	91180A735	8.16
90	30 to 39	5	91180A737	9.88
100	30 to 39	5	91180A719	10.04
110	30 to 39	5	91180A721	12.37
120	30 to 39	1	91180A723	2.60

M14—Pitch: 2 mm
Head: Wd. 22 mm, Ht. 8.8 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
16	Full	10	91280A985	7.18
20	Full	10	91280A772	8.94
25	Full	10	91280A777	9.54
30	Full	10	91280A778	9.79
35	Full	10	91280A780	7.21
40	Full	10	91280A782	9.24
45	Full	10	91280A784	9.74
50	Full	10	91280A786	9.93
60	Full	10	91280A787	12.05
60	34 to 44	5	91280A788	7.48
65	34 to 44	5	91280A789	8.53
70	Full	5	91280A016	8.11
70	34 to 44	5	91280A790	8.59
75	34 to 44	5	91280A791	8.44
80	Full	10	91280A986	11.28
80	34 to 44	5	91280A792	8.93
90	34 to 44	5	91280A794	9.11
100	34 to 44	5	91280A796	10.03
120	34 to 44	5	91280A798	11.64
130	34 to 44	1	91280A802	2.37
140	34 to 44	1	91280A804	2.43
150	34 to 44	1	91280A806	3.39
160	34 to 44	1	91280A809	3.20
180	34 to 44	1	91280A812	2.72

M14—Pitch: 1.5 mm (Fine)
Head: Wd. 22 mm, Ht. 8.8 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
20	Full	1	91180A774	2.07
25	Full	5	91180A776	12.19
30	Full	10	91180A778	11.97
35	Full	10	91180A780	12.84
40	Full	5	91180A782	6.90
45	Full	5	91180A909	7.55
45	34 to 44	1	91180A785	3.03
50	Full	5	91180A786	7.69
50	34 to 44	1	91180A788	3.08
55	Full	5	91180A787	10.68
60	Full	1	91180A381	3.11
60	34 to 44	1	91180A790	3.25
65	34 to 44	1	91180A791	3.37
70	34 to 44	1	91180A792	3.30
80	34 to 44	1	91180A794	3.69
90	34 to 44	1	91180A798	4.16
100	34 to 44	1	91180A795	4.41
120	34 to 44	1	91180A802	4.42

M16—Pitch: 2 mm
Head: Wd. 24 mm, Ht. 10 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
16	Full	10	91280A987	$8.03
20	Full	10	91280A988	8.20
25	Full	10	91280A837	8.68
30	Full	10	91280A838	8.90
35	Full	10	91280A839	9.43
40	Full	10	91280A840	9.96
45	Full	10	91280A842	10.61
50	Full	10	91280A844	11.22
55	Full	5	91280A845	6.88
60	Full	5	91280A851	7.02
60	38 to 48	10	91280A846	13.33
65	Full	5	91280A011	7.36
65	38 to 48	5	91280A847	7.53
70	Full	5	91280A012	7.71
70	38 to 48	5	91280A848	8.12
75	38 to 48	5	91280A849	8.55
80	Full	1	91280A872	2.56
80	38 to 48	5	91280A850	8.60
90	Full	5	91280A877	11.78
90	38 to 48	5	91280A852	9.39
100	Full	1	91280A855	3.25
100	38 to 48	5	91280A854	10.13
110	38 to 48	1	91280A856	2.03
120	Full	1	91280A859	3.00
120	38 to 48	5	91280A858	12.02
130	38 to 48	5	91280A860	13.00
140	38 to 48	1	91280A862	1.68
150	38 to 48	1	91280A866	2.53
160	38 to 48	1	91280A868	2.74
200	38 to 48	1	91280A748	3.58

M16—Pitch: 1.5 mm (Fine)
Head: Wd. 24 mm, Ht. 10 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
20	Full	5	91180A912	8.66
25	Full	5	91180A913	7.18
30	Full	5	91180A860	10.40
35	Full	1	91180A865	2.03
40	Full	5	91180A870	11.28
50	Full	5	91180A876	13.15
50	38 to 48	1	91180A814	4.32
60	Full	1	91180A914	2.61
60	38 to 48	1	91180A818	2.73
70	38 to 48	1	91180A822	3.01
80	38 to 48	1	91180A826	3.34
100	38 to 48	1	91180A830	3.69

M18—Pitch: 2.5 mm
Head: Wd. 27 mm, Ht. 11.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
30	Full	5	91280A989	6.55
35	Full	5	91280A991	6.60
40	Full	5	91280A992	7.02
45	Full	5	91280A993	7.47
50	Full	5	91280A994	8.02
60	Full	5	91280A995	8.92
70	Full	5	91280A996	10.23
80	Full	5	91280A997	10.60

M18—Pitch: 1.5 mm (Fine)
Head: Wd. 27 mm, Ht. 11.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
30	Full	1	91180A915	2.53
40	Full	1	91180A916	2.59
50	Full	1	91180A917	3.00
60	Full	1	91180A918	3.22

M20—Pitch: 2.5 mm
Head: Wd. 30 mm, Ht. 12.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
25	Full	5	91280A998	$9.32
30	Full	5	91280A881	9.73
35	Full	5	91280A882	10.44
40	Full	5	91280A883	11.74
45	Full	5	91280A884	11.92
50	Full	1	91280A885	2.60
55	Full	1	91280A886	2.89
60	Full	1	91280A013	1.80
60	46 to 59	5	91280A887	12.48
65	46 to 59	1	91280A888	3.70
70	46 to 59	5	91280A889	13.06
75	46 to 59	1	91280A971	3.95
80	Full	1	91280A911	2.95
80	46 to 59	1	91280A890	1.79
90	46 to 59	1	91280A891	1.92
100	Full	1	91280A926	3.93
100	46 to 59	1	91280A892	3.35
110	46 to 59	1	91280A893	4.29
120	46 to 59	1	91280A894	4.24
140	46 to 59	1	91280A896	5.48
150	46 to 59	1	91280A897	4.29
160	46 to 59	1	91280A899	5.42
180	46 to 59	1	91280A902	5.39
200	46 to 59	1	91280A905	5.88

M20—Pitch: 2 mm (Fine)
Head: Wd. 30 mm, Ht. 12.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
50	Full	1	91180A919	2.78
60	Full	1	91180A921	3.12

M20—Pitch: 1.5 mm (Extra Fine)
Head: Wd. 30 mm, Ht. 12.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
30	Full	1	91180A922	2.32
40	Full	1	91180A923	2.68
50	Full	1	91180A924	3.09
60	Full	1	91180A925	3.61

M22—Pitch: 2.5 mm
Head: Wd. 32 mm, Ht. 14 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
40	Full	1	91280A821	2.94
45	Full	1	91280A822	3.16
50	Full	1	91280A823	3.40
60	Full	1	91280A824	3.93
70	Full	1	91280A825	4.11
80	Full	1	91280A826	4.83

M24—Pitch: 3 mm
Head: Wd. 36 mm, Ht. 15 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
30	Full	1	91280A827	3.16
40	Full	1	91280A918	2.41
50	Full	1	91280A923	2.83
60	Full	1	91280A925	3.23
70	Full	1	91280A935	5.97
70	54 to 69	1	91280A927	6.39
75	54 to 69	1	91280A928	8.07
80	Full	1	91280A014	6.28
80	54 to 69	1	91280A929	4.89
90	54 to 69	1	91280A931	5.44
100	54 to 69	1	91280A933	5.57
110	54 to 69	1	91280A015	6.18
120	54 to 69	1	91280A937	6.40
130	54 to 69	1	91280A939	6.42
140	54 to 69	1	91280A941	6.44
150	54 to 69	1	91280A943	6.53
160	54 to 69	1	91280A945	7.22
180	54 to 69	1	91280A948	7.79
200	54 to 69	1	91280A951	8.34

Uncoated

M27—Pitch: 3 mm
Head: Wd. 41 mm, Ht. 17 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
60	Full	1	91280A961	6.03
80	Full	1	91280A962	7.06
100	Full	1	91280A963	8.19

M30—Pitch: 3.5 mm
Head: Wd. 46 mm, Ht. 18.7 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
50	Full	1	91280A964	6.94
60	Full	1	91280A965	7.63
80	Full	1	91280A966	9.09

JIS Zinc Yellow-Chromate Plated—Meet JIS B 1180

M8—Pitch: 1.25 mm
Head: Wd. 12 mm, Ht. 5.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
12	Full	5	90379A101	3.87
16	Full	5	90379A102	3.67
20	Full	5	90379A103	4.00
25	Full	5	90379A104	4.37
30	Full	5	90379A105	4.33
35	Full	5	90379A106	4.97
40	Full	5	90379A107	5.14

M8 (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
45	Full	5	90379A108	5.50
50	Full	5	90379A109	5.86
60	Full	5	90379A111	6.24
70	Full	5	90379A112	6.93

M10—Pitch: 1.25 mm
Head: Wd. 14 mm, Ht. 7 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
20	Full	5	90379A113	7.00
25	Full	5	90379A114	7.70

M10 (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
30	Full	5	90379A115	8.07
35	Full	5	90379A116	8.40
40	Full	5	90379A117	9.16
45	Full	5	90379A118	9.10
50	Full	5	90379A119	9.47
60	Full	5	90379A121	10.76
70	Full	5	90379A122	10.17

Mil. Spec. Steel Cap Screws





Screws are made to stringent military specifications that ensure performance and reliability. They're fully threaded, unless noted. Length is measured from under the head.

High-strength steel screws meet B1821BH (which supersedes MS-90727 and MS-90728), ASME B18.2.1, SAE J429, and ASTM A354. They're zinc yellow-chromate plated and marked on the head with six radial lines to indicate Grade 8. Minimum tensile strength is 150,000 psi. Minimum Rockwell hardness is C33. Thread fit is Class 2A.

Medium-strength steel screws meet MS-90725. They're cadmium-plated, which provides more corrosion resistance than zinc plating. Screws are marked on the head with three radial lines to indicate Grade 5. Minimum tensile strength is 120,000 psi. Minimum Rockwell hardness is C25. Thread fit is Class 2A.

Army-Navy medium-strength steel screws meet AN (Army-Navy) specifications. They're cadmium-plated and marked on the head with one line to indicate corrosion resistance. Available with and without a drilled shank, those with a drilled shank are also known as cotter-pin bolts. They're drilled so you can add a cotter pin to keep a nut from loosening. Minimum tensile strength is 125,000 psi. Minimum Rockwell hardness is C26. Thread fit is Class 3A.

High-Strength Steel Screws—Zinc Yellow-Chromate Plated Grade 8

Lg.	Pkg. Qty.		Pkg.
¼″-20—Head: Wd. 7⁄16″, Ht. 5⁄32″			
1″	10	95362A105	$7.20
1¼″	10	95362A114▲	8.66
1½″	5	95362A123▲	5.59
2″	5	95362A141▲	7.99
5⁄16″-18—			
Head: Wd. ½″, Ht. 13⁄64″			
1″	10	95362A201	11.53
1½″	5	95362A209▲	8.79
2″	5	95362A217▲	10.70
⅜″-16—			
Head: Wd. 9⁄16″, Ht. 15⁄64″			
1¼″	5	95362A304	$9.10
1½″	5	95362A316▲	10.23
1¾″	5	95362A328▲	12.68
2″	1	95362A340▲	3.59
2½″	1	95362A352▲	4.12
3″	1	95362A364▲	4.67
½″-13—Head: Wd. ¾″, Ht. 5⁄16″			
1½″	1	95362A411	3.97
½″-13 (Cont.)			
2″	1	95362A423▲	$4.63
3″	1	95362A435▲	6.46
3½″	1	95362A441▲	7.20
4″	1	95362A447▲	7.90
⅝″-11—			
Head: Wd. 15⁄16″, Ht. 25⁄64″			
1¾″	1	95362A503	7.57
2″	1	95362A509	8.20
2½″	1	95362A517▲	9.48
⅝″-11 (Cont.)			
3″	1	95362A532▲	$11.41
¾″-10—			
Head: Wd. 1⅛″, Ht. 15⁄32″			
2″	1	95362A620	13.40
2½″	1	95362A635	15.24
3″	1	95362A640▲	17.10
3½″	1	95362A655▲	20.15
4″	1	95362A660▲	22.04

Medium-Strength Steel Screws—Cadmium-Plated Grade 5

Lg.	Pkg. Qty.		Pkg.
¼″-20—Head: Wd. 7⁄16″, Ht. 5⁄32″			
1″	25	99894A105▲	14.97
1¼″	10	99894A114▲	7.40
1½″	10	99894A123▲	11.34
1¾″	10	99894A132▲	9.20
2″	5	99894A141▲	5.32
2½″	5	99894A150▲	9.92
3″	5	99894A159▲	10.52
5⁄16″-18—			
Head: Wd. ½″, Ht. 13⁄64″			
1″	10	99894A201	11.91
1½″	5	99894A209▲	5.72
2″	5	99894A217▲	6.85
5⁄16″-18 (Cont.)			
2½″	1	99894A225▲	3.97
⅜″-16—			
Head: Wd. 9⁄16″, Ht. 15⁄64″			
1¼″	5	99894A304	8.86
1½″	5	99894A316▲	7.80
1¾″	5	99894A328▲	12.90
2″	1	99894A340▲	3.16
2½″	1	99894A352▲	5.25
3″	1	99894A364▲	4.70
3½″	1	99894A376▲	7.09
4″	1	99894A388▲	7.29
½″-13—Head: Wd. ¾″, Ht. 5⁄16″			
1½″	1	99894A411	3.40
1¾″	1	99894A418	3.64
2″	1	99894A423▲	3.30
2½″	1	99894A429▲	6.01
3″	1	99894A435▲	6.17
3½″	1	99894A441▲	8.36
4″	1	99894A447▲	8.57
5″	1	99894A453▲	13.04
⅝″-11—			
Head: Wd. 15⁄16″, Ht. 25⁄64″			
1¾″	1	99894A503	8.08
2″	1	99894A509	7.47
⅝″-11 (Cont.)			
2½″	1	99894A517▲	8.82
3″	1	99894A532▲	13.48
¾″-10—			
Head: Wd. 1⅛″, Ht. 15⁄32″			
2″	1	99894A620	14.29
2½″	1	99894A635	10.76
3″	1	99894A640▲	11.50
3½″	1	99894A655▲	12.45
4″	1	99894A660▲	14.50

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Army-Navy Medium-Strength Steel Screws—Cadmium-Plated

	Choose a Thread Size	Choose a Screw Length	
With Drilled Shank	¼″-28, 5⁄16″-24, ⅜″-24, ½″-20	½″, ⅝″, ¾″, 1″, 1¼″, 1½″, 1¾″, 2″, 2½″, 3″, 3½″, 4″	94622A111
Without Drilled Shank	¼″-28, 5⁄16″-24, ⅜″-24, ½″-20	½″, ⅝″, ¾″, 1″, 1¼″, 1½″, 1¾″, 2″, 2½″, 3″, 3½″, 4″	94622A333

Mil. Spec. Stainless Steel Cap Screws

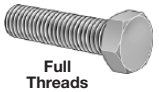

Made to the same stringent standards as our Mil. Spec. steel cap screws with more corrosion resistance, these 300 series stainless steel screws meet FF-S-85 and are passivated to QQ-P-35 for protection against oxidation and corrosion. They have a minimum tensile strength of 70,000 psi, a minimum Rockwell hardness of B74, and a Class 2A thread fit. Fully threaded, unless noted. Length is measured from under the head.

Lg.	Pkg. Qty.		Pkg.
¼″-20—MS 35307;			
Head: Wd. 7⁄16″, Ht. 5⁄32″			
½″	10	92245A537	$4.51
9⁄16″	10	92245A538	5.15
⅝″	10	92245A539	5.25
¾″	10	92245A540	5.72
⅞″	10	92245A541▲	5.99
1″	10	92245A542▲	6.55
1⅛″	10	92245A543▲	7.09
1¼″	10	92245A544▲	7.16
1⅜″	10	92245A545▲	7.85
1½″	5	92245A546▲	4.75
1¾″	5	92245A548▲	5.23
2″	5	92245A550▲	5.34
2¼″	5	92245A552▲	6.13
2½″	5	92245A553▲	6.63
2¾″	5	92245A554▲	7.83
3″	5	92245A555▲	8.33
¼″-28—MS 35308;			
Head: Wd. 7⁄16″, Ht. 5⁄32″			
½″	10	92245A561	4.93
⅝″	10	92245A563	5.33
¾″	10	92245A565	5.68
⅞″	10	92245A564	6.56
1″	10	92245A567▲	6.94
1⅛″	10	92245A568▲	7.43
1¼″	10	92245A569▲	7.59
1½″	10	92245A571▲	8.63
¼″-28 (Cont.)			
1¾″	10	92245A572▲	$9.75
2″	5	92245A574▲	5.71
5⁄16″-18—MS 35307;			
Head: Wd. ½″, Ht. 13⁄64″			
½″	10	92245A682	8.43
⅝″	10	92245A580	8.60
¾″	10	92245A581	9.22
⅞″	5	92245A582	5.29
1″	5	92245A583▲	5.35
1⅛″	5	92245A584▲	6.31
1¼″	5	92245A585▲	6.76
1⅜″	5	92245A686▲	7.08
1½″	5	92245A587▲	7.36
1¾″	5	92245A589▲	7.68
2″	1	92245A591▲	2.62
2¼″	1	92245A592▲	2.67
2½″	1	92245A593▲	2.76
3″	1	92245A596▲	2.74
5⁄16″-24—MS 35308;			
Head: Wd. ½″, Ht. 13⁄64″			
¾″	5	92245A600	5.35
1″	5	92245A602▲	5.64
1¼″	5	92245A604▲	6.94
1½″	5	92245A606▲	8.63
2″	1	92245A608▲	2.42
⅜″-16—MS 35307;			
Head: Wd. 9⁄16″, Ht. 15⁄64″			
⅝″	5	92245A621	$6.66
¾″	5	92245A622	7.34
⅞″	5	92245A623	7.46
1″	5	92245A624	7.77
1⅛″	5	92245A625	7.81
1¼″	1	92245A626▲	2.46
1⅜″	1	92245A627▲	2.58
1½″	1	92245A628▲	2.64
1¾″	1	92245A630▲	2.77
2″	1	92245A632▲	3.08
2¼″	1	92245A641▲	3.50
2½″	1	92245A637▲	3.75
2¾″	1	92245A638▲	3.67
3″	1	92245A639▲	3.92
⅜″-24—MS 35308;			
Head: Wd. 9⁄16″, Ht. 15⁄64″			
¾″	5	92245A650	6.96
1″	5	92245A652	7.85
1¼″	1	92245A654▲	2.56
1½″	1	92245A657▲	2.63
1¾″	1	92245A659▲	2.94
2″	1	92245A661▲	2.99
½″-13—MS 35307;			
Head: Wd. ¾″, Ht. 5⁄16″			
¾″	1	92245A710	2.86
1″	1	92245A713	3.07
½″-13 (Cont.)			
1¼″	1	92245A715	$3.20
1½″	1	92245A717▲	3.58
1¾″	1	92245A719▲	3.97
2″	1	92245A722▲	4.42
2¼″	1	92245A724▲	5.58
2½″	1	92245A726▲	6.26
3″	1	92245A727▲	7.05
½″-20—MS 35308;			
Head: Wd. ¾″, Ht. 5⁄16″			
1″	1	92245A751	4.28
1¼″	1	92245A753	4.49
1½″	1	92245A755▲	4.68
1¾″	1	92245A757▲	5.18
⅝″-11—MS 35307;			
Head: Wd. 15⁄16″, Ht. 25⁄64″			
1″	1	92245A801	6.17
1½″	1	92245A805	7.48
1¾″	1	92245A807▲	7.48
2″	1	92245A809▲	8.50
2½″	1	92245A811▲	8.80
2¾″	1	92245A813▲	9.77
3″	1	92245A815▲	10.40
¾″-10—MS 35307;			
Head: Wd. 1⅛″, Ht. 15⁄32″			
1½″	1	92245A851	11.26
2″	1	92245A853	11.62
2½″	1	92245A855▲	13.43
3″	1	92245A857▲	15.70

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

High-Strength Stainless Steel Cap Screws



These screws are stronger than and just as corrosion resistant as Type 316 and 18-8 stainless steel screws. They're fully threaded. Length is measured from under the head. Inch sizes have a Class 2A thread fit and dimensions that meet ASME B18.2.1. Metric sizes have a Class 6g thread fit.

17-4 PH stainless steel screws are as strong as Grade 5 steel and as corrosion resistant as 18-8 stainless steel. They have a min. tensile strength of 135,000 psi and a min. Rockwell hardness of C28. Material meets ASTM F593 Grade 630 and is magnetic.

A286 stainless steel screws are almost as strong, hard, and corrosion resistant as 17-4 PH stainless steel. They have a min. tensile strength of 130,000 psi and a min. Rockwell hardness of C24. Material meets ASTM A453 Grade 660 and is not magnetic. Screws are used in high-temperature applications such as gas turbines.

Saltwater-resistant Bumax 88 stainless steel screws are more corrosion resistant than 17-4 PH stainless steel and A286 stainless steel, but not as strong. Screws are often used in oil drilling rigs and other marine environments. They're nonmagnetic, have a min. tensile strength of 116,000 psi, and are not rated for hardness.

Lg.		Each	Lg.		Each	Lg.		Each	Lg.		Each
17-4 PH Stainless Steel											
1/4"-20—			**5/16"-18—**			**3/8"-16—**			**1/2"-13—**		
Head: Wd. 7/16", Ht. 5/32"			Head: Wd. 1/2", Ht. 13/64"			Head: Wd. 9/16", Ht. 15/64"			Head: Wd. 3/4", Ht. 5/16"		
1/2"	96870A201	$9.40	3/4"	96870A225	$11.12	1"	96870A252	$12.28	1"	96870A282	$15.20
3/4"	96870A204	9.47	1"	96870A228	11.32	1 1/4"	96870A255	12.47	1 1/2"	96870A285	15.57
1"	96870A208	9.55	1 1/4"	96870A231	11.45	1 1/2"	96870A259	12.60	2"	96870A289	16.30
1 1/2"	96870A212	9.75	1 1/2"	96870A235	11.57	2"	96870A262	12.90	2 1/2"	96870A292	16.82
2"	96870A216	9.95	2"	96870A239	11.82	2 1/2"	96870A266	13.22	3"	96870A296	17.43
A286 Stainless Steel											
1/4"-20—			**5/16"-18—**			**3/8"-16—**			**1/2"-13—**		
Head: Wd. 7/16", Ht. 5/32"			Head: Wd. 1/2", Ht. 13/64"			Head: Wd. 9/16", Ht. 15/64"			Head: Wd. 3/4", Ht. 5/16"		
1/2"	98253A405	10.78	3/4"	98253A425	11.93	1"	98253A450	13.70	1"	98253A481	19.63
3/4"	98253A408	10.88	1"	98253A428	12.08	1 1/4"	98253A453	14.10	1 1/2"	98253A485	21.38
1"	98253A411	11.03	1 1/4"	98253A432	12.30	1 1/2"	98253A456	14.50	2"	98253A489	23.13
1 1/2"	98253A415	11.30	1 1/2"	98253A436	12.50	2"	98253A459	15.66	2 1/2"	98253A492	24.88
2"	98253A419	11.63	2"	98253A439	13.43	2 1/2"	98253A462	17.08	3"	98253A499	26.63

Saltwater-Resistant Bumax 88 Stainless Steel

Choose a Thread Size	Choose a Screw Length	
1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13	1/2", 3/4", 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/2", 3", 3 1/2", 4"	93810A100
M6, M8, M10, M12	10, 12, 16, 20, 25, 30, 35, 40, 50 mm	93810A200

Stainless Steel Cap Screws



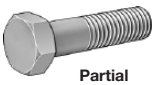

Made from stainless steel, these screws are corrosion resistant in harsh environments. They may be mildly magnetic. Minimum tensile strength is 70,000 psi and minimum Rockwell hardness is B70. Thread fit is Class 2A. Dimensions meet ASME B18.2.1. Length is measured from under the head. For screws in sizes 4-40 to 12-24, see hex-head machine screws on page 3045.

Type 316 stainless steel screws are more corrosion resistant than 18-8 stainless steel screws and can be used in marine environments.

18-8 stainless steel screws resist chemicals and solvents.

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel				
1/4"-20—Head: Wd. 7/16", Ht. 5/32"				
3/8"	Full	25	93190A536	$5.22
1/2"	Full	25	93190A537	4.56
5/8"	Full	25	93190A539	4.98
3/4"	Full	25	93190A540	4.81
7/8"	Full	25	93190A541	5.05
1"	Full	25	93190A542	5.18
1 1/8"	Full	25	93190A543	9.98
1 1/4"	Full	10	93190A544	4.05
1 1/4"	3/4" to 1"	10	92186A544	3.13
1 3/8"	3/4" to 1"	10	92186A543	4.26
1 3/8"	3/4" to 1"	25	92186A545	9.40
1 1/2"	Full	10	93190A546	4.42
1 1/2"	3/4" to 1"	10	92186A546	3.11
1 5/8"	3/4" to 1"	10	92186A547	4.96
1 3/4"	Full	10	93190A547	5.21
1 3/4"	3/4" to 1"	10	92186A548	3.70
2"	Full	10	93190A550	5.40
2"	3/4" to 1"	10	92186A550	3.82
2 1/4"	Full	10	93190A551	7.20
2 1/4"	3/4" to 1"	10	92186A551	4.69
2 1/2"	Full	10	93190A552	7.38
2 1/2"	3/4" to 1"	10	92186A552	4.84
2 3/4"	Full	10	93190A553	8.62
2 3/4"	3/4" to 1"	10	92186A553	5.24
3"	Full	10	93190A554	8.64
3"	3/4" to 1"	10	92186A554	5.69
3 1/4"	3/4" to 1"	10	92186A555	6.48
3 1/2"	Full	5	93190A557	6.62
3 1/2"	3/4" to 1"	5	92186A556	3.42
4"	Full	5	93190A560	6.82
4"	3/4" to 1"	5	92186A558	4.10
4 1/2"	Full	5	93190A562	8.41
4 1/2"	3/4" to 1"	5	92186A560	4.67
5"	Full	5	93190A564	9.05
5"	3/4" to 1"	5	92186A562	5.70
1/4"-20 (Cont.)				
5 1/2"	Full	5	93190A566	$11.91
5 1/2"	3/4" to 1"	5	92186A563	6.00
6"	Full	1	93190A568	2.45
6"	3/4" to 1"	1	92186A564	1.48
6 1/2"	1" to 4"	1	92186A565	4.31
7"	1" to 4"	1	92186A567	4.64
8"	1" to 4"	1	92186A569	4.86
9"	1" to 4"	1	92186A571	5.89
10"	1" to 4"	1	92186A573	6.33
1/4"-28—Head: Wd. 7/16", Ht. 5/32"				
1/2"	Full	25	93190A300	7.58
5/8"	Full	25	93190A303	8.75
3/4"	Full	10	93190A305	3.96
7/8"	Full	10	93190A307	4.14
1"	Full	10	93190A310	4.28
1 1/4"	3/4" to 1"	10	92186A315	4.96
1 1/2"	Full	5	93190A312	4.60
1 1/2"	3/4" to 1"	5	92186A320	2.97
1 3/4"	Full	5	93190A314	6.69
1 3/4"	3/4" to 1"	5	92186A321	4.25
2"	Full	5	93190A320	7.07
2"	3/4" to 1"	5	92186A325	4.67
2 1/4"	3/4" to 1"	5	92186A326	5.37
2 1/2"	3/4" to 1"	5	92186A327	4.16
3"	3/4" to 1"	5	92186A329	4.93
3 1/2"	3/4" to 1"	5	92186A331	7.70
4"	3/4" to 1"	1	92186A333	1.71
5/16"-18—Head: Wd. 1/2", Ht. 13/64"				
1/2"	Full	10	93190A578	3.27
5/8"	Full	10	93190A580	3.40
3/4"	Full	10	93190A581	3.42
7/8"	Full	10	93190A582	3.77
1"	Full	10	93190A583	3.82
1 1/4"	Full	10	93190A585	4.76
1 1/4"	7/8" to 1 3/16"	10	92186A584	4.76
1 3/8"	7/8" to 1 3/16"	10	92186A586	6.30
5/16"-18 (Cont.)				
1 1/2"	Full	10	93190A587	$5.87
1 1/2"	7/8" to 1 3/16"	10	92186A587	4.98
1 3/4"	Full	5	93190A589	4.65
1 3/4"	7/8" to 1 3/16"	5	92186A689	2.72
2"	Full	5	93190A591	4.86
2"	7/8" to 1 3/16"	5	92186A591	3.63
2 1/4"	7/8" to 1 3/16"	5	92186A592	3.94
2 1/2"	Full	5	93190A593	5.65
2 1/2"	7/8" to 1 3/16"	5	92186A693	3.72
2 3/4"	7/8" to 1 3/16"	5	92186A594	4.46
3"	Full	5	93190A595	7.09
3"	7/8" to 1 3/16"	5	92186A595	4.52
3 1/4"	7/8" to 1 3/16"	5	92186A596	5.53
3 1/2"	Full	5	93190A597	8.59
3 1/2"	7/8" to 1 3/16"	5	92186A597	5.84
3 3/4"	Full	1	93190A599	2.36
4"	Full	1	93190A601	2.38
4"	7/8" to 1 3/16"	1	92186A599	1.19
4 1/2"	Full	1	93190A603	2.70
4 1/2"	7/8" to 1 3/16"	1	92186A701	1.30
5"	Full	1	93190A605	2.75
5"	7/8" to 1 3/16"	1	92186A603	1.44
5 1/2"	Full	1	93190A607	3.39
5 1/2"	7/8" to 1 3/16"	1	92186A604	1.52
6"	Full	1	93190A609	3.62
6"	7/8" to 1 3/16"	1	92186A605	1.69
6 1/2"	1 1/8" to 1 1/2"	1	92186A607	4.63
7"	Full	1	93190A611	7.85
7"	1 1/8" to 2"	1	92186A609	5.81
8"	Full	1	93190A613	9.72
8"	1 1/8" to 4"	1	92186A611	6.10
9"	1 1/8" to 4"	1	92186A613	8.44
10"	1 1/8" to 6"	1	92186A615	9.39
5/16"-24—Head: Wd. 1/2", Ht. 13/64"				
1/2"	Full	10	93190A338	5.97
3/4"	Full	10	93190A340	6.40

(Continued on following page)

Stainless Steel Cap Screws *(Continued from previous page)*



Made from stainless steel, these screws are corrosion resistant in harsh environments. They may be mildly magnetic. Minimum tensile strength is 70,000 psi and minimum Rockwell hardness is B70. Thread fit is Class 2A. Dimensions meet ASME B18.2.1. Length is measured from under the head. For screws in sizes 4-40 to 12-24, see hex-head machine screws on page 3053.

Type 316 stainless steel screws are more corrosion resistant than 18-8 stainless steel screws and can be used in marine environments.

Type 316 Stainless Steel (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
5/16"-24—Head: Wd. 1/2", Ht. 13/64" (Cont.)				
1"	Full	10	93190A345	$6.55
1 1/4"	Full	10	93190A348	7.77
1 1/2"	Full	5	93190A350	7.24
1 1/2"	7/8" to 1 3/16"	5	92186A350	4.46
1 3/4"	Full	5	93190A352	9.90
1 3/4"	7/8" to 1 3/16"	5	92186A351	7.05
2"	Full	5	93190A354	10.34
2"	7/8" to 1 3/16"	5	92186A352	5.57
2 1/4"	7/8" to 1 3/16"	5	92186A501	8.47
2 1/2"	Full	5	93190A356	13.04
2 1/2"	7/8" to 1 3/16"	5	92186A353	9.45
3"	7/8" to 1 3/16"	5	92186A354	9.53
3 1/2"	7/8" to 1 3/16"	5	92186A356	9.70
4"	7/8" to 1 3/16"	1	92186A358	2.32
3/8"-16—Head: Wd. 9/16", Ht. 15/64"				
3/8"	Full	5	93190A617	8.45
1/2"	Full	10	93190A619	4.31
5/8"	Full	10	93190A621	4.49
3/4"	Full	10	93190A622	4.85
7/8"	Full	10	93190A623	5.03
1"	Full	10	93190A624	5.18
1 1/8"	Full	10	93190A625	6.93
1 1/4"	Full	10	93190A626	6.05
1 1/4"	1" to Full	10	92186A625	6.27
1 3/8"	1" to 1 5/16"	10	92186A627	9.31
1 1/2"	Full	5	93190A628	4.14
1 1/2"	1" to 1 5/16"	5	92186A628	3.88
1 5/8"	1" to 1 5/16"	10	92186A629	11.37
1 3/4"	Full	5	93190A630	4.88
1 3/4"	1" to 1 5/16"	5	92186A630	3.97
2"	Full	5	93190A632	5.62
2"	1" to 1 5/16"	5	92186A632	4.49
2 1/4"	Full	5	93190A633	6.52
2 1/4"	1" to 1 5/16"	5	92186A633	4.76
2 1/2"	Full	5	93190A634	6.94
2 1/2"	1" to 1 5/16"	5	92186A634	5.04
2 3/4"	Full	5	93190A635	7.75
2 3/4"	1" to 1 5/16"	5	92186A635	6.11
3"	Full	1	93190A636	1.61
3"	1" to 1 5/16"	1	92186A636	1.28
3 1/4"	1" to 1 5/16"	1	92186A637	1.32
3 1/2"	Full	1	93190A638	2.16
3 1/2"	1" to 1 5/16"	1	92186A638	1.37
3 3/4"	1" to 1 5/16"	1	92186A639	1.42
4"	Full	1	93190A640	2.70
4"	1" to 1 5/16"	1	92186A640	1.48
4 1/2"	Full	1	93190A644	3.47
4 1/2"	1" to 1 5/16"	1	92186A642	1.61
5"	Full	1	93190A648	3.52
5"	1" to 1 5/16"	1	92186A644	1.71
5 1/2"	Full	1	93190A649	3.99
5 1/2"	1" to 1 5/16"	1	92186A646	1.77
6"	Full	1	93190A650	3.80
6"	1" to 1 5/16"	1	92186A648	1.66
6 1/2"	1 1/4" to 3"	1	92186A650	1.83
7"	Full	1	93190A652	8.25
7"	1 1/4" to 3"	1	92186A654	3.15
7 1/2"	1 1/4" to 3"	1	92186A660	3.79
8"	Full	1	93190A654	8.89
8"	1 1/4" to 3"	1	92186A658	4.19
8 1/2"	1 1/4" to 3"	1	92186A662	4.73
9"	1 1/4" to 3"	1	92186A664	5.00
10"	1 1/4" to 4"	1	92186A666	5.50
3/8"-24—Head: Wd. 9/16", Ht. 15/64"				
1/2"	Full	10	93190A358	7.43
3/4"	Full	5	93190A360	3.81
1"	Full	5	93190A363	4.49
1 1/4"	Full	5	93190A365	5.52
1 1/2"	Full	5	93190A367	9.67
1 1/2"	1" to 1 5/16"	5	92186A367	6.24
1 3/4"	Full	5	93190A674	10.87
1 3/4"	1" to 1 5/16"	5	92186A368	9.95
3/8"-24 (Cont.)				
2"	Full	1	93190A369	$2.74
2"	1" to 1 5/16"	1	92186A369	1.38
2 1/4"	1" to 1 5/16"	1	92186A370	2.76
2 1/2"	1" to 1 5/16"	1	92186A371	1.70
2 3/4"	1" to 1 5/16"	1	92186A372	3.29
3"	Full	1	93190A373	3.84
3"	1" to 1 5/16"	1	92186A373	1.76
3 1/2"	1" to 1 5/16"	1	92186A375	2.17
4"	1" to 1 5/16"	1	92186A377	2.48
7/16"-14—Head: Wd. 5/8", Ht. 9/32"				
3/4"	Full	5	93190A678	5.21
1"	Full	5	93190A670	4.41
1 1/4"	Full	5	93190A672	5.46
1 1/2"	Full	5	93190A673	5.67
1 3/4"	1 1/8" to 1 1/2"	5	92186A675	7.10
2"	Full	1	93190A675	3.33
2"	1 1/8" to 1 1/2"	1	92186A677	1.53
2 1/2"	Full	1	93190A677	3.80
2 1/2"	1 1/8" to 1 1/2"	1	92186A679	1.62
3"	Full	1	93190A679	3.81
3"	1 1/8" to 1 1/2"	1	92186A681	1.75
3 1/2"	1 1/8" to 1 1/2"	1	92186A683	1.97
4"	Full	1	93190A681	4.34
4"	1 1/8" to 1 1/2"	1	92186A687	2.35
5"	1 1/4" to 1 1/2"	1	92186A690	3.20
6"	1 1/4" to 1 1/2"	1	92186A691	3.23
7/16"-20—Head: Wd. 5/8", Ht. 9/32"				
1"	Full	5	93190A685	7.44
1 1/4"	Full	5	93190A687	9.92
1 1/2"	Full	1	93190A689	2.99
1 3/4"	1 1/8" to 1 1/2"	1	92186A703	1.99
2"	1 1/8" to 1 1/2"	1	92186A705	2.32
2 1/2"	Full	1	93190A693	3.69
2 1/2"	1 1/8" to 1 1/2"	1	92186A707	2.71
3"	1 1/8" to 1 1/2"	1	92186A709	3.15
1/2"-13—Head: Wd. 3/4", Ht. 5/16"				
1/2"	Full	5	93190A707	7.33
3/4"	Full	5	93190A710	4.50
1"	Full	5	93190A712	4.42
1 1/8"	Full	5	93190A713	6.60
1 1/4"	Full	5	93190A714	5.02
1 3/8"	Full	5	93190A715	7.35
1 1/2"	Full	5	93190A716	5.44
1 5/8"	Full	5	93190A717	8.81
1 3/4"	Full	5	93190A718	6.74
2"	Full	1	93190A720	1.62
2"	1 1/4" to 1 5/8"	1	92186A720	1.18
2 1/4"	Full	1	93190A721	2.45
2 1/4"	1 1/4" to 1 5/8"	1	92186A721	1.29
2 1/2"	Full	1	93190A722	2.58
2 1/2"	1 1/4" to 1 5/8"	1	92186A722	1.32
2 3/4"	Full	1	93190A723	2.74
2 3/4"	1 1/4" to 1 5/8"	1	92186A723	1.48
3"	Full	1	93190A724	2.67
3"	1 1/4" to 1 5/8"	1	92186A724	1.57
3 1/4"	1 1/4" to 1 5/8"	1	92186A725	1.85
3 1/2"	Full	1	93190A726	3.11
3 1/2"	1 1/4" to 1 5/8"	1	92186A726	1.86
3 3/4"	1 1/4" to 1 5/8"	1	92186A727	2.07
4"	Full	1	93190A728	3.30
4"	1 1/4" to 1 5/8"	1	92186A728	2.14
4 1/2"	Full	1	93190A729	4.29
4 1/2"	1 1/4" to 1 5/8"	1	92186A730	2.33
5"	Full	1	93190A730	4.60
5"	1 1/4" to 3"	1	92186A732	2.54
5 1/2"	Full	1	93190A733	5.67
5 1/2"	1 1/4" to 3"	1	92186A734	2.82
6"	Full	1	93190A735	5.72
6"	1 1/4" to 3"	1	92186A736	2.87
6 1/2"	1 1/4" to 3"	1	92186A737	3.07
7"	Full	1	93190A737	12.13
7"	1 1/4" to 3"	1	92186A738	3.25
1/2"-13 (Cont.)				
7 1/2"	1 1/2" to 3"	1	92186A739	$4.12
8"	Full	1	93190A739	15.59
8"	1 1/2" to 3"	1	92186A740	4.38
8 1/2"	1 1/2" to 3"	1	92186A741	6.50
9"	1 1/2" to 3"	1	92186A742	6.90
9 1/2"	1 1/2" to 3"	1	92186A743	8.15
10"	1 1/2" to 4"	1	92186A744	8.33
10 1/2"	1 1/2" to 5"	1	92186A746	9.02
11"	1 1/2" to 5"	1	92186A748	10.35
11 1/2"	1 1/2" to 5"	1	92186A750	10.88
12"	1 1/2" to 6"	1	92186A752	11.25
14"	1 1/2" to 6"	1	92186A754	15.16
1/2"-20—Head: Wd. 3/4", Ht. 5/16"				
3/4"	Full	1	93190A378	1.70
1"	Full	1	93190A380	1.72
1 1/4"	Full	1	93190A382	1.81
1 1/2"	Full	1	93190A384	1.88
1 3/4"	Full	1	93190A385	2.45
2"	Full	1	93190A387	5.60
2"	1 1/4" to 1 5/8"	1	92186A386	2.97
2 1/4"	1 1/4" to 1 5/8"	1	92186A387	5.59
2 1/2"	1 1/4" to 1 5/8"	1	92186A388	3.50
3"	1 1/4" to 1 5/8"	1	92186A390	4.00
3 1/2"	1 1/4" to 1 5/8"	1	92186A392	4.73
4"	1 1/4" to 1 5/8"	1	92186A394	5.27
5"	1 1/4" to 1 5/8"	1	92186A398	6.53
9/16"-12—Head: Wd. 13/16", Ht. 23/64"				
1"	Full	1	93190A740	6.00
1 1/2"	Full	1	93190A751	6.22
2"	Full	1	93190A753	7.76
2 1/2"	1 3/8" to 1 13/16"	1	92186A427	7.44
3"	1 3/8" to 1 13/16"	1	92186A429	8.23
5/8"-11—Head: Wd. 15/16", Ht. 25/64"				
3/4"	Full	1	93190A769	6.26
1"	Full	1	93190A794	1.38
1 1/4"	Full	1	93190A796	1.62
1 1/2"	Full	1	93190A798	1.80
1 3/4"	Full	1	93190A849	1.99
2"	Full	1	93190A850	1.91
2"	1 1/2" to Full	1	92186A791	1.67
2 1/4"	Full	1	93190A351	3.64
2 1/4"	1 1/2" to 2"	1	92186A803	1.90
2 1/2"	Full	1	93190A852	3.79
2 1/2"	1 1/2" to 2"	1	92186A804	1.94
2 3/4"	Full	1	93190A805	4.07
2 3/4"	1 1/2" to 2"	1	92186A805	2.22
3"	Full	1	93190A854	4.40
3"	1 1/2" to 2"	1	92186A806	2.24
3 1/4"	1 1/2" to 2"	1	92186A807	2.75
3 1/2"	Full	1	93190A856	5.41
3 1/2"	1 1/2" to 2"	1	92186A808	2.86
3 3/4"	1 1/2" to 2"	1	92186A809	3.03
4"	Full	1	93190A858	7.53
4"	1 1/2" to 2"	1	92186A810	3.11
4 1/4"	1 1/2" to 2"	1	92186A811	3.61
4 1/2"	Full	1	93190A861	9.10
4 1/2"	1 1/2" to 2"	1	92186A812	3.68
5"	Full	1	93190A865	9.10
5"	1 1/2" to 2"	1	92186A814	4.00
5 1/2"	1 1/2" to 2"	1	92186A816	4.06
6"	Full	1	93190A868	10.62
6"	1 1/2" to 2"	1	92186A818	4.26
6 1/2"	Full	1	93190A869	11.82
6 1/2"	1 3/4" to 2 1/2"	1	92186A820	5.97
7"	Full	1	93190A870	17.19
7"	1 3/4" to 3"	1	92186A822	6.47
8"	Full	1	93190A872	18.41
8"	1 3/4" to 3"	1	92186A826	6.72
8 1/2"	1 3/4" to 3"	1	92186A828	11.71
9"	1 3/4" to 3"	1	92186A830	11.75
9 1/2"	1 3/4" to 4"	1	92186A832	14.04
10"	1 3/4" to 4"	1	92186A834	14.63

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Stainless Steel Cap Screws *(Continued from previous page)*

Type 316 Stainless Steel (Cont.)

5/8"-11—Head: Wd. 15/16", Ht. 25/64" (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
10½"	1¾" to 4"	1	92186A836	$16.56
11"	1¾" to 5"	1	92186A838	16.85
12"	1¾" to 6"	1	92186A842	17.50

5/8"-18—Head: Wd. 15/16", Ht. 25/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	1	93190A212	6.71
1¼"	Full	1	93190A216	7.08
1½"	Full	1	93190A220	7.50
2"	Full	1	93190A224	10.53
2½"	Full	1	93190A228	11.75
2½"	1½" to 2"	1	92186A557	7.94
3"	1½" to 2"	1	92186A559	9.14
3½"	1½" to 2"	1	92186A561	10.44
4"	1½" to 2"	1	92186A568	10.24

3/4"-10—Head: Wd. 1⅛", Ht. 15/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1"	Full	1	93190A837	2.83
1¼"	Full	1	93190A838	2.87
1½"	Full	1	93190A839	2.82
1¾"	Full	1	93190A841	3.14
2"	Full	1	93190A892	2.95
2¼"	Full	1	93190A845	3.44
2½"	Full	1	93190A844	4.10
2¾"	1¾" to 2¼"	1	92186A846	3.32
3"	Full	1	93190A846	5.79
3"	1¾" to 2¼"	1	92186A847	3.53
3¼"	1¾" to 2¼"	1	92186A848	4.25
3½"	Full	1	93190A848	7.11
3½"	1¾" to 2¼"	1	92186A849	4.31
3¾"	1¾" to 2¼"	1	92186A850	4.70
4"	Full	1	93190A851	9.69
4"	1¾" to 2¼"	1	92186A851	4.81
4½"	Full	1	93190A980	11.81
4½"	1¾" to 2¼"	1	92186A853	5.15
5"	Full	1	93190A981	12.50
5"	1¾" to 2¼"	1	92186A855	5.63
5½"	1¾" to 2¼"	1	92186A857	6.52
6"	Full	1	93190A894	13.81
6"	1¾" to 2¼"	1	92186A859	6.75
6½"	2" to 3"	1	92186A861	8.44
7"	Full	1	93190A986	26.82
7"	2" to 3"	1	92186A864	9.39
7½"	2" to 3"	1	92186A866	10.18
8"	Full	1	93190A989	29.15
8"	2" to 3"	1	92186A868	10.69
8½"	2" to 3"	1	92186A870	14.79
9"	2" to 3"	1	92186A872	16.85
9½"	2" to 3½"	1	92186A874	18.75
10"	2" to 4"	1	92186A876	19.53
10½"	2" to 4"	1	92186A878	25.00
11"	2" to 5"	1	92186A880	25.01
12"	2" to 6"	1	92186A889	27.48
14"	2" to 6"	1	92186A891	36.05

3/4"-16—Head: Wd. 1⅛", Ht. 15/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1½"	Full	1	93190A991	11.73
2"	Full	1	93190A993	14.11

7/8"-9—Head: Wd. 1 5/16", Ht. 35/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1½"	Full	1	93190A878	$3.80
1¾"	Full	1	93190A879	4.37
2"	Full	1	93190A880	4.54
2¼"	Full	1	93190A881	4.75
2½"	Full	1	93190A882	4.77
2¾"	Full	1	93190A883	5.53
3"	Full	1	93190A884	9.38
3¼"	2" to 2 9/16"	1	92186A885	6.15
3½"	Full	1	93190A885	12.19
3½"	2" to 2 9/16"	1	92186A886	6.31
3¾"	2" to 2 9/16"	1	92186A887	6.75
4"	Full	1	93190A887	15.07
4"	2" to 2 9/16"	1	92186A888	6.79
4½"	Full	1	93190A888	17.78
4½"	2" to 2 9/16"	1	92186A890	7.50
5"	Full	1	93190A890	21.83
5"	2" to 2 9/16"	1	92186A893	8.47
5½"	2" to 2 9/16"	1	92186A894	9.61
6"	Full	1	93190A973	28.10
6"	2" to 2 9/16"	1	92186A895	10.67
6½"	2¼" to 3"	1	92186A897	11.50
7"	2¼" to 3"	1	92186A901	12.75
7½"	2¼" to 3"	1	92186A902	14.69
8"	2¼" to 3"	1	92186A903	15.15
8½"	2¼" to 3"	1	92186A904	22.53
9"	2¼" to 3"	1	92186A906	23.04
10"	2¼" to 4"	1	92186A905	23.60
10½"	2¼" to 4"	1	92186A907	27.20
11"	2¼" to 5"	1	92186A909	29.36
12"	2¼" to 6"	1	92186A910	30.01
14"	2¼" to 6"	1	92186A912	39.94

1"-8—Head: Wd. 1½", Ht. 39/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1¾"	Full	1	93190A909	6.87
2"	Full	1	93190A912	6.86
2½"	Full	1	93190A914	7.04
2¾"	Full	1	93190A915	8.13
3"	Full	1	93190A916	8.22
3¼"	2¼" to 2 7/8"	1	92186A917	9.47
3½"	2¼" to 2 7/8"	1	92186A918	9.54
3¾"	2¼" to 2 7/8"	1	92186A919	9.91
4"	Full	1	93190A917	17.54
4"	2¼" to 2 7/8"	1	92186A920	10.26
4½"	2¼" to 2 7/8"	1	92186A922	10.53
5"	Full	1	93190A919	24.20
5"	2¼" to 2 7/8"	1	92186A924	11.71
5½"	2¼" to 2 7/8"	1	92186A926	11.99
6"	Full	1	93190A923	25.00
6"	2¼" to 2 7/8"	1	92186A928	13.85
6½"	2½" to 3⅛"	1	92186A929	15.25
7"	2½" to 3⅛"	1	92186A932	16.91
8"	2½" to 3⅛"	1	92186A935	17.45
8½"	2½" to 3⅛"	1	92186A936	39.50
9"	2½" to 3⅛"	1	92186A937	40.00
10"	2½" to 4"	1	92186A939	41.23

1"-8 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
11"	2½" to 5"	1	92186A942	$43.86
12"	2½" to 6"	1	92186A944	45.01
14"	2½" to 6"	1	92186A946	50.39

1 1/8"-7—Head: Wd. 1 11/16", Ht. 11/16"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2"	Full	1	93190A956	11.22
2½"	Full	1	93190A936	11.40
3"	Full	1	93190A938	12.16
3½"	Full	1	93190A940	13.91
4"	Full	1	93190A942	30.99
4"	2½" to 3¼"	1	92186A950	15.20
4½"	2½" to 3¼"	1	92186A952	16.49
5"	2½" to 3¼"	1	92186A152	17.74
5½"	2½" to 3¼"	1	92186A955	22.19
6"	Full	1	93190A947	41.93
6"	2½" to 3¼"	1	92186A956	23.01
6½"	2½" to 3¼"	1	92186A957	28.94
7"	2½" to 3¼"	1	92186A958	34.05
7½"	2½" to 3½"	1	92186A959	38.94
8"	2½" to 4"	1	92186A960	40.42
10"	2½" to 4"	1	92186A961	48.12
12"	2½" to 6"	1	92186A963	53.57

1¼"-7—Head: Wd. 1⅞", Ht. 25/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2½"	Full	1	93190A960	16.65
3"	Full	1	93190A962	17.69
4"	Full	1	93190A967	41.91
4"	2¾" to 3½"	1	92186A966	21.23
4½"	2¾" to 3½"	1	92186A248	24.98
5"	2¾" to 3½"	1	92186A971	26.07
5½"	2¾" to 3 9/16"	1	92186A256	31.14
6"	Full	1	93190A972	53.23
6"	2¾" to 3 9/16"	1	92186A260	34.03
6½"	2¾" to 3½"	1	92186A974	34.58
7"	2¾" to 3½"	1	92186A975	36.97
7½"	2¾" to 4"	1	92186A976	44.87
8"	2¾" to 4"	1	92186A977	45.00
10"	2¾" to 4"	1	92186A978	57.24
12"	2¾" to 6"	1	92186A979	62.17

1½"-6—Head: Wd. 2¼", Ht. 15/16"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3"	Full	1	93190A977	24.35
3½"	3¼" to Full	1	92186A981	33.67
4"	3¼" to Full	1	92186A982	36.78
4½"	3¼" to Full	1	92186A983	39.57
5"	3¼" to Full	1	92186A984	42.74
5½"	3¼" to Full	1	92186A985	47.25
6"	3¼" to Full	1	92186A986	48.43
6½"	3¼" to Full	1	92186A987	51.55
7"	3¼" to Full	1	92186A989	56.26
7½"	3¼" to Full	1	92186A990	61.84
8"	3¼" to Full	1	92186A991	66.33
8½"	3¼" to Full	1	92186A992	72.38
9"	3¼" to Full	1	92186A993	75.50
10"	3¼" to Full	1	92186A995	78.00

1¾"-5—Head: Wd. 2⅝", Ht. 1 3/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
7"	3¾" to Full	1	92186A997	85.50
9"	3¾" to Full	1	92186A998	93.66

18-8 Stainless Steel

1/4"-20—Head: Wd. 7/16", Ht. 5/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/8"	Full	50	92240A535	4.43
7/16"	Full	50	92240A536	4.61
1/2"	Full	50	92240A537	3.71
9/16"	Full	50	92240A538	5.95
5/8"	Full	50	92240A539	4.06
3/4"	Full	50	92240A540	4.20
7/8"	Full	50	92240A541	4.56
1"	Full	50	92240A542	5.29
1⅛"	Full	50	92240A545	7.18
1¼"	Full	50	92240A544	6.52
1¼"	¾" to 1"	50	92198A544	6.16
1⅜"	Full	50	92240A237	10.38
1⅜"	¾" to 1"	25	92198A545	4.98
1½"	Full	50	92240A546	7.24
1½"	¾" to 1"	50	92198A546	6.99
1⅝"	Full	25	92240A238	5.21
1⅝"	¾" to 1"	25	92198A547	5.54
1¾"	Full	25	92240A548	4.66
1¾"	¾" to 1"	25	92198A548	4.18
1⅞"	Full	25	92240A549	9.47
2"	Full	25	92240A550	5.88
2"	¾" to 1"	25	92198A550	4.71

1/4"-20 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2¼"	Full	25	92240A551	5.85
2¼"	¾" to 1"	25	92198A551	4.84
2½"	Full	25	92240A552	6.07
2½"	¾" to 1"	25	92198A552	5.31
2¾"	Full	25	92240A553	7.14
2¾"	¾" to 1"	25	92198A553	5.92
3"	Full	25	92240A554	7.85
3"	¾" to 1"	25	92198A554	6.48
3¼"	¾" to 1"	25	92198A555	7.30
3½"	Full	10	92240A556	4.33
3½"	¾" to 1"	10	92198A556	3.41
3¾"	¾" to 1"	10	92198A557	3.86
4"	Full	10	92240A558	4.63
4"	¾" to 1"	10	92198A558	4.02
4¼"	Full	10	92240A559	6.04
4¼"	¾" to 1"	10	92198A559	4.86
4½"	Full	10	92240A561	6.58
4½"	¾" to 1"	10	92198A560	4.87
5"	Full	10	92240A563	6.78
5"	¾" to 1"	10	92198A562	5.01
5½"	Full	10	92240A239	7.68
5½"	¾" to 1"	10	92198A564	5.54

1/4"-20 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
6"	Full	10	92240A565	8.33
6"	¾" to 1"	10	92198A566	5.74
6½"	1" to 4"	5	92198A567	9.98
7"	1" to 4"	1	92198A570	2.70
8"	1" to 6"	1	92198A573	3.30
8½"	1" to 6"	1	92198A572	4.82
9"	1" to 6"	1	92198A575	5.07
9½"	1" to 6"	1	92198A576	5.66
10"	1" to 6"	1	92198A579	5.88
11"	1" to 6"	1	92198A580	7.21
12"	1" to 8"	1	92198A582	8.08
16"	1¼" to 8"	1	92198A596	9.67

1/4"-28—Head: Wd. 7/16", Ht. 5/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/8"	Full	50	92240A101	4.86
1/2"	Full	50	92240A103	4.97
5/8"	Full	50	92240A105	5.85
3/4"	Full	50	92240A106	5.73
7/8"	Full	50	92240A107	6.67
1"	Full	50	92240A108	7.10
1⅛"	Full	25	92240A109	5.28
1¼"	Full	25	92240A104	5.24
1¼"	¾" to 1"	25	92198A110	4.48

(Continued on following page)

Stainless Steel Cap Screws *(Continued from previous page)*



Made from stainless steel, these screws are corrosion resistant in harsh environments. They may be mildly magnetic. Minimum tensile strength is 70,000 psi and minimum Rockwell hardness is B70. Thread fit is Class 2A. Dimensions meet ASME B18.2.1. Length is measured from under the head. For screws in sizes 4-40 to 10-24, see hex-head machine screws on page 3053.

18-8 stainless steel screws resist chemicals and solvents.

18-8 Stainless Steel (Cont.)

1/4"-28—Head: Wd. 7/16", Ht. 5/32" (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1 3/8"	Full	25	92240A111	$7.57
1 1/2"	Full	25	92240A110	7.63
1 1/2"	3/4" to 1"	25	92198A111	5.31
1 3/4"	Full	10	92240A113	3.21
1 3/4"	3/4" to 1"	25	92198A112	5.69
2"	Full	25	92240A112	8.96
2"	3/4" to 1"	25	92198A113	7.13
2 1/4"	3/4" to 1"	25	92198A114	7.41
2 1/2"	Full	10	92240A114	4.51
2 1/2"	3/4" to 1"	25	92198A115	8.15
3"	Full	10	92240A116	5.37
3"	3/4" to 1"	10	92198A117	4.07
3 1/2"	3/4" to 1"	10	92198A119	4.60
4"	3/4" to 1"	10	92198A121	5.08
5"	3/4" to 1"	5	92198A123	3.84
6"	3/4" to 1"	5	92198A125	5.18

5/16"-18—Head: Wd. 1/2", Ht. 13/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/8"	Full	50	92240A576	8.74
1/2"	Full	50	92240A578	6.28
5/8"	Full	50	92240A580	6.72
3/4"	Full	50	92240A581	7.09
7/8"	Full	25	92240A582	4.41
1"	Full	25	92240A583	4.54
1 1/8"	Full	25	92240A584	5.93
1 1/4"	Full	25	92240A585	5.56
1 3/8"	7/8" to 1 3/16"	10	92198A686	3.76
1 1/2"	Full	25	92240A587	6.69
1 1/2"	7/8" to 1 3/16"	25	92198A687	6.01
1 5/8"	Full	25	92240A241	10.79
1 5/8"	7/8" to 1 3/16"	10	92198A688	4.31
1 3/4"	Full	25	92240A589	7.86
1 3/4"	7/8" to 1 3/16"	25	92198A689	6.84
2"	Full	10	92240A591	3.68
2"	7/8" to 1 3/16"	25	92198A691	7.35
2 1/4"	Full	10	92240A932	4.22
2 1/4"	7/8" to 1 3/16"	10	92198A692	3.61
2 1/2"	Full	10	92240A593	4.66
2 1/2"	7/8" to 1 3/16"	10	92198A693	3.65
2 3/4"	Full	10	92240A594	4.73
2 3/4"	7/8" to 1 3/16"	10	92198A694	3.90
3"	Full	10	92240A595	5.73
3"	7/8" to 1 3/16"	10	92198A695	4.53
3 1/4"	7/8" to 1 3/16"	10	92198A696	5.13
3 1/2"	Full	10	92240A597	6.42
3 1/2"	7/8" to 1 3/16"	10	92198A697	5.16
3 3/4"	7/8" to 1 3/16"	10	92198A698	5.71
4"	Full	10	92240A599	7.48
4"	7/8" to 1 3/16"	10	92198A699	5.85
4 1/4"	7/8" to 1 3/16"	10	92198A700	9.01
4 1/2"	Full	10	92240A601	10.29
4 1/2"	7/8" to 1 3/16"	10	92198A701	8.34
5"	Full	5	92240A603	5.40
5"	7/8" to 1 3/16"	10	92198A703	8.71
5 1/2"	7/8" to 1 3/16"	5	92198A705	4.53
6"	Full	5	92240A606	6.04
6"	7/8" to 1 3/16"	5	92198A708	4.78
7"	1 1/8" to 4"	1	92198A711	3.32
8"	1 1/8" to 6"	1	92198A713	4.55

5/16"-24—Head: Wd. 1/2", Ht. 13/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/2"	Full	25	92240A301	4.40
5/8"	Full	25	92240A302	4.76
3/4"	Full	25	92240A303	4.85
7/8"	Full	25	92240A304	5.57
1"	Full	25	92240A305	5.62
1 1/4"	Full	10	92240A306	3.73
1 1/4"	7/8" to 1 3/16"	25	92198A306	9.85
1 1/2"	Full	10	92240A307	3.81
1 1/2"	7/8" to 1 3/16"	25	92198A307	7.28
1 3/4"	Full	10	92240A308	5.16
1 3/4"	7/8" to 1 3/16"	10	92198A308	3.92
2"	Full	10	92240A310	5.73
2"	7/8" to 1 3/16"	10	92198A309	4.09
2 1/4"	7/8" to 1 3/16"	10	92198A310	4.46

5/16"-24 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2 1/2"	Full	10	92240A312	$6.10
2 1/2"	7/8" to 1 3/16"	10	92198A311	4.81
3"	Full	10	92240A314	6.88
3"	7/8" to 1 3/16"	10	92198A313	6.26
3 1/2"	7/8" to 1 3/16"	10	92198A315	6.80
4"	7/8" to 1 3/16"	10	92198A317	7.85

3/8"-16—Head: Wd. 9/16", Ht. 15/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/8"	Full	25	92240A617	8.35
1/2"	Full	25	92240A619	4.54
5/8"	Full	25	92240A621	5.08
3/4"	Full	25	92240A622	5.39
7/8"	Full	25	92240A623	5.82
1"	Full	25	92240A624	6.06
1 1/8"	Full	10	92240A625	3.42
1 1/4"	Full	25	92240A626	6.64
1 3/8"	Full	10	92240A627	5.03
1 1/2"	Full	10	92240A628	3.94
1 1/2"	1" to 1 5/16"	10	92198A628	3.48
1 5/8"	Full	10	92240A242	7.90
1 5/8"	1" to 1 5/16"	10	92198A629	6.25
1 3/4"	Full	10	92240A630	4.55
1 3/4"	1" to 1 5/16"	10	92198A630	3.86
2"	Full	10	92240A632	4.94
2"	1" to 1 5/16"	10	92198A632	4.21
2 1/4"	Full	10	92240A633	5.36
2 1/4"	1" to 1 5/16"	10	92198A633	4.82
2 1/2"	Full	10	92240A634	5.67
2 1/2"	1" to 1 5/16"	10	92198A634	5.06
2 3/4"	Full	10	92240A637	6.53
2 3/4"	1" to 1 5/16"	10	92198A635	5.33
3"	Full	5	92240A636	3.67
3"	1" to 1 5/16"	10	92198A636	5.86
3 1/4"	Full	5	92240A950	4.27
3 1/4"	1" to 1 5/16"	10	92198A637	6.77
3 1/2"	Full	5	92240A635	4.13
3 1/2"	1" to 1 5/16"	10	92198A638	6.92
3 3/4"	Full	5	92240A638	4.96
3 3/4"	1" to 1 5/16"	10	92198A639	7.72
4"	Full	5	92240A640	5.02
4"	1" to 1 5/16"	5	92198A640	4.33
4 1/4"	Full	5	92240A641	7.08
4 1/4"	1" to 1 5/16"	5	92198A641	5.08
4 1/2"	Full	5	92240A642	5.45
4 1/2"	1" to 1 5/16"	5	92198A642	5.15
4 3/4"	Full	5	92240A643	6.99
4 3/4"	1" to 1 5/16"	5	92198A643	5.27
5"	Full	5	92240A645	7.02
5"	1" to 1 5/16"	5	92198A644	5.34
5 1/2"	1" to 1 5/16"	5	92198A646	5.66
6"	Full	5	92240A649	6.96
6"	1" to 1 5/16"	5	92198A648	5.96
6 1/2"	1 1/4" to 3"	5	92198A649	8.94
7"	Full	1	92240A651	3.58
7"	1 1/4" to 4"	1	92198A650	1.82
7 1/2"	1 1/4" to 4"	1	92198A651	2.03
8"	Full	1	92240A654	3.73
8"	1 1/4" to 6"	1	92198A652	2.08
8 1/2"	1 1/4" to 6"	1	92198A653	3.02
9"	1 1/4" to 6"	1	92198A654	3.45
9 1/2"	1 1/4" to 6"	1	92198A655	3.80
10"	1 1/4" to 6"	1	92198A656	4.11
11"	1 1/4" to 6"	1	92198A658	4.36
12"	1 1/4" to 6"	1	92198A660	4.88

3/8"-24—Head: Wd. 9/16", Ht. 15/64"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/2"	Full	25	92240A350	6.02
5/8"	Full	25	92240A351	6.79
3/4"	Full	25	92240A352	7.39
1"	Full	10	92240A354	3.46
1 1/4"	Full	10	92240A356	3.82
1 1/2"	Full	10	92240A358	6.12
1 1/2"	1" to 1 5/16"	10	92198A357	4.93
1 3/4"	Full	10	92240A359	7.11
1 3/4"	1" to 1 5/16"	10	92198A358	5.24

3/8"-24 (Cont.)

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
2"	Full	10	92240A360	$6.96
2"	1" to 1 5/16"	10	92198A359	6.11
2 1/4"	Full	5	92240A952	4.14
2 1/4"	1" to 1 5/16"	10	92198A360	6.98
2 1/2"	Full	5	92240A361	5.00
2 1/2"	1" to 1 5/16"	10	92198A361	7.19
2 3/4"	1" to 1 5/16"	10	92198A367	7.46
3"	Full	5	92240A362	6.58
3"	1" to 1 5/16"	10	92198A362	7.83
3 1/2"	1" to 1 5/16"	5	92198A364	4.99
4"	1" to 1 5/16"	5	92198A366	6.00
4 1/2"	1" to 1 5/16"	5	92198A368	6.70

7/16"-14—Head: Wd. 5/8", Ht. 9/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/4"	Full	10	92240A667	4.04
1"	Full	10	92240A669	4.30
1 1/4"	Full	10	92240A671	5.03
1 1/2"	Full	10	92240A365	5.55
1 3/4"	1 1/8" to 1 1/2"	10	92198A675	6.63
2"	Full	5	92240A367	5.37
2"	1 1/8" to 1 1/2"	10	92198A677	7.08
2 1/4"	1 1/8" to 1 1/2"	10	92198A678	8.07
2 1/2"	Full	5	92240A369	7.36
2 1/2"	1 1/8" to 1 1/2"	5	92198A679	4.39
2 3/4"	1 1/8" to 1 1/2"	5	92198A680	5.42
3"	Full	5	92240A371	7.85
3"	1 1/8" to 1 1/2"	5	92198A681	5.55
3 1/4"	1 1/8" to 1 1/2"	5	92198A682	5.95
3 1/2"	Full	5	92240A373	9.24
3 1/2"	1 1/8" to 1 1/2"	5	92198A683	6.07
4"	1 1/8" to 1 1/2"	5	92198A685	6.75
4 1/2"	1 1/8" to 1 1/2"	5	92198A670	8.18
5"	1 1/8" to 1 1/2"	1	92198A672	1.56
5 1/2"	1 1/8" to 1 1/2"	1	92198A674	1.84
6"	1 1/8" to 1 1/2"	1	92198A676	2.20

7/16"-20—Head: Wd. 5/8", Ht. 9/32"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
3/4"	Full	5	92240A399	3.81
1"	Full	10	92240A401	5.45
1 1/4"	Full	10	92240A403	6.05
1 1/2"	Full	10	92240A404	6.81
1 3/4"	1 1/8" to 1 1/2"	10	92198A405	7.42
2"	Full	5	92240A408	7.54
2"	1 1/8" to 1 1/2"	5	92198A406	4.57
2 1/4"	1 1/8" to 1 1/2"	5	92198A407	5.75
2 1/2"	1 1/8" to 1 1/2"	5	92198A408	5.63
3"	1 1/8" to 1 1/2"	5	92198A410	6.12
3 1/2"	1 1/8" to 1 1/2"	5	92198A412	6.36
4"	1 1/8" to 1 1/2"	5	92198A414	7.79

1/2"-13—Head: Wd. 3/4", Ht. 5/16"

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/2"	Full	10	92240A750	6.28
5/8"	Full	10	92240A751	6.03
3/4"	Full	10	92240A710	4.42
7/8"	Full	10	92240A711	5.11
1"	Full	10	92240A712	5.37
1 1/8"	Full	10	92240A713	5.97
1 1/4"	Full	10	92240A714	5.34
1 3/8"	Full	10	92240A716	10.04
1 3/8"	1 1/4" to Full	5	92198A124	4.01
1 1/2"	Full	10	92240A715	5.93
1 5/8"	1 1/4" to Full	5	92198A126	4.20
1 3/4"	Full	5	92240A718	4.44
1 3/4"	1 1/4" to 1 5/8"	5	92198A127	3.48
2"	Full	5	92240A720	4.43
2"	1 1/4" to 1 5/8"	5	92198A720	3.85
2 1/4"	Full	5	92240A721	4.93
2 1/4"	1 1/4" to 1 5/8"	10	92198A721	8.00
2 1/2"	Full	5	92240A722	5.38
2 1/2"	1 1/4" to 1 5/8"	5	92198A722	4.67
2 3/4"	Full	5	92240A723	6.11
2 3/4"	1 1/4" to 1 5/8"	5	92198A723	5.23
3"	Full	5	92240A724	6.66
3"	1 1/4" to 1 5/8"	5	92198A724	5.42
3 1/4"	Full	5	92240A243	7.73
3 1/4"	1 1/4" to 1 5/8"	5	92198A752	6.00

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Stainless Steel Cap Screws *(Continued from previous page)*

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)				
1/2"-13—Head: Wd. 3/4", Ht. 5/16" (Cont.)				
3 1/2"	Full	5	92240A726	$7.84
3 1/2"	1 1/4" to 1 5/8"	5	92198A726	5.97
3 3/4"	Full	5	92240A244	9.36
3 3/4"	1 1/4" to 1 5/8"	5	92198A753	6.62
4"	Full	1	92240A728	1.84
4"	1 1/4" to 1 5/8"	1	92198A728	1.35
4 1/4"	1 1/4" to 1 5/8"	1	92198A729	1.47
4 1/2"	Full	1	92240A730	1.87
4 1/2"	1 1/4" to 1 5/8"	1	92198A730	1.50
4 3/4"	Full	1	92240A731	2.23
4 3/4"	1 1/4" to 1 5/8"	1	92198A731	1.62
5"	Full	1	92240A732	2.10
5"	1 1/4" to 3"	1	92198A732	1.63
5 1/2"	Full	1	92240A734	2.31
5 1/2"	1 1/4" to 3"	1	92198A734	1.83
6"	Full	1	92240A736	2.89
6"	1 1/4" to 1 5/8"	1	92198A736	3.19
6 1/2"	1 1/2" to 3"	1	92198A754	2.11
7"	Full	1	92240A738	5.36
7"	1 1/2" to 3"	1	92198A738	2.35
7 1/2"	1 1/2" to 3"	1	92198A755	2.78
8"	Full	1	92240A740	6.59
8"	1 1/2" to 3"	1	92198A757	2.86
8 1/2"	1 1/2" to 3"	1	92198A758	3.50
9"	1 1/2" to 3"	1	92198A742	3.89
9 1/2"	1 1/2" to 3"	1	92198A743	4.28
10"	1 1/2" to 4"	1	92198A744	5.40
11"	1 1/2" to 4"	1	92198A746	7.13
12"	1 1/2" to 6"	1	92198A748	7.50
14"	1 1/2" to 6"	1	92198A750	10.03
16"	1 1/2" to 6"	1	92198A751	14.40
18"	1 1/4" to 6"	1	92198A128	16.03
20"	1 1/4" to 6"	1	92198A129	17.24
1/2"-20—Head: Wd. 3/4", Ht. 5/16"				
1/2"	Full	10	92240A245	9.21
5/8"	Full	10	92240A246	9.23
3/4"	Full	10	92240A430	5.42
1"	Full	10	92240A432	6.44
1 1/4"	Full	10	92240A434	7.10
1 1/2"	Full	10	92240A435	7.85
1 3/4"	Full	5	92240A436	4.82
2"	Full	5	92240A437	7.26
2"	1 1/4" to 1 5/8"	5	92198A437	5.28
2 1/4"	Full	1	92240A439	1.56
2 1/4"	1 1/4" to 1 5/8"	5	92198A438	5.81
2 1/2"	Full	1	92240A441	1.61
2 1/2"	1 1/4" to 1 5/8"	5	92198A439	6.46
2 3/4"	1 1/4" to 1 5/8"	1	92198A440	1.78
3"	Full	1	92240A443	1.82
3"	1 1/4" to 1 5/8"	5	92198A441	7.08
3 1/2"	1 1/4" to 1 5/8"	1	92198A443	1.56
4"	1 1/4" to 1 5/8"	1	92198A445	1.69
4 1/2"	1 1/4" to 1 5/8"	1	92198A447	1.97
5"	1 1/4" to 1 5/8"	1	92198A450	2.15
6"	1 1/4" to 1 5/8"	1	92198A452	3.00
8"	1 1/4" to 3"	1	92240A247	7.47
9/16"-12—Head: Wd. 13/16", Ht. 23/64"				
1"	Full	5	92240A758	5.45
1 1/4"	Full	5	92240A760	6.23
1 1/2"	Full	5	92240A761	7.80
2"	Full	5	92240A765	7.94
2 1/2"	1 3/8" to 1 13/16"	1	92198A767	1.61
3"	1 3/8" to 1 13/16"	1	92198A769	1.72
3 1/2"	1 3/8" to 1 13/16"	1	92198A662	1.74
4"	1 3/8" to 1 13/16"	1	92198A664	1.97
5"	1 3/8" to 1 13/16"	1	92198A665	2.96
6"	1 3/8" to 1 13/16"	1	92198A668	3.44
9/16"-18—Head: Wd. 13/16", Ht. 23/64"				
1"	Full	1	92240A248	1.89
1 1/2"	Full	1	92240A460	1.90
2"	Full	1	92240A462	2.09
2 1/2"	1 3/8" to 1 13/16"	1	92198A464	2.16
3"	1 3/8" to 1 13/16"	1	92198A466	2.22
5/8"-11—Head: Wd. 15/16", Ht. 25/64"				
3/4"	Full	1	92240A792	1.71
1"	Full	5	92240A794	4.58
1 1/4"	Full	5	92240A796	4.96
1 1/2"	Full	5	92240A798	5.29
1 3/4"	Full	5	92240A799	6.27
5/8"-11 (Cont.)				
2"	Full	5	92240A770	$7.21
2 1/4"	Full	1	92240A772	1.64
2 1/4"	1 1/2" to 2"	5	92198A803	6.78
2 1/2"	Full	1	92240A774	1.87
2 1/2"	1 1/2" to 2"	1	92198A804	1.42
2 3/4"	Full	1	92240A249	1.79
2 3/4"	1 1/2" to 2"	1	92198A805	1.49
3"	Full	1	92240A780	2.03
3"	1 1/2" to 2"	1	92198A806	1.54
3 1/4"	1 1/2" to 2"	1	92198A807	1.90
3 1/2"	Full	1	92240A782	2.22
3 1/2"	1 1/2" to 2"	1	92198A808	1.88
3 3/4"	1 1/2" to 2"	1	92198A809	1.97
4"	Full	1	92240A784	2.59
4"	1 1/2" to 2"	1	92198A810	2.08
4 1/2"	Full	1	92240A786	3.01
4 1/2"	1 1/2" to 2"	1	92198A812	2.40
5"	Full	1	92240A788	3.36
5"	1 1/2" to 2"	1	92198A814	2.87
5 1/2"	1 1/2" to 2"	1	92198A816	2.99
6"	Full	1	92240A790	4.40
6"	1 1/2" to 2"	1	92198A818	3.32
6 1/2"	1 3/4" to 2 1/2"	1	92198A819	3.72
7"	Full	1	92240A793	8.11
7"	1 3/4" to 3"	1	92198A820	4.18
7 1/2"	1 3/4" to 3"	1	92198A821	4.50
8"	Full	1	92240A795	9.40
8"	1 3/4" to 3"	1	92198A822	4.69
9"	1 3/4" to 3"	1	92198A824	8.35
10"	1 3/4" to 4"	1	92198A826	9.05
11"	1 3/4" to 6"	1	92198A828	11.65
12"	1 3/4" to 6"	1	92198A830	15.18
14"	1 3/4" to 6"	1	92198A834	18.14
16"	1 3/4" to 6"	1	92198A838	22.13
20"	1 3/4" to 6"	1	92198A840	25.90
5/8"-18—Head: Wd. 15/16", Ht. 25/64"				
1"	Full	5	92240A478	6.59
1 1/4"	Full	1	92240A480	1.51
1 1/2"	Full	1	92240A481	1.56
1 3/4"	Full	1	92240A482	1.71
2"	Full	1	92240A483	1.90
2 1/4"	Full	1	92240A485	3.09
2 1/2"	1 1/2" to 2"	1	92198A485	2.15
3"	1 1/2" to 2"	1	92198A487	2.57
3 1/2"	1 1/2" to 2"	1	92198A489	3.16
4"	1 1/2" to 2"	1	92198A490	3.33
5"	1 1/2" to 2"	1	92198A501	4.64
6"	1 1/2" to 2"	1	92198A131	5.15
3/4"-10—Head: Wd. 1 1/8", Ht. 15/32"				
1"	Full	1	92240A835	1.41
1 1/4"	Full	1	92240A837	1.61
1 1/2"	Full	1	92240A839	1.61
1 3/4"	Full	1	92240A841	1.80
2"	Full	1	92240A842	2.19
2"	1 3/4" to Full	1	92198A132	1.88
2 1/4"	Full	1	92240A843	2.29
2 1/2"	Full	1	92240A844	2.23
2 3/4"	Full	1	92240A251	3.11
2 3/4"	1 3/4" to 2 1/4"	1	92198A846	2.26
3"	Full	1	92240A845	3.25
3"	1 3/4" to 2 1/4"	1	92198A847	2.41
3 1/4"	Full	1	92240A252	4.27
3 1/4"	1 3/4" to 2 1/4"	1	92198A848	2.72
3 1/2"	Full	1	92240A847	4.31
3 1/2"	1 3/4" to 2 1/4"	1	92198A849	2.64
3 3/4"	1 3/4" to 2 1/4"	1	92198A850	3.00
4"	Full	1	92240A849	4.62
4"	1 3/4" to 2 1/4"	1	92198A851	3.31
4 1/4"	1 3/4" to 2 1/4"	1	92198A852	3.77
4 1/2"	Full	1	92240A851	4.97
4 1/2"	1 3/4" to 2 1/4"	1	92198A853	3.72
5"	Full	1	92240A853	5.92
5"	1 3/4" to 2 1/2"	1	92198A855	4.06
5 1/2"	1 3/4" to 2 1/2"	1	92198A857	4.37
6"	Full	1	92240A857	6.86
6"	1 3/4" to 2 1/2"	1	92198A859	4.51
6 1/2"	2" to 3"	1	92198A860	5.28
7"	Full	1	92240A859	9.50
7"	2" to 3"	1	92198A861	5.49
3/4"-10 (Cont.)				
7 1/2"	2" to 3"	1	92198A862	$6.40
8"	Full	1	92240A861	12.92
8"	2" to 3"	1	92198A863	6.50
9"	2" to 3"	1	92198A865	10.02
10"	2" to 4"	1	92198A866	14.40
11"	2" to 6"	1	92198A868	19.13
12"	2" to 6"	1	92198A870	20.64
14"	2" to 6"	1	92198A874	22.04
16"	2" to 6"	1	92198A879	27.83
20"	2" to 6"	1	92198A887	34.57
3/4"-16—Head: Wd. 1 1/8", Ht. 15/32"				
1 1/4"	Full	1	92240A378	2.28
1 1/2"	Full	1	92240A380	2.36
1 3/4"	Full	1	92240A381	2.46
2"	Full	1	92240A382	2.79
2 1/2"	Full	1	92240A384	3.96
2 3/4"	1 3/4" to 2 1/4"	1	92198A391	4.00
3"	1 3/4" to 2 1/4"	1	92198A386	4.25
3 1/2"	1 3/4" to 2 1/4"	1	92198A388	5.17
4"	1 3/4" to 2 1/4"	1	92198A390	7.19
5"	1 3/4" to 2 1/4"	1	92198A134	7.96
6"	1 3/4" to 2 1/4"	1	92198A135	8.42
7/8"-9—Head: Wd. 1 5/16", Ht. 35/64"				
1"	Full	1	92240A253	5.13
1 1/2"	Full	1	92240A876	2.51
1 3/4"	Full	1	92240A878	2.82
2"	Full	1	92240A880	3.05
2 1/4"	Full	1	92240A383	3.31
2 1/2"	Full	1	92240A882	3.42
2 3/4"	Full	1	92240A385	3.47
3"	Full	1	92240A884	5.31
3"	2" to Full	1	92198A884	3.62
3 1/4"	2" to 2 9/16"	1	92198A387	4.42
3 1/2"	2" to 2 9/16"	1	92198A392	4.48
3 3/4"	2" to 2 9/16"	1	92198A389	5.01
4"	Full	1	92240A886	6.88
4"	2" to 2 9/16"	1	92198A888	5.14
4 1/2"	2" to 2 9/16"	1	92198A890	5.26
5"	Full	1	92240A888	9.14
5"	2" to 2 9/16"	1	92198A891	5.53
5 1/2"	2" to 2 9/16"	1	92198A893	5.90
6"	2" to 2 9/16"	1	92198A895	6.44
6 1/2"	2 1/4" to 3"	1	92198A897	6.82
7"	2 1/4" to 3"	1	92198A898	7.21
8"	2 1/4" to 3"	1	92198A899	9.14
9"	2 1/4" to 3"	1	92198A901	15.88
10"	2 1/4" to 4"	1	92198A903	17.69
11"	2 1/4" to 6"	1	92198A904	22.19
12"	2 1/4" to 6"	1	92198A905	24.52
7/8"-14—Head: Wd. 1 5/16", Ht. 35/64"				
1 1/2"	Full	1	92240A254	8.52
2"	Full	1	92240A255	8.73
2 1/2"	Full	1	92198A945	7.86
3"	2" to 2 9/16"	1	92198A947	9.48
1"-8—Head: Wd. 1 1/2", Ht. 39/64"				
1 1/2"	Full	1	92240A256	4.36
1 3/4"	Full	1	92240A257	4.46
2"	Full	1	92240A912	4.09
2 1/4"	Full	1	92240A914	4.13
2 1/2"	Full	1	92240A921	4.58
2 3/4"	Full	1	92240A915	4.57
3"	Full	1	92240A916	4.75
3 1/2"	Full	1	92240A925	8.85
3 1/2"	2 1/4" to 2 7/8"	1	92198A918	4.77
3 3/4"	2 1/4" to 2 7/8"	1	92198A919	6.22
4"	Full	1	92240A926	10.74
4"	2 1/4" to 2 7/8"	1	92198A920	5.97
4 1/2"	2 1/4" to 2 7/8"	1	92198A922	6.43
5"	Full	1	92240A927	13.04
5"	2 1/4" to 2 7/8"	1	92198A924	6.91
5 1/2"	2 1/4" to 2 7/8"	1	92198A926	7.42
6"	Full	1	92240A930	14.26
6"	2 1/4" to 2 7/8"	1	92198A928	8.39
6 1/2"	2 1/2" to 3 1/8"	1	92198A929	10.29
7"	2 1/2" to 3 1/8"	1	92198A930	10.59
7 1/2"	2 1/2" to 3 1/8"	1	92198A931	11.26
8"	2 1/2" to 3 1/8"	1	92198A932	12.16
9"	2 1/2" to 3 1/8"	1	92198A933	21.12
10"	2 1/2" to 6"	1	92198A934	28.93

(Continued on following page)

Stainless Steel Cap Screws *(Continued from previous page)*





Made from stainless steel, these screws are corrosion resistant in harsh environments. They may be mildly magnetic. Minimum tensile strength is 70,000 psi and minimum Rockwell hardness is B70. Thread fit is Class 2A. Dimensions meet ASME B18.2.1. Length is measured from under the head. For screws in sizes 4-40 to 10-24, see hex-head machine screws on page 3053.

18-8 stainless steel screws are resistant to chemicals and solvents.

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)				
1″-8—Head: Wd. 1½″, Ht. 39⁄64″ (Cont.)				
11″	2½″ to 6″	1	92198A935	$34.40
12″	2½″ to 6″	1	92198A936	35.75
1″-14—Head: Wd. 1½″, Ht. 39⁄64″				
1½″	Full	1	92240A258	10.89
2″	Full	1	92240A259	10.32
2½″	Full	1	92240A261	11.22
3″	Full	1	92240A262	13.02
4″	2¼″ to 2⅞″	1	92198A137	14.54
5″	2¼″ to 2⅞″	1	92198A138	15.39
1⅛″-7—Head: Wd. 1¹¹⁄₁₆″, Ht. 11⁄16″				
2″	Full	1	92240A263	8.18
2½″	Full	1	92240A264	8.31
3″	Full	1	92240A136	8.61
4″	2½″ to 3½″	1	92198A144	10.88
4½″	2½″ to 3½″	1	92198A148	11.91
5″	2½″ to 3½″	1	92198A152	12.66
1⅛″-7—Head: Wd. 1¹¹⁄₁₆″, Ht. 11⁄16″ (Cont.)				
5½″	2½″ to 3½″	1	92198A157	$14.26
6″	2½″ to 3½″	1	92198A160	15.42
8″	2½″ to 3½″	1	92198A178	18.32
1¼″-7—Head: Wd. 1⅞″, Ht. 25⁄32″				
2½″	Full	1	92240A265	11.30
3″	Full	1	92240A236	10.96
3½″	2¾″ to Full	1	92198A237	11.56
4″	2¾″ to 3½″	1	92198A238	12.42
4½″	2¾″ to 3½″	1	92198A245	13.53
5″	2¾″ to 3½″	1	92198A252	14.60
5½″	2¾″ to 3½″	1	92198A256	16.36
6″	2¾″ to 3½″	1	92198A260	17.90
6½″	2¾″ to 4″	1	92198A264	18.69
7″	2¾″ to 4″	1	92198A272	20.90
8″	2¾″ to 4″	1	92198A280	21.09
1⅜″-6—Head: Wd. 2¹⁄₁₆″, Ht. 27⁄32″				
4″	3″ to Full	1	92198A139	$27.25
5″	3″ to Full	1	92198A141	32.12
6″	3″ to Full	1	92198A143	35.66
1½″-6—Head: Wd. 2¼″, Ht. 15⁄16″				
3″	Full	1	92240A266	21.44
3½″	Full	1	92240A267	18.81
4″	3¼″ to Full	1	92198A961	19.57
4½″	3¼″ to Full	1	92198A963	21.20
5″	3¼″ to Full	1	92198A965	22.01
5½″	3¼″ to Full	1	92198A967	26.40
6″	3¼″ to Full	1	92198A969	30.87
6½″	3¼″ to Full	1	92198A286	37.50
7″	3¼″ to Full	1	92198A973	35.59
7½″	3¼″ to Full	1	92198A975	40.49
8″	3¼″ to Full	1	92198A977	41.95

Metric Stainless Steel Cap Screws





The metric version of our stainless steel cap screws, these also offer corrosion resistance in harsh environments. They may be mildly magnetic. Minimum tensile strength is 100,000 psi and hardness is not rated. Screws have a Class 6g thread fit. Length is measured from under the head. Fully threaded screws meet DIN 933. Partially threaded screws meet DIN 931.

Type 316 (A4) stainless steel is more corrosion resistant than 18-8 stainless steel and can be used in marine environments.

18-8 (A2) stainless steel withstands chemicals and solvents.

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
Type 316 (A4) Stainless Steel				
M3—Pitch: 0.5 mm				
Head: Wd. 5.5 mm, Ht. 2 mm				
6	Full	50	93635A002	$5.19
8	Full	50	93635A005	5.08
10	Full	50	93635A008	5.29
12	Full	50	93635A010	9.44
16	Full	50	93635A014	5.84
20	Full	50	93635A017	6.30
25	Full	25	93635A020	7.99
30	Full	10	93635A025	5.16
M4—Pitch: 0.7 mm				
Head: Wd. 7 mm, Ht. 2.8 mm				
6	Full	50	93635A102	9.26
8	Full	50	93635A104	6.83
10	Full	50	93635A106	6.42
12	Full	50	93635A110	6.82
16	Full	50	93635A114	7.48
20	Full	50	93635A116	8.38
25	Full	50	93635A118	9.71
30	Full	25	93635A121	6.00
35	Full	10	93635A126	5.05
M5—Pitch: 0.8 mm				
Head: Wd. 8 mm, Ht. 3.5 mm				
6	Full	25	93635A146	5.45
8	Full	25	93635A148	6.54
10	Full	50	93635A156	8.32
12	Full	50	93635A160	8.98
14	Full	50	93635A162	11.08
16	Full	50	93635A164	9.81
18	Full	25	93635A166	6.73
20	Full	50	93635A168	10.83
25	Full	25	93635A172	6.85
30	Full	25	93635A175	7.26
35	Full	25	93635A178	7.95
40	Full	10	93635A181	4.17
45	Full	10	93635A185	7.05
M6—Pitch: 1 mm				
Head: Wd. 10 mm, Ht. 4 mm				
8	Full	10	93635A202	8.00
10	Full	25	93635A204	5.74
12	Full	25	93635A208	6.15
14	Full	25	93635A209	8.63
16	Full	25	93635A210	6.52
18	Full	25	93635A211	8.13
20	Full	25	93635A212	6.81
22	Full	25	93635A213	8.74
25	Full	25	93635A214	7.64
M6 (Cont.)				
30	Full	25	93635A218	$8.49
35	Full	25	93635A222	9.35
40	Full	10	93635A229	4.73
45	Full	10	93635A232	5.10
50	Full	10	93635A235	5.48
55	Full	10	93635A238	14.00
60	Full	10	93635A241	6.02
70	Full	10	93635A245	6.63
80	Full	5	93635A248	7.50
90	Full	5	93635A251	5.36
100	Full	1	93635A255	3.37
110	Full	1	93635A265	8.33
M8—Pitch: 1.25 mm				
Head: Wd. 13 mm, Ht. 5.3 mm				
10	Full	10	93635A305	7.74
12	Full	25	93635A310	10.56
14	Full	10	93635A459	5.90
16	Full	10	93635A314	5.45
18	Full	10	93635A316	13.33
20	Full	10	93635A318	6.04
22	Full	10	93635A319	14.67
25	Full	10	93635A322	6.17
30	Full	5	93635A326	4.04
35	Full	5	93635A330	4.33
40	Full	5	93635A336	4.64
45	Full	5	93635A337	4.86
50	Full	5	93635A340	5.13
55	Full	5	93635A342	12.17
60	Full	5	93635A344	5.74
65	Full	5	93635A383	9.38
70	Full	1	93635A345	1.05
80	Full	1	93635A348	1.15
90	Full	1	93635A350	1.26
100	Full	1	93635A353	1.37
120	Full	1	93635A369	5.33
M10—Pitch: 1.5 mm				
Head: Wd. 17 mm, Ht. 6.4 mm				
16	Full	10	93635A412	13.70
20	Full	10	93635A416	9.83
25	Full	5	93635A420	5.65
30	Full	5	93635A424	6.10
35	Full	5	93635A428	6.55
40	Full	5	93635A438	7.02
45	Full	5	93635A442	7.57
50	Full	5	93635A446	8.17
M10 (Cont.)				
55	Full	5	93635A449	$12.09
60	Full	5	93635A453	9.21
70	Full	1	93635A457	2.80
80	Full	1	93635A462	1.89
90	Full	1	93635A465	2.09
100	Full	1	93635A471	2.30
120	Full	1	93635A481	5.50
M12—Pitch: 1.75 mm				
Head: Wd. 19 mm, Ht. 7.5 mm				
20	Full	5	93635A510	7.95
25	Full	5	93635A515	10.85
30	Full	5	93635A520	8.31
35	Full	5	93635A522	9.13
40	Full	1	93635A524	1.69
45	Full	1	93635A528	2.24
50	Full	1	93635A532	2.00
55	Full	1	93635A535	3.35
60	Full	1	93635A538	2.52
65	Full	1	93635A541	3.77
70	Full	1	93635A544	3.88
75	Full	1	93635A546	3.92
80	Full	1	93635A547	2.75
90	Full	1	93635A550	3.01
100	Full	1	93635A553	3.41
110	Full	1	93635A559	5.66
M16—Pitch: 2 mm				
Head: Wd. 24 mm, Ht. 10 mm				
25	Full	1	93635A650	2.86
30	Full	1	93635A653	3.08
35	Full	1	93635A656	3.15
40	Full	1	93635A659	3.40
45	Full	1	93635A662	6.97
50	Full	1	93635A665	3.88
55	Full	1	93635A667	5.83
60	Full	1	93635A668	4.40
65	Full	1	93635A670	7.04
70	Full	1	93635A672	7.26
80	Full	1	93635A674	5.66
90	Full	1	93635A677	5.92
100	Full	1	93635A680	6.41
110	Full	1	93635A682	11.56
120	Full	1	93635A686	11.76
130	Full	1	93635A690	12.35
140	Full	1	93635A694	13.48
150	Full	1	93635A698	14.33

(Continued on following page)

Metric Stainless Steel Cap Screws *(Continued from previous page)*

Type 316 (A4) Stainless Steel (Cont.)

M20—Pitch: 2.5 mm
Head: Wd. 30 mm, Ht. 12.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
40	Full	1	93635A702	$10.17
45	Full	1	93635A706	10.50
50	Full	1	93635A710	10.61
55	Full	1	93635A714	10.81
60	Full	1	93635A718	13.75
65	Full	1	93635A722	14.09
70	Full	1	93635A726	12.29
80	Full	1	93635A730	13.32
90	Full	1	93635A736	14.01

18-8 (A2) Stainless Steel

M3—Pitch: 0.5 mm
Head: Wd. 5.5 mm, Ht. 2 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
6	Full	100	91287A010	6.67
8	Full	100	91287A012	6.67
10	Full	100	91287A014	7.00
12	Full	100	91287A016	7.86
16	Full	100	91287A018	8.66
20	Full	100	91287A020	8.99
25	Full	50	91287A022	5.17
30	Full	50	91287A024	5.84
35	Full	50	91287A026	6.07
40	Full	50	91287A028	7.17

M4—Pitch: 0.7 mm
Head: Wd. 7 mm, Ht. 2.8 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
6	Full	100	91287A110	8.27
8	Full	100	91287A111	8.52
10	Full	100	91287A112	8.62
12	Full	100	91287A113	8.97
16	Full	100	91287A115	9.15
20	Full	50	91287A116	5.67
25	Full	50	91287A117	6.20
30	Full	50	91287A118	6.84
35	Full	50	91287A051	7.50
40	Full	50	91287A053	9.00
45	Full	50	91287A055	9.33
50	Full	25	91287A057	5.25
60	Full	10	91287A060	5.97

M5—Pitch: 0.8 mm
Head: Wd. 8 mm, Ht. 3.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
6	Full	50	91287A081	7.49
8	Full	100	91287A119	8.33
10	Full	100	91287A121	10.00
12	Full	100	91287A122	10.67
14	Full	50	91287A163	6.61
16	Full	50	91287A124	6.27
18	Full	50	91287A182	9.61
20	Full	50	91287A125	6.98
25	Full	50	91287A126	7.32
30	Full	50	91287A127	8.93
35	Full	50	91287A128	10.17
40	Full	50	91287A329	10.33
45	Full	50	91287A331	10.69
50	Full	25	91287A333	7.00
55	Full	25	91287A334	11.83
60	Full	25	91287A335	8.08
70	Full	10	91287A337	5.20

M6—Pitch: 1 mm
Head: Wd. 10 mm, Ht. 4 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
8	Full	50	91287A250	5.40
10	Full	100	91287A133	10.99
12	Full	50	91287A134	6.00
14	Full	25	91287A207	6.17
16	Full	50	91287A136	7.83
18	Full	50	91287A209	9.30
20	Full	50	91287A137	8.91
22	Full	50	91287A211	9.16
25	Full	50	91287A138	9.33
30	Full	50	91287A139	9.50
30	18 to 23	25	91287A903	5.85
35	Full	50	91287A141	9.67
40	Full	25	91287A342	6.58
40	18 to 23	25	91287A142	6.67
45	Full	25	91287A343	6.83
50	Full	25	91287A344	8.50
55	Full	25	91287A345	8.59
60	Full	25	91287A346	10.16
65	Full	25	91287A347	10.58
70	Full	10	91287A351	6.13
70	18 to 23	10	91287A252	5.39

M20 (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
100	Full	1	93635A740	$15.16
120	Full	1	93635A744	18.62
130	Full	1	93635A748	19.81
140	Full	1	93635A752	20.98
150	Full	1	93635A756	27.60

M24—Pitch: 3 mm
Head: Wd. 36 mm, Ht. 15 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
50	Full	1	93635A801	17.72
60	Full	1	93635A804	18.45
65	Full	1	93635A807	18.79

M6 (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
80	Full	10	91287A354	7.00
80	18 to 23	10	91287A254	5.72
90	Full	10	91287A358	7.69
90	18 to 23	10	91287A256	6.54
100	Full	10	91287A361	8.11
100	18 to 23	5	91287A258	3.56
110	Full	5	91287A363	7.26
120	18 to 23	5	91287A262	6.99
130	18 to 23	5	91287A264	7.42
140	18 to 23	5	91287A266	7.08
150	18 to 23	5	91287A268	9.43

M8—Pitch: 1.25 mm
Head: Wd. 13 mm, Ht. 5.3 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
10	Full	25	91287A147	8.51
12	Full	25	91287A149	8.75
14	Full	25	91287A314	9.86
16	Full	25	91287A151	8.94
18	Full	25	91287A300	9.79
20	Full	25	91287A152	9.96
22	Full	25	91287A303	9.70
25	Full	25	91287A153	10.50
30	Full	25	91287A154	10.73
35	Full	25	91287A155	11.33
40	Full	10	91287A305	4.80
40	22 to 29	10	91287A156	5.71
45	Full	10	91287A307	5.86
50	Full	10	91287A309	7.50
50	22 to 29	10	91287A158	7.86
55	Full	10	91287A311	9.67
60	Full	10	91287A313	9.33
60	22 to 29	10	91287A160	12.29
65	Full	10	91287A315	7.73
70	Full	10	91287A451	9.23
70	22 to 29	10	91287A162	9.27
80	Full	5	91287A453	7.26
80	22 to 29	5	91287A164	4.95
90	Full	5	91287A455	8.01
90	22 to 29	5	91287A165	5.87
100	Full	5	91287A457	8.59
100	22 to 29	5	91287A166	6.30
110	Full	5	91287A459	10.77
110	22 to 29	5	91287A317	7.43
120	Full	5	91287A461	11.22
120	22 to 29	5	91287A319	8.22
130	Full	1	91287A463	2.57
130	22 to 29	5	91287A321	8.51
140	Full	1	91287A465	2.70
150	Full	1	91287A467	2.82
160	22 to 29	1	91287A322	3.50
170	22 to 29	1	91287A323	4.15
180	22 to 29	1	91287A325	4.46
190	22 to 29	1	91287A326	4.74
200	22 to 29	1	91287A327	4.60

M10—Pitch: 1.5 mm
Head: Wd. 17 mm, Ht. 6.4 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
12	Full	10	91287A167	6.50
16	Full	10	91287A168	6.67
20	Full	10	91287A169	6.90
25	Full	10	91287A171	7.00
30	Full	10	91287A172	7.33
35	Full	10	91287A173	7.67
40	Full	10	91287A374	9.00
40	26 to 34	10	91287A174	9.04
45	Full	10	91287A375	9.33
50	Full	10	91287A376	9.66
50	26 to 34	10	91287A176	10.69
55	Full	10	91287A373	11.00

M24 (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
70	Full	1	93635A810	$19.67
80	Full	1	93635A813	22.14
90	Full	1	93635A816	24.27
100	Full	1	93635A819	24.92
110	Full	1	93635A822	27.74
120	Full	1	93635A825	28.20
130	Full	1	93635A828	32.94
140	Full	1	93635A831	34.84
150	Full	1	93635A834	36.59

M10 (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
60	Full	10	91287A377	12.33
65	Full	10	91287A372	12.67
70	Full	5	91287A378	6.37
70	26 to 34	5	91287A181	6.21
80	Full	5	91287A379	9.53
80	26 to 34	5	91287A178	9.29
90	Full	5	91287A380	10.22
90	26 to 34	5	91287A179	10.17
100	Full	5	91287A382	11.21
100	26 to 34	5	91287A180	10.29
110	Full	1	91287A384	2.64
120	Full	1	91287A385	3.41
120	26 to 34	1	91287A381	3.00
130	Full	1	91287A386	3.78
130	26 to 34	1	91287A383	3.88
140	Full	1	91287A387	3.93
150	Full	1	91287A388	3.97
160	26 to 34	1	91287A389	4.92
170	26 to 34	1	91287A390	5.36
180	26 to 34	1	91287A391	6.53
190	26 to 34	1	91287A392	7.42
200	26 to 34	1	91287A406	7.59

M12—Pitch: 1.75 mm
Head: Wd. 19 mm, Ht. 7.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
16	Full	10	91287A186	9.75
20	Full	10	91287A187	10.86
25	Full	10	91287A188	11.28
30	Full	10	91287A189	12.00
35	Full	5	91287A191	6.33
40	Full	10	91287A192	11.14
45	Full	5	91287A393	7.16
50	Full	5	91287A394	7.50
55	Full	5	91287A395	9.88
60	Full	5	91287A396	10.00
65	Full	5	91287A397	11.92
70	Full	5	91287A398	10.79
70	30 to 39	5	91287A198	10.31
80	Full	1	91287A399	2.36
80	30 to 39	1	91287A199	1.93
90	Full	1	91287A401	3.43
90	30 to 39	1	91287A201	2.05
100	Full	1	91287A402	3.56
100	30 to 39	1	91287A202	2.15
110	Full	1	91287A403	3.80
110	30 to 39	1	91287A203	3.58
120	Full	1	91287A404	4.05
120	30 to 39	1	91287A204	3.84
130	Full	1	91287A482	4.59
130	30 to 39	1	91287A400	4.26
140	Full	1	91287A483	4.91
150	Full	1	91287A485	5.21
160	30 to 39	1	91287A439	5.69
170	30 to 39	1	91287A440	6.90
180	30 to 39	1	91287A441	6.43
190	30 to 39	1	91287A442	6.76
200	30 to 39	1	91287A443	7.09

M14—Pitch: 2 mm
Head: Wd. 22 mm, Ht. 8.8 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
20	Full	5	91287A777	8.88
25	Full	5	91287A776	11.16
30	Full	5	91287A778	9.12
35	Full	5	91287A780	9.42
40	Full	5	91287A782	9.61
45	Full	1	91287A784	2.62
50	Full	5	91287A786	11.81
55	Full	1	91287A787	2.83

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Metric Stainless Steel Cap Screws *(Continued from previous page)*



The metric version of our stainless steel cap screws, these also offer corrosion resistance in harsh environments. They may be mildly magnetic. Minimum tensile strength is 100,000 psi and hardness is not rated. Screws have a Class 6g thread fit. Length is measured from under the head. Fully threaded screws meet DIN 933. Partially threaded screws meet DIN 931.

18-8 (A2) stainless steel withstands chemicals and solvents.

18-8 (A2) Stainless Steel (Cont.)

M14—Pitch: 2 mm
Head: Wd. 22 mm, Ht. 8.8 mm (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
60	Full	1	91287A794	$3.00
60	34 to 44	1	91287A788	2.80
65	Full	1	91287A796	3.18
70	Full	1	91287A798	3.44
70	34 to 44	1	91287A790	3.03
80	Full	1	91287A800	3.76
80	34 to 44	1	91287A792	3.06
90	Full	1	91287A802	4.12
100	Full	1	91287A804	4.46
110	Full	1	91287A806	6.10
120	Full	1	91287A808	6.98
130	34 to 44	1	91287A815	6.50
140	34 to 44	1	91287A816	7.42
150	34 to 44	1	91287A817	8.49
160	34 to 44	1	91287A818	11.91

M16—Pitch: 2 mm
Head: Wd. 24 mm, Ht. 10 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
25	Full	1	91287A220	1.69
30	Full	1	91287A221	1.70
35	Full	1	91287A222	1.84
40	Full	1	91287A223	2.25
45	Full	1	91287A324	2.33
50	Full	1	91287A225	2.40
55	Full	1	91287A237	3.18
55	38 to 48	1	91287A226	2.76
60	Full	1	91287A238	3.31
60	38 to 48	1	91287A227	2.79
65	Full	1	91287A239	4.72
70	Full	1	91287A240	5.19
70	38 to 48	1	91287A229	3.26
75	38 to 48	1	91287A271	7.17
80	Full	1	91287A242	5.29
80	38 to 48	1	91287A230	3.47
90	Full	1	91287A244	6.03
90	38 to 48	1	91287A232	5.53
100	Full	1	91287A245	6.52
100	38 to 48	1	91287A233	5.84
110	38 to 48	1	91287A273	7.36

M16 (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
120	Full	1	91287A246	$7.90
120	38 to 48	1	91287A235	6.26
130	Full	1	91287A247	8.93
130	38 to 48	1	91287A236	6.63
140	Full	1	91287A248	9.74
150	Full	1	91287A249	10.02
160	38 to 48	1	91287A275	12.15
170	38 to 48	1	91287A277	11.24
180	38 to 48	1	91287A279	12.13
190	38 to 48	1	91287A281	12.43
200	38 to 48	1	91287A283	14.87

M18—Pitch: 2.5 mm
Head: Wd. 27 mm, Ht. 11.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
30	Full	1	91287A511	4.16
40	Full	1	91287A513	3.72
50	Full	1	91287A515	3.67
60	Full	1	91287A517	3.86
80	Full	1	91287A519	4.63
100	Full	1	91287A521	6.08

M20—Pitch: 2.5 mm
Head: Wd. 30 mm, Ht. 12.5 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
30	Full	1	91287A405	3.45
35	Full	1	91287A407	4.09
40	Full	1	91287A409	5.07
45	Full	1	91287A411	5.17
50	Full	1	91287A413	5.34
55	Full	1	91287A414	5.81
60	Full	1	91287A415	6.17
60	46 to 59	1	91287A418	7.57
65	Full	1	91287A416	6.38
70	Full	1	91287A417	6.14
70	46 to 59	1	91287A423	7.79
80	Full	1	91287A420	6.76
80	46 to 59	1	91287A428	8.00
90	Full	1	91287A421	8.47
90	46 to 59	1	91287A433	8.30
100	Full	1	91287A422	9.17
100	46 to 59	1	91287A438	9.34
110	Full	1	91287A425	10.32

M20 (Cont.)

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
120	Full	1	91287A426	$11.63
120	46 to 59	1	91287A445	11.27
130	Full	1	91287A427	12.37
140	Full	1	91287A430	14.68
140	46 to 59	1	91287A450	11.47
150	Full	1	91287A431	16.48
160	46 to 59	1	91287A475	17.08
170	46 to 59	1	91287A477	18.00
180	46 to 59	1	91287A479	18.92
190	46 to 59	1	91287A480	19.84
200	46 to 59	1	91287A481	20.76

M22—Pitch: 2.5 mm
Head: Wd. 32 mm, Ht. 14 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
50	Full	1	91287A611	7.29
60	Full	1	91287A613	7.49
80	Full	1	91287A615	9.24
100	Full	1	91287A617	9.63

M24—Pitch: 3 mm
Head: Wd. 36 mm, Ht. 15 mm

Lg., mm	Thread Lg., mm	Pkg. Qty.		Pkg.
40	Full	1	91287A825	7.90
50	Full	1	91287A827	8.61
55	Full	1	91287A829	9.88
60	Full	1	91287A831	9.56
65	Full	1	91287A833	10.92
70	Full	1	91287A835	10.49
80	Full	1	91287A837	13.08
90	Full	1	91287A839	17.57
100	Full	1	91287A841	18.96
110	Full	1	91287A843	19.40
120	Full	1	91287A845	21.46
130	Full	1	91287A847	23.04
140	Full	1	91287A849	24.35
150	Full	1	91287A851	25.59
160	54 to 69	1	91287A875	33.17
170	54 to 69	1	91287A877	34.91
180	54 to 69	1	91287A879	36.66
190	54 to 69	1	91287A881	38.40
200	54 to 69	1	91287A883	36.08

Brass and Bronze Cap Screws

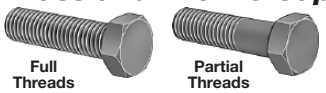

Screws are nonmagnetic, corrosion resistant, and electrically conductive. They're fully threaded (unless noted). Length is measured from under the head. Inch sizes have a Class 2A thread fit and head dimensions that meet ASME B18.2.1. Metric sizes have a Class 6g thread fit.

Brass screws have a minimum tensile strength of 50,000 psi and a minimum Rockwell hardness of B55.

Bronze screws are 30% stronger than brass screws and are extremely resistant to salt water, gases, and sewage. They have a minimum tensile strength of 70,000 psi and a minimum Rockwell hardness of B70.

Brass

1/4"-20—Head: Wd. 7/16", Ht. 5/32"

Lg.	Pkg. Qty.		Pkg.
3/8"	25	92941A535	$7.93
1/2"	25	92941A537	8.00
5/8"	25	92941A539	8.40
3/4"	25	92941A540	8.90
7/8"	25	92941A541	10.54
1"	25	92941A542	11.15
1 1/4"	10	92941A544▲	5.64
1 1/2"	10	92941A546▲	6.37
1 3/4"	10	92941A548▲	6.83
2"	10	92941A550▲	7.75
2 1/4"	10	92941A551▲	9.58
2 1/2"	10	92941A552▲	9.60
3"	10	92941A554▲	10.41

1/4"-28—Head: Wd. 7/16", Ht. 5/32"

Lg.	Pkg. Qty.		Pkg.
1/2"	10	92941A560	5.13
3/4"	10	92941A562	5.66
1"	10	92941A564	5.97
1 1/2"	10	92941A566▲	7.69

5/16"-18—Head: Wd. 1/2", Ht. 13/64"

Lg.	Pkg. Qty.		Pkg.
1/2"	10	92941A578	5.79

5/16"-18 (Cont.)

Lg.	Pkg. Qty.		Pkg.
5/8"	10	92941A580	$6.23
3/4"	10	92941A581	6.41
7/8"	10	92941A582	7.22
1"	10	92941A583	7.26
1 1/4"	10	92941A585	8.38
1 1/2"	10	92941A587▲	9.41
1 3/4"	5	92941A589▲	6.28
2"	5	92941A591▲	6.60
2 1/2"	5	92941A593▲	8.22
3"	5	92941A595▲	9.43
4"	5	92941A598▲	12.34

3/8"-16—Head: Wd. 9/16", Ht. 15/64"

Lg.	Pkg. Qty.		Pkg.
1/2"	10	92941A619	7.53
5/8"	10	92941A620	8.50
3/4"	10	92941A622	8.69
7/8"	10	92941A623	10.08
1"	10	92941A624	9.82
1 1/4"	5	92941A626	6.10
1 1/2"	5	92941A628▲	7.25
1 3/4"	5	92941A630▲	7.78

3/8"-16 (Cont.)

Lg.	Pkg. Qty.		Pkg.
2"	5	92941A632▲	$8.49
2 1/4"	1	92941A633▲	2.03
2 1/2"	1	92941A634▲	2.22
3"	1	92941A636▲	2.52
3 1/2"	1	92941A638▲	2.89
4"	1	92941A640▲	3.23

7/16"-14—Head: Wd. 5/8", Ht. 9/32"

Lg.	Pkg. Qty.		Pkg.
1"	5	92941A669	8.32
1 1/2"	5	92941A671	10.55
2"	1	92941A677▲	3.36

1/2"-13—Head: Wd. 3/4", Ht. 5/16"

Lg.	Pkg. Qty.		Pkg.
3/4"	5	92941A710	8.51
1"	5	92941A712	10.11
1 1/4"	1	92941A714	2.30
1 1/2"	1	92941A716	3.00
1 3/4"	1	92941A718	3.19
2"	1	92941A720▲	3.25
2 1/4"	1	92941A721▲	3.32
2 1/2"	1	92941A722▲	3.58
3"	1	92941A724▲	3.92

1/2"-13 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3 1/2"	1	92941A726▲	$4.41
4"	1	92941A728▲	4.79

5/8"-11—Head: Wd. 15/16", Ht. 25/64"

Lg.	Pkg. Qty.		Pkg.
1"	1	92941A795	3.68
1 1/2"	1	92941A798	3.75
1 3/4"	1	92941A801	4.03
2"	1	92941A802	4.15
2 1/2"	1	92941A804▲	4.62
3"	1	92941A806▲	5.68
3 1/2"	1	92941A808▲	6.15
4"	1	92941A810▲	6.82

3/4"-10—Head: Wd. 1 1/8", Ht. 15/32"

Lg.	Pkg. Qty.		Pkg.
1 1/2"	1	92941A839	8.81
1 3/4"	1	92941A841	10.79
2"	1	92941A843	10.95
2 1/2"	1	92941A845▲	11.33
3"	1	92941A847▲	12.84
4"	1	92941A851▲	14.88

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

(Continued on following page)

Brass and Bronze Cap Screws *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
Bronze			
¼"-20— Head: Wd. 7/16", Ht. 5/32"			
3/8"	25	93516A535	$10.56
1/2"	25	93516A537	11.13
5/8"	25	93516A539	12.22
3/4"	10	93516A540	5.50
1"	10	93516A542	6.40
1 1/4"	10	93516A544	7.11
1 1/2"	10	93516A546	7.84
2"	10	93516A550	9.26
2 1/2"	10	93516A552	11.85
3"	10	93516A554	14.73
5/16"-18— Head: Wd. 1/2", Ht. 13/64"			
3/4"	10	93516A581	$8.67
1"	10	93516A583	10.06
1 1/4"	10	93516A585	11.97
1 1/2"	10	93516A587	13.05
2"	5	93516A591	7.87
3/8"-16— Head: Wd. 9/16", Ht. 15/64"			
1/2"	10	93516A620	10.94
3/4"	10	93516A622	12.71
1"	5	93516A624	7.00
1 1/4"	5	93516A626	8.12
3/8"-16 (Cont.)			
1 1/2"	5	93516A628	$8.95
1 3/4"	5	93516A630	9.79
2"	5	93516A632	11.15
3"	1	93516A635	2.57
4"	1	93516A638	3.65
5"	1	93516A640	4.74
6"	1	93516A644	5.61
1/2"-13— Head: Wd. 3/4", Ht. 5/16"			
3/4"	1	93516A711	2.29
1"	1	93516A712	2.61
1 1/4"	1	93516A714	2.87
1/2"-13 (Cont.)			
1 1/2"	1	93516A716	$3.00
1 3/4"	1	93516A718	3.43
2"	1	93516A720	3.70
2 1/2"	1	93516A722	4.35
3"	1	93516A724	5.10
3 1/2"	1	93516A726	5.76
4"	1	93516A728	6.16
3/4"-10— Head: Wd. 1 1/8", Ht. 15/32"			
1 1/2"	1	93516A780	13.30
2"	1	93516A782	15.26

Metric Brass—Dimensions in millimeters

Lg.	Pkg. Qty.		Pkg.
M5— Pitch: 0.8 mm Head: Wd. 8 mm, Ht. 3.5 mm			
10	10	93270A310	6.67
12	10	93270A315	6.57
16	10	93270A320	7.60
20	10	93270A325	7.57
25	10	93270A330	7.41
30	10	93270A335	9.16
M6— Pitch: 1 mm Head: Wd. 10 mm, Ht. 4 mm			
10	10	93270A420	8.76
12	10	93270A425	9.02
M6 (Cont.)			
16	10	93270A430	9.17
20	10	93270A435	11.94
25	10	93270A440	12.40
30	10	93270A445	13.89
40	10	93270A455	16.80
50	5	93270A460	10.80
M8— Pitch: 1.25 mm Head: Wd. 13 mm, Ht. 5.3 mm			
12	5	93270A520	8.40
16	5	93270A525	9.75
M8 (Cont.)			
20	5	93270A530	10.40
25	5	93270A535	12.20
30	5	93270A540	13.00
35	1	93270A545	3.00
40	1	93270A550	3.19
50	1	93270A560	3.22
M10— Pitch: 1.5 mm Head: Wd. 17 mm, Ht. 6.4 mm			
20	1	93270A620	3.17
25	1	93270A626	3.67
M10 (Cont.)			
30	1	93270A630	3.80
35	1	93270A635	5.29
40	1	93270A640	5.92
50	1	93270A650	6.16
M12— Pitch: 1.75 mm Head: Wd. 19 mm, Ht. 7.5 mm			
25	1	93270A740	5.72
40	1	93270A755	6.33
50	1	93270A785	6.41

Aluminum Cap Screws

These low-strength cap screws are 70% lighter than steel and rust resistant. They're fully threaded and have a Class 2A thread fit. Minimum tensile strength is 37,000 psi. Minimum Rockwell hardness is B40. Length is measured from under the head.



Lg.	Pkg. Qty.		Pkg.
1/4"-20— Head: Wd. 7/16", Ht. 5/32"			
1/2"	25	93306A538	$10.60
3/4"	25	93306A540	11.83
1"	25	93306A542	12.68
1 1/4"	25	93306A543	13.21
1 1/2"	25	93306A546	16.08
2"	25	93306A550	20.52
2 1/2"	10	93306A555	11.74
3"	10	93306A558	12.73
5/16"-18— Head: Wd. 1/2", Ht. 13/64"			
3/4"	25	93306A580	19.07
1"	25	93306A583	20.07
1 1/4"	25	93306A585	20.07
1 1/2"	25	93306A587	26.31
2"	10	93306A560	14.58
2 1/2"	10	93306A562	18.08
3"	10	93306A565	20.45
3/8"-16— Head: Wd. 9/16", Ht. 15/64"			
3/4"	25	93306A622	18.39
1"	25	93306A624	21.24
3/8"-16 (Cont.)			
1 1/4"	10	93306A626	$11.69
1 1/2"	25	93306A628	29.21
2"	10	93306A632	13.67
3"	10	93306A635	19.87
1/2"-13— Head: Wd. 3/4", Ht. 5/16"			
1"	10	93306A712	21.46
1 1/2"	5	93306A716	14.46
2"	5	93306A720	16.80
2 1/2"	5	93306A722	19.47
3"	5	93306A725	21.04
3 1/2"	1	93306A728	4.39
4"	1	93306A730	5.62
5/8"-11— Head: Wd. 15/16", Ht. 25/64"			
1 1/2"	1	93306A805	4.28
2"	1	93306A808	5.03
2 1/2"	1	93306A811	6.02
3"	1	93306A814	7.06

Corrosion-Resistant Cap Screws

Extreme corrosion resistance makes these cap screws suitable for use in marine environments and chemical-processing plants. They have a Class 2A thread fit. Minimum tensile strength is 80,000 psi. Minimum Rockwell hardness is B80. Length is measured from under the head.





Nickel screws meet Mil. Spec. S-1222 and ASTM F468. Also known as Monel screws, they're more saltwater resistant than screws made of Type 316 stainless steel. They're fully threaded, unless noted.

Alloy 20 stainless steel screws have dimensions that meet ASME B18.2.1. Also known as Carpenter 20 screws, they have a high nickel content and are resistant to sulfuric acids. Most sizes are partially threaded.

Lg.	Each		Each
Nickel			
1/4"-20— Head: Wd. 7/16", Ht. 5/32"			
1/2"	90780A538	$1.88	
3/4"	90780A540	2.32	
1"	90780A542	2.34	
1 1/2"	90780A546▲	3.32	
2"	90780A548▲	4.66	
5/16"-18— Head: Wd. 1/2", Ht. 13/64"			
3/4"	90780A580	3.52	
1"	90780A583	4.36	
1 1/2"	90780A587▲	5.95	
2"	90780A589▲	7.40	
3/8"-16— Head: Wd. 9/16", Ht. 15/64"			
1"	90780A624	6.04	
3/8"-16 (Cont.)			
1 1/4"	90780A626	$6.51	
1 1/2"	90780A628▲	9.15	
2"	90780A630▲	10.43	
1/2"-13— Head: Wd. 3/4", Ht. 5/16"			
1 1/2"	90780A716	13.08	
2"	90780A720▲	19.45	
2 1/2"	90780A722▲	22.25	
3"	90780A724▲	24.27	
5/8"-11— Head: Wd. 15/16", Ht. 25/64"			
2"	90780A805	26.45	
2 1/2"	90780A809▲	31.34	
3"	90780A813▲	39.04	

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Alloy 20 Stainless Steel

Choose a Thread Size	Choose a Screw Length	
5/16"-18, 3/8"-16, 1/2"-13	1", 1 1/4", 1 1/2", 2", 2 1/2", 3"	90765A100

Titanium Cap Screws

These titanium screws are as strong as medium-strength steel and 40% lighter. They resist salt water, chemicals, and acids. Minimum tensile strength is 135,000 psi and minimum Rockwell hardness is C36. These screws are also nonmagnetic, fully threaded (unless noted), and have a Class 2A thread fit. Length is measured from under the head.



Lg.	Each		Each
10-24— Head: Wd. 5/16", Ht. 1/8"			
1/2"	94081A101	$4.53	
3/4"	94081A102▲	8.06	
1"	94081A103▲	8.68	
1 1/2"	94081A104▲	11.03	
2"	94081A105▲	12.45	
1/4"-20— Head: Wd. 7/16", Ht. 11/64"			
1/2"	94081A106	$4.05	
3/4"	94081A112	4.68	
1"	94081A113▲	4.98	
1 1/4"	94081A114▲	5.70	
1 1/2"	94081A115▲	6.43	
2"	94081A116▲	7.88	
5/16"-18— Head: Wd. 1/2", Ht. 13/64"			
3/4"	94081A121	$4.88	
1"	94081A122	5.18	
1 1/2"	94081A123▲	7.05	
2"	94081A124▲	7.98	
3/8"-16— Head: Wd. 9/16", Ht. 15/64"			
1"	94081A131	$6.95	
2"	94081A132▲	10.18	
2 1/2"	94081A133▲	12.08	

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Plastic Cap Screws



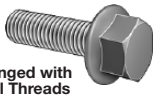

Our plastic cap screws are lightweight, nonconductive, and resist chemicals better than most of their metal counterparts. Length is measured from under the head (or flange where applicable). Fully threaded, unless noted. Not rated for tensile strength or hardness. Inch screws have a Class 2A thread fit. Metric screws have a Class 6g thread fit.

Nylon screws are an economical choice. They are resistant to oils, grease, and solvents (except mineral acids). Exposure to moisture may cause them to expand and become brittle over time.

PVC screws are more resistant to acids and alkalies than nylon screws.

Fiberglass screws are stronger than nylon screws. *Flanged* screws distribute holding pressure to reduce stress where the screw meets the surface of the material you're fastening. Head height includes flange thickness.

PTFE screws surpass most other plastic screws when it comes to chemical resistance and performance in extreme temperatures (–100° to 500° F).

Nylon—Choose a color: black, off-white

Lg.	Pkg. Qty.		Pkg.
1/4"-20—Head: Wd. 7/16", Ht. 3/16"			
3/8"	100	**91244A135**	$12.44
1/2"	100	**91244A137**	12.62
3/4"	100	**91244A140**	12.82
1"	100	**91244A142**	13.01
1 1/4"	100	**91244A144**▲	13.21
1 1/2"	100	**91244A146**▲	13.39
2"	100	**91244A150**▲	13.79
5/16"-18—			
Head: Wd. 1/2", Ht. 15/64"			
1/2"	50	**91244A179**	11.35
3/4"	50	**91244A181**	11.51
5/16"-18 (Cont.)			
1"	50	**91244A183**	$11.67
1 1/4"	25	**91244A185**▲	6.34
1 1/2"	25	**91244A187**▲	6.43
2"	25	**91244A191**▲	7.16
2 1/2"	25	**91244A193**▲	7.36
3"	25	**91244A195**▲	7.68
3/8"-16—			
Head: Wd. 9/16", Ht. 17/64"			
1/2"	25	**91244A220**	5.26
3/4"	25	**91244A221**	5.36
1"	25	**91244A224**	6.08
3/8"-16 (Cont.)			
1 1/4"	50	**91244A226**▲	$13.49
1 1/2"	25	**91244A228**▲	7.56
2"	25	**91244A232**▲	8.81
2 1/2"	25	**91244A234**▲	9.61
3"	25	**91244A238**▲	10.02
1/2"-13—Head: Wd. 3/4", Ht. 23/64"			
1/2"	10	**91244A308**	5.18
3/4"	10	**91244A310**	5.33
1"	10	**91244A312**	5.46
1 1/4"	10	**91244A314**	5.60
1/2"-13 (Cont.)			
1 1/2"	10	**91244A316**▲	$5.75
2"	10	**91244A320**▲	6.04
2 1/2"	10	**91244A322**▲	6.11
3"	10	**91244A324**▲	7.23
5/8"-11—			
Head: Wd. 15/16", Ht. 7/16"			
1/2"	10	**91244A351**	6.00
1"	10	**91244A353**	6.37
2"	10	**91244A355**▲	7.23

PVC—Color is gray

Lg.	Pkg. Qty.		Pkg.
1/4"-20—			
Head: Wd. 7/16", Ht. 15/64"			
1/2"	10	**95841A538**	15.64
3/4"	10	**95841A540**	17.39
1"	5	**95841A542**	8.94
1 1/2"	5	**95841A546**▲	12.61
2"	5	**95841A550**▲	14.06
3"	1	**95841A554**▲	4.48
5/16"-18—			
Head: Wd. 1/2", Ht. 17/64"			
1"	5	**95841A583**	11.18
1 1/4"	5	**95841A585**▲	13.88
1 1/2"	5	**95841A587**▲	15.82
2"	1	**95841A589**▲	3.00
3/8"-16—			
Head: Wd. 9/16", Ht. 5/16"			
1/2"	5	**95841A623**	11.00
3/8"-16 (Cont.)			
1"	5	**95841A624**	13.42
1 1/4"	5	**95841A626**▲	15.33
1 1/2"	5	**95841A628**▲	16.45
2"	1	**95841A632**▲	3.39
3"	1	**95841A636**▲	4.91
1/2"-13—Head: Wd. 3/4", Ht. 13/32"			
1"	1	**95841A712**	3.30
1 1/2"	1	**95841A716**▲	3.74
2"	1	**95841A720**▲	4.93
1/2"-13 (Cont.)			
3"	1	**95841A724**▲	6.60
4"	1	**95841A726**▲	16.23
5/8"-11—			
Head: Wd. 7/8", Ht. 31/64"			
1 1/2"	1	**95841A800**	8.54
2"	1	**95841A802**▲	9.20
3"	1	**95841A806**▲	8.00
4"	1	**95841A810**▲	18.31

Fiberglass—Color is gray

Lg.	Pkg. Qty.		Pkg.
1/4"-20—			
Head: Wd. 7/16", Ht. 13/64"			
1/2"	10	**91345A552**	11.00
3/4"	10	**91345A554**	11.90
1"	10	**91345A556**	12.50
1 1/4"	10	**91345A558**	12.90
1 1/2"	5	**91345A560**	7.54
5/16"-18—			
Head: Wd. 1/2", Ht. 7/32"			
1 1/2"	10	**91345A582**▲	12.90
5/16"-18 (Cont.)			
2"	5	**91345A584**▲	8.25
3/8"-16—			
Head: Wd. 9/16", Ht. 1/4"			
1 1/2"	10	**91345A628**	12.90
2"	5	**91345A632**▲	8.20
2 1/2"	5	**91345A634**▲	9.44
3"	5	**91345A636**▲	10.62
5/8"-11—			
Head: Wd. 15/16", Ht. 13/32"			
1 1/2"	5	**91345A640**	12.10
2"	5	**91345A642**	13.12
2 1/2"	1	**91345A644**	3.05
3"	1	**91345A646**	3.05
3 1/2"	1	**91345A648**	3.60
4"	1	**91345A650**	3.62
5"	1	**91345A655**▲	9.93
3/4"-10—			
Head: Wd. 1 1/8", Ht. 15/32"			
1 1/2"	1	**91345A660**	3.12
2"	1	**91345A662**	3.77
2 1/2"	1	**91345A664**▲	4.30
3"	1	**91345A666**▲	4.72
4"	1	**91345A670**▲	5.20
5"	1	**91345A675**▲	7.95

Flanged Fiberglass—Color is gray

Lg.	Pkg. Qty.		Pkg.
1/4"-20—Head: Wd. 3/8", Ht. 9/32" Flange Dia.: 0.560"			
1/2"	10	**91345A680**	11.25
5/8"	10	**91345A682**	12.38
3/4"	10	**91345A684**	13.05
7/8"	10	**91345A686**	12.45
1"	10	**91345A688**	13.05
1 1/4"	10	**91345A690**	14.35
1 1/2"	10	**91345A692**	14.95
3/8"-16— Head: Wd. 9/16", Ht. 25/64" Flange Dia.: 0.800"			
1/2"	10	**91345A694**	11.80
3/4"	10	**91345A698**	12.50
7/8"	10	**91345A699**	13.77
1"	10	**91345A700**	14.38
1 1/4"	10	**91345A701**	14.80
1 1/2"	5	**91345A702**	9.01
3/8"-16 (Cont.)			
2"	5	**91345A703**▲	9.69
2 1/2"	5	**91345A704**▲	11.40
3"	5	**91345A705**▲	12.31
1/2"-13—Head: Wd. 3/4", Ht. 1/2" Flange Dia.: 1.059"			
3/4"	10	**91345A706**	12.32
1"	10	**91345A707**	14.38
1/2"-13 (Cont.)			
1 1/4"	5	**91345A714**	7.97
1 1/2"	5	**91345A716**	8.86
2"	5	**91345A720**	11.49
2 1/2"	5	**91345A722**	12.40
3"	1	**91345A724**▲	3.17
3 1/2"	1	**91345A726**▲	3.77
4"	1	**91345A728**▲	4.40

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

PTFE—Color is white

Choose a Thread Size	Choose a Screw Length	
1/4"-20, 5/16"-18, 3/8"-16	1/2", 3/4", 1", 1 1/2", 2", 2 1/2"	**91297A520**

Metric Nylon—Choose a color: black, off-white

Choose a Thread Size	Choose a Screw Length	
M4, M5, M6, M8, M10, M12	8, 10, 12, 16, 20, 25, 30, 35, 40, 50 mm	**94175A100**

Cap Screws with Washer



A free-rotating, permanently attached washer distributes force over a wider area than a flange for more holding power. Also known as Sems screws, these are made from 18-8 stainless steel and may be mildly magnetic. Screws are fully threaded and have a Class 2A thread fit. Length is measured from under the head. Minimum tensile strength is 100,000 psi and minimum Rockwell hardness is B95.

Lg.		Each
1/4"-20—		
Head: Wd. 7/16", Ht. 5/32"		
Washer: OD 0.749", Thick. 0.064"		
1/2"	**90300A110**	$3.34
3/4"	**90300A120**	3.36
1"	**90300A130**	3.39
5/16"-18—		
Head: Wd. 1/2", Ht. 13/64"		
Washer: OD 0.89", Thick. 0.064"		
1/2"	**90300A140**	$3.77
3/4"	**90300A150**	3.81
1"	**90300A160**	3.85
3/8"-16—		
Head: Wd. 9/16", Ht. 15/64"		
Washer: OD 1.015", Thick. 0.064"		
3/4"	**90300A170**	$4.80
1"	**90300A180**	4.86
1 1/2"	**90300A190**	4.98
1/2"-13—		
Head: Wd. 3/4", Ht. 5/16"		
Washer: OD 1.243", Thick. 0.101"		
1"	**90300A210**	$5.65
1 1/2"	**90300A220**	5.87
2"	**90300A230**	6.08

Flange Head Cap Screws



High-Strength Steel



Medium-Strength Steel

Also known as frame bolts, a flange distributes holding pressure to reduce stress where the screw meets the surface of the material you're fastening. These screws are fully threaded, unless noted. Inch screws have a Class 2A thread fit. Metric screws have a Class 6g thread fit. Head height includes the flange. Length is measured from under the flange.

Extreme-strength steel screws are comparable in strength to Grade 9 steel cap screws. They have a minimum tensile strength of 180,000 psi, a minimum Rockwell hardness of C38, and a black-oxide finish.

High-strength steel screws have a minimum tensile strength of 150,000 psi and a minimum Rockwell hardness of C32. Finish is black-phosphate, except JIS metric high-strength steel screws are zinc-plated. *Inch sizes* meet IFI 111, SAE J429, and are marked on the head with six radial lines to indicate Grade 8.

Medium-strength steel screws have a minimum tensile strength of 115,000 psi and a minimum Rockwell hardness of C22. *Inch sizes* are zinc plated, meet IFI 111, SAE J429, and are marked on the head with three radial lines to indicate Grade 5. *Metric sizes* are zinc yellow-chromate plated.

Extreme-strength stainless steel screws have a minimum tensile strength of 170,000 psi and a minimum Rockwell hardness of C38. Screws are Type 304 or Type 450 stainless steel.

Extreme-Strength Steel

Lg.	Pkg. Qty.		Pkg.
¼″-20—Head: Wd. 5⁄16″, Ht. ¼″ Flange Dia.: 33⁄64″			
½″	1	97972A111	$2.06
¾″	1	97972A113	2.18
1″	1	97972A115	2.28
1¼″	1	97972A117▲	2.34
1½″	1	97972A119▲	3.60
2″	1	97972A121▲	3.77
5⁄16″-18— Head: Wd. ⅜″, Ht. 5⁄16″ Flange Dia.: 5⁄8″			
¾″	1	97972A211	2.23
5⁄16″-18 (Cont.)			
1″	1	97972A213	$2.46
1¼″	1	97972A215	2.48
1½″	1	97972A217▲	3.77
2″	1	97972A219▲	3.92
⅜″-16— Head: Wd. 7⁄16″, Ht. 5⁄16″ Flange Dia.: 5⁄8″			
¾″	1	97972A311	2.74
1″	1	97972A313	2.86
1¼″	1	97972A315	2.91
1½″	1	97972A317▲	4.28
⅜″-16 (Cont.)			
2″	1	97972A319▲	$4.45
2½″	1	97972A321▲	4.71
3″	1	97972A323▲	4.77
7⁄16″-14— Head: Wd. 7⁄16″, Ht. 27⁄64″ Flange Dia.: 43⁄64″			
1″	1	97972A411	3.20
1¼″	1	97972A413	3.63
1½″	1	97972A415	4.15
2″	1	97972A417▲	4.77
½″-13— Head: Wd. 9⁄16″, Ht. 15⁄32″ Flange Dia.: 27⁄32″			
1″	1	97972A511	$4.26
1¼″	1	97972A513	4.34
1½″	1	97972A515▲	5.63
2″	1	97972A517▲	6.14
2½″	1	97972A519▲	6.69
3″	1	97972A521▲	7.28
3½″	1	97972A523▲	8.23
4″	1	97972A525▲	8.77

High-Strength Steel—Grade 8

Lg.	Pkg. Qty.		Pkg.
¼″-20—Head: Wd. ⅜″, Ht. 9⁄32″ Flange Dia.: 9⁄16″			
⅜″	25	92316A311	11.30
½″	50	92316A536	5.65
⅝″	50	92316A538	6.51
¾″	50	92316A540	7.83
1″	50	92316A542	8.46
1¼″	50	92316A544	9.08
1½″	50	92316A546▲	9.68
1¾″	50	92316A548▲	9.85
2″	50	92316A550▲	13.21
2½″	25	92316A552▲	8.63
3″	25	92316A554▲	10.21
5⁄16″-18— Head: Wd. ½″, Ht. 21⁄64″ Flange Dia.: 11⁄16″			
½″	25	92316A579	5.34
⅝″	10	92316A313	6.22
¾″	50	92316A581	12.10
⅞″	10	92316A315	9.50
1″	25	92316A583	7.34
1¼″	25	92316A585	7.93
1½″	25	92316A587▲	8.84
1¾″	25	92316A589▲	9.46
2″	25	92316A591▲	10.10
2¼″	25	92316A593▲	11.43
2½″	25	92316A595▲	13.08
3″	25	92316A597▲	14.54
3½″	5	92316A317▲	8.47
4″	5	92316A319▲	7.46
5⁄16″-24— Head: Wd. ½″, Ht. 21⁄64″ Flange Dia.: 11⁄16″			
1″	5	92316A321	4.40
1¼″	5	92316A323	5.46
1½″	5	92316A325▲	5.77
2″	5	92316A327▲	7.56
⅜″-16—Head: Wd. 9⁄16″, Ht. 25⁄64″ Flange Dia.: 13⁄16″			
½″	10	92316A329	8.51
⅝″	25	92316A621	9.71
¾″	25	92316A622	9.81
1″	25	92316A624	11.00
1¼″	25	92316A626	11.62
1½″	25	92316A628	11.84
1¾″	25	92316A630▲	12.76
2″	25	92316A632▲	12.78
2¼″	25	92316A633▲	13.77
2½″	25	92316A634▲	14.52
2¾″	10	92316A636▲	7.08
3″	10	92316A638▲	7.39
3½″	5	92316A331▲	8.11
4″	10	92316A640▲	9.32
4½″	1	92316A333▲	3.70
⅜″-24—Head: Wd. 9⁄16″, Ht. 25⁄64″ Flange Dia.: 13⁄16″			
1″	5	92316A335	5.46
2½″	5	92316A337▲	9.04
7⁄16″-14—Head: Wd. ⅝″, Ht. 15⁄32″ Flange Dia.: 15⁄16″			
1″	10	92316A650	4.67
1¼″	5	92316A339	7.76
1½″	10	92316A652	8.83
2″	10	92316A654▲	10.29
3″	10	92316A656▲	15.06
7⁄16″-20—Head: Wd. ⅝″, Ht. 15⁄32″ Flange Dia.: 15⁄16″			
1″	1	92316A341	3.00
½″-13—Head: Wd. ¾″, Ht. 33⁄64″ Flange Dia.: 15⁄64″			
¾″	10	92316A710	9.44
1″	10	92316A712	6.93
1¼″	10	92316A714	7.06
1½″	10	92316A716	7.57
½″-13 (Cont.)			
1¾″	10	92316A718	8.18
2″	10	92316A720▲	8.79
2¼″	10	92316A721▲	9.35
2½″	10	92316A722▲	9.88
2¾″	10	92316A723▲	11.01
3″	10	92316A724▲	11.05
3¼″	10	92316A725▲	12.03
3½″	10	92316A726▲	12.60
3¾″	5	92316A343▲	11.22
4″	5	92316A729▲	6.94
4½″	5	92316A731▲	9.34
5″	5	92316A733▲	10.34
6″	1	92316A737▲	10.11
½″-20—Head: Wd. ¾″, Ht. 33⁄64″ Flange Dia.: 15⁄64″			
1″	5	92316A345	8.19
1¼″	10	92316A750	7.17
1½″	10	92316A754	7.84
1¾″	10	92316A758	8.83
2″	10	92316A762▲	8.72
2¼″	10	92316A766▲	10.23
2½″	10	92316A770▲	10.59
2¾″	10	92316A772▲	11.28
3″	5	92316A774▲	7.58
4″	5	92316A776▲	9.42
5″	5	92316A778▲	11.85
⅝″-11—Head: Wd. 15⁄16″, Ht. ⅝″ Flange Dia.: 121⁄64″			
1¼″	10	92316A797	12.20
1½″	10	92316A798	12.90
1¾″	10	92316A800	13.75
2″	10	92316A802	15.63
2¼″	5	92316A803	8.31
2½″	5	92316A804	8.81
2¾″	5	92316A805▲	9.27
3″	5	92316A806▲	11.04
⅝″-11 (Cont.)			
3¼″	5	92316A807▲	11.41
3½″	5	92316A808▲	11.99
4″	5	92316A810▲	12.21
4½″	1	92316A812▲	3.56
5″	1	92316A814▲	3.61
6″	1	92316A816▲	5.02
⅝″-18— Head: Wd. 15⁄16″, Ht. ⅝″ Flange Dia.: 121⁄64″			
1½″	10	92316A820	14.06
2″	5	92316A824	7.78
2½″	5	92316A828	8.53
3″	5	92316A830▲	11.51
4″	1	92316A832▲	2.71
¾″-10— Head: Wd. 1⅛″, Ht. 47⁄64″ Flange Dia.: 119⁄32″			
1½″	1	92316A347	2.92
1¾″	1	92316A839	3.37
2″	1	92316A841▲	3.42
2½″	1	92316A843▲	3.80
3″	1	92316A847▲	4.22
3½″	1	92316A849▲	4.90
4″	1	92316A851▲	4.96
5″	1	92316A853▲	5.86
6″	1	92316A855▲	10.90
¾″-16— Head: Wd. 1⅛″, Ht. 47⁄64″ Flange Dia.: 119⁄32″			
1¾″	1	92316A349	5.55
2″	1	92316A920	3.61
2¼″	1	92316A922▲	3.76
2½″	1	92316A351	8.55
3″	1	92316A924▲	4.30
3½″	1	92316A353▲	10.12
4″	1	92316A355▲	11.13

Medium-Strength Steel—Grade 5

Lg.	Pkg. Qty.		Pkg.
¼″-20—Head: Wd. ⅜″, Ht. 9⁄32″ Flange Dia.: 9⁄16″			
½″	50	92979A110	4.83
⅝″	50	92979A114	5.45
¾″	50	92979A118	6.14
1″	50	92979A122	6.29
1¼″	50	92979A126	7.24
1½″	50	92979A130▲	9.05
1¾″	25	92979A134▲	5.01
2″	25	92979A138▲	6.43
5⁄16″-18—Head: Wd. ½″, Ht. 21⁄64″ Flange Dia.: 11⁄16″			
½″	50	92979A241	8.50
⅝″	50	92979A245	9.54
¾″	50	92979A249	10.17
1″	50	92979A253	11.14
1¼″	25	92979A257	6.87
1½″	25	92979A261▲	7.36
1¾″	25	92979A265▲	8.58
2″	25	92979A269▲	9.32
⅜″-16—Head: Wd. 9⁄16″, Ht. 25⁄64″ Flange Dia.: 13⁄16″			
½″	25	92979A332	7.66
⅝″	25	92979A336	7.79
¾″	25	92979A340	7.82
1″	25	92979A344	8.31
1¼″	25	92979A348	9.13
1½″	10	92979A352	3.92
1¾″	10	92979A356▲	4.50
2″	10	92979A360▲	4.85
½″-13—Head: Wd. ¾″, Ht. 33⁄64″ Flange Dia.: 15⁄64″			
1″	10	92979A463	7.68
1¼″	10	92979A467	8.17
1½″	10	92979A471	9.00
1¾″	10	92979A475	9.51
2″	10	92979A479▲	10.05
2½″	5	92979A487▲	5.76

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Extreme-Strength Stainless Steel

Choose a Thread Size	Choose a Screw Length	
¼″-20, 5⁄16″-18, ⅜″-16, 7⁄16″-14, ½″-13	½″, ¾″, 1″, 1¼″, 1½″, 2″, 2½″, 3″, 3½″, 4″	94288A100

(Continued on following page)

Flange Head Cap Screws *(Continued from previous page)*



Metric High-Strength Steel | Metric Medium-Strength Steel

Also known as frame bolts, a flange distributes holding pressure to reduce stress where the screw meets the surface of the material you're fastening. These screws are fully threaded, unless noted. Metric screws have a Class 6g thread fit. Head height includes the flange. Length is measured from under the flange.

Metric High-Strength Steel—All have a minimum tensile strength of 150,000 psi and a minimum Rockwell hardness of C32. Finish is black-phosphate, except JIS metric high-strength steel screws are zinc-plated.

Metric Medium-Strength Steel—Screws have a minimum tensile strength of 115,000 psi and a minimum Rockwell hardness of C22. They are zinc yellow-chromate plated.

Metric High-Strength Steel—Class 10.9

M5—Pitch: 0.8 mm
Head: Wd. 8 mm, Ht. 5.4 mm
Flange Dia.: 11.8 mm

Lg., mm	Pkg. Qty.		Pkg.
10	100	98093A310	$10.59
12	100	98093A312	10.00
16	100	98093A316	9.34
20	100	98093A320	9.93

M6—Pitch: 1 mm
Head: Wd. 10 mm, Ht. 6.6 mm
Flange Dia.: 14.2 mm

Lg., mm	Pkg. Qty.		Pkg.
10	100	98093A430	8.55
12	100	98093A432	8.45
16	100	98093A436	9.41
20	100	98093A440	9.90
25	100	98093A445▲	11.07
30	50	98093A450▲	6.56

M8—Pitch: 1.25 mm
Head: Wd. 13 mm, Ht. 8.1 mm
Flange Dia.: 18 mm

Lg., mm	Pkg. Qty.		Pkg.
12	50	98093A530	8.99
16	50	98093A534	9.67
20	50	98093A538	11.95

M8 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
25	50	98093A543	$12.53
30	50	98093A548	13.29
35	50	98093A553▲	13.41
40	50	98093A558▲	13.47
45	25	98093A562▲	10.44
50	25	98093A564▲	10.87
60	25	98093A566▲	11.86

M10—Pitch: 1.5 mm
Head: Wd. 15 mm, Ht. 10.4 mm
Flange Dia.: 22.3 mm

Lg., mm	Pkg. Qty.		Pkg.
16	25	98093A610	7.92
20	25	98093A614	8.43
25	25	98093A619	8.77
30	25	98093A624	9.09
35	25	98093A629	10.19
40	25	98093A634▲	13.13
45	10	98093A636▲	6.70
50	10	98093A638▲	7.11
60	10	98093A642▲	7.92
70	10	98093A644▲	8.29
80	10	98093A646▲	8.93

M10 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
90	10	98093A648▲	$9.99
100	10	98093A652▲	10.31

M12—Pitch: 1.75 mm
Head: Wd. 18 mm, Ht. 11.8 mm
Flange Dia.: 26.6 mm

Lg., mm	Pkg. Qty.		Pkg.
20	10	98093A741	6.57
25	10	98093A746	6.78
30	10	98093A751	6.91
35	10	98093A756	7.15
40	10	98093A761	7.24
45	10	98093A766▲	7.37
50	10	98093A771▲	8.86
60	10	98093A773▲	10.52
70	10	98093A775▲	10.82
80	10	98093A777▲	11.84
90	5	98093A779▲	6.94
100	5	98093A781▲	7.45

M14—Pitch: 2 mm
Head: Wd. 18 mm, Ht. 12.8 mm
Flange Dia.: 30.5 mm

Lg., mm	Pkg. Qty.		Pkg.
35	5	98093A811	7.12

M14 (Cont.)

Lg., mm	Pkg. Qty.		Pkg.
40	5	98093A813▲	$7.59
45	5	98093A815▲	8.06
50	5	98093A817▲	9.38
60	5	98093A819▲	9.82
70	5	98093A821▲	10.97
80	1	98093A823▲	2.33
90	1	98093A825▲	2.69
100	1	98093A827▲	3.00

M16—Pitch: 2 mm
Head: Wd. 24 mm, Ht. 15.4 mm
Flange Dia.: 35 mm

Lg., mm	Pkg. Qty.		Pkg.
30	5	98093A858	7.49
35	5	98093A860	7.74
40	5	98093A865	8.17
50	5	98093A875	8.92
60	5	98093A885▲	9.80
70	5	98093A895▲	10.84
80	5	98093A896▲	11.59
90	5	98093A897▲	12.50
100	1	98093A898▲	2.17

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Metric Medium-Strength Steel—Class 8.8

Choose a Thread Size	Choose a Screw Length	
M6, M8, M10, M12	12, 16, 20, 25, 30, 35, 40, 45, 50, 60 mm	94036A500

JIS Metric High-Strength Steel—Class 10.9; Meets JIS B 1189 Type 2

Choose a Thread Size	Choose a Screw Length	
M6, M8, M10	12, 16, 20, 25, 30, 35, 40, 45, 50, 60, 70 mm	95735A800

12-Point Flange Head Cap Screws



Full Threads



Partial Threads

The head makes 12 points of contact with the wrench to handle more torque than a hex head or socket head cap screw. The flange distributes holding pressure to reduce stress where the screw meets the surface of the material you're fastening. To install, use a 12-point wrench that matches the head width of your screw. All screws have a minimum tensile strength of 170,000 psi, a minimum Rockwell hardness of C37, and a Class 3A thread fit. They're fully threaded, unless noted. Head height includes the thickness of the flange. Length is measured from under the flange.

Extreme-Strength Steel—Comparable in strength to Grade 9, these screws meet ASTM A574. Dimensions meet IFI-115.

Extreme-Strength Stainless Steel—1/2″ to 1″ long screws are Type 304 stainless steel. 1 1/4″ to 3″ long screws are Type 450 stainless steel.

Extreme-Strength Steel

1/4″-20—Head Wd./Ht.: 1/4″
Flange Dia.: 3/8″

Lg.	Pkg. Qty.		Pkg.
1/2″	50	91271A537	$8.04
5/8″	50	91271A539	10.57
3/4″	50	91271A540	9.27
7/8″	50	91271A541	8.77
1″	50	91271A542	8.27
1 1/4″	50	91271A544	9.16
1 1/2″	50	91271A546▲	10.19
1 3/4″	25	91271A547▲	6.70
2″	25	91271A550▲	7.29
2 1/2″	10	91271A548▲	6.19
3″	25	91271A558▲	12.94

1/4″-28—Head Wd./Ht.: 1/4″
Flange Dia.: 3/8″

Lg.	Pkg. Qty.		Pkg.
3/4″	50	91271A570	10.31
1″	50	91271A572	10.02
1 1/4″	50	91271A573	10.11
1 1/2″	50	91271A574▲	13.61
1 3/4″	25	91271A575▲	10.50

5/16″-18—Head Wd./Ht.: 5/16″
Flange Dia.: 15/32″

Lg.	Pkg. Qty.		Pkg.
1/2″	25	91271A580	5.49
3/4″	50	91271A581	10.33
7/8″	50	91271A584	11.08

5/16″-18 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1″	25	91271A583	$7.28
1 1/4″	25	91271A585	7.32
1 1/2″	25	91271A587	8.16
1 3/4″	25	91271A589▲	8.53
2″	25	91271A591▲	10.15
2 1/2″	25	91271A593▲	8.81

5/16″-24—Head Wd./Ht.: 5/16″
Flange Dia.: 15/32″

Lg.	Pkg. Qty.		Pkg.
3/4″	25	91271A605	6.56
7/8″	25	91271A606	8.26
1″	25	91271A607	7.43
1 1/4″	25	91271A609	8.51
1 1/2″	25	91271A611	8.69
2″	25	91271A613▲	11.20

3/8″-16—Head Wd./Ht.: 3/8″
Flange Dia.: 9/16″

Lg.	Pkg. Qty.		Pkg.
3/4″	25	91271A622	10.53
7/8″	10	91271A623	8.50
1″	25	91271A624	10.80
1 1/4″	25	91271A626	11.55
1 1/2″	25	91271A628	12.57
1 3/4″	25	91271A630▲	13.35
2″	25	91271A632▲	13.18
2 1/4″	10	91271A633▲	6.64
2 1/2″	10	91271A634▲	6.93

3/8″-16 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3″	10	91271A636▲	$7.49
3 1/2″	10	91271A638▲	7.55

3/8″-24—Head Wd./Ht.: 3/8″
Flange Dia.: 9/16″

Lg.	Pkg. Qty.		Pkg.
1″	25	91271A641	12.20
1 1/4″	25	91271A644	11.40
1 1/2″	25	91271A646	12.13
1 3/4″	10	91271A647▲	6.17
2″	10	91271A648▲	6.08
2 1/2″	10	91271A650▲	7.82

7/16″-14—Head Wd./Ht.: 7/16″
Flange Dia.: 21/32″

Lg.	Pkg. Qty.		Pkg.
1 1/4″	10	91271A671	9.87
1 1/2″	10	91271A673	8.46
2″	10	91271A677▲	10.44
2 1/4″	10	91271A678▲	10.90
2 1/2″	10	91271A679▲	11.30

1/2″-13—Head Wd./Ht.: 1/2″
Flange Dia.: 3/4″

Lg.	Pkg. Qty.		Pkg.
1″	10	91271A712	10.05
1 1/4″	10	91271A714	8.82
1 1/2″	10	91271A716	9.42
1 3/4″	10	91271A718	11.90
2″	10	91271A720	10.56
2 1/4″	5	91271A721▲	5.71

1/2″-13 (Cont.)

Lg.	Pkg. Qty.		Pkg.
2 1/2″	5	91271A723▲	$5.99
3″	5	91271A724▲	5.94
3 1/2″	5	91271A726▲	7.92
4″	5	91271A728▲	7.47
5″	5	91271A732▲	10.90

1/2″-20—Head Wd./Ht.: 1/2″
Flange Dia.: 3/4″

Lg.	Pkg. Qty.		Pkg.
1″	10	91271A758	9.90
1 1/4″	10	91271A759	10.85
1 1/2″	10	91271A760	11.04
1 3/4″	5	91271A761	5.62
2″	5	91271A765	6.21
2 1/4″	5	91271A767▲	7.53
2 1/2″	5	91271A770▲	6.65

5/8″-11—Head Wd./Ht.: 5/8″
Flange Dia.: 15/16″

Lg.	Pkg. Qty.		Pkg.
1 1/4″	5	91271A798	7.41
1 1/2″	5	91271A799	7.15
1 3/4″	5	91271A800	7.16
2″	5	91271A802	7.18
2 1/4″	5	91271A803	7.92
2 1/2″	5	91271A804▲	8.55
2 3/4″	5	91271A805▲	8.00
3″	5	91271A806▲	9.19

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

(Continued on following page)

12-Point Flange Head Cap Screws *(Continued from previous page)*

Extreme-Strength Steel (Cont.)

5/8"-11—Head Wd./Ht.: 5/8" Flange Dia.: 15/16" (Cont.)

Lg.	Pkg. Qty.		Pkg.
3 1/2"	5	91271A808▲	$9.64
4"	5	91271A810▲	12.71

5/8"-18—Head Wd./Ht.: 5/8" Flange Dia.: 15/16"

Lg.	Pkg. Qty.		Pkg.
1 1/2"	5	91271A818	$7.24
2"	5	91271A820	9.21

3/4"-10—Head Wd./Ht.: 3/4" Flange Dia.: 1 1/8"

Lg.	Pkg. Qty.		Pkg.
1 1/2"	5	91271A841	$11.63
2"	1	91271A843	2.96
2 1/2"	1	91271A845	3.21

3/4"-10 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3"	1	91271A847▲	$3.04
3 1/2"	1	91271A849▲	3.35
4"	1	91271A851▲	3.68

▲ Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Extreme-Strength Stainless Steel

Choose a Thread Size	Choose a Screw Length	
1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24	1/2", 9/16", 3/4", 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/4", 2 1/2", 2 3/4", 3"	96242A400

Vibration-Resistant Serrated Flange Head Cap Screws

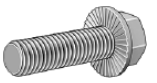

Serrations beneath the flange bite into surfaces to resist loosening. Screws are fully threaded, unless noted. Head height includes the thickness of the flange. Length is measured from under the flange. Inch screws have a Class 2A thread fit. Metric screws have a Class 6g thread fit.

High-Strength Steel—*Inch sizes* have a minimum tensile strength of 150,000 psi, a minimum Rockwell hardness of C33, and meet IFI-111 and SAE J429. They are zinc-plated and marked on the head with six radial lines to indicate Grade 8. *Metric sizes* have a minimum tensile strength of 130,000 psi, a minimum Rockwell hardness of C27, and a black finish.

Medium-Strength Steel—Screws have a minimum tensile strength of 115,000 psi, a minimum Rockwell hardness of C22, and are zinc plated. *Inch sizes* meet IFI-111 and SAE J429; they're marked on the head with three radial lines to indicate Grade 5. *Metric sizes* have dimensions that meet DIN 6921. *Large-diameter medium-strength steel* screws have a flange that's at least 10% larger than a standard flange for more gripping power.

Stainless Steel—Screws have a minimum tensile strength of 100,000 psi and a minimum Rockwell hardness of B100. *Type 316 stainless steel* screws are more corrosion resistant than 18-8 stainless steel screws and can be used in marine environments. *18-8 stainless steel* screws resist chemicals and solvents.

High-Strength Steel—Grade 8

1/4"-20—Head: Wd. 3/8", Ht. 9/32" Flange Dia.: 9/16"

Lg.	Pkg. Qty.		Pkg.
1/2"	50	94239A100	$6.24
3/4"	50	94239A101	7.63
1"	50	94239A102	8.90
1 1/4"	50	94239A103	10.28
1 1/2"	50	94239A104	11.24

5/16"-18—Head: Wd. 1/2", Ht. 21/64" Flange Dia.: 11/16"

Lg.	Pkg. Qty.		Pkg.
1/2"	25	94239A105	$5.30
3/4"	25	94239A106	6.16
1"	25	94239A107	7.60
1 1/4"	25	94239A108	8.95
1 1/2"	25	94239A109	9.36

5/16"-18 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1 3/4"	25	94239A110	$9.76
2"	25	94239A111	10.50

3/8"-16—Head: Wd. 9/16", Ht. 25/64" Flange Dia.: 13/16"

Lg.	Pkg. Qty.		Pkg.
3/4"	10	94239A112	4.91
7/8"	10	94239A113	4.78

3/8"-16 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1"	10	94239A114	$4.89
1 1/4"	10	94239A115	5.19
1 1/2"	10	94239A116	6.03
1 3/4"	10	94239A117	6.46
2"	10	94239A118	7.22

Medium-Strength Steel—Grade 5

6-32—Head: Wd. 1/4", Ht. 5/32" Flange Dia.: 23/64"

Lg.	Pkg. Qty.		Pkg.
1/4"	50	92323A583	4.93
3/8"	50	92323A584	4.98
1/2"	50	92323A585	5.00
5/8"	50	92323A586	5.02
3/4"	50	92323A587	5.02
1"	50	92323A588	5.17

8-32—Head: Wd. 1/4", Ht. 3/16" Flange Dia.: 3/8"

Lg.	Pkg. Qty.		Pkg.
1/4"	50	92323A589	5.52
3/8"	50	92323A591	5.54
1/2"	50	92323A592	5.72
5/8"	50	92323A593	5.74
3/4"	50	92323A594	5.85
1"	50	92323A595	6.13

10-24—Head: Wd. 5/16", Ht. 7/32" Flange Dia.: 29/64"

Lg.	Pkg. Qty.		Pkg.
3/8"	50	92323A596	5.00
1/2"	50	92323A597	5.22
5/8"	50	92323A598	5.33
3/4"	50	92323A599	5.43
1"	50	92323A600	5.67

10-32—Head: Wd. 5/16", Ht. 7/32" Flange Dia.: 29/64"

Lg.	Pkg. Qty.		Pkg.
3/8"	50	92323A601	5.57

10-32 (Cont.)

Lg.	Pkg. Qty.		Pkg.
1/2"	50	92323A602	5.80
5/8"	50	92323A603	5.89
3/4"	50	92323A604	6.20
1"	50	92323A605	6.30

1/4"-20—Head: Wd. 3/8", Ht. 9/32" Flange Dia.: 9/16"

Lg.	Pkg. Qty.		Pkg.
3/8"	50	92323A510	7.46
1/2"	100	92323A512	11.90
5/8"	50	92323A514	6.25
3/4"	50	92323A516	6.80
7/8"	50	92323A517	7.55
1"	50	92323A518	8.76
1 1/4"	50	92323A521	9.55
1 1/2"	50	92323A523	10.98
1 3/4"	25	92323A524	5.46
2"	25	92323A525	6.09
2 1/4"	25	92323A526	7.58
2 1/2"	25	92323A527	9.08
2 3/4"	25	92323A528	10.45
3"	25	92323A529	11.00

5/16"-18—Head: Wd. 1/2", Ht. 21/64" Flange Dia.: 11/16"

Lg.	Pkg. Qty.		Pkg.
1/2"	50	92323A533	9.77
5/8"	50	92323A534	10.36

5/16"-18 (Cont.)

Lg.	Pkg. Qty.		Pkg.
3/4"	50	92323A535	10.96
7/8"	50	92323A536	11.51
1"	50	92323A537	14.09
1 1/4"	25	92323A539	7.85
1 1/2"	25	92323A541	8.53
1 3/4"	25	92323A542	8.50
2"	25	92323A544	9.69
2 1/2"	25	92323A546	11.80
3"	10	92323A548	5.41

3/8"-16—Head: Wd. 9/16", Ht. 25/64" Flange Dia.: 13/16"

Lg.	Pkg. Qty.		Pkg.
1/2"	25	92323A550	8.40
5/8"	25	92323A551	9.35
3/4"	25	92323A552	9.86
7/8"	25	92323A553	10.55
1"	25	92323A554	9.83
1 1/4"	25	92323A556	10.92
1 1/2"	25	92323A558	14.65
1 3/4"	10	92323A560	6.10
2"	10	92323A562	6.32
2 1/4"	10	92323A563	6.78
2 1/2"	10	92323A564	6.80
2 3/4"	10	92323A565	7.50
3"	10	92323A566	8.85

7/16"-14—Head: Wd. 5/8", Ht. 15/32" Flange Dia.: 15/16"

Lg.	Pkg. Qty.		Pkg.
1"	10	92323A567	6.13
1 1/4"	10	92323A568	6.54
1 1/2"	10	92323A569	7.86

1/2"-13—Head: Wd. 3/4", Ht. 33/64" Flange Dia.: 15/64"

Lg.	Pkg. Qty.		Pkg.
3/4"	10	92323A570	8.74
1"	10	92323A571	9.30
1 1/4"	10	92323A573	10.06
1 1/2"	10	92323A575	10.76
1 3/4"	10	92323A576	10.80
2"	10	92323A577	12.17
2 1/2"	5	92323A579	8.45
3"	5	92323A582	10.23

5/8"-11—Head: Wd. 15/16", Ht. 5/8" Flange Dia.: 1 21/64"

Lg.	Pkg. Qty.		Pkg.
1 1/2"	1	92323A606	2.09
1 3/4"	1	92323A607	2.21
2"	1	92323A608	2.72

Large-Diameter Medium-Strength Steel—Grade 5

1/4"-20—Head: Wd. 3/8", Ht. 9/32" Flange Dia.: 0.630"

Lg.	Pkg. Qty.		Pkg.
3/4"	50	94386A100	7.57
1"	50	94386A101	9.45

5/16"-18—Head: Wd. 1/2", Ht. 21/64" Flange Dia.: 0.820"

Lg.	Pkg. Qty.		Pkg.
3/4"	50	94386A102	12.77
1"	25	94386A103	7.62

3/8"-16—Head: Wd. 9/16", Ht. 25/64" Flange Dia.: 0.915"

Lg.	Pkg. Qty.		Pkg.
3/4"	25	94386A104	10.67
1"	25	94386A105	11.73

Stainless Steel

	Choose a Thread Size	Choose a Screw Length	
Type 316 Stainless Steel	1/4"-20, 5/16"-18, 3/8"-16	1/2", 5/8", 3/4", 1", 1 1/4", 1 1/2"	94302A300★
18-8 Stainless Steel	6-32, 8-32, 10-24, 10-32, 12-24, 1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13	1/4", 3/8", 1/2", 5/8", 3/4", 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/2", 3"	97646A400■

★ 1/4"-20×1 1/4" Lg., 1/4"-20×1 1/2" Lg., 5/16"-18×1 1/2" Lg., and 3/8"-16×1 1/2" Lg. are partially threaded.

■ 3/8"-16×2" Lg. is partially threaded.

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Vibration-Resistant Serrated Flange Head Cap Screws *(Continued from previous page)*

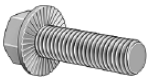

Serrations beneath the flange bite into surfaces to resist loosening. Metric screws are fully threaded and have a Class 6g thread fit. Head height includes the thickness of the flange. Length is measured from under the flange.

Metric High-Strength Steel—Screws have a minimum tensile strength of 130,000 psi, a minimum Rockwell hardness of C27, and a black finish.

Metric Medium-Strength Steel—Screws have a minimum tensile strength of 120,000 psi, a minimum Rockwell hardness of C22, and are zinc plated. Dimensions meet DIN 6921.

Metric High-Strength Steel

Lg., mm	Pkg. Qty.		Pkg.
M5—Pitch: 0.8 mm Head: Wd. 8 mm, Ht. 4.3 mm Flange Dia.: 11.2 mm			
10	25	92820A210	$13.33
12	25	92820A215	14.42
16	25	92820A220	14.99
20	10	92820A225	6.33
M6—Pitch: 1 mm Head: Wd. 10 mm, Ht. 5.5 mm Flange Dia.: 14.2 mm			
10	25	92820A322	13.80
12	25	92820A320	12.25
16	25	92820A325	14.29
20	25	92820A330	14.66
M6 (Cont.)			
25	10	92820A335	$6.17
30	10	92820A340	7.34
M8—Pitch: 1.25 mm Head: Wd. 13 mm, Ht. 7 mm Flange Dia.: 18.2 mm			
12	10	92820A415	7.67
16	10	92820A420	7.95
20	10	92820A425	7.99
25	10	92820A430	9.34
30	5	92820A435	5.29
35	5	92820A440	5.51
40	5	92820A445	6.38
M10—Pitch: 1.5 mm Head: Wd. 15 mm, Ht. 7.9 mm Flange Dia.: 21 mm			
16	5	92820A525	$7.03
20	5	92820A530	7.19
25	5	92820A535	7.59
30	5	92820A540	8.15
35	5	92820A520	9.45
40	5	92820A550	9.16
M12—Pitch: 1.75 mm Head: Wd. 17 mm, Ht. 8.7 mm Flange Dia.: 24 mm			
20	5	92820A625	10.85
25	5	92820A630	10.52
M12 (Cont.)			
30	5	92820A635	$11.53
35	5	92820A640	12.33
40	5	92820A645	13.27
45	5	92820A650	14.62
50	5	92820A655	15.35
M16—Pitch: 2 mm Head: Wd. 22 mm, Ht. 11.2 mm Flange Dia.: 31 mm			
35	1	92820A730	4.83
40	1	92820A735	6.38
50	1	92820A745	6.55
60	1	92820A755	7.59
70	1	92820A760	9.48

Metric Medium-Strength Steel—Class 8.8

Choose a Thread Size	Choose a Screw Length	
M6, M8, M10, M12	12, 16, 20, 25, 30, 35, 40 mm	90386A121

Thread-Locking Cap Screws



High-Strength Steel

A nylon patch bonded to the threads adds holding power and withstands temperatures from –58° to 250° F. Screws are fully threaded, unless noted. Length is measured from under the head. Inch sizes have a Class 2A thread fit. Metric sizes have a Class 6h thread fit.

High-strength steel screws have a minimum tensile strength of 150,000 psi, a minimum Rockwell hardness of C33, and meet ASME B18.2.1 and SAE J429. They have a zinc yellow-chromate finish and are marked on the head with six radial lines to indicate Grade 8.

18-8 stainless steel screws have minimum tensile strength of 70,000 psi and a minimum Rockwell hardness of B70.

Metric medium-strength steel screws have a minimum Rockwell hardness of C22 and a minimum tensile strength of 116,000 psi. They meet DIN 933 and are zinc plated.

High-Strength Steel—Grade 8

Lg.	Pkg. Qty.		Pkg.
¼″-20—Head: Wd. 7⁄16″, Ht. 11⁄64″			
½″	25	90019A110	$6.67
¾″	25	90019A120	7.71
1″	25	90019A130	9.26
1¼″	25	91211A115▲	8.16
1½″	25	90019A150▲	10.70
1¾″	25	91211A121▲	14.83
2″	25	91211A124▲	14.57
2½″	10	91211A127▲	7.75
3″	10	91211A131▲	7.87
5⁄16″-18—Head: Wd. ½″, Ht. 7⁄32″			
¾″	25	90019A250	11.29
1″	25	90019A260	11.75
1¼″	10	90019A270	5.97
5⁄16″-18—(Cont.)			
1½″	10	90019A280▲	$6.52
1¾″	10	91211A142▲	6.04
2″	10	91211A145▲	6.67
2½″	10	91211A148▲	8.54
3″	10	91211A151▲	10.24
3⁄8″-16—Head: Wd. 9⁄16″, Ht. 1⁄4″			
¾″	10	90019A320	6.03
1″	10	90019A330	6.13
1¼″	10	90019A340	6.56
1½″	10	90019A350▲	7.41
1¾″	10	91211A159▲	8.11
2″	10	90019A360▲	10.18
2½″	10	91211A166▲	7.61
3⁄8″-16—(Cont.)			
3″	5	91211A169▲	$7.55
3½″	5	91211A172▲	7.96
4″	5	91211A175▲	7.54
½″-13—Head: Wd. ¾″, Ht. 5⁄16″			
1″	5	90019A440	7.34
1¼″	5	90019A450	7.48
1½″	5	90019A460	8.22
1¾″	5	90019A470	10.23
2″	5	90019A480▲	9.87
2½″	5	91211A188▲	11.48
3″	5	91211A191▲	13.02
3½″	1	91211A193▲	3.28
4″	1	91211A196▲	3.41
5″	1	91211A199▲	4.20
5⁄8″-11—Head: Wd. 15⁄16″, Ht. 13⁄32″			
1¾″	1	91211A203	$2.99
2″	1	91211A206	3.23
2½″	1	91211A210▲	3.73
3″	1	91211A213▲	4.03
3½″	1	91211A217▲	4.60
¾″-10—Head: Wd. 1⅛″, Ht. ½″			
2″	1	91211A221	4.83
2½″	1	91211A224▲	5.81
3″	1	91211A226▲	6.24
3½″	1	91211A229▲	6.83
4″	1	91211A233▲	8.25

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

18-8 Stainless Steel

Choose a Thread Size	Choose a Screw Length	
¼″-20, 5⁄16″-18, 3⁄8″-16, ½″-13	¾″, 1″, 1¼″, 1½″, 2″, 3″	91412A770

Metric Medium-Strength Steel—Class 8.8

Choose a Thread Size	Choose a Screw Length	
M5, M6, M8, M10	10, 16, 20, 25, 30, 35 mm	96755A880

Metric Maintenance Assortments



These assortments come in a metal four-drawer cabinet (11¼″ Ht. × 15¼″ Wd. × 11¾″ Dp.). Each drawer has a lid chart. Pieces in the steel assortment are zinc plated, except the DIN 916 and DIN 912 pieces have a black finish.

Included Fasteners	DIN Spec.	No. of Pcs.	Sizes	Screw Lengths, mm
Set Screws	916	60	M4, M5, M6	4 to 8
Machine Screws	7985	750	M3, M4, M5, M6	5 to 30
Socket Head Cap Screws	912	570	M4, M5, M6, M8, M10, M12	16 to 60
Hex Head Cap Screws	933	580	M4, M5, M6, M8, M10, M12	10 to 60
Flat Washers	125	1,225	M4, M5, M6, M8, M10, M12	
Lock Washers	127	1,600	M3, M4, M5, M6, M8, M10, M12	
Spring Washers	137	800	M4, M5, M6, M8	
Hex Nuts	934	1,475	M3, M4, M5, M6, M8, M10, M12	

Steel Assortment	91284A214	$737.54
18-8 Stainless Steel Assortment	91284A376	995.00

Wire-Lockable Cap Screws



Medium-Strength Steel

Wire screws together so they won't come loose. Wire is sold separately below. For wire twisting pliers, see page 2747. Screws meet ASME B18.2.1 and have a Class 2A thread fit. Fully threaded, unless noted. Length is measured from under the head.

Medium-strength steel screws have a minimum tensile strength of 120,000 psi, a minimum Rockwell hardness of C25, and meet SAE J429. They are zinc plated and marked on top of the head with three radial lines to indicate Grade 5.

18-8 stainless steel screws have a minimum tensile strength of 70,000 psi and a Rockwell hardness of B70.



Use wire (not included) to lock screws together.

Lg.	Pkg. Qty.		Pkg.
Medium-Strength Steel Screws—Grade 5			
¼″-20—			
Head: Wd. 7⁄16″, Ht. 11⁄64″			
Hole Dia.: 0.0625″			
½″	10	90124A537	$11.01
⅝″	10	90124A539	11.24
¾″	10	90124A540	11.24
1″	10	90124A542	11.75
5⁄16″-18—Head: Wd. ½″, Ht. 7⁄32″			
Hole Dia.: 0.0625″			
¾″	10	90124A581	13.16
⅞″	10	90124A582	13.26
1″	5	90124A583	7.28
1½″	5	90124A587▲	8.42
⅜″-16—Head: Wd. 9⁄16″, Ht. ¼″			
Hole Dia.: 0.0625″			
¾″	5	90124A622	7.28
1″	5	90124A624	7.70
1¼″	5	90124A626	8.35
1½″	5	90124A628▲	9.00
2″	5	90124A632▲	10.03
3″	5	90124A636▲	11.08
½″-13—Head: Wd. ¾″, Ht. 11⁄32″			
Hole Dia.: 0.1094″			
¾″	5	90124A710	$11.71
1″	5	90124A712	12.13
1¼″	5	90124A714	12.64
1½″	5	90124A716	13.29
1¾″	1	90124A718	2.89
2″	1	90124A720▲	3.06
⅝″-11—			
Head: Wd. 15⁄16″, Ht. 27⁄64″			
Hole Dia.: 0.1562″			
1½″	1	90124A798	4.43
1¾″	1	90124A800	4.61
2″	1	90124A802	4.78
2½″	1	90124A804▲	5.17
¾″-10—			
Head: Wd. 1⅛″, Ht. ½″			
Hole Dia.: 0.1562″			
2″	1	90124A843	6.58
2¼″	1	90124A844	7.04
3″	1	90124A847▲	7.60

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

18-8 Stainless Steel Screws

Choose a Thread Size	Choose a Screw Length	
¼″-20, 5⁄16″-18, ⅜″-16, ½″-13	½″, ¾″, 1″, 1¼″, 1½″	90121A631

18-8 Stainless Steel Wire

0.032″ dia. (¼-lb. spool; 91 ft.)	8860K14	$6.10

Sealing Cap Screws



Full Threads

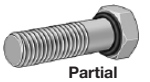

Partial Threads

Protect equipment by sealing out contaminants. Screws come with a replaceable silicone O-ring that maintains a seal at pressures up to 20,000 psi (when used in the hole size recommended below).

Screws are 18-8 stainless steel and are reusable. They have a minimum tensile strength of 85,000 psi, a minimum Rockwell hardness of B85, and a Class 2A thread fit. They're fully threaded, unless noted. Length is measured from under the head.

The silicone O-rings have a temperature range of –80° to 400°F and resist salt water and most acids. For an O-ring that stands up to chemicals and oil, replace the O-ring with fluoroelastomer; it also maintains a seal up to 20,000 psi and has a temperature range of –20° to 400°F.

Screws

Lg.	Each	Lg.	Each
¼″-20—		**⅜″-16** (Cont.)	
Head: Wd. 7⁄16″, Ht. 5⁄32″		¾″ 92205A622	$3.86
For Hole Dia.: 0.265″ to 0.269″		1″ 92205A624	4.03
¼″ 92205A511	$4.22	1¼″ 92205A626▲	4.14
⅜″ 92205A513	3.06	1½″ 92205A629▲	4.28
½″ 92205A537	2.27	2″ 92205A631▲	4.76
¾″ 92205A540	2.31	**½″-13**—	
1″ 92205A542	2.38	Head: Wd. ¾″, Ht. 5⁄16″	
1¼″ 92205A544▲	2.55	For Hole Dia.: 0.530″ to 0.534″	
1½″ 92205A547▲	3.13	½″ 92205A523	6.59
2″ 92205A550▲	3.35	¾″ 92205A525	7.06
2½″ 92205A555▲	3.55	1″ 92205A722	5.28
5⁄16″-18—		1¼″ 92205A725	5.65
Head: Wd. ½″, Ht. 13⁄64″		1½″ 92205A728▲	5.87
For Hole Dia.: 0.332″ to 0.336″		2″ 92205A731▲	6.49
½″ 92205A515	4.41	2½″ 92205A735▲	6.97
⅝″ 92205A517	4.59	3″ 92205A740▲	7.62
¾″ 92205A581	3.52	3½″ 92205A745▲	8.44
1″ 92205A583	3.69	**⅝″-11**—	
1¼″ 92205A585▲	3.76	Head: Wd. 15⁄16″, Ht. 25⁄64″	
1½″ 92205A588▲	3.86	For Hole Dia.: 0.650″ to 0.655″	
2″ 92205A591▲	4.13	¾″ 92205A527	7.53
⅜″-16—		1″ 92205A529	8.00
Head: Wd. 9⁄16″, Ht. 15⁄64″		1½″ 92205A531	8.91
For Hole Dia.: 0.395″ to 0.399″		2″ 92205A533	9.28
½″ 92205A519	4.66		
⅝″ 92205A521	4.81		

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Replacement O-Rings

Choose a Material	Choose a Screw Size	
Silicone, Fluoroelastomer	¼″, 5⁄16″, ⅜″, ½″	97284A990

Left-Hand Cap Screws

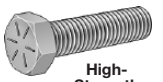

High-Strength Steel

Use in left-hand threaded holes or with left-hand nuts and in places where counterclockwise motion would cause right-hand threaded screws to come loose. Length is measured from under the head. Screws are fully threaded, except medium-strength steel inch screws may be partially threaded. Inch sizes have a Class 2A thread fit. Metric sizes have a Class 6g thread fit.

High-strength steel screws have a minimum tensile strength of 150,000 psi and a minimum Rockwell hardness of C33. They meet SAE J429 and are marked on the head with six radial lines to indicate Grade 8.

Medium-strength steel screws have a minimum tensile strength of 115,000 psi and a minimum Rockwell hardness of C21. Inch sizes meet SAE J429 and ASME B18.2.1 and are marked on the head with three radial lines to indicate Grade 5.

18-8 stainless steel screws have a minimum tensile strength of 77,000 psi and a minimum Rockwell hardness of B70.

Lg.	Each	Lg.	Each	Lg.	Each	Lg.	Each
High-Strength Steel—Grade 8							
¼″-20—		**5⁄16″-18** (Cont.)		**½″-13**—		**⅝″-11** (Cont.)	
Head: Wd. 7⁄16″, Ht. 11⁄64″		2″ 90211A258	$11.21	Head: Wd. ¾″, Ht. 11⁄32″		1¾″ 90211A362	$16.64
¾″ 90211A222	$9.90	2½″ 90211A261	12.11	1½″ 90211A334	$12.61	2″ 90211A364	18.90
1″ 90211A224	9.90			1¾″ 90211A336	14.26	2½″ 90211A366	18.90
1¼″ 90211A226	10.38	**⅜″-16**—		2″ 90211A338	15.74	3″ 90211A368	19.81
1½″ 90211A228	10.76	Head: Wd. 9⁄16″, Ht. ¼″		2¼″ 90211A339	16.23	4″ 90211A372	19.81
2″ 90211A230	10.78	1″ 90211A292	10.58	2½″ 90211A340	16.64		
2½″ 90211A232	11.67	1¼″ 90211A294	10.58	3″ 90211A342	16.64	**¾″-10**—	
3″ 90211A236	12.35	1½″ 90211A296	10.58	3½″ 90211A344	16.64	Head: Wd. 1⅛″, Ht. ½″	
5⁄16″-18—		1¾″ 90211A298	12.39	4″ 90211A346	16.64	1½″ 90211A420	20.26
Head: Wd. ½″, Ht. 7⁄32″		2″ 90211A301	12.40	4½″ 90211A350	18.90	2″ 90211A424	20.71
¾″ 90211A250	10.58	2½″ 90211A303	15.74	**⅝″-11**—		2½″ 90211A426	23.43
1″ 90211A252	10.58	3″ 90211A305	15.74	Head: Wd. 15⁄16″, Ht. 27⁄64″		3″ 90211A428	23.43
1½″ 90211A256	10.58	4″ 90211A309	16.88	1½″ 90211A360	15.32	4″ 90211A432	23.43

Medium-Strength Steel—Inch sizes are Grade 5; metric sizes are Class 8.8

Choose a Thread Size	Choose a Screw Length	
⅜″-16, ½″-13, ⅝″-11, ¾″-10	1½″, 1¾″, 2″, 2½″, 3″, 4″	92190A100
M6, M8, M10, M12	12, 16, 20, 25, 30, 35, 40 mm	97760A700

18-8 Stainless Steel

Choose a Thread Size	Choose a Screw Length	
¼″-20, ⅜″-16, ½″-13	½″, ¾″, 1″, 1¼″, 1½″, 2″, 2½″, 3″	90306A351

Vented Cap Screws



Used in vacuum systems, these screws are drilled through the shaft to vent fluid and gas. They're made from 18-8 stainless steel and are fully threaded with a Class 2A thread fit. Not rated for hardness or tensile strength. Length is measured from under the head.

Lg.		Each
1/4"-20— Head: Wd. 7/16", Ht. 5/32" Vent Dia.: 0.062"		
1/2"	90220A110	$2.67
3/4"	90220A120	3.67
1"	90220A130	4.67
5/16"-18— Head: Wd. 1/2", Ht. 13/64" Vent Dia.: 0.078"		
3/4"	90220A140	$4.83
1"	90220A150	5.70
1 1/2"	90220A160▲	9.33
3/8"-16— Head: Wd. 9/16", Ht. 15/64" Vent Dia.: 0.093"		
3/4"	90220A170	$6.00
1"	90220A180	6.67
1 1/2"	90220A190▲	9.29
1/2"-13— Head: Wd. 3/4", Ht. 5/16" Vent Dia.: 1/8"		
1"	90220A210	$8.86
1 1/2"	90220A220	11.25
2"	90220A230▲	14.05

▲ Has partial threads. For higher length, go to mcmaster.com and search for the part number.

Heavy Hex Head Bolts



Structural Bolt



High-Pressure Bolt—Uncoated Steel

These bolts have a wide head that distributes holding pressure. They have a Class 2A thread fit and are partially threaded, unless noted. Length is measured from under the head.

Structural Bolts—These bolts meet ASME B18.2.6 and ASTM A325 Type 1 for structural steel joints. 1/2" to 1" bolts have a minimum tensile strength of 120,000 psi and a minimum Rockwell hardness of C25. 1 1/8" and 1 1/4" bolts have a minimum tensile strength of 105,000 psi and a minimum Rockwell hardness of C19.

Hot-dipped galvanized steel bolts have a thick coating that offers excellent protection against rust, weather, and corrosion. Bolts should be used with hot-dipped galvanized nuts; see 91694A on page 3216.

High-Pressure Bolts—Fasten pressure vessels, valves, and flanges. These bolts meet ASTM A193.

Uncoated steel (Grade B7) bolts meet ASTM A193 Grade B7. They have a minimum tensile strength of 125,000 psi and a maximum Rockwell hardness of C35. For ASTM A194 nuts, see page 3216.

Type 316 stainless steel (Grade B8M) bolts have a minimum tensile strength of 75,000 psi and a maximum Rockwell hardness of B96. For Grade 8M nuts, see 97619A on page 3216.

18-8 stainless steel (Grade B8) bolts have a minimum tensile strength of 75,000 psi and a maximum Rockwell hardness of B100. For ASTM A194 Grade 8 nuts, see 94252A on page 3216.

Structural Bolts—Uncoated Steel

Lg.	Grip Lg.	Pkg. Qty.		Pkg.
1/2"-13— Head: Wd. 7/8", Ht. 5/16"				
1 1/4"	1/4"	10	91571A246	$4.73
1 1/2"	1/2"	25	91571A250	12.83
1 3/4"	3/4"	25	91571A252	13.36
2"	1"	10	91571A254	6.18
2 1/2"	1 1/2"	10	91571A256	7.77
3"	2"	10	91571A258	8.81
4"	3"	10	91571A260	11.08
5"	4"	5	91571A210	12.70
5/8"-11— Head: Wd. 1 1/16", Ht. 25/64"				
1 1/2"	____	10	91571A262♣	8.19
1 3/4"	1/2"	10	91571A264	8.79
2"	3/4"	10	91571A266	10.14
2 1/4"	1"	10	91571A268	10.68
2 1/2"	1 1/4"	10	91571A270	11.32
2 3/4"	1 1/2"	10	91571A272	12.56
3"	1 3/4"	10	91571A274	13.23
3 1/2"	2 1/4"	5	91571A276	7.32
4"	2 3/4"	5	91571A278	8.77
4 1/2"	3 1/4"	5	91571A280	11.13
5"	3 3/4"	5	91571A282	11.33
6"	4 3/4"	5	91571A284	12.47
3/4"-10— Head: Wd. 1 1/4", Ht. 15/32"				
1 1/2"	____	10	91571A286♣	$12.97
1 3/4"	____	5	91571A288♣	6.92
2"	5/8"	5	91571A290	7.30
2 1/4"	7/8"	5	91571A292	7.77
2 1/2"	1 1/8"	5	91571A294	8.84
2 3/4"	1 3/8"	5	91571A296	9.38
3"	1 5/8"	5	91571A298	9.92
3 1/4"	1 7/8"	5	91571A302	10.95
3 1/2"	2 1/8"	5	91571A304	11.49
4"	2 5/8"	5	91571A306	12.61
4 1/4"	2 7/8"	5	91571A308	13.68
4 1/2"	3 1/8"	1	91571A309	2.51
5"	3 5/8"	1	91571A310	2.71
6"	4 5/8"	1	91571A312	3.36
7"	5 5/8"	1	91571A314	4.43
8"	6 5/8"	1	91571A316	4.83
7/8"-9— Head: Wd. 1 7/16", Ht. 35/64"				
2"	____	5	91571A318♣	11.25
2 1/2"	1"	5	91571A320	12.64
7/8"-9 (Cont.)				
3"	1 1/2"	5	91571A322	$14.12
3 1/2"	2"	1	91571A324	3.17
4"	2 1/2"	1	91571A326	3.42
5"	3 1/2"	1	91571A328	4.01
6"	4 1/2"	1	91571A330	4.45
1"-8— Head: Wd. 1 5/8", Ht. 39/64"				
2 1/2"	3/4"	1	91571A332	3.25
3"	1 1/4"	1	91571A334	3.61
3 1/2"	1 3/4"	1	91571A336	3.99
4"	2 1/4"	1	91571A338	4.32
5"	3 1/4"	1	91571A340	5.27
6"	4 1/4"	1	91571A342	6.13
8"	6 1/4"	1	91571A344	9.06
1 1/8"-7— Head: Wd. 1 13/16", Ht. 23/32"				
5"	3"	1	91571A349	7.25
1 1/4"-7— Head: Wd. 2", Ht. 25/32"				
4"	2"	1	91571A352	8.73
5"	3"	1	91571A354	10.50
6"	4"	1	91571A356	11.80

Structural Bolts—Hot-Dipped Galvanized Steel

Lg.	Grip Lg.	Pkg. Qty.		Pkg.
1/2"-13— Head: Wd. 7/8", Ht. 5/16"				
1 1/2"	1/2"	10	91583A115	7.31
1 3/4"	3/4"	10	91583A118	7.97
2"	1"	10	91583A121	8.68
2 1/2"	1 1/2"	10	91583A124	9.68
3"	2"	10	91583A127	11.69
4"	3"	5	91583A130	6.84
5/8"-11— Head: Wd. 1 1/16", Ht. 25/64"				
1 1/2"	____	10	91583A133♣	13.97
1 3/4"	1/2"	10	91583A136	13.29
2"	3/4"	5	91583A139	7.19
2 1/2"	1 1/4"	5	91583A142	8.44
3"	1 3/4"	5	91583A145	9.52
3 1/2"	2 1/4"	5	91583A148	11.20
4"	2 3/4"	5	91583A151	12.35
4 1/2"	3 1/4"	1	91583A154	3.20
5"	3 3/4"	1	91583A157	3.46
6"	4 3/4"	1	91583A158	4.14
3/4"-10— Head: Wd. 1 1/4", Ht. 15/32"				
1 1/2"	____	5	91583A160♣	9.82
1 3/4"	____	5	91583A163♣	10.45
3/4"-10 (Cont.)				
2"	5/8"	5	91583A166	11.07
2 1/4"	7/8"	5	91583A169	11.83
2 1/2"	1 1/8"	5	91583A172	12.80
2 3/4"	1 3/8"	5	91583A175	13.59
3"	1 5/8"	1	91583A178	2.87
3 1/4"	1 7/8"	1	91583A181	3.24
3 1/2"	2 1/8"	1	91583A184	3.34
3 3/4"	2 3/8"	1	91583A187	3.50
4"	2 5/8"	1	91583A190	3.66
4 1/4"	2 7/8"	1	91583A193	3.82
4 1/2"	3 1/8"	1	91583A196	4.10
5"	3 5/8"	1	91583A199	4.67
6"	4 5/8"	1	91583A202	4.71
7/8"-9— Head: Wd. 1 7/16", Ht. 35/64"				
2"	____	1	91583A205♣	3.13
2 1/2"	1"	1	91583A208	3.58
2 3/4"	1 1/4"	1	91583A211	3.78
3"	1 1/2"	1	91583A214	3.99
3 1/2"	2"	1	91583A217	4.60
7/8"-9 (Cont.)				
3 3/4"	2 1/4"	1	91583A220	4.67
4"	2 1/2"	1	91583A223	4.72
5"	3 1/2"	1	91583A226	5.64
6"	4 1/2"	1	91583A229	6.93
1"-8— Head: Wd. 1 5/8", Ht. 39/64"				
2 1/2"	3/4"	1	91583A232	4.71
3"	1 1/4"	1	91583A235	5.44
3 1/2"	1 3/4"	1	91583A238	6.45
4"	2 1/4"	1	91583A241	7.00
4 1/2"	2 3/4"	1	91583A244	7.60
5"	3 1/4"	1	91583A247	8.22
5 1/2"	3 3/4"	1	91583A250	9.42
6"	4 1/4"	1	91583A253	10.01
1 1/4"-7— Head: Wd. 2", Ht. 25/32"				
3"	1"	1	91583A302	9.28
4"	2"	1	91583A331	10.76
5"	3"	1	91583A345	12.78
6"	4"	1	91583A359	14.45

♣ Fully threaded.

High-Pressure Bolts—Uncoated Steel (Grade B7)

Choose a Thread Size	Choose a Bolt Length	
1/2"-13, 5/8"-11, 3/4"-10, 7/8"-9, 1"-8	1 1/2", 1 3/4", 2", 2 1/4", 2 1/2", 2 3/4", 3", 3 1/2", 4", 4 1/2", 5"	94705A200

(Continued on following page)

Heavy Hex Head Bolts *(Continued from previous page)*

High-Pressure Bolts—Type 316 Stainless Steel (Grade B8M)

Choose a Thread Size	Choose a Bolt Length	
1/2″-13, 5/8″-11, 3/4″-10	1″, 1 1/4″, 1 1/2″, 1 3/4″, 2″, 2 1/4″, 2 1/2″, 2 3/4″, 3″, 3 1/2″, 4″	92790A550

High-Pressure Bolts—18-8 Stainless Steel (Grade B8)

Choose a Thread Size	Choose a Bolt Length	
3/8″-16, 1/2″-13, 5/8″-11, 3/4″-10	1″, 1 1/4″, 1 1/2″, 1 3/4″, 2″, 2 1/2″, 3″, 3 1/2″, 4″	92655A500

Square Head Bolts

The square head provides more contact with a wrench than a hex head for a secure grip while tightening nuts. These bolts can be used in square openings to keep them from turning. They're fully threaded, unless noted, and have a Class 2A thread fit. All meet ASME B18.2.1. Length is measured from under the head. For square nuts, see page 3219.

Medium-Strength Steel—Bolts have a minimum tensile strength of 120,000 psi, a minimum Rockwell hardness of C25, and meet SAE J429. They have a zinc yellow-chromate plating and are marked on the head with three radial lines to indicate Grade 5.

Low-Strength Steel—Bolts have a minimum tensile strength of 60,000 psi, and a minimum Rockwell hardness of B69. They meet ASTM A307 Grade A and are uncoated.



Medium-Strength Steel

Medium-Strength Steel—Grade 5

Lg.		Each
3/8″-16—Head: Wd. 9/16″, Ht. 1/4″		
1″	92327A279	$2.31
1 1/2″	92327A283	2.40
2″	92327A288	2.78
3″	92327A291	2.93
4″	92327A294	3.26
1/2″-13—Head: Wd. 3/4″, Ht. 21/64″		
2″	92327A304	3.12
1/2″-13 (Cont.)		
2 1/2″	92327A308	$4.23
3″	92327A311	4.86
4″	92327A314	6.18
5″	92327A317	7.11
5/8″-11—Head: Wd. 15/16″, Ht. 27/64″		
2″	92327A323	4.65
2 1/2″	92327A327	5.00
5/8″-11 (Cont.)		
3″	92327A332	$5.24
4″	92327A338	6.33
5″	92327A341	8.06
3/4″-10—Head: Wd. 1 1/8″, Ht. 1/2″		
3″	92327A362	8.27
4″	92327A365	8.62
5″	92327A367	9.55
3/4″-10 (Cont.)		
6″	92327A369	$12.12
1″-8—Head: Wd. 1 1/2″, Ht. 11/16″		
3″	92327A413	11.51
4″	92327A419	12.51
5″	92327A425	13.47
6″	92327A431	14.17

Low-Strength Steel—ASTM A307 Grade A

Lg.	Pkg. Qty.		Pkg.
1/4″-20—Head: Wd. 3/8″, Ht. 11/64″			
1″	25	91465A101▲	$5.11
1 1/4″	25	91465A104▲	5.22
1 1/2″	50	91465A107▲	9.56
2″	25	91465A110▲	6.48
5/16″-18—Head: Wd. 1/2″, Ht. 13/64″			
3/4″	25	91465A113	5.48
1″	25	91465A116▲	5.59
1 1/4″	25	91465A119▲	7.63
1 1/2″	10	91465A122▲	4.26
2″	10	91465A125▲	4.74
3″	10	91465A128▲	6.07
4″	10	91465A131▲	6.95
3/8″-16—Head: Wd. 9/16″, Ht. 1/4″			
1″	10	91465A134	4.31
1 1/4″	10	91465A137▲	4.74
1 1/2″	10	91465A140▲	4.83
1 3/4″	10	91465A143▲	5.00
3/8″-16 (Cont.)			
2″	10	91465A146▲	$5.28
2 1/2″	10	91465A149▲	7.57
3″	10	91465A152▲	8.11
3 1/2″	10	91465A155▲	8.14
1/2″-13—Head: Wd. 3/4″, Ht. 21/64″			
1″	10	91465A158	6.51
1 1/2″	10	91465A161▲	7.54
1 3/4″	10	91465A164▲	8.03
2″	10	91465A167▲	9.29
2 1/4″	5	91465A170▲	5.79
2 1/2″	5	91465A173▲	6.03
3″	5	91465A176▲	6.26
3 1/2″	5	91465A179▲	6.80
4″	5	91465A182▲	8.62
5″	5	91465A185▲	9.72
6″	5	91465A191▲	11.21
1/2″-13 (Cont.)			
8″	1	91465A194▲	$2.69
5/8″-11—Head: Wd. 15/16″, Ht. 27/64″			
2″	1	91465A209▲	1.72
2 1/2″	5	91465A212▲	10.40
3″	1	91465A215▲	2.03
3 1/2″	1	91465A218▲	2.38
4″	1	91465A221▲	2.52
4 1/2″	1	91465A224▲	2.72
5″	1	91465A227▲	2.99
6″	1	91465A230▲	3.27
7″	1	91465A233▲	4.03
11″	1	91465A236▲	8.54
3/4″-10—Head: Wd. 1 1/8″, Ht. 1/2″			
2 1/2″	1	91465A242▲	2.36
3″	1	91465A245▲	2.97
3/4″-10 (Cont.)			
3 3/4″	1	91465A248▲	$3.33
4″	1	91465A251▲	3.39
4 1/2″	1	91465A254▲	4.03
5″	1	91465A257▲	4.33
5 1/2″	1	91465A260▲	4.53
6″	1	91465A263▲	4.73
7″	1	91465A266▲	5.17
8″	1	91465A269▲	5.53
9″	1	91465A272▲	6.70
10″	1	91465A275▲	6.91
12″	1	91465A278▲	8.06
1″-8—Head: Wd. 1 1/2″, Ht. 21/32″			
6″	1	91465A287▲	11.05
7″	1	91465A290▲	11.14
9″	1	91465A293▲	11.20
10″	1	91465A296▲	13.40

▲Has partial threads. For thread length, go to mcmaster.com and search for the part number.

Cap Screw, Hex Nut, and Washer Assortments

High-strength zinc yellow-chromate plated steel cap screws, hex nuts, and washers are Grade 8 steel. Assortment comes in a compartmented metal box with lid chart.

Medium-strength zinc-plated steel cap screws, hex nuts, and washers are Grade 5 steel. They come in a compartmented metal box with lid chart, except the assortment with 315 cap screws comes in two metal boxes.

Stainless steel cap screws, hex nuts, and washers are 18-8 stainless steel. They come in a compartmented metal box with lid chart.

Metric high-strength steel cap screws are Class 10.9 steel, hex nuts are Class 10 steel, and lock washers are spring steel. Assortment comes in a compartmented metal box with lid chart.

Metric medium-strength zinc-plated steel and **metric medium-strength steel** cap screws are Class 8.8 steel, hex nuts are Class 8 steel, and lock washers are spring steel. 315 cap screw assortment comes in a plastic compartmented box. 765 cap screw assortments come in two compartmented boxes; one is plastic and one is metal.

Cap Screws			*Hex Nuts*		*Lock Washers*		*Flat Washers*		
Thread Sizes	Lengths	No. of Pcs.	Thread Sizes	No. of Pcs.	Sizes	No. of Pcs.	Sizes	No. of Pcs.	
High-Strength Zinc Yellow-Chromate Plated Steel									
1/4″-20 to 3/8″-16 (Coarse)	1/2″ to 2″	285	1/4″-20 to 3/8″-16	125	1/4″ to 3/8″	250	1/4″ to 3/8″	250	91350A112 $175.00
1/4″-28 to 3/8″-24 (Fine)	1/2″ to 2″	285	1/4″-28 to 3/8″-24	125	1/4″ to 3/8″	250	1/4″ to 3/8″	250	91350A317 197.50
Medium-Strength Zinc-Plated Steel									
1/4″-20 to 3/8″-16 (Coarse)	1/2″ to 2″	285	1/4″-20 to 3/8″-16	125	1/4″ to 3/8″	250	1/4″ to 3/8″	250	91340A112 114.17
1/4″-28 to 3/8″-24 (Fine)	1/2″ to 2″	285	1/4″-28 to 3/8″-24	125	1/4″ to 3/8″	250	1/4″ to 3/8″	250	91340A111 129.03
1/4″-20 to 1/2″-13	3/4″ to 3″	315	1/4″-20 to 1/2″-13	155	1/4″ to 1/2″	225	1/4″ to 1/2″	325	91308A220 387.50
Stainless Steel									
1/4″-20 to 3/8″-16	1/2″ to 2 1/2″	220	1/4″-20 to 3/8″-16	55	1/4″ to 3/8″	90	1/4″ to 3/8″	55	91370A113 214.24
Metric High-Strength Steel									
M6 to M12	16 to 40	165	M6 to M12	165	M6 to M12	245	—	—	91310A100 104.74
Metric Medium-Strength Zinc-Plated Steel									
M4 to M10	12 to 50	315	M4 to M10	150	—	—	—	—	98735A040 96.00
M4 to M12	10 to 60	765	M4 to M12	765	M4 to M12	765	—	—	98620A100 207.92
Metric Medium-Strength Steel									
M4 to M12	10 to 60	765	M4 to M12	765	M4 to M12	765	—	—	98620A080 179.70

Carriage Bolts

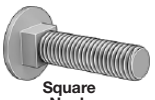

Square Neck

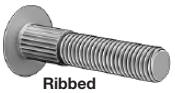

Ribbed Neck

The neck shape keeps these bolts from turning when tightening a nut. The bolts have a smooth, rounded head and are fully threaded, unless noted. Length is measured from under the head. Stainless steel and galvanized steel bolts are a good choice for ACQ-treated (arsenic-free) lumber. Inch sizes have a Class 2A thread fit. Inch size square-neck bolts meet ANSI B18.5. Metric sizes have a Class 6g thread fit, except M6 bolts have a Class 8g thread fit.

Type 316 Stainless Steel—These are our most corrosion resistant carriage bolts.

18-8 Stainless Steel—More corrosion resistant than zinc-plated and hot-dipped galvanized steel bolts.

Zinc-Plated Steel—Offer good corrosion resistance. *Medium-strength steel (Grade 5)* meets SAE J429. *Low-strength steel (Grade 2)* meets ASTM A307 or SAE J429.

Hot-Dipped Galvanized Steel—These low-strength (Grade 2) steel bolts are more corrosion resistant than zinc-plated steel bolts. They meet ASTM A307; galvanization meets ASTM 153. Bolts must be used with the hot-dipped galvanized nuts on page 3208.

Bronze—These bolts are corrosion resistant and stand up to salt water. They are not rated for hardness.

Square Neck—Type 316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
10-24—Neck: Wd. 0.20″			
1/2″	10	93180A110	$8.70
3/4″	10	93180A115	9.40
1″	10	93180A120	9.61
1/4″-20—Neck: Wd. 0.26″			
1/2″	10	93180A208	5.34
3/4″	10	93180A210	6.31
1″	10	93180A220	6.61
1 1/4″	10	93180A225	8.70
1 1/2″	10	93180A230	9.19
2″	10	93180A240	8.86
2 1/2″	5	93180A250	5.88
3″	5	93180A260	6.67
3 1/2″	5	93180A262	8.40
4″	1	93180A266	2.18
4 1/2″	1	93180A270	2.38
5″	1	93180A275	2.60
6″	1	93180A280	2.49
5/16″-18—Neck: Wd. 0.32″			
3/4″	10	93180A310	$8.73
1″	10	93180A320	9.17
1 1/4″	5	93180A325	6.15
1 1/2″	5	93180A330	6.85
2″	5	93180A340	7.42
2 1/2″	5	93180A350	9.19
3″	5	93180A360	9.95
3 1/2″	1	93180A364	2.33
4″	1	93180A368	2.56
4 1/2″	1	93180A372	3.04
5″	1	93180A376	3.28
6″	1	93180A382	3.36
3/8″-16—Neck: Wd. 0.39″			
3/4″	5	93180A418	5.46
1″	5	93180A420	5.61
1 1/4″	5	93180A425	7.98
1 1/2″	5	93180A430	6.99
3/8″-16 (Cont.)			
1 3/4″	5	93180A435	$8.07
2″	5	93180A440	9.00
2 1/2″	5	93180A450	9.40
3″	1	93180A460	2.59
3 1/2″	1	93180A464	3.16
4″	1	93180A468	3.43
4 1/2″	1	93180A473	4.12
5″	1	93180A477	4.52
6″	1	93180A485	5.25
7″	1	93180A494★	6.74
8″	1	93180A503★	14.52
1/2″-13—Neck: Wd. 0.52″			
1 1/2″	1	93180A617	3.13
2″	1	93180A625	4.08
2 1/2″	1	93180A629	4.71
3″	1	93180A633	5.40
3 1/2″	1	93180A637	6.05
1/2″-13 (Cont.)			
4″	1	93180A641	$6.70
4 1/2″	1	93180A645	7.35
5″	1	93180A649	8.38
6″	1	93180A658	9.32
7″	1	93180A667★	12.16
8″	1	93180A678★	13.66
9″	1	93180A682★	22.68
10″	1	93180A686★	23.44
12″	1	93180A698★	25.44
5/8″-11—Neck: Wd. 0.64″			
4″	1	93180A733	19.72
5″	1	93180A742	21.02
6″	1	93180A753	22.30
7″	1	93180A761★	24.90
3/4″-10—Neck: Wd. 0.77″			
4″	1	93180A813	25.48
6″	1	93180A837	30.95
8″	1	93180A851★	34.26

Square Neck—18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
10-24—Neck: Wd. 0.20″			
1/2″	50	92356A242	10.53
5/8″	50	92356A243	10.66
3/4″	50	92356A245	10.75
1″	50	92356A247	12.40
1 1/4″	25	92356A249	7.44
1 1/2″	25	92356A251	8.26
1 3/4″	25	92356A252	9.10
2″	25	92356A253	10.27
10-32—Neck: Wd. 0.20″			
1/2″	50	92356A255	10.55
5/8″	50	92356A257	10.65
3/4″	50	92356A259	11.09
1″	50	92356A261	12.40
1 1/4″	25	92356A263	7.44
1 1/2″	25	92356A265	7.76
1/4″-20—Neck: Wd. 0.26″			
1/2″	50	92356A537	5.82
5/8″	50	92356A538	6.36
3/4″	50	92356A540	7.03
1″	25	92356A542	5.11
1 1/4″	25	92356A544	6.02
1 1/2″	25	92356A546	6.09
1 3/4″	25	92356A548	6.49
2″	25	92356A550	6.62
2 1/4″	25	92356A551	7.55
2 1/2″	10	92356A552	3.86
2 3/4″	10	92356A553	3.92
3″	10	92356A554	4.26
3 1/2″	10	92356A556	4.83
1/4″-20 (Cont.)			
4″	10	92356A558	5.30
4 1/2″	10	92356A560★	5.88
5″	5	92356A562★	3.50
5 1/2″	5	92356A564★	3.90
6″	5	92356A566★	4.07
7″	1	92356A569★	3.05
8″	1	92356A572★	3.35
5/16″-18—Neck: Wd. 0.32″			
3/4″	25	92356A581	6.41
1″	10	92356A583	3.89
1 1/4″	10	92356A589	4.17
1 1/2″	10	92356A587	4.14
1 3/4″	10	92356A582	4.67
2″	10	92356A591	5.11
2 1/4″	10	92356A592	5.43
2 1/2″	10	92356A593	5.61
2 3/4″	10	92356A594	6.46
3″	10	92356A595	6.13
3 1/2″	10	92356A597	6.93
4″	10	92356A599	7.95
4 1/2″	5	92356A601★	4.79
5″	5	92356A603★	5.35
6″	5	92356A607★	6.33
3/8″-16—Neck: Wd. 0.39″			
3/4″	10	92356A622	5.30
1″	10	92356A624	4.70
1 1/4″	10	92356A626	5.39
1 1/2″	10	92356A628	6.18
1 3/4″	10	92356A630	6.55
3/8″-16 (Cont.)			
2″	10	92356A632	7.06
2 1/4″	10	92356A633	7.70
2 1/2″	5	92356A634	4.30
2 3/4″	5	92356A635	4.75
3″	5	92356A636	5.00
3 1/2″	5	92356A638	5.62
4″	5	92356A640	6.78
4 1/2″	5	92356A642★	6.82
5″	5	92356A644★	7.36
5 1/2″	5	92356A646★	7.72
6″	5	92356A648★	7.75
6 1/2″	1	92356A649★	3.36
7″	1	92356A650★	3.50
8″	1	92356A652★	4.03
8 1/2″	1	92356A654★	4.53
9″	1	92356A657★	4.70
10″	1	92356A662★	5.66
7/16″-14—Neck: Wd. 0.45″			
2″	1	92356A688	5.03
3″	1	92356A694	8.51
1/2″-13—Neck: Wd. 0.52″			
1″	5	92356A712	4.71
1 1/4″	5	92356A714	5.32
1 1/2″	5	92356A716	5.62
1 3/4″	5	92356A718	6.23
2″	5	92356A720	6.89
2 1/2″	5	92356A722	7.72
3″	5	92356A724	7.98
1/2″-13 (Cont.)			
3 1/2″	1	92356A726	1.44
4″	1	92356A728	1.52
4 1/2″	1	92356A730★	1.80
5″	1	92356A732★	1.90
6″	1	92356A736★	2.00
6 1/2″	1	92356A737★	4.36
7″	1	92356A738★	4.51
7 1/2″	1	92356A739★	4.62
8″	1	92356A740★	5.01
8 1/2″	1	92356A741★	5.44
9″	1	92356A743★	5.81
12″	1	92356A752★	6.89
5/8″-11—Neck: Wd. 0.64″			
2″	1	92356A802	2.59
2 1/2″	1	92356A804	3.00
3″	1	92356A806	3.78
3 1/2″	1	92356A808	4.33
4″	1	92356A810	4.75
4 1/2″	1	92356A812★	5.64
5″	1	92356A814★	6.34
6″	1	92356A818★	6.59
7″	1	92356A820★	7.18
3/4″-10—Neck: Wd. 0.77″			
3″	1	92356A913	9.46
4″	1	92356A917	10.49
5″	1	92356A921★	9.46
6″	1	92356A925★	10.09
8″	1	92356A933★	11.46

Square Neck—Zinc-Plated Medium-Strength Steel (Grade 5)

Lg.	Pkg. Qty.		Pkg.
1/4″-20—Neck: Wd. 0.26″			
3/4″	50	90185A540	5.34
1″	50	90185A542	7.24
1 1/4″	50	90185A544	7.34
1 1/2″	50	90185A546	8.16
2″	50	90185A550	10.16
2 1/2″	25	90185A552	5.82
3″	50	90185A555	13.48
5/16″-18—Neck: Wd. 0.32″			
3/4″	50	90185A581	8.37
1″	50	90185A583	9.88
1 1/4″	50	90185A589	12.26
1 1/2″	25	90185A587	7.08
2″	25	90185A591	7.11
2 1/2″	25	90185A593	11.15
5/16″-18 (Cont.)			
3″	25	90185A595	11.47
4″	10	90185A598	6.83
3/8″-16—Neck: Wd. 0.39″			
3/4″	50	90185A621	12.13
1″	50	90185A624	11.47
1 1/4″	25	90185A626	7.07
1 1/2″	25	90185A628	6.73
1 3/4″	25	90185A630	7.94
2″	25	90185A632	9.19
2 1/4″	25	90185A633	12.73
2 1/2″	25	90185A634	10.55
3″	25	90185A636	12.84
3 1/2″	10	90185A638	5.71
4″	10	90185A640	6.38
1/2″-13—Neck: Wd. 0.52″			
1″	10	90185A708	5.47
1 1/4″	10	90185A712	5.73
1 1/2″	10	90185A716	5.79
1 3/4″	10	90185A718	7.82
2″	10	90185A720	7.09
2 1/2″	10	90185A722	8.40
3″	10	90185A724	10.58
3 1/2″	10	90185A726	10.78
4″	10	90185A728	12.39
4 1/2″	10	90185A732	13.02
5″	5	90185A736	7.48
6″	5	90185A740	8.38
5/8″-11—Neck: Wd. 0.64″			
2″	10	90185A810	11.93
2 1/2″	5	90185A814	6.97
3″	5	90185A818	6.50
3 1/2″	5	90185A822	8.28
4″	5	90185A826	9.36
4 1/2″	5	90185A830	8.33
5″	5	90185A834	9.55
6″	5	90185A838	10.73
3/4″-10—Neck: Wd. 0.77″			
3″	5	90185A875	12.02
4″	5	90185A879	12.50
5″	1	90185A883	2.60
6″	1	90185A887	3.03

★ May be partially threaded.

(Continued on following page)

Carriage Bolts *(Continued from previous page)*

Square Neck

Choose a Thread Size	Choose a Bolt Length	
Zinc-Plated Low-Strength Steel (Grade 2)		
10-24, 1/4"-20, 5/16"-18, 3/8"-16, 7/16"-14, 1/2"-13, 5/8"-11, 3/4"-10	1/2", 3/4", 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/4", 2 1/2", 2 3/4", 3", 3 1/4", 3 1/2", 3 3/4", 4", 4 1/2", 5", 5 1/2", 6", 6 1/2", 7", 7 1/2", 8", 8 1/2", 9", 10", 12"	93548A951
Hot-Dipped Galvanized Low-Strength Steel (Grade 2)		
1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10	3/4", 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/4", 2 1/2", 3", 3 1/2", 4", 4 1/2", 5", 5 1/2", 6", 6 1/2", 7", 8", 9", 10", 12", 14", 16"	93604A210
Bronze		
1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13	1", 1 1/2", 1 3/4", 2", 2 1/2", 3"	94050A510

Ribbed Neck

Choose a Thread Size	Choose a Bolt Length	
Zinc-Plated Medium-Strength Steel (Grade 5)		
1/4"-20, 5/16"-18, 3/8"-16	3/4", 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/2", 3"	98060A555
Zinc-Plated Low-Strength Steel (Grade 2)		
1/4"-20, 5/16"-18, 3/8"-16	3/4", 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/2", 3"	98060A910

Metric Square Neck

Choose a Thread Size	Choose a Bolt Length	
Zinc-Plated Medium-Strength Steel (Class 8.8)		
M6, M8, M10, M12	12, 16, 20, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90 mm	98930A444

Plow Bolts

Used on heavy equipment, these bolts are angled under the head to sit within countersunk holes. They conform to SAE J429 and have a Class 2A thread fit. Bolts have a smooth head and are partially threaded, unless noted. Length is measured from the top of the head.

No. 3 Square Neck with Flat Head— Bolts are zinc-plated Grade 5 medium-strength steel. The top of the head is marked with three radial lines to indicate Grade 5. Minimum tensile strength is 120,000 psi. Minimum Rockwell hardness is C25. Dimensions meet ASME B18.9.

No. 3 Square Neck with Dome Head— Bolts are zinc-plated Grade 8 high-strength steel. The top of the head is marked with six radial lines to indicate Grade 8. Minimum tensile strength is 150,000 psi. Minimum Rockwell hardness is C33.

No. 7 Key-Locking Neck with Flat Head— Also known as reverse-key plow screws and bucket-tooth bolts, these bolts have a single integral locking key that holds the bolt still as you tighten the nut. They're made from Grade 8 high-strength steel and the top of the head is marked with six radial lines to indicate Grade 8. Minimum tensile strength is 150,000 psi. Minimum Rockwell hardness is C33.

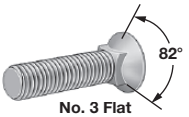

No. 3 Flat Head



No. 3 Dome Head

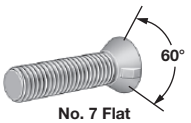

No. 7 Flat Head

Lg.	Pkg. Qty.		Pkg.	Lg.	Pkg. Qty.		Pkg.
No. 3 Square Neck with Flat Head							
3/8"-16				**1/2"-13**			
1"	50	90911A624♣	$14.79	1 1/2"	10	90911A716♣	$6.80
2"	25	90911A632♣	9.80	1 3/4"	10	90911A718♣	6.91
2 1/4"	25	90911A633♣	13.37	2"	10	90911A720♣	7.99
2 3/4"	10	90911A635	6.99	2 1/2"	10	90911A722♣	9.85
3"	10	90911A637	7.04	3"	10	90911A724♣	12.37
7/16"-14				4"	10	90911A732♣	11.90
1 1/2"	25	90911A673♣	12.35				
2"	10	90911A677♣	6.56				
No. 3 Square Neck with Dome Head							
5/8"-11				**3/4"-10**			
1 1/2"	10	90934A778♣	12.83	2"	5	90934A841♣	9.49
2"	10	90934A802♣	12.18	2 1/2"	5	90934A845♣	10.50
2 1/4"	10	90934A803♣	12.00	2 3/4"	5	90934A846	12.87
2 1/2"	5	90934A804	7.43	3"	5	90934A847	12.02
3"	5	90934A806	7.52	3 1/2"	5	90934A849	13.56
3 1/2"	5	90934A808	11.32	4"	1	90934A853	3.71
No. 7 Key-Locking Neck with Flat Head							
5/8"-11				**3/4"-10**			
2"	1	91589A802♣	7.63	3"	1	91589A847	7.26
2 1/2"	1	91589A804	6.30	3 1/2"	1	91589A849	7.54
3"	1	91589A806	5.76	4"	1	91589A851	8.11
3 1/2"	1	91589A808	5.99	4 1/2"	1	91589A853	8.48
4"	1	91589A810	6.82	5"	1	91589A855	9.59
5"	1	91589A814	7.16	6"	1	91589A859	12.45

♣ Fully threaded.

Elevator Bolts

Nearly flush when installed, these low-profile bolts are used in tight spaces with moving parts, such as grain elevators and other belting systems. Bolts have a smooth head and are fully threaded, except fanged versions have an unthreaded shoulder. Length is measured from the top of the head. They have a minimum tensile strength of 74,000 psi and a minimum Rockwell hardness of B80. Inch sizes have a class 2A thread fit. Metric sizes have a Class 6g thread fit.

Square Neck— Bolts resist spinning when you tighten the nut. They're fully threaded.

Fanged— Sharp teeth hold tight so the bolts can't spin. They have an unthreaded shoulder.

Ribbed with Slotted Drive— Use with a heavy washer for a tight, vibration-free fit. Bolts are fully threaded. For 18-8 stainless steel washers, see 93852A on pages 3249-3250. For steel washers, see 90108A on page 3250.


Square Neck


Fanged


Ribbed

Lg.	Pkg. Qty.		Pkg.	Lg.	Pkg. Qty.		Pkg.
Square Neck—18-8 Stainless Steel							
1/4"-20				**5/16"-18** (Cont.)			
3/4"	5	92361A450	$12.98	1 1/2"	1	92361A467	$4.80
1"	5	92361A452	13.11	1 3/4"	1	92361A469	4.72
1 1/4"	5	92361A454	13.51	2"	1	92361A471	5.15
1 1/2"	5	92361A455	14.34	**3/8"-16**			
5/16"-18				1 1/4"	1	92361A426	7.23
1"	1	92361A463	4.71	1 1/2"	1	92361A428	7.72
1 1/4"	1	92361A465	4.76	2"	1	92361A435	8.82
Square Neck—Zinc-Plated Steel							
1/4"-20				**5/16"-18** (Cont.)			
3/4"	25	92670A740	7.37	1 1/2"	25	92670A787	9.84
1"	25	92670A742	7.61	1 3/4"	25	92670A789	10.29
1 1/4"	25	92670A744	7.87	2"	25	92670A791	10.71
1 1/2"	25	92670A746	8.13	2 1/4"	25	92670A792	14.03
1 3/4"	25	92670A748	10.61	2 1/2"	25	92670A793	15.08
2"	25	92670A750	11.74	2 3/4"	10	92670A637	7.24
2 1/4"	25	92670A751	12.53	3"	10	92670A838	7.58
2 1/2"	25	92670A752	13.08	**3/8"-16**			
2 3/4"	10	92670A635	6.42	1 1/4"	10	92670A826	8.50
3"	10	92670A836	6.71	1 1/2"	10	92670A828	9.11
5/16"-18				1 3/4"	10	92670A630	8.18
3/4"	25	92670A781	8.53	2"	10	92670A632	10.18
1"	25	92670A783	8.95	2 1/2"	10	92670A834	11.50
1 1/4"	25	92670A785	9.42	3"	10	92670A840	13.32

Fanged— Zinc-Plated Steel

Choose a Thread Size	Choose a Bolt Length	
1/4"-20, 5/16"-18, 3/8"-16	3/4", 1", 1 1/4", 1 1/2", 1 3/4", 2"	92221A230

Ribbed with Slotted Drive— Zinc-Plated Steel

Choose a Thread Size	Choose a Bolt Length	
1/4"-20, 5/16"-18	3/4", 1", 1 1/4", 1 1/2"	91488A210

Metric Square Neck— Zinc-Plated Steel

Choose a Thread Size	Choose a Bolt Length	
M6, M8, M10	20, 25, 30, 35, 40, 45, 50 mm	93226A100

Metric Fanged— Zinc-Plated Steel

Choose a Thread Size	Choose a Bolt Length	
M6, M8, M10	20, 25, 30, 35, 40, 45, 50 mm	92963A200

T-Slot Bolts



The bolt head is designed to fit into the T-slot in your machine tool table. Length is measured from under the head.

Machined Neck—*Medium-strength steel* bolts are uncoated and have a minimum tensile strength of 100,000 psi, a minimum Rockwell hardness of C18, and a Class 3A thread fit. *High-strength steel* bolts have a black-oxide finish, a minimum tensile strength of 140,000 psi, a minimum Rockwell hardness of C32, and a Class 2A thread fit. *Metric high-strength steel* bolts are black Class 10.9 steel (which is comparable to Grade 8 steel) and meet DIN 787. They have a minimum tensile strength of 150,000 psi, a minimum Rockwell hardness of C32, and a Class 6g thread fit.

Round Neck—Also known as tugger bolts, they have a black-oxide finish and a Class 2A thread fit. *Medium-strength steel* bolts have a minimum tensile strength of 120,000 psi and a minimum Rockwell hardness of C25. *High-strength steel* bolts have a minimum tensile strength of 140,000 psi and a minimum Rockwell hardness of C32.

Machined Neck—Medium-Strength Steel

Lg.	Thread Lg.		Each
3/8"-16—Fits 3/8" T-Slot Wd.			
1"	3/4"	91523A624	$4.00
1 1/4"	7/8"	91523A626	4.05
1 1/2"	1 1/8"	91523A628	4.09
1 3/4"	1 1/2"	91523A630	4.14
2"	1 1/2"	91523A632	4.21
2 1/4"	1 1/2"	91523A633	4.26
2 1/2"	1 1/2"	91523A634	4.32
3"	1 1/2"	91523A636	4.41
1/2"-13—Fits 1/2" T-Slot Wd.			
1 1/4"	3/4"	91523A714	4.79
1 1/2"	1"	91523A716	4.86
1 3/4"	1 1/4"	91523A718	4.92
2"	1 1/2"	91523A720	5.00
2 1/4"	1 1/2"	91523A721	5.07
1/2"-13 (Cont.)			
2 1/2"	1 1/2"	91523A722	$5.14
2 3/4"	1 1/2"	91523A723	5.20
3"	1 1/2"	91523A724	5.28
3 1/2"	1 3/4"	91523A726	5.42
4"	1 3/4"	91523A728	5.56
4 1/2"	1 3/4"	91523A730	5.70
5"	1 3/4"	91523A732	5.84
6"	2"	91523A736	6.12
5/8"-11—Fits 5/8" T-Slot Wd.			
2"	1 1/2"	91523A802	5.73
2 1/4"	1 1/2"	91523A803	5.82
2 1/2"	1 1/2"	91523A804	5.89
2 3/4"	1 1/2"	91523A805	6.00
3"	1 1/2"	91523A806	6.09
5/8"-11 (Cont.)			
3 1/2"	1 3/4"	91523A808	$6.25
4"	1 3/4"	91523A810	6.43
4 1/2"	1 3/4"	91523A812	6.60
5"	1 3/4"	91523A814	6.78
6"	2"	91523A818	7.32
8"	2 1/2"	91523A822	8.19
3/4"-10—Fits 3/4" T-Slot Wd.			
3"	1 1/2"	91523A847	8.32
4"	1 3/4"	91523A851	8.85
4 1/2"	1 3/4"	91523A853	9.12
5"	1 3/4"	91523A855	9.38
6"	2"	91523A859	9.99
7"	2"	91523A861	9.35
3/4"-10 (Cont.)			
8"	2 1/2"	91523A863	$9.88
10"	2 1/2"	91523A866	11.44
3/4"-10—Fits 7/8" T-Slot Wd.			
4"	1 3/4"	91523A888	13.87
5"	1 3/4"	91523A892	14.48
6"	2"	91523A896	15.11
7/8"-9—Fits 7/8" T-Slot Wd.			
4"	1 3/4"	91523A940	14.01
5"	1 3/4"	91523A942	14.72
6"	2"	91523A944	15.43
7/8"-9—Fits 1" T-Slot Wd.			
4"	1 3/4"	91523A920	18.23
5"	1 3/4"	91523A924	19.32

Machined Neck—High-Strength Steel

Choose a Thread Size	Choose a Bolt Length	
1/2"-13, 5/8"-11, 3/4"-10, 1"-8	1 1/4", 1 1/2", 1 3/4", 2", 2 1/2", 2 3/4", 3", 3 1/2", 4", 4 1/2", 5", 6", 7", 8", 10"	92640A111
M6, M8, M10, M12	25, 32, 40, 50, 63, 80 mm	92770A211

Round Neck—Medium-Strength Steel

Choose a Thread Size	Choose a Bolt Length	
3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10	1 1/2", 2", 2 1/2", 3", 3 1/2", 4", 5", 6", 7"	90109A600

Round Neck—High-Strength Steel

Choose a Thread Size	Choose a Bolt Length	
3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10	1 1/2", 2", 2 1/2", 3", 3 1/2", 4", 5", 6", 8"	91622A555

T-Slot Cleaner



Scrape debris out of T-slots. Cleaner is steel with a black-oxide finish. It is 6" long.

95379A214 ..... $2.57

T-Handle Bolts



A large T-handle provides a secure grip for steady tightening. These bolts are often called hold-down bolts, tank-strap bolts, and clamping pins. All have a Class 2A thread fit.

Without Collar—Commonly used with a band clamp or a tank strap to hold objects in place. These bolts have a minimum tensile strength of 120,000 psi and a minimum Rockwell hardness of C25.

With Collar—These bolts have a collar that slides along the shaft and can be welded in place to prevent over torquing. They have a black-oxide finish, a minimum tensile strength of 78,000 psi and a minimum Rockwell hardness of C45.

Without Collar—Medium-Strength Steel

Thread Size	Overall Lg.		Each
3/8"-16	3 11/16"	91285A121	$8.68
1/2"-13	3 3/4"	91285A123	7.64
1/2"-20	3 3/4"	91285A124	9.15

With Collar—Low-Strength Steel

Choose a Thread Size	Choose a Bolt Length	
10-24, 1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10	3 1/4", 4 3/8", 4 7/16", 5", 5 5/8", 6 3/8", 6 7/8", 7 5/8"	91660A210

Hold-Down Bolts

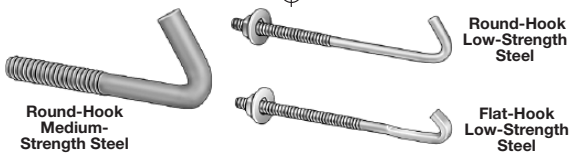

Often used to hold batteries and sieve-shaker screens in place, the hook on these bolts grabs as the other end is tightened with a nut. All have a Class 2A thread fit.

Round-Hook Medium-Strength Steel—The steel is comparable to Grade 5 and meets SAE J429. Bolts have a minimum tensile strength of 120,000 psi and a minimum Rockwell hardness of C25.

Round- and Flat-Hook Low-Strength Steel—Bolts are zinc plated and come with a nut and washer. They have a minimum tensile strength of 60,000 psi and a minimum Rockwell hardness of B70.

Round Hook—Medium-Strength Steel

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/2"-13				
4"	2"	1	91592A185	$2.94
4 1/2"	2"	1	91592A190	3.15
5"	3"	1	91592A195	3.17
6"	3"	1	91592A200	3.21
7"	3"	1	91592A205	3.45
5/8"-11				
5"	3"	1	91592A295	4.66
6"	3"	1	91592A300	4.81
5/8"-11 (Cont.)				
7"	3"	1	91592A305	$5.46
8"	3"	1	91592A310	5.20

Round Hook—Low-Strength Steel

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4"-20				
5"	2 1/4"	2	98760A109	8.14
9 1/4"	2 3/4"	2	98760A111	10.86
5/16"-18				
6 3/4"	2 1/4"	2	98760A110	11.16
10 5/16"	8"	2	98760A112	11.61

Flat Hook—Low-Strength Steel

Lg.	Thread Lg.	Pkg. Qty.		Pkg.
1/4"-20				
4 3/4"	2 3/4"	2	98760A120	$9.27
9"	2 3/4"	2	98760A121	11.55
5/16"-18				
5 7/8"	2 9/16"	1	98760A118	11.64
10 5/16"	2 3/4"	2	98760A122	12.97
3/8"-16				
10"	2 3/4"	1	98760A123	10.95

Anchor Bolts

Designed for structural anchoring, these bolts are used to attach objects to concrete. All have a Class 2A thread fit and are not rated for hardness.

Uncoated Steel—Material meets ASTM A36. Bolts have a minimum tensile strength of 58,000 psi.

Hot-Dipped Galvanized Steel—Material meets ASTM A36. Bolts are thickly coated with zinc for excellent protection from rust and weather. Minimum tensile strength is 58,000 psi.

18-8 Stainless Steel—These bolts have superior corrosion resistance. Minimum tensile strength is 80,000 psi.

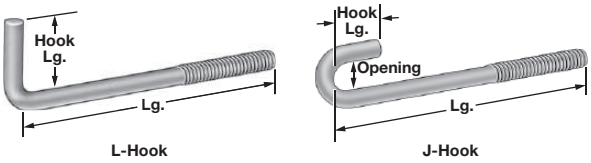

	L-Hook						*J-Hook*					
	Uncoated Steel		Hot-Dipped Galvanized Steel		18-8 Stainless Steel		Uncoated Steel		Hot-Dipped Galvanized Steel		18-8 Stainless Steel	
Lg.		Each		Each		Each		Each		Each		Each
3/8″-16—Thread Lg.: 2 1/2″-3″, L-Hook Lg.: 2″, J-Hook Opening: 1/2″, J-Hook Lg.: 1″												
8″	91587A110	$2.46	91603A100	$3.43	91615A110	$6.16	91588A111	$2.96	91604A111	$4.68	91521A110	$6.48
10″	91587A120	2.71	91603A110	3.64	91615A120	7.10	91588A121	3.27	91604A121	4.88	91521A115	7.34
12″	91587A130	2.93	91603A120	3.82	91615A130	7.99	91588A130	3.52	91604A130	5.12	91521A120	8.29
14″	91587A140	3.06	91603A130	4.03	91615A140	8.88	91588A140	3.65	91604A140	5.44	91521A125	9.18
1/2″-13—Thread Lg.: 2 1/2″-3″, L-Hook Lg.: 2″, J-Hook Opening: 5/8″, J-Hook Lg.: 1 1/4″												
8″	91587A210	3.24	91603A150	4.58	91615A210	9.61	91588A210	3.91	91604A210	5.56	91521A150	9.93
10″	91587A220	3.54	91603A155	5.05	91615A220	10.92	91588A220	4.29	91604A220	6.26	91521A155	11.25
12″	91587A230	3.78	91603A160	5.43	91615A230	12.77	91588A230	4.52	91604A230	6.84	91521A160	12.50
16″	91587A245	4.29	91603A165	6.33	91615A240	17.51	91588A245	5.22	91604A245	7.92	91521A165	13.47
18″	91587A250	4.63	91603A170	7.13	91615A250	19.80	91588A250	5.60	91604A250	8.56	91521A170	14.96
5/8″-11—Thread Lg.: 2 1/2″-3″, L-Hook Lg.: 2″, J-Hook Opening: 3/4″, J-Hook Lg.: 1 1/4″												
8″	91587A310	4.06	91603A250	6.02	91615A310	14.47	91588A310	4.91	91604A310	6.95	91521A205	15.00
10″	91587A320	4.37	91603A255	6.58	91615A320	16.84	91588A320	5.33	91604A320	7.80	91521A210	17.43
12″	91587A330	4.70	91603A260	7.07	91615A330	19.22	91588A330	5.71	91604A330	8.48	91521A215	19.74
18″	91587A350	6.07	91603A265	8.96	91615A350	26.45	91588A350	7.36	91604A340	11.12	_____	_____
3/4″-10—Thread Lg.: 3″-3 1/2″, L-Hook Lg.: 2 3/4″, J-Hook Opening: 1 1/8″, J-Hook Lg.: 1 1/2″												
8″	91587A410	5.15	91603A300	7.04	91615A410	23.22	91588A411	6.86	91604A411	7.36	91521A260	23.95
10″	91587A420	5.60	91603A305	7.32	91615A420	26.58	91588A420	7.44	91604A420	8.89	91521A305	27.30
12″	91587A430	6.67	91603A310	8.46	91615A430	30.10	91588A430	8.09	91604A430	10.42	91521A310	30.92
14″	91587A440	7.07	91603A315	8.91	91615A440	33.55	91588A440	8.58	91604A435	12.13	91521A315	34.28
18″	91587A450	8.43	91603A320	10.61	91615A450	39.74	91588A450	10.19	91604A450	15.18	91521A320	41.25
24″	91587A460	10.60	91603A325	14.42	91615A460	51.38	91588A460	12.87	91604A495	16.84	91521A325	52.43
1″-8—Thread Lg.: 4″-5″, L-Hook Lg.: 3 3/4″, J-Hook Opening: 2 1/8″, J-Hook Lg.: 3 1/4″												
10″	91587A620	12.07	_____	_____	91615A520	46.69	91588A620	9.07	91604A511	13.47	91521A405	40.13
12″	91587A630	13.20	91603A410	14.87	91615A530	52.14	91588A630	10.32	91604A513	12.79	91521A410	44.78
18″	91587A650	15.67	91603A430	20.25	91615A550	68.57	91588A650	12.23	91604A519	16.48	91521A420	60.56
24″	91587A660	17.30	91603A440	22.31	91615A560	74.00	91588A660	13.68	91604A522	17.88	91521A425	66.44

Hanger Bolts

Commonly used for wire guiding, hanging pipes and fixtures, and other tie-wire applications, hanger bolts have a flat end with a hole. They're made of zinc-plated or zinc yellow-chromate plated steel.

Toggle Bolt Hangers—A popular choice for overhead applications. **Toggle bolt hangers with spring** are easy to install because the spring holds the washer and toggle against opposite sides of the wall, so everything's in position before you begin tightening. Once tightened, the spring adds vibration resistance. They're not rated for hardness. **Toggle bolt hangers without spring** have a minimum Rockwell hardness of B68.

Eye Nut Hangers—Also known as eye couplings and tie-wire nuts, use these eye nut hangers on threaded rods, bolts, and anchors. Minimum Rockwell hardness is B68.

Wedge Anchor Hangers—Use in concrete and other solid materials. Hangers are not rated for hardness.

Machine Screw Hangers—Also known as spade bolts, you can use these versatile hangers in a threaded hole (as you would a screw), or secure them with a nut (as you would a bolt). Minimum Rockwell hardness is B68. All meet ASTM A307.

Drilling Screw Hangers—Use in up to 12-ga. steel. Install with the driver tool (sold separately). Driver tool has a 1/4″ hex shank. Hangers are not rated for hardness.

Wood Screw Hangers—Drive these into wood with an adjustable wrench, pliers, or the driver tool (sold separately). Driver tool has a 1/4″ hex shank. Hangers are not rated for hardness. 5/16″ thread size has a collar at the top of the threads.

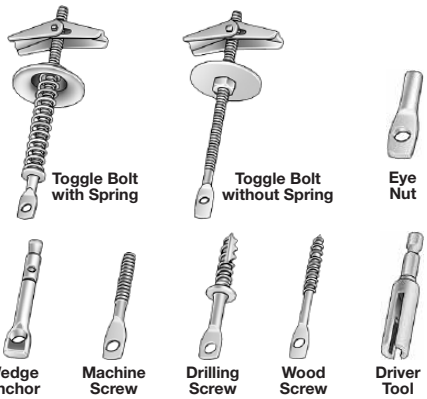

Toggle Bolt Hangers

Shank Dia.	Drill Dia.	O'all Lg.	Max. Usable Lg.	Thread Lg.	Hole Dia.	Pkg. Qty.		Pkg.
With Spring								
1/4″	3/4″	5″	2 1/4″	4″	1/4″	5	91705A352	$10.30
Without Spring								
1/4″	5/8″	4″	1 5/8″	2 7/8″	1/4″	5	91705A200	5.34
1/4″	5/8″	5″	2 1/2″	2 7/8″	1/4″	5	91705A300	6.47

Eye Nut Hangers

Internal Thread Size	O'all Lg.	Hole Dia.	Pkg. Qty.		Pkg.
1/4″-20	1 1/2″	1/4″	10	91705A500	$5.27
3/8″-16	2″	3/8″	10	91705A600	8.38

Wedge Anchor Hangers

Shank Dia.	Drill Dia.	O'all Lg.	Min. Embed. Depth	Hole Dia.	Pkg. Qty.		Pkg.
1/4″	1/4″	2 1/4″	1 1/2″	1/4″	10	91705A400	$6.25

Screw Style Hangers

Thread Size	O'all Lg.	Thread Lg.	Hole Dia.	Pkg. Qty.		Pkg.
Machine Screw						
1/4″-20	2″	7/8″	7/32″	10	90172A542	$13.55
1/4″-20	3″	1 7/8″	7/32″	10	90172A545	14.17
3/8″-16	2 1/4″	7/8″	9/32″	10	90172A633	14.31
3/8″-16	4 1/4″	2 7/8″	9/32″	5	90172A639	9.66
1/2″-13	3 7/16″	2″	11/32″	5	90172A724	12.18
1/2″-13	4 7/16″	3″	11/32″	5	90172A729	12.14
Drilling Screw						
1/4″	2″	3/4″	7/32″	25	90171A700	13.59
Wood Screw						
1/4″	3″	1 1/2″	1/4″	50	90171A554	8.76
1/4″	4″	1 1/2″	1/4″	25	90171A558	7.88
1/4″	5″	1 1/2″	1/4″	25	90171A562	12.20
5/16″	3 1/2″	1 3/4″	1/4″	25	90171A597	17.56

Driver Tools for Drilling and Wood Screw Hangers

For Screws with 1/4″ Thread Size	5977A42	4.80
For Screws with 5/16″ Thread Size	5977A43	5.73

About Threaded Studs and Rods

Fully Threaded

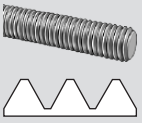

Threaded studs and rods (pages 3182-3198) with standard V-shaped threads are often used to anchor structural elements to surfaces, mount wheels and pulleys, and support fixtures in hanging systems. They can also be used as an alternative to a bolt.

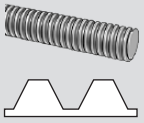

Acme threaded studs and rods (pages 3202-3204) have threads that are broader, stronger, and more square than standard threads. Commonly found in vises and screw jacks, they carry heavy loads and are a good choice for applications that require fast threading.

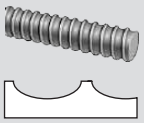

Coil-threaded rods (page 3198) have shallow threads that are spaced far apart for fast threading in applications that require quick assembly and disassembly. Often used in concrete forms, their thread design minimizes the accumulation of debris.

Partially Threaded



Adjusting and positioning studs (pages 3198-3200) have an unthreaded area in the middle that you can grip with a wrench.



Thread-adapting studs (page 3200) allow you to connect parts with different threads, such as coarse- to fine-threads, right-hand to left-hand threads, and wood screw to machine screw threads.



One-end-threaded studs (page 3200) have an unthreaded end that can be used as a pivot point, hinge, shaft, or locator pin.

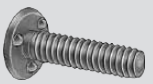

Weld, perforated-base, and press-in studs (pages 3201-3202) allow you to permanently attach a stud to a flat surface.

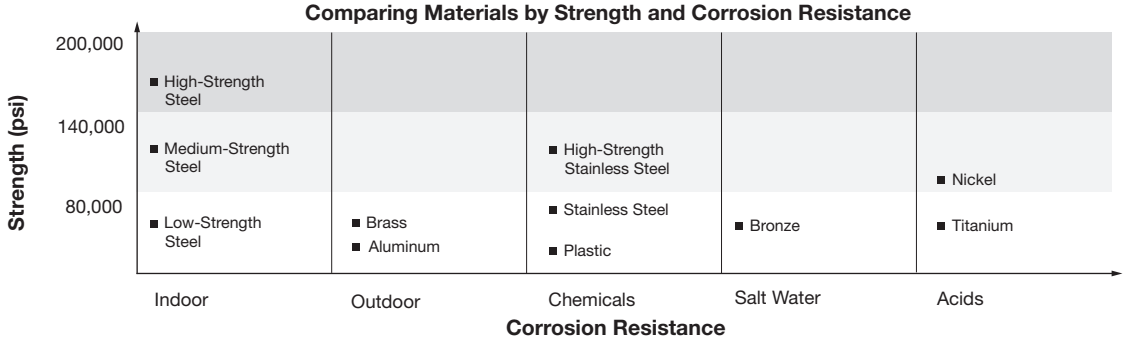

High-Strength Steel Threaded Studs and Rods—Grade 8



With a minimum tensile strength of 150,000 psi, these uncoated studs and rods are 20% stronger than medium-strength Grade B7 steel. They have a minimum Rockwell hardness of C33. All have a Class 2A thread fit. 3/8″-16 and larger sizes meet ASTM A354BD.

Lg.		Each
8-32		
1/2″	90322A621	$0.52
3/4″	90322A622	.61
1″	90322A623	.71
1 1/2″	90322A624	.80
2″	90322A625	.93
3″	90322A626	1.21
4″	90322A627	1.54
6″	90322A628	2.02
10-24		
1/2″	90322A629	.59
3/4″	90322A630	.69
1″	90322A631	.81
1 1/2″	90322A632	.91
2″	90322A633	1.06
3″	90322A634	1.37
4″	90322A635	1.76
6″	90322A636	2.30
10-32		
1/2″	90322A637	.61
3/4″	90322A638	.72
1″	90322A639	.85
1 1/2″	90322A640	.95
2″	90322A641	1.10
3″	90322A642	1.44
4″	90322A643	1.85
6″	90322A644	2.42
1/4″-20		
1″	90322A645	3.00
1 1/4″	90322A646	3.13
1 1/2″	90322A647	3.28
2″	90322A648	3.60
2 1/2″	90322A649	4.05

Lg.		Each
1/4″-20 (Cont.)		
3″	90322A650	$4.78
3 1/2″	90322A651	5.05
4″	90322A652	5.30
5″	90322A653	5.53
6″	90322A654	5.90
8″	90322A655	6.18
1 ft.	90322A656	6.58
2 ft.	90322A657	6.93
3 ft.	90322A658	8.34
6 ft.	90322A659	14.27
1/4″-28		
1″	90322A660	3.60
1 1/2″	90322A661	3.78
2″	90322A662	4.15
3″	90322A663	5.50
4″	90322A664	6.03
1 ft.	90322A665	7.55
2 ft.	90322A666	7.95
3 ft.	90322A667	9.57
6 ft.	90322A668	17.27
5/16″-18		
1″	90322A669	3.70
1 1/4″	90322A670	3.93
1 1/2″	90322A671	4.13
2″	90322A672	4.58
2 1/2″	90322A673	5.08
3″	90322A674	5.65
3 1/2″	90322A675	5.95
4″	90322A676	6.30
5″	90322A677	6.70
6″	90322A678	7.00
8″	90322A679	7.25

Lg.		Each
5/16″-18 (Cont.)		
1 ft.	90322A680	$7.78
2 ft.	90322A681	8.20
3 ft.	90322A682	9.86
6 ft.	90322A683	16.22
5/16″-24		
1″	90322A684	4.25
1 1/2″	90322A685	4.73
2″	90322A686	5.25
3″	90322A687	6.50
4″	90322A688	7.23
1 ft.	90322A689	8.93
2 ft.	90322A690	9.40
3 ft.	90322A691	11.31
6 ft.	90322A692	19.82
3/8″-16		
1″	90322A111	2.50
1 1/4″	90322A112	2.57
1 1/2″	90322A113	2.63
2″	90322A114	2.73
2 1/2″	90322A115	2.87
3″	90322A116	2.97
3 1/2″	90322A117	3.07
4″	90322A118	3.17
5″	90322A119	3.37
6″	90322A120	3.60
8″	90322A121	3.65
1 ft.	90322A122	3.33
2 ft.	90322A123	5.81
3 ft.	90322A100	7.17
4 ft.	90322A124	8.97
5 ft.	90322A125	12.02
6 ft.	90322A105	13.78

Lg.		Each
3/8″-16 (Cont.)		
8 ft.	90322A126	$19.55
12 ft.	90322A110	29.03
3/8″-24		
1″	90322A127	2.93
1 1/2″	90322A128	3.10
2″	90322A129	3.27
3″	90322A130	3.63
4″	90322A131	4.00
1 ft.	90322A132	5.00
2 ft.	90322A133	7.67
3 ft.	90322A134	8.60
6 ft.	90322A135	16.60
7/16″-14		
1 ft.	90322A136	5.50
2 ft.	90322A137	9.35
3 ft.	90322A138	11.52
6 ft.	90322A139	19.80
7/16″-20		
1 ft.	90322A140	6.65
2 ft.	90322A141	10.18
3 ft.	90322A142	14.96
6 ft.	90322A143	25.38
1/2″-13		
1″	90322A144	2.70
1 1/4″	90322A145	2.79
1 1/2″	90322A146	2.88
2″	90322A147	3.09
2 1/2″	90322A148	3.27
3″	90322A149	3.45
3 1/2″	90322A150	3.58
4″	90322A151	3.88
5″	90322A152	4.06

(Continued on following page)

For information about threaded studs and rods, see page 3182.

High-Strength Steel Threaded Studs and Rods—Grade 8

(Continued from previous page)

Lg.		Each
1/2"-13 (Cont.)		
6"	90322A153	$4.64
8"	90322A154	4.85
1 ft.	90322A155	5.26
2 ft.	90322A156	9.43
3 ft.	90322A215	11.89
4 ft.	90322A157	14.67
5 ft.	90322A158	21.10
6 ft.	90322A220	22.88
8 ft.	90322A159	34.71
12 ft.	90322A225	48.02
1/2"-20		
1"	90322A160	3.09
1 1/2"	90322A161	3.57
2"	90322A162	3.80
3"	90322A163	4.30
4"	90322A164	4.87
1 ft.	90322A165	6.00
2 ft.	90322A166	11.33
3 ft.	90322A167	14.30
6 ft.	90322A168	27.40
5/8"-11		
2"	90322A169	3.10
2 1/2"	90322A170	3.40
3"	90322A171	3.68
3 1/2"	90322A172	3.93
4"	90322A173	4.38
6"	90322A174	5.45
8"	90322A175	5.67
1 ft.	90322A176	6.11
2 ft.	90322A177	11.08
3 ft.	90322A330	13.43
4 ft.	90322A178	19.46
5 ft.	90322A179	22.63
6 ft.	90322A335	25.80
8 ft.	90322A180	46.98
12 ft.	90322A340	53.90
5/8"-18		
4"	90322A181	4.84
6"	90322A182	6.08
1 ft.	90322A183	7.43
5/8"-18 (Cont.)		
2 ft.	90322A184	$14.32
3 ft.	90322A185	19.38
6 ft.	90322A186	37.14
3/4"-10		
3"	90322A187	4.32
3 1/2"	90322A188	4.58
4"	90322A189	4.87
6"	90322A190	5.84
8"	90322A191	6.36
1 ft.	90322A192	6.79
2 ft.	90322A193	13.10
3 ft.	90322A450	18.75
4 ft.	90322A194	25.00
5 ft.	90322A195	32.06
6 ft.	90322A455	36.00
8 ft.	90322A196	52.50
12 ft.	90322A460	75.39
3/4"-16		
4"	90322A197	5.75
6"	90322A198	7.53
1 ft.	90322A199	9.50
2 ft.	90322A200	16.44
3 ft.	90322A201	22.27
6 ft.	90322A202	42.67
7/8"-9		
4"	90322A203	5.54
6"	90322A204	6.56
1 ft.	90322A205	9.00
2 ft.	90322A206	15.56
3 ft.	90322A570	24.16
4 ft.	90322A207	30.95
5 ft.	90322A208	39.00
6 ft.	90322A575	46.20
8 ft.	90322A209	82.40
12 ft.	90322A580	96.87
7/8"-14		
4"	90322A210	7.13
6"	90322A211	9.13
1 ft.	90322A212	11.88
2 ft.	90322A213	22.68
7/8"-14 (Cont.)		
3 ft.	90322A214	$32.18
6 ft.	90322A216	61.65
1"-8		
4"	90322A217	6.40
6"	90322A218	7.69
8"	90322A219	8.79
1 ft.	90322A221	11.63
2 ft.	90322A222	21.67
3 ft.	90322A610	32.11
4 ft.	90322A223	40.95
5 ft.	90322A224	51.30
6 ft.	90322A615	61.50
8 ft.	90322A226	99.20
12 ft.	90322A620	129.24
1"-14		
4"	90322A227	8.17
6"	90322A228	10.62
1 ft.	90322A229	16.00
2 ft.	90322A230	30.75
3 ft.	90322A231	43.88
6 ft.	90322A332	82.40
1 1/8"-7		
3 ft.	90322A730	42.82
6 ft.	90322A735	81.90
12 ft.	90322A740	172.32
1 1/8"-12		
3 ft.	90322A233	49.63
6 ft.	90322A234	87.36
1 1/4"-7		
1 ft.	90322A235	18.29
2 ft.	90322A236	32.89
3 ft.	90322A850	53.48
6 ft.	90322A855	102.30
12 ft.	90322A860	215.40
1 1/4"-12		
3 ft.	90322A237	63.40
6 ft.	90322A238	121.20
1 3/8"-6		
3 ft.	90322A239	64.15
6 ft.	90322A240	122.88
1 3/8"-12		
3 ft.	90322A241	$80.64
6 ft.	90322A242	163.65
1 1/2"-6		
1 ft.	90322A243	38.33
2 ft.	90322A244	70.69
3 ft.	90322A970	110.89
6 ft.	90322A975	212.22
12 ft.	90322A980	445.51
1 1/2"-12		
3 ft.	90322A245	126.48
6 ft.	90322A246	238.69
1 5/8"-5 1/2		
3 ft.	90322A693	78.88
6 ft.	90322A694	172.31
1 5/8"-12		
3 ft.	90322A695	83.22
6 ft.	90322A696	183.08
1 3/4"-5		
1 ft.	90322A697	73.13
2 ft.	90322A698	82.66
3 ft.	90322A699	87.19
6 ft.	90322A700	196.92
1 3/4"-12		
3 ft.	90322A701	93.53
6 ft.	90322A702	207.69
1 7/8"-5		
3 ft.	90322A703	155.83
6 ft.	90322A704	278.46
1 7/8"-12		
3 ft.	90322A705	155.00
6 ft.	90322A706	283.08
2"-4 1/2		
1 ft.	90322A707	101.82
2 ft.	90322A708	166.75
3 ft.	90322A709	225.00
6 ft.	90322A710	366.22
2"-12		
3 ft.	90322A711	249.98
6 ft.	90322A712	430.00

Medium-Strength Steel Threaded Studs and Rods—ASTM A193 Grade B7

Comparable in strength to Grade 5 steel, these studs and rods have a minimum tensile strength of 125,000 psi and a maximum Rockwell hardness of C35. All have a Class 2A thread fit.

Uncoated studs and rods have a dark surface color. **Zinc yellow-chromate plated** studs and rods have better corrosion resistance than black oxide studs and rods and can be used outdoors. **Black oxide** studs and rods have a dark surface color and are mildly corrosion resistant. **Seize-resistant blue PTFE-coated** studs and rods have a coating that lubricates threads to keep nuts from sticking and provides corrosion resistance in harsh environments.



Lg.		Each
Uncoated		
1/4"-20		
1"	98750A011	$1.07
1 1/4"	98750A013	1.16
1 1/2"	98750A015	1.20
1 3/4"	98750A017	1.24
2"	98750A019	1.26
2 1/4"	98750A432	1.25
2 1/2"	98750A021	1.34
2 3/4"	98750A433	1.39
3"	98750A023	1.42
3 1/2"	98750A434	1.57
4"	98750A025	1.75
5"	98750A435	1.93
6"	98750A436	2.18
8"	98750A437	2.24
1 ft.	98957A111	2.52
1 1/2 ft.	98957A112	3.16
2 ft.	98957A801	1.80
2 1/2 ft.	98957A113	2.42
3 ft.	98957A633	1.78
4 ft.	98957A114	3.60
5 ft.	98957A115	4.56
6 ft.	98957A733	3.71
8 ft.	98957A116	7.60
12 ft.	98957A029	7.85
1/4"-28		
1"	98750A438	.80
1 1/2"	98750A439	.95
2"	98750A441	1.10
3"	98750A442	1.38
4"	98750A443	1.68
1 ft.	98957A117	3.58
1/4"-28 (Cont.)		
1 1/2 ft.	98957A118	$5.16
2 ft.	98957A119	7.16
2 1/2 ft.	98957A121	3.22
3 ft.	92580A107	3.79
4 ft.	92580A122	5.50
5 ft.	92580A123	7.50
6 ft.	92580A207	7.18
8 ft.	92580A124	10.50
5/16"-18		
1"	98750A035	1.26
1 1/4"	98750A037	1.31
1 1/2"	98750A039	1.31
1 3/4"	98750A444	1.24
2"	98750A041	1.31
2 1/4"	98750A445	1.39
2 1/2"	98750A043	1.44
2 3/4"	98750A446	1.50
3"	98750A045	1.51
3 1/2"	98750A047	1.53
4"	98750A049	1.56
5"	98750A447	1.69
6"	98750A448	1.94
8"	98750A449	2.05
1 ft.	98957A122	2.98
1 1/2 ft.	98957A123	3.76
2 ft.	98957A802	2.05
2 1/2 ft.	98957A124	4.58
3 ft.	98957A634	2.17
4 ft.	98957A125	5.60
5 ft.	98957A126	7.50
6 ft.	98957A734	4.43
5/16"-18 (Cont.)		
8 ft.	98957A127	$13.50
12 ft.	98957A030	9.12
5/16"-24		
1"	98750A451	.83
1 1/2"	98750A452	1.00
2"	98750A453	1.18
3"	98750A454	1.50
4"	98750A455	1.83
1 ft.	98957A128	4.48
1 1/2 ft.	98957A129	5.51
2 ft.	98957A803	4.72
2 1/2 ft.	98957A131	6.58
3 ft.	92580A108	5.15
4 ft.	92580A126	8.80
5 ft.	92580A127	11.50
6 ft.	92580A208	9.82
8 ft.	92580A128	19.11
3/8"-16		
3/4"	98750A052	.91
1"	98750A054	1.36
1 1/4"	98750A056	1.44
1 1/2"	98750A058	1.54
1 3/4"	98750A456	1.44
2"	98750A062	1.53
2 1/4"	98750A063	1.58
2 1/2"	98750A064	1.60
2 3/4"	98750A457	1.80
3"	98750A066	1.69
3 1/2"	98750A068	1.76
4"	98750A070	1.93
5"	98750A075	2.11
3/8"-16 (Cont.)		
5 1/2"	98750A077	$2.16
6"	98750A080	2.28
8"	98750A458	2.63
1 ft.	98957A132	2.56
1 1/2 ft.	98957A133	3.64
2 ft.	98957A804	2.31
2 1/2 ft.	98957A134	3.98
3 ft.	98957A635	3.15
4 ft.	98957A135	5.88
5 ft.	98957A136	7.42
6 ft.	98957A735	6.78
8 ft.	98957A137	11.84
12 ft.	98957A031	14.08
3/8"-24		
1"	98750A459	.85
1 1/2"	98750A461	1.03
2"	98750A462	1.20
3"	98750A463	1.55
4"	98750A464	1.90
1 ft.	98957A138	4.70
1 1/2 ft.	98957A139	5.44
2 ft.	98957A805	4.88
2 1/2 ft.	98957A141	7.73
3 ft.	92580A109	5.12
4 ft.	92580A129	13.60
5 ft.	92580A131	17.63
6 ft.	92580A209	9.95
8 ft.	92580A132	26.70
12 ft.	92580A309	19.81
7/16"-14		
1"	98750A465	.65

(Continued on following page)

Medium-Strength Steel Threaded Studs and Rods—ASTM A193 Grade B7

(Continued from previous page)



Comparable in strength to Grade 5 steel, these studs and rods have a minimum tensile strength of 125,000 psi and a maximum Rockwell hardness of C35. All have a Class 2A thread fit.

Uncoated studs and rods have a dark surface color. **Zinc yellow-chromate plated** studs and rods have better corrosion resistance than black oxide studs and rods and can be used outdoors. **Black oxide** studs and rods have a dark surface color and are mildly corrosion resistant. **Seize-resistant blue PTFE-coated** studs and rods have a coating that lubricates threads to keep nuts from sticking and provides corrosion resistance in harsh environments.

Lg.		Each
Uncoated (Cont.)		
7/16"-14 (Cont.)		
1 1/2"	98750A466	$0.93
2"	98750A467	1.05
3"	98750A468	1.33
4"	98750A469	1.60
1 ft.	98957A142	3.80
1 1/2 ft.	98957A143	4.54
2 ft.	98957A806	3.85
2 1/2 ft.	98957A144	5.80
3 ft.	98957A610	4.46
4 ft.	98957A145	9.02
5 ft.	98957A146	11.84
6 ft.	98957A710	8.47
8 ft.	98957A147	17.60
12 ft.	98957A010	17.64
7/16"-20		
1"	98750A471	.93
1 1/2"	98750A472	1.13
2"	98750A473	1.33
3"	98750A474	1.75
4"	98750A475	2.15
1 ft.	98957A148	6.23
1 1/2 ft.	98957A149	9.06
2 ft.	98957A807	5.70
2 1/2 ft.	98957A151	6.77
3 ft.	92580A110	6.87
4 ft.	92580A133	12.40
5 ft.	92580A134	16.13
6 ft.	92580A210	13.27
8 ft.	92580A135	24.30
1/2"-13		
1"	98750A090	1.07
1 1/4"	98750A093	1.15
1 1/2"	98750A096	1.31
1 3/4"	98750A098	.62
2"	98750A099	.68
2 1/4"	98750A100	.55
2 1/2"	98750A101	.94
2 3/4"	98750A476	1.35
3"	98750A103	1.02
3 1/2"	98750A105	1.06
4"	98750A107	1.18
4 1/2"	98750A108	1.17
5"	98750A109	1.26
5 1/2"	98750A110	1.33
6"	98750A111	1.52
6 1/2"	98750A113	2.40
8"	98750A477	3.43
1 ft.	98957A152	3.09
1 1/2 ft.	98957A153	4.08
2 ft.	98957A808	4.62
2 1/2 ft.	98957A154	4.88
3 ft.	98957A636	5.47
4 ft.	98957A155	7.60
5 ft.	98957A156	10.17
6 ft.	98957A736	10.86
8 ft.	98957A157	14.87
12 ft.	98957A033	22.63
1/2"-20		
1"	98750A478	.95
1 1/2"	98750A479	1.15
2"	98750A481	1.38
3"	98750A482	1.83
4"	98750A483	2.25
1 ft.	98957A158	6.76
1 1/2 ft.	98957A159	7.44
2 ft.	98957A809	7.71
2 1/2 ft.	98957A161	9.62
3 ft.	92580A111	9.12
4 ft.	92580A136	17.00
5 ft.	92580A137	19.78
6 ft.	92580A211	18.24
8 ft.	92580A138	29.78
12 ft.	92580A311	36.47
9/16"-12		
4"	98750A484	$2.16
6"	98750A485	2.97
1 ft.	98957A500	3.85
2 ft.	98957A162	7.05
3 ft.	98957A612	7.70
6 ft.	98957A712	13.63
12 ft.	98957A012	28.76
9/16"-18		
4"	98750A486	2.86
6"	98750A487	4.00
1 ft.	98957A407	8.72
2 ft.	98957A163	10.13
3 ft.	92580A125	12.88
6 ft.	92580A225	25.76
5/8"-11		
2"	98750A208	.82
2 1/2"	98750A210	.86
2 3/4"	98750A211	.95
3"	98750A212	1.22
3 1/2"	98750A214	1.29
3 3/4"	98750A215	1.23
4"	98750A216	1.41
4 1/2"	98750A218	1.50
5"	98750A220	1.61
5 1/2"	98750A221	1.65
6"	98750A222	1.86
6 1/2"	98750A223	1.92
7"	98750A224	1.96
8"	98750A226	2.34
10"	98750A488	4.63
1 ft.	98957A501	3.75
1 1/2 ft.	98957A164	6.26
2 ft.	98957A810	6.30
2 1/2 ft.	98957A165	8.11
3 ft.	98957A637	7.42
4 ft.	98957A166	10.19
5 ft.	98957A167	13.33
6 ft.	98957A737	15.59
8 ft.	98957A168	22.74
12 ft.	98957A035	32.67
5/8"-18		
4"	98750A489	3.05
6"	98750A491	4.24
8"	98750A492	5.43
10"	98750A493	6.62
1 ft.	98957A408	7.24
1 1/2 ft.	98957A169	10.02
2 ft.	98957A811	10.20
2 1/2 ft.	98957A171	13.00
3 ft.	92580A112	14.47
4 ft.	92580A139	20.43
5 ft.	92580A141	26.38
6 ft.	92580A212	28.94
8 ft.	92580A142	40.23
12 ft.	92580A312	57.88
3/4"-10		
2"	98750A300	1.20
2 1/2"	98750A302	1.30
3"	98750A305	1.37
3 1/2"	98750A307	1.35
4"	98750A309	1.79
4 1/2"	98750A311	1.85
5"	98750A313	2.11
5 1/2"	98750A315	2.32
6"	98750A317	2.47
6 1/2"	98750A318	2.61
7"	98750A319	3.07
7 1/2"	98750A320	3.14
8"	98750A321	3.32
8 1/2"	98750A322	3.30
9"	98750A323	3.97
10"	98750A494	4.78
1 ft.	98957A502	4.62
3/4"-10 (Cont.)		
1 1/2 ft.	98957A172	$7.81
2 ft.	98957A812	9.00
2 1/2 ft.	98957A173	10.29
3 ft.	98957A638	10.70
4 ft.	98957A174	13.94
5 ft.	98957A175	18.08
6 ft.	98957A738	21.56
8 ft.	98957A176	31.67
12 ft.	98957A036	45.28
3/4"-16		
4"	98750A495	3.23
6"	98750A496	4.53
8"	98750A497	5.83
10"	98750A499	7.13
1 ft.	98957A409	6.50
1 1/2 ft.	98957A177	11.74
2 ft.	98957A813	11.02
2 1/2 ft.	98957A178	15.00
3 ft.	92580A113	17.02
4 ft.	92580A143	23.63
5 ft.	92580A144	30.38
6 ft.	92580A213	33.51
8 ft.	92580A145	46.63
12 ft.	92580A313	66.57
7/8"-9		
3"	98750A409	1.52
3 1/2"	98750A411	1.70
4"	98750A415	2.20
4 1/2"	98750A417	2.28
5"	98750A419	2.57
5 1/2"	98750A420	2.67
6"	98750A421	2.90
6 1/2"	98750A422	3.05
7"	98750A423	4.20
7 1/2"	98750A424	3.88
8"	98750A426	3.90
9"	98750A431	3.95
1 ft.	98957A503	6.52
2 ft.	98957A814	11.00
3 ft.	98957A639	17.63
4 ft.	98957A179	18.33
5 ft.	98957A181	23.67
6 ft.	98957A739	28.33
8 ft.	98957A182	40.63
12 ft.	98957A037	57.95
7/8"-14		
4"	98750A516	4.22
6"	98750A517	4.50
1 ft.	98957A410	10.89
2 ft.	98957A815	19.16
3 ft.	92580A121	27.24
4 ft.	92580A146	35.71
5 ft.	92580A147	45.57
6 ft.	92580A221	54.47
8 ft.	92580A148	70.71
1"-8		
4"	98750A498	2.45
4 1/2"	98750A501	3.24
5"	98750A503	3.43
5 1/2"	98750A505	3.67
6"	98750A507	3.82
6 1/2"	98750A508	4.21
7"	98750A510	4.55
8"	98750A515	4.88
10"	98750A518	10.00
1 ft.	98957A504	9.70
1 1/2 ft.	98957A183	11.60
2 ft.	98957A816	17.38
2 1/2 ft.	98957A184	15.78
3 ft.	98957A641	18.73
4 ft.	98957A185	24.58
5 ft.	98957A186	31.67
6 ft.	98957A741	40.29
1"-8 (Cont.)		
8 ft.	98957A187	$54.05
12 ft.	98957A038	81.04
1"-12		
4"	98750A519	5.68
6"	98750A521	8.11
1 ft.	98957A411	14.97
2 ft.	98957A817	22.97
3 ft.	92580A119	30.39
4 ft.	92580A149	33.35
5 ft.	92580A151	42.75
6 ft.	92580A219	59.96
8 ft.	92580A152	68.89
12 ft.	92580A319	119.22
1"-14		
4"	98750A522	5.48
6"	98750A523	7.85
8"	98750A524	10.20
10"	98750A525	12.58
1 ft.	98957A412	13.80
1 1/2 ft.	98957A188	22.03
2 ft.	98957A818	24.06
2 1/2 ft.	98957A189	27.06
3 ft.	92580A114	36.06
4 ft.	92580A153	39.94
5 ft.	92580A154	47.11
6 ft.	92580A214	69.10
8 ft.	92580A155	78.46
12 ft.	92580A314	119.18
1 1/8"-7		
1 ft.	98957A505	13.00
2 ft.	98957A819	19.08
3 ft.	98957A642	23.43
6 ft.	98957A742	43.83
12 ft.	98957A061	91.85
1 1/8"-8		
5"	98750A611	3.90
6"	98750A621	4.87
7"	98750A624	6.26
8"	98750A628	7.09
1 ft.	98957A506	8.47
3 ft.	98957A643	25.92
6 ft.	98957A743	51.08
1 1/8"-12		
1 ft.	98957A413	18.20
2 ft.	98957A820	28.00
3 ft.	92580A115	45.53
6 ft.	92580A215	91.06
1 1/4"-7		
6"	98750A526	10.15
1 ft.	98957A507	13.20
2 ft.	98957A822	19.80
3 ft.	98957A644	29.92
6 ft.	98957A744	62.49
12 ft.	98957A062	131.29
1 1/4"-8		
6"	98750A685	5.61
8"	98750A705	8.39
1 ft.	98957A508	10.97
3 ft.	98957A615	34.31
6 ft.	98957A715	68.64
1 1/4"-12		
6"	98750A527	10.75
1 ft.	98957A414	22.09
2 ft.	98957A821	35.69
3 ft.	92580A116	56.76
6 ft.	92580A216	110.43
12 ft.	92580A316	227.06
1 3/8"-6		
1 ft.	98957A509	11.20
2 ft.	98957A823	24.32
3 ft.	98957A618	33.72

(Continued on following page)

For information about threaded studs and rods, see page 3182.

Medium-Strength Steel Threaded Studs and Rods—ASTM A193 Grade B7

(Continued from previous page)

Uncoated (Cont.)

Lg.		Each
1 3/8"-6 (Cont.)		
6 ft.	98957A718	$69.70
1 3/8"-8		
1 ft.	98957A510	14.00
3 ft.	98957A619	39.84
6 ft.	98957A719	80.02
1 3/8"-12		
1 ft.	98957A415	27.72
3 ft.	92580A117	66.50
6 ft.	92580A217	134.95
1 1/2"-6		
6"	98750A528	13.00
1 ft.	98957A511	15.12
2 ft.	98957A824	31.50
3 ft.	98957A645	46.94
6 ft.	98957A745	93.93
12 ft.	98957A041	193.27
1 1/2"-8		
1 ft.	98957A512	16.53
3 ft.	98957A646	50.30
1 1/2"-8 (Cont.)		
6 ft.	98957A746	$99.74
1 1/2"-12		
6"	98750A529	16.00
1 ft.	98957A416	31.69
2 ft.	98957A825	61.07
3 ft.	92580A118	79.24
6 ft.	92580A218	158.48
1 5/8"-5 1/2		
1 ft.	98957A191	31.20
3 ft.	98957A192	85.09
6 ft.	98957A193	170.18
1 5/8"-8		
1 ft.	98957A513	31.77
3 ft.	98957A647	56.23
6 ft.	98957A747	134.04
1 5/8"-12		
1 ft.	92580A156	36.40
3 ft.	92580A157	109.20
6 ft.	92580A158	189.00
1 3/4"-5		
1 ft.	98957A514	$22.94
2 ft.	98957A826	53.90
3 ft.	98957A648	63.43
6 ft.	98957A748	126.82
12 ft.	98957A044	267.39
1 3/4"-8		
1 ft.	98957A515	24.66
3 ft.	98957A660	66.33
6 ft.	98957A760	132.89
1 3/4"-12		
1 ft.	92580A159	37.33
3 ft.	92580A161	112.00
6 ft.	92580A162	193.85
1 7/8"-5		
1 ft.	98957A194	39.20
3 ft.	98957A195	105.45
6 ft.	98957A196	210.18
1 7/8"-8		
3 ft.	98957A649	78.13
1 7/8"-8 (Cont.)		
6 ft.	98957A749	$178.40
1 7/8"-12		
1 ft.	92580A163	45.16
3 ft.	92580A164	133.69
6 ft.	92580A165	230.62
2"-4 1/2		
1 ft.	98957A517	44.57
2 ft.	98957A197	69.82
3 ft.	98957A650	85.14
6 ft.	98957A750	169.11
12 ft.	98957A046	365.02
2"-8		
1 ft.	98957A198	42.40
3 ft.	98957A199	115.64
6 ft.	98957A211	229.82
2"-12		
1 ft.	92580A166	46.44
3 ft.	92580A167	139.33
6 ft.	92580A168	239.62

Zinc Yellow-Chromate Plated

Lg.		Each
1/4"-20		
1 ft.	99086A305	2.19
2 ft.	99086A306	4.24
3 ft.	99086A111	4.17
4 ft.	99086A307	9.33
6 ft.	99086A186	7.67
12 ft.	99086A233	15.26
1/4"-28		
1 ft.	99086A308	2.43
3 ft.	99086A114	4.35
6 ft.	99086A187	8.73
5/16"-18		
1 ft.	99086A309	2.54
2 ft.	99086A311	4.81
3 ft.	99086A117	5.12
4 ft.	99086A312	10.17
6 ft.	99086A189	9.49
12 ft.	99086A237	18.56
5/16"-24		
1 ft.	99086A313	3.50
3 ft.	99086A120	6.03
5/16"-24 (Cont.)		
6 ft.	99086A190	12.07
3/8"-16		
1 ft.	99086A314	3.20
2 ft.	99086A315	6.74
3 ft.	99086A123	6.47
4 ft.	99086A316	13.47
6 ft.	99086A192	12.93
12 ft.	99086A240	22.70
3/8"-24		
1 ft.	99086A317	4.70
3 ft.	99086A126	8.47
6 ft.	99086A194	16.93
1/2"-13		
1 ft.	99086A318	4.25
2 ft.	99086A319	8.72
3 ft.	99086A129	10.27
4 ft.	99086A321	17.00
6 ft.	99086A195	20.30
12 ft.	99086A243	39.17
1/2"-20		
1 ft.	99086A322	5.79
3 ft.	99086A132	13.37
6 ft.	99086A196	26.73
5/8"-11		
1 ft.	99086A300	5.12
2 ft.	99086A323	11.67
3 ft.	99086A135	15.85
4 ft.	99086A324	23.33
6 ft.	99086A198	27.27
12 ft.	99086A247	51.08
5/8"-18		
1 ft.	99086A325	7.74
3 ft.	99086A138	20.47
6 ft.	99086A199	40.93
3/4"-10		
1 ft.	99086A302	7.30
2 ft.	99086A326	14.60
3 ft.	99086A141	20.90
4 ft.	99086A327	29.20
3/4"-10 (Cont.)		
6 ft.	99086A201	36.21
12 ft.	99086A251	66.24
3/4"-16		
1 ft.	99086A328	8.63
3 ft.	99086A144	27.01
6 ft.	99086A202	51.32
7/8"-9		
1 ft.	99086A329	8.82
3 ft.	99086A331	27.44
6 ft.	99086A332	49.40
1"-8		
1 ft.	99086A304	13.03
3 ft.	99086A147	32.28
6 ft.	99086A204	61.75
12 ft.	99086A254	124.12
1"-14		
3 ft.	99086A151	45.87
6 ft.	99086A206	90.05

Black Oxide

Choose a Thread Size	Choose a Length	
1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24, 1/2"-13, 1/2"-20, 5/8"-11, 5/8"-18, 3/4"-10, 3/4"-16, 7/8"-9, 1"-8	1", 1 1/4", 1 1/2", 2", 2 1/2", 3", 3 1/2", 4", 4 1/2", 5", 5 1/2", 6", 7", 8", 1 ft., 2 ft., 3 ft., 4 ft., 6 ft., 8 ft.	94210A100

Seize-Resistant Blue PTFE-Coated

Choose a Thread Size	Choose a Length	
1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10, 7/8"-9, 1"-8	1", 1 1/2", 2", 2 1/2", 3", 3 1/2", 4", 4 1/2", 5", 6", 7", 8", 9", 1 ft., 3 ft., 6 ft.	98752A500

Left-Hand Threaded Uncoated

Choose a Thread Size	Choose a Length	
1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24, 1/2"-13, 1/2"-20, 5/8"-11, 5/8"-18, 3/4"-10, 3/4"-16, 7/8"-9, 7/8"-14, 1"-8, 1"-14	1 ft., 3 ft., 6 ft.	95625A333

Medium-Strength Steel Threaded Studs and Rods for High-Pressure and High-Temperature Applications—ASTM A193 Grade B16

Often used to secure pressure tanks, valves, and flanges, these studs and rods meet the pressure and temperature requirements of ASTM A193 Grade B16. Minimum tensile strength is 125,000 psi and maximum Rockwell hardness is C35. All have a Class 2A thread fit.

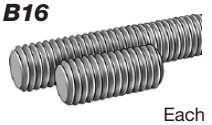

Lg.		Each
1/4"-20		
3 ft.	99065A120	$9.41
6 ft.	99065A216	17.61
5/16"-18		
1 ft.	99065A400	5.57
3 ft.	99065A125	11.76
6 ft.	99065A221	22.59
3/8"-16		
1 ft.	99065A401	6.00
3 ft.	99065A130	13.10
6 ft.	99065A226	22.26
12 ft.	99065A317	32.19
1/2"-13		
2 1/2"	95456A720	1.82
3"	95456A724	1.93
3 1/2"	95456A726	2.05
4"	95456A728	2.27
5"	95456A732	2.87
1/2"-13 (Cont.)		
6"	95456A736	$3.20
1 ft.	99065A402	8.14
3 ft.	99065A135	14.54
6 ft.	99065A231	26.36
12 ft.	99065A322	40.33
5/8"-11		
3"	95456A806	2.44
3 1/2"	95456A808	2.56
4"	95456A810	2.98
5"	95456A814	3.31
6"	95456A818	4.05
8"	95456A826	4.66
1 ft.	99065A403	9.69
3 ft.	99065A140	18.66
6 ft.	99065A236	34.81
12 ft.	99065A327	59.47
3/4"-10		
3"	95456A847	$3.89
4"	95456A851	4.34
4 1/2"	95456A853	4.89
5"	95456A855	4.78
6"	95456A859	5.54
8"	95456A866	6.73
1 ft.	99065A404	10.02
3 ft.	99065A145	25.09
6 ft.	99065A241	47.61
12 ft.	99065A332	81.67
7/8"-9		
6"	95456A896	6.51
1 ft.	99065A405	11.86
3 ft.	99065A150	33.08
6 ft.	99065A246	63.43
12 ft.	99065A337	114.00
1"-8		
6"	95456A928	$7.80
8"	95456A931	9.49
1 ft.	99065A406	13.82
3 ft.	99065A155	39.27
6 ft.	99065A251	75.54
12 ft.	99065A342	144.37
1 1/8"-7		
1 ft.	99065A407	19.47
3 ft.	99065A160	49.11
6 ft.	99065A256	95.76
1 1/4"-7		
1 ft.	99065A409	31.07
3 ft.	99065A170	81.28
6 ft.	99065A266	158.78

Low-Strength Steel Threaded Studs and Rods



Use these economical studs and rods for light duty applications. They have a minimum tensile strength of 53,000 psi and a minimum Rockwell hardness of B61. All have a Class 1A thread fit.

Uncoated studs and rods have a dark surface color.

Zinc-plated studs and rods are corrosion resistant and can be used outdoors.

Hot-dipped galvanized studs and rods are more corrosion resistant than zinc-plated studs and rods; they must be used with hot-dipped galvanized nuts for a correct thread fit (see page 3208).

Uncoated

Lg.	Pkg. Qty.		Pkg.
2-56			
1″	50	91565A819	$8.04
1½″	50	91565A820	10.71
2″	50	91565A821	11.60
3″	50	91565A300	11.55
1 ft.	1	98790A047	4.76
2 ft.	1	98790A003	5.80
3 ft.	1	98837A003	10.34
3-48			
1″	10	91565A401	3.35
2″	10	91565A402	5.20
1 ft.	1	98790A401	1.93
3 ft.	1	98837A004	4.74
6 ft.	1	98910A560	14.67
4-40			
½″	100	91565A305	9.52
¾″	100	91565A822	12.84
1″	50	91565A823	7.76
1½″	50	91565A824	8.92
2″	50	91565A825	10.08
2½″	50	91565A826	11.01
3″	50	91565A310	11.25
1 ft.	1	98790A048	2.16
2 ft.	1	98790A005	2.52
3 ft.	1	98837A005	3.18
4 ft.	1	98837A047	7.55
6 ft.	1	98910A005	13.85
5-40			
1″	10	91565A403	3.43
2″	10	91565A404	5.25
1 ft.	1	98790A049	2.53
2 ft.	1	98790A006	3.05
3 ft.	1	98837A006	3.82
6-32			
½″	100	91565A315	9.00
¾″	100	91565A827	9.64
1″	100	91565A828	10.53
1½″	100	91565A829	12.68
1¾″	100	91565A500	14.80
2″	100	91565A830	13.57
2½″	50	91565A831	8.37
3″	50	91565A832	9.82
4″	50	91565A320	12.94
5″	25	91565A325	8.28
6″	25	91565A330	10.35
1 ft.	1	98790A051	.47
2 ft.	1	98790A007	.80
3 ft.	1	98837A007	1.22
4 ft.	1	98837A048	1.73
6 ft.	1	98910A007	2.45
8-32			
½″	100	91565A333	9.86
¾″	100	91565A833	10.72
1″	100	91565A834	11.25
1½″	100	91565A835	13.21
2″	50	91565A836	7.77
2½″	50	91565A837	9.29
3″	50	91565A838	10.36
4″	25	91565A839	8.38
5″	25	91565A335	10.88
6″	25	91565A340	12.12
7″	25	91565A345	14.00
1 ft.	1	98790A052	.47
2 ft.	1	98790A009	.80
3 ft.	1	98837A009	1.22
4 ft.	1	98837A049	1.73
6 ft.	1	98910A009	2.45
10-24			
½″	100	91565A370	8.72
¾″	100	91565A840	9.46
1″	100	91565A841	10.00
1½″	50	91565A842	7.22
2″	50	91565A843	7.82
2½″	50	91565A844	9.66
3″	50	91565A845	12.15
10-24 (Cont.)			
3½″	50	91565A350	$12.99
4″	25	91565A846	8.04
5″	25	91565A847	10.89
6″	10	91565A355	5.12
7″	10	91565A360	5.88
8″	10	91565A365	6.50
1 ft.	1	98790A300	.57
2 ft.	1	98790A011	.80
3 ft.	1	98837A011	1.22
4 ft.	1	98837A051	1.73
6 ft.	1	98910A011	2.45
10-32			
½″	100	91565A848	10.04
¾″	100	91565A849	10.54
1″	100	91565A850	11.43
1½″	50	91565A851	7.65
2″	50	91565A852	7.85
2½″	50	91565A853	10.71
3″	50	91565A854	13.40
3½″	25	91565A859	7.29
4″	25	91565A855	9.47
5″	25	91565A860	10.16
6″	25	91565A864	11.92
7″	10	91565A868	5.75
8″	10	91565A872	7.25
1 ft.	1	98790A310	.62
2 ft.	1	98791A011	1.02
3 ft.	1	98838A011	1.56
4 ft.	1	98837A052	1.93
6 ft.	1	98911A011	3.13
12-24			
1½″	10	91565A380	6.10
2″	10	91565A383	6.88
3″	10	91565A386	8.68
1 ft.	1	98790A053	.53
2 ft.	1	98790A013	.88
3 ft.	1	98837A013	1.31
6 ft.	1	98910A013	2.65
¼″-20			
½″	100	91565A541	10.83
⅝″	100	91565A130	11.56
¾″	100	91565A542	11.97
⅞″	100	91565A131	12.22
1″	100	91565A543	12.55
1¼″	100	91565A544	13.03
1½″	100	91565A546	13.57
1¾″	50	91565A132	8.25
2″	50	91565A550	8.89
2¼″	50	91565A551	10.71
2½″	50	91565A552	11.25
2¾″	50	91565A553	12.50
3″	50	91565A554	14.00
3½″	25	91565A556	8.87
4″	25	91565A558	9.59
4½″	25	91565A560	10.44
5″	10	91565A562	5.76
5½″	10	91565A133	5.88
6″	10	91565A565	6.62
7″	10	91565A566	7.51
8″	10	91565A567	7.01
1 ft.	1	98790A320	.62
1½ ft.	1	98790A054	.72
2 ft.	1	98790A029	.82
2½ ft.	1	98790A055	1.06
3 ft.	1	98837A029	1.25
4 ft.	1	98837A053	1.69
5 ft.	1	98837A054	2.12
6 ft.	1	98910A029	2.48
8 ft.	1	98910A047	3.41
12 ft.	1	98950A029	5.19
¼″-28			
¾″	100	91565A569	13.94
1″	50	91565A570	9.65
1¼″	50	91565A571	11.89
¼″-28 (Cont.)			
1½″	25	91565A572	$7.59
2″	25	91565A574	9.47
2¼″	10	91565A575	4.44
2½″	10	91565A576	4.70
3″	10	91565A578	5.24
1 ft.	1	98791A048	.57
2 ft.	1	98791A029	1.05
3 ft.	1	98838A029	1.60
6 ft.	1	98911A029	3.20
5⁄16″-18			
⅝″	100	91565A582	13.38
¾″	50	91565A583	8.01
⅞″	50	91565A580	6.88
1″	50	91565A584	8.20
1¼″	50	91565A585	9.96
1½″	50	91565A587	11.36
1¾″	50	91565A588	12.67
2″	25	91565A591	7.38
2¼″	25	91565A592	8.28
2½″	25	91565A593	9.31
3″	10	91565A595	4.40
3½″	10	91565A597	5.24
4″	10	91565A599	6.03
5″	10	91565A603	6.49
6″	10	91565A605	8.03
7″	10	91565A607	9.06
8″	10	91565A609	10.40
1 ft.	1	98790A330	.79
1½ ft.	1	98790A056	.99
2 ft.	1	98790A030	1.09
2½ ft.	1	98790A057	1.45
3 ft.	1	98837A030	1.66
4 ft.	1	98837A055	2.25
5 ft.	1	98837A056	2.81
6 ft.	1	98910A030	3.31
8 ft.	1	98910A048	4.50
12 ft.	1	98950A030	6.93
5⁄16″-24			
1 ft.	1	98791A049	.73
2 ft.	1	98791A030	1.40
3 ft.	1	98838A030	2.13
6 ft.	1	98911A030	4.24
⅜″-16			
¾″	50	91565A624	10.56
1″	50	91565A625	13.13
1¼″	25	91565A626	8.15
1½″	25	91565A628	8.45
1¾″	25	91565A630	8.53
2″	25	91565A632	9.42
2¼″	25	91565A633	10.00
2½″	25	91565A634	10.59
2¾″	25	91565A635	11.68
3″	25	91565A636	12.46
3½″	10	91565A638	6.13
4″	10	91565A640	6.75
4½″	5	91565A642	5.37
5″	5	91565A644	5.47
5½″	5	91565A646	5.86
6″	5	91565A648	6.12
7″	5	91565A650	7.00
8″	5	91565A652	8.00
1 ft.	1	98790A058	.78
1½ ft.	1	98790A059	1.16
2 ft.	1	98790A031	1.38
2½ ft.	1	98790A061	1.76
3 ft.	1	98837A031	2.07
4 ft.	1	98837A057	2.81
5 ft.	1	98837A058	3.52
6 ft.	1	98910A031	4.14
8 ft.	1	98910A049	5.63
12 ft.	1	98950A031	8.37
⅜″-24			
1″	25	91565A660	8.10
1½″	25	91565A662	9.99
⅜″-24 (Cont.)			
2″	10	91565A664	$6.08
3″	10	91565A668	7.83
1 ft.	1	98791A051	.93
2 ft.	1	98791A031	1.77
3 ft.	1	98838A031	2.65
6 ft.	1	98911A031	5.32
7⁄16″-14			
1½″	10	91565A676	4.62
2″	10	91565A677	5.38
2½″	10	91565A678	6.68
3″	10	91565A681	7.42
1 ft.	1	98790A062	.90
2 ft.	1	98790A032	1.98
3 ft.	1	98837A032	2.99
6 ft.	1	98910A032	5.95
7⁄16″-20			
1 ft.	1	98791A052	1.33
2 ft.	1	98791A032	2.55
3 ft.	1	98838A032	3.83
6 ft.	1	98911A032	7.62
½″-13			
1″	25	91565A712	10.80
1¼″	25	91565A714	11.00
1½″	10	91565A716	5.25
1¾″	10	91565A718	5.62
2″	10	91565A720	5.73
2¼″	10	91565A390	6.50
2½″	10	91565A722	7.01
3″	10	91565A724	7.51
3½″	10	91565A721	8.50
4″	10	91565A728	9.01
4½″	5	91565A725	6.76
5″	5	91565A732	7.00
6″	5	91565A736	8.50
8″	5	91565A740	9.75
10″	5	91565A742	10.62
1 ft.	1	98790A340	1.68
1½ ft.	1	98790A063	1.97
2 ft.	1	98790A033	2.33
2½ ft.	1	98790A064	2.90
3 ft.	1	98837A033	3.53
4 ft.	1	98837A059	3.85
5 ft.	1	98837A061	4.79
6 ft.	1	98910A033	4.89
8 ft.	1	98910A051	9.30
12 ft.	1	98950A033	14.05
½″-20			
1 ft.	1	98791A053	1.53
2 ft.	1	98791A033	3.00
2½ ft.	1	98791A054	4.05
3 ft.	1	98838A033	4.53
4 ft.	1	98838A048	5.60
5 ft.	1	98838A049	7.02
6 ft.	1	98911A033	8.97
8 ft.	1	98911A048	11.23
9⁄16″-12			
2 ft.	1	98790A065	4.10
3 ft.	1	98837A062	6.13
6 ft.	1	98910A052	12.33
9⁄16″-18			
2 ft.	1	98791A034	4.81
3 ft.	1	98838A034	7.21
6 ft.	1	98911A034	14.47
⅝″-11			
1½″	10	91565A800	8.02
2″	10	91565A802	8.78
2½″	10	91565A804	10.50
3″	10	91565A806	12.12
4″	5	91565A810	7.81
5″	5	91565A880	11.98
6″	5	91565A818	11.00
7″	1	91565A882	3.14
8″	1	91565A884	3.01
10″	1	91565A886	3.63

(Continued on following page)

Low-Strength Steel Threaded Studs and Rods *(Continued from previous page)*

Uncoated (Cont.)

Lg.	Pkg. Qty.		Pkg.
5/8"-11 (Cont.)			
1 ft.	1	98790A350	$2.70
1½ ft.	1	98790A066	3.26
2 ft.	1	98790A035	3.73
2½ ft.	1	98790A670	4.79
3 ft.	1	98837A035	5.62
4 ft.	1	98837A063	7.45
5 ft.	1	98837A064	9.29
6 ft.	1	98910A035	11.29
8 ft.	1	98910A053	15.34
12 ft.	1	98950A035	23.18
5/8"-18			
1 ft.	1	98791A055	2.47
2 ft.	1	98791A035	4.81
3 ft.	1	98838A035	7.21
6 ft.	1	98911A035	14.47
3/4"-10			
2"	5	91565A068	7.67
4"	5	91565A076	12.03
6"	1	91565A080	3.07
8"	1	91565A082	4.12
1 ft.	1	98790A071	2.94
1½ ft.	1	98790A068	4.74
2 ft.	1	98790A036	5.91
2½ ft.	1	98790A069	7.38
3 ft.	1	98837A036	8.77
4 ft.	1	98837A065	11.03
5 ft.	1	98837A066	14.76
6 ft.	1	98910A036	17.71

Lg.	Pkg. Qty.		Pkg.
3/4"-10 (Cont.)			
8 ft.	1	98910A054	$21.91
12 ft.	1	98950A036	36.35
3/4"-16			
1 ft.	1	98791A056	3.90
2 ft.	1	98791A036	7.58
3 ft.	1	98838A036	11.25
6 ft.	1	98911A036	22.74
7/8"-9			
3"	1	91565A091	3.32
6"	1	91565A099	5.89
1 ft.	1	98790A072	4.17
2 ft.	1	98790A037	8.11
3 ft.	1	98837A037	12.30
6 ft.	1	98910A037	24.54
7/8"-14			
1 ft.	1	98791A057	5.37
2 ft.	1	98791A037	10.39
3 ft.	1	98838A037	15.77
6 ft.	1	98911A037	31.47
1"-8			
4"	1	91565A110	4.58
6"	1	91565A113	6.25
1 ft.	1	98790A410	8.02
2 ft.	1	98790A038	10.80
3 ft.	1	98837A038	16.18
4 ft.	1	98837A067	20.23
5 ft.	1	98837A068	25.29
6 ft.	1	98910A038	32.46
8 ft.	1	98910A055	40.46

Lg.	Pkg. Qty.		Pkg.
1"-8 (Cont.)			
12 ft.	1	98950A038	$57.32
1"-12			
1 ft.	1	98790A415	15.58
2 ft.	1	98791A047	27.75
3 ft.	1	98838A047	33.86
6 ft.	1	98911A047	68.10
1"-14			
1 ft.	1	98790A420	15.58
2 ft.	1	98791A038	14.85
3 ft.	1	98838A038	21.84
6 ft.	1	98911A038	43.10
1 1/8"-7			
1 ft.	1	98790A425	13.63
2 ft.	1	98790A039	15.50
3 ft.	1	98837A039	24.94
6 ft.	1	98910A039	37.11
1 1/8"-12			
1 ft.	1	98790A430	19.26
2 ft.	1	98791A039	24.37
3 ft.	1	98838A039	31.79
6 ft.	1	98911A039	58.33
1 1/4"-7			
1 ft.	1	98790A435	16.28
2 ft.	1	98790A040	21.31
3 ft.	1	98837A040	31.93
6 ft.	1	98910A040	44.64
1 1/4"-12			
1 ft.	1	98790A440	26.86
2 ft.	1	98791A040	29.31

Lg.	Pkg. Qty.		Pkg.
1 1/4"-12 (Cont.)			
3 ft.	1	98838A040	$38.29
6 ft.	1	98911A040	70.19
1 1/2"-6			
1 ft.	1	98790A445	26.46
2 ft.	1	98790A041	34.00
3 ft.	1	98837A041	48.43
6 ft.	1	98910A041	71.32
1 1/2"-12			
1 ft.	1	98790A450	46.29
2 ft.	1	98791A041	40.90
3 ft.	1	98838A041	61.23
6 ft.	1	98911A041	105.31
1 3/4"-12			
1 ft.	1	98790A460	70.71
2 ft.	1	98791A044	86.41
3 ft.	1	98838A044	145.81
6 ft.	1	98911A044	233.38
2"-4 1/2			
1 ft.	1	98790A465	49.51
2 ft.	1	98790A046	93.12
3 ft.	1	98837A046	56.44
6 ft.	1	98910A046	107.73
2"-12			
1 ft.	1	98790A470	79.57
2 ft.	1	98791A046	120.41
3 ft.	1	98838A046	203.20
6 ft.	1	98911A046	325.22

Zinc Plated

Lg.	Pkg. Qty.		Pkg.
2-56			
1"	50	95475A110	10.71
2"	25	95475A114	7.22
3"	25	95475A118	7.85
1 ft.	1	90034A460	1.88
3 ft.	1	90034A570	5.63
3-48			
1"	10	95475A401	3.50
2"	10	95475A402	5.50
1 ft.	1	90034A480	2.00
3 ft.	1	90034A490	6.00
4-40			
1"	50	95475A150	8.75
2"	50	95475A154	13.03
3"	25	95475A158	9.64
1 ft.	1	90034A045	3.58
2 ft.	1	90034A005	5.75
3 ft.	1	98841A005	9.05
6 ft.	1	98914A051	18.10
5-40			
1"	10	95475A403	3.38
2"	10	95475A404	5.25
1 ft.	1	90034A048	3.30
2 ft.	1	90034A006	5.30
3 ft.	1	98841A006	8.55
6 ft.	1	98914A053	17.10
6-32			
½"	100	95475A220	11.38
¾"	100	95475A222	12.42
1"	100	95475A224	12.93
1½"	50	95475A226	8.43
2"	50	95475A228	8.55
3"	10	95475A238	2.38
6"	10	95475A244	4.12
1 ft.	1	90034A049	.67
2 ft.	1	90034A007	1.12
3 ft.	1	98841A007	1.88
4 ft.	1	98841A051	2.28
6 ft.	1	98914A007	3.67
8-32			
½"	100	95475A320	11.75
¾"	100	95475A322	12.46
1"	100	95475A324	14.15
1½"	50	95475A326	8.47
2"	50	95475A328	10.86
2½"	25	95475A330	6.21
3"	25	95475A335	7.82
4"	25	95475A338	8.86
6"	10	95475A348	4.76
1 ft.	1	90034A051	.67

Lg.	Pkg. Qty.		Pkg.
8-32 (Cont.)			
2 ft.	1	90034A009	1.12
3 ft.	1	98841A009	1.88
4 ft.	1	98841A052	2.28
6 ft.	1	98914A009	3.67
8 ft.	1	98914A054	4.58
10-24			
¾"	100	95475A440	11.54
1"	100	95475A442	12.72
1½"	50	95475A444	8.38
2"	50	95475A446	10.48
2½"	50	95475A449	11.73
3"	25	95475A450	7.33
4"	25	95475A455	10.51
5"	25	95475A459	13.28
1 ft.	1	90034A410	.81
2 ft.	1	90034A011	1.12
3 ft.	1	98841A011	1.88
4 ft.	1	98841A053	2.28
6 ft.	1	98914A011	3.67
8 ft.	1	98914A055	4.58
10-32			
½"	100	95475A500	12.63
¾"	100	95475A502	14.00
1"	50	95475A505	7.82
1½"	50	95475A507	9.56
2"	50	95475A509	11.12
2½"	25	95475A512	7.09
3"	25	95475A513	8.17
4"	10	95475A515	5.33
6"	10	95475A525	8.10
1 ft.	1	90032A048	1.10
2 ft.	1	90032A011	1.66
3 ft.	1	98842A011	2.79
4 ft.	1	98842A048	3.81
6 ft.	1	98915A011	5.43
8 ft.	1	98915A048	7.65
12-24			
1"	10	95475A405	2.73
2"	10	95475A406	3.95
1 ft.	1	98841A054	.63
2 ft.	1	90034A013	1.18
3 ft.	1	98841A013	2.06
6 ft.	1	98914A013	4.12
1/4"-20			
½"	100	95475A538	14.11
5/8"	100	95475A539	14.62
¾"	50	95475A540	8.82
7/8"	50	95475A541	8.23
1"	50	95475A542	8.15

Lg.	Pkg. Qty.		Pkg.
1/4"-20 (Cont.)			
1¼"	50	95475A544	8.61
1½"	50	95475A546	10.06
1¾"	50	95475A547	12.28
2"	50	95475A550	12.67
2¼"	50	95475A551	14.42
2½"	25	95475A552	8.10
2¾"	25	95475A555	8.61
3"	25	95475A554	10.00
3½"	25	95475A556	11.83
4"	25	95475A558	13.17
4½"	25	95475A560	14.50
5"	10	95475A562	10.17
5½"	10	95475A564	11.25
6"	10	95475A566	12.32
7"	10	95475A569	13.17
8"	10	95475A572	13.04
10"	5	95475A576	8.26
1 ft.	1	90034A420	.85
1½ ft.	1	90034A052	.97
2 ft.	1	90034A029	1.12
2½ ft.	1	90034A053	1.47
3 ft.	1	98841A029	1.70
4 ft.	1	98841A055	2.28
5 ft.	1	98841A056	2.76
6 ft.	1	98914A029	3.26
8 ft.	1	98914A056	4.55
12 ft.	1	90038A029	6.83
1/4"-28			
¾"	50	95475A101	9.56
1"	25	95475A103	6.25
1¼"	25	95475A106	6.32
1½"	25	95475A105	8.93
2"	25	95475A107	12.14
2¼"	10	95475A108	8.22
2½"	10	95475A109	9.10
3"	10	95475A111	9.82
1 ft.	1	90032A049	1.05
2 ft.	1	90032A029	1.66
3 ft.	1	98842A029	2.50
6 ft.	1	98915A029	4.83
5/16"-18			
5/8"	50	95475A580	9.82
¾"	50	95475A581	10.00
7/8"	50	95475A582	9.96
1"	50	95475A583	10.86
1¼"	25	95475A585	6.38
1½"	25	95475A587	6.00
1¾"	25	95475A588	8.79

Lg.	Pkg. Qty.		Pkg.
5/16"-18 (Cont.)			
2"	25	95475A591	11.03
2¼"	25	95475A592	12.67
2½"	25	95475A593	13.57
3"	10	95475A595	8.31
3½"	10	95475A597	10.17
4"	10	95475A599	9.84
5"	10	95475A603	12.68
6"	10	95475A607	13.75
7"	5	95475A611	7.77
8"	5	95475A615	9.10
10"	1	95475A579	1.13
1 ft.	1	90034A430	1.02
1½ ft.	1	90034A054	1.17
2 ft.	1	90034A030	1.43
2½ ft.	1	90034A055	2.06
3 ft.	1	98841A030	2.43
4 ft.	1	98841A057	3.00
5 ft.	1	98841A058	3.86
6 ft.	1	98914A030	4.54
8 ft.	1	98914A057	6.57
12 ft.	1	90038A030	9.52
5/16"-24			
2"	10	95475A407	4.00
3"	10	95475A408	5.25
1 ft.	1	90032A051	1.04
2 ft.	1	90032A030	2.11
3 ft.	1	98842A030	3.18
6 ft.	1	98915A030	6.73
3/8"-16			
¾"	25	95475A623	8.48
1"	25	95475A624	9.41
1¼"	25	95475A626	9.74
1½"	25	95475A628	11.26
1¾"	25	95475A630	14.28
2"	25	95475A632	14.14
2¼"	10	95475A633	6.75
2½"	10	95475A634	7.29
2¾"	10	95475A635	8.29
3"	10	95475A636	8.97
3½"	10	95475A638	11.52
4"	10	95475A640	11.82
4½"	5	95475A642	10.71
5"	5	95475A644	11.43
5½"	5	95475A646	11.61
6"	5	95475A648	11.79
7"	5	95475A652	11.80
8"	5	95475A656	11.82
10"	1	95475A660	3.22

(Continued on following page)

Low-Strength Steel Threaded Studs and Rods *(Continued from previous page)*



Use these economical studs and rods for light duty applications. They have a minimum tensile strength of 53,000 psi and a minimum Rockwell hardness of B61. All have a Class 1A thread fit.

Uncoated studs and rods have a dark surface color.

Zinc-plated studs and rods are corrosion resistant and can be used outdoors.

Hot-dipped galvanized studs and rods are more corrosion resistant than zinc-plated studs and rods; they must be used with hot-dipped galvanized nuts for a correct thread fit (see page 3208).

Zinc Plated (Cont.)

Lg.	Pkg. Qty.		Pkg.
3⁄8″-16 (Cont.)			
1 ft.	1	90034A056	$1.07
1½ ft.	1	90034A057	1.46
2 ft.	1	90034A031	1.79
2½ ft.	1	90034A058	2.53
3 ft.	1	98841A031	3.03
4 ft.	1	98841A059	3.90
5 ft.	1	98841A061	4.75
6 ft.	1	98914A031	5.59
8 ft.	1	98914A058	8.10
12 ft.	1	90038A031	11.47
3⁄8″-24			
1″	10	95475A665	5.50
1½″	10	95475A667	7.67
2″	10	95475A669	10.33
3″	5	95475A671	6.88
1 ft.	1	90032A052	1.25
2 ft.	1	90032A031	2.63
2½ ft.	1	90032A053	3.35
3 ft.	1	98842A031	4.30
4 ft.	1	98842A049	5.33
5 ft.	1	98842A051	6.70
6 ft.	1	98915A031	8.28
8 ft.	1	98915A049	10.72
7⁄16″-14			
1½″	10	95475A687	9.81
2″	10	95475A689	11.25
2½″	10	95475A691	13.04
3″	10	95475A693	13.75
3½″	5	95475A695	10.71
2 ft.	1	90034A032	2.55
3 ft.	1	98841A032	4.26
6 ft.	1	98914A032	7.79
7⁄16″-20			
2 ft.	1	90032A032	3.77
3 ft.	1	98842A032	5.81
6 ft.	1	98915A032	10.98
1⁄2″-13			
1″	10	95475A714	6.45
1¼″	10	95475A715	6.80
1½″	10	95475A716	9.11
1¾″	10	95475A718	10.35
2″	10	95475A720	10.54
2¼″	10	95475A721	11.42
2½″	10	95475A722	12.32
3″	10	95475A724	14.11
1⁄2″-13 (Cont.)			
4″	5	95475A728	$9.65
4½″	5	95475A730	13.04
5″	5	95475A733	13.93
5½″	1	95475A735	2.67
6″	1	95475A738	3.00
7″	1	95475A742	3.64
8″	1	95475A746	4.69
10″	1	95475A713	1.90
1 ft.	1	90034A440	2.02
1½ ft.	1	90034A059	2.33
2 ft.	1	90034A033	2.86
2½ ft.	1	90034A061	3.86
3 ft.	1	98841A033	4.85
4 ft.	1	98841A062	6.32
5 ft.	1	98841A063	8.24
6 ft.	1	98914A033	9.05
8 ft.	1	98914A059	13.20
12 ft.	1	90038A033	18.98
1⁄2″-20			
2″	10	95475A409	6.00
3″	10	95475A411	8.00
1 ft.	1	90032A054	2.07
2 ft.	1	90032A033	4.22
2½ ft.	1	90032A055	5.65
3 ft.	1	98842A033	7.19
4 ft.	1	98842A052	8.50
5 ft.	1	98842A053	11.31
6 ft.	1	98915A033	13.40
8 ft.	1	98915A051	17.40
9⁄16″-12			
2 ft.	1	90034A034	3.94
3 ft.	1	98841A034	7.34
6 ft.	1	98914A034	14.26
9⁄16″-18			
2 ft.	1	90032A034	6.89
3 ft.	1	98842A034	10.25
6 ft.	1	98915A034	20.48
5⁄8″-11			
1½″	5	95475A817	7.69
2″	5	95475A819	8.93
2½″	5	95475A820	9.83
3″	5	95475A822	11.17
3½″	1	95475A825	2.50
4″	1	95475A827	3.08
4½″	1	95475A829	3.41
5⁄8″-11 (Cont.)			
5″	1	95475A831	$3.57
6″	1	95475A835	4.29
7″	1	95475A839	5.18
1 ft.	1	90034A450	3.32
1½ ft.	1	90034A062	4.01
2 ft.	1	90034A035	4.69
2½ ft.	1	90034A063	6.08
3 ft.	1	98841A035	7.34
4 ft.	1	98841A064	9.50
5 ft.	1	98841A065	12.16
6 ft.	1	98914A035	14.26
8 ft.	1	98914A061	20.77
12 ft.	1	90038A035	28.07
5⁄8″-18			
2 ft.	1	90032A035	6.89
3 ft.	1	98842A035	11.10
6 ft.	1	98915A035	21.11
3⁄4″-10			
2″	1	95475A857	2.98
4″	1	95475A865	4.11
6″	1	95475A874	6.08
10″	1	95475A882	7.00
1 ft.	1	90034A064	3.08
1½ ft.	1	90034A065	5.07
2 ft.	1	90034A036	6.89
2½ ft.	1	90034A066	9.73
3 ft.	1	98841A036	11.12
4 ft.	1	98841A066	14.45
5 ft.	1	98841A067	18.82
6 ft.	1	98914A036	21.50
8 ft.	1	98914A062	26.66
12 ft.	1	90038A036	42.80
3⁄4″-16			
2 ft.	1	90032A036	10.20
3 ft.	1	98842A036	16.82
6 ft.	1	98915A036	31.82
7⁄8″-9			
2 ft.	1	90034A037	9.64
3 ft.	1	98841A037	15.42
6 ft.	1	98914A037	29.91
7⁄8″-14			
2 ft.	1	90032A037	14.27
3 ft.	1	98842A037	23.32
6 ft.	1	98915A037	44.29
1″-8			
1 ft.	1	90034A310	$10.76
2 ft.	1	90034A038	12.54
3 ft.	1	98841A038	20.71
4 ft.	1	98841A068	26.52
5 ft.	1	98841A069	32.81
6 ft.	1	98914A038	40.71
8 ft.	1	98914A063	57.41
12 ft.	1	90038A038	82.88
1″-12			
1 ft.	1	90034A315	20.29
2 ft.	1	90032A047	29.31
3 ft.	1	98842A047	51.17
6 ft.	1	98915A047	86.71
1″-14			
1 ft.	1	90034A320	17.75
2 ft.	1	90032A038	20.13
3 ft.	1	98842A038	24.94
6 ft.	1	98915A038	49.12
1⅛″-7			
1 ft.	1	90034A325	19.92
2 ft.	1	90034A039	35.62
3 ft.	1	98841A049	39.43
6 ft.	1	98914A049	59.86
1¼″-7			
1 ft.	1	90034A330	18.29
2 ft.	1	90034A040	23.88
3 ft.	1	98841A040	41.26
6 ft.	1	98914A040	72.31
1¼″-12			
1 ft.	1	90034A335	26.29
2 ft.	1	90032A040	35.02
3 ft.	1	98842A040	52.96
6 ft.	1	98915A040	90.90
1⅜″-6			
3 ft.	1	98841A042	44.94
6 ft.	1	98914A042	77.46
1½″-6			
3 ft.	1	98841A041	60.23
6 ft.	1	98914A041	106.70
1½″-12			
3 ft.	1	98842A041	82.42
6 ft.	1	98915A041	141.06

Hot-Dipped Galvanized

Choose a Thread Size	Choose a Length	
3⁄8″-16, 1⁄2″-13, 5⁄8″-11, 3⁄4″-10, 7⁄8″-9, 1″-8, 1⅛″-7, 1¼″-7, 1½″-6	6″, 1 ft., 2 ft., 3 ft., 4 ft., 6 ft., 8 ft.	93335A100

Left-Hand Threaded Uncoated

Choose a Thread Size	Choose a Length	
1⁄4″-20, 5⁄16″-18, 3⁄8″-16, 7⁄16″-14, 1⁄2″-13, 5⁄8″-11, 3⁄4″-10, 7⁄8″-9, 1″-8, 1¼″-7	1 ft., 6 ft.	93240A111

Left-Hand Threaded Zinc Plated

Choose a Thread Size	Choose a Length	
6-32, 8-32, 10-24, 1⁄4″-20, 5⁄16″-18, 3⁄8″-16, 7⁄16″-14, 1⁄2″-13, 5⁄8″-11, 3⁄4″-10, 1″-8, 1¼″-7	1 ft., 3 ft., 6 ft.	90036A222

Metric Extreme-Strength Steel Threaded Rods—Class 12.9



The strongest threaded rods we offer, these uncoated steel rods are stronger than Grade 8 steel. They have a minimum tensile strength of 175,000 psi and a minimum Rockwell hardness of C39. Rods meet DIN 975. All have a 6g thread fit.

Thread Size	Pitch, mm	1 meter	
M6	1	1077N11	$61.11
M8	1.25	1077N12	62.07
M10	1.5	1077N13	65.52
M12	1.75	1077N14	75.86
M16	2	1077N15	$155.17
M20	2.5	1077N16	258.62
M24	3	1077N17	293.10
M30	3.5	1077N18	382.35

Metric High-Strength Steel Threaded Rods—Class 10.9

As strong as Grade 8 steel, these uncoated steel rods have a minimum tensile strength of 150,000 psi and a minimum Rockwell hardness of C32. Rods meet DIN 975. All have a 6g thread fit.

Thread Size	Pitch, mm	1 meter	
M6	1	1078N11	$8.86
M8	1.25	1078N12	9.14
M10	1.5	1078N13	10.00
M12	1.75	1078N14	11.71
M14	2	1078N15	27.71
M16	2	1078N16	22.86
M18	2.5	1078N17	31.43
M20	2.5	1078N18	34.29
M22	2.5	1078N19	$50.29
M24	3	1078N21	48.57
M27	3	1078N22	85.71
M30	3.5	1078N23	74.29
M36	4	1078N24	142.86
M42	4.5	1078N25	237.50
M48	5	1078N26	325.00

For information about threaded studs and rods, see page 3182.

Metric Medium-Strength Steel Threaded Studs and Rods—ASTM A193 Grade B7



Comparable in strength to Grade 5 steel, these studs and rods meet the pressure and temperature requirements of ASTM A193 and are often used to secure pressure tanks, valves, and flanges. Minimum tensile strength is 124,000 psi and maximum Rockwell hardness is C35. All have a 6g thread fit.

Uncoated studs and rods have a dark surface color.

Zinc yellow-chromate plated studs and rods are corrosion resistant and can be used outdoors.

Uncoated

Lg.		Each
M5—Pitch: 0.8 mm		
25 mm	93325A411	$2.65
50 mm	93325A412	2.80
300 mm	93325A413	4.35
500 mm	93325A414	4.90
1 m	93325A415	5.10
2 m	93325A416	10.20
M6—Pitch: 1 mm		
25 mm	93325A417	2.65
40 mm	93675A225	2.00
50 mm	93675A230	2.20
300 mm	93325A418	4.45
500 mm	93325A419	5.70
1 m	93325A170	7.13
2 m	93325A070	11.77
M8—Pitch: 1.25 mm		
25 mm	93675A250	1.88
30 mm	93675A255	2.12
40 mm	93675A260	2.28
50 mm	93675A265	2.64
100 mm	93325A421	3.50
200 mm	93325A422	4.50
300 mm	93325A423	5.45
500 mm	93325A424	7.45
1 m	93325A180	10.99
2 m	93325A080	19.87
M8—Pitch: 1 mm (Fine)		
25 mm	95245A165	12.67
50 mm	95245A166	15.71
M10—Pitch: 1.5 mm		
40 mm	93675A325	7.16
50 mm	93675A330	7.40
60 mm	93675A335	8.12
100 mm	93325A425	3.90
200 mm	93325A426	5.30
300 mm	93325A427	6.70
500 mm	93325A428	9.45
1 m	93325A190	15.47
2 m	93325A090	26.99
M10—Pitch: 1.25 mm (Fine)		
25 mm	95245A169	$14.10
50 mm	95245A171	18.67
300 mm	95245A105	29.63
1 m	95245A135	64.78
M10—Pitch: 1 mm (Extra Fine)		
25 mm	95245A167	14.52
50 mm	95245A168	18.76
300 mm	95245A100	34.65
1 m	95245A130	90.63
M12—Pitch: 1.75 mm		
50 mm	93675A365	3.04
60 mm	93675A370	3.48
80 mm	93675A380	3.92
100 mm	93325A429	4.35
200 mm	93325A431	6.20
300 mm	93325A335	6.70
500 mm	93325A432	11.75
1 m	93325A200	20.53
2 m	93325A100	26.82
M12—Pitch: 1.5 mm (Fine)		
50 mm	95245A174	19.38
100 mm	95245A175	24.56
300 mm	95245A115	31.82
1 m	95245A145	81.25
M12—Pitch: 1.25 mm (Extra Fine)		
50 mm	95245A172	19.14
100 mm	95245A173	24.16
300 mm	95245A110	30.76
1 m	95245A140	84.65
M14—Pitch: 2 mm		
50 mm	93325A433	3.60
100 mm	93325A434	4.75
300 mm	93325A340	8.29
500 mm	93325A435	13.70
1 m	93325A210	18.70
2 m	93325A110	35.66
M16—Pitch: 2 mm		
50 mm	93675A430	2.96
80 mm	93675A445	4.08
M16—Pitch: 2 mm (Cont.)		
100 mm	93675A450	$4.76
200 mm	93325A436	8.25
300 mm	93325A345	9.71
500 mm	93325A437	13.56
1 m	93325A220	26.28
2 m	93325A120	51.18
M16—Pitch: 1.5 mm (Fine)		
50 mm	95245A176	21.71
100 mm	95245A177	28.52
300 mm	95245A120	39.91
1 m	95245A150	103.98
M18—Pitch: 2.5 mm		
50 mm	93325A438	4.20
100 mm	93325A439	5.85
300 mm	93325A350	12.10
1 m	93325A230	27.95
2 m	93325A130	52.91
M20—Pitch: 2.5 mm		
100 mm	93675A490	5.08
200 mm	93325A441	8.60
300 mm	93325A355	12.19
500 mm	93325A442	18.52
1 m	93325A240	32.76
2 m	93325A140	62.63
M20—Pitch: 1.5 mm (Fine)		
100 mm	95245A178	36.00
300 mm	95245A125	46.60
1 m	95245A155	117.62
M22—Pitch: 2.5 mm		
300 mm	93325A443	15.65
1 m	93325A445	43.00
2 m	93325A446	74.78
M22—Pitch: 1.5 mm (Fine)		
300 mm	95245A179	70.91
1 m	95245A156	120.00
M24—Pitch: 3 mm		
200 mm	93325A447	11.40
300 mm	93325A360	16.07
500 mm	93325A448	25.52
M24—Pitch: 3 mm (Cont.)		
1 m	93325A260	$46.68
2 m	93325A160	88.07
M24—Pitch: 2 mm (Fine)		
300 mm	95245A182	72.20
1 m	95245A158	146.67
M24—Pitch: 1.5 mm (Extra Fine)		
300 mm	95245A181	74.23
1 m	95245A157	130.00
M27—Pitch: 3 mm		
300 mm	93325A449	51.88
1 m	93325A451	135.42
2 m	93325A452	270.83
M30—Pitch: 3.5 mm		
300 mm	93325A325	39.84
1 m	93325A300	152.60
2 m	93325A315	306.34
M30—Pitch: 2 mm (Fine)		
300 mm	95245A183	143.40
1 m	95245A184	317.37
M30—Pitch: 1.5 mm (Extra Fine)		
1 m	95245A159	242.11
M33—Pitch: 3.5 mm		
300 mm	93325A453	72.88
1 m	93325A454	193.75
2 m	93325A455	387.50
M36—Pitch: 4 mm		
300 mm	93325A330	90.34
1 m	93325A305	216.32
2 m	93325A320	432.64
M36—Pitch: 3 mm (Fine)		
300 mm	95245A185	176.43
1 m	95245A186	393.46
M42—Pitch: 4.5 mm		
1 m	93325A370	213.14
2 m	93325A456	426.29
M48—Pitch: 5 mm		
300 mm	93325A457	141.96
1 m	93325A458	295.33
2 m	93325A459	590.67

Zinc Yellow-Chromate Plated

Choose a Thread Size	Choose a Length	
M6×1, M8×1.25, M10×1.5, M12×1.75, M14×2, M16×2, M18×2.5, M20×2.5, M24×3	1 m, 2 m	98942A110

Metric Medium-Strength Steel Threaded Studs and Rods—Class 8.8



An economical alternative to Grade B7 steel, these studs and rods have a minimum tensile strength of 115,000 psi and a minimum Rockwell hardness of C20. All have a 6g thread fit and meet DIN 975.

Uncoated studs and rods have a dark surface color.

Zinc-plated studs and rods are corrosion resistant and can be used outdoors.

Uncoated

Lg.		Each
M4—Pitch: 0.7 mm		
1 m	99055A110	$9.52
M5—Pitch: 0.8 mm		
1 m	99055A115	3.65
M6—Pitch: 1 mm		
1 m	99055A120	2.30
M8—Pitch: 1.25 mm		
25 mm	99055A311	.20
50 mm	99055A312	.40
100 mm	99055A313	.77
200 mm	99055A314	1.53
300 mm	99055A315	2.57
500 mm	99055A316	3.87
1 m	99055A125	4.29
2 m	99055A317	10.33
M10—Pitch: 1.5 mm		
25 mm	99055A318	.30
50 mm	99055A319	.60
M10—Pitch: 1.5 mm (Cont.)		
100 mm	99055A321	$3.51
200 mm	99055A322	4.66
300 mm	99055A231	2.92
500 mm	99055A323	8.81
1 m	99055A130	6.47
2 m	99055A324	15.60
M12—Pitch: 1.75 mm		
50 mm	99055A325	2.49
100 mm	99055A326	5.01
200 mm	99055A327	6.67
300 mm	99055A236	4.15
500 mm	99055A328	12.43
1 m	99055A135	11.28
2 m	99055A329	22.17
M16—Pitch: 2 mm		
200 mm	99055A331	11.94
300 mm	99055A239	7.48
M16—Pitch: 2 mm (Cont.)		
500 mm	99055A332	$11.20
1 m	99055A140	18.13
2 m	99055A334	39.87
M18—Pitch: 2.5 mm		
1 m	99055A143	22.00
M20—Pitch: 2.5 mm		
300 mm	99055A242	9.38
500 mm	99055A335	17.57
1 m	99055A145	23.06
2 m	99055A336	46.85
M24—Pitch: 3 mm		
300 mm	99055A245	13.48
500 mm	99055A337	22.49
1 m	99055A150	35.87
2 m	99055A338	67.45
M27—Pitch: 3 mm		
1 m	99055A155	53.45
M30—Pitch: 3.5 mm		
300 mm	99055A251	$26.70
1 m	99055A160	56.27
M33—Pitch: 3.5 mm		
300 mm	99055A339	43.77
1 m	99055A341	87.53
M36—Pitch: 4 mm		
300 mm	99055A342	51.70
1 m	99055A343	103.43
M42—Pitch: 4.5 mm		
300 mm	99055A344	70.77
1 m	99055A345	141.53
M48—Pitch: 5 mm		
300 mm	99055A346	92.90
1 m	99055A347	185.80

Zinc Plated

Choose a Thread Size	Choose a Length	
M5×0.8, M6×1, M8×1.25, M10×1.5, M12×1.75, M14×2, M16×2, M18×2.5, M20×2.5, M22×2.5, M24×3, M27×3, M30×3.5, M33×3.5, M36x4, M42×4.5, M48×5	25 mm, 50 mm, 100 mm, 300 mm, 500 mm, 1 m, 2 m	99067A900

Metric Low-Strength Steel Threaded Studs and Rods



For light duty applications, these economical studs and rods have a minimum tensile strength of 58,000 psi and a minimum Rockwell hardness of B49. All have a 6g thread fit.

Uncoated steel studs and rods have a dark surface color.

Zinc-plated steel studs and rods are corrosion resistant and can be used outdoors.

Uncoated

Lg.	Pkg. Qty.		Pkg.
M2—Pitch: 0.4 mm			
1 m	1	98861A010	$8.89
M3—Pitch: 0.5 mm			
1 m	1	98861A040	1.40
M4—Pitch: 0.7 mm			
1 m	1	98861A050	1.04
M4—Pitch: 0.5 mm (Fine)			
150 mm	1	98861A582	10.83
300 mm	1	98861A583	17.67
1 m	1	98861A584	25.36
M5—Pitch: mm 0.8			
20 mm	25	90435A102	7.43
25 mm	25	90435A103	9.27
30 mm	25	90435A104	11.23
1 m	1	98861A060	1.08
M5—Pitch: 0.5 mm (Fine)			
50 mm	1	98861A586	5.93
80 mm	1	98861A587	6.60
100 mm	1	98861A588	7.60
300 mm	1	98861A589	10.58
1 m	1	98861A314	37.00
M6—Pitch: 1 mm			
16 mm	25	90435A109	7.28
20 mm	25	90435A110	8.18
25 mm	25	90435A111	10.05
30 mm	10	90435A112	5.70
40 mm	10	90435A114	6.57
50 mm	10	90435A116	7.36
1 m	1	98861A070	1.28
M6—Pitch: 0.75 mm (Fine)			
1 m	1	98861A317	48.00
M8—Pitch: 1.25 mm			
20 mm	25	90435A120	8.78
25 mm	25	90435A122	9.22
30 mm	10	90435A123	5.81
40 mm	10	90435A125	7.07
50 mm	10	90435A127	7.43
1 m	1	98861A080	2.28
M8—Pitch: 1 mm (Fine)			
30 mm	1	98833A250	7.48
40 mm	1	98833A255	7.76
M8—Pitch: 1 mm (Fine) (Cont.)			
50 mm	1	98833A260	$8.03
80 mm	1	98861A592	5.02
150 mm	1	98861A593	5.83
300 mm	1	98861A525	11.00
1 m	1	98861A320	17.86
M10—Pitch: 1.5 mm			
25 mm	10	90435A136	6.13
30 mm	10	90435A138	6.43
40 mm	10	90435A140	7.51
50 mm	10	90435A142	8.89
60 mm	10	90435A144	10.48
1 m	1	98861A090	3.57
M10—Pitch: 1.25 mm (Fine)			
40 mm	1	98833A310	8.48
50 mm	1	98833A315	9.28
60 mm	1	98833A320	10.07
80 mm	1	98861A598	6.45
150 mm	1	98861A599	8.20
300 mm	1	98861A535	16.09
1 m	1	98861A328	29.86
M10—Pitch: 1 mm (Extra Fine)			
80 mm	1	98861A595	5.83
150 mm	1	98861A596	7.08
300 mm	1	98861A530	14.59
1 m	1	98861A324	25.64
M12—Pitch: 1.75 mm			
40 mm	10	90435A155	7.42
50 mm	10	90435A157	9.31
60 mm	10	90435A159	11.25
80 mm	5	90435A163	7.77
1 m	1	98861A100	5.52
M12—Pitch: 1.5 mm (Fine)			
150 mm	1	98861A605	8.97
300 mm	1	98861A545	13.73
1 m	1	98861A333	27.27
M12—Pitch: 1.25 mm (Extra Fine)			
40 mm	1	98833A355	9.45
50 mm	1	98833A360	10.41
60 mm	1	98833A365	11.38
150 mm	1	98861A604	10.15
M12—Pitch: 1.25 mm (Extra Fine) (Cont.)			
300 mm	1	98861A540	$19.36
1 m	1	98861A332	50.12
M12—Pitch: 1 mm (Ultra Fine)			
150 mm	1	98861A602	18.10
300 mm	1	98861A603	30.42
1 m	1	98861A573	23.14
M14—Pitch: 2 mm			
1 m	1	98861A110	8.50
M14—Pitch: 1.5 mm (Fine)			
150 mm	1	98861A606	8.28
300 mm	1	98861A550	21.22
1 m	1	98861A336	32.56
M16—Pitch: 2 mm			
60 mm	1	90435A189	2.26
100 mm	1	90435A197	3.07
1 m	1	98861A120	10.11
M16—Pitch: 1.5 mm (Fine)			
60 mm	1	98833A410	19.83
80 mm	1	98833A415	24.55
100 mm	1	98833A420	28.90
150 mm	1	98861A607	9.62
300 mm	1	98861A554	20.60
1 m	1	98861A340	29.04
M18—Pitch: 2.5 mm			
300 mm	1	98861A210	20.35
M18—Pitch: 1.5 mm (Fine)			
150 mm	1	98861A608	13.30
300 mm	1	98861A560	36.17
1 m	1	98861A344	75.20
M20—Pitch: 2.5 mm			
300 mm	1	98861A215	10.78
1 m	1	98861A140	14.88
M20—Pitch: 1.5 mm (Fine)			
80 mm	1	98833A460	25.41
100 mm	1	98833A465	30.48
300 mm	1	98861A565	39.16
1 m	1	98861A350	52.21
M22—Pitch: 2.5 mm			
1 m	1	98861A150	30.34
M22—Pitch: 1.5 mm (Fine)			
150 mm	1	98861A609	$36.00
300 mm	1	98861A611	47.33
1 m	1	98861A574	65.79
M24—Pitch: 3 mm			
300 mm	1	98861A220	15.42
1 m	1	98861A160	20.56
M24—Pitch: 2 mm (Fine)			
300 mm	1	98861A570	42.58
1 m	1	98861A360	67.24
M24—Pitch: 1.5 mm (Extra Fine)			
150 mm	1	98861A612	37.50
300 mm	1	98861A613	49.83
1 m	1	98861A575	57.14
M27—Pitch: 3 mm			
300 mm	1	98861A225	38.55
1 m	1	98861A571	48.57
M27—Pitch: 2 mm (Fine)			
300 mm	1	98861A614	55.67
1 m	1	98861A615	65.17
M30—Pitch: 3.5 mm			
300 mm	1	98861A230	40.44
1 m	1	98861A170	58.62
M30—Pitch: 2 mm (Fine)			
300 mm	1	98861A616	64.33
1 m	1	98861A577	96.00
M30—Pitch: 1.5 mm (Extra Fine)			
1 m	1	98861A576	85.57
M33—Pitch: 3.5 mm			
300 mm	1	98861A235	55.48
1 m	1	98861A175	86.21
M36—Pitch: 4 mm			
300 mm	1	98861A240	70.32
1 m	1	98861A180	82.76
M36—Pitch: 3 mm (Fine)			
300 mm	1	98861A617	60.67
1 m	1	98861A618	67.00
M42—Pitch: 4.5 mm			
1 m	1	98861A572	107.50

Zinc Plated

Lg.	Pkg. Qty.		Pkg.
M2—Pitch: 0.4 mm			
50 mm	1	94595A211	3.00
300 mm	1	94595A212	9.33
1 m	1	93000A611	8.33
M2.5—Pitch: 0.45 mm			
50 mm	1	94595A213	4.60
300 mm	1	94595A214	14.43
1 m	1	93000A612	4.58
M2.6—Pitch: 0.45 mm			
1 m	1	93000A613	4.58
M3—Pitch: 0.5 mm			
12 mm	10	94595A233	3.60
25 mm	10	94595A234	4.72
50 mm	5	94595A235	4.64
300 mm	1	94595A215	6.73
1 m	1	93000A512	12.57
M3.5—Pitch: 0.6 mm			
1 m	1	93000A614	30.00
M4—Pitch: 0.7 mm			
12 mm	10	94595A236	3.24
25 mm	10	94595A237	3.92
50 mm	5	94595A238	6.30
300 mm	1	94595A216	5.16
1 m	1	93000A513	8.45
M5—Pitch: 0.8 mm			
25 mm	10	94595A239	4.76
50 mm	5	94595A241	5.56
300 mm	1	94595A217	5.17
1 m	1	93000A514	6.39
2 m	1	93000A571	12.42
M6—Pitch: 1 mm			
20 mm	10	94595A315	5.72
25 mm	10	94595A320	6.94
30 mm	5	94595A323	4.74
40 mm	5	94595A326	5.97
50 mm	5	94595A329	6.38
80 mm	5	94595A242	11.40
300 mm	1	94595A218	5.20
1 m	1	93000A515	7.56
2 m	1	93000A572	14.00
M7—Pitch: 1 mm			
1 m	1	93000A615	11.25
M8—Pitch: 1.25 mm			
20 mm	10	94595A243	3.92
25 mm	10	94595A355	8.14
30 mm	5	94595A357	4.99
40 mm	5	94595A359	5.92
50 mm	5	94595A361	6.38
80 mm	5	94595A244	10.44
300 mm	1	94595A219	7.60
1 m	1	93000A516	9.41
2 m	1	93000A573	17.27
M8—Pitch: 1 mm (Fine)			
1 m	1	93000A616	36.67
M10—Pitch: 1.5 mm			
25 mm	1	94595A221	3.84
30 mm	5	94595A425	5.72
40 mm	5	94595A427	6.76
50 mm	5	94595A429	7.91
60 mm	1	94595A431	1.74
M10—Pitch: 1.5 mm (Cont.)			
80 mm	1	94595A222	4.04
300 mm	1	94595A223	7.00
1 m	1	93000A517	11.80
2 m	1	93000A574	19.64
M10—Pitch: 1.25 mm (Fine)			
1 m	1	93000A618	36.67
M10—Pitch: 1 mm (Extra Fine)			
1 m	1	93000A617	26.67
M12—Pitch: 1.75 mm			
30 mm	5	94595A245	7.78
40 mm	5	94595A460	6.37
50 mm	5	94595A463	7.99
60 mm	1	94595A246	2.85
70 mm	1	94595A466	2.02
80 mm	1	94595A469	2.30
300 mm	1	94595A224	9.00
1 m	1	93000A518	16.20
2 m	1	93000A575	27.17
M12—Pitch: 1.5 mm (Fine)			
1 m	1	93000A621	20.33
M12—Pitch: 1.25 mm (Extra Fine)			
1 m	1	93000A619	46.67
M14—Pitch: 2 mm			
300 mm	1	94595A225	12.55
1 m	1	93000A519	19.68
2 m	1	93000A576	33.50
M16—Pitch: 2 mm			
300 mm	1	94595A226	14.50
1 m	1	93000A520	21.60
M16—Pitch: 2 mm (Cont.)			
2 m	1	93000A577	42.35
M16—Pitch: 1.5 mm (Fine)			
1 m	1	93000A622	24.17
M18—Pitch: 2.5 mm			
300 mm	1	94595A227	17.70
1 m	1	94595A228	39.00
M20—Pitch: 2.5 mm			
300 mm	1	94595A229	21.31
1 m	1	93000A522	28.45
2 m	1	93000A579	55.50
M22—Pitch: 2.5 mm			
300 mm	1	94595A231	25.31
1 m	1	93000A623	31.43
M24—Pitch: 3 mm			
300 mm	1	94595A232	28.58
1 m	1	93000A523	35.16
M27—Pitch: 3 mm			
300 mm	1	94595A247	83.82
1 m	1	94595A248	90.00
M30—Pitch: 3.5 mm			
300 mm	1	94595A249	85.60
1 m	1	93000A624	51.43
M33—Pitch: 3.5 mm			
300 mm	1	94595A251	90.42
1 m	1	94595A252	112.50
M36—Pitch: 4 mm			
300 mm	1	94595A253	95.12
1 m	1	94595A254	120.00
M42—Pitch: 4.5 mm			
300 mm	1	94595A255	111.73

Left-Hand Threaded Uncoated

Choose a Thread Size	Choose a Length	
M6×1, M8×1.25, M10×1.5, M12×1.75, M14×2, M16×2, M20×2.5, M24×3	300 mm, 1 m	98817A500

For information about threaded studs and rods, see page 3182.

Stainless Steel Threaded Studs and Rods



Offering excellent resistance to chemicals and solvents, stainless steel studs and rods stand up to harsh environments. They may be mildly magnetic.

316 stainless steel studs and rods are more corrosion resistant than 18-8 stainless steel and can be used in saltwater environments. They have a minimum tensile strength of 70,000 psi and a minimum Rockwell hardness of B70. All have a Class 2A thread fit.

18-8 stainless steel studs and rods have a minimum tensile strength of 70,000 psi and a minimum Rockwell hardness of B70. All have a Class 1A thread fit.

Seize-resistant black-oxide coated 18-8 stainless steel rods have a finish that lubricates the threads to keep nuts from seizing or galling. Minimum tensile strength is 75,000 psi. They are not rated for hardness. All have a Class 1A thread fit.

Acid-resistant Alloy 20 stainless steel studs and rods contain nickel to withstand exposure to sulfuric, phosphoric, and nitric acids. Also known as Carpenter 20, they resist cracking from stress and corrosion. Minimum tensile strength is 80,000 psi. They are not rated for hardness. All meet ASTM B473.

316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
0-80			
1/2"	1	90575A112	$4.00
3/4"	1	90575A113	4.73
1"	1	90575A114	4.96
1 1/2"	1	90575A115	5.57
2"	1	90575A116	6.17
2-56			
1/2"	25	90575A121	4.83
3/4"	25	90575A122	6.60
1"	10	90575A123	3.35
1 1/2"	10	90575A124	4.78
2"	10	90575A125	6.20
8"	1	90575A126	2.40
1 ft.	1	93250A001	2.30
2 ft.	1	93250A405	4.60
3 ft.	1	93250A095	6.89
6 ft.	1	93250A003	13.79
3-48			
1"	10	90575A131	3.78
2"	10	90575A132	7.05
1 ft.	1	93250A211	2.73
3 ft.	1	93250A212	8.18
6 ft.	1	93250A213	15.21
4-40			
1/2"	25	90575A141	5.58
3/4"	25	90575A142	7.73
1"	10	90575A143	3.95
1 1/2"	10	90575A144	5.68
2"	10	90575A145	7.40
3"	5	90575A146	5.63
4"	5	90575A147	7.38
6"	1	90575A148	2.20
8"	1	90575A149	2.88
1 ft.	1	93250A002	2.73
2 ft.	1	93250A410	5.43
3 ft.	1	93250A099	8.16
4 ft.	1	93250A214	14.82
6 ft.	1	93250A005	16.33
5-40			
1"	10	90575A151	4.40
2"	10	90575A152	8.30
1 ft.	1	93250A215	3.25
3 ft.	1	93250A216	9.75
6 ft.	1	93250A217	19.50
6-32			
1/2"	25	90575A161	5.95
3/4"	25	90575A162	8.28
1"	10	90575A163	4.25
1 1/2"	10	90575A164	6.13
2"	10	90575A165	8.00
3"	5	90575A166	6.00
4"	5	90575A167	8.00
6"	1	90575A168	2.38
8"	1	90575A169	3.13
1 ft.	1	93250A050	1.05
2 ft.	1	93250A415	2.05
3 ft.	1	93250A105	3.10
4 ft.	1	93250A218	11.15
6 ft.	1	93250A007	6.16
8-32			
1/2"	10	90575A240	6.20
3/4"	10	90575A245	7.48
1"	10	90575A250	8.45
1 1/2"	10	90575A171	5.68
2"	10	90575A255	9.28
3"	10	90575A260	11.31
4"	5	90575A172	7.38
6"	1	90575A173	2.20
8"	1	90575A174	2.88
1 ft.	1	93250A052	1.48
2 ft.	1	93250A420	2.96
3 ft.	1	93250A110	4.43
4 ft.	1	93250A219	11.12
8-32 (Cont.)			
6 ft.	1	93250A009	$8.76
10-24			
1/2"	25	90575A181	5.20
3/4"	25	90575A182	7.15
1"	10	90575A350	9.39
1 1/4"	10	90575A353	9.74
1 1/2"	10	90575A355	10.03
2"	10	90575A358	10.38
2 1/2"	5	90575A361	7.09
3"	5	90575A364	7.68
4"	5	90575A367	8.63
6"	1	90575A183	2.03
8"	1	90575A184	2.65
1 ft.	1	93250A054	1.84
2 ft.	1	93250A430	3.71
3 ft.	1	93250A115	5.37
4 ft.	1	93250A221	9.38
6 ft.	1	93250A011	10.78
10-32			
1/2"	25	90575A191	6.13
3/4"	10	90575A410	8.41
1"	10	90575A415	8.86
1 1/4"	10	90575A420	9.19
1 1/2"	10	90575A425	9.51
2"	10	90575A430	10.15
2 1/2"	10	90575A433	11.62
3"	5	90575A436	6.84
4"	5	90575A439	8.19
6"	1	90575A192	2.48
8"	1	90575A193	3.25
1 ft.	1	93250A056	1.98
2 ft.	1	93250A435	3.96
3 ft.	1	93250A120	6.15
4 ft.	1	93250A222	12.57
6 ft.	1	93250A012	12.30
12-24			
1"	10	90575A211	3.95
2"	10	90575A212	7.40
3 ft.	1	93250A223	6.90
6 ft.	1	93250A224	13.80
1/4"-20			
1/2"	10	90575A537	6.37
3/4"	10	90575A540	7.44
1"	10	90575A542	7.72
1 1/4"	10	90575A544	8.34
1 1/2"	10	90575A546	9.10
1 3/4"	10	90575A547	9.61
2"	10	90575A550	9.83
2 1/4"	10	90575A553	10.45
2 1/2"	10	90575A556	11.00
2 3/4"	10	90575A221	7.38
3"	5	90575A559	6.54
3 1/2"	5	90575A365	8.52
4"	5	90575A563	8.73
5"	1	90575A222	1.05
6"	1	90575A570	2.04
8"	1	90575A223	1.70
10"	1	90575A224	2.13
1 ft.	1	93250A058	2.28
1 1/2 ft.	1	93250A251	3.83
2 ft.	1	93250A440	4.35
2 1/2 ft.	1	93250A252	6.75
3 ft.	1	93250A125	6.02
4 ft.	1	93250A253	9.80
5 ft.	1	93250A254	13.48
6 ft.	1	93250A029	12.04
8 ft.	1	93250A226	17.00
12 ft.	1	93250A310	24.08
1/4"-28			
1"	10	90575A231	4.13
1/4"-28 (Cont.)			
1 1/2"	10	90575A232	$5.13
2"	10	90575A233	6.38
3"	5	90575A234	4.50
4"	5	90575A235	5.25
6"	1	90575A236	1.38
1 ft.	1	93250A060	2.50
1 1/2 ft.	1	93250A255	4.18
2 ft.	1	93250A445	4.76
2 1/2 ft.	1	93250A256	7.43
3 ft.	1	93250A130	6.61
4 ft.	1	93250A227	10.80
5 ft.	1	93250A257	14.85
6 ft.	1	93250A042	14.28
8 ft.	1	93250A228	21.60
5/16"-18			
3/4"	10	90575A581	7.73
1"	10	90575A583	8.83
1 1/4"	10	90575A585	10.01
1 1/2"	10	90575A587	10.80
1 3/4"	10	90575A588	11.52
2"	10	90575A591	10.90
2 1/4"	5	90575A271	5.00
2 1/2"	5	90575A593	7.93
2 3/4"	5	90575A272	5.38
3"	5	90575A595	9.41
3 1/2"	5	90575A273	6.25
4"	1	90575A600	2.08
5"	1	90575A274	1.55
6"	1	90575A605	2.94
8"	1	90575A275	2.18
10"	1	90575A276	2.73
1 ft.	1	93250A062	3.73
1 1/2 ft.	1	93250A258	4.88
2 ft.	1	93250A450	7.11
2 1/2 ft.	1	93250A259	8.75
3 ft.	1	93250A135	9.87
4 ft.	1	93250A229	12.70
5 ft.	1	93250A261	17.50
6 ft.	1	93250A030	19.74
8 ft.	1	93250A231	25.40
12 ft.	1	93250A320	39.47
5/16"-24			
1"	10	90575A281	7.88
1 1/2"	10	90575A282	8.88
2"	5	90575A283	5.25
3"	5	90575A284	6.50
4"	1	90575A285	1.50
1 ft.	1	93250A064	4.12
1 1/2 ft.	1	93250A262	5.63
2 ft.	1	93250A455	7.87
2 1/2 ft.	1	93250A263	10.05
3 ft.	1	93250A140	10.90
4 ft.	1	93250A232	14.60
5 ft.	1	93250A264	20.10
6 ft.	1	93250A233	21.90
8 ft.	1	93250A234	29.20
3/8"-16			
1"	10	90575A626	10.78
1 1/4"	10	90575A628	11.22
1 1/2"	10	90575A630	11.51
1 3/4"	5	90575A631	6.91
2"	5	90575A632	7.28
2 1/4"	5	90575A633	8.28
2 1/2"	5	90575A634	7.97
2 3/4"	5	90575A291	6.25
3"	5	90575A636	9.05
3 1/2"	5	90575A638	10.09
4"	1	90575A642	2.02
5"	1	90575A292	1.75
6"	1	90575A650	3.19
3/8"-16 (Cont.)			
8"	1	90575A293	$3.10
10"	1	90575A294	3.88
1 ft.	1	93250A066	5.46
1 1/2 ft.	1	93250A265	6.98
2 ft.	1	93250A460	10.41
2 1/2 ft.	1	93250A266	12.80
3 ft.	1	93250A145	14.46
4 ft.	1	93250A235	18.60
5 ft.	1	93250A267	25.60
6 ft.	1	93250A031	28.91
8 ft.	1	93250A236	37.20
12 ft.	1	93250A330	57.83
3/8"-24			
1"	10	90575A311	9.13
1 1/2"	10	90575A312	10.13
2"	5	90575A313	5.88
3"	5	90575A314	7.38
4"	1	90575A315	1.70
6"	1	90575A316	2.45
1 ft.	1	93250A026	5.67
1 1/2 ft.	1	93250A268	8.05
2 ft.	1	93250A465	11.66
2 1/2 ft.	1	93250A269	13.98
3 ft.	1	93250A150	16.19
4 ft.	1	93250A237	21.40
5 ft.	1	93250A271	29.45
6 ft.	1	93250A551	34.99
8 ft.	1	93250A238	42.80
1/2"-13			
1"	5	90575A321	6.00
1 1/4"	5	90575A713	9.65
1 1/2"	5	90575A716	9.79
1 3/4"	5	90575A322	7.63
2"	1	90575A720	2.26
2 1/4"	1	90575A323	1.63
2 1/2"	1	90575A722	2.77
2 3/4"	1	90575A324	2.00
3"	1	90575A724	3.33
3 1/2"	1	90575A726	3.92
4"	1	90575A728	4.41
5"	1	90575A732	5.51
6"	1	90575A736	5.79
7"	1	90575A739	7.68
8"	1	90575A743	8.74
10"	1	90575A325	7.15
1 ft.	1	93250A070	9.95
1 1/2 ft.	1	93250A272	12.88
2 ft.	1	93250A470	18.93
2 1/2 ft.	1	93250A273	23.30
3 ft.	1	93250A155	26.30
4 ft.	1	93250A239	33.90
5 ft.	1	93250A274	46.60
6 ft.	1	93250A033	52.60
8 ft.	1	93250A241	67.80
12 ft.	1	93250A340	105.20
1/2"-20			
1"	5	90575A331	6.75
1 1/2"	5	90575A332	8.13
2"	1	90575A333	1.68
3"	1	90575A334	2.50
4"	1	90575A335	3.25
6"	1	90575A336	4.78
1 ft.	1	93250A027	10.68
1 1/2 ft.	1	93250A275	14.80
2 ft.	1	93250A475	21.98
2 1/2 ft.	1	93250A276	26.83
3 ft.	1	93250A160	30.50
4 ft.	1	93250A242	38.98
5 ft.	1	93250A277	53.65
6 ft.	1	93250A034	65.89
8 ft.	1	93250A243	77.98

(Continued on following page)

Stainless Steel Threaded Studs and Rods *(Continued from previous page)*



Offering excellent resistance to chemicals and solvents, stainless steel studs and rods stand up to harsh environments. They may be mildly magnetic.

316 stainless steel studs and rods are more corrosion resistant than 18-8 stainless steel and can be used in saltwater environments. They have a minimum tensile strength of 70,000 psi and a minimum Rockwell hardness of B70. All have a Class 2A thread fit.

18-8 stainless steel studs and rods have a minimum tensile strength of 70,000 psi and a minimum Rockwell hardness of B70. All have a Class 1A thread fit.

Seize-resistant black-oxide coated 18-8 stainless steel rods have a finish that lubricates the threads to keep nuts from seizing or galling. Minimum tensile strength is 75,000 psi. They are not rated for hardness. All have a Class 1A thread fit.

Acid-resistant Alloy 20 stainless steel studs and rods contain nickel to withstand exposure to sulfuric, phosphoric, and nitric acids. Also known as Carpenter 20, they resist cracking from stress and corrosion. Minimum tensile strength is 80,000 psi. They are not rated for hardness. All meet ASTM B473.

316 Stainless Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
5/8″-11			
2½″	1	90575A801	$5.58
3″	1	90575A805	6.40
3½″	1	90575A808	6.37
4″	1	90575A810	7.19
5″	1	90575A814	8.88
6″	1	90575A818	10.52
7″	1	90575A823	12.24
8″	1	90575A828	13.88
1 ft.	1	93250A016	14.55
2 ft.	1	93250A480	29.97
3 ft.	1	93250A165	41.59
4 ft.	1	93250A244	53.40
5 ft.	1	93250A278	73.45
6 ft.	1	93250A035	83.19
8 ft.	1	93250A245	106.80
12 ft.	1	93250A350	166.39
5/8″-18			
4″	1	90575A341	$5.75
6″	1	90575A342	8.80
1 ft.	1	93250A028	17.15
2 ft.	1	93250A485	35.30
3 ft.	1	93250A168	49.02
6 ft.	1	93250A044	105.88
3/4″-10			
3″	1	90575A847	8.75
4″	1	90575A851	13.80
5″	1	90575A855	13.83
6″	1	90575A859	16.40
7″	1	90575A863	19.00
8″	1	90575A866	21.62
1 ft.	1	93250A017	21.33
2 ft.	1	93250A490	43.88
3 ft.	1	93250A170	60.93
3/4″-10 (Cont.)			
4 ft.	1	93250A246	$78.30
5 ft.	1	93250A279	108.35
6 ft.	1	93250A036	121.86
8 ft.	1	93250A247	156.60
12 ft.	1	93250A355	243.73
3/4″-16			
4″	1	90575A371	8.70
6″	1	90575A372	13.23
1 ft.	1	93250A032	26.02
2 ft.	1	93250A495	53.51
3 ft.	1	93250A173	74.30
6 ft.	1	93250A046	160.48
7/8″-9			
1 ft.	1	93250A018	31.14
2 ft.	1	93250A248	57.45
3 ft.	1	93250A175	88.95
6 ft.	1	93250A037	177.90
1″-8			
6″	1	90575A895	$28.67
1 ft.	1	93250A019	37.39
2 ft.	1	93250A500	74.80
3 ft.	1	93250A180	112.18
6 ft.	1	93250A038	213.70
12 ft.	1	93250A365	427.40
1 1/8″-7			
1 ft.	1	93250A020	47.13
3 ft.	1	93250A185	141.35
1 1/4″-7			
1 ft.	1	93250A021	59.29
3 ft.	1	93250A190	177.85
6 ft.	1	93250A040	347.06
1 1/2″-6			
1 ft.	1	93250A022	85.84
3 ft.	1	93250A195	257.56

18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
0-80			
½″	5	95412A898	9.88
¾″	5	95412A899	11.25
1″	5	95412A300	4.48
1½″	1	95412A901	3.87
2″	1	95412A902	4.25
2-56			
½″	25	95412A301	5.00
¾″	25	95412A302	5.63
1″	10	95412A864	4.32
1¼″	10	95412A350	5.52
1½″	10	95412A865	5.61
2″	10	95412A866	6.82
1 ft.	1	98804A101	2.30
2 ft.	1	98804A003	1.93
3 ft.	1	98847A003	2.90
6 ft.	1	98920A003	5.79
3-48			
1″	10	95412A303	2.55
2″	10	95412A304	4.95
2 ft.	1	98804A004	5.00
3 ft.	1	98847A004	7.50
6 ft.	1	98920A004	15.00
4-40			
½″	25	95412A409	4.85
¾″	25	95412A867	4.86
1″	25	95412A868	5.15
1¼″	25	95412A360	6.67
1½″	25	95412A869	7.11
2″	25	95412A870	7.50
2½″	10	95412A871	4.38
3″	10	95412A410	7.42
4″	10	95412A413	10.51
5″	5	95412A305	7.00
6″	5	95412A306	8.38
8″	1	95412A307	2.18
1 ft.	1	98804A102	2.73
2 ft.	1	98804A005	1.59
3 ft.	1	98847A005	2.39
6 ft.	1	98920A005	4.77
5-40			
1″	10	95412A308	2.95
2″	10	95412A309	5.88
4″	5	95412A310	6.00
2 ft.	1	98804A006	2.55
3 ft.	1	98847A006	3.82
6 ft.	1	98920A006	7.65
6-32			
½″	50	95412A415	7.60
¾″	50	95412A872	9.39
6-32 (Cont.)			
1″	50	95412A873	10.66
1¼″	50	95412A365	11.36
1½″	50	95412A874	12.57
2″	25	95412A875	7.06
2½″	25	95412A876	9.41
3″	10	95412A420	4.93
4″	10	95412A423	6.71
5″	10	95412A370	10.00
6″	10	95412A373	11.56
8″	1	95412A311	2.40
1 ft.	1	98804A103	3.00
2 ft.	1	98804A007	1.45
3 ft.	1	98847A007	2.17
4 ft.	1	98847A251	8.14
6 ft.	1	98920A007	4.35
8-32			
½″	50	95412A425	8.28
¾″	50	95412A878	10.97
1″	50	95412A879	13.30
1¼″	25	95412A375	8.10
1½″	25	95412A880	8.03
2″	10	95412A881	3.88
2½″	10	95412A882	4.38
3″	10	95412A883	5.50
4″	10	95412A819	8.48
5″	10	95412A820	11.00
6″	5	95412A821	5.86
8″	1	95412A312	2.40
1 ft.	1	98804A104	3.00
2 ft.	1	98804A009	1.94
3 ft.	1	98847A009	2.91
4 ft.	1	98847A252	8.14
6 ft.	1	98920A009	5.82
10-24			
½″	50	95412A884	10.23
¾″	25	95412A885	7.62
1″	25	95412A886	8.98
1¼″	25	95412A431	8.65
1½″	25	95412A887	10.89
2″	10	95412A889	5.43
2½″	10	95412A890	5.86
3″	10	95412A891	7.42
4″	10	95412A892	9.39
5″	5	95412A430	5.88
6″	5	95412A435	6.88
8″	5	95412A437	8.25
1 ft.	1	98804A105	3.30
2 ft.	1	98804A011	2.26
10-24 (Cont.)			
3 ft.	1	98847A011	3.39
4 ft.	1	98847A253	8.80
6 ft.	1	98920A011	6.78
10-32			
½″	50	95412A440	10.61
¾″	25	95412A893	7.46
1″	25	95412A894	8.47
1¼″	25	95412A471	9.03
1½″	25	95412A895	11.49
2″	10	95412A896	5.72
2½″	10	95412A897	5.95
3″	10	95412A445	6.75
4″	10	95412A450	7.88
5″	5	95412A455	5.62
6″	5	95412A460	6.00
8″	5	95412A470	9.62
1 ft.	1	98804A106	3.30
2 ft.	1	98805A011	2.15
3 ft.	1	98848A011	3.22
4 ft.	1	98847A254	8.80
6 ft.	1	98921A011	6.45
12-24			
1″	10	95412A313	3.38
2″	10	95412A314	6.58
4″	10	95412A315	13.13
2 ft.	1	98804A013	3.92
3 ft.	1	98847A013	5.88
6 ft.	1	98920A013	11.76
1/4″-20			
½″	50	95412A538	11.97
⅝″	25	95412A378	8.33
¾″	25	95412A540	7.11
⅞″	25	95412A539	8.27
1″	25	95412A542	8.69
1¼″	25	95412A544	10.66
1½″	10	95412A546	4.50
1¾″	10	95412A548	5.62
2″	10	95412A550	6.00
2¼″	10	95412A551	6.25
2½″	10	95412A552	6.37
2¾″	10	95412A553	7.25
3″	10	95412A554	7.75
3½″	10	95412A556	9.12
4″	10	95412A558	9.88
4½″	10	95412A560	10.62
5″	10	95412A562	11.00
6″	10	95412A564	11.50
7″	5	95412A566	9.06
1/4″-20 (Cont.)			
8″	5	95412A568	9.87
10″	5	95412A316	8.25
1 ft.	1	98804A487	1.72
1½ ft.	1	98804A107	3.48
2 ft.	1	98804A029	2.30
2½ ft.	1	98805A201	3.33
3 ft.	1	98847A029	3.45
4 ft.	1	98847A255	5.40
5 ft.	1	98847A256	8.84
6 ft.	1	98920A029	6.90
8 ft.	1	98920A302	10.80
12 ft.	1	98960A029	13.80
1/4″-28			
½″	10	95412A563	5.91
¾″	10	95412A565	6.06
1″	10	95412A567	6.21
1¼″	5	95412A569	3.76
1½″	5	95412A571	4.25
1¾″	5	95412A317	2.50
2″	5	95412A573	5.26
2½″	5	95412A318	5.43
3″	5	95412A575	7.64
4″	5	95412A319	2.73
6″	1	95412A320	1.50
1 ft.	1	98804A108	1.80
1½ ft.	1	98804A109	4.00
2 ft.	1	98805A029	3.27
2½ ft.	1	98805A214	4.40
3 ft.	1	98848A029	4.91
4 ft.	1	98847A257	7.20
5 ft.	1	98847A258	8.80
6 ft.	1	98921A029	9.81
8 ft.	1	98920A303	14.40
5/16″-18			
¾″	25	95412A581	9.70
⅞″	10	95412A582	4.24
1″	10	95412A583	4.00
1¼″	10	95412A585	4.75
1½″	10	95412A587	5.12
1¾″	10	95412A589	6.62
2″	10	95412A591	7.12
2¼″	10	95412A592	8.12
2½″	10	95412A593	9.25
2¾″	5	95412A321	6.33
3″	5	95412A595	5.25
3½″	5	95412A596	6.03
4″	5	95412A597	7.22
5″	5	95412A322	7.50

(Continued on following page)

Stainless Steel Threaded Studs and Rods *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
5/16"-18 (Cont.)			
6"	5	95412A600	$11.38
8"	1	95412A323	2.40
10"	1	95412A602	3.88
1 ft.	1	98804A492	2.56
1½ ft.	1	98804A110	5.40
2 ft.	1	98804A030	3.41
2½ ft.	1	98805A203	5.02
3 ft.	1	98847A030	5.12
4 ft.	1	98847A259	8.60
5 ft.	1	98847A260	9.46
6 ft.	1	98920A030	10.23
8 ft.	1	98920A304	17.20
12 ft.	1	98960A030	20.46
5/16"-24			
1"	5	95412A605	4.24
1¼"	5	95412A324	4.23
1½"	5	95412A607	4.85
1¾"	5	95412A325	4.50
2"	5	95412A609	6.37
2½"	5	95412A611	7.79
3"	5	95412A613	9.09
4"	5	95412A326	6.88
1 ft.	1	98804A111	3.98
1½ ft.	1	98804A112	5.40
2 ft.	1	98805A030	3.78
2½ ft.	1	98805A204	5.62
3 ft.	1	98848A030	5.67
4 ft.	1	98847A261	9.48
5 ft.	1	98847A262	10.44
6 ft.	1	98921A030	11.34
8 ft.	1	98920A305	18.93
3/8"-16			
¾"	25	95412A622	9.70
1"	25	95412A624	11.06
1¼"	25	95412A626	11.38
1½"	10	95412A628	6.18
1¾"	10	95412A630	8.86
2"	10	95412A632	8.00
2¼"	5	95412A633	4.75
2½"	5	95412A634	5.37
2¾"	5	95412A635	5.50
3"	5	95412A636	5.88
3½"	5	95412A638	6.75
4"	5	95412A640	7.25
5"	5	95412A644	9.59
6"	5	95412A646	11.61
7"	5	95412A648	11.89
8"	1	95412A650	2.71
9"	1	95412A651	2.88
10"	1	95412A652	3.57
11"	1	95412A653	3.38
1 ft.	1	98804A496	3.44
1½ ft.	1	98804A113	3.94
2 ft.	1	98804A031	4.58
2½ ft.	1	98805A205	6.98
3 ft.	1	98847A031	6.87
4 ft.	1	98847A263	11.45
5 ft.	1	98847A264	12.60
6 ft.	1	98920A031	13.74
8 ft.	1	98920A306	22.90
12 ft.	1	98960A031	27.48
3/8"-24			
1"	5	95412A655	4.71
1¼"	5	95412A657	5.01
1½"	5	95412A659	5.57
2"	5	95412A661	7.28
2½"	5	95412A327	5.10
3/8"-24 (Cont.)			
3"	5	95412A663	$11.21
4"	1	95412A665	3.07
6"	1	95412A328	1.95
1 ft.	1	98804A114	3.86
1½ ft.	1	98804A115	4.40
2 ft.	1	98805A031	5.62
2½ ft.	1	98805A206	8.07
3 ft.	1	98848A031	8.43
4 ft.	1	98847A265	13.18
5 ft.	1	98847A266	16.09
6 ft.	1	98921A031	16.86
8 ft.	1	98920A307	26.35
7/16"-14			
1"	5	95412A329	3.98
2"	5	95412A330	5.10
3"	5	95412A331	6.85
4"	5	95412A332	8.85
1 ft.	1	98804A116	5.30
2 ft.	1	98804A032	7.26
3 ft.	1	98847A032	10.89
6 ft.	1	98920A032	21.78
7/16"-20			
1"	5	95412A333	4.29
2"	5	95412A334	5.54
3"	5	95412A335	7.50
4"	5	95412A336	9.72
1 ft.	1	98804A117	5.83
2 ft.	1	98805A032	8.00
3 ft.	1	98848A032	12.00
6 ft.	1	98921A032	24.00
1/2"-13			
1"	10	95412A337	8.10
1¼"	10	95412A718	11.50
1½"	10	95412A716	12.50
1¾"	10	95412A719	14.88
2"	5	95412A720	8.25
2¼"	5	95412A338	5.85
2½"	5	95412A722	10.00
2¾"	5	95412A339	6.25
3"	5	95412A724	11.88
3½"	5	95412A726	13.37
4"	5	95412A728	14.62
4½"	1	95412A730	3.12
5"	1	95412A732	3.62
5½"	1	95412A734	3.88
6"	1	95412A736	4.12
7"	1	95412A738	4.88
8"	1	95412A740	5.75
9"	1	95412A741	6.62
10"	1	95412A742	6.50
1 ft.	1	98804A501	7.10
1½ ft.	1	98804A118	8.36
2 ft.	1	98804A033	9.47
2½ ft.	1	98805A207	18.96
3 ft.	1	98847A033	14.21
4 ft.	1	98847A267	25.09
5 ft.	1	98847A268	31.63
6 ft.	1	98920A033	28.41
8 ft.	1	98920A308	46.78
12 ft.	1	98960A033	56.82
1/2"-20			
1"	10	95412A750	15.00
1½"	1	95412A340	1.07
2"	1	95412A752	3.03
3"	1	95412A341	1.79
4"	1	95412A342	2.36
6"	1	95412A343	3.15
1/2"-20 (Cont.)			
1 ft.	1	98804A119	$9.49
1½ ft.	1	98804A120	9.85
2 ft.	1	98805A033	10.41
2½ ft.	1	98805A208	20.90
3 ft.	1	98848A033	15.62
4 ft.	1	98847A269	27.60
5 ft.	1	98847A270	34.83
6 ft.	1	98921A033	31.23
8 ft.	1	98920A309	55.20
9/16"-12			
4"	1	95412A344	2.40
6"	1	95412A345	3.60
1 ft.	1	98804A121	6.86
2 ft.	1	98805A209	13.71
3 ft.	1	98847A034	21.35
6 ft.	1	98920A034	42.70
9/16"-18			
4"	1	95412A246	2.62
6"	1	95412A347	3.92
1 ft.	1	98804A122	7.47
2 ft.	1	98805A210	14.95
3 ft.	1	98847A271	22.42
6 ft.	1	98920A310	44.85
5/8"-11			
1½"	5	95412A800	11.88
2"	5	95412A802	13.12
2½"	1	95412A804	3.00
3"	1	95412A806	3.75
3½"	1	95412A808	4.25
4"	1	95412A810	4.50
4½"	1	95412A812	4.75
5"	1	95412A814	5.25
6"	1	95412A818	7.19
7"	1	95412A822	7.14
8"	1	95412A824	6.76
1 ft.	1	98804A123	7.78
1½ ft.	1	98804A124	11.89
2 ft.	1	98804A035	13.85
2½ ft.	1	98805A211	19.25
3 ft.	1	98847A035	20.77
4 ft.	1	98847A272	28.72
5 ft.	1	98847A273	38.50
6 ft.	1	98920A035	41.55
8 ft.	1	98920A311	57.44
12 ft.	1	98960A035	83.10
5/8"-18			
4"	1	95412A348	3.50
6"	1	95412A349	4.68
1 ft.	1	98804A125	8.40
2 ft.	1	98805A035	15.86
3 ft.	1	98848A035	23.79
6 ft.	1	98921A035	47.58
3/4"-10			
2"	1	95412A843	2.96
3"	1	95412A847	4.62
3½"	1	95412A849	5.62
4"	1	95412A851	6.12
5"	1	95412A855	8.71
6"	1	95412A859	10.88
7"	1	95412A861	11.94
8"	1	95412A863	14.00
9"	1	95412A826	13.75
1 ft.	1	98804A505	17.26
1½ ft.	1	98804A351	21.31
2 ft.	1	98804A036	23.01
2½ ft.	1	98805A212	32.74
3 ft.	1	98847A036	34.52
3/4"-10 (Cont.)			
4 ft.	1	98847A274	$51.28
5 ft.	1	98847A275	61.11
6 ft.	1	98920A036	69.03
8 ft.	1	98920A312	133.33
12 ft.	1	98960A036	138.06
3/4"-16			
4"	1	95412A352	5.70
6"	1	95412A353	8.48
1 ft.	1	98804A508	20.49
2 ft.	1	98805A036	27.32
3 ft.	1	98848A036	40.98
6 ft.	1	98921A036	81.96
7/8"-9			
6"	1	95412A839	20.86
1 ft.	1	98804A511	22.90
2 ft.	1	98804A037	30.53
3 ft.	1	98847A037	45.80
6 ft.	1	98920A037	91.59
7/8"-14			
4"	1	95412A354	7.20
6"	1	95412A355	10.70
1 ft.	1	98804A513	32.25
2 ft.	1	98805A037	43.00
3 ft.	1	98848A037	64.50
6 ft.	1	98921A037	129.00
1"-8			
6"	1	95412A395	25.86
1 ft.	1	98804A516	28.55
2 ft.	1	98804A038	38.07
3 ft.	1	98847A038	57.11
4 ft.	1	98847A276	71.79
5 ft.	1	98847A277	96.25
6 ft.	1	98920A038	114.21
8 ft.	1	98920A313	143.59
12 ft.	1	98960A038	228.42
1"-12			
4"	1	95412A356	8.00
6"	1	95412A357	12.00
1 ft.	1	98804A126	28.57
2 ft.	1	98805A213	45.71
3 ft.	1	98847A278	63.16
6 ft.	1	98920A314	123.08
1"-14			
4"	1	95412A358	8.40
6"	1	95412A359	12.60
1 ft.	1	98804A519	36.59
2 ft.	1	98805A038	48.78
3 ft.	1	98848A038	73.17
6 ft.	1	98921A038	146.34
1 1/8"-7			
1 ft.	1	98804A127	32.07
3 ft.	1	98847A279	79.71
6 ft.	1	98920A315	159.43
1 1/4"-7			
1 ft.	1	98804A522	47.41
2 ft.	1	98804A040	63.21
3 ft.	1	98847A040	94.81
6 ft.	1	98920A040	189.63
1 3/8"-6			
1 ft.	1	98804A128	63.33
3 ft.	1	98847A280	126.67
6 ft.	1	98920A316	253.33
1 1/2"-6			
1 ft.	1	98804A525	69.81
2 ft.	1	98804A041	93.08
3 ft.	1	98847A041	139.62
6 ft.	1	98920A041	279.24

Seize-Resistant Black-Oxide Coated 18-8 Stainless Steel

Choose a Thread Size	Choose a Length	
1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10	1 ft., 3 ft.	95853A110

Acid-Resistant Alloy 20 Stainless Steel

Choose a Thread Size	Choose a Length	
1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10	1 ft., 3 ft., 6 ft.	95745A210

Left-Hand Threaded 316 Stainless Steel

Choose a Thread Size	Choose a Length	
1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 3/4"-10, 1"-8	1 ft., 3 ft., 6 ft.	96155A120

Left-Hand Threaded 18-8 Stainless Steel

Choose a Thread Size	Choose a Length	
1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10, 1"-8	1 ft., 3 ft., 6 ft.	95050A100

For information about threaded studs and rods, see page 3182.

Stainless Steel Threaded Studs and Rods for High-Pressure and High-Temperature Applications—ASTM A193



Used for bolting applications in pressure tanks, valves, and flanges, these stainless steel studs and rods meet the pressure and temperature requirements of ASTM A193. Stainless steel provides excellent corrosion resistance to solvents and chemicals. All have a Class 2A thread fit. They may be mildly magnetic.

High-strength 316 stainless steel studs and rods have a minimum tensile strength of 100,000 psi and a maximum Rockwell hardness of C35. They are more corrosion resistant than 410 stainless steel. All meet ASTM A193 Grade B8M.

High-strength 410 stainless steel rods are stronger than 316 stainless steel. Minimum tensile strength is 110,000 psi. They're comparable in corrosion resistance to 18-8 stainless steel. All meet ASTM A193 Grade B6. Not rated for hardness.

316 and **18-8 stainless steel** studs and rods have a minimum tensile strength of 75,000 psi and a maximum Rockwell hardness of B96. *316 stainless steel* meets ASTM A193 Grade B8M. *18-8 stainless steel* meets ASTM A193 Grade B8.

High-Strength 316 Stainless Steel

Lg.		Each
5/16"-18		
3 ft.	93565A225	$16.87
6 ft.	93565A125	32.17
3/8"-16		
1½"	98865A520	2.74
2"	98865A525	2.75
2½"	98865A530	2.94
3"	98865A535	3.18
3 ft.	93565A230	22.29
6 ft.	93565A130	43.22
1/2"-13		
2½"	98865A625	$4.09
3"	98865A630	4.78
4"	98865A635	6.35
5"	98865A640	7.43
1 ft.	93565A253	13.80
3 ft.	93565A235	30.92
6 ft.	93565A135	60.94
5/8"-11		
3½"	98865A730	6.59
5/8"-11 (Cont.)		
4"	98865A735	$8.30
5"	98865A740	10.65
6"	98865A745	14.44
1 ft.	93565A254	20.60
3 ft.	93565A240	49.21
6 ft.	93565A140	97.88
3/4"-10		
4"	98865A760	12.62
4½"	98865A765	14.27
3/4"-10 (Cont.)		
5"	98865A770	$14.04
6"	98865A775	17.55
1 ft.	93565A255	30.62
3 ft.	93565A245	73.26
6 ft.	93565A145	144.05
1"-8		
1 ft.	93565A256	46.50
3 ft.	93565A250	117.02
6 ft.	93565A150	205.71

High-Strength 410 Stainless Steel

Lg.		Each
1/2"-13		
1 ft.	98827A382	22.49
3 ft.	98827A340	61.04
5/8"-11		
1 ft.	98827A383	26.50
3 ft.	98827A350	68.62
3/4"-10		
1 ft.	98827A384	30.52
3 ft.	98827A360	74.67
1"-8		
1 ft.	98827A386	43.51
3 ft.	98827A380	119.78

316 Stainless Steel

Choose a Thread Size	Choose a Length	
1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10, 7/8"-9, 1"-8	1", 1½", 2", 2½", 3", 3½", 4", 4½", 5", 6", 7", 1 ft., 3 ft., 6 ft.	94400A110

18-8 Stainless Steel

Choose a Thread Size	Choose a Length	
1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24, 7/16"-14, 7/16"-20, 1/2"-13, 1/2"-20, 9/16"-12, 5/8"-11, 5/8"-18, 3/4"-10, 3/4"-16, 7/8"-9, 1"-8, 1"-14	1", 1½", 2", 2½", 3", 3½", 4", 4½", 5", 6", 7", 1 ft., 2 ft., 3 ft., 6 ft.	91187A110

Metric Stainless Steel Threaded Studs and Rods



Resistant to chemicals and solvents, these stainless steel studs and rods stand up to harsh environments. Minimum tensile strength is 70,000 psi. They are not rated for hardness. All have a 6g thread fit and meet DIN 976. They may be mildly magnetic.

316 stainless steel studs and rods are suitable for saltwater environments and are more corrosion resistant than 18-8 stainless steel. **18-8 stainless steel** studs and rods are corrosion resistant.

316 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
M2—Pitch: 0.4 mm			
12 mm	5	98863A526	$4.20
25 mm	5	98863A527	5.20
300 mm	1	94185A571	4.04
500 mm	1	94185A572	5.82
1 m	1	94185A135	8.91
2 m	1	94185A573	17.35
M2.5—Pitch: 0.45 mm			
12 mm	5	98863A528	4.38
25 mm	5	98863A529	5.42
300 mm	1	94185A574	4.75
500 mm	1	94185A575	5.81
1 m	1	94185A576	9.48
M3—Pitch: 0.5 mm			
12 mm	5	98863A530	4.57
25 mm	5	98863A531	5.65
300 mm	1	94185A578	3.68
500 mm	1	94185A579	5.80
1 m	1	94185A140	9.62
2 m	1	94185A580	17.67
M4—Pitch: 0.7 mm			
12 mm	5	98863A532	4.77
25 mm	5	98863A538	5.91
50 mm	1	98863A534	1.26
300 mm	1	94185A581	3.80
500 mm	1	94185A582	6.00
M4—Pitch: 0.7 mm (Cont.)			
1 m	1	94185A145	$10.02
2 m	1	94185A583	18.33
M5—Pitch: 0.8 mm			
12 mm	5	98863A535	5.00
25 mm	5	98863A536	6.14
50 mm	1	98863A537	1.55
300 mm	1	94185A584	5.21
500 mm	1	94185A585	6.90
1 m	1	94185A150	10.72
2 m	1	94185A205	17.15
M6—Pitch: 1 mm			
20 mm	1	98863A243	2.31
25 mm	1	98863A250	7.87
30 mm	1	98863A255	8.00
40 mm	1	98863A260	8.04
50 mm	1	98863A265	8.83
60 mm	1	98863A270	6.21
200 mm	1	98863A542	2.98
300 mm	1	94185A586	4.22
500 mm	1	94185A587	6.70
1 m	1	94185A155	11.93
2 m	1	94185A210	19.09
M8—Pitch: 1.25 mm			
25 mm	1	98863A310	8.84
30 mm	1	98863A315	9.08
M8—Pitch: 1.25 mm (Cont.)			
40 mm	1	98863A320	$9.29
50 mm	1	98863A325	9.76
60 mm	1	98863A328	5.14
200 mm	1	98863A539	3.78
300 mm	1	94185A588	5.42
500 mm	1	94185A589	8.70
1 m	1	94185A160	14.72
2 m	1	94185A215	23.55
M10—Pitch: 1.5 mm			
30 mm	1	98863A350	9.92
40 mm	1	98863A355	10.42
50 mm	1	98863A360	10.87
60 mm	1	98863A365	11.20
80 mm	1	98863A368	12.16
200 mm	1	98863A540	5.38
300 mm	1	94185A590	7.82
500 mm	1	94185A591	12.70
1 m	1	94185A165	25.60
2 m	1	94185A220	40.96
M12—Pitch: 1.75 mm			
40 mm	1	98863A410	12.46
50 mm	1	98863A415	12.88
70 mm	1	98863A420	13.67
80 mm	1	98863A425	14.09
200 mm	1	98863A541	9.61
M12—Pitch: 1.75 mm (Cont.)			
300 mm	1	94185A561	$17.00
500 mm	1	94185A592	21.99
1 m	1	94185A170	34.00
2 m	1	94185A225	54.40
M16—Pitch: 2 mm			
60 mm	1	98863A515	14.46
80 mm	1	98863A520	15.76
100 mm	1	98863A525	16.34
300 mm	1	94185A564	27.42
1 m	1	94185A175	52.73
2 m	1	94185A230	84.37
M20—Pitch: 2.5 mm			
1 m	1	94185A180	86.08
2 m	1	94185A235	137.73
M24—Pitch: 3 mm			
1 m	1	94185A190	121.11
2 m	1	94185A240	193.78
M30—Pitch: 3.5 mm			
300 mm	1	94185A593	79.97
1 m	1	94185A594	171.91
2 m	1	94185A595	278.62
M36—Pitch: 4 mm			
300 mm	1	94185A596	112.46
1 m	1	94185A597	242.98
2 m	1	94185A598	393.79

18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
M2—Pitch: 0.4 mm			
12 mm	10	93805A621	8.00
16 mm	10	93805A622	8.40
20 mm	10	93805A623	9.20
25 mm	10	93805A624	9.60
300 mm	1	90024A210	3.80
500 mm	1	90024A211	6.00
1 m	1	90024A212	9.17
2 m	1	90024A213	18.33
M2.5—Pitch: 0.45 mm			
12 mm	10	93805A625	8.00
16 mm	10	93805A626	8.40
20 mm	10	93805A627	8.80
25 mm	10	93805A628	9.60
300 mm	1	90024A214	3.50
500 mm	1	90024A215	5.50
1 m	1	90024A216	8.33
2 m	1	90024A217	16.67
M3—Pitch: 0.5 mm			
12 mm	10	93805A629	6.67
16 mm	10	93805A630	7.00
20 mm	10	93805A631	7.33
25 mm	10	93805A632	8.00
300 mm	1	90024A218	2.89
500 mm	1	90024A219	4.54
1 m	10	90024A040	5.61
2 m	1	90024A220	13.71
M4—Pitch: 0.7 mm			
10 mm	10	93805A250	4.04
12 mm	10	93805A253	4.32
16 mm	10	93805A256	5.46
20 mm	10	93805A259	6.73
25 mm	10	93805A263	6.25
30 mm	10	93805A266	8.30
40 mm	5	93805A633	6.09
50 mm	5	93805A634	6.52

(Continued on following page)

Metric Stainless Steel Threaded Studs and Rods *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
M4—Pitch: 0.7 mm (Cont.)			
300 mm	1	90024A221	$2.69
500 mm	1	90024A222	4.20
1 m	1	90024A050	7.05
2 m	1	90024A223	14.19
M5—Pitch: 0.8 mm			
10 mm	10	93805A285	3.76
12 mm	10	93805A286	4.00
16 mm	10	93805A289	5.40
20 mm	10	93805A292	6.60
25 mm	10	93805A293	7.34
30 mm	10	93805A295	8.60
40 mm	5	93805A635	6.14
50 mm	5	93805A636	7.27
300 mm	1	90024A224	5.12
500 mm	1	90024A225	6.11
1 m	1	90024A060	9.24
2 m	1	90024A226	16.30
M6—Pitch: 1 mm			
10 mm	10	93805A312	6.54
12 mm	10	93805A314	6.98
16 mm	10	93805A316	7.36
20 mm	10	93805A318	8.12
25 mm	10	93805A320	8.94
30 mm	10	93805A323	10.76
35 mm	10	93805A325	12.46
40 mm	5	93805A326	7.14
50 mm	5	93805A329	8.91
60 mm	5	93805A333	10.94
80 mm	5	93805A637	7.60
100 mm	5	93805A638	8.60
150 mm	5	93805A639	11.40
200 mm	1	93805A640	4.00
300 mm	1	90024A227	5.54
500 mm	1	90024A228	6.68
1 m	1	90024A070	9.75
2 m	1	90024A461	15.60
M8—Pitch: 1.25 mm			
12 mm	10	93805A347	6.50
16 mm	10	93805A350	$7.79
20 mm	10	93805A353	9.68
25 mm	10	93805A355	10.90
30 mm	10	93805A357	13.08
35 mm	5	93805A358	7.73
40 mm	5	93805A359	8.91
50 mm	1	93805A361	2.20
60 mm	1	93805A363	2.68
70 mm	1	93805A366	3.15
80 mm	1	93805A369	3.67
100 mm	1	93805A375	4.78
150 mm	1	93805A641	5.03
200 mm	1	93805A642	5.48
300 mm	1	90024A229	7.27
500 mm	1	90024A230	11.47
1 m	1	90024A080	10.50
2 m	1	90024A462	16.80
M10—Pitch: 1.5 mm			
16 mm	5	93805A643	8.33
20 mm	5	93805A420	7.53
25 mm	5	93805A422	8.90
30 mm	1	93805A425	2.12
35 mm	1	93805A426	2.59
40 mm	1	93805A427	2.83
50 mm	1	93805A429	3.56
60 mm	1	93805A431	4.27
70 mm	1	93805A434	4.98
80 mm	1	93805A436	5.70
100 mm	1	93805A440	6.64
150 mm	1	93805A644	6.98
200 mm	1	93805A645	7.54
300 mm	1	90024A231	10.84
500 mm	1	90024A232	10.73
1 m	1	90024A090	13.04
2 m	1	90024A463	20.86
M12—Pitch: 1.75 mm			
20 mm	5	93805A246	9.67
25 mm	5	93805A450	9.72
30 mm	5	93805A454	$11.90
35 mm	5	93805A457	13.89
40 mm	1	93805A460	3.00
50 mm	1	93805A463	3.63
60 mm	1	93805A464	4.25
70 mm	1	93805A466	4.87
80 mm	1	93805A469	5.52
100 mm	1	93805A480	7.74
150 mm	1	93805A647	7.97
200 mm	1	93805A648	8.10
300 mm	1	90024A003	9.07
500 mm	1	90024A233	11.03
1 m	1	90024A100	13.61
2 m	1	90024A464	22.68
M14—Pitch: 2 mm			
50 mm	5	93805A649	13.10
100 mm	1	93805A690	6.67
300 mm	1	90024A005	13.59
1 m	1	90024A110	20.38
2 m	1	90024A465	33.98
M16—Pitch: 2 mm			
40 mm	1	93805A510	5.03
50 mm	1	93805A515	5.70
60 mm	1	93805A518	6.75
70 mm	1	93805A519	7.75
80 mm	1	93805A521	8.73
100 mm	1	93805A524	10.71
300 mm	1	90024A010	18.36
500 mm	1	90024A234	18.96
1 m	1	90024A120	27.54
2 m	1	90024A466	45.90
M18—Pitch: 2.5 mm			
50 mm	1	93805A651	7.34
100 mm	1	93805A652	14.12
1 m	1	90024A130	42.05
M20—Pitch: 2.5 mm			
60 mm	1	93805A606	12.60
80 mm	1	93805A609	14.79
100 mm	1	93805A612	$17.20
120 mm	1	93805A620	19.44
300 mm	1	90024A020	38.06
500 mm	1	90024A235	43.33
1 m	1	90024A140	57.09
2 m	1	90024A468	95.15
M22—Pitch: 2.5 mm			
300 mm	1	90024A236	42.12
1 m	1	90024A237	62.50
2 m	1	90024A238	103.45
M24—Pitch: 3 mm			
100 mm	1	93805A653	17.87
1 m	1	90024A160	67.92
2 m	1	90024A469	113.20
M27—Pitch: 3 mm			
300 mm	1	90024A311	64.66
1 m	1	90024A312	108.58
2 m	1	90024A313	187.21
M30—Pitch: 3.5 mm			
300 mm	1	90024A314	78.37
1 m	1	90024A315	132.20
2 m	1	90024A316	227.93
M33—Pitch: 3.5 mm			
300 mm	1	90024A317	94.05
1 m	1	90024A318	159.20
2 m	1	90024A319	274.48
M36—Pitch: 4 mm			
300 mm	1	90024A320	109.44
1 m	1	90024A321	185.70
2 m	1	90024A322	320.17
M42—Pitch: 4.5 mm			
300 mm	1	90024A323	140.10
1 m	1	90024A324	238.50
2 m	1	90024A325	411.21
M48—Pitch: 5 mm			
300 mm	1	90024A326	179.29
1 m	1	90024A327	306.00
2 m	1	90024A328	527.59

Nickel Threaded Rods



More corrosion resistant than stainless steel, these rods resist cracking from stress and corrosion in the harshest acidic and saltwater environments. Minimum tensile strength is 80,000 psi. All have a class 2A thread fit. Rods may be mildly magnetic.

Nickel-Copper 400 (also known as Monel) rods have excellent resistance to corrosion in caustic conditions. These rods are commonly used in valves, pumps, and shafts.

Hastelloy C276 rods are suitable for welding and chemical processing. They're resistant to pitting and cracking from exposure to formic and acetic acids, brine solutions, and corrosive chemicals such as chlorine.

Lg.		Each
Nickel-Copper 400		
¼"-20		
1 ft.	95815A510	$38.33
3 ft.	95815A520	92.86
⅜"-16		
1 ft.	95815A392	$43.68
3 ft.	95815A340	82.03
½"-13		
1 ft.	95815A393	$58.44
3 ft.	95815A350	115.81
⅝"-11		
1 ft.	95815A394	$73.27
3 ft.	95815A360	169.00
Hastelloy C276		
⅜"-16		
1 ft.	98887A405	81.97
3 ft.	98887A250	231.18
½"-13		
1 ft.	98887A410	122.29
3 ft.	98887A300	329.96
⅝"-11		
1 ft.	98887A415	192.17
3 ft.	98887A350	555.93
¾"-10		
1 ft.	98887A420	268.43
3 ft.	98887A400	766.67

Aluminum Threaded Studs and Rods



One-third the weight and more corrosion resistant than zinc-plated steel, aluminum threaded studs and rods are a good choice for outdoor applications. Minimum tensile strength is 42,000 psi and minimum Rockwell hardness is B40. All have a Class 1A thread fit.

Lg.	Pkg. Qty.		Pkg.
0-80			
½"	1	93225A981	$4.00
1"	1	93225A982	4.80
2"	1	93225A983	6.43
2-56			
½"	25	93225A411	4.61
1"	25	93225A412	7.07
2"	25	93225A413	11.96
3 ft.	1	94435A501	5.89
6 ft.	1	94435A502	10.71
3-48			
1"	25	93225A414	7.07
2"	25	93225A415	$11.96
3 ft.	1	94435A503	6.11
6 ft.	1	94435A504	11.61
4-40			
½"	50	93225A467	7.68
¾"	50	93225A469	8.21
1"	50	93225A471	8.40
1½"	50	93225A472	10.17
2"	50	93225A473	12.50
2½"	25	93225A474	8.04
1 ft.	1	94435A505	2.11
3 ft.	1	94435A315	$3.13
6 ft.	1	94435A349	6.24
5-40			
1"	10	93225A416	3.39
2"	10	93225A417	5.36
3 ft.	1	94435A506	6.43
6 ft.	1	94435A507	12.50
6-32			
¾"	50	93225A569	8.03
1"	50	93225A571	8.14
1½"	50	93225A572	10.16
2"	50	93225A573	$11.50
2½"	50	93225A574	13.33
3"	5	93225A578	2.50
1 ft.	1	94435A508	1.75
3 ft.	1	94435A317	2.63
6 ft.	1	94435A351	5.25
8-32			
¾"	50	93225A671	8.57
1"	50	93225A672	10.12
1½"	50	93225A673	12.40
2"	50	93225A674	13.98

(Continued on following page)

Aluminum Threaded Studs and Rods *(Continued from previous page)*



One-third the weight and more corrosion resistant than zinc-plated steel, aluminum threaded studs and rods are a good choice for outdoor applications. Minimum tensile strength is 42,000 psi and minimum Rockwell hardness is B40. All have a Class 1A thread fit.

Lg.	Pkg. Qty.		Pkg.
8-32 (Cont.)			
2½″	25	93225A675	$8.45
3″	25	93225A677	12.00
1 ft.	1	94435A509	1.70
3 ft.	1	94435A319	3.00
6 ft.	1	94435A353	6.03
10-24			
¾″	50	93225A418	10.29
1″	50	93225A771	8.52
1½″	50	93225A772	11.00
2″	50	93225A773	14.31
3″	25	93225A775	10.80
4″	25	93225A776	14.63
5″	10	93225A777	6.80
6″	10	93225A778	8.46
1 ft.	1	94435A511	1.85
3 ft.	1	94435A321	3.38
6 ft.	1	94435A355	6.76
10-32			
¾″	50	93225A419	11.07
1″	25	93225A780	7.85
1½″	25	93225A782	11.07
2″	25	93225A784	12.78
2½″	10	93225A302	5.83
3″	10	93225A785	7.89
1 ft.	1	94435A512	2.00
3 ft.	1	94435A336	3.66
6 ft.	1	94435A357	7.32
12-24			
1″	25	93225A421	$7.92
2″	25	93225A422	13.13
3 ft.	1	94435A513	5.68
6 ft.	1	94435A514	11.25
¼″-20			
¾″	25	93225A869	8.44
1″	25	93225A871	9.40
1½″	25	93225A891	12.20
2″	10	93225A872	6.13
2½″	10	93225A800	6.94
3″	10	93225A873	7.38
3½″	10	93225A305	7.67
4″	10	93225A874	9.39
5″	10	93225A878	11.91
6″	10	93225A882	12.29
8″	5	93225A886	8.33
1 ft.	1	94435A313	3.13
2 ft.	1	94435A515	3.63
3 ft.	1	94435A338	4.46
4 ft.	1	94435A536	6.76
6 ft.	1	94435A325	8.91
8 ft.	1	94435A537	14.71
¼″-28			
1″	25	93225A401	6.61
1½″	25	93225A402	9.29
2″	25	93225A403	11.07
3 ft.	1	94435A516	5.36
¼″-28 (Cont.)			
6 ft.	1	94435A517	$10.71
5⁄16″-18			
1″	10	93225A910	9.40
1½″	10	93225A918	10.20
2″	10	93225A922	11.20
3″	10	93225A404	8.33
1 ft.	1	94435A518	2.07
2 ft.	1	94435A538	4.15
3 ft.	1	94435A342	7.03
4 ft.	1	94435A519	7.30
6 ft.	1	94435A361	14.07
5⁄16″-24			
3 ft.	1	94435A521	7.83
6 ft.	1	94435A522	15.65
⅜″-16			
¾″	5	93225A940	9.20
1″	5	93225A944	9.40
1½″	5	93225A948	10.20
2″	5	93225A952	11.20
3″	5	93225A405	7.25
4″	5	93225A961	11.40
1 ft.	1	94435A314	7.61
2 ft.	1	94435A523	7.89
3 ft.	1	94435A344	8.91
4 ft.	1	94435A524	10.71
6 ft.	1	94435A327	17.83
8 ft.	1	94435A525	20.67
⅜″-24			
2″	5	93225A406	$5.26
3″	5	93225A407	7.37
3 ft.	1	94435A526	9.60
6 ft.	1	94435A527	18.17
½″-13			
2″	5	93225A408	5.80
3″	5	93225A409	8.20
6″	1	93225A980	4.13
1 ft.	1	94435A528	4.96
2 ft.	1	94435A529	9.92
3 ft.	1	94435A346	16.42
4 ft.	1	94435A531	19.84
6 ft.	1	94435A365	32.83
8 ft.	1	94435A532	41.04
½″-20			
3 ft.	1	94435A533	19.14
6 ft.	1	94435A534	33.21
⅝″-11			
1 ft.	1	94435A370	20.00
3 ft.	1	94435A348	25.80
6 ft.	1	94435A367	51.60
¾″-10			
1 ft.	1	94435A371	29.57
3 ft.	1	94435A352	44.00
6 ft.	1	94435A369	88.00

Titanium Threaded Rods



These Grade 2 titanium rods are known for their superior corrosion resistance to acids and salt water and high strength-to-weight ratio. They're 40% lighter than steel. Material is nonmagnetic. Minimum tensile strength is 50,000 psi and minimum Rockwell hardness is B80. All rods have a Class 2A thread fit.

Lg.		Each
8-32		
1 ft.	96095A145	$34.00
3 ft.	96095A120	90.65
10-24		
1 ft.	96095A150	33.10
10-24 (Cont.)		
3 ft.	96095A125	$87.45
¼″-20		
1 ft.	96095A155	36.21
3 ft.	96095A130	82.32
5⁄16″-18		
1 ft.	96095A160	$50.86
3 ft.	96095A135	121.68
⅜″-16		
1 ft.	96095A165	$52.14
3 ft.	96095A140	142.38

Brass and Bronze Threaded Studs and Rods



Choose brass and bronze studs and rods where corrosion resistance and electrical conductivity are needed. They're nonmagnetic. Inch sizes have a Class 1A thread fit. Metric sizes have a Class 6g thread fit.

Brass threaded studs and rods are comparable in corrosion resistance to aluminium. Minimum tensile strength is 50,000 psi and minimum Rockwell hardness is B55.

Bronze threaded studs and rods are more corrosion resistant than brass and stainless steel studs and rods. Minimum tensile strength is 55,000 psi. Not rated for hardness.

Lg.	Pkg. Qty.		Pkg.
Brass			
0-80			
1⁄2″	1	93025A977	$4.40
1″	1	93025A978	6.40
2″	1	93025A979	9.09
2-56			
1⁄2″	25	93025A360	10.00
1″	25	93025A362	10.15
1½″	25	93025A363	14.23
2″	10	93025A364	9.77
2 ft.	1	98812A003	1.43
3 ft.	1	98853A003	2.15
3-48			
1″	50	93025A399	11.50
2″	25	93025A398	10.33
3 ft.	1	98853A401	3.68
6 ft.	1	98853A402	7.35
4-40			
1⁄2″	50	93025A459	10.18
¾″	50	93025A461	12.00
1″	50	93025A462	13.00
1½″	25	93025A463	6.83
2″	25	93025A465	8.04
1 ft.	1	98812A601	1.25
2 ft.	1	98812A005	1.92
3 ft.	1	98853A005	2.88
4-40 (Cont.)			
6 ft.	1	98926A005	$5.77
5-40			
1″	25	93025A397	6.50
2″	25	93025A396	11.00
2 ft.	1	98812A006	2.42
6-32			
1⁄2″	50	93025A559	9.33
¾″	50	93025A561	12.80
1″	50	93025A562	13.00
1½″	25	93025A563	8.80
2″	25	93025A564	10.40
3″	25	93025A568	11.60
1 ft.	1	98812A602	1.45
2 ft.	1	98812A007	2.00
3 ft.	1	98853A007	3.00
6 ft.	1	98926A007	5.99
8-32			
1⁄2″	50	93025A659	13.65
¾″	25	93025A661	8.00
1″	25	93025A662	8.73
1½″	25	93025A663	11.20
2″	25	93025A664	13.89
3″	10	93025A668	8.40
1 ft.	1	98812A603	1.85
8-32 (Cont.)			
2 ft.	1	98812A009	$2.86
3 ft.	1	98853A009	4.27
6 ft.	1	98926A009	8.53
10-24			
1″	25	93025A762	10.40
1½″	25	93025A763	14.00
2″	25	93025A764	12.20
2½″	10	93025A765	7.86
3″	10	93025A767	10.00
2 ft.	1	98812A011	3.41
3 ft.	1	98853A011	5.11
6 ft.	1	98926A011	10.21
10-32			
1⁄2″	50	93025A855	14.63
¾″	25	93025A861	9.40
1″	25	93025A862	10.91
1¼″	10	93025A892	5.60
1½″	25	93025A863	13.32
2″	25	93025A864	13.37
3″	10	93025A870	9.48
4″	10	93025A875	11.55
1 ft.	1	98813A101	2.20
2 ft.	1	98813A011	3.70
10-32 (Cont.)			
3 ft.	1	98854A011	$5.55
6 ft.	1	98927A011	11.10
12-24			
1″	25	93025A395	10.00
2″	10	93025A394	7.50
3 ft.	1	98853A403	7.20
6 ft.	1	98853A404	14.28
¼″-20			
1⁄2″	25	93025A958	10.66
¾″	25	93025A960	12.23
1″	25	93025A961	15.00
1¼″	10	93025A001	8.18
1½″	10	93025A962	8.11
1¾″	10	93025A893	10.20
2″	10	93025A963	9.50
2¼″	5	93025A865	7.00
3″	10	93025A964	14.17
4″	5	93025A966	10.00
1 ft.	1	98812A039	2.65
2 ft.	1	98812A029	5.04
3 ft.	1	98853A029	7.51
4 ft.	1	98853A405	8.80
6 ft.	1	98926A029	15.03

(Continued on following page)

For information about threaded studs and rods, see page 3182.

Brass and Bronze Threaded Studs and Rods *(Continued from previous page)*

Brass (Cont.)

Lg.	Pkg. Qty.		Pkg.
1/4"-28			
1"	1	93025A393	$0.47
1 1/2"	1	93025A392	.73
2"	1	93025A391	.93
1 ft.	1	98813A102	3.05
2 ft.	1	98813A029	5.99
3 ft.	1	98854A029	8.98
6 ft.	1	98927A029	17.95
5/16"-18			
1"	5	93025A968	8.20
1 1/2"	5	93025A969	9.40
2"	5	93025A973	12.40
2 1/2"	1	93025A975	3.00
3"	5	93025A976	14.33
4"	1	93025A389	2.53
1 ft.	1	98812A604	4.48
2 ft.	1	98812A030	7.91
3 ft.	1	98853A030	11.86
6 ft.	1	98926A030	23.73
5/16"-24			
2 ft.	1	98813A030	9.21
3 ft.	1	98854A030	13.82
3/8"-16			
3/4"	5	93025A111	$9.89
1"	5	93025A112	10.16
1 1/4"	5	93025A113	10.70
1 1/2"	5	93025A114	12.49
2"	5	93025A116	14.88
2 1/2"	1	93025A120	3.60
3"	1	93025A128	4.40
4"	1	93025A388	3.27
1 ft.	1	98812A605	5.88
2 ft.	1	98812A031	11.40
3 ft.	1	98853A031	17.11
4 ft.	1	98853A406	23.50
6 ft.	1	98926A031	34.22
3/8"-24			
2"	1	93025A387	2.00
3"	1	93025A386	2.90
1 ft.	1	98813A103	6.95
2 ft.	1	98813A031	13.04
3 ft.	1	98854A031	19.57
6 ft.	1	98927A031	78.71
7/16"-14			
2 ft.	1	98812A032	$16.04
1/2"-13			
1 1/2"	1	93025A295	4.60
2"	1	93025A297	6.00
3"	1	93025A299	9.18
4"	1	93025A305	11.00
1 ft.	1	98812A050	10.73
2 ft.	1	98812A033	20.46
3 ft.	1	98853A033	30.50
4 ft.	1	98853A407	43.50
6 ft.	1	98926A033	61.01
1/2"-20			
1 ft.	1	98812A051	12.07
2 ft.	1	98813A033	22.93
3 ft.	1	98854A033	34.40
6 ft.	1	98927A033	68.79
5/8"-11			
1 ft.	1	98812A040	16.99
2 ft.	1	98812A035	32.28
3 ft.	1	98853A035	48.42
6 ft.	1	98926A035	96.84
5/8"-18			
1 ft.	1	98812A052	$19.29
2 ft.	1	98813A035	36.65
3 ft.	1	98854A035	54.98
3/4"-10			
1 ft.	1	98812A041	25.91
2 ft.	1	98812A036	49.23
3 ft.	1	98853A036	74.03
6 ft.	1	98926A036	147.67
3/4"-16			
1 ft.	1	98812A053	30.68
2 ft.	1	98813A036	58.17
3 ft.	1	98854A036	87.26
6 ft.	1	98927A036	174.52
7/8"-9			
3 ft.	1	98853A037	101.88
1"-8			
1 ft.	1	98812A043	45.42
2 ft.	1	98812A038	88.09
3 ft.	1	98853A038	132.14

Bronze

Choose a Thread Size	Choose a Length	
1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 1/2"-20, 5/8"-11, 3/4"-10, 1"-8	1", 1 1/2", 2", 2 1/2", 3", 4", 1 ft., 3 ft., 6 ft.	96104A265

Metric Brass

Choose a Thread Size	Choose a Length	
M2×0.4, M2.5×0.45, M3×0.5, M4×0.7, M5×0.8, M6×1, M8×1.25, M10×1.5, M12×1.75	1 m, 2 m	90162A465

Plastic Threaded Studs and Rods



A lightweight and chemical-resistant alternative to metal, these plastic studs and rods are often used in corrosive environments. They're nonconductive, making them good for use around sensitive electrical components. Not rated for tensile strength or hardness.

General purpose nylon 6/6 studs and rods stand up to oils, greases, and solvents (except mineral acids). Nylon absorbs moisture, which can cause it to become brittle over time in wet environments. Maximum temperature is 185°F. Inch sizes have a Class 2A thread fit. Metric sizes have a Class 6g thread fit.

High-strength fiberglass rods are stronger than nylon rods. Not rated for temperature. All have a Class 1A thread fit.

Moisture-resistant acetal rods are less susceptible to dimensional changes than nylon studs and rods. They're resistant to alcohols, weak alkalies, and salt solutions. Maximum temperature is 180°F. All have a Class 2A thread fit.

Chemical-resistant PVC rods resist acids, alkalies, salt solutions, and alcohols. Maximum temperature is 130°F. All have a Class 2A thread fit.

Wear/chemical-resistant PTFE rods are abrasion resistant and stand up to oils, greases, detergents, and most mineral acids. Maximum temperature is 250°F. All have a Class 2A thread fit.

General Purpose Nylon 6/6

Lg.	Choose a Color	Pkg. Qty.		Pkg.
4-40				
2 ft.	Black, White	1	98831A310	$5.78
6 ft.	Black, White	1	98831A520	16.28
6-32				
2 ft.	Black, White	1	98831A320	4.84
6 ft.	Black, White	1	98831A530	14.37
8-32				
2 ft.	Black, White	1	98831A330	4.80
6 ft.	Black, White	1	98831A540	14.85
10-24				
2 ft.	Black, White	1	98831A340	4.48
6 ft.	Black, White	1	98831A550	13.70
10-32				
3/4"	Black, White	100	93665A309	5.80
1"	Black, White	50	93665A314	4.14
1 1/2"	Black, White	50	93665A319	5.57
2"	Black, White	25	93665A324	3.50
2 ft.	Black, White	1	98831A350	4.52
6 ft.	Black, White	1	98831A560	13.80
1/4"-20				
3/4"	Black, White	50	93665A409	4.34
1"	Black, White	50	93665A414	5.74
1/4"-20 (Cont.)				
1 1/2"	Black, White	25	93665A419	$4.27
2"	Black, White	10	93665A424	2.83
2 1/2"	Black, White	10	93665A429	2.30
3"	Black, White	10	93665A434	2.93
2 ft.	Black, White	1	98831A360	3.74
6 ft.	Black, White	1	98831A570	11.39
5/16"-18				
1"	Black, White	25	93665A514	3.76
1 1/2"	Black, White	25	93665A519	4.81
2"	Black, White	25	93665A524	5.31
3"	Black, White	10	93665A534	3.26
2 ft.	Black, White	1	98831A370	5.80
6 ft.	Black, White	1	98831A580	17.60
3/8"-16				
1"	Black, White	25	93665A614	6.13
1 1/2"	Black, White	25	93665A619	6.57
2"	Black, White	25	93665A624	7.30
2 1/2"	Black, White	10	93665A629	3.85
3"	Black, White	10	93665A634	4.04
4"	Black, White	10	93665A639	6.78
2 ft.	Black, White	1	98831A380	7.66
3/8"-16 (Cont.)				
6 ft.	Black, White	1	98831A590	$22.35
1/2"-13				
1 1/2"	Black, White	10	93665A659	3.94
2"	Black, White	10	93665A664	4.47
3"	Black, White	5	93665A674	3.56
5"	Black, White	5	93665A684	7.32
2 ft.	Black, White	1	98831A390	12.13
6 ft.	Black, White	1	98831A710	36.02
5/8"-11				
1 ft.	Black, White	1	98831A110	10.40
2 ft.	Black, White	1	98831A410	17.93
6 ft.	Black, White	1	98831A720	47.78
3/4"-10				
1 ft.	Black, White	1	98831A120	11.03
2 ft.	Black, White	1	98831A420	17.57
6 ft.	Black, White	1	98831A730	50.76
1"-8				
1 ft.	Black, White	1	98831A140	18.88
2 ft.	Black, White	1	98831A510	29.95
6 ft.	Black, White	1	98831A750	86.39

Specialty Plastics

	Color	Choose a Thread Size	Choose a Lg.	
High-Strength Fiberglass	Gray	3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10, 1"-8	1 ft., 4 ft., 8 ft.	91315A150
Moisture-Resistant Acetal	White	10-32, 1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13	2 ft., 4 ft.	98873A250
Chemical-Resistant PVC	Gray	1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10	3 ft.	98871A300
Wear/Chemical-Resistant PTFE	White	1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 3/4"-10	1 ft., 4 ft.	90206A350

Metric General Purpose Nylon 6/6

Color	Choose a Thread Size	Lg.	
White	M4×0.7, M5×0.8, M6×1, M8×1.25, M10×1.5, M12×1.75, M16×2	1 m	98882A450

Threaded Stud Assortments



44-Pc. Assortment—Medium-Strength Steel

Includes uncoated steel studs that meet ASTM A193 Grade B7. Case is metal.

Size	Lengths	Pieces per Lg.
1/2"-13	2", 2 1/2", 3", 4"	5
5/8"-11	3", 3 1/2", 4"	4
3/4"-10	3", 4", 4 1/2", 5"	3
93745A400		$99.74

60-Pc. Assortment—18-8 Stainless Steel

These stainless steel studs are chemical resistant. Case is plastic.

Size	Lengths	Pieces per Lg.
1/4"-20	1", 1 1/2", 2", 3"	7
5/16"-18	1", 1 1/2", 2"	5
3/8"-16	1", 1 1/2"	4
3/8"-16	2", 3", 4"	3
93745A800		$99.74

Coil-Threaded Rods, Bolts, and Nuts



Rod



Bolt



Hex Nut



Flange Nut



Wing Nut

Coil-style threads are shallow and widely spaced for fast threading and quick assembly. Their thread design minimizes the accumulation of dirt and debris. Components are often used in concrete forming systems. Not rated for hardness.

Rods are uncoated steel. They have a minimum tensile strength of 80,000 psi.

Bolts are made from uncoated steel. They have a minimum tensile strength of 80,000 psi. Length is measured from under the head.

Hex nuts are uncoated steel. Not rated for tensile strength.

Flange nuts have a large bearing surface to cover holes and resist vibration. They're made from uncoated iron. Not rated for tensile strength.

Wing nuts can be fastened by hand. They're uncoated iron. Not rated for tensile strength.

	Rods		*Bolts*					
Thread Size	6-ft. Lg.		2" Lg.		3" Lg.		6" Lg.	
1/2"-6	95465A201	$21.10	95465A714	$3.30	95465A719	$3.55	95465A731	$5.80
3/4"-4 1/2	95465A205	40.10	95465A739	7.53	95465A744	7.88	95465A759	14.55
1"-3 1/2	95465A209	65.50						

	Hex Nuts				Flange Nuts				Wing Nuts				
Thread Size	Wd.	Ht.			Flange Dia.	Wd.	Ht.			O'all Lg.	Wd.	Ht.	Base Dia.		
1/2"-6	7/8"	7/16"	95525A211	$1.26	4"	1 3/16"	1 1/4"	95020A111	$15.82	5"	2 3/8"	1 1/4"	95180A300	$19.58
3/4"-4 1/2	1 1/8"	5/8"	95525A215	2.90	4"	1 3/16"	1 1/2"	95020A222	20.74	6"	2 1/2"	1 3/4"	95180A400	20.91
1"-3 1/2	1 5/8"	1"	95525A219	7.68	5"	1 1/2"	1 5/8"	95020A333	28.33	6"	3"	1 7/8"	95180A500	22.96

Hollow Studs

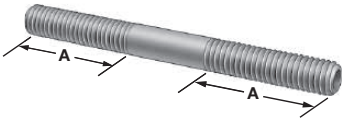

A hollow center allows these studs to be used as an axle, a vent, or a passageway for wiring. They're 18-8 stainless steel. Thread length is the same on both ends. Not rated for tensile strength. Rockwell hardness is B83. All have a Class 2A thread fit.

O'all Lg.	Thread Lg. (A)		Each
1/4"-20—Hole Dia.: 1/8"			
4"	1 1/2"	94624A121	$25.87
8"	2 3/4"	94624A122	31.00
5/16"-18—Hole Dia.: 3/16"			
4"	1 1/2"	94624A123	$24.62
8"	2 3/4"	94624A124	30.13
3/8"-16—Hole Dia.: 7/32"			
4"	1 1/2"	94624A125	$21.07
8"	2 3/4"	94624A126	27.13
1/2"-13—Hole Dia.: 11/32"			
4"	1 1/2"	94624A127	$19.75
8"	2 3/4"	94624A128	26.72

Adjusting and Positioning Studs

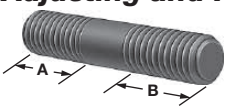

Also known as setup and driver studs, these studs are typically used in clamping and workholding applications. An unthreaded space in the middle can be used to make adjustments with a wrench. These studs are often used with setup clamps (see page 2602).

Black-oxide steel studs are mildly corrosion resistant. They have a minimum tensile strength of 125,000 psi and a minimum Rockwell hardness of C22. Inch sizes have a Class 2A thread fit. Metric sizes have a Class 6g thread fit. Inch size studs with a thread size larger than 3/8"-16 and longer than 3" with equal (A) and (B) thread lengths have a shank with flat sides, making them easier to grip with a wrench.

18-8 stainless steel studs are chemical resistant. Minimum tensile strength is 85,000 psi and minimum Rockwell hardness is B83. All have a Class 2A thread fit.

Metric uncoated steel studs are Class 8.8 steel. They have a minimum tensile strength of 116,000 psi and a minimum Rockwell hardness of C22. All have a Class 6g thread fit.

O'all Lg.	*Thread Lg.* (A)	(B)		Each
Black-Oxide Steel				
1/4"-20				
1 1/2"	1/2"	1/2"	90281A095	$1.65
1 1/2"	7/8"	3/8"	91025A548	1.57
2"	3/4"	3/4"	90281A097	1.65
2"	1"	3/8"	91025A550	1.65
2 1/2"	1"	3/8"	91025A552	1.57
2 1/2"	1"	1"	90281A094	1.69
3"	1"	1"	90281A098	1.69
3"	1 1/2"	3/8"	91025A554	1.69
3 1/2"	1"	1"	90281A092	1.71
4"	1"	1"	90281A099	1.74
4"	1 3/4"	3/8"	91025A558	1.74
4 1/2"	1"	1"	90281A093	1.76
5"	1"	1"	90281A100	1.76
5"	1 3/4"	3/8"	91025A562	1.76
1/4"-20 (Cont.)				
6"	1"	1"	90281A101	$1.78
6"	2"	3/8"	91025A566	1.78
7"	2"	3/8"	91025A568	1.80
8"	1"	1"	90281A102	1.83
8"	2 1/2"	3/8"	91025A570	1.82
5/16"-18				
1 1/2"	1/2"	1/2"	90281A110	1.83
1 1/2"	3/4"	1/2"	91025A589	1.78
2"	3/4"	3/4"	90281A103	1.83
2"	1"	1/2"	91025A591	1.82
2 1/2"	1"	1/2"	91025A593	1.80
2 1/2"	1"	1"	90281A112	1.89
3"	1 1/8"	1 1/8"	90281A104	1.94
3"	1 1/2"	1/2"	91025A595	1.91
5/16"-18 (Cont.)				
3 1/2"	1 1/8"	1 1/8"	90281A116	$1.96
4"	1 1/8"	1 1/8"	90281A105	1.98
4"	1 1/2"	1/2"	91025A599	1.94
4 1/2"	1 1/8"	1 1/8"	90281A340	1.98
5"	1 1/8"	1 1/8"	90281A114	2.09
5"	1 3/4"	1/2"	91025A603	1.96
6"	1 1/8"	1 1/8"	90281A106	2.17
6"	2"	1/2"	91025A607	2.05
7"	1 1/8"	1 1/8"	90281A120	2.31
8"	1 1/8"	1 1/8"	90281A107	2.35
3/8"-16				
1 1/2"	1/2"	1/2"	90281A630	1.63
1 1/2"	5/8"	5/8"	91025A630	1.57
2"	3/4"	3/4"	90281A632	1.63
3/8"-16 (Cont.)				
2"	1"	5/8"	91025A632	$1.63
2 1/2"	1"	1"	90281A634	1.63
3"	1"	1"	90281A636	1.63
3"	1 1/2"	5/8"	91025A636	1.63
3 1/2"	1 1/4"	1 1/4"	90281A638	1.63
4"	1 1/4"	1 1/4"	90281A640	1.65
4"	1 1/2"	5/8"	91025A640	1.65
4 1/2"	1 1/4"	1 1/4"	90281A642	1.65
5"	1 1/4"	1 1/4"	90281A644	1.69
5"	1 3/4"	5/8"	91025A644	1.69
5 1/2"	1 1/4"	1 1/4"	90281A646	1.65
6"	1 1/4"	1 1/4"	90281A648	1.76
6"	2"	5/8"	91025A648	1.76
6 1/2"	1 1/4"	1 1/4"	90281A649	1.78

(Continued on following page)

Adjusting and Positioning Studs *(Continued from previous page)*

Black-Oxide Steel (Continued)

3/8"-16 (Cont.)

O'all Lg.	Thread Lg. (A)	(B)		Each
7"	1 1/4"	1 1/4"	90281A650	$1.80
8"	1 1/4"	1 1/4"	90281A651	1.83
8"	2 1/2"	5/8"	91025A652	1.80

7/16"-14

1 1/2"	1/2"	1/2"	90281A305	2.47
2"	3/4"	3/4"	90281A309	2.57
3"	1"	1"	90281A313	2.75
4"	1 3/8"	1 3/8"	90281A317	3.25
6"	1 3/8"	1 3/8"	90281A325	3.13

1/2"-13

1 1/2"	1/2"	1/2"	90281A719	1.65
1 1/2"	5/8"	5/8"	91025A718	1.60
2"	3/4"	3/4"	90281A721	1.65
2"	1"	5/8"	91025A720	1.65
2 1/2"	1"	1"	90281A722	1.69
3"	1"	1"	90281A724	1.69
3"	1 1/2"	3/4"	91025A724	1.69
3 1/2"	1 1/4"	1 1/4"	90281A726	1.78
4"	1 1/2"	3/4"	91025A728	1.80
4"	1 1/2"	1 1/2"	90281A728	1.80
4 1/2"	1 1/2"	1 1/2"	90281A730	1.83
5"	1 1/2"	1 1/2"	90281A732	1.85
5"	1 3/4"	3/4"	91025A732	1.85
5 1/2"	1 1/2"	1 1/2"	90281A733	1.89
5 1/2"	1 3/4"	3/4"	91025A734	1.76
6"	1 1/2"	1 1/2"	90281A736	1.94
6"	2"	3/4"	91025A736	1.94
6 1/2"	1 1/2"	1 1/2"	90281A735	2.15

1/2"-13 (Cont.)

6 1/2"	2"	3/4"	91025A737	$2.00
7"	1 1/2"	1 1/2"	90281A739	2.17
7"	2"	3/4"	91025A738	2.09
7 1/2"	1 1/2"	1 1/2"	90281A771	2.24
8"	1 1/2"	1 1/2"	90281A740	2.35
8"	2 1/2"	3/4"	91025A740	2.33
9"	1 1/2"	1 1/2"	90281A742	4.48
9"	2 1/2"	3/4"	91025A742	3.82
10"	1 1/2"	1 1/2"	90281A744	5.05
10"	3"	3/4"	91025A744	3.98
12"	1 1/2"	1 1/2"	90281A748	6.11
12"	3"	3/4"	91025A748	4.47
14"	1 1/2"	1 1/2"	90281A775	6.09

5/8"-11

2"	3/4"	3/4"	90281A804	2.09
2 1/2"	1"	7/8"	91025A804	1.94
2 1/2"	1"	1"	90281A805	2.09
3"	1"	1"	90281A806	2.09
3"	1 1/2"	7/8"	91025A806	2.05
3 1/2"	1 1/4"	1 1/4"	90281A808	2.24
4"	1 1/2"	1 1/2"	90281A810	2.26
4"	1 3/4"	7/8"	91025A810	2.33
4 1/2"	1 3/4"	1 3/4"	90281A812	2.42
5"	1 3/4"	7/8"	91025A814	2.53
5"	1 3/4"	1 3/4"	90281A814	2.53
5 1/2"	1 3/4"	1 3/4"	90281A816	2.71
5 1/2"	2"	7/8"	91025A816	2.57
6"	1 3/4"	1 3/4"	90281A818	2.73

5/8"-11 (Cont.)

6"	2"	7/8"	91025A818	$2.74
6 1/2"	1 3/4"	1 3/4"	90281A819	2.99
7"	1 3/4"	1 3/4"	90281A820	3.11
7"	2"	7/8"	91025A820	3.11
8"	1 3/4"	1 3/4"	90281A822	3.33
8"	2 1/2"	7/8"	91025A822	3.35
9"	1 3/4"	1 3/4"	90281A824	5.71
10"	1 3/4"	1 3/4"	90281A826	6.27
10"	2 1/2"	7/8"	91025A826	4.82
12"	1 3/4"	1 3/4"	90281A830	7.05
14"	1 3/4"	1 3/4"	90281A834	8.13
14"	3"	7/8"	91025A830	6.16
16"	1 3/4"	1 3/4"	90281A838	8.07

3/4"-10

3"	1"	1"	90281A847	2.67
3"	1 1/2"	1"	91025A847	2.69
3 1/2"	1 1/4"	1 1/4"	90281A849	2.81
4"	1 1/2"	1 1/2"	90281A851	2.99
4"	1 3/4"	1"	91025A851	2.96
4 1/2"	1 3/4"	1 3/4"	90281A853	3.27
5"	1 3/4"	1"	91025A855	3.35
5"	2"	2"	90281A856	3.33
5 1/2"	2"	2"	90281A858	3.32
6"	2"	1"	91025A859	3.63
6"	2"	2"	90281A859	3.63
6 1/2"	2"	2"	90281A860	3.60
7"	2"	1"	91025A861	3.98
7"	2"	2"	90281A861	4.06

3/4"-10 (Cont.)

8"	2"	2"	90281A863	$4.33
9"	2"	2"	90281A864	7.94
9"	2 1/2"	1"	91025A865	6.60
10"	2"	2"	90281A866	8.54
12"	2"	2"	90281A868	9.69
12"	3"	1"	91025A868	7.07
14"	2"	2"	90281A871	10.65
16"	2"	2"	90281A872	11.58
18"	2"	2"	90281A874	12.44

7/8"-9

4"	1 1/2"	1 1/2"	90281A880	6.65
5"	2"	2"	90281A881	7.58
6"	2 1/4"	2 1/4"	90281A896	8.13
7"	2 1/4"	2 1/4"	90281A883	9.36
8"	2 1/4"	2 1/4"	90281A884	10.40
10"	2 1/4"	2 1/4"	90281A886	12.91
12"	2 1/4"	2 1/4"	90281A888	13.82

1"-8

4"	1 1/2"	1 1/2"	90281A890	7.64
4"	1 3/4"	1 1/2"	91025A920	7.49
5"	2"	2"	90281A891	8.46
6"	2"	1 1/2"	91025A928	8.98
6"	2 1/2"	2 1/2"	90281A892	9.36
7"	2 1/2"	2 1/2"	90281A893	10.51
8"	2 1/2"	2 1/2"	90281A894	11.05
10"	2 1/2"	2 1/2"	90281A897	14.76
12"	2 1/2"	2 1/2"	90281A898	16.47
16"	2 1/2"	2 1/2"	90281A902	16.07

18-8 Stainless Steel

1/4"-20

1 1/2"	7/8"	3/8"	92997A305	2.40
2"	1"	3/8"	92997A308	2.50
2 1/2"	1"	3/8"	92997A311	2.56
3"	1"	1"	98962A225	3.11
3"	1 1/2"	3/8"	92997A314	2.62
4"	1"	1"	98962A230	3.35
4"	1 3/4"	3/8"	92997A317	2.76
5"	1"	1"	98962A235	3.63
5"	1 3/4"	3/8"	92997A320	2.88
6"	2"	3/8"	92997A323	3.01
7"	2"	3/8"	92997A326	3.20
8"	2 1/2"	3/8"	92997A329	3.35

5/16"-18

1 1/2"	3/4"	1/2"	92997A332	2.52
2"	1"	1/2"	92997A335	2.62

5/16"-18 (Cont.)

2 1/2"	1"	1/2"	92997A338	2.73
3"	1"	1"	98962A325	3.85
3"	1 1/2"	1/2"	92997A341	2.83
4"	1 1/8"	1 1/8"	98962A330	4.36
4"	1 1/2"	1/2"	92997A344	3.05
5"	1 3/4"	1/2"	92997A347	3.28
6"	2"	1/2"	92997A350	3.50
7"	2"	1/2"	92997A353	3.71
8"	2 1/2"	1/2"	92997A356	4.01

3/8"-16

1 1/2"	5/8"	5/8"	92997A359	2.62
2"	1"	5/8"	92997A362	2.76
3"	1 1/8"	1 1/8"	98962A425	3.29
3"	1 1/2"	5/8"	92997A365	3.05
4"	1 1/4"	1 1/4"	98962A430	3.55

3/8"-16 (Cont.)

4"	1 1/2"	5/8"	92997A368	3.35
5"	1 1/4"	1 1/4"	98962A435	3.98
5"	1 3/4"	5/8"	92997A371	3.66
6"	1 1/4"	1 1/4"	98962A440	4.29
6"	2"	5/8"	92997A374	3.95
8"	1 1/4"	1 1/4"	98962A445	4.96
8"	2 1/2"	5/8"	92997A377	4.58

1/2"-13

1 1/2"	5/8"	5/8"	92997A380	2.96
2"	1"	5/8"	92997A383	3.28
3"	1 1/2"	3/4"	92997A386	3.81
4"	1 1/2"	3/4"	92997A389	4.33
4"	1 1/2"	1 1/2"	98962A530	4.18
5"	1 1/2"	1 1/2"	98962A535	4.65
5"	1 3/4"	3/4"	92997A392	4.88

1/2"-13 (Cont.)

6"	1 1/2"	1 1/2"	98962A540	5.16
6"	2"	3/4"	92997A398	5.45
7"	2"	3/4"	92997A404	5.97
8"	1 1/2"	1 1/2"	98962A555	6.09
8"	2 1/2"	3/4"	92997A407	6.61
9"	2 1/2"	3/4"	92997A410	7.21

5/8"-11

2 1/2"	1"	7/8"	92997A422	4.30
3"	1 1/2"	7/8"	92997A425	4.75
4"	1 3/4"	7/8"	92997A428	5.53
4"	1 3/4"	1 3/4"	98962A630	4.91
5"	1 3/4"	1 3/4"	98962A635	5.55
6"	1 3/4"	1 3/4"	98962A640	6.20
8"	1 3/4"	1 3/4"	98962A655	7.53

Metric Black-Oxide Steel

M6—Pitch: 1 mm

O'all Lg., mm	Thread Lg. (A), mm	(B), mm		Each
50	20	12	93210A016	$3.23
50	20	20	93275A014	3.12
65	20	12	93210A017	3.73
80	27	12	93210A018	4.11
80	27	27	93275A019	3.48
110	31	12	93210A020	4.08
110	31	31	93275A022	3.97
175	35	35	93275A028	4.70

M8—Pitch: 1.25 mm

50	20	12	93210A030	2.53
50	20	20	93275A030	2.56
65	20	12	93210A031	2.55
65	20	20	93275A031	2.60
80	27	12	93210A032	2.65
80	27	27	93275A032	2.70
95	31	12	93210A033	2.78
95	31	31	93275A033	2.86
110	31	12	93210A034	2.91
110	31	31	93275A034	2.89
140	35	12	93210A035	3.36

M8—Pitch: 1.25 mm (Cont.)

140	35	35	93275A035	$3.40
150	35	35	93275A036	3.42
175	35	35	93275A037	3.56
200	35	35	93275A038	3.79

M10—Pitch: 1.5 mm

50	20	16	93210A039	2.43
50	20	20	93275A039	2.44
65	20	16	93210A040	2.53
65	20	20	93275A040	2.56
80	27	16	93210A041	2.55
80	27	27	93275A041	2.56
95	31	16	93210A042	2.55
95	31	31	93275A042	2.60
110	35	16	93210A043	2.65
110	35	35	93275A043	2.60
125	35	35	93275A044	2.79
140	35	16	93210A045	2.74
140	35	35	93275A045	2.89
150	35	35	93275A046	2.93
175	35	35	93275A047	3.00

M10—Pitch: 1.5 mm (Cont.)

200	35	35	93275A048	$3.12

M12—Pitch: 1.75 mm

50	20	16	93210A049	3.03
50	20	20	93275A049	3.00
65	20	16	93210A050	3.08
65	20	20	93275A050	3.05
80	27	16	93210A051	3.17
80	27	27	93275A051	3.28
95	31	16	93210A052	3.38
95	31	31	93275A052	3.45
110	39	39	93275A053	3.59
125	39	39	93275A054	3.72
140	39	39	93275A055	3.79
150	39	39	93275A056	4.02
175	39	39	93275A057	4.49
200	39	39	93275A058	4.65

M16—Pitch: 2 mm

80	21	21	93275A059	3.79
95	31	31	93275A060	3.79
110	47	47	93275A061	4.11

M16—Pitch: 2 mm (Cont.)

125	47	47	93275A066	$4.56
150	47	47	93275A062	4.80
175	47	47	93275A063	5.05
200	47	47	93275A064	5.39
250	47	47	93275A065	7.67
300	47	47	93275A101	5.31

M20—Pitch: 2.5 mm

80	27	27	93275A067	4.80
95	31	31	93275A105	4.72
110	47	20	93210A068	5.45
110	47	47	93275A068	5.82
125	55	55	93275A108	5.73
150	55	55	93275A069	6.91
175	55	55	93275A070	7.42
200	55	55	93275A071	8.07

M24—Pitch: 3 mm

100	39	39	93275A075	7.86
125	55	55	93275A076	7.87
150	63	63	93275A077	10.05
160	100	35	93210A084	10.69

Metric Uncoated Steel

M6—Pitch: 1 mm

O'all Lg., mm	Thread Lg. (A), mm	(B), mm		Each
23.5	10.5	6.25	98867A250	.81
27.5	14.5	6.25	98867A255	.98
37.5	18	6.25	98867A260	1.03
47.5	18	6.25	98867A265	1.08
57.5	18	6.25	98867A270	1.29

M8—Pitch: 1.25 mm

30	13.8	8.4	98867A310	.64

M8—Pitch: 1.25 mm (Cont.)

35	18.8	8.4	98867A315	.68
50	22	8.4	98867A320	.77
60	22	8.4	98867A325	1.08
70	22	8.4	98867A330	1.41

M10—Pitch: 1.5 mm

37	18.2	10.1	98867A350	.81
62	26	10.1	98867A355	1.18

M10—Pitch: 1.5 mm (Cont.)

72	26	10.1	98867A360	1.28
92	26	10.1	98867A365	1.52

M12—Pitch: 1.75 mm

45	22.7	12.8	98867A410	1.30
65	30	12.8	98867A415	1.56
75	30	12.8	98867A420	1.91
95	30	12.8	98867A425	2.60

M12—Pitch: 1.75 mm (Cont.)

115	30	12.8	98867A430	3.83

M16—Pitch: 2 mm

55	27	17.5	98867A510	2.49
70	38	17.5	98867A515	3.15
85	38	17.5	98867A520	3.68
100	38	17.5	98867A525	3.96
120	38	17.5	98867A530	5.62

Thread-Locking Adjusting and Positioning Studs

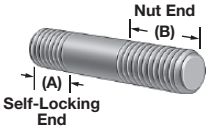

Often referred to as milled and tap-end studs, one end has self-locking, friction-fit threads and the other end has machine screw threads that are designed to accept a nut. Screw the friction-fit threaded end into a tapped hole with a standard thread fit to keep the stud securely in place as you fasten objects to it. Studs can be removed and reused. For inch sizes, the machine-threaded nut end has a Class 2A thread fit and the self-locking end has a Class 5 thread fit. Metric sizes have a Class 6g thread fit on the machine-threaded end and Class SK6 on the self-locking end.

Low-strength uncoated steel studs have a minimum tensile strength of 65,000 psi. They're not rated for hardness. **18-8 stainless steel** studs are chemical resistant. They may be mildly magnetic. Minimum tensile strength is 85,000 psi. They're not rated for hardness. **Metric medium-strength uncoated steel** studs have a minimum tensile strength of 120,000 psi and a minimum Rockwell hardness of C20.

O'all Lg.	*Thread Lg.* (A)	(B)		Each
Low-Strength Uncoated Steel				
3/8"-16				
1 1/4"	1/2"	5/8"	91563A126	$0.64
1 1/2"	1/2"	5/8"	91563A128	.64
1 3/4"	1/2"	5/8"	91563A130	.72
2"	1/2"	3/4"	91563A132	.72
2 1/4"	1/2"	3/4"	91563A133	.72
2 1/2"	1/2"	3/4"	91563A134	.77
2 3/4"	1/2"	3/4"	91563A135	.77
3"	1/2"	3/4"	91563A136	.77
7/16"-14				
1 1/2"	9/16"	5/8"	91563A173	.85
2"	9/16"	3/4"	91563A177	.93
7/16"-14 (Cont.)				
2 1/2"	9/16"	3/4"	91563A179	$0.93
3"	9/16"	7/8"	91563A181	.99
1/2"-13				
1 1/2"	1/2"	3/4"	91563A216	.94
1 3/4"	5/8"	3/4"	91563A218	.94
2"	5/8"	3/4"	91563A220	1.10
2 1/4"	5/8"	3/4"	91563A221	1.10
2 1/2"	5/8"	3/4"	91563A222	1.18
2 3/4"	3/4"	7/8"	91563A223	1.18
3"	3/4"	7/8"	91563A224	1.22
3 1/2"	3/4"	1"	91563A226	1.31
1/2"-13 (Cont.)				
4"	3/4"	1 1/4"	91563A228	$1.39
4 1/2"	7/8"	1 1/4"	91563A230	1.50
5"	7/8"	1 1/4"	91563A232	1.55
5/8"-11				
2"	3/4"	7/8"	91563A302	1.42
2 1/4"	3/4"	7/8"	91563A303	1.53
2 1/2"	3/4"	7/8"	91563A304	1.53
3"	7/8"	1"	91563A306	1.59
4"	7/8"	1 1/4"	91563A310	1.82
5"	7/8"	1 1/2"	91563A314	1.90
6"	7/8"	1 1/2"	91563A316	2.07
3/4"-10				
2 1/2"	7/8"	7/8"	91563A345	$2.08
3"	7/8"	1"	91563A347	2.18
3 1/2"	7/8"	1 1/4"	91563A349	2.31
4"	1"	1 1/4"	91563A351	2.45
7/8"-9				
3 1/2"	1"	1 1/4"	91563A386	3.21
4"	1"	1 1/4"	91563A388	3.47
1"-8				
4"	1 1/4"	1 1/2"	91563A390	4.39
5"	1 1/4"	2"	91563A391	5.13

18-8 Stainless Steel—Available with the same (A) and (B) thread lengths as low-strength uncoated steel studs

Choose a Thread Size	Choose an O'all Length	
3/8"-16, 7/16"-14, 1/2"-13, 5/8"-11, 3/4"-10	1 1/4", 1 1/2", 1 3/4", 2", 2 1/4", 2 1/2", 3", 4", 5"	92386A100

Metric Medium-Strength Uncoated Steel

Thread Size	Pitch, mm	Thread Lg. (A), mm	Thread Lg. (B), mm	Choose an O'all Length, mm	
M8	1.25	8	18-22	35, 45, 60, 70	91059A100
M10	1.5	10	18-26	37, 42, 52, 62	91059A200
M12	1.75	12	17-30	40, 50, 60, 70	91059A300

Coarse- to Fine-Thread Adapting Studs

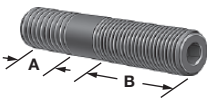

Connect parts with coarse threads to parts with fine threads. Studs are high-strength black-oxide steel and mildly corrosion resistant. Minimum tensile strength is 150,000 psi and minimum Rockwell hardness is C38. All have a Class 3A thread fit. For other thread adapters, see pages 3302-3304.

Thread (A) Size	Lg.	*Thread (B)* Size	Lg.	O'all Lg.	Hex Size		Each
5/16"-18	3/8"	5/16"-24	7/16"	1"	1/8"	94358A250	$3.49
5/16"-18	3/8"	5/16"-24	3/4"	1 1/4"	1/8"	94358A260	3.91
5/16"-18	1/2"	5/16"-24	1"	2"	1/8"	94358A270	4.22
5/16"-18	1/2"	5/16"-24	1"	3"	1/8"	94358A280	4.64
3/8"-16	3/8"	3/8"-24	7/16"	1"	5/32"	94358A310	4.04
3/8"-16	7/16"	3/8"-24	3/4"	1 1/4"	5/32"	94358A320	4.45
3/8"-16	5/8"	3/8"-24	1"	2"	5/32"	94358A330	4.84
3/8"-16	5/8"	3/8"-24	1"	3"	5/32"	94358A340	5.52
3/8"-16	5/8"	3/8"-24	1"	4"	5/32"	94358A350	6.22
1/4"-20	3/8"	1/4"-28	7/16"	1"	3/32"	94358A110	2.95
1/4"-20	3/8"	1/4"-28	3/4"	1 1/4"	3/32"	94358A120	3.36
1/4"-20	3/8"	1/4"-28	1"	2"	3/32"	94358A130	3.75
1/4"-20	3/8"	1/4"-28	1"	3"	3/32"	94358A140	4.45

One-End-Threaded Studs

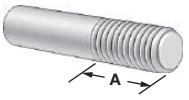

Screw these studs into a tapped hole and use them as a pivot point, hinge, shaft, or locator pin. Made from 18-8 stainless steel, they're chemical resistant and may be mildly magnetic. Minimum tensile strength is 70,000 psi. Not rated for hardness. All have a Class 2A thread fit.

O'all Lg.	Thread Lg. (A)		Each
1/4"-20			
1 1/2"	3/4"	97042A216	$4.74
2"	3/4"	97042A224	4.91
3"	3/4"	97042A240	6.63
4"	3/4"	97042A252	8.34
6"	3/4"	97042A268	8.34
3/8"-16			
1 1/2"	5/8"	97042A316	5.37
2"	3/4"	97042A324	5.63
3"	3/4"	97042A340	5.91
4"	1"	97042A352	6.23
6"	1 1/2"	97042A368	6.97
1/2"-13			
1 1/2"	5/8"	97042A516	6.11
2"	3/4"	97042A524	6.71
1/2"-13 (Cont.)			
3"	3/4"	97042A540	$7.29
4"	1"	97042A552	7.83
6"	1 1/2"	97042A568	8.89
5/8"-11			
1 1/2"	5/8"	97042A716	7.46
2"	3/4"	97042A724	7.83
3"	3/4"	97042A740	8.77
4"	1"	97042A752	9.51
6"	1 1/2"	97042A768	11.34
3/4"-10			
2"	3/4"	97042A824	8.80
3"	3/4"	97042A840	10.63
4"	1"	97042A852	11.97
6"	1 1/2"	97042A868	14.31

Right- to Left-Hand Thread Adapting Studs



Fasten parts with right-hand threads to parts with left-hand threads. Thread length is the same on both ends. Studs are black-oxide steel, making them mildly corrosion resistant. Minimum tensile strength is 70,000 psi and minimum Rockwell hardness is B67. All have a Class 2A thread fit.

O'all Lg.	Thread Lg. (A)		Each
1/4"-20			
1 1/2"	5/8"	94455A110	$1.14
2"	1/2"	94455A112	1.14
2 1/2"	3/4"	94455A116	1.14
3"	3/4"	94455A120	1.25
4"	1"	94455A124	1.25
5/16"-18			
2"	1/2"	94455A200	1.58
2 1/2"	3/4"	94455A205	1.58
3"	3/4"	94455A211	1.58
4"	1"	94455A220	1.64
3/8"-16			
1 1/2"	5/8"	94455A312	1.14
2"	3/4"	94455A317	1.44
2 1/2"	3/4"	94455A323	1.47
3"	3/4"	94455A325	1.58
3 1/2"	1"	94455A327	1.58
4"	1"	94455A328	1.58
5"	1 1/4"	94455A340	1.64
6"	1 1/2"	94455A344	1.64
1/2"-13			
1 3/4"	3/4"	94455A410	$1.39
2"	3/4"	94455A413	1.39
3"	3/4"	94455A422	1.58
4"	1 1/4"	94455A425	1.67
5"	1 1/4"	94455A429	1.67
6"	1 1/2"	94455A433	1.67
8"	1 3/4"	94455A441	1.75
5/8"-11			
2 1/2"	7/8"	94455A526	1.89
4"	1 1/4"	94455A534	2.36
6"	1 1/2"	94455A537	2.58
8"	2"	94455A545	2.86
3/4"-10			
4"	1 3/4"	94455A610	4.10
5"	1 3/4"	94455A614	4.25
6"	1 3/4"	94455A621	4.41
8"	2"	94455A629	5.39

One-End-Threaded Studs with Cotter Pin

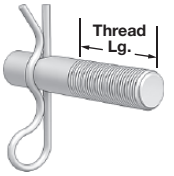

Also known as hood pins, these studs have a cotter pin lodged through a drilled hole in the unthreaded portion. The cotter pin can be used for light duty holding, such as securing access panels and locking other fasteners. Stud and cotter pin are 18-8 stainless steel, making them chemical resistant and mildly magnetic. Not rated for tensile strength. Minimum Rockwell hardness is B89. All have a Class 2A thread fit.

O'all Lg.	Thread Lg.		Each
5/16"-24			
2"	1"	93712A100	$6.88
3"	2"	93712A200	7.52
3/8"-24			
2"	1"	93712A400	7.01
3/8"-24 (Cont.)			
3"	2"	93712A500	$7.39
1/2"-20			
2"	1"	93712A700	8.16
3"	2"	93712A800	9.18

For information about threaded studs and rods, see page 3182.

Threaded Studs for Wood

Wood Screw to Wood Screw—Also known as dowel screws, these studs can be used to join two pieces of wood. They're low-strength uncoated steel. Not rated for tensile strength. All have a minimum Rockwell hardness of B80.

Wood Screw to Machine Screw—These studs can be used to suspend electrical wiring from wood structures. Not rated for tensile strength or hardness. For threaded stud drivers, see page 2829. **Zinc-plated steel** studs are low-strength and mildly corrosion resistant. Machine screw threads have a Class 1A thread fit. **18-8 stainless steel** studs are chemical resistant. They may be mildly magnetic. Machine screw threads have a Class 1A thread fit. **Metric 316 stainless steel** studs stand up to chemicals better than 18-8 and may be mildly magnetic. Machine screw threads have a Class 6g thread fit.

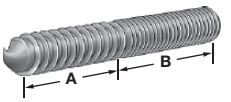

Wood Screw to Machine Screw

Wood Screw to Wood Screw—Uncoated Steel

O'all Lg.	Thread Lg. (A)	Thread Lg. (B)	Pkg. Qty.		Pkg.
3/16" Dia.					
1 1/2"	3/4"	3/4"	50	91685A110	$6.18
2"	7/8"	7/8"	50	91685A120	8.61
1/4" Dia.					
1 1/2"	3/4"	3/4"	50	91685A112	6.90
2"	7/8"	7/8"	50	91685A114	7.93
2 1/2"	1 1/8"	1 1/8"	50	91685A116	10.97
1/4" Dia. (Cont.)					
3"	1 3/8"	1 3/8"	50	91685A118	$12.80
3 1/2"	1 5/8"	1 5/8"	25	91685A150	8.02
5/16" Dia.					
2 1/2"	1 1/8"	1 1/8"	25	91685A170	7.14
3"	1 3/8"	1 3/8"	25	91685A180	8.63
4"	1 5/8"	1 5/8"	25	91685A210	10.08
3/8" Dia.					
2 1/2"	1 1/8"	1 1/8"	10	91685A220	$5.18
3"	1 3/8"	1 3/8"	10	91685A231	5.38
4"	1 5/8"	1 5/8"	10	91685A251	7.33

Wood Screw to Machine Screw—Zinc-Plated Steel

O'all Lg.	Thread Lg. (A)	Thread Lg. (B)	Pkg. Qty.		Pkg.
8-32 Machine Screw Threads					
1 1/2"	7/8"	5/8"	100	90207A182	6.42
1 3/4"	1"	3/4"	100	90207A185	7.09
2"	1"	1"	100	90207A189	7.52
10-24 Machine Screw Threads					
1 1/2"	7/8"	5/8"	100	90207A251	12.54
2"	1"	1"	50	90207A253	8.29
2 1/2"	1 1/2"	1"	50	90207A255	9.95
3"	1 1/2"	1 1/2"	50	90207A257	9.83
1/4"-20 Machine Screw Threads					
2"	1"	1"	50	90207A550	10.32
1/4"-20 Machine Screw Threads (Cont.)					
2 1/2"	1 1/2"	1"	50	90207A552	12.22
3"	1 1/2"	1 1/2"	25	90207A554	7.95
5/16"-18 Machine Screw Threads					
2 1/2"	1 1/2"	1"	25	90207A593	7.34
3"	1 1/2"	1 1/2"	25	90207A595	7.70
3 1/2"	2"	1 1/2"	25	90207A597	9.71
3/8"-16 Machine Screw Threads					
3"	1 1/2"	1 1/2"	25	90207A636	13.16
3 1/2"	2"	1 1/2"	10	90207A638	6.01
3/8"-16 Machine Screw Threads (Cont.)					
4"	2"	2"	10	90207A640	6.68
5"	3"	1 3/8"	10	90207A647	8.39
6"	3"	1 1/2"	10	90207A648	10.24
10"	3"	2 1/2"	1	90207A656	1.94
12"	3"	2 1/2"	1	90207A658	2.75
1/2"-13 Machine Screw Threads					
6"	3"	2 1/2"	1	90207A736	2.83
12"	3"	2 1/2"	1	90207A748	5.36

Wood Screw to Machine Screw—18-8 Stainless Steel; Available with the same (A) and (B) thread lengths as zinc-plated steel studs

Choose a Thread Size	Choose an O'all Lg.	
10-24, 1/4"-20, 5/16"-18, 3/8"-16	1 1/2", 2", 2 1/2", 3", 3 1/2", 4"	90915A405

Metric Wood Screw to Machine Screw—316 Stainless Steel

O'all Lg., mm	Thread Lg., mm (A)	Thread Lg., mm (B)	Pkg. of 1		
M5 Machine Screw Threads—Pitch: 0.8 mm					
50	30	20	1	98828A100	$3.16
M6 Machine Screw Threads—Pitch: 1 mm					
70	40	30	1	98828A200	$6.75
M8 Machine Screw Threads—Pitch: 1.25 mm					
100	60	40	1	98828A300	$8.77

Weld Studs

Pass these studs through a hole and weld them in place. They are uncoated 1008-1010 carbon steel. Not rated for tensile strength or hardness. All have a Class 3A thread fit.



Thread Size	O'all Lg.	Head Dia.	Ht.	Pkg. Qty.		Pkg.
6-32	5/8"	0.323"	0.052"	100	93865A120	$7.44
8-32	3/8"	0.385"	0.068"	100	93865A135	7.44
8-32	1"	0.385"	0.068"	100	93865A155	9.06
10-24	1/2"	0.448"	0.068"	100	93865A165	9.49
10-32	1/2"	0.448"	0.068"	100	93865A190	9.79
10-32	5/8"	0.448"	0.068"	100	93865A195	10.30
10-32	1"	0.448"	0.068"	50	93865A205	$7.61
1/4"-20	3/8"	0.575"	0.083"	50	93865A215	7.61
1/4"-20	1/2"	0.575"	0.083"	50	93865A220	8.65
1/4"-20	5/8"	0.575"	0.083"	50	93865A225	10.10
1/4"-20	3/4"	0.575"	0.083"	50	93865A230	10.71
1/4"-20	1"	0.575"	0.083"	50	93865A235	11.74

Right-Angle Weld Studs

Weld these studs to flat surfaces in confined areas, narrow channels, and tight corners. Not rated for tensile strength or hardness. All have a Class 2A thread fit.

Steel studs are uncoated 1010 carbon steel.

18-8 stainless steel studs are corrosion resistant and stand up to chemicals. They may be mildly magnetic.

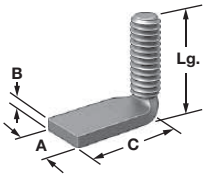

Thread Size	Lg.	(A)	(B)	(C)	Pkg. Qty.		Pkg.
Steel							
6-32	1/2"	7/32"	3/64"	9/16"	50	94445A110	$11.00
8-32	1/2"	1/4"	1/16"	5/8"	50	94445A200	11.19
10-24	1/2"	5/16"	1/16"	11/16"	50	94445A300	8.28
10-32	1/2"	11/32"	1/16"	11/16"	50	94445A400	11.12
1/4"-20	1/2"	3/8"	3/32"	3/4"	25	94445A450	5.71
1/4"-20	5/8"	3/8"	3/32"	3/4"	25	94445A500	6.09
1/4"-20	3/4"	3/8"	3/32"	3/4"	25	94445A550	6.64
1/4"-20	1"	3/8"	3/32"	3/4"	25	94445A600	7.29
18-8 Stainless Steel							
6-32	1/2"	7/32"	3/64"	9/16"	25	96466A010	12.58
8-32	1/2"	1/4"	1/16"	5/8"	25	96466A025	14.44
10-24	1/2"	5/16"	1/16"	11/16"	10	96466A030	5.90
10-32	1/2"	11/32"	1/16"	11/16"	10	96466A040	7.37
1/4"-20	1/2"	3/8"	3/32"	3/4"	10	96466A045	8.80
1/4"-20	5/8"	3/8"	3/32"	3/4"	10	96466A050	10.48
1/4"-20	3/4"	3/8"	3/32"	3/4"	10	96466A055	10.67
1/4"-20	1"	3/8"	3/32"	3/4"	5	96466A060	5.88

Perforated Base Studs

Securely anchor components by screwing, riveting, or bonding these studs to a flat surface. Perforations are 0.157" and 0.197". Thread fit is Class 2A. Not rated for tensile strength or hardness. **Zinc-plated steel** studs are 1008 carbon steel. They're mildly corrosion resistant. **316 stainless steel** studs are chemical resistant. They may be mildly magnetic.

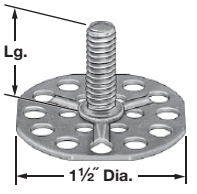

Lg.	Zinc-Plated Steel Pkg. Qty.		Zinc-Plated Steel Pkg.	316 Stainless Steel Pkg. Qty.		316 Stainless Steel Pkg.
8-32						
3/8"	10	97590A110	$7.40	10	97590A520	$13.44
1/2"	10	97590A115	7.45	10	97590A526	13.44
1"	10	97590A130	8.39	10	97590A542	14.36
10-32						
1/2"	10	97590A215	7.50	10	97590A551	13.76
3/4"	10	97590A225	7.99	10	97590A561	14.45
1"	10	97590A230	8.58	5	97590A567	7.97
1 1/4"	10	97590A235	9.26	5	97590A569	8.22
1/4"-20						
1/2"	10	97590A315	7.75	10	97590A574	14.94
3/4"	10	97590A325	8.52	5	97590A582	7.63
1"	10	97590A330	9.01	5	97590A586	7.93
1 1/4"	10	97590A335	9.70	5	97590A589	8.02
1 1/2"	10	97590A340	10.38	5	97590A591	8.04
5/16"-18						
3/4"	10	97590A425	9.27	5	97590A603	8.71
1"	10	97590A430	10.44	5	97590A606	9.74
1 1/2"	10	97590A440	12.02	5	97590A613	10.31
2"	10	97590A445	12.74	5	97590A616	11.02

Press-In Studs



Thread Size	For Min. Sheet Thick.	Hole Ctr. to Sheet Edge, min.	For Hole Size, +0.003″/–0.000″
4-40	0.040″	7/32″	0.111″
6-32	0.040″	1/4″	0.137″
8-32	0.040″	9/32″	0.163″
10-24	0.040″	9/32″	0.189″
10-32	0.040″	9/32″	0.189″
1/4″-20	0.062″	5/16″	0.249″
5/16″-18	0.093″	3/8″	0.311″

Press these studs into a drilled or punched hole with an arbor press or similar tool. Also known as self-clinching studs, their ribs hold the stud firmly in place. They're not rated for tensile strength or hardness. All have a Class 2A thread fit.

Zinc-plated steel studs are mildly corrosion resistant.

18-8 stainless steel studs are more corrosion resistant than zinc-plated studs. They may be mildly magnetic.

Stud Lg.	PEM® Part No.	Pkg. Qty.	Pkg.
Zinc-Plated Steel			
4-40			
1/4″	FH440-4	100	**93580A004** $12.59
3/8″	FH440-6	100	**93580A006** 12.93
1/2″	FH440-8	100	**93580A008** 13.04
5/8″	FH440-10	50	**93580A010** 7.27
6-32			
1/4″	FH632-4	100	**93580A012** 12.74
5/16″	FH632-5	100	**93580A014** 12.93
3/8″	FH632-6	100	**93580A016** 13.04
1/2″	FH632-8	100	**93580A018** 13.30
5/8″	FH632-10	50	**93580A020** 7.44
3/4″	FH632-12	50	**93580A022** 7.66
1″	FH632-16	50	**93580A024** 7.80
8-32			
1/4″	FH832-4	50	**93580A112** 7.07
5/16″	FH832-5	50	**93580A114** 7.17
3/8″	FH832-6	50	**93580A116** 7.60
1/2″	FH832-8	50	**93580A118** 7.93
8-32 (Cont.)			
5/8″	FH832-10	50	**93580A122** $8.12
3/4″	FH832-12	50	**93580A124** 7.76
1″	FH832-16	50	**93580A126** 9.39
1 1/4″	FH832-20	50	**93580A128** 10.13
1 1/2″	FH832-24	25	**93580A130** 8.00
10-24			
3/8″	FH024-6	50	**93580A143** 8.18
1/2″	FH024-8	50	**93580A145** 8.27
5/8″	FH024-10	50	**93580A147** 9.07
3/4″	FH024-12	50	**93580A149** 9.83
7/8″	FH024-14	50	**93580A155** 10.87
1″	FH024-16	50	**93580A153** 11.39
10-32			
3/8″	FH032-6	50	**93580A166** 8.14
1/2″	FH032-8	50	**93580A168** 8.23
5/8″	FH032-10	50	**93580A172** 9.07
3/4″	FH032-12	50	**93580A174** 9.83
10-32 (Cont.)			
7/8″	FH032-14	50	**93580A175** $10.96
1″	FH032-16	50	**93580A176** 11.39
1 1/4″	FH032-20	50	**93580A178** 11.85
1/4″-20			
1/2″	FH0420-8	50	**93580A187** 13.28
5/8″	FH0420-10	25	**93580A189** 7.82
3/4″	FH0420-12	25	**93580A191** 8.02
7/8″	FH0420-14	25	**93580A192** 8.89
1″	FH0420-16	25	**93580A195** 9.49
1 1/8″	FH0420-18	10	**93580A197** 6.27
1 1/4″	FH0420-20	25	**93580A199** 10.83
1 1/2″	FH0420-24	25	**93580A202** 12.52
2″	FH0420-32	10	**93580A210** 7.64
5/16″-18			
1 1/4″	FH0518-20	10	**93580A325** 6.36
1 1/2″	FH0518-24	10	**93580A328** 7.04
18-8 Stainless Steel—PEM® FHS series			
Choose a Thread Size		Choose a Stud Length	
4-40, 6-32, 8-32, 10-32, 1/4″-20		3/8″, 1/2″, 5/8″, 3/4″, 1″, 1 1/2″	**93580A105**

Insulation Hanger Studs

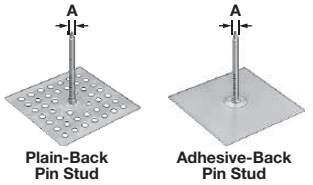

Plain-Back Pin Stud | Adhesive-Back Pin Stud

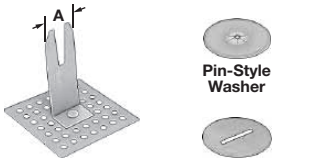

Plain-Back Slot Stud | Pin-Style Washer | Slot-Style Washer

Attach these hanger studs to a flat surface, press insulation onto spikes, then secure by sliding washers over the spikes. All components are low-strength steel. Studs and washers are sold separately.

Plain-back studs can be installed using adhesive (sold separately).

Adhesive-back studs have a peel-off adhesive liner. Adhesive temperature range is 0° to 140° F.

Adhesive is formulated for holding insulation hanger studs and can be used on uncoated metal, concrete, and masonry surfaces. Temperature range is –20° to 225° F, but it should be applied at temperatures above 40° F.

Pin/Slot Lg.	(A)	Pkg. Qty.	Plain-Back Studs	Pkg.	Adhesive-Back Studs	Pkg.	Washers (Required)	Pkg.
Pin Style—Base Plate is 2″ Lg. × 2″ Wd. × 0.014″ Thick.								
1 5/8″	0.105″	100	**93610A210**	$15.16	**93610A310**	$24.46	**93610A410**	$7.03
2 1/2″	0.105″	100	**93610A220**	16.55	**93610A320**	25.82	**93610A410**	7.03
3 1/2″	0.105″	100	**93610A230**	19.00	**93610A330**	26.98	**93610A410**	7.03
6 1/2″	0.105″	100	**93610A240**	41.08	**93610A340**	42.95	**93610A410**	7.03
Slot Style—Base Plate is 2″ Lg. × 2″ Wd. × 0.021″ Thick.								
1 7/8″	0.75″	100	**93610A710**	32.63			**93610A610**	9.02
Adhesive for Plain-Back Studs (1 gal.)							**93610A810**	59.50

General Purpose Acme Threaded Studs and Rods



With broad and square threads, general purpose Acme threaded studs and rods are well suited for carrying heavy loads. They're often found in applications that require fast threading and frequent adjustments, such as vises and screw jacks. Their widely spaced threads minimize the accumulation of dirt and debris. For precision Acme rods, see pages 1155 and 1157.

Medium-strength uncoated steel studs and rods are Grade B7 steel that meets ASTM A193. They have a minimum tensile strength of 125,000 psi and a maximum Rockwell hardness of C35.

Low-strength uncoated steel studs and rods meet ASTM A108. Similar in strength to Grade 2 steel, they have a minimum tensile strength of 53,000 psi and a minimum Rockwell hardness of B61. *Zinc-plated low-strength steel* studs and rods are mildly corrosion resistant.

316 stainless steel studs and rods are the most corrosion resistant Acme studs and rods we offer. They meet ASTM A193. Minimum tensile strength is 75,000 psi and maximum Rockwell hardness is B97.

18-8 stainless steel studs and rods are chemical resistant. Maximum Rockwell hardness is B96. They're not rated for tensile strength.

Lg.	Each
Medium-Strength Uncoated Steel	
1/4″-16 Acme Size	
6″	**93420A881** $8.98
12″	**93410A904** 11.03
3 ft.	**93410A606** 18.97
6 ft.	**93410A305** 31.03
3/8″-8 Acme Size	
12″	**93410A908** 11.03
3 ft.	**93410A607** 18.97
6 ft.	**93410A310** 31.03
3/8″-10 Acme Size	
12″	**93410A912** 11.03
3/8″-10 Acme Size (Cont.)	
3 ft.	**93410A608** $18.97
6 ft.	**93410A315** 31.03
3/8″-12 Acme Size	
6″	**93420A882** 9.53
12″	**93410A916** 11.03
2 ft.	**93410A111** 15.28
3 ft.	**93410A609** 18.97
6 ft.	**93410A110** 31.03
12 ft.	**93410A825** 59.14
1/2″-8 Acme Size	
12″	**93410A920** $16.38
3 ft.	**93410A611** 28.97
6 ft.	**93410A320** 48.28
1/2″-10 Acme Size	
6″	**93420A110** 13.96
8″	**93420A130** 18.60
10″	**93420A150** 20.59
12″	**93410A924** 16.38
2 ft.	**93410A112** 21.83
1/2″-10 Acme Size (Cont.)	
3 ft.	**93410A615** $28.97
4 ft.	**93410A113** 34.07
6 ft.	**93410A120** 48.28
8 ft.	**93410A114** 65.56
12 ft.	**93410A840** 91.90
5/8″-6 Acme Size	
12″	**93410A928** 23.62
3 ft.	**93410A617** 46.21
6 ft.	**93410A325** 77.24

(Continued on following page)

General Purpose Acme Threaded Studs and Rods

(Continued from previous page)

Medium-Strength Uncoated Steel (Cont.)

Lg.		Each
5/8"-8 Acme Size		
6"	93420A210	$15.02
12"	93410A932	20.34
2 ft.	93410A115	27.00
3 ft.	93410A620	37.41
4 ft.	93410A116	42.69
6 ft.	93410A130	61.72
8 ft.	93410A117	83.16
12 ft.	93410A845	117.76
3/4"-5 Acme Size		
12"	93410A936	23.10
3 ft.	93410A625	46.21
6 ft.	93410A140	77.24
12 ft.	93410A850	144.24
3/4"-6 Acme Size		
6"	93420A883	15.23
12"	93410A940	23.10
2 ft.	93410A118	32.79
3 ft.	93410A626	46.21
4 ft.	93410A119	52.34
6 ft.	93410A150	77.24
8 ft.	93410A121	102.84
12 ft.	93410A851	144.24
3/4"-8 Acme Size		
12"	93410A944	26.54
3/4"-8 Acme Size (Cont.)		
3 ft.	93410A628	$55.48
6 ft.	93410A330	92.29
7/8"-6 Acme Size		
12"	93410A948	26.67
3 ft.	93410A630	57.27
6 ft.	93410A160	95.00
1"-4 Acme Size		
12"	93410A952	34.83
3 ft.	93410A632	71.72
6 ft.	93410A335	119.48
1"-5 Acme Size		
6"	93420A884	23.60
12"	93410A956	33.79
2 ft.	93410A122	48.79
3 ft.	93410A634	68.62
4 ft.	93410A123	77.86
6 ft.	93410A170	115.00
8 ft.	93410A124	152.91
12 ft.	93410A861	218.10
1"-6 Acme Size		
12"	93410A960	33.79
3 ft.	93410A635	68.62
6 ft.	93410A180	115.00
12 ft.	93410A862	218.10
1"-8 Acme Size		
12"	93410A964	$34.48
3 ft.	93410A637	71.72
6 ft.	93410A340	119.48
1"-10 Acme Size		
12"	93410A968	34.48
3 ft.	93410A639	71.72
6 ft.	93410A190	122.12
12 ft.	93410A863	227.41
1 1/8"-5 Acme Size		
12"	93410A975	48.45
3 ft.	93410A645	96.55
6 ft.	93410A210	193.10
1 1/4"-4 Acme Size		
12"	93410A976	66.03
3 ft.	93410A650	118.97
6 ft.	93410A220	215.52
12 ft.	93410A871	406.90
1 1/4"-5 Acme Size		
12"	93420A650	64.77
2 ft.	93410A125	86.55
3 ft.	93410A651	118.97
4 ft.	93410A126	140.79
6 ft.	93410A230	215.52
8 ft.	93410A127	281.25
1 1/4"-5 Acme Size (Cont.)		
12 ft.	93410A872	$406.90
1 3/8"-4 Acme Size		
3 ft.	93410A655	149.83
6 ft.	93410A240	262.07
1 1/2"-4 Acme Size		
12"	93420A750	76.34
2 ft.	93410A128	123.62
3 ft.	93410A660	171.06
4 ft.	93410A129	202.59
6 ft.	93410A250	273.79
8 ft.	93410A131	372.31
12 ft.	93410A877	520.45
1 1/2"-5 Acme Size		
12"	93410A990	99.24
3 ft.	93410A665	180.91
6 ft.	93410A345	298.74
2"-4 Acme Size		
12"	93410A993	157.07
3 ft.	93410A671	299.31
6 ft.	93410A260	520.00
2 1/2"-4 Acme Size		
3 ft.	93410A681	472.42

Low-Strength Uncoated Steel

Lg.		Each
1/4"-16 Acme Size		
12"	98935A703	6.00
3 ft.	98935A803	5.14
6 ft.	98935A205	9.80
3/8"-8 Acme Size		
12"	98935A706	8.86
3 ft.	98935A807	8.57
6 ft.	98935A211	16.37
3/8"-10 Acme Size		
12"	98935A709	8.86
3 ft.	98935A812	8.57
6 ft.	98935A212	16.37
3/8"-12 Acme Size		
12"	98935A712	4.51
3 ft.	98935A817	4.30
6 ft.	98935A217	13.00
12 ft.	98935A622	15.60
1/2"-8 Acme Size		
12"	98935A715	8.20
3 ft.	98935A820	9.03
6 ft.	98935A031	17.22
1/2"-10 Acme Size		
12"	98935A718	5.88
2 ft.	98935A911	6.95
3 ft.	98935A823	6.12
4 ft.	98935A912	10.00
6 ft.	98935A033	14.28
8 ft.	98935A913	19.52
12 ft.	98935A632	22.25
5/8"-6 Acme Size		
12"	98935A721	11.51
3 ft.	98935A827	10.78
6 ft.	98935A034	20.58
5/8"-8 Acme Size		
12"	98935A724	7.00
2 ft.	98935A914	8.29
3 ft.	98935A829	8.38
4 ft.	98935A915	12.21
6 ft.	98935A035	18.52
8 ft.	98935A916	24.52
12 ft.	98935A642	30.46
3/4"-5 Acme Size		
12"	98935A728	9.38
3 ft.	98935A837	9.80
6 ft.	98935A218	24.33
12 ft.	98935A652	35.65
3/4"-6 Acme Size		
12"	98935A732	9.00
2 ft.	98935A917	9.41
3 ft.	98935A838	10.10
4 ft.	98935A918	16.33
6 ft.	98935A036	25.28
8 ft.	98935A919	33.81
12 ft.	98935A653	36.73
3/4"-8 Acme Size		
12"	98935A736	14.75
3 ft.	98935A842	12.29
6 ft.	98935A039	23.46
7/8"-6 Acme Size		
12"	98935A739	12.38
3 ft.	98935A846	16.68
6 ft.	98935A037	36.55
12 ft.	98935A662	60.67
1"-4 Acme Size		
12"	98935A741	22.38
1"-4 Acme Size (Cont.)		
3 ft.	98935A853	16.55
6 ft.	98935A109	31.57
1"-5 Acme Size		
12"	98935A744	12.62
2 ft.	98935A921	19.74
3 ft.	98935A861	18.90
4 ft.	98935A922	30.50
6 ft.	98935A110	34.73
8 ft.	98935A923	64.19
12 ft.	98935A672	68.75
1"-6 Acme Size		
12"	98935A748	15.25
3 ft.	98935A862	19.75
6 ft.	98935A111	39.35
12 ft.	98935A673	71.85
1"-8 Acme Size		
12"	98935A751	16.00
3 ft.	98935A864	21.14
6 ft.	98935A041	40.34
1"-10 Acme Size		
12"	98935A754	13.75
3 ft.	98935A866	18.95
6 ft.	98935A219	39.35
12 ft.	98935A676	68.95
1 1/8"-5 Acme Size		
12"	98935A757	18.38
3 ft.	98935A873	24.91
6 ft.	98935A328	62.77
1 1/4"-4 Acme Size		
12"	98935A761	24.76
3 ft.	98935A877	27.73
1 1/4"-4 Acme Size (Cont.)		
6 ft.	98935A112	73.88
12 ft.	98935A682	100.85
1 1/4"-5 Acme Size		
12"	98935A764	24.76
3 ft.	98935A878	28.35
6 ft.	98935A131	76.96
12 ft.	98935A683	103.05
1 3/8"-4 Acme Size		
12"	98935A767	33.86
3 ft.	98935A882	38.43
6 ft.	98935A329	96.45
1 1/2"-4 Acme Size		
12"	98935A771	44.44
2 ft.	98935A924	58.26
3 ft.	98935A885	38.11
4 ft.	98935A925	94.71
6 ft.	98935A113	121.06
8 ft.	98935A926	208.67
12 ft.	98935A692	138.62
1 1/2"-5 Acme Size		
12"	98935A774	48.89
3 ft.	98935A889	39.93
6 ft.	98935A331	76.27
2"-4 Acme Size		
12"	98935A779	51.89
3 ft.	98935A893	69.00
6 ft.	98935A114	178.34
2 1/2"-4 Acme Size		
12"	98935A785	72.33
3 ft.	98935A901	210.24
6 ft.	98935A215	258.61

316 Stainless Steel

Lg.		Each
1/4"-16 Acme Size		
12"	97014A631	24.63
3 ft.	97014A632	43.57
6 ft.	97014A633	72.14
3/8"-8 Acme Size		
12"	97014A590	28.10
3 ft.	97014A310	48.45
6 ft.	97014A130	77.59
3/8"-12 Acme Size		
12"	97014A634	28.10
3 ft.	97014A635	48.45
6 ft.	97014A636	77.59
1/2"-10 Acme Size		
12"	97014A595	35.00
3 ft.	97014A315	65.17
1/2"-10 Acme Size (Cont.)		
6 ft.	97014A140	108.45
5/8"-8 Acme Size		
12"	97014A600	45.34
3 ft.	97014A320	86.55
6 ft.	97014A150	143.97
3/4"-5 Acme Size		
12"	97014A605	61.38
3 ft.	97014A325	120.17
6 ft.	97014A160	199.74
3/4"-6 Acme Size		
12"	97014A610	61.38
3 ft.	97014A330	120.17
6 ft.	97014A170	199.74
7/8"-6 Acme Size		
12"	97014A637	81.90
3 ft.	97014A638	156.90
6 ft.	97014A639	261.03
1"-4 Acme Size		
12"	97014A641	98.79
3 ft.	97014A642	196.55
6 ft.	97014A643	327.93
1"-5 Acme Size		
12"	97014A615	98.79
3 ft.	97014A335	196.55
6 ft.	97014A180	327.93
1"-6 Acme Size		
12"	97014A620	101.90
1"-6 Acme Size (Cont.)		
3 ft.	97014A340	203.45
6 ft.	97014A182	340.34
1"-10 Acme Size		
12"	97014A644	101.90
3 ft.	97014A645	203.45
6 ft.	97014A646	340.34
1 1/4"-5 Acme Size		
12"	97014A625	156.38
3 ft.	97014A345	309.31
6 ft.	97014A190	515.00
1 1/2"-4 Acme Size		
12"	97014A630	210.86
3 ft.	97014A350	422.07
6 ft.	97014A200	714.14

18-8 Stainless Steel

Choose an Acme Size	Choose a Length	
1/4"-16, 3/8"-8, 3/8"-10, 3/8"-12, 1/2"-8, 1/2"-10, 5/8"-6, 5/8"-8, 3/4"-5, 3/4"-6, 3/4"-8, 7/8"-6, 1"-4, 1"-5, 1"-6, 1"-8, 1"-10, 1 1/8"-5, 1 1/4"-4, 1 1/4"-5, 1 1/2"-4, 1 1/2"-5, 2"-4	6", 12", 18", 3 ft., 6 ft., 12 ft.	95061A225

Zinc-Plated Low-Strength Steel

Choose an Acme Size	Choose a Length	
3/8"-8, 1/2"-10, 5/8"-8, 3/4"-5, 3/4"-6, 1"-5, 1"-6, 1 1/4"-5, 1 1/2"-4	6", 10", 12", 16", 18", 3 ft., 6 ft.	98941A775

(Continued on following page)

General Purpose Acme Threaded Studs and Rods *(Continued from previous page)*



With broad and square threads, general purpose Acme threaded studs and rods are well suited for carrying heavy loads. They're often found in applications that require fast threading and frequent adjustments, such as vises and screw jacks. Their widely spaced threads minimize the accumulation of dirt and debris. For precision Acme rods, see pages 1155 and 1157.

Medium-strength uncoated steel studs and rods are Grade B7 steel that meets ASTM A193. They have a minimum tensile strength of 125,000 psi and a maximum Rockwell hardness of C35.

Low-strength uncoated steel studs and rods meet ASTM A108. Similar in strength to Grade 2 steel, they have a minimum tensile strength of 53,000 psi and a minimum Rockwell hardness of B61.

Left-Hand Threaded Uncoated Steel

Choose an Acme Size	Choose a Length	Medium Strength	Low Strength
1/4"-16, 3/8"-8, 3/8"-10, 3/8"-12, 1/2"-8, 1/2"-10, 5/8"-6, 5/8"-8, 3/4"-5, 3/4"-6, 3/4"-8, 7/8"-6, 1"-4, 1"-5, 1"-6, 1"-8, 1"-10, 1 1/8"-5, 1 1/4"-4, 1 1/4"-5, 1 3/8"-4, 1 1/2"-4, 1 1/2"-5, 2"-4, 2 1/4"-4, 2 1/2"-4	3 ft., 6 ft.	93410A500	98935A400

Metric General Purpose Acme Threaded Rods and Hex Nuts



Rod



Hex Nut

Rods are black-oxide steel that meets ASTM A108. They're mildly corrosion resistant. Not rated for tensile strength. Rockwell hardness is B72. Thread fit is Class 7E.

Nuts are uncoated steel. They're not rated for tensile strength. All have a Class 7H thread fit.

Acme Size	Pitch, mm	2-meter Lg. Rods		Hex Nuts Wd., mm	Hex Nuts Ht., mm	Hex Nuts	
M12	3	97048A711	$47.62	22.20	12.0	94353A120	$25.42
M16	4	97048A715	68.33	27.00	16.0	94353A160	26.95
M20	4	97048A719	96.43	31.75	20.0	94353A200	30.53
M26	5	97048A725	123.65	41.30	25.4	94353A260	43.68
M40	7	97048A739	217.33	60.33	39.9	94353A400	75.00

General Purpose Acme Threaded Bolts

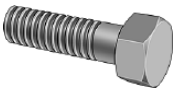

Made from uncoated medium-strength Grade 5 steel, these Acme threaded bolts have a minimum tensile strength of 105,000 psi and a minimum Rockwell hardness of C19. Length is measured from under the head. They're partially threaded.

Acme Size	Head Wd.	Ht.		3" Lg.	4" Lg.	6" Lg.
1/4"-16	7/16"	5/32"	93097A111	$25.21	$25.54	$25.90
3/8"-12	9/16"	15/64"	93097A112	25.52	25.86	26.24
1/2"-10	3/4"	5/16"	93097A113	25.92	26.26	26.64
5/8"-8	15/16"	25/64"	93097A114	26.46	27.00	27.78
3/4"-6	1 1/8"	15/32"	93097A115	28.64	28.98	29.36
7/8"-6	1 5/16"	35/64"	93097A116	28.56	29.30	29.68
1"-5	1 1/2"	39/64"	93097A117	30.10	30.44	30.80
1 1/4"-5	1 7/8"	25/32"	93097A118	31.50	31.94	32.30
1 1/2"-4	2 1/4"	15/16"	93097A119	39.70	40.94	41.80

General Purpose Acme Hex Nuts



Secure general purpose Acme threaded studs, rods, and bolts with these hex nuts. They're not rated for tensile strength. All have a Class 2G thread fit.

Steel nuts are uncoated low-strength steel.

Plated steel nuts are zinc plated for corrosion resistance.

Brass nuts have good corrosion resistance and can be used outdoors. They're made from brass that meets ASTM B16.

18-8 stainless steel nuts are chemical resistant. They may be mildly magnetic.

			Right-Hand Threaded					*Left-Hand Threaded*				
Acme Size	Wd.	Ht.		Steel	Plated Steel	Brass	18-8 SS		Steel	Plated Steel	Brass	18-8 SS
1/4"-16	1/2"	15/64"	98948A390	$2.08	$8.80	—	$6.71	98948A410	$2.60	—	—	$12.60
3/8"-8	11/16"	23/64"	98948A710	2.91	8.92	—	13.03	98948A440	4.28	—	—	22.65
3/8"-10	11/16"	23/64"	98948A120	2.91	8.92	—	13.03	98948A420	4.28	—	—	22.65
3/8"-12	3/4"	3/8"	98948A690	2.35	8.92	$5.12	11.82	98948A430	2.32	—	—	13.50
1/2"-8	7/8"	31/64"	98948A160	2.78	9.12	—	12.21	98948A460	3.92	—	—	26.18
1/2"-10	7/8"	1/2"	98948A720	2.60	9.12	6.02	13.63	98948A450	2.52	$9.91	$6.77	15.57
5/8"-6	1 1/16"	39/64"	98948A760	2.97	10.32	—	15.36	98948A470	3.05	—	—	24.43
5/8"-8	1 1/16"	5/8"	98948A180	2.88	10.30	7.73	15.55	98948A480	2.80	11.20	8.70	17.77
3/4"-5	1 1/4"	3/4"	98948A190	4.53	10.48	9.74	18.77	98948A490	5.14	—	10.96	21.45
3/4"-6	1 1/4"	3/4"	98948A210	4.10	10.50	9.74	18.77	98948A510	3.00	11.41	10.96	21.45
3/4"-8	1 1/4"	47/64"	98948A780	4.66	10.48	—	15.15	98948A520	4.20	—	—	25.20
7/8"-6	1 1/2"	7/8"	98948A230	5.09	12.80	13.33	21.88	98948A530	4.94	—	14.29	25.21
1"-4	1 5/8"	63/64"	98948A250	6.65	12.92	—	30.73	98948A550	7.28	—	—	37.02
1"-5	1 5/8"	1"	98948A260	5.60	12.91	15.62	28.71	98948A560	5.84	14.03	17.58	32.82
1"-6	1 5/8"	1"	98948A270	5.51	12.92	15.62	28.71	98948A570	8.46	—	17.58	32.82
1"-8	1 5/8"	63/64"	98948A280	6.61	12.92	—	31.88	98948A580	6.43	—	—	34.65
1"-10	1 5/8"	1"	98948A240	6.15	12.92	15.62	28.71	98948A540	7.00	—	17.58	32.82
1 1/8"-5	1 13/16"	1 1/8"	98948A290	8.54	20.28	22.04	36.20	98948A590	7.77	—	23.62	41.37
1 1/4"-4	2"	1 1/4"	98948A310	9.89	24.84	—	53.53	98948A610	8.45	—	—	43.23
1 1/4"-5	2"	1 1/4"	98948A320	9.38	24.83	29.60	53.53	98948A620	8.46	26.99	33.29	61.18
1 3/8"-4	2 3/16"	1 11/32"	98948A330	15.52	42.44	—	—	—	—	—	—	—
1 1/2"-4	2 3/8"	1 1/2"	98948A340	16.67	42.52	40.66	76.92	98948A640	18.67	—	45.74	90.10
1 1/2"-5	2 3/8"	1 1/2"	98948A350	16.67	42.52	—	112.47	98948A650	39.33	—	—	112.86
2"-4	3"	2"	98948A360	39.70	109.76	90.55	137.69	98948A660	39.00	—	99.95	161.30
2 1/4"-4	3 1/2"	2 1/2"	98948A370	70.54	221.64	—	295.71	98948A670	75.26	—	—	414.00
2 1/2"-4	3 1/2"	2 1/2"	98948A380	70.54	221.64	132.98	362.14	98948A680	75.26	—	147.76	507.00

General Purpose Acme Handle Nuts



An offset handle makes these nuts easy to grip and tighten by hand for quick assembly and disassembly. They're cast iron. Not rated for tensile strength. All have a Class 2G thread fit.

Acme Size	Flange Dia.	O'all Lg.		
3/8"-12	15/16"	4 1/4"	98890A111	$9.85
1/2"-10	1 1/4"	4 1/2"	98890A115	10.99
5/8"-8	1 1/4"	4 3/4"	98890A119	13.26

General Purpose Acme Wing Nuts


Thumb Style


Flat Style


Ball Style

Wide wings let you get a secure grip on these nuts, even while wearing thick gloves. They're cast iron. Not rated for tensile strength. All have a Class 2G thread fit.

Thumb Style

Acme Size	O'all Wd.	O'all Ht.		
1/2"-10	2 1/4"	1"	98675A115	$8.36
5/8"-8	2 3/4"	1 3/16"	98675A119	8.98

Flat and Ball Styles

Acme Size	O'all Wd.	O'all Ht.	Choose a Style		
3/8"-12	9 1/2"	1 1/8"	Flat	92428A741	$28.86
1/2"-10	9 1/2"	1 1/8"	Flat	92428A742	30.42
5/8"-8	9 1/2"	1 1/8"	Flat	92428A743	32.00
3/4"-5	9 1/2"	1 1/8"	Flat, Ball	92428A210	34.67
3/4"-6	9 1/2"	1 1/8"	Flat, Ball	92428A220	34.78
7/8"-6	9 1/2"	1 1/8"	Flat	92428A744	35.34
1"-4	9 1/2"	1 1/8"	Flat	92428A745	37.12
1"-5	9 1/2"	1 1/8"	Flat, Ball	92428A230	42.80
1"-6	9 1/2"	1 1/8"	Flat, Ball	92428A240	44.58
1 1/4"-4	9 1/2"	1 1/8"	Flat, Ball	92428A250	45.98
1 1/4"-5	9 1/2"	1 1/8"	Flat, Ball	92428A260	46.26
1 1/2"-4	9 1/2"	1 1/8"	Flat, Ball	92428A270	49.35

General Purpose Acme Coupling Nuts

Join two lengths of general purpose Acme studs and rods. Not rated for tensile strength. All have a Class 2G thread fit.

Uncoated steel coupling nuts are low-strength steel.

18-8 stainless steel coupling nuts are chemical resistant. They may be mildly magnetic.



Right-Hand Threaded

Acme Size	Wd.	Ht.	Uncoated Steel		18-8 Stainless Steel	
3/8"-12	1/2"	1 7/8"	93023A661	$13.77		
1/2"-10	5/8"	1 1/4"	93023A673	15.42	93030A106	$28.40
5/8"-8	7/8"	2 1/8"	93023A662	18.67	93030A109	33.63
3/4"-5	1"	2 1/4"	93023A664	20.89	93030A112	45.00
3/4"-6	1"	2 1/4"	93023A663	20.89	93030A113	45.00
7/8"-6	1 1/4"	2 1/2"	93023A665	21.42	93030A115	52.51
1"-5	1 3/8"	2 3/4"	93023A667	22.48	93030A119	63.25
1"-6	1 3/8"	2 3/4"	93023A666	22.48	93030A117	64.95
1"-10	1 3/8"	2 3/4"	93023A680	22.48	93030A118	69.64
1 1/8"-5	1 1/2"	3"	93023A668	32.93	93030A122	78.46
1 1/4"-4	1 5/8"	3"	93023A671	43.90	93030A123	105.93
1 1/4"-5	1 5/8"	3"	93023A669	43.90	93030A124	105.93
1 3/8"-4	1 7/8"	3 1/4"	93023A672	60.34		
1 1/2"-4	2"	3 1/2"	93023A674	67.50	93030A127	136.20
2"-4	3"	4"	93023A675	126.87	93030A129	179.26
2 1/2"-4	3 1/2"	5"	93023A327	137.08		

Left-Hand Threaded Uncoated Steel

Choose an Acme Size

1/2"-10, 5/8"-8, 3/4"-5, 3/4"-6, 7/8"-6, 1"-5, 1"-6, 1"-10, 1 1/8"-5, 1 1/4"-4, 1 1/4"-5, 1 3/8"-4, 1 1/2"-4, 2"-4 — 93026A300

General Purpose Acme Square Nuts

A large bearing surface offers more driver contact than a standard hex nut for a more secure grip while tightening. These nuts are often inserted into channels and square holes to keep from turning. Made from brass that meets ASTM B16. Not rated for tensile strength. All have a Class 2G thread fit.



Acme Size	Wd.	Ht.	Right-Hand Threaded		Left-Hand Threaded	
3/8"-12	3/4"	3/8"	95270A111	$5.94	95270A511	$6.81
1/2"-10	7/8"	1/2"	95270A114	6.89	95270A514	7.90
5/8"-8	1"	5/8"	95270A119	10.22	95270A519	11.70
3/4"-5	1 1/4"	3/4"	95270A123	11.81	95270A523	13.52
3/4"-6	1 1/4"	3/4"	95270A127	11.81	95270A527	13.52
7/8"-6	1 1/2"	7/8"	95270A143	17.08	95270A543	19.57
1"-5	1 5/8"	1"	95270A147	22.33	95270A547	25.56
1"-6	1 5/8"	1"	95270A151	22.33	95270A551	25.56
1"-10	1 5/8"	1"	95270A155	22.33	95270A555	25.56
1 1/8"-5	1 3/4"	1 1/8"	95270A159	31.12		
1 1/4"-5	2"	1 1/4"	95270A163	40.62	95270A563	46.50
1 1/2"-4	2 1/4"	1 1/2"	95270A167	57.26	95270A567	65.54
2"-4	3"	2"	95270A171	112.32		

General Purpose Acme Cylinder Nuts



These nuts are often used to connect as well as space Acme threaded components. They're not rated for tensile strength. All have a Class 2G thread fit.

Gray iron nuts are good for general purpose, low-strength applications.

Bronze nuts meet ASTM B505, Grade 932. They're more corrosion resistant to salt water and chemicals than iron and brass nuts.

Brass nuts are made from material that meets ASTM B16. They're corrosion resistant to outdoor elements.

Acme Size	OD	Ht.	Right-Hand Threaded		Left-Hand Threaded	
Gray Iron						
1/2"-10	1.465"	1.00"	95080A103	$17.73	95080A403	$19.70
5/8"-8	1.860"	1.25"	95080A108	25.30	95080A408	27.88
3/4"-5	2.235"	1.50"	95080A112	34.55	95080A412	37.88
3/4"-6	2.235"	1.50"	95080A113	34.55	95080A413	37.88
1"-5	2.985"	2.00"	95080A122	48.03	95080A422	52.73
1"-6	2.985"	2.00"	95080A123	48.03		
1"-10	2.985"	2.00"	95080A125	48.03		
1 1/4"-5	3.730"	2.50"	95080A128	84.09		
1 1/2"-4	4.470"	3.00"	95080A132	108.75		
Bronze						
1/4"-16	0.786"	0.53"	95090A501	11.50		
3/8"-12	0.875"	0.75"	95090A502	14.50		
1/2"-10	0.911"	0.90"	95090A104	19.12	95090A404	21.11
5/8"-8	1.286"	1.03"	95090A108	22.42	95090A408	24.75
3/4"-5	1.411"	1.28"	95090A112	31.80	95090A412	36.75
3/4"-6	1.411"	1.26"	95090A117	31.80	95090A417	36.75
7/8"-6	1.661"	1.53"	95090A503	44.13		
1"-4	1.661"	1.53"	95090A504	46.20		
1"-5	1.661"	1.53"	95090A127	46.20	95090A427	53.15
1"-6	1.661"	1.53"	95090A505	46.20		
1"-10	1.661"	1.53"	95090A506	46.20		
1 1/4"-4	2.161"	2.02"	95090A507	80.00		
1 1/4"-5	2.161"	2.02"	95090A129	80.00	95090A429	87.89
1 1/2"-4	2.787"	3.00"	95090A133	177.00		
2"-4	3.286"	4.02"	95090A136	201.90		
Brass						
3/8"-12	0.750"	0.38"	95100A101	4.99		
1/2"-10	0.875"	0.50"	95100A103	5.94	95100A403	5.94
5/8"-8	1.000"	0.63"	95100A105	7.64	95100A405	7.64
3/4"-5	1.250"	0.75"	95100A107	9.69	95100A407	9.69
3/4"-6	1.250"	0.75"	95100A109	9.69	95100A409	9.69
7/8"-6	1.500"	0.88"	95100A117	13.58	95100A417	13.58
1"-5	1.625"	1.00"	95100A119	16.01	95100A419	16.01
1"-6	1.625"	1.00"	95100A121	16.01	95100A421	16.01
1"-10	1.625"	1.00"	95100A123	16.01	95100A423	16.00
1 1/4"-5	2.000"	1.25"	95100A127	30.21	95100A427	30.21
1 1/2"-4	2.500"	1.50"	95100A129	44.11		

General Purpose Acme Flange Nuts

Often used in screw jacks, these nuts have a wide machinable flange for custom mounting. They're made from SAE 660 bronze and are corrosion resistant. Not rated for tensile strength. All have a Class 2G thread fit.



Right-Hand Threaded

Acme Size	O'all Dia.	O'all Ht.	Flange Ht.		
3/8"-12	1"	7/8"	1/8"	95120A592	$85.09
1/2"-10	1 1/4"	1"	1/8"	95120A111	95.70
5/8"-8	1 1/2"	1 1/4"	1/4"	95120A119	105.20
3/4"-5	2"	1 1/2"	3/8"	95120A123	121.86
3/4"-6	2"	1 1/2"	3/8"	95120A127	121.86
7/8"-6	2 1/4"	1 3/4"	1/2"	95120A143	138.36
1"-4	2 1/2"	2"	1/2"	95120A593	137.05
1"-5	2 1/2"	2"	1/2"	95120A151	137.05
1"-6	2 1/2"	2"	1/2"	95120A155	137.05
1"-10	2 1/2"	2"	1/2"	95120A594	137.05
1 1/8"-5	2 3/4"	2 1/4"	5/8"	95120A167	163.25
1 1/4"-4	3"	2 1/2"	3/4"	95120A171	187.73
1 1/4"-5	3"	2 1/2"	3/4"	95120A175	187.73
1 1/2"-4	3 1/2"	3"	3/4"	95120A183	244.97
2"-4	4"	4"	1"	95120A191	263.78

Left-Hand Threaded

Choose an Acme Size

1/2"-10, 5/8"-8, 3/4"-5, 3/4"-6, 7/8"-6, 1"-5, 1"-6, 1 1/8"-5, 1 1/4"-4, 1 1/4"-5, 1 1/2"-4, 2"-4 — 95120A100

About Nuts, Materials, and Finishes

Types of Nuts

Hex nuts (pages 3207-3218)



Locknuts (pages 3220-3227) have a locking feature to resist loosening under vibration.

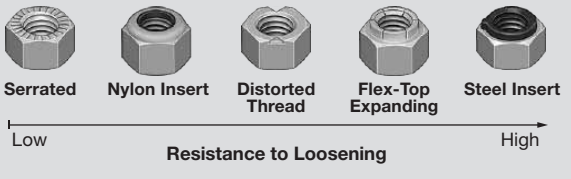



Flange nuts (pages 3225-3227) distribute holding pressure and reduce stress where the nut meets the material surface. Their wide base eliminates the need for a separate washer.



Cap nuts (pages 3228-3230) cover and protect threads while adding a finished appearance.



Square nuts (page 3219) have large sides, which makes them easier to grip with a wrench and keeps them from rotating in channels and square holes.



Thumb and wing nuts (pages 3230-3232) can be tightened or loosened by hand. They're often used in applications that require frequent adjustments.



Quick-threading nuts (page 3233) slide smoothly onto threads for quick installation and easy adjustments.



Coupling nuts (pages 3234-3235) are used to connect or extend threaded rod. They're about three-times taller than standard hex nuts.



Tamper-resistant nuts (page 3236) have hard-to-grip uncommon drive styles to reduce the risk of theft and tampering.



Press-in nuts (page 3237) add threads to thin metal or plastic panels. Install using an arbor press or similar pressure tool. Knurls hold the nut in place.



Weld nuts (pages 3240-3241) add threads to metal surfaces.

Comparing Materials by Strength

■Plastic ■Low-Strength Steel ■18-8/316 Stainless Steel ■Medium-Strength Steel ■High-Strength Steel ■Extreme-Strength Steel
■Ceramic ■Brass ■Nickel
■Aluminum ■Titanium ■Bronze ■410 Stainless Steel ■17-4 PH Stainless Steel

Low → High

Comparing Coatings and Finishes by Corrosion Resistance

■Black Oxide ■Zinc Plated ■Galvanized ■Cadmium Plated ■Black Luster Coated ■Nickel Plated ■Zinc Aluminum Coated

Indoor → Outdoor → Chemicals → Salt Water → Acids

Poor → **Excellent**

Choosing a Compatible Nut Grade

Match your screw, bolt, or threaded rod with a comparable strength nut.

	Screw/Bolt/Rod Grade	Hex Nut Grade	Extra-Wide Hex Nut Grade	Locknut Grade
Steel—Inch Sizes				
Extreme Strength	Grade 9	Grade 9	Grade 2H	Grade 9
High Strength	Grade 8	Grade 8	Grade C	Grade G
Medium Strength	Grade 5	Grade 5	Grade 5	Grade F
Low Strength	Grade 2/Not graded	Grade 2/Not graded	Grade 2/Not graded	Grade 2/Not graded
Steel—Metric Sizes				
Extreme Strength	Class 12.9	Class 12	Grade 2H	Class 12
High Strength	Class 10.9	Class 10	Class 10	Class 10
Medium Strength	Class 8.8	Class 8	Class 8	Class 8
Low Strength	Class 4.6/Class 5.8/ Not graded	Class 4/Class 5/Class 6/ Not graded	Class 4/Class 5/Class 6/ Not graded	Class 4/Class 5/Class 6/ Not graded

Understanding Thread Size

Inch sizes are specified by the diameter of the opening and threads per inch. For those with a diameter smaller than ¼", diameter is indicated by a number (e.g., #1 or No. 1).

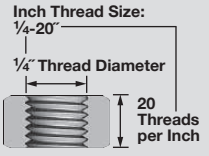

Metric sizes are specified by diameter of the opening and pitch.

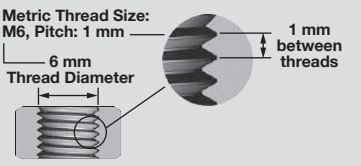

Hex Nuts

Use these hex nuts for general purpose fastening applications. Nuts with 1/4" screw size and larger are known as full or finished hex nuts. Nuts with screw sizes of 0000 to 12 are known as machine screw nuts. Thread fit is Class 2B, except brass nuts with a screw size smaller than 0 are not rated for thread fit.

Hot-dipped galvanized nuts must be used with other hot-dipped galvanized fasteners for a correct thread fit.



Screw Size	Wd.	Ht.
No. 0000	1/16"	1/32"
No. 000	5/64"	1/32"
No. 00	5/64"	3/64"
No. 0	5/32"	3/64"
No. 1	5/32"	3/64"
No. 2	3/16"	1/16"
No. 3	3/16"	1/16"
No. 4	1/4"	3/32"
No. 5	5/16"	7/64"
No. 6	5/16"	7/64"
No. 8	11/32"	1/8"
No. 10	3/8"	1/8"
No. 12	7/16"	5/32"
1/4"	7/16"	7/32"
5/16"	1/2"	17/64"
3/8"	9/16"	21/64"
7/16"	11/16"	3/8"
1/2"	3/4"	7/16"
9/16"	7/8"	31/64"
5/8"	15/16"	35/64"
11/16"	1"	27/64"
3/4"	1 1/8"	41/64"
7/8"	1 5/16"	3/4"
1"	1 1/2"	55/64"
1 1/8"	1 11/16"	31/32"
1 1/4"	1 7/8"	1 1/16"
1 3/8"	2 1/16"	1 11/64"
1 1/2"	2 1/4"	1 9/32"
1 5/8"	2 7/16"	1 25/64"
1 3/4"	2 5/8"	1 1/2"
1 7/8"	2 13/16"	1 39/64"
2"	3"	1 23/32"
2 1/4"	3 3/8"	1 15/16"
2 1/2"	3 3/4"	2 5/32"
2 3/4"	4 1/8"	2 3/8"
3"	4 1/2"	2 19/32"
3 1/2"	5 3/8"	3 1/2"

Extreme-Strength Grade 9 Steel

Heights are approximately 20% taller than heights listed in the table above.

Cadmium Yellow-Chromate Plated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	50	95036A012	$11.46
1/4"-28	50	95036A034	11.72
5/16"-18	25	95036A016	8.90
5/16"-24	25	95036A035	9.48
3/8"-16	25	95036A020	11.42
3/8"-24	25	95036A036	$13.11
7/16"-14	10	95036A022	7.38
7/16"-20	10	95036A037	7.57
1/2"-13	10	95036A024	8.98
1/2"-20	10	95036A038	9.80
5/8"-11	5	95036A029	$8.95
5/8"-18	5	95036A039	9.39
3/4"-10	1	95036A033	3.05
3/4"-16	1	95036A041	3.13
7/8"-9	1	95036A042	$7.50
7/8"-14	1	95036A043	8.10
1"-8	1	95036A044	13.44
1"-14	1	95036A045	16.62

High-Strength Grade 8 Steel

Zinc Yellow-Chromate Plated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	94895A029	3.22
1/4"-28	100	94895A805	4.49
5/16"-18	100	94895A030	4.91
5/16"-24	100	94895A810	5.29
3/8"-16	100	94895A031	7.46
3/8"-24	100	94895A815	7.24
7/16"-14	50	94895A817	7.33
7/16"-20	50	94895A820	6.56
1/2"-13	50	94895A823	7.59
1/2"-20	50	94895A825	8.20
9/16"-12	25	94895A827	6.60
9/16"-18	25	94895A830	6.68
5/8"-11	25	94895A035	8.18
5/8"-18	25	94895A835	7.10
3/4"-10	20	94895A036	10.48
3/4"-16	10	94895A840	6.00
7/8"-9	10	94895A842	7.79
7/8"-14	10	94895A845	7.77
1"-8	10	94895A038	12.56
1"-12	1	94895A850	3.73
1"-14	10	94895A855	12.29
1 1/8"-7	5	94895A857	10.49
1 1/8"-12	5	94895A858	10.54
1 1/4"-7	5	94895A859	11.94
1 1/4"-12	1	94895A860	2.95
1 3/8"-6	1	94895A042	3.80

Zinc Yellow-Chromate Plated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1 3/8"-12	1	94895A863	4.04
1 1/2"-6	1	94895A041	4.58
1 1/2"-12	1	94895A865	5.26
1 3/4"-5	1	94895A044	15.91
1 3/4"-12	1	94895A868	10.28
2"-4 1/2	1	94895A045	9.63
2"-12	1	94895A870	9.91

Ultra Corrosion-Resistant Zinc Aluminum Coated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	93827A211	6.93
1/4"-28	100	93827A216	7.33
5/16"-18	100	93827A219	10.02
5/16"-24	100	93827A222	10.33
3/8"-16	100	93827A225	13.51
3/8"-24	50	93827A228	7.51
7/16"-14	50	93827A236	13.22
7/16"-20	25	93827A241	7.47
1/2"-13	25	93827A245	8.29
1/2"-20	25	93827A249	8.76
9/16"-12	25	93827A250	12.00
9/16"-18	10	93827A251	5.29
5/8"-11	10	93827A253	6.56
5/8"-18	10	93827A255	6.60
3/4"-10	10	93827A259	11.22

Ultra Corrosion-Resistant Zinc Aluminum Coated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
3/4"-16	10	93827A267	11.96
7/8"-9	10	93827A271	13.35
7/8"-14	10	93827A273	13.58
1"-8	5	93827A277	9.40
1"-14	5	93827A279	10.18
1 1/8"-7	1	93827A282	3.63
1 1/8"-12	1	93827A284	3.83
1 1/4"-7	1	93827A287	4.51
1 1/4"-12	1	93827A289	4.63
1 3/8"-6	1	93827A292	7.69
1 3/8"-12	1	93827A295	7.89
1 1/2"-6	1	93827A297	7.51
1 1/2"-12	1	93827A299	8.07
2"-4 1/2	1	93827A301	30.01
2"-12	1	93827A303	32.67

Uncoated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	90499A029	2.90
1/4"-28	100	90499A805	3.13
5/16"-18	100	90499A030	4.18
5/16"-24	100	90499A810	4.80
3/8"-16	100	90499A031	6.34
3/8"-24	100	90499A815	6.76
7/16"-14	100	90499A032	11.82
7/16"-20	100	90499A820	12.91

Uncoated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1/2"-13	50	90499A033	7.64
1/2"-20	50	90499A825	9.10
9/16"-12	50	90499A827	12.11
9/16"-18	50	90499A830	10.54
5/8"-11	50	90499A832	13.36
5/8"-18	25	90499A835	7.83
3/4"-10	25	90499A837	9.53
3/4"-16	10	90499A840	5.81
7/8"-9	10	90499A842	7.76
7/8"-14	10	90499A845	7.73
1"-8	10	90499A847	12.38
1"-12	1	90499A850	3.08
1"-14	10	90499A855	12.41
1 1/8"-7	5	90499A857	7.05
1 1/8"-12	5	90499A858	9.02
1 1/4"-7	5	90499A859	10.88
1 1/4"-12	5	90499A860	10.83
1 3/8"-6	1	90499A042	3.24
1 3/8"-12	1	90499A863	3.33
1 1/2"-6	1	90499A041	4.43
1 1/2"-12	1	90499A865	4.45
1 3/4"-5	1	90499A044	9.85
1 3/4"-12	1	90499A868	8.78
2"-4 1/2	1	90499A045	13.46
2"-12	1	90499A870	13.66

Medium-Strength Grade 5 Steel

Zinc Plated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	95462A029	4.40
1/4"-28	100	95462A505	4.84
5/16"-18	100	95462A030	6.44
5/16"-24	100	95462A510	6.76
3/8"-16	100	95462A031	7.84
3/8"-24	100	95462A515	8.28
7/16"-14	100	95462A032	11.47
7/16"-20	100	95462A520	11.80
1/2"-13	100	95462A033	13.77
1/2"-20	100	95462A525	14.76
9/16"-12	50	95462A528	10.77
9/16"-18	25	95462A530	8.53
5/8"-11	25	95462A533	7.43
5/8"-18	50	95462A535	14.99
3/4"-10	25	95462A538	13.19
3/4"-16	25	95462A540	13.90
7/8"-9	10	95462A542	7.15
7/8"-14	10	95462A545	8.22
1"-8	10	95462A548	12.84
1"-12	1	95462A550	3.68
1"-14	10	95462A555	9.69
1 1/8"-7	10	95462A557	13.19
1 1/8"-12	10	95462A558	13.70

Zinc Plated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1 1/4"-7	5	95462A559	10.35
1 1/4"-12	5	95462A560	10.74
1 3/8"-6	1	95462A562	3.51
1 3/8"-12	1	95462A563	3.51
1 1/2"-6	1	95462A564	4.28
1 1/2"-12	1	95462A565	4.28
2"-4 1/2	1	95462A211	19.12
2"-12	1	95462A213	19.70

Black Oxide

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	50	95479A111	4.42
1/4"-28	50	95479A113	4.88
5/16"-18	50	95479A115	5.26
5/16"-24	50	95479A117	6.40
3/8"-16	50	95479A118	9.67
3/8"-24	25	95479A119	8.23
7/16"-14	25	95479A211	9.04
7/16"-20	25	95479A215	9.11
1/2"-13	25	95479A121	10.73
1/2"-20	10	95479A122	5.75
9/16"-12	10	95479A123	7.21
5/8"-11	10	95479A125	6.96
5/8"-18	10	95479A127	8.11
3/4"-10	10	95479A128	10.16

Black Oxide (Cont.)

Thread Size	Pkg. Qty.		Pkg.
3/4"-16	10	95479A129	11.72
7/8"-9	10	95479A131	14.14
7/8"-14	5	95479A132	8.06
1"-8	5	95479A135	12.12
1 1/8"-7	1	95479A140	3.47
1 1/4"-7	1	95479A145	3.89

Black Luster

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	10	98797A029	5.73
5/16"-18	10	98797A030	6.81
3/8"-16	5	98797A031	5.29
1/2"-13	5	98797A523	6.12

Uncoated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	95505A601	3.26
1/4"-28	100	95505A611	3.75
5/16"-18	100	95505A602	4.84
5/16"-24	100	95505A612	4.57
3/8"-16	100	95505A603	5.76
3/8"-24	100	95505A613	5.52
7/16"-14	100	95505A604	10.39
7/16"-20	100	95505A614	9.78
1/2"-13	50	95505A605	8.50
1/2"-20	50	95505A615	9.35
9/16"-12	25	95505A606	6.88

Uncoated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
9/16"-18	25	95505A616	6.83
5/8"-11	25	95505A607	6.91
5/8"-18	25	95505A617	7.41
3/4"-10	25	95505A608	11.03
3/4"-16	25	95505A618	11.30
7/8"-9	10	95505A609	8.50
7/8"-14	10	95505A619	8.70
1"-8	5	95505A610	5.63
1"-12	1	95505A620	3.14
1"-14	5	95505A621	5.92
1 1/8"-7	5	95505A622	8.85
1 1/8"-12	5	95505A626	9.58
1 1/4"-7	5	95505A623	9.15
1 1/4"-12	5	95505A627	13.66
1 3/8"-6	1	95505A624	4.75
1 3/8"-12	1	95505A628	3.41
1 1/2"-6	1	95505A625	5.63
1 1/2"-12	1	95505A629	5.12
1 3/4"-5	1	95505A642	8.11
1 3/4"-12	1	95505A630	12.52
2"-4 1/2	1	95505A661	12.70
2"-12	1	95505A631	12.79

(Continued on following page)

Hex Nuts *(Continued from previous page)*



Use these hex nuts for general purpose fastening applications. Nuts with 1/4" screw size and larger are known as full or finished hex nuts. Nuts with screw sizes of 0000 to 12 are known as machine screw nuts. Thread fit is Class 2B, except brass nuts with a screw size smaller than 0 are not rated for thread fit. For nut widths and heights, see the table at the top of page 3207.

Hot-dipped galvanized nuts must be used with other hot-dipped galvanized fasteners for a correct thread fit.

Low-Strength Steel

Zinc Plated

Thread Size	Pkg. Qty.		Pkg.
0-80	100	90480A001	$5.02
1-64	50	90480A036	1.48
1-72	100	90480A002	2.92
2-56	100	90480A003	.97
2-64	100	90480A135	1.50
3-48	100	90480A004	1.29
3-56	50	90480A041	2.03
4-40	100	90480A005	.87
4-48	100	90480A155	1.91
5-40	100	90480A006	1.71
5-44	100	90480A165	3.07
6-32	100	90480A007	1.24
6-40	100	90480A175	1.94
8-32	100	90480A009	1.60
8-36	100	90480A185	2.51
10-24	100	90480A011	1.84
10-32	100	90480A195	1.83
12-24	100	90480A013	2.45
12-28	100	90480A205	4.10
1/4"-20	100	90473A029	2.68
1/4"-28	100	90473A205	3.14
5/16"-18	100	90473A030	4.05
5/16"-24	100	90473A210	4.73
3/8"-16	100	90473A031	5.58
3/8"-24	100	90473A215	6.63
7/16"-14	100	90473A217	10.25
7/16"-20	100	90473A220	11.14
1/2"-13	100	90473A223	13.45
1/2"-20	50	90473A225	7.90

Zinc Plated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
9/16"-12	50	90473A227	$11.73
9/16"-18	50	90473A230	11.91
5/8"-11	50	90473A233	13.45
5/8"-18	25	90473A235	8.51
3/4"-10	25	90473A237	11.39
3/4"-16	25	90473A240	12.92
7/8"-9	10	90473A242	7.00
7/8"-14	10	90473A245	10.40
1"-8	5	90473A038	8.11
1"-12	5	90473A250	13.20
1"-14	10	90473A255	10.79
1 1/8"-7	10	90473A039	13.30
1 1/8"-12	5	90473A258	8.11
1 1/4"-7	5	90473A040	9.91
1 1/4"-12	5	90473A260	10.82
1 3/8"-6	5	90473A042	14.28
1 3/8"-12	5	90473A263	14.71
1 1/2"-6	1	90473A041	5.25
1 1/2"-12	1	90473A265	3.51

Hot-Dipped Galvanized

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	90371A029	4.79
5/16"-18	100	90371A019	6.31
3/8"-16	100	90371A031	9.55
7/16"-14	50	90371A032	7.82
1/2"-13	50	90371A045	11.83
9/16"-12	25	90371A049	9.37
5/8"-11	25	90371A050	10.59
3/4"-10	10	90371A055	6.90
7/8"-9	10	90371A060	9.71

Hot-Dipped Galvanized (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1"-8	5	90371A065	$7.20
1 1/8"-7	1	90371A067	2.06
1 1/4"-7	1	90371A070	3.08
1 1/2"-6	1	90371A073	4.64

Black Oxide

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	90189A112	6.92
5/16"-18	100	90189A114	10.26
3/8"-16	50	90189A116	8.65
1/2"-13	25	90189A118	10.26
5/8"-11	10	90189A122	7.95
3/4"-10	10	90189A124	12.05
1"-8	1	90189A126	2.95

Uncoated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	90490A029	2.10
1/4"-28	100	90490A205	2.63
5/16"-18	100	90490A030	3.28
5/16"-24	100	90490A210	3.95
3/8"-16	100	90490A031	4.58
3/8"-24	100	90490A215	5.22
7/16"-14	100	90490A032	9.40
7/16"-20	100	90490A220	9.32
1/2"-13	100	90490A033	9.97
1/2"-20	100	90490A225	11.10
9/16"-12	50	90490A034	8.82
9/16"-18	50	90490A230	9.85
5/8"-11	50	90490A035	11.25
5/8"-18	50	90490A235	9.95
3/4"-10	25	90490A436	9.15
3/4"-16	25	90490A240	9.10

Uncoated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
7/8"-9	25	90490A037	$11.23
7/8"-14	10	90490A245	6.83
1"-8	10	90490A438	8.38
1"-12	10	90490A250	11.56
1"-14	10	90490A255	8.34
1 1/8"-7	10	90490A439	13.29
1 1/8"-12	10	90490A258	12.41
1 1/4"-7	5	90490A440	9.18
1 1/4"-12	5	90490A260	10.31
1 3/8"-6	1	90490A442	3.25
1 3/8"-12	1	90490A263	2.79
1 1/2"-6	1	90490A441	3.70
1 1/2"-12	1	90490A265	3.84
1 5/8"-5 1/2	1	90490A061	5.58
1 5/8"-12	1	90490A266	7.78
1 3/4"-5	1	90490A044	6.38
1 3/4"-12	1	90490A268	6.06
1 7/8"-5	1	90490A065	11.56
1 7/8"-12	1	90490A269	11.24
2"-4 1/2	1	90490A046	6.07
2"-12	1	90490A270	9.63
2 1/4"-4 1/2	1	90490A048	11.53
2 1/4"-12	1	90490A273	11.90
2 1/2"-4	1	90490A051	14.26
2 1/2"-12	1	90490A275	16.92
2 3/4"-4	1	90490A053	18.94
3"-4	1	90490A055	26.29
3"-12	1	90490A280	27.12
3 1/2"-4	1	90490A310	153.69

Stainless Steel

316 Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
4-40	100	90257A005	5.46
6-32	100	90257A007	6.25
8-32	100	90257A009	6.65
10-24	100	90257A011	7.29
10-32	100	90257A411	7.29
12-24	50	90257A038	8.73
1/4"-20	100	94804A029	7.21
1/4"-28	50	94804A305	4.58
5/16"-18	50	94804A030	5.31
5/16"-24	50	94804A315	6.78
3/8"-16	50	94804A320	7.51
3/8"-24	25	94804A325	4.83
7/16"-14	25	94804A330	9.38
7/16"-20	10	94804A335	4.29
1/2"-13	10	94804A340	3.96
1/2"-20	10	94804A345	5.17
9/16"-12	5	94804A348	5.69
9/16"-18	5	94804A349	7.78
5/8"-11	10	94804A351	7.02
5/8"-18	5	94804A355	5.27
3/4"-10	5	94804A360	5.91
3/4"-16	5	94804A365	8.79
7/8"-9	1	94804A370	1.55
7/8"-14	1	94804A375	2.48
1"-8	1	94804A038	2.49
1"-12	1	94804A152	4.40
1"-14	1	94804A156	3.54
1 1/8"-7	1	94804A039	4.93
1 1/4"-7	1	94804A040	6.55
1 3/8"-6	1	94804A169	10.34
1 1/2"-6	1	94804A041	11.89
1 3/4"-5	1	94804A055	18.57
2"-4 1/2	1	94804A065	29.72

ASTM F594 316 Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	50	94819A043	3.76
5/16"-18	25	94819A046	3.24
3/8"-16	25	94819A049	3.96
7/16"-14	10	94819A052	8.21

★ Width is 7/16"; height is 3/16".

ASTM F594 316 Stainless Steel (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1/2"-13	5	94819A055	2.49
5/8"-11	5	94819A058	4.84
3/4"-10	1	94819A061	1.00
7/8"-9	1	94819A064	2.49
1"-8	1	94819A067	2.88

18-8 Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
0000-160	1	90001A201	17.28
000-120	5	90001A302	10.64
00-90	5	90001A403	6.91
0-80	100	91841A115	7.85
1-64	100	91841A038	8.10
1-72	100	91841A125	8.16
2-56	100	91841A003	2.77
2-64	100	91841A135	7.78
3-48	100	91841A004	2.89
3-56	100	91841A145	4.25
4-40	100	91841A005	2.61
4-48	100	91841A155	8.00
5-40	100	91841A006	4.88
5-44	100	91841A165	8.33
6-32	100	91841A007	3.08
6-40	100	91841A175	7.28
8-32	100	91841A009	3.18
8-36	100	91841A185	8.50
10-24	100	91841A011	3.50
10-32	100	91841A195	3.50
12-24	100	91841A013	6.94
12-28	100	91841A205	10.38
1/4"-20	100	91845A029	3.85
1/4"-28	100	91845A105	4.04
1/4"-32	1	95621A100	4.38
5/16"-18	100	91845A030	5.11
5/16"-24	100	91845A115	5.89
5/16"-32	1	95621A200	4.65
3/8"-16	100	91845A031	7.23
3/8"-24	50	91845A125	4.32
3/8"-32	1	95621A300	4.95
7/16"-14	50	91845A300	6.75

18-8 Stainless Steel (Cont.)

Thread Size	Pkg. Qty.		Pkg.
7/16"-20	50	91845A135	7.92
7/16"-28	1	95621A400	6.54
1/2"-13	25	91845A310	4.58
1/2"-20	25	91845A145	5.25
1/2"-28	1	91845A340	13.03
9/16"-12	10	91845A315	4.51
9/16"-18	10	91845A320	5.76
5/8"-11	10	91845A325	3.76
5/8"-18	10	91845A165	4.46
5/8"-24	1	91845A345	14.88
11/16"-24	1	95621A700	17.64
3/4"-10	10	91845A330	5.61
3/4"-16	5	91845A175	3.85
3/4"-20	1	91845A350	22.10
7/8"-9	5	91845A335	5.40
7/8"-14	5	91845A185	5.91
7/8"-20	1	91845A355	24.95
1"-8	5	91845A038	7.26
1"-12	1	91845A203	3.45
1"-14	1	91845A205	1.95
1 1/8"-7	1	91845A039	2.98
1 1/8"-12	1	91845A215	6.59
1 1/4"-7	1	91845A040	3.97
1 1/4"-12	1	91845A235	9.39
1 3/8"-6	1	91845A042	6.85
1 1/2"-6	1	91845A041	8.29
1 1/2"-12	1	91845A265	13.99
1 3/4"-5	1	91845A044	18.04
2"-4 1/2	1	91845A045	23.53

ASTM F594 18-8 Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	50	92673A113	2.13
1/4"-28	50	92673A116	3.56
5/16"-18	50	92673A119	3.70
5/16"-24	50	92673A122	4.67
3/8"-16	25	92673A125	2.27
3/8"-24	25	92673A128	2.88
7/16"-14	10	92673A131	2.41

ASTM F594 18-8 Stainless Steel (Cont.)

Thread Size	Pkg. Qty.		Pkg.
7/16"-20	10	92673A134	3.45
1/2"-13	10	92673A137	2.89
1/2"-20	10	92673A141	5.26
5/8"-11	5	92673A144	2.72
5/8"-18	5	92673A155	3.28
3/4"-10	5	92673A147	3.12
3/4"-16	5	92673A157	4.53
7/8"-9	1	92673A150	1.36
1"-8	1	92673A153	1.72

Seize-Resistant PTFE-Coated 18-8 Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
6-32	50	94600A100	8.10
8-32	50	94600A200	9.34
10-24	50	94600A400	11.50
10-32	50	94600A300	9.49
1/4"-20	25	94600A500★	9.53

Black Oxide 18-8 Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
0-80	100	96537A145	10.24
2-56	100	96537A110	3.19
4-40	100	96537A120	3.91
6-32	100	96537A130	5.05
8-32	100	96537A140	5.97
10-24	100	96537A150	6.58
10-32	100	96537A160	6.58
1/4"-20	50	97149A100	7.24
1/4"-28	50	97149A120	7.23
5/16"-18	25	97149A150	5.89
5/16"-24	25	97149A170	5.81
3/8"-16	25	97149A200	7.25
3/8"-24	25	97149A210	7.24
7/16"-14	10	97149A230	5.98
7/16"-20	10	97149A240	6.02
1/2"-13	10	97149A250	6.51
1/2"-20	10	97149A270	6.41
5/8"-11	5	97149A300	8.01
5/8"-18	5	97149A310	7.92
3/4"-10	1	97149A350	2.57
3/4"-16	1	97149A370	2.53

(Continued on following page)

Hex Nuts *(Continued from previous page)*

Thread Size	Pkg. Qty.		Pkg.	Thread Size	Pkg. Qty.		Pkg.	Thread Size	Pkg. Qty.		Pkg.	Thread Size	Pkg. Qty.		Pkg.
High-Strength Stainless Steel															
410 Stainless Steel				**17-4 PH Stainless Steel**				**Alloy 20 Stainless Steel**				**A286 Super Alloy Stainless Steel**			
1/4"-20	5	99129A029	$6.31	1/4"-20	1	93061A113	$5.98	1/4"-20	1	90775A029	$1.44	1/4"-20	1	93043A327	$8.11
5/16"-18	5	99129A051	3.40	5/16"-18	1	93061A117	6.75	5/16"-18	1	90775A030	4.63	5/16"-18	1	93043A332	9.50
3/8"-16	5	99129A310	8.09	3/8"-16	1	93061A122	7.55	3/8"-16	1	90775A031	5.23	3/8"-16	1	93043A339	11.98
1/2"-13	5	99129A325	11.18	1/2"-13	1	93061A127	10.35	1/2"-13	1	90775A033	17.00	1/2"-13	1	93043A346	15.73
Brass															
000-120	25	92736A110	12.92	5-40	100	92671A006	7.80	1/4"-28	50	92676A429	11.45	5/8"-11	5	92676A485	7.95
00-90	25	92736A112	9.20	5-44	100	92671A165	9.05	5/16"-18	50	92676A030	10.92	5/8"-18	1	92676A490	2.37
0-80	100	92671A115	3.15	6-32	100	92671A007	5.60	5/16"-24	25	92676A430	7.65	3/4"-10	5	92676A495	12.58
1-64	100	92671A002	4.03	6-40	100	92671A175	9.32	3/8"-16	25	92676A450	8.16	3/4"-16	1	92676A510	4.48
1-72	100	92671A125	4.38	8-32	100	92671A009	6.51	3/8"-24	10	92676A455	4.94	7/8"-9	1	92676A515	3.76
2-56	100	92671A003	2.66	8-36	50	92671A185	7.53	7/16"-14	10	92676A460	7.24	7/8"-14	1	92676A437	9.42
2-64	100	92671A135	5.49	10-24	100	92671A011	7.31	7/16"-20	10	92676A465	8.57	1"-8	1	92676A038	5.67
3-48	100	92671A004	2.92	10-32	100	92671A195	7.31	1/2"-13	10	92676A470	7.55	1 1/8"-7	1	92676A039	17.15
3-56	100	92671A145	3.48	12-24	50	92671A013	8.82	1/2"-20	5	92676A475	5.41	1 1/4"-7	1	92676A040	17.55
4-40	100	92671A005	4.03	12-28	50	92671A205	11.06	9/16"-12	5	92676A480	11.12	1 1/2"-6	1	92676A041	37.71
4-48	100	92671A155	7.11	1/4"-20	50	92676A029	7.39								
Bronze															
8-32	50	93435A009	6.92	5/16"-24	10	93439A625	5.72	1/2"-13	10	93439A650	10.59	7/8"-9	1	93439A037	9.84
10-32	50	93435A411	7.36	3/8"-16	25	93439A630	11.32	1/2"-20	5	93439A656	8.81	1"-8	1	93439A038	13.48
1/4"-20	50	93439A610	10.25	3/8"-24	10	93439A635	8.11	5/8"-11	5	93439A665	11.53	1 1/4"-7	1	93439A040	29.74
1/4"-28	25	93439A615	10.12	7/16"-14	10	93439A640	12.26	3/4"-10	1	93439A036	4.70	1 1/2"-6	1	93439A041	60.72
5/16"-18	25	93439A620	8.37	7/16"-20	5	93439A646	7.40								
Aluminum															
2-56	10	90670A150	12.10	10-32	100	93181A411	3.98	3/8"-16	100	90670A031	14.19	1/2"-20	5	90670A180	9.13
4-40	100	93181A003	4.25	1/4"-20	100	90670A029	7.20	3/8"-24	10	90670A165	12.81	5/8"-11	10	90670A135	7.92
6-32	100	93181A007	3.94	1/4"-28	10	90670A155	12.28	7/16"-14	5	90670A170	6.76	5/8"-18	1	90670A185	3.82
8-32	100	93181A009	3.96	5/16"-18	100	90670A030	9.62	7/16"-20	5	90670A175	8.68	3/4"-10	5	90670A140	7.22
10-24	100	93181A011	3.98	5/16"-24	10	90670A160	12.28	1/2"-13	25	90670A033	8.79				
Titanium															
2-56	1	90545A003	10.42	8-32	1	90545A009	3.83	1/4"-20	1	90545A029	2.57	1/2"-13	1	90545A034	7.47
4-40	1	90545A005	5.60	10-24	1	90545A011	2.74	5/16"-18	1	90545A030	3.57	5/8"-11	1	90545A037	14.67
6-32	1	90545A007	4.35	10-32	1	90545A111	2.80	3/8"-16	1	90545A031	5.28	3/4"-10	1	90545A041	26.17
Nickel C276															
1/4"-20	1	95012A229	10.95	3/8"-16	1	95012A241	18.48	5/8"-11	1	95012A256	36.12	1"-8	1	95012A269	111.20
5/16"-18	1	95012A236	16.40	1/2"-13	1	95012A248	23.80	3/4"-10	1	95012A264	58.78				
Nickel-Copper 400															
1/4"-20	10	90810A029	8.55	3/8"-16	1	90810A031	2.42	5/8"-11	1	90810A035	6.84	3/4"-10	1	90810A036	20.82
5/16"-18	5	90810A030	6.95	1/2"-13	1	90810A033	4.82								
Ceramic															
2-56	1	94635A110	16.23	8-32	1	94635A124	19.57	1/4"-20	1	94635A135	21.43	5/16"-18	1	94635A150	20.45
4-40	1	94635A115	17.43	10-24	1	94635A140	18.52	1/4"-28	1	94635A145	19.40	3/8"-16	1	94635A155	21.18
6-32	1	94635A120	18.77	10-32	1	94635A130	20.38								

Zinc Yellow-Chromate Plated High-Strength Grade 8 Steel Nuts with Material Test Report

These nuts come with a traceable lot number and a physical and chemical test report. Prices are approximately 30% more than the equivalent sizes in standard zinc yellow-chromate plated high-strength Grade 8 steel (see page 3207).

Choose a Thread Size

1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10, 1"-8 ..... **91819A100**

Left-Hand Threaded

Choose a Thread Size: 6-32, 8-32, 10-24, 10-32, 1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24, 7/16"-14, 7/16"-20, 1/2"-13, 1/2"-20, 9/16"-12, 9/16"-18, 5/8"-11, 5/8"-18, 3/4"-10, 3/4"-16, 7/8"-9, 7/8"-14, 1"-8, 1"-14, 1 1/8"-7, 1 1/4"-7, 1 1/4"-12, 1 1/2"-6

Zinc Yellow-Chromate Plated High-Strength Grade 8 Steel **99891A220**
Uncoated Medium-Strength Grade 5 Steel **95140A100**
Zinc-Plated Low-Strength Steel **93425A200**
Uncoated Low-Strength Steel **90519A200**
316 Stainless Steel **95355A200**
18-8 Stainless Steel **95195A110**

Hex Nut Assortments

All assortments come in a compartmented plastic case. Inch assortments include nuts that have a Class 2B thread fit. Metric assortments include nuts with a Class 6H thread fit that meet DIN 934.



	Thread Sizes Included	No. of Nuts		
Zinc Yellow-Chromate Plated High-Strength Grade 8 Steel	1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10	90	93608A600	$21.31
Zinc-Plated Medium-Strength Grade 5 Steel	1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10	90	93608A400	18.07
Zinc-Plated Low-Strength Steel	2-56, 4-40, 6-32, 8-32, 10-24, 10-32, 1/4"-20	700	90740A107	35.35
18-8 Stainless Steel	2-56, 4-40, 6-32, 8-32, 10-24, 10-32, 1/4"-20	700	90625A207	56.35
18-8 Stainless Steel	1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10	90	93608A200	43.71
Metric Zinc-Plated Steel	M3x0.5, M4x0.7, M5x0.8, M6x1, M8x1.25, M8x1, M10x1.5,M10x1.25, M10x1, M12x1.75, M16x2, M16x1.5, M20x2.5	720	98188A912	80.00
Metric Medium-Strength Class 8 Steel	M4x0.7, M5x0.8, M6x1, M7x1, M8x1.25, M10x1.5	215	98566A131	73.40
Metric 18-8 (A2) Stainless Steel	M2x0.4, M3x0.5, M4x0.7, M5x0.8, M6x1, M8x1.25, M10x1.5, M12x1.75	600	98185A414	75.00

Metric Hex Nuts



All have a Class 6H thread fit. They meet DIN 934, unless otherwise stated.

Screw Size	Wd., mm	Ht., mm	Screw Size	Wd., mm	Ht., mm	Screw Size	Wd., mm	Ht., mm	Screw Size	Wd., mm	Ht., mm	Screw Size	Wd., mm	Ht., mm
M1	2.5	0.8	M2.6	5	2	M7	11	5.5	M16	24	13	M27	41	22
M1.2	3	1	M3	5.5	2.4	M8	13	6.5	M18	27	15	M30	46	24
M1.4	3	1.2	M3.5	6	2.8	M10	17	8	M20	30	16	M36	55	29
M1.6	3.2	1.3	M4	7	3.2	M12	19	10	M22	32	18	M42	65	34
M2	4	1.6	M5	8	4	M14	22	11	M24	36	19	M48	75	38
M2.5	5	2	M6	10	5									

Extreme-Strength Class 12 Steel

Uncoated

Thread Size	Pkg. Qty.		Pkg.
M6×1	50	94223A101	$11.36
M8×1.25	25	94223A102	6.82
M10×1.5	10	94223A103	5.45
M12×1.75	10	94223A104	$6.82
M16×2	5	94223A105	6.82
M20×2.5	5	94223A106	11.36
M24×3	1	94223A107	$4.09
M30×3.5	1	94223A108	9.09

High-Strength Class 10 Steel

Zinc Yellow-Chromate Plated

Thread Size	Pkg. Qty.		Pkg.
M3×0.5	25	92497A200	7.59
M4×0.7	50	92497A250	7.71
M5×0.8	100	92497A300	7.81
M6×1	100	92497A350	8.34
M8×1.25	100	92497A400	13.29
M10×1.5	50	92497A450	12.65
M12×1.75	25	92497A500	13.02
M14×2	10	92497A550	9.12
M16×2	10	92497A600	10.73
M18×2.5	5	92497A650	7.34
M20×2.5	5	92497A700	11.02
M22×2.5	1	92497A750	2.70
M24×3	1	92497A800	3.29
M30×3.5	1	92497A850	6.13
M36×4	1	92497A900	9.81

Uncoated

Thread Size	Pkg. Qty.		Pkg.
M3×0.5	25	90685A037	7.92
M4×0.7	100	90685A039	9.68
M5×0.8	100	90685A041	7.37
M6×1	100	90685A043	5.48
M8×1.25	100	90685A045	10.48
M10×1.5	50	90685A046	10.55
M12×1.75	25	90685A110	9.52
M14×2	25	90685A115	11.91
M16×2	10	90685A120	5.94
M18×2.5	10	90685A125	12.38
M20×2.5	10	90685A130	10.95
M24×3	5	90685A060	9.29
M30×3.5	1	90685A070	4.09
M36×4	1	90685A080	8.67

High-Visibility Blue

Thread Size	Pkg. Qty.		Pkg.
M6×1	50	99899A211	7.53
M8×1.25	50	99899A216	10.32
M10×1.5	25	99899A222	11.56
M12×1.75	10	99899A227	6.41
M14×2	10	99899A231	10.42
M16×2	10	99899A236	11.66
M20×2.5	1	99899A243	2.72
M24×3	1	99899A247	2.77
M30×3.5	1	99899A251	6.12
M36×4	1	99899A255	16.08

Medium-Strength Class 8 Steel

Zinc Plated

Thread Size	Pkg. Qty.		Pkg.
M2×0.4	100	90591A265	2.08
M2.5×0.45	100	90591A270	2.22
M3×0.5	100	90591A250	2.06
M4×0.7	100	90591A255	2.28
M5×0.8	100	90591A260	2.61
M6×1	100	90591A151	2.30
M7×1	100	90591A154	3.93
M8×1.25	100	90591A161	5.07
M8×1	100	91415A105	9.27
M10×1.5	100	90591A171	10.48
M10×1.25	50	91415A225	10.64
M10×1	50	91415A215	12.01
M12×1.75	50	90591A181	8.60
M12×1.5	25	91415A125	8.20
M12×1.25	25	91415A235	9.41
M12×1	10	91415A150	7.76
M14×2	25	90591A215	7.22
M14×1.5	25	91415A255	10.23
M16×2	25	90591A220	7.16
M16×1.5	20	91415A265	12.67
M18×2.5	10	90591A225	6.11
M18×1.5	10	91415A270	9.14
M20×2.5	10	90591A230	6.58
M20×1.5	10	91415A275	9.15
M22×1.5	1	91415A280	3.13
M24×3	10	90591A235	9.26
M24×2	1	91415A290	3.97
M24×1.5	1	91415A285	3.31
M30×3.5	1	90591A240	3.58
M30×2	1	91415A310	6.38
M36×4	1	90591A245	6.61
M36×3	1	91415A340	11.97

Uncoated

Thread Size	Pkg. Qty.		Pkg.
M2×0.4	100	90592A075	1.47
M2.5×0.45	100	90592A080	1.76
M3×0.5	100	90592A085	.88
M4×0.7	100	90592A090	1.32
M5×0.8	100	90592A095	1.76
M6×1	100	90592A016	2.29
M7×1	100	90592A018	3.82
M8×1.25	100	90592A022	4.51
M10×1.5	100	90592A024	8.52
M12×1.75	100	90592A028	13.15
M14×2	25	90592A032	6.51
M16×2	25	90592A034	7.64
M18×2.5	25	90592A045	11.81
M20×2.5	10	90592A050	6.03
M24×3	10	90592A055	9.69
M30×3.5	5	90592A065	12.99
M36×4	1	90592A070	5.95

Low-Strength Steel

Zinc Plated

Thread Size	Pkg. Qty.		Pkg.
M1.6×0.35	50	90591A109	8.51
M2×0.4	100	90591A111	1.39
M2.5×0.45	100	90591A113	1.39
M2.6×0.45	100	90591A114	1.39
M3×0.5	100	90591A121	1.39
M3×0.35	10	91415A010	7.38
M3.5×0.6	100	90591A131	1.73
M4×0.7	100	90591A141	1.39
M4×0.5	25	91415A020	9.82
M5×0.8	100	90591A146	2.08
M5×0.5	50	91415A030	9.76
M6×0.75	50	91415A040	7.39

Uncoated

Thread Size	Pkg. Qty.		Pkg.
M2×0.4	100	90592A004	1.04
M2.5×0.45	100	90592A006	1.04
M2.6×0.45	100	90592A008	1.04
M3×0.5	100	90592A009	1.04
M3.5×0.6	100	90592A010	1.73
M4×0.7	100	90592A011	1.39
M5×0.8	100	90592A012	1.73

Stainless Steel

316 (A4) Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
M2×0.4	50	94150A305	2.66
M2.5×0.45	50	94150A310	3.69
M3×0.5	50	94150A325	3.08
M3.5×0.6	50	94150A330	7.61
M4×0.7	50	94150A335	3.42
M5×0.8	50	94150A340	4.12
M6×1	50	94150A345	9.58
M8×1.25	50	94150A355	13.38
M10×1.5	10	94150A358	12.66
M12×1.75	5	94150A360	6.51
M14×2	5	94150A363	12.35
M16×2	5	94150A365	13.90
M18×2.5	1	94150A368	3.50
M20×2.5	1	94150A370	3.90
M22×2.5	1	94150A372	8.42
M24×3	1	94150A373	8.87
M30×3.5	1	94150A376	12.87
M36×4	1	94150A379	27.60
M42×4.5	1	94150A389	35.15
M48×5	1	94150A397	49.83

18-8 (A2) Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
M1×0.25	5	91828A003	10.01
M1.2×0.25	5	91828A004	9.38
M1.4×0.3	1	91828A005	2.50
M1.6×0.35	25	91828A006	9.19
M2×0.4	100	91828A111	4.50
M2.5×0.45	100	91828A113	5.64
M3×0.5	100	91828A211	5.55
M3.5×0.6	100	91828A220	8.68
M4×0.7	100	91828A231	6.45
M5×0.8	100	91828A241	5.55
M6×1	100	91828A251	8.73
M7×1	25	91828A255	4.34
M8×1.25	50	91828A410	9.98
M8×1	10	93850A320	7.94
M10×1.5	25	91828A415	9.81
M10×1.25	5	93850A335	9.68
M10×1	10	93850A330	12.27
M12×1.75	25	91828A420	11.85
M12×1.5	5	93850A340	10.09
M12×1.25	5	93850A337	10.00
M12×1	5	93850A405	6.82
M14×2	10	91828A425	8.18
M14×1.5	1	93850A350	2.42
M16×2	10	91828A430	11.42
M16×1.5	1	93850A360	4.17
M18×2.5	5	91828A435	8.74
M18×1.5	1	93850A365	5.46

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Metric Hex Nuts *(Continued from previous page)*

Thread Size	Pkg. Qty.		Pkg.
Stainless Steel (Cont.)			
18-8 (A2) Stainless Steel			
M20×2.5	5	91828A440	$11.31
M20×1.5	1	93850A370	5.47
M22×2.5	1	91828A442	3.17
M22×1.5	1	93850A375	7.24
M24×3	1	91828A316	3.74
M24×2	1	93850A410	6.59
M24×1.5	1	93850A380	12.30
M27×3	1	91828A318	7.50
M30×3.5	1	91828A445	13.71
M30×1.5	1	93850A390	24.14
M36×4	1	91828A450	21.81
Brass			
M2×0.4	100	90690A030	4.48
M2.5×0.45	100	90690A035	5.17
M2.6×0.45	50	90690A026	9.24
M3×0.5	100	90690A037	6.48
M3.5×0.6	100	90690A036	12.41
M4×0.7	100	90690A044	8.62
M5×0.8	100	90690A046	14.67
Bronze			
M6×1	10	91776A101	9.68
M8×1.25	5	91776A102	8.39
Aluminum			
M4×0.7	50	91854A101	6.48
M5×0.8	50	91854A102	9.26
M6×1	25	91854A103	6.48
Titanium—Meet ISO 4032			
M6×1	1	91927A115★	4.44
M8×1.25	1	91927A116■	4.64

Thread Size	Pkg. Qty.		Pkg.
18-8 (A2) Stainless Steel (Cont.)			
M36×1.5	1	93850A400	$37.50
M42×4.5	1	91828A465	26.77
M48×5	1	91828A480	41.44
Black-Oxide Coated 18-8 (A2) Stainless Steel			
M3×0.5	100	98676A100	5.39
M4×0.7	100	98676A200	8.08
M5×0.8	100	98676A300	9.85
M6×1	50	98676A400	7.27
M8×1.25	50	98676A500	6.67
M10×1.5	25	98676A600	6.67
M12×1.75	25	98676A700	10.00
M6×1	50	90690A047	14.82
M7×1	25	90690A052	14.65
M8×1.25	25	90690A055	14.66
M10×1.5	10	90690A059	11.38
M12×1.75	10	90690A063	17.24
M14×2	5	90690A064	13.45
M10×1.5	5	91776A103	11.94
M10×1.5	1	91927A117▲	7.25
M8×1.25	25	91854A104	9.26
M10×1.5	10	91854A105	7.04

Thread Size	Pkg. Qty.		Pkg.
Black-Oxide Coated 18-8 (A2) Stainless Steel (Cont.)			
M16×2	10	98676A800	$8.45
M20×2.5	5	98676A900	7.44
M24×3	5	98676A110	12.22
Bumax 88 Stainless Steel—Meet ISO 4032			
M6×1	10	96621A110★	9.56
M8×1.25	5	96621A220■	7.96
M10×1.5	1	96621A330▲	2.47
M12×1.75	1	96621A440♣	3.45
M16×2	5	90690A060	15.52
M18×2.5	1	90690A065	4.40
M20×2.5	1	90690A070	5.31
M24×3	1	90690A080	10.01
M30×3.5	1	90690A090	16.00
M36×4	1	90690A110	39.88
M16×2	1	91776A104	3.39
M12×1.75	10	91854A106	14.81
M16×2	5	91854A107	9.07
M12×1.75	1	91927A118♣	21.98

★ Height is 5.2 mm. ■ Height is 6.8 mm. ▲ Width is 16 mm; height is 8.4 mm. ♣ Width is 18 mm; height is 10.8 mm.

Left-Hand Threaded—Meet DIN 934L

	Choose a Thread Size	
Zinc-Plated Medium-Strength Class 8 Steel	M3×0.5, M4×0.7, M5×0.8, M6×1, M8×1.25, M10×1.5, M12×1.75, M14×2, M16×2, M20×2.5, M24×3, M30×3.5, M36×4	93695A100
18-8 (A2) Stainless Steel	M3×0.5, M4×0.7, M5×0.8, M6×1, M8×1.25, M10×1.5, M12×1.75, M14×2, M16×2, M20×2.5, M24×3, M30×3.5	93510A100

Mil. Spec. Hex Nuts



Choose these nuts for their excellent corrosion resistance and adherence to strict military standards for material and construction. They meet FF-N-836. All nuts have a Class 2B thread fit.

300 series stainless steel hex nuts are passivated for superior corrosion resistance. They meet QQ-P-35.

Thread Size	Mil. Spec. Dash No.	Wd.	Ht.	Pkg. Qty.		Pkg.
Cadmium Yellow-Chromate Plated High-Strength Grade 8 Steel						
1/4"-20	MS-51967-3	7/16"	7/32"	25	94191A100	$7.59
1/4"-28	MS-51968-3	7/16"	7/32"	25	94191A150	7.59
5/16"-18	MS-51967-6	1/2"	17/64"	25	94191A200	9.61
5/16"-24	MS-51968-6	1/2"	17/64"	25	94191A250	9.61
3/8"-16	MS-51967-9	9/16"	21/64"	10	94191A300	5.31
3/8"-24	MS-51968-9	9/16"	21/64"	10	94191A350	5.31
7/16"-14	MS-51967-12	11/16"	3/8"	5	94191A400	4.77
7/16"-20	MS-51968-12	11/16"	3/8"	5	94191A450	4.77
1/2"-13	MS-51967-15	3/4"	7/16"	5	94191A500	4.73
1/2"-20	MS-51968-15	3/4"	7/16"	5	94191A550	4.73
9/16"-18	MS-51968-18	7/8"	31/64"	5	94191A750	7.20
5/8"-11	MS-51967-21	15/16"	35/64"	5	94191A800	8.10
5/8"-18	MS-51968-21	15/16"	35/64"	5	94191A600	8.91
3/4"-10	MS-51967-24	1 1/8"	41/64"	1	94191A650	3.25
3/4"-16	MS-51968-24	1 1/8"	41/64"	1	94191A900	2.56
Cadmium Yellow-Chromate Plated Medium-Strength Grade 5 Steel						
1/4"-20	MS-51967-2	7/16"	7/32"	25	94575A110	7.15
1/4"-28	MS-51968-2	7/16"	7/32"	25	94575A120	7.15
5/16"-18	MS-51967-5	1/2"	17/64"	25	94575A230	8.98
5/16"-24	MS-51968-5	1/2"	17/64"	25	94575A240	8.98
3/8"-16	MS-51967-8	9/16"	21/64"	10	94575A350	5.33
3/8"-24	MS-51968-8	9/16"	21/64"	10	94575A360	5.33
7/16"-20	MS-51968-11	11/16"	3/8"	10	94575A710	12.00
1/2"-13	MS-51967-14	3/4"	7/16"	10	94575A470	8.40
1/2"-20	MS-51968-14	3/4"	7/16"	10	94575A480	8.40
5/8"-11	MS-51967-20	15/16"	35/64"	5	94575A510	7.17
5/8"-18	MS-51968-20	15/16"	35/64"	5	94575A520	7.73
3/4"-10	MS-51967-23	1 1/8"	41/64"	1	94575A630	2.95
3/4"-16	MS-51968-23	1 1/8"	41/64"	5	94575A640	12.00

Thread Size	Mil. Spec. Dash No.	Wd.	Ht.	Pkg. Qty.		Pkg.
Cadmium Yellow-Chromate Plated Low-Strength Steel						
2-56	MS-35649-222	3/16"	1/16"	10	91813A110	$6.89
4-40	MS-35649-242	1/4"	3/32"	50	91813A120	6.51
6-32	MS-35649-262	5/16"	7/64"	10	91813A130	5.69
8-32	MS-35649-282	11/32"	1/8"	50	91813A140	8.81
10-24	MS-35649-202	3/8"	1/8"	50	91813A150	11.00
10-32	MS-35650-302	3/8"	1/8"	50	91813A160	10.90
1/4"-20	MS-35649-2252	7/16"	3/16"	50	91813A170	11.21
5/16"-18	MS-35649-2312	9/16"	7/32"	25	91813A180	10.28
3/8"-16	MS-35649-2382	5/8"	1/4"	25	91813A190	11.08
300 Series Stainless Steel						
0-80	MS-35650-314	5/32"	3/64"	5	91240A001	7.56
2-56	MS-35649-224	3/16"	1/16"	25	91240A003	7.85
4-40	MS-35649-244	1/4"	3/32"	25	91240A005	9.18
6-32	MS-35649-264	5/16"	7/64"	25	91240A007	9.97
8-32	MS-35649-284	11/32"	1/8"	10	91240A009	5.40
10-24	MS-35649-204	3/8"	1/8"	10	91240A011	6.56
10-32	MS-35650-304	3/8"	1/8"	10	91240A411	5.99
1/4"-20	MS-35649-2254	7/16"	3/16"	10	91240A029	8.03
1/4"-20	MS-51971-1	7/16"	7/32"	10	90762A112	5.18
1/4"-28	MS-35650-3254	7/16"	3/16"	5	91240A078	5.39
1/4"-28	MS-51972-1	7/16"	7/32"	10	90762A115	5.18
5/16"-18	MS-51971-2	1/2"	17/64"	10	90762A118	7.42
5/16"-18	MS-35649-2314	9/16"	7/32"	5	91240A030	8.19
5/16"-24	MS-51972-2	1/2"	17/64"	5	90762A123	4.95
3/8"-16	MS-51971-3	9/16"	21/64"	5	90762A127	6.90
3/8"-16	MS-35649-2384	5/8"	1/4"	5	91240A031	8.54
3/8"-24	MS-51972-3	9/16"	21/64"	5	90762A132	6.11
1/2"-13	MS-51971-5	3/4"	7/16"	1	90762A136	2.70
1/2"-20	MS-51972-5	3/4"	7/16"	1	90762A139	2.67
5/8"-11	MS-51971-7	15/16"	35/64"	1	90762A144	3.83
3/4"-10	MS-51971-8	1 1/8"	41/64"	1	90762A147	6.90

JIS Hex Nuts



These metric nuts meet JIS (Japanese Industrial Standard) B1181. All have a Class 6H thread fit.

Thread Size	Wd., mm	Ht., mm	Pkg. Qty.		Pkg.
Zinc-Plated Medium-Strength Class 8 Steel					
M3×0.5	5.5	2.4	100	91028A411	$7.86
M4×0.7	7	3.2	100	91028A413	9.57
M5×0.8	8	4	100	91028A415	11.63
M6×1	10	5	50	91028A417	12.60
M8×1.25	12	6.5	25	91028A419	7.63
M10×1.25	14	8	10	91028A421	7.20
18-8 (A2) Stainless Steel					
M3×0.5	5.5	2.4	50	91028A652	$10.43
M4×0.7	7	3.2	50	91028A655	9.93
M5×0.8	8	4	50	91028A658	11.27
M6×1	10	5	25	91028A661	11.83
M8×1.25	12	6.5	10	91028A664	11.03
M10×1.25	14	8	5	91028A667	9.90

Sealing Hex Nuts



A silicone O-ring prevents leaks, seals out contaminants, and provides vibration resistance. The O-ring maintains a seal at pressures up to 6,000 psi and has a temperature range of –100° to 400° F. These hex nuts are reusable. All have a Class 2B thread fit. They meet UL 50 for use on enclosures.

Thread Size	18-8 Stainless Steel Wd.	Ht.		Each	Nickel-Plated Brass Wd.	Ht.		Each
6-32	5/16"	9/64"	91339A110	$4.15	1/2"	7/32"	90215A010	$2.85
8-32	11/32"	5/32"	91339A115	4.15	1/2"	7/32"	90215A410	2.85
10-24	3/8"	5/32"	91339A125	4.15	1/2"	7/32"	90215A011	2.80
10-32	3/8"	5/32"	91339A120	4.15	1/2"	7/32"	90215A411	2.85
1/4"-20	7/16"	7/32"	91339A130	4.68	5/8"	7/32"	90215A029	3.15
1/4"-28	7/16"	7/32"	91339A135	4.68	5/8"	7/32"	90215A429	3.15
5/16"-18	1/2"	17/64"	91339A140	4.63	5/8"	7/32"	90215A030	3.15
5/16"-24	1/2"	17/64"	91339A145	$4.63	1/2"	3/16"	90215A430	$3.15
3/8"-16	9/16"	21/64"	91339A150	5.06	5/8"	7/32"	90215A031	3.45
3/8"-24	9/16"	21/64"	91339A155	5.06	5/8"	7/32"	90215A431	3.45
7/16"-20	11/16"	3/8"	91339A160	4.76	11/16"	3/8"	90215A032	3.33
1/2"-13	3/4"	27/64"	91339A165	4.96	3/4"	7/32"	90215A033	3.45
1/2"-20	3/4"	27/64"	91339A170	4.96	3/4"	7/32"	90215A433	3.45
5/8"-18	15/16"	35/64"	91339A175	6.08	15/16"	35/64"	90215A034	4.77

Plastic Hex Nuts



Often used in corrosive environments, plastic hex nuts are a lightweight and nonconductive alternative to metal hex nuts. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit.

Nylon 6/6 nuts resist oils, greases, and solvents(except mineral acids). Nylon 6/6 absorbs moisture, which can cause it to become brittle over time in wet environments. Temperature range is –40° to 185° F.

Glass-filled nylon nuts are stronger than nylon 6/6 nuts. They resist oils, greases, and solvents (except mineral acids). Temperature range is –40° to 230° F.

Fiberglass nuts are stronger than nylon nuts. They resist acids, solvents, salt water, and oils. Maximum temperature is 190° F.

Acetal nuts resist alcohols, gasoline, and solvents. They're not rated for temperature.

Polycarbonate nuts have excellent impact resistance. They stand up to oils, greases, and detergents. Not rated for temperature.

PVC nuts resist acids, alkalies, salt solutions, and alcohols. Not rated for temperature.

Polypropylene nuts resist organic solvents and degreasing agents. Temperature range is –20° to 212° F.

PTFE nuts are the lowest friction plastic we offer, so they thread on smoothly. They stand up to oils, greases, detergents, and most mineral acids. Maximum temperature is 500° F.

PEEK nuts have excellent electrical insulation properties. They resist acids, bases, and salt solutions. Maximum temperature is 550° F.

Thread Size	Wd.	Ht.	Pkg. Qty.		Pkg.
Nylon 6/6—Choose a color: black, off-white					
2-56	3/16"	1/16"	100	94812A100	$5.80
3-48	3/16"	1/16"	100	94812A820	6.43
4-40	17/64"	3/32"	100	94812A200	5.80
6-32	5/16"	1/8"	100	94812A300	5.90
8-32	11/32"	1/8"	100	94812A400	6.02
10-24	3/8"	9/64"	100	94812A500	6.13
10-32	3/8"	9/64"	100	94812A600	6.13
12-24	7/16"	13/64"	100	94812A830	7.20
1/4"-20	7/16"	15/64"	100	94812A700	6.47
1/4"-20	7/16"	5/32"	100	96557A164	10.89
1/4"-28	7/16"	15/64"	100	94812A800	6.47
5/16"-18	33/64"	17/64"	100	94812A910	11.71
5/16"-18	33/64"	3/16"	50	96557A109	7.99
5/16"-24	33/64"	17/64"	50	94812A840	7.11
3/8"-16	9/16"	21/64"	50	94812A920	8.47
3/8"-16	33/64"	1/8"	50	96557A114	11.58
3/8"-24	9/16"	21/64"	50	94812A850	6.12
7/16"-14	11/16"	3/8"	50	94812A860	12.19
7/16"-20	11/16"	3/8"	50	94812A870	9.58
1/2"-13	49/64"	7/16"	50	94812A930	11.71
1/2"-13	45/64"	7/32"	25	96557A129	8.00
1/2"-20	49/64"	7/16"	25	94812A880	7.10
5/8"-11	15/16"	35/64"	25	94812A940	10.41
5/8"-11	61/64"	3/8"	10	96557A139	5.74
3/4"-10	17/64"	41/64"	20	94812A950	13.69
3/4"-10	11/8"	1/4"	10	96557A144	9.25
7/8"-9	119/64"	3/4"	10	94812A960	9.23
1"-8	131/64"	7/8"	10	94812A970	9.34
1"-8	131/64"	13/32"	10	96557A154	11.47

Thread Size	Wd.	Ht.	Pkg. Qty.		Pkg.
Glass-Filled Nylon—Color is off-white					
6-32	5/16"	1/8"	10	90387A321	$5.86
8-32	11/32"	9/64"	10	90387A326	6.21
10-32	3/8"	9/64"	10	90387A332	6.55
1/4"-20	7/16"	15/64"	10	90387A337	6.90
Fiberglass—Color is gray					
1/4"-20	7/16"	7/32"	10	91395A029	14.44
5/16"-18	1/2"	17/64"	10	91395A030	14.90
3/8"-16	9/16"	21/64"	5	91395A031	8.01
1/2"-13	3/4"	7/16"	5	91395A033	8.60
5/8"-11	15/16"	35/64"	5	91395A035	10.20
3/4"-10	11/8"	41/64"	5	91395A036	11.67
1"-8	11/2"	55/64"	1	91395A038	2.62
Acetal—Color is white					
10-32	3/8"	9/64"	50	99223A022	8.53
1/4"-20	7/16"	15/64"	50	99223A029	9.04
5/16"-18	33/64"	17/64"	25	99223A038	8.91
3/8"-16	9/16"	21/64"	25	99223A055	11.92
1/2"-13	49/64"	7/16"	10	99223A067	7.38
Polycarbonate—Color is clear					
4-40	17/64"	3/32"	25	94905A005	6.80
6-32	5/16"	1/8"	25	94905A007	6.95
8-32	11/32"	1/8"	10	94905A009	4.83
10-32	3/8"	9/64"	10	94905A011	4.94
1/4"-20	27/64"	15/64"	10	94905A013	6.72
PVC—Color is gray					
1/4"-20	15/32"	7/32"	10	94806A029	8.89
5/16"-18	17/32"	17/64"	10	94806A030	10.42
3/8"-16	19/32"	21/64"	10	94806A031	11.36

Thread Size	Wd.	Ht.	Pkg. Qty.		Pkg.
PVC (Cont.)—Color is gray					
1/2"-13	25/32"	7/16"	5	94806A034	$16.16
5/8"-11	29/32"	35/64"	5	94806A044	18.87
3/4"-10	11/32"	41/64"	1	94806A052	4.64
Polypropylene—Color is off-white					
6-32	5/16"	1/8"	10	96169A452	5.52
8-32	5/16"	1/8"	10	96169A457	5.86
10-32	3/8"	1/8"	10	96169A463	6.21
1/4"-20	7/16"	7/32"	10	96169A468	6.55
PTFE—Color is white					
4-40	1/4"	3/32"	1	90059A005	2.92
6-32	5/16"	1/8"	1	90059A007	3.12
8-32	5/16"	1/8"	1	90059A009	3.44
10-24	3/8"	1/8"	1	90059A011	3.52
10-32	3/8"	1/8"	1	90059A111	3.52
1/4"-20	7/16"	7/32"	1	90059A029	3.52
5/16"-18	1/2"	17/64"	1	90059A030	3.80
3/8"-16	9/16"	21/64"	1	90059A031	4.12
1/2"-13	3/4"	7/16"	1	90059A033	4.77
5/8"-11	7/8"	35/64"	1	90059A035	9.29
3/4"-10	11/8"	41/64"	1	90059A036	9.80
PEEK—Color is brown					
6-32	5/16"	7/64"	1	98886A100	4.25
8-32	11/32"	1/8"	1	98886A200	4.30
10-32	3/8"	1/8"	1	98886A300	4.36
1/4"-20	7/16"	3/16"	1	98886A400	4.66
5/16"-18	9/16"	7/32"	1	98886A500	5.16
3/8"-16	5/8"	1/4"	1	98886A600	5.35

Thread Size	Wd., mm	Ht., mm	Pkg. Qty.		Pkg.
Metric Nylon 6/6—Choose a color: black, off-white					
M2×0.4	4.2	1.5	100	93800A300	$11.16
M2.5×0.45	5.2	2.1	100	93800A350	9.89
M3×0.5	5.7	2.5	100	93800A400	11.22
M3.5×0.6	7.2	3	100	93800A450	9.89

Thread Size	Wd., mm	Ht., mm	Pkg. Qty.		Pkg.
Metric Nylon 6/6 (Cont.)—Choose a color: black, off-white					
M4×0.7	7.2	3.3	100	93800A500	$11.21
M5×0.8	8.2	4.6	100	93800A550	11.42
M6×1	10.3	5.7	100	93800A600	11.89

Thread Size	Wd., mm	Ht., mm	Pkg. Qty.		Pkg.
Metric Nylon 6/6 (Cont.)—Choose a color: black, off-white					
M8×1.25	13.2	6.7	50	93800A650	$8.59
M10×1.5	15.1	10.1	50	93800A700	10.48
M12×1.75	18	10.8	10	93800A750	6.75

Thin Hex Nuts

Also known as half-height nuts and jam nuts, these hex nuts are thinner than standard hex nuts. Use them in tight spaces or jam one against another nut to lock it in place. All have a Class 2B thread fit.



Screw Size	Wd.	Ht.	Screw Size	Wd.	Ht.	Screw Size	Wd.	Ht.	Screw Size	Wd.	Ht.
1/4"	7/16"	5/32"	5/8"	15/16"	3/8"	1 1/4"	1 7/8"	23/32"	1 7/8"	2 13/16"	1 1/32"
5/16"	1/2"	3/16"	3/4"	1 1/8"	27/64"	1 3/8"	2 1/16"	25/32"	2"	3"	1 3/32"
3/8"	9/16"	7/32"	7/8"	1 5/16"	31/64"	1 1/2"	2 1/4"	27/32"	2 1/4"	3 3/8"	1 7/32"
7/16"	11/16"	1/4"	1"	1 1/2"	35/64"	1 5/8"	2 7/16"	29/32"	2 1/2"	3 3/4"	1 13/32"
1/2"	3/4"	5/16"	1 1/8"	1 11/16"	39/64"	1 3/4"	2 5/8"	31/32"	3"	4 1/2"	1 21/32"
9/16"	7/8"	5/16"									

High-Strength Grade 8 Steel

Zinc Yellow-Chromate Plated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	93839A029	$9.55
1/4"-28	100	93839A805	11.45
5/16"-18	50	93839A030	7.55
5/16"-24	50	93839A810	7.52
3/8"-16	50	93839A031	9.36
3/8"-24	50	93839A815	9.85
7/16"-14	25	93839A818	8.98
7/16"-20	25	93839A820	10.57
1/2"-13	25	93839A823	10.40
1/2"-20	25	93839A825	11.53

Zinc Yellow-Chromate Plated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
9/16"-12	10	93839A110	$5.41
9/16"-18	20	93839A830	13.21
5/8"-11	10	93839A832	7.35
5/8"-18	10	93839A835	7.45
3/4"-10	10	93839A837	10.27
3/4"-16	10	93839A840	11.71
7/8"-9	5	93839A843	7.37
7/8"-14	5	93839A845	8.20
1"-8	5	93839A852	13.19

Zinc Yellow-Chromate Plated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1"-14	5	93839A855	$13.51
1 1/8"-7	1	93839A039	4.59
1 1/8"-12	1	93839A858	5.34
1 1/4"-7	1	93839A040	5.95
1 1/4"-12	1	93839A860	6.30
1 1/2"-6	1	93839A043	9.05
1 1/2"-12	1	93839A865	9.11
2"-4 1/2	1	93839A120	25.04
2"-12	1	93839A130	27.60

Ultra Corrosion-Resistant Zinc Aluminum Coated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	25	91935A110	$8.94
5/16"-18	25	91935A120	10.21
3/8"-16	25	91935A130	12.04
1/2"-13	10	91935A140	7.06
5/8"-11	10	91935A150	11.76
3/4"-10	10	91935A160	13.07
1"-8	1	91935A170	3.27

Medium-Strength Grade 5 Steel

Zinc Plated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	94846A029	3.83
1/4"-28	100	94846A505	3.70
5/16"-18	100	94846A030	5.53
5/16"-24	100	94846A510	5.30
3/8"-16	100	94846A031	8.63
3/8"-24	100	94846A515	7.53
7/16"-14	50	94846A517	5.93

Zinc Plated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
7/16"-20	50	94846A520	6.22
1/2"-13	50	94846A523	7.23
1/2"-20	50	94846A525	7.43
9/16"-12	25	94846A527	5.87
9/16"-18	25	94846A530	6.89
5/8"-11	25	94846A533	8.28
5/8"-18	25	94846A535	7.05

Zinc Plated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
3/4"-10	20	94846A537	11.96
3/4"-16	20	94846A540	8.89
7/8"-9	10	94846A543	11.71
7/8"-14	10	94846A545	7.92
1"-8	5	94846A550	8.50
1"-14	5	94846A555	8.43
1 1/8"-7	1	94846A039	2.89

Zinc Plated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1 1/8"-12	1	94846A558	2.47
1 1/4"-7	1	94846A040	3.38
1 1/4"-12	1	94846A560	3.22
1 1/2"-6	1	94846A043	6.19
1 1/2"-12	1	94846A565	6.73
2"-4 1/2	1	94846A110	21.16
2"-12	1	94846A120	21.93

Low-Strength Steel

Zinc Plated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	91078A029	3.26
1/4"-28	100	91078A205	2.66
5/16"-18	100	91078A030	3.70
5/16"-24	100	91078A210	4.07
3/8"-16	100	91078A031	5.82
3/8"-24	100	91078A215	6.10
7/16"-14	100	91078A218	9.34
7/16"-20	100	91078A220	10.51
1/2"-13	100	91078A222	13.46
1/2"-20	100	91078A225	15.29
9/16"-18	50	91078A230	11.70
5/8"-11	50	91078A233	11.18
5/8"-18	50	91078A235	12.31
3/4"-10	50	91078A238	15.78
3/4"-16	25	91078A240	10.31
7/8"-9	25	91078A242	15.79
7/8"-14	25	91078A245	15.98
1"-8	10	91078A251	10.29
1"-14	10	91078A255	10.42

Zinc Plated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1 1/8"-7	10	91078A039	14.36
1 1/8"-12	5	91078A258	9.38
1 1/4"-7	5	91078A040	11.01
1 1/4"-12	5	91078A260	11.34
1 1/2"-6	1	91078A043	3.26
1 1/2"-12	1	91078A265	4.17

Black Oxide

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	90475A110	6.92
5/16"-18	100	90475A120	10.26
3/8"-16	50	90475A130	7.05
1/2"-13	25	90475A140	7.69
1/2"-20	1	90475A033★	1.60
5/8"-11	10	90475A150	5.38
5/8"-18	1	90475A035■	1.77
3/4"-10	10	90475A160	8.21
3/4"-16	1	90475A036▲	2.05
1"-8	5	90475A170	10.26
1"-14	1	90475A038♣	3.39
1 1/4"-12	1	90475A040♦	5.00

Uncoated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	90494A029	1.90
1/4"-28	100	90494A229	1.92
5/16"-18	100	90494A030	3.10
5/16"-24	100	90494A230	2.83
3/8"-16	100	90494A031	4.25
3/8"-24	100	90494A231	4.25
7/16"-14	100	90494A032	6.35
7/16"-20	100	90494A232	8.05
1/2"-13	100	90494A033	7.42
1/2"-20	100	90494A233	10.75
9/16"-18	100	90494A234	11.83
5/8"-11	100	90494A035	13.47
5/8"-18	100	90494A235	13.44
3/4"-10	50	90494A136	12.36
3/4"-16	50	90494A236	12.50
7/8"-9	25	90494A137	11.46
7/8"-14	25	90494A237	11.19
1"-8	20	90494A138	13.58
1"-14	10	90494A238	8.55

Uncoated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1 1/8"-7	10	90494A139	10.76
1 1/8"-12	10	90494A239	13.22
1 1/4"-7	5	90494A140	9.29
1 1/4"-12	5	90494A240	8.44
1 3/8"-12	5	90494A141	12.46
1 1/2"-6	5	90494A142	14.04
1 1/2"-12	1	90494A241	3.15
1 5/8"-12	1	90496A061	5.30
1 3/4"-5	1	90496A063	5.49
1 3/4"-12	1	90496A044	5.58
1 7/8"-12	1	90496A065	7.55
2"-4 1/2	1	90496A066	12.12
2"-12	1	90496A046	12.37
2 1/4"-12	1	90496A048	13.25
2 1/2"-4	1	90496A068	15.43
2 1/2"-12	1	90496A051	15.78
3"-12	1	90496A055	26.09

Stainless Steel

316 Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	50	94805A029	3.99
1/4"-28	50	94805A209	6.21
5/16"-18	25	94805A110	3.29
5/16"-24	25	94805A213	4.73
3/8"-16	25	94805A115	4.07
3/8"-24	25	94805A217	7.18
7/16"-20	10	94805A221	8.04
1/2"-13	10	94805A125	4.11
1/2"-20	10	94805A224	6.94
9/16"-18	1	94805A228	2.82
5/8"-11	5	94805A130	4.53
5/8"-18	5	94805A231	8.28
3/4"-10	1	94805A135	1.19
3/4"-16	1	94805A233	1.95
7/8"-9	1	94805A037	2.61

316 Stainless Steel (Cont.)

Thread Size	Pkg. Qty.		Pkg.
7/8"-14	1	94805A041	6.88
1"-8	1	94805A038	3.90
1"-14	1	94805A237	5.20
1 1/4"-7	1	94805A247	8.58

18-8 Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	91847A029	4.09
1/4"-28	100	91847A429	4.63
5/16"-18	100	91847A030	5.86
5/16"-24	100	91847A430	6.45
3/8"-16	100	91847A031	7.16
3/8"-24	100	91847A431	8.79
7/16"-14	50	91847A510	9.75
7/16"-20	50	91847A515	10.60
1/2"-13	25	91847A520	4.66
1/2"-20	25	91847A525	5.98

18-8 Stainless Steel (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1/2"-28	1	91847A575	12.58
9/16"-12	20	91847A530	13.39
9/16"-18	10	91847A434	7.47
5/8"-11	10	91847A540	4.51
5/8"-18	10	91847A545	5.64
5/8"-24	1	95621A600	13.41
3/4"-10	10	91847A550	7.06
3/4"-16	10	91847A555	8.16
3/4"-20	1	91847A580	20.58
7/8"-9	5	91847A560	6.57
7/8"-14	5	91847A565	8.63
7/8"-20	1	95621A900	22.50
1"-8	1	91847A570	1.86
1"-12	1	91847A436	3.29
1"-14	1	91847A438	3.15

18-8 Stainless Steel (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1 1/8"-7	1	91847A039	3.84
1 1/8"-12	1	91847A439	6.13
1 1/4"-7	1	91847A040	4.65
1 1/4"-12	1	91847A440	7.35
1 1/2"-6	1	91847A041	8.11
1 1/2"-12	1	91847A441	10.48
1 3/4"-5	1	91847A051	19.09
2"-4 1/2	1	91847A071	23.73

Black Oxide 18-8 Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	50	98514A029	6.95
5/16"-18	25	98514A035	5.85
3/8"-16	25	98514A041	6.95
1/2"-13	10	98514A520	6.16
5/8"-11	5	98514A540	7.03

Brass

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	50	92174A029	7.69
1/4"-28	50	92174A661	8.90
5/16"-18	25	92174A030	5.92
5/16"-24	25	92174A662	6.34
3/8"-16	25	92174A031	7.38
3/8"-24	25	92174A663	8.07
7/16"-20	10	92174A430	6.14
1/2"-13	10	92174A435	7.12
1/2"-20	10	92174A440	7.55
9/16"-18	1	92174A039	2.16
5/8"-11	5	92174A455	6.89
5/8"-18	5	92174A460	7.68
3/4"-10	5	92174A465	10.67
3/4"-16	5	92174A470	10.76
7/8"-9	1	92174A475	3.14
7/8"-14	1	92174A668	3.77
1"-8	1	92174A038	4.01
1"-14	1	92174A675	4.17
1 1/8"-12	1	92174A680	14.63
1 1/4"-12	1	92174A685	18.55
1 1/2"-12	1	92174A690	26.40

★ Height is 3/16". ■ Width is 1 1/16"; height is 1/4". ▲ Height is 5/16". ♣ Height is 3/8". ♦ Width is 1 3/4"; height is 7/16".

(Continued on following page)

Thin Hex Nuts *(Continued from previous page)*



Also known as half-height nuts and jam nuts, these hex nuts are thinner than standard hex nuts. Use them in tight spaces or jam one against another nut to lock it in place. All have a Class 2B thread fit.

For nut widths and heights, please see the table at the top of page 3213.

Thread Size	Pkg. Qty.		Pkg.	Thread Size	Pkg. Qty.		Pkg.	Thread Size	Pkg. Qty.		Pkg.	Thread Size	Pkg. Qty.		Pkg.
Bronze															
1/4"-20	25	91952A110	$7.67	3/8"-16	10	91952A130	$6.63	5/8"-11	5	91952A150	$12.50	3/4"-10	1	91952A160	$5.58
5/16"-18	25	91952A120	10.42	1/2"-13	5	91952A140	8.75								
Aluminum															
1/4"-20	5	91947A110	8.95	5/16"-18	5	91947A130	8.95	3/8"-16	5	91947A150	9.21	1/2"-13	5	91947A170	12.89
Titanium															
1/4"-20	1	91907A110	3.06	3/8"-16	1	91907A130	4.78	5/8"-11	1	91907A150	13.53	3/4"-10	1	91907A160	21.64
5/16"-18	1	91907A120	3.42	1/2"-13	1	91907A140	9.47								

Left-Hand Threaded



	Choose a Thread Size	
Zinc-Plated Medium-Strength Grade 5 Steel	1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24, 7/16"-20, 1/2"-13, 1/2"-20, 5/8"-11, 5/8"-18, 3/4"-10, 3/4"-16, 7/8"-9, 7/8"-14, 1"-8, 1"-14, 1 1/8"-12, 1 1/4"-7, 1 1/4"-12, 1 1/2"-6, 1 1/2"-12	99612A120
Uncoated Low-Strength Steel	1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24, 1/2"-13, 1/2"-20, 5/8"-11, 5/8"-18, 3/4"-10, 3/4"-16, 1"-8, 1"-14, 1 1/4"-12	90083A441
18-8 Stainless Steel	1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24, 1/2"-13, 1/2"-20, 5/8"-11, 5/8"-18, 3/4"-10, 3/4"-16	94450A441

Mil. Spec. Thin Hex Nuts



Adhering to strict military standards for material and construction, these nuts meet MS 35691 and FF-N-836 specifications. They're 300 series stainless steel and have excellent corrosion resistance. Also known as half-height nuts and jam nuts, they're thinner than standard hex nuts. Use them in tight spaces or jam one against another nut to lock it in place. All have a Class 2B thread fit.

Thread Size	Wd.	Ht.	Dash No.	Pkg. Qty.		Pkg.	Thread Size	Wd.	Ht.	Dash No.	Pkg. Qty.		Pkg.
1/4"-20	7/16"	5/32"	3	5	92101A210	$10.22	3/8"-16	9/16"	7/32"	19	1	92101A650	$3.07
1/4"-28	7/16"	5/32"	7	1	92101A320	3.07	3/8"-24	9/16"	7/32"	23	1	92101A760	4.67
5/16"-18	1/2"	3/16"	11	5	92101A430	10.00	1/2"-13	3/4"	5/16"	35	1	92101A870	7.78
5/16"-24	1/2"	3/16"	15	5	92101A540	10.44	1/2"-20	3/4"	5/16"	39	1	92101A980	7.78

Metric Thin Hex Nuts—DIN 439B



Thinner than standard metric hex nuts, use these hex nuts in tight spaces or jam one against another nut to lock it in place. They're often referred to as jam nuts or half-height nuts. All have a Class 6H thread fit.

Thread Size	Wd., mm	Ht., mm	Pkg. Qty.		Pkg.	Thread Size	Wd., mm	Ht., mm	Pkg. Qty.		Pkg.	Thread Size	Wd., mm	Ht., mm	Pkg. Qty.		Pkg.
Medium-Strength Class 04 Steel																	
Zinc Plated						**Zinc Plated (Cont.)**						**Zinc Plated (Cont.)**					
M2×0.4	4	1.2	100	90695A025	$3.64	M12×1.75	19	6	50	90695A115	$8.84	M24×3	36	12	5	90695A135	$7.67
M2.5×0.45	5	1.6	100	90695A031	6.84	M12×1.5	19	6	25	90326A125	6.01	M24×1.5	36	12	5	90326A155	10.90
M3×0.5	5.5	1.8	100	90695A033	3.10	M12×1.25	19	6	50	90326A120	7.25	M30×3.5	46	15	1	90695A141	4.68
M4×0.7	7	2.2	100	90695A035	2.00	M14×2	22	7	25	90695A120	8.62	M36×4	55	18	1	90695A149	8.14
M5×0.8	8	2.7	100	90695A037	2.78	M14×1.5	22	7	25	90326A130	6.29	**High-Visibility Blue**					
M6×1	10	3.2	100	90695A038	2.92	M16×2	24	8	25	90695A125	8.69	M6×1	10	3.2	50	96276A110	8.48
M8×1.25	13	4	100	90695A040	4.69	M16×1.5	24	8	10	90326A135	6.20	M8×1.25	13	4	50	96276A210	9.70
M8×1	13	4	100	90326A105	4.66	M18×1.5	27	9	10	90326A140	6.59	M10×1.5	17	5	50	96276A310	10.92
M10×1.5	17	5	100	90695A041	9.43	M20×2.5	30	10	10	90695A130	7.50	M12×1.75	19	6	25	96276A410	6.06
M10×1.25	17	5	100	90326A115	11.55	M20×1.5	30	10	10	90326A145	4.45	M16×2	24	8	10	96276A610	9.20
M10×1	17	5	100	90326A110	11.14	M22×1.5	32	11	10	90326A150	7.90	M20×2.5	30	10	10	96276A810	10.91
												M24×3	36	12	1	96276A910	2.95
Stainless Steel																	
316 (A4) Stainless Steel						**18-8 (A2) Stainless Steel**						**18-8 (A2) Stainless Steel (Cont.)**					
M2×0.4	4	1.2	25	93935A305	3.04	M1.6×0.35	3.2	1	1	90710A145	3.20	M14×2	22	7	5	90710A135	4.15
M2.5×0.45	5	1.6	50	93935A310	5.34	M2×0.4	4	1.2	50	90710A020	3.24	M14×1.5	22	7	5	91938A130	8.85
M3×0.5	5.5	1.8	100	93935A320	7.92	M2.5×0.45	5	1.6	50	90710A025	2.35	M16×2	24	8	5	90710A140	6.16
M4×0.7	7	2.2	50	93935A325	4.69	M3×0.5	5.5	1.8	100	90710A030	6.86	M16×1.5	24	8	5	91938A135	10.54
M5×0.8	8	2.7	50	93935A330	3.36	M4×0.7	7	2.2	100	90710A035	5.28	M18×2.5	27	9	5	90710A150	13.20
M6×1	10	3.2	50	93935A335	5.60	M5×0.8	8	2.7	100	90710A037	5.55	M18×1.5	27	9	1	91938A165	3.60
M8×1.25	13	4	50	93935A340	9.58	M6×1	10	3.2	100	90710A038	5.80	M20×2.5	30	10	5	90710A045	10.10
M10×1.5	17	5	20	93935A345	9.20	M8×1.25	13	4	50	90710A120	6.86	M20×1.5	30	10	1	91938A145	3.75
M12×1.75	19	6	10	93935A350	5.70	M8×1	13	4	25	91938A105	9.42	M22×2.5	32	11	1	90710A155	8.00
M14×2	22	7	5	93935A355	10.93	M10×1.5	17	5	25	90710A125	4.78	M22×1.5	32	11	1	91938A170	9.60
M16×2	24	8	5	93935A360	5.83	M10×1.25	17	5	10	91938A115	7.02	M24×3	36	12	1	90710A047	6.94
M20×2.5	30	10	1	93935A365	3.10	M10×1	17	5	10	91938A110	7.21	M24×2	36	12	1	91938A175	10.00
M24×3	36	12	1	93935A370	7.01	M12×1.75	19	6	20	90710A130	4.87	M24×1.5	36	12	1	91938A155	9.36
M30×3.5	46	15	1	93935A375	14.80	M12×1.5	19	6	10	91938A125	6.13	M30×3.5	46	15	1	90710A050	10.99
M36×4	55	18	1	93935A380	14.95	M12×1.25	19	6	10	91938A120	11.12	M30×1.5	46	15	1	91938A180	13.60
						M12×1	19	6	10	91938A160	13.20	M36×4	55	18	1	90710A060	16.83
Brass																	
M3×0.5	5.5	1.8	100	93187A100	7.59	M6×1	10	3.2	50	93187A250	10.51	M10×1.5	17	5	5	93187A350	3.97
M4×0.7	7	2.2	100	93187A150	9.31	M8×1.25	13	4	25	93187A300	10.34	M12×1.75	19	6	10	93187A400	11.04
M5×0.8	8	2.7	100	93187A200	12.42												

Extra-Wide Hex Nuts



Often referred to as heavy hex nuts, these nuts are about 10% wider and taller than standard hex nuts. They distribute the load over a large area for a strong and secure hold. All have a Class 2B thread fit.

Hot-dipped galvanized nuts must be used with other hot-dipped galvanized fasteners for a correct thread fit.

Screw Size	Wd.	Ht.	Screw Size	Wd.	Ht.	Screw Size	Wd.	Ht.	Screw Size	Wd.	Ht.
1/4"	1/2"	15/64"	9/16"	15/16"	35/64"	1 1/8"	1 13/16"	1 7/64"	1 3/4"	2 3/4"	1 23/32"
5/16"	9/16"	19/64"	5/8"	1 1/16"	39/64"	1 1/4"	2"	1 7/32"	1 7/8"	2 15/16"	1 27/32"
3/8"	11/16"	23/64"	3/4"	1 1/4"	47/64"	1 3/8"	2 3/16"	1 11/32"	2"	3 1/8"	1 31/32"
7/16"	3/4"	27/64"	7/8"	1 7/16"	55/64"	1 1/2"	2 3/8"	1 15/32"	2 1/4"	3 1/2"	2 13/64"
1/2"	7/8"	31/64"	1"	1 5/8"	63/64"	1 5/8"	2 9/16"	1 19/32"	2 1/2"	3 7/8"	2 29/64"

Extreme-Strength Grade 2H Steel

Zinc Yellow-Chromate Plated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	96460A110	$9.97
1/4"-28	50	96460A120	10.26
5/16"-18	50	96460A230	7.64
5/16"-24	25	96460A240	8.10
3/8"-16	50	96460A250	10.89
3/8"-24	25	96460A260	10.39
1/2"-13	25	96460A370	10.11
1/2"-20	10	96460A380	5.80
5/8"-11	10	96460A510	6.15
5/8"-18	10	96460A530	8.68
3/4"-10	10	96460A620	10.89
3/4"-16	10	96460A640	13.35
1"-8	5	96460A750	11.78
1"-14	1	96460A780	2.98

Black Oxide

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	25	91026A029	8.80
5/16"-18	10	91026A030	5.45
3/8"-16	10	91026A031	5.77
1/2"-13	10	91026A033	7.27
5/8"-11	5	91026A035	4.63
3/4"-10	5	91026A036	7.05
7/8"-9	1	91026A037	$2.91
1"-8	1	91026A038	3.11

Hot-Dipped Galvanized

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	50	95025A370	12.56
3/8"-16	50	95025A380	13.44
1/2"-13	25	95025A405	9.78
5/8"-11	10	95025A410	7.15
3/4"-10	10	95025A415	10.76
7/8"-9	5	95025A420	8.11
1"-8	5	95025A425	11.52
1 1/8"-8	1	95025A432	3.24
1 1/4"-7	1	95025A435	4.44
1 1/4"-8	1	95025A436	4.44
1 3/8"-6	1	95025A437	5.18
1 1/2"-6	1	95025A440	5.94
1 3/4"-5	1	95025A445	8.64

Seize-Resistant PTFE Coated

Thread Size	Pkg. Qty.		Pkg.
1/2"-13	25	90212A300	12.07
5/8"-11	10	90212A400	7.83
3/4"-10	10	90212A500	12.23
7/8"-9	5	90212A600	9.43
1"-8	5	90212A700	$12.83

Uncoated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	95045A029	7.26
5/16"-18	100	95045A030	8.61
3/8"-16	50	95045A031	8.93
7/16"-14	25	95045A032	7.80
1/2"-13	25	95045A033	8.28
9/16"-12	25	95045A034	9.80

Uncoated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	90521A106	9.24
1/4"-28	50	90521A104	8.63
5/16"-18	50	90521A107	8.52
5/16"-24	50	90521A108	11.59
3/8"-16	50	90521A225	10.92
3/8"-24	25	90521A229	8.12
7/16"-14	25	90521A109	8.21
7/16"-20	25	90521A110	9.23
1/2"-13	25	90521A235	7.99
1/2"-20	25	90521A236	9.40
5/8"-11	10	90521A240	6.51
5/8"-18	25	90521A242	11.93
3/4"-10	10	90521A245	8.55
3/4"-16	10	90521A247	6.53
7/8"-9	10	90521A250	12.80
7/8"-14	10	90521A253	9.22
1"-8	5	90521A255	7.99
1"-12	1	90521A257	4.15

Uncoated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1"-14	5	90521A259	$7.81
1 1/8"-7	1	90521A260	3.49
1 1/8"-8	1	90521A265	3.54
1 1/8"-12	1	90521A267	2.73
1 1/4"-7	1	90521A270	3.58
1 1/4"-8	1	90521A275	3.99
1 1/4"-12	1	90521A278	3.50
1 3/8"-6	1	90521A290	4.10
1 3/8"-8	1	90521A042	4.82
1 3/8"-12	1	90521A295	5.06
1 1/2"-6	1	90521A039	5.13
1 1/2"-8	1	90521A041	6.01
1 1/2"-12	1	90521A052	6.78
1 5/8"-8	1	90521A055	7.88
1 3/4"-5	1	90521A043	8.35
1 3/4"-8	1	90521A044	9.33
1 7/8"-8	1	90521A037	10.59
2"-4 1/2	1	90521A038	11.44
2"-8	1	90521A046	12.34
2 1/4"-8	1	90521A050	15.50

Medium-Strength Grade 5 Steel

Zinc Plated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	91903A029	8.00
5/16"-18	50	91903A031	6.37
3/8"-16	50	91903A032	9.45
1/2"-13	25	91903A033	9.70
5/8"-11	10	91903A034	5.51
3/4"-10	10	91903A035	11.15
1"-8	5	91903A036	14.93

Uncoated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
5/8"-11	10	95045A035	6.26
3/4"-10	10	95045A036	8.94
7/8"-9	5	95045A037	7.79
1"-8	5	95045A038	10.01
1 1/8"-7	1	95045A039	3.66
1 1/4"-7	1	95045A040	3.70

Uncoated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1 3/8"-6	1	95045A041	5.24
1 1/2"-6	1	95045A042	7.64
1 3/4"-5	1	95045A044	10.72
2"-4 1/2	1	95045A046	17.72
2 1/4"-4 1/2	1	95045A048	26.16
2 1/2"-4	1	95045A049	32.91

Low-Strength Steel

Zinc Plated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	94811A029	3.72
5/16"-18	100	94811A030	6.74
3/8"-16	100	94811A031	9.74
7/16"-14	50	94811A230	8.59
1/2"-13	50	94811A235	9.43
9/16"-12	25	94811A240	8.41
5/8"-11	25	94811A245	8.70
3/4"-10	10	94811A250	6.41
7/8"-9	10	94811A255	9.56
1"-8	5	94811A038	9.58

Zinc Plated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1 1/8"-7	5	94811A265	11.65
1 1/8"-8	1	94811A268	18.62
1 1/4"-7	1	94811A270	3.61
1 3/8"-6	1	94811A042	3.40
1 1/2"-6	1	94811A041	4.83
1 7/8"-8	1	94811A050	26.09
2"-4 1/2	1	94811A075	10.84

Black Oxide

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	50	91991A101	6.86
5/16"-18	50	91991A102	8.59

Black Oxide (Cont.)

Thread Size	Pkg. Qty.		Pkg.
3/8"-16	25	91991A103	9.42
1/2"-13	10	91991A104	6.85

Uncoated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	90498A029	3.26
5/16"-18	100	90498A030	4.42
3/8"-16	100	90498A031	9.60
7/16"-14	50	90498A032	8.24
1/2"-13	50	90498A033	8.41
9/16"-12	25	90498A345	7.76
5/8"-11	25	90498A355	8.75

Uncoated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
3/4"-10	25	90498A365	12.48
7/8"-9	10	90498A375	8.76
1"-8	5	90498A385	8.14
1 1/8"-7	5	90498A395	11.60
1 1/4"-7	5	90498A410	12.63
1 3/8"-6	1	90498A042	3.15
1 1/2"-6	1	90498A041	4.24
1 3/4"-5	1	90498A044	6.80
2"-4 1/2	1	90498A046	8.37

Stainless Steel

316 Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	50	91850A029	7.27
1/4"-28	25	91850A128	10.30
5/16"-18	25	91850A185	7.31
5/16"-24	10	91850A188	6.21
3/8"-16	10	91850A190	4.70
3/8"-24	5	91850A193	5.75
7/16"-14	10	91850A195	8.95
7/16"-20	5	91850A230	7.37
1/2"-13	5	91850A210	4.80
1/2"-20	5	91850A204	9.98
5/8"-11	5	91850A220	7.52

316 Stainless Steel (Cont.)

Thread Size	Pkg. Qty.		Pkg.
5/8"-18	1	91850A235	3.01
3/4"-10	1	91850A225	2.20
3/4"-16	1	91850A240	4.38
7/8"-9	1	91850A037	4.40
1"-8	1	91850A038	6.00
1 1/8"-7	1	91850A039	10.24
1 1/4"-7	1	91850A040	12.89
1 3/8"-6	1	91850A042	17.03
1 1/2"-6	1	91850A043	19.90
1 3/4"-5	1	91850A046	33.07
2"-4 1/2	1	91850A049	41.95

18-8 Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	91849A029	7.69
1/4"-28	50	91849A128	6.26
5/16"-18	50	91849A030	6.57
5/16"-24	25	91849A131	4.76
3/8"-16	25	91849A625	5.43
3/8"-24	10	91849A628	4.08
7/16"-14	10	91849A630	4.66
7/16"-20	10	91849A655	9.27
1/2"-13	10	91849A635	4.68
1/2"-20	5	91849A636	4.59
9/16"-12	5	91849A637	7.14

18-8 Stainless Steel (Cont.)

Thread Size	Pkg. Qty.		Pkg.
5/8"-11	10	91849A640	8.47
5/8"-18	5	91849A660	8.36
3/4"-10	5	91849A645	7.67
3/4"-16	1	91849A665	2.85
7/8"-9	1	91849A650	2.22
1"-8	1	91849A038	3.36
1 1/8"-7	1	91849A039	7.40
1 1/4"-7	1	91849A040	9.21
1 3/8"-6	1	91849A042	12.12
1 1/2"-6	1	91849A043	15.01
1 3/4"-5	1	91849A044	23.51
2"-4 1/2	1	91849A048	32.78

Brass

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	25	92680A029	7.79
5/16"-18	25	92680A610	12.06
3/8"-16	10	92680A615	6.64
7/16"-14	10	92680A620	9.83
1/2"-13	5	92680A625	6.91
9/16"-12	1	92680A627	2.47
5/8"-11	5	92680A630	12.62
3/4"-10	1	92680A635	3.90
7/8"-9	1	92680A037	5.80
1"-8	1	92680A038	8.57
1 1/8"-7	1	92680A041	11.45
1 1/4"-7	1	92680A049	15.94
1 3/8"-6	1	92680A055	21.56
1 1/2"-6	1	92680A058	24.01
1 3/4"-5	1	92680A061	32.49

Bronze

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	10	92049A029	5.83
5/16"-18	10	92049A030	9.50
3/8"-16	5	92049A031	8.25
1/2"-13	1	92049A032	2.98
5/8"-11	1	92049A033	9.58
3/4"-10	1	92049A034	13.22

Left-Hand Threaded

Choose a Thread Size

Uncoated Medium-Strength Grade 5 Steel	1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10, 1"-8	90570A700

Metric Extra-Wide Hex Nuts



About 10% wider and taller than standard hex nuts, these metric nuts are often referred to as heavy hex nuts. They distribute the load over a large area for a strong and secure hold. All have a Class 6H thread fit.

Thread Size	Wd., mm	Ht., mm	Pkg. Qty.		Pkg.
Uncoated Extreme-Strength Grade 2H Steel					
M12×1.75	21	12	5	98498A100	$5.71
M16×2	27	17	5	98498A300	8.71
M20×2.5	33	20	5	98498A500	10.71
M24×3	41	24	1	98498A600	3.57
M30×3.5	50	30	1	98498A700	10.53
M36×4	60	36	1	98498A800	18.89
Zinc-Plated High-Strength Class 10 Steel					
M12×1.75	22	10	5	91861A110	9.23
Zinc-Plated High-Strength Class 10 Steel (Cont.)					
M16×2	27	13	5	91861A210	$6.92
M20×2.5	32	16	5	91861A310	10.00
M24×3	41	19	1	91861A410	4.19
Uncoated High-Strength Class 10 Steel					
M12×1.75	22	10	5	91872A120	8.46
M16×2	27	13	5	91872A220	6.15
M20×2.5	32	16	5	91872A320	8.27
M24×3	41	19	1	91872A420	3.08

Hex Nuts for ASTM A325 Structural Bolts



These high-strength nuts are designed to secure ASTM A325 bolts in structural joints. They meet ASTM A563. About 10% wider and taller than standard hex nuts, they distribute the load over a large area for a strong and secure hold. All have a Class 2B thread fit.

Hot-dipped galvanized nuts must be used with other hot-dipped galvanized fasteners for a correct thread fit.

Thread Size	Wd.	Ht.	Pkg. Qty.		Pkg.
Hot-Dipped Galvanized Extreme-Strength Grade DH Steel					
1/2"-13	7/8"	31/64"	25	91694A315	$10.56
5/8"-11	1 1/16"	39/64"	10	91694A320	8.39
3/4"-10	1 1/4"	47/64"	10	91694A325	10.60
7/8"-9	1 7/16"	55/64"	10	91694A330	12.72
1"-8	1 5/8"	63/64"	5	91694A335	9.76
1 1/4"-7	2"	1 7/32"	1	91694A340	4.77
1 1/2"-6	2 3/8"	1 15/32"	1	91694A345	8.56
Uncoated Extreme-Strength Grade DH Steel					
1/2"-13	7/8"	31/64"	25	98427A150	12.14
5/8"-11	1 1/16"	39/64"	10	98427A200	7.76
3/4"-10	1 1/4"	47/64"	10	98427A250	13.40
7/8"-9	1 7/16"	55/64"	5	98427A300	8.03
Uncoated Extreme-Strength Grade DH Steel (Cont.)					
1"-8	1 5/8"	63/64"	1	98427A350	$2.78
1 1/8"-7	1 13/16"	1 7/64"	1	98427A400	3.98
1 1/4"-7	2"	1 7/32"	1	98427A450	5.20
1 1/2"-6	2 3/8"	1 15/32"	1	98427A600	11.84
Uncoated High-Strength Grade C Steel					
1/2"-13	7/8"	31/64"	25	90580A315	8.77
5/8"-11	1 1/16"	39/64"	10	90580A320	6.45
3/4"-10	1 1/4"	47/64"	10	90580A325	8.17
7/8"-9	1 7/16"	55/64"	10	90580A330	8.82
1"-8	1 5/8"	63/64"	5	90580A335	8.91
1 1/4"-7	2"	1 7/32"	5	90580A345	14.93

Hex Nuts for ASTM A193 High-Pressure Bolts



Able to maintain their strength in high-pressure and high-temperature environments, these nuts are often used to fasten pressure tanks, valves, and flanges. They meet ASTM A194. They're about 10% wider and taller than standard hex nuts, except hardened high-pressure Grade 8M 316 stainless steel nuts. All have a Class 2B thread fit.

Thread Size	Wd.	Ht.	Pkg. Qty.		Pkg.
High-Pressure Grade 7 Alloy Steel					
3/8"-16	11/16"	23/64"	10	94485A029	$5.82
1/2"-13	7/8"	31/64"	10	94485A033	6.30
5/8"-11	1 1/16"	39/64"	10	94485A035	8.24
3/4"-10	1 1/4"	47/64"	10	94485A036	9.58
7/8"-9	1 7/16"	55/64"	5	94485A037	6.06
1"-8	1 5/8"	63/64"	5	94485A038	8.12
1 1/8"-7	1 13/16"	1 7/64"	1	94485A041	5.73
1 1/4"-7	2"	1 7/32"	1	94485A044	6.33
High-Pressure Grade 8M 316 Stainless Steel					
5/16"-18	9/16"	19/64"	10	97619A110	3.34
3/8"-16	11/16"	23/64"	5	97619A220	3.03
7/16"-14	3/4"	27/64"	5	97619A330	5.59
1/2"-13	7/8"	31/64"	5	97619A440	5.69
5/8"-11	1 1/16"	39/64"	1	97619A550	2.27
3/4"-10	1 1/4"	47/64"	1	97619A660	3.86
7/8"-9	1 7/16"	55/64"	1	97619A770	5.53
1"-8	1 5/8"	63/64"	1	97619A880	8.33
Hardened High-Pressure Grade 8M 316 Stainless Steel					
5/16"-18	1/2"	17/64"	5	95005A125	9.52
3/8"-16	9/16"	21/64"	1	95005A130	2.97
1/2"-13	3/4"	7/16"	1	95005A135	3.41
5/8"-11	15/16"	35/64"	1	95005A140	4.73
Hardened High-Pressure Grade 8M 316 Stainless Steel (Cont.)					
3/4"-10	1 1/8"	41/64"	1	95005A145	$8.75
1"-8	1 1/2"	55/64"	1	95005A150	19.95
High-Pressure Grade 8 18-8 Stainless Steel					
1/4"-20	1/2"	15/64"	25	94252A703	9.77
1/4"-28	1/2"	15/64"	1	94252A705	12.17
5/16"-18	9/16"	19/64"	10	94252A706	6.71
5/16"-24	9/16"	19/64"	1	94252A707	10.08
3/8"-16	11/16"	23/64"	10	94252A709	7.34
3/8"-24	11/16"	23/64"	1	94252A710	9.48
7/16"-14	3/4"	27/64"	1	94252A711	9.80
7/16"-20	3/4"	27/64"	1	94252A713	10.13
1/2"-13	7/8"	31/64"	10	94252A712	10.29
1/2"-20	7/8"	31/64"	1	94252A714	10.52
5/8"-11	1 1/16"	39/64"	5	94252A715	9.77
5/8"-18	1 1/16"	39/64"	1	94252A716	12.10
3/4"-10	1 1/4"	47/64"	1	94252A719	2.69
3/4"-16	1 1/4"	47/64"	1	94252A720	14.18
7/8"-9	1 7/16"	55/64"	1	94252A722	4.17
1"-8	1 5/8"	63/64"	1	94252A725	5.57
1"-14	1 5/8"	63/64"	1	94252A726	19.22
1 1/8"-7	1 13/16"	1 7/64"	1	94252A730	7.05
1 1/4"-7	2"	1 7/32"	1	94252A735	8.77

Concave Square Locknuts

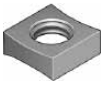

Also known as utility-pole nuts, these locknuts have corners that bite into soft materials to hold securely. Their cupped shape ensures a flush fit against curved surfaces. Made from hot-dipped galvanized steel, they must be used with other hot-dipped galvanized fasteners for a correct thread fit.

Thread Size	Wd.	Ht.	Pkg. Qty.		Pkg.
3/8"-16	5/8"	13/64"	25	99453A100	$10.29
1/2"-13	13/16"	9/32"	10	99453A200	6.54
5/8"-11	61/64"	5/16"	10	99453A300	9.20
3/4"-10	1 1/8"	13/32"	5	99453A400	$6.81
7/8"-9	1 5/16"	29/64"	5	99453A500	9.15

Extra-Wide Thin Hex Nuts

Use these nuts for added strength in tight spaces. Also known as heavy jam nuts or heavy half-height nuts, jam one of these nuts against another extra-wide nut to prevent loosening. All have a Class 2B thread fit.



Screw Size	Wd.	Ht.	Screw Size	Wd.	Ht.	Screw Size	Wd.	Ht.	Screw Size	Wd.	Ht.
1/4"	1/2"	11/64"	1/2"	7/8"	19/64"	1"	1 5/8"	35/64"	1 1/2"	2 3/8"	27/32"
5/16"	9/16"	13/64"	5/8"	1 1/16"	23/64"	1 1/8"	1 13/16"	39/64"	1 3/4"	2 3/4"	31/32"
3/8"	11/16"	15/64"	3/4"	1 1/4"	27/64"	1 1/4"	2"	23/32"	2"	3 1/8"	1 3/32"
7/16"	3/4"	17/64"	7/8"	1 7/16"	31/64"	1 3/8"	2 3/16"	25/32"	2 1/2"	3 7/8"	1 29/64"

Thread Size	Pkg. Qty.		Pkg.	Thread Size	Pkg. Qty.		Pkg.	Thread Size	Pkg. Qty.		Pkg.	Thread Size	Pkg. Qty.		Pkg.
Extreme-Strength Grade 2H Steel															
Zinc Plated				**Uncoated**				**Uncoated (Cont.)**				**Uncoated (Cont.)**			
1/4"-20	5	91879A029	$8.36	1/4"-20	1	95010A130	$3.48	3/4"-10	1	95010A165	$2.88	1 3/8"-6	1	95010A320	$5.99
5/16"-18	5	91879A030	9.15	3/8"-16	5	95010A140	13.92	7/8"-9	1	95010A170	2.95	1 1/2"-6	1	95010A210	7.60
3/8"-16	5	91879A031	10.16	7/16"-14	1	95010A145	3.53	1"-8	1	95010A175	5.02	1 3/4"-5	1	95010A220	13.29
1/2"-13	5	91879A032	10.42	1/2"-13	5	95010A150	10.57	1 1/8"-7	1	95010A180	5.33	2"-4 1/2	1	95010A240	22.21
5/8"-11	5	91879A033	10.49	5/8"-11	1	95010A160	3.22	1 1/4"-7	1	95010A190	5.87				
3/4"-10	5	91879A034	10.59												
Low-Strength Steel															
Black Oxide				**Black Oxide (Cont.)**				**Uncoated (Cont.)**				**Uncoated (Cont.)**			
1/4"-20	25	91015A029	6.05	7/8"-9	5	91015A037	10.91	1/2"-13	50	90502A033	9.00	1 1/2"-6	1	90502A440	4.32
5/16"-18	25	91015A030	6.05	1"-8	1	91015A038	2.81	5/8"-11	50	90502A410	15.40	1 3/4"-5	1	90502A044	5.67
3/8"-16	25	91015A031	7.81	**Uncoated**				3/4"-10	25	90502A415	11.13	2"-4 1/2	1	90502A046	8.29
7/16"-14	25	91015A032	10.13	1/4"-20	100	90502A029	4.82	7/8"-9	10	90502A420	8.39	2 1/2"-4	1	90502A049	17.77
1/2"-13	10	91015A033	5.77	5/16"-18	100	90502A030	5.29	1"-8	10	90502A425	13.53				
5/8"-11	10	91015A035	6.89	3/8"-16	100	90502A031	8.46	1 1/8"-7	5	90502A430	10.59				
3/4"-10	5	91015A036	5.17	7/16"-14	100	90502A032	14.62	1 1/4"-7	5	90502A435	13.85				
18-8 Stainless Steel															
1/4"-20	25	91851A620	5.24	1/2"-13	10	91851A640	9.40	7/8"-9	1	91851A037	4.51	1 1/4"-7	1	91851A660	9.41
5/16"-18	20	91851A030	6.12	5/8"-11	5	91851A645	11.38	1"-8	1	91851A038	6.86	1 1/2"-6	1	91851A665	14.71
3/8"-16	10	91851A630	5.13	3/4"-10	1	91851A650	3.54	1 1/8"-7	1	91851A655	8.40	1 3/4"-5	1	91851A670	21.74
Brass															
1/4"-20	25	92683A029	8.26	7/16"-14	10	92683A847	8.37	3/4"-10	1	92683A865	2.84	1 1/8"-7	1	92683A879	9.20
5/16"-18	25	92683A840	8.79	1/2"-13	10	92683A855	10.85	7/8"-9	1	92683A869	4.12	1 1/4"-7	1	92683A882	10.90
3/8"-16	25	92683A845	12.60	5/8"-11	5	92683A860	9.42	1"-8	1	92683A872	5.33	1 1/2"-6	1	92683A885	18.61

High Hex Nuts

With a height that is 50% taller than standard hex nuts, high hex nuts offer more wrench clearance. They're a good choice for spaces with limited driver access. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit.



Thread Size	Ht.	Wd.	Pkg. Qty.		Pkg.
High-Strength Grade 8 Steel—Meet SAE J995					
3/8"-16	17/32"	9/16"	1	90565A120	$8.42
3/8"-24	17/32"	9/16"	1	90565A360	9.08
7/16"-20	39/64"	5/8"	25	90565A325	7.04
1/2"-13	11/16"	3/4"	1	90565A140	6.98
1/2"-20	11/16"	3/4"	25	90565A330	8.29
9/16"-18	49/64"	7/8"	10	90565A333	4.26
5/8"-11	27/32"	15/16"	1	90565A160	7.92
5/8"-18	27/32"	15/16"	10	90565A335	5.26
3/4"-10	1"	1 1/16"	1	90565A180	9.30
3/4"-16	1"	1 1/8"	10	90565A340	7.39
7/8"-14	1 5/32"	1 5/16"	5	90565A345	5.98
1"-8	1 5/16"	1 1/2"	1	90565A220	13.48
1"-14	1 5/16"	1 7/16"	5	90565A350	8.17
1 1/4"-12	1 5/8"	1 13/16"	1	90565A355	3.77
1 1/2"-12	2"	2 3/16"	1	90565A061	19.76
18-8 Stainless Steel					
1/4"-20	11/32"	7/16"	1	91763A110	6.38
5/16"-18	21/64"	1/2"	1	91763A210	6.34
3/8"-16	17/32"	9/16"	1	91763A310	6.60
1/2"-13	11/16"	3/4"	1	91763A410	7.32

Thread Size	Ht., mm	Wd., mm	Pkg. Qty.		Pkg.
Metric Zinc-Plated Medium-Strength Class 8 Steel					
M6×1	6	10	100	90725A043	$10.57
M8×1.25	8	13	50	90725A715	8.50
M10×1.5	10	17	25	90725A720	7.35
M12×1.75	12	19	10	90725A725	5.52
M14×2	14	22	10	90725A730	10.12
M16×2	16	24	10	90725A735	10.39
M20×2.5	20	30	5	90725A740	11.80
M24×3	24	36	1	90725A760	4.37
M30×3.5	30	46	1	90725A770	5.91
Metric Zinc-Plated Low-Strength Steel					
M2×0.4	2	4	25	90725A010	7.82
M2.5×0.45	2.5	5	25	90725A015	9.84
M3×0.5	3	5.5	50	90725A020	3.75
M4×0.7	4	7	50	90725A025	5.24
M5×0.8	5	8	50	90725A030	7.00

Mil. Spec. Narrow Hex Nuts

Passivated for corrosion resistance, these 300 series stainless steel nuts are made to stringent military standards for material and construction. They meet NAS671C and FF-N-836. Use these nuts in tight spaces where standard hex nuts won't fit. All have a Class 3B thread fit.



Thread Size	Dash No.	Wd.	Ht.	Pkg. Qty.		Pkg.
2-56	2	5/32"	1/16"	10	91834A101	$9.66
4-40	4	3/16"	1/16"	10	91834A102	8.28
6-32	6	1/4"	3/32"	10	91834A103	11.38
8-32	8	5/16"	7/64"	10	91834A104	$11.72
10-32	10	11/32"	1/8"	5	91834A105	7.24

Narrow Hex Nuts



Also known as small-pattern nuts and undersized machine screw nuts, these nuts are often used in tight spaces where standard hex nuts won't fit. They're about 20% narrower than standard hex nuts. Thread fit is Class 2B, except brass nuts with a thread size of 0-80 and 1-72 are not rated for thread fit.

Thread Size	Wd.	Ht.	Pkg. Qty.		Pkg.
Steel					
Zinc Plated					
4-40	3/16"	1/16"	100	90760A005	$2.36
6-32	1/4"	3/32"	100	90760A007	2.61
Zinc Plated (Cont.)					
8-32	1/4"	3/32"	100	90760A009	$3.11
10-24	1/4"	3/32"	50	90760A120	8.18
Zinc Plated (Cont.)					
10-32	5/16"	7/64"	100	90760A411	$6.81
Stainless Steel					
316 Stainless Steel					
8-32	1/4"	3/32"	50	90205A309	10.26
10-24	5/16"	7/64"	50	90205A313	11.29
10-32	5/16"	7/64"	50	90205A319	11.29
18-8 Stainless Steel					
0-80	1/8"	3/64"	50	90730A001	5.34
1-72	7/64"	1/16"	5	90001A605	10.91
2-56	5/32"	1/16"	100	90730A003	3.66
4-40	3/16"	1/16"	100	90730A005	2.97
18-8 Stainless Steel (Cont.)					
5-40	1/4"	3/32"	100	90730A006	5.49
6-32	1/4"	3/32"	100	90730A007	3.70
8-32	1/4"	3/32"	100	90730A009	3.74
8-32	5/16"	7/64"	100	90730A010	5.70
10-24	5/16"	7/64"	100	90730A011	5.50
10-32	5/16"	7/64"	100	90730A411	5.50
10-32	11/32"	1/8"	100	90730A015	7.80
Black-Oxide Coated 18-8 Stainless Steel					
4-40	3/16"	1/16"	100	92362A110	6.47
6-32	1/4"	3/32"	100	92362A120	7.88
8-32	1/4"	3/32"	100	92362A130	8.63
8-32	5/16"	7/64"	100	92362A140	10.93
10-24	5/16"	7/64"	100	92362A150	11.72
10-32	5/16"	7/64"	100	92362A160	11.72
Brass					
0-80	3/32"	3/64"	25	92736A001	9.20
1-72	7/64"	1/16"	25	92736A002	9.20
2-56	5/32"	1/16"	100	95130A105	2.84
4-40	3/16"	1/16"	100	95130A110	2.83
6-32	1/4"	3/32"	100	95130A120	4.55
8-32	1/4"	3/32"	100	95130A130	4.69
10-24	5/16"	7/64"	100	95130A150	7.74
10-32	5/16"	7/64"	100	95130A160	7.74

Hex Nuts with Lock Washer

Often referred to as Keps or K-lock nuts, these nuts have a free-spinning lock washer to resist loosening once fastened. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit.

Nuts with tooth washer have teeth that bite into the surface when tightened.

Nuts with conical washer have a smooth rim that's less likely to scratch materials when tightened.

With Tooth Washer



Thread Size	Nut Wd.	Washer Dia.	Zinc-Plated Low-Strength Steel: O'all Ht.	Pkg. Qty.		Pkg.	Black Zinc-Plated Low-Strength Steel: O'all Ht.	Pkg. Qty.		Pkg.	18-8 Stainless Steel: O'all Ht.	Pkg. Qty.		Pkg.
4-40	1/4"	9/32"	7/64"	100	90675A005	$2.60	1/8"	100	90328A101	$7.34	1/8"	100	96278A005	$5.88
5-40	5/16"	11/32"	9/64"	100	90675A245	10.93								
6-32	1/4"	9/32"	1/8"	100	90413A101	11.09								
6-32	5/16"	11/32"	9/64"	100	90675A007	2.89	9/64"	100	90328A102	6.98	9/64"	100	96278A007	6.43
8-32	5/16"	11/32"	5/32"	100	90413A102	12.30								
8-32	11/32"	3/8"	5/32"	100	90675A009	2.93	11/64"	100	90328A103	7.51	11/64"	100	96278A009	7.40
10-24	3/8"	13/32"	5/32"	100	90675A011	3.07	11/64"	100	90328A104	7.87	11/64"	100	96278A011	7.28
10-32	3/8"	13/32"	5/32"	100	90675A195	3.17	11/64"	100	90328A105	8.30	11/64"	100	96278A411	7.28
12-24	7/16"	1/2"	13/64"	50	90675A255	8.41								
1/4"-20	7/16"	1/2"	15/64"	100	90675A029	5.20	15/64"	100	90328A106	10.84	15/64"	50	96278A511	7.09
1/4"-28	7/16"	1/2"	15/64"	100	90675A215	5.34					15/64"	50	96278A515	8.74
5/16"-18	1/2"	37/64"	21/64"	100	90675A030	7.43					21/64"	25	96278A519	6.42
5/16"-24	1/2"	37/64"	21/64"	100	90675A225	8.14					21/64"	25	96278A523	8.80
3/8"-16	9/16"	21/32"	25/64"	100	90675A031	10.30					25/64"	25	96278A527	8.75
3/8"-24	9/16"	21/32"	25/64"	100	90675A235	12.68					25/64"	10	96278A531	5.85
1/2"-13	3/4"	57/64"	17/32"	10	90675A265	9.34								

Thread Size	Nut Wd., mm	O'all Ht., mm	Zinc-Plated Medium-Strength Class 8 Steel: Washer Dia., mm	Pkg. Qty.		Pkg.	18-8 (A2) Stainless Steel: Washer Dia., mm	Pkg. Qty.		Pkg.
M3×0.5	5.5	3.3	7.1	100	93825A110	$8.47	6.5	50	90923A216	$13.79
M4×0.7	7	4.1	8.5	100	93825A120	8.97	8.2	50	90923A219	12.41
M5×0.8	8	5.2	9.5	100	93825A130	9.47	9.5	25	90923A222	8.62
M6×1	10	6.2	12	100	93825A140	10.96	11.5	25	90923A227	8.79
M8×1.25	13	8.5	15.5	25	93825A160	6.60	15.1	5	90923A241	5.65
M10×1.5	17	9.7	20.1	10	93825A170	7.64	19.2	5	90923A282	9.83

With Conical Washer



Thread Size	Nut Wd.	Washer Dia.	O'all Ht.	Pkg. Qty.		Pkg.
Zinc-Plated Low-Strength Steel						
4-40	1/4"	21/64"	9/64"	25	95170A350	$8.64
6-32	5/16"	21/64"	9/64"	25	95170A355	10.84
8-32	11/32"	3/8"	3/16"	50	95170A360	13.18
10-32	3/8"	13/32"	3/16"	25	95170A370	8.24
1/4"-20	7/16"	1/2"	3/16"	10	95170A390	7.69

Thread Size	Nut Wd., mm	Washer Dia., mm	O'all Ht., mm	Pkg. Qty.		Pkg.
Metric Zinc-Plated Medium-Strength Class 8 Steel						
M4×0.7	7	10	4.2	100	91270A310	$8.42
M5×0.8	8	12	5.3	100	91270A320	9.60
M6×1	10	14	6.6	50	91270A330	5.98
M8×1.25	13	18	8.8	50	91270A340	9.67
M10×1.5	17	22	10.7	10	91270A350	7.42
M12×1.75	19	25.5	13.8	25	91270A360	9.76

Assortments with Tooth Washer



These assortments include nuts with tooth washers that bite into surfaces to resist loosening. All nuts have a Class 2B thread fit. They come in a plastic case with lid chart.

	No. of Nuts	Thread Sizes Included		
Zinc-Plated Low-Strength Steel	600	4-40, 6-32, 8-32, 10-24, 10-32, 1/4"-20	90740A106	$75.62
18-8 Stainless Steel	600	4-40, 6-32, 8-32, 10-24, 10-32, 1/4"-20	90625A500	99.58

Square Nuts

With a large bearing surface, these square nuts allow you to get a more secure grip while tightening than standard hex nuts. They're often inserted into channels and square holes to keep from turning. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 7H thread fit and meet DIN 557.

Hot-dipped galvanized nuts must be used with other hot-dipped galvanized fasteners for a correct thread fit.



Thread Size	Wd.	Ht.	Pkg. Qty.		Pkg.
Medium-Strength Grade 5 Steel					
Zinc Plated					
1/4"-20	7/16"	7/32"	100	98694A110	$6.76
5/16"-18	9/16"	17/64"	100	98694A115	11.41
3/8"-16	5/8"	21/64"	50	98694A120	9.05
7/16"-14	3/4"	3/8"	25	98694A125	9.91
1/2"-13	13/16"	7/16"	25	98694A130	12.53
5/8"-11	1"	35/64"	10	98694A135	8.28
Low-Strength Steel					
Zinc Plated					
2-56	3/16"	1/16"	100	94855A279	5.86
4-40	1/4"	3/32"	100	94855A281	2.81
5-40	5/16"	7/64"	100	94855A282	5.40
6-32	5/16"	7/64"	100	94855A201	2.03
8-32	11/32"	1/8"	100	94855A216	2.75
10-24	3/8"	1/8"	100	94855A232	2.87
10-32	3/8"	1/8"	100	94855A283	3.39
1/4"-20	7/16"	3/16"	100	94855A247	4.71
1/4"-28	7/16"	3/16"	100	94855A284	8.42
5/16"-18	9/16"	7/32"	100	94855A263	8.80
3/8"-16	5/8"	1/4"	50	94855A278	8.47
1/2"-13	13/16"	7/16"	25	94855A285	7.67
5/8"-11	1"	35/64"	25	94855A286	10.63
3/4"-10	1 1/8"	21/32"	10	94855A287	6.72
1"-8	1 1/2"	7/8"	5	94855A288	11.58
Black Zinc Plated					
1/4"-20	7/16"	3/16"	100	94859A111	7.05
5/16"-18	9/16"	7/32"	50	94859A122	10.28
3/8"-16	5/8"	1/4"	50	94859A133	8.50
Hot-Dipped Galvanized					
5/16"-18	9/16"	17/64"	100	93430A410	10.40
3/8"-16	5/8"	21/64"	100	93430A415	11.96
1/2"-13	13/16"	7/16"	50	93430A421	12.88
5/8"-11	1"	35/64"	25	93430A425	10.81
Stainless Steel					
316 Stainless Steel					
6-32	5/16"	7/64"	100	92891A500	10.25
8-32	11/32"	1/8"	50	92891A600	7.13
10-24	3/8"	1/8"	50	92891A700	8.38
10-32	3/8"	1/8"	50	92891A800	8.63
1/4"-20	7/16"	3/16"	25	92891A100	7.84
5/16"-18	9/16"	7/32"	10	92891A200	5.76
3/8"-16	5/8"	1/4"	10	92891A300	9.63
1/2"-13	13/16"	7/16"	1	92891A400	2.63
18-8 Stainless Steel					
6-32	5/16"	7/64"	100	94785A007	7.85
8-32	11/32"	1/8"	100	94785A009	8.23
10-24	3/8"	1/8"	100	94785A013	8.80
10-32	3/8"	1/8"	100	94785A411	8.80
Brass					
4-40	1/4"	3/32"	100	90509A029	7.14
6-32	5/16"	7/64"	100	90509A030	12.29
8-32	11/32"	1/8"	50	90509A031	8.14
10-24	3/8"	1/8"	50	90509A032	9.29
10-32	3/8"	1/8"	50	90509A033	9.29
Fiberglass					
3/8"-16	3/4"	17/32"	1	91332A031	3.12
1/2"-13	7/8"	41/64"	1	91332A033	4.60
5/8"-11	1 1/8"	51/64"	1	91332A035	5.00

Thread Size	Wd.	Ht.	Pkg. Qty.		Pkg.
Zinc Plated (Cont.)					
3/4"-10	1 1/8"	21/32"	10	98694A140	$11.28
7/8"-9	1 5/16"	49/64"	5	98694A145	12.65
1"-8	1 1/2"	7/8"	1	98694A150	3.26
1 1/8"-7	1 11/16"	1"	1	98694A155	6.86
1 1/4"-7	1 7/8"	1 3/32"	1	98694A160	6.85
1 1/2"-6	2 1/4"	1 5/16"	1	98694A165	9.59
Hot-Dipped Galvanized (Cont.)					
3/4"-10	1 1/8"	21/32"	10	93430A430	6.78
7/8"-9	1 5/16"	49/64"	5	93430A435	7.95
1"-8	1 1/2"	7/8"	5	93430A440	10.67
Uncoated					
6-32	5/16"	7/64"	100	94855A115	1.63
8-32	11/32"	1/8"	100	94855A119	2.08
10-24	3/8"	1/8"	100	94855A123	3.10
10-32	3/8"	1/8"	100	94855A136	3.10
1/4"-20	7/16"	3/16"	100	94855A127	3.72
1/4"-20	7/16"	7/32"	100	90043A029	4.73
5/16"-18	9/16"	7/32"	100	94855A131	7.86
5/16"-18	9/16"	17/64"	100	90043A030	8.11
3/8"-16	5/8"	1/4"	100	94855A135	10.66
3/8"-16	5/8"	21/64"	100	90043A031	11.79
7/16"-14	3/4"	3/8"	25	90043A034	9.64
1/2"-13	13/16"	7/16"	50	90043A055	13.05
5/8"-11	1"	35/64"	25	90043A065	11.15
3/4"-10	1 1/8"	21/32"	10	90043A075	6.62
7/8"-9	1 5/16"	49/64"	10	90043A085	21.16
1"-8	1 1/2"	7/8"	5	90043A095	8.71
1 1/8"-7	1 11/16"	1"	1	90043A105	3.85
1 1/4"-7	1 7/8"	1 3/32"	1	90043A115	5.01
1 1/2"-6	2 1/4"	1 5/16"	1	90043A125	6.35
18-8 Stainless Steel (Cont.)					
1/4"-20	7/16"	3/16"	50	94785A415	6.54
1/4"-28	7/16"	3/16"	25	94785A439	8.71
5/16"-18	9/16"	7/32"	25	94785A419	5.89
5/16"-24	9/16"	7/32"	10	94785A441	6.32
3/8"-16	5/8"	1/4"	25	94785A423	7.96
3/8"-24	5/8"	1/4"	10	94785A442	8.48
7/16"-14	3/4"	3/8"	5	94785A443	9.47
7/16"-20	3/4"	3/8"	5	94785A445	9.77
1/2"-13	13/16"	7/16"	5	94785A427	4.82
5/8"-11	1"	35/64"	1	94785A431	5.56
3/4"-10	1 1/8"	21/32"	1	94785A435	8.57
1"-8	1 1/2"	7/8"	1	94785A438	17.25
1/4"-20	7/16"	3/16"	25	90509A034	8.36
5/16"-18	9/16"	7/32"	10	90509A035	6.43
3/8"-16	5/8"	1/4"	10	90509A036	8.43
1/2"-13	13/16"	7/16"	5	90509A037	8.66
3/4"-10	1 1/4"	57/64"	1	91332A036	6.47
1"-8	1 11/16"	1 9/64"	1	91332A038	8.71

Thread Size	Wd., mm	Ht., mm	Pkg. Qty.		Pkg.
Metric Medium-Strength Class 5 Steel					
Zinc Plated					
M4×0.7	7	3.2	100	96887A329	$10.00
M5×0.8	8	4	100	96887A331	8.00
M6×1	10	5	100	96887A319	12.00
M8×1.25	13	6.5	25	96887A322	5.00
Metric Stainless Steel					
18-8 (A2) Stainless Steel					
M5×0.8	8	4	50	90225A101	8.00
M6×1	10	5	50	90225A102	10.00
M8×1.25	13	6.5	25	90225A103	9.00

Thread Size	Wd., mm	Ht., mm	Pkg. Qty.		Pkg.
Zinc Plated (Cont.)					
M10×1.5	17	8	25	96887A325	$8.00
M12×1.75	19	10	10	96887A328	6.10
M16×2	24	13	5	96887A332	7.40
M20×2.5	30	16	5	96887A334	13.00
18-8 (A2) Stainless Steel (Cont.)					
M10×1.5	17	8	10	90225A104	8.80
M12×1.75	19	10	5	90225A105	7.00
M16×2	24	13	1	90225A106	6.40

Nylon-Insert Locknuts



A nylon insert grips threads to resist loosening. Also known as elastic stop nuts, these can be used as a stop or a spacer for rotating parts. Nuts can be removed without damaging threads. They're reusable (unless noted), but their holding power lessens with each use. Nylon absorbs moisture, which can cause the insert to become brittle over time in wet environments. Maximum temperature of the insert is 225° F, unless noted. All locknuts have a Class 2B thread fit.

Screw Size	Wd.	Ht.
No. 2	1/4"	9/64"
No. 3	1/4"	9/64"
No. 4	1/4"	9/64"
No. 5	1/4"	9/64"
No. 6	5/16"	11/64"
No. 8	11/32"	15/64"

Screw Size	Wd.	Ht.
No. 10	3/8"	15/64"
No. 12	7/16"	5/16"
1/4"	7/16"	5/16"
5/16"	1/2"	11/32"
3/8"	9/16"	29/64"
7/16"	5/8"	29/64"

Screw Size	Wd.	Ht.
1/2"	3/4"	19/32"
9/16"	7/8"	41/64"
5/8"	15/16"	3/4"
3/4"	1 1/16"	7/8"
7/8"	1 1/4"	63/64"

Screw Size	Wd.	Ht.
1"	1 7/16"	1 3/64"
1 1/8"	1 5/8"	1 11/64"
1 1/4"	1 13/16"	1 25/64"
1 1/2"	2 13/64"	1 39/64"
2"	3 9/64"	2 13/32"

High-Strength Grade 8 Steel

Zinc Yellow-Chromate Plated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	25	97135A210	$3.43
1/4"-28	25	97135A215	3.52
5/16"-18	20	97135A220	3.68
5/16"-24	20	97135A225	3.77
3/8"-16	20	97135A230	4.02
3/8"-24	20	97135A235	4.02
7/16"-14	10	97135A240	3.35
7/16"-20	10	97135A245	3.35
1/2"-13	10	97135A250	4.31
1/2"-20	10	97135A255	4.39
9/16"-12	5	97135A260	4.02
9/16"-18	5	97135A265	4.02
5/8"-11	5	97135A270	4.39
5/8"-18	5	97135A275	4.39
3/4"-10	5	97135A280	5.65
3/4"-16	5	97135A285	5.65
7/8"-9	1	97135A290	1.26
7/8"-14	1	97135A295	1.34
1"-8	1	97135A038	1.76
1"-14	1	97135A059	1.88
1 1/8"-7	1	97135A350	5.27
1 1/8"-12	1	97135A112	7.84
1 1/4"-7	1	97135A355	7.11
1 1/4"-12	1	97135A113	10.08

Zinc Yellow-Chromate Plated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1 1/2"-6	1	97135A360	$9.69
1 1/2"-12	1	97135A114	13.52
2"-4 1/2	1	97135A115	34.92
2"-12	1	97135A116	34.92

Uncoated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	25	90630A110	3.09
1/4"-28	25	90630A145	2.70
5/16"-18	20	90630A115	2.82
5/16"-24	20	90630A150	2.89
3/8"-16	20	90630A121	3.08
3/8"-24	20	90630A155	3.09
7/16"-14	25	90630A112	9.78
7/16"-20	25	90630A113	9.88
1/2"-13	10	90630A125	3.31
1/2"-20	10	90630A160	3.38
5/8"-11	5	90630A130	3.36
5/8"-18	5	90630A165	3.29
3/4"-10	5	90630A135	4.32
3/4"-16	5	90630A170	4.32
7/8"-9	1	90630A114	3.55
7/8"-14	1	90630A116	3.56
1"-8	1	90630A140	1.59
1"-14	1	90630A175	1.70

Medium-Strength Grade 5 Steel

Zinc Plated

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	100	95615A120	4.22
1/4"-28	100	95615A130	5.52
5/16"-18	100	95615A160	6.18
5/16"-24	100	95615A170	5.58
3/8"-16	100	95615A140	8.61
3/8"-24	100	95615A150	9.08
7/16"-14	100	95615A180	11.59
7/16"-20	100	95615A190	11.95
1/2"-13	50	95615A210	9.66
1/2"-20	50	95615A220	9.66
9/16"-12	25	95615A230	8.05
9/16"-18	25	95615A240★	10.32

Zinc Plated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
5/8"-11	25	95615A250	9.34
5/8"-18	25	95615A260	10.34
3/4"-10	10	95615A270	6.96
3/4"-16	10	95615A280	6.96
7/8"-9	5	95615A290	6.06
7/8"-14	5	95615A310	5.96
1"-8	5	95615A320	8.83
1"-14	5	95615A330	9.46
1 1/8"-7	1	95615A340★	6.45
1 1/4"-7	1	95615A350★	8.65
1 1/2"-6	1	95615A360★	11.75

Low-Strength Steel

Zinc Plated

Thread Size	Pkg. Qty.		Pkg.
2-56	100	90631A003	3.37
3-48	100	90631A004	3.15
4-40	100	90631A005	2.67
5-40	100	90631A006	2.76
6-32	100	90631A007	2.61
8-32	100	90631A009	3.03
10-24	100	90631A011	3.18
10-32	100	90631A411	3.21
12-24	100	90631A120	4.65
1/4"-20	100	90640A129	4.27
1/4"-28	100	90640A140	5.42
5/16"-18	100	90640A130	5.77
5/16"-24	100	90640A145	5.67
3/8"-16	100	90640A131	7.21
3/8"-24	100	90640A150	7.97
7/16"-14	100	90640A132	10.66
7/16"-20	100	90640A155	9.83
1/2"-13	50	90640A133	9.42
1/2"-20	50	90640A160	10.85
9/16"-12	25	90640A134	10.00

Zinc Plated (Cont.)

Thread Size	Pkg. Qty.		Pkg.
9/16"-18	25	90640A165	7.25
5/8"-11	25	90640A135	9.85
5/8"-18	25	90640A170	10.49
3/4"-10	10	90640A320	6.18
3/4"-16	10	90640A330	6.26
7/8"-9	5	90640A340	7.98
7/8"-14	5	90640A350	5.11
1"-8	5	90640A360	8.62
1"-14	5	90640A370	9.74
1 1/8"-7	1	90640A400	4.14
1 1/4"-7	1	90640A410	5.57
1 1/2"-6	1	90640A420	7.21

Black Luster

Thread Size	Pkg. Qty.		Pkg.
6-32	5	91333A110	7.01
8-32	5	91333A120	6.90
10-24	5	91333A130	7.24
10-32	5	91333A140	7.44
1/4"-20	5	91333A150	7.24
5/16"-18	5	91333A160	7.34
3/8"-16	5	91333A170	7.67
1/2"-13	5	91333A180	8.55

Stainless Steel

316 Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
4-40	100	90715A005	8.13
5-40	50	90715A006	6.13
6-32	100	90715A007	6.67
8-32	100	90715A009	7.71
10-24	100	90715A011	7.89
10-32	50	90715A115	4.65

★ Not reusable; not rated for temperature.

Stainless Steel (Cont.)

316 Stainless Steel (Cont.)

Thread Size	Pkg. Qty.		Pkg.
1/4"-20	50	90715A125	$6.61
1/4"-28	50	90715A130	8.84
5/16"-18	50	90715A135	8.79
5/16"-24	25	90715A140	6.01
3/8"-16	25	90715A145	6.88
3/8"-24	25	90715A148	9.09
7/16"-14	10	90715A032	5.71
7/16"-20	10	90715A034	6.98
1/2"-13	10	90715A165	6.95
1/2"-20	10	90715A170	9.74
9/16"-12	1	90715A173	1.99
5/8"-11	5	90715A185	7.34
5/8"-18	1	90715A187	1.96
3/4"-10	1	90715A036	2.61
3/4"-16	1	90715A038	3.09
7/8"-9	1	90715A045	9.29
7/8"-14	1	90715A122	13.43
1"-8	1	90715A055	14.55
1"-14	1	90715A123	19.34
1 1/8"-7	1	90715A210	20.69
1 1/4"-7	1	90715A215	30.32
1 1/2"-6	1	90715A220	52.87

18-8 Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
2-56	50	91831A002	3.80
3-48	25	91831A004	2.00
4-40	100	91831A005	3.83
5-40	100	91831A006	4.71
6-32	100	91831A007	4.25
6-40	100	91831A122	7.86
8-32	100	91831A009	5.24
8-36	100	91831A123	10.54
10-24	100	91831A011	5.75
10-32	100	91831A411	5.75
12-24	50	91831A025	6.22

18-8 Stainless Steel (Cont.)

Thread Size	Pkg. Qty.		Pkg.
12-28	50	91831A124	$9.82
1/4"-20	50	91831A029	4.42
1/4"-28	50	91831A120	5.29
5/16"-18	50	91831A030	6.51
5/16"-24	50	91831A125	7.58
3/8"-16	25	91831A127	6.12
3/8"-24	25	91831A130	6.37
7/16"-14	25	91831A133	7.30
7/16"-20	25	91831A135	7.54
1/2"-13	10	91831A137	4.77
1/2"-20	10	91831A140	6.13
9/16"-12	1	91831A034	1.83
9/16"-18	1	91831A143	2.73
5/8"-11	5	91831A144	5.33
5/8"-18	5	91831A145	6.42
3/4"-10	5	91831A147	7.42
3/4"-16	1	91831A150	1.80
7/8"-9	1	91831A037	4.33
7/8"-14	1	91831A155	6.53
1"-8	1	91831A038	4.53
1"-12	1	91831A121	10.18
1"-14	1	91831A160	5.45
1 1/8"-7	1	91831A039	18.03
1 1/4"-7	1	91831A040	24.03
1 1/2"-6	1	91831A041	27.91

Black-Oxide 18-8 Stainless Steel

Thread Size	Pkg. Qty.		Pkg.
4-40	100	94407A100	7.29
6-32	100	94407A101	7.10
8-32	100	94407A102	8.68
10-24	100	94407A103	9.54
1/4"-20	50	94407A104	8.93
5/16"-18	50	94407A105	10.72
3/8"-16	25	94407A106	10.72
1/2"-13	10	94407A107	8.57

Brass

Thread Size	Pkg. Qty.		Pkg.
4-40	50	92092A101	9.58
6-32	25	92092A021	3.83
8-32	25	92092A023	5.14
10-24	25	92092A025	5.86
10-32	25	92092A027	5.74
1/4"-20	10	92092A029	7.51
5/16"-18	10	92092A030	11.91
3/8"-16	5	92092A031	9.42
1/2"-13	1	92092A033	2.88
5/8"-11	1	92092A035	15.41
3/4"-10	1	92092A036	10.02

Aluminum

Thread Size	Pkg. Qty.		Pkg.
8-32	25	95856A215	3.67
10-24	25	95856A225	3.76
10-32	25	95856A235	3.76
1/4"-20	25	95856A245	4.32
5/16"-18	25	95856A255	7.27
3/8"-16	10	95856A265	4.06
1/2"-13	5	95856A275	3.99

Titanium

Thread Size	Pkg. Qty.		Pkg.
4-40	1	94528A112★	5.75
6-32	1	94528A113★	5.75
8-32	1	94528A114★	6.06
10-24	1	94528A115★	6.83
10-32	1	94528A116★	6.83
1/4"-20	1	94528A117★	8.25
5/16"-18	1	94528A118★	9.72
3/8"-16	1	94528A119★	11.83
1/2"-13	1	94528A121★	15.56

550-Piece Assortments



Assortments come in a compartmented plastic case with lid chart.

	Thread Sizes Included		
Zinc-Plated Low-Strength Steel	4-40, 6-32, 8-32, 10-24, 10-32, 1/4"-20	93949A600	$24.44
18-8 Stainless Steel	4-40, 6-32, 8-32, 10-24, 10-32, 1/4"-20	93949A300	44.44

Metric Nylon-Insert Locknuts

These metric locknuts have a nylon insert that grips threads to resist loosening. Also known as elastic stop nuts, they can be used as a stop or a spacer for rotating parts. Nuts can be removed without damaging threads. They're reusable, but their holding power lessens with each use. Nylon absorbs moisture, which can cause the insert to become brittle over time in wet environments. Maximum temperature of the insert is 220° F. All locknuts have a Class 6H thread fit. They meet DIN 985, unless noted.



Thread Size	Wd., mm	Ht., mm	Pkg. Qty.		Pkg.
Zinc-Plated Class 10 Steel					
M4×0.7	7	5	100	94645A101	$10.31
M5×0.8	8	5	100	94645A102	12.19
M6×1	10	6	100	94645A205	9.82
M8×1.25	13	8	50	94645A210	8.19
M10×1.5	17	10	25	94645A220	9.28
M10×1	17	10	25	94645A213	6.42
M12×1.75	19	12	10	94645A230	8.08
M12×1.5	19	12	10	94645A229	6.11
M14×2	22	14	10	94645A240	11.08
M16×2	24	16	10	94645A250	13.15
M18×2.5	27	18.5	5	94645A260	10.40
M20×2.5	30	20	5	94645A270	11.56
M24×3	36	24	1	94645A280	5.26
Zinc-Plated Class 8 Steel					
M3×0.5	5.5	4	100	90576A102	3.27
M4×0.7	7	5	100	90576A103	3.91
M5×0.8	8	5	100	90576A104	4.27
M6×1	10	6	100	90576A115	4.55
M8×1.25	13	8	100	90576A117	9.77
M8×1	13	8	25	90576A116	6.55
M10×1.5	17	10	50	90576A118	8.91
M10×1.25	17	10	25	90576A132	11.18
M10×1	17	10	25	90576A131	11.13
M12×1.75	19	12	50	90576A119	$11.74
M12×1.5	19	12	20	90576A144	12.03
M12×1.25	19	12	25	90576A141	11.76
M12×1	19	12	10	90576A137	7.75
M14×2	22	14	25	90576A120	10.11
M14×1.5	22	14	10	90576A147	8.07
M16×2	24	16	25	90576A122	12.73
M16×1.5	24	16	10	90576A152	8.55
M18×2.5	27	18.5	10	90576A123	10.32
M20×2.5	30	20	10	90576A125	12.41
M24×3	36	24	5	90576A129	13.30
M27×3	41	27	1	90576A140	7.20
M30×3.5	46	30	1	90576A150	7.83
316 (A4) Stainless Steel					
M2.5×0.45	5	3.8	50	94205A101♦	9.44
M3×0.5	5.5	4	50	94205A220	4.75
M4×0.7	7	5	50	94205A230	5.49
M5×0.8	8	5	50	94205A240	6.09
M6×1	10	6	50	94205A250	6.52
M8×1.25	13	8	25	94205A260	7.44
M10×1.5	17	10	10	94205A270	8.19
M12×1.75	19	12	10	94205A280	10.88
M14×2	22	14	5	94205A290	14.29
M16×2	24	16	5	94205A310	$14.80
M18×2.5	27	18.5	1	94205A315	8.92
M20×2.5	30	20	1	94205A320	5.18
M24×3	36	24	1	94205A330	16.18
M27×3	41	27	1	94205A350	30.65
M30×3.5	46	30	1	94205A380	38.47
18-8 (A2) Stainless Steel					
M2×0.4	4	2.8	10	93625A101♦	6.82
M2.5×0.45	5	3.8	100	93625A102♦	9.55
M3×0.5	5.5	4	100	93625A100	4.84
M4×0.7	7	5	100	93625A150	5.62
M5×0.8	8	5	100	93625A200	5.98
M6×1	10	6	100	93625A250	8.25
M8×1.25	13	8	50	93625A300	8.33
M10×1.5	17	10	10	93625A350	4.85
M12×1.75	19	12	10	93625A400	6.42
M14×2	22	14	5	93625A450	7.91
M16×2	24	16	5	93625A500	6.86
M18×2.5	27	18.5	1	93625A510	5.63
M20×2.5	30	20	1	93625A550	2.75
M24×3	36	24	1	93625A600	8.57
M27×3	41	27	1	93625A700	20.00
M30×3.5	46	30	1	93625A750	20.00

♦ Does not meet DIN 985.

Thin Nylon-Insert Locknuts

Thinner than standard nylon-insert locknuts, these nuts can be used in tight spaces where clearance is limited. The nylon-insert grips threads to resist loosening. Nuts can be removed without damaging threads. They're reusable (unless noted), but their holding power lessens with each use. Nylon absorbs moisture, which can cause the insert to become brittle over time in wet environments. Maximum temperature of the insert is 220° F, unless noted. Thread fit is Class 2B, unless noted.



Screw Size	Wd.	Ht.
No. 2	1/4"	7/64"
No. 4	1/4"	7/64"
No. 5	1/4"	7/64"
No. 6	5/16"	1/8"
No. 8	11/32"	11/64"
No. 10	3/8"	11/64"
No. 12	7/16"	13/64"
1/4"	7/16"	13/64"
5/16"	1/2"	1/4"
3/8"	9/16"	17/64"
7/16"	5/8"	5/16"
1/2"	3/4"	5/16"
9/16"	7/8"	23/64"
5/8"	15/16"	25/64"
3/4"	1 1/16"	13/32"
7/8"	1 1/4"	15/32"
1"	1 7/16"	35/64"
1 1/8"	1 5/8"	41/64"
1 1/4"	1 13/16"	3/4"
1 3/8"	2"	51/64"
1 1/2"	2 3/16"	51/64"

Thread Size	Pkg. Qty.		Pkg.
High-Strength Grade 8 Steel			
Zinc Yellow-Chromate Plated■			
1/4"-20	100	94945A205	$6.70
5/16"-18	100	94945A213	9.90
3/8"-16	100	94945A217	12.70
3/8"-24	50	94945A218	9.50
7/16"-14	25	94945A260	6.92
7/16"-20	25	94945A270	6.98
1/2"-13	25	94945A224	6.61
5/8"-11	10	94945A227	5.60
1 1/4"-12	1	94945A280	20.72
1 1/2"-12	1	94945A290	23.84
Medium-Strength Grade 5 Steel			
Zinc Plated			
5/8"-11	25	91342A210	9.49
5/8"-18	25	91342A220	9.81
3/4"-10	10	91342A230	6.80
3/4"-16	10	91342A240	6.93
7/8"-14	5	91342A250	8.61
1"-8	1	91342A260	3.89
Low-Strength Steel			
Zinc Plated			
2-56	100	90633A004	7.91
4-40	100	90633A005	3.71
5-40	100	90633A006	5.54
6-32	100	90633A007	2.91
8-32	100	90633A009	3.23
10-24	100	90633A011	3.14
10-32	100	90633A411	3.18
12-24	100	90633A412	4.85
1/4"-20	100	90566A029	3.56
1/4"-28	100	90566A210	3.51

Thread Size	Pkg. Qty.		Pkg.
Zinc Plated			
1/4"-28	10	94945A210	$8.12
5/16"-24	10	94945A215	8.67
1/2"-20	5	94945A225	5.69
5/8"-18	5	94945A230	7.12
3/4"-16	1	94945A235	2.42
7/8"-14	1	94945A240	3.70
1"-14	1	94945A250	4.37
Zinc Plated (Cont.)			
1"-14	1	91342A270	3.65
1 1/8"-7	1	91342A280	6.18
1 1/4"-7	1	91342A290	9.67
1 1/4"-12	1	91342A320	19.29
1 1/2"-6	1	91342A310	10.72
Zinc Plated (Cont.)			
5/16"-18	100	90566A030	4.39
5/16"-24	100	90566A215	4.50
3/8"-16	100	90566A031	5.18
3/8"-24	100	90566A220	5.33
7/16"-14	100	90566A032	6.43
7/16"-20	100	90566A225	6.72
1/2"-13	100	90566A033	9.39
1/2"-20	100	90566A230	9.72
9/16"-12	100	90566A231	12.89
9/16"-18	100	90566A232	13.33

Thread Size	Pkg. Qty.		Pkg.
Low-Strength Steel (Cont.)			
Zinc Plated (Cont.)			
5/8"-11	50	90566A035	$10.04
5/8"-18	50	90566A235	10.01
3/4"-10	10	90566A240	5.38
3/4"-16	10	90566A243	5.48
7/8"-9	5	90566A246	5.30
7/8"-14	5	90566A249	5.34
1"-8	1	90566A253	1.42
1"-14	1	90566A256	1.36
1 1/8"-7	1	90566A259	3.09
1 1/4"-7	1	90566A262	3.41
1 1/4"-12	1	90566A265	3.41
Stainless Steel			
316 Stainless Steel			
10-24	50	97367A111	9.30
10-32	50	97367A112	9.30
1/4"-20	25	97367A113	5.87
5/16"-18	25	97367A114	7.20
3/8"-16	25	97367A115	8.52
1/2"-13	10	97367A116	9.28
18-8 Stainless Steel			
4-40	50	90101A004	4.12
6-32	100	90101A007	7.46
8-32	100	90101A009	6.31
10-24	100	90101A011	7.03
10-32	50	90101A225	4.14
1/4"-20	50	90101A230	4.73
1/4"-28	50	90101A235	6.09
5/16"-18	50	90101A237	7.24
5/16"-24	50	90101A240	8.51
3/8"-16	25	90101A243	6.10
3/8"-24	25	90101A245	5.55

Thread Size	Pkg. Qty.		Pkg.
Zinc Plated (Cont.)			
1 3/8"-6	1	90566A268	$4.77
1 1/2"-6	1	90566A271	6.35
Black Luster			
6-32	5	91581A315	6.80
8-32	5	91581A325	6.80
10-24	5	91581A335	6.90
10-32	5	91581A345	8.04
1/4"-20	5	91581A355	7.24
5/16"-18	5	91581A365	7.12
3/8"-16	5	91581A375	7.49
1/2"-13	5	91581A385	7.78
18-8 Stainless Steel (Cont.)			
7/16"-14	10	90101A247	7.00
7/16"-20	5	90101A250	4.60
1/2"-13	10	90101A252	5.52
1/2"-20	5	90101A255	3.78
9/16"-18	1	90101A251	14.83
5/8"-11	1	90101A038	2.30
5/8"-18	1	90101A260	2.11
3/4"-10	1	90101A050	5.34
3/4"-16	1	90101A055♣	4.83
7/8"-9	1	90101A060	6.56
7/8"-14	1	90101A065♣	8.52
1"-8	1	90101A070	8.67
1"-14	1	90101A075♣	7.70
1 1/8"-7	1	90101A080	16.32
1 1/4"-7	1	90101A090	21.95
1 1/4"-12	1	90101A095♣	25.00
1 1/2"-6	1	90101A150	26.34

■ Not reusable; not rated for temperature. ♣ Thread fit is Class 3B.

Extra-Wide Nylon-Insert Locknuts



Wider and taller than standard nylon-insert locknuts, these nuts distribute the load over a large area for added holding strength. They have a nylon insert that grips threads to resist loosening. Also known as elastic stop nuts, these can be used as a stop or a spacer for rotating parts. Nuts can be removed without damaging threads. They're reusable (unless noted), but their holding power lessens with each use. Nylon absorbs moisture, which can cause the insert to become brittle over time in wet environments. Maximum temperature of the insert is 250° F, unless noted. All locknuts have a Class 2B thread fit.

Thread Size	Wd.	Ht.	Pkg. Qty.		Pkg.
Zinc-Plated Low-Strength Steel					
1/4"-20	1/2"	3/8"	100	90648A029	$7.71
5/16"-18	9/16"	7/16"	100	90648A030	8.51
3/8"-16	11/16"	35/64"	50	90648A215	9.72
7/16"-14	3/4"	39/64"	25	90648A220 ★	10.61
1/2"-13	7/8"	45/64"	25	90648A225	10.70
9/16"-12	15/16"	13/16"	5	90648A230 ★	7.37
5/8"-11	1 1/16"	55/64"	10	90648A235	7.42
3/4"-10	1 1/4"	1"	5	90648A240	5.78
7/8"-9	1 7/16"	1 1/8"	5	90648A245	6.77
1"-8	1 5/8"	1 17/64"	1	90648A250	4.42
1 1/4"-7	2"	1 41/64"	1	90648A260	6.60
1 1/2"-6	2 3/8"	1 59/64"	1	90648A265	10.36
316 Stainless Steel					
3/8"-16	11/16"	35/64"	1	94519A101	3.67
1/2"-13	7/8"	45/64"	1	94519A102	7.33
5/8"-11	1 1/16"	55/64"	1	94519A103	10.62
3/4"-10	1 1/4"	1"	1	94519A104	17.82
18-8 Stainless Steel					
1/4"-20	1/2"	3/8"	10	90099A029	5.27
5/16"-18	9/16"	7/16"	5	90099A030	3.07
3/8"-16	11/16"	35/64"	5	90099A031	5.98
7/16"-14	3/4"	19/32"	1	90099A032	3.83
1/2"-13	7/8"	45/64"	1	90099A033	2.18
5/8"-11	1 1/16"	55/64"	1	90099A035	4.24
3/4"-10	1 1/4"	1"	1	90099A036	13.95
7/8"-9	1 7/16"	1 9/64"	1	90099A037 ★	23.84
1"-8	1 5/8"	1 5/16"	1	90099A038 ★	33.32

★ Not reusable; not rated for temperature.

Extra-Wide Thin Nylon-Insert Locknuts



Use these nuts in tight spaces where added strength is required. The nylon insert grips threads for a secure hold. Also known as elastic stop nuts, they can be used as a stop or a spacer for rotating parts. Nuts can be removed without damaging threads. They're reusable, but their holding power lessens with each use. Nylon absorbs moisture, which can cause the insert to become brittle over time in wet environments. Maximum temperature of the insert is 250° F. Thread fit is Class 2B, except 18-8 stainless steel locknuts have a Class 3B thread fit.

Thread Size	Wd.	Ht.	Pkg. Qty.		Pkg.
Black-Phosphate High-Strength Grade C Steel					
1 1/4"-12	2"	1 7/64"	1	93126A110	$6.96
1 1/2"-12	2 3/8"	1 5/16"	1	93126A120	9.12
1 3/4"-12	2 3/4"	1 15/32"	1	93126A130	12.80
2"-12	3 1/8"	1 43/64"	1	93126A140	15.44
2 1/4"-12	3 1/2"	1 15/16"	1	93126A150	24.62
2 1/2"-12	4"	2 3/16"	1	93126A160	34.23
2 3/4"-12	4"	2 3/16"	1	93126A170	35.38
Zinc-Plated Low-Strength Steel					
1/4"-20	1/2"	9/32"	100	90652A029	7.75
5/16"-18	9/16"	5/16"	100	90652A030	10.25
3/8"-16	11/16"	13/32"	50	90652A040	8.92
1/2"-13	7/8"	17/32"	25	90652A050	9.04
5/8"-11	1 1/16"	39/64"	10	90652A055	8.19
3/4"-10	1 1/4"	45/64"	10	90652A060	10.73
1"-8	1 5/8"	57/64"	1	90652A065	3.62
1 1/4"-7	2"	1 7/64"	1	90652A070	5.89
316 Stainless Steel					
1/4"-20	1/2"	9/32"	5	94530A111	8.00
3/8"-16	11/16"	13/32"	5	94530A113	10.55
1/2"-13	7/8"	17/32"	1	94530A115	4.75
5/8"-11	1 1/16"	39/64"	1	94530A117	8.00
3/4"-10	1 1/4"	45/64"	1	94530A119	16.00
18-8 Stainless Steel					
1/4"-20	1/2"	9/32"	25	90098A110	10.80
5/16"-18	9/16"	5/16"	20	90098A115	9.88
3/8"-16	11/16"	13/32"	10	90098A120	9.83
7/16"-14	3/4"	7/16"	1	90098A125	3.64
1/2"-13	7/8"	17/32"	1	90098A130	2.42
5/8"-11	1 1/16"	39/64"	1	90098A035	5.52
3/4"-10	1 1/4"	45/64"	1	90098A036	8.31
1"-8	1 5/8"	59/64"	1	90098A135	21.25

Mil. Spec. Nylon-Insert Locknuts



Hex



Thin Hex

Made to stringent military standards for material and construction, these locknuts have excellent corrosion resistance. The nylon insert grips threads to resist loosening. Also known as elastic stop nuts, these can be used as a stop or a spacer for rotating parts. Nuts can be removed without damaging threads. They're reusable, but holding power lessens with each use. Nylon absorbs moisture, which can cause the insert to become brittle over time in wet environments. Max. temp. of the insert is 250° F. Thread fit is Class 3B.

Thread Size	Mil. Spec. No.	Wd.	Ht.	Pkg. Qty.		Pkg.
Hex						
Cadmium-Plated Steel						
4-40	MS-21044-N04	1/4"	5/32"	10	95154A110	$7.78
6-32	MS-21044-N06	5/16"	3/16"	10	95154A120	6.22
8-32	MS-21044-N08	11/32"	9/32"	10	95154A130	6.67
10-32	MS-21044-N3	3/8"	9/32"	10	95154A140	3.11
1/4"-28	MS-21044-N4	7/16"	23/64"	10	95154A150	3.78
1/2"-20	MS-21044-N8	3/4"	19/32"	5	95154A180	11.76
5/8"-18	MS-21044-N10	15/16"	3/4"	1	95154A190	5.59
18-8 Stainless Steel						
4-40	MS-21044-C04	1/4"	5/32"	10	96345A210	8.66
6-32	MS-21044-C06	5/16"	3/16"	10	96345A220	8.23
8-32	MS-21044-C08	11/32"	9/32"	10	96345A230	7.78
10-24	NASM-17830-010C	3/8"	15/64"	5	96345A280	6.56
10-32	MS-21044-C3	3/8"	9/32"	10	96345A240	8.00
1/4"-20	NASM-17830-4C	7/16"	5/16"	5	96345A290	10.00
1/4"-28	MS-21044-C4	7/16"	23/64"	5	96345A250	5.78
5/16"-18	NASM-17830-5C	1/2"	11/32"	5	96345A310	12.50
3/8"-16	NASM-17830-6C	9/16"	29/64"	1	96345A320	2.82
Thin Hex						
Cadmium-Plated Steel						
4-40	MS-21083-N04	1/4"	1/8"	10	95496A310	7.34
6-32	MS-21083-N06	5/16"	9/64"	10	95496A320	7.77
8-32	MS-21083-N08	11/32"	3/16"	10	95496A330	4.00
10-32	MS-21083-N3	3/8"	3/16"	10	95496A340	4.44
1/4"-28	MS-21083-N4	7/16"	7/32"	10	95496A350	7.11
1/2"-20	MS-21083-N8	3/4"	5/16"	1	95496A380	3.66
18-8 Stainless Steel						
2-56	MS-21083-C02	1/4"	7/64"	5	97231A480	9.21
4-40	MS-21083-C04	1/4"	1/8"	10	97231A410	10.00
6-32	MS-21083-C06	5/16"	9/64"	10	97231A420	11.11
8-32	MS-21083-C08	11/32"	3/16"	5	97231A430	7.46
10-32	MS-21083-C3	3/8"	3/16"	5	97231A440	8.33
1/4"-28	MS-21083-C4	7/16"	7/32"	5	97231A450	10.00
1/2"-20	MS-21083-C8	3/4"	5/16"	1	97231A490	8.43

Nylon Flange Nuts



Partially tapped with a locking thread, these nuts form threads as they're tightened. Made from white nylon 6/6, they absorb moisture, which can cause them to become brittle over time in wet environments. Nuts are reusable, but holding power lessens with each use. Temperature range is –40° to 185° F.

Thread Size	Wd.	Ht.	Pkg. Qty.		Pkg.
2-56	3/16"	9/64"	100	94909A002	$11.91
4-40	1/4"	3/16"	100	94909A005	11.91
6-32	5/16"	13/64"	100	94909A007	12.26
8-32	21/64"	15/64"	100	94909A009	11.38
10-24	23/64"	1/4"	100	94909A011	11.59
10-32	23/64"	1/4"	100	94909A022	11.59
1/4"-20	27/64"	9/32"	100	94909A029	12.65

Two-Piece Thread-Clamping Locknuts for Extreme Vibration



Also known as drake style nuts, these two-piece locknuts are more vibration-resistant than flex-top expanding locknuts. To use, fasten the slotted nut, then tighten the concave jam nut on top of it. The slotted nut's flexible top expands while the jam nut clamps the slots back onto the bolt for a secure hold. Made from uncoated steel, they're for use with medium-strength Grade 5 and B7 steel bolts and studs. They're reusable. Thread fit is Class 2B.

Thread Size	Wd.	O'all Ht.		Each
1/4"-28	7/16"	29/64"	90623A150	$15.95
5/16"-24	1/2"	1/2"	90623A160	16.12
3/8"-24	9/16"	35/64"	90623A170	17.35
7/16"-20	5/8"	5/8"	90623A180	19.97
1/2"-20	3/4"	45/64"	90623A190	18.96
5/8"-18	7/8"	7/8"	90623A200	23.35
3/4"-16	1 1/16"	1 5/64"	90623A210	25.98
7/8"-14	1 1/4"	1 13/32"	90623A220	27.66

Steel-Insert Locknuts for Extreme Vibration

Stronger with a more secure grip than nylon-insert style and distorted-thread locknuts, these nuts are often used to secure parts on machines exposed to extreme vibration, such as shakers and vibrating conveyor systems. They're reusable up to 50 times. The strength of the bolt, screw, rod, or stud should match the strength of the nut to prevent damaging threads. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit.


Hex


Extra-Wide Hex


Thin Hex

Thread Size	Wd.	Ht.		Each
Hex				
Medium-Strength Grade 5 Steel				
1/2"-13	3/4"	1/2"	90619A410	$4.20
1/2"-20	3/4"	1/2"	90619A413	4.63
5/8"-11	15/16"	5/8"	90619A415	4.82
5/8"-18	15/16"	5/8"	90619A420	5.28
3/4"-10	1 1/8"	3/4"	90619A425	6.22
3/4"-16	1 1/8"	3/4"	90619A430	6.82
7/8"-9	1 5/16"	7/8"	90619A435	8.08
7/8"-14	1 5/16"	7/8"	90619A440	8.88
1"-8	1 1/2"	1"	90619A445	9.92
1"-14	1 1/2"	1"	90619A450	11.54
1 1/8"-12	1 11/16"	1 1/8"	90619A460	16.00
1 1/4"-7	1 7/8"	1 1/4"	90619A465	17.32
1 1/4"-12	1 7/8"	1 1/4"	90619A470	18.95
1 1/2"-6	2 1/4"	1 1/2"	90619A475	27.20
1 1/2"-12	2 1/4"	1 1/2"	90619A480	29.75
1 3/4"-12	2 5/8"	1 3/4"	90619A485	72.44
2"-12	3"	2"	90619A495	83.78
Metric Medium-Strength Class 8 Steel— Dimensions in millimeters				
M12×1.75	19	11.7	93520A205	4.56
M16×2	24	14.6	93520A209	4.72
Hex (Cont.)				
Metric Medium-Strength Class 8 Steel (Cont.)— Dimensions in millimeters				
M20×2.5	30	17.8	93520A213	$6.18
M22×2.5	32	20	93520A217	7.51
M24×3	36	21.5	93520A221	9.27
M27×3	41	24.4	93520A225	12.62
M30×3.5	46	27	93520A229	16.43
Extra-Wide Hex				
High-Strength Grade 8 Steel				
3/8"-16	11/16"	13/32"	90621A042	4.32
1/2"-13	7/8"	37/64"	90621A043	4.39
5/8"-11	1 1/16"	47/64"	90621A045	5.13
3/4"-10	1 1/4"	7/8"	90621A047	6.53
1"-8	1 5/8"	1 11/64"	90621A048	11.10
1 1/8"-7	1 13/16"	1 17/64"	90621A039	17.30
1 1/4"-7	2"	1 13/32"	90621A060	19.75
1 1/2"-6	2 3/8"	1 11/16"	90621A065	31.02
1 3/4"-5	2 3/4"	2 1/32"	90621A070	77.60
Medium-Strength Grade 5 Steel				
1/2"-13	7/8"	9/16"	90621A033	4.18
5/8"-11	1 1/16"	45/64"	90621A035	4.81
Extra-Wide Hex (Cont.)				
Medium-Strength Grade 5 Steel (Cont.)				
3/4"-10	1 1/4"	27/32"	90621A036	$6.02
7/8"-9	1 7/16"	63/64"	90621A037	8.05
1"-8	1 5/8"	1 1/8"	90621A038	10.43
Thin Hex				
Medium-Strength Grade 5 Steel				
1/2"-13	3/4"	3/8"	90619A021	4.76
1/2"-20	3/4"	3/8"	90619A033	5.26
5/8"-11	15/16"	15/32"	90619A151	5.57
5/8"-18	15/16"	15/32"	90619A159	6.14
3/4"-10	1 1/8"	9/16"	90619A167	7.19
3/4"-16	1 1/8"	9/16"	90619A036	7.91
7/8"-9	1 5/16"	19/32"	90619A175	9.34
7/8"-14	1 5/16"	19/32"	90619A037	9.62
1"-8	1 1/2"	23/32"	90619A189	12.14
1"-14	1 1/2"	23/32"	90619A038	13.34
1 1/8"-12	1 11/16"	3/4"	90619A039	19.47
1 1/4"-7	1 7/8"	7/8"	90619A213	20.07
1 1/4"-12	1 7/8"	7/8"	90619A040	21.94
1 1/2"-6	2 1/4"	1"	90619A228	30.65
1 1/2"-12	2 1/4"	1"	90619A041	34.12

Flex-Top Expanding Locknuts for Extreme Vibration

Also known as Flexloc and split-beam nuts, these one-piece nuts have a slotted top that expands when tightened. They're often used to secure parts in engines and suspension systems. **Cadmium-plated steel** nuts are reusable up to 15 times; **18-8 stainless steel** nuts are not reusable. The strength of the bolt, screw, rod, or stud should match the strength of the nut to prevent damaging threads. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit.


Hex


Extra-Wide Hex


Thin Hex

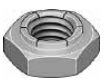
Extra-Wide Thin Hex

Thread Size	Wd.	Ht.	Pkg. Qty.		Pkg.
Hex					
Cadmium-Plated Steel					
2-56	1/4"	5/32"	10	94820A100	$4.73
4-40	1/4"	5/32"	25	94820A210	11.77
6-32	5/16"	3/16"	25	94820A215	11.36
8-32	11/32"	1/4"	25	94820A220	10.13
10-24	3/8"	1/4"	25	94820A225	9.78
10-32	3/8"	1/4"	25	94820A230	9.78
1/4"-20	7/16"	19/64"	25	94820A232	11.12
1/4"-28	7/16"	5/16"	25	94820A235	11.12
5/16"-18	1/2"	23/64"	10	94820A237	6.10
5/16"-24	1/2"	23/64"	10	94820A240	6.71
3/8"-16	9/16"	15/32"	10	94820A242	7.29
3/8"-24	9/16"	15/32"	10	94820A245	8.01
7/16"-14	5/8"	15/32"	5	94820A247	9.91
1/2"-13	3/4"	39/64"	5	94820A249	9.07
1/2"-20	3/4"	39/64"	5	94820A250	9.06
5/8"-11	15/16"	49/64"	1	94820A252	3.38
5/8"-18	15/16"	49/64"	1	94820A255	3.07
3/4"-10	1 1/16"	57/64"	1	94820A036	5.00
3/4"-16	1 1/16"	57/64"	1	94820A260	5.00
18-8 Stainless Steel					
2-56	1/4"	5/32"	5	91839A105	7.38
4-40	1/4"	5/32"	5	91839A220	7.89
6-32	5/16"	3/16"	5	91839A225	7.89
8-32	11/32"	1/4"	5	91839A230	7.72
10-24	3/8"	1/4"	5	91839A235	8.07
10-32	3/8"	1/4"	10	91839A120	11.83
1/4"-20	7/16"	19/64"	5	91839A123	8.28
1/4"-28	7/16"	19/64"	5	91839A125	8.45
5/16"-18	1/2"	23/64"	1	91839A127	2.82
5/16"-24	1/2"	23/64"	1	91839A130	2.96
3/8"-16	9/16"	15/32"	1	91839A132	3.27
3/8"-24	9/16"	15/32"	1	91839A135	3.44
7/16"-20	5/8"	15/32"	1	91839A140	7.98
1/2"-13	3/4"	39/64"	1	91839A033	6.92
1/2"-20	3/4"	39/64"	1	91839A145	7.98
Hex (Cont.)					
Metric Cadmium-Plated Steel— Dimensions in millimeters					
M6×1	10	7.8	5	94235A080	$5.01
M8×1.25	13	10.4	1	94235A090	1.57
M10×1.5	17	13	1	94235A110	2.66
M12×1.75	19	15.6	1	94235A120	8.50
Metric 18-8 (A2) Stainless Steel— Dimensions in millimeters					
M6×1	10	7.8	1	94560A060	4.07
M8×1.25	13	10.4	1	94560A080	5.15
M10×1.5	17	13	1	94560A100	9.15
M12×1.75	19	15.6	1	94560A120	11.41
Extra-Wide Hex					
Cadmium-Plated Steel					
1/4"-20	1/2"	19/64"	10	94827A110	6.48
5/16"-18	9/16"	21/64"	10	94827A120	8.66
3/8"-16	5/8"	25/64"	10	94827A130	9.82
1/2"-13	13/16"	1/2"	5	94827A150	11.89
5/8"-11	1"	41/64"	1	94827A160	4.07
3/4"-10	1 1/8"	49/64"	1	94827A036	5.40
7/8"-9	1 5/16"	57/64"	1	94827A037	8.81
1"-8	1 1/2"	1 1/64"	1	94827A038	15.84
18-8 Stainless Steel					
1/4"-20	1/2"	19/64"	5	95070A210	12.39
5/16"-18	9/16"	21/64"	5	95070A310	11.26
3/8"-16	5/8"	25/64"	1	95070A410	2.66
7/16"-14	3/4"	29/64"	1	95070A510	6.71
1/2"-13	13/16"	1/2"	1	95070A610	6.92
Thin Hex					
Cadmium-Plated Steel					
6-32	5/16"	9/64"	25	94830A485	11.14
8-32	11/32"	3/16"	25	94830A490	11.14
10-24	3/8"	3/16"	25	94830A495	10.70
10-32	3/8"	3/16"	25	94830A505	10.70
1/4"-20	7/16"	7/32"	25	94830A510	10.76
1/4"-28	7/16"	7/32"	25	94830A515	10.76
5/16"-18	1/2"	17/64"	10	94830A520	6.57
Thin Hex (Cont.)					
Cadmium-Plated Steel (Cont.)					
5/16"-24	1/2"	17/64"	10	94830A525	$6.57
3/8"-16	9/16"	9/32"	10	94830A530	7.21
3/8"-24	9/16"	9/32"	10	94830A535	7.21
7/16"-20	5/8"	21/64"	5	94830A540	8.18
1/2"-13	3/4"	21/64"	5	94830A545	8.18
1/2"-20	3/4"	21/64"	5	94830A550	8.18
5/8"-11	15/16"	25/64"	1	94830A560	2.90
5/8"-18	15/16"	25/64"	1	94830A565	2.90
3/4"-10	1 1/16"	27/64"	1	94830A570	4.68
3/4"-16	1 1/16"	27/64"	1	94830A436	4.68
1"-8	1 7/16"	37/64"	1	94830A038	9.51
1"-14	1 7/16"	37/64"	1	94830A438	9.51
18-8 Stainless Steel					
6-32	5/16"	9/64"	10	94140A100	13.49
8-32	11/32"	3/16"	5	94140A103	7.52
10-24	3/8"	3/16"	5	94140A105	7.78
10-32	3/8"	3/16"	10	94140A107	11.74
1/4"-20	7/16"	7/32"	5	94140A131	8.66
1/4"-28	7/16"	7/32"	5	94140A109	7.76
5/16"-18	1/2"	17/64"	1	94140A139	2.83
5/16"-24	1/2"	17/64"	1	94140A143	2.71
3/8"-16	9/16"	9/32"	1	94140A147	3.20
3/8"-24	9/16"	9/32"	1	94140A151	3.21
1/2"-13	3/4"	21/64"	1	94140A155	7.04
1/2"-20	3/4"	21/64"	1	94140A159	7.04
Extra-Wide Thin Hex					
Cadmium-Plated Steel					
1/4"-20	1/2"	7/32"	25	94828A410	13.37
5/16"-18	9/16"	17/64"	10	94828A420	7.01
3/8"-16	5/8"	9/32"	10	94828A425	8.49
7/16"-14	3/4"	21/64"	1	94828A430	1.45
1/2"-13	13/16"	21/64"	5	94828A435	7.81
5/8"-11	1"	13/32"	1	94828A440	3.23
3/4"-10	1 1/8"	27/64"	1	94828A036	4.80
7/8"-9	1 5/16"	31/64"	1	94828A037	7.92
1"-8	1 1/2"	37/64"	1	94828A038	11.36

Mil. Spec. Flex-Top Expanding Locknuts for Extreme Vibration



Choose these locknuts for their excellent corrosion resistance and adherence to strict military standards for material and construction. They have a slotted top that expands to grip threads. Also known as all-metal, Flexloc, and split-beam nuts, they're often used to secure parts in engines and suspension systems. They're reusable up to 10 times. All have a Class 3B thread fit.

Silver-plated 300 series stainless steel locknuts have a silver plating that lubricates threads for smooth threading.

Thread Size	Mil. Spec. No.	Wd.	Ht.	Pkg. Qty.		Pkg.
Cadmium Yellow-Chromate Plated Steel						
4-40	MS-21045-04	1/4"	5/32"	5	99638A101	$6.55
6-32	MS-21045-06	5/16"	3/16"	5	99638A102	7.14
8-32	MS-21045-08	11/32"	1/4"	5	99638A103	7.74
10-32	MS-21045-3	3/8"	1/4"	5	99638A100	5.51
1/4"-28	MS-21045-4	7/16"	5/16"	5	99638A200	6.48
5/16"-24	MS-21045-5	1/2"	23/64"	5	99638A300	10.40
3/8"-24	MS-21045-6	9/16"	15/32"	5	99638A400	10.94
7/16"-20	MS-21045-7	11/16"	15/32"	1	99638A500	5.21
1/2"-20	MS-21045-8	3/4"	39/64"	1	99638A600	5.21
9/16"-18	MS-21045-9	7/8"	11/16"	1	99638A700	8.14
Cadmium Yellow-Chromate Plated Steel (Cont.)						
5/8"-18	MS-21045-10	15/16"	49/64"	1	99638A800	$9.40
3/4"-16	MS-21045-12	1 1/16"	57/64"	1	99638A900	13.77
Silver-Plated 300 Series Stainless Steel						
4-40	MS-21046C-04	1/4"	9/64"	1	99851A101	4.64
6-32	MS-21046C-06	5/16"	11/64"	1	99851A102	4.40
8-32	MS-21046C-08	11/32"	15/64"	1	99851A103	4.33
10-32	MS-21046C-3	3/8"	15/64"	1	99851A104	4.52
1/4"-28	MS-21046C-4	7/16"	9/32"	1	99851A105	4.17
3/8"-24	MS-21046C-6	9/16"	25/64"	1	99851A106	7.14

Distorted-Thread Locknuts



Toplock Grade 9 Steel



Toplock



Centerlock

Providing a moderately stronger hold than nylon-insert style locknuts, these nuts have a section of distorted threads that keep them securely fastened. Indentations on the nut body indicate where threads are distorted. They're not reusable. Inch sizes have a Class 2B thread fit. Metric sizes meet DIN 980V and have a Class 6H thread fit.

Toplock nuts, also known as Stover locknuts, have deformed threads at the top of the nut. They're often referred to as one-way locknuts because they must be threaded on from the bottom of the nut. **Centerlock** nuts have deformed threads in the middle of the nut. Also known as two-way locknuts, they can be threaded on from either end.

Screw Size	Wd.	Ht.	Screw Size	Wd.	Ht.	Screw Size	Wd.	Ht.	Screw Size	Wd.	Ht.	Screw Size	Wd.	Ht.
No. 6	5/16"	7/64"	3/8"	9/16"	21/64"	3/4"	1 1/8"	41/64"	M5	8 mm	5.1 mm	M14	22 mm	14 mm
No. 8	11/32"	1/8"	7/16"	11/16"	3/8"	7/8"	1 5/16"	3/4"	M6	10 mm	6 mm	M16	24 mm	16 mm
No. 10	3/8"	1/8"	1/2"	3/4"	7/16"	1"	1 1/2"	55/64"	M8	13 mm	8 mm	M18	27 mm	18 mm
1/4"	7/16"	7/32"	9/16"	7/8"	31/64"	M3	5.5 mm	3.7 mm	M10	17 mm	10 mm	M20	30 mm	20 mm
5/16"	1/2"	17/64"	5/8"	15/16"	35/64"	M4	7 mm	4.2 mm	M12	19 mm	12 mm	M24	36 mm	24 mm

Toplock

Thread Size	Pkg. Qty.		Pkg.
Cadmium-Plated Grade 9 Steel ★			
1/4"-20	25	93591A100	$9.16
5/16"-18	25	93591A200	11.18
3/8"-16	10	93591A300	4.70
7/16"-14	10	93591A400	8.50
1/2"-13	5	93591A500	5.58
5/8"-11	1	93591A600	1.99
3/4"-10	1	93591A700	2.67
Cadmium-Plated Grade C Steel			
1/4"-20	100	92501A029	7.62
1/4"-28	100	92501A420	9.68
5/16"-18	100	92501A030	11.23
5/16"-24	100	92501A425	10.66
3/8"-16	100	92501A031	13.53
3/8"-24	100	92501A430	14.05
7/16"-14	50	92501A433	10.36
7/16"-20	50	92501A435	11.01
1/2"-13	50	92501A437	13.83
1/2"-20	50	92501A440	13.52
9/16"-12	25	92501A442	10.24
9/16"-18	25	92501A445	11.30
5/8"-11	25	92501A035	13.41
5/8"-18	25	92501A450	13.26
3/4"-10	10	92501A036	8.96
Cadmium-Plated Grade C Steel (Cont.)			
3/4"-16	10	92501A455	$9.09
7/8"-9	10	92501A457	13.03
7/8"-14	5	92501A460	6.49
1"-8	5	92501A462	10.15
1"-14	5	92501A465	10.10
Zinc-Plated Grade 5 Steel			
1/4"-20	100	95065A150	10.29
5/16"-18	50	95065A160	7.42
3/8"-16	50	95065A171	8.39
1/2"-13	25	95065A191	8.37
5/8"-11	10	95065A220	7.68
3/4"-10	10	95065A230	10.72
Zinc-Plated Grade 2 Steel			
6-32	100	91837A008	4.77
8-32	100	91837A011	5.77
10-24	100	91837A014	6.31
10-32	100	91837A017	5.71
1/4"-20	100	91837A029	9.40
1/4"-28	100	91837A250	6.83
5/16"-18	100	91837A030	12.77
5/16"-24	100	91837A253	11.54
3/8"-16	50	91837A031	7.60
Zinc-Plated Grade 2 Steel (Cont.)			
3/8"-24	50	91837A255	$8.43
1/2"-13	10	91837A262	4.03
1/2"-20	25	91837A265	7.76
316 Stainless Steel			
8-32	10	95885A410	3.53
10-24	10	95885A415	3.47
10-32	10	95885A420	3.47
1/4"-20	10	95885A425	4.29
5/16"-18	10	95885A430	5.55
3/8"-16	10	95885A435	7.39
1/2"-13	5	95885A440	5.75
18-8 Stainless Steel			
6-32	50	90045A010	6.99
8-32	50	90045A013	7.39
10-24	50	90045A016	7.45
10-32	50	90045A018	7.45
1/4"-20	50	90045A445	9.75
1/4"-28	25	90045A450	6.80
5/16"-18	25	90045A453	7.23
5/16"-24	25	90045A455	10.42
3/8"-16	25	90045A457	9.58
3/8"-24	10	90045A461	6.13
7/16"-14	10	90045A462	8.89
18-8 Stainless Steel (Cont.)			
7/16"-20	5	90045A465	$6.34
1/2"-13	10	90045A467	8.90
1/2"-20	5	90045A471	5.82
5/8"-11	5	90045A472	9.32
5/8"-18	1	90045A475	3.54
3/4"-10	1	90045A480	3.30
3/4"-16	1	90045A495	4.27
1"-8	1	90045A500	8.07
Metric Zinc-Plated Class 8 Steel—Dimensions in millimeters			
M3×0.5	50	93795A200	8.25
M4×0.7	100	93795A205	10.20
M5×0.8	100	93795A210	8.84
M6×1	100	93795A220	6.61
M8×1.25	50	93795A230	5.60
M10×1.5	25	93795A240	5.42
M12×1.75	25	93795A250	8.56
M14×2	10	93795A257	7.87
M16×2	10	93795A260	7.64
M18×2.5	5	93795A265	9.41
M20×2.5	5	93795A270	9.17
M24×3	1	93795A280	3.61

★ Heights are approximately 20% taller than heights listed in the table.

Centerlock

Thread Size	Pkg. Qty.		Pkg.
Zinc Yellow-Chromate Plated Grade 8 Steel			
1/4"-20	50	90636A038	$11.16
1/4"-28	50	90636A041	10.74
5/16"-18	50	90636A043	11.52
5/16"-24	50	90636A046	12.12
3/8"-16	25	90636A049	6.38
3/8"-24	25	90636A051	9.06
7/16"-14	10	90636A054	4.89
7/16"-20	10	90636A057	4.72
1/2"-13	10	90636A060	6.00
1/2"-20	10	90636A063	7.17
9/16"-12	10	90636A066	8.75
5/8"-11	5	90636A071	5.49
5/8"-18	5	90636A074	6.12
3/4"-10	5	90636A077	8.21
Zinc Yellow-Chromate Plated Grade 8 Steel (Cont.)			
3/4"-16	5	90636A080	$8.90
7/8"-9	5	90636A083	11.93
1"-8	1	90636A089	3.59
Zinc-Plated Grade 2 Steel			
1/4"-20	100	90040A029	4.76
1/4"-28	100	90040A120	5.17
5/16"-18	100	90040A030	8.55
5/16"-24	100	90040A125	9.66
3/8"-16	100	90040A031	11.77
3/8"-24	100	90040A130	9.03
7/16"-14	50	90040A032	10.48
7/16"-20	50	90040A135	11.66
1/2"-13	50	90040A137	13.17
1/2"-20	50	90040A140	13.02
Zinc-Plated Grade 2 Steel (Cont.)			
5/8"-11	25	90040A143	$12.55
5/8"-18	25	90040A145	13.36
3/4"-10	10	90040A147	10.49
3/4"-16	10	90040A150	8.62
1"-14	5	90040A155	11.76
316 Stainless Steel			
1/4"-20	10	95878A300	3.92
5/16"-18	10	95878A310	5.72
3/8"-16	10	95878A320	7.50
1/2"-13	5	95878A330	8.15
5/8"-11	1	95878A340	2.51
3/4"-10	1	95878A350	3.70
18-8 Stainless Steel			
1/4"-20	50	90047A029	7.51
1/4"-28	50	90047A110	12.04
18-8 Stainless Steel (Cont.)			
5/16"-18	50	90047A115	$11.88
5/16"-24	25	90047A120	7.46
3/8"-16	25	90047A125	7.50
3/8"-24	25	90047A130	11.08
7/16"-14	10	90047A131	7.63
7/16"-20	10	90047A133	11.57
1/2"-13	10	90047A135	8.13
1/2"-20	10	90047A140	10.72
5/8"-11	5	90047A145	7.56
5/8"-18	5	90047A150	11.64
3/4"-10	5	90047A155	12.32
3/4"-16	1	90047A160	3.84
7/8"-9	1	90047A165	4.77
1"-8	1	90047A170	5.92
1"-14	1	90047A175	9.34

Left-Hand Threaded Centerlock



	Choose a Thread Size	
Zinc-Plated Grade 8 Steel	1/4"-20, 5/16"-18, 3/8"-16, 1/2"-13, 5/8"-11, 3/4"-10	90392A881

Flanged Distorted-Thread Locknuts

A wide flange distributes holding pressure and a distorted thread tightly grips threads to keep these nuts securely fastened.
Black phosphate high-strength Grade G steel locknuts have a Class 2B thread fit. They're not reusable.
Mil. Spec. locknuts meet stringent military specifications for material and construction and have excellent corrosion resistance. All have a Class 3B thread fit. They can be reused up to two times. *Silver-plated A286 super alloy* locknuts have a silver plating that lubricates threads for smooth threading.



Thread Size	Flange Dia.	O'all Ht.	Pkg. Qty.		Pkg.
Black Phosphate High-Strength Grade G Steel					
1/4"-20	9/16"	19/64"	100	90949A016	$5.63
1/4"-28	9/16"	19/64"	100	90949A018	5.83
5/16"-18	11/16"	23/64"	100	90949A025	8.78
5/16"-24	11/16"	23/64"	100	90949A029	9.06
3/8"-16	13/16"	27/64"	50	90949A031	7.87
1/2"-13	1 1/16"	9/16"	25	90949A033	8.89
1/2"-20	1 1/16"	9/16"	25	90949A037	8.01
5/8"-11	1 21/64"	11/16"	20	90949A110	7.78
5/8"-18	1 21/64"	11/16"	10	90949A112	4.59
3/4"-10	1 37/64"	53/64"	10	90949A115	10.06
3/4"-16	1 37/64"	53/64"	10	90949A119	8.54
7/8"-9	1 3/4"	51/64"	5	90949A124	8.63
7/8"-14	1 3/4"	51/64"	5	90949A127	8.93
1"-8	2 1/16"	57/64"	5	90949A133	10.01
1"-14	2 1/16"	57/64"	5	90949A135	11.01

Thread Size	Mil. Spec. No.	Flange Dia.	O'all Ht.	Pkg. Qty.		Pkg.
Mil. Spec. Cadmium-Plated Low-Strength Steel						
2-56	MS-21042-02	0.167"	3/32"	5	95307A800	$12.33
4-40	MS-21042-04	0.206"	1/8"	5	95307A100	7.78
6-32	MS-21042-06	0.244"	9/64"	5	95307A200	6.11
8-32	MS-21042-08	0.29"	3/16"	5	95307A300	4.89
10-32	MS-21042-3	0.33"	3/16"	5	95307A400	5.11
1/4"-28	MS-21042-4	0.42"	7/32"	5	95307A500	6.89
5/16"-24	MS-21042-5	0.52"	17/64"	1	95307A600	2.58
3/8"-24	MS-21042-6	0.62"	9/32"	1	95307A700	2.44
Mil. Spec. Silver-Plated A286 Super Alloy						
4-40	MS-21043-04	0.206"	1/8"	1	98892A100	2.67
6-32	MS-21043-06	0.244"	9/64"	5	98892A200	9.11
8-32	MS-21043-08	0.29"	3/16"	1	98892A300	2.44
10-32	MS-21043-3	0.33"	3/16"	1	98892A400	2.58
1/4"-28	MS-21043-4	0.42"	7/32"	5	98892A500	9.89
5/16"-24	MS-21043-5	0.52"	17/64"	1	98892A600	6.00
3/8"-24	MS-21043-6	0.62"	9/32"	1	98892A700	6.44

Slotted Locknuts for use with Cotter Pins

Often referred to as castle nuts, these locknuts are for light duty locking applications. They're not recommended for use on parts exposed to high vibration, because the pin is prone to shearing under prolonged stress. To secure, insert a cotter pin or safety wire through a hole drilled through the screw, bolt, stud, or rod. They can be reused up to two times. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit. For cotter pins, see page 3396-3397.

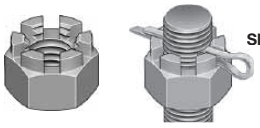

Slotted Nut Shown with Cotter Pin (not included)

Thread Size	Wd.	O'all Ht.	Min. Slot Wd.	Min. Slot Dp.	Cotter Pin Dia.	Pkg. Qty.		Pkg.
Zinc-Plated Medium-Strength Grade 5 Steel								
1/4"-20	7/16"	7/32"	0.07"	0.072"	1/16"	25	97190A005	$10.14
5/16"-18	1/2"	17/64"	0.09"	0.078"	5/64"	25	97190A010	10.44
3/8"-16	9/16"	21/64"	0.12"	0.11"	7/64"	25	97190A015	8.22
7/16"-14	1 1/16"	3/8"	0.12"	0.135"	7/64"	25	97190A020	8.44
1/2"-13	3/4"	7/16"	0.15"	0.137"	7/64"	10	97190A025	4.74
5/8"-11	15/16"	35/64"	0.18"	0.195"	5/32"	10	97190A030	6.14
3/4"-10	1 1/8"	41/64"	0.18"	0.217"	5/32"	5	97190A035	5.85
1"-8	1 1/2"	55/64"	0.24"	0.241"	3/16"	1	97190A040	3.46
Zinc-Plated Low-Strength Steel								
1/4"-20	7/16"	7/32"	0.07"	0.072"	1/16"	50	95030A110	11.92
1/4"-28	7/16"	7/32"	0.07"	0.072"	1/16"	50	95030A120	12.45
5/16"-18	1/2"	17/64"	0.09"	0.078"	5/64"	25	95030A130	5.46
5/16"-24	1/2"	17/64"	0.09"	0.078"	5/64"	25	95030A140	7.27
3/8"-16	9/16"	21/64"	0.12"	0.11"	7/64"	25	95030A150	6.25
3/8"-24	9/16"	21/64"	0.12"	0.11"	7/64"	25	95030A160	6.85
7/16"-14	1 1/16"	3/8"	0.12"	0.155"	3/32"	25	95030A170	12.78
7/16"-20	1 1/16"	3/8"	0.12"	0.155"	3/32"	25	95030A180	12.37
1/2"-13	3/4"	7/16"	0.15"	0.148"	1/8"	25	95030A190	8.79
1/2"-20	3/4"	7/16"	0.15"	0.148"	1/8"	25	95030A210	7.98
9/16"-12	7/8"	31/64"	0.15"	0.163"	7/64"	10	95030A220	7.49
9/16"-18	7/8"	31/64"	0.15"	0.163"	7/64"	5	95030A230	5.45
5/8"-11	15/16"	35/64"	0.18"	0.219"	5/32"	10	95030A240	7.24
5/8"-18	15/16"	35/64"	0.18"	0.195"	5/32"	10	95030A250	5.99
3/4"-10	1 1/8"	21/32"	0.18"	0.265"	5/32"	10	95030A260	6.57
3/4"-16	1 1/8"	21/32"	0.18"	0.265"	5/32"	10	95030A270	8.58
7/8"-9	1 5/16"	3/4"	0.18"	0.204"	5/32"	5	95030A280	7.21
7/8"-14	1 5/16"	3/4"	0.18"	0.204"	5/32"	5	95030A290	6.97
1"-8	1 1/2"	55/64"	0.24"	0.241"	3/16"	5	95030A310	11.51
1"-14	1 1/2"	55/64"	0.24"	0.241"	3/16"	5	95030A320	11.70
1 1/4"-7	1 7/8"	1 3/32"	0.31"	0.297"	9/32"	1	95030A350	3.47
1 1/4"-12	1 7/8"	1 1/16"	0.31"	0.33"	9/32"	1	95030A360	3.35
1 1/2"-6	2 1/4"	1 5/16"	0.37"	0.457"	5/16"	1	95030A370	6.25

Thread Size	Wd.	O'all Ht.	Min. Slot Wd.	Min. Slot Dp.	Cotter Pin Dia.	Pkg. Qty.		Pkg.
Zinc-Plated Low-Strength Steel (Cont.)								
1 1/2"-12	2 1/4"	1 5/16"	0.37"	0.457"	5/16"	1	95030A380	$9.71
1 3/4"-5	2 5/8"	1 1/2"	0.43"	0.44"	3/8"	1	95030A390	10.94
1 3/4"-12	2 5/8"	1 1/2"	0.43"	0.44"	3/8"	1	95030A410	11.22
2"-4 1/2	3"	1 23/32"	0.43"	0.485"	3/8"	1	95030A420	19.46
2"-12	3"	1 23/32"	0.43"	0.485"	3/8"	1	95030A430	19.68
18-8 Stainless Steel								
10-32	3/8"	1/4"	0.06"	0.09"	3/64"	5	91853A510	11.23
1/4"-20	7/16"	9/32"	0.07"	0.09"	1/16"	5	91853A029	8.63
1/4"-28	7/16"	9/32"	0.07"	0.09"	1/16"	5	91853A515	10.38
5/16"-18	1/2"	21/64"	0.09"	0.09"	5/64"	5	91853A030	11.93
5/16"-24	1/2"	21/64"	0.09"	0.09"	5/64"	5	91853A520	12.61
3/8"-16	9/16"	13/32"	0.12"	0.13"	3/32"	1	91853A031	3.40
3/8"-24	9/16"	13/32"	0.12"	0.13"	3/32"	1	91853A525	3.51
1/2"-13	3/4"	9/16"	0.15"	0.15"	1/8"	1	91853A033	3.84
1/2"-20	3/4"	9/16"	0.15"	0.15"	1/8"	1	91853A535	4.19
5/8"-11	15/16"	23/32"	0.18"	0.21"	5/32"	1	91853A035	7.94
5/8"-18	15/16"	23/32"	0.18"	0.21"	5/32"	1	91853A545	7.82
3/4"-10	1 1/8"	13/16"	0.18"	0.25"	5/32"	1	91853A036	9.69
3/4"-16	1 1/8"	13/16"	0.18"	0.25"	5/32"	1	91853A550	10.84
7/8"-9	1 5/16"	29/32"	0.18"	0.25"	5/32"	1	91853A037	13.63
1"-8	1 1/2"	1"	0.24"	0.28"	3/16"	1	91853A038	16.96
1 1/4"-7	1 7/8"	1 1/4"	0.31"	0.37"	7/32"	1	91853A040	37.90
1 1/2"-6	2 1/4"	1 1/2"	0.37"	0.43"	1/4"	1	91853A041	67.89
Metric Zinc-Plated Medium-Strength Class 8 Steel— Dimensions in millimeters								
M6×1	10	7.5	2	2.5	1.6	5	93760A212	2.38
M8×1.25	13	9.5	2.5	3	2	5	93760A222	2.58
M10×1.5	17	12	2.8	4	2.5	5	93760A233	5.04
M12×1.75	19	15	3.5	5	3.2	5	93760A317	5.28
M16×2	24	19	4.5	6	4	5	93760A328	7.07
M20×2.5	30	22	4.5	6	4	5	93760A337	9.37
M24×3	36	27	5.5	8	5	1	93760A340	4.10

Safety Wire Locking Nut Retainers

Prevent nuts from working loose under vibration. Insert one of these retainers between a nut and the mating surface, then attach wire (sold separately) to lock the nut in place. Retainers are made from spring steel. Wire is stainless steel.
For wire twisting pliers, see page 2747.



For Screw Size	For Nut Wd.	O'all Ht.	For Wrench Size	Hole Size	Nut Retainers Pkg. Qty.		Pkg.	Stainless Steel Wire Wire Dia.	Lg., ft.		Each
1/4"	7/16"	27/64"	1/2"	0.078"	10	94818A029	$11.00	0.064"	91	8860K19	$12.94
5/16"	1/2"	15/32"	9/16"	0.099"	10	94818A030	11.50	0.081"	57	8860K21	11.98
3/8"	9/16"	33/64"	5/8"	0.099"	10	94818A031	12.00	0.081"	57	8860K21	11.98
1/2"	3/4"	19/32"	13/16"	0.099"	5	94818A033	5.75	0.081"	57	8860K21	11.98
5/8"	15/16"	43/64"	1"	0.099"	5	94818A035	14.00	0.081"	57	8860K21	11.98
3/4"	1 1/8"	3/4"	1 3/16"	0.099"	5	94818A036	11.00	0.081"	57	8860K21	11.98
1"	1 1/2"	57/64"	1 9/16"	0.099"	1	94818A038	3.30	0.081"	57	8860K21	11.98

Flange Nuts



These one-piece nuts have a smooth flange that distributes holding pressure and reduces stress where the nut meets the material surface. Also known as collar nuts, their wide base allows them to be used in place of a nut with a separate washer. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit, except metric low-strength steel nuts have a Class 6G thread fit.

Thread Size	Flange Dia.	O'all Ht.	Pkg. Qty.		Pkg.
High-Strength Grade 8 Steel					
Zinc Plated					
1/4"-20	19/32"	15/64"	100	94612A101	$7.48
5/16"-18	11/16"	9/32"	100	94612A102	10.38
3/8"-16	3/4"	11/32"	50	94612A103	7.53
1/2"-13	1 1/32"	29/64"	25	94612A104	8.90
5/8"-11	1 9/32"	9/16"	10	94612A105	7.82
3/4"-10	1 1/2"	21/32"	10	94612A106	11.81
Black Phosphate					
1/4"-20	19/32"	15/64"	100	94902A101	6.52
5/16"-18	11/16"	9/32"	100	94902A102	9.03
3/8"-16	3/4"	11/32"	50	94902A103	6.55
1/2"-13	1 1/32"	29/64"	25	94902A104	7.73
1/2"-20	1 1/32"	29/64"	25	94902A105	7.83
5/8"-11	1 9/32"	9/16"	10	94902A106	6.80
5/8"-18	1 9/32"	9/16"	10	94902A107	6.58
3/4"-10	1 1/2"	21/32"	10	94902A108	10.27
3/4"-16	1 1/2"	21/32"	10	94902A109	9.31
Medium-Strength Grade 5 Steel					
Zinc Plated					
1/4"-20	19/32"	15/64"	100	94842A101	8.14
5/16"-18	11/16"	9/32"	100	94842A102	11.21
3/8"-16	3/4"	11/32"	100	94842A103	9.97
1/2"-13	1 1/32"	29/64"	50	94842A104	10.84
5/8"-11	1 9/32"	9/16"	10	94842A105	7.79
Low-Strength Steel					
Black Oxide					
1/4"-20	5/8"	5/16"	1	91030A028	1.93
1/4"-28	5/8"	5/16"	1	91030A420	2.14
5/16"-18	3/4"	3/8"	1	91030A029	2.05
5/16"-24	3/4"	3/8"	1	91030A425	2.33
3/8"-16	7/8"	1/2"	1	91030A031	2.28
3/8"-24	7/8"	1/2"	1	91030A430	2.37
7/16"-14	1"	9/16"	1	91030A032	2.60
7/16"-20	1"	9/16"	1	91030A435	2.65
1/2"-13	1 1/8"	11/16"	1	91030A033	2.60
1/2"-20	1 1/8"	11/16"	1	91030A440	2.58
5/8"-11	1 3/8"	13/16"	1	91030A035	3.33
5/8"-18	1 3/8"	13/16"	1	91030A445	3.51
Low-Strength Steel (Cont.)					
Black Oxide (Cont.)					
3/4"-10	1 5/8"	1"	1	91030A036	$4.93
3/4"-16	1 5/8"	1"	1	91030A450	4.93
7/8"-9	1 3/4"	1 1/8"	1	91030A037	6.84
7/8"-14	1 3/4"	1 1/8"	1	91030A455	7.21
1"-8	2"	1 1/4"	1	91030A038	8.19
1"-14	2"	1 1/4"	1	91030A460	8.19
1 1/4"-7	2 1/2"	1 1/4"	1	91030A040	16.91
18-8 Stainless Steel					
4-40	3/8"	7/32"	1	94758A101	3.28
6-32	13/32"	7/32"	1	94758A102	3.38
8-32	15/32"	1/4"	1	94758A103	3.58
10-24	1/2"	5/16"	1	94758A104	3.80
10-32	1/2"	5/16"	1	94758A105	3.80
1/4"-20	5/8"	5/16"	1	94758A028	5.10
1/4"-28	5/8"	5/16"	1	94758A615	5.48
5/16"-18	3/4"	3/8"	1	94758A029	5.10
5/16"-24	3/4"	3/8"	1	94758A625	6.32
3/8"-16	7/8"	1/2"	1	94758A031	6.60
3/8"-24	7/8"	1/2"	1	94758A635	6.60
7/16"-14	1"	9/16"	1	94758A032	7.70
7/16"-20	1"	9/16"	1	94758A645	7.66
1/2"-13	1 1/8"	11/16"	1	94758A033	8.36
1/2"-20	1 1/8"	11/16"	1	94758A655	8.36
5/8"-11	1 3/8"	13/16"	1	94758A035	10.08
5/8"-18	1 3/8"	13/16"	1	94758A665	10.10
3/4"-10	1 5/8"	1"	1	94758A036	14.10
3/4"-16	1 5/8"	1"	1	94758A675	14.10
7/8"-9	1 3/4"	1 1/8"	1	94758A037	16.46
1"-8	2"	1 1/4"	1	94758A038	23.00
1"-14	2"	1 1/4"	1	94758A695	23.00
1 1/4"-7	2 1/4"	1 1/4"	1	94758A700	44.30
Fiberglass					
3/8"-16	3/4"	3/4"	1	98945A041	1.25
1/2"-13	1"	7/8"	1	98945A043	1.80
5/8"-11	1 1/4"	1 1/4"	1	98945A045	2.12
3/4"-10	1 1/2"	1 19/32"	1	98945A048	2.52

Thread Size	Flange Dia., mm	O'all Ht., mm	Pkg. Qty.		Pkg.
Metric High-Strength Class 10 Steel					
Zinc Plated—Meet DIN 6923					
M6×1	14.2	6	100	95003A101	$4.33
M8×1.25	17.9	8	100	95003A102	10.10
M10×1.5	21.8	10	50	95003A103	8.95
M12×1.75	26	12	25	95003A104	7.53
M16×2	34.5	16	10	95003A105	7.43
Black Phosphate—Meet DIN 6923					
M6×1	14.2	6	100	94942A101	5.00
M8×1.25	17.9	8	100	94942A102	11.60
M10×1.5	21.8	10	50	94942A103	10.30
M12×1.75	26	12	25	94942A104	8.67
M16×2	34.5	16	10	94942A105	8.54
Black Phosphate—Meet JIS B1189					
M6×1	14	6	100	95108A101	5.33
M8×1.25	17.5	8	100	95108A102	9.00
M10×1.25	21	10	50	95108A103	7.40
Metric Low-Strength Steel					
Black Oxide					
M6×1	16	8	1	91005A033	2.52
M8×1.25	19	10	1	91005A035	2.54
M10×1.5	22	13	1	91005A037	3.28
M12×1.75	27	17	1	91005A038	3.66
M16×2	33	21	1	91005A039	4.16
M20×2.5	40	25	1	91005A041	5.72
M24×3	49	32	1	91005A045	7.38
Metric Stainless Steel					
316 Stainless Steel (A4)—Meet DIN 6923					
M6×1	14.2	6	50	94777A101	12.50
M8×1.25	17.9	8	10	94777A102	5.12
M10×1.5	21.8	10	10	94777A103	8.20
M12×1.75	26	12	10	94777A104	14.55
18-8 Stainless Steel (A2)—Meet DIN 6923					
M6×1	14.2	6	50	93033A101	8.50
M8×1.25	17.9	8	25	93033A102	9.50
M10×1.5	21.8	10	10	93033A103	6.23
M12×1.75	26	12	10	93033A104	11.13

Leveling Flange Nuts





Also known as spherical collar nuts and self-aligning nuts, these nuts have a convex base that fits against a concave washer to allow secure clamping on slightly uneven surfaces. All have a Class 2B thread fit.

Thread Size	Flange Dia.	O'all Ht.	Max. Correction	Black-Oxide Steel	Each	18-8 Stainless Steel	Each
1/4"-20	5/8"	7/16"	2 1/2°	91045A029	$3.42	91346A200	$13.24
5/16"-18	3/4"	17/32"	1 1/2°	91045A030	3.74	91346A210	14.32
3/8"-16	7/8"	21/32"	1°	91045A031	3.86	91346A220	16.36
1/2"-13	1 1/8"	7/8"	1°	91045A033	4.48	91346A230	18.84
5/8"-11	1 3/8"	1 1/32"	1°	91045A035	5.42	91346A240	21.36
3/4"-10	1 5/8"	1 17/64"	1 1/2°	91045A036	7.46	91346A250	29.12
1"-8	2"	1 35/64"	1 1/2°	91045A038	11.46		

Rotating Flange Nuts



Protect your workpiece from damage and scratching by using these rotating flange nuts. The nut head rotates 360° while the attached washer remains stationary to resist marring delicate surfaces. The nut and flange are made from black-oxide steel. Thread fit is Class 2B.

Thread Size	Flange Dia.	O'all Ht.		Each
1/4"-20	5/8"	3/8"	90477A029	$3.68
5/16"-18	3/4"	7/16"	90477A030	3.94
3/8"-16	7/8"	17/32"	90477A031	4.49
1/2"-13	1 1/8"	23/32"	90477A033	5.13
5/8"-11	1 3/8"	29/32"	90477A035	6.11
3/4"-10	1 5/8"	1 1/64"	90477A036	7.64
7/8"-9	1 3/4"	1 1/8"	90477A037	10.71
1"-8	2"	1 15/64"	90477A038	13.86

High-Torque 12-Point Flange Nuts



With more contact points than a hex nut, these nuts allow you to get a better grip for more driver torque while tightening. They have a smooth flange base that distributes holding pressure and reduces stress where the nut meets the material surface. Thread fit is Class 3B.

Thread Size	Flange Dia.	O'all Ht.	Black-Oxide Chrome-Moly Alloy Steel	Each	A286 Super Alloy Stainless Steel	Each
1/4"-20	7/16"	19/64"	90759A100	$1.94	90997A700	$3.54
1/4"-28	7/16"	19/64"	90759A150	1.94	90997A750	3.54
5/16"-18	17/32"	11/32"	90759A200	2.00	90997A800	3.62
5/16"-24	17/32"	11/32"	90759A250	2.00	90997A850	3.62
3/8"-16	5/8"	25/64"	90759A300	2.04	90997A900	3.70
3/8"-24	5/8"	25/64"	90759A350	1.84	90997A950	3.70
7/16"-14	45/64"	7/16"	90759A400	2.42	90997A951	4.00
7/16"-20	45/64"	7/16"	90759A450	2.42	90997A952	4.00
1/2"-13	53/64"	33/64"	90759A500	3.88	90997A953	5.64
1/2"-20	53/64"	33/64"	90759A550	3.88	90997A954	5.64

Serrated Locknuts



Serrations on these nuts dig into surfaces to resist loosening. They're easier to install than other locknuts because they can be threaded on from either end and spin on freely until they make contact with the mating surface. They have a lower and narrower profile than serrated flange locknuts to fit in tight spaces. All nuts are zinc clear-chromate plated low-strength steel. Thread fit is Class 2B.

Thread Size	Wd.	Ht.	Pkg. Qty.		Pkg.
8-32	11/32"	1/8"	50	91762A110	$7.38
10-24	3/8"	1/8"	50	91762A120	7.38
10-32	3/8"	1/8"	50	91762A130	7.22
1/4"-20	7/16"	3/16"	50	91762A140	6.40
5/16"-18	1/2"	17/64"	50	91762A150	6.99
3/8"-16	9/16"	21/64"	50	91762A160	11.52
1/2"-13	3/4"	7/16"	25	91762A170	9.98

Serrated-Flange Locknuts

A serrated flange digs into the material surface to resist loosening. Also known as free-spinning locknuts, these are easier to install than nylon-insert and distorted thread locknuts because they don't grip the threads while being tightened. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit and meet DIN 6923, unless noted.



Thread Size	Flange Dia.	O'all Ht.	Pkg. Qty.		Pkg.
High-Strength Grade 8 Steel					
Zinc Plated					
1/4"-20	19/32"	15/64"	100	96282A101	$7.66
5/16"-18	11/16"	9/32"	100	96282A102	11.03
3/8"-16	3/4"	11/32"	50	96282A103	6.98
1/2"-13	1 1/32"	29/64"	25	96282A104	6.78
5/8"-11	1 9/32"	9/16"	25	96282A105	8.01
3/4"-10	1 1/2"	21/32"	10	96282A106	5.94
Uncoated					
1/4"-20	19/32"	15/64"	100	95922A110	6.67
5/16"-18	43/64"	9/32"	100	95922A120	9.59
3/8"-16	3/4"	11/32"	100	95922A130	12.73
1/2"-13	1 1/32"	29/64"	25	95922A140	8.65
5/8"-11	1 9/32"	9/16"	10	95922A150	6.43
3/4"-10	1 1/2"	43/64"	10	95922A160	11.58
Medium-Strength Grade 5 Steel					
Zinc Plated					
1/4"-20	19/32"	15/64"	100	99904A101	4.38
5/16"-18	11/16"	9/32"	100	99904A102	7.34
3/8"-16	3/4"	11/32"	100	99904A103	10.10
1/2"-13	1 1/32"	29/64"	50	99904A104	11.38
Low-Strength Steel					
Zinc Plated					
6-32	27/64"	11/64"	100	94831A001	2.79
8-32	15/32"	13/64"	100	94831A005	3.90
10-24	1/2"	7/32"	100	94831A011	4.69
10-32	1/2"	7/32"	100	94831A611	4.37
12-24	19/32"	15/64"	50	94831A615	3.94
1/4"-20	19/32"	15/64"	100	94831A029	5.00
1/4"-20	47/64"	19/64"	100	90659A101	6.69
1/4"-28	19/32"	15/64"	100	94831A629	5.31
5/16"-18	43/64"	9/32"	100	94831A030	6.55
5/16"-18	13/16"	23/64"	100	90659A102	11.28
5/16"-24	43/64"	9/32"	100	94831A630	7.03
3/8"-16	3/4"	11/32"	100	94831A031	9.38
3/8"-16	59/64"	25/64"	50	90659A103	7.00
3/8"-24	3/4"	11/32"	100	94831A631	10.83
7/16"-14	15/16"	25/64"	50	94831A641	10.78
7/16"-20	15/16"	25/64"	50	94831A651	11.41
1/2"-13	1 1/32"	29/64"	50	94831A661	12.50
1/2"-13	1 13/64"	1/2"	10	90659A104	6.25
1/2"-20	1 1/32"	29/64"	25	94831A671	7.03
Low-Strength Steel (Cont.)					
Zinc Plated (Cont.)					
9/16"-12	13/16"	1/2"	10	94831A680	$4.81
5/8"-11	19/32"	9/16"	25	94831A700	13.05
5/8"-18	19/32"	9/16"	10	94831A730	6.29
3/4"-10	1 1/2"	43/64"	10	94831A740	11.44
3/4"-16	1 1/2"	43/64"	10	94831A745	11.38
7/8"-9	1 11/16"	25/32"	1	94831A750	2.87
Black Oxide					
6-32	27/64"	5/32"	100	93083A101	5.80
8-32	15/32"	3/16"	100	93083A102	6.96
10-24	1/2"	7/32"	100	93083A103	7.18
10-32	1/2"	7/32"	100	93083A104	7.29
1/4"-20	19/32"	15/64"	100	93083A105	8.88
5/16"-18	11/16"	9/32"	50	93083A106	6.39
3/8"-16	3/4"	11/32"	50	93083A107	8.86
1/2"-13	1 1/32"	29/64"	25	93083A108	11.08
5/8"-11	1 9/32"	9/16"	5	93083A109	9.07
Stainless Steel					
316 Stainless Steel					
6-32	27/64"	5/32"	25	91343A101	7.69
8-32	15/32"	3/16"	25	91343A102	8.21
10-24	1/2"	7/32"	25	91343A103	8.34
10-32	1/2"	7/32"	25	91343A104	8.34
1/4"-20	19/32"	15/64"	10	91343A100	3.63
5/16"-18	11/16"	9/32"	10	91343A200	5.50
3/8"-16	3/4"	11/32"	10	91343A300	6.25
1/2"-13	1"	29/64"	5	91343A400	9.41
18-8 Stainless Steel					
6-32	27/64"	11/64"	50	93776A370	4.40
8-32	15/32"	13/64"	50	93776A381	4.68
10-24	1/2"	7/32"	50	93776A391	4.90
10-32	1/2"	7/32"	50	93776A401	4.90
1/4"-20	19/32"	15/64"	50	93776A421	5.80
1/4"-28	19/32"	15/64"	25	93776A431	5.36
5/16"-18	43/64"	9/32"	25	93776A441	5.42
5/16"-24	43/64"	9/32"	10	93776A451	4.53
3/8"-16	3/4"	11/32"	25	93776A461	6.26
3/8"-24	3/4"	11/32"	10	93776A471	5.98
1/2"-13	1 1/32"	29/64"	10	93776A500	6.64
1/2"-20	1 1/32"	29/64"	10	93776A101	9.48

Thread Size	Flange Dia., mm	O'all Ht., mm	Pkg. Qty.		Pkg.
Metric High-Strength Class 10 Steel					
Zinc Plated					
M6×1	14.2	6	50	96595A101	$8.50
M8×1.25	17.9	8	50	96595A102	12.23
M10×1.5	21.8	10	25	96595A103	10.03
M12×1.75	26	12	10	96595A104	6.67
M16×2	34.5	16	5	96595A105	13.33
Uncoated					
M6×1	14.2	6	50	90716A101	7.83
M8×1.25	17.9	8	50	90716A102	11.23
M10×1.5	21.8	10	25	90716A103	9.18
M12×1.75	26	12	10	90716A104	8.50
M16×2	34.5	16	5	90716A105	12.50
Metric Medium-Strength Class 8 Steel					
Zinc Plated					
M6×1	14.2	6	100	96194A101	4.33
M8×1.25	17.9	8	100	96194A102	6.73
M10×1.5	21.8	10	50	96194A103	7.62
M12×1.75	26	12	25	96194A104	7.16
Uncoated					
M5×0.8	11.2	4.3	25	94920A300★	7.89
M6×1	14.25	5.5	25	94920A400★	7.61
M8×1.25	18.25	7	25	94920A500★	11.43
M10×1.5	21	7.9	10	94920A600★	6.74
M12×1.75	26	12	25	94920A101	9.09
Metric Stainless Steel					
316 (A4) Stainless Steel					
M6×1	14.2	6	25	92773A101	9.13
M8×1.25	17.9	8	10	92773A102	5.41
M10×1.5	21.8	10	10	92773A103	6.50
M12×1.75	26	12	5	92773A104	10.26
18-8 (A2) Stainless Steel					
M6×1	14.2	6	50	97400A101	6.14
M8×1.25	17.9	8	25	97400A102	5.27
M10×1.5	21.8	10	25	97400A103	8.15
M12×1.75	26	12	10	97400A104	8.80

★ Do not meet a DIN standard.

Nylon-Insert Nonmarring Flange Locknuts

These nuts have a nylon-insert that firmly grips threads and a flange that distributes holding pressure for a secure hold. They can be fastened without marring the material surface or damaging threads. They're reusable, but their holding power lessens with each use. Nylon absorbs moisture which can cause the insert to become brittle over time in wet environments. Maximum temperature of the insert is 250° F. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit.



Thread Size	Flange Dia.	O'all Ht.	Pkg. Qty.		Pkg.
Zinc Yellow-Chromate Plated High-Strength Grade G Steel					
1/4"-20	0.56"	19/64"	100	92018A210	$6.59
5/16"-18	0.68"	11/32"	50	92018A320	5.25
3/8"-16	0.81"	13/32"	50	92018A430	7.62
1/2"-13	1.07"	35/64"	25	92018A540	5.93
5/8"-11	1.33"	43/64"	10	92018A650	6.18
3/4"-10	1.59"	13/16"	5	92018A760	7.65
Zinc-Plated Medium-Strength Grade F Steel					
6-32	27/64"	13/64"	100	93298A101	11.48
8-32	15/32"	1/4"	100	93298A102	12.30
10-24	1/2"	17/64"	100	93298A108	6.57
10-32	1/2"	17/64"	100	93298A109	6.57
1/4"-20	0.56"	19/64"	100	93298A110	7.48
1/4"-28	0.56"	19/64"	100	93298A115	6.56
5/16"-18	0.68"	11/32"	50	93298A120	5.45
5/16"-24	0.68"	11/32"	50	93298A125	4.76
3/8"-16	0.81"	13/32"	50	93298A130	7.60
3/8"-24	0.81"	13/32"	50	93298A135	8.68
7/16"-14	0.93"	15/32"	25	93298A140	9.30
1/2"-13	1.07"	35/64"	25	93298A150	9.13
1/2"-20	1.07"	35/64"	25	93298A155	10.32
5/8"-11	1.33"	43/64"	10	93298A170	5.66
3/4"-10	1.59"	13/16"	5	93298A180	4.94
18-8 Stainless Steel					
1/4"-20	0.56"	19/64"	25	94238A101	7.15
5/16"-18	0.68"	11/32"	25	94238A102	8.93
3/8"-16	0.81"	13/32"	25	94238A103	10.71

Thread Size	Flange Dia., mm	O'all Ht., mm	Pkg. Qty.		Pkg.
Metric Zinc Yellow-Chromate Plated High-Strength Class 10 Steel					
M6×1	14.2	9.1	50	99908A101	$9.03
M8×1.25	17.9	11.1	50	99908A102	12.26
M10×1.5	21.8	13.5	25	99908A103	9.03
M12×1.75	26	16.1	25	99908A104	10.65
M14×2	29.9	18.2	10	99908A105	8.71
M16×2	34.5	20.3	5	99908A106	10.65
Metric Zinc-Plated Medium-Strength Class 8 Steel					
M5×0.8	11.8	7.1	100	92461A200	6.34
M6×1	14.2	9.1	100	92461A300	5.37
M8×1.25	17.9	11.1	100	92461A400	9.70
M10×1.5	21.8	13.5	50	92461A500	8.31
M12×1.75	26	16.1	25	92461A600	5.83
M16×2	34.5	20.3	10	92461A101	8.78
Metric 18-8 (A2) Stainless Steel					
M4×0.7	10.2	6.1	10	94710A101	7.42
M5×0.8	11.8	7.1	10	94710A102	9.03
M6×1	14.2	9.1	10	94710A103	10.65
M8×1.25	17.9	11.1	5	94710A104	7.42
M10×1.5	21.8	13.5	5	94710A105	10.65
M12×1.75	26	16.1	1	94710A106	3.23

Cap Nuts



Also known as acorn nuts, the smooth rounded head covers and protects threads while providing a finished appearance. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit and meet DIN 1587, except nylon 6/6 nuts do not meet a DIN specification.

Thread Size	Thread Dp.	Ht.	Wd.	Pkg. Qty.		Pkg.
High-Strength Grade 8 Steel						
Zinc Plated						
1/4"-20	1/4"	15/32"	7/16"	10	90100A101	$8.45
5/16"-18	5/16"	17/32"	1/2"	10	90100A102	10.15
3/8"-16	3/8"	5/8"	9/16"	10	90100A103	13.75
1/2"-13	1/2"	13/16"	3/4"	1	90100A104	3.11
5/8"-11	5/8"	1"	15/16"	1	90100A105	4.70
3/4"-10	3/4"	15/32"	1 1/16"	1	90100A106	6.70
1"-8	1"	1 35/64"	1 7/16"	1	90100A107	19.10
Medium-Strength Grade 5 Steel						
Zinc Plated						
1/4"-20	1/4"	15/32"	7/16"	10	98858A101	6.76
5/16"-18	5/16"	17/32"	1/2"	10	98858A102	8.12
3/8"-16	3/8"	5/8"	9/16"	10	98858A103	11.00
1/2"-13	1/2"	13/16"	3/4"	5	98858A104	12.40
5/8"-11	5/8"	1"	15/16"	1	98858A105	3.76
3/4"-10	3/4"	15/32"	1 1/16"	1	98858A106	5.36
1"-8	1"	1 35/64"	1 7/16"	1	98858A107	15.28
Low-Strength Steel						
Zinc Plated						
2-56	5/32"	1/4"	1/4"	25	91875A101	6.75
4-40	5/32"	1/4"	1/4"	50	91875A105	13.95
6-32	5/32"	1 1/32"	5/16"	50	91875A110	10.28
8-32	5/32"	1 1/32"	5/16"	50	91875A115	10.28
10-24	3/16"	13/32"	3/8"	50	91875A120	11.66
10-32	3/16"	13/32"	3/8"	50	91875A125	11.66
1/4"-20	1/4"	15/32"	7/16"	25	91875A130	7.74
1/4"-28	1/4"	15/32"	7/16"	25	91875A135	7.74
5/16"-18	5/16"	17/32"	1/2"	25	91875A140	9.63
5/16"-24	5/16"	17/32"	1/2"	25	91875A145	9.63
3/8"-16	3/8"	5/8"	9/16"	25	91875A150	12.81
3/8"-24	3/8"	5/8"	9/16"	25	91875A155	12.81
7/16"-14	7/16"	11/16"	5/8"	20	91875A160	12.62
7/16"-20	7/16"	11/16"	5/8"	20	91875A165	12.62
1/2"-13	1/2"	13/16"	3/4"	10	91875A170	8.82
1/2"-20	1/2"	13/16"	3/4"	10	91875A175	8.82
5/8"-11	5/8"	1"	15/16"	5	91875A180	8.79
5/8"-18	5/8"	1"	15/16"	5	91875A185	8.79
3/4"-10	3/4"	15/32"	1 1/16"	5	91875A190	14.10
3/4"-16	3/4"	15/32"	1 1/16"	5	91875A195	14.10
7/8"-9	7/8"	1 23/64"	1 1/4"	1	91875A102	3.74
7/8"-14	7/8"	1 23/64"	1 1/4"	1	91875A103	3.74
1"-8	1"	1 35/64"	1 7/16"	1	91875A038	5.38
1"-14	1"	1 35/64"	1 7/16"	1	91875A104	5.38
1 1/4"-7	1 1/4"	1 61/64"	1 13/16"	1	91875A106	25.53
1 1/4"-12	1 1/4"	1 61/64"	1 13/16"	1	91875A107	25.53
Black Oxide						
1/4"-20	3/8"	5/8"	5/8"	1	90790A175	4.83
5/16"-18	3/8"	5/8"	5/8"	1	90790A185	5.00
3/8"-16	15/32"	3/4"	3/4"	1	90790A204	5.03
1/2"-13	19/32"	15/16"	7/8"	1	90790A216	6.16
5/8"-11	25/32"	1 3/16"	1 1/16"	1	90790A299	8.38
3/4"-10	29/32"	1 3/8"	1 1/4"	1	90790A417	10.26
7/8"-9	1 1/16"	1 5/8"	1 3/8"	1	90790A419	11.88
Nickel Plated						
6-32	5/32"	1/4"	5/16"	100	90532A100	8.04
8-32	5/32"	1/4"	5/16"	100	90532A125	6.95
10-24	3/16"	5/16"	3/8"	100	90532A150	7.63
10-32	3/16"	5/16"	3/8"	100	90532A175	12.29
1/4"-20	1/4"	3/8"	7/16"	100	90532A200	12.51
5/16"-18	5/16"	15/32"	9/16"	50	90532A225	11.52
3/8"-16	3/8"	1/2"	5/8"	25	90532A250	8.49
1/2"-13	1/2"	9/16"	3/4"	25	90532A275	12.08
5/8"-11	5/8"	13/16"	15/16"	10	90532A300	11.78
3/4"-10	3/4"	1 1/8"	1 1/8"	1	90532A325	4.58
Black Luster						
4-40	5/32"	1/4"	1/4"	10	98667A101	10.70
6-32	5/32"	1 1/32"	5/16"	10	98667A110	10.82
8-32	5/32"	1 1/32"	5/16"	10	98667A130	11.05
10-24	3/16"	13/32"	3/8"	5	98667A150	6.50
10-32	3/16"	13/32"	3/8"	5	98667A190	6.63
1/4"-20	1/4"	15/32"	7/16"	5	98667A210	6.91
5/16"-18	5/16"	17/32"	1/2"	5	98667A230	7.80
3/8"-16	3/8"	5/8"	9/16"	1	98667A250	2.42
1/2"-13	1/2"	13/16"	3/4"	1	98667A102	3.13

Thread Size	Thread Dp.	Ht.	Wd.	Pkg. Qty.		Pkg.
Stainless Steel						
316 Stainless Steel						
2-56	5/64"	3/16"	3/16"	1	92994A101	$10.32
4-40	5/32"	1/4"	1/4"	5	92994A005	7.44
6-32	5/32"	1 1/32"	5/16"	5	92994A007	7.86
8-32	5/32"	1 1/32"	5/16"	5	92994A009	7.86
10-24	3/16"	13/32"	3/8"	5	92994A401	8.88
10-32	3/16"	13/32"	3/8"	5	92994A402	8.88
1/4"-20	1/4"	15/32"	7/16"	1	92994A029	2.17
1/4"-28	1/4"	15/32"	7/16"	1	92994A329	2.18
5/16"-18	5/16"	17/32"	1/2"	1	92994A030	2.62
5/16"-24	5/16"	17/32"	1/2"	1	92994A330	2.62
3/8"-16	3/8"	5/8"	9/16"	1	92994A031	3.27
3/8"-24	3/8"	5/8"	9/16"	1	92994A331	3.28
1/2"-13	1/2"	13/16"	3/4"	1	92994A033	6.17
1/2"-20	1/2"	13/16"	3/4"	1	92994A034	6.17
5/8"-11	5/8"	1"	15/16"	1	92994A035	11.39
3/4"-10	3/4"	15/32"	1 1/16"	1	92994A038	27.11
18-8 Stainless Steel						
0-80	1/16"	3/16"	3/16"	1	91855A101	5.00
1-72	1/16"	3/16"	3/16"	1	91855A102	5.00
2-56	5/64"	3/16"	3/16"	1	91855A103	5.00
3-48	5/64"	1/4"	1/4"	1	91855A104	6.31
4-40	5/32"	1/4"	1/4"	10	99022A101	5.83
5-40	1/8"	1 1/32"	5/16"	1	91855A105	6.86
6-32	5/32"	1 1/32"	5/16"	10	91855A430	4.50
6-32	3/16"	9/32"	5/16"	10	99022A102	6.24
8-32	5/32"	1 1/32"	5/16"	10	91855A440	4.50
8-32	3/16"	9/32"	5/16"	10	99022A103	6.24
10-24	3/16"	13/32"	3/8"	10	91855A450	5.53
10-24	7/32"	1 1/32"	3/8"	10	99022A104	7.45
10-32	3/16"	13/32"	3/8"	10	91855A460	5.53
10-32	7/32"	1 1/32"	3/8"	10	99022A105	7.45
12-24	7/32"	13/32"	3/8"	10	91855A410	5.98
1/4"-20	7/32"	3/8"	7/16"	10	99022A106	9.59
1/4"-20	1/4"	15/32"	7/16"	10	91855A520	6.98
1/4"-20	5/16"	19/32"	7/16"	10	91855A360	7.97
1/4"-20	3/8"	5/8"	5/8"	1	92040A109	5.53
1/4"-28	7/32"	3/8"	7/16"	10	99022A107	9.59
1/4"-28	1/4"	15/32"	7/16"	10	91855A470	7.28
5/16"-18	9/32"	7/16"	9/16"	5	99022A108	7.81
5/16"-18	5/16"	17/32"	1/2"	10	91855A540	9.00
5/16"-18	3/8"	5/8"	5/8"	1	92040A110	5.97
5/16"-24	9/32"	7/16"	9/16"	5	99022A109	7.81
5/16"-24	5/16"	17/32"	1/2"	10	91855A032	9.80
3/8"-16	5/16"	1/2"	5/8"	5	99022A112	10.69
3/8"-16	3/8"	5/8"	9/16"	5	91855A550	6.88
3/8"-16	15/32"	3/4"	3/4"	1	92040A120	6.56
3/8"-16	3/4"	1 1/16"	9/16"	1	90023A101	7.45
3/8"-16	1"	1 5/16"	9/16"	1	90023A102	9.00
3/8"-16	1 1/4"	1 9/16"	9/16"	1	90023A103	9.83
3/8"-24	5/16"	1/2"	5/8"	5	99022A113	10.69
3/8"-24	3/8"	5/8"	9/16"	5	91855A331	7.47
7/16"-14	3/8"	9/16"	3/4"	1	99022A114	4.07
7/16"-14	7/16"	11/16"	5/8"	1	91855A560	2.15
7/16"-20	3/8"	9/16"	3/4"	1	99022A115	4.07
7/16"-20	7/16"	11/16"	5/8"	1	91855A490	2.15
1/2"-13	3/8"	9/16"	3/4"	1	99022A116	5.35
1/2"-13	1/2"	13/16"	3/4"	1	91855A480	3.40
1/2"-13	19/32"	15/16"	7/8"	1	92040A130	9.36
1/2"-13	1"	1 7/16"	3/4"	1	90023A104	13.10
1/2"-13	1 1/4"	1 3/4"	3/4"	1	90023A105	13.79
1/2"-13	1 1/2"	2"	3/4"	1	90023A106	14.66
1/2"-20	1/2"	13/16"	3/4"	1	91855A333	3.75
9/16"-12	9/16"	15/16"	7/8"	1	91855A112	8.24
9/16"-18	9/16"	15/16"	7/8"	1	91855A113	8.24
5/8"-11	5/8"	1"	15/16"	1	91855A420	6.88
5/8"-11	25/32"	1 3/16"	1 1/16"	1	92040A140	14.38
5/8"-18	5/8"	1"	15/16"	1	91855A510	6.88
3/4"-10	3/4"	15/32"	1 1/16"	1	91855A530	9.85
3/4"-10	29/32"	1 3/8"	1 1/4"	1	92040A150	17.00
3/4"-16	3/4"	15/32"	1 1/16"	1	91855A114	13.59
7/8"-9	7/8"	1 23/64"	1 1/4"	1	91855A115	24.07
7/8"-9	1 1/16"	1 5/8"	1 3/8"	1	92040A160	22.13
7/8"-14	7/8"	1 23/64"	1 1/4"	1	91855A116	24.07
1"-8	1"	1 35/64"	1 7/16"	1	91855A117	26.14

(Continued on following page)

Cap Nuts *(Continued from previous page)*

Thread Size	Thread Dp.	Ht.	Wd.	Pkg. Qty.		Pkg.
Brass						
Uncoated						
0-80	1/16"	3/16"	3/16"	1	92716A101	$5.00
2-56	3/32"	5/32"	3/16"	25	92716A112	8.97
4-40	3/32"	1/4"	1/4"	50	92716A005	7.34
6-32	1/8"	9/32"	5/16"	50	92716A007	8.75
8-32	1/8"	9/32"	5/16"	50	92716A009	8.58
10-24	5/32"	11/32"	3/8"	25	92716A011	7.52
10-32	5/32"	11/32"	3/8"	25	92716A511	7.52
12-24	5/32"	11/32"	3/8"	25	92716A015	8.78
1/4"-20	5/32"	3/8"	7/16"	25	92716A519	8.37
1/4"-28	5/32"	3/8"	7/16"	25	92716A529	10.05
5/16"-18	7/32"	7/16"	9/16"	10	92716A610	5.99
5/16"-24	9/32"	7/16"	9/16"	25	92716A530	13.95
3/8"-16	1/4"	1/2"	5/8"	10	92716A620	7.79
3/8"-24	5/16"	1/2"	5/8"	10	92716A531	7.43
7/16"-14	5/16"	9/16"	3/4"	5	92716A630	7.92
7/16"-20	3/8"	9/16"	3/4"	10	92716A532	12.46
1/2"-13	5/16"	9/16"	3/4"	10	92716A640	13.13
1/2"-20	3/8"	9/16"	3/4"	10	92716A533	12.89
5/8"-11	1/2"	3/4"	1"	1	92716A035	2.58
5/8"-18	1/2"	3/4"	1"	1	92716A535	5.03
3/4"-10	39/64"	7/8"	1 1/16"	1	92716A036	3.71
Chrome Plated						
6-32	1/8"	9/32"	5/16"	10	92720A681	6.74
8-32	1/8"	9/32"	5/16"	10	92720A691	7.56
10-24	5/32"	11/32"	3/8"	10	92720A701	7.27
10-32	5/32"	11/32"	3/8"	10	92720A711	7.34
1/4"-20	5/32"	3/8"	7/16"	10	92720A721	6.63
1/4"-28	7/32"	3/8"	7/16"	10	92720A729	9.06
5/16"-18	7/32"	7/16"	9/16"	10	92720A740	8.26
5/16"-24	9/32"	7/16"	9/16"	10	92720A730	10.69
3/8"-16	1/4"	1/2"	5/8"	5	92720A750	6.67
3/8"-24	5/16"	1/2"	5/8"	10	92720A731	11.34
7/16"-20	3/8"	9/16"	3/4"	5	92720A732	9.35
1/2"-13	5/16"	9/16"	3/4"	5	92720A765	9.88
1/2"-20	3/8"	9/16"	3/4"	5	92720A733	11.16
5/8"-11	7/16"	3/4"	1"	1	92720A035	5.13
3/4"-10	1/2"	7/8"	1 1/16"	1	92720A770	13.63
1"-8	5/8"	1 1/4"	1 7/16"	1	92720A780	24.20
Nickel Plated						
6-32	1/8"	9/32"	5/16"	50	92718A381	14.68
8-32	1/8"	9/32"	5/16"	50	92718A391	14.42
10-24	5/32"	11/32"	3/8"	25	92718A401	10.30
10-32	5/32"	11/32"	3/8"	25	92718A411	10.30
1/4"-20	5/32"	3/8"	7/16"	25	92718A421	13.11
1/4"-28	5/32"	3/8"	7/16"	10	92718A429	6.32
5/16"-18	7/32"	7/16"	9/16"	10	92718A441	10.03
5/16"-24	9/32"	7/16"	9/16"	25	92718A430	13.55
3/8"-16	1/4"	1/2"	5/8"	10	92718A451	10.79
3/8"-24	5/16"	1/2"	5/8"	10	92718A431	7.61
1/2"-20	3/8"	9/16"	3/4"	5	92718A460	7.23
5/8"-11	7/16"	3/4"	15/16"	1	92718A462	3.10
5/8"-18	7/16"	3/4"	15/16"	1	92718A465	3.10
3/4"-10	1/2"	7/8"	1 1/16"	1	92718A468	10.39
3/4"-16	1/2"	7/8"	1 1/16"	1	92718A471	12.10
1"-8	5/8"	1 1/4"	1 7/16"	1	92718A474	19.25
Aluminum						
6-32	3/16"	19/64"	5/16"	25	91884A213	24.57
10-24	5/32"	11/32"	3/8"	25	91884A216	10.10
10-32	5/32"	11/32"	3/8"	25	91884A219	10.10
1/4"-20	5/32"	3/8"	7/16"	25	91884A224	9.50
5/16"-18	7/32"	7/16"	9/16"	10	91884A227	7.50
3/8"-16	1/4"	1/2"	5/8"	10	91884A235	9.51

Thread Size	Thread Dp.	Ht.	Wd.	Pkg. Qty.		Pkg.
Nylon 6/6—Choose a color: black, off-white						
4-40	13/64"	9/32"	1/4"	100	94922A300	$9.77
6-32	17/64"	11/32"	19/64"	100	94922A305	10.06
8-32	17/64"	3/8"	21/64"	100	94922A310	10.35
10-24	1/4"	13/32"	23/64"	100	94922A315	9.77
10-32	5/16"	13/32"	23/64"	100	94922A320	9.77
1/4"-20	5/16"	15/32"	27/64"	100	94922A325	10.30
1/4"-28	19/64"	15/32"	27/64"	100	94922A330	11.23
5/16"-18	23/64"	17/32"	1/2"	50	94922A335	10.08
5/16"-24	3/8"	17/32"	1/2"	50	94922A340	12.00
3/8"-16	3/8"	5/8"	9/16"	25	94922A345	7.65
3/8"-24	21/64"	5/8"	9/16"	25	94922A350	7.05
1/2"-13	31/64"	13/16"	3/4"	25	94922A355	10.59
1/2"-20	21/32"	13/16"	3/4"	10	94922A360	4.80
5/8"-11	17/32"	31/32"	15/16"	20	94922A365	13.14
Metric High-Strength Class 10 Steel						
Zinc Plated						
M6×1	5.7 mm	12 mm	10 mm	5	99164A101	9.22
M8×1.25	8.2 mm	15 mm	13 mm	5	99164A102	11.60
M10×1.5	9.7 mm	18 mm	17 mm	1	99164A103	5.09
M12×1.75	12.2 mm	22 mm	19 mm	1	99164A104	7.59
Metric Low-Strength Steel						
Zinc Plated						
M4×0.7	5.3 mm	8 mm	7 mm	50	91880A035	9.66
M5×0.8	7.2 mm	10 mm	8 mm	50	91880A037	10.63
M6×1	7.7 mm	12 mm	10 mm	50	91880A045	11.54
M8×1.25	10.7 mm	15 mm	13 mm	25	91880A050	8.92
M10×1.5	12.7 mm	18 mm	17 mm	10	91880A056	7.51
M12×1.75	15.7 mm	22 mm	19 mm	10	91880A060	10.48
Chrome Plated						
M4×0.7	3.9 mm	8 mm	7 mm	5	91982A200	9.42
M5×0.8	5.6 mm	10 mm	8 mm	5	91982A225	9.98
M6×1	5.7 mm	12 mm	10 mm	5	91982A250	10.36
M8×1.25	8.2 mm	15 mm	13 mm	1	91982A275	2.84
M10×1.5	9.7 mm	18 mm	17 mm	1	91982A300	3.78
M12×1.75	12.2 mm	22 mm	19 mm	1	91982A325	4.91
Metric Stainless Steel						
316 (A4) Stainless Steel						
M3×0.5	3.8 mm	6 mm	5.5 mm	25	95514A101	6.97
M4×0.7	5.5 mm	8 mm	7 mm	25	95514A102	7.43
M5×0.8	7.5 mm	10 mm	8 mm	25	95514A103	7.43
M6×1	8 mm	12 mm	10 mm	25	95514A104	8.94
M8×1.25	11 mm	15 mm	13 mm	10	95514A105	6.94
M10×1.5	13 mm	18 mm	17 mm	10	95514A106	12.22
M12×1.75	16 mm	22 mm	19 mm	5	95514A107	12.13
18-8 (A2) Stainless Steel						
M3×0.5	5.5 mm	6 mm	7 mm	10	94000A330	3.04
M4×0.7	3.9 mm	8 mm	7 mm	25	94000A035	3.90
M5×0.8	6 mm	10 mm	8 mm	25	94000A037	4.39
M6×1	6 mm	12 mm	10 mm	20	94000A038	4.89
M8×1.25	8.5 mm	15 mm	13 mm	10	94000A039	4.76
M10×1.5	10 mm	18 mm	17 mm	5	94000A040	4.86
M12×1.75	13 mm	22 mm	19 mm	5	94000A041	6.93
M14×2	18 mm	25 mm	22 mm	1	94000A431	4.38
M16×2	21 mm	28 mm	24 mm	1	94000A461	4.91
M18×2.5	25 mm	32 mm	27 mm	1	94000A490	6.75
M20×2.5	26 mm	34 mm	30 mm	1	94000A510	7.01
Metric Nylon 6/6—Choose a color: black, off-white						
M4×0.7	5.9 mm	8 mm	7 mm	100	90527A505	12.29
M5×0.8	6.8 mm	10 mm	8 mm	100	90527A510	12.64
M6×1	8 mm	12 mm	10 mm	100	90527A515	13.73
M8×1.25	8.6 mm	15 mm	13 mm	50	90527A520	10.87
M10×1.5	11 mm	18 mm	17 mm	25	90527A525	8.66
M12×1.75	13.9 mm	20.5 mm	19 mm	25	90527A530	11.86

Cap Nut Assortments

Assortments include cap nuts with a Class 2B thread fit. They come in a compartmented plastic case with lid chart.



Thread Sizes Included	No. of Nuts		
Nickel-Plated Low-Strength Steel			
6-32, 8-32, 10-32, 1/4"-20, 5/16"-18, 3/8"-16	200	91987A300	$35.50
18-8 Stainless Steel			
6-32, 8-32, 10-32, 1/4"-20, 5/16"-18, 3/8"-16	200	91987A800	110.91

Open-End Cap Nuts

An open dome allows these cap nuts to be used on bolts or rods of any length. Their domed shape provides a finished appearance. They're made from 18-8 stainless steel. All have a Class 2B thread fit.



Thread Size	Ht.	Wd.		Each
4-40	1/4"	5/16"	94301A105	$2.30
6-32	1/4"	5/16"	94301A110	2.30
8-32	1/4"	3/8"	94301A115	2.42
10-24	5/16"	7/16"	94301A120	2.63
10-32	5/16"	7/16"	94301A125	2.63
1/4"-20	5/16"	1/2"	94301A130	3.31
5/16"-18	5/16"	9/16"	94301A135	4.03
3/8"-16	3/8"	11/16"	94301A140	5.09
1/2"-13	1/2"	3/4"	94301A160	5.50

Nylon-Insert Cap Locknuts



Seal exposed threads from internal and external pressure up to 80 psi. Resistant to loosening, they have a nylon insert that firmly grips threads. They're reusable, but their holding power lessens with each use. Nuts are steel with a nylon 6/6 cap and insert. They can withstand temperatures up to 250° F. Nylon absorbs moisture, which can cause the cap and insert to become brittle over time in wet environments. All have a Class 3B thread fit.

Thread Size	Thread Dp.	Ht.	Wd.	Pkg. Qty.		Pkg.
8-32	9/64"	23/64"	11/32"	25	98190A130	$3.58
10-24	9/64"	23/64"	3/8"	25	98190A150	4.81
10-32	9/64"	23/64"	3/8"	25	98190A170	4.84
1/4"-20	7/32"	31/64"	7/16"	25	98190A190	5.13
5/16"-18	1/4"	1/2"	1/2"	10	98190A210	3.31
3/8"-24	21/64"	5/8"	9/16"	10	98190A270	7.47

Distorted-Thread Cap Locknuts



A section of distorted threads keeps nuts locked in place once fastened. Their domed head covers and protects threads while providing a finished appearance. Nuts are 18-8 stainless steel. They're not reusable. All have a Class 2B thread fit.

Thread Size	Thread Dp.	Ht.	Wd.	Pkg. Qty.		Pkg.
4-40	5/32"	1/4"	1/4"	10	90507A209	$7.53
6-32	5/32"	11/32"	5/16"	20	90507A210	15.15
8-32	5/32"	11/32"	5/16"	20	90507A215	15.15
10-24	3/16"	13/32"	3/8"	20	90507A220	15.45
10-32	3/16"	13/32"	3/8"	20	90507A225	15.45
1/4"-20	1/4"	15/32"	7/16"	10	90507A230	9.90
1/4"-28	1/4"	15/32"	7/16"	10	90507A235	11.31
5/16"-18	5/16"	17/32"	1/2"	10	90507A240	14.26
5/16"-24	5/16"	17/32"	1/2"	10	90507A245	$14.26
3/8"-16	3/8"	5/8"	9/16"	5	90507A250	9.96
3/8"-24	3/8"	5/8"	9/16"	5	90507A255	9.96
1/2"-13	1/2"	13/16"	3/4"	1	90507A033	6.15
1/2"-20	1/2"	13/16"	3/4"	1	90507A044	6.15
5/8"-11	19/32"	63/64"	1"	1	90507A260	4.62
3/4"-10	11/16"	13/16"	11/16"	1	90507A270	8.12

Thumb Nuts



Round



Round with Shoulder



Round with Flange



Hex with Flange

With a prominent head for tightening or loosening by hand, these nuts are often used in applications requiring frequent adjustments. They're fully threaded, unless noted. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit.

Round thumb nuts have finely knurled edges to allow a secure grip while tightening. **Hex** thumb nuts can be tightened with a wrench for more torque while fastening.

Reinforced nylon nuts have a maximum temperature of 200° F. *Acetal with aluminum threaded insert* nuts have a maximum temperature of 180° F.

Thread Size	O'all Dia./ Wd.	O'all Ht.	Pkg. Qty.		Pkg.
Round					
Black-Oxide Steel					
10-32	3/4"	7/32"	1	92815A111	$2.69
1/4"-20	3/4"	7/32"	1	92815A115	2.69
5/16"-18	3/4"	5/16"	1	92815A119	2.93
3/8"-16	3/4"	5/16"	1	92815A123	2.93
1/2"-13	1"	3/8"	1	92815A127	3.05
5/8"-11	1"	3/8"	1	92815A131	4.33
Round with Shoulder					
316 Stainless Steel					
4-40	1/2"	3/8"	1	92533A101	3.87
6-32	3/4"	3/8"	1	92533A102	4.16
8-32	1/2"	3/8"	1	92533A103	4.37
10-24	1/2"	7/16"	1	92533A104	4.71
10-32	1"	7/16"	1	92533A105	6.00
1/4"-20	3/4"	1/2"	1	92533A106	6.08
5/16"-18	1"	5/8"	1	92533A107	7.47
3/8"-16	1"	3/4"	1	92533A108	10.92
1/2"-13	1 1/8"	15/16"	1	92533A109	16.71
18-8 Stainless Steel					
0-80	3/8"	1/4"	1	91833A101	3.11
1-72	3/8"	1/4"	1	91833A102	3.11
2-56	3/8"	1/4"	1	91833A103	3.11
3-48	1/2"	3/8"	1	91833A104	4.03
4-40	1/2"	3/8"	1	91833A112★	3.86
5-40	1/2"	3/8"	1	91833A105	4.03
6-32	1/2"	3/8"	1	91833A116★	3.71
6-32	3/4"	3/8"	1	91833A118★	5.14
8-32	1/2"	3/8"	1	91833A121	4.20
8-32	1/2"	5/8"	1	91833A122★	3.87
10-24	1/2"	7/16"	1	91833A125	4.29
10-32	1"	7/16"	1	91833A132	5.84
12-24	3/4"	1/2"	1	91833A106	4.97
1/4"-20	3/4"	1/2"	1	91833A134	5.49
1/4"-20	1"	1"	1	91833A138★	6.94
1/4"-28	3/4"	1/2"	1	91833A107	4.97
5/16"-18	1"	5/8"	1	91833A108	7.11
5/16"-24	1"	5/8"	1	91833A109	7.11
3/8"-16	1"	3/4"	1	91833A113	9.21
3/8"-24	1"	3/4"	1	91833A114	9.21
7/16"-14	1 1/8"	15/16"	1	91833A115	15.18
7/16"-20	1 1/8"	15/16"	1	91833A117	15.18
1/2"-13	1 1/8"	15/16"	1	91833A119	15.18
Reinforced Nylon					
6-32	1/2"	3/8"	1	93995A300	4.61
8-32	1/2"	3/8"	1	93995A320	4.64
10-32	1"	7/16"	1	93995A350	5.33
1/4"-20	3/4"	1/2"	1	93995A360	5.15
1/4"-20	1"	1"	1	93995A370	5.91

★ Partially threaded.

Thread Size	O'all Dia./ Wd.	O'all Ht.	Pkg. Qty.		Pkg.
Round with Shoulder (Cont.)					
Acetal with Aluminum Threaded Insert					
4-40	5/16"	3/16"	10	93886A101	$7.88
6-32	3/8"	7/32"	10	93886A110	8.03
8-32	1/2"	17/64"	10	93886A120	8.03
10-24	5/8"	19/64"	10	93886A102	8.48
10-32	5/8"	19/64"	10	93886A130	8.48
1/4"-20	3/4"	23/64"	10	93886A140	8.94
1/4"-20	1"	23/64"	10	93886A104	10.00
1/4"-28	3/4"	23/64"	10	93886A103	8.94
1/4"-28	1"	23/64"	10	93886A105	10.00
5/16"-18	1"	27/64"	10	93886A150	10.76
Round with Flange					
316 Stainless Steel					
4-40	5/16"	1/4"	1	99937A101	8.69
6-32	3/8"	9/32"	1	99937A102	9.24
8-32	7/16"	9/32"	1	99937A103	9.82
10-24	1/2"	11/32"	1	99937A104	10.66
10-32	1/2"	11/32"	1	99937A105	10.66
1/4"-20	9/16"	3/8"	1	99937A106	11.95
5/16"-18	5/8"	13/32"	1	99937A107	13.29
3/8"-16	3/4"	15/32"	1	99937A108	14.92
1/2"-13	1"	1/2"	1	99937A109	17.39
18-8 Stainless Steel					
0-80	7/32"	1/4"	1	95150A101	3.40
1-72	7/32"	1/4"	1	95150A102	3.40
2-56	1/4"	1/4"	1	95150A110	1.44
3-48	5/16"	1/4"	1	95150A103	4.60
4-40	5/16"	1/4"	1	95150A120	1.81
5-40	5/16"	1/4"	1	95150A104	4.60
6-32	3/8"	9/32"	1	95150A130	2.06
8-32	7/16"	9/32"	1	95150A140	2.67
10-24	1/2"	11/32"	1	95150A150	3.22
10-32	1/2"	11/32"	1	95150A160	3.71
12-24	1/2"	11/32"	1	95150A105	5.80
1/4"-20	9/16"	3/8"	1	95150A170	4.29
1/4"-28	9/16"	3/8"	1	95150A106	7.20
5/16"-18	5/8"	13/32"	1	95150A180	5.01
5/16"-24	5/8"	13/32"	1	95150A107	7.52
3/8"-16	3/4"	15/32"	1	95150A190	5.68
3/8"-24	3/4"	15/32"	1	95150A108	9.00
7/16"-14	1"	17/32"	1	95150A109	10.20
7/16"-20	1"	17/32"	1	95150A112	10.20
1/2"-13	1"	5/8"	1	95150A113	11.40
Brass					
0-80	7/32"	1/4"	1	92741A101	3.15
2-56	1/4"	1/4"	1	92741A102	3.52
4-40	3/8"	1/4"	25	92741A100	7.37

Thread Size	O'all Dia./ Wd.	O'all Ht.	Pkg. Qty.		Pkg.
Round with Flange (Cont.)					
Brass (Cont.)					
6-32	3/8"	1/4"	25	92741A110	$7.40
8-32	7/16"	5/16"	25	92741A120	8.85
10-24	1/2"	21/64"	10	92741A130	5.07
10-32	1/2"	21/64"	10	92741A140	5.07
12-24	9/16"	11/32"	10	92741A150	7.17
1/4"-20	5/8"	3/8"	10	92741A160	8.54
5/16"-18	11/16"	13/32"	10	92741A170	10.07
Hex with Flange					
18-8 Stainless Steel					
4-40	5/16"	1/4"	1	94365A340	2.49
6-32	3/8"	9/32"	1	94365A350	3.00
8-32	7/16"	9/32"	1	94365A360	3.46
10-32	1/2"	11/32"	1	94365A380	4.82
1/4"-20	9/16"	3/8"	1	94365A390	4.96
5/16"-18	5/8"	13/32"	1	94365A400	4.98
Metric Round with Shoulder— Dimensions in millimeters					
18-8 Stainless Steel					
M2×0.4	10	6	1	90368A101	2.81
M2.5×0.45	12	7.5	1	90368A102	3.13
M3×0.5	12	7.5	1	90368A150	1.67
M4×0.7	16	9.5	1	90368A200	2.68
M5×0.8	20	11.5	1	90368A250	3.01
M6×1	24	15	1	90368A300	4.18
M8×1.25	30	18	1	90368A325	7.89
M10×1.5	36	23	1	90368A350	11.58
M12×1.75	25.4	22	1	90368A103	9.34
Metric Round with Flange— Dimensions in millimeters					
18-8 Stainless Steel					
M2×0.4	6	4	1	96445A101	3.27
M2.5×0.45	8	6	1	96445A102	3.65
M3×0.5	8	6	1	96445A330	1.95
M3.5×0.6	10	7	1	96445A340	2.25
M4×0.7	10	7	1	96445A350	2.58
M5×0.8	13	9	1	96445A360	3.16
M6×1	13	9	1	96445A370	3.32
M8×1.25	19	12	1	96445A380	5.46
Zinc-Plated Brass					
M2.5×0.45	6	6	1	96115A410	1.15
M3×0.5	8	6	1	96115A420	1.20
M4×0.7	10	7	1	96115A440	1.55
M5×0.8	13	9	1	96115A450	1.79
M6×1	13	9	1	96115A460	1.81
M8×1.25	19	12	1	96115A470	3.04

High-Torque Thumb Nuts

Insert a rod or pin in the holes for increased torque while tightening. Also known as check nuts or jam nuts, place one against another to lock it in place. They're often used in jig and fixturing applications. All have a Class 2B thread fit.



Thread Size	O'all Dia.	O'all Ht.	Hole Size	Black-Oxide Steel	Each	18-8 Stainless Steel	Each
10-24	3/4"	1/4"	3/32"	94775A021	$3.64	91725A100	$5.26
1/4"-20	7/8"	1/4"	3/32"	94775A029	3.85	91725A110	5.42
5/16"-18	1"	3/8"	3/16"	94775A030	4.07	91725A120	6.71
3/8"-16	1"	3/8"	3/16"	94775A031	4.34	91725A130	7.48
1/2"-13	1 1/8"	7/16"	7/32"	94775A033	4.82	91725A140	8.55
5/8"-11	1 3/8"	1/2"	1/4"	94775A035	5.38	91725A150	9.22

Panel Nuts

Extremely thin for use in tight spaces. Also known as electrical panel nuts and dress nuts, use them to mount switches into electrical panel cutouts. Hex nuts have a Class 2B thread fit. Round and locking nuts are not rated for thread fit.
Thread Types: NPS = National Pipe Straight Thread; NEF = National Extra Fine Thread; NS = National Special Thread; NPT = National Pipe Thread.

Hex Nuts



Thread Size	Type	Wd.	Ht.	Pkg. Qty	Zinc-Plated Steel	Pkg.	18-8 Stainless Steel	Pkg.	Brass	Pkg.	Nickel-Plated Brass	Pkg.
1/8"-27	NPS	1/2"	1/8"	10							91862A511	$3.16
1/8"-27	NPS	5/8"	1/8"	1	91862A101	$2.28	91862A306	$3.80	91862A212	$3.79		
1/8"-27	NPS	5/8"	3/16"	1	91862A104	2.56	91862A310	4.80	91862A215	4.11		
1/4"-32	NEF	5/16"	5/64"	10	91862A105	8.96	91862A311	9.46	91862A216	2.52	91862A516	2.11
1/4"-32	NEF	3/8"	3/32"	10	91862A106	7.59	91862A313	8.09	91862A218	2.10	91862A515	2.11
1/4"-40	NS	5/16"	1/16"	10							91862A517	2.64
1/4"-40	NS	5/8"	3/16"	1	91862A108	3.06	91862A315	5.12				
5/16"-32	NEF	7/16"	7/64"	10	91862A110	11.80	91862A316	9.69	91862A223	3.37	91862A518	3.16
3/8"-32	NEF	1/2"	3/32"	10							91862A521	2.01
3/8"-32	NEF	5/8"	3/32"	1	91862A112	2.73	91862A318	3.18	91862A225	3.57		
7/16"-28	NEF	5/8"	3/32"	1	91862A116	5.09	91862A320	5.62	91862A228	5.57	91862A523	5.66
15/32"-32	NEF	9/16"	5/64"	1	91862A119	5.67	91862A325	6.53				
15/32"-32	NEF	9/16"	5/64"	10							91862A525	3.16
15/32"-32	NEF	9/16"	3/32"	10							91862A526	3.16
15/32"-32	NEF	5/8"	3/32"	1	91862A123	1.91	91862A329	3.87	91862A236	3.89		
1/2"-28	NEF	5/8"	3/32"	1	91862A127	6.72	91862A330	6.35				
1/2"-28	NEF	5/8"	1/8"	10							91862A527	5.26
5/8"-27	NS	3/4"	1/8"	1	91862A129	2.64	91862A338	4.28	91862A243	4.38	91862A529	3.87

Round Nuts



Thread Size	Type	OD	Ht.	Pkg. Qty.	Zinc-Plated Steel	Pkg.
3/8"-32	NEF	5/8"	3/32"	1	91843A109	$3.02
15/32"-32	NEF	5/8"	3/32"	1	91843A118	2.92
5/8"-27	NS	3/4"	1/8"	1	91843A123	3.21

Round Locking Nuts



Thread Size	Type	OD	Ht.	Pkg. Qty.	Zinc Alloy	Pkg.
1/2"-14	NPT	1"	1/8"	25	91843A211	$5.72
3/4"-14	NPT	1 1/4"	5/32"	25	91843A213	7.46

Wing Nut Assortment

Assortment includes zinc-plated steel wing nuts. All have a Class 2B thread fit. They come in a compartmented plastic case with lid chart.



Thread Sizes Included	No. of Nuts		
6-32, 8-32, 10-24, 1/4"-20, 5/16"-18, 3/8"-16	175	98191A416	$49.74

Nylon-Insert Wing Locknuts

These nuts have wide wings for hand tightening and a nylon-insert that grips threads for a firm hold. Nuts are made from zinc alloy. They're reusable, but their holding power lessens with each use. Nylon absorbs moisture which can cause the insert to become brittle over time in wet environments. Maximum temperature of the insert is 225° F. All nuts have a Class 2B thread fit.



Thread Size	O'all Wd.	O'all Ht.	Pkg. Qty.		Pkg.
8-32	1 1/32"	1/2"	10	98520A102	$6.51
10-24	1 1/32"	1/2"	25	98520A101	13.37
10-32	1 1/32"	1/2"	25	98520A111	13.37
1/4"-20	1 1/4"	19/32"	20	98520A119	13.37
1/4"-28	1 1/4"	19/32"	20	98520A129	13.37
5/16"-18	1 1/2"	23/32"	10	98520A140	9.55
5/16"-24	1 1/2"	23/32"	10	98520A130	9.55
3/8"-16	1 1/2"	23/32"	10	98520A145	10.03
3/8"-24	1 1/2"	23/32"	10	98520A131	10.40

Flange Wing Nuts

A flanged base distributes holding pressure to reduce stress where the nut meets the material surface. They can be used to cover oversized holes or as an alternative to a nut with a separate washer. Their wings allow for easy tightening by hand. Nuts are made from zinc alloy. All have a Class 2B thread fit.



Thread Size	O'all Wd.	O'all Ht.	Flange Dia.	Pkg. Qty.		Pkg.
6-32	3/4"	23/64"	1/2"	10	92239A102	$5.72
8-32	7/8"	7/16"	5/8"	25	92239A100	9.31
10-24	7/8"	7/16"	5/8"	25	92239A125	9.31
10-32	7/8"	7/16"	5/8"	25	92239A150	9.31
1/4"-20	1"	1/2"	3/4"	25	92239A175	9.52
1/4"-20	1 1/8"	37/64"	7/8"	25	92239A200	10.48
5/16"-18	1 1/8"	37/64"	7/8"	25	92239A225	10.48
3/8"-16	1 1/8"	37/64"	7/8"	25	92239A250	10.48

Wing Nuts

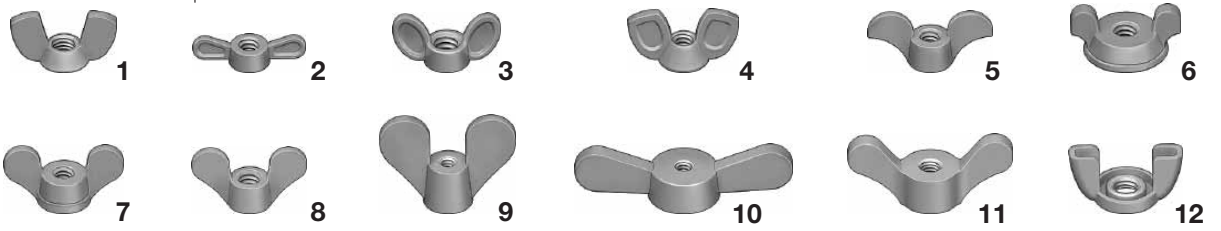

Wide wings provide a secure grip for tightening and loosening by hand. Wing nuts have a larger gripping area than thumb nuts and can be turned with more torque. They're often used in applications that require frequent adjustments.

Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit.

	Thread Size	O'all Wd.	O'all Ht.	Pkg. Qty.		Pkg.
316 Stainless Steel						
1	6-32	5/8"	3/8"	10	93575A201	$5.95
1	8-32	7/8"	3/8"	10	93575A202	7.57
1	10-24	7/8"	1/2"	5	93575A011	6.96
1	10-32	7/8"	1/2"	5	93575A015	6.96
1	1/4"-20	1 1/8"	5/8"	5	93575A029	6.37
1	5/16"-18	1 1/4"	5/8"	5	93575A030	9.72
1	3/8"-16	1 1/2"	3/4"	5	93575A031	12.85
1	1/2"-13	2"	1"	1	93575A035	5.60
1	5/8"-11	2 3/4"	1 1/2"	1	93575A039	21.78
18-8 Stainless Steel						
1	6-32	3/4"	1/2"	25	92001A281	6.06
1	8-32	7/8"	1/2"	25	92001A291	6.18
1	10-24	7/8"	1/2"	25	92001A301	6.46
1	10-32	7/8"	1/2"	25	92001A311	6.46
1	12-24	1 1/8"	5/8"	10	92001A316	5.52
1	1/4"-20	1 1/8"	5/8"	25	92001A321	7.09
1	1/4"-28	1 1/8"	5/8"	25	92001A329	10.45
1	5/16"-18	1 1/4"	5/8"	25	92001A330	10.53
1	5/16"-24	1 1/4"	5/8"	10	92001A331	5.73
1	3/8"-16	1 1/2"	3/4"	10	92001A339	7.06
1	3/8"-24	1 1/2"	3/4"	5	92001A342	6.85
1	7/16"-14	2"	1"	1	92001A345	3.62
1	7/16"-20	2"	1"	1	92001A332	3.83
1	1/2"-13	2"	1"	5	92001A349	8.98
1	1/2"-20	2"	1"	1	92001A333	4.67
1	5/8"-11	2 1/4"	1 1/2"	1	92001A034	4.74
1	5/8"-18	2 5/8"	1 1/4"	1	92001A343	9.67
1	3/4"-10	2 3/4"	1 1/2"	1	92001A400	5.08
1	3/4"-16	2 3/4"	1 1/2"	1	92001A344	11.33
11	3/8"-16	3 1/2"	1 1/2"	1	90750A100	59.54
11	1/2"-13	3 1/2"	1 1/2"	1	90750A200	59.54
11	5/8"-11	3 1/2"	1 1/2"	1	90750A300	59.54
11	3/4"-10	3 1/2"	1 1/2"	1	90750A400	59.54
11	Blank	3 1/2"	1 1/2"	1	90750A450	51.81
Brass						
1	4-40	3/4"	3/8"	25	92771A471	6.99
1	6-32	3/4"	1/2"	50	92771A481	12.39
1	8-32	7/8"	1/2"	50	92771A491	12.52
1	10-24	7/8"	1/2"	25	92771A501	6.78
1	10-32	7/8"	1/2"	25	92771A511	6.74
1	12-24	1 1/8"	5/8"	10	92771A515	6.26
1	1/4"-20	1 1/8"	5/8"	25	92771A521	9.61
1	1/4"-28	1 1/8"	5/8"	10	92771A529	6.06
1	5/16"-18	1 1/4"	5/8"	10	92771A525	6.98
1	5/16"-24	1 1/4"	5/8"	10	92771A530	9.48
1	3/8"-16	1 1/2"	3/4"	5	92771A535	5.22
1	1/2"-13	2"	1"	5	92771A545	11.68
1	5/8"-11	2 1/4"	1 1/2"	1	92771A035	5.64
1	3/4"-10	2 3/4"	1 1/2"	1	92771A038	5.79
Alloy Steel						
11	3/8"-16	3 1/2"	1 1/2"	1	92902A150	37.56
11	1/2"-13	3 1/2"	1 1/2"	1	92902A275	37.56
11	5/8"-11	3 1/2"	1 1/2"	1	92902A400	37.56
11	3/4"-10	3 1/2"	1 1/2"	1	92902A525	37.56
11	Blank	3 1/2"	1 1/2"	1	92902A650	26.65
Zinc-Plated Steel and Iron						
1	4-40	3/4"	3/8"	25	90866A005	13.69
1	6-32	5/8"	3/8"	100	90866A007	8.26
1	8-32	7/8"	1/2"	100	90866A009	8.69
1	10-24	7/8"	1/2"	100	90866A011	8.86
1	10-32	7/8"	1/2"	100	90866A111	8.86
1	12-24	1 1/8"	1/2"	25	90866A116	10.75
1	1/4"-20	1 1/8"	1/2"	100	90866A029	10.29
1	1/4"-28	1 1/8"	1/2"	100	90866A129	12.14
Zinc-Plated Steel and Iron (Cont.)						
1	5/16"-18	1 1/4"	5/8"	100	90866A030	$13.17
1	5/16"-24	1 1/4"	5/8"	25	90866A130	14.95
1	3/8"-16	1 3/8"	3/4"	50	90866A140	11.14
1	3/8"-24	1 1/2"	3/4"	10	90866A145	8.18
1	7/16"-14	1 7/8"	7/8"	25	90866A150	14.19
1	7/16"-20	2"	1"	10	90866A155	8.84
1	1/2"-13	1 7/8"	7/8"	25	90866A160	13.31
1	1/2"-20	2"	1"	10	90866A165	11.76
1	5/8"-11	2 3/4"	1 3/8"	5	90866A170	11.66
1	3/4"-10	2 3/4"	1 3/8"	5	90866A180	13.10
5	1/4"-20	1 3/8"	5/8"	5	90876A560	9.58
5	3/8"-16	1 5/8"	7/8"	5	90876A575	10.90
5	1/2"-13	2 1/4"	1"	5	90876A580	15.80
6	1/4"-20	1"	1/2"	5	90876A650	9.42
6	1/4"-20	1 1/8"	3/4"	5	90876A600	10.38
6	1/4"-20	1 1/2"	5/8"	5	90876A655	10.13
6	5/16"-18	1 1/2"	5/8"	5	90876A660	10.76
6	5/16"-18	1 5/8"	1"	5	90876A605	10.95
6	3/8"-16	1 5/8"	1"	5	90876A610	12.37
12	6-32	3/4"	3/8"	100	94225A300	11.05
12	8-32	3/4"	3/8"	100	94225A310	12.42
12	10-24	7/8"	1/2"	50	94225A320	7.01
12	10-32	7/8"	1/2"	50	94225A330	7.01
12	1/4"-20	1 1/8"	1/2"	50	94225A340	10.34
12	3/8"-16	1 3/8"	5/8"	50	94225A360	14.32
Black Luster Steel and Iron						
1	6-32	3/4"	3/8"	5	98671A110	4.35
1	8-32	7/8"	1/2"	5	98671A130	4.35
1	10-24	7/8"	1/2"	5	98671A150	4.90
1	10-32	7/8"	1/2"	5	98671A190	5.00
1	1/4"-20	1 1/8"	5/8"	5	98671A210	5.83
1	5/16"-18	1 1/4"	5/8"	5	98671A230	6.62
1	3/8"-16	1 1/2"	3/4"	5	98671A250	7.45
Uncoated Steel and Iron						
5	8-32	1"	1/2"	5	90876A140	14.21
5	10-24	1 1/8"	1/2"	5	90876A146	9.68
5	1/4"-20	1 3/8"	5/8"	5	90876A150	8.91
5	5/16"-18	1 1/2"	3/4"	5	90876A155	9.04
5	3/8"-16	1 5/8"	7/8"	5	90876A160	10.12
5	1/2"-13	2 1/4"	1"	5	90876A166	14.98
5	5/8"-11	2 3/4"	1 1/4"	1	90876A170	3.67
5	3/4"-10	3"	1 1/4"	1	90876A175	4.25
6	1/4"-20	1"	1/2"	5	90876A335	8.93
6	1/4"-20	1 1/8"	3/4"	5	90876A180	9.46
6	1/4"-20	1 1/2"	5/8"	5	90876A340	9.49
6	5/16"-18	1 1/2"	5/8"	5	90876A345	10.18
6	5/16"-18	1 5/8"	1"	5	90876A185	9.88
6	3/8"-16	1 5/8"	1"	5	90876A190	11.00
7	1/4"-20	1 3/8"	3/4"	5	90876A310	11.22
7	5/16"-18	1 1/2"	3/4"	5	90876A315	11.25
7	3/8"-16	1 5/8"	7/8"	5	90876A320	11.36
7	5/8"-11	2 1/2"	1 1/4"	1	90876A331	5.71
8	1/4"-20	1 1/8"	5/8"	5	90876A350	9.85
8	5/16"-18	1 1/4"	5/8"	5	90876A355	12.01
8	3/8"-16	1 1/2"	3/4"	5	90876A360	11.70
9	1/4"-20	1 7/8"	1 3/8"	5	90876A370	15.27
9	5/16"-18	1 7/8"	1 3/8"	5	90876A375	15.76
9	3/8"-16	1 7/8"	1 3/8"	5	90876A380	15.84
10	1/4"-20	3"	3/4"	1	90876A435	4.35
10	5/16"-18	3"	3/4"	1	90876A440	4.69
10	3/8"-16	3"	3/4"	1	90876A445	4.98
10	1/2"-13	3"	3/4"	1	90876A450	5.27
Zinc Alloy						
2	1/4"-20	1 1/8"	1/4"	1	99862A110	$2.22
3	10-24	3/4"	3/8"	5	99862A210	6.86
3	10-32	7/8"	3/8"	5	99862A220	6.86
3	1/4"-20	7/8"	3/8"	5	99862A230	7.28
4	8-32	7/8"	3/8"	5	99862A410	7.10
4	10-24	7/8"	3/8"	5	99862A420	7.10
4	1/4"-20	1"	1/2"	5	99862A350	8.81
4	1/4"-20	1 1/8"	7/8"	5	99862A510	7.97
4	1/4"-20	1 1/4"	5/8"	5	99862A440	9.40
4	5/16"-18	1 1/4"	5/8"	5	99862A450	9.75
4	5/16"-18	1 1/4"	1"	5	99862A520	8.00
4	3/8"-16	1 3/8"	3/4"	5	99862A530	8.16
Nylon 6/6—Choose a color: black, off-white						
1	4-40	7/8"	1/2"	100	94924A100	12.66
1	6-32	7/8"	1/2"	100	94924A200	12.66
1	8-32	7/8"	1/2"	100	94924A300	12.66
1	10-24	7/8"	1/2"	100	94924A400	12.66
1	10-32	7/8"	1/2"	100	94924A500	12.66
1	1/4"-20	1 1/8"	5/8"	50	94924A600	8.14
1	5/16"-18	1 3/8"	3/4"	50	94924A900	7.50
1	3/8"-16	1 3/8"	3/4"	50	94924A700	9.47
1	1/2"-13	1 3/4"	7/8"	50	94924A800	11.88

	Thread Size	O'all Wd., mm	O'all Ht., mm	Pkg. Qty.		Pkg.
Metric 316 (A4) Stainless Steel						
1	M3×0.5	19.5	10	10	94543A320	$11.38
1	M4×0.7	19.5	10	10	94543A340	9.66
1	M5×0.8	23	12	10	94543A360	7.93
1	M6×1	26.3	12.7	5	94543A420	4.48
1	M8×1.25	30.1	15.1	5	94543A440	5.19
1	M10×1.5	34.9	18.3	1	94543A460	2.91
Metric 18-8 (A2) Stainless Steel						
1	M3×0.5	19.5	10	25	94545A210	10.77
1	M4×0.7	21.5	10.3	10	94545A220	5.72
1	M5×0.8	21.5	10.3	10	94545A225	6.21
1	M6×1	26.3	12.7	10	94545A230	6.79
1	M8×1.25	30.1	15.1	10	94545A235	9.89
1	M10×1.5	34.9	18.3	5	94545A240	9.12
1	M12×1.75	47.6	23.8	1	94545A245	2.95
Metric Zinc-Plated Steel and Iron						
1	M3×0.5	19.5	10	25	94300A120	7.13
1	M4×0.7	17.6	8.6	50	94300A310	8.36
1	M5×0.8	22.5	11	25	94300A320	5.11
1	M6×1	27.8	13.6	25	94300A330	5.55
1	M8×1.25	30.3	14.8	20	94300A340	6.11
1	M10×1.5	36.2	17.7	10	94300A350	5.48
1	M12×1.75	49.4	24.1	5	94300A360	4.60
5	M5×0.8	28.6	12.7	5	94309A145	12.15
5	M6×1	34.9	15.9	5	94309A150	11.76
5	M8×1.25	36.5	17.5	5	94309A155	12.08
5	M16×2	69.9	30.2	1	94309A170	4.97
6	M6×1	25.4	11.9	5	94309A350	11.59
6	M6×1	27	17.5	5	94309A250	12.69
6	M8×1.25	41.3	25.4	5	94309A255	13.35
6	M10×1.5	41.3	25.4	5	94309A260	15.03
Metric Nylon 6/6— Choose a color: black, off-white						
1	M4×0.7	22.8	12.2	50	92124A510	8.27
1	M5×0.8	22.8	12.2	50	92124A520	8.27
1	M6×1	27.7	16	50	92124A530	9.92
1	M8×1.25	34.8	18.3	50	92124A540	11.56
1	M10×1.5	34.8	18.3	50	92124A550	11.56
1	M12×1.75	44.7	22.7	25	92124A560	7.96

Push Nuts for Threaded Studs and Rods

Slide these nuts over threads to hold fasteners in place. They're often used for light-duty holding, such as securing panels.

Round Push Nuts and Push Nut Drivers

With flexible teeth that slide smoothly over threads of any pitch, these can be used as a standalone nut for light-duty applications or as a jam nut to keep hex nuts and bolts securely fastened.

Drivers have a magnetized shank that holds push nuts in place during installation.





For Screw Size	OD	Ht.	Push Nuts Pkg. Qty.		Pkg.	Push Nut Drivers	Each
Black-Phosphate Steel Push Nuts							
No. 6	11/32"	1/16"	100	94800A705★	$5.77	93633A010	$46.28
No. 8	3/8"	1/16"	100	94800A700	7.20	93633A020	46.29
No. 10	7/16"	5/64"	100	94800A710	7.20	93633A030	46.29
1/4"	1/2"	5/64"	100	94800A720	7.60	93633A040	47.26
5/16"	5/8"	3/32"	100	94800A730	8.80	93633A050	47.84
3/8"	25/32"	3/32"	100	94800A740	10.55	93633A060	50.13
7/16"	27/32"	7/64"	100	94800A750	13.10	93633A070	50.74
1/2"	15/16"	1/8"	100	94800A760	14.00	93633A080	50.67

★ Zinc plated. ■ Has a black-phosphate finish.

For Screw Size	OD, mm	Ht., mm	Push Nuts Pkg. Qty.		Pkg.	Push Nut Drivers	Each
Metric Zinc-Plated Steel Push Nuts							
M5	11	1.7	100	94813A100	$6.55	93633A035	$53.05
M6	13	1.9	100	94813A200	8.33	93633A040	47.26
M6	17	2	100	94813A300	9.61	93633A050	47.84
M8	16	2	100	94813A400	9.09	93633A060	50.13
M10	20	2.3	50	94813A600■	6.67	93633A070	50.74
M12	21	3.2	50	94813A800	6.67	93633A080	50.67
M14	25	3.2	50	94813A900■	8.33		

Hex Push Nuts

Also known as hex speed nuts, these can be used as a standalone nut for light-duty applications or as a jam nut to keep hex nuts and bolts securely fastened. All are made from steel. Thread fit is Class 2B.



Thread Size	Finish	Wd.	Ht.	Pkg. Qty.		Pkg.
5/16"-18	Zinc Plated	1/2"	9/64"	10	92043A150	$4.62
3/8"-16	Zinc Plated	9/16"	9/64"	10	92043A160	5.48
3/8"-24	Zinc Plated	9/16"	1/8"	100	92043A100	10.76
1/2"-13	Hot-Dipped Galvanized	3/4"	3/16"	10	92043A170	6.74

Thread Size	Finish	Wd.	Ht.	Pkg. Qty.		Pkg.
1/2"-20	Zinc Plated	3/4"	11/64"	50	92043A200	$7.74
5/8"-11	Hot-Dipped Galvanized	15/16"	7/32"	5	92043A180	4.08
3/4"-10	Hot-Dipped Galvanized	1 1/8"	1/4"	10	92043A320	6.88
1"-8	Hot-Dipped Galvanized	1 5/8"	23/64"	10	92043A390	10.66

Flanged Push Nuts

A wide flange gives these nuts better load distribution than hex and rectangular push nuts. They're also known as flanged speed nuts. All are zinc-plated steel. They have a single Class 2B thread.



Thread Size	Flange Dia.	Hex Wd.	O'all Ht.	Pkg. Qty.		Pkg.
6-32	7/16"	5/16"	13/64"	100	90533A111	$5.91
8-32	15/32"	11/32"	7/32"	100	90533A113	7.27
10-24	1/2"	3/8"	15/64"	100	90533A117	7.27
10-24	3/4"	3/8"	17/64"	100	90533A120	11.21

Thread Size	Flange Dia.	Hex Wd.	O'all Ht.	Pkg. Qty.		Pkg.
10-32	1/2"	3/8"	13/64"	100	90533A115	$7.73
1/4"-20	19/32"	7/16"	1/4"	100	90533A124	10.91
1/4"-20	13/16"	7/16"	19/64"	100	90533A126	14.85

Rectangular Push Nuts

Also known as flat-style speed nuts, these nuts have a large surface area for better load distribution than hex push nuts for use with soft metals and plastics. They're black-phosphate steel. Thread fit is Class 2B.



Thread Size	Lg.	Wd.	Pkg. Qty.		Pkg.
For Threaded Screws and Studs					
2-56	3/8"	7/32"	100	90528A003	$13.27
4-40	7/16"	1/4"	25	90528A110▲	7.42
6-32	1/2"	5/16"	100	90528A111	8.77
6-32	7/8"	1/2"	100	90528A112	14.62
8-32	7/8"	1/2"	100	90528A113	15.96
10-24	3/4"	7/16"	100	90528A114	11.50

▲ Made from 18-8 stainless steel.

Thread Size	Lg.	Wd.	Pkg. Qty.		Pkg.
For Threaded Screws and Studs (Cont.)					
10-32	3/4"	7/16"	50	90528A117	$11.53
1/4"-20	1"	9/16"	100	90528A115	13.46
For Screw Size	Lg.	Wd.	Pkg. Qty.		Pkg.
For Sheet Metal and Thread-Forming Screws					
No. 8	5/8"	13/32"	100	90528A220	$12.88
No. 10	7/8"	1/2"	50	90528A240	9.46

Twist-On Nuts

Position at any point on a threaded rod for installations where access to the end of the rod is limited. Swivel the nut open and position it on the threaded rod, then twist closed to secure. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit.



Thread Size	Wd.	Ht.	Zinc-Plated Steel	Each	18-8 Stainless Steel	Each
1/4"-20	5/8"	3/8"	90125A029	$3.60	90125A083	$11.75
5/16"-18	3/4"	3/8"	90125A030	4.27		
3/8"-16	7/8"	1/2"	90125A031	4.76	90125A086	17.12
1/2"-13	1 1/16"	5/8"	90125A033	4.83	90125A088	21.68
5/8"-11	1 5/16"	21/32"	90125A035	5.76		
3/4"-10	1 5/8"	13/16"	90125A036	19.50	90125A094	45.44
7/8"-9	2"	1"	90125A038	26.10		
1"-8	2"	1"	90125A040	26.10		

Thread Size	Wd., mm	Ht., mm	Metric Zinc-Plated Steel	Each
M6×1	16	10	90125A061	$3.60
M10×1.5	22	12	90125A063	4.76
M12×1.75	27	16	90125A065	4.83
M16×2	33	17	90125A067	5.76

Push-Button Slide-Adjust Nuts

For quick installation and easy adjustments, push the button to disengage threads and slide the nut in place, then release the button and the threads engage. Nuts are made from black-oxide steel. Thread fit is Class 2B.



Hex



Hex with Flange



Round with Knurls

Thread Size	Wd.	O'all Ht.	Flange Dia.	Each
Hex				
1/4"-20	7/8"	9/16"	—	98150A110 $8.57
5/16"-18	1"	5/8"	—	98150A130 10.36
3/8"-16	1"	5/8"	—	98150A150 10.36
1/2"-13	1 3/8"	1 1/8"	—	98150A170 13.10
5/8"-11	1 3/8"	1 1/8"	—	98150A190 13.10
Hex with Flange				
1/4"-20	7/8"	5/8"	1"	98150A320 8.69
5/16"-18	1"	13/16"	1 1/4"	98150A340 10.48
3/8"-16	1"	13/16"	1 1/4"	98150A360 10.48
1/2"-13	1 3/8"	1 1/8"	1 5/8"	98150A380 13.10
5/8"-11	1 3/8"	1 1/8"	1 5/8"	98150A420 13.10
Round with Knurls				
1/4"-20	1"	9/16"	—	98150A710 8.57
5/16"-18	1 1/8"	3/4"	—	98150A730 10.36
3/8"-16	1 1/8"	3/4"	—	98150A750 10.36
1/2"-13	1 1/2"	1 1/8"	—	98150A770 13.10
5/8"-11	1 1/2"	1 1/8"	—	98150A790 13.10

Hex Coupling Nuts



Extend lengths of threaded rod or join threaded parts. Also known as extension nuts, they're about three-times taller than standard hex nuts, allowing room to thread fasteners or threaded parts from both ends. Nuts are fully threaded, unless noted. Inch sizes have a Class 2B thread fit. Metric sizes meet DIN 6334 (unless noted) and have a Class 6H thread fit.

Hot-dipped galvanized nuts must be used with other hot-dipped galvanized fasteners for a correct thread fit.

Inch Sizes

Thread Size	Lg.	Wd.		Each♦
Uncoated Extreme-Strength Grade 2H Steel				
1/4"-20	7/8"	1/2"	90654A305	$33.32
3/8"-16	1 3/4"	11/16"	90654A311	33.75
1/2"-13	1 3/4"	7/8"	90654A317	34.60
5/8"-11	2 1/8"	1 1/16"	90654A323	35.76
3/4"-10	2 1/4"	1 1/4"	90654A329	37.33
7/8"-9	2 1/2"	1 7/16"	90654A334	38.39
1"-8	2 3/4"	1 5/8"	90654A340	40.47
1 1/4"-7	3"	2"	90654A346	62.24
1 1/2"-6	3 1/2"	2 1/2"	90654A351	70.99
Zinc-Plated High-Strength Grade 8 Steel				
1/4"-20	7/8"	1/2"	90983A205	13.68
5/16"-18	7/8"	1/2"	90983A206	16.48
5/16"-24	7/8"	1/2"	90983A207	16.88
3/8"-16	1 3/4"	5/8"	90983A211	13.76
3/8"-24	1 3/4"	5/8"	90983A212	19.08
7/16"-14	1 3/4"	3/4"	90983A213	20.64
7/16"-20	1 3/4"	3/4"	90983A214	21.68
1/2"-13	1 3/4"	3/4"	90983A217	14.04
1/2"-20	1 3/4"	3/4"	90983A218	20.64
5/8"-11	2 1/8"	15/16"	90983A223	14.40
5/8"-18	2 1/8"	15/16"	90983A224	27.48
3/4"-10	2 1/4"	1 1/8"	90983A229	17.60
3/4"-16	2 1/4"	1 1/8"	90983A230	26.20
7/8"-9	2 1/2"	1 5/16"	90983A234	44.40
7/8"-14	2 1/2"	1 5/16"	90983A235	30.72
1"-8	2 3/4"	1 1/2"	90983A240	51.20
1"-14	2 3/4"	1 1/2"	90983A241	57.60
1 1/4"-7	3"	1 7/8"	90983A246	52.33
1 1/2"-6	3 1/2"	2 1/4"	90983A251	71.86
Zinc-Plated Medium-Strength Grade 5 Steel				
8-32	5/8"	1/2"	90977A013	4.80
10-24	3/4"	1/2"	90977A017	5.47
10-32	3/4"	1/2"	90977A021	4.87
1/4"-20	7/8"	1/2"	90977A130	2.90
1/4"-28	7/8"	1/2"	90977A140	4.70
5/16"-18	1 1/8"	1/2"	90977A150	4.73
5/16"-24	1 1/8"	1/2"	90977A160	4.67
3/8"-16	1 3/4"	5/8"	90977A165	3.53
3/8"-24	1 3/4"	5/8"	90977A170	4.77
7/16"-14	1 3/4"	5/8"	90977A180	4.77
7/16"-20	1 3/4"	5/8"	90977A190	4.80
1/2"-13	1 3/4"	3/4"	90977A195	4.23
1/2"-20	1 3/4"	3/4"	90977A034	5.27
5/8"-11	2 1/8"	13/16"	90977A205	5.70
5/8"-18	2 1/8"	13/16"	90977A210	5.40
3/4"-10	2 1/4"	1"	90977A215	7.67
3/4"-16	2 1/4"	1"	90977A220	7.47
7/8"-9	2 1/2"	1 1/4"	90977A037	12.43
7/8"-14	2 1/2"	1 1/4"	90977A225	15.70
1"-8	2 3/4"	1 3/8"	90977A038	16.30
1"-14	2 3/4"	1 3/8"	90977A230	32.40
1 1/8"-7	3"	1 1/2"	90977A235	22.67
1 1/4"-7	3"	1 5/8"	90977A240	22.63
1 1/2"-6	3 1/2"	2"	90977A245	37.59
Zinc-Plated Low-Strength Steel				
4-40	7/16"	5/16"	90264A410	2.04
6-32	1/2"	5/16"	90264A415	1.92
8-32	5/8"	5/16"	90264A420	1.39
10-24	3/4"	5/16"	90264A425	.36
10-32	3/4"	5/16"	90264A430	.42
1/4"-20	7/8"	3/8"	90264A435	.20
1/4"-20	1 1/2"	7/16"	90264A437	1.87
1/4"-28	7/8"	3/8"	90264A440	.42
5/16"-18	7/8"	1/2"	90264A445	.45
5/16"-18	1 3/4"	1/2"	90264A447	.99
5/16"-24	1 1/8"	1/2"	90264A450	1.93
3/8"-16	1 1/8"	11/16"	90264A213	1.69
3/8"-16	1 3/4"	5/8"	90264A460	$0.81
3/8"-16	4"	3/4"	90264A212	9.78
3/8"-24	1 3/4"	9/16"	90264A470	3.38
7/16"-14	1 3/4"	5/8"	90264A475	.89
7/16"-20	1 3/4"	9/16"	90264A480	2.08
1/2"-13	1 3/4"	11/16"	90264A485	1.02
1/2"-13	1 3/4"	7/8"	90264A221	1.85
1/2"-13	4"	7/8"	90264A222	6.65
1/2"-20	1 3/4"	11/16"	90264A505	2.29
9/16"-12	2 1/8"	13/16"	90264A515	3.41
9/16"-18	2 1/8"	13/16"	90264A520	3.83
5/8"-11	2 1/8"	13/16"	90264A525	1.48
5/8"-11	2 1/8"	11/16"	90264A231	4.03
5/8"-11	5"	1 1/8"	90264A233	11.50
5/8"-18	2 1/8"	13/16"	90264A235	2.28
3/4"-10	1 1/2"	1 1/4"	90264A242	2.77
3/4"-10	2 1/4"	1"	90264A241	2.51
3/4"-10	2 1/4"	1 1/4"	90264A243	5.26
3/4"-10	3"	1"	90264A500	5.60
3/4"-10	5"	1 1/4"	90264A244	15.65
3/4"-16	2 1/4"	1"	90264A245	3.16
7/8"-9	2 1/2"	1 1/4"	90264A250	4.31
7/8"-9	7"	1 3/8"	90264A253	25.44
7/8"-14	2 1/2"	1 1/4"	90264A255	7.37
1"-8	2 3/4"	1 3/8"	90264A260	6.11
1"-8	3"	1 5/8"	90264A262	10.74
1"-8	7"	1 5/8"	90264A263	28.42
1"-14	2 3/4"	1 3/8"	90264A265	15.32
1 1/4"-7	3"	1 5/8"	90264A270	13.23
1 1/4"-12	3"	1 5/8"	90264A275	14.83
1 1/2"-6	3 1/2"	2"	90264A290	18.62
1 1/2"-12	3 1/2"	2"	90264A295	23.72
1 3/4"-5	5"	2 3/8"	90264A300	32.55
2"-4 1/2	4 1/2"	2 3/4"	90264A310	42.40
2 1/4"-4 1/2	5"	3 1/4"	90264A600	96.10
2 1/2"-4	5 1/2"	3 1/2"	90264A610	103.84
3"-4	6 3/4"	4"	90264A615	177.38
Hot-Dipped Galvanized Low-Strength Steel				
3/8"-16	1 3/4"	5/8"	93350A100	3.07
7/16"-14	1 3/4"	5/8"	93350A105	3.31
1/2"-13	1 3/4"	11/16"	93350A110	3.20
5/8"-11	2 1/8"	13/16"	93350A115	4.15
3/4"-10	2 1/4"	1"	93350A120	5.76
3/4"-10	3"	1"	93350A125	7.65
7/8"-9	2 1/2"	1 1/4"	93350A037	9.81
1"-8	2 3/4"	1 3/8"	93350A038	10.35
1"-8	3"	1 3/8"	93350A136	10.27
1 1/8"-7	3"	1 1/2"	93350A147	16.92
1 1/4"-7	3"	1 5/8"	93350A040	19.85
1 1/2"-6	3 1/2"	2"	93350A158	28.44
Black-Oxide Low-Strength Steel				
1/4"-20	5/8"	1/2"	91034A100	2.19
5/16"-18	7/8"	9/16"	91034A105	2.34
3/8"-16	1"	11/16"	91034A110	2.56
7/16"-14	1 1/4"	3/4"	91034A115	2.98
1/2"-13	1 1/4"	7/8"	91034A120	3.19
5/8"-11	1 5/8"	1 1/16"	91034A125	4.61
3/4"-10	1 7/8"	1 1/4"	91034A130	6.35
7/8"-9	2 1/4"	1 7/16"	91034A135	9.65
1"-8	2 1/2"	1 5/8"	91034A140	10.04
316 Stainless Steel				
0-80	3/8"	1/4"	90104A101	5.32
2-56	3/8"	1/4"	90104A102	5.40
4-40	7/16"	5/16"	90104A103	5.84
6-32	1/2"	5/16"	90104A104	6.20
8-32	5/8"	3/8"	90104A105	7.24
10-24	3/4"	3/8"	90104A106	7.72
10-32	3/4"	3/8"	90104A107	7.72
316 Stainless Steel (Cont.)				
1/4"-20	7/8"	3/8"	90104A005	$3.01
1/4"-28	7/8"	1/2"	90104A006	10.82
5/16"-18	1"	7/16"	90104A007	3.79
5/16"-24	1"	7/16"	90104A108	8.20
3/8"-16	1 1/8"	1/2"	90104A010	3.65
3/8"-24	1 1/8"	1/2"	90104A012	12.35
7/16"-14	1 1/4"	9/16"	90104A109	8.60
7/16"-20	1 1/4"	9/16"	90104A112	8.60
1/2"-13	1 1/4"	5/8"	90104A015	5.10
1/2"-20	1 1/4"	5/8"	90104A017	13.03
5/8"-11	2 1/8"	13/16"	90104A020	15.91
5/8"-18	2 1/8"	13/16"	90104A113	19.16
3/4"-10	2 1/4"	1"	90104A025	21.53
3/4"-16	2 1/4"	1"	90104A114	30.96
7/8"-9	2 1/2"	1 1/4"	90104A037	29.09
1"-8	2 1/2"	1 3/8"	90104A038	31.54
1 1/8"-7	3"	1 1/2"	90104A045	104.18
1 1/4"-7	3"	1 5/8"	90104A055	104.63
18-8 Stainless Steel				
0-80	1/4"	1/8"	90268A201	1.78
1-72	5/16"	3/16"	90268A202	1.99
2-56	5/16"	3/16"	90268A203	1.99
3-48	5/16"	1/4"	90268A204	2.26
4-40	7/16"	5/16"	90268A205	2.69
4-40	1"	5/16"	90268A206	3.74
5-40	7/16"	5/16"	90268A207	2.69
6-32	1/2"	5/16"	90268A208	2.69
6-32	1"	5/16"	90268A209	3.74
8-32	5/8"	3/8"	90268A009	5.15
8-32	1"	3/8"	90268A211	3.74
10-24	3/4"	3/8"	90268A011	4.88
10-24	2"	3/8"	90268A212★	6.21
10-32	3/4"	3/8"	90268A320	4.12
10-32	2"	3/8"	90268A213★	6.21
12-24	3/4"	3/8"	90268A214	3.54
1/4"-20	7/8"	3/8"	90268A029	.76
1/4"-20	3"	1/2"	90268A215★	10.75
1/4"-20	6"	1/2"	90268A216★	20.26
1/4"-28	7/8"	3/8"	90268A325	1.18
5/16"-18	1"	7/16"	90268A030	1.06
5/16"-18	3"	5/8"	90268A217★	23.23
5/16"-18	6"	5/8"	90268A218★	30.04
5/16"-24	1"	7/16"	90268A330	1.76
3/8"-16	1 1/8"	1/2"	90268A031	1.22
3/8"-16	1 3/4"	5/8"	90268A032	7.91
3/8"-16	4"	5/8"	90268A219★	18.47
3/8"-16	6"	5/8"	90268A221★	26.05
3/8"-24	1 1/8"	1/2"	90268A335	2.25
7/16"-14	1 1/4"	9/16"	90268A034	2.91
7/16"-20	1 1/4"	9/16"	90268A340	3.94
1/2"-13	1 1/4"	5/8"	90268A033	2.21
1/2"-13	1 3/4"	11/16"	90268A125	8.37
1/2"-13	4"	3/4"	90268A223★	30.20
1/2"-13	6"	3/4"	90268A224★	36.88
1/2"-20	1 1/4"	5/8"	90268A345	2.96
9/16"-12	2 1/8"	13/16"	90268A101	18.83
9/16"-18	2 1/8"	13/16"	90268A102	18.83
5/8"-11	1 3/4"	7/8"	90268A035	4.90
5/8"-18	2 1/8"	13/16"	90268A350	11.62
3/4"-10	2 1/4"	1"	90268A036	7.95
3/4"-16	2 1/4"	1"	90268A355	18.47
7/8"-9	2 1/2"	1 1/4"	90268A037	15.08
1"-8	2 1/2"	1 3/8"	90268A038	18.29
Brass				
4-40	7/16"	5/16"	90465A101	7.04
6-32	1/2"	5/16"	90465A102	7.40
8-32	5/8"	3/8"	90465A103	8.20
10-24	3/4"	3/8"	90465A104	9.24
10-32	3/4"	3/8"	90465A105	9.24

★ Partially threaded on both ends.

(Continued on following page)

♦ ***Prices are 15% lower when you buy in multiples of 10.***

Hex Coupling Nuts *(Continued from previous page)*

Inch Sizes

Thread Size	Lg.	Wd.		Each ♦
Brass (Cont.)				
1/4"-20	7/8"	3/8"	90465A210	$3.76
5/16"-18	7/8"	1/2"	90465A215	5.96
3/8"-16	1 1/8"	1/2"	90465A220	5.79
3/8"-16	1 3/4"	5/8"	90465A222	5.80
1/2"-13	1 1/4"	5/8"	90465A225	6.20
1/2"-13	1 3/4"	11/16"	90465A228	7.88
5/8"-11	2 1/8"	13/16"	90465A230	10.96
3/4"-10	2 1/4"	1"	90465A235	20.05
1"-8	2 3/4"	1 3/8"	90465A245	55.80
Aluminum				
4-40	7/16"	5/16"	90012A101	3.52
Aluminum (Cont.)				
6-32	1/2"	5/16"	90012A102	$3.76
8-32	5/8"	3/8"	90012A103	4.38
10-24	3/4"	3/8"	90012A104	4.66
10-32	3/4"	3/8"	90012A105	4.66
1/4"-20	7/8"	3/8"	90012A106	4.83
5/16"-18	1"	7/16"	90012A107	4.97
3/8"-16	1 1/8"	1/2"	90012A108	5.10
1/2"-13	1 1/4"	5/8"	90012A109	5.49
5/8"-11	2 1/8"	7/8"	90012A100	12.59
3/4"-10	2 1/4"	1"	90012A120	13.52
Aluminum (Cont.)				
7/8"-9	2 1/2"	1 1/4"	90012A130	$33.17
1"-8	2 3/4"	1 3/8"	90012A140	38.03
Nylon 6/6—Color is off-white				
2-56	5/16"	3/16"	92319A230	1.30
4-40	3/8"	1/4"	92319A633	1.41
6-32	1/2"	3/8"	92319A744	1.71
8-32	5/8"	3/8"	92319A748	1.87
10-32	3/4"	3/8"	92319A749	1.96
1/4"-20	1"	1/2"	92319A772	2.98
3/8"-16	1 1/2"	5/8"	92319A092★	7.86

★ Partially threaded on both ends.

Metric Sizes—Dimensions in millimeters

Thread Size	Lg.	Wd.		Each ♦
Zinc-Plated High-Strength Class 10 Steel				
M6×1	18	10	90331A551	$1.07
M8×1.25	24	13	90331A552	2.43
M10×1.5	30	17	90331A553	4.73
M12×1.75	36	19	90331A554	4.97
Zinc-Plated Medium-Strength Class 8 Steel				
M6×1	18	10	90009A221	.40
M8×1.25	24	13	90009A222	.53
M10×1.5	30	17	90009A223	1.10
M12×1.75	36	19	90009A224	1.60
M16×2	48	24	90009A225	3.30
M20×2.5	60	30	90009A226	6.30
M24×3	72	36	90009A227	16.30
M30×3.5	90	46	90009A228	28.13
Zinc-Plated Low-Strength Steel				
M4×0.7	12	7	93355A310	.27
M5×0.8	15	8	93355A320	.33
M6×1	18	10	93355A330	.34
Zinc-Plated Low-Strength Steel (Cont.)				
M8×1.25	24	13	93355A340	$0.44
M10×1.5	30	17	93355A350	.93
M12×1.75	36	19	93355A360	1.40
M14×2	42	22	93355A370	2.17
M16×2	48	24	93355A380	2.67
M20×2.5	60	30	93355A390	5.31
M24×3	72	36	93355A410	11.67
Black-Oxide Low-Strength Steel ▲				
M6×1	16	13	93020A775	4.07
M8×1.25	19	14	93020A781	4.07
M10×1.5	24	16	93020A782	4.34
M12×1.75	32	22	93020A783	5.73
M16×2	40	27	93020A786	7.31
M20×2.5	51	32	93020A785	10.04
M24×3	64	38	93020A791	13.73
316 Stainless Steel				
M5×0.8	15	8	90111A331	.97
316 Stainless Steel (Cont.)				
M6×1	18	10	90111A332	$1.60
M8×1.25	24	13	90111A333	2.50
M10×1.5	30	17	90111A334	5.80
M12×1.75	36	19	90111A335	6.27
18-8 Stainless Steel				
M2×0.4	6	4	93590A101▲	6.50
M2.5×0.45	6	4	93590A102▲	6.50
M3×0.5	9	5	93590A103▲	6.83
M4×0.7	12	7	93590A104▲	8.50
M5×0.8	15	8	93590A105	.37
M6×1	18	10	93590A106	.70
M8×1.25	24	13	93590A107	1.40
M10×1.5	30	17	93590A108	2.77
M12×1.75	36	19	93590A109	3.83
M16×2	48	24	93590A112	9.33
M20×2.5	60	30	93590A113	19.00

▲ Do not meet a DIN standard.

Left-Hand Threaded—Inch Sizes

Thread Size	Lg.	Wd.		Each ♦
Zinc-Plated Low-Strength Steel				
3/8"-16	1 3/4"	5/8"	93345A231	$3.42
1/2"-13	1 3/4"	11/16"	93345A233	3.61
5/8"-11	2 1/8"	13/16"	93345A235	4.17
3/4"-10	2 1/4"	1"	93345A236	5.76
Zinc-Plated Low-Strength Steel (Cont.)				
7/8"-9	2 1/2"	1 1/4"	93345A239	$8.83
1"-8	2 3/4"	1 3/8"	93345A038	10.47
1 1/4"-7	3"	1 5/8"	93345A240	12.55



Hex Coupling Nuts with Sight Hole

Check for proper thread engagement. Nuts are fully threaded. They're made from zinc-plated low-strength Grade 2 steel. All have a Class 2B thread fit.



Thread Size	Lg.	Wd.	Sight Hole Dia.		Each ♦
8-32	5/8"	5/16"	1/16"	93525A277	$3.99
10-24	3/4"	5/16"	5/64"	93525A280	4.00
10-32	3/4"	5/16"	5/64"	93525A283	4.83
1/4"-20	3/4"	3/8"	3/32"	93525A286	8.27
1/4"-28	3/4"	3/8"	3/32"	93525A289	8.66
5/16"-18	15/16"	1/2"	3/32"	93525A292	8.29
3/8"-16	1 1/8"	9/16"	1/8"	93525A301	3.30
3/8"-24	1 1/8"	9/16"	1/8"	93525A298	8.75
1/2"-13	1 1/2"	3/4"	3/16"	93525A308	4.77
5/8"-11	1 7/8"	15/16"	3/16"	93525A315	5.37
3/4"-10	2 1/4"	1 1/8"	3/16"	93525A322	6.73
1"-8	3"	1 1/2"	1/4"	93525A329	13.86

Metric Round Coupling Nuts

With a smooth rounded body for a finished look, these nuts can be used to extend lengths of threaded rod or join threaded parts. Nuts are fully threaded. They're made from 18-8 stainless steel. All meet DIN 88088. Thread fit is Class 6H.



Thread Size	Lg., mm	OD, mm		Each ♦
M6×1	25	10	90202A441	$1.67
M8×1.25	25	11	90202A442	1.73
M10×1.5	30	13	90202A443	2.37
M12×1.75	30	15	90202A444	3.33
M16×2	40	22	90202A445	7.17

♦ ***Prices are 15% lower when you buy in multiples of 10.***

Tamper-Resistant Nuts

Difficult to remove without special tools, these nuts can be used to fasten objects in public spaces such as signs, lighting fixtures, and displays. Nuts have a Class 2B thread fit, except spanner nuts have a Class G3 thread fit. These nuts can be used with carriage bolts (see pages 3178-3179) where screw heads are inaccessible.

Sloped Nuts



These nuts have four sloped sides, making them difficult to grasp with standard hand tools once installed. To install, thread a second sloped nut onto the bolt upside down and insert a wrench between the two nuts to fasten. They're zinc yellow-chromate plated steel, except M6×1 are cadmium chromate steel. Nuts are reusable.

Thread Size	Base Wd.	Ht.	Pkg. Qty.		Pkg.
1/4"-20	1.05"	0.23"	5	98789A110	$4.76
5/16"-18	1.05"	0.23"	5	98789A120	4.94
3/8"-16	1.05"	0.23"	5	98789A130	5.26
M6×1	1.05"	0.23"	5	98789A210	4.76
M8×1.25	1.05"	0.23"	5	98789A220	4.94
M10×1.5	1.05"	0.23"	5	98789A230	5.26

Breakaway Nuts





After Installation

More difficult to remove than sloped nuts, a hex head breaks away upon tightening, leaving a non-removable cone to keep property secure. These nuts can be installed using a standard wrench. They're made from aluminum. Nuts are not reusable.

Thread Size	Breaking Torque, in.-lbs.	Hex Wd.	Base Ht.	Pkg. Qty.		Pkg.
10-24	38-40	7/16"	3/16"	10	90013A150	$6.85
1/4"-20	70	9/16"	7/32"	10	90013A175	8.57
5/16"-18	150	5/8"	7/32"	10	90013A200	9.15
3/8"-16	185-195	3/4"	1/4"	10	90013A225	12.00

Spanner Nuts and Driver



A wide base and large bearing surface make these good for securing larger objects. Nuts must be installed and removed with a spanner driver. They're made from corrosion resistant zinc alloy. Nuts are reusable.

Thread Size	Base Dia.	Ht.	Pkg. Qty.		Pkg.
1/4"-20	1"	1/4"	10	90078A110	$12.00
5/16"-18	1"	1/4"	10	90078A120	12.00
3/8"-16	1"	1/4"	10	90078A130	12.00
Spanner Driver				90078A041	10.00

Tri-Groove Nuts and Socket Bits



Fasten these nuts from the side where clearance is limited. Install with a 3/8" tri-groove socket bit and drive handle (sold separately). Nuts are made from zinc-plated steel. They're reusable.

Thread Size	Base Dia.	Ht.	Nuts Pkg. Qty.	Nuts Pkg.	Tri-Groove Socket Bits	Each
10-24	0.64"	0.265"	25	90080A220 $12.86	7393A37	$27.17
10-32	0.64"	0.265"	25	90080A230 12.86	7393A37	27.17
1/4"-20	0.64"	0.265"	25	90080A240 13.58	7393A37	27.17
5/16"-18	0.83"	0.345"	25	90080A250 17.50	7393A38	30.43
3/8"-16	0.83"	0.345"	25	90080A260 17.50	7393A38	30.43
Drive Handle for Socket Bits					5522A77	11.48

Serrated-Edge Locknuts and Driver



Serrations dig into the material surface to resist loosening. These nuts must be installed with a serrated-edge driver (sold separately). They're made from aluminum. Nuts are not reusable.

Thread Size	Base Dia.	Ht.	Pkg. Qty.		Pkg.
10-24	1/2"	3/16"	25	98577A110	$9.12
1/4"-20	1/2"	3/16"	10	98577A120	4.00
5/16"-18	1/2"	3/16"	10	98577A130	4.40
Serrated-Edge Driver				98577A200	64.00

T-Slot Nuts

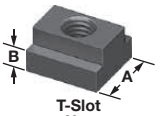

T-Slot Nut



Drop-In T-Slot Nut

Designed to fit into T-slot tracks on machine tool tables, these nuts can be used to secure clamps or work pieces. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit.

T-slot nuts slide into T-slot tracks.

Drop-in T-slot nuts, also known as quarter-turn T-slot nuts, can be installed from the top of the T-slot track and secured with a quarter turn.

Fully threaded nuts allow a stud to extend beyond the bottom of the nut. *Partially threaded* nuts keep studs from traveling past the bottom of the nut and causing damage to your work table.

T-Slot Nuts

Thread Size	For Slot Wd.	(A)	(B)	Fully Threaded	Partially Threaded	Each
Black-Oxide Steel						
1/4"-20	5/16"	9/16"	3/16"	94750A588	90526A581	$3.04
1/4"-20	3/8"	9/16"	15/64"	94750A594	90526A711	3.06
5/16"-18	3/8"	5/8"	1/4"	94750A580	90526A580	2.56
5/16"-18	7/16"	11/16"	7/32"	94750A602	90526A712	2.57
5/16"-18	1/2"	7/8"	9/32"	94750A701	90526A713	2.38
3/8"-16	7/16"	11/16"	7/32"	94750A581	90526A584	2.56
3/8"-16	1/2"	7/8"	9/32"	94750A582	90526A588	2.56
3/8"-16	9/16"	7/8"	11/32"	94750A595	90526A592	2.92
7/16"-14	1/2"	7/8"	9/32"	94750A589	90526A593	3.41
1/2"-13	9/16"	7/8"	11/32"	94750A583	90526A596	3.04
1/2"-13	5/8"	1"	11/32"	94750A584	90526A600	3.17
1/2"-13	5/8"	1 1/8"	3/8"	94750A604	90526A601	4.19
1/2"-13	11/16"	1 1/8"	7/16"	94750A585	90526A604	3.41
1/2"-13	3/4"	1 1/4"	15/32"	94750A596	90526A602	4.75
5/8"-11	11/16"	1 1/8"	7/16"	94750A586	90526A612	3.50
5/8"-11	3/4"	1 1/4"	15/32"	94750A587	90526A616	3.77
5/8"-11	13/16"	1 1/4"	9/16"	94750A597	90526A620	5.65
3/4"-10	13/16"	1 1/4"	9/16"	94750A590	90526A624	5.96
3/4"-10	7/8"	1 1/2"	9/16"	94750A598	90526A628	6.73
3/4"-10	1"	1 5/8"	5/8"	94750A591	90526A632	7.31
3/4"-10	1"	1 3/4"	3/4"	94750A599	90526A633	11.19
3/4"-10	1 1/16"	1 5/8"	11/16"	94750A705	90526A640	8.56
7/8"-9	1"	1 5/8"	5/8"	94750A592	90526A636	7.75
7/8"-9	1 1/16"	1 5/8"	11/16"	94750A600	90526A714	8.19
7/8"-9	1 1/8"	1 3/4"	3/4"	94750A707	90526A715	8.21
7/8"-9	1 5/16"	2"	15/16"	94750A708	90526A716	8.98
1"-8	1 1/16"	1 5/8"	11/16"	94750A601	90526A648	9.00
1"-8	1 1/8"	1 3/4"	3/4"	94750A711	90526A717	8.85
1"-8	1 1/4"	2"	7/8"	94750A603	90526A718	18.92
1"-8	1 5/16"	2"	15/16"	94750A712	90526A719	9.48
1 1/4"-7	1 3/8"	2 1/2"	1 1/8"	94750A713	90526A658	35.81
18-8 Stainless Steel						
1/4"-20	5/16"	1/2"	3/16"	90642A359	94762A459	6.76
5/16"-18	3/8"	5/8"	7/32"	90642A361	94762A461	6.08
3/8"-16	7/16"	3/4"	7/32"	90642A362	94762A462	6.74
3/8"-16	1/2"	7/8"	1/4"	90642A363	94762A463	6.74
1/2"-13	9/16"	7/8"	11/32"	90642A364	94762A464	8.16
1/2"-13	5/8"	1"	3/8"	90642A365	94762A465	8.60
1/2"-13	5/8"	1 1/8"	7/16"	90642A366	94762A466	8.69
5/8"-11	11/16"	1 1/8"	15/32"	90642A367	94762A467	10.66
5/8"-11	11/16"	1 1/4"	15/32"	90642A368	94762A468	10.66
Metric Black-Oxide Steel—Dimensions in millimeters						
M6×1	8	14	6	90510A211	90974A111	4.67
M6×1	10	16	6	90510A212	90974A113	4.69
M8×1.25	10	16	6	90510A213	90974A115	4.73
M10×1.5	12	19	7	90510A214	90974A116	4.73
M10×1.5	14	22	9	90510A215	90974A118	5.53
M12×1.75	14	22	9	90510A216	90974A117	5.53
M12×1.75	16	25	9	90510A217	90974A119	5.53
M12×1.75	17	29	11	90510A218	90974A120	6.60
M16×2	18	29	11	90510A219	90974A121	6.60
M16×2	20	32	14	90510A221	90974A122	7.11
M20×2.5	22	35	14	90510A222	90974A123	8.13
M24×3	27	41	18	90510A223	90974A128	8.93
M24×3	33	51	24	90510A224	90974A130	9.62

Drop-In T-Slot Nuts

Thread Size	For Slot Wd.	(A)	(B)	Fully Threaded	Partially Threaded	Each
Black-Oxide Steel						
3/8"-16	7/16"	7/16"	13/64"	90799A111	90803A311	$2.92
3/8"-16	1/2"	1/2"	17/64"	90799A112	90803A312	2.92
1/2"-13	9/16"	9/16"	21/64"	90799A113	90803A313	3.27
1/2"-13	5/8"	5/8"	21/64"	90799A114	90803A314	3.88
5/8"-11	11/16"	11/16"	27/64"	90799A115	90803A315	3.94
5/8"-11	3/4"	3/4"	29/64"	90799A116	90803A316	4.31
3/4"-10	1"	1"	39/64"	90799A117	90803A317	4.81

Press-In Nuts

Press into thin panels with an installation tool (see page 3238) or an arbor press. Installation requires access to both sides of the panel. Knurls on the bottom of the nut hold them firmly in place. They're also known as self-clinching, captive, and insert nuts. Inch sizes have a Class 2B thread fit, except nylon-insert locknuts have a Class 3B thread fit. Metric sizes have a Class 6H thread fit.

Nuts for soft metals and plastics are also known as broach style nuts and have a round head.

Nuts for sheet metal are also known as clinch style nuts. They have a round head, except metric nuts have a hex head.

Easy-align nuts have threads that float within the body to make alignment with mating holes easier.

Nylon-insert locknuts have a nylon 6/6 insert that grips threads to stay securely fastened. Maximum temperature is 250° F. Nylon absorbs moisture, which can cause the insert to become brittle over time in wet environments.

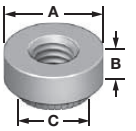

Thread Size	For Min. Panel Thick.	Mounting Hole Dia.	(A)	(B)	(C)	Tin-Plated Steel PEM® Part No.	Pkg. Qty.		Pkg.	18-8 Stainless Steel PEM® Part No.	Pkg. Qty.		Pkg.
For Soft Metals and Plastics													
2-56	0.06″	0.147″	0.22″	0.07″	0.17″	KF2-256	50	95117A411	$13.12	KFS2-256	25	94648A310	$10.57
4-40	0.06″	0.166″	0.22″	0.07″	0.18″	KF2-440	50	95117A422	12.65	KFS2-440	25	94648A320	10.16
6-32	0.06″	0.213″	0.28″	0.07″	0.23″	KF2-632	50	95117A433	12.69	KFS2-632	25	94648A330	11.89
8-32	0.06″	0.25″	0.34″	0.1″	0.27″	KF2-832	25	95117A444	7.06	KFS2-832	25	94648A340	13.96
10-24	0.06″	0.272″	0.38″	0.13″	0.29″	KF2-024	25	95117A455	11.55	KFS2-024	10	94648A350	6.88
10-32	0.06″	0.272″	0.38″	0.13″	0.29″	KF2-032	25	95117A466	8.36	KFS2-032	25	94648A360	15.48
1/4″-20	0.06″	0.328″	0.44″	0.24″	0.35″					KFS2-420	10	94648A370	10.68

Thread Size	For Min. Panel Thick.	Mounting Hole Dia.	(A)	(B)	(C)	Zinc-Plated Steel PEM® Part No.	Pkg. Qty.		Pkg.	18-8 Stainless Steel PEM® Part No.	Pkg. Qty.		Pkg.
For Sheet Metal													
2-56	0.03″	0.166″	0.25″	0.07″	0.17″	S-256-0	25	95185A103	$9.40	CLS-256-0	25	96439A040	$11.43
2-56	0.04″	0.166″	0.25″	0.07″	0.17″	S-256-1	25	95185A105	9.40	CLS-256-1	25	96439A060	11.43
2-56	0.056″	0.166″	0.25″	0.07″	0.17″	S-256-2	25	95185A107	9.40	CLS-256-2	25	96439A080	11.43
4-40	0.03″	0.166″	0.25″	0.07″	0.17″	S-440-0	50	95185A110	9.74	CLS-440-0	25	96439A100	11.91
4-40	0.04″	0.166″	0.25″	0.07″	0.17″	S-440-1	50	95185A120	9.74	CLS-440-1	25	96439A120	7.74
4-40	0.056″	0.166″	0.25″	0.07″	0.17″	S-440-2	50	95185A125	9.74	CLS-440-2	25	96439A140	7.74
4-40	0.09″	0.166″	0.25″	0.07″	0.17″	S-440-3	25	95185A127	10.36	CLS-440-3	25	96439A160	12.09
6-32	0.03″	0.188″	0.28″	0.07″	0.19″	S-632-0	50	95185A130	9.79	CLS-632-0	25	96439A200	8.25
6-32	0.04″	0.188″	0.28″	0.07″	0.19″	S-632-1	50	95185A140	9.79	CLS-632-1	25	96439A210	10.03
6-32	0.056″	0.188″	0.28″	0.07″	0.19″	S-632-2	50	95185A150	9.79	CLS-632-2	25	96439A230	8.25
6-32	0.09″	0.188″	0.28″	0.07″	0.19″	S-632-3	50	95185A153	10.79	CLS-632-3	25	96439A250	12.93
8-32	0.03″	0.213″	0.31″	0.09″	0.21″	S-832-0	50	95185A155	10.05	CLS-832-0	25	96439A300	14.24
8-32	0.04″	0.213″	0.31″	0.09″	0.21″	S-832-1	50	95185A160	10.05	CLS-832-1	25	96439A320	9.26
8-32	0.056″	0.213″	0.31″	0.09″	0.21″	S-832-2	50	95185A170	10.05	CLS-832-2	25	96439A340	9.26
8-32	0.09″	0.213″	0.31″	0.09″	0.21″	S-832-3	25	95185A171	5.26	CLS-832-3	25	96439A360	12.48
10-24	0.056″	0.25″	0.34″	0.09″	0.25″	SS-024-2	50	95185A176	12.90	CLSS-024-2	10	96439A430	6.56
10-24	0.09″	0.25″	0.34″	0.09″	0.25″	SS-024-3	25	95185A178	10.75	CLSS-024-3	10	96439A450	7.03
10-32	0.03″	0.25″	0.34″	0.09″	0.25″	SS-032-0	50	95185A180	12.53	CLSS-032-0	10	96439A500	7.08
10-32	0.04″	0.25″	0.34″	0.09″	0.25″	SS-032-1	25	95185A185	6.26	CLSS-032-1	10	96439A520	6.32
10-32	0.056″	0.25″	0.34″	0.09″	0.25″	SS-032-2	50	95185A190	12.53	CLSS-032-2	10	96439A540	6.32
10-32	0.09″	0.25″	0.34″	0.09″	0.25″	SS-032-3	25	95185A191	8.95	CLSS-032-3	10	96439A560	7.08
1/4″-20	0.047″	0.344″	0.44″	0.17″	0.34″	S-0420-0	25	95185A199	8.08	CLS-0420-0	10	96439A580	11.61
1/4″-20	0.056″	0.344″	0.44″	0.17″	0.34″	S-0420-1	25	95185A200	10.16	CLS-0420-1	10	96439A600	10.83
1/4″-20	0.09″	0.344″	0.44″	0.17″	0.34″	S-0420-2	25	95185A210	10.53	CLS-0420-2	5	96439A610	6.13
1/4″-20	0.125″	0.344″	0.44″	0.17″	0.34″	S-0420-3	25	95185A205	12.35	CLS-0420-3	5	96439A630	6.84
5/16″-18	0.056″	0.413″	0.5″	0.23″	0.41″	S-0518-1	10	95185A251	4.33	CLS-0518-1	5	96439A700	9.37
5/16″-18	0.09″	0.413″	0.5″	0.23″	0.41″	S-0518-2	10	95185A260	5.52	CLS-0518-2	5	96439A720	9.74
5/16″-18	0.125″	0.413″	0.5″	0.23″	0.41″	S-0518-3	10	95185A270	8.02	CLS-0518-3	5	96439A740	9.78
5/16″-24	0.056″	0.413″	0.5″	0.23″	0.41″	S-0524-1	10	95185A280	9.71				
5/16″-24	0.09″	0.413″	0.5″	0.23″	0.41″	S-0524-2	10	95185A290	9.78				
3/8″-16	0.09″	0.5″	0.56″	0.27″	0.5″	S-0616-1	5	95185A310	6.21	CLS-0616-1	5	96439A800	11.38
3/8″-16	0.125″	0.5″	0.56″	0.27″	0.5″	S-0616-2	5	95185A320	6.30	CLS-0616-2	5	96439A820	11.56
3/8″-16	0.25″	0.5″	0.56″	0.27″	0.5″	S-0616-3	5	95185A330	7.34	CLS-0616-3	1	96439A840	2.70
Easy-Align for Sheet Metal													
4-40	0.054″	0.29″	0.36″	0.13″	0.29″	AS-440-2	5	90936A200	5.13	AC-440-2	5	99051A200	7.35
6-32	0.054″	0.328″	0.39″	0.13″	0.33″	AS-632-2	5	90936A400	5.25	AC-632-2	5	99051A400	7.44
8-32	0.054″	0.368″	0.44″	0.13″	0.37″	AS-832-2	5	90936A600	5.66	AC-832-2	5	99051A600	8.56
10-32	0.054″	0.406″	0.47″	0.17″	0.41″	AS-032-2	5	90936A800	6.01	AC-032-2	5	99051A800	9.64
1/4″-20	0.054″	0.515″	0.6″	0.21″	0.51″	AS-0420-2	5	90936A900	7.14	AC-0420-2	1	99051A900	2.80
Nylon-Insert Locknuts for Sheet Metal													
2-56	0.06″	0.125″	0.15″	0.08″	0.13″						10	91835A510	6.41
4-40	0.06″	0.156″	0.18″	0.09″	0.16″						10	91835A520	6.71
6-32	0.06″	0.188″	0.24″	0.13″	0.19″						10	91835A530	10.28
8-32	0.06″	0.219″	0.27″	0.16″	0.22″						10	91835A540	10.69
10-32	0.06″	0.25″	0.29″	0.18″	0.25″						10	91835A550	11.01
Metric for Soft Metals and Plastics—Dimensions in millimeters													
M3×0.5	1.53	4.22	5.56	1.5	4.68					KFS2-M3	20	94100A110	8.27
M4×0.7	1.53	6.4	8.74	2	6.81					KFS2-M4	20	94100A130	11.64
M5×0.8	1.53	6.9	9.53	3	7.37					KFS2-M5	20	94100A140	13.11
Metric for Sheet Metal—Dimensions in millimeters													
M2.5×0.45	1	4.5	5.5	2.1	4.7		10	99437A125	6.30				
M3×0.5	1	4.5	5.5	2.1	4.7		25	99437A130	8.39		10	97648A410	7.24
M3×0.5	2	4.5	5.5	1.2	4.7		10	99437A135	5.71				
M4×0.7	1	5.5	7	2.3	5.7		25	99437A140	8.70		10	97648A420	8.15
M4×0.7	2	5.5	7	2.7	5.7		25	99437A145	10.76				
M5×0.8	1	6.5	8	3.1	6.75		25	99437A150	10.26		10	97648A430	7.79
M5×0.8	2	6.5	8	3.2	6.75		25	99437A155	10.80				
M6×1	1	8	10	4.1	8.25		10	99437A160	5.34		5	97648A440★	6.81
M6×1	2	8	10	3.2	8.25		10	99437A165	5.80				
M8×1.25	2	10	13	4.7	10.35		10	99437A170	6.48		1	97648A450♥	2.46
M10×1.5	2	12.5	15	6.2	12.85		5	99437A175	7.10		1	97648A460	3.44

★ (C) dimension is 8.3 mm. ♥ (C) dimension is 10.3 mm.

Installation Tools for Press-In Nuts



Kits include one hand tool, seven hole punches and dies, five fastener anvils, one flat punch, one punch adapter bushing, and one edge-depth guide. They come in a plastic case.

	For Screw Sizes		Each
For Inch Nuts	No. 2, No. 4, No. 6, No. 8, No. 10	90818A101	$426.96
For Metric Nuts	M2, M2.5, M3, M4, M5	90818A102	426.96

Flush-Mount Press-In Nuts

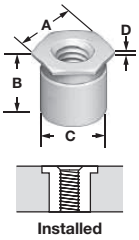

A flat hex head sits flush against the material surface for use in thin metal and plastic panels where space is limited. Install using an arbor press or similar tool. They're 18-8 stainless steel and may be mildly magnetic. All have a Class 2B thread fit.

Thread Size	For Min. Panel Thick.	Mounting Hole Dia.	(A)	(B)	(C)	(D)	Pkg. Qty.		Pkg.
4-40	0.04″	0.161″	3/16″	0.036″	0.159″	0.014″	25	94674A485	$7.81
4-40	0.062″	0.161″	3/16″	0.058″	0.159″	0.018″	25	94674A490	7.19
6-32	0.062″	0.203″	1/4″	0.058″	0.201″	0.018″	25	94674A510	7.02
6-32	0.125″	0.203″	1/4″	0.117″	0.201″	0.029″	25	94674A515	7.81
8-32	0.062″	0.265″	5/16″	0.058″	0.263″	0.018″	25	94674A520	8.44
10-32	0.093″	0.265″	5/16″	0.085″	0.263″	0.029″	25	94674A525	8.53
10-32	0.125″	0.265″	5/16″	0.117″	0.263″	0.029″	25	94674A528	8.80
1/4″-20	0.125″	0.386″	7/16″	0.117″	0.384″	0.029″	10	94674A533	5.88
1/4″-20	0.187″	0.386″	7/16″	0.177″	0.384″	0.029″	10	94674A537	8.63
1/4″-20	0.375″	0.386″	7/16″	0.359″	0.384″	0.029″	10	94674A540	9.25

Clip-On Nuts

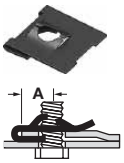

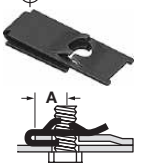

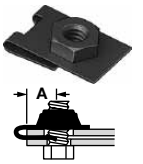

Also known as J-style nuts, slide them onto panels for a tight hold on assemblies. They're often used to add threads on the edge of materials that can't be welded or otherwise break easily, like plastic or thin metal panels. Nuts are black-phosphate spring steel.

Square style and **rectangle style** nuts are often used to secure parts on electric consoles. **Rectangle style with low-profile barrel** nuts, have multiple threads for a stronger hold.

For Machine Screws

Thread Size	For Panel Thickness	Ctr. of Hole to Panel Edge (A)	Pkg. Qty.		Pkg.
Square Style					
6-32	0.025″-0.04″	0.218″	25	94809A100	$6.85
8-32	0.025″-0.04″	0.234″	25	94809A106	7.04
8-32	0.045″-0.062″	0.234″	50	94809A108	13.06
10-24	0.025″-0.04″	0.203″	25	94809A205	9.54
10-24	0.045″-0.062″	0.203″	25	94809A215	9.61
10-32	0.025″-0.04″	0.203″	25	94809A225	8.25
Rectangle Style					
6-32	0.045″-0.062″	0.296″	25	94809A104	7.03
8-32	0.025″-0.04″	0.514″	25	94809A107	10.47

Thread Size	For Panel Thickness	Ctr. of Hole to Panel Edge (A)	Pkg. Qty.		Pkg.
Rectangle Style (Cont.)					
8-32	0.094″-0.102″	0.25″	50	94809A200	$16.84
10-24	0.045″-0.062″	0.562″	25	94809A220	10.33
1/4″-20	0.031″-0.062″	0.5″	25	94809A230	8.36
1/4″-20	0.075″-0.094″	0.687″	10	94809A240	6.85
Rectangle Style with Low-Profile Barrel					
1/4″-20	0.032″-0.093″	0.5″	25	90679A032	11.86
5/16″-18	0.087″-0.093″	0.563″	10	90679A200	7.51
3/8″-16	0.05″-0.09″	0.563″	25	90679A031	16.29

For Sheet Metal and Thread-Forming Screws

For Screw Size	For Panel Thickness	Ctr. of Hole to Panel Edge (A)	Pkg. Qty.		Pkg.
Square Style					
No. 6	0.025″-0.04″	0.218″	25	94809A605	$8.21
No. 6	0.045″-0.062″	0.218″	25	94809A615	8.21
No. 8	0.025″-0.045″	0.234″	25	94809A630	9.69
No. 8	0.045″-0.062″	0.234″	25	94809A640	8.00
No. 10	0.025″-0.04″	0.25″	25	94809A130	12.70
No. 10	0.045″-0.062″	0.25″	25	94809A120	11.53

For Screw Size	For Panel Thickness	Ctr. of Hole to Panel Edge (A)	Pkg. Qty.		Pkg.
Rectangle Style					
No. 6	0.025″-0.04″	0.468″	25	94809A610	$9.11
No. 8	0.025″-0.04″	0.515″	25	94809A635	10.07
No. 8	0.045″-0.062″	0.515″	50	94809A118	11.32
No. 10	0.025″-0.04″	0.562″	10	94809A131	6.05
No. 10	0.045″-0.062″	0.562″	10	94809A125	5.48

Easy-Align Clip-On Nuts



Square Style

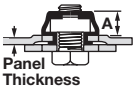



G-Style

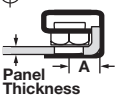

The nut floats within a retainer for easy alignment and installation of screws, bolts, and threaded rod.

Square style clip-on nuts are designed to fit into square holes. Mounting legs expand to lock the fastener in place. They can be installed by hand or with pliers. Nuts for #6 to 1/4″ size screws are 0.52″ wide; those for 5/16″ to 3/8″ size screws are 0.66″ wide, except nuts with (A) dimension of 0.41″ are 0.87″ wide; and those for 1/2″ size screws are 0.87″ wide. **G-style** clip-on nuts slide onto the edge of a panel.

Thread Size	For Panel Thickness	For Square Hole Size	(A) ★	Pkg. Qty.		Pkg.
Square Style						
Zinc Plated						
6-32	0.025″-0.063″	0.375″-0.38″	0.25″	25	90680A090	$13.07
8-32	0.025″-0.063″	0.375″-0.38″	0.25″	25	90680A115	9.00
8-32	0.064″-0.105″	0.375″-0.38″	0.25″	25	90680A100	13.70
8-32	0.093″-0.126″	0.375″-0.38″	0.25″	25	90680A101	15.39
10-24	0.025″-0.063″	0.375″-0.38″	0.25″	25	90680A120	13.89
10-24	0.064″-0.105″	0.375″-0.38″	0.25″	25	90680A121	10.42
10-32	0.025″-0.063″	0.375″-0.38″	0.25″	25	90680A125	13.01
10-32	0.064″-0.105″	0.375″-0.38″	0.25″	25	90680A126	10.13
10-32	0.093″-0.126″	0.375″-0.38″	0.25″	25	90680A127	10.85
1/4″-20	0.025″-0.063″	0.375″-0.38″	0.25″	25	90680A135	10.21
1/4″-20	0.093″-0.126″	0.375″-0.38″	0.25″	25	90680A137	10.14
1/4″-20	0.125″-0.156″	0.375″-0.38″	0.25″	25	90680A138	13.26
5/16″-18	0.028″-0.056″	0.503″-0.508″	0.3″	20	90680A145	16.80
5/16″-18	0.093″-0.126″	0.503″-0.508″	0.3″	10	90680A146	7.17

★ Measures center of hole to panel edge.

Thread Size	For Panel Thickness	For Square Hole Size	(A) ★	Pkg. Qty.		Pkg.
Square Style (Cont.)						
Zinc Plated (Cont.)						
5/16″-18	0.127″-0.162″	0.503″-0.508″	0.3″	10	90680A147	$9.48
3/8″-16	0.028″-0.056″	0.503″-0.508″	0.3″	10	90680A155	9.09
3/8″-16	0.093″-0.126″	0.503″-0.508″	0.3″	10	90680A156	7.53
3/8″-16	0.162″-0.21″	0.573″-0.578″	0.41″	5	90680A157	15.86
3/8″-16	0.24″-0.26″	0.588″-0.593″	0.41″	5	90680A158	14.80
1/2″-13	0.093″-0.126″	0.588″-0.593″	0.41″	5	90680A172	9.86
18-8 Stainless Steel						
10-32	0.064″-0.105″	0.343″-0.38″	0.25″	5	90680A300	8.14
1/4″-20	0.125″-0.156″	0.343″-0.38″	0.25″	5	90680A310	7.44
G-Style						
Zinc-Plated						
10-32	0.069″-0.079″	_____	0.285″	10	90542A343	8.57
M5×0.8	1.75 mm-2 mm	_____	7.23 mm	10	90542A349	10.98

No-Slip Clip-On Nuts

Screws thread through the top and bottom, so nuts don't slip or turn while being secured.

U-style with barrel nuts have a threaded insert for a stronger hold. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit.

U-style with hex nut fasteners have a hex-shaped barrel to be gripped with a wrench. Thread fit is Class 2B.

S-style nuts, also known as cage clip-on nuts, have a threaded insert enclosed by a steel retainer. They can be used on a wide range of panel thicknesses. Thread fit is Class 3B.

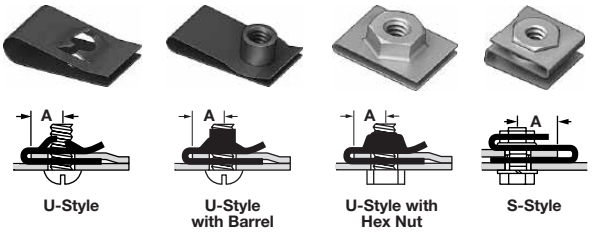

U-Style | U-Style with Barrel | U-Style with Hex Nut | S-Style

For Machine Screws

Thread Size	For Panel Thickness	Ctr. of Hole to Panel Edge (A)	Pkg. Qty.		Pkg.
U-Style—Black-Phosphate Steel					
6-32	0.025″-0.04″	0.218″	25	94808A101	$7.35
6-32	0.025″-0.04″	0.468″	25	94808A102	7.83
6-32	0.045″-0.062″	0.218″	25	94808A103	8.05
6-32	0.045″-0.062″	0.296″	25	94808A105	9.71
6-32	0.045″-0.062″	0.468″	25	94808A107	7.93
8-32	0.025″-0.04″	0.234″	25	94808A135	7.21
8-32	0.025″-0.04″	0.328″	25	94808A144	12.13
8-32	0.025″-0.04″	0.515″	25	94808A147	8.00
8-32	0.045″-0.062″	0.234″	25	94808A140	7.66
8-32	0.045″-0.062″	0.328″	25	94808A143	8.27
8-32	0.045″-0.062″	0.515″	25	94808A146	9.49
8-32	0.05″-0.063″	0.265″	25	94808A148	6.72
10-24	0.025″-0.04″	0.203″	25	94808A149	5.89
10-24	0.025″-0.04″	0.359″	25	94808A155	12.30
10-24	0.025″-0.064″	0.500″	25	94808A150	7.96
10-24	0.045″-0.062″	0.250″	25	94808A151	8.32
10-24	0.045″-0.062″	0.562″	25	94808A159	8.32
10-24	0.115″-0.13″	0.250″	25	94808A153	7.76
10-32	0.025″-0.062″	0.312″	25	94808A300	9.00
10-32	0.06″-0.07″	0.312″	25	94808A310 ★	11.36
1/4″-20	0.051″-0.109″	0.312″	25	94808A154	4.72
1/4″-20	0.064″-0.125″	0.500″	25	94808A156	7.32
1/4″-20	0.18″-0.19″	0.375″	25	94808A350	9.50
1/4″-20	0.276″-0.286″	0.562″	10	94808A360	8.21
U-Style with Barrel—Black-Phosphate Steel					
8-32	0.079″-0.118″	0.375″	25	94850A105	8.34
10-24	0.025″-0.125″	0.468″	25	94850A120	9.74
1/4″-20	0.025″-0.15″	0.531″	25	94850A129	6.60
1/4″-20	0.025″-0.15″	0.781″	25	94850A140	8.40
5/16″-18	0.025″-0.15″	0.562″	25	94850A150	8.17
5/16″-18	0.025″-0.15″	0.625″	25	94850A155	7.46
5/16″-18	0.025″-0.15″	0.843″	25	94850A160	11.71
5/16″-18	0.025″-0.15″	0.875″	25	94850A158	14.14
3/8″-16	0.05″-0.2″	0.750″	25	94850A170	22.80
3/8″-16	0.05″-0.2″	1.125″	10	94850A179	9.86
Metric U-Style with Barrel—Black-Phosphate Steel					
M4×0.7	0.8 mm-4 mm	13.5 mm	50	95210A110	17.86
M5×0.8	0.6 mm-3.8 mm	11 mm	25	95210A120	10.69
M5×0.8	0.8 mm-4 mm	15.8 mm	25	95210A130	12.26
M6×1	0.8 mm-4 mm	12 mm	50	95210A150	18.43
M6×1	0.8 mm-4 mm	19.5 mm	25	95210A175	9.43
M6×1	3.4 mm-6.3 mm	13.5 mm	25	95210A170	16.00
M8×1.25	0.8 mm-4 mm	14.5 mm	25	95210A190	9.86
M8×1.25	0.8 mm-4.5 mm	20 mm	25	95210A200	12.43
M8×1.25	4 mm-7 mm	21 mm	10	95210A210	12.14
M10×1.5	1 mm-6 mm	19 mm	10	95210A240	8.69

★ Zinc-plated.

For Machine Screws (Cont.)

Thread Size	For Panel Thickness	Ctr. of Hole to Panel Edge (A)	Pkg. Qty.		Pkg.
U-Style with Hex Nut—Black-Phosphate Steel					
1/4″-20	0.05″-0.07″	0.375″	10	90542A242	$11.21
U-Style with Hex Nut—Zinc-Plated Steel					
5/16″-18	0.096″-0.141″	0.500″	5	90542A258	10.68
S-Style—Cadmium-Plated Steel					
6-32	0.045″-0.08″	0.255″	1	98065A111	3.27
8-32	0.02″-0.12″	0.250″	1	98065A115	4.00
8-32	0.02″-0.12″	0.281″	1	98065A120	4.63
8-32	0.02″-0.12″	0.375″	1	98065A125	8.40
8-32	0.02″-0.12″	0.500″	1	98065A130	5.33
10-32	0.02″-0.09″	0.500″	1	98065A155	3.20
10-32	0.02″-0.12″	0.281″	1	98065A135	3.27
10-32	0.081″-0.148″	0.350″	1	98065A140	3.90
S-Style—Zinc-Plated Steel					
10-32	0.02″-0.12″	0.281″	1	98065A150	3.40
10-32	0.09″-0.125″	0.281″	1	98065A145	3.27

For Sheet Metal Screws

For Screw Size	For Panel Thickness	Ctr. of Hole to Panel Edge (A)	Pkg. Qty.		Pkg.
U-Style—Black-Phosphate Steel					
No. 6	0.025″-0.125″	0.375″	50	94810A005	$7.29
No. 8	0.025″-0.125″	0.375″	25	94810A006	5.91
No. 8	0.025″-0.15″	0.625″	50	94810A100	8.76
No. 10	0.025″-0.125″	0.344″	25	94810A007	6.48
No. 10	0.025″-0.15″	0.563″	50	94810A200	9.70
No. 14 (1/4″)	0.025″-0.125″	0.375″	25	94810A008	7.21

For Sheet Metal and Thread-Forming Screws

For Screw Size	For Panel Thickness	Ctr. of Hole to Panel Edge (A)	Pkg. Qty.		Pkg.
U-Style—Black-Phosphate Steel					
No. 4	0.051″-0.064″	0.145″	50	94808A158	$13.27
No. 6	0.025″-0.04″	0.218″	25	94808A160	8.63
No. 8	0.025″-0.04″	0.234″	50	94808A167	7.86
No. 8	0.025″-0.04″	0.328″	25	94808A169	12.66
No. 8	0.025″-0.04″	0.515″	25	94808A168	9.66
No. 8	0.045″-0.062″	0.234″	25	94808A172	9.73
No. 8	0.045″-0.062″	0.515″	25	94808A176	12.67
No. 8	0.05″-0.08″	0.296″	25	94808A180	8.46
No. 8	0.11″-0.187″	0.312″	25	94808A185	8.25
No. 10	0.025″-0.04″	0.250″	25	94808A193	13.28
No. 10	0.025″-0.04″	0.359″	25	94808A195	8.54
No. 10	0.045″-0.062″	0.359″	25	94808A500	11.52
No. 10	0.045″-0.062″	0.562″	25	94808A210	9.43
No. 10	0.102″-0.125″	0.406″	25	94808A190	7.31

Tube-Connecting Nuts

Slide into steel tubing to join lengths and connect fittings. Clips on both ends grip the sides of the tube to hold the nut in place. Nuts are zinc-plated steel with spring steel retaining clips. Thread fit is Class 2B.



For Tube ID	Thread Size	Pkg. Qty.		Pkg.
0.53″-0.54″	1/4″-20	10	94290A509	$9.91
0.62″-0.65″	1/4″-20	25	94290A510	16.25
0.62″-0.65″	5/16″-18	10	94290A515	7.41
0.75″-0.77″	1/4″-20	25	94290A520	17.43
0.87″-0.9″	1/4″-20	10	94290A550	7.09
0.87″-0.9″	5/16″-18	10	94290A555	6.28
0.87″-0.9″	3/8″-16	5	94290A553	4.41
1″-1.02″	1/4″-20	5	94290A557	4.20

For Tube ID	Thread Size	Pkg. Qty.		Pkg.
1.12″-1.15″	1/4″-20	10	94290A571	$7.14
1.12″-1.15″	5/16″-18	10	94290A573	6.80
1.25″-1.27″	1/4″-20	5	94290A581	4.36
1.37″-1.4″	1/4″-20	10	94290A591	8.07
1.37″-1.4″	5/16″-18	10	94290A593	9.12
1.62″-1.65″	1/4″-20	10	94290A600	11.97
1.93″-1.94″	1/4″-20	10	94290A610	11.97

Round Base Weld Nuts


With Barrel


With Barrel and Weld Nibs

Also known as insert nuts, weld these onto flat metal surfaces for a strong permanent hold. Round base nuts have a base with a larger surface area than tab base nuts for easier spot welding. They have a tall barrel to ensure secure thread engagement. Inch sizes have a Class 1B thread fit, except stainless steel nuts have a Class 2B thread fit. Metric sizes have a Class 6H thread fit.

Nuts with barrel and weld nibs have three weld projections on the flange.

Thread Size	Base Dia.	Base Thick.	Barrel Dia.	Barrel Ht.	Pkg. Qty.		Pkg.
With Barrel							
Uncoated Steel							
1/4"-20	3/4"	3/64"	5/16"	5/16"	100	90596A025	$6.70
1/4"-20	3/4"	3/64"	5/16"	7/16"	100	90596A029	7.04
1/4"-20	3/4"	3/64"	5/16"	9/16"	100	90596A300	7.63
5/16"-18	7/8"	1/16"	3/8"	3/8"	100	90596A030	11.95
5/16"-18	7/8"	1/16"	3/8"	5/8"	50	90596A032	7.24
5/16"-18	7/8"	1/16"	3/8"	7/8"	25	90596A400	8.23
3/8"-16	1"	5/64"	29/64"	7/16"	50	90596A031	7.69
1/2"-13	1 1/4"	3/32"	19/32"	3/8"	10	90596A033	5.70
5/8"-11	1 7/16"	3/32"	23/32"	3/8"	10	90596A039	7.58
Metric Uncoated Steel—Dimensions in millimeters							
M6×1	19.1	1.2	7.7	7.9	100	90563A620	11.45
M6×1	19.1	1.2	7.7	11.1	100	90563A630	11.76
M6×1	19.1	1.2	7.7	14.3	100	90563A640	12.39
M8×1.25	22.2	1.4	9.4	9.5	50	90563A650	7.84
M8×1.25	22.2	1.4	9.4	15.9	50	90563A660	12.62
M10×1.5	25.4	1.6	11.5	11.1	50	90563A670	12.27
Zinc-Plated Steel							
4-40	3/8"	1/32"	9/64"	1/8"	100	90596A111	6.33
6-32	9/16"	1/32"	11/64"	1/4"	100	90596A112	7.61
8-32	23/32"	1/32"	7/32"	1/4"	100	90596A113	7.61
10-24	3/4"	3/64"	1/4"	9/32"	100	90596A114	7.24
10-32	45/64"	3/64"	1/4"	7/16"	100	90596A115	8.71
10-32	3/4"	3/64"	1/4"	9/32"	100	90596A116	8.03
Metric Zinc-Plated Steel—Dimensions in millimeters							
M4×0.7	18	0.8	5.3	6.3	50	90563A590	7.81

Thread Size	Base Dia.	Base Thick.	Barrel Dia.	Barrel Ht.	Pkg. Qty.		Pkg.
With Barrel (Cont.)							
18-8 Stainless Steel							
8-32	1/2"	3/64"	7/32"	1/4"	10	90860A100	$5.96
10-24	3/4"	3/64"	15/64"	9/32"	10	90860A105	8.00
10-32	3/4"	3/64"	15/64"	9/32"	10	90860A107	8.00
1/4"-20	3/4"	1/16"	5/16"	5/16"	10	90860A110	10.52
1/4"-20	3/4"	1/16"	5/16"	3/8"	10	90860A111	10.25
1/4"-20	3/4"	1/16"	5/16"	7/16"	10	90860A112	11.11
1/4"-20	3/4"	1/16"	5/16"	1/2"	5	90860A113	5.77
5/16"-18	7/8"	1/16"	25/64"	3/8"	5	90860A114	6.43
5/16"-18	7/8"	1/16"	25/64"	1/2"	5	90860A115	7.43
3/8"-16	1"	5/64"	15/32"	7/16"	5	90860A120	10.33
With Barrel and Weld Nibs							
Uncoated Steel							
8-32	23/32"	1/32"	7/32"	1/4"	50	90607A100	11.31
10-24	3/4"	3/64"	1/4"	9/32"	50	90607A200	11.10
10-32	3/4"	3/64"	1/4"	9/32"	50	90607A230	11.59
1/4"-20	3/4"	3/64"	5/16"	5/16"	50	90607A300	10.74
1/4"-20	3/4"	3/64"	5/16"	7/16"	25	90607A310	7.97
1/4"-20	3/4"	3/64"	5/16"	9/16"	50	90607A320	11.37
1/4"-20	3/4"	3/64"	5/16"	7/8"	25	90607A330	12.13
5/16"-18	7/8"	1/16"	3/8"	3/8"	25	90607A350	7.24
5/16"-18	7/8"	1/16"	3/8"	5/8"	25	90607A400	8.07
5/16"-18	7/8"	1/16"	3/8"	7/8"	25	90607A410	13.79
3/8"-16	1"	1/16"	29/64"	7/16"	25	90607A420	8.36
1/2"-13	1 1/4"	3/32"	19/32"	3/8"	10	90607A450	8.51

Tab Base Weld Nuts


With Barrel


With Offset Low-Profile Barrel


With Low-Profile Barrel


With Low-Profile Barrel and Weld Nibs

Add threads to panel edges, narrow channels, and in square tubing. Weld them onto flat metal surfaces for a strong permanent hold. Inch sizes have a Class 2B thread fit, except uncoated steel nuts with barrel have a Class 1B thread fit. Metric sizes have a Class 6H thread fit.

Nuts with barrel have a tall barrel for secure thread engagement.

Nuts with low-profile barrel are designed for bridging corners and depressions. **Nuts with offset low-profile barrel** allow you to position threads near edges and corners. **Nuts with low-profile barrel and weld nibs** have a low-profile barrel and two weld projections on the barrel side.

Thread Size	Base Lg.	Base Wd.	Base Thick.	Barrel Dia.	Barrel Ht.	Pkg. Qty.		Pkg.
With Barrel								
Uncoated Steel								
1/4"-20	3/4"	1/2"	1/16"	5/16"	1/4"	50	90594A024	$7.31
1/4"-20	3/4"	1/2"	1/16"	5/16"	5/16"	100	90594A025	12.85
1/4"-20	3/4"	1/2"	1/16"	5/16"	7/16"	50	90594A029	7.08
1/4"-20	3/4"	1/2"	1/16"	5/16"	9/16"	50	90594A027	7.00
1/4"-20	3/4"	1/2"	1/16"	5/16"	7/8"	25	90594A028	10.39
1/4"-28	3/4"	1/2"	1/16"	5/16"	21/64"	50	90594A040	13.12
5/16"-18	7/8"	9/16"	1/16"	3/8"	3/8"	50	90594A030	9.50
3/8"-16	1"	5/8"	5/64"	29/64"	7/16"	50	90594A031	10.14
1/2"-13	1 1/4"	3/4"	3/32"	19/32"	3/8"	25	90594A033	13.35
Metric Uncoated Steel—Dimensions in millimeters								
M6×1	19.1	12.7	1.2	7.7	7.9	50	90594A330	8.40
M6×1	19.1	12.7	1.2	7.7	11.1	50	90594A350	7.84
M6×1	19.1	12.7	1.2	7.7	14.3	50	90594A370	9.57
Zinc-Plated Steel								
8-32	23/32"	7/16"	1/32"	7/32"	1/4"	50	90594A111	7.18
10-24	45/64"	1/2"	3/64"	1/4"	7/16"	50	90594A112	8.65
10-24	3/4"	1/2"	3/64"	1/4"	9/32"	50	90594A113	7.08
10-32	45/64"	1/2"	3/64"	1/4"	7/16"	50	90594A114	8.87
10-32	3/4"	1/2"	3/64"	1/4"	9/32"	50	90594A115	7.01
Metric Zinc-Plated Steel—Dimensions in millimeters								
M5×0.8	19.1	12.7	1	6.2	7.9	50	90594A320	7.19
18-8 Stainless Steel								
8-32	3/4"	1/2"	3/64"	7/32"	1/4"	10	90572A100	7.62
10-24	3/4"	1/2"	3/64"	15/64"	9/32"	10	90572A200	7.92
10-32	3/4"	1/2"	3/64"	15/64"	9/32"	10	90572A300	8.16
1/4"-20	3/4"	1/2"	1/16"	5/16"	5/16"	10	90572A400	8.47
5/16"-18	7/8"	9/16"	1/16"	25/64"	3/8"	5	90572A500	6.52
3/8"-16	1"	21/32"	5/64"	15/32"	7/16"	5	90572A600	10.81
With Low-Profile Barrel								
Uncoated Steel								
6-32	7/8"	7/16"	3/32"	3/16"	1/32"	25	98001A110	4.97
8-32	7/8"	7/16"	3/32"	13/64"	1/32"	25	98001A115	5.14
10-24	7/8"	7/16"	3/32"	15/64"	1/32"	25	98001A120	5.12
10-32	7/8"	7/16"	3/32"	15/64"	1/32"	25	98001A125	5.18
1/4"-20	1"	7/16"	3/32"	19/64"	1/32"	25	98001A130	5.11

Thread Size	Base Lg.	Base Wd.	Base Thick.	Barrel Dia.	Barrel Ht.	Pkg. Qty.		Pkg.
With Low-Profile Barrel (Cont.)								
Uncoated Steel (Cont.)								
1/4"-20	1 1/8"	1/2"	1/8"	19/64"	1/16"	25	98001A135	$7.04
5/16"-18	1 1/2"	5/8"	9/64"	23/64"	5/64"	10	98001A140	4.14
3/8"-16	1 1/2"	5/8"	9/64"	7/16"	3/32"	10	98001A145	4.20
With Offset Low-Profile Barrel								
Uncoated Steel								
6-32	5/8"	7/16"	3/32"	3/16"	1/32"	50	94579A100	7.34
8-32	5/8"	7/16"	3/32"	13/64"	1/32"	50	94579A200	7.34
10-24	5/8"	7/16"	3/32"	15/64"	1/32"	50	94579A250	7.14
10-32	5/8"	7/16"	3/32"	15/64"	1/32"	50	94579A300	7.34
1/4"-20	13/16"	1/2"	1/8"	19/64"	1/16"	50	94579A400	8.26
1/4"-28	13/16"	1/2"	1/8"	19/64"	1/16"	50	94579A450	13.90
5/16"-18	63/64"	5/8"	9/64"	23/64"	3/32"	25	94579A500	7.24
5/16"-24	63/64"	5/8"	9/64"	23/64"	3/32"	25	94579A550	8.37
3/8"-16	1 1/8"	5/8"	9/64"	7/16"	3/32"	25	94579A600	6.83
3/8"-24	1 1/8"	5/8"	9/64"	7/16"	3/32"	25	94579A650	11.71
18-8 Stainless Steel								
8-32	5/8"	3/8"	3/32"	13/64"	1/32"	10	94581A117	8.00
10-24	5/8"	3/8"	3/32"	15/64"	1/32"	10	94581A123	8.65
10-32	5/8"	3/8"	3/32"	15/64"	1/32"	10	94581A128	8.34
1/4"-20	13/16"	1/2"	1/8"	19/64"	1/16"	10	94581A132	11.34
1/4"-28	13/16"	1/2"	1/8"	19/64"	1/16"	10	94581A136	11.34
5/16"-18	1 1/8"	5/8"	9/64"	23/64"	3/32"	5	94581A139	8.32
5/16"-24	1 1/8"	5/8"	9/64"	23/64"	3/32"	5	94581A144	8.35
3/8"-16	1 1/8"	5/8"	9/64"	7/16"	3/32"	5	94581A148	8.32
3/8"-24	1 1/8"	5/8"	9/64"	7/16"	3/32"	5	94581A151	8.35
With Low-Profile Barrel and Weld Nibs								
18-8 Stainless Steel								
8-32	5/8"	3/8"	3/32"	13/64"	1/32"	10	98697A510	7.83
10-24	5/8"	3/8"	3/32"	15/64"	1/32"	10	98697A520	7.83
10-32	5/8"	3/8"	3/32"	15/64"	1/32"	10	98697A530	7.83
1/4"-20	13/16"	1/2"	1/8"	19/64"	1/16"	10	98697A540	10.58
5/16"-18	63/64"	5/8"	9/64"	23/64"	3/32"	5	98697A550	7.38
3/8"-16	63/64"	5/8"	9/64"	7/16"	3/32"	5	98697A560	7.38

Weld Nuts with Projections

Projections provide a large surface area for a strong welded joint. They have a collar pilot that assists alignment and prevents welding spatter from getting into threads.

Square nuts are for flat surfaces.

Hex nuts are for both flat and uneven surfaces.

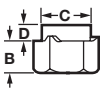



Square


Square



Hex


Hex

Thread Size	Wd. (A)	Ht. (B)	Pilot Collar Dia. (C)	Pilot Collar Ht. (D)	Hole Size	Pkg. Qty.		Pkg.
Square								
Steel								
1/4"-20	1/2"	5/32"	13/32"	1/16"	27/64"	50	93975A100	$8.57
1/4"-28	1/2"	5/32"	13/32"	1/16"	27/64"	50	93975A120	8.74
5/16"-18	9/16"	3/16"	15/32"	1/16"	31/64"	50	93975A200	8.80
5/16"-24	9/16"	3/16"	15/32"	1/16"	31/64"	50	93975A220	9.88
3/8"-16	5/8"	1/4"	17/32"	1/16"	35/64"	25	93975A300	4.81
3/8"-24	5/8"	1/4"	17/32"	1/16"	35/64"	50	93975A320	10.75
7/16"-14	3/4"	5/16"	21/32"	1/16"	43/64"	50	93975A350	15.44
7/16"-20	3/4"	5/16"	21/32"	1/16"	43/64"	50	93975A360	15.44
1/2"-13	13/16"	3/8"	23/32"	1/16"	47/64"	25	93975A400	9.66
1/2"-20	13/16"	3/8"	23/32"	1/16"	47/64"	25	93975A420	9.49
5/8"-11	7/8"	7/16"	25/32"	3/32"	51/64"	25	93975A450	12.94
Hex								
Steel								
1/4"-20	1/2"	3/16"	13/32"	3/64"	27/64"	50	93560A140	8.70
5/16"-18	9/16"	7/32"	15/32"	3/64"	31/64"	50	93560A150	9.78
3/8"-16	5/8"	1/4"	17/32"	3/64"	35/64"	50	93560A160	10.15

Thread Size	Wd. (A)	Ht. (B)	Pilot Collar Dia. (C)	Pilot Collar Ht. (D)	Hole Size	Pkg. Qty.		Pkg.
Hex (Cont.)								
Steel (Cont.)								
1/2"-13	13/16"	3/8"	23/32"	1/16"	47/64"	25	93560A180	$9.95
18-8 Stainless Steel								
1/4"-20	1/2"	3/16"	13/32"	3/64"	27/64"	10	95508A100	7.17
5/16"-18	9/16"	7/32"	15/32"	3/64"	31/64"	5	95508A200	4.45
3/8"-16	5/8"	1/4"	17/32"	3/64"	35/64"	5	95508A300	4.71
Metric Steel—Dimensions in millimeters								
M6×1	13	5.6	9.1	1.13	9.5	50	93337A100	8.50
M8×1.25	15	7.1	11.1	1.13	11.5	50	93337A200	10.41
M10×1.5	18	7.7	13.6	1.29	14.0	25	93337A300	8.27
Metric 18-8 Stainless Steel—Dimensions in millimeters								
M3×0.7	7.5	2.5	4.5	0.55	4.5	100	93418A200	8.44
M4×0.7	9	2.9	6	0.65	6.0	50	93418A300	5.41
M5×0.8	10	3.3	7	0.7	7.0	50	93418A400	7.41
M6×1	11	4.3	8	0.75	8.0	25	93418A500	5.18
M8×1.25	14	5.6	10.5	0.9	10.5	25	93418A600	10.56
M10×1.5	17	6.9	12.5	1.15	12.5	10	93418A700	6.43

Perforated Base Weld Nuts

Weld, nail, screw, rivet, or glue these nuts into place.

Style A nuts have three mounting holes to accept fasteners. Thread fit is Class 1B.

Style B nuts have three mounting holes, plus three protrusions that increase the weld surface for a strong bond. Thread fit is Class 1B.

Style C nuts have a wide base with a large surface area. They're drilled with multiple holes that allow glue or plastic to flow through. Thread fit is Class 2B.


A


B


C

Thread Size	Base Dia.	Base Thick.	Base Mounting Hole Dia.	Barrel Dia./Wd.	Barrel Ht.	Pkg. Qty.		Pkg.
Style A—Uncoated Steel								
1/4"-20	3/4"	3/64"	7/64"	5/16"	5/16"	50	90611A350	$10.74
5/16"-18	7/8"	1/16"	7/64"	3/8"	3/8"	25	90611A400	7.00
3/8"-16	1"	1/16"	9/64"	7/16"	7/16"	25	90611A450	8.09
1/2"-13	1 1/4"	3/32"	5/32"	19/32"	3/8"	10	90611A500	8.51
Style A—Zinc-Plated Steel								
6-32	9/16"	1/32"	5/64"	11/64"	1/4"	50	90611A320	11.30
8-32	23/32"	1/32"	7/64"	7/32"	1/4"	50	90611A330	11.05
10-32	3/4"	3/64"	7/64"	1/4"	9/32"	50	90611A340	11.59
Style B—Uncoated Steel								
1/4"-20	3/4"	3/64"	7/64"	5/16"	7/16"	25	90611A600	7.25
5/16"-18	7/8"	1/16"	7/64"	3/8"	3/8"	25	90611A610	7.00

Thread Size	Base Dia.	Base Thick.	Base Mounting Hole Dia.	Barrel Dia./Wd.	Barrel Ht.	Pkg. Qty.		Pkg.
Style C—Zinc-Plated Steel								
8-32	1 1/2"	3/64"	11/64", 13/64"	11/32"	1/8"	10	98007A110	$6.37
10-32	1 1/2"	3/64"	11/64", 13/64"	3/8"	1/8"	10	98007A150	6.37
1/4"-20	1 1/2"	3/64"	11/64", 13/64"	7/16"	7/32"	10	98007A200	7.46
5/16"-18	1 1/2"	3/64"	11/64", 13/64"	35/64"	17/64"	10	98007A250	7.46
Style C—316 Stainless Steel								
8-32	1 1/2"	3/64"	11/64", 13/64"	11/32"	1/8"	10	98007A013	14.44
10-32	1 1/2"	3/64"	11/64", 13/64"	3/8"	1/8"	10	98007A024	14.53
1/4"-20	1 1/2"	3/64"	11/64", 13/64"	7/16"	7/32"	5	98007A029	8.16
5/16"-18	1 1/2"	3/64"	11/64", 13/64"	1/2"	9/32"	5	98007A033	9.19

Easy-Align Weld Nuts



Often referred to as floating weld nuts, the nut floats within a retainer for easy alignment and installation of screws, bolts, and threaded rod. You can also punch holes in the flanges and secure them with rivets. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit.

Zinc-plated steel nuts with aluminum retainer are zinc-plated C1008-C1010 steel with an aluminum 5052 retainer. Weld them to aluminum parts.

Uncoated steel nuts with steel retainer are C1008-C1010 steel. Weld them to steel parts.

Thread Size	Base Lg.	Base Wd.	Base Thick.	O'all Ht.	Pkg. Qty.		Pkg.
Zinc-Plated Steel Nuts with Aluminum Retainer							
1/4"-20	1 3/4"	9/16"	1/16"	7/16"	10	90955A126	$11.10
5/16"-18	2"	25/32"	1/16"	33/64"	10	90955A128	13.04
3/8"-16	2"	25/32"	1/16"	33/64"	10	90955A129	14.51
Uncoated Steel Nuts with Steel Retainer							
8-32	1 1/2"	1/2"	3/64"	11/32"	10	90955A105	7.41
10-24	1 1/2"	1/2"	3/64"	11/32"	10	90955A107	7.48
10-32	1 1/2"	1/2"	3/64"	11/32"	10	90955A109	7.48
1/4"-20	1 3/4"	9/16"	1/16"	7/16"	20	90955A112	15.81
1/4"-28	1 3/4"	9/16"	1/16"	7/16"	10	90955A113	9.11
5/16"-18	2"	25/32"	1/16"	33/64"	10	90955A115	10.05
5/16"-24	2"	25/32"	1/16"	33/64"	10	90955A116	11.31
3/8"-16	2"	25/32"	1/16"	33/64"	10	90955A123	10.60
3/8"-24	2"	25/32"	1/16"	33/64"	10	90955A120	21.14
1/2"-13	2 1/4"	15/16"	1/16"	51/64"	5	90955A121	11.85
Metric Uncoated Steel Nuts with Steel Retainer—Dimensions in millimeters							
M6×1	38.1	12.7	1.06	13.7	10	90955A101	$9.24
M8×1.25	50.8	19.8	1.27	8.6	5	90955A103	10.29

Tube-End Weld Nuts

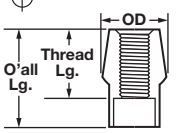



Connect threaded parts and add threads to the ends of uncoated steel tubes. Also known as tube adapters and weldable threaded tube ends, they can be welded on uncoated metal surfaces. Nuts are 4130 alloy steel. They have a Class 2B thread fit.

For Tube OD	Wall Thick.	Thread Size	Thread Lg.	O'all Lg.	Right-Hand Threaded	Left-Hand Threaded	Each
3/8"	0.058"	10-32	1"	1"	94640A871	94640A872	$5.82
1/2"	0.058"	1/4"-28	1"	1"	94640A881	94640A882	5.82
3/4"	0.065"	5/16"-24	7/8"	1 3/8"	94640A110	94640A114	5.30
3/4"	0.065"	3/8"-24	15/16"	1 3/8"	94640A115	94640A119	5.30
7/8"	0.058"	7/16"-20	1 1/8"	1 3/8"	94640A155	94640A159	5.42
7/8"	0.058"	1/2"-20	1 1/4"	1 3/8"	94640A160	94640A164	5.42
1"	0.058"	1/2"-20	1 1/4"	1 1/2"	94640A220	94640A224	5.68
1"	0.065"	1/2"-20	1 1/4"	1 1/2"	94640A240	94640A244	5.68
1"	0.083"	1/2"-20	1 1/4"	1 1/2"	94640A265	94640A269	5.68
1"	0.095"	1/2"-20	1 1/4"	1 1/2"	94640A285	94640A289	5.68
1 1/4"	0.095"	5/8"-18	1 1/2"	1 1/2"	94640A350	94640A354	6.44
1 1/4"	0.095"	3/4"-16	1 1/2"	1 1/2"	94640A355	94640A359	6.44
1 1/4"	0.12"	5/8"-18	1 9/16"	1 7/8"	94640A360	94640A364	6.44
1 1/4"	0.12"	3/4"-16	1 7/8"	1 7/8"	94640A365	94640A369	6.44
1 1/2"	0.12"	3/4"-16	1 7/8"	2"	94640A410	94640A414	6.44

Push Nuts for Unthreaded Shafts

Push Nuts and Push Nut Drivers



A



B



C



Push Nut Driver

Hold attachments firmly in place on unthreaded rods, shafts, and axles. They can be installed using a push nut driver (sold separately).

Push nut drivers have a magnetized steel shank that holds push nuts in place during installation.

For Shaft Dia.	OD	Ht.	Push Nuts Pkg. Qty.		Pkg.	Push Nut Drivers	Each
Zinc-Plated Steel							
A	1/16"	13/64"	3/64"	200	94807A015 ■	$6.91	93633A111	$53.76
A	3/32"	13/64"	3/64"	200	94807A019 ■	10.43	93633A112	53.82
A	1/8"	3/8"	1/16"	200	94807A024	9.51	93633A010	46.28
A	5/32"	7/16"	1/16"	25	94807A025	12.63	93633A020	46.29
A	3/16"	7/16"	5/64"	200	94807A026	10.46	93633A020	46.29
A	7/32"	17/32"	5/64"	200	94807A027	26.48	93633A040	47.26
A	1/4"	17/32"	5/64"	200	94807A029	15.81	93633A040	47.26
A	5/16"	5/8"	5/64"	100	94807A030	10.64	93633A050	47.84
A	3/8"	3/4"	3/32"	50	94807A031 ■	9.67	93633A060	50.13
A	7/16"	7/8"	7/64"	50	94807A032	9.42	93633A070	50.74
A	1/2"	1"	1/8"	25	94807A034	9.52	93633A080	50.67
A	5/8"	1"	5/64"	50	94807A035 ■	17.13	—	—
B	1/4"	15/16"	3/32"	50	94807A800	6.00	93633A070	50.74
B	5/16"	15/16"	7/64"	50	94807A810	8.50	93633A070	50.74
B	3/8"	15/16"	3/32"	50	94807A820	6.50	93633A070	50.74
B	7/16"	15/16"	5/64"	50	94807A830	9.62	93633A070	50.74
18-8 Stainless Steel							
C	3/32"	7/32"	1/32"	50	97200A010	5.00	93633A112	53.82
C	1/8"	7/32"	1/32"	50	97200A020	5.11	93633A113	53.90
C	1/8"	1/4"	1/32"	50	97200A025	6.41	93633A113	53.90
C	1/8"	21/64"	1/32"	50	97200A100	6.61	93633A113	53.90
C	5/32"	17/64"	1/32"	50	97200A110	5.43	93633A010	46.28
C	3/16"	5/16"	1/32"	50	97200A120	4.70	93633A030	46.29
C	3/16"	21/64"	1/32"	50	97200A130	$4.36	93633A030	$46.29
C	3/16"	3/8"	1/32"	50	97200A140	6.88	93633A030	46.29
C	1/4"	5/16"	1/32"	50	97200A150	5.11	93633A040	47.26
C	1/4"	7/16"	1/16"	50	97200A200	10.41	93633A040	47.26
C	5/16"	7/16"	1/32"	50	97200A310	10.48	93633A050	47.84
C	3/8"	5/8"	1/32"	50	97200A410	13.24	93633A060	50.13
C	7/16"	37/64"	1/32"	50	97200A440	16.74	93633A070	50.74
C	1/2"	3/4"	1/32"	50	97200A450	11.17	93633A080	50.67
Metric Black Steel—Dimensions in millimeters							
A	4	11.1	1.5	100	96415A124	9.39	93633A010	46.28
A	5	11.1	1.5	100	96415A126	11.89	93633A030	46.29
A	6	13.5	1.8	100	96415A128 ★	14.26	93633A040	47.26
A	8	15.9	1.8	50	96415A130	8.11	93633A050	47.84
B	1.5	5	0.7	100	96415A110	8.24	93633A111	53.76
B	2	7	1.2	200	96415A120	11.58	93633A113	53.90
B	3	10.5	1.5	100	96415A125	7.45	93633A010	46.28
B	3.5	11	1.6	100	96415A140	7.36	93633A010	46.28
B	4	12	1.7	100	96415A150	8.33	93633A035	53.05
B	5	14	2	100	96415A160	9.41	93633A040	47.26
B	6	16	1.8	100	96415A170	9.77	93633A040	47.26
B	7	17	2.2	100	96415A180	13.42	93633A050	47.84
B	8	18	2.3	100	96415A190	11.66	93633A050	47.84
B	10	20	2.2	25	96415A210	6.19	93633A060	50.13

■ Has a black-phosphate finish. ★ Zinc plated.

Flanged Push Nuts



These push nuts have a wide flange for better load distribution than standard push nuts. They can be used to cover oversized holes. They're zinc-plated steel.

For Shaft Dia.	Flange Dia.	Hex Wd.	O'all Ht.	Pkg. Qty.		Pkg.
1/8"	7/16"	5/16"	3/16"	100	90533A131	$6.76
1/8"	17/32"	5/16"	13/64"	100	90533A132	10.45
5/32"	9/16"	3/8"	13/64"	100	90533A150	8.03
3/16"	1/2"	3/8"	7/32"	100	90533A133	8.00
3/16"	5/8"	5/16"	15/64"	100	90533A134	$12.73
1/4"	19/32"	7/16"	15/64"	100	90533A135	11.06
1/4"	11/16"	7/16"	15/64"	100	90533A136	11.67
5/16"	7/8"	1/2"	5/16"	50	90533A140	9.82

Rectangular Push Nuts



Also known as flat-style speed nuts, these nuts have a large surface to distribute loads better than flanged and standard push nuts. They're black-phosphate steel.

For Shaft Dia.	Lg.	Wd.	Pkg. Qty.		Pkg.
1/16"	3/8"	7/32"	100	90528A121	$9.62
3/32"	7/16"	1/4"	100	90528A127	9.23
1/8"	9/16"	5/16"	100	90528A124	10.00
5/32"	9/16"	3/8"	100	90528A122	10.58
3/16"	5/8"	3/8"	100	90528A125	$9.15
1/4"	5/8"	7/16"	100	90528A126	11.88
5/16"	11/16"	1/2"	100	90528A073	10.96

Push Nut Caps for Unthreaded Shafts



D



E



F

Protect the end of shafts and keep parts from snagging. Install caps with a hammer or push them down by hand.

Plastic caps are made from black plastic and have a steel insert. Temperature range is –90° to 150° F.

	For Shaft Dia.	OD	Ht.	Pkg. Qty.		Pkg.
Black-Luster Coated Steel						
D	1/4"	9/16"	7/32"	5	97036A010	$6.32
D	5/16"	5/8"	1/4"	5	97036A020	6.50
D	3/8"	3/4"	9/32"	5	97036A030	7.20
D	1/2"	15/16"	21/64"	5	97036A040	8.23
Nickel-Plated Steel						
D	1/4"	1/2"	7/32"	25	94803A029	7.84
D	5/16"	5/8"	1/4"	25	94803A030	8.24
D	3/8"	3/4"	9/32"	25	94803A031	8.25
D	7/16"	7/8"	21/64"	10	94803A040	6.25
D	1/2"	15/16"	21/64"	10	94803A050	5.66
Zinc-Plated Steel						
D	5/8"	13/16"	27/64"	10	94803A060	5.58
Stainless Steel						
E	1/8"	27/64"	1/8"	10	94802A100	$5.01
E	3/16"	1/2"	5/32"	25	94802A110	12.00
E	1/4"	41/64"	13/64"	10	94802A120	6.27
E	5/16"	41/64"	13/64"	10	94802A130	10.56
E	3/8"	25/32"	15/64"	10	94802A140	9.62
E	1/2"	1 1/32"	19/64"	5	94802A150	8.53
Plastic						
F	1/8"	21/32"	23/64"	50	90310A315	11.56
F	5/32"	21/32"	23/64"	50	90310A325	12.02
F	3/16"	21/32"	23/64"	50	90310A335	16.10
F	1/4"	27/32"	23/64"	50	90310A345	16.33
F	5/16"	27/32"	29/64"	25	90310A355	13.49

About Washers

Types of Washers



Flat washers (pages 3244-3259) are primarily used to displace the load of a fastener head or a nut on a threaded joint. They can cover holes and act as spacers.

Lock washers (pages 3259-3265) resist vibration to prevent a threaded joint from loosening.





Cushioning washers (pages 3265-3266) protect joints and dampen vibration.

Sealing washers (pages 3266-3268) prevent fluids from leaking around connections.





Countersunk washers (pages 3268-3269) give flat- and oval-head machine screws and flat-head socket cap screws a neat, finished appearance.



Sleeve washers (page 3269) act as a barrier around fasteners to block electrical current and prevent corrosion from mating different materials.



Square-neck bolt washers (page 3269) have teeth to dig into soft materials to prevent rotation.



Leveling, alignment, and **wave** washers (pages 3269-3270) compensate for tolerance variations and uneven surfaces.



Blind rivet washers (page 3271) are also known as backup washers and are for use with blind rivets for extra support when fastening into soft materials.



Notched washers (page 3271) have indentations for temporarily securing them with nails to keep them from rotating during installation. They have large ODs to prevent screws from sinking into wood surfaces.



Curved washers (page 3271) are designed to fit on round surfaces such as tubes and pipe.



Slotted washers (page 3271) allow you to install and remove them without completely disassembling your joints.



Tie-down strap washers (page 3271) are often used to hold and align tie-down straps.



Electrical terminal washers (pages 3271) prevent wires under screw heads from slipping out so electrical connections stay intact.



Washers for **foam insulation** and **plaster** (page 3271) are used to repair foam insulation and sagging, cracked plaster.



Clipped washers (page 3263) fit where standard flat washers can't and won't rotate when you position the flat edge against a surface.

Comparing Washer Materials and Coatings

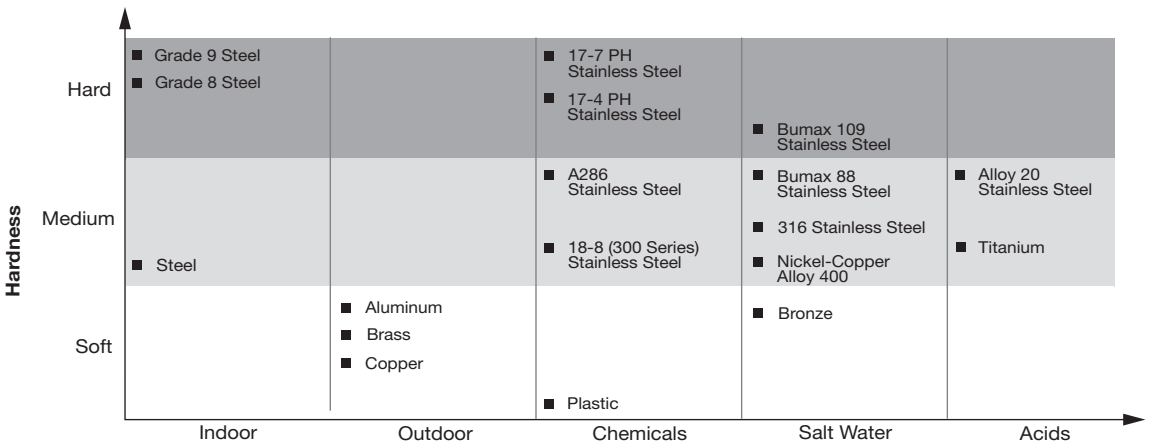

The addition of a coating increases the corrosion-resistance properties of the materials shown above.

Black Oxide—This coating allows steel to handle humid indoor environments.

Zinc and **Zinc Yellow-Chromate Plated—**These coatings are good for use outdoors.

Hot-Dipped Galvanized—This coating has 10 times more corrosion resistance to outdoor environments than zinc and zinc yellow-chromate platings.

Cadmium Plated—This coating resists corrosion from salt water.

Passivated—This coating adds another level of corrosion resistance to stainless steel.

Ultra Corrosion-Resistant Coated—Also known as armor coat and ultra coat, this silver-colored zinc-aluminum coating resists corrosion from chemicals and passes the 1,000-hour salt-spray test.

Black Luster—This durable semigloss coating resists corrosion from acids and chemicals, and passes the 1,000-hour salt-spray test.

General Purpose Washers



Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
316 Stainless Steel						
No. 000	0.040″	0.078″	0.010″-0.020″	50	90107A124	$7.86
No. 00	0.050″	0.109″	0.010″-0.020″	50	90107A125	8.15
No. 0	0.062″	0.156″	0.018″-0.032″	100	90107A001	2.36
No. 1	0.080″	0.156″	0.010″-0.020″	50	90107A126	8.29
No. 2	0.094″	0.250″	0.018″-0.032″	100	90107A003	2.64
No. 3	0.109″	0.250″	0.018″-0.032″	100	90107A004	2.73
No. 4	0.125″	0.312″	0.024″-0.038″	100	90107A005	3.23
No. 5	0.141″	0.281″	0.025″-0.039″	100	90107A006	3.27
No. 6	0.156″	0.312″	0.024″-0.038″	100	90107A007	3.25
No. 8	0.174″	0.375″	0.024″-0.038″	100	90107A010	3.27
No. 10	0.203″	0.438″	0.024″-0.038″	100	90107A011	4.24
No. 12	0.234″	0.500″	0.033″-0.047″	100	90107A012	8.18
1/4″	0.281″	0.625″	0.043″-0.057″	100	90107A029	7.45
5/16″	0.344″	0.750″	0.043″-0.057″	100	90107A030	10.29
3/8″	0.406″	0.750″	0.040″-0.060″	25	90107A127	8.00
7/16″	0.500″	1.125″	0.055″-0.069″	25	90107A032	8.59
1/2″	0.531″	1.250″	0.055″-0.069″	25	90107A033	8.82
9/16″	0.578″	1.062″	0.055″-0.085″	25	90107A106	9.48
5/8″	0.688″	1.500″	0.071″-0.085″	10	90107A035	7.06
3/4″	0.812″	1.500″	0.060″-0.090″	10	90107A121	9.66
7/8″	0.938″	2.000″	0.094″-0.116″	5	90107A037	8.87
1″	1.062″	2.000″	0.118″-0.132″	5	90107A038	8.87
1 1/8″	1.188″	2.500″	0.118″-0.132″	1	90107A039	2.93
1 1/4″	1.312″	2.750″	0.118″-0.132″	1	90107A040	3.45
1 3/8″	1.500″	2.750″	0.100″-0.180″	1	90107A122	4.84
1 1/2″	1.562″	3.000″	0.100″-0.180″	1	90107A123	5.26
1 3/4″	1.812″	3.500″	0.133″-0.147″	1	90107A042	5.60
2″	2.125″	4.000″	0.180″-0.194″	1	90107A043	9.61
2 1/4″	2.375″	4.500″	0.210″-0.280″	1	91525A369	15.50
2 1/2″	2.625″	4.500″	0.210″-0.280″	1	91525A371	15.90
2 3/4″	2.875″	5.000″	0.228″-0.310″	1	91525A372	19.83
3″	3.125″	5.000″	0.228″-0.310″	1	91525A373	19.83
18-8 Stainless Steel						
No. 000	0.037″	0.078″	0.010″-0.012″	10	92141A204	9.43
No. 00	0.050″	0.109″	0.013″-0.015″	25	92141A207	13.84
No. 0	0.062″	0.156″	0.018″-0.032″	100	92141A001	1.27
No. 1	0.075″	0.156″	0.017″-0.019″	25	92141A211	13.84
No. 2	0.094″	0.250″	0.018″-0.032″	100	92141A003	1.40
No. 3	0.109″	0.250″	0.018″-0.032″	100	92141A004	1.50
No. 4	0.125″	0.312″	0.025″-0.040″	100	92141A005	1.40
No. 5	0.141″	0.281″	0.025″-0.040″	100	92141A006	1.40
No. 6	0.156″	0.312″	0.025″-0.040″	100	92141A008	1.17
No. 8	0.172″	0.375″	0.025″-0.040″	100	92141A009	2.00
No. 10	0.203″	0.438″	0.025″-0.040″	100	92141A011	2.33
No. 12	0.234″	0.500″	0.033″-0.057″	100	92141A013	3.30
1/4″	0.281″	0.625″	0.043″-0.057″	100	92141A029	3.37
5/16″	0.344″	0.750″	0.043″-0.057″	100	92141A030	5.10
3/8″	0.406″	0.875″	0.043″-0.057″	100	92141A031	5.01
7/16″	0.500″	1.125″	0.055″-0.069″	100	92141A032	9.82
1/2″	0.531″	1.250″	0.055″-0.069″	50	92141A033	6.26
9/16″	0.578″	1.062″	0.050″-0.080″	50	92141A034	6.18
5/8″	0.688″	1.500″	0.071″-0.085″	25	92141A035	6.07
3/4″	0.812″	1.750″	0.099″-0.119″	10	92141A056	5.25
7/8″	0.938″	2.000″	0.102″-0.116″	10	92141A037	6.22
1″	1.062″	2.000″	0.118″-0.132″	10	92141A038	6.40
1 1/8″	1.188″	2.500″	0.118″-0.132″	5	92141A039	5.93
1 1/4″	1.312″	2.750″	0.118″-0.132″	5	92141A040	6.52
1 3/8″	1.500″	3.250″	0.133″-0.147″	5	92141A049	10.21
1 1/2″	1.562″	3.250″	0.133″-0.147″	5	92141A041	9.56
1 3/4″	1.812″	3.500″	0.133″-0.147″	1	92141A044	2.73
2″	2.125″	4.000″	0.180″-0.194″	1	92141A046	3.87
2 1/4″	2.375″	4.500″	0.210″-0.280″	1	92303A046	13.90
2 1/2″	2.625″	4.500″	0.297″-0.328″	1	98900A334	39.84
2 3/4″	2.875″	5.000″	0.228″-0.310″	1	92303A047	15.50
3″	3.125″	5.000″	0.228″-0.310″	1	92303A048	15.57
Black-Oxide 18-8 Stainless Steel						
No. 000	0.040″	0.078″	0.010″-0.020″	50	96765A216	9.11
No. 00	0.053″	0.109″	0.010″-0.020″	50	96765A217	9.64
No. 0	0.062″	0.156″	0.010″-0.040″	50	96765A218	9.82
No. 1	0.080″	0.156″	0.010″-0.020″	50	96765A219	9.82
No. 2	0.094″	0.250″	0.018″-0.039″	100	96765A105	3.94
No. 3	0.109″	0.250″	0.010″-0.040″	50	96765A221	10.71
No. 4	0.125″	0.312″	0.024″-0.038″	100	96765A110	4.09
No. 5	0.141″	0.281″	0.020″-0.040″	50	96765A222	10.53
No. 6	0.141″	0.375″	0.024″-0.039″	100	96765A115	3.68
No. 8	0.172″	0.375″	0.024″-0.038″	100	96765A120	3.87
No. 10	0.203″	0.438″	0.024″-0.038″	100	96765A125	4.09
Black-Oxide 18-8 Stainless Steel (Cont.)						
No. 12	0.234″	0.500″	0.030″-0.050″	50	96765A223	$11.78
1/4″	0.281″	0.625″	0.040″-0.060″	100	96765A140	6.11
5/16″	0.344″	0.750″	0.040″-0.060″	100	96765A145	6.22
3/8″	0.406″	0.875″	0.040″-0.060″	100	96765A150	8.49
7/16″	0.500″	1.000″	0.050″-0.080″	10	96765A211	6.72
1/2″	0.531″	1.250″	0.052″-0.072″	25	96765A160	6.93
9/16″	0.578″	1.062″	0.050″-0.080″	10	96765A212	8.76
5/8″	0.688″	1.500″	0.068″-0.088″	10	96765A175	5.93
3/4″	0.812″	1.875″	0.090″-0.119″	5	96765A180	4.94
7/8″	0.938″	2.000″	0.094″-0.119″	5	96765A190	8.46
1″	1.062″	2.000″	0.110″-0.140″	5	96765A210	8.80
1 1/8″	1.188″	2.500″	0.090″-0.160″	1	96765A213	3.60
1 1/4″	1.312″	2.750″	0.090″-0.160″	1	96765A214	3.60
1 3/8″	1.500″	2.750″	0.100″-0.180″	1	96765A215	3.60
1 1/2″	1.562″	3.250″	0.100″-0.180″	1	90377A189	7.27
1 3/4″	1.812″	3.500″	0.100″-0.180″	1	90377A191	7.27
2″	2.125″	4.000″	0.150″-0.220″	1	96765A224	13.20
17-7 PH Stainless Steel						
1/4″	0.312″	0.750″	0.058″-0.068″	10	91860A029	9.27
5/16″	0.375″	0.875″	0.073″-0.083″	5	91860A030	8.80
3/8″	0.438″	1.000″	0.073″-0.083″	5	91860A031	11.89
7/16″	0.500″	1.250″	0.073″-0.083″	5	91860A032	13.10
1/2″	0.562″	1.375″	0.073″-0.083″	5	91860A033	14.46
9/16″	0.625″	1.500″	0.085″-0.095″	1	91860A034	4.67
5/8″	0.688″	1.750″	0.115″-0.125″	1	91860A035	7.25
3/4″	0.812″	2.000″	0.121″-0.141″	1	91860A036	9.22
1″	1.062″	2.000″	0.121″-0.141″	1	91860A038	8.55
Alloy 20 Stainless Steel						
1/4″	0.260″	0.625″	0.050″-0.070″	5	90770A029	5.56
5/16″	0.344″	0.750″	0.050″-0.070″	5	90770A030	7.57
3/8″	0.406″	0.875″	0.050″-0.070″	1	90770A031	1.63
1/2″	0.539″	1.250″	0.070″-0.076″	1	90770A033	4.20
5/8″	0.680″	1.500″	0.070″-0.076″	1	90770A035	4.86
Alloy A286 Stainless Steel						
No. 4	0.125″	0.312″	0.025″-0.040″	1	98189A080	4.50
No. 6	0.156″	0.375″	0.036″-0.065″	1	98189A100	5.00
No. 8	0.188″	0.438″	0.036″-0.065″	1	98189A130	5.13
No. 10	0.219″	0.500″	0.036″-0.065″	1	98189A160	5.30
1/4″	0.312″	0.734″	0.051″-0.080″	1	98189A200	3.92
5/16″	0.375″	0.875″	0.064″-0.104″	1	98189A300	5.06
3/8″	0.438″	1.000″	0.064″-0.104″	1	98189A400	8.50
1/2″	0.562″	1.375″	0.086″-0.132″	1	98189A500	12.72
Zinc Yellow-Chromate Plated High-Strength Grade 8 Steel						
No. 4	0.125″	0.312″	0.028″-0.036″	100	98023A111	6.15
No. 6	0.156″	0.375″	0.036″-0.045″	100	98023A112	6.29
No. 8	0.188″	0.438″	0.036″-0.065″	100	98023A113	6.86
No. 10	0.220″	0.500″	0.036″-0.065″	100	98023A114	7.15
1/4″	0.281″	0.625″	0.051″-0.080″	100	98023A029	6.36
5/16″	0.344″	0.688″	0.051″-0.080″	50	98023A030	4.83
3/8″	0.406″	0.812″	0.051″-0.080″	50	98023A031	5.72
7/16″	0.469″	0.922″	0.051″-0.080″	25	98023A032	4.49
1/2″	0.531″	1.062″	0.074″-0.121″	25	98023A033	6.00
9/16″	0.594″	1.156″	0.074″-0.121″	25	98023A034	7.27
5/8″	0.656″	1.312″	0.074″-0.121″	25	98023A035	9.15
3/4″	0.812″	1.469″	0.108″-0.160″	20	98023A036	8.96
7/8″	0.938″	1.750″	0.108″-0.160″	10	98023A037	7.16
1″	1.062″	2.000″	0.108″-0.160″	10	98023A038	8.53
1 1/8″	1.250″	2.250″	0.108″-0.160″	10	98023A039	13.99
1 1/4″	1.375″	2.500″	0.136″-0.192″	5	98023A041	7.41
1 3/8″	1.500″	2.750″	0.136″-0.192″	5	98023A042	9.46
1 1/2″	1.625″	3.000″	0.136″-0.192″	5	98023A043	11.12
1 5/8″	1.750″	3.750″	0.153″-0.213″	1	98023A051	4.17
1 3/4″	1.875″	3.375″	0.153″-0.213″	5	98023A044	12.48
1 7/8″	2.000″	4.250″	0.153″-0.213″	1	98023A053	5.45
2″	2.125″	3.750″	0.153″-0.213″	1	98023A045	3.17
2 1/4″	2.375″	4.750″	0.193″-0.248″	1	98026A126	11.87
2 1/2″	2.625″	5.000″	0.210″-0.280″	1	98026A127	16.06
2 3/4″	2.875″	5.250″	0.228″-0.320″	1	98026A128	19.22
3″	3.125″	5.500″	0.249″-0.327″	1	98026A129	21.76
Black-Luster Coated High-Strength Grade 8 Steel						
1/4″	0.312″	0.750″	0.055″-0.072″	10	98026A111	11.46
5/16″	0.375″	0.875″	0.064″-0.080″	10	98026A112	12.29
3/8″	0.438″	1.000″	0.064″-0.080″	5	98026A113	6.50
7/16″	0.500″	1.250″	0.064″-0.080″	5	98026A114	7.47
1/2″	0.562″	1.375″	0.097″-0.121″	5	98026A115	9.37
9/16″	0.625″	1.500″	0.097″-0.121″	5	98026A116	10.06
5/8″	0.688″	1.750″	0.122″-0.146″	1	98026A117	3.14

(Continued on following page)

General Purpose Washers *(Continued from previous page)*

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Black-Luster Coated High-Strength Grade 8 Steel (Cont.)						
3/4"	0.812"	2.000"	0.122"-0.146"	1	98026A118	$3.69
7/8"	0.938"	2.250"	0.136"-0.160"	1	98026A119	4.69
1"	1.062"	2.500"	0.136"-0.160"	1	98026A121	5.57
1 1/8"	1.250"	2.750"	0.136"-0.160"	1	98026A122	7.23
1 1/4"	1.375"	3.000"	0.136"-0.160"	1	98026A123	7.90
1 3/8"	1.500"	3.250"	0.136"-0.160"	1	98026A124	10.20
1 1/2"	1.625"	3.500"	0.136"-0.160"	1	98026A125	11.17
Ultra Corrosion-Resistant Coated High-Strength Grade 8 Steel						
No. 6	0.158"	0.380"	0.036"-0.065"	10	98180A180	6.05
No. 8	0.190"	0.443"	0.036"-0.065"	10	98180A190	6.71
No. 10	0.221"	0.505"	0.036"-0.065"	10	98180A210	7.40
1/4"	0.281"	0.625"	0.055"-0.065"	100	98180A110	8.25
5/16"	0.344"	0.688"	0.055"-0.065"	50	98180A120	5.52
3/8"	0.406"	0.812"	0.055"-0.065"	50	98180A130	7.64
7/16"	0.469"	0.922"	0.055"-0.065"	25	98180A140	4.77
1/2"	0.531"	1.062"	0.097"-0.177"	25	98180A150	7.84
9/16"	0.599"	1.168"	0.074"-0.121"	5	98180A220	5.54
5/8"	0.688"	1.312"	0.122"-0.177"	25	98180A160	12.52
3/4"	0.812"	1.469"	0.122"-0.177"	20	98180A170	12.24
7/8"	0.950"	1.762"	0.136"-0.177"	5	98180A230	16.71
1"	1.074"	2.012"	0.136"-0.177"	1	98180A240	4.29
1 1/8"	1.262"	2.243"	0.146"-0.177"	1	98180A250	4.97
1 1/4"	1.387"	2.512"	0.136"-0.177"	1	98180A260	7.54
1 1/2"	1.637"	3.012"	0.136"-0.177"	1	98180A270	10.74
Zinc Yellow-Chromate Plated Extreme-Strength Grade 9 Steel						
1/4"	0.286"	0.640"	0.056"-0.071"	50	90850A100	7.09
5/16"	0.349"	0.703"	0.056"-0.071"	50	90850A150	8.55
3/8"	0.411"	0.827"	0.090"-0.112"	25	90850A200	7.05
7/16"	0.474"	0.937"	0.090"-0.112"	25	90850A250	8.06
1/2"	0.541"	1.092"	0.090"-0.112"	10	90850A300	5.58
9/16"	0.599"	1.186"	0.090"-0.112"	10	90850A110	7.32
5/8"	0.661"	1.342"	0.146"-0.174"	10	90850A350	9.02
3/4"	0.824"	1.499"	0.146"-0.174"	5	90850A400	6.03
7/8"	0.945"	1.780"	0.146"-0.174"	5	90850A120	11.15
1"	1.069"	2.030"	0.146"-0.174"	1	90850A130	2.86
1 1/8"	1.195"	2.030"	0.234"-0.266"	1	90850A140	4.18
1 1/4"	1.319"	2.280"	0.234"-0.266"	1	90850A160	4.89
1 1/2"	1.572"	2.780"	0.234"-0.266"	1	90850A170	6.99
Chrome-Plated Steel						
1/4"	0.312"	0.734"	0.051"-0.080"	10	93960A120	9.78
5/16"	0.344"	0.688"	0.051"-0.080"	25	93960A140	10.62
3/8"	0.406"	0.812"	0.051"-0.080"	25	93960A160	10.62
7/16"	0.475"	0.930"	0.051"-0.080"	10	93960A170	9.48
1/2"	0.531"	1.062"	0.074"-0.121"	10	93960A180	10.24
9/16"	0.600"	1.162"	0.074"-0.121"	10	93960A190	11.77
Aluminum						
No. 000	0.040"	0.094"	0.014"-0.018"	25	93286A151	5.29
No. 00	0.053"	0.109"	0.014"-0.018"	25	93286A152	5.43
No. 0	0.062"	0.156"	0.018"-0.023"	25	93286A153	5.50
No. 2	0.099"	0.250"	0.024"-0.038"	100	93286A003	3.84
No. 4	0.125"	0.312"	0.024"-0.038"	100	93286A005	4.16
No. 6	0.149"	0.375"	0.024"-0.038"	100	93286A007	4.32
No. 8	0.174"	0.375"	0.024"-0.038"	100	93286A009	4.36
No. 10	0.203"	0.438"	0.024"-0.038"	100	93286A011	4.28
1/4"	0.265"	0.688"	0.035"-0.055"	100	93286A013	6.64
5/16"	0.344"	0.750"	0.052"-0.072"	100	93286A015	7.88
3/8"	0.391"	0.625"	0.059"-0.069"	5	93286A045	2.50
7/16"	0.469"	1.125"	0.051"-0.080"	5	93286A154	8.71
1/2"	0.515"	0.875"	0.059"-0.069"	10	93286A049	5.50
5/8"	0.656"	1.250"	0.080"-0.100"	10	93286A054	5.75
3/4"	0.812"	1.500"	0.080"-0.100"	10	93286A058	6.25
7/8"	0.938"	2.000"	0.080"-0.100"	5	93286A155	9.29
1"	1.062"	2.250"	0.080"-0.100"	5	93286A156	10.43
Copper						
No. 10	0.203"	0.500"	0.033"-0.047"	50	93744A120	9.62
1/4"	0.260"	0.625"	0.052"-0.072"	25	93744A130	7.26
5/16"	0.344"	0.750"	0.052"-0.072"	25	93744A140	11.77
3/8"	0.390"	1.000"	0.052"-0.072"	10	93744A160	7.71
7/16"	0.500"	1.125"	0.068"-0.088"	10	93744A170	11.54
1/2"	0.562"	1.375"	0.068"-0.088"	5	93744A180	7.81
Copper (Cont.)						
5/8"	0.688"	1.750"	0.083"-0.103"	1	93744A190	$2.77
3/4"	0.812"	2.000"	0.083"-0.103"	1	93744A210	4.07
Brass						
No. 000	0.037"	0.078"	0.010"-0.012"	25	92916A270	9.34
No. 00	0.050"	0.109"	0.013"-0.015"	25	92916A280	8.25
No. 0	0.062"	0.125"	0.005"-0.024"	25	95395A101	3.95
No. 1	0.078"	0.156"	0.005"-0.024"	25	95395A102	3.95
No. 2	0.099"	0.188"	0.013"-0.027"	100	92916A310	2.48
No. 3	0.101"	0.250"	0.013"-0.027"	100	92916A315	2.88
No. 4	0.120"	0.281"	0.018"-0.032"	100	92916A320	3.46
No. 5	0.133"	0.281"	0.018"-0.032"	100	92916A322	3.39
No. 6	0.147"	0.312"	0.018"-0.032"	100	92916A325	3.36
No. 8	0.172"	0.375"	0.025"-0.039"	100	92916A335	5.04
No. 10	0.200"	0.438"	0.029"-0.043"	100	92916A345	5.89
No. 12	0.228"	0.500"	0.033"-0.047"	100	92916A355	8.43
1/4"	0.260"	0.562"	0.030"-0.050"	100	92916A365	8.96
5/16"	0.340"	0.750"	0.052"-0.072"	50	92916A395	11.91
3/8"	0.392"	0.875"	0.052"-0.072"	25	92916A405	8.18
7/16"	0.500"	1.125"	0.071"-0.091"	10	92916A206	10.50
1/2"	0.562"	1.250"	0.081"-0.101"	10	92916A420	10.80
9/16"	0.625"	1.500"	0.081"-0.101"	5	92916A427	10.29
5/8"	0.688"	1.500"	0.092"-0.112"	5	92916A431	11.29
3/4"	0.812"	1.875"	0.104"-0.124"	1	92916A435	3.17
7/8"	0.938"	2.250"	0.113"-0.143"	1	92916A440	5.18
1"	1.062"	2.500"	0.129"-0.159"	1	92916A231	7.61
1 1/8"	1.188"	2.750"	0.140"-0.171"	1	92916A451	8.44
1 1/4"	1.312"	3.000"	0.125"-0.187"	1	92916A456	8.42
1 1/2"	1.562"	3.500"	0.128"-0.187"	1	92916A461	12.24
Nickel-Plated Brass						
No. 2	0.099"	0.188"	0.010"-0.030"	100	92917A105	1.69
No. 4	0.120"	0.281"	0.018"-0.032"	100	92917A110	3.07
No. 6	0.147"	0.312"	0.018"-0.032"	100	92917A115	2.97
No. 8	0.172"	0.375"	0.025"-0.039"	100	92917A125	3.95
No. 10	0.200"	0.438"	0.029"-0.043"	100	92917A135	5.18
No. 12	0.228"	0.500"	0.030"-0.050"	100	92917A146	9.71
1/4"	0.260"	0.562"	0.030"-0.050"	100	92917A155	8.56
5/16"	0.340"	0.750"	0.052"-0.072"	25	92917A185	5.90
3/8"	0.392"	0.875"	0.052"-0.072"	25	92917A195	8.93
7/16"	0.500"	1.125"	0.071"-0.091"	10	92917A205	8.70
Bronze						
No. 6	0.147"	0.375"	0.025"-0.039"	100	93490A007	8.59
No. 8	0.172"	0.375"	0.025"-0.039"	100	93490A009	7.57
No. 10	0.200"	0.438"	0.029"-0.043"	100	93490A011	9.69
No. 12	0.228"	0.500"	0.033"-0.047"	50	93490A013	8.66
1/4"	0.260"	0.688"	0.030"-0.050"	50	93490A029	11.01
5/16"	0.340"	0.750"	0.052"-0.072"	25	93490A017	10.31
5/16"	0.340"	0.875"	0.052"-0.072"	25	93490A030	14.25
3/8"	0.392"	0.875"	0.052"-0.072"	25	93490A018	11.75
3/8"	0.392"	1.000"	0.052"-0.072"	10	93490A031	8.14
7/16"	0.500"	1.125"	0.052"-0.072"	10	93490A032	9.47
1/2"	0.562"	1.250"	0.068"-0.088"	10	93490A033	11.35
5/8"	0.688"	1.500"	0.081"-0.101"	5	93490A035	11.74
3/4"	0.812"	1.875"	0.092"-0.112"	1	93490A036	3.59
7/8"	0.938"	2.250"	0.099"-0.129"	1	93490A037	8.00
1"	1.062"	2.500"	0.113"-0.143"	1	93490A038	11.33
Titanium						
No. 2	0.090"	0.180"	0.022"-0.028"	1	94051A204	8.62
No. 4	0.125"	0.375"	0.030"-0.045"	1	94051A206	4.25
No. 6	0.144"	0.500"	0.036"-0.045"	5	94051A208	7.50
No. 8	0.188"	0.625"	0.036"-0.045"	5	94051A209	9.08
No. 10	0.203"	0.750"	0.036"-0.045"	5	94051A210	8.95
1/4"	0.265"	0.750"	0.036"-0.045"	1	94051A220	1.91
5/16"	0.344"	1.000"	0.046"-0.055"	1	94051A229	2.21
3/8"	0.406"	1.000"	0.056"-0.071"	1	94051A230	4.66
Nickel-Copper Alloy 400						
1/4"	0.265"	0.688"	0.047"-0.052"	10	90785A029	10.86
5/16"	0.344"	0.750"	0.047"-0.052"	5	90785A030	7.71
3/8"	0.390"	1.000"	0.054"-0.068"	5	90785A031	10.00
1/2"	0.562"	1.250"	0.071"-0.084"	1	90785A033	4.80
5/8"	0.688"	1.500"	0.071"-0.084"	1	90785A035	7.66
3/4"	0.812"	1.750"	0.085"-0.102"	1	90785A036	11.37

Zinc Yellow-Chromate Plated High-Strength Grade 8 Steel Washers with Material Test Report

These washers come with a chemical and material properties report with a traceable lot number for an additional $3.00.

Choose a Screw Size

1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	98023A105

Assortments—Furnished in a compartmented case with lid chart to identify washers.

Material	Screw Sizes Included	No. of Washers	Case Material		
316 Stainless Steel	No. 8, No. 10, 1/4", 5/16", 3/8", 1/2"	550	Plastic	92075A406	$79.58
18-8 Stainless Steel	No. 8, No. 10, 1/4", 5/16", 3/8", 1/2"	550	Plastic	92075A206	48.93
18-8 Stainless Steel	No. 2, No. 4, No. 6, No. 8, No. 10, 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 1"	1,680	Steel	92075A212	99.81
Brass	No. 8, No. 10, 1/4", 5/16", 3/8", 1/2"	550	Plastic	92075A306	95.25

Oversized Washers



Compared to our general purpose washers, these have exaggerated outside diameters and/or thicknesses. Washers with large outside diameters are good for covering oversized holes and are also known as fender washers. Thick washers can be used as spacers and levelers and are also known as fixture or setup washers.

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
316 Stainless Steel						
No. 0	0.078″	0.188″	0.018″-0.032″	100	90107A002	$2.50
No. 1	0.080″	0.188″	0.040″-0.060″	50	91525A311	9.43
No. 2	0.094″	0.312″	0.050″-0.080″	50	91525A312	7.71
No. 3	0.109″	0.312″	0.050″-0.080″	50	91525A313	7.71
No. 4	0.125″	0.344″	0.050″-0.080″	50	91525A314	7.86
No. 4	0.125″	0.375″	0.050″-0.080″	50	91525A411	8.00
No. 5	0.141″	0.375″	0.025″-0.039″	100	90107A101	4.32
No. 5	0.141″	0.375″	0.050″-0.080″	50	91525A315	8.00
No. 6	0.149″	0.625″	0.024″-0.038″	100	91525A103	7.85
No. 6	0.156″	0.438″	0.050″-0.080″	50	91525A316	8.14
No. 6	0.156″	0.500″	0.050″-0.080″	50	91525A412	8.29
No. 6	0.156″	0.562″	0.040″-0.054″	50	91525A104	5.60
No. 6	0.156″	0.750″	0.036″-0.065″	25	91525A105	8.40
No. 8	0.172″	0.500″	0.050″-0.080″	50	91525A318	8.29
No. 8	0.172″	0.625″	0.050″-0.080″	50	91525A319	9.00
No. 8	0.174″	0.750″	0.033″-0.047″	50	91525A107	7.50
No. 8	0.188″	0.438″	0.050″-0.080″	50	91525A317	8.14
No. 8	0.188″	0.750″	0.043″-0.057″	50	91525A108	9.99
No. 8	0.188″	1.000″	0.036″-0.065″	10	91525A268	4.60
No. 10	0.203″	0.500″	0.033″-0.047″	100	91525A109	6.72
No. 10	0.203″	0.562″	0.060″-0.090″	50	91525A320	11.57
No. 10	0.203″	0.625″	0.060″-0.090″	25	91525A321	6.64
No. 10	0.203″	0.688″	0.033″-0.047″	100	91525A110	11.34
No. 10	0.203″	0.750″	0.033″-0.047″	50	91525A115	8.28
No. 10	0.203″	0.875″	0.110″-0.140″	25	91525A322	13.25
No. 10	0.203″	1.000″	0.033″-0.047″	50	91525A114	11.16
No. 10	0.219″	1.500″	0.036″-0.060″	10	91525A271	7.87
No. 12	0.250″	0.562″	0.043″-0.057″	100	90107A013	7.29
No. 12	0.250″	0.750″	0.060″-0.090″	25	91525A323	8.71
No. 12	0.250″	1.000″	0.060″-0.090″	25	91525A414	10.88
1/4″	0.266″	0.500″	0.043″-0.057″	100	91525A117	6.90
1/4″	0.266″	0.562″	0.056″-0.070″	50	91525A118	5.86
1/4″	0.266″	0.875″	0.056″-0.070″	25	91525A119	8.19
1/4″	0.281″	0.625″	0.110″-0.140″	25	91525A324	10.86
1/4″	0.281″	0.625″	0.170″-0.200″	5	91525A361	13.12
1/4″	0.281″	0.688″	0.060″-0.090″	25	91525A415	8.00
1/4″	0.281″	0.750″	0.060″-0.090″	25	91525A416	8.71
1/4″	0.281″	1.000″	0.040″-0.060″	25	91525A120	5.80
1/4″	0.281″	1.250″	0.040″-0.060″	25	91525A124	10.67
1/4″	0.281″	1.500″	0.052″-0.072″	10	91525A128	7.51
1/4″	0.281″	2.000″	0.052″-0.072″	5	91525A129	6.61
1/4″	0.281″	2.500″	0.051″-0.080″	5	91525A235	10.12
1/4″	0.281″	3.000″	0.051″-0.080″	1	91525A237	2.88
5/16″	0.328″	0.625″	0.056″-0.070″	50	91525A229	6.72
5/16″	0.328″	0.625″	0.110″-0.140″	25	91525A325	10.86
5/16″	0.344″	0.750″	0.110″-0.140″	25	91525A326	11.32
5/16″	0.344″	0.750″	0.170″-0.200″	5	91525A362	13.43
5/16″	0.344″	1.250″	0.040″-0.060″	10	91525A230	5.43
5/16″	0.344″	1.500″	0.052″-0.072″	10	91525A130	9.64
5/16″	0.344″	2.000″	0.052″-0.072″	5	91525A133	7.12
5/16″	0.344″	2.500″	0.051″-0.080″	5	91525A134	10.12
5/16″	0.344″	3.000″	0.051″-0.080″	1	91525A135	2.88
3/8″	0.406″	0.750″	0.110″-0.140″	25	91525A327	11.62
3/8″	0.406″	0.875″	0.043″-0.057″	50	90107A031	7.36
3/8″	0.406″	0.875″	0.110″-0.140″	10	91525A328	7.20
3/8″	0.406″	1.000″	0.040″-0.060″	50	90107A051	7.07
3/8″	0.406″	1.000″	0.056″-0.071″	10	91525A136	5.15
3/8″	0.406″	1.000″	0.110″-0.140″	10	91525A329	11.43
3/8″	0.406″	1.250″	0.052″-0.072″	10	91525A141	5.02
3/8″	0.406″	1.500″	0.052″-0.072″	10	91525A140	7.14
3/8″	0.406″	1.625″	0.056″-0.070″	10	91525A142	9.14
3/8″	0.406″	2.000″	0.052″-0.072″	5	91525A143	6.90
3/8″	0.406″	3.000″	0.051″-0.080″	1	91525A144	2.88
7/16″	0.500″	1.000″	0.110″-0.140″	10	91525A330	12.12
7/16″	0.500″	1.125″	0.110″-0.140″	10	91525A331	12.00
7/16″	0.500″	1.250″	0.110″-0.140″	10	91525A332	13.14
7/16″	0.500″	1.250″	0.170″-0.200″	5	91525A363	8.86
7/16″	0.500″	1.500″	0.110″-0.140″	10	91525A333	13.75
7/16″	0.500″	1.500″	0.170″-0.200″	5	91525A364	7.86
1/2″	0.531″	1.000″	0.060″-0.090″	10	91525A334	11.14
1/2″	0.531″	1.125″	0.110″-0.140″	10	91525A335	12.00
1/2″	0.531″	1.250″	0.110″-0.140″	10	91525A336	13.14
1/2″	0.531″	1.250″	0.170″-0.200″	5	91525A365	8.86
1/2″	0.531″	1.500″	0.052″-0.072″	10	91525A145	6.88
1/2″	0.531″	1.500″	0.110″-0.140″	5	91525A337	8.71

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
316 Stainless Steel (Cont.)						
1/2″	0.531″	2.000″	0.052″-0.072″	5	91525A150	$6.59
1/2″	0.531″	3.000″	0.051″-0.080″	1	91525A152	2.97
9/16″	0.578″	1.062″	0.110″-0.140″	10	91525A338	11.71
9/16″	0.578″	1.250″	0.050″-0.080″	10	91525A418	6.83
9/16″	0.625″	1.375″	0.071″-0.085″	10	90107A034	9.31
9/16″	0.625″	1.375″	0.110″-0.140″	5	91525A339	9.57
5/8″	0.656″	1.375″	0.110″-0.140″	5	91525A366	7.86
5/8″	0.656″	1.500″	0.110″-0.140″	5	91525A341	8.71
5/8″	0.688″	1.500″	0.110″-0.140″	5	91525A340	8.71
3/4″	0.812″	1.500″	0.170″-0.200″	5	91525A342	13.82
3/4″	0.812″	1.750″	0.099″-0.120″	5	90107A107	11.34
3/4″	0.812″	1.875″	0.099″-0.116″	5	90107A036	7.78
3/4″	0.812″	2.000″	0.122″-0.177″	1	91525A419	2.64
3/4″	0.812″	2.250″	0.136″-0.192″	1	91525A421	2.64
7/8″	0.938″	2.250″	0.140″-0.170″	1	91525A422	2.64
7/8″	0.938″	2.500″	0.170″-0.200″	1	91525A417	6.00
1″	1.062″	2.250″	0.110″-0.140″	1	91525A423	3.37
1″	1.062″	2.500″	0.110″-0.140″	1	91525A424	3.37
1 1/8″	1.156″	3.000″	0.150″-0.220″	1	91525A367	5.61
1 1/4″	1.312″	3.000″	0.170″-0.200″	1	91525A368	6.03
1 1/2″	1.562″	3.250″	0.133″-0.147″	1	90107A041	5.21
2″	2.125″	4.250″	0.150″-0.220″	1	91525A425	10.80
18-8 Stainless Steel						
No. 0	0.062″	0.125″	0.005″-0.024″	25	98370A001	6.03
No. 0	0.078″	0.156″	0.005″-0.024″	25	98370A002	6.03
No. 0	0.078″	0.188″	0.016″-0.025″	100	92141A002	1.63
No. 2	0.094″	0.188″	0.014″-0.033″	25	98370A003	5.15
No. 3	0.109″	0.312″	0.050″-0.080″	100	90313A501	7.67
No. 4	0.125″	0.250″	0.049″-0.068″	10	98370A005	6.67
No. 4	0.125″	0.312″	0.064″-0.083″	10	98370A024	8.68
No. 5	0.141″	0.375″	0.025″-0.040″	100	92141A007	2.00
No. 5	0.141″	0.375″	0.050″-0.080″	100	90313A502	8.33
No. 6	0.149″	0.625″	0.024″-0.038″	100	90313A101	6.20
No. 6	0.156″	0.312″	0.049″-0.068″	10	98370A007	6.67
No. 6	0.156″	0.375″	0.064″-0.083″	5	98370A025	4.07
No. 6	0.156″	0.438″	0.050″-0.080″	100	90313A503	9.00
No. 6	0.156″	0.562″	0.040″-0.054″	50	90313A201	10.15
No. 6	0.156″	0.750″	0.036″-0.065″	25	90313A301	5.72
No. 8	0.172″	0.375″	0.049″-0.068″	10	98370A009	6.67
No. 8	0.172″	0.500″	0.050″-0.080″	100	90313A504	10.00
No. 8	0.172″	0.625″	0.050″-0.080″	50	90313A505	6.83
No. 8	0.174″	0.750″	0.033″-0.047″	100	90313A102	8.33
No. 8	0.188″	0.438″	0.064″-0.083″	10	98370A011	7.89
No. 8	0.188″	0.750″	0.043″-0.057″	50	90313A202	13.00
No. 8	0.188″	1.000″	0.036″-0.065″	25	90313A302	7.54
No. 10	0.203″	0.500″	0.033″-0.047″	100	90313A200	6.45
No. 10	0.203″	0.500″	0.080″-0.099″	5	98370A027	4.89
No. 10	0.203″	0.625″	0.060″-0.090″	50	90313A506	9.17
No. 10	0.203″	0.688″	0.033″-0.047″	100	90313A103	6.27
No. 10	0.203″	0.750″	0.033″-0.047″	100	90313A400	8.39
No. 10	0.203″	1.000″	0.033″-0.047″	50	90313A104	5.96
No. 10	0.203″	1.000″	0.230″-0.270″	1	98370A045	4.33
No. 10	0.219″	1.000″	0.110″-0.140″	1	92303A101	6.44
No. 10	0.219″	1.250″	0.043″-0.057″	25	90313A105	11.87
No. 10	0.219″	1.500″	0.036″-0.060″	10	90313A156	4.90
No. 12	0.250″	0.562″	0.040″-0.060″	100	90313A507	11.00
No. 12	0.250″	0.750″	0.060″-0.090″	50	90313A508	11.33
No. 12	0.250″	1.000″	0.060″-0.090″	25	90313A509	11.08
No. 12	0.250″	1.500″	0.110″-0.140″	10	98370A111	14.33
1/4″	0.265″	0.500″	0.043″-0.057″	50	90313A203	10.01
1/4″	0.265″	0.562″	0.056″-0.070″	50	90313A204	10.80
1/4″	0.265″	0.875″	0.056″-0.071″	25	90313A205	8.94
1/4″	0.281″	0.500″	0.064″-0.083″	10	98370A013	5.46
1/4″	0.281″	0.625″	0.105″-0.130″	10	98370A028	6.13
1/4″	0.281″	0.625″	0.168″-0.193″	1	98125A029	2.84
1/4″	0.281″	1.000″	0.043″-0.057″	50	90313A107	5.78
1/4″	0.281″	1.250″	0.043″-0.057″	50	90313A108	8.56
1/4″	0.281″	1.500″	0.055″-0.069″	25	90313A109	8.22
1/4″	0.281″	1.500″	0.110″-0.140″	1	92303A102	6.44
1/4″	0.281″	1.500″	0.230″-0.270″	1	98370A046	4.86
1/4″	0.281″	2.000″	0.055″-0.069″	10	90313A106	7.85
1/4″	0.281″	2.500″	0.051″-0.080″	5	90313A307	6.17
1/4″	0.281″	3.000″	0.051″-0.080″	5	90313A309	8.92
5/16″	0.328″	0.625″	0.056″-0.070″	50	90313A206	13.28
5/16″	0.344″	0.625″	0.079″-0.098″	10	98370A015	6.67

(Continued on following page)

Oversized Washers *(Continued from previous page)*

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
18-8 Stainless Steel						
5/16"	0.344"	0.688"	0.105"-0.130"	10	98370A017	$6.67
5/16"	0.344"	0.750"	0.105"-0.130"	10	98370A029	7.59
5/16"	0.344"	0.750"	0.168"-0.193"	1	98125A030	2.95
5/16"	0.344"	1.250"	0.043"-0.057"	25	90313A111	6.17
5/16"	0.344"	1.500"	0.055"-0.069"	25	90313A110	8.97
5/16"	0.344"	2.000"	0.055"-0.069"	10	90313A112	8.53
5/16"	0.344"	2.000"	0.110"-0.140"	1	92303A103	7.46
5/16"	0.344"	2.000"	0.235"-0.265"	1	92303A104	18.46
5/16"	0.344"	2.500"	0.051"-0.080"	5	90313A321	6.17
5/16"	0.344"	3.000"	0.051"-0.080"	5	90313A327	8.92
3/8"	0.406"	0.750"	0.079"-0.098"	10	98370A019	6.67
3/8"	0.406"	0.875"	0.105"-0.130"	10	98370A030	8.58
3/8"	0.406"	1.000"	0.040"-0.060"	100	92141A051	6.72
3/8"	0.406"	1.000"	0.056"-0.071"	10	90313A329	4.86
3/8"	0.406"	1.000"	0.105"-0.130"	10	98370A021	8.13
3/8"	0.406"	1.000"	0.168"-0.193"	1	98125A031	2.56
3/8"	0.406"	1.250"	0.043"-0.057"	25	90313A114	5.63
3/8"	0.406"	1.500"	0.055"-0.069"	25	90313A115	8.07
3/8"	0.406"	1.625"	0.056"-0.070"	10	90313A207	9.70
3/8"	0.406"	2.000"	0.055"-0.069"	10	90313A116	8.18
3/8"	0.406"	2.000"	0.110"-0.140"	1	92303A105	7.77
3/8"	0.406"	2.000"	0.235"-0.265"	1	92303A106	19.05
3/8"	0.406"	3.000"	0.051"-0.080"	5	90313A333	8.92
7/16"	0.469"	0.922"	0.105"-0.130"	10	98370A022	9.76
7/16"	0.469"	1.000"	0.105"-0.130"	5	98370A032	8.87
7/16"	0.469"	1.000"	0.168"-0.193"	5	98125A432	12.09
7/16"	0.500"	1.250"	0.110"-0.140"	10	98370A112	11.67
7/16"	0.500"	1.250"	0.170"-0.200"	5	98370A113	10.17
7/16"	0.500"	1.500"	0.110"-0.140"	5	98370A114	9.50
7/16"	0.500"	1.500"	0.170"-0.200"	5	98370A115	12.17
1/2"	0.531"	1.000"	0.060"-0.090"	25	90313A511	11.17
1/2"	0.531"	1.062"	0.168"-0.192"	10	98125A443	7.82
1/2"	0.531"	1.125"	0.105"-0.130"	5	98370A033	9.88
1/2"	0.531"	1.125"	0.168"-0.193"	1	98125A033	3.27
1/2"	0.531"	1.500"	0.055"-0.069"	25	90313A117	9.86
1/2"	0.531"	2.000"	0.055"-0.069"	10	90313A118	8.66
1/2"	0.531"	2.000"	0.110"-0.140"	1	92303A107	7.86
1/2"	0.531"	2.000"	0.235"-0.265"	1	92303A108	20.28
1/2"	0.531"	3.000"	0.051"-0.080"	5	90313A351	9.19
9/16"	0.578"	1.062"	0.110"-0.140"	10	98370A116	13.67
9/16"	0.578"	1.250"	0.050"-0.080"	10	90313A411	7.97
9/16"	0.594"	1.188"	0.168"-0.193"	5	98125A034	7.58
9/16"	0.625"	1.375"	0.055"-0.070"	25	92141A102	8.33
5/8"	0.656"	1.312"	0.198"-0.223"	5	98125A445	6.94
5/8"	0.656"	1.375"	0.105"-0.130"	5	98370A035	10.93
5/8"	0.656"	1.375"	0.168"-0.193"	1	98125A035	3.08
5/8"	0.688"	2.500"	0.110"-0.140"	1	92303A109	10.31
5/8"	0.688"	2.500"	0.235"-0.265"	1	92303A110	21.50
3/4"	0.781"	1.625"	0.136"-0.161"	1	98370A036	2.80
3/4"	0.781"	1.625"	0.230"-0.255"	1	98125A036	5.33
3/4"	0.812"	1.500"	0.060"-0.090"	10	90313A412	10.00
3/4"	0.812"	1.500"	0.198"-0.223"	5	98125A446	9.60
3/4"	0.812"	1.875"	0.102"-0.116"	10	92141A036	5.09
3/4"	0.812"	3.000"	0.110"-0.140"	1	98370A117	4.17
3/4"	0.812"	3.000"	0.235"-0.265"	1	92303A111	24.46
7/8"	0.906"	1.750"	0.136"-0.161"	1	98370A037	2.95
7/8"	0.906"	1.750"	0.230"-0.255"	1	98125A037	5.64
7/8"	0.938"	2.000"	0.170"-0.200"	1	98370A118	3.03
7/8"	0.938"	3.250"	0.235"-0.265"	1	92303A112	29.48
1"	1.031"	2.000"	0.168"-0.193"	1	98370A038	4.81
1"	1.031"	2.000"	0.230"-0.255"	1	98125A450	7.05
1"	1.031"	2.000"	0.261"-0.286"	1	98125A038	7.44
1"	1.062"	2.500"	0.110"-0.140"	1	98370A119	3.00
1"	1.062"	3.500"	0.110"-0.140"	1	92303A113	34.99
1 1/8"	1.156"	2.250"	0.199"-0.224"	1	98370A039	7.55
1 1/4"	1.281"	2.500"	0.261"-0.286"	1	98370A040	7.54
1 1/4"	1.375"	4.000"	0.485"-0.515"	1	92303A114	41.67
1 3/8"	1.500"	2.750"	0.235"-0.265"	1	98900A316	17.46
1 1/2"	1.562"	3.750"	0.170"-0.200"	1	98370A121	9.57
1 1/2"	1.625"	3.000"	0.235"-0.265"	1	98900A318	20.04
1 3/4"	1.812"	3.875"	0.170"-0.200"	1	92303A045	11.10
1 3/4"	1.875"	3.375"	0.235"-0.265"	1	98900A322	23.12
2"	2.125"	3.750"	0.235"-0.265"	1	98900A326	28.48
Black-Oxide 18-8 Stainless Steel						
No. 0	0.078"	0.188"	0.010"-0.030"	50	90377A111	9.33
No. 1	0.080"	0.188"	0.040"-0.060"	50	90377A133	9.83
No. 2	0.094"	0.312"	0.050"-0.080"	50	90377A134	9.50
No. 3	0.109"	0.312"	0.050"-0.080"	50	90377A135	9.50
No. 4	0.125"	0.344"	0.050"-0.080"	50	90377A112	10.17
No. 4	0.125"	0.375"	0.050"-0.080"	50	90377A113	10.50
Black-Oxide 18-8 Stainless Steel (Cont.)						
No. 5	0.141"	0.375"	0.050"-0.080"	50	90377A114	$10.50
No. 5	0.141"	0.625"	0.020"-0.040"	25	90377A116	6.17
No. 6	0.156"	0.438"	0.020"-0.040"	50	90377A137	11.43
No. 6	0.156"	0.500"	0.050"-0.080"	25	90377A138	6.17
No. 6	0.156"	0.562"	0.040"-0.060"	25	90377A115	6.25
No. 6	0.156"	0.750"	0.030"-0.070"	25	90377A117	6.33
No. 8	0.172"	0.500"	0.050"-0.080"	25	90377A142	6.17
No. 8	0.172"	0.625"	0.050"-0.080"	25	90377A118	6.50
No. 8	0.172"	0.750"	0.030"-0.050"	25	90377A119	6.33
No. 8	0.188"	0.438"	0.050"-0.080"	25	90377A141	5.83
No. 8	0.188"	0.750"	0.040"-0.060"	25	90377A121	6.25
No. 8	0.188"	1.000"	0.030"-0.070"	25	90377A122	12.00
No. 10	0.203"	0.500"	0.030"-0.050"	25	90377A123	6.00
No. 10	0.203"	0.562"	0.060"-0.090"	25	90377A143	6.25
No. 10	0.203"	0.625"	0.060"-0.090"	25	90377A144	6.50
No. 10	0.203"	0.688"	0.030"-0.050"	25	90377A124	6.17
No. 10	0.203"	0.750"	0.030"-0.050"	25	90377A125	6.25
No. 10	0.203"	0.875"	0.110"-0.140"	10	90377A145	8.68
No. 10	0.203"	1.000"	0.030"-0.050"	25	90377A126	12.00
No. 10	0.203"	1.250"	0.110"-0.140"	5	90377A192	7.47
No. 10	0.219"	1.500"	0.030"-0.070"	10	90377A156	5.77
No. 12	0.250"	0.562"	0.040"-0.060"	50	90377A127	11.50
No. 12	0.250"	0.750"	0.060"-0.090"	25	90377A146	12.67
No. 12	0.250"	1.000"	0.060"-0.090"	10	90377A147	8.33
No. 12	0.250"	1.500"	0.110"-0.140"	5	90377A193	7.47
1/4"	0.266"	0.562"	0.050"-0.080"	25	90377A148	7.60
1/4"	0.266"	0.875"	0.050"-0.080"	25	90377A131	12.67
1/4"	0.266"	1.000"	0.040"-0.060"	10	90377A157	5.77
1/4"	0.266"	1.250"	0.040"-0.060"	10	90377A158	5.77
1/4"	0.266"	1.500"	0.050"-0.080"	10	90377A159	7.30
1/4"	0.266"	2.000"	0.050"-0.080"	5	90377A161	7.18
1/4"	0.266"	2.500"	0.050"-0.080"	5	90377A162	10.47
1/4"	0.266"	3.000"	0.050"-0.080"	5	90377A163	10.47
1/4"	0.281"	0.625"	0.110"-0.140"	10	90377A149	7.68
1/4"	0.281"	0.625"	0.170"-0.200"	10	90377A194	17.27
1/4"	0.281"	0.688"	0.060"-0.090"	25	90377A128	12.67
1/4"	0.281"	0.750"	0.060"-0.090"	25	90377A129	13.50
5/16"	0.328"	0.625"	0.110"-0.140"	10	90377A151	7.68
5/16"	0.344"	0.750"	0.110"-0.140"	10	90377A152	7.68
5/16"	0.344"	0.750"	0.170"-0.200"	10	90377A195	17.69
5/16"	0.344"	1.250"	0.040"-0.060"	10	90377A164	5.77
5/16"	0.344"	1.500"	0.050"-0.080"	10	90377A165	7.30
5/16"	0.344"	2.000"	0.050"-0.080"	5	90377A166	7.18
5/16"	0.344"	2.500"	0.050"-0.080"	5	90377A167	10.47
5/16"	0.344"	3.000"	0.050"-0.080"	5	90377A168	10.47
3/8"	0.406"	0.750"	0.110"-0.140"	10	90377A153	9.22
3/8"	0.406"	0.875"	0.110"-0.140"	10	90377A154	8.68
3/8"	0.406"	1.000"	0.040"-0.060"	10	90377A169	6.92
3/8"	0.406"	1.000"	0.110"-0.140"	10	90377A196	11.40
3/8"	0.406"	1.250"	0.040"-0.060"	10	90377A171	5.77
3/8"	0.406"	1.500"	0.050"-0.080"	10	90377A172	7.30
3/8"	0.406"	1.625"	0.050"-0.080"	5	90377A173	7.18
3/8"	0.406"	2.000"	0.050"-0.080"	5	90377A174	7.18
3/8"	0.406"	3.000"	0.050"-0.080"	5	90377A175	10.47
7/16"	0.500"	1.000"	0.110"-0.140"	10	90377A197	11.40
7/16"	0.500"	1.125"	0.050"-0.080"	10	90377A176	8.76
7/16"	0.500"	1.125"	0.110"-0.140"	5	90377A198	7.47
7/16"	0.500"	1.250"	0.110"-0.140"	5	90377A177	7.47
7/16"	0.500"	1.250"	0.170"-0.200"	1	90377A199	2.57
7/16"	0.500"	1.500"	0.110"-0.140"	5	90377A178	7.47
7/16"	0.500"	1.500"	0.170"-0.200"	1	90377A201	2.57
1/2"	0.531"	1.000"	0.060"-0.090"	10	90377A132	10.00
1/2"	0.531"	1.125"	0.110"-0.140"	5	90377A202	7.47
1/2"	0.531"	1.250"	0.110"-0.140"	5	90377A179	8.96
1/2"	0.531"	1.250"	0.170"-0.200"	1	90377A203	2.57
1/2"	0.531"	1.500"	0.050"-0.080"	10	90377A181	7.30
1/2"	0.531"	1.500"	0.110"-0.140"	5	90377A204	7.47
1/2"	0.531"	2.000"	0.050"-0.080"	5	90377A182	7.18
1/2"	0.531"	3.000"	0.050"-0.080"	5	90377A183	10.47
9/16"	0.578"	1.062"	0.110"-0.140"	5	90377A205	7.47
9/16"	0.578"	1.250"	0.050"-0.080"	10	90377A184	7.30
9/16"	0.625"	1.375"	0.050"-0.080"	10	90377A185	8.76
9/16"	0.625"	1.375"	0.110"-0.140"	5	90377A206	7.47
5/8"	0.656"	1.375"	0.060"-0.090"	10	90377A186	8.30
5/8"	0.656"	1.375"	0.110"-0.140"	5	90377A208	7.47
5/8"	0.656"	1.500"	0.110"-0.140"	5	90377A209	7.47
5/8"	0.688"	1.500"	0.110"-0.140"	5	90377A207	7.47
3/4"	0.812"	1.500"	0.170"-0.200"	1	90377A211	2.57
3/4"	0.812"	1.750"	0.170"-0.200"	1	90377A212	2.57

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Oversized Washers *(Continued from previous page)*



Compared to our general purpose washers, these have exaggerated outside diameters and/or thicknesses. Washers with large outside diameters are good for covering oversized holes and are also known as fender washers. Thick washers can be used as spacers and levelers and are also known as fixture or setup washers.

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Black-Oxide 18-8 Stainless Steel (Cont.)						
3/4"	0.812"	1.750"	0.230"-0.270"	1	90377A213	$7.37
3/4"	0.812"	2.000"	0.122"-0.177"	1	90377A187	3.40
7/8"	0.938"	2.000"	0.170"-0.200"	1	90377A155	5.97
7/8"	0.938"	2.500"	0.170"-0.200"	1	90377A214	6.77
1"	1.062"	2.500"	0.110"-0.140"	1	90377A188	3.40
1"	1.062"	3.000"	0.150"-0.220"	1	90377A215	7.67
17-4 PH Stainless Steel						
No. 4	0.125"	0.312"	0.068"-0.088"	1	98049A111	2.00
No. 6	0.156"	0.375"	0.068"-0.088"	1	98049A112	2.08
No. 8	0.188"	0.438"	0.060"-0.090"	1	98049A113	2.25
No. 10	0.203"	0.500"	0.080"-0.110"	1	98049A114	2.95
1/4"	0.281"	0.625"	0.105"-0.130"	1	98049A310	3.28
5/16"	0.344"	0.750"	0.105"-0.130"	1	98049A420	3.66
3/8"	0.406"	0.875"	0.105"-0.130"	1	98049A530	3.99
3/8"	0.406"	1.000"	0.170"-0.190"	1	98049A115	6.10
7/16"	0.469"	1.000"	0.170"-0.190"	1	98049A116	5.78
1/2"	0.531"	1.125"	0.105"-0.130"	1	98049A640	4.81
5/8"	0.656"	1.375"	0.105"-0.130"	1	98049A750	6.61
3/4"	0.781"	1.625"	0.136"-0.161"	1	98049A860	7.43
7/8"	0.906"	1.750"	0.235"-0.255"	1	98049A117	16.75
1"	1.031"	2.000"	0.170"-0.190"	1	98049A118	10.45
1 1/8"	1.156"	2.250"	0.200"-0.220"	1	98049A119	16.65
1 1/4"	1.281"	2.500"	0.265"-0.290"	1	98049A121	17.58
1 1/2"	1.562"	2.750"	0.360"-0.380"	1	98049A122	33.86
Zinc Yellow-Chromate Plated High-Strength Grade 8 Steel						
1/4"	0.281"	0.625"	0.090"-0.108"	100	98025A029	13.37
1/4"	0.312"	0.734"	0.051"-0.080"	100	98026A029	7.46
5/16"	0.344"	0.688"	0.090"-0.108"	50	98025A030	8.57
5/16"	0.375"	0.875"	0.064"-0.104"	50	98026A030	6.39
3/8"	0.406"	0.812"	0.110"-0.126"	50	98025A031	10.48
3/8"	0.438"	1.000"	0.064"-0.104"	50	98026A031	7.10
7/16"	0.469"	0.922"	0.110"-0.126"	25	98025A132	8.06
7/16"	0.500"	1.250"	0.064"-0.104"	25	98026A032	6.19
1/2"	0.531"	1.062"	0.190"-0.208"	25	98025A133	11.44
1/2"	0.562"	1.375"	0.086"-0.132"	25	98026A033	8.21
9/16"	0.594"	1.172"	0.168"-0.191"	10	98025A034	7.22
9/16"	0.625"	1.469"	0.086"-0.132"	25	98026A034	10.00
5/8"	0.656"	1.312"	0.206"-0.229"	10	98025A035	7.99
5/8"	0.688"	1.750"	0.108"-0.160"	25	98026A035	13.50
3/4"	0.812"	1.469"	0.206"-0.229"	10	98025A036	10.68
3/4"	0.812"	2.000"	0.122"-0.177"	10	98026A036	7.90
7/8"	0.938"	1.750"	0.235"-0.264"	5	98025A037	8.01
7/8"	0.938"	2.250"	0.136"-0.192"	10	98026A037	13.03
1"	1.062"	2.000"	0.235"-0.264"	5	98025A038	8.62
1"	1.062"	2.500"	0.136"-0.192"	10	98026A038	14.50
1 1/8"	1.188"	2.250"	0.235"-0.264"	5	98025A139	12.01
1 1/8"	1.250"	2.750"	0.136"-0.192"	5	98026A039	9.96
1 1/4"	1.375"	2.500"	0.235"-0.264"	5	98025A040	10.49
1 1/4"	1.375"	3.000"	0.136"-0.192"	5	98026A040	11.79
1 3/8"	1.438"	2.750"	0.235"-0.264"	1	98025A043	3.81
1 3/8"	1.500"	3.250"	0.153"-0.213"	1	98026A041	3.12
1 1/2"	1.562"	3.000"	0.235"-0.264"	1	98025A045	4.67
1 1/2"	1.625"	3.500"	0.153"-0.213"	1	98026A042	3.05
Hot-Dipped Galvanized Steel						
1/2"	0.562"	3.000"	0.235"-0.265"	1	98970A100	3.44
5/8"	0.688"	3.000"	0.235"-0.265"	1	98970A125	3.44
3/4"	0.812"	3.000"	0.235"-0.265"	1	98970A150	3.25
7/8"	0.938"	3.000"	0.235"-0.265"	1	98970A175	3.60
1"	1.062"	3.250"	0.235"-0.265"	1	98970A200	3.90
1 1/4"	1.375"	4.000"	0.485"-0.515"	1	98970A225	9.13
1 1/2"	1.750"	4.000"	0.302"-0.332"	1	98970A231	19.88
1 3/4"	2.000"	4.000"	0.302"-0.332"	1	98970A232	19.88
2"	2.250"	4.000"	0.302"-0.332"	1	98970A233	19.88
2 1/2"	2.750"	4.500"	0.302"-0.332"	1	98970A234	34.61
3"	3.250"	5.500"	0.302"-0.332"	1	98970A235	44.18
Zinc-Plated Steel						
No. 6	0.141"	0.625"	0.027"-0.035"	50	91090A100	2.33
No. 6	0.156"	0.562"	0.042"-0.051"	50	91090A102	2.65
No. 6	0.156"	0.750"	0.036"-0.065"	25	98264A100	5.77
No. 8	0.172"	0.750"	0.043"-0.051"	50	91090A124	8.38
No. 8	0.188"	0.750"	0.042"-0.051"	50	91090A101	2.77
No. 8	0.188"	1.000"	0.042"-0.054"	25	98264A125	7.18
No. 10	0.203"	0.500"	0.042"-0.051"	50	91090A103	3.20
No. 10	0.203"	0.688"	0.043"-0.051"	50	91090A125	8.34
No. 10	0.203"	0.750"	0.043"-0.051"	50	91090A126	8.52
No. 10	0.203"	1.000"	0.042"-0.051"	100	91090A120	4.80
Zinc-Plated Steel (Cont.)						
No. 10	0.219"	1.000"	0.110"-0.140"	5	91117A201	$6.81
No. 10	0.219"	1.000"	0.235"-0.265"	5	91117A204	8.79
No. 10	0.219"	1.250"	0.042"-0.051"	50	91090A104	5.12
No. 10	0.219"	1.500"	0.036"-0.065"	25	98264A150	9.53
1/4"	0.266"	0.500"	0.042"-0.051"	50	91090A105	3.25
1/4"	0.266"	0.562"	0.042"-0.051"	50	91090A106	3.38
1/4"	0.266"	0.875"	0.042"-0.051"	50	91090A107	3.30
1/4"	0.281"	1.000"	0.042"-0.051"	50	91090A108	3.07
1/4"	0.281"	1.250"	0.042"-0.051"	50	91090A109	4.65
1/4"	0.281"	1.500"	0.042"-0.051"	50	91090A113	5.80
1/4"	0.281"	1.500"	0.110"-0.140"	5	91117A207	6.81
1/4"	0.281"	1.500"	0.235"-0.250"	5	91117A210	8.79
1/4"	0.281"	2.000"	0.042"-0.051"	25	91090A116	5.95
1/4"	0.281"	2.500"	0.051"-0.080"	10	98264A175	9.17
1/4"	0.281"	3.000"	0.051"-0.080"	5	98264A200	6.13
5/16"	0.328"	0.625"	0.042"-0.051"	100	91090A110	4.92
5/16"	0.344"	1.250"	0.042"-0.051"	100	91090A111	8.60
5/16"	0.344"	1.500"	0.042"-0.051"	100	91090A119	11.03
5/16"	0.344"	2.000"	0.043"-0.051"	25	91090A127	9.01
5/16"	0.344"	2.000"	0.110"-0.140"	5	91117A213	7.13
5/16"	0.344"	2.000"	0.235"-0.265"	5	91117A216	8.95
5/16"	0.344"	2.500"	0.051"-0.080"	5	98264A225	4.58
5/16"	0.344"	3.000"	0.051"-0.080"	5	98264A250	6.13
3/8"	0.406"	1.000"	0.056"-0.071"	50	91090A112	7.62
3/8"	0.406"	1.250"	0.042"-0.051"	50	91090A121	4.65
3/8"	0.406"	1.500"	0.042"-0.051"	100	91090A115	11.03
3/8"	0.406"	1.625"	0.042"-0.051"	50	91090A122	10.77
3/8"	0.406"	2.000"	0.042"-0.051"	25	91090A117	6.45
3/8"	0.406"	2.000"	0.110"-0.140"	5	91117A219	7.30
3/8"	0.406"	2.000"	0.235"-0.265"	5	91117A222	9.29
3/8"	0.406"	3.000"	0.051"-0.080"	5	98264A275	6.13
1/2"	0.531"	1.500"	0.042"-0.051"	25	91090A114	5.07
1/2"	0.531"	2.000"	0.042"-0.051"	25	91090A118	5.88
1/2"	0.531"	2.000"	0.110"-0.140"	5	91117A225	7.62
1/2"	0.531"	2.000"	0.235"-0.265"	5	91117A228	9.46
1/2"	0.531"	3.000"	0.051"-0.080"	5	98264A300	6.46
1/2"	0.562"	3.000"	0.235"-0.265"	5	91117A229	15.10
5/8"	0.688"	2.500"	0.110"-0.140"	5	91117A231	10.28
5/8"	0.688"	2.500"	0.235"-0.265"	5	91117A234	11.12
5/8"	0.688"	3.000"	0.235"-0.265"	5	91117A235	15.10
3/4"	0.812"	3.000"	0.110"-0.140"	5	91117A237	10.62
3/4"	0.812"	3.000"	0.235"-0.265"	5	91117A240	11.44
3/4"	0.812"	3.000"	0.360"-0.390"	1	91117A243	6.20
7/8"	0.938"	3.000"	0.235"-0.265"	1	91117A244	3.18
7/8"	0.938"	3.250"	0.110"-0.140"	1	91117A245	2.96
7/8"	0.938"	3.250"	0.235"-0.265"	5	91117A246	11.63
7/8"	0.938"	3.250"	0.360"-0.390"	1	91117A249	6.27
1"	1.062"	3.250"	0.235"-0.265"	1	91117A250	3.38
1"	1.062"	3.500"	0.110"-0.140"	1	91117A251	3.33
1"	1.062"	3.500"	0.235"-0.265"	1	91117A252	3.65
1"	1.062"	3.500"	0.360"-0.390"	1	91117A255	6.40
1 1/4"	1.375"	4.000"	0.485"-0.515"	1	91117A260	6.96
Black-Oxide Steel						
No. 0	0.062"	0.125"	0.005"-0.024"	25	98029A021	7.52
No. 1	0.078"	0.156"	0.005"-0.024"	25	98029A022	8.15
No. 2	0.094"	0.188"	0.014"-0.033"	25	98029A023	5.00
No. 4	0.125"	0.250"	0.049"-0.068"	25	98029A024	5.63
No. 4	0.125"	0.312"	0.068"-0.088"	25	98029A041	5.83
No. 6	0.156"	0.312"	0.049"-0.068"	25	98029A025	6.01
No. 6	0.156"	0.375"	0.068"-0.088"	25	98029A042	7.90
No. 6	0.156"	0.562"	0.120"-0.130"	10	92140A101	4.41
No. 8	0.172"	0.375"	0.049"-0.068"	25	98029A026	6.26
No. 8	0.188"	0.438"	0.068"-0.088"	25	98029A043	4.38
No. 8	0.188"	0.750"	0.120"-0.130"	10	92140A104	4.41
No. 10	0.203"	0.500"	0.080"-0.099"	25	98029A011	4.99
No. 10	0.203"	1.000"	0.120"-0.130"	10	92140A108	5.61
1/4"	0.281"	0.500"	0.064"-0.083"	25	98029A027	6.90
1/4"	0.281"	0.625"	0.105"-0.130"	25	98029A029	4.99
1/4"	0.281"	0.625"	0.168"-0.193"	10	98099A029	8.02
1/4"	0.281"	1.000"	0.120"-0.130"	10	92140A112	5.91
1/4"	0.281"	1.500"	0.120"-0.130"	10	92140A114	12.42
5/16"	0.344"	0.625"	0.079"-0.098"	25	98029A028	7.52
5/16"	0.344"	0.688"	0.105"-0.130"	25	98029A044	8.77
5/16"	0.344"	0.750"	0.105"-0.130"	25	98029A030	6.83

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Oversized Washers *(Continued from previous page)*

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Black-Oxide Steel (Cont.)						
5/16"	0.344"	0.750"	0.168"-0.193"	10	98099A030	$8.60
5/16"	0.344"	1.250"	0.120"-0.130"	10	92140A116	9.41
3/8"	0.406"	0.750"	0.079"-0.098"	25	98029A045	8.77
3/8"	0.406"	0.875"	0.105"-0.130"	25	98029A031	8.59
3/8"	0.406"	1.000"	0.105"-0.130"	10	98029A046	5.01
3/8"	0.406"	1.000"	0.168"-0.193"	10	98099A031	8.77
3/8"	0.406"	1.625"	0.120"-0.130"	10	92140A118	12.65
7/16"	0.469"	1.000"	0.105"-0.130"	25	98029A032	8.97
7/16"	0.469"	1.000"	0.168"-0.193"	5	98099A032	5.61
1/2"	0.531"	1.062"	0.168"-0.192"	5	98099A034	5.61
1/2"	0.531"	1.125"	0.105"-0.130"	25	98029A033	9.40
1/2"	0.531"	1.125"	0.168"-0.193"	5	98099A033	5.61
1/2"	0.531"	2.000"	0.120"-0.130"	5	92140A120	8.45
9/16"	0.594"	1.188"	0.177"-0.187"	5	98029A115	12.66
5/8"	0.656"	1.312"	0.198"-0.223"	1	98099A045	4.49
5/8"	0.656"	1.375"	0.105"-0.130"	10	98029A035	5.65
5/8"	0.656"	1.375"	0.168"-0.193"	5	98099A035	5.01
5/8"	0.656"	1.750"	0.146"-0.166"	1	92140A122	3.21
3/4"	0.781"	1.625"	0.136"-0.161"	10	98029A036	8.58
3/4"	0.781"	1.625"	0.230"-0.255"	5	98099A036	8.08
3/4"	0.812"	1.500"	0.198"-0.223"	1	98099A046	4.91
3/4"	0.812"	2.000"	0.240"-0.260"	1	92140A124	6.96
7/8"	0.906"	1.750"	0.136"-0.161"	5	98029A037	5.51
7/8"	0.906"	1.750"	0.230"-0.255"	5	98099A037	10.60
1"	1.031"	2.000"	0.168"-0.193"	5	98029A038	8.02
1"	1.031"	2.000"	0.230"-0.255"	1	98099A048	7.41
1"	1.031"	2.000"	0.261"-0.286"	1	98099A038	3.79
1"	1.062"	2.500"	0.240"-0.260"	1	92140A126	8.73
1 1/8"	1.156"	2.250"	0.199"-0.224"	1	98029A039	2.94
1 1/4"	1.281"	2.500"	0.271"-0.291"	1	98029A040	3.12
1 3/8"	1.500"	2.750"	0.235"-0.265"	1	93550A110	13.38
1 3/8"	1.500"	2.750"	0.240"-0.260"	1	98029A116	16.19
1 1/2"	1.625"	3.000"	0.235"-0.265"	1	93550A115	15.68
1 1/2"	1.625"	3.000"	0.240"-0.260"	1	98029A117	18.95
1 3/4"	1.875"	3.375"	0.235"-0.265"	1	93550A120	18.11
1 3/4"	1.875"	3.375"	0.240"-0.260"	1	98029A118	22.15
2"	2.125"	3.750"	0.235"-0.265"	1	93550A125	22.29
2"	2.125"	3.750"	0.240"-0.260"	1	98029A119	24.65
2 1/2"	2.625"	4.500"	0.298"-0.328"	1	93550A130	32.97
Steel						
No. 10	0.203"	0.500"	0.089"-0.099"	25	91201A011	9.33
1/4"	0.281"	0.625"	0.120"-0.130"	25	91201A029	9.33
5/16"	0.344"	0.750"	0.120"-0.130"	25	91201A030	12.42
3/8"	0.406"	0.875"	0.120"-0.130"	25	91201A031	15.53
7/16"	0.469"	1.000"	0.151"-0.161"	10	91201A032	11.93
1/2"	0.531"	1.000"	0.183"-0.193"	10	91201A033	11.93
5/8"	0.656"	1.250"	0.245"-0.255"	5	91201A035	10.53
3/4"	0.781"	1.500"	0.245"-0.255"	5	91201A036	11.36
7/8"	0.906"	1.750"	0.245"-0.255"	5	91201A037	14.09
1"	1.031"	2.000"	0.308"-0.318"	1	91201A038	4.05
1 1/8"	1.156"	2.250"	0.308"-0.318"	1	91201A039	5.15
1 1/4"	1.281"	2.250"	0.308"-0.318"	1	91201A040	5.46
Aluminum						
1/4"	0.261"	0.500"	0.061"-0.063"	5	93286A044	5.98
3/8"	0.406"	0.875"	0.052"-0.072"	100	93286A017	9.68
3/8"	0.438"	1.000"	0.073"-0.078"	50	93286A031	7.00
1/2"	0.562"	1.250"	0.068"-0.088"	25	93286A019	9.22
Aluminum (Cont.)						
5/8"	0.688"	1.500"	0.068"-0.088"	25	93286A021	$13.19
5/8"	0.688"	1.500"	0.098"-0.106"	25	93286A146	13.12
3/4"	0.812"	1.875"	0.081"-0.101"	10	93286A023	8.57
3/4"	0.812"	1.875"	0.123"-0.128"	10	93286A149	6.64
Brass						
No. 0	0.064"	0.125"	0.017"-0.019"	25	92916A290	8.25
No. 1	0.075"	0.156"	0.017"-0.019"	25	92916A300	8.25
No. 2	0.094"	0.188"	0.014"-0.033"	25	95395A103	4.03
No. 4	0.125"	0.250"	0.049"-0.068"	10	95395A104	3.95
No. 6	0.147"	0.375"	0.025"-0.039"	100	92916A330	5.00
No. 6	0.156"	0.312"	0.049"-0.068"	10	95395A105	4.34
No. 8	0.172"	0.375"	0.049"-0.068"	5	95395A106	2.18
No. 8	0.172"	0.438"	0.029"-0.043"	100	92916A340	6.07
No. 8	0.188"	0.438"	0.064"-0.083"	5	95395A207	5.61
No. 10	0.200"	0.500"	0.033"-0.047"	100	92916A350	8.21
No. 10	0.203"	0.500"	0.079"-0.099"	5	95395A210	9.78
No. 12	0.228"	0.562"	0.033"-0.047"	100	92916A360	10.71
1/4"	0.260"	0.688"	0.041"-0.061"	50	92916A370	8.84
1/4"	0.281"	0.500"	0.064"-0.083"	5	95395A215	6.69
1/4"	0.281"	0.625"	0.030"-0.050"	50	92916A375	7.96
1/4"	0.281"	0.625"	0.105"-0.130"	5	95395A220	9.07
1/4"	0.281"	0.625"	0.167"-0.193"	5	95395A310	10.17
1/4"	0.281"	0.750"	0.052"-0.072"	25	92916A380	8.30
1/4"	0.310"	0.688"	0.041"-0.061"	50	92916A385	10.50
1/4"	0.310"	0.875"	0.041"-0.061"	25	92916A181	8.89
5/16"	0.340"	0.875"	0.052"-0.072"	25	92916A191	10.45
5/16"	0.344"	0.625"	0.079"-0.098"	5	95395A107	2.97
5/16"	0.344"	0.688"	0.105"-0.130"	5	95395A226	4.87
5/16"	0.344"	0.750"	0.105"-0.130"	5	95395A230	9.42
5/16"	0.344"	0.750"	0.167"-0.193"	1	95395A320	2.88
3/8"	0.392"	1.000"	0.071"-0.091"	10	92916A410	7.12
3/8"	0.406"	0.750"	0.079"-0.098"	5	95395A235	6.93
3/8"	0.406"	0.875"	0.105"-0.130"	5	95395A240	9.42
3/8"	0.406"	1.000"	0.105"-0.130"	5	95395A242	8.71
3/8"	0.406"	1.000"	0.167"-0.193"	5	95395A330	13.56
1/2"	0.531"	1.062"	0.167"-0.192"	5	95395A343	14.85
1/2"	0.531"	1.125"	0.105"-0.130"	5	95395A250	12.26
1/2"	0.531"	1.125"	0.167"-0.193"	1	95395A340	3.17
1/2"	0.562"	1.375"	0.081"-0.101"	5	92916A425	8.24
5/8"	0.656"	1.312"	0.198"-0.223"	1	95395A353	3.28
5/8"	0.656"	1.375"	0.105"-0.130"	1	95395A260	2.67
5/8"	0.656"	1.375"	0.167"-0.193"	5	95395A350	13.88
5/8"	0.688"	1.750"	0.092"-0.112"	1	92916A433	2.64
3/4"	0.781"	1.625"	0.136"-0.161"	1	95395A270	3.45
3/4"	0.781"	1.625"	0.230"-0.255"	1	95395A360	4.30
3/4"	0.812"	1.500"	0.198"-0.223"	1	95395A356	4.86
3/4"	0.812"	2.000"	0.104"-0.124"	1	92916A438	4.00
7/8"	0.906"	1.750"	0.136"-0.161"	1	95395A280	4.20
7/8"	0.906"	1.750"	0.230"-0.255"	1	95395A370	4.29
1"	1.031"	2.000"	0.167"-0.193"	1	95395A290	4.59
1"	1.031"	2.000"	0.261"-0.286"	1	95395A380	5.52
Nickel-Plated Brass						
No. 6	0.147"	0.375"	0.025"-0.039"	100	92917A120	4.20
No. 8	0.172"	0.438"	0.029"-0.043"	100	92917A130	5.38
No. 10	0.200"	0.500"	0.033"-0.047"	100	92917A140	7.39
1/4"	0.260"	0.688"	0.041"-0.061"	50	92917A160	8.96
5/16"	0.340"	0.875"	0.052"-0.072"	25	92917A190	11.06
3/8"	0.392"	1.000"	0.071"-0.091"	10	92917A200	7.70

Assortment

Furnished in a compartmented plastic case with lid chart to identify washers.

Material	Screw Sizes Included	No. of Washers		
Zinc-Plated Steel	No. 5, No. 6, No. 10, 1/4", 5/16", 3/8"	386	98661A252	$94.92

USS Washers

USS washers are a widely used standard of washers. They generally have a larger ID and OD than SAE washers.



Screw Size	ID	OD	Thick., Min.-Max.	316 Stainless Steel Pkg. Qty.		Pkg.	18-8 Stainless Steel Pkg. Qty.		Pkg.	Black-Oxide 18-8 Stainless Steel Pkg. Qty.		Pkg.
No. 10	0.250"	0.562"	0.036"-0.065"	—	—	—	50	93852A101	$3.41	—	—	—
1/4"	0.312"	0.750"	0.051"-0.080"	50	93852A131	$12.29	50	93852A102	5.88	25	93852A171	$7.83
5/16"	0.375"	0.875"	0.064"-0.104"	25	93852A132	9.36	25	93852A103	5.60	25	93852A172	9.50
3/8"	0.438"	1.000"	0.064"-0.104"	10	93852A133	6.40	10	93852A104	3.31	10	93852A173	7.67
7/16"	0.500"	1.250"	0.064"-0.104"	10	93852A134	7.94	10	93852A105	5.69	10	93852A174	9.00
1/2"	0.562"	1.375"	0.086"-0.132"	5	93852A135	8.23	10	93852A113	6.74	5	93852A175	9.33
9/16"	0.625"	1.500"	0.086"-0.132"	5	93852A136	8.57	5	93852A106	5.78	5	93852A176	9.68
5/8"	0.688"	1.750"	0.108"-0.160"	5	93852A137	12.71	5	93852A107	6.86	1	93852A177	2.83
3/4"	0.812"	2.000"	0.122"-0.177"	1	93852A138	2.83	1	93852A108	1.80	1	93852A178	3.30

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USS Washers *(Continued from previous page)*



USS washers are a widely used standard of washers. They generally have a larger ID and OD than SAE washers.

Screw Size	ID	OD	Thick., Min.-Max.	316 Stainless Steel Pkg. Qty.		Pkg.	18-8 Stainless Steel Pkg. Qty.		Pkg.	Black-Oxide 18-8 Stainless Steel Pkg. Qty.		Pkg.
7/8"	0.938"	2.250"	0.136"-0.192"	1	93852A121	$2.74	1	93852A109	$2.94	1	93852A179	$4.23
1"	1.062"	2.500"	0.136"-0.192"	1	93852A139	4.71	1	93852A110	4.20	1	93852A181	4.83
1 1/8"	1.250"	2.750"	0.136"-0.192"	1	93852A141	5.83	1	93852A143	4.46	1	93852A182	5.43
1 1/4"	1.375"	3.000"	0.136"-0.192"	1	93852A122	6.06	1	93852A144	5.03	1	93852A183	7.83
1 3/8"	1.500"	3.250"	0.153"-0.213"	1	93852A142	10.57	1	93852A145	6.14	1	93852A184	10.00
1 1/2"	1.625"	3.500"	0.153"-0.213"	1	93852A123	11.71	1	93852A151	8.57	1	93852A165	11.13
1 5/8"	1.750"	3.750"	0.153"-0.213"	1	93852A124	11.77	1	93852A152	8.71	1	93852A162	11.20
1 3/4"	1.875"	4.000"	0.153"-0.213"	1	93852A125	13.34	1	93852A153	11.14	1	93852A161	14.33
1 7/8"	2.000"	4.250"	0.153"-0.213"	1	93852A126	13.43	1	93852A154	11.20	1	93852A163	14.37
2"	2.125"	4.500"	0.153"-0.213"	1	93852A127	14.34	1	93852A155	11.26	1	93852A164	14.40
2 1/4"	2.375"	4.750"	0.193"-0.250"	—	—	—	1	93852A156	15.00	—	—	—
2 1/2"	2.625"	5.000"	0.210"-0.280"	—	—	—	1	93852A157	15.82	—	—	—
2 3/4"	2.875"	5.250"	0.228"-0.310"	—	—	—	1	93852A158	24.57	—	—	—
3"	3.125"	5.500"	0.249"-0.327"	—	—	—	1	93852A159	25.14	—	—	—

Screw Size	ID	OD	Thick., Min.-Max.	Hot-Dipped Galvanized Steel Pkg. Qty.		Pkg.	Zinc-Plated Steel Pkg. Qty.		Pkg.	Black-Luster Coated Steel Pkg. Qty.		Pkg.
No. 10	0.250"	0.562"	0.036"-0.065"	—	—	—	100	90108A411	$2.28	—	—	—
No. 10	0.250"	0.562"	0.036"-0.065"	—	—	—	1,785	90108A027	27.36	—	—	—
1/4"	0.312"	0.750"	0.051"-0.080"	100	98970A129	$2.70	100	90108A413	3.30	10	96582A304	$9.88
1/4"	0.312"	0.750"	0.051"-0.080"	—	—	—	745	90108A029	16.74	—	—	—
5/16"	0.375"	0.875"	0.064"-0.104"	100	98970A130	4.52	100	90108A415	4.67	10	96582A321	10.20
5/16"	0.375"	0.875"	0.064"-0.104"	—	—	—	435	90108A030	14.22	—	—	—
3/8"	0.438"	1.000"	0.064"-0.104"	100	98970A131	6.17	100	90108A417	6.86	10	96582A338	11.00
3/8"	0.438"	1.000"	0.064"-0.104"	—	—	—	335	90108A031	15.59	—	—	—
7/16"	0.500"	1.250"	0.064"-0.104"	100	98970A132	9.55	100	90108A032	8.69	10	96582A431	11.13
1/2"	0.562"	1.375"	0.086"-0.132"	50	98970A133	7.42	50	90108A033	6.67	5	96582A352	6.13
9/16"	0.625"	1.469"	0.086"-0.132"	25	98970A311	5.01	50	90108A034	8.83	5	96582A432	6.50
5/8"	0.688"	1.750"	0.108"-0.160"	25	98970A135	6.08	25	90108A035	6.70	5	96582A371	6.10
3/4"	0.812"	2.000"	0.122"-0.177"	25	98970A136	8.47	25	90108A036	9.45	5	96582A389	7.63
7/8"	0.938"	2.250"	0.136"-0.192"	10	98970A137	4.52	10	90108A037	5.26	5	96582A406	9.43
1"	1.062"	2.500"	0.136"-0.192"	10	98970A138	6.23	10	90108A038	6.43	5	96582A423	9.97
1 1/8"	1.250"	2.750"	0.136"-0.192"	10	98970A312	10.15	10	90108A039	7.90	1	96582A433	3.60
1 1/4"	1.375"	3.000"	0.136"-0.192"	10	98970A141	10.81	10	90108A040	9.35	1	96582A434	3.81
1 3/8"	1.500"	3.250"	0.153"-0.213"	5	98970A313	7.37	5	90108A042	6.26	1	96582A435	4.68
1 1/2"	1.625"	3.500"	0.153"-0.213"	5	98970A143	7.77	5	90108A041	7.23	1	96582A436	5.10
1 5/8"	1.750"	3.750"	0.153"-0.213"	5	98970A314	10.02	5	90108A043	8.17	1	96582A437	5.69
1 3/4"	1.875"	4.000"	0.153"-0.213"	5	98970A315	11.53	5	90108A044	9.10	1	96582A438	6.05
1 7/8"	2.000"	4.250"	0.153"-0.213"	5	98970A316	12.81	1	90108A419	4.34	1	96582A439	6.70
2"	2.125"	4.500"	0.153"-0.213"	1	98970A317	3.04	5	90108A046	11.52	1	96582A441	7.36
2 1/4"	2.375"	4.750"	0.193"-0.248"	1	98970A318	4.00	1	90108A047	3.27	1	96582A442	9.05
2 1/2"	2.625"	5.000"	0.210"-0.280"	1	98970A319	4.95	1	90108A048	3.93	1	96582A443	10.13
2 3/4"	2.875"	5.250"	0.228"-0.310"	1	98970A331	10.86	—	—	—	1	96582A444	15.08
3"	3.125"	5.500"	0.249"-0.327"	1	98970A332	6.04	1	90108A050	4.91	1	96582A445	11.83

Steel— Dimensions are the same as zinc-plated steel above. Choose a screw size: No. 10 to 3" 91081A400

Assortment

Furnished in a compartmented plastic case with lid chart to identify washers.

Material	Screw Sizes Included	No. of Washers		
Zinc-Plated Steel	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	590	91535A110	$55.03

SAE Washers



SAE washers are a popular standard of washers. They generally have a smaller ID and OD than USS washers.

Screw Size	ID	OD	Thick., Min.-Max.	316 Stainless Steel Pkg. Qty.		Pkg.	18-8 Stainless Steel Pkg. Qty.		Pkg.	Black-Oxide 18-8 Stainless Steel Pkg. Qty.		Pkg.
No. 2	0.094"	0.250"	0.012"-0.018"	100	91950A041	$8.80	100	96659A116	$7.76	100	96659A124	$6.58
No. 3	0.109"	0.250"	0.025"-0.040"	100	91950A042	8.98	100	96659A117	8.04	100	96659A125	6.58
No. 4	0.125"	0.312"	0.025"-0.040"	100	91950A043	9.60	100	96659A101	2.96	100	96659A126	7.37
No. 5	0.140"	0.312"	0.025"-0.040"	100	91950A044	9.80	100	96659A118	8.57	100	96659A127	7.37
No. 6	0.156"	0.375"	0.036"-0.065"	100	91950A045	10.00	100	96659A102	3.44	100	96659A128	8.42
No. 8	0.188"	0.438"	0.036"-0.065"	100	91950A046	10.40	100	96659A103	3.89	50	96659A129	4.87
No. 10	0.219"	0.500"	0.036"-0.065"	100	91950A027	8.05	100	96659A104	4.48	50	96659A131	5.13
No. 12	0.250"	0.562"	0.051"-0.080"	50	91950A047	7.80	100	96659A105	8.37	50	96659A132	10.92
1/4"	0.281"	0.625"	0.051"-0.080"	50	91950A029	6.69	50	96659A106	4.78	50	96659A133	11.18
5/16"	0.344"	0.688"	0.051"-0.080"	50	91950A030	8.41	50	96659A107	5.56	25	96659A134	6.05
3/8"	0.406"	0.812"	0.051"-0.080"	50	91950A031	10.07	50	96659A108	7.00	25	96659A135	6.32
7/16"	0.469"	0.922"	0.051"-0.080"	25	91950A048	12.67	10	96659A109	3.20	25	96659A136	9.01
1/2"	0.531"	1.062"	0.074"-0.121"	25	91950A033	11.11	10	96659A110	4.80	10	96659A137	9.21
9/16"	0.594"	1.156"	0.074"-0.121"	10	91950A049	10.31	10	96659A119	8.29	10	96659A138	9.74
5/8"	0.656"	1.312"	0.074"-0.121"	10	91950A035	8.18	10	96659A111	6.44	10	96659A139	11.58
3/4"	0.812"	1.500"	0.108"-0.160"	5	91950A036	7.53	5	96659A112	7.20	5	96659A141	8.03
7/8"	0.938"	1.750"	0.108"-0.160"	1	91950A051	2.52	5	96659A121	9.73	5	96659A142	12.76

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SAE Washers *(Continued from previous page)*

Screw Size	ID	OD	Thick., Min.-Max.	316 Stainless Steel Pkg. Qty.		Pkg.	18-8 Stainless Steel Pkg. Qty.		Pkg.	Black-Oxide 18-8 Stainless Steel Pkg. Qty.		Pkg.
1″	1.062″	2.000″	0.108″-0.160″	1	91950A052	$3.60	1	96659A113	$2.07	1	96659A143	$2.47
1 1/8″	1.250″	2.250″	0.108″-0.160″	1	91950A053	3.64	1	96659A114	2.28	1	96659A144	2.68
1 1/4″	1.375″	2.500″	0.136″-0.192″	1	91950A054	4.40	1	96659A122	3.93	1	96659A145	3.82
1 3/8″	1.500″	2.750″	0.136″-0.213″	1	91950A055	6.92	1	96659A123	4.50	1	96659A146	4.29
1 1/2″	1.625″	3.000″	0.153″-0.213″	1	91950A056	11.28	1	96659A115	8.07	1	96659A147	6.63

Screw Size	ID	OD	Thick., Min.-Max.	Hot-Dipped Galvanized Steel Pkg. Qty.		Pkg.	Zinc-Plated Steel Pkg. Qty.		Pkg.	Black-Luster Coated Steel Pkg. Qty.		Pkg.
No. 2	0.094″	0.219″	0.005″-0.030″	—	—	—	2,100	90126A303	$23.36	10	91434A315	$8.23
No. 2	0.094″	0.219″	0.005″-0.030″	—	—	—	100	90126A501	1.59	—	—	—
No. 3	0.109″	0.250″	0.005″-0.030″	—	—	—	1,400	90126A304	17.89	10	91434A325	8.28
No. 3	0.109″	0.250″	0.005″-0.030″	—	—	—	100	90126A503	1.82	—	—	—
No. 4	0.125″	0.312″	0.020″-0.040″	—	—	—	1,450	90126A005	13.91	10	91434A335	8.40
No. 4	0.125″	0.312″	0.020″-0.040″	—	—	—	100	90126A505	1.47	—	—	—
No. 5	0.141″	0.281″	0.020″-0.040″	—	—	—	1,100	90126A306	12.99	10	91434A345	8.48
No. 5	0.141″	0.281″	0.020″-0.040″	—	—	—	100	90126A507	1.68	—	—	—
No. 6	0.156″	0.375″	0.036″-0.065″	—	—	—	765	90126A007	7.23	10	91434A355	8.53
No. 6	0.156″	0.375″	0.036″-0.065″	—	—	—	100	90126A509	1.35	—	—	—
No. 8	0.188″	0.438″	0.036″-0.065″	—	—	—	555	90126A009	5.67	10	91434A365	8.58
No. 8	0.188″	0.438″	0.036″-0.065″	—	—	—	100	90126A512	1.46	—	—	—
No. 10	0.219″	0.500″	0.036″-0.065″	—	—	—	435	90126A011	6.21	10	91434A375	9.22
No. 10	0.219″	0.500″	0.036″-0.065″	—	—	—	100	90126A514	2.04	—	—	—
No. 12	0.250″	0.562″	0.051″-0.080″	—	—	—	280	90126A013	5.82	10	91434A385	8.73
1/4″	0.281″	0.625″	0.051″-0.080″	100	93012A111	$5.42	220	90126A029	4.77	10	91434A115	9.68
5/16″	0.344″	0.688″	0.051″-0.080″	100	93012A112	5.93	190	90126A030	4.77	10	91434A135	10.00
3/8″	0.406″	0.812″	0.051″-0.080″	100	93012A113	6.56	140	90126A031	4.77	10	91434A155	10.20
7/16″	0.469″	0.922″	0.051″-0.080″	50	93012A114	7.23	105	90126A032	4.77	10	91434A395	10.30
1/2″	0.531″	1.062″	0.074″-0.121″	50	93012A115	9.66	55	90126A033	4.20	10	91434A175	10.40
9/16″	0.594″	1.156″	0.074″-0.121″	25	93012A116	8.71	43	90126A034	4.20	10	91434A415	11.25
5/8″	0.656″	1.312″	0.074″-0.121″	25	93012A117	9.42	36	90126A035	4.20	10	91434A195	10.60
3/4″	0.812″	1.469″	0.108″-0.160″	25	93012A118	11.93	21	90126A036	4.20	5	91434A215	6.32
7/8″	0.938″	1.750″	0.108″-0.160″	10	93012A119	10.92	16	90126A037	4.20	5	91434A235	6.76
1″	1.062″	2.000″	0.108″-0.160″	5	93012A120	7.16	12	90126A038	4.20	5	91434A255	7.25
1 1/8″	1.250″	2.250″	0.108″-0.160″	5	93012A121	9.58	9	90126A039	4.54	5	91434A425	11.85
1 1/4″	1.375″	2.500″	0.136″-0.192″	5	93012A122	12.67	6	90126A040	4.54	1	91434A435	2.85
1 3/8″	1.500″	2.750″	0.136″-0.192″	1	93012A123	3.12	5	90126A041	4.54	1	91434A445	3.15
1 1/2″	1.625″	3.000″	0.136″-0.192″	1	93012A124	3.83	4	90126A042	4.54	1	91434A455	3.48

Black-Oxide Steel—Dimensions are the same as zinc-plated steel above. Choose a screw size: No. 6 to 1″ — 97416A200

Steel—Dimensions are the same as zinc-plated steel above. Choose a screw size: No. 2 to 1 1/2″ — 91083A100

Assortments

Furnished in a compartmented plastic case with lid chart to identify washers.

Material	Screw Sizes Included	No. of Washers		
18-8 Stainless Steel	No. 8, No. 10, 1/4″, 5/16″, 3/8″, 1/2″	350	91535A300	$30.43
Zinc-Plated Steel	No. 8, No. 10, 1/4″, 5/16″, 3/8″, 1/2″	350	91535A200	18.00
Zinc-Plated Steel	No. 8, No. 10, 1/4″, 5/16″, 3/8″, 1/2″	850	91535A130	60.45

SAE Washers for Soft Materials

Designed to distribute your fastener's load over a larger surface area than other SAE washers, these washers limit damage to soft materials. They are also known as Type B washers.



Screw Size	Industry Designation	ID	OD	Thick., Min.-Max.	18-8 Stainless Steel Pkg. Qty.		Pkg.	Zinc-Plated Steel Pkg. Qty.		Pkg.
No. 0	Narrow	0.068″	0.125″	0.022″-0.028″	10	92217A310	$5.13	25	94744A110	$2.81
No. 0	Regular	0.068″	0.188″	0.022″-0.028″	10	92217A315	4.59	25	94744A114	2.81
No. 0	Wide	0.068″	0.250″	0.022″-0.028″	10	92217A319	4.46	25	94744A118	2.81
No. 2	Narrow	0.094″	0.188″	0.022″-0.028″	25	92217A350	11.44	50	94744A150	5.30
No. 2	Regular	0.094″	0.250″	0.028″-0.036″	25	92217A355	8.65	50	94744A154	5.30
No. 2	Wide	0.094″	0.344″	0.028″-0.036″	25	92217A359	6.97	50	94744A158	5.30
No. 4	Narrow	0.125″	0.250″	0.028″-0.036″	25	92217A360	9.78	50	94744A155	4.95
No. 4	Regular	0.125″	0.375″	0.036″-0.045″	25	92217A365	6.53	50	94744A159	4.95
No. 4	Wide	0.125″	0.438″	0.036″-0.045″	25	92217A369	6.56	50	94744A163	4.95
No. 6	Narrow	0.156″	0.312″	0.028″-0.036″	25	92217A420	7.47	50	94744A160	7.17
No. 6	Regular	0.156″	0.438″	0.036″-0.045″	25	92217A425	7.37	50	94744A164	7.17
No. 6	Wide	0.156″	0.562″	0.036″-0.045″	25	92217A429	7.59	50	94744A168	7.17
No. 8	Narrow	0.188″	0.375″	0.036″-0.045″	25	92217A430	9.34	25	94744A220	4.09
No. 8	Regular	0.188″	0.500″	0.036″-0.045″	25	92217A435	9.34	25	94744A224	4.09
No. 8	Wide	0.188″	0.625″	0.056″-0.071″	25	92217A439	11.60	25	94744A228	4.09
No. 10	Narrow	0.203″	0.406″	0.036″-0.045″	25	92217A440	9.17	25	94744A225	4.09
No. 10	Regular	0.203″	0.562″	0.036″-0.045″	25	92217A445	11.82	25	94744A229	4.09
No. 10	Wide	0.203″	0.734″	0.056″-0.071″	25	92217A449	12.50	25	94744A233	4.09
1/4″	Narrow	0.281″	0.500″	0.056″-0.071″	10	92217A470	4.43	25	94744A240	6.49
1/4″	Regular	0.281″	0.734″	0.056″-0.071″	10	92217A475	5.00	25	94744A244	6.49
1/4″	Wide	0.281″	1.000″	0.056″-0.071″	10	92217A479	6.23	25	94744A248	6.49
5/16″	Narrow	0.344″	0.625″	0.056″-0.071″	10	92217A490	4.64	25	94744A245	8.10
5/16″	Regular	0.344″	0.875″	0.056″-0.071″	10	92217A495	6.10	25	94744A249	8.10
5/16″	Wide	0.344″	1.125″	0.056″-0.071″	10	92217A499	6.55	25	94744A253	8.10
3/8″	Narrow	0.406″	0.734″	0.056″-0.071″	10	92217A520	6.83	25	94744A265	8.10
3/8″	Regular	0.406″	1.000″	0.056″-0.071″	10	92217A525	6.08	25	94744A269	8.10
3/8″	Wide	0.406″	1.250″	0.090″-0.112″	10	92217A529	10.88	25	94744A273	8.10
1/2″	Narrow	0.531″	1.000″	0.056″-0.071″	5	92217A540	3.04	5	94744A285	4.39
1/2″	Regular	0.531″	1.250″	0.090″-0.112″	5	92217A545	5.44	5	94744A289	4.39
1/2″	Wide	0.531″	1.750″	0.090″-0.112″	5	92217A549	7.78	5	94744A293	4.39

Mil. Spec. Washers



Washers meet strict military standards to ensure performance and reliability.

Screw Size	Dash No.	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
300 Series Passivated Stainless Steel							
MS 15795/NASM 15795							
No. 1	801	0.078″	0.188″	0.016″-0.025″	500	98019A395	$11.97
No. 4	803	0.125″	0.250″	0.017″-0.028″	500	98019A309	9.63
No. 6	805	0.156″	0.312″	0.027″-0.048″	500	98019A314	14.59
No. 8	807	0.188″	0.375″	0.036″-0.065″	250	98019A325	11.84
No. 10	808	0.219″	0.438″	0.036″-0.065″	250	98019A330	13.57
No. 12	809	0.250″	0.562″	0.051″-0.080″	100	98019A335	12.83
1/4″	810	0.281″	0.625″	0.051″-0.080″	100	98019A355	14.65
3/8″	814	0.406″	0.812″	0.051″-0.080″	50	98019A399	12.97
1/2″	818	0.531″	1.062″	0.074″-0.121″	10	98019A509	7.39
Other Dash Numbers from 802 to 842 (Screw sizes from No. 2 to 1″)						98019A600	
MS 14151/NASM 14151							
No. 5	1	0.154″	0.490″	0.017″-0.023″	100	92503A170	6.00
No. 6	6	0.187″	0.560″	0.017″-0.023″	100	92503A180	6.20
No. 8	2	0.209″	0.620″	0.017″-0.023″	100	92503A190	7.60
1/4″	3	0.275″	1.090″	0.017″-0.023″	50	92503A210	12.60
5/16″	4	0.338″	1.090″	0.017″-0.023″	50	92503A220	12.60
3/8″	5	0.400″	1.090″	0.017″-0.023″	50	92503A230	12.60
MS 51496							
No. 0	P61	0.068″	0.130″	0.022″-0.028″	25	98019A211	10.17
No. 6	P70	0.176″	0.284″	0.029″-0.035″	10	98019A239	7.62
No. 8	P71	0.199″	0.315″	0.029″-0.032″	10	98019A241	7.82
No. 10	P73	0.210″	0.365″	0.029″-0.032″	10	98019A226	7.82
1/4″	P84	0.280″	0.375″	0.022″-0.028″	10	98019A228	9.03
3/8″	P85	0.421″	0.630″	0.045″-0.055″	5	98019A233	8.05
5/8″	P86	0.656″	1.062″	0.040″-0.050″	1	98019A234	3.00
Other Dash Numbers from P62 to P87 (Screw sizes from No. 0 to 3/4″)						98019A207	
MS 16212							
Dash Numbers from 11 to 16 (Screw sizes from 1/4″ to 3/4″)						92503A240	
NAS 1149							
No. 2	CN216R	0.099″	0.250″	0.014″-0.018″	500	98017A600	6.45
No. 2	CN232R	0.099″	0.250″	0.028″-0.036″	500	98017A601	6.83
No. 3	CN316R	0.105″	0.250″	0.014″-0.018″	500	98017A103	8.49
No. 3	CN332R	0.105″	0.250″	0.028″-0.036″	500	98017A605	8.41
No. 4	CN416R	0.125″	0.312″	0.014″-0.018″	500	98017A609	9.39
No. 4	CN432R	0.125″	0.312″	0.028″-0.036″	500	98017A610	9.46
No. 6	CN616R	0.149″	0.375″	0.014″-0.018″	500	98017A614	8.78
No. 6	CN632R	0.149″	0.375″	0.028″-0.036″	500	98017A615	9.06
No. 8	CN816R	0.174″	0.375″	0.014″-0.018″	500	98017A624	8.14
No. 8	CN832R	0.174″	0.375″	0.028″-0.036″	500	98017A625	9.49
No. 10	C0332R	0.203″	0.438″	0.028″-0.036″	250	98017A635	11.92
No. 10	C0363R	0.203″	0.438″	0.057″-0.069″	250	98017A640	11.79
1/4″	C0432R	0.265″	0.500″	0.028″-0.036″	250	98017A655	10.03
1/4″	C0463R	0.265″	0.500″	0.057″-0.069″	100	98017A660	6.75
5/16″	C0532R	0.328″	0.562″	0.028″-0.036″	100	98017A689	4.85
5/16″	C0563R	0.328″	0.562″	0.057″-0.069″	100	98017A690	8.30
3/8″	C0632R	0.390″	0.625″	0.028″-0.036″	100	98017A199	5.66
3/8″	C0663R	0.390″	0.625″	0.057″-0.069″	100	98017A200	9.36
7/16″	C0732R	0.453″	0.750″	0.028″-0.036″	100	98017A204	7.91
7/16″	C0763R	0.453″	0.750″	0.057″-0.069″	25	98017A205	6.62
1/2″	C0832R	0.515″	0.875″	0.028″-0.036″	100	98017A209	8.71
1/2″	C0863R	0.515″	0.875″	0.057″-0.069″	50	98017A210	8.99
9/16″	C0963R	0.578″	1.062″	0.057″-0.069″	25	98017A214	9.27
5/8″	C1063R	0.640″	1.188″	0.057″-0.069″	25	98017A215	10.18
3/4″	C1290R	0.765″	1.312″	0.082″-0.098″	10	98017A220	7.93
7/8″	C1490R	0.890″	1.500″	0.082″-0.098″	10	98017A225	11.71
1″	C1690R	1.015″	1.750″	0.082″-0.098″	5	98017A230	7.01
NAS 620							
No. 0	C0	0.063″	0.099″	0.015″-0.018″	250	90945A700	8.35
No. 2	C2	0.089″	0.149″	0.015″-0.018″	500	90945A705	11.14
No. 3	C3L	0.102″	0.180″	0.015″-0.018″	500	90945A707	11.67
No. 3	C3	0.102″	0.180″	0.030″-0.034″	500	90945A708	13.20
No. 4	C4L	0.115″	0.209″	0.015″-0.018″	500	90945A710	13.66
No. 4	C4	0.115″	0.209″	0.030″-0.034″	500	90945A711	13.57
No. 5	C5L	0.128″	0.238″	0.015″-0.018″	500	90945A712	10.97
No. 5	C5	0.128″	0.238″	0.030″-0.034″	250	90945A713	4.85
No. 6	C6L	0.143″	0.267″	0.015″-0.018″	250	90945A715	4.49
No. 6	C6	0.143″	0.267″	0.030″-0.034″	250	90945A716	9.72
No. 8	C8L	0.169″	0.304″	0.015″-0.018″	250	90945A725	9.69
No. 8	C8	0.169″	0.304″	0.030″-0.034″	250	90945A726	10.56
No. 10	C10L	0.195″	0.354″	0.030″-0.034″	250	90945A740	10.28
No. 10	C10	0.195″	0.354″	0.060″-0.066″	100	90945A741	9.22
1/4″	C416L	0.255″	0.468″	0.030″-0.034″	100	90945A760	6.78
1/4″	C416	0.255″	0.468″	0.060″-0.066″	100	90945A761	10.85

Screw Size	Dash No.	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Black-Oxide 300 Series Passivated Stainless Steel							
MS 15795/NASM 15795							
No. 1	801B	0.078″	0.188″	0.016″-0.025″	100	90618A111	$8.93
No. 4	803B	0.125″	0.250″	0.017″-0.028″	100	90618A200	3.24
No. 6	805B	0.156″	0.312″	0.027″-0.048″	100	90618A300	4.22
No. 8	807B	0.188″	0.375″	0.036″-0.065″	100	90618A400	5.00
No. 10	808B	0.219″	0.438″	0.036″-0.065″	100	90618A500	5.95
1/4″	810B	0.281″	0.625″	0.051″-0.080″	100	90618A600	14.35
3/8″	814B	0.406″	0.812″	0.051″-0.080″	50	90618A800	11.96
1/2″	818B	0.531″	1.062″	0.074″-0.121″	10	90618A900	6.07
Other Dash Numbers from 802B to 858B (Screw sizes from No. 2 to 1 1/8″)						90618A110	
321 Stainless Steel							
MS 9321							
No. 3	4	0.119″	0.250″	0.026″-0.036″	50	91877A123	7.40
No. 4	5	0.135″	0.312″	0.026″-0.036″	50	91877A124	7.60
No. 5	6	0.150″	0.312″	0.038″-0.048″	50	91877A125	7.80
No. 6	7	0.159″	0.375″	0.038″-0.048″	50	91877A126	8.00
No. 8	8	0.184″	0.375″	0.045″-0.055″	50	91877A127	8.20
No. 10	9	0.213″	0.438″	0.057″-0.067″	50	91877A128	10.80
1/4″	10	0.276″	0.500″	0.057″-0.067″	50	91877A129	12.80
5/16″	11	0.338″	0.625″	0.057″-0.067″	25	91877A131	9.20
3/8″	12	0.401″	0.750″	0.073″-0.083″	25	91877A132	12.68
7/16″	13	0.463″	0.875″	0.089″-0.099″	10	91877A133	10.73
1/2″	14	0.526″	1.000″	0.104″-0.114″	5	91877A134	14.00
9/16″	15	0.588″	1.125″	0.120″-0.130″	5	91877A135	13.75
MS 9549							
Dash Numbers from 4 to 16 (Screw sizes from No. 3 to 5/8″)						91877A104	
Cadmium-Plated Steel							
MS 27183							
No. 1	1	0.078″	0.188″	0.016″-0.025″	100	98032A413	6.03
No. 4	44	0.125″	0.375″	0.025″-0.040″	100	98032A429	2.04
No. 6	43	0.156″	0.250″	0.013″-0.020″	100	98032A436	1.66
No. 8	46	0.188″	0.500″	0.051″-0.080″	100	98032A462	3.47
No. 10	47	0.219″	0.365″	0.025″-0.040″	100	98032A466	1.99
No. 12	49	0.250″	0.562″	0.025″-0.040″	100	98032A477	6.23
1/4″	10	0.281″	0.625″	0.051″-0.080″	100	98032A495	8.22
3/8″	14	0.406″	0.812″	0.051″-0.080″	50	98032A514	6.38
1/2″	18	0.531″	1.062″	0.074″-0.121″	25	98032A346	7.27
5/8″	21	0.656″	1.312″	0.074″-0.121″	25	98032A351	9.55
Other Dash Numbers from 2 to 63 (Screw sizes from No. 2 to 2″)						98032A221	
MS 20002							
Dash Numbers from 4 to 16 (Screw sizes from 1/4″ to 1″)						91922A303	
NAS 1149							
No. 2	FN232P	0.099″	0.250″	0.029″-0.035″	100	95229A230	3.76
No. 4	FN416P	0.125″	0.312″	0.014″-0.018″	100	95229A260	2.26
No. 4	FN432P	0.125″	0.312″	0.029″-0.035″	100	95229A270	3.21
No. 6	FN616P	0.149″	0.375″	0.014″-0.018″	100	95229A310	2.14
No. 6	FN632P	0.149″	0.375″	0.029″-0.035″	100	95229A320	2.57
No. 8	FN816P	0.174″	0.375″	0.014″-0.018″	100	95229A330	2.27
No. 8	FN832P	0.174″	0.375″	0.029″-0.035″	100	95229A340	2.43
No. 10	F0332P	0.203″	0.438″	0.029″-0.035″	100	95229A370	2.59
No. 10	F0363P	0.203″	0.438″	0.059″-0.067″	100	95229A380	3.96
1/4″	F0432P	0.265″	0.500″	0.029″-0.035″	100	95229A420	3.09
1/4″	F0463P	0.265″	0.500″	0.059″-0.067″	100	95229A430	4.52
5/16″	F0532P	0.328″	0.562″	0.029″-0.035″	100	95229A450	3.21
5/16″	F0563P	0.328″	0.562″	0.059″-0.067″	100	95229A460	5.58
3/8″	F0632P	0.390″	0.625″	0.029″-0.035″	100	95229A480	3.72
3/8″	F0663P	0.390″	0.625″	0.059″-0.067″	100	95229A490	6.07
7/16″	F0732P	0.453″	0.750″	0.029″-0.035″	100	95229A510	6.07
7/16″	F0763P	0.453″	0.750″	0.059″-0.067″	100	95229A520	7.24
1/2″	F0832P	0.515″	0.875″	0.029″-0.035″	100	95229A540	6.58
1/2″	F0863P	0.515″	0.875″	0.059″-0.067″	100	95229A550	10.04
9/16″	F0963P	0.578″	1.062″	0.059″-0.067″	50	95229A580	8.14
5/8″	F1032P	0.640″	1.188″	0.029″-0.035″	50	95229A600	5.40
5/8″	F1063P	0.640″	1.188″	0.059″-0.067″	50	95229A610	10.89
AN 970/NASM 970							
No. 10	3	0.203″	0.875″	0.053″-0.073″	100	95229A910	9.01
1/4″	4	0.265″	1.125″	0.053″-0.073″	50	95229A920	8.20
5/16″	5	0.328″	1.375″	0.053″-0.073″	50	95229A930	11.20
3/8″	6	0.390″	1.625″	0.053″-0.073″	50	95229A940	14.82
7/16″	7	0.453″	1.812″	0.099″-0.119″	10	95229A530	7.93
1/2″	8	0.515″	2.000″	0.099″-0.119″	10	95229A960	8.79
9/16″	9	0.578″	2.188″	0.115″-0.135″	5	95229A970	6.77
5/8″	10	0.640″	2.375″	0.115″-0.135″	5	95229A560	8.28

(Continued on following page)

Mil. Spec. Washers *(Continued from previous page)*

Screw Size	Dash No.	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Zinc-Plated Steel							
MS 51412							
No. 6	1	0.156″	0.375″	0.036″-0.065″	100	91922A211	$6.40
No. 8	18	0.188″	0.438″	0.036″-0.065″	100	91922A212	7.20
No. 10	2	0.219″	0.500″	0.036″-0.065″	100	91922A213	7.20
1/4″	4	0.281″	0.625″	0.051″-0.080″	50	91922A218	9.00
3/8″	27	0.406″	1.250″	0.075″-0.202″	25	91922A228	13.90
1/2″	28	0.500″	0.688″	0.029″-0.034″	50	91922A231	9.60
5/8″	30	0.656″	1.250″	0.099″-0.119″	10	91922A236	7.40
Other Dash Numbers from 3 to 43 (Screw sizes from No. 10 to 1″)						91922A102	
Aluminum							
NAS 1149							
No. 4	DN416J	0.125″	0.313″	0.013″-0.019″	100	94589A150	2.83
No. 4	DN432J	0.125″	0.313″	0.028″-0.036″	100	94589A160	3.90
No. 6	DN616J	0.149″	0.375″	0.013″-0.019″	100	94589A200	5.07
No. 6	DN632J	0.149″	0.375″	0.028″-0.036″	100	94589A210	5.35
No. 8	DN816J	0.174″	0.375″	0.013″-0.019″	100	94589A220	5.07
No. 8	DN832J	0.174″	0.375″	0.028″-0.036″	100	94589A230	5.73
No. 10	D0332J	0.203″	0.438″	0.028″-0.036″	100	94589A260	5.76
No. 10	D0363J	0.203″	0.438″	0.057″-0.069″	100	94589A270	6.06
1/4″	D0432J	0.265″	0.500″	0.028″-0.036″	100	94589A300	6.13

Screw Size	Dash No.	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Aluminum (Cont.)							
NAS 1149 (Cont.)							
1/4″	D0463J	0.265″	0.500″	0.057″-0.069″	50	94589A310	$4.29
5/16″	D0516J	0.328″	0.563″	0.013″-0.019″	50	94589A320	4.05
5/16″	D0563J	0.328″	0.563″	0.057″-0.069″	50	94589A340	6.44
3/8″	D0616J	0.390″	0.625″	0.013″-0.019″	50	94589A350	5.07
3/8″	D0663J	0.390″	0.625″	0.057″-0.069″	25	94589A370	4.22
1/2″	D0832J	0.515″	0.875″	0.028″-0.036″	25	94589A420	5.84
1/2″	D0863J	0.515″	0.875″	0.057″-0.069″	25	94589A430	8.06
AN 901							
Dash Numbers from 4A to 20A (Screw sizes from 7/16″ to 1 5/8″)						94589A110	
Cadmium-Plated Copper							
AN 901							
Dash Numbers from 4C to 12C (Screw sizes from 7/16″ to 1″)						91818A220	
Tin-Plated Brass							
AN 961							
Dash Numbers from 4T to 1016T (Screw sizes from No. 4 to 5/8″)						91832A102	

Washers for Structural Bolts

Intended for use with A325 structural bolts, studs, and nuts, these washers are good for construction and exterior building applications. They meet ASTM F436 (Type 1).
Washers with **tension indicator** release an orange dye when tightened.

Steel



Steel with Tension Indicator



Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Hot-Dipped Galvanized Steel						
1/2″	0.531″	1.062″	0.097″-0.177″	50	98119A033	$11.22
5/8″	0.688″	1.312″	0.122″-0.177″	25	98119A035	5.84
3/4″	0.812″	1.469″	0.122″-0.177″	25	98119A036	8.99
7/8″	0.938″	1.750″	0.136″-0.177″	25	98119A037	14.01
1″	1.062″	2.000″	0.136″-0.177″	10	98119A038	7.28
1 1/8″	1.188″	2.250″	0.136″-0.177″	10	98119A041	10.53
1 1/4″	1.375″	2.500″	0.136″-0.177″	10	98119A044	12.66
1 1/2″	1.625″	3.000″	0.136″-0.177″	5	98119A111	6.56
1 3/4″	1.875″	3.375″	0.178″-0.280″	5	98119A112	12.24
2″	2.125″	3.750″	0.178″-0.280″	1	98119A113	2.82
2 1/2″	2.657″	4.500″	0.240″-0.340″	1	98119A114	5.33
3″	3.157″	5.500″	0.240″-0.340″	1	98119A115	7.86
Steel						
1/2″	0.531″	1.062″	0.097″-0.177″	100	98038A265	11.31
5/8″	0.688″	1.312″	0.122″-0.177″	50	98038A268	9.31
3/4″	0.812″	1.469″	0.122″-0.177″	50	98038A274	10.87

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Steel (Cont.)						
7/8″	0.938″	1.750″	0.136″-0.177″	25	98038A279	$9.02
1″	1.062″	2.000″	0.136″-0.177″	25	98038A282	12.04
1 1/8″	1.188″	2.250″	0.136″-0.177″	10	98038A285	6.89
1 1/4″	1.375″	2.500″	0.136″-0.177″	10	98038A289	8.60
1 1/2″	1.625″	3.000″	0.136″-0.177″	10	98038A293	12.79
1 3/4″	1.875″	3.375″	0.178″-0.280″	5	98038A311	9.68
2″	2.125″	3.750″	0.178″-0.280″	5	98038A312	12.36
2 1/2″	2.657″	4.500″	0.240″-0.340″	1	98038A313	4.26
3″	3.157″	5.500″	0.240″-0.340″	1	98038A314	6.24
Steel with Tension Indicator						
1/2″	0.527″	1.188″	0.104″-0.111″	5	91358A005	9.18
5/8″	0.658″	1.375″	0.126″-0.133″	5	91358A010	9.77
3/4″	0.790″	1.469″	0.126″-0.133″	5	91358A015	10.88
7/8″	0.921″	1.875″	0.142″-0.149″	5	91358A020	11.88
1″	1.052″	2.000″	0.158″-0.165″	5	91358A025	13.38

Square Washers for Slots

Square washers fit into slots and channels and have flat sides to keep them from rotating. They are wider and thicker than most round washers, making them good for distributing heavy loads.



Screw Size	ID	Sq.	Thick., Min.-Max.		Each
18-8 Stainless Steel					
1/4″	0.312″	2.000″	0.235″-0.265″	91122A110	$3.71
3/8″	0.438″	2.000″	0.235″-0.265″	91122A115	3.73
1/2″	0.562″	2.000″	0.235″-0.265″	91122A120	4.06
5/8″	0.688″	2.000″	0.235″-0.265″	91122A125	4.16
3/4″	0.812″	2.000″	0.235″-0.265″	91122A130	4.35
7/8″	0.938″	2.000″	0.235″-0.265″	91122A135	4.78
1″	1.062″	2.000″	0.235″-0.265″	91122A140	5.00
1 1/4″	1.312″	2.000″	0.220″-0.280″	91122A145	5.13
Galvanized Steel					
1/4″	0.312″	2.000″	0.220″-0.280″	91133A186	2.67
3/8″	0.438″	2.000″	0.235″-0.265″	91133A115	2.74
1/2″	0.562″	2.000″	0.235″-0.265″	91133A120	3.41
1/2″	0.562″	3.000″	0.235″-0.265″	91133A140	4.03
5/8″	0.688″	2.000″	0.235″-0.265″	91133A125	3.45
5/8″	0.688″	3.000″	0.235″-0.265″	91133A150	6.11
5/8″	0.688″	4.000″	0.235″-0.265″	91133A155	9.69
3/4″	0.812″	2.000″	0.235″-0.265″	91133A130	3.88
3/4″	0.812″	3.000″	0.235″-0.265″	91133A160	6.11
3/4″	0.812″	4.000″	0.235″-0.265″	91133A165	9.69
7/8″	0.938″	2.000″	0.235″-0.265″	91133A135	4.48
7/8″	0.938″	3.000″	0.235″-0.265″	91133A170	6.11
7/8″	0.938″	4.000″	0.235″-0.265″	91133A175	11.52
1″	1.062″	2.000″	0.220″-0.280″	91133A187	4.84
1″	1.062″	3.000″	0.235″-0.265″	91133A180	6.11
1″	1.062″	4.000″	0.235″-0.265″	91133A185	11.52

Screw Size	ID	Sq.	Thick., Min.-Max.		Each
Galvanized Steel (Cont.)					
1 1/4″	1.312″	2.000″	0.220″-0.280″	91133A188	$5.28
1 1/4″	1.312″	3.000″	0.220″-0.280″	91133A189	7.14
1 1/4″	1.312″	4.000″	0.220″-0.280″	91133A193	11.51
1 1/2″	1.562″	3.000″	0.220″-0.280″	91133A191	7.39
1 1/2″	1.562″	4.000″	0.220″-0.280″	91133A194	11.75
1 3/4″	1.812″	4.000″	0.220″-0.280″	91133A195	11.99
1 3/4″	1.938″	3.000″	0.220″-0.280″	91133A192	7.59
2″	2.062″	4.000″	0.220″-0.280″	91133A196	12.24
Black-Oxide Steel					
1/4″	0.312″	2.000″	0.235″-0.265″	91128A110	1.55
3/8″	0.438″	2.000″	0.235″-0.265″	91128A115	1.49
1/2″	0.562″	2.000″	0.235″-0.265″	91128A120	1.55
5/8″	0.688″	2.000″	0.235″-0.265″	91128A125	1.55
3/4″	0.812″	2.000″	0.235″-0.265″	91128A130	1.55
7/8″	0.938″	2.000″	0.235″-0.265″	91128A135	1.85
1″	1.062″	2.000″	0.235″-0.265″	91128A140	1.85
1 1/4″	1.312″	2.000″	0.220″-0.280″	91128A145	2.63

Screw Size	ID	Sq.	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Zinc-Plated Steel						
1/4″	0.312″	0.750″	0.110″-0.130″	10	99041A103	$8.28
5/16″	0.375″	0.875″	0.120″-0.140″	10	99041A105	8.28
3/8″	0.438″	1.000″	0.120″-0.140″	10	99041A109	8.28
1/2″	0.562″	1.375″	0.170″-0.200″	10	99041A111	8.28
5/8″	0.688″	1.750″	0.170″-0.200″	5	99041A113	4.62

Metric General Purpose Washers



Washers meet DIN 125, except screw sizes M1, M1.2, and M1.4 do not.

Screw Size	ID, mm	OD, mm	Thick., Min.-Max., mm	316 Stainless Steel Pkg. Qty.		Pkg.	18-8 Stainless Steel Pkg. Qty.		Pkg.	Zinc-Plated High-Strength Class 10.9 Steel Pkg. Qty.		Pkg.	Zinc-Plated Steel Pkg. Qty.		Pkg.
M1	1.1	3.2	0.2-0.4	—	—	—	100	93475A154	$3.40	—	—	—	—	—	—
M1.2	1.3	3.8	0.2-0.4	—	—	—	100	93475A165	3.38	—	—	—	—	—	—
M1.4	1.5	3.8	0.2-0.4	—	—	—	100	93475A179	3.36	—	—	—	—	—	—
M1.6	1.7	4.0	0.2-0.4	100	90965A120	$3.16	100	93475A190	2.20	—	—	—	100	91166A170	$1.38
M2	2.2	5.0	0.2-0.4	100	90965A110	2.37	100	93475A195	1.06	100	91455A310	$8.33	100	91166A180	1.43
M2.5	2.7	6.0	0.4-0.6	100	90965A115	2.56	100	93475A196	1.58	100	91455A320	8.67	100	91166A190	1.52
M3	3.2	7.0	0.4-0.6	100	90965A130	2.68	100	93475A210	1.62	100	91455A330	2.61	100	91166A210	1.61
M3.5	3.7	8.0	0.4-0.6	100	90965A140	2.72	100	93475A220	1.76	—	—	—	100	91166A220	1.71
M4	4.3	9.0	0.7-0.9	100	90965A150	3.37	100	93475A230	1.86	100	91455A340	2.61	100	91166A230	1.96
M5	5.3	10.0	0.9-1.1	100	90965A160	4.62	100	93475A240	2.57	100	91455A110	3.26	100	91166A240	2.19
M6	6.4	12.0	1.4-1.8	100	90965A170	6.86	100	93475A250	4.86	100	91455A120	3.70	100	91166A250	2.46
M7	7.4	14.0	1.4-1.8	100	90965A180	9.85	100	93475A260	7.07	—	—	—	100	91166A260	3.29
M8	8.4	16.0	1.4-1.8	100	90965A190	10.90	100	93475A270	7.90	100	91455A130	6.09	100	91166A270	3.23
M10	10.5	20.0	1.8-2.2	50	90965A200	11.17	50	93475A280	6.10	100	91455A140	8.97	100	91166A280	4.36
M12	13.0	24.0	2.3-2.7	25	90965A210	7.17	25	93475A290	6.49	50	91455A150	7.76	100	91166A290	6.67
M14	15.0	28.0	2.3-2.7	25	90965A220	10.34	25	93475A300	7.13	50	91455A160	12.93	100	91166A300	9.73
M16	17.0	30.0	2.7-3.3	25	90965A230	13.01	25	93475A310	9.97	50	91455A170	13.45	100	91166A310	10.05
M18	19.0	34.0	2.7-3.3	10	90965A240	7.07	10	93475A315	5.64	25	91455A175	9.48	50	91166A315	8.56
M20	21.0	37.0	2.7-3.3	10	90965A250	7.98	10	93475A320	6.43	25	91455A180	12.07	50	91166A320	9.95
M24	25.0	44.0	3.7-4.3	5	90965A260	7.79	10	93475A330	9.62	5	91455A190	4.83	25	91166A330	7.96
M30	31.0	56.0	3.7-4.3	5	90965A270	12.10	1	93475A350	1.71	5	91455A220	6.90	10	91166A340	5.62
M36	37.0	66.0	4.4-5.6	1	90965A280	5.94	1	93475A360	3.15	1	91455A350	4.67	10	91166A360	8.93
M39	40.0	72.0	5.4-6.6	1	90965A290	9.21	1	93475A370	5.55	1	91455A360	9.00	1	91166A380	2.70
M42	43.0	78.0	6.0-8.0	1	90965A300	10.70	1	93475A380	7.46	1	91455A370	11.33	1	91166A400	4.62

Other Materials

Dimensions are the same as 18-8 stainless steel above. **Bumax 109 stainless steel** washers also meet ISO 7089.

Material	Choose a Screw Size	
Black-Oxide 18-8 Stainless Steel	M3 to M6	98269A410
Bumax 109 Stainless Steel	M6 to M12	94316A300
Ultra Corrosion-Resistant Coated High-Strength Class 10.9 Steel	M4 to M42	91455A881
Black-Luster Coated Steel	M3 to M14	93413A881
Aluminum	M1 to M20	92334A881
Brass	M1.6 to M24	91635A430
Copper	M3 to M24	98044A881

Assortment—Furnished in a compartmented plastic case with lid chart to identify washers. Washers meet DIN 125.

Material	Screw Sizes Included	No. of Washers		
Zinc-Plated Steel	M3, M4, M5, M6, M8, M10, M12, M14, M16	825	98018A424	$56.59

Metric Oversized Washers



Compared to metric general purpose washers with the same screw size, these have exaggerated outside diameters and/or thicknesses. Washers with large outside diameters are good for covering oversized holes and are also known as fender washers. Thick washers can be used as spacers and levelers and are also known as fixture or setup washers.

Screw Size	ID, mm	OD, mm	Thick., Min.-Max., mm	Pkg. Qty.		Pkg.
316 Stainless Steel						
M2	2.2	7.0	0.6-1.0	100	95211A260	$4.17
M2.5	2.7	8.0	0.7-0.9	100	95211A110★	9.52
M3	3.2	9.0	0.7-0.9	50	95211A120★	4.76
M4	4.3	12.0	0.9-1.1	50	95211A140★	5.71
M5	5.3	15.0	1.0-1.4	50	95211A150★	10.00
M6	6.4	18.0	1.4-1.8	25	95211A160★	7.74
M7	7.4	22.0	1.8-2.2	10	95211A270★	7.33
M8	8.4	24.0	1.8-2.2	10	95211A180★	7.63
M10	10.5	30.0	2.3-2.7	5	95211A190★	7.25
M12	13.0	37.0	2.7-3.3	5	95211A200★	14.29
M14	15.0	44.0	2.7-3.3	1	95211A210★	4.29
M16	17.0	50.0	2.7-3.3	1	95211A220★	5.24
M18	20.0	56.0	3.4-4.6	1	95211A230★	7.86
M20	22.0	60.0	3.4-4.6	1	95211A240★	9.05
M24	26.8	72.0	4.0-6.0	1	95211A250★	5.23
18-8 Stainless Steel						
M2	2.2	7.0	0.6-1.0	100	91116A240	2.40
M2.5	2.7	8.0	0.7-0.9	100	91116A110★	2.97
M3	3.2	8.0	1.5-2.4	1	93849A101	.94
M3	3.2	9.0	0.7-0.9	100	91116A120★	2.63
M3	3.2	12.0	2.5-3.4	1	94768A101	3.18
M4	4.3	10.0	1.5-2.4	1	93849A102	.94
M4	4.3	12.0	0.9-1.1	100	91116A130★	3.87
M4	4.3	14.0	2.5-3.4	1	94768A102	3.20
M5	5.3	11.0	1.5-2.4	1	93849A103	1.04
M5	5.3	15.0	1.0-1.4	100	91116A140★	7.04
M5	5.3	15.0	3.0-3.9	1	94768A103	4.54
M6	6.4	13.0	2.0-2.9	1	93849A104	1.16
M6	6.4	18.0	1.4-1.8	50	91116A150★	6.16
M6	6.4	18.0	4.0-4.9	1	94768A104	$5.12
M7	7.4	22.0	1.8-2.2	25	91116A250★	8.00
M8	8.4	16.0	2.5-3.4	1	93849A105	1.17
M8	8.4	22.0	4.5-5.4	1	94768A105	5.51
M8	8.4	24.0	1.8-2.2	25	91116A160★	5.92
M10	10.5	19.0	2.5-3.4	1	93849A106	1.23
M10	10.5	23.0	4.5-5.4	1	94768A106	5.83
M10	10.5	30.0	2.3-2.7	10	91116A170★	7.20
M12	13.0	22.0	2.5-3.4	1	93849A107	1.27
M12	13.0	26.0	4.5-5.4	1	94768A107	6.67
M12	13.0	37.0	2.7-3.3	10	91116A180★	9.03
M14	15.0	25.0	2.5-3.4	1	93849A108	1.69
M14	15.0	27.0	4.5-5.4	1	94768A108	8.91
M14	15.0	44.0	2.7-3.3	1	91116A019★	2.86
M16	17.0	28.0	3.0-3.9	1	93849A109	2.07
M16	17.0	32.0	4.5-5.4	1	94768A109	10.20
M16	17.0	50.0	2.7-3.3	5	91116A200★	12.00
M18	20.0	56.0	3.4-4.6	1	91116A210★	5.71
M20	21.0	35.0	3.0-3.9	1	93849A110	2.21
M20	21.0	35.0	4.5-5.4	1	94768A110	13.02
M20	22.0	60.0	3.4-4.6	1	91116A220★	3.76
M24	25.0	40.0	3.5-4.4	1	93849A111	3.92
M24	25.0	43.0	6.0-6.9	1	94768A111	15.72
M24	26.0	72.0	4.0-6.0	1	91116A230★	4.17
M30	31.0	44.0	3.5-4.4	1	93849A112	5.19
M30	31.0	48.0	6.0-6.9	1	94768A112	19.92
M36	37.0	50.0	4.5-5.4	1	93849A113	14.74
M36	37.0	50.0	7.0-7.9	1	94768A113	30.61

★ Meets DIN 9021.

(Continued on following page)

Metric Oversized Washers *(Continued from previous page)*

Screw Size	ID, mm	OD, mm	Thick., Min.-Max., mm	Pkg. Qty.		Pkg.
Black-Oxide Steel						
M3	3.2	8.0	1.5-2.4	25	98035A101	$11.34
M3	3.2	12.0	2.5-3.4	5	98040A101	6.01
M4	4.3	10.0	1.5-2.4	25	98035A102	11.34
M4	4.3	14.0	2.5-3.4	5	98040A102	6.16
M5	5.3	11.0	1.5-2.4	10	98035A103	5.51
M5	5.3	15.0	3.0-3.9	5	98040A103	7.29
M6	6.4	13.0	2.0-2.9	10	98035A104	5.51
M6	6.4	18.0	4.0-4.9	5	98040A104	8.10
M8	8.4	16.0	2.5-3.4	10	98035A105	5.51
M8	8.4	22.0	4.5-5.4	5	98040A105	6.47
M10	10.5	19.0	2.5-3.4	10	98035A106	5.56
M10	10.5	23.0	4.5-5.4	5	98040A106	6.97
M12	13.0	22.0	2.5-3.4	10	98035A107	5.78
M12	13.0	26.0	4.5-5.4	5	98040A107	7.31
M14	15.0	25.0	2.5-3.4	10	98035A108	7.14
M14	15.0	27.0	4.5-5.4	5	98040A108	7.60
M16	17.0	28.0	3.0-3.9	10	98035A109	7.14
M16	17.0	32.0	4.5-5.4	5	98040A109	8.11

Screw Size	ID, mm	OD, mm	Thick., Min.-Max., mm	Pkg. Qty.		Pkg.
Black-Oxide Steel (Cont.)						
M20	21.0	35.0	3.0-3.9	10	98035A110	$9.07
M20	21.0	35.0	4.5-5.4	5	98040A110	9.07
M24	25.0	40.0	3.5-4.4	5	98035A111	6.18
M24	25.0	43.0	6.0-6.9	5	98040A111	11.00
M30	31.0	44.0	3.5-4.4	5	98035A112	8.73
M30	31.0	48.0	6.0-6.9	1	98040A112	3.05
M36	37.0	50.0	4.5-5.4	5	98035A113	11.85
M36	37.0	50.0	7.0-7.9	1	98040A113	4.01
High-Visibility Blue Steel						
M6	7.0	13.6	2.7-4.0	25	93162A310	11.35
M8	9.0	17.0	2.5-3.5	50	93162A320	10.67
M10	11.0	21.5	3.0-4.5	25	93162A330	10.96
M12	14.0	27.0	3.1-4.8	10	93162A340	5.93
M16	18.0	34.0	3.1-4.6	5	93162A350	6.89
M20	22.0	42.0	3.1-4.6	5	93162A360	6.29
M24	26.0	50.0	3.4-4.6	5	93162A370	10.45
M30	33.0	60.0	3.4-4.6	1	93162A380	3.40
M36	39.0	72.0	3.4-4.6	1	93162A390	4.69

Other Materials

Dimensions and DIN specifications are the same as 316 stainless steel on the previous page. **Bumax 88 stainless steel** washers also meet ISO 7093.

Material	Choose a Screw Size	
Black-Oxide 18-8 Stainless Steel	M2 to M20	91116A881
Bumax 88 Stainless Steel	M6 to M12	94316A881
Zinc-Plated Steel	M2.5 to M24	91100A881

High-Temperature Mica Washers

In addition to a maximum temperature of 1050° F, these washers have excellent electrical insulating properties. Color is clear to light brown.



Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
No. 0	0.072″	0.219″	0.004″-0.006″	5	91619A200	$8.61
No. 2	0.098″	0.265″	0.001″-0.003″	10	91619A300	12.61
No. 3	0.109″	0.312″	0.004″-0.006″	5	91619A400	6.35
No. 4	0.118″	0.375″	0.001″-0.003″	10	91619A500	7.86

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
No. 6	0.156″	0.296″	0.001″-0.003″	10	91619A600	$7.54
No. 8	0.176″	0.375″	0.004″-0.006″	10	91619A700	6.54
No. 10	0.195″	0.750″	0.004″-0.006″	10	91619A800	7.44

Extreme-Temperature Ceramic Washers

Ceramic washers won't melt—even at temperatures up to 3000° F. They are good electrical insulators and have excellent resistance to moisture as well as hydrochloric and nitric acid gases. Suitable for use in ovens. Color is off-white.



Screw Size	ID	OD	Thick., Min.-Max.		Each
Inch					
No. 0	0.068″	0.188″	0.022″-0.028″	94610A205	$3.43
No. 2	0.094″	0.250″	0.028″-0.036″	94610A210	3.12
No. 4	0.125″	0.375″	0.036″-0.045″	94610A215	3.38
No. 5	0.141″	0.406″	0.036″-0.045″	94610A301	3.50
No. 6	0.156″	0.438″	0.036″-0.045″	94610A220	3.75
No. 8	0.188″	0.500″	0.036″-0.045″	94610A225	4.00
No. 10	0.203″	0.562″	0.036″-0.045″	94610A230	4.38
No. 12	0.234″	0.625″	0.056″-0.071″	94610A302	4.50
1/4″	0.281″	0.734″	0.056″-0.071″	94610A236	4.63
5/16″	0.344″	0.875″	0.056″-0.071″	94610A303	5.63
3/8″	0.406″	1.000″	0.056″-0.071″	94610A304	6.25
7/16″	0.469″	1.125″	0.056″-0.071″	94610A305	6.63
1/2″	0.531″	1.125″	0.090″-0.112″	94610A306	7.00
9/16″	0.594″	1.469″	0.090″-0.112″	94610A307	7.38
5/8″	0.656″	1.750″	0.090″-0.112″	94610A308	7.75

Screw Size	ID	OD	Thick., Min.-Max.		Each
Inch (Cont.)					
3/4″	0.812″	2.000″	0.090″-0.112″	94610A309	$8.13
7/8″	0.938″	2.250″	0.146″-0.174″	94610A310	9.13
1″	1.062″	2.500″	0.146″-0.174″	94610A311	9.75
Metric—Dimensions in millimeters					
M2	2.6	6.0	0.6-0.9	94610A420	3.71
M3	3.6	10.0	0.8-1.2	94610A430	3.86
M4	4.8	12.0	1.0-1.4	94610A440	4.57
M5	5.6	15.0	1.2-1.8	94610A450	5.28
M6	6.8	18.8	1.2-1.8	94610A460	5.71
M8	9.0	25.4	1.6-2.3	94610A480	6.86
M10	11.0	28.0	2.0-2.8	94610A410	7.71
M12	13.4	34.0	2.5-3.5	94610A412	8.14
M14	15.4	39.0	2.5-3.5	94610A414	8.71
M16	17.4	44.0	3.0-4.0	94610A416	9.43
M20	22.0	50.0	3.5-4.6	94610A421	10.29

Mil. Spec. Plastic Washers

Washers meet military standard NAS 1515. Color is white.
Nylon washers are good electrical insulators. Not rated for maximum temperature.
PTFE washers are slippery and excellent electrical insulators. They have excellent moisture and chemical resistance. Maximum temperature is 500° F.



Screw Size	Dash No.	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Nylon							
No. 2	H02	0.105″	0.250″	0.053″-0.073″	100	92150A101	$8.40
No. 4	H04	0.125″	0.312″	0.053″-0.073″	100	92150A103	10.00
No. 6	H06	0.149″	0.375″	0.053″-0.073″	50	92150A105	6.80
No. 8	H08	0.174″	0.375″	0.053″-0.073″	50	92150A107	6.80
No. 10	H3	0.203″	0.438″	0.053″-0.073″	50	92150A121	7.20
No. 10	H3H	0.203″	0.438″	0.084″-0.104″	50	92150A122	8.80
1/4″	H4	0.265″	0.500″	0.053″-0.073″	50	92150A124	7.80
5/16″	H5	0.328″	0.562″	0.053″-0.073″	50	92150A127	8.20
3/8″	H6	0.390″	0.625″	0.053″-0.073″	50	92150A130	8.80
7/16″	H7	0.453″	0.750″	0.053″-0.073″	50	92150A133	9.40
1/2″	H8	0.515″	0.875″	0.053″-0.073″	50	92150A136	9.80

Screw Size	Dash No.	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Nylon (Cont.)							
9/16″	H9	0.578″	1.062″	0.053″-0.073″	25	92150A139	$7.70
5/8″	H10	0.640″	1.188″	0.053″-0.073″	25	92150A109	9.40
3/4″	H12	0.765″	1.312″	0.053″-0.073″	25	92150A112	11.40
7/8″	H14	0.890″	1.500″	0.053″-0.073″	10	92150A115	6.72
1″	H16	1.015″	1.750″	0.053″-0.073″	10	92150A118	7.60
Other Dash Numbers from H4H to H16H, H02L to H08L, and H3L to H16L (Screw Sizes from No. 2 to 1″)						92150A100	
PTFE							
Dash Numbers from M4 to M16 (Screw Sizes from 1/4″ to 1″)						92150A600	

Plastic Washers



Advantages of plastic washers over metallic washers include electrical insulator properties and moisture, friction, and chemical resistance. Use the chart below to identify the best plastic for your application. Information is intended for comparison only.

● Excellent ◓ Good Blank boxes indicate a poor rating or no rating.

	Maximum Temp., °F	Minimum Temp., °F	Electrical Insulator	Moisture Resistance	Friction Resistance	Chemical Resistance	Tensile Strength
Nylon	180°	–40°	◓				●
Glass-Filled Nylon	230°	–20°	●	◓			●
Nylatron	220°	—	◓		◓		●
Delrin® Acetal Resin	185°	—	◓	◓	◓		◓
Polycarbonate	212°	—	◓	◓			◓
PVC	140°	—	●	◓		●	◓
Polypropylene	150°	—	●	◓		◓	
PTFE	500°	—	●	●	●	●	
UHMW Polyethylene	180°	—	◓	●	◓	◓	
PEEK	500°	–20°	◓	◓		◓	●
Carbon-Filled PEEK	500°	–55°		●	◓	◓	●
Polyimide	450°	–425°	●			◓	●
Phenolic	250°	—	◓				◓
Fiberglass	280°	—	◓	●			●
Hard Fiber	230°	—	◓				◓

Inch

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Nylon—Choose a color: black or off-white						
No. 0	0.065″	0.179″	0.073″-0.083″	100	90295A310	$5.48
No. 0	0.068″	0.188″	0.020″-0.030″	50	90295A312	4.08
No. 1	0.084″	0.219″	0.020″-0.030″	50	90295A314	4.83
No. 2	0.090″	0.250″	0.057″-0.067″	100	90295A325	3.94
No. 2	0.094″	0.188″	0.015″-0.025″	100	90295A320	5.94
No. 2	0.094″	0.250″	0.026″-0.038″	50	90295A322	4.76
No. 2	0.104″	0.220″	0.026″-0.036″	100	90295A330	4.05
No. 3	0.109″	0.320″	0.026″-0.038″	50	90295A332	6.58
No. 4	0.112″	0.206″	0.048″-0.058″	100	90295A340	5.17
No. 4	0.115″	0.250″	0.057″-0.067″	100	90295A345	3.67
No. 4	0.120″	0.220″	0.026″-0.036″	100	90295A359	4.53
No. 4	0.120″	0.280″	0.026″-0.036″	100	90295A362	5.00
No. 5	0.130″	0.285″	0.055″-0.070″	100	90295A370	6.76
No. 5	0.140″	0.312″	0.057″-0.067″	100	90295A375	5.19
No. 5	0.141″	0.406″	0.035″-0.045″	50	90295A373	7.21
No. 6	0.156″	0.312″	0.026″-0.036″	100	90295A380	5.18
No. 6	0.156″	0.438″	0.035″-0.045″	50	90295A384	6.49
No. 6	0.162″	0.312″	0.055″-0.070″	100	90295A390	5.52
No. 8	0.173″	0.375″	0.055″-0.070″	100	90295A400	6.79
No. 8	0.177″	0.408″	0.055″-0.070″	100	90295A410	7.61
No. 8	0.188″	0.500″	0.035″-0.045″	50	90295A414	7.39
No. 10	0.193″	0.438″	0.026″-0.036″	100	90295A420	6.29
No. 10	0.200″	0.450″	0.026″-0.036″	100	90295A422	6.35
No. 10	0.203″	0.562″	0.035″-0.045″	50	90295A424	7.92
No. 12	0.234″	0.625″	0.054″-0.073″	50	90295A426	9.80
No. 12	0.240″	0.465″	0.010″-0.020″	100	90295A430	7.01
No. 12	0.250″	0.375″	0.010″-0.020″	100	95606A410	9.00
No. 12	0.250″	0.375″	0.026″-0.036″	100	95606A420	7.12
No. 12	0.252″	0.472″	0.055″-0.070″	100	90295A440	6.75
No. 12	0.260″	0.688″	0.055″-0.070″	100	90295A450	9.13
1/4″	0.281″	0.734″	0.054″-0.074″	50	90295A455	12.67
1/4″	0.312″	0.500″	0.026″-0.036″	100	95606A430	6.76
5/16″	0.340″	0.740″	0.057″-0.067″	100	90295A460	7.36
5/16″	0.344″	0.875″	0.054″-0.074″	50	90295A464	5.99
5/16″	0.375″	0.570″	0.026″-0.036″	100	95606A440	7.85
3/8″	0.390″	0.750″	0.057″-0.067″	100	90295A470	7.36
3/8″	0.406″	1.000″	0.054″-0.074″	50	90295A473	7.90
3/8″	0.438″	0.625″	0.026″-0.036″	100	95606A450	9.89
7/16″	0.443″	0.750″	0.057″-0.067″	100	90295A485	6.98
7/16″	0.469″	1.125″	0.054″-0.074″	50	90295A490	15.50
7/16″	0.500″	0.688″	0.026″-0.036″	100	95606A470	11.17
1/2″	0.505″	0.750″	0.057″-0.067″	100	90295A492	6.16
1/2″	0.531″	1.250″	0.093″-0.107″	5	90295A494	6.91
1/2″	0.562″	0.750″	0.026″-0.036″	100	95606A480	11.90
9/16″	0.594″	1.469″	0.093″-0.107″	5	90295A496	10.36
9/16″	0.625″	0.812″	0.026″-0.036″	100	95606A510	15.90
9/16″	0.625″	0.812″	0.055″-0.069″	100	95606A520	19.30
5/8″	0.656″	0.843″	0.055″-0.069″	50	95606A540	13.92
5/8″	0.656″	1.750″	0.093″-0.107″	5	90295A498	6.65
5/8″	0.688″	0.875″	0.026″-0.036″	100	95606A550	15.20
5/8″	0.750″	1.000″	0.055″-0.069″	50	95606A560	11.69
3/4″	0.812″	1.057″	0.120″-0.130″	100	90295A500	13.54
3/4″	0.812″	2.000″	0.093″-0.107″	5	90295A503	14.39
Nylon—Choose a color: black or off-white (Cont.)						
3/4″	0.875″	1.125″	0.055″-0.070″	50	95606A570	$11.08
7/8″	0.938″	2.250″	0.153″-0.167″	1	90295A505	8.35
7/8″	1.000″	1.250″	0.055″-0.070″	50	95606A580	11.67
1″	1.062″	2.500″	0.153″-0.167″	1	90295A509	10.90
Glass-Filled Nylon—Color is off-white						
No. 6	0.140″	0.312″	0.062″-0.067″	10	99872A100	8.67
No. 8	0.170″	0.375″	0.062″-0.067″	10	99872A200	8.72
No. 10	0.190″	0.375″	0.062″-0.067″	10	99872A300	8.76
1/4″	0.255″	0.500″	0.062″-0.067″	10	99872A400	8.81
Nylatron—Color is dark gray						
No. 0	0.065″	0.188″	0.008″-0.012″	5	91545A610	3.95
No. 2	0.083″	0.250″	0.018″-0.022″	5	91545A310	3.86
No. 4	0.120″	0.220″	0.028″-0.034″	5	91545A210	2.77
No. 5	0.140″	0.410″	0.037″-0.043″	5	91545A320	3.71
No. 6	0.142″	0.312″	0.028″-0.034″	5	91545A220	2.77
No. 8	0.173″	0.375″	0.028″-0.034″	5	91545A230	1.87
No. 10	0.201″	0.460″	0.028″-0.034″	5	91545A240	2.27
No. 12	0.250″	0.562″	0.060″-0.067″	5	91545A330	4.14
No. 12	0.262″	0.500″	0.028″-0.034″	5	91545A250	2.23
1/4″	0.322″	0.562″	0.028″-0.034″	5	91545A260	2.19
5/16″	0.383″	0.506″	0.028″-0.034″	5	91545A270	2.23
7/16″	0.469″	0.923″	0.060″-0.067″	5	91545A340	4.29
1/2″	0.530″	0.880″	0.028″-0.034″	5	91545A280	2.47
9/16″	0.594″	1.156″	0.089″-0.099″	5	91545A350	4.55
5/8″	0.656″	1.312″	0.089″-0.099″	5	91545A360	4.57
3/4″	0.812″	1.469″	0.120″-0.130″	5	91545A370	4.62
7/8″	0.938″	1.750″	0.120″-0.130″	5	91545A380	4.71
1″	1.062″	2.000″	0.120″-0.130″	5	91545A390	5.29
Delrin® Acetal Resin—Color is white						
No. 0	0.050″	0.190″	0.020″-0.030″	50	95647A101	12.40
No. 2	0.094″	0.188″	0.026″-0.036″	50	95647A111	13.73
No. 4	0.120″	0.250″	0.026″-0.036″	50	95647A112	13.73
No. 5	0.140″	0.410″	0.030″-0.050″	50	95647A115	12.92
No. 6	0.150″	0.375″	0.026″-0.036″	50	95647A113	12.88
No. 8	0.175″	0.375″	0.026″-0.036″	50	95647A117	12.88
No. 10	0.203″	0.438″	0.026″-0.036″	50	95647A121	12.88
No. 12	0.250″	0.562″	0.051″-0.080″	50	95647A122	12.92
1/4″	0.265″	0.500″	0.026″-0.036″	50	95647A125	12.88
5/16″	0.328″	0.562″	0.026″-0.036″	50	95647A129	14.50
3/8″	0.390″	0.625″	0.026″-0.036″	50	95647A133	14.50
7/16″	0.469″	0.922″	0.051″-0.080″	50	95647A135	12.86
1/2″	0.515″	0.885″	0.057″-0.067″	25	95647A137	14.53
9/16″	0.594″	1.156″	0.074″-0.121″	10	95647A138	8.21
5/8″	0.640″	1.062″	0.057″-0.067″	25	95647A141	14.84
3/4″	0.765″	1.312″	0.057″-0.067″	10	95647A145	7.06
7/8″	0.938″	1.750″	0.108″-0.160″	10	95647A144	11.43
1″	1.025″	1.750″	0.057″-0.067″	10	95647A149	12.88
Polycarbonate—Color is clear						
No. 0	0.078″	0.188″	0.016″-0.025″	25	90940A210	8.71
No. 2	0.090″	0.250″	0.027″-0.037″	100	90940A003	8.48
No. 4	0.115″	0.250″	0.027″-0.037″	100	90940A005	8.48
No. 5	0.140″	0.312″	0.027″-0.037″	100	90940A007	9.68
No. 5	0.141″	0.350″	0.036″-0.045″	25	90940A220	10.10

(Continued on following page)

Plastic Washers *(Continued from previous page)*

Inch (Cont.)

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Polycarbonate—Color is clear (Cont.)						
No. 8	0.170″	0.375″	0.025″-0.035″	25	90940A009	$10.36
No. 10	0.194″	0.375″	0.025″-0.035″	25	90940A011	10.36
No. 12	0.250″	0.562″	0.051″-0.080″	25	90940A230	10.94
1/4″	0.257″	0.500″	0.055″-0.069″	25	90940A013	11.50
5/16″	0.317″	0.500″	0.055″-0.069″	25	90940A015	11.50
3/8″	0.380″	0.625″	0.055″-0.069″	25	90940A017	11.50
7/16″	0.469″	1.250″	0.051″-0.080″	10	90940A240	11.72
1/2″	0.505″	0.750″	0.055″-0.069″	25	90940A019	13.72
9/16″	0.594″	1.469″	0.074″-0.121″	5	90940A250	9.10
5/8″	0.656″	1.750″	0.074″-0.121″	1	90940A260	2.26
3/4″	0.812″	2.000″	0.108″-0.160″	1	90940A270	3.19
7/8″	0.938″	2.250″	0.108″-0.160″	1	90940A280	3.87
1″	1.062″	2.500″	0.108″-0.160″	1	90940A290	4.48
PVC—Color is gray						
1/4″	0.312″	0.750″	0.053″-0.071″	100	95611A029	14.91
5/16″	0.375″	0.875″	0.053″-0.071″	50	95611A030	10.94
3/8″	0.438″	1.000″	0.053″-0.071″	50	95611A031	11.05
1/2″	0.562″	1.250″	0.053″-0.071″	50	95611A033	11.67
5/8″	0.688″	1.500″	0.112″-0.138″	25	95611A037	12.87
3/4″	0.812″	1.500″	0.084″-0.102″	25	95611A038	9.96
Polypropylene—Color is off-white						
No. 0	0.065″	0.188″	0.008″-0.012″	5	98594A511	4.93
No. 2	0.090″	0.250″	0.028″-0.034″	5	98594A512	4.98
No. 4	0.120″	0.250″	0.028″-0.034″	5	98594A513	5.04
No. 5	0.140″	0.281″	0.028″-0.034″	5	98594A514	5.08
No. 6	0.140″	0.312″	0.062″-0.067″	10	98594A110	4.67
No. 8	0.170″	0.375″	0.062″-0.067″	10	98594A220	5.00
No. 10	0.190″	0.375″	0.062″-0.067″	10	98594A330	5.04
No. 12	0.219″	0.375″	0.028″-0.034″	5	98594A515	5.12
1/4″	0.255″	0.500″	0.062″-0.067″	10	98594A440	5.33
5/16″	0.317″	0.500″	0.057″-0.067″	5	98594A516	5.16
3/8″	0.380″	0.625″	0.057″-0.067″	5	98594A517	5.20
7/16″	0.443″	0.750″	0.057″-0.067″	5	98594A518	5.23
1/2″	0.505″	0.750″	0.057″-0.067″	5	98594A519	5.28
9/16″	0.625″	1.500″	0.085″-0.101″	5	98594A521	5.33
5/8″	0.656″	1.500″	0.085″-0.101″	5	98594A522	5.38
3/4″	0.812″	1.500″	0.085″-0.101″	5	98594A523	5.38
7/8″	0.935″	1.750″	0.115″-0.135″	5	98594A524	5.71
1″	1.062″	2.000″	0.115″-0.135″	5	98594A525	9.33
PTFE—Color is white						
No. 2	0.090″	0.250″	0.002″-0.004″	10	95630A410	3.00
No. 2	0.090″	0.250″	0.008″-0.012″	10	95630A415	1.91
No. 2	0.090″	0.250″	0.027″-0.035″	10	95630A232	2.96
No. 3	0.116″	0.250″	0.027″-0.035″	10	95630A234	2.89
No. 4	0.124″	0.375″	0.035″-0.045″	10	95630A418	3.18
No. 4	0.125″	0.250″	0.002″-0.004″	10	95630A420	3.33
No. 4	0.125″	0.250″	0.008″-0.012″	10	95630A425	2.62
No. 4	0.137″	0.250″	0.008″-0.012″	10	95630A235	3.35
No. 4	0.137″	0.250″	0.027″-0.035″	10	95630A435	2.92
No. 5	0.145″	0.500″	0.027″-0.035″	10	95630A236	4.03
No. 5	0.150″	0.312″	0.045″-0.055″	10	95630A237	3.33
No. 6	0.156″	0.438″	0.035″-0.045″	10	95630A438	4.22
No. 8	0.188″	0.500″	0.035″-0.045″	10	95630A238	4.12
No. 8	0.197″	0.280″	0.013″-0.017″	10	95630A239	2.51
No. 8	0.197″	0.280″	0.045″-0.055″	10	95630A240	3.22
No. 8	0.197″	0.750″	0.027″-0.035″	10	95630A445	5.16
No. 8	0.200″	0.303″	0.022″-0.028″	10	95630A241	3.05
No. 10	0.203″	0.562″	0.035″-0.045″	10	95630A455	4.66
No. 10	0.210″	0.875″	0.017″-0.023″	10	95630A460	4.59
No. 12	0.250″	0.500″	0.057″-0.067″	10	95630A242	5.21
No. 12	0.250″	0.665″	0.193″-0.203″	5	95630A212	4.78
No. 12	0.250″	0.815″	0.203″-0.213″	1	95630A214	3.31
1/4″	0.253″	0.814″	0.235″-0.245″	1	95630A216	2.71
1/4″	0.260″	0.337″	0.022″-0.028″	10	95630A217	3.23
1/4″	0.281″	0.500″	0.027″-0.035″	10	95630A470	3.48
1/4″	0.281″	0.735″	0.057″-0.067″	10	95630A475	8.21
5/16″	0.325″	0.750″	0.017″-0.023″	10	95630A219	4.42
5/16″	0.344″	0.875″	0.074″-0.086″	5	95630A480	8.22
5/16″	0.370″	1.090″	0.226″-0.236″	1	95630A218	4.67
5/16″	0.372″	0.753″	0.185″-0.195″	1	95630A244	2.57
3/8″	0.375″	1.250″	0.057″-0.067″	1	95630A486	1.73
3/8″	0.375″	1.500″	0.057″-0.067″	1	95630A487	4.29
3/8″	0.380″	0.812″	0.027″-0.035″	10	95630A245	6.31
3/8″	0.390″	0.875″	0.057″-0.067″	10	95630A256	11.30
3/8″	0.406″	1.000″	0.057″-0.067″	10	95630A485	11.92
1/2″	0.500″	0.688″	0.027″-0.035″	10	95630A246	5.41
1/2″	0.500″	1.003″	0.057″-0.067″	10	95630A248	14.01
1/2″	0.531″	1.250″	0.093″-0.107″	1	95630A500	3.58
1/2″	0.532″	1.500″	0.017″-0.023″	10	95630A505	15.71
PTFE—Color is white (Cont.)						
5/8″	0.656″	1.750″	0.093″-0.107″	1	95630A510	$4.41
3/4″	0.750″	1.000″	0.057″-0.067″	10	95630A251	13.33
3/4″	0.750″	1.250″	0.057″-0.067″	5	95630A253	9.37
3/4″	0.750″	1.500″	0.057″-0.067″	5	95630A254	12.94
3/4″	0.780″	1.630″	0.298″-0.308″	1	95630A223	8.33
3/4″	0.780″	1.633″	0.330″-0.350″	1	95630A225	10.86
3/4″	0.812″	2.000″	0.093″-0.107″	1	95630A520	9.29
7/8″	0.875″	1.500″	0.057″-0.067″	1	95630A530	4.31
7/8″	0.875″	2.000″	0.087″-0.099″	1	95630A531	6.44
1″	1.000″	2.500″	0.087″-0.099″	1	95630A228	9.01
1″	1.060″	1.990″	0.298″-0.308″	1	95630A227	12.57
UHMW Polyethylene—Color is off-white						
No. 2	0.094″	0.188″	0.026″-0.036″	50	95649A018	14.03
No. 4	0.120″	0.250″	0.026″-0.036″	50	95649A019	14.05
No. 5	0.126″	0.315″	0.029″-0.033″	25	95649A120	13.75
No. 6	0.150″	0.375″	0.026″-0.036″	50	95649A221	14.06
No. 8	0.175″	0.375″	0.026″-0.036″	50	95649A225	14.06
No. 10	0.203″	0.438″	0.026″-0.036″	50	95649A229	14.90
No. 12	0.250″	0.562″	0.060″-0.067″	10	95649A510	12.83
1/4″	0.265″	0.500″	0.026″-0.036″	50	95649A232	14.90
5/16″	0.328″	0.562″	0.026″-0.036″	25	95649A236	7.81
3/8″	0.390″	0.625″	0.026″-0.036″	25	95649A241	7.81
7/16″	0.469″	0.922″	0.060″-0.067″	10	95649A520	11.50
1/2″	0.515″	0.885″	0.057″-0.067″	10	95649A244	6.25
9/16″	0.594″	1.156″	0.089″-0.099″	10	95649A530	9.67
5/8″	0.640″	1.062″	0.057″-0.067″	10	95649A247	8.12
3/4″	0.765″	1.312″	0.057″-0.067″	10	95649A256	9.38
7/8″	0.935″	1.750″	0.115″-0.130″	10	95649A130	11.50
1″	1.025″	1.750″	0.057″-0.067″	10	95649A263	14.95
PEEK—Color is tan						
No. 0	0.078″	0.188″	0.016″-0.025″	10	93785A110	3.64
No. 2	0.094″	0.250″	0.016″-0.025″	10	93785A120	3.70
No. 4	0.125″	0.313″	0.025″-0.040″	10	93785A130	4.22
No. 5	0.141″	0.350″	0.036″-0.045″	10	93785A140	4.25
No. 6	0.150″	0.380″	0.020″-0.060″	10	93785A300	4.39
No. 8	0.190″	0.440″	0.020″-0.060″	10	93785A400	4.63
No. 10	0.220″	0.510″	0.020″-0.060″	10	93785A500	4.90
No. 12	0.250″	0.562″	0.051″-0.080″	10	93785A150	4.61
1/4″	0.280″	0.630″	0.040″-0.080″	10	93785A600	5.94
5/16″	0.340″	0.690″	0.040″-0.080″	10	93785A700	6.06
3/8″	0.406″	1.000″	0.064″-0.104″	5	93785A160	4.04
7/16″	0.469″	1.250″	0.051″-0.080″	5	93785A170	6.17
1/2″	0.531″	1.375″	0.064″-0.104″	5	93785A180	8.51
9/16″	0.594″	1.469″	0.074″-0.121″	1	93785A190	1.92
5/8″	0.656″	1.750″	0.074″-0.121″	1	93785A210	2.38
3/4″	0.812″	2.000″	0.108″-0.160″	1	93785A220	3.35
7/8″	0.938″	2.250″	0.108″-0.160″	1	93785A230	4.08
1″	1.062″	2.500″	0.108″-0.160″	1	93785A240	4.72
Carbon-Filled PEEK—Color is black						
No. 6	0.150″	0.380″	0.036″-0.065″	10	93785A320	5.40
No. 8	0.190″	0.440″	0.036″-0.065″	10	93785A330	5.50
No. 10	0.220″	0.510″	0.036″-0.065″	10	93785A340	5.83
1/4″	0.280″	0.630″	0.051″-0.080″	5	93785A350	4.00
5/16″	0.340″	0.690″	0.064″-0.104″	5	93785A360	4.09
3/8″	0.406″	1.000″	0.064″-0.104″	5	93785A370	6.97
Polyimide—Color is yellow-orange						
No. 0	0.062″	0.219″	0.005″-0.006″	10	91435A120	6.86
No. 2	0.094″	0.250″	0.005″-0.006″	10	91435A140	6.96
No. 3	0.101″	0.250″	0.005″-0.006″	10	91435A150	7.05
No. 4	0.125″	0.312″	0.005″-0.006″	10	91435A160	7.11
No. 6	0.156″	0.375″	0.005″-0.006″	10	91435A170	7.16
No. 8	0.196″	0.500″	0.005″-0.006″	10	91435A180	7.20
No. 10	0.203″	0.625″	0.005″-0.006″	10	91435A190	7.97
Phenolic—Color is red-brown to yellow-brown						
No. 0	0.065″	0.188″	0.008″-0.012″	5	91225A210	5.00
No. 2	0.090″	0.250″	0.027″-0.035″	5	91225A220	5.00
No. 4	0.125″	0.312″	0.056″-0.070″	5	91225A020	4.85
No. 5	0.140″	0.281″	0.027″-0.035″	5	91225A230	5.00
No. 6	0.152″	0.500″	0.056″-0.070″	5	91225A040	4.31
No. 10	0.202″	0.632″	0.056″-0.070″	5	91225A060	4.99
No. 12	0.219″	0.375″	0.027″-0.035″	5	91225A240	5.00
1/4″	0.282″	0.625″	0.056″-0.070″	5	91225A070	4.55
5/16″	0.385″	0.625″	0.056″-0.070″	5	91225A090	3.94
7/16″	0.443″	0.750″	0.057″-0.067″	5	91225A910	5.50
1/2″	0.505″	0.750″	0.057″-0.067″	5	91225A920	5.50
9/16″	0.625″	1.500″	0.085″-0.101″	5	91225A930	7.17
5/8″	0.656″	1.500″	0.085″-0.101″	5	91225A940	7.18
3/4″	0.812″	1.500″	0.085″-0.101″	5	91225A950	7.17
7/8″	0.935″	1.750″	0.115″-0.135″	5	91225A960	8.33

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Plastic Washers *(Continued from previous page)*

Inch (Cont.)

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Fiberglass—Color is light green to light tan						
No. 2	0.094″	0.250″	0.012″-0.018″	10	93493A228	$2.70
No. 4	0.122″	0.219″	0.012″-0.018″	10	93493A229	2.56
No. 4	0.125″	0.310″	0.024″-0.038″	10	93493A105	4.69
No. 4	0.125″	0.317″	0.054″-0.070″	10	93493A106	3.58
No. 6	0.142″	0.500″	0.054″-0.070″	10	93493A231	3.07
No. 8	0.175″	0.380″	0.024″-0.038″	10	93493A107	3.94
No. 8	0.178″	0.562″	0.054″-0.070″	10	93493A232	3.40
No. 10	0.203″	0.443″	0.054″-0.070″	10	93493A233	3.27
1/4″	0.250″	0.500″	0.024″-0.038″	10	93493A234	3.19
1/4″	0.250″	2.000″	0.113″-0.137″	1	90800A350	3.43
5/16″	0.312″	0.562″	0.054″-0.070″	10	93493A235	4.07
3/8″	0.375″	2.000″	0.113″-0.137″	1	90800A360	3.43
3/8″	0.380″	0.750″	0.054″-0.070″	10	93493A108	4.37
1/2″	0.500″	2.000″	0.113″-0.137″	1	90800A370	3.43
1/2″	0.515″	0.880″	0.054″-0.070″	10	93493A236	5.80
5/8″	0.625″	2.000″	0.113″-0.137″	1	90800A380	3.43
5/8″	0.640″	1.193″	0.083″-0.103″	5	93493A109	6.89
3/4″	0.765″	1.317″	0.083″-0.103″	5	93493A237	8.10
1″	1.015″	1.755″	0.083″-0.103″	5	93493A110	7.67
Hard Fiber—Color is black, gray, or red						
No. 2	0.094″	0.250″	0.014″-0.016″	100	90089A290	6.24
No. 2	0.094″	0.250″	0.028″-0.034″	100	95601A290	4.11
No. 2	0.094″	0.250″	0.010″-0.020″	100	96100A110	12.29
No. 4	0.125″	0.250″	0.014″-0.016″	100	90089A295	2.50
No. 4	0.125″	0.250″	0.028″-0.034″	100	95601A295	2.50
No. 4	0.125″	0.312″	0.010″-0.020″	100	96100A115	12.29
No. 6	0.145″	0.375″	0.026″-0.036″	100	96100A120	12.29
No. 6	0.156″	0.312″	0.014″-0.016″	100	90089A300	2.50
No. 6	0.156″	0.312″	0.028″-0.034″	100	95601A300	2.50
No. 8	0.172″	0.375″	0.026″-0.036″	100	96100A125	12.29
No. 8	0.188″	0.375″	0.014″-0.016″	100	90089A305	2.50
No. 8	0.188″	0.375″	0.028″-0.034″	100	95601A305	3.21
No. 10	0.203″	0.375″	0.042″-0.052″	100	96100A137	12.29
No. 10	0.203″	0.438″	0.041″-0.051″	100	96100A130	12.29
No. 12	0.234″	0.500″	0.042″-0.052″	50	96100A135	9.00
1/4″	0.250″	0.375″	0.014″-0.016″	100	90089A310	2.50
1/4″	0.250″	0.375″	0.028″-0.034″	100	95601A310	3.21
1/4″	0.250″	0.500″	0.014″-0.016″	100	90089A315	2.50
1/4″	0.250″	0.500″	0.028″-0.034″	100	95601A315	3.21
1/4″	0.281″	0.625″	0.057″-0.067″	25	96100A140	11.07
5/16″	0.312″	0.438″	0.014″-0.016″	100	90089A320	2.50
5/16″	0.312″	0.438″	0.028″-0.034″	100	95601A320	3.56
5/16″	0.312″	0.562″	0.014″-0.016″	100	90089A325	6.24
5/16″	0.312″	0.562″	0.028″-0.034″	100	95601A325	3.56
5/16″	0.325″	0.688″	0.057″-0.067″	100	96100A142	12.29

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Hard Fiber—Color is black, gray, or red (Cont.)						
3/8″	0.375″	0.500″	0.014″-0.016″	100	90089A330	$4.64
3/8″	0.375″	0.500″	0.028″-0.034″	100	95601A330	3.56
3/8″	0.375″	0.625″	0.014″-0.016″	100	90089A335	2.86
3/8″	0.375″	0.625″	0.028″-0.034″	100	95601A335	3.56
3/8″	0.375″	2.250″	0.120″-0.130″	10	90132A552	10.30
3/8″	0.406″	0.875″	0.088″-0.098″	25	96100A145	11.07
7/16″	0.438″	0.625″	0.014″-0.016″	50	90089A340	1.43
7/16″	0.438″	0.625″	0.028″-0.034″	100	95601A340	3.56
1/2″	0.500″	0.625″	0.028″-0.034″	100	95601A345	3.56
1/2″	0.500″	0.688″	0.014″-0.016″	100	90089A350	2.86
1/2″	0.500″	0.688″	0.028″-0.034″	100	95601A350	4.29
1/2″	0.500″	0.750″	0.014″-0.016″	100	90089A355	2.86
1/2″	0.500″	0.750″	0.028″-0.034″	100	95601A355	4.29
1/2″	0.500″	2.250″	0.120″-0.130″	10	90132A553	10.30
1/2″	0.531″	1.000″	0.088″-0.098″	25	96100A150	11.07
9/16″	0.562″	0.812″	0.014″-0.016″	100	90089A360	11.78
9/16″	0.562″	0.812″	0.028″-0.034″	100	95601A360	4.29
5/8″	0.625″	0.750″	0.028″-0.034″	100	95601A365	4.29
5/8″	0.625″	0.875″	0.014″-0.016″	50	90089A375	2.86
5/8″	0.625″	0.875″	0.028″-0.034″	100	95601A375	5.71
5/8″	0.625″	2.250″	0.120″-0.130″	10	90132A554	10.63
5/8″	0.645″	1.063″	0.088″-0.098″	25	96100A152	12.26
5/8″	0.688″	0.938″	0.028″-0.034″	100	95601A390	7.14
3/4″	0.750″	1.000″	0.014″-0.016″	100	90089A395	5.71
3/4″	0.750″	1.000″	0.028″-0.034″	100	95601A395	7.14
3/4″	0.750″	1.063″	0.028″-0.034″	100	95601A400	7.14
3/4″	0.750″	2.250″	0.120″-0.130″	10	90132A555	11.00
3/4″	0.810″	1.125″	0.120″-0.130″	10	96100A155	13.73
3/4″	0.812″	1.125″	0.014″-0.016″	100	90089A405	8.94
3/4″	0.812″	1.125″	0.028″-0.034″	50	95601A405	3.57
7/8″	0.875″	1.188″	0.014″-0.016″	100	90089A410	5.71
7/8″	0.875″	1.188″	0.028″-0.034″	100	95601A410	12.84
7/8″	0.875″	2.250″	0.120″-0.130″	10	90132A556	11.00
7/8″	0.930″	1.250″	0.120″-0.130″	10	96100A157	12.29
7/8″	0.938″	1.250″	0.028″-0.034″	50	95601A415	6.42
1″	1.000″	1.250″	0.014″-0.016″	100	90089A420	5.71
1″	1.000″	1.250″	0.028″-0.034″	100	95601A420	12.84
1″	1.000″	2.250″	0.120″-0.130″	10	90132A557	11.00
1″	1.031″	1.312″	0.014″-0.016″	50	90089A425	9.99
1″	1.031″	1.312″	0.028″-0.034″	50	95601A425	6.42
1″	1.125″	2.000″	0.120″-0.130″	10	96100A160	8.81
1 1/8″	1.188″	1.562″	0.028″-0.034″	100	95601A430	12.33
1 1/4″	1.250″	1.625″	0.028″-0.034″	50	95601A435	11.39
1 1/4″	1.312″	2.125″	0.120″-0.130″	5	96100A170	9.10

Metric

Screw Size	ID, mm	OD, mm	Thick., Min.-Max., mm	Pkg. Qty.		Pkg.
Nylon—Choose a color: black or off-white						
M2	2.2	5.0	0.6-1.0	100	95610A510	$2.63
M3	3.2	8.0	0.6-1.0	100	95610A530	2.92
M4	4.3	9.0	0.6-1.0	100	95610A550	3.58
M5	5.3	11.0	0.8-1.2	100	95610A560	4.31
M6	6.4	12.0	1.3-1.7	100	95610A570	4.96
M8	8.4	18.0	1.8-2.2	100	95610A580	6.88
M10	10.5	22.0	2.3-2.7	100	95610A600	8.53
M12	13.4	25.1	2.4-2.7	50	95610A620	8.57
M16	17.0	30.0	2.7-3.3	25	95610A640	7.16
M20	21.0	37.0	2.7-3.3	10	95610A660	4.97
Nylatron—Color is dark gray						
M2	2.2	5.0	0.2-0.4	5	91545A410	2.42
M3	3.2	7.0	0.4-0.6	5	91545A420	2.50
M4	4.3	9.0	0.7-0.9	5	91545A430	2.64
M5	5.5	10.0	0.9-1.1	5	91545A440	2.80
M6	6.4	12.0	1.4-1.8	5	91545A450	3.39
M7	7.4	14.0	1.4-1.8	5	91545A460	3.45
M8	8.4	16.0	1.4-1.8	5	91545A470	3.44
M10	10.5	20.0	1.8-2.2	5	91545A480	4.07
M12	13.0	24.0	2.3-2.7	5	91545A490	4.30
M14	15.0	28.0	2.3-2.7	5	91545A510	5.86
M16	17.0	30.0	2.7-3.3	5	91545A520	6.56
M18	19.0	34.0	2.7-3.3	5	91545A530	8.71
M20	21.0	37.0	2.7-3.3	5	91545A540	9.80
Delrin® Acetal Resin—Color is white						
M2	2.2	5.0	0.7-0.9	10	95647A151	9.00
M3	3.2	8.0	0.7-0.9	10	95647A152	9.00
M4	4.3	9.0	0.7-0.9	10	95647A153	9.00
M5	5.3	11.0	0.8-1.2	10	95647A154	9.00

Screw Size	ID, mm	OD, mm	Thick., Min.-Max., mm	Pkg. Qty.		Pkg.
Delrin® Acetal Resin—Color is white (Cont.)						
M6	6.4	12.0	1.4-1.8	10	95647A155	$9.00
M7	7.4	15.0	1.4-1.8	10	95647A156	9.00
M8	8.4	18.0	2.1-2.6	10	95647A157	9.40
M10	10.5	22.0	2.1-2.6	10	95647A158	9.80
M12	13.1	25.0	2.1-2.6	10	95647A159	9.80
M14	15.1	28.0	2.1-2.6	10	95647A161	10.20
M16	17.1	29.7	2.7-3.3	5	95647A162	9.50
M18	19.1	33.7	2.7-3.3	5	95647A163	9.67
M20	21.1	36.7	2.7-3.3	5	95647A164	10.00
Polycarbonate—Color is clear						
M2	2.1	4.0	0.4-0.6	50	90940A411	8.25
M3	3.3	8.0	0.7-0.9	50	90940A412	9.25
M4	4.5	10.0	0.7-0.9	50	90940A413	9.75
M5	5.5	12.0	0.7-0.9	50	90940A414	11.00
M6	6.5	13.0	0.9-1.1	50	90940A415	13.00
M8	8.5	18.0	1.4-1.8	25	90940A416	11.63
M10	10.5	22.0	1.4-1.8	10	90940A417	10.35
M12	13.0	24.0	2.2-2.8	10	90940A418	10.95
PVC—Color is gray except M2, M16, and M20 are white						
M2	2.1	5.0	0.7-0.9	10	95611A102	9.00
M3	3.2	7.0	0.4-0.6	10	95611A113	6.92
M4	4.2	10.0	0.9-1.1	10	95611A114	8.08
M5	5.2	12.0	0.9-1.1	10	95611A115	9.20
M6	6.2	13.0	1.3-1.7	10	95611A116	12.56
M8	8.2	18.0	1.3-1.7	5	95611A118	8.08
M10	10.5	22.0	1.8-2.2	5	95611A111	9.20
M12	13.0	24.0	1.8-2.2	5	95611A112	9.76
M16	17.0	30.0	2.8-3.5	5	95611A106	8.00
M20	21.0	37.0	2.8-3.5	5	95611A121	8.00

(Continued on following page)

Plastic Washers *(Continued from previous page)*

Metric (Cont.)

Screw Size	ID, mm	OD, mm	Thick., Min.-Max., mm	Pkg. Qty.		Pkg.
Polypropylene—Color is off-white						
M2	2.2	5.0	0.7-0.9	10	98594A311	$7.03
M3	3.2	8.0	0.7-0.9	10	98594A312	7.26
M4	4.3	9.0	0.7-1.0	10	98594A412	7.42
M5	5.3	10.0	0.9-1.2	10	98594A413	7.82
M6	6.4	12.5	1.4-1.9	10	98594A414	7.94
M7	7.4	16.0	1.4-1.7	10	98594A313	7.50
M8	8.4	17.0	1.4-1.9	10	98594A415	9.98
M10	10.5	21.0	1.7-2.3	5	98594A416	7.36
M12	13.0	24.0	2.2-2.8	5	98594A417	8.17
M14	15.1	28.0	2.2-2.5	5	98594A418	8.16
M16	17.0	30.0	3.0-3.3	5	98594A419	8.00
M18	19.0	34.0	3.0-3.3	5	98594A421	8.25
M20	21.2	37.0	3.0-3.3	5	98594A422	8.95
PTFE—Color is white						
M2	2.2	5.0	0.7-0.9	50	95630A610	8.00
M3	3.2	8.0	0.7-0.9	50	95630A620	8.50
M4	4.3	9.0	0.7-0.9	50	95630A630	9.25
M5	5.3	11.0	0.9-1.1	25	95630A640	5.88
M6	6.4	12.0	1.4-1.8	25	95630A650	7.38
M7	7.4	14.0	1.4-1.8	25	95630A660	8.50
M8	8.4	18.0	1.9-2.2	10	95630A670	4.85
M10	10.5	22.0	2.4-2.7	5	95630A680	9.25
M12	13.0	24.0	2.4-2.7	5	95630A690	9.25
M14	15.0	30.0	2.7-3.3	5	95630A710	9.38
M16	17.0	30.0	2.7-3.3	5	95630A720	9.38
M18	19.0	34.0	2.7-3.3	5	95630A730	10.88
M20	21.0	37.0	2.7-3.3	5	95630A740	12.50

Screw Size	ID, mm	OD, mm	Thick., Min.-Max., mm	Pkg. Qty.		Pkg.
UHMW Polyethylene—Color is off-white						
M2	2.1	5.0	0.7-0.9	10	95649A310	$11.17
M3	3.2	8.0	0.7-0.9	10	95649A320	11.50
M4	4.3	9.0	0.7-0.9	10	95649A330	11.67
M5	5.3	11.0	0.9-1.1	10	95649A340	12.17
M6	6.4	12.0	1.5-1.7	5	95649A350	6.58
M7	7.4	14.0	1.5-1.7	5	95649A360	7.00
M8	8.4	18.0	1.9-2.1	5	95649A110	7.08
M10	10.5	22.0	2.2-2.5	5	95649A370	6.33
M12	13.0	24.0	2.2-2.5	5	95649A380	6.67
M14	15.0	30.0	3.0-3.3	1	95649A390	2.70
M16	17.0	30.0	3.0-3.3	1	95649A410	2.70
M18	19.0	34.0	3.0-3.3	1	95649A420	2.92
M20	21.0	37.0	3.0-3.3	1	95649A430	3.08
Hard Fiber—Color is black						
M2.5	2.7	6.5	0.4-0.6	100	95225A310	13.48
M3	3.2	7.0	0.4-0.6	100	95225A315	12.87
M4	4.3	9.0	0.7-0.9	100	95225A320	13.84
M6	6.4	12.5	1.4-1.7	100	95225A325	16.49
M8	8.4	17.0	1.4-1.7	100	95225A330	16.33
M10	10.5	21.0	1.8-2.2	50	95225A335	11.45
M12	13.0	24.0	2.1-2.5	50	95225A340	12.41
M16	17.0	30.0	2.1-2.5	50	95225A345	16.05
M20	21.0	37.0	2.1-2.5	25	95225A350	12.21
M24	25.0	44.0	2.8-3.5	10	95225A355	9.40
M30	31.0	56.0	2.8-3.6	10	95225A360	11.12

Other Metric Materials

Material	Choose a Screw Size	Color	
PEEK	M2 to M20—Dimensions are the same as Nylatron on previous page.	Tan	93785A200
Phenolic	M2 to M6—Dimensions are the same as Delrin® Acetal Resin on previous page.	Red-Brown to Yellow-Brown	91225A110
Fiberglass	M2 to M6—Dimensions are the same as Delrin® Acetal Resin on previous page.	Light-Green to Light-Tan	93493A310

Assortment—Furnished in a compartmented plastic case with lid chart to identify washers. Washers are off-white.

Material	Screw Sizes Included	No. of Washers		
Nylon	No. 4, No. 6, No. 8, No. 10, 1/4", 5/16", 3/8"	1,050	98740A080	$38.62

Split Lock Washers

Split lock washers prevent bolted joints from loosening under small amounts of vibration. As a screw is tightened, these washers are forced into a flat shape, which adds tension to your joint for a tight hold. **Metric** washers meet DIN 127B, except high-visibility blue steel washers do not.



Screw Size	ID	OD	Thick.
Inch			
No. 0	0.062"	0.137"	0.015"
No. 1	0.075"	0.150"	0.015"
No. 2	0.094"	0.172"	0.020"
No. 3	0.107"	0.195"	0.025"
No. 4	0.120"	0.209"	0.025"
No. 5	0.133"	0.236"	0.031"
No. 6	0.148"	0.250"	0.031"
No. 8	0.174"	0.293"	0.040"
No. 10	0.200"	0.334"	0.047"
No. 12	0.227"	0.377"	0.056"
1/4"	0.260"	0.487"	0.062"
5/16"	0.322"	0.583"	0.078"

Screw Size	ID	OD	Thick.
Inch (Cont.)			
3/8"	0.385"	0.680"	0.094"
7/16"	0.450"	0.776"	0.109"
1/2"	0.512"	0.869"	0.125"
9/16"	0.574"	0.965"	0.141"
5/8"	0.641"	1.073"	0.156"
3/4"	0.766"	1.265"	0.188"
7/8"	0.894"	1.459"	0.219"
1"	1.024"	1.656"	0.250"
1 1/8"	1.153"	1.847"	0.281"
1 1/4"	1.280"	2.036"	0.312"
1 3/8"	1.408"	2.219"	0.344"
1 1/2"	1.534"	2.419"	0.375"

Screw Size	ID	OD	Thick.
Inch (Cont.)			
1 5/8"	1.663"	2.553"	0.389"
1 3/4"	1.789"	2.679"	0.389"
2"	2.039"	2.936"	0.422"
Metric—Dimensions in mm			
M2	2.4	4.4	0.4
M2.5	2.9	5.1	0.5
M2.6	3.0	5.2	0.5
M3	3.4	6.2	0.7
M3.5	3.9	6.7	0.7
M4	4.4	7.6	0.8
M5	5.4	9.2	1.1
M6	6.5	11.8	1.5

Screw Size	ID	OD	Thick.
Metric—Dimensions in mm (Cont.)			
M8	8.5	14.8	1.9
M10	10.7	18.1	2.0
M12	12.7	21.1	2.3
M14	14.7	24.1	2.8
M16	17.0	27.4	3.3
M18	19.0	29.4	3.3
M20	21.2	33.6	3.8
M24	25.5	40.0	4.8
M30	31.7	48.2	5.8
M36	37.7	58.2	5.8

Screw Size	Pkg. Qty.		Pkg.
316 Stainless Steel			
No. 0	100	92147A111	$8.62
No. 2	100	92147A410	2.21
No. 2	1,000	92147A003	15.38
No. 4	100	92147A415	2.50
No. 4	1,000	92147A005	17.32
No. 5	100	92147A112	3.91
No. 6	100	92147A420	2.67
No. 6	1,000	92147A007	18.50
No. 8	100	92147A425	3.13
No. 8	1,000	92147A009	21.29
No. 10	100	92147A430	3.19
No. 10	1,000	92147A011	22.61
No. 12	100	92147A113	10.16
1/4"	100	92147A029	4.57
5/16"	100	92147A030	7.51
3/8"	50	92147A031	5.88
7/16"	25	92147A032	6.53

Screw Size	Pkg. Qty.		Pkg.
316 Stainless Steel (Cont.)			
1/2"	25	92147A033	$5.75
9/16"	25	92147A034	13.51
5/8"	10	92147A035	4.74
3/4"	10	92147A036	8.49
7/8"	5	92147A037	7.81
1"	5	92147A038	11.93
1 1/8"	1	92147A039	4.17
1 1/4"	1	92147A040	4.57
1 1/2"	1	92147A041	9.56
M2	100	92153A406	3.34
M2.5	100	92153A411	3.49
M3	100	92153A416	2.44
M3.5	100	92153A451	6.50
M4	100	92153A418	2.71
M5	100	92153A422	3.46
M6	100	92153A426	5.12
M8	100	92153A429	8.59

Screw Size	Pkg. Qty.		Pkg.
316 Stainless Steel (Cont.)			
M10	50	92153A434	$6.70
M12	50	92153A436	9.85
M14	25	92153A439	9.48
M16	10	92153A442	5.67
M18	10	92153A445	6.26
M20	10	92153A447	10.60
M24	5	92153A449	7.85
M30	1	92153A453	5.13
18-8 Stainless Steel			
No. 0	100	92146A510	3.93
No. 0	1,000	92146A001	27.51
No. 1	100	92146A515	3.78
No. 1	1,000	92146A002	27.70
No. 2	100	92146A520	1.52
No. 2	1,000	92146A003	10.62
No. 3	100	92146A525	1.58
No. 3	1,000	92146A004	11.05

Screw Size	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
No. 4	100	92146A530	$1.52
No. 4	1,000	92146A005	10.65
No. 5	100	92146A535	1.64
No. 5	1,000	92146A006	11.15
No. 6	100	92146A540	1.53
No. 6	1,000	92146A007	10.30
No. 8	100	92146A545	1.66
No. 8	1,000	92146A009	11.18
No. 10	100	92146A550	2.02
No. 10	1,000	92146A011	13.76
No. 12	100	92146A013	2.36
1/4"	100	92146A029	3.48
5/16"	100	92146A030	5.08
3/8"	100	92146A031	7.58
7/16"	50	92146A032	5.80
1/2"	50	92146A033	7.40
9/16"	25	92146A066	6.78

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Split Lock Washers *(Continued from previous page)*

Screw Size	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
5/8"	25	92146A035	$7.52
3/4"	10	92146A036	5.57
7/8"	5	92146A037	5.41
1"	5	92146A038	7.96
1 1/8"	1	92146A039	3.21
1 1/4"	1	92146A040	4.21
1 3/8"	1	92146A050	6.21
1 1/2"	1	92146A041	7.07
1 3/4"	1	92146A043	12.47
2"	1	92146A049	20.84
M2	100	92148A050	1.18
M2.5	100	92148A070	1.24
M2.6	100	92148A110	2.44
M3	100	92148A150	.99
M3.5	100	92148A155	1.59
M4	100	92148A160	1.62
M5	100	92148A170	2.35
M6	100	92148A180	3.56
M8	100	92148A200	7.20
M10	100	92148A210	9.39
M12	50	92148A214	9.07
M14	25	92148A221	7.83
M16	25	92148A241	9.79
M18	10	92148A251	6.30

Screw Size	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)			
M20	10	92148A261	$6.54
M24	10	92148A271	11.17
M30	1	92148A281	2.97
M36	1	92148A291	4.39
Zinc Yellow-Chromate Plated High-Strength Grade 8 Steel			
1/4"	100	91104A029	2.22
5/16"	100	91104A030	3.63
3/8"	100	91104A031	5.19
7/16"	100	91104A032	7.44
1/2"	100	91104A033	11.15
9/16"	50	91104A034	8.00
5/8"	50	91104A035	10.20
3/4"	25	91104A047	9.11
7/8"	10	91104A048	5.13
1"	10	91104A049	7.72
Zinc-Plated Steel			
No. 2	100	91102A710	1.69
No. 2	1,000	91102A003	11.83
No. 3	100	91102A715	1.14
No. 3	1,000	91102A004	7.98
No. 4	100	91102A720	.53
No. 4	1,000	91102A005	3.71
No. 5	100	91102A725	.60

Screw Size	Pkg. Qty.		Pkg.
Zinc-Plated Steel (Cont.)			
No. 5	1,000	91102A006	$4.20
No. 6	100	91102A730	.62
No. 6	1,000	91102A007	4.41
No. 8	100	91102A735	.87
No. 8	1,000	91102A009	6.09
No. 10	100	91102A740	1.10
No. 10	1,000	91102A011	7.70
No. 12	100	91102A745	1.51
No. 12	1,000	91102A013	10.57
1/4"	100	91102A750	1.74
1/4"	1,000	91102A029	12.18
5/16"	100	91102A755	2.73
5/16"	1,000	91102A030	19.11
3/8"	100	91102A760	4.42
3/8"	1,000	91102A031	31.01
7/16"	100	91102A765	6.58
7/16"	1,000	91102A032	46.06
1/2"	100	91102A770	10.18
1/2"	1,000	91102A033	71.05
9/16"	100	91102A034	12.62
5/8"	50	91102A035	9.24
3/4"	50	91102A036	12.67
7/8"	25	91102A037	11.11
1"	25	91102A038	14.17

Screw Size	Pkg. Qty.		Pkg.
Zinc-Plated Steel (Cont.)			
1 1/8"	10	91102A039	$9.11
1 1/4"	5	91102A040	6.76
1 3/8"	5	91102A056	9.70
1 1/2"	1	91102A041	2.03
1 3/4"	1	91102A044	7.84
2"	1	91102A047	5.30
M2	100	91202A214	2.06
M2.5	100	91202A218	2.06
M3	100	91202A222	1.38
M4	100	91202A226	1.38
M5	100	91202A230	1.72
M6	100	91202A234	2.06
M8	100	91202A238	3.79
M10	100	91202A242	5.22
M12	100	91202A246	8.06
M14	100	91202A250	11.86
M16	50	91202A253	9.08
M20	25	91202A257	8.72
M24	25	91202A261	13.16
M30	10	91202A263	8.97
M36	5	91202A265	7.85

Other Materials

Material	Choose a Screw Size	
Hot-Dipped Galvanized Steel	1/4" to 1 1/4"	95160A881
Black-Finish Steel	M2 to M36	91169A881
High-Visibility Blue Steel	M6 to M24	93279A220
Steel	No. 2 to 2"	91101A881

Material	Choose a Screw Size	
Aluminum	No. 6 to 3/4"	91013A881
Bronze	No. 2 to 3/4"	93496A881
Nickel-Copper Alloy K500	1/4" to 5/8"	91118A881

Assortments—Furnished in a compartmented case with lid chart to identify washers.

Material	Screw Sizes Included	No. of Washers	Case Material		
18-8 Stainless Steel	No. 8, No. 10, 1/4", 5/16", 3/8", 1/2"	350	Plastic	92155A320	$27.54
18-8 Stainless Steel	No. 4, No. 6, No. 8, No. 10, 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", 1"	1,350	Steel	92155A212	117.10
18-8 Stainless Steel—DIN 127B	M3, M4, M5, M6, M8, M10, M12, M14, M16, M20	755	Plastic	91170A409	88.45
Zinc-Plated Steel	No. 8, No. 10, 1/4", 5/16", 3/8", 1/2"	350	Plastic	91765A224	18.00
Zinc-Plated Steel	No. 4, No. 6, No. 8, No. 10, 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", 1"	1,350	Steel	91765A112	84.97
Black-Finish Steel—DIN 127B	M3, M4, M5, M6, M8, M10, M12, M14, M16, M20	755	Plastic	91170A109	52.56

Oversized Split Lock Washers



Compared to our other split lock washers, these have larger outside diameters and thicknesses. Use them to prevent bolted joints from loosening under small amounts of vibration. As a screw is tightened, split lock washers are forced into a flat shape, which adds tension to your joint for a tight hold.

Screw Size	ID	OD	Thick.	Pkg. Qty.		Pkg.
18-8 Stainless Steel						
No. 4	0.120"	0.223"	0.031"	100	91007A614	$3.47
No. 6	0.148"	0.266"	0.040"	100	91007A619	4.28
No. 8	0.174"	0.307"	0.047"	100	91007A623	6.27
No. 10	0.200"	0.350"	0.056"	100	91007A628	6.93
1/4"	0.260"	0.489"	0.077"	50	91007A632	8.80
5/16"	0.322"	0.593"	0.097"	50	91007A636	9.47
3/8"	0.385"	0.688"	0.115"	25	91007A641	8.25
1/2"	0.512"	0.879"	0.151"	10	91007A652	7.23

Screw Size	ID	OD	Thick.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)						
5/8"	0.641"	1.087"	0.189"	5	91007A676	$6.86
3/4"	0.766"	1.285"	0.226"	1	91007A681	5.29
Zinc Yellow-Chromate Plated High-Strength Grade 8 Steel						
1 1/8"	1.153"	1.903"	0.345"	5	91104A050	10.15
1 1/4"	1.280"	2.104"	0.384"	1	91104A055	2.77
1 3/8"	1.408"	2.301"	0.422"	1	91104A060	3.84
1 1/2"	1.534"	2.491"	0.458"	1	91104A065	4.75
2"	2.039"	3.144"	0.496"	1	91104A070	7.68

Mil. Spec. Split Lock Washers



Washers meet MS 35338. All are 300 series passivated stainless steel. As the fastener is tightened, the split lock washer is forced into a flat shape, which adds tension to your joint for a tight hold under small amounts of vibration.

Screw Size	Dash No.	ID	OD	Thick.	Pkg. Qty.		Pkg.
No. 2	134	0.094"	0.172"	0.020"	100	91475A015	$2.89
No. 4	135	0.120"	0.209"	0.025"	100	91475A018	2.80
No. 6	136	0.148"	0.250"	0.031"	100	91475A020	3.70
No. 8	137	0.174"	0.293"	0.040"	100	91475A025	5.69
No. 10	138	0.200"	0.334"	0.047"	100	91475A027	3.39
1/4"	139	0.260"	0.487"	0.062"	50	91475A029	5.42
5/16"	140	0.322"	0.583"	0.078"	25	91475A030	4.59
3/8"	141	0.385"	0.680"	0.094"	25	91475A031	5.94
1/2"	143	0.512"	0.869"	0.125"	10	91475A033	4.66
5/8"	145	0.641"	1.072"	0.156"	10	91475A035	8.60
3/4"	146	0.766"	1.264"	0.188"	5	91475A040	7.73

Nonmarring Diamond-Coated Lock Washers



Achieve the gripping power of a tooth lock washer without visibly damaging surfaces with these diamond-coated washers. The diamonds grip on to surfaces to keep bolted joints from loosening under vibration. Washers are reusable.

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
18-8 Stainless Steel						
1/4"	0.290"	0.625"	0.051"-0.080"	1	92035A210	$4.32
1/2"	0.563"	1.094"	0.080"-0.177"	1	92035A240	9.37
3/4"	0.844"	1.500"	0.122"-0.177"	1	92035A260	20.15
Steel						
5/16"	0.375"	0.719"	0.051"-0.080"	5	92035A120	7.50
3/8"	0.437"	0.844"	0.051"-0.080"	5	92035A130	8.52
1/2"	0.563"	1.094"	0.080"-0.177"	1	92035A140	2.79
5/8"	0.649"	1.344"	0.067"-0.123"	1	92035A150	4.06
3/4"	0.844"	1.500"	0.122"-0.177"	1	92035A160	6.09

Split Lock Washers for Socket Head Cap Screws

Also known as high-collar lock washers, these have smaller ODs than other split lock washers to fit neatly under socket head cap screws. As the socket head cap screw is tightened, the split washer is forced into a flat shape, which adds tension to your joint for a tight hold under small amounts of vibration. **Metric** washers meet DIN 7980.



Screw Size	ID	OD	Thick.	Pkg. Qty.		Pkg.
316 Stainless Steel						
Inch						
No. 2	0.094″	0.142″	0.022″	100	94241A210	$6.10
No. 4	0.120″	0.173″	0.022″	100	94241A220	8.74
No. 5	0.133″	0.202″	0.030″	100	94241A230	3.40
No. 6	0.148″	0.216″	0.030″	100	94241A240	3.60
No. 8	0.174″	0.267″	0.047″	100	94241A250	3.72
No. 10	0.200″	0.294″	0.047″	100	94241A260	3.80
1/4″	0.260″	0.363″	0.078″	100	94241A270	8.00
5/16″	0.322″	0.457″	0.093″	50	94241A280	5.60
3/8″	0.385″	0.550″	0.125″	50	94241A290	9.50
7/16″	0.450″	0.644″	0.140″	25	94241A310	6.95
1/2″	0.512″	0.733″	0.172″	10	94241A320	4.10
5/8″	0.641″	0.917″	0.203″	10	94241A330	8.20
3/4″	0.766″	1.105″	0.218″	5	94241A340	6.42
7/8″	0.894″	1.291″	0.234″	1	94241A350	2.18
1″	1.024″	1.478″	0.250″	1	94241A360	3.04
1 1/4″	1.280″	1.790″	0.313″	1	94241A370	5.16
1 1/2″	1.534″	2.159″	0.375″	1	94241A380	9.80
Metric—Dimensions in millimeters						
M3	3.4	5.6	0.9	100	94241A510	4.50
M4	4.4	7.0	1.1	100	94241A520	4.00
M5	5.4	8.8	1.5	100	94241A530	5.50
M6	6.5	9.9	1.5	100	94241A540	6.00
M8	8.5	12.7	1.9	50	94241A550	7.00
M10	10.7	16.0	2.3	50	94241A560	10.25
M12	12.7	18.0	2.3	25	94241A570	8.38
M14	14.7	21.1	2.8	10	94241A580	4.50
M16	17.0	24.4	3.3	10	94241A590	6.50
M18	19.0	26.4	3.3	10	94241A610	8.50
M20	21.2	30.6	4.3	1	94241A620	3.00
M22	23.5	32.9	4.3	1	94241A630	2.00
M24	25.5	35.9	4.8	1	94241A640	2.05
M30	31.7	44.1	5.8	1	94241A650	11.00
18-8 Stainless Steel						
Inch						
No. 2	0.094″	0.142″	0.022″	100	98437A180	3.40
No. 4	0.120″	0.173″	0.022″	100	98437A102	2.68
No. 5	0.133″	0.202″	0.030″	100	98437A160	3.19
No. 6	0.148″	0.216″	0.030″	100	98437A104	2.76
No. 8	0.174″	0.267″	0.047″	100	98437A106	3.76
No. 10	0.200″	0.294″	0.047″	100	98437A108	5.60
No. 12	0.227″	0.331″	0.078″	100	98437A190	8.19
1/4″	0.260″	0.363″	0.078″	100	98437A110	8.02
5/16″	0.322″	0.457″	0.093″	50	98437A112	7.55
3/8″	0.385″	0.550″	0.125″	50	98437A115	10.18
7/16″	0.450″	0.644″	0.140″	50	98437A170	10.77
1/2″	0.512″	0.733″	0.172″	25	98437A130	8.66
5/8″	0.641″	0.917″	0.203″	10	98437A135	8.60
3/4″	0.766″	1.105″	0.218″	10	98437A140	10.26
7/8″	0.894″	1.291″	0.234″	5	98437A150	10.11
1″	1.024″	1.478″	0.250″	1	98437A210	3.80
Metric—Dimensions in millimeters						
M3	3.4	5.6	0.9	100	91111A118	1.62
M3.5	3.9	6.1	0.9	100	91111A119	2.50
M4	4.4	7.0	1.1	100	91111A121	2.10
M5	5.4	8.8	1.5	100	91111A124	2.90
M6	6.5	9.9	1.5	100	91111A129	3.33
M8	8.5	12.7	1.9	100	91111A132	7.00

Screw Size	ID	OD	Thick.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)						
Metric—Dimensions in millimeters (Cont.)						
M10	10.7	16.0	2.3	100	91111A135	$12.67
M12	12.7	18.0	2.3	100	91111A138	14.24
M14	14.7	21.1	2.8	10	91111A141	5.72
M16	17.0	24.4	3.3	10	91111A143	6.67
M18	19.0	26.4	3.3	10	91111A145	6.67
M20	21.2	30.6	4.3	10	91111A147	11.90
M22	23.5	32.9	4.3	5	91111A149	11.90
M24	25.5	35.9	4.8	5	91111A151	8.10
M30	31.7	44.1	5.8	1	91111A155	5.71
Black-Oxide 18-8 Stainless Steel						
Inch						
No. 4	0.120″	0.173″	0.022″	100	93711A100	7.53
No. 6	0.148″	0.216″	0.030″	100	93711A200	7.62
No. 8	0.174″	0.267″	0.047″	100	93711A300	8.62
No. 10	0.200″	0.294″	0.047″	50	93711A400	8.41
1/4″	0.260″	0.363″	0.078″	50	93711A500	10.38
5/16″	0.322″	0.457″	0.093″	25	93711A600	8.05
3/8″	0.385″	0.550″	0.125″	10	93711A700	5.44
1/2″	0.512″	0.733″	0.172″	10	93711A800	6.40
5/8″	0.641″	0.917″	0.203″	5	93711A900	10.31
3/4″	0.766″	1.105″	0.218″	1	93711A910	3.08
Black-Finish Steel						
Metric—Dimensions in millimeters						
M3	3.4	5.6	0.9	100	91190A510	2.72
M3.5	3.9	6.1	0.9	100	91190A515	2.77
M4	4.4	7.0	1.1	100	91190A520	2.72
M5	5.4	8.8	1.5	100	91190A530	3.27
M6	6.5	9.9	1.5	100	91190A540	3.82
M8	8.5	12.7	1.9	100	91190A550	4.36
M10	10.7	16.0	2.3	100	91190A560	7.64
M12	12.7	18.0	2.3	100	91190A570	8.19
M14	14.7	21.1	2.8	100	91190A580	9.09
M16	17.0	24.4	3.3	50	91190A590	12.00
M18	19.0	26.4	3.3	25	91190A600	7.32
M20	21.2	30.6	4.3	25	91190A610	7.70
M22	23.5	32.9	4.3	10	91190A620	7.93
M24	25.5	35.9	4.8	10	91190A630	5.17
M30	31.7	44.1	5.8	5	91190A670	7.76
Steel						
Inch						
No. 4	0.120″	0.173″	0.022″	100	90073A005	1.04
No. 5	0.133″	0.202″	0.030″	100	90073A006	.97
No. 6	0.148″	0.216″	0.030″	100	90073A007	1.37
No. 8	0.174″	0.267″	0.047″	100	90073A009	.88
No. 10	0.200″	0.294″	0.047″	100	90073A011	1.84
1/4″	0.260″	0.363″	0.078″	100	90073A029	2.02
5/16″	0.322″	0.457″	0.093″	100	90073A030	2.81
3/8″	0.385″	0.550″	0.125″	100	90073A231	5.27
7/16″	0.450″	0.644″	0.140″	100	90073A234	7.92
1/2″	0.512″	0.733″	0.172″	100	90073A237	11.56
5/8″	0.641″	0.917″	0.203″	50	90073A240	10.14
3/4″	0.766″	1.105″	0.218″	25	90073A243	7.13
7/8″	0.894″	1.291″	0.234″	25	90073A246	11.80
1″	1.024″	1.478″	0.250″	10	90073A038	6.16
1 1/4″	1.280″	1.790″	0.313″	10	90073A040	11.11
1 1/2″	1.534″	2.159″	0.375″	5	90073A042	12.16

External-Tooth Lock Washers for Countersunk Screws

The teeth on these washers firmly grip heads of 82° flat-head countersunk screws to prevent joints from loosening under vibration.

400 series stainless steel washers can also be used with 82° oval-head countersunk screws.



Screw Size	ID	OD	Thick., Min.-Max.	400 Series Stainless Steel Pkg. Qty.		Pkg.	Zinc-Plated Steel Pkg. Qty.		Pkg.
No. 4	0.113″	0.213″	0.015″-0.019″	—	—	—	50	90069A103	$10.38
No. 6	0.140″	0.289″	0.017″-0.021″	100	90900A007	$9.70	100	90069A105	6.32
No. 8	0.167″	0.322″	0.017″-0.021″	100	90900A009	12.83	100	90069A110	11.63
No. 10	0.195″	0.354″	0.020″-0.025″	25	90900A012	5.11	100	90069A115	15.30
No. 12	0.220″	0.421″	0.020″-0.025″	—	—	—	100	90069A120	19.38
1/4″	0.255″	0.454″	0.020″-0.025″	25	90900A030	6.59	100	90069A125	8.98
5/16″	0.318″	0.599″	0.023″-0.028″	—	—	—	100	90069A130	10.00
3/8″	0.383″	0.765″	0.028″-0.034″	—	—	—	25	90069A136	7.62
1/2″	0.512″	0.976″	0.037″-0.045″	—	—	—	10	90069A137	8.63

External-Tooth Lock Washers



Standard



Serrated

Teeth on the outside edge of the washers bite into your screw head and joint for a tighter grip against vibration and loosening than split lock washers. Use these washers with fasteners having heads large enough to make contact with the teeth, such as binding head, pan head, and round head screws.

Serrated washers have angled teeth for an even tighter hold.

Standard—Metric washers meet DIN 6797.

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
316 Stainless Steel						
No. 4	0.115″	0.260″	0.012″-0.018″	10	90375A005	$10.34
No. 6	0.141″	0.320″	0.016″-0.022″	10	90375A007	7.75
No. 8	0.168″	0.381″	0.018″-0.023″	10	90375A009	8.20
No. 10	0.195″	0.410″	0.018″-0.024″	10	90375A011	8.66
18-8 Stainless Steel						
No. 4	0.115″	0.260″	0.012″-0.018″	100	95584A200	2.03
No. 6	0.141″	0.320″	0.016″-0.022″	100	95584A201	2.09
No. 8	0.168″	0.381″	0.018″-0.023″	100	95584A203	2.36
No. 10	0.195″	0.410″	0.018″-0.024″	100	95584A205	2.47
1/4″	0.256″	0.510″	0.023″-0.028″	100	95584A207	3.31
5/16″	0.320″	0.610″	0.028″-0.034″	50	95584A209	4.11
3/8″	0.384″	0.694″	0.032″-0.040″	25	95584A211	3.90
Metric 18-8 Stainless Steel—Dimensions in millimeters						
M3	3.2	6.0	0.3-0.5	100	95060A320	2.75
M4	4.3	8.0	0.4-0.6	100	95060A330	2.87
M5	5.3	10.0	0.5-0.7	100	95060A350	3.53
M6	6.4	11.0	0.6-0.8	100	95060A360	3.68
M8	8.4	15.0	0.7-0.9	100	95060A390	6.61
M10	10.5	18.0	0.8-1.0	100	95060A400	7.57
M12	13.0	20.5	0.9-1.2	50	95060A411	6.92
M14	15.0	24.0	0.9-1.2	50	95060A420	9.77
M18	19.0	30.0	1.2-1.6	10	95060A440	5.89
M20	21.0	33.0	1.2-1.6	10	95060A450	6.13
400 Series Stainless Steel						
No. 2	0.096″	0.195″	0.010″-0.016″	100	98438A200	2.50
No. 3	0.102″	0.235″	0.010″-0.016″	100	98438A205	2.61
No. 4	0.115″	0.260″	0.012″-0.018″	100	98438A210	2.65
No. 5	0.129″	0.285″	0.014″-0.020″	100	98438A215	2.73
No. 6	0.141″	0.320″	0.016″-0.022″	100	98438A220	2.77
No. 8	0.168″	0.381″	0.018″-0.023″	100	98438A225	2.81
No. 10	0.195″	0.410″	0.018″-0.024″	100	98438A230	2.85
No. 12	0.221″	0.475″	0.020″-0.027″	100	98438A235	3.73
1/4″	0.256″	0.510″	0.023″-0.028″	100	98438A240	3.80
5/16″	0.320″	0.610″	0.028″-0.034″	100	98438A030	5.44
3/8″	0.384″	0.694″	0.032″-0.040″	50	98438A031	3.86
7/16″	0.448″	0.760″	0.032″-0.040″	50	98438A032	6.15
1/2″	0.513″	0.900″	0.037″-0.045″	25	98438A033	3.78
5/8″	0.641″	1.070″	0.042″-0.050″	25	98438A035	6.11
3/4″	0.768″	1.260″	0.047″-0.055″	25	98438A036	9.61
Zinc-Plated Steel						
No. 2	0.086″	0.195″	0.010″-0.016″	100	91114A003	7.87
No. 3	0.102″	0.235″	0.010″-0.016″	100	91114A004	6.19
Zinc-Plated Steel (Cont.)						
No. 4	0.115″	0.260″	0.012″-0.018″	100	91114A005	$4.01
No. 5	0.129″	0.285″	0.014″-0.020″	100	91114A006	5.40
No. 6	0.141″	0.320″	0.016″-0.022″	100	91114A007	1.84
No. 8	0.168″	0.381″	0.018″-0.023″	100	91114A009	2.92
No. 10	0.195″	0.410″	0.018″-0.024″	100	91114A011	3.16
No. 12	0.221″	0.475″	0.020″-0.027″	100	91114A013	7.39
1/4″	0.256″	0.510″	0.023″-0.028″	100	91114A029	2.59
5/16″	0.320″	0.610″	0.028″-0.034″	100	91114A030	11.40
3/8″	0.384″	0.694″	0.032″-0.040″	100	91114A031	11.66
7/16″	0.448″	0.760″	0.032″-0.040″	100	91114A032	23.81
1/2″	0.513″	0.900″	0.037″-0.045″	100	91114A033	13.13
9/16″	0.576″	0.985″	0.037″-0.045″	25	91114A034	10.57
5/8″	0.641″	1.070″	0.042″-0.050″	50	91114A035	11.27
3/4″	0.768″	1.260″	0.047″-0.055″	25	91114A036	9.76
7/8″	0.897″	1.410″	0.052″-0.060″	25	91114A037	10.60
1″	1.025″	1.620″	0.059″-0.067″	10	91114A038	7.03
Metric Zinc-Plated Steel—Dimensions in millimeters						
M3	3.2	6.0	0.3-0.5	100	97985A520	1.57
M4	4.3	8.0	0.4-0.6	100	97985A530	2.07
M5	5.3	10.0	0.5-0.7	100	97985A550	2.20
M6	6.4	11.0	0.6-0.8	100	97985A560	2.35
M8	8.4	15.0	0.7-0.9	100	97985A590	4.86
M10	10.5	18.0	0.8-1.0	50	97985A600	4.28
M12	13.0	20.5	0.9-1.2	25	97985A611	3.14
M14	15.0	24.0	0.9-1.2	25	97985A620	4.29
M16	17.0	26.0	1.0-1.4	25	97985A630	4.00
M18	19.0	30.0	1.2-1.6	5	97985A640	3.21
M20	21.0	33.0	1.2-1.6	5	97985A650	3.17
M24	25.0	38.0	1.3-1.7	5	97985A660	4.86
Bronze						
No. 4	0.115″	0.260″	0.012″-0.018″	100	92164A005	2.83
No. 6	0.141″	0.320″	0.016″-0.022″	100	92164A007	3.22
No. 8	0.168″	0.381″	0.018″-0.023″	100	92164A009	4.14
No. 10	0.195″	0.410″	0.018″-0.024″	100	92164A011	5.16
1/4″	0.256″	0.510″	0.023″-0.028″	100	92164A029	6.54
5/16″	0.320″	0.610″	0.028″-0.034″	50	92164A030	6.62
3/8″	0.384″	0.694″	0.032″-0.040″	25	92164A031	4.47
7/16″	0.448″	0.760″	0.032″-0.040″	25	92164A032	7.16
1/2″	0.513″	0.900″	0.037″-0.045″	25	92164A033	8.80
5/8″	0.641″	1.070″	0.042″-0.050″	10	92164A040	7.47

Serrated—Meets DIN 6798.

Screw Size	ID, mm	OD, mm	Thick. Min.-Max., mm	Pkg. Qty.		Pkg.
Metric 18-8 Stainless Steel						
M3	3.2	6.0	0.3-0.5	100	91120A120	$2.28
M4	4.3	8.0	0.4-0.6	100	91120A130	2.75
M5	5.3	10.0	0.5-0.7	100	91120A140	3.50
M6	6.4	11.0	0.6-0.8	100	91120A160	3.87
M8	8.4	15.0	0.7-0.9	100	91120A180	7.98
M10	10.5	18.0	0.8-1.0	100	91120A200	12.28
M12	13.0	20.5	0.9-1.2	50	91120A211	8.34
M16	17.0	26.0	1.0-1.4	50	91120A235	11.23
M20	21.0	33.0	1.2-1.5	10	91120A241	5.60
M24	25.0	38.0	1.4-1.6	10	91120A245	7.99
Metric Zinc-Plated Steel						
M3	3.2	6.0	0.4-0.5	100	97985A720	$2.20
M4	4.3	8.0	0.5-0.6	100	97985A730	1.64
M5	5.3	10.0	0.6-0.7	100	97985A740	2.40
M6	6.4	11.0	0.7-0.8	100	97985A760	2.80
M8	8.4	15.0	0.8-0.9	100	97985A780	4.91
M10	10.5	18.0	0.9-1.0	50	97985A800	3.79
M12	13.0	20.5	1.0-1.2	50	97985A810	5.05

Internal/External Tooth Lock Washers



The combination of internal and external teeth boosts your gripping power to maintain a tight hold of bolted joints under vibration. Made from zinc-plated steel.

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
No. 4	0.116″	0.478″	0.016″-0.018″	50	95795A005	$8.61
No. 6	0.142″	0.506″	0.023″-0.027″	50	95795A006	8.10
No. 8	0.168″	0.506″	0.023″-0.027″	100	95795A007	6.83
No. 10	0.195″	0.601″	0.027″-0.031″	100	95795A012	11.99
1/4″	0.256″	0.760″	0.033″-0.037″	100	95795A020	13.31
5/16″	0.320″	0.898″	0.033″-0.037″	50	95795A024	12.24
3/8″	0.384″	0.985″	0.037″-0.041″	50	95795A030	12.76
7/16″	0.448″	1.070″	0.043″-0.047″	10	95795A032	7.06
1/2″	0.512″	1.260″	0.048″-0.052″	25	95795A035	11.88
9/16″	0.576″	1.410″	0.053″-0.057″	10	95795A046	7.68
5/8″	0.640″	1.620″	0.060″-0.064″	5	95795A053	8.26

Internal-Tooth Lock Washers for Soft Materials



Slightly domed with an oversized OD, these washers distribute your fastener's load over a larger surface area than other internal-tooth lock washers to limit damage to soft materials. Internal teeth dig in to your screw head to prevent bolted joints from loosening under vibration. Made from zinc-plated steel.

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
No. 6	0.146″	0.569″	0.023″-0.027″	10	97527A001	$4.88
No. 8	0.168″	0.569″	0.023″-0.027″	10	97527A003	10.15
No. 10	0.195″	0.569″	0.027″-0.031″	10	97527A005	2.21
1/4″	0.256″	0.698″	0.048″-0.052″	5	97527A007	5.14
5/16″	0.320″	0.885″	0.060″-0.064″	5	97527A009	9.29
3/8″	0.384″	1.010″	0.060″-0.064″	5	97527A011	7.60

Internal-Tooth Lock Washers

Internal teeth dig in to your screw head to resist loosening while the smooth outside edge won't snag objects. These washers provide greater vibration resistance than split lock washers. They're good for use with fasteners having small heads, such as high-profile fillister and cheese head screws. **Metric** washers meet DIN 6797.



Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
316 Stainless Steel						
No. 4	0.115″	0.270″	0.012″-0.018″	5	91108A110	$4.11
No. 6	0.141″	0.295″	0.016″-0.022″	5	91108A140	7.88
No. 8	0.168″	0.340″	0.018″-0.023″	5	91108A220	8.32
No. 10	0.195″	0.381″	0.018″-0.024″	5	91108A250	17.57
1/4″	0.256″	0.478″	0.023″-0.028″	5	91108A330	10.27
5/16″	0.320″	0.610″	0.028″-0.034″	5	91108A360	11.81
3/8″	0.384″	0.692″	0.032″-0.040″	5	91108A440	9.11
18-8 Stainless Steel						
No. 4	0.115″	0.270″	0.012″-0.018″	100	91757A101	2.67
No. 6	0.141″	0.295″	0.016″-0.022″	100	91757A103	2.74
No. 8	0.168″	0.340″	0.018″-0.023″	100	91757A105	3.10
No. 10	0.195″	0.381″	0.018″-0.024″	100	91757A107	3.23
1/4″	0.256″	0.478″	0.023″-0.028″	100	91757A109	4.33
5/16″	0.320″	0.610″	0.028″-0.034″	50	91757A111	5.39
3/8″	0.384″	0.692″	0.032″-0.040″	25	91757A113	5.11
1/2″	0.512″	0.900″	0.037″-0.045″	10	91757A117	5.96
9/16″	0.576″	0.985″	0.037″-0.045″	10	91757A122	7.66
5/8″	0.640″	1.071″	0.042″-0.050″	10	91757A128	10.32
3/4″	0.769″	1.245″	0.047″-0.055″	5	91757A131	6.96
Metric 18-8 Stainless Steel—Dimensions in millimeters						
M2	2.2	4.5	0.2-0.4	100	93925A210	3.12
M2.5	2.7	5.5	0.2-0.5	100	93925A220	3.46
M3	3.2	6.0	0.3-0.5	100	93925A240	2.27
M4	4.3	8.0	0.4-0.6	100	93925A250	2.40
M5	5.3	10.0	0.5-0.7	100	93925A260	3.10
M6	6.4	11.0	0.6-0.8	100	93925A270	3.24
M8	8.4	15.0	0.7-0.9	100	93925A280	5.55
M10	10.5	18.0	0.8-1.0	50	93925A290	4.69
M12	13.0	20.5	0.9-1.2	50	93925A300	5.89
M14	15.0	24.0	0.9-1.2	25	93925A310	5.69
M16	17.0	26.0	1.0-1.4	25	93925A320	5.95
M18	19.0	30.0	1.2-1.5	10	93925A330	4.94
M20	21.0	33.0	1.2-1.5	10	93925A340	5.12
400 Series Stainless Steel						
No. 2	0.089″	0.200″	0.010″-0.016″	100	98449A500	2.33
No. 3	0.102″	0.232″	0.010″-0.016″	100	98449A505	2.43
No. 4	0.115″	0.270″	0.012″-0.018″	100	98449A510	2.46
No. 5	0.129″	0.280″	0.014″-0.020″	100	98449A515	3.31
No. 6	0.141″	0.295″	0.016″-0.022″	100	98449A520	2.59
No. 8	0.168″	0.340″	0.018″-0.023″	100	98449A525	2.62
No. 10	0.195″	0.381″	0.018″-0.024″	100	98449A530	2.65
No. 12	0.221″	0.410″	0.020″-0.027″	100	98449A535	3.47
1/4″	0.256″	0.478″	0.023″-0.028″	100	98449A540	3.54
5/16″	0.320″	0.610″	0.028″-0.034″	100	98449A030	4.95
3/8″	0.384″	0.692″	0.032″-0.040″	100	98449A031	6.20
7/16″	0.448″	0.789″	0.032″-0.040″	100	98449A032	10.63
1/2″	0.512″	0.900″	0.037″-0.045″	50	98449A033	6.14
9/16″	0.576″	0.985″	0.037″-0.045″	50	98449A034	12.71
5/8″	0.640″	1.071″	0.042″-0.050″	50	98449A035	10.42
3/4″	0.769″	1.245″	0.047″-0.055″	25	98449A036	8.68
Zinc-Plated High-Strength Grade 8 Steel						
1/4″	0.256″	0.536″	0.034″-0.044″	100	91150A110	13.48
5/16″	0.320″	0.607″	0.040″-0.050″	50	91150A113	11.00
3/8″	0.384″	0.747″	0.040″-0.050″	25	91150A114	12.67
Zinc-Plated High-Strength Grade 8 Steel (Cont.)						
1/2″	0.512″	0.923″	0.054″-0.070″	10	91150A120	$12.20
5/8″	0.640″	1.134″	0.054″-0.070″	5	91150A126	9.18
3/4″	0.768″	1.260″	0.073″-0.083″	5	91150A130	10.47
Zinc-Plated Steel						
No. 2	0.089″	0.200″	0.010″-0.016″	100	91113A003	3.94
No. 3	0.102″	0.232″	0.010″-0.016″	100	91113A004	4.77
No. 4	0.115″	0.270″	0.012″-0.018″	100	91113A005	2.62
No. 5	0.129″	0.280″	0.014″-0.020″	100	91113A006	4.76
No. 6	0.141″	0.295″	0.016″-0.022″	100	91113A007	2.33
No. 8	0.168″	0.340″	0.018″-0.023″	100	91113A009	2.67
No. 10	0.195″	0.381″	0.018″-0.024″	100	91113A011	1.86
No. 12	0.221″	0.410″	0.020″-0.027″	100	91113A013	2.80
1/4″	0.256″	0.478″	0.023″-0.028″	100	91113A029	4.58
5/16″	0.320″	0.610″	0.028″-0.034″	100	91113A030	4.85
3/8″	0.384″	0.692″	0.032″-0.040″	100	91113A031	5.38
7/16″	0.448″	0.789″	0.032″-0.040″	100	91113A032	8.13
1/2″	0.512″	0.900″	0.037″-0.045″	100	91113A033	11.35
9/16″	0.576″	0.985″	0.037″-0.045″	50	91113A034	11.47
5/8″	0.640″	1.071″	0.042″-0.050″	50	91113A035	11.54
3/4″	0.769″	1.245″	0.047″-0.055″	25	91113A036	7.02
7/8″	0.894″	1.410″	0.052″-0.060″	25	91113A037	10.11
1″	1.019″	1.637″	0.059″-0.067″	10	91113A038	6.41
1 1/8″	1.144″	1.830″	0.059″-0.067″	10	91113A039	7.02
1 1/4″	1.275″	1.975″	0.059″-0.067″	5	91113A040	9.55
1 3/8″	1.394″	1.950″	0.060″-0.064″	1	91113A051	4.20
1 1/2″	1.500″	2.515″	0.076″-0.080″	1	91113A063	8.85
Metric Black-Finish Steel—Dimensions in millimeters						
M2	2.2	4.5	0.2-0.4	100	91106A120	3.06
M2.5	2.7	5.5	0.2-0.5	100	91106A150	3.82
M2.6	2.8	5.5	0.3-0.5	100	91106A121	3.82
M3	3.2	6.0	0.3-0.5	100	91106A122	1.53
M3.5	3.7	7.0	0.4-0.6	100	91106A123	1.91
M4	4.3	8.0	0.4-0.6	100	91106A124	1.91
M5	5.3	10.0	0.5-0.7	100	91106A126	2.67
M6	6.4	11.0	0.6-0.8	100	91106A128	3.44
M8	8.4	15.0	0.7-0.9	100	91106A131	5.73
M10	10.5	18.0	0.8-1.0	50	91106A133	4.73
M12	13.0	20.5	0.9-1.2	50	91106A135	5.11
M14	15.0	24.0	0.9-1.2	25	91106A137	5.44
M16	17.0	26.0	1.0-1.4	25	91106A139	5.63
M18	19.0	30.0	1.2-1.5	10	91106A142	6.00
M20	21.0	33.0	1.2-1.5	10	91106A146	9.67
Bronze						
No. 2	0.089″	0.200″	0.010″-0.016″	100	92165A002	3.98
No. 4	0.115″	0.270″	0.012″-0.018″	100	92165A005	3.12
No. 6	0.141″	0.295″	0.016″-0.022″	100	92165A007	3.52
No. 8	0.168″	0.340″	0.018″-0.023″	100	92165A009	4.57
No. 10	0.195″	0.381″	0.018″-0.024″	100	92165A011	5.65
1/4″	0.256″	0.478″	0.023″-0.028″	100	92165A029	7.22
5/16″	0.320″	0.610″	0.028″-0.034″	50	92165A030	7.44
3/8″	0.384″	0.692″	0.032″-0.040″	50	92165A031	10.42
7/16″	0.448″	0.789″	0.032″-0.040″	25	92165A032	7.55
1/2″	0.512″	0.900″	0.037″-0.045″	25	92165A033	10.25
5/8″	0.640″	1.071″	0.042″-0.050″	5	92165A055	4.46

Assortment

Includes 700 internal-tooth and 635 external-tooth lock washers in a compartmented plastic case with lid chart to identify washers.

Material	Screw Sizes Included	No. of Washers		
Zinc-Plated Steel	No. 2, No. 4, No. 6, No. 8, No. 10, 1/4″, 5/16″, 3/8″, 1/2″	1,335	98651A192	$35.43

Mil. Spec. Tooth Lock Washers

Washers meet strict military standards. All are 410 stainless steel and provide greater resistance to vibration and loosening than split lock washers.

External-tooth washers bite into your screw head and joint. Use them with fasteners having heads large enough to make contact with the teeth on the outside edge, such as binding head, pan head, and round head screws.

Internal-tooth washers dig into your screw head while the smooth outside edge won't snag objects. They're good for use with fasteners having small heads, such as high-profile fillister and cheese head screws.



External Tooth



Internal Tooth

Screw Size	Dash No.	ID	OD	Thick., Min.-Max.		Pkg. of 25
External Tooth—MS 35335/NASM 35335						
No. 4	57	0.115″	0.260″	0.015″-0.019″	97775A110	$11.27
No. 6	58	0.141″	0.320″	0.016″-0.022″	97775A150	11.63
No. 8	59	0.168″	0.381″	0.018″-0.023″	97775A220	11.30
No. 10	60	0.195″	0.410″	0.020″-0.025″	97775A260	11.80
1/4″	61	0.256″	0.510″	0.023″-0.028″	97775A330	11.51
5/16″	62	0.320″	0.610″	0.028″-0.034″	97775A370	12.30
3/8″	63	0.384″	0.694″	0.032″-0.040″	97775A440	12.02

Screw Size	Dash No.	ID	OD	Thick., Min.-Max.		Pkg. of 25
Internal Tooth—MS 35333/NASM 35333						
No. 4	70	0.115″	0.270″	0.015″-0.019″	96551A550	$10.80
No. 6	71	0.141″	0.295″	0.017″-0.021″	96551A610	11.57
No. 8	72	0.168″	0.340″	0.018″-0.023″	96551A670	12.17
No. 10	73	0.195″	0.381″	0.020″-0.025″	96551A770	12.43
1/4″	74	0.256″	0.478″	0.023″-0.028″	96551A790	12.27

Belleville Spring Lock Washers

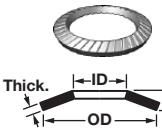

Also known as conical washers, these washers have a slightly cupped shape that gives them spring-like flexibility to grip joints tighter than split and tooth lock washers. Use them to prevent joints from loosening due to wear, temperature changes, and vibration. For Belleville disc springs, see pages 1294-1297.

Washers **for socket head cap screws** have small ODs to fit neatly under the heads of socket head cap screws. They are serrated on the top and bottom for extra gripping power.

Washers **for machine and hex head cap screws** have larger ODs to grip the heads on machine and hex head cap screws. *Inch steel* washers are serrated on the top for extra gripping power. *Metric* washers meet DIN 6796.

For Socket Head Cap Screws

Screw Size						18-8 Stainless Steel			Black-Finish Steel		
Inch	Metric	ID	OD	Thick.	O'all Ht.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
____	M2	0.087″	0.157″	0.014″	0.024″	50	90895A001	$11.03	100	93501A001	$6.86
____	M2.5	0.106″	0.189″	0.018″	0.035″	50	90895A003	11.03	100	93501A003	6.86
No. 5	M3	0.126″	0.217″	0.018″	0.035″	50	90895A005	11.03	100	93501A005	6.86
No. 6	M3.5	0.146″	0.236″	0.018″	0.035″	50	90895A007	9.65	100	93501A007	7.43
No. 8	M4	0.169″	0.276″	0.020″	0.039″	50	90895A009	11.03	100	93501A009	7.71
No. 10	M5	0.209″	0.354″	0.024″	0.043″	25	90895A027	11.03	100	93501A027	9.14
1/4″	M6	0.264″	0.374″	0.028″	0.047″	10	90895A029	9.00	100	93501A029	9.71
5/16″	M8	0.331″	0.512″	0.031″	0.055″	10	90895A030	8.71	100	93501A030	11.71
3/8″	M10	0.413″	0.630″	0.039″	0.063″	5	90895A031	7.38	100	93501A031	13.14
7/16″	M11	0.457″	0.626″	0.039″	0.063″	5	90895A111	7.50	100	93501A032	14.00
1/2″	M12	0.539″	0.748″	0.043″	0.071″	5	90895A033	11.05	50	93501A033	13.14
9/16″	M14	0.591″	0.866″	0.047″	0.079″	1	90895A037	2.17	50	93501A034	13.71
5/8″	M16	0.669″	0.945″	0.051″	0.083″	1	90895A035	3.62	50	93501A035	13.71
____	M18	0.748″	1.063″	0.059″	0.091″	1	90895A021	4.32	10	93501A021	8.29
3/4″	M19	0.787″	1.181″	0.059″	0.098″	1	90895A036	3.83	25	93501A036	13.71
____	M20	0.827″	1.181″	0.059″	0.098″	1	90895A112	7.43	10	93501A022	11.43
7/8″	M22	0.906″	1.299″	0.059″	0.106″	1	90895A113	8.86	20	93501A037	13.71
1″	M25	1.063″	1.496″	0.079″	0.122″	1	90895A114	15.71	10	93501A038	13.71
1 1/8″	M30	1.244″	1.772″	0.079″	0.142″	1	90895A115	20.71	5	93501A023	11.43
1 3/8″	M36	1.496″	2.126″	0.098″	0.165″	1	90895A116	22.86	5	93501A040	14.00

For Machine and Hex Head Cap Screws

Screw Size	ID	OD	Thick.	O'all Ht.	Pkg. Qty.		Pkg.
Metric 316 Stainless Steel—Dimensions in millimeters							
M2	2.2	5.0	0.4	0.6	25	93237A101	$7.79
M3	3.2	7.0	0.6	0.9	25	93237A102	7.79
M4	4.3	9.0	1.0	1.3	10	93237A103	4.64
M5	5.3	11.0	1.2	1.6	10	93237A104	6.56
M6	6.4	14.0	1.5	2.0	10	93237A105	7.84
M8	8.4	18.0	2.0	2.6	5	93237A106	10.98
M10	10.5	23.0	2.5	3.2	1	93237A107	3.68
M12	13.0	29.0	3.0	4.0	1	93237A108	5.20
M14	15.0	35.0	3.5	4.7	1	93237A109	9.12
M16	17.0	39.0	4.0	5.3	1	93237A112	11.92
18-8 Stainless Steel							
1/4″	0.260″	0.683″	0.050″	0.090″	10	91235A112	5.66
5/16″	0.324″	0.807″	0.062″	0.100″	10	91235A115	5.54
3/8″	0.389″	0.930″	0.073″	0.112″	10	91235A120	7.22
1/2″	0.519″	1.179″	0.095″	0.152″	5	91235A126	7.08
Metric 18-8 Stainless Steel—Dimensions in millimeters							
M2	2.2	5.0	0.4	0.6	50	91477A122	7.50
M3	3.2	7.0	0.6	0.9	100	91477A121	6.93
M4	4.3	9.0	1.0	1.3	25	91477A141	2.67
M5	5.3	11.0	1.2	1.6	25	91477A123	7.66
M6	6.4	14.0	1.5	2.0	25	91477A161	4.51
M8	8.4	18.0	2.0	2.6	10	91477A181	4.57
M10	10.5	23.0	2.5	3.2	10	91477A190	4.60
M12	13.0	29.0	3.0	4.0	10	91477A200	8.56
M14	15.0	35.0	3.5	4.7	1	91477A124	4.83
M16	17.0	39.0	4.0	5.3	1	91477A125	6.23
17-7 PH Stainless Steel							
No. 6	0.143″	0.341″	0.025″	0.042″	50	91235A102	11.03
No. 8	0.169″	0.403″	0.031″	0.050″	50	91235A105	12.12
No. 10	0.197″	0.465″	0.035″	0.057″	25	91235A109	8.27

Screw Size	ID	OD	Thick.	O'all Ht.	Pkg. Qty.		Pkg.
Metric Zinc-Plated Steel—Dimensions in millimeters							
M2	2.2	5.0	0.4	0.6	100	95221A101	$9.66
M3	3.2	7.0	0.6	0.9	100	95221A103	10.00
M4	4.3	9.0	1.0	1.3	100	95221A105	11.38
M5	5.3	11.0	1.2	1.6	50	95221A107	9.31
M6	6.4	14.0	1.5	2.0	25	95221A109	8.28
M8	8.4	18.0	2.0	2.6	25	95221A111	8.28
M10	10.5	23.0	2.5	3.2	10	95221A113	12.41
M12	13.0	29.0	3.0	4.0	5	95221A115	12.41
M14	15.0	35.0	3.4	4.3	5	95221A125	9.38
M16	16.4	39.0	3.9	5.3	5	95221A126	11.95
Steel							
No. 6	0.142″	0.362″	0.028″	0.047″	100	90127A007	8.50
No. 8	0.161″	0.402″	0.039″	0.059″	100	90127A009	11.00
No. 10	0.201″	0.481″	0.050″	0.073″	100	90127A011	14.25
1/4″	0.254″	0.559″	0.052″	0.087″	50	90127A029	8.27
5/16″	0.323″	0.717″	0.055″	0.095″	50	90127A030	13.38
3/8″	0.402″	0.877″	0.062″	0.108″	25	90127A031	10.32
7/16″	0.489″	1.074″	0.078″	0.120″	10	90127A032	6.53
1/2″	0.512″	1.074″	0.078″	0.120″	10	90127A033	6.58
5/8″	0.646″	1.273″	0.098″	0.156″	5	90127A035	7.94
Metric Steel—Dimensions in millimeters							
M2	2.2	5.0	0.4	0.6	100	93497A100	6.89
M3	3.2	7.0	0.6	0.9	100	93497A120	7.24
M4	4.3	9.0	1.0	1.3	100	93497A140	8.97
M5	5.3	11.0	1.2	1.6	100	93497A150	10.69
M6	6.4	14.0	1.5	2.0	50	93497A161	8.28
M8	8.4	18.0	2.0	2.6	25	93497A181	8.62
M10	10.5	23.0	2.5	3.2	10	93497A191	5.86
M12	13.0	29.0	3.0	4.0	10	93497A200	12.41
M14	15.0	35.0	3.4	4.3	10	93497A225	13.41
M16	16.4	39.0	3.9	5.3	5	93497A230	9.32

Spring Lock Washers for Plastic Screws

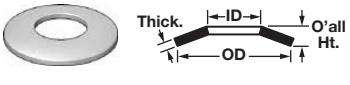

Designed for use with plastic screws, these acetal washers have a slightly cupped shape that gives them spring-like flexibility to grip joints tighter than split and tooth lock washers. All are good electrical insulators and are excellent for use under water and in rotating assemblies. Temperature range is –40° to 212° F. Color is white.

Screw Size				Thick.,	O'all	Pkg.		
Inch	Metric	ID	OD	Min.-Max.	Ht.	Qty.		Pkg.
No. 6	M3.5	0.152″	0.316″	0.022″-0.032″	0.045″	100	3573A11	$5.12
No. 8	M4	0.173″	0.297″	0.023″-0.033″	0.046″	100	3573A12	5.12
No. 10	M5	0.204″	0.365″	0.025″-0.035″	0.053″	100	3573A13	5.41
No. 10	M5	0.235″	0.416″	0.030″-0.040″	0.062″	100	3573A14	5.69
1/4″	M6	0.264″	0.564″	0.033″-0.043″	0.066″	100	3573A15	7.94
5/16″	M8	0.328″	0.660″	0.043″-0.053″	0.080″	100	3573A16	7.98
3/8″	M10	0.451″	0.848″	0.050″-0.060″	0.095″	25	3573A17	4.47

Wedge Lock Washers





Also called NORD-LOCK® washers, these provide more locking power than split, tooth, and spring lock washers. They come as a pair of washers with wedges on the inside that lock against each other to prevent loosening. When mated, the exterior sides have serrations to hold tight under high vibration and shifting. Washers are reusable.

Screw Size Inch	Screw Size Metric	ID	OD	Thick., Min.-Max.	Pairs/ Pkg.		Pkg.
316 Stainless Steel							
No. 5	M3	0.130″	0.280″	0.080″-0.100″	5	91812A212	$8.96
No. 8	M4	0.170″	0.300″	0.080″-0.100″	5	91812A215	8.96
No. 8	M4	0.170″	0.350″	0.080″-0.100″	5	91812A415	8.96
No. 10	M5	0.210″	0.350″	0.080″-0.100″	5	91812A227	8.96
No. 10	M5	0.210″	0.430″	0.080″-0.100″	5	91812A427	8.96
1/4″	—	0.280″	0.450″	0.080″-0.100″	5	91812A229	8.96
1/4″	—	0.280″	0.530″	0.080″-0.100″	5	91812A429	9.50
5/16″	M8	0.340″	0.530″	0.070″-0.090″	5	91812A230	9.48
5/16″	M8	0.340″	0.650″	0.070″-0.090″	5	91812A430	10.84
3/8″	—	0.410″	0.650″	0.070″-0.090″	5	91812A231	10.84
3/8″	—	0.410″	0.830″	0.070″-0.090″	1	91812A431	4.66
7/16″	M11	0.450″	0.730″	0.080″-0.100″	1	91812A232	4.64
1/2″	—	0.530″	0.770″	0.070″-0.090″	1	91812A233	4.64
1/2″	—	0.530″	1.000″	0.120″-0.140″	1	91812A433	6.90
5/8″	M16	0.670″	1.000″	0.110″-0.130″	1	91812A235	6.06
5/8″	M16	0.670″	1.210″	0.120″-0.140″	1	91812A435	8.26
Zinc-Coated Steel							
No. 5	M3	0.130″	0.280″	0.060″-0.080″	20	91074A112	10.34
No. 8	M4	0.170″	0.300″	0.060″-0.080″	20	91074A115	10.34
No. 8	M4	0.170″	0.350″	0.060″-0.080″	20	91074A312	10.34
No. 10	M5	0.210″	0.350″	0.060″-0.080″	20	91074A127	10.34
No. 10	M5	0.210″	0.430″	0.060″-0.080″	20	91074A327	10.34
1/4″	—	0.280″	0.450″	0.090″-0.110″	20	91074A129	10.56
1/4″	—	0.280″	0.530″	0.090″-0.110″	20	91074A329	11.02
5/16″	M8	0.340″	0.530″	0.090″-0.110″	20	91074A130	11.02
5/16″	M8	0.340″	0.650″	0.090″-0.110″	20	91074A330	12.38
3/8″	—	0.410″	0.650″	0.090″-0.110″	20	91074A131	12.38
3/8″	—	0.410″	0.830″	0.090″-0.110″	10	91074A331	10.06
7/16″	M11	0.450″	0.730″	0.090″-0.110″	10	91074A132	10.02
1/2″	—	0.530″	0.770″	0.090″-0.110″	10	91074A133	10.58
1/2″	—	0.530″	1.000″	0.120″-0.140″	8	91074A333	11.84
9/16″	M14	0.600″	0.910″	0.120″-0.140″	10	91074A134	13.60
5/8″	M16	0.670″	1.000″	0.120″-0.140″	8	91074A135	11.84
5/8″	M16	0.670″	1.210″	0.120″-0.140″	4	91074A335	8.62
3/4″	—	0.790″	1.210″	0.120″-0.140″	4	91074A136	9.16
3/4″	—	0.790″	1.540″	0.120″-0.140″	2	91074A336	7.50
7/8″	M22	0.920″	1.360″	0.120″-0.140″	2	91074A137	6.50
7/8″	M22	0.920″	1.650″	0.170″-0.190″	2	91074A337	10.82
1″	—	1.100″	1.540″	0.120″-0.140″	2	91074A138	7.50
1″	—	1.100″	1.910″	0.170″-0.190″	1	91074A338	6.50
1 1/8″	M30	1.240″	1.850″	0.220″-0.240″	1	91074A140	6.48
1 1/4″	M33	1.350″	1.910″	0.220″-0.240″	1	91074A145	7.22
1 3/8″	M36	1.470″	2.170″	0.250″-0.270″	1	91074A150	8.90
1 1/2″	M39	1.590″	2.300″	0.250″-0.270″	1	91074A160	9.24

Cup Washers for Oversized Holes



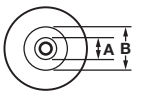

Cover oversized holes including the end of a pipe or tube with these cup-shaped washers. Washers are zinc-plated steel. Overall height is 0.197″.

Screw Size	ID	OD	(A)	(B)	Thick., Min.-Max.		Pkg. of 5
No. 10	0.219″	1.500″	0.438″	0.728″	0.030″-0.065″	92856A101	$5.63
No. 12	0.250″	2.500″	0.625″	1.015″	0.051″-0.080″	92856A103	7.94
1/4″	0.281″	3.000″	0.562″	0.920″	0.051″-0.080″	92856A105	9.42
5/16″	0.344″	2.500″	0.625″	1.015″	0.051″-0.080″	92856A107	7.94
3/8″	0.406″	3.000″	0.750″	1.219″	0.051″-0.080″	92856A109	9.42

Cushioning Washers

Use these felt washers to cushion and insulate joints as well as dampen vibration. They're made of wool and can be soaked with oil to create lubricated joints. Temperature range is –80° to 200° F. Color is gray.



Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
1/4″	0.250″	0.750″	0.230″-0.270″	25	95571A550	$8.86
1/4″	0.250″	1.000″	0.413″-0.463″	25	95571A840	13.94
3/8″	0.375″	1.000″	0.230″-0.270″	25	95571A842	10.58
1/2″	0.500″	1.250″	0.230″-0.270″	25	95571A845	11.25
1/2″	0.500″	1.500″	0.230″-0.270″	25	95571A847	18.06
3/4″	0.750″	1.250″	0.230″-0.270″	25	95571A837	10.80
1″	1.000″	2.000″	0.475″-0.525″	10	95571A850	14.62

Chemical-Resistant Cushioning Washers

Made of Buna-N, these washers offer excellent chemical, weather, and oil resistance. They are good for dampening vibration and cushioning joints and have an indented grid pattern to prevent sideways shifting. Maximum temperature is 200° F. Color is black.



Screw Size	ID	OD	Thick., Min.-Max.		Each
1/2″	0.500″	1.375″	0.281″-0.343″	5916K35	$4.06
5/8″	0.625″	1.750″	0.281″-0.343″	5916K38	5.77
3/4″	0.750″	2.000″	0.281″-0.343″	5916K52	7.17
3/4″	0.750″	2.000″	0.469″-0.531″	5916K53	10.09
1″	1.000″	2.500″	0.281″-0.343″	5916K55	10.23
1″	1.000″	2.500″	0.469″-0.531″	5916K56	14.51
1 1/4″	1.250″	3.000″	0.281″-0.343″	5916K58	12.70
1 1/4″	1.250″	3.000″	0.469″-0.531″	5916K59	14.15

Moisture-Resistant Cushioning Washers

These polyurethane washers resist moisture and chemicals. Use them to cushion joints and dampen vibration. Temp. range is –10° to 150° F. Color is orange.



Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
No. 6	0.141″	0.250″	0.060″-0.065″	50	93650A100	$15.33
No. 8	0.172″	0.312″	0.060″-0.065″	50	93650A110	13.34
No. 10	0.190″	0.375″	0.085″-0.101″	100	93650A120	12.57
No. 12	0.200″	0.438″	0.085″-0.101″	25	93650A135	15.76
1/4″	0.257″	0.500″	0.085″-0.101″	50	93650A145	16.50
5/16″	0.317″	0.562″	0.085″-0.101″	25	93650A155	11.33
3/8″	0.380″	0.625″	0.085″-0.101″	25	93650A165	15.16
1/2″	0.530″	1.000″	0.085″-0.101″	10	93650A195	14.25

Abrasion-Resistant Cushioning Washers

SBR rubber washers are reinforced with cloth fibers to resist abrasion. Use them to cushion joints and dampen vibration. Max. temp. is 170° F. Color is black.



Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
No. 10	0.188″	0.562″	0.110″-0.140″	10	90131A101	$3.06
1/4″	0.250″	0.750″	0.110″-0.140″	10	90131A102	3.44
1/4″	0.250″	1.000″	0.110″-0.140″	10	90131A305	3.88
3/8″	0.375″	1.000″	0.110″-0.140″	10	90131A103	3.69
3/8″	0.375″	1.500″	0.110″-0.140″	10	90131A308	4.38
3/8″	0.375″	2.250″	0.110″-0.140″	10	90131A552	7.08
1/2″	0.500″	1.375″	0.110″-0.140″	10	90131A104	4.97
1/2″	0.500″	2.250″	0.110″-0.140″	10	90131A553	7.55
1/2″	0.500″	3.000″	0.110″-0.140″	5	90131A311	6.44
5/8″	0.625″	1.750″	0.110″-0.140″	10	90131A105	6.15
5/8″	0.625″	2.250″	0.110″-0.140″	10	90131A554	7.78
5/8″	0.625″	3.000″	0.110″-0.140″	5	90131A314	6.44
3/4″	0.750″	2.000″	0.110″-0.140″	10	90131A106	6.24
3/4″	0.750″	2.250″	0.110″-0.140″	10	90131A555	7.56
3/4″	0.750″	3.000″	0.110″-0.140″	5	90131A317	6.44
7/8″	0.875″	2.250″	0.110″-0.140″	10	90131A107	6.24
7/8″	0.875″	3.000″	0.110″-0.140″	5	90131A320	6.44
1″	1.000″	2.250″	0.110″-0.140″	10	90131A557	7.45
1″	1.000″	2.500″	0.110″-0.140″	10	90131A108	9.21
1″	1.000″	3.000″	0.110″-0.140″	5	90131A323	6.44
1 1/2″	1.500″	2.500″	0.110″-0.140″	5	90131A327	4.12
1 1/2″	1.500″	3.000″	0.110″-0.140″	5	90131A331	6.44

Nonmarring Leather Washers



Pliable yet tough, these leather washers are nonmarring and abrasion resistant. Maximum temperature is 150°F. Color is light brown.

Screw Size	ID	OD	Thick., Min.-Max.		Pkg. of 50
1/4"	0.250"	0.750"	0.094"-0.156"	95576A029	$14.13
5/16"	0.312"	1.000"	0.125"-0.188"	95576A030	17.09
3/8"	0.375"	1.000"	0.125"-0.188"	95576A031	20.30
1/2"	0.500"	1.312"	0.094"-0.156"	95576A033	27.25
5/8"	0.625"	0.938"	0.094"-0.156"	95576A035	$17.66
3/4"	0.750"	1.172"	0.094"-0.156"	95576A036	24.23
1"	1.000"	1.500"	0.094"-0.156"	95576A038	27.25

Rubber Sealing Washers



Rubber washers resist water, oil, weather, and/or chemicals to create a light duty seal on your joints and dampen vibration. Use the chart below to identify the best rubber for your application. Information is intended for comparison only.

● Excellent ◓ Good Blank boxes indicate a poor rating or no rating.

	Maximum Temp., °F	Minimum Temp., °F	Oil Resistance	Abrasion Resistance	Weather Resistance	Chemical Resistance
Neoprene	180°	–20°	◓	◓		
Viton® Fluoroelastomer	500°	–13°	●	◓	●	◓
Aramid/Buna-N	460°	–20°	◓	●	◓	◓
EPDM	212°	–20°			●	
Silicone	450°	–100°			●	
Fluorosilicone	400°	–65°	●	◓	●	●
Santoprene	275°	–40°	◓	◓	◓	◓
Expanded PTFE	400°	–200°		●	●	◓

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Neoprene—Color is black						
No. 6	0.120"	0.250"	0.047"-0.077"	100	90133A005	$6.81
No. 8	0.150"	0.312"	0.047"-0.077"	100	90133A009	6.81
No. 10	0.170"	0.375"	0.078"-0.108"	100	90133A013	7.50
No. 10	0.170"	0.500"	0.078"-0.108"	100	90133A017	8.72
No. 12	0.195"	0.438"	0.078"-0.108"	100	90133A021	8.81
No. 12	0.195"	0.562"	0.078"-0.108"	100	90133A025	13.63
1/4"	0.230"	0.500"	0.078"-0.108"	100	90133A029	8.84
1/4"	0.230"	0.625"	0.078"-0.108"	100	90133A032	11.56
5/16"	0.290"	0.562"	0.078"-0.108"	100	90133A036	10.25
5/16"	0.290"	0.688"	0.078"-0.108"	100	90133A040	11.56
3/8"	0.355"	0.625"	0.078"-0.108"	100	90133A044	10.88
3/8"	0.355"	0.812"	0.078"-0.108"	50	90133A048	7.16
3/8"	0.355"	0.812"	0.110"-0.140"	50	90133A420	8.10
1/2"	0.490"	1.062"	0.078"-0.108"	50	90133A053	11.59
1/2"	0.490"	1.062"	0.110"-0.140"	50	90133A425	8.87
5/8"	0.615"	1.312"	0.078"-0.108"	50	90133A056	14.25
5/8"	0.615"	1.312"	0.110"-0.140"	25	90133A430	6.12
3/4"	0.740"	1.500"	0.078"-0.108"	25	90133A060	8.80
3/4"	0.740"	1.500"	0.110"-0.140"	25	90133A435	7.31
1"	0.990"	2.000"	0.078"-0.108"	25	90133A064	14.35
1"	0.990"	2.000"	0.110"-0.140"	10	90133A440	4.33
Viton® Fluoroelastomer—Color is black						
No. 6	0.120"	0.250"	0.052"-0.072"	50	93412A401	10.67
No. 8	0.150"	0.312"	0.052"-0.072"	50	93412A403	13.18

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Viton® Fluoroelastomer—Color is black (Cont.)						
No. 10	0.170"	0.500"	0.052"-0.072"	25	93412A407	$10.67
No. 12	0.195"	0.438"	0.052"-0.072"	25	93412A411	8.30
1/4"	0.230"	0.625"	0.052"-0.072"	10	93412A415	6.52
5/16"	0.290"	0.688"	0.052"-0.072"	10	93412A419	6.87
3/8"	0.355"	0.812"	0.052"-0.072"	10	93412A423	9.16
1/2"	0.490"	1.062"	0.052"-0.072"	5	93412A425	7.00
5/8"	0.615"	1.312"	0.052"-0.072"	5	93412A427	10.15
3/4"	0.740"	1.500"	0.052"-0.072"	1	93412A429	3.46
1"	0.990"	2.000"	0.052"-0.072"	1	93412A431	4.80
Aramid/Buna-N—Color is green						
1/4"	0.250"	0.500"	0.054"-0.070"	10	93303A101	8.58
1/4"	0.250"	0.625"	0.054"-0.070"	10	93303A102	8.58
5/16"	0.312"	0.625"	0.054"-0.070"	10	93303A103	8.58
5/16"	0.312"	0.750"	0.054"-0.070"	10	93303A104	9.05
3/8"	0.375"	0.625"	0.054"-0.070"	10	93303A105	8.58
3/8"	0.375"	0.750"	0.054"-0.070"	10	93303A106	9.05
1/2"	0.500"	0.875"	0.054"-0.070"	5	93303A107	4.53
1/2"	0.500"	1.000"	0.054"-0.070"	5	93303A108	8.58
5/8"	0.625"	1.000"	0.054"-0.070"	5	93303A109	8.58
5/8"	0.625"	1.500"	0.054"-0.070"	5	93303A110	8.81
3/4"	0.750"	1.500"	0.054"-0.070"	5	93303A111	8.81
3/4"	0.750"	2.000"	0.054"-0.070"	5	93303A112	9.04
1"	1.000"	1.500"	0.054"-0.070"	5	93303A113	8.81
1"	1.000"	2.000"	0.054"-0.070"	5	93303A114	8.81

Other Materials

Material	Choose a Size	Color	
EPDM	Choose a Screw Size, OD, and Thickness. Dimensions are the same as Neoprene above.	Black	90130A881
Silicone	Choose a Screw Size. Dimensions are the same as Viton® Fluoroelastomer above except thickness range is 0.083" to 0.103".	Red	99604A135
Fluorosilicone	Choose a Screw Size. Dimensions are the same as Viton® Fluoroelastomer above.	Blue	91367A935
Santoprene	Choose a Screw Size. Dimensions are the same as Viton® Fluoroelastomer above except thickness range is 0.068" to 0.088".	Black	94733A735
Expanded PTFE	Choose a Screw Size. Dimensions are the same as Aramid/Buna-N above except thickness range is 0.047" to 0.077".	White	96371A250

Metal Sealing Washers



Also known as crush washers, these washers compress when tightened to form a tighter, more durable seal than rubber washers. They are commonly used to seal fluids such as oil and fuel. All meet DIN 7603. Washers are not reusable.

Screw Size	ID, mm	OD, mm	Thick., Min.-Max., mm	Pkg. Qty.		Pkg.
Copper						
M6	6.2	9.9	0.8-1.2	50	97725A100	$12.26
M6	6.2	11.9	0.8-1.2	50	97725A114	12.27
M8	8.2	11.9	0.8-1.2	50	97725A150	13.48
M8	8.2	13.9	0.8-1.2	50	97725A115	13.48
M10	10.2	13.9	0.8-1.2	25	97725A200	8.70
M12	12.2	15.9	1.3-1.7	25	97725A250	10.00

Screw Size	ID, mm	OD, mm	Thick., Min.-Max., mm	Pkg. Qty.		Pkg.
Copper (Cont.)						
M12	12.2	17.9	1.3-1.7	25	97725A116	$10.00
M14	14.2	17.9	1.3-1.7	10	97725A117	11.91
M14	14.2	19.9	1.3-1.7	10	97725A118	12.57
M16	16.2	19.9	1.3-1.7	10	97725A350	11.96
M16	16.2	21.9	1.3-1.7	10	97725A119	12.57

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Metal Sealing Washers *(Continued from previous page)*

Screw Size	ID, mm	OD, mm	Thick., Min.-Max., mm	Pkg. Qty.		Pkg.
Copper (Cont.)						
M18	18.2	23.9	1.3-1.7	10	97725A450	$12.65
M20	20.2	25.9	1.3-1.7	10	97725A122	14.54
M22	22.2	26.9	1.3-1.7	10	97725A500	13.48
M22	22.2	28.9	1.3-1.7	10	97725A123	13.48
M24	24.3	29.9	1.8-2.2	5	97725A124	6.87
M26	26.3	31.9	1.8-2.2	5	97725A125	7.09
M30	30.3	35.9	1.8-2.2	5	97725A126	13.48
M32	32.3	37.9	1.8-2.2	5	97725A127	13.48
Aluminum						
M6	6.2	9.9	0.8-1.2	50	97725A600	9.88
M6	6.2	11.9	0.8-1.2	50	97725A102	11.17
M8	8.2	11.9	0.8-1.2	50	97725A700	10.03

Screw Size	ID, mm	OD, mm	Thick., Min.-Max., mm	Pkg. Qty.		Pkg.
Aluminum (Cont.)						
M10	10.2	13.9	0.8-1.2	50	97725A750	$10.93
M10	10.2	15.9	0.8-1.2	50	97725A103	12.35
M12	12.2	15.9	1.3-1.7	50	97725A800	11.93
M12	12.2	17.9	1.3-1.7	50	97725A104	13.48
M14	14.2	17.9	1.3-1.7	50	97725A105	14.17
M14	14.2	19.9	1.3-1.7	50	97725A106	15.30
M16	16.2	19.9	1.3-1.7	25	97725A850	12.73
M16	16.2	21.9	1.3-1.7	25	97725A107	14.40
M18	18.2	23.9	1.3-1.7	10	97725A860	9.88
M20	20.2	25.9	1.3-1.7	10	97725A109	10.95
M22	22.2	26.9	1.3-1.7	10	97725A950	9.50
M24	24.3	29.9	1.8-2.2	10	97725A112	10.87
M26	26.3	31.9	1.8-2.2	10	97725A113	11.86

Pressure-Sealing Washers

When tightened, these zinc-plated steel washers with Buna-N seals form a tighter grip than rubber and metal sealing washers. The Buna-N seal is black with excellent abrasion resistance and good oil, weather, and chemical resistance. Washers are reusable. Temperature range is –30° to 225° F.

For Nuts and Washers—Also known as thread-sealing washers. Use under nuts and washers.

For Screws and Bolts—Also known as stat-o-seal washers. Use under fastener heads.



For Nuts and Washers



For Screws and Bolts

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
For Nuts and Washers						
Max. Pressure: 1,000 psi (fluids); 200 psi (gases)						
No. 6	0.141″	0.406″	0.045″-0.055″	5	93781A008	$9.14
No. 8	0.167″	0.406″	0.045″-0.055″	5	93781A010	9.02
No. 10	0.194″	0.469″	0.045″-0.055″	10	93781A011	19.36
Max. Pressure: 2,000 psi (fluids); 200 psi (gases)						
1/4″	0.255″	0.562″	0.045″-0.055″	5	93781A029	8.16
5/16″	0.319″	0.687″	0.059″-0.069″	5	93781A037	9.69
3/8″	0.383″	0.750″	0.059″-0.069″	5	93781A038	11.09
7/16″	0.447″	0.906″	0.073″-0.083″	5	93781A032	14.16
1/2″	0.510″	1.000″	0.073″-0.083″	5	93781A033	14.80
9/16″	0.574″	1.094″	0.089″-0.099″	1	93781A034	3.24
5/8″	0.683″	1.187″	0.089″-0.099″	5	93781A035	14.32
3/4″	0.765″	1.375″	0.104″-0.114″	1	93781A039	3.86
7/8″	0.893″	1.562″	0.104″-0.114″	1	93781A046	5.15
1″	1.020″	1.750″	0.115″-0.125″	1	93781A051	13.93
For Screws and Bolts						
Max. Pressure: 3,400 psi (fluids); 200 psi (gases)						
No. 6	0.130″	0.385″	0.036″-0.044″	10	93783A007	10.63
No. 8	0.156″	0.385″	0.036″-0.044″	10	93783A009	9.96
No. 10	0.180″	0.443″	0.045″-0.055″	10	93783A011	9.34

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
For Screws and Bolts (Cont.)						
Max. Pressure: 3,400 psi (fluids); 200 psi (gases) (Cont.)						
1/4″	0.240″	0.505″	0.045″-0.055″	10	93783A029	$9.34
5/16″	0.301″	0.603″	0.045″-0.055″	10	93783A030	9.96
3/8″	0.364″	0.666″	0.045″-0.055″	10	93783A031	11.00
7/16″	0.427″	0.760″	0.045″-0.055″	5	93783A032	9.27
1/2″	0.490″	0.880″	0.045″-0.055″	10	93783A033	14.00
9/16″	0.552″	1.067″	0.045″-0.055″	5	93783A034	8.17
5/8″	0.615″	1.193″	0.045″-0.055″	5	93783A035	9.30
3/4″	0.740″	1.322″	0.059″-0.069″	5	93783A036	11.67
7/8″	0.864″	1.510″	0.059″-0.069″	1	93783A046	3.44
1″	0.988″	1.760″	0.059″-0.069″	1	93783A051	4.48
For Metric Screws and Bolts—Dimensions in millimeters						
Max. Pressure: 10,500 psi (fluids); 200 psi (gases)						
M5	4.8	9.8	0.9-1.2	10	93786A100	15.50
M6	5.8	11.3	1.1-1.4	10	93786A125	15.50
M8	7.8	13.5	1.1-1.4	10	93786A150	15.50
M10	9.7	15.3	1.1-1.4	10	93786A175	15.50
M12	11.7	19.3	1.1-1.4	10	93786A200	15.50
M14	13.7	22.4	1.1-1.4	5	93786A225	7.73
M16	15.7	27.1	1.1-1.4	5	93786A250	11.98

Metal-Bonded Sealing Washers

These one-piece rubber-to-metal bonded washers have a rubber seal to create a tight grip on your joints and a metal backing for strength. Washers are reusable.

Neoprene has good oil and abrasion resistance and is black. Temperature range is –45° to 250° F. Not rated for pressure.

Silicone has excellent weather resistance and is green. Temperature range is –160° to 500° F. Max. pressure is 100 psi.



Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Neoprene with 18-8 Stainless Steel						
No. 6	0.150″	0.375″	0.084″-0.114″	100	94709A111	$12.66
No. 8	0.180″	0.375″	0.084″-0.114″	100	94709A112	12.66
No. 8	0.180″	0.500″	0.084″-0.114″	100	94709A211	13.67
No. 10	0.200″	0.375″	0.084″-0.114″	100	94709A113	12.66
No. 10	0.200″	0.500″	0.084″-0.114″	100	94709A212	13.67
No. 10	0.200″	0.625″	0.084″-0.114″	50	94709A315	10.11
No. 10	0.200″	1.125″	0.084″-0.114″	5	94709A613	5.17
No. 12	0.240″	0.375″	0.084″-0.114″	100	94709A114	12.66
No. 12	0.240″	0.500″	0.084″-0.114″	100	94709A213	13.67
No. 12	0.240″	0.625″	0.084″-0.114″	50	94709A316	10.11
No. 12	0.240″	0.750″	0.084″-0.114″	25	94709A415	8.21
1/4″	0.260″	0.500″	0.084″-0.114″	100	94709A214	13.67
1/4″	0.275″	0.625″	0.084″-0.114″	50	94709A317	10.11
1/4″	0.275″	0.750″	0.084″-0.114″	50	94709A416	14.56
1/4″	0.275″	1.000″	0.084″-0.114″	10	94709A119	6.78
5/16″	0.330″	0.625″	0.084″-0.114″	50	94709A318	10.11
5/16″	0.330″	0.750″	0.084″-0.114″	25	94709A417	8.21
3/8″	0.434″	0.750″	0.084″-0.114″	25	94709A418	8.21
3/8″	0.434″	1.000″	0.084″-0.114″	10	94709A516	6.47
1/2″	0.532″	1.000″	0.084″-0.114″	10	94709A518	6.47
5/8″	0.650″	1.188″	0.084″-0.114″	5	94709A526	10.08
3/4″	0.810″	1.500″	0.084″-0.114″	5	94709A531	13.18
7/8″	0.910″	1.500″	0.084″-0.114″	5	94709A536	13.18
1″	1.040″	2.000″	0.084″-0.114″	1	94709A541	3.59

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Neoprene with Hot-Dipped Galvanized Steel						
No. 6	0.150″	0.375″	0.086″-0.116″	100	94708A111	$4.60
No. 8	0.180″	0.375″	0.086″-0.116″	100	94708A112	4.60
No. 8	0.180″	0.500″	0.086″-0.116″	100	94708A211	5.48
No. 10	0.200″	0.375″	0.086″-0.116″	100	94708A113	4.60
No. 10	0.200″	0.500″	0.086″-0.116″	100	94708A212	5.48
No. 10	0.200″	0.625″	0.086″-0.116″	100	94708A311	7.19
No. 10	0.200″	1.125″	0.086″-0.116″	25	94708A613	8.64
No. 12	0.240″	0.375″	0.086″-0.116″	100	94708A114	4.60
No. 12	0.240″	0.500″	0.086″-0.116″	100	94708A213	5.48
No. 12	0.240″	0.625″	0.086″-0.116″	100	94708A312	7.19
No. 12	0.240″	0.750″	0.086″-0.116″	100	94708A411	10.51
1/4″	0.260″	0.500″	0.086″-0.116″	100	94708A214	5.48
1/4″	0.275″	0.625″	0.086″-0.116″	100	94708A313	7.19
1/4″	0.275″	0.750″	0.086″-0.116″	100	94708A412	10.51
1/4″	0.275″	1.000″	0.086″-0.116″	50	94708A119	13.07
5/16″	0.330″	0.625″	0.086″-0.116″	100	94708A314	7.19
5/16″	0.330″	0.750″	0.086″-0.116″	100	94708A413	10.51
3/8″	0.434″	0.750″	0.086″-0.116″	100	94708A414	10.51
3/8″	0.434″	1.000″	0.086″-0.116″	50	94708A516	10.51
1/2″	0.532″	1.000″	0.086″-0.116″	50	94708A517	9.53
5/8″	0.650″	1.188″	0.086″-0.116″	10	94708A525	8.10
3/4″	0.810″	1.500″	0.086″-0.116″	10	94708A530	12.70
7/8″	0.910″	1.500″	0.086″-0.116″	10	94708A535	12.70
1″	1.040″	2.000″	0.086″-0.116″	5	94708A540	7.91

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Metal-Bonded Sealing Washers *(Continued from previous page)*



These one-piece rubber-to-metal bonded washers have a rubber seal to create a tight grip on your joints and a metal backing for strength. Washers are reusable.

Neoprene has good oil and abrasion resistance and is black. Temperature range is –45° to 250° F. Not rated for pressure.

Silicone has excellent weather resistance and is green. Temperature range is –160° to 500° F. Max. pressure is 100 psi.

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Neoprene with Aluminum						
No. 10	0.200″	0.500″	0.090″-0.120″	50	94240A110	$4.44
No. 12	0.240″	0.500″	0.090″-0.120″	50	94240A120	4.44
No. 14	0.275″	0.625″	0.090″-0.120″	50	94240A130	6.36

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Silicone with 18-8 Stainless Steel						
No. 8	0.175″	1.000″	0.047″-0.109″	1	91195A104	$3.33
No. 10	0.200″	1.000″	0.047″-0.109″	1	91195A105	3.33
1/4″	0.265″	1.000″	0.047″-0.109″	1	91195A107	3.33
5/16″	0.325″	1.000″	0.047″-0.109″	1	91195A111	3.33
3/8″	0.385″	1.000″	0.047″-0.109″	1	91195A112	3.33

High-Pressure Metal-Bonded Sealing Washers



Able to withstand up to 8,500 psi of liquid pressure, these one-piece metal-bonded washers have the tightest seals. They're 316 stainless steel bonded to a black plastic sealant. When tightened, the sealant releases from under the washer and creates an impervious 360° seal around your fastener's threads. Washers have excellent oil and chemical resistance. They are not reusable. Temperature range is –60° to 275° F.

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
No. 4	0.134″	0.396″	0.050″-0.060″	25	94154A005	$9.65
No. 6	0.148″	0.495″	0.060″-0.070″	25	94154A100	9.65
No. 8	0.175″	0.495″	0.060″-0.070″	25	94154A200	9.65
No. 10	0.205″	0.560″	0.060″-0.070″	25	94154A300	11.03
1/4″	0.255″	0.625″	0.068″-0.078″	25	94154A400	11.55
5/16″	0.315″	0.685″	0.072″-0.082″	25	94154A500	12.48

Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
3/8″	0.385″	0.810″	0.077″-0.087″	10	94154A600	$7.40
1/2″	0.510″	0.990″	0.085″-0.095″	5	94154A800	8.48
5/8″	0.639″	1.135″	0.085″-0.095″	1	94154A805	2.88
3/4″	0.770″	1.280″	0.105″-0.115″	1	94154A810	3.38
7/8″	0.893″	1.440″	0.105″-0.115″	1	94154A815	3.63
1″	1.018″	1.600″	0.105″-0.115″	1	94154A820	4.38

Countersunk Washers for Machine Screws



Standard



Flanged

Give machine screws a neat, finished appearance.

For 80° to 82° Flat- and Oval-Head Screws, except Nylon is for 82° screws only

Screw Size	ID	OD	Thick.	Pkg. Qty.		Pkg.
316 Stainless Steel						
No. 4	0.140″	0.390″	0.110″	50	94695A170	$4.31
No. 6	0.180″	0.460″	0.110″	50	94695A190	5.09
No. 8	0.210″	0.531″	0.130″	50	94695A210	3.57
No. 10	0.250″	0.593″	0.130″	50	94695A230	4.60
No. 12	0.280″	0.688″	0.160″	25	94695A250	3.54
1/4″	0.320″	0.781″	0.180″	25	94695A270	3.98
18-8 Stainless Steel						
No. 4	0.140″	0.375″	0.110″	100	98466A005	3.27
No. 6	0.180″	0.438″	0.110″	100	98466A007	3.67
No. 8	0.210″	0.531″	0.130″	100	98466A009	3.84
No. 10	0.250″	0.594″	0.130″	100	98466A011	4.55
No. 12	0.280″	0.688″	0.160″	100	98466A013	5.60
1/4″	0.320″	0.781″	0.180″	100	98466A029	6.79
5/16″	0.380″	0.891″	0.180″	50	98466A030	6.89
Nickel-Plated Steel						
No. 4	0.125″	0.375″	0.103″	100	90068A005	2.63
No. 6	0.160″	0.469″	0.102″	100	90068A007	3.20
No. 8	0.180″	0.531″	0.120″	100	90068A009	3.77
No. 10	0.235″	0.594″	0.122″	100	90068A011	3.89
No. 12	0.259″	0.656″	0.156″	100	90068A013	4.69
1/4″	0.305″	0.781″	0.160″	100	90068A029	6.69
5/16″	0.391″	0.906″	0.188″	50	90068A038	8.99
3/8″	0.429″	1.200″	0.256″	25	90068A045	6.32
Nickel-Plated Brass						
No. 4	0.140″	0.375″	0.110″	100	92922A005	5.85
No. 6	0.180″	0.438″	0.110″	100	92922A007	6.20

Screw Size	ID	OD	Thick.	Pkg. Qty.		Pkg.
Nickel-Plated Brass (Cont.)						
No. 8	0.210″	0.531″	0.130″	100	92922A009	$7.29
No. 10	0.250″	0.594″	0.130″	100	92922A011	8.88
No. 12	0.280″	0.688″	0.160″	50	92922A013	7.00
1/4″	0.320″	0.781″	0.180″	50	92922A029	9.20
5/16″	0.380″	0.891″	0.180″	25	92922A034	13.04
3/8″	0.470″	1.125″	0.290″	10	92922A035	12.45
Black Zinc-Plated Brass						
No. 6	0.172″	0.438″	0.102″	100	92918A130	8.26
No. 8	0.203″	0.500″	0.112″	100	92918A135	9.13
No. 10	0.250″	0.594″	0.122″	100	92918A140	10.88
Brass						
No. 4	0.140″	0.375″	0.110″	100	92921A005	4.04
No. 6	0.180″	0.438″	0.110″	100	92921A007	4.47
No. 8	0.210″	0.531″	0.130″	100	92921A009	5.88
No. 10	0.250″	0.594″	0.130″	100	92921A011	6.59
No. 12	0.280″	0.688″	0.160″	100	92921A013	8.32
1/4″	0.320″	0.781″	0.180″	100	92921A029	12.27
3/8″	0.470″	1.125″	0.290″	10	92921A032	4.82
Nylon— Choose a color: black or off-white						
No. 6	0.143″	0.438″	0.100″	100	95481A031	8.86
No. 8	0.171″	0.510″	0.115″	100	95481A032	9.49
No. 10	0.196″	0.575″	0.152″	100	95481A033	10.25
No. 12	0.225″	0.609″	0.160″	100	95481A034	10.64
1/4″	0.260″	0.683″	0.180″	100	95481A035	11.40

Flanged for 80° to 82° Flat- and Oval-Head Screws

Screw Size	ID	Flange OD	Thick.	Pkg. Qty.		Pkg.
18-8 Stainless Steel						
No. 6	0.180″	0.500″	0.110″	100	90333A007	$3.96
No. 8	0.210″	0.609″	0.125″	100	90333A009	4.75
No. 10	0.250″	0.703″	0.125″	100	90333A011	5.48

For Metric 90° Flat- and Oval-Head Screws

Screw Size	ID, mm	OD, mm	Thick., mm	Pkg. Qty.		Pkg.
18-8 Stainless Steel						
M3	3.2	10.0	1.8	10	98472A200	$5.62
M4	4.3	14.0	2.3	10	98472A250	6.92
M5	5.3	16.0	2.8	5	98472A300	4.90
M6	6.4	18.0	3.3	5	98472A350	5.75
Zinc-Plated Steel						
M2.5	2.7	9.0	1.6	25	98424A100	8.04
M3	3.2	10.0	1.8	25	98424A200	6.72
M4	4.3	14.0	2.3	25	98424A250	8.24

Screw Size	ID, mm	OD, mm	Thick., mm	Pkg. Qty.		Pkg.
Zinc-Plated Steel (Cont.)						
M5	5.3	16.0	2.8	25	98424A300	$8.33
M6	6.4	18.0	3.3	10	98424A350	4.57
M8	8.4	25.0	4.8	5	98424A400	4.99
Nickel-Plated Brass						
M3	4.1	9.0	1.8	25	99435A500	5.84
M4	6.0	13.0	2.3	25	99435A600	8.52
M5	7.0	15.0	2.5	10	99435A650	4.29
M6	8.0	16.0	3.2	10	99435A700	6.69

Countersunk Washers for Socket Cap Screws

Also known as dress washers, these washers give flat-head socket cap screws a neat, finished appearance.



Screw Size	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
For 82° Flat-Head Screws						
18-8 Stainless Steel						
No. 8	0.188″	0.750″	0.115″-0.135″	1	92538A330	$5.03
No. 10	0.203″	0.812″	0.130″-0.151″	1	92538A340	6.68
1/4″	0.281″	1.250″	0.271″-0.291″	1	92538A355	12.48
Black-Oxide Steel						
No. 8	0.188″	0.750″	0.115″-0.135″	5	92908A130	8.65
No. 8	0.188″	1.000″	0.115″-0.135″	5	92908A135	12.18
No. 10	0.203″	0.812″	0.130″-0.151″	5	92908A140	12.18
No. 10	0.203″	1.250″	0.130″-0.151″	1	92908A150	3.84
1/4″	0.281″	1.250″	0.271″-0.291″	1	92908A155	3.84
1/4″	0.281″	2.000″	0.271″-0.291″	1	92908A175	10.29
For Metric 90° Flat-Head Screws—Dimensions in millimeters						
18-8 Stainless Steel						
M4	4.3	16.0	2.7-3.3	1	92538A440	5.07
M5	5.3	22.0	3.2-3.8	1	92538A450	7.31
M6	6.4	32.0	3.7-4.3	1	92538A465	13.02
Black-Oxide Steel						
M4	4.3	16.0	2.7-3.3	5	92908A240	6.90
M5	5.3	22.0	3.2-3.8	5	92908A250	11.15
M6	6.4	32.0	3.7-4.3	1	92908A265	3.65

Leveling Washers

Commonly called beveled washers, these are tapered to fit inside an I-beam's flange to provide a parallel bearing surface. *Metric* washers meet DIN 435.





Screw Size	ID	Size, Sq.	Thick. (A)	Thick. (B)	Pkg. Qty.		Pkg.
18-8 Stainless Steel							
1/4″	0.312″	0.875″	0.250″	0.125″	5	90845A010	$12.12
5/16″	0.375″	0.875″	0.250″	0.125″	5	90845A015	13.03
3/8″	0.438″	1.250″	0.312″	0.125″	1	90845A037	6.11
1/2″	0.562″	1.250″	0.312″	0.125″	1	90845A038	6.11
5/8″	0.688″	1.500″	0.375″	0.125″	1	90845A039	7.04
3/4″	0.812″	1.500″	0.438″	0.188″	1	90845A040	7.65
Hot-Dipped Galvanized Iron							
1/4″	0.312″	0.688″	0.219″	0.078″	25	91152A029	11.43
3/8″	0.438″	1.250″	0.344″	0.125″	10	91152A031	8.71
1/2″	0.562″	1.250″	0.344″	0.125″	10	91152A033	8.71
5/8″	0.688″	1.500″	0.375″	0.125″	10	91152A035	11.71
3/4″	0.812″	1.500″	0.438″	0.188″	10	91152A036	12.71
7/8″	0.938″	2.000″	0.562″	0.219″	5	91152A037	14.86
1″	1.062″	2.000″	0.562″	0.219″	5	91152A038	14.86
Iron							
1/4″	0.312″	0.688″	0.219″	0.078″	25	91151A029	10.00
5/16″	0.375″	1.000″	0.312″	0.141″	10	91151A030	6.60
3/8″	0.438″	1.250″	0.344″	0.125″	25	91151A031	17.43
1/2″	0.562″	1.250″	0.344″	0.125″	25	91151A033	17.43
5/8″	0.688″	1.500″	0.375″	0.125″	10	91151A035	9.57
3/4″	0.812″	1.500″	0.438″	0.188″	10	91151A036	9.57
7/8″	0.938″	2.000″	0.562″	0.219″	10	91151A037	21.29
1″	1.062″	2.000″	0.562″	0.219″	10	91151A038	21.29
1 1/8″	1.250″	2.250″	0.625″	0.250″	1	91151A039	3.75
1 1/4″	1.375″	2.500″	0.719″	0.312″	1	91151A040	4.38
1 1/2″	1.625″	3.000″	0.812″	0.312″	1	91151A050	4.71
Metric Zinc-Plated Steel—Dimensions in millimeters							
M8	9.0	22.0	4.6	1.5	10	91146A100	7.98
M10	11.0	22.0	4.6	1.5	10	91146A110	8.00
M12	14.0	26.0	6.2	2.0	10	91146A120	9.15
M16	18.0	32.0	7.5	2.5	10	91146A130	12.57
M20	22.0	40.0	9.2	3.0	5	91146A140	11.43
Steel							
1/2″	0.546″	1.750″	0.438″	0.188″	5	91573A034	9.88
5/8″	0.702″	1.750″	0.438″	0.188″	5	91573A035	9.88
3/4″	0.827″	1.750″	0.438″	0.188″	5	91573A036	9.88
7/8″	0.952″	1.750″	0.438″	0.188″	5	91573A037	9.88
1″	1.140″	1.750″	0.438″	0.188″	5	91573A038	9.88
Aluminum							
1/4″	0.312″	0.688″	0.219″	0.078″	5	92810A110	5.24
5/16″	0.375″	1.000″	0.250″	0.094″	5	92810A120	4.97
3/8″	0.438″	1.250″	0.344″	0.156″	5	92810A130	7.70
1/2″	0.562″	1.250″	0.344″	0.156″	5	92810A140	7.93
5/8″	0.688″	1.500″	0.406″	0.156″	5	92810A150	13.57
3/4″	0.812″	1.500″	0.469″	0.219″	5	92810A160	11.43

Self-Retaining Washers

A specially shaped ID grips your screw shank tightly. Washers are nylon and are good electrical insulators. Temperature range is –40° to 185° F. Color is off-white.

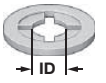

Screw Size Inch	Screw Size Metric	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
No. 2	M2	0.078″	0.203″	0.027″-0.037″	100	91755A200	$2.21
No. 4	M3	0.102″	0.265″	0.027″-0.037″	100	91755A205	2.21
No. 6	M3.5	0.128″	0.328″	0.027″-0.037″	100	91755A210	2.45
No. 8	M4	0.152″	0.390″	0.057″-0.067″	100	91755A215	3.75
No. 10	M5	0.177″	0.453″	0.057″-0.067″	100	91755A220	3.75
1/4″	M6	0.234″	0.593″	0.057″-0.067″	100	91755A225	4.13
5/16″	M7	0.292″	0.734″	0.057″-0.067″	100	91755A230	4.13
3/8″	M9	0.350″	0.890″	0.057″-0.067″	100	91755A240	4.23
1/2″	—	0.468″	1.125″	0.057″-0.067″	100	91755A245	5.64
7/8″	—	0.825″	1.343″	0.057″-0.067″	100	91755A250	9.13
1″	—	0.970″	1.385″	0.057″-0.067″	50	91755A255	13.89

Sleeve Washers

These nylon washers block electrical current and prevent corrosion from mating different metals. Temperature range is –40° to 185° F. Color is off-white.

Cup washers have a flat bottom and high walls to protect metal screw heads.

Rolled-collar washers fit under screw heads to create a barrier between screw shanks and mating surfaces.

Flanged washers are similar to rolled-collar washers with the addition of a shank that extends into holes to provide an even greater barrier.







Screw Size	ID	OD	Flange OD	O'all Ht.	Pkg. Qty.		Pkg.
Cup							
No. 4	0.245″	0.305″	—	0.157″	100	97215A101	$4.55
No. 6	0.300″	0.360″	—	0.182″	100	97215A104	4.72
No. 8	0.354″	0.414″	—	0.206″	100	97215A107	5.46
No. 10	0.410″	0.470″	—	0.230″	100	97215A110	5.62
1/4″	0.535″	0.595″	—	0.289″	100	97215A113	6.95
Rolled Collar							
No. 2	0.088″	0.112″	0.175″	0.065″	25	90097A040	7.22
No. 4	0.116″	0.140″	0.195″	0.080″	25	90097A080	7.22
No. 6	0.142″	0.172″	0.225″	0.095″	25	90097A130	7.22
No. 8	0.168″	0.198″	0.270″	0.115″	25	90097A150	7.22
No. 10	0.194″	0.228″	0.300″	0.115″	25	90097A170	7.22
No. 12	0.220″	0.254″	0.330″	0.125″	25	90097A190	7.22
1/4″	0.252″	0.292″	0.365″	0.125″	25	90097A210	7.94
3/8″	0.379″	0.419″	0.535″	0.160″	25	90097A230	8.66
1/2″	0.504″	0.548″	0.645″	0.195″	25	90097A250	9.87
Flanged							
No. 10	0.194″	0.228″	0.300″	0.330″	25	90097A180	8.42
1/4″	0.252″	0.292″	0.365″	0.350″	25	90097A220	8.42
1/4″	0.252″	0.292″	0.365″	0.600″	25	90097A520	8.42
5/16″	0.316″	0.356″	0.460″	0.355″	25	90097A540	8.82
3/8″	0.379″	0.419″	0.535″	0.375″	25	90097A240	8.82
1/2″	0.504″	0.548″	0.645″	0.655″	25	90097A260	8.82
5/8″	0.630″	0.679″	0.800″	0.410″	25	90097A550	8.82
3/4″	0.754″	0.810″	0.935″	0.920″	25	90097A570	9.46

Sleeve Washers for Soft Materials

Reinforce holes in soft materials to keep them from collapsing around screws. Washers are black-oxide steel.



Screw Size	ID	OD	Flange OD	Flange Thick.	O'all Ht.		Each
1/4″	0.260″	0.317″	0.562″	0.090″	0.315″	93762A100	$6.22
5/16″	0.322″	0.379″	0.625″	0.100″	0.315″	93762A200	5.46
3/8″	0.385″	0.442″	0.750″	0.115″	0.315″	93762A300	5.65
7/16″	0.447″	0.528″	0.875″	0.120″	0.460″	93762A500	5.78
7/16″	0.447″	0.570″	0.812″	0.120″	0.410″	93762A400	5.78
1/2″	0.510″	0.566″	0.875″	0.120″	0.335″	93762A600	5.95

Square-Neck Bolt Washers

Designed for use with square-neck bolts such as carriage bolts, these washers have teeth to dig into wood and other soft materials to prevent rotation. Washers are zinc-plated steel.



Screw Size	Square ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
1/4″	0.270″	1.100″	0.044″-0.051″	10	97449A101	$6.73
5/16″	0.345″	1.100″	0.041″-0.053″	10	97449A102	7.20
3/8″	0.405″	1.100″	0.042″-0.051″	10	97449A103	7.20
1/2″	0.535″	1.750″	0.057″-0.069″	5	97449A104	7.43

Alignment Washers


Washer Set


Male Washer


Female Washer

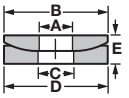

Also known as spherical washers, these two-piece washer sets consist of a male and female washer that, when nested, swivel slightly to compensate for tolerance variations and uneven surfaces. They're good for die and fixturing applications.

Screw Size	Male ID (A)	Male OD (B)	Female ID (C)	Female OD (D)	Washer Sets Thick., Min.-Max. (E)	Max. Correction	Repl. Male Washers		Repl. Female Washers	
18-8 Stainless Steel										
Inch										
No. 4	0.116″	0.281″	0.156″	0.375″	0.188″-0.218″	3°	91944A024	$3.78	91944A101	$1.89	91944A201	$1.89
No. 6	0.144″	0.281″	0.172″	0.375″	0.188″-0.218″	3°	91944A025	3.78	91944A102	1.89	91944A202	1.89
No. 8	0.169″	0.312″	0.188″	0.375″	0.188″-0.218″	3°	91944A026	3.78	91944A103	1.89	91944A203	1.89
No. 10	0.196″	0.375″	0.219″	0.438″	0.219″-0.249″	3°	91944A027	4.27	91944A104	2.13	91944A204	2.13
1/4″	0.257″	0.438″	0.281″	0.500″	0.251″-0.281″	3°	91944A028	4.27	91944A105	2.13	91944A205	2.13
1/4″	0.281″	0.625″	0.281″	0.625″	0.173″-0.203″	5°	91944A430	6.87	91944A301	3.42	91944A401	3.42
5/16″	0.323″	0.500″	0.344″	0.562″	0.312″-0.344″	3°	91944A029	4.27	91944A106	2.13	91944A206	2.13
3/8″	0.386″	0.625″	0.406″	0.688″	0.407″-0.438″	3°	91944A030	5.13	91944A107	2.57	91944A207	2.56
3/8″	0.406″	0.875″	0.406″	0.875″	0.235″-0.265″	3°	91944A450	8.84	91944A302	4.40	91944A402	4.40
1/2″	0.531″	1.125″	0.531″	1.125″	0.298″-0.328″	2°	91944A470	11.93	91944A303	5.98	91944A403	5.98
5/8″	0.656″	1.375″	0.656″	1.375″	0.298″-0.328″	2°	91944A480	13.85	91944A304	8.04	91944A404	7.80
3/4″	0.781″	1.625″	0.781″	1.625″	0.360″-0.390″	3°	91944A490	18.58	91944A305	10.80	91944A405	10.76
7/8″	0.938″	1.750″	0.969″	1.750″	0.360″-0.390″	3°	91944A031	15.28	91944A108	9.00	91944A208	9.00
1″	1.062″	2.000″	1.094″	2.000″	0.485″-0.515″	3°	91944A032	17.92	91944A109	10.56	91944A209	10.56
1 1/8″	1.188″	2.250″	1.250″	2.250″	0.485″-0.515″	3°	91944A034	27.17	91944A110	13.78	91944A210	13.78
1 1/4″	1.312″	2.500″	1.375″	2.500″	0.485″-0.515″	3°	91944A035	31.43	91944A111	15.96	91944A211	15.96
1 1/2″	1.562″	2.875″	1.625″	2.875″	0.485″-0.515″	3°	91944A037	40.75	91944A113	20.78	91944A213	20.78
1 5/8″	1.688″	3.250″	1.750″	3.250″	0.673″-0.703″	3°	91944A040	49.43	91944A115	25.19	91944A215	25.19
1 3/4″	1.812″	3.250″	1.875″	3.250″	0.673″-0.703″	3°	91944A042	54.53	91944A116	27.79	91944A216	27.79
2″	2.062″	3.875″	2.125″	3.875″	0.735″-0.765″	3°	91944A044	64.72	91944A117	32.97	91944A217	32.97
Metric—Dimensions meet DIN 6319 (Dimensions in millimeters)										
M6	6.4	12.0	7.1	12.0	3.8-4.4	3°	94007A030	9.60	94007A111	4.62	94007A211	4.57
M8	8.4	17.0	9.6	17.0	5.1-5.8	3°	94007A034	14.00	94007A112	6.67	94007A212	6.79
M10	10.5	21.0	12.0	21.0	6.1-6.7	3°	94007A038	18.69	94007A113	8.94	94007A213	8.98
M12	13.0	24.0	14.2	24.0	7.7-8.2	3°	94007A042	21.53	94007A114	10.33	94007A214	10.34
M16	17.0	30.0	19.0	30.0	9.1-9.8	3°	94007A049	33.88	94007A115	16.28	94007A215	16.27
M20	21.0	36.0	23.2	36.0	11.4-11.9	3°	94007A053	46.28	94007A116	22.19	94007A216	22.27
M24	25.0	44.0	28.0	44.0	14.7-15.4	3°	94007A057	68.59	94007A117	33.09	94007A217	32.77
M30	31.0	56.0	35.0	56.0	18.6-19.4	3°	94007A061	111.38	94007A118	53.46	94007A218	51.33

Steel

Material	Choose a Size	Washer Sets	Repl. Male Washers	Repl. Female Washers
Black-Oxide Steel	Choose an Inch Screw Size and Male ID for Washer Sets and Repl. Male Washers; Female OD for Repl. Female Washers. Dimensions are the same as 18-8 Stainless Steel above.	91131A772	91131A555	91131A777
Black-Finish Steel	Choose a Metric Screw Size. Dimensions are the same as 18-8 Stainless Steel above.	98148A441	98148A555	98148A777

Wave Washers



Single Wave



Triple Wave

These curved, flexible washers act like springs to compensate for tolerance variations and uneven surfaces. You can also use them to dampen vibration and rattling connections.

Triple-wave washers contact surfaces at three points for more stability than single-wave washers.

Screw Size	ID	OD	Thick.	O'all Ht.	Pkg. Qty.		Pkg.
Single Wave							
18-8 Stainless Steel							
No. 0	0.072″	0.170″	0.010″	0.050″	10	99842A101	$6.03
No. 2	0.095″	0.130″	0.004″	0.040″	10	99842A103	8.10
No. 4	0.121″	0.240″	0.008″	0.056″	10	99842A105	7.07
No. 5	0.135″	0.245″	0.004″	0.055″	10	99842A107	7.41
No. 6	0.148″	0.270″	0.005″	0.062″	10	99842A109	7.41
No. 8	0.165″	0.285″	0.006″	0.053″	10	99842A111	7.41
No. 10	0.200″	0.300″	0.010″	0.061″	10	99842A113	7.76
Metric 18-8 Stainless Steel—Dimensions in millimeters							
M3	3.2	8.0	0.5	1.6	100	92168A101	5.05
M4	4.3	9.0	0.5	2.0	100	92168A103	5.68
M5	5.3	11.0	0.5	2.2	100	92168A105	6.32
M6	6.4	12.0	0.5	2.6	100	92168A107	6.65
M8	8.4	15.0	0.8	3.0	50	92168A109	4.90
M10	10.5	21.0	1.0	4.2	25	92168A111	4.41
M12	13.0	24.0	1.2	5.0	10	92168A113	3.39
M16	17.0	30.0	1.6	6.4	10	92168A115	6.91
M20	21.0	36.0	1.6	7.4	5	92168A117	5.61
Steel							
No. 2	0.098″	0.188″	0.005″	0.025″	10	96697A100	6.22
No. 4	0.125″	0.290″	0.005″	0.090″	10	96697A200	6.38
No. 6	0.160″	0.438″	0.008″	0.103″	10	96697A300	6.22
No. 8	0.185″	0.300″	0.005″	0.070″	10	96697A350	6.25
No. 8	0.193″	0.359″	0.012″	0.060″	10	96697A400	5.05
1/4″	0.269″	0.423″	0.008″	0.060″	10	96697A500	6.31

Screw Size	ID	OD	Thick.	O'all Ht.	Pkg. Qty.		Pkg.
Triple Wave							
18-8 Stainless Steel							
No. 2	0.097″	0.168″	0.010″	0.040″	10	92161A021	$8.10
No. 4	0.127″	0.250″	0.005″	0.025″	10	92161A022	8.10
No. 5	0.130″	0.190″	0.005″	0.035″	10	92161A023	8.10
No. 6	0.147″	0.243″	0.006″	0.050″	10	92161A024	8.10
No. 8	0.195″	0.245″	0.006″	0.055″	10	92161A025	8.10
No. 10	0.205″	0.375″	0.005″	0.041″	10	92161A026	8.45
1/4″-5/16″	0.328″	0.682″	0.010″	0.073″	10	92161A029	12.18
5/16″-3/8″	0.391″	0.682″	0.010″	0.080″	25	92161A030	14.57
3/8″-7/16″	0.453″	0.850″	0.010″	0.100″	10	92161A031	5.70
7/16″-1/2″	0.516″	0.860″	0.010″	0.101″	10	92161A032	8.86
1/2″-9/16″	0.578″	0.995″	0.015″	0.104″	10	92161A033	9.86
5/8″-11/16″	0.703″	1.120″	0.015″	0.135″	10	92161A035	11.74
3/4″-13/16″	0.828″	1.432″	0.020″	0.135″	5	92161A036	10.19
7/8″-15/16″	0.953″	1.557″	0.020″	0.135″	10	92161A037	14.98
1″	1.000″	1.682″	0.020″	0.135″	5	92161A038	12.27
Steel							
No. 6-8	0.159″	0.375″	0.012″	0.055″	50	90134A007	11.74
No. 10	0.214″	0.250″	0.008″	0.050″	100	90134A011	10.45
1/4″	0.252″	0.375″	0.010″	0.060″	50	90134A029	13.00
5/16″	0.320″	0.437″	0.006″	0.040″	50	90134A030	7.08
3/8″	0.393″	0.500″	0.007″	0.070″	50	90134A031	7.20
7/16″	0.450″	0.750″	0.015″	0.090″	50	90134A032	12.61
1/2″	0.520″	0.750″	0.015″	0.090″	50	90134A033	14.30
5/8″	0.655″	0.855″	0.010″	0.070″	50	90134A035	11.46
3/4″	0.752″	1.062″	0.015″	0.115″	25	90134A036	11.14
1″	1.055″	1.351″	0.015″	0.115″	25	90134A038	13.17

Blind Rivet Washers

Also known as backup washers, these are for use with blind rivets for extra support when fastening into soft materials.

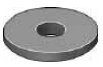
Round


Square

Round

For Rivet Body Dia.	ID	OD	Thick., Min.-Max.	Pkg. Qty.		Pkg.
18-8 Stainless Steel						
3/32"	0.098"	0.312"	0.058"-0.068"	50	90183A308	$6.80
1/8"	0.134"	0.375"	0.057"-0.067"	100	90183A311	8.75
5/32"	0.161"	0.438"	0.058"-0.068"	50	90183A314	8.18
3/16"	0.192"	0.375"	0.058"-0.068"	50	90183A315	6.50
3/16"	0.197"	0.500"	0.057"-0.067"	100	90183A316	9.80
1/4"	0.256"	0.500"	0.058"-0.068"	50	90183A325	9.25
Zinc-Plated Steel						
3/32"	0.098"	0.312"	0.058"-0.068"	100	90183A206	10.27
1/8"	0.134"	0.375"	0.057"-0.067"	500	90183A212	11.64
5/32"	0.165"	0.438"	0.057"-0.067"	250	90183A218	9.91
3/16"	0.192"	0.375"	0.055"-0.065"	250	90183A215	8.86
3/16"	0.197"	0.500"	0.057"-0.067"	250	90183A216	9.40
1/4"	0.256"	0.500"	0.056"-0.062"	250	90183A220	12.10
Aluminum						
3/32"	0.098"	0.312"	0.058"-0.068"	100	90183A205	10.27
1/8"	0.134"	0.375"	0.057"-0.067"	500	90183A213	12.40
5/32"	0.165"	0.438"	0.057"-0.067"	250	90183A222	9.21
3/16"	0.192"	0.375"	0.055"-0.065"	250	90183A214	10.27
3/16"	0.197"	0.500"	0.057"-0.067"	250	90183A217	8.23
1/4"	0.256"	0.500"	0.056"-0.062"	100	90183A224	9.15

Square

For Rivet Body Dia.	ID	Size, Sq.	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Zinc-Plated Steel						
3/32"	0.098"	0.500"	0.056"-0.062"	500	90183A452	$12.57
1/8"	0.129"	0.500"	0.056"-0.062"	500	90183A455	11.97
3/16"	0.192"	0.500"	0.056"-0.062"	500	90183A458	14.87

Notched Washers for Wood

Also called No. 10 Western Timber and Victor washers, these have notches for temporarily securing them with nails to keep them from rotating during installation. Washers are iron with large ODs to prevent screws from sinking into wood.



Screw Size	ID	OD	O'all Ht.	Pkg. Qty.		Pkg.
3/8"	0.469"	2.500"	0.250"	5	91153A031	$14.72
1/2"	0.594"	2.500"	0.313"	5	91153A033	16.57
5/8"	0.719"	2.625"	0.313"	5	91153A035	17.57
3/4"	0.844"	2.875"	0.438"	5	91153A036	20.01
1"	1.094"	4.000"	0.500"	1	91153A038	6.86

Curved Washers for Tubes

Also known as saddle washers, these zinc-plated steel washers are curved to fit on round surfaces such as tubes and pipe.



For Tube OD	Screw Size	ID	OD	Thick., Min.-Max.		Pkg. of 25
3/4"	1/4"	0.280"	1.000"	0.050"-0.070"	91844A220	$9.55
3/4"	5/16"	0.330"	1.000"	0.050"-0.070"	91844A230	9.63
3/4"	3/8"	0.410"	1.000"	0.050"-0.070"	91844A240	9.72
7/8"	1/4"	0.280"	1.000"	0.050"-0.070"	91844A350	9.55
7/8"	5/16"	0.330"	1.000"	0.050"-0.070"	91844A360	9.63
7/8"	3/8"	0.410"	1.000"	0.050"-0.070"	91844A370	9.72
1"	1/4"	0.280"	1.000"	0.050"-0.070"	91844A410	9.55
1"	5/16"	0.330"	1.000"	0.050"-0.070"	91844A420	9.63
1"	3/8"	0.410"	1.000"	0.050"-0.070"	91844A430	9.72

Easy-Install Slotted Washers

A slot in the side allows you to install and remove these washers without completely disassembling your joint. Washers are black-oxide steel.



Screw Size	Slot Wd.	OD	Thick., Min.-Max.		Each
No. 10, 1/4"	0.281"	0.750"	0.240"-0.260"	90339A031	$4.40
No. 10, 1/4"	0.281"	1.000"	0.240"-0.260"	90339A032	4.51
5/16"	0.344"	1.250"	0.303"-0.323"	90339A033	5.45
5/16", 3/8"	0.406"	1.250"	0.365"-0.385"	90339A034	4.97
5/16", 3/8"	0.406"	1.500"	0.365"-0.385"	90339A035	6.37
7/16", 1/2"	0.531"	1.875"	0.365"-0.385"	90339A037	7.49
7/16", 1/2"	0.531"	2.000"	0.359"-0.391"	90339A140	8.26
5/8"	0.656"	2.125"	0.365"-0.385"	90339A039	9.24
3/4"	0.781"	2.500"	0.428"-0.448"	90339A040	12.02

Tie-Down Strap Washers

With their bent sides, these washers are good for holding and aligning tie-down straps. They are zinc-plated steel.

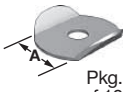

Screw Size	ID	OD	Thick., Min.-Max.	O'all Ht.	(A)		Pkg. of 10
No. 12	0.250"	1.000"	0.042"-0.052"	0.222"	0.670"	95990A101	$12.11
1/4"	0.312"	1.250"	0.056"-0.070"	0.278"	0.840"	95990A103	12.91
5/16"	0.375"	1.500"	0.074"-0.094"	0.344"	1.000"	95990A105	13.45
3/8"	0.438"	2.000"	0.074"-0.094"	0.424"	1.340"	95990A107	13.12
1/2"	0.562"	2.000"	0.098"-0.120"	0.449"	1.340"	95990A109	14.90

Electrical Terminal Washers

To keep electrical connections intact, these cup-shaped washers retain wires so they won't slip out from under your screw head. Washers are brass.





Screw Size	ID	OD	O'all Ht.		Pkg. of 10
No. 6	0.153"	0.504"	0.095"	93720A011	$9.84
No. 8	0.168"	0.453"	0.076"	93720A015	10.42
No. 8	0.178"	0.518"	0.129"	93720A020	11.53
No. 10	0.200"	0.453"	0.076"	93720A030	10.29
No. 10	0.200"	0.507"	0.087"	93720A025	10.35
1/4"	0.260"	0.574"	0.116"	93720A035	8.99

Washers for Foam Insulation and Plaster

Attach foam insulation or repair sagging, cracked plaster with these washers. Use them with self-sinking flat head (bugle head) screws. Washers are galvanized steel.

Washers **for foam insulation** have prongs that pierce insulation so they stay in place.

Washers **for plaster** have holes that allow plaster to flow through to form a secure bond between the washer and the wall.


For Foam Insulation


For Plaster

	Screw Size	ID	OD	Thick., Min.-Max.		Pkg. of 50
For Foam Insulation	No. 8	0.175"	1.250"	0.020"-0.024"	95880A900	$6.90
For Plaster	No. 10	0.235"	1.250"	0.020"-0.024"	95880A500	6.90

Anti-Rotating Clipped Washers



Clipped to fit where standard washers can't, these washers won't rotate when you position the flat edges against a flat surface. Washers are steel.

Screw Size	ID	(A)	(B)	Thick., Min.-Max.	Pkg. Qty.		Pkg.
Single Clipped							
No. 2	0.090"	0.188"	0.168"	0.027"-0.033"	10	96025A105	$7.25
No. 4	0.125"	0.312"	0.251"	0.027"-0.033"	10	96025A124	7.51
No. 6	0.156"	0.375"	0.312"	0.055"-0.065"	10	96025A135	7.43
No. 8	0.173"	0.375"	0.312"	0.027"-0.033"	10	96025A141	3.86
No. 10	0.200"	0.625"	0.500"	0.027"-0.033"	10	96025A147	10.09
1/4"	0.254"	0.750"	0.625"	0.044"-0.052"	10	96025A154	8.26
5/16"	0.344"	0.688"	0.594"	0.055"-0.065"	10	96025A167	8.28
3/8"	0.444"	0.874"	0.750"	0.055"-0.065"	10	96025A170	8.92
1/2"	0.562"	1.370"	1.070"	0.058"-0.064"	5	96025A184	12.68
5/8"	0.656"	1.500"	1.220"	0.058"-0.064"	5	96025A185	13.04
3/4"	0.812"	1.250"	1.125"	0.058"-0.064"	5	96025A186	13.21
7/8"	0.940"	2.250"	1.938"	0.058"-0.064"	1	96025A187	2.84
1"	1.032"	2.281"	1.956"	0.058"-0.064"	1	96025A188	3.12
Double Clipped							
No. 2	0.088"	0.531"	0.281"	0.028"-0.034"	5	96025A171	9.11
No. 4	0.125"	0.562"	0.312"	0.028"-0.034"	5	96025A172	9.21
No. 6	0.149"	0.625"	0.390"	0.028"-0.034"	5	96025A173	9.71
No. 8	0.191"	0.750"	0.620"	0.058"-0.064"	5	96025A174	9.91
No. 10	0.203"	0.500"	0.445"	0.058"-0.064"	5	96025A175	10.01
1/4"	0.281"	1.125"	0.688"	0.058"-0.064"	5	96025A176	10.46
5/16"	0.328"	1.188"	0.750"	0.058"-0.064"	5	96025A177	10.56
3/8"	0.390"	1.375"	0.875"	0.058"-0.064"	1	96025A178	2.80
1/2"	0.531"	1.900"	0.812"	0.058"-0.064"	1	96025A179	2.88
5/8"	0.656"	2.000"	0.937"	0.058"-0.064"	1	96025A180	2.92
3/4"	0.875"	1.625"	1.375"	0.058"-0.064"	1	96025A181	2.94
7/8"	0.906"	1.750"	1.375"	0.058"-0.064"	1	96025A182	3.00
1"	1.031"	2.125"	1.406"	0.058"-0.064"	1	96025A183	3.12

Shim Stock

Made-to-Order Shims

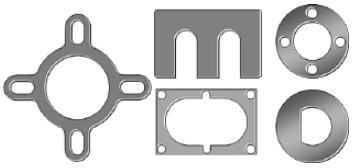

If you need a unique shim shape or size, send us your CAD file and we'll precision cut them to your specifications. Select a material and thickness from the choices below. We will send you as many same-design shims as an 11″×11″ sheet will yield. A traceable lot number and material test report are included. Width and length tolerances are ±0.010″ for 0.001″ to 0.005″ thick sheets and ±0.005″ for 0.006″ to 0.02″ thick sheets.

316 stainless steel has excellent corrosion resistance and may be mildly magnetic. It is cold rolled and has a soft (annealed) temper. Maximum Rockwell hardness is B88. Sheets meet ASTM A240 and Fed. Spec. QQ-S-766.

Low-carbon steel is magnetic. Material will vary between 1008-1010 steel. It is cold rolled and has a full hard temper. Minimum Rockwell hardness is B90. Sheets meet ASTM A109 and Fed. Spec. QQ-S-698.

Thick.	Thick. Tolerance	316 Stainless Steel		Low-Carbon Steel	
0.001″	±0.00005″	1188N11	$98.42	1188N31	$90.85
0.002″	±0.0001″	1188N12	97.02	1188N32	94.98
0.003″	±0.00015″	1188N13	99.02	1188N33	97.59
0.004″	±0.0002″	1188N14	99.65	1188N34	95.64
0.005″	±0.00025″	1188N15	63.64	1188N35	60.80
0.006″	±0.0003″	1188N16	64.18	1188N36	62.04
0.007″	±0.00035″	1188N17	$68.36	1188N37	$62.30
0.008″	±0.0004″	1188N18	68.12	1188N38	61.52
0.009″	±0.00045″	1188N19	71.66	1188N39	61.14
0.01″	±0.0005″	1188N21	71.53	1188N41	62.80
0.015″	±0.00075″	1188N22	70.06	1188N42	60.88
0.02″	±0.001″	1188N23	68.76	1188N43	61.64

Stainless Steel Shim Stock

Stainless steel shim stock withstands corrosive environments. It is cold rolled. A traceable lot number and material test report are included. **18-8, 301,** and **316 stainless steel** may be mildly magnetic. **17-4 PH** and **17-7 PH stainless steel** are magnetic and stronger than 18-8, 301, and 316.

18-8 Stainless Steel Rolls—Full Hard Temper



Width tolerance is ±0.005″ for 6″ and 12″ wide rolls and +1″, –0.010″ for 24″ wide rolls. Length tolerance is +½″, –¼″. Rockwell hardness is C40-C45. Rolls meet ASTM A666.

Thick.	Thick. Tolerance	6″×50″		6″×100″		12″×50″		12″×100″		24″×50″	
0.0005″	±0.00003″	9502K56	$34.03	53755K47	$64.82	9506K49	$64.82	9784K11	$126.40		
0.001″	±0.0001″	9502K41	13.38	53755K31	25.49	9506K31	25.49	9784K12	49.71	9784K81	$59.90
0.0015″	±0.00007″	9502K63	14.50	53755K48	27.62	9784K31	27.62	9784K32	53.86	9784K33	53.86
0.002″	±0.0002″	9502K42	14.54	53755K32	27.69	9506K32	27.69	9784K13	54.00	9784K82	54.00
0.003″	±0.0002″	9502K43	14.55	53755K33	27.71	9506K33	27.71	9784K14	54.03	9784K83	54.03
0.004″	±0.0002″	9502K54	14.93	53755K34	28.44	9506K34	28.44	9784K15	55.46	9784K84	55.46
0.005″	±0.0003″	9502K44	15.42	53755K35	29.37	9506K35	29.37	9784K16	57.27	9784K85	57.27
0.006″	±0.0003″	9502K45	15.64	53755K36	29.79	9506K36	29.79	9784K17	58.09	9784K86	58.09
0.007″	±0.0004″	9502K55	16.01	53755K37	30.49	9506K37	30.49	9784K18	59.46	9784K87	59.46
0.008″	±0.0004″	9502K46	16.42	53755K38	31.28	9506K38	31.28	9784K19	61.00	9784K88	61.00
0.009″	±0.00045″	9502K62	16.80	53755K46	32.00	9784K34	32.00	9784K35	62.40	9784K36	75.20
0.01″	±0.0005″	9502K47	17.17	53755K39	32.71	9506K39	32.71	9784K21	63.78	9784K89	63.78
0.012″	±0.001″	9502K48	17.49	53755K41	33.31	9506K41	33.31	9784K22	64.95	9784K91	64.95
0.015″	±0.001″	9502K49	18.41	53755K42	35.06	9506K42	35.06	9784K23	68.37	9784K92	78.89
0.02″	±0.001″	9502K51	19.20	53755K43	36.57	9506K43	36.57	9784K24	71.31	9784K93	84.11
0.025″	±0.001″	9502K52	20.63	53755K44	39.30	9506K44	39.30	9784K25	76.63	9784K94♥	92.35
0.031″	±0.0015″	9502K53	27.54	53755K45	52.45	9506K45	52.45	9784K26	102.28	9784K95♥	118.01

♥Shipped flat.

Metric 18-8 Stainless Steel Rolls—Full Hard Temper



Width tolerance is ±0.5 mm. Length tolerance is ±2 mm. Rockwell hardness is C40-C45. Rolls meet ASTM A666.

Thick., mm	Thick. Tolerance, mm	150 mm×1,250 mm		Thick., mm	Thick. Tolerance, mm	150 mm×1,250 mm	
0.05	±0.0025	95055K11	$24.38	0.3	±0.015	95055K21	$29.44
0.1	±0.005	95055K13	24.75	0.4	±0.02	95055K23	31.84
0.15	±0.0075	95055K15	26.06	0.5	±0.025	95055K25	37.62
0.2	±0.01	95055K17	27.31	0.65	±0.0325	95055K27	41.35
0.25	±0.0125	95055K19	28.25	0.8	±0.04	95055K29	46.97

18-8 Stainless Steel Sheets—Full Hard Temper



Width and length tolerances are ±⅛″. Rockwell hardness is C40-C45. Sheets meet ASTM A666, unless noted.

Thick.	Thick. Tolerance	6″×25″	8″×12″	24″×24″	Thick.	Thick. Tolerance	6″×25″	8″×12″	24″×24″
0.001″	±0.00005″	9011K881 $13.05	$7.25	$39.88	0.009″	±0.00045″	9011K891★ $16.07	$8.24	$45.32
0.002″	±0.0001″	9011K882 13.16	7.31	40.20	0.01″	±0.0005″	9011K892 16.75	8.59	50.25
0.003″	±0.00015″	9011K883 13.39	7.44	40.92	0.012″	±0.0006″	9011K893 14.59	9.12	54.26
0.004″	±0.0002″	9011K884 13.66	7.59	41.74	0.015″	±0.0009″	9011K894 15.60	9.75	58.01
0.005″	±0.00025″	9011K885 14.29	7.94	45.66	0.02″	±0.001″	9011K895 17.15	10.72	65.93
0.006″	±0.0003″	9011K886★ 14.40	8.00	44.00	0.025″	±0.00125″	9011K896★ 19.71	10.95	62.96
0.007″	±0.00035″	9011K887 14.58	8.10	46.57	0.031″	±0.00155″	9011K897★ 21.59	11.07	63.65
0.008″	±0.0004″	9011K889★ 16.24	8.20	45.10					

★ 24″×24″ sheets meet ASTM A276.

301 Stainless Steel Rolls—½ Hard Temper



Width tolerance is ±0.015″. Length tolerance is +½″. Minimum Rockwell hardness is C32. Rolls meet ASTM A666.

Thick.	Thick. Tolerance	6″×50″		Thick.	Thick. Tolerance	6″×50″	
0.002″	±0.0001″	2316K11	$16.60	0.012″	±0.0006″	2316K19	$22.00
0.003″	±0.00015″	2316K12	17.00	0.015″	±0.00075″	2316K21	23.20
0.004″	±0.0002″	2316K13	17.20	0.018″	±0.0009″	2316K22	25.70
0.005″	±0.00025″	2316K14	18.90	0.02″	±0.001″	2316K23	27.00
0.006″	±0.0003″	2316K15	19.40	0.025″	±0.00125″	2316K24	37.50
0.007″	±0.00035″	2316K16	20.00	0.031″	±0.00155″	2316K25	38.70
0.008″	±0.0004″	2316K17	20.20	0.035″	±0.00175″	2316K26	39.50
0.01″	±0.0005″	2316K18	20.80				

(Continued on following page)

Stainless Steel Shim Stock *(Continued from previous page)*

316 Stainless Steel Rolls—Soft (Annealed) Temper



Width tolerance is ±0.003″. Length tolerance is +1″. Maximum Rockwell hardness is B88. Rolls meet ASTM A666.

Thick.	Thick. Tolerance		6″×50″	6″×100″	12″×50″	12″×100″	24″×50″	24″×100″
0.002″	±0.0001″	9548K1	$21.19	$36.25	$37.84	$66.44	$66.44	$124.18
0.003″	±0.00015″	9548K2	23.62	41.19	42.81	76.22	76.22	142.59
0.004″	±0.0002″	9548K3	27.09	49.81	49.75	90.12	90.12	168.76
0.005″	±0.00025″	9548K4	28.06	50.36	51.50	93.22	93.22	174.59
0.007″	±0.0005″	9548K5	33.76	61.41	63.00	116.82	116.82	219.78
0.01″	±0.0005″	9548K6	34.56	65.29	68.18	126.38	126.38	237.83
0.015″	±0.0005″	9548K7	49.03	90.97	85.06	160.28	160.25	302.79
0.02″	±0.0005″	9548K8	55.14	97.74	87.14	165.80	165.80	324.64
0.025″	±0.0008″	9548K9	59.81	107.58	118.82	228.21	228.21	432.70

316 Stainless Steel Sheets—Soft (Annealed) Temper



Width tolerance is ±0.005″. Length tolerance is ±1⁄8″. Maximum Rockwell hardness is B88. Sheets meet ASTM A240 and ASTM A666.

Thick.	Thick. Tolerance	8″×12″		24″×24″	
0.001″	±0.00008″	2317K51	$8.83	2317K31	$39.15
0.002″	±0.0001″	2317K52	7.87	2317K32	35.80
0.003″	±0.00015″	2317K53	8.94	2317K33	39.70
0.004″	±0.0002″	2317K54	9.86	2317K34	44.30
0.005″	±0.00025″	2317K55	10.38	2317K35	46.90
0.006″	±0.0003″	2317K22	11.24	2317K42	56.20
0.007″	±0.0005″	2317K56	12.87	2317K36	59.35
0.008″	±0.0004″	2317K23	$13.29	2317K43	$66.45
0.01″	±0.0005″	2317K57	14.35	2317K37	66.75
0.012″	±0.0005″	2317K58	15.75	2317K38	73.75
0.015″	±0.0005″	2317K59	16.35	2317K39	76.75
0.02″	±0.0005″	2317K61	19.18	2317K41	90.90
0.025″	±0.001″	2317K24	26.76	_____	____
0.031″	±0.001″	2317K25	32.65	_____	____

17-4 PH Stainless Steel Rolls—Soft (Annealed) Temper



Width tolerance is ±0.01″. Length tolerance is ±0.015″. Rockwell hardness is C30-C38. Rolls meet ASTM A693.

Thick.	Thick. Tolerance	4″×60″		Thick.	Thick. Tolerance	4″×60″	
0.003″	±0.00015″	3723T41	$38.95	0.012″	±0.0006″	3723T47	$99.30
0.004″	±0.0002″	3723T42	45.12	0.015″	±0.0009″	3723T48	122.41
0.005″	±0.00025″	3723T43	50.76	0.018″	±0.001″	3723T49	136.11
0.006″	±0.0003″	3723T44	66.80	0.02″	±0.001″	3723T61	155.13
0.008″	±0.0004″	3723T45	73.50	0.025″	±0.001″	3723T62	183.20
0.01″	±0.0005″	3723T46	86.57	0.031″	±0.001″	3723T63	191.15

17-7 PH Stainless Steel Rolls—Full Hard Temper



Width tolerance is ±0.015″. Length tolerance is +1⁄2″. Minimum Rockwell hardness is C41. Rolls meet ASTM A693.

Thick.	Thick. Tolerance	6″×50″		Thick.	Thick. Tolerance	6″×50″	
0.003″	±0.00015″	2325K11	$19.00	0.01″	±0.0005″	2325K17	$22.80
0.004″	±0.0002″	2325K12	19.20	0.012″	±0.0006″	2325K18	24.00
0.005″	±0.00025″	2325K13	20.90	0.015″	±0.00075″	2325K19	27.20
0.006″	±0.0003″	2325K14	21.40	0.02″	±0.001″	2325K21	31.00
0.007″	±0.00035″	2325K15	22.00	0.025″	±0.00125″	2325K22	37.50
0.008″	±0.0004″	2325K16	22.20	0.031″	±0.00155″	2325K23	43.00

Low-Carbon Steel Shim Stock

Low-carbon steel shim stock is cold rolled and magnetic. Material will vary between 1008-1010 steel. A traceable lot number and material test report are included.

1008-1010 Low-Carbon Steel Rolls—Full Hard Temper



Width tolerance is ±0.005″ for 6″ wide rolls and ±0.01″ for 12″ wide rolls. Length tolerance is +1⁄8″. Minimum Rockwell hardness is B90.

Thick.	Thick. Tolerance	6″×100″	6″×180″	12″×120″	Thick.	Thick. Tolerance	6″×100″	6″×180″	12″×120″
0.001″	±0.0001″	9500K881	$10.18	$17.22	$35.46	0.008″	±0.00075″	9500K892	$11.74	$19.83	$38.54
0.0015″	±0.00015″	9500K882	11.90	17.50	_____	0.009″	±0.00075″	9500K893	11.92	20.34	39.51
0.002″	±0.0002″	9500K883	9.76	16.65	27.10	0.01″	±0.00075″	9500K894	11.15	20.91	40.49
0.0025″	±0.00025″	9500K884	10.41	21.13	_____	0.012″	±0.00075″	9500K895	12.29	21.17	40.92
0.003″	±0.0003″	9500K885	10.41	17.48	33.24	0.015″	±0.00075″	9500K896	12.46	21.69	41.70
0.004″	±0.0005″	9500K886	10.64	18.19	34.22	0.018″	±0.00075″	9500K897	13.58	23.55	42.26
0.005″	±0.0005″	9500K887	10.84	18.53	34.87	0.02″	±0.001″	9500K898	13.80	24.26	44.84
0.006″	±0.0005″	9500K889	11.19	18.95	35.73	0.025″	±0.001″	9500K899	14.80	24.86	45.09
0.007″	±0.00075″	9500K891	11.37	19.40	37.15	0.031″	±0.0015″	9500K901	15.09	27.01	50.95

Metric 1008-1010 Low-Carbon Steel Rolls—Full Hard Temper



Width tolerance is ±0.5 mm. Length tolerance is ±2 mm. Minimum Rockwell hardness is B90. Rolls meet ASTM A109 and Fed. Spec. QQ-S-698.

Thick., mm	Thick. Tolerance, mm	150 mm×2,500 mm		Thick., mm	Thick. Tolerance, mm	150 mm×2,500 mm	
0.05	±0.0025	95085K11	$17.31	0.3	±0.015	95085K21	$21.99
0.1	±0.005	95085K13	17.85	0.4	±0.02	95085K23	22.97
0.15	±0.0075	95085K15	17.94	0.5	±0.025	95085K25	23.66
0.2	±0.01	95085K17	18.50	0.65	±0.0325	95085K27	25.23
0.25	±0.0125	95085K19	19.63	0.8	±0.04	95085K29	26.26

1008-1010 Low-Carbon Steel Sheets—Full Hard Temper



Width tolerance is +1⁄4″; –0.075″. Length tolerance is +1⁄8″; –0.075″. Minimum Rockwell hardness is B90.

Thick.	Thick. Tolerance	Pkg. Qty.	8″×12″		Thick.	Thick. Tolerance	Pkg. Qty.	8″×12″	
0.001″	±0.0001″	1	9011K211	$5.69	0.01″	±0.00075″	5	9011K271	$13.09
0.002″	±0.0002″	5	9011K221	10.29	0.012″	±0.00075″	5	9011K281	13.53
0.003″	±0.0003″	5	9011K231	10.45	0.015″	±0.00075″	5	9011K291	14.28
0.004″	±0.0005″	5	9011K241	12.06	0.02″	±0.001″	5	9011K119	15.03
0.005″	±0.0005″	5	9011K251	12.07	0.025″	±0.001″	1	9011K12	22.82
0.007″	±0.00075″	5	9011K261	12.48	0.031″	±0.0015″	1	9011K13	23.95

Shim Stock

Spring Steel Shim Stock

Spring steel shim stock is the hardest shim stock we offer. It is cold rolled and magnetic. A traceable lot number and material test report are included. **Grade 1095** is also known as blue-tempered steel. **Grade 1075** is also known as scaleless blue steel.

1095 Spring Steel Rolls—Full Hard Temper



Width tolerance is ±0.010″. Length tolerance is +½″, –¼″. Rockwell hardness is C48-C51. Rolls are polished and meet ASTM A682, ASTM A684, and MIL-S-7947.

Thick.	Thick. Tolerance	3″×50″	
0.002″	±0.0002″	9503K31	$19.28
0.003″	±0.0003″	9503K32	20.24
		6″×50″	
0.004″	±0.0003″	9503K33	$21.59
0.005″	±0.0003″	9503K34	18.83
0.006″	±0.0004″	9503K35	19.00
0.007″	±0.0004″	9503K36	19.07
0.008″	±0.0005″	9503K37	19.22
0.01″	±0.0007″	9503K38	20.39
0.012″	±0.0008″	9503K39	20.67
0.015″	±0.0008″	9503K41	23.33
0.016″	±0.001″	9503K45	27.81
0.018″	±0.001″	9503K46	27.96
0.02″	±0.001″	9503K42	28.22
0.025″	±0.001″	9503K43	29.43
0.028″	±0.001″	9503K47	31.73
0.03″	±0.0015″	9503K48	32.61
0.032″	±0.0015″	9503K44	33.34

1095 and 1075 Spring Steel Sheets—Full Hard Temper



Width tolerance is ±0.010″ for 6″ wd. sheets; +⅜″, -0.010″ for 12″ wd. sheets; and ±1″ for 24″ wd. sheets. Length tolerance is +3″, -½″. Rockwell hardness is C44-C51. **1095 steel** sheets meet AMS 5122. **1075 steel** sheets meet ASTM A682 and ASTM A684.

Thick.	Thick. Tolerance		1095 Steel 6″×25″	1095 Steel 12″×48″	1075 Steel 24″×48″
0.004″	±0.0003″	9014K11	$15.81	—	—
0.005″	±0.0003″	9014K12	15.32	—	—
0.006″	±0.0004″	9014K13	15.57	—	—
0.007″	±0.0005″	9014K14	15.92	—	—
0.008″	±0.0005″	9014K16	16.46	—	—
0.01″	±0.0007″	9014K881	16.50	$51.96	—
0.012″	±0.001″	9014K882	16.57	55.30	—
0.015″	±0.001″	9014K883	17.73	61.87	—
0.018″	±0.001″	9014K884	19.66	64.61	—
0.02″	±0.001″	9014K885	19.74	64.72	—
0.025″	±0.001″	9014K886	21.53	70.55	$85.51
0.028″	±0.001″	9014K887	22.55	73.99	—
0.03″	±0.0015″	9014K18	22.79	—	—
0.032″	±0.0015″	9014K889	23.33	76.83	95.52
0.035″	±0.002″	9014K891	36.50	—	101.94
0.042″	±0.002″	9014K892	47.10	—	106.83
0.05″	±0.002″	9014K893	53.80	—	125.91
0.062″	±0.002″	9014K894	56.22	—	133.25

1075 Spring Steel Strips—Full Hard Temper



Width tolerance is ±0.015″. Length tolerance is +¼″. Rockwell hardness is C48-C51. Strips meet ASTM A682.

Thick.	Thick. Tolerance	1½″×25″		Thick.	Thick. Tolerance	4″×25″	
0.125″	±0.002″	9014K916	$106.12	0.094″	±0.002″	9014K915	$96.16

Aluminum Shim Stock

This lightweight aluminum shim stock has good electrical conductivity. It is cold rolled and nonmagnetic. Material will vary between Alloys 1100, 1145, and 1235. A traceable lot number and material test report are included.

1100/1145/1235 Aluminum Rolls—Full Hard Temper



Width tolerance is ±0.005″. Length tolerance is ±1/16″. Rolls are not rated for hardness. They meet ASTM B209.

Thick.	Thick. Tolerance	6″×50″		6″×100″	
0.001″	±0.00005″	9708K51	$21.60	9708K11	$30.18
0.002″	±0.0001″	9708K52	22.83	9708K12	30.21
0.003″	±0.00015″	9708K53	22.88	9708K13	31.62
0.004″	±0.0002″	9708K54	23.18	9708K14	32.13
0.005″	±0.00025″	9708K55	23.58	9708K15	32.80
0.006″	±0.0003″	9708K56	24.24	9708K16	33.89
0.008″	±0.0004″	9708K57	26.00	9708K18	36.82
0.01″	±0.0005″	9708K58	28.42	9708K21	40.87

Nickel Shim Stock

Nickel shim stock is the most corrosion-resistant shim stock we offer. It is cold rolled and magnetic. Material will vary between Alloys 200 and 201. A traceable lot number and material test report are included.

200/201 Nickel Rolls—Soft (Annealed) Temper



Width tolerance is ±0.005″. Length tolerance is ±1/16″. Rockwell hardness is B42-B67.

Thick.	Thick. Tolerance	6″×25″		6″×50″	
0.001″	±0.00005″	9707K71	$65.76	9707K11	$93.52
0.002″	±0.0001″	9707K72	58.86	9707K12	97.46
0.003″	±0.00015″	9707K73	61.00	9707K13	100.74
0.005″	±0.00025″	9707K75	66.08	9707K14	109.46
0.01″	±0.0005″	9707K79	98.48	9707K61	150.96

Copper Shim Stock

Made of Alloy 110 copper, this shim stock is the most electrically conductive that we offer. It is cold rolled and nonmagnetic. A traceable lot number and material test report are included.

110 Copper Rolls—Soft (Annealed) Temper



Width tolerance is ±0.01″. Length tolerance is +½″, –¼″. Rockwell hardness is 15T 47-57. Rolls meet ASTM B152.

Thick.	Thick. Tolerance	6″×50″		6″×100″	
0.001″	±0.0001″	9709K83	$24.03	9709K11	$42.26
0.002″	±0.0002″	9709K84	24.69	9709K12	44.29
0.003″	±0.0003″	9709K85	27.50	9709K13	49.73
0.004″	±0.0003″	9709K91	28.05	9709K14	50.61
0.005″	±0.0003″	9709K92	29.71	9709K15	53.20
0.006″	±0.0003″	9709K93	30.92	9709K16	55.10
0.007″	±0.0004″	9709K94	31.61	9709K17	56.34
0.008″	±0.0004″	9709K95	33.42	9709K18	62.02
0.01″	±0.0007″	9709K96	34.31	9709K21	62.24
0.015″	±0.001″	9709K701	41.62	9709K27	76.95
0.02″	±0.001″	9709K702	45.49	9709K28	81.02
0.025″	±0.001″	9709K703	51.41	9709K29	91.29
0.032″	±0.0015″	9709K704	67.50	9709K82	120.07

110 Copper Sheets—Soft (Annealed) Temper

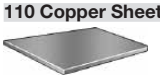

Width tolerance is ±0.01″. Length tolerance is +½″, -¼″. Rockwell hardness is 15T 47-57. Sheets meet AMS 4500.

Thick.	Thick. Tolerance	6″×25″	
0.015″	±0.001″	9014K413	$33.05
0.02″	±0.001″	9014K415	38.12
0.025″	±0.001″	9014K417	34.57

Titanium Shim Stock

This Grade 2 titanium shim stock has a high strength-to-weight ratio and good corrosion resistance. It is cold rolled and nonmagnetic. A traceable lot number and material test report are included.

Grade 2 Titanium Rolls—Soft (Annealed) Temper



Width and length tolerances are ±0.015″. Minimum Rockwell hardness is B80.

Thick.	Thick. Tolerance	6″×50″		12″×50″		Thick.	Thick. Tolerance	6″×50″		12″×50″	
0.005″	±0.0005″	5747T31	$77.20	5747T41	$148.21	0.01″	±0.001″	5747T35	$131.56	5747T45	$253.02
0.006″	±0.0006″	5747T32	93.80	5747T42	173.17	0.012″	±0.001″	5747T36	157.94	5747T46	293.00
0.007″	±0.0007″	5747T33	97.73	5747T43	187.83	0.015″	±0.001″	5747T37	179.10	5747T47	345.95
0.008″	±0.0008″	5747T34	111.58	5747T44	206.61	0.02″	±0.001″	5747T38	230.17	5747T48	445.05

Brass Shim Stock

Alloy 260 brass shim stock is stronger than copper shim stock but less corrosion resistant. It is cold rolled and nonmagnetic. A traceable lot number and material test report are included.

260 Brass Rolls—½ Hard Temper

Width tolerance is ±0.01″. Length tolerance is +½″, –¼″. Rockwell hardness is 30T 56-68. Rolls meet ASTM B18 and ASTM B36.



Thick.	Thick. Tolerance		6″×60″	6″×100″	12″×120″
0.001″	±0.0001″	9501K71	$11.53	$13.35	$30.64
0.0015″	±0.00015″	9501K72	12.46	13.53	———
0.002″	±0.0002″	9501K73	9.82	14.97	34.61
0.003″	±0.0003″	9501K74	11.42	16.20	38.08
0.004″	±0.0004″	9501K75	12.42	18.45	43.76
0.005″	±0.0005″	9501K76	13.72	21.85	51.04
0.006″	±0.0006″	9501K77	16.97	24.18	58.09
0.007″	±0.0007″	9501K78	20.04	26.04	———
0.008″	±0.0008″	9501K79	22.39	29.96	80.34
0.009″	±0.0009″	9501K81	$22.65	$30.50	———
0.01″	±0.001″	9501K82	23.25	31.85	$81.00
0.012″	±0.0012″	9501K83	24.30	36.85	87.04
0.015″	±0.0015″	9501K84	25.41	38.56	91.14
0.018″	±0.0018″	9501K67	———	56.50	———
0.02″	±0.002″	9501K85	35.60	54.23	128.75
0.025″	±0.0025″	9501K86	46.71	71.33	———
0.031″	±0.0031″	9501K87	53.47	81.73	———

260 Brass Sheets—½ Hard Temper

Width and length tolerances are +½″, –¼″ for 6″×25″ sheets and ±1/16″ for 8″×12″ sheets. Rockwell hardness is 30T 56-68. Sheets meet ASTM B36. **6″×25″** sheets also meet ASTM B19.



Thick.	Thick. Tolerance	6″×25″		8″×12″		Thick.	Thick. Tolerance	6″×25″		8″×12″	
0.001″	±0.0001″	———	———	9011K821	$7.60	0.009″	±0.0007″	———	———	9011K95	$13.00
0.002″	±0.0002″	———	———	9011K201	6.80	0.01″	±0.001″	———	———	9011K701	11.18
0.003″	±0.0003″	———	———	9011K301	7.26	0.012″	±0.0012″	9014K211	$15.01	9011K801	12.83
0.004″	±0.0004″	———	———	9011K401	7.72	0.015″	±0.0015″	9014K213	16.65	9011K901	13.39
0.005″	±0.0005″	———	———	9011K501	7.75	0.02″	±0.002″	9014K215	22.22	9011K111	22.29
0.006″	±0.0003″	———	———	9011K93	10.15	0.025″	±0.001″	9014K217	30.52	9011K96	23.38
0.007″	±0.0007″	———	———	9011K601	10.71	0.031″	±0.0015″	9014K219	34.83	9011K97	28.09
0.008″	±0.0004″	———	———	9011K94	11.09						

Bronze Shim Stock

Alloy 510 bronze shim stock is the hardest, electrically-conductive shim stock. It is cold rolled and nonmagnetic. A traceable lot number and material test report are included.

510 Bronze Rolls—Spring Temper

Width tolerance is ±0.01″. Length tolerance is +½″, –¼″. Rockwell hardness is 30T 76-80. Rolls meet ASTM B103.



Thick.	Thick. Tolerance	6″×50″		Thick.	Thick. Tolerance	6″×50″	
0.005″	±0.0003″	9020K11	$15.24	0.02″	±0.001″	9020K16	$41.95
0.008″	±0.0004″	9020K12	20.57	0.025″	±0.001″	9020K17	46.89
0.01″	±0.0007″	9020K13	24.67	0.032″	±0.0015″	9020K18	63.00
0.013″	±0.001″	9020K14	30.38	0.04″	±0.002″	9020K19	73.24
0.016″	±0.001″	9020K15	36.31				

510 Bronze Sheets—Spring Temper

Width tolerance is ±0.01″. Length tolerance is +½″, -¼″. Rockwell hardness is 30T 76-80. Sheets meet AMS 4510.



Thick.	Thick. Tolerance	6″×25″		Thick.	Thick. Tolerance	6″×25″	
0.016″	±0.001″	9014K313	$24.78	0.025″	±0.001″	9014K317	$30.02
0.02″	±0.001″	9014K315	28.38	0.032″	±0.0015″	9014K319	34.13

Metal Shim Stock Sheet Assortments

All shim stock sheets are cold rolled. Thickness tolerance is ±15%. Width tolerance is +1″, –1/16″. Length tolerance is +½″, –¼″.

Included Thicknesses	Sheet Size	No. of Sheets	Rockwell Hardness	Meets ASTM		
18-8 Stainless Steel—Full Hard Temper 0.001″, 0.002″, 0.003″, 0.004″, 0.005″, 0.007″, 0.01″, 0.012″, 0.015″, 0.02″	8″×12″	10	C40-C45	A666	9301K6	$47.05
302 Stainless Steel—Full Hard Temper 0.001″, 0.0015″, 0.002″, 0.003″, 0.004″, 0.005″, 0.006″, 0.007″, 0.008″, 0.01″, 0.012″, 0.015″	6″×12″	12	C40-C45	A666	9300K5	51.31
1008-1010 Low-Carbon Steel—Full Hard Temper 0.002″, 0.003″, 0.004″, 0.005″, 0.007″, 0.01″, 0.012″, 0.015″, 0.02″	8″×12″	9	Min. B90	———	9301K5	19.40
1010 Low-Carbon Steel—Full Hard Temper 0.001″, 0.0015″, 0.002″, 0.003″, 0.004″, 0.005″, 0.006″, 0.007″, 0.008″, 0.01″, 0.012″, 0.015″	6″×12″	12	Min. B90	A109	9300K14	27.18
1095 Spring Steel—Spring Temper 0.005″, 0.01″, 0.015″, 0.02″, 0.025″, 0.032″	6″×12″	6	C48-C58	———	9300K27	47.79
1100 Aluminum —Full Hard Temper 0.001″, 0.002″, 0.003″, 0.005″	6″×50″	4	Not rated	B209	9300K8	56.40
110 Copper—Annealed Temper 0.005″, 0.01″, 0.015″, 0.02″, 0.025″	6″×12″	5	15T 47-57	B152	9300K7	88.82
260 Brass—1/2 Hard Temper 0.001″, 0.0015″, 0.002″, 0.003″, 0.004″, 0.005″, 0.006″, 0.007″, 0.008″, 0.01″, 0.012″, 0.015″	6″×12″	12	30T 56-68	B19, B36	9300K29	35.91
0.001″, 0.002″, 0.003″, 0.004″, 0.005″, 0.0075″, 0.01″, 0.0125″, 0.015″, 0.02″	8″×12″	10	30T 56-68	B36	9301K4	48.61
510 Bronze—Spring Temper 0.005″, 0.008″, 0.01″, 0.013″, 0.016″, 0.02″, 0.025″, 0.032″	6″×12″	8	30T 76-80	B103	9300K6	127.16

59-Sheet Multi-Material Assortment—Includes one 6″×12″ sheet of each thickness of the 302 stainless steel, 1010 low-carbon steel, 1095 spring steel, 1100 aluminum, 110 copper, 260 brass, and 510 bronze listed in the table above. Assortment comes in a 24″ Ht.×30″ Wd.×11½″ Dp. steel cabinet.



9300K59 ..... $492.29

Shim Stock

PTFE Shim Stock

PTFE is a low-friction alternative to metal shim stock. Color is white. Temperature range is –110° to 500° F.

PTFE Sheets



Width and length tolerances are ±1/8″. Rockwell hardness is C37-C41. Sheets meet ASTM D3308 and MIL-T-22241.

Thick.	Thick. Tolerance	8″×12″	
0.001″	±0.0001″	1192N11	$3.03
0.002″	±0.0002″	1192N12	4.80
0.003″	±0.0003″	1192N13	6.60
0.005″	±0.0005″	1192N14	9.75
0.01″	±0.001″	1192N15	13.99
0.015″	±0.0015″	1192N16	16.25

Plastic Shim Stock

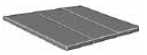

Lightweight and corrosion resistant, these sheets are scored into 2″×6″ sections to make size adjustments easy. Color is black. Sheets are not rated for temperature. Width and length tolerances are ±1/4″. Sheets meet ASTM D638.

0.063″ thick sheets are molded polystyrene. Rockwell hardness is M60-M74. **0.125″** and **0.25″** thick sheets are ABS plastic. Rockwell hardness is R103-R112.

Thick.	Thick. Tolerance	Pkg. Qty	6″×6″	Pkg. 1-4	Pkg. 5-Up
0.063″	±0.032″	8	95015K5	$3.73	$3.20
0.125″	±0.01″	8	95015K6	6.75	5.81
0.25″	±0.012″	8	95015K7	12.54	10.60

Metal Shim Stock Discs



Shim stock is already disc-shaped—cut out the middle to create your shims. It is cold rolled. A traceable lot number and material test report are included. **302 stainless steel** has good corrosion resistance and may be mildly magnetic. **1008-1010 low-carbon steel** can be welded and is magnetic. Material will vary between 1008-1010 steel.

302 Stainless Steel—Full Hard Temper

Diameter tolerance is ±0.005″. Rockwell hardness is C40-C45. Discs meet ASTM A666.

Dia.	Pkg. of 5	Dia.	Pkg. of 5	Dia.	Pkg. of 5
0.001″ Thick. (±0.00008″)		**0.002″ Thick.** (±0.0001″)		**0.01″ Thick.** (±0.0005″)	
1/2″ 2895T31	$19.15	1/2″ 2895T38	$19.43	1/2″ 2895T61	$22.70
3/4″ 2895T32	19.48	3/4″ 2895T39	19.85	3/4″ 2895T62	24.23
1″ 2895T33	19.73	1″ 2895T41	20.00	1″ 2895T63	24.50
1 1/2″ 2895T34	20.27	1 1/2″ 2895T42	20.65	1 1/2″ 2895T64	24.89
2″ 2895T35	20.80	2″ 2895T43	20.74	2″ 2895T65	25.42
3″ 2895T36	21.40	3″ 2895T44	20.79	3″ 2895T66	25.96
4″ 2895T37	22.01	4″ 2895T45	21.67	4″ 2895T67	26.75

1008-1010 Low-Carbon Steel—Full Hard Temper

Diameter tolerance is ±0.005″. Rockwell hardness is B90-B98. Discs meet ASTM A109.

Dia.	Pkg. of 5	Dia.	Pkg. of 5	Dia.	Pkg. of 5
0.001″ Thick. (±0.0002″)		**0.002″ Thick.** (±0.0002″)		**0.01″ Thick.** (±0.00075″)	
1/2″ 2904T31	$13.30	1/2″ 2904T38	$13.96	1/2″ 2904T71	$19.23
3/4″ 2904T32	13.45	3/4″ 2904T39	14.25	3/4″ 2904T72	20.63
1″ 2904T33	13.50	1″ 2904T61	14.30	1″ 2904T73	20.75
1 1/2″ 2904T34	13.81	1 1/2″ 2904T62	14.78	1 1/2″ 2904T74	21.20
2″ 2904T35	14.02	2″ 2904T63	14.88	2″ 2904T75	21.86
3″ 2904T36	14.13	3″ 2904T64	14.98	3″ 2904T76	22.56
4″ 2904T37	14.61	4″ 2904T65	15.47	4″ 2904T77	23.95

Color-Coded Plastic Shim Stock

Identify shim thickness by color. This extruded plastic shim stock resists rust and oil. **0.0005″ to 0.0125″ thicknesses** are polyester. Maximum temperature is 200° F. **0.015″ to 0.06″ thicknesses** are PETG. Maximum temperature is 140° F.

Rolls



Width and length tolerances are ±1/16″. Rolls are not rated for hardness.

Thick.	Thick. Tolerance	Color	20″×50″		Thick.	Thick. Tolerance	Color	20″×50″	
0.0005″	±0.0002″	Silver	9513K61	$17.72	0.0075″	±0.0004″	Gray	9513K68	$19.77
0.00075″	±0.0002″	Gold	9513K135	17.72	0.01″	±0.0005″	Brown	9513K69	27.02
0.001″	±0.0002″	Amber	9513K62	17.72	0.0125″	±0.00063″	Black	9513K71	28.32
0.0015″	±0.0002″	Purple	9513K63	17.72	0.015″	±0.0015″	Pink	9513K72	28.32
0.002″	±0.0002″	Red	9513K64	17.72	0.02″	±0.002″	Yellow	9513K73	31.01
0.003″	±0.0002″	Green	9513K65	17.72	0.025″	±0.0025″	White	9513K74	34.47
0.004″	±0.0002″	Tan	9513K66	19.77	0.03″	±0.003″	Coral	9513K75	34.47
0.005″	±0.0002″	Blue	9513K67	19.77					

Sheets

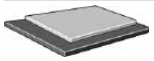

Width and length tolerances are ±1/16″. Sheets are not rated for hardness. **15-piece assortments** include one sheet each of 0.0005″ to 0.03″ thicknesses.

Thick.	Thick. Tolerance	Color	5″×20″		10″×20″		12″×24″		20″×20″		20″×50″	
0.0005″	±0.0002″	Silver	9513K11	$3.32	9513K26	$5.22	9513K111	$8.00	9513K45	$8.80	9513K141	$17.72
0.00075″	±0.0002″	Gold	9513K131	3.32	9513K132	5.22	9513K133	8.00	9513K134	8.80	9513K142	17.72
0.001″	±0.0002″	Amber	9513K12	3.32	9513K27	5.22	9513K112	8.00	9513K46	8.80	9513K143	17.72
0.0015″	±0.0002″	Purple	9513K13	3.32	9513K28	5.22	9513K113	8.00	9513K47	8.80	9513K144	17.72
0.002″	±0.0002″	Red	9513K14	3.32	9513K29	5.22	9513K114	8.00	9513K48	8.80	9513K145	17.72
0.003″	±0.0002″	Green	9513K15	3.32	9513K31	5.22	9513K115	8.00	9513K49	8.80	9513K146	17.72
0.004″	±0.0002″	Tan	9513K16	3.45	9513K32	6.07	9513K116	9.16	9513K51	10.32	9513K147	19.77
0.005″	±0.0002″	Blue	9513K17	3.45	9513K33	6.07	9513K117	9.16	9513K52	10.32	9513K148	19.77
0.0075″	±0.0004″	Gray	9513K18	3.45	9513K34	6.07	9513K118	9.16	9513K53	10.32	9513K149	19.77
0.01″	±0.0005″	Brown	9513K19	3.57	9513K35	6.74	9513K119	10.57	9513K54	11.66	9513K151	27.02
0.0125″	±0.00063″	Black	9513K21	3.57	9513K36	7.02	9513K121	11.21	9513K55	12.13	9513K152	28.32
0.015″	±0.0015″	Pink	9513K22	3.57	9513K37	7.02	9513K122	11.21	9513K56	12.13	9513K153	28.32
0.02″	±0.002″	Yellow	9513K23	4.16	9513K38	7.58	9513K123	11.96	9513K57	13.12	9513K154	31.01
0.025″	±0.0025″	White	9513K24	4.58	9513K39	8.18	9513K124	13.16	9513K58	14.41	9513K155	34.47
0.03″	±0.003″	Coral	9513K25	4.58	9513K41	8.18	9513K125	13.17	9513K59	14.41	9513K156	34.47
0.04″	±0.004″	Clear	9513K81	6.07	9513K86	10.86	9513K126	17.63	9513K91	19.30	9513K157	42.04
0.05″	±0.005″	Clear	9513K82	6.09	9513K87	11.35	9513K127	19.04	9513K92	21.51	9513K158	45.77
0.06″	±0.006″	Clear	9513K83	6.57	9513K88	12.30	9513K128	20.97	9513K93	23.99	9513K159	53.07
15-Piece Assortments			9513K42	34.75	9513K43	59.35	9513K76	113.98	9513K44	117.74	9513K77	273.37

Color-Coded Aluminum Shim Stock

Stronger than plastic and designed for heavy duty use, these painted nonmagnetic sheets let you identify shim thickness by color. They are cold rolled. A traceable lot number and material test report are included.

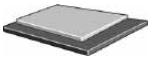

1100, 1200, and 3003 Aluminum Sheets—½ to Full Hard Temper

Width and length tolerances are ±1/16″. Hardness is Brinell 32-45. **0.002″, 0.003″,** and **0.005″ thick sheets** are Alloy 1200. **0.004″, 0.007″,** and **0.01″ thick sheets** are Alloy 1100. **0.015″ to 0.03″ thick** sheets are Alloy 3003. **10-piece assortments** include one sheet each of 0.002″ to 0.03″ thicknesses.

Thick.	Thick. Tolerance	Color	6″×24″		12″×24″	
0.002″	±0.0002″	Red	9536K61	$5.92	9536K71	$8.65
0.003″	±0.0003″	Green	9536K62	5.92	9536K72	8.65
0.004″	±0.0004″	Tan	9536K63	6.05	9536K73	9.04
0.005″	±0.0005″	Blue	9536K64	6.05	9536K74	9.04
0.007″	±0.0007″	Natural	9536K65	6.12	9536K75	9.37
0.01″	±0.001″	Brown	9536K66	6.97	9536K76	11.62
0.015″	±0.0015″	Pink	9536K87	$7.39	9536K97	$12.94
0.02″	±0.002″	Yellow	9536K68	8.54	9536K78	14.30
0.025″	±0.0025″	White	9536K69	8.80	9536K79	14.99
0.03″	±0.003″	Coral	9536K201	9.19	9536K81	16.43
10-Piece Assortments			9536K51	48.24	9536K52	86.65

Metal Peel-Away Shim Stock

After you create your shims, this shim stock allows you to remove layers with a utility knife to adjust the thickness. All sheets are cold rolled. **302 stainless steel** has good corrosion resistance and may be mildly magnetic. **1008 low-carbon steel** can be welded. It is magnetic. **1100 aluminum** has good electrical conductivity. It is nonmagnetic. **260 brass** is nonmagnetic and has some corrosion resistance.





302 Stainless Steel Sheets—Soft (Annealed) Temper

Width and length tolerances are ±1/16″. Sheets are not rated for hardness.

Thick.	Thick. Tolerance	No. of Layers	12″×12″		20″×24″	
0.002″ Thick Layers (±0.0002″)						
0.008″	+0.001″, -0.0005″	4	9718K41	$29.25	9718K11	$61.52
0.01″	+0.0015″, -0.0005″	5	9718K42	32.00	9718K12	74.89
0.016″	+0.0015″, -0.001″	8	9718K43	40.24	9718K13	103.37
0.02″	+0.002″, -0.001″	9	9718K44	45.74	9718K14	121.37
0.032″	+0.003″, -0.002″	15	9718K45	62.24	9718K15	177.96
0.048″	+0.005″, -0.002″	22	9718K46	84.22	9718K16	241.52
0.062″	+0.006″, -0.002″	28	9718K47	103.48	9718K37	288.02
0.094″	+0.009″, -0.003″	43	9718K48	147.46	9718K18	429.89
0.124″	+0.012″, -0.003″	56	9718K49	188.70	9718K19	545.31
0.003″ Thick Layers (±0.0003″)						
0.015″	+0.0015″, -0.001″	5	9718K51	$32.95	9718K22	$64.40
0.021″	+0.002″, -0.001″	6	9718K52	38.69	9718K23	84.57
0.033″	+0.003″, -0.002″	10	9718K53	50.40	9718K24	120.72
0.048″	+0.005″, -0.002″	15	9718K54	65.02	9718K25	169.43
0.063″	+0.006″, -0.002″	19	9718K55	79.62	9718K26	211.10
0.093″	+0.009″, -0.003″	28	9718K56	108.86	9718K27	305.39
0.126″	+0.012″, -0.003″	38	9718K57	141.02	9718K28	362.36

1008 Low-Carbon Steel Sheets—Soft (Annealed) Temper

Width and length tolerances are ±1/16″. Rockwell hardness is B60-B65. Sheets meet Fed. Spec. QQ-S-698.

Thick.	Thick. Tolerance	No. of Layers	12″×12″		20″×24″	
0.002″ Thick Layers (±0.0002″)						
0.006″	+0.001″, -0.0005″	3	9720K38	$21.56	9720K11	$28.35
0.008″	+0.001″, -0.0005″	4	9720K39	22.68	9720K12	32.47
0.01″	+0.0015″, -0.0005″	5	9720K41	23.78	9720K13	36.85
0.016″	+0.0015″, -0.001″	8	9720K42	27.08	9720K14	49.56
0.02″	+0.002″, -0.001″	9	9720K43	29.28	9720K15	55.91
0.032″	+0.003″, -0.002″	15	9720K44	35.90	9720K16	77.55
0.048″	+0.005″, -0.002″	22	9720K45	44.74	9720K17	107.16
0.062″	+0.006″, -0.002″	28	9720K46	52.46	9720K18	133.72
0.094″	+0.009″, -0.003″	43	9720K47	70.12	9720K19	187.81
0.124″	+0.012″, -0.003″	56	9720K48	86.66	9720K21	233.76
0.003″ Thick Layers (±0.0003″)						
0.015″	+0.0015″, -0.001″	5	9720K49	$26.60	9720K31	$47.79
0.021″	+0.002″, -0.001″	6	9720K51	29.96	9720K32	59.49
0.033″	+0.003″, -0.002″	10	9720K52	36.64	9720K33	83.17
0.048″	+0.005″, -0.002″	15	9720K53	45.02	9720K34	111.87
0.063″	+0.006″, -0.002″	19	9720K54	53.38	9720K35	137.44
0.093″	+0.009″, -0.003″	28	9720K55	70.08	9720K36	192.74
0.126″	+0.012″, -0.003″	38	9720K56	88.48	9720K37	256.16

1100 Aluminum Sheets—Full Hard Temper

Width tolerance is ±0.010″. Length tolerance is +½″, –¼″. Sheets are not rated for hardness.

Thick.	Thick. Tolerance	No. of Layers	12″×12″		24″×24″	
0.002″ Thick Layers (±0.0002″)						
0.006″	+0.001″, -0.0005″	3	9574K72	$10.28	_____	_____
0.008″	+0.001″, -0.0005″	4	9574K73	11.78	_____	_____
0.01″	+0.0015″, -0.0005″	5	9574K74	13.58	_____	_____
0.016″	+0.0015″, -0.001″	8	9574K75	14.98	_____	_____
0.02″	+0.002″, -0.001″	10	9574K76	19.07	_____	_____
0.032″	+0.003″, -0.002″	16	9574K77	24.49	_____	_____
0.048″	+0.005″, -0.002″	24	9574K78	28.62	_____	_____
0.062″	+0.006″, -0.002″	31	9574K79	30.69	_____	_____
0.094″	+0.009″, -0.003″	47	9574K81	34.45	_____	_____
0.125″	+0.012″, -0.003″	62	9574K82	39.04	_____	_____
0.003″ Thick Layers (±0.0003″)						
0.016″	+0.0015″, -0.001″	5	9574K64	$14.78	_____	_____
0.021″	+0.002″, -0.001″	7	9574K65	18.58	_____	_____
0.033″	+0.003″, -0.002″	11	9574K66	21.43	_____	_____
0.048″	+0.005″, -0.002″	16	9574K67	30.98	_____	_____
0.063″	+0.006″, -0.002″	21	9574K68	37.09	_____	_____
0.094″	+0.009″, -0.003″	31	9574K69	41.69	_____	_____
0.125″	+0.012″, -0.003″	42	9574K71	47.33	_____	_____
0.187″	+0.018″, -0.003″	62	_____	_____	9574K61	$194.52
0.25″	+0.025″, -0.005″	83	_____	_____	9574K62	282.84

260 Brass Sheets—½ Hard Temper

Width and length tolerances are ±1/16″. Sheets are not rated for hardness.

Thick.	Thick. Tolerance	No. of Layers	8″×24″		12″×12″	
0.002″ Thick Layers (±0.0002″)						
0.006″	+0.001″, -0.0005″	3	9521K11	$27.27	_____	_____
0.008″	+0.001″, -0.0005″	4	9521K12	31.04	_____	_____
0.01″	+0.0015″, -0.0005″	5	9521K33	34.80	_____	_____
0.016″	+0.0015″, -0.001″	8	9521K14	46.07	_____	_____
0.02″	+0.002″, -0.001″	9	9521K15	53.60	9521K71	$44.82
0.002″ Thick Layers (±0.0002″) (Cont.)						
0.032″	+0.003″, -0.002″	15	9521K16	$76.18	9521K72	$61.76
0.048″	+0.005″, -0.002″	22	9521K17	106.29	9521K73	84.33
0.062″	+0.006″, -0.002″	28	9521K18	132.65	9521K74	104.07
0.094″	+0.009″, -0.003″	43	9521K19	192.85	9521K75	149.25
0.124″	+0.012″, -0.003″	56	9521K21	249.29	9521K76	191.56

Shim Tape

Layer strips of tape to build up worn spots. Tape is 18-8 stainless steel foil with acrylic adhesive and a paper liner. It can be cut to size. Temperature range is –30° to 250° F.

Wd.	Thick.	Lg., ft.		
1/4″	0.004″	9	1143N22	$4.14
1/2″	0.004″	9	1143N23	6.42
3/4″	0.004″	9	1143N24	8.80
1″	0.004″	9	1143N21	10.24



Stainless Steel Round Shims



Precisely align, level, and adjust spacing on shafts and machinery in corrosive environments. Shims may be mildly magnetic. **316 stainless steel** shims have excellent corrosion resistance. **18-8 stainless steel** shims have good corrosion resistance.
Inch Shims—Meet ASTM A240. ID tolerance is +0.011″. OD tolerance is ±0.002″. Minimum Rockwell hardness is B70.
Metric Shims—ID tolerance is ±0.3 mm. OD tolerance is ±0.05 mm. *316 stainless steel* shims have a minimum Rockwell hardness of B70-C45. *18-8 stainless steel* shims have a minimum Rockwell hardness of B70.

316 Stainless Steel

0.001″ Thick (±0.0003″)

ID	OD	Pkg. Qty.		Pkg.
1/8″	3/16″	5	97022A864	$8.64
3/16″	1/4″	5	97022A865	8.79
1/4″	3/8″	10	97022A121	11.55
11/32″	13/16″	5	97022A124	6.36
3/8″	5/8″	5	97022A128	6.21
1/2″	3/4″	5	97022A132	6.36
5/8″	1″	5	97022A136	7.27
3/4″	1 1/8″	5	97022A139	7.42
7/8″	1 3/8″	5	97022A143	7.42
1″	1 1/2″	5	97022A147	7.58
1 1/4″	1 3/4″	5	97022A151	7.58
1 3/8″	1 7/8″	5	97022A155	7.73
1 1/2″	2 1/8″	5	97022A159	8.03

0.002″ Thick (±0.0005″)

ID	OD	Pkg. Qty.		Pkg.
1/8″	3/16″	5	97022A866	8.33
3/16″	1/4″	5	97022A867	8.48
1/4″	3/8″	10	97022A207	9.09
11/32″	13/16″	10	97022A211	10.00
3/8″	5/8″	10	97022A216	3.18
1/2″	3/4″	10	97022A237	4.36
5/8″	1″	10	97022A258	5.08
3/4″	1 1/8″	5	97022A749	10.60
7/8″	1 3/8″	5	97022A762	7.27
1″	1 1/2″	5	97022A770	11.10
1 1/4″	1 3/4″	5	97022A771	7.73
1 3/8″	1 7/8″	5	97022A777	7.88
1 1/2″	2 1/8″	5	97022A781	8.18

0.003″ Thick (±0.0005″)

ID	OD	Pkg. Qty.		Pkg.
1/8″	3/16″	5	97022A868	8.03
3/16″	1/4″	5	97022A869	8.18
1/4″	3/8″	10	97022A162	9.09
11/32″	13/16″	10	97022A166	10.15
3/8″	5/8″	10	97022A169	9.39
1/2″	3/4″	10	97022A173	9.85
5/8″	1″	5	97022A175	6.21
3/4″	1 1/8″	5	97022A178	6.52
7/8″	1 3/8″	5	97022A181	6.67
1″	1 1/2″	5	97022A184	6.97

0.004″ Thick (±0.0005″)

ID	OD	Pkg. Qty.		Pkg.
1/8″	3/16″	5	97022A871	7.73
3/16″	1/4″	5	97022A872	7.88
1/4″	3/8″	10	97022A187	9.09
11/32″	13/16″	10	97022A190	10.15
3/8″	5/8″	10	97022A193	9.39
1/2″	3/4″	10	97022A196	9.85
5/8″	1″	10	97022A199	10.76
3/4″	1 1/8″	5	97022A202	6.52
7/8″	1 3/8″	5	97022A206	6.67
1″	1 1/2″	5	97022A210	6.82

0.005″ Thick (±0.0005″)

ID	OD	Pkg. Qty.		Pkg.
1/8″	3/16″	5	97022A873	7.12
3/16″	1/4″	5	97022A874	7.27
1/4″	3/8″	10	97022A323	8.18
11/32″	13/16″	10	97022A328	9.09
3/8″	5/8″	10	97022A331	4.67

0.005″ Thick (±0.0005″) (Cont.)

ID	OD	Pkg. Qty.		Pkg.
1/2″	3/4″	10	97022A333	$5.40
5/8″	1″	10	97022A335	7.12
3/4″	1 1/8″	10	97022A337	6.52
7/8″	1 3/8″	5	97022A344	6.67
1″	1 1/2″	10	97022A341	9.92
1 1/4″	1 3/4″	5	97022A347	6.97
1 3/8″	1 7/8″	5	97022A350	7.27
1 1/2″	2 1/8″	5	97022A353	8.03
1 3/4″	2 3/4″	5	97022A356	8.33
2″	2 3/4″	5	97022A359	8.33

0.010″ Thick (±0.001″)

ID	OD	Pkg. Qty.		Pkg.
1/8″	3/16″	5	97022A875	6.67
3/16″	1/4″	5	97022A876	6.82
1/4″	3/8″	10	97022A372	7.27
11/32″	13/16″	10	97022A374	8.18
3/8″	5/8″	10	97022A378	3.98
1/2″	3/4″	10	97022A380	4.47
5/8″	1″	10	97022A382	8.40
3/4″	1 1/8″	10	97022A384	6.99
7/8″	1 3/8″	10	97022A391	10.76
1″	1 1/2″	5	97022A388	11.84
1 1/8″	1 5/8″	10	97022A394	10.91
1 1/4″	1 3/4″	10	97022A397	11.21
1 3/8″	1 7/8″	10	97022A399	11.52
1 1/2″	2 1/8″	10	97022A403	11.97
1 3/4″	2 3/4″	5	97022A406	6.36
2″	2 3/4″	5	97022A409	6.36

0.012″ Thick (±0.0015″)

ID	OD	Pkg. Qty.		Pkg.
1/8″	3/16″	5	97022A877	6.82
3/16″	1/4″	5	97022A878	6.82
1/4″	3/8″	10	97022A002	7.58
11/32″	13/16″	10	97022A005	8.79
3/8″	5/8″	10	97022A008	8.03
1/2″	3/4″	10	97022A011	8.48
5/8″	1″	10	97022A014	9.09
3/4″	1 1/8″	10	97022A016	10.61
7/8″	1 3/8″	10	97022A019	11.06
1″	1 1/2″	10	97022A022	11.36

0.016″ Thick (±0.002″)

ID	OD	Pkg. Qty.		Pkg.
1/8″	3/16″	5	97022A879	7.73
3/16″	1/4″	5	97022A881	7.88
1/4″	3/8″	10	97022A038	5.45
11/32″	13/16″	10	97022A044	6.36
3/8″	5/8″	10	97022A425	6.13
1/2″	3/4″	10	97022A427	7.62
5/8″	1″	10	97022A429	12.54
3/4″	1 1/8″	5	97022A431	8.50
7/8″	1 3/8″	10	97022A047	11.06
1″	1 1/2″	5	97022A435	9.48
1 1/8″	1 5/8″	10	97022A049	11.36
1 1/4″	1 3/4″	10	97022A052	11.97
1 3/8″	1 7/8″	5	97022A057	6.36
1 1/2″	2 1/8″	5	97022A060	6.67
1 3/4″	2 3/4″	5	97022A063	6.82
2″	2 3/4″	5	97022A066	6.82

0.020″ Thick (±0.0025″)

ID	OD	Pkg. Qty.		Pkg.
1/8″	3/16″	5	97022A882	$8.03
3/16″	1/4″	5	97022A883	8.18
1/4″	3/8″	10	97022A440	4.55
11/32″	13/16″	10	97022A444	5.15
3/8″	5/8″	10	97022A448	6.03
1/2″	3/4″	10	97022A450	6.88
5/8″	1″	10	97022A452	9.42
3/4″	1 1/8″	5	97022A454	8.30
7/8″	1 3/8″	10	97022A461	11.21
1″	1 1/2″	5	97022A458	12.71
1 1/8″	1 5/8″	10	97022A464	11.52
1 1/4″	1 3/4″	10	97022A467	12.12
1 3/8″	1 7/8″	5	97022A470	6.36
1 1/2″	2 1/8″	5	97022A473	6.67
1 3/4″	2 3/4″	5	97022A476	6.97
2″	2 3/4″	5	97022A479	6.97

0.025″ Thick (±0.0025″)

ID	OD	Pkg. Qty.		Pkg.
1/8″	3/16″	5	97022A884	8.33
3/16″	1/4″	5	97022A885	8.48
1/4″	3/8″	10	97022A213	4.55
11/32″	13/16″	10	97022A217	6.06
3/8″	5/8″	10	97022A219	5.69
1/2″	3/4″	10	97022A240	5.42
5/8″	1″	10	97022A261	6.92
3/4″	1 1/8″	10	97022A752	5.71
7/8″	1 3/8″	10	97022A764	11.36
1″	1 1/2″	10	97022A773	10.38
1 1/8″	1 5/8″	10	97022A784	11.67
1 1/4″	1 3/4″	5	97022A787	6.36
1 3/8″	1 7/8″	5	97022A790	6.36
1 1/2″	2 1/8″	5	97022A793	6.82
1 3/4″	2 3/4″	5	97022A796	7.12
2″	2 3/4″	5	97022A799	7.12

0.030″ Thick (±0.003″)

ID	OD	Pkg. Qty.		Pkg.
1/8″	3/16″	5	97022A886	9.39
3/16″	1/4″	5	97022A887	9.55
1/4″	3/8″	10	97022A489	5.30
11/32″	13/16″	10	97022A492	6.82
3/8″	5/8″	10	97022A495	5.78
1/2″	3/4″	10	97022A497	6.57
5/8″	1″	10	97022A499	8.93
3/4″	1 1/8″	10	97022A501	11.24
7/8″	1 3/8″	10	97022A503	11.52
1″	1 1/2″	5	97022A505	13.14
1 1/8″	1 5/8″	10	97022A509	11.82
1 1/4″	1 3/4″	5	97022A512	6.21
1 3/8″	1 7/8″	5	97022A516	6.36
1 1/2″	2 1/8″	5	97022A519	6.82
1 3/4″	2 3/4″	5	97022A523	7.27
2″	2 3/4″	5	97022A527	7.27

0.045″ Thick (±0.0035″)

ID	OD	Pkg. Qty.		Pkg.
1/4″	3/8″	10	97022A212	9.09
11/32″	13/16″	10	97022A215	9.70
3/8″	5/8″	10	97022A222	9.32
1/2″	3/4″	10	97022A243	11.27

0.045″ Thick (±0.0035″) (Cont.)

ID	OD	Pkg. Qty.		Pkg.
5/8″	1″	10	97022A264	$9.28
3/4″	1 1/8″	5	97022A755	6.92
7/8″	1 3/8″	10	97022A765	11.67
1″	1 1/2″	5	97022A776	7.81
1 1/8″	1 5/8″	10	97022A803	11.97
1 1/4″	1 3/4″	5	97022A806	6.67
1 3/8″	1 7/8″	5	97022A809	6.97
1 1/2″	2 1/8″	5	97022A812	6.97
1 3/4″	2 3/4″	5	97022A816	9.85
2″	2 3/4″	5	97022A819	9.85

0.060″ Thick (±0.004″)

ID	OD	Pkg. Qty.		Pkg.
1/4″	3/8″	5	97022A535	8.03
11/32″	13/16″	10	97022A538	7.27
3/8″	5/8″	10	97022A541	8.33
1/2″	3/4″	10	97022A543	10.98
5/8″	1″	5	97022A545	10.05
3/4″	1 1/8″	5	97022A547	12.09
7/8″	1 3/8″	10	97022A549	11.97
1″	1 1/2″	5	97022A551	13.42
1 1/8″	1 5/8″	5	97022A562	6.21
1 1/4″	1 3/4″	5	97022A565	6.36
1 3/8″	1 7/8″	5	97022A569	6.97
1 1/2″	2 1/8″	5	97022A573	7.42
1 3/4″	2 3/4″	5	97022A577	11.36
2″	2 3/4″	5	97022A580	11.67

0.090″ Thick (±0.008″)

ID	OD	Pkg. Qty.		Pkg.
11/32″	13/16″	10	97022A223	12.45
3/8″	5/8″	5	97022A225	9.69
1/2″	3/4″	5	97022A246	11.33
5/8″	1″	5	97022A267	9.04
3/4″	1 1/8″	5	97022A758	8.99
7/8″	1 3/8″	5	97022A763	6.36
1″	1 1/2″	1	97022A779	4.02
1 1/8″	1 5/8″	5	97022A822	7.58
1 1/4″	1 3/4″	5	97022A825	9.39
1 3/8″	1 7/8″	5	97022A829	11.06
1 1/2″	2 1/8″	5	97022A833	11.82
1 3/4″	2 3/4″	1	97022A837	3.49
2″	2 3/4″	1	97022A840	3.49

0.125″ Thick (±0.013″)

ID	OD	Pkg. Qty.		Pkg.
11/32″	13/16″	10	97022A227	11.82
3/8″	5/8″	5	97022A228	6.88
1/2″	3/4″	5	97022A249	7.75
5/8″	1″	5	97022A247	6.67
3/4″	1 1/8″	5	97022A255	6.82
7/8″	1 3/8″	5	97022A768	7.88
1″	1 1/2″	1	97022A782	4.15
1 1/8″	1 5/8″	5	97022A845	9.70
1 1/4″	1 3/4″	5	97022A848	12.58
1 3/8″	1 7/8″	5	97022A852	13.64
1 1/2″	2 1/8″	1	97022A855	2.85
1 3/4″	2 3/4″	1	97022A859	4.55
2″	2 3/4″	1	97022A863	4.55

18-8 Stainless Steel

0.001″ Thick (±0.0003″)

ID	OD	Pkg. Qty.		Pkg.
1/8″	3/16″	5	98126A011	8.48
3/16″	1/4″	5	98126A012	8.64
1/4″	3/8″	10	98126A116	10.00
11/32″	13/16″	5	98126A119	6.06
3/8″	5/8″	10	98126A123	11.23
1/2″	3/4″	10	98126A126	11.00
5/8″	1″	10	98126A129	12.00
3/4″	1 1/8″	10	98126A132	12.65
7/8″	1 3/8″	10	98126A135	13.14
1″	1 1/2″	10	98126A138	14.52
1 1/8″	1 5/8″	10	98126A141	13.64
1 1/4″	1 3/4″	10	98126A144	16.00
1 3/8″	1 7/8″	5	98126A147	7.12
1 1/2″	2 1/8″	5	98126A151	7.58
1 3/4″	2 3/4″	5	98126A155	7.88
2″	2 3/4″	5	98126A159	7.88

0.002″ Thick (±0.0005″)

ID	OD	Pkg. Qty.		Pkg.
1/8″	3/16″	5	98126A013	8.18
3/16″	1/4″	5	98126A014	8.33
1/4″	3/8″	10	98126A161	7.58
11/32″	13/16″	10	98126A163	8.33
3/8″	5/8″	10	98126A165	10.51
1/2″	3/4″	10	98126A168	10.40
5/8″	1″	10	98126A171	10.00
3/4″	1 1/8″	10	98126A174	11.20
7/8″	1 3/8″	10	98126A177	12.60
1″	1 1/2″	10	98126A180	13.40
1 1/8″	1 5/8″	10	98126A183	14.60
1 1/4″	1 3/4″	10	98126A186	15.20
1 3/8″	1 7/8″	10	98126A189	12.08
1 1/2″	2 1/8″	10	98126A192	16.60
1 3/4″	2 3/4″	5	98126A195	11.83
2″	2 3/4″	5	98126A198	12.24

0.003″ Thick (±0.0005″)

ID	OD	Pkg. Qty.		Pkg.
1/8″	3/16″	5	98126A015	7.88
3/16″	1/4″	5	98126A016	8.03
1/4″	3/8″	10	98126A197	7.58
11/32″	13/16″	10	98126A199	8.33
3/8″	5/8″	10	98126A210	9.80
1/2″	3/4″	10	98126A213	7.56
5/8″	1″	10	98126A216	11.52
3/4″	1 1/8″	10	98126A219	10.20
7/8″	1 3/8″	10	98126A222	14.80
1″	1 1/2″	10	98126A225	16.00
1 1/8″	1 5/8″	10	98126A228	15.60
1 1/4″	1 3/4″	10	98126A231	17.86
1 3/8″	1 7/8″	10	98126A234	17.23
1 1/2″	2 1/8″	5	98126A237	12.04
1 3/4″	2 3/4″	5	98126A240	17.69
2″	2 3/4″	5	98126A243	16.30

0.004″ Thick (±0.0005″)

ID	OD	Pkg. Qty.		Pkg.
1/8″	3/16″	5	98126A017	7.58
3/16″	1/4″	5	98126A018	7.73
1/4″	3/8″	10	98126A246	7.58
11/32″	13/16″	10	98126A248	8.33
3/8″	5/8″	10	98126A250	10.28
1/2″	3/4″	10	98126A253	9.63
5/8″	1″	10	98126A256	12.75
3/4″	1 1/8″	10	98126A259	10.83
7/8″	1 3/8″	10	98126A262	16.00
1″	1 1/2″	10	98126A265	14.60
1 1/8″	1 5/8″	10	98126A268	15.05
1 1/4″	1 3/4″	10	98126A271	16.60
1 3/8″	1 7/8″	10	98126A274	14.83
1 1/2″	2 1/8″	5	98126A277	9.14
1 3/4″	2 3/4″	5	98126A280	12.53
2″	2 3/4″	5	98126A283	12.24

(Continued on following page)

Stainless Steel Round Shims *(Continued from previous page)*

ID	OD	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)				
0.005″ Thick (±0.00075″)				
1/8″	3/16″	5	98126A019	$6.97
3/16″	1/4″	5	98126A020	7.12
1/4″	3/8″	10	98126A286	6.82
11/32″	13/16″	10	98126A288	7.58
3/8″	5/8″	10	98126A291	9.68
1/2″	3/4″	10	98126A294	11.29
5/8″	1″	10	98126A297	10.70
3/4″	1 1/8″	10	98126A300	10.42
7/8″	1 3/8″	10	98126A303	13.91
1″	1 1/2″	10	98126A306	14.35
1 1/8″	1 5/8″	10	98126A309	13.50
1 1/4″	1 3/4″	10	98126A312	17.12
1 3/8″	1 7/8″	10	98126A315	15.96
1 1/2″	2 1/8″	10	98126A318	17.78
1 3/4″	2 3/4″	5	98126A321	13.04
2″	2 3/4″	5	98126A324	10.55
0.006″ Thick (±0.0006″)				
1/4″	3/8″	10	98126A327	6.82
11/32″	13/16″	10	98126A330	7.58
3/8″	5/8″	10	98126A333	9.76
1/2″	3/4″	10	98126A336	11.20
5/8″	1″	10	98126A339	12.28
3/4″	1 1/8″	10	98126A342	11.20
7/8″	1 3/8″	10	98126A345	12.82
1″	1 1/2″	10	98126A348	15.00
1 1/8″	1 5/8″	10	98126A351	15.40
1 1/4″	1 3/4″	10	98126A354	13.84
1 3/8″	1 7/8″	10	98126A357	14.30
1 1/2″	2 1/8″	5	98126A360	10.17
1 3/4″	2 3/4″	5	98126A363	13.78
2″	2 3/4″	5	98126A366	14.80
0.007″ Thick (±0.0007″)				
1/4″	3/8″	10	98126A368	6.82
11/32″	13/16″	10	98126A370	7.58
3/8″	5/8″	10	98126A371	9.71
1/2″	3/4″	10	98126A374	11.59
5/8″	1″	10	98126A377	12.04
3/4″	1 1/8″	10	98126A380	11.58
7/8″	1 3/8″	10	98126A383	12.59
1″	1 1/2″	10	98126A386	15.48
1 1/8″	1 5/8″	10	98126A389	14.04
1 1/4″	1 3/4″	10	98126A392	15.90
1 3/8″	1 7/8″	5	98126A395	9.00
1 1/2″	2 1/8″	5	98126A398	10.93
1 3/4″	2 3/4″	5	98126A401	11.59
2″	2 3/4″	5	98126A404	14.37
0.008″ Thick (±0.0008″)				
1/4″	3/8″	10	98126A406	6.82
11/32″	13/16″	10	98126A409	7.58
3/8″	5/8″	10	98126A412	11.24
1/2″	3/4″	10	98126A415	12.80
5/8″	1″	10	98126A418	10.00
3/4″	1 1/8″	10	98126A421	12.83
7/8″	1 3/8″	10	98126A424	11.96
1″	1 1/2″	10	98126A427	16.54
0.008″ Thick (±0.0008″) (Cont.)				
1 1/8″	1 5/8″	10	98126A430	$17.00
1 1/4″	1 3/4″	5	98126A433	10.93
1 3/8″	1 7/8″	5	98126A436	9.17
1 1/2″	2 1/8″	5	98126A439	9.00
1 3/4″	2 3/4″	5	98126A442	12.66
2″	2 3/4″	5	98126A445	11.43
0.010″ Thick (±0.001″)				
1/8″	3/16″	5	98126A021	6.52
3/16″	1/4″	5	98126A022	6.67
1/4″	3/8″	10	98126A447	6.06
11/32″	13/16″	10	98126A449	6.82
3/8″	5/8″	10	98126A450	10.38
1/2″	3/4″	10	98126A453	10.08
5/8″	1″	10	98126A456	7.89
3/4″	1 1/8″	10	98126A459	11.32
7/8″	1 3/8″	10	98126A462	11.52
1″	1 1/2″	10	98126A465	13.20
1 1/8″	1 5/8″	10	98126A468	14.22
1 1/4″	1 3/4″	10	98126A471	15.23
1 3/8″	1 7/8″	10	98126A474	17.41
1 1/2″	2 1/8″	5	98126A477	9.39
1 3/4″	2 3/4″	5	98126A480	13.86
2″	2 3/4″	5	98126A483	14.51
0.012″ Thick (±0.002″)				
1/8″	3/16″	5	98126A023	6.67
3/16″	1/4″	5	98126A024	6.82
1/4″	3/8″	10	98126A486	5.76
11/32″	13/16″	10	98126A489	6.52
3/8″	5/8″	10	98126A491	11.36
1/2″	3/4″	10	98126A494	11.59
5/8″	1″	10	98126A497	11.88
3/4″	1 1/8″	10	98126A500	10.48
7/8″	1 3/8″	10	98126A503	14.06
1″	1 1/2″	10	98126A506	12.56
1 1/8″	1 5/8″	10	98126A509	15.02
1 1/4″	1 3/4″	10	98126A512	15.43
1 3/8″	1 7/8″	5	98126A515	8.55
1 1/2″	2 1/8″	5	98126A518	8.90
1 3/4″	2 3/4″	5	98126A521	12.29
2″	2 3/4″	5	98126A524	13.20
0.015″ Thick (±0.002″)				
1/8″	3/16″	5	98126A025	7.58
3/16″	1/4″	5	98126A026	7.73
1/4″	3/8″	10	98126A528	4.55
11/32″	13/16″	10	98126A530	5.30
3/8″	5/8″	10	98126A532	8.78
1/2″	3/4″	10	98126A535	10.06
5/8″	1″	10	98126A538	10.89
3/4″	1 1/8″	10	98126A541	10.92
7/8″	1 3/8″	10	98126A544	11.76
1″	1 1/2″	10	98126A547	12.56
1 1/8″	1 5/8″	10	98126A550	16.80
1 1/4″	1 3/4″	10	98126A553	13.40
1 3/8″	1 7/8″	10	98126A556	19.68
1 1/2″	2 1/8″	10	98126A559	17.19
0.015″ Thick (±0.002″) (Cont.)				
1 3/4″	2 3/4″	5	98126A562	$14.27
2″	2 3/4″	5	98126A565	14.44
0.020″ Thick (±0.0025″)				
1/8″	3/16″	5	98126A027	7.88
3/16″	1/4″	5	98126A028	8.03
1/4″	3/8″	10	98126A568	3.79
11/32″	13/16″	10	98126A570	4.24
3/8″	5/8″	10	98126A573	9.76
1/2″	3/4″	10	98126A576	10.08
5/8″	1″	10	98126A579	11.78
3/4″	1 1/8″	10	98126A582	10.53
7/8″	1 3/8″	10	98126A585	11.64
1″	1 1/2″	10	98126A588	12.96
1 1/8″	1 5/8″	10	98126A591	13.40
1 1/4″	1 3/4″	10	98126A594	14.45
1 3/8″	1 7/8″	10	98126A597	21.61
1 1/2″	2 1/8″	10	98126A600	14.83
1 3/4″	2 3/4″	5	98126A603	13.74
2″	2 3/4″	5	98126A606	13.92
0.025″ Thick (±0.0025″)				
1/8″	3/16″	5	98126A029	8.18
3/16″	1/4″	5	98126A030	8.33
1/4″	3/8″	10	98126A608	3.64
11/32″	13/16″	10	98126A610	4.09
3/8″	5/8″	10	98126A612	9.71
1/2″	3/4″	10	98126A615	10.71
5/8″	1″	10	98126A618	10.47
3/4″	1 1/8″	10	98126A621	8.38
7/8″	1 3/8″	10	98126A624	12.61
1″	1 1/2″	10	98126A627	13.91
1 1/8″	1 5/8″	10	98126A630	20.42
1 1/4″	1 3/4″	10	98126A633	16.40
1 3/8″	1 7/8″	5	98126A636	11.00
1 1/2″	2 1/8″	5	98126A639	13.13
1 3/4″	2 3/4″	1	98126A642	3.64
2″	2 3/4″	1	98126A645	3.06
0.030″ Thick (±0.003″)				
1/8″	3/16″	5	98126A031	9.24
3/16″	1/4″	5	98126A032	9.39
1/4″	3/8″	10	98126A647	3.64
11/32″	13/16″	10	98126A649	4.09
3/8″	5/8″	10	98126A650	10.14
1/2″	3/4″	10	98126A653	10.32
5/8″	1″	10	98126A656	11.20
3/4″	1 1/8″	10	98126A659	12.20
7/8″	1 3/8″	10	98126A662	12.80
1″	1 1/2″	10	98126A665	14.90
1 1/8″	1 5/8″	10	98126A668	14.68
1 1/4″	1 3/4″	10	98126A671	15.75
1 3/8″	1 7/8″	5	98126A674	10.16
1 1/2″	2 1/8″	5	98126A677	11.76
1 3/4″	2 3/4″	5	98126A680	15.16
2″	2 3/4″	5	98126A683	15.32
0.048″ Thick (±0.0035″)				
1/4″	3/8″	10	98126A686	7.58
11/32″	13/16″	10	98126A689	4.85
0.048″ Thick (±0.0035″) (Cont.)				
3/8″	5/8″	10	98126A691	$10.34
1/2″	3/4″	10	98126A694	10.19
5/8″	1″	10	98126A697	11.72
3/4″	1 1/8″	10	98126A700	11.85
7/8″	1 3/8″	10	98126A703	12.51
1″	1 1/2″	5	98126A706	8.90
1 1/8″	1 5/8″	5	98126A709	10.46
1 1/4″	1 3/4″	5	98126A712	9.93
1 3/8″	1 7/8″	5	98126A715	10.01
1 1/2″	2 1/8″	5	98126A718	11.43
1 3/4″	2 3/4″	1	98126A721	4.69
2″	2 3/4″	1	98126A724	4.90
0.062″ Thick (±0.0035″)				
11/32″	13/16″	10	98126A733	9.73
3/8″	5/8″	10	98126A736	10.02
1/2″	3/4″	10	98126A739	10.29
5/8″	1″	10	98126A742	11.88
3/4″	1 1/8″	10	98126A745	12.78
7/8″	1 3/8″	10	98126A748	15.88
1″	1 1/2″	5	98126A751	9.75
1 1/8″	1 5/8″	5	98126A754	9.31
1 1/4″	1 3/4″	5	98126A757	10.48
1 3/8″	1 7/8″	1	98126A760	4.30
1 1/2″	2 1/8″	5	98126A763	13.21
1 3/4″	2 3/4″	1	98126A766	5.02
2″	2 3/4″	1	98126A769	4.52
0.090″ Thick (±0.005″)				
11/32″	13/16″	10	98126A782	6.82
3/8″	5/8″	10	98126A785	12.68
1/2″	3/4″	10	98126A788	12.11
5/8″	1″	5	98126A791	8.57
3/4″	1 1/8″	5	98126A794	9.10
7/8″	1 3/8″	5	98126A797	10.89
1″	1 1/2″	5	98126A800	12.94
1 1/8″	1 5/8″	5	98126A803	11.79
1 1/4″	1 3/4″	1	98126A806	2.83
1 3/8″	1 7/8″	1	98126A809	3.90
1 1/2″	2 1/8″	1	98126A812	4.31
1 3/4″	2 3/4″	1	98126A815	6.55
2″	2 3/4″	1	98126A818	6.59
0.125″ Thick (±0.005″)				
11/32″	13/16″	10	98126A831	10.30
3/8″	5/8″	10	98126A834	12.06
1/2″	3/4″	10	98126A837	17.05
5/8″	1″	5	98126A840	8.57
3/4″	1 1/8″	5	98126A843	11.83
7/8″	1 3/8″	5	98126A846	14.67
1″	1 1/2″	1	98126A849	3.75
1 1/8″	1 5/8″	1	98126A852	4.54
1 1/4″	1 3/4″	1	98126A855	4.73
1 3/8″	1 7/8″	1	98126A858	5.58
1 1/2″	2 1/8″	1	98126A860	3.80
1 3/4″	2 3/4″	1	98126A863	4.65
2″	2 3/4″	1	98126A866	4.74

ID, mm	OD, mm	Pkg. Qty.		Pkg.
Metric 316 Stainless Steel				
0.1 mm Thick (±0.013 mm)				
6	12	10	90214A111	$10.36
8	14	10	90214A115	10.67
10	16	10	90214A119	10.97
12	18	10	90214A123	11.12
14	20	10	90214A127	11.27
16	22	10	90214A131	11.42
20	28	5	90214A135	14.40
25	36	1	90214A140	1.82
30	42	1	90214A144	2.58
0.2 mm Thick (±0.023 mm)				
6	12	10	90214A212	$10.67
8	14	10	90214A216	10.97
10	16	10	90214A220	11.27
12	18	10	90214A225	11.42
14	20	10	90214A229	11.58
16	22	10	90214A233	11.73
20	28	5	90214A236	7.72
25	36	5	90214A239	7.48
30	42	5	90214A244	8.03
0.5 mm Thick (±0.064 mm)				
6	12	10	90214A414	$11.12
8	14	10	90214A418	11.42
10	16	10	90214A422	11.73
12	18	10	90214A428	11.88
14	20	10	90214A433	12.03
16	22	10	90214A438	12.18
20	28	5	90214A441	7.58
25	36	5	90214A445	7.61
30	42	5	90214A449	9.24
1 mm Thick (±0.105 mm)				
6	12	10	90214A515	$11.27
8	14	10	90214A518	11.58
10	16	10	90214A523	11.88
12	18	10	90214A527	11.94
14	20	10	90214A531	12.21
16	22	10	90214A536	12.33
20	28	5	90214A539	7.66
25	36	5	90214A543	8.67
30	42	5	90214A548	9.39
Metric 18-8 Stainless Steel				
0.1 mm Thick (±0.013 mm)				
4	8	25	98089A201	6.21
5	10	25	98089A205	6.72
6	12	10	98089A208	6.11
8	14	50	98089A212	13.60
10	16	50	98089A216	13.46
12	18	25	98089A220	9.43
14	20	25	98089A224	12.41
16	22	25	98089A228	10.11
0.1 mm Thick (±0.013 mm) (Cont.)				
18	25	25	98089A230	7.76
20	28	25	98089A232	12.59
22	30	25	98089A234	9.83
25	36	25	98089A236	14.43
30	42	10	98089A240	10.14
35	45	10	98089A244	11.17
40	50	10	98089A248	12.45
50	62	5	98089A501	9.37
0.1 mm Thick (±0.013 mm) (Cont.)				
55	68	5	98089A505	8.65
60	75	5	98089A509	9.05
70	90	1	98089A513	2.90
0.2 mm Thick (±0.023 mm)				
4	8	25	98089A245	6.48
5	10	25	98089A246	7.00
6	12	25	98089A247	8.52
8	14	25	98089A251	9.74
0.2 mm Thick (±0.023 mm) (Cont.)				
10	16	25	98089A255	8.41
12	18	25	98089A259	8.53
14	20	25	98089A263	8.66
16	22	25	98089A267	8.50
18	25	25	98089A270	8.03
20	28	25	98089A272	11.70
22	30	25	98089A274	8.55
25	36	25	98089A276	12.58

(Continued on following page)

Stainless Steel Round Shims *(Continued from previous page)*



Precisely align, level, and adjust spacing on shafts and machinery in corrosive environments. Shims may be mildly magnetic. **18-8 stainless steel** shims have good corrosion resistance.

Metric Shims—ID tolerance is ±0.3 mm. OD tolerance is ±0.05 mm. *18-8 stainless steel* shims have a minimum Rockwell hardness of B70.

Metric 18-8 Stainless Steel (Cont.)

ID, mm	OD, mm	Pkg. Qty.		Pkg.
0.2 mm Thick (±0.023 mm) (Cont.)				
30	42	10	98089A280	$11.72
35	45	10	98089A284	13.14
40	50	10	98089A288	13.00
45	55	25	98089A620	7.86
50	62	5	98089A622	10.34
55	68	5	98089A626	8.93
60	75	5	98089A630	12.55
70	90	1	98089A634	2.80
0.3 mm Thick (±0.055 mm)				
4	8	25	98089A282	6.48
5	10	25	98089A286	7.00
6	12	25	98089A289	8.72
8	14	25	98089A293	5.82
10	16	25	98089A297	10.49
12	18	25	98089A301	6.76
14	20	25	98089A305	9.24
16	22	25	98089A309	9.59
18	25	25	98089A311	8.03
20	28	25	98089A313	12.45
22	30	25	98089A315	8.55
25	36	10	98089A317	6.77
30	42	10	98089A321	11.38
35	45	10	98089A325	11.90
40	50	10	98089A329	13.48
45	55	25	98089A732	9.59
0.3 mm Thick (±0.055 mm) (Cont.)				
50	62	5	98089A734	$11.19
55	68	5	98089A738	10.35
60	75	5	98089A742	11.96
70	90	1	98089A746	3.52
0.5 mm Thick (±0.064 mm)				
4	8	25	98089A330	6.62
5	10	25	98089A331	7.14
6	12	25	98089A332	9.72
8	14	50	98089A336	14.32
10	16	50	98089A340	13.85
12	18	25	98089A344	8.42
14	20	25	98089A348	8.95
16	22	25	98089A352	9.37
18	25	25	98089A354	8.17
20	28	25	98089A356	11.66
22	30	25	98089A358	8.69
25	36	25	98089A360	13.46
30	42	10	98089A364	8.49
35	45	10	98089A368	9.51
40	50	10	98089A372	10.88
45	55	25	98089A842	11.90
50	62	5	98089A846	12.45
55	68	5	98089A850	12.59
60	75	5	98089A854	13.50
70	90	1	98089A858	4.07
1 mm Thick (±0.105 mm)				
4	8	25	98089A373	$6.69
5	10	25	98089A375	7.21
6	12	25	98089A377	10.60
8	14	25	98089A381	9.72
10	16	25	98089A385	10.31
12	18	25	98089A389	10.99
14	20	25	98089A392	11.17
16	22	25	98089A396	13.48
18	25	25	98089A398	8.24
20	28	25	98089A400	15.93
22	30	25	98089A402	8.76
25	36	10	98089A404	9.29
30	42	10	98089A408	14.11
35	45	10	98089A412	14.06
40	50	10	98089A416	15.52
45	55	10	98089A420	8.69
50	62	5	98089A958	11.76
55	68	5	98089A962	13.38
60	75	1	98089A966	3.71
70	90	1	98089A970	4.71
1.5 mm Thick (±0.14 mm)				
4	8	25	98089A101	10.34
5	10	25	98089A105	10.86
6	12	10	98089A110	7.07
8	14	10	98089A119	7.38
10	16	10	98089A123	8.10
1.5 mm Thick (±0.14 mm) (Cont.)				
12	18	10	98089A126	$8.41
14	20	10	98089A129	9.03
16	22	10	98089A133	9.79
18	25	10	98089A137	10.48
20	28	10	98089A141	10.90
22	30	10	98089A144	11.38
25	36	10	98089A148	12.28
30	42	10	98089A152	13.31
45	55	5	98089A156	8.83
50	62	5	98089A159	11.76
2 mm Thick (±0.21 mm)				
4	8	25	98089A430	11.38
5	10	25	98089A434	12.41
6	12	10	98089A438	6.76
8	14	10	98089A441	7.03
10	16	10	98089A445	7.38
12	18	10	98089A449	7.66
14	20	10	98089A453	8.34
16	22	10	98089A456	9.17
18	25	10	98089A460	10.21
20	28	10	98089A463	11.31
22	30	10	98089A467	11.86
25	36	10	98089A472	12.83
30	42	5	98089A476	8.03
45	55	5	98089A480	10.34
50	62	5	98089A484	12.76

Steel Round Shims



The strongest round shims we offer for precision aligning, leveling, and spacing on shafts and machinery.

Steel shims are 1008-1010 steel. **Spring steel** shims are harder and hold their shape better than steel shims.

Inch Shims—ID tolerance is +0.011″. OD tolerance is ±0.002″, except 0.188″ and 0.250″ thick shims are ±0.01″. *Steel shims* have a minimum Rockwell hardness of B65. *Spring steel* shims are a minimum of 1075 steel. Minimum Rockwell hardness of C44.

Metric Shims—They are spring steel and meet DIN 988. ID tolerance is +0.03 mm to +0.4 mm. OD tolerance is –0.04 mm to –0.47 mm. Rockwell hardness is B85-B95.

Steel

ID	OD	Pkg. Qty.		Pkg.
0.001″ Thick (±0.0003″)				
1/8″	3/16″	5	3088A134	$7.86
3/16″	1/4″	5	3088A135	8.00
1/4″	3/8″	10	3088A119	5.22
11/32″	13/16″	10	3088A701	5.94
3/8″	5/8″	10	3088A121	4.51
1/2″	3/4″	10	3088A122	4.51
5/8″	1″	10	3088A123	5.38
3/4″	1 1/8″	10	3088A124	6.36
7/8″	1 3/8″	10	3088A125	7.26
1″	1 1/2″	10	3088A126	7.28
1 1/8″	1 5/8″	10	3088A127	7.78
1 1/4″	1 3/4″	10	3088A128	7.73
1 3/8″	1 7/8″	10	3088A129	8.17
1 1/2″	2 1/8″	10	3088A131	8.37
1 3/4″	2 3/4″	10	3088A132	13.74
2″	2 3/4″	10	3088A133	14.84
0.002″ Thick (±0.0005″)				
1/8″	3/16″	5	3088A136	7.57
3/16″	1/4″	5	3088A137	7.71
1/4″	3/8″	10	3088A159	4.32
11/32″	13/16″	10	3088A708	4.96
3/8″	5/8″	10	3088A161	4.46
1/2″	3/4″	10	3088A162	4.45
5/8″	1″	10	3088A163	5.31
3/4″	1 1/8″	10	3088A164	6.48
7/8″	1 3/8″	10	3088A165	7.23
1″	1 1/2″	10	3088A166	7.23
1 1/8″	1 5/8″	10	3088A167	7.74
1 1/4″	1 3/4″	10	3088A168	7.74
1 3/8″	1 7/8″	10	3088A169	8.09
1 1/2″	2 1/8″	10	3088A171	8.11
1 3/4″	2 3/4″	10	3088A172	13.52
2″	2 3/4″	10	3088A173	14.59
0.003″ Thick (±0.0005″)				
1/8″	3/16″	5	3088A138	7.43
3/16″	1/4″	5	3088A139	7.57
1/4″	3/8″	10	3088A179	4.28
0.003″ Thick (±0.0005″) (Cont.)				
11/32″	13/16″	10	3088A714	$4.88
3/8″	5/8″	10	3088A181	4.25
1/2″	3/4″	10	3088A182	4.26
5/8″	1″	10	3088A183	5.09
3/4″	1 1/8″	10	3088A184	5.95
7/8″	1 3/8″	10	3088A185	6.77
1″	1 1/2″	10	3088A186	6.77
1 1/8″	1 5/8″	10	3088A187	7.58
1 1/4″	1 3/4″	10	3088A188	7.58
1 3/8″	1 7/8″	10	3088A189	7.93
1 1/2″	2 1/8″	10	3088A191	7.95
1 3/4″	2 3/4″	10	3088A192	12.87
2″	2 3/4″	10	3088A193	13.93
0.004″ Thick (±0.0005″)				
1/8″	3/16″	5	3088A141	7.14
3/16″	1/4″	5	3088A142	7.29
1/4″	3/8″	10	3088A209	3.66
11/32″	13/16″	10	3088A716	4.20
3/8″	5/8″	10	3088A211	4.28
1/2″	3/4″	10	3088A212	4.22
5/8″	1″	10	3088A213	5.14
3/4″	1 1/8″	10	3088A214	5.98
7/8″	1 3/8″	10	3088A215	6.77
1″	1 1/2″	10	3088A216	6.77
1 1/8″	1 5/8″	10	3088A217	7.58
1 1/4″	1 3/4″	10	3088A218	7.58
1 3/8″	1 7/8″	10	3088A219	7.93
1 1/2″	2 1/8″	10	3088A221	7.93
1 3/4″	2 3/4″	10	3088A222	12.87
2″	2 3/4″	10	3088A223	13.93
0.005″ Thick (±0.00075″)				
1/8″	3/16″	5	3088A143	6.43
3/16″	1/4″	5	3088A144	6.57
1/4″	3/8″	10	3088A229	3.66
11/32″	13/16″	10	3088A729	4.20
3/8″	5/8″	10	3088A231	3.69
1/2″	3/4″	10	3088A232	3.69
0.005″ Thick (±0.00075″) (Cont.)				
5/8″	1″	10	3088A233	$4.43
3/4″	1 1/8″	10	3088A234	4.66
7/8″	1 3/8″	10	3088A235	5.14
1″	1 1/2″	10	3088A236	5.14
1 1/8″	1 5/8″	10	3088A237	5.51
1 1/4″	1 3/4″	10	3088A238	5.45
1 3/8″	1 7/8″	10	3088A239	6.19
1 1/2″	2 1/8″	10	3088A241	6.19
1 3/4″	2 3/4″	10	3088A242	8.22
2″	2 3/4″	10	3088A243	8.82
0.006″ Thick (±0.0005″)				
1/4″	3/8″	10	3088A249	3.62
11/32″	13/16″	10	3088A736	4.13
3/8″	5/8″	10	3088A251	3.67
1/2″	3/4″	10	3088A252	3.70
5/8″	1″	10	3088A253	4.47
3/4″	1 1/8″	10	3088A254	4.63
7/8″	1 3/8″	10	3088A255	5.14
1″	1 1/2″	10	3088A256	5.09
1 1/8″	1 5/8″	10	3088A257	5.51
1 1/4″	1 3/4″	10	3088A258	5.51
1 3/8″	1 7/8″	10	3088A259	6.19
1 1/2″	2 1/8″	10	3088A261	6.19
1 3/4″	2 3/4″	10	3088A262	8.22
2″	2 3/4″	10	3088A263	8.82
0.007″ Thick (±0.00075″)				
1/4″	3/8″	10	3088A269	3.62
3/8″	5/8″	10	3088A271	3.70
1/2″	3/4″	10	3088A272	3.70
5/8″	1″	10	3088A273	4.53
3/4″	1 1/8″	10	3088A274	4.65
7/8″	1 3/8″	10	3088A275	5.14
1″	1 1/2″	10	3088A276	5.39
1 1/8″	1 5/8″	10	3088A277	5.51
1 1/4″	1 3/4″	10	3088A278	5.45
1 3/8″	1 7/8″	10	3088A279	6.19
1 1/2″	2 1/8″	10	3088A281	6.14
0.007″ Thick (±0.00075″) (Cont.)				
1 3/4″	2 3/4″	10	3088A282	$8.11
2″	2 3/4″	10	3088A283	8.84
0.008″ Thick (±0.00075″)				
1/4″	3/8″	10	3088A289	3.66
3/8″	5/8″	10	3088A291	3.80
1/2″	3/4″	10	3088A292	3.70
5/8″	1″	10	3088A293	4.53
3/4″	1 1/8″	10	3088A294	4.70
7/8″	1 3/8″	10	3088A295	5.07
1″	1 1/2″	10	3088A296	5.06
1 1/8″	1 5/8″	10	3088A297	5.51
1 1/4″	1 3/4″	10	3088A298	5.55
1 3/8″	1 7/8″	10	3088A299	6.19
1 1/2″	2 1/8″	10	3088A311	6.23
1 3/4″	2 3/4″	10	3088A312	8.22
2″	2 3/4″	10	3088A313	8.83
0.010″ Thick (±0.001″)				
1/8″	3/16″	5	3088A145	6.00
3/16″	1/4″	5	3088A146	6.14
1/4″	3/8″	10	3088A319	3.62
11/32″	13/16″	10	3088A758	4.13
3/8″	5/8″	10	3088A321	3.69
1/2″	3/4″	10	3088A322	3.69
5/8″	1″	10	3088A323	4.43
3/4″	1 1/8″	10	3088A324	4.56
7/8″	1 3/8″	10	3088A325	5.01
1″	1 1/2″	10	3088A326	5.14
1 1/8″	1 5/8″	10	3088A327	5.61
1 1/4″	1 3/4″	10	3088A328	5.55
1 3/8″	1 7/8″	10	3088A329	6.23
1 1/2″	2 1/8″	10	3088A331	6.19
1 3/4″	2 3/4″	10	3088A332	8.19
2″	2 3/4″	10	3088A333	8.82
0.012″ Thick (±0.00075″)				
1/4″	3/8″	10	3088A339	5.96
11/32″	13/16″	10	3088A777	6.80
3/8″	5/8″	10	3088A341	3.74

(Continued on following page)

Steel Round Shims *(Continued from previous page)*

Steel (Cont.)

ID	OD	Pkg. Qty.		Pkg.
0.012″ Thick (±0.00075″) (Cont.)				
½″	¾″	10	3088A342	$3.74
⅝″	1″	10	3088A343	4.46
¾″	1⅛″	10	3088A344	4.56
⅞″	1⅜″	10	3088A345	5.18
1″	1½″	10	3088A346	5.14
1⅛″	1⅝″	10	3088A347	5.64
1¼″	1¾″	10	3088A348	5.50
1⅜″	1⅞″	10	3088A349	6.14
1½″	2⅛″	10	3088A351	6.28
1¾″	2¾″	10	3088A352	8.17
2″	2¾″	10	3088A353	8.79
0.015″ Thick (±0.002″)				
⅛″	3/16″	5	3088A147	7.00
3/16″	¼″	5	3088A148	7.14
¼″	⅜″	10	3088A359	5.25
11/32″	13/16″	10	3088A779	5.25
⅜″	⅝″	10	3088A361	3.69
½″	¾″	10	3088A362	3.69
⅝″	1″	10	3088A363	4.52
¾″	1⅛″	10	3088A364	4.62
⅞″	1⅜″	10	3088A365	5.24
1″	1½″	10	3088A366	5.14
1⅛″	1⅝″	10	3088A367	5.57
1¼″	1¾″	10	3088A368	5.47
1⅜″	1⅞″	10	3088A369	6.11
1½″	2⅛″	10	3088A371	6.24
1¾″	2¾″	10	3088A372	8.21
2″	2¾″	10	3088A373	8.84
0.020″ Thick (±0.002″)				
⅛″	3/16″	5	3088A149	7.29
3/16″	¼″	5	3088A151	7.43
¼″	⅜″	10	3088A379	5.25
11/32″	13/16″	10	3088A78	5.25
⅜″	⅝″	10	3088A381	3.69
½″	¾″	10	3088A382	3.76
⅝″	1″	10	3088A383	4.89
¾″	1⅛″	10	3088A384	5.56
⅞″	1⅜″	10	3088A385	6.19
1″	1½″	10	3088A386	6.16
1⅛″	1⅝″	10	3088A387	6.42
1¼″	1¾″	10	3088A388	6.33
0.020″ Thick (±0.002″) (Cont.)				
1⅜″	1⅞″	10	3088A389	$7.28
1½″	2⅛″	10	3088A391	7.69
1¾″	2¾″	10	3088A392	11.08
2″	2¾″	10	3088A393	14.20
0.025″ Thick (±0.002″)				
⅛″	3/16″	5	3088A152	7.57
3/16″	¼″	5	3088A153	7.71
¼″	⅜″	10	3088A409	5.28
11/32″	13/16″	10	3088A785	5.25
⅜″	⅝″	10	3088A411	3.74
½″	¾″	10	3088A412	3.69
⅝″	1″	10	3088A413	4.85
¾″	1⅛″	10	3088A414	5.50
⅞″	1⅜″	10	3088A415	6.26
1″	1½″	10	3088A416	6.24
1⅛″	1⅝″	10	3088A417	6.37
1¼″	1¾″	10	3088A418	6.41
1⅜″	1⅞″	10	3088A419	7.30
1½″	2⅛″	10	3088A421	7.77
1¾″	2¾″	10	3088A422	11.06
2″	2¾″	10	3088A423	14.15
0.031″ Thick (±0.002″)				
⅛″	3/16″	5	3088A154	8.57
3/16″	¼″	5	3088A155	8.71
¼″	⅜″	10	3088A429	4.97
11/32″	13/16″	10	3088A793	4.75
⅜″	⅝″	10	3088A431	3.69
½″	¾″	10	3088A432	3.69
⅝″	1″	10	3088A433	4.83
¾″	1⅛″	10	3088A434	5.51
⅞″	1⅜″	10	3088A435	6.20
1″	1½″	10	3088A436	6.21
1⅛″	1⅝″	10	3088A437	6.39
1¼″	1¾″	10	3088A438	6.40
1⅜″	1⅞″	10	3088A439	7.30
1½″	2⅛″	10	3088A441	7.78
1¾″	2¾″	10	3088A442	11.09
2″	2¾″	10	3088A443	14.20
0.047″ Thick (±0.002″)				
¼″	⅜″	10	3088A449	5.05
11/32″	13/16″	10	3088A799	5.45
0.047″ Thick (±0.002″) (Cont.)				
⅜″	⅝″	10	3088A451	$4.17
½″	¾″	10	3088A452	4.22
⅝″	1″	10	3088A453	5.77
¾″	1⅛″	10	3088A454	7.07
⅞″	1⅜″	10	3088A455	7.59
1″	1½″	10	3088A456	7.98
1⅛″	1⅝″	10	3088A457	8.49
1¼″	1¾″	10	3088A458	8.45
1⅜″	1⅞″	10	3088A459	9.80
1½″	2⅛″	10	3088A461	10.42
1¾″	2¾″	5	3088A462	8.32
2″	2¾″	5	3088A463	10.32
0.062″ Thick (±0.0025″)				
¼″	⅜″	10	3088A464	5.05
11/32″	13/16″	10	3088A806	5.74
⅜″	⅝″	10	3088A466	4.20
½″	¾″	10	3088A467	4.17
⅝″	1″	10	3088A468	5.74
¾″	1⅛″	10	3088A469	7.06
⅞″	1⅜″	10	3088A471	7.55
1″	1½″	10	3088A472	7.98
1⅛″	1⅝″	10	3088A473	8.46
1¼″	1¾″	10	3088A474	8.46
1⅜″	1⅞″	10	3088A475	9.71
1½″	2⅛″	10	3088A476	10.42
1¾″	2¾″	5	3088A477	8.34
2″	2¾″	5	3088A478	9.75
0.093″ Thick (±0.003″)				
¼″	⅜″	10	3088A48	5.17
11/32″	13/16″	10	3088A813	6.09
⅜″	⅝″	10	3088A482	4.42
½″	¾″	10	3088A483	4.51
⅝″	1″	10	3088A484	6.19
¾″	1⅛″	10	3088A485	7.26
⅞″	1⅜″	10	3088A486	7.75
1″	1½″	10	3088A487	8.22
1⅛″	1⅝″	10	3088A488	8.85
1¼″	1¾″	10	3088A489	9.02
1⅜″	1⅞″	10	3088A491	10.44
1½″	2⅛″	10	3088A492	11.36
0.093″ Thick (±0.003″) (Cont.)				
1¾″	2¾″	5	3088A493	$9.80
2″	2¾″	5	3088A494	10.75
0.125″ Thick (±0.003″)				
¼″	⅜″	10	3088A509	5.28
11/32″	13/16″	10	3088A82	7.43
⅜″	⅝″	10	3088A511	4.50
½″	¾″	10	3088A512	4.45
⅝″	1″	10	3088A513	6.16
¾″	1⅛″	10	3088A514	7.31
⅞″	1⅜″	10	3088A515	7.90
1″	1½″	10	3088A516	8.22
1⅛″	1⅝″	10	3088A517	9.02
1¼″	1¾″	10	3088A518	9.02
1⅜″	1⅞″	10	3088A519	10.44
1½″	2⅛″	10	3088A521	11.85
1¾″	2¾″	5	3088A522	11.09
2″	2¾″	5	3088A523	10.61
0.188″ Thick (±0.007″)				
¼″	⅜″	1	3088A877	3.76
11/32″	13/16″	1	3088A88	4.02
⅜″	⅝″	1	3088A884	3.69
½″	¾″	1	3088A887	4.06
⅝″	1″	1	3088A981	7.75
¾″	1⅛″	1	3088A894	7.80
1″	1½″	1	3088A897	7.35
1⅛″	1⅝″	1	3088A9	7.76
1¼″	1¾″	1	3088A903	7.76
1⅜″	1⅞″	1	3088A908	7.93
1½″	2⅛″	1	3088A911	8.35
0.250″ Thick (±0.009″)				
¼″	⅜″	1	3088A951	3.82
11/32″	13/16″	1	3088A954	4.08
⅜″	⅝″	1	3088A957	4.11
½″	¾″	1	3088A96	4.33
⅝″	1″	1	3088A963	8.82
¾″	1⅛″	1	3088A966	9.13
⅞″	1⅜″	1	3088A969	8.55
1″	1½″	1	3088A972	7.93
1⅛″	1⅝″	1	3088A975	8.27
1¼″	1¾″	1	3088A978	8.45
1⅜″	1⅞″	1	3088A98	8.62
1½″	2⅛″	1	3088A988	9.17

Spring Steel

ID	OD	Pkg. Qty.		Pkg.
0.005″ Thick (±0.0005″)				
¼″	⅜″	25	90482A111	8.40
⅜″	⅝″	25	90482A117	9.20
½″	¾″	25	90482A125	9.48
⅝″	1″	25	90482A132	9.60
¾″	1⅛″	25	90482A136	10.00
1″	1½″	25	90482A144	12.12
0.010″ Thick (±0.00075″)				
¼″	⅜″	25	90482A203	8.08
⅜″	⅝″	25	90482A212	9.12
½″	¾″	25	90482A215	9.60
⅝″	1″	25	90482A222	9.92
0.010″ Thick (±0.00075″) (Cont.)				
¾″	1⅛″	25	90482A228	10.20
1″	1½″	25	90482A236	13.00
0.015″ Thick (±0.001″)				
¼″	⅜″	25	90482A303	8.88
⅜″	⅝″	25	90482A313	9.68
½″	¾″	25	90482A317	9.80
⅝″	1″	25	90482A326	10.08
¾″	1⅛″	25	90482A331	10.40
1″	1½″	25	90482A339	13.20
0.020″ Thick (±0.001″)				
¼″	⅜″	25	90482A414	8.88
⅜″	⅝″	25	90482A425	9.60
½″	¾″	25	90482A432	9.80
⅝″	1″	25	90482A438	10.08
¾″	1⅛″	25	90482A444	10.32
1″	1½″	25	90482A449	13.20
0.032″ Thick (±0.0015″)				
¼″	⅜″	25	90482A512	9.00
⅜″	⅝″	25	90482A515	9.80
½″	¾″	25	90482A522	9.96
⅝″	1″	25	90482A527	10.20
0.032″ Thick (±0.0015″) (Cont.)				
¾″	1⅛″	25	90482A534	10.56
1″	1½″	10	90482A540	7.72
0.062″ Thick (±0.0025″)				
⅜″	⅝″	25	90482A625	10.56
½″	¾″	25	90482A630	10.68
⅝″	1″	25	90482A636	12.00
¾″	1⅛″	10	90482A641	7.72
1″	1½″	10	90482A648	11.32
0.125″ Thick (±0.003″)				
¾″	1⅛″	5	90482A734	10.32
1″	1½″	5	90482A741	10.92

Metric Spring Steel

ID, mm	OD, mm	Pkg. Qty.		Pkg.
0.1 mm Thick (–0.03 mm)				
4	8	50	98055A085	$5.17
5	10	50	98055A095	6.90
6	12	50	98055A105	5.69
8	14	50	98055A111	6.90
10	16	50	98055A117	7.93
12	18	50	98055A125	6.90
14	20	25	98055A211	5.17
16	22	25	98055A218	5.52
18	25	25	98055A228	6.03
22	30	25	98055A242	6.90
25	36	25	98055A251	7.24
30	42	10	98055A321	3.28
35	45	10	98055A342	3.69
40	50	10	98055A357	3.79
0.2 mm Thick (–0.04 mm)				
4	8	50	98055A086	6.03
5	10	50	98055A096	6.90
6	12	50	98055A106	5.17
8	14	50	98055A112	6.90
10	16	50	98055A118	8.10
12	18	50	98055A126	8.62
0.2 mm Thick (–0.04 mm) (Cont.)				
14	20	25	98055A212	$5.17
16	22	25	98055A219	5.69
18	25	25	98055A229	6.03
20	28	25	98055A234	5.95
22	30	25	98055A243	6.90
25	36	25	98055A252	8.10
30	42	10	98055A322	3.45
35	45	10	98055A343	4.41
40	50	10	98055A358	4.83
45	55	10	98055A381	4.14
50	62	5	98055A429	3.10
55	68	5	98055A444	4.05
60	75	5	98055A465	5.17
70	90	5	98055A513	8.62
80	100	1	98055A718	1.72
0.3 mm Thick (–0.05 mm)				
4	8	50	98055A087	6.03
5	10	50	98055A097	7.76
6	12	50	98055A107	5.86
8	14	50	98055A113	7.76
10	16	50	98055A119	8.62
0.3 mm Thick (–0.05 mm) (Cont.)				
12	18	50	98055A127	$8.62
14	20	25	98055A213	6.90
16	22	25	98055A221	7.16
18	25	25	98055A230	6.47
20	28	25	98055A235	6.72
22	30	25	98055A244	8.62
25	36	25	98055A253	9.22
30	42	10	98055A323	4.14
35	45	10	98055A344	4.83
40	50	10	98055A359	5.17
45	55	10	98055A382	5.17
50	62	5	98055A431	3.10
55	68	5	98055A446	4.66
60	75	5	98055A467	5.17
70	90	5	98055A515	8.62
80	100	1	98055A719	2.41
0.5 mm Thick (–0.05 mm)				
4	8	50	98055A088	7.93
5	10	50	98055A098	8.62
0.5 mm Thick (–0.05 mm) (Cont.)				
6	12	50	98055A108	$6.55
8	14	50	98055A114	9.14
10	16	50	98055A121	9.14
12	18	50	98055A128	10.00
14	20	25	98055A214	6.90
16	22	25	98055A222	7.41
18	25	25	98055A231	6.47
20	28	25	98055A236	7.41
22	30	25	98055A245	8.62
25	36	25	98055A254	12.59
30	42	10	98055A324	5.86
35	45	10	98055A345	6.10
40	50	10	98055A362	5.52
45	55	10	98055A383	6.21
50	62	5	98055A433	3.45
55	68	5	98055A448	5.17
60	75	5	98055A469	5.69
70	90	5	98055A517	8.62
80	100	1	98055A720	2.76

(Continued on following page)

Steel Round Shims *(Continued from previous page)*



The strongest round shims we offer for precision aligning, leveling, and spacing on shafts and machinery.
Spring steel shims are harder and hold their shape better than steel shims.
Metric Shims—They are spring steel and meet DIN 988. ID tolerance is +0.03 mm to +0.4 mm. OD tolerance is –0.04 mm to –0.47 mm. Rockwell hardness is B85-B95.

Metric Spring Steel (Cont.)

ID, mm	OD, mm	Pkg. Qty.		Pkg.
1 mm Thick (–0.05 mm)				
4	8	50	98055A089	$8.62
5	10	50	98055A099	8.62
6	12	50	98055A109	7.76
8	14	50	98055A115	9.14
10	16	50	98055A122	10.69
12	18	50	98055A129	10.17
14	20	25	98055A215	7.84
16	22	25	98055A223	7.41
1 mm Thick (–0.05 mm) (Cont.)				
18	25	25	98055A232	$7.76
20	28	25	98055A237	9.22
22	30	25	98055A246	9.48
25	36	10	98055A255	6.28
30	42	10	98055A325	6.83
35	45	10	98055A346	7.66
40	50	10	98055A363	6.90
45	55	10	98055A384	8.62
1 mm Thick (–0.05 mm) (Cont.)				
50	62	5	98055A435	$4.66
55	68	5	98055A450	5.69
60	75	5	98055A472	8.62
70	90	5	98055A519	9.48
80	100	1	98055A721	3.45
1.5 mm Thick (–0.05 mm)				
25	36	10	98055A531	6.38
30	42	10	98055A535	9.13
1.5 mm Thick (–0.05 mm) (Cont.)				
50	62	5	98055A539	$11.62
60	75	1	98055A541	3.07
2 mm Thick (–0.05 mm)				
30	42	5	98055A572	9.12
32	45	10	98055A576	10.76
50	62	1	98055A583	2.98
70	90	1	98055A590	10.34

Aluminum, Brass, and Copper Round Shims



These nonmagnetic shims precisely align, level, and adjust spacing on shafts and machinery. ID tolerance is +0.011″. OD tolerance is ±0.002″.
Aluminum shims are lightweight. They are Alloy 1100 or 5052 and offer good corrosion resistance. They are not rated for hardness.
Brass shims are Alloy 260 or 360 and have good strength and corrosion resistance. They meet ASTM B36. Minimum Rockwell hardness is B60.
Copper shims are Alloy 110 or 510 and have excellent electrical conductivity and are corrosion resistant. They meet ASTM B152 and are not rated for hardness.

Aluminum

ID	OD	Pkg. Qty.		Pkg.
0.005″ Thick (±0.0005″)				
1/4″	3/8″	10	92661A528	$8.33
3/8″	5/8″	10	92661A531	8.56
1/2″	3/4″	10	92661A533	10.77
5/8″	1″	10	92661A535	10.72
3/4″	1 1/8″	10	92661A537	14.99
1″	1 1/2″	10	92661A541	19.34
0.010″ Thick (±0.001″)				
1/4″	3/8″	10	92661A575	7.58
3/8″	5/8″	10	92661A578	9.44
1/2″	3/4″	10	92661A580	10.79
5/8″	1″	10	92661A582	8.64
0.010″ Thick (±0.001″) (Cont.)				
3/4″	1 1/8″	10	92661A584	$10.92
1″	1 1/2″	10	92661A588	31.52
0.016″ Thick (±0.0015″)				
1/4″	3/8″	10	92661A622	8.48
3/8″	5/8″	10	92661A625	7.84
1/2″	3/4″	10	92661A627	8.14
5/8″	1″	10	92661A629	8.35
3/4″	1 1/8″	10	92661A631	8.55
1″	1 1/2″	10	92661A635	8.98
0.020″ Thick (±0.002″)				
1/4″	3/8″	10	92661A645	9.09
3/8″	5/8″	10	92661A648	7.06
0.020″ Thick (±0.002″) (Cont.)				
1/2″	3/4″	10	92661A650	$8.76
5/8″	1″	10	92661A652	8.76
3/4″	1 1/8″	10	92661A654	8.32
1″	1 1/2″	10	92661A658	9.69
0.032″ Thick (±0.0025″)				
1/4″	3/8″	10	92661A691	9.85
3/8″	5/8″	10	92661A695	8.24
1/2″	3/4″	10	92661A697	8.64
5/8″	1″	10	92661A699	9.63
3/4″	1 1/8″	10	92661A701	9.41
1″	1 1/2″	10	92661A705	10.54
0.063″ Thick (±0.0035″)				
1/4″	3/8″	10	92661A736	$8.25
3/8″	5/8″	10	92661A741	6.20
1/2″	3/4″	10	92661A743	7.64
5/8″	1″	10	92661A745	8.90
3/4″	1 1/8″	10	92661A747	8.04
1″	1 1/2″	10	92661A751	10.15
0.125″ Thick (±0.007″)				
3/8″	5/8″	5	92661A811	9.09
1/2″	3/4″	5	92661A821	9.24
5/8″	1″	5	92661A831	9.39
3/4″	1 1/8″	5	92661A841	10.15

Brass

ID	OD	Pkg. Qty.		Pkg.
0.002″ Thick (±0.0006″)				
3/8″	5/8″	10	92678A161	3.71
1/2″	3/4″	10	92678A164	5.40
5/8″	1″	10	92678A167	6.38
3/4″	1 1/8″	10	92678A170	6.62
1″	1 1/2″	10	92678A173	9.34
0.005″ Thick (±0.0008″)				
1/4″	3/8″	10	92678A227	6.82
3/8″	5/8″	10	92678A231	8.76
1/2″	3/4″	10	92678A233	6.48
5/8″	1″	10	92678A235	7.62
3/4″	1 1/8″	10	92678A237	8.87
7/8″	1 3/8″	10	92678A214	7.58
1″	1 1/2″	10	92678A241	10.55
1 1/4″	1 3/4″	10	92678A245	8.33
0.010″ Thick (±0.0013″)				
1/4″	3/8″	10	92678A274	5.61
3/8″	5/8″	10	92678A278	9.32
1/2″	3/4″	10	92678A280	9.74
5/8″	1″	10	92678A282	9.98
0.010″ Thick (±0.0013″) (Cont.)				
3/4″	1 1/8″	10	92678A284	9.99
7/8″	1 3/8″	10	92678A286	8.33
1″	1 1/2″	10	92678A288	10.45
1 1/4″	1 3/4″	10	92678A292	9.09
0.016″ Thick (±0.0025″)				
3/8″	5/8″	10	92678A325	8.60
1/2″	3/4″	10	92678A327	11.03
5/8″	1″	10	92678A329	10.47
3/4″	1 1/8″	10	92678A331	9.94
1″	1 1/2″	10	92678A335	15.77
0.020″ Thick (±0.003″)				
1/4″	3/8″	10	92678A344	6.21
3/8″	5/8″	10	92678A348	9.08
1/2″	3/4″	10	92678A350	11.11
5/8″	1″	10	92678A352	11.22
3/4″	1 1/8″	10	92678A354	12.20
7/8″	1 3/8″	10	92678A356	8.94
1″	1 1/2″	10	92678A358	12.25
1 1/4″	1 3/4″	10	92678A362	9.70
0.025″ Thick (±0.003″)				
3/8″	5/8″	10	92678A182	5.38
1/2″	3/4″	10	92678A185	4.85
5/8″	1″	10	92678A188	7.10
3/4″	1 1/8″	10	92678A191	7.20
1″	1 1/2″	10	92678A194	9.60
0.032″ Thick (±0.0035″)				
1/4″	3/8″	10	92678A393	6.36
3/8″	5/8″	10	92678A395	6.91
1/2″	3/4″	10	92678A397	6.86
5/8″	1″	10	92678A399	9.25
3/4″	1 1/8″	10	92678A401	10.46
7/8″	1 3/8″	10	92678A403	9.24
1″	1 1/2″	10	92678A405	11.17
1 1/4″	1 3/4″	10	92678A408	10.00
0.045″ Thick (±0.004″)				
3/8″	5/8″	10	92678A203	6.17
1/2″	3/4″	10	92678A206	7.57
5/8″	1″	10	92678A209	9.77
3/4″	1 1/8″	10	92678A212	10.25
1″	1 1/2″	5	92678A215	10.59
0.063″ Thick (±0.005″)				
3/8″	5/8″	10	92678A441	9.21
1/2″	3/4″	10	92678A443	12.16
5/8″	1″	10	92678A445	11.39
3/4″	1 1/8″	10	92678A447	13.25
1″	1 1/2″	5	92678A451	11.81
0.090″ Thick (±0.006″)				
3/8″	5/8″	10	92678A494	10.52
1/2″	3/4″	10	92678A497	10.50
5/8″	1″	5	92678A500	7.89
3/4″	1 1/8″	5	92678A503	12.45
1″	1 1/2″	1	92678A506	4.44
0.125″ Thick (±0.006″)				
3/8″	5/8″	10	92678A515	9.41
1/2″	3/4″	10	92678A518	7.54
5/8″	1″	5	92678A521	9.06
3/4″	1 1/8″	5	92678A524	10.83
7/8″	1 3/8″	5	92678A526	9.85
1″	1 1/2″	1	92678A527	3.71
1 1/4″	1 3/4″	1	92678A531	3.24

Copper

Choose a Thickness	Choose an ID (OD)	
0.005″, 0.010″, 0.016″, 0.021″, 0.032″, 0.045″, 0.064″, 0.090″, 0.125″	1/4″ (3/8″), 3/8″ (5/8″), 1/2″ (3/4″), 5/8″ (1″), 3/4″ (1 1/8″), 1″ (1 1/2″)	94397A001

PTFE Round Shims



An alternative to metal shims, PTFE shims are low friction and handle aligning, leveling, and spacing on shafts and machinery in high-temperature applications. Maximum temperature is 500° F. ID tolerance is +0.015″. OD tolerance is ±0.01″. Color is white. Shims are not rated for hardness.

ID	OD	Pkg. Qty.		Pkg.
0.005″ Thick (±0.001″)				
1/4″	3/8″	25	90334A111	$10.86
1/2″	3/4″	25	90334A112	11.57
3/4″	1 1/8″	25	90334A113	13.14
1″	1 1/2″	10	90334A114	7.43
0.010″ Thick (±0.0015″)				
1/4″	3/8″	25	90334A115	11.57
0.010″ Thick (±0.0015″) (Cont.)				
1/2″	3/4″	25	90334A116	$12.29
3/4″	1 1/8″	10	90334A117	6.57
1″	1 1/2″	10	90334A118	7.71
0.020″ Thick (±0.002″)				
1/4″	3/8″	25	90334A119	11.93
1/2″	3/4″	10	90334A121	5.58
0.020″ Thick (±0.002″) (Cont.)				
3/4″	1 1/8″	10	90334A122	$6.71
1″	1 1/2″	10	90334A123	7.86
0.030″ Thick (±0.003″)				
1/4″	3/8″	10	90334A124	6.30
1/2″	3/4″	10	90334A125	6.58
3/4″	1 1/8″	10	90334A126	8.29
0.030″ Thick (±0.003″) (Cont.)				
1″	1 1/2″	5	90334A127	$7.71
0.060″ Thick (±0.007″)				
1/4″	3/8″	10	90334A128	8.58
1/2″	3/4″	10	90334A129	9.16
3/4″	1 1/8″	5	90334A131	8.71
1″	1 1/2″	5	90334A132	10.29

Round Shim Assortments

18-Piece 18-8 Stainless Steel—Assortments include one each of these thicknesses: 0.001″, 0.002″, 0.003″, 0.004″, 0.005″, 0.006″, 0.007″, 0.008″, 0.010″, 0.012″, 0.015″, 0.020″, 0.025″, 0.031″, 0.048″, 0.062″, 0.090″, and 0.125″.

ID	OD		
3/8″	5/8″	98126A033	$17.47
1/2″	3/4″	98126A034	18.08
5/8″	1″	98126A035	22.78
3/4″	1 1/8″	98126A036	25.02
7/8″	1 3/8″	98126A037	31.71
1″	1 1/2″	98126A038	31.68
1 1/4″	1 3/4″	98126A039	$41.39
1 3/8″	1 7/8″	98126A040	50.60
1 1/2″	2 1/8″	98126A041	50.58
1 3/4″	2 3/4″	98126A042	74.78
2″	2 3/4″	98126A043	74.00

19-Piece 1008-1010 Steel—Assortments include one each of these thicknesses: 0.001″, 0.0015″, 0.002″, 0.003″, 0.004″, 0.005″, 0.006″, 0.007″, 0.008″, 0.010″, 0.012″, 0.015″, 0.020″, 0.025″, 0.031″, 0.047″, 0.062″, 0.093″, and 0.125″.

ID	OD		
1/4″	3/8″	3088A928	$8.40
11/32″	13/16″	3088A929	9.67
3/8″	5/8″	3088A931	8.79
1/2″	3/4″	3088A932	8.79
5/8″	1″	3088A933	10.79
3/4″	1 1/8″	3088A934	12.57
7/8″	1 3/8″	3088A935	13.58
1″	1 1/2″	3088A936	$13.79
1 1/8″	1 5/8″	3088A937	14.85
1 1/4″	1 3/4″	3088A938	14.85
1 3/8″	1 7/8″	3088A939	16.62
1 1/2″	2 1/8″	3088A941	17.06
1 3/4″	2 3/4″	3088A942	25.64
2″	2 3/4″	3088A943	29.04

150-Piece 0.005″, 0.010″, and 0.015″ Thick 1008-1010 Steel—Assortment includes 10 each of 0.005″, 0.010″, and 0.015″ thicknesses in these IDs (ODs): 3/8″ (5/8″), 1/2″ (3/4″), 5/8″ (1″), 3/4″ (1 1/8″), and 7/8″ (1 3/8″). Assortment comes in a plastic box.

98085A550 ..... $66.08

150-Piece 0.020″, 0.031″, and 0.125″ Thick 1008-1010 Steel—Assortment includes 10 each of 0.020″, 0.031″, and 0.125″ thicknesses in these IDs (ODs): 3/8″ (5/8″), 1/2″ (3/4″), 5/8″ (1″), 3/4″ (1 1/8″), and 1″ (1 1/2″). Assortment comes in a plastic box.

98085A440 ..... $93.24

Oversized Round Shims



Also known as machinery bushings, these shims cover a greater surface area than other round shims and reduce friction and wear between moving parts. ID tolerance is +0.025″, –0.01″. OD tolerance is ±0.010″. Minimum Rockwell hardness is B20, except 0.187″ thick shims are not rated for hardness. **18-8 stainless steel** shims offer good corrosion resistance and may be mildly magnetic. **Zinc-plated steel** shims are 1006-1020 steel and have good rust resistance. **Steel** shims are 1006-1020 steel.

ID	OD	Pkg. Qty.		Pkg.
18-8 Stainless Steel				
0.048″ Thick (±0.007″)				
1/2″	7/8″	5	96853A100	$8.74
9/16″	1″	5	96853A105	8.75
5/8″	1 1/4″	5	96853A111	9.23
3/4″	1 1/4″	5	96853A128	9.23
3/4″	1 1/2″	5	96853A141	11.17
1″	1 1/2″	5	96853A150	9.13
1″	2″	1	96853A155	3.06
0.075″ Thick (±0.007″)				
1/2″	7/8″	5	96853A169	$9.72
9/16″	1″	5	96853A175	10.14
5/8″	1 1/4″	5	96853A183	11.17
3/4″	1 1/4″	5	96853A197	11.42
3/4″	1 1/2″	1	96853A211	2.21
1″	1 1/2″	1	96853A220	3.60
0.075″ Thick (±0.007″) (Cont.)				
1″	2″	1	96853A225	$3.09
1 1/4″	1 7/8″	1	96853A239	2.50
1 1/2″	2 1/4″	1	96853A253	3.20
0.134″ Thick (±0.007″)				
3/4″	1 1/4″	1	96853A267	4.93
3/4″	1 1/2″	1	96853A281	4.21
1″	2″	1	96853A295	6.11
0.134″ Thick (±0.007″) (Cont.)				
1 1/4″	1 7/8″	1	96853A309	$5.77
1 1/2″	2 1/4″	1	96853A323	7.64
0.134″ Thick (±0.009″)				
7/8″	1 3/8″	1	96853A285	3.76
1″	1 1/2″	1	96853A240	4.72
2″	3″	1	96853A337	11.44
2 1/2″	3 1/2″	1	96853A351	12.36
Zinc-Plated Steel				
0.048″ Thick (±0.006″)				
1/2″	7/8″	25	97669A200	2.59
9/16″	1″	25	97669A205	5.36
5/8″	1″	25	97669A210	2.72
5/8″	1 1/4″	25	97669A215	4.75
3/4″	1 1/4″	25	97669A220	4.79
3/4″	1 1/2″	25	97669A225	5.64
7/8″	1 3/8″	25	97669A230	3.72
0.048″ Thick (±0.006″) (Cont.)				
1″	1 1/2″	25	97669A240	4.35
1″	2″	25	97669A207	7.75
0.075″ Thick (±0.007″)				
1/2″	7/8″	25	97669A290	3.26
9/16″	1″	25	97669A295	4.51
5/8″	1″	25	97669A300	3.75
5/8″	1 1/4″	25	97669A305	6.70
0.075″ Thick (±0.007″) (Cont.)				
3/4″	1 1/4″	25	97669A310	6.97
3/4″	1 1/2″	25	97669A315	8.06
7/8″	1 3/8″	25	97669A320	8.45
1″	1 1/2″	25	97669A330	7.89
1″	2″	25	97669A335	8.44
1 1/4″	2 1/4″	10	97669A350	8.14
0.134″ Thick (±0.008″)				
3/4″	1 1/4″	25	97669A400	7.13
7/8″	1 3/8″	25	97669A408	9.33
1″	1 1/2″	25	97669A415	8.91
1″	2″	25	97669A420	12.91
1 1/8″	1 3/4″	25	97669A425	13.62
1 1/4″	1 7/8″	10	97669A430	6.59
2″	3″	5	97669A475	9.91
Steel				
0.048″ Thick (±0.006″)				
1/2″	7/8″	25	97063A110	2.04
9/16″	1″	25	97063A111	2.11
5/8″	1″	25	97063A112	2.15
5/8″	1 1/4″	25	97063A410	3.72
3/4″	1 1/4″	25	97063A113	2.39
3/4″	1 1/2″	25	97063A411	4.30
7/8″	1 3/8″	25	97063A114	3.13
7/8″	1 3/4″	25	97063A412	6.15
1″	1 1/2″	25	97063A115	3.20
1″	2″	25	97063A414	7.25
1 1/8″	1 3/4″	25	97063A116	4.15
1 1/4″	1 7/8″	25	97063A117	4.47
1 1/4″	2 1/4″	25	97063A417	7.72
1 3/8″	2 1/8″	25	97063A118	5.88
1 1/2″	2 1/4″	25	97063A119	7.71
1 1/2″	3″	10	97063A419	7.93
0.048″ Thick (±0.006″) (Cont.)				
1 3/4″	2 1/2″	25	97063A120	10.45
2″	3 1/2″	5	97063A423	11.46
0.075″ Thick (±0.007″)				
1/2″	7/8″	25	97063A121	2.83
9/16″	1″	25	97063A122	2.84
5/8″	1″	25	97063A123	2.86
5/8″	1 1/4″	25	97063A429	5.25
3/4″	1 1/4″	25	97063A124	3.75
3/4″	1 1/2″	25	97063A430	6.32
7/8″	1 3/8″	25	97063A125	3.85
7/8″	1 3/4″	25	97063A431	8.21
1″	1 1/2″	25	97063A126	4.57
1″	2″	25	97063A433	9.99
1 1/8″	1 3/4″	25	97063A127	10.29
1 1/4″	1 7/8″	25	97063A128	6.75
1 1/4″	2 1/4″	25	97063A436	14.89
0.075″ Thick (±0.007″) (Cont.)				
1 3/8″	2 1/8″	25	97063A129	9.00
1 1/2″	2 1/4″	25	97063A130	9.75
1 1/2″	3″	5	97063A438	11.58
1 5/8″	2 3/8″	10	97063A131	7.49
1 3/4″	2 1/2″	25	97063A132	11.07
2″	3″	10	97063A134	8.40
3″	4 1/4″	5	97063A136	10.93
0.134″ Thick (±0.008″)				
3/4″	1 1/4″	25	97063A139	5.36
3/4″	1 1/2″	25	97063A448	10.76
7/8″	1 3/8″	25	97063A140	8.54
1″	1 1/2″	25	97063A141	5.94
1″	2″	5	97063A451	9.13
1 1/8″	1 3/4″	25	97063A142	8.87
1 1/4″	1 7/8″	25	97063A143	12.04
1 1/4″	2 1/4″	5	97063A454	10.03
1 3/8″	2 1/8″	25	97063A144	13.00
0.134″ Thick (±0.008″) (Cont.)				
1 3/8″	2 1/2″	5	97063A455	9.96
1 1/2″	2 1/4″	10	97063A145	7.57
1 1/2″	3″	5	97063A520	10.78
1 5/8″	2 3/8″	10	97063A146	8.36
1 3/4″	2 1/2″	5	97063A147	8.03
1 3/4″	3 1/4″	1	97063A535	2.11
2″	3″	10	97063A540	10.39
2″	3 1/2″	1	97063A545	2.86
2 1/2″	3 1/2″	5	97063A550	9.47
2 1/2″	3 7/8″	1	97063A555	4.05
3″	4 1/4″	1	97063A560	4.53
0.187″ Thick (+0.003″, –0.017″)				
2″	3″	5	97063A570	14.88
2 1/2″	3 1/2″	5	97063A575	14.85
2 3/4″	3 3/4″	1	97063A580	5.27
3″	4″	1	97063A585	4.16

Color-Coded Plastic Round Shims



Not only are these shims a nonconductive and oil resistant alternative to metal shims, they allow you to identify thickness by color. ID tolerance is +0.005″, –0.015″. OD tolerance is ±0.005″. Thickness tolerance is ±5%.

0.001″ to 0.005″ thick shims are polyester. Temperature range is –90° to 300° F.

0.0075″ to 0.030″ thick shims are PVC. Temperature range is –10° to 155° F.

Shims

To Order Choose a thickness (color): 0.001″ (amber), 0.0015″ (purple), 0.002″ (red), 0.003″ (green), 0.004″ (tan), 0.005″ (blue), 0.0075″ (gray), 0.010″ (brown), 0.0125″ (black), 0.0150″ (pink), 0.020″ (yellow), 0.025″ (white), 0.030″ (coral).

ID	OD		Pkg. of 10
3/8″	5/8″	98090A100	$13.27
1/2″	3/4″	98090A180	13.27
5/8″	1″	98090A250	13.27
3/4″	1 1/8″	98090A320	$13.27
1″	1 1/2″	98090A460	13.27
1 1/4″	1 3/4″	98090A605	13.27
1 1/2″	2 1/8″	98090A745	$13.27
1 3/4″	2 3/4″	98090A815	13.27
2″	2 3/4″	98090A885	13.27

13-Piece Assortments

Assortments include one each of these thicknesses (colors): 0.001″ (amber), 0.0015″ (purple), 0.002″ (red), 0.003″ (green), 0.004″ (tan), 0.005″ (blue), 0.0075″ (gray), 0.010″ (brown), 0.0125″ (black), 0.0150″ (pink), 0.020″ (yellow), 0.025″ (white), 0.030″ (coral).

ID	OD		
3/8″	5/8″	98090A955	$17.10
1/2″	3/4″	98090A958	17.10
5/8″	1″	98090A961	17.10
3/4″	1 1/8″	98090A964	$17.10
1″	1 1/2″	98090A971	17.10
1 1/4″	1 3/4″	98090A983	17.10
1 1/2″	2 1/8″	98090A989	$17.10
1 3/4″	2 3/4″	98090A991	17.10
2″	2 3/4″	98090A994	17.10

Peel-Away Round Shims



Remove layers with a utility knife until you get the thickness you need. Layers are 0.002″ thick and bonded with adhesive. ID and OD tolerances are ±0.01″.

18-8 stainless steel shims have good corrosion resistance. They may be mildly magnetic. Minimum Rockwell hardness is B75.

Aluminum shims are lightweight and more corrosion resistant than brass. They are Alloy 1100 and not rated for hardness.

Brass shims have good strength and are corrosion resistant. They are Alloy 260 and not rated for hardness.

ID	OD	Number of Layers		Each
18-8 Stainless Steel				
0.032″ Thick (±0.005″)				
3/8″	5/8″	16	90902A221	$7.54
1/2″	3/4″	16	90902A223	7.80
5/8″	1″	16	90902A225	8.31
0.062″ Thick (+0.006″, –0.002″)				
3/8″	5/8″	31	90902A222	$8.51
1/2″	3/4″	31	90902A224	8.94
5/8″	1″	31	90902A226	9.91
0.125″ Thick (±0.005″)				
5/8″	1″	62	90902A227	$13.40
3/4″	1 1/8″	62	90902A228	15.17
7/8″	1 3/8″	62	90902A229	18.23
Aluminum				
0.032″ Thick (+0.003″, –0.002″)				
3/8″	5/8″	16	92850A400	5.00
1/2″	3/4″	16	92850A405	5.00
5/8″	1″	16	92850A410	5.91
0.062″ Thick (+0.006″, –0.002″)				
3/8″	5/8″	31	92850A600	5.66
1/2″	3/4″	31	92850A605	6.14
1″	1 1/2″	31	92850A625	12.06
0.125″ Thick (+0.012″, –0.003″)				
5/8″	1″	62	92850A810	11.20
1″	1 1/2″	62	92850A825	19.63
1 1/2″	2 1/8″	62	92850A840	35.43
Brass				
0.032″ Thick (±0.005″)				
0.135″	0.234″	16	90805A156	2.17
0.193″	3/8″	16	90805A157	2.17
0.255″	1/2″	16	90805A158	3.11
3/8″	5/8″	16	90805A161	5.54
1/2″	3/4″	16	90805A162	5.54
5/8″	1″	16	90805A163	6.67
3/4″	1 1/8″	16	90805A164	6.80
7/8″	1 3/8″	16	90805A165	8.43
1″	1 1/2″	16	90805A166	9.06
0.032″ Thick (±0.005″) (Cont.)				
1 1/4″	1 3/4″	16	90805A168	10.31
1 1/2″	2 1/8″	16	90805A171	13.29
0.062″ Thick (+0.006″, –0.002″)				
3/8″	5/8″	31	90805A181	6.31
1/2″	3/4″	31	90805A182	6.97
5/8″	1″	31	90805A183	8.63
3/4″	1 1/8″	31	90805A184	9.17
7/8″	1 3/8″	31	90805A185	12.09
1″	1 1/2″	31	90805A186	13.40
0.062″ Thick (+0.006″, –0.002″) (Cont.)				
1 1/4″	1 3/4″	31	90805A188	15.57
1 1/2″	2 1/8″	31	90805A191	20.39
0.125″ Thick (+0.012″, –0.003″)				
5/8″	1″	62	90805A213	12.54
3/4″	1 1/8″	62	90805A214	13.40
7/8″	1 3/8″	62	90805A215	19.00
1″	1 1/2″	62	90805A216	20.21
1 1/4″	1 3/4″	62	90805A218	24.84
1 1/2″	2 1/8″	62	90805A221	34.65

Shims for Shafts and Bearings

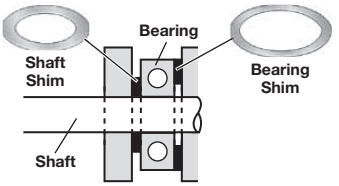

Use these shims to space rotating gears and bearings. Thickness tolerance for shims 0.001″ to 0.008″ thick is ±0.0005″ and shims 0.010″ to 0.020″ thick have a thickness tolerance of ±0.001″, except all alloy steel shims for shafts have a thickness tolerance of ±0.002″.

Shims for shafts fit snug around shafts. ID tolerance is +0.005″. OD tolerance is ±0.005″. **Shims for bearings** fit the outer rim of the bearing. ID tolerance is +0.005″. OD tolerance is –0.005″.

316 stainless steel shims have excellent corrosion resistance and may be mildly magnetic. Minimum Rockwell hardness is B90-B100.

18-8 stainless steel shims have good corrosion resistance and may be mildly magnetic. Minimum Rockwell hardness is B70-B90.

Brass shims have good strength and are corrosion resistant. They are Alloy 260. Minimum Rockwell hardness is B70-B80.

Alloy steel shims are the hardest. They are Alloy 4140 and have a minimum Rockwell hardness of C40-C50.

Fits Shaft Dia.	Shim ID	Shim OD	Pkg. Qty.		Pkg.
For Shafts					
316 Stainless Steel—Choose a thickness: 0.005″, 0.006″, 0.008″, 0.010″, 0.012″, 0.014″, 0.016″					
3/32″	0.093″	0.203″	10	90917A310	$11.70
1/8″	0.125″	0.187″	10	90917A410	11.70
3/16″	0.188″	0.250″	10	90917A510	11.70
1/4″	0.250″	0.375″	10	90917A610	12.98
5/16″	0.313″	0.500″	10	90917A710	12.98
3/8″	0.375″	0.562″	10	90917A810	12.98
1/2″	0.500″	0.750″	10	90917A910	12.98
18-8 Stainless Steel—Choose a thickness: 0.001″, 0.002″, 0.003″, 0.004″, 0.005″, 0.006″, 0.008″, 0.010″, 0.012″, 0.014″, 0.016″					
1/32″	0.032″	0.109″	25	99040A900	10.82
3/64″	0.047″	0.125″	25	99040A110	10.25
1/16″	0.063″	0.156″	25	99040A120	9.86
5/64″	0.079″	0.164″	25	99040A100	10.20
3/32″	0.093″	0.203″	25	99040A200	11.41
1/8″	0.125″	0.187″	25	99040A300	11.41
3/16″	0.188″	0.250″	25	99040A400	11.41
1/4″	0.250″	0.375″	25	99040A500	12.37
5/16″	0.313″	0.500″	25	99040A600	12.37
3/8″	0.375″	0.562″	25	99040A700	12.37
1/2″	0.500″	0.750″	25	99040A800	12.37
Brass—Choose a thickness: 0.001″, 0.002″, 0.003″, 0.004″, 0.005″, 0.006″, 0.008″, 0.010″, 0.012″, 0.014″, 0.016″					
3/32″	0.093″	0.203″	10	93268A200	7.95
1/8″	0.125″	0.187″	10	93268A300	7.95
3/16″	0.188″	0.250″	10	93268A400	7.95
1/4″	0.250″	0.375″	10	93268A500	8.64
5/16″	0.313″	0.500″	10	93268A600	9.79
3/8″	0.375″	0.562″	10	93268A700	8.64
1/2″	0.500″	0.750″	10	93268A800	8.64
Alloy Steel—0.062″ Thick					
1/8″	0.128″	0.250″	1	92668A148	5.42
3/16″	0.190″	0.375″	1	92668A164	5.48
1/4″	0.253″	0.500″	1	92668A172	5.63
Alloy Steel—0.093″ Thick					
5/16″	0.316″	0.625″	1	92668A187	12.42
Alloy Steel—0.125″ Thick					
3/8″	0.378″	0.750″	1	92668A195	13.09

Fits Bearing Size ID	Fits Bearing Size OD	Shim ID	Shim OD	Pkg. Qty.		Pkg.
For Bearings						
316 Stainless Steel—Choose a thickness: 0.005″, 0.007″, 0.010″, 0.020″						
0.055″	3/16″	0.123″	0.178″	10	91182A120	$10.55
5/64″	1/4″	0.167″	0.248″	10	91182A130	10.55
3/32″	5/16″	0.206″	0.310″	10	91182A140	10.55
1/8″	3/8″	0.253″	0.373″	10	91182A150	11.59
1/8″	1/4″	0.167″	0.248″	10	91182A130	10.55
1/8″	5/16″	0.206″	0.310″	10	91182A140	10.55
3/16″	1/2″	0.378″	0.498″	10	91182A160	11.59
3/16″	3/8″	0.253″	0.373″	10	91182A150	11.59
1/4″	5/8″	0.503″	0.623″	10	91182A170	11.59
1/4″	1/2″	0.378″	0.498″	10	91182A160	11.59
18-8 Stainless Steel—Choose a thickness: 0.003″, 0.005″, 0.007″, 0.010″, 0.020″						
3/64″	5/32″	0.088″	0.153″	25	93574A150	9.23
0.055″	3/16″	0.123″	0.178″	25	93574A175	9.23
5/64″	1/4″	0.167″	0.248″	25	93574A200	9.23
3/32″	5/16″	0.206″	0.310″	25	93574A425	9.23
1/8″	1/4″	0.167″	0.248″	25	93574A200	9.23
1/8″	5/16″	0.206″	0.310″	25	93574A425	9.23
1/8″	3/8″	0.253″	0.373″	25	93574A500	10.10
3/16″	3/8″	0.253″	0.373″	25	93574A500	10.10
3/16″	1/2″	0.378″	0.498″	25	93574A700	10.10
1/4″	1/2″	0.378″	0.498″	25	93574A700	10.10
1/4″	5/8″	0.503″	0.623″	25	93574A800	10.10
3/8″	7/8″	0.687″	0.873″	25	93574A850	10.10
Brass—Choose a thickness: 0.003″, 0.005″, 0.007″, 0.010″, 0.020″						
0.055″	3/16″	0.123″	0.178″	10	92409A200	7.11
5/64″	1/4″	0.167″	0.248″	10	92409A300	7.11
3/32″	5/16″	0.206″	0.310″	10	92409A400	7.11
1/8″	1/4″	0.167″	0.248″	10	92409A300	7.11
1/8″	5/16″	0.206″	0.310″	10	92409A400	7.11
1/8″	3/8″	0.253″	0.373″	10	92409A500	7.80
3/16″	3/8″	0.253″	0.373″	10	92409A500	7.80
3/16″	1/2″	0.378″	0.498″	10	92409A600	7.80
1/4″	1/2″	0.378″	0.498″	10	92409A600	7.80
1/4″	5/8″	0.503″	0.623″	10	92409A700	7.80

Shims for Keyed Drive Shafts

Also known as arbor spacers, these shims are notched to fit over keyed shafts.

Steel shims are 1008-1010 steel and have a minimum Rockwell hardness of B84. ID tolerance is +0.011″. OD tolerance is ±0.002″. Notch width tolerance is +0.010″ to +0.017″; notch depth tolerance is +0.008″ to +0.026″.

Alloy steel shims are the hardest. They are 4045 steel and have a minimum Rockwell hardness of C40. ID tolerance is +0.003″. OD tolerance is ±0.005″. Notch width and depth tolerance is ±0.004″.

18-8 stainless steel shims have good corrosion resistance and may be mildly magnetic. Minimum Rockwell hardness is B80. Thickness tolerance is ±17%. ID tolerance is +0.011″. OD tolerance is ±0.002″. Notch width and depth tolerances are ±0.005″.


Steel and 18-8 Stainless Steel


Alloy Steel

Steel

ID	OD	Notch Wd.	Notch Dp.		Pkg. of 10
0.001″ Thick (±0.0001″)					
5/8″	1″	3/16″	1/16″	3088A553	$5.47
3/4″	1 1/8″	3/16″	5/64″	3088A554	6.49
7/8″	1 3/8″	3/16″	5/64″	3088A555	7.49
1″	1 1/2″	1/4″	3/32″	3088A556	7.43
1 1/4″	1 3/4″	5/16″	1/8″	3088A558	7.86
1 1/2″	2 1/8″	3/8″	5/32″	3088A561	8.52
0.002″ Thick (±0.0002″)					
5/8″	1″	3/16″	1/16″	3088A584	5.48
3/4″	1 1/8″	3/16″	5/64″	3088A585	6.58
7/8″	1 3/8″	3/16″	5/64″	3088A586	7.37
1″	1 1/2″	1/4″	3/32″	3088A587	7.37
1 1/4″	1 3/4″	5/16″	1/8″	3088A589	7.90
1 1/2″	2 1/8″	3/8″	5/32″	3088A592	8.32
2″	2 3/4″	1/2″	3/16″	3088A594	14.85
0.003″ Thick (±0.0003″)					
5/8″	1″	3/16″	1/16″	3088A613	5.19
3/4″	1 1/8″	3/16″	5/64″	3088A614	6.14
7/8″	1 3/8″	3/16″	5/64″	3088A615	6.93
1″	1 1/2″	1/4″	3/32″	3088A616	6.93
1 1/4″	1 3/4″	5/16″	1/8″	3088A618	7.68
1 1/2″	2 1/8″	3/8″	5/32″	3088A621	8.08
2″	2 3/4″	1/2″	3/16″	3088A623	14.25
0.005″ Thick (±0.0005″)					
5/8″	1″	3/16″	1/16″	3088A644	4.53
3/4″	1 1/8″	3/16″	5/64″	3088A645	4.80
0.005″ Thick (±0.0005″) (Cont.)					
7/8″	1 3/8″	3/16″	5/64″	3088A646	$5.24
1″	1 1/2″	1/4″	3/32″	3088A647	5.24
1 1/4″	1 3/4″	5/16″	1/8″	3088A649	5.59
1 1/2″	2 1/8″	3/8″	5/32″	3088A652	6.33
2″	2 3/4″	1/2″	3/16″	3088A654	8.98
0.010″ Thick (±0.00075″)					
1/2″	3/4″	1/8″	3/64″	3088A722	4.56
5/8″	1″	3/16″	1/16″	3088A723	4.84
3/4″	1 1/8″	3/16″	5/64″	3088A724	4.70
7/8″	1 3/8″	3/16″	5/64″	3088A725	5.15
1″	1 1/2″	1/4″	3/32″	3088A726	5.22
1 1/4″	1 3/4″	5/16″	1/8″	3088A728	5.62
1 1/2″	2 1/8″	3/8″	5/32″	3088A731	6.35
2″	2 3/4″	1/2″	3/16″	3088A733	8.96
0.015″ Thick (±0.001″)					
1/2″	3/4″	1/8″	3/64″	3088A753	4.56
5/8″	1″	3/16″	1/16″	3088A754	4.92
3/4″	1 1/8″	3/16″	5/64″	3088A755	4.71
7/8″	1 3/8″	3/16″	5/64″	3088A756	5.20
1″	1 1/2″	1/4″	3/32″	3088A757	5.21
1 1/4″	1 3/4″	5/16″	1/8″	3088A759	5.61
1 1/2″	2 1/8″	3/8″	5/32″	3088A762	6.46
2″	2 3/4″	1/2″	3/16″	3088A764	8.97
0.020″ Thick (±0.001″)					
1/2″	3/4″	1/8″	3/64″	3088A772	5.28
5/8″	1″	3/16″	1/16″	3088A773	5.68
0.020″ Thick (±0.001″) (Cont.)					
3/4″	1 1/8″	3/16″	5/64″	3088A774	$5.67
7/8″	1 3/8″	3/16″	5/64″	3088A775	6.35
1″	1 1/2″	1/4″	3/32″	3088A776	6.34
1 1/4″	1 3/4″	5/16″	1/8″	3088A778	6.53
1 1/2″	2 1/8″	3/8″	5/32″	3088A781	7.88
2″	2 3/4″	1/2″	3/16″	3088A783	14.48
0.025″ Thick (±0.0015″)					
1″	1 1/2″	1/4″	3/32″	3088A792	6.34
1 1/4″	1 3/4″	5/16″	1/8″	3088A794	6.65
1 1/2″	2 1/8″	3/8″	5/32″	3088A796	7.88
2″	2 3/4″	1/2″	3/16″	3088A798	14.45
0.031″ Thick (±0.0015″)					
1″	1 1/2″	1/4″	3/32″	3088A817	6.25
1 1/4″	1 3/4″	5/16″	1/8″	3088A819	6.65
1 1/2″	2 1/8″	3/8″	5/32″	3088A822	7.88
2″	2 3/4″	1/2″	3/16″	3088A824	14.46
0.062″ Thick (±0.0025″)					
1″	1 1/2″	1/4″	3/32″	3088A852	8.26
1 1/4″	1 3/4″	5/16″	1/8″	3088A854	8.78
1 1/2″	2 1/8″	3/8″	5/32″	3088A856	10.82
2″	2 3/4″	1/2″	3/16″	3088A858	14.45
0.125″ Thick (±0.003″)					
1″	1 1/2″	1/4″	3/32″	3088A916	8.95
1 1/4″	1 3/4″	5/16″	1/8″	3088A918	9.66
1 1/2″	2 1/8″	3/8″	5/32″	3088A921	12.11
2″	2 3/4″	1/2″	3/16″	3088A923	14.84

Alloy Steel

ID	OD	Notch Wd.	Notch Dp.		Pkg. of 1
0.250″ Thick (±0.005″)					
1″	1 1/2″	1/4″	3/32″	30965A112	$5.42
1 1/4″	1 3/4″	5/16″	1/8″	30965A113	7.25
1 1/2″	2 1/8″	3/8″	5/32″	30965A114	9.34
2″	2 3/4″	1/2″	3/16″	30965A115	12.08
0.375″ Thick (±0.005″)					
1″	1 1/2″	1/4″	3/32″	30965A212	6.53
1 1/4″	1 3/4″	5/16″	1/8″	30965A213	7.38
1 1/2″	2 1/8″	3/8″	5/32″	30965A214	11.10
2″	2 3/4″	1/2″	3/16″	30965A215	15.17
0.500″ Thick (±0.005″)					
1″	1 1/2″	1/4″	3/32″	30965A312	$6.98
1 1/4″	1 3/4″	5/16″	1/8″	30965A313	8.98
1 1/2″	2 1/8″	3/8″	5/32″	30965A314	12.29
2″	2 3/4″	1/2″	3/16″	30965A315	16.33
0.750″ Thick (±0.005″)					
1″	1 1/2″	1/4″	3/32″	30965A412	9.95
1 1/4″	1 3/4″	5/16″	1/8″	30965A413	10.48
1 1/2″	2 1/8″	3/8″	5/32″	30965A414	14.06
2″	2 3/4″	1/2″	3/16″	30965A415	21.48
1.000″ Thick (±0.005″)					
1″	1 1/2″	1/4″	3/32″	30965A512	$11.94
1 1/4″	1 3/4″	5/16″	1/8″	30965A513	13.07
1 1/2″	2 1/8″	3/8″	5/32″	30965A514	15.93
2″	2 3/4″	1/2″	3/16″	30965A515	25.37

18-8 Stainless Steel—For notch width and depth, see the same ID above.

Choose a Thickness	Choose an ID (OD)	
0.001″, 0.002″, 0.003″, 0.004″, 0.005″, 0.006″, 0.007″, 0.008″, 0.010″, 0.012″, 0.015″, 0.020″, 0.024″, 0.030″, 0.048″, 0.060″, 0.090″, 0.125″	1/2″ (3/4″), 3/4″ (1 1/8″), 7/8″ (1 3/8″), 1″ (1 1/2″), 1 1/4″ (1 3/4″), 1 1/2″ (2 1/8″), 2″ (2 3/4″)	98116A881

Assortments

19-Piece Steel—Assortments include one each of these thicknesses: 0.001″, 0.0015″, 0.002″, 0.003″, 0.004″, 0.005″, 0.006″, 0.007″, 0.008″, 0.010″, 0.012″, 0.015″, 0.020″, 0.025″, 0.031″, 0.047″, 0.062″, 0.093″, and 0.125″.

ID	OD		
3/8″	5/8″	3088A526	$8.95
1/2″	3/4″	3088A527	8.95
5/8″	1″	3088A528	11.02
3/4″	1 1/8″	3088A529	12.79
7/8″	1 3/8″	3088A531	$13.87
1″	1 1/2″	3088A532	14.05
1 1/8″	1 5/8″	3088A533	15.14
1 1/4″	1 3/4″	3088A534	15.14
1 3/8″	1 7/8″	3088A535	$16.94
1 1/2″	2 1/8″	3088A536	17.42
1 3/4″	2 3/4″	3088A537	26.18
2″	2 3/4″	3088A538	29.65

Shims for Die Punches

Place these shims under sharpened dies to restore their original height and extend the life of the dies. ID and OD tolerances are ±0.020″. Minimum Rockwell hardness is C44.

0.005″ thick shims are 1095 spring steel. **0.015″** and **0.032″ thick** shims are 1075 spring steel.

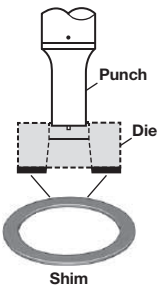

ID	OD		Pkg. of 10
0.005″ Thick (±0.0005″)			
0.17″	1/4″	99432A340	$8.70
0.23″	5/16″	99432A344	8.70
0.285″	3/8″	99432A348	8.70
0.31″	7/16″	99432A352	8.70
0.35″	1/2″	99432A356	8.70
0.47″	5/8″	99432A360	8.70
0.595″	3/4″	99432A364	8.70
0.625″	7/8″	99432A368	8.70
0.75″	1″	99432A374	8.70
0.015″ Thick (±0.0005″)			
0.17″	1/4″	99432A342	$8.70
0.23″	5/16″	99432A346	8.70
0.285″	3/8″	99432A350	8.70
0.31″	7/16″	99432A354	8.70
0.35″	1/2″	99432A358	8.70
0.47″	5/8″	99432A362	8.70
0.595″	3/4″	99432A366	8.70
0.625″	7/8″	99432A372	8.70
0.75″	1″	99432A376	8.70
0.032″ Thick (±0.0015″)			
0.17″	1/4″	99432A401	$9.94
0.23″	5/16″	99432A409	9.94
0.285″	3/8″	99432A417	9.94
0.31″	7/16″	99432A425	9.94
0.35″	1/2″	99432A433	9.94
0.47″	5/8″	99432A441	9.94
0.595″	3/4″	99432A449	9.94
0.625″	7/8″	99432A457	9.94
0.75″	1″	99432A465	9.94

450-Piece Assortment—Includes 25 each of 0.005″ and 0.015″ thicknesses in these ODs: 1/4″, 5/16″, 3/8″, 7/16″, 1/2″, 5/8″, 3/4″, 7/8″, and 1″.

99432A214 $178.42

Easy-to-Install Round Shims



Align, level, and adjust spacing without disassembling your machinery—shims are slotted so you can slip them into place. OD tolerance is ±0.03″. Shims are not rated for hardness.

18-8 stainless steel shims have good corrosion resistance and may be mildly magnetic.

Zinc-plated steel shims are 1006-1015 steel and resist rust.

For Screw Size	OD	Slot Wd.	Slot Dp.	Thickness Range	Pkg. Qty.		Pkg.
18-8 Stainless Steel							
1/4″	1 1/2″	9/32″	7/8″	0.020″-0.026″	10	91080A026	$7.29
1/4″	1 1/2″	9/32″	7/8″	0.043″-0.051″	10	91080A024	7.92
1/4″	1 1/2″	9/32″	7/8″	0.084″-0.104″	10	91080A028	13.60
Zinc-Plated Steel							
1/4″	1 1/2″	9/32″	3/4″	0.031″-0.062″	50	91080A022	15.00

Shims for Shortening Screw Shoulders

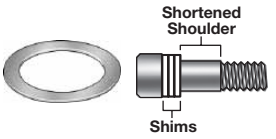

Slide a shim onto your screw to shorten the shoulder length.

316 stainless steel shims have excellent corrosion resistance and may be mildly magnetic. Minimum Rockwell hardness is B70. **18-8 stainless steel** shims have good corrosion resistance and may be mildly magnetic. Minimum Rockwell hardness is B70. **Spring steel** shims are 1074-1095 steel. Minimum Rockwell hardness is C40.

Inch Shims—ID tolerance is +0.011″. OD tolerance is +0.002″, –0.005″.

Metric Shims—ID tolerance is +0.25 mm. OD tolerance is –0.25 mm.

For Shoulder Dia.	ID	OD	Pkg. Qty.		Pkg.
316 Stainless Steel					
0.005″ Thick (±0.0005″)					
1/8″	0.126″	0.250″	10	90792A209	$7.16
3/16″	0.189″	0.313″	10	90792A212	10.20
1/4″	0.251″	0.375″	10	90792A221	10.34
5/16″	0.314″	0.438″	10	90792A229	10.91
3/8″	0.376″	0.563″	10	90792A236	11.54
1/2″	0.501″	0.750″	10	90792A245	11.60
0.010″ Thick (±0.001″)					
1/8″	0.126″	0.250″	10	90792A309	$6.87
3/16″	0.189″	0.313″	10	90792A312	10.06
1/4″	0.251″	0.375″	10	90792A321	10.34
5/16″	0.314″	0.438″	10	90792A329	10.91
3/8″	0.376″	0.563″	10	90792A336	11.49
1/2″	0.501″	0.750″	10	90792A345	11.54
0.030″ Thick (±0.003″)					
1/8″	0.126″	0.250″	10	90792A409	$7.73
3/16″	0.189″	0.313″	10	90792A412	10.06
1/4″	0.251″	0.375″	10	90792A421	10.40
5/16″	0.314″	0.438″	10	90792A429	10.77
3/8″	0.376″	0.563″	10	90792A436	11.49
1/2″	0.501″	0.750″	10	90792A445	11.49
18-8 Stainless Steel					
0.005″ Thick (±0.0005″)					
1/8″	0.126″	0.250″	10	94773A606	8.02
3/16″	0.189″	0.313″	10	94773A608	8.35
1/4″	0.251″	0.375″	50	94773A610	11.83
5/16″	0.314″	0.438″	50	94773A612	12.98
3/8″	0.376″	0.563″	50	94773A614	14.14
1/2″	0.501″	0.750″	25	94773A616	6.50
0.010″ Thick (±0.001″)					
1/8″	0.126″	0.250″	10	94773A647	6.85
3/16″	0.189″	0.313″	10	94773A649	7.35
1/4″	0.251″	0.375″	100	94773A651	12.26
5/16″	0.314″	0.438″	50	94773A653	14.24
3/8″	0.376″	0.563″	50	94773A655	14.45
1/2″	0.501″	0.750″	50	94773A657	14.40
5/8″	0.626″	0.875″	25	94773A659	9.81
3/4″	0.751″	1.000″	25	94773A661	13.20
0.016″ Thick (±0.002″)					
1/8″	0.126″	0.250″	10	94773A679	6.02
3/16″	0.189″	0.313″	10	94773A681	6.35
1/4″	0.251″	0.375″	50	94773A683	13.64
0.016″ Thick (±0.002″) (Cont.)					
5/16″	0.314″	0.438″	25	94773A686	9.37
3/8″	0.376″	0.563″	25	94773A688	9.36
1/2″	0.501″	0.750″	25	94773A689	7.57
5/8″	0.626″	0.875″	50	94773A691	15.84
3/4″	0.751″	1.000″	10	94773A693	10.29
0.020″ Thick (±0.002″)					
1/8″	0.126″	0.250″	10	94773A706	7.02
3/16″	0.189″	0.313″	10	94773A708	7.52
0.020″ Thick (±0.0025″)					
1/4″	0.251″	0.375″	50	94773A710	10.90
5/16″	0.314″	0.438″	50	94773A712	14.22
3/8″	0.376″	0.563″	25	94773A714	8.28
1/2″	0.501″	0.750″	25	94773A716	11.58
5/8″	0.626″	0.875″	25	94773A718	12.20
3/4″	0.751″	1.000″	25	94773A720	11.92
0.030″ Thick (±0.003″)					
1/8″	0.126″	0.250″	10	94773A737	7.02
3/16″	0.189″	0.313″	10	94773A739	7.68
1/4″	0.251″	0.375″	50	94773A741	9.10
0.030″ Thick (±0.003″) (Cont.)					
5/16″	0.314″	0.438″	100	94773A743	13.84
3/8″	0.376″	0.563″	50	94773A745	12.30
1/2″	0.501″	0.750″	50	94773A747	12.57
5/8″	0.626″	0.875″	25	94773A749	12.43
3/4″	0.751″	1.000″	25	94773A751	15.41
0.060″ Thick (±0.0035″)					
1/4″	0.251″	0.375″	50	94773A770	14.44
5/16″	0.314″	0.438″	50	94773A772	15.94
3/8″	0.376″	0.563″	25	94773A774	7.97
1/2″	0.501″	0.750″	25	94773A776	11.20
5/8″	0.626″	0.875″	10	94773A778	7.53
3/4″	0.751″	1.000″	10	94773A780	10.99
0.060″ Thick (±0.004″)					
1/8″	0.126″	0.250″	5	94773A766	6.84
3/16″	0.189″	0.313″	5	94773A768	7.01
Spring Steel					
0.005″ Thick (±0.0005″)					
1/8″	0.126″	0.250″	10	91124A112	6.51
3/16″	0.189″	0.313″	10	91124A113	6.64
1/4″	0.252″	0.366″	50	91124A010	14.45
5/16″	0.313″	0.424″	50	91124A012	14.65
3/8″	0.376″	0.557″	25	91124A014	9.25
1/2″	0.501″	0.738″	25	91124A016	14.04
5/8″	0.626″	0.870″	25	91124A018	14.04
3/4″	0.751″	0.995″	25	91124A020	14.04
0.010″ Thick (±0.002″)					
1/8″	0.126″	0.250″	10	91124A114	6.76
3/16″	0.189″	0.313″	10	91124A115	6.76
1/4″	0.250″	0.375″	25	91124A059	4.70
5/16″	0.313″	0.438″	25	91124A061	4.98
3/8″	0.375″	0.562″	25	91124A062	5.15
1/2″	0.500″	0.750″	25	91124A063	5.33
5/8″	0.625″	0.875″	25	91124A064	5.73
3/4″	0.750″	1.000″	25	91124A065	5.88
0.015″ Thick (±0.002″)					
1/8″	0.126″	0.250″	10	91124A116	6.76
3/16″	0.189″	0.313″	10	91124A117	6.89
1/4″	0.250″	0.375″	25	91124A047	4.88
5/16″	0.313″	0.438″	25	91124A048	5.08
3/8″	0.375″	0.562″	25	91124A049	5.23
1/2″	0.500″	0.750″	25	91124A050	5.45
5/8″	0.625″	0.875″	25	91124A057	5.88
3/4″	0.750″	1.000″	25	91124A058	6.03
0.020″ Thick (±0.002″)					
1/8″	0.126″	0.250″	10	91124A118	6.89
3/16″	0.189″	0.313″	10	91124A119	7.01
1/4″	0.250″	0.375″	25	91124A030	4.98
5/16″	0.313″	0.438″	25	91124A034	5.25
3/8″	0.375″	0.562″	25	91124A037	5.45
1/2″	0.500″	0.750″	25	91124A038	5.45
5/8″	0.625″	0.875″	25	91124A039	6.03
3/4″	0.750″	1.000″	25	91124A040	6.08
0.032″ Thick (±0.003″)					
1/8″	0.126″	0.250″	10	91124A121	7.01
3/16″	0.189″	0.313″	10	91124A122	7.14
1/4″	0.250″	0.375″	100	91124A160	12.10
5/16″	0.313″	0.438″	100	91124A170	12.60
3/8″	0.375″	0.562″	100	91124A180	14.30
1/2″	0.500″	0.750″	50	91124A190	7.90
5/8″	0.625″	0.875″	25	91124A201	4.58
3/4″	0.750″	1.000″	25	91124A211	4.13
0.062″ Thick (±0.004″)					
1/8″	0.126″	0.250″	5	91124A123	6.44
3/16″	0.189″	0.313″	5	91124A124	6.69
1/4″	0.250″	0.375″	100	91124A060	12.60
5/16″	0.313″	0.438″	100	91124A070	12.10
3/8″	0.375″	0.562″	100	91124A080	14.30
1/2″	0.500″	0.750″	50	91124A090	7.90
5/8″	0.625″	0.875″	25	91124A101	5.20
3/4″	0.750″	1.000″	25	91124A111	5.58

Metric 18-8 Stainless Steel and Spring Steel—ID is the same dimension as shoulder diameter.

Thickness	Thick. Tolerance	Choose a Shoulder Dia. (OD), mm	
18-8 Stainless Steel			
0.005″	±0.0005″	6 (9.78), 8 (12.73), 10 (15.73), 12 (17.73), 16 (23.67), 20 (29.67)	91437A881
0.010″	±0.001″	6 (9.78), 8 (12.73), 10 (15.73), 12 (17.73), 16 (23.67), 20 (29.67)	91437A882
0.015″	±0.001″	6 (9.78), 8 (12.73), 10 (15.73), 12 (17.73), 16 (23.67), 20 (29.67)	91437A883
0.020″	±0.0015″	6 (9.78), 8 (12.73), 10 (15.73), 12 (17.73), 16 (23.67), 20 (29.67)	91437A884
0.025″	±0.0015″	6 (9.78), 8 (12.73), 10 (15.73), 12 (17.73), 16 (23.67), 20 (29.67)	91437A885
0.031″	±0.002″	6 (9.78), 8 (12.73), 10 (15.73), 12 (17.73), 16 (23.67), 20 (29.67)	91437A886
0.062″	±0.002″	6 (9.78), 8 (12.73), 10 (14.73), 12 (17.73), 16 (23.67), 20 (29.67)	91437A887
Spring Steel			
0.005″	±0.0005″	5 (7.82), 6 (9.78), 8 (12.73), 10 (14.73), 12 (17.73)	92927A881
0.010″	±0.001″	5 (7.82), 6 (9.78), 8 (12.73), 10 (14.73), 12 (17.73), 16 (23.67)	92927A882

Assortments

198-Piece Spring Steel—Assortment includes 16 of 0.015″ and 17 of 0.032″ thicknesses for shoulder diameters: 1/4″, 5/16″, 3/8″, 1/2″, 5/8″, and 3/4″. Assortment comes in a plastic box.

91124A600 ..... $129.83

270-Piece Spring Steel—Assortment includes 15 each of 0.005″, 0.015″, and 0.032″ thicknesses for shoulder diameters: 1/4″, 5/16″, 3/8″, 1/2″, 5/8″, and 3/4″. Assortment comes in a plastic box.

91124A800 ..... $140.68

Shims for Lengthening Screw Shoulders

Spin these tight-fitting shims onto your screw's threads to extend the shoulder length. **316 stainless steel** shims have excellent corrosion resistance. They may be mildly magnetic. **18-8 stainless steel** shims have good corrosion resistance and may be mildly magnetic. **Spring steel** *inch shims* are 1075-1095 steel; *metric* are 1075 steel.

Inch Shims—ID tolerance is +0.011″. OD tolerance is ±0.002″. *316 stainless steel* shims have a minimum Rockwell hardness of B70-C45. *18-8 stainless steel* shims have a minimum Rockwell hardness of B70. *Spring steel* shims have a minimum Rockwell hardness of C40.

Metric Shims—ID tolerance is +0.254 mm and OD tolerance is –0.254 mm. Minimum Rockwell hardness is C40.

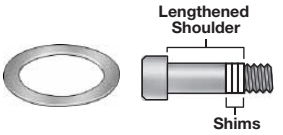

For Shoulder Dia.	For Screw Size	ID	OD	Pkg. Qty.		Pkg.
316 Stainless Steel						
0.005″ Thick (±0.0005″)						
3/16″	No. 8	0.146″	0.178″	10	91017A452	$10.64
1/4″	No. 10	0.171″	0.241″	10	91017A456	10.06
5/16″	1/4″	0.234″	0.303″	10	91017A464	10.20
3/8″	5/16″	0.289″	0.365″	10	91017A469	10.34
1/2″	3/8″	0.352″	0.491″	10	91017A475	11.49
0.016″ Thick (±0.002″)						
1/4″	No. 10	0.171″	0.241″	10	91017A556	10.20
5/16″	1/4″	0.234″	0.303″	10	91017A564	10.34
3/8″	5/16″	0.289″	0.365″	10	91017A569	10.49
1/2″	3/8″	0.352″	0.491″	10	91017A575	10.54
0.030″ Thick (±0.003″)						
1/4″	No. 10	0.171″	0.241″	10	91017A656	10.11
5/16″	1/4″	0.234″	0.303″	10	91017A664	10.17
3/8″	5/16″	0.289″	0.365″	10	91017A669	10.40
1/2″	3/8″	0.352″	0.491″	10	91017A675	11.54
18-8 Stainless Steel						
0.005″ Thick (±0.0005″)						
3/16″	No. 8	0.146″	0.178″	10	90135A432	9.31
1/4″	No. 10	0.171″	0.241″	50	90135A431	13.24
5/16″	1/4″	0.234″	0.303″	50	90135A433	14.00
3/8″	5/16″	0.289″	0.365″	50	90135A435	12.18
1/2″	3/8″	0.352″	0.491″	25	90135A437	9.86
0.016″ Thick (±0.002″)						
1/4″	No. 10	0.171″	0.241″	50	90135A443	14.00
5/16″	1/4″	0.234″	0.303″	50	90135A445	14.51
3/8″	5/16″	0.289″	0.365″	50	90135A447	14.70
1/2″	3/8″	0.352″	0.491″	25	90135A449	8.73
5/8″	1/2″	0.473″	0.616″	25	90135A451	10.09
0.030″ Thick (±0.003″)						
1/4″	No. 10	0.171″	0.241″	25	90135A455	9.91
5/16″	1/4″	0.234″	0.303″	25	90135A457	5.40
3/8″	5/16″	0.289″	0.365″	25	90135A459	11.03
1/2″	3/8″	0.352″	0.491″	25	90135A461	13.73
5/8″	1/2″	0.473″	0.616″	25	90135A463	14.15
Spring Steel						
0.005″ Thick (±0.0005″)						
3/16″	No. 8	0.146″	0.185″	10	91140A232	7.93
1/4″	No. 10	0.171″	0.248″	50	91140A231	13.34
5/16″	1/4″	0.234″	0.308″	50	91140A233	13.68
3/8″	5/16″	0.289″	0.371″	50	91140A235	14.38
1/2″	3/8″	0.352″	0.496″	50	91140A237	14.38
5/8″	1/2″	0.473″	0.621″	25	91140A239	8.23
3/4″	5/8″	0.598″	0.746″	25	91140A241	8.78
0.015″ Thick (±0.00075″)						
1/4″	No. 10	0.171″	0.248″	50	91140A243	12.98
5/16″	1/4″	0.234″	0.308″	50	91140A245	12.98
3/8″	5/16″	0.289″	0.371″	50	91140A247	14.03
1/2″	3/8″	0.352″	0.496″	50	91140A249	14.38
5/8″	1/2″	0.473″	0.621″	25	91140A251	8.02
3/4″	5/8″	0.598″	0.746″	25	91140A253	8.47
0.032″ Thick (±0.0015″)						
1/4″	No. 10	0.187″	0.248″	50	91140A255	14.38
5/16″	1/4″	0.234″	0.308″	50	91140A257	14.38
3/8″	5/16″	0.296″	0.371″	25	91140A259	8.23
1/2″	3/8″	0.352″	0.496″	25	91140A261	9.47
5/8″	1/2″	0.473″	0.621″	25	91140A264	10.73
3/4″	5/8″	0.598″	0.746″	25	91140A266	10.73

For Shoulder Dia., mm	For Screw Size, mm	ID, mm	OD, mm	Pkg. Qty.		Pkg.
Metric 18-8 Stainless Steel						
0.005″ Thick (±0.0005″)						
6	5	4.950	5.960	10	91437A221	$8.83
8	6	5.920	7.950	10	91437A304	9.03
10	8	7.820	9.950	10	91437A416	9.89
12	10	9.700	11.960	10	91437A508	9.54
16	12	11.650	15.940	10	91437A610	9.97
20	16	15.500	19.930	10	91437A701	10.66
0.010″ Thick (±0.001″)						
6	5	4.950	5.960	10	91437A228	8.14
8	6	5.920	7.950	10	91437A312	8.40
10	8	7.820	9.950	10	91437A424	9.00
12	10	9.700	11.960	10	91437A511	9.09
16	12	11.650	15.940	10	91437A618	9.60
20	16	15.500	19.930	10	91437A712	10.03
0.015″ Thick (±0.001″)						
6	5	4.950	5.960	10	91437A236	7.80
8	6	5.920	7.950	10	91437A318	7.94
10	8	7.820	9.950	10	91437A433	8.11
12	10	9.700	11.960	10	91437A517	8.51
16	12	11.650	15.940	10	91437A623	8.97
20	16	15.500	19.930	10	91437A717	9.23
0.020″ Thick (±0.0015″)						
8	6	5.920	7.950	10	91437A326	8.31
10	8	7.820	9.950	10	91437A439	8.77
12	10	9.700	11.960	10	91437A522	9.60
16	12	11.650	15.940	10	91437A628	10.31
20	16	15.500	19.930	10	91437A725	11.03
0.025″ Thick (±0.0015″)						
8	6	5.920	7.950	10	91437A331	8.66
10	8	7.820	9.950	10	91437A444	9.20
12	10	9.700	11.960	10	91437A526	10.31
16	12	11.650	15.940	5	91437A634	5.57
20	16	15.500	19.930	5	91437A734	6.89
0.031″ Thick (±0.002″)						
8	6	5.920	7.950	10	91437A337	9.29
10	8	7.820	9.950	10	91437A450	10.60
12	10	9.700	11.960	10	91437A532	9.46
16	12	11.650	15.940	5	91437A640	6.89
20	16	15.500	19.930	5	91437A738	7.97
Metric Spring Steel						
0.005″ Thick (±0.0005″)						
5	4	3.980	4.985	5	92927A121	9.79
6	5	4.976	5.982	5	92927A129	10.00
8	6	5.852	7.951	5	92927A137	6.23
10	8	7.688	9.951	5	92927A150	6.32
12	10	9.522	11.973	5	92927A161	6.37
0.015″ Thick (±0.001″)						
5	4	3.980	4.985	5	92927A125	10.86
6	5	4.976	5.982	5	92927A133	11.17
8	6	5.852	7.951	5	92927A142	5.89
10	8	7.688	9.951	5	92927A154	5.94
12	10	9.522	11.973	5	92927A164	6.60
16	12	11.355	15.941	5	92927A172	6.75
0.031″ Thick (±0.002″)						
8	6	5.852	7.951	5	92927A146	7.17
10	8	7.688	9.951	5	92927A158	7.23
12	10	9.522	11.973	5	92927A167	7.29
16	12	11.355	15.941	5	92927A175	7.46
20	16	15.190	19.928	5	92927A179	7.46

Assortments

270-Piece Spring Steel—Includes 15 each of 0.005″, 0.015″, and 0.032″ thicknesses for shoulder diameters: 1/4″, 5/16″, 3/8″, 1/2″, 5/8″, and 3/4″. Assortment comes in a plastic box.

91140A800 ..... $92.76

300-Piece Spring Steel—Includes fifty 0.015″ thick shims for shoulder diameters: 1/4″, 5/16″, 3/8″, 1/2″, 5/8″, and 3/4″. Assortment comes in a plastic box.

91140A600 ..... $65.82

Hinge Shims

Slide a shim behind your door's hinge to properly align it in the jamb. To select the correct shim, measure your door hinge leaf height. Shims are plastic and have a universal hole pattern. They can be cut with a knife. Durometer is 60D. Temperature range is –30° to 175° F.

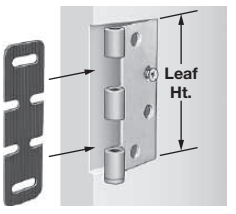

For Door Hinge Leaf Ht.	Wd.	Thickness	Color	Pkg. Qty.		Pkg.
3 1/2″	1 1/16″	0.035″	White	18	1142N11	$4.06
4″	1 5/16″	0.027″	Gray	15	1142N12	4.06
4 1/2″	1 3/8″	0.045″	Black	15	1142N13	4.06

Stainless Steel Slotted Shims with Tab

Save time—the slot and tab let you insert, remove, and adjust these shims without disassembling your machinery.

Trade Size	AA	A	BB	B	C	D	E	G	H
18-8 Stainless Steel									
Shim Lg. × Wd.	1½″ × 1½″	2″ × 2″	2½″ × 2½″	3″ × 3″	4″ × 4″	5″ × 5″	6″ × 6″	6″ × 6″	8″ × 8″
Slot Wd. × Dp.	7/16″ × 61/64″	9/16″ × 1 9/32″	11/16″ × 1 19/32″	13/16″ × 1 29/32″	1 3/16″ × 2 19/32″	1 9/16″ × 3 9/32″	1 15/16″ × 4″	2 5/16″ × 4 3/16″	2 5/16″ × 5 3/16″
Max. Screw Size	3/8″	1/2″	5/8″	3/4″	1 1/8″	1 1/2″	1 7/8″	2 1/4″	2 1/4″
316 Stainless Steel									
Shim Lg. × Wd.	—	2″ × 2″	—	3″ × 3″	4″ × 4″	—	—	—	—
Slot Wd. × Dp.	—	5/8″ × 1 9/32″	—	7/8″ × 2 1/8″	1 1/4″ × 2 3/4″	—	—	—	—
Max. Screw Size	—	9/16″	—	3/4″	1 1/8″	—	—	—	—

Shims and Insertion Tools

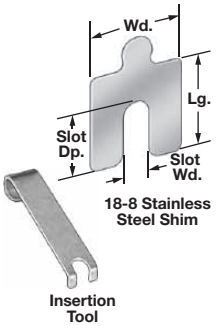



Shims are etched with the thickness. They may be mildly magnetic. Insertion tools (sold separately) hook onto the tab to give you leverage and reach. Note: Shim prices are 15% lower when you buy in multiples of 10.

18-8 stainless steel shims have good corrosion resistance. Minimum Rockwell hardness is B85.

316 stainless steel shims have excellent corrosion resistance. Minimum Rockwell hardness is C36-C50.

Thickness	Thickness Tolerance		Trade Size AA	A	BB	B	C	D	E	G	H
18-8 Stainless Steel											
0.001″	±0.00005″	97235K11	$0.95	$1.34	$1.53	$1.70	$2.25	$3.08	$4.83	$4.83	$5.40
0.002″	±0.0001″	97235K12	.95	1.45	1.53	1.70	2.25	3.08	4.83	4.83	5.40
0.003″	±0.00015″	97235K13	.95	1.45	1.53	1.70	2.25	3.08	4.83	4.83	5.40
0.004″	±0.0002″	97235K14	.95	1.39	1.53	1.70	2.22	3.05	5.64	5.64	5.98
0.005″	±0.00025″	97235K15	.95	1.39	1.53	1.70	2.22	3.05	5.64	5.64	5.98
0.010″	±0.0005″	97235K16	.90	1.37	1.53	1.62	2.52	3.47	5.36	5.36	5.88
0.015″	±0.00075″	97235K17	.90	1.37	1.53	1.69	2.65	3.47	5.36	5.36	5.88
0.020″	±0.001″	97235K18	1.02	1.53	1.70	1.78	2.59	3.91	6.20	6.20	6.76
0.025″	±0.00125″	97235K19	1.09	1.53	1.70	2.04	2.70	4.42	6.20	6.20	6.76
0.030″	±0.0015″	97235K21	1.98	1.83	2.21	2.23	3.50	4.78	8.13	8.13	8.85
0.050″	±0.002″	97235K22	1.78	2.24	2.45	2.43	4.17	5.77	8.13	8.13	8.85
0.060″	±0.002″	97235K23	2.05	2.31	3.63	3.52	5.24	6.70	11.51	11.51	12.63
0.075″	±0.002″	97235K24	1.85	2.74	3.63	4.06	5.87	9.36	11.51	11.51	12.63
0.100″	±0.004″	97235K25	2.12	3.22	4.32	4.20	7.70	10.36	15.37	15.37	16.90
0.125″	±0.004″	97235K26	2.20	3.53	4.72	4.72	8.68	12.00	17.30	17.30	19.07
0.250″	±0.01″	97235K27	13.02	15.75	28.90	16.95	25.80	29.78	29.26	29.26	32.50
0.375″	±0.01″	97235K28	14.44	24.30	36.19	36.85	49.78	54.14	41.68	41.68	53.02
0.500″	±0.015″	97235K29	16.06	32.06	40.95	41.49	69.18	62.23	56.45	56.45	116.92
Insertion Tool—5″ Lg.		97235K97	4.70	5.03	5.03	5.67	5.67	6.04	6.35	6.35	7.02
316 Stainless Steel											
0.005″	±0.00025″	94420A410	—	2.08	—	2.53	3.53	—	—	—	—
0.010″	±0.0005″	94420A420	—	2.45	—	3.11	4.03	—	—	—	—
0.015″	±0.0005″	94420A430	—	2.89	—	3.61	4.74	—	—	—	—
0.020″	±0.0005″	94420A440	—	3.18	—	3.95	5.29	—	—	—	—
0.025″	±0.00075″	94420A450	—	3.71	—	4.58	6.08	—	—	—	—
0.050″	±0.001″	94420A460	—	4.00	—	4.37	5.74	—	—	—	—
0.125″	±0.0025″	94420A470	—	4.24	—	5.47	7.16	—	—	—	—
Insertion Tool—7 1/8″ Lg.		94420A500	—	5.79	—	5.79	5.79	—	—	—	—

Assortments

Assortments are 18-8 stainless steel and include these thicknesses: 0.001″, 0.002″, 0.003″, 0.004″, 0.005″, 0.010″, 0.015″, 0.020″, 0.025″, 0.050″, 0.075″, 0.100″, and 0.125″. **26-piece** assortments come in a cardboard box. **130-** and **260-piece** assortments come in a steel case.

No. of Pieces	No. of Each Thickness		Trade Size AA	A	BB	B	C	D	E	G	H
26	2	97235K46	$25.63	$25.15	$31.33	$35.50	$45.12	$77.69	$166.00	$166.00	$180.98
130	10	97235K48	167.74	191.35	180.98	229.45	311.67	410.58	792.31	792.31	1,062.83
260	20	97235K49	294.85	308.40	304.32	412.73	570.11	836.18	1,347.39	1,347.39	1,650.71

Metric 18-8 Stainless Steel Slotted Shims with Tab

These corrosion-resistant shims have a slot and tab so they can be inserted, removed, and adjusted without disassembling your machinery.

Trade Size	A	B	C
Shim Lg. × Wd., mm	50 × 50	75 × 75	100 × 100
Slot Wd. × Dp., mm	15.88 × 25.4	22.33 × 38.1	31.75 × 50.8
Max. Screw Size	M15	M22	M31

Shims

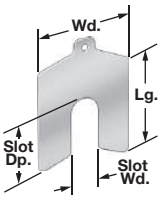

Shims are stamped with the thickness and may be mildly magnetic. Maximum Rockwell hardness is C45.

Thickness	Thickness Tolerance		Trade Size A	B	C
0.025 mm	±0.0025 mm	9722K4	$3.29	$3.94	$5.20
0.050 mm	±0.0035 mm	9722K5	3.29	3.94	5.20
0.100 mm	±0.007 mm	9722K9	3.29	3.94	5.20
0.200 mm	±0.015 mm	9722K19	3.29	3.94	5.20
0.250 mm	±0.02 mm	9722K29	3.29	3.94	5.20
0.400 mm	±0.032 mm	9722K39	3.29	3.94	5.20
0.500 mm	±0.032 mm	9722K49	3.69	3.94	5.60
0.700 mm	±0.032 mm	9722K59	3.77	4.17	6.51
1.000 mm	±0.042 mm	9722K69	3.97	4.94	6.91
2.000 mm	±0.07 mm	9722K79	4.49	6.57	9.54

Assortments

Assortments include these thicknesses: 0.025 mm, 0.050 mm, 0.100 mm, 0.200 mm, 0.250 mm, 0.400 mm, 0.500 mm, 0.700 mm, 1.000 mm, and 2.000 mm. They come in a cardboard box.

No. of Pieces	No. of Each Thickness		Trade Size A	B	C
10	1	9722K7	$16.06	$23.80	$36.22
100	10	9722K8	121.65	180.31	274.45

Color-Coded Slotted Shims

Identify shim thickness by color.

Trade Size	AA	A	B	C
Shim Lg. x Wd.	1½″ x 1½″	2″ x 2″	3″ x 3″	4″ x 4″
Slot Wd. x Dp.	⅜″ x 15⁄16″	7⁄16″ x 17⁄32″	9⁄16″ x 125⁄32″	1″ x 2½″
Max. Screw Size	5⁄16″	⅜″	½″	⅞″

Shims

Shims are not rated for hardness.

Aluminum shims are painted Alloy 1100, 1200, or 3003. They are lightweight, rust resistant, and stronger than plastic slotted shims. **Plastic** shims are polyester and withstand oil. Maximum temperature is 140° F.

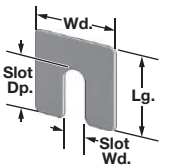

Thick.	Thick. Tolerance	Color	Trade Size AA Pkg. Qty.		Pkg.	Trade Size A Pkg. Qty.		Pkg.	Trade Size B Pkg. Qty.		Pkg.	Trade Size C Pkg. Qty.		Pkg.
Aluminum														
0.002″	±0.0002″	Red	20	9302K01	$4.98	20	9302K22	$5.65	20	9302K42	$7.11	20	9302K62	$10.20
0.003″	±0.0003″	Green	20	9302K011	4.98	20	9302K23	5.65	20	9302K43	7.11	20	9302K63	10.20
0.005″	±0.0005″	Blue	20	9302K013	4.98	20	9302K25	5.65	20	9302K45	7.11	20	9302K65	10.20
0.010″	±0.001″	Brown	20	9302K015	5.62	20	9302K31	6.37	20	9302K51	13.98	10	9302K81	13.36
0.015″	±0.0015″	Pink	20	9302K016	7.74	20	9302K32	8.74	20	9302K52	14.98	10	9302K82	14.11
0.020″	±0.002″	Yellow	20	9302K017	8.23	20	9302K33	9.36	10	9302K53	8.84	5	9302K83	8.56
0.025″	±0.0025″	White	20	9302K018	10.36	20	9302K34	11.87	10	9302K54	8.58	5	9302K84	9.45
0.030″	±0.003″	Coral	20	9302K019	10.36	20	9302K35	11.87	10	9302K55	10.49	5	9302K85	8.51
0.060″	±0.006″	Gray	—	—	—	20	9302K36	12.99	10	9302K57	11.87	—	—	—
Plastic														
0.005″	±0.0002″	Blue	20	9303K05	4.88	20	9303K25	5.03	20	9303K45	6.21	20	9303K65	7.69
0.010″	±0.0005″	Brown	20	9303K011	5.77	20	9303K31	6.06	20	9303K51	11.09	10	9303K81	9.23
0.015″	±0.0015″	Pink	20	9303K012	9.32	20	9303K32	10.05	20	9303K52	14.94	10	9303K82	14.83
0.020″	±0.002″	Yellow	20	9303K013	9.32	20	9303K33	10.05	10	9303K53	10.41	5	9303K83	8.34
0.025″	±0.0025″	White	20	9303K014	11.94	20	9303K34	13.20	10	9303K54	10.39	5	9303K84	9.72
0.030″	±0.003″	Coral	20	9303K015	11.94	20	9303K35	13.20	10	9303K55	10.39	5	9303K85	9.72
0.060″	±0.006″	Clear	5	9303K016	12.64	10	9303K36	11.86	5	9303K66	12.36	1	9303K86	3.28

Assortments

Assortments include 20 each of these thicknesses: 0.002″, 0.003″, 0.004″, 0.005″, 0.010″, 0.015″, 0.020″, 0.030″, and 0.060″, except aluminum trade size AA and C assortments do not include 0.060″ thickness. Assortments come in a cardboard box.

	Trade Size AA		Trade Size A		Trade Size B		Trade Size C	
Aluminum	9302K91	$44.15	9302K92	$50.25	9302K93	$94.81	9302K94	$135.35
Plastic	9303K91	44.92	9303K92	46.13	9303K93	88.58	9303K94	163.66

Horseshoe Shims

Designed to fit around screws, these shims are commonly used in window, door, and cabinet installations. Thickness tolerance is ±0.032″.

316 stainless steel shims have excellent corrosion resistance and may be mildly magnetic. Rockwell hardness is B83.

Color-coded plastic shims let you identify thickness by color: 0.063″ thick are blue; 0.125″ thick are red; and 0.250″ thick are black. They are not rated for temperature or hardness. *Color-coded interlocking plastic* shims have ridges that hold them together when stacked.

Adjustable-length plastic shims are scored so you can shorten them. Color is black. They are not rated for temperature or hardness.

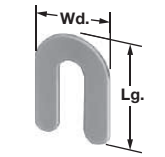

Shim Lg.	Shim Wd.	Slot Wd.	Slot Dp.	Max. Screw Size	0.063″ Thick Pkg. Qty.		Pkg.	0.125″ Thick Pkg. Qty.		Pkg.	0.250″ Thick Pkg. Qty.		Pkg.
316 Stainless Steel													
2″	1½″	½″	1½″	½″	1	9731K51	$4.80	1	9731K61	$5.14	1	9731K71	$6.42
2 5⁄8″	1 7⁄8″	5⁄8″	2″	5⁄8″	1	9731K52	5.40	1	9731K62	5.75	1	9731K72	7.18
3″	2 5⁄16″	1 3⁄16″	2¼″	¾″	1	9731K53	6.20	1	9731K63	6.59	1	9731K73	8.23
3½″	1½″	½″	3″	½″	1	9731K54	6.80	1	9731K64	7.28	1	9731K74	9.09
Color-Coded Plastic													
1″	2″	9⁄16″	1 3⁄16″	½″	50	9731K17	3.89	50	9731K27	5.17	50	9731K37	9.15
2″	1½″	½″	1½″	7⁄16″	100	9731K11	5.16	100	9731K21	8.73	100	9731K31	14.19
2 5⁄8″	1 7⁄8″	5⁄8″	2 1⁄16″	9⁄16″	100	9731K15	9.82	100	9731K25	13.24	50	9731K35	11.78
3″	2 5⁄16″	1 3⁄16″	2¼″	¾″	100	9731K13	9.86	100	9731K23	14.19	50	9731K33	11.32
3½″	1½″	½″	3″	7⁄16″	100	9731K12	8.80	100	9731K22	14.19	50	9731K32	10.48
4″	3″	1 3⁄16″	3″	¾″	10	9731K16	5.53	10	9731K26	6.75	10	9731K36	9.75
Color-Coded Interlocking Plastic													
3″	1½″	½″	2½″	½″	25	97299A113	6.97	25	97299A116	7.17	25	97299A119	8.68
4″	3″	⅞″	3″	¾″	25	97299A221	9.71	25	97299A224	12.81	25	97299A228	14.06
Adjustable-Length Plastic													
3½″-2″	1 15⁄16″	⅝″	2 7⁄8″	9⁄16″	16	9731K41	2.90	—	—	—	—	—	—
4¼″-2″	1 15⁄16″	⅝″	3 9⁄16″	9⁄16″	16	9731K42	3.87	—	—	—	—	—	—
4¾″-2″	1 15⁄16″	⅝″	4⅛″	9⁄16″	16	9731K43	4.18	—	—	—	—	—	—


Interlocking

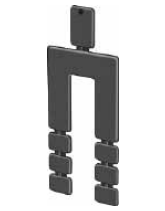
Adjustable Length

Tapered Shims

Level and align everything from windows to furniture. Shims are not rated for temperature or hardness. **Wood** and **composite** shims are scored or dimpled so you can snap off any excess. **Flexible plastic** and **rigid plastic** shims have ridges that keep them from sliding apart when stacked. **Slotted rigid plastic** shims have a 2 7⁄8″ Wd. x ½″ Dp. slot for installing around screws.


Wood

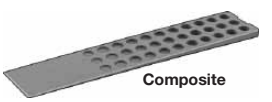
Composite

Material	Thick.	Lg.	Wd.	Color	Pkg. Qty.		Pkg.
Wood	1⁄32″-⅜″	4″	1⅜″	—	14	9704K8	$1.64
Wood	1⁄32″-7⁄16″	6″	1⅜″	—	12	9704K9	1.72
Composite	1⁄16″-¼″	7½″	1⅜″	Tan	12	9704K2	3.37
Flexible Plastic	1⁄32″-¼″	1 15⁄16″	1 5⁄32″	White	30	97203A300	14.95
Rigid Plastic	1⁄32″-¼″	1 15⁄16″	1 5⁄32″	Black	30	97203A200	13.00
Slotted Rigid Plastic	1⁄16″-¼″	3⅜″	1½″	Black	25	97203A400	10.53


Flexible and Rigid Plastic


Slotted Rigid Plastic

About Spacers and Standoffs



Unthreaded Spacer



Threaded Standoff

Use spacers and standoffs to position components in assemblies, as well as to separate or connect parts. **Spacers** are unthreaded. **Standoffs** are threaded. *Hex standoffs* have flat sides that ensure a firm grip when tightened with a wrench.

Inch sizes have a Class 2A or 2B thread fit. **Metric sizes** have a Class 6H or 6g thread fit.

Stainless steel is strong, electrically conductive, and nonmagnetic. *316 stainless steel* has excellent corrosion resistance. Tensile strength is 70,000 psi and Rockwell hardness is B80. *18-8 stainless steel* has good corrosion resistance. Tensile strength is at least 75,000 psi and Rockwell hardness is B60.

Brass is strong, corrosion resistant, electrically conductive, and nonmagnetic. Tensile strength is 45,000 psi. Rockwell hardness is B55. *Zinc plating* adds corrosion resistance.

Aluminum is lightweight and mildly resistant to corrosion. Tensile strength is 45,000 psi. Rockwell hardness is B50.

Steel is strong. *1006-1010 steel* is not rated for tensile strength or hardness. *12L14-1215 steel* have a tensile strength of 55,000 psi. Rockwell hardness is B40. *Zinc plating* adds corrosion resistance. *Nickel-chrome plating* adds a tarnish-resistant mirror-like finish.

Nylon 6/6 is nonconductive and resists chemicals and solvents (except mineral acids). It absorbs moisture, which can affect dimensions and other properties. Temperature range is –20° to 155° F. Not rated for tensile strength or hardness.

LDPE (low density polyethylene) is nonconductive and resists moisture and chemicals. Tensile strength is 1,000 psi. Hardness is Rockwell D40. Temperature range is –60° to 175° F.

Polypropylene is nonconductive and resists chemicals. Tensile strength is 3,000 psi. Rockwell hardness is R80. Temperature range is –40° to 160° F.

Acetal is strong and resists wear and chemicals. Tensile strength is 10,000 psi. Temperature range is –55° to 250° F. Not rated for hardness.

Fiberglass-reinforced plastic is voltage rated and resists impact and corrosion. Tensile strength is 1,000 psi. It is not rated for hardness or temperature.

Rubber compresses between components to dampen vibration, shock, and noise. Tensile strength is 1,000 psi. Durometer is 56A. Temperature range is 55° to 105° F. *Fabric-reinforced rubber* has a durometer of 90A and a temperature range of –65° to 200° F. It is not rated for tensile strength.

Garolite is G-10/FR4. It's strong and a good electrical insulator with low moisture absorption. Tensile strength is 35,000 psi. Rockwell hardness is M110. Temperature range is 0° to 300° F.

Fiber is lightweight and a good electrical insulator. It resists most organic solvents and petroleum-based oils. Tensile strength is 6,000 psi. Rockwell hardness is R60. Temperature range is 50° to 225° F.

Ceramic is Grade L5. It is a good electrical insulator and withstands high voltages and high temperatures. Tensile strength is 9,000 psi. Hardness is Mohs 7.5. Temperature range is 50° to 1700° F. *Glazed finish* reduces moisture absorption.

Unthreaded Spacers



These spacers are also known as clearance spacers. Spacers have an OD tolerance of ±0.005″, ID tolerance of +0.01″, and length tolerance of ±0.005″, except nylon. Nylon 6/6 spacers have an OD tolerance of ±0.015″ for 1/8″ to 1″ ODs and ±0.02″ for 1 1/2″ OD. ID tolerance is -0.005″ to +0.015″. Length tolerance is ±0.015″ for 1/16″ to 1 7/16″ lengths and ±0.03″ for 1 1/2″ to 2 1/2″ lengths.

18-8 stainless steel spacers meet ASTM A581 or A582. **Zinc-plated brass** spacers meet ASTM B16. **Black-anodized aluminum** spacers meet MIL-A-8625F, Type II, Class 2. **Zinc-plated steel** spacers are 12L14-1215 steel. **Nylon 6/6** spacers are off-white.

For Screw Size	No. 0	No. 2	No. 4	No. 6	No. 8	No. 10	No. 12	1/4″	5/16″	3/8″	1/2″	5/8″	3/4″	1″
ID	0.064″	0.090″	0.115″	0.140″	0.166″	0.192″	0.218″	0.252″	0.315″	0.380″	0.505″	0.625″	0.750″	1.000″

Lg.	18-8 Stainless Steel	Each★	Zinc-Plated Brass	Each★	Aluminum	Each★	Black-Anodized Aluminum	Each★	Zinc-Plated Steel	Each★	Nylon 6/6 Pkg. Qty.	Pkg.
1/8″ OD—Choose a screw size: No. 0, 2												
1/16″	92320A281	$1.07	—	—	92510A376	$0.79	—	—	—	—	—	—
1/8″	92320A977	1.86	90309A935	$1.37	92510A854	1.45	—	—	92415A874	$1.47	25	94639A147 $7.77
3/16″	92320A978	1.86	90309A936	1.38	92510A855	1.45	—	—	92415A875	1.48	25	94639A148 7.77
1/4″	92320A979	1.86	90309A937	1.44	92510A856	1.45	—	—	92415A876	1.48	25	94639A149 7.77
5/16″	92320A980	2.10	90309A938	1.45	92510A857	1.44	—	—	92415A877	1.57	25	94639A150 7.77
3/8″	92320A981	2.15	90309A939	1.46	92510A858	1.56	—	—	92415A878	1.58	10	94639A151 7.03
1/2″	92320A284	1.61	—	—	92510A379	.83	—	—	—	—	—	—
3/16″ OD—Choose a screw size: No. 2, 4												
1/8″	92320A194	1.56	90309A077	1.15	92510A294	.33	—	—	92415A179	1.34	100	94639A610 7.26
5/32″	92320A103	1.63	90309A384	1.01	92510A103	.33	—	—	92415A180	1.35	25	94639A612 3.35
3/16″	92320A195	1.61	90309A078	1.19	92510A295	.33	—	—	92415A181	1.35	100	94639A615 7.51
7/32″	92320A104	1.63	90309A385	1.19	92510A104	.33	—	—	92415A182	1.35	25	94639A617 7.85
1/4″	92320A196	1.63	90309A079	1.19	92510A296	.33	—	—	92415A676	1.36	100	94639A620 7.74
9/32″	92320A105	1.63	90309A386	1.24	92510A105	.34	—	—	92415A183	1.36	25	94639A623 6.58
5/16″	92320A197	1.63	90309A080	1.24	92510A297	.34	—	—	92415A672	1.37	100	94639A625 7.92
11/32″	92320A106	1.71	90309A387	1.25	92510A106	.39	—	—	92415A184	1.42	25	94639A628 3.47
3/8″	92320A198	1.71	90309A081	1.27	92510A298	.39	—	—	92415A673	1.46	100	94639A630 8.13
13/32″	92320A107	1.71	90309A388	1.27	92510A107	.38	—	—	92415A185	1.47	25	94639A633 7.84
7/16″	92320A199	1.71	90309A082	1.30	92510A299	.39	—	—	92415A674	1.47	100	94639A635 8.33
15/32″	92320A108	1.75	90309A389	1.29	92510A108	.38	—	—	92415A186	1.48	25	94639A637 7.85
1/2″	92320A200	1.75	90309A083	1.38	92510A300	.39	—	—	92415A675	1.48	100	94639A640 8.61
9/16″	92320A109	1.80	90309A390	1.38	92510A109	.44	—	—	92415A187	1.78	100	94639A015 10.07
5/8″	92320A110	1.80	90309A391	1.39	92510A110	.44	—	—	92415A188	1.79	100	94639A016 10.31
11/16″	92320A111	1.99	90309A392	1.42	92510A111	.49	—	—	92415A189	1.79	100	94639A017 10.35
3/4″	92320A112	2.81	90309A393	1.44	92510A112	.50	—	—	92415A190	2.05	100	94639A018 10.40
7/8″	92320A113	2.06	90309A394	1.69	92510A113	.50	—	—	92415A191	2.10	100	94639A019 10.45
1″	92320A114	2.18	90309A395	1.73	92510A114	.50	—	—	92415A192	2.12	100	94639A020 10.50
1/4″ OD—Choose a screw size: No. 2, 4, 6, 8												
1/16″	92320A287	1.05	—	—	92510A383	.81	—	—	—	—	—	—
1/8″	92320A201	1.22	90309A001	.88	92510A301	.27	93013A260	$1.59	92415A401	1.36	100	94639A101 7.54
5/32″	92320A115	1.29	90309A396	.88	92510A115	.34	—	—	—	—	—	—
3/16″	92320A202	1.26	90309A002	.90	92510A302	.27	93013A262	1.59	92415A402	1.37	100	94639A102 7.93
7/32″	92320A116	1.29	90309A397	.90	92510A116	.34	—	—	92415A194	1.38	25	94639A153 7.97
1/4″	92320A203	1.28	90309A003	.90	92510A303	.27	93013A264	1.60	92415A403	1.39	100	94639A103 8.10

★ Prices are 15% lower when you buy in multiples of 10.

(Continued on following page)

Unthreaded Spacers *(Continued from previous page)*

Lg.	18-8 Stainless Steel Each★		Zinc-Plated Brass Each★		Aluminum Each★		Black-Anodized Aluminum Each★		Zinc-Plated Steel Each★		Nylon 6/6 Pkg. Qty.	Pkg.	
1/4″ OD (Cont.)—Choose a screw size: No. 2, 4, 6, 8													
9/32″	92320A117	$1.29	90309A398	$0.92	92510A117	$0.34			92415A195	$1.39	25	94639A154	$7.97
5/16″	92320A204	1.30	90309A004	.92	92510A304	.27	93013A266	$1.61	92415A404	1.40	100	94639A104	8.47
11/32″	92320A118	1.41	90309A399	.93	92510A118	.44			92415A196	1.45	25	94639A155	7.97
3/8″	92320A205	1.35	90309A005	.95	92510A305	.34	93013A268	1.62	92415A405	1.50	100	94639A105	8.68
13/32″	92320A119	1.41	90309A400	.95	92510A119	.44			92415A197	1.51	25	94639A156	7.96
7/16″	92320A120	1.41	90309A401	.97	92510A120	.44			92415A198	1.52	100	94639A026	10.21
15/32″	92320A121	1.41	90309A402	1.09	92510A121	.44			92415A199	1.52	25	94639A157	7.96
1/2″	92320A206	1.40	90309A006	1.09	92510A306	.34	93013A272	1.63	92415A406	1.53	100	94639A106	8.94
9/16″	92320A122	1.69	90309A403	1.11	92510A122	.44			92415A200	1.84	100	94639A028	10.55
5/8″	92320A207	1.55	90309A007	1.11	92510A307	.34	93013A274	1.65	92415A407	1.85	100	94639A107	9.30
11/16″	92320A123	1.84	90309A404	1.11	92510A123	.44			92415A201	1.95	100	94639A029	9.61
3/4″	92320A208	1.84	90309A008	1.08	92510A308	.44	93013A276	1.67	92415A408	1.84	100	94639A108	9.64
13/16″	92320A124	1.84	90309A405	1.21	92510A124	.44			92415A202	2.24	100	94639A030	9.82
7/8″	92320A209	1.84	90309A009	1.22	92510A309	.44	93013A278	1.69	92415A409	1.87	100	94639A109	9.92
15/16″	92320A125	1.84	90309A406	1.37	92510A125	.44			92415A203	2.27	100	94639A031	10.03
1″	92320A210	1.89	90309A010	1.41	92510A310	.44	93013A280	1.71	92415A410	1.89	100	94639A110	10.39
1 1/8″	92320A126	3.71	90309A407	1.51	92510A126	.66	93013A281	1.83	92415A204	2.45	5	94639A032	5.57
1 3/16″	92320A127	3.71	90309A408	1.62	92510A127	.67			92415A205	2.46	5	94639A033	6.18
1 1/4″	92320A211	3.48	90309A011	1.83	92510A311	.66	93013A283	1.85	92415A411	2.06	50	94639A111■	9.73
1 5/16″	92320A128	3.71	90309A409	1.97	92510A128	.97			92415A206	2.49	5	94639A034	6.22
1 3/8″	92320A129	3.71	90309A410	2.08	92510A129	.97	93013A285	1.87	92415A207	2.52	5	94639A035	5.86
1 7/16″	92320A130	3.71	90309A411	2.20	92510A130	1.03			92415A208	2.53	5	94639A036	6.38
1 1/2″	92320A212	3.71	90309A012	2.34	92510A312	1.03	93013A287	1.91	92415A412	2.11	50	94639A112■	9.90
1 3/4″	92320A131	6.68	90309A412	2.64	92510A131	1.51	93013A288	1.94	92415A209	2.58	5	94639A037	6.76
2″	92320A132	7.40	90309A413	3.03	92510A132	1.75	93013A289	1.98	92415A210	3.65	1	94639A042	1.95
5/16″ OD—Choose a screw size: No. 6, 8, 10; material; and length. Materials and lengths offered are the same as 1/4″ OD spacers, except not available in Black-Anodized Aluminum and 1/16″ length.												94639A899	
3/8″ OD—Choose a screw size: No. 6, 8, 10, 12													
1/16″	92320A293	1.60			92510A388	1.09							
1/8″	92320A225	1.96	90309A025	1.21	92510A325	1.10	93013A601	1.84	92415A425	1.34	100	94639A125▲	8.19
5/32″	92320A151	1.89	90309A432	1.25	92510A151	1.10					25	94639A164	6.95
3/16″	92320A226	1.58	90309A026	1.29	92510A326	1.10			92415A426	1.37	100	94639A126▲	7.97
7/32″	92320A152	2.25	90309A433	1.32	92510A152	1.10			92415A230	1.38	25	94639A165	8.27
1/4″	92320A227	2.23	90309A027	1.35	92510A327	1.10	93013A605	2.08	92415A427	1.39	100	94639A127▲	8.14
9/32″	92320A153	2.25	90309A434	1.39	92510A153	1.10			92415A231	1.40	25	94639A166	8.26
5/16″	92320A228	2.24	90309A028	1.42	92510A328	1.10			92415A428	1.42	100	94639A128▲	8.37
11/32″	92320A154	2.25	90309A435	1.47	92510A154	1.15			92415A232	1.47	25	94639A167	6.95
3/8″	92320A229	2.24	90309A029	1.52	92510A329	1.16	93013A609	2.18	92415A429	1.53	100	94639A129▲	8.54
13/32″	92320A155	2.25	90309A436	1.55	92510A155	1.15			92415A233	1.54	25	94639A168	8.24
7/16″	92320A156	2.25	90309A437	1.58	92510A156	1.15			92415A234	1.57	100	94639A062▲	10.10
15/32″	92320A157	2.25	90309A438	1.62	92510A157	1.15			92415A235	1.57	25	94639A169	8.23
1/2″	92320A230	2.24	90309A030	1.66	92510A330	1.16	93013A613	2.26	92415A430	1.59	100	94639A130▲	8.95
9/16″	92320A158	2.58	90309A439	1.75	92510A158	1.15			92415A236	1.71	100	94639A064▲	10.59
5/8″	92320A231	2.57	90309A031	1.82	92510A331	1.16	93013A615	2.54	92415A431	1.74	100	94639A131▲	9.39
11/16″	92320A159	2.73	90309A440	1.93	92510A159	1.27			92415A237	1.76	100	94639A065♣	9.66
3/4″	92320A232	2.73	90309A032	2.14	92510A332	1.27	93013A617	2.61	92415A432	2.15	100	94639A132▲	9.85
13/16″	92320A160	3.25	90309A441	2.22	92510A160	1.27			92415A238	2.18	100	94639A066▲	9.98
7/8″	92320A233	3.12	90309A033	2.28	92510A333	1.27	93013A619	2.68	92415A433	2.21	100	94639A133▲	10.23
15/16″	92320A161	3.25	90309A442	2.36	92510A161	1.27			92415A239	2.23	100	94639A067▲	10.35
1″	92320A234	3.25	90309A034	2.42	92510A334	1.27	93013A621	2.76	92415A434	2.26	100	94639A134▲	10.39
1 1/8″	92320A162	4.95	90309A443	2.72	92510A162	1.44	93013A622	2.97	92415A240	2.40	5	94639A068♣	7.62
1 3/16″	92320A163	4.95	90309A444	2.85	92510A163	1.54			92415A241	2.53	5	94639A069♣	7.70
1 1/4″	92320A235	4.52	90309A035	2.93	92510A335	1.54	93013A623	3.18	92415A435	2.55	50	94639A135▲	9.84
1 5/16″	92320A164	5.54	90309A445	3.12	92510A164	1.60			92415A242	2.85	5	94639A070♣	8.93
1 3/8″	92320A165	5.54	90309A446	3.20	92510A165	1.60	93013A625	3.54	92415A243	2.87	5	94639A071♣	9.47
1 7/16″	92320A166	5.54	90309A447	3.67	92510A166	1.66			92415A244	2.91	5	94639A072♣	9.67
1 1/2″	92320A236	5.06	90309A036	3.76	92510A336	1.66	93013A627	3.89	92415A436	3.42	50	94639A136▲	9.82
1 3/4″	92320A167	6.85	90309A448	4.04	92510A167	2.26	93013A628	4.90	92415A245	3.04	5	94639A073♣	10.71
2″	92320A168	7.47	90309A449	4.60	92510A168	2.65	93013A629	5.05	92415A246	3.90	5	94639A074♣	10.76
2 1/4″	92320A263	8.11	90309A276	6.51	92510A202	4.79			92415A477	4.95	1	94639A090	7.05
2 1/2″	92320A266	8.57	90309A277	7.01	92510A206	4.97			92415A479	5.34	1	94639A091	7.40
1/2″ OD—Choose a screw size: No. 6, 8, 10, 1/4″													
1/16″	92320A298	2.21			92510A394	1.26							
1/8″	92320A237	2.73	90309A037	1.78	92510A337	1.49	93013A801	2.61	92415A437	1.65	100	94639A137	8.04
3/16″	92320A238	2.95	90309A038	1.87	92510A338	1.49			92415A438	1.72	100	94639A138	8.37
1/4″	92320A239	2.97	90309A039	1.91	92510A339	1.49	93013A803	2.69	92415A439	1.80	100	94639A139	8.72
5/16″	92320A240	3.25	90309A040	2.00	92510A340	1.49			92415A440	1.82	100	94639A140	9.06
3/8″	92320A241	3.37	90309A041	2.09	92510A341	1.65	93013A805	2.91	92415A441	1.98	100	94639A141	9.41
7/16″	92320A169	3.37	90309A450	2.31	92510A169	1.66			92415A247	1.83	100	94639A075	9.52
1/2″	92320A242	3.37	90309A042	2.53	92510A342	1.65	93013A807	3.08	92415A442	2.16	100	94639A142	9.96
9/16″	92320A170	3.94	90309A451	2.66	92510A170	1.66			92415A248	2.04	100	94639A076	10.14
5/8″	92320A243	3.75	90309A043	2.67	92510A343	1.60	93013A809	3.45	92415A443	2.32	100	94639A143	10.19
11/16″	92320A171	3.86	90309A452	2.91	92510A171	1.71			92415A249	2.22	100	94639A077	10.29
3/4″	92320A244	3.86	90309A044	3.04	92510A344	1.71	93013A811	3.67	92415A444	2.44	100	94639A144	10.40
13/16″	92320A172	4.78	90309A453	3.54	92510A172	1.71			92415A250	2.50	100	94639A078	10.43

★ Prices are 15% lower when you buy in multiples of 10. ■ Not available in screw sizes No. 2 and No. 8. ▲ Not available in screw size No. 12. ♣ Not available in screw size No. 6.

(Continued on following page)

Unthreaded Spacers *(Continued from previous page)*



These spacers are also known as clearance spacers. Spacers have an OD tolerance of ±0.005″, ID tolerance of +0.01″, and length tolerance of ±0.005″, except nylon. Nylon 6/6 spacers have an OD tolerance of ±0.015″ for 1/8″ to 1″ ODs and ±0.02″ for 1 1/2″ OD. ID tolerance is –0.005″ to +0.015″. Length tolerance is ±0.015″ for 1/16″ to 17/16″ lengths and ±0.03″ for 1 1/2″ to 2 1/2″ lengths.

18-8 stainless steel spacers meet ASTM A581 or A582. **Zinc-plated brass** spacers meet ASTM B16. **Black-anodized aluminum** spacers meet MIL-A-8625F, Type II, Class 2. **Zinc-plated steel** spacers are 12L14-1215 steel. **Nylon 6/6** spacers are off-white.

For Screw Size	No. 0	No. 2	No. 4	No. 6	No. 8	No. 10	No. 12	1/4″	5/16″	3/8″	1/2″	5/8″	3/4″	1″
ID	0.064″	0.090″	0.115″	0.140″	0.166″	0.192″	0.218″	0.252″	0.315″	0.380″	0.505″	0.625″	0.750″	1.000″

Lg.	18-8 Stainless Steel	Each★	Zinc-Plated Brass	Each★	Aluminum	Each★	Black-Anodized Aluminum	Each★	Zinc-Plated Steel	Each★	Nylon 6/6 Pkg. Qty.	Nylon 6/6	Pkg.
1/2″ OD (Cont.)—Choose a screw size: No. 6, 8, 10, 1/4″													
7/8″	92320A245	$4.78	90309A045	$3.14	92510A345	$1.71	93013A813	$3.86	92415A445	$2.54	100	94639A145	$10.47
15/16″	92320A173	4.78	90309A454	3.78	92510A173	1.71	—	—	92415A251	2.59	100	94639A079	10.55
1″	92320A246	4.45	90309A046	3.31	92510A346	1.71	93013A815	4.05	92415A446	2.63	100	94639A146	10.59
1 1/16″	92320A174	6.00	90309A455	4.25	92510A174	2.75	—	—	92415A252	3.14	5	94639A080	9.65
1 1/8″	92320A175	6.00	90309A456	4.40	92510A175	2.75	93013A817	4.47	92415A253	3.20	5	94639A081	9.72
1 3/16″	92320A176	6.00	90309A457	4.70	92510A176	3.03	—	—	92415A254	3.37	5	94639A082	10.61
1 1/4″	92320A247	6.00	90309A047	3.80	92510A347	3.03	93013A819	4.81	92415A447	3.28	5	94639A083	10.75
1 5/16″	92320A177	6.49	90309A458	4.93	92510A177	3.14	—	—	92415A255	3.61	5	94639A084	10.59
1 3/8″	92320A178	6.81	90309A459	5.20	92510A178	3.31	93013A821	5.22	92415A256	3.68	5	94639A085	10.60
1 7/16″	92320A179	6.81	90309A460	5.37	92510A179	3.36	—	—	92415A257	3.75	5	94639A086	10.65
1 1/2″	92320A248	6.41	90309A048	4.31	92510A348	3.57	93013A823	5.53	92415A448	3.81	5	94639A087	10.71
1 3/4″	92320A180	8.95	90309A461	5.98	92510A180	3.63	93013A824	6.45	92415A258	4.08	5	94639A088	10.76
2″	92320A181	8.95	90309A462	6.50	92510A181	3.81	93013A825	6.78	92415A259	4.59	5	94639A089	10.79
2 1/4″	92320A268	11.36	90309A279	8.87	92510A210	5.28	—	—	92415A481	6.82	1	94639A093	7.42
2 1/2″	92320A270	11.71	90309A280	9.31	92510A214	5.47	—	—	92415A483	7.38	1	94639A094	7.78
5/8″ OD—Choose a screw size: No. 10, 1/4″													
1/8″	92320A375	4.67	—	—	92510A481	1.71	—	—	—	—	—	—	—
3/16″	92320A378	4.81	—	—	92510A485	1.74	—	—	—	—	—	—	—
1/4″	92320A182	5.49	90309A463	2.32	92510A182	1.90	—	—	92415A260	1.79	25	94639A170	8.49
5/16″	92320A183	5.86	90309A464	2.50	92510A183	1.91	—	—	92415A261	1.86	25	94639A171	8.67
3/8″	92320A249	6.45	90309A049	3.51	92510A349	1.87	—	—	92415A468	1.98	25	94639A172	8.85
7/16″	92320A184	5.93	90309A465	3.06	92510A184	1.90	—	—	92415A262	2.05	25	94639A173	9.04
1/2″	92320A250	6.67	90309A050	4.17	92510A350	1.90	—	—	92415A449	2.14	25	94639A174	9.23
9/16″	92320A185	7.04	90309A466	3.69	92510A185	1.90	—	—	92415A263	2.31	25	94639A175	9.41
5/8″	92320A251	7.41	90309A051	4.89	92510A351	1.90	—	—	92415A450	2.39	25	94639A176	9.60
3/4″	92320A252	8.29	90309A052	5.40	92510A352	2.54	—	—	92415A451	3.15	25	94639A177	9.96
7/8″	92320A186	8.67	90309A467	4.95	92510A186	2.52	—	—	92415A264	3.37	25	94639A178	10.34
1″	92320A253	9.47	90309A053	6.21	92510A353	2.67	—	—	92415A452	3.57	25	94639A179	10.71
1 1/8″	92320A187	9.68	90309A468	5.66	92510A187	3.77	—	—	92415A265	3.89	10	94639A180	7.90
1 1/4″	92320A188	9.96	90309A469	6.04	92510A188	3.77	—	—	92415A266	4.21	10	94639A181	8.05
1 3/8″	92320A189	9.96	90309A470	6.56	92510A189	4.34	—	—	92415A267	4.56	10	94639A182	8.19
1 1/2″	92320A254	10.78	90309A054	7.88	92510A354	4.34	—	—	92415A453	4.84	10	94639A183	8.34
1 3/4″	92320A190	10.84	90309A471	7.86	92510A190	4.69	—	—	92415A268	5.26	10	94639A184	8.64
2″	92320A255	10.95	90309A055	9.74	92510A355	4.69	—	—	92415A454	7.13	10	94639A185	8.94
2 1/4″	92320A272	14.17	90309A282	11.50	92510A218	6.38	—	—	92415A488	8.20	10	94639A634	9.23
2 1/2″	92320A274	14.69	90309A284	11.80	92510A102	6.61	—	—	92415A489	8.52	10	94639A636	9.58
3/4″ OD—Choose a screw size: 5/16″, 3/8″													
1/4″	92320A394	9.29	—	—	92510A488	2.05	—	—	—	—	—	—	—
5/16″	92320A397	9.76	—	—	92510A492	2.19	—	—	—	—	—	—	—
3/8″	92320A256	11.23	90309A056	4.60	92510A356	2.32	—	—	92415A455	2.25	25	94639A211	9.21
1/2″	92320A257	11.24	90309A057	5.47	92510A357	2.32	—	—	92415A456	2.75	25	94639A212	8.21
5/8″	92320A258	11.17	90309A058	6.03	92510A358	2.30	—	—	92415A457	3.14	25	94639A213	10.18
3/4″	92320A259	11.17	90309A059	6.68	92510A359	2.75	—	—	92415A458	3.78	25	94639A214	9.08
7/8″	92320A191	11.77	90309A472	6.35	92510A191	2.67	—	—	92415A269	4.10	25	94639A215	11.15
1″	92320A260	11.80	90309A060	7.83	92510A360	2.88	—	—	92415A459	4.47	25	94639A216	11.63
1 1/4″	92320A192	11.76	90309A473	8.57	92510A192	4.34	—	—	92415A270	5.29	10	94639A217	8.51
1 1/2″	92320A261	13.63	90309A061	8.71	92510A361	4.63	—	—	92415A460	6.11	10	94639A218	8.91
1 3/4″	92320A193	13.64	90309A474	10.17	92510A193	5.21	—	—	92415A271	7.68	10	94639A219	9.29
2″	92320A262	15.34	90309A062	10.38	92510A362	5.21	—	—	92415A461	9.07	10	94639A220	9.68
2 1/4″	92320A276	17.97	90309A286	12.47	92510A412	7.02	—	—	92415A492	9.97	10	94639A638	10.08
2 1/2″	92320A278	18.74	90309A288	12.82	92510A413	7.27	—	—	92415A494	10.58	10	94639A639	10.46
1″ OD—Choose a screw size: 1/2″, 5/8″													
1/4″	92320A414	11.48	—	—	92510A495	6.97	—	—	—	—	—	—	—
3/8″	92320A403	12.55	90309A301	12.22	92510A363	7.19	—	—	92415A462	10.00	25	94639A221	10.13
1/2″	92320A409	13.50	90309A304	13.17	92510A364	7.19	—	—	92415A463	10.10	25	94639A222	10.92
3/4″	92320A413	16.14	90309A307	15.27	92510A365	7.98	—	—	92415A464	11.43	25	94639A223	12.49
1″	92320A432	17.24	90309A352	17.24	92510A366	8.38	—	—	92415A465	12.34	25	94639A224	6.45
1 1/2″	92320A436	21.46	90309A354	20.75	92510A367	12.57	—	—	92415A466	13.83	10	94639A225	10.38
2″	92320A439	27.34	90309A358	24.23	92510A369	12.57	—	—	92415A467	15.69	10	94639A226	11.64
1 1/2″ OD—Choose a screw size: 3/4″, 1″													
3/8″	92320A512	19.94	90309A476	17.24	92510A370	8.38	—	—	92415A469	11.27	25	94639A227	13.14
1/2″	92320A514	21.72	90309A479	18.99	92510A371	8.38	—	—	92415A470	11.84	25	94639A228	6.89
3/4″	92320A516	24.49	90309A482	23.15	92510A372	9.80	—	—	92415A471	12.72	10	94639A229	9.01
1″	92320A519	26.78	90309A485	26.80	92510A373	9.80	—	—	92415A472	13.60	10	94639A230	10.44
1 1/2″	92320A533	33.79	90309A487	35.43	92510A374	12.15	—	—	92415A473	17.47	5	94639A231	8.94
2″	92320A536	39.87	90309A490	50.19	92510A375	12.15	—	—	92415A474	21.52	5	94639A232	10.36

★ Prices are 15% lower when you buy in multiples of 10.

Metric Unthreaded Spacers

These spacers are also known as clearance spacers. Spacers have OD and length tolerances of ±0.13 mm, except nylon 6/6 spacers have OD and length tolerances of ±0.26 mm. ID tolerance is +0.3 mm.

18-8 stainless steel spacers meet ASTM A581 or A582. **Zinc-plated brass** spacers meet ASTM B16. **Nylon 6/6** spacers are off-white.



For Screw Size	M2.5	M3	M4	M5	M6
ID	2.7 mm	3.2 mm	4.2 mm	5.3 mm	6.3 mm

Lg., mm	18-8 Stainless Steel	Each★	Zinc-Plated Brass	Each★	Aluminum	Each★	Nylon 6/6	Each★
4.5 mm OD—Choose a screw size: M2.5, M3								
2	92871A100	$1.25	93295A200	$0.47	94669A210	$0.35	93657A700	$0.94
3	92871A503	1.25	93295A413	.47	94669A603	.35	93657A702	.96
4	92871A507	1.33	93295A417	.47	94669A606	.35	93657A704	.97
5	92871A510	1.39	93295A421	.48	94669A609	.35	93657A706	.99
6	92871A514	1.44	93295A425	.49	94669A612	.35	93657A708	1.02
8	92871A517	1.51	93295A429	.52	94669A615	.42	93657A712	1.12
10	92871A520	1.55	93295A432	.55	94669A618	.41	93657A714	1.16
13	92871A529	1.69	93295A441	.69	94669A629	.45	93657A717	1.20
14	92871A532	1.74	93295A444	.73	94669A631	.58	93657A720	1.23
16	92871A535	1.92	93295A447	.77	94669A634	.58	93657A724	1.29
19	92871A538	2.09	93295A449	.85	94669A637	.64	93657A728	1.34
20	92871A541	2.10	93295A453	.93	94669A640	.64	93657A730	1.35
25	92871A548	2.14	93295A459	1.08	94669A644	.79	93657A740	1.40
6 mm OD—Choose a screw size: M3, M4								
2	92871A600	1.57	93295A500	1.27	94669A700	1.28	93657A800	1.05
3	92871A603	1.59	93295A503	1.30	94669A703	1.29	93657A803	1.06
4	92871A606	1.62	93295A506	1.31	94669A706	1.30	93657A806	1.06
5	92871A609	1.64	93295A509	1.34	94669A709	1.32	93657A809	1.07
6	92871A612	1.65	93295A512	1.37	94669A712	1.33	93657A812	1.08
8	92871A615	1.69	93295A515	1.27	94669A715	1.34	93657A815	1.09
10	92871A618	1.72	93295A518	1.49	94669A718	1.35	93657A818	1.11
13	92871A624	1.79	93295A524	1.59	94669A724	1.37	93657A824	1.20
14	92871A627	1.80	93295A527	1.61	94669A727	1.38	93657A827	1.21
16	92871A630	1.97	93295A530	1.66	94669A730	1.55	93657A830	1.24
19	92871A633	2.00	93295A533	1.86	94669A733	1.57	93657A833	1.30
20	92871A636	2.02	93295A536	1.89	94669A736	1.59	93657A836	1.33
25	92871A639	2.52	93295A539	2.01	94669A739	1.62	93657A839	1.38
30	92871A662	2.45	93295A543	2.16	94669A743	1.29	93657A810	1.83
35	92871A671	2.69	93295A546	2.19	94669A746	1.37	93657A826	1.97
40	92871A679	2.90	93295A549	2.19	94669A749	1.41	93657A832	2.41
45	92871A685	3.11	93295A552	2.29	94669A752	1.41	93657A838	2.47
51	92871A689	3.29	93295A555	2.36	94669A755	1.47	93657A841	2.52
8 mm OD—Choose a screw size: M3, M4, M5								
2	92871A642	1.75	93295A542	1.33	94669A742	1.30	93657A842	1.05
3	92871A645	1.79	93295A545	1.37	94669A745	1.32	93657A845	1.06
4	92871A648	1.81	93295A548	1.40	94669A748	1.34	93657A848	1.06
5	92871A651	1.85	93295A551	1.44	94669A751	1.35	93657A851	1.07
6	92871A654	1.87	93295A554	1.48	94669A754	1.38	93657A854	1.08
8	92871A657	1.92	93295A557	1.53	94669A757	1.41	93657A857	1.09
10	92871A660	1.99	93295A560	1.64	94669A760	1.45	93657A860	1.11
13	92871A666	2.08	93295A566	1.75	94669A766	1.49	93657A866	1.18
14	92871A669	2.10	93295A569	1.81	94669A769	1.50	93657A869	1.18
16	92871A672	2.27	93295A572	1.88	94669A772	1.60	93657A872	1.29
19	92871A675	2.36	93295A575	2.12	94669A775	1.72	93657A875	1.34
20	92871A678	2.40	93295A578	2.16	94669A778	1.73	93657A878	1.35
25	92871A681	2.97	93295A581	2.38	94669A781	1.88	93657A881	1.45
30	92871A686	3.07	93295A585	2.69	94669A785	1.58	93657A855	1.73
35	92871A691	3.29	93295A588	2.77	94669A788	1.66	93657A862	2.01
40	92871A698	3.57	93295A591	2.98	94669A791	1.71	93657A864	2.46
45	92871A707	3.83	93295A594	3.09	94669A794	1.71	93657A870	2.50
51	92871A715	4.07	93295A597	3.24	94669A797	1.75	93657A874	2.56
10 mm OD—Choose a screw size: M4, M5; material; and length. Materials and lengths offered are the same as 8 mm OD spacers.							92871A920	
13 mm OD—Choose a screw size: M4, M5, M6								
2	92871A195	2.71	93295A300	1.20	94669A300	.66	93657A751	1.36
3	92871A740	2.71	93295A702	1.20	94669A904	.66	93657A752	1.44
4	92871A744	2.77	93295A707	1.22	94669A907	.66	93657A753	1.48
5	92871A747	2.85	93295A710	1.25	94669A910	.66	93657A754	1.54
6	92871A751	2.92	93295A713	1.27	94669A913	.66	93657A755	1.58
8	92871A758	3.07	93295A718	1.37	94669A919	.83	93657A757	1.73
10	92871A762	3.24	93295A729	1.56	94669A925	.82	93657A759	1.83
13	92871A771	3.51	93295A736	1.78	94669A934	.86	93657A762	2.04
14	92871A774	3.62	93295A739	1.85	94669A938	.93	93657A763	2.11
16	92871A780	3.82	93295A745	2.00	94669A946	.93	93657A765	2.16
19	92871A783	3.94	93295A748	2.09	94669A949	.98	93657A770	2.23
20	92871A786	4.11	93295A751	2.36	94669A953	.98	93657A771	2.24
25	92871A792	4.63	93295A757	2.69	94669A959	1.24	93657A777	2.73
30	92871A799	5.13	93295A769	4.54	94669A969	2.04	93657A781	3.09
35	92871A810	5.54	93295A775	4.83	94669A979	2.09	93657A785	3.32
40	92871A820	6.01	93295A782	5.10	94669A989	2.22	93657A789	3.72
45	92871A830	6.48	93295A789	5.74	94669A992	2.22	93657A792	3.94
51	92871A840	6.98	93295A795	5.71	94669A996	2.35	93657A796	4.27

★ Prices are 15% lower when you buy in multiples of 10.

Plastic Unthreaded Spacers



LDPE



Polypropylene and Acetal

These spacers are also known as clearance spacers.

LDPE spacers have OD and ID tolerances of ±0.015″ for 3⁄16″ to 1⁄2″ ODs and ±0.025″ for 3⁄4″ to 1″ ODs. Length tolerance is ±0.062″ for 3⁄16″ to 2″ lengths and ±0.09″ for 2 1⁄2″ to 6″ lengths.

Polypropylene spacers have OD and ID tolerances of ±0.015″ for 1⁄4″ to 3⁄8″ ODs and ±0.025″ for 1⁄2″ to 1″ ODs. Length tolerance is ±0.062″.

Acetal spacers have OD and length tolerances of ±0.01″. ID tolerance is +0.01″. Meet ASTM D4181 and D6778.

LDPE—Black

3⁄16″ OD—No. 4 screw size, 0.115″ ID

Lg.	Pkg. Qty.		Pkg.
3⁄16″	20	92825A003	$5.96
1⁄4″	20	92825A005	6.18
5⁄16″	20	92825A007	6.37
3⁄8″	20	92825A009	6.59
1⁄2″	20	92825A010	6.74
3⁄4″	20	92825A410	8.29
1″	20	92825A411	8.96

1⁄4″ OD—No. 4 screw size, 0.115″ ID

Lg.	Pkg. Qty.		Pkg.
3⁄16″	20	92825A018	5.99
1⁄4″	20	92825A020	6.29
5⁄16″	20	92825A022	6.52
3⁄8″	20	92825A024	6.78
1⁄2″	20	92825A026	7.23

1⁄4″ OD—No. 6 screw size, 0.140″ ID

Lg.	Pkg. Qty.		Pkg.
3⁄16″	20	92825A032	5.96
1⁄4″	20	92825A034	6.22
5⁄16″	20	92825A036	6.40
3⁄8″	20	92825A038	6.63
1⁄2″	20	92825A040	7.00

5⁄16″ OD—No. 10 screw size, 0.192″ ID

Lg.	Pkg. Qty.		Pkg.
3⁄16″	20	92825A047	6.25
1⁄4″	20	92825A049	6.52
5⁄16″	20	92825A051	6.44
3⁄8″	20	92825A053	7.12
1⁄2″	20	92825A055	7.68
3⁄4″	20	92825A412	8.75
1″	20	92825A413	10.00

3⁄8″ OD—No. 10 screw size, 0.192″ ID

Lg.	Pkg. Qty.		Pkg.
3⁄16″	20	92825A414	6.75
1⁄4″	20	92825A065	7.38
3⁄8″	20	92825A068	8.28
1⁄2″	20	92825A071	9.10
3⁄4″	20	92825A074	10.13
1″	20	92825A077	10.33
1 1⁄2″	20	92825A080	11.40

1⁄2″ OD—No. 10 screw size, 0.192″ ID

Lg.	Pkg. Qty.		Pkg.
3⁄16″	20	92825A104	6.44
1⁄4″	20	92825A106	6.67
3⁄8″	20	92825A110	6.89
1⁄2″	20	92825A112	7.75
3⁄4″	20	92825A116	9.48
1″	20	92825A120	10.95

1⁄2″ OD—1⁄4″ screw size, 0.260″ ID

Lg.	Pkg. Qty.		Pkg.
3⁄16″	20	92825A129	$7.98
1⁄4″	20	92825A131	6.11
5⁄16″	20	92825A710	8.24
3⁄8″	20	92825A132	8.24
1⁄2″	20	92825A133	8.67
5⁄8″	20	92825A715	8.65
3⁄4″	20	92825A134	8.91
7⁄8″	20	92825A720	9.25
1″	20	92825A135	9.36
1 1⁄2″	20	92825A137	10.57
1 3⁄4″	10	92825A138	7.57
2″	10	92825A139	7.12
3″	5	92825A140	7.80
4″	5	92825A142	9.45
6″	5	92825A143	13.45

3⁄4″ OD—1⁄4″ screw size, 0.260″ ID

Lg.	Pkg. Qty.		Pkg.
3⁄8″	20	92825A415	7.46
1⁄2″	20	92825A145	8.40
5⁄8″	20	92825A416	8.75
3⁄4″	20	92825A146	9.55
1″	20	92825A147	10.57
1 3⁄4″	10	92825A151	7.73
2″	10	92825A153	12.02

3⁄4″ OD—5⁄16″ screw size, 0.325″ ID

Lg.	Pkg. Qty.		Pkg.
3⁄8″	20	92825A417	8.04
1⁄2″	20	92825A201	9.51
5⁄8″	20	92825A418	11.14
3⁄4″	20	92825A203	13.18
1″	10	92825A205	7.51
1 1⁄2″	10	92825A209	8.00
1 3⁄4″	10	92825A210	9.45
2″	10	92825A213	11.77

3⁄4″ OD—3⁄8″ screw size, 0.385″ ID

Lg.	Pkg. Qty.		Pkg.
3⁄8″	20	92825A419	7.11
1⁄2″	20	92825A241	7.83
5⁄8″	20	92825A420	8.11
3⁄4″	20	92825A243	8.67
1″	20	92825A245	10.97
1 1⁄2″	20	92825A250	11.71
1 3⁄4″	20	92825A251	12.04
2″	10	92825A253	10.12
2 1⁄2″	10	92825A257	13.22
2 3⁄4″	5	92825A258	7.88
3″	5	92825A259	7.67

LDPE—Black (Cont.)

3⁄4″ OD (Cont.)

Lg.	Pkg. Qty.		Pkg.
4″	5	92825A262	$11.45
6″	1	92825A264	3.45

1″ OD—1⁄2″ screw size, 0.510″ ID

Lg.	Pkg. Qty.		Pkg.
1⁄2″	20	92825A337	11.00
3⁄4″	20	92825A338	13.00
1″	10	92825A339	7.86
1 1⁄2″	10	92825A341	10.12

1″ OD (Cont.)

Lg.	Pkg. Qty.		Pkg.
1 3⁄4″	10	92825A342	$10.97
2″	5	92825A348	11.95
2 1⁄2″	5	92825A349	12.66
2 3⁄4″	5	92825A350	12.96
3″	5	92825A351	13.75
4″	1	92825A355	3.42
6″	1	92825A359	5.13

Polypropylene—White

1⁄4″ OD—No. 6 screw size, 0.140″ ID

Lg.	Pkg. Qty.		Pkg.
3⁄16″	10	94729A105	6.67
1⁄4″	10	94729A110	6.88
3⁄8″	10	94729A115	7.04
1⁄2″	10	94729A120	7.30

3⁄8″ OD—No. 10 screw size, 0.192″ ID

Lg.	Pkg. Qty.		Pkg.
1⁄4″	10	94729A150	7.54
3⁄8″	10	94729A155	8.28
1⁄2″	10	94729A160	8.99
3⁄4″	10	94729A165	9.52
1″	10	94729A170	9.95

1⁄2″ OD—1⁄4″ screw size, 0.252″ ID

Lg.	Pkg. Qty.		Pkg.
1⁄4″	10	94729A215	6.78
3⁄8″	10	94729A230	6.93
1⁄2″	10	94729A250	7.19

1⁄2″ OD (Cont.)

Lg.	Pkg. Qty.		Pkg.
3⁄4″	10	94729A255	7.79
1″	10	94729A260	8.36
1 1⁄2″	10	94729A275	8.98
1 3⁄4″	10	94729A305	9.53
2″	10	94729A310	10.00

3⁄4″ OD—3⁄8″ screw size, 0.380″ ID

Lg.	Pkg. Qty.		Pkg.
1⁄2″	10	94729A315	7.98
3⁄4″	10	94729A325	8.54
1″	10	94729A330	10.58
1 1⁄2″	10	94729A335	10.59

1″ OD—1⁄2″ screw size, 0.505″ ID

Lg.	Pkg. Qty.		Pkg.
1⁄2″	10	94729A340	9.86
1″	10	94729A345	10.90
1 1⁄2″	10	94729A350	13.10

Acetal—White

1⁄4″ OD—No. 6 screw size, 0.140″ ID

Lg.	Qty.		Each
3⁄16″		93717A212	$2.70
1⁄4″		93717A215	3.05
3⁄8″		93717A218	3.15
1⁄2″		93717A221	3.27

3⁄8″ OD—No. 10 screw size, 0.192″ ID

Lg.	Qty.		Each
1⁄4″		93717A304	3.06
3⁄8″		93717A309	3.26
1⁄2″		93717A314	3.48
3⁄4″		93717A319	3.66
1″		93717A322	4.20

1⁄2″ OD—1⁄4″ screw size, 0.252″ ID

Lg.	Qty.		Each
1⁄4″		93717A416	3.18
3⁄8″		93717A425	3.36

1⁄2″ OD (Cont.)

Lg.	Qty.		Each
3⁄4″		93717A431	$3.55
1″		93717A436	3.58
1 1⁄2″		93717A442	3.98
1 3⁄4″		93717A448	4.23
2″		93717A451	4.65

3⁄4″ OD—3⁄8″ screw size, 0.380″ ID

Lg.	Qty.		Each
1⁄2″		93717A500	4.23
3⁄4″		93717A505	4.43
1″		93717A515	4.76
1 1⁄2″		93717A520	5.19

1″ OD—1⁄2″ screw size, 0.505″ ID

Lg.	Qty.		Each
1⁄2″		93717A636	4.99
1″		93717A641	5.43
1 1⁄2″		93717A645	6.28

Unthreaded Spacer Stock



Cut stock to the length you need.

Polypropylene spacer stock has an OD tolerance of ±0.015″, ID tolerance of +0.03″, and length tolerance of ±0.062″.

Aluminum spacer stock has an OD tolerance of ±0.003″, ID tolerance of +0.01″, and length tolerance of ±0.005″.

Polypropylene—Black

OD	For Screw Size	ID	Lg.		Each
0.442″	No. 10	0.192″	12″	92377A310	$4.44
0.502″	1⁄4″	0.252″	12″	92377A120	4.69
0.565″	5⁄16″	0.315″	12″	92377A130	4.91
0.630″	3⁄8″	0.380″	12″	92377A140	5.38
0.755″	1⁄2″	0.505″	12″	92377A150	5.64

Polypropylene—Gray

OD	For Screw Size	ID	Lg.		Each
0.442″	No. 10	0.192″	12″	92377A100	4.44
0.502″	1⁄4″	0.252″	12″	92377A200	4.69

Polypropylene—Gray (Cont.)

OD	For Screw Size	ID	Lg.		Each
0.565″	5⁄16″	0.315″	12″	92377A300	$4.91
0.630″	3⁄8″	0.380″	12″	92377A400	5.38
0.755″	1⁄2″	0.505″	12″	92377A500	5.64

Aluminum

OD	For Screw Size	ID	Lg.		Each
0.250″	No. 6	0.140″	12″	92377A211	8.67
0.250″	No. 8	0.166″	12″	92377A210	8.67
0.313″	No. 6	0.140″	12″	92377A213	9.68
0.313″	No. 8	0.166″	12″	92377A212	9.68

Slotted Unthreaded Spacers

An economical alternative to standard unthreaded spacers. Made of zinc-plated 1006-1010 steel. ID tolerance is +0.006″ for 0.144″ ID and +0.008″ for 0.172″ to 0.260″ IDs. Length tolerance is ±0.005″. OD tolerance is not rated.



Lg.		Pkg. of 25
0.190″ OD—No. 6 screw size, 0.144″ ID		
1/4″	93441A110	$6.09
5/16″	93441A115	6.18
3/8″	93441A120	6.27
1/2″	93441A130	6.44
0.230″ OD—No. 8 screw size, 0.172″ ID		
1/4″	93441A140	$6.28
5/16″	93441A145	6.42
3/8″	93441A150	6.55
1/2″	93441A160	6.82
0.255″ OD—No. 10 screw size, 0.198″ ID		
1/4″	93441A170	$6.35
3/8″	93441A175	6.65
1/2″	93441A180	6.96
3/4″	93441A190	7.56
0.335″ OD—1/4″ screw size, 0.260″ ID		
3/8″	93441A210	$6.95
1/2″	93441A215	7.36
3/4″	93441A220	8.20
1″	93441A225	8.90

Polished-Finish Unthreaded Spacers

With their mirror-like finish, these are the go-to spacers when appearance matters. Made of nickel-chrome-plated 12L14 steel. OD, ID, and length tolerances are ±0.01″.



Lg.	Pkg. Qty.		Pkg.
1/2″ OD—1/4″ screw size, 0.281″ ID			
1/8″	6	93320A325	$12.14
1/4″	6	93320A330	12.41
3/8″	6	93320A335	12.69
1/2″	6	93320A340	12.97
3/4″	5	93320A345	12.34
1″	5	93320A350	12.90
5/8″ OD—5/16″ screw size, 0.344″ ID			
1/8″	6	93320A355	$12.41
1/4″	5	93320A205	11.60
3/8″	5	93320A210	12.50
1/2″	1	93320A215	3.26
3/4″	1	93320A220	3.26
1″	1	93320A225	3.30
3/4″ OD—3/8″ screw size, 0.406″ ID			
1/8″	5	93320A300	$11.60
1/4″	5	93320A305	12.50
3/8″	5	93320A310	13.41
1/2″	1	93320A315	3.30
3/4″	1	93320A321	3.88
1″	1	93320A360	4.97
1 1/2″	1	93320A365	8.93
1″ OD—1/2″ screw size, 0.531″ ID			
1/8″	3	93320A370	$11.53
1/4″	3	93320A390	11.93
3/8″	3	93320A395	12.25
1/2″	2	93320A375	11.45
3/4″	2	93320A380	12.34
1″	2	93320A385	13.28

Electrical-Insulating Unthreaded Spacers

Garolite spacers are G-10/FR4. They have a dielectric strength of 400 V/mil. OD and ID tolerances are ±0.005″. Length tolerance is ±0.013″. Meet MIL-I-24768/27.

Ceramic spacers are Grade L5 and have an unglazed finish. They have a dielectric strength of 275 V/mil. OD, ID, and length tolerances are ±0.01″.

Fiber spacers have a dielectric strength of 75 V/mil. OD tolerance is ±0.02″, ID tolerance is +0.02″, and length tolerance is ±0.062″.



Garolite Fiber

Lg.	Pkg. Qty.		Pkg.
Garolite—Green			
3/16″ OD—No. 4 screw size, 0.115″ ID			
3/16″	1	92273A003	$1.24
1/4″	1	92273A005	1.38
5/16″	1	92273A007	1.48
3/8″	1	92273A009	1.62
1/2″	1	92273A011	1.89
1/4″ OD—No. 4 screw size, 0.115″ ID			
3/16″	1	92273A023	1.38
1/4″	1	92273A025	1.52
5/16″	1	92273A027	1.62
3/8″	1	92273A029	1.82
1/2″	1	92273A031	2.10
1/4″ OD—No. 6 screw size, 0.140″ ID			
3/16″	1	92273A043	1.35
1/4″	1	92273A045	1.48
5/16″	1	92273A047	1.59
3/8″	1	92273A049	1.79
1/2″	1	92273A051	2.07
5/16″ OD—No. 10 screw size, 0.192″ ID			
3/16″	1	92273A063	1.14
1/4″	1	92273A065	1.24
5/16″	1	92273A067	1.31
3/8″	1	92273A069	1.41
1/2″	1	92273A071	1.62
3/8″ OD—No. 10 screw size, 0.192″ ID			
1/4″	1	92273A083	1.35
3/8″	1	92273A085	1.55
1/2″	1	92273A087	1.82
3/4″	1	92273A089	2.38
1″	1	92273A091	2.73
1 1/2″	1	92273A094	3.65
1/2″ OD—No. 10 screw size, 0.192″ ID			
3/16″	1	92273A102	$1.45
1/4″	1	92273A104	1.59
3/8″	1	92273A106	1.93
1/2″	1	92273A108	2.24
3/4″	1	92273A110	2.97
1″	1	92273A112	3.48
1/2″ OD—1/4″ screw size, 0.260″ ID			
3/16″	1	92273A122	1.38
1/4″	1	92273A124	1.52
5/16″	1	92273A126	1.66
3/8″	1	92273A128	1.82
1/2″	1	92273A132	2.13
5/8″	1	92273A134	2.52
3/4″	1	92273A136	2.83
7/8″	1	92273A138	3.00
1″	1	92273A140	3.27
1 1/2″	1	92273A142	4.48
1 3/4″	1	92273A144	5.14
2″	1	92273A146	6.03
3/4″ OD—1/4″ screw size, 0.260″ ID			
1/2″	1	92273A152	3.38
3/4″	1	92273A154	4.58
1″	1	92273A156	5.38
1 3/4″	1	92273A158	8.66
2″	1	92273A160	10.24
3/4″ OD—5/16″ screw size, 0.325″ ID			
1/2″	1	92273A172	2.31
3/4″	1	92273A174	3.07
1″	1	92273A176	3.55
1 1/2″	1	92273A178	4.86
1 3/4″	1	92273A180	5.59
2″	1	92273A182	6.63
Garolite—Green (Cont.)			
3/4″ OD—3/8″ screw size, 0.385″ ID			
1/2″	1	92273A192	$2.17
3/4″	1	92273A194	2.90
1″	1	92273A196	3.38
1 1/2″	1	92273A198	4.58
1 3/4″	1	92273A201	5.28
2″	1	92273A204	6.21
2 1/2″	1	92273A207	7.62
2 3/4″	1	92273A209	8.66
3″	1	92273A212	10.04
1″ OD—1/2″ screw size, 0.510″ ID			
1/2″	1	92273A222	$3.00
3/4″	1	92273A224	4.07
1″	1	92273A226	4.79
1 1/2″	1	92273A228	6.63
1 3/4″	1	92273A230	7.62
2″	1	92273A233	9.04
2 1/2″	1	92273A236	11.21
2 3/4″	1	92273A239	12.72
3″	1	92273A242	14.76
Ceramic—White			
1/4″ OD—No. 3 screw size, 0.115″ ID			
3/16″	1	96109A110	2.72
1/4″	1	96109A115	2.72
3/8″	1	96109A120	2.72
1/4″ OD—No. 4 screw size, 0.140″ ID			
3/16″	1	96109A155	2.72
1/4″	1	96109A160	2.72
3/8″	1	96109A165	2.98
1/2″	1	96109A170	2.98
5/8″	1	96109A175	3.17
3/4″	1	96109A180	3.17
3/8″ OD—No. 8 screw size, 0.192″ ID			
1/4″	1	96109A205	3.62
3/8″	1	96109A210	3.62
1/2″	1	96109A220	3.86
3/4″	1	96109A225	3.86
1″	1	96109A235	4.20
1/2″ OD—No. 10 screw size, 0.250″ ID			
3/8″	1	96109A420	4.42
1/2″	1	96109A425	4.96
3/4″	1	96109A435	4.96
1″	1	96109A450	4.96
Fiber—Gray			
1/4″ OD—No. 6 screw size, 0.140″ ID			
1/2″	20	93646A363	3.93
3/4″	20	93646A365	5.04
1″	20	93646A367	6.10
1/4″ OD—No. 8 screw size, 0.166″ ID			
1/2″	20	93646A463	4.48
3/4″	20	93646A465	5.38
1″	20	93646A467	6.67
1/2″ OD—1/4″ screw size, 0.250″ ID			
1″	20	93646A565	7.56

Vibration-Damping Unthreaded Spacers



These spacers compress between components to reduce vibration, shock, and noise. They are made of oil-resistant, fabric-reinforced black rubber. OD, ID and length tolerances are ±0.031″.

OD	For Screw Size	ID	Lg.		Each
1/2″	No. 12	1/4″	1″	99025A120	$15.20
3/4″	1/2″	1/2″	1″	99025A125	15.20
7/8″	5/8″	5/8″	1″	99025A130	15.42
1″	3/4″	3/4″	1″	99025A135	$15.42
1 1/4″	1″	1″	1″	99025A140	18.02

Unthreaded Spacers for Angles





The 45° end of these spacers fits against angled surfaces to create a flat surface for connection. OD and ID tolerances are ±0.01″. Length tolerance is ±0.02″.

To Order: Please specify 316 stainless steel, 12L14 steel, or white nylon 6/6.

Lg.	OD	For Screw Size	ID		Each
0.438″	0.315″	No. 4	0.129″	95543A501	$8.13
0.500″	0.394″	No. 6	0.169″	95543A502	8.82
0.500″	0.394″	No. 10	0.216″	95543A503	8.25
0.625″	0.512″	1/4″	0.287″	95543A504	10.25
0.813″	0.709″	5/16″	0.334″	95543A505	10.69
0.969″	0.866″	3/8″	0.413″	95543A506	$9.75
1.078″	0.945″	1/2″	0.571″	95543A507	9.57
1.375″	1.260″	5/8″	0.669″	95543A508	15.30
1.375″	1.260″	3/4″	0.826″	95543A509	15.56

Unthreaded Spacers for Tubes



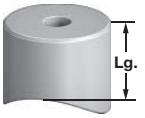

Also known as saddle washers, the curved end of these spacers fits against round objects such as tubes and pipe. Spacers are off-white nylon 6/6. OD and length tolerances are ±0.015″. ID tolerance is ±0.005″.

For Tube OD	OD	For Screw Size	ID	Lg.	Pkg. Qty.		Pkg.
3/4″	0.750″	1/4″	0.260″	0.125″	50	92842A100	$7.22
7/8″	0.843″	1/4″	0.257″	0.156″	50	92842A200	7.59
1″	0.835″	No. 12	0.218″	0.500″	25	92842A300	7.66
1″	1.000″	1/4″	0.260″	0.250″	25	92842A400	6.76
1″	1.000″	5/16″	0.325″	0.250″	25	92842A500	6.67
1 7/64″	1.000″	No. 12	0.250″	0.125″	25	92842A600	8.14
1 1/8″	0.875″	5/16″	0.375″	0.250″	25	92842A700	6.00

Adhesive-Back Unthreaded Spacers

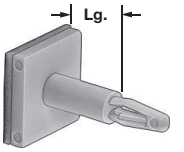

The acrylic adhesive back lets you stick these spacers to surfaces where you don't want to drill a hole. Spacers are white nylon 6/6 with a 1/2″ Lg. × 1/2″ Wd. base. Length tolerance is ±0.015″.

Lg.	For Hole Dia.	For Panel Thick.		Pkg. of 10
3/16″	1/8″	1/16″	91443A110	$10.18
1/4″	1/8″	1/16″	91443A120	10.20
3/8″	1/8″	1/16″	91443A130	10.23
1/2″	1/8″	1/16″	91443A140	10.29
5/8″	1/8″	1/16″	91443A150	10.35

Press-Fit Unthreaded Spacers

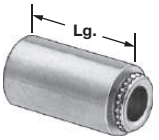

Also known as captive spacers, these have splines that bite into your panel for a secure hold. Use a lever press for installation. The length does not include the splined portion. Spacers are 18-8 stainless steel and can be used with panels as thin as 0.06″. OD and length tolerances are ±0.005″. ID tolerance is ±0.004″. Hole diameter tolerance is +0.003″.

Lg.	OD	For Screw Size	ID	For Hole Dia.		Pkg. of 25
1/8″	7/32″	No. 4	0.116″	0.166″	92985A610	$9.69
1/8″	9/32″	No. 6	0.143″	0.213″	92985A710	10.52
3/16″	7/32″	No. 4	0.116″	0.166″	92985A620	9.95
3/16″	9/32″	No. 6	0.143″	0.213″	92985A720	10.52
1/4″	7/32″	No. 4	0.116″	0.166″	92985A630	10.03
1/4″	9/32″	No. 6	0.143″	0.213″	92985A730	10.76
3/8″	9/32″	No. 6	0.143″	0.213″	92985A740	11.64
1/2″	9/32″	No. 6	0.143″	0.213″	92985A750	12.46

Snap-In Unthreaded Spacers

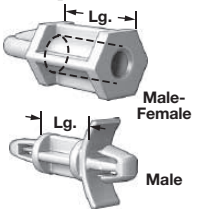

Snap these spacers into a hole, such as those on printed circuit boards. Spacers are off-white nylon 6/6 and can be used with 1/16″ thick panels. Length tolerance is ±0.015″.

Male-female spacers fit 5/32″ dia. holes. Secure with a No. 6 screw.

Male spacers have wings on the sides that add tension to strengthen the hold in the hole. Use in a 3/16″ dia. hole.

	Male-Female			Male	
Lg.	For Thread Lg.		Pkg. of 50		Pkg. of 100
3/16″	____	____	____	94662A510	$13.21
1/4″	0.203″	94662A421	$11.94	94662A520	13.96
3/8″	0.313″	94662A431	12.12	94662A530	14.58
1/2″	0.313″	94662A441	12.30	94662A540	15.56
3/4″	0.313″	94662A451	13.52	94662A550	16.03
7/8″	0.313″	94662A461	14.21	____	____

Vibration-Damping Snap-In Unthreaded Spacers

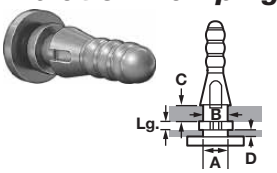

These spacers compress between panels to reduce vibration in compact electronics, such as miniature cooling fans. They are made of flexible rubber. Length tolerance is ±0.15 mm. Color is blue.

Lg., mm	For Hole Dia., mm (A)	(B)	For Panel Thick., mm (C)	(D)		Pkg. of 20
0.5	2.75	2.5	5.0	0.8	5801K4	$12.13
1.5	3.50	3.5	3.8	1.3	5801K8	12.13
1.5	4.40	4.4	3.0	1.3	5801K6	12.13

Female Threaded Round Standoffs

The smooth surface keeps your work looking clean and professional. Metal standoffs have OD and body length tolerances of ±0.005″, except zinc-plated brass standoffs have an OD tolerance of ±0.006″. Nylon 6/6 standoffs have OD and body length tolerances of ±0.01″. Standoffs are fully threaded, except the lengths listed in the chart, which are partially threaded.

18-8 stainless steel standoffs meet ASTM A581 or A582. **Zinc-plated brass** standoffs meet ASTM B16. **Zinc-plated steel** standoffs are 12L14 steel. **Nylon 6/6** standoffs are off-white.



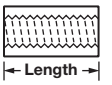

Fully Threaded

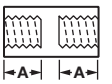

Partially Threaded

Lg.	18-8 Stainless Steel	Each★	Zinc-Plated Brass	Each★	Aluminum	Each★	Zinc-Plated Steel	Each★	Nylon 6/6	Each★
⅛″ OD—Choose a thread size: 0-80, 2-56										
¼″	91125A142	$1.34	92474A142	$0.98	93330A210	$0.76	93265A317	$1.33	96110A416	$1.33
5/16″	91125A151	2.43	92474A147	1.19	93330A230	.83	93265A323	1.35	96110A423	1.35
⅜″	91125A159	2.46	92474A154	1.20	93330A250	.85	93265A329	1.37	96110A427	1.39
½″	91125A178	2.50	92474A166	1.55	93330A280	1.38	93265A342	1.95	96110A442	1.76
¼″ OD—Choose a thread size: 4-40, 6-32, 8-32, 10-32										
⅛″	91125A120	1.38	92474A220	.47	93330A320	.31	93265A420	1.07	96110A520	1.11
5/32″	91125A125	1.42	92474A225	.59	93330A325	.35	93265A425	1.07	96110A525	1.11
3/16″	91125A130	1.45	92474A230	.60	93330A330	.29	93265A430	1.08	96110A530	1.14
7/32″	91125A135	1.47	92474A235	.61	93330A335	.35	93265A434	1.08	96110A535	1.14
¼″	91125A140	1.51	92474A240	.52	93330A340	.33	93265A440	1.09	96110A540	1.14
9/32″	91125A145	1.51	92474A245	.63	93330A345	.40	93265A444	1.09	96110A545	1.20
5/16″	91125A150	1.54	92474A250	1.12	93330A350	.34	93265A450	1.10	96110A550	1.20
11/32″	91125A155	1.56	92474A255	.66	93330A355	.40	93265A454	1.10	96110A555	1.20
⅜″	91125A160	1.61	92474A260	.75	93330A360	.36	93265A460	1.11	96110A560	1.20
13/32″	91125A162	1.63	92474A262	.69	93330A362	.40	93265A621	1.11	96110A562	1.20
7/16″	91125A164	1.65	92474A264	.37	93330A364	.40	93265A465	1.12	96110A564	1.24
15/32″	91125A166	1.68	92474A266	.74	93330A366	.40	93265A479	1.23	96110A566	1.24
½″	91125A170	1.64	92474A270	.82	93330A370	.44	93265A470	1.34	96110A570	1.24
9/16″	91125A330	1.72	_____	____	93330A570	.45	_____	____	_____	____
⅝″	91125A180	1.98	92474A280	.90	93330A380	.46	93265A480	1.37	96110A580	1.24
¾″	91125A190	2.01	92474A290	1.12	93330A390	.51	93265A490	1.49	96110A590	1.24
⅞″	91125A210	2.37	92474A310	1.22	93330A410	.54	93265A510	1.55	96110A610	1.34
1″	91125A220	2.69	92474A320	1.28	93330A420	.60	93265A520	1.57	96110A620	1.36
1¼″	91125A230	2.82	92474A330	1.29	93330A430	1.23	93265A530	1.61	96110A630	1.71
1½″	91125A240	2.95	92474A340	1.56	93330A440	1.31	93265A540	1.64	96110A640	1.75
2″	91125A250	3.23	92474A350	1.61	93330A450	1.36	93265A550	1.72	96110A650	1.86
2½″	91125A270	3.71	92474A360	1.70	93330A530	1.59	93265A565	1.89	96110A660	2.20
3″	91125A290	4.10	92474A370	1.96	93330A540	1.71	93265A575	1.98	96110A670	2.31
3½″	91125A310	4.50	92474A380	2.15	93330A550	1.83	93265A585	2.06	96110A680	2.49
4″	91125A320	4.82	92474A390	2.40	93330A560	1.95	93265A395	2.15	96110A690	2.52
⅜″ OD—Choose a thread size: 6-32, 8-32, 10-32										
⅜″	91125A340	1.82	_____	____	93330A580	.60	_____	____	_____	____
½″	91125A350	1.89	_____	____	93330A590	.63	_____	____	_____	____
¾″	91125A360	1.98	_____	____	93330A610	.76	_____	____	_____	____
1″	91125A370	2.10	_____	____	93330A620	.92	_____	____	_____	____
½″ OD—Choose a thread size: 10-32, ¼″-20										
½″	91125A380	2.97	_____	____	93330A630	.76	_____	____	_____	____
¾″	91125A390	3.17	_____	____	93330A640	.85	_____	____	_____	____
1″	91125A410	3.61	_____	____	93330A650	1.03	_____	____	_____	____
1½″	91125A420	3.64	_____	____	93330A660	2.53	_____	____	_____	____
2″	91125A650	3.67	_____	____	93330A670	2.69	_____	____	_____	____

★ Prices are 15% lower when you buy in multiples of 10.

Thread Size	Partially Threaded Lengths	Min. Thread Length (A)
18-8 Stainless Steel		
0-80	3/8″-1/2″	⅛″
4-40	7/8″-4″	¼″
6-32	1¼″-4″	⅜″
8-32	1¼″-4″	7/16″
10-32	1¼″-4″	½″
¼″-20	1½″-2″	⅝″
Brass, Aluminum, Steel, and Nylon 6/6		
0-80	½″	3/16″
4-40	1¼″-4″	¼″
6-32	1¼″-4″	⅜″
8-32	1¼″-4″	7/16″
10-32	1¼″-4″	½″
¼″-20	1½″-2″	⅝″

Caps for Female Threaded Round Standoffs



Give open-ended standoffs an attractive appearance and protect them from dirt and debris. Thread length is ⅜″. Cap diameter and height are ¼″.

To Order: Please specify thread size: 4-40, 6-32, 8-32, or 10-32.

18-8 Stainless Steel	93558A710	$1.57
Zinc-Plated Brass	93558A725	2.42
Aluminum	93558A715	1.48
Zinc-Plated Steel	93558A720	2.01

Male Threaded Round Standoffs

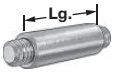

Standoffs are 18-8 stainless steel with a 4-40 male stud on each end. OD tolerance is -0.0005″; body length tolerance is ±0.005″. Not rated for hardness or tensile strength.

Lg.	OD		
Thread Lg.: 3/32″			
½″	5/32″	94033A232	$7.41
1″	5/32″	94033A238	8.08
1½″	5/32″	94033A244	8.77
2″	5/32″	94033A248	9.43
3″	5/32″	94033A252	10.10
4″	5/32″	94033A256	10.78
6″	5/32″	94033A260	12.12
8″	5/32″	94033A264	16.22
Thread Lg.: 7/64″			
½″	¼″	94033A325	6.46

Lg.	OD		
Thread Lg.: 7/64″ (Cont.)			
1″	¼″	94033A329	$6.46
1½″	¼″	94033A333	7.46
2″	¼″	94033A337	7.77
3″	¼″	94033A345	8.42
4″	¼″	94033A349	9.08
6″	¼″	94033A353	11.04
8″	¼″	94033A359	14.96
10″	¼″	94033A362	16.27
12″	¼″	94033A365	21.51
18″	¼″	94033A358	32.61

Male-Female Threaded Round Standoffs



A through hole lets you insert a rod for extra leverage during tightening. Standoffs are 18-8 stainless steel with an 8-32 male stud on one end and a 1/4″-20 female threaded hole on the other. Male thread length is 3/16″; minimum female thread length is 9/32″. OD tolerance is -0.002″; body length tolerance is ±0.005″. Not rated for hardness or tensile strength.

Lg.	OD		
¾″	½″	94033A416	$6.19
1″	½″	94033A421	6.19
1½″	½″	94033A426	6.50
2″	½″	94033A432	6.79
3″	½″	94033A437	7.09

Lg.	OD		
4″	½″	94033A444	$7.67
6″	½″	94033A449	8.85
8″	½″	94033A453	10.61
10″	½″	94033A455	11.79
12″	½″	94033A460	14.15

Pillar Posts



Often used to build mounts for optical components. A through hole lets you insert a rod for extra leverage during tightening. Made of 18-8 stainless steel. Thread size is 1/4″-20. Minimum thread length is 3/8″, except posts with 1/2″ and 3/4″ lengths are fully threaded. OD tolerance is -0.001″; body length tolerance is ±0.001″. Not rated for hardness or tensile strength.

Lg.	OD		
½″	1″	93322A350	$22.23
¾″	1″	93322A380	22.88
1″	1″	93322A404	24.19
1½″	1″	93322A416	27.46

Lg.	OD		
3″	1″	93322A422	$30.74
4″	1″	93322A430	34.00
6″	1″	93322A446	38.58
12″	1″	93322A460	71.27

Female Threaded Hex Standoffs



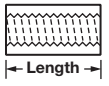



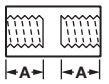

Tighten standoffs with a wrench. The flat sides of the hex ensure a firm grip. Standoffs have a hex size tolerance of ±0.006″ and a hex length tolerance of ±0.005″, except nylon 6/6 standoffs have hex size and hex length tolerances of ±0.01″. Standoffs are fully threaded, except the lengths listed in the chart, which are partially threaded.

18-8 stainless steel standoffs meet ASTM A582. **Zinc-plated brass** standoffs meet ASTM B16. **Zinc-plated steel** standoffs are 12L14 steel. **Nylon 6/6** standoffs are off-white.

Thread Size	*Partially Threaded Lengths* 18-8 Stainless Steel	Brass, Aluminum, Steel, Nylon	Min. Thread Length (A)
0-80	7/16″-1-1/2″	7/16″-1-1/2″	3/16″
2-56	3/4″-2″	7/8″-2″	3/16″
4-40	7/8″-4″	1-1/4″-4″	1/4″
6-32 & 8-32	1-1/4″-6″	1-1/4″-6″	3/8″
10-32	1-1/4″-6″	1-1/4″-6″	1/2″
1/4″-20	1-1/2″-6″	1-1/2″-6″	5/8″
3/8″-16	1-1/2″-6″	1-1/2″-6″	5/8″

Lg.	18-8 Stainless Steel	Each★	Zinc-Plated Brass	Each★	Aluminum	Each★	Zinc-Plated Steel	Each★	Nylon 6/6	Each★
1/8″ Hex Size—Choose a thread size: 0-80, 2-56										
1/8″	91115A004	$1.58	90308A009	$0.74	91780A010	$0.34	91920A106	$1.56		
3/16″	91115A009	1.68	90308A020	.75	91780A011	.34	91920A108	1.58		
1/4″	91115A010	1.78	90308A021	.77	91780A012	.35	91920A110	1.62		
9/32″	91115A011	1.90	90308A022	.81	91780A013	.35	91920A112	1.64		
5/16″	91115A012	2.02	90308A023	.83	91780A014	.38	91920A114	1.65		
3/8″	91115A013	2.55	90308A024	.86	91780A015	.40	91920A116	1.69		
7/16″	91115A014■	2.75	90308A025	.99	91780A016	.43	91920A118	2.34		
1/2″	91115A015■	2.98	90308A026	1.06	91780A017	.44	91920A120	2.44		
3/16″ Hex Size—Choose a thread size: 2-56, 4-40										
1/8″	91115A701	2.10	90308A500	.56	91780A501	.42	91920A501	1.44	92319A201	$1.24
5/32″	91115A702	1.82	90308A501	.70	91780A502	.61	91920A502	1.46	92319A204	1.25
3/16″	91115A703	1.91	90308A502	.78	91780A503	.46	91920A503	1.51	92319A207	1.26
7/32″	91115A704	1.92	90308A503	.78	91780A504	.66	91920A504	1.48	92319A212	1.27
1/4″	91115A706	2.01	90308A504	.64	91780A505	.50	91920A505	1.52	92319A216	1.28
9/32″	91115A707	2.20	90308A505	.81	91780A506	.82	91920A506	1.50	92319A219	1.29
5/16″	91115A708	2.14	90308A506	.94	91780A507	.52	91920A507	1.59	92319A223	1.30
11/32″	91115A709	2.15	90308A507	.84	91780A508	.69	91920A508	1.57	92319A228	1.33
3/8″	91115A711	2.14	90308A508	.90	91780A509	.57	91920A509	1.71	92319A233	1.34
13/32″	91115A712	2.18	90308A509	.88	91780A510	.72	91920A510	1.57	92319A239	1.37
7/16″	91115A713	2.15	90308A510	.89	91780A511	.67	91920A511	1.57	92319A242	1.39
15/32″	91115A714	2.18	90308A511	.91	91780A512	.86	91920A512	1.57	92319A248	1.41
1/2″	91115A716	2.19	90308A512	.93	91780A513	.60	91920A513	1.71	92319A252	1.42
5/8″	91115A717	2.20	90308A513	.96	91780A514	.65	91920A514	1.53	92319A258	1.52
3/4″	91115A718	2.25	90308A514	1.02	91780A515	.71	91920A515	1.86	92319A263	1.64
7/8″	91115A719	2.29	90308A515	1.09	91780A516	.77	91920A516	1.86	92319A268	2.04
1″	91115A721	2.34	90308A516	1.16	91780A517	.81	91920A517	1.86	92319A272	2.09
1-1/4″	91115A116	2.66	90308A116	1.26	91780A118	.56	91920A124	1.85	92319A286	2.16
1-1/2″	91115A117	2.66	90308A117	1.33	91780A120	.60	91920A126	1.88	92319A287	2.26
1-3/4″	91115A118	2.72	90308A118	1.41	91780A124	.62	91920A128	1.94	92319A288	2.36
2″	91115A119	2.72	90308A120	1.47	91780A126	.65	91920A130	1.97	92319A289	2.55
1/4″ Hex Size—Choose a thread size: 4-40, 6-32, 8-32, 10-32										
1/8″	91115A510	1.79	90308A610	.91	91780A710	.29	91920A810	1.35	92319A290	1.28
5/32″	91115A513	1.79	90308A612	.87	91780A712	.39	91920A812	1.35	92319A295	1.29
3/16″	91115A515	1.79	90308A615	.96	91780A715	.29	91920A815	1.35	92319A300	1.33
7/32″	91115A517	1.79	90308A617	.87	91780A717	.39	91920A817	1.35	92319A305	1.34
1/4″	91115A520	1.79	90308A620	.98	91780A720	.27	91920A820	1.48	92319A310	1.35
9/32″	91115A523	1.79	90308A622	.87	91780A722	.44	91920A822	1.35	92319A315	1.36
5/16″	91115A525	1.79	90308A625	.98	91780A725	.29	91920A825	1.35	92319A320	1.37
11/32″	91115A527	1.91	90308A627	.87	91780A727	.44	91920A827	1.44	92319A325	1.38
3/8″	91115A530	1.91	90308A630	.70	91780A730	.34	91920A830	1.56	92319A330	1.41
13/32″	91115A531	2.08	90308A632	1.27	91780A732	.44	91920A832	1.57	92319A335	1.43
7/16″	91115A532	2.08	90308A633	1.30	91780A733	.44	91920A833	1.57	92319A340	1.45
15/32″	91115A533	2.08	90308A634	1.32	91780A734	.44	91920A834	1.57	92319A345	1.47
1/2″	91115A535	2.10	90308A635	.75	91780A735	.34	91920A835	1.78	92319A350	1.48
5/8″	91115A540	2.10	90308A640	1.12	91780A740	.34	91920A840	1.77	92319A355	1.62
3/4″	91115A545	2.20	90308A645	1.19	91780A745	.45	91920A845	1.85	92319A360	1.72
7/8″	91115A550	2.20	90308A650	1.34	91780A750	.45	91920A850	1.67	92319A365	1.84
1″	91115A555	2.36	90308A655	1.38	91780A755	.45	91920A855	1.98	92319A370	1.91
1-1/4″	91115A560	2.72	90308A660	1.40	91780A760	.69	91920A860	2.01	92319A375	2.38
1-1/2″	91115A565	2.97	90308A665	1.44	91780A765	.85	91920A865	1.70	92319A380	2.50
2″	91115A570	3.22	90308A670	1.71	91780A770	.97	91920A870	2.15	92319A385	2.73
2-1/4″	91115A571	3.30	90308A671	1.78	91780A771	.65	91920A872	1.93	92319A386	2.88
2-1/2″	91115A572	3.49	90308A672	1.85	91780A772	.67	91920A876	1.99	92319A387	3.00
3″	91115A573	3.83	90308A673	2.03	91780A773	.70	91920A886	2.09	92319A388	3.23
3-1/2″	91115A574	4.18	90308A674	2.20	91780A774	.74	91920A891	2.20	92319A389	3.29
4″	91115A576	4.54	90308A676	2.37	91780A776	.77	91920A896	2.45	92319A391	3.85
5/16″ Hex Size—Choose a thread size: 6-32, 8-32, 10-32; material; and length. Materials and lengths offered are the same as 1/4″ hex size standoffs, except not available in 7/8″ length.										91115A921
3/8″ Hex Size—Choose a thread size: 6-32, 8-32, 10-32										
1/4″	91115A650	2.27	90308A750	1.72	91780A850	1.10	91920A950	1.36	92319A485	1.51
3/8″	91115A660	2.27	90308A760	1.72	91780A860	1.15	91920A960	1.50	92319A490	1.60
1/2″	91115A665	2.27	90308A765	1.72	91780A865	1.15	91920A965	1.69	92319A495	1.71
5/8″	91115A670	3.33	90308A770	2.66	91780A870	1.15	91920A970	1.90	92319A500	1.87
3/4″	91115A675	3.33	90308A775	2.67	91780A875	1.32	91920A975	2.13	92319A505	1.96
1″	91115A685	3.49	90308A785	3.28	91780A885	1.32	91920A985	2.47	92319A510	2.31
1-1/4″	91115A690	5.09	90308A790	4.39	91780A890	1.54	91920A990	2.61	92319A515	3.23
1-1/2″	91115A695	5.84	90308A795	4.55	91780A895	1.66	91920A995	2.78	92319A520	3.43

★Prices are 15% lower when you buy in multiples of 10. ■ Thread size 2-56 is partially threaded.

(Continued on following page)

Female Threaded Hex Standoffs *(Continued from previous page)*

Lg.	18-8 Stainless Steel	Each★	Zinc-Plated Brass	Each★	Aluminum	Each★	Zinc-Plated Steel	Each★	Nylon 6/6	Each★
3/8″ Hex Size—Choose a thread size: 6-32, 8-32, 10-32 (Cont.)										
2″	91115A700	$5.90	90308A800	$5.32	91780A900	$1.76	91920A998	$2.97	92319A525	$3.82
2½″	91115A731	7.34	90308A801	5.05	91780A901	1.94	91920A967	3.10	92319A526	4.27
3″	91115A732	8.33	90308A802	5.54	91780A902	2.20	91920A969	3.40	92319A527	4.68
3½″	91115A733	9.12	90308A803	6.17	91780A903	2.30	91920A978	3.71	92319A528	4.81
4″	91115A734	10.02	90308A804	6.67	91780A904	2.40	91920A980	4.08	92319A529	5.24
6″	91115A736	10.19	90308A807	8.18	91780A906	3.69	91920A982	4.23	92319A531	6.25
1/2″ Hex Size—Choose a thread size: 10-32, 1/4″-20										
1/2″	91115A705	5.90	90308A805	3.72	91780A905	2.08	92230A001	2.75	92319A530	2.25
5/8″	91115A710	6.88	90308A810	4.96	91780A910	1.98	92230A002	2.91	92319A535	2.43
3/4″	91115A715	6.64	90308A815	5.34	91780A915	2.15	92230A003	3.21	92319A540	2.61
7/8″	91115A720	7.47	90308A820	6.16	91780A920	2.15	92230A004	3.23	92319A545	2.80
1″	91115A725	7.47	90308A825	6.89	91780A925	2.15	92230A005	3.47	92319A550	2.98
1¼″	91115A730	8.26	90308A830	6.92	91780A930	3.03	92230A006	4.13	92319A555	4.16
1½″	91115A735	8.71	90308A835	7.57	91780A935	3.55	92230A007	4.34	92319A560	4.40
2″	91115A740	8.85	90308A840	9.20	91780A940	4.68	92230A008	4.04	92319A565	5.23
2½″	91115A745	9.18	90308A845	9.30	91780A945	4.97	92230A009	4.22	92319A570	5.80
3″	91115A750	10.49	90308A850	9.30	91780A950	5.23	92230A010	4.44	92319A575	6.83
3½″	91115A757	14.06	90308A857	9.54	91780A960	5.46	92230A013	5.32	92319A585	6.86
4″	91115A755	11.80	90308A855	9.95	91780A955	5.79	92230A011	5.26	92319A580	8.48
5″	91115A759	13.18	90308A859	10.36	91780A965	5.98	92230A022	6.97	92319A590	10.09
6″	91115A761	13.24	90308A861	10.63	91780A970	6.08	92230A028	7.76	92319A595	11.83
5/8″ Hex Size—Choose a thread size: 10-32, 1/4″-20, 3/8″-16										
1″	91115A765	8.02	90308A865	5.64	91780A971	1.06	91920A321	5.95	92319A800	5.65
1¼″	91115A766	8.55	90308A867	6.43	91780A972	1.93	91920A323	6.54	92319A805	7.24
1½″	91115A769	9.70	90308A869	11.66	91780A974	2.02	91920A325	6.97	92319A810	7.86
1¾″	91115A772	11.27	90308A872	12.51	91780A976	2.11	91920A327	7.46	92319A815	8.69
2″	91115A774	12.62	90308A874	13.46	91780A979	2.17	91920A329	7.97	92319A820	9.67
2½″	91115A777	14.64	90308A876	17.34	91780A981	2.88	91920A331	8.87	92319A825	11.25
3″	91115A780	16.85	90308A878	19.33	91780A983	3.07	91920A333	10.08	92319A830	13.02
3½″	—	—	90308A884	21.61	91780A986	3.36	91920A336	11.09	92319A835	14.68
4″	91115A783	18.47	90308A881	23.69	91780A988	3.74	91920A338	12.36	92319A840	16.26
5″	91115A785	32.94	90308A886	26.74	91780A990	4.75	91920A340	14.22	92319A845	19.52
6″	91115A788	26.05	90308A889	29.86	91780A993	5.48	91920A348	16.04	92319A850	22.86

★ Prices are 15% lower when you buy in multiples of 10.

Metric Female Threaded Hex Standoffs

Tighten standoffs with a wrench. The flat sides of the hex ensure a firm grip. Hex size and hex length tolerances are ±0.013 mm. Standoffs are fully threaded, except the lengths listed in the chart, which are partially threaded.

18-8 stainless steel standoffs meet ASTM A581 or A582. **Zinc-plated brass** standoffs meet ASTM B16.

Thread Size	*Partially Threaded Lengths* 18-8 Stainless Steel	Brass and Aluminum	Min. Thread Length (A)
M2.5	10-37 mm	19-37 mm	4.8 mm
M3	14-52 mm	30-52 mm	6.3 mm
M3.5	30-52 mm	30-52 mm	9.5 mm
M4	30-52 mm	30-52 mm	11.1 mm
M5	37 mm	37 mm	12.7 mm

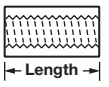

Fully Threaded

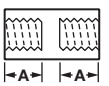

Partially Threaded





Lg., mm	18-8 Stainless Steel	Each★	Zinc-Plated Brass	Each★	Aluminum	Each★
4.5 mm Hex Size—Choose a thread size: M2.5, M3						
6	94868A204	$0.96	92080A104	$0.67	95947A110	$0.46
8	94868A207	1.03	92080A107	.71	95947A113	.54
10	94868A210	1.15	92080A110	.76	95947A117	.54
12	94868A214	1.20	92080A113	.86	95947A121	.58
14	94868A218	1.21	92080A116	1.04	95947A125	.70
16	94868A222	1.22	92080A119	1.13	95947A128	.70
19	94868A226	1.22	92080A122	1.18	95947A132	.79
20	94868A229	1.23	92080A126	1.43	95947A138	.79
25	94868A233	1.24	92080A129	1.99	95947A140	.94
37	94868A246	1.28	92080A141	2.29	95947A160	1.48
6 mm Hex Size—Choose a thread size: M3, M3.5, M4						
3	94868A101	1.94	92080A200	1.69	95947A200	.50
4	94868A102	2.00	92080A201	1.69	95947A204	.50
5	94868A103	2.09	92080A211	1.76	95947A207	.50
6	94868A104	2.17	92080A202	1.76	95947A210	.50
8	94868A106	2.29	92080A212	1.77	95947A213	.58
10	94868A108	2.47	92080A203	1.77	95947A217	.63
12	94868A110	2.59	92080A213	1.77	95947A221	.63
13	94868A111	2.64	92080A204	1.78	95947A223	.63
14	94868A112	2.67	92080A214	1.99	95947A225	.77
16	94868A114	2.95	92080A205	2.00	95947A228	.86
19	94868A117	3.13	92080A206	2.49	95947A232	.86
20	94868A118	3.67	92080A215	2.49	95947A236	.86
25	94868A123	3.90	92080A207	2.60	95947A240	1.03
30	94868A125	3.26	92080A220	2.36	95947A250	1.44
31	94868A129	4.15	92080A208	2.60	95947A253	1.59
35	94868A131	3.43	92080A224	2.53	—	—

★ Prices are 15% lower when you buy in multiples of 10.

Lg., mm	18-8 Stainless Steel	Each★	Zinc-Plated Brass	Each★	Aluminum	Each★
6 mm Hex Size—Choose a thread size: M3, M3.5, M4 (Cont.)						
37	94868A137	$4.42	92080A209	$3.03	95947A260	$1.48
40	94868A138	3.48	92080A228	2.72	95947A264	1.57
45	94868A141	3.52	92080A234	2.80	95947A272	1.57
51	94868A143	3.55	92080A236	2.91	95947A277	1.62
52	94868A150	5.08	92080A210	3.03	95947A280	1.95
8 mm Hex Size—Choose a thread size: M3, M4						
6	94868A304	1.06	92080A245	.95	95947A310	.57
8	94868A307	1.15	92080A248	1.04	95947A313	.64
10	94868A310	1.67	92080A251	1.13	95947A317	.64
12	94868A314	1.39	92080A256	1.31	95947A321	.68
14	94868A318	1.52	92080A259	1.48	95947A325	.84
16	94868A322	1.54	92080A261	1.60	95947A328	.84
19	94868A326	1.56	92080A263	1.65	95947A332	.85
20	94868A329	1.58	92080A267	1.78	95947A336	.85
25	94868A333	1.67	92080A272	2.14	95947A340	1.11
37	94868A346	1.89	92080A286	2.29	95947A360	1.99
10 mm Hex Size—Choose a thread size: M4, M5						
6	94868A404	1.40	92080A306	1.27	95947A410	.68
8	94868A407	1.52	92080A310	1.46	95947A413	.81
10	94868A410	1.63	92080A312	1.54	95947A417	.80
12	94868A414	1.73	92080A315	1.79	95947A421	.84
14	94868A418	1.85	92080A318	1.98	95947A425	.94
16	94868A422	1.99	92080A321	2.13	95947A428	.93
19	94868A426	2.05	92080A323	2.46	95947A432	.99
20	94868A429	2.13	92080A325	2.80	95947A436	.99
25	94868A433	2.32	92080A328	3.77	95947A440	1.27
37	94868A446	2.78	92080A339	4.21	95947A460	2.66

Electrical-Insulating Female Threaded Standoffs



Round Ceramic



Round Plastic



Hex



Octagon

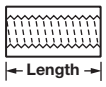

Fully Threaded

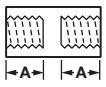

Partially Threaded

Use these electrical-insulating standoffs in high-voltage applications.

Ceramic standoffs withstand temperatures up to 1700° F. They have a glazed finish, which reduces moisture absorption. OD and body length tolerances are ±0.012″. Standoffs have a Class 1B thread fit. Dielectric strength is 275 V/mil. Not rated for voltage. Color is off-white.

Fiberglass-reinforced plastic standoffs resist impact and corrosion. OD and hex size tolerances are ±0.01″. Body length tolerance is ±0.015″. Dielectric strength is 350 V/mil. Not rated for temperature, unless noted. Color is red.

Ceramic Standoffs—Round

Lg.	Min. Thread Lg. (A)	6-32 Thread Size	
1/4″ OD			
1/4″	Full	94335A110	$3.84
1/2″	3/16″	94335A115	4.04
3/4″	1/4″	94335A118	4.58
1″	3/8″	94335A119	5.33
1 1/2″	3/8″	94335A121	6.07
3/8″ OD			
3/8″	1/8″	94335A120	3.90
1/2″	1/8″	94335A125	3.56
3/4″	1/4″	94335A126	4.71
1″	3/8″	94335A128	4.90
1 1/2″	3/8″	94335A129	4.93
1/2″ OD			
1/2″	5/32″	94335A130	3.96
3/4″	1/4″	94335A135	4.68
1″	3/8″	94335A140	4.00
1 1/2″	9/16″	94335A145	4.44
2″	1/2″	94335A147	5.76
2 1/2″	1/2″	94335A148	6.63
3″	3/8″	94335A149	7.23

Lg.	Min. Thread Lg. (A)	1/4″-20 Thread Size	
3/4″ OD			
1″	3/8″	94335A151	$5.36
1 1/2″	3/8″	94335A152	6.12
2″	3/4″	94335A154	6.83
2 1/2″	3/4″	94335A155	7.54
3″	3/4″	94335A163	8.53
3 1/2″	3/4″	94335A153	8.30
4″	3/4″	94335A160	10.04
1″ OD			
1″	3/8″	94335A211	8.44
1 1/2″	1/2″	94335A214	9.68
2″	5/8″	94335A217	10.31
3″	5/8″	94335A224	12.37
4″	5/8″	94335A231	16.33
1 1/4″ OD			
1 1/2″	5/8″	94335A328	10.83
2″	5/8″	94335A332	11.50
3″	5/8″	94335A342	14.10
4″	5/8″	94335A350	17.40
5″	5/8″	94335A357	20.07

Fiberglass-Reinforced Plastic Standoffs

OD/Hex Size	Lg.	Min. Thread Lg. (A)	Voltage Rating		
Round—3/8″-16 thread size					
1 3/4″	1 3/8″	3/8″	600 V	3314A2	$6.80
1 3/4″	2 1/4″	9/16″	2,700 V	3314A6	9.40
2″	1 3/4″	3/8″	2,000 V	3314A3▲	11.20
2″	2″	9/16″	2,300 V	3314A1▲	11.14
Hex—1/4″-20 thread size					
1″	1″	5/16″	600 V	3314A7▲	6.10
1″	1 1/4″	5/16″	600 V	3314A5	5.58
Octagon—1/2″-13 thread size					
2 1/2″	3″	5/8″	4,100 V	3314A4	13.84

▲ Temperature range is -40° to 266° F.

Metric Male-Female Threaded Hex Standoffs



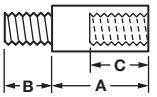

Connect metric male threads to metric female threads. Both ends have the same size threads. Tighten standoffs with a wrench. The flat sides of the hex ensure a firm grip. Hex size and hex length tolerances are ±0.13 mm, except nylon 6/6 standoffs have hex size and hex length tolerances of ±0.26 mm.

18-8 stainless steel standoffs meet ASTM A581 or A582. **Zinc-plated brass** standoffs meet ASTM B16. **Nylon 6/6** standoffs are off-white.

Thread Size	*Thread Lengths* Male (B)	Female (C)
M2.5	3.9 mm	Up to 4.8 mm
M3	4.7 mm	Up to 6.4 mm
M3.5	6.3 mm	Up to 9.5 mm
M4	9.5 mm	Up to 11.1 mm
M5	9.5 mm	Up to 12.7 mm

Lg. (A), mm	18-8 Stainless Steel	Each★	Zinc-Plated Brass	Each★	Aluminum	Each★	Nylon 6/6	Each★
4.5 mm Hex Size—Choose a thread size: M2.5, M3								
5	93655A800	$2.74	93655A600	$1.72	98952A202	$1.34	95783A301	$1.65
6	93655A804	2.79	93655A604	1.75	98952A204	1.35	95783A305	1.69
8	93655A807	2.92	93655A607	1.80	98952A207	1.38	95783A308	1.79
10	93655A810	3.04	93655A610	1.84	98952A209	1.42	95783A312	1.81
12	93655A813	3.17	93655A613	1.87	98952A212	1.44	95783A315	1.85
14	93655A815	3.29	93655A615	1.91	98952A215	1.47	95783A319	1.87
16	93655A819	3.44	93655A619	1.97	98952A218	1.50	95783A321	1.91
19	93655A821	3.63	93655A621	2.02	98952A222	1.54	95783A324	1.98
20	93655A824	3.69	93655A624	2.04	98952A225	1.55	95783A327	1.98
25	93655A827	4.00	93655A627	2.16	98952A229	1.60	95783A332	2.07
31	93655A830	4.51	93655A630	2.35	98952A232	1.80	95783A336	2.17
6 mm Hex Size—Choose a thread size: M3, M3.5, M4								
5	93655A525	2.97	93655A560	1.64	98952A302	1.63	95783A403	1.63
6	93655A509	3.02	93655A501	1.64	98952A307	1.64	95783A408	1.64
8	93655A530	3.23	93655A565	1.65	98952A312	1.70	95783A413	1.69
10	93655A510	3.38	93655A502	1.67	98952A317	1.75	95783A418	1.73
12	93655A535	3.59	93655A570	1.67	98952A322	1.81	95783A423	1.78
13	93655A511	3.59	93655A503	1.68	98952A327	1.83	95783A428	1.79
14	93655A540	3.74	93655A575	1.68	98952A332	1.85	95783A433	1.81
16	93655A512	3.94	93655A504	1.68	98952A337	1.91	95783A438	1.86
19	93655A513	3.98	93655A505	1.69	98952A342	1.99	95783A443	1.92
20	93655A545	3.99	93655A580	1.69	98952A347	2.00	95783A448	1.95
22	93655A514	3.99	93655A506	1.74	98952A352	2.07	95783A453	1.98
25	93655A515	4.12	93655A507	1.79	98952A357	2.14	95783A458	2.04
31	93655A516	4.21	93655A508	1.99	98952A362	2.39	95783A463	2.14

8 mm Hex Size—Choose a thread size: M3.5, M4, M5; material: 18-8 stainless steel, zinc-plated brass, or aluminum; and length: 5, 6, 8, 10, 12, 14, 16, 19, 20, 25, 30 mm. 93655A961

★ Prices are 15% lower when you buy in multiples of 10.

Male-Female Threaded Hex Standoffs

Connect inch male threads to inch female threads. Both ends have the same size threads. Tighten standoffs with a wrench. The flat sides of the hex ensure a firm grip. Metal standoffs have hex and hex length tolerances of ±0.006″, except zinc-plated steel standoffs have hex and hex length tolerances of ±0.005″. Nylon 6/6 standoffs have hex and hex length tolerances of ±0.015″.

18-8 stainless steel standoffs meet ASTM A581 or A582. **Zinc-plated brass** standoffs meet ASTM B16. **Zinc-plated steel** standoffs are 12L14 steel. **Nylon 6/6** standoffs are off-white.

Thread Size	Thread Lengths: Male (B)	Female (C)
2-56	5/32″	Up to 3/16″
4-40	3/16″	Up to 1/4″
6-32	1/4″	Up to 3/8″
8-32	3/8″	Up to 7/16″
10-32	3/8″	Up to 1/2″
1/4″-20	1/2″	Up to 5/8″

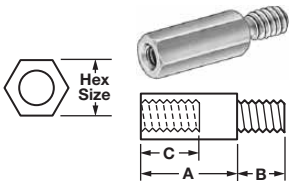

Lg. (A)	18-8 Stainless Steel	Each★	Zinc-Plated Brass	Each★	Aluminum	Each★	Zinc-Plated Steel	Each★	Pkg. Qty.	Nylon 6/6	Pkg.
3/16″ Hex Size—Choose a thread size: 2-56, 4-40, 6-32											
1/8″	91075A871	$0.98			93505A611	$0.75	93620A761	$0.86			
3/16″	91075A653	2.82	92700A753	$1.46	93505A853	.82	93620A503	1.51	5	92745A355	$9.77
7/32″	91075A654	3.04	92700A754	1.41	93505A854	.83	93620A504	1.51	5	92745A375	9.85
1/4″	91075A655	2.15	92700A755	1.24	93505A855	.44	93620A505	1.51	5	92745A385	9.94
9/32″	91075A656	3.05	92700A756	1.55	93505A856	.84	93620A506	1.63	5	92745A395	9.98
5/16″	91075A657	2.94	92700A757	1.55	93505A857	.80	93620A507	1.63	5	92745A405	10.02
11/32″	91075A658	2.57	92700A758	1.55	93505A858	.84	93620A508	1.63	5	92745A415	10.08
3/8″	91075A660	2.16	92700A760	1.55	93505A116	.44	93620A510	1.79	5	92745A425	10.14
13/32″	91075A661	2.40	92700A761	1.76	93505A128	.82	93620A511	1.63	5	92745A435	10.20
7/16″	91075A662	2.59	92700A762	1.55	93505A134	.82	93620A512	1.66	5	92745A445	10.26
15/32″	91075A663	2.53	92700A763	1.55	93505A124	.87	93620A513	1.66	5	92745A455	10.34
1/2″	91075A665	2.20	92700A765	1.58	93505A117	.44	93620A515	1.67	5	92745A465	9.26
3/4″	91075A675	2.22	92700A775	1.35	93505A119	.48	93620A525	1.68	5	92745A475	10.73
1″	91075A685	2.22	92700A785	1.60	93505A121	.48	93620A535	1.68	5	92745A485	10.76
1/4″ Hex Size—Choose a thread size: 4-40, 6-32, 8-32											
1/8″	91075A881	1.20			93505A621	.78	93620A771	.88			
3/16″	91075A892	1.20			93505A631	.80	93620A781	.89			
1/4″	91075A605	1.72	92700A705	1.31	93505A805	.49	93620A905	1.30	50	92745A505	12.98
9/32″	91075A606	1.72	92700A706	1.19	93505A806	.49	93620A906	1.30	5	92745A506	8.71
5/16″	91075A607	1.72	92700A707	1.19	93505A807	.49	93620A907	1.30	5	92745A507	8.86
11/32″	91075A608	1.72	92700A708	1.19	93505A808	.56	93620A908	1.30	5	92745A508	9.00
3/8″	91075A610	1.72	92700A710	1.39	93505A810	.51	93620A910	1.30	50	92745A510	13.23
13/32″	91075A611	1.72	92700A711	1.19	93505A811	.56	93620A911	1.30	5	92745A511	9.28
7/16″	91075A612	1.86	92700A712	1.21	93505A812	.56	93620A912	1.41	5	92745A512	9.41
15/32″	91075A613	1.86	92700A713	1.21	93505A813	.56	93620A913	1.41	5	92745A513	9.54
1/2″	91075A615	1.86	92700A715	1.32	93505A815	.56	93620A915	1.41	50	92745A515	13.72
5/8″	91075A620	1.86	92700A720	1.40	93505A820	.56	93620A920	1.41	25	92745A520	7.50
3/4″	91075A625	1.99	92700A725	1.31	93505A825	.61	93620A925	1.50	25	92745A525	7.62
7/8″	91075A630	1.99	92700A730	1.38	93505A830	.61	93620A930	1.50	25	92745A530	7.74
1″	91075A635	1.99	92700A735	1.31	93505A835	.61	93620A935	1.50	25	92745A535	7.86
1 1/4″	91075A640	2.20	92700A740	1.45	93505A840	.66	93620A940	1.67	25	92745A540	7.99
1 1/2″	91075A645	2.39	92700A745	1.83	93505A845	.78	93620A945	1.81	25	92745A545	8.29
1 3/4″	91075A670	2.65	92700A752	2.00	93505A126	1.11	93620A955	2.16	5	92745A560	16.01
2″	91075A650	2.39	92700A750	1.86	93505A850	1.12	93620A950	1.81	25	92745A550	8.36
2 1/4″	91075A690	3.35	92700A759	2.50	93505A136	1.15	93620A960	2.31	5	92745A565	16.12
2 1/2″	91075A695	3.51	92700A768	2.69	93505A143	1.47	93620A965	2.39	5	92745A570	16.17
3″	91075A700	4.00	92700A778	2.73	93505A152	1.85	93620A970	2.53	5	92745A575	16.17
5/16″ Hex Size—Choose a thread size: 6-32, 8-32; material: 18-8 stainless steel, zinc-plated brass, aluminum, or zinc-plated steel; and length: 1/4″, 5/16″, 3/8″, 7/16″, 1/2″, 3/4″, 1″, 1 1/2″, 2″											91075A961
3/8″ Hex Size—Choose a thread size: 8-32, 10-32											
1/4″	91075A753	3.55	92700A852	2.12	93505A104	1.43	93620A602	2.38			
5/16″	91075A757	3.55	92700A856	2.12	93505A106	1.43	93620A607	2.38			
3/8″	91075A760	3.55	92700A860	5.36	93505A176	1.44	93620A610	2.63			
7/16″	91075A762	3.83	92700A862	2.35	93505A108	1.49	93620A612	2.45			
1/2″	91075A765	3.84	92700A865	6.59	93505A177	1.44	93620A615	2.73			
5/8″	91075A770	3.92	92700A868	2.35	93505A109	1.49	93620A618	2.50			
3/4″	91075A775	3.92	92700A875	5.69	93505A179	1.49	93620A625	3.00			
7/8″	91075A780	4.11	92700A880	2.70	93505A110	1.49	93620A630	2.90			
1″	91075A785	4.11	92700A885	6.33	93505A181	1.49	93620A635	3.18			
1 1/4″	91075A790	4.78	92700A887	2.83	93505A118	1.76	93620A640	3.05			
1 1/2″	91075A795	4.83	92700A895	7.21	93505A005	1.76	93620A645	3.66			
1 3/4″	91075A796	4.95	92700A897	3.50	93505A120	2.04	93620A648	3.50			
2″	91075A800	4.95	92700A900	8.50	93505A010	2.04	93620A650	3.95			
2 1/2″	91075A797	5.80	92700A905	4.14	93505A160	2.28	93620A657	4.67			
3″	91075A799	6.20	92700A910	4.60	93505A166	2.32	93620A664	4.81			
1/2″ Hex Size—Choose a thread size: 10-32, 1/4″-20											
3/8″	91075A911	6.16			93505A641	4.08	93620A791	4.15			
1/2″	91075A815	7.70	92700A915	9.28	93505A025	2.76	93620A665	3.34			
5/8″	91075A921	6.80			93505A651	4.24	93620A811	4.27			
3/4″	91075A825	8.64	92700A925	9.59	93505A035	2.90	93620A675	4.11			
1″	91075A835	8.75	92700A935	9.90	93505A045	2.90	93620A685	4.55			
1 1/4″	91075A931	8.17			93505A661	4.89	93620A821	4.81			
1 1/2″	91075A845	9.27	92700A945	10.85	93505A055	4.97	93620A695	5.67			
1 3/4″	91075A941	9.43			93505A671	5.33	93620A831	5.05			
2″	91075A850	9.45	92700A950	11.90	93505A060	5.24	93620A700	6.74			
2 1/2″	91075A855	9.78	92700A955	7.38	93505A171	6.67	93620A698	6.75			
3″	91075A860	10.67	92700A960	8.00	93505A182	7.62	93620A699	7.25			
3 1/2″	91075A951	14.62			93505A681	8.42	93620A841	7.85			
4″	91075A865	12.89	92700A965	9.76	93505A194	10.00	93620A735	9.50			

★Prices are 15% lower when you buy in multiples of 10.

Press-Fit Female Round Standoffs



These standoffs, often called captive standoffs, won't push, pull, or twist out once installed. Use a lever press for installation (sold separately on pages 2348-2349). Made of 18-8 stainless steel.

(A&B) Clinch style standoffs have a recess under the hex that pinches the panel for a secure hold. When mounted, the hex sits flush with the surface. Length includes hex. Length tolerance is +0.002″, -0.005″. Body OD tolerance is -0.005″. Not rated for hardness.

(C) Splined style standoffs bite into the panel. Length does not include the splines. Length and body OD tolerances are ±0.005″. Standoffs meet ASTM A582.

Lg.	OD	Thread Size	For Hole Dia.	For Min. Panel Thick.	Min. Thread Lg.	Pkg. Qty.		Pkg.
(A) Clinch Style with Closed End								
5/16″	0.165″	4-40	0.166″	0.04″	5/32″	25	93090A420	$10.92
5/16″	0.212″	6-32	0.213″	0.04″	5/32″	25	93090A440	11.81
3/8″	0.165″	4-40	0.166″	0.04″	5/32″	25	93090A430	11.24
3/8″	0.212″	6-32	0.213″	0.04″	5/32″	25	93090A450	12.62
3/8″	0.280″	8-32	0.281″	0.05″	5/32″	25	93090A470	13.26
1/2″	0.212″	6-32	0.213″	0.04″	1/4″	25	93090A460	13.67
1/2″	0.280″	8-32	0.281″	0.05″	1/4″	10	93090A480	5.98
5/8″	0.280″	8-32	0.281″	0.05″	1/4″	10	93090A490	6.81
(B) Clinch Style with Open End								
1/4″	0.165″	4-40	0.166″	0.04″	Full	25	93090A210	9.31
1/4″	0.212″	6-32	0.213″	0.04″	Full	25	93090A230	10.02
3/8″	0.165″	4-40	0.166″	0.04″	3/16″	25	93090A220	10.10
3/8″	0.212″	6-32	0.213″	0.04″	3/16″	25	93090A240	10.92
3/8″	0.280″	8-32	0.281″	0.05″	3/16″	25	93090A260	13.26
1/2″	0.212″	6-32	0.213″	0.04″	5/16″	25	93090A250	13.51
1/2″	0.280″	8-32	0.281″	0.05″	5/16″	10	93090A270	5.98
5/8″	0.280″	8-32	0.281″	0.05″	5/16″	10	93090A280	6.72
(C) Splined Style with Open End								
1/4″	0.219″	4-40	0.166″	0.06″	Full	25	92985A110	12.13
1/4″	0.281″	6-32	0.213″	0.06″	Full	25	92985A120	12.77
3/8″	0.281″	6-32	0.213″	0.06″	Full	10	92985A130	5.89
1/2″	0.281″	6-32	0.213″	0.06″	3/8″	10	92985A140	6.33

Crimp-On Female Threaded Round Standoffs

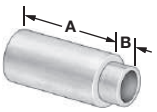

Often called swage standoffs because you permanently crimp them into a panel. Use a punch and anvil for installation. Made of zinc-plated brass. Body has a 1/4″ OD. Body OD and length tolerances are ±0.005″. Crimp end has a 0.188″ OD; tolerance is -0.003″. Standoffs are fully threaded.

Also Available: Punch and anvil for installation. For punch, please ask for 93500A555 and specify body length. For anvil, please ask for 93500A888 and specify body length.

Body Lg. (A)	Crimp End Lg. (B)	For Panel Thick.	Pkg. Qty.	4-40 Thread Size	Pkg.	6-32 Thread Size	Pkg.
1/8″	0.105″	1/16″	25	93500A105	$8.19	93500A205	$8.19
3/16″	0.105″	1/16″	25	93500A115	11.70	93500A220	10.52
1/4″	0.105″	1/16″	10	93500A125	4.79	93500A235	4.68
1/4″	0.135″	3/32″	10	93500A130	4.79	93500A240	4.68
3/8″	0.105″	1/16″	10	93500A135	5.03	93500A250	5.03
1/2″	0.105″	1/16″	10	93500A145	8.19	93500A265	7.14

Male-Female Threaded Jack Screws



Use jack screws to secure your computer and telephone panels. Each screw comes with two flat washers, a lock washer, and a hex nut. Made of zinc-plated 12L14 steel. Thread size is 4-40. Hex size and hex length are 3/16″. Hex size and length tolerances are ±0.005″. Minimum female thread length is 0.1″.

Also Available: Screw only. Please ask for 92710A555 and specify thread length.

Male Thread Lg.	Pkg. Qty.		Pkg.
1/8″	25	92710A223	$12.80
3/16″	25	92710A203	13.21
1/4″	25	92710A205	13.21
5/16″	25	92710A207	13.21
3/8″	25	92710A209	14.08
7/16″	25	92710A211	14.91
1/2″	10	92710A212	$6.74
9/16″	10	92710A213	7.07
5/8″	10	92710A214	8.86
3/4″	10	92710A224	9.38
7/8″	10	92710A225	11.63
1″	10	92710A226	13.13

Hinged Threaded Round Standoffs

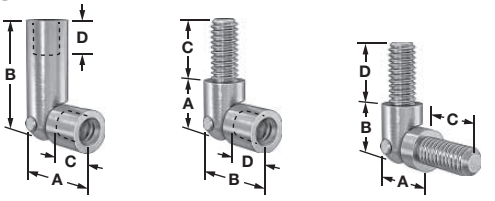

The hinge swings open 180° for access to components. Made of zinc-plated brass. OD tolerance is ±0.006″; length tolerance is ±0.008″. Standoffs meet ASTM B16.

Thread Size	OD	(A)	(B)	Thread Lg. (C)	Thread Lg. (D)		Pkg.
Female							
4-40	3/16″	3/8″	3/8″	5/32″	5/32″	98010A210	$3.04
4-40	3/16″	7/16″	5/8″	7/32″	1/4″	98010A220	3.04
6-32	1/4″	3/8″	3/8″	3/32″	3/32″	98010A240	3.12
6-32	1/4″	5/8″	5/8″	1 1/32″	1 1/32″	98010A260	3.28
8-32	1/4″	3/8″	5/8″	3/32″	1 1/32″	98010A280	3.12
8-32	1/4″	5/8″	5/8″	1 1/32″	1 1/32″	98010A290	3.18
Male-Female							
4-40	3/16″	1/4″	3/8″	3/16″	5/32″	98010A410	3.04
4-40	3/16″	1/4″	5/8″	3/16″	1/4″	98010A420	3.04
6-32	1/4″	1/4″	3/8″	1/4″	3/32″	98010A430	3.10
6-32	1/4″	1/4″	5/8″	1/4″	1 1/32″	98010A440	3.18
8-32	1/4″	1/4″	3/8″	3/8″	3/32″	98010A450	3.12
8-32	1/4″	1/4″	5/8″	3/8″	1 1/32″	98010A460	3.14
Male							
4-40	3/16″	1/4″	1/4″	3/16″	3/16″	98010A510	3.06
6-32	1/4″	1/4″	1/4″	1/4″	1/4″	98010A520	3.16
8-32	1/4″	1/4″	1/4″	3/8″	3/8″	98010A530	3.18

Brass Thread Adapters

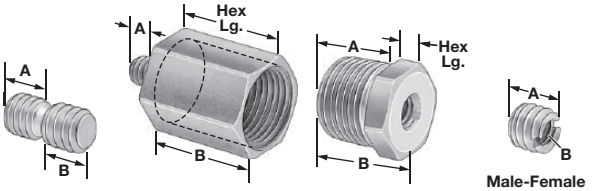

The through hole allows you to connect float rods to float valves. Adapters are brass, which has good strength and corrosion resistance. Inch threads have a Class 2A or 2B thread fit; metric have Class 6g. Not rated for tensile strength. Not rated for hardness, except male round and male-female round slotted-drive adapters, which have a Rockwell hardness of B70.

(A) Thread/ Pipe Size	(A) Thread Lg.	(B) Thread/ Pipe Size	(B) Thread Lg.	Hex Size	Hex Lg.		Pkg.
Male Round							
8-32	13/64″	1/4″-20	1/4″	—	—	97437A300	$8.95
8-32	3/16″	M4×0.7	3/16″	—	—	97437A500	9.19
8-32	13/64″	M6×1	1/4″	—	—	97437A200	8.72
1/4″-20	1/4″	M4×0.7	13/64″	—	—	97437A400	8.95
1/4″-20	1/4″	M6×1	1/4″	—	—	97437A600	9.19
M4×0.7	13/64″	M6×1	1/4″	—	—	97437A100	8.72
Male-Female Hex							
1/4″-20	7/32″	5/16″-18	1/2″	7/16″	3/4″	4624K34	2.48
1/4″-20	1/4″	3/8″-16	3/8″	9/16″	11/16″	4624K35	3.66
1/4″-20	7/32″	1/8 NPT	1/2″	5/8″	3/4″	4624K31	3.62
1/4″-20	9/32″	1/4 NPT	11/16″	3/4″	7/8″	4624K32	5.28
1/4″-20	1/4″	3/8 NPT	19/32″	3/4″	15/16″	4624K33	5.17
5/16″-18	17/64″	1/4″-20	5/16″	3/8″	7/16″	4624K36	2.38
Male-Female Hex with Through Hole							
1/4 NPT	7/16″	1/4″-20	5/8″	9/16″	3/16″	4624K99	1.92
3/8 NPT	1/2″	1/4″-20	11/16″	11/16″	3/16″	4624K41	3.14
3/8 NPT	1/2″	3/8″-16	11/16″	11/16″	3/16″	4624K47	3.41
1/2 NPT	9/16″	1/4″-20	13/16″	7/8″	1/4″	4624K42	5.34
1/2 NPT	9/16″	3/8″-16	13/16″	7/8″	1/4″	4624K48	5.21
Male-Female Round Slotted-Drive							
1/4″-20	7/32″	8-32	7/32″	—	—	97437A700	9.44

Female Hex Thread Adapters

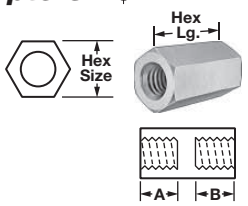

Female thread adapters, often called reducing coupling nuts, connect different sizes of threaded rod. Inch sizes have a Class 2B thread fit. Metric sizes have a Class 6H thread fit. Not rated for tensile strength.

18-8 stainless steel thread adapters have good corrosion resistance. Rockwell hardness is B55.

Zinc-plated steel thread adapters are strong and corrosion resistant. Rockwell hardness is B65.

Female (A) Thread Size	Thread Lg.	*Female (B)* Thread Size	Thread Lg.	Hex Size	Hex Lg.		Each★
18-8 Stainless Steel							
Inch-to-Inch							
2-56	1/8"	4-40	1/8"	5/16"	7/16"	98434A101	$5.12
4-40	9/64"	6-32	9/64"	5/16"	1/2"	98434A102	5.19
6-32	11/64"	8-32	11/64"	5/16"	5/8"	98434A103	5.27
8-32	3/16"	10-32	3/16"	5/16"	3/4"	98434A104	5.42
10-32	1/4"	1/4"-20	1/4"	1/2"	1"	98434A105	5.58
10-32	5/16"	5/16"-18	5/16"	1/2"	1"	98434A106	5.58
1/4"-20	1/4"	1/4"-28	1/4"	1/2"	1"	98434A107	5.58
1/4"-20	1/4"	5/16"-18	5/16"	7/16"	1"	98434A110	2.32
1/4"-20	1/4"	3/8"-16	3/8"	1/2"	1 1/8"	98434A210	3.11
1/4"-20	1/2"	1/2"-13	1/2"	5/8"	1 1/4"	98434A108	7.34
5/16"-18	5/16"	5/16"-24	5/16"	7/16"	1"	98434A109	5.54
5/16"-18	5/16"	3/8"-16	3/8"	1/2"	1 1/8"	98434A310	3.82
5/16"-18	5/16"	1/2"-13	1/2"	5/8"	1 1/4"	98434A112	7.30
3/8"-16	3/8"	3/8"-24	3/8"	1/2"	1 1/4"	98434A113	6.27
3/8"-16	3/8"	1/2"-13	1/2"	5/8"	1 1/4"	98434A410	4.53
3/8"-16	3/8"	5/8"-11	5/8"	13/16"	1 1/2"	98434A114	8.69
3/8"-16	3/8"	3/4"-10	3/4"	1"	1 1/2"	98434A115	8.69
1/2"-13	1/2"	1/2"-20	1/2"	5/8"	2 1/4"	98434A116	10.54
1/2"-13	1/2"	5/8"-11	5/8"	7/8"	1 3/4"	98434A510	9.31
1/2"-13	1/2"	3/4"-10	3/4"	1"	2 1/4"	98434A117	12.53
1/2"-13	1/2"	1"-8	1"	1 3/8"	2"	98434A118	18.46
5/8"-11	5/8"	5/8"-18	5/8"	7/8"	2"	98434A119	12.53
5/8"-11	5/8"	3/4"-10	3/4"	1"	2"	98434A610	13.18
5/8"-11	5/8"	7/8"-9	7/8"	1 1/4"	2"	98434A121	18.46
5/8"-11	5/8"	1"-8	1"	1 3/8"	2"	98434A122	18.46
3/4"-10	3/4"	3/4"-16	3/4"	1 1/4"	2"	98434A123	18.46
3/4"-10	3/4"	7/8"-9	7/8"	1 1/4"	2 1/4"	98434A124	18.65
3/4"-10	3/4"	1"-8	1"	1 3/8"	2 1/2"	98434A125	20.19
Inch-to-Metric—Metric dimensions in millimeters							
6-32	9/64"	M4×0.7	4	11	11	98434A126	6.81
8-32	5/32"	M5×0.8	5	13	25	98434A127	7.23
10-32	1/4"	M5×0.8	5	13	25	98434A128	7.23
10-32	1/4"	M6×1	6	13	25	98434A129	7.23
1/4"-20	1/4"	M6×1	6	13	38	98434A131	7.88
1/4"-20	1/4"	M8×1.25	8	16	38	98434A132	10.88
5/16"-18	5/16"	M8×1.25	8	16	38	98434A133	10.88
5/16"-18	5/16"	M10×1.5	10	16	38	98434A134	10.88
3/8"-16	3/8"	M10×1.5	10	16	38	98434A135	10.88
3/8"-16	3/8"	M12×1.75	12	16	38	98434A136	10.88
1/2"-13	1/2"	M12×1.75	12	18	38	98434A137	15.31
1/2"-13	1/2"	M16×2	16	21	54	98434A138	19.54
Metric-to-Metric—Dimensions in millimeters							
M4×0.7	4	M5×0.8	5	13	25	98434A139	7.23
M4×0.8	4	M6×1	6	13	25	98434A141	7.23
M6×1	6	M8×1.25	8	16	38	98434A142	10.88
M8×1.25	8	M10×1.5	10	16	38	98434A143	10.88
M10×1.5	10	M12×1.75	12	16	38	98434A144	10.88
M12×1.75	12	M16×2	16	21	54	98434A145	18.58
Zinc-Plated Steel							
Inch-to-Inch							
1/4"-20	1/4"	5/16"-18	5/16"	1/2"	1"	97088A190	2.40
1/4"-20	1/4"	3/8"-16	3/8"	1/2"	1"	97088A195	1.63
1/4"-20	1/4"	1/2"-13	1/2"	5/8"	1 1/4"	97088A205	2.56
5/16"-18	5/16"	3/8"-16	3/8"	1/2"	1"	97088A200	1.94
5/16"-18	5/16"	1/2"-13	11/16"	5/8"	1 1/4"	97088A208	5.39
3/8"-16	3/8"	1/2"-13	1/2"	5/8"	1 1/4"	97088A210	1.74
3/8"-16	3/8"	5/8"-11	39/64"	13/16"	1 1/4"	97088A215	2.63
1/2"-13	1/2"	5/8"-11	35/64"	13/16"	1 1/4"	97088A220	2.57
1/2"-13	1/2"	3/4"-10	41/64"	1"	1 1/2"	97088A225	3.28
5/8"-11	5/8"	3/4"-10	41/64"	1"	1 1/2"	97088A230	3.19
5/8"-11	5/8"	7/8"-9	3/4"	1 1/4"	1 3/4"	97088A235	3.60
3/4"-10	3/4"	7/8"-9	3/4"	1 1/4"	1 3/4"	97088A240	5.71
3/4"-10	3/4"	1"-8	55/64"	1 3/8"	2"	97088A245	10.31
3/4"-10	3/4"	1 1/4"-7	1 1/16"	1 5/8"	3"	97088A250	10.51
7/8"-9	7/8"	1"-8	1"	1 3/8"	2"	97088A301	8.34
7/8"-9	7/8"	1 1/4"-7	1 1/16"	1 5/8"	3"	97088A320	16.27
1"-8	1"	1 1/4"-7	1 1/16"	1 5/8"	3"	97088A390	17.23

★ Prices are 10% lower when you buy in multiples of 10.

Left-Hand to Right-Hand Female Hex Thread Adapters



Often called sleeve nuts, thread adapters fasten parts with right-hand threads to parts with left-hand threads. Thread size and thread length are the same for both ends. Thread adapters have a Class 2B thread fit. Not rated for tensile strength.

18-8 stainless steel adapters have good corrosion resistance. Rockwell hardness is B80.

Zinc-plated steel adapters are strong and corrosion resistant. Rockwell hardness is B65.

Thread Size	Thread Lg.	Hex Size	Hex Lg.		1-9	10-Up
18-8 Stainless Steel						
4-40	1/4"	5/16"	1"	97372A101	$5.38	$4.65
6-32	1/4"	5/16"	1"	97372A102	5.38	4.65
8-32	5/16"	3/8"	1"	97372A103	5.38	4.65
10-24	3/8"	3/8"	1 1/2"	97372A104	6.09	5.27
10-32	3/8"	3/8"	1 1/2"	97372A105	7.31	6.32
1/4"-20	1/2"	3/8"	2"	97372A106	7.88	6.81
5/16"-18	1/2"	7/16"	2"	97372A107	8.63	7.46
3/8"-16	3/4"	1/2"	2 1/2"	97372A108	12.88	11.14
1/2"-13	1"	5/8"	3"	97372A109	17.26	14.91
Zinc-Plated Steel						
3/8"-16	1 3/4"	3/4"	4"	94280A115	12.90	10.93
1/2"-13	1 3/4"	7/8"	4"	94280A119	8.25	6.98
5/8"-11	2 1/4"	1 1/8"	5"	94280A123	14.21	12.03
3/4"-10	2 1/4"	1 1/4"	5"	94280A127	19.49	16.50
7/8"-9	3 1/4"	1 3/8"	7"	94280A131	32.45	27.58
1"-8	3 1/4"	1 5/8"	7"	94280A135	32.55	27.67

Male Hex Thread Adapters



Make a secure connection between female threads. Adapters are 18-8 stainless steel, which has good corrosion resistance. Inch threads have a Class 2A thread fit; metric threads have Class 6g. Tensile strength is 85,000 psi. Rockwell hardness is B80.

Male (A) Thread Size	Thread Lg.	*Male (B)* Thread Size	Thread Lg.	Hex Size	Hex Lg.		
Inch-to-Inch							
2-56	5/32"	4-40	3/16"	3/16"	1/8"	95316A050	$2.88
4-40	3/16"	4-40	3/16"	1/4"	1/8"	95316A100	2.91
4-40	3/16"	6-32	1/4"	1/4"	1/8"	95316A150	2.96
6-32	1/4"	6-32	1/4"	1/4"	1/4"	95316A200	3.10
6-32	1/4"	8-32	3/8"	1/4"	1/8"	95316A250	3.07
8-32	3/8"	8-32	3/8"	5/16"	1/8"	95316A340	3.89
8-32	3/8"	8-32	3/8"	1/4"	1/8"	95316A300	3.13
8-32	3/8"	10-32	3/8"	1/4"	1/8"	95316A320	3.23
10-24	3/8"	10-32	3/8"	5/16"	1/8"	95316A330	3.93
10-32	3/8"	10-32	3/8"	1/4"	1/8"	95316A400	3.67
10-32	3/8"	10-32	3/8"	5/16"	1/8"	95316A450	3.84
10-32	3/8"	1/4"-20	5/8"	5/16"	1/8"	95316A470	3.93
10-32	3/8"	5/16"-18	5/8"	5/16"	1/8"	95316A490	4.70
1/4"-20	5/8"	1/4"-28	5/8"	3/8"	3/16"	95316A510	5.59
1/4"-20	5/8"	5/16"-18	5/8"	1/2"	3/16"	95316A530	7.72
1/4"-20	5/8"	3/8"-16	1/2"	1/2"	1/4"	95316A550	8.11
1/4"-20	5/8"	1/2"-13	3/4"	3/4"	3/8"	95316A570	8.89
5/16"-18	5/8"	5/16"-24	5/8"	1/2"	3/16"	95316A590	6.62
5/16"-18	5/8"	3/8"-16	1/2"	9/16"	1/4"	95316A610	8.47
3/8"-16	1/2"	3/8"-24	1/2"	9/16"	1/4"	95316A630	8.00
3/8"-16	1/2"	1/2"-13	3/4"	3/4"	3/8"	95316A650	8.53
1/2"-13	3/4"	1/2"-20	3/4"	3/4"	3/8"	95316A670	7.92
Inch-to-Metric—Metric dimensions in millimeters							
6-32	1/4"	M4×0.7	9.5	1/4"	1/8"	95316A700	3.05
8-32	3/8"	M5×0.8	9.5	1/4"	1/8"	95316A710	3.76
10-32	3/8"	M5×0.8	9.5	5/16"	1/8"	95316A720	3.50
10-32	3/8"	M6×1	12.7	5/16"	1/8"	95316A730	3.86
1/4"-20	5/8"	M6×1	12.7	3/8"	3/16"	95316A740	5.69
1/4"-20	5/8"	M8×1.25	12.7	1/2"	3/16"	95316A750	6.24
5/16"-18	5/8"	M8×1.25	12.7	1/2"	3/16"	95316A760	7.80
5/16"-18	5/8"	M10×1.5	16	1/2"	3/16"	95316A770	7.01
3/8"-16	1/2"	M10×1.5	16	9/16"	1/4"	95316A790	7.65
3/8"-16	1/2"	M12×1.75	18	9/16"	1/4"	95316A780	9.66
1/2"-13	3/4"	M12×1.75	18	3/4"	3/8"	95316A800	7.98
Metric-to-Metric—Dimensions in millimeters							
M4×0.7	9.5	M5×0.8	9.5	8	3.2	95316A850	3.67
M5×0.8	9.5	M6×1	12.7	10	4.8	95316A860	5.67
M6×1	12.7	M8×1.25	12.7	13	4.8	95316A870	9.57
M8×1.25	12.7	M8×1	12.7	13	4.8	95316A880	9.60
M8×1.25	12.7	M10×1	16	17	6.4	95316A890	8.31
M8×1.25	12.7	M10×1.5	16	17	6.3	95316A900	8.62
M10×1.5	16	M10×1	16	17	6.4	95316A910	8.89
M10×1.5	16	M10×1.25	16	17	6.4	95316A920	11.53
M12×1.25	18	M12×1.75	18	19	9.5	95316A950	10.09

Male-Female Hex Thread Adapters

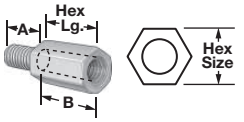

Connect male and female threads of different sizes. Adapters are 18-8 stainless steel, which has good corrosion resistance. Inch male threads have a Class 2A thread fit; female have Class 2B. Metric male threads have a class 6g thread fit; female have class 6H. Tensile strength is 85,000 psi. Rockwell hardness is B80. Adapters meet ASTM A582.

Also Available: Heat treated steel adapters in sizes marked with a ♣. Please ask for 94402A770 and specify male and female screw sizes.

Male (A) Thread Size	Male (A) Thread Lg.	Female (B) Thread Size	Female (B) Thread Lg.	Hex Size	Hex Lg.		
Inch-to-Inch							
2-56	5/32"	4-40	1/4"	1/4"	1/2"	92499A010	$4.89
4-40	3/16"	2-56	3/16"	1/4"	1/2"	92499A019	5.00
4-40	3/16"	6-32	1/4"	1/4"	1/2"	92499A028	4.15
6-32	1/4"	4-40	1/4"	1/4"	1/2"	92499A037	4.62
6-32	1/4"	8-32	7/16"	3/8"	3/4"	92499A046	7.10
8-32	21/64"	10-32	9/32"	3/8"	3/4"	92499A073♣	6.00
8-32	3/8"	6-32	1/4"	3/8"	1/2"	92499A055	7.17
8-32	3/8"	10-24	7/16"	3/8"	3/4"	92499A064	7.91
10-24	3/8"	10-32	1/2"	3/8"	3/4"	92499A082	5.56
10-32	3/8"	8-32	9/32"	3/8"	3/4"	92499A091♣	5.53
10-32	3/8"	10-24	7/16"	3/8"	3/4"	92499A100	7.91
10-32	3/8"	1/4"-20	3/8"	1/2"	3/4"	92499A109♣	5.53
10-32	3/8"	5/16"-18	3/8"	1/2"	3/4"	92499A118♣	6.05
1/4"-20	1/2"	10-32	9/32"	1/2"	3/4"	92499A136♣	5.66
1/4"-20	1/2"	5/16"-18	15/32"	1/2"	1"	92499A154♣	5.84
1/4"-20	1/2"	3/8"-16	9/16"	5/8"	1"	92499A172♣	6.78
1/4"-20	1/2"	1/2"-13	3/4"	3/4"	1 1/2"	92499A181♣	10.08
1/4"-20	5/8"	10-24	7/16"	1/2"	3/4"	92499A127	9.67
1/4"-20	5/8"	1/4"-28	5/8"	1/2"	1"	92499A145	8.09
5/16"-18	5/8"	10-24	7/16"	1/2"	3/4"	92499A190	7.86
5/16"-18	5/8"	10-32	9/32"	1/2"	3/4"	92499A199♣	6.34
5/16"-18	5/8"	1/4"-20	3/8"	1/2"	1"	92499A208♣	5.53
5/16"-18	5/8"	5/16"-24	5/8"	1/2"	1"	92499A217	8.90
5/16"-18	5/8"	3/8"-16	9/16"	1/2"	1"	92499A226♣	7.51
5/16"-24	5/8"	5/16"-18	5/8"	1/2"	1"	92499A235	7.43
3/8"-16	1/2"	3/8"-24	5/8"	1/2"	1"	92499A271	8.75
3/8"-16	3/4"	1/4"-20	3/8"	5/8"	1"	92499A244♣	8.97
3/8"-16	3/4"	5/16"-18	15/32"	5/8"	1"	92499A262♣	7.87
3/8"-16	3/4"	1/2"-13	3/4"	3/4"	1 1/2"	92499A289♣	11.23
3/8"-24	1/2"	3/8"-16	7/8"	5/8"	1 1/2"	92499A298	10.13
1/2"-13	3/4"	1/2"-20	7/8"	3/4"	1 1/2"	92499A325	10.05
1/2"-13	7/8"	1/4"-20	3/8"	3/4"	1 1/2"	92499A307♣	11.03
1/2"-13	7/8"	3/8"-16	9/16"	3/4"	1 1/2"	92499A316♣	10.78
1/2"-20	3/4"	1/2"-13	7/8"	3/4"	1 1/2"	92499A334	12.57
Inch-to-Metric—Metric dimensions in millimeters							
6-32	1/4"	M4×0.7	1/8"	1/4"	1/2"	92499A352	7.55
8-32	3/8"	M5×0.8	3/8"	3/8"	3/4"	92499A361	7.00
10-32	3/8"	M5×0.8	3/8"	3/8"	3/4"	92499A370	7.90
10-32	3/8"	M6×1	7/16"	3/8"	3/4"	92499A379	8.70
1/4"-20	5/8"	M6×1	7/16"	1/2"	3/4"	92499A388	9.60
1/4"-20	5/8"	M8×1.25	3/8"	1/2"	3/4"	92499A397	9.60
5/16"-18	5/8"	M8×1.25	3/8"	5/8"	3/4"	92499A406	10.36
3/8"-16	5/8"	M10×1.5	9/16"	5/8"	1"	92499A415	$9.64
3/8"-16	1/2"	M10×1.5	9/16"	5/8"	1"	92499A424	9.79
3/8"-16	1/2"	M12×1.75	7/8"	5/8"	1 1/2"	92499A433	10.13
1/2"-13	3/4"	M12×1.75	7/8"	3/4"	1 1/2"	92499A442	10.48
M4×0.7	9.5	6-32	1/4"	1/4"	1/2"	92499A460	7.81
M5×0.8	9.5	8-32	7/16"	3/8"	3/4"	92499A469	8.78
M5×0.8	9.5	10-24	7/16"	3/8"	3/4"	92499A478	9.67
M5×0.8	9.5	10-32	1/2"	3/8"	3/4"	92499A487	7.04
M6×1	12.7	10-24	7/16"	3/8"	3/4"	92499A496	10.45
M6×1	12.7	10-32	1/2"	3/8"	3/4"	92499A505	10.07
M8×1.25	12.7	1/4"-20	5/8"	1/2"	1"	92499A514	8.97
M8×1.25	12.7	5/16"-18	5/8"	5/8"	1"	92499A523	8.44
M10×1.5	16	5/16"-18	5/8"	5/8"	1"	92499A532	8.78
M10×1.5	16	3/8"-16	7/8"	5/8"	1 1/2"	92499A541	11.16
M12×1.75	18	3/8"-16	7/8"	5/8"	1 1/2"	92499A550	13.16
M12×1.75	18	1/2"-13	7/8"	3/4"	1 1/2"	92499A559	11.16
Metric-to-Metric—Dimensions in millimeters							
M4×0.7	9.5	M5×0.8	9.5	11	19.1	92499A577	9.87
M5×0.8	9.5	M4×0.7	3.2	11	12.7	92499A586	9.87
M5×0.8	9.5	M6×1	11.1	13	19.1	92499A595	11.62
M6×1	12.7	M5×0.8	9.5	13	19.1	92499A604	12.70
M6×1	12.7	M8×1.25	9.5	14	19.1	92499A613	12.89
M8×1	12.7	M8×1.25	9.5	14	19.1	92499A622	10.32
M8×1.25	12.7	M6×1	11.1	13	19.1	92499A631	13.40
M8×1.25	12.7	M8×1	11.1	14	19.1	92499A640	10.84
M8×1.25	12.7	M10×1	17.4	16	25.4	92499A649	10.94
M8×1.25	12.7	M10×1.5	14.3	16	25.4	92499A658	10.94
M10×1	16	M10×1.25	15.9	16	25.4	92499A667	13.68
M10×1	16	M10×1.5	14.3	16	25.4	92499A676	13.68
M10×1.25	16	M10×1.5	14.3	16	25.4	92499A685	10.95
M10×1.5	16	M8×1.25	9.5	14	19.1	92499A694	11.17
M10×1.5	16	M10×1	17.4	16	25.4	92499A703	11.17
M10×1.5	16	M10×1.25	15.9	16	25.4	92499A712	11.17
M10×1.5	16	M12×1.75	22.2	22	38.1	92499A721	20.89
M12×1.25	18	M12×1.5	22.2	22	38.1	92499A730	19.90
M12×1.25	18	M12×1.75	22.2	22	38.1	92499A739	15.92
M12×1.5	18	M12×1.25	22.2	22	38.1	92499A748	19.90
M12×1.5	18	M12×1.75	22.2	22	38.1	92499A757	15.92
M12×1.75	18	M10×1.5	14.3	16	38.1	92499A766	15.93
M12×1.75	18	M12×1.25	22.2	22	38.1	92499A775	15.96
M12×1.75	18	M12×1.5	22.2	22	38.1	92499A784	15.96

Unthreaded Shoulder Spacers with Flange

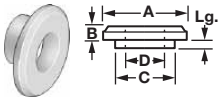

Also known as insulator or shoulder washers, shoulder spacers insulate and protect screws, wire, and tubing from corrosion.

For Screw Size	Lg.	Flange (A)	Flange (B)	Shoulder (C)	Shoulder (D)	Pkg. Qty.		Pkg.
Nylon 6/6—Off-White								
No. 2	0.040"	0.250"	0.040"	0.156"	0.093"	100	90062A003	$4.82
No. 2	0.125"	0.181"	0.047"	0.120"	0.090"	100	91145A110	4.96
No. 2	0.250"	0.181"	0.047"	0.120"	0.090"	100	91145A114	4.96
No. 2	0.375"	0.181"	0.047"	0.120"	0.090"	100	91145A118	4.96
No. 4	0.040"	0.281"	0.040"	0.187"	0.122"	100	90062A005	5.43
No. 4	0.125"	0.235"	0.047"	0.145"	0.115"	100	91145A129	5.61
No. 4	0.250"	0.235"	0.047"	0.145"	0.115"	100	91145A133	5.61
No. 4	0.375"	0.235"	0.047"	0.145"	0.115"	100	91145A134	5.61
No. 4	0.500"	0.235"	0.047"	0.145"	0.115"	100	91145A138	5.61
No. 6	0.040"	0.328"	0.040"	0.218"	0.146"	100	90062A007	5.57
No. 6	0.125"	0.290"	0.047"	0.170"	0.140"	100	91145A141	5.77
No. 6	0.250"	0.290"	0.047"	0.170"	0.140"	100	91145A143	5.77
No. 6	0.375"	0.290"	0.047"	0.170"	0.140"	100	91145A144	5.77
No. 6	0.500"	0.290"	0.047"	0.170"	0.140"	100	91145A145	5.77
No. 8	0.050"	0.375"	0.050"	0.250"	0.174"	100	90062A009	5.73
No. 8	0.250"	0.344"	0.063"	0.205"	0.173"	100	91145A148	5.94
No. 8	0.375"	0.344"	0.063"	0.205"	0.173"	100	91145A149	5.50
No. 8	0.500"	0.344"	0.063"	0.205"	0.173"	100	91145A151	5.94
No. 8	0.625"	0.344"	0.063"	0.205"	0.173"	100	91145A153	5.94
No. 8	0.750"	0.344"	0.063"	0.205"	0.173"	100	91145A154	5.50
No. 10	0.050"	0.437"	0.050"	0.281"	0.201"	100	90062A011	6.04
No. 10	0.250"	0.399"	0.063"	0.260"	0.200"	100	91145A156	6.26
No. 10	0.375"	0.399"	0.063"	0.260"	0.200"	100	91145A157	6.26
No. 10	0.500"	0.399"	0.063"	0.260"	0.200"	100	91145A158	$6.26
No. 10	0.625"	0.399"	0.063"	0.260"	0.200"	100	91145A160	6.26
No. 10	0.750"	0.399"	0.063"	0.260"	0.200"	100	91145A161	6.26
1/4"	0.060"	0.562"	0.060"	0.375"	0.260"	100	90062A015	6.18
1/4"	0.125"	0.513"	0.063"	0.312"	0.260"	100	91145A162	6.42
1/4"	0.250"	0.513"	0.063"	0.312"	0.260"	100	91145A165	5.93
1/4"	0.375"	0.513"	0.063"	0.312"	0.260"	100	91145A166	6.42
1/4"	0.500"	0.513"	0.063"	0.312"	0.260"	100	91145A167	6.42
1/4"	0.625"	0.513"	0.063"	0.312"	0.260"	100	91145A168	6.42
1/4"	0.750"	0.513"	0.063"	0.312"	0.260"	100	91145A169	6.42
5/16"	0.125"	0.620"	0.063"	0.360"	0.320"	100	91145A178	6.58
5/16"	0.250"	0.625"	0.063"	0.360"	0.320"	100	91145A180	6.08
5/16"	0.375"	0.620"	0.063"	0.360"	0.320"	100	91145A185	6.08
5/16"	0.500"	0.620"	0.063"	0.360"	0.320"	100	91145A190	6.08
5/16"	0.625"	0.620"	0.063"	0.360"	0.320"	100	91145A195	6.08
3/8"	0.060"	0.750"	0.060"	0.500"	0.385"	100	90062A017	6.77
Nylon 6/6—Black								
No. 2	0.040"	0.250"	0.040"	0.156"	0.093"	100	90061A003	4.82
No. 4	0.040"	0.281"	0.040"	0.187"	0.122"	100	90061A005	5.43
No. 6	0.040"	0.328"	0.040"	0.218"	0.146"	100	90061A007	5.57
No. 8	0.050"	0.375"	0.050"	0.250"	0.174"	100	90061A009	5.73
No. 10	0.050"	0.437"	0.050"	0.281"	0.201"	100	90061A011	6.04
1/4"	0.060"	0.562"	0.060"	0.375"	0.260"	100	90061A015	6.18
3/8"	0.060"	0.750"	0.060"	0.500"	0.385"	100	90061A017	6.77
PTFE—White								
No. 2	0.062"	0.312"	0.063"	0.125"	0.091"	10	93835A310	17.17
No. 4	0.030"	0.200"	0.030"	0.136"	0.115"	10	93835A320	14.93

(Continued on following page)

Unthreaded Shoulder Spacers with Flange (Continued from previous page)

For Screw Size	Lg.	Flange (A)	Flange (B)	Shoulder (C)	Shoulder (D)	Pkg. Qty.		Pkg.
PTFE—White (Cont.)								
No. 6	0.039″	0.312″	0.023″	0.187″	0.140″	10	93835A330	$15.14
No. 8	0.045″	0.375″	0.049″	0.265″	0.169″	10	93835A340	15.14
No. 10	0.032″	0.375″	0.032″	0.252″	0.193″	5	93835A350	10.38
1/4″	0.045″	0.545″	0.049″	0.355″	0.260″	5	93835A360	11.21
3/8″	0.060″	0.750″	0.060″	1/2″	0.385″	5	93835A370	12.05
Ceramic—White								
No. 6	0.062″	0.500″	0.125″	0.281″	0.150″	5	92107A410	13.57
No. 6	0.250″	0.500″	0.187″	0.281″	0.150″	5	92107A450	13.57
No. 8	0.062″	0.625″	0.125″	0.406″	0.175″	5	92107A416	13.85
No. 8	0.250″	0.625″	0.218″	0.406″	0.175″	5	92107A456	13.85
No. 10	0.062″	0.750″	0.156″	0.468″	0.200″	5	92107A418	14.28
No. 10	0.250″	0.750″	0.218″	0.468″	0.200″	5	92107A458	14.28
1/4″	0.062″	0.875″	0.188″	0.593″	0.265″	5	92107A421	14.85
1/4″	0.250″	0.875″	0.250″	0.593″	0.265″	5	92107A461	14.85
Fiber—Black								
No. 2	0.025″	0.250″	0.030″	0.154″	0.090″	50	93920A110	$10.13
No. 4	0.025″	0.250″	0.030″	0.186″	0.116″	50	93920A120	12.18
No. 6	0.030″	0.313″	0.040″	0.186″	0.142″	50	93920A130	9.24
No. 8	0.030″	0.375″	0.040″	0.246″	0.168″	50	93920A140	12.18
No. 10	0.030″	0.375″	0.040″	0.312″	0.194″	50	93920A150	13.01
1/4″	0.030″	0.500″	0.040″	0.312″	0.254″	50	93920A160	9.84
3/8″	0.040″	0.625″	0.060″	0.437″	0.380″	50	93920A170	13.35

250-Piece Off-White Nylon 6/6 Assortment

Includes spacers in a variety of barrel lengths for the following screw sizes: 40 for No. 2, 50 for No. 4, 30 for No. 6, 45 for No. 8, 40 for No. 10, 30 for 1/4″, and 15 for 5/16″. Furnished in a plastic box.

90062A600 ..... $35.62

Panel Standoffs

Give mounted glass and other display panels an updated look. Standoffs are aluminum and include a barrel, cap, and set screw.

Round standoffs have a 5/16″-18 mounting thread. Mounting hardware is sold separately. **Square** standoffs include a threaded stud for mounting.





Round

Also Available: Square aluminum standoffs with a black anodized finish. Please ask for 92082A555 and specify square size and length.

Round Standoffs

Max. Panel Thick.	Lg. (A)			
5/8″ OD—Cap Ht.: 5/16″				
1/2″	1/2″	94706A100	$8.43	
1/2″	3/4″	94706A120	8.75	
1/2″	1″	94706A140	9.94	
1/2″	1 1/2″	94706A160	10.82	
1/2″	2″	94706A180	11.86	
1/2″	3″	94706A200	12.26	
1″ OD—Cap Ht.: 3/8″				
1/2″	1/2″	94706A310	10.89	
1/2″	1″	94706A330	10.98	
1/2″	1 1/2″	94706A350	13.37	
1/2″	2″	94706A370	13.85	
1/2″	3″	94706A390	15.05	
1/2″	4″	94706A410	16.01	
1 1/4″ OD—Cap Ht.: 1/2″				
3/8″	5/8″	94706A620	13.70	
3/8″	1″	94706A650	15.14	
3/8″	1 1/2″	94706A680	16.81	
3/8″	2″	94706A710	17.29	
3/8″	3″	94706A740	18.17	
3/8″	4″	94706A770	19.44	
3/8″	6″	94706A800	21.76	

Square Standoffs

Max. Panel Thick.	Lg. (A)		
3/8″ Square Size—Cap Ht.: 3/8″			
1/8″	1/2″	92082A211	$12.35
1/8″	3/4″	92082A215	12.76
1/8″	1″	92082A221	14.33
1/8″	2″	92082A225	15.83
1/2″ Square Size—Cap Ht.: 3/8″			
1/8″	1/2″	92082A231	12.34
1/8″	3/4″	92082A235	13.33
1/8″	1″	92082A241	14.52
1/8″	2″	92082A245	16.75
1/8″	3″	92082A251	18.78
1″ Square Size—Cap Ht.: 3/8″			
1/4″	1/2″	92082A255	15.52
1/4″	3/4″	92082A261	15.81
1/4″	1″	92082A265	16.27
1/4″	2″	92082A271	19.27
1/4″	3″	92082A275	20.50

Mounting Hardware for Round Standoffs

Toggle bolt anchors include one steel headless toggle bolt. Use in wallboard up to 3/4″ thick. 94706A992 requires a 1/2″ dia. hole; 94706A990 requires a 7/8″ dia. hole.

Threaded anchors include one steel threaded stud.

For Use On	For Standoff OD	O'all Lg.		
Toggle Bolt Anchors				
Wallboard	1″	3″	94706A992	$2.77
Wallboard	1 1/4″	3″	94706A990	1.82
Threaded Anchors				
Wallboard	5/8″	1 15/16″	94706A991	3.30
Wood	5/8″	1 1/2″	94706A910	2.28
Wood	1″ and 1 1/4″	1 1/2″	94706A950	1.18

Peg-Style Panel Standoffs

Use four standoffs to mount panels, or use a single standoff as a decorative hook. Each comes with a wall anchor and a No. 10 × 13/16″ mounting screw.

Aluminum standoffs have a brushed finish. **Acrylic** standoffs are translucent with a frosted finish and have a maximum temperature of 120° F.

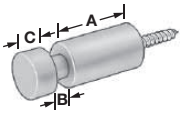

Max. Panel Thick.	OD	(A)	(B)	(C)	Acrylic	Aluminum	Pkg. of 4
1/4″	7/8″	1 5/16″	5/16″	3/8″	99656A500	99656A100	$29.04

Edge-Grip Panel Standoffs

Hang display panels without drilling into them. Standoffs are aluminum. Each includes a barrel with a nylon-tipped set screw under a removable cap. Tighten the set screw to hold panel in place. Use optional mounting hardware (sold separately) to mount into wallboard and wood.





Standoffs

Max. Panel Thick.	(A)	(B)	(C)		
1″ OD					
1/4″	17/32″	9/32″	3/16″	98173A100	$20.79
3/8″	13/32″	13/32″	3/16″	98173A200	21.19
1/2″	9/32″	17/32″	3/16″	98173A300	21.35

Optional Mounting Hardware

For Wallboard—Includes one self-tapping screw and one 1 5/8″ long self-drilling wallboard anchor. Use in wallboard 1/2″ to 3/4″ thick.

For Wood—Include one No. 12 zinc-plated steel pan head screw.

For Use On	Screw Lg.		
Wallboard	1 1/4″	98173A910	$0.89
Wood	3/4″	98173A920	.21
Wood	1 1/4″	98173A930	.32

Press-Fit Bolt Liners

Reinforce bolt holes with zinc-plated steel split-seam liners.

Liners **for metal** protect bolts from sideways pressure and have beveled ends to aid insertion. Minimum Rockwell hardness is C45. Liners **for plastic**, also known as compression limiters, keep plastic components from getting crushed when bolts are tightened. They have straight ends. Minimum Rockwell hardness is C40.



For Bolt Size	Lg.	OD	For Hole Dia.	Pkg. Qty.		Pkg.
For Metals						
1/4″	1/2″	0.328″	0.313″-0.318″	25	97305A100	$8.89
1/4″	3/4″	0.328″	0.313″-0.318″	25	97305A110	11.03
1/4″	1″	0.328″	0.313″-0.318″	10	97305A120	5.26
5/16″	1/2″	0.406″	0.391″-0.396″	10	97305A200	5.13
5/16″	3/4″	0.406″	0.391″-0.396″	10	97305A210	6.48
5/16″	1″	0.406″	0.391″-0.396″	10	97305A220	7.84
3/8″	3/4″	0.484″	0.469″-0.474″	10	97305A330	8.29
3/8″	1″	0.484″	0.469″-0.474″	10	97305A340	10.23
3/8″	1 1/4″	0.484″	0.469″-0.474″	5	97305A350	6.11
1/2″	1″	0.640″	0.625″-0.63″	5	97305A400	7.46
1/2″	1 1/4″	0.640″	0.625″-0.63″	5	97305A410	9.02
1/2″	1 1/2″	0.640″	0.625″-0.63″	1	97305A420	2.11
For Plastics						
1/4″	3/8″	0.381″	0.368″-0.372″	25	91868A210	10.97
1/4″	1/2″	0.381″	0.368″-0.372″	25	91868A220	11.67
1/4″	3/4″	0.381″	0.368″-0.372″	25	91868A230	13.14
5/16″	3/8″	0.480″	0.462″-0.466″	25	91868A240	12.31
5/16″	1/2″	0.480″	0.462″-0.466″	25	91868A250	13.45
5/16″	3/4″	0.480″	0.462″-0.466″	10	91868A260	6.07
3/8″	3/8″	0.574″	0.552″-0.556″	10	91868A270	11.20
3/8″	1/2″	0.574″	0.552″-0.556″	10	91868A280	11.60
3/8″	3/4″	0.574″	0.552″-0.556″	5	91868A290	6.16
3/8″	1″	0.574″	0.552″-0.556″	5	91868A300	6.77

External Retaining Rings



1/8" to 15/64"



1/4" to 10"

Pull rings open to pass over the end of a shaft and release to spring into the groove. They meet ASME B18.27.1 and are magnetic.

Black-finish and ***zinc and yellow chromate-plated steel*** rings have a minimum Rockwell hardness of C40. ***Stainless steel*** rings are made of Type 15-7 or 17-7 PH stainless steel. Minimum Rockwell hardness is C43.

For Shaft Dia.	Fits Groove Dia.	Fits Groove Width	Ring Size (A)	Ring Size Thick.	Black-Finish Steel Pkg. Qty.	Black-Finish Steel	Black-Finish Steel Pkg.	Zinc and Yellow Chromate-Plated Steel Pkg. Qty.	Zinc and Yellow Chromate-Plated Steel	Zinc and Yellow Chromate-Plated Steel Pkg.	Stainless Steel Pkg. Qty.	Stainless Steel	Stainless Steel Pkg.
1/8"	0.117"	0.012"	0.112"	0.01"	100	97633A110	$6.30	100	98410A107	$5.64	—	—	—
5/32"	0.146"	0.012"	0.142"	0.01"	100	97633A115	7.04	100	98410A104	8.53	—	—	—
3/16"	0.175"	0.018"	0.168"	0.015"	100	97633A120	7.82	100	98410A109	7.90	—	—	—
7/32"	0.205"	0.018"	0.196"	0.015"	100	97633A125	10.00	100	98410A105	11.17	—	—	—
15/64"	0.222"	0.018"	0.215"	0.015"	100	97633A127	12.08	50	98410A106	6.43	—	—	—
1/4"	0.23"	0.029"	0.225"	0.025"	100	97633A130	7.82	100	98410A113	9.27	10	91590A113	$8.50
9/32"	0.261"	0.029"	0.256"	0.025"	100	97633A140	8.84	100	98410A112	10.14	10	91590A112	8.55
5/16"	0.29"	0.029"	0.281"	0.025"	100	97633A150	8.84	100	98410A115	9.44	10	91590A115	8.59
11/32"	0.321"	0.029"	0.309"	0.025"	100	97633A160	8.84	100	98410A116	10.50	10	91590A116	8.63
3/8"	0.352"	0.029"	0.338"	0.025"	100	97633A170	8.74	100	98410A117	10.32	10	91590A117	8.36
13/32"	0.382"	0.029"	0.366"	0.025"	100	97633A180	9.24	100	98410A118	10.89	10	91590A118	8.88
7/16"	0.412"	0.029"	0.395"	0.025"	100	97633A190	9.68	100	98410A119	10.89	10	91590A119	8.46
15/32"	0.443"	0.029"	0.428"	0.025"	50	97633A195	7.14	50	98410A123	8.07	10	91590A121	10.58
1/2"	0.468"	0.039"	0.461"	0.035"	100	97633A200	10.13	100	98410A122	11.64	10	91590A122	9.37
9/16"	0.53"	0.039"	0.521"	0.035"	100	97633A210	12.60	100	98410A124	14.42	10	91590A124	10.02
19/32"	0.559"	0.039"	0.55"	0.035"	100	97633A220	13.04	100	98410A125	13.89	10	91590A125	10.30
5/8"	0.588"	0.039"	0.579"	0.035"	100	97633A230	12.45	100	98410A126	14.86	10	91590A126	10.65
11/16"	0.646"	0.046"	0.635"	0.042"	100	97633A240	13.44	50	98410A127	8.25	5	91590A127	6.70
3/4"	0.704"	0.046"	0.693"	0.042"	100	97633A250	12.30	50	98410A128	7.67	5	91590A128	7.22
25/32"	0.733"	0.046"	0.722"	0.042"	50	97633A255	8.75	50	98410A515	11.25	5	91590A801	9.80
13/16"	0.762"	0.046"	0.751"	0.042"	50	97633A260	7.00	50	98410A130	9.01	5	91590A129	7.90
7/8"	0.821"	0.046"	0.81"	0.042"	50	97633A270	8.58	50	98410A142	9.75	5	91590A131	7.39
15/16"	0.882"	0.046"	0.867"	0.042"	50	97633A280	8.75	50	98410A132	10.87	5	91590A132	7.94
63/64"	0.926"	0.046"	0.91"	0.042"	50	97633A290	9.45	50	98410A134	11.45	5	91590A134	8.38
1"	0.94"	0.046"	0.925"	0.042"	50	97633A300	8.91	50	98410A133	11.45	5	91590A133	8.54
1 1/16"	0.998"	0.056"	0.982"	0.05"	50	97633A310	10.85	50	98410A136	13.50	5	91590A136	8.87
1 1/8"	1.059"	0.056"	1.041"	0.05"	25	97633A320	5.60	25	98410A143	7.04	1	91590A135	1.98
1 3/16"	1.118"	0.056"	1.098"	0.05"	25	97633A330	6.30	25	98410A144	7.42	1	91590A138	2.10
1 1/4"	1.176"	0.056"	1.156"	0.05"	25	97633A340	6.57	25	98410A145	8.26	1	91590A137	2.24
1 5/16"	1.232"	0.056"	1.214"	0.05"	25	97633A350	8.14	25	98410A250	9.75	1	91590A250	2.03
1 3/8"	1.291"	0.056"	1.272"	0.05"	25	97633A360	7.27	25	98410A249	9.19	1	91590A249	2.26
1 7/16"	1.35"	0.056"	1.333"	0.05"	25	97633A370	9.10	25	98410A255	12.29	1	91590A255	2.20
1 1/2"	1.406"	0.056"	1.387"	0.05"	25	97633A380	9.10	25	98410A139	12.17	1	91590A139	2.66
1 9/16"	1.468"	0.068"	1.446"	0.062"	10	97633A390	4.66	25	98410A261	13.20	1	91590A260	3.20
1 5/8"	1.529"	0.068"	1.503"	0.062"	10	97633A400	5.43	25	98410A140	13.88	1	91590A140	3.60
1 11/16"	1.589"	0.068"	1.56"	0.062"	10	97633A411	6.02	10	98410A146	7.17	1	91590A144	5.73
1 3/4"	1.65"	0.068"	1.618"	0.062"	10	97633A410	5.96	10	98410A141	6.45	1	91590A141	4.21
1 13/16"	1.708"	0.068"	1.675"	0.062"	10	97633A412	7.67	10	98410A148	9.64	1	91590A143	7.25
1 7/8"	1.769"	0.068"	1.735"	0.062"	10	97633A414	5.81	10	98410A147	7.35	1	91590A145	7.28
2"	1.886"	0.068"	1.85"	0.062"	10	97633A420	6.23	10	98410A152	7.87	1	91590A152	5.20
2 1/16"	1.946"	0.086"	1.906"	0.078"	5	97633A425	6.84	5	98410A520	8.14	1	91590A155	14.11
2 1/8"	2.003"	0.086"	1.964"	0.078"	5	97633A429	5.06	5	98410A153	6.06	1	91590A156	14.92
2 5/32"	2.032"	0.086"	1.993"	0.078"	5	97633A810	6.68	5	98410A154	8.80	1	91590A157	18.88
2 1/4"	2.12"	0.086"	2.081"	0.078"	5	97633A430	6.09	5	98410A155	6.47	1	91590A159	10.80
2 5/16"	2.178"	0.086"	2.139"	0.078"	5	97633A435	8.21	5	98410A156	9.49	1	91590A162	13.38
2 3/8"	2.239"	0.086"	2.197"	0.078"	5	97633A440	6.47	5	98410A157	8.28	1	91590A164	11.73
2 7/16"	2.299"	0.086"	2.255"	0.078"	5	97633A449	6.72	5	98410A158	8.10	1	91590A166	18.55
2 1/2"	2.36"	0.086"	2.313"	0.078"	5	97633A450	6.93	5	98410A231	8.01	1	91590A168	12.69
2 5/8"	2.481"	0.086"	2.428"	0.078"	5	97633A460	6.84	5	98410A233	9.45	1	91590A174	13.58
2 11/16"	2.541"	0.086"	2.485"	0.078"	5	97633A465	10.78	1	98410A238	3.09	1	91590A176	21.46
2 3/4"	2.602"	0.103"	2.543"	0.093"	5	97633A470	8.68	1	98410A310	2.43	1	91590A178	18.73
2 7/8"	2.721"	0.103"	2.659"	0.093"	5	97633A475	9.24	1	98410A311	2.49	1	91590A181	34.86
2 15/16"	2.779"	0.103"	2.717"	0.093"	1	97633A478	2.39	1	98410A316	3.09	1	91590A183	40.33
3"	2.838"	0.103"	2.775"	0.093"	1	97633A480	1.77	1	98410A320	2.77	1	91590A185	21.65
3 1/8"	2.957"	0.103"	2.892"	0.093"	1	97633A482	2.58	1	98410A330	3.57	1	91590A190	45.50
3 1/4"	3.076"	0.103"	3.006"	0.093"	1	97633A483	1.99	1	98410A345	3.57	1	91590A210	45.50
3 1/2"	3.316"	0.12"	3.237"	0.109"	1	97633A490	3.52	1	98410A350	4.24	1	91590A220	58.72
3 5/8"	3.435"	0.12"	3.352"	0.109"	1	97633A493	3.75	1	98410A355	11.05	1	91590A234	58.72
3 3/4"	3.552"	0.12"	3.468"	0.109"	1	97633A495	3.47	1	98410A360	4.76	1	91590A236	58.72
3 7/8"	3.673"	0.12"	3.584"	0.109"	1	97633A497	4.20	1	98410A365	12.13	1	91590A238	64.81
4"	3.792"	0.12"	3.7"	0.109"	1	97633A500	4.80	1	98410A370	6.09	1	91590A251	65.33
4 1/8"	3.915"	0.12"	3.8"	0.109"	1	97633A512	16.94	1	98410A372	27.16	—	—	—
4 1/4"	4.065"	0.12"	3.989"	0.109"	1	97633A513	5.77	1	98410A374	9.96	1	91590A256	78.06
4 3/8"	4.19"	0.12"	4.106"	0.109"	1	97633A516	6.99	1	98410A376	9.97	1	91590A259	78.12
4 1/2"	4.31"	0.12"	4.223"	0.109"	1	97633A519	5.99	1	98410A378	9.97	1	91590A262	78.12
4 3/4"	4.55"	0.12"	4.458"	0.109"	1	97633A524	7.74	1	98410A380	12.20	1	91590A265	100.99
5"	4.79"	0.12"	4.692"	0.109"	1	97633A530	8.84	1	98410A390	12.10	1	91590A280	113.50
5 1/2"	5.265"	0.139"	5.162"	0.125"	1	97633A541	40.02	1	98410A395	40.04	—	—	—
6"	5.745"	0.139"	5.631"	0.125"	1	97633A550	50.69	1	98410A400	58.26	—	—	—
6 1/2"	6.225"	0.174"	6.1"	0.156"	1	97633A558	53.90	—	—	—	—	—	—
7"	6.705"	0.174"	6.57"	0.156"	1	97633A600	57.00	—	—	—	—	—	—
7 1/2"	7.18"	0.209"	7.009"	0.187"	1	97633A610	60.64	—	—	—	—	—	—
8"	7.66"	0.209"	7.478"	0.187"	1	97633A620	65.49	—	—	—	—	—	—
9"	8.62"	0.209"	8.415"	0.187"	1	97633A640	76.40	—	—	—	—	—	—
10"	9.575"	0.209"	9.355"	0.187"	1	97633A650	85.75	—	—	—	—	—	—

Nonmagnetic External Retaining Rings

Made of beryllium copper, rings are nonmagnetic, corrosion resistant, and electrically conductive. They meet ASME B18.27.1. Minimum Rockwell hardness is C36 for shaft diameters 5/16" and larger (1/8"-1/4" shaft diameters are not rated).



1/8" to 15/64"



1/4" to 1 1/4"

For Shaft Dia.	Fits Groove Dia.	Fits Groove Width	Ring Size (A)	Ring Size Thick.	Pkg. Qty.		Pkg.
1/8"	0.117"	0.012"	0.112"	0.01"	100	98410A111	$13.00
3/16"	0.175"	0.018"	0.168"	0.015"	100	98410A110	13.00
7/32"	0.205"	0.018"	0.196"	0.015"	25	98410A605	6.05
15/64"	0.222"	0.018"	0.215"	0.015"	25	98410A620	6.45
1/4"	0.23"	0.029"	0.225"	0.025"	25	98410A635	10.20
5/16"	0.29"	0.029"	0.281"	0.025"	10	98410A650	5.29
3/8"	0.352"	0.029"	0.338"	0.025"	10	98410A665	6.04
7/16"	0.412"	0.029"	0.395"	0.025"	10	98410A680	6.96
1/2"	0.468"	0.039"	0.461"	0.035"	10	98410A695	10.39
5/8"	0.588"	0.039"	0.579"	0.035"	5	98410A710	7.01
3/4"	0.704"	0.046"	0.693"	0.042"	5	98410A725	9.90
7/8"	0.821"	0.046"	0.81"	0.042"	1	98410A740	2.60
1"	0.94"	0.046"	0.925"	0.042"	1	98410A755	2.96
1 1/4"	1.176"	0.056"	1.156"	0.05"	1	98410A800	4.63

Metric External Retaining Rings

Rings meet DIN 471. ***Black-finish steel*** rings have a minimum Rockwell hardness of C44. ***Stainless steel*** rings are made of DIN 1.4122 stainless steel, which has similar properties to 400 series. They are magnetic and have a minimum Rockwell hardness of C47.



3 to 9 mm



10 to 200 mm

For Shaft Dia., mm	Fits Groove, mm Dia.	Fits Groove, mm Width	Ring Size, mm (A)	Ring Size, mm Thick.	Black-Finish Steel Pkg. Qty.		Black-Finish Steel Pkg.	Stainless Steel Pkg. Qty.		Stainless Steel Pkg.
3	2.8	0.5	2.7	0.4	100	98541A111	$5.00	–		
4	3.8	0.5	3.7	0.4	100	98541A112	5.19	–		
5	4.8	0.7	4.7	0.6	100	98541A113	5.00	5	90967A109	$9.12
6	5.7	0.8	5.6	0.7	100	98541A114	6.00	10	90967A110	5.71
7	6.7	0.9	6.5	0.8	100	98541A115	8.40	10	90967A115	6.01
8	7.6	0.9	7.4	0.8	100	98541A116	8.00	10	90967A120	6.13
9	8.6	1.1	8.4	1	100	98541A117	8.30	10	90967A155	8.28
10	9.6	1.1	9.3	1	100	98541A118	6.89	5	90967A160	4.24
11	10.5	1.1	10.2	1	100	98541A445	8.17	5	90967A163	6.06
12	11.5	1.1	11	1	100	98541A119	8.62	5	90967A165	4.41
13	12.4	1.1	11.9	1	100	98541A405	9.43	5	90967A170	4.49
14	13.4	1.1	12.9	1	100	98541A120	11.52	5	90967A175	4.58
15	14.3	1.1	13.8	1	100	98541A410	10.50	5	90967A180	4.62
16	15.2	1.1	14.7	1	100	98541A121	11.55	5	90967A205	4.70
17	16.2	1.1	15.7	1	50	98541A420	8.17	5	90967A210	5.17
18	17	1.3	16.5	1.2	50	98541A122	8.41	5	90967A220	6.11
19	18	1.3	17.5	1.2	50	98541A430	9.76	5	90967A225	6.43
20	19	1.3	18.5	1.2	50	98541A123	10.50	5	90967A235	6.72
21	20	1.3	19.5	1.2	25	98541A461	6.34	5	90967A237	9.56
22	21	1.3	20.5	1.2	25	98541A463	6.57	5	90967A241	9.74
23	22	1.3	21.5	1.2	25	98541A465	7.48	5	90967A246	10.56
24	22.9	1.3	22.2	1.2	25	98541A125	6.04	5	90967A265	8.13
25	23.9	1.3	23.2	1.2	25	98541A440	8.77	5	90967A270	8.82
26	24.9	1.3	24.2	1.2	25	98541A128	9.30	1	90967A275	2.09
27	25.6	1.3	24.9	1.2	10	98541A129	5.91	1	90967A281	2.45
28	26.6	1.6	25.9	1.5	10	98541A130	6.29	1	90967A286	2.50
29	27.6	1.6	26.9	1.5	10	98541A132	8.00	1	90967A292	3.06
30	28.6	1.6	27.9	1.5	10	98541A134	7.53	1	90967A297	3.55
32	30.3	1.6	29.6	1.5	10	98541A139	7.56	1	90967A312	3.65
34	32.3	1.6	31.5	1.5	10	98541A143	8.15	1	90967A323	3.65
35	33	1.6	32.2	1.5	10	98541A146	8.65	1	90967A325	4.38
36	34	1.85	33.2	1.75	10	98541A149	11.05	1	90967A330	4.75
38	36	1.85	35.2	1.75	10	98541A152	12.29	1	90967A333	5.28
40	37.5	1.85	36.5	1.75	10	98541A156	14.75	1	90967A341	2.87
45	42.5	1.85	41.5	1.75	5	98541A161	9.63	1	90967A345	3.26
50	47	2.15	45.8	2	5	98541A167	12.40	1	90967A350	4.16
55	52	2.15	50.8	2	5	98541A171	14.43	1	90967A360	5.44
60	57	2.15	55.8	2	1	98541A174	3.13	1	90967A375	5.88
65	62	2.65	60.8	2.5	1	98541A178	4.23	1	90967A390	7.36
70	67	2.65	65.5	2.5	1	98541A182	4.62	1	90967A410	8.40
75	72	2.65	70.5	2.5	1	98541A185	5.01	1	90967A425	8.97
80	76.5	2.65	74.5	2.5	1	98541A189	5.24	1	90967A440	9.50
85	81.5	3.15	79.5	3	1	98541A193	6.72	–		
90	86.5	3.15	84.5	3	1	98541A210	7.22	–		
95	91.5	3.15	89.5	3	1	98541A215	7.49	–		
100	96.5	3.15	94.5	3	1	98541A224	9.19	–		
110	106	4.15	103	4	1	98541A236	6.74	–		
120	116	4.15	113	4	1	98541A247	7.47	–		
130	126	4.15	123	4	1	98541A258	8.25	–		
140	136	4.15	133	4	1	98541A269	8.89	–		
150	145	4.15	142	4	1	98541A278	10.57	–		
160	155	4.15	151	4	1	98541A288	11.36	–		
170	165	4.15	160.5	4	1	98541A296	14.04	–		
180	175	4.15	170.5	4	1	98541A307	16.38	–		
190	185	4.15	180.5	4	1	98541A312	17.27	–		
200	195	4.15	190.5	4	1	98541A323	19.70	–		

Mil. Spec. External Retaining Rings



Meets stringent military specification MS 16624.

Cadmium-plated steel rings have better corrosion resistance than zinc. Minimum Rockwell hardness is 45N 52 for shaft diameters up to 1.5″ and C46 for shaft diameters 1.625″ and larger.

Stainless steel rings are made of Type 15-7 PH stainless steel, which is more corrosion resistant than cadmium-plated steel. They're magnetic and passivated in accordance with QQ-P-35. Minimum Rockwell hardness is 30N 63 for shaft diameters up to 0.812″ and C44 for shaft diameters 0.875″ and larger.

For Shaft	Fits Groove		Ring Size		Cadmium-Plated Steel				Stainless Steel			
Dia.	Dia.	Width	(A)	Thick.	Dash No.	Pkg. Qty.		Pkg.	Dash No.	Pkg. Qty.		Pkg.
0.25″	0.23″	0.03″	0.225″	0.025″	1025	25	96363A528	$5.31	4025	10	95304A226	$10.93
0.312″	0.29″	0.03″	0.281″	0.025″	1031	25	96363A533	5.39	4031	10	95304A232	11.31
0.375″	0.352″	0.03″	0.338″	0.025″	1037	25	96363A540	5.52	4037	10	95304A238	11.71
0.438″	0.412″	0.03″	0.395″	0.025″	1043	25	96363A546	5.65	4043	5	95304A244	5.93
0.5″	0.468″	0.04″	0.461″	0.035″	1050	25	96363A553	5.72	4050	5	95304A251	5.93
0.562″	0.53″	0.04″	0.521″	0.035″	1056	25	96363A559	5.98	4056	5	95304A257	6.60
0.625″	0.588″	0.04″	0.579″	0.035″	1062	25	96363A565	6.14	4062	5	95304A263	6.77
0.688″	0.646″	0.047″	0.635″	0.042″	1068	25	96363A571	8.23	4068	5	95304A269	7.10
0.75″	0.704″	0.047″	0.693″	0.042″	1075	25	96363A578	8.48	4075	5	95304A276	8.93
0.812″	0.762″	0.047″	0.751″	0.042″	1081	10	96363A584	3.49	4081	5	95304A282	9.93
0.875″	0.821″	0.047″	0.81″	0.042″	1087	10	96363A591	3.79	4087	5	95304A288	10.10
0.938″	0.882″	0.047″	0.867″	0.042″	1093	10	96363A596	3.88	4093	5	95304A294	10.77
1″	0.94″	0.047″	0.925″	0.042″	1100	10	96363A604	4.20	4100	5	95304A302	11.43
1.125″	1.059″	0.056″	1.041″	0.05″	1112	1	96363A608	3.14	4112	1	95304A314	3.22
1.25″	1.176″	0.056″	1.156″	0.05″	1125	1	96363A629	3.29	4125	1	95304A327	3.13
1.375″	1.291″	0.056″	1.272″	0.05″	1137	1	96363A641	3.51	4137	1	95304A339	3.45
1.5″	1.406″	0.056″	1.387″	0.05″	1150	1	96363A654	3.71	4150	1	95304A352	4.12
1.625″	1.529″	0.068″	1.583″	0.062″	1162	1	96363A667	3.77	4162	1	95304A364	5.34
1.75″	1.65″	0.068″	1.618″	0.062″	1175	1	96363A679	3.86	4175	1	95304A377	6.83

Heavy Duty External Retaining Rings



Rings are thicker than standard external retaining rings. They meet ASME B18.27.2.

Black-finish steel rings have a minimum Rockwell hardness of C47. ***Stainless steel*** rings are made of Type 15-7 or 17-7 PH stainless steel, which is magnetic. Minimum Rockwell hardness is C44.

For Shaft	Fits Groove		Ring Size		Black-Finish Steel				Stainless Steel			
Dia.	Dia.	Width	(A)	Thick.	Pkg. Qty.			Pkg.	Pkg. Qty.			Pkg.
1/2″	0.468″	0.056″	0.46″	0.05″	10	98585A109		$2.17	1	93416A303		$3.70
5/8″	0.588″	0.056″	0.575″	0.05″	10	98585A112		2.63	1	93416A306		4.11
3/4″	0.704″	0.086″	0.689″	0.078″	10	98585A115		3.89	1	93416A309		6.31
7/8″	0.821″	0.086″	0.804″	0.078″	10	98585A118		4.49	1	93416A312		7.13
1″	0.938″	0.086″	0.906″	0.078″	10	98585A121		5.04	1	93416A315		8.35
1 1/8″	1.059″	0.103″	1.036″	0.093″	10	98585A124		7.30	1	93416A318		9.10
1 1/4″	1.174″	0.103″	1.15″	0.093″	10	98585A127		8.37	1	93416A324		11.97
1 3/8″	1.291″	0.103″	1.268″	0.093″	10	98585A130		8.85	1	93416A327		14.19
1 1/2″	1.406″	0.12″	1.38″	0.109″	5	98585A133		11.30	1	93416A329		15.90
1 9/16″	1.468″	0.12″	1.437″	0.109″	5	98585A136		11.12	1	93416A331		15.90
1 3/4″	1.65″	0.12″	1.608″	0.109″	5	98585A139		11.86	—	—		—
2″	1.88″	0.139″	1.84″	0.125″	5	98585A141		13.53	1	93416A339		22.29

Spiral External Retaining Rings



Install these coiled rings by winding them into the groove on a shaft. No tools are required for installation so they're ideal for tight spaces. Rings have 360° contact with the shaft so there is no gap. Not rated for hardness.

Stainless steel rings are made of 18-8 stainless steel and may be mildly magnetic.

For Shaft	Fits Groove		Ring Size		Steel				Stainless Steel			
Dia.	Dia.	Width	(A)	Thick.	Pkg. Qty.			Pkg.	Pkg. Qty.			Pkg.
1/4″	0.23″	0.029″	0.228″	0.025″	25	91665A320		$10.59	10	91650A320		$9.79
5/16″	0.29″	0.029″	0.287″	0.025″	25	91665A330		10.59	10	91650A330		9.79
3/8″	0.352″	0.029″	0.349″	0.025″	25	91665A340		10.59	10	91650A340		10.76
7/16″	0.412″	0.029″	0.409″	0.025″	25	91665A350		10.59	10	91650A350		10.76
15/32″	0.443″	0.029″	0.439″	0.025″	10	91665A380		8.52	10	91650A380		11.84
1/2″	0.468″	0.039″	0.464″	0.035″	10	91665A420		4.96	10	91650A420		10.76
9/16″	0.53″	0.039″	0.525″	0.035″	10	91665A422		6.72	5	91650A422		5.47
19/32″	0.559″	0.039″	0.554″	0.035″	10	91665A426		6.84	5	91650A426		6.05
5/8″	0.588″	0.039″	0.583″	0.035″	10	91665A430		3.68	5	91650A430		5.24
11/16″	0.646″	0.046″	0.641″	0.042″	5	91665A435		6.48	5	91650A435		6.97
3/4″	0.704″	0.046″	0.698″	0.042″	5	91665A440		6.06	5	91650A440		6.35
25/32″	0.733″	0.046″	0.727″	0.042″	5	91665A443		6.58	5	91650A443		7.53
13/16″	0.762″	0.046″	0.756″	0.042″	5	91665A446		6.61	5	91650A446		7.63
7/8″	0.821″	0.046″	0.814″	0.042″	5	91665A450		6.18	5	91650A450		7.25
15/16″	0.882″	0.046″	0.875″	0.042″	5	91665A453		8.26	5	91650A453		8.58
1″	0.94″	0.046″	0.932″	0.042″	5	91665A460		6.24	5	91650A460		8.30
1 1/16″	0.998″	0.056″	0.986″	0.05″	5	91665A467		8.28	1	91650A467		2.43
1 1/8″	1.059″	0.056″	1.047″	0.05″	5	91665A470		6.26	1	91650A470		1.87
1 3/16″	1.118″	0.056″	1.105″	0.05″	5	91665A475		8.42	1	91650A475		2.74
1 1/4″	1.176″	0.056″	1.163″	0.05″	5	91665A480		5.14	1	91650A480		1.87
1 5/16″	1.232″	0.056″	1.218″	0.05″	5	91665A485		8.46	1	91650A485		2.90
1 3/8″	1.291″	0.056″	1.277″	0.05″	5	91665A490		6.36	1	91650A490		2.00
1 7/16″	1.35″	0.056″	1.336″	0.05″	5	91665A500		8.50	1	91650A500		3.02
1 1/2″	1.406″	0.056″	1.39″	0.05″	5	91665A510		6.40	1	91650A510		2.26
1 9/16″	1.468″	0.068″	1.453″	0.062″	5	91665A515		8.37	1	91650A515		4.00
1 5/8″	1.529″	0.068″	1.513″	0.062″	5	91665A520		6.48	1	91650A520		3.31
1 11/16″	1.589″	0.068″	1.573″	0.062″	5	91665A523		9.39	1	91650A523		4.25
1 3/4″	1.65″	0.068″	1.633″	0.062″	5	91665A530		6.50	1	91650A530		3.14

(Continued on following page)

Spiral External Retaining Rings *(Continued from previous page)*



For Shaft Dia.	Fits Groove Dia.	Fits Groove Width	Ring Size (A)	Ring Size Thick.	Steel Pkg. Qty.	Steel	Steel Pkg.	Stainless Steel Pkg. Qty.	Stainless Steel	Stainless Steel Pkg.
1 13/16"	1.708"	0.068"	1.69"	0.062"	5	91665A535	$9.53	1	91650A535	$4.36
1 7/8"	1.769"	0.068"	1.751"	0.062"	5	91665A540	6.80	1	91650A540	3.59
2"	1.886"	0.068"	1.867"	0.062"	5	91665A550	6.17	1	91650A550	3.17
2 1/8"	2.003"	0.086"	1.989"	0.078"	5	91665A560	7.10	1	91650A560	4.54
2 1/4"	2.12"	0.086"	2.105"	0.078"	5	91665A570	8.06	1	91650A570	5.11
2 3/8"	2.239"	0.086"	2.223"	0.078"	5	91665A580	12.89	1	91650A580	7.85
2 1/2"	2.36"	0.086"	2.343"	0.078"	5	91665A590	12.92	1	91650A590	8.30
2 5/8"	2.481"	0.086"	2.464"	0.078"	5	91665A600	13.38	1	91650A600	7.54
2 3/4"	2.602"	0.103"	2.584"	0.093"	5	91665A610	14.21	1	91650A610	9.01
2 7/8"	2.721"	0.103"	2.702"	0.093"	5	91665A620	14.47	1	91650A620	9.15
3"	2.838"	0.103"	2.818"	0.093"	5	91665A630	14.75	1	91650A630	9.29
3 1/4"	3.076"	0.103"	3.054"	0.093"	1	91665A640	6.18	1	91650A640	15.62
3 1/2"	3.316"	0.12"	3.293"	0.111"	1	91665A650	8.27	1	91650A650	20.01
3 3/4"	3.552"	0.12"	3.527"	0.111"	1	91665A660	9.19	1	91650A660	22.13
4"	3.792"	0.12"	3.765"	0.111"	1	91665A670	13.87	1	91650A670	33.52
4 1/2"	4.31"	0.12"	4.28"	0.111"	1	91665A690	18.29	1	91650A690	44.24
5"	4.79"	0.12"	4.756"	0.111"	1	91665A710	20.96	1	91650A710	46.06

Easy-to-Install Spiral External Retaining Rings

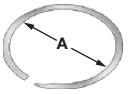

Also called single-turn rings, install by sliding them into the groove on a shaft with one twist. Thinner than standard rings, they fit into smaller grooves. They are not rated for hardness.

Stainless steel rings are made of 18-8 stainless steel and may be mildly magnetic.

For Shaft Dia.	Fits Groove Dia.	Fits Groove Width	Ring Size (A)	Ring Size Thick.	Steel Pkg. Qty.	Steel	Steel Pkg.	Stainless Steel Pkg. Qty.	Stainless Steel	Stainless Steel Pkg.
1/4"	0.238"	0.015"	0.236"	0.012"	25	94540A300	$9.38	10	93576A100	$8.84
3/8"	0.351"	0.018"	0.348"	0.015"	25	94540A310	10.45	10	93576A110	9.16
1/2"	0.472"	0.022"	0.467"	0.018"	25	94540A320	10.85	10	93576A120	9.20
5/8"	0.597"	0.022"	0.591"	0.018"	25	94540A330	10.38	10	93576A130	8.13
3/4"	0.722"	0.022"	0.715"	0.018"	10	94540A340	4.16	5	93576A140	5.23
7/8"	0.833"	0.026"	0.825"	0.021"	10	94540A350	4.44	5	93576A150	5.79
1"	0.958"	0.026"	0.949"	0.021"	10	94540A360	6.56	5	93576A160	6.16
1 1/4"	1.206"	0.031"	1.194"	0.025"	10	94540A380	7.76	5	93576A180	6.34
1 1/2"	1.456"	0.031"	1.442"	0.025"	10	94540A410	9.00	5	93576A210	7.31
1 3/4"	1.693"	0.039"	1.674"	0.031"	10	94540A430	9.52	5	93576A230	9.68
2"	1.943"	0.039"	1.922"	0.031"	10	94540A450	7.66	1	93576A250	2.98
2 1/2"	2.424"	0.039"	2.397"	0.031"	5	94540A490	5.84	1	93576A290	4.09
3"	2.924"	0.039"	2.892"	0.031"	5	94540A540	5.86	1	93576A340	3.27

Self-Locking External Retaining Rings



No groove required for installation. Rings dig in to the shaft material, so expect minor scratching. Use with an unhardened shaft. They're tougher to remove compared to standard retaining rings.

Black-finish steel rings have a minimum Rockwell hardness of C47 for shaft diameters 1/4" and larger (3/32"-3/16" shaft diameters are not rated).

Stainless steel rings are made of Type 15-7 or 17-7 PH stainless steel, which is magnetic. Minimum Rockwell hardness is C44 for shaft diameters 1/4" and larger (3/32"-3/16" shaft diameters are not rated).

For Shaft Dia.	OD	O'all Ht.	Black-Finish Steel Pkg. Qty.	Black-Finish Steel	Black-Finish Steel Pkg.	Stainless Steel Pkg. Qty.	Stainless Steel	Stainless Steel Pkg.
3/32"	0.326"	0.029"	100	98430A114	$4.76	5	97622A101	$4.65
1/8"	0.366"	0.029"	100	98430A116	4.52	5	97622A102	3.35
5/32"	0.397"	0.029"	100	98430A119	5.23	5	97622A104	4.82
3/16"	0.444"	0.031"	100	98430A118	5.12	5	97622A107	3.48
1/4"	0.522"	0.042"	100	98430A120	5.60	5	97622A111★	3.96
5/16"	0.584"	0.042"	100	98430A132	6.52	5	97622A116★	4.65
3/8"	0.645"	0.042"	100	98430A134	7.34	5	97622A121★	5.26
7/16"	0.737"	0.045"	100	98430A136	8.58	5	97622A123	9.43
1/2"	0.828"	0.054"	100	98430A138	9.52	5	97622A126	7.33
9/16"	0.889"	0.054"	50	98430A161	6.43	5	97622A128	9.57
5/8"	0.951"	0.054"	50	98430A140	7.10	5	97622A130	10.73
3/4"	1.076"	0.054"	50	98430A152	8.33	5	97622A132	8.78
7/8"	1.203"	0.054"	25	98430A154	4.88	5	97622A134	14.27
1"	1.327"	0.054"	25	98430A156	5.12	5	97622A137	12.57

★ Overall height is 0.037".

Metric External Clips

Slide clip into a groove that is near the end of the shaft. A tab locks them into place. Lift the tab to remove. They are made of black-finish steel and have a minimum Rockwell hardness of C40.

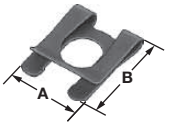



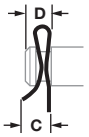

Installed

For Shaft Dia., mm	Fits Groove, mm Dia.	Fits Groove, mm Width	mm (A)	mm (B)	mm (C)	mm (D)	Pkg. Qty.		Pkg.
4	3.2	0.64	7	8.5	2.3	2	10	94824A100	$4.29
6	5	0.74	11	14.1	3.8	3	10	94824A300	4.59
8	6	0.94	14	17.5	3.5	3.5	10	94824A400	5.17
10	8	1.05	18	22.1	5	4.5	10	94824A500	8.29

External Retaining Ring Assortments

195-Piece Stainless Steel— 12 sizes for shaft diameters: 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/4", 13/16", 7/8", 1", and 1 1/4".

98575A212 ..... $221.76

240-Piece Metric Black-Finish Steel— 12 sizes for shaft diameters: 5 mm, 6 mm, 7 mm, 8 mm, 9 mm, 10 mm, 12 mm, 14 mm, 16 mm, 18 mm, 20 mm, and 24 mm.

98875A150 ..... $84.37

300-Piece— 12 sizes for shaft diameters: 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/4", 13/16", 7/8", 1", and 1 1/4".

Black-Finish Steel **98552A230** $41.62

Zinc and Yellow Chromate-Plated Steel .. **98552A040** 48.59

300-Piece Self-Locking Black-Finish Steel— 12 sizes for shaft diameters: 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/4", 7/8", and 1".

98430A500 ..... $66.82

540-Piece External/E-Style Black-Finish Steel— 23 sizes. 265 external rings for shaft diameters: 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", 15/16", 63/64", 1", 1 1/8", 1 1/4", 1 3/8", and 1 1/2", plus 275 side-mount (E-style) rings for shaft diameters: 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", and 7/8". Includes external ring pliers.

93352A660 ..... $137.59

630-Piece— 25 sizes for shaft diameters: 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/4", 13/16", 7/8", 1", 1 1/8", 1 1/4", 1 5/16", 1 3/8", 1 1/2", 1 5/8", 1 3/4", 2", 2 1/4", 2 1/2", 2 5/8", and 3".

Black-Finish Steel **92389A730** $78.96

Zinc and Yellow Chromate-Plated Steel .. **92389A410** 96.55

Side-Mount External Retaining Rings (E-Style)

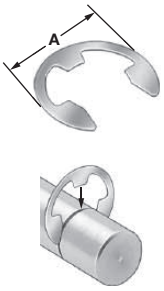

Snap rings into the groove from the side of the shaft. Their three prongs make contact with the shaft and provide a wider shoulder than other external retaining rings for a larger retaining surface. They are magnetic.

Black-finish and ***zinc and yellow chromate-plated steel*** rings have a minimum Rockwell hardness of C47. ***Stainless steel*** rings are made of Type 15-7 or 17-7 PH stainless steel. Minimum Rockwell hardness is C44.

Also Available: Nonmagnetic beryllium copper rings in sizes marked with a ♦. Please ask for 92725A500 and specify shaft diameter.

For Shaft Dia.	Fits Groove Dia.	Fits Groove Width	Ring Size (A)	Ring Size Thick.	Black-Finish Steel Pkg. Qty.	Black-Finish Steel	Black-Finish Steel Pkg.	Zinc and Yellow Chromate-Plated Steel Pkg. Qty.	Zinc and Yellow Chromate-Plated Steel	Zinc and Yellow Chromate-Plated Steel Pkg.	Stainless Steel Pkg. Qty.	Stainless Steel	Stainless Steel Pkg.
1/16"	0.052"	0.012"	0.14"	0.01"	100	97431A210♦	$4.14	100	98407A112	$4.72	50	98408A112	$8.91
3/32"	0.074"	0.02"	0.187"	0.015"	100	97431A220♦	3.99	100	98407A114	4.77	50	98408A114	9.31
7/64"	0.079"	0.02"	0.375"	0.015"	100	97431A230	3.97	100	98407A115	5.45	50	98408A123	10.61
1/8"	0.095"	0.02"	0.23"	0.015"	100	97431A240♦	3.99	100	98407A116	5.16	50	98408A116	9.39
9/64"	0.102"	0.02"	0.203"	0.015"	100	97431A250	3.97	100	98407A117	5.45	50	98408A117	8.49
5/32"	0.116"	0.029"	0.282"	0.025"	100	97431A260♦	3.99	100	98407A119	5.16	25	98408A124	5.20
11/64"	0.127"	0.029"	0.312"	0.025"	100	97431A270	4.34	100	98407A121	6.48	25	98408A125	5.30
3/16"	0.147"	0.029"	0.335"	0.025"	100	97431A280♦	3.99	100	98407A118	4.92	25	98408A126	5.26
7/32"	0.188"	0.029"	0.437"	0.025"	100	97431A290♦	5.07	100	98407A122	5.38	25	98408A122	5.75
1/4"	0.21"	0.029"	0.527"	0.025"	100	97431A300♦	5.55	100	98407A120	6.46	25	98408A120	6.60
5/16"	0.25"	0.029"	0.5"	0.025"	100	97431A310♦	5.34	100	98407A132	6.33	25	98408A132	5.55
3/8"	0.303"	0.039"	0.66"	0.035"	100	97431A320♦	7.82	100	98407A134	9.13	10	98408A134	4.45
7/16"	0.343"	0.039"	0.687"	0.035"	100	97431A330	9.24	100	98407A136	10.08	10	98408A136	4.95
1/2"	0.396"	0.046"	0.8"	0.042"	100	97431A340♦	9.78	100	98407A138	11.89	10	98408A138	6.44
5/8"	0.485"	0.046"	0.94"	0.042"	100	97431A350♦	14.84	50	98407A140	8.44	10	98408A140	9.03
3/4"	0.625"	0.056"	1"	0.05"	50	97431A360	9.88	50	98407A152	10.58	10	98408A152	11.80
7/8"	0.675"	0.056"	1.3"	0.05"	50	97431A370	11.95	50	98407A154	12.71	1	98408A154	1.56
63/64", 1"	0.835"	0.056"	1.5"	0.05"	25	97431A380	7.52	25	98407A156	7.79	1	98408A156	2.11
1 3/16"	1.079"	0.068"	1.626"	0.062"	25	97431A390	9.18	25	98407A158	9.23	1	98408A158	3.12
1 3/8"	1.23"	0.068"	1.875"	0.062"	10	97431A400	4.53	25	98407A160	13.82	1	98408A162	3.13

Metric Side-Mount External Retaining Rings (E-Style)





Rings meet DIN 6799. They snap directly into the groove from the side of the shaft. The three prongs make contact with the shaft and provide a wider shoulder than other external retaining rings. They are magnetic.

Black-finish steel rings have a minimum Rockwell hardness of C46. ***Stainless steel*** rings are made of DIN 1.4122 stainless steel, which has similar properties to 400 series. Minimum Rockwell hardness is C44, unless noted.

For Shaft Dia., mm	Fits Groove, mm Dia.	Fits Groove, mm Width	Ring Size, mm (A)	Ring Size, mm Thick.	Black-Finish Steel Pkg. Qty.	Black-Finish Steel	Black-Finish Steel Pkg.	Stainless Steel Pkg. Qty.	Stainless Steel	Stainless Steel Pkg.
1-1.4	0.8	0.24	1.95	0.2	100	98543A050	$15.20	—	—	—
1.4-2	1.2	0.34	2.9	0.3	100	98543A060	6.00	50	98317A202▲	$7.20
2-2.5	1.5	0.44	3.9	0.4	100	98543A070	9.17	50	98317A203▲	7.40
2.5-3	1.9	0.54	4.4	0.5	100	98543A080	5.33	50	98317A204▲	9.60
3-4	2.3	0.64	5.9	0.6	100	98543A101	3.15	50	98317A207	6.20
4-5	3.2	0.64	6.9	0.6	100	98543A103	2.85	50	98317A211	6.30
5-7	4	0.74	8.85	0.7	100	98543A112	3.15	50	98317A214	9.48
6-8	5	0.74	10.85	0.7	100	98543A113	3.39	50	98317A217	7.56
7-9	6	0.74	11.8	0.7	100	98543A114	5.45	25	98317A220	5.53
8-11	7	0.94	13.8	0.9	100	98543A115	7.35	25	98317A224	7.81
9-12	8	1.05	15.75	1	100	98543A116	8.65	10	98317A227	4.20
10-14	9	1.15	18.2	1.1	100	98543A117	11.05	10	98317A231	6.28
11-15	10	1.25	19.7	1.2	50	98543A218	7.10	5	98317A233	3.28
13-18	12	1.35	22.7	1.3	50	98543A219	8.68	5	98317A237	5.27
16-24	15	1.55	28.7	1.5	25	98543A120	10.34	1	98317A240	2.01
20-31	19	1.8	36.5	1.75	10	98543A121	5.20	—	—	—
25-38	24	2.05	43.5	2	10	98543A222	9.40	—	—	—
32-42	30	2.55	51.3	2.5	5	98543A123	7.07	—	—	—

▲Not rated for hardness.

Heavy Duty Side-Mount External Retaining Rings

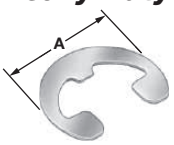

Style 1

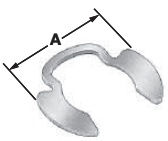

Style 2



Rings are wider than our standard side-mount retaining rings to provide a larger retaining surface.

Black-finish steel rings have a minimum Rockwell hardness of C47. ***Stainless steel*** rings are made of Type 15-7 or 17-7 PH stainless steel. They have a minimum Rockwell hardness of C43 and are magnetic.

Style 1 rings are interchangeable with standard side-mount (E-style) rings and meet ASME B18.27.2. ***Style 2*** rings, also known as clip or poodle rings, are thicker and have wide "ears" that form an extra-wide retaining surface.

For Shaft Dia.	Fits Groove Dia.	Fits Groove Width	Ring Size (A)	Ring Size Thick.	Black-Finish Steel Pkg. Qty.	Black-Finish Steel	Black-Finish Steel Pkg.	Stainless Steel Pkg. Qty.	Stainless Steel	Stainless Steel Pkg.
Style 1										
3/32"	0.074"	0.02"	0.206"	0.015"	100	99620A510	$7.19	25	94981A110	$9.42
1/8"	0.095"	0.02"	0.27"	0.015"	100	99620A525	7.52	25	94981A120	10.11
5/32"	0.116"	0.029"	0.335"	0.025"	100	99620A540	8.00	10	94981A130	5.39
3/16"	0.147"	0.029"	0.375"	0.025"	100	99620A555	9.00	10	94981A140	5.81
7/32"	0.188"	0.029"	0.446"	0.025"	100	99620A570	8.00	10	94981A150	6.16
1/4"	0.21"	0.029"	0.516"	0.025"	50	99620A585	5.26	10	94981A160	7.35
5/16"	0.25"	0.029"	0.588"	0.025"	50	99620A615	5.76	10	94981A170	7.85
3/8"	0.303"	0.039"	0.66"	0.035"	50	99620A630	6.76	10	94981A180	10.08
1/2"	0.396"	0.046"	0.81"	0.042"	50	99620A660	10.26	5	94981A210	7.95
9/16"	0.437"	0.046"	0.87"	0.042"	50	99620A675	10.50	5	94981A220	8.06
Style 2										
5/32"	0.12"	0.039"	0.32"	0.035"	100	98420A119	10.18	10	94751A751	5.40
3/16"	0.148"	0.039"	0.4"	0.035"	100	98420A118	9.16	10	94751A754	5.56
1/4"	0.21"	0.039"	0.482"	0.035"	100	98420A120	10.23	10	94751A757	6.65
5/16"	0.272"	0.046"	0.588"	0.042"	50	98420A132	6.45	10	94751A761	8.15
3/8"	0.331"	0.046"	0.68"	0.042"	50	98420A134	7.41	10	94751A764	9.20
7/16"	0.39"	0.056"	0.752"	0.05"	50	98420A136	8.36	5	94751A767	7.13

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Heavy Duty Side-Mount External Retaining Rings *(Continued from previous page)*

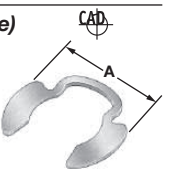

Style 2

For Shaft Dia.	Fits Groove Dia.	Fits Groove Width	Ring Size (A)	Ring Size Thick.	Black-Finish Steel Pkg. Qty.		Black-Finish Steel Pkg.	Stainless Steel Pkg. Qty.		Stainless Steel Pkg.
Style 2 (Cont.)										
1/2"	0.44"	0.056"	0.826"	0.05"	50	98420A138	$8.36	5	94751A771	$7.40
5/8"	0.531"	0.056"	0.966"	0.05"	50	98420A140	10.27	5	94751A773	9.65
3/4"	0.632"	0.068"	1.095"	0.062"	25	98420A152	8.01	1	94751A778	2.53
1"	0.86"	0.086"	1.415"	0.078"	10	98420A157	8.10	1	94751A782	9.24
1 1/4"	1.09"	0.103"	1.8"	0.093"	1	98420A161	2.72	1	94751A785	12.78
1 1/2"	1.317"	0.12"	2.05"	0.109"	1	98420A167	5.40	1	94751A788	14.16
1 3/4"	1.48"	0.139"	2.3"	0.125"	1	98420A175	3.52	1	94751A790	14.70
2"	1.73"	0.139"	2.65"	0.125"	1	98420A182	7.60	1	94751A793	19.63

Bowed Side-Mount External Retaining Rings

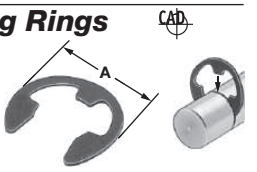

Also known as bowed E-style rings, their concave design provides spring-like retention for a tight hold. They snap directly into the groove from the side of the shaft. Rings are made of steel and have a black finish. They meet ASME B18.27.3. Minimum Rockwell hardness is C47, except 1/8" shaft diameter is not rated.

For Shaft Dia.	Fits Groove Dia.	Fits Groove Width	Ring Size (A)	Ring Size Thick.	Pkg. Qty.		Pkg.
1/8"	0.095"	0.022"	0.23"	0.01"	100	98398A116	$6.54
3/16"	0.147"	0.03"	0.335"	0.015"	100	98398A118	7.16
1/4"	0.21"	0.047"	0.527"	0.025"	100	98398A120	9.00
3/8"	0.303"	0.06"	0.66"	0.035"	100	98398A134	10.81
1/2"	0.396"	0.073"	0.8"	0.042"	50	98398A138	8.45
5/8"	0.485"	0.077"	0.94"	0.042"	50	98398A140	9.10
3/4"	0.58"	0.085"	1.12"	0.05"	25	98398A153	5.41

Crimp-On External Retaining Rings

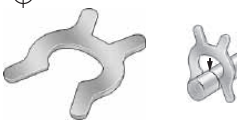

Commonly called X-washers, install these rings using any standard pliers. Place into the groove and squeeze tight to form a 360° closure. To remove, squeeze tabs on the opposite side of the opening.

Zinc-plated steel rings have a Rockwell hardness of B60. ***Stainless steel*** rings are made of 18-8 stainless steel, which may be mildly magnetic. Minimum Rockwell hardness is B82.

For Shaft Dia.	Fits Groove Dia.	Fits Groove Width	Thick.	Zinc-Plated Steel Pkg. Qty.		Zinc-Plated Steel Pkg.	Stainless Steel Pkg. Qty.		Stainless Steel Pkg.
5/32"	0.086"	0.031"	0.025"	50	90102A011	$9.41	–	–	–
3/16", 7/32"	0.093"	0.062"	0.055"	50	90102A012	8.56	1	90838A650	$2.58
1/4", 9/32"	0.125"	0.062"	0.055"	50	90102A029	9.21	1	90838A680	2.62
5/16", 11/32"	0.156"	0.075"	0.065"	50	90102A030	9.59	1	90838A710	2.65
3/8", 13/32"	0.187"	0.075"	0.065"	50	90102A031	10.10	1	90838A740	2.69
7/16", 15/32"	0.218"	0.083"	0.075"	50	90102A032	13.02	1	90838A770	2.73
1/2", 17/32"	0.25"	0.083"	0.075"	50	90102A033	11.37	1	90838A820	2.81
9/16", 19/32"	0.279"	0.083"	0.075"	25	90102A034	9.70	–	–	–
5/8", 21/32"	0.311"	0.097"	0.089"	25	90102A035	9.86	–	–	–
11/16", 23/32"	0.341"	0.097"	0.089"	25	90102A036	10.62	–	–	–
3/4", 25/32"	0.375"	0.097"	0.089"	25	90102A037	13.14	–	–	–

Side-Mount External Retaining Ring Assortments

Assortments come in a compartmented plastic box with lid chart, unless noted.

225-Piece Low-Clearance Black-Finish Steel— 9 sizes for shaft diameters: 7/32", 1/4", 9/32", 5/16", 3/8", 7/16", 1/2", 5/8", and 3/4".

98555A070 ..... $46.88

265-Piece E-Style— 12 sizes for shaft diameters: 1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", and 7/8".

Zinc and Yellow Chromate-Plated Steel.. 98554A060 $37.11
Stainless Steel..... 98460A212 142.93

300-Piece Metric E-Style Black-Finish Steel— 12 sizes for shaft diameters: 3 mm, 4 mm, 5 mm, 6 mm, 7 mm, 8 mm, 9 mm, 10 mm, 11 mm, 13 mm, 16 mm, and 20 mm.

98554A660 ..... $30.85

555-Piece E-Style Zinc and Yellow Chromate-Plated Steel— 18 sizes for shaft diameters: 1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", and 3/4", plus heavy duty steel rings for shaft diameters: 3/16", 7/32", 1/4", 5/16", 3/8", 7/16", and 1/2".

98554A070 ..... $72.40

1,500-Piece E-Style Black-Finish Steel— 19 sizes for shaft diameters: 1/16", 3/32", 7/64", 1/8", 9/64", 5/32", 11/64", 3/16", 7/32", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", 7/8", 63/64", and 1 3/16". Comes in a plastic carrying case that holds four boxes.

98554A090 ..... $85.31

Low-Clearance Side-Mount External Retaining Rings

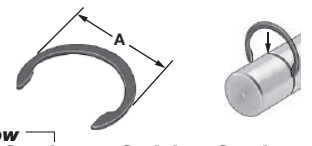

Also known as crescent rings, these are ideal where space and access is limited and a large shoulder is not required. They meet ASME B18.27.2.

Black-finish steel and ***zinc and yellow chromate-plated steel*** have a minimum Rockwell hardness of C47 for shaft diameters 7/32" and larger (shaft diameters 1/8"-3/16" are not rated).

Stainless steel rings are Type 15-7 or 17-7 PH and magnetic. Minimum Rockwell hardness is C43 for shaft diameters 7/32" and larger (shaft diameters 1/8"-3/16" are not rated).

For Shaft Dia.	Fits Groove Dia.	Fits Groove Width	Ring Size (A)	Ring Size Thick.	Black-Finish Steel Pkg. Qty.		Black-Finish Steel Pkg.	Zinc and Yellow Chromate-Plated Steel Pkg. Qty.		Zinc and Yellow Chromate-Plated Steel Pkg.	Stainless Steel Pkg. Qty.		Stainless Steel Pkg.
1/8"	0.106"	0.02"	0.165"	0.015"	100	97414A610	$9.85	50	98555A003	$8.07	25	98808A305	$7.13
5/32"	0.135"	0.02"	0.205"	0.015"	100	97414A615	8.38	100	98555A005	11.07	25	98808A310	7.13
3/16"	0.165"	0.02"	0.244"	0.015"	100	97414A620	9.38	100	98555A007	11.07	25	98808A315	7.32
7/32"	0.193"	0.029"	0.275"	0.025"	100	97414A625	9.38	100	98555A110	11.27	25	98808A320	8.37
1/4"	0.22"	0.029"	0.311"	0.025"	100	97414A630	9.90	100	98555A120	10.75	25	98808A330	8.53
9/32"	0.247"	0.029"	0.346"	0.025"	50	97414A635	5.68	100	98555A130	11.74	25	98808A335	8.89
5/16"	0.276"	0.029"	0.376"	0.025"	50	97414A640	4.84	100	98555A140	11.19	25	98808A340	9.23
3/8"	0.335"	0.029"	0.448"	0.025"	50	97414A645	5.76	100	98555A150	13.19	25	98808A345	10.11
7/16"	0.393"	0.029"	0.517"	0.025"	50	97414A655	6.50	100	98555A160	13.19	25	98808A355	11.33
1/2"	0.45"	0.039"	0.581"	0.035"	50	97414A660	8.50	50	98555A170	9.27	10	98808A360	6.65
9/16"	0.507"	0.039"	0.653"	0.035"	50	97414A665	9.26	50	98555A175	9.93	10	98808A365	7.07
5/8"	0.563"	0.039"	0.715"	0.035"	50	97414A670	9.50	50	98555A180	10.22	10	98808A370	7.49
11/16"	0.619"	0.046"	0.784"	0.042"	50	97414A675	9.77	25	98555A185	9.77	10	98808A375	10.43
3/4"	0.676"	0.046"	0.845"	0.042"	25	97414A680	6.60	25	98555A190	7.20	5	98808A380	8.22
13/16"	0.732"	0.046"	0.915"	0.042"	25	97414A685	7.60	10	98555A191	5.88	5	98808A385	9.79
7/8"	0.789"	0.046"	0.991"	0.042"	25	97414A690	7.85	10	98555A192	6.02	5	98808A390	10.50
15/16"	0.843"	0.046"	1.058"	0.042"	25	97414A695	8.22	10	98555A193	6.16	5	98808A395	11.20
1"	0.9"	0.046"	1.13"	0.042"	25	97414A705	7.98	10	98555A195	4.56	1	98808A405	3.57
1 1/8"	1.013"	0.056"	1.267"	0.05"	25	97414A710	8.73	10	98555A205	5.00	1	98808A410	4.11
1 1/4"	1.126"	0.056"	1.415"	0.05"	25	97414A715	9.23	10	98555A210	5.37	1	98808A415	5.01
1 3/8"	1.237"	0.056"	1.555"	0.05"	10	97414A720	6.16	10	98555A230	9.45	–	–	–
1 1/2"	1.35"	0.056"	1.691"	0.05"	10	97414A725	6.95	10	98555A250	9.74	1	98808A425	7.63

Internal Retaining Rings



Compress rings into the groove inside a bore or housing. Once installed, they provide a shoulder to hold components in place. All rings meet ASME B18.27.1 and are magnetic.

Black-finish and ***zinc and yellow chromate-plated steel*** rings have a minimum Rockwell hardness of C40. ***Stainless steel*** rings are made of Type 15-7 or 17-7 PH stainless steel. Minimum Rockwell hardness is C43.

Also Available: Nonmagnetic beryllium copper rings in sizes marked with a ♣. Please ask for 91482A100 and specify bore diameter.

For Bore Dia.	Fits Groove Dia.	Fits Groove Width	Ring Size (A)	Ring Size Thick.	Black-Finish Steel Pkg. Qty.	Black-Finish Steel	Black-Finish Steel Pkg.	Zinc and Yellow Chromate-Plated Steel Pkg. Qty.	Zinc and Yellow Chromate-Plated Steel	Zinc and Yellow Chromate-Plated Steel Pkg.	Stainless Steel Pkg. Qty.	Stainless Steel	Stainless Steel Pkg.
1/4"	0.268"	0.02"	0.28"	0.015"	50	99142A310♣	$5.78	50	98409A114	$7.62	10	91580A115	$9.13
5/16"	0.33"	0.02"	0.346"	0.015"	50	99142A320♣	6.05	50	98409A116	7.70	10	91580A117	9.55
3/8"	0.397"	0.029"	0.415"	0.025"	50	99142A330♣	6.05	50	98409A131	7.78	10	91580A132	9.83
7/16"	0.461"	0.029"	0.482"	0.025"	50	99142A340	6.05	50	98409A141	7.88	10	91580A141	10.19
29/64"	0.477"	0.029"	0.498"	0.025"	50	99142A345	7.62	50	98409A146	11.55	10	91580A146	12.75
1/2"	0.53"	0.039"	0.548"	0.035"	50	99142A350♣	7.78	50	98409A151	9.92	10	91580A151	11.07
9/16"	0.596"	0.039"	0.62"	0.035"	50	99142A360	8.07	50	98409A161	10.22	10	91580A161	12.11
5/8"	0.665"	0.039"	0.694"	0.035"	50	99142A370♣	8.58	50	98409A171	11.08	10	91580A171	12.54
11/16"	0.732"	0.039"	0.763"	0.035"	50	99142A380	8.75	50	98409A176	11.61	5	91580A175	7.61
3/4"	0.796"	0.039"	0.831"	0.035"	50	99142A390♣	9.79	50	98409A181	12.62	5	91580A181	7.64
0.777"	0.825"	0.046"	0.859"	0.042"	50	99142A400	9.65	50	98409A183	12.83	5	91580A183	8.22
13/16"	0.862"	0.046"	0.901"	0.042"	50	99142A410	10.81	25	98409A186	7.67	5	91580A185	8.55
7/8"	0.931"	0.046"	0.971"	0.042"	50	99142A420	11.60	25	98409A191	8.39	5	91580A191	8.27
0.901"	0.959"	0.046"	1"	0.042"	50	99142A430	11.67	25	98409A198	8.54	5	91580A193	9.26
15/16"	1"	0.046"	1.041"	0.042"	25	99142A440	7.81	25	98409A204	8.29	5	91580A195	9.42
1"	1.066"	0.046"	1.111"	0.042"	50	99142A450♣	12.83	25	98409A211	8.55	5	91580A211	9.16
1.023"	1.091"	0.046"	1.136"	0.042"	50	99142A460	13.14	25	98409A214	9.11	1	91580A213	1.84
1 1/16"	1.13"	0.056"	1.18"	0.05"	25	99142A470	7.88	25	98409A218	9.32	1	91580A216	2.14
1 1/8"	1.197"	0.056"	1.249"	0.05"	25	99142A480♣	8.17	25	98409A221	10.47	1	91580A221	2.25
1 3/16"	1.262"	0.056"	1.319"	0.05"	25	99142A490	9.04	25	98409A226	10.99	1	91580A224	2.36
1 1/4"	1.33"	0.056"	1.388"	0.05"	25	99142A500	9.64	25	98409A240	11.81	1	91580A231	2.37
1 5/16"	1.396"	0.056"	1.456"	0.05"	25	99142A510	10.12	25	98409A232	12.02	1	91580A233	2.62
1 3/8"	1.461"	0.056"	1.526"	0.05"	25	99142A520	10.32	25	98409A233	12.21	1	91580A234	2.62
1 7/16"	1.528"	0.056"	1.596"	0.05"	25	99142A530	10.49	25	98409A234	13.00	1	91580A235	2.75
1 1/2"	1.594"	0.056"	1.66"	0.05"	25	99142A540♣	11.74	10	98409A236	6.68	1	91580A236	2.79
1 9/16"	1.658"	0.068"	1.734"	0.062"	10	99142A550♣	6.86	10	98409A237	6.60	1	91580A237	3.80
1 5/8"	1.725"	0.068"	1.804"	0.062"	10	99142A560♣	7.03	10	98409A238	7.32	1	91580A238	3.63
1 11/16"	1.792"	0.068"	1.874"	0.062"	10	99142A565	8.29	10	98409A245	10.65	1	91580A240	4.14
1 3/4"	1.858"	0.068"	1.942"	0.062"	10	99142A570	7.43	10	98409A241	9.96	1	91580A241	4.25
1 13/16"	1.922"	0.068"	2.012"	0.062"	10	99142A575	9.41	10	98409A242	11.83	1	91580A243	6.02
1 7/8"	1.989"	0.068"	2.072"	0.062"	10	99142A580	6.72	10	98409A244	9.05	1	91580A242	5.01
1 15/16"	2.056"	0.068"	2.141"	0.062"	10	99142A585	9.77	10	98409A243	13.10	1	91580A245	16.59
2"	2.122"	0.068"	2.21"	0.062"	10	99142A590	8.82	10	98409A246	13.05	1	91580A246	4.91
2 1/16"	2.186"	0.086"	2.28"	0.078"	5	99142A592	7.03	5	98409A001	8.75	1	91580A395	20.91
2 1/8"	2.251"	0.086"	2.35"	0.078"	5	99142A595	6.07	5	98409A247	8.20	1	91580A283	11.95
2 3/16"	2.318"	0.086"	2.415"	0.078"	5	99142A597	7.35	5	98409A003	8.93	1	91580A398	22.72
2 1/4"	2.382"	0.086"	2.49"	0.078"	5	99142A600	6.46	5	98409A248	8.20	1	91580A247	13.04
2 5/16"	2.45"	0.086"	2.56"	0.078"	5	99142A605	7.82	5	98409A249	9.16	1	91580A248	21.93
2 3/8"	2.517"	0.086"	2.63"	0.078"	5	99142A610	8.05	5	98409A251	9.01	1	91580A249	14.25
2 7/16"	2.584"	0.086"	2.702"	0.078"	5	99142A625	7.90	5	98409A253	9.70	1	91580A257	16.03
2 1/2"	2.648"	0.086"	2.775"	0.078"	5	99142A620	8.00	5	98409A254	9.02	1	91580A253	15.27
2 9/16"	2.714"	0.103"	2.844"	0.093"	5	99142A615	10.12	5	98409A259	12.33	1	91580A259	31.28
2 5/8"	2.781"	0.103"	2.91"	0.093"	5	99142A630	9.40	5	98409A264	10.88	1	91580A261	22.30
2 11/16"	2.848"	0.103"	2.98"	0.093"	5	99142A635	10.15	1	98409A269	2.86	1	91580A263	33.71
2 3/4"	2.914"	0.103"	3.05"	0.093"	5	99142A640	9.42	1	98409A274	2.58	1	91580A265	20.26
2 13/16"	2.98"	0.103"	3.121"	0.093"	5	99142A645	10.68	1	98409A279	2.87	1	91580A267	34.05
2 7/8"	3.051"	0.103"	3.191"	0.093"	5	99142A650	8.49	1	98409A284	2.57	1	91580A269	27.63
3"	3.182"	0.103"	3.325"	0.093"	5	99142A660	8.74	1	98409A294	2.59	1	91580A272	25.37
3 1/8"	3.315"	0.12"	3.488"	0.109"	1	99142A662	2.88	1	98409A301	3.88	1	91580A279	56.38
3 1/4"	3.446"	0.12"	3.623"	0.109"	1	99142A665	2.55	1	98409A305	4.11	1	91580A287	45.61
3 1/2"	3.71"	0.12"	3.89"	0.109"	1	99142A670	2.90	1	98409A311	5.52	1	91580A292	67.48
3 5/8"	3.841"	0.12"	4.024"	0.109"	1	99142A672	4.04	1	98409A318	6.01	1	91580A297	69.72
3 3/4"	3.974"	0.12"	4.157"	0.109"	1	99142A675	4.41	1	98409A322	6.91	1	91580A301	74.33
3 7/8"	4.107"	0.12"	4.291"	0.109"	1	99142A676	4.80	1	98409A329	7.78	1	91580A313	78.59
4"	4.24"	0.12"	4.424"	0.109"	1	99142A680	5.47	1	98409A334	9.96	1	91580A322	81.05
4 1/8"	4.365"	0.12"	4.558"	0.109"	1	99142A681	5.69	1	98409A336	10.28	1	91580A324	79.17
4 1/4"	4.49"	0.12"	4.691"	0.109"	1	99142A685	5.73	1	98409A339	10.50	1	91580A326	84.00
4 1/2"	4.74"	0.12"	4.94"	0.109"	1	99142A690	6.25	1	98409A342	10.63	1	91580A332	88.21
4 5/8"	4.865"	0.12"	5.076"	0.109"	1	99142A691	7.76	1	98409A348	19.70	1	91580A336	83.55
4 3/4"	4.995"	0.12"	5.213"	0.109"	1	99142A695	6.67	1	98409A355	11.02	1	91580A341	94.25
5"	5.26"	0.12"	5.485"	0.109"	1	99142A700	8.94	1	98409A361	12.49	1	91580A343	94.38
5 1/2"	5.77"	0.139"	6.066"	0.125"	1	99142A750	14.14	1	98409A368	24.41	1	91580A349	235.41
6"	6.27"	0.139"	6.62"	0.125"	1	99142A775	15.16	1	98409A374	32.81	—	—	—
6 1/2"	6.79"	0.174"	7.17"	0.156"	1	99142A687	38.64	—	—	—	—	—	—
7"	7.315"	0.174"	7.72"	0.156"	1	99142A800	26.95	1	98409A381	57.49	—	—	—
7 1/2"	7.84"	0.209"	8.27"	0.187"	1	99142A825	56.70	—	—	—	—	—	—
8"	8.36"	0.209"	8.82"	0.187"	1	99142A850	50.40	1	98409A387	60.32	—	—	—
8 1/2"	8.88"	0.209"	9.285"	0.187"	1	99142A875	90.09	—	—	—	—	—	—
9"	9.405"	0.209"	9.83"	0.187"	1	99142A900	77.48	1	98409A393	122.43	—	—	—
9 1/2"	9.93"	0.209"	10.375"	0.187"	1	99142A925	103.32	—	—	—	—	—	—
10"	10.45"	0.209"	10.92"	0.187"	1	99142A950	103.76	1	98409A399	136.08	—	—	—

Metric Internal Retaining Rings

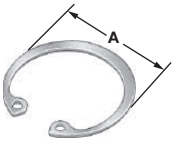

Rings meet DIN 472. Compress rings into the groove of a bore or housing. Once installed, they provide a shoulder to hold components in place.

Black-finish steel rings have a minimum Rockwell hardness of C44. ***Stainless steel*** rings are made of DIN 1.4122 stainless steel, which has similar properties to 400 series and is magnetic.

For Bore Dia., mm	Fits Groove, mm Dia.	Width	Ring Size, mm (A)	Thick.	Black-Finish Steel Pkg. Qty.		Pkg.	Stainless Steel Pkg. Qty.		Pkg.
8	8.4	0.9	8.7	0.8	50	98455A108	$7.66	–		—
9	9.4	0.9	9.8	0.8	50	98455A109	7.66	–		—
10	10.4	1.1	10.8	1	50	98455A110	7.00	5	98394A417	$4.99
11	11.4	1.1	11.8	1	50	98455A111	7.00	5	98394A421	5.54
12	12.5	1.1	13	1	50	98455A112	8.07	5	98394A424	5.23
13	13.6	1.1	14.1	1	50	98455A113	8.67	5	98394A425	7.39
14	14.6	1.1	15.1	1	50	98455A114	7.83	5	98394A427	5.44
15	15.7	1.1	16.2	1	50	98455A115	10.00	5	98394A429	7.91
16	16.8	1.1	17.3	1	50	98455A116	8.22	5	98394A431	5.90
17	17.8	1.1	18.3	1	50	98455A117	12.00	5	98394A433	8.30
18	19	1.1	19.5	1	50	98455A119	10.87	5	98394A434	7.42
19	20	1.1	20.5	1	50	98455A224	12.33	5	98394A435	10.02
20	21	1.1	21.5	1	50	98455A120	11.57	5	98394A437	9.05
21	22	1.1	22.5	1	50	98455A121	12.97	5	98394A439	10.20
22	23	1.1	23.5	1	50	98455A122	12.33	5	98394A440	9.32
23	24.1	1.3	24.6	1.2	25	98455A123	10.00	1	98394A441	2.45
24	25.2	1.3	25.9	1.2	25	98455A124	6.51	1	98394A443	2.17
25	26.2	1.3	26.9	1.2	25	98455A125	13.33	1	98394A444	2.40
26	27.2	1.3	27.9	1.2	25	98455A226	11.33	1	98394A445	2.54
28	29.4	1.3	30.1	1.2	25	98455A126	8.19	1	98394A447	2.72
30	31.4	1.3	32.1	1.2	10	98455A127	3.93	1	98394A450	2.85
32	33.7	1.3	34.4	1.2	10	98455A129	3.92	1	98394A453	2.95
34	35.7	1.6	36.5	1.5	10	98455A131	8.80	1	98394A467	3.10
36	38	1.6	38.8	1.5	10	98455A134	9.40	1	98394A471	3.25
38	40	1.6	40.8	1.5	10	98455A137	11.20	1	98394A475	3.65
40	42.5	1.85	43.5	1.75	5	98455A139	7.83	1	98394A479	3.66
45	47.5	1.85	48.5	1.75	5	98455A141	11.87	1	98394A488	3.59
50	53	2.15	54.2	2	5	98455A142	11.75	1	98394A496	4.49
55	58	2.15	59.2	2	5	98455A144	12.03	1	98394A504	5.42
60	63	2.15	64.2	2	1	98455A146	2.91	1	98394A512	5.58
65	68	2.65	69.2	2.5	1	98455A147	3.26	1	98394A520	8.65
70	73	2.65	74.5	2.5	1	98455A149	4.65	1	98394A524	9.60
75	78	2.65	79.5	2.5	1	98455A150	4.21	1	98394A528	9.45
80	83.5	2.65	85.5	2.5	1	98455A151	7.09	1	98394A538	11.18
85	88.5	3.15	90.5	3	1	98455A153	5.97	1	98394A552	13.57
90	93.5	3.15	95.5	3	1	98455A156	6.28	1	98394A556	14.21
95	98.5	3.15	100.5	3	1	98455A159	6.99	1	98394A560	15.97
100	103.5	3.15	105.5	3	1	98455A161	7.09	–		—
120	124	4.15	127	4	1	98455A167	16.29	–		—
130	134	4.15	137	4	1	98455A170	18.84	–		—
140	144	4.15	147	4	1	98455A173	21.33	–		—
160	165	4.15	169	4	1	98455A179	28.28	–		—
180	185	4.15	189.5	4	1	98455A185	34.28	–		—
200	205	4.15	209.5	4	1	98455A191	39.83	–		—

Spiral Internal Retaining Rings

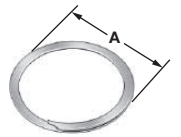

Wind these rings into the groove inside a bore or housing to form 360° contact with the shaft. Not rated for hardness.

Stainless steel rings are made of 18-8 stainless steel and may be mildly magnetic.

For Bore Dia.	Fits Groove Dia.	Width	Ring Size (A)	Thick.	Steel Pkg. Qty.		Pkg.	Stainless Steel Pkg. Qty.		Pkg.
1/4″	0.268″	0.02″	0.27″	0.015″	25	91985A105	$10.47	10	92370A111	$9.70
5/16″	0.33″	0.02″	0.333″	0.015″	25	91985A109	10.47	10	92370A115	9.70
3/8″	0.397″	0.029″	0.4″	0.025″	25	91985A111	10.47	10	92370A117	9.70
7/16″	0.461″	0.029″	0.464″	0.025″	25	91985A113	10.47	10	92370A119	9.70
1/2″	0.53″	0.039″	0.538″	0.035″	25	91985A121	9.52	10	92370A121	7.88
5/8″	0.665″	0.039″	0.675″	0.035″	25	91985A131	8.60	10	92370A131	8.72
3/4″	0.796″	0.039″	0.807″	0.035″	25	91985A141	9.10	10	92370A141	9.23
7/8″	0.931″	0.046″	0.943″	0.042″	5	91985A151	5.96	5	92370A151	6.83
1″	1.066″	0.046″	1.08″	0.042″	5	91985A161	5.98	5	92370A161	7.27
1 1/16″	1.13″	0.056″	1.138″	0.05″	5	91985A167	8.98	5	92370A167	12.55
1 1/8″	1.197″	0.056″	1.205″	0.05″	5	91985A171	6.16	5	92370A171	8.30
1 3/16″	1.262″	0.056″	1.271″	0.05″	5	91985A176	9.06	1	92370A176	2.48
1 1/4″	1.33″	0.056″	1.339″	0.05″	5	91985A181	6.10	1	92370A181	1.61
1 5/16″	1.396″	0.056″	1.406″	0.05″	5	91985A185	9.77	1	92370A185	2.66
1 3/8″	1.461″	0.056″	1.471″	0.05″	5	91985A191	6.16	1	92370A191	1.74
1 7/16″	1.528″	0.056″	1.539″	0.05″	5	91985A201	10.18	1	92370A201	2.64
1 1/2″	1.594″	0.056″	1.605″	0.05″	5	91985A211	6.26	1	92370A211	2.39
1 5/8″	1.725″	0.068″	1.742″	0.062″	5	91985A221	6.34	1	92370A221	2.78
1 3/4″	1.858″	0.068″	1.876″	0.062″	5	91985A231	6.40	1	92370A231	2.97
1 7/8″	1.989″	0.068″	2.008″	0.062″	5	91985A241	6.48	1	92370A241	3.18
2″	2.122″	0.068″	2.142″	0.062″	5	91985A251	6.38	1	92370A251	3.06
2 1/8″	2.251″	0.086″	2.267″	0.078″	5	91985A261	7.32	1	92370A261	4.67
2 1/4″	2.382″	0.086″	2.399″	0.078″	5	91985A271	7.49	1	92370A271	4.34
2 3/8″	2.517″	0.086″	2.535″	0.078″	5	91985A281	7.94	1	92370A281	5.60
2 1/2″	2.648″	0.086″	2.667″	0.078″	5	91985A291	8.88	1	92370A291	5.18
2 5/8″	2.781″	0.103″	2.801″	0.093″	5	91985A311	10.62	1	92370A311	6.81

(Continued on following page)

Spiral Internal Retaining Rings *(Continued from previous page)*



Wind these rings into the groove inside a bore or housing to form 360° contact with the shaft. Not rated for hardness.
Stainless steel rings are made of 18-8 stainless steel and may be mildly magnetic.

For Bore Dia.	Fits Groove Dia.	Fits Groove Width	Ring Size (A)	Ring Size Thick.	Steel Pkg. Qty.	Steel	Steel Pkg.	Stainless Steel Pkg. Qty.	Stainless Steel	Stainless Steel Pkg.
2¾″	2.914″	0.103″	2.934″	0.093″	5	91985A321	$10.91	1	92370A321	$6.96
2⅞″	3.051″	0.103″	3.072″	0.093″	5	91985A331	11.28	1	92370A331	7.22
3″	3.182″	0.103″	3.204″	0.093″	5	91985A341	10.47	1	92370A341	7.37
3¼″	3.446″	0.12″	3.47″	0.111″	1	91985A346	6.69	1	92370A351	16.22
3½″	3.71″	0.12″	3.736″	0.111″	1	91985A351	7.61	1	92370A355	18.34
3¾″	3.974″	0.12″	4.002″	0.111″	1	91985A356	7.92	1	92370A361	21.07
4″	4.24″	0.12″	4.27″	0.111″	1	91985A361	13.23	1	92370A365	32.00
4½″	4.74″	0.12″	4.77″	0.111″	1	91985A371	15.37	1	92370A375	37.13
5″	5.26″	0.12″	5.297″	0.111″	1	91985A381	17.95	1	92370A385	43.36

Easy-to-Install Spiral Internal Retaining Rings

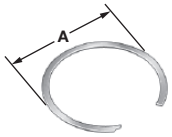

Install with one twist into the groove inside a bore or housing. Also called single-turn rings, they are thinner than standard retaining rings. They are not rated for hardness.
Stainless steel rings are made of 18-8 stainless steel and may be mildly magnetic.

For Bore Dia.	Fits Groove Dia.	Fits Groove Width	Ring Size (A)	Ring Size Thick.	Steel Pkg. Qty.	Steel	Steel Pkg.	Stainless Steel Pkg. Qty.	Stainless Steel	Stainless Steel Pkg.
¼″	0.262″	0.015″	0.264″	0.012″	25	91663A510	$9.02	10	92479A710	$8.32
⅜″	0.395″	0.018″	0.398″	0.015″	25	91663A520	9.02	10	92479A720	8.44
½″	0.528″	0.022″	0.531″	0.018″	25	91663A530	9.14	10	92479A730	8.68
⅝″	0.653″	0.022″	0.656″	0.018″	25	91663A540	8.78	10	92479A740	7.65
¾″	0.779″	0.022″	0.783″	0.018″	25	91663A550	9.22	10	92479A750	8.29
⅞″	0.917″	0.026″	0.926″	0.021″	10	91663A560	4.48	5	92479A760	5.55
1″	1.042″	0.026″	1.052″	0.021″	10	91663A570	4.68	5	92479A770	5.79
1¼″	1.294″	0.031″	1.307″	0.025″	10	91663A590	6.24	5	92479A790	6.39
1½″	1.544″	0.031″	1.559″	0.025″	10	91663A620	8.08	5	92479A820	6.58
1¾″	1.807″	0.039″	1.827″	0.031″	10	91663A640	11.20	5	92479A840	9.21
2″	2.057″	0.039″	2.079″	0.031″	10	91663A660	9.66	1	92479A860	2.81
2½″	2.576″	0.039″	2.605″	0.031″	5	91663A710	5.53	1	92479A910	3.86
3″	3.076″	0.039″	3.11″	0.031″	5	91663A740	5.93	1	92479A940	3.82

Self-Locking Internal Retaining Rings



No groove required for installation. Rings dig into the shaft material, so expect minor scratching. Use with an unhardened shaft. They're tougher to remove compared to other retaining rings. Rings for bore diameters 5⁄16″-⅝″ are 0.01″ thick; ¾″ and larger rings are 0.015″ thick.
Black-finish steel rings have a minimum Rockwell hardness of C47. ***Stainless steel*** rings are made of Type 15-7 or 17-7 PH stainless steel, which is magnetic. Minimum Rockwell hardness is C44.

For Bore Dia.	ID	Black-Finish Steel Pkg. Qty.	Black-Finish Steel	Black-Finish Steel Pkg.	Stainless Steel Pkg. Qty.	Stainless Steel	Stainless Steel Pkg.
5⁄16″	0.136″	100	98435A132	$8.58	5	99701A110	$4.96
⅜″	0.175″	100	98435A134	9.04	5	99701A115	5.04
7⁄16″	0.237″	100	98435A136	8.57	5	99701A116	6.07
½″	0.258″	100	98435A138	9.04	5	99701A120	5.26
9⁄16″	0.312″	100	98435A161	9.05	5	99701A121	6.55
⅝″	0.39″	100	98435A140	9.52	5	99701A122	7.24
¾″	0.5″	100	98435A152	11.43	5	99701A125	7.43
⅞″	0.625″	100	98435A131	$11.90	5	99701A126	$9.84
15⁄16″	0.687″	50	98435A133	8.10	5	99701A127	10.04
1″	0.75″	50	98435A141	10.17	5	99701A130	9.47
1¼″	0.938″	50	98435A145	11.83	1	99701A140	4.81
1½″	1.188″	25	98435A150	11.73	1	99701A150	3.84
1¾″	1.438″	10	98435A155	7.66	—	—	—
2″	1.6″	10	98435A160	9.45	—	—	—

Internal Retaining Ring Assortments

150-Piece Zinc and Yellow Chromate-Plated Steel—12 sizes for bore diameters: ¼″, ⅜″, ½″, ⅝″, ¾″, ⅞″, 1″, 1⅛″, 1¼″, 1½″, 1⅝″, and 1¾″.

98553A050 ..... $39.95

180-Piece Stainless Steel—12 sizes for bore diameters: ¼″, 5⁄16″, ⅜″, 7⁄16″, ½″, 9⁄16″, ⅝″, ¾″, ⅞″, 1″, 1⅛″, and 1¼″.

91605A212 ..... $232.62

240-Piece Metric Black-Finish Steel—12 sizes for bore diameters: 8 mm, 9 mm, 10 mm, 11 mm, 12 mm, 14 mm, 16 mm, 18 mm, 20 mm, 24 mm, 28 mm, and 32 mm.

98365A260 ..... $84.37

261-Piece Black-Finish Steel—20 sizes for bore diameters: ¼″, ½″, ⅝″, 11⁄16″, ¾″, ⅞″, 1″, 1⅛″, 1¼″, 1⅜″, 1⁷⁄16″, 1½″, 1⁹⁄16″, 1⅝″, 1¾″, 1⅞″, 2″, 2⅛″, 2¼″, and 2½″.

98553A470 ..... $61.03

300-Piece Self-Locking Black-Finish Steel—12 sizes for bore diameters: 5⁄16″, ⅜″, 7⁄16″, 0.44″, ½″, 9⁄16″, ⅝″, ¾″, ⅞″, 15⁄16″, 1″, 1¼″.

98435A600 ..... $63.03

333-Piece Zinc and Yellow Chromate-Plated Steel—25 sizes for bore diameters: ⅜″, 7⁄16″, ½″, ⅝″, 11⁄16″, ¾″, 13⁄16″, ⅞″, 1″, 1¹⁄16″, 1⅛″, 1¼″, 1⅜″, 1½″, 1⅝″, 1¾″, 1⅞″, 2″, 2¼″, 2⅜″, 2½″, 2⅝″, 2¾″, 2⅞″, and 3″.

98553A060 ..... $74.91

395-Piece Zinc and Yellow Chromate-Plated Steel—24 sizes for bore diameters: ¼″, ⅜″, 7⁄16″, ½″, 9⁄16″, ⅝″, ¾″, 0.777″, 13⁄16″, ⅞″, 0.901″, 15⁄16″, 1″, 1.023″, 1¹⁄16″, 1⅛″, 1³⁄16″, 1¼″, 1⁵⁄16″, 1⅜″, 1⁷⁄16″, 1½″, 1⁹⁄16″, and 1⅝″. Includes one pair of internal pliers.

98411A660 ..... $141.72

Combined External/Internal Retaining Ring Assortments

126-Piece Zinc and Yellow Chromate-Plated Steel External/Internal—20 sizes; 60 external rings for shaft diameters: 15⁄16″, 1″, 1¹⁄32″, 1¹⁄16″, 1⅛″, 1³⁄16″, 1¼″, 1⁵⁄16″, 1⅜″, and 1⁷⁄16″, plus 66 internal rings for bore diameters: 1¹⁄16″, 1⅛″, 1³⁄16″, 1¼″, 1⁵⁄16″, 1⅜″, 1⁷⁄16″, 1½″, 1⁹⁄16″, and 1⅝″. Includes one pair of external/internal pliers.

98605A020 ..... $84.37

216-Piece Spiral—12 external rings and 12 internal rings for bore/shaft diameters: ½″, ⅝″, ¾″, ⅞″, 1″, 1⅛″, 1¼″, 1⅜″, and 1½″.

Steel ..... 91665A120 ... $114.53
Stainless Steel ..... 91650A200 ... 282.82

220-Piece External/Internal—20 sizes; 105 external rings for shaft diameters: ¼″, 5⁄16″, ⅜″, 7⁄16″, ½″, ⅝″, 11⁄16″, ¾″, ⅞″, and 1″, plus 115 internal rings for bore diameters: ⅜″, 7⁄16″, ½″, 9⁄16″, ⅝″, ¾″, ⅞″, 1″, 1⅛″, and 1¼″. Includes one pair of external/internal pliers.

Zinc and Yellow Chromate-Plated Steel ..... 98605A010 ... $84.91
Stainless Steel ..... 98645A220 ... 298.74

380-Piece Black-Finish Steel External/Internal and E-Style—22 sizes; 120 external rings and 120 internal rings for shaft diameters: 8 mm, 10 mm, 12 mm, 14 mm, 16 mm, 18 mm, and 20 mm, plus 140 E-style rings for shaft diameters 3 mm, 4 mm, 5 mm, 6 mm, 7 mm, 8 mm, 10 mm, and 12 mm. Includes one pair of external/internal pliers.

93352A100 ..... $151.45

1,000-Piece Black-Finish Steel External/Internal—20 sizes; 550 external rings for shaft diameters: ¼″, 5⁄16″, ⅜″, 7⁄16″, ½″, 9⁄16″, ⅝″, ¾″, ⅞″, 1″, and 1⅛″, plus 450 internal rings for bore diameters: ⅜″, 7⁄16″, ½″, 9⁄16″, ⅝″, ¾″, ⅞″, 1″, and 1⅛″. Also includes one pair of external pliers, one pair of internal pliers, and replacement tips.

98605A001 ..... $151.24

Fabric Snaps

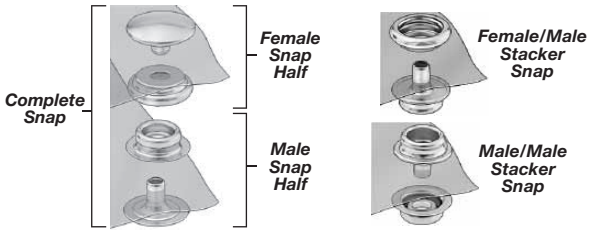

Join leather, canvas, and other soft, heavy fabrics with these heavy duty 9/16″ diameter snaps. All snaps require a tool (sold separately on this page) to install. Use ***stacker snaps*** when you want to stack one snap on top of another. They require special dies (sold separately on this page) for installation.

Pkg. Qty.	Nickel-Plated Brass	Pkg.	Black-Finished Brass	Pkg.	18-8 Stainless Steel	Pkg.
Complete Snaps						
10	95691A745	$5.57	95691A775	$6.11	95691A715	$9.28
100	95691A660	47.65	95691A270	58.40	95691A700	86.10
Snap Halves						
10 Female	95690A251	4.46	95690A451	5.56	95690A151	7.25
10 Male	95690A201	3.66	95690A401	5.40	95690A101	4.26
Stacker Snaps						
10 Female/ Male	95690A299	5.97	—	—	—	—
10 Male/ Male	95690A275	5.53	—	—	—	—

Adhesive-Backed Male Snap Halves



No drilling or holes are required with these male snap halves. Peel off the backing and stick to flat and curved surfaces. Temperature range is –31° to +230° F.

	Pkg. Qty.		Pkg.
Male Snap Halves			
Black Plastic	8	95690A905	$13.56
White Plastic	8	95690A902	13.56
Optional Female Snap Halves			
Nickel-Plated Brass	10	95690A251	5.56
Black-Finished Brass	10	95690A451	4.46
18-8 Stainless Steel	10	95690A151	7.25

Male Snap Halves for Solid Surfaces

When you need to fasten a fabric snap to a solid surface, pair one of these snap halves with a female snap half or a male/female stacker snap (sold separately on this page).

Threaded Stud-Style



All have a Phillips drive for easy installation.

Self Drilling— Use in steel, aluminum, and fiberglass. Choose from ***Type 410 SS screws*** (may be magnetic), and ***18-8 SS screws*** (mildly magnetic).

Tapping— For drilled holes in wood, metal, and fiberglass.

Machine Screw— For threaded holes in metal and fiberglass.

Screw Size	Snap	Screw	Pkg. Qty.		Pkg.
Self Drilling					
#8 x 1/2″	Nickel-Plated Brass	410 SS	10	95707A780	$8.29
#8 x 1/2″	Nickel-Plated Brass	18-8 SS	10	95707A782	7.74
#8 x 3/4″	Nickel-Plated Brass	18-8 SS	10	95707A786	8.29
Tapping					
#8 x 3/8″	18-8 Stainless Steel	18-8 SS	10	95707A720	7.22
#8 x 3/8″	Nickel-Plated Brass	18-8 SS	10	95707A781	6.16
#8 x 5/8″	18-8 Stainless Steel	18-8 SS	10	95707A740	6.35
#8 x 5/8″	Nickel-Plated Brass	18-8 SS	10	95707A783	6.50
#10 x 5/8″	Nickel-Plated Brass	18-8 SS	10	95707A684	7.49
Machine Screw					
8-32 x 1/2″	18-8 Stainless Steel	18-8 SS	10	95707A870	7.83
10-32 x 3/8″	Nickel-Plated Brass	Brass	10	95707A685	6.23

Blind-Rivet Style



Fasten a snap to a solid surface when you only have access to one side. The snap is nickel-plated brass; the mandrel is 18-8 stainless steel. Requires a 1/8″ diameter drilled hole and a blind rivet tool for installation.

For Material Thickness	Pkg. Qty.		Pkg.
1/8″ to 3/16″	25	95707A688	$9.17
3/16″ to 3/8″	25	95707A687	10.40

Fabric Snap and Tool Kits

Repair tarps, tents, and awnings with one convenient kit. Each kit includes a hand punch tool with a die, and six complete 9/16″ diameter nickel-plated brass snaps.

The fabric-to-wood kit has #7 x 5/8″ tapping screw studs to attach fabric to wood or similar materials.

Replacement snaps include six complete snaps.

	Snap and Tool Kits		Replacement Snaps	
Fabric-to-Fabric	95730A210	$7.67	95730A320	$4.67
Fabric-to-Wood	95730A230	9.38	95730A440	6.55

Installation Tools for Fabric Snaps

All the tools you need to swiftly install 9/16″ dia. fabric snaps.

Hand Press and Dies

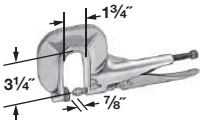

Squeeze the adjustable pliers-grip handle to easily install snaps. Made of aluminum. Comes with a 4-piece die set to install male and female snap halves. *Note:* Also installs grommets (see page 3870 for grommets and dies).

Hand Press	95720A690		$159.35
Die for Stacker Snaps	95720A350		47.74
Replacement 4-Pc. Die Set	95720A692		103.23

Hand Punch and Dies



Strike the punch with a mallet to set snaps. Made of stainless steel. Dies are sold separately.

Hand Punch	95710A690		$15.28
Die for Female Snap Halves	95710A696		12.05
Die for Male Snap Halves	95710A698		12.05

Bench-Mount Press and Dies



Install snaps with one easy push. Made of iron, it has a deep throat and a long padded handle. Dies are sold separately. The *4-piece die set* installs male and female snap halves.

Bench-Mount Press	95715A690		$277.45
4-Pc. Die Set	95715A692		222.48
Die for Stacker Snaps	95715A360		76.58

Locking Hammer-Set Fabric Snaps



Also known as slam rivets. Use a hammer to lock these two-piece snaps together. Snaps must be destroyed to be removed.

Cap Dia.	Max. Material Thickness	Pkg. Qty.		Pkg.
Nickel-Plated Brass				
9/32″	1/4″	50	97362A100	$8.96
Nickel-Plated Steel				
3/8″	1/4″	100	97362A300	7.58
1/2″	7/32″	50	97362A500	8.91

Turn-Button Fasteners

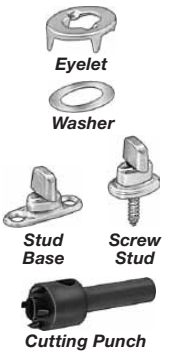

Attach leather, canvas, and other fabrics to solid surfaces such as wood and fiberglass. Fasteners are made from nickel-plated brass.

To install, cut the fabric using the *cutting punch* (sold separately). Push the *eyelet* prongs through the fabric and crimp the prongs over the *washer* on the opposite side. Install the *stud base* with screws or screw in the *screw stud* with the required *hand driver* (sold separately).

Eyelet is 1 1/16″ Lg. x 13/16″ Wd. Stud base has two holes for #6 screws (not included). Screw stud size is #7 x 5/8″.

Eyelets and Washers (5 pairs)	95678A678	Pkg.	$4.61
Stud Base (5/Pkg.)	95678A671	Pkg.	7.56
Screw Stud (5/Pkg.)	95678A674	Pkg.	13.06
Cutting Punch	95678A690	Each	63.59
Hand Driver for Screw Stud	95678A695	Each	20.19

About Threaded Inserts

Repair stripped threads or convert existing threads between inch and metric sizes.

Inserts for Metal

Helical inserts repair threads while removing less material than other threaded inserts. **Key-locking** and **thread-locking** inserts install into a tapped hole. **Tapping** inserts cut their own threads so you don't have to tap the hole.



Helical
pgs. 3316-3322



Key Locking
pgs. 3322-3324



Tapping
pgs. 3324-3325



Thread Locking
pgs. 3325-3327

Inserts for Plastic and Wood

Add threads to material that is too weak to tap. **Press-fit** inserts are pressed into a drilled hole. **Heat-set** inserts are inserted into plastic; the plastic softens when heated during installation, then it cools to solidify around the insert's knurls and ridges to resist torque and pull-out. **Tapping** inserts cut threads into materials for excellent pull-out resistance. **Hammer-in** inserts have a flange that distributes the load over a large area.



Press Fit
pg. 3328



Heat Set
pg. 3329



Tapping
pgs. 3328; 3330



Hammer In
pgs. 3330-3331

Inserts for Thin Materials

Add threads to material that is too thin to accept an insert. **Rivet nuts** collapse and flare during installation to create a backside flange that grips the material and holds them in place. **Press-in nuts** have knurls on the bottom of the nuts to hold them firmly in place when pressed into panels. **Weld nuts** are welded to metal surfaces for a permanent hold. **Clip-on nuts** slide onto panels for a tight hold.



Rivet Nuts
pgs. 3332-3335



Press-In Nuts
pgs. 3237-3238



Weld Nuts
pg. 3240



Clip-On Nuts
pgs. 3238-3239

How to Install Helical Inserts

Drill a hole using the suggested drill bit size. Thread the hole with a tap (sold separately), then screw the insert onto the installation tool (see pages 3320-3321 for tools). The prong (tang) the tool grips during installation must be properly engaged in the tool's driving contour. Install the insert a quarter to half turn below the surface of the hole. Remove the prong to allow full passage of your screw into the insert.

Thread Size	Drill Bit Size	Drill Bit Decimal Equivalent
1-64	#46	0.0810″
2-56	#41	0.0960″
3-48	7/64″	0.1094″
3-56	#36	0.1065″
4-40	#31	0.1250″
4-48	#31	0.1250″
5-40	#29	0.1360″
6-32	#25	0.1495″
6-40	#25	0.1495″
8-32	#16	0.1770″
8-36	#16	0.1770″
10-24	#5	0.2055″
10-32	13/64″	0.2031″
12-24	#1	0.2280″
1/4″-20	H	0.2660″
1/4″-28	6.7 mm	_____
5/16″-18	Q	0.3320″
5/16″-24	21/64″	0.3281″
3/8″-16	X	0.3970″
3/8″-24	25/64″	0.3906″
7/16″-14	29/64″	0.4531″
7/16″-20	29/64″	0.4531″
1/2″-13	17/32″	0.5313″
1/2″-20	33/64″	0.5156″
9/16″-12	19/32″	0.5938″
9/16″-18	37/64″	0.5781″
5/8″-11	21/32″	0.6563″
5/8″-18	41/64″	0.6406″
3/4″-10	25/32″	0.7813″
3/4″-16	49/64″	0.7656″
7/8″-9	29/32″	0.9063″
7/8″-14	57/64″	0.8906″
1″-8	1 1/32″	1.0313″
1″-12	1 1/32″	1.0313″
1″-14	1 1/32″	1.0313″
1 1/8″-7	1 11/64″	1.1719″
1 1/8″-12	1 5/32″	1.1563″
1 1/4″-7	1 19/64″	1.2969″
1 1/4″-8	1 1/4″	1.2500″
1 1/4″-12	1 9/32″	1.2813″
1 1/2″-6	1 35/64″	1.5469″
1 1/2″-8	1 1/2″	1.5000″
1 1/2″-12	1 17/32″	1.5313″
1 3/4″-8	1 3/4″	1.7500″
NPT (National Pipe Taper)		
1/8	W	0.3860″
1/4	33/64″	0.5156″
3/8	21/32″	0.6563″
1/2	13/16″	0.8125″
Metric		
M2.2×0.45	2.35 mm	_____
M2.5×0.45	#37	0.1040″
M3×0.5	3.20 mm	_____
M3.5×0.6	3.7 mm	_____
M4×0.7	#19	0.1660″
M5×0.8	5.30 mm	_____
M6×1	6.30 mm	_____
Metric (Cont.)		
M7×1	7.30 mm	_____
M8×1	8.30 mm	_____
M8×1.25	8.40 mm	_____
M10×1	13/32″	0.4063″
M10×1.25	13/32″	0.4063″
M10×1.5	10.5 mm	_____
M12×1.25	31/64″	0.4844″
M12×1.5	12.5 mm	_____
M12×1.75	12.5 mm	_____
M14×1.5	37/64″	0.5781″
M14×2	14.5 mm	_____
M16×2	16.5 mm	_____
M18×2.5	47/64″	0.7344″
M20×2.5	13/16″	0.8125″
M24×3	31/32″	0.9688″
M30×3.5	1 7/32″	1.2188″
M36×4	1 15/32″	1.4688″

Helical Inserts



Also known as Heli-Coil inserts, use these to repair threads in metals. The coils expand once installed to securely anchor the insert. Made from 18-8 stainless steel. Minimum tensile strength is 200,000 psi.

Standard inserts in inch sizes meet MS-122 or MS-124 except sizes 1-64, 12-24, 1 1/4″-8, 1 1/2″-8, 1 3/4″-8, left-hand thread, and NPT.

Screw-lock inserts have a polygon-shaped coil to securely hold screws and resist loosening. Inch sizes meet Mil. Spec. 21209 except sizes 1-64 and 1″-14.

Also Available: Lubricated inserts that have a dry film to avoid sticking during installation. Please ask for 91000A555 for standard inserts and 91000A888 of screw-lock inserts, then specify thread size and length.

Taps are for start-to-finish tapping of through-holes. **Also Available:** Taps for closed-end hole threading. Please ask for 91709A555 and specify thread size.

Standard inserts with tool include a tap for through-hole threading, an installation tool, and a drill bit (unless noted).

Thread Size	Installed Lg.	Standard Inserts Pkg. Qty.		Standard Inserts Pkg.	Screw-Lock Inserts Pkg. Qty.		Screw-Lock Inserts Pkg.	Taps		Taps Each	Standard Inserts with Tool Insert Length(s) Included	Standard Inserts with Tool Qty. Per Lg.		Standard Inserts with Tool Each
1-64	0.073″	10	91732A004	$6.79	5	90296A004	$6.67	91709A090		$36.94	_____	__	_____	_____
1-64	0.110″	10	91732A008	6.81	5	90296A008	6.67	91709A090		36.94	_____	__	_____	_____
1-64	0.146″	10	91732A011	6.88	5	90296A013	7.01	91709A090		36.94	_____	__	_____	_____
2-56	0.086″	10	91732A203	5.46	10	90296A094	6.53	91709A098		19.54	_____	__	_____	_____
2-56	0.129″	10	91732A204	5.26	10	90296A095	7.03	91709A098		19.54	0.129″	10	91732A892	$74.26
2-56	0.172″	10	91732A201	3.64	10	90296A097	4.47	91709A098		19.54	_____	__	_____	_____
2-56	0.215″	10	91732A202	3.89	1	90296A099	1.99	91709A098		19.54	_____	__	_____	_____

(Continued on following page)

Helical Inserts *(Continued from previous page)*

Thread Size	Installed Lg.	Standard Inserts Pkg. Qty.		Pkg.	Screw-Lock Inserts Pkg. Qty.		Pkg.	Taps	Each	Standard Inserts with Tool Insert Length(s) Included	Qty. Per Lg.		Each
3-48	0.099″	10	91732A205	$4.80	5	90296A184	$5.25	91709A099	$53.44				
3-48	0.148″	10	91732A207	4.11	10	90296A098	6.53	91709A099	53.44				
3-56	0.099″	10	91732A001	5.18	10	90296A012	7.16	91709A055	50.62				
3-56	0.148″	10	91732A003	5.00	5	90296A185	4.25	91709A055	50.62				
4-40	0.112″	10	91732A351	4.99	10	90296A101	6.53	91709A101	16.32	0.112″, 0.168″, 0.224″	12	91732A901	$72.34
4-40	0.168″	10	91732A285	4.17	10	90296A102	6.91	91709A101	16.32	0.168″	10	91732A899	37.69
4-40	0.224″	10	91732A701	6.15	5	90296A103	4.19	91709A101	16.32				
4-40	0.280″	10	91732A702	3.44	5	90296A104	4.26	91709A101	16.32				
4-40	0.336″	5	91732A420	2.69	1	90296A445	3.26	91709A101	16.32				
4-48	0.112″	10	91732A005	5.53	10	90296A016	10.36	91709A057	42.01				
4-48	0.168″	10	91732A007	5.00	10	90296A018	7.54	91709A057	42.01				
5-40	0.125″	10	91732A009	8.01	10	90296A020	8.97	91709A061	30.20	0.125″, 0.188″, 0.250″	12	91732A903	165.79
5-40	0.188″	10	91732A010	6.80	10	90296A022	8.29	91709A061	30.20				
5-40	0.250″	10	91732A704	6.28	5	90296A023	4.19	91709A061	30.20				
6-32	0.138″	10	91732A355	4.99	10	90296A106	6.53	91709A102	18.84	0.138″, 0.207″, 0.276″	12	91732A905	72.34
6-32	0.207″	10	91732A286	4.17	10	90296A107	6.91	91709A102	18.84	0.207″	10	91732A906	37.63
6-32	0.276″	10	91732A707	6.03	5	90296A108	4.19	91709A102	18.84				
6-32	0.345″	10	91732A708	5.63	5	90296A109	4.38	91709A102	18.84				
6-32	0.414″	5	91732A425	2.69	1	90296A450	3.26	91709A102	18.84				
6-40	0.138″	10	91732A012	5.53	10	90296A024	7.16	91709A063	25.41	0.138″, 0.207″, 0.276″	12	91732A907	136.25
6-40	0.207″	10	91732A014	5.00	5	90296A189	4.06	91709A063	25.41				
6-40	0.276″	10	91732A710	7.98	5	90296A190	3.88	91709A063	25.41				
8-32	0.164″	10	91732A359	4.99	10	90296A111	6.53	91709A103	15.54	0.164″, 0.246″, 0.328″	12	91732A909	56.23
8-32	0.246″	10	91732A287	4.17	10	90296A112	6.91	91709A103	15.54	0.246″	10	91732A910	34.01
8-32	0.328″	10	91732A713	6.15	10	90296A551	8.16	91709A103	15.54				
8-32	0.410″	10	91732A714	4.93	1	90296A552	3.06	91709A103	15.54				
8-32	0.492″	5	91732A415	2.69	1	90296A440	3.26	91709A103	15.54				
8-36	0.164″	10	91732A017	5.53	10	90296A028	7.16	91709A065	25.41	0.164″, 0.246″, 0.328″	12	91732A911	136.25
8-36	0.246″	10	91732A019	5.00	10	90296A030	7.54	91709A065	25.41				
8-36	0.328″	10	91732A716	6.28	5	90296A193	4.50	91709A065	25.41				
10-24	0.190″	10	91732A364	4.44	10	90296A116	6.53	91709A104	17.36	0.190″, 0.285″, 0.380″	12	91732A913	52.69
10-24	0.285″	10	91732A211	4.17	10	90296A117	6.91	91709A104	17.36	0.285″	10	91732A914	35.73
10-24	0.380″	10	91732A719	6.15	5	90296A118	4.19	91709A104	17.36				
10-24	0.475″	5	91732A720	6.18	1	90296A119	1.97	91709A104	17.36				
10-32	0.190″	10	91732A511	4.07	10	90296A201	6.53	91709A151	14.11	0.190″, 0.285″, 0.380″	12	91732A915	58.84
10-32	0.285″	10	91732A231	4.27	10	90296A202	6.91	91709A151	14.11	0.285″	10	91732A916	39.46
10-32	0.380″	10	91732A725	6.15	10	90296A554	7.91	91709A151	14.11				
10-32	0.475″	10	91732A726	4.93	1	90296A105	3.06	91709A151	14.11				
10-32	0.570″	10	91732A727	5.39	1	90296A555	3.27	91709A151	14.11				
12-24	0.216″	10	91732A021	5.53	10	90296A032	11.46	91709A067	27.82	0.216″, 0.328″, 0.432″	12	91732A917	65.22
12-24	0.324″	10	91732A023	5.00	10	90296A034	16.11	91709A067	27.82	0.324″	10	91732A918	36.04
12-24	0.432″	10	91732A731	6.28	—	—	—	91709A067	27.82				
1/4″-20	0.250″	10	91732A368	4.44	10	90296A121	6.53	91709A105	14.53	0.250″, 0.375″, 0.500″	12	91732A921	53.94
1/4″-20	0.375″	10	91732A212	4.17	10	90296A122	6.91	91709A105	14.53	0.375″	10	91732A922	36.50
1/4″-20	0.500″	10	91732A734	6.15	10	90296A557	8.16	91709A105	14.53				
1/4″-20	0.625″	10	91732A735	9.27	1	90296A558	3.06	91709A105	14.53				
1/4″-20	0.750″	10	91732A736	5.38	1	90296A559	3.26	91709A105	14.53				
1/4″-28	0.250″	10	91732A515	5.08	10	90296A206	6.53	91709A152	17.88	0.250″, 0.375″, 0.500″	12	91732A923	60.51
1/4″-28	0.375″	10	91732A232	4.27	10	90296A207	6.91	91709A152	17.88	0.375″	10	91732A924	39.85
1/4″-28	0.500″	10	91732A737	6.28	5	90296A208	4.19	91709A152	17.88				
1/4″-28	0.625″	10	91732A738	9.45	1	90296A556	1.97	91709A152	17.88				
5/16″-18	0.312″	10	91732A372	5.37	10	90296A126	7.28	91709A106	26.44	0.312″, 0.469″, 0.625″	12	91732A925	56.21
5/16″-18	0.469″	10	91732A213	5.73	10	90296A127	8.92	91709A106	26.44	0.469″	10	91732A926	39.03
5/16″-18	0.625″	10	91732A740	7.31	1	90296A128	.97	91709A106	26.44				
5/16″-18	0.938″	5	91732A741	6.60	—	—	—	91709A106	26.44				
5/16″-24	0.312″	10	91732A519	5.43	10	90296A211	7.66	91709A153	19.24	0.312″, 0.469″, 0.625″	12	91732A927	62.76
5/16″-24	0.469″	10	91732A233	6.14	10	90296A212	9.04	91709A153	19.24	0.469″	10	91732A928	40.92
5/16″-24	0.625″	10	91732A743	6.97	1	90296A213	.97	91709A153	19.24				
5/16″-24	0.781″	5	91732A744	6.92	1	90296A214	4.88	91709A153	19.24				
3/8″-16	0.375″	10	91732A376	6.44	10	90296A131	8.66	91709A107	29.80	0.375″, 0.562″, 0.750″	6	91732A929	57.26
3/8″-16	0.562″	10	91732A214	6.46	5	90296A132	5.46	91709A107	29.80	0.562″	10	91732A930	42.76
3/8″-16	0.750″	5	91732A746	5.65	1	90296A133	1.10	91709A107	29.80				
3/8″-16	0.938″	5	91732A747	7.47	—	—	—	91709A107	29.80				
3/8″-24	0.375″	10	91732A524	6.44	5	90296A216	4.96	91709A154	30.45	0.375″, 0.562″, 0.750″	6	91732A931	66.10
3/8″-24	0.562″	10	91732A234	6.46	5	90296A217	5.71	91709A154	30.45	0.562″	10	91732A932	45.11
3/8″-24	0.750″	5	91732A749	6.15	1	90296A218	1.10	91709A154	30.45				
3/8″-24	0.938″	1	91732A750	6.32	1	90296A219	16.44	91709A154	30.45				
7/16″-14	0.438″	10	91732A381	7.19	5	90296A136	5.90	91709A108	30.45	0.438″, 0.656″, 0.875″	6	91732A933	61.07
7/16″-14	0.656″	10	91732A215	7.60	5	90296A137	7.47	91709A108	30.45	0.656″	10	91732A934	44.66
7/16″-14	0.875″	5	91732A752	6.83	1	90296A138	1.43	91709A108	30.45				
7/16″-20	0.438″	10	91732A528	7.66	5	90296A221	5.90	91709A155	36.59	0.438″, 0.656″, 0.875″	6	91732A935	69.50
7/16″-20	0.656″	10	91732A235	7.71	5	90296A222	7.41	91709A155	36.59	0.656″	10	91732A936	47.00
7/16″-20	0.875″	5	91732A755	7.12	1	90296A223	1.27	91709A155	36.59				
1/2″-13	0.500″	10	91732A385	8.16	5	90296A141	5.90	91709A109	27.17	0.500″, 0.750″, 1.000″	6	91732A937	76.60
1/2″-13	0.750″	5	91732A216	5.52	5	90296A142	8.73	91709A109	27.17	0.750″	5	91732A938	53.08
1/2″-13	1.000″	5	91732A815	9.54	1	90296A143	1.73	91709A109	27.17				
1/2″-13	1.250″	5	91732A816	9.70	1	90296A144	5.16	91709A109	27.17				

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Helical Inserts *(Continued from previous page)*



Also known as Heli-Coil inserts, use these to repair threads in metals. The coils expand once installed to securely anchor the insert. Made from 18-8 stainless steel. Minimum tensile strength is 200,000 psi.

Standard inserts in inch sizes meet MS-122 or MS-124 except sizes 1-64, 12-24, 1¼″-8, 1½″-8, 1¾″-8, left-hand thread, and NPT.

Screw-lock inserts have a polygon-shaped coil to securely hold screws and resist loosening. Inch sizes meet Mil. Spec. 21209 except sizes 1-64 and 1″-14.

Also Available: Lubricated inserts that have a dry film to avoid sticking during installation. Please ask for 91000A555 for standard inserts and 91000A888 of screw-lock inserts, then specify thread size and length.

Taps are for start-to-finish tapping of through-holes. **Also Available:** Taps for closed-end hole threading. Please ask for 91709A555 and specify thread size.

Standard inserts with tool include a tap for through-hole threading, an installation tool, and a drill bit (unless noted).

Thread Size	Installed Lg.	Standard Inserts Pkg. Qty.		Pkg.	Screw-Lock Inserts Pkg. Qty.		Pkg.	Taps	Each	Standard Inserts with Tool: Insert Length(s) Included	Qty. Per Lg.		Each
½″-20	0.500″	10	91732A533	$8.16	5	90296A226	$6.59	91709A156	$32.29	0.500″, 0.750″, 1.000″	6	91732A939	$95.27
½″-20	0.750″	5	91732A236	5.52	5	90296A227	9.42	91709A156	32.29	0.750″	5	91732A940	55.44
½″-20	1.000″	5	91732A758	9.63	1	90296A228	1.73	91709A156	32.29				
½″-20	1.250″	1	91732A759	4.33	1	90296A229	5.21	91709A156	32.29				
9⁄16″-12	0.562″	5	91732A389	9.09	1	90296A140	2.35	91709A111	50.43				
9⁄16″-12	0.844″	5	91732A217	10.68	1	90296A147	3.75	91709A111	50.43	0.844″	6	91732A317	120.18
9⁄16″-18	0.562″	5	91732A537	8.85	1	90296A231	2.99	91709A157	50.43				
9⁄16″-18	0.844″	5	91732A237	10.67	1	90296A232	3.75	91709A157	50.43	0.844″	6	91732A337	129.21
5⁄8″-11	0.625″	5	91732A394	10.85	1	90296A151	3.98	91709A112	50.96				
5⁄8″-11	0.938″	1	91732A218	3.50	1	90296A152	4.92	91709A112	50.96	0.938″	6	91732A018	123.23
5⁄8″-11	1.250″	1	91732A395	3.56	1	90296A153	13.65	91709A112	50.96				
5⁄8″-18	0.625″	1	91732A541	2.35	1	90296A236	4.08	91709A158	58.06				
5⁄8″-18	0.938″	1	91732A238	3.50	1	90296A237	5.15	91709A158	58.06	0.938″	6	91732A038	150.21
¾″-10	0.750″	1	91732A398	4.46	1	90296A156	5.24	91709A113	62.61				
¾″-10	1.125″	1	91732A219	3.95	1	90296A157	6.98	91709A113	62.61	1.125″	4	91732A319	144.18
¾″-10	1.500″	1	91732A222	3.56	1	90296A158	13.65	91709A113	62.61				
¾″-16	0.750″	1	91732A545	3.20	1	90296A241	5.24	91709A159	71.26				
¾″-16	1.125″	1	91732A239	5.15	1	90296A242	6.98	91709A159	71.26	1.125″	4	91732A339	170.86
⅞″-9	0.875″	1	91732A403	4.47	1	90296A163	5.05	91709A114	89.40				
⅞″-9	1.312″	1	91732A220	7.03	1	90296A162	9.38	91709A114	89.40	1.312″	6	91732A320	219.50
⅞″-14	0.875″	1	91732A549	4.46	1	90296A248	5.05	91709A161	130.86				
⅞″-14	1.312″	1	91732A240	7.12	1	90296A247	9.38	91709A161	130.86	1.312″	6	91732A340	320.59
1″-8	1.000″	1	91732A407	5.64	1	90296A166	9.38	91709A115	126.82				
1″-8	1.500″	1	91732A221	9.07	1	90296A167	12.04	91709A115	126.82	1.500″	6	91732A321	322.11
1″-12	1.000″	1	91732A029	7.12	1	90296A040	9.09	91709A073	152.65				
1″-12	1.500″	1	91732A030	9.14	1	90296A042	11.81	91709A073	152.65	1.500″	6	91732A123	441.17
1″-14	1.000″	1	91732A025	7.12	1	90296A037	6.28	91709A071	152.65				
1″-14	1.500″	1	91732A027	9.34	1	90296A038	12.82	91709A071	152.65	1.500″	6	91732A121	450.68
1⅛″-7	1.125″	1	91732A141	14.05	—	—	—	91709A116	179.91				
1⅛″-7	1.688″	1	91732A143	16.70	—	—	—	91709A116	179.91	1.688″	5	91732A322	365.78
1⅛″-12	1.125″	1	91732A031	14.05	1	90296A044	18.20	91709A075	180.65				
1⅛″-12	1.688″	1	91732A034	16.70	—	—	—	91709A075	180.65	1.688″	5	91732A125	505.83
1¼″-7	1.250″	1	91732A032	15.29	—	—	—	91709A117	209.01				
1¼″-7	1.875″	1	91732A037	18.70	1	90296A050	26.03	91709A117	209.01	1.875″	4	91732A323	402.63
1¼″-8	1.875″	1	92335A111	11.00	—	—	—	92335A311	197.67				
1¼″-12	1.250″	1	91732A039	15.29	—	—	—	91709A077	176.13				
1¼″-12	1.875″	1	91732A041	18.70	—	—	—	91709A077	176.13	1.875″	4	91732A129	580.46
1½″-6	1.500″	1	91732A050	19.49	1	90296A064	25.14	91709A119	288.45				
1½″-6	2.250″	1	91732A052	25.20	—	—	—	91709A119	288.45	2.250″	4	91732A325	478.57
1½″-8	2.250″	1	92335A115	20.02	—	—	—	92335A315	235.33				
1½″-12	2.250″	1	91732A054	25.20	—	—	—	91709A083	291.77	2.250″	4	91732A137	686.49
1¾″-8	2.625″	1	92335A119	29.70	—	—	—	92335A319	288.83				
Left-Hand Threaded													
¼″-20	0.375″	1	92090A111	5.50	—	—	—	92090A311	45.00	0.375″ (no drill bit)	6	92090A627	79.80
¼″-28	0.375″	1	92090A115	5.50	—	—	—	92090A315	45.00	0.375″ (no drill bit)	6	92090A631	79.80
5⁄16″-18	0.469″	1	92090A121	5.42	—	—	—	92090A321	48.17	0.469″ (no drill bit)	6	92090A633	87.74
5⁄16″-24	0.469″	1	92090A123	5.42	—	—	—	92090A323	48.17	0.469″ (no drill bit)	6	92090A635	87.74
⅜″-16	0.562″	1	92090A127	5.67	—	—	—	92090A327	55.50	0.562″ (no drill bit)	6	92090A639	87.74
⅜″-24	0.562″	1	92090A131	5.67	—	—	—	92090A331	55.50	0.562″ (no drill bit)	6	92090A643	87.74
½″-13	0.750″	1	92090A143	5.83	—	—	—	92090A343	65.83	0.750″ (no drill bit)	4	92090A647	105.84
½″-20	0.750″	1	92090A147	5.83	—	—	—	92090A347	65.83	0.750″ (no drill bit)	4	92090A651	105.84
5⁄8″-11	0.938″	1	92090A151	5.83	—	—	—	92090A351	87.50	0.938″ (no drill bit)	2	92090A655	116.16
5⁄8″-18	0.938″	1	92090A155	5.83	—	—	—	92090A355	87.50	0.938″ (no drill bit)	2	92090A659	116.16
¾″-10	1.125″	1	92090A159	8.17	—	—	—	92090A359	98.39	1.125″ (no drill bit)	2	92090A663	137.73
NPT (National Pipe Taper)													
⅛	0.273″	5	91733A401	10.75	—	—	—	91711A251	35.85	0.273″	12	91733A421	185.24
¼	0.394″	5	91733A402	11.68	—	—	—	91711A252	41.50	0.394″	12	91733A422	250.39
⅜	0.407″	1	91733A403	3.62	—	—	—	91711A253	74.92	0.407″	10	91733A423	304.96
½	0.534″	1	91733A404	4.76	—	—	—	91711A254	101.86	0.534″	10	91733A424	367.78
Metric—Dimensions in millimeters.													
M2.2 x 0.45	2.2	5	91732A760	10.21	1	90296A380	3.12	91709A190	23.20	—	—	—	—
M2.2 x 0.45	3.3	5	91732A761	7.24	1	90296A382	3.32	91709A190	23.20	—	—	—	—
M2.2 x 0.45	4.4	5	91732A762	7.70	1	90296A385	3.53	91709A190	23.20	—	—	—	—
M2.5 x 0.45	2.5	10	91732A764	5.90	10	90296A401	5.15	91709A678	29.34	—	—	—	—
M2.5 x 0.45	3.8	10	91732A767	4.58	10	90296A402	5.46	91709A678	29.34	3.8	10	91732A873	142.59
M2.5 x 0.45	5	10	91732A770	6.15	10	90296A403	6.25	91709A678	29.34	—	—	—	—
M2.5 x 0.45	6.3	10	91732A771	8.15	1	90296A400	2.09	91709A678	29.34	—	—	—	—

(Continued on following page)

Helical Inserts *(Continued from previous page)*

Thread Size	Installed Lg.	Standard Inserts Pkg. Qty.	Standard Inserts Pkg.	Screw-Lock Inserts Pkg. Qty.	Screw-Lock Inserts Pkg.	Taps Each	Standard Inserts with Tool Insert Length(s) Included	Standard Inserts with Tool Qty. Per Lg.	Standard Inserts with Tool Each
Metric (Cont.)—Dimensions in millimeters.									
M3×0.5	3	10	91732A645 $7.53	10	90296A405 $7.91	91709A355 $21.60	3, 4.5, 6	12	91732A941 $121.69
M3×0.5	4.5	10	91732A647 6.56	10	90296A406 8.41	91709A355 21.60	4.5	10	91732A942 76.17
M3×0.5	6	10	91732A773 8.29	10	90296A404 6.07	91709A355 21.60			
M3×0.5	7.5	10	91732A780 9.37	1	90296A408 3.48	91709A355 21.60			
M3.5×0.6	3.5	5	91732A774 5.14	1	90296A370 2.88	91709A195 21.21			
M3.5×0.6	5.3	10	91732A775 4.19	1	90296A372 3.07	91709A195 21.21			
M3.5×0.6	7	5	91732A778 5.25	1	90296A376 3.27	91709A195 21.21			
M4×0.7	4	10	91732A649 6.28	10	90296A407 7.91	91709A359 21.60	4, 6, 8	6	91732A943 67.72
M4×0.7	6	10	91732A656 4.58	10	90296A409 8.41	91709A359 21.60	6	10	91732A944 40.16
M4×0.7	8	10	91732A776 6.15	10	90296A410 6.07	91709A359 21.60			
M4×0.7	10	10	91732A781 9.37	1	90296A418 3.47	91709A359 21.60			
M5×0.8	5	10	91732A631 5.08	10	90296A301 7.28	91709A201 17.36	5, 7.5, 10	6	91732A945 56.95
M5×0.8	7.5	10	91732A261 4.27	10	90296A302 7.54	91709A201 17.36	7.5	10	91732A946 39.73
M5×0.8	10	10	91732A779 6.16	10	90296A303 5.38	91709A201 17.36			
M5×0.8	12.5	10	91732A784 9.37	1	90296A305 3.48	91709A201 17.36			
M6×1	6	10	91732A635 4.07	10	90296A306 7.16	91709A202 14.53	6, 9, 12	6	91732A947 48.52
M6×1	9	10	91732A262 4.27	10	90296A307 6.67	91709A202 14.53	9	10	91732A948 40.09
M6×1	12	10	91732A782 5.90	10	90296A308 5.38	91709A202 14.53			
M6×1	15	10	91732A786 9.37	1	90296A310 3.48	91709A202 14.53			
M7×1	7	10	91732A639 13.73	10	90296A311 7.91	91709A203 34.46	7, 10.5, 14	6	91732A949 70.49
M7×1	10.5	10	91732A263 6.04	10	90296A312 10.62	91709A203 34.46	10.5	10	91732A950 53.66
M7×1	14	10	91732A785 14.06	5	90296A313 4.07	91709A203 34.46			
M8×1	8	10	91732A791 6.28	5	90296A314 3.62	91709A650 22.16			
M8×1	12	10	91732A794 5.94	5	90296A315 7.50	91709A650 22.16	12	10	91732A820 59.52
M8×1	16	10	91732A797 8.13	5	90296A318 4.13	91709A650 22.16			
M8×1.25	8	10	91732A644 5.43	10	90296A316 7.91	91709A204 19.50	8, 12, 16	6	91732A951 49.28
M8×1.25	12	10	91732A264 5.73	10	90296A317 6.40	91709A204 19.50	12	10	91732A952 41.18
M8×1.25	16	10	91732A788 8.54	5	90296A319 5.20	91709A204 19.50			
M8×1.25	20	10	91732A787 9.37	1	90296A320 8.69	91709A204 19.50			
M10×1	10	10	91732A818 6.78	5	90296A323 4.13	91709A672 39.73	10, 15, 20	6	91732A959 117.51
M10×1	15	5	91732A821 3.80	5	90296A324 4.82	91709A672 39.73	15	10	91732A962 77.54
M10×1	20	5	91732A823 6.17	5	90296A325 5.01	91709A672 39.73			
M10×1.25	10	10	91732A803 7.53	5	90296A341 3.75	91709A653 27.49			
M10×1.25	15	10	91732A806 7.71	5	90296A343 4.01	91709A653 27.49	15	10	91732A822 58.60
M10×1.25	20	5	91732A809 6.22	5	90296A344 5.63	91709A653 27.49			
M10×1.5	10	10	91732A648 6.44	10	90296A321 8.41	91709A205 30.45	10, 15, 20	6	91732A955 65.36
M10×1.5	15	10	91732A265 6.04	5	90296A322 5.21	91709A205 30.45	15	10	91732A956 45.30
M10×1.5	20	5	91732A800 6.15	5	90296A345 4.76	91709A205 30.45			
M10×1.5	25	5	91732A801 6.90	1	90296A328 4.53	91709A205 30.45			
M12×1.25	12	10	91732A827 5.44	5	90296A352 5.00	91709A675 37.19	12, 18, 24	6	91732A963 111.92
M12×1.25	18	5	91732A830 6.04	1	90296A355 1.23	91709A675 37.19	18	5	91732A964 63.03
M12×1.25	24	10	91732A833 10.16	1	90296A358 1.25	91709A675 37.19			
M12×1.5	18	5	91732A301 5.10	1	90296A361 1.23	91709A656 37.20	18	5	91732A824 63.03
M12×1.75	12	10	91732A653 8.16	5	90296A326 7.13	91709A206 26.07	12, 18, 24	6	91732A961 66.90
M12×1.75	18	5	91732A266 5.99	5	90296A327 8.16	91709A206 26.07	18	5	91732A967 55.75
M12×1.75	24	5	91732A812 8.86	1	90296A364 1.91	91709A206 26.07			
M12×1.75	30	5	91732A813 14.79	1	90296A366 11.34	91709A206 26.07			
M14×1.5	21	5	91732A303 7.95	1	90296A414 3.00	91709A659 50.57	21	5	91732A826 88.18
M14×2	14	5	91732A658 10.68	1	90296A412 1.23	91709A368 71.62			
M14×2	21	1	91732A671 2.92	1	90296A416 2.22	91709A368 71.62	21	12	91732A068 173.01
M16×2	16	1	91732A673 3.06	1	90296A415 4.17	91709A371 89.11			
M16×2	24	1	91732A675 3.83	1	90296A417 5.22	91709A371 89.11	24	6	91732A071 193.08
M16×2	32	1	91732A676 4.63	—	—	91709A371 89.11			
M18×2.5	18	1	91732A677 4.23	1	90296A419 5.53	91709A373 199.10			
M18×2.5	27	1	91732A679 5.39	1	90296A422 2.88	91709A373 199.10	27	6	91732A073 228.95
M20×2.5	20	1	91732A681 4.23	1	90296A427 2.90	91709A375 201.85			
M20×2.5	30	1	91732A683 5.39	1	90296A425 7.31	91709A375 201.85	30	4	91732A075 253.04
M24×3	36	1	92450A125 5.60	1	90296A431 9.38	92450A325 110.91	36 (no drill bit)	5	91732A969 214.20
M30×3.5	45	1	92450A145 7.45	1	90296A436 9.58	92450A345 151.27	45 (no drill bit)	5	91732A972 268.44
M36×4	54	1	92450A161 9.84	—	—	92450A361 226.82	54 (no drill bit)	4	91732A975 302.72

Helical Insert Assortments

Assortments include various sizes of helical inserts, a tap for through-hole threading, a drill bit, and an installation tool.

Coarse Thread—54 inserts. Sizes: 1/4″-20×0.375″, 5/16″-18×0.469″, 3/8″-16×0.563″, 7/16″-14×0.656″, 1/2″-13×0.750″, and 5/8″-11×0.938″.

90285A121 $441.98

Fine Thread—60 inserts. Sizes: 10-32×0.285″; 1/4″-28×0.375″, 5/16″-24×0.469″, 3/8″-24×0.563″, 7/16″-20×0.656″, and 1/2″-20×0.750″.

90285A124 $423.77

Miniature Thread—144 standard inserts and 144 screw-lock inserts, 24 each in sizes: 1-64×0.110″, 2-56×0.129″, 3-48×0.148″, 4-40×0.168″, 6-32×0.207″, and 8-32×0.246″.

90285A134 $500.04

Metric Thread—48 inserts. Sizes: M5×0.8 in 7.5 mm Lg., M6×1 in 9 mm Lg., M8×1.25 in 12 mm Lg., and M10×1.5 in 15 mm Lg.

90285A131 $233.27

Spark Plug Thread Repair Kits

Kits include helical inserts, a combination drill bit and tap, and an installation tool.

30-Pc. M14×1.25 mm Helical Insert Assort.—Has 30 inserts, six each of 0.375″, 0.438″, 0.472″, 0.500″, and 0.750″ lengths.

91732A091 $232.98

24-Pc. M18×1.5 mm Helical Insert Assort.—24 inserts, 0.500″ long.

91732A055 $260.09

3-Pc. M14×1.25 mm Helical Insert Assort.—Has three inserts (short, normal, and long reach). Use to repair gasket-seat and taper-seat spark plug ports.

91732A095 $53.12

18-Pc. M14×1.25 mm Helical Insert Assort.—Has 18 inserts (six each of short, normal, and long reach). Use to repair gasket-seat and taper-seat spark plug ports.

91732A097 $91.52

High-Performance Helical Inserts



Use these inserts for threads that last under difficult conditions. Also known as Heli-Coil inserts.

Coated 18-8 Stainless Steel—A fluoropolymer coating resists corrosion from contact with dissimilar metals such as aluminum and lubricates the insert to keep it from sticking during installation. Minimum tensile strength is 200,000 psi.

Titanium—These have a higher strength-to-weight ratio and are 40% lighter than stainless steel. They provide excellent resistance to salt water, chemicals, and acids. Minimum tensile strength is 150,000 psi.

Nitronic 60 Stainless Steel—Minimize sticking during installation without lubricants or coatings that can chip and contaminate particle-free environments. Minimum tensile strength is 200,000 psi.

Nickel Alloy—These inserts stand up to temperatures as high as 1,000° F and resist salt water, chemicals, and acids better than stainless steel. Minimum tensile strength is 200,000 psi.

Taps are for start-to-finish tapping of through-holes.

Also Available: Coated 18-8 stainless steel screw-lock inserts and Nitronic 60 stainless steel screw-lock inserts. Please ask for 96246A555 and specify thread size and length.

Thread Size	Installed Lg.	Coated 18-8 Stainless Steel Pkg. Qty.		Pkg.	Titanium Pkg. Qty.		Pkg.	Nitronic 60 Stainless Steel Pkg. Qty.		Pkg.	Nickel Alloy Pkg. Qty.		Pkg.	Taps Each
2-56	0.086"	1	96246A009	$5.16	1	93332A216	$2.31	5	96246A004	$6.93	1	94264A303	$1.43	91709A098 $19.54
2-56	0.129"	1	96246A025	5.50	1	93332A223	2.46	5	96246A018	7.29	1	94264A305	1.43	91709A098 19.54
2-56	0.172"	1	96246A038	5.86	1	93332A227	2.62	—	—	—	1	94264A308	1.43	91709A098 19.54
4-40	0.112"	1	96246A047	5.13	1	93332A230	2.31	5	96246A032	6.93	1	94264A411	1.40	91709A101 16.32
4-40	0.168"	1	96246A065	5.46	1	93332A234	2.46	5	96246A046	7.29	1	94264A414	1.75	91709A101 16.32
4-40	0.224"	1	96246A094	5.82	1	93332A238	2.62	5	96246A060	7.71	1	94264A417	1.38	91709A101 16.32
6-32	0.138"	1	96246A095	5.13	1	93332A241	2.31	5	96246A074	6.93	1	94264A420	1.78	91709A102 18.84
6-32	0.207"	1	96246A109	5.46	1	93332A244	2.46	5	96246A088	7.29	1	94264A423	1.50	91709A102 18.84
6-32	0.276"	1	96246A125	5.82	1	93332A246	2.62	5	96246A102	7.71	1	94264A426	1.59	91709A102 18.84
8-32	0.164"	—	—	—	—	—	—	5	96246A116	6.93	—	—	—	91709A103 15.54
8-32	0.246"	—	—	—	—	—	—	5	96246A130	7.29	—	—	—	91709A103 15.54
8-32	0.328"	—	—	—	—	—	—	5	96246A144	7.71	—	—	—	91709A103 15.54
10-24	0.190"	1	96246A136	5.13	1	93332A249	2.31	5	96246A158	7.43	1	94264A430	1.56	91709A104 17.36
10-24	0.285"	1	96246A285	5.46	1	93332A255	2.46	5	96246A172	7.28	—	—	—	91709A104 17.36
10-24	0.380"	1	96246A166	5.82	1	93332A259	2.62	5	96246A186	7.71	1	94264A432	1.84	91709A104 17.36
10-32	0.190"	1	96246A261	2.02	1	93332A262	2.31	5	96246A200	6.93	1	94264A473	1.52	91709A151 14.11
10-32	0.285"	1	96246A278	5.48	1	93332A265	2.46	5	96246A214	7.28	1	94264A477	1.64	91709A151 14.11
10-32	0.380"	1	96246A332	5.84	1	93332A268	2.62	5	96246A228	7.71	—	—	—	91709A151 14.11
1/4"-20	0.250"	1	96246A177	5.13	1	93332A273	2.31	5	96246A242	6.93	1	94264A441	1.91	91709A105 14.53
1/4"-20	0.375"	1	96246A193	5.46	1	93332A276	2.46	5	96246A256	7.28	1	94264A445	2.20	91709A105 14.53
1/4"-20	0.500"	1	96246A208	5.82	1	93332A279	2.62	5	96246A270	7.71	—	—	—	91709A105 14.53
5/16"-18	0.312"	1	96246A219	5.13	1	93332A281	3.71	5	96246A326	7.71	1	94264A451	6.09	91709A106 26.44
5/16"-18	0.469"	1	96246A234	5.46	1	93332A285	3.95	5	96246A340	8.79	1	94264A454	6.48	91709A106 26.44
5/16"-18	0.625"	1	96246A248	5.82	1	93332A290	4.20	5	96246A354	10.65	1	94264A457	6.76	91709A106 26.44
3/8"-16	0.375"	—	—	—	1	93332A293	3.78	—	—	—	1	94264A462	7.03	91709A107 29.80
3/8"-16	0.562"	—	—	—	1	93332A296	4.54	—	—	—	1	94264A466	7.75	91709A107 29.80
3/8"-16	0.750"	—	—	—	1	93332A299	5.45	—	—	—	1	94264A469	8.55	91709A107 29.80
Metric—Dimensions in millimeters.														
M2.5×0.45	2.5	1	93914A020	5.15	—	—	—	5	93914A009	6.93	1	94264A118	1.26	91709A678 29.34
M2.5×0.45	3.8	1	93914A014	5.49	—	—	—	5	93914A026	7.28	1	94264A121	1.27	91709A678 29.34
M2.5×0.45	5	1	93914A301	5.84	—	—	—	5	93914A043	8.00	1	94264A125	1.52	91709A678 29.34
M3×0.5	3	1	93914A308	5.15	—	—	—	5	93914A060	9.07	1	94264A129	1.28	91709A355 21.60
M3×0.5	4.5	1	93914A312	5.49	—	—	—	5	93914A077	9.52	—	—	—	91709A355 21.60
M3×0.5	6	1	93914A317	5.84	—	—	—	5	93914A094	10.06	1	94264A136	1.31	91709A355 21.60
M4×0.7	4	1	93914A323	5.15	—	—	—	5	93914A111	6.93	1	94264A140	1.52	91709A359 21.60
M4×0.7	6	1	93914A329	5.49	—	—	—	5	93914A128	7.28	1	94264A143	1.73	91709A359 21.60
M4×0.7	8	1	93914A334	5.84	—	—	—	5	93914A145	7.71	1	94264A147	1.53	91709A359 21.60
M5×0.8	5	1	93914A341	5.15	—	—	—	5	93914A162	6.93	1	94264A152	1.90	91709A201 17.36
M5×0.8	7.5	1	93914A346	5.49	—	—	—	5	93914A179	7.28	1	94264A155	1.82	91709A201 17.36
M5×0.8	10	1	93914A338	5.84	—	—	—	5	93914A196	7.71	1	94264A158	1.68	91709A201 17.36
M6×1	6	—	—	—	—	—	—	5	93914A213	6.93	1	94264A161	1.53	91709A202 14.53
M6×1	9	1	93914A355	5.49	—	—	—	5	93914A230	7.28	1	94264A164	1.95	91709A202 14.53
M6×1	12	1	93914A359	5.84	—	—	—	5	93914A247	7.71	1	94264A168	1.90	91709A202 14.53
M8×1.25	8	1	93914A363	5.15	—	—	—	5	93914A264	7.71	1	94264A172	6.03	91709A204 19.50
M8×1.25	12	1	93914A367	5.49	—	—	—	5	93914A281	8.79	1	94264A176	6.26	91709A204 19.50
M8×1.25	16	1	93914A371	5.84	—	—	—	5	93914A298	10.65	1	94264A183	8.64	91709A204 19.50
M10×1.5	10	—	—	—	—	—	—	—	—	—	1	94264A110	6.48	91709A205 30.45
M10×1.5	15	—	—	—	—	—	—	—	—	—	1	94264A114	7.17	91709A205 30.45

Installation Tools for Helical Inserts



Screw the insert onto the tool and drive it a quarter to half-turn below the material's surface. Compatible with Heli-Coil inserts that have a prong.

For Thread Size			For Thread Size			For Thread Size			For Thread Size		
1-64	90261A131	$147.18	8-32	90261A153	$91.46	3/8"-16	90261A157	$115.71	5/8"-11	90261A172	$47.22
2-56	90261A140	53.31	10-24	90261A154	86.14	3/8"-24	90261A164	115.71	5/8"-18	90261A182	130.20
3-48	90261A150	91.29	10-32	90261A161	85.84	7/16"-14	90261A158	115.71	3/4"-10	90261A173	53.33
3-56	90261A101	113.28	12-24	90261A110	103.93	7/16"-20	90261A165	115.71	3/4"-16	90261A183	138.54
4-40	90261A151	90.42	1/4"-20	90261A155	85.84	1/2"-13	90261A159	115.71	7/8"-9	90261A174	53.33
4-48	90261A102	103.93	1/4"-28	90261A162	86.12	1/2"-20	90261A166	115.71	7/8"-14	90261A114	150.68
5-40	90261A104	112.09	5/16"-18	90261A156	115.71	9/16"-12	90261A171	45.52	1"-8	90261A175	51.72
6-32	90261A152	90.42	5/16"-24	90261A163	115.71	9/16"-18	90261A112	116.75	1 1/4"-7	90261A124	90.37
6-40	90261A106	103.93									

(Continued on following page)

Installation Tools for Helical Inserts *(Continued from previous page)*

For Thread Size		
1¼"-8	92335A511	$65.50
1½"-8	92335A515	65.50
1¾"-8	92335A519	65.50
Left-Hand Threaded		
¼"-20	92090A511	16.38
¼"-28	92090A515	16.38
5/16"-18	92090A519	16.38
5/16"-24	92090A523	16.88
3/8"-16	92090A527	16.88
3/8"-24	92090A531	17.50
½"-13	92090A543	18.75
½"-20	92090A547	18.67

For Thread Size		
Left-Hand Threaded (Cont.)		
5/8"-11	92090A551	$18.67
5/8"-18	92090A555	25.11
¾"-10	92090A559	22.60
NPT (National Pipe Taper)		
⅛	90261A201	122.74
¼	90261A202	131.24
⅜	90261A203	156.68
½	90261A204	165.20

For Thread Size		
Metric		
M2×0.4	90261A185	$142.22
M2.2×0.45	90261A186	68.17
M2.5×0.45	90261A187	103.96
M3×0.5	90261A188	96.31
M3.5×0.6	90261A189	96.31
M4×0.7	90261A190	96.31
M5×0.8	90261A191	81.69
M6×1	90261A192	81.69

For Thread Size		
Metric (Cont.)		
M7×1	90261A193	$109.73
M8×1.25	90261A194	109.73
M10×1.25	90261A197	138.19
M10×1.5	90261A195	109.73
M12×1.75	90261A196	109.73
M24×3	92450A523	19.55
M30×3.5	92450A543	30.00
M36×4	92450A555	33.64

Economy Installation Tools

Use one of these cost-effective tools to install helical inserts that have a prong. Screw the insert onto the tool and drive it a quarter to half-turn below the material's surface.



For Thread Size		
4-40	93060A001	$24.64
6-32	93060A003	24.64
8-32	93060A005	24.64
10-24	93060A007	24.64
10-32	93060A037	38.10
¼"-20	93060A009	23.06
¼"-28	93060A039	38.10
5/16"-18	93060A011	23.06
5/16"-24	93060A041	38.10
3/8"-16	93060A013	23.06
3/8"-24	93060A043	38.10
7/16"-14	93060A015	23.06
7/16"-20	93060A045	38.10

For Thread Size		
½"-13	93060A017	$23.06
½"-20	93060A047	38.10
5/8"-11	93060A021	35.61
5/8"-18	93060A051	38.10
¾"-10	93060A023	35.61
¾"-16	93060A053	38.10
M5×0.8	93060A055	34.34
M6×1	93060A057	34.34
M8×1.25	93060A059	22.18
M10×1.5	93060A061	22.18
M12×1.75	93060A063	22.18

Prong Break-Off Tools

Insert the tool into an installed insert and push the trigger down to strike and break off the prong.



For Thread Size		
2-56, 3-48, 3-56	92955A101	$66.34
4-40, 4-48, 5-40	92955A103	66.34
6-32, 6-40	92955A105	66.34
8-32, 8-36	92955A107	66.34
10-24, 10-32, 12-24	92955A109	66.34
¼"-20, ¼"-28	92955A111	66.34
5/16"-18	92955A113	107.15
5/16"-24	92955A121	121.44

For Thread Size		
3/8"-16	92955A115	$107.15
3/8"-24	92955A123	107.15
½"-13	92955A119	121.44
½"-20	92955A127	121.44
M3×0.5	92955A155	67.37
M4×0.7	92955A160	67.37
M5×0.8	92955A129	61.71
M6×1	92955A131	64.84
M8×1.25	92955A133	107.15
M10×1.5	92955A135	121.44
M12×1.75	92955A137	121.44

Extraction Tools for Helical Inserts

Place the tip of the tool in the insert and strike a light blow to the tool's head, then turn the tool counterclockwise with pressure to extract the insert.



For Thread Size		
No. 2 and M2.2	90254A290	$30.91
No. 3 to No. 8 and M2.5 to M4	90254A310	32.51
No. 10 to 3/8" and M5 to M10	90254A320	33.73

For Thread Size		
7/16" to 1" and M12 to M24	90254A330	$38.28
1⅛" to 1½" and M27 to M39	90254A360	80.55

Helical Inserts without Prong

With no prong to break off and retrieve, these inserts are often used in applications where debris could cause damage. Made from 18-8 stainless steel. Minimum tensile strength is 200,000 psi. Inch sizes meet National Aerospace Standard (NAS) 1130; metric sizes meet NA0276.

Screw-lock inserts have a polygon-shaped coil that grips screws to resist loosening. *Inch sizes* meet MS-21209.

Taps are for start-to-finish tapping of through-holes.

Also Available: Lubricated inserts without prong that have a dry film to keep inserts from sticking during installation. Please ask for 91990A555 and specify thread size: 2-56, 4-40, 6-32, 8-32, 10-32, or ¼"-20 and length.



Thread Size	Installed Lg.	Standard Inserts Pkg. Qty.		Pkg.	Screw-Lock Inserts Pkg. Qty.		Pkg.	Taps	Each
2-56	0.086"	10	91990A201	$4.41	5	91630A421	$3.21	91709A098	$19.54
2-56	0.129"	10	91990A204	4.83	5	91630A424	3.42	91709A098	19.54
2-56	0.172"	10	91990A207	5.22	5	91630A427	3.63	91709A098	19.54
4-40	0.112"	10	91990A210	4.41	5	91630A430	3.21	91709A101	16.32
4-40	0.168"	10	91990A213	4.83	5	91630A433	3.42	91709A101	16.32
4-40	0.224"	10	91990A216	5.22	5	91630A436	3.21	91709A101	16.32
6-32	0.138"	10	91990A219	4.41	5	91630A439	3.21	91709A102	18.84
6-32	0.207"	10	91990A222	4.83	5	91630A442	3.42	91709A102	18.84
6-32	0.276"	10	91990A225	5.22	5	91630A445	3.42	91709A102	18.84
8-32	0.164"	10	91990A228	4.83	5	91630A448	3.21	91709A103	15.54
8-32	0.246"	10	91990A231	4.83	5	91630A451	3.42	91709A103	15.54
8-32	0.328"	10	91990A234	5.22	5	91630A454	3.42	91709A103	15.54
10-24	0.190"	10	91990A237	4.83	5	91630A457	3.21	91709A104	17.36
10-24	0.285"	10	91990A240	5.22	5	91630A460	3.42	91709A104	17.36
10-24	0.380"	10	91990A243	5.61	5	91630A463	3.63	91709A104	17.36
10-32	0.190"	10	91990A246	4.83	5	91630A466	3.21	91709A151	14.11
10-32	0.285"	10	91990A249	5.22	5	91630A469	3.42	91709A151	14.11
10-32	0.380"	10	91990A252	5.61	5	91630A472	3.63	91709A151	14.11
¼"-20	0.250"	10	91990A255	4.83	5	91630A475	3.21	91709A105	14.53
¼"-20	0.375"	10	91990A258	5.22	5	91630A478	3.42	91709A105	14.53
¼"-20	0.500"	10	91990A261	5.61	5	91630A481	3.63	91709A105	14.53

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Helical Inserts without Prong *(Continued from previous page)*



With no prong to break off and retrieve, these inserts are often used in applications where debris could cause damage. Made from 18-8 stainless steel. Minimum tensile strength is 200,000 psi. Inch sizes meet National Aerospace Standard (NAS) 1130; metric sizes meet NA0276.

Screw-lock inserts have a polygon-shaped coil that grips screws to resist loosening. *Inch sizes* meet MS-21209.

Taps are for start-to-finish tapping of through-holes.

Also Available: Lubricated inserts without prong that have a dry film to keep inserts from sticking during installation. Please ask for 91990A555 and specify thread size: 2-56, 4-40, 6-32, 8-32, 10-32, or 1/4″-20 and length.

Thread Size	Installed Lg., mm	Standard Inserts Pkg. Qty.		Pkg.	Screw-Lock Inserts Pkg. Qty.		Pkg.	Taps Each
M2.5×0.45	2.5	10	91990A401	$3.89	10	91630A221	$4.70	91709A678 $29.34
M2.5×0.45	3.8	10	91990A404	4.16	10	91630A224	4.87	91709A678 29.34
M2.5×0.45	5	10	91990A407	4.47	10	91630A227	5.18	91709A678 29.34
M3×0.5	3	10	91990A408	3.96	10	91630A230	4.40	91709A355 21.60
M3×0.5	4.5	10	91990A410	3.89	10	91630A235	4.54	91709A355 21.60
M3×0.5	6	10	91990A412	4.16	10	91630A283	4.87	91709A355 21.60
M4×0.7	4	10	91990A413	3.76	10	91630A256	4.50	91709A359 21.60
M4×0.7	6	10	91990A416	3.96	10	91630A237	4.87	91709A359 21.60
M4×0.7	8	10	91990A419	4.27	10	91630A239	5.01	91709A359 21.60
M5×0.8	5	10	91990A422	3.89	10	91630A242	4.87	91709A201 17.36
M5×0.8	7.5	10	91990A425	4.16	10	91630A245	5.15	91709A201 17.36
M5×0.8	10	10	91990A428	4.37	10	91630A248	5.39	91709A201 17.36
M6×1	6	10	91990A429	4.16	10	91630A251	4.87	91709A202 14.53
M6×1	9	10	91990A434	4.37	10	91630A254	5.15	91709A202 14.53
M6×1	12	10	91990A437	4.60	10	91630A257	5.39	91709A202 14.53

Installation and Removal Tools

Screw the insert onto the tool and drive it a quarter to half-turn below the material's surface. Tools for inch size inserts have a solid handle. Tools for metric size inserts have a hollow handle for tip storage. Replacement tips (sold separately) come with one installation or removal tip, two pins, and two springs (unless noted). **To Order:** Please specify thread size.

Installation Tool	91049A100	$302.40
Replacement Tip for Installation Tool ■	91049A200	68.06
Removal Tool for Inch Sizes	91049A600	$326.31
Removal Tool for Metric Sizes	91049A700	289.98
Replacement Tip for Removal Tools for Inch Sizes	91049A500	68.06

■ Tip for 10-32 internal thread size does not require pins and springs.

Key-Locking Inserts for Soft Metals



Drive the keys into the surrounding material for a more secure hold than thread-locking inserts. Use them to repair or convert threads in soft metals such as aluminum. They're comparable to Keensert inserts. Installation requires a drill bit, a tap, and an installation tool. Inserts with 1/4" or M6 thread size and smaller have two locking keys; 5/16" or M8 and larger have four locking keys. Thread fit is Class 2B for inch sizes and Class 6H for metric sizes.

Extra-thick-wall inserts work well in oversized and worn holes.

Thin-wall inserts have smaller external threads than thick-wall inserts, so they require a smaller drilled hole.

Thread Size	Tap Size	Installed Lg.	Drill Bit Size	*18-8 Stainless Steel* Inserts★		Inserts with Tool No. of Inserts			*Black-Phosphate Steel* Inserts★		Inserts with Tool No. of Inserts	
Thick Wall—Inch												
8-32	5/16″-18	0.313″	I	91731A047	$2.82	9	91731A007	$40.64	90245A069	$2.30	9	90245A049 $33.49
10-24	3/8″-16	0.313″	Q	91731A051	3.31	9	91731A011	32.91	90245A031	1.44	9	90245A011 26.44
10-32	3/8″-16	0.313″	Q	91731A049	3.22	9	91731A009	32.73	90245A071	1.44	9	90245A051 26.36
1/4″-20	7/16″-14	0.375″	X	91731A052	3.18	8	91731A012	28.27	90245A032	1.49	8	90245A012 21.05
1/4″-28	7/16″-14	0.375″	X	91731A064	3.17	8	91731A026	27.82	90245A072	1.49	8	90245A052 21.00
5/16″-18	1/2″-13	0.438″	29/64″	91731A053	4.71	7	91731A013	34.73	90245A033	1.62	7	90245A013 20.82
5/16″-24	1/2″-13	0.438″	29/64″	91731A071	4.70	7	91731A027	34.27	90245A073	1.62	7	90245A053 20.75
3/8″-16	9/16″-12	0.500″	33/64″	91731A054	5.67	6	91731A014	34.91	90245A034	1.84	6	90245A014 20.73
3/8″-24	9/16″-12	0.500″	33/64″	91731A065	5.67	6	91731A025	25.91	90245A074	1.84	6	90245A054 20.67
7/16″-14	5/8″-11	0.625″	37/64″	91731A055	9.00	6	91731A015	53.00	90245A035	2.42	6	90245A015 24.36
7/16″-20	5/8″-11	0.625″	37/64″	91731A066	9.02	6	91731A031	51.09	90245A075	2.39	6	90245A055 24.44
1/2″-13	3/4″-16	0.625″	45/64″	91731A061	10.71	4	91731A019	38.36	90245A036	2.62	4	90245A016 21.51
1/2″-20	3/4″-16	0.625″	45/64″	91731A022	12.75	4	91731A048	38.27	90245A076	2.61	4	90245A056 21.71
9/16″-12	3/4″-16	0.813″	45/64″	91731A057	11.25	3	91731A017	36.82	90245A037	4.02	3	90245A017 24.55
9/16″-18	3/4″-16	0.813″	45/64″	91731A067	11.27	3	91731A033	37.73	90245A077	4.02	3	90245A057 24.55
5/8″-11	7/8″-14	0.875″	53/64″	91731A058	15.11	3	91731A018	40.36	90245A038	4.39	3	90245A018 24.73
5/8″-18	7/8″-14	0.875″	53/64″	91731A068	12.68	3	91731A070	39.73	90245A078	4.39	3	90245A058 24.82
3/4″-10	1 1/8″-12	1.125″	1 1/16″	91731A063	18.77	3	91731A023	72.64	90245A039	6.67	3	90245A019 33.24
3/4″-16	1 1/8″-12	1.125″	1 1/16″	91731A069	18.80	3	91731A035	71.09	90245A079	6.67	3	90245A059 33.36
7/8″-9	1 1/4″-12	1.250″	1 3/16″	91731A074	39.40	3	91731A038	126.00	90245A041	8.73	3	90245A021 38.60
7/8″-14	1 1/4″-12	1.250″	1 3/16″	91731A079	39.40	3	91731A041	125.91	90245A081	8.73	3	90245A061 38.82
1″-8	1 3/8″-12	1.375″	1 5/16″	91731A083	42.37	2	91731A044	97.27	90245A042	14.78	2	90245A022 48.36
1″-12	1 3/8″-12	1.375″	1 5/16″	91731A088	42.37	2	91731A037	97.18	90245A082	14.78	2	90245A062 48.18
1″-14	1 3/8″-12	1.375″	1 5/16″						90245A085	16.60	2	90245A070 48.18
1 1/8″-7	1 1/2″-12	1.625″	1 7/16″						90245A091	39.56	2	90245A063 115.45
1 1/8″-12	1 1/2″-12	1.625″	1 7/16″						90245A096	39.56	2	90245A064 115.45
1 1/4″-7	1 5/8″-12	1.813″	1 9/16″						90245A101	48.44	2	90245A065 135.36
1 1/4″-12	1 5/8″-12	1.813″	1 9/16″						90245A104	48.44	2	90245A066 134.36
1 1/2″-6	1 7/8″-12	2.000″	1 13/16″						90245A108	90.33	2	90245A067 226.36
1 1/2″-12	1 7/8″-12	2.000″	1 13/16″						90245A113	90.33	2	90245A068 226.36
Extra-Thick Wall—Inch												
1/4″-20	1/2″-13	0.375″	29/64″						93302A100	18.75	8	93302A410 177.64
5/16″-18	9/16″-12	0.438″	33/64″						93302A120	19.55	7	93302A420 166.49

★Prices are 15% lower when you buy in multiples of 10.

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Key-Locking Inserts for Soft Metals *(Continued from previous page)*

Thread Size	Tap Size	Installed Lg.	Drill Bit Size	18-8 Stainless Steel Inserts★		18-8 Stainless Steel Inserts with Tool No. of Inserts	18-8 Stainless Steel Inserts with Tool		Black-Phosphate Steel Inserts★		Black-Phosphate Steel Inserts with Tool No. of Inserts	Black-Phosphate Steel Inserts with Tool	
Extra-Thick Wall (Cont.)—Inch													
3/8"-16	5/8"-11	0.500"	37/64"						93302A140	$19.89	6	93302A430	$146.33
1/2"-13	7/8"-14	0.688"	53/64"						93302A160	24.09	4	93302A440	124.45
5/8"-11	1"-12	0.875"	15/16"						93302A170	29.43	3	93302A450	128.78
3/4"-10	1 1/4"-12	1.125"	1 3/16"						93302A180	32.16	3	93302A460	136.58
Thin Wall—Inch													
10-24	5/16"-18	0.313"	I	93340A405	$2.93	9	93340A607	$36.73	92070A110	1.72	9	92070A306	26.27
10-32	5/16"-18	0.313"	I	93340A305	2.93	9	93340A618	36.82	92070A240	1.72	9	92070A312	26.36
1/4"-20	3/8"-16	0.375"	Q	93340A410	3.16	8	93340A629	35.36	92070A115	1.80	8	92070A319	20.91
1/4"-28	3/8"-16	0.375"	Q	93340A310	3.16	8	93340A640	35.36	92070A245	1.80	8	92070A325	20.91
5/16"-18	7/16"-14	0.438"	X	93340A415	5.24	7	93340A651	42.45	92070A120	2.12	7	92070A331	20.69
5/16"-24	7/16"-14	0.438"	X	93340A315	5.17	7	93340A662	42.45	92070A250	2.12	7	92070A337	20.69
3/8"-16	1/2"-13	0.500"	29/64"	93340A420	6.19	6	93340A673	49.45	92070A125	2.23	6	92070A344	20.91
3/8"-24	1/2"-13	0.500"	29/64"	93340A320	6.19	6	93340A684	53.64	92070A255	2.23	6	92070A350	20.91
7/16"-14	9/16"-12	0.563"	33/64"	93340A425	10.60	6	93340A695	67.91	92070A130	3.02	6	92070A357	24.18
7/16"-20	9/16"-12	0.563"	33/64"	93340A325	10.60	6	93340A706	68.09	92070A260	3.02	6	92070A363	24.18
1/2"-13	5/8"-11	0.625"	37/64"	93340A330	10.48	4	93340A717	46.91	92070A135	3.18	4	92070A370	21.55
1/2"-20	5/8"-11	0.625"	37/64"	93340A430	11.57	4	93340A728	48.82	92070A265	3.17	4	92070A376	21.55
Metric													
M5×0.8	M8×1.25	8 mm	6.9 mm	93715A605	7.08	8	93715A415	90.09	90245A161	2.13	8	90245A160	52.73
M6×1	M10×1.25	10 mm	8.8 mm	93715A610	6.47	8	93715A420	80.16	90245A171	2.40	8	90245A162	39.82
M8×1	M12×1.25	12 mm	10.8 mm	93715A620	12.23	6	93715A425	90.33	90245A172	2.72	6	90245A163	36.45
M8×1.25	M12×1.25	12 mm	10.8 mm	93715A615	12.23	6	93715A430	90.33	90245A173	2.62	6	90245A164	36.09
M10×1.25	M14×1.5	14 mm	12.8 mm	93715A630	14.40	4	93715A435	82.78	90245A174	3.39	4	90245A165	40.18
M10×1.5	M14×1.5	14 mm	12.8 mm	93715A625	14.40	4	93715A440	82.78	90245A175	3.28	4	90245A166	39.82
M12×1.25	M16×1.5	16 mm	14.75 mm	93715A640	23.67	3	93715A445	76.50	90245A178	4.50	3	90245A169	37.00
M12×1.75	M16×1.5	16 mm	14.75 mm	93715A635	23.84	3	93715A450	76.50	90245A177	4.50	3	90245A168	36.64
M14×1.5	M20×1.5	20 mm	18.75 mm	93715A650	26.54	4	93715A460	131.00	90245A185	10.43	4	90245A306	61.36
M14×2	M20×1.5	20 mm	18.75 mm	93715A645	26.51	4	93715A455	131.00	90245A186	10.43	4	90245A301	61.36
M16×1.5	M22×1.5	22 mm	20.5 mm	93715A660	32.69	3	93715A470	123.11	90245A193	11.05	3	90245A316	53.45
M16×2	M22×1.5	22 mm	20.5 mm	93715A655	32.69	3	93715A465	123.11	90245A189	11.05	3	90245A311	53.45
M18×1.5	M24×1.5	24 mm	22.5 mm	93715A665	35.00	2	93715A475	95.33	90245A197	12.97	2	90245A321	45.73
M20×1.5	M30×2	30 mm	28 mm	93715A675	39.66	3	93715A485	149.56	90245A205	15.25	3	90245A331	69.36
M20×2.5	M30×2	30 mm	28 mm	93715A670	39.69	3	93715A480	149.56	90245A201	15.25	3	90245A326	69.36
M22×1.5	M32×2	32 mm	30 mm	93715A680	50.71	3	93715A490	182.56	90245A209	17.82	3	90245A336	75.73
M24×2	M33×2	33 mm	31 mm	93715A690	66.37	2	93715A500	168.44	90245A217	30.38	2	90245A346	84.27
M24×3	M33×2	33 mm	31 mm	93715A685	66.43	2	93715A495	134.73	90245A213	30.38	2	90245A341	84.27
Metric/Inch													
M6×1	3/8"-16	0.31"	Q						90699A310	7.10	8	90699A110	55.12
M8×1.25	1/2"-13	0.43"	29/64"						90699A315	6.67	8	90699A115	49.87
M10×1.5	5/8"-11	0.50"	37/64"						90699A320	7.66	6	90699A120	50.50
M12×1.75	3/4"-16	0.62"	45/64"						90699A325	8.81	4	90699A125	49.74
M14×2	7/8"-14	0.81"	53/64"						90699A330	9.97	3	90699A130	50.37
M16×2	1"-12	0.87"	15/16"						90699A335	9.97	3	90699A135	65.75

★Prices are 15% lower when you buy in multiples of 10.

Installation Tools

For Thread Size		
For Thin-Wall Inserts		
No. 10	93875A001	$14.85
1/4"	93875A010	14.85
5/16"	93875A015	14.85
3/8"	93875A020	14.85
7/16"	93875A025	14.85
1/2"	93875A030	14.85
For Thick-Wall Inserts		
No. 8	92100A708	14.67
No. 10	92100A709	14.33
1/4"	92100A711	12.78
5/16"	92100A715	12.78
3/8"	92100A717	13.11
7/16"	92100A721	14.56
1/2"	92100A723	15.22
9/16"	92100A725	15.10
5/8"	92100A731	15.20
3/4"	92100A735	19.30
7/8"	92100A739	21.00
1	92100A744	25.10
1 1/8"	92100A749	79.20
1 1/4"	92100A754	86.00
1 1/2"	92100A758	99.22
For Extra-Thick-Wall Inserts		
1/4"	93302A210	47.30
5/16"	93302A220	47.30
3/8"	93302A240	42.90

For Thread Size		
For Extra-Thick-Wall Inserts (Cont.)		
1/2"	93302A260	$42.90
5/8"	93302A270	58.60
3/4"	93302A280	59.20
For Metric Inserts		
M5	94010A310	36.21
M6	94010A325	28.08
M8	94010A315	25.27
M10	94010A330	32.55
M12	94010A320	27.45
M14	94010A340	40.45
M16	94010A345	40.45
M18	94010A350	40.82
M20	94010A355	49.09
M22	94010A360	49.55
M24	94010A365	51.18
For Metric/Inch Inserts		
M6	90699A545	42.49
M8	90699A550	43.26
M10	90699A555	44.00
M12	90699A560	45.54
M14	90699A565	47.06
M16	90699A570	54.00

Insert Assortments with Installation Tool

Assortments include various sizes of inserts and an installation tool.

Inch Coarse-Thread Thick Wall—77 Inserts. 20 each 1/4"-20; 15 each 5/16"-18; 10 each 3/8"-16, 7/16"-14; 6 each 1/2"-13; 5 each 9/16"-12; 3 each 5/8"-11, 3/4"-10, 7/8"-9; 2 each 1"-8.

18-8 Stainless Steel	90284A411	$654.55
Black-Phosphate Steel	90284A211	305.59

Inch Coarse-Thread Thin Wall—81 Inserts. 20 each 10-24, 1/4"-20; 15 each 5/16"-18; 10 each 3/8"-16, 7/16"-14; 6 each 1/2"-13.

18-8 Stainless Steel	90284A400	$433.64
Black-Phosphate Steel	90284A200	194.08

Inch Fine-Thread Thick Wall—77 Inserts. 20 each 1/4"-28; 15 each 5/16"-24; 10 each 3/8"-24, 7/16"-20; 6 each 1/2"-20; 5 each 9/16"-18; 3 each 5/8"-18; 3/4"-16, 7/8"-14; 2 each 1"-12.

18-8 Stainless Steel	90284A415	$654.55
Black-Phosphate Steel	90284A215	305.59

Inch Fine-Thread Thin Wall—81 Inserts. 20 each 10-32, 1/4"-28; 15 each 5/16"-24; 10 each 3/8"-24, 7/16"-20; 6 each 1/2"-20.

18-8 Stainless Steel	90284A500	$433.64
Black-Phosphate Steel	90284A300	194.08

Metric—82 Inserts. 20 each M6×1; 15 each M8×1, M8×1.25; 10 each M10×1.25, M10×1.5; 6 each M12×1.25, M12×1.75.

18-8 Stainless Steel	90284A511	$868.18
Black-Phosphate Steel	90284A311	316.53

Mil. Spec. Key-Locking Inserts for Soft Metals



Made to stringent military specifications, these inserts are passivated for enhanced corrosion resistance. Drive the keys into the surrounding material for a more secure hold than thread-locking inserts. Use them to repair or convert threads in soft metals such as aluminum. They're comparable to Keensert inserts.

Installation requires a drill bit, a tap, and an installation tool. Made from 18-8 stainless steel; inserts may be mildly magnetic. Inserts with 1/4" thread size and smaller have two locking keys; those 5/16" and larger have four locking keys. Thread fit is Class 3B.

Thread Size	Tap Size	Installed Lg.	Drill Bit Size	Mil. Spec.	Inserts		Installation Tools	
2-56	8-32	0.125"	9/64"	MS-51830-101	93904A100	$3.27	93904A150	$60.00
4-40	10-32	0.172"	5/32"	MS-51830-102	93904A200	3.29	93904A250	60.00
6-32	12-28	0.172"	3/16"	MS-51830-103	93904A300	3.33	93904A350	60.00
8-32	1/4"-28	0.219"	15/64"	MS-51830-104	93904A400	3.36	93904A450	60.00
8-32	5/16"-18	0.313"	17/64"	NAS-1395-C08	93904A500	2.91	93904A505	60.00
10-24	5/16"-18	0.313"	17/64"	MS-51830-105	93904A600	3.29	93904A605	60.00
10-24	3/8"-16	0.313"	21/64"	MS-51831-101	93904A510	3.24	93904A515	60.00
10-32	5/16"-18	0.313"	17/64"	MS-51830-201	93904A612	3.29	93904A617	60.00
10-32	3/8"-16	0.313"	21/64"	MS-51831-201	93904A512	3.24	93904A517	60.00
1/4"-20	3/8"-16	0.375"	21/64"	MS-51830-106	93904A610	3.51	93904A615	60.00
1/4"-20	7/16"-14	0.375"	25/64"	MS-51831-102	93904A520	3.44	93904A525	60.00
1/4"-28	3/8"-16	0.375"	21/64"	MS-51830-202	93904A622	3.51	93904A623	60.00
1/4"-28	7/16"-14	0.375"	25/64"	MS-51831-202	93904A522	3.44	93904A527	60.00
5/16"-18	7/16"-14	0.438"	25/64"	MS-51830-107	93904A620	5.51	93904A625	60.00
5/16"-18	1/2"-13	0.438"	29/64"	MS-51831-103	93904A530	5.11	93904A535	60.00
5/16"-24	1/2"-13	0.438"	29/64"	MS-51831-203	93904A532	5.11	93904A537	60.00
3/8"-16	1/2"-13	0.500"	29/64"	MS-51830-108	93904A630	6.73	93904A635	60.00
3/8"-16	9/16"-12	0.500"	33/64"	MS-51831-104	93904A540	6.02	93904A545	60.00
3/8"-24	9/16"-12	0.500"	33/64"	MS-51831-204	93904A542	6.02	93904A547	60.00
1/2"-13	5/8"-11	0.625"	37/64"	MS-51830-110	93904A640	11.56	93904A645	60.00
1/2"-13	11/16"-11	0.688"	41/64"	MS-51831-106	93904A550	11.51	93904A555	60.00

Crack-Repairing Inserts for Cast Metals



Also known as Lock-N-Stitch inserts, these draw surrounding material inward to repair and reinforce cracked and stripped holes. Installation requires a drill bit, a tap, and an installation tool. Made from steel. Thread fit is Class 2B (6H metric).

Insert kits include five inserts, six retaining pins, a drill bit, a tap, an installation tool, tapping fluid, and sealant.

Thread Size	OD	Installed Lg.	Drill Bit Size	Inserts		Taps		Installation Tools		Insert Kits	
1/4"-20	0.348"	0.313"	O	96676A210	$6.19	96676A716	$99.55	96676A501	$29.37	96676A050	$188.32
1/4"-20	0.348"	0.625"	O	96676A110	6.57	96676A716	99.55	96676A501	29.37	96676A001	189.92
5/16"-18	0.465"	0.406"	27/64"	96676A215	7.55	96676A720	130.17	96676A509	33.26	96676A053	231.50
5/16"-18	0.465"	0.781"	27/64"	96676A115	8.39	96676A720	130.17	96676A509	33.26	96676A005	234.97
3/8"-16	0.595"	0.469"	33/64"	96676A220	8.69	96676A725	153.13	96676A518	32.35	96676A057	291.42
3/8"-16	0.595"	0.938"	33/64"	96676A120	9.65	96676A725	153.13	96676A518	32.35	96676A010	291.68
7/16"-14	0.595"	0.625"	33/64"	96676A225	9.37	96676A725	153.13	96676A525	45.48	96676A061	304.25
7/16"-14	0.595"	1.094"	33/64"	96676A125	9.65	96676A725	153.13	96676A525	45.48	96676A014	303.48
1/2"-13	0.735"	0.750"	21/32"	96676A230	10.15	96676A729	179.95	96676A533	45.48	96676A065	340.65
1/2"-13	0.735"	1.500"	21/32"	96676A130	11.28	96676A729	179.95	96676A533	45.48	96676A019	347.92
9/16"-12	0.860"	0.750"	51/64"	96676A235	14.67	96676A733	217.28	96676A541	87.27	96676A068	425.40
9/16"-12	0.860"	1.406"	51/64"	96676A135	16.29	96676A733	217.28	96676A541	87.27	96676A023	450.70
5/8"-11	0.860"	0.781"	51/64"	96676A240	14.67	96676A733	217.28	96676A549	58.67	96676A072	418.25
5/8"-11	0.860"	1.563"	51/64"	96676A140	16.29	96676A733	217.28	96676A549	58.67	96676A026	424.97
M6×1	0.348"	8 mm	O	96676A310	6.19	96676A716	99.55	96676A603	29.50	96676A400	190.03
M6×1	0.348"	15 mm	O	96676A350	6.57	96676A716	99.55	96676A603	29.50	96676A450	190.03
M8×1.25	0.465"	10 mm	27/64"	96676A315	7.55	96676A720	130.17	96676A610	37.39	96676A404	232.18
M8×1.25	0.465"	19.8 mm	27/64"	96676A355	8.39	96676A720	130.17	96676A610	37.39	96676A454	238.68
M10×1.5	0.595"	12.7 mm	33/64"	96676A320	8.69	96676A725	153.13	96676A618	60.57	96676A409	287.69
M10×1.5	0.595"	25 mm	33/64"	96676A360	9.65	96676A725	153.13	96676A618	60.57	96676A458	317.07
M12×1.75	0.735"	15.3 mm	21/32"	96676A325	10.15	96676A729	179.95	96676A624	52.87	96676A416	349.18
M12×1.75	0.735"	30 mm	21/32"	96676A365	11.28	96676A729	179.95	96676A624	52.87	96676A463	353.82
M16×2	0.860"	19.8 mm	51/64"	96676A330	14.67	96676A733	217.28	96676A627	71.07	96676A418	418.00
M16×2	0.860"	39.7 mm	51/64"	96676A370	16.29	96676A733	217.28	96676A627	71.07	96676A469	436.12
M20×2.5	1.095"	24 mm	11/64"	96676A335	19.53	96676A738	321.60	96676A631	85.12	96676A423	643.05
M20×2.5	1.095"	47.6 mm	11/64"	96676A375	21.68	96676A738	321.60	96676A631	85.12	96676A473	651.92

Tapping Inserts for Soft Metals



Also known as Tap-Lok inserts, these cut their own threads so you don't have to tap the hole. Install them into a drilled hole with an installation tool (sold below) and a ratchet wrench. Installation tools can also be placed in the chuck on a drill press and turned by hand. Inserts are zinc-plated steel. Thread fit is Class 2B (Class 6H metric).

Thread Size	Installed Lg.	Drill Bit Size	Inserts		Installation Tools Square Size	
4-40	0.234"	No. 21	90240A007	$2.78	11/64"	90240A022	$117.13
6-32	0.281"	13/64"	90240A008	2.95	11/64"	90240A023	117.13
8-32	0.328"	15/64"	90240A009	3.24	3/16"	90240A025	117.13
10-24	0.375"	J	90240A010	3.45	1/4"	90240A027	140.56

(Continued on following page)

Tapping Inserts for Soft Metals *(Continued from previous page)*

Thread Size	Installed Lg.	Drill Bit Size	Inserts		Installation Tools: Square Size	
10-32	0.375″	9/32″	90240A006	$2.65	1/4″	90240A028 $140.56
1/4″-20	0.484″	11/32″	90240A001	2.83	9/32″	90240A029 140.56
5/16″-18	0.563″	7/16″	90240A002	3.21	3/8″	90240A030 175.69
3/8″-16	0.688″	17/32″	90240A003	4.97	7/16″	90240A031 175.69
1/2″-13	0.906″	11/16″	90240A004	7.32	9/16″	90240A033 210.84
5/8″-11	1.125″	55/64″	90240A005	11.81	43/64″	90240A034 327.97
M3×0.5	6 mm	No. 21	90240A200	2.75	11/64″	90240A300 109.09
M3.5×0.6	7.1 mm	13/64″	90240A210	2.95	11/64″	90240A305 109.09
M4×0.7	8.2 mm	15/64″	90240A215	3.24	3/16″	90240A310 109.09
M5×0.8	9.5 mm	J	90240A220	3.45	1/4″	90240A315 109.09
M6×1	12.3 mm	S	90240A225	4.29	9/32″	90240A320 109.09
M8×1.25	14.2 mm	7/16″	90240A230	5.71	3/8″	90240A325 109.09
M10×1.5	17.4 mm	17/32″	90240A235	6.98	7/16″	90240A330 109.09

Easy-to-Install Thread-Locking Inserts



Also known as EZ Lock inserts, these can be installed using a slotted screwdriver. To save time in high-volume installations, use an installation bit and drill. Loctite® adhesive on external threads keeps these inserts from loosening. The adhesive reaches full strength after 72 hours and resists pressure up to 6,000 psi. Installation requires a drill bit and a tap. Thread class is 2B for inch sizes and 6H for metric sizes.

18-8 stainless steel inserts have better corrosion resistance than black-phosphate steel inserts and may be mildly magnetic.
Black-phosphate steel inserts are mildly corrosion resistant.
Extra-thick-wall inserts work well in oversized and worn holes.
Thin-wall inserts have smaller external threads than thick-wall inserts, so they require a smaller drilled hole.
Inch/Metric inserts let you use metric drills and taps to establish inch internal threads.
Metric/Inch inserts let you use inch drills and taps to establish metric internal threads.

Thread Size	Tap Size	Installed Lg.	Drill Bit Size	Inserts: 18-8 Stainless Steel Pkg. Qty.			Inserts: Black-Phosphate Steel Pkg. Qty.			Installation Bits Each
Thick Wall—Inch										
4-40	10-32	0.250″	5/32″	5	90247A007	$9.14	10	90248A016	$6.25	
6-32	1/4″-20	0.281″	No. 7	5	90247A008	10.43	10	90248A017	6.75	94110A110 $9.26
8-32	5/16″-18	0.297″	F	5	90247A009	11.46	10	90248A018	7.50	94110A120 9.26
10-24	3/8″-16	0.406″	5/16″	5	90247A011	12.67	10	90248A021	8.25	94110A130 9.26
10-32	3/8″-16	0.406″	5/16″	5	90247A021	12.62	10	90248A068	8.25	94110A130 9.26
1/4″-20	7/16″-14	0.438″	23/64″	5	90247A012	13.53	10	90248A024	8.75	94110A140 9.26
1/4″-20	7/16″-14	1.000″	23/64″	—	—	—	5	90248A025	10.24	94110A140 9.26
1/4″-28	7/16″-14	0.438″	23/64″	5	90247A022	13.53	10	90248A074	8.75	94110A140 9.26
5/16″-18	1/2″-13	0.484″	27/64″	5	90247A013	13.90	10	90248A027	10.25	94110A150 9.26
5/16″-18	1/2″-13	1.000″	27/64″	—	—	—	5	90248A028	12.43	94110A150 9.26
5/16″-24	1/2″-13	0.484″	27/64″	5	90247A023	13.91	10	90248A078	10.25	94110A150 9.26
3/8″-16	9/16″-12	0.516″	31/64″	5	90247A014	14.43	10	90248A031	10.75	94110A160 9.26
3/8″-16	9/16″-12	1.000″	31/64″	—	—	—	5	90248A032	12.60	94110A160 9.26
3/8″-24	9/16″-12	0.516″	31/64″	5	90247A024	14.43	10	90248A082	10.75	94110A160 9.26
7/16″-14	5/8″-11	0.656″	17/32″	1	90247A015	3.70	5	90248A034	6.76	94110A170 9.26
7/16″-20	5/8″-11	0.656″	17/32″	1	90247A025	3.70	5	90248A084	6.76	94110A170 9.26
1/2″-13	3/4″-10	0.656″	21/32″	1	90247A016	4.74	5	90248A038	7.88	94110A180 10.65
1/2″-13	3/4″-10	1.000″	21/32″	—	—	—	5	90248A039	11.00	94110A180 10.65
1/2″-20	3/4″-10	0.656″	21/32″	1	90247A026	4.74	5	90248A086	7.88	94110A180 10.65
9/16″-12	3/4″-10	0.656″	21/32″	—	—	—	5	90248A041	8.50	94110A180 10.65
9/16″-18	3/4″-10	0.656″	21/32″	—	—	—	5	90248A090	8.50	94110A180 10.65
5/8″-11	7/8″-9	0.688″	49/64″	1	90247A017	5.58	5	90248A044	9.88	94110A190 10.65
5/8″-11	7/8″-9	1.125″	49/64″	—	—	—	5	90248A045	14.71	94110A190 10.65
5/8″-18	7/8″-9	0.688″	49/64″	—	—	—	5	90248A087	9.88	94110A190 10.65
3/4″-10	1″-8	0.781″	7/8″	1	90247A018	7.86	5	90248A051	13.38	94110A210 10.65
3/4″-16	1″-8	0.781″	7/8″	—	—	—	5	90248A088	13.38	94110A210 10.65
7/8″-9	1 1/4″-7	1.125″	1 7/64″	—	—	—	1	90248A052	5.91	
7/8″-14	1 1/4″-7	1.125″	1 7/64″	—	—	—	1	90248A093	5.91	
1″-8	1 3/8″-12	1.250″	1 9/32″	—	—	—	1	90248A054	6.65	
1″-14	1 3/8″-12	1.250″	1 9/32″	—	—	—	1	90248A089	6.65	
Thick Wall—Metric										
M3×0.5	M6×1	6.5 mm	5.1 mm	5	97120A190	9.79	10	97084A190	12.25	
M4×0.7	M8×1.25	7.5 mm	6.9 mm	5	97120A200	11.72	10	97084A200	13.25	94110A120 9.26
M5×0.8	M8×1.25	7.5 mm	6.9 mm	5	97120A220	12.94	10	97084A220	14.95	94110A120 9.26
M6×1	M10×1.5	10.5 mm	8.6 mm	5	97120A230	13.78	5	97084A230	8.38	94110A140 9.26
M8×1.25	M12×1.75	12.5 mm	10.4 mm	1	97120A240	3.08	5	97084A240	9.62	94110A150 9.26
M10×1.5	M16×2	17 mm	14 mm	1	97120A250	4.07	5	97084A250	13.62	94110A160 9.26
M12×1.75	M16×2	17 mm	14 mm	1	97120A260	4.90	5	97084A260	14.25	94110A170 9.26
M16×2	M24×3	20 mm	21 mm	1	97120A270	6.39	1	97084A270	3.75	94110A190 10.65
M20×2.5	M36×4	30 mm	33 mm	—	—	—	1	97084A310	7.59	

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Easy-to-Install Thread-Locking Inserts *(Continued from previous page)*



Also known as EZ Lock inserts, these can be installed using a slotted screwdriver. To save time in high-volume installations, use an installation bit and drill. Loctite® adhesive on external threads keeps these inserts from loosening. The adhesive reaches full strength after 72 hours and resists pressure up to 6,000 psi. Installation requires a drill bit and a tap. Thread class is 2B for inch sizes and 6H for metric sizes.

18-8 stainless steel inserts have better corrosion resistance than black-phosphate steel inserts and may be mildly magnetic.
Black-phosphate steel inserts are mildly corrosion resistant.
Extra-thick-wall inserts work well in oversized and worn holes.
Thin-wall inserts have smaller external threads than thick-wall inserts, so they require a smaller drilled hole.
Inch/Metric inserts let you use metric drills and taps to establish inch internal threads.
Metric/Inch inserts let you use inch drills and taps to establish metric internal threads.

Thread Size	Tap Size	Installed Lg.	Drill Bit Size	Inserts: 18-8 Stainless Steel Pkg. Qty.		Inserts: 18-8 Stainless Steel Pkg.	Inserts: Black-Phosphate Steel Pkg. Qty.		Inserts: Black-Phosphate Steel Pkg.	Installation Bits	Each
Thick Wall—Inch/Metric											
6-32	M6×1	6.5 mm	5.1 mm				5	97224A110	$6.52	94110A110	$9.26
8-32	M8×1.25	7.5 mm	6.9 mm				5	97224A130	6.92	94110A120	9.26
10-24	M8×1.25	7.5 mm	6.9 mm				5	97224A150	8.05	94110A130	9.26
10-32	M8×1.25	7.5 mm	6.9 mm				5	97224A170	7.50	94110A130	9.26
1/4″-20	M10×1.5	10.5 mm	8.6 mm				5	97224A190	9.63	94110A140	9.26
5/16″-18	M12×1.75	12.5 mm	10.4 mm				5	97224A210	10.05	94110A150	9.26
3/8″-16	M16×2	17 mm	14 mm				5	97224A230	12.38	94110A160	9.26
1/2″-13	M16×2	17 mm	14 mm				5	97224A250	12.78	94110A180	10.65
Thick Wall—Metric/Inch											
M6×1	3/8″-16	0.406″	5/16″	5	97120A110	$13.53	10	97084A110	9.00	94110A140	9.26
M8×1.25	1/2″-13	0.484″	27/64″	1	97120A120	3.08	10	97084A120	11.25	94110A150	9.26
M10×1.25	9/16″-12	0.516″	31/64″	1	97120A125	3.56	10	97084A125	12.25	94110A160	9.26
M10×1.5	9/16″-12	0.516″	31/64″	1	97120A130	3.56	10	97084A130	12.25	94110A160	9.26
M12×1.75	3/4″-10	0.656″	21/32″	1	97120A140	5.36	5	97084A140	8.12	94110A170	9.26
M14×2	7/8″-9	0.688″	49/64″	1	97120A150	5.97	5	97084A150	11.00	94110A180	10.65
M16×2	1″-8	0.781″	7/8″	1	97120A160	6.75	5	97084A160	13.33	94110A190	10.65
Thick Wall—Metric/Inch for spark plug thread repair.											
M14×1.25	3/4″-16	0.328″	11/16″				5	90248A092	7.12		
M14×1.25	3/4″-16	0.453″	11/16″				5	90248A095	7.12		
Extra-Thick Wall—Inch											
1/4″-20	1/2″-13	0.484″	27/64″				10	90246A024	10.80	94110A140	9.26
5/16″-18	9/16″-12	0.516″	31/64″				10	90246A027	11.70	94110A150	9.26
3/8″-16	5/8″-11	0.656″	17/32″				5	90246A031	7.18	94110A160	9.26
1/2″-13	7/8″-9	0.688″	49/64″				5	90246A038	10.20		
5/8″-11	1″-8	0.781″	7/8″				5	90246A044	13.38		
Thin Wall—Inch											
10-24	5/16″-18	0.313″	I				10	90259A124	8.25	94110A130	9.26
10-32	5/16″-18	0.313″	I				10	90259A129	8.25	94110A130	9.26
1/4″-20	3/8″-16	0.375″	Q				10	90259A132	8.75	94110A140	9.26
1/4″-28	3/8″-16	0.375″	Q				10	90259A136	8.75	94110A140	9.26
5/16″-18	7/16″-14	0.438″	X				10	90259A139	10.25	94110A150	9.26
5/16″-24	7/16″-14	0.438″	X				10	90259A141	10.25	94110A150	9.26
3/8″-16	1/2″-13	0.5″	29/64″				10	90259A144	11.75	94110A160	9.26
3/8″-24	1/2″-13	0.5″	29/64″				10	90259A147	11.75	94110A160	9.26
7/16″-14	9/16″-12	0.563″	33/64″				5	90259A154	7.01	94110A170	9.26
7/16″-20	9/16″-12	0.563″	33/64″				5	90259A158	7.01	94110A170	9.26
1/2″-13	5/8″-11	0.625″	37/64″				5	90259A163	8.25	94110A180	10.65
1/2″-20	5/8″-11	0.625″	37/64″				5	90259A169	8.25	94110A180	10.65
Thin Wall—Metric/Inch											
M4×0.7	5/16″-18	0.313″	I				5	90259A215	6.75	94110A120	9.26
M5×0.8	5/16″-18	0.313″	I				5	90259A218	6.75	94110A130	9.26
M6×1	3/8″-16	0.375″	Q				5	90259A222	8.50	94110A140	9.26
M8×1.25	7/16″-14	0.438″	X				5	90259A230	9.63	94110A150	9.26
M10×1.5	1/2″-13	0.5″	29/64″				1	90259A236	2.75	94110A160	9.26
M12×1.75	5/8″-11	0.625″	37/64″				1	90259A241	3.08	94110A170	9.26

Thick-Wall Insert Assortments

Inch Coarse Thread—22 inserts. Six each 1/2″-13; seven each 5/8″-11 and 3/4″-10; two each 1″-8.

Black-Phosphate Steel — 90248A111 — $59.40

Inch Coarse Thread—46 inserts. 10 each 10-24, 1/4″-20, 5/16″-18, and 3/8″-16; and six each 1/2″-13.

18-8 Stainless Steel — 90247A031 — $192.61
Black-Phosphate Steel — 90248A112 — 52.00

Inch Fine Thread—22 inserts. Six each 1/2″-20; seven each 5/8″-18 and 3/4″-16; and two each 1″-14.

Black-Phosphate Steel — 90248A115 — $59.40

Inch Fine Thread—46 inserts. 10 each 10-32, 1/4″-28, 5/16″-24, and 3/8″-24; and six each 1/2″-20.

18-8 Stainless Steel — 90247A032 — $192.61
Black-Phosphate Steel — 90248A114 — 52.00

Metric—33 inserts. 10 each M8×1.25 and M10×1.5; eight each M12×1.75; and five each M16×2.0.

18-8 Stainless Steel — 97120A035 — $149.56
Black-Phosphate Steel — 97084A290 — 96.80

Metric—50 inserts. 10 each M3×0.5, M4×0.7, M5×0.8, M6×1.0, and M8×1.25.

18-8 Stainless Steel — 97120A034 — $149.56
Black-Phosphate Steel — 97084A280 — 69.00

Metric/Inch—36 inserts. 10 each M6×1.0, M8×1.25, and M10×1.5; and six each M12×1.75.

18-8 Stainless Steel — 97120A033 — $133.69
Black-Phosphate Steel — 97084A210 — 52.00

316 Stainless Steel Easy-to-Install Thread-Locking Inserts



These are the most corrosion resistant inserts we offer. Also known as E-Z Lok inserts, they can be installed using a slotted screwdriver. To save time in high-volume installations, use an installation bit and a drill. Loctite® adhesive on external threads keeps these inserts from loosening. The adhesive reaches full strength after 72 hours and resists pressure up to 6,000 psi. Thread fit is Class 2B. They may be mildly magnetic.

Installation requires a drill bit and a tap.

Thread Size	Tap Size	Install. Lg.	Drill Bit Size	Inserts		Installation Bits	
8-32	5/16"-18	0.297"	F	90266A338	$10.00	94110A120	$9.26
10-24	3/8"-16	0.406"	5/16"	90266A340	10.42	94110A130	9.26
10-32	3/8"-16	0.406"	5/16"	90266A342	10.42	94110A130	9.26
1/4"-20	7/16"-14	0.438"	23/64"	90266A346	10.83	94110A140	9.26
5/16"-18	1/2"-13	0.484"	27/64"	90266A350	11.25	94110A150	9.26
3/8"-16	9/16"-12	0.516"	31/64"	90266A354	11.67	94110A160	9.26

Screw-Locking Easy-to-Install Thread-Locking Inserts



Also known as E-Z Lok inserts. Adhesive on both internal and external threads keeps inserts in place and holds screws tight. Loctite® adhesive reaches full strength after 72 hours and resists pressure up to 6,000 psi. They're black-phosphate steel for mild corrosion resistance. Thread fit is Class 2B.

Install using a slotted screwdriver or an installation bit and drill to save time in high-volume installations.

Thread Size	Tap Size	Install. Lg.	Drill Bit Size	Inserts		Installation Bits	
10-24	3/8"-16	0.406"	5/16"	96137A110	$1.63	94110A130	$9.26
10-32	3/8"-16	0.406"	5/16"	96137A120	1.63	94110A130	9.26
1/4"-20	7/16"-14	0.438"	23/64"	96137A130	1.73	94110A140	9.26
5/16"-18	1/2"-13	0.484"	27/64"	96137A140	2.13	94110A150	9.26
3/8"-16	9/16"-12	0.516"	31/64"	96137A150	2.30	94110A160	9.26
1/2"-13	3/4"-10	0.656"	21/32"	96137A160	3.37	94110A180	10.65

Thread-Locking Inserts for Metals



A locking element keeps these inserts from loosening. Thread fit is Class 2B. To install, thread a locknut onto a stud and use it as a tool to screw the insert into a tapped hole.

18-8 stainless steel inserts are more corrosion resistant than zinc-plated steel inserts. Inserts may be mildly magnetic.

Zinc-plated steel inserts are mildly corrosion resistant.

Thread Size	Tap Size	Installed Lg.	Drill Bit Size	Pkg. Qty.		Pkg.
18-8 Stainless Steel—With nylon locking patch						
4-40	10-32	0.219"	No. 21	5	94165A415	$10.79
6-32	12-28	0.250"	No. 14	5	94165A419	10.79
8-32	1/4"-28	0.281"	No. 3	5	94165A423	10.32
10-24	5/16"-24	0.313"	I	5	94165A427	9.86
10-32	5/16"-24	0.313"	I	5	94165A431	9.86
1/4"-20	3/8"-24	0.375"	Q	5	94165A435	11.23
1/4"-28	3/8"-24	0.375"	Q	1	94165A439	2.51
5/16"-18	7/16"-20	0.438"	25/64"	1	94165A443	2.66
5/16"-24	7/16"-20	0.438"	25/64"	1	94165A447	2.74
3/8"-16	1/2"-20	0.469"	29/64"	1	94165A451	3.84
3/8"-24	1/2"-20	0.469"	29/64"	1	94165A455	3.84
7/16"-14	9/16"-18	0.531"	33/64"	1	94165A459	5.18
7/16"-20	9/16"-18	0.531"	33/64"	1	94165A463	5.32
1/2"-13	5/8"-18	0.594"	37/64"	1	94165A467	5.84
1/2"-20	5/8"-18	0.594"	37/64"	1	94165A471	5.84
5/8"-11	3/4"-16	0.688"	11/16"	1	94165A475	6.83
5/8"-18	3/4"-16	0.688"	11/16"	1	94165A479	6.83

Thread Size	Tap Size	Installed Lg.	Drill Bit Size	Pkg. Qty.		Pkg.
Zinc-Plated Steel—With nylon locking pellet						
10-24	3/8"-16	0.406"	5/16"	5	90250A021	$8.28
10-32	3/8"-16	0.406"	5/16"	5	90250A068	8.28
1/4"-20	7/16"-14	0.438"	U	5	90250A024	8.81
1/4"-28	7/16"-14	0.438"	U	5	90250A074	8.96
5/16"-18	1/2"-13	0.484"	27/64"	5	90250A027	10.37
5/16"-24	1/2"-13	0.484"	27/64"	5	90250A078	8.31
3/8"-16	9/16"-12	0.516"	31/64"	5	90250A031	9.99
3/8"-24	9/16"-12	0.516"	31/64"	5	90250A082	11.06
7/16"-14	5/8"-11	0.656"	17/32"	5	90250A034	8.85
1/2"-13	3/4"-10	0.656"	21/32"	5	90250A038	9.00
1/2"-20	3/4"-10	0.656"	21/32"	5	90250A086	9.20
5/8"-11	7/8"-9	0.688"	49/64"	1	90250A044	2.80
5/8"-11	7/8"-9	1.125"	49/64"	1	90250A045	3.81
3/4"-10	1"-8	0.781"	7/8"	1	90250A051	3.34
1"-8	1 3/8"-12	1.250"	1 19/64"	1	90250A054	6.71

Insert Nuts for Socket Head Cap Screws



Also known as Allen nuts, you can use these versatile fasteners as both threaded inserts and nuts. To use as inserts, press or draw them into any nonhardened steel, cast iron, or soft nonferrous metal. You can even mold them into plastics, ceramics, fiber, and similar materials. To use as nuts, tighten them with a 6-point hex key. Thread class is 2B.

18-8 stainless steel inserts have excellent corrosion resistance and may be mildly magnetic.

Alloy steel inserts have the same strength properties as ASTM A194 Grade 2H nuts.

Internal Thread	Insert Nut Dia.	Insert Nut Lg.	Hole Size	Hex Key Size	Pkg. Qty.		Pkg.
18-8 Stainless Steel							
4-40	0.19"	0.18"	0.202"	1/8"	5	90372A311	$9.67
6-32	0.26"	0.23"	0.270"	5/32"	5	90372A313	10.11
8-32	0.28"	0.27"	0.298"	3/16"	5	90372A317	10.64
10-24	0.31"	0.32"	0.327"	3/16"	5	90372A321	12.60
1/4"-20	0.40"	0.42"	0.421"	1/4"	5	90372A325	14.18
5/16"-18	0.50"	0.52"	0.516"	5/16"	1	90372A329	3.36
3/8"-16	0.59"	0.62"	0.610"	3/8"	1	90372A332	4.99
Alloy Steel							
4-40	0.19"	0.18"	0.202"	1/8"	10	92066A005	10.42
5-40	0.19"	0.21"	0.202"	1/8"	10	92066A006	10.51
6-32	0.26"	0.23"	0.270"	5/32"	10	92066A007	10.51
8-32	0.28"	0.27"	0.298"	3/16"	10	92066A009	10.97
10-24	0.31"	0.32"	0.327"	3/16"	10	92066A011	11.17
10-32	0.31"	0.32"	0.327"	3/16"	10	92067A011	11.35
1/4"-20	0.40"	0.42"	0.421"	1/4"	10	92066A029	12.73
1/4"-28	0.40"	0.42"	0.421"	1/4"	10	92067A029	12.71

Internal Thread	Insert Nut Dia.	Insert Nut Lg.	Hole Size	Hex Key Size	Pkg. Qty.		Pkg.
Alloy Steel (Cont.)							
5/16"-18	0.50"	0.52"	0.516"	5/16"	5	92066A030	$7.64
5/16"-24	0.50"	0.52"	0.516"	5/16"	5	92067A030	7.86
3/8"-16	0.59"	0.62"	0.610"	3/8"	5	92066A031	11.02
3/8"-24	0.59"	0.62"	0.610"	3/8"	5	92067A031	10.97
7/16"-14	0.71"	0.73"	0.733"	7/16"	1	92066A032	2.94
7/16"-20	0.71"	0.73"	0.733"	7/16"	1	92067A032	3.29
1/2"-13	0.80"	0.84"	0.831"	1/2"	1	92066A033	3.34
1/2"-20	0.80"	0.84"	0.831"	1/2"	1	92067A033	3.36
5/8"-11	0.99"	1.01"	1.028"	5/8"	1	92066A035	5.33
5/8"-18	0.99"	1.01"	1.028"	5/8"	1	92067A035	6.20
3/4"-10	1.16"	1.19"	1.203"	3/4"	1	92066A036	8.29
3/4"-16	1.16"	1.19"	1.203"	3/4"	1	92067A036	8.44
7/8"-9	1.36"	1.36"	1.418"	7/8"	1	92066A037	10.40
7/8"-14	1.36"	1.36"	1.418"	7/8"	1	92067A037	11.30
1"-8	1.53"	1.53"	1.606"	1"	1	92066A038	15.95
1"-14	1.53"	1.53"	1.606"	1"	1	92067A038	16.64

Press-Fit Inserts for Soft Metals



The knurled body holds these inserts in place in aluminum and other soft metals, so you don't need to tap the hole. They're tapered, so they align themselves as they're pressed into a hole. Made from zinc-plated steel. Thread fit is Class 2B. Install with an arbor press.

Thread Size	Installed Lg.	Drill Bit Size	Pkg. Qty.		Pkg.
2-56	0.156″	No. 12	10	97191A110	$9.63
4-40	0.188″	7/32″	10	97191A130	7.76
6-32	0.250″	1/4″	10	97191A150	8.83
8-32	0.281″	9/32″	10	97191A170	10.77
10-24	0.313″	5/16″	10	97191A190	12.24
10-32	0.313″	5/16″	10	97191A210	12.24
1/4″-20	0.469″	7/16″	10	97191A230	14.98
5/16″-18	0.625″	9/16″	5	97191A250	12.10
3/8″-16	0.750″	17.5 mm	1	97191A270	3.64

Tapping Inserts for Plastics



Also known as Trisert inserts, these cut threads into plastics and have excellent pull-out resistance. Flutes channel loose chips up and out to keep threads clean during installation. Made from brass, inserts are nonmagnetic, corrosion resistant, and electrically conductive. Thread fit is Class 2B. Mount in a drilled hole using an installation tool (sold separately).

			Inserts			
Thread Size	Installed Lg.	Drill Bit Size	Pkg. Qty.		Pkg.	Installation Tools
2-56	0.188″	No. 30	10	99362A100	$7.78	90240A021 $117.13
4-40	0.234″	No. 24	10	99362A200	7.49	90240A022 117.13
6-32	0.281″	No. 9	10	99362A300	7.95	90240A023 117.13
8-32	0.328″	No. 1	10	99362A400	8.47	90240A025 117.13
10-24	0.375″	H	10	99362A500	10.02	90240A027 140.56
10-32	0.375″	H	10	99362A600	10.02	90240A028 140.56
1/4″-20	0.484″	R	10	99362A700	11.52	90240A029 140.56

Twist-Resistant Hex-Shaped Inserts for Plastics



The hex shape resists loosening and twisting. To install, drill a hole and press in place. Thread fit is Class 2B for inch sizes and 6H for metric sizes.

18-8 stainless steel inserts have better corrosion resistance than aluminum inserts and may be mildly magnetic.

Aluminum inserts are 70% lighter than stainless steel. They're mildly corrosion resistant and nonmagnetic.

			18-8 Stainless Steel			Aluminum		
Thread Size	Installed Lg.	Drill Bit Size	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
4-40	0.234″	3/16″	25	92398A112	$9.19	50	92397A112	$12.25
6-32	0.234″	3/16″	25	92398A113	9.02	50	92397A113	13.85
8-32	0.266″	1/4″	25	92398A114	13.26	50	92397A114	14.08
10-32	0.266″	1/4″	25	92398A115	13.17	50	92397A115	14.17
1/4″-20	0.313″	5/16″	10	92398A116	6.53	25	92397A116	12.04
Metric—Dimensions in millimeters.								
M3×0.5	5.8	4.7	25	92398A121	9.34	—	—	—
M4×0.7	6.7	6.3	25	92398A123	13.44	—	—	—
M5×0.8	6.7	6.3	25	92398A125	13.37	—	—	—
M6×1	8	7.9	10	92398A127	7.06	—	—	—

Pull-Out Resistant Inserts for Plastics



Three Fin

Fins cut into the surrounding material for a more secure hold than knurled inserts. Thread fit is Class 2B. To install, place in a drilled hole and hammer or press into place.

Thread Size	Installed Lg.	Drill Bit Size	No. of Fins	Pkg. Qty.		Pkg.
6-32	0.188″	No. 5	1	25	90363A017	$6.71
6-32	0.375″	No. 5	2	25	90363A044	7.26
8-32	0.188″	15/64″	1	25	90363A018	6.71
8-32	0.375″	15/64″	2	25	90363A045	7.75
10-24	0.375″	G	2	25	90363A047	9.34
10-32	0.188″	G	1	25	90363A019	7.83
10-32	0.375″	G	2	25	90363A046	9.34
10-32	0.563″	11/32″	3	10	90363A029	5.66
1/4″-20	0.375″	21/64″	2	25	90363A028	10.59
1/4″-20	0.563″	13/32″	3	10	90363A034	5.21
5/16″-18	0.563″	15/32″	3	5	90363A035	6.84

Push-to-Expand Inserts for Plastics



Push down on the inside of the insert so it expands and holds firm in surrounding material before you install a screw. These are also known as Dodge inserts. Made from brass, these inserts are corrosion resistant, electrically conductive, and nonmagnetic. Installation requires an installation tool (sold separately).

			Inserts			
Thread Size	Installed Lg.	Drill Bit Size	Pkg. Qty.		Pkg.	Installation Tools
4-40	0.250″	5/32″	50	93415A021	$10.21	93735A201 $61.10
6-32	0.313″	3/16″	50	93415A031	11.19	93735A401 61.10
6-32	0.375″	3/16″	50	93415A034	12.71	93735A402 61.10
8-32	0.313″	7/32″	50	93415A042	14.19	93735A501 61.10
8-32	0.375″	7/32″	50	93415A044	15.56	93735A502 61.10
10-24	0.375″	1/4″	25	93415A052	8.77	93735A601 61.10
10-24	0.438″	1/4″	25	93415A054	9.33	93735A602 61.10
10-32	0.375″	1/4″	25	93415A061	8.77	93735A601 61.10
10-32	0.438″	1/4″	25	93415A063	13.09	93735A602 61.10
1/4″-20	0.500″	5/16″	25	93415A071	8.38	93735A701 61.10

Screw-to-Expand Inserts for Plastics



Without Flange



For Through Holes

Installing a screw causes the insert to expand and drives the knurls into the surrounding plastic. Thread fit is Class 2B for inch sizes and 6H for metric sizes.

Inserts without flange install flush or below the surface.

Inserts with flange provide a load-bearing surface for use in weak plastics. Installed length includes the flange.

Inserts for through holes install on the underside of your material. The flange keeps the insert from being pulled through a hole.

18-8 stainless steel inserts have better corrosion resistance than brass inserts and may be mildly magnetic.

Brass inserts are nonmagnetic, corrosion resistant, and electrically conductive.

			Without Flange			With Flange		
Thread Size	Installed Lg.	Drill Bit Size	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
18-8 Stainless Steel								
2-56	0.156″	1/8″	10	92394A111	$6.12	10	95110A111	$6.89
4-40	0.188″	5/32″	10	92394A112	8.93	10	95110A110	10.89
6-32	0.250″	3/16″	10	92394A113	8.93	10	95110A113	12.57
8-32	0.313″	7/32″	5	92394A114	7.96	5	95110A114	6.48
10-32	0.375″	1/4″	5	92394A515	10.62	5	95110A115	7.73
1/4″-20	0.500″	5/16″	5	92394A116	10.90	5	95110A116	11.97
5/16″-18	0.563″	3/8″	5	92394A030	11.98	—	—	—
3/8″-16	0.625″	7/16″	1	92394A031	3.30	—	—	—
Brass								
0-80	0.125″	3/32″	25	92395A109	8.50	—	—	—
2-56	0.156″	1/8″	50	92395A111	11.00	50	94615A111	10.29
4-40	0.188″	5/32″	50	92395A112	11.00	50	94615A112	10.29
6-32	0.250″	3/16″	50	92395A113	12.00	50	94615A113	10.52
8-32	0.313″	7/32″	50	92395A114	12.60	50	94615A114	11.24
10-24	0.375″	1/4″	25	92395A513	8.60	—	—	—
10-32	0.375″	1/4″	25	92395A515	8.60	25	94615A115	7.51
1/4″-20	0.500″	5/16″	25	92395A116	9.30	25	94615A116	8.83
5/16″-18	0.563″	3/8″	10	92395A030	6.95	10	94615A117	6.55
3/8″-16	0.625″	7/16″	10	92395A031	8.24	10	94615A118	6.86
Metric Brass—Dimensions in millimeters.								
M3×0.5	4.8	4	50	94510A030	10.63	50	94510A240	7.20
M3.5×0.6	6.4	4.8	50	94510A035	10.63	—	—	—
M4×0.7	8	5.6	25	94510A040	7.33	50	94510A245	7.90
M5×0.8	9.5	6.4	25	94510A045	7.39	25	94510A250	5.00
M6×1	12.7	8	25	94510A050	10.71	25	94510A255	6.15
M8×1.25	14.3	9.5	—	—	—	10	94510A260	4.62
Brass for Through Holes								
2-56	0.156″	1/8″	—	—	—	25	92395A311	6.20
4-40	0.188″	5/32″	—	—	—	25	92395A315	6.50
6-32	0.250″	3/16″	—	—	—	25	92395A319	7.30
8-32	0.313″	7/32″	—	—	—	25	92395A324	8.50
10-32	0.375″	1/4″	—	—	—	25	92395A328	8.50
1/4″-20	0.500″	5/16″	—	—	—	25	92395A331	11.10
Metric Brass for Through Holes—Dimensions in millimeters.								
M2×0.4	4	3.2	—	—	—	25	94510A360	11.54
M2.5×0.45	4.8	4	—	—	—	25	94510A370	12.17
M3×0.5	4.8	4	—	—	—	25	94510A310	10.53
M4×0.7	8	5.6	—	—	—	10	94510A320	5.98
M5×0.8	9.5	6.4	—	—	—	10	94510A330	6.25
M6×1	12.7	8	—	—	—	10	94510A340	8.74
M8×1.25	12.7	9.6	—	—	—	10	94510A350	9.31

Heat-Set Inserts for Plastics

Plastic softens when heated during installation, then cools to solidify around the insert's knurls and ridges to resist torque and pull-out. These are also known as Ultrasert inserts. Create a hole with a drill bit and taper the hole to the larger hole diameter using a reamer, then install the insert using a soldering iron with an installation tip (sold separately). Inserts are made from brass, which is nonmagnetic, corrosion resistant, and electrically conductive. Thread fit is Class 2B for inch sizes and 6H for metric sizes.

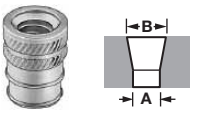

Thread Size	Installed Lg.	For Hole Dia. (A)	For Hole Dia. (B)	Inserts Pkg. Qty.		Inserts Pkg.	Installation Tips		Extraction Tips	
0-80	0.115″	0.118″	0.129″	100	93365A102	$11.35	—	—	—	—
2-56	0.115″	0.118″	0.129″	100	93365A110	9.67	92160A111	$15.02	92160A201	$17.96
2-56	0.188″	0.107″	0.123″	100	93365A112	10.68	92160A111	15.02	92160A201	17.96
4-40	0.135″	0.153″	0.163″	100	93365A120	10.31	92160A115	15.02	92160A203	17.96
4-40	0.219″	0.141″	0.159″	100	93365A122	11.65	92160A115	15.02	92160A203	17.96
6-32	0.150″	0.199″	0.209″	100	93365A130	12.30	92160A119	15.02	92160A205	17.96
6-32	0.250″	0.185″	0.206″	100	93365A132	15.38	92160A119	15.02	92160A205	17.96
8-32	0.185″	0.226″	0.236″	100	93365A140	14.25	92160A123	15.02	92160A207	17.96
8-32	0.312″	0.208″	0.234″	50	93365A142	8.62	92160A123	15.02	92160A207	17.96
10-24	0.225″	0.267″	0.278″	50	93365A150	9.29	92160A127	15.02	92160A209	17.96
10-24	0.375″	0.246″	0.277″	50	93365A152	12.21	92160A127	15.02	92160A209	17.96
10-32	0.225″	0.267″	0.278″	50	93365A154	9.29	92160A127	15.02	92160A211	17.96
10-32	0.375″	0.246″	0.277″	50	93365A156	12.21	92160A127	15.02	92160A211	17.96
1/4″-20	0.300″	0.349″	0.363″	25	93365A160	9.29	92160A131	15.02	92160A213	17.96
1/4″-20	0.500″	0.321″	0.363″	25	93365A162	12.25	92160A131	15.02	92160A213	17.96
M2×0.4	2.9 mm	3 mm	3.27 mm	100	94180A307	10.44	—	—	—	—
M2×0.4	4.8 mm	2.7 mm	3.12 mm	100	94180A312	12.57	—	—	—	—
M2.5×0.45	3.4 mm	3.9 mm	4.14 mm	100	94180A321	10.31	92160A115	15.02	92160A225	17.96
M2.5×0.45	5.6 mm	3.6 mm	4.04 mm	100	94180A323	11.65	92160A115	15.02	92160A225	17.96
M3×0.5	3.8 mm	5.1 mm	5.31 mm	100	94180A331	12.30	92160A119	15.02	92160A227	17.96
M3×0.5	6.4 mm	4.7 mm	5.23 mm	100	94180A333	15.38	92160A119	15.02	92160A227	17.96
M4×0.7	4.7 mm	5.7 mm	5.99 mm	100	94180A351	14.25	92160A123	15.02	92160A229	17.96
M4×0.7	7.9 mm	5.3 mm	5.94 mm	50	94180A353	8.62	92160A123	15.02	92160A229	17.96
M5×0.8	6.7 mm	7.7 mm	8 mm	50	94180A361	11.43	92160A127	15.02	92160A231	17.96
M5×0.8	11.1 mm	7.1 mm	8 mm	25	94180A363	7.84	92160A127	15.02	92160A231	17.96
M6×1	7.6 mm	8.9 mm	9.22 mm	25	94180A371	8.91	92160A131	15.02	92160A233	17.96
M6×1	12.7 mm	8.2 mm	9.22 mm	25	94180A373	12.25	92160A131	15.02	92160A233	17.96
M8×1.25	14.3 mm	10.2 mm	11.38 mm	10	94180A386	9.54	—	—	—	—

Soldering Irons

Use with installation and extraction tips (sold separately). Operates on 120 volts AC, 60 Hz, 40 watts. 7662A696 $26.36

Knurled Inserts for Hardwood

Knurls hold these open-ended inserts in place and prevent twisting. To install, hammer into a drilled hole. Length is measured from under the flange. Made from zinc-plated steel. Thread class is 2B.



Thread Size	Lg.	Flange Thick.	Drill Bit Size	Pkg. Qty.		Pkg.
8-32	0.276″	0.039″	7/32″	25	94738A110	$8.70
1/4″-20	0.244″	0.059″	21/64″	10	94738A210	6.35
1/4″-20	0.414″	0.059″	21/64″	10	94738A310	4.88
5/16″-18	0.394″	0.079″	13/32″	10	94738A410	7.05

Closed-End Flanged Barbed Inserts for Softwood

Seal out elements and protect threads from debris. Inserts have barbs that dig into softwood to resist loosening. To install, hammer into a drilled hole. Length is measured from under the flange. Made from zinc alloy, these inserts are mildly corrosion resistant. Thread class is 2B.



Thread Size	Lg.	Flange Thick.	Drill Bit Size	Pkg. Qty.		Pkg.
8-32	0.394″	0.098″	1/4″	50	91316A150	$12.25
10-24	0.394″	0.098″	1/4″	50	91316A165	12.55
10-32	0.394″	0.098″	1/4″	50	91316A180	13.24
1/4″-20	0.410″	0.210″	11/32″	25	91316A185	10.10
1/4″-20	0.611″	0.083″	11/32″	25	91316A200	9.65
5/16″-18	0.611″	0.091″	11/32″	25	91316A215	12.55

Barbed Inserts for Softwood

Barbs provide holding power in softwood. To install, hammer into a drilled hole. Made from zinc alloy, these inserts are mildly corrosion resistant. Thread class is 2B.

Flush-mount inserts are installed flush or below the surface material.

Open-end inserts allow long screws and bolts to pass through the insert. Length is measured from under the flange. Flange thickness is 0.059″-0.098″.



Thread Size	Lg.	Drill Bit Size	Flush Mount Pkg. Qty.		Flush Mount Pkg.	Open End Pkg. Qty.		Open End Pkg.
8-32	0.315″	1/4″	50	90267A563	$9.29	—	—	—
8-32	0.394″	1/4″	50	90267A567	9.01	50	90267A693	$10.60
10-24	0.394″	5/16″	50	90267A568	9.07	50	90267A695	11.25
1/4″-20	0.394″	3/8″	50	90267A571	8.57	—	—	—
1/4″-20	0.512″	3/8″	50	90267A572	10.44	25	90267A697	9.35
5/16″-18	0.450″	3/8″	—	—	—	25	90267A698	10.30
5/16″-18	0.820″	7/16″	—	—	—	25	90267A705	12.60

Tapping Inserts for Wood


Inserts for Hardwood with Slotted Drive


Inserts for Softwood with Hex Drive


Inserts for Hardwood with Hex Drive


Flanged Inserts for Softwood with Hex Drive

Inserts cut their own threads and stay secure once installed. They have a smaller profile and fit in tighter spaces than tee nut inserts. Install with a screwdriver or, for faster installation, use an installation bit that fits onto a power drill (sold separately). Thread class is 2B for inch sizes and 6H for metric sizes.

Inserts for Hardwood—Also known as knife thread inserts, these have sharp threads that cut into hardwood for a secure hold. *Brass* inserts are nonmagnetic, mildly corrosion resistant, and electrically conductive. *18-8 stainless steel* inserts have excellent resistance to chemicals and may be mildly magnetic. *Steel* inserts are made from high-strength steel and are for use in hard materials.

Inserts for Softwood—Large threads cut into softwood such as particleboard for a strong hold. Made from zinc alloy, these inserts are mildly corrosion resistant. *Flanged* inserts are resistant to being pulled through a hole. Flange thickness is 0.025″-0.04″ for inch sizes and 0.635-1.016 mm for metric sizes. Length is measured from under the flange.

Inserts for Hardwood—Slotted Drive

Thread Size	Lg.	Drill Bit Size	Brass Inserts Pkg. Qty.		Pkg.	Installation Bits	
4-40	0.375″	1/4″	25	90016A005	$9.39		
6-32	0.375″	1/4″	25	90016A007	9.70	94110A110	$9.26
8-32	0.375″	1/4″	25	90016A009	9.70	94110A120	9.26
10-24	0.500″	3/8″	25	90016A011	11.14	94110A130	9.26
10-32	0.500″	3/8″	25	90016A021	11.14	94110A130	9.26
1/4″-20	0.500″	3/8″	25	90016A029	11.97	94110A140	9.26
1/4″-28	0.500″	3/8″	25	90016A032	11.97	94110A140	9.26
5/16″-18	0.625″	1/2″	10	90016A030	6.97	94110A150	9.26
5/16″-24	0.625″	1/2″	10	90016A033	6.97	94110A150	9.26
3/8″-16	0.625″	1/2″	10	90016A031	7.67	94110A160	9.26
3/8″-24	0.625″	1/2″	10	90016A034	7.67	94110A160	9.26
			18-8 SS Inserts			Installation Bits	
8-32	0.375″	1/4″	1	95807A100	2.80	94110A120	9.26
10-24	0.500″	3/8″	1	95807A200	3.88	94110A130	9.26
1/4″-20	0.500″	3/8″	1	95807A300	3.97	94110A140	9.26

Inserts for Hardwood—Hex Drive

Thread Size	Lg.	Drill Bit Size	Steel Inserts Pkg. Qty.		Pkg.
1/4″-20	0.469″	3/8″	10	90192A117	$7.90
1/4″-20	0.594″	3/8″	10	90192A121	6.35
1/4″-20	0.781″	3/8″	10	90192A124	10.25
5/16″-18	0.703″	29/64″	10	90192A127	11.72
3/8″-16	1.188″	39/64″	10	90192A132	12.86

Metric Inserts for Hardwood—Slotted Drive

Thread Size	Lg., mm	Drill Bit Size	Brass Inserts Pkg. Qty.		Pkg.	Installation Bits	
M3x0.5	9.53	1/4″	10	95631A050	$4.09	94110A110	$9.26
M4x0.7	9.53	1/4″	10	95631A075	4.09	94110A120	9.26
M5x0.8	12.7	3/8″	10	95631A100	4.69	94110A130	9.26
M6x1	12.7	3/8″	10	95631A125	5.52	94110A140	9.26
M8x1.25	15.88	1/2″	10	95631A150	7.22	94110A150	9.26

Inserts for Softwood—Hex Drive

Thread Size	Lg.	Drill Bit Size	Zinc-Alloy Inserts Pkg. Qty.		Pkg.	Installation Bits	
Without Flange							
8-32	0.391″	15/64″	100	92105A660	$12.73	96924A110	$11.82
10-24	0.516″	9/32″	50	92105A665	6.38	96924A220	11.82
10-32	0.516″	9/32″	50	92105A670	6.45	96924A220	11.82
1/4″-20	0.516″	23/64″	100	92105A675	12.35	96924A330	11.82
1/4″-20	0.781″	23/64″	50	92105A676	9.75	96924A330	11.82
5/16″-18	0.781″	7/16″	50	92105A678	13.70	96924A450	13.89
5/16″-18	0.984″	7/16″	25	92105A779	8.78	96924A450	13.89
With Flange							
8-32	0.366″	15/64″	100	92105A002	13.00	96924A110	11.82
10-24	0.361″	9/32″	50	92105A006	7.48	96924A220	11.82
10-24	0.751″	9/32″	50	92105A010	9.70	96924A220	11.82
10-32	0.361″	9/32″	50	92105A014	6.45	96924A220	11.82
10-32	0.486″	9/32″	50	92105A016	6.71	96924A220	11.82
10-32	0.751″	9/32″	25	92105A018	4.83	96924A220	11.82
1/4″-20	0.486″	23/64″	100	92105A100	14.03	96924A330	11.82
1/4″-20	0.741″	23/64″	50	92105A200	11.76	96924A330	11.82
1/4″-20	0.944″	23/64″	50	92105A300	14.15	96924A330	11.82
5/16″-18	0.486″	7/16″	50	92105A410	12.34	96924A450	13.89
5/16″-18	0.954″	7/16″	25	92105A415	9.01	96924A450	13.89
3/8″-16	0.486″	15/32″	25	92105A420	11.88	96924A560	13.89
3/8″-16	0.944″	15/32″	25	92105A430	13.97	96924A560	13.89

Metric Inserts for Softwood—Hex Drive

Thread Size	Lg., mm	Drill Bit Size, mm	Zinc-Alloy Inserts Pkg. Qty.		Pkg.	Installation Bits	
Without Flange							
M6x1	13	9	50	95596A100	$9.26	96924A330	$11.82
M6x1	20	9	50	95596A110	11.19	96924A330	11.82
M8x1.25	13	11	25	95596A200	7.00	96924A450	13.89
M8x1.25	20	11	25	95596A210	9.00	96924A450	13.89
With Flange							
M6x1	12.37	9	50	95596A500	10.26	96924A330	11.82
M6x1	19.24	9	50	95596A510	14.01	96924A330	11.82
M8x1.25	11.98	11	25	95596A600	7.88	96924A450	13.89
M8x1.25	18.98	11	25	95596A610	9.88	96924A450	13.89

Surface-Mount Inserts for Wood



These screw-mount inserts are often used to attach glides and levels to wood and particleboard. The ribbed barrel adds holding strength. Made from rust-resistant zinc alloy. Thread class is 2B. Flange thickness is 0.098″. Length does not include the flange.

Internal Thread	Insert Lg.	Max. Flange Dia.	Drill Size	Pkg. Qty.		Pkg.
5/16″-18	0.394″	1 1/4″	31/64″-1/2″	10	94122A100	$6.32
3/8″-16	0.394″	1 1/4″	31/64″-1/2″	10	94122A200	8.18

Snap-In Inserts for Thin Materials


Square Flange


Round Flange

Add threads in thin panels from 1/32″ to 5/32″ thick. To install, snap the prongs into a square hole. The screw pushes the prongs tight against the panel. Made from nylon that withstands temperatures up to 167°F. Color is off-white. Length is measured from under the flange.

Screw Size	Insert Lg.	Flange Wd.	Flange Thick.	Square Hole Size	Pkg. Qty.		Pkg.
Square Flange							
No.8	11/32″	3/8″	1/32″	0.27″-0.28″	50	98550A475	$14.00
No.8, No.10	11/32″	13/32″	1/16″	0.28″-0.29″	50	98550A485	13.83
No.10	11/32″	5/8″	3/32″	0.38″-0.39″	25	98550A495	11.51
Round Flange							
1/4″	11/32″	9/16″	1/16″	0.33″-0.34″	50	98550A515	15.41

Secure-Grip Tee Nut Inserts for Wood



Hooked prongs give these tee nut inserts excellent holding power in softwood such as particleboard and prevent push out when removing screws. To install, hammer into a drilled hole. Length is measured from under the flange. They're zinc-plated steel for mild corrosion resistance. Thread class is 2B.

Thread Size	Lg.	Flange Dia.	Drill Bit Size	Pkg. Qty.		Pkg.
10-24	0.375″	0.688″	1/4″	50	90244A316	$9.30
10-32	0.438″	0.688″	1/4″	50	90244A319	10.35
1/4″-20	0.375″	0.813″	5/16″	50	90244A325	11.15
1/4″-20	0.563″	0.688″	5/16″	50	90244A329	10.30
5/16″-18	0.625″	0.813″	25/64″	50	90244A336	14.15

Screw-Locking Tee Nut Inserts for Wood



Use where vibration is a concern—these tee nut inserts have distorted threads that lock screws in place and four prongs on the flange to resist twisting in hardwood and softwood. To install, hammer into a drilled hole. Length is measured from under the flange. Inserts are zinc-plated steel for mild corrosion resistance. Thread class is 2B.

Thread Size	Lg.	Flange Dia.	Drill Bit Size	Pkg. Qty.		Pkg.
1/4″-20	0.313″	0.75″	5/16″	50	93766A200	$8.93
1/4″-20	0.438″	0.75″	5/16″	50	93766A300	9.22
3/8″-16	0.438″	1″	29/64″	25	93766A500	12.13

Tee Nut Inserts for Wood

Put durable steel threads in wood and particleboard. To install, hammer into a drilled hole. To minimize splitting in hardwood, choose nuts with fewer prongs. Length is measured from under the flange. Thread class is 2B for inch sizes and 6H for metric sizes.

Zinc-plated steel inserts have mild corrosion resistance.

18-8 stainless steel inserts have better corrosion resistance than zinc-plated steel inserts.

316 stainless steel inserts are the most corrosion resistant inserts we offer, and stand up to chemicals and salt water.



Thread Size	Lg.	Flange Dia.	Drill Bit Size	Pkg. Qty.		Pkg.
Split-Resistant Inserts for Hardwood—Zinc-Plated Steel						
4-40	0.125″	0.359″	9/64″	100	90975A002	$10.29
6-32	0.250″	0.563″	11/64″	100	90975A007	8.59
8-32	0.250″	0.5″	7/32″	100	90975A012	8.54
8-32	0.250″	0.594″	1/4″	100	90975A014	8.50
8-32	0.250″	0.719″	7/32″	100	90975A009	8.61
10-24	0.188″	0.75″	1/4″	100	90975A043	10.29
10-24	0.281″	0.75″	1/4″	100	90975A038	10.34
10-24	0.313″	0.703″	1/4″	100	90975A042	9.02
10-24	0.375″	0.75″	1/4″	100	90975A041	10.45
10-24	0.438″	0.703″	1/4″	100	90975A050	10.27
10-32	0.188″	0.5″	1/4″	100	90975A015	12.71
10-32	0.281″	0.75″	1/4″	100	90975A023	11.21
10-32	0.313″	0.703″	1/4″	100	90975A018	10.17
10-32	0.438″	0.703″	1/4″	100	90975A021	11.44
1/4″-20	0.313″	0.75″	5/16″	100	90975A053	9.40
1/4″-20	0.375″	0.75″	5/16″	50	90975A055	6.06
1/4″-20	0.563″	0.75″	5/16″	50	90975A057	5.51
3/8″-16	0.438″	1″	29/64″	50	90975A059	10.97
General Purpose Inserts for Wood—Zinc-Plated Steel						
1/4″-20	0.313″	0.75″	5/16″	100	90975A025	9.22
1/4″-20	0.313″	1.25″	5/16″	50	90975A060	13.05
1/4″-20	0.438″	0.75″	5/16″	100	90975A027	10.11
1/4″-20	0.563″	0.75″	5/16″	100	90975A029	10.24
1/4″-20	0.563″	1.25″	5/16″	25	90975A063	9.21
5/16″-18	0.375″	0.875″	3/8″	100	90975A030	13.36
5/16″-18	0.625″	0.875″	3/8″	50	90975A036	8.54
5/16″-18	0.875″	0.875″	3/8″	25	90975A039	11.01
3/8″-16	0.438″	1″	29/64″	50	90975A031	14.19
1/2″-13	0.375″	1.25″	19/32″	20	90975A033	13.58
General Purpose Inserts for Wood—18-8 Stainless Steel						
6-32	0.250″	0.5″	11/64″	10	90973A035	7.26
8-32	0.250″	0.5″	7/32″	10	90973A038	7.35
10-24	0.281″	0.75″	15/64″	10	90973A040	$5.74
1/4″-20	0.375″	0.75″	5/16″	10	90973A029	5.95
1/4″-20	0.500″	0.75″	5/16″	10	90973A114	8.79
5/16″-18	0.375″	0.875″	13/32″	10	90973A115	8.33
5/16″-18	0.500″	0.875″	13/32″	10	90973A116	9.29
3/8″-16	0.438″	1″	31/64″	5	90973A120	8.38
1/2″-13	0.500″	1.25″	19/32″	1	90973A125	3.71
General Purpose Inserts for Wood—316 Stainless Steel						
6-32	0.250″	0.5″	11/64″	10	90973A400	8.17
8-32	0.250″	0.5″	7/32″	10	90973A405	8.31
10-24	0.281″	0.75″	7/32″	10	90973A410	8.62
1/4″-20	0.375″	0.75″	5/16″	10	90973A415	9.39
5/16″-18	0.375″	0.875″	13/32″	5	90973A420	7.85
Twist-Resistant Inserts for Softwood—Zinc-Plated Steel						
10-24	0.281″	0.75″	1/4″	100	90975A133	9.91
10-24	0.438″	0.703″	1/4″	100	90975A138	11.18
10-32	0.281″	0.75″	1/4″	100	90975A143	11.59
10-32	0.438″	0.703″	1/4″	100	90975A148	11.85
1/4″-20	0.313″	0.75″	5/16″	100	90975A153	10.46
1/4″-20	0.438″	0.75″	5/16″	100	90975A158	11.21
3/8″-16	0.438″	1″	29/64″	50	90975A163	13.72

Metric—Dimensions in millimeters.

Thread Size	Lg.	Flange Dia.	Drill Bit Size	Pkg. Qty.		Pkg.
General Purpose Inserts for Wood—Zinc-Plated Steel						
M4x0.7	6	15	4.7	100	98965A110	12.80
M4x0.7	8	15	4.7	100	98965A120	13.81
M5x0.8	8	17	5.8	100	98965A210	14.87
M6x1	9	19	6.8	50	98965A310	8.90
M6x1	12	19	6.8	50	98965A320	8.90
M8x1.25	11	22	8.5	50	98965A410	9.44
M8x1.25	15	22	8.5	50	98965A420	10.82
M10x1.5	13	25.5	10.2	25	98965A510	8.20

Ultra-Split-Resistant Tee Nut Inserts for Hardwood

Ridges on the barrel of these tee nut inserts make them good for use in end-grain applications where the prongs on standard tee nut inserts might cause the wood to split. To install, hammer into a drilled hole. Length is measured from under the flange. Inserts are steel, unless noted. Thread class is 2B.



Thread Size	Lg.	Flange Dia.	Drill Bit Size	Pkg. Qty.		Pkg.
8-32	0.250″	0.719″	13/64″	50	90598A024■	$9.45
10-24	0.313″	0.703″	1/4″	50	90598A025■	8.61
10-32	0.313″	0.703″	1/4″	50	90598A026■	8.77
1/4″-20	0.313″	0.75″	5/16″	50	90598A027	9.10
1/4″-20	0.438″	0.75″	5/16″	50	90598A029	8.23
1/4″-20	0.500″	0.625″	5/16″	50	90598A043	9.16
1/4″-20	0.563″	0.75″	5/16″	50	90598A050	10.46
5/16″-18	0.375″	0.875″	3/8″	50	90598A030	$11.47
5/16″-18	0.625″	0.75″	25/64″	25	90598A049	11.50
5/16″-18	0.625″	0.875″	3/8″	50	90598A045	12.99
5/16″-18	0.875″	0.875″	25/64″	25	90598A048	13.27
3/8″-16	0.438″	1″	29/64″	20	90598A031	9.05
1/2″-13	0.375″	1.25″	19/32″	10	90598A033	11.50

■ Zinc-plated steel.

Rivet-Type Studs

Provide a protruding stud for threading components together during assembly. An alternative to weld and press-in studs, they have a knurled body that resists torque and vibration. Install them in a drilled hole with a tool (required, see 92388A120 on page 3335).

Made from rust-resistant zinc-plated steel. Body length is measured from under the flange. Stud length is based on maximum material thickness. Thread class is 2A. Use with Grade 5 nuts.



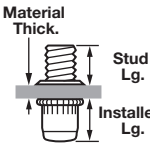

Thread	Drill Size	Material Thick.	Body Dia.	Body Lg.	Flange Dia.	Flange Thick.	Max. Installed Lg.	Stud Lg.	Pkg. Qty.		Pkg.
6-32	17/64″	0.020″-0.080″	0.265″	0.485″	0.390″	0.030″	0.360″	0.500″	10	98075A111	$6.53
6-32	17/64″	0.080″-0.130″	0.265″	0.535″	0.390″	0.030″	0.360″	0.450″	10	98075A115	7.97
8-32	17/64″	0.020″-0.080″	0.265″	0.485″	0.390″	0.030″	0.360″	0.500″	10	98075A119	7.28
8-32	17/64″	0.080″-0.130″	0.265″	0.535″	0.390″	0.030″	0.360″	0.450″	10	98075A123	8.18
10-24	19/64″	0.020″-0.130″	0.296″	0.545″	0.415″	0.030″	0.380″	0.500″	10	98075A127	8.06
10-32	19/64″	0.020″-0.130″	0.296″	0.545″	0.415″	0.030″	0.380″	0.500″	10	98075A135	8.10
10-32	19/64″	0.130″-0.225″	0.296″	0.655″	0.415″	0.030″	0.380″	0.405″	10	98075A139	9.88
1/4″-20	25/64″	0.027″-0.165″	0.390″	0.670″	0.500″	0.030″	0.465″	0.625″	10	98075A143	9.98
1/4″-20	25/64″	0.165″-0.260″	0.390″	0.770″	0.500″	0.030″	0.465″	0.530″	10	98075A147	12.39
5/16″-18	17/32″	0.027″-0.150″	0.530″	0.810″	0.685″	0.035″	0.600″	0.625″	10	98075A151	13.69
5/16″-18	17/32″	0.150″-0.312″	0.530″	0.925″	0.685″	0.035″	0.555″	0.463″	10	98075A155	14.95
3/8″-16	17/32″	0.027″-0.150″	0.530″	0.810″	0.685″	0.035″	0.600″	0.750″	5	98075A159	9.30
3/8″-16	17/32″	0.150″-0.312″	0.530″	0.925″	0.685″	0.035″	0.535″	0.588″	5	98075A163	10.37

Rivet Nuts

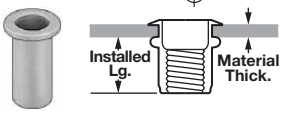

These nuts collapse and flare during installation to create a backside flange that grips the material and holds them in place. Also known as blind inserts, they can be installed when you have access to only one side of the material. Install in a drilled hole using a rivet nut tool. Length is measured from under the flange. Thread class is 2B, except thread sizes 8-32, 10-32, and 1/4″-20 are thread class 3B.

Aluminum nuts are one-third the weight of steel and have mild corrosion resistance.

Zinc-plated steel nuts are about twice as strong as aluminum, and have mild corrosion resistance.

Thread Size	Drill Bit Size	Material Thick.	Body Dia.	Body Lg.	Flange Dia.	Flange Thick.	Installed Lg.	Pkg. Qty.	Aluminum	Aluminum Pkg.	Zinc-Plated Steel	Zinc-Plated Steel Pkg.
6-32	No. 12	0.010″-0.075″	0.189″	0.438″	0.325″	0.032″	0.428″	50	93482A605	$10.76		
8-32	No. 2	0.010″-0.075″	0.221″	0.438″	0.357″	0.032″	0.305″	50	93482A611	9.57	93483A611	$13.33
8-32	No. 2	0.075″-0.120″	0.221″	0.500″	0.357″	0.032″	0.255″	25	93482A631	4.86	93483A631	7.68
8-32	No. 2	0.120″-0.160″	0.221″	0.500″	0.357″	0.032″	0.260″	25	93482A641	4.92	93483A641	8.50
10-24	1/4″	0.010″-0.080″	0.250″	0.531″	0.406″	0.038″	0.521″	25	93482A643	12.26		
10-24	1/4″	0.080″-0.130″	0.250″	0.594″	0.406″	0.038″	0.514″	25	93482A646	7.18		
10-32	1/4″	0.010″-0.080″	0.250″	0.531″	0.406″	0.038″	0.380″	25	93482A651	5.49	93483A651	9.19
10-32	1/4″	0.080″-0.130″	0.250″	0.594″	0.406″	0.038″	0.390″	25	93482A661	5.81	93483A661	9.56
10-32	1/4″	0.130″-0.180″	0.250″	0.641″	0.406″	0.038″	0.390″	25	93482A671	6.07	93483A671	10.50
1/4″-20	Q	0.020″-0.080″	0.332″	0.625″	0.475″	0.058″	0.440″	25	93482A681	7.27	93483A681	12.62
1/4″-20	Q	0.080″-0.140″	0.332″	0.687″	0.475″	0.058″	0.440″	25	93482A691	7.66	93483A691	13.62
1/4″-20	Q	0.140″-0.200″	0.332″	0.750″	0.475″	0.058″	0.440″	25	93482A711	7.78	93483A711	14.62
1/4″-20	Q	0.200″-0.260″	0.332″	0.812″	0.475″	0.058″	0.445″	25	93482A721	8.68		
5/16″-18	Z	0.030″-0.125″	0.413″	0.750″	0.665″	0.062″	0.720″	25	93482A810	12.06	93483A810	13.10
5/16″-18	Z	0.125″-0.200″	0.413″	0.875″	0.665″	0.062″	0.750″	25	93482A815	5.56		
3/8″-16	1/2″	0.030″-0.115″	0.490″	0.844″	0.781″	0.088″	0.814″	25	93482A910	13.46	93483A910	13.84
3/8″-16	1/2″	0.115″-0.200″	0.490″	0.938″	0.781″	0.088″	0.823″	25	93482A916	6.45		

Kits

103-Piece—Includes four nosepieces, four mandrels, a plier-style installation tool, and the following nuts: 25 aluminum 6-32 nuts, 25 steel 8-32 nuts, 25 steel 10-24 nuts, 20 aluminum 1/4″-20 nuts, and 8 steel 1/4″-20 nuts. Overall material thickness range is 0.010″ to 0.165″.

95585A300 ..... $94.22

200-Piece—Kits include two nosepieces with mandrels, a plier-style installation tool, and 200 nuts.

Inch kit includes 80 size 8-32 nuts and 120 size 10-32 nuts. Overall material thickness range is 0.010″ to 0.180″.

Metric kits include 120 size M4 nuts and 80 size M5 nuts. Overall material thickness range is 0.25 mm to 5 mm.

Inch Kit—Aluminum	92387A690	$179.82
Metric Kit—Aluminum	92387A810	181.65
Metric Kit—Zinc-Plated Steel	92387A850	194.02

Twist-Resistant Rivet Nuts

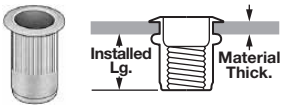

A ribbed body holds the nut in place so it won't move when tightening a screw. Install in a drilled hole using a rivet nut tool. The tool collapses the nut, creating a backside flange that holds the nut to the material. Length is measured from under the flange. Thread class is 2B for inch sizes and 6H for metric sizes.

Aluminum nuts are one-third the weight of steel and mildly corrosion resistant.

Zinc yellow-chromate plated steel nuts are about twice as strong as aluminum. They have good corrosion resistance.

18-8 stainless steel nuts are the most corrosion resistant and stand up to chemicals.

Open End—Nuts are open at the bottom, so you can use a long screw or bolt.

Closed End—The thread area is enclosed, which prevents leakage past the threads from either side.

Flange-Sealing—Have a PVC foam seal under the flange to keep liquids and gases from leaking between the nut and surrounding material.

Thread Size	Drill Bit Size	Material Thick.	Body Dia.	Body Lg.	Flange Dia.	Flange Thick.	Installed Lg.	Pkg. Qty.	Aluminum	Aluminum Pkg.	Zinc Yellow-Chromate Plated Steel	Zinc Yellow-Chromate Plated Steel Pkg.
Open End												
6-32	17/64″	0.020″-0.080″	0.265″	0.420″	0.390″	0.030″	0.305″	25	94020A311	$7.74	95105A111	$5.39
6-32	17/64″	0.080″-0.130″	0.265″	0.470″	0.390″	0.030″	0.305″	25	94020A315	8.02	95105A115	6.70
8-32	17/64″	0.020″-0.080″	0.265″	0.420″	0.390″	0.030″	0.305″	25	94020A319	8.06	95105A119	5.64
8-32	17/64″	0.080″-0.130″	0.265″	0.470″	0.390″	0.030″	0.305″	25	94020A323	8.78	95105A123	6.94
10-24	19/64″	0.020″-0.130″	0.296″	0.475″	0.415″	0.030″	0.315″	25	94020A327	9.29	95105A127	6.49
10-24	19/64″	0.130″-0.225″	0.296″	0.585″	0.415″	0.030″	0.315″	25	94020A331	11.83	95105A131	8.10
10-32	19/64″	0.020″-0.130″	0.296″	0.475″	0.415″	0.030″	0.315″	25	94020A335	9.10	95105A135	6.49
10-32	19/64″	0.130″-0.225″	0.296″	0.585″	0.415″	0.030″	0.315″	25	94020A339	13.13	95105A139	8.10
1/4″-20	25/64″	0.027″-0.165″	0.390″	0.580″	0.500″	0.030″	0.380″	25	94020A343	12.80	95105A143	9.08
1/4″-20	25/64″	0.165″-0.260″	0.390″	0.680″	0.500″	0.030″	0.380″	10	94020A347	6.50		
1/4″-20	25/64″	0.165″-0.260″	0.390″	0.680″	0.500″	0.030″	0.380″	25			95105A147	11.45
5/16″-18	17/32″	0.027″-0.150″	0.530″	0.690″	0.685″	0.035″	0.470″	10	94020A351	7.33	95105A151	5.04
5/16″-18	17/32″	0.150″-0.312″	0.530″	0.805″	0.685″	0.035″	0.425″	10	94020A355	7.36	95105A155	6.24
3/8″-16	17/32″	0.027″-0.150″	0.530″	0.690″	0.685″	0.035″	0.470″	10	94020A359	8.88	95105A159	6.61
3/8″-16	17/32″	0.150″-0.312″	0.530″	0.805″	0.685″	0.035″	0.425″	10	94020A364	11.51	95105A168	9.52
1/2″-13	11/16″	0.063″-0.200″	0.685″	1.150″	0.865″	0.047″	0.850″	10			95105A169	11.65
1/2″-13	11/16″	0.200″-0.350″	0.685″	1.300″	0.865″	0.047″	0.850″	10			95105A170	12.71
1/2″-13	11/16″	0.350″-0.500″	0.685″	1.450″	0.865″	0.047″	0.860″	10			95105A172	13.91
Metric Open End—Dimensions in millimeters.												
M4×0.7	6.8	0.5-2	6.7	10.7	9.9	0.8	7.8	25	94020A367	8.26	95105A167	5.64
M4×0.7	6.8	2-3.3	6.7	11.9	9.9	0.8	7.8	25	94020A371	9.01		
M4×0.7	6.8	2-3.3	6.7	11.9	9.9	0.8	7.8	25			95105A171	6.94
M4×0.7	6	0.5-2.5	6	11	9	1	7.5	10	97467A612★	9.50		
M5×0.8	7	0.5-3	7	12	10	1	8	10	97467A639★	10.13		
M5×0.8	7.6	0.5-3.3	7.5	12.1	10.5	0.8	8	25	94020A375	9.10	95105A175	6.49
M5×0.8	7.6	3.3-5.7	7.5	14.9	10.5	0.8	8	25	94020A379	11.44	95105A179	8.10
M6×1	9	0.5-3	9	14	12	1.5	10	5	97467A666★	7.50		
M6×1	10	0.7-4.2	9.9	14.7	12.7	0.8	9.7	25	94020A383	13.23	95105A183	9.08
M6×1	10	4.2-6.6	9.9	17.3	12.7	0.8	9.7	10	94020A387	6.61	95105A187	4.91

★18-8 stainless steel.

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Twist-Resistant Rivet Nuts *(Continued from previous page)*

Thread Size	Drill Bit Size	Material Thick.	Body Dia.	Body Lg.	Flange Dia.	Flange Thick.	Installed Lg.	Pkg. Qty.	Aluminum	Pkg.	Zinc Yellow-Chromate Plated Steel	Pkg.
Metric Open End (Cont.)—Dimensions in millimeters.												
M8×1.25	11	0.7-3	11	16	15	1.5	12	5	97467A693★	$9.17		
M8×1.25	13.5	0.7-3.8	13.5	17.5	17.4	0.9	11.9	10	94020A391	6.87	95105A191	$5.04
M8×1.25	13.5	3.8-7.9	13.5	20.5	17.4	0.9	10.8	10	94020A395	7.43	95105A195	6.29
M10×1.5	13.5	0.7-3.8	13.5	17.5	17.4	0.9	11.9	10	94020A399	8.59	95105A199	6.77
M10×1.5	13.5	3.8-7.9	13.5	20.5	17.4	0.9	10.8	10	94020A404	10.77	95105A207	9.52
M12×1.75	17.5	1.6-5.1	17.4	29.2	22	1.2	21.6	10			95105A208	11.65
M12×1.75	17.5	5.1-8.9	17.4	33	22	1.2	21.6	10			95105A209	12.71
M12×1.75	17.5	8.9-12.7	17.4	36.8	22	1.2	21.8	5			95105A210	9.88
Closed End												
6-32	17/64"	0.020"-0.080"	0.265"	0.740"	0.390"	0.030"	0.640"	25	98280A140	10.21		
6-32	17/64"	0.080"-0.130"	0.265"	0.740"	0.390"	0.030"	0.580"	25	98280A170	10.35		
8-32	17/64"	0.020"-0.080"	0.265"	0.740"	0.390"	0.030"	0.640"	25	98280A210	10.72		
8-32	17/64"	0.080"-0.130"	0.265"	0.740"	0.390"	0.030"	0.580"	25	98280A240	12.74		
10-24	19/64"	0.020"-0.130"	0.296"	0.990"	0.415"	0.030"	0.845"	25	98280A270	12.22		
10-24	19/64"	0.130"-0.225"	0.296"	0.990"	0.415"	0.030"	0.735"	25	98280A310	12.37		
10-32	19/64"	0.020"-0.130"	0.296"	0.990"	0.415"	0.030"	0.845"	25	98280A340	12.35		
10-32	19/64"	0.130"-0.225"	0.296"	0.990"	0.415"	0.030"	0.735"	25	98280A370	14.95		
1/4"-20	25/64"	0.027"-0.165"	0.390"	1.190"	0.500"	0.030"	1.005"	10	98280A410	7.36		
1/4"-20	25/64"	0.165"-0.260"	0.390"	1.190"	0.500"	0.030"	0.905"	10	98280A430	7.72		

★18-8 stainless steel.

Flange-Sealing (Open End)—Have the same dimensions as open-end nuts of the same size.

Thread Size	Drill Bit Size	Material Thick.	Pkg. Qty.	Aluminum	Pkg.
6-32	17/64"	0.020"-0.060"	10	93484A332	$5.77
6-32	17/64"	0.060"-0.100"	10	93484A338	6.80
8-32	17/64"	0.020"-0.060"	10	93484A341	5.93
8-32	17/64"	0.060"-0.100"	10	93484A347	7.03
10-24	19/64"	0.020"-0.100"	10	93484A350	6.47
10-24	19/64"	0.100"-0.175"	10	93484A355	7.63
10-32	19/64"	0.020"-0.100"	10	93484A356	6.47
10-32	19/64"	0.100"-0.175"	10	93484A359	$7.63
1/4"-20	25/64"	0.027"-0.125"	10	93484A363	8.53
1/4"-20	25/64"	0.125"-0.195"	10	93484A368	10.23
5/16"-18	17/32"	0.027"-0.115"	5	93484A372	5.67
5/16"-18	17/32"	0.130"-0.250"	5	93484A374	6.88
3/8"-16	17/32"	0.027"-0.115"	5	93484A381	7.90
3/8"-16	17/32"	0.130"-0.250"	5	93484A387	9.40

50-Piece Open-End Rivet Nut Kits—Zinc Yellow-Chromate Plated Steel

Inch—Includes three nosepieces, four mandrels, a plier-style installation tool, and the following nuts: 12 each size 8-32, 10-24, and 10-32; 14 size 1/4"-20. Overall material thickness range is 0.020" to 0.260".

95105A400 ..... $95.70

Metric—Includes three nosepieces, three mandrels, a plier-style installation tool, and the following nuts: 12 size M4×0.7, 24 size M5×0.8, and 14 size M6×1. Overall material thickness range is 0.5 mm to 6.6 mm.

95105A500 ..... $99.80

Heavy Duty Twist-Resistant Rivet Nuts

A hex-shaped body provides the highest twist resistance of any rivet nut. Install in a drilled hole with a lever-style or power-driven rivet nut tool. The tool collapses the nut, creating a backside flange that holds the nut to the material. Length is measured from under the flange. They're zinc-plated steel for mild corrosion resistance. Thread class is 2B.



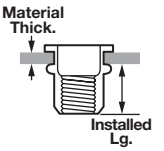

Thread Size	Drill Bit Size	Material Thick.	Body Dia.	Body Lg.	Flange Dia.	Flange Thick.	Installed Lg.	Pkg. Qty.		Pkg.
10-24	7/32"	0.010"-0.085"	0.223"	0.301"	0.344"	0.043"	0.200"	25	90720A410	$6.23
10-24	7/32"	0.085"-0.135"	0.223"	0.363"	0.344"	0.043"	0.210"	25	90720A420	6.37
10-32	7/32"	0.010"-0.085"	0.223"	0.301"	0.344"	0.043"	0.200"	25	90720A430	6.23
10-32	7/32"	0.085"-0.135"	0.223"	0.363"	0.344"	0.043"	0.210"	25	90720A440	6.37
1/4"-20	19/64"	0.020"-0.085"	0.296"	0.363"	0.437"	0.043"	0.250"	25	90720A450	8.10
1/4"-20	19/64"	0.085"-0.145"	0.296"	0.426"	0.437"	0.043"	0.250"	10	90720A460	3.87
5/16"-18	3/8"	0.030"-0.105"	0.368"	0.514"	0.562"	0.048"	0.375"	10	90720A470	4.80
5/16"-18	3/8"	0.105"-0.175"	0.368"	0.592"	0.562"	0.048"	0.380"	10	90720A480	5.87
5/16"-18	3/8"	0.175"-0.245"	0.368"	0.655"	0.562"	0.048"	0.375"	10	90720A490	6.10
3/8"-16	7/16"	0.104"-0.239"	0.437"	0.698"	0.656"	0.058"	0.410"	10	90720A500	6.83

Twist-Resistant Rivet Nuts for Soft Materials

Wedges under the flange lock the nut in place in soft materials such as brass and aluminum, so it won't turn when tightening a screw. Install in a drilled hole with a hydraulic/air-powered rivet nut tool. The tool collapses the nut, creating a backside flange that holds the nut to the material. Length is measured from under the flange. Made from aluminum, they're one-third the weight of steel and mildly corrosion resistant. Thread class is 2B.



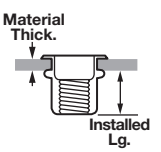

Thread Size	Drill Bit Size	Material Thick.	Body Dia.	Body Lg.	Flange Dia.	Flange Thick.	Installed Lg.	Pkg. Qty.		Pkg.
6-32	17/64"	0.020"-0.080"	0.265"	0.420"	0.390"	0.030"	0.305"	10	94430A116	$4.93
6-32	17/64"	0.080"-0.130"	0.265"	0.470"	0.390"	0.030"	0.305"	10	94430A119	6.23
8-32	17/64"	0.020"-0.080"	0.265"	0.420"	0.390"	0.030"	0.305"	10	94430A221	5.20
8-32	17/64"	0.080"-0.130"	0.265"	0.470"	0.390"	0.030"	0.305"	10	94430A225	6.50
10-24	19/64"	0.020"-0.130"	0.296"	0.475"	0.415"	0.030"	0.315"	10	94430A330	5.80
10-24	19/64"	0.130"-0.225"	0.296"	0.585"	0.415"	0.030"	0.315"	10	94430A333	7.30
10-32	19/64"	0.020"-0.130"	0.296"	0.475"	0.415"	0.030"	0.315"	10	94430A336	5.80
10-32	19/64"	0.130"-0.225"	0.296"	0.585"	0.415"	0.030"	0.315"	10	94430A339	7.30
1/4"-20	25/64"	0.027"-0.165"	0.390"	0.580"	0.500"	0.030"	0.380"	10	94430A442	8.40
1/4"-20	25/64"	0.165"-0.260"	0.390"	0.680"	0.500"	0.030"	0.380"	10	94430A444	10.53
5/16"-18	17/32"	0.027"-0.150"	0.530"	0.690"	0.685"	0.035"	0.470"	5	94430A552	5.95
5/16"-18	17/32"	0.150"-0.312"	0.530"	0.805"	0.685"	0.035"	0.425"	5	94430A558	7.47
3/8"-16	17/32"	0.027"-0.150"	0.530"	0.690"	0.685"	0.035"	0.470"	5	94430A663	8.73
3/8"-16	17/32"	0.150"-0.312"	0.530"	0.805"	0.685"	0.035"	0.425"	5	94430A665	10.60

Low-Profile Rivet Nuts





Use these rivet nuts for light duty fastening in low-clearance applications.

Cadmium-plated rivet nuts have good corrosion resistance and lubricity so they collapse smoothly. **Tin-plated 18-8 stainless steel** rivet nuts have excellent resistance to chemicals.

Rivet nut kits include rivet nuts, mandrels, and an installation tool. Kits in sizes 8-32, 10-32, and 1/4"-20 have 100 nuts; all others have 50. **Rivet nut tool assortments with installation tool** contain cadmium-plated steel rivet nuts, a rivet nut tool, and mandrels.

Rivet nut tool and **mandrel** (both sold separately) are required for installation. To use, thread the nut onto a mandrel of the same size, then place it into a hole, push down on the tool's T-handle, and turn clockwise. Turn counterclockwise to remove the tool and mandrel.

Rivet Nuts and Rivet Nut Kits

Thread Size	Drill Bit Size	Body Dia.	Body Lg.	Installed Lg., Max.	Rivet Nuts: Cadmium-Plated Steel Pkg. Qty.		Pkg.	Rivet Nuts: Cadmium-Plated Aluminum Pkg. Qty.		Pkg.	Rivet Nuts: Tin-Plated 18-8 Stainless Steel Pkg. Qty.		Pkg.	Rivet Nut Kits: Cadmium-Plated Steel	
4-40	3/16"	0.187"	0.355"	0.205"	25	98560A526	$12.04	10	98560A636	$9.89	1	98005A110	$3.13		
6-32	7/32"	0.218"	0.355"	0.205"	25	98560A531	12.95	10	98560A172	9.17	1	98005A120	2.92		
8-32	1/4"	0.249"	0.355"	0.205"	25	98560A541	12.82	10	98560A173	8.45	1	98005A130	2.92	98560A123	$109.25
10-24	9/32"	0.280"	0.355"	0.205"	25	98560A551	13.21	10	98560A174	8.62	1	98005A140	3.15		
10-32	9/32"	0.280"	0.370"	0.205"	25	98560A561	13.61	25	98560A176	13.19	1	98005A150★	3.15	98560A124	109.25
12-24	3/8"	0.374"	0.500"	0.275"	10	98560A566	6.50	—	—	—	—	—	—	—	—
1/4"-20	3/8"	0.374"	0.500"	0.275"	10	98560A571	7.19	10	98560A266	13.31	1	98005A160	4.40	98560A125	109.25
1/4"-28	3/8"	0.374"	0.500"	0.275"	10	98560A576	7.26	10	98560A668	14.44	1	98005A330	4.72		
5/16"-18	1/2"	0.499"	0.600"	0.325"	10	98560A581	11.25	5	98560A175	11.80	1	98005A170	7.66	98560A126	109.25
5/16"-24	1/2"	0.499"	0.600"	0.325"	10	98560A586	13.01	—	—	—	—	—	—	—	—
3/8"-16	9/16"	0.561"	0.730"	0.39"	10	98560A591	13.77	5	98560A177	12.81	1	98005A180	10.14	98560A046	109.25
3/8"-24	9/16"	0.561"	0.730"	0.39"	—	—	—	—	—	—	1	98005A190	10.01	—	—
1/2"-13	3/4"	0.748"	0.920"	0.485"	5	98560A593	9.62	—	—	—	—	—	—	—	—
1/2"-20	3/4"	0.748"	0.920"	0.485"	5	98560A594	10.78	—	—	—	—	—	—	—	—
Metric—Dimensions in millimeters.															
M3×0.5	4.8	4.8	9	5.2	25	91230A001	9.87	10	91230A211	10.12	1	98005A410	3.03	—	—
M4×0.7	6.4	6.3	9	5.2	25	91230A002	10.74	10	91230A221	9.56	1	98005A420	2.85	—	—
M5×0.8	7.1	7.1	9	5.2	25	91230A004	10.74	10	91230A231	10.00	1	98005A430	2.58	—	—
M6×1	9.5	9.5	12.7	7	10	91230A009	6.43	5	91230A241	6.98	1	98005A440	4.64	—	—
M8×1.25	12.7	12.7	15.2	8.3	10	91230A011	10.86	5	91230A251	12.40	1	98005A450	9.50	—	—
M10×1.5	14.3	14.3	18.5	9.9	5	91230A015	6.36	—	—	—	1	98005A460	9.22	—	—

★Body length is 0.355".

Rivet Nut Tool and Mandrels—Required for installation.



To Order: For mandrel, please specify thread size: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24, M3×0.5, M4×0.7, M5×0.8, M6×1.0, M8×1.25, M10×1.5.

Rivet Nut Tool	98590A100	$62.50
Mandrel	98590A555	25.42

Rivet Nut Assortments with Installation Tool

275-Piece Inch Kit—Contains 50 each of sizes 4-40, 6-32, 8-32, 10-32, and 1/4"-20; 25 each of size 5/16"-18, and six mandrels.

98560A131 ..... $239.98

225-Piece Metric Kit—Contains 50 each of sizes M3×0.5, M4×0.7, M5×0.8, and M6×1.0; 25 each of size M8×1.25; and five mandrels.

91230A600 ..... $222.28

Rivet Nuts for Plastic and Composites



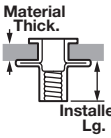

Once installed these rivet nuts have a large back flange that distributes the load across a broad area for a strong hold in plastic and composites. Install them in a drilled hole with a wrench- or power-driven rivet nut tool. Rivet nuts are zinc yellow-chromate plated steel. Thread class is 2B.

Thread Size	Drill Bit Size	Material Thick.	Body Dia.	Body Lg.	Flange Dia.	Flange Thick.	Installed Lg.	Pkg. Qty.		Pkg.
10-32	R	0.020"-0.175"	0.329"	0.828"	0.510"	0.038"	0.410"	10	97217A359	$5.71
10-32	R	0.175"-0.320"	0.329"	0.921"	0.510"	0.038"	0.410"	10	97217A376	9.83
1/4"-20	X	0.020"-0.280"	0.382"	1.000"	0.645"	0.059"	0.505"	10	97217A393	6.50
1/4"-20	X	0.280"-0.500"	0.382"	1.234"	0.645"	0.059"	0.505"	5	97217A410	4.46
5/16"-18	1/2"	0.020"-0.280"	0.495"	1.141"	0.770"	0.062"	0.570"	5	97217A427	4.94
Metric—Dimensions in millimeters.										
M6×1	10	0.5-7.1	9.7	25.4	16.4	1.5	12.8	10	97217A444	6.50
M8×1.25	1/2"	0.5-7.1	12.6	29	19.7	1.6	14.5	5	97217A461	4.94

Aligning Rivet Nuts



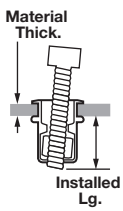

Threads move so your screw can enter at a slight angle to align with an off-center part. Install in a drilled hole with a wrench-driven tool (sold separately below). Known as Riv-Float nuts, they're zinc-plated steel. Thread class is 2B.

Thread Size	Drill Bit Size	Material Thick.	Body Dia.	Body Lg.	Flange Dia.	Flange Thick.	Installed Lg.	Pkg. Qty.		Pkg.
8-32	7/16"	0.020"-0.100"	0.431"	0.371"	0.555"	0.033"	0.276"	5	93669A110	$5.60
8-32	25/64"	0.027"-0.130"	0.390"	0.690"	0.500"	0.030"	0.522"	10	93669A210	8.17
10-24	7/16"	0.020"-0.100"	0.430"	0.371"	0.555"	0.033"	0.276"	5	93669A120	5.77
10-32	7/16"	0.020"-0.100"	0.431"	0.371"	0.555"	0.033"	0.276"	5	93669A130	5.77
10-32	25/64"	0.027"-0.150"	0.390"	0.690"	0.500"	0.030"	0.522"	10	93669A220	8.33
1/4"-20	17/32"	0.027"-0.150"	0.530"	0.784"	0.685"	0.035"	0.630"	10	93669A230	11.17
Metric—Dimensions in millimeters.										
M4×0.7	11	0.5-2.5	11	9.4	14.1	0.9	7	5	93669A140	5.60
M4×0.7	10	0.7-3.3	9.9	17.5	12.7	0.8	13.3	10	93669A260	8.17
M5×0.8	11	0.5-2.5	11	9.4	14.1	0.9	7	5	93669A150	5.77
M5×0.8	10	0.7-3.8	9.9	17.5	12.7	0.8	13.3	10	93669A270	8.33
M6×1	13.5	0.7-3.8	13.5	19.9	17.4	0.9	16	10	93669A280	11.17

Installation Tools

To Order: Tool for 0.371" and 9.4 mm length nuts, please specify thread size for rivet nut: 8-32, 10-24, 10-32, M4, or M5.

96349A555 ..... $29.84

To Order: Tool for 0.690", 0.784", 17.5 mm and 19.9 mm length nuts, please specify thread size for rivet nut: 8-32, 10-32, 1/4"-20, M4, M5, or M6.

96349A777 ..... $33.00

Screw-to-Install Rivet Nuts

Your fastener sets the insert as you screw it into thin and brittle materials. Length is measured from under the flange. For quicker installation of steel nuts, use the *optional rivet nut tool* (pull rod required; sold separately). 90186A211 and 90186A213 include a *friction-wrench tool* to hold the flange in place when installing with a screwdriver.

Zinc-plated steel nuts are mildly corrosion resistant. They're also known as jack nuts.

PVC-coated steel nuts minimize scratches to the surface of your material and are more corrosion resistant than zinc-plated steel rivet nuts.

Sealing steel nuts have an acrylic-coated flange to seal out moisture and resist corrosion.

Rubber-insulated brass nuts have a nonconductive rubber coating that insulates the nut from electricity, seals out moisture, and damps vibration. Also known as well nuts.

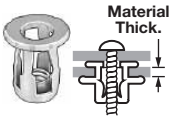

Steel



Rubber-Insulated Brass

Thread Size	Material Thick.	Hole Dia.	Flange Dia.	Flange Thick.	Lg.	Pkg. Qty.		Pkg.
Zinc-Plated Steel								
6-32	1/64"-3/16"	21/64"	0.468"	0.073"	0.580"	25	90186A211	$6.87
6-32	3/16"-3/8"	5/16"	0.488"	0.073"	0.793"	25	90186A311	7.67
1/4"-20	1/64"-3/16"	7/16"	0.625"	0.073"	0.658"	25	90186A213	11.64
1/4"-20	3/16"-3/8"	7/16"	0.630"	0.073"	0.829"	25	90186A313	12.51
PVC-Coated Steel								
1/4"-20	1/64"-3/16"	7/16"	0.630"	0.073"	0.659"	10	90186A600	9.79
Sealing Steel								
1/4"-20	1/64"-3/16"	7/16"	0.630"	0.073"	0.659"	10	90186A500	7.87
Rubber-Insulated Brass								
6-32	1/64"-5/32"	5/16"	0.452"	0.062"	0.437"	10	93495A120	6.34
6-32	3/8"-19/32"	1/4"	0.554"	0.035"	0.946"	10	93495A110	7.02
8-32	1/64"-5/32"	5/16"	0.438"	0.052"	0.447"	10	93495A130	6.71
10-32	1/64"-3/16"	3/8"	0.500"	0.036"	0.518"	10	93495A180	7.37
Rubber-Insulated Brass (Cont.)								
10-32	3/64"-7/32"	3/8"	0.562"	0.040"	0.625"	10	93495A250	$7.00
10-32	5/16"-5/8"	3/8"	0.562"	0.051"	1.000"	10	93495A190	8.46
1/4"-20	1/64"-3/32"	1/2"	0.630"	0.051"	0.579"	10	93495A310	8.41
1/4"-20	1/32"-3/16"	1/2"	0.750"	0.187"	0.642"	10	93495A321	9.87
1/4"-20	1/4"-7/16"	1/2"	0.635"	0.051"	1.000"	10	93495A331	10.26
5/16"-18	1/64"-5/32"	5/8"	0.875"	0.125"	0.600"	5	93495A431	12.25
3/8"-16	1/64"-7/16"	3/4"	1.250"	0.187"	0.875"	5	93495A441	14.61
Replacement Parts and Accessories for Steel Rivet Nuts								
Optional Rivet Nut Tool							90186A811	$63.83
Pull Rod for Rivet Nut Tool (6-32)							90186A821	59.63
Pull Rod for Rivet Nut Tool (1/4"-20)							90186A823	59.63
Replacement Friction-Wrench Tool							90186A411	3.30

Rivet Nut Tools

Plier Style



Install rivet nuts with one hand. Sets all styles of aluminum rivet nuts up to 3/8" or M8 and steel rivet nuts up to 1/4" or M6. Includes mandrels and nosepieces to set 8-32, 10-24, and 10-32 sizes (additional sizes sold separately). Weighs 1 lb.

Tool ..... 95585A600 ..... $56.28

Additional Mandrel and Nosepiece Sets—To Order: Please specify thread size: 6-32, 8-32, 10-24, 10-32, 1/4"-20, 5/16"-18, 3/8"-16, M4, M5, M6, M8. Sets for thread sizes 5/16-18, 3/8"-16, and M8 include mandrel only (no nosepiece needed).

Sets ..... 95585A777 ..... $14.58

Lever Style



Squeeze the handles together with two hands to maximize leverage when installing aluminum and steel smooth rivet nuts up to 3/8". Tool includes one 1/4"-20 mandrel and nosepiece set (additional sizes sold separately). Weighs 4 lbs.

Tool ..... 95603A770 ..... $157.29

Additional Mandrel and Nosepiece Sets—To Order: Please specify thread size: 10-24, 10-32, 1/4"-20, 5/16"-18, 3/8"-16, M5, M6, M8, or M10.

Sets ..... 95603A555 ..... $15.56

Lever Style with Visual Stroke Indicator



Tool with Knob

Mandrel and nosepiece sets (required) are sold separately.

Tool with knob installs rivet-type studs and smooth and ribbed body rivet nuts. It has a spin-to-reverse knob to quickly unthread the mandrel from the installed nut. It sets smooth rivet nuts up to 1/4"-20 and M6, and ribbed rivet nuts and rivet studs up to 3/8"-16 and M10. Weighs 4.5 lbs.

Tool with plunger installs smooth and ribbed body rivet nuts. It has a quick-acting, pull-to-remove plunger that unthreads the mandrel from the installed nut. It sets smooth rivet nuts up to 5/16"-18 and M8, and ribbed rivet nuts up to 1/2"-20 and M10. Weighs 5 lbs. It does not set rivet studs.

Tool with Knob ..... 92388A120 ..... $275.53
Tool with Plunger ..... 92388A125 ..... 495.97

Mandrel and Nosepiece Sets—To Order: Please specify thread size: 6-32, 8-32, 10-24, 10-32, 1/4"-20, 1/4"-28, 5/16"-18, 3/8"-16, 1/2"-13, 1/2"-20, M4, M5, M6, M8, or M10.

For Smooth Rivet Nuts ..... 92388A533 ..... $40.88
For Ribbed Rivet Nuts ..... 92388A122 ..... 40.88
For Stud Rivet Nuts ..... 92388A755 ..... 40.88

Wrench-Driven Rivet Nut Tools



Install all styles of rivet nuts. A wrench and ratchet are required. Use a 7/8" wrench (not included) to hold the tool and an 11/16" ratchet (not included) to tighten the nut.

To Order: Please specify thread size: 6-32, 8-32, 10-24, 10-32, 1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24, M3, M4, M5, M6, M8, or M10.

96349A555 ..... $29.84

Power-Driven Rivet Nut Tools

Install rivet nuts more quickly and easily than with manual tools. To use, thread a rivet nut onto the mandrel and press the trigger to spin the nut onto the tool. Place the nut into the material and press the trigger to install the nut. Press the trigger one more time to spin the mandrel off.

Cordless Rechargeable



The battery pack fully charges in one hour and installs up to 600 rivet nuts per charge. Tool provides 2,800 lbs. of pulling power with an adjustable stroke up to 0.22" and includes mandrels and nosepieces to install 8-32, 10-32, and 1/4"-20 rivet nuts (additional sizes sold separately); a 14.4 volt battery pack, and a charger. Weighs 5 lbs. Tool and battery charger cannot be sold in California or Oregon.

To Order: For additional mandrels and nosepieces, please specify thread size: 6-32, 8-32, 10-32, 1/4"-20, 5/16"-18, 3/8"-16, M4, M5, M6, M8, or M10. Note: The 3/8"-16 mandrel and nosepiece only set aluminum rivet nuts.

Tool ..... 90336A110 ..... $1,592.41
Replacement Battery Pack ..... 90336A730 ..... 306.98
Replacement Battery Charger ..... 90336A720 ..... 253.66
Additional Mandrels ..... 90336A222 ..... 24.69
Additional Nosepieces ..... 90336A333 ..... 25.69

Hydraulic/Air Powered



Quickly install all styles of rivet nuts at 1.5-second intervals. Tool provides 3,960 lbs. of pulling power with an adjustable stroke up to 0.28". Operating pressure is 75-100 psi. Connection is 1/4 NPT. Weighs 3.5 lbs.

Nosepiece assemblies (are required and sold separately). **To Order:** Please specify thread size: 8-32, 10-24, 10-32, 1/4"-20, 5/16"-18, 3/8"-16, M4, M5, M6, M8, or M10.

Tool ..... 92894A700 ..... $1,668.86
Nosepiece Assemblies ..... 92894A444 ..... 96.55

Air Powered



Smaller and lighter than cordless and hydraulic rivet nut tools, use these to install smooth rivet nuts. Operating pressure is 35-45 psi for sizes 4-40 and M4; 70-80 psi for sizes 6-32 to 1/4"-28, M5 and M6; and 90-110 psi for sizes 5/16"-18 to 1/2"-20, and M8 to M12. Connection is 1/4 NPT. Weighs 4 lbs.

To Order: Please specify thread size: 4-40, 6-32, 8-32, 10-24, 10-32, 1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24, 1/2"-13, 1/2"-20, M4, M5, M6, M8, M10, or M12.

Tool ..... 94675A111 ..... $648.90

Also Available: Nosepiece assemblies that include a hex drive, mandrel, bearing set, and nose cone. Please ask for 94675A660 and specify thread size.

Also Available: Replacement mandrels. Please ask for 94675A550 and specify thread size.

About Blind Rivets

Blind rivets join materials together when you don't have access to both sides. They consist of a *rivet* (a hollow body with a head) and a *mandrel* (a thin nail with a bulbed end). Rivets require a setting tool for installation (see pages 3341-3343).

To hold rivets in large holes and soft materials use Blind Rivet Washers (see 90183A on page 3271).

To select the proper rivet there are several factors to consider:

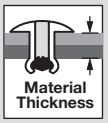

Material Thickness— Make sure the combined thickness of the materials you are joining falls within the rivet's material thickness range.

Diameter— The diameter of the rivet body determines the hole size.

Material— To maximize strength and minimize corrosion, use rivets made of the same material as the components you are fastening. When an exact match isn't possible, choose rivets that are painted or coated.

Shear and Tensile Strengths— To ensure rivets have the strength you need, consider *shear strength* (the amount of force it takes to break a rivet from the side) and *tensile strength* (the amount of pull a rivet can withstand without breaking). *Note:* Joint strength is also affected by the space between the rivets, their distance from the edge of the work, and hole size.

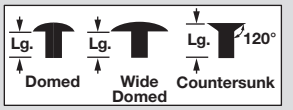

Head Style— *Domed* rivets are suitable for most applications. They have a low profile and a neat appearance. *Wide-domed* rivets have a large head diameter that provides extra holding strength for soft, thin materials or oversized holes. *Countersunk* rivets have an angled head that sits flush when installed.

How to Install a Blind Rivet

Insert the rivet through a hole that passes through the materials being joined. Using a rivet tool with the same size nosepiece as the rivet diameter, grip the mandrel and pull the trigger or lever. The tool pulls the mandrel through the rivet, deforming the rivet's body and breaking off the excess mandrel.

Blind Rivets

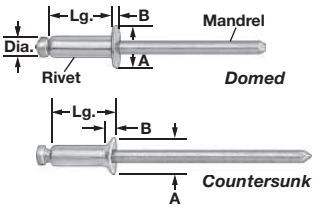



Also known as Pop and open-end rivets, these blind rivets meet IFI 114 (Industrial Fasteners Institute) standards, unless noted.

18-8 stainless steel rivets and mandrels have excellent corrosion resistance and may be mildly magnetic.

Aluminum rivets and mandrels are corrosion resistant and nonmagnetic.

Zinc-plated steel rivets with steel mandrels have good rust resistance.

Aluminum rivets with steel mandrels meet MIL-R-24243/1E wherever a dash number is shown. They are corrosion resistant and nonmagnetic.

Head Dimensions

Dia.	Domed (A)	Domed (B)	Wide Domed (A)	Wide Domed (B)	Countersunk (A)	Countersunk (B)
3/32″	0.198″	0.032″	—	—	—	—
1/8″	0.262″	0.04″	0.39″	0.073″	0.233″	0.031″
5/32″	0.328″	0.05″	—	—	—	—
3/16″	0.394″	0.063″	0.65″	0.092″	0.361″	0.05″
1/4″	0.525″	0.08″	—	—	—	—

Shear and Tensile Strengths

Dia.	18-8 Stainless Steel Shear, lbs.	18-8 Stainless Steel Tensile, lbs.	Aluminum Shear, lbs.	Aluminum Tensile, lbs.	Zinc-Plated Steel with Steel Mandrel Shear, lbs.	Zinc-Plated Steel with Steel Mandrel Tensile, lbs.	Aluminum with Steel Mandrel Shear, lbs.	Aluminum with Steel Mandrel Tensile, lbs.
3/32″	230	280	80	130	150	200	120	170
1/8″	420	530	120	150	260	310	170	220
5/32″	650	820	220	350	410	570	260	350
3/16″	950	1,200	310	500	590	810	380	500
1/4″	1,700	2,100	600	750	1,240	1,500	700	920

Material Thickness Range	Lg.	18-8 Stainless Steel Pkg. Qty.	18-8 Stainless Steel Pkg.	Aluminum Pkg. Qty.	Aluminum Pkg.	Zinc-Plated Steel with Steel Mandrel Pkg. Qty.	Zinc-Plated Steel with Steel Mandrel Pkg.	Aluminum with Steel Mandrel Dash No.	Aluminum with Steel Mandrel Pkg. Qty.	Aluminum with Steel Mandrel Pkg.
Domed										
3/32″ Dia.—For Hole Size: 0.097″-0.1″ (Drill Size #41)										
0.032″-0.125″	0.25″	100	97525A300 $12.63	250	97447A105 $9.00	250	97519A003 $10.91	—	250	97517A105 $8.85
0.126″-0.25″	0.375″	100	97525A305 11.32	250	97447A110 9.26	100	97519A005 6.23	—	250	97517A110 8.52
1/8″ Dia.—For Hole Size: 0.129″-0.133″ (Drill Size #30)										
0.032″-0.062″	0.212″	100	97525A410 9.58	250	97447A010 7.73	250	97519A010 8.10	A401	250	97517A010 6.91
0.063″-0.125″	0.275″	100	97525A415 8.90	250	97447A015 7.26	250	97519A015 9.31	A402	250	97517A015 7.66
0.126″-0.187″	0.337″	100	97525A420 9.60	250	97447A020 7.12	250	97519A020 8.65	A403	250	97517A020 7.36
0.188″-0.25″	0.4″	100	97525A425 10.09	250	97447A025 7.76	250	97519A025 8.13	A404	250	97517A025 7.48
0.251″-0.312″	0.462″	100	97525A430 10.80	250	97447A125 8.88	250	97519A026 8.67	A405	250	97517A125 9.28
0.313″-0.375″	0.525″	100	97525A435 11.25	250	97447A130 11.54	250	97519A130 9.76	A406	250	97517A130 9.16
0.376″-0.5″	0.65″	50	97525A440 8.37	250	97447A135 9.90	250	97519A140 13.26	A408	100	97517A140 3.92
0.501″-0.625″	0.775″	50	97525A442 11.08	250	97447A145 10.07	100	97519A145 5.97	—	100	97517A145 6.48
5/32″ Dia.—For Hole Size: 0.16″-0.164″ (Drill Size #20)										
0.063″-0.125″	0.3″	100	97525A455 13.67	250	97447A030 12.10	250	97519A030 11.22	A502	250	97517A030 9.14
0.126″-0.187″	0.362″	50	97525A458 6.46	250	97447A032 12.13	250	97519A031 10.55	A503	250	97517A032 8.53
0.188″-0.25″	0.425″	50	97525A465 7.78	250	97447A035 11.69	250	97519A035 11.80	A504	250	97517A035 8.88
0.251″-0.375″	0.55″	50	97525A470 9.79	250	97447A040 12.52	250	97519A040 12.58	A506	250	97517A040 10.70
0.376″-0.5″	0.675″	50	97525A473 13.03	100	97447A041 6.21	250	97519A042 10.43	A508	250	97517A041 12.03
3/16″ Dia.—For Hole Size: 0.192″-0.196″ (Drill Size #11)										
0.063″-0.125″	0.325″	50	97525A485 10.77	100	97447A045 6.30	250	97519A045 13.54	A602	250	97517A045 10.68
0.126″-0.25″	0.45″	50	97525A490 11.63	100	97447A050 6.89	100	97519A050 6.08	—	250	97517A050 10.10
0.251″-0.375″	0.575″	50	97525A505 13.55	100	97447A055 6.52	100	97519A055 6.81	A606	250	97517A055 14.12
0.376″-0.5″	0.7″	50	97525A510 12.73	100	97447A060 8.21	100	97519A060 7.79	A608	250	97517A060 13.62
0.501″-0.625″	0.825″	25	97525A515 10.45	100	97447A065 9.68	100	97519A065 9.52	A610	100	97517A065 7.52
0.626″-0.75″	0.95″	25	97525A520 11.03	100	97447A070 9.03	100	97519A070 10.13	A612	100	97517A070 8.82
0.751″-0.875″	1.075″	25	97525A522 10.69	50	97447A071 8.82	50	97519A072 8.56	—	100	97517A071 12.73
0.876″-1″	1.2″	—	—	50	97447A072 6.74	50	97519A073 9.05	A616	100	97517A072 13.18
3/16″ Dia.—For Hole Size: 0.201″-0.204″ (Drill Size #7)										
0.985″-1.181″	1.417″	—	—	—	—	10	97519A080★ 7.40	—	25	97517A073★ 9.10
1.182″-1.338″	1.614″	—	—	—	—	10	97519A082★ 10.50	—	25	97517A074★ 11.70
1.378″-1.535″	1.811″	—	—	—	—	10	97519A084★ 9.45	—	25	97517A076★ 12.78
1.575″-1.732″	2.008″	—	—	—	—	10	97519A086★ 10.60	—	25	97517A077★ 14.00
1/4″ Dia.—For Hole Size: 0.257″-0.261″ (Drill Size F)										
0.063″-0.25″	0.5″	10	97525A550 4.96	50	97447A651 9.51	100	97519A651 11.01	A804	100	97517A651 11.97
0.251″-0.375″	0.625″	10	97525A553 7.16	50	97447A652 8.16	100	97519A652 12.81	A806	100	97517A652 12.82
0.376″-0.5″	0.75″	10	97525A556 7.32	50	97447A653 9.72	50	97519A653 7.59	A808	100	97517A653 14.39

★ Does not meet IFI 114.

(Continued on following page)

Blind Rivets *(Continued from previous page)*

Material Thickness Range	Lg.	18-8 Stainless Steel Pkg. Qty.		Pkg.	Aluminum Pkg. Qty.		Pkg.	Zinc-Plated Steel with Steel Mandrel Pkg. Qty.		Pkg.	Aluminum with Steel Mandrel Dash No.	Pkg. Qty.		Pkg.
Domed (Cont.)														
1/4" Dia. *—For Hole Size: 0.257"-0.261" (Drill Size F) (Cont.)*														
0.501"-0.625"	0.875"	5	97525A568	$9.23	50	97447A700	$8.68	50	97519A654	$8.13	A810	100	97517A654	$15.45
0.626"-0.75"	1"	5	97525A570	10.50	50	97447A654	9.84	50	97519A655	8.42	A812	100	97517A655	15.61
0.876"-1"	1.25"	5	97525A572	8.44	25	97447A656	9.23	50	97519A656	10.23	____	50	97517A656	14.46
Wide Domed														
1/8" Dia. *—For Hole Size: 0.129"-0.133" (Drill Size #30)*														
0.063"-0.125"	0.25"	100	97525A615	13.50	250	97447A310	10.37	100	97519A400	6.38	____	100	97517A310	3.87
0.126"-0.187"	0.313"	100	97525A620	13.52	100	97447A313	4.24	100	97519A410	6.74	____	100	97517A315	3.90
0.188"-0.25"	0.375"	100	97525A625	13.29	100	97447A315	5.36	100	97519A415	6.32	____	100	97517A320	4.17
0.313"-0.375"	0.525"	50	97525A627	9.82	100	97447A317	6.05	____	____	____	____	100	97517A323	4.94
3/16" Dia. *—For Hole Size: 0.192"-0.196" (Drill Size #11)*														
0.126"-0.25"	0.45"	25	97525A635	9.00	100	97447A325	8.71	100	97519A325	9.06	____	100	97517A325	7.40
0.251"-0.375"	0.575"	25	97525A640	8.80	100	97447A155	10.28	100	97519A155	9.39	____	100	97517A330	7.49
0.376"-0.5"	0.7"	25	97525A645	10.98	100	97447A075	11.03	100	97519A075	10.55	____	100	97517A075	8.17
0.501"-0.625"	0.825"	25	97525A650	13.22	100	97447A090	13.08	50	97519A090	11.29	____	100	97517A090	8.68
0.626"-0.75"	0.95"	10	97525A655	5.64	50	97447A095	7.30	50	97519A095	11.63	____	100	97517A095	10.01
0.876"-1"	1.2"	10	97525A658	6.44	25	97447A097	6.91	____	____	____	____	50	97517A097	9.25
Countersunk														
1/8" Dia. *—For Hole Size: 0.129"-0.133" (Drill Size #30)*														
0.092"-0.125"	0.275"	100	97525A665▲	13.60	250	97447A210	17.78	250	97519A096	20.62	____	250	97517A210	17.72
0.126"-0.187"	0.337"	100	97525A670	14.22	250	97447A215	20.31	250	97519A097	20.69	____	250	97517A215	18.17
0.188"-0.25"	0.4"	100	97525A675	14.92	250	97447A220	20.38	250	97519A098	21.88	____	250	97517A220	18.11
3/16" Dia. *—For Hole Size: 0.192"-0.196" (Drill Size #11)*														
0.188"-0.25"	0.45"	25	97525A680	6.29	50	97447A230	5.16	100	97519A204	10.32	____	50	97517A240	6.14
0.251"-0.375"	0.575"	25	97525A685	7.27	50	97447A240	5.71	100	97519A208	10.42	____	50	97517A250	6.92

▲Material thickness range is 0.063" to 0.125".

Corrosion-Resistant Blind Rivets



Rivets are ideal for marine and other outdoor applications.

Type 316 stainless steel rivets and mandrels have better corrosion resistance than 18-8 stainless steel. May be mildly magnetic.

Copper and ***nickel-copper*** rivets are corrosion resistant and nonmagnetic. They have steel mandrels. Rivets meet IFI 114 (Industrial Fasteners Institute) standards.

Dia.	Head Dimensions (A)	(B)	Shear Strength, lbs.	Tensile Strength, lbs.
Type 316 Stainless Steel				
1/8"	0.256"	0.039"	440	560
5/32"	0.315"	0.047"	890	1,050
3/16"	0.374"	0.051"	1,320	1,610
Copper and Nickel-Copper with Steel Mandrel				
1/8"	0.262"	0.04"	210	300
3/16"	0.34"	0.055"	740	840

Material Thickness Range	Lg.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel *—Domed*				
1/8" Dia. *—For Hole Size: 0.122"-0.125" (Drill Size 1/8")*				
0.04" -0.118"	0.236"	10	97550A105	$8.55
0.119"-0.196"	0.315"	10	97550A110	9.17
0.197"-0.255"	0.394"	10	97550A115	10.62
0.256"-0.334"	0.472"	10	97550A120	12.66
5/32" Dia. *—For Hole Size: 0.161"-0.165" (Drill Size #20)*				
0.04" -0.098"	0.236"	10	97550A205	11.39
0.099"-0.177"	0.315"	10	97550A210	11.79
0.178"-0.255"	0.394"	10	97550A215	13.27
0.256"-0.334"	0.472"	10	97550A220	13.62
0.335"-0.472"	0.63"	5	97550A225	9.05
3/16" Dia. *—For Hole Size: 0.2"-0.204" (Drill Size 13/64")*				
0.02" -0.125"	0.325"	10	97550A405	13.33
0.079"-0.157"	0.315"	5	97550A310	9.17
0.158"-0.236"	0.394"	5	97550A315	8.97
0.237"-0.314"	0.472"	5	97550A320	9.62
0.315"-0.433"	0.63"	5	97550A325	10.66
0.434"-0.59"	0.787"	5	97550A330	12.17
Copper with Steel Mandrel *—Domed*				
1/8" Dia. *—For Hole Size: 0.129"-0.133" (Drill Size #30)*				
0.063"-0.125"	0.25"	100	90217A010	5.60
0.126"-0.187"	0.337"	100	90217A015	6.86
0.188"-0.25"	0.375"	100	90217A020	6.16
0.251"-0.375"	0.525"	100	90217A025	8.86
Nickel-Copper with Steel Mandrel *—Countersunk*				
3/16" Dia. *—For Hole Size: 0.192"-0.196" (Drill Size #11)*				
0.259"-0.367"	0.547"	10	90217A500	7.10

Choose-a-Color Blind Rivets

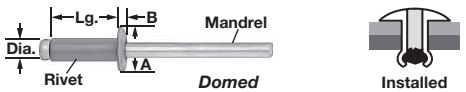

Select a color that makes your rivets stand out or blend in. Rivets and mandrels are aluminum, which is corrosion resistant and nonmagnetic. They meet IFI 114 (Industrial Fasteners Institute) standards.

To Order: Please specify color: black, blue, dark brown, gray, red, white, or yellow.

Dia.	Head Dimensions (A)	(B)	Shear Strength, lbs.	Tensile Strength, lbs.
Domed				
1/8"	0.25"	0.04"	120	150
3/16"	0.375"	0.06"	260	320
1/4"	0.5"	0.08"	460	560
Wide Domed				
1/8"	0.375"	0.065"	120	150
3/16"	0.625"	0.092"	260	320
1/4"	0.75"	0.107"	460	560

Material Thickness Range	Lg.	Pkg. Qty.		Pkg.
Domed				
1/8" Dia. *—For Hole Size: 0.129"-0.133" (Drill Size #30)*				
0.063"-0.125"	0.275"	250	97526A120	$9.12
0.126"-0.187"	0.337"	250	97526A125	8.91
0.188"-0.25"	0.4"	250	97526A130	11.56
3/16" Dia. *—For Hole Size: 0.192"-0.196" (Drill Size #11)*				
0.126"-0.25"	0.45"	100	97526A140	8.69
0.251"-0.375"	0.575"	100	97526A150	9.22
0.376"-0.5"	0.7"	100	97526A160	10.00
1/4" Dia. *—For Hole Size: 0.257"-0.261" (Drill Size F)*				
0.126"-0.25"	0.5"	50	97526A170	13.38
0.251"-0.375"	0.625"	50	97526A180	13.91
Wide Domed				
1/8" Dia. *—For Hole Size: 0.129"-0.133" (Drill Size #30)*				
0.063"-0.125"	0.275"	100	97526A310	6.06
0.126"-0.187"	0.337"	100	97526A320	6.50
0.188"-0.25"	0.4"	100	97526A330	6.94
3/16" Dia. *—For Hole Size: 0.192"-0.196" (Drill Size #11)*				
0.126"-0.25"	0.45"	100	97526A340	11.41
0.251"-0.375"	0.575"	100	97526A350	11.72
0.376"-0.5"	0.7"	100	97526A360	12.25
1/4" Dia. *—For Hole Size: 0.257"-0.261" (Drill Size F)*				
0.126"-0.25"	0.5"	25	97526A370	11.41
0.251"-0.375"	0.625"	25	97526A380	12.75

Plastic Blind Rivets and Tools

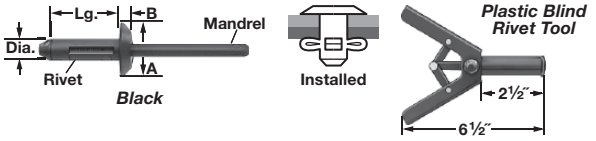

Fasten plastics to wood, metal, fiberglass, acrylics, and other synthetics. All rivets are nylon; choose from off-white rivets with nylon mandrels and black rivets with acetal mandrels. Acetal is more moisture resistant than nylon. Nylon absorbs moisture which can affect dimensions and other properties. Rivets are electrically non-conductive. Temperature range is –22° to +176° F. Head is domed.

Install with the *plastic blind rivet tool* sold separately below.

	Dia.	Head Dimensions (A)	Head Dimensions (B)	Shear Strength, lbs.	Tensile Strength, lbs.
Off-White	0.157″	0.362″	0.055″	40	___
	0.197″	0.445″	0.071″	60	___
	0.236″	0.524″	0.071″	100	___
Black	0.195″	0.472″	0.071″	60	120
	0.246″	0.669″	0.098″	120	190

Material Thick. Range	Lg.	Pkg. Qty.		Pkg.
Off-White				
0.157″ Dia.—For Hole Size: 0.16″-0.164″ (Drill Size #20)				
0.02″-0.197″	0.354″	50	90219A042	$11.62
0.197″-0.354″	0.512″	50	90219A043	12.00
0.197″ Dia.—For Hole Size: 0.2″-0.204″ (Drill Size #7)				
0.02″-0.197″	0.354″	50	90219A044	12.43
0.197″-0.354″	0.512″	50	90219A045	12.59
0.236″ Dia.—For Hole Size: 0.241″-0.245″ (Drill Size C)				
0.02″-0.197″	0.354″	50	90219A046	14.14
0.197″-0.354″	0.512″	50	90219A047	14.57
Black				
0.195″ Dia.—For Hole Size: 0.197″-0.217″ (Drill Size 13/64″)				
0.059″-0.177″	0.728″	20	90219A315♣	4.21
0.118″-0.177″	0.787″	20	90219A320	4.57
0.118″-0.236″	0.787″	20	90219A325	4.21
0.236″-0.394″	0.984″	20	90219A330	4.57
0.246″ Dia.—For Hole Size: 0.25″-0.27″ (Drill Size 1/4″)				
0.157″-0.394″	1.102″	20	90219A340	6.63

♣ Head height (B) is 0.13″.

Plastic Blind Rivet Tool

Installs all sizes of plastic blind rivets. It takes one hand to operate and installs most rivets with a single stroke. Closed height is 1¾″.

90540A210 ..... $54.44

Sealing Blind Rivets

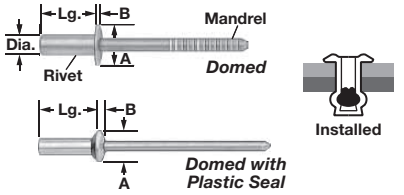

Also known as closed-end sealing rivets, they prevent water and air from passing through or around them. Because most of the mandrel is retained, they have higher shear and tensile strengths than standard blind rivets of the same size and material.

Stainless steel rivets and mandrels have excellent corrosion resistance and may be mildly magnetic. Rivets are 18-8 stainless steel; mandrels are 300 series stainless steel. ***Aluminum*** rivets and mandrels are corrosion resistant and nonmagnetic. ***Aluminum with steel mandrel*** rivets have corrosion resistant and nonmagnetic bodies.

Domed with plastic seal rivets have a sealant bonded underneath the head to reduce leaks. The sealant withstands temperatures of –60° to 250° F. Rivets and mandrels are aluminum, which is corrosion resistant and nonmagnetic.

HEAD DIMENSIONS

	Domed				Domed with Plastic Seal		Countersunk	
	18-8 Stainless Steel		Aluminum and Aluminum with Steel Mandrel		Aluminum		Aluminum with Steel Mandrel	
Dia.	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)
1/8″	0.262″	0.039″	0.248″	0.051″	0.25″	0.04″	0.245″	0.055″
5/32″	0.338″	0.042″	0.327″	0.066″	____	____	0.327″	0.055″
3/16″	0.375″	0.06″	0.393″	0.081″	0.375″	0.06″	0.395″	0.065″
1/4″	____	____	0.525″	0.099″	____	____	____	____

Shear and Tensile Strengths

	18-8 Stainless Steel		Aluminum		Aluminum with Steel Mandrel	
Dia.	Shear, lbs.	Tensile, lbs.	Shear, lbs.	Tensile, lbs.	Shear, lbs.	Tensile, lbs.
1/8″	470	490	100	110	300	380
5/32″	740	890	150	240	430	600
3/16″	850	900	210	250	570	840
1/4″	___	___	___	___	900	1,100

Material Thick. Range	Lg.	Pkg. Qty.		Pkg.
Domed				
18-8 Stainless Steel				
1/8″ Dia.—For Hole Size: 0.13″-0.134″ (Drill Size #30)				
0.125″-0.188″	0.382″	25	97524A040	$11.05
5/32″ Dia.—For Hole Size: 0.161″-0.165″ (Drill Size #20)				
0.125″-0.188″	0.402″	10	97524A042	7.67
3/16″ Dia.—For Hole Size: 0.192″-0.196″ (Drill Size #11)				
0.02″-0.125″	0.406″	10	97524A044	10.53
0.188″-0.25″	0.531″	10	97524A046	10.33
Aluminum				
1/8″ Dia.—For Hole Size: 0.129″-0.133″ (Drill Size #30)				
0.063″-0.125″	0.301″	100	97524A030	9.72
0.126″-0.187″	0.362″	100	97524A031	9.81
0.188″-0.25″	0.425″	100	97524A032	9.82
5/32″ Dia.—For Hole Size: 0.16″-0.164″ (Drill Size #20)				
0.188″-0.25″	0.44″	50	97524A114	7.97
3/16″ Dia.—For Hole Size: 0.192″-0.196″ (Drill Size #11)				
0.063″-0.125″	0.33″	50	97524A033	8.38
0.126″-0.25″	0.455″	50	97524A034	8.41
0.251″-0.375″	0.58″	50	97524A116	10.12
0.376″-0.5″	0.705″	50	97524A117	9.98
Aluminum with Steel Mandrel				
1/8″ Dia.—For Hole Size: 0.129″-0.133″ (Drill Size #30)				
0.032″-0.062″	0.237″	100	97524A019	8.30
0.063″-0.125″	0.301″	100	97524A020	8.88
0.126″-0.187″	0.362″	100	97524A021	9.50
0.188″-0.25″	0.425″	100	97524A024	9.59
0.251″-0.312″	0.487″	100	97524A025	11.84
0.313″-0.375″	0.55″	100	97524A026	12.74
0.376″-0.5″	0.675″	100	97524A027	12.61
5/32″ Dia.—For Hole Size: 0.16″-0.164″ (Drill Size #20)				
0.063″-0.125″	0.315″	100	97524A103	12.33
0.126″-0.187″	0.377″	100	97524A104	12.53
0.251″-0.312″	0.502″	50	97524A105	9.36

Material Thick. Range	Lg.	Pkg. Qty.		Pkg.
Domed (Cont.)				
Aluminum with Steel Mandrel (Cont.)				
3/16″ Dia.—For Hole Size: 0.192″-0.196″ (Drill Size #11)				
0.063″-0.125″	0.33″	100	97524A106	$11.82
0.126″-0.187″	0.392″	50	97524A035	7.98
0.188″-0.25″	0.455″	50	97524A029	8.28
0.313″-0.375″	0.58″	50	97524A107	8.04
0.376″-0.5″	0.705″	50	97524A108	8.46
1/4″ Dia.—For Hole Size: 0.257″-0.261″ (Drill Size F)				
0.126″-0.25″	0.485″	50	97524A109	12.67
0.251″-0.375″	0.61″	25	97524A110	7.62
Domed with Plastic Seal				
Aluminum				
1/8″ Dia.—For Hole Size: 0.129″-0.133″ (Drill Size #30)				
0.063″-0.125″	0.36″	10	97721A100	9.75
0.126″-0.187″	0.422″	10	97721A150	9.75
0.188″-0.25″	0.485″	10	97721A200	9.75
3/16″ Dia.—For Hole Size: 0.192″-0.196″ (Drill Size #11)				
0.188″-0.25″	0.531″	10	97721A400	10.41
0.251″-0.375″	0.656″	10	97721A450	10.59
0.376″-0.5″	0.781″	10	97721A500	10.72
Countersunk				
Aluminum with Steel Mandrel				
1/8″ Dia.—For Hole Size: 0.129″-0.133″ (Drill Size #30)				
0.063″-0.125″	0.341″	100	97524A050	8.88
0.126″-0.187″	0.402″	100	97524A055	9.34
5/32″ Dia.—For Hole Size: 0.16″-0.164″ (Drill Size #20)				
0.126″-0.187″	0.432″	50	97524A060	7.41
3/16″ Dia.—For Hole Size: 0.192″-0.196″ (Drill Size #11)				
0.126″-0.25″	0.52″	50	97524A065	8.53
0.251″-0.375″	0.645″	50	97524A070	9.13

High-Strength Blind Rivets

Also known as structural rivets, they have higher shear and tensile strengths than standard blind rivets of the same size and material.

***Domed*—**Also known as Q-rivets, they're resistant to vibration.

***Domed for Wide Thickness Ranges*—**Also known as ultra-grip rivets, they can handle a wide range of thicknesses.

18-8 stainless steel rivets and mandrels have excellent corrosion resistance and may be mildly magnetic. ***Zinc-plated steel*** rivets and mandrels have good corrosion resistance. ***Aluminum*** rivets and mandrels are corrosion resistant and nonmagnetic.

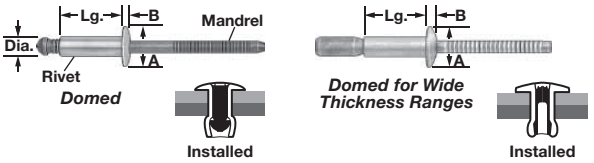

	Head Dimensions			
	Domed		Domed for Wide Thickness Ranges	
Dia.	(A)	(B)	(A)	(B)
1/8"	0.25"	0.04"	—	—
3/16"	0.375"	0.06"	0.385"	0.085"
1/4"	0.5"	0.08"	0.525"	0.117"

	SHEAR AND TENSILE STRENGTHS							
	Domed				Domed for Wide Thickness Ranges			
	18-8 SS		Zinc-Plated Steel		18-8 SS and Zinc-Plated Steel		Aluminum	
Dia.	Shear, lbs.	Tensile, lbs.	Shear, lbs.	Tensile, lbs.	Shear, lbs.	Tensile, lbs.	Shear, lbs.	Tensile, lbs.
1/8"	700	600	500	400	—	—	—	—
3/16"	1,650	1,300	1,050	825	1,400	1,000	700	500
1/4"	2,450	2,250	1,750	1,450	2,750	2,200	1,300	890

Material Thick. Range	Lg.	Pkg. Qty.		Pkg.
Domed				
18-8 Stainless Steel				
1/8" Dia.—For Hole Size: 0.129"-0.133" (Drill Size #30)				
0.126"-0.25"	0.4"	10	98780A111	$7.24
0.188"-0.312"	0.462"	10	98780A112	8.24
0.251"-0.375"	0.535"	10	98780A113	8.24
3/16" Dia.—For Hole Size: 0.192"-0.196" (Drill Size #11)				
0.126"-0.25"	0.45"	10	98780A212	14.12
0.251"-0.375"	0.575"	5	98780A213	8.06
0.376"-0.5"	0.7"	5	98780A214	8.16
1/4" Dia.—For Hole Size: 0.257"-0.261" (Drill Size F)				
0.126"-0.25"	0.5"	5	98780A412	12.58
0.251"-0.375"	0.625"	1	98780A413	2.87
0.376"-0.5"	0.75"	1	98780A414	3.18
Zinc-Plated Steel				
1/8" Dia.—For Hole Size: 0.129"-0.133" (Drill Size #30)				
0.126"-0.25"	0.4"	25	98777A111	8.00
0.188"-0.312"	0.462"	25	98777A112	8.05
0.251"-0.375"	0.535"	25	98777A113	8.19
3/16" Dia.—For Hole Size: 0.192"-0.196" (Drill Size #11)				
0.062"-0.125"	0.325"	25	98777A211	8.46
0.126"-0.25"	0.45"	25	98777A212	9.44
0.251"-0.375"	0.575"	25	98777A213	9.82
0.376"-0.5"	0.7"	25	98777A214	10.29
0.501"-0.625"	0.85"	25	98777A215	10.63
1/4" Dia.—For Hole Size: 0.257"-0.261" (Drill Size F)				
0.126"-0.25"	0.5"	25	98777A312	10.36
0.251"-0.375"	0.625"	25	98777A313	12.21

Material Thick. Range	Lg.	Pkg. Qty.		Pkg.
Domed (Cont.)				
Zinc-Plated Steel (Cont.)				
1/4" Dia.—For Hole Size: 0.257"-0.261" (Drill Size F) (Cont.)				
0.376"-0.5"	0.75"	10	98777A314	$5.69
0.501"-0.625"	0.9"	10	98777A315	6.68
Domed for Wide Thickness Ranges				
18-8 Stainless Steel				
3/16" Dia.—For Hole Size: 0.191"-0.201" (Drill Size #11)				
0.062"-0.27"	0.415"	10	98778A525	9.76
1/4" Dia.—For Hole Size: 0.261"-0.272" (Drill Size F)				
0.08"-0.375"	0.56"	10	98778A531	12.17
0.35"-0.625"	0.81"	10	98778A528	9.04
Aluminum				
3/16" Dia.—For Hole Size: 0.191"-0.201" (Drill Size #11)				
0.062"-0.27"	0.415"	50	98778A501	10.06
0.062"-0.437"	0.572"	50	98778A502	12.95
1/4" Dia.—For Hole Size: 0.261"-0.272" (Drill Size F)				
0.08"-0.375"	0.56"	25	98778A503	9.25
0.08"-0.625"	0.81"	25	98778A504	11.15
Zinc-Plated Steel				
3/16" Dia.—For Hole Size: 0.191"-0.201" (Drill Size #11)				
0.062"-0.27"	0.415"	50	98778A511	11.73
0.062"-0.437"	0.572"	50	98778A512	12.68
1/4" Dia.—For Hole Size: 0.261"-0.272" (Drill Size F)				
0.08"-0.375"	0.56"	25	98778A513	8.94
0.08"-0.625"	0.81"	25	98778A514	11.33

Blind Rivets for Soft and Brittle Materials

When installed, rivet bodies fan out to provide a uniform grip. They're good for oversized holes. Heads are domed.

***Peel Style*—**Fasten soft materials such as plastic and fiberglass to thin materials such as sheet metal. When installed, the body splits into "petals" that draw materials together without pulling through them. Rivets are aluminum, which is corrosion resistant and nonmagnetic. Mandrels are steel.

***Bulb Style*—**Part of the mandrel is retained, which increases shear strength. They're designed to fasten brittle materials such as plastic and laminates without damaging them. Rivets and mandrels are aluminum, which is corrosion resistant and nonmagnetic.

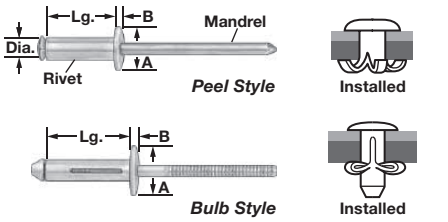

Material Thick. Range	Lg.	Pkg. Qty.		Pkg.
Peel Style				
1/8" Dia.—For Hole Size: 0.142" (Drill Size #27)				
0.039"-0.138"	0.354"	100	93372A310	$11.18
0.098"-0.197"	0.433"	100	93372A315	11.47
0.177"-0.276"	0.512"	100	93372A320	11.76
0.256"-0.354"	0.59"	100	93372A325	14.41
0.335"-0.433"	0.669"	100	93372A330	14.63
5/32" Dia.—For Hole Size: 0.173" (Drill Size #17)				
0.039"-0.118"	0.354"	100	93372A340	12.36
0.098"-0.197"	0.433"	100	93372A345	12.53
0.177"-0.256"	0.512"	100	93372A350	14.05
0.236"-0.315"	0.59"	100	93372A355	14.94
0.295"-0.394"	0.669"	50	93372A360	10.26
0.354"-0.422"	0.748"	50	93372A365	9.04
0.452"-0.551"	0.827"	50	93372A370	11.32
3/16" Dia.—For Hole Size: 0.204" (Drill Size #6)				
0.039"-0.118"	0.354"	100	93372A072	14.41
0.098"-0.197"	0.433"	100	93372A375	15.47
0.177"-0.276"	0.512"	50	93372A377	10.30
0.256"-0.354"	0.59"	50	93372A379	9.71
0.335"-0.394"	0.669"	50	93372A380	9.88
0.375"-0.472"	0.748"	50	93372A382	11.92
0.453"-0.551"	0.827"	50	93372A385	12.79
0.531"-0.748"	1.024"	50	93372A387	13.97

		Head Dimensions			
	Dia.	(A)	(B)	Shear Strength, lbs.	Tensile Strength, lbs.
Peel Style	1/8"	0.256"	0.048"	180	210
	5/32"	0.315"	0.059"	310	450
	3/16"	0.374"	0.063"	450	600
Bulb Style	5/32"	0.375"	0.057"	160	220
	3/16"	0.455"	0.062"	400	450

Material Thick. Range	Lg.	Pkg. Qty.		Pkg.
Bulb Style				
5/32" Dia.—For Hole Size: 0.162"-0.167" (Drill Size #20)				
0.125"-0.25"	0.79"	50	97545A010	$14.60
0.187"-0.375"	0.852"	50	97545A020	15.00
0.25"-0.5"	0.977"	25	97545A030	8.79
3/16" Dia.—For Hole Size: 0.209"-0.221" (Drill Size #4)				
0.125"-0.25"	0.77"	25	97545A050	8.95
0.187"-0.375"	0.895"	25	97545A060	9.08
0.25"-0.5"	1.02"	25	97545A070	9.21
0.375"-0.625"	1.145"	25	97545A080	9.34
0.5"-0.75"	1.27"	25	97545A090	10.72

Wide Thickness Range Blind Rivets

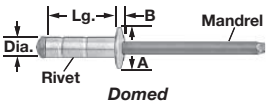

Domed



Installed

Also called multigrip rivets, the rivet body expands to fill slightly oversized and irregular holes. Each size has up to twice the material thickness range of standard blind rivets. When installed, the mandrel remains in the body which reduces vibration and forms a moisture-resistant seal. Rivets are aluminum, which is corrosion resistant and nonmagnetic. Mandrels are steel.

To Order: For painted rivets, please specify color: black or white.

	Head Dimensions						Strength, lbs.	
	Domed		Wide Domed		Countersunk			
Dia.	(A)	(B)	(A)	(B)	(A)	(B)	Shear	Tensile
1/8″	____	____	0.33″	0.05″	____	____	122	176
1/8″	0.262″	0.04″	____	____	0.233″	0.036″	150	220
5/32″	0.312″	0.051″	____	____	____	____	198	354
3/16″	0.394″	0.06″	0.65″	0.083″	0.35″	0.06″	350	500
1/4″	0.525″	0.073″	____	____	____	____	460	560

Material Thickness Range	Lg.	Pkg. Qty.		Pkg.
Domed				
1/8″ Dia. *—For Hole Size: 0.129″-0.142″ (Drill Size #30)*				
0.039″-0.187″	0.313″	100	97530A020	$6.16
0.157″-0.312″	0.453″	100	97530A025	8.00
0.251″-0.437″	0.594″	100	97530A030	8.19
5/32″ Dia. *—For Hole Size: 0.16″-0.164″ (Drill Size #20)*				
0.047″-0.276″	0.512″	100	97530A035	7.04
0.156″-0.354″	0.59″	100	97530A040	10.08
0.275″-0.472″	0.708″	100	97530A042	10.04
3/16″ Dia. *—For Hole Size: 0.192″-0.205″ (Drill Size #11)*				
0.063″-0.25″	0.425″	100	97530A050	9.83
0.188″-0.375″	0.605″	100	97530A070	11.91
0.251″-0.5″	0.716″	100	97530A090	12.08
0.438″-0.75″	1.05″	100	97530A091	14.45
1/4″ Dia. *—For Hole Size: 0.257″-0.275″ (Drill Size F)*				
0.08″-0.35″	0.6″	50	97530A100	13.79
Painted Domed				
1/8″ Dia. *—For Hole Size: 0.129″-0.142″ (Drill Size #30)*				
0.032″-0.437″	0.605″	100	97530A200	9.87
0.157″-0.312″	0.525″	100	97530A300	9.94
3/16″ Dia. *—For Hole Size: 0.196″-0.205″ (Drill Size #11)*				
0.032″-0.375″	0.575″	100	97530A350	13.79
0.063″-0.25″	0.45″	100	97530A400	12.57
0.251″-0.5″	0.7″	100	97530A500	16.21
Wide Domed				
1/8″ Dia. *—For Hole Size: 0.129″-0.133″ (Drill Size #30)*				
0.039″-0.187″	0.389″	100	97530A023	7.36
0.196″-0.33″	0.586″	100	97530A028	9.68
3/16″ Dia. *—For Hole Size: 0.192″-0.205″ (Drill Size #11)*				
0.063″-0.25″	0.425″	100	97530A060	14.94
0.251″-0.5″	0.716″	50	97530A092	8.43
Countersunk				
1/8″ Dia. *—For Hole Size: 0.129″-0.142″ (Drill Size #30)*				
0.039″-0.252″	0.339″	100	97530A097	8.20
3/16″ Dia. *—For Hole Size: 0.192″-0.196″ (Drill Size #11)*				
0.25″-0.375″	0.67″	100	97530A098	12.33
0.25″-0.5″	0.74″	100	97530A099	13.31

Flush-on-Both-Sides Countersunk Blind Rivets

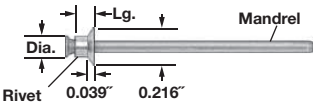



Installed

Rivets are completely flush when installed into countersunk holes. Rivets are zinc-plated steel. Mandrels are steel. Shear strength is 180 lbs. and tensile strength is 150 lbs.

Material Thickness Range	Lg.	Pkg. Qty.		Pkg.
1/8″ Dia. *—For Hole Size: 0.129″-0.134″ (Drill Size #29)*				
0.059″-0.079″	0.091″	50	95372A100	$11.76
0.079″-0.098″	0.11″	50	95372A200	12.15
0.098″-0.118″	0.13″	50	95372A300	12.44
0.118″-0.138″	0.15″	50	95372A400	12.93

Tamper-Resistant Two-Piece Rivets

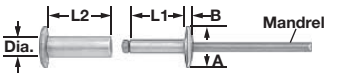



Installed

A solid, smooth head makes these rivets difficult to pry or remove. They accommodate extra-wide thicknesses and have a large diameter head on each side to grip soft materials tightly without crushing them. Rivets are aluminum, which is corrosion resistant and nonmagnetic. Mandrels are steel. Not rated for shear strength.

Dia.	Head Dimensions (A)	Head Dimensions (B)	Tensile Strength, lbs.
3/16″	0.375″	0.098″	230
1/4″	0.625″	0.095″	450

Material Thickness Range	(L1)	(L2)	Pkg. Qty.		Pkg.
3/16″ Dia. *—For Hole Size: 0.25″ (Drill Size 1/4″)*					
0.625″-0.75″	0.52″	0.58″	10	92352A005	$9.50
0.687″-0.875″	0.52″	0.64″	10	92352A010	9.70
0.875″-1.062″	0.52″	0.82″	10	92352A015	9.93
1.062″-1.25″	0.52″	1.01″	10	92352A035	10.05
1.25″-1.437″	0.52″	1.195″	10	92352A045	10.38
1.437″-1.625″	0.52″	1.38″	10	92352A055	10.39
1/4″ Dia. *—For Hole Size: 0.3125″ (Drill Size 5/16″)*					
0.625″-0.75″	0.454″	0.58″	10	92352A140	5.36
0.75″-0.875″	0.608″	0.695″	10	92352A150	5.54
0.875″-1.125″	0.608″	0.82″	10	92352A160	5.65
1.125″-1.375″	0.608″	1.07″	10	92352A170	6.57
1.375″-1.625″	0.608″	1.32″	10	92352A180	6.95
1.625″-1.875″	0.608″	1.57″	10	92352A190	7.76
1.875″-2.125″	0.608″	1.82″	10	92352A210	8.10
2.125″-2.375″	0.608″	2.07″	10	92352A220	8.20

Grooved Blind Rivets for Wood

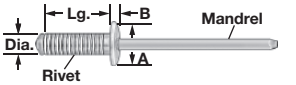



Installed

As it's installed, the rivet body expands and the grooves dig into the wood for a tight hold. Rivets are aluminum, which is corrosion resistant and nonmagnetic. They have steel mandrels. Head is domed. Not rated for shear and tensile strengths.

Min. Hole Depth	Head Dimensions (A)	Head Dimensions (B)	Lg.	Pkg. Qty.		Pkg.
0.133″ Dia. *—For Hole Size: 0.138″ (Drill Size #29)*						
0.482″	1/4″	0.043″	0.382″	100	98919A042	$7.86
0.157″ Dia. *—For Hole Size: 0.169″ (Drill Size #18)*						
0.433″	5/16″	0.039″	0.315″	100	98919A051	9.43
0.591″	5/16″	0.039″	0.472″	100	98919A063	10.51
0.188″ Dia. *—For Hole Size: 0.2″ (Drill Size #5)*						
0.433″	3/8″	0.043″	0.315″	50	98919A074	6.85
0.591″	3/8″	0.043″	0.472″	50	98919A088	7.54
0.669″	3/8″	0.043″	0.551″	50	98919A033	7.74
0.197″ Dia. *—For Hole Size: 0.205″ (Drill Size #5)*						
0.691″	3/8″	0.063″	0.591″	50	98919A027	8.58

Blind Rivet Assortment



Includes 585 domed aluminum rivets, which are corrosion resistant and nonmagnetic. Mandrels are steel. Contains 1/8″ and 3/16″ diameter rivets in the following thickness ranges: 0.063″-0.125″, 0.126″-0.187″, 0.126″-0.25″, 0.188″-0.25″, 0.251″-0.375″, and 0.376″-0.5″. Packaged in a compartmented plastic box with lid chart.

97455A300 ..... $60.86

Manual Tools for 3/32"-3/16" Diameter Blind Rivets

All tools come with four nosepieces, unless noted. Tools install 3/32", 1/8", 5/32", and 3/16" dia. standard blind rivets that are all aluminum, aluminum with steel mandrels, and all steel. They also install 3/32", 1/8", and 5/32" dia. standard blind rivets in 18-8 stainless steel and Type 316 stainless steel, as well as 1/8" dia. copper rivets with steel mandrels. They do not install nickel-copper blind rivets.

Heavy Duty Tool

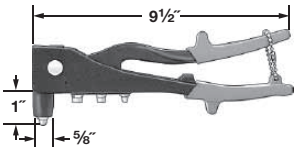

Our most popular manual blind rivet tool.

The *rivet tool kit* includes the tool plus 175 domed rivets (100 1/8" dia. all-steel, 50 1/8" dia. all-aluminum, and 25 3/16" dia. aluminum with steel mandrel) and 25 countersunk rivets (1/8" dia. all-steel). Includes 0.063"-0.125" and 0.188"-0.25" material thickness ranges.

Rivet Tool	6659A21	$29.76
Rivet Tool Kit	6659A23	43.93
Replacement 3/32" Nosepiece	6659A242	3.15
Replacement 1/8" Nosepiece	6659A243	3.15
Replacement 5/32" Nosepiece	6659A244	3.15
Replacement 3/16" Nosepiece	6659A245	3.15
Replacement Jaw (2 Parts)	6659A232	6.97
Replacement Opening Spring	6659A233	.56
Replacement Jaw Pusher	6659A234	2.74
Replacement Jaw Pusher Spring	6659A235	.56
Replacement Retaining Screw for Jaw Pusher Spring	6659A237	1.00

Comfort Grip Tool

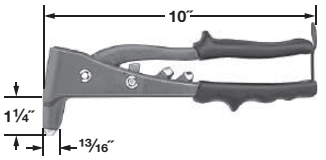

Handles have gentle contours that fit your hand for comfort and control.

The *rivet tool kit* includes the tool and an assortment of 185 domed rivets in 1/8" and 3/16" diameters (105 all-aluminum and 80 all-steel). Includes 0.063"-0.125", 0.126"-0.25", and 0.188"-0.25" material thickness ranges.

Rivet Tool	6862A21	$67.40
Rivet Tool Kit	6862A26	88.42
Replacement 3/32" Nosepiece	6862A659	15.10
Replacement 1/8" Nosepiece	6862A661	15.10
Replacement 5/32" Nosepiece	6862A662	15.10
Replacement 3/16" Nosepiece	6862A663	15.10
Replacement Jaw (2 Parts)	6862A22	20.45
Replacement Opening Spring	6862A23	6.60
Replacement Jaw Pusher	6862A24	11.30
Replacement Jaw Pusher Spring	6862A25	5.30

Ratchet-Action Tool with Mandrel Collector

Easiest to use; lets you install rivets with up to 40% less force. It has a mandrel collector that catches spent mandrels and stores nosepieces.

The tool comes with three nosepieces to install 1/8", 5/32", and 3/16" dia. blind rivets. To install 3/32" dia. blind rivets, order the optional 3/32" nosepiece (sold separately).



Rivet Tool	97543A120	$81.93
Optional 3/32" Nosepiece	6862A659	15.10
Replacement 1/8" Nosepiece	6862A661	15.10
Replacement 5/32" Nosepiece	6862A662	15.10
Replacement 3/16" Nosepiece	6862A663	15.10
Replacement Jaw (2 Parts)	97543A133	20.45
Replacement Jaw Pusher	97543A137	17.59
Replacement Jaw Pusher Spring	97543A142	7.24

360° Swivel Head Tool

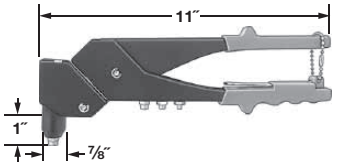

Swivel the head to install rivets at any angle.

Rivet Tool	98300A150	$43.00
Replacement 3/32" Nosepiece	98300A210	2.70
Replacement 1/8" Nosepiece	98300A220	2.70
Replacement 5/32" Nosepiece	98300A230	2.70
Replacement 3/16" Nosepiece	98300A240	2.70
Replacement Jaw (2 Parts)	98300A250	6.65
Replacement Jaw Pusher	98300A260	2.33
Replacement Jaw Pusher Spring	98300A270	.47

Manual Lever-Handle Tools for 1/8"-1/4" Diameter Blind Rivets

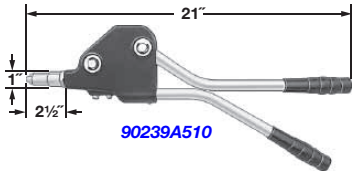

Long handles give you extra leverage to install rivets in areas where other tools can't reach. For an additional 2½" of reach, add the optional nose extension (sold separately).

Tool comes with three nosepieces to install 5/32", 3/16", and 1/4" dia. blind rivets in all materials. To install 1/8" dia. blind rivets, order the optional 1/8" nosepiece (sold separately).

The *rivet tool with mandrel collector* includes a built-in mandrel receptacle.

Rivet Tool	90239A510	$112.35
Rivet Tool with Mandrel Collector	90239A520	129.82
Optional 2½" Nose Extension	90239A550	30.73
Optional 1/8" Nosepiece	90239A630	15.98
Replacement 5/32" Nosepiece	90239A650	15.98
Replacement 3/16" Nosepiece	90239A670	15.98
Replacement 1/4" Nosepiece	90239A690	15.98
Replacement Jaw (2 Parts)	90239A570	17.38
Replacement Jaw Pusher	90239A590	3.68
Replacement Jaw Pusher Spring	90239A610	2.40

Hydraulic Powered Tools for 3/32"-1/4" Diameter Blind Rivets and Rivet Nuts

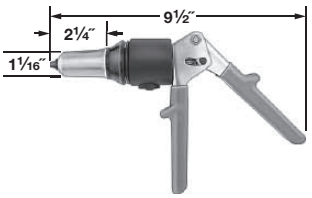

This self-contained hydraulic tool lets you install blind rivets and knurled and standard rivet nuts with one hand. (See pages 3332-3333 for rivet nuts.)

Tool comes with five nosepieces to install 3/32", 1/8", 5/32", 3/16", and 1/4" dia. blind rivets, plus pull-up studs and anvils to install 10-24 and 1/4"-20 aluminum and steel rivet nuts. Furnished in a plastic case.

Also Available: Pull-up studs and driving anvils for 6-32 to 3/8"-16 and M3 to M10 rivet nuts. Please ask for 6879A555 and specify size.

Blind Rivet and Rivet Nut Tool	6879A21	$319.16
Replacement 3/32" and 1/8" Nosepiece	6879A81	10.95
Replacement 5/32" and 3/16" Nosepiece	6879A815	10.95
Replacement 1/4" Nosepiece	6879A82	10.95
Replacement Jaw (3 Parts)	6879A312	19.70
Replacement Master Shaft	6879A313	32.98
Replacement Nose Tube	6879A311	23.62

Air-Powered Tools for Blind Rivets



A
Mandrel Collecting



B&C
Standard and Long Reach



D
Heavy Duty



E
Super Heavy Duty



F
Vertical



G
Low Clearance



H
Economy

(A) Mandrel Collecting Tool— Comes with three nosepieces and a plastic mandrel collection bottle. A vacuum system holds rivets in place during installation. Maximum air pressure is 100 psi. Air hose is 6 ft. long. Hose fitting is 3/8″ NPT female. Overall size is 9″ Ht.×11″ Wd.

(B) Standard Tool and ***(C) Long Reach Tool—*** Come with three nosepieces. A *3/32″ nosepiece* (sold separately) lets you install 3/32″ dia. rivets in all materials. Maximum air pressure is 85 psi. Air hose is 6 ft. long. Hose fitting is 3/8″ NPT female. *Style B* includes an extra pair of jaws, a jaw pusher, and a jaw pusher spring. Overall size is 9 1/2″ Ht.×9 1/2″ Wd. *Style C* has an extra-long nosepiece for hard-to-reach applications. Overall size is 9 1/2″ Ht.×11 1/2″ Wd.

(D) Heavy Duty Tool— Comes with three nosepieces and a plastic mandrel collection bottle. Maximum air pressure is 90 psi. Air hose is 4 ft. long. Hose fitting is 3/8″ NPT female. Overall size is 10 3/16″ Ht.×12″ Wd.

(E) Super Heavy Duty Tool— Comes with four nosepieces and a plastic mandrel collection bottle. Maximum air pressure is 90 psi. Air hose is 6 ft. long. Hose fitting is 3/8″ NPT female. Overall size is 12 1/2″ Ht.×13″ Wd. Use the *3/16″* and *1/4″ nosepieces* (sold separately) to set T-rivets and Monobolt rivets (except for stainless steel T-rivets).

(F) Vertical Tool— Can be suspended over a workbench. Comes with four nosepieces. A vacuum system holds rivets in place during installation. Maximum air pressure is 85 psi. Hose fitting is 1/4″ NPT male (air hose not included). Overall size is 16″ Ht.×3″ Wd.

(G) Low Clearance Tool— Comes with four nosepieces and an adjustable mandrel deflector. Maximum air pressure is 85 psi. Hose fitting is 1/4″ NPT male (air hose not included). Overall size is 8″ Ht.×11 1/2″ Wd.

(H) Economy Tool— Comes with four nosepieces and a plastic mandrel collection bottle. Maximum air pressure is 90 psi. Hose fitting is 1/4″ NPT female (air hose not included). Overall size is 11″ Ht.×9″ Wd.

Tools

All tools come with nosepieces to install blind rivets up to the body diameters listed below.

	Pull Cap., lbs.	Stroke Lg.	Nose Dia.	Nose Lg.	Blind Rivets: Aluminum	Blind Rivets: Aluminum w/ Steel Mandrel	Blind Rivets: Steel	Blind Rivets: 18-8 SS	Blind Rivets: Type 316 SS	Sealing Blind Rivets: Aluminum	Sealing Blind Rivets: Aluminum w/ Steel Mandrel	Sealing Blind Rivets: 18-8 SS		
A	1,000	11/16″	3/4″	1 3/4″	5/32″	5/32″	5/32″	1/8″	1/8″	5/32″	5/32″	1/8″	94145A200	$625.88
B	1,000	5/8″	11/16″	2″	3/16″	3/16″	5/32″	1/8″	1/8″	3/16″	5/32″	1/8″	66705A51	374.74
C	1,000	5/8″	11/16″	4″	3/16″	3/16″	5/32″	1/8″	1/8″	3/16″	5/32″	1/8″	66705A511	634.83
D	2,100	11/16″	13/16″	2″	3/16″	3/16″	3/16″	3/16″	3/16″	3/16″	3/16″	3/16″	66775A8	853.48
E	4,100	1″	7/8″	2 1/2″	1/4″	1/4″	1/4″	1/4″	1/4″	1/4″	1/4″	1/4″	67025A73	1,383.11
F	1,700	5/8″	15/16″	3 1/4″	3/16″	3/16″	3/16″	3/16″	3/16″	3/16″	3/16″	3/16″	90163A250	990.32
G	1,700	1/2″	15/16″	3 1/2″	3/16″	3/16″	3/16″	3/16″	3/16″	3/16″	3/16″	3/16″	6884A11	597.41
H	2,200	3/4″	15/16″	2 3/4″	3/16″	—	—	—	—	3/16″	—	—	6684A76	152.48

Replacement Nosepieces

	For Styles A-E		For Styles F & G		For Style H	
3/32″ Nosepiece	66775A4■	$12.47	6884A242	$5.63	6684A81	$4.06
1/8″ Nosepiece	66775A405	12.47	6884A243	5.63	6684A82	4.06
5/32″ Nosepiece	66775A41	12.47	6884A244	5.63	6684A83	4.06
3/16″ Nosepiece	66775A415▲	12.47	6884A245	5.63	6684A84	4.06
1/4″ Nosepiece	66775A42●	12.47	—	—	—	—

■ Optional for Styles B and C. Not available for Styles D and E. ▲ Not available for Style A. ● Not available for Styles A-D.

Replacement Jaws and Other Accessories

For Styles		
2 Pc. Jaw for 3/16″ Dia. and Smaller Rivets		
A-C	66705A2	$28.52
E	66775A2	41.18
F & G	6751A43	42.40
2 Pc. Jaw for 1/4″ Dia. Rivets		
E	67025A52	41.18
3 Pc. Jaw		
D	66775A7	41.18
H	6684A77	29.66
Jaw Lubricant		
A-E	66705A61	12.36
Jaw Seal Kit		
H	6684A85	$15.60
Jaw Pusher for 3/16″ Dia. and Smaller Rivets		
A	94145A466	10.45
B & C	66705A21	24.31
D	66775A31	12.74
E	67025A74	15.97
F & G	6884A32	5.78
H	6684A78	8.00
Jaw Pusher for 1/4″ Dia. Rivets		
E	67025A74	15.97
Jaw Pusher Spring		
B & C	66705A22	$5.83
F & G	6884A34	1.23
H	6684A79	12.06
Optional Mandrel Collection Kits		
B & C	66705A1	262.10
D	66775A81	113.04

Drill Attachments for 1/8"-1/4" Diameter Blind Rivets

Insert the hex shaft of these attachments into a 3/8" diameter or larger drill chuck and tighten to convert a cordless, electric, or air-powered drill into a blind rivet tool. Operate in forward to set rivets and in reverse to eject mandrels.

Style 1 

Style 2 

Drill Attachments—*Install blind rivets up to the body dia. listed below.*

Style	Pull Cap., lbs.	Stroke Lg.	Min. Battery Required	Overall Lg.	Blind Rivets: Aluminum	Blind Rivets: Aluminum w/ Steel Mandrel	Blind Rivets: Steel	Blind Rivets: 18-8 SS	Blind Rivets: Type 316 SS	Sealing Blind Rivets: Aluminum	Sealing Blind Rivets: Aluminum w/ Steel Mandrel	Sealing Blind Rivets: 18-8 SS		
1	1,350	3/8"	12 volt	6 1/2"	3/16"	3/16"	5/32"	1/8"	1/8"	3/16"	3/16"	5/32"	98716A100	$74.25
2	2,250	1 1/8"	14 volt	7"	1/4"	3/16	3/16"	3/16"	3/16"	3/16"	3/16"	3/16"	98716A500	177.83

Replacement Jaws and Nosepieces

For Style 1

Replacement Jaw (2 Parts)	98716A110	$26.18
Replacement 1/8" Nosepiece	98716A111	8.91
Replacement 5/32" Nosepiece	98716A112	8.91
Replacement 3/16" Nosepiece	98716A113	8.91

For Style 2

Replacement Jaw (3 Parts)	98716A515	$70.43
Replacement 1/8" Nosepiece	98716A511	13.59
Replacement 5/32" Nosepiece	98716A512	13.59
Replacement 3/16" Nosepiece	98716A513	13.59
Replacement 1/4" Nosepiece	98716A514	13.59

Cordless Tools for 3/32"-3/16" Diameter Blind Rivets

Perfect when there's no power source nearby. Comes with four nosepieces to install 3/32", 1/8", 5/32", and 3/16" blind rivets. A 14-volt battery and battery charger are included. Installs up to 800 rivets with a full charge. Pull capacity is 1,900 lbs.; stroke length is 7/8". Nose is 3/4" Dia.×2 3/16" Lg. Overall size is 10 1/4" Ht.×10 1/4" Wd. Comes in a plastic case.

Tool

66645A417 ..... $928.21

Replacement Nosepieces

3/32"	6884A242	$5.63
1/8"	6884A243	5.63
5/32"	6884A244	5.63
3/16"	6884A245	5.63



High-Strength Bolt-Type Rivets and Air-Powered Installation Tools

Rivets

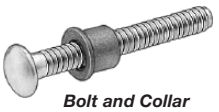

Bolt and Collar



Collar

Choose these rivets when you need a strong permanent joint that delivers high uniform clamp force and vibration resistance. Also called Magna-Grip lockbolts, they are made of zinc-plated steel. Length is measured from under the head.

A complete rivet consists of a ribbed (not threaded) bolt and a collar (each sold separately). A tool and a nosepiece (sold separately below) are required for installation.

	3/16" Dia.	1/4" Dia.
Head Dia.	0.394"	0.525"
Head Ht.	0.125"	0.152"
Hole Size	0.203"	0.265"
Shear Strength, lbs.	1,700	2,200
Tensile Strength, lbs.	1,400	2,550
Collar (A)	0.385"	0.52"
Collar (B)	0.052"	0.07"

Material Thick. Range	Lg.	Bolts: Pkg. Qty.	Bolts: Pkg.	Collars: Pkg. Qty.	Collars: Pkg.
3/16" Dia.					
1/16"- 5/8"	1 7/8"	10	96899A171 ... $3.60	10	96899A509 ... $2.88
5/16"-1 1/4"	2 3/4"	10	96899A172 ... 4.41	10	96899A509 ... 2.88
1/4" Dia.					
1/16"- 5/8"	2"	10	96899A214 ... 4.31	10	96899A604 ... 3.34
5/16"-1 1/4"	2 5/8"	10	96899A234 ... 4.66	10	96899A604 ... 3.34

Tool

Required to install the bolt-type rivets above, this tool shapes the collar to the workpiece to lock the joint in place. It is hydraulic and air powered. A nosepiece (sold separately below) is required. Pull capacity is 5,200 lbs.; stroke length is 5/8". Maximum air pressure is 100 psi. Air hose fitting is 1/4" NPT female (air hose not included). Overall size is 12 1/2" Ht.×8 1/2" Wd.

96899A400 ..... $1,696.28



Nosepieces

3/16"	96899A401	$410.62
1/4"	96899A402	395.63

Mil. Spec. Solid Rivets

Made of heat-treated aluminum with a matte gold finish per MIL-C-5541.

Low-profile domed rivets meet MS 20470 and NASM 20470. Head height is approximately 65% of other domed head rivets. Length is measured from under the head.

Countersunk rivets meet MS 20426 and NASM 20426. Head is countersunk 100°. Length is measured from the top of the head.

Low-Profile Domed 



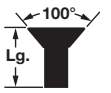

Countersunk

Dia.	Lg.	Dash No.	Head: Dia.	Head: Ht.	Pkg. Qty.		Pkg.
Low-Profile Domed							
1/16"	1/8"	AD2-2	0.131"	0.037"	250	94439A210	$9.89
1/16"	3/16"	AD2-3	0.131"	0.037"	250	94439A225	9.93
1/16"	1/4"	AD2-4	0.131"	0.037"	250	94439A240	10.00
3/32"	3/16"	AD3-3	0.196"	0.05"	250	94439A270	9.29
3/32"	1/4"	AD3-4	0.196"	0.05"	250	94439A285	10.97
3/32"	5/16"	AD3-5	0.196"	0.05"	250	94439A300	11.86
1/8"	3/16"	AD4-3	0.262"	0.064"	250	94439A330	11.69
1/8"	1/4"	AD4-4	0.262"	0.064"	100	94439A345	5.48
1/8"	5/16"	AD4-5	0.262"	0.064"	100	94439A360	5.57
1/8"	3/8"	AD4-6	0.262"	0.064"	100	94439A375	6.86
5/32"	1/4"	AD5-4	0.328"	0.077"	100	94439A405	7.95
5/32"	5/16"	AD5-5	0.328"	0.077"	100	94439A420	8.14
5/32"	3/8"	AD5-6	0.328"	0.077"	100	94439A435	8.20
3/16"	5/16"	AD6-5	0.394"	0.09"	50	94439A505	8.58
3/16"	3/8"	AD6-6	0.394"	0.09"	50	94439A530	8.93
3/16"	1/2"	AD6-8	0.394"	0.09"	50	94439A545	9.84
1/4"	3/8"	AD8-6	0.525"	0.117"	25	94439A595	9.49
1/4"	7/16"	AD8-7	0.525"	0.117"	25	94439A625	9.98
1/4"	1/2"	AD8-8	0.525"	0.117"	25	94439A650	10.61
1/4"	9/16"	AD8-9	0.525"	0.117"	25	94439A675	11.16
1/4"	5/8"	AD8-10	0.525"	0.117"	25	94439A680	11.72
Countersunk							
1/16"	1/8"	AD2-2	0.118"	0.022"	250	96685A110	9.72
1/16"	3/16"	AD2-3	0.118"	0.022"	250	96685A125	9.43
1/16"	1/4"	AD2-4	0.118"	0.022"	250	96685A140	10.35
3/32"	3/16"	AD3-3	0.183"	0.036"	250	96685A143	6.38
3/32"	1/4"	AD3-4	0.183"	0.036"	250	96685A146	6.97
3/32"	5/16"	AD3-5	0.183"	0.036"	250	96685A149	7.35
1/8"	3/16"	AD4-3	0.229"	0.042"	250	96685A155	8.43
1/8"	1/4"	AD4-4	0.229"	0.042"	250	96685A170	10.78
1/8"	5/16"	AD4-5	0.229"	0.042"	250	96685A185	11.01
1/8"	3/8"	AD4-6	0.229"	0.042"	250	96685A200	11.29
5/32"	1/4"	AD5-4	0.29"	0.055"	100	96685A203	8.72
5/32"	5/16"	AD5-5	0.29"	0.055"	100	96685A206	9.28
5/32"	3/8"	AD5-6	0.29"	0.055"	100	96685A209	9.98
3/16"	5/16"	AD6-5	0.357"	0.07"	100	96685A215	9.29
3/16"	3/8"	AD6-6	0.357"	0.07"	100	96685A230	9.86
3/16"	1/2"	AD6-8	0.357"	0.07"	100	96685A245	9.99
1/4"	1/4"	AD8-4	0.48"	0.095"	50	96685A270	10.40
1/4"	3/8"	AD8-6	0.48"	0.095"	50	96685A273	12.00
1/4"	1/2"	AD8-8	0.48"	0.095"	50	96685A276	13.60
1/4"	5/8"	AD8-10	0.48"	0.095"	25	96685A279	9.35

Domed and Flat Head Solid Rivets





Length is measured from under the head. ***18-8 stainless steel*** rivets have excellent corrosion resistance; may be mildly magnetic. ***Aluminum*** rivets are nonmagnetic and have mild corrosion resistance. ***Brass*** rivets are nonmagnetic with good strength, durability, corrosion resistance, and electrical conductivity. ***Copper*** rivets are electrically conductive and corrosion resistant.

18-8 Stainless Steel

Lg.	Domed Head Pkg. Qty.		Domed Head Pkg.	Flat Head Pkg. Qty.		Flat Head Pkg.
3/32" Dia.	*Head: 0.182" Dia. x 0.077" Ht.*			*Head: 0.200" Dia. x 0.038" Ht.*		
1/4"	250	97387A161	$10.98	250	97386A139	$12.58
1/2"	100	97387A165	6.93	100	97386A143	7.03
1/8" Dia.	*Head: 0.235" Dia. x 0.100" Ht.*			*Head: 0.260" Dia. x 0.048" Ht.*		
3/16"	100	97387A169	6.73	250	97386A172	14.11
1/4"	100	97387A173	7.84	100	97386A173	6.31
5/16"	100	97387A174	8.73	100	97386A174	8.66
3/8"	100	97387A175	9.92	100	97386A175	9.07
1/2"	100	97387A177	10.85	100	97386A177	9.52
5/8"	100	97387A179	12.08	100	97386A179	9.72
3/4"	50	97387A181	7.11	100	97386A181	10.34
1"	50	97387A183	8.77	100	97386A183	11.69
5/32" Dia.	*Head: 0.290" Dia. x 0.124" Ht.*			*Head: 0.323" Dia. x 0.059" Ht.*		
1/4"	100	97387A207	10.28	100	97386A207	8.23
3/8"	100	97387A209	11.81	100	97386A209	9.89
1/2"	100	97387A651	13.33	100	97386A211	13.93
3/4"	50	97387A655	8.22	50	97386A215	9.06
1"	50	97387A659	10.35	50	97386A219	11.30
3/16" Dia.	*Head: 0.348" Dia. x 0.147" Ht.*			*Head: 0.387" Dia. x 0.069" Ht.*		
1/4"	50	97387A241	7.20	100	97386A241	12.00
5/16"	50	97387A242	8.13	50	97386A242	8.18
3/8"	50	97387A243	8.04	50	97386A243	8.09
1/2"	50	97387A245	9.16	50	97386A245	9.32
5/8"	50	97387A247	10.03	50	97386A247	10.19
3/4"	50	97387A249	10.82	50	97386A249	10.80
1"	50	97387A251	12.65	50	97386A251	11.82
1 1/4"	25	97387A253	7.57	25	97386A253	7.68
1 1/2"	25	97387A255	8.05	25	97386A255	8.99
1/4" Dia.	*Head: 0.460" Dia. x 0.196" Ht.*			*Head: 0.515" Dia. x 0.091" Ht.*		
3/8"	50	97387A341	11.80	50	97386A341	11.91
1/2"	25	97387A343	7.36	50	97386A343	13.36
5/8"	25	97387A345	7.51	25	97386A345	7.58
3/4"	25	97387A347	8.35	25	97386A347	9.02
1"	25	97387A349	9.67	25	97386A349	9.83
1 1/4"	25	97387A351	10.98	25	97386A351	10.34
1 1/2"	25	97387A353	11.90	25	97386A355	11.45
2"	10	97387A357	5.96	10	97386A359	6.25
5/16" Dia.	*Head: 0.572" Dia. x 0.243" Ht.*			*Head: 0.641" Dia. x 0.113" Ht.*		
5/8"	10	97387A361	7.54	25	97386A443	12.64
1"	10	97387A369	10.01	10	97386A447	6.51

Steel

1/8" Dia.	*Head: 0.235" Dia. x 0.100" Ht.*			*Head: 0.260" Dia. x 0.048" Ht.*		
3/16"	750	97300A650	8.19	725	97032A172	7.71
1/4"	650	97300A653	7.30	625	97032A173	7.83
5/16"	550	97300A654	7.71	550	97032A174	7.94
3/8"	500	97300A655	7.94	500	97032A175	7.99
1/2"	400	97300A657	8.06	400	97032A177	8.06
3/4"	300	97300A659	8.18	300	97032A181	8.18
5/32" Dia.	*Head: 0.290" Dia. x 0.124" Ht.*			*Head: 0.323" Dia. x 0.059" Ht.*		
1/4"	375	97300A100	8.19	375	97032A201	7.71
3/8"	300	97300A105	8.19	300	97032A205	7.83
1/2"	250	97300A110	8.19	250	97032A209	7.94
3/4"	175	97300A115	8.19	175	97032A213	8.06
1"	150	97300A120	8.19	150	97032A217	8.19
3/16" Dia.	*Head: 0.348" Dia. x 0.147" Ht.*			*Head: 0.387" Dia. x 0.069" Ht.*		
1/4"	225	97300A661	6.86	225	97032A241	6.76
3/8"	175	97300A663	6.96	175	97032A243	6.86
1/2"	150	97300A665	7.06	150	97032A245	6.96
5/8"	125	97300A667	7.08	125	97032A247	7.06
3/4"	125	97300A669	7.10	125	97032A249	7.08
7/8"	100	97300A670	7.14	100	97032A250	7.17
1"	100	97300A671	7.19	100	97032A251	7.32
1 1/2"	50	97300A675	7.23	70	97032A255	7.38
2"	50	97300A677	7.27	50	97032A259	7.50
1/4" Dia.	*Head: 0.460" Dia. x 0.196" Ht.*			*Head: 0.515" Dia. x 0.091" Ht.*		
3/8"	90	97300A681	6.86	90	97032A341	8.17
1/2"	80	97300A683	6.96	80	97032A343	6.96
3/4"	60	97300A685	7.06	60	97032A347	7.06
1"	50	97300A689	7.10	50	97032A349	7.08
1 1/4"	40	97300A691	7.14	40	97032A353	7.17
1 1/2"	30	97300A696	7.21	30	97032A357	7.27
2"	30	97300A697	7.27	30	97032A363	7.38
5/16" Dia.	*Head: 0.572" Dia. x 0.243" Ht.*			*Head: 0.641" Dia. x 0.113" Ht.*		
5/8"	40	97300A701	7.27	40	97032A371	6.86
3/4"	30	97300A705	6.86	30	97032A375	6.96
1"	30	97300A709	6.96	30	97032A379	7.27
3/8" Dia.	*Head: 0.684" Dia. x 0.291" Ht.*			*Head: 0.769" Dia. x 0.135" Ht.*		
1/2"	30	97300A715	7.06	30	97032A385	6.86
5/8"	20	97300A719	7.06	20	97032A389	6.96
3/4"	20	97300A723	7.17	20	97032A393	7.06
1"	20	97300A727	7.27	20	97032A397	7.27

Aluminum

1/16" Dia.	*Head: 0.130" Dia. x 0.051" Ht.*			*Head: 0.130" Dia. x 0.027" Ht.*		
1/8"	500	97482A010	$4.11	500	97481A050	$4.06
3/16"	500	97482A015	4.86	500	97481A055	4.74
1/4"	500	97482A020	5.54	500	97481A060	5.43
3/8"	500	97482A025	6.94	500	97481A065	6.77
3/32" Dia.	*Head: 0.194" Dia. x 0.076" Ht.*			*Head: 0.194" Dia. x 0.041" Ht.*		
1/4"	250	97482A035	4.66	250	97481A075	4.49
3/8"	250	97482A040	5.66	250	97481A080	5.46
1/2"	250	97482A045	6.63	250	97481A085	6.46
3/4"	250	97482A050	8.85	250	97481A090	7.38
1"	250	97482A055	11.18	100	97481A095	8.51
1/8" Dia.	*Head: 0.260" Dia. x 0.101" Ht.*			*Head: 0.260" Dia. x 0.054" Ht.*		
3/16"	250	97482A065	7.52	250	97481A110	4.31
1/4"	250	97482A070	5.82	250	97481A115	5.14
5/16"	250	97482A075	6.39	250	97481A120	5.69
3/8"	250	97482A080	6.94	250	97481A125	6.23
7/16"	250	97482A085	7.52	250	97481A130	6.77
1/2"	250	97482A090	8.33	250	97481A135	7.29
5/8"	250	97482A179	9.24	250	97481A179	8.37
3/4"	250	97482A181	10.39	250	97481A181	9.46
1"	100	97482A183	11.21	250	97481A183	11.63
5/32" Dia.	*Head: 0.324" Dia. x 0.126" Ht.*			*Head: 0.324" Dia. x 0.067" Ht.*		
1/4"	250	97482A207	8.40	250	97481A207	7.86
5/16"	250	97482A208	9.26	250	97481A208	8.69
3/8"	250	97482A209	10.09	250	97481A209	9.51
1/2"	250	97482A211	11.77	250	97481A211	11.20
3/4"	100	97482A215	6.91	100	97481A215	6.69
1"	100	97482A217	8.26	100	97481A219	8.06
3/16" Dia.	*Head: 0.390" Dia. x 0.152" Ht.*			*Head: 0.390" Dia. x 0.081" Ht.*		
5/16"	100	97482A269	5.35	250	97481A264	10.54
3/8"	100	97482A273	5.76	100	97481A266	5.41
1/2"	100	97482A275	6.54	100	97481A269	6.19
5/8"	100	97482A277	7.32	100	97481A271	7.03
3/4"	100	97482A249	8.08	100	97481A249	7.53
1"	100	97482A251	9.65	100	97481A251	8.82
1/4" Dia.	*Head: 0.520" Dia. x 0.203" Ht.*			*Head: 0.520" Dia. x 0.108" Ht.*		
3/8"	100	97482A341	9.70	100	97481A341	9.47
1/2"	50	97482A343	6.12	100	97481A343	10.84
5/8"	50	97482A345	6.78	100	97481A345	12.18
3/4"	50	97482A347	7.40	100	97481A347	13.58
1"	50	97482A349	8.68	50	97481A349	8.60
1 1/4"	50	97482A351	10.26	50	97481A351	10.13
1 1/2"	50	97482A355	11.25	50	97481A353	11.47
2"	50	97482A357	13.82	50	97481A357	14.24

Brass

1/8" Dia.	*Head: 0.235" Dia. x 0.100" Ht.*			*Head: 0.260" Dia. x 0.048" Ht.*		
5/16"	100	97391A174	5.99	—	—	—
3/8"	100	97391A175	6.67	200	97500A110	13.16
1/2"	100	97391A177	7.55	100	97500A115	8.95
5/8"	100	97391A178	9.54	100	97500A120	8.00
3/4"	100	97391A181	10.12	100	97500A125	10.90
1"	50	97391A183	7.48	100	97500A130	12.44
3/16" Dia.	*Head: 0.348" Dia. x 0.147" Ht.*			*Head: 0.387" Dia. x 0.069" Ht.*		
3/8"	50	97391A243	9.74	50	97500A140	9.45
1/2"	50	97391A245	10.25	50	97500A145	11.11
5/8"	50	97391A247	12.36	50	97500A150	13.39
3/4"	25	97391A249	7.64	50	97500A155	13.39
1"	25	97391A251	10.18	50	97500A160	10.31
1 1/2"	25	97391A255	13.47	10	97500A165	4.80
1/4" Dia.	*Head: 0.460" Dia. x 0.196" Ht.*			*Head: 0.515" Dia. x 0.091" Ht.*		
1/2"	25	97391A343	10.19	25	97500A175	11.10
3/4"	25	97391A347	12.80	10	97500A180	6.45
1"	10	97391A349	7.55	10	97500A185	7.57

Copper

1/8" Dia.	*Head: 0.235" Dia. x 0.100" Ht.*			*Head: 0.260" Dia. x 0.048" Ht.*		
1/4"	200	97531A491	10.38	200	97440A325	10.20
3/8"	200	97531A492	13.04	200	97440A330	12.84
1/2"	100	97531A493	8.36	100	97440A335	8.33
3/4"	100	97531A494	11.07	25	97440A340	3.58
1"	50	97531A495	7.38	25	97440A345	4.24
3/16" Dia.	*Head: 0.348" Dia. x 0.147" Ht.*			*Head: 0.387" Dia. x 0.069" Ht.*		
3/8"	50	97531A503	8.67	50	97440A355	8.70
1/2"	50	97531A505	10.24	25	97440A360	5.60
3/4"	50	97531A508	13.18	25	97440A365	7.02
1"	25	97531A510	8.68	25	97440A370	8.67
1 1/2"	25	97531A514	11.36	25	97440A375	13.23
1/4" Dia.	*Head: 0.460" Dia. x 0.196" Ht.*			*Head: 0.515" Dia. x 0.091" Ht.*		
1/2"	25	97531A537	10.07	25	97440A385	9.73
3/4"	25	97531A540	12.94	25	97440A390	12.86
1"	10	97531A542	6.67	25	97440A395	14.71

Low-Profile Domed Head Solid Rivets

A lower head height than other solid rivets provides a more finished appearance when installed. Length is measured from under the head.

Domed—*Steel* rivets are also known as truss head rivets. *Aluminum* rivets are also known as universal head rivets. They are nonmagnetic and have mild corrosion resistance.

Wide Domed—Also known as brazier head rivets. All are aluminum and are nonmagnetic and have mild corrosion resistance.



Lg.	Head Dia.	Head Ht.	Pkg. Qty.		Pkg.
Domed—*Steel*					
3/16" Dia.					
1/4"	0.442"	0.069"	250	97030A241	$7.27
3/8"	0.442"	0.069"	200	97030A243	7.27
1/2"	0.442"	0.069"	150	97030A245	7.27
3/4"	0.442"	0.069"	125	97030A249	7.27
1"	0.442"	0.069"	100	97030A251	7.27
1/4" Dia.					
3/8"	0.59"	0.091"	100	97030A341	7.27
1/2"	0.59"	0.091"	75	97030A343	7.27
3/4"	0.59"	0.091"	60	97030A347	7.27
1"	0.59"	0.091"	50	97030A349	7.27
1 1/4"	0.59"	0.091"	40	97030A351	7.27
1 1/2"	0.59"	0.091"	40	97030A352	7.27
Domed—*Aluminum*					
1/8" Dia.					
3/16"	0.26"	0.064"	250	97490A228	4.63
1/4"	0.26"	0.064"	250	97490A231	4.66
5/16"	0.26"	0.064"	250	97490A234	5.63
3/8"	0.26"	0.064"	250	97490A237	6.11
1/2"	0.26"	0.064"	250	97490A240	7.14

Lg.	Head Dia.	Head Ht.	Pkg. Qty.		Pkg.
Domed—*Aluminum (Cont.)*					
3/16" Dia.					
3/8"	0.39"	0.092"	100	97490A243	$8.07
1/2"	0.39"	0.092"	100	97490A245	6.23
5/8"	0.39"	0.092"	100	97490A247	7.09
3/4"	0.39"	0.092"	100	97490A249	7.97
1"	0.39"	0.092"	100	97490A251	9.66
1/4" Dia.					
3/8"	0.52"	0.121"	100	97490A341	8.66
1/2"	0.52"	0.121"	100	97490A343	10.40
5/8"	0.52"	0.121"	100	97490A345	12.14
3/4"	0.52"	0.121"	50	97490A347	7.73
Wide Domed—*Aluminum*					
3/32" Dia.					
1/8"	0.243"	0.051"	250	97484A050	4.03
1/4"	0.243"	0.051"	250	97484A055	5.00
3/8"	0.243"	0.051"	250	97484A060	5.97
1/8" Dia.					
3/16"	0.324"	0.067"	250	97484A065	4.91
1/4"	0.324"	0.067"	250	97484A070	5.46
5/16"	0.324"	0.067"	250	97484A075	5.97
3/8"	0.324"	0.067"	250	97484A080	6.51
1/2"	0.324"	0.067"	250	97484A085	7.60

Lg.	Head Dia.	Head Ht.	Pkg. Qty.		Pkg.
Wide Domed—*Aluminum (Cont.)*					
1/8" Dia. (Cont.)					
5/8"	0.324"	0.067"	250	97484A179	$8.69
3/4"	0.324"	0.067"	250	97484A181	9.77
1"	0.324"	0.067"	250	97484A183	11.91
5/32" Dia.					
1/4"	0.407"	0.084"	250	97484A207	7.38
3/8"	0.407"	0.084"	250	97484A209	8.85
3/16" Dia.					
1/4"	0.488"	0.101"	250	97484A241	8.40
5/16"	0.488"	0.101"	250	97484A242	9.20
3/8"	0.488"	0.101"	100	97484A243	4.67
1/2"	0.488"	0.101"	100	97484A245	5.31
5/8"	0.488"	0.101"	100	97484A247	5.96
3/4"	0.488"	0.101"	100	97484A249	6.72
1"	0.488"	0.101"	100	97484A251	8.64
1/4" Dia.					
3/8"	0.65"	0.135"	100	97484A341	9.92
1/2"	0.65"	0.135"	100	97484A343	10.70
5/8"	0.65"	0.135"	100	97484A345	12.00
3/4"	0.65"	0.135"	50	97484A347	7.25
1"	0.65"	0.135"	50	97484A349	8.57
1 1/4"	0.65"	0.135"	50	97484A351	9.85

Low-Profile Flat Head Solid Rivets

Use for HVAC ducts and other sheet metal applications. Also known as tinners' rivets. All are made of steel. Length is measured from under the head.



Dia.	Lg.	Head Dia.	Head Ht.	Pkg. Qty.		Pkg.
0.088"	5/32"	0.215"	0.03"	500	97358A008	$4.05
0.104"	3/16"	0.255"	0.031"	500	97358A012	6.58
0.11"	13/64"	0.275"	0.034"	500	97358A100	6.06
0.119"	7/32"	0.285"	0.039"	500	97358A101	7.21
0.129"	15/64"	0.305"	0.04"	500	97358A102	8.42
0.143"	17/64"	0.33"	0.043"	250	97358A104	6.82
0.147"	9/32"	0.3"	0.062"	100	97358A105	6.11
0.159"	5/16"	0.316"	0.066"	100	97358A106	$7.78
0.175"	11/32"	0.355"	0.069"	100	97358A108	11.56
0.186"	3/8"	0.375"	0.077"	200	97358A109	10.61
0.202"	25/64"	0.406"	0.083"	150	97358A110	10.61
0.223"	7/16"	0.46"	0.093"	125	97358A112	10.61
0.237"	15/32"	0.49"	0.096"	100	97358A114	10.61
0.257"	1/2"	0.515"	0.099"	80	97358A115	10.61

Countersunk Head Solid Rivets

Head is flush when installed. Length is measured from the top of the head.

18-8 stainless steel rivets have a 90° countersunk head. They have excellent corrosion resistance and may be mildly magnetic.

Steel rivets have a 90° countersunk head.

Aluminum rivets have a 78° countersunk head. They offer mild corrosion resistance and are nonmagnetic.

Brass rivets have a 90° countersunk head. They are nonmagnetic with good strength, durability, corrosion resistance, and electrical conductivity.

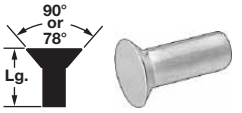

Lg.	Head Dia.	Head Ht.	Pkg. Qty.		Pkg.
18-8 Stainless Steel					
1/8" Dia.					
3/8"	0.235"	0.053"	100	97388A175	$6.93
1/2"	0.235"	0.053"	100	97388A177	8.96
5/8"	0.235"	0.053"	100	97388A179	11.17
3/4"	0.235"	0.053"	100	97388A181	12.62
1"	0.235"	0.053"	50	97388A183	7.39
3/16" Dia.					
3/8"	0.351"	0.079"	100	97388A243	11.68
1/2"	0.351"	0.079"	50	97388A245	7.35
5/8"	0.351"	0.079"	50	97388A247	8.35
3/4"	0.351"	0.079"	50	97388A249	10.81
1"	0.351"	0.079"	50	97388A251	12.82
1 1/4"	0.351"	0.079"	25	97388A253	7.72
1/4" Dia.					
1/2"	0.469"	0.106"	50	97388A343	14.39
3/4"	0.469"	0.106"	25	97388A347	8.08
Steel					
3/16" Dia.					
3/8"	0.351"	0.079"	250	97304A244	7.27
1/2"	0.351"	0.079"	200	97304A245	7.27
5/8"	0.351"	0.079"	175	97304A246	7.27
3/4"	0.351"	0.079"	150	97304A247	7.27
7/8"	0.351"	0.079"	125	97304A248	7.27
1"	0.351"	0.079"	125	97304A249	7.27
1 1/4"	0.351"	0.079"	100	97304A251	7.27
1/4" Dia.					
1/2"	0.469"	0.106"	125	97304A243	7.27
5/8"	0.469"	0.106"	100	97304A344	7.27

Lg.	Head Dia.	Head Ht.	Pkg. Qty.		Pkg.
Steel (Cont.)					
1/4" Dia. (Cont.)					
3/4"	0.469"	0.106"	80	97304A345	$7.27
1"	0.469"	0.106"	60	97304A349	7.27
Aluminum					
1/16" Dia.					
3/16"	0.116"	0.033"	250	97483A040	3.06
1/2"	0.116"	0.033"	250	97483A045	4.77
3/32" Dia.					
3/16"	0.177"	0.051"	250	97483A050	3.39
1/4"	0.177"	0.051"	250	97483A055	3.84
5/16"	0.177"	0.051"	250	97483A060	4.18
3/8"	0.177"	0.051"	250	97483A065	4.74
1/2"	0.177"	0.051"	250	97483A070	5.51
1/8" Dia.					
1/4"	0.234"	0.067"	250	97483A075	4.23
5/16"	0.234"	0.067"	250	97483A080	4.77
3/8"	0.234"	0.067"	250	97483A085	5.34
1/2"	0.234"	0.067"	250	97483A090	6.26
5/8"	0.234"	0.067"	250	97483A095	7.54
3/4"	0.234"	0.067"	250	97483A181	8.69
1"	0.234"	0.067"	250	97483A183	10.91
5/32" Dia.					
1/2"	0.293"	0.084"	250	97483A211	7.18
3/16" Dia.					
5/16"	0.352"	0.101"	250	97483A242	7.42
3/8"	0.352"	0.101"	250	97483A243	7.95
1/2"	0.352"	0.101"	100	97483A245	4.65
3/4"	0.352"	0.101"	100	97483A249	6.08
1"	0.352"	0.101"	100	97483A251	7.50

Lg.	Head Dia.	Head Ht.	Pkg. Qty.		Pkg.
Aluminum (Cont.)					
1/4" Dia.					
1/2"	0.47"	0.135"	50	97483A343	$4.47
5/8"	0.47"	0.135"	50	97483A345	5.10
3/4"	0.47"	0.135"	50	97483A347	5.75
1"	0.47"	0.135"	50	97483A349	7.05
1 1/4"	0.47"	0.135"	50	97483A351	8.32
1 1/2"	0.47"	0.135"	50	97483A353	9.62
Brass					
1/8" Dia.					
1/4"	0.235"	0.053"	100	97029A173	5.70
3/8"	0.235"	0.053"	100	97029A175	7.21
1/2"	0.235"	0.053"	100	97029A177	9.15
5/8"	0.235"	0.053"	100	97029A179	10.82
1"	0.235"	0.053"	50	97029A183	13.45
3/16" Dia.					
3/8"	0.351"	0.079"	100	97029A243	11.38
1/2"	0.351"	0.079"	100	97029A245	13.09
5/8"	0.351"	0.079"	50	97029A247	8.36
3/4"	0.351"	0.079"	50	97029A249	9.62
1"	0.351"	0.079"	50	97029A251	12.13
1 1/4"	0.351"	0.079"	25	97029A252	7.89
1 1/2"	0.351"	0.079"	25	97029A253	9.16
1/4" Dia.					
3/4"	0.469"	0.106"	25	97029A347	8.38
1"	0.469"	0.106"	25	97029A349	10.51
1 1/4"	0.469"	0.106"	10	97029A351	5.42
1 1/2"	0.469"	0.106"	10	97029A353	6.53
2"	0.469"	0.106"	10	97029A355	8.31

Wide-Countersunk Head Solid Rivets with Bearing Washer

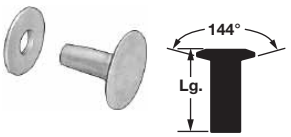

Heads are countersunk 144° to provide a flush surface when set—just what you need for fastening leather, conveyor belts, and copper-alloy assemblies. Also known as belt rivets. All have a tapered shank and are made of corrosion-resistant copper. An equal quantity of washers is included with the rivets. Length is measured from the top of the head.

Lg.	Head Dia.	Head Ht.	Pkg. Qty.		Pkg.
No. 12 Dia. — *Shank Dia.: 0.137″*					
3/8″	3/8″	0.045″	50	97537A289	$6.53
1/2″	3/8″	0.045″	25	97537A291	4.73
5/8″	3/8″	0.045″	25	97537A293	5.04
3/4″	3/8″	0.045″	25	97537A294	5.93
1″	3/8″	0.045″	25	97537A296	7.31
1 1/4″	3/8″	0.045″	25	97537A298	8.33
1 1/2″	3/8″	0.045″	10	97537A299	4.56
No. 10 Dia. — *Shank Dia.: 0.151″*					
3/8″	7/16″	0.055″	25	97537A240	5.29
1/2″	7/16″	0.055″	25	97537A242	6.11
5/8″	7/16″	0.055″	25	97537A244	7.36
3/4″	7/16″	0.055″	25	97537A245	8.24
7/8″	7/16″	0.055″	10	97537A246	4.44
1″	7/16″	0.055″	10	97537A247	5.11
1 1/4″	7/16″	0.055″	10	97537A249	6.11
1 1/2″	7/16″	0.055″	10	97537A252	6.11
No. 9 Dia. — *Shank Dia.: 0.161″*					
3/8″	15/32″	0.058″	50	97537A216	$9.56
1/2″	15/32″	0.058″	50	97537A218	11.67
5/8″	15/32″	0.058″	25	97537A220	7.13
3/4″	15/32″	0.058″	25	97537A221	8.16
7/8″	15/32″	0.058″	25	97537A222	9.56
1″	15/32″	0.058″	25	97537A223	9.56
1 1/4″	15/32″	0.058″	25	97537A225	11.67
1 1/2″	15/32″	0.058″	25	97537A227	12.84
No. 8 Dia. — *Shank Dia.: 0.181″*					
3/8″	1/2″	0.063″	25	97537A192	6.40
1/2″	1/2″	0.063″	25	97537A194	7.13
5/8″	1/2″	0.063″	25	97537A196	8.17
3/4″	1/2″	0.063″	25	97537A197	9.54
7/8″	1/2″	0.063″	10	97537A198	5.32
1″	1/2″	0.063″	10	97537A199	5.32
1 1/4″	1/2″	0.063″	10	97537A201	6.40
1 1/2″	1/2″	0.063″	10	97537A203	6.73
No. 7 Dia. — *Shank Dia.: 0.191″*					
1/2″	9/16″	0.07″	10	97537A170	$5.56
5/8″	9/16″	0.07″	10	97537A172	5.56
3/4″	9/16″	0.07″	10	97537A173	6.68
7/8″	9/16″	0.07″	10	97537A174	7.29
1″	9/16″	0.07″	10	97537A175	8.07
1 1/4″	9/16″	0.07″	10	97537A177	9.04
1 1/2″	9/16″	0.07″	10	97537A179	10.38
No. 6 Dia. — *Shank Dia.: 0.228″*					
3/4″	11/16″	0.09″	10	97537A151	11.47
1″	11/16″	0.09″	5	97537A153	7.49
1 1/2″	11/16″	0.09″	5	97537A157	9.00

Installation Tools for Solid Rivets

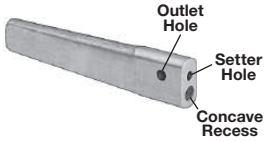

Set solid rivets using this tool and your hammer. For proper installation, choose a tool with a setter hole diameter slightly larger than the rivet being set. Use the setter hole and concave recess to draw sheet metal around the rivet, flatten the shank, and form a domed head. Use the outlet hole on the side of the tools to dislodge metal slugs. Made of steel.

Setter Hole Dia.	For Rivet Dia.		
0.109″	3/32″	6663A21	$28.39
0.125″	3/32″	6663A19	28.39
0.14″	1/8″	6663A18	28.39
0.149″	—	6663A17	28.39
0.166″	5/32″	6663A16	28.39
0.191″	3/16″	6663A15	30.36
0.213″	3/16″	6663A14	30.36
0.234″	7/32″	6663A13	30.36
0.281″	1/4″	6663A12	34.18
0.312″	9/32″	6663A11	34.18

Squeeze Tools for Aluminum and Brass Solid Rivets

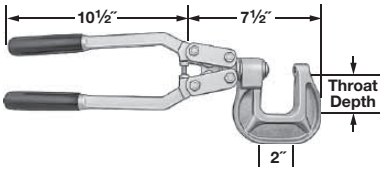

You'll get 3,500 pounds of pressure to set aluminum or brass solid rivets. Tool head rotates 360°. Maximum rivet length is 5/8″.

Note: Not for use with steel or stainless steel rivets.

Die sets are sold separately and include check nuts.

Tools

Throat Depth	Wt., lbs.		
2 1/2″	6 1/2	6616A14	$513.68
6″	9	6616A15	529.12

Die Sets

Rivet Dia.	Head Dia., min.-max.	Head Ht., min.-max.		
For Domed Head				
3/32″	0.162″-0.182″	0.065″-0.077″	6616A62	$50.83
1/8″	0.215″-0.235″	0.088″-0.1″	6616A64	50.83
5/32″	0.268″-0.29″	0.11″-0.124″	6616A66	50.83
For Low-Profile Domed Head				
3/32″	0.177″-0.197″	0.039″-0.051″	6616A51	50.83
1/8″	0.24″-0.26″	0.053″-0.065″	6616A52	50.83
5/32″	0.301″-0.323″	0.065″-0.079″	6616A53	50.83
For Flat Head				
3/32″	0.18″-0.2″	0.026″-0.038″	6616A96	50.73
1/8″	0.24″-0.26″	0.036″-0.048″	6616A96	50.73
5/32″	0.301″-0.323″	0.045″-0.059″	6616A96	50.73
3/16″	0.361″-0.387″	0.055″-0.069″	6616A96	50.73

Air-Powered Squeeze Tools for Aluminum and Steel Solid Rivets

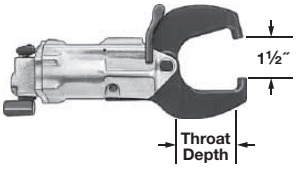

Tools

Also known as alligator squeezers, these tools offer uniform results and quiet operation when setting solid metal rivets. Tools have a throttle to control speed. They have a 1/4″ NPT female swivel air inlet. Maximum air pressure is 90 psi.

Max. Rivet Dia. Soft Alum.	Max. Rivet Dia. Plain Steel	Max. Force, psi	Throat Depth	Overall Lg.	Wt., lbs.		
3/32″	1/16″	1,800	3″	10 3/4″	5	93970A270	$1,160.13
3/32″	3/32″	2,400	2 1/4″	10″	4 1/2	93970A230	1,126.98
1/8″	3/32″	3,000	1 1/2″	9 1/4″	4	93970A210	1,067.32
3/16″	1/8″	4,600	2 1/4″	12 3/4″	5 1/2	93970A330	1,259.56
3/16″	5/32″	6,000	1 1/2″	12″	5 1/2	93970A310	1,199.90

Die Sets

To Order: Please specify domed, low-profile domed, or flat head.

Rivet Dia.	Rivet Length 3/16″	3/8″	1/2″	5/8″	
3/32″	93970A500	93970A600	93970A700	93970A800	$33.10
1/8″	93970A501	93970A601	93970A701	93970A801	33.10
5/32″	93970A502	93970A602	93970A702	93970A802	33.10
3/16″	93970A503	93970A603	93970A703	93970A803	33.10

Rivets for Soft Materials

Join lightweight materials such as leather, canvas, plastics, wood, fiberboard, and light gauge metals.

Split rivets are also known as truss-head rivets. To install, punch a hole, drive in with a hammer, and split legs. *Nickel-plated steel* rivets have fair rust and weather resistance. *Brass* rivets are corrosion resistant and nonmagnetic.

Semi tubular rivets are also known as brake-lining rivets. Head is countersunk 150°. All are made of brass so they are corrosion resistant. They are also non-magnetic. Internal hole depth is 1/8" to 1/4". A punched hole is required. Use an installation tool (sold separately on this page) for proper installation.

Full tubular rivets are self piercing and have an internal hole that extends nearly the full length of the shaft, which eliminates the need for a punched hole. Internal hole depth is 1/4" to 1/2". Head is countersunk 150°. All are made of copper-plated steel that has fair rust and weather resistance. Use the installation tool (sold separately on this page) for proper installation.



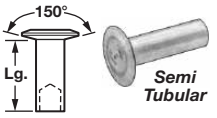

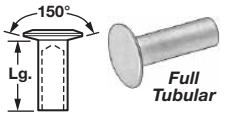

Lg.	Head Dia.	Head Ht.	Pkg. Qty.		Pkg.
Split — *Nickel-Plated Steel*					
9/64" Dia. — *Hole Size: 0.141" (Drill Size #27)*					
5/16"	5/16"	3/64"	100	97351A762	$6.19
3/8"	5/16"	3/64"	100	97351A763	6.19
7/16"	5/16"	3/64"	100	97351A764	6.21
1/2"	5/16"	3/64"	100	97351A765	7.21
5/8"	5/16"	3/64"	100	97351A767	8.13
3/4"	5/16"	3/64"	100	97351A768	13.09
Split — *Brass*					
9/64" Dia. — *Hole Size: 0.141" (Drill Size #27)*					
3/8"	5/16"	3/64"	25	97461A673	7.54
7/16"	5/16"	3/64"	25	97461A674	7.44
5/8"	5/16"	3/64"	25	97461A677	9.15
Semi Tubular — *Brass*					
9/64" Dia. — *Hole Size: 0.156" (Drill Size #23)*					
1/4"	5/16"	3/64"	100	97451A650	10.03
9/32"	5/16"	3/64"	100	97451A651	10.43
5/16"	5/16"	3/64"	100	97451A652	10.85
5/16"	3/8"	3/64"	100	97451A662	11.69
3/8"	5/16"	3/64"	100	97451A653	11.22
3/8"	3/8"	3/64"	100	97451A663	12.16
7/16"	5/16"	3/64"	100	97451A654	12.01
7/16"	3/8"	3/64"	100	97451A664	12.82
1/2"	5/16"	3/64"	100	97451A655	12.50
1/2"	3/8"	3/64"	100	97451A665	13.40
5/8"	3/8"	3/64"	50	97451A667	8.78
3/4"	3/8"	3/64"	50	97451A668	9.37

Lg.	Head Dia.	Head Ht.	Pkg. Qty.		Pkg.
Semi Tubular — *Brass (Cont.)*					
3/16" Dia. — *Hole Size: 0.199" (Drill Size #8)*					
1/4"	3/8"	3/64"	100	97451A670	$11.69
5/16"	3/8"	3/64"	100	97451A671	11.91
3/8"	3/8"	3/64"	100	97451A672	13.25
7/16"	3/8"	3/64"	50	97451A673	8.68
1/2"	3/8"	3/64"	50	97451A674	9.21
1/2"	1/2"	1/16"	50	97451A681	8.73
9/16"	3/8"	3/64"	50	97451A675	8.57
5/8"	3/8"	3/64"	50	97451A676	9.21
5/8"	1/2"	1/16"	50	97451A682	9.68
3/4"	3/8"	3/64"	50	97451A677	9.92
3/4"	1/2"	1/16"	50	97451A683	10.57
7/8"	3/8"	3/64"	50	97451A678	10.62
7/8"	1/2"	1/16"	50	97451A684	11.07
1"	3/8"	3/64"	50	97451A679	11.81
1"	1/2"	1/16"	50	97451A685	12.40
1/4" Dia. — *Hole Size: 0.265" (Drill Size 17/64")*					
1/2"	1/2"	1/16"	25	97451A691	7.32
5/8"	1/2"	1/16"	25	97451A692	6.82
3/4"	1/2"	1/16"	25	97451A693	7.47
7/8"	1/2"	1/16"	25	97451A694	8.18
1"	1/2"	1/16"	25	97451A695	8.89
Full Tubular — *Copper-Plated Steel*					
9/64" Dia. — *Hole Size: 0.104" (Drill Size #37)*					
1/4"	5/16"	3/64"	50	97342A701	9.90
3/8"	5/16"	3/64"	50	97342A703	7.51
7/16"	5/16"	3/64"	50	97342A704	14.56
1/2"	5/16"	3/64"	25	97342A705	3.46

Installation Tools for Tubular Rivets

One of these tools and your hammer are all you need to clinch or expand the base of semi tubular and full tubular rivets. Tools are made of steel. Use on aluminum, steel, brass, and copper rivets.



Fits Dia.	Dia.	Lg.		Pkg.
1/16"	5/16"	3 1/2"	6667A001	$52.22
0.087"	3/8"	4 1/4"	6667A002	52.22
1/8"	3/8"	4 1/4"	6667A4	52.22
9/64"	1/2"	5"	6667A1	52.22
5/32"	1/2"	5"	6667A5	52.22
3/16"	1/2"	5"	6667A2	52.22
7/32"	1/2"	5"	6667A6	56.25
1/4"	1/2"	5"	6667A3	52.22
5/16"	5/8"	5"	6667A7	62.67

Two-Piece Press-Fit Tubular Rivets

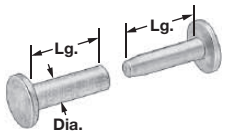

Also known as cutlery rivets. Press the solid male shank into the tubular female piece to fasten wood to metal and metal to metal. Rivets are made of brass.

Dia.	Material Thickness Range	Lg.	Head Dia.	Head Ht.	Pkg. Qty.		Pkg.
0.112"	3/8"-9/16"	3/8"	3/16"	1/16"	10	96082A100	$4.37
0.149"	1/2"-3/4"	1/2"	5/16"	3/64"	10	96082A200	4.50
0.149"	5/8"-7/8"	5/8"	5/16"	3/64"	10	96082A300	5.50

Vibration-Resistant Panel Screws

Also known as Fab-Lok fasteners, these combination rivet/screws have enough holding power to withstand excessive vibration, expansion, and contraction. After tightening, the sleeve stays in place even if the screw is removed. Use for fastening metal and insulated panels.

Each panel screw consists of a 10-24 machine screw with a hex-washer head, a 1/2" dia. EPDM sealing washer, and an aluminum sleeve that fans out when installed for added strength. A corrosion-resistant coating provides 100 hours of salt-spray resistance and acts as a lubricant to reduce friction.

Like blind rivets, they install from one side only. Set them in a 5/16" dia. hole using a 5/16" closed-end wrench. For faster installation, use a torque adjustable power driver along with the *holding tool and socket* (sold separately).

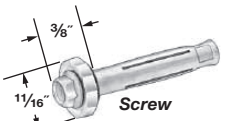

Screw


Installed


Holding Tool and Socket

Material Thickness Range	Penetrating Depth	Pkg. Qty.		Pkg.
Steel				
0.062"-0.25"	1.373"	10	97111A212	$13.92
0.25"-0.5"	1.612"	10	97111A216	14.50
0.5"-0.75"	1.807"	5	97111A218	8.92
18-8 Stainless Steel				
0.062"-0.25"	1.373"	5	97111A416	10.02
0.25"-0.5"	1.612"	5	97111A418	11.26
0.5"-0.75"	1.807"	5	97111A423	12.56
Holding Tool and Socket			97111A137 Each	$150.18

Easy-to-Install Plastic Rivets


Ribbed Shank

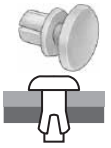
Click-Lock Shank

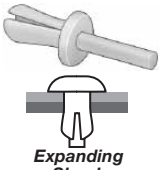
Expanding Shank

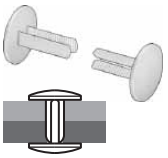
Interlocking Shank


Adjustable Shank


Reusable Arrow Shank

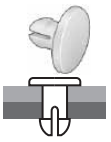
Split Shank

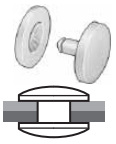
Snap Shank

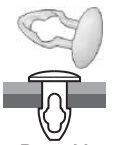
Reusable Keyhole Shank

No special tools required when you use these rivets to join plastic, composite, metal, wood, foam, and particleboard panels. Also known as push, panel, and tree clips, each rivet fastens a specific material thickness or thickness range. All are made of nylon. Temperature range is –40° to +149° F. *Note:* Nylon absorbs environmental moisture, which can affect dimensions and other properties.

To Order: Please specify color: black or off-white (unless noted).

***Ribbed Shank*—** Shank grips and holds materials for a secure, permanent joint. A removal tool is sold separately below.

***Click-Lock Shank*—** Place in a hole and press the head. When you hear a snap, you know the shaft has expanded and the rivet is secured. Pry to remove.

***Expanding Shank*—** Insert the rivet in a hole and press the pin. This expands the shaft and locks the rivet in place.

***Interlocking Shank*—** Identical parts with internally serrated prongs ratchet together. Two heads provide a finished look on both sides.

***Adjustable Shank*—** Consist of a rivet and a washer. Insert the rivet in the hole and push the washer to the desired length. Clip excess length if needed. Pry apart or cut to remove.

***Reusable Arrow Shank*—** Arrow shape collapses when pushed through a hole then springs back completely to hold fast. Pry to remove.

***Split Shank*—** A rounded, split shank (unless noted) compresses to slide through a hole, then expands to form a strong joint.

***Snap Shank*—** Push the male and female parts together. Two heads provide a finished look on both sides. Pull apart to remove.

***Reusable Keyhole Shank*—** The extra-flexible body slips effortlessly through small holes and takes up slack to provide a tight, reliable joint. Pry to remove.

Hole Dia.	Material Thick. Range	Head Dia.	Head Ht.	Pkg. Qty.		Pkg.
Ribbed Shank						
0.187″	0.03″-0.312″	0.734″	0.07″	25	90221A414	$4.50
0.187″	0.03″-0.33″	0.442″	0.068″	25	90221A412	3.10
0.187″	0.03″-0.512″	0.437″	0.07″	25	90221A413	3.54
0.25″	0.062″-0.375″	0.7″	0.1″	25	90221A416	4.60
0.25″	0.062″-0.5″	0.7″	0.1″	25	90221A418	4.68
0.25″	0.062″-0.875″	0.7″	0.1″	25	90221A419	4.93
0.25″	0.095″-0.32″	0.75″	0.044″	25	90221A415	4.62
0.281″	0.062″-1″	0.787″	0.1″	25	90221A421	6.31
0.394″	0.06″-0.787″	0.846″	0.07″	25	90221A422	6.19
Click-Lock Shank						
0.124″	0.039″-0.079″	0.252″	0.063″	100	91020A098	14.49
0.124″	0.079″-0.118″	0.252″	0.063″	100	91020A108	14.86
0.124″	0.118″-0.158″	0.252″	0.063″	100	91020A118	14.63
0.124″	0.158″-0.197″	0.252″	0.063″	100	91020A128	14.63
0.124″	0.217″-0.256″	0.252″	0.063″	100	91020A138	15.65
0.163″	0.098″-0.138″	0.315″	0.071″	100	91020A198	15.65
0.163″	0.138″-0.177″	0.315″	0.071″	100	91020A208	16.42
0.163″	0.177″-0.217″	0.315″	0.071″	50	91020A218	10.43
0.163″	0.217″-0.256″	0.315″	0.071″	50	91020A228	10.91
0.163″	0.295″-0.335″	0.315″	0.071″	50	91020A238	10.24
0.203″	0.138″-0.177″	0.354″	0.087″	50	91020A318	10.38
0.203″	0.177″-0.217″	0.354″	0.087″	50	91020A328	11.23
0.203″	0.217″-0.256″	0.354″	0.087″	50	91020A338	11.13
0.203″	0.256″-0.295″	0.354″	0.087″	50	91020A348	11.49
0.203″	0.295″-0.335″	0.354″	0.087″	50	91020A358	11.88
0.242″	0.098″-0.158″	0.472″	0.098″	50	91020A428	11.84
0.242″	0.138″-0.217″	0.472″	0.118″	50	91020A438	12.91
Expanding Shank						
0.189″	0.039″-0.375″	0.28″	0.06″	50	90137A429	14.34
0.189″	0.158″-0.281″	0.43″	0.06″	50	90137A319	11.98
0.217″	0.094″-0.158″	0.37″	0.08″	50	90137A309	11.34
0.252″	0.28″-0.5″	0.47″	0.08″	10	90137A340★	6.92
Interlocking Shank						
0.281″	0.235″-0.297″	0.75″	0.093″	100♣	90243A719	15.34
0.281″	0.346″-0.502″	0.75″	0.093″	100♣	90243A739	15.51
0.281″	0.5″-0.812″	0.75″	0.093″	100♣	90243A759	16.00
0.281″	0.781″-1.375″	0.75″	0.093″	100♣	90243A779	16.70
Adjustable Shank						
0.094″	0.01″-0.25″	0.354″	0.062″	25	98295A200	5.25
0.094″	0.01″-0.375″	0.354″	0.062″	25	98295A100	5.31
0.125″	0.01″-2.187″	0.5″	0.062″	25	98295A300	6.37
Reusable Arrow Shank						
0.064″	0.01″-0.031″	0.1″	0.02″	100	90218A220	6.76
0.128″	0.062″-0.125″	0.27″	0.04″	100	90218A216	6.78
0.131″	0.125″-0.14″	0.27″	0.07″	100	90218A223	6.27
0.133″	0.062″-0.125″	0.27″	0.06″	100	90218A212	6.27
0.148″	0.29″-0.3″	0.27″	0.07″	100	90218A224	6.35
0.156″	0.062″-0.125″	0.28″	0.04″	100	90218A213	6.87
0.156″	0.062″-0.145″	0.28″	0.08″	100	90218A214	6.35
Reusable Arrow Shank (Cont.)						
0.163″	0.032″-0.125″	0.28″	0.08″	100	90218A210	$5.17
0.187″	0.062″-0.125″	0.36″	0.06″	100	90218A211	6.43
0.187″	0.165″-0.185″	0.375″	0.06″	100	90218A221	6.25
0.218″	0.062″-0.125″	0.37″	0.06″	100	90218A217	6.25
0.218″	0.125″-0.187″	0.37″	0.06″	100	90218A215	6.60
0.255″	0.125″-0.187″	0.484″	0.06″	100	90218A219	7.14
0.255″	0.125″-0.25″	0.5″	0.05″	100	90218A218	6.22
0.335″	0.125″-0.35″	0.685″	0.07″	100	90218A222	8.15

Hole Dia.	Material Thick.	Head Dia.	Head Ht.	Pkg. Qty.		Pkg.
Split Shank						
0.093″	0.063″	0.281″	0.024″	100	90136A572■	$5.69
0.093″	0.093″	0.281″	0.029″	100	90136A560■	5.28
0.093″	0.115″	0.25″	0.04″	100	90136A565	5.28
0.115″	0.121″	0.203″	0.034″	100	90136A530	5.71
0.115″	0.135″	0.203″	0.025″	100	90136A532	6.17
0.115″	0.156″	0.203″	0.029″	100	90136A550	5.71
0.115″	0.235″	0.203″	0.04″	100	90136A552	6.17
0.115″	0.25″	0.203″	0.039″	100	90136A570	6.17
0.165″	0.125″	0.344″	0.043″	100	90136A574	5.87
0.18″	0.556″	0.344″	0.071″	100	90136A576	7.37
0.2″	0.121″	0.469″	0.05″	100	90136A578	6.05
0.2″	0.156″	0.469″	0.052″	100	90136A580	6.16
0.245″	0.25″	0.594″	0.06″	100	90136A582	6.46
0.245″	0.365″	0.594″	0.07″	100	90136A583	6.70
0.245″	0.48″	0.594″	0.07″	100	90136A584	6.70
Snap Shank						
0.13″	0.032″	0.5″	0.1″	25	94570A309	10.26
0.13″	0.045″	0.5″	0.1″	25	94570A314	10.26
0.13″	0.062″	0.5″	0.1″	25	94570A319	10.26
0.13″	0.093″	0.5″	0.1″	25	94570A324	10.26
0.13″	0.125″	0.5″	0.1″	25	94570A329	10.26
0.13″	0.187″	0.5″	0.1″	25	94570A334	10.26
Reusable Keyhole Shank						
0.125″	0.093″	0.25″	0.062″	100	91010A009	6.50
0.125″	0.125″	0.25″	0.062″	100	91010A014	6.50
0.125″	0.156″	0.25″	0.062″	100	91010A019	6.50
0.156″	0.093″	0.312″	0.062″	100	91010A109	7.50
0.156″	0.125″	0.312″	0.062″	100	91010A114	7.50
0.156″	0.156″	0.312″	0.062″	100	91010A119	7.50
0.156″	0.187″	0.312″	0.062″	100	91010A124	7.50
0.187″	0.156″	0.312″	0.062″	100	91010A129	7.50
0.187″	0.187″	0.312″	0.062″	100	91010A134	7.50
0.187″	0.25″	0.312″	0.062″	100	91010A139	7.50
0.187″	0.375″	0.312″	0.062″	100	91010A159	7.50
0.25″	0.187″	0.5″	0.062″	100	91010A199	8.82
0.25″	0.25″	0.5″	0.062″	100	91010A209	9.26
0.25″	0.312″	0.5″	0.062″	100	91010A214	9.26
0.25″	0.375″	0.5″	0.062″	100	91010A219	9.26
0.25″	0.5″	0.5″	0.062″	100	91010A239	9.70

★ Not available in black. ♣ 50 pairs. ■ Shank is solid.

***Removal Tool for Ribbed-Shank Rivets*—** Easy-to-use hand tool minimizes panel damage when removing ribbed-shank rivets.

97576A500 ..... **Each** $31.56

Anchoring Adhesives for Concrete



Cartridge



Dual Cartridge



Applicator 7498A12



Applicators 7498A155 and 92378A160



Epoxy Syringe



Applicators 7622T23 and 7622T27



Applicator 7497A16

Permanently set threaded rods, studs, and rebar into solid concrete, block, and brick. Adhesives form a weather-resistant chemical bond that seals out moisture and resists vibration and dynamic loads better than mechanical anchors. Use all adhesives in clean, drilled holes and let fully harden before applying any load. Color is gray, except 7505A3 is teal. These products are compliant under all state VOC rules in effect as of June 1, 2011.

Threaded rod is sold separately below. For studs, see pages 3182-3197. For clean-out brushes, see 7221T on page 2703.

Quick-set acrylic adhesive sets the fastest and works well in low temperatures. It also hardens the fastest (higher temperatures reduce hardening time).

Epoxy adhesives work well for room temperature conditions and give you the most working time.

Bulk epoxy lets you mix as much as you need and does not require an applicator. *Note:* Not rated for pull-out strength.

Ultimate Pull-Out Strength, lbs. (in 4,000 psi Concrete)

Threaded Rod Dia.	Install. Depth	Quick-Set Acrylic	Epoxy	Quick-Set Epoxy
3/8"	3 1/2"	10,900	8,600	10,700
1/2"	4 1/2"	17,100	15,300	19,900
5/8"	5 5/8"	26,500	22,500	32,500
3/4"	6 3/4"	29,500	35,000	43,000
7/8"	7 7/8"	44,500	43,500	56,500
1"	9"	48,000	47,000	54,500
1 1/4"	11 1/4"	56,500	67,200	80,000

Adhesives, Mixing Nozzles, and Applicators— Mixing nozzle and applicator required (unless noted in table).

Container	Begins to Harden	Reaches Full Strength	No. of 1/2" Dia. Rods Set at 4 1/2" Installation Depth	Mixing Nozzles Included	Adhesives		Mixing Nozzles		Applicators	
Quick-Set Acrylic— *Temperature range is 0° to +100° F.*										
5-oz. Cartridge	7 min. @ 60° F	35 min.	15 in 9/16" dia. hole	No	7498A11	$15.29	7498A115	$2.02	7498A12	$7.67
8-oz. Dual Cartridge	7 min. @ 60° F	35 min.	24 in 9/16" dia. hole	No	7498A14	21.42	7498A115	2.02	7498A155	108.58
9.3-oz. Cartridge	7 min. @ 60° F	35 min.	28 in 9/16" dia. hole	Yes	7498A453	26.57	7498A115	2.02	7622T23	14.82
Epoxy— *Temperature range is +50° to +110° F.*										
1.7-oz. Syringe	5-7 min. @ 40° F	24 hrs.	2 in 5/8" dia. hole	Yes (2)	74995A94	21.45	—	—	—	—
5.2-oz. Dual Cartridge	30 min. @ 60° F	12 hrs.	12 in 5/8" dia. hole	No	92378A275	26.09	92378A190	3.36	92378A160	66.96
8.5-oz. Cartridge	5-7 min. @ 40° F	48 hrs.	14 in 5/8" dia. hole	Yes (2)	7505A3	31.10	7497A49	3.50	7622T27	36.13
22-oz. Dual Cartridge	5-7 min. @ 60° F	24 hrs.	35 in 5/8" dia. hole	No	7497A41	40.04	7497A49	3.50	7497A16	85.35
Quick-Set Epoxy— *Temperature range is –15° to +120° F.*										
9.3-oz. Cartridge	8 min. @ 60° F	45 min.	24 in 9/16" dia. hole	Yes	7505A55	34.16	7505A56	3.90	7622T23	14.82
Bulk Epoxy— *Temperature range is +50° to +110° F.*										
10-lbs. (2-gal.) Pail	30-45 min @ 75° F	24 hrs.	100 in 1" dia. hole	—	7625T53	54.53	—	—	—	—
45-lbs. (5-gal.) Pail	30-45 min @ 75° F	24 hrs.	500 in 1" dia. hole	—	7625T55	98.36	—	—	—	—

Adhesive Kits— Includes adhesive, mixing nozzle(s), and applicator.

Type	Size	Container	Mixing Nozzles		
Quick-Set Acrylic	5 oz.	Cartridge	1	7498A125	$22.87
Epoxy	5.2 oz. (3)	Dual Cartridge	3	92378A255	140.30

Optional Threaded Rod

Thread Size	Lg.	Type 316 Stainless Steel		18-8 Stainless Steel		Galvanized Steel	
3/8"-16	1 ft.	93250A066	$5.46	98804A496	$3.44	93335A185	$2.68
1/2"-13	1 ft.	93250A070	9.95	98804A501	7.10	93335A190	3.94
5/8"-11	1 ft.	93250A016	14.55	—	—	93335A195	4.79
3/4"-10	1 ft.	93250A017	21.33	98804A505	17.26	93335A200	7.21
7/8"-9	1 ft.	93250A018	31.14	98804A511	22.90	93335A205	8.96
1"-8	1 ft.	93250A019	37.39	98804A516	28.55	93335A210	11.58

Adhesive-Grip Internally Threaded Anchors for Concrete

Anchors are internally threaded for high pull-out strength in shallow concrete holes as well as where high vibration is present. Fill a clean, drilled hole half full with epoxy adhesive (sold separately on this page), then insert the anchor until it's flush with the surface. All have Class 2B thread fit. Ultimate pull-out strength is based on tests using epoxy adhesive in 3,000 psi concrete.

Type 316 stainless steel is more corrosion resistant than zinc-plated steel and may be mildly magnetic.

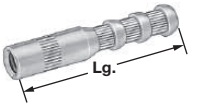

For Screw Size	Lg.	Drill Size	Drilled Hole Dp.	Ultimate Pull-Out Strength, lbs.	Thread Dp.	Type 316 Stainless Steel		Zinc-Plated Steel	
1/4"-20	1 5/8"	5/16"	1 3/4"	2,900	1/2"	93980A530	$5.95	93980A110	$1.50
5/16"-18	2 3/8"	7/16"	2 3/4"	7,500	3/4"	93980A550	9.47	93980A130	2.05
3/8"-16	2 3/4"	1/2"	3 1/4"	9,300	1"	93980A570	12.63	93980A150	2.56
1/2"-13	3 3/4"	5/8"	4 1/8"	13,100	1"	93980A590	18.42	93980A170	4.34
5/8"-11	5 3/4"	7/8"	6 1/4"	26,000	1 1/2"	93980A630	53.85	93980A190	16.97
3/4"-10	6 1/2"	1"	7 1/2"	36,000	1 1/2"	93980A650	71.79	93980A210	21.50
1"-8	8 1/2"	1 1/2"	9 1/2"	51,000	2"	93980A670	116.67	93980A230	58.17

Warning! ***Allowable pull-out and shear strength are 25% of ultimate values or less, as req'd by building authorities.***

Stud Anchors for Concrete

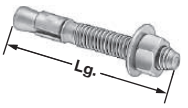

Also known as wedge anchors, drive these into a hole, and tighten the nut to leave a threaded stud in concrete (nut and washer are included). They are not reusable. Ultimate shear strength is the force the side of an anchor can withstand before breaking. ***Stainless steel*** anchors are UL listed and FM approved except for 1/4" dia. Type 316 is more corrosion resistant than 18-8. ***Galvanized steel*** anchors are more corrosion resistant than zinc-plated steel anchors. ***Zinc-plated steel*** anchors are ICC listed for use in cracked concrete, except 1/4" dia. are ICC listed for uncracked concrete only. 3/8" dia. anchors are FM approved. 1/2" dia. anchors are UL listed and FM approved except for 2 3/4" Lg. ***Grade 5 steel*** anchors have a Grade 5 steel body which is plated with zinc yellow-chromate and offers higher strength than zinc-plated steel and stainless steel. 3/8" to 3/4" dia. anchors are UL listed; 3/8", 1/2", and 3/4" dia. are also FM approved.

	Ultimate Pull-Out and Shear Strength in 4,000 psi Concrete							
Diameter	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"
Min. Installation Depth	1 1/4"	1 3/4"	2 1/4"	2 3/4"	3 3/4"	4"	4 1/2"	5 5/8"
Ultimate Pull-Out Strength, lbs.	850	2,300	4,700	5,500	8,900	9,600	13,800	22,000
Ultimate Shear Strength, lbs.	1,000	2,200	4,900	8,000	11,300	15,800	21,000	31,500

	Min. Thread	Type 316 SS			18-8 SS			Galvanized Steel			Zinc-Plated Steel		
Lg.	Lg.		Each	Pkg. Qty.		Each	Pkg. Qty.		Each	Pkg. Qty.		Each	Pkg. Qty.
1/4" Diameter — *Thread: 1/4"-20; Washer OD: 5/8" to 3/4" (Drill Size 1/4")*													
1 3/4"	5/8"	97799A110	$1.90	20 $26.60	92188A111	$1.77	20 $24.80	97110A110	$0.63	100 $50.00	91578A811	$0.38	100 $31.00
2 1/4"	1 1/8"	97799A120	2.04	20 28.60	92188A113	1.82	20 25.60	97110A120	.70	100 56.00	91578A813	.41	100 33.00
3 1/4"	2 1/8"	97799A130	2.56	20 36.00	92188A115	2.28	20 32.00	97110A130	.89	100 71.00	91578A815	.48	100 35.00
3/8" Diameter — *Thread: 3/8"-16; Washer OD: 3/4" to 1 1/16" (Drill Size 3/8")*													
2 1/4"	7/8"	97799A140	3.80	20 58.40	92188A117	2.84	20 39.80	97110A140	.89	50 35.50	91578A817	.56	50 21.50
2 3/4"	1 3/8"	97799A150	4.00	20 61.60	92188A119	2.96	20 41.60	97110A150	.98	50 39.00	91578A819	.60	50 23.50
3"	1 5/8"	97799A180	3.97	20 61.00	92188A126	3.05	20 43.40	97110A170	1.03	50 41.00	91578A822	.60	50 23.00
3 1/2"	2 1/8"	97799A160	4.33	20 66.60	92188A122	3.13	20 53.20	—	—	— —	91578A824	.65	50 25.00
3 3/4"	2 3/8"	97799A210	5.23	20 80.60	92188A128	3.05	20 48.80	97110A180	1.10	50 44.00	91578A826	.72	50 26.00
5"	3 1/8"	97799A170	6.37	10 49.00	92188A124	3.48	10 29.00	97110A160	1.32	50 52.50	91578A828	.81	50 29.00
7"	4 1/2"	97799A190	7.50	10 57.70	92188A131	5.04	10 42.00	97110A190	2.01	10 16.10	91578A875•	1.73	10 12.40
1/2" Diameter — *Thread: 1/2"-13; Washer OD: 1 1/16" to 1 7/16" (Drill Size 1/2")*													
2 3/4"	1"	97799A230	8.40	10 65.80	92188A142	3.73	10 31.10	97110A210	1.66	25 33.25	91578A831	.92	50 34.00
3 3/4"	2"	97799A240	9.60	10 75.80	92188A133	3.81	10 31.80	97110A220	1.83	25 36.50	91578A833	.99	50 38.50
4 1/2"	2 3/4"	97799A280	11.67	10 92.10	92188A144	6.12	10 43.10	—	—	— —	91578A835	1.23	50 47.00
5 1/2"	3 5/8"	97799A250	11.53	10 91.10	92188A135	4.59	10 38.20	97110A230	2.27	25 45.50	91578A837	1.95	25 34.75
7"	4 3/8"	97799A260	14.00	4 44.20	92188A137	5.60	4 18.68	97110A240	2.87	25 57.50	91578A839	1.59	25 29.25
8 1/2"	2"	97799A270	30.63	4 103.68	92188A139	20.96	4 69.88	97110A250	3.87	10 31.00	91578A886•	3.44	10 26.80
5/8" Diameter — *Thread: 5/8"-11; Washer OD: 1 1/4" to 1 13/16" (Drill Size 5/8")*													
3 1/2"	1 3/8"	97799A290	13.83	10 110.60	92188A146	8.38	10 70.90	97110A260	3.16	10 25.20	91578A842	1.80	25 32.75
4 1/2"	2"	97799A310	15.00	10 121.60	92188A148	8.80	10 73.20	97110A270	3.57	10 28.60	91578A844	1.95	25 35.75
5"	3"	97799A330	16.50	10 133.80	92188A157	10.67	10 88.80	97110A410	3.79	10 30.30	91578A846	2.01	25 35.50
6"	3 7/8"	97799A340	18.12	10 141.50	92188A155	11.91	10 99.20	97110A290	4.11	10 32.90	91578A848	3.52	10 25.70
7"	3 1/2"	97799A360	20.02	4 69.24	92188A151	11.59	4 39.24	97110A420	4.57	10 38.10	91578A851	4.06	10 29.70
8 1/2"	4 7/8"	97799A350	23.09	4 79.92	92188A159	19.16	4 66.28	97110A430	5.58	10 46.40	91578A853	4.57	10 33.40
10"	2"	97799A320	37.88	4 131.56	92188A153	25.22	4 85.40	97110A280	7.87	10 64.10	91578A889•	6.88	4 22.16
12"	2"	97799A370	39.97	4 138.84	92188A162	31.60	4 110.60	97110A440	10.51	4 35.00	91578A892•	7.93	4 25.36
3/4" Diameter — *Thread: 3/4"-10; Washer OD: 1 7/16" to 2 1/16" (Drill Size 3/4")*													
4 1/4"	1 3/4"	97799A440	20.80	4 72.80	92188A168	10.93	4 36.40	97110A450	4.75	10 39.50	91578A855	2.90	20 46.60
4 3/4"	2 1/4"	97799A450	18.76	4 66.88	92188A171	11.26	4 38.28	97110A520	5.07	10 42.20	91578A857	2.94	20 50.20
5 1/2"	3"	97799A380	21.82	4 76.36	92188A164	12.72	4 43.08	97110A460	5.55	10 46.20	91578A859	3.13	20 50.00
6 1/4"	3 5/8"	97799A460	24.54	4 85.92	92188A175	13.21	4 44.88	97110A530	6.01	10 50.00	91578A862	4.38	10 35.30
7"	4 3/8"	97799A390	35.57	4 124.48	92188A166	16.75	4 53.60	97110A470	6.64	10 55.30	91578A864	4.86	10 39.10
8 1/2"	2 1/4"	97799A410	39.66	4 138.80	92188A173	19.29	4 65.60	97110A480	8.02	4 26.68	91578A866	4.48	10 35.00
10"	2 1/4"	97799A420	50.29	4 176.00	92188A177	27.68	4 94.08	97110A490	10.11	4 33.68	91578A894•	7.65	4 26.28
12"	2 1/4"	97799A430	51.43	4 180.00	92188A179	42.46	4 148.60	97110A510	12.29	4 40.60	91578A868	9.62	4 30.96
7/8" Diameter — *Thread: 7/8"-9; Washer OD: 1 3/4" to 2 5/16" (Drill Size 7/8")*													
6"	2 1/8"	97799A470	64.06	4 221.64	92188A182	39.41	4 134.00	97110A540	11.92	4 39.72	91578A871	6.12	10 49.30
8"	2 1/8"	97799A480	70.31	4 243.24	92188A184	31.51	4 107.12	97110A550	14.33	4 47.72	91578A873	10.19	4 32.80
10"	2 1/8"	97799A490	76.56	4 264.88	92188A186	53.34	4 186.68	97110A560	16.89	4 56.24	91578A877	11.97	4 38.52
1" Diameter — *Thread: 1"-8; Washer OD: 1 15/16" to 2 9/16" (Drill Size 1")*													
6"	2 1/4"	97799A520	78.12	4 270.28	92188A188	35.64	4 124.72	97110A570	12.34	4 41.68	91578A896•	10.15	4 33.28
9"	2 1/4"	97799A530	93.75	4 324.32	92188A191	39.47	4 138.12	97110A580	16.07	4 54.28	91578A898•	13.41	4 44.00
12"	2 1/4"	97799A540	99.74	4 345.96	92188A193	55.60	4 194.60	97110A590	18.95	4 63.16	91578A879	12.94	4 42.44
1 1/4" Diameter — *Thread: 1 1/4"-7; Washer OD: 2 7/16" to 3 1/16" (Drill Size 1 1/4")*													
9"	2 3/4"	97799A550	158.63	4 555.20	—	—	— —	97110A610	29.89	4 104.44	91578A882	16.75	4 60.48
12"	2 3/4"	—	—	— —	—	—	— —	97110A620	34.77	4 121.48	91578A884	22.63	4 81.52

• Not ICC listed.

Grade 5 Steel

Lg.	Min. Thread Lg.		Each	Pkg. Qty.
1/4" Diameter — *Thread: 1/4"-20; Washer OD: 5/8" (Drill Size 1/4")*				
1 3/4"	7/8"	98880A100	$0.84	50 $33.50
2 1/4"	1 3/8"	98880A200	.98	50 39.50
3 1/4"	2 1/4"	98880A300	1.22	50 49.50
3/8" Diameter — *Thread: 3/8"-16; Washer OD: 13/16" (Drill Size 3/8")*				
2 1/4"	1 3/16"	98880A400	1.56	50 62.00
3"	1 7/8"	98880A500	1.70	50 67.50
3 3/4"	2 5/8"	98880A600	1.84	50 73.00
5"	4"	98880A700	1.93	50 80.00
1/2" Diameter — *Thread: 1/2"-13; Washer OD: 1 1/16" (Drill Size 1/2")*				
2 3/4"	1 1/2"	98880A800	2.18	25 43.50
4 1/4"	3"	98880A900	2.31	25 46.00
5 1/2"	4"	98880A160	2.89	25 58.00
7"	1 1/4"	98880A170	3.43	25 68.75

Lg.	Min. Thread Lg.		Each	Pkg. Qty.
5/8" Diameter — *Thread: 5/8"-11; Washer OD: 1 5/16" (Drill Size 5/8")*				
3 1/2"	1 5/8"	98880A180	$3.74	10 $29.90
4 1/2"	2 5/8"	98880A190	3.94	10 31.40
5"	3 1/4"	98880A320	4.08	10 32.70
6"	4 1/8"	98880A340	4.62	10 37.00
8 1/2"	1 1/2"	98880A360	7.28	10 58.30
3/4" Diameter — *Thread: 3/4"-10; Washer OD: 1 7/16" (Drill Size 3/4")*				
4 1/4"	2 3/8"	98880A380	5.00	10 40.10
5 1/2"	3 5/8"	98880A390	5.92	10 47.40
6 1/4"	4 1/4"	98880A440	7.32	10 58.60
7"	2"	98880A460	8.30	10 66.50
8 1/2"	2"	98880A480	9.71	10 77.60
10"	2"	98880A520	11.79	10 98.30

(Continued on following page)

Warning! ***Allowable pull-out and shear strength are 25% of ultimate values or less, as req'd by building authorities.***

Stud Anchors for Concrete *(Continued from previous page)*

Grade 5 Steel (Cont.)

Lg.	Min. Thread Lg.		Each	Pkg. Qty.	
7/8" Diameter *—Thread: 7/8"-9; Washer OD: 1 3/4" (Drill Size 7/8")*					
6"	2 1/4"	98880A550	$12.04	10	$100.40
8"	2 1/4"	98880A220	16.23	4	51.76
10"	2 1/4"	98880A910	19.28	4	61.72
1" Diameter *—Thread: 1"-8; Washer OD: 2" (Drill Size 1")*					
6"	2 1/4"	98880A920	$16.23	4	$51.76
9"	2 1/4"	98880A930	23.03	4	73.48

Vibration-Resistant Stud Anchors for Concrete

The original wedge anchors—all have two locking wedges that keep fixtures solidly in place and won't shake loose. To install, insert the anchor into a hole and tighten the nut. Anchors are made of zinc-plated steel and include a washer and nut. All are class 2A thread fit. They are not reusable. Ultimate pull-out and shear strength are based on 4,000 psi concrete. Ultimate shear strength is the force the side of an anchor can withstand before breaking.

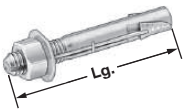

Lg.	Min. Install. Dp.	Thread Lg.	Ultimate Strength, lbs. Pull Out	Shear	Pkg. Qty.		Pkg.
1/4" Dia. *—Thread: 1/4"-20; Washer OD: 5/8" (Drill Size 1/4")*							
1 3/4"	1 1/8"	1/2"	1,500	2,000	6	94475A125	$7.72
2 3/4"	1 1/8"	1/2"	1,500	2,000	6	94475A143	8.83
3"	1 1/8"	1/2"	1,500	2,000	6	94475A166	9.12
5/16" Dia. *—Thread: 5/16"-18; Washer OD: 11/16" (Drill Size 5/16")*							
2"	1 1/4"	5/8"	2,400	2,100	6	94475A185	8.63
3"	1 1/4"	5/8"	2,400	2,100	4	94475A197	6.52
3/8" Dia. *—Thread: 3/8"-16; Washer OD: 13/16" (Drill Size 3/8")*							
2"	1 1/2"	3/4"	3,300	4,700	4	94475A214	6.84
2 3/4"	1 1/2"	3/4"	3,300	4,700	4	94475A223	7.67
3 1/2"	1 1/2"	3/4"	3,300	4,700	4	94475A246	8.74
5"	1 1/2"	3/4"	3,300	4,700	2	94475A248	5.23
6"	1 1/2"	3/4"	3,300	4,700	2	94475A250	5.84
1/2" Dia. *—Thread: 1/2"-13; Washer OD: 1 1/16" (Drill Size 1/2")*							
2 3/4"	2 1/4"	1"	4,600	8,900	4	94475A255	10.55
3 1/2"	2 1/4"	1"	4,600	8,900	2	94475A263	5.89
5"	2 1/4"	1"	4,600	8,900	1	94475A279	3.66
6"	2 1/4"	1"	4,600	8,900	1	94475A281	4.05
7"	2 1/4"	1"	4,600	8,900	1	94475A283	4.51
5/8" Dia. *—Thread: 5/8"-11; Washer OD: 1 5/16" (Drill Size 5/8")*							
3 1/2"	3"	1 1/4"	10,100	13,100	1	94475A285	$3.96
4 1/2"	3 1/2"	1 1/4"	10,100	13,100	1	94475A286	4.48
5"	3 1/2"	1 1/4"	10,100	13,100	1	94475A287	4.84
6"	3 1/2"	1 1/4"	10,100	13,100	1	94475A289	5.51
7"	3 1/2"	1 1/4"	10,100	13,100	1	94475A295	6.04
3/4" Dia. *—Thread: 3/4"-10; Washer OD: 1 1/2" (Drill Size 3/4")*							
4"	3"	1 1/2"	15,400	18,200	1	94475A310	6.68
5"	3"	1 1/2"	15,400	18,200	1	94475A312	7.24
6"	3"	1 1/2"	15,400	18,200	1	94475A314	7.99
7"	3"	1 1/2"	15,400	18,200	1	94475A317	8.52
8 1/2"	3"	1 1/2"	15,400	18,200	1	94475A319	10.11
10"	3"	1 1/2"	15,400	18,200	1	94475A321	11.26
1" Dia. *—Thread: 1"-8; Washer OD: 2" (Drill Size 1")*							
10"	5 1/2"	2"	21,500	—	1	94475A335	21.58

Stud Anchors for Concrete, Block, and Brick

Count on these anchors for secure, permanent holding power in a variety of applications. Also known as sleeve anchors, they provide a threaded stud when installed. Use them to hold steel, wood panels, doors, framing, and shelving to concrete. To install, drive the anchor into a hole, then tighten the bolt to expand the end. They are not removable. Ultimate pull-out and shear strength are based on 4,000 psi concrete. Ultimate shear strength is the force the side of an anchor can withstand before breaking.

Anchors with hex or acorn nut include a washer.

Anchors with removable flat head sit flush when installed. Unscrew the combination head to reveal the threaded stud.

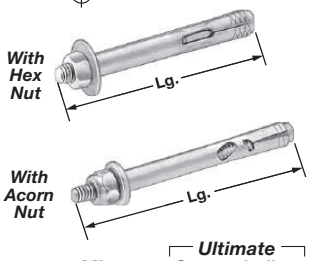

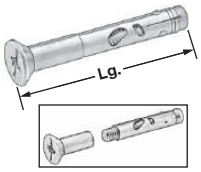

With Removable Flat Head

Lg.	Min. Install. Dp.	Ultimate Strength, lbs. Pull Out	Shear	Pkg. Qty.		Pkg.
With Hex Nut *—18-8 Stainless Steel*						
5/16" Dia. *—Thread: 1/4"-20; Washer OD: 11/16" (Drill Size 5/16")*						
1 7/8"	1 1/8"	1,900	1,700	5	96892A231	$13.64
2 3/4"	1 1/8"	1,900	1,700	1	96892A244	3.55
3/8" Dia. *—Thread: 5/16"-18; Washer OD: 7/8" (Drill Size 3/8")*						
2 1/8"	1 1/4"	3,000	2,100	1	96892A258	3.30
3 1/4"	1 1/4"	3,000	2,100	1	96892A274	3.56
1/2" Dia. *—Thread: 3/8"-16; Washer OD: 1" (Drill Size 1/2")*						
2 5/8"	1 1/2"	5,000	6,200	1	96892A287	6.62
4 1/2"	1 1/2"	5,000	6,200	1	96892A300	12.96
5/8" Dia. *—Thread: 1/2"-13; Washer OD: 1 1/4" (Drill Size 5/8")*						
5"	2"	6,100	8,500	1	96892A314	19.37
3/4" Dia. *—Thread: 5/8"-11; Washer OD: 1 3/4" (Drill Size 3/4")*						
3 3/8"	2"	9,000	12,500	1	96892A329	21.17
5"	2"	9,000	12,500	1	96892A343	25.48
With Hex Nut *—Zinc-Plated Steel*						
5/16" Dia. *—Thread: 1/4"-20; Washer OD: 5/8" (Drill Size 5/16")*						
1 7/8"	1 1/4"	1,500	2,300	25	97046A111	8.28
2 3/4"	1 1/4"	1,500	2,300	25	97046A112	11.14
3/8" Dia. *—Thread: 5/16"-18; Washer OD: 13/16" (Drill Size 3/8")*						
2 1/4"	1 5/8"	2,300	4,100	10	97046A113	7.55
3 3/8"	1 5/8"	2,300	4,100	10	97046A114	5.98
4 3/8"	1 5/8"	2,300	4,100	10	97046A115	7.34
1/2" Dia. *—Thread: 3/8"-16; Washer OD: 1" (Drill Size 1/2")*						
2 7/8"	2"	2,600	4,800	10	97046A116	12.86
3 3/8"	2"	2,600	4,800	10	97046A117	12.05
4 3/8"	2"	2,600	4,800	5	97046A118	7.79
5 3/4"	2"	2,600	4,800	5	97046A119	12.99
6 3/4"	2"	2,600	4,800	5	97046A121	10.85
With Hex Nut *—Zinc-Plated Steel (Cont.)*						
5/8" Dia. *—Thread: 1/2"-13; Washer OD: 1 3/8" (Drill Size 5/8")*						
3 1/4"	2"	5,100	4,800	10	97046A122	$11.67
3 3/4"	2"	5,100	4,800	10	97046A123	12.24
5"	2"	5,100	4,800	5	97046A124	9.19
6 1/4"	2"	5,100	4,800	5	97046A125	10.66
3/4" Dia. *—Thread: 5/8"-11; Washer OD: 1 3/4" (Drill Size 3/4")*						
3 5/8"	2 1/4"	7,000	11,000	5	97046A126	12.99
5 1/8"	2 1/4"	7,000	11,000	1	97046A127	2.47
7 1/8"	2 1/4"	7,000	11,000	1	97046A128	3.67
With Acorn Nut *—Zinc-Plated Steel*						
1/4" Dia. *—Thread: 10-24; Washer OD: 1/2" (Drill Size 1/4")*						
1 1/8"	1/2"	650	1,000	25	97046A129	11.90
1 5/8"	1/2"	650	1,000	10	97046A131	9.35
2 5/8"	1/2"	650	1,000	10	97046A132	6.09
With Removable Flat Head *—Zinc-Plated Steel*						
1/4" Dia. *—Thread: 10-24; (Drill Size 1/4")*						
1 1/2"	5/8"	650	1,000	25	97480A141	9.61
2 1/4"	5/8"	650	1,000	25	97480A142	10.14
3"	5/8"	650	1,000	25	97480A143	11.04
4"	5/8"	650	1,000	25	97480A144	15.00
5 1/4"	5/8"	650	1,000	10	97480A145	9.71
5/16" Dia. *—Thread: 1/4"-20; (Drill Size 5/16")*						
2 1/2"	1 1/4"	1,500	2,300	10	97480A146	6.98
3/8" Dia. *—Thread: 5/16"-18; (Drill Size 3/8")*						
2 3/4"	1 5/8"	2,300	4,100	10	97480A148	8.15
4"	1 5/8"	2,300	4,100	10	97480A149	10.44
5"	1 5/8"	2,300	4,100	10	97480A151	12.09
6"	1 5/8"	2,300	4,100	10	97480A152	12.63

Warning! ***Allowable pull-out and shear strength are 25% of ultimate values or less, as req'd by building authorities.***

Removable-Bolt Anchors for Concrete



Anchor


Expander Nut

Turn the bolt to expand the nut for a powerful friction grip. The bolt can then be removed and used in another hole along with a replacement expander nut (sold separately). Also known as taper bolt anchors. To install, thread the nut on the tapered bolt and insert into a hole. Can also be used in stone. Bolts are Grade 5 zinc-plated steel; nuts are zinc alloy. Ultimate pull-out and shear strength are based on tests in 3,000 psi concrete. Ultimate shear strength is the force the side of an anchor can withstand before breaking.

Anchors

Lg.	Min. Install. Dp.	Ultimate Strength, lbs. Pull Out	Shear		Each	Pkg. Qty.	
3/8" Dia.— *Head Width: 9/16" (Drill Size 3/8")*							
2 1/4"	1 7/8"	4,000	7,100	92914A611	$2.07	50	$86.50
2 5/8"	1 7/8"	4,000	7,100	92914A621	2.26	50	94.00
3"	1 7/8"	4,000	7,100	92914A631	2.63	25	52.25
4"	1 7/8"	4,000	7,100	92914A641	3.19	25	63.75
1/2" Dia.— *Head Width: 3/4" (Drill Size 1/2")*							
2 7/8"	2 3/8"	8,100	12,100	92914A411	3.20	25	64.00
4"	2 3/8"	8,100	12,100	92914A421	3.83	25	76.50
5"	2 3/8"	8,100	12,100	92914A431	4.76	20	76.20
5/8" Dia.— *Head Width: 15/16" (Drill Size 5/8")*							
3 1/2"	2 7/8"	9,900	17,000	92914A441	$6.24	20	$99.80
4 1/2"	2 7/8"	9,900	17,000	92914A451	7.75	10	61.90
3/4" Dia.— *Head Width: 1 1/8" (Drill Size 3/4")*							
4 1/8"	3 3/8"	11,900	27,500	92914A461	8.05	20	128.80
5 1/2"	3 3/8"	11,900	27,500	92914A471	8.44	10	75.90
8"	3 3/8"	11,900	27,500	92914A481	15.12	10	136.10
1" Dia.— *Head Width: 1 1/2" (Drill Size 1")*							
5 5/8"	4 5/8"	28,000	36,000	92914A751	20.53	10	184.80
7 1/4"	4 5/8"	28,000	36,000	92914A760	20.02	—	—

Replacement Expander Nuts

For Anchor Dia.	Thread Size	Lg.	Pkg. Qty.		Pkg.
3/8"	3/8"	1 1/16"	10	92914A580	$8.58
1/2"	1/2"	1"	10	92914A530	10.48
5/8"	5/8"	1 1/16"	10	92914A540	10.12
3/4"	3/4"	1 1/8"	5	92914A550	7.92
1"	1"	1 5/8"	4	92914A560	12.17

Removable-Bolt Anchors for Concrete, Solid Block, and Brick

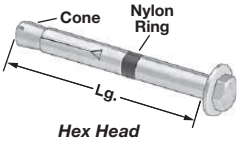

Hex Head



Flat Head

Also known as sleeve anchors, an expanding cone provides extra grip inside the hole. The bolt can be removed and reused in the same anchor hole. Anchors are stronger and more vibration resistant than stud anchors. To install, tap the anchor into a hole and tighten the bolt to expand the sleeve. As you tighten, the nylon ring compresses to secure the fixture against the base material. Ultimate pull-out and shear strength are based on tests in 4,000 psi concrete. Ultimate shear strength is the force the side of an anchor can withstand before breaking. ***Grade 5 zinc-plated steel*** anchors are UL listed.

Lg.	Min. Install. Dp.	Ultimate Strength, lbs. Pull Out	Shear		Each	Pkg. Qty.	
18-8 Stainless Steel— *Hex Head*							
1/4" Dia.— *Thread: 10-24; Head Width: 5/16"; Washer OD: 1/2" (Drill Size 1/4")*							
1 3/4"	1 1/4"	1,500	2,100	92405A101	$5.68	4	$19.80
3"	1 1/4"	1,500	2,100	92405A103	7.53	4	26.24
3/8" Dia.— *Thread: 5/16"-18; Head Width: 1/2"; Washer OD: 13/16" (Drill Size 3/8")*							
2 1/4"	2"	4,500	6,400	92405A105	6.63	4	23.08
3 1/2"	2"	4,500	6,400	92405A107	8.81	4	30.68
4"	2"	4,500	6,400	92405A109	9.91	4	34.52
1/2" Dia.— *Thread: 3/8"-16; Head Width: 9/16"; Washer OD: 1" (Drill Size 1/2")*							
2 3/4"	2 1/2"	6,500	8,200	92405A112	12.69	4	44.20
4 3/4"	2 1/2"	6,500	8,200	92405A114	17.03	4	59.32

Lg.	Min. Install. Dp.	Ultimate Strength, lbs. Pull Out	Shear		Each	Pkg. Qty.	
Grade 5 Zinc-Plated Steel— *Flat Head*							
3/8" Dia.— *Thread: 5/16"-18 (Drill Size 3/8"; Hex Key Size 7/32")*							
3 3/4"	2"	4,500	6,400	92403A813	$4.13	10	$34.20
5"	2"	4,500	6,400	92403A815	4.90	10	40.90
6"	2"	4,500	6,400	92403A816	5.15	10	42.90
1/2" Dia.— *Thread: 3/8"-16 (Drill Size 1/2"; Hex Key Size 5/16")*							
5"	2 1/2"	6,500	8,200	92403A811	5.41	10	45.10
5/8" Dia.— *Thread: 1/2"-13 (Drill Size 5/8"; Hex Key Size 3/8")*							
5 1/2"	2 3/4"	7,700	11,900	92403A812	8.77	4	29.20

Heavy Duty Screws for Concrete and Block

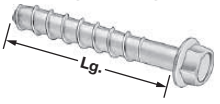

Serrated threads cut into masonry for easy insertion and holding strength along the entire length of the bolt. Install in a hole using a standard bit or a socket wrench. Anchors are zinc-plated steel and have a hex-washer head. Can be removed. Ultimate pull-out and shear strength are based on tests in 4,000 psi concrete. Ultimate shear strength is the force the side of an anchor can withstand before breaking.

Lg.	Min. Install. Dp.	Thread Lg.	Ultimate Strength, lbs. Pull Out	Shear	Pkg. Qty.		Pkg.
3/8" Dia.— *Head Width: 9/16" (Drill Size: 5/16")*							
3"	1 1/2"	2 5/8"	490	850	10	99795A101	$17.22
4"	1 1/2"	3 5/8"	490	850	4	99795A102	8.25
5"	1 1/2"	3 5/8"	490	850	4	99795A104	9.04
1/2" Dia.— *Head Width: 3/4" (Drill Size: 7/16")*							
3"	2 1/2"	2 3/4"	1,000	1,800	4	99795A105	10.86
4"	2 1/2"	3 3/4"	1,000	1,800	4	99795A106	12.97
5"	2 1/2"	4 3/4"	1,000	1,800	4	99795A108	14.10
6"	2 1/2"	5 3/4"	1,000	1,800	4	99795A109	20.38

Lg.	Min. Install. Dp.	Thread Lg.	Ultimate Strength, lbs. Pull Out	Shear	Pkg. Qty.		Pkg.
5/8" Dia.— *Head Width: 13/16" (Drill Size: 1/2")*							
4"	2 3/4"	3 1/2"	1,900	3,300	1	99795A112	$5.84
5"	2 3/4"	4 1/2"	1,900	3,300	1	99795A113	6.50
6"	2 3/4"	5 1/2"	1,900	3,300	1	99795A114	7.12
3/4" Dia.— *Head Width: 15/16" (Drill Size: 5/8")*							
4 1/2"	3 1/4"	3 7/8"	3,100	3,500	1	99795A115	6.88
5 1/2"	3 1/4"	4 5/8"	3,100	3,500	1	99795A116	7.68
6 1/4"	3 1/4"	4 5/8"	3,100	3,500	1	99795A117	8.77

Warning! ***Allowable pull-out and shear strength are 25% of ultimate values or less, as req'd by building authorities.***

Screws for Concrete and Block



Hex-Washer Head Slotted



Flat Head Phillips



Installation Tools 90161A310

Drive these self-tapping screws into a hole with a hammer drill or socket wrench, or use one of the specialized tools (sold separately). Screws are removable.

Ultimate pull-out and shear strength are based on tests with minimum installation depth of 1″ in 3,000 psi concrete, except for 5/16″ dia. silver-coated steel, which is based on 3,500 psi concrete. Ultimate shear strength is the force the side of an anchor can withstand before breaking.

Hex-Washer Head Slotted Screws—Head width is 5/16″ for 1/4″ and 5/16″ dia. and 1/4″ for 3/16″ dia.

Flat Head Phillips Screws—Head width is 1/2″ for 1/4″ dia.; 3/8″ for 3/16″ dia.; and 9/16″ for 5/16″ dia.

Blue- and ***silver-coated*** screws can also be used in wood. They are made of hardened steel and resist 700 hours of salt spray. ***Blue-coated*** screws are also known as Tapcons.

Screws and Drill Bits

		SCREWS				DRILL BITS			
		Hex-Washer Head Slotted		Flat Head Phillips		Hammer Drill Bits		Rotary Hammer SDS-Plus Drill Bits	
Lg.	Pkg. Qty.		Pkg.		Pkg.		Each		Each
18-8 Stainless Steel									
1/4″ Dia.—*Ultimate Pull-Out Strength: 600 lbs.; Shear Strength: 600 lbs. (Drill Size 3/16″)*									
1 1/4″	10	90950A110●	$9.33	90950A210	$8.04	90950A480	$9.08	90950A580	$12.37
1 3/4″	10	90950A112●	10.09	90950A212	8.07	90950A480	9.08	90950A580	12.37
2 1/4″	10	90950A114●	10.34	90950A214	8.13	90950A490	9.59	90950A580	12.37
2 3/4″	10	90950A116●	10.89	90950A216	12.15	90950A490	9.59	90950A580	12.37
Blue-Coated Steel									
3/16″ Dia.—*Ultimate Pull-Out Strength: 400 lbs.; Shear Strength: 600 lbs. (Drill Size 5/32″)*									
1 1/4″	50	90161A512	8.01	90161A612	8.27	90161A712	3.63	90161A120	9.97
1 3/4″	50	90161A525	9.21	90161A625	9.02	90161A712	3.63	90161A120	9.97
2 1/4″	50	90161A101	11.88	90161A627	9.80	90161A713	3.98	90161A125	12.72
2 3/4″	50	90161A529	12.43	90161A102	11.64	90161A713	3.98	90161A125	12.72
3 1/4″	25	90161A531	9.69	90161A631	8.23	90161A718	4.36	90161A125	12.72
3 3/4″	25	—	—	90161A633	9.28	90161A718	4.36	90161A125	12.72
4″	25	90161A535	10.29	—	—	90161A718	4.36	—	—
1/4″ Dia.—*Ultimate Pull-Out Strength: 600 lbs.; Shear Strength: 600 lbs. (Drill Size 3/16″)*									
1 1/4″	50	90161A544	10.61	90161A644	13.33	90161A714	3.91	90161A240	12.11
1 3/4″	50	90161A548	12.40	90161A648	12.44	90161A714	3.91	90161A240	12.11
2 1/4″	50	90161A551	14.47	90161A651	14.13	90161A715	4.32	90161A250	16.08
2 3/4″	25	90161A553	8.41	90161A653	8.22	90161A715	4.32	90161A250	16.08
3 1/4″	25	90161A555	10.61	90161A655	11.21	90161A719	4.64	90161A250	16.08
3 3/4″	25	90161A557	14.72	90161A657	14.41	90161A719	4.64	90161A250	16.08
4″	25	90161A559	15.60	90161A659	15.26	90161A719	4.64	—	—
5″	10	90161A564	11.20	90161A665	11.13	90161A723	6.22	—	—
6″	10	90161A568	14.71	90161A103	13.13	90161A728	7.51	—	—
Silver-Coated Steel									
3/16″ Dia.—*Ultimate Pull-Out Strength: 400 lbs.; Shear Strength: 600 lbs. (Drill Size 5/32″)*									
1 1/4″	50	—	—	90161A305	9.63	90161A712	3.63	90161A120	9.97
1 3/4″	50	—	—	90161A309	10.44	90161A712	3.63	90161A120	9.97
2 1/4″	50	—	—	90161A314	11.27	90161A713	3.98	90161A125	12.72
1/4″ Dia.—*Ultimate Pull-Out Strength: 600 lbs.; Shear Strength: 600 lbs. (Drill Size 3/16″)*									
1 3/4″	25	90161A109●	8.36	—	—	90161A714	3.91	90161A240	12.11
2 1/4″	25	90161A112●	9.42	—	—	90161A715	4.32	90161A250	16.08
5/16″ Dia.—*Ultimate Pull-Out Strength: 700 lbs.; Shear Strength: 850 lbs. (Drill Size 1/4″)*									
2 1/4″	25	90161A381●	7.96	90161A395	8.04	90161A751	4.50	90161A131	11.73
2 3/4″	25	90161A385●	8.73	90161A398	8.86	90161A751	4.50	90161A131	11.73

●Head is not slotted.

Optional Installation Tools

For 3/16″ and 1/4″ Dia. Hex-Washer Head Slotted and Flat Head Phillips Screws—For screws of all lengths. Use with 3/8″ and 1/2″ hammer drills or SDS-Plus drive rotary hammer drills. Comes with a drill adapter, drive sleeve, two hex sockets, a Phillips socket, and a hex key. Drill bits sold separately.

90161A104 ..... $74.36

For 1/4″ Dia. Hex-Washer Head Slotted Screws—For 1/4″ dia. hex-washer screws in 1 1/4″ and 1 3/4″ lengths. Use with 3/8″ and 1/2″ hammer drills. Includes a drive sleeve, 3/16″×3 1/2″ hammer drill bit, and a hex key. To use with SDS-Plus drive rotary hammer drills, order the SDS-Plus drill bit 90161A240 sold separately.

90161A310 ..... $32.63

For 5/16″ Dia. Hex-Washer Head Slotted and Flat Head Phillips Screws—For screws of all lengths. Use with 3/8″ and 1/2″ hammer drills or standard SDS-Max drive rotary hammer drills. Comes with a drill adapter, drive sleeve, Phillips bit, and a hex key. Drill bits sold separately.

90161A510 ..... $71.96

Installation Tool Kits with Screws

Kits contain 50 each of 1/4″×1 1/4″, 1/4″×1 3/4″, 1/4″×2 1/4″, and 1/4″×2 3/4″ hex-washer head slotted blue-coated steel screws and a drill bit. Come in a plastic case.

Kit for 3/8″ and 1/2″ Hammer Drills

90161A114 ..... $63.64

Kit for SDS-Plus Drive Rotary Hammer Drills

90161A115 ..... $63.64

High-Strength Drive Anchors for Concrete

Anchors are one piece and compress when driven in, expanding inside a hole for a forceful grip. All have a round head. Can also be used in solid block. They are not reusable. Ultimate pull-out and shear strength are based on tests in 4,000 psi concrete. Ultimate shear strength is the force the side of an anchor can withstand before breaking.

Type 316 stainless steel anchors offer excellent corrosion resistance. They may be mildly magnetic. ***Zinc-plated steel*** anchors are UL listed and FM approved.



Type 316 Stainless Steel



Zinc-Plated Steel

		Ultimate Strength, lbs.			
	Min. Install.	Pull		Pkg.	
Lg.	Dp.	Out	Shear	Qty.	Pkg.
Type 316 Stainless Steel					
3/16″ Dia.—*Head Dia.: 7/16″; Head Ht.: 7/64″ (Drill Size 3/16″)*					
1″	7/8″	850	1,200	10	97073A800 ... $10.75
1 1/2″	7/8″	850	1,200	5	97073A820 ... 6.89
2″	7/8″	850	1,200	5	97073A830 ... 7.35
1/4″ Dia.—*Head Dia.: 1/2″; Head Ht.: 7/64″ (Drill Size 1/4″)*					
1 1/4″	7/8″	850	1,700	5	97073A840 ... 7.78
1 1/2″	7/8″	850	1,700	5	97073A850 ... 7.95
2″	7/8″	850	1,700	5	97073A860 ... 8.94
2 1/2″	7/8″	850	1,700	5	97073A870 ... 10.71
3″	7/8″	850	1,700	5	97073A880 ... 11.86

		Ultimate Strength, lbs.			
	Min. Install.	Pull		Pkg.	
Lg.	Dp.	Out	Shear	Qty.	Pkg.
Zinc-Plated Steel					
1/4″ Dia.—*Head Dia.: 1/2″; Head Ht.: 1/8″ (Drill Size 1/4″)*					
1 1/4″	1 1/8″	1,700	2,000	25	97073A544 ... $9.17
1 1/2″	1 1/8″	1,700	2,000	25	97073A546 ... 9.22
2″	1 1/8″	1,700	2,000	25	97073A550 ... 10.32
2 1/2″	1 1/8″	1,700	2,000	10	97073A552 ... 8.69
3/8″ Dia.—*Head Dia.: 3/4″; Head Ht.: 3/16″ (Drill Size 3/8″)*					
2″	1 7/8″	4,200	7,000	10	97073A620 ... 10.27
2 1/2″	1 7/8″	4,200	7,000	10	97073A634 ... 12.23
3 1/2″	1 7/8″	4,200	7,000	5	97073A638 ... 8.71
1/2″ Dia.—*Head Dia.: 1″; Head Ht.: 1/4″ (Drill Size 1/2″)*					
3″	2 5/8″	4,900	10,200	5	97073A720 ... 13.88

Warning! ***Allowable pull-out and shear strength are 25% of ultimate values or less, as req'd by building authorities.***

Plastic Drive Anchors for Concrete

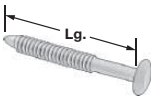

Also known as tap-in or uni-tap rivets, these anchors are barbed to resist pull out when fastening panels to concrete, hollow block, wood, and metal. To install, hammer into a hole that's slightly longer than the anchor.

Anchor diameter is 9/32"; head diameter is 5/8"; head height is 1/8". Drill size is 1/4" for masonry and 9/32" for wood and metal. Anchors are white nylon. Temperature range is –20° to +160° F. Not removable or reusable. Ultimate pull-out strength is 150 lbs. Ultimate shear strength is 220 lbs. Strengths are based on tests in 4,000 psi concrete. Ultimate shear strength is the force the side of an anchor can withstand before breaking.

Lg.	Min. Install. Depth	Pkg. Qty.		Pkg.
1"	1"	100	92410A411	$12.70
1 5/8"	1"	50	92410A412	10.51
2 1/8"	1"	50	92410A413	11.01
2 5/8"	1"	25	92410A414	8.63
3 1/8"	1"	25	92410A415	8.91

Heavy Duty Pin-Drive Anchors for Concrete and Solid Block

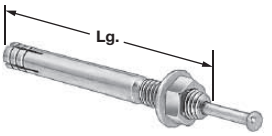

Stud Style

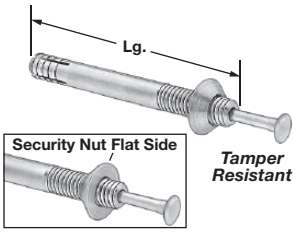

Tamper Resistant

Fasten panels with our strongest pin-drive anchors. To install, insert into a hole and hammer the pin to expand the end. When the pin is flush, the anchor is set. Not reusable. Ultimate pull-out and shear strength are based on tests in 4,000 psi concrete. Ultimate shear strength is the force the side of an anchor can withstand before breaking.

***Stud Style*—** Use to add a threaded stud above the surface. Can also be used in stone. Made of zinc yellow-chromate plated steel. Each anchor includes a hex nut with an integral washer and has a Class 2A thread fit.

***Tamper Resistant*—** Can also be used in brick, mortar, stone, and wood. A reversible security nut threads on to prevent removal. Turn the nut round side up for a domed look or countersink the nut flat side up for a flush surface. Made of steel.

Lg.	Thread Lg.	Min. Install. Depth	Ultimate Strength, lbs. Pull Out	Shear	Pkg. Qty.		Pkg.
Stud Style							
1/4" Dia.— *Thread: 1/4"-20; Washer OD: 9/16" (Drill Size 1/4")*							
1 3/4"	5/8"	1 1/8"	1,500	1,000	4	92960A105	$3.63
2 3/8"	3/4"	1 1/8"	1,500	1,000	4	92960A110	3.95
5/16" Dia.— *Thread: 5/16"-18; Washer OD: 11/16" (Drill Size 5/16")*							
2"	3/4"	1 1/2"	3,100	1,300	4	92960A115	4.45
2 3/4"	1"	1 1/2"	3,100	1,300	4	92960A120	4.89
3/8" Dia.— *Thread: 3/8"-16; Washer OD: 3/4" (Drill Size 3/8")*							
2 3/8"	1"	1 7/8"	3,300	3,500	4	92960A125	5.12
3 1/2"	1 1/8"	1 7/8"	3,300	3,500	4	92960A130	6.80
4 3/4"	1 3/8"	1 7/8"	3,300	3,500	4	92960A135	9.07
1/2" Dia.— *Thread: 1/2"-13; Washer OD: 15/16" (Drill Size 1/2")*							
2 3/4"	1"	2 1/2"	5,600	4,900	4	92960A140	9.10
3 1/2"	1 1/8"	2 1/2"	5,600	4,900	4	92960A145	10.36
4 3/4"	1 3/8"	2 1/2"	5,600	4,900	4	92960A150	12.94
6"	1 1/2"	2 1/2"	5,600	4,900	1	92960A155	4.98
5/8" Dia.— *Thread: 5/8"-11; Washer OD: 15/16" (Drill Size 5/8")*							
4"	1 1/2"	2 3/4"	7,700	9,200	1	92960A160	4.31
6"	1 1/2"	2 3/4"	7,700	9,200	1	92960A170	6.08
Tamper Resistant							
1/4" Dia.— *(Drill Size 1/4")*							
1 3/4"	5/8"	1"	1,300	1,600	10	99080A120	12.17
2 3/8"	3/4"	1"	1,300	1,600	4	99080A140	8.51
3/8" Dia.— *(Drill Size 3/8")*							
2 3/8"	1"	1 1/2"	3,400	3,400	4	99080A360	10.17
3 1/2"	1 1/8"	1 1/2"	3,400	3,400	5	99080A390	10.50

Pin-Drive Anchors

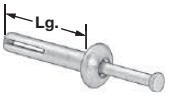

Domed Head

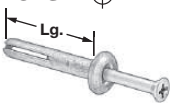

Domed Head and Removable Screw

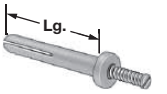

Flat Head

Also known as drive rivets, the body flares out to hold securely. To install, hammer the pin or screw into the body. To remove *domed head* and *flat head* anchors, pry out the pin; for *domed head with removable screw*, unthread the screw. Anchors are not reusable or rated for pull out and shear strength.

***Aluminum*—** For thin steel and wood.

***Zinc*—** For concrete, block, and brick. FM approved.

***Nylon*—** For concrete, block, brick, stone, steel panels, wood, and drywall. Vibration resistant. Install in a hole slightly deeper than the anchor is long. Temperature range is –40° to +185° F.

Lg.	Matl. Thick. Range	Pin Matl.	Pkg. Qty.		Pkg.
Aluminum with Domed Head					
3/16" Dia.— *Head: Dia. 3/8"; Ht. 3/32" (Drill Size 13/64")*					
5/16"	3/32" - 5/32"	Aluminum	50	97510A499	$9.74
3/8"	5/32" - 7/32"	Aluminum	50	97510A500	9.74
7/16"	7/32" - 9/32"	Aluminum	50	97510A501	9.74
3/16" Dia.— *Head: Dia. 15/32"; Ht. 3/32" (Drill Size 3/16")*					
9/16"	11/32" - 13/32"	Aluminum	50	97086A505	11.13
11/16"	15/32" - 17/32"	Aluminum	50	97086A506	11.13
13/16"	19/32" - 21/32"	Aluminum	50	97086A508	11.12
1 3/16"	31/32" - 1 1/32"	Aluminum	25	97086A511	11.16
1/4" Dia.— *Head: Dia. 1/2"; Ht. 1/8" (Drill Size F)*					
3/8"	5/32" - 7/32"	Aluminum	50	97510A532	9.44
7/16"	7/32" - 9/32"	Aluminum	50	97510A533	7.89
9/16"	11/32" - 13/32"	Aluminum	25	97510A535	7.38
11/16"	15/32" - 17/32"	Aluminum	25	97510A537	7.38
13/16"	19/32" - 21/32"	Aluminum	25	97510A538	7.38
1/4" Dia.— *Head: Dia. 5/8"; Ht. 1/8" (Drill Size F)*					
11/16"	15/32" - 17/32"	Aluminum	25	97086A538	9.10
13/16"	19/32" - 21/32"	Aluminum	25	97086A540	9.32
15/16"	23/32" - 25/32"	Aluminum	10	97086A541	5.58
1 1/16"	27/32" - 29/32"	Aluminum	10	97086A542	6.28
1 3/16"	31/32" - 1 1/32"	Aluminum	10	97086A543	6.41
1 5/16"	1 3/32" - 1 5/32"	Aluminum	10	97086A544	7.10
1 9/16"	1 11/32" - 1 13/32"	Aluminum	10	97086A545	8.02

Lg.	Max. Matl. Thick.	Pin Matl.	Pkg. Qty.		Pkg.
Zinc with Domed Head					
3/16" Dia.— *Head: Dia. 7/16"; Ht. 7/64" (Drill Size 3/16")*					
7/8"	1/8"	Steel	100	97090A102	$10.04
1/4" Dia.— *Head: Dia. 9/16"; Ht. 9/64" (Drill Size 1/4")*					
3/4"	1/8"	Steel	50	97090A104	12.02
1"	3/8"	18-8 SS	25	97090A130	11.59
1"	3/8"	Steel	25	97090A106	10.82
1 1/4"	5/8"	18-8 SS	25	97090A135	12.19
1 1/4"	5/8"	Steel	25	97090A108	10.52
1 1/2"	7/8"	18-8 SS	10	97090A140	7.11
1 1/2"	7/8"	Steel	25	97090A110	10.89
2"	1 3/8"	18-8 SS	10	97090A145	7.31
2"	1 3/8"	Steel	25	97090A112	11.18
Zinc with Domed Head and Removable Screw					
1/4" Dia.— *Head: Dia. 9/16"; Ht. 5/32" (Drill Size 1/4")*					
3/4"	1/8"	Steel	50	97090A305	10.86
1"	3/8"	Steel	50	97090A310	11.59
1 1/4"	5/8"	Steel	25	97090A315	10.84
1 1/2"	7/8"	Steel	25	97090A320	9.84
2"	1 3/8"	Steel	25	97090A325	11.59
Nylon with Domed Head					
3/16" Dia.— *Head: Dia. 9/16"; Ht. 1/8" (Drill Size 3/16")*					
3/4"	3/4"	Zinc-Plated Steel	100	97066A017	9.87
1"	1"	Zinc-Plated Steel	100	97066A010	10.79
1/4" Dia.— *Head: Dia. 9/16"; Ht. 7/64" (Drill Size 1/4")*					
3/4"	3/4"	Acetal	100	97067A050	9.87
1"	1"	Acetal	100	97067A051	10.79
1 1/2"	1 1/2"	Acetal	100	97067A052	11.71
1/4" Dia.— *Head: Dia. 9/16"; Ht. 1/8" (Drill Size 1/4")*					
3/4"	3/4"	Zinc-Plated Steel	100	97066A013	10.34
1"	1"	Zinc-Plated Steel	100	97066A016	11.26
1 1/2"	1 1/2"	Zinc-Plated Steel	100	97066A043	12.18
Nylon with Flat Head					
3/16" Dia.— *Head: Dia. 7/16"; Ht. 1/8" (Drill Size 3/16")*					
1"	1"	Zinc-Plated Steel	100	97066A020	10.79
1/4" Dia.— *Head: Dia. 7/16"; Ht. 1/8" (Drill Size 1/4")*					
1"	1"	Zinc-Plated Steel	100	97066A026	11.26
1 1/2"	1 1/2"	Zinc-Plated Steel	100	97066A028	12.18

Warning! ***Allowable pull-out and shear strength are 25% of ultimate values or less, as req'd by building authorities.***

Internally Threaded Anchors for Concrete



Also known as drop-in anchors. Often used for overhead applications because the anchor's internal plug expands in four directions to hold it firmly inside the hole. To install, place the anchor into the hole, insert the required installation tool (sold separately on this page) into the anchor, and drive with a hammer until the thicker portion of the tool makes contact with the anchor. When installed, anchors sit flush with the surface.

UL listed and FM approved, except 97095A111. Ultimate pull-out and shear strength are based on tests in 4,000 psi concrete. Ultimate shear strength is the force the side of an anchor can withstand before breaking. Anchors have a Class 2B thread fit.

Type 316 stainless steel is more corrosion resistant than 18-8. It may be mildly magnetic.

18-8 stainless steel has excellent corrosion resistance and may be mildly magnetic.

Zinc-plated steel is coated for corrosion resistance.

Anchors

For Screw Size	Lg.	Min. Install. Depth	Drill Size	Ultimate Strength, lbs. Pull Out	Ultimate Strength, lbs. Shear	Type 316 Stainless Steel Pkg. Qty.	Type 316 Stainless Steel	Type 316 Stainless Steel Pkg.
1/4"-20	1"	1"	3/8"	1,840	1,960	1	97095A111	$3.71
3/8"-16	1 1/2"	1 1/2"	1/2"	3,960	4,160	1	97095A121	4.92
1/2"-13	2"	2"	5/8"	6,100	7,000	1	97095A131	8.36
5/8"-11	2 1/2"	2 1/2"	7/8"	8,680	11,080	1	97095A141	19.68
3/4"-10	3 1/8"	3"	1"	9,400	15,600	—	—	—

For Screw Size	Lg.	18-8 Stainless Steel Pkg. Qty.	18-8 Stainless Steel	18-8 Stainless Steel Pkg.	Zinc-Plated Steel Pkg. Qty.	Zinc-Plated Steel	Zinc-Plated Steel Pkg.
1/4"-20	1"	4	97082A150	$10.51	25	97083A290	$9.83
3/8"-16	1 1/2"	1	97082A031	4.37	10	97083A310	10.29
1/2"-13	2"	1	97082A033	6.74	10	97083A330	13.14
5/8"-11	2 1/2"	1	97082A035	17.83	4	97083A350	10.54
3/4"-10	3"	1	97082A036	25.89	1	97083A360	3.14

Installation Tools

For Screw Size	Lg.		
1/4"-20	4 1/2"	97077A110	$2.75
3/8"-16	5"	97077A120	4.05
1/2"-13	5 1/2"	97077A130	$5.28
5/8"-11	6"	97077A140	9.56
3/4"-10	6"	97077A150	$12.71

Variable-Depth Internally Threaded Anchors for Concrete

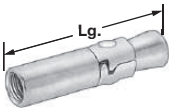

Also known as recessed wedge anchors, these zinc-plated steel fasteners can be installed to any depth greater than the installation depth.

To install, thread a nut, washer, and an anchor onto the end of a threaded rod (nut, washer, and rod not included). Use a hammer to drive the entire assembly into a hole. When the washer and nut are flush with the hole, tighten to ensure secure contact.

Ultimate pull-out strength is based on tests in 3,000 psi concrete. Anchors have a Class 2A thread fit.

For Screw Size	Lg.	Min. Install. Depth	Drill Size	Ultimate Pull-Out Strength, lbs.	Pkg. Qty.		Pkg.
3/8"-16	2 3/8"	1 5/8"	1/2"	3,400	4	97045A041	$12.11
1/2"-13	2 1/2"	2 1/4"	5/8"	5,400	2	97045A043	10.10

Internally Threaded Anchors for Concrete, Block, and Brick

All you need is a hammer—just tap into a drilled hole and position your fixture. Then insert a compatible threaded fastener (screw, rod, or lag screw not included) and tighten. Ultimate pull-out and shear strength are based on tests in 4,000 psi concrete. Ultimate shear strength is the force the side of an anchor can withstand before breaking.

Standard expansion anchors provide a reliable grip. Also known as double expansion anchors, when installed, each half makes full contact against the wall of the hole. For maximum expansion, the anchor should protrude slightly above the surface before threading the screw. Anchors are zinc and have a Class 2B thread fit.

Vibration resistant expansion anchors use the force of an interior nut to expand in four directions. Sometimes called four-way expansion anchors, they can also be used in stone. Anchors are zinc and have a Class 2B thread fit.

Hollow material anchors hold fast in hollow base materials, but perform well in solid materials, too. Install cone end first. Cone is zinc-plated steel; sleeve is zinc. All have a Class 2B thread fit. 3/8" to 5/8" dia. anchors are UL listed and FM approved.

Lag screw anchors have a slight taper that prevents spinning. Install flush or slightly below the surface. Designed for use with lag screws (not included, see pages 3022-3023). Each diameter is available in two lengths. The shorter length reduces drilling time; the longer length provides more strength. Made of zinc.

For Screw Size	Lg.	Min. Install. Depth	Drill Size	Ultimate Strength, lbs. Pull Out	Ultimate Strength, lbs. Shear	Pkg. Qty.		Pkg.
Standard Expansion								
1/4"-20	1 3/8"	1 1/4"	1/2"	900	1,100	10	97031A039	$9.13
5/16"-18	1 5/8"	1 1/2"	5/8"	1,500	2,000	10	97031A040	10.38
3/8"-16	2"	1 3/4"	3/4"	2,000	3,000	5	97031A041	13.32
1/2"-13	2 1/2"	2 1/4"	7/8"	3,500	4,300	1	97031A043	2.27
5/8"-11	2 3/4"	2 1/2"	1"	6,100	10,200	4	97031A045	12.79
3/4"-10	3 15/16"	3 1/2"	1 1/4"	8,100	13,300	1	97031A046	6.34
Vibration Resistant Expansion								
1/4"-20	1 1/4"	1 1/4"	1/2"	2,300	2,100	10	92915A110	12.70
5/16"-18	1 1/2"	1 1/2"	9/16"	2,600	3,300	10	92915A120	13.24
3/8"-16	1 3/4"	1 3/4"	11/16"	3,600	3,800	10	92915A130	14.83
1/2"-13	2 1/4"	2 1/4"	7/8"	5,100	8,100	4	92915A140	10.09
5/8"-11	2 5/8"	2 5/8"	1 1/8"	5,800	14,100	1	92915A150	4.58
3/4"-10	3 1/8"	3 1/8"	1 1/4"	9,800	15,300	1	92915A160	6.45
Hollow Material								
1/4"-20	7/8"	3/4"	3/8"	1,100	1,200	5	97016A972	8.21
5/16"-18	1 5/16"	1"	5/8"	1,600	1,900	5	97016A973	10.12
3/8"-16	1 5/16"	1"	5/8"	2,000	2,500	5	97016A974	10.15
1/2"-13	1 3/4"	1 1/2"	3/4"	4,000	4,000	1	97016A975	3.36
5/8"-11	2"	2 1/4"	1"	9,400	6,400	1	97016A976	7.93
Lag Screw								
1/4"	1"	1"	1/2"	250	1,000	10	97040A029	5.49
1/4"	1 1/2"	1 1/2"	1/2"	300	1,000	10	97039A029	6.72
5/16"	1 1/4"	1 1/4"	1/2"	500	1,100	10	97040A030	6.56
5/16"	1 3/4"	1 3/4"	1/2"	550	1,100	10	97039A030	6.74
3/8"	1 3/4"	1 3/4"	5/8"	850	1,400	10	97040A031	8.19
3/8"	2 1/2"	2 1/2"	5/8"	1,000	1,400	10	97039A031	10.00
1/2"	2"	2"	3/4"	1,100	1,600	5	97040A033	5.78
1/2"	3"	3"	3/4"	2,100	1,600	5	97039A033	10.13
5/8"	2"	2"	7/8"	1,200	2,200	4	97040A035	7.64
5/8"	3 1/2"	3 1/2"	7/8"	2,600	2,200	4	97039A035	10.52
3/4"	2"	2"	1"	1,500	2,400	4	97040A036	8.78
3/4"	3 1/2"	3 1/2"	1"	2,800	2,400	4	97039A036	14.38

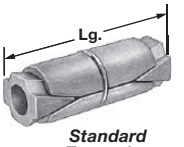

Standard Expansion

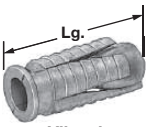

Vibration Resistant Expansion



Hollow Material

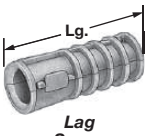

Lag Screw

Warning! ***Allowable pull-out and shear strength are 25% of ultimate values or less, as req'd by building authorities.***

Shallow Hole Internally Threaded Anchors for Concrete, Solid Block, and Brick



Shorter than other internally threaded anchors, these anchors hold on when there's not much material to hold. Also known as caulk-in and machine-bolt anchors, they consist of a lead sleeve around an internally threaded zinc cone. When installed, the cone expands the sleeve to hold it firmly inside the hole. To install, insert the anchor cone end first and use an installation tool (required, sold separately) to drive the sleeve over the cone. Then position your fixture, insert a screw or bolt (not included), and tighten. Ultimate pull-out and shear strength are based on tests in 4,000 psi concrete. Ultimate shear strength is the force the side of an anchor can withstand before breaking. Class 2B thread fit.

Standard Installation Tools— Use with a hammer to expand anchors. Made of zinc-plated steel.

Adjustable Shoulder Installation Tools— An adjustable shoulder acts as a stop so you can set your anchors at consistent depths. Use with a hammer. Made of hardened steel.

Quickset Installation Tools— The fastest and easiest way to install these anchors. Just insert the tip of the tool into the anchor and insert the cone end into the hole. Made of zinc-plated steel.

ANCHORS									INSTALLATION TOOLS					
				Ultimate Strength, lbs.					Standard			Adjustable Shoulder		
For Screw Size	Lg.	Min. Install. Depth	Drill Size	Pull Out	Shear	Pkg. Qty.		Pkg.	Lg.	Each		Open Lg.	Closed Lg.	Each
8-32	9/16"	1/2"	5/16"	350	350	25	97041A611	$12.82	2 15/16"	97020A111	$3.36			
10-24	3/4"	5/8"	3/8"	950	900	25	97041A612	10.43	3 1/4"	97020A112	2.45	2 1/4"	2"	97105A020 $62.79
1/4"-20	7/8"	7/8"	1/2"	1,500	1,400	25	97041A028	7.81	3 3/4"	97020A114	3.64	2 1/4"	2"	97105A040 60.10
5/16"-18	1"	1"	5/8"	1,900	2,000	10	97041A613	9.52	4 3/8"	97020A115	5.00			
3/8"-16	1 1/4"	1 1/4"	3/4"	2,400	3,300	5	97041A614	7.74	4 5/8"	97020A121	4.95	2 3/4"	2 1/4"	97105A060 91.06
1/2"-13	1 9/16"	1 1/2"	7/8"	3,400	4,500	5	97041A615	8.13	5"	97020A122	8.27			
5/8"-11	1 7/8"	2"	1 1/8"	3,900	6,300	1	97041A717	5.29	6 1/2"	97020A123	14.87			
3/4"-10	2"	2 1/2"	1 1/4"	5,600	7,700	1	97041A719	7.30	6 1/2"	97020A124	23.38			

QUICKSET INSTALLATION TOOLS

For Screw Size		Each	For Screw Size		Each	For Screw Size		Each
10-24	97041A505	$48.66	1/4"-20	97041A520	$46.46	3/8"-16	97041A535	$69.69

Light Duty Anchors for Concrete, Solid Block, and Brick


Conical


Finned


Flange Mount


Flush Mount


Tri-Lobe

Also known as plug anchors, use these anchors for light duty mounting in concrete, solid block, brick, and other materials as noted below. To install, drill a hole slightly deeper than the anchor is long and insert the anchor until it's flush with the surface. Next, thread a screw through your fixture and into the anchor, and tighten. To determine screw length, add the anchor length to the fixture thickness and choose a screw longer than this. For sheet metal screws, see pages 2997-3005; for wood screws, see pages 3018-3023. Not rated for shear strength.

Conical— Anchors expand and distort during screw installation to provide a high strength connection point. They're rustproof and can also be used in hollow block. Ultimate pull-out strength is based on tests in 4,000 psi concrete.

Finned— Large fins prevent rotation. Also called mungo anchors, these reliable anchors can also be used in hollow block and stone. Temperature range is –104° to +176° F. Ultimate pull-out strength is based on tests in solid brick.

Flange Mount and ***Flush Mount—*** All-purpose anchors split in half when a screw is inserted. They can also be used in hollow block and stone. Temperature range is –20° to +212° F. Ultimate pull-out strength is based on tests in 3,500 psi concrete.

Tri-Lobe— The lobed shape prevents twisting. Temperature range is 0° to 120° F. Ultimate pull-out strength is based on tests in 2,000 psi concrete.

Anchors

For Screw Size	Lg.	Drill Size	Ultimate Pull-Out Strength, lbs.	Pkg. Qty.		Pkg.
Conical— *Lead*						
No. 6-8	3/4"	1/4"	250	25	97026A015	$4.37
No. 6-8	1"	1/4"	250	25	97026A021	5.07
No. 6-8	1 1/2"	1/4"	400	25	97026A026	6.94
No. 10-14	1"	5/16"	600	25	97026A031	7.80
No. 10-14	1 1/2"	5/16"	800	10	97026A036	3.89
No. 16-18	1 1/2"	3/8"	1,000	25	97026A045	8.61
Finned— *Nylon; color is orange.*						
No. 4-6	1"	3/16"	250	100	97225A113	5.74
No. 8-10	1 3/16"	3/16"	400	100	97225A115	8.61
No. 10-12	1 1/2"	5/16"	700	100	97225A140	10.53
1/4" to 5/16"	2"	3/8"	850	50	97225A150	12.54
Flange Mount— *Polypropylene; color is off-white.*						
No. 4-9	1"	3/16"	500	50	97065A100	7.50
No. 6-12	1 3/16"	1/4"	650	50	97065A110	9.60
No. 8-14	1 5/8"	5/16"	1,000	25	97065A120	6.40
Flush Mount— *Polypropylene; color is off-white.*						
No. 4-9	15/16"	3/16"	500	50	97065A200	7.50
No. 6-12	1 1/8"	1/4"	650	50	97065A210	9.60
No. 8-14	1 9/16"	5/16"	1,000	25	97065A220	5.55

For Screw Size	Color	Lg.	Drill Size	Ultimate Pull-Out Strength, lbs.	Pkg. Qty.		Pkg.
Tri-Lobe— *PVC*							
No. 4	Yellow	1"	5/32"	160	100	95482A130	$2.31
No. 6	White	1"	3/16"	750	100	95482A131	2.52
No. 8	Red	1"	15/64"	900	100	95482A125	2.69
No. 10	Green	1"	1/4"	1,000	100	95482A132	3.17
No. 10	Green	1 1/2"	1/4"	1,500	100	95482A142	4.28
No. 10	Green	2"	1/4"	2,100	100	95482A143	5.36
No. 14, 1/4"	Blue	1"	5/16"	1,200	100	95482A144	4.24
No. 14, 1/4"	Blue	1 1/2"	5/16"	1,700	100	95482A145	5.56
No. 14, 1/4"	Blue	2"	5/16"	2,300	100	95482A133	6.21
No. 16, 5/16"	Orange	1 1/2"	3/8"	1,500	100	95482A134	6.69
No. 16, 5/16"	Orange	2 1/2"	3/8"	2,500	100	95482A135	9.66
No. 20, 3/8"	Gray	2"	7/16"	4,800	50	95482A138	10.96
No. 20, 3/8"	Gray	3"	7/16"	6,600	50	95482A139	11.44

Anchors with Screws

You'll get anchors and an equal number of pan head Phillips/slotted combination tapping screws. Tri-lobe anchors also include a drill bit. Packed in a plastic box.

Screw Size	Lg.	Color	Lg.	Drill Size	Ultimate Pull-Out Strength, lbs.	Pkg. Qty.		Pkg.
Flange Mount— *Polypropylene*								
No. 10	1 1/2"	Off-White	1 3/16"	1/4"	650	50	97065A400	$18.75
Tri-Lobe— *PVC*								
No. 6	1"	White	1"	3/16"	750	100	98612A010	7.41
No. 8	1"	Red	1"	15/64"	1,100	100	98612A015	9.28
No. 10	1"	Green	1"	1/4"	1,000	100	98612A020	9.66
No. 14	1 1/2"	Blue	1 1/2"	5/16"	1,700	50	98612A025	10.76

Warning! ***Allowable pull-out and shear strength are 25% of ultimate values or less, as req'd by building authorities.***

Anchors for Drywall

Tackle all kinds of light duty fastening with these plug-style anchors. Install anchors flush with the surface. Then, thread a screw through your fixture, into the anchor, and tighten. To determine screw length for all except self-drilling anchors, add the anchor length to the fixture thickness and choose a screw equal to or longer than this. For self-drilling anchors, choose a screw equal to or shorter than this. Not rated for shear strength.

Self Drilling—Use with sheet metal screws at least 1¼" long. Ultimate pull-out strength is 30 lbs. based on tests in ⅜" thick drywall. Temperature range for nylon is 30° to 170° F.

Conical—Can also be used in plaster and wood paneling. They have a ridged body with fins that prevent spinning during installation. Temperature range is 30° to 150° F. Pull-out strength is not rated.

Twist-Action—The twist-action creates a knot behind hollow materials, which holds the anchor in place. Also called polysets, they can also be used in wood. Temperature range is 14° to 120° F. Ultimate pull-out strength is 110 lbs. based on tests in ½" drywall.

Twist-Action Finned—Fins prevent anchors from spinning during installation. The twist-action creates a knot behind hollow materials, which holds the anchor in place. Temperature range is -104° to +176° F. Not rated for pull-out strength.

Toggle—Vibration resistant. Fins on the shaft prevent spinning during installation. Can also be used in plywood and paneling. Temperature range is -20° to +212° F. Ultimate pull-out strength is 120 lbs. based on the maximum wall thickness listed.

Hammer-In—Easy to install; just tap in like a nail. When you thread in a screw the anchor bends to hold against the wall. Not rated for temperature. Ultimate pull-out strength is 80 lbs. based on tests in ½" thick drywall.



Reusable Hammer-In and ***Reusable Drill-In Anchors—***Also called hollow wall and molly anchors. Once installed, the screw can be removed repeatedly without affecting the anchor. To install, tap the anchor into the base material, then turn the screw to expand it. Two prongs under the flange prevent the anchors from turning inside the hole. *Reusable drill-in* anchors require a drilled hole for installation; *reusable hammer-in* anchors do not. Can also be used in plaster and plywood. Ultimate pull-out strength is 80 lbs. based on tests in ⅜" drywall. For high volume tasks, take advantage of our optional installation tool—it doesn't require any twisting.

Anchors—For screws, see pages 2997-3005.

For Screw Size	Lg.	Drill Size	For Wall Thick.	Pkg. Qty.		Pkg.
Self Drilling—*Zinc*						
No. 6-8	1¼"	____	⅜"- ¾"	50	66615A3	$10.38
No. 8	1⅝"	____	⅜"- ¾"	50	66615A1	9.22
Self Drilling—*Nylon; color is off-white.*						
No. 6	1⅜"	____	⅜"- ⅝"	100	66615A7	10.30
No. 6-10	1⅝"	____	⅜"- ⅝"	50	66615A25	11.18
No. 8	1⅝"	____	⅜"- ¾"	50	66615A67	8.15
Conical—*Polyethylene; color is blue.*						
No. 4-8	¾"	3⁄16"	_____	100	97068A110	2.50
No. 6-10	⅞"	3⁄16"	_____	100	97068A120	2.61
No. 10-12	1"	¼"	_____	100	97068A130	4.28
No. 14-16	1⅜"	5⁄16"	_____	100	97068A140	5.80

For Screw Size	Lg.	Drill Size	For Wall Thick.	Pkg. Qty.		Pkg.
Twist-Action—*Polyethylene; color is red.*						
No. 6-8	1¼"	3⁄16"	⅜"- ¾"	100	90466A210	$7.46
No. 10-12	1⅜"	9⁄32"	½"-1"	100	90466A220	10.22
Twist-Action Finned—*Nylon; color is orange.*						
No. 8	1½"	¼"	_____	50	93370A400	10.65
No. 10-14	2"	5⁄16"	_____	50	93370A500	9.57
No. 14	2⅜"	⅜"	_____	25	93370A600	9.61
Toggle—*Polypropylene; color is off-white.*						
No. 6-14	1¼"	5⁄16"	⅜"- ½"	20	92392A230	7.88
No. 6-14	1⅜"	5⁄16"	⅝"- ¾"	20	92392A240	8.69
No. 6-14	1¾"	5⁄16"	1"	25	92392A250	9.54
No. 8-12	¾"	5⁄16"	⅛"- ¼"	20	92392A220	7.45

Anchors with Screws

Screw Size	Screw Lg.	Lg.	Drill Size	For Wall Thick.	Pkg. Qty.		Pkg.
Self Drilling—*Zinc*							
No. 8	1¼"	1⅝"	____	⅜"- ¾"	25	66615A2	$10.93
Self Drilling—*Nylon; color is off-white.*							
No. 6	1"	1⅜"	____	⅜"- ⅝"	50	66615A5	10.28
No. 8	1¼"	1½"	____	⅜"- ¾"	25	66615A4	8.43
No. 8	1½"	1¾"	____	⅜"- ⅝"	50	66615A28	17.00
Conical—*Polyethylene; color is blue.*							
No. 6	1"	¾"	3⁄16"	_____	100	98547A110■	9.86
No. 10	1"	1"	¼"	_____	100	98547A114■	10.81
No. 14	1¼"	1⅜"	5⁄16"	_____	50	98547A116■	12.21
Conical—*Polyethylene; color is red.*							
No. 6	1"	1"	3⁄16"	_____	100	98547A112■	8.90
Twist-Action—*Polyethylene; color is red.*							
No. 8	1¼"	1¼"	3⁄16"	⅜"- ¾"	100	90466A310■	17.88
No. 12	1½"	1⅜"	9⁄32"	½"-1"	50	90466A320■	22.86

■ Includes a drill bit.

Screw Size	Screw Lg.	Lg.	Drill Size	For Wall Thick.	Pkg. Qty.		Pkg.
Hammer-In—*Nylon; color is green*							
No. 8	1¼"	2"	____	½"- ⅝"	100	66615A92	$6.77
Reusable Hammer-In—*Steel*							
6-32	2"	1⅞"	____	⅜"- ½"	25	97087A300	6.99
6-32	2⅜"	2⅛"	____	½"- ¾"	25	97087A700	12.02
Reusable Drill-In—*Steel*							
6-32	1⅛"	⅞"	5⁄16"	⅛"- ¼"	50	97102A462	12.17
6-32	1¾"	1½"	5⁄16"	⅜"- ½"	25	97102A478	8.27
6-32	2⅛"	1 13⁄16"	5⁄16"	⅝"-1"	25	97102A480	12.28
10-24	2⅜"	2⅛"	⅜"	⅜"- ⅝"	10	97102A517	8.02
10-24	2 15⁄16"	2⅝"	⅜"	¾"-1⅛"	10	97102A519	5.95
¼"-20	2⅜"	2⅛"	7⁄16"	⅜"- ½"	10	97102A551	9.68
¼"-20	2⅞"	2⅝"	7⁄16"	⅝"-1⅛"	10	97102A553	7.95
Optional Installation Tool for Reusable Anchors						90228A110	Each $22.25

230-Piece Reusable-Anchor Assortment

Includes: *Hammer-In Style*—50 each 6-32×1 5⁄16"; 25 each 6-32×1 11⁄16", 2¼". *Drill-In Style*—25 each 6-32×1", 1½", 2"; 20 each 6-32×2½"; 10 each 10-24×2¼", 2¾", and ¼"-20×2¼"; 5 each ¼"-20×2¾". Comes in a compartmented plastic box.

90228A211 ..... $98.62

Self-Drilling Toggle Bolts

Save time using a toggle bolt that drills its own hole in ⅜"-⅝" thick drywall. To install, simply drive the toggle bolt into the wall, then position your fixture and the included steel screw over it. The toggle is drawn against the wall as you tighten the screw. Ultimate pull-out strength is based on tests in ½" drywall.

Screw Size	Screw Lg.	Lg.	Head Dia.	Head Ht.	Wing Span	Ultimate Pull-Out Strength, lbs.	Pkg. Qty.		Pkg.
Zinc									
No. 8	2⅛"	2½"	0.57"	0.025"	1½"	85	10	66625A65	$10.59
Nylon and Zinc									
6-32	2"	1⅜"	0.68"	0.05"	1¾"	100	6	66625A1	7.23
6-32	3"	1⅜"	0.68"	0.05"	1¾"	100	6	66625A11	7.34
10-24	2"	1⅝"	0.75"	0.05"	2"	120	6	66625A12	7.23
¼"-20	3"	1⅞"	0.81"	0.05"	2 5⁄16"	140	4	66625A13	7.40

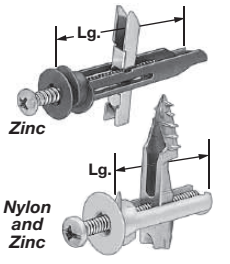

Warning! ***Allowable pull-out and shear strength are 25% of ultimate values or less, as req'd by building authorities.***

Toggle Bolts

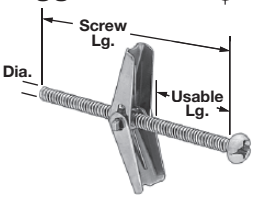

Round Head

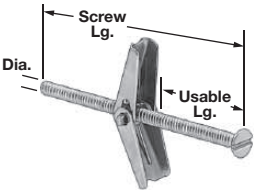

Flat Head

Toggle bolts use a spring-loaded, wing-like toggle (included) to hold against the back of hollow base materials. To install, insert the bolt through your fixture and thread the toggle onto it. Next, fold the toggle wings flush against the bolt and push them through a drilled hole until they pop open on the other side. Pull back on the bolt and tighten. The bolt is reusable, but the toggle will fall behind the wall when the bolt is removed. Extra toggles sold separately.

Round head toggle bolts have a slotted/Phillips combination drive; *flat head* have a slotted drive. *Low profile* are also known as binding head toggle bolts. Bolts and toggles are zinc-plated steel. Bolts have a Class 2A thread fit; toggles have a Class 2B. Ultimate pull-out and shear strength are based on tests in 1/2" drywall. Ultimate shear strength is the force the side of an anchor can withstand before breaking.

Screw Lg.	Usable Lg.	Thread Lg.	Ultimate Strength, lbs. Pull Out	Shear	Pkg. Qty.		Pkg.
Round Head Toggle Bolts							
1/8" Dia. — *Thread: 6-32; Wing Span: 1 1/2" (Drill Size 3/8")*							
2"	1 1/8"	1 7/8"	150	130	50	97121A011	$6.59
3"	2 1/8"	2 7/8"	150	130	50	97121A013	7.11
4"	3 1/8"	3 7/8"	150	130	50	97121A015	8.12
3/16" Dia. — *Thread: 10-24; Wing Span: 2 1/8" (Drill Size 1/2")*							
2"	7/8"	1 7/8"	180	190	50	97121A017	10.52
3"	1 7/8"	2 7/8"	180	190	50	97121A019	10.94
4"	2 7/8"	3 7/8"	180	190	50	97121A021	10.67
5"	3 7/8"	4 7/8"	180	190	25	97121A025	11.14
6"	4 7/8"	5 7/8"	180	190	25	97121A041	10.85
1/4" Dia. — *Thread: 1/4"-20; Wing Span: 2 1/8" (Drill Size 5/8")*							
3"	1 7/8"	2 7/8"	200	200	25	97121A043	10.55
4"	2 7/8"	3 7/8"	200	200	25	97121A045	10.72
5"	3 7/8"	4 7/8"	200	200	25	97121A047	10.89
6"	4 7/8"	5 7/8"	200	200	25	97121A049	11.59
5/16" Dia. — *Thread: 5/16"-18; Wing Span: 2 5/8" (Drill Size 7/8")*							
3"	1 1/2"	2 7/8"	250	250	10	97121A051	8.78
4"	2 1/2"	3 7/8"	250	250	10	97121A053	9.01
3/8" Dia. — *Thread: 3/8"-16; Wing Span: 3" (Drill Size 7/8")*							
3"	1 3/8"	2 7/8"	250	250	10	97121A059	10.87
4"	2 5/8"	3 7/8"	250	250	10	97121A061	11.63
5"	3 3/8"	4 7/8"	250	250	10	97121A063	12.18
6"	4 3/8"	5 7/8"	250	250	5	97121A065	11.24
1/2" Dia. — *Thread: 1/2"-13; Wing Span: 4 3/4" (Drill Size 11/4")*							
4"	1 1/2"	3 7/8"	300	300	5	97121A067	10.71
6"	3 1/2"	4 7/8"	300	300	5	97121A069	12.28
Low-Profile Round Head Toggle Bolts							
1/8" Dia. — *Thread: 6-32; Wing Span: 1 1/2" (Drill Size 3/8")*							
3"	2 1/8"	2 31/32"	150	130	50	97121A071	7.59
4"	3 1/8"	3 31/32"	150	130	50	97121A073	8.86
Flat Head Toggle Bolts							
3/16" Dia. — *Thread: 10-24; Wing Span: 2 1/8" (Drill Size 1/2")*							
3"	1 3/4"	2 3/4"	180	190	50	97121A081	12.05
4"	2 3/4"	3 3/4"	180	190	50	97121A083	12.41
1/4" Dia. — *Thread: 1/4"-20; Wing Span: 2 1/8" (Drill Size 5/8")*							
3"	1 5/8"	2 3/4"	200	200	25	97121A085	13.35

Extra Toggles

For Screw Dia.	Wing Span	Thread Size	Pkg. Qty.		Pkg.
1/8"	1 1/2"	6-32	50	97132A023	$6.34
3/16"	2 1/8"	10-24	50	97132A027	9.70
1/4"	2 1/8"	1/4"-20	25	97132A029	8.87
5/16"	2 5/8"	5/16"-18	25	97132A030	11.60
3/8"	3"	3/8"-16	25	97132A031	12.44
1/2"	4 3/4"	1/2"-13	10	97132A033	12.98

100-Piece Round-Head Toggle Bolt Assortment

Contains bolt sizes (Dia. x Lg.): 25 each of 1/8" x 3", 1/8" x 4"; 15 each of 3/16" x 3", 3/16" x 4"; and 10 each of 1/4" x 3", 1/4" x 4". Packed in a plastic box.

97121A600 ..... $113.94

Stud and Internally Threaded Toggle Anchors

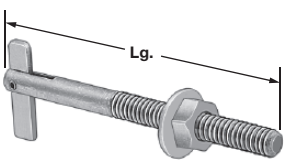

Stud Style

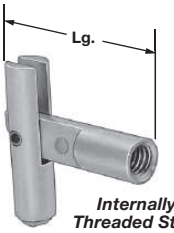

Internally Threaded Style

Add a threaded stud or socket connection point. A pivoting toggle bar holds tight against hollow base materials. To install, push through a drilled hole; gravity drops the toggle into position. Anchors are made of zinc yellow-chromate plated steel and are removable. Ultimate pull-out and shear strength are based on tests in 1,500 psi concrete block. Ultimate shear strength is the force the side of an anchor can withstand before breaking.

Stud Style — Furnished with a nut and washer. Class 2A thread fit.

Internally Threaded Style — Provides an internally threaded socket connection for a threaded rod (not included). Class 2B thread fit. Not rated for shear strength.

Stud Style

Lg.	Usable Lg.	Thread Lg.	Ultimate Strength, lbs. Pull Out	Shear	Pkg. Qty.		Pkg.
1/4" Dia. — *Thread: 1/4"-20; Wing Span: 1"; Washer OD: 5/8" (Drill Size 5/16")*							
1 3/4"	1"	5/8"	700	1,500	4	94040A110	$6.64
2 1/2"	1 3/4"	1"	700	1,500	4	94040A120	7.15
3 1/4"	2 1/2"	1 7/8"	700	1,500	4	94040A130	7.39
5/16" Dia. — *Thread: 5/16"-18; Wing Span: 1 1/4"; Washer OD: 11/16" (Drill Size 5/16")*							
3 1/4"	2 1/4"	1 3/4"	900	2,300	4	94040A150	7.91
3/8" Dia. — *Thread: 3/8"-16; Wing Span: 1 1/2"; Washer OD: 13/16" (Drill Size 3/8")*							
3 3/4"	2 1/2"	1 5/8"	1,000	3,000	4	94040A180	10.33
4 1/2"	3 1/8"	3 1/4"	1,000	3,000	4	94040A190	12.00
6"	4 1/2"	4 1/2"	1,800	3,000	1	94255A500	5.83

Internally Threaded Style

Thread Size	Lg.	Usable Lg.	Wing Span	Drill Size	Ultimate Pull Out Strength, lbs.	Pkg. Qty.		Pkg.
3/8"-16	2"	1 1/2"	2"	1/2"	3,200	1	94255A100	$10.67
1/2"-13	2 1/4"	1 5/8"	2"	5/8"	5,800	1	94255A200	16.19

Never-Drop Toggle Anchors

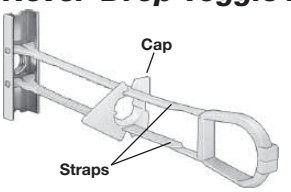

Stop replacing anchors every time you change a fixture. When you unthread the screw, these anchors stay put. To install, push the toggle through a drilled hole and pull the anchor back toward you until the toggle rests flush against the wall. Then slide the cap up to the wall and snap off the straps. Next, position your fixture, insert a machine screw (not included), and tighten. Minimum screw length equals wall and fixture thicknesses plus 1/2".

Anchor body is plastic. Class 2B thread fit. Ultimate pull-out and shear strengths are based on tests in concrete block. Ultimate shear strength is the force the side of an anchor can withstand before breaking.

For Screw Size	Usable Lg.	Drill Size	Ultimate Strength, lbs. Pull Out	Shear	Pkg. Qty.		Pkg.
With Zinc-Plated Steel Toggle — *Wing Span: 2"*							
10-24	3/8"-3 5/8"	1/2"	800	800	10	97802A314	$8.96
1/4"-20	3/8"-3 5/8"	1/2"	1,000	1,000	10	97802A316	8.96
1/4"-20	2" -9 1/2"	1/2"	1,000	1,000	5	97802A319	10.26
3/8"-16	3/8"-2 1/2"	3/4"	1,700	1,700	5	97802A317	8.46
1/2"-13	3/8"-2 1/2"	3/4"	2,000	2,000	5	97802A318	9.01
With 18-8 Stainless Steel Toggle — *Wing Span: 2"*							
10-24	3/8"-3 5/8"	1/2"	800	800	1	98184A411	3.61
1/4"-20	3/8"-3 5/8"	1/2"	1,000	1,000	1	98184A413	3.64
3/8"-16	3/8"-2 1/2"	3/4"	1,000	1,000	1	98184A415	6.39
1/2"-13	3/8"-2 1/2"	3/4"	2,000	2,000	1	98184A417	6.64

Warning! ***Allowable pull-out and shear strength are 25% of ultimate values or less, as req'd by building authorities.***

About Spring Pins

Because spring pins are larger than the hole into which they're installed, tension against the hole wall holds them in place.

Slotted Spring Pins



End View

Slotted spring pins are also known as roll, tension, split, and expansion pins. Because the slot is pressed closed when the pins are inserted, they don't flex after installation.

Coiled Spring Pins



End View

Coiled spring pins are flexible after installation so they absorb shock and vibration better than slotted spring pins. They also have higher dynamic load capacities and accommodate wider hole tolerances.

CAD For technical drawings and 3-D models, go to mcmaster.com.

Slotted Spring Pins



Use these versatile pins for fastening, pivoting, and holding. Ends are beveled or rounded to aid insertion. Actual diameter is slightly larger than the diameter shown, allowing pins to fit tightly when installed. Wall thickness is approx. 20% of the diameter. For the best fit, your hole should be equal to or slightly larger than the diameter shown. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces. Meet ASME B18.8.2.

18-8 Stainless Steel—The most corrosion resistant. May be mildly magnetic. Not rated for hardness.

Type 420 Stainless Steel—Stronger than 18-8 stainless steel and more corrosion resistant than steel. It is magnetic. Minimum Rockwell hardness is C43.

Zinc-Plated Steel and ***Steel***—Stronger than 18-8 stainless steel and just as strong as Type 420 stainless steel. Zinc-plated steel is more rust resistant than steel. Minimum Rockwell hardness is C43.

	18-8 Stainless Steel			***Type 420 Stainless Steel***			***Zinc-Plated Steel***			***Steel***		
Lg.	**Pkg. Qty.**		**Pkg.**	**Pkg. Qty.**		**Pkg.**	**Pkg. Qty.**		**Pkg.**	**Pkg. Qty.**		**Pkg.**
1/16" Dia.—*Breaks at 250 lbs. (18-8 Stainless Steel), 430 lbs. (Type 420 Stainless Steel, Zinc-Plated Steel, and Steel)*												
3/16"	100	92373A103	$3.27	100	92383A100	$7.24	500	90692A074	$12.77	500	98296A015	$8.54
1/4"	100	92373A105	5.68	100	92383A102	6.69	500	90692A078	10.68	500	98296A019	8.05
5/16"	100	92373A106	5.71	100	92383A103	7.01	500	90692A079	12.24	500	98296A021	8.63
3/8"	100	92373A107	6.15	100	92383A104	7.58	500	90692A082	11.39	500	98296A023	8.74
7/16"	100	92373A108	6.49	100	92383A105	8.55	500	90692A084	12.44	500	98296A025	8.71
1/2"	100	92373A109	6.78	100	92383A106	8.35	250	90692A086	6.75	250	98296A027	5.18
9/16"	100	92373A110	4.84	100	92383A107	9.72	250	90692A088	6.94	250	98296A026	6.91
5/8"	100	92373A111	7.05	100	92383A108	11.08	250	90692A090	6.58	250	98296A031	5.75
11/16"	100	92373A112	7.04	100	92383A109	11.74	250	90692A092	8.62	250	98296A029	8.04
3/4"	100	92373A113	7.38	100	92383A110	11.17	250	90692A094	7.51	250	98296A035	5.94
13/16"	100	92373A014	9.58	100	92383A037	6.10	100	90692A111	5.52	100	98296A037	5.38
7/8"	100	92373A114	9.82	100	92383A112	12.43	100	90692A096	5.41	100	98296A039	2.74
15/16"	100	92373A015	9.37	100	92383A041	6.74	100	90692A113	6.08	100	98296A041	5.70
1"	100	92373A115	10.58	100	92383A114	12.66	100	90692A098	3.81	100	98296A043	2.82
5/64" Dia.—*Breaks at 450 lbs. (18-8 Stainless Steel), 800 lbs. (Type 420 Stainless Steel, Zinc-Plated Steel, and Steel)*												
3/16"	100	92373A117	6.25	100	92383A149	9.28	250	90692A100	13.46	250	98296A119	6.83
1/4"	100	92373A118	5.53	100	92383A151	9.31	250	90692A101	9.17	250	98296A121	6.15
5/16"	100	92373A120	5.19	100	92383A152	9.51	250	90692A102	6.85	250	98296A122	6.95
3/8"	100	92373A122	5.48	100	92383A153	9.86	250	90692A103	8.70	250	98296A123	5.68
7/16"	100	92373A124	6.91	100	92383A154	10.10	250	90692A104	9.69	250	98296A124	7.78
1/2"	100	92373A126	5.39	100	92383A155	10.81	250	90692A905	8.08	250	98296A125	7.27
9/16"	100	92373A027	6.84	50	92383A156	9.20	250	90692A906	7.79	250	98296A126	7.63
5/8"	100	92373A128	7.05	100	92383A157	12.34	250	90692A907	9.18	250	98296A127	6.36
11/16"	100	92373A129	7.15	100	92383A161	12.95	250	90692A908	10.58	250	98296A128	8.56
3/4"	100	92373A130	7.76	50	92383A159	7.43	250	90692A909	9.60	250	98296A129	8.25
13/16"	100	92373A029	7.52	50	92383A162	7.77	250	90692A910	8.58	250	98296A130	10.62
7/8"	100	92373A131	7.67	100	92383A160	10.54	250	90692A911	14.25	250	98296A131	8.46
1"	100	92373A132	8.71	50	92383A163	8.13	250	90692A913	12.32	250	98296A133	9.23
1 1/4"	100	92373A133	7.85	100	92383A165	8.30	250	90692A915	11.40	250	98296A143	10.71
1 1/2"	100	92373A134	12.79	50	92383A167	7.57	250	90692A117	12.22	250	98296A149	10.19
3/32" Dia.—*Breaks at 650 lbs. (18-8 Stainless Steel), 1,100 lbs. (Type 420 Stainless Steel, Zinc-Plated Steel, and Steel)*												
3/16"	100	92373A138	5.17	100	92383A198	5.73	250	90692A137	11.53	250	98296A821	9.35
1/4"	100	92373A139	2.98	100	92383A200	6.71	500	90692A139	10.22	500	98296A825	7.94
5/16"	100	92373A140	3.10	100	92383A201	7.31	500	90692A140	14.52	500	98296A829	8.96
3/8"	100	92373A141	3.33	100	92383A202	7.68	500	90692A141	13.99	500	98296A833	9.90
7/16"	100	92373A142	3.54	100	92383A203	8.15	500	90692A142	14.40	500	98296A837	9.59
1/2"	100	92373A143	3.78	100	92383A204	8.93	250	90692A143	8.20	500	98296A841	10.06
9/16"	100	92373A144	3.96	100	92383A205	9.48	250	90692A144	10.89	250	98296A845	7.88
5/8"	100	92373A145	4.02	100	92383A206	10.03	250	90692A145	8.70	500	98296A849	10.80
11/16"	100	92373A146	7.49	100	92383A207	10.61	250	90692A146	12.03	250	98296A851	8.72
3/4"	100	92373A147	4.19	100	92383A208	11.21	250	90692A147	10.09	250	98296A853	7.05
13/16"	100	92373A011	5.97	100	92383A209	11.66	250	90692A009	10.32	250	98296A855	9.86
7/8"	100	92373A148	5.96	100	92383A210	11.88	250	90692A148	11.90	250	98296A857	9.03
15/16"	100	92373A048	7.80	100	92383A859	8.02	250	90692A150	12.88	250	98296A859	12.02
1"	100	92373A149	5.29	100	92383A212	12.45	250	90692A149	12.52	250	98296A861	9.63
1 1/8"	100	92373A151	13.89	100	92383A213	13.06	250	90692A153	11.22	250	98296A865	9.50
1 1/4"	50	92373A152	7.54	50	92383A214	7.54	100	90692A155	7.38	250	98296A869	10.65
1 3/8"	100	92373A013	9.87	50	92383A215	7.50	100	90692A157	8.30	250	98296A871	12.59
1 1/2"	100	92373A153	7.63	50	92383A216	7.86	100	90692A159	6.45	250	98296A873	11.92
1/8" Dia.—*Breaks at 1,000 lbs. (18-8 Stainless Steel), 1,800 lbs. (Type 420 Stainless Steel, Zinc-Plated Steel, and Steel)*												
1/4"	100	92373A173	5.31	100	92383A690	6.22	250	90692A690	14.23	250	98296A959	11.38
5/16"	100	92373A174	6.02	100	92383A707	8.30	250	90692A691	11.35	500	98296A875	11.35
3/8"	100	92373A175	4.37	100	92383A691	6.69	250	90692A692	6.41	500	98296A876	10.35
7/16"	100	92373A176	4.69	100	92383A692	7.40	250	90692A693	10.11	500	98296A960	12.97
1/2"	100	92373A177	4.69	100	92383A693	7.74	250	90692A694	7.08	500	98296A877	12.03
9/16"	100	92373A178	4.96	100	92383A694	7.36	250	90692A695	9.42	250	98296A878	7.70

(Continued on following page)

Slotted Spring Pins *(Continued from previous page)*



Use these versatile pins for fastening, pivoting, and holding. Ends are beveled or rounded to aid insertion. Actual diameter is slightly larger than the diameter shown, allowing pins to fit tightly when installed. Wall thickness is approx. 20% of the diameter. For the best fit, your hole should be equal to or slightly larger than the diameter shown. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces. Meet ASME B18.8.2.

***18-8 Stainless Steel*—**The most corrosion resistant. May be mildly magnetic. Not rated for hardness.

***Type 420 Stainless Steel*—**Stronger than 18-8 stainless steel and more corrosion resistant than steel. It is magnetic. Minimum Rockwell hardness is C43.

***Zinc-Plated Steel* and *Steel*—**Stronger than 18-8 stainless steel and just as strong as Type 420 stainless steel. Zinc-plated steel is more rust resistant than steel. Minimum Rockwell hardness is C43.

	18-8 Stainless Steel			Type 420 Stainless Steel			Zinc-Plated Steel			Steel		
Lg.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
1/8" Dia. (Cont.)—Breaks at 1,000 lbs. (18-8 Stainless Steel), 1,800 lbs. (Type 420 Stainless Steel, Zinc-Plated Steel, and Steel)												
5/8"	100	92373A179	$5.14	100	92383A695	$8.69	250	90692A696	$7.14	250	98296A879	$7.39
11/16"	100	92373A180	5.45	100	92383A696	8.85	250	90692A697	9.97	250	98296A880	7.72
3/4"	100	92373A181	5.72	100	92383A697	9.42	250	90692A698	9.49	250	98296A881	8.98
13/16"	100	92373A022	10.41	100	92383A698	9.24	250	90692A015	10.76	250	98296A965	10.77
7/8"	100	92373A182	6.67	100	92383A699	10.60	250	90692A699	12.63	250	98296A882	8.91
15/16"	100	92373A082	10.61	100	92383A099	13.86	100	90692A016	7.86	100	98296A082	7.13
1"	100	92373A183	7.50	100	92383A700	11.69	250	90692A700	11.45	250	98296A883	9.69
1 1/8"	100	92373A184	8.10	100	92383A701	12.74	100	90692A017	7.38	250	98296A884	10.12
1 1/4"	100	92373A185	8.97	50	92383A702	8.54	100	90692A701	6.37	250	98296A885	11.22
1 3/8"	100	92373A186	9.84	50	92383A703	7.84	100	90692A787	6.36	250	98296A886	12.79
1 1/2"	100	92373A187	10.83	50	92383A704	8.31	100	90692A702	8.13	100	98296A887	6.33
1 5/8"	50	92373A188	12.24	50	92383A010	8.71	100	90692A019	7.00	100	98296A888	5.25
1 3/4"	50	92373A189	7.73	50	92383A705	8.70	100	90692A703	8.88	100	98296A889	5.56
1 7/8"	50	92373A190	13.06	50	92383A012	9.66	100	90692A704	8.42	100	98296A966	10.09
2"	25	92373A191	7.45	25	92383A706	5.08	100	90692A705	9.02	100	98296A890	5.72
2 1/4"	25	92373A193	8.51	25	92383A708	5.13	100	90692A706	10.64	25	98296A967	8.22
2 1/2"	25	92373A195	9.01	25	92383A709	8.00	100	90692A707	11.86	100	98296A969	11.83
9/64" Dia.—Breaks at 1,200 lbs. (18-8 Stainless Steel), 2,100 lbs. (Type 420 Stainless Steel, Zinc Plated Steel, and Steel)												
1/2"	50	92373A201	8.90	50	92383A501	12.83	50	90692A801	7.04	50	98296A201	13.11
3/4"	50	92373A203	11.06	25	92383A503	8.80	50	90692A803	6.72	50	98296A203	5.62
1"	50	92373A205	10.31	25	92383A505	9.55	50	90692A805	10.12	50	98296A205	6.36
1 1/2"	50	92373A207	6.09	25	92383A510	11.97	50	90692A809	11.13	50	98296A210	7.89
5/32" Dia.—Breaks at 1,600 lbs. (18-8 Stainless Steel), 2,700 lbs. (Type 420 Stainless Steel, Zinc-Plated Steel, and Steel)												
3/8"	50	92373A212	10.00	100	92383A710	9.68	100	90692A708	6.67	100	98296A891	4.36
7/16"	100	92373A012	8.48	100	92383A226	8.64	100	90692A008	9.04	100	98296A091	6.71
1/2"	100	92373A211	7.96	100	92383A711	10.94	100	90692A709	5.46	100	98296A892	3.81
9/16"	100	92373A024	10.15	100	92383A227	9.24	100	90692A010	8.37	100	98296A092	7.86
5/8"	100	92373A213	7.67	100	92383A712	11.26	100	90692A710	4.85	100	98296A893	3.89
3/4"	100	92373A215	8.57	50	92383A713	7.46	100	90692A711	4.83	100	98296A894	3.44
7/8"	100	92373A216	9.45	100	92383A714	13.24	100	90692A712	6.17	100	98296A895	4.71
1"	100	92373A217	10.58	50	92383A715	7.69	100	90692A713	5.38	100	98296A896	4.22
1 1/8"	100	92373A225	13.36	50	92383A716	7.65	100	90692A021	6.35	100	98296A899	4.91
1 1/4"	100	92373A218	12.42	50	92383A717	9.47	100	90692A714	6.83	100	98296A897	5.27
1 3/8"	25	92373A031	5.62	25	92383A718	4.50	100	90692A023	7.89	100	98296A971	7.41
1 1/2"	25	92373A219	3.97	25	92383A719	4.80	100	90692A715	7.42	100	98296A898	5.82
1 3/4"	25	92373A221	9.68	25	92383A720	4.99	100	90692A716	9.09	100	98296A900	7.08
2"	25	92373A223	13.27	25	92383A721	5.84	100	90692A717	10.30	100	98296A901	8.11
2 1/2"	10	92373A229	6.35	25	92383A722	7.39	100	90692A718	11.86	100	98296A902	9.22
3/16" Dia.—Breaks at 2,400 lbs. (18-8 Stainless Steel), 4,100 lbs. (Type 420 Stainless Steel, Zinc-Plated Steel, and Steel)												
3/8"	50	92373A241	12.43	50	92383A736	3.93	100	90692A719	11.75	100	98296A903	7.60
7/16"	25	92373A243	11.74	25	92383A021	9.22	100	90692A720	5.64	250	98296A904	9.74
1/2"	50	92373A245	5.83	50	92383A724	5.05	250	90692A721	11.56	250	98296A905	8.35
9/16"	50	92373A246	6.08	50	92383A723	5.91	100	90692A731	7.01	250	98296A906	11.97
5/8"	50	92373A247	6.43	50	92383A725	6.18	250	90692A722	9.79	250	98296A907	9.67
11/16"	50	92373A248	13.00	50	92383A726	6.14	100	90692A784	7.52	100	98296A991	7.15
3/4"	50	92373A249	7.22	50	92383A727	6.48	250	90692A723	14.47	250	98296A908	10.69
13/16"	25	92373A042	8.54	50	92383A728	7.49	100	90692A032	7.48	250	98296A874	14.38
7/8"	50	92373A250	7.88	50	92383A729	7.34	100	90692A724	5.75	250	98296A909	12.40
1"	50	92373A251	10.74	50	92383A730	8.08	100	90692A725	6.96	250	98296A910	13.59
1 1/8"	50	92373A252	11.18	50	92383A731	9.54	100	90692A726	8.11	100	98296A911	6.17
1 1/4"	50	92373A253	9.28	50	92383A732	9.72	100	90692A727	8.82	100	98296A912	6.62
1 3/8"	25	92373A254	7.04	50	92383A733	10.51	100	90692A786	9.37	100	98296A913	7.13
1 1/2"	25	92373A261	8.98	25	92383A734	5.86	100	90692A728	9.77	100	98296A914	7.68
1 5/8"	25	92373A262	8.68	25	92383A735	7.33	100	90692A732	10.81	100	98296A915	8.58
1 3/4"	25	92373A263	11.03	25	92383A737	7.13	100	90692A729	11.26	100	98296A916	8.80
1 7/8"	25	92373A264	12.69	25	92383A740	8.00	100	90692A733	12.09	100	98296A917	9.56
2"	25	92373A265	10.67	25	92383A738	7.86	100	90692A730	12.77	100	98296A918	8.45
2 1/4"	25	92373A266	11.93	25	92383A739	8.09	50	90692A734	7.67	100	98296A919	11.27
2 1/2"	25	92373A267	11.61	25	92383A741	9.52	50	90692A735	7.97	100	98296A920	12.01
2 3/4"	10	92373A269	10.28	25	92383A028	13.50	50	90692A736	8.38	50	98296A998	10.52
3"	10	92373A271	6.48	10	92383A742	6.67	50	90692A737	9.80	50	98296A921	7.86
7/32" Dia.—Breaks at 3,400 lbs. (18-8 Stainless Steel), 5,800 lbs. (Type 420 Stainless Steel, Zinc-Plated Steel, and Steel)												
1/2"	50	92373A301	6.81	50	92383A399	4.78	100	90692A293	11.55	100	98296A275	6.65
5/8"	25	92373A305	8.72	25	92383A401	3.53	100	90692A295	11.65	100	98296A280	6.36
3/4"	25	92373A309	9.99	25	92383A403	4.07	100	90692A297	10.17	100	98296A296	7.03
1"	25	92373A313	10.95	25	92383A407	5.21	100	90692A299	10.72	100	98296A310	8.20
1 1/4"	25	92373A318	7.81	25	92383A409	6.30	100	90692A301	12.08	100	98296A312	9.55
1 1/2"	25	92373A322	8.15	25	92383A411	7.44	100	90692A304	13.81	100	98296A315	10.40

(Continued on following page)

Slotted Spring Pins *(Continued from previous page)*

Lg.	18-8 Stainless Steel Pkg. Qty.		Pkg.	Type 420 Stainless Steel Pkg. Qty.		Pkg.	Zinc-Plated Steel Pkg. Qty.		Pkg.	Steel Pkg. Qty.		Pkg.
7/32" Dia. (Cont.)—Breaks at 3,400 lbs. (18-8 Stainless Steel), 5,800 lbs. (Type 420 Stainless Steel, Zinc-Plated Steel, and Steel)												
1 3/4"	25	92373A326	$12.60	25	92383A414	$8.51	50	90692A306	$8.00	50	98296A316	$8.29
2"	25	92373A331	10.79	25	92383A416	9.65	50	90692A308	9.12	100	98296A317	13.08
2 1/4"	10	92373A333	8.77	10	92383A417	4.82	50	90692A310	9.45	50	98296A319	6.70
2 1/2"	10	92373A336	7.69	10	92383A418	4.82	50	90692A312	10.83	50	98296A323	7.97
2 3/4"	10	92373A338	9.82	10	92383A422	5.70	50	90692A314	10.97	50	98296A327	10.43
3"	10	92373A341	11.07	10	92383A426	5.83	50	90692A316	13.08	50	98296A331	9.93
1/4" Dia.—Breaks at 4,100 lbs. (18-8 Stainless Steel), 7,000 lbs. (Type 420 Stainless Steel, Zinc-Plated Steel, and Steel)												
3/8"	50	92373A360	9.70	—	—	—	—	—	—	—	—	—
1/2"	25	92373A366	6.60	100	92383A743	12.44	50	90692A738	7.91	100	98296A922	8.14
9/16"	50	92373A361	8.42	50	92383A370	9.08	100	90692A038	9.92	100	98296A022	10.96
5/8"	50	92373A363	9.06	50	92383A744	7.97	100	90692A739	8.01	100	98296A923	5.94
11/16"	50	92373A364	9.41	50	92383A364	10.15	100	90692A039	11.18	100	98296A024	12.26
3/4"	50	92373A365	10.81	50	92383A745	11.14	100	90692A740	9.13	100	98296A924	6.45
7/8"	50	92373A367	11.53	50	92383A746	11.59	100	90692A741	10.84	100	98296A925	8.05
1"	50	92373A369	13.73	25	92383A747	7.09	100	90692A742	11.51	100	98296A926	7.91
1 1/8"	25	92373A371	9.27	25	92383A748	7.30	100	90692A743	11.43	100	98296A927	8.80
1 1/4"	25	92373A373	9.00	25	92383A749	8.93	100	90692A744	12.93	100	98296A928	9.36
1 3/8"	25	92373A375	8.06	25	92383A750	9.43	100	90692A745	14.56	100	98296A929	10.98
1 1/2"	25	92373A377	8.59	25	92383A751	9.74	50	90692A746	8.00	100	98296A930	11.45
1 5/8"	25	92373A378	10.45	25	92383A752	12.92	50	90692A043	7.92	50	98296A981	9.78
1 3/4"	25	92373A379	10.73	10	92383A753	6.15	50	90692A748	8.95	50	98296A931	6.67
1 7/8"	10	92373A380	8.35	10	92383A030	4.63	50	90692A747	10.13	50	98296A932	7.46
2"	10	92373A381	6.36	10	92383A754	4.85	50	90692A749	10.11	50	98296A933	7.27
2 1/4"	10	92373A382	7.68	10	92383A755	5.64	50	90692A750	11.06	50	98296A934	8.34
2 1/2"	10	92373A385	6.89	10	92383A756	6.43	50	90692A751	12.68	50	98296A935	9.12
2 3/4"	10	92373A386	8.24	10	92383A757	6.54	50	90692A752	12.32	50	98296A075	11.09
3"	10	92373A387	8.58	10	92383A758	7.83	25	90692A753	7.80	50	98296A936	10.75
3 1/4"	10	92373A388	8.91	10	92383A759	9.99	25	90692A754	7.97	50	98296A081	12.88
3 1/2"	5	92373A389	7.07	10	92383A769	8.96	25	90692A755	8.51	50	98296A937	12.06
4"	5	92373A391	8.36	5	92383A069	10.35	5	90692A055	8.62	5	98296A038	8.59
5/16" Dia.—Breaks at 6,300 lbs. (18-8 Stainless Steel), 10,800 lbs. (Type 420 Stainless Steel, Zinc-Plated Steel, and Steel)												
3/4"	10	92373A457	6.47	25	92383A770	8.32	50	90692A756	6.75	50	98296A938	5.50
1"	25	92373A459	11.88	25	92383A771	10.07	50	90692A757	8.22	50	98296A939	6.28
1 1/4"	10	92373A461	6.01	25	92383A773	11.81	50	90692A758	9.47	50	98296A940	7.34
1 1/2"	10	92373A463	6.78	10	92383A772	5.70	50	90692A759	11.77	50	98296A941	8.77
1 3/4"	10	92373A465	7.99	10	92383A774	6.91	50	90692A760	13.65	50	98296A942	9.71
2"	10	92373A467	11.03	10	92383A775	7.49	25	90692A761	8.10	50	98296A943	11.13
2 1/4"	5	92373A468	8.08	10	92383A776	8.20	25	90692A762	9.09	50	98296A001	12.51
2 1/2"	10	92373A469	11.43	10	92383A777	8.97	25	90692A763	10.11	50	98296A944	14.17
2 3/4"	10	92373A470	12.68	10	92383A042	10.78	25	90692A764	10.37	25	98296A003	9.45
3"	10	92373A471	13.38	10	92383A778	9.89	25	90692A765	11.75	25	98296A945	8.01
3 1/4"	5	92373A472	9.21	5	92383A044	6.04	10	90692A766	5.67	25	98296A005	9.56
3 1/2"	1	92373A473	2.85	5	92383A779	6.54	25	90692A767	13.83	25	98296A007	9.31
3 3/4"	5	92373A474	9.78	5	92383A046	7.49	10	90692A768	6.10	25	98296A009	9.96
4"	5	92373A475	10.53	5	92383A780	10.89	10	90692A769	6.14	25	98296A012	9.83
3/8" Dia.—Breaks at 9,500 lbs. (18-8 Stainless Steel), 16,300 lbs. (Type 420 Stainless Steel, Zinc-Plated Steel, and Steel)												
3/4"	5	92373A554	8.06	10	92383A781	5.97	25	90692A770	10.73	25	98296A946	4.58
1"	10	92373A556	10.83	10	92383A782	6.94	25	90692A771	11.00	50	98296A947	14.99
1 1/4"	10	92373A557	9.38	10	92383A783	8.96	50	90692A772	13.50	50	98296A948	9.95
1 1/2"	10	92373A558	10.55	10	92383A784	10.07	25	90692A773	9.31	50	98296A949	11.03
1 3/4"	5	92373A559	8.71	10	92383A785	11.46	25	90692A774	9.63	50	98296A950	12.96
2"	10	92373A560	12.62	5	92383A786	7.70	25	90692A775	12.11	25	98296A951	7.95
2 1/4"	5	92373A561	8.56	5	92383A787	8.26	25	90692A776	14.05	25	98296A952	10.23
2 1/2"	5	92373A562	9.20	5	92383A788	8.58	25	90692A778	13.27	25	98296A953	9.49
2 3/4"	5	92373A563	11.03	5	92383A789	9.25	10	90692A785	6.51	25	98296A954	11.35
3"	5	92373A564	9.46	5	92383A790	10.01	10	90692A779	8.02	25	98296A956	11.25
3 1/4"	1	92373A566	2.90	1	92383A051	3.58	10	90692A780	9.34	25	98296A053	12.91
3 1/2"	1	92373A568	3.28	1	92383A791	2.20	10	90692A781	8.52	25	98296A955	13.77
3 3/4"	1	92373A570	3.01	1	92383A053	2.96	10	90692A782	7.89	10	98296A957	7.47
4"	1	92373A572	4.43	1	92383A792	2.73	10	90692A783	8.95	10	98296A958	6.77
7/16" Dia.—Breaks at 11,500 lbs. (18-8 Stainless Steel), 19,800 lbs. (Type 420 Stainless Steel, Zinc-Plated Steel, and Steel)												
1 3/4"	5	92373A600	9.10	5	92383A604	8.93	25	90692A589	12.07	25	98296A801	8.61
2"	1	92373A602	3.02	5	92383A605	7.76	25	90692A591	12.48	25	98296A803	8.95
2 1/2"	1	92373A606	5.73	5	92383A607	9.30	10	90692A592	6.14	10	98296A805	6.92
3"	1	92373A611	5.27	5	92383A609	10.85	10	90692A593	7.59	10	98296A808	5.29
4"	1	92373A629	3.25	1	92383A611	2.76	10	90692A595	9.77	10	98296A816	8.94
1/2" Dia.—Breaks at 15,800 lbs. (18-8 Stainless Steel), 27,000 lbs. (Type 420 Stainless Steel, Zinc-Plated Steel, and Steel)												
1 1/4"	5	92373A671	12.13	5	92383A670	7.54	10	90692A661	7.65	25	98296A661	9.47
1 1/2"	1	92373A675	4.10	5	92383A672	7.60	25	90692A662	12.72	25	98296A662	9.22
1 3/4"	5	92373A677	7.74	5	92383A673	6.99	10	90692A659	7.39	10	98296A063	9.17
2"	1	92373A679	3.05	1	92383A674	3.04	10	90692A668	6.78	10	98296A663	4.94
2 1/4"	1	92373A680	4.61	1	92383A675	3.18	10	90692A664	9.23	10	98296A067	6.31
2 1/2"	1	92373A681	4.11	1	92383A676	3.68	10	90692A680	8.56	10	98296A671	6.09
2 3/4"	1	92373A682	3.36	1	92383A677	3.57	10	90692A682	9.82	10	98296A069	6.52
3"	1	92373A683	10.10	1	92383A678	3.55	10	90692A672	8.80	10	98296A675	7.39
3 1/4"	1	92373A684	3.68	1	92383A679	4.27	10	90692A684	12.03	10	98296A072	10.15
3 1/2"	1	92373A685	3.60	1	92383A680	4.50	10	90692A676	12.00	10	98296A679	8.66
3 3/4"	1	92373A686	3.72	1	92383A681	4.78	5	90692A686	7.04	10	98296A074	10.84
4"	1	92373A687	11.93	1	92383A682	5.42	5	90692A688	7.21	10	98296A683	9.12
5/8" Dia.—Breaks at 46,000 lbs. (Steel)												
3"	—	—	—	—	—	—	—	—	—	1	98296A691	13.94
4"	—	—	—	—	—	—	—	—	—	1	98296A693	19.09

Metric Slotted Spring Pins



Often used for fastening, pivoting, and holding. To aid insertion, M1 to M8 diameter pins are beveled on both ends; M10 and M12 diameter pins have at least one beveled end. Actual diameter is slightly larger than the diameter shown, allowing pins to fit tightly when installed. Wall thickness is approx. 20% of the diameter. For the best fit, your hole should be equal to or slightly larger than the diameter shown. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces. All meet ISO 8752 (similar to DIN 1481).

***18-8 Stainless Steel*—** More corrosion resistant than steel. May be mildly magnetic. Not rated for hardness or breaking strength.

***Steel*—** Heat treated and stronger than 18-8 stainless steel. Minimum Rockwell hardness is C42.

Lg., mm	18-8 Stainless Steel Pkg. Qty.		Pkg.	Steel Pkg. Qty.		Pkg.
***M1 Dia.*—** *Breaks at 150 lbs. (Steel); 18-8 SS not rated*						
4	100	91610A080	$5.84	100	91611A065	$13.33
6	100	91610A082	5.97	100	91611A067	4.31
8	100	91610A084	5.97	100	91611A069	4.31
***M1.5 Dia.*—** *Breaks at 350 lbs. (Steel); 18-8 SS not rated*						
4	100	91610A104	5.10	100	91611A076	10.34
5	100	91610A106	5.10	100	91611A079	7.93
6	25	91610A108	7.11	100	91611A081	6.90
8	25	91610A112	4.72	100	91611A083	7.99
10	25	91610A114	1.60	100	91611A084	3.63
12	25	91610A116	8.24	100	91611A085	8.07
***M2 Dia.*—** *Breaks at 600 lbs. (Steel); 18-8 SS not rated*						
4	100	91610A200	4.18	200	91611A100	6.41
5	100	91610A201	4.18	200	91611A101	6.71
6	25	91610A202	2.49	200	91611A102	11.81
8	25	91610A204	3.02	200	91611A103	10.98
10	25	91610A205	2.34	200	91611A104	11.09
12	25	91610A206	2.39	200	91611A105	11.14
14	25	91610A207	2.52	200	91611A106	11.25
16	25	91610A208	2.69	200	91611A107	11.28
18	25	91610A209	3.32	200	91611A108	11.33
20	25	91610A210	3.42	100	91611A109	6.89
22	25	91610A213	1.66	100	91611A110	4.43
24	25	91610A211	6.02	100	91611A111	7.17
30	25	91610A212	5.10	100	91611A114	8.68
***M2.5 Dia.*—** *Breaks at 950 lbs. (Steel); 18-8 SS not rated*						
10	25	91610A247	6.67	100	91611A096	4.34
14	25	91610A249	2.03	100	91611A095	4.43
20	25	91610A251	6.60	100	91611A097	7.31
24	—	—	—	100	91611A098	5.10
30	25	91610A254	7.40	100	91611A099	10.53
***M3 Dia.*—** *Breaks at 1,400 lbs. (Steel); 18-8 SS not rated*						
4	100	91610A400	5.29	200	91611A149	8.46
6	100	91610A402	5.53	200	91611A151	9.56
8	25	91610A404	5.80	200	91611A153	9.53
10	25	91610A405	4.12	200	91611A154	9.36
12	25	91610A406	3.69	200	91611A155	9.46
14	25	91610A407	4.51	200	91611A156	9.46
16	25	91610A408	4.54	200	91611A157	9.80
18	25	91610A409	6.10	200	91611A158	10.33
20	10	91610A410	1.97	200	91611A159	10.75
22	10	91610A413	1.05	100	91611A160	5.65
24	10	91610A411	2.08	100	91611A161	6.22
26	10	91610A418	3.60	100	91611A170	6.29
28	10	91610A421	3.72	100	91611A171	4.87
30	10	91610A412	2.29	100	91611A172	7.08
35	—	—	—	100	91611A173	7.90
40	10	91610A414	3.15	100	91611A175	8.34
***M3.5 Dia.*—** *Breaks at 2,000 lbs. (Steel); 18-8 SS not rated*						
10	50	91610A450	11.13	100	91611A185	5.84
20	50	91610A452	12.17	100	91611A187	6.12
30	50	91610A454	13.22	100	91611A189	7.87
***M4 Dia.*—** *Breaks at 2,500 lbs. (Steel); 18-8 SS not rated*						
6	10	91610A502	3.36	100	91611A202	5.94
8	10	91610A503	1.29	100	91611A203	5.53
10	10	91610A504	3.32	100	91611A204	6.28
12	10	91610A506	1.90	100	91611A205	6.13
14	10	91610A507	3.60	100	91611A206	6.31
16	10	91610A508	2.40	100	91611A207	6.39
18	10	91610A509	2.77	100	91611A208	6.47
20	10	91610A510	2.87	100	91611A209	6.58
22	10	91610A518	1.72	100	91611A210	6.85
24	10	91610A511	2.85	100	91611A211	6.80

Lg., mm	18-8 Stainless Steel Pkg. Qty.		Pkg.	Steel Pkg. Qty.		Pkg.
M4 Dia. (Cont.)						
26	10	91610A519	$3.71	100	91611A212	$6.86
30	10	91610A512	3.22	100	91611A213	7.57
32	10	91610A513	3.68	100	91611A215	8.01
36	10	91610A521	4.66	100	91611A216	8.26
40	10	91610A514	4.03	100	91611A217	8.97
45	10	91610A515	4.52	100	91611A218	9.52
50	10	91610A517	14.41	50	91611A219	7.23
***M5 Dia.*—** *Breaks at 3,900 lbs. (Steel); 18-8 SS not rated*						
10	10	91610A599	3.43	100	91611A303	6.11
12	10	91610A601	3.46	100	91611A304	7.44
14	10	91610A603	2.21	100	91611A305	7.60
16	10	91610A605	3.54	100	91611A306	7.74
18	10	91610A607	2.40	100	91611A307	8.20
20	10	91610A610	3.55	100	91611A308	8.31
22	10	91610A621	4.80	100	91611A309	8.62
24	10	91610A611	4.56	100	91611A310	8.97
26	10	91610A624	5.16	100	91611A312	9.20
28	10	91610A626	2.89	100	91611A311	8.50
30	10	91610A612	5.49	100	91611A313	9.76
32	10	91610A628	3.07	100	91611A314	11.00
36	10	91610A613	5.51	100	91611A315	11.36
40	10	91610A614	6.95	100	91611A316	12.18
45	10	91610A615	3.69	100	91611A317	13.60
50	10	91610A616	7.95	50	91611A318	6.65
***M6 Dia.*—** *Breaks at 5,800 lbs. (Steel); 18-8 SS not rated*						
12	10	91610A702	4.96	100	91611A401	8.48
14	10	91610A703	3.81	100	91611A402	8.67
16	10	91610A705	5.08	100	91611A403	9.19
20	10	91610A710	5.75	100	91611A405	10.33
24	10	91610A711	6.77	100	91611A407	11.50
26	10	91610A719	6.52	100	91611A408	12.19
30	10	91610A712	7.31	50	91611A410	7.01
36	10	91610A713	8.64	50	91611A412	8.18
40	10	91610A714	9.94	50	91611A413	8.26
45	10	91610A722	10.12	50	91611A414	9.93
50	5	91610A716	7.68	50	91611A415	10.04
60	5	91610A724	3.13	25	91611A417	4.48
100	—	—	—	10	91611A447	8.06
***M8 Dia.*—** *Breaks at 9,600 lbs. (Steel); 18-8 SS not rated*						
22	10	91610A805	9.00	50	91611A508	8.52
26	10	91610A807	8.92	50	91611A509	9.75
30	10	91610A812	12.55	50	91611A510	10.88
40	5	91610A814	10.08	50	91611A513	13.03
50	1	91610A816	2.35	25	91611A515	8.02
55	1	91610A821	3.57	25	91611A520	8.95
60	1	91610A825	2.41	25	91611A521	9.91
100	1	91610A845	9.97	5	91611A544	5.12
***M10 Dia.*—** *Breaks at 15,700 lbs. (Steel); 18-8 SS not rated*						
24	1	91610A907	2.25	25	91611A607	8.84
30	1	91610A916	1.98	25	91611A610	8.23
36	1	91610A919	2.75	25	91611A612	12.37
40	1	91610A923	2.50	25	91611A613	10.09
50	1	91610A927	3.56	25	91611A615	12.07
60	1	91610A931	5.08	10	91611A621	6.56
80	1	91610A936	6.00	10	91611A625	9.75
100	1	91610A957	6.86	5	91611A641	7.05
***M12 Dia.*—** *Breaks at 23,000 lbs. (Steel); 18-8 SS not rated*						
30	—	—	—	5	91611A711	6.88
40	—	—	—	10	91611A713	12.61
50	—	—	—	5	91611A715	7.22
60	—	—	—	5	91611A721	7.69

Pin Insertion Tools with Sleeve-Style Pin Holder



To install spring, dowel, and taper pins, slide the sleeve over the pin and strike the head of the tool with a hammer. O-rings hold the pin securely in the tool. Can also be used for pin removal and disassembly.

5-piece assortment includes one of each tool listed. Comes in a plastic case.

For Pin Dia.	Lg.		
1/8" (M3)	5"	98290A110	$25.92
3/16"	5 3/8"	98290A130	25.75
1/4" (M6)	6 1/4"	98290A150	27.00
5/16"	6 3/8"	98290A170	27.02
3/8"	6 1/2"	98290A190	28.40
5-Piece Assortment		98290A230	132.00

Mil. Spec. Slotted Spring Pins



Pins meet more stringent specifications (MS16562) than standard slotted spring pins. Use to fasten, pivot, and hold a variety of materials. Ends are beveled or rounded to aid insertion. Actual diameter is slightly larger than the diameter shown, allowing pins to fit tightly when installed. Wall thickness is approx. 20% of the diameter. For the best fit, your hole should be equal to or slightly larger than the diameter shown. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces.

Black Steel—Stronger than 400 series stainless steel. Finish is black phosphate. Min. Rockwell hardness is C46.

400 Series Stainless Steel—More corrosion resistant than black steel. Pins are passivated. Min. Rockwell hardness is C43.

Black Steel

Lg.	Dash No.	Pkg. Qty.		Pkg.
1/16" Dia.—*Breaks at 400 lbs.*				
1/4"	96	50	97855A110	$8.94
3/8"	98	50	97855A120	9.10
3/32" Dia.—*Breaks at 1,000 lbs.*				
1/2"	119	50	97855A130	9.98
3/4"	122	50	97855A140	10.78
1/8" Dia.—*Breaks at 2,100 lbs.*				
1/2"	127	25	97855A150	8.12
5/8"	129	25	97855A160	8.22
3/4"	130	25	97855A170	8.38
1"	132	25	97855A180	9.18
3/16" Dia.—*Breaks at 4,400 lbs.*				
3/4"	142	25	97855A190	$10.01
1"	144	25	97855A200	10.23
1/4" Dia.—*Breaks at 7,700 lbs.*				
3/4"	156	10	97855A210	9.10
7/8"	157	10	97855A220	9.28
1"	158	10	97855A230	9.51
1 1/4"	159	10	97855A240	9.75
1 1/2"	160	10	97855A250	10.08
2"	162	10	97855A260	10.81
3/8" Dia.—*Breaks at 17,600 lbs.*				
1"	171	5	97855A270	$9.62
1 1/2"	173	5	97855A280	10.55
2"	175	5	97855A290	11.56
1/2" Dia.—*Breaks at 25,500 lbs.*				
1 1/2"	184	1	97855A300	5.15
2"	186	1	97855A310	5.43
3"	188	1	97855A320	6.18

400 Series Stainless Steel

Lg.	Dash No.	Pkg. Qty.		Pkg.
1/16" Dia.—*Breaks at 400 lbs.*				
1/4"	190	50	97855A510	8.93
3/8"	192	50	97855A520	9.03
1/2"	194	50	97855A530	9.06
1/8" Dia.—*Breaks at 2,100 lbs.*				
3/8"	219	25	97855A540	8.97
1/2"	221	25	97855A550	8.94
3/4"	224	25	97855A560	9.34
1"	226	25	97855A570	10.42
3/16" Dia.—*Breaks at 4,400 lbs.*				
3/4"	236	10	97855A580	5.56
1"	238	10	97855A590	6.10
1 1/4"	239	10	97855A600	6.89
1/4" Dia.—*Breaks at 7,700 lbs.*				
3/4"	250	5	97855A610	8.10
1"	252	5	97855A620	8.58
1 1/2"	254	5	97855A630	9.28
1/2" Dia.—*Breaks at 25,500 lbs.*				
2"	280	1	97855A640	6.44
3"	282	1	97855A650	7.65

Slotted Spring Pin Assortments

Assortments with 300 or more pieces come in a plastic box.

25-Piece Assortments

Diameter	No. of Pcs.	Length Range		
1/8"	8	1"-1 1/2"		
3/16"	4	1"-1 1/2"		
7/32"	2	1 1/2"		
1/4"	5	1 1/4"-2"		
5/16"	3	1 1/2"-2"		
3/8"	3	1 1/2"-2"		
Type 420 Stainless Steel			90148A540	$9.58
Zinc-Plated Steel			98596A790	5.60

300-Piece Assortments

Diameter	No. of Pcs.	Length Range		
1/16"	45	1/4"-3/4"		
3/32"	45	1/2"-1"		
1/8"	75	5/16"-1"		
3/16"	40	1/2"-1 1/2"		
1/4"	55	1/2"-2 1/2"		
5/16"	20	1"-2 1/2"		
3/8"	20	1"-2 1/2"		
18-8 Stainless Steel			93730A500	$96.72
Type 420 Stainless Steel			90148A316	86.08
Zinc-Plated Steel			98596A412	58.75
Steel			91575A310	51.38

750-Piece Assortments

Diameter	No. of Pcs.	Length Range		
1/16"	135	3/16"-1"		
3/32"	90	1/4"-1"		
1/8"	180	5/16"-2"		
5/32"	40	1/2"-1 1/2"		
3/16"	120	1/2"-2 1/2"		
1/4"	85	1/2"-3"		
5/16"	40	3/4"-3"		
3/8"	50	3/4"-3"		
7/16"	10	2"-3"		
18-8 Stainless Steel			93730A900	$241.12
Type 420 Stainless Steel			90148A112	225.48
Zinc-Plated Steel			98596A211	127.27
Steel			91575A930	99.46

68-Piece Assortments

Diameter	No. of Pcs.	Length		
1/8"	24	1 1/2"		
3/16"	15	1 1/2"		
7/32"	10	1 1/2"		
1/4"	8	1 1/2"		
5/16"	6	1 1/2"		
3/8"	5	1 1/2"		
Type 420 Stainless Steel			90148A810	$19.80
Zinc-Plated Steel			98596A320	11.60

500-Piece Assortments

Diameter	No. of Pcs.	Length Range		
1/16"	75	1/4"-1"		
3/32"	60	1/4"-1"		
1/8"	135	5/16"-2"		
5/32"	20	3/4"-1"		
3/16"	80	1/2"-2"		
1/4"	65	1/2"-3"		
5/16"	30	3/4"-3"		
3/8"	25	1"-3"		
7/16"	10	2"-3"		
18-8 Stainless Steel			93730A300	$153.70
Type 420 Stainless Steel			90148A715	144.54
Zinc-Plated Steel			98596A615	88.75
Steel			91575A620	71.07

Metric 520-Piece Assortments

Diameter	No. of Pcs.	Length Range, mm		
M2	75	10-30		
M3	140	10-40		
M4	115	12-40		
M5	75	20-50		
M6	115	14-50		
18-8 Stainless Steel			98418A147●	$168.66
Zinc-Plated Steel			98418A151	158.64
Steel			98418A148	73.64

●Length range for M3 diameter is 10-30 mm.

Pin Insertion Tools with Magnetic Pin Holder

A magnetic tip holds on to pins making this tool especially handy for angles and hard to reach areas. Use it to install and remove magnetic spring, dowel, and taper pins. Strike the head of the tool with a hammer to insert pins; a spring retracts the tool after insertion.



For Pin Dia.	Lg.			
1/16"	5 1/2"	91625A110	$67.43	
3/32" (M2.5)	5 3/4"	91625A130	67.43	
1/8" (M3)	6"	91625A140	67.43	
5/32" (M4)	8 1/2"	91625A150	$79.54	
3/16" (M5)	9"	91625A160	73.86	
1/4" (M6)	10"	91625A180	73.86	

Coiled Spring Pins



After installation, pins remain flexible so they absorb shock and vibration better than slotted spring pins. Ends are beveled or rounded to aid insertion. Actual diameter is slightly larger than the diameter shown, allowing pins to fit tightly when installed. For the best fit, your hole should be equal to or slightly larger than the diameter shown. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces. All meet ASME B18.8.2.

18-8 Stainless Steel—More corrosion resistant than Type 420 stainless steel. It may be mildly magnetic. Not rated for hardness.

Type 420 Stainless Steel—Stronger than 18-8 stainless steel and more corrosion resistant than steel. Minimum Rockwell hardness is C46.

Steel—Stronger than 18-8 stainless steel and just as strong as Type 420 stainless steel. Minimum Rockwell hardness is C42. Pins are heat treated.

Extra strength pins are thicker, making them roughly 30% stronger than their standard counterparts.

18-8 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
1/32" Dia.—*Breaking strength not rated*			
1/8"	25	98195A005	$12.30
3/16"	25	98195A010	4.16
1/4"	25	98195A015	6.69
3/8"	25	98195A020	4.63
1/2"	25	98195A025	4.69
5/8"	25	98195A030	12.38
0.039" Dia.—*Breaking strength not rated*			
3/16"	25	98195A050	9.40
1/4"	25	98195A055	9.51
3/8"	25	98195A060	9.72
1/2"	25	98195A065	9.94
3/64" Dia.—*Breaking strength not rated*			
3/16"	25	98195A110	5.16
1/4"	25	98195A115	5.22
3/8"	25	98195A120	6.07
1/2"	25	98195A125	6.77
0.052" Dia.—*Breaks at 190 lbs.*			
1/8"	25	98195A205	$8.23
1/4"	25	98195A210	10.38
3/8"	25	98195A215	9.46
1/2"	25	98195A220	9.60
1/16" Dia.—*Breaks at 250 lbs.*			
5/16"	50	98195A310	11.79
1/2"	50	98195A315	12.27
7/64" Dia.—*Breaks at 800 lbs.*			
1/4"	25	98195A420	9.62
1/2"	25	98195A425	10.16
1/8" Dia.—*Breaks at 1,100 lbs.*			
3/8"	25	98195A505	10.55
1/2"	25	98195A510	11.27
9/16"	25	98195A515	11.61
3/4"	25	98195A520	12.38
15/16"	10	98195A525	7.41
1/4" Dia.—*Breaks at 4,300 lbs.*			
1"	5	98195A705	8.79
1 1/2"	5	98195A710	12.32
2"	5	98195A715	12.65

Type 420 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
1/32" Dia.—*Breaks at 90 lbs.*			
1/8"	50	93740A005	11.16
3/16"	50	93740A010	12.08
1/4"	50	93740A015	12.16
3/8"	50	93740A020	12.44
1/2"	50	93740A025	12.72
5/8"	25	93740A030	12.93
0.039" Dia.—*Breaks at 130 lbs.*			
3/16"	25	93740A050	13.02
1/4"	25	93740A055	6.86
3/8"	25	93740A060	12.31
1/2"	25	93740A065	7.12
3/64" Dia.—*Breaks at 190 lbs.*			
1/8"	50	93740A070	10.73
3/16"	50	93740A072	10.78
1/4"	50	93740A074	11.05
3/8"	50	93740A076	11.37
1/2"	50	93740A078	11.66
5/8"	25	93740A080	12.09
0.052" Dia.—*Breaks at 250 lbs.*			
1/8"	25	93740A090	9.27
1/4"	25	93740A092	10.19
3/8"	25	93740A094	10.41
1/2"	25	93740A096	7.34
1/16" Dia.—*Breaks at 300 lbs.*			
1/4"	50	93740A101	10.69
5/16"	50	93740A103	7.68
3/8"	50	93740A105	8.18
1/2"	50	93740A106	8.02
5/8"	50	93740A107	9.01
3/4"	50	93740A109	8.86
1"	50	93740A112	9.18
5/64" Dia.—*Breaks at 550 lbs.*			
5/16"	50	93740A622	8.02
3/8"	50	93740A623	8.17
1/2"	50	93740A624	8.99
5/8"	50	93740A625	9.29
3/4"	50	93740A626	9.62
1"	50	93740A627	9.77
3/32" Dia.—*Breaks at 750 lbs.*			
1/4"	50	93740A172	8.92
3/8"	50	93740A175	9.29
1/2"	50	93740A179	9.64
5/8"	50	93740A181	10.08
3/4"	50	93740A184	10.49
1"	50	93740A186	11.27
1 1/2"	50	93740A189	14.95
7/64" Dia.—*Breaks at 1,000 lbs.*			
1/4"	25	93740A192	10.69
1/2"	25	93740A194	11.27
3/4"	10	93740A196	5.79
1"	10	93740A198	6.97
1/8" Dia.—*Breaks at 1,400 lbs.*			
3/8"	50	93740A203	10.58
7/16"	50	93740A206	11.05
1/2"	50	93740A209	12.41
5/8"	50	93740A212	12.49
3/4"	50	93740A215	13.39
7/8"	25	93740A218	7.31
1"	25	93740A221	7.18
1 1/4"	25	93740A224	8.02
1 1/2"	25	93740A227	10.47
2"	25	93740A231	11.68
5/32" Dia.—*Breaks at 2,200 lbs.*			
1/2"	25	93740A264	7.40
3/4"	25	93740A266	8.33
1"	25	93740A269	10.49
1 1/2"	25	93740A272	12.61
2"	10	93740A275	6.22
3/16" Dia.—*Breaks at 3,100 lbs.*			
1/2"	25	93740A311	10.12
5/8"	10	93740A313	7.28
3/4"	10	93740A315	5.02
7/8"	10	93740A317	8.27
1"	10	93740A319	5.67
1 1/2"	10	93740A324	6.28
2"	10	93740A327	7.70
7/32" Dia.—*Breaks at 4,200 lbs.*			
3/4"	25	93740A352	13.65
1"	10	93740A355	6.14
1 1/2"	10	93740A358	7.78
2"	10	93740A362	11.66
1/4" Dia.—*Breaks at 5,500 lbs.*			
3/4"	10	93740A411	10.90
1"	10	93740A413	7.63
1 1/8"	10	93740A418	7.79
1 1/4"	10	93740A422	8.24
1 3/8"	5	93740A424	9.22
1 1/2"	5	93740A426	5.08
1 3/4"	5	93740A427	9.97
2"	5	93740A429	6.02
2 1/2"	5	93740A432	6.98
3"	1	93740A436	3.75

Type 420 Stainless Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
5/16" Dia.—*Breaks at 8,700 lbs.*			
1"	10	93740A608	$11.51
1 1/2"	5	93740A611	7.52
2"	5	93740A613	10.18
5/16" Dia. (Cont.)			
2 1/2"	1	93740A616	$3.10
2 3/4"	1	93740A619	3.23

Extra Strength Type 420 Stainless Steel

Lg.	Pkg. Qty.		Pkg.
3/32" Dia.—*Breaks at 1,100 lbs.*			
1/4"	50	95765A204	13.24
3/8"	50	95765A209	13.91
1/2"	50	95765A215	14.45
5/8"	25	95765A219	7.08
3/4"	25	95765A225	7.43
1"	25	95765A231	8.02
1 1/2"	25	95765A238	10.17
1/8" Dia.—*Breaks at 2,000 lbs.*			
3/8"	25	95765A316	7.75
7/16"	25	95765A321	7.99
1/2"	25	95765A327	8.38
5/8"	25	95765A334	9.03
3/4"	25	95765A339	9.28
7/8"	25	95765A342	10.88
1"	25	95765A348	11.51
1 1/4"	25	95765A354	12.82
1 1/2"	10	95765A359	5.90
2"	10	95765A361	8.13
3/16" Dia.—*Breaks at 4,500 lbs.*			
1/2"	10	95765A408	6.13
3/16" Dia. (Cont.)			
3/4"	10	95765A413	7.09
7/8"	10	95765A415	3.31
1"	10	95765A417	8.09
1 1/4"	5	95765A419	11.83
1 1/2"	5	95765A422	5.39
1 3/4"	5	95765A424	3.40
2"	5	95765A426	6.64
2 1/2"	5	95765A433	8.73
1/4" Dia.—*Breaks at 7,800 lbs.*			
1/2"	5	95765A512	8.05
3/4"	5	95765A514	12.31
1"	5	95765A516	7.73
1 1/8"	5	95765A524	7.33
1 1/4"	5	95765A533	7.72
1 3/8"	5	95765A536	12.05
1 1/2"	5	95765A539	9.10
1 3/4"	5	95765A542	11.75
2"	5	95765A545	9.90
2 1/2"	5	95765A551	11.67

Steel

Lg.	Pkg. Qty.		Pkg.
1/16" Dia.—*Breaks at 300 lbs.*			
1/4"	100	91598A105	5.04
5/16"	100	91598A103	5.00
3/8"	100	91598A104	8.15
1/2"	100	91598A106	5.06
5/8"	100	91598A108	8.60
3/4"	100	91598A110	5.13
1"	100	91598A114	5.45
5/64" Dia.—*Breaks at 550 lbs.*			
5/16"	100	91598A632	5.01
3/8"	100	91598A633	5.07
1/2"	100	91598A634	5.29
5/8"	100	91598A635	5.43
3/4"	100	91598A636	5.23
1"	100	91598A637	5.45
3/32" Dia.—*Breaks at 750 lbs.*			
1/4"	100	91598A200	5.32
3/8"	100	91598A202	5.36
1/2"	100	91598A204	5.40
5/8"	100	91598A206	5.92
3/4"	100	91598A208	6.23
1"	100	91598A212	6.67
1 1/2"	100	91598A216	7.97
7/64" Dia.—*Breaks at 1,000 lbs.*			
1/4"	50	91598A230	8.23
1/2"	50	91598A234	8.21
3/4"	50	91598A238	9.03
1"	50	91598A242	9.83
1 1/2"	25	91598A246	14.00
1/8" Dia.—*Breaks at 1,400 lbs.*			
3/8"	100	91598A250	5.80
7/16"	100	91598A251	6.51
1/2"	100	91598A252	6.60
5/8"	100	91598A253	6.82
3/4"	100	91598A256	7.02
7/8"	100	91598A258	7.12
1"	100	91598A260	7.90
1 1/4"	100	91598A262	8.88
1 1/2"	100	91598A264	10.74
2"	100	91598A268	14.05
5/32" Dia.—*Breaks at 2,200 lbs.*			
1/2"	100	91598A301	8.25
5/8"	100	91598A303	8.94
3/4"	100	91598A305	8.88
7/8"	100	91598A307	10.78
1"	100	91598A309	10.80
1 1/2"	100	91598A313	13.33
2"	50	91598A317	8.99
3/16" Dia.—*Breaks at 3,100 lbs.*			
1/2"	100	91598A350	10.31
5/8"	50	91598A352	10.67
3/4"	50	91598A354	7.44
7/8"	50	91598A356	12.08
1"	50	91598A358	8.46
1 1/4"	25	91598A360	7.69
1 1/2"	25	91598A362	5.66
1 3/4"	25	91598A366	8.89
2"	25	91598A372	6.47
2 1/2"	25	91598A376	9.28
7/32" Dia.—*Breaks at 4,200 lbs.*			
3/4"	50	91598A413	7.13
1"	50	91598A417	8.54
1 1/2"	50	91598A419	11.02
2"	50	91598A423	14.52
1/4" Dia.—*Breaks at 5,500 lbs.*			
3/4"	50	91598A470	13.46
1"	50	91598A474	9.96
1 1/8"	50	91598A478	10.69
1 1/4"	50	91598A482	11.23
1 3/8"	25	91598A484	10.90
1 1/2"	25	91598A486	7.62
1 3/4"	25	91598A488	10.86
2"	25	91598A490	9.18
2 1/4"	10	91598A492	6.45
2 1/2"	10	91598A494	4.53
3"	10	91598A498	4.86
3 1/2"	10	91598A502	5.59
5/16" Dia.—*Breaks at 8,700 lbs.*			
1"	25	91598A524	6.72
1 1/4"	25	91598A526	8.63
1 1/2"	25	91598A528	9.14
1 3/4"	25	91598A530	11.33

(Continued on following page)

Coiled Spring Pins *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
Steel (Cont.)			
5/16" Dia. (Cont.)—Breaks at 8,700 lbs.			
2"	25	91598A532	$12.47
2 1/2"	25	91598A536	14.97
3"	10	91598A540	7.06
4"	10	91598A544	9.46
3/8" Dia.—Breaks at 12,600 lbs.			
1"	10	91598A565	8.54
Extra Strength Steel			
1/16" Dia.—Breaks at 450 lbs.			
1/4"	50	95755A051	8.49
1/2"	50	95755A053	8.91
1"	10	95755A057	6.95
3/32" Dia.—Breaks at 1,100 lbs.			
1/4"	100	95755A111	8.81
3/8"	100	95755A116	7.56
1/2"	100	95755A119	7.81
5/8"	100	95755A123	8.19
3/4"	100	95755A127	8.50
1"	100	95755A131	9.19
1 1/2"	100	95755A136	11.20
1/8" Dia.—Breaks at 2,000 lbs.			
1/4"	100	95755A210	8.80
3/8"	100	95755A212	9.15
7/16"	100	95755A216	9.12
1/2"	100	95755A221	9.88
5/8"	100	95755A227	10.69
3/4"	100	95755A231	11.44
7/8"	100	95755A236	12.20
1"	100	95755A239	12.86
1 1/4"	100	95755A242	14.47

Lg.	Pkg. Qty.		Pkg.
3/8" Dia. (Cont.)			
1 1/2"	10	91598A567	$12.71
2"	10	91598A572	10.72
2 1/2"	5	91598A574	11.11
3"	5	91598A576	11.14
3 1/2"	5	91598A578	13.64
1/8" Dia. (Cont.)			
1 1/2"	50	95755A246	8.72
2"	50	95755A249	11.43
3/16" Dia.—Breaks at 4,500 lbs.			
1/2"	50	95755A313	9.05
5/8"	50	95755A315	9.68
3/4"	50	95755A319	10.40
7/8"	50	95755A321	11.58
1"	50	95755A324	11.85
1 1/4"	25	95755A328	7.35
1 1/2"	25	95755A331	8.95
1 3/4"	10	95755A138	6.77
2"	10	95755A336	4.36
2 1/2"	10	95755A342	4.39
1/4" Dia.—Breaks at 7,800 lbs.			
3/4"	50	95755A402	9.09
1"	25	95755A404	9.19
1 1/8"	25	95755A409	9.80
1 1/4"	25	95755A415	10.32
1 3/8"	10	95755A417	5.34
1 1/2"	10	95755A419	5.56

Lg.	Pkg. Qty.		Pkg.
Extra Strength Steel (Cont.)			
1/4" Dia. (Cont.)			
1 3/4"	10	95755A421	$6.04
2"	10	95755A423	6.73
2 1/2"	10	95755A429	7.36
3"	5	95755A433	5.52
5/16" Dia.—Breaks at 12,000 lbs.			
1"	5	95755A471	12.51
1 1/4"	5	95755A473	6.96
1 1/2"	5	95755A474	13.17
1 3/4"	1	95755A475	3.14
2"	1	95755A477	.75
2 1/2"	1	95755A481	.91
3"	1	95755A485	1.07
3/8" Dia.—			
Breaking strength not rated			
1"	10	95755A508	12.08
1 1/4"	5	95755A514	6.37
1 1/2"	5	95755A519	7.53
2"	5	95755A525	9.83
2 1/2"	5	95755A530	12.13
3"	1	95755A536	2.88

Lg.	Pkg. Qty.		Pkg.
1/2" Dia.—			
Breaking strength not rated			
1 1/4"	5	95755A641	$9.82
1 1/2"	5	95755A646	10.24
1 3/4"	1	95755A652	2.37
2"	1	95755A658	2.77
2 1/2"	1	95755A665	3.57
3"	1	95755A673	4.39
5/8" Dia.—			
Breaking strength not rated			
2 1/2"	1	95755A737	5.27
3 1/2"	1	95755A749	12.66
3/4" Dia.—			
Breaking strength not rated			
2"	1	95755A867	16.84
3"	1	95755A880	17.03
4"	1	95755A889	24.60
5"	1	95755A897	24.80

Assortments—Come in a compartmented plastic box with lid chart.

Material	Dia. Range	Lg. Range		
230-Piece Assortment				
Type 420 SS	1/16"-5/16"	3/8"-2"	93740A642	$124.49
1,000-Piece Assortment				
Steel	1/16"-5/16"	1/4"-3 1/2"	91598A645	144.35

Metric Coiled Spring Pins



Pins remain flexible after installation so they absorb shock and vibration better than slotted spring pins. Ends are beveled or rounded to aid insertion. Actual diameter is slightly larger than the diameter shown, allowing pins to fit tightly when installed. For the best fit, your hole should be equal to or slightly greater than the diameter shown. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces. Meet ISO 8750.

18-8 Stainless Steel—More corrosion resistant than steel. May be mildly magnetic. Not rated for hardness.

Steel—Stronger than 18-8 stainless steel. Minimum Rockwell hardness is C43.

Lg., mm	18-8 Stainless Steel Pkg. Qty.		18-8 Stainless Steel Pkg.	Steel Pkg. Qty.		Steel Pkg.
M1 Dia.—Breaks at 100 lbs. (18-8 Stainless Steel), 130 lbs. (Steel)						
4	50	91612A101	$11.05	50	91612A205	$8.36
6	50	91612A103	9.83	50	91612A207	9.05
10	50	91612A107	10.31	—	—	—
M2 Dia.—Breaks at 400 lbs. (18-8 Stainless Steel), 550 lbs. (Steel)						
8	50	91612A111	11.48	50	91612A211	9.05
10	25	91612A113	7.11	50	91612A216	9.05
12	25	91612A115	5.86	50	91612A217	9.20
18	25	91612A121	6.63	50	91612A219	9.51
M2.5 Dia.—Breaks at 650 lbs. (18-8 Stainless Steel), 850 lbs. (Steel)						
8	25	91612A125	5.75	50	91612A253	8.06
12	25	91612A129	8.67	50	91612A255	8.36
16	25	91612A132	11.25	50	91612A257	9.52
20	10	91612A136	2.93	50	91612A263	8.90
M3 Dia.—Breaks at 900 lbs. (18-8 Stainless Steel), 1,200 lbs. (Steel)						
8	25	91612A141	7.32	50	91612A221	10.58
10	25	91612A143	7.08	50	91612A222	7.88
12	25	91612A145	8.01	50	91612A224	11.48
14	25	91612A147	8.48	50	91612A223	5.86
16	25	91612A149	8.64	50	91612A225	9.79
18	25	91612A151	12.80	25	91612A226	6.60
20	25	91612A153	10.60	25	91612A227	5.12
25	—	—	—	25	91612A229	7.39
30	10	91612A159	6.07	25	91612A230	6.65
M4 Dia.—Breaks at 1,700 lbs. (18-8 Stainless Steel), 2,100 lbs. (Steel)						
9.5	—	—	—	25	91612A231	7.70
12	10	91612A161	4.83	25	91612A232	3.40

Lg., mm	18-8 Stainless Steel Pkg. Qty.		18-8 Stainless Steel Pkg.	Steel Pkg. Qty.		Steel Pkg.
M4 Dia. (Cont.)						
14	10	91612A163	$6.17	25	91612A233	$8.34
19	—	—	—	25	91612A236	10.04
24	10	91612A169	7.64	25	91612A239	12.41
30	—	—	—	25	91612A240	9.68
35	10	91612A173	11.33	25	91612A241	12.10
M5 Dia.—Breaks at 2,500 lbs. (18-8 Stainless Steel), 3,300 lbs. (Steel)						
12	10	91612A175	6.17	25	91612A702	7.99
20	10	91612A179	8.21	25	91612A719	8.06
30	5	91612A182	6.45	25	91612A736	10.48
35	5	91612A185	6.98	25	91612A753	10.49
40	5	91612A190	7.36	10	91612A758	6.55
M6 Dia.—Breaks at 3,700 lbs. (18-8 Stainless Steel), 4,900 lbs. (Steel)						
16	5	91612A191	4.26	25	91612A787	11.29
20	5	91612A193	4.87	25	91612A804	11.67
24	5	91612A195	6.31	25	91612A821	12.10
30	5	91612A197	7.10	10	91612A838	6.13
35	5	91612A199	7.93	5	91612A855	3.39
40	5	91612A201	8.37	5	91612A860	2.98
M8 Dia.—Breaks at 8,700 lbs. (Steel)						
19	—	—	—	10	91612A242	11.53
25	—	—	—	5	91612A244	7.47
30	—	—	—	5	91612A245	6.45
35	—	—	—	5	91612A246	9.19
40	—	—	—	5	91612A249	7.04
45	—	—	—	5	91612A248	11.18

Dowel Pin Stock



Ready to cut, these pin blanks are 12" long with flat ends. Not rated for breaking strength.

18-8 Stainless Steel—Corrosion resistant and may be mildly magnetic. Diameter tolerance is ±0.002". Min. Rockwell hardness is B83. ***Alloy Steel—***Easier to machine than high-speed steel. Diameter tolerance is –0.003". Min. Rockwell hardness is B90. ***High-Speed Tool Steel—***Harder than 18-8 stainless steel and alloy steel. Diameter tolerance is ±0.002". Min. Rockwell hardness is C60.

Dia.	18-8 Stainless Steel		Alloy Steel		High-Speed Tool Steel	
1/8"	95609A010	$12.92	98912A710	$12.43	99585A340	$33.62
5/32"	95609A030	9.86	98912A730	9.81	99585A360	35.33
3/16"	95609A050	3.15	98912A750	4.51	99585A380	35.33
1/4"	95609A070	4.71	98912A770	6.34	99585A400	35.33
5/16"	95609A090	7.13	98912A790	7.66	99585A420	37.60
3/8"	95609A110	9.06	98912A810	9.74	99585A440	39.84
1/2"	95609A150	16.66	98912A850	17.92	99585A480	43.31
9/16"	95609A170	22.48	98912A870	24.20	99585A500	50.56

Dowel Pins



Pins are precision ground (unless noted) for more accurate alignment and slightly oversized for tight fit. To aid insertion, ends are beveled or rounded (unless noted). For a tight fit, hole should be equal to or slightly smaller than the diameter shown. Breaking strength and Rockwell hardness are not rated (unless noted). Materials with breaking strength are measured as double shear, which is the force required to break a pin into three pieces.

Type 316 Stainless Steel—Our most corrosion resistant dowel pins. May be magnetic. Dia. tolerance is +0.0002″.

18-8 Stainless Steel—More corrosion resistant than Type 416 stainless steel. May be magnetic. Dia. tolerance is +0.0002″ (unless noted). The 1/64″ has a dia. tolerance of –0.0001″ to +0.0005″, cut ends, and is machined.

Type 416 Stainless Steel—Stronger than both Type 316 and 18-8 stainless steel and magnetic. All are passivated to guard against oxidation. Dia. tolerance is +0.0001″ to +0.0003″. Meet Mil. Spec. 16555 wherever a dash number is shown.

Alloy Steel—Our strongest dowel pins. Made from hardened steel. Dia. tolerance is +0.0001″ to +0.0003″ (unless noted). Pins have at least one rounded end. Meet ASME B18.8.2 (unless noted). The 1/32″ has a dia. tolerance of +0.0003″, cut ends, is machined, and does not meet ASME specifications.

Black-Oxide Alloy Steel—Provides slightly more rust resistance and friction reduction than alloy steel. Dia. tolerance is +0.0001″ to +0.0003″. Meet ASME B18.8.2.

Titanium—Nearly as strong as steel, yet 60% lighter and resistant to high temperatures. Nonmagnetic. Dia. tolerance is +0.0001″ to +0.0003″.

Nickel-Copper—Comparable to Monel, it's corrosion resistant in salt water, heat resistant, and may be magnetic. Dia. tolerance is +0.0001″ to +0.0003″.

Also Available: Type 416 Stainless Steel Mil. Spec. dowel pins with material certification for an additional cost of $6.00. Order 98380A801 and specify dash number.

Type 316 Stainless Steel—Strength not rated

Lg.	Pkg. Qty.		Pkg.
1/32″ Dia.			
1/8″	10	97395A351	$5.53
3/16″	10	97395A354	5.59
1/4″	10	97395A357	6.25
3/8″	10	97395A361	6.45
1/2″	10	97395A363	7.02
5/8″	10	97395A366	8.10
1/16″ Dia.			
1/8″	10	97395A394	6.75
3/16″	10	97395A397	6.92
1/4″	25	97395A401	10.48
5/16″	10	97395A403	6.92
3/8″	25	97395A405	11.05
7/16″	10	97395A409	7.08
1/2″	25	97395A410	12.00
5/8″	10	97395A412	7.86
3/4″	10	97395A414	5.41
7/8″	10	97395A416	8.33
1″	10	97395A418	6.14
1 1/4″	5	97395A419	7.05
1 1/2″	5	97395A420	8.76
2″	5	97395A601	10.72
3/32″ Dia.			
1/4″	25	97395A421	12.48
3/8″	10	97395A425	7.06
1/2″	10	97395A431	7.71
5/8″	10	97395A432	6.02
3/4″	10	97395A433	7.68
7/8″	10	97395A602	9.26
1″	10	97395A434	8.23
1 1/4″	5	97395A603	8.19
1 1/2″	5	97395A604	10.14
2″	5	97395A605	12.12
1/8″ Dia.			
3/16″	10	97395A438	7.06
1/4″	10	97395A439	6.14
5/16″	10	97395A606	7.45
3/8″	10	97395A435	6.36
7/16″	10	97395A440	7.96
1/2″	10	97395A441	6.89
9/16″	10	97395A443	8.81
5/8″	10	97395A445	7.59
3/4″	10	97395A451	8.12
7/8″	10	97395A607	11.04
1″	10	97395A452	9.79
1 1/8″	5	97395A608	7.78
1 1/4″	5	97395A453	4.91
1 3/8″	5	97395A609	9.38
1 1/2″	5	97395A454	5.91
1 3/4″	5	97395A610	10.72
2″	5	97395A611	12.12
2 1/4″	1	97395A612	2.97
2 1/2″	1	97395A613	3.30
3″	1	97395A614	3.47
5/32″ Dia.			
1/2″	5	97395A701	8.00
1″	5	97395A708	11.67
3/16″ Dia.			
1/4″	10	97395A456	9.79
5/16″	10	97395A457	9.20
3/8″	10	97395A455	7.56
7/16″	10	97395A458	9.43
1/2″	10	97395A461	8.41
9/16″	10	97395A463	10.81
5/8″	10	97395A465	9.21
3/4″	10	97395A471	10.10
3/16″ Dia. (Cont.)			
7/8″	5	97395A472	$7.56
1″	10	97395A473	12.67
1 1/8″	5	97395A474	11.25
1 1/4″	5	97395A615	12.85
1 1/2″	1	97395A616	3.47
1 3/4″	1	97395A617	3.63
2″	1	97395A618	4.40
2 1/4″	1	97395A619	4.60
2 1/2″	1	97395A620	4.80
3″	1	97395A621	5.20
1/4″ Dia.			
3/8″	10	97395A622	11.82
1/2″	10	97395A475	10.21
9/16″	10	97395A477	12.91
5/8″	10	97395A481	11.13
3/4″	10	97395A485	11.99
7/8″	5	97395A488	6.96
1″	10	97395A491	13.13
1 1/8″	5	97395A623	9.14
1 1/4″	5	97395A492	8.70
1 3/8″	5	97395A493	12.50
1 1/2″	5	97395A494	11.48
1 3/4″	1	97395A496	2.97
2″	1	97395A497	3.33
2 1/4″	1	97395A498	3.50
2 1/2″	1	97395A499	3.66
3″	1	97395A500	3.84
3 1/2″	1	97395A624	4.50
5/16″ Dia.			
3/4″	5	97395A495	8.29
1″	5	97395A501	10.44
1 1/4″	5	97395A505	12.44
1 1/2″	1	97395A510	3.10
2″	1	97395A511	4.34
2 1/2″	1	97395A512	4.50
3″	1	97395A513	4.67
3/8″ Dia.			
3/4″	5	97395A515	11.25
1″	5	97395A521	12.60
1 1/4″	1	97395A525	3.19
1 1/2″	1	97395A531	3.40
1 3/4″	1	97395A535	4.50
2″	1	97395A539	4.50
2 1/2″	1	97395A545	5.50
3″	1	97395A550	6.00
3 1/2″	1	97395A556	6.34
4″	1	97395A562	6.67
1/2″ Dia.			
1″	1	97395A759	6.00
1 1/4″	1	97395A764	6.67
1 1/2″	1	97395A768	7.00
1 3/4″	1	97395A772	7.50
2″	1	97395A776	8.17
2 1/2″	1	97395A781	9.00
3″	1	97395A785	9.67
4″	1	97395A789	11.76
5″	1	97395A790	13.83
5/8″ Dia.			
1 1/2″	1	97395A821	8.43
2″	1	97395A825	10.00
3″	1	97395A829	12.83
3/4″ Dia.			
1 1/2″	1	97395A850	10.00
2″	1	97395A855	11.76
3″	1	97395A859	15.11

18-8 Stainless Steel—Strength not rated

Lg.	Pkg. Qty.		Pkg.
1/64″ Dia.			
1/4″	1	90145A290	$20.33
3/8″	1	90145A293	13.66
1/2″	1	90145A296	13.66
1/32″ Dia.			
1/8″	100	90145A305	10.50
3/16″	100	90145A310	11.10
1/4″	100	90145A312	11.85
5/16″	100	90145A313	12.27
3/8″	50	90145A315	6.59
7/16″	50	90145A316	6.58
1/2″	50	90145A317	7.12
5/8″	50	90145A318	7.71
3/4″	10	90145A322	6.70
1″	10	90145A328	10.40
1/16″ Dia.			
1/8″	100	90145A413	7.86
3/16″	100	90145A414	8.24
1/4″	100	90145A415	8.57
5/16″	100	90145A416	8.65
3/8″	100	90145A417	9.21
7/16″	100	90145A418	9.61
1/2″	100	90145A419	10.01
9/16″	100	90145A420	10.49
5/8″	100	90145A421	11.29
3/4″	100	90145A422	11.71
7/8″	100	90145A424	12.14
1″	100	90145A423	12.32
1 1/4″	50	90145A425	8.23
1 1/2″	50	90145A427	9.00
1 3/4″	5	90145A428	7.81
2 1/2″	5	90145A431	12.57
3″	1	90145A432	2.83
3/32″ Dia.			
3/16″	100	90145A433	10.71
1/4″	100	90145A434	11.13
5/16″	100	90145A435	11.54
3/8″	100	90145A436	12.47
7/16″	100	90145A437	13.38
1/2″	50	90145A438	7.34
9/16″	50	90145A439	7.57
5/8″	50	90145A440	8.11
3/4″	50	90145A441	8.68
7/8″	50	90145A442	9.48
1″	50	90145A443	10.12
1 1/8″	50	90145A444	9.96
1 1/4″	25	90145A445	7.92
1 1/2″	25	90145A447	8.61
1 3/4″	25	90145A449	10.61
2″	25	90145A451	12.47
1/8″ Dia.			
3/16″	50	90145A876	7.20
1/4″	50	90145A469	7.20
5/16″	50	90145A878	7.34
3/8″	50	90145A470	7.49
7/16″	50	90145A481	7.56
1/2″	50	90145A471	8.03
9/16″	50	90145A483	8.41
5/8″	50	90145A472	8.54
3/4″	50	90145A473	10.38
7/8″	50	90145A474	11.98
1″	25	90145A475	7.15
1 1/8″	25	90145A882	7.23
1 1/4″	25	90145A477	8.91
1/8″ Dia. (Cont.)			
1 3/8″	10	90145A478	$12.50
1 1/2″	10	90145A884	3.71
1 5/8″	10	90145A886	12.73
1 3/4″	10	90145A479	4.38
2″	10	90145A480	5.29
2 1/4″	10	90145A482	6.56
2 1/2″	10	90145A487	7.12
3″	1	90145A887	2.97
3 1/2″	1	90145A888	2.97
4″	1	90145A889	3.20
5/32″ Dia.			
1/4″	50	90145A489	12.10
3/8″	50	90145A484	13.19
1/2″	25	90145A486	7.72
5/8″	25	90145A488	9.08
3/4″	25	90145A490	10.43
7/8″	10	90145A491	10.67
1″	10	90145A492	5.04
1 1/8″	10	90145A493	10.84
1 1/4″	10	90145A494	6.48
1 3/8″	10	90145A495	11.83
1 1/2″	10	90145A496	7.12
1 3/4″	10	90145A497	13.34
2″	10	90145A498	7.31
2 1/4″	1	90145A499	2.91
3/16″ Dia.			
1/4″	20	90145A501	4.66
5/16″	20	90145A502	4.64
3/8″	20	90145A503	4.72
7/16″	20	90145A504	4.71
1/2″	20	90145A505	4.77
9/16″	20	90145A506	5.25
5/8″	20	90145A507	5.77
3/4″	20	90145A508	7.23
7/8″	20	90145A509	7.77
1″	20	90145A510	8.07
1 1/8″	20	90145A511	9.63
1 1/4″	20	90145A512	10.07
1 3/8″	20	90145A513	11.62
1 1/2″	20	90145A514	12.51
1 5/8″	5	90145A518	7.13
1 3/4″	20	90145A516	10.32
2″	10	90145A515	8.37
2 1/4″	10	90145A517	9.47
2 1/2″	10	90145A519	10.46
2 3/4″	1	90145A521	3.43
3″	1	90145A523	3.64
3 1/2″	1	90145A525	3.77
4″	1	90145A529	3.83
1/4″ Dia.			
1/4″	10	90145A534	11.09
3/8″	10	90145A536	3.14
7/16″	10	90145A890	10.49
1/2″	10	90145A537	3.44
9/16″	10	90145A891	11.67
5/8″	10	90145A539	4.60
3/4″	10	90145A540	5.67
7/8″	10	90145A541	5.86
1″	10	90145A542	6.24
1 1/8″	10	90145A543	6.55
1 1/4″	10	90145A544	7.99
1 3/8″	10	90145A545	8.41

(Continued on following page)

Dowel Pins *(Continued from previous page)*

18-8 Stainless Steel (Cont.)—*Strength not rated*

Lg.	Pkg. Qty.		Pkg.
1/4" Dia. (Cont.)			
1 1/2"	10	90145A546	$8.56
1 3/4"	10	90145A548	9.20
2"	10	90145A549	10.03
2 1/4"	5	90145A550	7.18
2 1/2"	5	90145A551	8.32
2 3/4"	5	90145A552	13.33
3"	5	90145A553	11.41
3 1/4"	1	90145A555	4.17
3 1/2"	1	90145A557	4.34
3 3/4"	1	90145A559	4.67
4"	1	90145A561	6.13
4 1/2"	1	90145A563	6.17
5"	1	90145A567	6.67
6"	1	90145A572	6.83
5/16" Dia.			
3/8"	20	90145A577	11.07
1/2"	5	90145A578	3.83
5/8"	10	90145A579	7.47
3/4"	10	90145A581	8.49
7/8"	10	90145A580	8.36
1"	10	90145A583	8.74
1 1/4"	10	90145A585	11.67
1 1/2"	5	90145A587	7.74
1 3/4"	5	90145A589	8.70
2"	5	90145A591	10.34
2 1/4"	1	90145A892	3.20
2 1/2"	1	90145A592	2.74
2 3/4"	1	90145A893	3.47
3"	1	90145A593	3.05
3 1/2"	1	90145A597	4.43
4"	1	90145A599	5.50
4 1/2"	1	90145A603	5.83
5"	1	90145A605	6.00
6"	1	90145A609	6.33
3/8" Dia.			
1/2"	10	90145A619	8.96
5/8"	10	90145A620	10.17
3/4"	10	90145A622	12.95
7/8"	10	90145A623	12.42
1"	5	90145A624	7.78
1 1/4"	5	90145A626	9.16
1 3/8"	5	90145A627	12.00
1 1/2"	5	90145A628	10.54
1 3/4"	5	90145A630	13.26
2"	1	90145A632	3.01
2 1/4"	5	90145A885	11.46
2 1/2"	1	90145A633	3.64
2 3/4"	1	90145A894	4.40
3"	1	90145A634	3.90
3 1/4"	1	90145A636	5.50
3 1/2"	1	90145A640	5.50
3 3/4"	1	90145A644	5.66
4"	1	90145A648	6.67
4 1/2"	1	90145A650	7.17
5"	1	90145A654	7.50
6"	1	90145A658	8.34
7/16" Dia.			
1"	5	90145A669	8.14
1 1/4"	1	90145A671	2.82
1 1/2"	1	90145A673	2.98
1 3/4"	1	90145A675	3.06
2"	5	90145A677	11.73
2 1/4"	1	90145A679	4.45
2 1/2"	1	90145A681	5.12
3"	1	90145A685	7.50
7/16" Dia. (Cont.)			
4"	1	90145A689	$9.17
5"	1	90145A693	10.50
6"	1	90145A697	11.76
1/2" Dia.			
1/2"	5	90145A708	11.66
5/8"	5	90145A709	12.50
3/4"	5	90145A710	12.24
7/8"	5	90145A711	12.50
1"	5	90145A712	10.84
1 1/4"	1	90145A714	3.08
1 1/2"	1	90145A716	3.48
1 3/4"	1	90145A718	5.30
2"	1	90145A720	4.65
2 1/4"	1	90145A721	6.22
2 1/2"	1	90145A722	5.62
2 3/4"	1	90145A723	6.91
3"	1	90145A725	5.94
3 1/4"	1	90145A895	7.28
3 1/2"	1	90145A726	5.24
3 3/4"	1	90145A727	7.88
4"	1	90145A729	8.16
4 1/2"	1	90145A731	10.00
5"	1	90145A733	11.17
6"	1	90145A737	12.17
5/8" Dia.			
1"	1	90145A739	4.25
1 1/2"	1	90145A741	5.32
1 3/4"	1	90145A750	7.16
2"	1	90145A742	6.68
2 1/4"	1	90145A755	8.44
2 1/2"	1	90145A804	5.67
2 3/4"	1	90145A756	8.63
3"	1	90145A743	9.58
3 1/4"	1	90145A759	9.29
4"	1	90145A810	7.53
4 1/2"	1	90145A765	12.43
5"	1	90145A769	13.58
6"	1	90145A774	15.42
3/4" Dia.			
1"	1	90145A795	9.20
1 1/2"	1	90145A797	10.16
2"	1	90145A801	10.49
2 1/2"	1	90145A803	14.50
3"	1	90145A802	14.31
3 1/2"	1	90145A805	17.88
4"	1	90145A806	19.78
4 1/2"	1	90145A807	22.27
5"	1	90145A808	25.30
6"	1	90145A809	28.34
7/8" Dia.			
1"	1	90145A211	15.09
1 1/2"	1	90145A212	15.74
2"	1	90145A213	15.55
2 1/2"	1	90145A214	21.92
3"	1	90145A215	21.78
1" Dia.			
1"	1	90145A900	11.66
1 1/4"	1	90145A902	14.00
1 1/2"	1	90145A904	15.10
2"	1	90145A906	18.44
3"	1	90145A910	25.10
4"	1	90145A914	27.23
5"	1	90145A918	32.42
6"	1	90145A924	47.51

Type 416 Stainless Steel

Lg.	Dash No.	Pkg. Qty.		Pkg.
1/32" Dia. —*Strength not rated*				
3/16"		1	98380A030	$3.58
1/4"		1	98380A034	3.58
3/8"		1	98380A038	3.80
3/64" Dia. —*Strength not rated*				
1/4"		25	98380A311	9.02
1/2"		5	98380A401	12.86
3/4"		5	98380A403	13.57
1/16" Dia. —*Breaks at 600 lbs.*				
1/8"		25	98380A413	$8.86
3/16"	601	25	98380A414	8.21
1/4"	602	25	98380A415	8.27
5/16"	603	25	98380A416	8.32
3/8"	604	25	98380A417	8.38
7/16"	605	25	98380A418	8.44
1/2"	606	25	98380A419	8.49
5/8"	607	25	98380A421	10.22

Type 416 Stainless Steel (Cont.)

Lg.	Dash No.	Pkg. Qty.		Pkg.
1/16" Dia. (Cont.)				
3/4"	608	25	98380A422	$10.01
7/8"		25	98380A420	10.34
1"		25	98380A423	12.77
1 1/4"		10	98380A424	11.82
1 1/2"		5	98380A425	7.05
2"		5	98380A427	7.55
5/64" Dia. —*Breaks at 700 lbs.*				
1/2"		5	98380A429	7.50
1"		5	98380A431	8.51
3/32" Dia. —*Breaks at 1,000 lbs.*				
3/16"		25	98380A433	9.88
1/4"		25	98380A434	9.21
5/16"	617	25	98380A435	9.06
3/8"	618	25	98380A436	9.06
7/16"	619	25	98380A437	9.06
1/2"	620	25	98380A438	9.88
9/16"		10	98380A439	8.07
5/8"	621	25	98380A440	10.03
3/4"	622	25	98380A441	10.11
7/8"	623	25	98380A442	11.61
1"	624	25	98380A443	12.00
1 1/4"		10	98380A445	7.89
1 1/2"		10	98380A447	11.67
2"		5	98380A451	6.86
7/64" Dia. —*Strength not rated*				
1/2"		5	98380A455	8.75
1"		5	98380A457	10.00
1 1/2"		5	98380A459	10.01
1/8" Dia. —*Breaks at 1,800 lbs.*				
3/16"		25	98380A467	8.12
1/4"		25	98380A469	10.63
5/16"		25	98380A878	9.01
3/8"	625	25	98380A470	9.03
7/16"	626	25	98380A481	8.64
1/2"	627	25	98380A471	9.03
9/16"		25	98380A901	9.38
5/8"	628	25	98380A472	9.03
3/4"	629	25	98380A473	10.63
7/8"	630	25	98380A474	10.23
1"	631	25	98380A475	13.00
1 1/8"		10	98380A476	5.57
1 1/4"	632	10	98380A477	8.23
1 3/8"		10	98380A478	5.71
1 1/2"	633	10	98380A479	8.00
1 3/4"		5	98380A480	7.61
2"		5	98380A902	5.29
2 1/4"		5	98380A903	12.15
2 1/2"		5	98380A904	12.29
2 3/4"		1	98380A905	3.11
3"		1	98380A906	4.38
3 1/2"		1	98380A907	5.00
4"		1	98380A908	7.00
5/32" Dia. —*Breaks at 2,800 lbs.*				
3/8"		10	98380A482	7.02
1/2"	634	10	98380A483	8.20
5/8"	635	10	98380A485	8.37
3/4"	636	10	98380A487	8.40
1"	638	10	98380A489	9.30
1 1/4"	639	10	98380A491	10.00
1 1/2"		5	98380A492	10.00
1 3/4"		5	98380A493	12.15
2"		1	98380A494	3.11
3"		1	98380A498	4.00
3/16" Dia. —*Breaks at 4,000 lbs.*				
1/4"		10	98380A501	5.57
5/16"		10	98380A502	6.71
3/8"		10	98380A503	5.66
7/16"		10	98380A504	7.35
1/2"		10	98380A505	6.56
5/8"	640	10	98380A507	7.71
3/4"	641	10	98380A508	9.14
7/8"		10	98380A509	11.67
1"	643	10	98380A510	10.81
1 1/4"	644	10	98380A512	12.06
1 1/2"	645	10	98380A514	12.14
1 3/4"		5	98380A516	10.59
2"		5	98380A518	11.88
2 1/2"		5	98380A520	13.12
3/16" Dia. (Cont.)				
2 3/4"		1	98380A522	$2.98
3"		1	98380A523	3.76
4"		1	98380A527	6.33
7/32" Dia. —*Strength not rated*				
1/4"		5	98380A530	7.76
1/2"		5	98380A531	9.38
3/4"		5	98380A532	10.01
1"		5	98380A533	10.63
2"		1	98380A534	2.98
1/4" Dia. —*Breaks at 7,200 lbs.*				
3/8"		10	98380A535	11.00
1/2"		10	98380A537	8.41
5/8"		10	98380A539	9.36
3/4"	646	10	98380A540	11.00
7/8"		10	98380A541	9.22
1"	648	10	98380A542	12.12
1 1/8"		5	98380A543	7.96
1 1/4"	649	10	98380A544	12.12
1 3/8"		5	98380A545	7.50
1 1/2"	650	5	98380A546	6.89
1 3/4"	651	5	98380A547	12.06
2"	652	5	98380A548	11.99
2 1/4"		1	98380A550	3.11
2 1/2"		1	98380A552	3.40
2 3/4"		1	98380A554	3.42
3"		1	98380A556	3.57
3 1/2"		1	98380A560	7.22
4"		1	98380A562	10.09
5"		1	98380A566	12.00
6"		1	98380A570	14.14
5/16" Dia. —*Breaks at 11,000 lbs.*				
1/2"		5	98380A578	7.64
5/8"		5	98380A579	8.57
3/4"		5	98380A581	8.57
7/8"		5	98380A582	8.00
1"	653	5	98380A583	10.50
1 1/4"	654	5	98380A585	10.40
1 1/2"	655	5	98380A587	11.69
1 3/4"	656	1	98380A588	3.28
2"	657	1	98380A589	3.75
2 1/2"	659	1	98380A591	4.99
3"		1	98380A593	5.28
3 1/2"		1	98380A595	8.38
4"		1	98380A597	9.62
5"		1	98380A602	11.32
6"		1	98380A606	13.38
3/8" Dia. —*Breaks at 16,000 lbs.*				
1/2"		5	98380A620	10.56
5/8"		5	98380A621	10.55
3/4"		5	98380A622	9.45
7/8"		1	98380A623	2.97
1"		5	98380A624	10.62
1 1/4"	660	1	98380A626	3.92
1 3/8"		1	98380A619	2.86
1 1/2"	661	1	98380A618	3.65
1 3/4"	662	1	98380A627	3.27
2"	663	1	98380A628	4.98
2 1/4"		1	98380A629	5.69
2 1/2"	665	1	98380A630	6.19
3"	667	1	98380A632	6.20
3 1/2"		1	98380A634	8.55
4"		1	98380A636	10.07
5"		1	98380A640	10.06
6"		1	98380A644	12.01
7/16" Dia. —*Breaks at 22,000 lbs.*				
1"		1	98380A650	5.33
1 1/4"		1	98380A652	5.69
1 1/2"	668	1	98380A654	6.45
2"	670	1	98380A658	6.67
3"	674	1	98380A672	8.11
4"		1	98380A676	9.40
5"		1	98380A680	10.07
1/2" Dia. —*Breaks at 29,000 lbs.*				
3/8"		1	98380A690	4.44
1/2"		1	98380A692	4.78
7/8"		1	98380A697	5.11
1"		1	98380A698	5.33
1 1/4"		1	98380A699	5.89

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Dowel Pins *(Continued from previous page)*

Type 416 Stainless Steel (Cont.)

1/2" Dia. (Cont.)

Lg.	Dash No.	Pkg. Qty.	Pkg.
1½"	677	1	98380A700 $6.34
1¾"	678	1	98380A701 6.56
2"	679	1	98380A702 7.85
2¼"	680	1	98380A703 8.55
2½"	681	1	98380A704 8.88
2¾"	682	1	98380A705 9.22
3"	683	1	98380A706 9.67
3¼"	684	1	98380A707 10.34
3½"	685	1	98380A708 10.56
3¾"	686	1	98380A709 10.67
4"	687	1	98380A710 10.78
4½"	—	1	98380A711 13.89
5"	—	1	98380A712 13.89

5/8" Dia. — Breaks at 45,000 lbs.

Lg.	Dash No.	Pkg. Qty.	Pkg.
1"	—	1	98380A720 11.67
1¼"	—	1	98380A721 13.33
1½"	—	1	98380A722 13.90
2"	688	1	98380A723 12.55
2½"	690	1	98380A724 12.78
3"	692	1	98380A725 14.11
3½"	694	1	98380A726 13.34
4"	696	1	98380A727 16.73
5"	700	1	98380A728 18.11
6"	—	1	98380A729 23.88

3/4" Dia. — Breaks at 65,000 lbs.

Lg.	Dash No.	Pkg. Qty.	Pkg.
1"	—	1	98380A740 13.67
1¼"	—	1	98380A741 13.33
1½"	—	1	98380A742 13.33
1¾"	—	1	98380A743 $13.90
2"	—	1	98380A744 13.89
2½"	702	1	98380A745 14.12
3"	704	1	98380A746 14.51
3½"	706	1	98380A747 16.11
4"	708	1	98380A748 17.00
4½"	710	1	98380A749 16.22
5"	712	1	98380A750 16.80
6"	716	1	98380A751 19.31

7/8" Dia. — Breaks at 88,000 lbs.

Lg.	Dash No.	Pkg. Qty.	Pkg.
1"	—	1	98380A760 13.89
2"	—	1	98380A762 15.55
3"	718	1	98380A764 13.89
4"	722	1	98380A766 17.09
5"	726	1	98380A768 19.36

1" Dia. — Breaks at 110,000 lbs.

Lg.	Dash No.	Pkg. Qty.	Pkg.
1½"	—	1	98380A780 20.00
2"	—	1	98380A782 20.67
3"	732	1	98380A784 16.87
4"	736	1	98380A786 19.82
6"	744	1	98380A788 24.16

1 1/4" Dia. — Strength not rated

Lg.	Dash No.	Pkg. Qty.	Pkg.
1½"	—	1	98380A790 21.00
2"	—	1	98380A792 21.88
3"	—	1	98380A794 23.12
4"	—	1	98380A796 26.67
6"	—	1	98380A798 33.34

Alloy Steel

1/64" Dia. — Strength not rated

Lg.	Pkg. Qty.	Pkg.
1/4"	1	98381A047 $2.20
1/2"	1	98381A053 2.33

1/32" Dia. — Strength not rated

Lg.	Pkg. Qty.	Pkg.
1/8"	5	98381A361 9.94
3/16"	5	98381A364 9.96
1/4"	5	98381A367 10.29
5/16"	5	98381A370 11.19
3/8"	5	98381A374 11.32
7/16"	1	98381A377 4.05
1/2"	1	98381A381 4.11
5/8"	1	98381A385 4.32
3/4"	1	98381A057 5.82
1"	1	98381A060 5.46

3/64" Dia. — Strength not rated

Lg.	Pkg. Qty.	Pkg.
1/4"	5	98381A981 6.53
3/8"	5	98381A982 6.83
1/2"	5	98381A983 6.96
3/4"	5	98381A984 7.87
1"	5	98381A985 8.50

1/16" Dia. — Breaks at 750 lbs.

Lg.	Pkg. Qty.	Pkg.
3/32"	10	98381A411 8.00
1/8"	50	98381A413 9.26
5/32"	10	98381A401 8.34
3/16"	50	98381A414 8.79
1/4"	50	98381A415 7.77
5/16"	50	98381A416 7.87
3/8"	50	98381A417 9.04
7/16"	50	98381A418 8.20
1/2"	50	98381A419 10.32
9/16"	50	98381A420 9.16
5/8"	50	98381A421 8.66
3/4"	50	98381A422 10.07
7/8"	50	98381A423 11.00
1"	50	98381A424 11.55
1¼"	5	98381A425 6.81
1½"	5	98381A426 8.86
1¾"	1	98381A427 2.88
2"	1	98381A428 4.56
2½"	1	98381A429 3.26
3"	1	98381A431 4.67

5/64" Dia. — Breaks at 850 lbs.

Lg.	Pkg. Qty.	Pkg.
3/16"	1	98381A010 1.43
1/4"	1	98381A011 1.48
3/8"	1	98381A013 1.57
1/2"	1	98381A015 1.66
3/4"	1	98381A018 1.86
1"	1	98381A019 2.26

3/32" Dia. — Breaks at 1,400 lbs.

Lg.	Pkg. Qty.	Pkg.
1/8"	10	98381A432 $4.84
3/16"	50	98381A433 7.85
1/4"	100	98381A434 10.41
5/16"	100	98381A435 10.68
3/8"	100	98381A436 10.80
7/16"	50	98381A437 8.09
1/2"	100	98381A438 9.98
9/16"	50	98381A439 8.86
5/8"	50	98381A440 5.00
3/4"	50	98381A441 6.31
7/8"	50	98381A442 9.23
1"	50	98381A443 5.82
1⅛"	5	98381A145 10.83
1¼"	5	98381A444 3.49
1½"	5	98381A446 5.99
1¾"	1	98381A447 3.07
2"	5	98381A449 8.71
3"	1	98381A453 6.70

7/64" Dia. — Strength not rated

Lg.	Pkg. Qty.	Pkg.
3/8"	1	98381A020 1.54
1/2"	1	98381A021 1.66
5/8"	1	98381A022 1.71
3/4"	1	98381A023 1.86
1"	1	98381A024 2.28
1½"	1	98381A025 4.13

1/8" Dia. — Breaks at 2,600 lbs.

Lg.	Pkg. Qty.	Pkg.
1/8"	10	98381A467 6.67
3/16"	50	98381A468 9.56
1/4"	50	98381A469 8.35
5/16"	100	98381A216 11.42
3/8"	100	98381A470 9.59
7/16"	100	98381A218 13.29
1/2"	100	98381A471 10.01
9/16"	100	98381A220 13.22
5/8"	50	98381A472 7.55
11/16"	5	98381A172 7.50
3/4"	50	98381A473 7.87
13/16"	5	98381A173 7.91
7/8"	50	98381A474 8.51
15/16"	5	98381A174 8.33
1"	50	98381A475 8.69
1⅛"	25	98381A476 8.21
1¼"	50	98381A477 10.35
1⅜"	5	98381A494 2.98
1½"	25	98381A478 8.48
1⅝"	1	98381A178 4.00

Alloy Steel (Cont.)

1/8" Dia. (Cont.)

Lg.	Pkg. Qty.	Pkg.
1¾"	25	98381A479 $8.01
2"	25	98381A480 7.78
2¼"	5	98381A481 9.17
2½"	5	98381A482 12.18
2¾"	1	98381A483 2.92
3"	1	98381A484 3.16
3½"	1	98381A084 5.08
4"	1	98381A185 5.88

5/32" Dia. — Breaks at 4,100 lbs.

Lg.	Pkg. Qty.	Pkg.
1/4"	25	98381A485 8.05
3/8"	25	98381A486 11.52
1/2"	10	98381A487 7.18
5/8"	10	98381A488 7.69
3/4"	10	98381A489 6.77
7/8"	10	98381A495 8.11
1"	10	98381A490 7.26
1⅛"	1	98381A190 2.25
1¼"	10	98381A491 10.07
1⅜"	1	98381A191 2.33
1½"	10	98381A492 10.87
1¾"	5	98381A496 5.88
2"	5	98381A493 8.02
2½"	1	98381A497 7.62
3"	1	98381A498 8.38
4"	1	98381A499 9.13

3/16" Dia. — Breaks at 5,900 lbs.

Lg.	Pkg. Qty.	Pkg.
1/4"	50	98381A501 11.05
5/16"	50	98381A502 6.36
3/8"	50	98381A503 7.64
7/16"	50	98381A504 8.22
1/2"	50	98381A505 7.36
9/16"	50	98381A506 9.54
5/8"	50	98381A507 7.64
11/16"	10	98381A107 8.00
3/4"	50	98381A508 7.80
13/16"	10	98381A108 8.83
7/8"	50	98381A509 9.62
15/16"	10	98381A109 10.33
1"	50	98381A510 10.70
1⅛"	5	98381A511 9.28
1¼"	50	98381A512 12.86
1⅜"	5	98381A519 9.60
1½"	50	98381A514 13.33
1⅝"	1	98381A115 4.51
1¾"	25	98381A515 8.74
2"	25	98381A516 8.94
2¼"	5	98381A518 5.96
2½"	5	98381A521 8.38
2¾"	5	98381A523 11.35
3"	5	98381A525 11.51
3½"	1	98381A526 8.00
4"	1	98381A527 8.83

7/32" Dia. — Strength not rated

Lg.	Pkg. Qty.	Pkg.
1/4"	1	98381A030 1.83
3/8"	1	98381A031 1.86
1/2"	1	98381A032 1.98
3/4"	1	98381A033 2.15
1"	1	98381A034 2.65
1½"	1	98381A035 4.08
2"	1	98381A036 5.88

1/4" Dia. — Breaks at 10,000 lbs.

Lg.	Pkg. Qty.	Pkg.
1/4"	10	98381A534 7.50
5/16"	10	98381A535 8.84
3/8"	25	98381A536 3.90
7/16"	25	98381A538 10.89
1/2"	25	98381A537 3.74
9/16"	10	98381A543 6.45
5/8"	25	98381A539 3.99
11/16"	5	98381A139 7.54
3/4"	25	98381A540 5.40
13/16"	5	98381A140 7.96
7/8"	25	98381A541 6.09
15/16"	5	98381A141 9.17
1"	25	98381A542 6.96
1⅛"	25	98381A556 10.03
1¼"	25	98381A544 7.09
1⅜"	25	98381A545 11.13
1½"	25	98381A546 7.03
1⅝"	1	98381A547 3.23
1¾"	25	98381A548 $8.70
2"	25	98381A550 10.05
2¼"	25	98381A551 10.29
2½"	10	98381A552 6.25
2¾"	5	98381A553 7.39
3"	5	98381A554 8.03
3¼"	1	98381A154 6.09
3½"	1	98381A555 3.73
3¾"	1	98381A557 6.50
4"	1	98381A558 8.60
4½"	1	98381A559 9.50
5"	1	98381A560 10.00
6"	1	98381A561 11.00

1/4" Dia. (Cont.)

5/16" Dia. — Breaks at 16,000 lbs.

Lg.	Pkg. Qty.	Pkg.
3/8"	10	98381A577 8.50
1/2"	25	98381A578 7.59
9/16"	10	98381A278 10.01
5/8"	25	98381A579 7.67
3/4"	25	98381A581 8.82
7/8"	25	98381A582 8.94
1"	25	98381A583 9.16
1⅛"	5	98381A584 13.00
1¼"	25	98381A585 10.00
1⅜"	1	98381A285 2.82
1½"	25	98381A587 11.15
1⅝"	1	98381A588 2.98
1¾"	10	98381A589 6.45
2"	10	98381A591 6.71
2¼"	25	98381A592 12.69
2½"	10	98381A593 8.33
2¾"	10	98381A594 9.27
3"	10	98381A595 11.13
3¼"	5	98381A596 6.34
3½"	1	98381A598 7.24
3¾"	1	98381A289 8.45
4"	1	98381A599 7.48
5"	1	98381A601 10.70

3/8" Dia. — Breaks at 23,000 lbs.

Lg.	Pkg. Qty.	Pkg.
3/8"	10	98381A617 9.99
1/2"	25	98381A619 7.63
9/16"	10	98381A620 12.50
5/8"	25	98381A621 9.41
3/4"	25	98381A622 9.90
7/8"	25	98381A623 10.05
1"	25	98381A624 11.17
1⅛"	5	98381A625 13.33
1¼"	10	98381A626 6.79
1⅜"	25	98381A629 12.98
1½"	10	98381A628 6.83
1⅝"	1	98381A631 3.07
1¾"	10	98381A630 7.64
2"	10	98381A632 7.90
2¼"	10	98381A633 8.95
2½"	10	98381A634 8.80
2¾"	1	98381A635 4.75
3"	10	98381A636 10.67
3¼"	1	98381A637 6.42
3½"	5	98381A638 11.72
3¾"	1	98381A639 6.42
4"	1	98381A640 3.54
5"	1	98381A644 9.00
6"	1	98381A648 9.22

7/16" Dia. — Breaks at 32,000 lbs.

Lg.	Pkg. Qty.	Pkg.
1/2"	5	98381A665 7.08
5/8"	5	98381A666 7.50
3/4"	5	98381A667 8.75
7/8"	5	98381A668 8.75
1"	10	98381A669 7.19
1⅛"	5	98381A670 12.17
1¼"	10	98381A671 8.37
1½"	10	98381A673 8.04
1¾"	1	98381A674 3.07
2"	10	98381A677 12.09
2½"	5	98381A679 8.56
3"	5	98381A681 9.15
4"	5	98381A683 10.59
5"	1	98381A684 9.67

(Continued on following page)

Dowel Pins *(Continued from previous page)*

Lg.	Pkg. Qty.		Pkg.
Alloy Steel (Cont.)			
1/2" Dia.—Breaks at 42,000 lbs.			
1/2"	1	98381A708	$3.17
5/8"	5	98381A709	9.58
3/4"	10	98381A710	7.64
7/8"	5	98381A711	8.10
1"	10	98381A712	10.93
1 1/8"	5	98381A713	13.17
1 1/4"	10	98381A714	10.35
1 3/8"	1	98381A715	3.15
1 1/2"	10	98381A716	10.40
1 5/8"	1	98381A717	3.42
1 3/4"	5	98381A718	5.79
2"	5	98381A720	7.92
2 1/4"	10	98381A721	13.73
2 1/2"	5	98381A722	8.26
2 3/4"	5	98381A723	8.46
3"	5	98381A724	10.84
3 1/4"	5	98381A725	9.26
3 1/2"	5	98381A726	11.73
3 3/4"	5	98381A728	13.40
4"	1	98381A727	3.17
4 1/2"	5	98381A731	15.22
5"	5	98381A734	12.37
6"	1	98381A735	11.42
8"	1	98381A736	13.08
10"	1	98381A737	18.00
9/16" Dia.—Strength not rated			
1"	1	98381A040	4.37
1 1/2"	1	98381A041	6.71
2"	1	98381A042	8.15
3"	1	98381A043	11.89
4"	1	98381A044	15.29
5/8" Dia.—Breaks at 65,000 lbs.			
5/8"	5	98381A791	12.75
3/4"	10	98381A792	12.57
7/8"	1	98381A793	2.82
1"	10	98381A794	12.06
1 1/8"	1	98381A795	3.23
1 1/4"	10	98381A796	12.57
1 3/8"	1	98381A797	3.50
1 1/2"	10	98381A798	13.28
1 3/4"	5	98381A799	7.22
2"	5	98381A802	8.29
2 1/4"	5	98381A803	9.73
2 1/2"	5	98381A804	9.87
2 3/4"	1	98381A805	2.71
3"	5	98381A806	10.67
3 1/4"	1	98381A207	7.55
3 1/2"	5	98381A808	13.46
3 3/4"	1	98381A209	8.09
4"	1	98381A810	3.13
4 1/2"	1	98381A812	3.83
5/8" Dia. (Cont.)			
5"	1	98381A814	$4.31
6"	1	98381A114	9.16
3/4" Dia.—Breaks at 94,000 lbs.			
3/4"	1	98381A800	3.08
1"	5	98381A801	9.03
1 1/4"	5	98381A103	10.64
1 1/2"	5	98381A105	10.95
1 3/4"	5	98381A807	11.49
2"	5	98381A843	11.82
2 1/4"	5	98381A809	14.45
2 1/2"	5	98381A845	13.16
2 3/4"	1	98381A143	3.12
3"	1	98381A847	3.28
3 1/4"	1	98381A848	3.49
3 1/2"	1	98381A849	3.79
4"	1	98381A851	4.24
4 1/2"	1	98381A853	4.86
5"	1	98381A815	5.09
6"	1	98381A818	6.41
8"	1	98381A819	20.00
10"	1	98381A820	23.34
7/8" Dia.—Breaks at 120,000 lbs.			
7/8"	1	98381A879	6.14
1"	1	98381A880	6.85
1 1/2"	1	98381A881	7.58
2"	1	98381A882	8.56
2 1/2"	1	98381A883	10.68
3"	1	98381A884	10.64
3 1/2"	1	98381A886	12.71
4"	1	98381A888	14.68
5"	1	98381A889	22.50
6"	1	98381A890	24.00
1" Dia.—Breaks at 160,000 lbs.			
1"	1	98381A908	4.42
1 1/4"	1	98381A909	6.50
1 1/2"	1	98381A910	4.79
1 3/4"	1	98381A911	4.90
2"	1	98381A912	5.74
2 1/4"	1	98381A913	5.59
2 1/2"	1	98381A914	6.36
2 3/4"	1	98381A915	6.26
3"	1	98381A916	6.90
3 1/4"	1	98381A917	24.21
3 1/2"	1	98381A918	8.16
4"	1	98381A920	9.50
4 1/2"	1	98381A922	11.03
5"	1	98381A924	12.56
6"	1	98381A928	14.44
8"	1	98381A930	34.21
10"	1	98381A932	37.25
Alloy Steel (Cont.)			
1 1/4" Dia.—Strength not rated			
1 1/2"	1	98381A950	$22.70
2"	1	98381A952	24.60
3"	1	98381A956	27.66
1 1/4" Dia. (Cont.)			
4"	1	98381A960	$35.51
6"	1	98381A968	40.42
Black-Oxide Alloy Steel			
1/8" Dia.—Breaks at 2,600 lbs.			
3/8"	25	98381A302	5.99
1/2"	25	98381A304	6.10
5/8"	25	98381A306	6.26
3/4"	25	98381A308	6.39
1"	25	98381A310	7.35
3/16" Dia.—Breaks at 5,900 lbs.			
1/2"	25	98381A314	6.43
3/4"	25	98381A316	7.03
1"	25	98381A318	7.62
1 1/4"	25	98381A320	8.35
1 1/2"	25	98381A322	9.36
1/4" Dia.—Breaks at 10,000 lbs.			
1/2"	25	98381A326	7.24
3/4"	25	98381A328	7.92
1"	25	98381A330	8.79
1 1/4"	25	98381A332	9.65
1 1/2"	25	98381A334	10.58
2"	25	98381A336	12.67
5/16" Dia.—Breaks at 16,000 lbs.			
3/4"	25	98381A340	9.61
1"	25	98381A342	10.69
1 1/4"	25	98381A344	11.72
1 1/2"	25	98381A346	12.89
2"	25	98381A348	15.05
3/8" Dia.—Breaks at 23,000 lbs.			
3/4"	25	98381A352	11.99
1"	25	98381A354	13.53
1 1/4"	10	98381A356	6.35
1 1/2"	10	98381A358	6.97
2"	10	98381A360	8.21
1/2" Dia.—Breaks at 42,000 lbs.			
1"	10	98381A362	10.65
1 1/2"	10	98381A363	11.10
2"	10	98381A365	13.21
2 1/2"	5	98381A366	8.19
5/8" Dia.—Breaks at 65,000 lbs.			
2"	5	98381A368	9.92
3"	5	98381A369	13.94
Titanium—Strength not rated			
1/8" Dia.			
1/4"	1	97395A861	9.57
5/16"	1	97395A862	9.70
3/8"	1	97395A863	9.80
1/2"	1	97395A864	9.84
5/8"	1	97395A865	10.70
3/4"	1	97395A866	14.01
1"	1	97395A867	14.79
3/16" Dia.			
3/8"	1	97395A868	9.93
1/2"	1	97395A869	10.89
3/16" Dia. (Cont.)			
5/8"	1	97395A871	14.24
3/4"	1	97395A872	13.98
1"	1	97395A873	14.93
1/4" Dia.			
1/2"	1	97395A879	9.36
5/8"	1	97395A874	10.12
3/4"	1	97395A875	13.11
1"	1	97395A876	10.97
1 1/2"	1	97395A877	14.38
2"	1	97395A878	18.75
Nickel-Copper—Strength not rated			
1/8" Dia.			
1/4"	1	97395A101	5.58
5/16"	1	97395A103	5.77
3/8"	1	97395A105	5.97
1/2"	1	97395A107	6.22
5/8"	1	97395A109	6.62
3/4"	1	97395A111	8.11
1"	1	97395A113	8.86
3/16" Dia.			
3/8"	1	97395A121	7.46
1/2"	1	97395A123	8.19
3/16" Dia. (Cont.)			
5/8"	1	97395A125	10.39
3/4"	1	97395A127	10.97
1"	1	97395A129	11.69
1/4" Dia.			
1/2"	1	97395A141	7.84
5/8"	1	97395A143	8.59
3/4"	1	97395A145	11.22
1"	1	97395A147	12.98
1 1/2"	1	97395A149	12.99
2"	1	97395A151	16.91

Low-Strength Dowel Pins



Easier to machine than standard dowel pins, these multipurpose, low-strength pins have at least one beveled end to aid insertion. They are slightly oversized for a tight fit.

Steel— Magnetic. Diameter tolerance is +0.0001" to +0.0003".

Brass— Also known as shear pins. Our "softest" material, brass is nonmarring, corrosion resistant, and electrically conductive. Nonmagnetic. Diameter tolerance is +0.0002".

Also Available: Aluminum low-strength pins. Please ask for 97325A300 and specify diameter and length.

Lg.	Pkg. Qty.		Pkg.
Steel			
1/8" Dia.			
3/8"	50	98372A450	$10.29
1/2"	50	98372A460	11.26
3/4"	50	98372A470	11.76
1"	50	98372A480	12.56
3/16" Dia.			
3/4"	50	98372A117	12.66
1"	50	98372A127	13.79
1 1/4"	50	98372A137	15.50
1 1/2"	25	98372A147	9.25
1/4" Dia.			
3/4"	50	98372A217	14.36
1"	50	98372A227	15.95
1 1/4"	25	98372A237	8.77
1 1/2"	25	98372A247	9.62
5/16" Dia.			
1"	25	98372A317	$9.53
1 1/2"	25	98372A327	12.70
2"	25	98372A337	17.80
3/8" Dia.			
1"	25	98372A417	13.42
1 1/4"	25	98372A510	14.71
1 1/2"	25	98372A427	16.94
2"	10	98372A437	8.56
1/2" Dia.			
1"	10	98372A520	8.57
1 1/4"	10	98372A530	9.35
1 1/2"	10	98372A540	9.90
1 3/4"	10	98372A550	11.29
2"	10	98372A560	12.52
2 1/2"	5	98372A570	8.09
Brass			
1/16" Dia.			
1/4"	25	97325A101	$7.90
3/8"	25	97325A105	8.83
1/2"	25	97325A110	9.76
3/32" Dia.			
1/4"	25	97325A115	9.15
3/8"	25	97325A121	10.31
1/2"	25	97325A125	11.63
1/8" Dia.			
3/8"	25	97325A131	11.68
1/2"	25	97325A135	13.11
5/8"	10	97325A141	5.71
3/4"	10	97325A145	6.28
3/16" Dia.			
1/2"	10	97325A155	7.72
5/8"	10	97325A161	9.40
3/4"	10	97325A165	10.95
1/4" Dia.			
1/2"	10	97325A171	$10.86
5/8"	10	97325A175	11.29
3/4"	10	97325A181	11.59
1"	10	97325A185	12.30
5/16" Dia.			
3/4"	5	97325A191	11.90
1"	5	97325A195	13.67
1 1/4"	1	97325A201	3.30
1 1/2"	1	97325A205	3.63
3/8" Dia.			
3/4"	1	97325A210	3.30
1"	1	97325A215	4.33
1 1/4"	1	97325A220	5.20
1 1/2"	1	97325A225	6.00

Metric Dowel Pins

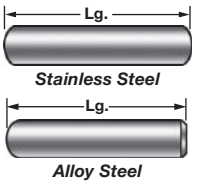

These metric pins are commonly used as pivots, hinges, shafts, jigs, and fixtures to locate or hold parts. They are precision ground, and slightly oversized for a tight fit. To aid insertion, pins are rounded or beveled on both ends.

Type 316 Stainless Steel—Our most corrosion resistant metric dowel pins, they are passivated to guard against oxidation. May be magnetic. Not rated for hardness. Meet ISO 2338m6.

18-8 Stainless Steel—More corrosion resistant than alloy steel and passivated. May be magnetic. Not rated for hardness. Meet ISO 2338m6.

Alloy Steel—Our strongest metric dowel pins. Breaking strength is measured as single shear, which is the force required to break a pin into two pieces. Minimum Rockwell hardness is C52. Meet DIN 6325-m6.

Diameter	M0.8 to M3	M4 to M6	M8 and M10	M12 to M16	M20
Diameter Tolerance, mm	+0.002 to +0.008	+0.004 to +0.012	+0.006 to +0.015	+0.007 to +0.018	+0.008 to +0.021

Type 316 Stainless Steel—*Strength not rated*

Lg., mm	Pkg. Qty.		Pkg.
M1 Dia.			
4	10	93600A030	$8.56
5	10	93600A031	8.77
6	10	93600A032	8.81
8	10	93600A033	8.90
10	10	93600A034	9.15
M1.5 Dia.			
4	50	93600A020	10.28
5	50	93600A042	10.34
6	50	93600A061	10.46
8	50	93600A069	10.58
10	50	93600A085	10.70
12	50	93600A088	10.88
14	50	93600A117	11.18
16	50	93600A158	11.48
M2 Dia.			
6	25	93600A189	5.62
8	25	93600A191	5.68
10	25	93600A200	5.80
12	25	93600A208	6.01
14	25	93600A223	6.22
16	25	93600A233	6.43
18	25	93600A238	6.65
20	25	93600A249	6.83
M2.5 Dia.			
6	25	93600A252	5.74
8	25	93600A254	5.83
10	25	93600A257	6.13
12	25	93600A265	6.19
M3 Dia.			
6	25	93600A267	5.89
8	25	93600A303	6.07
10	25	93600A304	6.49
12	25	93600A335	6.55
14	25	93600A364	6.95
16	25	93600A368	7.37
18	25	93600A370	7.79
20	10	93600A376	4.06
24	10	93600A380	4.48
28	10	93600A405	4.96
30	10	93600A407	5.18
M4 Dia.			
6	10	93600A417	3.74
8	10	93600A419	3.89
12	10	93600A434	4.28
16	10	93600A437	4.84
18	10	93600A455	5.13
20	10	93600A461	5.46
22	10	93600A464	5.74
M4 Dia. (Cont.)			
24	10	93600A474	$6.11
28	10	93600A476	6.78
30	10	93600A483	7.10
32	10	93600A484	7.43
36	10	93600A490	8.10
40	5	93600A496	4.98
M5 Dia.			
8	10	93600A500	4.72
10	10	93600A511	5.13
12	10	93600A533	5.39
14	10	93600A546	5.80
16	10	93600A555	6.21
18	10	93600A562	6.67
20	10	93600A567	7.12
24	5	93600A571	4.62
30	5	93600A572	5.33
36	5	93600A586	6.02
40	5	93600A608	6.49
50	5	93600A613	7.70
M6 Dia.			
10	10	93600A618	6.64
12	10	93600A635	6.95
14	10	93600A660	7.55
16	5	93600A667	4.68
18	5	93600A682	5.00
20	5	93600A686	5.31
M8 Dia.			
16	5	93600A695	7.31
20	5	93600A697	7.86
24	1	93600A727	1.84
30	1	93600A728	1.99
36	1	93600A734	2.32
40	1	93600A757	2.54
50	1	93600A771	3.09
M10 Dia.			
14	1	93600A783	1.76
16	1	93600A813	1.93
20	1	93600A822	2.27
24	1	93600A834	2.60
30	1	93600A842	3.10
32	1	93600A867	3.27
36	1	93600A908	3.60
40	1	93600A917	3.93
50	1	93600A934	4.77
M12 Dia.			
24	1	93600A936	3.75
36	1	93600A971	5.07
50	1	93600A988	6.73
60	1	93600A996	7.93

18-8 Stainless Steel—*Strength not rated*

Lg., mm	Pkg. Qty.		Pkg.
M0.8 Dia.			
3	10	91585A701	8.65
4	10	91585A702	8.64
5	10	91585A703	8.81
6	10	91585A704	8.94
8	10	91585A706	9.53
M1 Dia.			
3	100	91585A032	9.12
4	100	91585A034	7.64
5	100	91585A035	10.29
6	100	91585A058	10.84
8	100	91585A062	11.08
10	100	91585A091	11.56
14	100	91585A909	12.73
20	50	91585A093	6.38
M1.5 Dia.			
3	100	91585A111	9.85
4	100	91585A115	9.00
M1.5 Dia. (Cont.)			
5	100	91585A124	9.96
6	100	91585A129	10.68
8	100	91585A133	11.00
10	100	91585A142	11.52
12	100	91585A146	11.56
14	100	91585A147	12.44
16	50	91585A155	7.60
20	50	91585A185	8.36
M2 Dia.			
4	100	91585A186	9.16
5	100	91585A189	9.93
6	100	91585A194	10.00
8	100	91585A214	11.16
10	100	91585A221	11.44
12	100	91585A225	13.44
14	100	91585A226	14.24
16	50	91585A231	7.27
M2 Dia. (Cont.)			
18	50	91585A233	$7.52
20	50	91585A240	7.86
24	50	91585A261	9.62
M2.5 Dia.			
5	50	91585A269	5.99
6	50	91585A271	6.90
8	50	91585A275	7.56
10	50	91585A282	8.28
12	50	91585A293	7.46
14	50	91585A297	9.32
16	50	91585A304	8.21
18	50	91585A306	9.26
20	50	91585A310	10.86
24	50	91585A329	11.72
M3 Dia.			
5	50	91585A334	8.18
6	50	91585A345	9.68
8	50	91585A348	9.94
10	50	91585A351	10.90
12	50	91585A371	10.16
14	50	91585A374	10.92
16	50	91585A379	11.90
18	50	91585A384	12.06
20	50	91585A390	12.88
24	50	91585A402	13.42
26	25	91585A404	7.63
28	25	91585A409	7.59
30	25	91585A410	7.91
32	25	91585A423	9.23
40	25	91585A426	9.51
M4 Dia.			
5	50	91585A079	11.03
6	50	91585A431	11.60
8	50	91585A435	12.28
10	50	91585A437	12.90
12	50	91585A448	13.20
14	50	91585A450	14.92
16	25	91585A454	7.68
18	25	91585A455	8.57
20	25	91585A457	9.45
22	25	91585A461	9.06
24	25	91585A464	10.77
28	10	91585A465	5.64
30	10	91585A472	6.48
32	10	91585A475	6.67
36	10	91585A487	7.27
40	10	91585A488	7.99
50	5	91585A490	8.66
M5 Dia.			
6	25	91585A496	6.19
8	25	91585A506	7.44
10	25	91585A510	7.97
12	25	91585A526	9.06
14	25	91585A531	9.42
16	25	91585A540	10.10
18	25	91585A553	10.55
20	25	91585A554	11.87
24	25	91585A559	14.51
28	25	91585A562	15.27
32	10	91585A569	7.00
40	10	91585A573	8.83
45	10	91585A575	11.08
50	10	91585A581	12.42
60	1	91585A602	2.31
M6 Dia.			
10	25	91585A618	10.24
12	25	91585A620	11.79
14	25	91585A624	13.04
M6 Dia. (Cont.)			
16	10	91585A626	$6.22
18	10	91585A635	7.76
20	10	91585A645	6.98
22	10	91585A648	7.25
24	10	91585A650	8.65
28	10	91585A666	8.55
30	10	91585A668	9.51
32	10	91585A675	9.74
36	10	91585A679	10.91
40	10	91585A692	12.51
45	10	91585A698	13.03
50	5	91585A700	7.81
55	5	91585A708	7.36
60	5	91585A737	9.13
70	1	91585A738	2.57
80	1	91585A743	4.25
M8 Dia.			
10	10	91585A766	8.70
12	10	91585A781	8.77
14	10	91585A782	10.79
16	10	91585A785	9.96
18	10	91585A789	10.75
20	10	91585A796	12.96
24	10	91585A799	15.06
28	10	91585A800	15.65
30	5	91585A816	8.75
32	5	91585A818	9.62
36	5	91585A826	9.88
40	5	91585A829	10.46
45	5	91585A834	9.85
50	5	91585A848	11.24
55	5	91585A852	11.53
60	5	91585A867	13.66
70	1	91585A870	3.64
80	1	91585A875	4.70
M10 Dia.			
14	5	91585A876	8.84
16	5	91585A877	7.23
18	5	91585A879	7.78
20	5	91585A880	9.30
24	5	91585A881	8.32
28	5	91585A885	10.19
30	5	91585A889	10.22
32	5	91585A893	12.12
36	5	91585A897	13.76
40	5	91585A898	13.90
45	1	91585A906	3.00
50	1	91585A916	3.24
60	1	91585A931	5.00
70	1	91585A932	4.87
80	1	91585A933	6.43
90	1	91585A940	7.07
M12 Dia.			
20	1	91585A942	2.57
24	1	91585A943	2.83
28	1	91585A952	3.04
30	1	91585A954	3.10
36	1	91585A960	3.57
40	1	91585A961	4.64
50	1	91585A963	5.12
60	1	91585A965	5.18
70	1	91585A967	6.00
80	1	91585A969	5.88
90	1	91585A972	6.62
M16 Dia.			
40	1	91585A977	7.09
50	1	91585A989	9.00
60	1	91585A994	12.81

(Continued on following page)

Metric Dowel Pins *(Continued from previous page)*

Alloy Steel

Lg., mm	Pkg. Qty.		Pkg.
M1 Dia.—Strength not rated			
4	50	91595A951	$7.36
5	50	91595A952	7.40
6	50	91595A953	7.70
8	50	91595A954	9.52
10	50	91595A955	10.60
M1.5 Dia.—Breaks at 400 lbs.			
4	25	91595A002	7.47
5	50	91595A004	7.14
6	50	91595A005	9.03
8	50	91595A008	10.31
10	50	91595A009	8.57
12	50	91595A011	7.05
14	50	91595A013	8.94
16	50	91595A015	9.81
M2 Dia.—Breaks at 700 lbs.			
4	50	91595A018	12.57
5	50	91595A019	6.40
6	50	91595A020	7.69
8	50	91595A023	7.82
10	50	91595A026	7.36
12	50	91595A029	7.95
14	50	91595A030	7.29
16	50	91595A031	7.70
18	50	91595A032	6.68
20	50	91595A034	10.70
24	25	91595A037	8.03
30	25	91595A043	5.38
M2.5 Dia.—Breaks at 1,100 lbs.			
6	50	91595A061	10.89
8	50	91595A064	12.42
10	50	91595A067	12.61
12	50	91595A068	9.55
14	25	91595A070	8.52
16	25	91595A074	8.88
18	25	91595A076	6.07
20	25	91595A078	4.27
22	25	91595A080	5.97
24	25	91595A082	7.45
M3 Dia.—Breaks at 1,600 lbs.			
4	10	91595A098	5.93
5	10	91595A099	5.73
6	100	91595A100	11.08
8	100	91595A104	12.61
10	100	91595A108	13.37
12	50	91595A112	7.63
14	100	91595A114	11.41
16	50	91595A116	7.95
18	50	91595A118	8.14
20	50	91595A122	8.28
22	25	91595A126	8.71
24	50	91595A130	10.51
M3 Dia. (Cont.)			
28	50	91595A133	$10.42
30	50	91595A134	12.03
32	25	91595A138	8.11
36	25	91595A140	8.77
40	25	91595A142	9.37
45	10	91595A143	6.06
50	10	91595A144	9.14
60	10	91595A146	8.34
M4 Dia.—Breaks at 2,700 lbs.			
6	50	91595A148	7.41
8	50	91595A150	8.14
10	50	91595A152	8.91
12	50	91595A155	9.08
14	50	91595A158	10.09
16	50	91595A161	10.18
18	50	91595A164	10.70
20	50	91595A167	11.08
22	50	91595A170	11.81
24	50	91595A173	12.42
26	25	91595A175	9.17
28	25	91595A176	9.85
30	25	91595A179	7.51
32	25	91595A182	7.57
36	25	91595A184	6.32
40	25	91595A185	7.47
50	25	91595A188	12.75
60	10	91595A192	13.10
M5 Dia.—Breaks at 4,600 lbs.			
8	25	91595A178	7.18
10	25	91595A340	7.76
12	50	91595A344	12.42
14	50	91595A348	12.05
16	50	91595A352	12.93
18	50	91595A354	12.50
20	25	91595A356	7.32
22	25	91595A360	7.38
24	25	91595A364	7.66
28	25	91595A368	8.33
30	25	91595A372	9.94
32	25	91595A376	12.03
36	25	91595A380	12.07
40	25	91595A384	12.38
45	25	91595A388	13.28
50	10	91595A392	6.03
60	10	91595A396	9.86
70	5	91595A399	10.00
M6 Dia.—Breaks at 6,600 lbs.			
8	25	91595A436	11.92
10	25	91595A438	7.70
12	25	91595A440	8.32
M6 Dia. (Cont.)			
14	25	91595A443	$8.24
16	25	91595A446	8.33
18	25	91595A449	8.43
20	25	91595A452	8.52
22	25	91595A455	8.99
24	25	91595A458	9.46
26	25	91595A461	9.55
28	25	91595A464	9.88
30	25	91595A467	10.70
32	25	91595A470	11.56
36	25	91595A473	12.50
40	25	91595A476	12.99
45	10	91595A479	7.64
50	10	91595A482	6.77
55	10	91595A484	7.57
60	10	91595A485	8.02
70	10	91595A487	10.66
80	5	91595A490	7.66
M8 Dia.—Breaks at 11,800 lbs.			
12	10	91595A548	5.35
14	10	91595A550	5.89
16	10	91595A552	6.08
18	10	91595A555	6.46
20	10	91595A558	6.54
22	10	91595A561	7.35
24	10	91595A564	7.04
26	10	91595A565	8.67
28	10	91595A566	7.00
30	10	91595A567	7.08
32	10	91595A570	7.08
40	10	91595A573	8.14
45	10	91595A576	10.35
50	10	91595A579	9.55
55	5	91595A582	7.26
60	10	91595A585	11.54
70	5	91595A588	9.92
80	5	91595A591	11.86
M10 Dia.—Breaks at 18,500 lbs.			
14	10	91595A634	12.80
16	10	91595A636	12.72
18	5	91595A638	7.23
20	10	91595A640	7.75
22	10	91595A642	8.00
24	10	91595A643	8.44
26	10	91595A645	12.67
28	10	91595A646	10.26
30	10	91595A649	9.47
32	10	91595A650	9.60
36	10	91595A652	10.85
40	10	91595A655	11.96
M10 Dia. (Cont.)			
45	5	91595A658	$7.19
50	5	91595A661	7.49
55	5	91595A663	13.22
60	5	91595A664	8.18
70	5	91595A667	9.67
80	5	91595A670	10.83
90	1	91595A673	3.08
M12 Dia.—Breaks at 26,500 lbs.			
14	5	91595A727	11.00
16	5	91595A729	5.60
18	5	91595A731	7.30
20	5	91595A733	5.94
22	5	91595A734	6.80
26	5	91595A735	9.00
30	5	91595A737	7.14
32	5	91595A738	3.60
36	5	91595A741	9.07
40	5	91595A745	9.44
45	5	91595A749	10.89
50	5	91595A753	9.47
55	1	91595A755	3.04
60	1	91595A757	2.59
70	1	91595A761	2.99
80	1	91595A765	2.65
90	1	91595A769	3.43
100	1	91595A773	4.37
M14 Dia.—Breaks at 30,500 lbs.			
30	1	91595A901	3.67
40	1	91595A905	3.74
50	1	91595A909	4.72
80	1	91595A913	5.93
M16 Dia.—Breaks at 47,000 lbs.			
30	1	91595A839	4.67
36	1	91595A841	3.63
40	1	91595A845	3.37
45	1	91595A849	4.26
50	1	91595A853	4.09
60	1	91595A857	4.49
70	1	91595A861	5.15
80	1	91595A865	5.91
90	1	91595A869	7.32
100	1	91595A873	7.69
M20 Dia.—Breaks at 74,000 lbs.			
50	1	91595A877	6.45
60	1	91595A881	7.41
70	1	91595A885	8.71
80	1	91595A889	8.72
90	1	91595A893	9.61
100	1	91595A897	13.21

Dowel Pin Assortments

Come in a plastic box.

24-Piece Assortments—Alloy Steel

Dia.	No. of Pieces	Length Range
1/16"	4	5/8"
1/8"	4	2"
1/4"	12	1/2"-1"
3/8"	4	1"

93832A300 ..... $36.99

50-Piece Assortments—Alloy Steel

Diameter	No. of Pcs.	Length Range
1/16"	15	1/4"-5/8"
1/8"	5	1/2"
3/16"	5	3/8"
1/4"	15	1/2"-1 1/4"
3/8"	5	3/4"
1/2"	5	1 1/2"

93832A400 ..... $40.10

120-Piece Assortments—Alloy Steel

Diameter	No. of Pcs.	Length Range
5/16"	30	3/4"-1 1/2"
3/8"	30	1"-2"
1/2"	40	1"-2 1/2"
5/8"	20	2"-3"

93832A220 ..... $162.91

210-Piece Assortments—Alloy Steel

Diameter	No. of Pcs.	Length Range
1/16"	15	3/4"
1/8"	45	5/8"-1"
3/16"	75	1/2"-2"
1/4"	75	1/2"-2"

93832A210 ..... $79.86

220-Piece Assortments—Type 416 SS

Diameter	No. of Pcs.	Length Range
1/16"	40	1/4"-1/2"
3/32"	60	3/8"-1"
1/8"	60	3/8"-1"
3/16"	40	1/2"-1"
1/4"	20	1/2"-1"

93845A210 ..... $164.65

Metric 540-Piece Assortments

Dia.	No. of Pieces	Length Range, mm
M3	150	8-32
M4	140	10-40
M5	125	12-50
M6	125	12-50

18-8 SS ..... 93860A120 ..... $181.82
Alloy Steel ..... 93753A720 ..... 148.89



220-Piece Assortment

940-Piece Assortments—18-8 SS

Diameter	No. of Pcs.	Length Range
1/16"	100	3/8"
3/32"	100	1/2"
1/8"	400	3/8"-3/4"
3/16"	200	3/8"-3/4"
1/4"	100	1/2"-1"
5/16"	20	1"-1 1/2"
3/8"	20	1"-1 1/2"

93834A100 ..... $190.45

Oversized Dowel Pins



Oversized to fit worn and enlarged holes, these pins have one beveled end to aid insertion. *0.001″ oversized pins* have a diameter tolerance of +0.0009″ to +0.0012″; *0.002″ pins* have a diameter tolerance of +0.0019″ to +0.0021″. Breaking strength not rated.

18-8 Stainless Steel— More corrosion resistant than alloy steel. May be magnetic. Not rated for hardness.

Alloy Steel— Stronger than 18-8 stainless steel. Minimum Rockwell hardness is C60.

0.001″ Oversized—18-8 Stainless Steel

Lg.		Each
1/8″ Dia.		
3/8″	99010A111	$1.40
1/2″	99010A115	1.46
5/8″	99010A119	1.52
3/4″	99010A123	1.73
1″	99010A127	1.81
3/16″ Dia.		
1/2″	99010A145	1.70
5/8″	99010A149	1.72
3/4″	99010A153	1.82
1″	99010A157	1.95
1 1/4″	99010A161	2.07
1 1/2″	99010A165	2.30
2″	99010A169	2.30
1/4″ Dia.		
1/2″	99010A181	2.36
3/4″	99010A185	2.58
1″	99010A189	2.68
1 1/4″	99010A193	2.77
1 1/2″	99010A197	2.88
2″	99010A201	2.91
5/16″ Dia.		
3/4″	99010A261	$2.68
1″	99010A265	2.75
1 1/4″	99010A269	2.77
1 1/2″	99010A273	2.83
2″	99010A277	2.99
3/8″ Dia.		
3/4″	99010A295	2.68
1″	99010A299	2.70
1 1/4″	99010A303	2.73
1 1/2″	99010A307	2.92
2″	99010A311	2.99
1/2″ Dia.		
1″	99010A334	2.88
1 1/4″	99010A337	3.04
1 1/2″	99010A341	3.62
2″	99010A345	3.75
2 1/2″	99010A349	3.92
3″	99010A353	4.10

0.001″ Oversized—Alloy Steel

Lg.	Pkg. Qty.		Pkg.
1/16″ Dia.			
1/4″	25	98385A120	$9.35
5/16″	25	98385A123	9.42
3/8″	25	98385A126	9.51
1/2″	25	98385A129	9.99
5/8″	25	98385A132	10.05
3/4″	25	98385A135	10.20
3/32″ Dia.			
1/4″	25	98385A141	9.42
5/16″	25	98385A144	9.51
3/8″	25	98385A147	9.58
1/2″	25	98385A150	10.05
5/8″	25	98385A153	10.20
3/4″	25	98385A165	10.31
1/8″ Dia.			
3/8″	25	98385A170	7.91
1/2″	25	98385A171	6.77
5/8″	25	98385A172	6.84
3/4″	25	98385A173	7.11
1″	25	98385A175	9.14
1 1/4″	25	98385A179	8.59
1 1/2″	25	98385A183	9.43
3/16″ Dia.			
1/2″	25	98385A205	$8.00
5/8″	25	98385A207	8.63
3/4″	25	98385A208	9.02
1″	25	98385A210	9.93
1 1/4″	25	98385A212	10.93
1 1/2″	25	98385A214	12.28
2″	25	98385A216	14.91
1/4″ Dia.			
1/2″	25	98385A237	9.34
5/8″	25	98385A238	9.62
3/4″	25	98385A240	9.94
1″	25	98385A242	10.93
1 1/4″	25	98385A244	12.00
1 1/2″	25	98385A246	13.55
2″	25	98385A250	16.50
2 1/2″	10	98385A254	9.14
5/16″ Dia.			
1/2″	20	98385A279	7.71
3/4″	20	98385A281	8.30
1″	20	98385A283	8.83
1 1/4″	20	98385A285	9.90

0.001″ Oversized—Alloy Steel (Cont.)

Lg.	Pkg. Qty.		Pkg.
5/16″ Dia. (Cont.)			
1 1/2″	20	98385A287	$11.21
2″	20	98385A291	14.11
2 1/2″	10	98385A293	9.94
3″	10	98385A295	11.85
3/8″ Dia.			
3/4″	10	98385A622	5.37
1″	10	98385A624	5.84
1 1/4″	10	98385A626	6.32
1 1/2″	10	98385A628	7.19
2″	10	98385A632	8.75
2 1/2″	5	98385A634	5.96
3″	5	98385A636	6.91
7/16″ Dia.			
1″	5	98385A651	5.64
1 1/2″	5	98385A654	6.56
2″	5	98385A658	7.44
2 1/2″	5	98385A662	8.67
3″	5	98385A665	10.33
1/2″ Dia.			
1″	5	98385A712	6.21
1 1/4″	5	98385A714	6.60
1/2″ Dia. (Cont.)			
1 1/2″	5	98385A716	$7.07
2″	5	98385A720	7.95
2 1/2″	5	98385A722	9.34
3″	5	98385A724	11.05
3 1/2″	5	98385A728	12.91
4″	5	98385A732	15.11
5/8″ Dia.			
1 1/4″	5	98385A741	9.13
1 1/2″	5	98385A745	9.73
1 3/4″	5	98385A749	10.51
2″	5	98385A753	11.71
2 1/2″	5	98385A757	13.50
3″	5	98385A761	15.30
3/4″ Dia.			
2″	5	98385A771	15.11
2 1/2″	1	98385A778	3.30
3″	1	98385A779	3.47
3 1/2″	1	98385A783	4.14
4″	1	98385A787	4.95

0.002″ Oversized—Alloy Steel

Lg.	Pkg. Qty.		Pkg.
1/8″ Dia.			
3/8″	10	98985A211	6.27
1/2″	10	98985A214	6.33
5/8″	10	98985A217	6.18
3/4″	10	98985A221	6.40
1″	10	98985A225	7.21
1 1/4″	10	98985A229	7.94
1 1/2″	10	98985A232	8.69
3/16″ Dia.			
1/2″	10	98985A309	6.24
5/8″	10	98985A312	6.80
3/4″	10	98985A315	7.11
1″	10	98985A319	7.81
1 1/4″	5	98985A323	4.62
1 1/2″	5	98985A329	5.12
2″	5	98985A333	6.03
1/4″ Dia.			
1/2″	10	98985A408	7.34
5/8″	10	98985A411	7.51
3/4″	10	98985A414	7.81
1″	5	98985A418	4.62
1 1/4″	5	98985A422	5.01
1 1/2″	5	98985A427	5.63
2″	5	98985A431	6.74
5/16″ Dia.			
3/4″	5	98985A501	4.65
1″	5	98985A505	5.05
1 1/4″	5	98985A508	5.59
1 1/2″	5	98985A512	6.24
2″	5	98985A515	7.54
2 1/2″	5	98985A519	9.13
3/8″ Dia.			
3/4″	5	98985A606	5.89
1″	5	98985A610	5.72
1 1/4″	5	98985A614	6.27
1 1/2″	5	98985A619	7.15
2″	5	98985A621	8.08
2 1/2″	5	98985A625	9.79
3″	5	98985A628	11.55
1/2″ Dia.			
1″	5	98985A711	10.25
1 1/4″	5	98985A716	12.12
1 1/2″	5	98985A721	12.97
2″	1	98985A726	2.70
2 1/2″	1	98985A731	3.21
3″	1	98985A735	3.84

Undersized Dowel Pins



Not every hole is precisely sized; these pins have a slightly smaller diameter to fit inconsistent holes. Diameter tolerance is –0.0002″.

18-8 Stainless Steel— More corrosion resistant than alloy steel, plus pins are passivated to guard against oxidation. Both ends are beveled or rounded to aid insertion. May be magnetic. Minimum Rockwell hardness is B83. Not rated for breaking strength. Meet Mil. Spec. MIL-P-21143/2 wherever a dash number is shown.

Alloy Steel— Stronger than 18-8 stainless steel. One end is beveled or rounded to aid insertion. Minimum Rockwell hardness is C50. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces.

Lg.	18-8 Stainless Steel Dash No.		Alloy Steel	
1/16″—Steel breaks at 750 lbs.				
1/4″	26	98105A050	$1.55	98105A077	$1.56
3/8″	28	98105A051	1.78	98105A078	1.78
1/2″	30	98105A052	2.11	98105A079	2.05
3/32″—Steel breaks at 1,400 lbs.				
1/4″	46	98105A053	2.00	98105A080	1.91
3/8″	48	98105A054	2.33	98105A081	2.11
1/2″	50	98105A055	3.00	98105A082	2.56
1/8″—Steel breaks at 2,600 lbs.				
3/8″	68	98105A056	3.22	98105A083	2.78
1/2″	70	98105A057	3.66	98105A084	3.11
5/8″	71	98105A058	4.00	98105A085	3.55
3/4″	72	98105A059	4.34	98105A086	4.00
3/16″—Steel breaks at 5,900 lbs.				
1/2″	110	98105A060	4.00	98105A087	3.51
5/8″	111	98105A061	4.11	98105A088	3.78
3/4″	112	98105A062	4.44	98105A089	4.22
1/4″—Steel breaks at 10,000 lbs.				
1/2″	150	98105A063	$4.45	98105A090	$4.01
3/4″	—	98105A064	4.11	98105A091	4.44
1″	—	98105A065	4.67	98105A092	5.11
5/16″—Steel breaks at 16,000 lbs.				
3/4″	—	98105A066	3.55	98105A093	4.00
1″	—	98105A067	5.00	98105A094	5.56
1 1/4″	—	98105A068	5.33	98105A095	6.00
1 1/2″	—	98105A069	5.77	98105A096	6.44
3/8″—Steel breaks at 23,000 lbs.				
3/4″	—	98105A070	5.00	98105A097	5.62
1″	—	98105A071	5.44	98105A098	6.00
1 1/4″	—	98105A072	5.77	98105A099	6.33
1 1/2″	—	98105A073	6.00	98105A100	6.67
1/2″—Steel breaks at 42,000 lbs.				
1″	—	98105A074	5.77	98105A101	6.44
1 1/2″	—	98105A075	6.12	98105A102	6.78
2″	—	98105A076	6.56	98105A103	7.22

Plastic Dowel Pins



Pins are made of acetal so they are nonmarring and resistant to gas, oil, and other neutral chemicals. Diameter tolerance is ±0.005″. Maximum temperature is 220° F. Rockwell hardness is M80. Color is white.

Also Available: PTFE pins in lengths marked with a ★. Please ask for 98703A330 and specify diameter and length.

Lg.		Pkg. of 50
3/64″ Dia.		
1/8″	97155A106	$3.14
1/4″	97155A109	3.18
3/8″	97155A112	3.22
1/2″	97155A115	3.27
1/16″ Dia.		
1/8″	97155A202	3.18
1/4″	97155A206	3.22
3/8″	97155A211	3.27
1/2″	97155A216	3.29
3/32″ Dia.		
1/8″	97155A307	3.22
1/4″	97155A314	3.27
3/8″	97155A319	3.29
1/2″	97155A323	3.33
1/8″ Dia.		
1/8″	97155A405	3.27
3/16″	97155A409	3.28
1/4″	97155A413★	3.29
1/8″ Dia. (Cont.)		
3/8″	97155A419★	$3.33
1/2″	97155A426★	3.76
3/16″ Dia.		
1/4″	97155A519	3.37
3/8″	97155A525★	3.41
1/2″	97155A529★	3.46
3/4″	97155A533★	3.53
7/32″ Dia.		
1/2″	97155A582	3.48
1/4″ Dia.		
1/4″	97155A622	3.41
3/8″	97155A627	3.45
1/2″	97155A636★	3.47
3/4″	97155A639★	3.57
5/16″ Dia.		
3/8″	97155A718	3.49
1/2″	97155A724	3.53
3/4″	97155A737	3.60

Weld-On Pins



Through Hole

Because these heavy duty steel pins are welded in place, they provide greater rigidity and strength than standard pins. For the best fit, your hole should be equal to or slightly larger than the diameter shown. Not rated for hardness. Three projections on the side of the base increase the weld area.

Base mount pins require no mounting hole, so they can be welded directly to a surface. In ***through hole*** applications, the pin's base is welded directly to a component, allowing its body to pass through an opening that is slightly larger than the dia. shown below.

Also Available: 18-8 stainless steel pins. For surface mount, please ask for 94742A300 and specify dia. and length. For through hole, please ask for 94742A800 and specify dia. and length.

Shaft Dia.	Shaft Lg.	Base Dia.	Base Thick.		Pkg. of 10
Base Mount					
1/8″	1/2″	1/4″	3/64″	94742A105	$2.74
3/16″	1/2″	7/16″	1/16″	94742A210	2.87
3/16″	5/8″	7/16″	1/16″	94742A220	2.91
1/4″	5/16″	1/2″	5/64″	94742A250	3.39
1/4″	1/2″	1/2″	5/64″	94742A260	3.52
1/4″	3/4″	1/2″	5/64″	94742A270	3.74
1/4″	1″	1/2″	5/64″	94742A280	4.00
Through Hole					
5/32″	1/2″	7/16″	1/16″	94742A535	3.13
3/16″	3/4″	1/2″	5/64″	94742A560	3.65
3/16″	1″	1/2″	5/64″	94742A580	3.65
1/4″	3/4″	5/8″	5/64″	94742A605	3.91
1/4″	1″	5/8″	5/64″	94742A610	4.04
1/4″	1 1/4″	5/8″	5/64″	94742A615	4.96
1/4″	2″	5/8″	5/64″	94742A620	6.17

Grooved Dowel Pins

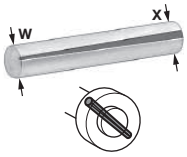

Full Groove pins can be used to hold a wheel to a shaft.

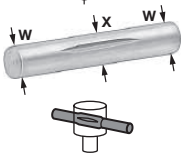

Center Groove pins can be used as T-handles.

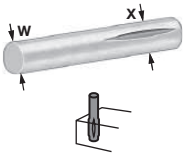

Half Groove pins can be used as pivot or hinge pins.

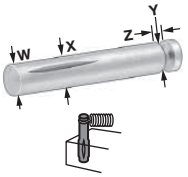

Half Groove with Notch pins can be used as anchors for springs.

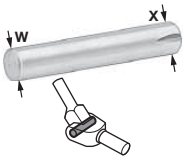

Quarter Groove pins can be used as linkage pins.

Each pin is grooved so it contracts as it's forced into a hole, creating tension to lock it in place. Pin ends are beveled or rounded. Pins are zinc-plated steel. For the best fit, your hole should be equal to or slightly larger than the diameter shown. Diameter tolerance is –0.002″ for (W) and ±0.003″ for (X).

Full Groove—Also known as Type A grooved pins. Use them in place of standard dowel, spring, and taper pins. **Also Available:** Full groove pins in 18-8 stainless steel. Please ask for 98400A666 and specify diameter and length.

Center Groove—Also known as Type E pins. Use them in place of cotter and pivot pins to create T-handles.

Half Groove—Also known as Type H pins. Use them as pivot or hinge pins.

Half Groove with Notch—Also known as Type G pins. Often used as anchors for tension springs. Diameter tolerance is ±0.005″ for (Y).

Quarter Groove—Also known as Type C pins. They are well suited for linkage or pivot applications.

To Order: Please specify full groove, center groove, half groove with notch, or quarter groove.

Lg.	Diameter (W)	(X)	(Y)	Wd. (Z)	Pkg. Qty.		Pkg.
3/32″ Dia.—Breaks at 850 lbs.							
1/4″	0.0938″	0.101″	0.062″	0.033″	25	98400A485	$8.86
1/2″	0.0938″	0.101″	0.062″	0.033″	25	98400A486	8.86
1/8″ Dia.—Breaks at 1,600 lbs.							
1/2″	0.125″	0.134″	0.083″	0.064″	25	98400A487	9.06
3/4″	0.125″	0.134″	0.083″	0.064″	25	98400A488	9.81
1″	0.125″	0.133″	0.083″	0.064″	25	98400A489	10.83
5/32″ Dia.—Breaks at 2,300 lbs.							
1/2″	0.1563″	0.166″	0.104″	0.064″	25	98400A490	10.83
3/4″	0.1563″	0.166″	0.104″	0.064″	25	98400A491	11.56
1″	0.1563″	0.165″	0.104″	0.064″	25	98400A492	11.94
3/16″ Dia.—Breaks at 3,300 lbs.							
1/2″	0.1875″	0.198″	0.125″	0.064″	25	98400A493	11.56
3/4″	0.1875″	0.198″	0.125″	0.064″	25	98400A494	11.56
3/16″ Dia. (Cont.)							
1″	0.1875″	0.198″	0.125″	0.064″	10	98400A495	$6.14
1 1/2″	0.1875″	0.197″	0.125″	0.064″	10	98400A514	8.09
1/4″ Dia.—Breaks at 5,850 lbs.							
3/4″	0.25″	0.263″	0.167″	0.096″	25	98400A496	10.83
1″	0.25″	0.263″	0.167″	0.096″	25	98400A497	11.56
1 1/4″	0.25″	0.263″	0.167″	0.096″	10	98400A498	5.38
1 1/2″	0.25″	0.262″	0.167″	0.096″	10	98400A518	7.51
5/16″ Dia.—Breaks at 7,650 lbs.							
3/4″	0.3125″	0.329″	0.209″	0.127″	10	98400A499	5.64
1″	0.3125″	0.329″	0.209″	0.127″	10	98400A500	6.28
1 1/4″	0.3125″	0.329″	0.209″	0.127″	10	98400A501	7.39
3/8″ Dia.—Breaks at 11,000 lbs.							
1″	0.375″	0.394″	0.25″	0.127″	10	98400A502	9.24

Captive Pins



Also known as pilot pins and PEM® brand Type TPS pins, these flush-mount fasteners position, pivot, and align components. To install, punch or drill a hole into sheet metal. Use a punch and anvil or arbor press to clinch the head to the metal. Made of 300 series stainless steel. May be mildly magnetic. Minimum sheet metal thickness is +0.04″. Not rated for breaking strength or hardness.

Also Available: Miniature captive pins. Please ask for 95648A100 and specify diameter (M1, M1.5, or M2) and length (2-6 mm, 8, or 10 mm).

Dia.	O'all Lg.	PEM® Part No.	Pkg. Qty.		Pkg.
1/8″	3/8″	TPS-125-6	50	95648A400	$11.55
1/8″	1/2″	TPS-125-8	50	95648A410	12.40
1/8″	5/8″	TPS-125-10	50	95648A420	13.20
3/16″	3/8″	TPS-187-6	25	95648A530	7.78
3/16″	1/2″	TPS-187-8	25	95648A540	8.64
3/16″	5/8″	TPS-187-10	25	95648A550	$9.61
1/4″	1/2″	TPS-250-8	25	95648A660	10.84
1/4″	5/8″	TPS-250-10	25	95648A670	12.69
1/4″	3/4″	TPS-250-12	25	95648A680	14.78

Pull-Out Dowel Pins


Standard


Flat Vent


Spiral Vent

You can reuse these removable pins—they're internally threaded on one end, so you can pull them out with a screw or the tool sold separately on this page. Because these pins are precision ground, they're great for accurately aligning parts. Diameter tolerance is +0.0001″ to +0.0003″. For the best fit, your hole should be equal to or slightly smaller than the diameter shown. Breaking strength is measured as single shear, which is the force required to break a pin into two pieces.

Standard pins have a smooth finish and are used in through holes. ***Vented*** pins relieve trapped air, making them easier to insert and remove from blind holes. ***Flat vent*** pins are ground flat along one side, while ***spiral vent*** pins have grooves cut from end to end.

Alloy Steel—Our strongest pull-out dowel pins. Minimum Rockwell hardness is C47. Meet ASME B18.8.2.

18-8 Stainless Steel—Pins are corrosion resistant and may be mildly magnetic. Not rated for hardness or breaking strength. Dimensions meet ASME B18.8.2, except 1″ diameter.

Also Available: Standard and spiral vent 18-8 stainless steel pins. Please ask for 97175A800 for standard pins and 97352A600 for spiral vent pins, then specify diameter and length.

Diameter	1/4″	5/16″	3/8″	7/16″	1/2″	5/8″	3/4″	1″
Thread	8-32	10-32	10-32	1/4″-20	1/4″-20	1/4″-20	5/16″-18	5/16″-18

Standard—Alloy Steel

Lg.		
1/4″ Dia.—*Breaks at 6,400 lbs.*		
1/2″	97175A309	$1.66
3/4″	97175A311	1.75
1″	97175A315	1.84
1 1/4″	97175A316	2.11
1 1/2″	97175A318	2.05
1 3/4″	97175A319	2.28
2″	97175A321	2.47
2 1/2″	97175A325	2.58
5/16″ Dia.—*Breaks at 10,000 lbs.*		
3/4″	97175A329	2.12
1″	97175A332	2.19
1 1/4″	97175A334	2.28
1 1/2″	97175A336	2.37
2″	97175A390	3.12
2 1/4″	97175A338	2.72
2 1/2″	97175A341	2.85
3/8″ Dia.—*Breaks at 14,300 lbs.*		
3/4″	97175A344	3.03
1″	97175A348	2.04
1 1/4″	97175A349	2.15
1 1/2″	97175A352	2.27
1 3/4″	97175A353	2.35
2″	97175A355	2.52
2 1/4″	97175A357	2.72
2 1/2″	97175A358	3.16
3″	97175A364	3.27
7/16″ Dia.—*Breaks at 19,500 lbs.*		
1″	97175A366	3.34
1 1/2″	97175A369	3.03
2″	97175A374	3.28

Lg.		
1/2″ Dia.—*Breaks at 25,500 lbs.*		
3/4″	97175A376	$3.18
1″	97175A377	2.35
1 1/4″	97175A378	2.37
1 1/2″	97175A379	2.43
1 3/4″	97175A381	2.55
2″	97175A383	2.73
2 1/4″	97175A385	2.94
2 1/2″	97175A391	3.33
3″	97175A395	3.66
3 1/2″	97175A397	4.09
4″	97175A399	4.86
5/8″ Dia.—*Breaks at 39,000 lbs.*		
1 1/4″	97175A410	3.38
1 1/2″	97175A411	3.50
2″	97175A413	3.79
2 1/4″	97175A414	3.80
2 1/2″	97175A415	4.26
3″	97175A417	4.49
4″	97175A421	5.38
3/4″ Dia.—*Breaks at 57,000 lbs.*		
1 1/2″	97175A426	4.35
2″	97175A431	4.38
2 1/2″	97175A435	5.07
3″	97175A439	5.62
4″	97175A440	6.94
1″ Dia.—*Breaks at 102,000 lbs.*		
2″	97175A443	6.55
2 1/2″	97175A446	8.16
3″	97175A449	8.41
4″	97175A453	8.66

Flat Vent—18-8 Stainless Steel (Breaking strength not rated)

1/4″ Dia.		
3/4″	97365A110	4.33
1″	97365A120	4.48
1 1/4″	97365A130	4.56
1 1/2″	97365A140	4.67
1 3/4″	97365A150	4.79
2″	97365A160	4.88
2 1/2″	97365A170	5.12
5/16″ Dia.		
3/4″	97365A180	4.63
1″	97365A190	4.77
1 1/4″	97365A200	4.94
1 1/2″	97365A210	5.10
2″	97365A222	5.41
2 1/2″	97365A240	5.76
3/8″ Dia.		
1″	97365A250	5.34
1 1/4″	97365A260	5.58
1 1/2″	97365A270	5.80
2″	97365A290	6.19
2 1/2″	97365A310	6.65
3″	97365A320	7.09

1/2″ Dia.		
1″	97365A330	7.07
1 1/4″	97365A340	7.16
1 1/2″	97365A350	7.49
1 3/4″	97365A360	7.82
2″	97365A370	8.16
2 1/2″	97365A390	8.86
3″	97365A400	9.52
5/8″ Dia.		
1 1/2″	97365A430	11.15
2″	97365A440	12.19
2 1/2″	97365A490	13.64
3″	97365A470	14.28
3/4″ Dia.		
2″	97365A500	14.94
3″	97365A510	17.56
1″ Dia.		
2″	97365A530	17.81
3″	97365A620	21.91
4″	97365A580	25.98

Flat Vent—Alloy Steel

Lg.		
1/4″ Dia.—*Breaks at 6,400 lbs.*		
3/4″	97360A110	$3.19
1″	97360A120	3.24
1 1/4″	97360A130	3.67
1 1/2″	97360A140	3.81
1 3/4″	97360A150	3.96
2″	97360A160	4.05
2 1/2″	97360A170	4.77
5/16″ Dia.—*Breaks at 10,000 lbs.*		
3/4″	97360A180	3.93
1″	97360A190	4.09
1 1/4″	97360A200	4.29
1 1/2″	97360A210	4.47
2″	97360A222	4.82
2 1/2″	97360A240	6.10
3/8″ Dia.—*Breaks at 14,300 lbs.*		
1″	97360A250	4.19
1 1/4″	97360A260	4.65
1 1/2″	97360A270	4.77
2″	97360A290	5.25
2 1/4″	97360A300	5.67
2 1/2″	97360A310	5.83
3″	97360A320	6.82

Lg.		
1/2″ Dia.—*Breaks at 25,500 lbs.*		
1″	97360A330	$5.13
1 1/4″	97360A340	5.18
1 1/2″	97360A350	5.61
1 3/4″	97360A360	5.79
2″	97360A370	5.97
2 1/2″	97360A390	6.28
3″	97360A400	6.82
3 1/2″	97360A410	7.42
5/8″ Dia.—*Breaks at 39,000 lbs.*		
1 1/2″	97360A430	5.54
2″	97360A440	5.92
2 1/4″	97360A480	6.24
2 1/2″	97360A490	7.48
3″	97360A470	7.78
3/4″ Dia.—*Breaks at 57,000 lbs.*		
2″	97360A500	7.84
3″	97360A510	8.13
4″	97360A570	12.32
1″ Dia.—*Breaks at 102,000 lbs.*		
2″	97360A530	10.31
3″	97360A550	11.95
4″	97360A580	17.25

Spiral Vent—Alloy Steel

1/4″ Dia.—*Breaks at 6,400 lbs.*		
3/4″	97352A110	3.73
1″	97352A120	3.94
1 1/4″	97352A130	4.11
1 1/2″	97352A140	4.27
2″	97352A160	4.90
2 1/2″	97352A170	6.07
5/16″ Dia.—*Breaks at 10,000 lbs.*		
3/4″	97352A180	4.44
1″	97352A190	4.69
1 1/4″	97352A200	4.90
1 1/2″	97352A210	5.07
2″	97352A220	5.78
2 1/2″	97352A240	6.49
3/8″ Dia.—*Breaks at 14,300 lbs.*		
1″	97352A250	4.61
1 1/4″	97352A260	4.82
1 1/2″	97352A270	5.03
1 3/4″	97352A280	5.36
2″	97352A290	5.78
2 1/4″	97352A300	6.12
2 1/2″	97352A310	6.54
3″	97352A320	7.16
1/2″ Dia.—*Breaks at 25,500 lbs.*		
1″	97352A330	4.90
1 1/4″	97352A340	5.19

Lg.		
1/2″ Dia. (Cont.)		
1 1/2″	97352A350	5.45
1 3/4″	97352A360	5.82
2″	97352A370	6.28
2 1/4″	97352A380	6.67
2 1/2″	97352A390	7.12
3″	97352A400	7.83
3 1/2″	97352A410	8.76
5/8″ Dia.—*Breaks at 39,000 lbs.*		
1 1/2″	97352A430	7.67
2″	97352A440	8.88
2 1/4″	97352A480	9.47
2 1/2″	97352A460	10.10
3″	97352A470	11.14
3/4″ Dia.—*Breaks at 57,000 lbs.*		
2″	97352A490	11.44
2 1/2″	97352A500	12.94
3″	97352A510	14.29
4″	97352A570	17.89
1″ Dia.—*Breaks at 102,000 lbs.*		
2″	97352A530★	15.29
3″	97352A550★	19.40
4″	97352A580★	24.21

★ Thread is 3/8″-16.

Pull-Out Dowel Pin Tools

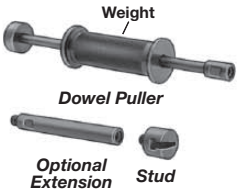

Install and remove pull-out dowel pins with ease. For a complete tool you'll need a ***dowel puller*** and a ***large*** or ***small stud*** (each sold separately) that fits the diameter of your pull-out pin. The small stud fits 3/16″ to 5/8″ and M6 to M12 diameter pins, large fits 3/4″ to 1 1/2″ and M13 to M20 diameters.

You'll also need a socket head cap screw. The dowel puller fits 6-32 to 1/4″ and M4 to M6 screws and the extension fits 5/16″ to 3/8″ and M8 to M10 screws. For inch sizes see 91251A on pages 3101-3103, for metric sizes see 91290A on pages 3106-3107.

To use, thread one end of the stud into the dowel puller, and fit the other end over the cap screw that you've threaded into your pin, then slide the weight.

The dowel puller has an overall length of 12 1/4″ and a reach of 6 1/2″. Add the optional extension for an additional 5 1/2″ of reach.

Dowel Puller	92330A300	$65.55
Stud for Small Dia. Pin	92330A411	27.80
Stud for Large Dia. Pin	92330A511	27.80
Optional Extension	92330A220	13.64

Metric Pull-Out Dowel Pins

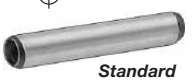
Standard

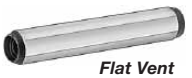
Flat Vent

They're internally threaded on one end, so you can pull them out with a screw or a threaded puller such as the Pull-Out Dowel Pin Tool on page 3374. Pins are precision ground for accurate alignment. For the best fit, your hole should be equal to or slightly smaller than the diameter shown. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces. Pins are made from alloy steel and meet DIN 7979D-m6. Minimum Rockwell hardness is C52.

Standard pins have a smooth finish and are used in through holes.

Flat vent pins are ground flat on one side. They relieve trapped air, so they're easy to insert and remove from blind holes.

Diameter	M6	M8	M10	M12	M16	M20
Thread	M4	M5	M6	M6	M8	M10
Pitch, mm	0.7	0.8	1	1	1.25	1.5
Diameter Tolerance, mm	+0.004 to +0.012	+0.006 to +0.015		+0.007 to +0.018		+0.008 to +0.021

Lg., mm		Pkg.
Standard		
M6 Dia.— *Breaks at 6,600 lbs.*		
16	97355A292	$1.32
18	97355A296	1.54
20	97355A300	1.46
24	97355A302	1.31
28	97355A303	1.56
30	97355A306	1.81
32	97355A310	1.87
36	97355A314	2.06
40	97355A318	2.13
50	97355A326	2.12
60	97355A334	3.97
M8 Dia.— *Breaks at 10,400 lbs.*		
20	97355A401	1.42
24	97355A405	1.94
28	97355A414	1.98
30	97355A418	2.00
32	97355A404	2.00
36	97355A422	2.03
40	97355A406	2.08
50	97355A426	2.06
60	97355A430	3.09
70	97355A434	4.22
80	97355A439	4.38
M10 Dia.— *Strength not rated*		
24	97355A492	2.16
28	97355A496	2.19
M10 Dia. (Cont.)		
30	97355A500	$2.31
32	97355A504	2.50
36	97355A505	2.81
40	97355A506	3.09
50	97355A507	2.66
60	97355A515	3.52
70	97355A518	4.84
80	97355A520	5.31
M12 Dia.— *Breaks at 24,000 lbs.*		
24	97355A531	2.58
30	97355A535	2.54
36	97355A539	2.64
45	97355A543	3.44
50	97355A547	4.07
60	97355A551	4.84
M16 Dia.— *Breaks at 33,500 lbs.*		
32	97355A563	4.38
36	97355A567	4.56
40	97355A571	4.70
50	97355A579	5.16
60	97355A587	5.31
70	97355A591	6.19
M20 Dia.— *Breaks at 51,500 lbs.*		
50	97355A605	8.13
60	97355A609	9.69
80	97355A613	10.31
Flat Vent		
M6 Dia.— *Breaks at 6,600 lbs.*		
16	98432A206	1.32
18	98432A210	1.44
20	98432A216	1.20
24	98432A220	1.32
28	98432A224	1.32
30	98432A228	1.32
36	98432A236	1.32
40	98432A240	1.60
50	98432A244	1.96
M8 Dia.— *Breaks at 10,400 lbs.*		
20	98432A261	1.44
24	98432A265	1.72
28	98432A269	1.60
30	98432A274	1.80
36	98432A282	1.92
40	98432A286	2.16
50	98432A290	2.48
60	98432A294	2.80
70	98432A298	3.36
M10 Dia.— *Strength not rated*		
24	98432A303	2.08
28	98432A307	2.08
M10 Dia. (Cont.)		
30	98432A311	2.12
36	98432A315	2.40
40	98432A319	2.40
50	98432A323	2.80
60	98432A327	3.00
70	98432A332	4.40
M12 Dia.— *Breaks at 24,000 lbs.*		
24	98432A341	2.72
30	98432A345	2.88
36	98432A349	3.16
40	98432A353	3.16
45	98432A357	3.84
50	98432A362	3.96
60	98432A366	4.48
M16 Dia.— *Breaks at 33,500 lbs.*		
32	98432A382	4.39
40	98432A386	4.53
50	98432A390	5.00
60	98432A394	6.37
70	98432A398	6.67
80	98432A402	6.97

Hollow Dowel Pins



Use these lightweight dowels as pass-throughs for wires and other components. They're precision ground for accurate alignment and have beveled ends to aid insertion. Wall thickness is approximately 15-20% of the diameter. For the best fit, your hole should be equal to or slightly smaller than the diameter shown. Pins are made from alloy steel. Not rated for hardness or breaking strength.

Lg., mm	Pkg. Qty.		Pkg.
M6 Dia.			
12	10	97184A120	$9.49
20	10	97184A160	11.74
24	5	97184A170	7.69
30	5	97184A180	8.37
M8 Dia.			
12	10	97184A220	12.74
16	5	97184A230	8.86
20	5	97184A250	10.66
24	5	97184A260	12.46
30	1	97184A270	4.40
32	1	97184A280	4.57
M10 Dia.			
12	5	97184A300	$9.11
20	1	97184A340	3.14
24	1	97184A350	4.11
30	1	97184A360	4.86
M12 Dia.			
20	1	97184A410	4.09
24	1	97184A420	5.11
30	1	97184A430	6.26
M16 Dia.			
20	1	97184A470	4.66
24	1	97184A480	5.43
30	1	97184A490	6.57

High-Tension Dowel Pins


Knurled


Two-Way Barbed


Barbed with Cap

With a rougher surface than standard dowel pins, these pins grip in place with knurls or barbs. Not rated for hardness or breaking strength.

Knurled pins have the roughest gripping surface and flat ends. Made of steel.

Two-way barbed pins have beveled ends that aid insertion and opposing barbs that pull panels together. Also known as Barb-Lok™ pins, they work best with softer materials and plastics. Made of zinc-plated steel.

Barbed with cap pins have barbs for grip and a capped end for a finished appearance. End is beveled to aid insertion. Also known as Barb-Lok™ pins, they work best with softer materials and plastics. Made of zinc-plated steel.

Lg.	Pkg. Qty.		Pkg.
Knurled			
1/8" Dia.			
1"	10	98388A216	$5.26
2"	10	98388A219	5.33
3"	10	98388A223	5.38
3/16" Dia.			
1"	10	98388A251	5.34
2"	10	98388A256	5.46
3"	10	98388A259	5.58
1/4" Dia.			
1"	10	98388A284	$5.44
2"	10	98388A287	5.65
3"	10	98388A293	5.87
Two-Way Barbed			
1/8" Dia.			
1/2"	10	98388A324	12.00
3/4"	10	98388A325	12.57
1"	10	98388A326	12.86
3/16" Dia.			
1/2"	10	98388A327	13.14
3/4"	10	98388A328	13.43
1"	5	98388A329	7.40
1/4" Dia.			
3/4"	5	98388A331	7.69
1"	5	98388A332	8.11
1 1/4"	5	98388A333	8.54
Barbed with Cap			
7/64" Dia.			
5/16"	1	98388A311	4.29
3/8"	1	98388A312	4.29
1/2"	1	98388A313	4.34
1/8" Dia.			
3/8"	1	98388A314	4.34
1/2"	1	98388A315	4.37
3/4"	1	98388A316	4.46
9/64" Dia.			
3/8"	1	98388A317	4.80
1/2"	1	98388A318	4.80
3/4"	1	98388A319	4.97
11/64" Dia.			
1/2"	1	98388A321	4.80
3/4"	1	98388A322	4.97
1"	1	98388A323	5.09

Wood Dowel Pins

Use ***grooved*** pins in plywood and particleboard and ***spiral*** pins in solid wood.

Dia./Recommended Hole Size	Lg.	Grooved Pkg. of 100		Spiral Pkg. of 100	
1/4"	1 1/2"	97195A416	$4.20	97195A847	$3.92
1/4"	2"	97195A419	4.67	97195A852	4.67
1/4"	2 1/2"	97195A423	6.10	97195A855	6.00
5/16"	1 1/2"	97195A425	3.92	97195A861	3.92
5/16"	2"	97195A427	4.67	97195A864	4.67
3/8"	1 1/2"	97195A429	4.20	97195A873	3.92
3/8"	2"	97195A434	4.67	97195A877	4.67
3/8"	2 1/2"	97195A438	6.12	97195A883	5.92

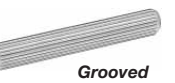
Grooved


Spiral

Precision Perforator Pins



Well suited for perforating and punching applications, these pins are also known as core, mold, forged, and pilot pins, and pin blanks. Made of high-speed tool steel. Minimum Rockwell hardness is C60.

Flat head pins provide a wide bearing surface. *0.001″ increments* and *fractional* sizes have a shaft diameter tolerance of +0.0002″ for 2½″ long pins and +0.0003″ for 6″ long pins. *0.0001″ increments* have a shaft diameter tolerance of +0.0003″. **To Order:** Please specify shaft diameter from the size ranges listed below. Fractional sizes are only available in the sizes listed.

Countersunk head pins are beveled 60° under the head for a flush surface when countersunk. Shaft diameter tolerance is +0.0003″.

Shaft Dia.	Head Dia.	Ht.		2½″ O'all Lg.		6″ O'all Lg.	
Flat Head							
0.001″ Increments							
0.010″–.014″	1/32″	1/16″	98378A005★	$14.60			
0.015″–.019″	1/32″	1/16″	98378A015★	12.16			
0.020″–.029″	3/64″	1/16″	98378A025★	9.77			
0.030″–.036″	1/16″	1/16″	98378A100	4.97			
0.037″–.046″	5/64″	1/16″	98378A200	4.97			
0.047″–.055″	3/32″	3/32″	98378A300	4.97			
0.056″–.064″	7/64″	3/32″	98378A400	5.33	98378A450	$25.61	
0.065″–.078″	1/8″	3/32″	98378A500	5.33	98378A550	25.61	
0.079″–.087″	9/64″	3/32″	98378A600	5.33	98378A650	25.61	
0.088″–.099″	5/32″	3/32″	98378A700	5.92	98378A750	24.95	
0.100″–.120″	11/64″	3/32″	98378A800	5.92	98378A850	24.95	
0.121″–.131″	3/16″	1/8″	98378A900	5.92	98378A950	24.95	
0.132″–.147″	13/64″	1/8″	98378A125	9.77	98378A175	25.19	
0.148″–.163″	7/32″	1/8″	98378A225	9.77	98378A275	25.19	
0.164″–.179″	15/64″	1/8″	98378A325	9.77	98378A375	25.19	
0.180″–.194″	1/4″	1/8″	98378A425	11.20	98378A475	25.82	
0.195″–.210″	17/64″	1/8″	98378A525	11.20	98378A575	25.82	
0.211″–.225″	9/32″	1/8″	98378A625	11.20	98378A675	25.82	
0.226″–.241″	19/64″	1/8″	98378A725	12.91	98378A775	26.75	
0.242″–.250″	5/16″	3/16″	98378A825	12.91	98378A875	26.75	
0.0001″ Increments							
0.0309″–.0328″	1/4″	1/8″			95203A130	22.00	
0.0621″–.0640″	1/4″	1/8″			95203A240	20.96	
0.0934″–.0953″	1/4″	1/8″			95203A350	20.40	
0.1251″–.1265″	1/4″	1/8″			95203A460	17.60	
0.1559″–.1578″	9/32″	5/32″			95203A570	19.60	
0.1876″–.1890″	3/8″	3/16″			95203A680	19.60	
0.2496″–.2515″	7/16″	3/16″			95203A790	19.60	
Fractional Increments							
1/32″	1/16″	1/16″	98378A916	7.85			
3/64″	3/32″	3/32″	98378A918	7.85			
5/64″	1/8″	3/32″	98378A922	8.33	98378A957	25.61	
3/32″	5/32″	3/32″	98378A924	9.28	98378A959	24.95	
7/64″	11/64″	3/32″	98378A926	9.28	98378A961	24.95	
9/64″	13/64″	1/8″	98378A933	6.25	98378A963	25.20	
5/32″	7/32″	1/8″	98378A936	6.25	98378A966	25.20	
3/16″	1/4″	1/8″	98378A942	7.15	98378A972	25.83	
7/32″	9/32″	1/8″	98378A949	7.15	98378A978	25.83	
9/32″	11/32″	3/16″	98378A951	12.91	98378A992	38.20	

★ 2″ overall length.

Shaft Dia.	Head Dia.	Ht.		2½″ O'all Lg.		6″ O'all Lg.	
Countersunk Head							
Fractional Increments							
1/32″	0.06″	0.02″	93757A450	$5.66			
3/64″	0.08″	0.03″	93757A451	5.66			
1/16″	0.11″	0.04″	93757A452	6.86	93757A952	$22.12	
5/64″	0.14″	0.05″	93757A453	6.86	93757A953	22.12	
3/32″	0.17″	0.07″	93757A454	7.63	93757A954	21.42	
7/64″	0.20″	0.08″	93757A455	7.63	93757A955	21.42	
5/32″	0.28″	0.11″	93757A456	8.14	93757A956	21.83	
3/16″	0.34″	0.13″	93757A457	9.29	93757A957	22.53	
7/32″	0.39″	0.15″	93757A458	9.29	93757A958	22.53	

Precision Ejector Pins



Also known as pin blanks, knockout pins, forged pins, and pilot pins. Use these pins to eject plastic or alloyed materials from molds. They can also be used for locating and punching. Pins are ground to tight tolerances for minimal friction and long life. Heads are forged for high strength and ends are flat. Made from tool steel. Shaft diameter tolerance for pins up to ½″ diameter is –0.0005″ to –0.0008″, and –0.0003″ to –0.0008″ for diameters larger than ½″. Minimum Rockwell hardness is C41.

Shoulder style pins are more rigid than straight style pins. Shoulder diameter is ⅛″. **To Order:** Please specify ⅜″ or 1⅞″ shoulder length.

Shaft Dia.	Head Dia.	Ht.		6″ O'all Lg.		10″ O'all Lg.	
Straight Style							
3/64″	1/4″	1/8″	93772A104	$7.57			
1/16″	1/4″	1/8″	93772A103	7.15	93772A235	$10.14	
3/32″	1/4″	1/8″	93772A105	6.47	93772A239	7.35	
1/8″	1/4″	1/8″	93772A112	3.51	93772A241	3.91	
9/64″	1/4″	1/8″	93772A113	4.28	93772A242	4.36	
5/32″	9/32″	5/32″	93772A114	3.67	93772A243	4.09	
3/16″	3/8″	3/16″	93772A115	3.83	93772A244	4.68	
7/32″	13/32″	3/16″	93772A116	4.28	93772A245	5.36	
15/64″	13/32″	3/16″			93772A246	5.88	
1/4″	7/16″	3/16″	93772A118	4.48	93772A247	5.84	
17/64″	7/16″	1/4″			93772A248	6.90	
9/32″	7/16″	1/4″	93772A144	5.62	93772A249	7.16	
19/64″	1/2″	1/4″			93772A273	7.56	
5/16″	1/2″	1/4″	93772A121	6.20	93772A250	7.96	
21/64″	9/16″	1/4″			93772A251	8.52	
11/32″	9/16″	1/4″	93772A123	6.98	93772A252	8.92	
23/64″	5/8″	1/4″			93772A275	9.50	
3/8″	5/8″	1/4″	93772A124	7.36	93772A253	9.90	
7/16″	11/16″	1/4″	93772A127	8.92	93772A256	12.14	
1/2″	3/4″	1/4″	93772A130	10.66	93772A259	14.46	
5/8″	7/8″	1/4″	93772A133	15.28	93772A261	21.10	
3/4″	1″	1/4″	93772A136	21.30	93772A264	28.58	
1″	1 1/4″	1/4″	93772A142	48.80	93772A270	54.80	
Shoulder Style							
1/32″	1/4″	1/8″	93779A511	12.77			
3/64″	1/4″	1/8″	93779A521	7.84	93779A728	10.38	
1/16″	1/4″	1/8″	93779A533	6.98	93779A740	8.93	
5/64″	1/4″	1/8″	93779A544	6.98	93779A751	8.93	
3/32″	1/4″	1/8″	93779A552	6.29	93779A759	8.09	
7/64″	1/4″	1/8″	93779A561	6.29	93779A768	8.09	

L-Shaped Pins

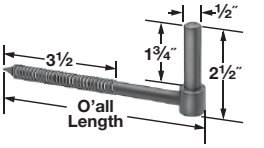

Also known as lag pintles. When installed into wood, provide a free-standing pin that can be used as a hinge. Pins have a black finish.

18-8 Stainless Steel—More corrosion resistant than galvanized steel. May be magnetic.

Galvanized Steel—Stronger than 18-8 stainless steel. May be mildly magnetic.

O'all Lg.	18-8 Stainless Steel		Galvanized Steel	
5 1/4″	96328A300	$23.91	96328A100	$17.39
6 1/4″	96328A400	24.46	96328A200	19.57

Precision Punch Pins



Made of high-speed tool steel, use these pins as wear-resistant components in molding applications. Also known as pin blanks. Not recommended for use as ejector pins. Shafts are ground flat. Minimum Rockwell hardness is C40. Diameter tolerance is +0.0002″ to +0.0005″.

Shaft Dia.	Head Dia.	Ht.	2″ O'all Lg.		2½″ O'all Lg.		3″ O'all Lg.		3½″ O'all Lg.	
3/16″	5/16″	1/8″	93770A205	$15.31	93770A305	$15.31				
1/4″	3/8″	1/8″	93770A210	16.59	93770A310	16.59	93770A410	$17.00		
5/16″	7/16″	1/8″	93770A215	16.59	93770A315	16.59	93770A415	17.00		
3/8″	1/2″	3/16″	93770A220	19.63	93770A320	19.63	93770A420	19.63		
7/16″	9/16″	3/16″	93770A225	19.63	93770A325	19.63	93770A425	19.63	93770A525	$19.63
1/2″	5/8″	3/16″	93770A230	19.63	93770A330	19.63	93770A430	19.63	93770A530	19.63
5/8″	3/4″	1/4″	93770A235	24.76	93770A335	24.76	93770A435	24.76	93770A535	24.76
3/4″	7/8″	1/4″			93770A340	36.36	93770A440	36.36	93770A540	36.36

Taper Pins



Commonly used for positioning components and securing assemblies. These pins have slightly rounded edges to aid insertion. Pins taper at a uniform rate of ¼″ per 12 inches. To install, drive pins into tapered holes (for tapered drill bits, see 8831A on page 2499). Diameter tolerance at the larger pin end is –0.0007″ to +0.0013″. Meet ANSI/ASME B18.8.2.

18-8 Stainless Steel— Our most corrosion resistant taper pins. May be magnetic. Breaking strength is 54,000 psi. Rockwell hardness is B85.

Steel— Breaking strength is 46,500 psi. Rockwell hardness is B85.

		18-8 Stainless Steel		Steel	
Lg.	Small End Dia.	Pkg. Qty.	Pkg.	Pkg. Qty.	Pkg.
0.063″ Large End Dia. (No. 7/0)					
½″	0.052″	10	90681A001 $5.92	25	98390A003 $7.56
¾″	0.047″	10	90681A002 5.92	25	98390A004 7.95
0.078″ Large End Dia. (No. 6/0)					
½″	0.068″	10	90681A003 5.92	25	98390A009 7.38
¾″	0.062″	10	90681A005 5.92	25	98390A010 7.76
1″	0.057″	10	90681A007 7.03	25	98390A011 7.76
0.094″ Large End Dia. (No. 5/0)					
½″	0.084″	10	90681A038 5.92	25	98390A006 7.38
¾″	0.078″	10	90681A040 5.92	25	98390A040 7.76
1″	0.073″	10	90681A042 7.03	25	98390A041 7.76
1½″	0.063″	10	90681A048 9.02	25	98390A043 8.35
0.109″ Large End Dia. (No. 4/0)					
½″	0.099″	10	90681A069 5.92	50	98390A069 9.95
1″	0.088″	10	90681A073 7.03	50	98390A071 11.69
1½″	0.078″	10	90681A075 9.02	25	98390A082 7.69
0.125″ Large End Dia. (No. 3/0)					
½″	0.115″	10	90681A099 5.92	50	98390A099 9.95
¾″	0.109″	10	90681A101 5.92	50	98390A100 10.32
1″	0.104″	10	90681A103 7.03	50	98390A101 11.69
1¼″	0.099″	10	90681A104 7.66	50	98390A102 13.34
1½″	0.094″	10	90681A105 9.02	25	98390A103 7.50
0.141″ Large End Dia. (No. 2/0)					
¾″	0.125″	10	90681A131 5.92	50	98390A130 10.07
1″	0.12″	10	90681A133 7.10	50	98390A131 11.69
1¼″	0.115″	10	90681A132 7.89	50	98390A132 13.34
1½″	0.11″	10	90681A135 8.60	25	98390A133 7.50
2″	0.099″	10	90681A137 10.78	25	98390A135 8.73
2½″	0.089″	10	90681A139 13.16	25	98390A137 10.69
0.156″ Large End Dia. (No. 0)					
¾″	0.14″	10	90681A160 5.92	50	98390A160 10.07
1″	0.135″	10	90681A162 7.09	50	98390A161 11.69
1¼″	0.13″	10	90681A163 7.66	50	98390A162 13.34
1½″	0.125″	10	90681A164 8.60	25	98390A163 7.50
2″	0.114″	10	90681A169 12.25	25	98390A165 8.53
3″	0.094″	5	90681A175 8.41	25	98390A169 13.93
0.172″ Large End Dia. (No. 1)					
¾″	0.156″	10	90681A189 5.91	50	98390A190 10.70
1″	0.151″	10	90681A191 7.45	50	98390A191 12.21
1¼″	0.146″	10	90681A192 8.71	50	98390A192 13.83
1½″	0.141″	10	90681A193 9.93	25	98390A193 7.71
2″	0.13″	10	90681A195 12.42	25	98390A195 9.13
3″	0.11″	5	90681A198 8.95	25	98390A199 13.59
4″	0.089″	1	90681A210 2.92	10	98390A202 7.20
0.193″ Large End Dia. (No. 2)					
¾″	0.177″	10	90681A220 6.99	50	98390A220 12.00
1″	0.172″	10	90681A221 8.24	50	98390A221 13.30
1¼″	0.167″	10	90681A222 9.47	25	98390A222 7.46
1½″	0.162″	10	90681A223 10.69	25	98390A223 8.25
2″	0.151″	10	90681A225 13.17	25	98390A225 9.89
3″	0.131″	5	90681A229 9.38	25	98390A229 14.10
4″	0.11″	1	90681A249 3.29	10	98390A232 7.34
0.219″ Large End Dia. (No. 3)					
¾″	0.203″	5	90681A250 3.86	50	98390A250 12.74
1″	0.198″	10	90681A251 8.99	25	98390A251 7.20
1¼″	0.193″	10	90681A252 10.32	25	98390A252 7.99
1½″	0.188″	10	90681A253 11.56	25	98390A253 8.82
1¾″	0.183″	10	90681A254 12.79	25	98390A254 9.31
2″	0.177″	5	90681A255 7.36	25	98390A255 10.36
2½″	0.167″	5	90681A257 8.86	25	98390A257 12.52
3″	0.157″	5	90681A259 11.30	10	98390A259 5.86
4″	0.136″	1	90681A261 3.48	10	98390A263 7.55
0.25″ Large End Dia. (No. 4)					
¾″	0.234″	10	90681A279 8.64	25	98390A280 7.21
1″	0.229″	10	90681A281 9.87	25	98390A281 7.99
1¼″	0.224″	10	90681A282 11.09	25	98390A282 8.82
1½″	0.219″	10	90681A283 12.33	25	98390A283 9.31
1¾″	0.214″	10	90681A284 13.56	25	98390A284 10.36
2″	0.208″	5	90681A285 7.77	25	98390A285 11.17
2¼″	0.203″	5	90681A286 8.06	25	98390A286 12.26
2½″	0.198″	5	90681A287 9.48	25	98390A287 13.31
2¾″	0.193″	5	90681A288 11.39	10	98390A288 5.75
3″	0.188″	5	90681A289 12.95	10	98390A289 6.18
4″	0.167″	1	90681A293 3.80	10	98390A293 7.87
4½″	0.156″	1	90681A295 4.73	10	98390A294 8.72

		18-8 Stainless Steel		Steel	
Lg.	Small End Dia.	Pkg. Qty.	Pkg.	Pkg. Qty.	Pkg.
0.289″ Large End Dia. (No. 5)					
1½″	0.258″	5	90681A313 $7.92	25	98390A313 $10.36
1¾″	0.253″	5	90681A314 8.33	25	98390A314 10.67
2″	0.247″	5	90681A315 8.92	25	98390A315 10.71
2¼″	0.242″	5	90681A316 10.56	25	98390A316 12.17
2½″	0.237″	5	90681A317 11.95	25	98390A317 13.17
3″	0.227″	1	90681A319 3.19	10	98390A319 6.06
3½″	0.216″	1	90681A320 3.66	10	98390A321 7.34
4″	0.206″	1	90681A321 4.30	10	98390A323 8.19
5″	0.185″	1	90681A323 5.53	10	98390A327 9.90
6″	0.164″	1	90681A328 6.81	10	98390A331 11.60
7″	0.143″	1	90681A334 8.35	10	98390A335 13.25
0.341″ Large End Dia. (No. 6)					
1½″	0.31″	5	90681A343 9.56	25	98390A343 13.31
1¾″	0.305″	5	90681A344 10.95	10	98390A344 5.86
2″	0.299″	5	90681A345 12.48	10	98390A345 6.71
2¼″	0.294″	1	90681A346 2.86	10	98390A346 8.03
2½″	0.289″	1	90681A347 3.14	10	98390A347 7.31
2¾″	0.284″	1	90681A348 3.23	10	98390A348 7.98
3″	0.279″	1	90681A349 3.47	10	98390A349 8.51
3¼″	0.273″	1	90681A350 3.69	10	98390A350 9.05
3½″	0.268″	1	90681A351 4.03	10	98390A351 9.59
4″	0.258″	1	90681A353 4.71	10	98390A353 10.65
4½″	0.247″	1	90681A354 5.43	10	98390A354 11.92
5″	0.237″	1	90681A355 6.08	10	98390A357 13.20
6″	0.216″	1	90681A357 7.43	5	98390A361 9.08
0.409″ Large End Dia. (No. 7)					
1¾″	0.373″	1	90681A382 2.82	10	98390A370 8.51
2″	0.367″	1	90681A371 3.29	10	98390A371 9.05
2¼″	0.362″	1	90681A372 3.92	10	98390A372 10.28
2½″	0.357″	1	90681A373 4.48	10	98390A373 10.96
2¾″	0.352″	1	90681A374 5.04	10	98390A374 11.92
3″	0.347″	1	90681A375 5.33	10	98390A375 12.88
3¼″	0.341″	1	90681A376 5.68	10	98390A376 13.84
3½″	0.336″	1	90681A377 6.04	5	98390A377 9.57
4″	0.326″	1	90681A379 7.39	5	98390A379 11.66
4½″	0.315″	1	90681A381 8.14	5	98390A381 9.91
5″	0.305″	1	90681A383 8.96	5	98390A383 11.14
6″	0.284″	1	90681A385 10.62	5	98390A388 13.27
0.492″ Large End Dia. (No. 8)					
1½″	0.461″	1	90681A395 3.85	10	98390A413 9.58
2″	0.45″	1	90681A415 4.87	10	98390A415 11.73
2½″	0.44″	1	90681A417 5.96	10	98390A417 14.02
2¾″	0.435″	1	90681A418 6.44	10	98390A418 15.16
3″	0.43″	1	90681A419 6.97	5	98390A419 11.69
3½″	0.419″	1	90681A421 8.85	5	98390A421 13.62
4″	0.409″	1	90681A423 10.03	5	98390A423 10.27
4½″	0.398″	1	90681A425 11.21	5	98390A425 11.48
5″	0.388″	1	90681A427 12.27	5	98390A427 12.96
5½″	0.378″	1	90681A428 13.43	5	98390A429 14.35
6″	0.367″	1	90681A429 14.60	1	98390A431 3.14
7″	0.346″	1	90681A440 16.61	1	98390A433 3.81
0.591″ Large End Dia. (No. 9)					
2″	0.549″	1	90681A445 7.72	5	98390A445 8.07
2½″	0.539″	1	90681A447 8.93	5	98390A447 9.41
3″	0.529″	1	90681A449 10.32	5	98390A449 10.86
3½″	0.518″	1	90681A451 12.53	5	98390A451 12.21
4″	0.508″	1	90681A453 14.52	5	98390A453 14.05
4½″	0.497″	1	90681A455 15.85	5	98390A455 15.69
5″	0.487″	1	90681A457 17.16	1	98390A457 3.47
5½″	0.477″	1	90681A459 18.47	1	98390A459 3.79
6″	0.466″	1	90681A461 19.79	1	98390A461 4.13
7″	0.445″	1	90681A465 22.60	1	98390A463 5.79
0.706″ Large End Dia. (No. 10)					
2″	0.664″	1	90681A470 9.83	5	98390A475 10.19
3″	0.644″	1	90681A479 14.37	5	98390A479 14.18
4″	0.623″	1	90681A483 18.21	1	98390A483 3.63
4½″	0.612″	1	90681A485 20.46	1	98390A485 4.10
5″	0.602″	1	90681A487 22.82	1	98390A487 4.53
6″	0.581″	1	90681A489 27.97	1	98390A491 5.45
7″	0.56″	1	90681A497 30.18	1	98390A493 6.70

Metric Taper Pins



Position components and secure assemblies with these steel pins. Pins taper at a uniform rate of 1 mm per 50 mm. To install, drive pins into tapered holes (for tapered drill bits, see 8831A on page 2499). Diameter tolerance is –0.04 mm for M3 diameters, –0.048 mm for M4 to M6 diameters, –0.058 mm for M8 to M10 diameters, and –0.07 mm for M12 diameters. Not rated for breaking strength. Rockwell hardness is B52. Meet DIN 1.

Lg., mm	Large End Dia., mm	Pkg. Qty.		Pkg.
M3 Small End Dia.				
16	3.3	25	98445A311	$7.77
20	3.4	25	98445A313	7.89
32	3.6	10	98445A318	5.82
40	3.8	10	98445A320	5.44
50	4	10	98445A324	7.12
60	4.2	10	98445A328	9.21
M4 Small End Dia.				
20	4.4	10	98445A414	5.52
26	4.5	10	98445A415	7.14
30	4.6	10	98445A417	6.72
40	4.8	10	98445A420	7.14
45	4.9	10	98445A422	7.56
50	5	10	98445A424	8.71
60	5.2	5	98445A428	6.36
M5 Small End Dia.				
20	5.4	10	98445A513	6.10
26	5.5	10	98445A515	7.46
30	5.6	10	98445A517	10.87
40	5.8	5	98445A520	6.67
45	5.9	5	98445A522	4.89
50	6	5	98445A524	$5.23
55	6.1	5	98445A526	5.29
60	6.2	5	98445A528	6.35
M6 Small End Dia.				
20	6.4	25	98445A613	12.97
26	6.5	10	98445A615	7.72
30	6.6	10	98445A617	10.88
40	6.8	10	98445A620	10.47
45	6.9	5	98445A622	6.57
50	7	10	98445A624	13.83
55	7.1	5	98445A626	9.25
60	7.2	10	98445A628	13.59
70	7.4	5	98445A632	8.88
80	7.6	5	98445A636	9.65
M8 Small End Dia.				
26	8.5	5	98445A715	8.44
30	8.6	5	98445A717	7.73
40	8.8	5	98445A720	8.89
45	8.9	5	98445A722	12.14
50	9	5	98445A724	10.29
55	9.1	5	98445A726	$13.64
60	9.2	5	98445A728	13.19
70	9.4	1	98445A732	2.95
80	9.6	1	98445A736	2.88
M10 Small End Dia.				
40	10.8	5	98445A820	10.67
45	10.9	5	98445A822	11.23
50	11	5	98445A824	12.21
55	11.1	1	98445A826	3.40
60	11.2	1	98445A828	3.43
70	11.4	1	98445A832	4.54
80	11.6	1	98445A836	4.65
M12 Small End Dia.				
40	12.8	1	98445A860	5.12
50	13	5	98445A864	13.27
55	13.1	1	98445A866	3.61
60	13.2	1	98445A868	3.86
70	13.4	1	98445A872	4.56
80	13.6	1	98445A876	5.11

Threaded Taper Pins with Hex Nuts





Tighten the nut to draw the pin out of the hole.

You only need to access one end of these threaded pins for removal; just tighten the hex nut to draw them out. Pins taper at a uniform rate of 1/4″ per 12 inches. Install pins into tapered holes. Large end diameter tolerance is –0.0007″ to +0.0013″.

18-8 Stainless Steel— Our most corrosion resistant threaded taper pins. Breaking strength is 54,000 psi. May be magnetic. Rockwell hardness is B90.

Steel— Breaking strength is 46,500 psi. Rockwell hardness is B85.

Lg.	Small End Dia.	18-8 Stainless Steel Pkg. Qty.		18-8 Stainless Steel Pkg.	Steel Pkg. Qty.		Steel Pkg.
0.17″ Large End Dia. (No. 1)— *Thread: 8-32 × 1/4″*							
1″	0.149″	5	92284A191	$9.05	5	92281A191	$4.68
1 1/4″	0.144″	5	92284A192	9.86	5	92281A192	4.89
0.191″ Large End Dia. (No. 2)— *Thread: 10-32 × 1/4″*							
1 1/4″	0.165″	5	92284A221	10.64	5	92281A221	5.37
1 1/2″	0.16″	5	92284A222	11.67	5	92281A222	5.63
2″	0.149″	5	92284A225	13.40	5	92281A225	6.15
0.217″ Large End Dia. (No. 3)— *Thread: 10-32 × 1/4″*							
3/4″	0.201″	5	92284A250	9.75	5	92281A250	5.17
1″	0.196″	5	92284A251	10.69	5	92281A251	5.43
1 1/4″	0.191″	5	92284A252	11.56	5	92281A252	5.69
1 1/2″	0.186″	5	92284A253	12.43	5	92281A253	5.96
2″	0.175″	1	92284A255	2.98	5	92281A255	6.46
0.248″ Large End Dia. (No. 4)— *Thread: 1/4″-28 × 3/8″*							
3/4″	0.232″	5	92284A280	10.49	5	92281A280	5.97
1″	0.227″	5	92284A281	11.76	5	92281A281	6.25
1 1/4″	0.222″	5	92284A282	12.91	5	92281A282	6.51
1 1/2″	0.217″	5	92284A283	13.44	5	92281A283	6.76
2″	0.206″	1	92284A285	3.14	5	92281A285	7.31
2 1/2″	0.196″	1	92284A287	3.73	5	92281A287	7.84
3″	0.186″	1	92284A289	4.24	5	92281A289	8.36
4″	0.165″	1	92284A293	5.76	5	92281A293	9.34
0.287″ Large End Dia. (No. 5)— *Thread: 1/4″-28 × 3/8″*							
1″	0.266″	5	92284A311	13.54	5	92281A311	7.05
1 1/2″	0.256″	1	92284A313	3.50	5	92281A313	8.11
1 3/4″	0.251″	1	92284A314	3.61	5	92281A314	8.63
2″	0.245″	1	92284A315	3.59	5	92281A315	9.08
2 1/2″	0.235″	1	92284A317	4.30	5	92281A317	10.12
3″	0.225″	1	92284A319	5.12	5	92281A319	10.91
4″	0.204″	1	92284A323	6.53	5	92281A323	12.69
5″	0.183″	1	92284A327	8.72	1	92281A327	3.10
0.339″ Large End Dia. (No. 6)— *Thread: 5/16″-24 × 3/8″*							
1 1/4″	0.313″	1	92284A342	3.36	5	92281A342	8.46
1 1/2″	0.308″	1	92284A343	3.92	5	92281A343	9.50
1 3/4″	0.303″	1	92284A344	4.23	5	92281A344	10.01
2″	0.297″	1	92284A345	4.59	5	92281A345	10.37
2 1/4″	0.292″	1	92284A346	4.83	5	92281A346	10.69
2 1/2″	0.287″	1	92284A347	5.04	5	92281A347	11.12
3″	0.277″	1	92284A349	5.63	5	92281A349	12.37
4″	0.256″	1	92284A353	7.10	1	92281A353	2.97
5″	0.235″	1	92284A357	8.91	1	92281A357	3.38
6″	0.214″	1	92284A361	10.51	1	92281A361	3.54
0.407″ Large End Dia. (No. 7)— *Thread: 3/8″-24 × 1/2″*							
1 1/2″	0.376″	1	92284A369	$4.66	5	92281A369	$11.85
1 3/4″	0.371″	1	92284A370	5.15	5	92281A370	12.39
2″	0.365″	1	92284A371	5.70	5	92281A371	12.94
2 1/2″	0.355″	1	92284A373	6.96	5	92281A373	14.02
2 3/4″	0.35″	1	92284A374	7.56	5	92281A374	14.55
3″	0.345″	1	92284A375	7.74	5	92281A375	15.10
3 1/2″	0.334″	1	92284A377	9.37	1	92281A377	3.21
4″	0.324″	1	92284A379	9.67	1	92281A379	3.48
4 1/2″	0.313″	1	92284A381	11.33	1	92281A381	3.75
5″	0.303″	1	92284A383	12.28	1	92281A383	4.00
6″	0.282″	1	92284A388	13.52	1	92281A388	4.51
0.49″ Large End Dia. (No. 8)— *Thread: 7/16″-20 × 5/8″*							
1 3/4″	0.454″	1	92284A414	7.26	1	92281A414	3.24
2″	0.448″	1	92284A415	7.80	1	92281A415	3.31
2 1/2″	0.438″	1	92284A417	8.58	1	92281A417	3.56
3″	0.428″	1	92284A419	9.54	1	92281A419	3.82
3 1/2″	0.417″	1	92284A421	12.25	1	92281A421	4.08
4″	0.407″	1	92284A423	13.50	1	92281A423	4.29
4 1/2″	0.396″	1	92284A425	14.73	1	92281A425	4.57
5″	0.386″	1	92284A427	15.94	1	92281A427	4.82
6″	0.365″	1	92284A431	18.38	1	92281A431	5.36
0.589″ Large End Dia. (No. 9)— *Thread: 1/2″-20 × 3/4″*							
2″	0.547″	1	92284A515	12.19	1	92281A515	4.25
2 1/2″	0.537″	1	92284A516	13.56	1	92281A516	4.51
3″	0.527″	1	92284A517	15.06	1	92281A517	4.77
3 1/2″	0.516″	1	92284A518	16.93	1	92281A518	5.05
4″	0.506″	1	92284A519	19.04	1	92281A519	5.36
4 1/2″	0.495″	1	92284A520	20.47	1	92281A520	5.67
5″	0.485″	1	92284A521	21.85	1	92281A521	5.98
6″	0.464″	1	92284A522	24.59	1	92281A522	6.59
0.704″ Large End Dia. (No. 10)— *Thread: 5/8″-18 × 7/8″*							
3″	0.642″	1	92284A615	22.52	1	92281A615	7.72
3 1/2″	0.631″	1	92284A616	25.12	1	92281A616	8.10
4″	0.621″	1	92284A617	26.71	1	92281A617	8.65
4 1/2″	0.61″	1	92284A618	29.28	1	92281A618	9.15
5″	0.6″	1	92284A619	32.16	1	92281A619	9.69
6″	0.579″	1	92284A622	37.47	1	92281A622	10.74

Aluminum-Handle Push-Button Quick-Release Pins



A push of a button is all that's necessary to insert and remove these pins. Pins have black aluminum handles and stainless steel shafts. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces. Rockwell hardness is C40.

***T-Handle with Lanyard*—** Have a 12″ long plastic-coated stainless steel lanyard with an aluminum tab.

***High Profile*—** Extra height and a smaller width makes the release button more accessible in tight spaces.

***High Profile with Lanyard*—** Have a 12″ long plastic-coated stainless steel lanyard with an aluminum tab.

***L-Handle*—** Often used where T-handles won't fit.

Usable Lg.	T-Handle		T-Handle with Lanyard		High Profile		High Profile with Lanyard		L-Handle	
***3/16″ Dia.*—** *Breaks at 5,100 lbs.*										
1/2″	90293A100	$17.86	93750A190	$21.82	90985A100	$22.28	94748A101	$26.29	90302A041	$18.87
3/4″	90293A101	18.15	93750A195	22.14	90985A101	22.61	94748A106	26.63	90302A044	19.19
1″	90293A102	18.36	93750A205	22.60	90985A102	22.97	94748A111	27.05	90302A047	19.51
1 1/4″	90293A103	18.94	93750A207	23.01	90985A103	23.12	94748A116	27.09	90302A050	19.95
1 1/2″	90293A104	20.64	93750A210	24.68	90985A104	23.13	94748A121	27.07	90302A053	20.53
1 3/4″	90293A105	19.56	93750A213	23.35	90985A105	22.15	94748A123	25.93	90302A055	19.37
2″	90293A106	20.12	93750A215	24.86	90985A106	23.68	94748A126	26.97	90302A056	20.74
2 1/4″	90293A107	19.95	93750A217	23.73	90985A107	22.74	94748A128	26.52	90302A057	19.98
2 1/2″	90293A108	21.35	93750A220	25.49	90985A108	24.57	94748A131	27.68	90302A059	21.35
3″	90293A109	23.37	93750A225	27.39	90985A110	26.37	94748A136	30.23	90302A062	21.48
4″	90293A110	28.06	93750A227	31.86	90985A117	29.54	94748A141	33.32	90302A067	22.50
***1/4″ Dia.*—** *Breaks at 9,200 lbs.*										
1/2″	90293A111	17.86	93750A300	21.89	90985A111	16.51	94748A202	20.88	90302A111	20.12
3/4″	90293A135	17.99	93750A303	22.02	90985A125	17.58	94748A207	21.66	90302A149	19.76
7/8″	90293A140	17.12	93750A304	20.89	90985A126	16.52	94748A209	20.36	90302A151	18.93
1″	90293A112	18.51	93750A305	22.54	90985A112	17.61	94748A212	21.73	90302A112	20.51
1 1/4″	90293A137	19.57	93750A308	23.60	90985A127	20.08	94748A217	24.10	90302A152	20.92
1 1/2″	90293A113	20.17	93750A310	24.19	90985A113	20.05	94748A222	24.10	90302A113	21.93
1 3/4″	90293A139	20.71	93750A312	24.75	90985A129	19.97	94748A227	24.03	90302A155	21.85
2″	90293A114	20.73	93750A315	24.81	90985A114	21.19	94748A232	25.19	90302A114	22.56
2 1/4″	90293A141	23.07	93750A317	25.56	90985A132	21.67	94748A234	25.45	90302A121	21.85
2 1/2″	90293A115	22.47	93750A320	25.91	90985A115	23.56	94748A237	26.57	90302A115	22.84
2 3/4″	90293A142	22.36	93750A323	25.74	90985A135	23.66	94748A239	26.40	90302A123	22.74
3″	90293A116	22.83	93750A325	26.28	90985A116	24.30	94748A242	28.26	90302A116	24.30
3 1/4″	90293A117	22.45	93750A327	26.24	90985A140	24.10	94748A244	27.89	90302A126	22.99
3 1/2″	90293A118	23.39	93750A330	26.58	90985A120	27.06	94748A247	30.86	90302A158	24.68
4″	90293A120	23.72	93750A335	27.74	90985A122	30.76	94748A252	36.40	90302A161	24.89
5″	90293A121	24.94	93750A341	28.73	90985A145	38.78	94748A255	37.32	90302A166	25.81
***5/16″ Dia.*—** *Breaks at 14,400 lbs.*										
1/2″	90293A122	18.66	93750A390	22.45	90985A205	19.31	94748A300	23.09	90302A171	18.94
3/4″	90293A210	20.20	93750A395	24.23	90985A210	21.26	94748A303	25.25	90302A243	22.64
1″	90293A211	22.77	93750A400	26.57	90985A211	21.23	94748A308	25.35	90302A211	25.54
1 1/4″	90293A225	23.17	93750A402	27.00	90985A225	24.50	94748A313	28.53	90302A245	25.65
1 1/2″	90293A212	22.42	93750A405	27.26	90985A212	24.88	94748A318	28.76	90302A212	25.68
1 3/4″	90293A260	22.23	93750A407	26.02	90985A230	23.65	94748A321	27.44	90302A217	24.07
2″	90293A213	24.93	93750A410	28.92	90985A213	25.66	94748A323	29.52	90302A213	25.66
2 1/4″	90293A254	24.98	93750A412	28.77	90985A233	27.57	94748A326	31.37	90302A218	26.05
2 1/2″	90293A255	25.06	93750A413	30.88	90985A235	30.82	94748A328	34.56	90302A247	28.28
3″	90293A214	28.23	93750A415	31.22	90985A214	31.14	94748A333	34.72	90302A214	28.39
4″	90293A215	29.97	93750A420	34.13	90985A215	33.48	94748A338	37.16	90302A215	29.08
***3/8″ Dia.*—** *Breaks at 20,500 lbs.*										
1/2″	90293A307	22.14	93750A485	25.91	90985A303	21.11	94748A401	24.88	90302A309	21.10
3/4″	90293A309	22.61	93750A490	28.11	90985A309	19.66	94748A404	23.13	90302A365	23.21
1″	90293A311	23.28	93750A495	27.31	90985A311	20.66	94748A409	24.07	90302A311	23.69
1 1/4″	90293A327	23.65	93750A497	27.80	90985A319	23.25	94748A414	26.54	90302A368	23.75
1 1/2″	90293A312	24.57	93750A500	28.59	90985A312	24.57	94748A419	27.84	90302A312	27.25
1 3/4″	90293A290	23.39	93750A502	27.19	90985A324	26.69	94748A423	30.49	90302A376	25.76
2″	90293A313	25.42	93750A505	29.50	90985A313	24.84	94748A424	28.33	90302A313	27.65
2 1/4″	90293A291	26.33	93750A507	30.12	90985A326	28.96	94748A426	32.75	90302A378	27.62
2 1/2″	90293A314	28.70	93750A510	32.60	90985A314	33.10	94748A429	36.72	90302A314	31.21
2 3/4″	90293A292	27.32	93750A513	31.12	90985A327	31.07	94748A431	34.86	90302A381	29.74
3″	90293A315	29.34	93750A515	33.37	90985A315	33.10	94748A434	36.75	90302A315	32.15
3 1/4″	90293A293	28.66	93750A517	32.45	90985A328	34.06	94748A436	37.86	90302A385	31.79
3 1/2″	90293A316	30.60	93750A520	34.63	90985A316	39.45	94748A439	42.93	90302A316	35.41
3 3/4″	90293A294	29.97	93750A523	33.76	90985A329	38.01	94748A442	41.80	90302A386	32.16
4″	90293A317	33.23	93750A525	37.34	90985A317	41.44	94748A444	44.79	90302A317	34.40
4 1/2″	90293A318	34.20	93750A528	38.14	90985A318	44.48	94748A449	47.82	90302A318	35.84
5″	90293A319	34.26	93750A530	38.15	90985A321	48.87	94748A454	55.27	90302A371	35.04
6″	90293A810	36.35	93750A535	40.38	90985A355	53.63	94748A459	60.15	90302A374	40.39
***7/16″ Dia.*—** *Breaks at 28,000 lbs.*										
1″	90293A320	24.38	93750A600	28.41	90985A320	25.62	94748A511	31.09	90302A621	22.67
1 1/2″	90293A325	29.00	93750A603	33.03	90985A325	31.34	94748A516	37.05	90302A626	28.72
2″	90293A330	27.61	93750A605	31.46	90985A330	31.57	94748A521	37.26	90302A631	29.13
2 1/2″	90293A335	30.18	93750A610	33.97	90985A335	47.64	94748A524	53.90	90302A636	29.26
***1/2″ Dia.*—** *Breaks at 36,500 lbs.*										
1″	90293A409	29.16	93750A700	35.09	90985A410	31.15	94748A613	36.79	90302A478	30.39
1 1/4″	90293A410	29.18	93750A701	32.98	90985A409	32.58	94748A615	36.37	90302A482	28.67
1 1/2″	90293A411	31.12	93750A703	35.15	90985A411	34.03	94748A619	39.84	90302A411	30.67
1 3/4″	90293A435	29.37	93750A704	33.16	90985A424	34.62	94748A622	38.41	90302A485	29.50

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Aluminum-Handle Push-Button Quick-Release Pins *(Continued from previous page)*

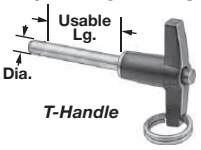

T-Handle



T-Handle with Lanyard



High Profile



High Profile with Lanyard



L-Handle

A push of a button is all that's necessary to insert and remove these pins. Pins have black aluminum handles and stainless steel shafts. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces. Rockwell hardness is C40.

***T-Handle with Lanyard*—** Have a 12″ long plastic-coated stainless steel lanyard with an aluminum tab.

***High Profile*—** Extra height and a smaller width makes the release button more accessible in tight spaces.

***High Profile with Lanyard*—** Have a 12″ long plastic-coated stainless steel lanyard with an aluminum tab.

***L-Handle*—** Often used where T-handles won't fit.

Usable Lg.	T-Handle		T-Handle with Lanyard		High Profile		High Profile with Lanyard		L-Handle	
1/2″ Dia. (Cont.)— *Breaks at 36,500 lbs.*										
2″	90293A412	$31.48	93750A705	$35.52	90985A412	$35.23	94748A625	$41.10	90302A412	$32.22
2 1/4″	90293A436	30.60	93750A707	34.39	90985A425	38.84	94748A628	42.63	90302A488	31.50
2 1/2″	90293A413	33.64	93750A710	37.67	90985A413	40.32	94748A631	46.29	90302A413	34.83
2 3/4″	90293A437	34.62	93750A713	38.40	90985A426	40.84	94748A634	44.64	90302A489	33.38
3″	90293A414	37.82	93750A715	41.85	90985A414	41.39	94748A637	47.44	90302A414	36.19
3 1/4″	90293A438	36.97	93750A718	40.76	90985A427	44.75	94748A640	48.55	90302A491	36.99
3 1/2″	90293A415	39.98	93750A720	44.00	90985A415	48.10	94748A643	54.38	90302A415	42.97
3 3/4″	90293A439	37.31	93750A723	41.11	90985A432	48.20	94748A646	51.98	90302A495	41.80
4″	90293A416	39.80	93750A725	42.86	90985A416	48.25	94748A649	54.53	90302A416	46.15
4 1/2″	90293A417	38.82	93750A727	43.84	90985A417	52.44	94748A655	58.92	90302A417	49.45
5″	90293A419	41.38	93750A730	45.39	90985A420	54.34	94748A661	60.86	90302A481	49.97
5 1/2″	90293A425	48.92	93750A733	62.71	90985A428	56.60	94748A667	60.36	90302A484	50.27
6″	90293A430	52.05	93750A736	62.54	90985A429	59.45	94748A672	63.24	90302A487	53.84
7″	90293A440	60.05	93750A741	63.84	90985A431	63.12	94748A677	66.90	90302A498	55.05
5/8″ Dia.— *Breaks at 57,500 lbs.*										
1″	90293A505	36.54	93750A791	42.95	90985A510	44.64	94748A714	50.79	90302A507	35.75
1 1/2″	90293A511	38.87	93750A795	45.21	90985A511	46.44	94748A719	52.67	90302A511	36.66
2″	90293A529	36.35	93750A798	43.43	90985A529	47.69	94748A721	49.92	90302A513	35.70
2 1/2″	90293A512	40.30	93750A803	44.33	90985A512	51.71	94748A724	58.12	90302A515	39.75
3″	90293A513	42.09	93750A805	46.12	90985A513	53.69	94748A729	60.18	90302A519	41.54
3 1/2″	90293A514	45.52	93750A808	49.56	90985A514	55.64	94748A734	62.05	90302A523	42.97
4″	90293A515	45.51	93750A810	46.51	90985A515	57.60	94748A739	64.10	90302A527	44.90
4 1/2″	90293A516	51.12	93750A812	58.36	90985A516	71.46	94748A744	78.58	90302A531	53.13
5″	90293A517	50.40	93750A815	54.85	90985A517	80.69	94748A749	88.06	90302A535	56.86
5 1/2″	90293A520	51.90	93750A817	55.67	90985A521	82.21	94748A753	85.74	90302A539	58.06
6″	90293A525	53.58	93750A822	57.38	90985A525	83.57	94748A758	87.33	90302A543	58.97
3/4″ Dia.— *Breaks at 82,500 lbs.*										
1 1/2″	90293A611	52.42	93750A891	56.14	90985A611	57.98	94748A813	64.57	90302A732	52.42
2″	90293A655	57.76	93750A896	60.98	90985A618	66.31	94748A816	71.68	90302A735	52.80
2 1/2″	90293A612	52.99	93750A902	57.02	90985A612	67.95	94748A818	74.79	90302A738	52.99
3″	90293A613	57.29	93750A905	57.56	90985A613	68.85	94748A823	75.76	90302A741	55.38
4″	90293A614	60.33	93750A910	60.41	90985A614	76.05	94748A828	83.28	90302A744	60.33
5″	90293A615	64.86	93750A915	64.78	90985A615	83.65	94748A833	91.06	90302A747	60.84
5 1/2″	90293A620	79.42	93750A918	86.35	90985A621	86.94	94748A838	90.73	90302A750	63.47
6″	90293A625	82.00	93750A921	92.43	90985A625	87.91	94748A843	91.70	90302A753	66.50
1″ Dia.— *Breaks at 147,000 lbs.*										
2″	90293A711	76.15	93750A107	80.19	90985A711	103.78	94748A909	107.54	90302A804	76.15
2 1/2″	90293A712	73.49	93750A110	82.03	90985A712	107.38	94748A910	107.71	90302A807	78.11
3″	90293A713	79.49	93750A115	83.60	90985A713	110.95	94748A917	117.54	90302A810	79.49
4″	90293A714	86.21	93750A123	90.25	90985A714	112.45	94748A924	120.87	90302A813	86.21
5″	90293A715	105.96	93750A129	110.55	90985A715	118.49	94748A927	122.29	90302A816	105.96
6″	90293A716	110.01	93750A135	132.10	90985A716	123.14	94748A931	135.29	90302A819	128.34
7″	90293A720	129.72	93750A140	133.76	90985A722	129.43	94748A943	133.22	90302A822	129.72

All-Stainless Steel Heavy Duty Push-Button Quick-Release Pins

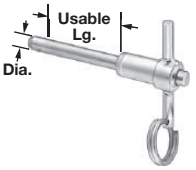

Also known as ground handling pins, these corrosion-resistant, extra-rugged pins have a handle welded directly to the head. Diameter tolerance is –0.003″ to –0.0015″. Pin diameter equals hole size. Handle and push button are 18-8 stainless steel; shaft is 17-4 stainless steel. Rockwell hardness is C40. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces. Meet NASM 23460. Split ring included.

Usable Lg.		
1/4″ Dia.— *Breaks at 9,200 lbs.*		
1/2″	90980A125	$34.74
1″	90980A130	36.39
1 1/2″	90980A135	37.80
2″	90980A140	38.57
2 1/2″	90980A145	39.55
3″	90980A150	40.11
4″	90980A160	42.16
4 1/2″	90980A165	45.87
5/16″ Dia.— *Breaks at 14,400 lbs.*		
1/2″	90980A225	33.02
1″	90980A230	33.87
1 1/2″	90980A235	36.30
2″	90980A240	37.23
2 1/2″	90980A245	37.96
3″	90980A250	38.93
3/8″ Dia.— *Breaks at 20,500 lbs.*		
1/2″	90980A325	34.17
1″	90980A330	37.60

Usable Lg.		
3/8″ Dia. (Cont.)		
1 1/2″	90980A335	$40.72
2″	90980A340	41.88
2 1/2″	90980A345	45.65
3″	90980A350	46.95
3 1/2″	90980A355	46.96
4″	90980A360	48.30
4 1/2″	90980A365	50.08
1/2″ Dia.— *Breaks at 36,500 lbs.*		
1/2″	90980A525	34.99
1″	90980A530	51.79
1 1/2″	90980A535	54.49
2″	90980A540	56.61
2 1/2″	90980A545	60.01
3″	90980A550	61.62
3 1/2″	90980A555	70.73
4″	90980A560	70.73
4 1/2″	90980A565	73.80

Usable Lg.		
5/8″ Dia.— *Breaks at 57,500 lbs.*		
1 1/2″	90980A635	$67.34
2 1/2″	90980A645	74.46
3″	90980A650	74.46
4″	90980A660	80.25
5″	90980A670	83.78
3/4″ Dia.— *Breaks at 83,000 lbs.*		
1 1/2″	90980A735	78.20
2 1/2″	90980A745	83.56
3″	90980A750	86.00
4″	90980A760	92.67
5″	90980A770	101.49
1″ Dia.— *Breaks at 147,000 lbs.*		
2″	90980A840	99.62
3″	90980A850	106.11
4″	90980A860	113.92
5″	90980A870	118.72
6″	90980A880	120.25

All-Stainless Steel Push-Button Quick-Release Pins

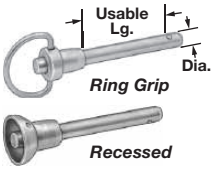

For improved corrosion resistance in harsh environments, choose these pins. Shaft diameter tolerance is –0.0015″. Shaft is made of 17-4 PH stainless steel and has a Rockwell hardness of C40. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces.

***Ring Grip*—**Also known as R-style marine pins, they have an easy-to-pull ring.

***Recessed*—**Also known as M-style marine pins, they have a recessed button that prevents accidental pin removal. Pin has a hole to attach to a ring and lanyard (sold separately on page 3382).

Also Available: Type 316 stainless steel ring grip pins marked with a ★. Please ask for 92384A500 and specify diameter and length.

Ring Grip

Usable Lg.		
3/16″ Dia.—Breaks at 4,600 lbs.		
1/2″	92384A012	$19.02
3/4″	92384A013	20.13
1″	92384A014★	21.25
1 1/4″	92384A015	22.37
1 1/2″	92384A016	23.50
2″	92384A018	24.62
2 1/2″	92384A021	25.74
3″	92384A023	26.85
1/4″ Dia.—Breaks at 8,200 lbs.		
1/2″	92384A032	21.41
3/4″	92384A033	22.68
1″	92384A034★	23.93
1 1/4″	92384A035★	23.98
1 1/2″	92384A036★	24.60
1 3/4″	92384A037	24.81
2″	92384A038★	25.93
2 1/2″	92384A041	27.05
3″	92384A043	28.03
4″	92384A045	30.27
5/16″ Dia.—Breaks at 12,800 lbs.		
3/4″	92384A051	22.55
1″	92384A052★	24.06
1 1/4″	92384A053	25.30
1 1/2″	92384A054★	25.33
2″	92384A056	26.13
2 1/2″	92384A058	28.10
3″	92384A061	30.34
3 1/2″	92384A063	32.59
4″	92384A065	31.08
5″	92384A068	33.08
6″	92384A070	35.08

Usable Lg.		
3/8″ Dia.—Breaks at 18,400 lbs.		
1″	92384A072★	$26.43
1 1/2″	92384A074★	29.07
2″	92384A076★	31.83
2 1/2″	92384A078	32.93
3″	92384A081	33.18
3 1/2″	92384A083	35.64
4″	92384A085	38.11
1/2″ Dia.—Breaks at 32,500 lbs.		
1 1/2″	92384A092★	41.20
2″	92384A094★	41.76
2 1/2″	92384A096	47.76
3″	92384A098	49.15
3 1/2″	92384A101	52.07
4″	92384A103	53.47
4 1/2″	92384A144	52.80
5/8″ Dia.—Breaks at 51,000 lbs.		
1 1/2″	92384A112	50.74
2″	92384A114	50.76
2 1/2″	92384A116	56.05
3″	92384A118	56.03
3 1/2″	92384A121	61.60
4″	92384A123	61.61
3/4″ Dia.—Breaks at 73,500 lbs.		
1 1/2″	92384A132	61.32
2″	92384A134	61.32
2 1/2″	92384A136	67.20
3″	92384A138	67.21
3 1/2″	92384A141	74.06
4″	92384A143	74.05
4 1/2″	92384A145	80.88

Recessed

Usable Lg.		
3/16″ Dia.—Breaks at 4,600 lbs.		
1/2″	92385A012	$24.45
3/4″	92385A013	25.61
1″	92385A014	26.20
1 1/4″	92385A015	27.95
1 1/2″	92385A016	29.11
2″	92385A018	30.27
2 1/2″	92385A022	32.34
3″	92385A026	33.36
1/4″ Dia.—Breaks at 8,200 lbs.		
1/2″	92385A032	28.25
3/4″	92385A033	28.32
1″	92385A034	29.62
1 1/4″	92385A035	31.77
1 1/2″	92385A036	33.08
1 3/4″	92385A037	32.99
2″	92385A038	34.77
2 1/2″	92385A041	37.98
3″	92385A043	37.48
4″	92385A046	39.15
5/16″ Dia.—Breaks at 12,800 lbs.		
3/4″	92385A051	28.45
1″	92385A052	29.18
1 1/4″	92385A053	30.30
1 1/2″	92385A054	32.42
2″	92385A056	33.49
2 1/2″	92385A058	32.82
3″	92385A060	34.09
3 1/2″	92385A063	37.12
4″	92385A065	38.01
5″	92385A067	39.16
3/8″ Dia.—Breaks at 18,400 lbs.		
3/4″	92385A071	30.50
1″	92385A072	30.98

Usable Lg.		
3/8″ Dia. (Cont.)		
1 1/4″	92385A073	$32.95
1 1/2″	92385A074	34.56
2″	92385A076	34.54
2 1/2″	92385A078	40.26
3″	92385A081	40.41
3 1/2″	92385A084	44.61
4″	92385A085	45.43
4 1/2″	92385A086	47.32
5″	92385A087	50.78
6″	92385A089	49.06
1/2″ Dia.—Breaks at 32,500 lbs.		
1 1/2″	92385A092	48.11
2″	92385A094	48.11
2 1/2″	92385A096	52.84
3″	92385A098	52.82
3 1/2″	92385A100	62.90
4″	92385A103	62.93
4 1/2″	92385A144	68.40
5″	92385A150	71.50
6″	92385A155	74.55
5/8″ Dia.—Breaks at 51,000 lbs.		
2″	92385A210	61.91
2 1/2″	92385A215	68.03
3″	92385A118	68.04
4″	92385A225	75.91
3/4″ Dia.—Breaks at 73,600 lbs.		
2″	92385A255	81.37
2 1/2″	92385A260	87.91
3″	92385A138	89.57
3 1/2″	92385A265	95.22
4″	92385A270	97.33
5″	92385A280	102.49
6″	92385A290	106.13

All-Stainless Steel High-Tension Push-Button Quick-Release Pins

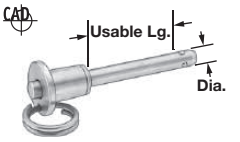

Unlike ordinary quick-release pins with two locking balls, these have four to provide almost double the holding power. Diameter tolerance is –0.003″ to –0.0015″. Pin diameter equals hole size. Made of 17-4 PH stainless steel with a Rockwell hardness of C40. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces. Meet NASM 23460.

Usable Lg.		
1/4″ Dia.—Breaks at 9,200 lbs.		
1/2″	92851A110	$63.00
1″	92851A115	66.46
1 1/2″	92851A120	69.45
2″	92851A125	72.32
2 1/2″	92851A130	74.46
3″	92851A135	74.46
4″	92851A140	79.72
4 1/2″	92851A145	88.22

Usable Lg.		
5/16″ Dia.—Breaks at 14,400 lbs.		
1/2″	92851A205	$69.39
1″	92851A210	69.39
1 1/2″	92851A215	77.35
2″	92851A220	77.35
2 1/2″	92851A225	81.47
3″	92851A230	81.47
4″	92851A235	82.97
4 1/2″	92851A240	88.97

Usable Lg.		
3/8″ Dia.—Breaks at 20,500 lbs.		
1/2″	92851A315	$71.36
1″	92851A320	71.36
2″	92851A325	78.24
2 1/2″	92851A330	89.07
3″	92851A335	89.07
4″	92851A340	91.93
4 1/2″	92851A345	98.81

Usable Lg.		
1/2″ Dia.—Breaks at 36,500 lbs.		
1/2″	92851A405	$105.76
1″	92851A410	105.76
1 1/2″	92851A415	105.63
2″	92851A420	109.77
2 1/2″	92851A425	120.44
3″	92851A430	120.44
4″	92851A435	138.71
4 1/2″	92851A440	144.50

Metric Push-Button Quick-Release Pins

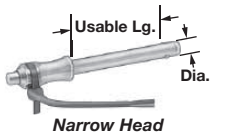

Choose from standard T-handle quick-release pins and narrow head pins, which work well in space-restricted areas. Diameter tolerance is –0.04 mm to –0.08 mm. Pin diameter equals hole size. Shaft is made of 17-4 PH stainless steel. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces. Rockwell hardness is C40.

***T-Handle*—**Have a lightweight black aluminum handle.

***Narrow Head*—**Head diameter is 4 mm wider than the pin diameter, except for M12, which is 8 mm wider than the pin diameter. Includes a 250 mm long plastic lanyard.

T- Handle

Usable Lg., mm		
M6 Dia.—Breaks at 7,800 lbs.		
25	93680A210	$22.26
40	93680A215	24.48
65	93680A225	26.35
75	93680A230	27.53
M8 Dia.—Breaks at 14,600 lbs.		
25	93680A310	22.22
65	93680A325	26.96
M10 Dia.—Breaks at 22,000 lbs.		
40	93680A365	36.18
50	93680A370	37.09
65	93680A375	37.27

Usable Lg., mm		
M12 Dia.—Breaks at 32,000 lbs.		
25	93680A410	$39.75
50	93680A415	35.18
75	93680A420	41.60
100	93680A425	45.34
M16 Dia.—Breaks at 57,500 lbs.		
50	93680A465	42.60
75	93680A470	46.57
M20 Dia.—Breaks at 90,500 lbs.		
50	93680A515	69.17
100	93680A525	87.37

Narrow Head

Usable Lg., mm		
M6 Dia.—Breaks at 7,800 lbs.		
25	93871A110	$31.28
40	93871A180	33.61
50	93871A250	34.36
M8 Dia.—Breaks at 14,100 lbs.		
25	93871A320	33.24
40	93871A390	36.13
50	93871A460	36.93
Replacement Lanyard	92658A550	1.44

Usable Lg., mm		
M10 Dia.—Breaks at 22,000 lbs.		
25	93871A530	$49.10
40	93871A600	49.96
50	93871A670	51.07
M12 Dia.—Breaks at 32,000 lbs.		
25	93871A740	49.84
40	93871A810	50.59
50	93871A880	51.71

Plastic-Handle Quick-Release Pins





Each of these general purpose pins have a single locking ball and a durable, black handle. Shafts are made of zinc-plated steel and have a diameter tolerance of –0.003″. Pin diameter equals hole size. Breaking strength is measured as single shear, which is the force required to break a pin into two pieces. Rockwell hardness is B85.

***T-Handle*—**Have a 2″ wide handle, except the 1/2″ dia. pins have a 3 1/2″ wide handle.

***T-Handle with Lanyard*—**Have a 2 1/4″ handle. Lanyard is black plastic and is 6″ long when coiled and 6 feet long when extended.

***Ball Handle*—**Have a 1 3/8″ diameter handle.

Usable Lg.		
T-Handle		
1/4″ Dia.*—Breaks at 4,300 lbs.*		
1″	92490A648	$4.40
1 1/2″	92490A650	4.87
2″	92490A651	4.91
2 1/2″	92490A310	5.32
3″	92490A320	5.11
5/16″ Dia.*—Breaks at 6,700 lbs.*		
1″	92490A330	6.47
1 1/2″	92490A340	5.29
2″	92490A652	5.62
2 1/2″	92490A350	5.95
3″	92490A653	5.44

Usable Lg.		
3/8″ Dia.*—Breaks at 9,700 lbs.*		
1 1/2″	92490A360	$5.53
2″	92490A654	5.22
2 1/2″	92490A655	4.56
3″	92490A656	5.49
3 1/2″	92490A657	5.93
4″	92490A658	4.76
5″	92490A659	7.38
1/2″ Dia.*—Breaks at 17,200 lbs.*		
2 1/2″	92490A660	6.71
4″	92490A661	7.51

Usable Lg.		
T-Handle with Lanyard		
1/4″ Dia.*—Breaks at 1,900 lbs.*		
2″	92490A511	$9.78
3″	92490A514	10.06
4″	92490A518	10.14
Ball Handle		
1/4″ Dia.*—Breaks at 1,900 lbs.*		
2″	92490A567	5.30
3″	92490A571	5.53
4″	92490A575	5.64

Usable Lg.		
3/8″ Dia.*—Breaks at 4,300 lbs.*		
2 1/8″	92490A533	$11.12
3 1/8″	92490A536	11.47
1/2″ Dia.*—Breaks at 7,700 lbs.*		
3 1/4″	92490A539	14.81
3/8″ Dia.*—Breaks at 4,300 lbs.*		
2 1/8″	92490A582	6.65
3 1/8″	92490A585	7.39
1/2″ Dia.*—Breaks at 7,700 lbs.*		
3 1/4″	92490A589	10.47

Receptacles and Retaining Caps for Push-Button Quick-Release Pins


Diamond


Oval


Round

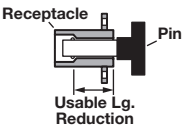


Retaining Cap

When your pin doesn't have a surface to lock against, use these receptacles for a permanent mating hole. Receptacle mounting hole size is 6-32, except 1/2″ diameter is 10-32. Use retaining caps when a hole is too big for your pin to lock into.

Receptacles

Fits Pin Dia.	Barrel OD	O'all Lg.	*Flange* Wd.	*Flange* Ht.	Usable Lg. Reduction		
Diamond							
1/4″	3/8″	11/16″	5/8″	1 1/4″	3/8″	94715A515	$25.04
5/16″	1/2″	3/4″	5/8″	1 1/4″	1/2″	94715A520	26.59
3/8″	9/16″	7/8″	5/8″	1 1/4″	9/16″	94715A525	26.92
1/2″	3/4″	1 3/16″	7/8″	1 1/2″	3/4″	94715A530	33.72
Oval							
1/4″	3/8″	11/16″	5/8″	1 1/4″	3/8″	94715A715	25.04
5/16″	1/2″	3/4″	5/8″	1 1/4″	1/2″	94715A720	26.59
3/8″	9/16″	7/8″	5/8″	1 1/4″	9/16″	94715A725	26.92
1/2″	3/4″	1 3/16″	7/8″	1 1/2″	3/4″	94715A730	33.72
Round							
1/4″	3/8″	11/16″	1 1/4″	1 1/4″	3/8″	94715A815	25.04
5/16″	1/2″	3/4″	1 1/4″	1 1/4″	1/2″	94715A820	26.59

Receptacles (Cont.)

Fits Pin Dia.	Barrel OD	O'all Lg.	*Flange* Wd.	*Flange* Ht.	Usable Lg. Reduction		
Round (Cont.)							
3/8″	9/16″	7/8″	1 1/4″	1 1/4″	9/16″	94715A825	$26.92
1/2″	3/4″	1 3/16″	1 1/2″	1 1/2″	3/4″	94715A830	33.72

Retaining Caps

Fits Pin Dia.	Cap OD	Overall Lg.	Usable Lg. Reduction		
1/4″	3/8″	9/16″	1/8″	90487A213	$10.23
5/16″	1/2″	5/8″	1/8″	90487A217	10.74
3/8″	9/16″	3/4″	3/16″	90487A221	12.18
1/2″	3/4″	1″	1/4″	90487A225	13.89

Locking Push-Pull Quick-Release Pins



Also known as double-acting pins. Push or pull the handle to insert and remove. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces.

Also Available: T-handle quick-release pins in lengths marked with a ★. Please ask for 94505A100 and specify dia. and length.

Usable Lg.		
3/16″ Dia.*—Breaks at 5,100 lbs.*		
1″	94505A502★	$33.74
2″	94505A506	37.70
1/4″ Dia.*—Breaks at 9,200 lbs.*		
1″	94505A530★	16.10
2″	94505A533★	18.20
3″	94505A536★	20.50
5/16″ Dia.*—Breaks at 14,400 lbs.*		
1″	94505A545★	15.70
2″	94505A548★	20.40
3″	94505A551	25.10
3/8″ Dia.*—Breaks at 20,500 lbs.*		
1″	94505A561★	17.20
2″	94505A564★	22.20
3″	94505A567★	27.30

Usable Lg.		
1/2″ Dia.*—Breaks at 36,500 lbs.*		
2″	94505A596★	$28.80
3″	94505A599★	34.40
4″	94505A602	39.70
5/8″ Dia.*—Breaks at 57,500 lbs.*		
1″	94505A620	52.70
2″	94505A623	63.12
3″	94505A626	75.30
4″	94505A629	85.88
6″	94505A635	104.36

Clamping-Action Push-Button Quick-Release Pins

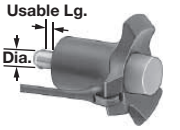

Pins have two locking balls for holding power. The shaft retracts up to 5 mm into the pin to hold thin sheets of material together. Pin diameter equals hole size. The shaft is stainless steel with a minimum hardness of 150 Brinell. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces. The handle, button, and 250 mm lanyard are made of plastic.

Usable Lg., mm		
M6 Dia.*—Breaks at 4,700 lbs.*		
0-5	93042A510	$53.41
5-10	93042A540	53.41
M8 Dia.*—Breaks at 8,500 lbs.*		
0-5	93042A570	54.76
5-10	93042A600	54.76

Usable Lg., mm		
M10 Dia.*—Breaks at 13,400 lbs.*		
0-5	93042A630	$61.38
5-10	93042A660	61.38
M12 Dia.*—Breaks at 19,500 lbs.*		
0-5	93042A690	64.15
5-10	93042A720	64.15

Replacement Lanyard ..... 92658A550 ..... 1.44

Accessories for Quick-Release Pins


Lanyard


Ring

Lanyards are made of wire rope with a clear nylon coating. Use a 12″ long lanyard for pins with usable lengths over 3 1/2″. See page 1480 for more lanyards. ***Ring*** attaches a lanyard to a quick-release pin. Made of stainless steel. For other rings, see pages 3398-3399.

6″ Long Lanyard	30345T545	$2.76
12″ Long Lanyard	30345T552	2.97
Ring	90905A655	.66

Quick-Release Pins

Also known as faspins, these pins have a ring grip. The ball springs inward during installation and pops out to lock the pin in place. The ball and spring are Type 316 stainless steel. The pin diameter equals the hole size. Shaft diameter tolerance is –0.003″. Shafts have a minimum Rockwell hardness of B85, except aluminum have a minimum Rockwell hardness of B56. Breaking strength is measured as single shear, which is the force required to break a pin into two pieces.

Type 316 stainless steel pins are the most corrosion resistant. May be mildly magnetic.

18-8 stainless steel pins are more corrosion resistant than zinc-plated pins and may be mildly magnetic.

Pins with lanyard that have a usable length up to 2.9″ have a 6″ long lanyard; all others have a 12″ long lanyard. All lanyards are nylon coated.

Zinc-plated steel pins have good rust resistance.

Aluminum pins are lightweight, corrosion resistant, and nonmagnetic.



Without Lanyard



With Lanyard

Type 316 Stainless Steel without Lanyard — *Strength not rated*

Usable Lg.		
3/16″ Dia.		
0.8″	95255A216	$3.76
1″	95255A219	3.76
1.4″	95255A224	3.97
1.5″	95255A225	3.97
2″	95255A231	4.09
1/4″ Dia.		
0.5″	95255A256	3.74
0.8″	95255A261	3.94
1″	95255A263	3.97
1.2″	95255A265	4.06
1.3″	95255A266	4.06
1.5″	95255A268	4.10
2″	95255A272	4.27
2.3″	95255A275	4.47
1/4″ Dia. (Cont.)		
2.5″	95255A279	$4.47
3″	95255A285	4.65
5/16″ Dia.		
1″	95255A356	4.32
1.5″	95255A364	4.46
2″	95255A371	4.71
2.5″	95255A376	4.62
3″	95255A381	5.01
3/8″ Dia.		
1.5″	95255A411	5.06
1.8″	95255A415	4.90
2″	95255A419	5.30
2.5″	95255A425	5.45
3″	95255A432	5.62

18-8 Stainless Steel without Lanyard

Usable Lg.		
5/32″ Dia. — *Strength not rated*		
0.8″	98404A101	1.83
1″	98404A103	1.85
1.3″	98404A105	1.89
1.5″	98404A107	1.91
1.8″	98404A109	1.96
3/16″ Dia. — *Breaks at 2,700 lbs.*		
0.4″	98404A004	1.90
0.5″	98404A005	1.86
0.6″	98404A006	1.90
0.7″	98404A007	1.98
0.8″	98404A008	1.90
0.9″	98404A009	1.90
1″	98404A010	1.89
1.1″	98404A011	1.99
1.2″	98404A012	1.99
1.3″	98404A013	2.02
1.4″	98404A014	2.02
1.5″	98404A015	2.02
1.6″	98404A016	2.04
1.7″	98404A017	2.06
1.8″	98404A018	2.06
1.9″	98404A019	2.06
2″	98404A020	2.00
2.5″	98404A025	2.19
2.6″	98404A026	2.19
3″	98404A030	2.24
3.5″	98404A035	2.38
4″	98404A040	2.38
1/4″ Dia. — *Breaks at 4,800 lbs.*		
0.4″	98404A124	1.92
0.5″	98404A125	1.94
0.6″	98404A126	1.92
0.7″	98404A127	1.92
0.8″	98404A128	1.99
0.9″	98404A129	1.92
1″	98404A959	1.97
1.1″	98404A131	1.99
1.2″	98404A132	1.99
1.3″	98404A133	1.99
1.4″	98404A134	2.01
1.5″	98404A135	2.01
1.6″	98404A136	2.03
1.7″	98404A137	2.06
1.8″	98404A138	2.01
1.9″	98404A139	2.06
2″	98404A960	2.05
2.1″	98404A141	2.22
2.2″	98404A142	2.17
2.3″	98404A143	2.26
2.4″	98404A144	2.26
2.5″	98404A145	2.23
2.7″	98404A147	2.27
3″	98404A150	2.26
3.2″	98404A152	2.41
1/4″ Dia. (Cont.)		
3.5″	98404A155	2.48
4″	98404A160	2.41
5″	98404A170	2.68
6″	98404A180	2.90
5/16″ Dia. — *Breaks at 7,500 lbs.*		
0.8″	98404A248	2.18
1″	98404A250	2.22
1.2″	98404A252	2.33
1.3″	98404A253	2.33
1.4″	98404A254	2.34
1.5″	98404A255	2.34
1.6″	98404A251	2.34
1.7″	98404A256	2.34
1.8″	98404A257	2.35
1.9″	98404A258	2.35
2″	98404A260	2.35
2.2″	98404A264	2.49
2.5″	98404A265	2.49
3″	98404A270	2.49
3.5″	98404A275	2.77
4″	98404A280	2.77
5″	98404A290	2.96
6″	98404A298	3.26
3/8″ Dia. — *Breaks at 11,000 lbs.*		
0.5″	98404A365	2.42
0.6″	98404A366	2.40
0.7″	98404A367	2.40
0.8″	98404A368	2.42
0.9″	98404A369	2.42
1″	98404A961	2.42
1.1″	98404A371	2.64
1.2″	98404A372	2.64
1.3″	98404A373	2.64
1.4″	98404A374	2.64
1.5″	98404A375	2.64
1.6″	98404A376	2.66
1.7″	98404A377	2.66
1.8″	98404A378	2.66
1.9″	98404A379	2.67
2″	98404A925	2.67
2.1″	98404A381	2.90
2.2″	98404A382	2.90
2.3″	98404A383	2.90
2.4″	98404A384	2.94
2.5″	98404A385	2.94
2.6″	98404A386	2.95
2.7″	98404A387	2.95
2.8″	98404A388	2.95
2.9″	98404A389	2.95
3″	98404A390	2.95
3.5″	98404A395	3.38
4″	98404A400	3.46
4.5″	98404A405	3.63
5″	98404A410	3.76

18-8 Stainless Steel without Lanyard (Cont.)

Usable Lg.		
3/8″ Dia. (Cont.)		
6″	98404A420	$4.02
6.2″	98404A624	4.22
7″	98404A430	4.52
7/16″ Dia. — *Breaks at 14,900 lbs.*		
1″	98404A450	4.30
1.5″	98404A455	4.58
2″	98404A460	4.60
2.5″	98404A465	4.88
3″	98404A466	4.88
3.5″	98404A467	5.40
4″	98404A468	5.40
4.5″	98404A469	5.70
5″	98404A470	5.66
1/2″ Dia. — *Breaks at 19,500 lbs.*		
0.5″	98404A485	5.80
0.6″	98404A486	5.80
0.8″	98404A487	5.80
1″	98404A490	5.80
1.1″	98404A491	6.08
1.2″	98404A492	6.08
1.3″	98404A493	6.08
1.4″	98404A494	6.08
1.5″	98404A495	6.08
1.6″	98404A496	6.08
1.7″	98404A497	6.08
1.8″	98404A498	6.08
1.9″	98404A506	6.08
2″	98404A962	6.16
2.1″	98404A501	6.56
2.2″	98404A502	6.56
2.3″	98404A503	6.56
2.4″	98404A504	6.56
2.5″	98404A505	6.56
2.6″	98404A508	6.56
2.8″	98404A509	6.56
3″	98404A510	6.56
3.1″	98404A511	7.18
3.2″	98404A512	7.18
3.3″	98404A513	7.18
3.5″	98404A515	7.18
3.8″	98404A518	7.14
4″	98404A520	7.11
4.3″	98404A522	7.36
4.5″	98404A525	7.36
5″	98404A530	7.36
5.5″	98404A535	7.70
6″	98404A540	7.70
7″	98404A550	8.26
8″	98404A560	8.62
5/8″ Dia. — *Breaks at 30,500 lbs.*		
1″	98404A610	$8.08
1.3″	98404A613	8.28
1.5″	98404A615	8.28
1.7″	98404A617	8.28
2″	98404A620	8.28
2.5″	98404A625	8.70
3″	98404A630	8.70
3.5″	98404A635	9.48
4″	98404A640	9.48
4.5″	98404A645	9.84
5″	98404A650	9.84
5.5″	98404A655	10.17
6″	98404A660	10.18
7″	98404A670	10.88
8″	98404A680	12.00
3/4″ Dia. — *Breaks at 44,000 lbs.*		
1″	98404A741	13.43
1.5″	98404A735	13.41
2″	98404A740	13.41
2.3″	98404A743	13.95
2.5″	98404A745	13.95
3″	98404A750	13.98
3.5″	98404A755	14.87
4″	98404A760	14.87
4.5″	98404A765	15.29
5″	98404A770	15.29
5.5″	98404A775	15.71
6″	98404A780	15.71
7″	98404A785	16.55
8″	98404A790	16.97
1″ Dia. — *Breaks at 79,000 lbs.*		
2″	98404A860	18.14
2.5″	98404A865	18.22
2.6″	98404A866	18.22
3″	98404A870	18.22
3.5″	98404A869	19.40
4″	98404A872	19.10
4.5″	98404A871	19.94
4.8″	98404A873	19.64
5″	98404A874	19.64
5.5″	98404A875	20.68
6″	98404A876	20.37
6.5″	98404A877	23.00
7″	98404A878	22.68
8″	98404A880	24.82

18-8 Stainless Steel with Lanyard

Usable Lg.		
5/32″ Dia. — *Strength not rated*		
0.8″	94975A201	4.23
1″	94975A203	4.26
1.3″	94975A205	4.28
1.5″	94975A207	4.32
1.8″	94975A209	4.35
3/16″ Dia. — *Breaks at 2,700 lbs.*		
0.4″	94975A281	4.15
0.5″	94975A285	4.36
0.6″	94975A290	4.16
0.7″	94975A294	4.39
0.8″	94975A299	4.15
0.9″	94975A303	4.15
1″	94975A113	4.42
1.1″	94975A308	4.32
1.2″	94975A312	4.32
1.3″	94975A317	4.35
1.4″	94975A321	4.35
1.5″	94975A117	4.35
1.6″	94975A326	4.36
3/16″ Dia. (Cont.)		
1.7″	94975A330	4.33
1.8″	94975A335	4.33
1.9″	94975A339	4.33
2″	94975A123	4.50
2.5″	94975A344	4.95
2.6″	94975A348	4.95
3″	94975A353	6.13
3.5″	94975A357	6.32
4″	94975A362	6.69
1/4″ Dia. — *Breaks at 4,800 lbs.*		
0.4″	94975A366	4.37
0.5″	94975A145	3.65
0.6″	94975A371	4.18
0.7″	94975A148	4.18
0.8″	94975A153	4.36
0.9″	94975A375	4.18
1″	94975A157	4.44
1.1″	94975A380	4.37
1.2″	94975A159	4.49

(Continued on following page)

Quick-Release Pins *(Continued from previous page)*



Without Lanyard



With Lanyard

Also known as faspins, these pins have a ring grip. The ball springs inward during installation and pops out to lock the pin in place. The ball and spring are Type 316 stainless steel. The pin diameter equals the hole size. Shaft diameter tolerance is –0.003″. Shafts have a minimum Rockwell hardness of B85, except aluminum have a minimum Rockwell hardness of B56. Breaking strength is measured as single shear, which is the force required to break a pin into two pieces.

Type 316 stainless steel pins are the most corrosion resistant. May be mildly magnetic.

18-8 stainless steel pins are more corrosion resistant than zinc-plated pins and may be mildly magnetic.

Pins with lanyard that have a usable length up to 2.9″ have a 6″ long lanyard; all others have a 12″ long lanyard. All lanyards are nylon coated.

Zinc-plated steel pins have good rust resistance.

Aluminum pins are lightweight, corrosion resistant, and nonmagnetic.

18-8 Stainless Steel with Lanyard (Cont.)

Usable Lg.		
1/4″ Dia. (Cont.)		
1.3″	94975A162	$4.49
1.4″	94975A384	4.37
1.5″	94975A166	4.49
1.6″	94975A389	4.32
1.7″	94975A393	4.32
1.8″	94975A169	4.32
1.9″	94975A398	4.32
2″	94975A174	4.44
2.1″	94975A402	4.58
2.2″	94975A407	4.58
2.3″	94975A411	4.56
2.4″	94975A416	4.56
2.5″	94975A177	4.71
2.7″	94975A420	4.56
3″	94975A185	5.18
3.2″	94975A425	5.50
3.5″	94975A429	5.55
4″	94975A434	5.81
5″	94975A438	5.79
6″	94975A443	6.05
5/16″ Dia.— *Breaks at 7,500 lbs.*		
0.8″	94975A447	4.47
1″	94975A211	4.47
1.2″	94975A452	4.64
1.3″	94975A456	4.64
1.4″	94975A461	4.65
1.5″	94975A215	4.65
1.6″	94975A465	4.65
1.7″	94975A470	4.65
1.8″	94975A474	4.67
1.9″	94975A479	4.67
2″	94975A219	4.67
2.2″	94975A483	4.80
2.5″	94975A488	4.80
3″	94975A492	5.27
3.5″	94975A497	5.58
4″	94975A501	6.09
5″	94975A506	6.06
6″	94975A510	6.40
3/8″ Dia.— *Breaks at 11,000 lbs.*		
0.5″	94975A515	5.24
0.6″	94975A519	5.24
0.7″	94975A524	5.24
0.8″	94975A528	4.73
0.9″	94975A533	4.73
1″	94975A231	5.19
1.1″	94975A537	5.00
1.2″	94975A542	4.93
1.3″	94975A546	4.93
1.4″	94975A551	4.93
1.5″	94975A235	4.93
1.6″	94975A555	4.95
1.7″	94975A563	4.95
1.8″	94975A564	4.95
1.9″	94975A569	5.01
2″	94975A242	5.01
2.1″	94975A573	5.22
2.2″	94975A578	5.22
2.3″	94975A582	5.22
2.4″	94975A587	5.26
2.5″	94975A247	5.26
2.6″	94975A591	5.32
2.7″	94975A596	5.32
2.8″	94975A600	5.32
2.9″	94975A605	5.32
3″	94975A253	5.78
3.5″	94975A257	6.31
4″	94975A609	6.69
4.5″	94975A614	6.90

Usable Lg.		
3/8″ Dia. (Cont.)		
5″	94975A618	$7.14
6″	94975A623	7.46
6.2″	94975A627	7.52
7″	94975A632	8.06
7/16″ Dia.— *Breaks at 14,900 lbs.*		
1″	94975A636	6.82
1.5″	94975A641	7.29
2″	94975A645	7.32
2.5″	94975A650	7.40
3″	94975A654	7.91
3.5″	94975A659	8.49
4″	94975A663	8.68
4.5″	94975A668	8.80
5″	94975A672	9.02
1/2″ Dia.— *Breaks at 19,500 lbs.*		
0.5″	94975A677	8.44
0.6″	94975A681	8.44
0.8″	94975A686	8.44
1″	94975A690	8.44
1.1″	94975A695	8.82
1.2″	94975A699	8.82
1.3″	94975A704	8.82
1.4″	94975A708	8.82
1.5″	94975A271	8.82
1.6″	94975A713	8.82
1.7″	94975A717	8.82
1.8″	94975A722	8.82
1.9″	94975A726	8.87
2″	94975A731	8.89
2.1″	94975A735	9.26
2.2″	94975A740	9.26
2.3″	94975A744	10.60
2.4″	94975A749	10.60
2.5″	94975A753	9.33
2.6″	94975A758	9.33
2.8″	94975A762	9.33
3″	94975A279	9.78
3.1″	94975A767	9.61
3.2″	94975A771	9.61
3.3″	94975A776	9.61
3.5″	94975A780	9.61
3.8″	94975A785	9.65
4″	94975A789	9.65
4.3″	94975A794	10.39
4.5″	94975A798	10.02
5″	94975A803	10.06
5.5″	94975A807	10.37
6″	94975A812	10.31
5/8″ Dia.— *Breaks at 30,500 lbs.*		
1″	94975A825	11.22
1.3″	94975A830	11.49
1.5″	94975A834	11.49
1.7″	94975A839	11.53
2″	94975A843	11.42
2.5″	94975A848	11.89
3″	94975A852	12.46
3.5″	94975A857	13.33
4″	94975A861	13.33
4.5″	94975A866	13.73
5″	94975A870	13.73
5.5″	94975A875	14.11
6″	94975A879	14.11
3/4″ Dia.— *Breaks at 44,000 lbs.*		
1″	94975A893	16.84
1.5″	94975A897	17.20
2″	94975A902	17.53
2.3″	94975A906	17.74
2.5″	94975A911	17.74
3″	94975A915	18.24

18-8 Stainless Steel with Lanyard (Cont.)

Usable Lg.		
3/4″ Dia. (Cont.)		
3.5″	94975A920	$19.26
4″	94975A924	19.42
4.5″	94975A929	19.71
5″	94975A933	$19.76
5.5″	94975A938	20.25
6″	94975A942	20.20

Zinc-Plated Steel without Lanyard

Usable Lg.		
3/16″ Dia.— *Breaks at 2,400 lbs.*		
0.4″	98320A004	1.51
0.5″	98320A005	1.53
0.7″	98320A007	1.65
0.9″	98320A009	1.60
1″	98320A010	1.75
1.2″	98320A012	1.64
1.3″	98320A013	1.62
1.5″	98320A015	1.77
1.6″	98320A016	1.64
1.7″	98320A017	1.64
2″	98320A020	1.64
2.5″	98320A025	1.74
3″	98320A030	1.74
1/4″ Dia.— *Breaks at 4,300 lbs.*		
0.4″	98320A124	1.45
0.5″	98320A125	1.48
0.7″	98320A127	1.60
0.8″	98320A128	1.60
1″	98320A130	1.62
1.1″	98320A131	1.66
1.2″	98320A132	1.52
1.3″	98320A133	1.52
1.4″	98320A134	1.54
1.5″	98320A135	1.66
1.6″	98320A136	1.52
1.7″	98320A137	1.54
1.8″	98320A138	1.54
2″	98320A140	1.69
2.1″	98320A141	1.66
2.2″	98320A142	1.67
2.3″	98320A143	1.67
2.5″	98320A145	1.59
3″	98320A150	1.76
3.5″	98320A155	1.78
4″	98320A160	1.70
4.5″	98320A165	2.45
5″	98320A170	2.59
5/16″ Dia.— *Breaks at 6,700 lbs.*		
1″	98320A250	1.67
1.3″	98320A253	1.72
1.5″	98320A255	1.60
2″	98320A260	1.74
2.5″	98320A265	1.73
3″	98320A270	1.91
3.5″	98320A275	1.90
4″	98320A280	1.93
3/8″ Dia.— *Breaks at 9,700 lbs.*		
0.5″	98320A365	1.67
0.8″	98320A368	1.74
0.9″	98320A369	1.76
1″	98320A370	1.76
1.1″	98320A371	1.78
1.2″	98320A372	1.78
1.3″	98320A373	1.84
1.5″	98320A375	1.84
1.8″	98320A378	2.08
1.9″	98320A379	1.78
2″	98320A380	2.08
2.1″	98320A381	1.90
2.3″	98320A383	1.94
2.5″	98320A385	1.94
2.6″	98320A386	1.90
2.8″	98320A388	1.90
3″	98320A390	2.18

Usable Lg.		
3/8″ Dia. (Cont.)		
3.5″	98320A395	2.07
3.7″	98320A397	2.04
4″	98320A400	2.10
4.5″	98320A405	2.21
5″	98320A410	2.21
6″	98320A420	2.63
7/16″ Dia.— *Breaks at 13,200 lbs.*		
1.5″	98320A975	2.07
2″	98320A980	2.29
3″	98320A985	2.12
4″	98320A990	2.28
5″	98320A995	2.39
1/2″ Dia.— *Breaks at 17,200 lbs.*		
0.5″	98320A485	2.10
0.6″	98320A486	2.29
0.8″	98320A488	2.29
1″	98320A490	2.32
1.1″	98320A491	2.26
1.2″	98320A492	2.26
1.3″	98320A493	2.50
1.4″	98320A494	2.50
1.5″	98320A495	2.40
1.8″	98320A498	2.28
1.9″	98320A499	2.28
2″	98320A500	2.49
2.1″	98320A501	2.56
2.3″	98320A503	2.47
2.4″	98320A504	2.47
2.5″	98320A505	2.63
2.6″	98320A506	2.63
2.8″	98320A508	2.63
3″	98320A510	2.66
3.1″	98320A511	2.79
3.2″	98320A512	2.68
3.3″	98320A513	2.68
3.5″	98320A515	2.79
4″	98320A520	2.72
4.3″	98320A523	2.88
4.5″	98320A525	2.88
5″	98320A530	3.01
5.5″	98320A535	3.08
6″	98320A540	3.06
6.5″	98320A545	3.23
7″	98320A550	3.46
8″	98320A560	3.63
8.5″	98320A565	3.87
5/8″ Dia.— *Breaks at 27,000 lbs.*		
1″	98320A750	2.81
1.3″	98320A613	2.93
1.5″	98320A615	2.95
1.7″	98320A617	2.96
2″	98320A620	2.98
2.5″	98320A625	3.26
3″	98320A630	3.28
3.1″	98320A631	3.52
3.5″	98320A635	3.52
3.8″	98320A638	3.56
4″	98320A640	3.56
4.5″	98320A649	3.76
5″	98320A650	3.76
6″	98320A660	4.02
6.5″	98320A665	4.22
7″	98320A670	4.24

(Continued on following page)

Quick-Release Pins *(Continued from previous page)*

Usable Lg.		
Zinc-Plated Steel without Lanyard (Cont.)		
3/4" Dia.—Breaks at 39,000 lbs.		
1"	98320A730	$3.96
1.5"	98320A735	4.04
2"	98320A740	4.28
2.3"	98320A743	4.30
2.5"	98320A745	4.30
2.6"	98320A746	4.32
2.8"	98320A748	4.32
3"	98320A610	4.34
3.1"	98320A751	4.60
3.5"	98320A755	4.62
4"	98320A760	4.68
4.2"	98320A762	4.96
4.4"	98320A764	4.98

Usable Lg.		
3/4" Dia. (Cont.)		
4.5"	98320A765	$4.98
5"	98320A770	5.02
5.5"	98320A769	5.36
6"	98320A771	5.38
6.5"	98320A776	5.59
7"	98320A801	5.63
8"	98320A901	6.14
1" Dia.—Breaks at 70,000 lbs.		
2"	98320A860	6.56
2.5"	98320A858	6.88
2.6"	98320A866	6.83
3"	98320A870	6.96
3.5"	98320A875	7.20

Usable Lg.		
Zinc-Plated Steel without Lanyard (Cont.)		
1" Dia. (Cont.)		
4"	98320A880	$7.28
4.5"	98320A885	7.66
4.8"	98320A887	7.70
5"	98320A886	7.74
5.5"	98320A892	8.32

Usable Lg.		
1" Dia. (Cont.)		
6"	98320A891	$8.28
6.5"	98320A893	8.66
7"	98320A895	8.76
8"	98320A897	9.43

Aluminum without Lanyard		
1/4" Dia.—Strength not rated		
0.5"	95255A801	2.69
1"	95255A805	2.75
1.5"	95255A809	2.80
2"	95255A813	2.89
3/8" Dia.—Strength not rated		
0.8"	95255A823	3.37
1"	95255A825	3.49
1.5"	95255A829	3.63
2"	95255A833	3.80

Metric Quick-Release Pins

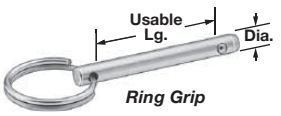

Ring Grip


High Profile

The spring-loaded ball retracts during installation and pops out to lock your pin in place. The shaft is 18-8 stainless steel, the ball and spring are stainless steel; may be mildly magnetic. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces.

Ring-grip pins are easy to grab and allow you to add a lanyard. Also known as faspins. Shaft has a minimum Rockwell hardness of B96. Shaft diameter tolerance is –0.1 mm. ***Also Available:*** Zinc-plated ring-grip pins. Please ask for 95335A500 and specify dia. and length.

High-profile pins have a handle and a hole for adding a lanyard. Shaft hardness is 150 Brinell. Shaft diameter tolerance is –0.04 mm to –0.08 mm.

Usable Lg., mm		
Ring Grip—Strength not rated		
M5 Dia.		
12	95335A011	$3.02
18	95335A013	3.07
25	95335A016	3.09
40	95335A031	3.36
M6 Dia.		
12	95335A125	3.07
20	95335A134	3.18
25	95335A138	3.24
40	95335A142	3.50
50	95335A145	3.59

Usable Lg., mm		
M8 Dia.		
25	95335A163	$3.55
40	95335A168	4.01
50	95335A171	4.10
M10 Dia.		
25	95335A176	4.72
40	95335A182	5.30
50	95335A189	5.51
M12 Dia.		
40	95335A206	6.29
50	95335A215	6.65
75	95335A226	7.66

High Profile		
M6 Dia.—Breaks at 4,900 lbs.		
25	95335A623	20.98
30	95335A624	21.34
50	95335A625	21.80
M8 Dia.—Breaks at 8,900 lbs.		
25	95335A626	23.55
30	95335A627	24.35
50	95335A628	25.18
M10 Dia.—Breaks at 13,900 lbs.		
25	95335A629	27.25
30	95335A631	28.05
50	95335A632	28.90
M12 Dia.—Breaks at 20,000 lbs.		
30	95335A633	30.72
40	95335A634	31.96
50	95335A635	33.25

Heavy Duty Quick-Release Pins

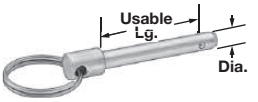

Two spring-loaded locking balls deliver superior holding power. Pins meet MIL-P-45952/1. Balls are steel, spring is 17-7 stainless steel, and shaft and ring are 18-8 stainless steel. The shaft has a minimum Rockwell hardness of C40. Shaft diameter tolerance is –0.003". Breaking strength is measured as double shear, which is the force required to break a pin into three pieces.

Usable Lg.		
1/4" Dia.—Breaks at 4,500 lbs.		
1/2"	95165A032	$13.08
3/4"	95165A033	14.43
1"	95165A034	14.04
1 1/4"	95165A035	16.25
1 1/2"	95165A036	16.68
2"	95165A038	14.43
2 1/2"	95165A041	15.56
3"	95165A043	15.59
5/16" Dia.—Breaks at 7,100 lbs.		
3/4"	95165A051	18.07
1"	95165A052	17.52
1 1/4"	95165A053	18.80
1 1/2"	95165A054	15.56
2"	95165A056	18.83
3"	95165A061	17.49
3 1/2"	95165A063	21.64
4"	95165A067	19.56
3/8" Dia.—Breaks at 10,300 lbs.		
1"	95165A072	19.55
1 1/4"	95165A073	17.91
1 1/2"	95165A074	20.52
2"	95165A076	18.39
2 1/2"	95165A078	19.00
3"	95165A081	19.48
3 1/2"	95165A083	19.96
4"	95165A085	22.89
4 1/2"	95165A087	21.35
7/16" Dia.—Breaks at 14,000 lbs.		
1"	95165A205	19.99
1 1/2"	95165A207	25.44

Usable Lg.		
7/16" Dia. (Cont.)		
2"	95165A209	$25.45
2 1/2"	95165A211	27.52
1/2" Dia.—Breaks at 18,400 lbs.		
1"	95165A090	27.83
2"	95165A094	33.27
2 1/2"	95165A096	30.41
3"	95165A098	34.81
4"	95165A102	35.56
5"	95165A106	36.09
5/8" Dia.—Breaks at 28,500 lbs.		
1"	95165A304	31.59
1 1/2"	95165A306	35.34
2 1/2"	95165A310	39.04
3"	95165A312	39.02
3 1/2"	95165A314	42.56
4"	95165A316	42.57
4 1/2"	95165A318	46.26
5"	95165A320	46.27
3/4" Dia.—Breaks at 41,500 lbs.		
1 1/2"	95165A406	45.82
2 1/2"	95165A410	53.59
3"	95165A416	50.78
4"	95165A420	55.99
5"	95165A424	60.97
1" Dia.—Breaks at 74,500 lbs.		
2"	95165A508	63.03
2 1/2"	95165A510	67.02
3"	95165A514	62.16
4"	95165A518	67.33
5"	95165A522	72.53
6"	95165A526	77.71

High Visibility Quick-Release Pins

A bright-orange plastic-coated handle makes these pins easy to see and gives you more gripping leverage. The ball springs inward during installation and pops out to lock pin in place. The ball is stainless steel. The shaft is steel and has a minimum Rockwell hardness of B96. Shaft diameter tolerance is +0.004" to –0.005". Pin diameter is slightly smaller than the hole size. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces.

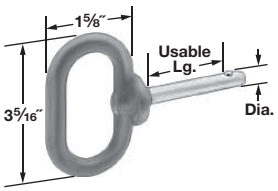

Usable Lg.		
5/16" Dia.—Breaks at 8,000 lbs.		
1"	92627A111	$5.71
1 1/2"	92627A113	5.71
2"	92627A115	5.81
2 1/2"	92627A117	6.13
3"	92627A119	5.96
4"	92627A123	6.01
3/8" Dia.—Breaks at 11,000 lbs.		
1"	92627A204	6.20
1 1/2"	92627A206	6.28
2"	92627A208	6.32
2 1/2"	92627A211	6.40

Usable Lg.		
3/8" Dia. (Cont.)		
3"	92627A216	$6.51
4"	92627A222	6.60
1/2" Dia.—Breaks at 21,000 lbs.		
1"	92627A305	6.45
1 1/2"	92627A315	6.76
2"	92627A320	6.72
2 1/2"	92627A325	6.88
3"	92627A330	7.10
4"	92627A335	7.48
5/8" Dia.—Breaks at 33,000 lbs.		
1 1/2"	92627A414	7.08
2"	92627A419	7.46

Usable Lg.		
5/8" Dia. (Cont.)		
2 1/2"	92627A424	$7.63
3"	92627A429	7.50
4"	92627A434	7.83
5"	92627A439	8.28
3/4" Dia.—Breaks at 47,000 lbs.		
1 1/2"	92627A518	8.05
2"	92627A522	8.25
2 1/2"	92627A527	8.56
3"	92627A531	8.91
4"	92627A536	9.26
5"	92627A540	11.61

Shoulder-Style Quick-Release Pins

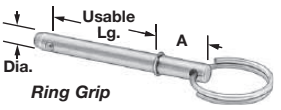

Ring Grip



T-Handle

The shoulder keeps a portion of the pin outside the hole. It also makes the ring grip or T-handle easy to grab. All have a Type 316 stainless steel ball and spring. The ball has a minimum Rockwell hardness of C25. Shaft diameter tolerance is –0.003″. Pin diameter equals the hole size. Breaking strength is measured as single shear, which is the force required to break the pin into two pieces.

18-8 stainless steel pins are more corrosion resistant than zinc-plated steel pins. May be mildly magnetic. The shaft has a minimum Rockwell hardness of B85.

Zinc-plated steel pins offer good rust resistance. The shaft has a minimum Rockwell hardness of B96.

To Order: Please specify ring grip or T-handle.

Dia.	3/16″	1/4″	5/16″	3/8″	1/2″	5/8″	3/4″	1″
A	11/16″	3/4″	3/4″	3/4″	1″	1 1/16″	1 3/8″	1 1/2″
B	1″	1 1/4″	1 1/4″	1 3/4″	2″	2 1/4″	2 1/4″	2 1/2″

18-8 Stainless Steel

Usable Lg.		
3/16″ Dia. — *Breaks at 2,700 lbs.*		
0.2″	98700A002	$2.76
0.6″	98700A006	2.76
1″	98700A010	2.76
1.3″	98700A012	2.95
1.5″	98700A014	2.95
2″	98700A020	2.97
3″	98700A030	3.04
1/4″ Dia. — *Breaks at 4,800 lbs.*		
0.6″	98700A126	2.84
1″	98700A130	3.12
1.3″	98700A133	3.01
1.5″	98700A135	3.01
1.6″	98700A136	3.08
2″	98700A140	3.08
2.1″	98700A141	3.23
2.5″	98700A145	3.23
3″	98700A150	3.33
5.1″	98700A171	4.11
5/16″ Dia. — *Breaks at 7,500 lbs.*		
1.8″	98700A258	3.50
2″	98700A260	3.37
2.5″	98700A265	3.62
3″	98700A270	3.62
3/8″ Dia. — *Breaks at 11,000 lbs.*		
0.6″	98700A366	3.58
1″	98700A370	3.65
1.3″	98700A167	3.94
1.5″	98700A375	3.94
1.8″	98700A378	4.01
2″	98700A380	4.01
2.3″	98700A382	4.29
2.5″	98700A385	4.29

Usable Lg.		
3/8″ Dia. (Cont.)		
2.9″	98700A389	$4.45
3″	98700A390	4.45
4″	98700A164	4.99
1/2″ Dia. — *Breaks at 19,500 lbs.*		
1″	98700A490	7.65
1.3″	98700A491	8.26
1.5″	98700A492	8.26
1.8″	98700A493	8.39
2″	98700A500	8.44
2.5″	98700A505	8.58
2.8″	98700A507	9.06
3″	98700A510	9.19
3.5″	98700A514	9.91
4″	98700A520	10.03
4.6″	98700A523	10.36
5″	98700A530	10.53
7″	98700A550	11.78
5/8″ Dia. — *Breaks at 30,500 lbs.*		
1.5″	98700A621	12.31
2″	98700A623	12.36
2.5″	98700A624	13.03
3″	98700A630	13.18
3.5″	98700A627	13.98
4″	98700A640	14.08
5″	98700A650	14.53
3/4″ Dia. — *Breaks at 44,000 lbs.*		
2″	98700A751	22.13
2.5″	98700A753	22.76
3″	98700A755	22.97
4″	98700A760	24.28
4.5″	98700A762	24.85

Zinc-Plated Steel

Usable Lg.		
3/16″ Dia. — *Breaks at 2,400 lbs.*		
0.2″	97320A002	$1.84
0.6″	97320A006	1.87
1″	97320A010	1.90
1.3″	97320A013	1.91
1.5″	97320A015	1.91
2″	97320A020	1.90
1/4″ Dia. — *Breaks at 4,300 lbs.*		
0.6″	97320A126	1.78
1″	97320A130	1.77
1.3″	97320A133	1.88
1.5″	97320A135	1.90
1.6″	97320A136	1.90
2″	97320A140	1.92
2.1″	97320A141	1.96
2.5″	97320A145	1.96
3″	97320A162	1.96
5.1″	97320A171	2.30
5/16″ Dia. — *Breaks at 6,700 lbs.*		
1.8″	97320A258	2.06
2″	97320A260	2.00
2.5″	97320A265	2.02
3″	97320A270	2.06
3/8″ Dia. — *Breaks at 9,700 lbs.*		
0.6″	97320A366	2.04
1″	97320A163	2.03
1.3″	97320A167	2.14
1.5″	97320A375	2.15
1.8″	97320A378	2.16
2″	97320A380	2.16
2.3″	97320A383	2.24
2.5″	97320A385	2.24
2.9″	97320A389	2.24
3″	97320A390	2.28
4″	97320A164	2.44

Usable Lg.		
1/2″ Dia. — *Breaks at 17,200 lbs.*		
1″	97320A490	$2.50
1.3″	97320A168	2.72
1.5″	97320A495	2.72
1.8″	97320A498	2.72
2″	97320A165	2.72
2.5″	97320A505	2.90
2.8″	97320A508	2.90
3″	97320A166	3.00
3.5″	97320A515	3.18
4″	97320A520	3.18
4.6″	97320A526	3.40
5″	97320A530	3.40
7″	97320A550	3.80
5/8″ Dia. — *Breaks at 27,000 lbs.*		
1.5″	97320A615	3.58
2.5″	97320A625	3.91
3.5″	97320A635	4.22
4″	97320A640	4.22
5″	97320A650	4.46
3/4″ Dia. — *Breaks at 39,000 lbs.*		
1.5″	97320A735	4.80
2″	97320A740	4.80
2.5″	97320A745	5.00
3″	97320A750	5.02
3.5″	97320A755	5.47
4″	97320A760	5.51
4.5″	97320A765	5.71
5″	97320A770	6.34
1″ Dia. — *Breaks at 70,000 lbs.*		
2.5″	97320A865	7.92
3″	97320A870	7.96
3.5″	97320A875	8.50
4″	97320A880	8.60
5″	97320A885	9.88
6″	97320A890	10.67

Add-a-Knob Quick-Release Pins

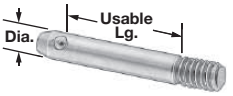

Customize these pins with the knob or handle of your choice. Pins have an 18-8 stainless steel shaft, ball, and spring. Shaft has a minimum Rockwell hardness of B85. Shaft diameter tolerance is –0.003″. Pin diameter equals the hole size. Breaking strength is measured as single shear, which is the force required to break a pin into two pieces. See pages 2229-2233 for knobs.

Usable Lg.	O'all Lg.		
3/16″ Dia. — *Breaks at 2,700 lbs.*			
Thread: 10-32 × 5/16″			
1/2″	1″	93460A005	$1.98
1″	1 1/2″	93460A010	2.15
1 1/2″	2″	93460A015	2.18
2″	2 1/2″	93460A020	2.45
1/4″ Dia. — *Breaks at 4,800 lbs.*			
Thread: 1/4″-20 × 3/8″			
1/2″	1 3/16″	93460A125	2.18
1″	1 11/16″	93460A130	2.47

Usable Lg.	O'all Lg.		
1/4″ Dia. (Cont.)			
1 1/2″	2 3/16″	93460A135	$2.73
2″	2 11/16″	93460A140	2.98
2 1/2″	3 3/16″	93460A145	3.04
5/16″ Dia. — *Breaks at 7,500 lbs.*			
Thread: 5/16″-18 × 3/8″			
1″	1 3/4″	93460A250	3.03
1 1/2″	2 1/4″	93460A255	3.39

Usable Lg.	O'all Lg.		
3/8″ Dia. — *Breaks at 11,000 lbs.*			
Thread: 3/8″-16 × 1/2″			
1 1/2″	2 1/2″	93460A375	$3.61
2″	3″	93460A380	3.62
2 1/2″	3 1/2″	93460A385	3.86
1/2″ Dia. — *Breaks at 19,500 lbs.*			
Thread: 1/2″-13 × 1/2″			
1 1/2″	2 5/8″	93460A495	5.12
2 1/2″	3 5/8″	93460A505	6.68
3″	4 1/8″	93460A510	6.93

Expanding Diameter Quick-Release Pins

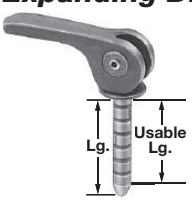

Flip the handle 180° to expand and contract the shaft for a tight, vibration-resistant fit. All are passivated 17-4 PH stainless steel with a black anodized aluminum handle. Breaking strength is measured as double shear, which is the force required to break a pin into three pieces. *Note:* Install pins their entire usable length.

Usable Lg.	Lg.	Shoulder Dia.		
1/4″ Dia. — *Breaks at 8,000 lbs.*				
1″	1 1/4″	1″	97787A661	$114.68
2″	2 1/4″	1″	97787A662	187.17
5/16″ Dia. — *Breaks at 12,500 lbs.*				
1″	1 5/16″	1″	97787A671	111.84
2″	2 5/16″	1″	97787A672	150.93

Usable Lg.	Lg.	Shoulder Dia.		
3/8″ Dia. — *Breaks at 18,000 lbs.*				
1″	1 3/8″	1″	97787A681	$98.27
2″	2 3/8″	1″	97787A682	125.60
3″	3 3/8″	1″	97787A683	196.81
1/2″ Dia. — *Breaks at 32,000 lbs.*				
1″	1 1/2″	1″	97787A691	105.01
2″	2 1/2″	1″	97787A692	148.76
3″	3 1/2″	1″	97787A693	183.80

Weld-In Pull Pins

The pin can't fall out when you weld the barrel in place. Also known as pop pins and clamp pins. Pull the handle to retract the pin; release it and the pin springs back to the extended position. All have a 1″ diameter barrel. Pin diameter tolerance is ±0.01″. Not rated for breaking strength.

Threaded shank pins have a ½″ long ⅜″-16 threaded stud so you can add the handle of your choice (see pages 2239-2247).

T-handle and ***ball handle*** pins have a black plastic handle. *Locking pins* lock in the retracted position with a quarter turn of the knob. Temperature range is 0° to 165° F.

18-8 stainless steel pins offer the most corrosion resistance and may be mildly magnetic. ***Zinc-plated steel*** pins have good rust resistance.

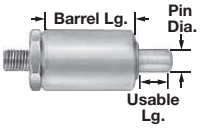

Threaded Shank

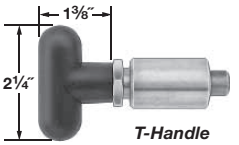

T-Handle



Ball Handle

Pin Dia.	Barrel Lg.	Usable Lg.	Style		
18-8 Stainless Steel					
Threaded Shank					
⅜″	1½″	9⁄16″	Nonlocking	91712A556	$19.23
½″	1½″	9⁄16″	Nonlocking	91712A564	19.23
½″	2¼″	9⁄16″	Nonlocking	91712A580	21.63
T-Handle					
⅜″	1½″	9⁄16″	Nonlocking	91712A101	20.68
⅜″	1½″	9⁄16″	Locking	91712A335	23.53
½″	1½″	9⁄16″	Nonlocking	91712A119	20.61
½″	1½″	9⁄16″	Locking	91712A351	23.53
½″	2¼″	9⁄16″	Nonlocking	91712A155	23.88
½″	2¼″	9⁄16″	Locking	91712A383	26.46
Ball Handle					
⅜″	1½″	9⁄16″	Nonlocking	91712A222	20.68
⅜″	1½″	9⁄16″	Locking	91712A443	23.53
½″	1½″	9⁄16″	Nonlocking	91712A240	20.61
½″	1½″	9⁄16″	Locking	91712A461	23.53
½″	2¼″	9⁄16″	Nonlocking	91712A276	23.88
½″	2¼″	9⁄16″	Locking	91712A497	26.46

Pin Dia.	Barrel Lg.	Usable Lg.	Style		
Zinc-Plated Steel					
Threaded Shank					
⅜″	1½″	9⁄16″	Nonlocking	90222A742	$7.90
½″	1½″	9⁄16″	Nonlocking	90222A760	9.25
½″	2¼″	9⁄16″	Nonlocking	90222A796	11.19
T-Handle					
⅜″	1½″	9⁄16″	Locking	90222A503	13.22
⅜″	1½″	⅝″	Nonlocking	90222A112	9.31
½″	1½″	9⁄16″	Locking	90222A518	14.59
½″	1½″	⅝″	Nonlocking	90222A116	9.31
½″	2¼″	9⁄16″	Locking	90222A548	16.73
½″	3″	⅝″	Nonlocking	90222A118	13.62
Ball Handle					
⅜″	1½″	9⁄16″	Locking	90222A625	13.31
⅜″	1½″	⅝″	Nonlocking	90222A415	9.09
⅜″	3″	⅝″	Nonlocking	90222A423	13.41
½″	1½″	9⁄16″	Locking	90222A643	14.69
½″	1½″	⅝″	Nonlocking	90222A419	9.09
½″	2¼″	9⁄16″	Locking	90222A679	16.73

Quick-Release Button Connectors for Telescoping Tubing

Also known as snap buttons and tubing buttons, connectors use spring force and a pin-like button to hold telescoping pieces of tubing together. Install a connector in the smaller tube and push the smaller tube inside your larger tube until the connector button pops into a hole.

Type 410 stainless steel pins are more corrosion resistant and just as strong as zinc-plated steel connectors. They are magnetic. Minimum Rockwell hardness is C42.

Zinc-plated steel pins have good rust resistance. Minimum Rockwell hardness is C44.

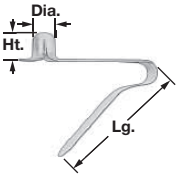

Single Button Dog Leg

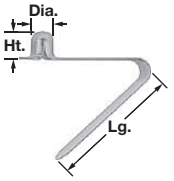

Single Button Straight Leg

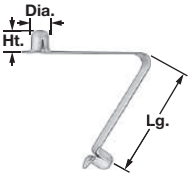

Double Button Straight Leg



Single Button Straight Leg Installed

For Tubing ID Round	For Tubing ID Square	Button Dia.	Button Ht.	Leg Wd.	Leg Lg.	Type 410 SS Pkg. Qty.	Type 410 SS	Type 410 SS Pkg.	Zinc-Plated Steel Pkg. Qty.	Zinc-Plated Steel	Zinc-Plated Steel Pkg.
Single Button—Dog Leg											
½″ - ¾″	⅜″ - ¾″	¼″	¼″	⅜″	1⅜″	5	92988A650	$7.66	10	94282A250	$5.10
9⁄16″ -1″	7⁄16″-1″	5⁄16″	⅜″	7⁄16″	1⅞″	5	92988A670	10.63	10	94282A270	7.02
9⁄16″ -1″	9⁄16″-1″	¼″	⅜″	⅜″	1⅞″	5	92988A660	10.63	10	94282A260	6.94
⅝″ -1⅛″	9⁄16″-1⅛″	⅜″	⅜″	½″	2 1⁄16″	1	92988A690	2.50	10	94282A290	7.35
Single Button—Straight Leg											
½″ - ⅞″	7⁄16″- ⅞″	¼″	¼″	⅜″	1 7⁄16″	5	92988A510	7.66	10	94282A110	5.10
½″ -1¼″	7⁄16″-1¼″	¼″	⅜″	⅜″	1⅞″	5	92988A530	10.63	10	94282A130	6.94
⅝″ -1¼″	7⁄16″-1¼″	5⁄16″	⅜″	7⁄16″	1 15⁄16″	5	92988A550	10.63	10	94282A150	6.94
1 1⁄16″-1⅜″	9⁄16″-1⅜″	⅜″	⅜″	½″	2⅛″	1	92988A570	2.50	10	94282A170	7.35
Double Button—Straight Leg											
⅝″ - ⅞″	⅝″ - ⅞″	¼″	¼″	⅜″	1½″	5	92988A730	13.44	5	94282A330	4.08
⅞″ -1⅛″	⅞″ -1⅛″	5⁄16″	⅜″	7⁄16″	2 1⁄16″	1	92988A750	3.06	5	94282A350	5.51
1″ -1⅞″	1″ -1⅞″	⅜″	7⁄16″	½″	2 13⁄16″	1	92988A770	4.07	5	94282A370	6.94

Quick-Release Clevis Pins with Head

Instead of a cotter pin that can get lost, these use a spring-loaded stainless steel ball to hold them in place. The shaft and head are made of rust-resistant zinc-plated steel. Minimum Rockwell hardness is B60. Shaft diameter tolerance is –0.005″. Pin diameter equals hole size. Not rated for breaking strength.

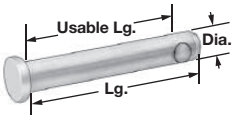

Usable Lg.	Lg.		Pkg. of 10
3⁄16″ Dia.—Head: 5⁄16″ Dia. × 1⁄16″ Ht.			
13⁄16″	1″	90156A204	$6.43
1 5⁄16″	1½″	90156A208	6.38
1 13⁄16″	2″	90156A212	7.13
2 5⁄16″	2½″	90156A216	9.84
1⁄4″ Dia.—Head: 3⁄8″ Dia. × 3⁄32″ Ht.			
¾″	1″	90156A259	5.62
1¼″	1½″	90156A263	5.93
1¾″	2″	90156A267	5.85

Usable Lg.	Lg.		Pkg. of 10
1⁄4″ Dia. (Cont.)			
2¼″	2½″	90156A271	$6.64
2¾″	3″	90156A275	7.74
5⁄16″ Dia.—Head: 7⁄16″ Dia. × 3⁄32″ Ht.			
⅝″	1″	90156A402	7.27
1⅛″	1½″	90156A406	7.28
3⁄8″ Dia.—Head: 1⁄2″ Dia. × 1⁄8″ Ht.			
⅝″	1″	90156A276	8.79
1⅝″	2″	90156A277	9.45

Usable Lg.	Lg.		Pkg. of 10
3⁄8″ Dia. (Cont.)			
2⅝″	3″	90156A285	$9.92
3⅝″	4″	90156A293	10.97
1⁄2″ Dia.—Head: 5⁄8″ Dia. × 5⁄32″ Ht.			
1″	1½″	90156A383	10.80
1½″	2″	90156A387	12.32
2″	2½″	90156A391	15.47
2½″	3″	90156A395	18.12
3″	3½″	90156A399	16.04

Clevis Pins with Reusable Cotter Pin

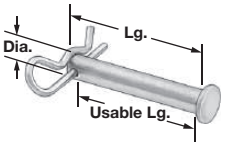

An alternative to bolts and rivets, these pins have a head on one end, a through-hole for locking on the other, and a hairpin cotter pin for quick installation and removal.

Type 316 stainless steel pins are the most corrosion resistant and may be mildly magnetic. Not rated for hardness.

18-8 stainless steel pins are more corrosion resistant than zinc-plated steel and steel pins and may be mildly magnetic. Minimum Rockwell hardness is B80.

Zinc-plated steel pins are more rust resistant than steel pins. Minimum Rockwell hardness is B80.

Steel pins have a minimum Rockwell hardness of B63.

Type 316 Stainless Steel

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
3/16" Dia.				
1/2"	5/16"	1	92401A570	$4.91
3/4"	9/16"	1	92401A574	4.71
1"	13/16"	1	92401A576	4.83
1 1/8"	15/16"	1	92401A578	9.93
1 1/4"	1 1/16"	1	92401A581	5.02
1 1/2"	1 5/16"	1	92401A583	5.17
1 3/4"	1 9/16"	1	92401A586	5.33
2"	1 13/16"	1	92401A589	4.92
1/4" Dia.				
1/2"	5/16"	5	92401A625	10.38
3/4"	9/16"	5	92401A628	10.62
1"	13/16"	5	92401A631	10.90
1 1/4"	1 1/16"	5	92401A634	11.20
1 1/2"	1 5/16"	5	92401A637	11.71
2"	1 13/16"	5	92401A643	12.81
5/16" Dia.				
3/4"	1/2"	1	92401A561	3.62
1"	3/4"	1	92401A654	3.86
5/16" Dia. (Cont.)				
1 1/4"	1"	1	92401A657	$4.13
1 1/2"	1 1/4"	1	92401A659	5.76
1 3/4"	1 1/2"	1	92401A662	6.05
2"	1 3/4"	1	92401A664	5.95
2 1/2"	2 1/4"	1	92401A669	6.48
3/8" Dia.				
3/4"	1/2"	1	92401A673	4.60
1"	3/4"	1	92401A676	4.75
1 1/4"	1"	1	92401A679	4.95
1 1/2"	1 1/4"	1	92401A682	5.10
2"	1 3/4"	1	92401A688	5.57
2 1/4"	2"	1	92401A691	6.48
2 1/2"	2 1/4"	1	92401A694	6.24
3"	2 3/4"	1	92401A697	6.57
1/2" Dia.				
1"	3/4"	1	92401A703	6.52
1 1/4"	1"	1	92401A706	6.76
1/2" Dia. (Cont.)				
1 1/2"	1 1/4"	1	92401A709	$7.86
1 3/4"	1 1/2"	1	92401A712	8.43
2"	1 3/4"	1	92401A715	8.62
2 1/2"	2 1/4"	1	92401A721	9.24
3"	2 3/4"	1	92401A727	9.91
3 1/2"	3 1/4"	1	92401A730	10.39
4"	3 3/4"	1	92401A734	13.86
3/4" Dia.				
2"	1 3/4"	1	92401A751	20.61
2 1/2"	2 1/4"	1	92401A755	22.46
3"	2 3/4"	1	92401A759	25.12
3 1/2"	3 1/4"	1	92401A765	27.40

18-8 Stainless Steel

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
3/16" Dia.				
1/2"	5/16"	5	92390A815	5.37
3/4"	9/16"	5	92390A818	5.52
1"	13/16"	5	92390A821	5.63
1 1/8"	15/16"	1	92390A822	5.74
1 1/4"	1 1/16"	5	92390A824	5.74
1 1/2"	1 5/16"	5	92390A827	5.83
1 3/4"	1 9/16"	5	92390A830	5.93
2"	1 13/16"	5	92390A833	6.04
1/4" Dia.				
1/2"	5/16"	5	92390A839	6.18
3/4"	9/16"	5	92390A842	6.33
1"	13/16"	5	92390A845	6.44
1 1/4"	1 1/16"	5	92390A848	6.71
1 1/2"	1 5/16"	5	92390A851	6.95
2"	1 13/16"	5	92390A857	7.47
5/16" Dia.				
3/4"	1/2"	5	92390A863	7.45
1"	3/4"	5	92390A866	7.65
5/16" Dia. (Cont.)				
1 1/4"	1"	5	92390A869	8.17
1 1/2"	1 1/4"	5	92390A872	8.57
1 3/4"	1 1/2"	5	92390A875	9.09
2"	1 3/4"	5	92390A878	9.61
2 1/2"	2 1/4"	5	92390A881	10.82
3/8" Dia.				
3/4"	1/2"	1	92390A887	2.60
1"	3/4"	1	92390A890	2.67
1 1/4"	1"	1	92390A893	2.82
1 1/2"	1 1/4"	1	92390A896	2.91
1 3/4"	1 1/2"	1	92390A899	3.01
2"	1 3/4"	1	92390A902	3.15
2 1/4"	2"	1	92390A905	3.24
2 1/2"	2 1/4"	1	92390A908	3.33
3"	2 3/4"	1	92390A911	3.51
1/2" Dia.				
1"	3/4"	1	92390A917	4.37
1 1/4"	1"	1	92390A920	4.58
1/2" Dia. (Cont.)				
1 1/2"	1 1/4"	1	92390A923	4.72
1 3/4"	1 1/2"	1	92390A926	4.85
2"	1 3/4"	1	92390A929	4.98
2 1/4"	2"	1	92390A932	5.17
2 1/2"	2 1/4"	1	92390A935	5.34
2 3/4"	2 1/2"	1	92390A938	5.54
3"	2 3/4"	1	92390A941	5.73
3 1/2"	3 1/4"	1	92390A944	5.98
4"	3 3/4"	1	92390A947	6.22
3/4" Dia.				
2"	1 3/4"	1	92390A951	11.96
2 1/2"	2 1/4"	1	92390A953	12.50
3"	2 3/4"	1	92390A955	13.12
3 1/2"	3 1/4"	1	92390A957	13.82

Zinc-Plated Steel

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
3/16" Dia.				
1/2"	5/16"	10	97245A601	3.80
3/4"	9/16"	10	97245A604	3.62
1"	13/16"	10	97245A607	3.68
1 1/8"	15/16"	1	97245A609	3.99
1 1/4"	1 1/16"	10	97245A610	3.72
1 1/2"	1 5/16"	10	97245A613	3.76
1 3/4"	1 9/16"	10	97245A616	3.89
2"	1 13/16"	10	97245A619	4.07
1/4" Dia.				
1/2"	5/16"	10	97245A625	3.94
3/4"	9/16"	10	97245A628	3.65
1"	13/16"	10	97245A631	3.76
1 1/4"	1 1/16"	10	97245A634	3.91
1 1/2"	1 5/16"	10	97245A637	4.13
2"	1 13/16"	10	97245A643	4.55
5/16" Dia.				
3/4"	1/2"	10	97245A649	4.43
1"	25/32"	10	97245A652	4.59
5/16" Dia. (Cont.)				
1 1/4"	1"	10	97245A655	4.91
1 1/2"	1 1/4"	10	97245A658	5.20
1 3/4"	1 1/2"	10	97245A661	5.56
2"	1 3/4"	10	97245A664	5.95
2 1/2"	2 1/4"	10	97245A667	6.58
3/8" Dia.				
3/4"	1/2"	5	97245A673	3.37
1"	3/4"	5	97245A676	3.53
1 1/4"	1"	5	97245A679	3.75
1 1/2"	1 1/4"	5	97245A682	3.94
1 3/4"	1 1/2"	5	97245A685	4.07
2"	1 3/4"	5	97245A688	4.27
2 1/4"	2"	5	97245A691	4.40
2 1/2"	2 1/4"	5	97245A694	4.61
3"	2 3/4"	5	97245A697	5.01
1/2" Dia.				
1"	3/4"	5	97245A703	5.65
1 1/4"	1"	5	97245A706	5.80
1/2" Dia. (Cont.)				
1 1/2"	1 1/4"	5	97245A709	6.10
1 3/4"	1 1/2"	5	97245A712	6.20
2"	1 3/4"	5	97245A715	6.31
2 1/4"	2"	5	97245A718	6.56
2 1/2"	2 1/4"	5	97245A721	7.00
2 3/4"	2 1/2"	5	97245A724	7.24
3"	2 3/4"	5	97245A727	7.36
3 1/2"	3 1/4"	5	97245A730	8.21
4"	3 3/4"	5	97245A733	8.58
3/4" Dia.				
2"	1 3/4"	1	97245A751	14.00
2 1/2"	2 1/4"	1	97245A755	14.94
3"	2 3/4"	1	97245A757	15.99
3 1/2"	3 1/4"	1	97245A759	16.99

Steel

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
1/4" Dia.				
3/4"	9/16"	10	98306A735	4.39
1"	13/16"	10	98306A738	4.54
1 1/4"	1 1/16"	10	98306A740	4.72
1 1/2"	1 5/16"	10	98306A742	5.03
2"	1 13/16"	10	98306A746	5.51
3/8" Dia.				
1"	3/4"	5	98306A915	4.51
1 1/4"	1"	5	98306A918	4.78
1 1/2"	1 1/4"	5	98306A921	5.03
1 3/4"	1 1/2"	5	98306A923	5.23
2"	1 3/4"	5	98306A925	5.46
2 1/4"	2"	5	98306A927	5.65
1/2" Dia.				
1 1/4"	1"	5	98306A951	6.00
1 1/2"	1 1/4"	5	98306A955	6.39
1 3/4"	1 1/2"	5	98306A956	6.61
2"	1 3/4"	5	98306A957	6.85
2 1/4"	2"	5	98306A958	6.96
5/8" Dia.				
2"	1 3/4"	2	98306A978	5.00
2 1/4"	2"	2	98306A979	5.32
2 1/2"	2 1/4"	2	98306A980	5.38
3"	2 3/4"	2	98306A981	6.04
3 1/2"	3 1/4"	2	98306A982	6.60
3/4" Dia.				
2"	1 3/4"	2	98306A987	5.76
2 1/2"	2 1/4"	2	98306A989	6.45
3"	2 3/4"	2	98306A991	7.10
3 1/2"	3 1/4"	2	98306A992	7.73
1" Dia.				
2 1/2"	2 3/16"	1	98306A789	12.29
2 3/4"	2 7/16"	1	98306A791	13.33
3"	2 11/16"	1	98306A793	13.89
3 1/4"	2 15/16"	1	98306A795	14.51

Clevis Pins

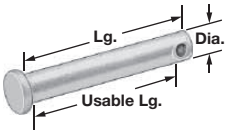

With a head on one end and a through-hole for locking on the other, these pins offer all the advantages of bolts and rivets, plus quick installation and removal. A cotter pin from pages 3396-3398 is required to lock pins in place.

Type 316 stainless steel pins are the most corrosion resistant and may be mildly magnetic. Not rated for hardness.

18-8 stainless steel pins are more corrosion resistant than zinc-plated steel and steel pins and may be mildly magnetic. Minimum Rockwell hardness is B80.

Zinc-plated steel pins are more rust resistant than steel pins. Minimum Rockwell hardness is B80.

Zinc yellow-chromate plated steel pins have better wear resistance than zinc-plated steel pins and are harder and more corrosion and wear resistant than steel pins. Not rated for hardness.

Steel pins have a minimum Rockwell hardness of B63.

Type 316 Stainless Steel

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
3/8" Dia.—Use 1/8" Dia. Cotter Pin				
1"	3/4"	5	92401A203	$10.38
1 1/4"	1"	5	92401A208	11.43
1 1/2"	1 1/4"	5	92401A212	11.07
2"	1 3/4"	5	92401A217	12.60
1/2" Dia.—Use 1/8" Dia. Cotter Pin				
1 1/4"	1"	1	92401A226	5.95
1 1/2"	1 1/4"	1	92401A231	6.76
1/2" Dia. (Cont.)				
1 3/4"	1 1/2"	1	92401A233	$7.48
2"	1 3/4"	1	92401A235	8.05
2 1/4"	2"	1	92401A237	8.71
5/8" Dia.—Use 1/8" Dia. Cotter Pin				
2"	1 3/4"	1	92401A268	16.38
2 1/4"	2"	1	92401A270	16.95
2 1/2"	2 1/4"	1	92401A272	17.86
5/8" Dia. (Cont.)				
3"	2 3/4"	1	92401A274	$19.43
3 1/2"	3 1/4"	1	92401A276	21.14
3/4" Dia.—Use 1/8" Dia. Cotter Pin				
2"	1 3/4"	1	92401A280	19.86
2 1/2"	2 1/4"	1	92401A284	22.95
3"	2 3/4"	1	92401A287	26.52
3 1/2"	3 1/4"	1	92401A289	28.95

18-8 Stainless Steel

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
1/8" Dia.—Use 3/64" Dia. Cotter Pin				
1/2"	5/16"	5	92390A070	13.33
3/4"	9/16"	1	92390A075	3.24
1"	13/16"	1	92390A080	3.27
1 1/4"	1 1/16"	1	92390A095	3.27
3/16" Dia.—Use 1/16" Dia. Cotter Pin				
1/2"	5/16"	10	92390A100	7.52
5/8"	7/16"	10	92390A105	7.61
5/8"	15/32"	10	92390A101	7.66
3/4"	9/16"	10	92390A102	7.91
7/8"	11/16"	10	92390A109	8.12
1"	13/16"	10	92390A104	8.19
1 1/8"	15/16"	1	92390A107	4.47
1 1/4"	1 1/16"	10	92390A106	8.47
1 1/2"	1 5/16"	10	92390A108	8.73
1 3/4"	1 9/16"	10	92390A110	8.97
2"	1 13/16"	10	92390A112	9.40
2 1/2"	2 5/16"	10	92390A114	9.84
3"	2 13/16"	1	92390A116	8.00
1/4" Dia.—Use 1/16" Dia. Cotter Pin				
1/2"	5/16"	10	92390A155	9.14
5/8"	7/16"	10	92390A156	9.49
3/4"	9/16"	10	92390A157	9.60
7/8"	5/8"	10	92390A158	9.78
7/8"	11/16"	10	92390A186	9.88
1"	13/16"	10	92390A159	9.90
1 1/8"	15/16"	10	92390A160	10.13
1 1/4"	1 1/16"	10	92390A161	10.38
1 3/8"	1 3/16"	10	92390A162	10.95
1 1/2"	1 5/16"	10	92390A163	11.12
1 5/8"	1 7/16"	10	92390A164	11.84
1 3/4"	1 9/16"	10	92390A165	12.08
1 7/8"	1 11/16"	5	92390A166	6.17
2"	1 13/16"	5	92390A167	6.29
2 1/8"	1 15/16"	5	92390A168	6.42
2 1/4"	2 1/16"	5	92390A169	6.56
2 3/8"	2 3/16"	5	92390A170	6.67
2 1/2"	2 5/16"	5	92390A174	7.58
2 3/4"	2 9/16"	5	92390A175	8.53
3"	2 13/16"	5	92390A180	8.87
3 1/2"	3 5/16"	5	92390A182	9.80
4"	3 13/16"	5	92390A184	10.73
5/16" Dia.—Use 1/8" Dia. Cotter Pin				
1/2"	1/4"	5	92390A210	5.32
3/4"	1/2"	5	92390A212	5.60
7/8"	5/8"	5	92390A213	5.77
1"	3/4"	5	92390A228	5.83
1"	25/32"	5	92390A214	5.87
1 1/8"	7/8"	5	92390A215	6.28
1 1/4"	1"	5	92390A216	6.62
1 3/8"	1 1/8"	5	92390A217	6.74
5/16" Dia. (Cont.)				
1 1/2"	1 1/4"	5	92390A218	6.94
1 5/8"	1 3/8"	5	92390A219	7.35
1 3/4"	1 1/2"	5	92390A220	7.58
1 7/8"	1 5/8"	5	92390A221	7.79
2"	1 3/4"	5	92390A222	8.18
2 1/8"	1 7/8"	5	92390A223	8.37
2 1/4"	1 15/16"	5	92390A229	8.69
2 1/4"	2"	5	92390A224	8.78
2 3/8"	2 1/8"	5	92390A225	9.08
2 1/2"	2 1/4"	5	92390A226	9.60
2 5/8"	2 3/8"	5	92390A227	10.53
3"	2 3/4"	5	92390A231	11.00
3 1/2"	3 1/4"	5	92390A234	12.42
4"	3 3/4"	5	92390A236	13.76
3/8" Dia.—Use 1/8" Dia. Cotter Pin				
3/4"	1/2"	5	92390A267	8.39
1"	3/4"	5	92390A269	8.79
1 1/8"	13/16"	5	92390A721	9.24
1 1/8"	7/8"	5	92390A270	9.02
1 1/4"	1"	5	92390A271	9.58
1 5/16"	15/64"	5	92390A809	9.78
1 3/8"	1 1/8"	5	92390A272	9.99
1 1/2"	1 1/4"	5	92390A273	10.36
1 5/8"	1 3/8"	5	92390A274	10.61
1 3/4"	1 1/2"	5	92390A275	10.97
1 7/8"	1 5/8"	5	92390A276	11.32
2"	1 3/4"	5	92390A277	11.81
2 1/8"	1 7/8"	5	92390A278	12.39
2 1/4"	2"	5	92390A279	12.64
2 3/8"	2 1/8"	5	92390A722	12.23
2 1/2"	2 1/4"	1	92390A281	2.63
2 5/8"	2 3/8"	1	92390A282	2.69
2 3/4"	2 1/2"	1	92390A283	2.75
3"	2 3/4"	1	92390A285	2.86
3 1/2"	3 1/4"	1	92390A289	3.10
4"	3 3/4"	1	92390A293	3.35
7/16" Dia.—Use 1/8" Dia. Cotter Pin				
1"	3/4"	1	92390A314	2.35
1 1/4"	1"	1	92390A316	2.57
1 1/2"	1 1/4"	1	92390A317	2.71
1 3/4"	1 1/2"	1	92390A319	2.86
2"	1 3/4"	1	92390A320	3.02
2 1/4"	2"	1	92390A321	3.17
2 1/2"	2 1/4"	1	92390A323	3.32
2 3/4"	2 1/2"	1	92390A325	3.42
3"	2 3/4"	1	92390A326	3.48
3 1/2"	3 1/4"	1	92390A327	3.90
4"	3 3/4"	1	92390A328	4.23
1/2" Dia.—Use 1/8" Dia. Cotter Pin				
3/4"	1/2"	1	92390A375	6.76
1"	3/4"	1	92390A379	2.92
1/2" Dia. (Cont.)				
1 1/4"	1"	1	92390A381	3.12
1 1/2"	1 3/16"	1	92390A382	3.27
1 1/2"	1 1/4"	1	92390A383	3.30
1 3/4"	1 1/2"	1	92390A385	3.45
2"	1 3/4"	1	92390A387	3.60
2 1/4"	2"	1	92390A389	4.13
2 1/2"	2 1/4"	1	92390A391	4.02
2 5/8"	2 3/8"	1	92390A392	4.24
2 3/4"	2 1/2"	1	92390A393	4.25
3"	2 3/4"	1	92390A395	4.49
3 1/2"	3 1/4"	1	92390A399	4.84
4"	3 3/4"	1	92390A403	5.17
4 1/2"	4 1/4"	1	92390A405	6.06
5"	4 3/4"	1	92390A407	7.08
9/16" Dia.—Use 1/8" Dia. Cotter Pin				
2"	1 3/4"	1	92390A441	8.75
2 1/2"	2 1/4"	1	92390A445	9.25
3"	2 3/4"	1	92390A449	9.75
5/8" Dia.—Use 1/8" Dia. Cotter Pin				
1 1/4"	1"	1	92390A491	10.38
1 1/2"	1 1/4"	1	92390A493	8.83
1 3/4"	1 1/2"	1	92390A495	9.26
2"	1 3/4"	1	92390A497	9.47
2 1/4"	2"	1	92390A499	9.89
2 1/2"	2 1/4"	1	92390A501	10.12
3"	2 3/4"	1	92390A506	10.73
3 1/2"	3 1/4"	1	92390A516	11.79
3/4" Dia.—Use 1/8" Dia. Cotter Pin				
2"	1 3/4"	1	92390A521	12.54
2 1/4"	2"	1	92390A522	14.20
2 1/2"	2 1/4"	1	92390A523	13.25
2 3/4"	2 1/2"	1	92390A525	14.14
3"	2 3/4"	1	92390A527	14.32
3 1/2"	3 1/4"	1	92390A529	16.05
3 3/4"	3 1/2"	1	92390A531	16.43
4"	3 3/4"	1	92390A534	16.49
4 1/2"	4 1/4"	1	92390A536	20.41
5"	4 3/4"	1	92390A539	25.73
7/8" Dia.—Use 3/16" Dia. Cotter Pin				
3"	2 11/16"	1	92390A592	15.88
4"	3 11/16"	1	92390A594	16.88
1" Dia.—Use 3/16" Dia. Cotter Pin				
2 1/2"	2 3/16"	1	92390A681	18.38
2 3/4"	2 7/16"	1	92390A683	19.75
3"	2 11/16"	1	92390A685	20.38
3 1/4"	2 15/16"	1	92390A687	22.43
1 1/4" Dia.—Use 1/2" Dia. Cotter Pin				
4"	3 3/8"	1	92390A841	85.00
5"	4 3/8"	1	92390A849	136.00

Zinc-Plated Steel

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
3/16" Dia.—Use 1/16" Dia. Cotter Pin				
1/2"	5/16"	25	97245A113	6.17
5/8"	7/16"	10	97245A212	8.39
5/8"	15/32"	25	97245A215	6.17
3/4"	9/16"	25	97245A117	6.07
7/8"	11/16"	25	97245A218	8.41
1"	13/16"	25	97245A119	6.22
1 1/8"	15/16"	1	97245A121	6.85
1 1/4"	1 1/16"	25	97245A123	6.42
3/16" Dia. (Cont.)				
1 1/2"	1 5/16"	25	97245A126	6.57
1 3/4"	1 9/16"	25	97245A221	10.13
2"	1 13/16"	25	97245A129	7.25
2 1/2"	2 5/16"	25	97245A223	7.21
3"	2 13/16"	25	97245A225	9.34
1/4" Dia.—Use 1/16" Dia. Cotter Pin				
1/2"	5/16"	25	97245A132	6.42
5/8"	7/16"	25	97245A231	6.03
1/4" Dia. (Cont.)				
3/4"	9/16"	25	97245A135	5.12
7/8"	5/8"	25	97245A233	6.42
7/8"	11/16"	25	97245A235	5.87
1"	13/16"	25	97245A138	5.46
1 1/8"	15/16"	25	97245A238	5.88
1 1/4"	1 1/16"	25	97245A141	5.87
1 3/8"	1 3/16"	25	97245A242	6.18
1 1/2"	1 5/16"	25	97245A144	6.20

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Clevis Pins *(Continued from previous page)*

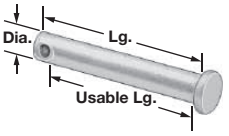

With a head on one end and a through-hole for locking on the other, these pins offer all the advantages of bolts and rivets, plus quick installation and removal. A cotter pin from pages 3396-3398 is required to lock pins in place.

Zinc-plated steel pins are more rust resistant than steel pins. Minimum Rockwell hardness is B80.

Zinc yellow-chromate plated steel pins have better wear resistance than zinc-plated steel pins and are harder and more corrosion and wear resistant than steel pins. Not rated for hardness.

Steel pins have a minimum Rockwell hardness of B63.

Zinc-Plated Steel (Cont.)

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
1/4" Dia. (Cont.)—Use 1/16" Dia. Cotter Pin				
1 5/8"	1 7/16"	25	97245A245	$7.82
1 3/4"	1 9/16"	25	97245A247	6.52
1 7/8"	1 11/16"	25	97245A252	8.18
2"	1 13/16"	25	97245A147	7.78
2 1/8"	1 15/16"	25	97245A255	8.60
2 1/4"	2 1/16"	25	97245A258	8.72
2 3/8"	2 3/16"	25	97245A261	9.97
2 1/2"	2 5/16"	25	97245A264	9.47
3"	2 13/16"	25	97245A149	8.35
3 1/2"	3 5/16"	10	97245A272	5.84
5/16" Dia.—Use 1/8" Dia. Cotter Pin				
1/2"	1/4"	25	97245A279	8.29
3/4"	1/2"	25	97245A153	6.52
7/8"	5/8"	25	97245A283	6.22
1"	3/4"	10	97245A285	10.77
1"	25/32"	25	97245A156	6.51
1 1/8"	7/8"	25	97245A288	7.02
1 1/4"	1"	25	97245A159	6.92
1 3/8"	1 1/8"	25	97245A291	7.87
1 1/2"	1 1/4"	25	97245A162	7.59
1 5/8"	1 3/8"	25	97245A295	14.23
1 3/4"	1 1/2"	25	97245A297	8.08
1 7/8"	1 5/8"	25	97245A299	8.46
2"	1 3/4"	25	97245A165	9.01
2 1/8"	1 7/8"	10	97245A302	6.53
2 1/4"	1 15/16"	10	97245A309	7.72
2 1/4"	2"	10	97245A308	4.94
2 3/8"	2 1/8"	10	97245A311	7.11
2 1/2"	2 1/4"	10	97245A313	5.09
2 5/8"	2 3/8"	10	97245A314	7.49
2 3/4"	2 1/2"	25	97245A315	11.25
3"	2 3/4"	25	97245A168	11.12
3 1/2"	3 1/4"	10	97245A317	5.94
4"	3 3/4"	10	97245A321	7.90
3/8" Dia.—Use 1/8" Dia. Cotter Pin				
3/4"	1/2"	10	97245A324	4.32
1"	3/4"	25	97245A171	8.01
1 1/8"	13/16"	10	97245A327	5.96
1 1/8"	7/8"	10	97245A331	4.51
1 1/4"	1"	25	97245A174	8.86

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
3/8" Dia. (Cont.)				
1 3/8"	1 1/16"	10	97245A334	$14.10
1 3/8"	1 1/8"	10	97245A337	5.28
1 1/2"	1 1/4"	25	97245A177	9.60
1 5/8"	1 3/8"	10	97245A339	5.61
1 3/4"	1 1/2"	10	97245A342	5.30
1 7/8"	1 5/8"	10	97245A344	6.10
2"	1 3/4"	10	97245A179	5.61
2 1/8"	1 7/8"	10	97245A347	6.67
2 1/4"	2"	10	97245A349	5.93
2 3/8"	2 1/8"	1	97245A352	4.87
2 1/2"	2 1/4"	10	97245A358	6.27
2 5/8"	2 3/8"	10	97245A361	6.51
2 3/4"	2 1/2"	10	97245A364	6.57
3"	2 3/4"	10	97245A183	6.87
3 1/4"	3"	10	97245A185	7.20
3 1/2"	3 1/4"	10	97245A367	7.94
4"	3 3/4"	10	97245A371	8.64
7/16" Dia.—Use 1/8" Dia. Cotter Pin				
1"	3/4"	10	97245A374	9.08
1 1/4"	1"	10	97245A377	6.20
1 1/2"	1 1/4"	10	97245A381	6.98
1 3/4"	1 1/2"	10	97245A384	7.39
2"	1 3/4"	10	97245A386	7.85
2 1/4"	2"	10	97245A389	10.78
2 1/2"	2 1/4"	10	97245A392	9.46
2 3/4"	2 1/2"	10	97245A396	9.56
3"	2 3/4"	10	97245A399	13.20
4"	3 3/4"	5	97245A407	7.57
1/2" Dia.—Use 1/8" Dia. Cotter Pin				
3/4"	1/2"	1	97245A702	6.04
1"	3/4"	10	97245A187	6.06
1 1/4"	1"	10	97245A410	6.71
1 3/8"	1 1/8"	10	97245A413	8.20
1 1/2"	1 3/16"	10	97245A415	8.34
1 1/2"	1 1/4"	10	97245A418	7.35
1 3/4"	1 1/2"	10	97245A422	7.94
2"	1 3/4"	10	97245A424	8.59
2 1/4"	2"	10	97245A426	9.18
2 1/2"	2 1/4"	10	97245A428	9.82
2 5/8"	2 3/8"	10	97245A431	11.02
2 3/4"	2 1/2"	10	97245A433	10.47

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
1/2" Dia. (Cont.)				
3"	2 3/4"	10	97245A435	$11.10
3 1/2"	3 1/4"	10	97245A438	12.20
4"	3 3/4"	5	97245A442	7.08
4 1/2"	4 1/4"	5	97245A444	8.93
5"	4 3/4"	5	97245A446	9.49
5/8" Dia.—Use 1/8" Dia. Cotter Pin				
1 1/4"	1"	1	97245A449	9.25
1 1/2"	1 1/4"	10	97245A451	11.55
1 3/4"	1 1/2"	10	97245A453	13.36
2"	1 3/4"	10	97245A455	13.34
2 1/4"	2"	5	97245A457	7.90
2 1/2"	2 1/4"	5	97245A462	8.53
3"	2 3/4"	5	97245A464	9.76
3 1/2"	3 1/4"	5	97245A467	10.69
4"	3 3/4"	5	97245A468	12.41
5"	4 3/4"	1	97245A470	11.75
5 1/2"	5 1/4"	1	97245A469	3.99
3/4" Dia.—Use 1/8" Dia. Cotter Pin				
2"	1 3/4"	5	97245A472	10.59
2 1/4"	2"	1	97245A474	10.68
2 1/2"	2 1/4"	5	97245A475	12.38
2 3/4"	2 1/2"	5	97245A478	13.05
3"	2 3/4"	1	97245A481	2.82
3 1/2"	3 1/4"	1	97245A484	3.18
3 3/4"	3 1/2"	1	97245A487	4.00
4"	3 3/4"	1	97245A489	4.47
4 1/2"	4 1/4"	1	97245A493	4.56
5"	4 3/4"	1	97245A496	4.77
6 1/2"	6 1/4"	1	97245A498	6.04
1" Dia.—Use 3/16" Dia. Cotter Pin				
2"	1 11/16"	1	97245A501	4.60
2 1/4"	1 15/16"	1	97245A504	4.73
2 1/2"	2 3/16"	1	97245A506	4.77
2 3/4"	2 7/16"	1	97245A509	5.39
3"	2 11/16"	1	97245A512	5.67
3 1/4"	2 15/16"	1	97245A515	5.95
3 1/2"	3 3/16"	1	97245A518	6.29
4"	3 11/16"	1	97245A521	6.70
4 1/2"	4 3/16"	1	97245A523	7.12
6"	5 11/16"	1	97245A527	8.76

Zinc Yellow-Chromate Plated Steel

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
3/16" Dia.—Use 1/16" Dia. Cotter Pin				
3/4"	9/16"	25	94380A510	11.39
1"	13/16"	25	94380A515	11.46
1 1/4"	1 1/16"	25	94380A520	11.39
1 1/2"	1 5/16"	25	94380A525	11.17
1/4" Dia.—Use 1/16" Dia. Cotter Pin				
3/4"	9/16"	25	94380A540	10.30
1"	13/16"	25	94380A545	10.41
1/4" Dia. (Cont.)				
1 1/4"	1 1/16"	25	94380A550	10.56
1 1/2"	1 5/16"	25	94380A560	10.69
3/8" Dia.—Use 1/8" Dia. Cotter Pin				
1"	3/4"	10	94380A610	5.91
1 1/4"	1"	10	94380A615	5.96
1 1/2"	1 1/4"	10	94380A620	9.47
2"	1 3/4"	10	94380A625	9.75
1/2" Dia.—Use 1/8" Dia. Cotter Pin				
1 1/2"	1 1/4"	10	94380A640	10.18
2"	1 3/4"	10	94380A645	10.63
3"	2 3/4"	10	94380A650	11.56

Steel

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
3/16" Dia.—Use 1/16" Dia. Cotter Pin				
1/2"	5/16"	25	98306A100	6.09
5/8"	7/16"	25	98306A149	8.46
5/8"	15/32"	25	98306A101	6.39
3/4"	9/16"	25	98306A102	6.28
7/8"	11/16"	25	98306A103	6.60
1"	13/16"	25	98306A104	6.67
1 1/8"	15/16"	1	98306A105	6.33
1 1/4"	1 1/16"	25	98306A106	6.31
1 1/2"	1 5/16"	25	98306A108	5.83
1 3/4"	1 9/16"	25	98306A110	6.77
2"	1 13/16"	25	98306A112	6.27
2 1/2"	2 5/16"	25	98306A116	9.45
3"	2 13/16"	25	98306A120	9.13
1/4" Dia.—Use 1/16" Dia. Cotter Pin				
1/2"	5/16"	25	98306A155	5.66
5/8"	7/16"	25	98306A156	7.07
3/4"	9/16"	25	98306A157	5.09
7/8"	5/8"	25	98306A151	5.18
7/8"	11/16"	25	98306A158	5.34
1"	13/16"	25	98306A159	5.50

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
1/4" Dia. (Cont.)				
1 1/8"	15/16"	25	98306A160	5.61
1 1/4"	1 1/16"	25	98306A161	5.76
1 3/8"	1 3/16"	25	98306A162	6.10
1 1/2"	1 5/16"	25	98306A163	6.36
1 5/8"	1 7/16"	25	98306A164	6.27
1 3/4"	1 9/16"	25	98306A165	6.47
1 7/8"	1 11/16"	25	98306A166	6.67
2"	1 13/16"	25	98306A167	6.76
2 1/8"	1 15/16"	25	98306A168	6.96
2 1/4"	2 1/16"	25	98306A169	7.16
2 3/8"	2 3/16"	25	98306A170	7.25
2 1/2"	2 5/16"	25	98306A171	7.44
2 3/4"	2 9/16"	25	98306A173	7.84
3"	2 13/16"	25	98306A175	8.13
3 1/2"	3 5/16"	25	98306A179	11.96
4"	3 13/16"	25	98306A183	10.61
5/16" Dia.—Use 1/8" Dia. Cotter Pin				
1/2"	1/4"	25	98306A210	7.94
3/4"	1/2"	25	98306A212	6.32
7/8"	5/8"	25	98306A213	6.46

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
5/16" Dia. (Cont.)				
1"	3/4"	25	98306A206	6.61
1"	25/32"	25	98306A214	6.69
1 1/8"	7/8"	25	98306A215	6.89
1 1/4"	15/16"	25	98306A207	7.27
1 1/4"	1"	25	98306A216	6.98
1 3/8"	1 1/8"	25	98306A217	7.17
1 1/2"	1 1/4"	25	98306A218	7.46
1 5/8"	1 3/8"	25	98306A219	7.64
1 3/4"	1 7/16"	25	98306A208	7.83
1 3/4"	1 1/2"	25	98306A220	7.92
1 7/8"	1 5/8"	25	98306A221	8.22
2"	1 3/4"	25	98306A222	8.39
2 1/8"	1 7/8"	25	98306A223	8.68
2 1/4"	1 15/16"	25	98306A716	9.02
2 1/4"	2"	25	98306A224	9.11
2 3/8"	2 1/8"	25	98306A228	9.15
2 1/2"	2 1/4"	25	98306A226	9.60
2 5/8"	2 3/8"	25	98306A227	9.91
2 3/4"	2 1/2"	25	98306A225	10.11
3"	2 3/4"	25	98306A229	10.63

(Continued on following page)

Clevis Pins *(Continued from previous page)*

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
Steel (Cont.)				
5/16" Dia. (Cont.)—Use 1/8" Dia. Cotter Pin				
3 1/4"	3"	25	98306A231	$11.13
3 1/2"	3 1/4"	25	98306A233	11.42
4"	3 3/4"	10	98306A236	9.07
3/8" Dia.—Use 1/8" Dia. Cotter Pin				
3/4"	1/2"	25	98306A267	7.12
1"	3/4"	25	98306A269	7.74
1 1/8"	13/16"	25	98306A721	8.17
1 1/8"	7/8"	25	98306A270	8.27
1 1/4"	1"	25	98306A271	8.65
1 3/8"	1 1/16"	25	98306A809	8.85
1 3/8"	1 1/8"	25	98306A272	9.03
1 1/2"	1 1/4"	25	98306A273	9.29
1 5/8"	1 3/8"	25	98306A274	9.69
1 3/4"	1 1/2"	25	98306A275	10.07
1 7/8"	1 5/8"	25	98306A276	10.36
2"	1 3/4"	25	98306A277	10.74
2 1/8"	1 7/8"	25	98306A278	11.12
2 1/4"	2"	25	98306A279	11.46
2 1/2"	2 1/4"	10	98306A281	6.04
2 5/8"	2 3/8"	10	98306A282	6.16
2 3/4"	2 1/2"	10	98306A283	6.30
3"	2 3/4"	10	98306A285	6.57
3 1/4"	3"	10	98306A287	6.88
3 1/2"	3 1/4"	10	98306A289	7.13
4"	3 3/4"	10	98306A293	8.29
4 1/2"	4 1/4"	10	98306A295	11.63
5 1/2"	5 1/4"	5	98306A297	7.59
6 1/8"	5 7/8"	5	98306A310	7.50
7/16" Dia.—Use 1/8" Dia. Cotter Pin				
1"	3/4"	10	98306A324	7.87
1 1/4"	1"	10	98306A326	6.57
1 1/2"	1 1/4"	10	98306A328	6.87
1 3/4"	1 1/2"	10	98306A330	7.50
2"	1 3/4"	10	98306A332	8.51
2 1/4"	2"	10	98306A334	10.27
2 1/2"	2 1/4"	10	98306A336	9.05
2 3/4"	2 1/2"	10	98306A338	11.98
3"	2 3/4"	10	98306A340	8.86
7/16" Dia. (Cont.)				
3 1/2"	3 1/4"	10	98306A344	$12.67
4"	3 3/4"	5	98306A348	8.11
1/2" Dia.—Use 1/8" Dia. Cotter Pin				
3/4"	1/2"	1	98306A377	9.00
1"	3/4"	10	98306A379	5.93
1 1/4"	1"	10	98306A381	6.53
1 3/8"	1 1/8"	10	98306A382	6.77
1 1/2"	1 3/16"	10	98306A730	6.79
1 1/2"	1 1/4"	10	98306A383	7.11
1 3/4"	1 1/2"	10	98306A385	8.18
2"	1 3/4"	10	98306A387	8.45
2 1/4"	2"	10	98306A389	8.99
2 1/2"	2 1/4"	10	98306A391	10.05
2 5/8"	2 3/8"	10	98306A392	10.31
2 3/4"	2 1/2"	10	98306A393	10.59
3"	2 3/4"	10	98306A395	10.87
3 1/2"	3 1/4"	10	98306A399	11.53
4"	3 3/4"	5	98306A403	6.80
4 1/2"	4 1/4"	5	98306A407	7.99
5"	4 3/4"	5	98306A411	8.46
6"	5 3/4"	5	98306A417	11.36
9/16" Dia.—Use 1/8" Dia. Cotter Pin				
2"	1 3/4"	1	98306A442	3.38
2 1/2"	2 1/4"	5	98306A444	14.33
3"	2 3/4"	5	98306A446	14.75
5/8" Dia.—Use 1/8" Dia. Cotter Pin				
1 1/4"	1"	10	98306A491	10.66
1 1/2"	1 1/4"	10	98306A493	10.90
1 3/4"	1 1/2"	10	98306A495	12.08
2"	1 3/4"	10	98306A497	12.49
2 1/4"	2"	5	98306A499	7.80
2 1/2"	2 1/4"	5	98306A501	8.10
3"	2 3/4"	5	98306A506	9.14
3 1/2"	3 1/4"	5	98306A510	10.33
4"	3 3/4"	5	98306A511	12.13
5"	4 3/4"	1	98306A512	3.33
6"	5 3/4"	1	98306A513	3.93
3/4" Dia.—Use 1/8" Dia. Cotter Pin				
2"	1 3/4"	5	98306A554	$8.41
2 1/4"	2"	1	98306A556	10.26
2 1/2"	2 1/4"	5	98306A558	9.95
2 3/4"	2 1/2"	5	98306A560	10.14
3"	2 3/4"	5	98306A562	11.16
3 1/2"	3 1/4"	5	98306A566	12.29
3 3/4"	3 1/2"	1	98306A868	2.75
4"	3 3/4"	1	98306A570	4.48
4 1/2"	4 1/4"	1	98306A574	4.55
5"	4 3/4"	1	98306A576	4.72
6"	5 3/4"	1	98306A578	5.23
6 1/2"	6 1/4"	1	98306A590	5.75
7/8" Dia.—Use 3/16" Dia. Cotter Pin				
3"	2 11/16"	1	98306A593	5.04
4"	3 11/16"	1	98306A595	5.59
1" Dia.—Use 3/16" Dia. Cotter Pin				
2"	1 11/16"	1	98306A677	4.56
2 1/4"	1 15/16"	1	98306A679	5.02
2 1/2"	2 3/16"	1	98306A681	4.78
2 3/4"	2 7/16"	1	98306A683	4.94
3"	2 11/16"	1	98306A685	5.32
3 1/4"	2 15/16"	1	98306A687	5.45
3 1/2"	3 3/16"	1	98306A688	5.74
4"	3 11/16"	1	98306A672	6.62
4 1/2"	4 3/16"	1	98306A675	6.70
5"	4 11/16"	1	98306A682	7.41
6"	5 11/16"	1	98306A678	8.21
1 1/8" Dia.—Use 3/16" Dia. Cotter Pin				
4"	3 3/8"	1	98306A841	15.45
5"	4 3/8"	1	98306A842	17.14
6"	5 3/8"	1	98306A843	18.23
1 1/4" Dia.—Use 3/16" Dia. Cotter Pin				
4"	3 3/8"	1	98306A851	18.98
5"	4 3/8"	1	98306A852	21.19
6"	5 3/8"	1	98306A853	22.45
1 1/2" Dia.—Use 3/16" Dia. Cotter Pin				
4"	3 3/8"	1	98306A901	34.57
5"	4 3/8"	1	98306A904	38.24
6"	5 3/8"	1	98306A907	40.45

Clevis Pin Assortments

These 120-piece assortments contain 10 each of the following sizes (Dia. x Lg.): 3/16" x 1/2", 3/16" x 3/4", 3/16" x 1", 3/16" x 1 1/4"; 1/4" x 3/4", 1/4" x 1", 1/4" x 1 1/4", 1/4" x 1 1/2"; and 3/8" x 1", 3/8" x 1 1/4", 3/8" x 1 1/2", and 3/8" x 2". Come in a plastic box.



18-8 Stainless Steel	98345A006	$99.91
Zinc-Plated Steel	98345A102	40.93
Steel	98345A005	38.95

Clamping Clevis Pins

When installed, the spring holds the pin tight while the toggle locks it in place. Pin diameter is 1/4". All are made of Type 316 stainless steel and may be mildly magnetic. Not rated for hardness.

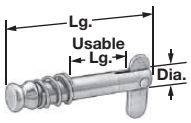

Lg.	Usable Lg. Min.	Usable Lg. Max.		Pkg.
1 1/4"	5/16"	3/8"	95087A100	$16.24
1 3/8"	7/16"	1/2"	95087A200	17.57
1 1/2"	9/16"	5/8"	95087A300	18.51
1 3/4"	13/16"	15/16"	95087A400	19.57

Metric Clevis Pins

All are zinc-plated steel with a head on one end and a through-hole for locking on the other. A cotter pin from page 3397 is required. Minimum Rockwell hardness is B67. Meet DIN 1444B.

Lg., mm	Usable Lg., mm		Pkg.
M8 Dia.—Use 2 mm Dia. Cotter Pin			
20	15	93131A320	$4.98
24	19	93131A330	6.55
25	20	93131A360	6.55
30	25	93131A370	6.68
35	30	93131A380	6.68
50	44	93131A390	6.73
M10 Dia.—Use 3.2 mm Dia. Cotter Pin			
25	19	93131A410	6.13
30	24	93131A420	6.18
40	34	93131A430	6.28
50	44	93131A440	7.20
60	54	93131A450	7.20
70	64	93131A460	7.35
M12 Dia.—Use 3.2 mm Dia. Cotter Pin			
30	23	93131A480	5.73
35	28	93131A490	6.30
M12 Dia. (Cont.)			
45	38	93131A510	$7.25
50	43	93131A520	7.38
60	53	93131A530	7.51
M16 Dia.—Use 4 mm Dia. Cotter Pin			
40	31	93131A610	7.98
50	41	93131A620	9.33
60	51	93131A630	8.67
M20 Dia.—Use 5 mm Dia. Cotter Pin			
40	29	93131A650	11.20
50	39	93131A660	11.20
60	49	93131A670	12.20
65	54	93131A680	12.40

SAE Clevis Pins

Manufactured to SAE (Society of Automotive Engineers) dimensions, all are steel and require a cotter pin from pages 3396-3398. Minimum Rockwell hardness is B65.

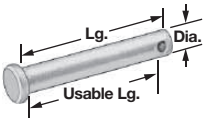

Dia.	Lg.	Usable Lg.	Use Cotter Pin Dia.	Pkg. Qty.		Pkg.
3/16"	5/8"	7/16"	1/16"	25	98340A110	$4.16
1/4"	7/8"	5/8"	1/16"	25	98340A120	4.32
5/16"	1"	3/4"	3/32"	25	98340A130	5.11
3/8"	1 1/8"	7/8"	3/32"	25	98340A140	6.39
7/16"	1 1/4"	1"	3/32"	25	98340A150	11.79
1/2"	1 3/8"	1 1/8"	1/8"	10	98340A160	$5.38
5/8"	1 5/8"	1 3/8"	1/8"	10	98340A170	8.45
3/4"	2"	1 5/8"	5/32"	5	98340A180	7.08
7/8"	2 1/4"	1 7/8"	5/32"	1	98340A190	3.07
1"	2 1/2"	2 1/8"	5/32"	1	98340A210	3.43

Precision Clevis Pins

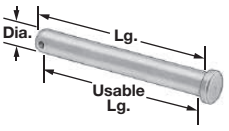

These combine the locking capabilities of a clevis pin with the precision of a dowel pin for a tight fit. Diameter tolerance is +0.0001″ to +0.0003″. All are 18-8 stainless steel, may be mildly magnetic, and require a cotter pin from pages 3396-3398. Minimum Rockwell hardness is B80.

Lg.	Usable Lg.		
1/4″ Dia.—Use 1/16″ Dia. Cotter Pin			
3/4″	9/16″	90378A230	$6.80
1″	13/16″	90378A250	7.08
1 1/4″	1 1/16″	90378A270	7.64
1 1/2″	1 5/16″	90378A290	8.78
3/8″ Dia.—Use 3/32″ Dia. Cotter Pin			
1″	3/4″	90378A320	7.97
1 1/4″	1″	90378A340	8.26
1 1/2″	1 1/4″	90378A360	8.56
1 3/4″	1 1/2″	90378A380	9.40
2″	1 3/4″	90378A400	10.00
3″	2 3/4″	90378A420	10.63

Lg.	Usable Lg.		
1/2″ Dia.—Use 1/8″ Dia. Cotter Pin			
1 1/2″	1 1/4″	90378A510	$9.63
1 3/4″	1 1/2″	90378A530	10.00
2″	1 3/4″	90378A550	10.72
2 1/4″	2″	90378A570	11.08
2 1/2″	2 1/4″	90378A590	11.57
3″	2 3/4″	90378A610	11.94
3 1/2″	3 1/4″	90378A630	12.57
4″	3 3/4″	90378A650	13.91

Aluminum Clevis Pins with Cotter Pin

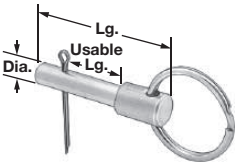

Lighter than other pins, these are made of nonmagnetic aluminum and include a zinc-plated steel ring grip and an aluminum cotter pin. Minimum Rockwell hardness is B87.

Lg.	Usable Lg.		
1/4″ Dia.			
1 3/4″	3/4″	92393A220	$10.91
2″	1″	92393A240	11.21
2 1/4″	1 1/4″	92393A260	11.42
2 1/2″	1 1/2″	92393A280	11.67
3/8″ Dia.			
2 1/4″	1″	92393A310	14.25
2 1/2″	1 1/4″	92393A330	14.58
2 3/4″	1 1/2″	92393A350	14.88
3″	1 3/4″	92393A370	15.27
3 1/4″	2″	92393A390	15.68
1/2″ Dia.			
3″	1 1/2″	92393A440	17.79
3 1/4″	1 3/4″	92393A460	18.28
3 1/2″	2″	92393A480	18.96
4″	2 1/2″	92393A520	19.66
4 1/2″	3″	92393A540	20.70
3/4″ Dia.			
4 1/8″	2″	92393A630	28.24
4 5/8″	2 1/2″	92393A660	29.79
5 1/8″	3″	92393A690	31.28
5 5/8″	3 1/2″	92393A720	32.74
6 1/8″	4″	92393A750	34.29

Adjustable-Length Clevis Pins

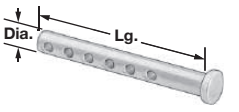

Also called universal clevis pins. Starting from the end opposite the head, holes are spaced on 1/4″ centers so you can change the length by moving the cotter pin (not included, see pages 3396-3398). Excess pin length can be cut off after installation.

18-8 stainless steel pins are more corrosion resistant than zinc-plated steel pins. May be mildly magnetic. Not rated for hardness. **Zinc-plated steel** pins offer rust resistance. Minimum Rockwell hardness is B72.

Lg.	No. of Holes	18-8 Stainless Steel Each	Zinc-Plated Steel Pkg. Qty.	Zinc-Plated Steel Pkg.
3/16″ Dia.—Use 3/32″ Dia. Cotter Pin				
1 1/2″	5	98330A825 $10.35	10	98330A115 $4.38
2″	5	98330A828 11.04	10	98330A120 4.45
2 1/2″	5	98330A831 12.07	10	98330A125 5.59
1/4″ Dia.—Use 7/64″ Dia. Cotter Pin				
1″	3	98330A837 11.20	10	98330A135 4.11
1 1/2″	5	98330A840 12.07	10	98330A140 4.23
2″	6	98330A843 12.94	10	98330A145 4.56
2 1/2″	7	98330A846 13.45	10	98330A150 4.86
3″	7	98330A849 14.49	10	98330A155 5.14
5/16″ Dia.—Use 7/64″ Dia. Cotter Pin				
1″	3	98330A855 13.10	10	98330A165 4.66
1 1/2″	5	98330A858 15.34	10	98330A170 5.01
2″	6	98330A861 15.79	10	98330A175 5.16
2 1/2″	7	98330A864 16.56	10	98330A180 5.60
3″	7	98330A867 18.10	10	98330A185 5.87
3 1/2″	7	98330A870 20.01	10	98330A190 8.62
4″	7	98330A873 21.55	10	98330A210 9.00
3/8″ Dia.—Use 9/64″ Dia. Cotter Pin				
1″	3	98330A879 13.71	10	98330A230 4.87
1 1/2″	5	98330A882 14.29	10	98330A235 5.55
2″	6	98330A885 15.29	10	98330A240 6.04
2 1/2″	7	98330A888 16.42	10	98330A245 6.83
3″	7	98330A891 17.14	10	98330A250 7.86
3 1/2″	7	98330A894 18.65	10	98330A255 9.44
4″	7	98330A897 20.00	10	98330A260 9.34
7/16″ Dia.—Use 5/32″ Dia. Cotter Pin				
2″	6	98330A903 17.14	10	98330A270 6.79
2 1/2″	7	98330A906 18.65	10	98330A275 8.89
3″	7	98330A909 20.00	10	98330A280 10.33
1/2″ Dia.—Use 5/32″ Dia. Cotter Pin				
2″	6	98330A915 18.65	10	98330A310 8.58
2 1/2″	7	98330A918 20.00	10	98330A315 9.76
3″	7	98330A921 21.51	10	98330A320 10.73
3 1/2″	7	98330A924 22.82	5	98330A325 9.07
4″	7	98330A927 22.86	5	98330A330 9.67
5/8″ Dia.—Use 5/32″ Dia. Cotter Pin				
2″	6	98330A933 16.33	5	98330A350 10.40
3″	7	98330A936 17.56	5	98330A355 8.85
4″	7	98330A939 18.55	5	98330A360 13.79
3/4″ Dia.—Use 5/32″ Dia. Cotter Pin				
2″	6	98330A945 20.67	5	98330A370 12.10
3″	7	98330A948 23.00	1	98330A375 2.82

Grooved Clevis Pins with Retaining Ring

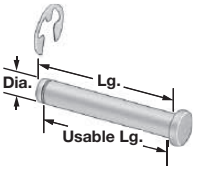

The low-profile side-mount external retaining ring takes up less space than a cotter pin. Pins are 18-8 stainless steel and may be mildly magnetic. Minimum Rockwell hardness is B80. For replacement retaining rings, see page 3310.

Also Available: Zinc-plated steel pins with retaining ring. Please ask for 92735A922 and specify diameter and length.

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
3/16″ Dia.				
1/2″	3/8″	5	92735A110	$5.49
3/4″	5/8″	5	92735A120	5.55
1″	7/8″	5	92735A130	5.63
1 1/4″	1 1/8″	5	92735A140	5.68
1 1/2″	1 3/8″	5	92735A150	5.76
1 3/4″	1 5/8″	5	92735A155	8.34
2″	1 7/8″	5	92735A160	5.90
2 1/2″	2 3/8″	5	92735A165	6.14
3″	2 7/8″	5	92735A170	8.32
1/4″ Dia.				
1/2″	3/8″	5	92735A210	6.99
3/4″	5/8″	5	92735A220	7.05
1″	7/8″	5	92735A230	7.18
1 1/4″	1 1/8″	5	92735A240	7.28
1 1/2″	1 3/8″	5	92735A250	7.50
2″	1 7/8″	5	92735A260	7.90
2 1/4″	2 1/8″	5	92735A263	8.58
2 1/2″	2 3/8″	5	92735A266	9.56
3″	2 7/8″	5	92735A270	9.90
5/16″ Dia.				
3/4″	9/16″	5	92735A320	8.48
1″	13/16″	5	92735A330	7.80

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
5/16″ Dia. (Cont.)				
1 1/4″	1 1/16″	5	92735A340	$8.22
1 1/2″	1 5/16″	5	92735A350	8.92
1 3/4″	1 9/16″	5	92735A355	11.49
2″	1 13/16″	5	92735A360	10.04
2 1/4″	2 1/16″	5	92735A363	11.33
2 1/2″	2 5/16″	5	92735A366	11.84
3″	2 13/16″	5	92735A370	10.97
3/8″ Dia.				
3/4″	9/16″	5	92735A420	12.01
1″	13/16″	5	92735A430	11.46
1 1/4″	1 1/16″	5	92735A440	12.19
1 1/2″	1 5/16″	5	92735A450	12.54
1 3/4″	1 9/16″	5	92735A455	13.74
2″	1 13/16″	5	92735A460	14.02
2 1/4″	2 1/16″	1	92735A463	2.96
2 1/2″	2 5/16″	1	92735A466	3.00
3″	2 13/16″	1	92735A470	3.02
3 1/2″	3 5/16″	1	92735A480	4.31
1/2″ Dia.				
1″	13/16″	1	92735A500	3.34
1 1/4″	1 1/16″	1	92735A505	3.66

Lg.	Usable Lg.	Pkg. Qty.		Pkg.
1/2″ Dia. (Cont.)				
1 1/2″	1 5/16″	1	92735A510	$4.28
1 3/4″	1 9/16″	1	92735A513	4.37
2″	1 13/16″	1	92735A515	4.69
2 1/4″	2 1/16″	1	92735A518	5.01
2 1/2″	2 5/16″	1	92735A520	5.44
2 3/4″	2 1/2″	1	92735A522	10.53
3″	2 13/16″	1	92735A525	6.38
3 1/2″	3 1/4″	1	92735A530	11.76
4″	3 3/4″	1	92735A535	13.10
4 1/2″	4 1/4″	1	92735A540	14.59
5″	4 3/4″	1	92735A545	17.57
3/4″ Dia.				
2″	1 3/4″	1	92735A570	13.10
2 1/2″	2 1/4″	1	92735A573	13.52
2 3/4″	2 1/2″	1	92735A576	14.05
3″	2 3/4″	1	92735A579	14.46
3 1/2″	3 1/4″	1	92735A583	15.14
4″	3 3/4″	1	92735A586	16.62
4 1/2″	4 1/4″	1	92735A589	17.98

One-Piece Locking Clevis Pins

No tools or cotter pins needed—push these pins into a hole and the spring-loaded wedge pops out to lock them in place. Use for blind holes or where access to a cotter pin is limited. Not rated for hardness. **18-8 stainless steel** pins are more corrosion resistant than zinc-plated steel pins. May be mildly magnetic. **Zinc-plated steel** pins offer rust resistance. Wedge and spring are stainless steel.

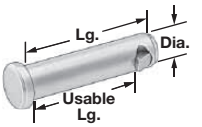

Lg.	Usable Lg.	18-8 Stainless Steel		Zinc-Plated Steel	
3/16" Dia.					
3/4"	1/2"	94411A510	$11.50	94411A110	$9.00
1"	3/4"	94411A520	11.70	94411A120	9.02
1 1/4"	1"	94411A530	11.90	94411A130	9.04
1/4" Dia.					
1"	3/4"	94411A620	11.83	94411A220	9.07
1 1/4"	1"	94411A630	12.17	94411A230	9.09
1 1/2"	1 1/4"	94411A640	12.47	94411A240	9.13
3/8" Dia.					
1 3/8"	1"	94411A730	$12.63	94411A330	$9.13
1 7/8"	1 1/2"	94411A750	13.30	94411A350	9.22
1/2" Dia.					
1 1/2"	1"	94411A780	13.50	94411A380	9.18
2"	1 1/2"	94411A790	14.30	94411A390	9.31

Headless Clevis Pins

The choice for use in tight spaces where a clevis pin with a head won't fit. Also known as hydraulic cylinder pins. Minimum Rockwell hardness is B80.

Grooved—*18-8 stainless steel* pins come with two stainless steel retaining rings; *zinc-plated steel* pins come with two black steel rings, unless noted. For replacement retaining rings, see page 3310.

Drilled—Include two cotter pins of the same material as the pin. *18-8 stainless steel* pins are more corrosion resistant than zinc-plated steel pins. May be mildly magnetic. *Zinc-plated steel* pins offer rust resistance.

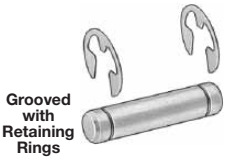

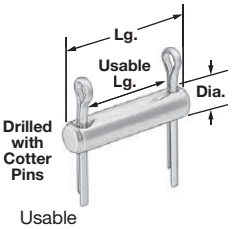

Grooved with Retaining Rings—18-8 Stainless Steel

Lg.	Usable Lg.		
3/16" Dia.			
1 1/8"	3/4"	93890A101	$5.00
1 3/8"	1"	93890A105	5.60
1 5/8"	1 1/4"	93890A109	6.00
1 7/8"	1 1/2"	93890A114	6.40
1/4" Dia.			
7/8"	1/2"	93890A116	6.00
1 1/8"	3/4"	93890A118	6.52
1 3/8"	1"	93890A121	6.80
1 5/8"	1 1/4"	93890A125	7.20
1 7/8"	1 1/2"	93890A129	7.80
2 3/8"	2"	93890A132	8.00
5/16" Dia.			
1 1/8"	3/4"	93890A134	7.40
1 3/8"	1"	93890A138	7.80
1 5/8"	1 1/4"	93890A141	8.00
1 7/8"	1 1/2"	93890A145	8.68
3/8" Dia.			
1 1/4"	3/4"	93890A147	7.80
1 3/8"	1"	93890A149	8.32
1 5/8"	1 1/4"	93890A154	8.68
1 7/8"	1 1/2"	93890A158	9.12
2 1/4"	1 3/4"	93890A159	9.60
3/8" Dia. (Cont.)			
2 3/8"	2"	93890A161	$9.80
2 3/4"	2 1/4"	93890A163	10.40
2 7/8"	2 1/2"	93890A165	10.80
3 3/8"	3"	93890A169	11.00
1/2" Dia.			
1 1/2"	1"	93890A174	8.60
1 3/4"	1 1/4"	93890A178	9.00
2"	1 1/2"	93890A182	9.40
2 1/4"	1 3/4"	93890A183	10.00
2 1/2"	2"	93890A185	10.40
2 3/4"	2 1/4"	93890A187	10.80
3"	2 1/2"	93890A189	11.20
3 1/4"	2 3/4"	93890A192	11.80
3 1/2"	3"	93890A194	12.20
4"	3 1/2"	93890A196	12.60
4 1/2"	4"	93890A201	13.00
3/4" Dia.			
2 3/4"	2"	93890A224	10.48
3 1/4"	2 1/2"	93890A228	11.30
3 1/2"	2 3/4"	93890A232	12.04
3 3/4"	3"	93890A236	12.78
4 1/4"	3 1/2"	93890A240	13.33

Grooved with Retaining Rings—Zinc-Plated Steel

Lg.	Usable Lg.		
3/16" Dia.			
1 1/8"	3/4"	93890A552	4.27
1 3/8"	1"	93890A556	4.28
1 5/8"	1 1/4"	93890A560	4.29
1 7/8"	1 1/2"	93890A564	4.31
1/4" Dia.			
7/8"	1/2"	93890A565★	4.48
1 1/8"	3/4"	93890A568	4.29
1 3/8"	1"	93890A572	4.31
1 5/8"	1 1/4"	93890A576	4.32
1 7/8"	1 1/2"	93890A580	4.34
2 3/8"	2"	93890A582★	6.20
5/16" Dia.			
1 1/8"	3/4"	93890A584	4.35
1 3/8"	1"	93890A588	4.36
1 5/8"	1 1/4"	93890A592	4.40
1 7/8"	1 1/2"	93890A596	4.41
3/8" Dia.			
1 1/4"	3/4"	93890A598★	5.86
1 3/8"	1"	93890A600	4.45
1 5/8"	1 1/4"	93890A604	4.48
1 7/8"	1 1/2"	93890A608	4.51
2 1/4"	1 3/4"	93890A610★	7.49
2 3/8"	2"	93890A612	4.55
2 3/4"	2 1/4"	93890A614★	8.11
2 7/8"	2 1/2"	93890A616	4.60
3 3/8"	3"	93890A620	4.65
1/2" Dia.			
1 1/2"	1"	93890A624	4.72
1 3/4"	1 1/4"	93890A628	4.76
2"	1 1/2"	93890A632	4.80
2 1/4"	1 3/4"	93890A622★	7.76
2 1/2"	2"	93890A636	4.89
2 3/4"	2 1/4"	93890A630★	8.62

Grooved with Retaining Rings—Zinc-Plated Steel (Cont.)

Lg.	Usable Lg.		
1/2" Dia. (Cont.)			
3"	2 1/2"	93890A640	$4.98
3 1/4"	2 3/4"	93890A638★	9.31
3 1/2"	3"	93890A644	5.06
4"	3 1/2"	93890A646★	10.17
4 1/2"	4"	93890A650★	10.35
3/4" Dia.			
2 3/4"	2"	93890A675★	$8.16
3 1/4"	2 1/2"	93890A679★	9.13
3 1/2"	2 3/4"	93890A683★	9.84
3 3/4"	3"	93890A687★	10.49
4 1/4"	3 1/2"	93890A691★	11.13

Drilled with Cotter Pins—Zinc-Plated Steel

Lg.	Usable Lg.		
3/16" Dia.			
1 1/8"	3/4"	93890A401	2.79
1 3/8"	1"	93890A405	2.79
1 5/8"	1 1/4"	93890A409	2.80
1 7/8"	1 1/2"	93890A413	2.82
1/4" Dia.			
7/8"	1/2"	93890A415	4.10
1 1/8"	3/4"	93890A417	2.79
1 3/8"	1"	93890A421	2.81
1 5/8"	1 1/4"	93890A425	2.83
1 7/8"	1 1/2"	93890A429	2.84
2 3/8"	2"	93890A431	4.70
5/16" Dia.			
1 1/8"	3/4"	93890A433	2.84
1 3/8"	1"	93890A437	2.85
1 5/8"	1 1/4"	93890A441	2.88
1 7/8"	1 1/2"	93890A445	2.89
3/8" Dia.			
1 1/4"	3/4"	93890A447	4.50
1 3/8"	1"	93890A449	2.89
1 5/8"	1 1/4"	93890A453	2.91
1 7/8"	1 1/2"	93890A457	2.95
2 1/4"	1 3/4"	93890A459	5.30
3/8" Dia. (Cont.)			
2 3/8"	2"	93890A461	2.98
2 3/4"	2 1/4"	93890A463	5.60
2 7/8"	2 1/2"	93890A465	3.04
3 3/8"	3"	93890A469	3.12
1/2" Dia.			
1 1/2"	1"	93890A473	3.18
1 3/4"	1 1/4"	93890A477	3.22
2"	1 1/2"	93890A481	3.30
2 1/4"	1 3/4"	93890A483	5.60
2 1/2"	2"	93890A485	3.34
2 3/4"	2 1/4"	93890A487	6.00
3"	2 1/2"	93890A489	3.44
3 1/4"	2 3/4"	93890A491	6.50
3 1/2"	3"	93890A493	3.52
4"	3 1/2"	93890A495	7.00
4 1/2"	4"	93890A499	7.20
3/4" Dia.			
2 3/4"	2"	93890A524	10.69
3 1/4"	2 1/2"	93890A528	11.55
3 1/2"	2 3/4"	93890A532	12.41
3 3/4"	3"	93890A536	13.10
4 1/4"	3 1/2"	93890A540	13.79

Extra-Long Drilled with Cotter Pins—18-8 Stainless Steel

Lg.	Usable Lg.		
3/16" Dia.			
12"	11"	93673A100	13.19
1/4" Dia.			
12"	11"	93673A200	16.90
16"	15"	93673A225	19.05
5/16" Dia.			
12"	11"	93673A300	22.54
3/8" Dia.			
12"	11"	93673A400	26.59
1/2" Dia.			
12"	11"	93673A500	34.93
16"	15"	93673A525	42.49

★Retaining rings are stainless steel.

Shear Pins

Protect your heavy duty machinery from torque overload. Pins are steel and designed to fail at specific loads. For use with Browning shear hubs.

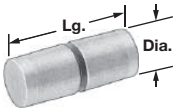

Also Available: Additional sizes. Please ask for 96985A922 and specify trade number.

Groove Dia.	Trade No.		
3/8" Dia.—Length is 1 1/8"			
5/32"	3P	96985A230	$13.78
3/16"	4P	96985A240	13.78
7/32"	5P	96985A250	13.78
1/4"	6P	96985A260	13.78
1/2" Dia.—Length is 1 5/8"			
1/4"	3Q	96985A330	$22.13
9/32"	4Q	96985A340	22.13
5/16"	5Q	96985A350	22.13
11/32"	6Q	96985A360	22.13
3/8"	7Q	96985A370	22.13
7/16"	9Q	96985A390	22.13

Heavy Duty Hitch Pins

A black plastic-coated steel T-handle is welded to the pin for extra strength. Pins are zinc-plated steel and have a 1/4" dia. hole for a cotter pin (not included, see pages 3396-3398). Minimum Rockwell hardness is B90. Not rated for towing.

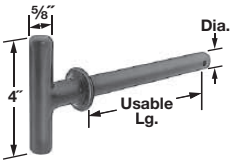

Dia.	Usable Lg.		
5/8"	4"	91640A100	$15.66
5/8"	6"	91640A110	16.23
3/4"	4"	91640A120	16.76
3/4"	6"	91640A130	17.83
7/8"	4"	91640A140	$18.11
7/8"	6"	91640A150	19.26
1"	6"	91640A160	25.63
1 1/4"	7"	91640A170	30.40

Hitch Pins & Locking Pins

Hitch Pins with Lock

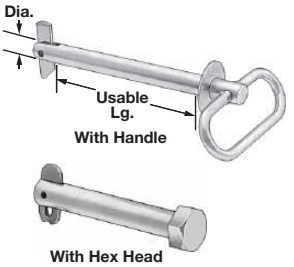

A toggle holds the pin in place until you flip it to release. All are zinc-plated steel and are not rated for towing.

With Handle—The handle aids insertion and gravity holds the swivel. Minimum Rockwell hardness is B90.

With Hex Head—The low-profile hex head fits in tight spaces. The toggle snaps into and locks in place. Minimum Rockwell hardness is B71.

Dia.	Usable Lg.		
With Handle			
3/8"	2 3/4"	97141A650	$10.68
3/8"	4"	97141A590	9.69
1/2"	3 1/2"	97141A651	13.04
1/2"	5 1/2"	97141A610	12.59
5/8"	3 1/2"	97141A652	17.76
5/8"	5 1/2"	97141A620	16.03
3/4"	3 1/2"	97141A653	18.44
3/4"	6"	97141A654	20.08
7/8"	3 1/2"	97141A660	21.16
7/8"	6"	97141A665	24.36
With Handle (Cont.)			
1"	3 1/2"	97141A670	$25.56
1"	6"	97141A675	26.76
With Hex Head			
1/2"	3"	97141A150	38.00
1/2"	4"	97141A170	38.43
1/2"	5"	97141A190	41.02
5/8"	4"	97141A310	40.11
5/8"	5"	97141A330	40.56
5/8"	6"	97141A340	41.02

Heavy Duty Locking Pins

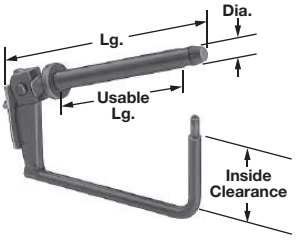

Heavy duty hinged handle and lock prevents pins from disengaging. Pins are made of steel with a black finish. Minimum Rockwell hardness is B106.

Dia.	Usable Lg.	Lg.	Inside Clearance		
5/8"	4 1/2"	8 1/2"	3"	91533A100	$22.02
3/4"	4 1/2"	8 1/2"	3"	91533A200	23.22
3/4"	6"	10"	3"	91533A250	25.70
7/8"	4 1/2"	8 1/2"	3"	91533A300	26.30
7/8"	6"	10"	3"	91533A350	27.40
1"	6"	10"	3"	91533A400	30.72
1 1/8"	7"	11"	3 3/4"	91533A500	35.08
1 1/4"	7"	11"	3 3/4"	91533A600	38.38
1 1/2"	8"	12"	3 3/4"	91533A700	44.12

Pins with Locking Ring

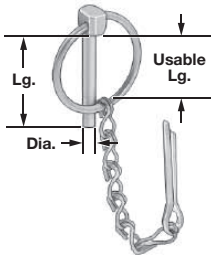

With Chain and Cotter Pin

Also known as linch pins and click pins, these have a ring that snaps down to lock them in place.

With Chain and Cotter Pin—Use as a tether to keep the locking ring from getting lost. Chain and cotter pin are zinc-plated steel.

18-8 stainless steel pins are more corrosion resistant than zinc-plated steel pins and may be mildly magnetic. Minimum Rockwell hardness is B80. **Zinc-plated steel** pins are rust resistant and have a minimum Rockwell hardness of B81.

			Without Chain and Cotter Pin		With Chain and Cotter Pin	
Dia.	Usable Lg.	Lg.	Pkg. Qty.	Pkg.	Pkg. Qty.	Pkg.
18-8 Stainless Steel						
3/16"	1"	1 1/2"	1	90170A205 $2.36		
1/4"	1 3/8"	1 3/4"	1	90170A210 3.48		
Zinc-Plated Steel						
3/16"	1 1/4"	1 5/8"	10	90170A650 7.78	5	90170A651 $13.90
1/4"	1 1/4"	1 5/8"	10	90170A212 8.30	5	90170A652 14.48
5/16"	1 1/4"	1 5/8"	10	90170A226 9.55	5	90170A227 14.01
7/16"	1 5/16"	1 5/8"	10	90170A221 10.41	5	90170A224 15.45
7/16"	1 5/16"	2"	5	90170A222 11.10	5	90170A225 14.69
7/16"	1 1/2"	1 3/4"	5	90170A500 9.68		
7/16"	1 1/2"	2"	5	90170A550 9.34		

Bent-Pull Hitch Pins


Padlockable

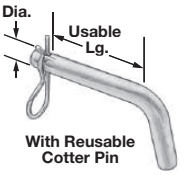

With Reusable Cotter Pin

The bend makes these pins easy to insert and pull out. Not rated for towing.

Padlockable—Accept a lock with a 5/16" dia. or smaller shackle (lock not included, see pages 2914-2925). Pins are black-coated steel, which provides 1,000 hours of salt spray resistance per ASTM B117. Minimum Rockwell hardness is B80.

With Reusable Cotter Pin—Include a hairpin cotter pin.

18-8 stainless steel pins offer more corrosion resistance than zinc-plated steel pins and may be mildly magnetic. Minimum Rockwell hardness is B80.

Zinc-plated steel pins are rust resistant. Not rated for hardness.

Dia.	Usable Lg.		
Padlockable—			
Black-Coated Steel			
5/8"	3"	97228A100	$7.58
5/8"	4"	97228A200	8.11
3/4"	3 1/2"	97228A300	9.38
3/4"	4 1/2"	97228A400	10.06
With Reusable Cotter Pin—			
18-8 Stainless Steel			
3/8"	3"	94563A571	5.65
1/2"	3"	94563A811	7.93
1/2"	4"	94563A812	8.65
1/2"	5"	94563A890	10.21
5/8"	3"	94563A913	10.96
5/8"	4"	94563A920	12.06
5/8"	5"	94563A935	14.29
3/4"	3 1/2"	94563A974	21.99
3/4"	4 1/2"	94563A975	23.45

Dia.	Usable Lg.		
With Reusable Cotter Pin—			
Zinc-Plated Steel			
5/16"	2 1/2"	90146A059	$2.59
5/16"	3"	90146A063	2.72
3/8"	2 1/2"	90146A067	2.86
3/8"	3"	90146A071	2.97
3/8"	4"	90146A205	2.42
1/2"	2 1/2"	90146A210	2.40
1/2"	3"	90146A211	2.50
1/2"	4"	90146A212	2.76
1/2"	5"	90146A090	3.41
5/8"	3"	90146A213	3.28
5/8"	4"	90146A100	3.46
5/8"	5"	90146A105	4.00
3/4"	3 1/2"	90146A214	4.36
3/4"	4 1/2"	90146A215	5.64
1"	4 3/4"	90146A221	10.81
1"	6 3/4"	90146A233	12.09

Hitch Pins with Tether

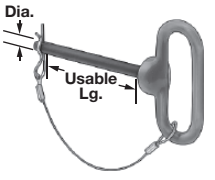

Style 1


Style 2 with Locking Ring

With a lanyard or chain, the cotter pin or locking ring is kept close at hand. Pins have a minimum Rockwell hardness of C19, and are not rated for towing.

Style 1—Pins are black-finish steel with an easy-to-see red plastic-coated steel handle and a reusable hairpin cotter pin. Cotter pin and lanyard are steel.

Style 2—Pins are zinc yellow-chromate plated steel with hinged handle.

With cotter pin include a reusable steel hairpin cotter pin and lanyard. **Also Available:** Stainless steel pins. Please ask for 98412A400 and specify diameter and usable length.

With locking ring have a zinc-plated steel locking ring and chain. **Also Available:** Stainless steel pins. Please ask for 98497A300 and specify diameter and usable length.

Dia.	Usable Lg.		
Style 1			
3/8"	4"	91594A250	$6.01
1/2"	3 5/8"	91594A310	6.62
5/8"	4"	91594A315	6.81
5/8"	5 1/2"	91594A320	7.51
3/4"	4"	91594A325	7.55
3/4"	6 1/2"	91594A330	8.26
7/8"	4"	91594A335	9.13
7/8"	6 1/2"	91594A340	10.13
1"	4 1/2"	91594A345	11.01
1"	7 1/2"	91594A350	13.25
1 1/8"	8 1/2"	91594A355	17.62
1 1/4"	8 1/2"	91594A360	21.95
1 1/2"	8 1/2"	91594A365	31.58
Style 2 with Cotter Pin			
3/8"	4"	98412A211	3.60
1/2"	4"	98412A215	4.79
1/2"	5 3/4"	98412A219	5.35
5/8"	4"	98412A223	5.51
5/8"	6"	98412A226	6.17

Dia.	Usable Lg.		
Style 2 with Cotter Pin (Cont.)			
3/4"	4 1/4"	98412A229	$6.40
3/4"	6 1/4"	98412A231	7.04
7/8"	6 1/2"	98412A235	9.05
1"	6 3/4"	98412A239	11.39
1 1/8"	7"	98412A244	18.38
1 1/4"	7"	98412A247	24.92
Style 2 with Locking Ring			
3/8"	4"	98497A595	7.36
1/2"	4"	98497A660	8.61
1/2"	5 3/4"	98497A661	9.37
5/8"	4"	98497A686	9.76
5/8"	5 3/4"	98497A663	10.52
3/4"	4"	98497A664	11.57
3/4"	6 1/4"	98497A665	12.01
7/8"	7"	98497A666	15.25
1"	7"	98497A667	20.10
1 1/8"	7"	98497A671	26.28
1 1/4"	7"	98497A675	35.49

Locking Pins with Wire Retainer

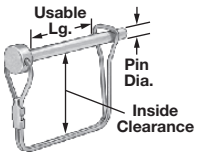

Squared Retainer



Squared Retainer with Easy-Release Tab



Squared Retainer with Hook Closure


Rounded Retainer


Rounded Retainer with Easy-Release Tab


For Pipe

Also known as linch pins and PTO pins, these take the place of clevis/cotter pin combinations.

Standard—The retainer snaps closed to keep the pin in place. *18-8 stainless steel* pins are more corrosion resistant than zinc-plated steel pins and may be mildly magnetic. *Zinc-plated steel* pins offer rust resistance.

For Pipe—Spring force keeps the retainer closed.

Standard

Pin Dia.	Usable Lg.	Pin Lg.	Inside Clearance	18-8 Stainless Steel		Zinc-Plated Steel	
Squared Retainer							
1/4"	1 7/8"	2 7/8"	1 5/8"	98480A012	$6.81	98416A009	$2.12
1/4"	2 1/8"	3 1/8"	1 3/4"	98480A013	6.96	98416A013	2.16
5/16"	1 7/8"	2 7/8"	1 1/2"	98480A017	6.36	98416A017	1.98
5/16"	2 1/8"	3 1/8"	1 5/8"	98480A125	6.48	98416A014	2.05
5/16"	2 7/8"	3 5/8"	1 5/8"	98480A525	7.10	98416A525	2.30
3/8"	1 7/8"	2 7/8"	1 1/2"	98480A019	6.69	98416A018	2.09
3/8"	2 1/8"	3 1/8"	1 5/8"	98480A135	6.81	98416A019	2.12
3/8"	2 7/8"	3 5/8"	1 5/8"	98480A531	7.28	98416A531	2.40
1/2"	3"	3 7/8"	1 5/8"	98480A562	16.34	98416A562	6.61
Squared Retainer with Easy-Release Tab							
1/4"	2 1/2"	3"	1 1/2"	98480A401	10.72	98416A401	1.66
5/16"	2 1/2"	3"	1 1/2"	98480A409	10.76	98416A409	1.80
3/8"	2 1/2"	3"	1 1/2"	98480A417	10.76	98416A417	2.00
Squared Retainer with Hook Closure							
1/4"	3"	3 3/4"	1 1/2"	98480A600	13.45	97143A600	4.65
1/4"	3 1/2"	4 1/4"	1 3/4"	98480A610	13.62	97143A610	4.72
1/4"	4"	4 3/4"	2"	98480A615	14.00	97143A615	4.85
5/16"	3"	3 3/4"	1 1/2"	98480A620	13.62	97143A620	4.72
5/16"	3 1/2"	4 1/4"	1 3/4"	98480A625	14.00	97143A625	6.46
5/16"	4"	4 3/4"	2"	98480A630	14.41	97143A630	4.99
3/8"	3"	3 3/4"	1 1/2"	98480A635	13.93	97143A635	4.82
3/8"	3 1/2"	4 1/4"	1 3/4"	98480A640	14.41	97143A640	4.99
3/8"	4"	4 3/4"	2"	98480A645	14.97	97143A645	5.20
1/2"	3 1/2"	5 1/8"	2 1/2"	98480A650	16.17	97143A650	6.87
5/8"	4"	5 3/4"	3 3/8"	98480A651	20.48	97143A651	7.58
3/4"	4"	5 3/4"	3 1/4"	98480A652	26.28	97143A652	8.95
3/4"	6"	7 3/8"	3 1/4"	98480A653	30.79	97143A653	10.87
7/8"	5 1/2"	7 3/8"	3 1/4"	98480A660	33.10	97143A670	12.08
1"	5 1/2"	7 3/8"	3 1/4"	98480A680	38.97	97143A675	15.02
Rounded Retainer							
1/4"	1 1/8"	2"	1 5/8"	98480A009	6.35	98416A011	1.98
1/4"	1 3/8"	2 3/8"	1 1/2"	98480A011	6.48	98416A012	2.05
1/4"	2 1/8"	3 1/8"	1 3/4"	98480A120	6.59	98416A120	2.22
5/16"	1 1/8"	2"	1 1/2"	98480A014	6.03	98416A015	1.91
5/16"	1 3/8"	2 3/8"	1 1/2"	98480A015	6.26	98416A125	1.95
5/16"	2 1/8"	3 1/8"	1 5/8"	98480A130	6.45	98416A130	2.09
3/8"	1 1/8"	2"	1 1/2"	98480A016	6.36	98416A016	1.98
3/8"	1 3/8"	2 3/8"	1 3/8"	98480A018	6.48	98416A135	2.05
3/8"	2 1/8"	3 1/8"	1 5/8"	98480A140	6.59	98416A140	2.16
Rounded Retainer with Easy-Release Tab							
1/4"	1 3/8"	2 3/8"	1 1/2"	98480A031	6.93	98416A211	2.16
5/16"	1 3/8"	2 3/8"	1 1/2"	98480A034	6.69	98416A215	2.09
5/16"	2 1/8"	3 1/8"	1 3/4"	98480A217	6.76	98416A217	2.23
3/8"	1 3/8"	2 3/8"	1 3/8"	98480A037	6.93	98416A219	2.16
3/8"	2 1/8"	3 1/8"	1 3/4"	98480A223	7.00	98416A223	2.32

For Pipe

Fits Pipe OD	Pin Dia.	Usable Lg.	Pin Lg.	Zinc Yellow-Chromate Plated Steel	
1 3/8"	3/16"	1 1/2"	2"	90978A100	$1.84
1 3/8"	1/4"	1 1/2"	2"	90978A200	1.96
1 3/8"	5/16"	1 1/2"	2"	90978A300	2.12
1 3/4"	5/16"	1 15/16"	2 1/2"	90978A400	2.76
2 3/16"	3/8"	2 5/16"	2 3/4"	90978A500	2.96

Bent-Wire Locking Pins

Tension keeps these pins closed.

Coiled—Pins have more tension than standard pins.

18-8 stainless steel pins are more corrosion resistant than zinc-plated steel pins and may be mildly magnetic.

Zinc-plated steel pins offer rust resistance.

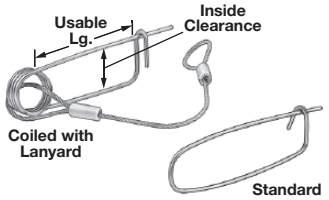

18-8 Stainless Steel

Wire Dia.	Usable Lg.	Lg.	Inside Clearance	With Lanyard		Without Lanyard	
Coiled							
1/16"	1 5/8"	2 5/8"	5/8"	90995A110	$5.30	90026A103	$2.00
3/32"	1 5/8"	2 5/8"	5/8"	90995A120	5.61	90026A104	2.16
3/32"	2"	3 1/4"	5/8"	90995A130	5.66	90026A105	2.23
3/32"	2 1/2"	3 3/4"	5/8"	90995A140	5.73	90026A106	2.23
1/8"	2"	3 3/4"	3/4"	90995A150	6.11	90026A107	2.42
1/8"	2 1/2"	4 1/4"	3/4"	90995A160	6.35	90026A108	2.69
1/8"	3"	5"	3/4"	90995A170	6.38	90026A109	2.77
5/32"	2 1/2"	4 1/4"	3/4"	90995A180	6.30	90026A110	2.69
5/32"	3"	5"	3/4"	90995A190	6.43	90026A120	2.77

Zinc-Plated Steel

Wire Dia.	Usable Lg.	Lg.	Inside Clearance	Pkg. Qty.	Without Lanyard	Pkg.
Coiled						
3/64"	15/16"	1 3/4"	3/8"	25	90174A112	$6.72
1/16"	1 1/16"	1 3/4"	3/8"	25	90174A113	6.89
3/32"	1 11/16"	2 3/4"	5/8"	25	90174A114	8.69
1/8"	2 13/16"	4 3/8"	3/4"	10	90174A115	8.55
5/32"	3 3/4"	5 3/4"	1 1/8"	10	90174A116	7.70
Standard						
3/64"	1 1/4"	1 5/8"	1/4"	100	90319A110	6.96
3/64"	1 1/2"	1 7/8"	1/4"	100	90319A120	7.92
1/16"	2 1/2"	3 1/8"	5/8"	50	90319A130	8.36

Cotter Pin Assortments

Consist of inch cotter pins from page 3396 or metric cotter pins from page 3397. Come in a plastic box.

100-Piece Assortments

Dia.	No. of Pcs.	Lengths	Dia.	No. of Pcs.	Lengths
3/32"	24	3/4" to 1 1/2"	3/16"	28	1" to 2"
1/8"	28	1" to 1 1/2"	1/4"	12	1 1/2" to 2"
5/32"	4	1 1/2"	5/16"	4	2" to 2 1/2"

18-8 Stainless Steel	90160A318	$30.30
Zinc-Plated Steel	90158A100	8.46

550-Piece Assortments

Dia.	No. of Pcs.	Lengths
1/16"	125	1"
3/32"	275	3/4" to 1 1/2"
1/8"	150	1" to 2"

18-8 Stainless Steel	90160A212	$76.62
Zinc-Plated Steel	98600A290	21.71

1,200-Piece Assortments

Dia.	No. of Pcs.	Lengths	Dia.	No. of Pcs.	Lengths
1/16"	350	1/2" to 1"	5/32"	20	2"
3/32"	575	3/4" to 1 1/2"	3/16"	15	2"
1/8"	240	1" to 2"			

18-8 Stainless Steel	90160A214	$135.15
Zinc-Plated Steel	98600A135	36.17

100-Piece Metric Assortments

Dia., mm	No. of Pcs.	Lengths, mm	Dia., mm	No. of Pcs.	Lengths, mm
2.5	26	20 to 40	5	20	32 to 40
3.2	28	25 to 40	6.3	14	40 to 50
4	6	40	8	6	50 to 63

Zinc-Plated Steel	98350A300	$19.40

Cotter Pin Extractors

Pry out cotter pins. Handle is plastic.

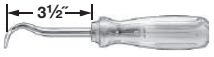

98436A120 ..... $12.45

Pins for Telescoping Pipe

Also known as gravity pins, these fit 1 1/2" to 1 5/8" OD pipe with 9/16" dia. holes and are zinc-plated steel.





97529A100 ..... $1.62

Cotter Pins

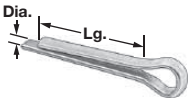

Bend prongs outward to secure. Also known as split pins, they have one prong slightly longer than the other so they're easy to open.

Type 316 and **18-8 stainless steel** may be mildly magnetic. *Type 316* pins are more corrosion resistant than 18-8 stainless steel pins. **Brass** pins resist rust and mild atmospheric corrosion. They are electrically conductive and nonmagnetic. **Zinc-plated steel** pins offer rust resistance.

Also Available: Aluminum cotter pins in sizes marked with a ■. Please ask for 98450A700 and specify diameter and length.

	Type 316 SS			18-8 SS			Brass			Zinc-Plated Steel					
Lg.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
3/64" Dia.															
1/2"	—	—	—	100	98401A910	$2.80	—	—	—	500	98338A362	$11.76	100	98338A022	$3.36
3/4"	—	—	—	100	98401A915	3.37	—	—	—	500	98338A363	11.67	100	98338A029	3.89
1/16" Dia.															
1/2"	100	98355A010	$8.47	100	98401A409	1.83	100	98450A104	$4.76	1,000	98338A419	9.36	100	98338A100	2.00
3/4"	100	98355A020	10.29	100	98401A413	2.29	100	98450A106	5.60	1,000	98338A422	11.05	100	98338A105	2.21
1"	100	98355A030	12.05	100	98401A417	2.63	100	98450A108	6.36	1,000	98338A424	13.75	100	98338A110	2.50
1 1/4"	100	98355A040	13.90	100	98401A421	3.23	—	—	—	1,000	98338A426	16.05	100	98338A115	3.21
1 1/2"	50	98355A050	7.86	100	98401A428	3.58	—	—	—	1,000	98338A427	18.95	100	98338A120	3.61
2"	—	—	—	100	98401A431	5.00	—	—	—	1,000	98338A429	24.84	100	98338A125	4.32
3/32" Dia.															
1/2" ■	100	98355A060	13.62	100	98401A439	3.35	100	98450A116	6.61	1,000	98338A438	11.25	100	98338A130	2.25
3/4" ■	50	98355A070	8.48	100	98401A442	4.40	100	98450A118	7.04	1,000	98338A441	12.85	100	98338A135	2.57
1" ■	50	98355A080	10.68	100	98401A444	5.29	100	98450A120	8.08	1,000	98338A443	13.95	100	98338A140	2.79
1 1/4"	50	98355A085	11.86	100	98401A450	6.25	100	98450A135	9.32	1,000	98338A445	16.70	100	98338A145	3.18
1 1/2"	50	98355A090	13.52	100	98401A451	6.91	—	—	—	1,000	98338A446	19.47	100	98338A150	3.54
1 3/4"	25	98355A110	7.28	100	98401A452	7.60	—	—	—	1,000	98338A447	22.20	100	98338A155	3.86
2"	25	98355A120	8.18	100	98401A453	8.54	—	—	—	1,000	98338A448	23.80	100	98338A160	4.14
2 1/2"	—	—	—	100	98401A449	19.34	—	—	—	500	98338A449	28.55	100	98338A165	5.71
7/64" Dia.															
1/2"	—	—	—	100	98401A608	5.72	—	—	—	100	98338A728	2.54	—	—	—
3/4"	—	—	—	100	98401A610	7.00	—	—	—	100	98338A731	2.97	—	—	—
1"	—	—	—	50	98401A615	11.04	—	—	—	500	98338A452	10.69	100	98338A734	3.29
1 1/2"	—	—	—	50	98401A620	13.70	—	—	—	500	98338A455	14.16	100	98338A737	4.72
2"	—	—	—	50	98401A625	18.97	—	—	—	500	98338A458	17.76	100	98338A740	5.92
1/8" Dia.															
1/2"	50	98355A128	12.10	100	98401A469	9.03	—	—	—	1,000	98338A471	12.70	100	98338A170	2.54
3/4" ■	50	98355A130	11.76	100	98401A474	7.63	100	98450A172	10.12	1,000	98338A473	14.80	100	98338A175	2.96
7/8"	50	98355A135	15.25	100	98401A173	12.80	—	—	—	100	98338A177	2.94	—	—	—
1" ■	50	98355A140	14.23	100	98401A476	9.23	100	98450A174	11.92	1,000	98338A475	21.62	100	98338A180	3.46
1 1/8"	25	98355A143	8.40	50	98401A175	7.54	—	—	—	100	98338A182	4.21	—	—	—
1 1/4" ■	25	98355A145	8.17	100	98401A483	10.91	50	98450A176	6.92	1,000	98338A477	25.29	100	98338A185	3.89
1 3/8"	25	98355A147	13.86	50	98401A177	8.69	—	—	—	100	98338A187	4.73	—	—	—
1 1/2"	25	98355A150	8.31	100	98401A485	12.55	50	98450A178	7.92	1,000	98338A478	29.64	100	98338A190	4.32
1 3/4"	25	98355A160	10.21	100	98401A479	13.80	—	—	—	500	98338A479	17.05	100	98338A195	4.79
2"	25	98355A170	12.28	50	98401A480	7.89	50	98450A195	9.84	500	98338A480	17.85	100	98338A200	5.25
2 1/2"	10	98355A173	5.81	50	98401A481	9.48	—	—	—	500	98338A481	21.68	100	98338A205	6.61
3"	10	98355A176	10.34	25	98401A482	5.44	—	—	—	500	98338A482	24.28	100	98338A210	7.61
5/32" Dia.															
3/4"	25	98355A178	11.49	100	98401A488	10.11	—	—	—	1,000	98338A488	25.87	100	98338A215	4.14
1"	25	98355A180	10.99	100	98401A490	12.43	—	—	—	1,000	98338A490	28.49	100	98338A220	4.82
1 1/4"	25	98355A185	12.39	100	98401A492	13.17	—	—	—	500	98338A492	18.50	100	98338A225	5.54
1 1/2"	25	98355A190	13.81	100	98401A493	15.03	50	98450A230	11.80	500	98338A493	22.29	100	98338A230	6.21
1 3/4"	10	98355A200	9.21	50	98401A491	8.68	—	—	—	500	98338A494	25.10	100	98338A235	6.82
2"	10	98355A210	6.43	50	98401A494	9.16	25	98450A240	7.44	500	98338A495	28.05	100	98338A240	7.46
2 1/4"	10	98355A215	12.86	50	98401A498	12.36	—	—	—	250	98338A496	15.55	50	98338A245	4.07
2 1/2"	10	98355A220	8.81	50	98401A501	15.36	—	—	—	250	98338A497	16.55	50	98338A250	4.39
3"	10	98355A224	12.62	50	98401A503	13.91	—	—	—	250	98338A499	19.11	50	98338A255	5.46
3/16" Dia.															
1"	10	98355A230	5.86	50	98401A510	9.59	—	—	—	500	98338A510	23.70	100	98338A260	6.32
1 1/4"	10	98355A235	7.07	50	98401A512	10.79	—	—	—	500	98338A512	25.13	100	98338A265	7.18
1 1/2"	10	98355A240	7.47	50	98401A514	12.77	25	98450A275	8.64	250	98338A514	17.05	50	98338A270	4.04
1 3/4"	10	98355A245	13.52	50	98401A515	14.08	—	—	—	250	98338A515	17.72	50	98338A275	4.43
2"	10	98355A250	8.48	50	98401A517	14.76	25	98450A285	10.80	250	98338A516	19.56	50	98338A280	4.89
2 1/2"	10	98355A260	11.24	25	98401A518	8.43	—	—	—	250	98338A518	25.03	50	98338A285	5.96
3"	10	98355A270	12.63	25	98401A520	9.91	—	—	—	250	98338A520	22.07	50	98338A290	6.79
3 1/2"	—	—	—	25	98401A522	11.94	—	—	—	250	98338A522	23.34	50	98338A295	7.53
4"	10	98355A285	15.48	25	98401A524	12.78	—	—	—	50	98338A524	7.64	—	—	—
1/4" Dia.															
1 1/2"	10	98355A290	13.10	25	98401A546	11.87	—	—	—	250	98338A546	23.36	50	98338A315	5.96
2"	5	98355A300	7.93	25	98401A550	13.36	10	98450A330	6.43	250	98338A550	26.28	50	98338A320	7.32
2 1/2"	5	98355A310	9.58	25	98401A552	14.96	—	—	—	125	98338A552	15.31	50	98338A325	8.10
3"	5	98355A320	9.73	10	98401A556	9.77	10	98450A340	9.88	125	98338A554	17.82	50	98338A330	9.43
3 1/2"	1	98355A330	3.48	10	98401A557	7.34	—	—	—	50	98338A556	9.81	—	—	—
4"	1	98355A340	3.86	10	98401A558	8.83	5	98450A350	6.32	50	98338A558	10.98	—	—	—
5/16" Dia.															
1 1/2"	5	98355A350	10.10	5	98401A587	9.20	—	—	—	250	98338A587	36.24	50	98338A345	8.33
2"	5	98355A360	13.29	5	98401A591	5.40	—	—	—	250	98338A591	37.70	50	98338A350	10.33
2 1/2"	1	98355A370	3.14	10	98401A593	14.54	—	—	—	50	98338A593	11.08	—	—	—
3"	1	98355A380	3.17	10	98401A595	13.61	—	—	—	50	98338A595	12.72	—	—	—
3 1/2"	2	98355A390	13.47	5	98401A597	9.25	—	—	—	25	98338A597	7.18	—	—	—
4"	2	98355A400	9.19	5	98401A599	11.80	—	—	—	25	98338A599	8.00	—	—	—
5"	2	98355A405	10.86	5	98401A603	11.26	—	—	—	50	98338A603	24.05	10	98338A355	6.87

(Continued on following page)

Cotter Pins *(Continued from previous page)*

Lg.	Type 316 SS Pkg. Qty.		Pkg.	18-8 SS Pkg. Qty.		Pkg.	Zinc-Plated Steel Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
3/8" Dia.												
2 1/2"	2	98355A530	$8.57	5	98401A634	$8.84	25	98338A632	$7.94	—	—	—
3"	2	98355A540	10.10	5	98401A636	11.62	50	98338A636	15.12	10	98338A359	$4.32
3 1/2"	1	98355A550	8.86	5	98401A638	11.62	50	98338A638	16.77	10	98338A360	4.79
4"	2	98355A560	12.67	5	98401A640	13.91	50	98338A640	23.94	10	98338A365	5.32
5"	2	98355A570	13.95	5	98401A644	16.08	25	98338A644	17.69	5	98338A366	3.64
6"	—	—	—	1	98401A648	3.44	25	98338A648	17.72	5	98338A368	4.14
1/2" Dia.												
3"	—	—	—	2	98401A752	10.09	25	98338A652	18.72	5	98338A370	4.68
4"	—	—	—	1	98401A754	6.26	10	98338A654	9.45	—	—	—
5"	—	—	—	1	98401A755	7.51	5	98338A655	8.41	—	—	—
6"	—	—	—	1	98401A756	8.91	5	98338A656	8.83	—	—	—

Metric Cotter Pins

All meet DIN 94 and ISO 1234. Made of zinc-plated steel.
Also Available: 18-8 stainless steel metric cotter pins in sizes marked with a ★. Please ask for 98350A800 and specify diameter and length.

Lg., mm	Pkg. Qty.		Pkg.
M1 Dia.			
8	200	98350A130	$5.40
10	200	98350A135	5.60
20	200	98350A140	5.80
M2 Dia.			
12★	50	98350A150	3.91
20★	50	98350A160	2.50
25★	25	98350A170	1.98
32★	25	98350A180	2.82
40	25	98350A190	3.44
45	25	98350A195	4.14
50	25	98350A200	4.16
M2.5 Dia.			
20	50	98350A210	5.11
25	25	98350A215	2.31
32	25	98350A220	3.54
40	25	98350A230	8.68
45	25	98350A240	4.58
50	25	98350A250	5.60
M3.2 Dia.			
20★	50	98350A260	5.11
25★	25	98350A270	3.54
32★	25	98350A280	4.47
40	25	98350A290	4.94
45	25	98350A305	5.17
50	25	98350A310	5.12
63	25	98350A330	6.04
M4 Dia.			
20	50	98350A350	5.78
25★	25	98350A360	3.28
32★	25	98350A365	4.74
40	25	98350A370	4.62
45	25	98350A380	6.19
50	25	98350A390	6.48
M4 Dia. (Cont.)			
56	25	98350A410	$6.96
63	25	98350A430	6.29
71	25	98350A440	7.36
M5 Dia.			
25	25	98350A450	4.33
32★	25	98350A460	6.48
40★	25	98350A470	7.94
45	25	98350A475	8.56
50★	25	98350A480	9.33
63	25	98350A490	10.93
71	25	98350A500	11.33
90	25	98350A520	10.96
M6.3 Dia.			
40★	10	98350A540	4.62
50★	10	98350A550	4.95
63	10	98350A570	6.38
71	10	98350A580	6.87
90	10	98350A600	8.32
100	10	98350A610	8.94
M8 Dia.			
40	10	98350A620	7.12
50	10	98350A630	7.68
63	10	98350A640	8.41
71	10	98350A650	9.46
90	10	98350A670	10.72
100	10	98350A680	12.18
125	5	98350A690	9.88
M10 Dia.			
63	10	98350A710	12.77
71	5	98350A720	8.75
90	5	98350A740	11.24
100	5	98350A750	12.07
125	1	98350A770	3.16

Reusable Cotter Pin Assortments

Consist of reusable hairpin cotter pins from page 3398. Come in a plastic box.

50-Piece Assortments

Fits Clevis Pin Dia.	No. of Pcs.	Fits Clevis Pin Dia.	No. of Pcs.
1/8"	10	5/16" to 3/8"	10
3/16" to 1/4"	10	3/8" to 7/16"	10
1/4" to 5/16"	10		

18-8 Stainless Steel 90150A212 $11.56
Zinc-Plated Steel 98574A460 9.05

74-Piece Assortments

Fits Clevis Pin Dia.	No. of Pcs.	Fits Clevis Pin Dia.	No. of Pcs.
1/8"	10	3/8" to 7/16"	10
3/16" to 1/4"	10	5/8" to 3/4"	10
1/4" to 5/16"	10	7/8" to 1"	10
5/16" to 3/8"	10	1 1/8" to 1 1/2"	4

Zinc-Plated Steel 98574A470 $22.12

130-Piece Assortments

Fits Clevis Pin Dia.	No. of Pcs.	Fits Clevis Pin Dia.	No. of Pcs.
3/16" to 1/4"	20	1/2" to 5/8"	20
1/4" to 5/16"	20	5/8" to 3/4"	20
5/16" to 3/8"	20	7/8" to 1"	10
3/8" to 7/16"	20		

Zinc-Plated Steel 98681A494 $25.47

Bow Tie Cotter Pins

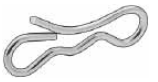

Their double-head design lets you push or pull these pins from either side of the hole. Once in place there's little chance they will be vibrated out or knocked off. **Type 410 stainless steel** pins are corrosion resistant and are magnetic. **Zinc-plated steel** pins are rust resistant.

Fits Clevis Pin Dia.	Wire Dia.	Lg.	Pkg. Qty.		Pkg.
Type 410 Stainless Steel					
1/4" to 5/16"	5/64"	1 3/8"	10	92418A525	$7.00
5/16" to 3/8"	3/32"	1 7/8"	10	92418A529	10.11
Zinc-Plated Steel					
3/16" to 1/4"	3/64"	1"	50	92418A221	7.77
1/4" to 5/16"	5/64"	1 3/8"	50	92418A225	4.66
5/16" to 3/8"	3/32"	1 7/8"	50	92418A229	6.31
7/16" to 1/2"	3/32"	1 7/8"	25	92418A234	6.19
7/16" to 1/2"	1/8"	2 3/4"	25	92418A233	5.61
5/8"	1/8"	2 3/4"	25	92418A237	8.46
5/8"	9/64"	3 37/64"	10	92418A241	7.05
3/4"	1/8"	2 3/4"	25	92418A245	8.39
3/4"	9/64"	3 37/64"	10	92418A248	7.01
1"	11/64"	4 37/64"	10	92418A262	10.24

Retaining Pins

Used on grooved shafts, these are also known as hairpin clips. **18-8 stainless steel** pins are corrosion resistant and may be mildly magnetic. **Zinc-plated steel** pins are rust resistant.

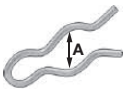

Pins

Fits Shaft Dia.	(A)	Lg.	18-8 Stainless Steel Pkg. Qty.		Pkg.	Zinc-Plated Steel Pkg. Qty.		Pkg.
1/8"	5/64"	3/8"	100	90153A212	$7.07	100	98395A212	$6.00
3/16"	9/64"	1/2"	100	90153A214	7.55	100	98395A214	4.03
1/4"	7/32"	5/8"	100	90153A216	7.88	100	98395A216	4.55
5/16"	1/4"	3/4"	100	90153A218	12.58	100	98395A218	6.59
3/8"	5/16"	1"	100	90153A221	10.85	100	98395A221	5.66
7/16"	3/8"	1 1/8"	100	90153A223	8.12	100	98395A223	6.74
1/2"	7/16"	1 1/8"	50	90153A225	8.12	100	98395A225	6.37
5/8"	17/32"	1 1/2"	25	90153A227	12.70	100	98395A227	7.81
3/4"	21/32"	1 7/8"	25	90153A229	12.42	100	98395A229	9.74
7/8"	25/32"	2 1/8"	25	90153A232	9.29	50	98395A232	6.32
1"	7/8"	2 3/8"	5	90153A234	8.62	50	98395A234	12.05

276-Piece Zinc-Plated Steel Assortments

Comes in a plastic box.

Fits Shaft Dia.	No. of Pcs.	Fits Shaft Dia.	No. of Pcs.
1/8"	50	1/2"	20
3/16"	50	5/8"	15
1/4"	50	3/4"	15
5/16"	40	1"	6
3/8"	30		

98572A570 $26.45

Metric Reusable Cotter Pins

The metric version of the reusable hairpin cotter pins on page 3398. All meet DIN 11024 and are made of zinc-plated steel.

Fits Clevis Pin Dia., mm	Wire Dia., mm	Eye Dia., mm	Lg., mm	Pkg. Qty.		Pkg.
9 to 14	2	10	57	10	98350A910	$2.70
10 to 16	3	18	72	5	98350A920	2.48
16 to 20	4	20	74	5	98350A930	4.75
20 to 28	5	24	102	5	98350A940	9.75
28 to 40	6	30	126	1	98350A950	3.50
28 to 45	7	30	127	1	98350A960	5.25
30 to 45	8	28	132	1	98350A970	7.00

Reusable Cotter Pins



Hairpin


Strong Hold

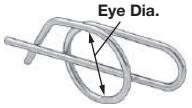

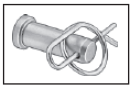
Locking

Hairpin—Also known as hitch pin clips and R-clips, they are the choice for quick installation and removal.
Strong Hold—Pins have two loops to prevent accidental release.
Locking—Pins lock in place so they can't be vibrated out or knocked off.
Type 316 and **18-8 stainless steel** pins may be mildly magnetic. *Type 316* pins are the most corrosion resistant. **Zinc-plated steel** pins offer rust resistance.

Fits Clevis Pin Dia.	Wire Dia.	Eye Dia.	Lg.	Type 316 Stainless Steel Pkg. Qty.		Type 316 Stainless Steel Pkg.	18-8 Stainless Steel Pkg. Qty.		18-8 Stainless Steel Pkg.	Zinc-Plated Steel Pkg. Qty.		Zinc-Plated Steel Pkg.
Hairpin												
1/16" to 1/8"	3/64"	1/8"	1/2"	25	92375A001	$3.46	100	92391A005	$12.05	100	98335A027	$8.58
7/64" to 9/64"	1/32"	1/8"	1/2"	25	92375A002	3.10	100	92391A110	10.90	100	98335A029	9.10
1/8"	1/32"	1/8"	5/8"	—	—	—	100	92391A014	6.50	100	98335A024	5.04
1/8" to 3/16"	3/64"	1/8"	5/8"	25	92375A004	8.97	50	92391A019	8.10	100	98335A031	5.67
3/16" to 1/4"	3/64"	1/4"	1"	25	92375A005	7.89	100	92391A024	7.05	100	98335A034	5.17
1/4" to 5/16"	1/16"	1/4"	1 1/8"	—	—	—	100	92391A034	9.75	100	98335A044	5.42
1/4" to 3/8"	3/64"	1/4"	1 5/8"	25	92375A008	11.40	25	92391A115	10.85	100	98335A039	10.75
1/4" to 3/8"	5/64"	1/4"	1 1/4"	25	92375A100	7.14	25	92391A130	6.90	50	98335A060	4.76
1/4" to 1/2"	1/16"	1/4"	1 3/8"	25	92375A152	10.09	25	92391A120	7.72	100	98335A049	11.17
1/4" to 1/2"	3/32"	3/8"	1 5/8"	25	92375A200	9.58	25	92391A140	7.32	100	98335A062	11.18
5/16" to 3/8"	5/64"	1/4"	1 1/2"	—	—	—	50	92391A044	7.50	100	98335A054	4.84
5/16" to 3/8"	3/32"	3/8"	1 5/8"	—	—	—	25	92391A049	8.44	50	98335A058	7.98
3/8" to 7/16"	3/32"	5/8"	1 7/8"	—	—	—	25	92391A054	8.43	100	98335A064	9.36
3/8" to 1/2"	5/64"	3/8"	1 5/8"	25	92375A300	9.69	25	92391A135	8.41	100	98335A061	11.44
3/8" to 5/8"	3/32"	5/8"	2 3/8"	25	92375A175	10.75	25	92391A145	10.25	100	98335A065	13.80
7/16" to 3/4"	1/8"	1/2"	2 5/8"	10	92375A325	10.23	10	92391A056	9.65	50	98335A127	12.14
1/2" to 5/8"	1/8"	5/8"	2 3/8"	—	—	—	10	92391A058	12.89	50	98335A074	8.76
1/2" to 3/4"	3/32"	1/2"	2 1/2"	10	92375A338	7.28	25	92391A150	13.05	50	98335A066	8.48
1/2" to 3/4"	1/8"	3/8"	2"	10	92375A341	7.34	10	92391A165	5.64	50	98335A069	8.87
5/8" to 3/4"	9/64"	3/4"	2 3/4"	—	—	—	10	92391A778	9.74	50	98335A084	11.66
5/8" to 7/8"	1/8"	5/8"	2 1/2"	10	92375A348	11.87	10	92391A155	11.25	50	98335A067	13.94
5/8" to 1"	11/64"	7/8"	3 1/4"	5	92375A356	9.30	5	92391A066	7.89	25	98335A087	11.79
3/4" to 1"	1/4"	7/8"	4"	1	92375A360	6.42	1	92391A190	5.05	10	98335A095	12.86
3/4" to 1 1/16"	11/64"	7/8"	3 1/2"	1	92375A363	3.61	1	92391A185	2.85	10	98335A088	6.10
3/4" to 1 1/8"	9/64"	3/4"	3 3/8"	5	92375A367	7.22	10	92391A175	12.20	25	98335A085	8.07
7/8" to 1"	11/64"	1"	3 3/4"	5	92375A372	12.21	5	92391A210	10.96	25	98335A094	10.35
7/8" to 1"	5/16"	7/8"	4 1/8"	—	—	—	—	—	—	5	98335A118	11.32
1 1/8" to 1 1/2"	1/4"	1 1/8"	5"	—	—	—	—	—	—	10	98335A114	9.04
1 1/4" to 1 1/2"	1/4"	1 1/2"	5 1/8"	1	92375A393	12.00	1	92391A230	7.60	—	—	—
Strong Hold												
5/16" to 1/2"	5/64"	3/8"	2 1/4"	—	—	—	5	92391A860	7.54	25	98335A760	10.34
1/2" to 3/4"	1/8"	5/8"	2 7/8"	—	—	—	5	92391A870	11.33	10	98335A770	5.31
1/2" to 7/8"	9/64"	3/4"	3 1/8"	—	—	—	5	92391A880	13.04	10	98335A780	6.07
5/8" to 1"	9/64"	7/8"	3 3/4"	—	—	—	1	92391A890	2.73	10	98335A790	6.35
Locking												
1/4"	3/64"	1/4"	7/8"	—	—	—	10	92391A710	4.01	25	98335A610	7.99
5/16"	3/64"	1/4"	1 1/8"	—	—	—	10	92391A730	5.03	25	98335A630	7.69
3/8"	3/64"	3/8"	1 1/4"	—	—	—	10	92391A740	6.00	25	98335A640	7.99
1/2"	5/64"	1/2"	1 1/2"	—	—	—	10	92391A760	7.30	25	98335A650	11.22
5/8"	5/64"	5/8"	1 3/4"	—	—	—	10	92391A770	8.20	25	98335A670	11.89
3/4"	3/32"	3/4"	2 1/4"	—	—	—	10	92391A790	12.63	25	98335A680	13.80
7/8"	7/64"	7/8"	2 5/8"	—	—	—	—	—	—	10	98335A710	7.75
1"	7/64"	1"	2 7/8"	—	—	—	—	—	—	10	98335A720	8.11

Split Rings



Rings are made of half-round wire, except Type 316 stainless steel rings, which are full-round wire. **Type 316** and **18-8 stainless steel** rings may be mildly magnetic. *Type 316* rings are the most corrosion resistant. **Brass** rings are rust resistant, electrically conductive, and nonmagnetic. **Zinc-plated steel** rings offer rust resistance.

Rings

OD	ID	Thick.	Pkg. Qty.		Pkg.
Type 316 Stainless Steel					
9/16"	7/16"	1/8"	10	90905A651	$5.97
11/16"	9/16"	1/8"	10	90905A652	6.12
13/16"	11/16"	1/8"	10	90905A653	6.12
15/16"	13/16"	1/8"	10	90905A654	6.12
1 1/16"	15/16"	1/8"	10	90905A673	6.57
1 3/8"	1 3/16"	3/16"	10	90905A656	8.22
1 5/8"	1 3/8"	3/16"	10	90905A657	11.67
2 1/8"	1 7/8"	1/4"	5	90905A658	9.72
2 5/8"	2 3/8"	5/16"	5	90905A659	12.72
3 1/8"	2 7/8"	5/16"	1	90905A660	3.76
18-8 Stainless Steel					
1/4"	1/8"	1/16"	100	90990A110	12.37
1/4"	3/16"	1/16"	100	90990A120	12.82
5/16"	3/16"	1/16"	100	90990A130	13.29
11/32"	1/4"	1/16"	100	90990A140	11.19
3/8"	1/4"	1/16"	100	90990A150	11.81
7/16"	5/16"	1/16"	100	90990A160	13.37
1/2"	3/8"	1/16"	50	90990A170	8.28
9/16"	7/16"	1/16"	50	90990A180	10.16

OD	ID	Thick.	Pkg. Qty.		Pkg.
18-8 Stainless Steel (Cont.)					
5/8"	7/16"	1/8"	50	90990A190	$13.24
11/16"	1/2"	1/8"	25	90990A210	8.28
Brass					
3/8"	5/16"	1/16"	50	93830A130	9.72
7/16"	5/16"	1/16"	50	93830A135	11.25
1/2"	3/8"	1/16"	50	93830A140	11.70
9/16"	7/16"	1/16"	50	93830A145	13.49
5/8"	7/16"	1/8"	25	93830A150	9.20
3/4"	5/8"	1/8"	25	93830A160	9.43
7/8"	3/4"	1/8"	25	93830A165	10.76
1"	13/16"	1/8"	10	93830A170	7.03
1 1/8"	15/16"	1/8"	10	93830A175	7.68
Zinc-Plated Steel					
3/16"	3/32"	1/32"	100	90177A202	10.80
3/16"	1/8"	3/64"	100	90177A205	10.80
1/4"	1/8"	1/16"	100	90177A206	11.94
5/16"	3/16"	1/16"	100	90177A208	10.31
11/32"	1/4"	1/16"	100	90177A209	11.54
11/32"	1/4"	1/8"	100	90177A312	15.04

OD	ID	Thick.	Pkg. Qty.		Pkg.
Zinc-Plated Steel (Cont.)					
3/8"	5/16"	1/16"	100	90177A210	$12.04
3/8"	5/16"	1/8"	100	90177A318	15.59
7/16"	5/16"	1/16"	100	90177A211	13.74
1/2"	3/8"	1/16"	100	90177A212	14.04
9/16"	7/16"	1/16"	100	90177A213	12.29
5/8"	7/16"	1/8"	100	90177A214	14.95
11/16"	1/2"	1/8"	50	90177A215	9.16
3/4"	5/8"	1/8"	50	90177A216	11.09
7/8"	3/4"	1/8"	50	90177A217	12.30
1"	3/4"	3/16"	25	90177A228	13.38
1"	13/16"	1/8"	50	90177A218	11.67
1 1/8"	15/16"	1/8"	50	90177A219	12.64
1 1/4"	1 1/16"	1/8"	50	90177A221	15.10
1 3/8"	1 1/8"	3/16"	25	90177A222	10.49
1 1/2"	1 1/4"	3/16"	25	90177A223	11.14
1 5/8"	1 3/8"	3/16"	10	90177A224	7.25
1 7/8"	1 5/8"	3/16"	10	90177A226	7.97
2 1/4"	2"	3/16"	10	90177A225	7.98

420-Piece Zinc-Plated Steel Assortments

Includes rings with the following ODs: 9/16", 11/16", 3/4", 7/8", 1", 1 1/8", 1 1/4", 1 3/8", 1 1/2", 1 5/8", and 2 1/4". Comes in a plastic box.

90177A600 ..... $109.99

Split Ring Pliers

Use to attach and remove split rings. Pliers are made of steel. **Heavy duty** pliers have rubber grips and a spring that opens the jaw.

Light Duty ..... 98215A210 ..... $5.71 Heavy Duty ..... 98215A390 ..... $18.61

Cotter Rings

Avoid the sharp ends of a cotter pin when you use a cotter ring on a clevis pin. Also known as circle cotters.

18-8 stainless steel rings are corrosion resistant and may be mildly magnetic.

Zinc-plated steel rings are rust resistant.



Fits Clevis Pin Dia.	Wire Dia.	OD	18-8 Stainless Steel Pkg. of 50		Zinc-Plated Steel Pkg. of 100	
3/16" to 1/4"	3/64"	5/8"	95390A316	$5.10	95390A421	$6.09
1/4" to 5/16"	3/64"	3/4"	95390A317	5.49	95390A422	6.73
3/8" to 7/16"	1/16"	1"	95390A318	7.27	95390A435	9.64
7/16" to 1/2"	5/64"	1 1/8"	95390A319	9.98	95390A438	11.50

Miniature Open D-Rings

Squeeze these rings closed with pliers. Made of zinc-plated steel.



Ring Size Open	Closed	Opening	Ht.	Wire Dia.	Pkg. of 100	
3/8"	1/4"	3/16"	1/2"	1/16"	98175A211	$10.09
7/16"	5/16"	3/16"	9/16"	1/16"	98175A213	10.49
1/2"	3/8"	1/4"	5/8"	1/16"	98175A215	11.66
5/8"	1/2"	1/4"	3/4"	3/32"	98175A217	12.68

Woodruff Keys

Woodruff keys reach deep into the shaft keyway for a secure hold, yet their roundness allows them to rock in their seat to relieve stress on the shaft caused by vibration or misalignment.

Tolerances: width is +0.001"; full diameter is –0.010"; length is –0.010"; height (round bottom) is –0.005", height (flat bottom) is –0.006".

Steel keys are not hardened so they are easy to machine. Use for general purpose applications. Not rated for hardness. **Alloy steel** keys are 8630 alloy steel. Use in high-strength applications. Minimum Rockwell hardness is C40. **Type 316 stainless steel** keys have excellent corrosion resistance and may be slightly magnetic. Not rated for hardness.

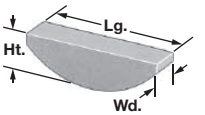

Round Bottom


Flat Bottom

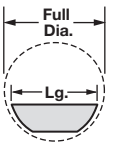

Side View

Keys

Key No.	Size Wd.	Size Full Dia.	Lg.	Ht.	Steel Pkg. Qty.	Steel	Steel Pkg.	Alloy Steel Pkg. Qty.	Alloy Steel	Alloy Steel Pkg.	Type 316 Stainless Steel Pkg. Qty.	Type 316 Stainless Steel	Type 316 Stainless Steel Pkg.
Round Bottom													
201	1/16"	1/4"	0.248"	0.109"	50	98481A050	$12.34	25	98525A050	$7.36	5	97940A050	$10.59
206	1/16"	5/16"	0.311"	0.14"	50	98481A055	12.73	25	98525A055	6.48	5	97940A055	10.63
211	1/16"	3/8"	0.374"	0.172"	100	98481A065	13.97	50	98525A065	6.96	5	97940A065	10.51
207	3/32"	5/16"	0.311"	0.14"	50	98481A060	10.91	25	98525A060	5.85	5	97940A060	10.47
212	3/32"	3/8"	0.374"	0.172"	50	98481A070	7.90	50	98525A070	8.27	5	97940A070	10.59
213	1/8"	3/8"	0.374"	0.172"	50	98481A075	9.35	50	98525A075	9.46	5	97940A075	11.50
61	3/16"	5/8"	0.612"	0.25"	—	—	—	—	—	—	5	97940A110	13.72
91	1/4"	3/4"	0.74"	0.303"	—	—	—	—	—	—	1	97940A130	2.85
VX	1/2"	2 3/4"	2"	0.594"	5	98481A310	13.36	5	98525A310	13.85	—	—	—
V	1/2"	2 3/4"	2.317"	0.75"	5	98481A335	14.91	1	98525A335	6.86	—	—	—
Flat Bottom													
1	1/16"	1/2"	0.491"	0.194"	100	98481A080	8.75	100	98525A080	9.06	5	97940A080	8.75
2	3/32"	1/2"	0.491"	0.194"	100	98481A085	8.94	100	98525A085	9.46	5	97940A085	9.10
4	3/32"	5/8"	0.612"	0.24"	100	98481A095	9.80	100	98525A095	10.54	—	—	—
3	1/8"	1/2"	0.491"	0.194"	100	98481A090	9.70	100	98525A090	10.29	5	97940A090	9.41
5	1/8"	5/8"	0.612"	0.24"	100	98481A100	10.10	100	98525A100	10.86	5	97940A100	10.74
7	1/8"	3/4"	0.74"	0.303"	100	98481A115	10.16	50	98525A115	6.44	1	97940A115	3.09
6	5/32"	5/8"	0.612"	0.24"	100	98481A105	10.33	50	98525A105	5.90	5	97940A105	12.54
8	5/32"	3/4"	0.74"	0.303"	100	98481A120	12.97	50	98525A120	8.06	5	97940A120	14.58
10	5/32"	7/8"	0.866"	0.365"	50	98481A135	8.65	50	98525A135	9.84	—	—	—
61	3/16"	5/8"	0.612"	0.24"	100	98481A110	12.06	50	98525A110	7.77	—	—	—
9	3/16"	3/4"	0.74"	0.303"	100	98481A125	12.75	50	98525A125	8.74	5	97940A125	14.72
11	3/16"	7/8"	0.866"	0.365"	50	98481A140	10.58	25	98525A140	5.98	1	97940A140	2.85
13	3/16"	1"	0.992"	0.428"	25	98481A160	7.54	25	98525A160	7.60	—	—	—
16	3/16"	1 1/8"	1.114"	0.475"	25	98481A195	9.05	10	98525A195	4.60	—	—	—
19	3/16"	1 1/4"	1.24"	0.537"	25	98481A220	10.55	10	98525A220	5.51	—	—	—
126	3/16"	2 1/8"	1.38"	0.396"	25	98481A227	9.13	25	98525A227	11.44	—	—	—
12	7/32"	7/8"	0.866"	0.365"	50	98481A145	12.34	25	98525A145	7.59	—	—	—
14	7/32"	1"	0.992"	0.428"	25	98481A165	7.74	25	98525A165	9.77	—	—	—
17	7/32"	1 1/8"	1.114"	0.475"	25	98481A200	11.06	10	98525A200	4.88	—	—	—
20	7/32"	1 1/4"	1.24"	0.537"	25	98481A225	15.62	10	98525A225	6.52	—	—	—
91	1/4"	3/4"	0.74"	0.303"	50	98481A130	10.60	25	98525A130	6.33	—	—	—
A	1/4"	7/8"	0.866"	0.365"	50	98481A150	13.69	25	98525A150	7.71	1	97940A150	3.35
141	1/4"	1"	0.99"	0.364"	25	98481A190	9.49	25	98525A190	10.66	—	—	—
15	1/4"	1"	0.992"	0.428"	25	98481A170	8.60	25	98525A170	10.23	1	97940A170	5.09
18	1/4"	1 1/8"	1.114"	0.475"	25	98481A205	11.27	10	98525A205	5.61	—	—	—
21	1/4"	1 1/4"	1.24"	0.537"	25	98481A230	13.70	10	98525A230	6.91	—	—	—
22	1/4"	1 3/8"	1.362"	0.584"	10	98481A243	7.41	10	98525A243	8.88	—	—	—
24	1/4"	1 1/2"	1.484"	0.631"	10	98481A255	7.79	10	98525A255	9.26	—	—	—
B	5/16"	1"	0.992"	0.428"	25	98481A175	10.83	10	98525A175	5.35	—	—	—
C	5/16"	1 1/8"	1.114"	0.475"	25	98481A210	13.73	10	98525A210	7.02	—	—	—
D	5/16"	1 1/4"	1.24"	0.537"	10	98481A235	7.90	10	98525A235	9.16	—	—	—
23	5/16"	1 3/8"	1.362"	0.584"	10	98481A245	8.52	10	98525A245	9.76	—	—	—
25	5/16"	1 1/2"	1.484"	0.631"	10	98481A260	9.88	10	98525A260	11.19	—	—	—
152	3/8"	1"	0.992"	0.428"	25	98481A185	12.89	10	98525A185	6.73	—	—	—
E	3/8"	1 1/4"	1.24"	0.537"	10	98481A240	9.10	10	98525A240	11.16	—	—	—
F	3/8"	1 3/8"	1.362"	0.584"	10	98481A250	10.26	5	98525A250	6.52	—	—	—
G	3/8"	1 1/2"	1.484"	0.631"	10	98481A265	10.97	5	98525A265	8.13	—	—	—
TX	3/8"	2 3/4"	2"	0.584"	10	98481A300	12.55	5	98525A300	8.12	—	—	—

Steel Key Assortments—Come in a plastic box

97 Keys in 35 Sizes—Includes the following key numbers: 1 each of 1, 2, 4, 5, 16, 19, 12, 14, 17, 20, 21, 22, 24, D, 23, E, 26, 27, 28, 29; 3 each of 10, 13, 15, B, 152; 4 each of 3, 7, 6, 8, 91; 5 each of 18, G; 10 each of 11, A; and 12 each of 9.

98584A170 ..... $65.64

225 Keys in 18 Sizes—Includes the following key numbers: 15 each of 211, 212, 213, 1, 2, 3, 5, 7, 6, 61, 9, 91; 10 each of 11, 13, A; and 5 each of 15, 18, E.

98540A120 ..... $113.78

Metric Woodruff Keys

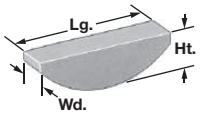

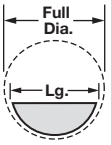

Side View

All are round bottom, made of steel, and meet DIN 6888. Not rated for hardness. Width tolerance is –0.025 mm for 1.5 mm to 3 mm keys; –0.030 mm for 4 mm to 6 mm keys; and –0.036 mm for 8 mm to 10 mm keys. Full diameter tolerance is –0.1 mm for 7 mm to 22 mm keys and –0.2 mm for 25 mm and larger keys.

Size Wd., mm	Full Dia., mm	Lg., mm	Ht., mm	Pkg. Qty.		Pkg.
1.5	7	6.76	2.6	25	98490A110	$9.64
2	7	6.76	2.6	25	98490A120	8.29
2	10	9.66	3.7	25	98490A130	8.88
2	13	12.65	5	25	98490A140	10.33
2.5	10	9.66	3.7	25	98490A150	7.24
3	10	9.66	3.7	25	98490A160	7.17
3	13	12.65	5	25	98490A170	5.79
3	16	15.72	6.5	25	98490A180	7.76
4	13	12.65	5	25	98490A190	7.50
4	16	15.72	6.5	25	98490A200	7.63
4	19	18.57	7.5	25	98490A210	10.66
5	16	15.72	6.5	25	98490A220	8.45
5	19	18.57	7.5	25	98490A230	10.59

Size Wd., mm	Full Dia., mm	Lg., mm	Ht., mm	Pkg. Qty.		Pkg.
5	22	21.63	9	25	98490A240	$12.25
5	25	24.49	10	10	98490A250	11.75
6	19	18.57	7.5	10	98490A255	6.97
6	22	21.63	9	10	98490A260	5.79
6	25	24.49	10	10	98490A270	7.63
6	28	27.35	11	10	98490A280	9.79
8	22	21.63	9	10	98490A290	9.68
8	28	27.35	11	10	98490A300	10.50
8	32	31.43	13	10	98490A310	13.25
10	28	27.35	11	5	98490A315	9.09
10	32	31.43	13	5	98490A320	9.56
10	45	43.08	16	5	98490A330	14.00

About Key Stock Materials and Tolerances

Type 316 Stainless Steel—Our most corrosion resistant stainless steel. Withstands chemicals and solvents and may be mildly magnetic. Not rated for hardness.

18-8 Stainless Steel—Has excellent corrosion resistance and may be mildly magnetic. Not rated for hardness.

Type 416 Stainless Steel—Can be heat treated for greater strength, but is less corrosion resistant than Type 316 and 18-8 stainless steel. Not rated for hardness.

Zinc-Plated Steel—Provides rust resistance. Not rated for hardness.

Steel—Economical choice. Not rated for hardness.

Spring Steel—Made from 1090-1095 steel. It is annealed for easy machining and can be heat treated for strength. Minimum Rockwell hardness is B91.

Alloy Steel—Made of wear-resistant Alloy 8630 steel and is easy to weld. Not rated for hardness.

Aluminum—Offers good resistance to weather-related corrosion and is one-third the weight of steel. Not rated for hardness.

Brass—Made from Alloy 360 brass, which contains lead for good machinability. Has very good corrosion resistance and is nonmagnetic. Minimum Rockwell hardness is B35.

	Inch Size Tolerances			*Metric Size Tolerances*		
Key Stock	**Up to 7/32″**	**1/4″ to 1/2″**	**9/16″ and Larger**	**Up to 6 mm**	**7 mm-16 mm**	**17 mm-28 mm**
Oversized	+0.003″	+0.003″	+0.005″	+0.076 mm	+0.076 mm	+0.076 mm
Standard	±0.008″	±0.015″	±0.015″	———	———	———
Undersized	–0.003″	–0.003″	–0.006″	–0.075 mm	–0.11 mm	———

Oversized Key Stock



Slightly larger than the size listed in the table, these keys fit tightly in a keyway. Length tolerance is ±0.125″ for 12″ lengths; ±0.250″ for 36″ and 72″ lengths.

Size			
18-8 Stainless Steel—12″ Lg.			
1/8″	×1/8″	98493A100	$3.64
3/16″	×3/16″	98493A117	3.80
1/4″	×1/4″	98493A136	4.71
5/16″	×5/16″	98493A150	7.06
3/8″	×3/8″	98493A165	9.85
7/16″	×7/16″	98493A179	18.89
1/2″	×1/2″	98493A187	15.86
9/16″	×9/16″	98493A188	27.53
5/8″	×5/8″	98493A206	23.71
3/4″	×3/4″	98493A226	33.22
7/8″	×7/8″	98493A245	40.46
1″	×1″	98493A257	62.21
Zinc-Plated Steel—12″ Lg.			
1/16″	×1/16″	98491A097	1.08
3/32″	×3/32″	98491A098	1.70
7/64″	×7/64″	98491A099	22.71
1/8″	×1/8″	98491A100	1.09
1/8″	×3/16″	98491A101	2.45
1/8″	×1/4″	98491A102	3.08
1/8″	×3/8″	98491A104	11.67
1/8″	×1/2″	98491A106	12.09
1/8″	×5/8″	98491A108	31.74
1/8″	×3/4″	98491A110	10.31
5/32″	×5/32″	98491A112	1.39
3/16″	×3/16″	98491A117	1.16
3/16″	×1/4″	98491A118	2.63
3/16″	×5/16″	98491A119	2.80
3/16″	×3/8″	98491A120	9.00
3/16″	×7/16″	98491A123	6.51
3/16″	×1/2″	98491A121	16.56
3/16″	×5/8″	98491A125	16.88
3/16″	×7/8″	98491A127	30.32
7/32″	×7/32″	98491A131	5.52
1/4″	×1/4″	98491A136	1.44

Size			
Zinc-Plated Steel—12″ Lg. (Cont.)			
1/4″	×5/16″	98491A137	$2.60
1/4″	×3/8″	98491A138	2.73
1/4″	×7/16″	98491A139	8.56
1/4″	×1/2″	98491A140	3.96
1/4″	×9/16″	98491A141	10.35
1/4″	×5/8″	98491A142	16.07
1/4″	×3/4″	98491A144	18.63
9/32″	×9/32″	98491A143	3.74
5/16″	×5/16″	98491A150	2.33
5/16″	×3/8″	98491A151	5.66
5/16″	×7/16″	98491A156	9.98
5/16″	×1/2″	98491A153	11.71
5/16″	×9/16″	98491A154	18.81
5/16″	×5/8″	98491A155	8.46
5/16″	×3/4″	98491A161	17.05
3/8″	×3/8″	98491A165	2.66
3/8″	×7/16″	98491A166	6.32
3/8″	×1/2″	98491A167	5.74
3/8″	×9/16″	98491A170	14.16
3/8″	×5/8″	98491A168	6.72
3/8″	×3/4″	98491A169	7.85
3/8″	×1″	98491A175	11.13
7/16″	×7/16″	98491A179	4.37
7/16″	×1/2″	98491A180	7.21
7/16″	×9/16″	98491A178	18.32
7/16″	×5/8″	98491A181	7.64
7/16″	×3/4″	98491A182	8.36
1/2″	×1/2″	98491A187	4.63
1/2″	×9/16″	98491A202	10.25
1/2″	×5/8″	98491A188	9.09
1/2″	×11/16″	98491A189	9.19
1/2″	×3/4″	98491A190	11.32
1/2″	×7/8″	98491A201	11.94
1/2″	×1″	98491A203	15.08
9/16″	×9/16″	98491A204	7.16

Size			
Zinc-Plated Steel—12″ Lg. (Cont.)			
9/16″	×5/8″	98491A205	$16.50
9/16″	×3/4″	98491A210	29.53
9/16″	×1″	98491A211	26.71
9/16″	×1 1/4″	98491A212	34.68
5/8″	×5/8″	98491A206	8.10
5/8″	×11/16″	98491A213	12.85
5/8″	×3/4″	98491A207	13.77
5/8″	×7/8″	98491A208	16.69
5/8″	×1″	98491A209	15.88
5/8″	×1 1/4″	98491A214	20.40
11/16″	×11/16″	98491A220	18.81
11/16″	×3/4″	98491A221	24.92
11/16″	×7/8″	98491A222	31.32
11/16″	×1″	98491A223	58.65
3/4″	×3/4″	98491A226	10.90
3/4″	×7/8″	98491A227	23.79
3/4″	×1″	98491A228	25.09
3/4″	×1 1/8″	98491A229	24.13
3/4″	×1 1/4″	98491A238	20.61
3/4″	×1 1/2″	98491A239	42.22
3/4″	×1 3/4″	98491A243	50.51
13/16″	×13/16″	98491A241	21.45
7/8″	×7/8″	98491A242	15.47
7/8″	×1″	98491A246	36.24
7/8″	×1 1/8″	98491A247	40.18
7/8″	×1 1/4″	98491A249	30.00
15/16″	×15/16″	98491A253	42.39
1″	×1″	98491A257	16.62
1″	×1 1/8″	98491A259	36.78
1″	×1 1/4″	98491A258	30.64
1″	×1 1/2″	98491A261	34.01
1″	×2″	98491A264	40.63
1 1/16″	×1 1/16″	98491A266	56.05
1 1/8″	×1 1/8″	98491A263	37.58

Size			
Zinc-Plated Steel—12″ Lg. (Cont.)			
1 1/8″	×1 1/4″	98491A265	$40.62
1 3/16″	×1 3/16″	98491A267	38.24
1 1/4″	×1 1/4″	98491A268	27.83
1 1/4″	×1 3/8″	98491A269	85.66
1 1/4″	×1 1/2″	98491A271	46.66
1 1/4″	×1 3/4″	98491A273	49.96
1 5/16″	×1 5/16″	98491A350	41.38
1 3/8″	×1 3/8″	98491A275	51.66
1 1/2″	×1 1/2″	98491A278	34.86
1 1/2″	×1 3/4″	98491A280	42.24
1 1/2″	×2″	98491A282	68.57
1 5/8″	×1 5/8″	98491A284	69.74
1 3/4″	×1 3/4″	98491A286	57.14
2″	×2″	98491A290	65.00
Steel—12″ Lg.			
1/16″	×1/16″	98830A005	.97
3/32″	×3/32″	98830A050	1.20
1/8″	×1/8″	98830A100	.66
5/32″	×5/32″	98830A125	.83
3/16″	×3/16″	98830A150	.93
7/32″	×7/32″	98830A135	2.18
1/4″	×1/4″	98830A200	1.44
9/32″	×9/32″	98830A225	2.69
5/16″	×5/16″	98830A250	2.05
5/16″	×3/8″	98830A255	3.34
3/8″	×3/8″	98830A300	2.92
3/8″	×1/2″	98830A305	4.77
7/16″	×7/16″	98830A325	2.82
1/2″	×1/2″	98830A350	5.56
1/2″	×3/4″	98830A355	5.03
9/16″	×9/16″	98830A360	4.40
5/8″	×5/8″	98830A370	4.51
11/16″	×11/16″	98830A380	9.03
3/4″	×3/4″	98830A390	6.06
13/16″	×13/16″	98830A400	18.28

(Continued on following page)

Oversized Key Stock *(Continued from previous page)*

Size		
Steel—12″ Lg. (Cont.)		
7/8″ × 7/8″	98830A410	$9.19
1″ × 1″	98830A420	10.48
1 1/4″ × 1 1/4″	98830A430	13.88
Steel—36″ Lg.		
1/16″ × 1/16″	98830A701	2.91
3/32″ × 3/32″	98830A722	3.60
1/8″ × 1/8″	98830A743	1.98
5/32″ × 5/32″	98830A765	2.49
3/16″ × 3/16″	98830A782	2.79
7/32″ × 7/32″	98830A812	6.54
1/4″ × 1/4″	98830A836	4.32

Size		
Steel—36″ Lg. (Cont.)		
9/32″ × 9/32″	98830A854	$8.07
5/16″ × 5/16″	98830A879	6.15
3/8″ × 3/8″	98830A891	8.76
7/16″ × 7/16″	98830A906	8.46
1/2″ × 1/2″	98830A911	16.68
9/16″ × 9/16″	98830A936	13.20
5/8″ × 5/8″	98830A949	13.53
11/16″ × 11/16″	98830A963	27.09
3/4″ × 3/4″	98830A971	18.18
13/16″ × 13/16″	98830A979	54.84
7/8″ × 7/8″	98830A985	27.57

Size		
Steel—36″ Lg. (Cont.)		
1″ × 1″	98830A989	$31.44
1 1/4″ × 1 1/4″	98830A993	41.64
Steel—72″ Lg.		
1/8″ × 1/8″	98830A520	4.12
3/16″ × 3/16″	98830A540	5.81
1/4″ × 1/4″	98830A560	9.00
5/16″ × 5/16″	98830A580	12.81
3/8″ × 3/8″	98830A610	18.25
1/2″ × 1/2″	98830A630	34.75
5/8″ × 5/8″	98830A650	28.19
3/4″ × 3/4″	98830A660	37.88

Size		
Steel—72″ Lg. (Cont.)		
7/8″ × 7/8″	98830A670	$57.44
1″ × 1″	98830A675	65.50
1 1/4″ × 1 1/4″	98830A680	86.75
Alloy Steel—12″ Lg.		
1/8″ × 1/8″	99020A415	.94
3/16″ × 3/16″	99020A420	1.24
1/4″ × 1/4″	99020A425	1.92
5/16″ × 5/16″	99020A430	3.01
3/8″ × 3/8″	99020A435	3.34
1/2″ × 1/2″	99020A440	6.12

Oversized Key Stock Assortments

7 Pieces in 7 Sizes—Includes one each of 1/8″ × 1/8″, 3/16″ × 3/16″, 1/4″ × 1/4″, 5/16″ × 5/16″, 3/8″ × 3/8″, 7/16″ × 7/16″, and 1/2″ × 1/2″. All are 12″ long.

18-8 Stainless Steel	90143A200	$99.74

31 Pieces in 7 Sizes—Includes 5 each of 1/8″ × 1/8″, 3/16″ × 3/16″, 1/4″ × 1/4″, 5/16″ × 5/16″, and 3/8″ × 3/8″, and 3 each of 7/16″ × 7/16″ and 1/2″ × 1/2″. All are 12″ long.

18-8 Stainless Steel	90143A140	$203.12
Zinc-Plated Steel	90142A140	95.97

Standard Key Stock

Ready to cut with very little filing needed, these keys may be slightly larger or smaller than the size listed in the table. Length tolerance is –0.125″ for 12″ lengths; ±0.250″ for 36″ lengths.



Size		
18-8 Stainless Steel—12″ Lg.		
5/32″ × 5/32″	92530A105	$8.86
3/16″ × 1/4″	92530A110	8.23
3/16″ × 1/2″	92530A118	13.80
1/4″ × 1/2″	92530A137	15.90
3/8″ × 1/2″	92530A166	25.10
3/8″ × 3/4″	92530A167	29.54
1/2″ × 3/4″	92530A180	38.97
5/8″ × 3/4″	92530A207	48.76
5/8″ × 1″	92530A208	64.19
3/4″ × 1″	92530A227	67.86
Spring Steel—12″ Lg.		
1/16″ × 1/16″	98535A120	.97
3/32″ × 3/32″	98535A125	1.67
1/8″ × 1/8″	98535A130	1.11
1/8″ × 3/16″	98535A132	20.12
1/8″ × 1/4″	98535A136	14.04
5/32″ × 5/32″	98535A138	25.73
3/16″ × 3/16″	98535A140	1.84
3/16″ × 1/4″	98535A146	12.48

Size		
Spring Steel—12″ Lg. (Cont.)		
3/16″ × 3/8″	98535A147	$22.57
1/4″ × 1/4″	98535A150	3.23
1/4″ × 5/16″	98535A152	17.08
1/4″ × 3/8″	98535A154	18.91
1/4″ × 1/2″	98535A156	32.02
5/16″ × 5/16″	98535A160	4.66
5/16″ × 3/8″	98535A162	19.30
5/16″ × 1/2″	98535A164	23.25
3/8″ × 3/8″	98535A170	6.83
3/8″ × 1/2″	98535A172	19.36
3/8″ × 5/8″	98535A168	28.43
3/8″ × 3/4″	98535A166	28.68
7/16″ × 7/16″	98535A180	9.30
7/16″ × 1/2″	98535A184	23.03
7/16″ × 5/8″	98535A183	28.43
1/2″ × 1/2″	98535A190	11.85
1/2″ × 5/8″	98535A191	32.36
1/2″ × 3/4″	98535A196	36.75
1/2″ × 1″	98535A195	46.79

Size		
Spring Steel—12″ Lg. (Cont.)		
9/16″ × 9/16″	98535A200	$51.97
5/8″ × 5/8″	98535A210	16.64
5/8″ × 3/4″	98535A212	39.74
5/8″ × 7/8″	98535A215	50.04
3/4″ × 3/4″	98535A220	23.12
3/4″ × 7/8″	98535A225	63.24
3/4″ × 1″	98535A227	64.03
7/8″ × 7/8″	98535A230	40.85
1″ × 1″	98535A240	49.08
1 1/4″ × 1 1/4″	98535A250	135.16
Spring Steel—36″ Lg.		
1/8″ × 1/8″	98535A410	3.33
3/16″ × 3/16″	98535A440	5.52
1/4″ × 1/4″	98535A450	9.69
5/16″ × 5/16″	98535A560	13.98
3/8″ × 3/8″	98535A570	20.49
1/2″ × 1/2″	98535A590	35.55
Aluminum—12″ Lg.		
1/8″ × 1/8″	99108A050	26.10

Size		
Aluminum—12″ Lg. (Cont.)		
3/16″ × 3/16″	99108A080	$26.10
1/4″ × 1/4″	99108A100	3.07
5/16″ × 5/16″	99108A105	16.83
3/8″ × 3/8″	99108A110	5.66
1/2″ × 1/2″	99108A120	7.77
5/8″ × 5/8″	99108A130	11.44
Brass—12″ Lg.		
1/8″ × 1/8″	98500A100	1.69
3/16″ × 3/16″	98500A117	2.87
1/4″ × 1/4″	98500A136	4.31
5/16″ × 5/16″	98500A150	6.84
3/8″ × 3/8″	98500A165	9.52
7/16″ × 7/16″	98500A179	11.38
1/2″ × 1/2″	98500A187	14.78
5/8″ × 5/8″	98500A206	23.18
3/4″ × 3/4″	98500A226	29.64
1″ × 1″	98500A257	52.44
1 1/4″ × 1 1/4″	98500A274	108.68

Undersized Key Stock

The choice when you need a slightly looser fit than the size listed in the table or when you have an inconsistent keyway. Length tolerance is –0.125″ for 12″ lengths; ±0.250″ for 36″ lengths.



Size		
Type 316 Stainless Steel—12″ Lg.		
7/64″ × 7/64″	98530A099	$27.56
1/8″ × 1/8″	98530A100	7.57
1/8″ × 1/4″	98530A102	29.29
3/16″ × 3/16″	98530A177	10.63
3/16″ × 1/4″	98530A118	25.40
1/4″ × 1/4″	98530A136	15.97
1/4″ × 5/16″	98530A137	26.60
1/4″ × 3/8″	98530A138	30.33
1/4″ × 1/2″	98530A140	39.38
5/16″ × 5/16″	98530A150	14.48
5/16″ × 3/8″	98530A151	28.98
3/8″ × 3/8″	98530A165	30.45
3/8″ × 1/2″	98530A167	40.20
1/2″ × 1/2″	98530A187	35.20
1/2″ × 3/4″	98530A190	64.07
1/2″ × 1″	98530A203	101.60
5/8″ × 5/8″	98530A206	39.74
3/4″ × 3/4″	98530A226	51.97
7/8″ × 7/8″	98530A242	81.06
1″ × 1″	98530A229	95.64
Type 316 Stainless Steel—36″ Lg.		
1/8″ × 1/8″	98530A412	19.68
3/16″ × 3/16″	98530A410	27.64
1/4″ × 1/4″	98530A415	41.52

Size		
Type 316 SS—36″ Lg. (Cont.)		
5/16″ × 5/16″	98530A420	$37.65
3/8″ × 3/8″	98530A425	79.17
1/2″ × 1/2″	98530A430	91.52
5/8″ × 5/8″	98530A434	103.32
3/4″ × 3/4″	98530A442	135.12
1″ × 1″	98530A446	249.62
18-8 Stainless Steel—12″ Lg.		
1/8″ × 1/8″	92530A100	3.18
3/16″ × 3/16″	92530A117	4.86
1/4″ × 1/4″	92530A136	6.60
5/16″ × 5/16″	92530A150	9.51
3/8″ × 3/8″	92530A165	12.11
7/16″ × 7/16″	92530A179	34.64
1/2″ × 1/2″	92530A187	22.51
9/16″ × 9/16″	92530A188	29.03
5/8″ × 5/8″	92530A206	30.53
3/4″ × 3/4″	92530A226	41.60
7/8″ × 7/8″	92530A245	45.67
1″ × 1″	92530A257	56.78
1 1/4″ × 1 1/4″	92530A260	92.43
1 1/2″ × 1 1/2″	92530A265	152.98
1 3/4″ × 1 3/4″	92530A270	182.70
2″ × 2″	92530A275	245.93

Size		
Type 416 Stainless Steel—12″ Lg.		
3/16″ × 3/16″	99374A100	$9.12
1/4″ × 1/4″	99374A110	8.91
5/16″ × 5/16″	99374A120	14.63
3/8″ × 3/8″	99374A130	18.32
1/2″ × 1/2″	99374A140	27.96
5/8″ × 5/8″	99374A150	42.93
3/4″ × 3/4″	99374A160	40.16
Zinc-Plated Steel—12″ Lg.		
1/8″ × 1/8″	98510A100	.89
1/8″ × 3/16″	98510A115	2.45
1/8″ × 1/4″	98510A120	3.74
3/16″ × 3/16″	98510A117	.96
3/16″ × 1/4″	98510A125	1.66
3/16″ × 5/16″	98510A140	3.92
3/16″ × 3/8″	98510A155	5.18
1/4″ × 1/4″	98510A136	1.48
1/4″ × 5/16″	98510A145	2.32
1/4″ × 3/8″	98510A157	3.00
1/4″ × 7/16″	98510A167	4.32
1/4″ × 1/2″	98510A181	3.89
5/16″ × 5/16″	98510A150	2.12
5/16″ × 3/8″	98510A160	3.98
5/16″ × 1/2″	98510A182	6.47
5/16″ × 5/8″	98510A194	11.66

Size		
Zinc-Plated Steel—12″ Lg. (Cont.)		
3/8″ × 3/8″	98510A165	$2.76
3/8″ × 7/16″	98510A170	5.64
3/8″ × 1/2″	98510A184	5.23
3/8″ × 5/8″	98510A196	6.33
7/16″ × 7/16″	98510A179	4.19
7/16″ × 1/2″	98510A186	7.40
1/2″ × 1/2″	98510A187	4.42
1/2″ × 5/8″	98510A198	9.20
9/16″ × 9/16″	98510A190	6.23
5/8″ × 5/8″	98510A206	6.85
3/4″ × 3/4″	98510A226	10.43
7/8″ × 7/8″	98510A245	14.17
1″ × 1″	98510A257	17.92
1 1/8″ × 1 1/8″	98510A260	22.67
1 1/4″ × 1 1/4″	98510A270	26.53
1 3/8″ × 1 3/8″	98510A280	34.96
1 1/2″ × 1 1/2″	98510A290	36.29
1 3/4″ × 1 3/4″	98510A300	46.78
2″ × 2″	98510A310	62.56

Metric Key Stock

Length tolerance is –0.125″. **Oversized** key stock provides a slightly tighter fit than the size listed in the table. **Undersized** key stock offers a slightly looser fit than the size listed in the table. Type 316 stainless steel square stock meets DIN 178; Type 316 stainless steel rectangular stock meets DIN 174; 18-8 stainless steel, steel, and brass meet DIN 6880.

Size, mm	12″ Lengths	
Oversized—18-8 Stainless Steel		
4×4	98810A100	$5.56
5×5	98810A110	6.94
6×6	98810A120	9.22
7×7	98810A130	13.76
7×8	98810A140	32.95
8×8	98810A150	14.01
8×10	98810A152	37.90
8×12	98810A155	40.86
9×14	98810A160	66.42
10×10	98810A170	39.57
12×12	98810A180	43.48
14×14	98810A200	58.04
16×16	98810A210	53.97
18×18	98810A220	65.81
20×20	98810A230	70.07
22×22	98810A240	96.40
24×24	98810A250	110.74
Oversized—Zinc-Plated Steel		
4×4	92288A110	3.81
5×5	92288A120	4.14
5×8	92288A125	5.19
6×6	92288A140	4.76
6×10	92288A145	6.75
6×12	92288A150	13.66
6×14	92288A152	7.77
7×7	92288A155	5.43

Size, mm	12″ Lengths	
Oversized—Zinc-Plated Steel (Cont.)		
7×8	92288A160	$6.48
7×16	92288A170	39.46
7×18	92288A180	13.83
8×8	92288A230	6.48
8×10	92288A240	8.33
8×12	92288A245	9.44
8×20	92288A247	12.43
9×14	92288A255	12.10
9×22	92288A280	13.38
10×10	92288A290	8.95
10×12	92288A295	11.52
10×16	92288A300	14.27
11×18	92288A320	15.04
12×12	92288A330	11.95
12×20	92288A340	20.36
14×14	92288A350	15.32
14×22	92288A355	24.43
14×25	92288A360	26.96
16×16	92288A375	20.48
16×28	92288A400	28.50
18×18	92288A425	24.09
18×32	92288A428	26.63
20×20	92288A430	30.23
20×36	92288A440	39.87
22×22	92288A450	32.27

Size, mm	12″ Lengths	
Oversized—Zinc-Plated Steel (Cont.)		
22×40	92288A515	$48.52
25×25	92288A600	38.27
25×28	92288A620	57.00
Undersized—Type 316 Stainless Steel		
2×2	90457A100	14.43
3×3	90457A110	6.75
4×4	90457A120	18.10
5×5	90457A130	5.86
6×6	90457A140	9.69
7×7	90457A150	36.12
7×8	90457A155	55.58
8×8	90457A160	27.33
8×10	90457A164	56.02
8×12	90457A165	63.67
9×14	90457A166	80.69
10×10	90457A170	18.75
10×12	90457A175	74.89
10×16	90457A176	85.88
11×18	90457A177	107.83
12×12	90457A180	23.50
12×20	90457A185	140.83
14×14	90457A190	95.12
14×22	90457A195	130.94
16×16	90457A200	115.90

Size, mm	12″ Lengths	
Undersized—18-8 Stainless Steel		
3×3	90457A410	$11.50
4×4	90457A420	11.40
5×5	90457A430	11.70
6×6	90457A440	16.00
8×8	90457A460	24.00
Undersized—Steel		
2×2	92288A710	1.87
3×3	92288A715	4.12
4×4	92288A720	2.00
5×5	92288A725	2.38
6×6	92288A730	3.19
7×7	92288A735	4.05
7×8	92288A740	4.62
8×8	92288A755	4.14
8×10	92288A750	4.06
8×12	92288A745	5.24
9×14	92288A760	6.86
10×10	92288A765	6.52
Undersized—Brass		
3×3	90457A710	32.86
4×4	90457A720	14.29
5×5	90457A730	17.71
6×6	90457A740	19.29
8×8	90457A760	45.71

Machine Keys



Square Ends



Rounded Ends

Length tolerance is –0.03″ to +0.01″. **Oversized** keys provide a slightly tighter fit than the square size listed in the table. **Undersized** keys offer a slightly looser fit than the square size listed in the table.

Square Size	Lg.	Pkg. Qty.		Pkg.
Oversized with Square Ends—Steel				
1/8″	1/2″	10	98870A305	$8.08
1/8″	3/4″	10	98870A310	7.07
1/8″	1″	10	98870A315	6.79
3/16″	1/2″	10	98870A320	4.63
3/16″	3/4″	10	98870A330	5.57
3/16″	1″	10	98870A340	4.63
3/16″	1 1/4″	10	98870A355	5.94
3/16″	1 1/2″	10	98870A365	7.32
3/16″	1 3/4″	10	98870A370	12.85
3/16″	2″	10	98870A375	7.70
1/4″	3/4″	10	98870A385	7.05
1/4″	1″	10	98870A395	6.38
1/4″	1 1/4″	10	98870A405	7.70
1/4″	1 1/2″	10	98870A415	6.61
1/4″	1 3/4″	10	98870A420	9.70
1/4″	2″	10	98870A430	8.51
1/4″	2 1/4″	10	98870A435	10.76
1/4″	2 1/2″	5	98870A440	9.11
3/8″	1″	10	98870A450	9.57
3/8″	1 1/4″	5	98870A455	11.15
3/8″	1 3/4″	10	98870A460	10.77
3/8″	2″	10	98870A465	10.96
3/8″	2 1/4″	10	98870A470	14.88
3/8″	2 3/4″	5	98870A475	9.66
1/2″	1″	1	98870A480	4.75
1/2″	1 5/8″	5	98870A485	11.62
1/2″	2″	5	98870A490	10.35
Oversized with Rounded Ends—Steel				
3/16″	1/2″	5	98870A560	7.81
3/16″	3/4″	5	98870A570	6.58
3/16″	1 1/2″	5	98870A575	7.16
3/8″	1″	5	98870A580	24.83
3/8″	1 1/4″	5	98870A585	11.45
3/8″	1 1/2″	5	98870A590	10.71
3/8″	2″	1	98870A595	2.27
3/8″	2 1/2″	1	98870A600	3.74
1/2″	1″	1	98870A605	2.53
1/2″	2″	1	98870A610	4.25
1/2″	2 1/2″	1	98870A615	5.85
1/2″	3″	1	98870A620	4.71
1/2″	3 1/2″	1	98870A625	5.29

Square Size	Lg.	Pkg. Qty.		Pkg.
Undersized with Square Ends—18-8 Stainless Steel				
1/8″	1/4″	10	92624A090	$10.26
1/8″	1/2″	10	92624A095	6.89
1/8″	3/4″	10	92624A100	7.14
1/8″	1″	10	92624A110	7.86
1/8″	1 1/4″	10	92624A115	13.29
1/8″	1 1/2″	10	92624A117	11.14
3/16″	1/4″	10	92624A118	8.91
3/16″	1/2″	10	92624A120	8.91
3/16″	3/4″	10	92624A130	10.33
3/16″	7/8″	10	92624A135	10.33
3/16″	1″	10	92624A140	10.33
3/16″	1 1/8″	10	92624A145	11.89
3/16″	1 1/4″	10	92624A150	11.89
3/16″	1 1/2″	5	92624A160	7.43
3/16″	1 3/4″	5	92624A170	7.43
3/16″	2″	5	92624A180	8.17
3/16″	2 1/2″	5	92624A190	8.17
1/4″	1/2″	10	92624A194	10.33
1/4″	3/4″	10	92624A195	11.89
1/4″	1″	10	92624A205	13.37
1/4″	1 1/4″	5	92624A215	7.43
1/4″	1 1/2″	5	92624A230	7.43
1/4″	1 3/4″	5	92624A240	8.17
1/4″	2″	5	92624A245	8.91
1/4″	2 1/4″	5	92624A250	9.61
1/4″	2 1/2″	5	92624A255	11.14
1/4″	3″	5	92624A260	11.25
1/4″	3 1/2″	5	92624A265	11.89
5/16″	1 1/4″	5	92624A275	8.91
5/16″	1 1/2″	5	92624A277	9.89
5/16″	2″	5	92624A281	11.14
5/16″	2 1/2″	5	92624A283	11.89
3/8″	1″	5	92624A285	11.89
3/8″	1 1/4″	5	92624A287	12.71
3/8″	1 1/2″	5	92624A288	12.71
Undersized with Square Ends—Steel				
1/8″	1/4″	10	98870A090	10.30
1/8″	1/2″	10	98870A095	4.98
1/8″	3/4″	10	98870A100	2.92
1/8″	1″	10	98870A110	3.32
1/8″	1 1/4″	10	98870A115	3.68

Square Size	Lg.	Pkg. Qty.		Pkg.
Undersized with Square Ends—Steel (Cont.)				
1/8″	1 1/2″	10	98870A117	$6.40
3/16″	1/4″	10	98870A118	6.50
3/16″	1/2″	10	98870A120	3.47
3/16″	3/4″	10	98870A130	3.47
3/16″	7/8″	10	98870A135	6.50
3/16″	1″	10	98870A140	3.47
3/16″	1 1/8″	10	98870A145	6.50
3/16″	1 1/4″	10	98870A150	3.48
3/16″	1 1/2″	10	98870A160	3.47
3/16″	1 3/4″	10	98870A170	3.79
3/16″	2″	10	98870A180	4.05
3/16″	2 1/2″	10	98870A190	5.02
3/16″	3″	10	98870A192	9.04
3/16″	4″	10	98870A193	10.40
1/4″	1/2″	10	98870A194	8.58
1/4″	3/4″	10	98870A195	4.05
1/4″	1″	10	98870A205	4.05
1/4″	1 1/4″	10	98870A215	4.05
1/4″	1 1/2″	10	98870A230	4.54
1/4″	1 3/4″	10	98870A240	4.54
1/4″	2″	10	98870A245	4.79
1/4″	2 1/4″	10	98870A255	6.76
1/4″	2 1/2″	10	98870A260	7.05
1/4″	3″	10	98870A265	7.04
1/4″	3 1/2″	10	98870A267	13.00
1/4″	4″	5	98870A269	7.15
1/4″	5″	5	98870A271	8.41
5/16″	1 1/4″	10	98870A275	6.27
5/16″	1 1/2″	10	98870A277	7.18
5/16″	2″	10	98870A281	8.45
5/16″	2 1/2″	10	98870A283	10.08
3/8″	1″	5	98870A285	6.50
3/8″	1 1/4″	10	98870A287	7.39
3/8″	1 1/2″	10	98870A288	8.86
3/8″	1 3/4″	5	98870A301	7.80
3/8″	2″	10	98870A289	9.90
3/8″	2 1/2″	10	98870A290	10.88
1/2″	1 1/2″	5	98870A292	8.15
1/2″	2″	5	98870A293	8.35
1/2″	2 1/2″	5	98870A294	9.76
1/2″	3″	5	98870A296	9.75
1/2″	3 1/2″	5	98870A298	11.70

Metric Machine Keys

All have rounded ends and are undersized for a slightly looser fit than the square size listed in the table. Length is measured from end to end. Length tolerance is –0.500 mm.



Square Size, mm	Lg., mm	Pkg. Qty.		Pkg.
Type 316 Stainless Steel				
2	20	1	96717A075	$8.53
3	10	1	96717A086	9.33
4	10	1	96717A111	7.37
4	20	1	96717A146	6.99
5	20	1	96717A181	4.23
5	30	1	96717A193	7.17
6	20	1	96717A201	7.40
6	25	1	96717A211	11.31
6	30	1	96717A221	12.93
Steel				
2	10	1	96717A065	3.72
3	10	1	96717A085	2.03
4	8	10	96717A100	12.55
4	10	10	96717A110	12.47
4	12	10	96717A120	8.14
4	14	10	96717A130	13.23
4	16	10	96717A140	5.95
4	20	10	96717A145	9.17
4	25	10	96717A147	9.41
5	10	10	96717A148	8.35
5	12	10	96717A149	8.73
5	14	10	96717A150	8.64
5	16	10	96717A160	9.27
5	18	10	96717A170	14.10
5	20	10	96717A180	8.09
5	25	10	96717A190	8.05
5	30	1	96717A192	6.89
5	40	1	96717A194	4.01
5	50	1	96717A196	3.77
6	12	1	96717A197	3.22
6	16	10	96717A198	14.41
6	20	10	96717A200	7.57
6	25	10	96717A210	10.05
6	30	10	96717A220	10.98
6	36	10	96717A230	13.12
6	40	10	96717A240	9.48
6	50	5	96717A250	9.09

Machine Key and Woodruff Key Assortments

153 Machine Keys in 6 Sizes and 248 Woodruff Keys in 12 Sizes—Assortment comes in a plastic box. All keys are steel.

Machine keys are 1½" long. Sizes included: 25 of 3/16"×1/4", 50 of 1/8" square; 30 of 3/16" square; 18 of 1/4" square; and 15 each of 5/16" square and 3/8" square.

Woodruff keys include 45 each of key numbers 3 and 5; 30 of key number 9; 22 each of key numbers 6 and 7; 20 of key number 15; 15 each of key numbers 10 and A; 12 of key number 13; 9 each of key numbers C and 21; and 4 of key number G.

90141A212 ..... $136.33

Step Key Stock

Also known as offset key stock, all are made of zinc-plated steel. Length tolerance is –0.125".

For Shafts—Repair damaged keyways in shafts.

For Gears—Use for gears, pulleys, and inconsistent keyways.

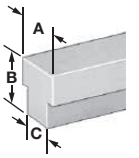

For Shafts

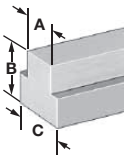

For Gears

Key Stock

Size (A)	Size (B)	Size (C)	Tolerances A & C	Tolerances B	12" Lengths	
For Shafts						
3/16"	5/32"	1/8"	+0.002"	±0.004"	92271A111★	$17.65
3/8"	5/16"	5/16"	+0.002"	±0.004"	92271A112	19.23
3/8"	11/32"	5/16"	+0.002"	±0.004"	92271A113★	26.67
1/2"	13/32"	7/16"	+0.002"	±0.004"	92271A114	36.10
5/8"	1/2"	3/8"	+0.002"	±0.004"	92271A115	34.81
3/4"	9/16"	5/8"	+0.002"	±0.004"	92271A117	48.42
3/4"	5/8"	1/2"	+0.002"	±0.004"	92271A116	42.00
3/4"	11/16"	5/8"	+0.002"	±0.004"	92271A118	43.53
1"	15/16"	7/8"	+0.002"	±0.004"	92271A119	57.58
For Gears						
3/16"	3/16"	1/4"	+0.002"	±0.005"	92271A211	16.75
3/16"	7/32"	1/4"	+0.002"	±0.005"	92271A212★	18.06
1/4"	1/4"	5/16"	+0.002"	±0.005"	92271A213★	17.65
1/4"	1/4"	3/8"	+0.002"	±0.005"	92271A214	35.40
1/4"	5/16"	3/8"	+0.002"	±0.005"	92271A215★	30.65
3/8"	11/32"	7/16"	+0.002"	±0.005"	92271A216	36.17
3/8"	3/8"	1/2"	+0.002"	±0.005"	92271A217	36.07
3/8"	7/16"	1/2"	+0.002"	±0.005"	92271A218★	35.65
1/2"	7/16"	9/16"	+0.002"	±0.005"	92271A219	39.57
1/2"	7/16"	5/8"	+0.002"	±0.005"	92271A221	36.17
1/2"	1/2"	11/16"	+0.002"	±0.005"	92271A220	79.94
1/2"	9/16"	5/8"	+0.002"	±0.005"	92271A222★	38.68
5/8"	9/16"	11/16"	+0.002"	±0.005"	92271A224	71.68
3/4"	13/16"	7/8"	+0.002"	±0.005"	92271A226	51.79
3/4"	7/8"	1"	+0.002"	±0.005"	92271A228	49.66

7-Piece Assortments

Includes one each of the sizes marked with a ★.

92271A410 ..... $83.85

Machine Key Assortments

All have square ends and come in a plastic box.

58 Keys in 13 Sizes—All are undersized and made of zinc-plated steel. Includes 3 each of 1/8" square in 3/4" and 1" lengths; 5 each of 3/16" square in 3/4", 1", and 1¼" lengths; 1/4" square in 3/4", 1¼, and 1½" lengths, 5/16" square in 1¼" and 1½" lengths, and 3/8" square in 1¼" and 1½" lengths; and 2 each of 1/2" square in 1½" length.

98800A110 ..... $77.72

25 Metric Keys in 13 Sizes—All are oversized, 3⅜" long, and made of steel. Includes 2 each of square sizes 4 mm, 5 mm, 7 mm, 10 mm, and 12 mm; 3 each of square sizes 6 mm and 8 mm; 2 each of rectangular sizes 7 mm×8 mm, 8 mm×10 mm, and 8 mm×12 mm; and 1 each of rectangular sizes 10 mm×16 mm, 11 mm×18 mm, and 12 mm×20 mm.

98505A018 ..... $29.99

Tapered Machine Keys with Head

Also known as gib head keys, the 1/8" per foot taper provides a more secure fit into a keyway than straight keys. All are steel. The square size is measured at the largest point of the shank before it starts to taper and has a tolerance of –0.002".

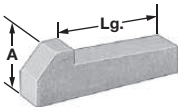

Square Size	Lg.	(A)		
3/16"	1½"	5/16"	98471A117	$2.10
3/16"	2"	5/16"	98471A118	2.25
3/16"	3"	5/16"	98471A120	2.56
1/4"	1½"	1/2"	98471A132	2.39
1/4"	2"	1/2"	98471A133	2.68
1/4"	2½"	1/2"	98471A134	2.85
1/4"	3"	1/2"	98471A135	2.92
1/4"	3½"	1/2"	98471A136	3.09
1/4"	4"	1/2"	98471A137	3.23
5/16"	2"	1/2"	98471A142	3.02
5/16"	2½"	1/2"	98471A143	3.10
5/16"	3"	1/2"	98471A144	3.24
5/16"	4"	1/2"	98471A146	3.44
3/8"	1"	5/8"	98471A169	2.48
3/8"	1½"	5/8"	98471A171	2.69
3/8"	2"	5/8"	98471A172	3.07
3/8"	2½"	5/8"	98471A173	3.29
3/8"	3"	5/8"	98471A174	$3.57
3/8"	3½"	5/8"	98471A175	3.73
3/8"	4"	5/8"	98471A176	4.05
3/8"	4½"	5/8"	98471A177	4.34
3/8"	5"	5/8"	98471A178	4.63
7/16"	4"	3/4"	98471A192	4.43
7/16"	4½"	3/4"	98471A195	4.57
1/2"	2"	3/4"	98471A237	4.00
1/2"	2½"	3/4"	98471A238	4.18
1/2"	3"	3/4"	98471A239	4.54
1/2"	3½"	3/4"	98471A240	4.82
1/2"	4"	3/4"	98471A241	5.10
1/2"	4½"	3/4"	98471A242	5.72
1/2"	5"	3/4"	98471A243	5.79
1/2"	5½"	3/4"	98471A244	6.02
1/2"	6"	3/4"	98471A245	6.29
5/8"	3"	1"	98471A318	6.35
5/8"	3½"	1"	98471A319	$6.87
5/8"	4"	1"	98471A320	7.27
5/8"	4½"	1"	98471A321	7.78
5/8"	5"	1"	98471A322	8.20
5/8"	5½"	1"	98471A323	8.70
5/8"	6"	1"	98471A324	9.11
3/4"	4"	1⅛"	98471A360	9.95
3/4"	4½"	1⅛"	98471A361	10.62
3/4"	5"	1⅛"	98471A362	11.29
3/4"	5½"	1⅛"	98471A363	11.98
3/4"	6"	1⅛"	98471A364	12.56
7/8"	4"	1¼"	98471A404	14.04
7/8"	5½"	1¼"	98471A407	16.22
7/8"	6"	1¼"	98471A408	17.12
1"	5"	1½"	98471A455	20.29
1"	6"	1½"	98471A457	22.68

About Spring Plungers

A spring inside the plunger body pushes the nose to apply accurate, consistent pressure to workpieces. Use spring plungers for positioning, locking, indexing, and ejecting. They can also function as a detent catch.



Ball Nose



Long Nose

Ball-nose spring plungers roll to minimize wear on materials. They are compact for strength.

Long-nose spring plungers have an extended nose with a larger bearing surface for smooth operation.

Nose Force—*Extended nose force* is the force required to begin to depress the nose. *Compressed nose force* is the force required to depress the nose flush with the body. When using a plunger as a detent catch, lighter nose forces and shallower holes release more easily, while heavier nose forces and deeper holes hold more securely.

Thread-Locking Element—Most of our threaded spring plungers are available with a locking element that resists vibration and reduces the need for thumb nuts and thread-locking adhesives. Note: Not recommended for use on aluminum or other soft materials.

Indexing Application

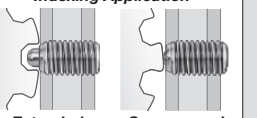

Extended Compressed

Ball-Nose Spring Plungers



With Thread-Locking Element



Without Thread-Locking Element

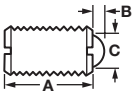

To Order: For steel, stainless steel, and brass body plungers, please specify **with or without a thread-locking element.** When threading into aluminum and other soft materials, select a plunger without the thread-locking element.

The ball nose in these spring plungers rolls to minimize wear on the workpiece. They are compact for high strength. Install with a screwdriver or plunger wrench (sold separately on page 3413).

Type 316 stainless steel plungers are the most corrosion resistant.

18-8 stainless steel plungers are corrosion resistant and suitable for use in harder materials than brass plungers.

Brass plungers are nonmagnetic, corrosion resistant, and have a decorative finish. They are for use in softer materials than 18-8 stainless steel plungers.

Plastic plungers are lightweight yet durable and are good electrical insulators. Best suited for use with plastic components.

Stainless steel balls are 440C, except Type 316 stainless steel plungers have Type 316 stainless steel balls. *Plastic balls* resist moisture and solvents, and are electrical insulators.

Maximum temperature is 250° F for steel and 18-8 stainless steel plungers with a stainless steel ball and 170° F for all others.

Inch

Thread Size	Body Lg. (A)	Nose Lg. (B)	Nose Dia. (C)	*Nose Force, lbs.* Extended	Compressed	*Steel Body* SS Ball		*Steel Body* Plastic Ball		*18-8 SS Body* SS Ball		*18-8 SS Body* Plastic Ball	
4-48	0.187″	0.02″	0.062″	0.1	0.5	3408A65	$3.68	84805A51	$5.58	3408A88	$4.23	34085A35	$5.81
5-40	0.25″	0.02″	0.062″	0.3	0.8	3408A66	3.53	84805A52	5.32	3408A89	4.06	34085A36	5.53
6-40	0.312″	0.023″	0.078″	0.5	1	3408A67	3.28	84805A53	4.94	3408A9	3.59	34085A37	5.19
8-32	0.344″	0.025″	0.094″	0.5	1.3	3408A68	3.28	84805A54	4.72	3408A91	3.59	34085A5	4.95
8-36	0.344″	0.025″	0.094″	0.5	1.3	3408A69	3.28	84805A55	4.72	3408A92	3.59	34085A38	4.95
10-24	0.513″	0.025″	0.094″	2	5	3408A521	4.27		—	3408A621	4.92		—
10-32	0.513″	0.025″	0.094″	0.5	1.5	3408A7	3.59	84805A63	4.98	3408A93	3.90	34085A39	5.53
10-32	0.513″	0.025″	0.094″	1.5	3	3408A71	3.59	84805A56	5.40	3408A94	3.95	34085A41	5.53
10-32	0.513″	0.025″	0.094″	2	5	3408A72	3.59	84805A64	4.98	3408A95	3.95	34085A42	5.53
1/4″-20	0.531″	0.035″	0.125″	2	4	3408A73	3.62	84805A65	5.12	3408A96	3.95	34085A43	5.94
1/4″-20	0.531″	0.035″	0.125″	3	7	3408A74	3.62	84805A57	5.54	3408A97	3.95	34085A44	5.94
1/4″-20	0.531″	0.035″	0.125″	4	12	3408A75	3.62	84805A66	5.12	3408A98	3.95	34085A45	5.94
1/4″-28	0.531″	0.035″	0.125″	4	12	3408A531	4.09		—	3408A631	4.55		—
5/16″-18	0.578″	0.04″	0.156″	2	4.5	3408A76	3.62	84805A67	5.52	3408A99	4.17	34085A46	6.32
5/16″-18	0.578″	0.04″	0.156″	4	9	3408A77	3.62	84805A58	6.00	3408A1	4.17	34085A47	6.32
5/16″-18	0.578″	0.04″	0.156″	6	17	3408A78	3.62	84805A68	5.52	3408A2	4.17	34085A48	6.32
5/16″-24	0.578″	0.04″	0.156″	6	17	3408A541	4.09		—	3408A641	5.20		—
3/8″-16	0.625″	0.048″	0.188″	2.5	5	3408A79	3.71	84805A69	6.12	3408A3	4.70	34085A49	7.23
3/8″-16	0.625″	0.048″	0.188″	5	10	3408A8	3.71	84805A59	6.64	3408A5	4.70	34085A51	7.23
3/8″-16	0.625″	0.048″	0.188″	6	21	3408A81	3.71	84805A7	6.12	3408A6	4.70	34085A52	7.23
3/8″-24	0.625″	0.048″	0.188″	6	21	3408A551	4.27		—	3408A651	5.98		—
1/2″-13	0.75″	0.072″	0.281″	3	6	3408A82	4.73	84805A71	6.78	3408A51	5.87	34085A53	8.18
1/2″-13	0.75″	0.072″	0.281″	6	12	3408A83	4.11	84805A61	7.36	3408A55	5.87	34085A54	8.18
1/2″-13	0.75″	0.072″	0.281″	6	30	3408A84	4.11	84805A72	6.78	3408A56	5.87	34085A1	8.18
1/2″-20	0.75″	0.072″	0.281″	6	30	3408A561	4.74		—	3408A661	6.76		—
5/8″-11	0.984″	0.096″	0.375″	4.5	9	3408A85	5.56	84805A73	7.74	3408A57	7.98	34085A2	10.92
5/8″-11	0.984″	0.096″	0.375″	7	50	3408A87	4.95	84805A74	7.74	3408A59	7.98	34085A4	10.92
5/8″-11	0.984″	0.096″	0.375″	9	18	3408A86	5.56	84805A62	8.40	3408A58	7.98	34085A3	10.92

Thread Size	Body Lg. (A)	Nose Lg. (B)	Nose Dia. (C)	Extended	Compressed	*316 SS Body* SS Ball		*Brass Body* Brass Ball		*Plastic Body* SS Ball		*Plastic Body* Plastic Ball	
4-48	0.187″	0.02″	0.062″	0.1	0.5	8686A11	$11.38	8687A11	$7.96		—		—
5-40	0.25″	0.02″	0.062″	0.3	0.8	8686A12	11.38	8687A12	7.96		—		—
6-40	0.312″	0.023″	0.078″	0.5	1	8686A13	10.65	8687A13	7.96		—		—
8-32	0.344″	0.025″	0.094″	0.5	1.3	8686A14	10.65	8687A14	7.47		—		—
8-36	0.344″	0.025″	0.094″	0.5	1.3	8686A15	10.65	8687A15	7.35		—		—
10-32	0.513″	0.025″	0.094″	1.5	3	8686A16	10.65	8687A16	7.36		—		—
10-32	0.513″	0.025″	0.094″	2	5	8686A17	10.65	8687A17	7.36		—		—
1/4″-20	0.531″	0.03″	0.125″	1	2.5		—		—	84775A42	$3.96	84775A52	$3.97
1/4″-20	0.531″	0.03″	0.125″	2	5		—		—	84775A41	3.96	84775A51	3.97
1/4″-20	0.531″	0.035″	0.125″	2	4	8686A18	11.66	8687A18	8.12		—		—
1/4″-20	0.531″	0.035″	0.125″	4	12	8686A19	11.66	8687A19	8.12		—		—
5/16″-18	0.578″	0.039″	0.156″	2	4.5		—		—	84775A44	3.96	84775A56	3.97
5/16″-18	0.578″	0.039″	0.156″	4	9		—		—	84775A43	3.96	84775A55	3.97
5/16″-18	0.578″	0.04″	0.156″	6	17	8686A21	12.91	8687A21	9.05		—		—
3/8″-16	0.625″	0.048″	0.188″	5	10	8686A22	14.43	8687A22	10.10		—		—
3/8″-16	0.625″	0.053″	0.187″	2.5	5		—		—	84775A46	4.14	84775A54	4.14
3/8″-16	0.625″	0.053″	0.187″	5	10		—		—	84775A45	4.14	84775A53	4.14
1/2″-13	0.75″	0.072″	0.281″	6	30	8686A23	19.35	8687A23	13.53		—		—
5/8″-11	0.984″	0.096″	0.375″	7	50	8686A24	23.90	8687A24	16.75		—		—

(Continued on following page)

Ball-Nose Spring Plungers *(Continued from previous page)*

To Order: Please specify **with or without a thread-locking element**. When threading into aluminum and other soft materials, select a plunger without the thread-locking element.

Metric

Thread Size	Body Lg., mm (A)	Nose Lg., mm (B)	Ball Dia., mm (C)	Nose Force, lbs. Extended	Nose Force, lbs. Compressed	Steel Body SS Ball		Steel Body Plastic Ball		18-8 SS Body SS Ball		18-8 SS Body Plastic Ball	
M3 ×0.5	7	0.4	1.5	0.7	1	3391A65	$5.13	2191A25	$4.85	85015A31	$7.33	2277A65	$6.79
M4 ×0.7	9	0.8	2.5	0.9	2.3	3391A31	4.38	2191A11	5.06	85015A46	6.24	2277A51	7.06
M5 ×0.8	12	0.9	3.5	1.8	3.2	3391A66	5.13	2191A26	4.85	85015A32	7.33	2277A66	6.79
M5 ×0.8	12	0.9	3.5	3.4	5	3391A67	5.13	2191A27	4.85	85015A33	7.33	2277A67	6.79
M6 ×1	14	1	3.5	0.5	1.4	3391A33	4.46	2191A13	5.17	85015A48	6.39	2277A53	7.23
M6 ×1	14	1	3.5	2	2.9	3391A32	4.46	2191A12	5.17	85015A47	6.39	2277A52	7.23
M6 ×1	14	1	3.5	6.3	9	3391A34	4.46	2191A14	5.17	85015A49	6.39	2277A54	7.23
M8 ×1.25	16	1.5	5	1.1	2.3	3391A36	4.66	2191A16	5.37	85015A52	6.65	2277A56	7.54
M8 ×1.25	16	1.5	5	3.4	6.7	3391A35	4.66	2191A15	5.37	85015A51	6.65	2277A55	7.54
M8 ×1.25	16	1.5	5	9	13.4	3391A37	4.66	2191A17	5.37	85015A53	6.65	2277A57	7.54
M10×1.5	19	2	6	1.8	3.4	3391A39	5.73	2191A19	5.77	85015A55	7.10	2277A59	8.06
M10×1.5	19	2	6	4.5	7.8	3391A38	4.98	2191A18	5.77	85015A54	7.10	2277A58	8.06
M10×1.5	19	2	6	13.4	20	3391A41	4.98	2191A21	5.77	85015A56	7.10	2277A61	8.06
M12×1.75	22	2.5	8	2.3	4.5	3391A43	6.42	2191A23	6.46	85015A58	7.65	2277A63	8.71
M12×1.75	22	2.5	8	6.7	12.3	3391A42	6.46	2191A22	6.46	85015A57	7.65	2277A62	8.71
M12×1.75	22	2.5	8	16.8	25.7	3391A44	6.47	2191A24	6.46	85015A59	7.65	2277A64	8.71
M16×2	24	3.5	10	9.2	19.3	3391A68	5.84	2191A28	6.20	85015A34	8.97	2277A68	8.02
M16×2	24	3.5	10	15.3	32	3391A69	6.59	2191A29	5.47	85015A35	8.97	2277A69	8.00
M16×2	25.4	2.4	9.5	4.4	8.8	3391A48	6.76			85015A43	9.15		

Press-Fit Ball-Nose Spring Plungers

No special tools are needed to install these plungers. A tapered end and smooth body make them easy to press into unthreaded holes. Use in wood, soft plastic, and aluminum. Maximum temperature is 250° F for plungers with a stainless steel ball and 180° F for plungers with a plastic ball.

Stainless steel plungers are made of corrosion-resistant 18-8 stainless steel.

Stainless steel balls are 400 series. Plastic balls resist moisture and solvents, and are good electrical insulators.



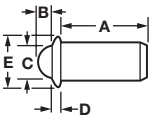

Body Dia.	Body Lg. (A)	Nose Lg. (B)	Nose Dia. (C)	Flange Thick. (D)	Flange Dia. (E)	Nose Force, lbs. Extended	Nose Force, lbs. Compressed	Steel Body Stainless Steel Ball		Steel Body Plastic Ball		Stainless Steel Body Stainless Steel Ball		Stainless Steel Body Plastic Ball	
0.125″	0.252″	0.035″	0.093″	0.032″	0.187″	2	5	84835A21	$2.85			84895A31	$4.58	8483A41	$4.29
0.125″	0.252″	0.035″	0.094″	0.032″	0.187″	0.4	1.3	84835A41	2.83	8483A57	$2.88	84895A61	4.18	8483A24	4.22
0.125″	0.252″	0.035″	0.094″	0.032″	0.187″	0.8	2.5	84835A33	2.83	8483A51	2.88	84895A56	4.18	8483A25	4.22
0.157″	0.16″	0.03″	0.12″	0.04″	0.18″	0.6	1.4					84895A71	3.23		
0.188″	0.394″	0.058″	0.156″	0.04″	0.25″	1	2.5	84835A42	2.60	8483A58	2.65	84895A62	3.84	8483A26	3.90
0.188″	0.394″	0.058″	0.156″	0.04″	0.25″	2	5	84835A11	2.60	8483A52	2.65	84895A21	3.84	8483A27	3.90
0.188″	0.405″	0.058″	0.156″	0.035″	0.25″	4	10	84835A22	2.85			84895A32	4.58	8483A42	4.12
0.197″	0.2″	0.04″	0.16″	0.04″	0.22″	0.7	1.5					84895A72	3.51		
0.236″	0.24″	0.06″	0.2″	0.04″	0.26″	1.2	2.6					84895A73	3.51		
0.25″	0.471″	0.07″	0.187″	0.045″	0.312″	1.5	3.5	84835A43	2.71	8483A59	2.76	84895A63	4.00	8483A28	4.12
0.25″	0.471″	0.07″	0.187″	0.045″	0.312″	3	7	84835A12	2.71	8483A53	2.76	84895A22	4.00	8483A29	4.12
0.25″	0.481″	0.07″	0.187″	0.044″	0.312″	6	13	84835A23	2.83			84895A33	4.18	8483A43	4.48
0.312″	0.643″	0.09″	0.25″	0.045″	0.375″	2	5	84835A44	2.83	8483A61	2.88	84895A64	4.18	8483A31	4.22
0.312″	0.643″	0.09″	0.25″	0.045″	0.375″	4	10	84835A36	2.83	8483A54	2.88	84895A58	4.18	8483A32	4.22
0.312″	0.643″	0.09″	0.25″	0.045″	0.375″	8	16	84835A24	2.82			84895A34	5.00	8483A44	4.69
0.315″	0.31″	0.07″	0.26″	0.04″	0.335″	1.6	2.8					84895A74	4.18		
0.375″	0.785″	0.11″	0.312″	0.078″	0.5″	10	18	84835A25	3.12			84895A35	4.18	8483A45	4.83
0.375″	0.786″	0.11″	0.312″	0.078″	0.5″	2.5	7	84835A45	2.83	8483A62	2.88	84895A65	4.18	8483A33	4.22
0.375″	0.786″	0.11″	0.312″	0.078″	0.5″	5	14	84835A13	2.83	8483A55	2.88	84895A23	4.18	8483A34	4.22
0.394″	0.45″	0.12″	0.33″	0.08″	0.43″	1.9	4.2					84895A15	4.18		
0.472″	0.53″	0.15″	0.39″	0.1″	0.51″	2.7	6					84895A16	5.04		
0.5″	1.1″	0.161″	0.437″	0.11″	0.688″	4	9	84835A46	3.20	8483A63	3.09	84895A66	4.48	8483A35	4.54
0.5″	1.1″	0.161″	0.437″	0.11″	0.688″	8	18	84835A14	3.20	8483A56	3.09	84895A24	4.62	8483A36	4.54
0.5″	1.13″	0.161″	0.437″	0.088″	0.688″	12	23	84835A26	4.15			84895A36	8.31	8483A46	7.57

Flush-Mount Ball-Nose Spring Plungers

The flangeless design on these spring plungers allows them to mount flush with a surface. Press the plunger into an unthreaded hole for permanent installation. Maximum temperature is 250° F.

Inch plungers have knurled bodies and Type 440C stainless steel balls. The stainless steel plungers are 18-8 stainless steel.

Metric plungers have 18-8 stainless steel bodies with Type 420 stainless steel balls.

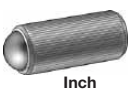
Inch


Metric

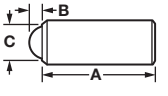

Body Dia.	Body Lg. (A)	Nose Lg. (B)	Nose Dia. (C)	Nose Force, lbs. Extended	Nose Force, lbs. Compressed	Steel Body with Stainless Steel Ball		Stainless Steel Body with Stainless Steel Ball	
Inch									
0.15″	0.29″	0.035″	0.094″	0.4	1.3	8262A11	$3.62	8262A15	$5.65
0.26″	0.52″	0.07″	0.188″	1.5	3.5	8262A12	3.47	8262A16	5.41
0.38″	0.865″	0.11″	0.313″	2.5	7	8262A13	3.62	8262A17	5.65
0.51″	1.21″	0.161″	0.438″	4	9	8262A14	3.89	8262A18	6.06
Metric									
3 mm	7 mm	0.65 mm	2 mm	1	1.7			8262A21	3.15
3.5 mm	9 mm	0.8 mm	2.5 mm	1.3	3.2			8262A22	3.06
4 mm	11 mm	0.9 mm	3 mm	1.8	3.2			8262A23	3.12
5 mm	13 mm	1 mm	3.5 mm	2.5	4			8262A25	3.37
6 mm	15 mm	1.5 mm	4.5 mm	4	7			8262A27	3.44

Press-Fit Ball-Nose Spring Plungers



An O-ring in the flange creates a tight seal. To install, press-fit into an unthreaded hole. Made of 18-8 stainless steel. Maximum temperature is 176° F.

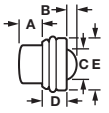

Body Dia	Body Lg. (A)	Nose Lg. (B)	Nose Dia. (C)	Flange Thick. (D)	Flange Dia. (E)	*Nose Force, lbs.* Extended	Compressed		
0.16″	0.106″	0.032″	0.118″	0.091″	0.195″	0.7	1.6	1368A11	$4.05
0.2″	0.146″	0.039″	0.158″	0.091″	0.234″	0.9	1.6	1368A12	3.85
0.24″	0.13″	0.059″	0.197″	0.145″	0.313″	1.3	2.7	1368A13	4.28
0.32″	0.189″	0.071″	0.256″	0.165″	0.392″	1.3	2.7	1368A14	4.93
0.39″	0.323″	0.106″	0.315″	0.209″	0.471″	2.2	4.5	1368A15	5.58
0.47″	0.413″	0.138″	0.394″	0.217″	0.549″	3.4	5.6	1368A16	8.98

High-Torque Ball-Nose Spring Plungers



With Thread-Locking Element

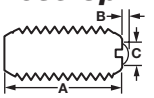



Without Thread-Locking Element



To Order: Please specify **with or without a thread-locking element**. When threading into aluminum and other soft materials, select a plunger without the thread-locking element.

The hex drive on these plungers allows you to apply more torque during installation (hex key not included). Maximum temperature is 250° F. Balls are Type 440C stainless steel.

Steel plungers have a black-oxide finish.

Stainless steel plungers are made of corrosion-resistant 18-8 stainless steel.

Thread Size	Body Lg. (A)	Nose Lg. (B)	Nose Dia. (C)	Hex Size	*Nose Force, lbs.* Extended	Compressed	**Steel Body with Stainless Steel Ball**		**Stainless Steel Body with Stainless Steel Ball**	
6-40	0.35″	0.023″	0.078″	0.05″	0.5	1	5901A11	$4.81	5901A31	$5.43
8-32	0.445″	0.025″	0.094″	0.063″	0.5	1.3	5901A12	4.57	5901A32	5.96
10-32	0.57″	0.025″	0.094″	0.079″	1.5	3	5901A13	5.44	5901A33	6.72
1/4″-20	0.675″	0.035″	0.125″	0.079″	3	7	5901A14	4.67	5901A34	6.36
5/16″-18	0.72″	0.04″	0.156″	0.095″	4	9	5901A15	4.72	5901A35	8.09
3/8″-16	0.8″	0.048″	0.188″	0.156″	5	10	5901A16	5.44	5901A36	9.29
1/2″-13	1.05″	0.072″	0.281″	0.219″	6	12	5901A17	5.73	5901A37	9.15
5/8″-11	1.25″	0.096″	0.375″	0.253″	9	18	5901A18	6.73	5901A38	11.89

Long-Nose Spring Plungers



Standard Body Length with Thread-Locking Element



Short Body Length without Thread-Locking Element

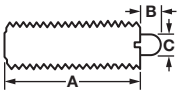

To Order: Please specify **with or without a thread-locking element**, except where noted. When threading into aluminum and other soft materials, select a plunger without the thread-locking element.

The nose on these plungers is longer than a ball nose, creating a larger bearing surface for smooth operation. Use to position fixtures, eject parts from a punch press, or as an indexing stop. Install with a plunger wrench (sold separately on page 3413). Short body length plungers can also be installed with a screwdriver.

Also known as stubby, **short body length** plungers combine the compact body of a ball-nose spring plunger with a long nose. This combination delivers ample plunger projection and high nose forces in thin materials and tight spaces.

Steel plungers with a *standard body length* have a black-oxide finish, unless noted. Plungers with a *short body length* are zinc plated, unless noted.

Stainless steel plungers are made of corrosion-resistant 18-8 stainless steel.

Plastic noses won't mar softer materials such as aluminum and brass.

Maximum temperature is 250° F for steel and stainless steel nose plungers, and 180° F for plastic nose plungers, unless noted.

Inch

Thread Size	Body Lg. (A)	Nose Lg. (B)	Nose Dia. (C)	*Nose Force, lbs.* Ex-tended	Com-pressed	***Steel Body*** **Steel Nose**		**Stainless Steel Nose**		**Plastic Nose**		***Stainless Steel Body*** **Stainless Steel Nose**		**Plastic Nose**	
Standard Body Length															
6-32	0.375″	0.063″	0.045″	1	1.6	3126A2	$3.95	8490A55	$5.54	_____	___	84975A37	$5.05	_____	___
6-32	0.375″	0.063″	0.046″	0.5	3.5	3126A75	5.70	_____	___	8499A48	$5.69	_____	___	_____	___
6-32	0.531″	0.063″	0.045″	0.5	1.5	3126A1	3.95	8490A68	5.54	8499A46	5.67	84975A36	5.05	_____	___
6-32	0.531″	0.063″	0.045″	1.5	4.5	3126A3	3.95	8490A54	5.54	8499A47	5.67	84975A39	5.05	_____	___
8-32	0.625″	0.094″	0.07″	0.7	2.3	3126A4	3.95	8490A69	4.77	8499A11	4.41	84975A42	5.05	84765A71	$5.57
8-32	0.625″	0.094″	0.07″	2.7	7.3	3126A5	3.95	8490A56	4.77	8499A12	4.41	84975A44	5.05	84765A61	5.57
10-32	0.75″	0.125″	0.092″	1.3	2.7	3126A6	4.14	8490A71	4.57	8499A13	4.17	84975A46	5.05	84765A72	5.57
10-32	0.75″	0.125″	0.092″	2.9	11.1	3126A7	4.12	8490A57	4.57	8499A14	4.17	84975A48	5.05	84765A62	5.57
1/4″-20	0.75″	0.125″	0.118″	0.3	2	3126A68■	4.07	_____	___	_____	___	_____	___	_____	___
1/4″-20	0.75″	0.125″	0.118″	2	9	3126A25	3.89	8490A61	4.66	_____	___	84975A53	4.60	84765A65	5.08
1/4″-20	1″	0.188″	0.118″	1	4	3126A9	3.90	8490A72	4.57	8499A15	4.33	84975A51	4.90	84765A73	5.41
1/4″-20	1″	0.188″	0.118″	3	13	3126A26	4.10	8490A58	4.66	8499A16	4.33	84975A55	4.90	84765A63	5.41
1/4″-28	1″	0.188″	0.118″	1	4	3126A27	6.18	8490A73	5.22	8499A17	4.33	84975A57	4.90	84765A74	5.41
1/4″-28	1″	0.188″	0.118″	3	13	3126A28	4.72	8490A59	4.66	8499A18	4.33	84975A59	4.90	84765A64	5.41
5/16″-18	1″	0.188″	0.135″	1.5	4.5	3126A29	4.11	8490A74	4.74	8499A19	4.33	84975A62	4.90	84765A75	5.41
5/16″-18	1″	0.188″	0.135″	3	15	3126A43	3.90	8490A62	4.66	8499A21	4.33	84975A64	4.90	84765A66	5.41
3/8″-16	1.125″	0.188″	0.187″	2.8	7.2	3126A44	3.90	8490A75	5.00	8499A22	4.06	84975A66	5.50	84765A76	6.08
3/8″-16	1.125″	0.188″	0.187″	5.5	14.5	3126A45	3.90	8490A63	5.00	8499A23	4.06	84975A68	5.50	84765A67	6.06
1/2″-13	1.25″	0.25″	0.248″	2.7	9.3	3126A46	3.90	8490A76	6.91	8499A24	4.31	84975A71	6.85	84765A77	7.57
1/2″-13	1.25″	0.25″	0.248″	6.6	17.4	3126A47	3.90	8490A64	6.91	8499A25	4.53	84975A73	6.85	84765A68	7.57
5/8″-11	1.5″	0.313″	0.31″	3.5	10.5	3126A48	6.08	8490A77	10.94	8499A26	6.02	84975A75	12.70	84765A78	14.04
5/8″-11	1.5″	0.313″	0.31″	10.5	25.5	3126A49	5.83	8490A65	10.94	8499A27	6.02	84975A86	12.70	84765A69	14.04

■ Comes with a thread-locking element.

(Continued on following page)

Long-Nose Spring Plungers *(Continued from previous page)*

To Order: Please specify **with or without a thread-locking element**, except where noted. When threading into aluminum and other soft materials, select a plunger without the thread-locking element.

Inch (Cont.)

Thread Size	Body Lg. (A)	Nose Lg. (B)	Nose Dia. (C)	Nose Force, lbs. Extended	Nose Force, lbs. Compressed	Steel Body: Steel Nose		Steel Body: Stainless Steel Nose		Steel Body: Plastic Nose		Stainless Steel Body: Stainless Steel Nose		Stainless Steel Body: Plastic Nose	
Standard Body Length (Cont.)															
3/4"-10	1.75"	0.312"	0.374"	4	16	3126A39■	$5.68								
3/4"-10	1.75"	0.313"	0.374"	6.7	37.3	3126A61	6.98	8490A66	$18.15			84975A77	$20.82		
1"-8	2.406"	0.5"	0.498"	4	31	3126A72	14.04	8490A78	31.09			84975A79	34.18		
1"-8	2.406"	0.5"	0.498"	16	68	3126A73	14.04	8490A67	31.09			84975A83	34.18		
Short Body Length															
6-32	0.375"	0.036"	0.046"	0.5	1.5	3126A69■ ★	4.31			8499A52■ ★	$4.54				
8-32	0.437"	0.052"	0.07"	0.5	1.5	3126A76	3.90	8490A97	4.03	8499A28	3.92	84985A41	4.90	84765A11	$5.22
8-32	0.437"	0.052"	0.07"	1.5	4.8	3126A77	3.90	8490A79	4.03	8499A29	3.92	84985A43	4.90	84765A14	5.22
8-32	0.437"	0.093"	0.07"	1	3.3	3126A211 ★	4.26			8499A811 ★	4.42	84985A11	5.30	84765A311	4.92
8-32	0.5"	0.094"	0.07"	0.5	2	3126A78 ★	5.70			8499A49 ★	5.69				
8-32	0.5"	0.094"	0.07"	0.5	4	3126A79 ★	5.70			8499A51 ★	5.69				
8-36	0.437"	0.052"	0.07"	0.5	1.5	3126A81	3.90	8490A89	4.03	8499A31	3.92	84985A45	4.90	84765A17	5.22
8-36	0.437"	0.052"	0.07"	1.5	4.8	3126A82	3.90	8490A81	4.03	8499A32	3.92	84985A47	4.90	84765A81	5.22
8-36	0.437"	0.093"	0.07"	1	3.3	3126A221 ★	4.26			8499A821 ★	4.42	84985A12	5.30	84765A321	4.92
10-32	0.468"	0.065"	0.093"	0.8	2.5	3126A83	3.71	8490A91	3.20	8499A33	3.47	84985A49	4.60	84765A84	4.92
10-32	0.468"	0.065"	0.093"	1.8	6.3	3126A84	3.71	8490A82	3.20	8499A34	3.47	84985A52	4.60	84765A87	4.92
10-32	0.469"	0.125"	0.093"	1.3	4.3	3126A231 ★	4.06			8499A831 ★	4.23	84985A13	4.97	84765A331	4.92
1/4"-20	0.531"	0.078"	0.119"	1	3.5	3126A85	3.55	8490A92	3.20	8499A35	3.47	84985A54	4.50	84765A91	4.80
1/4"-20	0.531"	0.078"	0.119"	3	10.5	3126A86	3.55	8490A83	3.20	8499A36	3.47	84985A56	4.50	84765A94	4.80
1/4"-20	0.531"	0.187"	0.119"	2	7	3126A241 ★	3.88			8499A841 ★	4.02	84985A14	4.86	84765A341	4.82
5/16"-18	0.562"	0.084"	0.135"	1.3	4	3126A87	3.54	8490A93	3.34	8499A37	3.64	84985A58	4.50	84765A97	4.80
5/16"-18	0.562"	0.084"	0.135"	3.8	15.5	3126A89	3.54	8490A84	3.34	8499A38	3.64	84985A61	4.50	84765A101	4.80
5/16"-18	0.563"	0.084"	0.135"	1.5	4	3126A65■ ★	4.12			8499A53■ ★	4.08				
5/16"-18	0.563"	0.187"	0.135"	2	9	3126A251 ★	3.88			8499A851 ★	4.02	84985A15	4.98	84765A351	5.02
3/8"-16	0.625"	0.11"	0.186"	1.5	5	3126A91	3.70	8490A94	3.83	8499A39	3.64	84985A63	5.31	84765A104	5.65
3/8"-16	0.625"	0.11"	0.186"	4.5	18.5	3126A92	3.70	8490A85	3.83	8499A41	3.64	84985A65	5.31	84765A107	5.65
3/8"-16	0.625"	0.187"	0.186"	3	12.5	3126A261 ★	4.22			8499A861 ★	4.22	84985A16	5.75	84765A361	5.65
1/2"-13	0.75"	0.151"	0.248"	1.8	5.5	3126A93	4.73	8490A95	5.62	8499A42	4.83	84985A83	6.67	84765A111	5.88
1/2"-13	0.75"	0.151"	0.248"	5	28	3126A94	4.49	8490A86	5.52	8499A43	4.53	84985A85	7.36	84765A114	5.88
1/2"-13	0.75"	0.25"	0.248"	3.5	19	3126A271 ★	4.22			8499A871 ★	4.44	84985A17	5.95	84765A371	6.51
5/8"-11	1.062"	0.215"	0.31"	2	8.5	3126A95	5.56	8490A96	6.83	8499A44	6.88	84985A87	7.93	84765A117	7.35
5/8"-11	1.062"	0.215"	0.31"	7	50	3126A96	5.20	8490A87	5.94	8499A45	6.37	84985A89	8.34	84765A121	6.98
5/8"-11	1.063"	0.312"	0.31"	4.5	33.5	3126A281 ★	4.98			8499A881 ★	5.20				

■ Comes with a thread-locking element. ★ Black-oxide finish.

Metric

Thread Size	Body Lg., mm (A)	Nose Lg., mm (B)	Nose Dia., mm (C)	Nose Force, lbs. Extended	Nose Force, lbs. Compressed	Steel Body: Steel Nose		Steel Body: Plastic Nose		Stainless Steel Body: Stainless Steel Nose		Stainless Steel Body: Plastic Nose	
Standard Body Length													
M4 ×0.7	15	1.5	1.5	1	3.6			8281A12 ♦	$5.74			8339A12 ♦	$10.25
M5 ×0.8	18	2.3	2.4	1.3	4.3			8281A13 ♦	5.76			8339A13 ♦	10.25
M6 ×1	20	2.5	2.7	1.3	4.3			8281A14 ♦	5.74			8339A14 ♦	10.25
M6 ×1	20	2.5	2.7	1.6	4.5	84995A41	$5.20	8281A25	5.57	8502A21	$7.68	8339A25	7.79
M6 ×1	20	2.5	2.7	4	11.2	84995A43	5.04	8281A19	5.57	8502A23	7.68	8339A19	7.79
M6 ×1	25	5	3	1	4	84995A19 ♣	5.26						
M8 ×1.25	22	3	3.5	2	7.9	84995A45	5.26	8281A26	5.68	8502A25	7.84	8339A26	7.95
M8 ×1.25	22	3	3.5	2.2	8.7			8281A15 ♦	6.50			8339A15 ♦	8.33
M8 ×1.25	22	3	3.5	5.6	15.7	84995A47	5.26	8281A21	5.68	8502A27	7.84	8339A21	7.95
M10 ×1.5	22	3	4	2	7.9	84995A49	5.62	8281A27	5.78	8502A29	7.98	8339A27	9.07
M10 ×1.5	22	3	4	2.2	8.7			8281A16 ♦	7.63			8339A16 ♦	9.42
M10 ×1.5	22	3	4	5.6	15.7	84995A52	5.62	8281A22	5.78	8502A32	8.40	8339A22	8.09
M12 ×1.75	28	4	6	2.3	12.3	84995A54	6.86	8281A28	5.89	8502A34	8.57	8339A28	8.25
M12 ×1.75	28	4	6	2.7	11.9			8281A17 ♦	9.44			8339A17 ♦	12.80
M12 ×1.75	28	4	6	10	24.7	84995A56	6.86	8281A23	5.89	8502A36	8.57	8339A23	8.25
M16 ×2	32	5	7.5	10	22.5			8281A18 ♦	14.17			8339A18 ♦	32.16
M16 ×2	38	8	7.87	10.4	25.3	84995A14	8.00			8502A11	9.86		
M16 ×2	38.1	5	7.8	10.5	16.9			8281A24	6.96			8339A24	10.21

♦ Maximum temperature is 122° F. ♣ Zinc-plated finish.

Press-Fit Extra-Long-Nose Spring Plungers

Noses are up to four times longer than those of press-fit long-nose spring plungers with a similar body diameter. Bodies are knurled aluminum for a secure press fit, and the flangeless design allows for a flush mount. Noses are made of steel. 6423A23 and 6423A18 have a tapered nose for easy locating.



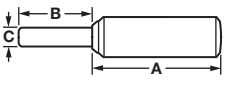

Body Dia.	Body Lg. (A)	Nose Lg. (B)	Nose Dia. (C)	Nose Force, lbs. Extended	Nose Force, lbs. Compressed		
0.25"	0.625"	0.25"	0.125"	0.5	0.9	6423A12	$3.16
0.25"	0.75"	0.5"	0.125"	0.3	1	6423A23	3.42
0.25"	0.75"	0.5"	0.125"	0.3	1.1	6423A22	3.01
0.25"	1"	0.563"	0.094"	0.3	1.1	6423A14	3.55
0.25"	1"	0.563"	0.125"	0.3	0.8	6423A18	3.55
0.25"	1"	0.563"	0.125"	0.3	0.9	6423A11	3.16
0.25"	1"	0.563"	0.156"	0.2	0.7	6423A15	4.01
0.25"	1.25"	0.813"	0.125"	0.3	1.1	6423A21	7.35
0.31"	0.75"	0.5"	0.188"	0.3	1.5	6423A17	9.19
0.34"	0.813"	0.438"	0.25"	0.3	1.1	6423A16	9.19

Corrosion-Resistant Long-Nose Spring Plungers



Standard Body Length with Thread-Locking Element

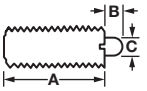

To Order: Please specify **with or without a thread-locking element.** When threading into aluminum and other soft materials, select a plunger without the thread-locking element.

Choose from Type 316 **stainless steel** plungers, which are the most corrosion resistant and **brass** plungers, which are nonmagnetic and have a decorative finish.

Install with a plunger wrench (sold separately on page 3413). Maximum temperature is 180° F.

Short body length plungers are compact with a long nose.

Thread Size	Body Lg. (A)	Nose Lg. (B)	Nose Dia. (C)	*Nose Force, lbs.* Extended	Compressed	Stainless Steel		Brass	
Standard Body Length									
6-32	0.375″	0.063″	0.045″	1	1.6	8688A11	$19.12	8689A11	$11.70
8-32	0.625″	0.094″	0.07″	0.7	2.3	8688A12	17.20	8689A12	11.71
8-32	0.625″	0.094″	0.07″	2.7	7.3	8688A13	17.20	8689A13	11.71
10-32	0.75″	0.125″	0.092″	1.3	2.7	8688A14	16.75	8689A14	11.38
1/4″-20	1″	0.188″	0.118″	3	13	8688A15	16.65	8689A15	11.33
1/4″-28	1″	0.188″	0.118″	1	4	8688A16	16.65	8689A16	11.33
1/4″-28	1″	0.188″	0.118″	3	13	8688A17	16.65	8689A17	11.33
5/16″-18	1″	0.188″	0.135″	3	15	8688A18	17.15	8689A18	11.68
3/8″-16	1.125″	0.188″	0.187″	5.5	14.5	8688A19	18.82	8689A19	12.81
1/2″-13	1.25″	0.25″	0.248″	6.6	17.4	8688A21	19.49	8689A21	13.25
1″-8	2.406″	0.5″	0.498″	16	68	8688A24	86.07	8689A24	58.53
Short Body Length									
8-32	0.437″	0.052″	0.07″	1.5	4.7	8688A31	18.93	8689A31	12.88
8-32	0.5″	0.094″	0.07″	0.5	2	8688A32	18.93	8689A32	12.88
10-32	0.469″	0.065″	0.09″	1.7	6.2	8688A33	14.75	8689A33	12.87
1/4″-20	0.531″	0.078″	0.119″	3	10.5	8688A34	14.75	8689A34	12.87
5/16″-18	0.563″	0.084″	0.135″	1.5	4	8688A35	14.97	8689A35	12.87
3/8″-16	0.625″	0.11″	0.186″	4.5	18.5	8688A36	18.70	8689A36	12.72
1/2″-13	0.75″	0.151″	0.248″	5	28.5	8688A37	23.88	8689A37	16.70
5/8″-11	1.062″	0.215″	0.31″	7	50	8688A39	28.07	8689A39	19.10

High-Torque Long-Nose Spring Plungers



With Thread-Locking Element

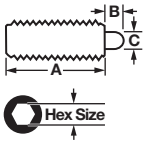

To Order: Please specify **with or without a thread-locking element.** When threading into aluminum and other soft materials, select a plunger without the thread-locking element.

Unlike other plungers, these are machined from a single piece of steel and a hex drive that allows you to apply more torque during installation (hex key not included).

Steel plungers have a black-oxide finish. **Stainless steel** plungers are corrosion-resistant 18-8 stainless steel.

Plastic noses prevent marring on soft materials.

Maximum temperature is 250° F for steel and stainless steel nose plungers and 185° F for plastic nose plungers.

Thread Size	Body Lg. (A)	Nose Lg. (B)	Nose Dia. (C)	Hex Size	*Nose Force, lbs.* Ex-tended	Com-pressed	*Steel Body* Steel Nose		*Steel Body* Plastic Nose		*Stainless Steel Body* Stainless Steel Nose		*Stainless Steel Body* Plastic Nose	
6-32	0.531″	0.063″	0.045″	0.05″	0.5	1.5	8495A19	$4.35	2467A34	$5.42	8476A41	$5.46	2177A41	$7.98
6-32	0.531″	0.063″	0.045″	0.05″	1	1.6	8495A12	4.35	2467A32	5.40	8476A33	5.46	2177A63	6.65
6-32	0.531″	0.063″	0.045″	0.05″	1.5	4.5	8495A11	4.35	2467A31	5.40	8476A32	5.24	2177A42	7.98
8-32	0.625″	0.094″	0.07″	1/16″	0.7	2.3	8495A21	4.38	2467A13 ♣	5.65	8476A42	5.46	2177A43 ♣	6.68
8-32	0.625″	0.094″	0.07″	1/16″	2.7	7.3	8495A13	4.38	2467A14 ♣	5.65	8476A34	5.46	2177A44 ♣	6.68
10-32	0.75″	0.125″	0.092″	1/16″	1.3	2.7	8495A22	4.38	2467A15 ♦	5.65	8476A43	5.46	2177A45 ♦	7.49
10-32	0.75″	0.125″	0.092″	1/16″	2.9	11.1	8495A14	4.38	2467A16 ♦	5.65	8476A35	5.46	2177A46 ♦	7.49
1/4″-20	0.75″	0.125″	0.118″	5/64″	2	9	8495A17	4.55	2467A33	5.04	8476A38	6.33	2177A64	6.05
1/4″-20	1″	0.1875″	0.118″	5/64″	1	4	8495A23	4.55	2467A17 ▲	5.65	8476A44	5.58	2177A47 ▲	7.55
1/4″-20	1″	0.1875″	0.118″	5/64″	3	13	8495A15	4.55	2467A18 ▲	5.65	8476A36	5.58	2177A48 ▲	7.55
1/4″-28	1″	0.1875″	0.118″	5/64″	1	4	8495A24	5.23	2467A19 ▲	5.64	8476A45	7.41	2177A49 ▲	7.91
1/4″-28	1″	0.1875″	0.118″	5/64″	3	13	8495A16	5.12	2467A21 ▲	5.64	8476A37	7.37	2177A52 ▲	7.91
5/16″-18	1″	0.1875″	0.135″	3/32″	1.5	4.5	8495A25	5.15	2467A22 ♠	5.82	8476A46	6.62	2177A53 ♠	6.95
5/16″-18	1″	0.1875″	0.135″	3/32″	3	15	8495A18	4.74	2467A23 ♠	5.82	8476A39	6.31	2177A54 ♠	6.95
3/8″-16	1.125″	0.1875″	0.186″	3/16″	2.8	7.2	8495A51	5.32	2467A24	5.86	8476A57	8.29	2177A55	8.09
3/8″-16	1.125″	0.1875″	0.186″	3/16″	5.5	14.5	8495A64	5.32	2467A25	5.86	8476A61	8.29	2177A56	8.09
1/2″-13	1.25″	0.25″	0.248″	1/4″	2.7	9.3	8495A52	5.34	2467A26	6.17	8476A58	9.10	2177A57	9.64
1/2″-13	1.25″	0.25″	0.248″	1/4″	6.6	17.4	8495A65	5.34	2467A27	6.17	8476A62	9.10	2177A58	9.64
5/8″-11	1.5″	0.3125″	0.31″	5/16″	3.5	10.5	8495A53	6.00	2467A28	7.19	8476A59	10.15	2177A59	10.16
5/8″-11	1.5″	0.3125″	0.31″	5/16″	10.5	25.5	8495A66	6.00	2467A29	7.19	8476A63	10.15	2177A62	10.16

♣ Hex size is 5/64″. ♦ Hex size is 3/32″. ▲ Hex size is 1/8″. ♠ Hex size is 5/32″.

Press-Fit Long-Nose Spring Plungers



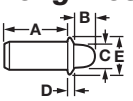

A tapered end and smooth body make these plungers easy to push into unthreaded holes.

Steel plungers have a black-oxide finish. **Stainless steel** plungers are corrosion-resistant 18-8 stainless steel.

Plastic noses won't mar soft materials.

Maximum temperature is 250° F for steel nose plungers, 190° F for plastic nose plungers, and 500° F for stainless steel nose plungers.

Body Dia.	Body Lg. (A)	Nose Lg. (B)	Nose Dia. (C)	Flange Thick. (D)	Flange Dia. (E)	*Nose Force, lbs.* Ex-tended	Com-pressed	*Steel Body* Steel Nose		*Steel Body* Plastic Nose		*Stainless Steel Body* Stainless Steel Nose		*Stainless Steel Body* Plastic Nose	
0.125″	0.252″	0.062″	0.07″	0.032″	0.187″	1	2	8683A67	$2.92			8682A57	$4.40		
0.188″	0.441″	0.094″	0.121″	0.044″	0.25″	0.8	2	8683A11	3.49	8683A19	$3.35	8682A61	4.96	8682A55	$4.99
0.188″	0.441″	0.094″	0.121″	0.044″	0.25″	1.5	4.5	8683A21	3.49	8683A15	3.35	8682A71	4.96	8682A51	4.99
0.25″	0.521″	0.125″	0.168″	0.055″	0.312″	1.3	3	8683A12	3.49	8683A25	3.47	8682A62	4.90	8682A58	5.14
0.25″	0.521″	0.125″	0.168″	0.055″	0.312″	2.5	6	8683A22	3.49	8683A16	3.47	8682A72	5.18	8682A52	5.14
0.312″	0.643″	0.151″	0.186″	0.045″	0.375″	4	10	8683A66	3.55			8682A56	4.80		
0.375″	0.786″	0.187″	0.234″	0.096″	0.5″	2.5	7	8683A13	4.36	8683A26	4.15	8682A63	7.43	8682A59	6.21
0.375″	0.786″	0.187″	0.234″	0.096″	0.5″	5	14	8683A23	4.36	8683A17	4.15	8682A73	7.77	8682A53	6.21
0.5″	1.1″	0.25″	0.332″	0.134″	0.688″	4	9	8683A14	4.06	8683A27	3.91	8682A64	7.02	8682A65	5.76
0.5″	1.1″	0.25″	0.332″	0.134″	0.688″	8	18	8683A24	4.06	8683A18	3.91	8682A74	6.85	8682A54	5.76

Corrosion-Resistant Retractable Spring Plungers

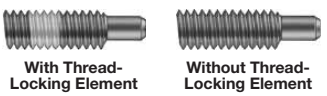

To Order: Please specify **with or without a thread-locking element**. When threading into aluminum and other soft materials, select a plunger without the thread-locking element.

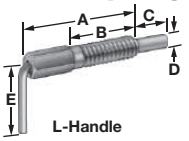

L-Handle

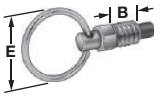

Short Body Pull Ring



Standard Body Pull Ring

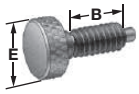

Knurled Knob

Pull the handle, ring, or knob to retract the plunger nose. Choose from Type 316 **stainless steel** plungers, which are the most corrosion resistant, and **brass** plungers, which are nonmagnetic and corrosion resistant. Maximum temperature is 180° F.

Plungers with Locking Nose—Lock the nose into the retracted position by pulling the handle, ring, or knob and rotating it 90°.

Thread Size	Body Lg. (A)	Thread Lg. (B)	Nose Lg. (C)	Nose Dia. (D)	Handle/Ring/ Knob Size (E)	*Nose Force, lbs.* Extended	Compressed	Stainless Steel		Brass	
Without Locking Nose											
L-Handle											
10-32	0.895″	0.58″	0.188″	0.125″	0.5″	0.5	2.5	8691A19	$15.63	8556A11	$11.44
1/4″-20	0.75″	0.5″	0.2″	0.16″	0.525″	0.1	0.5	8691A21	17.75	8556A12	12.04
1/4″-20	1.25″	0.8″	0.38″	0.16″	0.625″	0.5	2.5	8691A22	18.12	8556A13	12.74
3/8″-16	1.13″	0.75″	0.3″	0.25″	0.75″	0.3	1.3	8691A23	18.12	_____	_____
3/8″-16	2″	1.31″	0.56″	0.25″	0.94″	0.8	3.8	8691A24	18.23	8556A14	13.18
1/2″-13	1.5″	1″	0.4″	0.31″	1″	0.5	2	8691A25	22.48	8556A15	15.66
1/2″-13	2.11″	1.25″	0.75″	0.31″	1.25″	1	5	8691A26	23.52	8556A16	16.04
5/8″-11	1.88″	1.25″	0.5″	0.38″	1.19″	0.8	2.5	8691A27	31.70	8556A17	22.04
5/8″-11	3.05″	2″	1″	0.38″	1.31″	1	5	8691A28	32.42	8556A18	22.76
Short Body Pull Ring											
10-32	0.56″	0.25″	0.135″	0.125″	0.75″	1	2.5	8691A31	17.55	8482A15	8.75
1/4″-20	0.57″	0.31″	0.19″	0.16″	0.75″	0.5	2	8691A32	18.38	8482A31	9.37
3/8″-16	0.82″	0.44″	0.28″	0.25″	0.75″	0.8	3	8691A33	21.00	8482A32	10.78
1/2″-13	1.06″	0.56″	0.38″	0.31″	1″	1	4	8691A34	24.95	8482A33	12.78
5/8″-11	1.31″	0.69″	0.44″	0.38″	1″	1.3	5	8691A35	28.65	8482A34	13.58
3/4″-10	1.5″	0.88″	0.5″	0.437″	1.125″	1.5	6	8691A36	39.68	8482A35	21.32
1″-8	1.75″	1″	0.63″	0.5″	1.125″	1.8	7	8691A37	47.60	8482A36	33.51
Standard Body Pull Ring											
10-32	0.848″	0.525″	0.187″	0.125″	0.75″	0.5	2	8691A46	19.85	8482A28	9.25
1/4″-20	1.14″	0.8″	0.25″	0.155″	0.875″	1	2.5	8691A47	20.50	8482A41	9.41
3/8″-16	1.68″	1.2″	0.375″	0.233″	0.875″	2	4	8691A48	23.45	8482A42	10.77
1/2″-13	2″	1.4″	0.5″	0.312″	1″	2.5	5	8691A49	27.80	8482A43	12.77
5/8″-11	3.35″	2.27″	0.55″	0.312″	1.25″	3	6	8691A51	33.10	8482A44	13.59
3/4″-10	4.06″	2.69″	0.65″	0.43″	1.4″	5	10	8691A52	41.38	8482A45	21.32
1″-8	4.63″	3.25″	0.9″	0.68″	1.4″	8	20	8691A53	51.73	8482A46	33.50
Knurled Knob											
10-32	0.65″	0.35″	0.09″	0.104″	0.375″	0.5	3	8692A11	14.95	8471A24	7.93
1/4″-20	0.813″	0.45″	0.13″	0.124″	0.5″	1	4	8692A12	15.95	8471A25	8.76
1/4″-20	0.813″	0.45″	0.13″	0.124″	0.5″	0.1	0.5	8692A18	15.95	8471A31	9.00
5/16″-18	1″	0.58″	0.19″	0.155″	0.625″	1	5	8692A13	18.78	8471A26	9.57
3/8″-16	1.25″	0.7″	0.22″	0.186″	0.75″	1	8	8692A14	20.13	8471A27	10.35
1/2″-13	1.5″	0.83″	0.25″	0.249″	1″	1	10	8692A15	21.80	8471A28	11.53
5/8″-11	1.75″	0.93″	0.38″	0.312″	1.25″	1.5	12	8692A16	29.40	8471A22	15.57
3/4″-10	2″	1″	0.45″	0.375″	1.5″	1.5	16	8692A17	35.98	8471A29	19.05
With Locking Nose											
L-Handle											
10-32	0.895″	0.58″	0.188″	0.125″	0.5″	0.5	2.5	8691A29	17.48	8556A19	12.02
1/4″-20	0.75″	0.5″	0.2″	0.16″	0.525″	0.1	0.5	8691A11	17.75	8556A21	12.64
1/4″-20	1.25″	0.8″	0.38″	0.16″	0.625″	0.5	2.5	8691A12	18.12	8556A22	13.38
3/8″-16	1.13″	0.75″	0.3″	0.25″	0.75″	0.3	1.3	8691A13	18.12	_____	_____
3/8″-16	2″	1.31″	0.56″	0.25″	0.94″	0.8	3.8	8691A14	18.23	8556A23	13.84
1/2″-13	1.5″	1″	0.4″	0.31″	1″	0.5	2	8691A15	22.48	8556A24	16.44
1/2″-13	2.11″	1.25″	0.75″	0.31″	1.25″	1	5	8691A16	23.52	8556A25	16.84
5/8″-11	1.88″	1.25″	0.5″	0.38″	1.19″	0.8	2.5	8691A17	31.71	8556A26	23.14
5/8″-11	3.05″	2″	1″	0.38″	1.31″	1	5	8691A18	32.42	8556A27	23.90
Short Body Pull Ring											
10-32	0.51″	0.25″	0.125″	0.125″	0.75″	1	2.5	8691A38	19.30	8482A16	11.88
1/4″-20	0.57″	0.31″	0.19″	0.16″	0.75″	0.5	2	8691A39	20.05	8482A71	9.97
3/8″-16	0.82″	0.44″	0.28″	0.25″	0.75″	0.8	3	8691A41	22.28	8482A72	11.41
1/2″-13	1.06″	0.56″	0.38″	0.31″	1″	1	4	8691A42	27.18	8482A73	13.53
5/8″-11	1.31″	0.69″	0.44″	0.38″	1″	1.3	5	8691A43	30.08	8482A74	14.39
3/4″-10	1.5″	0.88″	0.5″	0.437″	1.125″	1.5	6	8691A44	42.45	8482A75	22.58
1″-8	1.75″	1″	0.63″	0.5″	1.125″	1.8	7	8691A45	50.30	8482A76	35.48
Standard Body Pull Ring											
10-32	0.865″	0.525″	0.187″	0.125″	0.75″	0.5	2	8691A54	19.85	8482A17	11.28
1/4″-20	1.14″	0.8″	0.25″	0.155″	0.875″	1	2.5	8691A55	20.50	8482A12	9.40
3/8″-16	1.68″	1.2″	0.375″	0.233″	0.875″	2	4	8691A56	23.45	8482A13	11.10
1/2″-13	2″	1.4″	0.5″	0.312″	1″	2.5	5	8691A57	27.80	8482A14	13.12
5/8″-11	3.35″	2.27″	0.55″	0.312″	1.25″	3	6	8691A58	33.10	8482A22	13.98
3/4″-10	4.06″	2.69″	0.65″	0.43″	1.4″	5	10	8691A59	41.38	8482A23	21.97
1″-8	4.63″	3.25″	0.9″	0.68″	1.4″	8	20	8691A61	51.73	8482A24	33.51
Knurled Knob											
10-32	0.65″	0.4″	0.09″	0.104″	0.375″	0.5	3	8692A21	14.95	8471A15	7.93
1/4″-20	0.813″	0.5″	0.13″	0.124″	0.5″	1	4	8692A22	15.95	8471A16	8.76
1/4″-20	0.813″	0.5″	0.13″	0.124″	0.5″	0.1	0.5	8692A19	15.95	8471A32	8.75
5/16″-18	1″	0.63″	0.19″	0.155″	0.625″	1	5	8692A23	18.78	8471A17	9.57
3/8″-16	1.25″	0.75″	0.22″	0.186″	0.75″	1	8	8692A24	20.13	8471A18	10.35
1/2″-13	1.5″	0.88″	0.25″	0.249″	1″	1	10	8692A25	21.80	8471A19	11.53
5/8″-11	1.75″	1″	0.38″	0.312″	1.25″	1.5	12	8692A26	29.40	8471A21	15.57
3/4″-10	2″	1.2″	0.45″	0.375″	1.5″	1.5	16	8692A27	35.98	8471A23	19.05

Retractable Spring Plungers

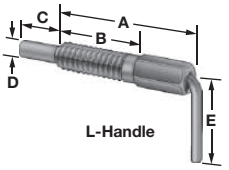

L-Handle

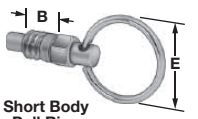

Short Body Pull Ring


Short Body Pull Ring with 12″ Lanyard

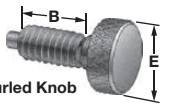

Knurled Knob



Plastic Knob

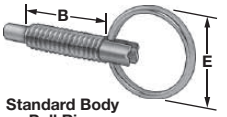

Standard Body Pull Ring

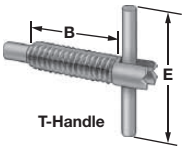

T-Handle

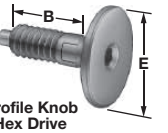

Low-Profile Knob with Hex Drive

Retract the nose by pulling the handle, ring, or knob. Use for fastening, positioning, latching, and quick-disconnect applications. Maximum temperature is 250° F, except stainless steel L-handle plungers, plungers with a plastic knob or nose, and steel plungers with a hex drive have a maximum temperature of 180° F.

Steel plungers are zinc-plated, except those with a *plastic knob* have a black-oxide finish and *low-profile knob with hex drive* have a gold finish.
Stainless steel plungers are corrosion-resistant 18-8 stainless steel.
Plungers with Locking Nose—Lock the nose into the retracted position by pulling the handle, ring, or knob and rotating it 90°.


With Thread-Locking Element


Without Thread-Locking Element

To Order: Please specify **with or without a thread-locking element**. When threading into aluminum and other soft materials, select a plunger without the thread-locking element.

Thread Size	Body Lg. (A)	Thread Lg. (B)	Nose Lg. (C)	Nose Dia. (D)	Handle/Ring/ Knob Size (E)	*Nose Force, lbs.* Extended	Compressed	Steel		Stainless Steel	
Without Locking Nose											
L-Handle											
1/4″-20	0.75″	0.5″	0.2″	0.16″	0.525″	0.1	0.5	8498A61	$9.03	8690A11	$12.80
1/4″-20	1.25″	0.8″	0.38″	0.16″	0.625″	0.5	2.5	8498A62	9.03	8690A12	12.80
3/8″-16	1.13″	0.75″	0.3″	0.25″	0.75″	0.3	1.3	8498A63	11.36	8690A13	13.23
3/8″-16	2″	1.31″	0.56″	0.25″	0.94″	0.8	3.8	8498A64	11.75	8690A14	13.30
1/2″-13	1.5″	1″	0.4″	0.31″	1″	0.5	2	8498A65	12.61	8690A15	16.13
1/2″-13	2.11″	1.25″	0.75″	0.31″	1.25″	1	5	8498A66	12.94	8690A16	16.13
5/8″-11	1.88″	1.25″	0.5″	0.38″	1.19″	0.8	2.5	8498A67	15.69	8690A17	22.23
5/8″-11	3.05″	2″	1″	0.38″	1.31″	1	5	8498A68	16.22	8690A18	22.23
M6 ×1	19 mm	12.7 mm	5 mm	4 mm	13 mm	0.1	0.5	8498A51	18.09	8690A19	31.34
M6 ×1	32 mm	20 mm	10 mm	4 mm	16 mm	0.5	2.5	8498A55	20.01	8690A24	31.34
M10×1.5	29 mm	19 mm	7.8 mm	6.4 mm	19 mm	0.3	1.3	8498A52	20.64	8690A21	31.27
M10×1.5	51 mm	33 mm	14 mm	6 mm	24 mm	0.8	3.8	8498A56	22.84	8690A25	31.27
M12×1.75	38 mm	25 mm	10 mm	8 mm	25 mm	0.5	2	8498A53	24.52	8690A22	40.71
M12×1.75	54 mm	32 mm	19 mm	8 mm	31 mm	1	5	8498A57	27.10	8690A26	39.72
M16×2	48 mm	32 mm	13 mm	9.7 mm	30 mm	0.8	2.5	8498A54	28.17	8690A23	56.73
M16×2	77 mm	51 mm	25 mm	10 mm	33 mm	1	5	8498A58	30.50	8690A27	56.73
Short Body Pull Ring											
1/4″-20	0.62″	0.31″	0.19″	0.16″	0.62″	0.5	2	8487A24	9.50	8500A27	13.27
1/4″-20	0.62″	0.31″	0.19″	0.16″	0.75″	0.5	2	8487A25	9.50	8500A28	13.27
3/8″-16	0.82″	0.44″	0.28″	0.25″	0.75″	0.8	3	8487A26	10.29	8500A29	14.97
1/2″-13	1.06″	0.56″	0.38″	0.31″	1″	1	4	8487A27	12.23	8500A34	17.92
5/8″-11	1.31″	0.69″	0.44″	0.38″	1″	1.3	5	8487A28	14.05	8500A35	20.35
Short Body Pull Ring with 12″ Lanyard—Lanyard is plastic-coated stainless steel with an aluminum tab.											
1/4″-20	0.437″	0.281″	0.187″	0.156″	0.75″	0.5	2	2333A11	20.49	2362A21	28.29
3/8″-16	0.625″	0.437″	0.281″	0.25″	0.75″	0.8	3	2333A12	22.20	2362A22	28.45
1/2″-13	0.812″	0.562″	0.375″	0.312″	1″	1	4	2333A13	25.16	2362A23	37.88
5/8″-11	1″	0.687″	0.437″	0.375″	1″	1.3	5	2333A14	27.76	2362A24	37.88
Knurled Knob											
10-32	0.65″	0.4″	0.094″	0.104″	0.38″	0.5	3	84915A44	13.19	84935A36	15.24
1/4″-20	0.813″	0.5″	0.125″	0.123″	0.5″	1	4	84915A45	7.27	84935A37	11.97
5/16″-18	1″	0.625″	0.188″	0.154″	0.63″	1	6	84915A46	9.08	84935A38	12.73
3/8″-16	1.25″	0.75″	0.218″	0.185″	0.75″	1	8	84915A47	8.65	84935A39	14.24
1/2″-13	1.5″	0.875″	0.25″	0.248″	1″	1	10	84915A48	10.59	84935A41	16.26
M5 ×0.8	16 mm	10 mm	2 mm	2.5 mm	9 mm	0.5	3	84915A51	11.06	84935A61	14.06
M6 ×1	21 mm	13 mm	3 mm	3 mm	13 mm	1	4	84915A52	9.92	84935A62	13.50
M10×1.5	32 mm	19 mm	6 mm	5 mm	19 mm	1	8	84915A53	14.93	84935A63	16.02
M12×1.75	39 mm	23 mm	6 mm	6 mm	25 mm	1	10	84915A54	12.56	84935A64	17.98
Plastic Knob—Steel plungers have a black knob; stainless steel plungers have a white knob.											
1/4″-20	0.97″	0.5″	0.13″	0.16″	0.5″	0.1	0.4	8497A31	9.31	3350A14	13.21
3/8″-16	1.4″	0.75″	0.19″	0.25″	0.75″	0.3	2	8497A34	9.44	3350A15	14.93
1/2″-13	1.9″	1″	0.25″	0.31″	1″	0.5	1.8	8497A37	10.62	3350A16	16.74
M6 ×1	25 mm	13 mm	3 mm	3 mm	12 mm	0.1	0.3	8497A61	13.51	3350A41	20.26
M10×1.5	38 mm	20 mm	5 mm	6 mm	19 mm	0.2	2	8497A64	17.53	3350A42	22.86
M12×1.75	47 mm	25 mm	6 mm	8 mm	25 mm	0.6	1.8	8497A67	17.11	3350A43	25.66
With Locking Nose											
L-Handle											
1/4″-20	0.75″	0.5″	0.2″	0.16″	0.525″	0.1	0.5	3403A11	9.58	3403A31	13.71
1/4″-20	1.25″	0.8″	0.38″	0.16″	0.625″	0.5	2.5	3403A12	9.58	3403A19	12.25
3/8″-16	1.13″	0.75″	0.3″	0.25″	0.75″	0.3	1.3	3403A13	11.72	3403A32	13.79
3/8″-16	2″	1.31″	0.56″	0.25″	0.94″	0.8	3.8	3403A14	12.11	3403A21	15.53
1/2″-13	1.5″	1″	0.4″	0.31″	1″	0.5	2	3403A15	12.69	3403A33	17.05
1/2″-13	2.11″	1.25″	0.75″	0.31″	1.18″	1	5	3403A16	12.69	3403A22	16.78

(Continued on following page)

Retractable Spring Plungers *(Continued from previous page)*

To Order: Please specify **with or without a thread-locking element.** When threading into aluminum and other soft materials, select a plunger without the thread-locking element.



With Thread-Locking Element



Without Thread-Locking Element

Thread Size	Body Lg. (A)	Thread Lg. (B)	Nose Lg. (C)	Nose Dia. (D)	Handle/Ring/ Knob Size (E)	Nose Force, lbs. Extended	Nose Force, lbs. Compressed	Steel		Stainless Steel	
With Locking Nose (Cont.)											
L-Handle (Cont.)											
5/8″-11	1.88″	1.25″	0.5″	0.38″	1.19″	0.8	2.5	3403A17	$15.86	3403A34	$23.82
5/8″-11	3.05″	2″	1″	0.38″	1.31″	1	5	3403A18	16.39	3403A23	27.14
M6 ×1	32 mm	20 mm	10 mm	4 mm	16 mm	0.5	2.5	8501A54	13.10	8501A57	17.50
M10×1.5	51 mm	33 mm	14 mm	6 mm	24 mm	0.8	3.8	8501A55	14.02	8501A58	19.55
M12×1.75	54 mm	32 mm	19 mm	7 mm	31 mm	1	5	8501A56	16.71	8501A59	26.90
L-Handle with Plastic Nose											
1/4″-20	1.25″	0.625″	0.375″	0.156″	0.625″	0.5	2.5	2383A41	12.72	2372A46	16.92
3/8″-16	2″	1.0625″	0.5625″	0.25″	0.938″	0.8	3.8	2383A42	14.35	2372A47	22.40
1/2″-13	2.125″	1.125″	0.75″	0.312″	1.25″	1	5	2383A43	17.08	2372A48	28.61
5/8″-11	3″	1.75″	1″	0.375″	1.3125″	1	5	2383A44	19.62	2372A49	39.51
Standard Body Pull Ring											
1/4″-20	1.14″	0.8″	0.25″	0.155″	0.62″	1	2.5	8487A21	11.12	8500A21	14.76
3/8″-16	1.68″	1.2″	0.375″	0.233″	0.98″	2	4	8487A22	12.62	8500A22	17.16
1/2″-13	2″	1.4″	0.5″	0.312″	1.26″	2.5	5	8487A23	14.31	8500A23	19.99
M6 ×1	29 mm	20.3 mm	6.4 mm	4 mm	16 mm	1	2.5	8487A38	14.95	8500A36	22.55
M10×1.5	43 mm	30.5 mm	9.5 mm	6 mm	25 mm	2	4	8487A39	17.07	8500A37	25.71
M12×1.75	51 mm	35.5 mm	12.7 mm	8 mm	32 mm	2.5	5	8487A41	20.25	8500A38	30.49
M16×2	60 mm	43 mm	16 mm	10 mm	32 mm	2.5	5	8487A42	24.70	8500A39	34.82
T-Handle											
1/4″-20	1.14″	0.8″	0.25″	0.155″	1.13″	1	2.5	31265A16	11.56	31265A56	13.55
3/8″-16	1.68″	1.2″	0.375″	0.233″	1.5″	2	4	31265A26	12.39	31265A66	16.55
1/2″-13	2″	1.4″	0.5″	0.312″	2″	2.5	5	31265A36	14.47	31265A76	18.21
5/8″-11	2.38″	1.7″	0.625″	0.375″	2.5″	2.5	5	31265A46	19.31	31265A86	27.42
M6 ×1	29 mm	20.3 mm	6.4 mm	4 mm	29 mm	1	2.5	31265A29	16.47	31265A19	23.04
M10×1.5	43 mm	30.5 mm	9.5 mm	6 mm	38 mm	2	4	31265A37	18.79	31265A27	23.21
M12×1.75	51 mm	35.5 mm	12.7 mm	8 mm	51 mm	2.5	5	31265A38	22.27	31265A28	29.96
M16×2	60 mm	43 mm	16 mm	10 mm	64 mm	2.5	5	31265A39	25.61	31265A17	41.24
Low-Profile Knob with Hex Drive											
1/4″-20	0.805″	0.525″	0.125″	0.123″	0.75″	1	4	2375A31	11.58	2375A35	14.74
5/16″-18	1.07″	0.717″	0.187″	0.154″	0.875″	1	6	2375A32	13.10	2375A36	15.92
3/8″-16	1.26″	0.97″	0.22″	0.185″	1″	1	8	2375A33	14.52	2375A37	17.36
1/2″-13	1.38″	0.9″	0.25″	0.248″	1.25″	1	10	2375A34	15.19	2375A38	18.63
Knurled Knob											
10-32	0.687″	0.406″	0.094″	0.104″	0.375″	1	3.5	84915A55	7.75	84935A65	12.38
1/4″-20	0.805″	0.4″	0.125″	0.124″	0.5″	0.5	2	84915A41	10.20	84935A33	11.22
1/4″-20	0.805″	0.4″	0.125″	0.124″	0.5″	1	4	84915A11	10.88	84935A11	16.75
5/16″-18	1.094″	0.625″	0.187″	0.155″	0.625″	1.5	6	84915A56	8.36	84935A66	14.27
3/8″-16	1.26″	0.75″	0.22″	0.186″	0.75″	0.5	3	84915A42	8.65	84935A34	13.21
3/8″-16	1.26″	0.75″	0.22″	0.186″	0.75″	1	8	84915A12	12.92	84935A12	19.75
1/2″-13	1.38″	0.65″	0.25″	0.249″	1″	0.5	4	84915A43	9.39	84935A35	17.03
1/2″-13	1.38″	0.65″	0.25″	0.249″	1″	1	10	84915A13	13.78	84935A13	21.18
5/8″-11	1.719″	1″	0.312″	0.311″	1.125″	5	10	84915A57	11.08	84935A67	18.05
Knurled Knob with Plastic Nose											
1/4″-20	0.875″	0.5″	0.125″	0.144″	0.5″	1	5	2387A61	9.42	2369A41	16.16
5/16″-18	1.09″	0.625″	0.1875″	0.179″	0.625″	1.5	6	2387A62	10.17	2369A42	17.34
3/8″-16	1.28″	0.75″	0.218″	0.216″	0.75″	1.5	8	2387A63	11.34	2369A43	20.08
1/2″-13	1.5″	0.875″	0.25″	0.31″	1″	2.5	10	2387A64	12.19	2369A44	22.98
5/8″-11	1.72″	1″	0.3125″	0.373″	1.125″	5	10	2387A65	15.34	2369A45	25.05
Plastic Knob—Steel plungers have a black knob; stainless steel plungers have a white knob.											
1/4″-20	0.97″	0.5″	0.13″	0.16″	0.5″	0.1	0.4	8497A41	12.54	3350A11	16.32
3/8″-16	1.4″	0.75″	0.19″	0.25″	0.75″	0.3	2	8497A44	13.86	3350A12	21.62
1/2″-13	1.9″	1″	0.25″	0.31″	1″	0.5	1.8	8497A47	14.77	3350A13	25.49
M6 ×1	25 mm	13 mm	3 mm	3 mm	12 mm	0.1	0.3	8497A51	19.23	3350A17	25.07
M10×1.5	38 mm	20 mm	5 mm	6 mm	19 mm	0.2	2	8497A54	22.07	3350A18	28.76
M12×1.75	47 mm	25 mm	6 mm	8 mm	25 mm	0.6	1.8	8497A57	22.65	3350A19	33.98

Retractable Captive Panel Spring Plungers

Spring-loaded pins retract to release sliding parts. Just pull the knob to withdraw the pin from inner panel. For use as a locator or hinge pin on removable doors. Pins *with hold-open* keep the plunger in the retracted position when you pull and rotate it 90°. To determine pin projection into your inner panel, subtract your outer panel thickness from dimension (B) shown in table. For the thread-in panel pin, you'll need to add 0.030″ to your outer panel thickness to allow for the threaded sleeve.

Press-In Style—Use an arbor press to insert into a panel. Knob is nickel-plated steel; stud is zinc-plated C1006 steel.

Thread-In Style—Manually insert pin into panel; thread on sleeve nut and tighten using installation wrench (sold separately). Knob is 6262-T9 aluminum; pin is zinc-plated 12L14 steel.



Press-In Style



Thread-In Style

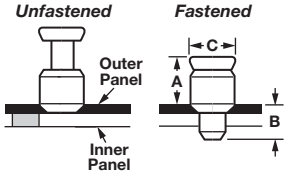

Style	Outer Panel Thickness	Stud Dia.	Hole Dia. Outer Panel	Hole Dia. Inner Panel	(A)	(B)	(C)	With Hold-Open		Without Hold-Open		Installation Wrench	
Press In	0.060″-0.150″	0.249″	0.328″	0.252″	0.48″	0.32″	0.45″	96063A110	$4.53	96063A120	$4.53		
Thread In	0.025″-0.060″	0.183″	0.281″	0.188″	0.53″	0.25″	0.53″	96063A130	6.28	96063A140	5.72	96063A570	$29.35
Thread In	0.031″-0.125″	0.245″	0.359″	0.250″	0.72″	0.31″	0.69″	96063A150	7.02	96063A160	7.70	96063A670	30.28

Retractable Spring Plungers for Thin Material

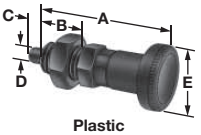

Plastic Knob



Threaded Spindle

When holes aren't deep enough to fit the entire plunger body, use a hand-retractable plunger with locknut to adjust the plunger depth. The locknut prevents loosening and increases holding power, especially in thin materials. Body is steel with a black-oxide finish; plunger nose is steel. Maximum temperature is 230°F.

Without Locking Nose—Choose plungers with a plastic knob or a threaded spindle. *Plungers with threaded spindle* can be threaded onto machinery or topped with the knob or handle of your choice. See pages 2239-2258 for knobs and handles.

With Locking Nose—Lock nose into the retracted position by pulling the knob and rotating it 90°.

						With Plastic Knob				With Threaded Spindle				
Thread Size	Thread Lg. (B)	Nose Lg. (C)	Nose Dia. (D)	Nose Force, lbs. Extended	Nose Force, lbs. Compressed	Body Lg. (A)	Knob Dia. (E)			Body Lg. (A)	Spindle Thread	Spindle Lg. (G)		
Without Locking Nose														
3/8"-24	0.67"	0.2"	0.2"	1.6	3.6	1.57"	0.83"	8507A11	$14.17	1.31"	M5×0.8	0.24"	8507A14	$13.30
1/2"-13	0.79"	0.24"	0.24"	1.5	3.4	1.91"	0.98"	8507A12	15.27	1.66"	M6×1	0.39"	8507A15	14.37
5/8"-11	1.02"	0.31"	0.31"	2.7	6.9	2.41"	1.22"	8507A13	18.76	2.11"	M8×1.25	0.47"	8507A16	16.65
With Locking Nose														
3/8"-24	0.67"	0.2"	0.2"	1.5	3.5	1.81"	0.83"	8480A1	18.29					
1/2"-13	0.79"	0.24"	0.24"	1.5	3.5	2.16"	0.98"	8480A2	19.81					
5/8"-11	1.02"	0.28"	0.31"	2.7	7	2.69"	1.22"	8480A3	24.99					

Plate-Mount Retractable Spring Plungers



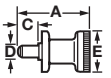

Two countersunk holes in the plate make these plungers easy to mount to a flat surface. All have a zinc-plated mounting plate and a black plastic knob. To lock plungers with locking nose, pull knob to retract, then rotate 90°. Maximum temperature is 230°F. Fasteners are not included.

Stainless steel plungers are 18-8 stainless steel.

Lg. (A)	Plate Wd. (B)	Nose Lg. (C)	Nose Dia. (D)	Knob Dia. (E)	Nose Force, lbs. Extended	Nose Force, lbs. Compressed	Mounting Holes Dia.	Mounting Holes Ctr.-to-Ctr.	Steel		Stainless Steel	
Without Locking Nose												
1.46"	1.57"	0.24"	0.24"	0.98"	1.9	4.9	0.17"	1.18"	8478A1	$13.21	8478A11	$19.01
1.73"	1.81"	0.31"	0.31"	1.22"	3.5	6.3	0.21"	1.34"	8478A2	15.23	8478A13	22.10
1.77"	1.57"	0.55"	0.24"	0.98"	1.9	4.9	0.17"	1.18"	8478A7	14.15	8478A12	19.18
2.13"	1.81"	0.71"	0.31"	1.22"	3.5	6.3	0.21"	1.34"	8478A8	16.43	8478A14	22.28
With Locking Nose												
1.46"	1.57"	0.24"	0.24"	0.98"	1.9	4.9	0.17"	1.18"	8478A3	14.90	8478A21	20.05
1.73"	1.81"	0.31"	0.31"	1.22"	3.5	6.3	0.21"	1.34"	8478A4	17.35	8478A23	23.21
1.77"	1.57"	0.55"	0.24"	0.98"	1.9	4.9	0.17"	1.18"	8478A5	15.51	8478A22	20.29
2.13"	1.81"	0.71"	0.31"	1.22"	3.5	6.3	0.21"	1.34"	8478A6	18.60	8478A24	23.43

Add-a-Knob Retractable Spring Plungers

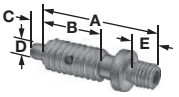

With Thread-Locking Element



Without Thread-Locking Element

To Order: Please specify **with or without a thread-locking element.** When threading into aluminum and other soft materials, select a plunger without the thread-locking element.

Attach a knob or handle of your choice to the threaded spindle. Maximum temperature is 250°F. All plungers come with a locking nose—pull the handle back and turn it 90° to lock the nose in the retracted position. See pages 2239-2258 for knobs and handles.

Stainless steel plungers are corrosion-resistant 18-8 stainless steel.

Thread Size	Body Lg. (A)	Thread Lg. (B)	Nose Lg. (C)	Nose Dia. (D)	Nose Force, lbs. Extended	Nose Force, lbs. Compressed	Spindle Thread	Spindle Lg. (E)	Steel		Stainless Steel	
10-32	13/16"	13/32"	3/32"	0.104"	1	3	10-32	15/64"	7805A11	$9.84	7806A11	$17.94
1/4"-20	15/16"	1/2"	1/8"	0.124"	1	5	10-32	15/64"	7805A12	9.84	7806A12	17.94
5/16"-18	1 1/4"	5/8"	3/16"	0.155"	1.5	6	1/4"-20	11/32"	7805A13	10.61	7806A13	19.21
3/8"-16	1 15/32"	3/4"	7/32"	0.186"	1.5	8	5/16"-18	13/32"	7805A14	11.86	7806A14	22.24
1/2"-13	1 11/16"	7/8"	1/4"	0.249"	2.5	10	3/8"-16	7/16"	7805A15	12.74	7806A15	25.50

Hex-Nose Spring Plungers

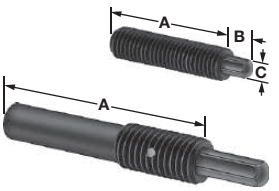

Standard without Thread-Locking Element

Long Nose with Thread-Locking Element

The hex-shaped nose makes these plungers easy to install and adjust with a wrench. The body and nose are steel, unless noted. The body has a black-oxide finish. Maximum temperature is 250°F.

Standard—Use as parts ejectors, positioners, locks, and supports for die fixtures. **To Order:** Please specify **with or without a thread-locking element.** When threading into aluminum and other soft materials, select a plunger without the thread-locking element.

Long Nose—Come with a nylon thread-locking element. Not recommended for use in aluminum or other soft materials.

Thread Size	Body Lg. (A)	Nose Lg. (B)	Hex Nose Size (C)	Nose Force, lbs. Extended	Nose Force, lbs. Compressed		
Standard							
1/4"-20	1"	0.1875"	1/8"	1	4	3360A54	$5.14
1/4"-20	1"	0.1875"	1/8"	3	13	3360A31	5.14
5/16"-18	1"	0.1875"	1/8"	1.5	4.5	3360A61	5.30
5/16"-18	1"	0.1875"	1/8"	3	15	3360A34	5.30
3/8"-16	1.125"	0.1875"	3/16"	2.8	7.2	3360A57	5.58
3/8"-16	1.125"	0.1875"	3/16"	5.5	14.5	3360A37	5.58
1/2"-13	1.25"	0.25"	1/4"	2.7	9.3	3360A62	7.58
1/2"-13	1.25"	0.25"	1/4"	6.6	17.4	3360A41	7.58
5/8"-11	1.5"	0.3125"	5/16"	3.5	10.5	3360A63	8.58
5/8"-11	1.5"	0.3125"	5/16"	10.5	25.5	3360A44	8.58
3/4"-10	1.75"	0.3125"	3/8"	6.7	37.3	3360A47	14.11
1"-8	2.406"	0.5"	1/2"	4	31	3360A77	21.58
1"-8	2.406"	0.5"	1/2"	16	68	3360A51	19.93
Long Nose							
5/8"-11	3.12"	1"	5/16"	4	20	33705A11	30.37
3/4"-10	3.75"	1"	3/8"	4	35	33705A21	38.59
1"-8	5"	1.5"	1/2"	4	31	33705A61 ♥	51.28
1"-8	5"	1.5"	1/2"	16	68	33705A41	51.28

♥ Nose is steel with a zinc-plated finish.

Spring Locating Pins

Also known as spring-loaded side thrust pins, these pins have a head that moves from side to side. They are often used to hold, clamp, and position components for machining operations and assembly. Their compact design makes them especially useful when clamping small parts and for use in tight spaces. To install, press the knurled body into a drilled hole. Head is made of zinc-plated steel; body is aluminum.



Head Dia. (A)	Head Lg. (B)	Body Dia. (C)	Body Lg. (D)	Sideways Head Movement	Nose Force, lbs. Extended	Nose Force, lbs. Compressed		
0.12″	0.16″	0.24″	0.28″	0.04″	2.3	2.5	8485A11	$7.58
0.12″	0.16″	0.24″	0.28″	0.04″	4.5	5	8485A12	7.58
0.12″	0.16″	0.24″	0.28″	0.04″	9	9.9	8485A41	7.58
0.2″	0.26″	0.39″	0.43″	0.06″	4.5	5	8485A13	8.32
0.2″	0.26″	0.39″	0.43″	0.06″	11.3	12.4	8485A14	8.32
0.2″	0.26″	0.39″	0.43″	0.06″	22.5	24.8	8485A42	8.32
0.24″	0.42″	0.39″	0.43″	0.08″	9	9.9	8485A15	9.15
0.24″	0.42″	0.39″	0.43″	0.08″	16.9	18.6	8485A16	9.15
0.24″	0.42″	0.39″	0.43″	0.08″	33.8	37.1	8485A43	9.15
0.31″	0.55″	0.47″	0.51″	0.1″	11.3	12.4	8485A17	10.05
0.31″	0.55″	0.47″	0.51″	0.1″	22.5	24.8	8485A18	10.05
0.39″	0.66″	0.63″	0.67″	0.13″	22.5	24.8	8485A45	11.39
0.39″	0.66″	0.63″	0.67″	0.13″	67.5	74.3	8485A46	11.39

Spring Stops

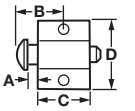

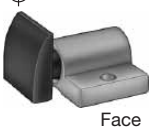







Mount on flat surfaces to hold workpieces. The face is steel (unless noted) and the body is aluminum. Fasteners are not included.

Square face stops have a large contact surface.

Square face with tang stops prevent thin stock from sliding under the stop. Set the tang in a hole or slot below the work surface.

Square face with chamfered bottom stops provide extra corner clearance for metal workpieces that have a weld bead or imperfection.

Round face stops locate parts in jigs and fixtures and are good for curved or contoured surfaces.

Plastic round face stops are nonmarring.

Face Size	(A)	(B)	Lg. (C)	Wd. (D)	Mounting Holes Dia.	Mounting Holes Ctr.-to-Ctr.	Nose Force, lbs. Extended	Nose Force, lbs. Compressed		
Square Face										
0.63″	0.13″	0.656″	0.688″	0.875″	0.136″	0.656″	5.1	14.6	3351A13 ♣	$7.34
0.88″	0.19″	0.983″	1″	1.5″	0.203″	1.125″	2.3	25.8	3351A16	8.81
1.25″	0.25″	1.312″	1.375″	2″	0.266″	1.5″	16.5	47.5	3351A19	15.72
Square Face with Tang										
0.63″	0.13″	0.656″	0.688″	0.875″	0.136″	0.656″	5.1	14.6	3351A12 ♣	7.70
0.88″	0.19″	0.983″	1″	1.5″	0.203″	1.125″	2.3	25.8	3351A15	9.25
1.25″	0.25″	1.312″	1.375″	2″	0.266″	1.5″	16.5	47.5	3351A18	18.51
Square Face with Chamfered Bottom										
0.63″	0.13″	0.656″	0.688″	0.875″	0.136″	0.656″	5.1	14.6	3351A21 ♣	8.96
0.88″	0.19″	0.983″	1″	1.5″	0.203″	1.125″	2.3	25.8	3351A22	9.73
1.25″	0.25″	1.312″	1.375″	2″	0.266″	1.5″	16.5	47.5	3351A23	17.33
Round Face										
0.38″	0.13″	0.593″	0.688″	0.875″	0.136″	0.656″	5.1	14.6	3351A11 ♣	6.09
0.56″	0.19″	0.875″	1″	1.5″	0.203″	1.125″	2.3	25.8	3351A14	7.34
0.81″	0.25″	1.218″	1.375″	2″	0.266″	1.5″	16.5	47.5	3351A17	12.23
Plastic Round Face										
0.38″	0.13″	0.593″	0.688″	0.875″	0.136″	0.656″	5.1	14.6	3351A36 ♣	6.08
0.56″	0.19″	0.875″	1″	1.5″	0.203″	1.125″	2.3	25.8	3351A37	7.33
0.81″	0.25″	1.218″	1.375″	2″	0.266″	1.5″	16.5	47.5	3351A38	12.23

♣ Mounting base is triangular (versus rectangular as illustrated).

Catches for Ball-Nose Spring Plungers

A countersunk indentation acts as a detent or stop for a ball-nose plunger. These catches, also known as ball buttons, withstand side loads to prevent fixture damage. The tapered end press-fits into a hole. Made of 440C stainless steel. Outside diameter tolerance is –0.0000″ to +0.0002″.

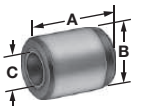

Fits Ball Dia.	Lg. (A)	OD (B)	Detent Dia. (C)			Fits Ball Dia.	Lg. (A)	OD (B)	Detent Dia. (C)		
0.062″	0.125″	0.1075″	0.056″	33545A21	$3.21	0.156″	0.3125″	0.2659″	0.139″	33545A24	$3.31
0.078″	0.125″	0.1175″	0.061″	33545A28	3.61	0.188″	0.375″	0.3284″	0.164″	33545A25	3.31
0.094″	0.1875″	0.1614″	0.069″	33545A22	3.21	0.281″	0.5″	0.4378″	0.241″	33545A26	3.77
0.125″	0.25″	0.2034″	0.111″	33545A23	3.21	0.375″	0.625″	0.5472″	0.33″	33545A27	4.25

Mounting Bases for Ball-Nose and Long-Nose Spring Plungers

Also known as tooling flanges, these bases let you mount spring plungers to fixture surfaces. Insert the plunger into the threaded hole. Good for horizontal applications. Fasteners are not included.

Stainless steel bases are made of corrosion-resistant 18-8 stainless steel.

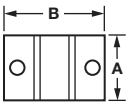



Style 1

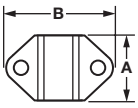



Style 2

For Thread Size	Lg. (A)	Wd. (B)	Ht.	Mounting Holes Dia.	Mounting Holes Ctr.-to-Ctr.	Steel		Stainless Steel	
Style 1									
8-32	1/2″	11/16″	1/4″	0.125″	0.484″	8685A14	$12.60	1942A41	$18.37
10-32	1/2″	11/16″	1/4″	0.125″	0.484″	8685A15	15.74	1942A42	23.38
5/16″-18	5/8″	15/16″	13/32″	0.141″	0.702″	8685A16	18.88	1942A44	28.37
3/8″-16	3/4″	1 1/8″	15/32″	0.156″	0.844″	8685A17	22.04	1942A45	33.41
1/2″-13	1″	1 1/2″	5/8″	0.203″	1.125″	8685A12	12.86	1942A46	35.53
5/8″-11	1 1/4″	1 7/8″	51/64″	0.265″	1.406″	8685A18	25.08	1942A47	38.25
Style 2									
1/4″-20	11/16″	7/8″	13/32″	0.141″	0.658″	8685A11	7.74	1942A43	26.35

Wrenches for Ball-Nose and Long-Nose Spring Plungers

Use to install and remove spring plungers. They work better than screwdrivers because their center hole lets the plunger nose pass through to avoid damaging or overloading the spring.



For Thread Size			For Thread Size		
6-32	3382A11	$5.11	3/8″-16, M10	3382A16	$6.24
8-32, M4	3382A12	5.45	1/2″-13, M12	3382A17	6.24
10-32, M5	3382A13	5.58	5/8″-11	3382A18	8.24
1/4″-20, 1/4″-28, M6	3382A14	5.71	3/4″-10	3382A19	9.24
5/16″-18, M8	3382A15	5.71	1″-8	3382A21	10.03

Hog Rings and Pliers







Squeeze hog rings closed with the pliers for sack closure, tagging, and repairing fences. All are 3/32″ dia. wire. **Copper-coated steel** hog rings offer some corrosion resistance. 92258A668 are not copper plated. **18-8 stainless steel** hog rings have excellent corrosion resistance.

Hog Rings							Pliers	
Opening Size	Wd.	Clinched Dia.	Copper-Coated Steel	Pkg. of 100	18-8 Stainless Steel	Pkg. of 50		
1/2″	13/16″	3/16″	92258A668	$5.00			5416A15	$12.03
5/8″	15/32″	1/2″	92258A670	7.26	92258A770	$10.40	5416A15	12.03
3/4″	15/16″	9/16″	92258A671	7.26	92258A771	11.43	5416A15	12.03
7/8″	1 1/2″	9/16″	92258A672	7.26	92258A772	13.93	5416A15	12.03

400-Piece Assortment—Contains rings plus pliers in a plastic case. Includes 100 each of rings with 1/2″, 5/8″, 3/4″, and 7/8″ opening sizes. Rings are made of 3/32″ dia. copper-coated steel wire, except rings with 1/2″ opening size are steel wire.

92305A250 ..... $39.13

Hog Rings and Auto-Feed Pliers





Stop constantly having to reload—pliers hold 50 rings at a time for continuous action. **Hog rings** are made of 1/16″ dia. galvanized steel wire.

Hog Rings					Pliers	
Opening Size	Wd.	Clinched Dia.	Box of 2,500			
1/2″	3/4″	1/4″	3406A75	$14.79	3406A71	$41.73

Hog Rings and Comfort-Grip Pliers







Load these 1/16″ dia. galvanized steel wire hog rings into pliers that are cushioned for comfortable, long-term use.

Auto Feed—Pliers hold up to 50 rings for continuous use.

Manual Load—Pliers hold one ring at a time.

	Hog Rings						Pliers	
	Opening Size	Wd.	Clinched Dia.	Pkg. Qty.		Pkg.		
Auto Feed	1/2″	3/4″	5/16″	200	90155A071	$9.05	90155A065	$57.19
Manual Load	5/8″	3/4″	1/4″	1,000	90155A032	29.24	90155A025	27.72

About How to Choose Staples

Find your stapler brand name and model number here to see which staple group it uses. Then find that staple group letter in the table presented on the next page. For box staples, see page 1608. For office staples, see page 2016.

For additional stapler brands and model numbers, go to mcmaster.com and search for **staples for staplers**.

Model No.	Uses Staple Group
Arrow	
8000	**J**
ET155	**X**
ETF50	**J**
ETFX50	**J**
HT30	**K**
HT50	**J**
HT50 RED	**J**
JT21	**Q**
P22	**T**
P35	**R**
P35S	**R**
P66	**S**
T25	**Y**
T27	**Q**
T30	**K**
T50	**J**
T50ACD	**J**
T500C	**J**
T55C	**J**
T59	**W**
T75	**Z**
Black & Decker	
5650	**Q**
9713	**M**
9715	**M**
9717	**M**
3000E	**J**
4000E	**J**
6000E	**J**

Model No.	Uses Staple Group
Bostitch	
438S2R	**C**
438S4	**B**
450S2	**C**
538S4	**B**
650S4	**B**
650S5	**G**
BT110	**J**
BT160HL	**J**
EHF1838K	**A**
H30-8	**P**
HL1612AT	**C**
P6C-8	**P**
PC4000	**P**
PC5000	**P**
S32SX-BHF-2	**A**
SB-150SX	**A**
SX150-BHF-2	**A**
SX150K	**F**
SX150K-1	**A**
SX1838K	**A**
T40S2	**C**
XS1640	**C**
XS1650	**C**
Duo-Fast	
CT50	**L**
HT-755	**N**
KN-1848	**F**
KS-7648	**D**
KWR-1848A	**H**

Model No.	Uses Staple Group
Duo-Fast (Cont.)	
SM7664	**D**
SureShot 1832	**F**
SureShot 1848	**F**
SW1748	**H**
Haubold	
KG7000	**D**
PN750A	**D**
PN750X	**D**
Hitachi	
N3804A	**F**
Makita	
BST221	**J**
Master Mechanic	
2500MM	**T**
McMaster-Carr	
1952T1	**R**
2055T51	**T**
2055T61	**R**
36165A45	**J**
36165A72	**J**
57025A35	**W**
6008A13	**L**
6009A3	**J**
6009A11	**K**
6009A12	**J**
6009A8	**L**
6013A14	**J**
6013A15	**J**
6017A11	**Y**

Model No.	Uses Staple Group
McMaster-Carr (Cont.)	
6017A61	**Z**
6046A32	**J**
60765A1	**J**
6107A15	**F**
61075A81	**CC**
61085A65	**C**
93458A200	**A**
96132A200	**J**
Paslode	
3150	**G**
CS5000	**L**
HT550	**L**
IM200-S16	**E**
Porter-Cable	
MS200	**G**
NS100	**F**
NS150	**F**
PowerShot	
5800	**J**
8000	**J**
9000	**J**
Rapid	
R311	**J**
Senco	
M1	**G**
M2	**G**
MW	**H**
MWXP	**H**
PW	**H**

Model No.	Uses Staple Group
Senco (Cont.)	
SLS15	**F**
SLS18	**F**
SNS40	**G**
SNS50	**G**
SPS	**H**
WC150XP	**H**
WC200XP	**H**
Stanley	
TR70	**M**
TR75	**M**
TR80	**M**
TR100	**J**
TR150	**J**
TR45	**Q**
TR60	**J**
TRE100	**M**
TRE300	**M**
TRE500	**J**
Surebonder	
2500	**T**
5500	**Q**
5600	**J**
5700	**J**
5900	**J**
9600	**J**
9610	**L**
10401	**J**

For information about how to choose staples, see page 3414.

Staples for Air-Powered, Electric, Cordless, and Manual Staplers



Flat
Staple Groups A-D, F-N, Q-T, X, Z, and CC



Crowned
Staple Group P



Insulated
Staple Group W



Curved
Staple Group Y

Stainless steel staples have excellent corrosion resistance and may be mildly magnetic. **Nickel** staples are resistant to corrosion, especially salt water.

Leg Lg.	Small Quantity Pkg. Qty.		Pkg.	Large Quantity Pkg. Qty.		Pkg.
Flat—Galvanized Steel						
Staple Group A (7/32″ Wd.)						
1/2″				7,000	58515A531	$27.69
5/8″				5,000	58515A532	23.74
3/4″				5,000	58515A533	28.57
1″				5,000	58515A535	36.78
1 3/16″				3,000	58515A537	27.20
1 1/4″				3,000	58515A538	28.57
1 3/8″				3,000	58515A539	29.89
Staple Group B (1/2″ Wd.)						
1 3/4″				11,400	58515A686	137.30
2″				11,400	58515A687	127.42
Staple Group C (1″ Wd.)						
3/4″				10,000	58515A491	95.87
7/8″				12,000	58515A692	125.44
1″				10,000	58515A743	98.84
1 1/4″				10,000	58515A724	105.36
1 1/2″				10,080	58515A725	125.33
2″				10,000	58515A751	123.83
Staple Group D (7/16″ Wd.)						
1 1/2″				10,000	58525A671	83.85
Staple Group F (1/4″ Wd.)						
3/8″				5,000	6107A21	10.60
1/2″				5,000	6107A22	11.46
5/8″	1,000	6107A63	$4.26	5,000	6107A23	14.69
3/4″	1,000	6107A64	4.72	5,000	6107A24	16.27
7/8″				5,000	6107A25	17.44
1″	1,000	6107A661	5.14	5,000	6107A26	17.71
1 1/8″				5,000	6107A52	19.13
1 1/4″	1,000	6107A831	6.13	5,000	6107A53	21.15
1 1/2″	1,000	6107A841	6.75	5,000	6107A54	23.29
1 9/16″				5,000	6107A55	25.92
Staple Group G (7/16″ Wd.)						
1 3/4″				10,000	58535A652	60.47
2″				10,000	58535A653	67.95
Staple Group H (1″ Wd.)						
7/8″				10,000	58535A661	47.27
1″				10,000	58535A662	51.82
1 1/4″				10,000	58535A663	57.83
1 1/2″				10,000	58535A664	67.09
Staple Group J (3/8″ Wd.)						
1/4″	1,250	60135A19	3.29	5,000	60135A019	11.74
5/16″	1,250	60135A21	3.29	5,000	60135A021	11.74
3/8″	1,250	60135A22	3.70	5,000	60135A022	13.22
1/2″	1,250	60135A23	3.63	5,000	60135A023	12.97
17/32″	1,250	60135A25	5.37	5,000	60135A025	19.18
9/16″	1,250	60135A24	4.33	5,000	60135A024	15.48
Staple Group K (15/32″ Wd.)						
1/4″				5,000	5959A23	8.44
5/16″				5,000	5959A24	9.27
3/8″				5,000	5959A25	9.31
Staple Group L (1/2″ Wd.)						
3/16″				5,000	60085A16	18.29
1/4″	1,000	60085A67★	2.55	5,000	60085A17	8.80
5/16″	1,000	60085A68★	2.68	5,000	60085A18	9.25
3/8″	1,000	60085A69★	3.45	5,000	60085A19	11.88
1/2″	1,000	60085A72★	2.48	5,000	60085A22	8.54
9/16″	1,000	60085A75★	4.21	5,000	60085A25	14.52
Staple Group M (1/2″ Wd.)						
1/4″	1,000	60095A65★	3.20	5,000	60095A15★	11.43
5/16″	1,000	60095A66★	3.37	5,000	60095A16★	12.02
3/8″	1,000	60095A67★	3.70	5,000	60095A17★	13.20
1/2″	1,000	60095A68★	4.03	5,000	60095A18★	14.40

★Made of steel.

Leg Lg.	Small Quantity Pkg. Qty.		Pkg.	Large Quantity Pkg. Qty.		Pkg.
Flat—Galvanized Steel (Cont.)						
Staple Group N (15/32″ Wd.)						
1/2″				5,000	6009A6	$16.40
9/16″				5,000	6009A7	17.34
Staple Group Q (7/16″ Wd.)						
1/4″	1,000	60135A71	$2.11	5,000	60135A11	7.53
5/16″	1,000	60135A72	2.21	5,000	60135A12	7.89
Staple Group R (7/16″ Wd.)						
1/4″				5,000	1952T2	8.79
3/8″				5,000	1952T3	10.06
Staple Group S (11/32″ Wd.)						
3/16″	2,400	2055T49	3.01			
Staple Group T (7/16″ Wd.)						
1/4″	1,050	2055T71★	1.62	5,000	2055T52	3.23
5/16″	1,050	2055T72★	1.77	5,000	2055T53	3.54
Staple Group X (3/16″ Wd.)						
3/8″	1,000	6010A63	4.96	5,000	6010A23	6.61
1/2″	1,000	6010A64	5.08	5,000	6010A24	7.26
Staple Group Z (9/16″ Wd.)						
9/16″	1,000	6017A62	6.65			
5/8″	1,000	6017A63	6.65			
7/8″	1,000	6017A64	7.32			
Staple Group CC (3/8″ Wd.)						
3/8″				5,000	61075A31★	7.31
1/2″				5,000	61075A33★	10.13
5/8″				5,000	61075A35★	11.03
Flat—Stainless Steel						
Staple Group F (1/4″ Wd.)						
1″	1,000	6107A461	19.16	5,000	6107A961	68.44
1 1/4″	1,000	6107A473	23.71	5,000	6107A973	84.68
1 1/2″	1,000	6107A487	33.54	5,000	6107A987	119.80
Staple Group G (7/16″ Wd.)						
1 1/4″	1,000	58535A749	36.40	5,000	58535A849	130.00
1 1/2″	1,000	58535A751	44.80	5,000	58535A851	160.00
2″	1,000	58535A753	73.42	5,000	58535A853	262.22
Staple Group J (3/8″ Wd.)						
3/8″	1,000	60135A61	12.46	5,000	60135A061	44.50
Flat—Nickel						
Staple Group J (3/8″ Wd.)						
1/4″	1,000	60135A51	22.75			
5/16″	1,000	60135A52	26.11			
3/8″	1,000	60135A53	28.63			
1/2″	1,000	60135A54	37.92			
Crowned—Steel						
Staple Group P (7/16″ Wd.)						
1/4″	1,000	60105A22	6.99	6,000	60105A72	30.40
3/8″	1,000	60105A17	5.32	5,000	60105A67	19.00
Clear Insulated—Galvanized Steel						
Staple Group W (5/16″ Wd.)						
11/16″	300	57025A41	7.68			
Black Insulated—Galvanized Steel						
Staple Group W (5/16″ Wd.)						
11/16″	300	57025A42	7.68			
Curved—Galvanized Steel						
Staple Group Y (5/16″ Wd.)						
3/8″				5,000	6017A13	12.36
7/16″				5,000	6017A14	12.36
9/16″				5,000	6017A15	12.95

Staplers

For information about how to choose staples, see page 3414.

Air-Powered Staplers


1


2

These staplers have a lightweight housing. They do not clinch the staple. **Heavy duty** and **compact** staplers have a 1/4" NPT female air connection. **General purpose** stapler has a 1/4" NPT male air connection. It includes a plastic case.

		For Staple			Staple	Operating Pressure,		
		Wd.	Leg Lg.	Group	Cap.	psi		
1	Heavy Duty	1/4"	5/8"-1 1/2"	F	100	60-115	**6107A41**	$109.33
2	Heavy Duty for Wide Staples	1"	1/2"-1 1/2"	C	150	80-110	**61085A65**	427.24
2	Compact	3/8"	3/8"-5/8"	CC	185	70-120	**61075A81**	135.35
2	General Purpose	7/32"	1/2"-1 1/2"	A	100	80-120	**93458A200**	134.14

Electric Staplers



Stapler operates on 0.7 amps at 120 volts AC to quickly and continuously drive staples. It has a nylon housing and includes an 8-ft. power cord with two-prong plug. Does not clinch the staple. UL and C-UL listed.

For Staple			Staple		
Wd.	Leg Lg.	Group	Cap.		
3/8"	1/4"-1/2"	J	80	**96132A300**	$52.38

Cordless Staplers



All the benefits of an electric stapler without the constraints of a cord. It includes two 18-volt lithium-ion batteries, a 30-minute charger, and a canvas bag. Housing is plastic; magazine is aluminum. Does not clinch the staple. UL listed.

For Staple			Staple		
Wd.	Leg Lg.	Group	Cap.		
3/8"	1/4"-7/8"	J	90	**60765A1**	$443.92

Hammer Staplers

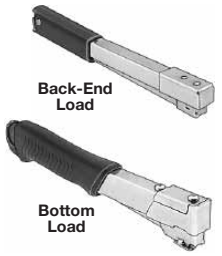

Drive staples as fast as you can swing these tools. Balanced for one-handed use, you can use them at arm's length, overhead, or at floor level. All are made of steel. They do not clinch the staples.

	For Staple		Staple	Stapler				
Wd.	Leg Lg.	Group	Cap.	Lg.	Ht.	Wt., lbs.		
Back-End Load								
3/8"	5/16"-1 1/2"	J	125	11"	3 1/2"	2	**6009A12**	$33.22
15/32"	1/4"-3/8"	K	150	11 1/2"	1 1/2"	1	**6009A11**	24.50
1/2"	3/16"-5/16"	L	150	11 1/2"	3 1/2"	2	**6009A8**	75.71
Bottom Load								
3/8"	1/4"-1/2"	J	150	13"	2"	3	**6009A3**	52.63

Manual Staplers



3

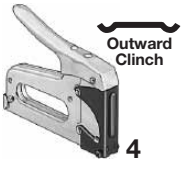

4


5


6


7


8


9

(3&4) Clinching Staplers—These bend the legs of the staple for a more secure hold than staplers that do not clinch the staple. Made of steel with a chrome finish. *Style 3 heavy duty inward-clinch with spear point* stapler pierces the edges of corrugated containers to clinch the staple from the inside.

(5&6) Standard Staplers—Made of steel. They do not clinch the staple. *Style 5* has a chrome finish. *Style 6* has a knob to select the best drive depth for your application. Has a polished-nickel finish.

(7) Wire and Cable Staplers—A grooved staple guide keeps staples from penetrating the wire or cable jacket. Made of steel with a chrome finish. They do not clinch the staple. *Stapler for 1/4" round wire and cable* uses curved staples. *Stapler for 5/16" round wire and cable* uses standard staples. *Stapler for 1/2" flat wire and cable* uses insulated staples.

(8&9) Stapler/Brad Nailers—Drive staples or brad nails. Made of steel with a rubber grip. They do not clinch the staple. *Style 9 forward-action* stapler/nailer has the handle in the opposite direction for leverage and minimal kickback.

Standard Stapler Kit—Contains a Style 5 stapler, 1,250 staples, a staple lifter, and nose attachments for stapling screens and wires. Comes in a plastic case.

		For Staple			Staple	Brad			Nail		
		Wd.	Leg Lg.	Group	Cap.	Lg.		Nail Group	Cap.		
Clinching Staplers											
3	Inward Clinch	7/16"	1/4"-5/16"	T	150					**2055T51**	$19.31
3	Heavy Duty with Inward Clinch	7/16"	1/4"-3/8"	R	70					**2055T61**	26.62
3	Heavy Duty with Inward Clinch and Spear Point	7/16"	1/4"-3/8"	R	70					**1952T1**	38.82
4	Outward Clinch	3/8"	1/4"-9/16"	J	70					**6046A32**	41.28
Standard Staplers											
5	General Purpose	3/8"	1/4"-9/16"	J	70					**6013A15**	21.80
6	General Purpose Adjustable Drive	1/2"	3/16"-9/16"	L	80					**6008A13**	57.00
Wire and Cable Staplers											
7	For 1/4" Round Wire and Cable	5/16"	3/8"-9/16"	Y	80					**6017A11**	42.03
7	For 5/16" Round Wire and Cable	5/16"	1/4"	W	30					**57025A35**	47.55
7	For 1/2" Flat Wire and Cable	9/16"	9/16"-7/8"	Z	50					**6017A61**	42.31
Stapler/Brad Nailers											
8	General Purpose	3/8"	1/4"-9/16"	J	120	5/8"-1"		H	100	**36165A45**	32.34
9	Forward Action	3/8"	1/4"-9/16"	J	80	9/16"		K	80	**36165A72**	33.76
Standard Stapler Kit										**6013A14**	33.59

Staple Removers


Aluminum Pry

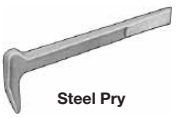
Steel Pry


Steel Pry and Pliers

	Lg.		
Aluminum Pry	5½″	1957T14	$10.67
Steel Pry	7½″	61815A66	12.02
Steel Pry and Pliers	10½″	5636A4	21.27

Hammer-In Staples

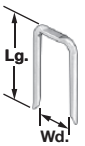

Rectangular



Insulated



Curved



Square



Saddle

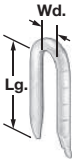

Arched

Use these staples to attach wire and cable to wood.

Rectangular staples are for electrical wire.

Insulated staples are for electrical wire and have a paper insulator, except steel staples which have a plastic insulator. Those for low-voltage wire can be used for bell, thermostat, and phone wire.

Curved and **square** staples are for cable and phone wire. They have a black body with a galvanized steel nail. They can also be used in plaster, stucco, and masonry.

Saddle staples are for romex cable and have a white body with two zinc-plated steel nails.

Arched staples can also be used for installing suspended ceilings, securing insulation, and repairing fences.

Wd.	Lg.	For Wire Type	Pkg. Qty.		Pkg.
Rectangular					
Steel					
½″	1″	2-Conductor 14, 12 Gauge	25	97900A210	$1.50
9/16″	13/16″	3-Conductor 14, 12, 10 Gauge	100	97900A220	5.41
Zinc-Plated Steel					
9/16″	13/16″	3-Conductor 14, 12, 10 Gauge	100	97900A230	6.23
Insulated					
Steel					
5/8″	11/16″	2-Conductor 14, 12 Gauge	100	97910A240	5.87
Copper-Coated Steel					
3/16″	¾″	Low Voltage	100	97910A105	6.10
¼″	5/8″	Low Voltage	50	97910A130	2.41
¼″	¾″	Low Voltage	100	97910A135	6.38
3/8″	⅞″	Up to 14 Gauge	100	97910A140	12.16
½″	⅞″	Up to 14 Gauge	100	97910A145	10.99
White-Painted Steel					
¼″	5/8″	Low Voltage	40	97910A120	2.65
Brown-Painted Steel					
¼″	5/8″	Low Voltage	40	97910A110	2.65
Curved					
Plastic					
1/8″	¼″	75 Coax (4.0 mm)	100	97905A610	4.52
3/16″	5/16″	RG-58 (5.0 mm)	100	97905A630	4.52
¼″	3/8″	RG-6 (7.0 mm)	100	97905A640	5.46
5/16″	7/16″	59 Triax (8.0 mm)	100	97905A650	6.06
Square					
Plastic					
3/16″	3/16″	Bell (4.5 mm)	100	97905A620	4.42
5/16″	5/16″	Dual RG-6 (9.0 mm)	100	97905A660	4.71
Saddle					
Plastic					
½″	3/8″	2-Conductor	100	98140A140	5.35
¾″	3/8″	3-Conductor	100	98140A180	6.86
Arched					
Galvanized Steel					
3/16″	¾″	Up to 14 Gauge	500	97884A020	5.46
¼″	1¼″	Up to 9 Gauge	80	97884A040	5.89
¼″	1½″	Up to 9 Gauge	70	97884A041	5.89

Nails



Commonly used for framing.

Type 316 stainless steel nails are the most corrosion resistant and may be mildly magnetic.

18-8 stainless steel nails have excellent corrosion resistance and may be mildly magnetic.

Aluminum nails offer good resistance to weather-related corrosion.

Copper nails are decorative and corrosion resistant.

Also Available: Steel nails in 5-lb. packages. Please ask for 97801A200 and specify size.

Size	Lg.	Shank Dia.	Head Dia.	Pkg. Qty.		Pkg.
Steel						
3d	1¼″	0.08″ (14 ga.)	3/16″	500	97801A501	$3.89
4d	1½″	0.11″ (12 ga.)	¼″	275	97801A502	2.89
6d	2″	0.12″ (11 ga.)	¼″	150	97801A504	2.89
7d	2¼″	0.11″ (12 ga.)	¼″	125	97801A505	2.89
8d	2½″	0.13″ (10½ ga.)	5/16″	75	97801A506	2.89
10d	3″	0.15″ (9 ga.)	5/16″	60	97801A508	2.89
12d	3¼″	0.15″ (9 ga.)	5/16″	60	97801A509	2.89
16d	3½″	0.16″ (8 ga.)	3/8″	40	97801A510	2.89
20d	4″	0.2″ (6 ga.)	3/8″	25	97801A511	2.89
Type 316 Stainless Steel						
2d	1″	0.07″ (15 ga.)	3/16″	800	97990A100	38.67
3d	1¼″	0.08″ (14 ga.)	¼″	450	97990A101	36.70
4d	1½″	0.11″ (12 ga.)	¼″	200	97990A102	28.12
6d	2″	0.12″ (11 ga.)	¼″	125	97990A104	26.61
7d	2¼″	0.12″ (11 ga.)	¼″	125	97990A106	26.61
8d	2½″	0.13″ (10½ ga.)	5/16″	50	97990A105	12.29
10d	3″	0.15″ (9 ga.)	5/16″	50	97990A107	14.45
12d	3¼″	0.15″ (9 ga.)	5/16″	50	97990A108	22.00
16d	3½″	0.16″ (8 ga.)	3/8″	25	97990A109	10.30
20d	4″	0.2″ (6 ga.)	7/16″	25	97990A111	26.61
18-8 Stainless Steel						
2d	1″	0.07″ (15 ga.)	3/16″	800	97946A100	22.50
3d	1¼″	0.08″ (14 ga.)	¼″	450	97946A101	15.28
4d	1½″	0.11″ (12 ga.)	¼″	200	97946A102	15.28
6d	2″	0.12″ (11 ga.)	¼″	125	97946A104	13.90
8d	2½″	0.13″ (10½ ga.)	5/16″	50	97946A105	9.01
10d	3″	0.15″ (9 ga.)	5/16″	50	97946A107	11.12
12d	3¼″	0.15″ (9 ga.)	5/16″	50	97946A108	14.82
16d	3½″	0.16″ (8 ga.)	3/8″	25	97946A109	7.93
20d	4″	0.2″ (6 ga.)	7/16″	25	97946A111	13.90
Aluminum						
2d	1″	0.07″ (15 ga.)	3/16″	2,200	97807A100	14.26
3d	1¼″	0.08″ (14 ga.)	¼″	1,350	97807A101	14.00
4d	1½″	0.1″ (12½ ga.)	¼″	800	97807A102	13.12
6d	2″	0.11″ (12 ga.)	¼″	400	97807A104	13.03
8d	2½″	0.13″ (10½ ga.)	5/16″	200	97807A106	12.97
10d	3″	0.15″ (9 ga.)	5/16″	150	97807A108	12.89
16d	3½″	0.16″ (8 ga.)	3/8″	100	97807A110	12.80
20d	4″	0.2″ (6 ga.)	3/8″	75	97807A111	12.86
Copper						
2d	1″	0.07″ (15 ga.)	3/16″	650	97952A100	23.70
3d	1¼″	0.08″ (14 ga.)	3/16″	400	97952A101	23.70
4d	1½″	0.11″ (12 ga.)	¼″	200	97952A102	23.70
6d	2″	0.12″ (11 ga.)	¼″	125	97952A104	23.70
8d	2½″	0.13″ (10½ ga.)	5/16″	25	97952A106	11.94
10d	3″	0.15″ (9 ga.)	5/16″	50	97952A108	23.70
16d	3½″	0.16″ (8 ga.)	3/8″	10	97952A110	10.97
20d	4″	0.2″ (6 ga.)	3/8″	20	97952A111	23.70

Spiral-Shank Nails



With a spiral shank that turns as you drive, these nails provide a stronger hold than ring-shank nails.

18-8 stainless steel nails have excellent corrosion resistance and may be mildly magnetic.

Also Available: Steel nails in 5-lb. packages. Please ask for 90745A600 and specify size.

Size	Lg.	Shank Dia.	Head Dia.	Pkg. Qty.		Pkg.
Steel						
8d	2½″	0.12″ (11 ga.)	5/16″	100	90745A702	$6.29
10d	3″	0.14″ (10 ga.)	5/16″	75	90745A713	6.19
16d	3½″	0.15″ (9 ga.)	5/16″	50	90745A724	6.09
20d	4″	0.18″ (7 ga.)	3/8″	25	90745A735	5.66
40d	5″	0.2″ (6 ga.)	½″	20	90745A746	5.30
18-8 Stainless Steel						
2d	1″	0.07″ (15 ga.)	3/16″	800	97830A100	41.11
4d	1½″	0.11″ (12 ga.)	¼″	200	97830A102	14.64
6d	2″	0.12″ (11 ga.)	¼″	100	97830A104	11.50
8d	2½″	0.13″ (10½ ga.)	5/16″	50	97830A106	11.18
10d	3″	0.15″ (9 ga.)	5/16″	50	97830A108	11.40
16d	3½″	0.16″ (8 ga.)	3/8″	25	97830A110	8.53
20d	4″	0.2″ (6 ga.)	7/16″	25	97830A115	17.40

Ring-Shank Nails



Rings on the shank prevent the nail from backing out in applications where vibration can shake other nails loose.

Type 316 stainless steel nails are corrosion resistant and may be mildly magnetic.

Also Available: Galvanized steel nails in 5-lb. packages. Please ask for 90755A200 and specify size.

Size	Lg.	Shank Dia.	Head Dia.	Pkg. Qty.		Pkg.
Galvanized Steel						
6d	2″	0.12″ (11 ga.)	5/16″	125	90755A410	$3.92
8d	2½″	0.12″ (11 ga.)	5/16″	100	90755A415	4.30
10d	3″	0.14″ (10 ga.)	5/16″	75	90755A420	3.97
16d	3½″	0.15″ (9 ga.)	5/16″	50	90755A425	4.35
20d	4″	0.18″ (7 ga.)	3/8″	25	90755A430	3.93
40d	5″	0.2″ (6 ga.)	1/2″	20	90755A435	3.93
60d	6″	0.2″ (6 ga.)	1/2″	15	90755A440	3.75
Type 316 Stainless Steel						
—	3/4″	0.08″ (14 ga.)	1/4″	650	97015A110	22.55
3d	1¼″	0.08″ (14 ga.)	1/4″	450	97015A130	30.27
4d	1½″	0.11″ (12 ga.)	1/4″	200	97015A150	23.20
6d	2″	0.12″ (11 ga.)	1/4″	100	97015A170	13.07
8d	2½″	0.13″ (10½ ga.)	5/16″	50	97015A190	9.46
10d	3″	0.15″ (9 ga.)	5/16″	50	97015A210	13.07
16d	3½″	0.16″ (8 ga.)	3/8″	25	97015A250	10.44
20d	4″	0.2″ (6 ga.)	7/16″	25	97015A270	21.95

Plastic-Coated Nails



Also known as sinker nails, these steel nails have a plastic coating making them easy to drive and have a strong hold. Commonly used on sheathing.

Size	Lg.	Shank Dia.	Head Dia.	Pkg. Qty.		Pkg.
4d	1⅜″	0.08″ (14 ga.)	3/16″	2,400	97804A102	$11.63
6d	1⅞″	0.09″ (13 ga.)	1/4″	1,350	97804A104	11.63
7d	2⅛″	0.1″ (12½ ga.)	1/4″	1,050	97804A105	11.63
8d	2⅜″	0.11″ (12 ga.)	1/4″	700	97804A106	11.63
10d	2⅞″	0.12″ (11 ga.)	5/16″	500	97804A108	11.63
12d	3⅛″	0.14″ (10 ga.)	5/16″	350	97804A109	11.63
16d	3¼″	0.15″ (9 ga.)	3/8″	300	97804A110	11.63

Large-Head Nails



A larger head means better surface holding. **Copper** nails are decorative and corrosion resistant.

Also Available: Galvanized steel nails in 5-lb. packages. Please ask for 97850A100 and specify size.

Size	Lg.	Shank Dia.	Head Dia.	Pkg. Qty.		Pkg.
Galvanized Steel						
2d	1″	0.12″ (11 ga.)	7/16″	250	97850A225	$3.49
3d	1¼″	0.12″ (11 ga.)	7/16″	225	97850A227	3.49
4d	1½″	0.12″ (11 ga.)	7/16″	175	97850A228	3.49
6d	2″	0.12″ (11 ga.)	7/16″	150	97850A230	3.49
Copper						
2d	1″	0.12″ (11 ga.)	3/8″	225	97875A320	30.30
3d	1¼″	0.12″ (11 ga.)	3/8″	150	97875A330	26.94
4d	1½″	0.12″ (11 ga.)	3/8″	125	97875A340	26.94
6d	2″	0.12″ (11 ga.)	3/8″	100	97875A360	26.94

Double-Headed Nails



Drive these steel nails into wood up to the first head and the second head remains exposed for easy removal. Also known as scaffold and duplex nails.

Also Available: 5-lb. packages. Please ask for 97812A100 and specify size.

Size	Lg.	Shank Dia.	Top Head Dia.	Pkg. Qty.		Pkg.
8d	2¼″	0.13″ (10½ ga.)	1/4″	80	97812A606	$4.17
16d	3″	0.16″ (8 ga.)	5/16″	40	97812A609	4.29

Nails with Plastic Cap



A 1″ dia. cap keeps the nail head from cutting into felt, foam board, and other soft materials. Nails are galvanized steel with a ring shank.

Lg.	Shank Dia.	Pkg. Qty.		Pkg.
1″	0.11″ (12 ga.)	250	97945A300	$13.11
1¼″	0.11″ (12 ga.)	200	97945A400	13.11
1½″	0.11″ (12 ga.)	175	97945A500	13.11
2″	0.11″ (12 ga.)	150	97945A600	13.11

Nails for Masonry



Flutes on the shank bite into masonry for light duty fastening to brick and uncured concrete. Made of zinc-plated steel.

Lg.	Shank Dia.	Head Dia.	Pkg. Qty.		Pkg.
3/4″	1/8″	3/8″	50	97814A102	$9.39
1″	5/32″	7/16″	25	97814A103	8.37
1¼″	3/16″	1/2″	25	97814A104	10.61
1½″	1/4″	9/16″	25	97814A105	13.88
2″	1/4″	9/16″	10	97814A106	7.69
2½″	1/4″	9/16″	10	97814A107	8.02

Finishing Nails





Brad-Head Nails—Can be driven flush with the surface. *18-8 stainless steel* nails have excellent corrosion resistance and may be mildly magnetic.

Also Available: Steel brad-head nails in 5-lb. packages in lengths marked with a ★. Please ask for 97808A100 and specify length.

Flat-Head Nails—Easier to drive than brad-head nails.

Lg.	Shank Dia.	Head Dia.	Pkg. Qty.		Pkg.
Brad Head					
Steel					
1/2″	0.035″ (20 ga.)	1/16″	7,000	97828A736	$11.34
1/2″	0.048″ (18 ga.)	1/16″	3,500	97828A666	9.00
5/8″	0.048″ (18 ga.)	1/16″	3,000	97828A667	8.69
3/4″	0.035″ (20 ga.)	1/16″	4,500	97828A738	10.17
3/4″	0.048″ (18 ga.)	1/16″	2,500	97828A668	7.80
3/4″	0.054″ (17 ga.)	1/8″	1,900	97828A633	7.80
3/4″	0.063″ (16 ga.)	3/32″	1,400	97828A598	7.51
7/8″	0.035″ (20 ga.)	1/16″	3,000	97828A739	10.17
7/8″	0.054″ (17 ga.)	1/8″	1,500	97828A634	7.51
1″	0.048″ (18 ga.)	1/16″	1,900	97828A670	7.51
1″	0.054″ (17 ga.)	1/8″	1,400	97828A635	7.23
1″	0.063″ (16 ga.)	3/32″	1,000	97828A600	7.23
1¼″	0.048″ (18 ga.)	1/16″	1,500	97828A672	7.51
1¼″	0.054″ (17 ga.)	1/8″	1,100	97828A637	7.23
1¼″	0.063″ (16 ga.)	3/32″	850	97828A602	6.94
1¼″★	0.067″ (15½ ga.)	1/8″	775	97808A501	3.22
1½″	0.048″ (18 ga.)	1/16″	1,300	97828A673	7.51
1½″	0.063″ (16 ga.)	3/32″	700	97828A603	6.94
1½″★	0.072″ (15 ga.)	1/8″	575	97808A502	3.56
2″★	0.091″ (13 ga.)	1/8″	250	97808A503	4.45
2½″★	0.095″ (12½ ga.)	1/8″	175	97808A504	3.89
3″★	0.113″ (11½ ga.)	3/16″	100	97808A505	4.09
18-8 Stainless Steel					
1¼″	0.072″ (15 ga.)	1/8″	600	97835A201	16.67
1½″	0.083″ (14 ga.)	1/8″	400	97835A202	17.48
2″	0.095″ (12½ ga.)	1/8″	200	97835A203	15.22
2½″	0.109″ (12 ga.)	3/16″	125	97835A204	14.85
3″	0.12″ (11 ga.)	3/16″	100	97835A205	14.56
3½″	0.12″ (11 ga.)	3/16″	75	97835A206	14.47
Flat Head					
Steel					
1/2″	0.035″ (20 ga.)	5/64″	7,000	97820A736	11.34
1/2″	0.048″ (18 ga.)	7/64″	3,500	97820A666	9.00
5/8″	0.048″ (18 ga.)	7/64″	3,000	97820A667	8.57
3/4″	0.035″ (20 ga.)	5/64″	4,500	97820A738	10.17
3/4″	0.048″ (18 ga.)	7/64″	2,500	97820A668	7.80
3/4″	0.054″ (17 ga.)	1/8″	1,900	97820A633	7.80
3/4″	0.063″ (16 ga.)	5/32″	1,400	97820A598	7.51
7/8″	0.054″ (17 ga.)	1/8″	1,500	97820A634	7.51
1″	0.048″ (18 ga.)	7/64″	1,900	97820A670	7.51
1″	0.054″ (17 ga.)	1/8″	1,400	97820A635	7.23
1″	0.063″ (16 ga.)	5/32″	1,000	97820A600	7.23
1¼″	0.048″ (18 ga.)	7/64″	1,500	97820A672	7.51
1¼″	0.054″ (17 ga.)	1/8″	1,100	97820A637	7.23
1¼″	0.063″ (16 ga.)	5/32″	850	97820A602	6.94
1½″	0.063″ (16 ga.)	5/32″	700	97820A603	6.94

Ring-Shank Finishing Nails



For use on siding and trim, nails have a small, easy-to-conceal head and rings on the shaft to hold them in place. Made of Type 316 stainless steel.

Size	Lg.	Shank Dia.	Head Dia.	Pkg. Qty.		Pkg.
5d	1¾″	0.08″ (14 ga.)	3/16″	350	97860A310	$21.25
6d	2″	0.1″ (12½ ga.)	3/16″	200	97860A315	21.25
7d	2¼″	0.1″ (12½ ga.)	3/16″	200	97860A320	21.25
8d	2½″	0.1″ (12½ ga.)	3/16″	100	97860A325	10.45
10d	3″	0.11″ (12 ga.)	1/4″	100	97860A330	21.25
16d	3½″	0.12″ (11 ga.)	1/4″	50	97860A335	15.22

Decorative Finishing Nails



Also known as escutcheon pins, these have a domed head for a smooth, finished appearance.

18-8 stainless steel nails have excellent corrosion resistance and may be mildly magnetic. **Brass** nails are decorative and corrosion resistant.

Lg.	Shank Dia.	Head Dia.	Pkg. Qty.		Pkg.
18-8 Stainless Steel					
3/8"	0.05" (18 ga.)	1/8"	475	92154A751	$22.23
3/8"	0.06" (16 ga.)	1/8"	250	92154A790	22.23
1/2"	0.05" (18 ga.)	1/8"	375	92154A756	19.53
1/2"	0.06" (16 ga.)	1/8"	200	92154A798	19.53
1/2"	0.11" (12 ga.)	1/4"	75	92154A894	19.53
5/8"	0.06" (16 ga.)	1/8"	175	92154A806	18.53
3/4"	0.05" (18 ga.)	1/8"	250	92154A767	15.77
3/4"	0.06" (16 ga.)	1/8"	150	92154A814	15.77
3/4"	0.08" (14 ga.)	3/16"	75	92154A846	15.77
3/4"	0.11" (12 ga.)	1/4"	50	92154A902	19.53
1"	0.05" (18 ga.)	1/8"	200	92154A774	15.77
1"	0.06" (16 ga.)	1/8"	100	92154A822	15.77
1"	0.08" (14 ga.)	3/16"	50	92154A854	15.77
1 1/4"	0.08" (14 ga.)	3/16"	50	92154A862	15.77
1 1/2"	0.08" (14 ga.)	3/16"	25	92154A870	15.77
Brass					
1/4"	0.08" (14 ga.)	3/16"	200	97936A155	3.75
3/8"	0.05" (18 ga.)	1/8"	300	97936A109	2.62
3/8"	0.06" (16 ga.)	1/8"	200	97936A132	2.79
3/8"	0.08" (14 ga.)	3/16"	150	97936A158	3.44
1/2"	0.05" (18 ga.)	1/8"	300	97936A112	3.33
1/2"	0.06" (16 ga.)	1/8"	200	97936A135	3.48
1/2"	0.08" (14 ga.)	3/16"	125	97936A161	3.35
1/2"	0.11" (12 ga.)	1/4"	50	97936A184	11.20
5/8"	0.06" (16 ga.)	1/8"	175	97936A138	3.44
3/4"	0.05" (18 ga.)	1/8"	250	97936A115	3.96
3/4"	0.06" (16 ga.)	1/8"	150	97936A141	3.42
3/4"	0.08" (14 ga.)	3/16"	100	97936A167	3.23
3/4"	0.11" (12 ga.)	1/4"	50	97936A189	11.75
1"	0.05" (18 ga.)	1/8"	175	97936A118	3.07
1"	0.06" (16 ga.)	1/8"	100	97936A144	3.35
1"	0.08" (14 ga.)	3/16"	75	97936A170	3.74
1 1/4"	0.08" (14 ga.)	3/16"	50	97936A173	3.44
1 1/2"	0.08" (14 ga.)	3/16"	25	97936A176	2.04

Upholstery Tacks



Copper tacks are decorative and corrosion resistant.

Size	Lg.	Head Dia.	Pkg. Qty.		Pkg.
Steel					
No. 3	3/8"	3/16"	1,800	97839A103	$11.79
No. 6	1/2"	1/4"	1,000	97839A105	10.86
No. 8	9/16"	1/4"	900	97839A106	8.12
No. 10	5/8"	1/4"	850	97839A107	10.38
No. 14	3/4"	1/4"	650	97839A109	10.38
Copper					
No. 6	1/2"	1/4"	175	97839A210	8.52
No. 10	5/8"	1/4"	100	97839A216	7.74
No. 14	3/4"	1/4"	90	97839A219	7.43

Wood Joiners

Connect and repair wood pieces and joints. Joiners are made of steel.

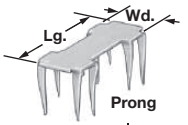



Wd.	Lg.	Pkg. Qty.		Pkg.
Prong				
3/8"	1"	30	90050A211	$7.79
3/8"	1 5/16"	25	90050A213	7.79
1/2"	1 1/8"	15	90050A215	7.79
1/2"	1 11/16"	10	90050A217	7.79
Corrugated				
1/4"	1 1/16"	100	97846A432	5.16
1/2"	1 1/16"	100	97846A440	4.60
5/8"	1 1/16"	100	97846A444	5.96

Screw Nails for Thin Material



They drive like a nail yet hold like a screw to fasten fabric, leather, and cardboard to sheet metal. Also known as flat-head Type 21 screws. Use in drilled or punched holes. Hole size should be slightly smaller than the shank diameter. All are zinc-plated steel.

Lg.	Shank Dia.	Head Dia.		Pkg. of 100
3/8"	0.11" (12 ga.)	1/4"	90085A110	$7.42
7/16"	0.14" (10 ga.)	5/16"	90085A210	7.98
7/16"	0.16" (8 ga.)	5/16"	90085A310	8.80
1/2"	0.18" (7 ga.)	5/16"	90085A410	10.16

Railroad Spikes



These steel spikes are manufactured according to AREA (American Railroad Engineering Association) specifications.

Lg.	Shank Square Size	Head Lg.	Head Wd.		Pkg. of 5
5 1/2"	9/16"	1 1/2"	1 1/4"	97897A779	$9.87
6"	5/8"	1 9/16"	1 5/16"	97897A818	11.76

Screw Nails for Wood



The deep-cut spiral on the shank is driven into hardwoods and dense materials like a nail, but holds like a screw. Made of zinc-plated steel.

Lg.	Shank Dia.	Head Dia.	Pkg. Qty.		Pkg.
Flat Head					
1/2"	0.08" (14 ga.)	3/16"	100	97810A110	$5.91
3/4"	0.09" (13 ga.)	1/4"	100	97810A115	7.97
1"	0.11" (12 ga.)	1/4"	100	97810A120	9.17
1 1/4"	0.12" (11 ga.)	1/4"	100	97810A125	10.11
1 1/2"	0.12" (11 ga.)	1/4"	100	97810A130	10.71
2"	0.14" (10 ga.)	5/16"	50	97810A135	7.90
2 1/2"	0.14" (10 ga.)	5/16"	50	97810A140	9.73
Domed Head					
1/2"	0.08" (14 ga.)	3/16"	100	97810A210	5.80
3/4"	0.08" (14 ga.)	3/16"	100	97810A215	6.40
1"	0.08" (14 ga.)	3/16"	100	97810A220	8.17
1"	0.09" (13 ga.)	5/16"	100	97810A310	8.77

Screw Nails for Metal, Plastic, and Plywood

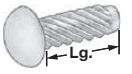

Also known as round-head Type U drive screws. Drive these into drilled or punched holes and get the hold of a screw when fastening sheet metal, plastic, and plywood. Hole size should be slightly smaller than the shank dia. **18-8 stainless steel** nails have excellent corrosion resistance and may be mildly magnetic.

Screw Nails

Size	Lg.	Shank Dia.	Head Dia.	Zinc-Plated Steel	Pkg. of 100	18-8 Stainless Steel	Pkg. of 100
00	1/8"	0.06"	0.1"	90081A003	$4.58	91654A032	$4.51
00	3/16"	0.06"	0.1"	90081A005	4.58	91654A034	4.57
00	1/4"	0.06"	0.1"	90081A006	4.58	91654A035	5.03
00	3/8"	0.06"	0.1"	90081A008	4.80	91654A036	3.18
0	1/8"	0.08"	0.13"	90081A052	4.16	91654A052	4.17
0	3/16"	0.08"	0.13"	90081A054	4.18	91654A054	4.14
0	1/4"	0.08"	0.13"	90081A055	4.11	91654A055	4.46
0	3/8"	0.08"	0.13"	90081A057	4.42	91654A057	2.30
2	1/8"	0.1"	0.16"	90081A074	3.67	91654A074	4.03
2	3/16"	0.1"	0.16"	90081A076	3.67	91654A076	4.31
2	1/4"	0.1"	0.16"	90081A077	3.67	91654A077	4.46
2	5/16"	0.1"	0.16"	90081A078	3.87	91654A078	2.29
2	3/8"	0.1"	0.16"	90081A079	3.96	91654A079	2.41
2	1/2"	0.1"	0.16"	90081A081	4.93	91654A081	2.49
4	3/16"	0.12"	0.21"	90081A105	2.84	91654A105	2.47
4	1/4"	0.12"	0.21"	90081A106	2.98	91654A106	2.51
4	5/16"	0.12"	0.21"	90081A107	2.98	91654A107	5.17
4	3/8"	0.12"	0.21"	90081A108	4.11	91654A108	5.29
6	1/4"	0.14"	0.26"	90081A144	3.38	91654A144	2.92
6	5/16"	0.14"	0.26"	90081A145	3.38	91654A145	3.24
6	3/8"	0.14"	0.26"	90081A146	3.31	91654A146	3.60
7	5/16"	0.15"	0.29"	90081A167	4.11		
7	3/8"	0.15"	0.29"	90081A168	4.29		
7	1/2"	0.15"	0.29"	90081A170	4.47		
8	1/4"	0.17"	0.31"	90081A190	5.16	91654A190	4.40
8	3/8"	0.17"	0.31"	90081A192	3.80	91654A192	4.57
8	1/2"	0.17"	0.31"	90081A194	4.00	91654A194	5.77
8	5/8"	0.17"	0.31"	90081A196	4.82	91654A196	12.34
10	3/8"	0.18"	0.36"	90081A240	4.60	91654A240	6.29
10	1/2"	0.18"	0.36"	90081A242	4.98	91654A242	6.89
10	5/8"	0.18"	0.36"	90081A244	5.16	91654A244	14.29
12	1/2"	0.21"	0.41"	90081A291	6.58	91654A291	9.19
12	3/4"	0.21"	0.41"	90081A294	7.42		
14	1/2"	0.24"	0.46"	90081A310	8.20		
14	3/4"	0.24"	0.46"	90081A313	9.04		

Assortments

1,200 Pieces in 12 Sizes—Includes 100 each of No. 0×3/16" and ×1/4"; No. 2×1/8", ×3/16", and ×1/4"; No. 4×3/16", ×1/4", ×5/16", and ×3/8"; and No. 6×1/4", ×5/16", and ×3/8". Come in a plastic box.

Zinc-Plated Steel	90081A700	$81.22
18-8 Stainless Steel	91654A600	101.44

Heavy Duty Spikes



With a thicker shank than nails, spikes will handle your heavy duty fastening. **Steel** spikes have a smooth shank. **Copper** spike is decorative and corrosion resistant and has barbs on the shank.

Lg.	Shank Dia.	Head Dia.	Pkg. Qty.		Pkg.
Steel					
7″	5/16″	5/8″	15	97033A300	$6.65
8″	3/8″	3/4″	10	97033A310	6.65
10″	3/8″	3/4″	5	97033A315	4.43
12″	3/8″	3/4″	5	97033A320	5.32

Lg.	Shank Dia.	Head Dia.	Pkg. Qty.		Pkg.
Copper					
7″	1/4″	15/32″	5	97033A610	$21.89

Nailers


1


2


3


4


5


6

(1-4) Air Powered— Nailers have a 1/4″ NPT female connection, except 96384A440 has a 1/4″ NPT male connection. All have a metal housing.

Style 1 have an angled magazine for maneuvering in tight spaces. Operating pressure for 96384A440 is 70-120 psi; 5906A46 is 80-120 psi.

Style 2 is coil-fed for less frequent reloading and increased productivity. Operating pressure is 70-100 psi.

Style 3 fits in the palm of your hand and can be used in any position. Operating pressure is 60-100 psi.

Style 4 operating pressure is 70-120 psi. Comes in a plastic case.

(5) Electric— Has a plastic housing. Includes an 8-ft. long cord with two-prong plug and operates on 120 volts AC. Comes in a plastic case. Note: Use only with 12-ga. extension cord with a three-prong plug.

(6) Cordless— Powered by a disposable fuel cell and a rechargeable battery. One fuel cell sets about 1,200 nails. Both nailers include a 7.4-volt lithium-ion battery that sets about 6,000 nails when fully charged. They also come with a battery charger, safety glasses, and a plastic case. Housing is plastic. Not for sale in California or Oregon.

		For Nail			Nail			Wt.,	
	Type	Size	Lg.	Group	Cap.	Lg.	Ht.	lbs.	
Air Powered									
1	Framing	Round Head; 21° Angled Strip	8d-12d	2″-3 1/4″	AA	64	22 1/2″	5 1/2″	7 3/4	96384A440	$270.07
1	Framing	Clipped Head; 28° Angled Strip	6d-16d	2″-3 1/2″	A	100	22 1/2″	14 1/2″	7 3/4	5906A46	356.89
2	Framing	Round Head; Coil	4d-12d	1 1/2″-3 1/4″	C	225-300	12″	13 1/2″	8 1/2	36275A65	353.96
3	Framing/Finishing	Round Head; Single	5d-60d	1 3/4″-6″	Any	1	5 1/4″	4″	3	6078A35	57.86
4	Brad	Brad Head; Straight Strip	18 ga.	5/8″-2 1/8″	G	110	9 1/2″	9 1/2″	2 3/4	6101A62	118.71
Electric									
5	Brad	Brad Head; Straight Strip	18 ga.	5/8″-1 1/4″	G or H	100	10 1/2″	9 1/2″	4 1/4	5903A42	73.97
Cordless									
6	Framing	Clipped Head; 30° Angled Strip	6d-12d	2″-3 1/4″	B	40	12″	14 1/2″	7 1/4	5869A71	433.75
6	Finishing	Brad Head; Angled Strip	16 ga.	1 1/4″-2 1/2″	E	100	12″	11 1/4″	4 1/2	5869A37	435.00
Replacement Fuel Cell for 5869A71 (1/Pkg.)										5869A53	14.32
Replacement Fuel Cell for 5869A37 (2/Pkg.)										5869A95	19.64

About How to Choose Nails for Nailers

Find your nailer brand name and model number here to see which nail group it uses. Go to that nail group letter in the first column of the tables presented on the next page.

For additional nailer brands and model numbers, go to mcmaster.com and search for **nails for nailers**.

Model No.	Uses Nail Group
Arrow	
ET 200	**G, H**
Atro	
CHS933	**B**
MINOR 600	**F**
Bostitch	
BT1855K	**G**
F28WW	**A**
LPF21PL	**AA**
N100S	**A**
N80CB-1	**C**
N80SB, N86S	**A**
SB-1664FN	**F**
SB-1850BN	**G**
T35-40, T36-35	**F**
Campbell-Hausfeld	
NB356500	**D**
NS2890	**A**
Craftsman	
18314	**F**
18323	**G**
18329	**D**

Model No.	Uses Nail Group
Craftsman (Cont.)	
18430	**A**
18448	**D**
DeWalt	
D51238K	**G**
D51256	**F**
D51275K	**D**
D51822	**B**
D51823	**B**
DC612KA	**F**
Duo-Fast	
BB4440	**G**
CN-325	**A**
CNW-75	**C**
DAFN-6432	**D**
DBN-4440	**G**
DBN-4450	**G**
Fasco	
F4 BA-65	**D**
GN31	**G**
Haubold	
SKN30JN/12	**G**

Model No.	Uses Nail Group
Haubold (Cont.)	
SKN64A	**F**
Hilti	
BN136B	**G**
Hitachi	
NT32AE, NT45A	**G**
NT50AD	**G**
NT65A	**F**
NT65AA	**D**
NV83A	**C**
Makita	
AF501, 502	**G**
AF631, AF632	**D**
AN901	**C**
Max	
CN665	**C**
NF211/18-25	**G**
NF352-ST	**F**
SN890CH/28	**A**
McMaster-Carr	
36165A45	**H**
36165A72	**K**
36275A65	**C**

Model No.	Uses Nail Group
McMaster-Carr (Cont.)	
5869A71	**B**
5869A37	**E**
5903A42	**G, H**
5906A46	**A**
6101A62	**G**
96384A440	**AA**
Paslode	
2138-F18	**G**
3200-F16	**F**
3250-F16	**F**
5300S, 5325S	**B**
902400	**E**
CF325LI	**B**
F275C, F325C	**C**
IM200-F18	**G**
IM250A	**E**
IM250-F16	**F**
IM325, IM350	**B**
IMF250A	**D**
MU-112-F	**F**
SK312	**B**
T125-F18	**G**

Model No.	Uses Nail Group
Paslode (Cont.)	
T200-F18	**G**
T250-F16	**F**
Porter-Cable	
BN125, BN200	**G**
Coil 350	**C**
DA250A	**D**
FC350	**B**
FN200, FN250	**F**
Senco	
FinishPro 15	**G**
FinishPro 32	**F**
FinishPro 35	**D**
SCN300, SCN60	**C**
SN2+	**B**
SN325, SN4	**B**
Spotnails	
CB1820	**G**
FB1632	**F**
GB1832	**G**
KB1564	**F**
Stanley	
TRE650	**G, H**

For information about how to choose nails for nailers, see page 3420.

Nails for Air-Powered, Electric, and Cordless Nailers

Framing nails with a ring shank have increased hold.
Finishing and **brad** nails have small, easy-to-conceal heads. Finishing nails have a thicker shank than brad nails.
Galvanized steel nails provide rust resistance.
Type 316 stainless steel nails are the most corrosion resistant and may be mildly magnetic.
18-8 stainless steel nails have excellent corrosion resistance and may be mildly magnetic.

Framing Nails

Nail Group	Nail Material	Size	Lg.	Shank Dia.	Shank Type	Small Quantity Box Qty.		Small Quantity Box	Large Quantity Box Qty.		Large Quantity Box
Round Head; 21° Angled Strip											
AA	Steel	8d	2⅜″	0.1″	Smooth	500	96384A320	$16.65	2,500	96384A620	$57.42
AA	Steel	10d	3″	0.1″	Smooth	500	96384A330	23.57	2,000	96384A630	81.28
AA	Steel	12d	3¼″	0.1″	Smooth	500	96384A350	23.45	2,000	96384A650	80.86
Clipped Head; 28° Angled Strip											
A	Steel	6d	2″	0.1″	Smooth	250	58505A11	13.97	2,000	58505A51★	34.92
A	Steel	8d	2⅜″	0.1″	Smooth	250	58505A12	13.94	2,000	58505A52★	34.85
A	Steel	12d	3¼″	0.1″	Smooth	250	58505A14	19.04	2,000	58505A54★	47.60
A	Steel	16d	3½″	0.1″	Smooth	250	58505A15	16.47	2,000	58505A55★	63.35
A	Galvanized Steel	8d	2⅜″	0.1″	Smooth	250	58505A22	17.42	2,000	58505A62★	58.07
A	Galvanized Steel	10d	3″	0.1″	Smooth	—	—	—	2,000	58505A31★	72.91
A	Galvanized Steel	12d	3¼″	0.1″	Smooth	250	58505A24	16.16	2,000	58505A64★	76.95
Clipped Head; 30°–34° Angled Strip											
B	Steel	8d	2⅜″	0.1″	Smooth	250	58555A263	14.71	5,000	58555A763	91.92
B	Steel	10d	3″	0.1″	Smooth	250	58555A264	14.51	2,500	58555A764	63.08
B	Steel	12d	3¼″	0.1″	Smooth	250	58555A265	10.88	2,500	58555A765	68.03
B	18-8 SS	8d	2⅜″	0.1″	Ring	250	58555A363	54.89	—	—	—
B	18-8 SS	10d	3″	0.1″	Ring	250	58555A364	62.49	—	—	—
B	18-8 SS	12d	3¼″	0.1″	Ring	250	58555A365	69.38	—	—	—
Round Head; Coil											
C	Steel	4d	1½″	0.08″	Ring	—	—	—	3,000	58915A44	28.46
C	Steel	6d	2″	0.1″	Smooth	—	—	—	3,600	58915A46	45.24
C	Steel	8d	2½″	0.1″	Smooth	—	—	—	2,700	58915A47	44.72
C	Steel	12d	3¼″	0.1″	Smooth	—	—	—	2,700	58915A49	62.48
C	Galvanized Steel	8d	2½″	0.1″	Smooth	—	—	—	3,600	58915A48	86.52
C	Galvanized Steel	10d	3″	0.1″	Smooth	—	—	—	2,700	58915A51	114.66

★Head is round.


With Smooth Shank


With Ring Shank


Round Head Clipped Head

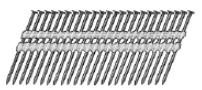
Angled Strip


Coil

Finishing Nails

Nail Group	Nail Material	Size	Lg.	Shank Dia.	Shank Type	Small Quantity Box Qty.		Small Quantity Box	Large Quantity Box Qty.		Large Quantity Box
Clipped Head; Angled Strip											
D	Steel	15 ga.	1¼″	0.07″	Smooth	—	—	—	4,000	36185A42	$26.89
D	Steel	15 ga.	1½″	0.07″	Smooth	—	—	—	4,000	36185A43	29.76
D	Steel	15 ga.	1¾″	0.07″	Smooth	—	—	—	4,000	36185A44	35.11
D	Steel	15 ga.	2″	0.07″	Smooth	—	—	—	4,000	36185A45	38.80
D	Steel	15 ga.	2½″	0.07″	Smooth	—	—	—	4,000	36185A47	51.36
Brad Head; Angled Strip											
D	Type 316 SS	15 ga.	1½″	0.07″	Smooth	500	36185A81	$55.27	—	—	—
D	Type 316 SS	15 ga.	2″	0.07″	Smooth	500	36185A82	68.60	—	—	—
E	Galvanized Steel	16 ga.	1¼″	0.06″	Smooth	—	—	—	2,000	5869A81	15.40
E	Galvanized Steel	16 ga.	2½″	0.06″	Smooth	—	—	—	2,000	5869A85	23.67
E	Type 316 SS	16 ga.	2″	0.06″	Smooth	500	5869A022	49.17	—	—	—
Brad Head; Straight Strip											
F	Galvanized Steel	16 ga.	1¼″	0.06″	Smooth	—	—	—	2,500	60125A42	25.66
F	Galvanized Steel	16 ga.	1½″	0.06″	Smooth	—	—	—	2,500	60125A44	31.58
F	Galvanized Steel	16 ga.	1¾″	0.06″	Smooth	1,000	60125A67	17.12	2,500	60125A45	35.66
F	Galvanized Steel	16 ga.	2″	0.06″	Smooth	1,000	60125A68	18.44	2,500	60125A46	38.42
F	Galvanized Steel	16 ga.	2½″	0.06″	Smooth	1,000	60125A69	23.59	2,500	60125A47	49.14
F	Type 316 SS	16 ga.	1¼″	0.07″	Smooth	500	60125A81	33.25	—	—	—
F	Type 316 SS	16 ga.	1½″	0.07″	Smooth	500	60125A82	33.33	—	—	—
F	Type 316 SS	16 ga.	2″	0.07″	Smooth	500	60125A83	38.90	—	—	—


Clipped Head Brad Head

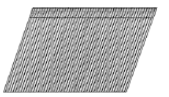
Angled Strip

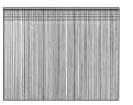
Straight Strip

Brad Nails

Nail Group	Nail Material	Size	Lg.	Shank Dia.	Shank Type	Small Quantity Box Qty.		Small Quantity Box	Large Quantity Box Qty.		Large Quantity Box
Brad Head; Straight Strip											
G	Galvanized Steel	18 ga.	⅝″	0.05″	Smooth	1,000	60015A12	$5.28	5,000	60015A72	$18.85
G	Galvanized Steel	18 ga.	¾″	0.05″	Smooth	1,000	60015A13	5.15	5,000	60015A73	18.40
G	Galvanized Steel	18 ga.	1″	0.05″	Smooth	1,000	60015A14	6.93	5,000	60015A74	24.76
G	Galvanized Steel	18 ga.	1 3/16″	0.05″	Smooth	—	—	—	5,000	60015A75	24.55
G	Galvanized Steel	18 ga.	1¼″	0.05″	Smooth	1,000	60015A16	7.62	5,000	60015A77	27.22
G	Galvanized Steel	18 ga.	1⅜″	0.05″	Smooth	—	—	—	3,000	60015A79	13.26
G	Galvanized Steel	18 ga.	1½″	0.05″	Smooth	1,000	60015A18	8.36	5,000	60015A76	29.85
G	Galvanized Steel	18 ga.	1 9/16″	0.05″	Smooth	—	—	—	2,000	60015A81	9.70
G	Galvanized Steel	18 ga.	1⅝″	0.05″	Smooth	—	—	—	5,000	60015A78	30.25
G	Galvanized Steel	18 ga.	2″	0.05″	Smooth	1,000	60015A21	8.71	5,000	60015A82	31.12
G	Type 316 SS	18 ga.	¾″	0.04″	Smooth	500	60015A22	22.23	—	—	—
G	Type 316 SS	18 ga.	1″	0.04″	Smooth	500	60015A23	24.85	—	—	—
H	Galvanized Steel	18 ga.	⅝″	0.05″	Smooth	1,000	60015A65▲	5.29	—	—	—
H	Galvanized Steel	18 ga.	¾″	0.05″	Smooth	—	—	—	2,000	5903A52▲	6.02
H	Galvanized Steel	18 ga.	1″	0.05″	Smooth	—	—	—	2,000	5903A54▲	7.05
H	Galvanized Steel	18 ga.	1¼″	0.05″	Smooth	1,000	5903A56	4.08	—	—	—
K	Galvanized Steel	18 ga.	9/16″	0.05″	Smooth	—	—	—	1,600	36165A75	6.74

▲Head is painted brown.


Brad Head

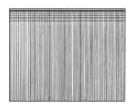
Straight Strip

MIG Welding Wire



Wire with **solid** core or **metal** core requires a shielding gas. Wire with **flux** core is self-shielding and does not require a shielding gas, except vertical/overhead for steel (E71T-1), for 309 stainless steel (E309L-T1), and for 316 stainless steel (E316L-T1) do require a shielding gas.

1- and **2-lb.** spools have a 4″ dia. wheel with a 0.63″ arbor.
3-, 5-, 10-, and **11-lb.** spools have an 8″ dia. wheel with a 2″ arbor.
33-lb. spools have a 12″ dia. wheel with a 2″ arbor.

Dia.	Core Type	Approx. Feet per lb.	Small Quantity lbs.		Medium Quantity lbs.		Large Quantity lbs.	
For Steel								
General Purpose (ER70S-6)								
0.023″	Solid	600	7678A241	2	$10.00	11	$47.52	33 $112.86
0.030″	Solid	500	7678A242	2	9.31	11	35.25	33 87.45
0.035″	Solid	350	7678A243	2	8.62	11	36.03	33 81.68
0.045″	Solid	195	7678A244	2	12.36	11	33.28	33 80.03
High Strength (ER80S-D2)								
0.030″	Solid	500	7678A145	2	13.65	11	48.60	33 123.32
0.035″	Solid	350	7678A146	2	13.38	11	47.20	33 121.16
0.045″	Solid	175	7678A17	—	—	—	—	33 115.70
Fast Deposit (E70C-6M)								
0.035″	Metal	350	7678A147	—	—	11	73.84	33 184.07
Vertical/Overhead (E71T-1)								
0.035″	Flux	350	7678A107	—	—	11	58.18	33 154.73
0.045″	Flux	200	7678A664	—	—	—	—	33 89.47
Thin Gauge (E71T-GS)								
0.030″	Flux	545	7678A245	2	20.30	10	70.91	— —
0.035″	Flux	380	7678A246	2	19.36	10	74.00	— —
0.045″	Flux	210	7678A247	2	18.88	10	70.00	— —
Wear Resistant (55FC-O)								
0.035″	Metal	350	7678A112	1	31.26	3	84.07	— —
For Stainless Steel								
301, 302, 304, and 308 Stainless Steel (ER308LFC-O)								
0.035″	Flux	350	7678A117	1	44.91	5	201.75	— —
304 and 304L Stainless Steel (ER308L)								
0.025″	Solid	600	7678A248	2	26.00	10	120.00	— —
0.030″	Solid	500	7678A249	2	24.00	10	115.00	— —
0.035″	Solid	350	7678A251	2	24.07	10	109.00	— —
0.045″	Solid	195	7678A252	2	34.16	10	143.05	— —
309 Stainless Steel (ER309L)								
0.023″	Solid	600	7678A179	2	47.40	—	—	— —
0.025″	Solid	600	7678A181	—	—	10	171.64	— —

Dia.	Core Type	Approx. Feet per lb.	Small Quantity lbs.		Medium Quantity lbs.		Large Quantity lbs.	
For Stainless Steel (Cont.)								
309 Stainless Steel (ER309L) (Cont.)								
0.030″	Solid	500	7678A254	2	$32.00	10	$152.00	— —
0.035″	Solid	350	7678A255	2	27.60	10	132.00	— —
309 Stainless Steel (E309L-T1)								
0.035″	Flux	300	7678A97	—	—	10	302.00	— —
316 Stainless Steel (ER316L)								
0.025″	Solid	600	7678A256	2	34.00	10	156.00	— —
0.030″	Solid	500	7678A257	2	29.60	10	138.00	— —
0.035″	Solid	350	7678A258	2	29.57	10	134.00	— —
316 Stainless Steel (E316L-T1)								
0.035″	Flux	300	7678A134	2	66.60	5	161.50	— —
321 and 347 Stainless Steel (ER347)								
0.030″	Solid	400	7678A135	2	42.20	5	102.00	10 $198.00
0.035″	Solid	300	7678A136	2	39.16	5	95.00	10 185.80
For Other Metals								
For Aluminum 43, 356, 3003, 3004, 5052, 6061, and 6063 (ER4043)								
0.030″	Solid	1,130	7678A125	1	14.58	3	36.27	— —
0.035″	Solid	975	7678A259	1	14.00	5	50.15	— —
0.047″	Solid	650	7678A196	1	10.38	—	—	— —
For High-Strength Welds on Aluminum 5050, 5052, 5083, 5454, 5456, 5457, and 5458 (ER5356)								
0.030″	Solid	1,130	7678A262	1	13.50	5	60.82	— —
0.035″	Solid	975	7678A263	1	9.73	5	51.46	— —
0.047″	Solid	650	7678A203	1	10.86	—	—	— —
For Copper (ERCu)								
0.035″	Solid	300	7678A133	1	25.30	3	69.90	— —
For Cast Iron (Ni55)								
0.035″	Metal	350	7678A131	1	69.45	3	205.00	— —
For Joining Copper to Steel (ERCuSi-A)								
0.035″	Solid	350	7678A81	2	41.38	—	—	— —
For Joining Dissimilar Metals (ERCuAL-A2)								
0.035″	Solid	300	7678A132	1	32.90	3	92.70	— —

MIG Gun Components

Contact Tips


A

B

C

D

E

F

For Guns	Style	Choose a Wire Diameter		Pkg. of 10
Bernard EZ Feed 200, 300, 350, 400	A	0.035″	78375A634	$14.00
Hobart Trek 180	B	0.030″, 0.035″, 0.045″	78375A541	14.00
Lincoln Magnum 100L	C	0.023″, 0.025″, 0.030″, 0.035″	78375A542	10.00
Lincoln Magnum 200, 250L, 300, 400	D	0.023″, 0.025″, 0.030″, 0.035″, 0.040″, 0.045″, 0.052″, 0.063″	78375A543	10.67
Miller M15, M25, M40	B	0.030″, 0.035″, 0.045″	78375A544	14.00
Tregaskiss T30, T40	E	0.035″, 0.045″	78375A545	11.14
Tweco Fusion	F	0.023″, 0.025″, 0.030″, 0.035″, 0.040″, 0.045″	78375A551	15.45
Tweco Mini No. 1	C	0.023″, 0.025″, 0.030″, 0.035″, 0.040″, 0.045″	78375A546	10.00
Tweco No. 2, No. 3, No. 4	D	0.023″, 0.025″, 0.030″, 0.035″, 0.040″, 0.045″, 0.052″, 0.063″	78375A547	10.67
Tweco Spraymaster 250	C	0.035″	78375A623	12.67

Nozzles


G

H

J

K

L

M

For Guns	Style	Bore Size		
Bernard 200, 300, Q150	G	½″	78375A676	$8.07
Bernard 200, 300, Q150	H	⅝″	78375A675	8.07
Hobart Trek 180	J	½″	78375A885	11.37
Lincoln Magnum 200, 250L	K	⅝″	78375A874	4.30
Lincoln Magnum 200, 250L	L	½″	78375A851	4.30
Lincoln Magnum 300, 400	M	½″	78375A861	11.29
Lincoln Magnum 300, 400	M	⅝″	78375A862	11.29
Miller M15	J	½″	78375A685	11.86
Miller M25, M40	J	½″	78375A686	14.57
Miller M25, M40	J	⅝″	78375A687	14.57
Tweco Fusion	J	⅜″	78375A561	13.04
Tweco Fusion	J	½″	78375A665	18.63
Tweco Fusion	J	⅝″	78375A563	$13.04
Tweco Fusion	J	¾″	78375A564	6.84
Tweco Mini No. 1	L	⅜″	78375A647	8.51
Tweco Mini No. 1	M	½″	78375A648	9.00
Tweco Mini No. 1	M	⅝″	78375A649	9.00
Tweco No. 2	K	⅝″	78375A674	4.97
Tweco No. 2	L	½″	78375A651	4.97
Tweco No. 3, No. 4	L	½″	78375A653	4.54
Tweco No. 3, No. 4	L	⅝″	78375A654	4.54
Tweco No. 3, No. 4	M	½″	78375A661	11.86
Tweco No. 3, No. 4	M	⅝″	78375A662	11.86
Tweco Spraymaster 250	M	½″	78375A673	16.49

15-ft. Conduit Assemblies

For Guns	For Wire Dia.		
Lincoln Magnum 300, 400	0.030″-0.035″	78375A832	$16.14
Lincoln Magnum 300, 400	0.040″-0.045″	78375A834	17.08
Miller M15, M25, M40	0.030″-0.035″	78375A811	18.70
Miller M15, M25, M40	0.040″-0.045″	78375A812	18.70
Tweco No. 1, No. 2	0.030″-0.035″	78375A732	16.14
Tweco No. 3, No. 4	0.040″-0.045″	78375A734	17.09

Insulators

For Guns	Length		
Tweco No. 2	⅞″	78375A663	$2.40
Tweco No. 4	1 1/16″	78375A664	2.50

MIG Guns

Plug Styles for Standard Guns



A B C



Plug Styles for Heavy Duty Guns



A B C

Guns plug into your MIG welder and include a contact tip and nozzle. Cord is 15 ft. long.

Standard—Are 220 amps and rated 4 minutes on and 6 minutes off. Use with CO_2 gas and 0.030″ to 0.035″ dia. wire.

Heavy Duty—Let you weld with more power for longer periods of time. They are 250 amps and rated 8 minutes on and 2 minutes off. Use with Argon/CO_2 gas and 0.035″ to 0.045″ dia. wire.

Plug style A fits Thermal Arc Fabricator 140, 180, 190, and 210.

Plug style B fits Hobart Handler 210; Hobart Trek 180; and Millermatic 135, 140, 175, 180, 200, 210, 211, and 212.

Plug style C fits Lincoln Easy-Core, Easy-MIG, PowerMIG, Pro-Core, Pro-MIG, and Weld-Pak.

Plug Style	Standard		Heavy Duty	
A	77365A41	$137.05	77365A15	$383.93
B	77365A35	137.05	77365A22	383.93
C	77365A31	137.05	77365A28	383.93

MIG Welders



Welder uses 0.025″ to 0.035″ dia. wire and welds metal 1/64″ to 11/64″ thick. A shielding gas is required for welding solid wire. Welder is single phase and operates on 120 volts AC. It is rated for 2 minutes on and 8 minutes off. Power cord is 6 ft. long with a three-prong plug. Overall size is 14″ Ht. × 10″ Wd. × 18″ Dp. Weight is 50 lbs.

Welder includes welding gun contact tips, a 1/2-lb. spool of 0.025″ copper-coated steel solid wire, a 1/2-lb. spool of 0.035″ steel flux-core wire, a 10-ft. ground cable with ground clamp, welding hose, an argon-mixed gas regulator, a gas nozzle for welding solid-core wire, and a gasless nozzle for welding flux-core wire.

Optional utility cart allows you to easily transport your welder, gas tank, and tools from place to place. **Optional aluminum welding kit** includes a gun with spool mount, a 1-lb. spool of 0.035″ 4043 aluminum solid wire, welding gun contact tips, an electric harness with toggle switch, and a carrying case.

Lincoln Model No.	Output Current		
Easy-MIG 140	90A @ 19.5V AC	7264A12	$683.92
Optional Utility Cart		7264A113	99.97
Optional Aluminum Welding Kit		7264A15	286.49

Dissolvable Shims



Use these paper shims to create a gap while welding, then spray them with water and they instantly melt away. They leave no harmful residue.

Thickness	Wd.	Lg.		Pkg. of 25
1/32″	3/8″	4″	7135A11	$15.38
1/16″	3/8″	4″	7135A13	15.69
3/32″	3/8″	4″	7135A15	15.76
1/8″	3/8″	4″	7135A17	16.18

MIG Welding Wire Spool Keepers

Ensure high-quality welds by protecting your welding wire from humidity and corrosion. Spool keeper is made of plastic and holds up to five 4″ dia. spools.



7684A11 ..... $14.18

MIG Welding Pliers

Remove weld spatter, install/remove contact tips and nozzles, cut/draw out wire, and tighten/loosen fittings, nuts, and bolts all with one tool. Pliers are spring assisted and 8″ long.



79405A65 ..... $14.12

MIG Torch Lights

Attach this light to the neck of your welding torch to illuminate the weld area. It fits torch necks 1/2″ to 3/4″ dia. Torch operates on one AAA battery (included).



7741A77 ..... $29.82

MIG Wire Cleaning and Lubricating Pads

Cleaning pads work with all types of wire to reduce weld spatter. **Lubricating pads** keep rusty wire and wire with a poor surface finish feeding smoothly. Do not use on aluminum wire.



		Pkg. of 6
Cleaning Pads	1664K1	$10.47
Lubricating Pads	1664K2	11.66

TIG Welding Rods

Dia.	Lg.	Approx. Rods per lb.		1 lb.	5 lbs.
For Steel (ER70S-2)					
0.035″	36″	100	7972A33	$12.78	$44.73
1/16″	36″	30	7972A53	9.45	27.69
3/32″	36″	10	7972A54	9.18	27.69
1/8″	36″	8	7972A55	9.00	27.68
For High-Strength Welds on Steel (ER80S-D2)					
0.035″	36″	100	7972A34	14.00	49.00
1/16″	36″	30	7972A38	12.22	42.77
3/32″	36″	10	7972A39	11.56	40.46
1/8″	36″	8	7972A42	10.78	37.73
For Fast-Deposit Welds on Steel (ER70S-6)					
1/16″	36″	30	7972A351	____	34.60
3/32″	36″	10	7972A352	____	30.72
1/8″	36″	8	7972A353	____	28.34
For 304 Stainless Steel (ER308L)					
0.035″	36″	100	7972A43	27.78	97.23
1/16″	36″	30	7972A56	13.34	52.49
3/32″	36″	10	7972A57	12.31	41.92
1/8″	36″	8	7972A58	12.49	48.46
For Fast-Deposit Welds on 304 Stainless Steel (ER308LSi)					
1/16″	36″	30	7972A357	13.90	____
1/8″	36″	8	7972A358	13.30	____
For Joining Dissimilar Steels (ER312)					
1/16″	36″	30	7972A59	16.86	63.20
3/32″	36″	10	7972A62	16.86	63.20
1/8″	36″	8	7972A63	16.49	61.80
For 316 and 316L Stainless Steel (ER316L)					
0.035″	36″	100	7972A44	30.78	107.73
1/16″	36″	30	7972A73	17.57	63.25
3/32″	36″	10	7972A74	15.35	58.94
1/8″	36″	8	7972A75	14.20	57.18
For Aluminum 3003, 3004, 5052, 6061, and 6063 (ER4043)					
0.035″	36″	325	7972A45	44.42	155.47
1/16″	36″	90	7972A76	14.65	47.50
3/32″	36″	40	7972A77	12.31	40.10
1/8″	36″	20	7972A78	13.28	42.10
For High-Strength Welds on Aluminum 5050, 5052, 5083, 5356, 5454, and 5456 (ER5356)					
0.035″	36″	325	7972A46	44.42	155.47
1/16″	36″	90	7972A87	13.75	47.44
3/32″	36″	40	7972A88	12.46	40.70
1/8″	36″	20	7972A89	12.48	42.10
For Joining Dissimilar Metals (ERCuAL-A2)					
1/16″	36″	30	7972A47	27.67	96.84
3/32″	36″	10	7972A48	27.11	94.88
1/8″	36″	8	7972A49	24.67	86.34
For Joining Copper to Steel (ERCuSi-A)					
1/16″	36″	25	7972A317	22.36	81.04
3/32″	36″	10	7972A321	22.07	86.22
1/8″	36″	7	7972A324	22.00	80.32
For Cast Iron (ERNi-CI [Ni99])				1/2 lb.	1 lb.
1/16″	36″	25	7972A307	$40.31	$75.98
3/32″	36″	10	7972A311	40.42	80.31
1/8″	36″	6	7972A314	40.44	80.31
For Titanium (ERTi-2)					
1/16″	36″	50	7972A51	83.33	____
3/32″	36″	20	7972A52	74.75	____

Tungsten Electrodes & TIG Torch Components

Tungsten Electrodes

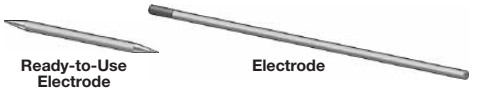

Electrodes have a ground finish to ensure a close fit in your TIG torch. They conform to AWS (American Welding Society) standards, except ready-to-use general purpose (rare earth mix) do not. *General purpose*, *long life*, and *easy start* weld nickel alloys, steel, stainless steel, and titanium.

Ready-to-Use Electrodes—Come with a 20° angle on both ends.

Electrodes—Grind to your exact specifications.

General purpose electrodes are a mix of rare earth metals, which offers stability and consistency in general purpose applications.

Long-life electrodes contain 1.5% lanthanated tungsten, so they are long-lasting under heavy and pulsing amperage loads.

Easy-start electrodes are used for low-amp welding. They contain 2% ceriated tungsten for ease of starting and providing good arc stability at low currents.

Dia.	Lg.	Color	Welding Current		Pkg. Qty.		Each
Ready-to-Use Electrodes							
General Purpose (Rare Earth Mix)							
1/16″	11/2″	Off-White	AC/DC	8000A76	10	$57.11	$8.40
3/32″	11/2″	Off-White	AC/DC	8000A77	10	79.98	11.76
1/8″	11/2″	Off-White	AC/DC	8000A78	10	102.48	15.06
Long Life (1.5% Lanthanated Tungsten)							
1/16″	11/2″	Gold	AC/DC	8000A79	10	51.40	7.56
3/32″	11/2″	Gold	AC/DC	8000A86	10	72.48	10.65
1/8″	11/2″	Gold	AC/DC	8000A87	10	89.98	13.23
Easy Start (2% Ceriated Tungsten)							
1/16″	11/2″	Gray	DC	8000A88	10	48.54	7.14
3/32″	11/2″	Gray	DC	8000A89	10	69.98	10.29
1/8″	11/2″	Gray	DC	8000A91	10	84.98	12.49
For Aluminum and Magnesium (Pure Tungsten)							
1/16″	21/4″	Green	AC	8000A92	10	48.54	7.14
3/32″	21/4″	Green	AC	8000A93	10	69.98	10.29
1/8″	21/4″	Green	AC	8000A94	10	84.98	12.49
Electrodes							
General Purpose (Rare Earth Mix)							
0.040″	7″	Pink	AC/DC	8000A66	10	10.09	3.49
1/16″	7″	Pink	AC/DC	8000A19	10	16.38	3.88
3/32″	7″	Pink	AC/DC	8000A21	10	36.24	5.33
1/8″	7″	Pink	AC/DC	8000A22	10	63.54	9.34
5/32″	7″	Pink	AC/DC	8000A67	10	87.78	12.46
3/16″	7″	Pink	AC/DC	8000A68	5	67.68	17.08
1/4″	7″	Pink	AC/DC	8000A69	5	123.50	28.98

Dia.	Lg.	Color	Welding Current		Pkg. Qty.		Each
Electrodes (Cont.)							
Long Life (1.5% Lanthanated Tungsten)							
0.040″	7″	Gold	AC/DC	8000A24	10	$10.34	$3.23
1/16″	7″	Gold	AC/DC	8000A25	10	21.14	3.11
3/32″	7″	Gold	AC/DC	8000A26	10	43.50	6.39
1/8″	7″	Gold	AC/DC	8000A27	10	76.40	11.23
5/32″	7″	Gold	AC/DC	8000A28	10	113.00	16.61
3/16″	7″	Gold	AC/DC	8000A29	5	67.68	17.60
1/4″	7″	Gold	AC/DC	8000A31	5	123.50	32.11
Easy Start (2% Ceriated Tungsten)							
0.040″	7″	Gray	DC	8000A33	10	10.34	3.23
1/16″	7″	Gray	DC	8000A34	10	21.14	3.11
3/32″	7″	Gray	DC	8000A35	10	43.50	6.39
1/8″	7″	Gray	DC	8000A36	10	76.40	11.23
5/32″	7″	Gray	DC	8000A37	10	113.00	16.61
3/16″	7″	Gray	DC	8000A38	5	67.68	17.60
1/4″	7″	Gray	DC	8000A39	5	123.50	32.11
For Aluminum and Magnesium (Pure Tungsten)							
0.040″	7″	Green	AC	8000A52	10	10.34	3.20
1/16″	7″	Green	AC	8000A53	10	21.24	3.12
3/32″	7″	Green	AC	8000A54	10	43.50	6.39
1/8″	7″	Green	AC	8000A55	10	76.40	11.23
5/32″	7″	Green	AC	8000A56	10	113.00	16.61
3/16″	7″	Green	AC	8000A57	5	66.38	17.26
1/4″	7″	Green	AC	8000A58	5	123.50	32.11

TIG Torch Components

Collets, Collet Bodies, Nozzles, Gas Lenses, and Insulator


Collet


Collet Body


Ceramic Nozzle for Standard Gas Coverage


Ceramic Nozzle for Wide Gas Coverage


Gas Lens

For Torch Series No.	Choose a Size (Industry Number)		
Collets for Standard and Wide Gas Coverage			
9, 20, 25	0.020″ (13N20), 0.040″ (13N21), 1/16″ (13N22), 3/32″ (13N23), 1/8″ (13N24)	77425A81	$1.94
17, 18, 26	0.040″ (10N22), 1/16″ (10N23), 3/32″ (10N24), 1/8″ (10N25), 5/32″ (54N20)	77425A82	2.58
Collet Bodies for Standard and Wide Gas Coverage			
9, 20, 25	0.020″ (13N25), 0.040″ (13N26), 1/16″ (13N27), 3/32″ (13N28), 1/8″ (13N29)	77425A85	3.73
17, 18, 26	0.040″ (10N30), 1/16″ (10N31), 3/32″ (10N32), 1/8″ (10N28), 5/32″ (406488)	77425A86	5.15
Ceramic Nozzles for Standard Gas Coverage			
9, 20, 25	No. 4 (13N08), No. 5 (13N09), No. 6 (13N10), No. 7 (13N11), No. 8 (13N12), No. 10 (13N13)	77425A83	2.75
17, 18, 26	No. 4 (10N50), No. 5 (10N49), No. 6 (10N48), No. 7 (10N47), No. 8 (10N46), No. 10 (10N45), No. 12 (10N44)	77425A84	2.83
Ceramic Nozzles for Wide Gas Coverage			
9, 20, 25	No. 4 (53N58), No. 5 (53N59), No. 6 (53N60), No. 7 (53N61), No. 8 (53N61S)	77425A87	2.83
17, 18, 26	No. 4 (54N18), No. 5 (54N17), No. 6 (54N16), No. 7 (54N15), No. 8 (54N14)	77425A88	3.00
Ceramic Nozzles for Extra-Wide Gas Coverage			
9, 20, 25	1/16″ (53N6CN2-16), 3/32″ (53N6CN2-32), 1/8″ (53N6CN2-18)	77425A92	43.74
Gas Lenses for Wide Gas Coverage			
9, 20, 25	0.020″ (45V41), 0.040″ (45V42), 1/16″ (45V43), 3/32″ (45V44), 1/8″ (45V45)	77425A89	10.67
17, 18, 26	0.020″ (45V29), 0.040″ (45V24), 1/16″ (45V25), 3/32″ (45V26), 1/8″ (45V27), 5/32″ (45V28)	77425A91	11.62
Gas Lens Insulators (Industry Number 54N01—For Torch Series Nos. 17, 18, 26, 28, 29, SW-418)		77425A265	4.64

Torch Bodies


With Gas Valve

For Torch Series No.	Neck Flexibility		
With Gas Valve			
9	Flexible	77405A46	$64.05
17	Flexible	77405A86	72.25
26	Flexible	77405A76	77.44
Without Gas Valve			
9	Flexible	77405A45	50.45
17	Flexible	77405A85	58.42
18	Rigid	7736A73	58.60
20	Flexible	7736A23	75.92
20	Rigid	7736A87	57.38
26	Flexible	77405A75	60.80

Caps and Adapters


Long Back Cap


Medium Back Cap


Short Back Cap

For Torch Series No.	Industry Number		
Long Back Caps			
9, 20	41V24	77405A47	$5.34
17, 18, 26	57Y02	77405A87	5.11
Medium Back Cap			
9, 20	41V35	77405A49	4.74
Short Back Caps			
9, 20	41V33	77405A48	4.63
17, 18, 26	57Y04	77405A88	4.74
Power Cable Adapters			
9, 17	105Z57	7763A21	14.12
18, 20, 22, 25	45V11	7763A22	20.93
26	45V62	7763A23	21.15

Torch-to-Machine Connectors

For Torch Series No.	Connection Type	Industry Number		
9, 17, 24	Gas Inlet	3538-18	77425A801	$63.56
9, 17, 24	Gas Through	3538-GT	77425A802	34.33
18, 20, 25	Gas Through/Water Outlet	3578W-GT	77425A804	88.00
18, 20, 25	Water Outlet	3578W	77425A803	$75.44
26	Gas Inlet	3578G	77425A805	75.44
26	Gas Through	3578G-GT	77425A806	34.33

Sharpeners and Grinders for Tungsten Electrodes

Keep your electrode tips sharp to ensure high-quality welds.
Chemical Sharpener—Heat your electrode and dip it into the jar to create a point.
Electric Grinder—The diamond grinding wheel creates a 20° angle on your electrode tip. The grinder operates on 120 volts AC. Includes collets for 1/16″, 3/32″, and 1/8″ dia. electrodes, a hex key, and a plastic case.


Chemical Sharpener


Electric Grinder

Chemical Sharpener (4 1/2-oz. Jar)	7652A52	$12.71
Electric Grinder	7652A51	252.57
Repl. Diamond Wheel	7652A64	37.50

TIG Torches

Torches consist of a torch body, a cable and hose assembly, and a torch handle. Use with TIG welders, including Hobart, Lincoln, and Miller.
Torch Series No. 9 and **20—**Include a medium back cap.
Torch Series No. 17, 18, and **26—**Include a long back cap.


Water-Cooled Torch


Medium Back Cap


Long Back Cap

Air-Cooled Torches

A *gas valve* allows you to control the gas flow at your torch instead of at the machine.

Torch Series No.	Amps	Neck Flexibility		Cable with Gas Valve 12-ft. Length	Cable with Gas Valve 25-ft. Length	Cable without Gas Valve 12-ft. Length	Cable without Gas Valve 25-ft. Length
9	125	Flexible	77405A15	$148.35	$158.15	$133.88	$146.96
17	150	Flexible	77405A16	152.85	167.79	138.54	148.35
26	200	Flexible	77405A17	180.87	218.23	163.63	200.33

Water-Cooled Torches

Vinyl cable is light duty. **Rubber cable** is heavy duty and abrasion resistant.

Torch Series No.	Amps	Neck Flexibility		Vinyl Cable 12-ft. Length	Vinyl Cable 25-ft. Length	Rubber Cable 12-ft. Length	Rubber Cable 25-ft. Length
18	350	Rigid	7736A35	$129.79	$139.27	$169.67	$222.96
20	225	Flexible	7736A37	150.56	164.12	204.17	234.81
20	250	Rigid	7736A36	—	—	174.65	224.67

Accessory Kits

Torch Series 9—Includes a long back cap; 0.040″ and 1/16″ collets and collet bodies; sizes 4, 5, and 6 ceramic nozzles; and two 7″ long 2% ceriated tungsten electrodes (0.040″ and 1/16″ dia.).
7740A23 ..... $35.13

Torch Series 17—Includes a short back cap; 0.040″, 1/16″, and 3/32″ collets and collet bodies; sizes 4, 5, and 6 ceramic nozzles; and three 7″ long 2% ceriated tungsten electrodes (0.040″, 1/16″, and 3/32″ dia.).
7740A24 ..... $40.95

Torch Series 18 and **26—**Includes a short back cap; 1/16″, 3/32″, and 1/8″ collets and collet bodies; sizes 5, 6, and 8 ceramic nozzles; and three 7″ long 2% ceriated tungsten electrodes (1/16″, 3/32″, and 1/8″ dia.).
7740A25 ..... $46.18

Torch Series 20—Includes a long back cap; 1/16″, 3/32″, and 1/8″ collets and collet bodies; sizes 5, 6, and 7 ceramic nozzles; and three 7″ long 2% ceriated tungsten electrodes (1/16″, 3/32″, and 1/8″ dia.).
7740A26 ..... $44.20

TIG Welders

Weld metal at least 1/64″ thick. Rated for 1 minute on and 9 minutes off. It operates on 208/230 volts AC, 60 Hz, single phase. A shielding gas is required for use. A built-in polarity switch lets you select AC or DC amperage.
Welder includes a TIG torch, a 12-ft. welding cable, a 10-ft. ground cable with ground clamp, a gas regulator, a welding hose, a foot-pedal control, and a 9-ft. power cord with three-prong plug. Size is 21″ Ht. × 15″ Wd. × 26″ Dp. Weight is 212 lbs.


Shown with Optional Cart

Torch kit includes a long back cap; 0.040″, 1/16″, and 3/32″ collets and collet bodies; 1/4″, 5/16″, and 3/8″ alumina nozzles; and three 7″ long tungsten electrodes (0.040″, 1/16″, and 3/32″ dia.).
Optional cart allows you to easily transport your welder and gas tank up to 9″ Dia. × 51″ Ht. from place to place. A bracket and chain secures the tank. Size is 42″ Lg. × 21″ Wd.

Lincoln Model No.	Output Current		
K2535-1	225A @ 15.7V AC/DC	7373A32	$3,089.33
Torch Kit		7373A22	91.09
Optional Cart		7373A23	440.00

Stick Welders

Use with stick electrodes for general fabrication and repairs on 1/16″ and thicker metals. Welders are rated for 2 minutes on and 8 minutes off and operate on 230 volts AC, 60 Hz, single phase. UL listed.
Welders include a 12-ft. welding cable, an electrode holder, a 10-ft. ground cable with ground clamp, and a 6-ft. power cord with NEMA 6-50 plug. Size is 24″ Ht. × 17″ Wd. × 12″ Dp.
K-1170 weighs 109 lbs.
K-1297 has a built-in polarity switch to select AC, DC positive, or DC negative welding. Weight is 124 lbs.


Shown with Optional Wheel Assembly

Lincoln Model No.	Output Current: Amps	Output Current: Volts		
K-1170	225	25 AC	7967A33	$420.47
K-1297	125/225	25 AC/DC	7967A67	639.16
Optional Wheel Assembly			7967A65	17.82

Stick Electrode Holders

Electrode holder bodies are fully insulated.
Standard holders have copper jaws.
Big grip holders offer more hand clearance. Jaws are copper.
Stub grip holders grasp the electrode close to the end for less waste. One jaw is bronze, the other is steel.







Max. Amps	For Rod Dia.	For Max. Wire Gauge	Standard Lg.			Big Grip Lg.			Stub Grip Lg.		
250	Up to 5/32″	1/0	8 1/4″	7939A9	$22.20	9″	7937A2	$22.20	—	—	—
300	Up to 3/16″	2/0	8 1/2″	7939A7	27.63	9 3/4″	7937A3	27.63	—	—	—
350	Up to 1/4″	2/0	10″	7939A5	32.77	10 1/2″	7937A4	32.77	—	—	—
400	Up to 1/4″	3/0	10″	7939A6	35.39	10 1/2″	7937A5	35.39	—	—	—
400	1/16″-1/4″	3/0	—	—	—	—	—	—	8 3/4″	7868A12	$33.59
500	Up to 3/8″	4/0	10 1/2″	7939A3	38.36	10 1/2″	7937A6	38.36	—	—	—

Carbon-Gouging Electrode Holders

Speed up weld removal, edge preparation, gouging, and repairs when you use a holder with your carbon-gouging electrodes. Holders have brass jaws, a bolt-down lug with a 3/8″ dia. hole for connection to a power source, and 3/8 NPT female threads for connection to an air compressor. The cable swivels 360°.



Max. Amps	Holds Electrodes: Round Dia.	Holds Electrodes: Rectangular, Wd. × Ht.	Max. Air Pressure, psi	7-ft. Cable		10-ft. Cable	
600	1/8″-3/8″	3/8″ × 5/32″, 5/8″ × 3/16″	80	7804A23	$474.82	7804A13	$479.20
1,000	5/32″-1/2″	3/8″ × 5/32″, 5/8″ × 3/16″	80	—	—	7804A12	575.11

Stick & Spot Welding Electrodes

Stick Electrodes



The flux coating on these electrodes produces good stability, speed, and welding performance. They are 12″ to 14″ long.

For Steel

Inspection quality (E7018) and *(E7018AC)* are low hydrogen for X-ray quality welds.

Fast deposit (E7014) are fast-melting for quicker welding.

Increased-penetration fast-deposit (E7024) penetrate deeper into the base material for higher-quality welds.

For Stainless Steel

Type 309 (E309L) can also be used for other stainless steel where pre- and post-heat treatments aren't possible, as well as for joining dissimilar metals.

Type 316 (E316L) are often used on food-processing equipment and for welds on molybdenum-bearing steels.

Dia.	Approx. Rods per lb.	Welding Current		1 lb.	5 lbs.	50 lbs.
For Steel						
Pipe Welding (E6010)						
3/32″	25	DCEP	7973A403	$10.07	$21.38	$184.30
1/8″	15	DCEP	7973A404	9.84	19.31	166.80
5/32″	10	DCEP	7973A405	6.18	17.22	158.99
Vertical/Overhead (E6011)						
3/32″	25	DCEP/AC	7973A423	9.00	18.40	174.00
1/8″	15	DCEP/AC	7973A406	8.38	17.00	162.38
5/32″	10	DCEP/AC	7973A407	10.69	22.16	189.83
General Purpose (E6013)						
1/16″	70	DCEP/DCEN/AC	7973A401★	9.83	26.36	192.28
5/64″	40	DCEP/DCEN/AC	7973A418	9.45	26.11	194.50
3/32″	20	DCEP/DCEN/AC	7973A419	8.73	17.60	167.69
1/8″	10	DCEP/DCEN/AC	7973A408	8.13	16.00	155.31
5/32″	9	DCEP/DCEN/AC	7973A409	10.20	19.21	173.81
3/16″	7	DCEP/DCEN/AC	7973A411	6.71	15.43	140.00
Fast Deposit (E7014)						
3/32″	20	DCEP/DCEN/AC	7973A412	8.69	18.18	178.50
1/8″	10	DCEP/DCEN/AC	7973A413	8.45	18.64	163.67
5/32″	9	DCEP/DCEN/AC	7973A414	5.38	18.18	161.83
Inspection Quality (E7018)						
3/32″	20	DCEP/AC	7973A415	9.37	18.04	174.72
1/8″	10	DCEP/AC	7973A416	8.08	19.21	183.86
5/32″	9	DCEP/AC	7973A417	9.44	16.67	158.00
Inspection Quality for AC Power Source (E7018AC)						
3/32″	20	DCEP/AC	7973A42	9.00	18.80	174.46
1/8″	10	DCEP/AC	7973A421	8.35	17.40	163.62
5/32″	9	DCEP/AC	7973A422	7.68	17.31	150.42
Increased-Penetration Fast Deposit (E7024)						
1/8″	9	DCEN/AC	7973A402	9.44	20.17	157.23
For Stainless Steel						
Types 201, 202, 301, 302, 304, 305, and 308 (E308L)						
1/16″	50	DCEP/AC	7973A191	19.69	67.27	____
3/32″	25	DCEP/AC	7973A193	12.56	38.00	____
1/8″	10	DCEP/AC	7973A194	11.58	34.09	____
5/32″	8	DCEP/AC	7973A195	11.58	34.09	____

★Available in 1-lb., 5-lb., and 40-lb. packages.

Other Electrodes

Nickel (ENi-CI [Ni99]) are 85% pure nickel for machinable welds joining cast iron to itself, and to mild steel and stainless steel.

Cast iron (ESt [Castarc]) are nickel-free and make nonmachinable welds on cast iron.

For cast iron (ENiFe-CI[Ni55]) join gray iron, ductile iron, malleable iron, and alloy cast iron to themselves, to each other, and to mild steel.

For copper (ECuSnC/Phosphorus Bronze C) are commonly used for metallic carbon arc welding of brass, bronze, and copper to themselves, and to mild steel, stainless steel, and cast iron.

For aluminum (E4043) are for welding aluminum 3003, 3004, 5052, 6061, and 6063.

Wear resistant are for welding steel and stainless steel. They increase the wear resistance of the base metal or restore worn-down surfaces. Rockwell hardness is C55.

For cutting and chamfering are for cutting steel and cast iron.

Dia.	Approx. Rods per lb.	Welding Current		½ lb.	1 lb.	5 lbs.
For Stainless Steel (Cont.)						
Types 201, 202, 301, 302, 304, 305, and 308 (E308L) (Cont.)						
3/16″	5	DCEP/AC	7973A196	____	$11.58	$34.09
Type 309 (E309L)						
3/32″	25	DCEP/AC	7973A656	____	14.27	45.27
1/8″	10	DCEP/AC	7973A659	____	14.20	42.09
Type 316 (E316L)						
1/16″	50	DCEP/AC	7973A201	$11.99	20.31	70.96
3/32″	20	DCEP/AC	7973A203	____	14.98	47.91
1/8″	10	DCEP/AC	7973A204	____	14.69	46.82
Other Electrodes						
Nickel (ENi-CI [Ni99])						
3/32″	20	DCEP/AC	7973A612	25.89	47.78	197.18
1/8″	10	DCEP/AC	7973A241	27.00	47.74	197.18
Cast Iron (ESt [Castarc])						
3/32″	20	DCEP/DCEN/AC	7973A628	____	15.77	46.74
1/8″	15	DCEP/DCEN/AC	7973A261	____	15.04	48.10
For Cast Iron (ENiFe-CI [Ni55])						
3/32″	20	DCEP/AC	7973A761	23.10	41.00	164.09
1/8″	10	DCEP/AC	7973A251	23.29	42.33	162.91
3/16″	7	DCEP/AC	7973A253	____	38.42	162.91
For Copper (ECuSnC [Phosphorus Bronze C])						
1/8″	10	DCEN/AC	7973A231	16.92	28.26	108.55
For Aluminum (E4043)						
3/32″	50	DCEP	7973A271	17.06	29.81	106.73
1/8″	30	DCEP	7973A272	16.34	28.02	99.45
For Joining Dissimilar Steels						
3/32″	20	DCEP/AC	7973A771	____	22.78	99.20
1/8″	10	DCEP/AC	7973A781	____	21.48	92.70
Wear Resistant						
3/32″	10	DCEP/AC	7973A646	____	18.73	57.27
1/8″	15	DCEP/AC	7973A649	____	12.76	34.55
5/32″	9	DCEP/AC	7973A653	____	12.76	34.55
For Cutting and Chamfering						
3/32″	20	DCEN/AC	7973A811	____	11.98	41.88
1/8″	10	DCEN/AC	7973A821	____	11.00	37.23

Carbon-Gouging Electrodes



These electrodes cut as well as gouge steel, stainless steel, copper, and aluminum. Electrodes are 12″ long and for use with DCEP power supplies.

Copper-coated electrodes offer better conductivity and stay cooler than plain electrodes.

Dia.	Pkg. Qty.	Plain	Pkg.	Copper Coated	Pkg.
5/32″	10	7979A11	$2.66	7979A41	$6.40
3/16″	10	7979A12	3.84	7979A42	6.40
1/4″	10	7979A13	4.34	7979A43	6.93
5/16″	10	7979A14	3.84	7979A44	10.27
3/8″	10	7979A15	5.66	7979A45	11.21
1/2″	10	____	____	7979A47	22.03
5/8″	5	7979A18	9.34	____	____
3/4″	5	7979A19	12.00	____	____

Spot Welding Electrodes



Cap Style with Pointed Tip | Cap Style with Flat Tip | Standard Style with Pointed Tip | Standard Style with Flat Tip

Use these 182 copper electrodes with electric resistance spot welders in production operations. The shanks are tapered for easy press-fit installation. Electrodes meet RWMA (Resistance Welding Manufacturing Alliance) standards.

Pointed tips are best for tight areas or for a small weld.

Flat tips create a larger weld and can be used when appearance is less important.

RWMA Shank Taper No.	Body Dia.	Lg.	Pointed Tips: Tip Dia.		Flat Tips: Tip Dia.	
Cap Style						
4	31/64″	1 1/8″	3/16″ 7819A31	$2.35	31/64″ 7819A41	$2.33
5	5/8″	1 1/4″	1/4″ 7819A32	3.40	5/8″ 7819A42	3.40
Standard Style						
4	31/64″	3″	3/16″ 7819A11	5.67	31/64″ 7819A21	5.62
5	5/8″	3″	1/4″ 7819A12	9.60	5/8″ 7819A22	9.54

Spot Welding Electrode Cleaners



Use this ratchet-style tool to clean, dress, and shape electrodes without disassembly. It works with RWMA (Resistance Welding Manufacturing Alliance) shank taper No. 4 and No. 5 electrodes as well as dome-nose electrodes. The head is 1 1/4″ wide.

Cleaner (8″ Lg. x 3/4″ Wd.)	7821A11	$92.33
Replacement Cutter	7821A12	56.25

Spot Welders



Use these welders on mild and galvanized steel as well as stainless steel. Welders are 12″ Ht.×6¾″ Wd.×16″ Dp., except the 110 volt welder is 13″ deep. They have 6″ tongs with pointed welding tips that hold and weld the metal pieces together (tongs in other lengths are sold below). Throat height is 3½″ for all tongs when closed. Welders are air cooled and rated for 5 seconds on and 5 seconds off. They operate on 50/60 Hz, single phase and have a 10-ft. power cord with three-prong plug. Do not use on aluminum, copper, or copper alloys.

Maximum material thickness is based on the total thickness of multiple sheets of uncoated mild steel when using 6″ tongs. Capacities are slightly reduced when welding galvanized steel and stainless steel and when using 12″ or 18″ tongs.

Input Volts	For Max. Material Thick.	Output, kVA	Wt., lbs.		
110V AC	1/8″	1.5	22	7870A32	$854.07
220V AC	3/16″	2.5	30	7870A34	967.04
Repl. 6″ Tongs with Pointed Welding Tips				7870A15	107.87
Repl. Pointed Welding Tips				7870A22	21.05
Optional 12″ Tongs with Pointed Welding Tips				7870A19	139.57
Optional 18″ Tongs with Pointed Welding Tips				7870A35	176.60

Ready-to-Use Welding Cable





Ready to weld when you are, this cable comes with a male connector on one end and a female connector, a ground clamp, or an electrode holder on the other end. Color is black.

Wire Gauge	Connection Type		10 ft.	25 ft.	50 ft.
1/0	Female Connector	7940A32	$75.06	$126.46	$200.62
1/0	Ground Clamp	7940A31	69.94	121.34	195.78
1/0	Electrode Holder	7940A35	95.54	147.23	220.27
2/0	Female Connector	7940A34	82.80	145.80	237.24
2/0	Ground Clamp	7940A33	77.69	140.69	232.41
2/0	Electrode Holder	7940A36	113.49	176.49	266.27

Stud Welding Systems

Join threaded studs and pins to steel and stainless steel with resistance welding that won't damage the opposite side of the material.

Welder



Includes a control unit with 6-ft. power cord and three-prong plug; a welding gun with 21-ft. cable; four stop pins to set threaded studs and pins correctly in the collet (required collets are sold separately below); and a 15-ft. ground cable with two grounding clamps. Operates on 115 volts AC, 60 Hz, 10 amps. Output is 120 volts DC. Size is 12″ Wd.×13″ Ht.×9″ Dp.

7845A38 ..... $4,139.73

Collets

Collets must be the same size as the stud or pin you are welding and are not interchangeable with studs from other systems.

Choose a Size		
4-40, 6-32, 8-32, 10-24, 1/4″-20, No. 12	7845A35	$39.00

Threaded Studs



Use for thin-gauge base materials.

18-8 stainless steel studs are more corrosion resistant than copper-coated steel studs.

Size	Head Dia.	Lg.	Copper-Coated Steel	Pkg. of 50	18-8 Stainless Steel	Pkg. of 50
4-40	3/16″	1/2″	7845A55	$8.00		___
6-32	7/32″	1/2″	7845A51	2.75	7845A88	$3.40
6-32	7/32″	3/4″	7845A72	3.25	7845A82	11.00
6-32	7/32″	1 1/2″	7845A77	10.00	7845A83	14.00
8-32	1/4″	1/2″	7845A52	3.00	7845A89	3.80
8-32	1/4″	3/4″	7845A78	3.75	7845A84	4.80
10-24	1/4″	1/2″	7845A56	3.50	7845A91	5.20
10-24	1/4″	1″	7845A57	4.25	7845A92	6.50
1/4″-20	5/16″	1/2″	7845A53	3.57	7845A85	5.80
1/4″-20	5/16″	3/4″	___	___	7845A86	7.40
1/4″-20	5/16″	1″	7845A58	4.38	7845A87	9.20

Pins



Use these copper-coated steel pins for installing insulation and acoustical lining.

Gauge	For Collet Size	Choose a Length	Pkg. of 50
12	No. 12	1″, 2″, 2½″, 6″	7845A34
10	6-32	2½″, 3″, 6″	7845A48

Welding Cable

The cable resists abrasion and oil. Rated 600 volts AC/DC, except black and red standard cable is rated 600 volts AC.

Standard—Outer insulation is EPDM rubber with Class K 30 AWG copper wire. Temp. range is -55° to 220° F.

Flame Resistant—A more durable version of standard welding cable, this cable meets Mine Safety and Health Administration (MSHA) standards for flame resistance. Outer insulation is solvent-resistant polyethylene with Class M 34 AWG copper wire. Temp. range is -55° to 190° F. UL listed and CSA certified.

Flexible—Thinner strands give this cable more flexibility than other types of welding cable. Outer insulation is EPDM rubber. Temp. range is -55° to 220° F. *Wire gauges 2* and *1* have Class M 36 AWG copper wire; *wire gauges 1/0* and *2/0* have Class M 34 AWG copper wire.



Recommended Wire Gauges for Welding Applications

Power Source Amps	Standard				Flame Resistant				Flexible		
	0-100 ft.	100-150 ft.	150-200 ft.	200-250 ft.	0-100 ft.	100-150 ft.	150-200 ft.	200-250 ft.	0-100 ft.	100-150 ft.	150-200 ft.
100	2	1	1/0	___	4	4	2	2	2	1	2/0
150	1	2/0	3/0	4/0	4	2	1	1/0	1	2/0	___
200	1/0	3/0	4/0	___	2	1	1/0	2/0	1/0	___	___
250	2/0	4/0	___	___	1	1/0	2/0	2/0	2/0	___	___
300	3/0	___	___	___	1/0	2/0	3/0	4/0	___	___	___
350	4/0	___	___	___	1/0	3/0	4/0	___	___	___	___
400	4/0	___	___	___	2/0	3/0	___	___	___	___	___

Standard 6 wire gauge has a maximum length of 50 ft. at 50 power source amps. **Standard 4 wire gauge** has a maximum length of 75 ft. at 100 power source amps.

Wire Gauge	Lengths, ft.		Per Ft. 10-249	Per Ft. 250-Up
Standard—Choose a color: black, blue, green, red, yellow				
6	10, 20, 25, 30, 50, 100, 250	7940A91★	$1.16	$0.98
4	10, 20, 25, 30, 50, 100, 250	7940A92	1.58	1.34
2	10, 20, 25, 30, 50, 100, 250	7940A93	2.52	2.11
1	10, 20, 25, 30, 50, 100, 250	7940A94	3.26	2.77
1/0	10, 20, 25, 30, 50, 100, 250	7940A95	4.03	3.42
2/0	10, 20, 25, 30, 50, 100, 250	7940A96	4.28	3.63
3/0	10, 20, 25, 30, 50, 100, 250	7940A97■	5.92	5.03
4/0	10, 20, 25, 30, 50, 100, 250	7940A98	6.68	5.67
Flame Resistant—Color is orange				
6	10, 20, 25, 30, 50, 100, 250	7818A18	2.29	1.95
4	10, 20, 25, 30, 50, 100, 250	7818A11	3.07	2.61
Flame Resistant (Cont.)—Color is orange				
2	10, 20, 25, 30, 50, 100, 250	7818A12	$4.62	$3.93
1	10, 20, 25, 30, 50, 100, 250	7818A13	5.11	4.34
1/0	10, 20, 25, 30, 50, 100, 250	7818A14	5.88	5.00
2/0	10, 20, 25, 30, 50, 100, 250	7818A15	6.14	5.22
3/0	10, 20, 25, 30, 50, 100, 250	7818A16	8.87	7.54
4/0	10, 20, 25, 30, 50, 100, 250	7818A17	9.79	8.32
Flexible—Color is orange				
2	10, 20, 25, 30, 50, 100, 250	7940A77	2.10	1.79
1	10, 20, 25, 30, 50, 100, 250	7940A78	2.66	2.27
1/0	10, 20, 25, 30, 50, 100, 250	7940A79	3.33	2.84
2/0	10, 20, 25, 30, 50, 100, 250	7940A81	4.17	3.54

★Not available in green or yellow.
■ Not available in blue, green, or yellow.

Quick-Action Cable Connectors

Give your welding set-up greater versatility with connectors that allow for quick changes. Male connectors lock into the female connectors. All have an oil- and temperature-resistant thermoplastic cover.

Male and Female Connectors



Female



Male

Tighten the screws with a 1/4″ hex key wrench to attach the cable. Internal components are brass.

For Wire Gauge	Max. Cable Dia.	O'all Dia.	Max. Amps	Male		Female		One Male and One Female	Pair
4-1/0	0.500″	1 1/4″	250	7841A14	$8.95	7841A15	$8.95	7841A11	$16.89
1/0-2/0	0.563″	1 7/16″	350	7841A16	11.10	7841A21	11.10	7841A12	20.94
3/0-4/0	0.625″	1 7/16″	500	7841A22	13.98	7841A23	13.98	7841A13	26.38

Lug-Style Female Connectors



Attach one end to a cable with male connector (sold separately) and the other to the stud on your welding power source. Stud hole is 17/32″ dia. Internal components are bronze.

For Wire Gauge	Straight		45° Angle	
4-1/0	7854A1	$16.12	7854A2	$16.12
1/0-4/0	7854A3	17.25	7854A4	17.25

Cable Lugs

Hammer Tight



Slide lug onto cable and strike it with your hammer for a durable connection. Lugs are made of copper alloy and are not rated for temperature or voltage.

For Wire Gauge	Cable Socket ID	Hole Size		
2-1	0.406″	33/64″	69575K2	$13.06
1/0-2/0	0.516″	17/32″	69575K3	15.97
3/0-4/0	0.625″	21/32″	69575K4	18.89

Crimp/Solder



Lugs can be used with a crimping block and punch (sold separately) and hit with a hammer for a solid connection, or they can be soldered into place. They are made from copper tubing.

For Wire Gauge	Cable Socket ID	Hole Size		
6-2	0.461″	17/32″	7913A1	$2.19
1-2/0	0.559″	17/32″	7913A2	3.32
3/0-4/0	0.660″	17/32″	7913A3	5.43
4/0	0.776″	21/32″	7913A4	9.73
Lug Crimping Block and Punch			7913A76	67.02

Screw Locking



Use a 1/4″ hex key wrench to tighten the screw connection. Lugs are heavy duty cast-copper alloy with a nylon cover.

For Wire Gauge	Cable Socket ID	Hole Size	Straight		45° Angle	
6-1/0	0.500″	17/32″	7866A12	$14.22	7866A11	$14.22
2/0-4/0	0.641″	17/32″	7866A14	15.53	7866A13	15.53

Cable Lug Covers



Protect against accidental contact with other welding connections. Cover is made of vinyl and fits straight and angled lugs.

For Wire Gauge		
6-4/0	7828A11	$10.88

Torch Tip Cleaners

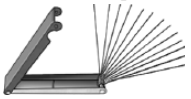

Keep torch tips clear for a pinpoint flame. Cleaners are stainless steel. Drill bit sizes are stamped on the back of the aluminum case.

No. Per Set	Cleaner Dia. (Drill Bit Size)	Lg.		
12	0.021″-0.073″ (75-49)	2 1/4″	7946A1	$4.17
13	0.02″-0.073″ (76-49)	4 1/4″	7946A2	5.47
22	0.02″-0.129″ (76-30)	2 1/4″	7946A3	8.47

Torch Cutting Guides



Insert a plasma or oxyacetylene torch in the guide for balance and stability when cutting straight, circular, and irregular shapes. The guide pivots on the centering pin and has a universal bushing that accepts all cutting torches. It cuts circles up to 39″ in diameter.

8001A11 ..... $90.23

Grounding Clamps

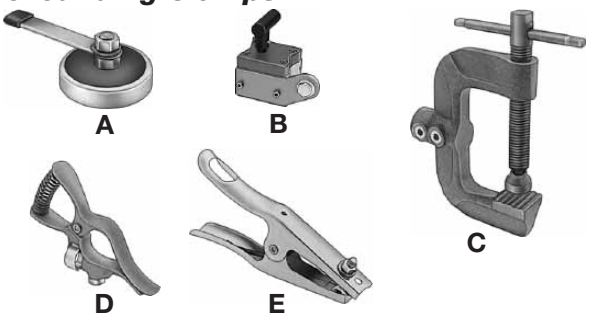

(A) Magnetic Clamps— Clamps have a 3 1/2″ dia. steel housing, a 5 1/8″ long handle, and a bolt-and-nut cable connection with a 2″ stud. The stud is brass on *250-amp* clamp and copper on *800-amp* clamp.

(B) Magnetic Clamps with On/Off Switch— Flip the switch to turn the magnet on or off. Clamps are made of steel and have a bolt-and-nut cable connection with a 1 1/4″ stud. The *300-amp* clamp is 2 3/4″ Ht. × 1 15/16″ Wd. The *800-amp* clamp is 4 5/8″ Ht. × 3″ Wd.

(C) C-Clamps— Clamp is bronze; screw and T-handle are copper-plated steel. The *300-amp* clamp includes a detachable male and female cam-action cable connector. The *600-amp* clamp has a screw cable connection.

(D) Spring Clamps— Jaws are copper alloy with a copper hinge pin, so both jaws carry current. An extended jaw lip eases clamping and a support ring prevents cable strand breakage. They have a screw cable connection.

(E) Light Duty Spring Clamps— Made from steel, these have a bolt-and-nut cable connection and a cable support. The *300-amp* clamp has a 5/16″ stud bolt. The *500-amp* clamp has a 1/2″ stud bolt and a braided copper shunt.

	Amp Cap.	For Wire Gauge	Max. Cable Outlet Dia.	Max. Jaw Opening	Max. Jaw Depth	O'all Lg.		
A	250	____	____	___	___	6 3/8″	7992A1	$32.96
A	800	____	____	___	___	6 3/8″	7992A5	40.02
B	300	____	____	___	___	2 7/8″	7992A6	82.22
B	800	____	____	___	___	5″	7992A8	244.44
C	300	1/0-2/0	0.563″	2″	1 3/4″	5 3/4″	7840A12	54.90
C	600	3/0-4/0	0.656″	3 3/8″	3 1/8″	8 1/4″	7840A11	81.53
D	200	Up to 1/0	0.505″	1″	3″	6″	7991A4	37.08
D	300	Up to 3/0	0.540″	1 1/2″	4″	8 1/2″	7991A5	51.83
D	500	Up to 4/0	0.578″	2″	5 1/4″	10″	7991A6	78.45
E	300	1/0-2/0	____	2″	2″	8 5/8″	7838A11	9.00
E	500	3/0-4/0	____	2″	2″	9 1/2″	7838A12	18.81

Gas-Saver Torch Holders

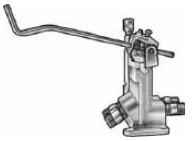

Hang your torch on these holders to turn off the gas flow and extinguish the flame during shutdown and between use. Start the gas flow by lifting the torch off the support lever and pass the tip over the pilot light to ignite.

For Gas	Torch Holders		Repl. Pilot Light Assemblies	
Acetylene and Oxygen	7948A11	$187.48	7948A21	$25.59
Propane or Natural Gas and Oxygen (4 psi min.)	7948A13	184.33	7948A22	19.51
Propylene and Oxygen	7948A14	200.94	7948A23	61.96

Gas-Torch Lighters

Standard and **pistol grip** lighters include one flint.

Triple flint lighters have three flints in the flint holder. When one flint wears out, rotate the holder to get a fresh one.

Multispark lighter never needs flints, batteries, or charging.

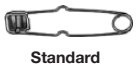
Standard


Triple Flint


Pistol Grip


Multispark

	Lighters		Repl. Flints Pkg. Qty.		Pkg.
Standard	7907A1	$3.68	5	7907A3	$1.74
Triple Flint	7908A1	6.05	1	7908A3	1.36
Pistol Grip	7909A1	6.64	10	7909A2	5.34
Multispark	7751A11	12.94	—	—	—

Butane Gas-Torch Lighters

Push the button to create a continuous flame. Lighters have an adjustable flame and a window for viewing fuel level. They operate on the included butane and AA battery.

Rigid tube lighter is good for lighting torches and bunsen burners. **Flexible** tube lighter gets into hard-to-reach areas.


Rigid

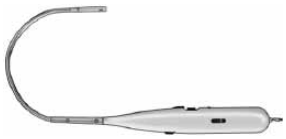
Flexible

Tube	Tube Length	Overall Length		
Rigid	4¾″	14¾″	77115A31	$39.62
Flexible	15″	26″	77115A21	60.87
Butane Gas Refill (5.1 oz.)			7694A5	5.24

Gas Welding Rods

Dia.	Lg.	Approx. Rods per lb.		1 lb.	5 lbs.
For Steel (RG45)					
1/16″	36″	30	7972A121	$7.00	$18.06
3/32″	36″	10	7972A122	6.98	17.74
1/8″	36″	8	7972A123	6.83	17.42
For High-Strength Welds on Steel (RG60)					
1/16″	36″	30	7972A194	7.14	19.20
3/32″	36″	10	7972A191	6.98	18.60
1/8″	36″	8	7972A411	6.84	17.90
5/32″	36″	5	7972A197	7.60	20.16

General Purpose Brazing Rods without Silver

These cadmium-free rods are ROHS complaint.

Dia.	Lg.	Approx. Rods per lb.		1 lb.	5 lbs.
Flux Required					
1/16″	36″	25	7972A201	$18.05	$69.50
3/32″	36″	10	7972A162	17.71	68.10
1/8″	36″	7	7972A163	17.71	68.10
Flux Coated					
1/16″	18″	35	7972A221	16.82	64.10
3/32″	36″	10	7972A154	16.64	63.30
1/8″	36″	6	7972A152	16.53	62.70
3/16″	36″	3	7972A153	16.53	62.70

Victor Oxyacetylene Torch Components

Torch Handles

Handles include two check valves and have 9/16″-18 (B size) male hose connections. Attach a heating nozzle, welding nozzle, or cutting attachment and cutting tip (each sold separately).

Professional series handles also include two flashback arresters to prevent the reverse flow of gas and flame.

Duty	Model No.		
400 Series			
Heavy	WH411C	79275A91	$167.43
Optional Flashback Arresters (Pair)		78825A99	66.60
Professional Series			
Medium	100FC	79275A2	204.14
Heavy	315FC	79275A3	225.74

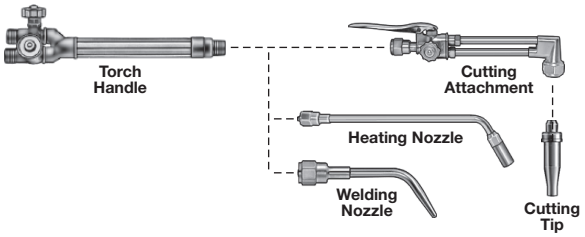

Heating Nozzles

Also known as rosebud heads, these nozzles create a cluster of flames for heat treating large areas and straightening bent materials. Use with acetylene and hydrogen.

Nozzle Size	Lg.	Model MFA-1 for Medium Duty Handles		Model MFA for Heavy Duty Handles	
4	12″	79275A611	$98.13	79275A333	$135.67
6	12″	79275A613	81.46	79275A334	135.67
8	12″	79275A612	100.06	79275A614	135.67

Cutting Attachments

Head is at a 90° angle, except Model No. CA2461 head is at 75°.

Duty	Model No.	Cutting Cap., Thick.	For Torch Handle Model No.		
400 Series					
Medium	CA411-3	5″	WH411C	79275A93	$194.94
Heavy	CA411-1	6″	WH411C	79275A94	229.58
Professional Series					
Medium	CA1350	6″	100FC	79275A4	225.74
Heavy	CA2460	8″	315FC	79275A5	267.03
Heavy	CA2461	8″	315FC	79275A241	267.03

Welding Nozzles—Include a mixer and a tip

Tip Size	Welding Cap., Thick.	Series W-1 for Medium Duty Handles		Series W for Heavy Duty Handles	
00	3/64″	79275A211	$49.97	79275A221	$53.21
0	5/64″	79275A212	51.48	79275A222	53.56
1	3/32″	79275A213	51.48	79275A223	56.33
2	1/8″	79275A214	52.19	79275A224	56.33
3	3/16″	79275A215	53.56	79275A225	56.33
4	1/4″	79275A216	54.98	79275A226	59.16
5	1/2″	79275A217	55.90	79275A227	64.14
6	3/4″	79275A218	73.56	79275A228	64.14
Replacement Tips (please specify medium or heavy duty and tip size)					79275A1

Cutting Tips

Tip Size	Cutting Cap., Thick.	Series 3-101 for Medium Duty Cutting Attachments		Series 1-101 for Heavy Duty Cutting Attachments	
000	1/8″	79275A233	$23.82	79275A231	$23.82
00	1/4″	79275A662	23.82	79275A682	23.82
0	1/2″	79275A663	23.82	79275A683	23.82
1	3/4″	79275A664	23.82	79275A684	23.82
2	1 1/2″	79275A665	23.82	79275A685	23.82
3	2 1/2″	79275A234	23.82	79275A232	23.82
4	3″	79275A667	23.82	79275A687	23.82
5	5″	79275A895	18.46	79275A688	18.46
6	8″	—	—	79275A689	23.82
7	10″	—	—	79275A616	18.25

Model ST900FC Cutting Torch Handle

Use with Series 1-101 cutting tips (sold separately). Torches include two check valves and flashback arresters and have 9/16″-18 (B size) male hose connections.

Cutting torch handle with regulators includes a single-stage oxygen (CGA540) regulator that operates at 5 to 125 psi and an acetylene (CGA510) regulator that operates at 2 to 15 psi.



Cutting Cap., Thick.	Lg.	Head Angle	Without Regulators		With Regulators	
1/8″-5″	21″	90°	79275A615	$313.17	66315A21	$461.03

Harris Oxyacetylene Torch Components

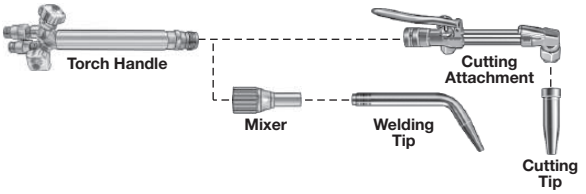

Torch Handles

Handles include check valves and have 9/16″-18 (B size) male hose connections. Attach a Series 23A90 welding tip or a cutting attachment with a Series 6290 cutting tip (each sold separately).

Torch handle 85 includes a mixer. **Torch handle 43-2** requires a mixer (sold separately).

Model No.		
85	7980A54	$190.19
43-2	7980A69	246.26

Mixers

For Torch Handle Model No.		
85	7980A84	$61.22
43-2	7980A81	61.22

Welding Tips (Series 23A90)

Tip Size	Welding Cap., Thick.			Tip Size	Welding Cap., Thick.		
1	1/32″	7980A672	$16.65	7	1/4″	7980A678	$18.75
3	1/16″	7980A674	16.65	9	3/8″	7980A681	30.21
5	1/8″	7980A676	16.65	10	1/2″	7980A3	30.21

Cutting Attachments

Head is at a 90° angle.

Model No.	Lg.	Cutting Cap., Thick.	For Torch Handle Model No.		
72-3	9 1/2″	5″	85	7980A68	$248.15
73-3	9 1/2″	6″	43-2	7980A71	252.57

Cutting Tips (Series 6290)

Use with torch handles 85 and 43-2.

Tip Size	Cutting Cap., Thick.			Tip Size	Cutting Cap., Thick.		
00	3/8″	7980A663	$13.99	2	2″	7980A666	$13.99
0	5/8″	7980A664	13.99	3	3″	7980A11	13.99
1	1″	7980A665	13.99	4	6″	7980A12	13.99

Victor Oxyacetylene Welding and Cutting Kits

Weld and cut with one system. Kits include single-stage regulators, a torch with check valves to prevent the reverse flow of gas, a torch handle, a cutting attachment, a welding nozzle, a cutting tip, a torch lighter, glasses, and hose. They meet CGA (Compressed Gas Association) standards.

400 series kits include regulators for oxygen (CGA540) and acetylene (CGA510). They can be also be used with a heating nozzle (sold separately on page 3429).

Professional series kits include regulators for oxygen (CGA540) and acetylene (CGA510), two flashback arresters, and a heating nozzle. *Journeyman* model includes two additional welding nozzles.

TurboTorch with portable tote includes regulators for oxygen (CGA540) and acetylene (CGA200), two flashback arresters, two additional welding nozzles, and a plastic carrying tote. This kit can also be used with a heating nozzle (sold separately on page 3429).

Flashback arresters extinguish flames and have a check valve to stop reverse gas flow.

Duty	Model No.	Cutting Cap., Thick.	Welding Cap., Thick.	*Hose* Length, ft.	*Hose* ID		
400 Series							
Medium	Medalist 250	1/2″	5/64″	20	3/16″	78825A95	$260.21
Heavy	Medalist 350	3/4″	1/8″	20	1/4″	78825A96	325.64
Professional Series							
Medium	Performer	1/2″	1/4″	12	3/16″	7901A31	337.28
Heavy	Journeyman	3/4″	1/2″	20	1/4″	7901A12	830.82
TurboTorch with Portable Tote							
Medium	_____	3/4″	1/4″	12	3/16″	7835A45	594.23
Accessories							
Optional Flashback Arresters for 400 Series Kits (Pair)						78825A99	66.60

MIG and TIG Welding Cable Covers



Protect the cables on your MIG guns and TIG torches from weld spatter. The fabric resists tears and abrasion and has a zipper closure. Maximum temperature is 160° F.

MIG covers have an ID of 1 1/8″ and can also be used with plasma cutters. **TIG covers** have an ID of 1″.

MIG Covers				TIG Covers			
Lg.	Wd.			Lg.	Wd.		
10′	4″	77415A34	$48.10	10′	3″	77415A31	$36.95
15′	4″	77415A35	67.15	20′	3″	77415A32	73.83
20′	4″	77415A36	88.60	23′	3″	77415A33	85.00

Weld-In Retractable Spring Plungers

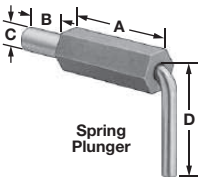



Weld the body in place and the spring and plunger stay in place for fastening, positioning, latching, and quick-disconnect applications. Pull the L-handle to retract the plunger nose. Maximum temperature is 400° F.

Steel plungers are magnetic. The spring is 18-8 stainless steel.

18-8 stainless steel plungers are nonmagnetic and corrosion resistant.

Optional mounting bases let you mount the spring plungers to fixture surfaces.

Hex Size	Body Lg. (A)	Nose Lg. (B)	Nose Dia. (C)	Handle Lg. (D)	*Nose Force, lbs.* Extended	*Nose Force, lbs.* Compressed	Spring Plunger		Optional Mounting Base Lg.	
Steel										
1/4″	0.875″	0.38″	0.16″	0.68″	0.5	2.5	8473A11	$16.30	1/4″	8473A21 $5.70
3/8″	1.47″	0.56″	0.24″	0.98″	0.8	3.8	8473A12	16.60	3/8″	8473A22 6.92
1/2″	1.42″	0.75″	0.32″	1.35″	1	5	8473A13	17.90	1/2″	8473A23 7.54
5/8″	2.11″	1″	0.38″	1.35″	1	5	8473A14	23.60	5/8″	8473A24 8.74
18-8 Stainless Steel										
1/4″	0.875″	0.38″	0.16″	0.68″	0.5	2.5	8473A31	22.40	1/4″	8473A41 7.30
3/8″	1.47″	0.56″	0.24″	0.98″	0.8	3.8	8473A32	23.50	3/8″	8473A42 9.30
1/2″	1.42″	0.75″	0.32″	1.35″	1	5	8473A33	24.50	1/2″	8473A43 11.54
5/8″	2.11″	1″	0.38″	1.35″	1	5	8473A34	28.80	5/8″	8473A44 13.84

Precision Oxyacetylene Welding Kits

With a needle-point flame, these kits are well-suited for use on electronics, plumbing, and small parts. The flame reaches up to 6000° F using oxygen and acetylene and can weld steel up to 1/8″ thick. They can also be used with hydrogen and propane, unless otherwise specified.

Torch Kits

Kits include a torch, five welding tips in sizes 0.011″ to 0.047″, and two 8-ft. hoses with 9/16″-18 (B size) female fittings.

The **kit with tanks** also includes an unfilled R (20 cu. ft.) oxygen tank, an unfilled MC (10 cu. ft.) acetylene tank, a single-stage oxygen regulator (CGA540), a single-stage acetylene regulator (CGA200), and a plastic carrying case.



Kit without Tanks

Without Tanks	7932A12	$182.29
With Tanks	7932A11	690.83
Optional Magnetic Torch Holder	7932A13	34.94

Welding Tips

Pointed welding tips are for pinpoint heat. 7932A22 cannot be used with propane.

Double-pointed welding tips heat both sides of a material.



Pointed Tip



Double-Pointed Tip

Orifice Size	Pointed Tips		Double-Pointed Tips	
0.006″	7932A22	$30.10		
0.011″	7932A23	30.10		
0.020″	7932A24	30.10	7932A34	$56.10
0.029″	7932A25	30.10	7932A35	56.10
0.037″	7932A26	30.10	7932A36	56.10
0.047″	7932A27	30.10		

Air/Acetylene Torch Kits

Use these torches for HVAC work and general purpose brazing and soldering. No oxygen tank required. Tanks are not included.

MC Tank Style Kit—Includes a torch handle with 3/8″-24 female hose fitting, a single-stage acetylene regulator (CGA 200), and a 12-ft., 3/16″ ID hose with 3/8″-24 (Size A) female fittings. Includes 1/4″ dia. quick-disconnect tip.

B Tank Style Kits—Include a torch handle with 3/8″-24 male hose fitting, a single-stage acetylene regulator (CGA 520), and a 12-ft., 3/16″ ID hose with 3/8″-24 (Size A) female fittings. *Torch kit* includes 3/16″ dia. and 7/16″ dia. quick-disconnect tips. *Torch kit with portable tote* comes with 3/16″ dia. and 5/16″ dia. quick-disconnect tips. It also includes a plastic tote with wheels.

Replacement torch handle has a quick-disconnect connection for easy tip change.



MC Tank Style Kit



B Tank Style Kit

Torch Kits

Style	For Tank Capacity, cu. ft.		
Torch Kits			
MC	10	7984A31	$311.24
B	40	7984A11	363.84
Torch Kit with Portable Tote			
B	40	7984A21	388.51
Replacement Torch Handle		7984A32	93.25

Replacement Tips

Dia.	Model No.		
3/16″	A-3	7984A12	$75.42
1/4″	A-5	7984A13	89.27
5/16″	A-8	7984A14	97.67
7/16″	A-11	7984A15	103.73

Welding Gas Hose

Hose is abrasion, weather, and ozone resistant. It meets ARPM (Association of Rubber Products Manufacturers) and CGA (Compressed Gas Association) requirements. Maximum pressure rating is 200 psi @ 72° F. Green hose is for oxygen. Red hose is for acetylene.

Grade T hose is oil and flame resistant and can also be used with hydrogen, MAPP gas, natural gas, propane, and propylene.

Hose with Fittings on Both Ends—Has 9/16″-18 female fittings with right-hand threads for oxygen and left-hand threads for acetylene.

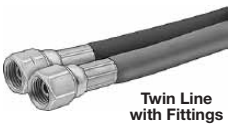

Twin Line with Fittings

Hose with Fittings on Both Ends

ID	OD	Color		12½ ft.	25 ft.	50 ft.	100 ft.
Grade R Single Line for Oxygen							
3/16″	7/16″	Green	7915A1	———	$22.58	$45.15	$76.65
1/4″	9/16″	Green	7915A3	$14.02	27.28	53.03	90.30
Grade R Single Line for Acetylene							
3/16″	7/16″	Red	7915A2	———	22.58	45.15	76.65
1/4″	9/16″	Red	7915A4	14.02	27.28	53.03	90.30
Grade R Twin Line for Oxygen and Acetylene							
3/16″	7/16″	Green/Red	7915A5	22.01	36.70	73.40	128.10
1/4″	9/16″	Green/Red	7915A6	24.87	42.25	84.00	140.69
Grade T Twin Line for Oxygen and Fuel Gas							
1/4″	9/16″	Green/Red	7915A7	35.35	69.04	138.08	235.20

Welding Gas Hose—Maximum continuous length is 700 ft.

ID	OD	Color		Per Ft. 10-99	Per Ft. 100-Up
Grade R Single Line for Oxygen					
3/16″	7/16″	Green	7915A21	$0.86	$0.73
1/4″	9/16″	Green	7915A22	1.01	.86
Grade R Single Line for Acetylene					
3/16″	7/16″	Red	7915A11	.86	.73
1/4″	9/16″	Red	7915A12	1.01	.86
Grade R Twin Line for Oxygen and Acetylene					
3/16″	7/16″	Green/Red	7915A58	1.43	1.22
1/4″	9/16″	Green/Red	7915A59	1.60	1.36
Grade T Twin Line for Oxygen and Fuel Gas					
1/4″	9/16″	Green/Red	7915A71	2.63	2.24

Reels with Welding Hose

Reels come with two abrasion-, weather-, and ozone-resistant hoses. Both lines lock in place when pulled out of the reel; they retract with a quick tug. Reels include a 1/4″ ID×9/16″ OD twin-line hose (one green for oxygen and one red for acetylene) with 9/16″-18 female connections. *Green* hose has right-hand threads on the fittings; *red* hose has left-hand threads on the fittings. Reels have a 4″×5″ mounting base with four 1/2″ dia. mounting holes (fasteners not included). Hose meets ARPM (Association of Rubber Products Manufacturers) and CGA (Compressed Gas Association) requirements. Maximum pressure rating is 200 psi @ 72° F.

Grade T hose is oil and flame resistant and can also be used with hydrogen, natural gas, MAPP gas, propane, and propylene.



Hose Lg., ft.	Reel Ht.	Reel Wd.	Reel Dp.		
Grade R Hose for Oxygen and Acetylene					
25	19″	8½″	17″	7911A4	$349.89
50	21½″	10½″	19½″	7911A22	408.86
75	25½″	10½″	24″	7911A6	526.35

Hose Lg., ft.	Reel Ht.	Reel Wd.	Reel Dp.		
Grade T Hose for Oxygen and Fuel Gas					
50	21½″	10½″	19½″	7861A13	$463.01
75	25½″	10½″	24″	7861A14	631.15

Welding Hose Fittings

Fittings are brass. They have a working pressure of 200 psi, except ferrules, which are not rated for pressure. For hose crimpers, see page 319.

Adapters, Connectors, and Nuts


Adapter


Connector


Nut

For Use With	Connections (RH=Right Hand; LH=Left Hand)			
Adapters				
Acetylene, Fuel Gas	3/8″-24 UNF LH Female	9/16″-18 UNF LH Male	7919A57	$7.21
Acetylene, Fuel Gas	9/16″-18 UNF LH Female	3/8″-24 UNF LH Male	7919A55	7.21
Fuel Gas	1/4 NPT RH Male	9/16″-18 UNF LH Female	7919A53	8.17
Inert Gas	1/4 NPT RH Male	5/8″-18 UNF RH Male	7919A52	11.78
Oxygen	3/8″-24 UNF RH Female	9/16″-18 UNF RH Male	7919A56	7.21
Oxygen	9/16″-18 UNF RH Female	3/8″-24 UNF RH Male	7919A54	7.21
Oxygen	1/4 NPT RH Male	9/16″-18 UNF RH Female	7919A51	7.59
Connectors				
Fuel Gas	9/16″-18 UNF LH Male	9/16″-18 UNF LH Male	7920A4	1.20
Oxygen	9/16″-18 UNF RH Male	9/16″-18 UNF RH Male	7920A3	1.18
Nuts				
Fuel Gas	CGA-023 UNF LH Female	9/16″-18	7919A4	.61
Oxygen	CGA-022 UNF RH Female	9/16″-18	7919A3	.61

Barbed Adapters, Spiral Adapters, and Barbed Connectors


Barbed Adapter


Spiral Adapter


Barbed Connector

Spiral adapters are easier to install than barbed adapters. Use with acetylene, fuel gas, inert gas, and oxygen.

For Hose ID	Lg.		
Barbed Adapters			
3/16″	1 15/32″	7919A2	$0.61
1/4″	1 15/32″	7919A1	.61
5/16″	1 15/32″	7919A5	.90
Spiral Adapters			
3/16″	1 13/32″	7919A31	1.31
1/4″	1 19/32″	7919A32	1.00
Barbed Connectors			
3/16″	2″	7918A1	1.30
1/4″	2″	7918A2	1.26

Crimp-On Ferrules



Hose End ID	Lg.		
0.45″	9/16″	79205A655	$0.43
0.478″	11/16″	79205A656	.85
1/2″	1/2″	79205A657	.33
1/2″	1″	79205A658	1.00
0.525″	1/2″	79205A659	.42
0.525″	1″	79205A661	.97
0.548″	31/64″	79205A662	.57
0.562″	1″	79205A663	.82
0.564″	3/4″	79205A664	.75
0.575″	31/64″	79205A665	.58
0.593″	1″	79205A666	.85
5/8″	1/2″	79205A668	.64
5/8″	1″	79205A669	.87
0.656″	1″	79205A672	.87

Welding Hose Fitting Kits



Kits contain brass fittings. Note: RH = right hand; LH = left hand.

3/16″ and 1/4″ ID Hose Kit—Includes four each of 3/8″-24 female RH and LH nuts; eight each of the 9/16″-18 female RH and LH nuts; fourteen 3/16″ hose ID nipples; ten 1/4″ hose ID nipples; two 3/16″ ID hose splicers; four 1/4″ ID hose splicers; one each 3/8″-24 male RH and LH hose couplers; one each 9/16″-18 male RH and LH hose couplers; twelve each 0.45″ and 0.593″ ID ferrules; ten 0.562″ ID ferrules; and a crimping tool.

7869A23 ..... $80.36

5/16″ and 3/8″ ID Hose Kit—Includes eight each 9/16″-18 female RH and LH nuts; eight each 5/16″ and 3/8″ hose ID nipples; two each 5/16″ ID and 3/8″ ID hose splicers; two each 9/16″-18 male RH and LH hose couplers; eight each 0.625″ ID, 0.656″ ID, and 0.718″ ID ferrules; six 0.687″ ID ferrules; and a crimping tool.

7869A24 ..... $116.68

Quick-Disconnect Coupling Sets with Threaded Ends for Welding Hose


Hose-to-Hose Set

Use these coupling sets to quickly link and unlink welding hoses, torches, and regulators. To connect, push the plug into the socket. Couplings have a spring-loaded lock for gas-tight connections and a built-in reverse gas-flow check valve. Each set has one right-hand connection for oxygen and one left-hand connection for fuel gas. Connections are 9/16″-18. Torch and regulator connections are female; hose connections are male.

Hose-to-Hose Set	7934A5	$76.56
Hose-to-Torch Set	7934A4	72.96
Regulator-to-Hose Set	7934A6	76.56

Welding Gas Check Valves


For Torches


For Regulators

Stop the reverse flow of gas in your torch or regulator. Check valves do not stop flashbacks. Made of brass.

Maximum pressure is 125 psi for oxygen; 50 psi for fuel gas. Connections for oxygen have right-hand threads; connections for fuel gas have left-hand threads.

Connections		Oxygen		Fuel Gas	
For Torches					
3/8″-24 Female	3/8″-24 Male	7957A7	$18.08	7957A8	$18.08
9/16″-18 Female	9/16″-18 Male	7957A1	8.16	7957A2	8.16
For Regulators					
1/4 NPT Male	9/16″-18 Male	7957A3	11.45	7957A4	11.45

Welding Gas Flashback Arresters


For Torches


For Regulators

Flashback arresters extinguish flames and have a check valve to stop reverse gas flow. They are reusable; resetting is not required after flashback. Meet ISO 5175, Class 1, and European Safety Specification EN730.

Maximum pressure is 143 psi for oxygen; 15 psi for acetylene; and 50 psi for hydrogen and propane. Connections for oxygen have right-hand threads; connections for fuel gas have left-hand threads.

For Torches—Attach directly to torches that cut steel up to 8″ thick.

For Regulators—Attach to the outlet connection of a regulator on a torch that cuts steel up to 11″ thick.

	Connections		Oxygen Each		Fuel Gas Each		One Oxygen and One Fuel Gas Pair	
For Torches	9/16″-18 Male	9/16″-18 Female	78335A31	$42.56	78335A22	$42.56	78335A41	$82.64
For Regulators	9/16″-18 Male	9/16″-18 Female	78335A67	44.36	78335A25	44.36	78335A43	85.51

About Tank-Mount Pressure-Regulating Valves

Tank-mount pressure-regulating valves automatically reduce a high inlet pressure from compressed gas tanks to a lower, stable outlet pressure. Consider the following in your selection:

Compressed Gas Association (CGA) Numbers:
The Compressed Gas Association (CGA) provides a standardized system for secure connections to compressed gas tanks. Choose a valve with the same CGA number as your tank and other system components.

Outlet Pressure:
Choose a valve with a maximum outlet pressure that's approximately twice your application's normal operating pressure. Your operating pressure should never exceed 75% of the valve's maximum outlet pressure.

Tank-Mount Pressure-Regulating Valves

These valves automatically reduce a high inlet pressure from compressed gas tanks to a lower, stable outlet pressure. They have a gauge to monitor outlet pressure and a gauge to monitor inlet pressure from the tank, unless noted.

Brass valves have a longer service life than brass/steel valves. **Valves with a stainless steel diaphragm** can withstand harsh environments.

Two-stage valves progressively reduce pressure over two steps for more consistent outlet pressure at all times. They're often used in applications that require a constant outlet pressure regardless of the tank level.



With Female Inlet

Inlet		Material						
CGA No.	Gender	Body	Diaphragm	Stage	Max. Inlet Pressure, psi	Outlet Pressure, psi	Outlet Connection (RH = Right Hand; LH= Left Hand)	
For Acetylene								
300	Female	Brass/Steel	Rubber	Single	500	0-15	9/16"-18 LH Male	7897A62 $141.22
300	Female	Brass/Steel	Rubber	Two	500	0-15	9/16"-18 LH Male	7897A4 356.16
300	Female	Brass	Rubber	Single	500	0-15	9/16"-18 LH Male	7897A2 165.08
300	Female	Brass	Stainless Steel	Two	3,000	0-15	9/16"-18 LH Male	7897A79 397.82
510	Male	Brass/Steel	Rubber	Single	500	0-15	9/16"-18 LH Male	7897A63 141.22
510	Male	Brass/Steel	Rubber	Two	500	0-15	9/16"-18 LH Male	7897A14 356.16
510	Male	Brass	Rubber	Single	500	0-15	9/16"-18 LH Male	7897A7 165.08
510	Male	Brass	Stainless Steel	Single	500	0-15	9/16"-18 LH Male	7897A53 179.57
510	Male	Brass	Stainless Steel	Two	500	0-15	9/16"-18 LH Male	7897A81 397.82
For Argon, Helium, and Nitrogen								
580	Male	Brass/Steel	Rubber	Single	3,000	0-145	9/16"-18 RH Male	7897A65 141.22
580	Male	Brass/Steel	Rubber	Two	3,000	0-125	5/8"-18 RH Female	7897A16 356.16
580	Male	Brass	Rubber	Single	3,000	0-125	9/16"-18 RH Male	7897A38 165.08
580	Male	Brass	Rubber	Single	3,000	0-200	9/16"-18 RH Male	7897A12 165.08
580	Male	Brass	Stainless Steel	Two	3,000	0-50	5/8"-18 RH Female	7897A22 397.82
580	Male	Brass	Stainless Steel	Two	3,000	0-125	5/8"-18 RH Female	7897A23 397.82
For Liquid Argon and Liquid Nitrogen								
580	Male	Brass	Stainless Steel	Single	3,000	0-125	9/16"-18 RH Male	7897A86★ 334.12
580	Male	Brass	Stainless Steel	Single	3,000	0-350	9/16"-18 RH Male	7897A87★ 344.76
For Carbon Dioxide								
320	Female	Brass/Steel	Rubber	Two	3,000	0-125	5/8"-18 RH Female	7897A17 356.16
320	Female	Brass	Rubber	Single	3,000	0-125	9/16"-18 RH Male	7897A39 165.08
320	Female	Brass	Stainless Steel	Single	3,000	10-200	5/8"-18 RH Female	7897A41 310.68
For Liquid Carbon Dioxide								
320	Female	Brass	Stainless Steel	Single	3,000	0-350	9/16"-18 RH Male	7897A83★ 344.76
For Hydrogen								
350	Female	Brass	Rubber	Single	3,000	0-125	9/16"-18 LH Male	7897A5 259.75
For Hydrogen and Methane								
350	Female	Brass	Rubber	Two	3,000	2-40	9/16"-18 LH Male	7897A55 509.70
For Oxygen								
540	Female	Brass/Steel	Rubber	Single	3,000	0-145	9/16"-18 RH Male	7897A61 141.22
540	Female	Brass/Steel	Rubber	Two	3,000	0-125	9/16"-18 RH Male	7897A3 356.16
540	Female	Brass	Rubber	Single	3,000	0-125	9/16"-18 RH Male	7897A31 165.08
540	Female	Brass	Rubber	Single	3,000	0-200	9/16"-18 RH Male	7897A1 165.08
540	Female	Brass	Stainless Steel	Single	3,000	0-125	9/16"-18 RH Female	7897A51 179.57
540	Female	Brass	Stainless Steel	Two	3,000	0-125	9/16"-18 RH Male	7897A74 397.82
540	Female	Brass	Stainless Steel	Two	3,000	0-250	1/4 NPT RH Female	7897A75 439.49
For Liquid Oxygen								
540	Female	Brass	Stainless Steel	Single	3,000	0-125	9/16"-18 RH Male	7897A84★ 334.12
For Propane and Propylene								
510	Male	Brass/Steel	Rubber	Single	500	5-50	9/16"-18 LH Male	7897A66 141.09
510	Male	Brass/Steel	Rubber	Two	500	0-50	9/16"-18 LH Male	7897A18 356.16
510	Male	Brass	Rubber	Single	3,000	0-50	9/16"-18 LH Male	7897A13 165.08
For Air								
590	Male	Brass/Steel	Rubber	Single	3,000	0-145	9/16"-18 LH Male	7897A56 146.55
590	Male	Brass	Rubber	Single	3,000	0-125	1/4 NPT RH Male	7897A59 194.66
For Breathable Air								
346	Female	Brass	Rubber	Single	3,000	0-125	9/16"-18 RH Male	7897A57 171.30
346	Female	Brass	Rubber	Single	3,000	0-200	9/16"-18 RH Male	7897A58 171.30

★ Valve does not include a gauge to monitor inlet pressure.

Tank-Mount Pressure-Regulating Valves with Flowmeter for Inert Gas

Commonly used in TIG welding where gas flow/coverage is a concern, these valves measure the gas flow rate in addition to regulating pressure. Valves have a gauge to monitor the outlet flow rate and a second gauge to monitor inlet pressure from the tank. All are single stage. Body is brass.

Kits include a pressure-regulating valve and a 10-ft. long, 3/16" dia. hose with 5/8"-18 male fittings on both ends.



With Male Inlet

Inlet					Valves		Kits	
CGA No.	Gender	Max. Inlet Pressure, psi	Outlet Flow, scfh	Outlet Connection (RH = Right Hand)				
For Argon								
580	Male	3,000	0-60	5/8"-18 RH Female	7997A65	$128.35	7997A67	$158.18
580	Male	3,000	0-100	5/8"-18 RH Female	7997A52	173.50		
For Carbon Dioxide								
320	Female	3,000	0-60	5/8"-18 RH Female	7997A66	128.35	7997A68	158.18
320	Female	3,000	0-100	5/8"-18 RH Female	7997A51	173.50		

Tank-Mount Pressure-Regulating Valves

For information about tank-mount pressure-regulating valves, see page 3433.

Tank-Mount High-Pressure-Regulating Valves for Air and Inert Gas



With Male Inlet

Often used for pressure-vessel testing and other high-pressure applications, these valves can handle at least seven times the outlet pressure of standard tank-mount pressure-regulating valves. Valves have a gauge to monitor outlet pressure and a gauge to monitor inlet pressure from the tank. All are single stage. Body is brass. 6677A12 has a relief valve.

Inlet		Max. Inlet Pressure,	Outlet Pressure,			
CGA No.	Gender	psi	psi	Outlet Connection		
For Argon, Helium, and Nitrogen						
580	Male	3,000	100-1,500	1/4" Swagelok® Female	6677A12	$372.21
580	Male	3,000	200-3,000	1/4" Swagelok® Female	6677A13	372.21
677	Female	7,500	300-4,500	1/4" Swagelok® Female	6677A14	991.94
For Air						
590	Male	3,000	0-1,500	1/4" Swagelok® Female	6677A15	525.40
590	Male	3,000	0-2,500	1/4" Swagelok® Female	6677A16	594.15
For Breathable Air						
346	Female	3,000	0-1,500	1/4" Swagelok® Female	6677A19	525.40
346	Female	3,000	0-2,500	1/4" Swagelok® Female	6677A21	594.15
For Oxygen						
540	Female	3,000	0-1,500	1/4" Swagelok® Female	6677A17	525.40
540	Female	3,000	0-2,500	1/4" Swagelok® Female	6677A18	594.15

Tank-Mount Pressure-Regulating Valves for Moisture Removal

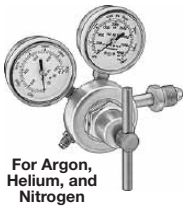

For Argon, Helium, and Nitrogen



For Nitrogen

Use these valves for nitrogen gas purging in air conditioning, refrigeration, and plumbing systems. All are single stage. Body is brass.

Valves for argon, helium, and nitrogen have a gauge to monitor outlet pressure and a gauge to monitor inlet pressure from the tank.

Valves for nitrogen have a knob to select the set pressure for testing, purging, or brazing. They come with a gauge to monitor inlet pressure from the tank.

Inlet		Max. Inlet Pressure,	Outlet Pressure,	Outlet Pressure/Flow					
CGA No.	Gender	psi	psi	Test, psi	Purge, cfh	Braze, cfh	Outlet Connection (RH=Right Hand)		
For Argon, Helium, and Nitrogen									
580	Male	3,000	0-500	____	____	____	1/4" SAE RH Male with 45° Flare	66325A23	$185.75
580	Male	3,000	5-150	____	____	____	5/8"-18 RH Female	66325A61	113.94
580	Male	3,000	10-200	____	____	____	7/16"-20 RH Male with 37° Flare	66325A42	168.04
For Nitrogen									
580	Male	3,000	____	0-250	25-35	3-6	1/4" SAE RH Male with 45° Flare	66325A51	188.06
580	Male	3,000	____	0-500	25-35	3-6	1/4" SAE RH Male with 45° Flare	66325A52	188.06

Pressure-Regulating Valves for Fuel Gases



For Acetylene



For Hydrogen and Propane

Install these valves directly in gas distribution pipelines for acetylene, hydrogen, or propane. They have two outlets to fit various pipe configurations. All come with a threaded brass plug to close the unused outlet and a gauge to monitor outlet pressure. Valves are single stage. Body is brass.

Note: Do not mount valves directly to gas tanks.

Inlet/Outlet Connections	Max. Inlet Pressure, psi	Outlet Pressure, psi		
For Acetylene				
1/4 NPT Female	350	2-15	7864A13	$251.58
For Hydrogen and Propane				
1/4 NPT Female	500	0-60	7864A11	85.09
1/4 NPT Female	500	0-200	7864A12	86.36

Easy-Read Tank-Mount Pressure-Regulating Valves with Flowmeter for Inert Gas



With One Flowmeter



With Two Flowmeters

Flowmeters let you see the gas flow rate from a distance. Valves have a gauge for monitoring inlet pressure from the tank. All are single stage. Body is brass.

Valves with one flowmeter are for one piece of equipment on a tank. The flowmeter has a single scale. Use the *optional adapter* to change the outlet fitting from a 5/8"-18 to 9/16"-18 male connection.

Valve with two flowmeters lets you simultaneously run two pieces of equipment from one tank. Both flowmeters have a dual scale.

Inlet		Max. Inlet Pressure,	Outlet Flow, scfh				Outlet Connection			Optional 5/8"-18 to 9/16"-18 Male Outlet Adapter	
CGA No.	Gender	psi	Argon	Carbon Dioxide	Nitrogen	Helium	(RH=Right Hand)	Valves			
With One Flowmeter											
For Argon											
580	Male	3,000	0-70	____	____	____	5/8"-18 RH Female	78595A43	$151.50	78595A49	$9.52
For Argon and Helium											
580	Male	3,000	0-45	____	____	0-140	5/8"-18 RH Female	78595A31	151.29	78595A49	9.52
For Carbon Dioxide											
320	Female	3,000	____	0-70	____	____	5/8"-18 RH Female	78595A46	151.50	78595A49	9.52
For Nitrogen											
580	Male	3,000	____	____	0-100	____	5/8"-18 RH Female	78595A35	151.29	78595A49	9.52
With Two Flowmeters											
For Argon and Helium											
580	Male	3,000	0-45	____	____	0-140	5/8"-18 RH Female	7952A49	312.72	____	____

For information about tank-mount pressure-regulating valves, see page 3433.

High-Purity Tank-Mount Pressure-Regulating Valves

Reduce contaminants in research sample systems, emission monitoring systems, chromatography, and other high-purity applications. Valves have a gauge to monitor outlet pressure and a gauge to monitor inlet pressure from the tank. Body is brass and stainless steel. Outlet connection is 1/4" Swagelok® female.

Two-stage valves progressively reduce pressure over two steps for more consistent outlet pressure at all times. They're often used in applications that require a constant outlet pressure regardless of the tank level.

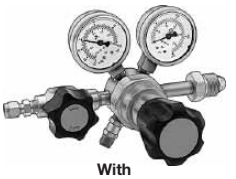

With Male Inlet

Inlet			Max. Inlet Pressure,	Outlet Pressure,	Outlet		
CGA No.	Gender	Stage	psi	psi	Gauge		
For Hydrogen and Methane							
350	Female	Single	3,000	0-15	30" Hg to 30 psi	7951A17	$423.00
350	Female	Two	3,000	0-15	30" Hg to 30 psi	7951A27	513.76
350	Female	Single	3,000	0-125	30" Hg to 200 psi	7951A19	423.00
350	Female	Two	3,000	0-125	30" Hg to 200 psi	7951A29	513.76
For Argon, Helium, and Nitrogen							
580	Male	Single	3,000	0-15	30" Hg to 30 psi	7951A14	423.00
580	Male	Two	3,000	0-15	30" Hg to 30 psi	7951A24	513.76
580	Male	Single	3,000	0-125	30" Hg to 200 psi	7951A16	423.00
580	Male	Two	3,000	0-125	30" Hg to 200 psi	7951A26	513.76

CGA Fittings for Pressure-Regulating Valves

Fittings are brass, except CGA 677 are stainless steel.

Fittings for Hose



Connections (RH = Right Hand; LH = Left Hand)			
For Fuel Gas, Acetylene, and LP Gas			
1/8 NPT Male	9/16"-18 Male LH	79215A712	$2.41
1/4 NPT Male	9/16"-18 Male LH	79215A2	1.38
3/8 NPT Male	9/16"-18 Male LH	79215A714	5.53
For Oxygen			
1/8 NPT Male	9/16"-18 Male RH	79215A711	2.34
1/4 NPT Male	9/16"-18 Male RH	79215A1	1.38
3/8 NPT Male	9/16"-18 Male RH	79215A713	5.67

Nuts and Nipples

Nuts have female threads (unless noted).

Nipples have 1/4 NPT male threads (except 79215A649 has 1/8 NPT) on one end and CGA No. connection on the other.





	Nuts			Nipples		
CGA No.	Lg.			Lg.		
200	9/16"	79215A648	$3.02	1 1/4"	79215A649	$4.41
300	1"	79215A651	3.66	1 15/16"	79215A652	4.73
320	1"	79215A653	3.20	2 1/2"	79215A654	4.86
326	1"	79215A672	4.42	2 1/2"	79215A673	6.36
330	1"	79215A716	7.08	2"	79215A715	5.48
346	1"	79215A655	3.48	2 1/2"	79215A656	4.13
347	1 9/16"	79215A724	11.95	3"	79215A725	17.50
350	1"	79215A666	3.88	2 1/2"	79215A667	4.35
500	1"	79215A671 ★	7.70	2 1/2"	79215A658	3.42
510	1 3/16"	79215A657 ★	3.32	2 1/2"	79215A658	3.42
520	11/16"	79215A659	3.58	1 3/4"	79215A661	4.83
540	1"	79215A662	2.90	2 1/16"	79215A663	3.17
555	1"	79215A772	4.38	2 1/16"	79215A773	4.53
580	1 3/16"	79215A664 ★	3.82	3"	79215A665	3.34
590	1 3/16"	79215A668 ★	5.00	3 1/2"	79215A669	6.14
660	3/4"	79215A718	7.09	1 3/4"	79215A717	12.02
677	1 1/8"	79215A728	31.31	2 1/2"	79215A729	36.22
680	1 3/16"	79215A726 ★	12.32	3"	79215A727	16.77

★ Has male threads.

Tank-to-Pressure Regulating Valve Adapters

Connect regulators and tanks that have different CGA (Compressed Gas Association) numbers. Adapters are brass.



Tank CGA No.	Regulator CGA No.			Tank CGA No.	Regulator CGA No.		
200	300	7923A22	$22.21	510	520	7923A15	$18.25
200	510	7923A23	18.62	520	200	7923A16	13.72
200	520	7923A24	14.32	520	510	7923A28	17.88
300	510	7923A12	5.80	540	580	7923A29	22.93
320	580	7923A13	20.13	580	320	7923A32	20.68
346	540	7923A18	23.57	580	346	7923A21	29.54
346	580	7923A19	29.54	580	350	7923A33	24.12
350	580	7923A25	29.44	580	540	7923A34	19.86
510	300	7923A11	8.34	590	580	7923A35	27.46

Empty Gas Tanks



Tanks are steel and come unfilled. They meet D.O.T. requirements.

For High-Pressure Inert Gas—For argon, argon/carbon dioxide blends, helium, and nitrogen. Maximum pressure is 2,015 psi.

For High-Pressure Oxygen—Maximum pressure is 2,015 psi.

For Acetylene—Maximum pressure is 250 psi.

Tank Style	Outlet CGA No.	Outlet Gender	Cap., cu. ft.	Tank Size Dia.	Tank Size Ht.	Wt., lbs.		
For High-Pressure Inert Gas								
HP20	580	Female	20	5 1/4"	14"	9.6	7822A11	$131.35
HP40	580	Female	40	6 3/4"	18 1/4"	22	7822A12	194.70
HP55	580	Female	55	6 3/4"	23 1/2"	26.5	7822A13	216.74
HP80	580	Female	80	7"	31 1/2"	40	7822A14	303.63
For High-Pressure Oxygen								
HP20	540	Male	20	5 1/4"	14"	9.6	7986A31	136.13
For Acetylene								
MC	200	Male	10	4"	13"	7.4	7986A41	84.14
B	520	Male	40	6 1/4"	19 3/4"	25.8	7986A51	133.40

Gas Tank Safety Caps and Collars

Protect the valve of gas tanks. The cap fits tanks with and without a regulator. Cap and collar are steel and meet D.O.T., OSHA, and MSHA requirements.

Cap is for high-pressure gas tanks.

Collar is for acetylene tanks only.



Cap



Collar

	Thread Size	For Tank Style		
Cap	3 1/8"-11	K, T	7784A32	$64.92
Collar	3 1/2"-11	5	7784A33	38.58

Welders' Antispatter

Antispatter resists heat and keeps weld spatter from sticking to contact tips, nozzles, and welding accessories.

Long-Lasting Spray On—Lasts up to eight hours so you're not stopping to reapply.

Dip In—To apply dunk your MIG gun nozzle into the container. It is also known as tip dip.

Brush On—This thick liquid handles high-heat applications.



Dip In

	Size		
Spray On	11-oz. Aerosol Can	7881A61	$8.03
Dip In	16-oz. Plastic Jar	77435A28	6.34
Dip In	16-oz. Metal Can	77435A25	7.06
Long-Lasting Spray On	9.5-oz. Aerosol Can	7881A62	32.88
Brush On	1-gal. Plastic Can	7881A71	48.80

Welding Inspection Gauges


Corner Weld


Multicheck Weld


Weld Alignment

Take accurate pre- and post-weld measurements. Gauges are made of stainless steel, except corner weld is steel.

Corner-weld gauge, also known as a fillet gauge, measures concave and convex corner weld dimensions from 1/8″ to 1″ in both inches and millimeters. Includes a vinyl carrying case.

Multicheck-weld gauge measures 0° to 60° bevel angles, excess weld metal (capping size), length of a corner-weld leg and throat to 3/4″, and depth of undercut to 3/16″. Scales are graduated in inches (to 16ths) and millimeters. Includes a vinyl carrying case.

Weld-alignment gauge measures internal misalignment of pipe ID, pipe wall thickness after tack welding, and go/no-go fit-up gap between 1/16″ and 3/32″.

Corner Weld	7928A11	$26.10
Multicheck Weld	7871A11	66.58
Weld Alignment	8970A11	138.74

Welding Plates



Create a dam or mold with these graphite plates to control metal flow while welding. They can be cut with a saw or cutting tool.

Thickness	12″×6″		12″×12″	
1/4″	7971A11	$20.41	7971A12	$38.10
1/2″	7971A15	32.61	7971A16	62.24
5/8″	7971A17	38.10	7971A18	69.70
1″	7971A22	55.44	7971A23	96.31

Stick Electrode Carriers


Leather


Plastic

Protect your stick electrodes during transport. Carriers hold electrodes up to 14″ long and include a belt clip.

Plastic carrier is air and water tight.

Wall bracket lets you hang three plastic carriers. Capacity is 30 lbs. Size is 5 1/2″ Ht.× 12″ Wd.×4 1/2″ Dp.

Tan Leather Carrier	7998A11	$10.66
Red Plastic Carrier	80005A11	12.76
Wall Bracket for Plastic Carrier	80005A12	17.76

Welding Tank Wrenches



3/8″ Socket—For Airco, Burdette, Liquid Air, and NCG welding tanks with 3/8″ 4-point valve stems. Wrench is steel and 5″ long.
7930A11 ..... $4.08

9/32″ Socket—For Linde, POL, and Pyrofax welding tanks with 9/32″ 4-point valve stems. Wrench is steel and 6″ long.
7930A12 ..... $4.33

Box—For 3/16″ 4-point valve stems on B and MC tank styles. Wrench is steel and 3 1/8″ long.
7848A11 ..... $1.87

10 Way—This wrench has 10 openings from 1/16″ to 1 1/8″, including a boxed opening for B and MC tank styles and a socket opening for 1/2″ 4-point valve stems. It is steel and 9″ long.
7935A14 ..... $8.93

Hex Open End and Spanner—Loosens 3 3/4″ tank caps and 1 1/8″ valve stems and regulator inlet nuts. Wrench is aluminum and 13 1/2″ long.
7935A6 ..... $28.13

Welding Water Coolers


Three Gallon


Four Gallon

Cool welding guns and torches with these recirculating coolers. The outlet connects to a hose running to your welder or torch, and the inlet connects to a hose running back from your welder or torch. Coolers can also be used with MIG, TIG, resistance, and plasma welders. Inlet and outlet hose connections are left hand 5/8″-18 female. Coolers operate on 115 volts AC, 50/60 Hz, single phase, 5.9/4.7 amps. CE certified.

3-gal. Cooler—For guns and torches up to 500 amps. Maximum flow is 1.05 gpm.

4-gal. Cooler—For guns and torches up to 600 amps. Maximum flow is 1.47 gpm.

Replacement pump also works on Bernard, Dynaflux, Lincoln, and Miller water coolers.

Coolant can be used in place of water to prevent mineral deposit buildup and frozen lines. It is nonconductive.

Coolers and Replacement Pump

Cap., gal.	BTU/hr.	Lg.	Wd.	Ht.	Wt., lbs.		
3	13,000	23″	12″	13″	40	7993A12	$987.89
4	18,000	19″	15″	16″	38	7993A13	1,121.40
Replacement Pump						7993A23	297.70

Coolant

Size	For Min. Temp.	% Ethylene Glycol		
1-gal. Bottle	19°F	17%	7888A21	$12.33
1-gal. Bottle	-60°F	56%	7888A23	23.62

Welding Positioners


With 5″ Dia. Turntable


With 6″ Three-Jaw Chuck

For rotary workholding and positioning, these units tilt 0° to 90° in 15° increments. They have a forward and reverse switch, speed control, and a grounding stud. Note: Do not exceed the maximum load capacities listed (load capacity is reduced as the turntable or chuck is tilted).

Positioner with 5″ dia. turntable has three 1″ Lg.×1/4″ Wd. positioning slots. It includes a foot switch with on/off control and a 8-ft. power cord with three-prong plug. It operates on 115 volts AC, 50/60 Hz.

Positioner with 12″ dia. turntable and **positioner with 6″ three-jaw chuck** have a 1 1/2″ center hole for pass-through parts, a variable-speed foot switch, a remote control box, and a 6-ft. power cord with three-prong plug. They operate on 115 volts AC, 60 Hz.

12″ dia. turntable has eight 1/2″-13 threaded holes and concentric circles every 2″ for quick positioning of parts.

6″ three-jaw chuck clamps on the inside of pipe and on the outside of round items.

	Max. Horizontal Load Cap., lbs.	rpm	Max. Arc Ground Cap., Amps	Lg.	Wd.	Ht.	Wt., lbs.		
Positioners									
With 5″ Dia. Turntable	25	0.25-10	170	7″	5″	9″	15	7860A71	$1,023.18
With 12″ Dia. Turntable	100	0-10	300	12″	12″	12″	55	7860A21	2,195.00
With 6″ Three-Jaw Chuck	100	0-10	300	14″	12″	12″	60	7860A22	2,595.00
Accessories									
Optional 12″ Dia. Turntable for 7860A22								7860A31	299.00
Optional 6″ Three-Jaw Chuck for 7860A21								7860A32	630.00

Plastic Welding Rods

PVDF is also known as Kynar.



For Joining	Wt., lb.	Color		1/8" Dia. Lg., ft.		5/32" Dia. Lg., ft.		3/16" Dia. Lg., ft.	
ABS	1	Black	7889A129	185	$16.33	120	$16.33	80	$16.33
ABS	1	Off-White	7889A134	185	16.33	120	16.33	80	16.33
CPVC	1	Gray	7889A128	120	19.80	75	19.80	55	19.80
PVDF	1/8	Off-White	7889A135	20	16.87	12	16.87	8	16.87
Polycarbonate	1	Clear	7889A116	185	32.65	135	32.65	90	32.65
HMW and UHMW Polyethylene	1	Black	7889A126	210	13.27	135	13.27	90	13.27
HMW and UHMW Polyethylene	1	Off-White	7889A127	210	12.34	135	12.34	90	12.34
LDPE	1	Off-White	7889A117	210	10.20	135	10.20	90	10.20
HDPE	1	Off-White	7889A118	210	9.59	135	9.59	90	9.59
Polypropylene	1	Black	7889A119	220	11.02	140	11.02	95	11.02
Polypropylene	1	Off-White	7889A124	220	10.00	140	10.00	95	10.00
Polypropylene	1	White	7889A125	220	11.02	140	11.02	95	11.02
Type I PVC (Rigid)	1	Dark Gray	7889A111	140	10.41	90	10.41	60	10.41
Type I PVC (Rigid)	1	White	7889A113	145	11.33	95	11.33	65	11.33
Type I PVC (Rigid)	1	Clear	7889A112	145	13.06	95	13.06	65	13.06
Type II PVC (Flexible)	1	Light Gray	7889A114	145	10.82	95	10.82	65	10.82
Type II PVC (Flexible)	1	White	7889A115	145	12.86	95	12.86	65	12.86

Larger coils (5 lbs., 10 lbs., 15 lbs.) in diameters of 1/8", 5/32", or 3/16" (not available for PVDF) 7889A88

Plastic Welding Kits

Use hot compressed air to weld plastics. Kits include a welding torch, a combination tip for tack and continuous welds, a 12-ft. air hose with a 1/4 NPT male fitting, an air regulator, a pressure gauge, a 2-ft. cord with three-prong plug, and a carrying case. They operate on 120 volts AC. Use with the plastic welding rods sold on this page.

Standard—Includes a 450-watt heating element. It can also be used with nitrogen gas when welding polyethylene or polypropylene to prevent possible oxidation (air bubbles). Air compressor not included.

Variable Output—Include 450-watt, 550-watt, and 650-watt heating elements, plus an additional tip for continuous welds and an additional tip for tack welds. It can also be used with nitrogen gas when welding polyethylene or polypropylene to prevent possible oxidation (air bubbles). Air compressor not included.



Variable-Output with Built-In Compressor

Variable Output with Built-in Compressor—Air compressor produces 2½ cfm @ 3 psi. Includes 450-watt and 550-watt heating elements.

Optional high-speed tips heat the welding rod and the materials being welded at the same time to make fast, uniform welds.

	Temperature Range @ 3 psi		
Kits			
Standard	700° F	7890A3	$378.23
Variable Output	700° to 880° F	7890A45	536.67
Variable Output with Built-In Air Compressor	700° to 800° F	7885A12	1,504.34
Replacement Parts and Accessories			
Repl. Combination Tip		7890A25	42.00
Repl. 450-Watt Heating Element		7890A28	53.45
Repl. 550-Watt Heating Element		7890A29	53.45
Repl. 650-Watt Heating Element		7890A23	58.55
Optional High-Speed Tip for 1/8" and 5/32" Dia. Rod		7890A22	107.33
Optional High-Speed Tip for 3/16" Dia. Rod		7890A34	107.33

Hot-Air Gun Plastic Welding Kits

No compressor needed—a hot-air gun welds your plastics. Temperature adjusts in 10° increments and airflow adjusts from 4 to 16 cfm. Gun is 1,300 watts, operates on 120 volts AC, and has a 6-ft. cord with three-prong plug. Kit includes a high-speed tip for rods up to 1/4" dia., a tip for tack welds, a 3/8" reducer for attaching tips, a 5/8" reducer for concentrated airflow, a 1 1/4" shrink attachment for tubing and pipe, six pieces each of 1/8" Dia. x 9" Lg. ABS, HDPE, LDPE, polypropylene, and PVC welding rods, and a plastic carrying case. UL and C-UL listed.



Temperature Range @ 3 psi			
130° to 1,000° F		7890A13	$353.44

Portable Welding Tables

Speed production with this versatile, mobile welding surface.

Welding table adjusts from horizontal to 30° tilt, plus it folds for transport and storage. Height is adjustable from 26" to 32". The 30"x20" tabletop is made of steel and has three 1 1/8" wide slots for clamping, and rails on two sides that can be used as guides, stops, and clamping edges. Load capacity is 350 lbs. Weight is 44 lbs.

Optional connector plate joins two welding tables together for a larger work surface. It has three 1 1/8" wide slots for clamping and has through holes on each side for mounting options. Size is 30"x20". Weight is 16 lbs.



Welding Table	7891A1	$171.00
Optional Connector Plate	7891A2	61.04

Stick Electrode Ovens

Store electrodes at the optimum temperature to keep them dry and in prime condition. Ovens hold electrodes up to 18" long. They are made of steel and have an 8-ft. cord with three-prong plug. A light indicates the oven is on. CSA certified.

Portable oven is for transferring electrodes from a holding oven to the job site. It requires power during transit in order to maintain temperature.

Bench top ovens have an adjustable knob that controls the temperature.



Portable



Square Bench Top



Round Bench Top

	Cap., lbs.	AC Voltage	Watts	Temperature Setting, °F	Overall Ht.	Overall Wd.	Overall Dp.	Inside Ht.	Inside Wd.	Inside Dp.	Wt., lbs.		
Portable	50	120/240	150	275°	26"	13"	13"	19"	6"	6"	18	7912A11	$374.80
Square Bench Top	200	120	500	150° to 300°	16½"	16½"	24"	12½"	12½"	18½"	53	8005A15	905.45
Round Bench Top	450	120	1,000	150° to 550°	26"	25"	26"	19½" Dia.	—	20"	90	7876A13	1,078.80

Plastic Repair Kits & Torches

Plastic Welding Repair Kits



Weld stainless steel staple-like stakes into the surface of plastics to repair cracks.

Kit includes a resistance welder, 100 M-shaped stakes for tabs and narrow sections, 100 S-shaped stakes for flat surfaces, 100 V-shaped stakes for inside corners, and 100 W-shaped stakes for outside corners. Welder operates on 120 volts AC, 120 mW, and has a 4-ft. cord with plug. Temperature range is 575° to 875°F.

Repair Kit		
1666N1		$238.60

Replacement Stakes					
Shape		Pkg. of 25	Shape		Pkg. of 25
M	1666N3	$13.07	V	1666N4	$13.07
S	1666N2	13.07	W	1666N5	13.07

Butane Torches

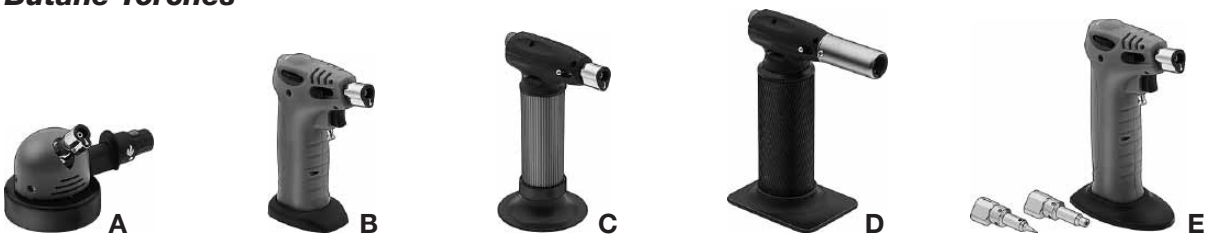

Solder, desolder, and handle light brazing with these self-ignite torches. Flame reaches temperatures up to 2500°F. Torches have a continuous-use lock. They have a refillable plastic fuel tank, except Styles A and D have a metal fuel tank. Butane is sold separately.

(A) The low profile of this torch saves bench space and the wide, heavy base adds stability. A knob allows for flame adjustment.

(E) Torch includes a solder tip (maximum temperature is 750°F) and a heat tip (maximum temperature is 930°F) for applications that require heat without an exposed flame.

Style E kit includes a Style E torch, a solder tip, a heat tip, a hot-knife tip, a heat-shrink attachment, a foam cutter, a 5″ wire cutter, 5″ needle-nose pliers, 60/40 tin/lead solder, and a sponge. Kit comes in a plastic case.

	Run Time, min.	Overall Size Ht.	Wd.	Dp.		
A	60	3½″	5¼″	3″	75195A26	$39.60
B	60	5½″	4″	1½″	75195A25	23.64
C	120	6¼″	3″	1½″	75195A16	29.71
D	30	6½″	5″	2″	75195A27	54.46

	Run Time, min.	Overall Size Ht.	Wd.	Dp.		
E	120	6½″	4″	1½″	75195A18	$52.80
Style E Kit					75195A17	73.71
Butane Gas (5.1 oz.)					7694A5	5.24

Propane Torches and Heat Guns



Torches have 1″-20 female threads for connection to fuel cylinders (please see page 3439).

Torches—Require a gas-torch lighter to ignite (please see page 3429).

Self-Ignite Torches—Have an on/off button to ignite.

Self-Ignite Heat Gun—Has an on/off button to ignite. Heats wide and thick surfaces. Can only be used for heat shrinking applications.

Styles A, C & D torches have approximately half the Btu output of standard propane torches for use in light duty applications. Style A has a pencil-point flame tip that concentrates the flame for detail work.

Style B torch has two burners with a short, wide flame that concentrates heat over a large area. The tip rotates 360° to put the heat exactly where you need it. Used for applications requiring high heat, this torch produces higher Btus per hour than standard propane torches.

Style E torches handle brazing and soldering, as well as heating jobs. A swirl-flame tip creates a small, tight flame for heat concentration and efficient gas usage.

Style F torch rotates 360° to put the heat exactly where you need it.

Style G torch heats wide and thick surfaces. Used for applications requiring high heat, it also produces higher Btus per hour than standard propane torches.

	Btu/hr.	Flame Temp., °F	For Soldering Copper Tube Dia. with Propane: Soft Soldering	Silver Soldering	For Soldering Copper Tube Dia. with Propylene: Soft Soldering	Silver Soldering		
Torches								
A Economy	2,600	3600°	—	—	—	—	8011A21	$16.07
B Double Burner High Output	3,600	3200°	4″	2″	—	—	7969A41	111.86
D Economy with Filled 14.1-oz. Cylinder	2,600	3600°	—	—	—	—	78175A61	45.16
Self-Ignite Torches								
C Economy	3,900	3600°	—	—	—	—	78245A25	39.30
D Economy with Filled 14.1-oz. Cylinder	3,900	3600°	—	—	—	—	78245A26	41.61
E Standard	8,000	3600°	3″	—	2″	1″	78155A31	56.84
E Standard with Adjustable Tip	8,000	3600°	3″	—	2″	1″	7834A35	75.67
F Swivel	7,100	3600°	3″	—	1″	1″	78525A41	50.12
G High Output	13,000	3600°	4″	—	3″	1″	7820A55	80.55
Self-Ignite Heat Gun								
H Torch Style	13,500	3600°					8015A45	82.65
Repair Kits								
Repair Kit for Style E (Includes a swirl-flame tip)							7834A71	24.41
Repair Kit for Style G (Includes a swirl-flame tip)							7820A75	24.90

Ultra-High-Output Propane Torches

Tackle roofing and other heavy duty heating applications. A gas-torch lighter is required for ignition. Hose connection is a 9/16″-18 left-hand male fitting. Torch includes a 4″ angled extension; tips are sold separately. Use only with propane. To connect torch to a propane tank, use 7976A adapters and hose sold on this page.



Torch

78505A22	$87.50

Torch Tips

Dia.	Max. Btu/hr.	Flame Temp., °F	Max. Flame Lg.	For Soldering Copper Tube Dia. Soft Soldering	Silver Soldering		
1 1/8″	43,000	2950°	8″	3″	2″	78505A23	$47.71
1 3/8″	57,000	2950°	11″	4″	3″	78505A24	52.85
2″	300,000	2950°	28″	6″	5″	78505A25	53.07

Propane Torches with Extended Handle

A 28″ long handle lets you heat, thaw, and sterilize in areas other torches can't reach. Torch is steel and includes a flame-adjusting valve, a torch lighter, a 10-ft. hose with 1/4 NPT female fitting, and a POL (CGA 510) 7/8″-14 male fitting to connect to a propane tank. Use only with propane.



Btu/hr.	Flame Temp., °F	Max. Flame Lg.	Max. Flame Dia.	O'all Lg.		
500,000	2000°	24″	12″	33″	78265A41	$92.31

Economy Propane Torches with Cylinder and Hose

Get into hard-to-reach areas. These adjustable-flame torches include a 4-ft. hose, a pressure regulator, a filled 14.1-oz. propane cylinder, and a belt clip. Use only with propane.

Torch requires a gas-torch lighter to ignite (please see page 3429).

Self-ignite torch has push-button ignition.



Btu/hr.	Flame Temp., °F	For Soft Soldering Copper Tube Dia.		
Torch				
2,600	3600°	1″	78615A21	$56.10
Self-Ignite Torch				
3,900	3600°	2″	78225A31	79.19

Quick-Connect Propane Torch Kits

Save time by quickly connecting and disconnecting your propane torch tips to get the right output for your job. Kit can also be used with Apachi, HPG, and propylene. Note: Specifications shown in the tables are for use with propane.

Kit includes a handle, 1/2″ and 1″ dia. tips, a 12-ft. hose with 9/16″-18 left-hand female fitting, and a torch lighter. It also has a pressure regulator with POL (CGA 510) for connecting to a propane tank and a 9/16″-18 left-hand male outlet that connects to the hose.



Torch Kit

Flame Temp., °F		
3000°	78365A11	$328.13

Replacement Tips

Dia.	Btu/hr.	For Soldering Copper Tube Dia. Soft Soldering	Silver Soldering		
7/16″	5,300	1″	1/2″	78365A12	$90.69
1/2″	8,400	1 1/2″	3/4″	78365A13	109.49
3/4″	23,700	2 1/2″	1 1/4″	78365A14	114.75
1″	45,300	4″	2″	78365A15	137.67

Oxygen/Propylene Torches

Get flame temperatures from these torches that are capable of cutting, welding, and brazing steel up to 3/16″ thick. Torch has adjustable oxygen flow and includes a 4 1/2-ft. hose, a filled 1.4-oz. oxygen cylinder, a filled 14.1-oz. propylene cylinder, five brazing rods, a torch lighter, and a cylinder stand.



Flame Temp., °F		
5000°	78645A11	$107.48

Filled Fuel Cylinders

Cylinders have a 1″-20 male fuel outlet valve. They are not refillable. Size is 3″ Dia. x 10 5/8″ Ht., except the propane 16-oz. cylinder is 3 7/8″ Dia. x 7 3/4″ Ht. All meet D.O.T. 39.

Oxygen—Use with propylene to increase flame temperature.

For Gas	Cap., oz.	Flame Temp., °F Without Oxygen	With Oxygen		1-11	12-Up
Propane	14.1	3600°	4600°	8003A14	$7.97	$7.18
Propane	16	3600°	4600°	8003A24	9.21	8.00
Propylene	14.1	3700°	5000°	8003A45	12.35	11.15
Oxygen	1.4	—	—	7817A48	12.32	10.53

Empty Propane Tanks

Tanks are manufactured in accordance with D.O.T. regulations. All are steel with a rust-resistant painted finish.

Tanks **with gas capacity up to 40 lbs.** have a Type 1 valve with an overfill prevention device. They have an internal female POL (CGA 510) connection as well as external 1 5/16″ Acme threads for Type 1 connections. Meet NFPA 58 requirements.

Tank **with gas capacity of 100 lbs.** has a female POL (CGA 510) valve.



Gas Capacity lbs.	gal.	Dia.	Ht.	Empty Tank Wt., lbs.		
4.25	1.0	9″	12″	11	79955A32	$77.79
11	2.6	9″	17″	13	79955A34	82.07
20	4.7	12 1/2″	18″	17	79955A36	45.18
30	7.1	12 1/2″	24″	24	79955A38	77.91
40	9.4	12 1/2″	29 1/2″	29	79955A39	115.62
100	23.6	15″	49″	68	79955A42	176.07

Torch-to-Propane Tank Adapters and Hose


Tank-to-Hose Adapter


Torch-to-Hose Adapter

Adapters and hose (each sold separately) let you convert a propane torch (which normally connects to a fuel cylinder) for use with a propane tank. Commonly used for extended-use applications or when a propane tank cannot be moved.

Tank-to-hose adapter has a male POL (CGA 510) fitting that connects to a propane tank and a 9/16″-18 left-hand male fitting that connects to the hose.

Torch-to-hose adapter has a 1″-20 male fitting that connects to a propane torch and a 9/16″-18 left-hand male fitting that connects to the hose.

Hose has a 9/16″-18 left-hand female nut on both ends.

Hose with adapters includes a 12-ft. hose with a permanently attached tank-to-hose and a torch-to-hose adapter.

Adapters		
Tank-to-Hose	7976A21	$10.95
Torch-to-Hose	7976A22	16.51
Hose		
12 ft.	7976A34	41.46
24 ft.	7976A35	77.92
Hose with Adapters	7976A24	63.30

Propane Tank Refill Indicator Gauges

Know at a glance if your propane gas supply is running low. Gauge has a 1 5/16″ female Type 1 Acme inlet connection and a female POL (CGA 510) outlet connection as well as external 1 5/16″ Acme threads. Gauge works with tanks manufactured after 1995.



76775A2	$26.65

Propane Tanks & Brazing Alloys

Valves for Propane Tanks



Valves work with standard propane tanks. Do not use them with lift-truck propane tanks. Meet NFPA 58 requirements.

Valves **for 10- to 40-lb. tank capacity** are Type 1 and have an overflow protection device. Inlet is 3/4 NPT male. Outlet has both an external 1 5/16" Acme Type 1 connection and an internal female POL (CGA 510) connection.

Valve **for 100-lb. tank capacity** has a 3/4 NPT male inlet and a female POL (CGA 510) outlet connection.

For Tank Cap., lbs.	Dip Tube Lg.		
For Steel Tanks			
20	4"	65945A13	$19.26
30	4 3/4"	65945A14	26.40
40	6 1/2"	65945A15	30.24
100	11 1/2"	65945A16	46.38
For Aluminum Tanks			
10	4"	65945A13	19.26
20	4 3/4"	65945A14	26.40
100	11 1/2"	65945A16	46.38

Empty Propane Tanks for Lift Trucks



Tanks come unfilled and meet D.O.T. regulations. They include an on/off valve that has a coupler for the fuel line, a pressure relief valve, an overflow protection device, and a fuel-level gauge.

Steel tanks meet D.O.T. 4BA240. **Aluminum** tanks meet D.O.T. 4E240.

Gas Capacity lbs.	gal.	Dia.	Ht.		
Steel					
20	4.7	12 1/2"	19 1/2"	7777A17	$213.30
33.5	7.9	12 1/2"	27"	7777A11	185.71
43.5	10.3	12 1/2"	33"	7777A14	228.56
Aluminum					
20	4.7	12 1/2"	20 1/2"	7777A27	279.42
33.5	7.9	12 1/2"	28"	7777A21	239.98
43.5	10.3	12 1/2"	34 1/2"	7777A24	323.81

Valves and Connectors for Lift-Truck Propane Tanks



Valve



Valve Connector



Hose Connector

A complete connection from a propane tank to your lift-truck fuel hose requires a valve, a valve connector, and a hose connector (each sold separately). Valve and connectors are made of brass.

Valve—Permits withdrawal of liquid or vapor. It has a 3/4 NPT male inlet for the propane tank and a 3/8 NPT male outlet for the valve connector.

Valve Connector—One end attaches to the valve and the other end to the hose connector.

Hose Connector—Creates a quick disconnect. One end attaches to the valve connector and the other to the lift-truck fuel hose.

		Each
Valve and Connectors		
Valve	77445A81	$29.27
Valve Connector	77445A82	22.74
Hose Connector	77445A83	25.53
Replacement Parts		Pkg. of 10
Washers for Valve Connector	77445A91	$4.55
O-Rings for Valve Connector	77445A92	3.10

Brazing Alloys



Make stronger bonds than solder without melting the base material. These brazing alloys join most metals and alloys.

Coils and **rods** meet Fed. Spec. QQB-654A and AWS standards, unless noted. **Rings** meet AWS standards.

Alloys without cadmium are ROHS compliant.

Composition: Ag = Silver, Cu = Copper, Zn = Zinc, Cd = Cadmium, Sn = Tin, and Ni = Nickel.

Composition % Ag	Cu	Zn	Cd	Sn	Ni	Melting Temp., °F	Size	Ht.	1.1-oz. Coil Lg., ft.			5.5-oz. Coil Lg., ft.		
Alloys with Cadmium														
Gap Filling														
35	26	21	18	—	—	1125° to 1295°	3/64" Dia.	—	9 1/2	7675A4	$50.43	48	7675A2	$226.51
35	26	21	18	—	—	1125° to 1295°	1/16" Dia.	—	5	7675A3	50.43	27	7675A1	226.51
General Purpose														
45	15	16	24	—	—	1125° to 1145°	3/64" Dia.	—	9 1/2	7676A7	61.40	48	7676A2	281.57
45	15	16	24	—	—	1125° to 1145°	1/16" Dia.	—	5	7676A6	61.40	27	7676A1	281.57
45	15	16	24	—	—	1125° to 1145°	1" Wd.	0.005"	3	7676A8	72.24	16	7676A3	335.14
45	15	16	24	—	—	1125° to 1145°	1" Wd.	0.01"	1 1/2	7676A9	72.24	8	7676A5	335.14
High Strength														
50	15.5	16.5	18	—	—	1160° to 1175°	3/64" Dia.	—	9 1/2	7673A5	66.87	48	7673A2	308.97
50	15.5	16.5	18	—	—	1160° to 1175°	1/16" Dia.	—	5	7673A4	66.87	27	7673A1	308.97
50	15.5	16.5	18	—	—	1160° to 1175°	1/2" Wd.	0.005"	6 1/2	7617A14	77.71	—	—	—
50	15.5	16.5	18	—	—	1160° to 1175°	5/8" Wd.	0.005"	5	7617A15	77.71	—	—	—
50	15.5	16.5	18	—	—	1160° to 1175°	3/4" Wd.	0.005"	4	7617A16	77.71	—	—	—
50	15.5	16.5	18	—	—	1160° to 1175°	1" Wd.	0.005"	3	7673A6	77.71	16 1/2	7673A3	378.18
Corrosion Resistant														
50	15.5	15.5	16	—	3	1170° to 1270°	3/64" Dia.	—	9 1/2	7674A5	66.87	48	7674A2	308.97
50	15.5	15.5	16	—	3	1170° to 1270°	1/16" Dia.	—	5	7674A4	65.66	27	7674A1	303.38
50	15.5	15.5	16	—	3	1170° to 1270°	1" Wd.	0.005"	3	7674A6	74.10	16 1/2	7674A3	355.03
Alloys without Cadmium														
General Purpose														
45	30	25	—	—	—	1225° to 1370°	3/64" Dia.	—	9 1/2	7761A14	61.40	48	7761A12	281.57
45	30	25	—	—	—	1225° to 1370°	1/16" Dia.	—	5	7761A13	61.40	27	7761A11	281.57
For Tight Gaps														
45	27	25	—	3	—	1185° to 1260°	3/64" Dia.	—	9 1/2	76975A63	61.40	48	76975A61	281.57
45	27	25	—	3	—	1185° to 1260°	1/16" Dia.	—	5	76975A64	61.40	27	76975A62	281.57
Corrosion Resistant for 300 Series Stainless Steel														
50	20	28	—	—	2	1220° to 1305°	3/64" Dia.	—	9 1/2	76965A64	66.87	48	76965A61	308.97
50	20	28	—	—	2	1220° to 1305°	1/16" Dia.	—	5	76965A65	66.87	27	76965A62	308.97
50	20	28	—	—	2	1220° to 1305°	1" Wd.	0.005"	3	76965A66	74.10	16	76965A63	355.03
High Strength														
56	22	17	—	5	—	1145° to 1205°	3/64" Dia.	—	9 1/2	76955A71	57.87	48	76955A61	262.19
56	22	17	—	5	—	1145° to 1205°	1/16" Dia.	—	5	76955A72	57.87	27	76955A62	262.19
56	22	17	—	5	—	1145° to 1205°	1" Wd.	0.005"	3	76955A73	64.30	16	76955A63	297.86
For Furnace Brazing														
72	28	—	—	—	—	1,435°	1/32" Dia.	—	19 1/2	7795A21	97.05	—	—	—
72	28	—	—	—	—	1,435°	3/64" Dia.	—	9	7795A22	97.05	—	—	—

(Continued on following page)

Brazing Alloys *(Continued from previous page)*

Composition: Ag = Silver, Cu = Copper, Zn = Zinc, Sn = Tin, P = Phosphorous, and Al = Aluminum.



Composition %							Rods					Rings			
Ag	Cu	Zn	Sn	P	Al	Melting Temp., °F	Size	Lg.	Ht.	Pkg. Qty.	Pkg.	For Tube ID	Pkg. Qty.		Pkg.
Alloys without Cadmium (Cont.)															
For Copper															
2	91	—	—	7	—	1190° to 1450°	1/8" Wd.	20"	0.05"	10	7795A27★ $11.06	—	—	—	—
6	87	—	—	7	—	1190° to 1335°	1/8" Wd.	20"	0.05"	10	7795A31★ 22.14	—	—	—	—
For Joining Aluminum to Copper															
—	—	85	—	—	15	720° to 845°	5/64" Dia.	20"	—	13	7795A23■ 8.93	—	—	—	—
Gap Filling for Copper															
5	89	—	—	6	—	1190° to 1500°	1/16" Dia.	20"	—	12	7795A18 29.64	—	—	—	—
5	89	—	—	6	—	1190° to 1500°	1/16" Dia.	20"	—	50	7795A17 104.05	—	—	—	—
5	89	—	—	6	—	1190° to 1500°	3/32" Dia.	20"	—	10	7795A28■ 22.18	—	—	—	—
5	89	—	—	6	—	1190° to 1500°	1/8" Dia.	20"	—	10	7795A29■ 37.89	—	—	—	—
5	89	—	—	6	—	1190° to 1500°	1/8" Wd.	20"	0.05"	7	7795A14 29.64	—	—	—	—
5	89	—	—	6	—	1190° to 1500°	1/8" Wd.	20"	0.05"	28	7795A16 104.05	—	—	—	—
High Strength for Copper															
15	80	—	—	5	—	1190° to 1480°	1/16" Dia.	20"	—	12	7810A15 66.78	1/4"	10	7795A24	$6.00
15	80	—	—	5	—	1190° to 1480°	1/16" Dia.	20"	—	50	7810A14 233.73	1/2"	10	7795A25	8.00
15	80	—	—	5	—	1190° to 1480°	1/8" Wd.	20"	0.05"	7	7810A19 66.78	3/4"	10	7795A26	12.00
15	80	—	—	5	—	1190° to 1480°	1/8" Wd.	20"	0.05"	28	7810A11 233.73	—	—	—	—
Flux-Coated General Purpose															
45	30	25	—	—	—	1175° to 1235°	1/16" Dia.	18"	—	8	76935A11 180.74	—	—	—	—
Flux-Coated High Strength for Stainless Steel and Nickel Alloys															
56	22	17	5	—	—	1140° to 1200°	1/16" Dia.	18"	—	8	76935A12 219.74	—	—	—	—

★Does not meet Fed. Spec. ■ Does not meet Fed. Spec or AWS.

Brazing Alloy Assortments

Everything you need to start brazing. Assortment includes a 1.1-oz. coil of 1/16" Dia. × 5-ft. Lg. 45/30/25 silver/copper/zinc alloy without cadmium for joining dissimilar metals (melting temperature is 1225° to 1370°F); 0.16-oz. rod (three 10" Lg. × 1/8" Wd. × 0.05" Thick.) of 15/80/5 silver/copper/phosphorous alloy without cadmium for copper, brass, and bronze (melting temperature is 1190° to 1475°F); and a 4-oz. jar of flux. Brazing alloys and flux are ROHS compliant.

7666A1 ..... $89.10

Brazing Alloys and Flux for Aluminum

Join aluminum to aluminum alloys. Includes a 0.4-oz. coil of 1/16" Dia. × 8-ft. Lg. 88.5/11.5 aluminum/silicon brazing alloy without cadmium (melting temperature is 1070°F) and a 0.5-oz. tube of liquid flux. Both are ROHS compliant.

7797A11 ..... $10.40

Brazing Stop-Off

Prevent the flow of flux and metal to unwanted areas during brazing. Color is green.



0.3-oz. Pen ..... **1015N1** $24.25

Brazing Alloys for Carbide Tool Inserts

Also known as trimetal brazing strips, these 1" Wd. × 0.015" Thick. strips have silver with nickel alloy sides and a copper core. Use for brazing carbide tool inserts as well as steel, copper, brass, and bronze.

Alloys **without cadmium** are ROHS compliant.



	Melting Temp., °F	1.1-oz. (13" Lg.)		5.5-oz. (68" Lg.)	
With Cadmium	1170° to 1270°	**7759A11**	$56.10	**7759A14**	$238.55
Without Cadmium	1220° to 1305°	**7759A12**	56.10	**7759A68**	238.31

Brazing Flux

Use this flux with silver brazing alloys to clean and prepare surfaces. Residue washes off with hot water. Do not use it with titanium. Flux is ROHS compliant.

White flux is for use with steel, stainless steel, copper, brass, and bronze brazing alloys. It meets Fed. Spec. O-F-499, Type B; AWS A5.31-92, Type FB3A; and AMS3410.

Black flux is boron modified and is for use with nickel and carbide brazing alloys. It meets Fed. Spec. O-F-499, Type B; AWS A5.31-91, Type FB3C; and AMS3411.



	Max. Temp., °F	½-lb. Jars		1-lb. Jars	
White	1600°	**7693A1**	$8.86	**7693A2**	$13.03
Black	1700°	**7645A41**	12.77	**7645A51**	17.80

Solder without Flux

Without a flux core, this solder allows you to choose the flux that works best for your application. Meets ASTM specifications. For flux, please see page 3443.

Bar solder is commonly used in solder melting pots.

Composition: Sn = Tin, Pb = Lead, and Ag = Silver.



Coils

Composition %			Melting Temp., °F	Dia.	1 lb.		5 lbs.	
Sn	Pb	Ag						
High-Melting-Point for Electronics and Electrical Applications								
1	97.5	1.5	580°	0.062"	**7667A43**	$41.41	**7667A44**	$186.34
1	97.5	1.5	580°	0.125"	**7667A23**	41.08	**7667A24**	184.86
For Machine Soldering								
30	70	—	480°	0.062"	**7667A45**	22.32	**7667A46**	100.44
30	70	—	480°	0.125"	**7667A25**	22.03	**7667A26**	99.14
For Torch Soldering								
40	60	—	460°	0.062"	**7667A34**	26.89	**7667A41**	121.00
40	60	—	460°	0.125"	**7667A14**	28.59	**7667A21**	128.66
For Stainless Steel								
45	54	1	410°	0.125"	**7656A4**	47.54	—	—
General Purpose								
50	50	—	420°	0.062"	**7667A32**	31.41	**7667A42**	141.34
50	50	—	420°	0.125"	**7667A12**	31.08	**7667A22**	139.86
For Electronics and Electrical Applications								
60	40	—	375°	0.025"	**7667A52**	39.16	—	—
60	40	—	375°	0.031"	**7667A51**	38.77	—	—
60	40	—	375°	0.05"	**7667A53**	36.76	—	—
60	40	—	375°	0.062"	**7667A31**	36.57	**7667A35**	164.56
60	40	—	375°	0.093"	**7667A54**	36.43	—	—
60	40	—	375°	0.125"	**7667A11**	36.24	**7667A15**	163.08
63	37	—	360°	0.02"	**7657A5**	40.00	—	—
63	37	—	360°	0.031"	**7657A4**	41.00	—	—
63	37	—	360°	0.05"	**7657A8**	39.62	—	—
63	37	—	360°	0.062"	**7657A6**	37.83	**7657A7**	170.23
63	37	—	360°	0.093"	**7657A9**	39.30	—	—
63	37	—	360°	0.125"	**7657A1**	39.04	**7657A2**	175.68

Bars

Composition %			Melting Temp., °F	Lg.	Wd.	Ht.	1 lb.	
Sn	Pb	Ag						
High-Melting-Point for Electronics and Electrical Applications								
1	97.5	1.5	580°	7"	3/4"	1/2"	**7663A15**	$35.54
For Machine Soldering								
30	70	—	480°	9"	3/4"	1/2"	**7663A17**	20.18
For Torch Soldering								
40	60	—	460°	6"	1"	1/2"	**7663A14**	25.20
General Purpose								
50	50	—	420°	6"	1"	1/2"	**7663A12**	29.95
For Electronics and Electrical Applications								
60	40	—	375°	7"	1"	1/2"	**7663A11**	35.26
63	37	—	360°	7"	1"	1/2"	**7657A3**	36.83

Solder with Flux Core



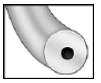

Single Flux Core



Five Flux Cores

No need to add flux—it's in the core of this solder. Solder **with five flux cores** allows fast soldering that uses less solder and transmits less heat to the joint.

Acid flux has strong cleaning action, but leaves corrosive residue that washes away with water.

Rosin flux is quick acting with strong cleaning action, but leaves residue that requires flux remover.

Easy-clean flux residue washes away with water.

No-clean flux leaves minimal residue so there's no cleanup.

High-melting-point with rosin flux meets J-STD-004 and J-STD-006.

Composition: Sn = Tin, Pb = Lead, and Ag = Silver.

Composition % Sn	Pb	Ag	Dia.	Melting Temp., °F	Wt.		
With Single Flux Core							
Acid Flux for Electronics and Electrical Applications							
30	70	—	0.125″	480°	1 lb.	7658A6	$29.34
40	60	—	0.125″	460°	1 lb.	7658A1	29.62
40	60	—	0.125″	460°	5 lbs.	7658A2	133.29
50	50	—	0.125″	420°	1 lb.	7658A4	30.66
50	50	—	0.125″	420°	5 lbs.	7658A5	137.97
Rosin Flux for Electronics and Electrical Applications							
40	60	—	0.062″	460°	1 lb.	7659A11	19.99
40	60	—	0.093″	460°	1 lb.	7659A1	21.45
40	60	—	0.093″	460°	5 lbs.	7659A2	96.52
50	50	—	0.062″	420°	1 lb.	7659A12	24.74
50	50	—	0.094″	420°	1 lb.	7659A54	23.02
50	50	—	0.125″	420°	1 lb.	7659A55	21.90
60	40	—	0.025″	370°	1 lb.	7659A15	30.51
60	40	—	0.031″	370°	½ oz.	7659A42	2.74
60	40	—	0.031″	370°	1 lb.	7659A5	29.93
60	40	—	0.05″	370°	1¼ oz.	7659A41	4.29
60	40	—	0.05″	370°	1 lb.	7659A14	28.86
60	40	—	0.062″	370°	1 lb.	7659A3	29.47
60	40	—	0.062″	370°	5 lbs.	7659A4	132.62
60	40	—	0.063″	370°	8 oz.	7659A53	16.62
60	40	—	0.093″	370°	1 lb.	7659A13	27.83
60	40	—	0.125″	370°	8 oz.	7659A52	14.40
60	40	—	0.125″	370°	1 lb.	7659A51	24.05
62	36	2	0.031″	370°	1 lb.	7659A74	62.89
63	37	—	0.015″	360°	1 lb.	7659A64	59.50
63	37	—	0.025″	360°	1 lb.	7659A67	30.71
63	37	—	0.031″	360°	1 lb.	7659A65	31.09
63	37	—	0.05″	360°	1 lb.	7659A68	29.83
63	37	—	0.062″	360°	1 lb.	7659A66	30.31
Easy-Clean Flux for HVAC Applications							
63	37	—	0.015″	360°	1 lb.	7756A3	62.36
63	37	—	0.02″	360°	1 lb.	7756A1	32.30
63	37	—	0.031″	360°	1 lb.	7756A2	33.94
No-Clean Flux for HVAC Applications							
62	36	2	0.031″	370°	1 lb.	7758A4	60.56
63	37	—	0.015″	360°	1 lb.	7758A6	56.48
63	37	—	0.02″	360°	1 lb.	7758A1	39.65
63	37	—	0.031″	360°	1 lb.	7758A2	32.24
63	37	—	0.05″	360°	1 lb.	7758A3	31.33
High-Melting-Point with Rosin Flux for Electronics and Electrical Applications							
5	93	2	0.05″	580°	1 lb.	7685A12	53.67
5	93	2	0.062″	565°	1 lb.	7685A11	53.82
With Five Flux Cores							
Rosin Flux for Electronics and Electrical Applications							
60	40	—	0.025″	375°	1 lb.	7744A3	42.78
60	40	—	0.032″	375°	1 lb.	7744A6	40.92
60	40	—	0.05″	375°	1 lb.	7744A5	40.27
60	40	—	0.062″	375°	1 lb.	7744A1	40.70
62	36	2	0.025″	370°	1 lb.	7687A63	106.62
62	36	2	0.062″	370°	1 lb.	7687A61	99.62
63	37	—	0.015″	360°	1 lb.	7745A4	78.00
63	37	—	0.025″	360°	1 lb.	7745A3	44.41
63	37	—	0.05″	360°	1 lb.	7745A5	42.84
63	37	—	0.062″	360°	1 lb.	7745A1	42.43

Solder Spool Holders



Keep your solder spools organized. Holder is low-static plastic and has an adhesive base. It holds up to 1 lb. of solder.

7706A67 ..... $40.43

Lead-Free Solder



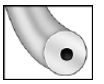

With Flux Core



All solder is ROHS compliant.

Coil solder without flux core allows you to choose the flux that works best for your application (please see page 3443).

Coil solder *for drinking water* meets NSF/ANSI Standard 61.

Coil solder with flux core does not need additional flux.

Acid flux has strong cleaning action, but leaves corrosive residue that washes away with water.

Rosin flux is quick acting with strong cleaning action, but leaves residue that requires flux remover.

No-clean flux leaves minimal residue so there's no cleanup.

Easy-clean flux residue washes away with water.

Bar solder without flux core is triangular (approximately ½″ Ht. sides×1″ Wd. at base, except solder *for electronics and electrical applications* is rectangular and ½″ Ht.×1″ Wd.×14″ Lg.). *For food service equipment* is 11½″ Lg. and *for high-temperature applications* is 12″ Lg.

Composition: Sn = Tin, Ag = Silver, Sb = Antimony, and Cu = Copper.

Composition % Sn	Ag	Sb	Cu	Dia.	Melting Temp., °F	Wt.		
Coil Solder without Flux Core								
For Drinking Water								
95	0.2	—	4.8	0.118″	440°	1 lb.	76805A61	$27.60
95	0.2	—	4.8	0.118″	440°	5 lbs.	76805A62	125.45
For Electronics and Electrical Applications								
96.5	3	—	0.5	0.02″	420°	1 lb.	7872A21	130.58
96.5	3	—	0.5	0.032″	420°	1 lb.	7872A22	122.68
96.5	3	—	0.5	0.062″	420°	1 lb.	7872A23	108.21
96.5	3	—	0.5	0.093″	420°	1 lb.	7872A24	105.58
97	—	—	3	0.031″	445°	1 lb.	7827A11	43.03
97	—	—	3	0.125″	445°	1 lb.	7827A15	42.69
For Food Service Equipment								
100	—	—	—	0.125″	450°	1 lb.	7656A1	57.68
For HVAC Applications								
96	4	—	—	0.062″	430°	1 lb.	7791A43	128.02
96	4	—	—	0.125″	430°	1 lb.	7791A11	127.42
For High-Temperature Applications								
95	—	5	—	0.062″	460°	1 lb.	7668A6	37.16
95	—	5	—	0.125″	460°	1 lb.	7668A1	35.44
Coil Solder with Flux Core								
Acid Flux for Electronics and Electrical Applications								
97	—	—	3	0.031″	445°	1 lb.	7844A4	43.28
97	—	—	3	0.125″	445°	1 lb.	7844A6	42.93
Rosin Flux for Electronics and Electrical Applications								
96.5	3	—	0.5	0.02″	420°	1 lb.	7872A31	133.21
96.5	3	—	0.5	0.031″	420°	⅜ oz.	7872A91	6.55
96.5	3	—	0.5	0.031″	420°	1 lb.	7872A46	112.16
96.5	3	—	0.5	0.04″	420°	⅝ oz.	7872A57	19.60
96.5	3	—	0.5	0.062″	420°	1 lb.	7872A32	106.89
96.5	3	—	0.5	0.093″	420°	1 lb.	7872A33	104.26
97	—	—	3	0.031″	445°	1 lb.	7857A12	40.93
97	—	—	3	0.125″	445°	1 lb.	7857A16	40.25
No-Clean Flux for Electronics and Electrical Applications								
96.5	3	—	0.5	0.02″	420°	1 lb.	7872A41	135.84
96.5	3	—	0.5	0.031″	420°	1 lb.	7872A42	127.95
96.5	3	—	0.5	0.062″	420°	1 lb.	7872A43	110.84
96.5	3	—	0.5	0.093″	420°	1 lb.	7872A44	108.21
Acid Flux for HVAC Applications								
96	4	—	—	0.125″	430°	1 lb.	7791A22	130.79
Rosin Flux for HVAC Applications								
96	4	—	—	0.031″	430°	1 lb.	7859A23	130.89
96	4	—	—	0.062″	430°	1 lb.	7859A26	130.74
96	4	—	—	0.125″	430°	1 lb.	7859A25	129.66
Rosin Flux for High-Temperature Applications								
95	—	5	—	0.031″	460°	1 lb.	7830A21	38.42
95	—	5	—	0.125″	460°	1 lb.	7830A25	37.98
Easy-Clean Flux for High-Temperature Applications								
95	—	5	—	0.031″	460°	1 lb.	7843A42	38.09
95	—	5	—	0.125″	460°	1 lb.	7843A46	38.13
No-Clean Flux for High-Temperature Applications								
95	—	5	—	0.031″	460°	1 lb.	7837A34	38.53
95	—	5	—	0.125″	460°	1 lb.	7837A38	38.53
Bar Solder without Flux Core								
For Electronics and Electrical Applications								
97	0.2	0.8	2	———	465°	1 lb.	76805A73	38.60
For Food Service Equipment								
100	—	—	—	———	450°	1 lb.	8886K11	54.55
For High-Temperature Applications								
95	—	5	—	———	460°	1 lb.	7668A16	41.67

Solder for Aluminum

Solder aluminum to itself and to its alloys. 7664A31, 7664A21, and 7664A11 require flux (please see 7696A on this page). Solder is ROHS compliant.

Composition: Sn = Tin, Zn = Zinc, and Al = Aluminum.

Composition % Sn	Zn	Al	Melting Temp., °F	Dia.	Lg.	No. of Pcs.	Wt., oz.		
—	98	2	760°	0.125″	18″	37	32	7664A4	$35.60
60	40	—	635°	0.125″	26ft.	1	16	7664A31	33.53
60	40	—	635°	0.281″	13½″	1	3.4	7664A21	9.44
60	40	—	635°	0.562″	13½″	1	13.6	7664A11	39.28

Paste Solder

Use this paste in hard-to-reach areas—apply a thin coat of paste to the surfaces you want joined, apply heat, and wipe with a damp cloth. Paste is made of finely powdered solder combined with a flux paste.

Composition: Sn = Tin, Pb = Lead, and Sb = Antimony.

Composition % Sn	Pb	Sb	Melting Temp., °F	Wt., lb.		
ROHS Compliant for Steel, Cast Iron, Nickel Alloys, Copper, Brass, Bronze, and Zinc						
95	—	5	500°	1	7774A15	$65.86
For Steel, Copper, Brass, Bronze, and Zinc						
50	50	—	420°	1	7683A3	77.58

Soldering Flux for Electronics

Clean and prepare electrical assemblies and printed circuit boards for soldering. Flux meets IPC J-STD-004 and is ROHS compliant.

Rosin—The more activated the flux, the stronger the cleaning action. The stronger the cleaning action, the more residue left over. The residue requires flux remover.

Easy Clean—Residue washes away with water.

No Clean—Leaves minimal residue so there's no cleanup.



Needle-Point Pen

Size		
Rosin—Nonactivated		
0.3-oz. Chisel Pen (0.2″ tip size)	7893A22	$7.87
1-gal. Bottle	7798A14	45.62
Rosin—Mildly Activated		
0.2-oz. Needle-Point Pen (0.013″ tip size)	7799A11	9.49
1-gal. Bottle	7798A16	49.07
Rosin—Fully Activated		
1-gal. Bottle	7798A12	48.49
Easy Clean		
0.3-oz. Chisel Pen (0.2″ tip size)	7893A23	7.79
16-oz. Bottle	7755A1	12.93
32-oz. Bottle	7755A2	18.47
1-gal. Bottle	7755A3	50.79
No Clean		
0.3-oz. Chisel Pen (0.2″ tip size)	7893A21	8.19
Lead-Free No Clean		
0.3-oz. Chisel Pen (0.2″ tip size)	7893A24	8.88
Empty Dispenser		
0.2-oz. Needle-Point Pen (0.013″ tip size)	7799A12	6.76

Flux Removers

For applications such as printed circuit boards, switches, and heat sinks, these removers get rid of any residue left behind by flux. They are ROHS compliant. **Pens** are for spot cleaning and precise removal.

Size		
No Clean		
0.3-oz. Chisel Pen (0.2″ tip size)	7655A21	$11.79
12-oz. Bottle	7655A12	20.52
Lead Free		
0.3-oz. Chisel Pen (0.2″ tip size)	7655A25	11.36

Soldering Coppers



Chisel Head



Pointed Head with Wood Handle

Traditionally used for sheet metal work, heat the heads of these coppers with an external flame source and they store enough heat to complete long joints. Add a head to a handle (each sold separately) to create your soldering copper.

Note: Coppers are often used in pairs; the weight stamped on each copper is the weight per pair, not the weight per tool as shown in table.

Wt., lbs.	Tip Wd.	Chisel Heads		Pointed Heads		Wood Handles	
½	¾″	7739A26	$34.30	7739A22	$34.30	7599A5	$7.29
¾	⅞″	7739A35	40.20	7739A21	40.20	7599A1	7.29
1	1″	7739A34	46.30	7739A19	46.30	7599A1	7.29
1½	1⅛″	7739A33	60.40	7739A18	60.40	7599A1	7.29
2	1¼″	7739A32	73.20	7739A17	73.20	7599A1	7.29

Soldering Flux for Metals

Use this water-soluble flux to clean and prepare most metals for soldering. Do not use it on magnesium or electronics.

Rubyfluid—Causes solder to flow in a thin film to create strong joints with minimal solder use. Product cannot be sold in California, Louisiana, or Vermont.

For Plumbing—Flux cleans while soldering. *Liquid* can be used for non-potable (nondrinking) water applications. *Paste* meets MIL-F-4995, Type II and NSF/ANSI Standard 61 for drinking water.

Fast-Flushing—Provides the fastest removal of flux from pipe lines. It meets NSF/ANSI Standard 61 for drinking water and ASTM B813.

Nokorode—Protects the solder joint from corrosion. It meets NSF/ANSI Standard 61 for drinking water, A-A-51145, and MIL-FS-6872A.

For Aluminum—Meets DOD 1866 and is ROHS compliant.

For Stainless Steel—Meets A-A-51145C Type IIB. ROHS compliant. Do not use with stainless steel tubing.

Size			Size		
Rubyfluid			**Fast-Flushing Paste**		
16-oz. Bottle	7699A1	$4.28	4-oz. Jar	77005A71	$8.71
32-oz. Bottle	7699A2	6.58	**Nokorode Paste**		
1-gal. Bottle	7699A3	19.74	1.7-oz. Jar	7698A1	3.65
Liquid for Plumbing			16-oz. Jar	7698A2	16.57
16-oz. Bottle	7765A21	15.09	**Paste for Aluminum**		
32-oz. Bottle	7765A22	23.21	4-oz. Jar	7696A2	18.14
1-gal. Bottle	7765A23	69.63	16-oz. Jar	7696A1	49.89
Paste for Plumbing			**Liquid for Stainless Steel**		
2-oz. Jar	7765A16	3.61	16-oz. Bottle	7695A1	14.71
4-oz. Jar	7765A14	5.83	32-oz. Bottle	7695A4	21.02
16-oz. Jar	7765A15	17.49	1-gal. Bottle	7695A3	55.70

Cordless Soldering Irons



Economy



Quick Charge and Standard



Extended Charge

Economy iron runs on the four included AA batteries. It is for intermittent use and includes a 1/32″ wide conical tip, lead-free solder, a tip wrench, and a safety cap.

Quick-charge, standard, and **extended-charge** irons are powered by the included rechargeable NiCad battery. They include a charger that runs on 120 volts AC and has a 4-ft. cord with plug. These products cannot be sold in California or Oregon.

Quick-charge iron includes a 1/16″ wide pointed tip and a 5/32″ wide chisel tip. UL listed.

Standard iron includes a 1/16″ wide pointed tip and a 3/16″ wide conical tip. UL listed.

Extended-charge iron solders nearly three times as many joints per charge. It includes a 1/32″ wide conical tip, a 1/16″ wide pointed tip, a 1/8″ wide chisel tip, a 4-gram coil of 60/40 tin/lead flux-core solder, a tip cover, a cleaning sponge, and a screwdriver.

Soldering Irons

	Approx. Joints per Charge	Charge Time, hrs.	Tip Temp., °F	Heat-Up Time, sec.		
Economy	150	—	850°/950°	15	7924A11	$22.90
Quick Charge	125	1	900°	10	7768A34	88.59
Standard	125	4	900°	10	7768A22	64.94
Extended Charge	350	8	660°	10	7715A31	209.10

Additional Tips

Tip Shape	Point Wd.		
For Economy Iron			
Chisel	1/8″	7924A18	$12.10
Conical	1/32″	7924A17	12.10
For Quick-Charge and Standard Irons			
Chisel	5/32″	7665A21	7.80
Conical	5/32″	7665A13	7.80
Conical	3/16″	7665A15	8.46
Knife	1/32″	7665A25	7.80
Pointed	1/64″	7665A16	7.80
Pointed	1/16″	7665A14	7.80
For Extended-Charge Iron			
Conical	1/32″	7715A36	23.06
Pointed	1/16″	7715A33	20.63
Screwdriver	1/8″	7715A35	22.13



Chisel



Conical



Knife



Pointed



Screwdriver

Butane Soldering Irons


Economy


Standard

Butane power means no restrictive cords. Irons are self-igniting, heat-up in approximately 40 seconds, and include a protective cap. Butane is sold separately.

Economy iron includes a 3/32″ wide double-flat tip (tip temp. is 850° F). Run time is 60 minutes.

Iron kit includes an iron and 3/32″ wide double-flat tip, a 5/32″ wide knife tip, and a 5/32″ hot-air cylinder tip (all with 850° F tip temp.). Kit also includes a 7/32″ hot-air cylinder tip (tip temp. is 2370° F), a 51/64″ wide hot-air deflector tip (not rated for temp.), a sponge, a stand, and a plastic case.

Standard iron includes a 3/32″ wide chisel tip (tip temp. is 840° F) and a 3/16″ hot-air cylinder tip (tip temp. is 1200° F). Run time is 75 minutes.

Adjustable-temperature iron includes a 5/64″ wide chisel tip (tip temp. adjusts from 480° to 930° F) and a 1/8″ hot-air cylinder tip (tip temp. is 1200° F). Run time is 2 hours. UL listed.

Iron kit includes an iron, a 1/8″ wide chisel tip (tip temp. adjusts from 480° to 930° F), a 3/16″ hot-air cylinder tip (tip temp. is 1200° F), a 1/2″ dia. heat-shrink attachment, a wrench, an ejector, a sponge, and a metal case.

Irons

	Irons		Iron Kits	
Economy	7694A21	$50.27	7694A22	$76.22
Standard	7931A24	60.67	—	—
Adjustable Temperature	77125A65	150.47	77125A66	156.56
Butane Gas (5.1 oz.)			7694A5	5.24

Additional Tips


Double Flat


Single Flat


Chisel


Cylinder


Bevel


Conical

Tip Shape	Point Wd.		
For Economy Iron			
Double Flat	1/32″	7694A33	$12.96
Single Flat	1/32″	7694A31	12.96
For Standard Iron			
Chisel	3/32″	7931A15	20.53
Cylinder	3/16″ ID	7931A16	20.53
For Adjustable-Temperature Iron			
Bevel	5/64″	77125A663	18.93
Chisel	5/64″	77125A662	18.93
Conical	1/32″	77125A661	18.93
Cylinder	3/16″ ID	77125A665	18.93

Instant-Heat Soldering Guns


Economy


Standard

Pull the trigger for instant heat; release it and the gun quickly cools. Guns come with one tip; additional tips are sold separately. All guns operate on 120 volts AC and include a light to illuminate your work. UL listed.

Economy

Guns have two temperature settings and a 6-ft. cord with plug.

Kits include gun, soldering tip, smoothing tip, plastic-cutting tip, rosin-core solder, hex wrench, and plastic case.

Watts, Low/High	Tip Temp., °F	Guns		Kits	
100/140	900°/1020°	7719A8	$53.84	7728A2	$62.48
200/260	900°/1100°	7720A2	70.58	7728A1	80.79
200/300	900°/1100°	7720A7	89.70	7728A8	98.98

	Tips								
	Soldering			Smoothing			Plastic Cutting		
Watts, Low/High	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
100/140	2	7719A3	$6.18	2	7719A4	$5.80	2	7719A6	$6.72
200/260	1	7720A3	6.14	1	7720A4	6.14	2	7719A6	6.72
200/300	2	7720A11	6.46	2	7719A4	5.80	2	7719A6	6.72

Standard

A conical tip is built into the heating element. Guns have a 4-ft. cord with plug.

Watts, Low/High	Tip Temp., °F	Point Wd.	Guns		Repl. Heating Elements with Tip	
150/400	1000°	1/4″	7727A2	$103.94	7727A4	$58.62
300/550	1050°	7/16″	7727A3	135.64	7727A5	86.60

Adjustable-Temperature Soldering Irons with Fixed-Temperature Tip



The included tip maintains a fixed temperature of 700° F to prevent overheating and burning out the iron. To solder at a different fixed temperature, choose another tip from the *additional tips*.

Irons include a plug-style screwdriver tip and a 6-ft. cord with plug. They operate on 120 volts AC and are UL listed.

Irons

Watts	Point Wd.	Irons		Repl. Heating Elements	
60	1/16″	6997A23	$104.79	6997A24	$48.67
100	3/8″	6997A25	109.00	6997A26	57.20

Additional Tips



Choose a Tip Temp., °F	Point Wd.		
For 60-Watt Iron			
700°, 800°	1/16″	6997A32	$6.32
700°, 800°	1/8″	6997A34	6.32
700°, 800°	3/16″	6997A36	6.32
For 100-Watt Iron			
600°, 700°, 800°	1/8″	6997A42	10.01
600°, 700°, 800°	3/16″	6997A44	9.70
600°, 700°, 800°	1/4″	6997A46	9.70
600°, 700°, 800°	3/8″	6997A48	9.70

Build-Your-Own Soldering Irons

Combine a handle, a heating element, and a tip (each sold separately) to create the iron you need.

Handles



Handles have a 5-ft. cord with plug. UL listed.

With Standard Cord	77045A11	$28.00
With Burn-Resistant Cord	77045A12	40.54

Heating Elements



Elements operate on 120 volts AC.

Watts	Temp., °F		
23	700°	77045A21	$24.50
33	800°	77045A22	27.00
45	900°	77045A23	31.33
50	1000°	77045A24	44.92

Tips


Chisel


Conical


Screwdriver

Tips have 1/4″-28 female threads.

Tip Shape	Point Wd.		
Chisel	1/8″	77045A33	$7.17
Chisel	5/32″	77045A34	8.23
Chisel	13/64″	77045A35	8.83
Chisel	13/32″	77045A37	13.63
Conical	1/32″	77045A32	7.40
Conical	3/64″	77045A31	6.96
Screwdriver	1/8″	77045A36	7.27

Fine-Tip Soldering Irons



Ultra thin, these irons are for precise soldering in electronics applications. Irons and tips are sold separately.

Irons operate on 115 volts AC and include a 6-ft. cord with plug.

Irons

Watts	Tip Temp., °F		
12	650°	7016A32	$36.57
15	700°	7016A34	39.91
18	750°	7016A36	40.84

Plug-Style Tips


Chisel


Needle


Bevel

Tip Shape	Point Wd.		
Standard			
Chisel	0.046″	7016A41	$7.73
Chisel	0.062″	7016A42	7.73
Chisel	0.093″	7016A46	7.87
Needle	0.012″	7016A43	9.17
Gold Plated			
Bevel	0.046″	7016A44	15.74
Chisel	0.093″	7016A47	15.74
Needle	0.012″	7016A45	15.74

Soldering Irons

Use these irons for your high-volume jobs. They include a plug-style tip and have a 5-ft. cord with plug. Irons operate on 120 volts AC.

Standard irons have a fiberglass grip.

Comfort-grip irons provide an extra layer of cork insulation between your hand and the iron.

Heavy duty irons have a large tip for excellent heat transfer, making them ideal for running seams in sheet metal. They have a wood handle and include a stand.


Standard


Comfort Grip


Heavy Duty

Irons and Replacement Parts

Watts	Tip Temp., °F	Tip Shape	Tip Shank Dia.	Tip Lg.	Tip Point Wd.	Irons		Replacement Tips		Replacement Heating Elements	
Standard											
15	675°	Screwdriver	1/8"	2 1/4"	3/32"	7722A4	$81.17	7747A23	$16.25		
20	850°	Screwdriver	1/8"	2 1/4"	3/32"	7722A3	81.17	7747A23	16.25		
25	850°	Screwdriver	1/8"	2 1/4"	3/32"	7722A8	80.77	7747A23	16.25		
25	850°	Screwdriver	3/16"	2 1/4"	3/32"	7722A1	81.35	7747A24	16.25		
35	975°	Screwdriver	3/16"	2 1/4"	3/32"	7722A5	82.05	7747A24	16.25		
40	925°	Screwdriver	1/4"	2 1/4"	3/16"	7722A2	92.52	7747A25	16.93	7722A97	$52.65
50	1000°	Screwdriver	1/4"	2 1/4"	3/16"	7722A63	92.52	7747A25	16.93	7722A65	52.65
60	1075°	Screwdriver	1/4"	2 1/4"	3/16"	7722A64	92.52	7747A25	16.93	7722A66	52.65
Comfort Grip											
30	825°	Screwdriver	1/8"	2 1/4"	3/32"	7732A1	101.63	7747A23	16.25	7732A91	47.95
30	900°	Screwdriver	3/16"	2 1/4"	3/32"	7732A4	104.05	7747A24	16.25	7732A94	49.07
40	1000°	Screwdriver	3/16"	2 1/4"	3/32"	7732A6	104.05	7747A24	16.25	7732A96	49.07
50	1000°	Screwdriver	1/4"	2 1/4"	3/16"	7732A7	103.91	7747A25	16.93	7732A97	53.85
50	1100°	Screwdriver	3/16"	2 1/4"	3/32"	7732A3	104.05	7747A24	16.25	7732A93	49.07
60	1075°	Screwdriver	1/4"	2 1/4"	3/16"	7732A8	103.91	7747A25	16.93	7732A98	53.85
Heavy Duty											
60	850°	Chisel	1/4"	3 3/8"	1/4"	7711A18	100.21	7747A72	20.29	7711A26	45.00
60	850°	Diamond	1/4"	3 3/8"	1/32"	7711A16	100.21	7747A71	22.27	7711A26	45.00
75	930°	Diamond	1/4"	3 3/8"	1/32"	7711A17	100.21	7747A71	22.27	7711A27	45.00
100	855°	Diamond	3/8"	4 3/8"	1/16"	7711A12	132.21	7747A73	27.05	7711A22	52.78
150	1010°	Diamond	3/8"	4 3/8"	1/16"	7711A19	132.21	7747A73	27.05	7711A28	52.78
175	1025°	Diamond	3/8"	4 3/8"	1/16"	7711A21	142.12	7747A73	27.05	7711A29	66.67
200	1000°	Diamond	5/8"	4 3/4"	1/16"	7711A13	181.92	7747A74	54.22	7711A23	66.67
300	1000°	Chisel	7/8"	5 1/8"	7/8"	7711A14	215.18	7747A75	71.85	7711A24	86.11
550	1010°	Chisel	1 1/8"	5 7/8"	1 1/8"	7711A15	265.25	7747A76	113.96	7711A25	111.34

Additional Plug-Style Tips

Shank Dia.	Chisel Lg.	Chisel Point Wd.			Conical Lg.	Conical Point Wd.			Diamond Lg.	Diamond Point Wd.			Screwdriver Lg.	Screwdriver Point Wd.		
1/8"	2 1/4"	1/8"	7747A66	$17.22	2 1/4"	1/64"	7747A81	$16.25					2 1/4"	1/16"	7747A29	$16.25
1/8"													2 1/4"	3/32"	7747A23	16.25
3/16"	2 1/4"	3/16"	7747A32	18.85	2 1/4"	1/32"	7747A82	18.85					2 1/4"	3/32"	7747A24	16.25
3/16"													2 1/4"	1/8"	7747A27	18.85
1/4"	3"	1/4"	7747A72	20.29	2 1/4"	1/16"	7747A83	18.49					2 1/4"	3/16"	7747A25	16.93
1/4"													3"	1/8"	7747A67	18.60
3/8"	4 1/4"	3/8"	7747A14	26.80	4 1/4"	1/16"	7747A84	26.29	4 3/8"	1/16"	7747A73	$27.05	4"	3/16"	7747A33	25.89
5/8"	4 1/4"	5/8"	7747A15	53.61					4 1/2"	1/16"	7747A74	54.22	4"	5/16"	7747A44	54.22
7/8"	4 3/4"	7/8"	7747A75	71.85					5 1/8"	5/64"	7747A68	56.36	4 1/8"	3/8"	7747A77	71.85
1 1/8"	5 1/4"	1 1/8"	7747A76	113.96					5 7/8"	7/64"	7747A69	81.82	4 3/4"	1/2"	7747A78	110.02

Chisel


Conical


Diamond


Screwdriver

Economy Soldering Irons



From electronics to metal sealing, these irons handle most light duty soldering jobs. They have a light to indicate the unit is on and include a stand. Irons operate on 120 volts AC and have a 5-ft. cord with plug. UL listed.

25-watt iron includes a screw-in conical tip with 10-24 male threads; **40-** and **80-watt** irons include a plug-style chisel tip.

Irons

Watts	Tip Temp., °F	Tip Shank Dia.	Point Wd.		
25	750°	1/8"	1/32"	7662A695	$22.42
40	900°	1/4"	1/4"	7662A696	26.36
80	900°	3/8"	3/8"	7662A697	35.50

Additional Tips

Tip Shape	Shank Dia.	Point Wd.		
For 25-Watt Iron				
Knife Blade with Chuck	1/8"	5/16"	7662A702	$9.40
Conical	1/8"	1/32"	7662A698	2.84
Screwdriver	1/8"	1/8"	7662A701	2.77
For 40-Watt Iron				
Chisel	1/4"	1/4"	7662A685	5.14
For 80-Watt Iron				
Chisel	3/8"	1/4"	7662A703	10.28
Chisel	3/8"	3/8"	7662A686	10.28


Knife Blade


Conical


Screwdriver


Chisel

Adjustable-Temperature Soldering Stations with Fixed-Temperature Tip



These stations are ESD (electrostatic discharge) safe to protect sensitive components. The included tip maintains a fixed temperature of 700° F. To solder at a different fixed temperature, choose another tip from the *additional plug-style tips.*

Stations include a 42-watt iron, a plug-style 1/16" wide screwdriver tip, a stand, a tip storage area, a sponge, and a 5-ft. cord with plug. UL listed.

Stations and Replacement Parts

AC Voltage	Watts	Tip Temp., °F		
120	60	700°	7718A11	$188.22
240	60	700°	7718A22	193.60
Replacement Sponges (Pkg. of 10)			7002A33	18.14
Replacement Soldering Iron for 120V AC Station			7718A12	104.20
Replacement Heater			7718A41	20.68
Replacement Switch			7718A42	33.40

Additional Plug-Style Tips

Tip Shape	Choose a Tip Temp., °F	Point Wd.		
Conical	600°, 700°, 800°	1/32"	7008A19	$5.47
Screwdriver	600°, 700°, 800°	3/64"	7008A16	5.47
Screwdriver	600°, 700°, 800°	1/16"	7008A11	5.47
Screwdriver	600°, 700°, 800°	3/32"	7008A12	5.47
Screwdriver	600°, 700°, 800°	1/8"	7008A13	5.47
Screwdriver	600°, 700°, 800°	3/16"	7008A14	5.47


Conical


Screwdriver

Adjustable-Temperature Soldering Stations


A


B

Adjust the temperature at the station for more precise and consistent control. Stations include a soldering iron, a stand, and a sponge. They operate on 120 volts AC.

Style A soldering irons have a 1/16″ wide plug-style screwdriver tip and a 5-ft. cord with plug. Stations are UL listed.

Style B soldering iron has a 3/32″ wide plug-style chisel tip and a 6-ft. cord with plug.

Analog has a dial marked in 10° increments. **Digital** have a three-digit display and adjust in 1° increments.

	Watts	Temp. Range, °F		
A Analog	50	350° to 850°	7734A18	$141.18
A Digital	50	350° to 850°	7734A44	208.52
B Digital	80	150° to 850°	7724A25	387.20
Replacement 50-watt Soldering Iron			7734A19	51.00
Replacement 80-watt Soldering Iron			7724A28	145.33
Replacement Sponges (Pkg. of 10)			7002A33	18.14
Replacement Stand for Soldering Iron			7724A49	54.58

Additional Plug-Style Tips


Conical


Screwdriver


Chisel

Tip Shape	Point Wd.		
For 50-Watt Irons			
Conical	1/64″	7008A51	$5.85
Conical	1/32″	7008A92	5.85
Screwdriver	1/32″	7008A45	5.85
Screwdriver	3/64″	7008A46	5.85
Screwdriver	1/16″	7008A41	5.85
Screwdriver	5/64″	7008A47	5.85
Screwdriver	3/32″	7008A42	5.85
Screwdriver	1/8″	7008A43	5.85
Screwdriver	3/16″	7008A111	4.65
For 80-Watt Iron			
Chisel	1/32″	7008A121	5.07
Chisel	3/64″	7008A122	4.97
Chisel	1/16″	7724A54	5.45
Chisel	5/64″	7008A124	5.95
Chisel	3/32″	7724A52	5.45
Chisel	1/8″	7724A55	5.45
Chisel	3/16″	7008A119	5.29
Conical	1/64″	7724A33	5.45
Conical	1/64″	7724A34	5.45
Conical	1/16″	7724A51	5.45
Conical	1/8″	7724A53	5.45

Tips for Adjustable-Temperature Soldering Stations


Screwdriver


Single Flat


Conical


Chisel


Bevel


Needle


30° Chisel


Knife


Beveled Chisel

Weller—ET series is for EC1002, EC2002, MC5001, and DEC-1000 soldering stations with an EC1201A soldering iron handpiece, and WES50/51 soldering station with a PES50/51 soldering iron handpiece.

LT series is for WD1002 soldering stations with a WSP80 soldering pencil.

PT series is for WTCPL, WTCPN, WTCPR, WTCPS, and WTCPT soldering stations with a TC201T soldering iron handpiece.

RT series is for WD1000M and WD2000M soldering stations with a WMRP soldering pencil.

Hakko—For Hakko 927, 928, 933, 936, and 937 soldering stations with M926, 900M, or 907ESD soldering iron handpieces.

Pace—For IR-70 and SP-2A SODR-PEN soldering irons.

Mfr. No.	Tip Shape	Shank Dia.	Tip Lg.	Point Wd.		
Weller ET Series						
ETA	Screwdriver	1/4″	1 3/8″	1/16″	7008A41	$5.85
ETAA	Single Flat	1/4″	1 3/8″	1/16″	7008A128	4.65
ETB	Screwdriver	1/4″	1 3/8″	3/32″	7008A42	5.85
ETC	Screwdriver	1/4″	1 3/8″	1/8″	7008A43	5.85
ETD	Screwdriver	1/4″	1 3/8″	3/16″	7008A111	4.65
ETH	Screwdriver	1/4″	1 3/8″	1/32″	7008A45	5.85
ETJ	Screwdriver	1/4″	1 3/4″	1/32″	7008A112	4.65
ETK	Screwdriver	1/4″	1 3/4″	3/64″	7008A46	5.85
ETL	Screwdriver	1/4″	1 3/4″	5/64″	7008A47	5.85
ETM	Screwdriver	1/4″	1 3/4″	1/8″	7008A114	4.65
ETO	Conical	1/4″	1 3/4″	1/32″	7008A44	5.85
ETP	Conical	1/4″	1 3/8″	1/32″	7008A92	5.85
ETR	Screwdriver	1/4″	1 3/8″	1/16″	7008A48	5.85
ETS	Conical	1/4″	1 3/4″	1/64″	7008A49	5.85
ETT	Conical	1/4″	1 3/8″	1/64″	7008A51	5.85
ETU	Single Flat	1/4″	1 1/2″	1/64″	7008A116	4.65
ETV	Single Flat	1/4″	1 1/2″	1/32″	7008A118	4.65
Weller LT Series						
LT1	Conical	1/4″	1/2″	1/64″	7724A33	5.45
LT1S	Conical	1/4″	5/8″	1/64″	7724A34	5.45
LTA	Chisel	1/4″	3/8″	1/16″	7724A54	5.45
LTAS	Conical	1/4″	3/8″	1/16″	7724A51	5.45
LTB	Chisel	1/4″	1/2″	3/32″	7724A52	5.45
LTC	Chisel	1/4″	1/2″	1/8″	7724A55	5.45
LTCS	Conical	1/4″	1/2″	1/8″	7724A53	5.45
LTD	Chisel	1/4″	1/2″	3/16″	7008A119	5.29
LTH	Chisel	1/4″	1/2″	1/32″	7008A121	5.07
LTK	Chisel	1/4″	13/16″	3/64″	7008A122	4.97
LTL	Chisel	1/4″	13/16″	5/64″	7008A124	5.95
LTS	Conical	1/4″	13/16″	1/64″	7008A126	5.07
Weller PT Series—Choose 600°, 700°, 800° F Tip Temperature						
PTA	Screwdriver	1/4″	1 1/2″	1/16″	7008A11	5.47
PTAA	Bevel	1/4″	1 1/2″	1/16″	7008A23★	5.45
PTB	Screwdriver	1/4″	1 1/2″	3/32″	7008A12	5.47
PTC	Screwdriver	1/4″	1 1/2″	1/8″	7008A13	5.47

★ Not available in 600° F tip temperature.

Mfr. No.	Tip Shape	Shank Dia.	Tip Lg.	Point Wd.		
Weller PT Series—Choose 600°, 700°, 800° F Tip Temperature (Cont.)						
PTCC	Bevel	1/4″	1 1/2″	1/8″	7008A24★	$5.47
PTD	Screwdriver	1/4″	1 1/2″	3/16″	7008A14	5.47
PTH	Screwdriver	1/4″	1 1/2″	1/32″	7008A15	5.47
PTK	Screwdriver	1/4″	2″	3/64″	7008A16	5.47
PTL	Screwdriver	1/4″	2″	5/64″	7008A17★	5.47
PTO	Conical	1/4″	2″	1/32″	7008A18★	5.47
PTP	Conical	1/4″	1 1/2″	1/32″	7008A19	5.47
PTS	Conical	1/4″	2″	1/64″	7008A21	5.47
Weller RT Series						
RT1	Needle	—	4″	1/64″	7008A31	41.30
RT2	Conical	—	4″	1/32″	7008A32	41.30
RT3	Chisel	—	4″	1/16″	7008A33	41.30
RT4	Chisel	—	4″	1/16″	7008A34	41.30
RT5	30° Chisel	—	4″	1/32″	7008A35	41.30
RT6	Conical	—	4″	3/64″	7008A36	41.30
RT7	Knife	—	4″	3/32″	7008A37	41.30
Hakko						
900M-T-0.8D	Chisel	1/4″	1 3/4″	1/32″	7008A71	5.73
900M-T-1C	Bevel	1/4″	1 3/4″	3/64″	7008A63	5.75
900M-T-1.2D	Chisel	1/4″	1 3/4″	3/64″	7008A72	5.75
900M-T-1.6D	Chisel	1/4″	1 3/4″	1/16″	7008A67	5.75
900M-T-2C	Bevel	1/4″	1 3/4″	5/64″	7008A62	5.75
900M-T-2.4D	Chisel	1/4″	1 3/4″	3/32″	7008A65	5.75
900M-T-3.2D	Chisel	1/4″	1 3/4″	1/8″	7008A66	5.75
900M-T-4C	Bevel	1/4″	1 3/4″	5/32″	7008A74	5.75
900M-T-B	Conical	1/4″	1 3/4″	3/64″	7008A61	5.75
900M-T-I	Conical	1/4″	1 3/4″	1/64″	7008A64	6.47
900M-T-K	Beveled Chisel	1/4″	1 7/8″	3/16″	7008A68	8.63
900M-T-LB	Conical	1/4″	2″	1/64″	7008A69	6.47
900M-T-S3	Chisel	1/4″	1 3/4″	13/64″	7008A76	8.28
900M-T-SMD	Conical	1/4″	1 7/8″	1/64″	7008A75	7.78
Pace						
1121-0336	Conical	3/16″	1 3/4″	1/32″	7008A89	5.73
1121-0357	Conical	3/16″	1 7/8″	1/64″	7008A86	5.73
1121-0359	Chisel	3/16″	1 7/8″	1/32″	7008A88	5.73

Resistance-Soldering Stations

A plier-style handpiece confines heat to only where it touches when you're treating, brazing, and silver soldering small parts.

The handpiece is 7¼" long with a ⅜" maximum opening. It has carbon electrodes and a 4-ft., two-wire cord that connects directly to the power unit with screw terminal connections for 200- and 75-watt output. Power unit operates on 115 volts AC and has a 4-ft. cord with plug.



Soldering Station	7713A2	$385.33
Replacement Handpiece	7713A1	151.24
Replacement Carbon Electrodes (Pair)	7713A3	13.34

Soldering Iron Stands

Stand holds irons up to 700 watts. Size is 1½" Dia.×5½" Lg.

Stand with sponge tray holds 15- to 60-watt irons with ½" max. barrel diameter. It is ¾" ID×7¼" Lg. with a 5" long protective coil. Tray includes a 4½" Lg.×3½" Wd. sponge with a hole.

Sponge tray includes one 4½" Lg.×3½" Wd. sponge with a hole.



Stand	7764A21	$13.37
Stand with Sponge Tray	7764A11	102.91
Sponge Tray	7750A11	13.63
Repl. Sponges (Pkg. of 10)	7002A37	23.72

Soldering Iron Tip Cleaners



Brass-wool cleaner is a dry brass-wool ball that removes oxidation from soldering tips. It includes a static-dissipative holder.

Tinner cleaner removes excess oxide and replenishes the tip's original coating. It's made of lead-free alloys and special fluxing agents.

Bar cleaner removes heavy oxidation from soldering tips and coppers. It is made of ammonium chloride (also known as sal ammoniac).

Brass Wool		
Ball with Holder	5153A32	$24.55
Replacement Brass-Wool Balls (Pkg. of 2)	5153A34	7.54
Tinner		
0.7-oz. Can	5153A46	9.47
Bar		
0.5 lb.	7701A1	11.25
1 lb.	7701A2	12.88

Heat Barriers

Stop heat from traveling to adjoining surfaces during soldering, welding, and brazing.

Putty can be formed around pipes and tubing or spread onto a flat surface. It's reusable and for use on most metals. Maximum temperature is 2000°F.

Spray gel protects components and surrounding surfaces from heat damage and discoloration. It's clear, nonstaining, and won't leave residue.



Putty	16-oz. Jar	76685A65	$13.22
Spray Gel	32-oz. Bottle	7654A2	22.82

Heat-Transfer Paste

Apply this silicone-free paste under power transistors and other devices to transfer heat (but not electricity) to a metal frame for dissipation. Temperature range is -40° to 392°F. Meets MIL-C-47113.



4-oz. Tube	76645A12	$32.67
1-lb Jar	76645A14	81.68

Heat-Sink Clips

Dissipate heat on circuit board components. Clips have chrome-plated copper jaws. Tip width is ⅛".



Lg.		
1⅛"	7689A13	$10.12
2½"	7689A17	17.66

Soldering Iron Sponges

Holes	Sponge Size Lg.	Wd.	Thick.	Pkg. Qty.		Pkg.
Single	2⅛"	1½"	1"	10	7002A21	$18.84
Single	2¾"	2¾"	⅝"	10	7002A33	18.14
Single	3"	2"	1"	10	7002A23	22.33
Single	3½"	2¼"	1"	10	7002A29	24.65
Single	4½"	3½"	⅝"	10	7002A37	23.72
Multiple	2¾"	2⅛"	1"	10	7002A27	21.40
None	2¾"	2⅛"	1"	10	7002A25	15.81
None	16½"	8½"	⅝"	1	7002A61	22.07



Desoldering Braids

Place a braid and a hot iron tip over unwanted solder and the braid absorbs the molten solder.

With Flux Core—Has a rosin flux core for lead-free and electrical solder applications.

Without Flux Core—Allows you to choose the flux (not included) that works best for your application.



Wd.	5-ft. Length		10-ft. Length	
With Flux Core				
1/32"	76855A7	$4.13	76855A8	$5.83
1/16"	76855A1	4.13	76855A4	5.83
5/64"	76855A2	4.40	76855A5	6.13
1/8"	76855A3	5.59	76855A6	7.11
5/32"	76855A16	6.93		
Without Flux Core				
1/32"	7836A4	3.39	7836A5	5.07
1/16"	7836A8	3.39	7836A9	5.07
5/64"	7836A1	3.56	7836A3	5.47
1/8"	7836A7	4.64	7836A2	6.34
5/32"	7836A11	5.54		

Desoldering Tools



Remove heated, liquid solder. **Pump-action** tools are for use on sensitive components. **Squeeze-action** tools are also known as solder suckers.

Tip ID	Tip Lg.	O'all Lg.	Tools		Replacement Tips	
Pump Action						
5/64"	¾"	7¾"	7775A26	$30.07	7775A27	$8.07
1/8"	½"	9"	7775A15	30.22	7775A16	6.00
Squeeze Action						
7/64"	¾"	3"	7753A13	12.44		
7/64"	1¼"	4½"	7753A11	15.29	7753A12	11.09

Electric Desoldering Guns

The fast-heating tip liquefies the solder and a built-in vacuum pump draws it into a disposable filter. Temperature adjusts from 660° to 930°F. Tool operates on 120 volts AC and has a 6-ft. cord with three-prong plug. It includes a 0.040" tip, two aluminum filters, two ceramic paper filters, and a plastic carrying case.



Desoldering Gun	7511A31	$318.86
Optional 0.051" Tip	7511A33	30.36
Optional 0.063" Tip	7511A34	30.36
Repl. 0.040" Tip	7511A32	30.36
Repl. Ceramic Paper Filters (Pkg. of 10)	7511A26	17.80
Repl. Aluminum Filters (Pkg. of 5)	7511A35	11.00

About Adhesives and Sealants

Adhesives form strong, generally permanent, bonds between two or more close-fitting surfaces. **Sealants** provide a protective coating between two or more surfaces. **Repair adhesives** fill in worn spots or tears on a single surface.

Adhesives

	**High Strength:** Epoxies, acrylics, and urethanes form very strong, impact-resistant bonds and are alternatives to mechanical fasteners and welding in structural applications.	Pages 3449-3454
	**Instant Bonding:** Also known as super glues and cyanoacrylates, these quickly form strong bonds, but aren't as impact resistant as high-strength adhesives.	Pages 3455-3458
	**Contact:** Applied on two surfaces, air dried, and then brought together to form strong instant bonds. They are often used for laminating or bonding large areas.	Pages 3458-3459
	**Aerosol:** Similar to contact adhesives but easier to apply, yet not as strong. Often used for package sealing.	Page 3459
	**Hot Melt:** When heated, these melt and begin to harden quickly to form low- to medium-strength bonds.	Pages 3460-3461

	**Glue:** Form low- to medium-strength bonds.	Pages 3461-3463
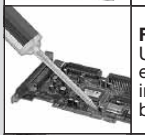	**For Electronics:** Use for applications such as encapsulating (potting) and attaching components to printed circuit boards.	Pages 3464-3466
	**For Pipe:** Also known as pipe cements, these create strong, leakproof joints between pipes and fittings. Use on plastic (including PVC and CPVC) and copper pipes.	Page 3466
	**Threadlockers:** Keep threaded metal fasteners from loosening due to vibration and shock. They also provide an excellent seal against solvents and moisture.	Pages 3467-3468
	**Retaining Compounds:** Bond unthreaded cylindrical metal parts such as shafts, hubs, bearings, bushings, splines, pulleys, and press-fit assemblies.	Pages 3468-3469

Adhesives Bonding Guide

	Suggested Adhesive						
						● Excellent	◓ Good
Material to Bond	High Strength	High-Strength for Slippery Plastics	Instant Bonding	Contact	Aerosol	Hot Melt	Glue
Metal	●		●	●	◓	◓	◓
Plastic	●		●	●	◓	◓	◓
Hard-to-Bond Plastic (Polyethylene, Polypropylene, and PTFE)		●					
Rubber	◓		●	◓	◓		◓
Fiberglass	●		●				
Ceramic and Glass	●					◓	
Brick, Concrete, and Stone	●						
Wood	◓		◓	●	◓	◓	◓
Fabric and Paper			◓	●	●	●	●

Sealants

	**Pipe Thread and Joint:** Form water- and gas-tight seals on threaded and unthreaded metal pipe joints.	Pages 3469-3470
	**Gasketing:** Replace traditional gaskets by forming either rigid or flexible seals.	Pages 3470-3472
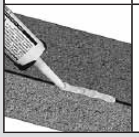	**Multipurpose:** Seal and fill large gaps. Sealants are flexible and maintain the seal even when compressed or stretched. Also known as caulk.	Pages 3472-3476

Repair Adhesives

	Fill worn spots and cracks on a single surface, such as metal or fiberglass components.	Pages 3476-3479

3M Adhesive Cartridges

Bond most metals and plastics with these two-part adhesives. Use a dispensing gun with a mixer nozzle (each sold separately) to simultaneously mix and dispense. Cartridges work only with the 3M manual and air-powered dispensing guns and mixer nozzles listed below.

Epoxies are the strongest and the most weather and chemical resistant.

DP100 and *DP100 Plus* meet UL 94HB.

DP100FR meets UL 94V0.

DP190 also bonds masonry.

DP420, DP420NS, DP460, and *DP460NS* also bond phenolic laminates (Garolite).

Acrylics resist impact, peeling, and weather and require the least amount of surface preparation. They also bond fiberglass, rubber, and wood.

DP810 also bonds oily surfaces.

DP8005, DP8010, and *DP8010NS* also bond polyethylene, polypropylene, and PTFE.

Urethanes are thicker than epoxies and acrylics and remain the most flexible when bonding dissimilar materials. Metal must be primed before bonding. They also bond ceramic, fiberglass, and wood.

DP640 also bonds concrete.

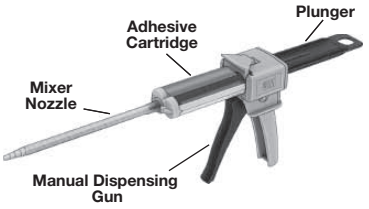

Adhesive Cartridges

3M No.	Type	Size, oz.	Color	Begins to Harden	Reaches Full Strength	Mix Ratio	Temperature Range, °F		
Epoxies									
DP100	General Purpose	1.69	Clear	5 min.	48 hrs.	1:1	-65° to 325°	7467A21	$18.88
DP100	General Purpose	6.76	Clear	5 min.	48 hrs.	1:1	-65° to 325°	7467A95	53.46
DP100FR	Flame Retardant	1.69	Off-White	5 min.	48 hrs.	1:1	-65° to 300°	7467A28	30.67
DP100 Plus	High Strength	1.69	Clear	3 min.	48 hrs.	1:1	-65° to 300°	7467A55	24.18
DP100NS	For Vertical Surfaces	1.69	Semi-Clear	5 min.	48 hrs.	1:1	-65° to 325°	7467A16	24.15
DP105	Flexible	1.69	Clear	4 min.	48 hrs.	1:1	-65° to 300°	7467A58	27.20
DP110	Impact Resistant	1.69	Gray	8 min.	48 hrs.	1:1	-65° to 350°	7467A23	24.96
DP110	Impact Resistant	1.69	Semi-Clear	8 min.	48 hrs.	1:1	-65° to 350°	7467A22	24.96
DP110	Impact Resistant	6.76	Gray	8 min.	48 hrs.	1:1	-65° to 350°	7467A96	68.56
DP125	High Strength	1.69	Gray	15 min.	7 days	1:1	-65° to 300°	7467A65	27.20
DP125	High Strength	1.69	Semi-Clear	18 min.	7 days	1:1	-65° to 300°	7467A68	27.20
DP190	Impact Resistant	1.69	Gray	90 min.	7 days	1:1	-65° to 350°	7467A24	24.15
DP190	Impact Resistant	1.69	Semi-Clear	60 min.	14 days	1:1	-65° to 350°	7467A72	24.96
DP190	Impact Resistant	6.76	Gray	90 min.	7 days	1:1	-65° to 350°	7467A97	68.56
DP190	Impact Resistant	6.76	Semi-Clear	60 min.	14 days	1:1	-65° to 350°	7467A122	68.56
DP405	Low Odor	1.25	Black	3 min.	7 days	2:1	-65° to 350°	7467A211	26.35
DP405	Low Odor	6.76	Black	3 min.	7 days	2:1	-65° to 350°	7467A212	99.59
DP420	High Strength	1.25	Black	15 min.	24 hrs.	2:1	-65° to 350°	7467A51	26.35
DP420	High Strength	1.25	Off-White	15 min.	24 hrs.	2:1	-65° to 350°	7467A25	23.58
DP420	High Strength	6.76	Off-White	15 min.	24 hrs.	2:1	-65° to 350°	7467A99	94.30
DP420NS	High Strength for Vertical Surfaces	1.25	Black	20 min.	7 days	2:1	-65° to 350°	7467A216	26.35
DP460	High Strength	1.25	Off-White	60 min.	48 hrs.	2:1	-65° to 350°	7467A26	24.96
DP460	High Strength	6.76	Off-White	60 min.	48 hrs.	2:1	-65° to 350°	7467A85	94.30
DP460NS	High Strength for Vertical Surfaces	1.25	Off-White	60 min.	48 hrs.	2:1	-65° to 350°	7467A66	25.57
Acrylics									
DP805	For Vertical Surfaces	1.59	Off-White	3 min.	24 hrs.	1:1	-40° to 180°	7467A75	33.35
DP810	For Dirty Surfaces	1.69	Tan	10 min.	24 hrs.	1:1	-40° to 180°	7467A127	30.31
DP810NS	For Dirty Vertical Surfaces	1.69	Tan	10 min.	24 hrs.	1:1	-40° to 180°	7467A135	30.82
DP820	General Purpose	1.59	Off-White	15 min.	48 hrs.	1:1	-40° to 180°	7467A82	40.36
DP8005	High Strength for Slippery Plastics	1.52	Black	3 min.	24 hrs.	10:1	-65° to 200°	7467A331	44.16
DP8005	High Strength for Slippery Plastics	1.52	Off-White	3 min.	24 hrs.	10:1	-65° to 200°	7467A321	42.05
DP8010	For Slippery Plastics	1.52	Blue	10 min.	24 hrs.	10:1	-40° to 200°	7467A36	46.68
DP8010NS	For Vertical Slippery-Plastic Surfaces	1.52	Blue	10 min.	24 hrs.	10:1	-40° to 200°	7467A38	46.68
Urethanes									
DP604NS	For Vertical Surfaces	1.69	Black	4 min.	6 hrs.	1:1	-60° to 250°	7467A19	15.88
DP605NS	Flexible for Vertical Surfaces	1.69	Off-White	5 min.	48 hrs.	1:1	-65° to 250°	7467A27	26.21
DP620NS	For Vertical Surfaces	1.69	Black	20 min.	48 hrs.	1:1	-60° to 250°	7467A218	15.89
DP640	Impact Resistant for Vertical Surfaces	1.69	Brown	40 min.	7 days	1:1	-65° to 250°	7467A78	25.31

Dispensing Guns, Mixer Nozzles, and Plungers

Dispensing guns include 1:1 and 2:1 mix ratio plungers, unless noted. **Air-powered dispensing gun** has a ¼ NPT male air inlet and a maximum pressure of 50 psi.

Small Manual Dispensing Gun for 1.25-, 1.52-, 1.59-, and 1.69-oz. Cartridges	7467A41▲	Each	$85.76
Large Manual Dispensing Gun for 6.76-oz. Cartridges	7467A91	Each	566.07
Air-Powered Dispensing Gun for 1.25-, 1.59-, and 1.69-oz. Cartridges	7467A15	Each	621.15
Mixer Nozzles for 1.25-, 1.59-, and 1.69-oz. Cartridges	7467A12	Each	2.93
Mixer Nozzles for 1.52-oz. Cartridges	7467A13	Each	1.33
Mixer Nozzles for 6.76-oz. Cartridges	7467A93	Each	3.90
Replacement 1:1 Plunger for Small Manual Dispensing Gun	7467A46	Each	10.50
Replacement 2:1 Plunger for Small Manual Dispensing Gun	7467A48	Each	10.50
Replacement 10:1 Plunger for Small Manual Dispensing Gun	7467A79	Each	10.67
Replacement 1:1/2:1 Plunger for Large Manual Dispensing Gun	7467A92	Each	80.75

▲Also includes a 10:1 mix ratio plunger.

Epoxy Removers

Remove most unhardened or fully hardened epoxies. Do not use on PVC, rubber, or urethane.

1-gal. Bottle	7532A15	$74.45

Instant-Bonding Adhesive Removers

Apply remover to debond and clean parts. Do not use on acrylic.

0.17-oz. Bottle	7503A21	$3.08

Adhesive Primers for Plastic and Rubber

Use with epoxies, acrylics, and urethanes to promote bonding to EPDM rubber, polyolefins, and thermoplastic elastomers. This product cannot be sold in the Los Angeles area.

8-oz. Can	66595A4	$36.31

Spacing Beads

Add these tiny glass beads to epoxies, acrylics, urethanes, and instant-bonding adhesives for uniform dispersion that keeps adhesive from squeezing out during clamping. Bead diameter is 9.8 mil. A Luer Lock dispensing tip is included.

1-oz. Bottle	6640A11	$11.11

Loctite® Adhesive Cartridges



Use these two-part adhesives to bond most metals and plastics. The dispensing gun and mixer nozzle (each sold separately) let you simultaneously mix and dispense.

Epoxies are the strongest and the most weather and chemical resistant.

Acrylics resist impact, peeling, and weather and require the least amount of surface preparation. *H8000™, H8100™,* and *H8700™* also bond magnets.

Urethanes remain the most flexible when bonding dissimilar materials. They also bond glass and wood.

Adhesive Cartridges

Loctite No.	Type	Size, oz.	Color	Begins to Harden	Reaches Full Strength	Mix Ratio	Temperature Range, °F		
Epoxies									
0151	Optically Clear	1.69	Clear	60 min.	24 hrs.	2:1	–65° to 160°	**1813A253**	$17.28
1C-LV	Impact Resistant	1.69	Light Tan	20 min.	72 hrs.	2:1	–65° to 250°	**6430A35**	15.07
608	General Purpose	1.69	Clear	5 min.	24 hrs.	1:1	–65° to 130°	**6430A44**	13.85
9462	Impact Resistant	1.69	Beige	55 min.	72 hrs.	1:1	–65° to 250°	**6430A33**	16.60
E-00CL	Electrical Insulating	1.69	Clear	5 min.	24 hrs.	1:1	–65° to 180°	**6430A16**	14.05
E-00NS	For Vertical Surfaces	1.69	Semi-Clear	3 min.	24 hrs.	1:1	–65° to 180°	**6430A17**	14.47
E-05CL	Impact Resistant	1.69	Clear	3 min.	24 hrs.	1:1	–65° to 180°	**6430A25**	15.56
E-05MR	Moisture Resistant	1.69	Clear	5 min.	24 hrs.	1:1	–65° to 250°	**6430A38**	18.04
E-120HP	High Strength for Vertical Surfaces	1.69	Amber	120 min.	24 hrs.	2:1	–65° to 250°	**6430A24**	14.33
E-20HP	High Strength	1.69	Off-White	20 min.	24 hrs.	2:1	–65° to 250°	**6430A19**	14.33
E-20NS	High Strength for Vertical Surfaces	1.69	Light Tan	20 min.	24 hrs.	2:1	–65° to 250°	**6430A29**	14.45
E-30CL	For Glass, Optical Fibers, and Ceramic	1.69	Clear	30 min.	24 hrs.	2:1	–65° to 250°	**6430A23**	14.05
E-30UT	Ultra Tough	1.69	Purple	30 min.	24 hrs.	2:1	–65° to 250°	**6430A66**	16.44
E-40FL	Flexible	1.69	Gray	40 min.	24 hrs.	1:1	–65° to 250°	**6430A26**	14.33
E-60HP	High Strength	1.69	Off-White	60 min.	24 hrs.	2:1	–65° to 250°	**6430A28**	14.33
E-90FL	Flexible Impact Resistant	1.69	Gray	90 min.	24 hrs.	1:1	–65° to 250°	**6430A18**	14.33
Acrylics									
3035	For Slippery Plastics	1.69	Yellow	2 min.	24 hrs.	1:1	–65° to 250°	**6430A61**■	52.02
H3000	General Purpose	1.69	Off-White	5 min.	24 hrs.	1:1	–65° to 250°	**6430A57**	18.64
H3151	For Aluminum and Steel	1.69	Light Yellow	40 min.	24 hrs.	1:1	–65° to 250°	**6430A58**	19.24
H4500	For Metals	1.69	Gray	15 min.	72 hrs.	10:1	–40° to 210°	**6430A67**	14.61
H4800	For Glass and Metals	1.69	Light Yellow	30 min.	72 hrs.	10:1	–40° to 210°	**6430A49**	15.48
H8000	High Strength for Aluminum	1.69	Green	30 min.	24 hrs.	10:1	–65° to 250°	**6430A46**	15.63
H8100	For Aluminum	1.69	Green	15 min.	72 hrs.	10:1	–65° to 250°	**6430A63**	15.99
H8700	Paint-Bake Compatible	1.69	Blue	25 min.	72 hrs.	2:1	–40° to 210°	**6430A68**■	15.85
Urethanes									
U-05FL	Flexible for Metals	1.69	Off-White	5 min.	24 hrs.	1:2	–65° to 250°	**6430A21**	15.67
U-09FL	Flexible for Polycarbonate	1.69	Clear	10 min.	24 hrs.	1:1	–65° to 250°	**6430A32**	18.38

■ Requires mixer nozzle 74695A88 (sold separately).

Dispensing Guns and Mixer Nozzles

Dispensing Gun for 1:1, 1:2, and 2:1 Cartridges (Includes 1:1 and 2:1 mix ratio plungers)	**74695A71**	$23.06
Dispensing Gun for 10:1 Cartridges (Includes 10:1 mix ratio plunger)	**74695A86**	65.79
Mixer Nozzle for 1:1, 1:2, and 2:1 Cartridges (except for 6430A61 and 6430A65)	**74695A12**	1.26
Mixer Nozzle for 6430A61 and 6430A65	**74695A88**	1.74
Mixer Nozzle for 10:1 Cartridges	**74695A87**	1.78

Lord Adhesive Cartridges



Make strong bonds on most metals and plastics as well as fiberglass with these two-part adhesives. Use the dispensing gun (sold separately) with the mixer nozzle (included with adhesive) to simultaneously mix and dispense.

Epoxies are the strongest and the most weather and chemical resistant. They also bond glass and wood. *305-½* also bonds ceramic, phenolic laminates (Garolite), and rubber.

Acrylics resist impact, peeling, and weather and require the least amount of surface preparation. *506/19* also bonds phenolic laminates (Garolite).

Urethanes remain the most flexible when bonding dissimilar materials. They also bond glass, painted surfaces, and wood. *7150A/B* also bonds foam and rubber. *7542A/B* also bonds rubber. *7550A/C* also bonds primed metal.

Adhesive Cartridges

Lord No.	Type	Size, oz.	Color	Begins to Harden	Reaches Full Strength	Mix Ratio	Temperature Range, °F		
Epoxies									
305-½	Slow Hardening	1.69	Blue	60 min.	48 hrs.	1:1	–30° to 250°	**66195A31**	$16.53
310A/B	Odorless	1.69	Gray	30 min.	24 hrs.	1:1	–40° to 400°	**66195A13**	14.96
363A/B	Fast Hardening	1.69	Light Amber	3 min.	6 hrs.	1:1	–30° to 300°	**66195A23**	16.47
Acrylics									
204/19	For Vertical Surfaces	1.69	Off-White	6 min.	24 hrs.	2:1	–40° to 300°	**66195A15**	16.95
206/19	Slow Hardening	1.69	Off-White	12 min.	24 hrs.	2:1	–40° to 300°	**66195A16**	23.07
403/19	Fast Hardening for Vertical Surfaces	1.42	Tan	2 min.	24 hrs.	4:1	–40° to 300°	**66195A21**★	16.24
406/19	Impact Resistant for Vertical Surfaces	1.42	Tan	6 min.	24 hrs.	4:1	–40° to 300°	**66195A22**★	16.35
506/19	Impact Resistant	1.69	Off-White	4 min.	24 hrs.	2:1	–40° to 300°	**66195A14**	19.29
Urethanes									
7150A/B	High Strength	1.69	Gray	5 min.	24 hrs.	2:1	–30° to 240°	**66195A17**	15.63
7542A/B	General Purpose	1.69	Brown	4 min.	24 hrs.	1:1	–30° to 240°	**66195A24**	14.30
7550A/C	For Plastics	1.69	Clear	3 min.	72 hrs.	1:1	–30° to 240°	**66195A25**	19.58

★Requires 4:1 plunger 74695A44 (sold separately).

Dispensing Gun, Mixer Nozzle, and Plunger

Dispensing Gun (Includes 1:1 and 2:1 mix ratio plungers)	**74695A71**	$23.06
Replacement Mixer Nozzle	**74695A12**	1.26
4:1 Plunger for Dispensing Gun (Required for 66195A21 and 66195A22)	**74695A44**	3.62

Devcon and Plexus Adhesive Cartridges

Load these cartridges in the dispensing gun and add a mixer nozzle (all sold separately) to simultaneously mix and dispense these two-part adhesives. All bond most metals and plastics as well as ceramic, concrete, and wood.

Epoxies are the strongest and the most weather and chemical resistant.
14270 also bonds fabric.
14278 and *14315* also bond phenolic laminates (Garolite).
Acrylics resist impact, peeling, and weather and require the least amount of surface preparation. They also bond fiberglass and phenolic laminates (Garolite).
Urethane remains the most flexible when bonding dissimilar materials. It also bonds glass and rubber.

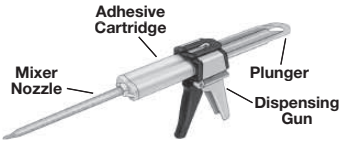

Adhesive Cartridges

Mfr.	Mfr. No.	Type	Size, oz.	Color	Begins to Harden	Reaches Full Strength	Mix Ratio	Temperature Range, °F		
Epoxies										
Devcon	14200	General Purpose	15	Amber	3 min.	12 hrs.	1:1	–40° to 200°	7524A4■	$51.75
Devcon	14251	Impact Resistant	1.69	Clear	10 min.	90 min.	1:1	–65° to 200°	66215A53	16.12
Devcon	14255	Impact Resistant	1.69	Black	10 min.	90 min.	1:1	–65° to 200°	66215A54	15.81
Devcon	14260	High Strength	1.69	Clear	8 min.	16 hrs.	1:1	–40° to 200°	66215A24	14.55
Devcon	14265	Gap Filling	1.69	Off-White	4 min.	48 hrs.	1:1	–40° to 200°	66215A23	15.02
Devcon	14270	General Purpose	1.69	Off-White	3 min.	12 hrs.	1:1	–40° to 200°	66215A21	13.45
Devcon	14277	Gap Filling	1.69	Amber	45 sec.	2 hrs.	1:1	–40° to 200°	66215A32	17.60
Devcon	14278	Impact Resistant	1.69	Gray	25 min.	30 hrs.	1:1	–40° to 200°	66215A25	17.48
Devcon	14315	Impact Resistant	1.69	Light Yellow	65 min.	7 days	2:1	–65° to 250°	66215A33	17.73
Acrylics										
Devcon	14320	High Strength	1.58	Light Yellow	4 min.	24 hrs.	1:1	–65° to 250°	66215A26	17.58
Devcon	14340	High Strength	1.58	Light Yellow	15 min.	24 hrs.	1:1	–65° to 250°	66215A27	18.48
Plexus	IT194	High Strength	1.18	Gray	4 min.	24 hrs.	10:1	–40° to 180°	66215A73★	16.10
Urethane										
Devcon	14503	High Strength	1.69	Gray	45 min.	4 hrs.	1:1	–40° to 200°	66215A71	17.25

■Comes in two 7.5-oz. bottles; cannot be used with dispensing gun. ★Requires 10:1 plunger 74695A45 (sold separately).

Dispensing Gun, Mixer Nozzle, and Plunger

Dispensing Gun (Includes 1:1 and 2:1 mix ratio plungers)	74695A71	$23.06
Mixer Nozzle	74695A12	1.26
10:1 Plunger (Required for 66215A73)	74695A45	3.62

Adhesives in Caulk Gun Cartridges

All you need is a standard caulk gun to dispense this two-part weather- and chemical-resistant epoxy. It bonds most metals and plastics as well as ceramic and fiberglass. Cartridge includes two mixer nozzles that simultaneously mix and dispense. Please see page 3484 for caulk guns.



Size, oz.	Color	Begins to Harden	Reaches Full Strength	Mix Ratio	Temperature Range, °F		
8.5	Light Amber	3 min.	24 hrs.	1:1	–40° to 200°	7646A12	$48.89

3M Adhesives

These two-part adhesives securely bond most metals and plastics as well as composites, glass, rubber, and wood. Size listed is the combined total of the two parts.

Epoxies are the strongest and the most weather and chemical resistant.
1838 meets MIL-A-52194A.
1838L also bonds masonry.
2158 also bonds concrete.
2216 also bonds fiberglass and masonry. Gray version meets DOD-A-82720.
3501 also bonds masonry.
Urethanes remain flexible when bonding dissimilar materials. They can also be used on fiberglass and painted surfaces.





3M No.	Type	Color	Begins to Harden	Reaches Full Strength	Mix Ratio	Temperature Range, °F	Tubes Size, oz.			Cans Size, oz.		
Epoxies												
1751	Gap Filling	Gray	45 min.	7 days	3:2	–65° to 350°	3.3	75065A66	$56.73	26.6	75065A67▲	$187.31
1751	Gap Filling	Gray	45 min.	7 days	3:2	–65° to 350°	—	—	—	53.3	75065A68▲	250.74
1838	High Strength	Green	60 min.	7 days	4:5	–65° to 350°	3.6	75065A69	57.94	28.8	75065A7	174.27
1838	High Strength	Green	60 min.	7 days	4:5	–65° to 350°	—	—	—	57.6	75065A71	232.54
1838L	Easy Flowing	Semi-Clear	60 min.	7 days	1:1	–65° to 350°	4	75065A73	60.62	64	75065A74	328.67
2158	General Purpose	Gray	120 min.	7 days	1:1	–65° to 350°	—	—	—	32	75065A76	182.82
2158	General Purpose	Gray	120 min.	7 days	1:1	–65° to 350°	—	—	—	64	75065A77	247.27
2216	Flexible	Gray	90 min.	7 days	2:3	–65° to 350°	3.3	75045A65	54.96	26.6	75045A66	188.24
2216	Flexible	Gray	90 min.	7 days	2:3	–65° to 350°	—	—	—	53.3	75045A67	251.03
2216	Flexible	Gray	90 min.	7 days	2:3	–65° to 350°	—	—	—	213	75045A68	760.55
2216	Flexible	Semi-Clear	120 min.	30 days	1:1	–65° to 350°	4	75045A78	55.94	32	75045A79	225.45
2216	Flexible	Semi-Clear	120 min.	30 days	1:1	–65° to 350°	—	—	—	64	75045A8	300.55
3501	Weather Resistant	Gray	6 min.	24 hrs.	1:1	–65° to 350°	—	—	—	32	75065A82	227.86
Urethanes												
3532	For Vertical Surfaces	Brown	5 min.	24 hrs.	1:1	–65° to 250°	4	75025A772	41.15	64	75025A774	188.08
3535	Fast Hardening	Off-White	45 sec.	8 hrs.	1:1	–65° to 250°	4	75065A92	41.15	—	—	—

▲These products cannot be sold in California.

Loctite® Adhesives



Impact, peel, and weather resistant, these two-step acrylic adhesives bond most metals and plastics as well as glass. A primer or activator (sold separately) is required to create adhesion.

324™ also bonds magnets. Requires activator 7075™.
325™ also bonds ceramic and magnets. Requires activator 7075™.
326™ also bonds Kevlar. Requires primer 7649™.
330™ also bonds ceramic and wood. Requires activator 7387™.
331™ and **392™** also bond magnets. Require activator 7387™.

Adhesives and Adhesive Kits

Loctite No.	Type	Size	Color	Begins to Harden	Reaches Full Strength	Temperature Range, °F		
Adhesives								
324	General Purpose	1.7-oz. Bottle	Amber	5 min.	24 hrs.	–65° to 350°	7614A11	$21.45
325	Chemical Resistant	1.7-oz. Bottle	Brown	5 min.	24 hrs.	–65° to 300°	7614A111	21.35
326	Fast Hardening	1.7-oz. Bottle	Brown	1 min.	24 hrs.	–65° to 250°	7614A14	23.16
330	General Purpose	8.5-oz. Tube	Amber	5 min.	24 hrs.	–65° to 250°	7560A58	83.51
331	Fast Hardening	0.9-oz. Syringe	Light Yellow	20 sec.	24 hrs.	–40° to 350°	7614A36	32.47
392	Impact Resistant	1.7-oz. Tube	Amber	1 min.	24 hrs.	–65° to 250°	1700A102	48.04
Adhesive Kits								
312	General Purpose	0.34-oz. Bottle of Adhesive 1.41-oz. Aerosol Primer	Amber	1 min.	24 hrs.	–65° to 250°	7523A31	30.11
312	General Purpose	1.69-oz. Bottle of Adhesive 6-oz. Aerosol Primer	Amber	1 min.	24 hrs.	–65° to 250°	7523A21	70.87
330	General Purpose	0.85-oz. Syringe of Adhesive 0.88-oz. Aerosol Activator	Amber	5 min.	24 hrs.	–65° to 250°	7560A54	38.68
330	General Purpose	8.5-oz. Tube of Adhesive 4.5-oz. Aerosol Activator	Amber	5 min.	24 hrs.	–65° to 250°	7560A55	101.25

Primers and Activators

Loctite No.	Size	Use with Adhesive No.	Color		
Primers					
736	6-oz. Aerosol	312	Amber	7523A33	$36.91
7649	4.5-oz. Aerosol	326	Green	7614A17	29.65
Activators					
7075	4.5-oz. Aerosol	324, 325	Amber	7614A131	33.80
Activators (Cont.)					
7075	32-oz. Can	324, 325	Amber	7614A21	$99.88
7387	1.8-oz. Bottle	330, 331, 392	Amber	7560A56	16.08
7387	4.5-oz. Aerosol	330, 331, 392	Amber	7560A57	44.40

J-B Weld Adhesives



Create strong bonds on most metals and plastics with these two-part epoxies. Size listed is the combined total of the two parts. **50112** also bonds ceramic and wood. **8265-S** also bonds concrete and wood. **8270, 8276,** and **8277** also bond fiberglass. **8272** also bonds composites and fiberglass. **8280** also bonds concrete and wood.

J-B Weld No.	Type	Size	Color	Begins to Harden	Reaches Full Strength	Mix Ratio	Max. Temp., °F		
50112	Quick-Setting	0.85-oz. Syringe	Clear	5 min.	60 min.	1:1	200°	7605A18	$5.74
8265-S	General Purpose	2-oz. Tube	Gray	30 min.	24 hrs.	1:1	500°	7605A11	6.17
8270	Fast Hardening	10-oz. Tube	Gray	6 min.	6 hrs.	1:1	300°	7605A17	20.12
8272	Acid, Chemical, and Oil Resistant	2-oz. Tube	Gray	20 min.	24 hrs.	1:1	500°	7605A15	6.28
8276	Fast Hardening	2-oz. Tube	Gray	2 min.	6 hrs.	1:1	300°	7605A13	6.21
8277	Underwater	2-oz. Stick	Off-White	15 min.	60 min.	—	300°	7605A16	7.11
8280	General Purpose	10-oz. Tube	Gray	30 min.	24 hrs.	1:1	500°	7605A12	17.50

Adhesives in One-Time-Use Packets







Also known as double-bubbles, these convenient packets easily handle small jobs on most metals. Ten mixing sticks are included. Size listed is the combined total of the two parts.

Epoxies are the strongest and most weather and chemical resistant.

General purpose and *fast hardening* also bond ceramic, concrete, and rubber.

Fast hardening for vertical surfaces also bonds stone and wood.

Easy flowing also bonds phenolic laminates (Garolite).

Machinable also bonds fiberglass and phenolic laminates (Garolite).

Transparent also bonds glass.

Vibration resistant also bonds rubber.

Underwater also bonds concrete and fiberglass.

Urethanes remain the most flexible when bonding dissimilar materials. They also bond glass, phenolic laminates (Garolite), rubber, and stone.

Flexible also bonds fiberglass.

Semi-rigid also bonds sheet moulding compound (SMC) and thermoplastic elastomers.

Type	Size, oz.	Color	Begins to Harden	Reaches Full Strength	Temperature Range, °F		Pkg. of 10
Epoxies							
General Purpose	0.1	Dark Amber	2 hrs.	24 hrs.	–25° to 200°	7538A12	$17.34
Fast Hardening	0.1	Amber	3 min.	24 hrs.	15° to 180°	7538A11	16.68
Fast Hardening for Vertical Surfaces	0.1	White	3 min.	24 hrs.	15° to 180°	7538A15	19.34
Easy Flowing	0.1	Light Amber	45 min.	24 hrs.	0° to 120°	7538A14	19.66
Machinable	0.1	Aluminum	25 min.	24 hrs.	0° to 300°	7538A32	17.34
Transparent	0.1	Clear	60 min.	7 days	0° to 180°	7538A13	17.02
Vibration Resistant	0.1	Gray	3 hrs.	7 days	–65° to 250°	7538A31	17.34
Underwater	0.1	Gray	25 min.	7 days	0° to 220°	7538A33	20.36
Urethanes							
General Purpose	0.1	Clear	8 min.	18 hrs.	–40° to 150°	7493A41	17.68
Flexible	0.1	Beige	3 min.	24 hrs.	–40° to 170°	7493A21	17.34
Semi-Rigid	0.1	Beige	5 min.	24 hrs.	–40° to 200°	7493A34	17.02

8-Piece Epoxy Assortment— Includes 1 packet of each epoxy listed above. 7538A16 Each $18.16

Adhesives in Syringes



Suited for small jobs on most metals and plastics, these two-part adhesives come in a syringe for easy dispensing.

Epoxies are the strongest and most weather and chemical resistant.

Loctite® 1324007™ also bonds concrete, glass, and wood.

Gorilla also bonds ceramic, glass, and wood.

General purpose also bond wood. 7541A76 also bonds brick and painted metal; 7541A84 also bonds rubber.

High strength also bonds brick, concrete, and wood.

Water resistant also bonds fiberglass, glass, and wood.

Underwater also bonds concrete, fiberglass, glass, and wood.

Acrylic is impact, peel, and weather resistant and requires the least amount of surface preparation. It also bonds ceramic and fiberglass.

Urethanes remain the most flexible when bonding dissimilar materials that expand and contract differently.

Type	Size, oz.	Color	Begins to Harden	Reaches Full Strength	Mix Ratio	Temperature Range, °F		
Epoxies								
Loctite 1324007	0.84	Clear	1 min.	60 min.	1:1	–65° to 300°	7556A33	$7.09
Gorilla	0.84	Clear	5 min.	24 hrs.	1:1	–10° to 200°	7541A51	6.04
Fast Hardening	1.65	Amber	1 min.	3 hrs.	1:1	–45° to 250°	7541A82	11.80
General Purpose	0.84	Light Amber	3 min.	12 hrs.	1:1	–40° to 200°	7541A76	7.27
General Purpose	1.65	Amber	4 min.	24 hrs.	1:1	–45° to 250°	7541A84	10.60
For Vertical Surfaces	0.47	Light Amber	4 min.	24 hrs.	1:1	–40° to 200°	7670A22	9.00
High Strength	0.84	Opaque	4 min.	48 hrs.	1:1	–40° to 200°	7592A31	8.98
Water Resistant	0.84	Clear	8 min.	16 hrs.	1:1	–40° to 200°	7541A77	8.34
Slow Hardening	1.65	Amber	50 min.	24 hrs.	1:1	–45° to 250°	7541A83	10.60
Underwater	1	Yellow	60 min.	7 days	1:1	–40° to 200°	7456A53	7.65
Acrylic								
General Purpose	1	Light Yellow	4 min.	24 hrs.	1:1	–65° to 250°	75395A65	12.05
Urethanes								
Fast Hardening	1.65	Black	1 min.	24 hrs.	1:1	–45° to 250°	7448A21	11.00
General Purpose	1.65	Black	4 min.	24 hrs.	1:1	–45° to 250°	7448A22	11.00

Adhesives in Tubes



Two-part epoxies in easy-to-use tubes for bonding most metals and plastics. Size listed is the combined total of the two parts.

Loctite® 1C™ general purpose also bonds wood.

Loctite® 0151™ for fiber optics also bonds glass.

Loctite® 9340™ chemical resistant also bonds ceramic.

General purpose also bond rubber.

Electrical insulating also bonds ceramic.

Fast setting also bonds fiberglass.

Loctite No.	Type	Size, oz.	Color	Begins to Harden	Reaches Full Strength	Mix Ratio	Temperature Range, °F		
Loctite® Epoxies									
1C	General Purpose	4	Off-White	20 min.	72 hrs.	2.5:1	–65° to 300°	1813A221	$10.64
11C	General Purpose	4	Black	20 min.	72 hrs.	2.5:1	–65° to 300°	1813A222	12.96
608	Fast Setting	2.8	Clear	5 min.	24 hrs.	1:1	–65° to 130°	1813A351	15.12
907	For Dirty Surfaces	2.2	Light Blue	20 min.	24 hrs.	1:1	–65° to 180°	1813A244	14.89
0151	For Fiber Optics	3.3	Clear	60 min.	72 hrs.	2:1	–65° to 160°	1813A225	13.93
9340	Chemical Resistant	2.7	Gray	90 min.	24 hrs.	1:1	–65° to 180°	1813A243	17.66
Epoxies									
___	For Glass	4.5	Clear	60 min.	36 hrs.	2:1	–65° to 260°	7524A14	20.48
___	General Purpose	5	Clear	20 min.	24 hrs.	2:1	–65° to 260°	7524A13	19.21
___	Electrical Insulating	6.5	Light Amber	4 min.	24 hrs.	1:1	–65° to 260°	7524A15	22.34
___	Fast Setting	9	Gray	3 min.	4 hrs.	1:1	–40° to 140°	66135A22	39.12

Adhesives in Bottles



Plastic squeeze bottles mean easy dispensing of these two-part epoxies that bond concrete, glass, and most metals. Size listed is the combined total of the two parts.

General purpose also bonds polystyrene, PVC, rubber, and stone.

Fast hardening also bonds most plastics.

Vibration resistant also bonds rubber.

Type	Color	Begins to Harden	Reaches Full Strength	Mix Ratio	Temperature Range, °F	8 oz.		32 oz.	
General Purpose	Dark Amber	2 hrs.	24 hrs.	1:1	–25° to 200°	7508A42	$17.76	7508A52	$47.02
Fast Hardening	Amber	3 min.	24 hrs.	1:1	15° to 180°	7508A41	24.55	7508A51	75.33
Vibration Resistant	Gray	3 hrs.	24 hrs.	1:1	–65° to 250°	7508A43	19.62	7508A53	53.48

Loctite® High-Purity Adhesives



Use to bond glass, metal, and plastic. To simultaneously mix and dispense these two-part adhesive cartridges, use the dispensing gun and a mixer nozzle (each sold separately).

Epoxies are the strongest and most weather and chemical resistant.

Urethane remains the most flexible when bonding materials that expand and contract differently. Also bonds wood.

Loctite No.	Type	Size, oz.	Color	Begins to Harden	Reaches Full Strength	Mix Ratio	Temperature Range, °F		
Epoxies									
M-21HP	Electrical Insulating	1.7	Off-White	20 min.	24 hrs.	2:1	–65° to 300°	7370A39	$18.77
M-31CL	Easy Flowing	1.7	Clear	30 min.	24 hrs.	2:1	–65° to 300°	7370A38	17.48
M-121HP	Impact Resistant	1.7	Amber	120 min.	24 hrs.	2:1	–65° to 300°	7370A37	17.90
Urethane									
M-11FL	Easy Flowing	1.7	Clear	10 min.	24 hrs.	1:1	–65° to 250°	7370A22	20.43
Dispensing Gun (Includes 1:1 and 2:1 mix ratio plungers)								74695A71	23.06
Mixer Nozzle								74695A12	1.26

Adhesives for Food-Processing Applications





Bond most metals and plastics as well as ceramic, fiberglass, and glass in food-processing and packaging equipment. Epoxies are two-part and are FDA compliant. Size listed is the combined total of the two parts.

Color	Begins to Harden	Reaches Full Strength	Mix Ratio	Temperature Range, °F	1.4-oz. Dual-Packets		16-oz. Cans	
Amber	2 hrs.	18 hrs.	2:1	–94° to 290°	66525A21	$29.30	66525A22	$89.18

Adhesives for Slippery Plastics





Difficult-to-bond plastics such as HDPE, nylon, PEEK, PET, and polyethylene become easy to bond with these two-part epoxies. They also bond glass and metal.

1.7-oz. cartridges use the dispensing gun and mixer nozzle (each sold separately) to simultaneously mix and dispense. Size listed for *bottles* is the combined total of the two parts.

Flexible also bonds fiberglass, polyimide, PVDF, rubber, and UHMW polyethylene.

Easy flowing can also be used as a protective coating or for potting applications. It also bonds fiberglass, polyimide, PVDF, rubber, and UHMW polyethylene.

Type	Color	Begins to Harden	Reaches Full Strength	Mix Ratio	Temperature Range, °F	1.7-oz. Cartridges		48-oz. Bottles	
Flexible	Amber	30 min.	24 hrs.	2:1	–50° to 350°	7513A3	$86.00	—	—
Easy Flowing	Amber	30 min.	24 hrs.	2:1	–50° to 350°	7513A1	86.00	7513A2	$269.81
Chemical Resistant	White	40 min.	24 hrs.	2:1	–65° to 350°	7513A4	78.18	—	—
Dispensing Gun (Includes 1:1 and 2:1 mix ratio plungers)								74695A71	23.06
Mixer Nozzle								74695A12	1.26

Adhesives for PTFE

Make secure bonds on PTFE and fluoropolymers with these two-part epoxies that also bond ceramic, glass, most metals, and wood.

Adhesives



Epoxy requires the dispensing gun and a mixer nozzle (each sold separately) to simultaneously mix and dispense. Gun includes 1:1 and 2:1 mix ratio plungers. Temperature range is –85° to 275°F. Size listed is the combined total of the two parts.

Type	Size, oz.	Color	Begins to Harden	Reaches Full Strength	Mix Ratio	Epoxies		Dispensing Gun		Mixer Nozzle	
Super Flexible	1.7	Amber	90 min.	3 days	1:1	7513A6	$78.18	74695A71	$23.06	74695A12	$1.26

Adhesive Kits



Deluxe Kit

Kits include one cartridge of epoxy, etching solution, 1:1 and 2:1 mix ratio plungers, and a mixer nozzle. Color is amber. Begins to harden in 30 min.; reaches full strength in 24 hours. Mix ratio is 2:1. Temperature range is –50° to 350°F. Use with the dispensing gun (sold separately) to simultaneously mix and dispense. Gun includes 1:1 and 2:1 mix ratio plungers.

Deluxe kit also includes two brushes, two mixing trays, and a mixing stick.

Type	Size	Kits		Dispensing Gun		Repl. Mixer Nozzle	
Standard	1.7-oz. of Epoxy 2-oz. of Etching Solution	7607A15	$154.00	74695A71	$23.06	74695A12	$1.26
Deluxe	1.7-oz. of Epoxy 4-oz. of Etching Solution	7807A11	242.00	74695A71	23.06	74695A12	1.26

High-Temperature Adhesives

Ready-to-Use—No mixing required.
General purpose, easy flowing, and *for vertical surfaces* bond ceramic and metals.
Extreme temperature bonds brick and ceramic.
For porous insulation bonds calcium silicate insulation.

Two-Part—Size listed is the combined total of the two parts.
General purpose bonds aluminum, brass, and copper.
Fast hardening bond ceramic and glass.
Electrical insulating bond ceramic, glass, and steel.

Type	Color	Begins to Harden	Reaches Full Strength	Mix Ratio	Max. Temp., °F	Small Sizes: Size		Large Sizes: Size	
Ready-to-Use									
General Purpose	Gray	20 min.	48 hrs.	—	2300°	8-oz. Can 7482A21	$49.92	64-oz. Can 7482A22	$130.78
Easy Flowing	Gray	20 min.	48 hrs.	—	2300°	8-oz. Can 7482A11	49.92	—	—
For Vertical Surfaces	Gray	20 min.	48 hrs.	—	2300°	8-oz. Can 7482A31	49.92	64-oz. Can 7482A32	130.78
Extreme Temperature	Tan	15 min.	24 hrs.	—	4000°	16-oz. Jar 7564A11	91.85	32-oz. Jar 7564A12	155.37
For Porous Insulation	Off-White	15 sec.	90 min.	—	1000°	—	—	1-gal. Pail 93630A220	34.42
For Porous Ceramic	White	20 min.	24 hrs.	—	2300°	—	—	32-oz. Jar 7563A29	109.00
Two-Part									
General Purpose	White	20 min.	2 hrs.	2.4:1	3000°	24-oz. Jar 7563A31★	96.90	48-oz. Jar 7563A33★	163.92
Fast Hardening	Tan	10 min.	16 hrs.	2:1	1800°	16-oz. Jar 7563A43	67.80	32-oz. Jar 7563A45	117.36
Fast Hardening	Tan	10 min.	16 hrs.	4:1	2000°	23-oz. Jar 7563A35	64.58	38-oz. Jar 7563A37	117.36
Fast Hardening	White	10 min.	24 hrs.	2.3:1	2500°	20-oz. Jar 7563A39	67.80	40-oz. Jar 7563A41	117.36
Electrical Insulating	Black	25 min.	24 hrs.	12.5:1	500°	19-oz. Jar 7563A24	113.12	1-gal. Jar 7563A26	387.77
Electrical Insulating	Black	4 hrs.	4 hrs.	3.6:1	600°	20-oz. Jar 7563A27■	119.12	—	—

★Reaches full strength with heat; 2 hours at 250°F. ■Reaches full strength with heat; 4 hours at 250°F plus 2 hours at 350°F.

Loctite® Instant-Bonding Adhesives

Also known as super glue, these adhesives provide quick bonds on metals, phenolic laminates (Garolite), most plastics, and rubber.

General Purpose—*404*™, *414*™, *415*™, *416*™, *420*™, *422*™, *430*™, *493*™, and *496*™ meet Commercial Standard A-A-3097. *409*™ also bonds ceramic.

Impact Resistant—*480*™ meets NSF/ANSI standards for use with drinking water systems.

High Temperature—*495*™ meets Commercial Standard A-A-3097.

High Temperature for Dirty or Porous Surfaces—Also bond foam, leather, paper, and wood.

Flexible—Also bond fabric, leather, and paper.



Tubes and Bottles

Loctite No.	Fills Gaps Up To	Begins to Harden	Reaches Full Strength	Thick-ness	Temperature Range, °F	Color	Tubes Size, oz.			Bottles Size, oz.		
General Purpose												
404	0.005″	30 sec.	24 hrs.	Thin	–65° to 180°	Clear				0.3	7569A22	$26.06
404	0.005″	30 sec.	24 hrs.	Thin	–65° to 180°	Clear				4	7569A23	151.51
404	0.005″	30 sec.	24 hrs.	Thin	–65° to 180°	Clear				16	7569A24	282.98
409	0.01″	75 sec.	24 hrs.	Gel	–65° to 180°	Clear	0.1	7608A56	$4.23			
409	0.01″	75 sec.	24 hrs.	Gel	–65° to 180°	Clear	0.7	7608A55	17.61			
409	0.01″	75 sec.	24 hrs.	Gel	–65° to 180°	Clear	10.5	7608A59	179.72			
414	0.006″	20 sec.	24 hrs.	Thin	–65° to 180°	Clear	0.1	7625A16	4.92	1	7625A15	25.33
414	0.006″	20 sec.	24 hrs.	Thin	–65° to 180°	Clear				16	7625A17	231.92
415	0.008″	30 sec.	24 hrs.	Thick	–65° to 180°	Clear				1	74985A65	24.76
416	0.008″	30 sec.	24 hrs.	Thick	–65° to 180°	Clear				1	7567A21	22.92
416	0.008″	30 sec.	24 hrs.	Thick	–65° to 180°	Clear				16	7567A22	206.30
420	0.002″	20 sec.	24 hrs.	Thin	–65° to 180°	Clear				1	66745A21	23.73
420	0.002″	20 sec.	24 hrs.	Thin	–65° to 180°	Clear				16	66745A22	206.30
422	0.008″	30 sec.	24 hrs.	Thick	–65° to 180°	Clear				1	74985A67	24.13
430	0.005″	30 sec.	24 hrs.	Thin	–65° to 180°	Clear	0.1	66635A31	6.02	1	66635A32	24.27
430	0.005″	30 sec.	24 hrs.	Thin	–65° to 180°	Clear				16	66635A33	212.35
431	0.008″	15 sec.	24 hrs.	Thick	–65° to 180°	Clear	0.1	74765A21	7.19	0.7	74765A22	24.51
438	0.006″	30 sec.	24 hrs.	Thick	–65° to 225°	Black				0.7	74765A24	27.44
493	0.002″	30 sec.	24 hrs.	Thin	–65° to 180°	Clear				1	74985A69	27.83
496	0.005″	30 sec.	24 hrs.	Thin	–65° to 180°	Clear				1	74985A7	24.53
498	0.007″	50 sec.	24 hrs.	Thick	–65° to 180°	Clear				1	74985A71	26.40
499	0.01″	50 sec.	24 hrs.	Gel	–65° to 180°	Clear	0.7	74985A72	23.37			
Impact Resistant												
380	0.006″	90 sec.	24 hrs.	Thick	–65° to 225°	Black	0.1	74555A44	5.45	1	74555A65	30.11
380	0.006″	90 sec.	24 hrs.	Thick	–65° to 225°	Black				16	74555A46	282.55
410	0.008″	90 sec.	24 hrs.	Thick	–65° to 225°	Black	0.1	74765A72	7.19	0.7	74765A42	26.67
410	0.008″	90 sec.	24 hrs.	Thick	–65° to 225°	Black				16	74765A39	242.19
411	0.008″	30 sec.	24 hrs.	Thick	–65° to 210°	Clear	0.1	74765A73	6.02	0.7	74765A43	26.50
411	0.008″	30 sec.	24 hrs.	Thick	–65° to 210°	Clear				16	74765A86	242.19
426	0.01″	20 sec.	24 hrs.	Gel	–65° to 210°	Black	0.7	74765A84	28.90			
435	0.006″	30 sec.	24 hrs.	Thick	–65° to 225°	Clear				0.7	74765A23	26.67
480	0.006″	90 sec.	24 hrs.	Thick	–65° to 180°	Black				0.7	74765A49	26.67
High Temperature												
495	0.004″	20 sec.	24 hrs.	Thin	–65° to 250°	Clear	0.1	7520A13	4.31	1	7520A12	24.23
495	0.004″	20 sec.	24 hrs.	Thin	–65° to 250°	Clear				16	7520A14	206.30
4203	0.005″	40 sec.	24 hrs.	Thick	–65° to 250°	Clear	0.7	74795A57	31.50			
4204	0.008″	75 sec.	24 hrs.	Thick	–65° to 250°	Clear	0.7	74795A59	30.60			
4205	0.01″	90 sec.	24 hrs.	Gel	–65° to 250°	Clear	0.7	74795A62	32.42			
4210	0.01″	90 sec.	24 hrs.	Thick	–65° to 250°	Black				0.7	74795A24	31.79
4211	0.01″	90 sec.	24 hrs.	Thick	–65° to 250°	Black				0.7	74795A25	32.42
39202	0.01″	15 sec.	24 hrs.	Gel	–65° to 250°	Clear				0.1	74765A25	7.02
High Temperature for Dirty or Porous Surfaces												
401	0.005″	15 sec.	24 hrs.	Thin	–65° to 250°	Clear	0.1	74765A63	5.96	0.7	74765A33	24.08
401	0.005″	15 sec.	24 hrs.	Thin	–65° to 250°	Clear				16	74765A85	217.14
406	0.004″	15 sec.	24 hrs.	Thin	–65° to 250°	Clear	0.1	74765A36	7.40	0.7	74765A32	24.08
406	0.004″	15 sec.	24 hrs.	Thin	–65° to 250°	Clear				16	74765A37	216.11
454	0.01″	15 sec.	24 hrs.	Gel	–65° to 250°	Clear	0.1	74765A65	5.96			
454	0.01″	15 sec.	24 hrs.	Gel	–65° to 250°	Clear	0.7	74765A35	25.79			
454	0.01″	15 sec.	24 hrs.	Gel	–65° to 250°	Clear	7	74765A88	123.73			
4471	0.008″	15 sec.	24 hrs.	Thick	–65° to 180°	Clear				0.7	74765A34	24.25
4471	0.008″	15 sec.	24 hrs.	Thick	–65° to 180°	Clear				16	74765A75	217.14
Low Odor												
403	0.008″	50 sec.	24 hrs.	Thick	–65° to 200°	Clear				0.7	74765A53	27.54
408	0.002″	50 sec.	24 hrs.	Thin	–65° to 160°	Clear				0.7	74765A51	27.54
460	0.004″	50 sec.	24 hrs.	Thin	–65° to 200°	Clear				0.7	74765A52	27.27
460	0.004″	50 sec.	24 hrs.	Thin	–65° to 200°	Clear				16	74765A48	269.60
Flexible												
4851	0.006″	20 sec.	24 hrs.	Thick	–65° to 125°	Clear				0.7	74795A73	31.69
4861	0.008″	20 sec.	24 hrs.	Thick	–65° to 125°	Clear				0.7	74795A74	31.69

Syringes—Dispensing plunger (sold separately) is required

Loctite No.	Fills Gaps Up To	Begins to Harden	Reaches Full Strength	Thick-ness	Temperature Range, °F	Color	0.3-oz. Syringes	
General Purpose								
499	0.01″	50 sec.	24 hrs.	Gel	–65° to 180°	Clear	74985A57	$22.65
Impact Resistant								
426	0.01″	20 sec.	24 hrs.	Gel	–65° to 210°	Black	74765A92	28.60
High Temperature for Dirty or Porous Surfaces								
454	0.01″	15 sec.	24 hrs.	Gel	–65° to 250°	Clear	74765A87	25.85
Low Odor								
455	0.01″	40 sec.	24 hrs.	Gel	–65° to 200°	Clear	74765A89	27.83
Dispensing Plunger							66045A13	28.59

Instant-Bonding Adhesives

For information about adhesives and sealants, see page 3448.

Loctite® Gap-Filling Instant-Bonding Adhesives



Large gaps are no problem for this fast-bonding, two-part adhesive. It bonds most metals, plastics, rubber, and wood. Includes three mixer nozzles for simultaneous mixing and dispensing.

Loctite No.	Fills Gaps Up To	Size, oz.	Begins to Harden	Reaches Full Strength	Thick-ness	Temperature Range, °F	Color		
3092	0.2″	0.3	15 sec.	24 hrs.	Gel	0° to 175°	Clear	7530A12	$27.56

3M Instant-Bonding Adhesives





Get quick, strong bonds on most plastics and rubber. Also known as super glue. Adhesives meet Commercial Standard A-A-3097 (unless noted).

General Purpose—Also bond most metals.

CA4, CA5, and *CA50* also bond phenolic laminates (Garolite). *CA40* and *CA40H* also bond EPDM and phenolic laminates (Garolite).

Impact Resistant—Also bond fiberglass and phenolic laminates (Garolite).

For Dirty Surfaces—Also bond cardboard, leather, and wood.

Primer/accelerator ensures strong bonds and shortens the time it takes for adhesives to reach full strength.

3M No.	Fills Gaps Up To	Size	Begins to Harden	Reaches Full Strength	Thick-ness	Temperature Range, °F	Color		
General Purpose									
CA4	0.006″	0.07-oz. Tube	5 sec.	24 hrs.	Thick	–65° to 180°	Clear	75445A71★	$6.47
CA4	0.006″	1-oz. Bottle	5 sec.	24 hrs.	Thick	–65° to 180°	Clear	75445A72★	35.55
CA4	0.006″	16-oz. Bottle	5 sec.	24 hrs.	Thick	–65° to 180°	Clear	75445A81★	323.13
CA5	0.008″	1-oz. Bottle	12 sec.	24 hrs.	Thick	–65° to 180°	Clear	75445A73	35.55
CA40	0.004″	1-oz. Bottle	3 sec.	24 hrs.	Thin	–65° to 180°	Clear	75445A67	35.55
CA40H	0.006″	1-oz. Bottle	5 sec.	24 hrs.	Thick	–65° to 180°	Clear	75445A68	35.55
CA40H	0.006″	16-oz. Bottle	5 sec.	24 hrs.	Thick	–65° to 180°	Clear	75445A82	323.13
CA50 Gel	0.02″	0.7-oz. Tube	60 sec.	24 hrs.	Gel	–65° to 180°	Clear	75445A66★	42.53
PR100	0.006″	0.7-oz. Bottle	10 sec.	24 hrs.	Thin	–65° to 180°	Clear	75445A44	11.73
PR600	0.006″	1.7-oz. Bottle	4 sec.	24 hrs.	Thick	–65° to 180°	Clear	75445A21	19.55
PR1500	0.008″	0.07-oz. Tube	20 sec.	24 hrs.	Thick	–65° to 180°	Clear	75445A47	3.42
PR1500	0.008″	0.7-oz. Bottle	20 sec.	24 hrs.	Thick	–65° to 180°	Clear	75445A22	11.71
PR Gel	0.02″	0.7-oz. Tube	20 sec.	24 hrs.	Gel	–65° to 180°	Clear	75445A48★	16.60
Impact Resistant									
CA7	0.006″	1-oz. Bottle	1 sec.	24 hrs.	Thin	–65° to 180°	Clear	75445A74	35.55
CA8	0.006″	0.07-oz. Tube	5 sec.	24 hrs.	Thin	–65° to 180°	Clear	75445A76	6.47
CA8	0.006″	1-oz. Bottle	5 sec.	24 hrs.	Thin	–65° to 180°	Clear	75445A69	35.55
CA9	0.008″	1-oz. Bottle	20 sec.	24 hrs.	Thick	–65° to 180°	Clear	75445A75	35.55
CA100	0.02″	1-oz. Bottle	20 sec.	24 hrs.	Thick	–65° to 250°	Clear	75445A65	41.55
Low Odor									
LO1000	0.008″	0.7-oz. Bottle	20 sec.	24 hrs.	Thick	–65° to 160°	Clear	75445A51	24.21
For Dirty Surfaces									
SF20	0.004″	0.7-oz. Bottle	4 sec.	24 hrs.	Thin	–65° to 180°	Clear	75445A23	9.69
SF100	0.006″	0.1-oz. Tube	4 sec.	24 hrs.	Thin	–65° to 180°	Clear	75445A24	2.54
SF100	0.006″	0.7-oz. Bottle	4 sec.	24 hrs.	Thin	–65° to 180°	Clear	75445A25	16.31
SI Gel	0.02″	0.7-oz. Tube	20 sec.	24 hrs.	Gel	–65° to 180°	Clear	75445A26★	15.80
Primer/Accelerator (2-oz. Bottle)								75445A83	18.27

★ Does not meet Commercial Standard A-A-3097.

Permabond Instant-Bonding Adhesives



Bond most metals and plastics, phenolic laminates (Garolite), and rubber with these adhesives that are also known as super glue.

General Purpose—*268* also bonds ceramic.

High Temperature—To achieve resistance to the maximum temperature, adhesives (except 820) must be clamped at room temperature for 4 hours and then heated to 305°F for 2 hours.

Accelerator shortens the time it takes for adhesives to reach full strength.

Permabond No.	Fills Gaps Up To	Size, oz.	Begins to Harden	Reaches Full Strength	Thick-ness	Temperature Range, °F	Color	Meets MIL-A46050C		
General Purpose										
101	0.002″	1	5 sec.	24 hrs.	Thin	–65° to 180°	Clear	Type II, Class I	7580A81	$19.58
102	0.006″	1	10 sec.	24 hrs.	Thin	–65° to 180°	Clear	Type II, Class II	7580A82	19.05
105	0.004″	1	10 sec.	24 hrs.	Thin	–65° to 180°	Clear	Type II, Class I	7580A83	19.69
200	0.015″	1	15 sec.	24 hrs.	Thick	–65° to 180°	Clear	_____	7580A84	18.84
240	0.017″	1	15 sec.	24 hrs.	Thick	–65° to 180°	Clear	_____	7580A85	19.55
268	0.017″	1	10 sec.	24 hrs.	Thick	–65° to 180°	Clear	Type II, Class III	7580A53	24.83
910	0.006″	1	10 sec.	24 hrs.	Thin	–65° to 195°	Clear	Type I, Class II	7580A52	19.05
910	0.006″	16	10 sec.	24 hrs.	Thin	–65° to 195°	Clear	Type I, Class II	7580A74	201.75
910FS	0.002″	1	5 sec.	24 hrs.	Thin	–65° to 195°	Clear	Type I, Class I	7580A65	19.00
High Temperature										
820	0.006″	1	10 sec.	24 hrs.	Thin	–65° to 390°	Clear	_____	7585A41	35.84
919	0.002″	1	10 sec.	24 hrs.	Thin	–65° to 480°	Clear	Type V, Class I	7585A43	55.18
920	0.006″	1	10 sec.	24 hrs.	Thin	–65° to 480°	Clear	Type V, Class II	7585A42	52.64
922	0.017″	1	10 sec.	24 hrs.	Thick	–65° to 480°	Clear	Type V, Class III	7585A44	53.29
Accelerator (4-oz. Spray Bottle)									7580A66	18.59

Gorilla Instant-Bonding Adhesives



Tiny rubber particles in this adhesive provide increased impact resistance. Also known as super glue, adhesive bonds brick, ceramic, metal, plastic, rubber, stone, and wood.

Fills Gaps Up To	Begins to Harden	Reaches Full Strength	Thick-ness	Temperature Range, °F	Color	0.1-oz. Tube		0.5-oz. Bottle	
0.008″	30 sec.	24 hrs.	Thick	–65° to 200°	Semi-Clear	5551T71	$2.87	5551T72	$5.31

For information about adhesives and sealants, see page 3448.

Brush-On Instant-Bonding Adhesives

A brush makes applying these adhesives clean and easy. Also known as super glue, all of these adhesives bond most metals and plastics as well as fiberglass, phenolic laminates (Garolite), and rubber.



Fills Gaps Up To	Size, oz.	Begins to Harden	Reaches Full Strength	Thick-ness	Temperature Range, °F	Color	Meets MIL-A-46050C		
General Purpose									
0.004″	1	8 sec.	8 hrs.	Thin	–65° to 200°	Clear	Type I, Class II	7729A21	$26.00
0.006″	1	8 sec.	8 hrs.	Thin	–65° to 200°	Clear	Type II, Class II	7729A22	26.00
0.008″	1	15 sec.	8 hrs.	Thick	–65° to 200°	Clear	Type II, Class III	7729A23	26.00
0.01″	1	25 sec.	8 hrs.	Gel	–65° to 200°	Clear	Type II, Class III	7729A24	26.97
High Temperature									
0.006″	1	10 sec.	8 hrs.	Thick	–65° to 250°	Black	Type II, Class II	7729A26	26.97
Low Odor									
0.005″	1	7 sec.	24 hrs.	Thin	–65° to 180°	Clear	—	7729A27	28.70
For Dirty Surfaces									
0.002″	1	5 sec.	8 hrs.	Thin	–65° to 200°	Clear	Type II, Class I	7729A25	26.97

Loctite® High-Purity Instant-Bonding Adhesives

Also known as super glue, these adhesives bond most metals and plastics. **General purpose 4981™, impact resistant 4206™,** and adhesives **for dirty surfaces** also bond rubber. **4541™** also bonds acidic surfaces.



Loctite No.	Fills Gaps Up To	Size	Begins to Harden	Reaches Full Strength	Thick-ness	Temperature Range, °F	Color		
General Purpose									
4013	0.007″	0.7-oz. Bottle	20 sec.	24 hrs.	Thick	–65° to 180°	Clear	1818A42	$20.31
4014	0.002″	0.7-oz. Bottle	30 sec.	24 hrs.	Thin	–65° to 220°	Clear	1818A43	20.31
4161	0.008″	0.7-oz. Bottle	30 sec.	24 hrs.	Thick	–65° to 180°	Clear	1818A47	24.59
4981	0.007″	0.7-oz. Bottle	50 sec.	24 hrs.	Thick	–65° to 220°	Clear	1818A52	27.34
Impact Resistant									
4206	0.005″	0.7-oz. Tube	30 sec.	24 hrs.	Thick	–65° to 250°	Clear	1818A48	37.48
Low Odor									
4031	0.008″	0.7-oz. Bottle	50 sec.	24 hrs.	Thick	–65° to 160°	Clear	1818A44	32.16
4601	0.004″	0.7-oz. Bottle	50 sec.	24 hrs.	Thin	–65° to 160°	Clear	1818A5	33.09
For Dirty Surfaces									
4011	0.005″	0.7-oz. Bottle	15 sec.	24 hrs.	Thin	–65° to 180°	Clear	1818A4	29.33
4061	0.004″	0.7-oz. Bottle	15 sec.	24 hrs.	Thin	–65° to 180°	Clear	1818A45	29.83
4541	0.01″	0.7-oz. Tube	15 sec.	24 hrs.	Gel	–65° to 180°	Clear	1818A491	32.38

High-Purity Instant-Bonding Adhesives

Comparable to Loctite® high-purity instant-bonding adhesives. Also known as super glue, they bond most metals and plastics as well as fiberglass, phenolic laminates (Garolite), rubber, and wood.

Fills Gaps Up To	Size	Begins to Harden	Reaches Full Strength	Thick-ness	Temperature Range, °F	Color		
0.003″	1-oz. Bottle	15 sec.	8 hrs.	Thin	–65° to 200°	Clear	7733A21	$25.24
0.004″	1-oz. Bottle	15 sec.	8 hrs.	Thin	–65° to 200°	Clear	7733A22	25.24
0.006″	1-oz. Bottle	15 sec.	8 hrs.	Thin	–65° to 200°	Clear	7733A23	25.24
0.007″	1-oz. Bottle	15 sec.	8 hrs.	Thick	–65° to 200°	Clear	7733A24	25.24
0.008″	1-oz. Bottle	15 sec.	8 hrs.	Thick	–65° to 200°	Clear	7733A25	25.24

Loctite® Primers, Accelerators, and Cleaners

Prepare your surfaces for bonding with these primers, accelerators, and cleaners.

Primers ensure strong bonds, especially when applying adhesives in low temperatures, or to large gaps or deep threads. Recommended for aluminum, galvanized steel, magnesium, stainless steel, steel, and titanium as well as plated parts and black-oxide coatings.

770™ and *7701*™ are for hard-to-bond slippery plastics. These products cannot be sold in the Los Angeles area.

7090™ cannot be sold in the Los Angeles area.

7471™ meets MIL-S-22473E.

7649™ meets NSF/ANSI 61 Standard for use with drinking water and meets MIL-S-22473E.

Accelerators shorten the time it takes for adhesives to reach full strength. Use on most metals and plastics.

712™ is for wires and coils on circuit boards.

713™ meets ISO 10993 though it is not for use in medical applications. Meets MIL-A-46050C.

7113™ creates smooth bond lines. This product cannot be sold in the Los Angeles area.

7452™ is for electronic components.

Cleaners remove dirt and degrease surfaces. They contain no ODCs (ozone-depleting chemicals).



Loctite No.	Size	Color		
Primers				
For Instant-Bonding Adhesives				
736	6-oz. Aerosol	Amber	7523A33	$36.91
770	1.75-oz. Bottle	Semi-Clear	66205A24	16.78
770	16-oz. Can	Semi-Clear	66205A36	86.92
7701	1.75-oz. Bottle	Clear	7614A34	20.78
For Threadlockers				
7088	0.59-oz. Stick	Amber	66205A27	16.16
7090	1-oz. Bottle	Blue	7614A39	19.12
7471	1.75-oz. Bottle	Amber	66205A39	20.49
7471	4.5-oz. Aerosol	Amber	66205A21	38.37
7471	1-gal. Can	Amber	66205A41	289.17
7649	0.88-oz. Aerosol	Green	7614A27	13.47
7649	1.75-oz. Bottle	Green	7614A16	19.06
7649	4.5-oz. Aerosol	Green	7614A17	29.65
7649	1-gal. Can	Green	7614A24	250.60

Loctite No.	Size	Color		
Accelerators				
For Instant-Bonding Adhesives				
712	0.7-oz. Aerosol	Semi-Clear	7502A66	$16.08
712	1.75-oz. Bottle	Semi-Clear	7502A67	10.28
712	1-gal. Can	Semi-Clear	7502A74	104.04
713	1.75-oz. Spray	Amber	1829A21	11.38
7109	1.75-oz. Bottle	Amber	66205A37	50.92
7113	1.75-oz. Bottle	Semi-Clear	7614A22	10.92
7452	0.7-oz. Aerosol	Amber	7502A71	16.08
7452	1.75-oz. Bottle	Amber	7502A72	8.65
7452	1.75-oz. Spray	Amber	7502A51	9.65
7452	32-oz. Can	Amber	1829A34	41.31
Cleaners				
For Instant-Bonding Adhesives and Threadlockers				
20162	16-oz. Spray	Clear	66415A11	12.72
22355	15-oz. Aerosol	Clear	66415A21	13.10

Skin-Guard Instant-Bonding Adhesives

Formulated for strong, instant bonds on ceramic, leather, most metals, rubber, and wood—but not your skin. Adhesives come in a tube.

Fills Gaps Up To	Size, oz.	Begins to Harden	Reaches Full Strength	Thickness	Temperature Range, °F	Color		
0.006″	0.07	10 sec.	24 hrs.	Thin	–65° to 160°	Clear	66185A11	$2.47
0.01″	0.07	10 sec.	24 hrs.	Gel	–65° to 160°	Clear	66185A12	2.89

Loctite® Light-Activated Adhesives



When exposed to ultraviolet (UV) light, these adhesives reach full strength in seconds. All bond most metals. *Syringes* require a dispensing gun (sold separately).

349™ also bonds glass.

352™ resists vibration and also bonds glass and most plastics including polycarbonate.

363™ also bonds glass and most plastics.

366™ also bonds glass.

3103™ also bonds glass.

3104™, 3105™, and **3106™** also bond glass and plastics including polycarbonate and PVC.

3211™ also bonds glass and polycarbonate.

3311™ also bonds glass.

3321™ also bonds glass and most plastics.

3494™ withstands humidity and immersion in water. Also bonds glass.

3525™ also bonds glass and most plastics.

3751™ and **3761™** also bond most plastics and can be used for potting and encapsulating electronics.

3922™ also bonds glass and most plastics.

Loctite No.	Type	Size	Temperature Range, °F	Color		
349	General Purpose	1.7-oz. Bottle	–65° to 260°	Light Yellow	74545A77	$31.76
352	High Strength	1.7-oz. Bottle	–65° to 270°	Amber	74545A66	21.04
363	General Purpose	1.7-oz. Bottle	–65° to 350°	Light Yellow	74545A71	46.15
366	Impact Resistant	1.7-oz. Bottle	–65° to 230°	Amber	74545A75	32.93
3103	For Polycarbonate	0.84-oz. Syringe	–65° to 300°	Light Yellow	74545A26	37.58
3104	Easy Flowing for Plastics	0.84-oz. Syringe	–65° to 300°	Light Yellow	74545A27	38.71
3105	For Plastics	0.84-oz. Syringe	–65° to 300°	Light Yellow	74545A21	37.58
3106	Gap Filling for Plastics	0.84-oz. Syringe	–65° to 300°	Light Yellow	74545A22	37.58
3211	High Purity for Flexible Surfaces	0.84-oz. Syringe	–65° to 300°	Light Yellow	1700A26	49.72
3311	High Purity for Polycarbonate and PVC	0.84-oz. Syringe	–65° to 300°	Light Yellow	1700A253	49.72
3321	Gap Filling	0.84-oz. Syringe	–65° to 300°	Light Yellow	1700A251	49.72
3494	Impact Resistant	0.84-oz. Syringe	–65° to 300°	Light Yellow	74545A23	37.58
3525	General Purpose	0.84-oz. Syringe	–65° to 300°	Light Yellow	74545A24	37.58
3751	General Purpose	0.84-oz. Syringe	–65° to 270°	Light Yellow	74545A55	34.82
3761	General Purpose	0.84-oz. Syringe	–65° to 270°	Yellow	74545A82	35.85
3922	High Purity Easy Flowing	0.84-oz. Syringe	–65° to 300°	Opaque	1700A259	49.72
Dispensing Gun for Syringes (Includes plunger)					7422A41	26.10

Weldwood Contact Adhesives





Often used to bond laminates for countertops and cabinets, these adhesives provide adhesion with no need for clamps or temporary fasteners. They also bond wood.

General purpose also bonds most plastics. 7488A65 meets MMM-A-130B.

Nonflammable is rubber based and low odor. Also bonds porous surfaces.

Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
General Purpose						
3-oz. Bottle	15 min.	72 hrs.	–40° to 150°	Tan	7488A64	$4.57
16-oz. Can	15 min.	72 hrs.	–40° to 180°	Tan	7488A65	8.98
Nonflammable						
16-oz. Can	30 min.	72 hrs.	–40° to 180°	Amber	7514A23	12.44
32-oz. Can	30 min.	72 hrs.	–40° to 180°	Amber	7514A24	20.44
1-gal. Can	30 min.	72 hrs.	–40° to 180°	Amber	7514A25	45.50

Pliobond Contact Adhesives





Make flexible, waterproof, and chemical-resistant bonds that strengthen with age.

General Purpose—Bond ceramic, metal, plastic, and rubber. The 32-oz. and 1-gal. cans cannot be sold in California.

20 also bonds glass.

High Temperature—Bonds ceramic and metals. Heat to 300°F to reach full strength. Cannot be sold in the Los Angeles area, Connecticut, the D.C. area, Delaware, Maine, Maryland, New Jersey, New York, Pennsylvania, Rhode Island, Utah, and Northern Virginia.

For Porous Surfaces—Also bonds cork and fabric.

Pliobond No.	Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
General Purpose							
20	1-oz. Tube	3 min.	14 days	–40° to 375°	Tan	7468A22	$4.18
25	3-oz. Brush-Top Bottle	3 min.	14 days	–40° to 375°	Tan	7468A61	7.65
25	8-oz. Brush-Top Can	3 min.	14 days	–40° to 375°	Tan	7468A62	12.62
25	16-oz. Can	3 min.	14 days	–40° to 375°	Tan	7468A63	22.58
25	32-oz. Can	3 min.	14 days	–40° to 375°	Tan	7468A8	37.54
25	1-gal. Can	3 min.	14 days	–40° to 375°	Tan	7468A9	119.44
High Temperature							
HT-30	32-oz. Can	3 min.	30 min.	–40° to 500°	Tan	7468A3	37.18
HT-30	1-gal. Can	3 min.	30 min.	–40° to 500°	Tan	7468A4	116.60
For Porous Surfaces							
35	8-oz. Brush-Top Can	3 min.	14 days	–40° to 375°	Tan	7468A53	13.20
35	16-oz. Can	3 min.	14 days	–40° to 375°	Tan	7468A54	24.89
35	32-oz. Can	3 min.	14 days	–40° to 375°	Tan	7468A51	39.87
35	1-gal. Can	3 min.	14 days	–40° to 375°	Tan	7468A52	134.84

3M Contact Adhesives for Plastics

Make secure bonds on most plastics. 826, 4475, and 4693 cannot be sold in the Los Angeles area, Connecticut, the D.C. area, Delaware, Maine, Maryland, New Jersey, New York, Pennsylvania, Rhode Island, Utah, or Northern Virginia.

1099—Also bonds fabric, foam, and vinyl extrusions and sheeting. Meets MIL-A-13883B, Type I and MMM-A-189C, Class 2.

2262—Also bonds most metals and vinyl extrusions.

4475—Also bonds ceramic, fabric, glass, leather, and vinyl.

4693—Also bonds polyethylene and polypropylene.



3M No.	Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
826	32-oz. Can	45 min.	72 hrs.	–10° to 230°	Light Amber	75285A67	$73.00
1099	5-oz. Tube	40 min.	72 hrs.	–10° to 230°	Tan	75285A72	17.96
1099	32-oz. Can	40 min.	72 hrs.	–10° to 230°	Tan	75285A68	51.45
1099	1-gal. Can	40 min.	72 hrs.	–10° to 230°	Tan	75285A73	178.17
2262	32-oz. Can	10 min.	24 hrs.	–10° to 230°	Clear	75285A66	83.74
4475	32-oz. Can	10 min.	72 hrs.	–10° to 230°	Clear	75285A65	77.91
4693	32-oz. Can	60 min.	72 hrs.	–10° to 230°	Light Amber	75285A69	48.05
4693	1-gal. Can	60 min.	72 hrs.	–10° to 230°	Light Amber	75285A74	148.15

Contact Adhesives for Vinyl Fabrics

Strong yet flexible, these adhesives bond vinyl-coated fabrics and stand up to weather, oil, fuel, grease, and chemicals. They also bond leather, metal, hard plastic, urethane, vinyl foam, and wood.

The *32-oz.* and *1-gal.* cans cannot be sold in the Los Angeles area.



Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
4-oz. Brush-Top Can	2 min.	24 hrs.	–30° to 180°	Clear	7507A1	$7.24
8-oz. Brush-Top Can	2 min.	24 hrs.	–30° to 180°	Clear	7507A2	10.62
16-oz. Brush-Top Can	2 min.	24 hrs.	–30° to 180°	Clear	7507A3	16.78
32-oz. Brush-Top Can	2 min.	24 hrs.	–30° to 180°	Clear	7507A4	20.53
1-gal. Can	2 min.	24 hrs.	–30° to 180°	Clear	7507A5	46.67

3M Aerosol Adhesives

Spray a thin, uniform coating without a mess. Adhesives can be applied to one or both surfaces (unless noted).

27 and **77—**Bond cloth, most metals and plastics, and wood.

72—Can be repositioned hours after spraying. Bonds carpet backing, foam padding, fiberglass, hardwood, particleboard, plastic, polyethylene, and steel.

75—Forms a strong temporary bond, but will not harden completely. Use in applications where parts are temporarily held in place.

76—Bonds cardboard, cork, and foil.

90—Bonds metal, particleboard, polyethylene, polypropylene, SBR rubber, and wood.

Shipping-Mate Case Sealing—Seals flaps on corrugated containers.

Shipping-Mate Palletizing—Holds paper and plastic bags as well as corrugated containers securely in place during storage and shipment. It has a clean release when bags and containers are unstacked.



3M No.	Type	Size, oz.	Begins to Harden	Reaches Full Strength	Max. Temp., °F	Color		1-11	12-Up
20	High Strength for Wood	13.8	1 min.	24 hrs.	210°	Clear	7610A254	$9.82	$8.63
24	For Foam	13.8	30 sec.	24 hrs.	170°	Orange	7610A255	9.32	8.19
27	Economy Multipurpose	13	15 sec.	24 hrs.	140°	Clear	7610A253	9.04	7.95
72	Pressure Sensitive	17.3	1 min.	24 hrs.	120°	Blue	7610A12	22.13	20.11
74	High Bond for Foam	16.9	30 sec.	24 hrs.	120°	Orange	7610A15★	23.40	21.24
74	Inverted Dispensing for Foam	16.9	30 sec.	24 hrs.	120°	Orange	7610A258	26.85	23.60
75	Repositionable	10.3	15 sec.	24 hrs.	120°	Clear	7610A14	24.54	21.66
76	High Tacking	18.1	1 min.	24 hrs.	160°	Semi-Clear	7610A17	30.09	26.12
77	Multipurpose	16.8	15 sec.	24 hrs.	110°	Semi-Clear	7610A11	17.27	15.68
78	For Insulation	17.9	1 min.	24 hrs.	180°	Semi-Clear	7610A25	23.27	21.03
78	Inverted Dispensing for Insulation	17.9	1 min.	24 hrs.	180°	Clear	7610A257	23.66	20.80
80	For Rubber and Vinyl	19	3 min.	24 hrs.	200°	Yellow	7610A16★	33.03	29.71
90	High Strength	17.6	1 min.	24 hrs.	160°	Semi-Clear	7610A13★	20.21	18.35
90	High Strength, Inverted Dispensing	17.6	1 min.	24 hrs.	160°	Clear	7610A256★	23.19	20.38
Shipping-Mate	Case Sealing	17.3	30 sec.	24 hrs.	160°	Clear	7536A65★	33.23	29.96
Shipping-Mate	Palletizing	16.8	1 min.	24 hrs.	110°	Clear	7536A67■	28.87	26.02

★Must be applied to both surfaces. ■Can only be applied to one surface.

Aerosol Adhesives

Adhesives come in an aerosol can for quick and convenient spray application. Not rated for temperature.

General purpose bonds cardboard, cloth, felt, foam, paper, and plastic.

Heavy duty bonds brick, concrete, drywall, and plastic.

Flexible bonds laminates, most metals and plastics, and wood.

Type	Size, oz.	Color		
General Purpose	12	Light Tan	7494A1	$11.54
Heavy Duty	12	Light Tan	7494A2	12.03
Flexible	12	Light Tan	7494A3	9.82

Hot-Melt Adhesives

Glue Sticks



Glue sticks are made from FDA-compliant resins and are suitable for food packaging.
General Purpose—Bonds plastic and wood.
Packaging and **Fast-Hardening Packaging**—Bond canvas, cardboard, fabric, and paper.
High Performance and **Flexible High Performance**—Bond ceramic, glass, metal, and plastic. *Flexible high performance* also bonds fabric, masonry, and wood.

Dia.	Lg.	Melting Point, °F	Color	Begins to Harden	Reaches Full Strength	Approx. Sticks/lb.		1 lb.	5 lbs.	25 lbs.
General Purpose										
1/4″	4″	175°	Clear	60 sec.	24 hrs.	110	7518A54	$9.30	$42.38	$147.66
1/2″	4″	175°	Clear	60 sec.	24 hrs.	45	7518A55	11.98	54.63	210.11
1/2″	15″	175°	Clear	60 sec.	24 hrs.	12	7518A56	12.18	54.72	206.48
5/8″	10″	175°	Clear	60 sec.	24 hrs.	10	7518A52	—	62.73	255.00
Packaging										
1/2″	4″	205°	Tan	15 sec.	24 hrs.	45	7518A57	11.49	52.36	212.85
1/2″	15″	205°	Tan	15 sec.	24 hrs.	10	7518A58	11.45	55.00	224.48
5/8″	10″	205°	Tan	15 sec.	24 hrs.	10	7518A53	—	55.35	225.00
Fast-Hardening Packaging										
1/2″	15″	210°	Tan	5 sec.	24 hrs.	10	7518A59	11.24	49.83	212.05
High Performance										
1/2″	4″	175°	Clear	30 sec.	24 hrs.	45	7518A61	15.74	77.33	342.19
1/2″	10″	185°	Amber	25 sec.	24 hrs.	18	7518A62	11.28	50.00	212.78
1/2″	15″	175°	Clear	30 sec.	24 hrs.	12	7518A63	14.84	71.71	309.10
Flexible High Performance										
1/2″	10″	165°	Clear	60 sec.	24 hrs.	18	7518A51	17.74	80.80	328.45

Glue Guns



Mini



Cordless



Cordless Butane



Standard and Low Temperature



Heavy Duty



High Output



Adjustable Temperature High Output

To choose the right gun, keep in mind that the higher the watts, the faster the glue melts and can be dispensed. Guns operate on 120 volts AC, except cordless butane gun.
Mini—Gets into tight spaces. Has a 5-ft. cord with two-prong plug. UL listed.
Cordless—After warm up, gun runs 3 minutes per charge. Includes a charging base that has a 6-ft. cord with two-prong plug. UL listed.
Cordless Butane—Runs up to 140 minutes on butane gas (sold separately). Four 6″ long glue sticks are included.
Standard—Use for small jobs and light assembly work. Has a 5-ft. cord with two-prong plug.
Low Temperature—Use in heat-sensitive applications. Has a 5-ft. cord with two-prong plug. CSA-US certified.
Heavy Duty—Has a 10-ft. cord with three-prong plug. UL listed.
High Output—Has a 7-ft. cord with three-prong plug.
Adjustable Temperature High Output—Offers five temperature settings and the highest output. Has a 7-ft. cord with three-prong plug. Includes a plastic case. CSA-US certified.

	For Glue Stick Dia.	Watts	Operating Temperature, °F	Adhesive Output, lbs./hr.	Warm-Up Time, min.		
Intermittent Use							
Mini	1/4″ and 5/16″	10	350°	0.5	5	75215A65	$6.48
Cordless	7/16″ and 1/2″	60	380°	1	5	7578A11	22.72
Cordless Butane	1/2″	200	390°	1.9	4	7812A21	47.60
Standard	7/16″ and 1/2″	80	380°	2.5	3	7518A22	23.36
Low Temperature	7/16″ and 1/2″	100	250°	2.5	3	7518A81	44.44
Continuous Duty							
Heavy Duty	7/16″ and 1/2″	100	410°	3-5	6	7518A18	159.10
High Output	7/16″ and 1/2″	220	380°	7	2	66085A17	126.02
Adjustable Temperature High Output	5/8″	400	220°, 265°, 310°, 355°, 400°	10	3	7518A12	216.92
Butane Gas (5.1-oz. Can)						7694A5	5.24

High-Strength Hot-Melt Adhesive Kits



The polyurethane-based adhesives in this kit offer higher strength bonds than other hot-melt adhesives. Kit includes general purpose adhesive, adhesive for wood, fast-hardening adhesive for wood, and a cordless gun with charging base.
Adhesives come in a 1.76-oz. cartridge and have a melting point of 250° F. Color is opaque white. All reach full strength in 48 hours.
General purpose bonds brick, ceramic, fiberglass, metal, and plastic. It begins to harden in 75 seconds. *Adhesive for wood* begins to harden in 60 seconds. *Fast-hardening adhesive for wood* begins to harden in 30 seconds.
Gun operates at 200 watts, warms up in 13 minutes, and runs for 20 minutes per charge. Base has a 6-ft. cord with two-prong plug. UL listed.

Kit	7354A11	$127.27
Replacement General Purpose Adhesive Cartridge (MP75)	7354A23	11.41
Replacement Adhesive for Wood Cartridge (WW60)	7354A22	11.41
Replacement Fast-Hardening Adhesive for Wood Cartridge (WW30)	7354A21	11.41

For information about adhesives and sealants, see page 3448.

3M Scotch-Weld Hot-Melt Adhesives

Glue Sticks

These glue sticks work only with the 3M glue guns below.

3738—Bonds chipboard, corrugated cardboard, and wood. UL listed.

3747—Bonds plastics, metals, and fabric.

3750 and **3750LM**—Use for wood assembly.

3762 and **3762LM**—Bond cardboard and carton-sealing paper. *3762* is UL listed. *3762LM* also bonds plastics.

3764 and **3789**—UL listed.

3792 and **3792LM**—Bond fabric and wood. *3792* is UL listed. *3792LM* also bonds plastics.



3M No.	Type	Use with 3M Gun	Dia.	Lg.	Melting Point, °F	Color	Begins to Harden	Reaches Full Strength	Approx. Sticks/ lb.		1 lb.	11 lbs.	22 lbs.
3738	General Purpose	TC	5/8″	2″	185°	Tan	50 sec.	24 hrs.	55	7333A14	$26.95	$234.32	
3738	General Purpose	EC, TC★	5/8″	8″	185°	Tan	50 sec.	24 hrs.	15	7333A15	27.34	237.75	
3738	General Purpose	II	1″	3″	185°	Tan	50 sec.	24 hrs.	12	74785A93	25.18		$437.99
3747	For Plastics and Metals	TC	5/8″	2″	220°	Tan	45 sec.	24 hrs.	55	7333A91	30.18	262.43	
3750	General Purpose	AE II	1/2″	10″	175°	Clear	40 sec.	24 hrs.	14	7333A18	10.35	89.98	
3750	General Purpose	AE II	1/2″	10″	200°	Tan	30 sec.	24 hrs.	14	7333A19	10.35	89.98	
3750LM	Heat Sensitive General Purpose	AE II LT	1/2″	12″	200°	Tan	25 sec.	24 hrs.	14	7333A33	14.43	125.49	
3762	For Packaging	TC	5/8″	2″	200°	Tan	35 sec.	24 hrs.	55	7333A34	20.62	179.33	
3762	For Packaging	EC, TC★	5/8″	8″	200°	Tan	35 sec.	24 hrs.	15	7333A35	20.91	181.86	
3762	For Packaging	II	1″	3″	200°	Tan	35 sec.	24 hrs.	12	74785A95	19.67		342.05
3762LM	For Heat-Sensitive Packaging	LT	5/8″	2″	205°	Amber	25 sec.	24 hrs.	55	7464A73	23.19	201.63	
3762LM	For Heat-Sensitive Packaging	EC, LT★	5/8″	8″	205°	Amber	25 sec.	24 hrs.	15	7464A74	23.10	200.86	
3764	For Plastics	TC	5/8″	2″	190°	Clear	40 sec.	24 hrs.	55	7333A63	34.51	300.08	
3764	For Plastics	EC, TC★	5/8″	8″	190°	Clear	40 sec.	24 hrs.	15	7333A37	32.42	281.92	
3789	Fuel and Oil Resistant for Plastics	EC, TC★	5/8″	8″	270°	Brown	50 sec.	24 hrs.	15	7333A76		492.42	
3792	General Purpose	TC	5/8″	2″	175°	Clear	50 sec.	24 hrs.	55	7333A38	26.59	231.23	
3792	General Purpose	EC, TC★	5/8″	8″	175°	Clear	50 sec.	24 hrs.	15	7333A39	27.04	235.17	
3792LM	For Heat-Sensitive Applications	LT	5/8″	2″	175°	Clear	40 sec.	24 hrs.	55	7464A78	29.28	254.60	
3792LM	For Heat-Sensitive Applications	EC, LT★	5/8″	8″	175°	Clear	40 sec.	24 hrs.	15	7464A79	29.23	254.16	

★ Requires converter (sold separately below) for use with LT or TC gun.

Glue Guns

To choose the right gun, keep in mind that the higher the watts, the faster the glue melts and can be dispensed. Guns operate on 120 volts AC and have an 8-ft. cord with three-prong plug. All include a 3/32″ dia. tip (additional tips are sold separately below). Use only with the 3M glue sticks above.

LT—Use with 3762LM and 3792LM glue sticks only.

EC—Offers five temperature settings and includes a stroke adjuster for repeatable output quantities.

II—Has a fast-loading cartridge system. It requires 50-80 psi of air and has a 1/8 NPT male air inlet. An 8-ft. long air hose and a wire bench stand are included.



AE II and AE II LT



LT and TC



EC



II

3M No.	For Glue Stick Dia.	Watts	Operating Temp., °F	Adhesive Output, lbs./hr.	Warm-Up Time, min.		
Electric							
AE II	1/2″	250	400°	4	3	7144A41	$97.17
AE II LT	1/2″	250	270°	4	3	7144A42	111.99
LT	5/8″	150	265°	2.6	5-10	7477A41	160.58
TC	5/8″	150	385°	3.5	5-10	7333A11	173.25
EC	5/8″	350	260° to 450°	5.5	5-10	7464A67	407.09
Electric/Air Powered							
II	1″	500	385°	7.5	15	74785A65	1,282.46

Additional Tips and Accessories for Glue Guns

L-tip is for full-overlap carton closure. **T-tip** dispenses two lines of glue for slotted carton closure. **Converter** allows you to use 8″ long glue sticks. **Palm trigger** is for comfortable long-term operation. Requires the converter (sold separately).



Cone

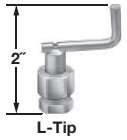

L-Tip



Converter

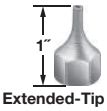

Extended-Tip Cone

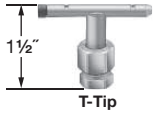

T-Tip



Palm Trigger

	Dia.		
Cone	3/32″	7333A21	$7.52
Cone	1/8″	7333A26	15.66
Cone	1/16″	7333A25	15.32
Extended-Tip Cone	5/64″	7333A22	9.60
L-Tip	5/64″	7333A24	65.20
T-Tip	5/64″	7333A23	66.30
Converter for LT and TC Guns		7333A12	32.68
Palm Trigger for LT and TC Guns		7333A13	21.93

Glue Discs

Small discs of pressure-sensitive glue offer quick and convenient bonding on ceramic, fabric, paper, and wood. Color is clear. Temperature range is 20° to 140° F.

General purpose discs can be removed from some surfaces.

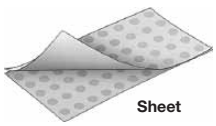

Sheet

Type	Thick.	Approx. Dia.	Sheet of 80		Roll of 1,000	
General Purpose	0.014″	1/2″			7187A32	$29.55
Permanent	0.014″	1/2″	7187A23	$3.33	7187A33	29.55

Glue Strips

No-mess, easy-to-apply strips of semi-clear rubber glue come on peel-away liners. Strips hold up to 2 lbs. and can be cut to the size you need (holding capacity decreases when strips are cut).

They bond ceramic, glass, metal, and wood. Temperature range is 0° to 180° F.



Lg.	Wd.	Thick.		Pkg. of 8		Pkg. of 250	
3″	1″	0.02″	3524A21	$4.47	3524A36	$53.68	

Glue

For information about adhesives and sealants, see page 3448.

Glue-on-a-Roll

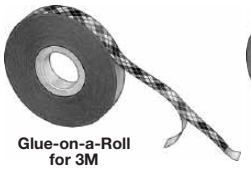

Glue-on-a-Roll for 3M Dispensing Guns



Hand-Dispensed Glue-on-a-Roll

Also known as adhesive transfer tape, these rolls have a thin film of pressure-sensitive glue on a peel-away liner that is a good alternative to liquid adhesives, hot melts, and staples. It is also thinner and more conformable than tape with adhesive on both sides. Glue is acrylic, except high temperature for slippery plastics is silicone.

3M Repositionable has permanent glue on one side; removable on the other. It bonds foam.

3M VHB (very high bond) can replace rivets, spot welds, and other permanent fasteners. It bonds ceramic, glass, metal, and phenolic laminates (Garolite).

3M for slippery plastics and **high temperature for slippery plastics** are for hard-to-bond plastics such as polyethylene and polypropylene.

Mfr. No.	Thickness	Wd.	Lg., yds.	Color	Temperature Range, °F		
Glue-on-a-Roll for 3M Dispensing Guns							
3M for Paper							
924	0.002″	1/4″	60	Clear	Up to 180°	7628A113	$7.95
924	0.002″	1/2″	36	Clear	Up to 180°	7628A115	7.02
924	0.002″	1/2″	60	Clear	Up to 180°	7628A23	11.18
924	0.002″	3/4″	36	Clear	Up to 180°	7628A116	9.26
924	0.002″	3/4″	60	Clear	Up to 180°	7628A24	14.89
924	0.002″	2″	60	Clear	Up to 180°	7628A25	57.59
3M for Plastics							
969	0.005″	1/4″	18	Clear	Up to 180°	7628A111	6.48
969	0.005″	1/4″	36	Clear	Up to 180°	7628A112	12.27
969	0.005″	1/2″	18	Clear	Up to 180°	7628A117	9.84
969	0.005″	3/4″	18	Clear	Up to 180°	7628A118	13.16
969	0.005″	1 1/2″	36	Clear	Up to 180°	7628A15	47.40
969	0.005″	2″	36	Clear	Up to 180°	7628A16	63.19
3M for Metals							
926	0.005″	1/2″	18	Clear	Up to 300°	7628A119	10.98
926	0.005″	3/4″	18	Clear	Up to 300°	7628A12	14.77
926	0.005″	2″	36	Clear	Up to 300°	7628A26	73.78
3M Repositionable							
928	0.002″	1/2″	18	White	Up to 120°	7628A131	7.97
928	0.002″	3/4″	18	White	Up to 120°	7628A132	10.68
Hand-Dispensed Glue-on-a-Roll							
3M for Paper							
465	0.002″	1/4″	60	Clear	Up to 180°	7628A49	8.84
465	0.002″	1/2″	60	Clear	Up to 180°	7628A41	13.41
465	0.002″	3/4″	60	Clear	Up to 180°	7628A42	17.89
465	0.002″	1″	60	Clear	Up to 180°	7628A43	22.36
465	0.002″	1 1/4″	60	Clear	Up to 180°	7628A48	27.64
465	0.002″	1 1/2″	60	Clear	Up to 180°	7628A47	33.15
465	0.002″	2″	60	Clear	Up to 180°	7628A51	44.20
465	0.002″	3″	60	Clear	Up to 180°	7628A53	66.30
For Paper							
____	0.002″	1/2″	60	Clear	0° to 180°	76085A47	8.65
____	0.002″	3/4″	60	Clear	0° to 180°	76085A48	12.95
____	0.002″	1″	60	Clear	0° to 180°	76085A49	17.25

Mfr. No.	Thickness	Wd.	Lg., yds.	Color	Temperature Range, °F		
Hand-Dispensed Glue-on-a-Roll (Cont.)							
3M VHB (Very High Bond)							
F9460PC	0.002″	1/2″	60	Clear	Up to 300°	7628A52	$29.90
F9460PC	0.002″	3/4″	60	Clear	Up to 300°	7628A75	39.43
F9460PC	0.002″	1″	60	Clear	Up to 300°	7628A76	49.27
F9469PC	0.005″	1/2″	60	Clear	Up to 300°	7628A54	35.67
F9473PC	0.01″	1/2″	60	Clear	Up to 300°	7628A56	70.91
F9473PC	0.01″	3/4″	60	Clear	Up to 300°	7628A78	93.42
F9473PC	0.01″	1″	60	Clear	Up to 300°	7628A79	116.78
3M for Metals							
9082	0.002″	1/4″	60	Clear	Up to 350°	7628A61	22.28
9085	0.005″	1/4″	60	Clear	Up to 350°	7628A63	26.96
966	0.002″	1″	60	Clear	Up to 300°	7628A62	28.26
3M for Slippery Plastics							
9482PC	0.002″	1/2″	60	Clear	Up to 250°	7628A68	24.82
9482PC	0.002″	3/4″	60	Clear	Up to 250°	7628A69	30.65
9482PC	0.002″	1″	60	Clear	Up to 250°	7628A67	41.37
9485PC	0.005″	1/2″	60	Clear	Up to 250°	7628A72	30.61
9485PC	0.005″	3/4″	60	Clear	Up to 250°	7628A71	40.81
9485PC	0.005″	1″	60	Clear	Up to 250°	7628A73	51.02
High Temperature for Slippery Plastics							
_____	0.002″	1/2″	60	Clear	–100° to 500°	7615A21	72.56
_____	0.002″	3/4″	60	Clear	–100° to 500°	7615A51	99.74
_____	0.002″	1″	60	Clear	–100° to 500°	7615A41	119.95
3M Solvent Resistant for Metals and Plastics							
467MP	0.002″	1/2″	60	Clear	Up to 300°	7628A65	15.03
467MP	0.002″	3/4″	60	Clear	Up to 300°	7628A66	20.03
467MP	0.002″	1″	60	Clear	Up to 300°	7628A64	25.03

Accessories



3M Dispensing Guns
ATG700 for 1/2″ and 3/4″ Wd. Rolls — 7628A14 — $65.14
ATG714 for 1/4″ Wd. Rolls — 7628A82 — 64.53
ATG3662 for 2″ Wd. Rolls — 7628A31 — 762.09

3M Adapter
For ATG700 (for 1/4″ Wd. rolls) — 7628A81 — 14.69

High-Temperature Glue



Make high-strength bonds that withstand high temperatures. Formerly known as LePage's Original Glue, it can be used on cloth, glass, leather, metal, paper, and wood. Temperature range is –30° to 500° F. Color is tan.

Size	Begins to Harden	Reaches Full Strength		
32-oz. Bottle	2 hrs.	12 hrs.	7466A7	$19.20
1-gal. Can	2 hrs.	12 hrs.	7466A8	45.30

Elmer's Glue



Tackle a variety of repairs and projects with this general purpose white glue that dries clear. It bonds paper, wood, and other porous materials.

Size	Begins to Harden	Reaches Full Strength		
8-oz. Bottle	10 sec.	24 hrs.	7516A1	$3.12
16-oz. Bottle	10 sec.	24 hrs.	7516A6	5.30
1-gal. Jug	10 sec.	24 hrs.	7516A4	17.86

Glue Sticks



Easy to apply for bonding cardboard, fabric, paper, and photos. Glue is white and dries clear.

Size, oz.	Dia.	Begins to Harden	Reaches Full Strength		1-5	6-Up
0.21	3/4″	10 sec.	12 hrs.	66285A73	$1.16	$0.93
0.77	1″	10 sec.	12 hrs.	66285A74	2.29	1.87

Rubber Cement



Cement bonds paper and allows repositioning until fully dried. Color is clear.

Size		
8-oz. Brush-Top Bottle	74725A12	$4.83
32-oz. Bottle	74725A14	13.80
1-gal. Can	74725A15	43.61

Gorilla Glue



Stronger than other glue when bonding ceramic, glass, metal, plastic, stone, and wood. Glue is waterproof, paintable, stainable, and sandable at full strength. Color is tan.

Size, oz.	Begins to Harden	Reaches Full Strength		
2	10 min.	24 hrs.	7454A21	$5.57
4	10 min.	24 hrs.	7454A22	8.28
8	10 min.	24 hrs.	7454A23	13.84
18	10 min.	24 hrs.	7454A24	21.37
36	10 min.	24 hrs.	7454A25	33.09

For information about adhesives and sealants, see page 3448.

Reusable Adhesive Putties

Pull off a small piece of putty and stick lightweight objects to concrete, glass, metal, tile, and wood. Putty won't dry out, so you can use it again and again; and it removes without leaving stains or residue on most surfaces. Color is blue. Temperature range is 70° to 100° F.



1 oz.	7576A2	$3.43

High-Strength Glue for Wood

Mix this powdered glue with water and form bonds that are stronger than wood itself. It is often used for applying veneers and edge banding. Glue comes in a can.



Size, lbs.	Begins to Harden	Reaches Full Strength	Mix Ratio	Color	Temperature Range, °F		
1	2 hrs.	72 hrs.	2.5:1	Amber	35° to 150°	7469A1	$9.76
4.5	2 hrs.	72 hrs.	2.5:1	Amber	35° to 150°	7469A2	35.16

Carpenter's Glue for Wood

Bond soft and hard woods. Glue can be sanded and painted after reaching full strength. *Standard 32-oz. glue* also bonds fabric and leather.

Water Resistant—For limited exposure to water.

Waterproof—FDA compliant for indirect food contact.



Size	Begins to Harden	Reaches Full Strength	Color	Max. Temp., °F		
Standard						
4-oz. Bottle	5 min.	24 hrs.	Yellow	140°	7476A19	$2.01
8-oz. Bottle	5 min.	24 hrs.	Yellow	140°	7476A11	2.90
16-oz. Bottle	5 min.	24 hrs.	Yellow	140°	7476A12	4.86
32-oz. Bottle	5 min.	24 hrs.	Yellow	120°	7476A16	8.85
1-gal. Bottle	5 min.	24 hrs.	Yellow	140°	7476A14	20.52
5-gal. Pail	5 min.	24 hrs.	Yellow	140°	7476A15	107.14
Water Resistant						
4-oz. Bottle	10 min.	24 hrs.	Tan	140°	7476A39	2.82
8-oz. Bottle	10 min.	24 hrs.	Tan	140°	7476A31	3.91
16-oz. Bottle	10 min.	24 hrs.	Tan	140°	7476A32	5.88
1-gal. Bottle	10 min.	24 hrs.	Tan	140°	7476A34	28.55
Waterproof						
4-oz. Bottle	10 min.	25 min.	Tan	120°	7476A51	4.10
8-oz. Bottle	10 min.	25 min.	Tan	120°	7476A52	6.22
16-oz. Bottle	10 min.	25 min.	Tan	120°	7476A53	10.09
32-oz. Bottle	10 min.	25 min.	Tan	120°	7476A54	15.42
1-gal. Bottle	10 min.	25 min.	Tan	120°	7476A55	41.43

Liquid Nails Adhesives

Get a quick initial bond and long-term adhesion. *Cartridges* fit a standard caulk gun (please see pg. 3484).

Multipurpose—Resists water and can be used outdoors. Bonds concrete, drywall, foam, and plastic.

Interior—Bonds finished concrete, drywall, plywood, and wood. It has a latex base and is water resistant. Cleans up with water until reaching full strength.

Deck and Subfloor—Is waterproof and bonds lumber, plywood, and other building materials. Can be used outdoors. Meets American Plywood Association AFG-01, ASTM D3498, and ASTM C557.

Vertical Hold—Often used to hold mirrors on plywood and stone. It is weatherproof and can be used outdoors.

Heavy Duty—Resists water and weather and offers higher strength bonds on drywall, particleboard, and plywood than other adhesives. Can be used outdoors.







Liquid Nails No.	Size	Begins to Harden	Reaches Full Strength	Color	Temperature Range, °F		
Multipurpose							
LN-207	2.5-oz. Tube	20 min.	72 hrs.	Clear	–80° to 350°	7534A63	$4.72
Interior							
LN-604	10-oz. Cartridge	30 min.	7 days	Off-White	20° to 120°	7534A18	3.93
Deck and Subfloor							
LN-902	10-oz. Cartridge	15 min.	7 days	White	–20° to 140°	7534A53	4.23
LNP-902	28-oz. Cartridge	15 min.	7 days	White	–20° to 140°	7534A52	5.33
Vertical Hold							
LN-950	10-oz. Cartridge	30 min.	48 hrs.	Tan	–40° to 300°	7534A64	5.38
Heavy Duty							
LN-903	10-oz. Cartridge	20 min.	24 hrs.	Tan	0° to 140°	7534A61	3.56
LNP-903	28-oz. Cartridge	20 min.	24 hrs.	Tan	0° to 140°	7534A62	7.40
LNP-903	32-oz. Can	20 min.	7 days	Tan	0° to 140°	7534A27	8.96
LNP-903	1-gal. Can	20 min.	7 days	Tan	0° to 140°	7534A28	23.48
LNP-903	5-gal. Can	20 min.	7 days	Tan	0° to 140°	7534A38	107.75

Adhesives for Wall Base

Use indoors to bond rubber and vinyl wall base to concrete, drywall, painted surfaces, and wood. *Cartridges* fit a standard caulk gun (please see page 3484).



Size	Begins to Harden	Reaches Full Strength	Color	Temp. Range, °F		
10.3-oz. Cartridge	20 min.	48 hrs.	Gray	0° to 120°	7539A21	$4.70
30-oz. Cartridge	20 min.	72 hrs.	Cream	55° to 100°	7539A19	6.80
1-gal. Pail	20 min.	72 hrs.	Cream	55° to 100°	7539A14	30.47

Adhesives for Flooring

Bond carpeting, vinyl tile, and other floor coverings to subfloors. Adhesive is water resistant and for indoor use only. It comes in a can.

Size	Begins to Harden	Reaches Full Strength	Color	Temperature Range, °F		
32 oz.	15 min.	48 hrs.	Beige	40° to 120°	66515A12	$7.09
1 gal.	15 min.	48 hrs.	Beige	40° to 120°	66515A13	17.82

Adhesives for Stair Treads and Nosing



Stair Tread



Two-Part Nosing

Install rubber and vinyl treads and nosings on indoor concrete stairs.

Stair-tread adhesive is strong, water-resistant latex. It can also be used on wooden stairs.

Nosing adhesive is a two-part epoxy that prevents cracks by filling in gaps between the nose and front edge of the stair. Size listed is the combined total of the two parts.

Size	Begins to Harden	Reaches Full Strength	Color	Temperature Range, °F		
Stair Tread						
1-gal. Pail	15 min.	24 hrs.	White	55° to 85°	62695T82	$47.80
Nosing						
32-oz. Can	45 min.	24 hrs.	Tan	70° to 80°	62695T86	41.75

Adhesives for Electronics

For information about adhesives and sealants, see page 3448.

Loctite® Adhesive Cartridges for Electronics



Two-part epoxies and urethanes commonly used for encasing (potting), creating small castings, and bonding heat sinks. Use the dispensing gun (sold separately) and mixer nozzle (included with cartridge, unless noted) to simultaneously mix and dispense.

ES1004™ meets ASTM D635 and UL 94V0.

ES2500™ meets UL 94HB.

Adhesive Cartridges

Loctite No.	Type	Size, oz.	Begins to Harden	Reaches Full Strength	Dielectric Strength, volts/mil	Thermal Conductivity, W/mK	Mix Ratio	Color	Temperature Range, °F		
Epoxies											
E-60NC	Electrical Insulating	1.69	60 min.	24 hrs.	550	____	1:1	Black	–65° to 250°	6430A27■	$13.58
ES1001	Easy Flowing	1.69	60 min.	24 hrs.	1,100	0.29	1:1	Black	–10° to 220°	7369A12	30.30
ES1004	Self Extinguishing	1.69	8 hrs.	▲	1,100	____	4:1	Black	–40° to 300°	7369A13♦	46.24
ES1901	Chemical and Solvent Resistant	1.69	3 min.	24 hrs.	400	____	1:1	Clear	–40° to 220°	7369A14	34.73
ES1902	General Purpose	1.69	60 min.	24 hrs.	1,350	____	2:1	Clear	–40° to 250°	7369A15	25.14
ES2500	General Purpose	1.69	10 min.	16 hrs.	410	0.28	2:1	Black	–40° to 220°	7369A16	28.07
Urethanes											
US1150	General Purpose	1.69	40 min.	48 hrs.	950	0.48	4:1	Black	–85° to 250°	7369A32♦	24.86
US1750	High Purity	1.69	5 min.	16 hrs.	1,250	0.19	1:1	Clear	–40° to 250°	7369A33	25.84
US2650	Flame Retardant	1.69	5 min.	16 hrs.	940	0.47	4:1	Tan	–85° to 250°	7369A35♦	38.75
US2651	For Automotive Applications	1.69	10 min.	16 hrs.	1,050	____	1:1	Amber	–85° to 250°	7369A36	23.76

■Requires mixer nozzle 74695A12 (sold separately). ▲Reaches full strength with heat: 2 hours at 175° F plus 2 hours at 300° F.
♦Requires 4:1 plunger 74695A44 (sold separately).

Dispensing Gun, Mixer Nozzle, and Plunger

Dispensing Gun (Includes 1:1 and 2:1 mix ratio plungers)	74695A71	$23.06
Mixer Nozzle (Required for 6430A27)	74695A12	1.26
4:1 Plunger for Dispensing Gun (Required for 7369A13, 7369A32, 7369A35)	74695A44	3.62

3M Adhesive Cartridges for Electronics

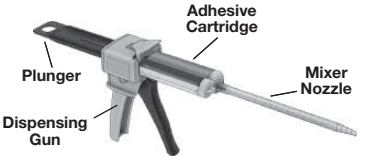

Handle encasing (potting) and bonding of electrical components with these two-part epoxies. To simultaneously mix and dispense, use the dispensing gun with a mixer nozzle (each sold separately).

General Purpose—Also bonds plastics. Meets UL 94HB.

High Strength—Can also be used for assembling hard drives and spindle motors. They also bond magnets.

Adhesive Cartridges

3M No.	Size, oz.	Begins to Harden	Reaches Full Strength	Dielectric Strength, volts/mil	Thermal Conductivity, W/mK	Mix Ratio	Choose a Color	Temperature Range, °F		
General Purpose										
DP270	1.69	60 min.	48 hrs.	850	0.18	1:1	Black, Clear	–65° to 250°	7467A274	$21.24
DP270	6.76	60 min.	48 hrs.	850	0.18	1:1	Black, Clear	–65° to 250°	7467A311	65.74
High Strength										
DP460EG	1.25	110 min.	7 days	510	____	2:1	Off-White	0° to 175°	7467A217	21.67
DP4XLEG	1.25	5 hrs.	7 days	670	____	2:1	Off-White	–40° to 120°	7467A219	22.32

Dispensing Guns and Mixer Nozzles

Dispensing Gun for 1.25- and 1.69-oz. Cartridges (Includes 1:1, 2:1, and 10:1 mix ratio plungers)	7467A41	Each	$85.76
Dispensing Gun for 6.76-oz. Cartridges (Includes 1:1 and 2:1 mix ratio plungers)	7467A91	Each	566.07
Mixer Nozzles for 1.25- and 1.69-oz. Cartridges	7467A12	Each	2.93
Mixer Nozzles for 6.76-oz. Cartridges	7467A93	Each	3.90

High-Temperature Adhesives for Electronics



Not only does this two-part epoxy withstand high temperatures in your electronic encasing (potting) applications, it remains flexible and impact resistant. It can also be used to bond ceramic, glass, and most metals and plastics. Size listed is the combined total of the two parts.

Begins to Harden	Reaches Full Strength	Dielectric Strength, volts/mil	Thermal Conductivity, W/mK	Mix Ratio	Color	Temperature Range, °F	10 oz.		24 oz.	
30 min.	24 hrs.	450	1	1:1.2	Tan	–100° to 450°	6196T1	$68.71	6196T2	$114.85

Loctite® Adhesives for Electronics



Secure and insulate hardware on printed circuit boards. These two-step, instant-bonding adhesives require an accelerator. **382™** handles temperature fluctuations. **444™** can also be used for encasing (potting). Meets Commercial Standard A-A-3097.

Loctite No.	Size	Begins to Harden	Reaches Full Strength	Dielectric Strength, volts/mil	Thermal Conductivity, W/mK	Color	Temperature Range, °F		
Adhesives									
382	0.7-oz. Bottle	30 sec.	24 hrs.	600	0.1	Clear	–65° to 210°	74755A86	$23.08
444	0.7-oz. Bottle	30 sec.	24 hrs.	900	0.1	Clear	–65° to 180°	7586A32	16.76
Accelerator									
7452	0.7-oz. Aerosol	_____	_____	___	___	Amber	_____	7502A71	16.08
7452	1.75-oz. Bottle	_____	_____	___	___	Amber	_____	7502A72	8.65

Loctite 382 Kit (0.7-oz. Bottle of Adhesive and 0.7-oz. Aerosol Accelerator)	74755A85	41.67
Loctite 444 Kit (0.7-oz. Bottle of Adhesive and 1.75-oz. Bottle of Accelerator)	7586A31	25.24

For information about adhesives and sealants, see page 3448.

Heat-Transfer Adhesives for Electronics

Draw heat away from parts during encasing (potting) and in small electronic casting applications. Epoxy is two-part and won't crack during thermal expansion. It resists weather, water, petroleum lubricants, and mild acids and alkalies. Use the dispensing gun with a mixer nozzle (each sold separately) to simultaneously mix and dispense.



Size, oz.	Begins to Harden	Reaches Full Strength	Dielectric Strength, volts/mil	Thermal Conductivity, W/mK	Mix Ratio	Color	Temperature Range, °F		
1.7	15 min.	8 hrs.	520	1.01 to 1.15	2:1	Black	–40° to 210°	7548A11	$39.20
Dispensing Gun (Includes 1:1 and 2:1 mix ratio plungers)								74695A71	23.06
Mixer Nozzle								74695A12	1.26

Silicone Sealants for Electronics

Sealants form a tough, rubbery solid for encasing (potting).

Ready-to-Use—No mixing required. *Cartridges* fit a standard caulk gun (please see page 3484).

748 is FDA compliant for indirect food contact and meets UL 94HB. **3165** meets UL 94V0. **5145™** meets MIL-A-46146B. **162** meets MIL-A-46146B. Components are UL recognized. Product cannot be sold in California.

Two Part—Size listed is the combined total of the two parts.

Standard requires a dispensing gun (sold separately). Includes a mixer nozzle. **182** meets UL 94V1. **5620™** requires a dispensing gun (sold separately). Includes two mixer nozzles. **11** meets GSA A-A-56023A.



Ready-to-Use Cartridge



Two-Part Jars

Mfr. No.	Type	Size	Begins to Harden	Reaches Full Strength	Dielectric Strength, volts/mil	Thermal Conductivity, W/mK	Mix Ratio	Color	Temperature Range, °F		
Ready-to-Use											
Dow Corning											
748	Noncorrosive	3-oz. Tube	30 min.	24 hrs.	475	—	—	Off-White	–65° to 350°	74915A654	$12.11
748	Noncorrosive	10.1-oz. Cartridge	30 min.	24 hrs.	475	—	—	Off-White	–65° to 350°	74915A655	22.01
3165	Nonflowing	10.3-oz. Cartridge	4 min.	24 hrs.	500	—	—	Gray	–45° to 390°	8156A17	25.04
Loctite®											
5145	Noncorrosive	3-oz. Tube	2 min.	72 hrs.	450	0.2	—	Semi-Clear	Up to 390°	1832A13	41.21
Momentive (Formerly GE Silicones)											
162	Noncorrosive	2.8-oz. Tube	4 hrs.	48 hrs.	450	0.2	—	White	–75° to 400°	74935A45	21.17
162	Noncorrosive	10.1-oz. Cartridge	4 hrs.	48 hrs.	450	0.2	—	White	–75° to 400°	74935A47	44.46
Two Part											
Standard											
—	General Purpose	1.7-oz. Cartridge	25 min.	48 hrs.	—	0.18	1:1	Clear	–55° to 390°	74965A22	28.56
Dow Corning											
182	Pourable	17.6-oz. Jar	8 hrs.	14 days	475	0.16	10:1	Clear	–45° to 390°	8152A26	109.04
Loctite®											
5620	Flexible	13.5-oz. Cartridge	20 min.	30 min.	530	0.16	1:1	Clear	–65° to 390°	74965A88	133.25
Dispensing Gun for Standard										74695A71	23.06
Dispensing Gun for Loctite 5620										7451A52	99.23
Replacement Mixer Nozzle for Loctite 5620										7451A43	7.65
Momentive (Formerly GE Silicones)											
11	Pourable	16-oz. Can	90 min.	24 hrs.	515	0.29	100:0.5	White	–65° to 400°	74965A21	84.95
60	High Temperature	16-oz. Can	120 min.	24 hrs.	450	0.31	100:0.5	Red	–65° to 500°	74965A23	91.80

Adhesives for Electronics in Easy-Mix Packs

Conveniently packaged for easy use, this two-part epoxy is for encapsulating (potting) and attaching transistors, diodes, resistors, and other heat-sensitive components to printed circuit boards. It resists salt solutions and mild acids and alkalies and also bonds ceramic, glass, and metal.



Size, oz.	Begins to Harden	Reaches Full Strength	Dielectric Strength, volts/mil	Thermal Conductivity, W/mK	Mix Ratio	Color	Temperature Range, °F		
1.4	90 min.	24 hrs.	410	0.95	20:1	Blue	–90° to 230°	66395A11	$23.43

3M Scotch-Weld Hot-Melt Adhesives for Electronics

A hot-melt alternative for encasing (potting) and attaching electronic components. Glue sticks work only with the 3M glue guns sold separately below.

3748—Noncorrosive to copper and also bonds polyolefin. It is FDA compliant for indirect food contact. UL listed.

3779—Has high temperature resistance.



3M No.	Type	Use with 3M Gun	Dia.	Lg.	Melting Point, °F	Color	Begins to Harden	Reaches Full Strength	Approx. Sticks/lb.		1 lb.	11 lbs.
3748	Adds Rigidity	TC	5/8"	2"	290°	Off-White	45 sec.	24 hrs.	55	7333A16	$39.66	$344.85
3748	Adds Rigidity	EC, TC★	5/8"	8"	290°	Off-White	45 sec.	24 hrs.	15	7333A17	37.94	329.89
3779	For Potting	TC	5/8"	2"	325°	Amber	25 sec.	24 hrs.	55	7333A87	—	584.20
3779	For Potting	EC, TC★	5/8"	8"	325°	Amber	25 sec.	24 hrs.	15	7333A89	—	572.96

★Requires converter (sold separately below) for use with the TC gun.

EC Gun (Adhesive output is 5.5 lbs./hr.)	7464A67	$407.09
TC Gun (Adhesive output is 3.5 lbs./hr.)	7333A11	173.25
Converter for TC Gun (For use with 8" long glue sticks)	7333A12	32.68

Protective Coatings for Circuit Boards

Also known as conformal coatings. They come in an aerosol can. **Fast-hardening** coating is acrylic and resists moisture. **Chemical-resistant** coating is silicone. Use in harsh environments.

	Size, oz.	Begins to Harden	Reaches Full Strength	Dielectric Strength, volts/mil	Color	Temperature Range, °F		
Fast Hardening	12	3 min.	24 hrs.	1,000	Clear	–85° to 255°	6801A39	$33.00
Chemical Resistant	12	60 min.	72 hrs.	1,100	Clear	–85° to 390°	6801A37	37.58

Silver-Filled Conductive Adhesives



Use for bonding electronic components, interference shielding, and electrical circuit repairs. Epoxies are two-part and bond aluminum, brass, copper, stainless steel, and steel. Color is silver. The size listed is the combined total of the two parts.

Semiflexible can be used on vertical surfaces.

Flexible bends without coming off the surface or losing conductivity. It also bonds dissimilar materials, such as alumina to aluminum and silicon to copper.

	Begins to Harden	Reaches Full Strength	Thermal Conductivity, W/mK	Electrical Resistivity, ohms-cm	Mix Ratio	Temperature Range, °F	0.5 oz.		1 oz.	
Semiflexible	4 hrs.	5 days	5.77	<0.0004	1:1	Up to 300°	7595A31	$118.33	7595A32	$205.29
Flexible	4 hrs.	5 days	7.93	<0.0004	1:1	80° to 300°	7595A33	118.33	7595A34	205.29

Silver-Filled Conductive Adhesives in Easy-Mix Packs



Contained in a convenient dual packet, these epoxies make electrically and thermally conductive bonds on metal, electronic components, printed circuits, flat cable, and shields. They can also be used in place of soldering to bond heat-sensitive materials. Color is silver. Size listed is the combined total of the two parts.

Loctite® 3888™ also bonds polycarbonate. **Rigid** and **flexible** also bond ceramic and glass.

Size, oz.	Begins to Harden	Reaches Full Strength	Thermal Conductivity, W/mK	Electrical Resistivity, ohms-cm	Temperature Range, °F		
Loctite® 3888™							
0.09	90 min.	24 hrs.	1.44	0.001	–40° to 175°	7366A55	$51.71
Rigid							
0.09	90 min.	24 hrs.	6.05	0.009	–75° to 255°	7661A11	31.33
0.35	90 min.	24 hrs.	6.05	0.009	–75° to 255°	7661A12	82.60
Flexible							
0.09	180 min.	24 hrs.	1.55	0.050	–75° to 230°	7661A13	29.64
0.35	180 min.	24 hrs.	1.55	0.050	–75° to 230°	7661A14	60.43

Silver-Filled Conductive Pens



Repair printed circuit board traces with this easy-to-dispense pen. Temperature range is –65° to 300° F. Color is silver.

0.2-oz.	7365A44	$48.57

SciGrip Cement for Plastics





Formerly known as Weld-On, these adhesives form extra-strong bonds on most plastic pipe. Not rated for temperature.

3 and **4**—Products cannot be sold in California.

4052 and **4807**—Products cannot be sold in the Los Angeles area.

SciGrip No.	Type	Size	Begins to Harden	Reaches Full Strength	Color		
3	General Purpose	16-oz. Can	1 min.	7 days	Clear	7528A13	$16.74
4	Nonwhitening for Acrylic	4-oz. Can	1 min.	7 days	Clear	7517A1	9.22
4	Nonwhitening for Acrylic	16-oz. Can	1 min.	7 days	Clear	7517A2	18.00
4SC	Nonwhitening for Acrylic	4-oz. Can	1 min.	7 days	Clear	7517A3	9.22
4SC	Nonwhitening for Acrylic	16-oz. Can	1 min.	7 days	Clear	7517A4	18.00
16	High Strength	1.5-oz. Tube	5 min.	21 days	Clear	7515A11	5.71
4052	For PVC and CPVC	16-oz. Can	15 min.	7 days	Clear	7352A11	24.71
4052	For PVC and CPVC	1-gal. Can	15 min.	7 days	Clear	7352A12	124.53
4707	For ABS	16-oz. Can	10 min.	21 days	White	7352A17	18.98
4707	For ABS	1-gal. Can	10 min.	21 days	White	7352A19	87.22
4807	For Polystyrene	1-gal. Can	10 min.	21 days	White	7352A26	98.80

Plastic Pipe Cement



Recommended application temperature is 40° to 110° F. Depending on the pipe size and temperature, the time it takes for cement to begin to harden and reach full strength will vary. Cans have a brush top.

For PVC—Use on drinking water, drain, waste, and vent pipes and fittings. Meet ASTM D2564.

For CPVC—For hot- and cold-water plumbing and industrial piping. Meet ASTM F493.

For ABS—Use for drain, waste, and vent pipes and fittings. Meet ASTM D2235.

All Purpose—Bonds PVC, CPVC, and ABS. Use for solvent welding most plastic pipe, conduit, water lines, and drain, waste, and vent systems.

Cleaner removes dirt, grease, and moisture from PVC, CPVC, and ABS. **Primer** prepares PVC and CPVC for adhesive. Meets ASTM F656.

Color	For Pipe Dia.		8 oz.	16 oz.	32 oz.
For PVC					
Clear	Up to 6″	74605A14	$4.68	$9.02	$14.52
Clear	Up to 12″	74605A15	5.68	9.99	17.90
Gray	Up to 12″	74605A16	5.81	10.65	18.00
For CPVC					
Yellow	Up to 2″	74605A17	6.88	____	20.95
Orange	Up to 6″	74605A18	5.78	11.00	18.64
For ABS					
Black	Up to 6″	74605A19	4.46	7.91	13.04

Color	For Pipe Dia.		8 oz.	16 oz.	32 oz.
All Purpose					
Clear	Up to 6″	74605A24	$5.27	$11.24	$19.18
Cleaner					
Clear	____	74605A25	4.64	7.81	14.26
Primer					
Clear	____	18815K51	5.39	11.45	____
Purple	____	74605A26	5.53	11.83	19.62

For information about adhesives and sealants, see page 3448.

Loctite® Threadlockers

Prevent threaded fasteners from loosening due to shock and vibration, plus protect them from oil, most solvents, and harsh environments. Threadlockers are for metal fasteners, except 425™ is for plastic fasteners. All reach full strength in 24 hours. *Primer* is recommended when working with aluminum, black-oxide finishes, cadmium, stainless steel, titanium, and zinc.

Regular Strength—Require a hand tool for fastener removal.

243™ 8.45-oz. bottle meets NSF/ANSI Standard 61 for use with drinking water systems.

078™ meets MIL-S-22473E, Grade H and ASTM D5363.

085™ meets MIL-S-22473E, Grade B and ASTM D5363.

220™ meets MIL-S-46163A.

222MS™ meets MIL-S-46163A and meets NSF/ANSI Standard P1 for food-processing areas.

242™ and *290*™ meet MIL-S-46163A. The 8.45-oz. bottles meet NSF/ANSI Standard 61 for use with drinking water systems.

High Strength—Require heat and a hand tool for fastener removal.

263™ 8.45-oz. bottle meets NSF/ANSI Standard 61 for use with drinking water systems.

087™ meets MIL-S-22473E, Grade AV and ASTM D5363.

262™ meets MIL-S-46163A and meets NSF/ANSI Standard P1 for food-processing areas.

271™ meets MIL-S-46163A and is UL classified MH8007.

277™ meets MIL-S-46163A.



Loctite No.	For Fastener Dia.	Begins to Harden	Temperature Range, °F	Color	0.02-oz. Capsules		0.34-oz. Bottles		1.69-oz. Bottles		8.45-oz. Bottles	
Regular Strength												
General Purpose												
222	Up to 1/4"	20 min.	–65° to 300°	Purple			1810A27	$13.65	1810A28	$35.93		
243	1/4" to 3/4"	5 min.	–65° to 360°	Blue	91458A114	$2.09	91458A115	13.63	91458A116	35.93	91458A460	$118.60
425	Up to 1/4"	2 min.	–65° to 180°	Blue			91458A370★	19.93				
2400NA	1/4" to 3/4"	5 min.	–65° to 300°	Blue					91458A131	40.50	91458A132	246.89
2432	Up to 2"	30 min.	–65° to 300°	Blue					91458A760	93.54		
51604	1/8" to 1 1/2"	30 min.	–65° to 300°	Blue					1810A3▲	26.10		
Mil. Spec.												
078	Up to 1/4"	6 hrs.	–65° to 300°	Brown					1810A6	55.22		
085	Up to 2"	6 hrs.	–65° to 300°	Yellow					1810A13	55.07		
220	Up to 1/4"	6 min.	–65° to 300°	Blue			1810A315	13.29			1810A31	118.68
222MS	Up to 1/4"	10 min.	–65° to 300°	Purple	91458A130	2.09	91458A110	13.63	91458A120	35.93	91458A700	118.60
242	1/4" to 3/4"	10 min.	–65° to 300°	Blue	91458A111	2.18	91458A112	14.47	91458A113	38.06	91458A710	125.62
290	Up to 1/2"	20 min.	–65° to 300°	Green	91458A117	2.09	91458A118	13.63	91458A119	35.93	91458A830	118.60
High Temperature												
246	1/4" to 3/4"	20 min.	–65° to 450°	Blue			91458A480	16.14	91458A490	40.75	91458A550	152.15
2422	1/2" to 3/4"	30 min.	–65° to 650°	Blue			91458A280■	33.98				
High Strength												
General Purpose												
263	Up to 1"	5 min.	–65° to 360°	Red	91458A135	3.50	91458A610	13.63	91458A620	35.93	91458A630	118.60
2700NA	Up to 3/4"	5 min.	–65° to 300°	Red					91458A133	40.50	91458A134	246.89
2760	Up to 1"	4 min.	–65° to 300°	Red			91458A300	16.55	91458A200	40.06	91458A400	140.24
Mil. Spec.												
087	Up to 1"	6 hrs.	–65° to 300°	Red					1810A15	59.69	1810A16	349.92
262	Up to 3/4"	5 min.	–65° to 300°	Red	91458A560	2.21	91458A170	14.47	91458A180	38.06	91458A720	125.62
271	Up to 1"	10 min.	–65° to 300°	Red	91458A880	2.18	91458A160	14.47	91458A190	38.06	91458A730	125.62
277	Up to 1 1/2"	60 min.	–65° to 300°	Red			91458A910	15.00	91458A660	33.53	91458A780	101.60
High Temperature												
266	Up to 3/4"	10 min.	–65° to 450°	Red			91458A570	16.14	91458A580	40.00	91458A590	149.16
272	Up to 1 1/2"	30 min.	–65° to 450°	Red					91458A650	35.93	91458A890	118.60
294	Up to 1/2"	6 min.	–65° to 450°	Green					91458A950	52.82		
2620	1/2" to 3/4"	30 min.	–65° to 650°	Red			91458A270■	33.02				
Primer (1.75-oz. Bottle of Loctite 7649)											7614A16	19.06
Primer (4.5-oz. Aerosol of Loctite 7649)											7614A17	29.65

★0.70 oz.-bottle. ▲1.69-oz. tube. ■1.06-oz. syringe.

Loctite® Threadlocker Sticks and Tape

All the benefits of liquid threadlocker, but in a no-drip form. Use on threaded metal fasteners. All reach full strength in 24 hours. Temperature range is –65° to 300°F.

Sticks—*248*™ requires a hand tool for fastener removal. *268*™ is high strength and requires heat and a hand tool for fastener removal.

Tape—Is 1/2" Wd. x 1/32" Thick. It can be applied up to 30 days before use. A hand tool is required for fastener removal.





Loctite No.	For Fastener Dia.	Size	Begins to Harden	Color		
Sticks						
248	1/4" to 3/4"	0.32 oz.	10 min.	Blue	1004A12	$15.19
248	1/4" to 3/4"	0.67 oz.	10 min.	Blue	1004A11	29.92
268	Up to 3/4"	0.32 oz.	20 min.	Red	1004A22	15.19
268	Up to 3/4"	0.67 oz.	20 min.	Red	1004A21	29.92
Tape						
249	1/4" and Up	7 yd.	30 min.	Blue	2399A1	21.75

Vibra-Tite Reusable Threadlockers

Lock and seal any size threaded nylon, metal, or wood fasteners, yet still be able to adjust, remove, or even reuse them. You can also coat your fasteners ahead of time and store them indefinitely. Begins to harden in 10 seconds; reaches full strength in 30 minutes. Temperature range is –65° to 165°F.

Size	Color		
0.17-oz. Tube	Red	75145A68	$3.68
1-oz. Brush-Top Bottle	Red	75145A69	21.70

3M Scotch-Weld Threadlockers

Use on threaded metal fasteners to prevent loosening due to shock and vibration. Threadlockers begin to harden in 20 minutes; reach full strength in 24 hours. Temperature range is –65° to 300°F. All come in a bottle.

TL22 is for fine threads. A hand tool is required for fastener removal. **TL42** is for machine tool bolts and studs and countersunk screws. A hand tool is required for fastener removal. **TL62** creates strong bonds even on oily parts. Heat and a hand tool are required for fastener removal. **TL71** makes permanent bonds on bolts and studs, plus seals against leakage and corrosion.

3M No.	For Fastener Dia.	Color	0.34 oz.		1.69 oz.	
TL22	Up to 1/4"	Purple	92934A410	$10.15	92934A810	$30.45
TL42	Up to 3/4"	Blue	92934A420	11.38	92934A820	34.14
TL62	Up to 1"	Red	92934A430	11.72	92934A830	35.16
TL71	Up to 1"	Red	92934A440	11.72		

Permatex Threadlockers

Twist the stick to dispense these no-drip gels right where you want them on your threaded metal fasteners. They begin to harden in 15 minutes; reach full strength in 24 hours. Temperature range is –65° to 300°F.

24010 requires a hand tool for fastener removal.

27010 is high strength and requires heat and a hand tool for fastener removal.



Permatex No.	For Fastener Dia.	Color	0.35 oz.	
24010	1/4" to 1"	Blue	7445A12	$12.98
27010	3/8" to 1"	Red	7445A13	12.98

Loctite® Threadlockers for Food Processing Applications

A two-part, FDA-compliant threadlocker lets you secure threaded metal fasteners in food and beverage applications. Begins to harden in 90 minutes; reaches full strength in 24 hours. Temperature range is –65° to 400°F. Comes in a syringe and includes three mixer nozzles for simultaneous mixing and dispensing.

Loctite No.	For Fastener Dia.	Size, oz.	Color		
2046	Up to 2″	0.4	Blue	91458A136	$59.93

Aerosol Threadlockers

A spray-on option to dampen vibration and prevent loosening of threaded metal, plastic, and wood fasteners. Also prevents fluid leaks. Begins to harden in 10 seconds; reaches full strength in 5 minutes. Temperature range is –55° to 170°F. Comes in an aerosol can.

Size, oz.	Color		
4.5	Red	5650A11	$48.89

High-Temperature Threadlockers

Capable of handling temperatures from –300° to 2100°F, these no-drip threadlockers bond metal and ceramic threads. They also resist oil, fuel, acids, and alkalies. Begin to harden in 24 hours; reach full strength in 3 days. Threadlockers come in a bottle.

Type	Size, oz.	Color		
General Purpose	4	Blue	7604A55	$45.08
For Fine Threads	4	Green	7604A54	45.08
For Coarse Threads	4	Red	7604A56	45.08

Threadlocking Washers



Let these 1/32″ thick washers also be your threadlocker. When a metal fastener is tightened onto the washer, the epoxy activates and bonds the underside of the fastener head to the surface to prevent loosening, and fills gaps and spaces that other washers fail to seal. Temperature range is –65° to 300°F.

For Screw Size	ID	OD	Color		Pkg. of 100
No. 10	3/16″	1/2″	Blue	92937A330	$18.88
1/4″	1/4″	5/8″	Blue	92937A350	18.88
3/8″	3/8″	13/16″	Blue	92937A370	18.88

Mil. Spec. Threadlockers



Meet your Mil. Spec. needs for metal fasteners. Threadlockers also meet ASTM D5363 and have a maximum temperature of 300°F. Begin to harden immediately; reach full strength in 24 hours. *Primer* cleans the surface and decreases the time to reach full strength. It can be used with MIL-S-22473 and MIL-S-46163 threadlockers. Meets MIL-S-22473.

Regular-strength threadlockers require a hand tool for fastener removal.

High-strength threadlockers require heat and a hand tool for fastener removal.

Grade	Type	Color	0.34 oz.		1.69 oz.	
Regular Strength						
MIL-S-22473						
B	—	Yellow	74835A33	$17.84	74835A61	$37.64
C	—	Blue	74835A34	17.84	74835A62	37.64
CV	—	Blue	74835A35	17.84	74835A63	37.64
CVV	—	Blue	74835A36	17.84	74835A64	37.64
E	—	Purple	74835A38	17.84	74835A66	37.64
EV	—	Purple	74835A39	17.84	74835A67	37.64
H	—	Brown	74835A41	17.84	74835A68	37.64
HV	—	Brown	74835A42	17.84	74835A69	37.64
HVV	—	Brown	74835A43	17.84	74835A71	37.64
JV	—	Yellow	74835A44	17.84	74835A72	37.64
MIL-S-46163						
J	I	Blue	74835A21	14.03	74835A48	32.33
M	II	Purple	74835A24	14.03	74835A52	32.33
N	II	Blue	74835A25	14.03	74835A53	32.33
R	III	Green	74835A27	14.03	74835A55	32.33
High Strength						
MIL-S-22473						
A	—	Red	74835A28	17.84	74835A56	37.64
AA	—	Green	74835A29	17.84	74835A57	37.64
AV	—	Red	74835A31	17.84	74835A58	37.64
AVV	—	Red	74835A32	17.84	74835A59	37.64
D	—	Orange	74835A37	17.84	74835A65	37.64
MIL-S-46163						
K	I	Red	74835A22	14.03	74835A49	32.33
L	I	Red	74835A23	14.03	74835A51	32.33
O	II	Red	74835A26	14.03	74835A54	32.33
Primer (4.25-oz. Aerosol)					74835A84	17.73

Loctite® Retaining Compounds



Secure unthreaded metal cylindrical parts such as shafts, hubs, bearings, bushings, splines, pulleys, and press-fit assemblies. Retaining compounds prevent corrosion and fluid leaks and resist most chemicals. All reach full strength in 24 hours. *Primer* is recommended when working with aluminum, black-oxide finishes, cadmium, stainless steel, titanium, and zinc.

609™ and **635™** meet MIL-R-46082B.

680™ 8.45-oz. bottle meets NSF/ANSI Standard 61 for use with drinking water systems.

Loctite No.	Type	Size	Begins to Harden	Temperature Range, °F	Fills Gaps Up To	Color		
For Close-Fitting Parts								
603	For Oily Parts	0.34-oz. Bottle	10 min.	–65° to 300°	0.005″	Green	91458A340	$14.96
609	General Purpose	0.02-oz. Capsule	10 min.	–65° to 300°	0.006″	Green	91458A230	2.11
609	General Purpose	0.34-oz. Bottle	10 min.	–65° to 300°	0.006″	Green	91458A210	13.89
609	General Purpose	1.69-oz. Bottle	10 min.	–65° to 300°	0.006″	Green	91458A220	36.64
609	General Purpose	8.45-oz. Bottle	10 min.	–65° to 300°	0.006″	Green	91458A740	120.93
635	High Strength	1.69-oz. Bottle	60 min.	–65° to 300°	0.01″	Green	91458A640	43.36
635	High Strength	8.45-oz. Bottle	60 min.	–65° to 300°	0.01″	Green	91458A670	150.68
640	High Temperature	1.69-oz. Bottle	30 min.	–65° to 400°	0.006″	Green	91458A690	39.49
640	High Temperature	8.45-oz. Bottle	30 min.	–65° to 400°	0.006″	Green	91458A680	149.24
641	General Purpose	0.34-oz. Bottle	20 min.	–65° to 300°	0.008″	Yellow	91458A520	19.41
641	General Purpose	1.69-oz. Bottle	20 min.	–65° to 300°	0.008″	Yellow	91458A530	43.99
648	High Strength	0.34-oz. Bottle	3 min.	–65° to 350°	0.006″	Green	91458A801	16.71
648	High Strength	1.69-oz. Bottle	3 min.	–65° to 350°	0.006″	Green	91458A802	43.99
648	High Strength	8.45-oz. Bottle	3 min.	–65° to 350°	0.006″	Green	91458A803	145.19
668	For Vertical Surfaces	0.67-oz. Stick	30 min.	–65° to 400°	0.005″	Green	8075A12	38.46
For Loose-Fitting Parts								
620	High Temperature	0.02-oz. Capsule	60 min.	–65° to 450°	0.015″	Green	91458A850	2.12
620	High Temperature	0.34-oz. Bottle	60 min.	–65° to 450°	0.015″	Green	91458A750	15.86
620	High Temperature	1.69-oz. Bottle	60 min.	–65° to 450°	0.015″	Green	91458A450	41.74
620	High Temperature	8.45-oz. Bottle	60 min.	–65° to 450°	0.015″	Green	91458A510	137.73
638	Food Grade	0.34-oz. Bottle	4 min.	–65° to 350°	0.01″	Green	91458A433	17.35
638	Food Grade	1.69-oz. Bottle	4 min.	–65° to 350°	0.01″	Green	91458A434	45.66
638	Food Grade	8.45-oz. Bottle	4 min.	–65° to 350°	0.01″	Green	91458A435	150.71
660	General Purpose	0.2-oz. Tube	20 min.	–65° to 300°	0.02″	Silver	7570A27	8.97
660	General Purpose	1.69-oz. Tube	20 min.	–65° to 300°	0.02″	Silver	7570A26	42.32
680	High Strength	0.02-oz. Capsule	10 min.	–65° to 300°	0.015″	Green	91458A121	1.98
680	High Strength	0.34-oz. Bottle	10 min.	–65° to 300°	0.015″	Green	91458A122	15.86
680	High Strength	1.69-oz. Bottle	10 min.	–65° to 300°	0.015″	Green	91458A123	41.74
680	High Strength	8.45-oz. Bottle	10 min.	–65° to 300°	0.015″	Green	91458A330	137.73
Primer (1.75-oz. Bottle of Loctite 7649)							7614A16	19.06
Primer (4.5-oz. Aerosol of Loctite 7649)							7614A17	29.65

Mil. Spec. Retaining Compounds

Cover MIL-R46082 requirements when securing unthreaded metal cylindrical parts such as shafts, hubs, bearings, bushings, splines, pulleys, and press-fit assemblies. All reach full strength in 24 hours. Temperature range is –65° to 350°F. Color is green. Compounds come in a bottle. *Primer* cleans the surface and decreases the time to reach full strength. Meets MIL-S-22473.

Meets MIL-R46082	Begins to Harden	Fills Gaps Up To	0.34 oz.		1.69 oz.	
Type I	20 min.	0.005″	74835A45	$16.84	74835A73	$32.33
Type II	20 min.	0.006″	74835A46	16.84	74835A74	32.33
Type III	60 min.	0.01″	74835A47	16.84	74835A75	32.33
Primer (4.25-oz. Aerosol)					74835A84	17.73

Loctite® Applicators for Threadlockers and Retaining Compounds

Control the amount of adhesive dispensed. Screw an applicator onto a bottle of threadlocker or retaining compound and set the dial to dispense 0.0003 oz. to 0.013 oz. of material. Do not use with instant-bonding adhesives.

Fits Bottle Size		
1.69 oz.	66025A21	$143.57
8.45 oz.	66025A11	136.86



For 1.69-oz. Bottle



For 8.45-oz. Bottle

Pipe Thread Sealants

Form strong seals on threaded pipe. Also known as pipe dope. **Loctite® with PTFE** *561*™, *565*™ and *567*™ meet NSF/ANSI Standard 61 for use with drinking water systems. **Slic-Tite with PTFE** meet NSF/ANSI Standard 61 for use with drinking water systems and are USDA compliant and UL listed, except the 1.25-oz. stick is not USDA compliant or UL listed. **Standard** *for metal* meet NSF/ANSI Standard 61 for use with drinking water systems. UL listed. *Thick reusable* and *thin reusable* meet NSF/ANSI Standard 61 for use with drinking water systems.

Mfr. No.	Type	Size	Temp. Range, °F	Color		
Loctite®						
542	For Metal	1.69-oz. Bottle	–65° to 300°	Brown	45855K71	$46.08
545	For Hydraulic Systems	0.02-oz. Capsule	–65° to 300°	Purple	1810A2	2.06
545	For Hydraulic Systems	0.34-oz. Bottle	–65° to 300°	Purple	1810A78	11.89
545	For Hydraulic Systems	1.69-oz. Bottle	–65° to 300°	Purple	45855K63	41.80
545	For Hydraulic Systems	8.45-oz. Bottle	–65° to 300°	Purple	45855K11	126.98
5452	For Hydraulic Systems	1.69-oz. Tube	–65° to 300°	Purple	45855K45	70.79
5452	For Hydraulic Systems	8.45-oz. Tube	–65° to 300°	Purple	45855K46	247.12
554	For Refrigeration Systems	0.34-oz. Bottle	–65° to 300°	Red	45855K72	17.35
554	For Refrigeration Systems	8.45-oz. Bottle	–65° to 300°	Red	45855K73	154.29
564	For Metal	1.69-oz. Tube	–65° to 300°	Off-White	1810A84	19.63
564	For Metal	8.45-oz. Tube	Up to 300°	Off-White	1810A83	123.54
5671	For Metal	0.67-oz. Stick	–65° to 300°	Off-White	45855K42	13.82
569	For Hydraulic Systems	1.69-oz. Bottle	–65° to 300°	Brown	45855K64	43.33
569	For Hydraulic Systems	8.45-oz. Bottle	–65° to 300°	Brown	45855K74	142.36
572	For Metal	1.69-oz. Tube	–55° to 300°	Off-White	1810A25	19.54
5770	High Temperature	1.69-oz. Tube	–65° to 530°	Off-White	45855K43	23.71
5770	High Temperature	8.45-oz. Tube	–65° to 530°	Off-White	45855K44	133.12
5772	For Stainless Steel	1.69-oz. Bottle	–65° to 300°	Yellow	1810A35	97.10
580	For Stainless Steel and Titanium	1.69-oz. Tube	–65° to 300°	White	45855K16	50.14
5802	High Purity For Stainless Steel	1.69-oz. Tube	–65° to 300°	Off-White	45855K47	165.32
5117	Chemical Resistant	16-oz. Brush-Top Can	–65° to 400°	Black	8149K17	11.25
80726	For Plastic	16-oz. Brush-Top Can	–65° to 300°	White	8149K15	28.13
Loctite® with PTFE						
561	For Metal	0.67-oz. Stick	–65° to 300°	White	1011A11	14.89
565	For Metal	0.2-oz. Tube	–65° to 300°	White	45855K12	6.06
565	For Metal	1.69-oz. Tube	–65° to 300°	White	45855K5	18.79
565	For Metal	8.45-oz. Tube	–65° to 300°	White	45855K13	52.95
567	High Temperature	0.2-oz. Tube	–65° to 400°	White	45855K14	6.06
567	High Temperature	1.69-oz. Tube	–65° to 400°	White	45855K27	21.84
567	High Temperature	8.45-oz. Tube	–65° to 400°	White	45855K37	74.36
567	High Temperature	11.8-oz. Brush-Top Can	–65° to 400°	White	1810A76	75.71
577	For Stainless Steel	1.69-oz. Tube	–65° to 300°	Yellow	45855K15	23.23
577	For Stainless Steel	8.45-oz. Tube	–65° to 300°	Yellow	1810A26	51.00
592	High Temperature	0.2-oz. Tube	–65° to 400°	White	45855K81	6.06
592	High Temperature	1.69-oz. Tube	–65° to 400°	White	45855K82	18.79
592	High Temperature	8.45-oz. Tube	–65° to 400°	White	45855K83	52.95
1527514	For Metal	16-oz. Brush-Top Can	–65° to 300°	White	8149K22	17.81
Slic-Tite with PTFE						
_____	For Metal	1.25-oz. Stick	–50° to 350°	White	5477K11	9.50
_____	For PVC, CPVC, and ABS	1.5-oz. Tube	–50° to 500°	White	5477K12	4.65
_____	For PVC, CPVC, and ABS	4-oz. Brush-Top Can	–50° to 500°	White	5477K13	8.56
_____	For PVC, CPVC, and ABS	8-oz. Brush-Top Can	–50° to 500°	White	5477K14	15.88
_____	For PVC, CPVC, and ABS	16-oz. Brush-Top Can	–50° to 500°	White	5477K16	25.13
_____	For PVC, CPVC, and ABS	32-oz. Brush-Top Can	–50° to 500°	White	5477K17	49.69
Standard						
_____	For Metal	1.25-oz. Stick	–50° to 350°	Off-White	4592K34	1.42
_____	For Metal	4-oz. Stick	–50° to 350°	Off-White	4592K11	4.76
_____	For PVC, CPVC, and ABS	1.25-oz. Stick	–50° to 250°	Off-White	4592K16	4.08
_____	Thick Reusable for Metal and Plastic	2-oz. Bottle	–65° to 300°	Orange	4592K24	25.49
_____	Thick Reusable for Metal and Plastic	2-oz. Bottle	–65° to 300°	White	4592K22	25.49
_____	Thin Reusable for Metal and Plastic	2-oz. Bottle	–65° to 300°	Orange	4592K23	25.49
_____	Thin Reusable for Metal and Plastic	2-oz. Bottle	–65° to 300°	White	4592K21	25.49











High-Temperature Pipe Thread Sealants

Use in high-temperature and high-pressure applications on steel and stainless steel pipe up to 2″ diameter. Maximum air pressure is 2,300 psi. Do not use in oxygen systems. Comes in a tube.

Size, oz.	Max. Temperature, °F	Color		
4.4	1175°	Black	1965K1	$64.44



Pipe Thread Sealant Tape



Form and maintain seals on threaded metal pipe with this PTFE tape. The thicker and denser the tape, the better the seal. Temperature range is –450° to 550° F. All tape is UL listed. White tape is FDA compliant for food processing applications.

Commercial Grade—Also known as dope tape.

Military Grade—All meet MIL-T-27730A. *Premium* will seal coarse threads. It also meets MIL-A-A-58092.

Premium color lets you color-code hot water, gas, and chemical connections. It also meets MIL-A-A-58092.

Tape *for stainless steel* is for coarse threads. It also meets MIL-A-A-58092.

Wd.	Lg., yds.	Thickness	Density, g/cc		1-11	12-Up
Commercial Grade						
Standard—White						
1/4″	16	0.0028″	0.5	4591K11	$1.86	$1.67
3/8″	16	0.0028″	0.5	4591K18	2.14	1.92
1/2″	16	0.0028″	0.5	4591K12	2.31	2.08
3/4″	16	0.0028″	0.5	4591K13	3.40	3.05
1″	16	0.0028″	0.5	4591K14	4.40	3.95
1 1/2″	16	0.0028″	0.5	4591K16	6.49	5.82
2″	16	0.0028″	0.5	4591K17	8.54	7.67
Military Grade						
Standard—White						
1/4″	14	0.0032″	0.7	6802K11	2.24	2.02
3/8″	14	0.0032″	0.7	6802K18	2.58	2.32
1/2″	14	0.0032″	0.7	6802K12	2.62	2.36
3/4″	14	0.0032″	0.7	6802K13	3.87	3.48
1″	14	0.0032″	0.7	6802K14	4.98	4.48
1 1/2″	14	0.0032″	0.7	6802K15	7.40	6.66
2″	14	0.0032″	0.7	6802K16	9.76	8.78
Premium—White						
1/4″	14	0.0032″	1.2	6802K22	3.11	2.80
3/8″	14	0.0032″	1.2	6802K19	3.71	3.33
1/2″	14	0.0032″	1.2	6802K33	4.55	4.08
3/4″	14	0.0032″	1.2	6802K44	6.74	6.04
1″	14	0.0032″	1.2	6802K55	8.72	7.82
1 1/2″	14	0.0032″	1.2	6802K66	13.06	11.73
2″	14	0.0032″	1.2	6802K77	17.11	15.36
Premium Color—Choose Green, Orange, Red, or Yellow						
1/4″	14	0.0032″	1.2	44945K11	5.19	4.50
3/8″	14	0.0032″	1.2	44945K17	5.77	5.00
1/2″	14	0.0032″	1.2	44945K12	6.12	5.30
3/4″	14	0.0032″	1.2	44945K13	7.87	7.04
1″	14	0.0032″	1.2	44945K14	11.73	10.17
1 1/2″	14	0.0032″	1.2	44945K15	17.58	15.23
2″	14	0.0032″	1.2	44945K16	23.04	19.97
For Stainless Steel—Gray						
1/4″	14	0.0032″	1.2	7346A11	6.08	5.45
3/8″	14	0.0032″	1.2	7346A16	7.12	6.17
1/2″	14	0.0032″	1.2	7346A12	7.81	7.00
3/4″	14	0.0032″	1.2	7346A13	11.62	10.41
1″	14	0.0032″	1.2	7346A14	15.00	13.45
1 1/2″	14	0.0032″	1.2	7346A15	22.27	19.97

3M Pipe Thread Sealant Tape

A quick, clean and efficient way to form and maintain leakproof seals on threaded metal pipe. Sealant is made of PTFE and resists acids, gases and organic solvents.

3M No.	Wd.	Lg., yds.	Thick-ness	Temperature Range, °F	Color		
48	1/4″	7	0.003″	–450° to 400°	White	4934A13	$6.23
48	1/2″	7	0.003″	–450° to 400°	White	4934A14	8.23
547	3/8″	36	0.003″	–40° to 175°	White	4934A12	16.94
547	1″	36	0.003″	–40° to 175°	White	4934A11	45.13

Pipe Thread Sealants for Oxygen Systems

Make tight seals between pipe threads and joints in oxygen systems. Sealants are made of PTFE.

Dry Environment—Use on any pipe for diesel fuel, liquid propane gas, oxygen, and hydraulic systems. Temperature range is –400° to 500° F (–40° to 300° F for natural gas; up to 140° F for oxygen). Maximum pressure is 3,500 psi (300 psi for natural gas). Maximum pipe size for natural gas is 3/4 NPT. USDA compliant for food-processing areas.

Wet Environment—Use on steel, stainless steel, brass, and bronze pipe for gas, liquid, and low-vacuum service, as well as for oxygen and liquid-oxygen systems. Do not use with aluminum-to-aluminum surfaces or in alkali, fluorine, or hydrofluoric environments. Sealant withstands temperatures up to 450° F (140° F for oxygen). Maximum pressure is 10,000 psi.

	Size	Color		
Dry Environment	3.5-oz. Tube	White	4538K1	$32.45
Wet Environment	3.5-oz. Jar	Green	4538K6	119.34

Joint Sealants





Use to seal threaded and flanged joints.

X-Pando—Expands as it hardens. Use on most pipe. Compatible with liquid oxygen. FDA and USDA compliant. Meets NSF/ANSI Standard 61 for use with drinking water systems.

X-Pando Special—Use on cement-lined pipe joints prior to welding. The heat from the welding torch helps the sealant begin to harden. USDA compliant.

Key-Tite—Waterproof and nonhardening for air, gas, water, and steam joints. Do not use with gasoline.

Key Graphite—Nonhardening and for use with petroleum products, acids, and high-pressure steam joints. Do not use for water service.

For Plastics—Meets NSF/ANSI Standard 61 for use with drinking water systems. Do not use with compressed air or gas.

Size	Temperature Range, °F	Color		
X-Pando				
14-oz. Can	–300° to 1000°	Dark Gray	6818K11	$15.90
70-oz. Can	–300° to 1000°	Dark Gray	6818K12	64.39
X-Pando Special				
14-oz. Can	–300° to 1500°	Dark Gray	6818K24	17.46
70-oz. Can	–300° to 1500°	Dark Gray	6818K26	72.76
Key-Tite				
32-oz. Can	–50° to 450°	Green	4586K2	22.04
1-gal. Can	–50° to 450°	Green	4586K3	84.66
Key Graphite				
0.62-lb. Brush-Top Can	–30° to 750°	Black	4586K8	15.24
1-lb. Can	–30° to 750°	Black	4586K5	15.78
2.75-lb. Can	–30° to 750°	Black	4586K6	22.88
10-lb. Pail	–30° to 750°	Black	4586K7	54.41
For Plastic				
8-oz. Brush-Top Can	20° to 140°	Light Blue	4586K9	19.75

Mil. Spec. Joint Sealants



Seal threaded and flanged joints in temperatures up to 1500° F. Sealant withstands vibration and resists steam, ammonia, hydrocarbons, refrigerants, hydraulic fluids, propane, brine, acids, and mild alkalies. Use on metal, ceramic, rubber, and most plastics. Can be used on steam joints up to 2,000 psi; flanges without gaskets up to 6,500 psi; and threaded joints up to 10,000 psi.

Above 300° F, the sealant begins to harden in 15 minutes and reaches full strength in 4 hours with heat. Below 300° F, it begins to harden in 4 hours and will take up to 1 year to reach full strength if not heated. Meets MIL-S-15204D. Comes in a can.

Size, oz.	Temperature Range, °F	Color		
32	–315° to 1500°	Black	1959A31	$198.33

Loctite® Gasket Sealants

Seal existing gaskets on metal parts. Sealants reach full strength in 24 hours.

1™ forms rigid seals on duct and plumbing connections. It fills gaps up to 0.01″. **2™** creates flexible seals that never fully harden. It fills gaps up to 0.01″. **MR 5923™** provides flexible seals for marine engines.

Loctite No.	Size	Begins to Harden	Color		
1	7-oz. Tube	2 hrs.	Red Brown	7479A12	$10.34
2	1.5-oz. Tube	4 hrs.	Black	1784A5	3.74
2	3-oz. Tube	4 hrs.	Black	7462A21	4.67
2	7-oz. Tube	4 hrs.	Black	7462A22	10.73
MR 5923	16-oz. Brush-Top Can	4 hrs.	Red Brown	7463A24	15.12

Permatex Gasket Makers



Replace cork, paper, rubber, and other traditional gaskets. Apply gasket makers to glass, metal, plastic, rubber, and wood for a form-in-place seal. *Cartridges* fit a standard caulk gun (please see page 3484).

Ultra-blue RTV for oily surfaces cannot be sold in California.

Crack- and shrink-resistant high-temperature RTV meets MIL-A-46106B.

Permatex No.	Fills Gaps Up To	Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
General Purpose Blue RTV								
80022	0.25″	3-oz. Tube	60 min.	24 hrs.	–65° to 400°	Blue	7535A12	$5.05
80628	0.25″	12.9-oz. Cartridge	60 min.	24 hrs.	–65° to 400°	Blue	7535A15	16.41
Ultra-Blue RTV for Oily Surfaces								
81724	0.25″	3.35-oz. Tube	120 min.	24 hrs.	–65° to 400°	Blue	7600A21	7.19
81725	0.25″	13-oz. Cartridge	120 min.	24 hrs.	–65° to 400°	Blue	7600A22	21.49
Crack- and Shrink-Resistant High-Temperature RTV								
81160	0.25″	3-oz. Tube	60 min.	24 hrs.	–65° to 600°	Red	7583A12	6.59
81409	0.25″	11-oz. Cartridge	60 min.	24 hrs.	–65° to 600°	Red	7583A15	17.86
85915	0.25″	7.25-oz. Aerosol Can	60 min.	24 hrs.	–65° to 600°	Red	7583A13	19.94
Flexible Ultra-Copper High-Temperature RTV								
81878	0.25″	3-oz. Tube	60 min.	24 hrs.	–65° to 600°	Copper	76715A71	6.93
Right Stuff Instant Seal								
25224	0.25″	7-oz. Aerosol Can	5 min.	24 hrs.	–75° to 450°	Black	66175A62	24.99
85224	0.25″	7.5-oz. Aerosol Can	5 min.	24 hrs.	–75° to 450°	Black	66175A41	28.09

Loctite® Gasket Makers



Create tough, resilient seals that replace traditional gaskets. Commonly used on metal water pumps, thermostats, split crankcases, gear boxes, transmission housings, and axle covers. Cartridges fit a standard caulk gun (please see page 3484).

587™ is UL listed and NSF registered P1 for nonfood contact. **515™** is UL listed. **518™** meets NSF/ANSI Standard 61 for use with drinking water systems. *Kit* also includes a 0.88-oz. aerosol can of primer.









Loctite No.	Fills Gaps Up To	Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
General Purpose								
504	0.03″	10.1-oz. Cartridge	60 min.	24 hrs.	–65° to 300°	Orange	7700A22	$80.65
548	0.01″	0.63-oz. Stick	10 min.	24 hrs.	–40° to 300°	Orange	8091A24	20.04
587	0.025″	2.36-oz. Tube	30 min.	24 hrs.	–60° to 400°	Blue	7660A21	13.44
587	0.025″	6.4-oz. Aerosol Can	30 min.	24 hrs.	–60° to 400°	Blue	7660A32	25.45
587	0.025″	10.1-oz. Cartridge	30 min.	24 hrs.	–60° to 400°	Blue	7660A22	30.78
High Temperature								
510	0.01″	1.69-oz. Tube	20 min.	24 hrs.	–65° to 400°	Red	66335A11	31.07
510	0.01″	8.45-oz. Tube	20 min.	24 hrs.	–65° to 400°	Red	66335A21	67.42
5920	0.24″	2.36-oz. Tube	60 min.	24 hrs.	–65° to 600°	Copper	7490A11	7.51
5920	0.24″	10.1-oz. Cartridge	60 min.	24 hrs.	–65° to 600°	Copper	7490A21	23.05
30558	____	7-oz. Tube	3 hrs.	____	–50° to 600°	Black	7568A37	23.44
Fast Hardening								
Instant Gasket	0.25″	3-oz. Aerosol Can	5 min.	24 hrs.	–65° to 400°	Black	6818A21	23.89
Instant Gasket	0.25″	5-oz. Cartridge	5 min.	24 hrs.	–60° to 400°	Black	7479A28	21.94
Instant Gasket	0.25″	6.4-oz. Aerosol Can	5 min.	24 hrs.	–65° to 400°	Black	6818A22	29.82
Slow Hardening								
573	0.01″	8.45-oz. Tube	60 min.	72 hrs.	–65° to 300°	Green	7568A42	81.90
574	0.01″	1.69-oz. Tube	60 min.	72 hrs.	–65° to 300°	Orange	7568A43	22.33
574	0.01″	8.45-oz. Tube	60 min.	72 hrs.	–65° to 300°	Orange	7568A44	74.36
Flexible								
515	0.01″	0.2-oz. Tube	25 min.	12 hrs.	–65° to 300°	Purple	7568A41	6.20
515	0.01″	1.69-oz. Tube	25 min.	12 hrs.	–65° to 300°	Purple	7568A31	19.13
515	0.01″	10.1-oz. Cartridge	25 min.	12 hrs.	–65° to 300°	Purple	7568A34	72.12
598	0.25″	0.5-oz. Tube	30 min.	24 hrs.	–60° to 400°	Black	7479A27	2.66
598	0.25″	2.36-oz. Tube	30 min.	24 hrs.	–60° to 400°	Black	6641A41	13.80
598	0.25″	6.4-oz. Aerosol Can	30 min.	24 hrs.	–60° to 400°	Black	6641A51	25.45
598	0.25″	10.1-oz. Cartridge	30 min.	24 hrs.	–60° to 400°	Black	6641A42	30.90
5188	0.005″	1.69-oz. Tube	5 min.	24 hrs.	–65° to 300°	Red	7568A36	33.26
5188	0.005″	10.1-oz. Cartridge	5 min.	24 hrs.	–65° to 300°	Red	7568A35	79.55
Flexible Oil Resistant								
5910	0.019″	10.1-oz. Cartridge	20 min.	24 hrs.	–65° to 500°	Black	1832A11	43.02
Oil Resistant								
5699	0.25″	2.36-oz. Tube	30 min.	24 hrs.	–60° to 400°	Gray	75115A65	13.30
5699	0.25″	6.4-oz. Aerosol Can	30 min.	24 hrs.	–60° to 400°	Gray	75115A68	24.49
5699	0.25″	10.1-oz. Cartridge	30 min.	24 hrs.	–60° to 400°	Gray	75115A66	44.64
Low Odor								
5900	0.25″	10.1-oz. Cartridge	20 min.	24 hrs.	–60° to 400°	Black	6708A22	45.50
For Aluminum								
518	0.01″	0.2-oz. Tube	20 min.	24 hrs.	–65° to 300°	Red	1810A4	5.94
518	0.01″	1.69-oz. Tube	20 min.	24 hrs.	–65° to 300°	Red	75125A66	18.77
518	0.01″	10.1-oz. Cartridge	20 min.	24 hrs.	–65° to 300°	Red	75125A67	89.53
518 Kit	0.05″	0.85-oz. Syringe	20 min.	24 hrs.	–65° to 300°	Red	75125A72	36.72

High-Temperature Gasket Makers

Use these gasket makers to form a tight seal on furnace doors, exhaust systems, stoves, and other high-temperature applications. They are fire resistant and resist most acids, solvents, and corrosives. Use on ceramic and metals. Cartridges fit a standard caulk gun (please see page 3484).

Fills Gaps Up To	Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
0.125″	11-oz. Cartridge	20 min.	72 hrs.	Up to 2350°	Gray	7549A15	$36.33
0.125″	1-lb. Can	20 min.	72 hrs.	Up to 2350°	Gray	7549A16	55.29
0.25″	11-oz. Cartridge	20 min.	72 hrs.	–300° to 2350°	Gray	7549A11	29.42
0.25″	3.5-lb. Can	20 min.	72 hrs.	–300° to 2350°	Gray	7549A12	98.42
0.25″	7-lb. Can	20 min.	72 hrs.	–300° to 2350°	Gray	7549A14	138.85

Gasketing Adhesives & Multipurpose Sealants

For information about adhesives and sealants, see page 3448.

Gasketing Adhesives





Hold gaskets in place during assembly.

Loctite®—*534*™ is for use on cork and metal. *30537*™ is for use on rubber. *30540*™ is for use on fabric and vinyl.

3M—Use on metal. 1300, 1300L, and 4799 cannot be sold in Connecticut, DC, Delaware, the Los Angeles area, Maine, Maryland, New Jersey, New York, Pennsylvania, Rhode Island, Utah, or Northern Virginia. *1300* and *1300L* meet MMM-A-121.

Mfr. No.	Type	Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
Loctite®								
534	Low Odor	0.67-oz. Stick	10 min.	24 hrs.	–65° to 300°	Purple	8091A37	$11.06
30537	Contact Adhesive	5-oz. Tube	2 min.	24 hrs.	Up to 180°	Yellow	1784A3	10.60
30540	Oil Resistant	5-oz. Tube	2 min.	24 hrs.	–20° to 175°	Black	1784A2	8.70
3M								
847	Oil Resistant	5-oz. Tube	15 min.	48 hrs.	–10° to 150°	Brown	7509A65	17.59
847	Oil Resistant	32-oz. Can	15 min.	48 hrs.	–10° to 150°	Brown	7509A66	53.31
847	Oil Resistant	1-gal. Can	15 min.	48 hrs.	–10° to 150°	Brown	7509A67	167.93
1300	Thick and Heat Resistant	32-oz. Can	8 min.	48 hrs.	–30° to 300°	Yellow	7509A73	55.99
1300	Thick and Heat Resistant	1-gal. Can	8 min.	48 hrs.	–30° to 300°	Yellow	7509A76	176.37
1300L	Thin and Heat Resistant	32-oz. Can	8 min.	48 hrs.	–30° to 300°	Yellow	7509A82	49.28
1300L	Thin and Heat Resistant	1-gal. Can	8 min.	48 hrs.	–30° to 300°	Yellow	7509A78	152.45
4799	For Porous Materials	32-oz. Can	15 min.	24 hrs.	Up to 180°	Black	7509A816	55.82

High-Temperature Gasketing Adhesives

Adhesives have a maximum temperature of 2000°F and are often used on stoves and ovens. To reach full strength, they require 1 hour at room temperature and 2 hours at 500°F. *Cartridges* fit a standard caulk gun (please see page 3484).

Thin adhesive is easy flowing for bonding fiberglass gaskets to cast iron and steel.

Thick adhesive seals fiberglass gaskets into stove doors as well as seals cracks in metal. It can also be used on masonry.

Type	Begins to Harden	Reaches Full Strength	Color	2.3-oz. Tubes		10.3-oz. Cartridges	
Thin	60 min.	3 hrs.	Black	7573A29	$6.98	7573A31	$7.87
Thick	60 min.	3 hrs.	Black	7573A63	7.13	7573A65	7.87

Loctite® Quick-Service Kits



Everything you need for routine maintenance work or quick repairs.

Kit comes in a case and includes: 0.1-oz. tube of 454™ instant-bonding adhesive, 0.33-oz. bottle of 243™ regular-strength threadlocker, 0.33-oz. bottle of 263™ high-strength threadlocker, 7-yd. roll of 249™ threadlocker tape, 0.2-oz. tube of 660™ retaining compound, 2.4-oz. tube of 587™ blue silicone gasketing adhesive, 1.69-oz. tube of 565™ thread sealant, 1.69-oz. tube of 518™ gasket maker, and 0.24-oz. stick of 7088™ primer.

Loctite No. 00101 — 7458A65 — $107.81

Dow Corning Silicone Sealants





Form a tough, rubbery solid for sealing and bonding. All sealants can be used on metal. *Cartridges* fit a standard caulk gun (please see page 3484).

700—Can also be used on glass and plastics. It is FDA compliant and meets NSF/ANSI Standard 51 for direct food contact. UL recognized.

732—Also for use on glass. Meets MIL-A-46106B and NSF/ANSI Standards 51 and 61 for use with food equipment and drinking water systems. FDA compliant and UL listed.

734—Can also be used on glass, plastics, and rubber.

736—Meets MIL-A-46106B and NSF/ANSI Standard 51 for direct food contact. FDA compliant and UL listed.

737—Also for use on glass, plastics, and rubber. This product cannot be sold in California.

786—Can also be used on ceramic.

790—Use for sealing expansion and control joints.

795—Meets ASTM C920 Type S, Grade NS, Class 50.

832—Meets UL 94HB.

9-1363—Meets UL 94HB.

995—Can also be used on concrete with the P5200 primer (sold separately).

P5200 Primer—Cleans surfaces and improves adhesion.

Dow Corning No.	Type	Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Choose a Color		
700	General Purpose	3-oz. Tube	15 min.	24 hrs.	–75° to 350°	Clear	7425A51	$4.35
700	General Purpose	10.1-oz. Cartridge	15 min.	24 hrs.	–75° to 350°	Aluminum, Black, Clear, White	7425A5	6.06
732	General Purpose	3-oz. Tube	20 min.	24 hrs.	–75° to 350°	Aluminum, Black, Clear, White	7587A2	4.15
732	General Purpose	10.1-oz. Cartridge	20 min.	24 hrs.	–75° to 350°	Aluminum, Black, Clear, White	7587A3	6.47
733	For Glass	10.1-oz. Cartridge	10 min.	24 hrs.	–70° to 350°	Aluminum, Black, Clear, White	7681A2	4.11
734	Self Leveling	3-oz. Tube	13 min.	24 hrs.	–85° to 350°	Clear, White	75825A5	14.60
734	Self Leveling	10.1-oz. Cartridge	13 min.	24 hrs.	–85° to 350°	Clear, White	75825A6	31.18
736	High Temperature	3-oz. Tube	17 min.	24 hrs.	–85° to 500°	Red	74515A32	12.93
736	High Temperature	10.1-oz. Cartridge	17 min.	24 hrs.	–85° to 500°	Red	74515A33	23.57
737	General Purpose	10.1-oz. Cartridge	3 min.	24 hrs.	–85° to 350°	Black, Clear, White	7587A1	6.48
739	For Plastics	10.1-oz. Cartridge	5 min.	24 hrs.	–65° to 300°	Black, White	76045A1	12.09
786	Mildew Resistant	10.1-oz. Cartridge	20 min.	48 hrs.	–75° to 350°	Transparent White, White	74885A6	7.46
790	For Masonry	10.3-oz. Cartridge	10 min.	14 days	–40° to 300°	Black, Bronze	7439A3	9.43
791	For Glazing	10.3-oz. Cartridge	15 min.	14 days	–55° to 300°	Gray	7311A61	7.65
795	For Glazing	10.3-oz. Cartridge	3 hrs.	14 days	–40° to 300°	Black, Bronze, Charcoal, Gray, Limestone, Natural Stone, White	7452A21	8.82
832	For Masonry	10.1-oz. Cartridge	50 min.	24 hrs.	–65° to 300°	Black, Gray, Off-White	66235A1	13.38
9-1363	For Assembly	10.1-oz. Cartridge	5 min.	24 hrs.	–65° to 350°	Black, Gray, White	7770A1	16.47
995	High Strength	10.3-oz. Cartridge	65 min.	14 days	–40° to 300°	Black	7436A41	9.77
999A	For Glazing	10.3-oz. Cartridge	10 min.	14 days	–75° to 350°	Clear	7436A37	5.32
P5200 Primer (12-oz. Can)							7442A13	56.52

Loctite® Silicone Sealants

Seal and bond with these RTV (room temperature vulcanizing) sealants that form a tough, rubbery, temperature-resistant solid. All can be used on metal. Do not use on parts that come in contact with gasoline. *Cans* provide a uniform bead when you press the nozzle. *Cartridges* fit a standard caulk gun (please see page 3484).

General Purpose RTV—*59530*™ and *59575*™ meet NSF/ANSI Standard 51 for use with food equipment.
Oil- and Fluid-Resistant Blue RTV—Withstands temperatures up to 500°F during intermittent use.
High-Temperature Red RTV—Withstands temperatures up to 600°F during intermittent use.



Loctite No.	Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
General Purpose RTV							
40464	6.4-oz. Can	30 min.	24 hrs.	–60° to 400°	Black	74945A81	$19.71
40466	6.4-oz. Can	30 min.	24 hrs.	–60° to 400°	White	74945A83	19.71
40481	6.4-oz. Can	30 min.	24 hrs.	–60° to 400°	Clear	74945A82	19.71
59330	2.7-oz. Tube	30 min.	24 hrs.	–60° to 400°	Black	74945A65	5.87
59375	10.1-oz. Cartridge	30 min.	24 hrs.	–60° to 400°	Black	74945A66	18.79
59430	2.7-oz. Tube	30 min.	24 hrs.	–60° to 400°	White	74945A67	5.71
59475	10.1-oz. Cartridge	30 min.	24 hrs.	–60° to 400°	White	74945A68	18.26
59530	2.7-oz. Tube	30 min.	24 hrs.	–60° to 400°	Clear	74945A69	5.71
59575	10.1-oz. Cartridge	30 min.	24 hrs.	–60° to 400°	Clear	74945A7	18.26
Oil- and Fluid-Resistant Blue RTV							
30518	12-oz. Tube	30 min.	24 hrs.	–65° to 395°	Blue	7474A12	26.87
30533	10.1-oz. Cartridge	30 min.	24 hrs.	–65° to 395°	Blue	7474A15	19.32
30560	2.7-oz. Tube	30 min.	24 hrs.	–65° to 395°	Blue	7474A14	6.04
40482	6.4-oz. Can	30 min.	24 hrs.	–65° to 395°	Blue	7474A24	19.71
High-Temperature Red RTV							
40465	6.4-oz. Can	30 min.	24 hrs.	–60° to 400°	Red	7644A33	21.89
59630	2.7-oz. Tube	30 min.	24 hrs.	–60° to 400°	Red	7644A11	7.23
59675	10.1-oz. Cartridge	30 min.	24 hrs.	–60° to 400°	Red	7644A12	26.57
82279	12-oz. Tube	30 min.	24 hrs.	–60° to 400°	Red	7479A21	25.28

Momentive/GE Silicone Sealants

These RTV (room temperature vulcanizing) sealants form a tough, rubbery, temperature-resistant solid for sealing and bonding. All can be used on metal. Do not use in underwater, concrete, or mortar applications. *Cartridges* fit a standard caulk gun (please see page 3484).

General Purpose—Can also be used on plastic, rubber, and wood. Meet MIL-A-46106B, Group I, Type I and NSF/ANSI Standard 51 for use with food equipment. FDA and USDA compliant. UL recognized.

High Strength—Can also be used on glass and plastic. These products cannot be sold in California.

Easy Flowing—Fill cracks and crevices. Can also be used on ceramic, glass, and plastic.

RTV116 meets MIL-A-46106B, Group III, Type II and NSF/ANSI Standard 51 for use with food equipment. It is FDA compliant and UL recognized.

RTV118 is USDA compliant and UL recognized.

For Vertical Surfaces—Can also be used on glass. Meets MIL-A-46106B, Group III, Type I and NSF/ANSI Standard 51 for use with food equipment. It is also FDA and USDA compliant and UL recognized.

Low Odor—Can also be used on glass and plastic. UL recognized.

Momentive No.	Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
General Purpose							
RTV102	2.8-oz. Tube	15 min.	24 hrs.	–75° to 400°	White	7545A451	$6.42
RTV102	10.1-oz. Cartridge	15 min.	24 hrs.	–75° to 400°	White	7545A452	10.69
RTV103	2.8-oz. Tube	15 min.	24 hrs.	–75° to 400°	Black	7545A461	6.42
RTV103	10.1-oz. Cartridge	15 min.	24 hrs.	–75° to 400°	Black	7545A462	10.69
RTV108	2.8-oz. Tube	15 min.	24 hrs.	–75° to 400°	Semi-Clear	7545A471	6.42
RTV108	10.1-oz. Cartridge	15 min.	24 hrs.	–75° to 400°	Semi-Clear	7545A472	12.34
RTV108	10.3-oz. Tube	15 min.	24 hrs.	–75° to 400°	Semi-Clear	7545A473	40.69
RTV109	10.1-oz. Cartridge	15 min.	24 hrs.	–75° to 400°	Aluminum	7545A482	10.69
High Strength							
RTV157	2.8-oz. Tube	30 min.	24 hrs.	–75° to 400°	Gray	7589A21	40.15
RTV159	2.8-oz. Tube	30 min.	24 hrs.	–75° to 500°	Red	7589A23	40.15
Easy Flowing							
RTV116	10.3-oz. Tube	15 min.	24 hrs.	–75° to 500°	Red	74975A57	86.68
RTV118	2.8-oz. Tube	20 min.	24 hrs.	–75° to 400°	Semi-Clear	6604A36	21.56
RTV118	10.3-oz. Tube	20 min.	24 hrs.	–75° to 400°	Semi-Clear	6604A38	52.78
For Vertical Surfaces							
RTV106	2.8-oz. Tube	15 min.	24 hrs.	–75° to 500°	Red	74975A53	36.43
RTV106	10.1-oz. Cartridge	15 min.	24 hrs.	–75° to 500°	Red	74975A56	63.51
Low Odor							
RTV6708	10.1-oz. Cartridge	25 min.	24 hrs.	–75° to 400°	Semi-Clear	7547A583	14.43

3M Super Silicone Sealants

Use on ceramic, glass, metal, plastic, rubber, and wood to form a tough, rubbery, temperature-resistant solid for sealing and bonding. Sealants also resist vibration and moisture. *Cartridges* fit a standard caulk gun (please see page 3484).



3M No.	Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
8661	3-oz. Tube	10 min.	24 hrs.	–75° to 400°	Clear	74955A53	$11.06
8662	3-oz. Tube	10 min.	24 hrs.	–75° to 400°	Black	74955A51	10.99
8663	10.3-oz. Cartridge	10 min.	24 hrs.	–75° to 400°	Clear	74955A54	16.35
8664	10.3-oz. Cartridge	10 min.	24 hrs.	–75° to 400°	Black	74955A52	16.51

Sealant Removers

Apply remover to debond as well as to clean your work area and tools. Removers come in a bottle.

Size, oz.		
4	6743T1	$19.52
12	6743T2	30.16

Multipurpose Sealants

For information about adhesives and sealants, see page 3448.

Silicone Sealants

Seal and bond with these temperature-resistant sealants. All can be used on metal. *Cans* provide a uniform bead when you press the nozzle. *Cartridges* fit a standard caulk gun (please see page 3484).

General purpose sealants also seal glass. They are FDA compliant, except the bronze color is not.

Paintable sealant is low odor and also seals fiberglass, masonry, and plastic.

Sealant **for high-moisture areas** is for wet indoor and outdoor environments.

Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Choose a Color		
General Purpose						
2.8-oz. Tube	10 min.	24 hrs.	–60° to 400°	Clear, White	76435T21	$3.90
6.5-oz. Can	60 min.	24 hrs.	–70° to 400°	Clear	75075A68	22.86
10.1-oz. Cartridge	10 min.	24 hrs.	–60° to 400°	Almond, Aluminum, Black, Bronze, Clear, White	76435T11	4.86
Paintable						
10.1-oz. Cartridge	30 min.	3 days	–30° to 150°	White	7723A24	9.99
For High-Moisture Areas						
6.5-oz. Can	60 min.	24 hrs.	–70° to 400°	White	75075A69	24.20

Sika Flexible Sealants

More flexible than silicone sealants, these are designed to expand and contract when sealing dissimilar materials as well as keep out moisture and dirt. All can be painted after reaching full strength. They come in a cartridge that fits a standard caulk gun (please see page 3484). **201, 221, 227,** and **291** cannot be sold in California.

201—Use on metal and wood.

221—Use on ceramic, metal, and plastics. Black and white meet NSF/ANSI Standard 61 for drinking water systems.

227—It is odorless and for use on metal, plastics, and painted surfaces.

252—Sandable and impact resistant as well as vibration and sound damping. It can also be used on fiberglass, metal, and wood.

291—Use on metal. Meets NSF/ANSI Standard 61 for drinking water systems. USDA compliant.

295—Use on most plastics. White color can also be used on metal.

Sika No.	Type	Size, oz.	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Choose a Color		
201	General Purpose	10.1	180 min.	72 hrs.	–40° to 190°	Aluminum, White	6937T1	$7.72
221	General Purpose	10.1	60 min.	72 hrs.	–40° to 190°	Aluminum, Black, White	6937T2	7.72
227	Fast Hardening	10.1	40 min.	72 hrs.	–40° to 190°	Aluminum, Black, White	6937T5	7.72
252	High Strength	10.1	40 min.	72 hrs.	–40° to 190°	Black, White	6937T6	12.80
291	Salt Water Resistant	10.1	60 min.	72 hrs.	–40° to 190°	Black, White	6937T7	8.50
292i	High Strength Water Resistant	10.1	40 min.	72 hrs.	–40° to 195°	White	6937T9	16.96
295	UV Resistant	10.1	60 min.	72 hrs.	–40° to 190°	Black, White	6937T8	18.72

Flexible Sealants

Seal dissimilar materials that have different expansion/contraction rates. Sealants come in a cartridge that fits a standard caulk gun (please see page 3484). Meet Fed. Spec. TT-S-00230C, Type II, Class A.

General purpose is for concrete, glass, metal, and plywood.

Fast hardening is for metal and plastic.

For plastics works on fiberglass, most plastics, and polyurethane.

Super flexible is the most elastic and works on concrete, metal, plastic, and wood.

See through leaves a clear bead on metal and wood.

Type	Size, oz.	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Choose a Color		
General Purpose	10.3	30 min.	24 hrs.	–20° to 180°	Black, Gray, Limestone, White	7606A39	$9.78
Fast Hardening	10.1	5 min.	72 hrs.	–40° to 190°	Black, Gray, Limestone, Tan, White	7606A59	6.04
For Plastics	10.1	20 min.	24 hrs.	–75° to 250°	Clear	7322A31	11.93
Super Flexible	10.1	60 min.	72 hrs.	–40° to 200°	Black, Gray, Limestone, Tan, White	7606A49	6.20
See Through	10.1	10 min.	72 hrs.	–40° to 190°	Clear	7606A61	8.54

Sealants

Also known as caulk, these sealants fill cracks and voids. They can be painted after reaching full strength. All can be used on metal. *Cartridges* fit a standard caulk gun (please see page 3484).

High Strength and **High Strength for Vertical Surfaces**—Resist oil and can also be used on PVC, rubber, and wood. These products cannot be sold in California.

High Temperature—For indoor use only on stoves, chimneys, and flues. Can also be used on brick.

For Vertical Surfaces—9130T91 is USDA compliant.

Low Odor for Vertical Surfaces—Can also be used on ceramic.

Odorless and Mildew Resistant—Use on tubs, tile, and sinks.

Mildew Resistant—Can also be used on ceramic.

Flexible—For materials with dissimilar expansion/contraction rates. Can also be used on fiberglass and plastic.

Removable Weatherstripping—Makes a temporary waterproof seal that peels off when no longer needed.

All Weather—Stays flexible despite changing weather conditions. Can also be used on concrete and fiberglass.

Type	Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Choose a Color		
High Strength	3.7-oz. Tube	4 min.	72 hrs.	–40° to 150°	Clear	7475A65	$6.67
High Strength	10.2-oz. Cartridge	4 min.	72 hrs.	–40° to 150°	Black	7475A51	10.14
High Strength	10.2-oz. Cartridge	4 min.	72 hrs.	–40° to 150°	Clear	7475A66	9.51
High Strength for Vertical Surfaces	10.2-oz. Cartridge	4 min.	72 hrs.	–40° to 150°	Black	7475A42	10.73
High Strength for Vertical Surfaces	10.2-oz. Cartridge	4 min.	72 hrs.	–40° to 150°	Clear	7475A69	10.11
High Strength for Vertical Surfaces	10.2-oz. Cartridge	4 min.	72 hrs.	–40° to 150°	Gray	7475A44	10.73
High Strength for Vertical Surfaces	10.2-oz. Cartridge	4 min.	72 hrs.	–40° to 150°	White	7475A46	10.73
High Temperature	10.1-oz. Cartridge	30 min.	4 hrs.	35° to 1000°	Black	7648T11	3.47
For Vertical Surfaces	10.1-oz. Cartridge	24 hrs.	72 hrs.	–20° to 180°	Clear	7640T12	4.05
For Vertical Surfaces	10.3-oz. Cartridge	15 min.	72 hrs.	–20° to 250°	Gray	9130T91	9.25
Low Odor for Vertical Surfaces	10.1-oz. Cartridge	30 min.	72 hrs.	–20° to 180°	Almond, Black, Dark Brown, Gray, White	7640T3	4.05
Odorless and Mildew Resistant	5.5-oz. Tube	30 min.	72 hrs.	–20° to 180°	White	7582T15	3.26
Odorless and Mildew Resistant	10.1-oz. Cartridge	30 min.	72 hrs.	–20° to 180°	White	7582T17	3.47
Mildew Resistant	5.5-oz. Tube	30 min.	48 hrs.	–20° to 180°	Clear, White	7649T1	3.84
Mildew Resistant	10-oz. Cartridge	30 min.	48 hrs.	–20° to 180°	Almond, Black, Brown, Clear, Gray, White	7649T2	5.58
Flexible	10.1-oz. Cartridge	180 min.	24 hrs.	–20° to 150°	Black, Bronze, Gray, White	75705T1	6.93
Removable Weatherstripping	10.1-oz. Cartridge	30 min.	72 hrs.	–25° to 125°	Clear	8151A46	7.63
All Weather	10-oz. Cartridge	8 hrs.	14 days	–20° to 200°	Almond, Black, Bronze, Brown, Clear, Gray, White	7647T3	8.92

3M Marine Sealants

Form a seal that stands up to salt water. Sealants are nonshrinking and retain their strength in and out of water. All can be used on fiberglass, metal, and wood. *Cartridges* fit a standard caulk gun (please see page 3484).



3M No.	Type	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color	3-oz. Tubes		10-oz. Cartridges	
4000	UV Resistant	22 min.	24 hrs.	–40° to 190°	White	67015A63	$14.05	67015A65	$21.36
5200	High Strength	48 hrs.	7 days	–40° to 190°	White	67015A21	15.03	67015A31	24.80
5200	High Strength	48 hrs.	7 days	–40° to 190°	Black	67015A41	15.03	67015A51	24.80
5200	Fast Hardening High Strength	60 min.	24 hrs.	–40° to 190°	White	67015A42	17.31	67015A44	28.56

Underwater Sealants

In or out of the water these sealants create waterproof seals and maintain strength. *Cartridges* fit a standard caulk gun (please see page 3484).

General purpose sealant also resists tears and abrasion. Use on fiberglass, metal, plastic, and wood.

High-strength sealant resists saltwater spray, most chemicals, and yellowing from sunlight. Use on ceramic, glass, and plastic. This product cannot be sold in California.

High-temperature sealant is for glass, metal, and rubber. It will not harm fish.

Type	Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Choose a Color		
General Purpose	10.1-oz. Cartridge	70 min.	72 hrs.	45° to 180°	Black, White	75005A11	$14.96
General Purpose	10.1-oz. Cartridge	70 min.	6 days	45° to 180°	White	75005A122	12.69
High Strength	3.7-oz. Tube	4 min.	72 hrs.	–40° to 150°	Clear	7475A67	9.87
High Strength	10.2-oz. Cartridge	4 min.	72 hrs.	–40° to 150°	Clear	7475A68	11.89
High Temperature	2.8-oz. Tube	5 min.	48 hrs.	–40° to 400°	Clear	7327A21	5.90

Sealants for Wet and Oily Surfaces

Instantly seal leaks despite oil, moisture, and water. Sealant is for use on aluminum, ceramic, concrete, galvanized metal, and wood. It's UV resistant, paintable, and stays flexible. Sealant comes in a cartridge that fits a standard caulk gun (please see page 3484). 74565A8 cannot be sold in California.



Size, oz.	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
10.6	On Contact	5 days	–40° to 180°	Clear	74565A7	$19.29
10.6	On Contact	5 days	–40° to 180°	White	74565A8	19.29

Chemical-Resistant Sealants

Form strong seals even in the presence of chemicals and vapors. All sealants can be used on concrete and metal. *Cartridges* fit a standard caulk gun (please see page 3484). **Fast-hardening** sealant includes a bottle of accelerator. Cannot be sold in Connecticut, the D.C. area, Delaware, the Los Angeles area, Maine, Maryland, New Jersey, New York, Pennsylvania, Rhode Island, Utah, or Northern Virginia.

Type	Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
General Purpose	2.5-oz. Cartridge	5 min.	72 hrs.	–40° to 400°	Black	77495A15	$33.33
General Purpose	11-oz. Cartridge	5 min.	72 hrs.	–40° to 400°	Black	77495A16	119.05
Fast Hardening	32-oz. Can	2 min.	24 hrs.	–20° to 450°	Black	7716A12	105.77
For Vertical Surfaces	2.5-oz. Cartridge	5 min.	72 hrs.	–40° to 400°	Black	77495A31	38.00
For Vertical Surfaces	11-oz. Cartridge	5 min.	72 hrs.	–40° to 400°	Black	77495A32	132.00

Sealants for Metal Duct

Seal low-, medium-, and high-pressure metal duct systems. Sealants can be used outdoors. *Cartridges* fit a standard caulk gun (please see page 3484).

Standard sealant meets SMACNA (Sheet Metal and Air Conditioning National Association) leakage requirements and UL 723, Class 1.

High-temperature sealant meets Fed. Spec. TT-S-00230C Class A and TT-S-001543A Class A.



Type	Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
Standard	10.5-oz. Cartridge	60 min.	48 hrs.	–25° to 200°	Gray	73335A65	$5.12
Standard	1-gal. Pail	60 min.	48 hrs.	–25° to 200°	Gray	73335A66	35.89
High Temperature	9.4-oz. Cartridge	20 min.	24 hrs.	–60° to 500°	Gray	73335A42	5.68

Backer Rod

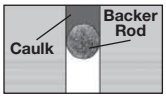



Reduce stress on caulk—insert backer rod into wide gaps and fill in with sealant to form a seal. Backer rod is made of gray foam with a non-absorbing skin that conforms to irregular widths. It's chemically inert and resists moisture. Temperature range is –45° to 160° F.

Dia.	For Approx. Gap Wd.	Short Lengths: Lg., yds.			Long Lengths: Lg., yds.		
3/8"	1/4"	33	77605T422	$7.76	600	77605T423	$75.96
5/8"	1/2"	33	77605T442	12.04	515	77605T443	99.14
7/8"	1 1/16"	33	77605T462	26.43	280	77605T463	96.79

Sealing Strips for Large Gaps

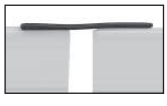



Cover large gaps that other sealants can't. Add a bead of silicone sealant to the ribbed edges of these extruded silicone strips to create durable seals that allow for expansion and contraction. Strips can be used on glass and metal. They are often used on skylights and as HVAC seals. Temperature range is –60° to 300° F.

Wd.	Thick.	Choose a Color	Lengths, ft.		Per Ft.
1"	0.08"	Black, Gray	1, 5, 10, 25, 100	7159A1	$1.33
2"	0.08"	Black, Gray	1, 5, 10, 25, 100	7159A2	2.67
3"	0.08"	Black, Gray	1, 5, 10, 25, 100	7159A3	4.00
4"	0.08"	Black, Gray	1, 5, 10, 25, 100	7159A4	5.33

Multipurpose Sealants & Repair Adhesives

For information about adhesives and sealants, see page 3448.

Sealing Cord and Tape





No caulk gun needed for these easy-to-apply sealants. All can be used on glass, metal, plastic, and wood.

Cord—Press this permanently pliable cord into place to keep out moisture and drafts. It can also be used on masonry and outdoors. It does not harden. Each roll has 8 cords.

Tape—For indoor use only, this mildew-resistant tape seals and fills cracks around tubs and sinks. It has an adhesive back with a peel-off liner. Can also be used on fiberglass. Reaches full strength in 12 hours.

Type	Dia.	Wd.	Lg., ft.	Temperature Range, °F	Color		
Cord	3/16"	—	45	–30° to 150°	Gray	9408T17	$3.09
Cord	3/16"	—	90	–30° to 150°	Gray	9408T14	4.82
Tape	—	7/8"	11	50° to 110°	White	7582T25	5.70

Fire-Rated Glazing Tape

Seal glass windows into metal frames in fire-rated hollow metal and wood doors. Tape has an adhesive back with a peel-off liner. UL 10C listed.

Fire Rated Up to	Lg., ft.	Wd.	Thick.	Max. Temp., °F	Color		
45 min.	8	7/16"	3/64"	1800°	White	7147A35	$17.21
45 min.	14	7/16"	3/64"	1800°	White	7147A32	29.06
90 min.	16	7/16"	5/64"	1800°	White	14435A991	52.65

Stay-Soft Glazing Rope



Easy to apply, this butyl rope with peel-off liner stays soft and pliable for years. It holds glass in window frames as well as seals leaks in eaves and gutters.

Dia.	Lg., ft.	Temperature Range, °F	Color		
1/4"	20	–70° to 220°	Gray	1049A31	$7.99

3M Scotch-Seal for Metal

Seal metal to glass in windows and doors. Sealant resists water, oil, and fuel. Meets AAMA (Architectural Aluminum Manufacturer's Association) Specification 801.1. Comes in a tube.

3M No.	Size, oz.	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
2084	5	5 min.	24 hrs.	–30° to 250°	Aluminum	7432A21	$17.88

Glazing Compounds

Install glass in metal and wood sashes. Compounds form a tough protective coating yet allow expansion and contraction with changing temperatures. They are oil based (except compound in 10.1-oz. cartridge is acrylic based) and can be painted. *Cartridge* fits a standard caulk gun (please see page 3484).

Size	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
10.1-oz. Cartridge	6 hrs.	72 hrs.	0° to 180°	White	1029A22	$3.90
16-oz. Bucket	7 days	4 mo.	–20° to 160°	White	1029A41	7.55
32-oz. Bucket	48 hrs.	3 weeks	0° to 180°	White	1029A23	8.30
1-gal. Bucket	7 days	4 mo.	–20° to 160°	White	1029A24	34.28
5-gal. Bucket	48 hrs.	—	–10° to 120°	White	1029A28	115.84

Loctite® Repair Adhesives



Repair leaks and cracks as well as rebuild rough spots with these epoxies. At full strength, they can be machined and tapped, except for 98742™. Liquid and paste adhesives are two part; the size listed is the combined total of the two parts.

For Aluminum—Form a nonrusting finish.

For Stainless Steel—Also bonds bronze, cast iron, concrete, copper, and steel.

For Steel—Also bond bronze, cast iron, concrete, copper, and stainless steel.

97483™ and *97484*™ are pourable for making castings and filling voids.

98853™ hardens on wet and underwater surfaces. Meets NSF/ANSI Standard 61 for use in drinking water systems.

99913™ and *99914*™ have extremely strong adhesion.

Wear Resistant for Metals—Resists corrosion. *97473*™ is also chemical resistant. *98742*™ can also be used on ceramic.

One-Time Use for Metals and Ceramic—Job-size quantity. Can also be used on concrete, glass, plastics, and wood.

Loctite No.	Size	Form	Approx. Coverage @ 1/4" Thick, sq. in.	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color	Mix Ratio		Each
For Aluminum										
97453	1-lb. Can	Liquid	60	20 min.	24 hrs.	–20° to 200°	Gray	5:1	7489A31	$84.41
97463	1-lb. Can	Paste	70	20 min.	24 hrs.	–20° to 200°	Gray	4:1	7489A32	69.63
For Stainless Steel										
97443	1-lb. Can	Paste	30	20 min.	24 hrs.	–20° to 220°	Gray	4:1	7489A29	75.33
For Steel										
39917	1-lb. Can	Paste	50	3 min.	24 hrs.	–20° to 190°	Gray	1:1	7489A25	54.46
97483	1-lb. Can	Liquid	50	25 min.	24 hrs.	–20° to 220°	Gray	4:1	7489A21	54.81
97484	4-lb. Can	Liquid	200	25 min.	24 hrs.	–20° to 220°	Gray	4:1	7489A22	152.14
98853	0.25-lb. Stick	Putty	10	3 min.	24 hrs.	–20° to 250°	Gray	—	7489A26	16.00
99913	1-lb. Can	Paste	40	30 min.	24 hrs.	–20° to 220°	Gray	2.5:1	7489A23	47.83
99914	4-lb. Can	Paste	170	30 min.	24 hrs.	–20° to 220°	Gray	2.5:1	7489A24	142.19
High Temperature for Metals										
95724	8-oz. Can	Putty	30	30 min.	7 hrs.	Up to 2000°	Gray	—	7489A35	72.12
Wear Resistant for Metals										
97473	1-lb. Can	Paste	30	20 min.	24 hrs.	–20° to 250°	Gray	4:1	7489A28	98.09
98742	1-lb. Can	Paste	50	30 min.	24 hrs.	–20° to 220°	Gray	2:1	7489A33	58.31
One-Time Use for Metals and Ceramic										Pkg. of 10
21425	0.12-oz. Cup	Liquid	1	5 min.	12 hrs.	–65° to 180°	Gray	1:1	7512A15	$31.10
21426	1-oz. Cup	Liquid	1	5 min.	12 hrs.	–65° to 180°	Gray	1:1	7512A16	94.70
21427	0.12-oz. Cup	Liquid	1	90 min.	24 hrs.	–65° to 180°	Semi-Clear	1.5:1	7512A14	31.81

Bondo Body and Repair Fillers



Repair aluminum, concrete, fiberglass, steel, and wood with this two-part filler that is easy to spread, doesn't shrink, and can be shaped and sanded. The size listed is the combined total of the two parts.

Size	Approx. Coverage @ 1/8" Thick, sq. in.	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Mix Ratio	Color		
16 oz.	180	3 min.	60 min.	–40° to 180°	50:1	Gray	92930A410	$8.79
32 oz.	360	3 min.	60 min.	–40° to 180°	50:1	Gray	92930A420	13.18
64 oz.	720	3 min.	60 min.	–40° to 180°	50:1	Gray	92930A430	22.85
1 gal.	1,440	3 min.	60 min.	–40° to 180°	50:1	Gray	92930A440	29.89
Replacement Hardener (0.75-oz. Tube)							92930A450	2.58

Devcon Repair Adhesives



These chemical-resistant epoxies handle cracks and leaks as well as rebuild rough spots. They are also corrosion resistant (except adhesive for rubber). Adhesives are two part and withstand machining and tapping at full strength (unless otherwise stated). The size listed is the combined total of the two parts.

General Purpose—Also known as plastic steel, these repair areas where brazing and welding is impractical. They bond aluminum, brass, cast iron, copper, and stainless steel.

Fast Hardening—Alumina filled for use on ferrous and nonferrous metal pipes, chutes, tanks, and bearing housings.

Wear Resistant for Metals—Provides a protective barrier against erosion and corrosion.

For Dirty Surfaces—Adhesive is one part and cannot be machined or tapped. It seals and fills worn, rusted, and corroded metal. Can also be used on ceramic and glass.

For Harsh Environments—Titanium filled to resist chemicals and most acids and solvents.

For Aluminum—Form a nonrusting finish. Can also be used on ceramic, concrete, fiberglass, stainless steel, steel, and wood.

For Rubber—Cannot be machined or tapped.

For Stainless Steel—Meets NSF/ANSI Standard 61 for use on drinking water systems.



Devcon No.	Size	Form	Approx. Coverage @ 1/4" Thick, sq. in.	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Mix Ratio	Color		
General Purpose										
10110	1-lb. Can	Putty	40	45 min.	16 hrs.	–40° to 250°	9:1	Gray	74575A81	$49.03
10120	4-lb. Can	Putty	190	45 min.	16 hrs.	–40° to 250°	9:1	Gray	74575A82	175.02
10130	25-lb. Bucket	Putty	1,200	45 min.	16 hrs.	–40° to 250°	9:1	Gray	74575A61	606.87
10210	1-lb. Can	Liquid	50	45 min.	16 hrs.	–40° to 250°	9:1	Dark Gray	74575A83	48.94
10220	4-lb. Can	Liquid	200	45 min.	16 hrs.	–40° to 250°	9:1	Dark Gray	74575A84	181.49
10230	25-lb. Bucket	Liquid	1,300	90 min.	16 hrs.	–40° to 250°	9:1	Dark Gray	74575A94	605.95
10240	1-lb. Can	Putty	40	5 min.	16 hrs.	–40° to 200°	1.7:1	Dark Gray	74575A63	60.37
52345	2-oz. Tube	Liquid	6	60 min.	24 hrs.	–40° to 200°	1:1	Dark Gray	74575A85	3.79
62345	0.84-oz. Syringe	Liquid	6	60 min.	24 hrs.	–40° to 200°	1:1	Dark Gray	74575A86	4.44
Fast Hardening										
10780	0.75-lb. Can	Putty	60	4 min.	16 hrs.	–40° to 250°	1:1	Gray	74575A76	85.46
Wear Resistant for Metals										
11765	2-lb. Jar	Liquid	130	40 min.	16 hrs.	–40° to 350°	5.6:1	Blue	74575A32	181.55
For Dirty Surfaces										
S-50	3-oz. Tube	Paste	6	20 min.	6 hrs.	40° to 400°	____	Gray	74575A98	3.77
For Harsh Environments										
10760	1-lb. Can	Putty	40	20 min.	16 hrs.	–40° to 350°	4.3:1	Gray	74575A7	114.17
10770	2-lb. Can	Putty	90	20 min.	16 hrs.	–40° to 350°	4.3:1	Gray	74575A71	207.71
For Aluminum										
10610	1-lb. Can	Putty	70	60 min.	16 hrs.	–40° to 250°	9:1	Aluminum	74575A72	71.61
10620	3-lb. Can	Putty	210	60 min.	16 hrs.	–40° to 250°	9:1	Aluminum	74575A73	185.60
10710	1-lb. Can	Liquid	70	75 min.	16 hrs.	–40° to 250°	9:1	Aluminum	74575A74	71.47
10720	3-lb. Can	Liquid	210	75 min.	16 hrs.	–40° to 250°	9:1	Aluminum	74575A75	183.82
19770	6.5-oz. Tube	Paste	30	60 min.	16 hrs.	–40° to 250°	1:1	Aluminum	74575A77	36.35
For Brass and Bronze										
10260	1-lb. Can	Putty	50	35 min.	16 hrs.	–40° to 250°	9:1	Bronze	74575A64	93.21
For Rubber										
15820	1-lb. Can	Putty	90	20 min.	7 days	–40° to 180°	2.6:1	Black	74575A33	58.15
For Stainless Steel										
10270	1-lb. Can	Putty	50	60 min.	16 hrs.	–40° to 250°	11:1	Dark Gray	74575A69	89.83





Repair Adhesive Sticks

Easy-to-use two-part epoxies in sticks that you cut to the desired amount, knead to a uniform color, and apply. Both parts are contained in one stick, except 7531A11 which contains each part in a separate stick. The size listed is the combined total of the two parts.

General purpose bond metal. 6615A11 meets NSF/ANSI Standard 61 for use in drinking water systems.

High temperature bonds ceramic, metal, and stone.

For underwater use is also known as Loctite® 82093™. It bonds concrete, fiberglass, metal, plastic, and wood.

For copper can also be used on brass, bronze, and other nonferrous metals. Meets NSF/ANSI Standard 61 for use in drinking water systems.

For plastic bonds most rigid and semiflexible plastics. Do not use on polyethylene and polypropylene. Meets NSF/ANSI Standard 61 for use in drinking water systems.

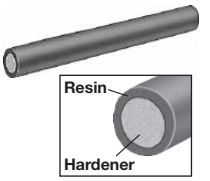

Type	Size, oz.	Approx. Coverage @ 1/4" Thick, sq. in.	Begins to Harden	Reaches Full Strength	Max. Temp., °F	Mix Ratio	Color		
General Purpose	4	16	3 min.	24 hrs.	250°	___	Dark Gray	6615A11	$8.25
General Purpose	16	64	45 min.	24 hrs.	250°	1:1	Off-White	7531A11	16.10
High Temperature	4	16	90 min.	72 hrs.	450°	___	Gold	7803A21	9.21
For Underwater Use	4	16	15 min.	60 min.	300°	___	White	7531A13	13.62
For Copper	4	16	3 min.	24 hrs.	250°	___	Copper	66145A3	8.25
For Plastic	4	16	20 min.	24 hrs.	250°	___	Off-White	6617A21	8.25

Devcon Zip Repair Patches

Make repairs to pipes, tanks, drums, and containers in the field. Patch is 4"×9" and includes activator spray and gloves. It bonds ceramic, fiberglass, metal, plastic, and wood and can be sanded, painted, machined, tapped, and drilled at full strength.



Devcon No.	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
11500	5 min.	4 hrs.	–40° to 200°	Brown	7790A21	$58.26

Underwater Repair Adhesives

Even under water this two-part epoxy paste will bond fiberglass, most metals, plastics, and wood. It resists alkalies, solvents, gasoline, and oil. It also works on dry or moist surfaces. At full strength it can be machined, sanded, drilled, tapped, and painted. Size listed is the combined total of the two parts. Adhesives come in a jar.

Size, oz.	Approx. Coverage @ 1/8" Thick, sq. in.	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Mix Ratio	Color		
12	170	30 min.	24 hrs.	50° to 210°	1:1	White	7521A14	$17.92
24	340	30 min.	24 hrs.	50° to 210°	1:1	White	7521A12	26.88
48	680	30 min.	24 hrs.	50° to 210°	1:1	White	7521A13	44.80

Repair Adhesives

For information about adhesives and sealants, see page 3448.

High-Temperature Repair Adhesives

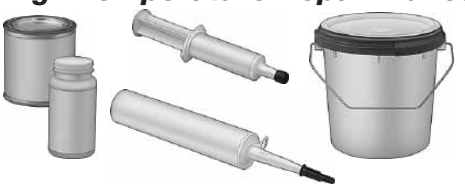

Make repairs to valves, fittings, and shafts in high-temperature applications.

For Cast Aluminum—Also known as pyro-putty, this two-part adhesive is machinable at full strength. Size listed is the combined total of the two parts.

For Cast Iron, Stainless Steel, and Steel—This one-part adhesive is also known as pyro-putty. It is machinable at full strength. *8-oz.* size includes 4 oz. of thinner.

For Metal and Fiberglass—Two-part epoxy that resists corrosion and can be machined, tapped, and drilled at full strength. Size listed is the combined total of the two parts. *Kit* includes 1.5 oz. of epoxy, sandpaper, reinforcement screen, and mixing sticks.

For Porous Materials—Use this one-part adhesive putty as thermal insulation on brick, mortar, burner blocks, furnace holders, and thermocouples.

Size	Approx. Coverage @ 1/4″ Thick, sq. in.	Begins to Harden	Reaches Full Strength	Max. Temperature, °F	Mix Ratio	Color		
For Cast Aluminum								
12-oz. Can	48	120 min.	6 hrs.	1400°	2:1	Light Gray	7356A32★	$57.33
24-oz. Can	96	120 min.	6 hrs.	1400°	2:1	Light Gray	7356A34★	104.89
For Cast Iron, Stainless Steel, and Steel								
8-oz. Bottle	32	5 hrs.	11 hrs.	2000°	—	Dark Gray	7356A33▲	55.89
16-oz. Bottle	65	5 hrs.	11 hrs.	2000°	—	Dark Gray	7356A35▲	104.89
For Metal and Fiberglass								
16-oz. Bottle	10	20 min.	24 hrs.	500°	9.1:1	Gray	75325A2	62.00
Kit (1.5-oz. Syringe)							75325A1	40.62
For Porous Materials								
4-oz. Syringe	20	20 min.	8 hrs.	2300°	—	Tan	7551A23	17.70
11-oz. Cartridge	60	20 min.	8 hrs.	2300°	—	Tan	7551A24	28.52
1-gal. Bucket	720	20 min.	8 hrs.	2300°	—	Tan	7551A26	126.35

★Reaches full strength with heat; air dry 4 hrs. then heat 2 hrs. at 160° F. ▲Reaches full strength with heat; air dry 2 hrs. then heat 4 hrs. at 200° F.

Repair Adhesives for Metal

Resistant to corrosion and most chemicals, these two-part, metal-filled epoxies repair cracks and leaks as well as rebuild rough spots. They can be machined and tapped at full strength. The size listed is the combined total of the two parts. Adhesives come in a tube. 7500A11 cannot be used on copper or stainless steel.

Size, oz.	Approx. Coverage @ 1/4″ Thick, sq. in.	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Mix Ratio	Color		
6.5	25	3 min.	5 hrs.	–40° to 200°	1:1	Gray	7500A4	$20.00
11	50	22 min.	7 days	–55° to 180°	1:1	Silver	7500A11	13.74
11	60	22 min.	7 days	–75° to 170°	1:1	Gray	74575A95	24.24

Leak Repair Patches for Metal

Seal leaks on metal surfaces and around rivet holes and fasteners. Apply adhesive (sold separately below) to the center of the patch and position it on the surface. To activate the adhesive, press the center of the patch until it clicks.

Domed patch is for fasteners with a protruding head size up to 7/16″ ID×3/8″ Ht.

Dia.	Thickness	Flat		Domed	
For 300 Series Stainless Steel					
2″	0.09″	6939T6	$19.00	—	—
For Aluminum					
5/8″	0.005″	6939T3	8.00	—	—
1 1/4″	0.005″	6939T1	12.00	6939T7	$15.00
2″	0.032″	6939T4	15.00	—	—
Adhesive (0.12-oz. Packet)		8310T12	4.44		

Leak Repair Sticks



Heat Activated and Rub On



Two Step

Stop leaks in metal tanks and equipment without draining the contents.

Heat Activated—Heat the area to be repaired with a heat gun or torch at 250° F to melt the stick and form a seal that withstands up to 600 psi. Color is green. Meets NSF/ANSI Standard 61 for drinking water systems.

Two Step—Rub the stick into the leak until it stops. Then use the two-part epoxy to form a seal that withstands up to 15 psi. Color is black.

Rub On—Until a permanent repair can be made, rub this stick into the leak. Seal withstands up to 15 psi. Color is gray.

Size	Begins to Harden	Reaches Full Strength	Temp. Range, °F		
Heat Activated—Permanent					
0.375-oz. Stick	60 sec.	90 sec.	Up to 350°	7703A1	$21.24
Two Step—Permanent					
1.25-oz. Stick and 1-oz. Epoxy	30 min.	16 hrs.	Up to 220°	7582A44	78.87
Rub On—Temporary					
1.25-oz. Stick	12 hrs.	24 hrs.	–50° to 220°	7703A2	15.75

West System Repair Adhesives for Fiberglass



Make repairs to fiberglass in marine environments. Epoxy also bonds ABS, aluminum, lead, PVC, stainless steel, steel, and wood.

Kit contains eight 0.68-oz. packets of 101-TS two-part epoxy (size listed is the combined total of the two parts), one 0.14-oz. cup of 406 colloidal silica filler, one 0.11-oz. cup of low-density filler, two brushes, a reusable mixing stick, three mixing cups, a 15″x15″ fiberglass cloth, a syringe dispenser, and three pairs of disposable gloves.

West System No.	Begins to Harden	Reaches Full Strength	Temp. Range, °F	Mix Ratio	Color		
Kit							
105K	9 min.	4 days	40° to 110°	5:1	Amber	7480A51	$43.21
Replacement Parts							
101-TS Two-Part Epoxy (Six 0.54-oz. Packets)						7480A32	32.05
105 Resin (32-oz. Can)						7480A41	48.26
205 Fast Hardener (7-oz. Can)						7480A42	23.99
206 Slow Hardener (7-oz. Can)						7480A43	23.99
300 Mini Dispensing Pump (Set of 3)						7480A45	19.83
406 Colloidal Silica Filler (1.7-oz. Cup)						7480A33	13.32
406 Colloidal Silica Filler (5.5-oz. Cup)						7480A44	31.91
410 Low Density Filler (5-oz. Cup)						7480A48	32.97
745 Fiberglass Cloth (30″ Lg.×30″ Wd.)						7480A47	24.78

Repair Kits for Fiberglass

Everything you need to make repairs to fiberglass in the field. Kit includes polyester resin, 18″×24″ woven fiberglass cloth, a mixing stick, a mixing tray, and a spreader. Color ranges from yellow to green-blue.

Size, oz.	Begins to Harden	Reaches Full Strength	Temp. Range, °F	Mix Ratio		
8	15 min.	3 hrs.	–40° to 180°	50:1	7597A35	$17.36

Light-Activated Repair Adhesives for Fiberglass

Apply adhesives to fiberglass, expose to sunlight or a UV lamp, and they begin to harden immediately. At full strength, they can be drilled, sanded, and painted.

General Purpose Putty and **High-Strength Putty**—Can also be used on metal, wood, and plastics, except polystyrene. They fill gaps up to 1″ and can be also be tapped at full strength. *High strength* has better adhesion and more corrosion resistance than general purpose.

Patch—Cut to desired size, peel off backing, and press into place. Patch is waterproof and can also be used on concrete and rubber.


Patch

Type	Size	Approx. Coverage @ 1/4″ Thick, sq. in.	Reaches Full Strength	Temperature Range, °F	Color		
General Purpose Putty	3.5-oz. Tube	24	3 min.	–40° to 225°	Semi-Clear	73475A12	$14.31
High-Strength Putty	3.5-oz. Tube	24	5 min.	–40° to 275°	Amber	73475A14	13.07
Patch	6″ Lg.×3″ Wd.	—	50 min.	–40° to 350°	Yellow	7737A21	9.78

Repair Patches for Fiberglass

A dual-pouch packet contains an epoxy-coated patch and resin—knead the two together right in the packet for a convenient way to repair fiberglass pipes, hose, conduit, tanks, and containers. At full strength, patches can be sanded and painted. Begins to harden in 1 minute; reaches full strength in 24 hours. They also bond metals, plastics, rubber, and wood. Temperature range is –85° to 220° F.



Lg.	Wd.	Color			Lg.	Wd.	Color		
2″	12″	Red	74645A75	$10.03	4″	6″	Blue	74645A77	$10.03
2″	20″	Amber	74645A76	12.49	4″	12″	Green	74645A78	12.49

Repair Kits for Glass

Use this kit to prevent bull's-eye breaks, minor chips, and scratches from getting bigger. Adhesive begins to harden when exposed to sunlight. Do not use on cracks longer than 1/2″.



Size, oz.	Reaches Full Strength	Temperature Range, °F	Color		
0.02	30 min.	–60° to 150°	Clear	7557A33	$17.58

Repair Adhesives for Fabric

Make flexible, waterproof repairs to rips and tears in acrylic fabrics, canvas, and leather. Adhesives come in a bottle.

Size, oz.	Begins to Harden	Reaches Full Strength	Temperature Range, °F	Color		
6	3 min.	30 min.	35° to 210°	Beige	7540A11	$10.69
16	3 min.	30 min.	35° to 210°	Beige	7540A12	19.46

Repair Adhesives for Plastic

Adhesives are two part, come in a cartridge, and include a mixer nozzle. Use the dispensing gun (sold separately) to simultaneously mix and dispense. Size listed is the combined total of the two parts. *Primer* is recommended when using adhesives on polyethylene and polypropylene.

Type	Size, oz.	Approx. Coverage @ 1/4″ Thick, sq. in.	Begins to Harden	Reaches Full Strength	Mix Ratio	Color		
Fast Hardening	1.69	11	20 sec.	60 min.	1:1	Amber	6488T63	$23.85
For Sandable and Flexible Plastics	1.69	11	5 min.	30 min.	1:1	Gray	6488T62	24.21
For Semi-Rigid Plastics	1.69	11	50 sec.	60 min.	1:1	Black	6488T61	24.21
Dispensing Gun							7467A41	Each $85.76
Replacement Mixer Nozzles							7467A12	Each 2.93
Primer (12-oz. Can)							6488T64	Each 38.47

Repair Adhesives for Neoprene Rubber

Waterproof and strong, this adhesive remains flexible when repairing rips, tears, and holes in neoprene rubber. Apply on dry material only. Color is clear. Adhesive comes in a tube.

Size, oz.	Approx. Coverage @ 1/4″ Thick, sq. in.	Begins to Harden	Reaches Full Strength	Temperature Range, °F		
2	10	20 min.	8 hrs.	–30° to 200°	73325A21	$11.31

Repair Adhesives for Vinyl

Mend rips, tears, and holes on flexible vinyl surfaces such as awnings and upholstery. Color is clear. Comes in a tube.

Size, oz.	Approx. Coverage @ 1/4″ Thick, sq. in.	Begins to Harden	Reaches Full Strength	Temperature Range, °F		
1	1	30 min.	4 hrs.	–10° to 200°	7504A11	$6.53

Plastic Dispensing Bottles

Squeeze these polypropylene bottles to dispense a single drop of adhesive and other liquids. Bottles accept needles that have a luer lock hub (please see pages 3481-3482).

Bellows-style bottles give you more control.


Rigid


Bellows Style

Capacity, oz.		Pkg. of 5
Rigid		
1	7544A66	$9.26
2	7544A67	9.79
4	7544A68	10.54
8	7544A69	11.91
Bellows Style		
1	7544A71	10.57
2	7544A72	12.49

Single-Component Dispensing Guns

Dispense one-part adhesives, sealants, and fluids. The gun includes a ratchet-action plunger and uses the syringes sold separately.

Luer lock tip syringes require a needle with a luer lock hub (please see pages 3481-3482).



Dispensing Gun	7422A41	Each	$26.10
Taper-Tip Syringes (1.01 oz./30 cc)	66305A56	Each	$2.36
Luer Lock Tip Syringes (1.01 oz./30 cc)	66305A54	Pkg. of 5	$12.38

Trigger-Action Dispensing Guns

With its heavy duty spring-action trigger, this gun easily applies thick adhesives. Tip diameter is 0.055″. Capacity is 16 oz.

Optional nylon brush tip lets you spread the adhesive after it is applied.



Dispensing Gun	66245A31	$23.44
Optional Nylon Brush Tip	66245A32	4.78

Micro-Dispensing Dual Cartridges

Add your two-part adhesive to the cartridge to dispense small amounts. A *mixer nozzle* (sold separately) is required and lets you simultaneously mix and dispense. Cartridge includes a plunger and two pistons. Mix ratio is 1:1. Size listed for the cartridge is the combined total of the two parts. For larger cartridges, see page 3480.



0.34-oz. Cartridge	7816A61	$2.29
Mixer Nozzle (0.126″ ID×2.9″ Lg.)	7816A32	1.88

Dual-Cartridge Dispensing Guns



Standard Gun for 1.69-oz. Cartridges



Standard Gun for 6.76- and 13.5-oz. Cartridges



3M Gun for 1.18-, 1.25-, 1.52-, 1.59-, and 1.69-oz. Cartridges



3M Gun for 6.76-oz. Cartridges

Guns provide convenient dispensing of two-part adhesives in dual cartridges.

Standard Guns—Do not use with 3M adhesives. Gun *for 1.69-oz. cartridge* includes 1:1 and 2:1 mix ratio plungers. Guns *for 6.76- and 13.5-oz. cartridges* have a built-in plunger that works for 1:1 and 2:1 mix ratios.

3M Guns—Use with 3M two-part adhesive cartridges only. Guns include 1:1 and 2:1 mix ratio plungers. Gun *for 1.18-, 1.25-, 1.52-, 1.59-, and 1.69-oz. cartridges* also includes 10:1 mix ratio plunger.

Fits Cartridge Size, oz.		
Standard Guns		
1.69	74695A71	$23.06
6.76	7451A51	93.42
13.5	7451A52	99.23
3M Guns		
1.18, 1.25, 1.52, 1.59, and 1.69	7467A41	85.76
6.76	7467A91	566.07
Loctite® Guns		
1.69 or 13.5	1773A425	

Dual Cartridges



Fill these cartridges with your two-part adhesive and use with a dispensing gun or hand plunger and a mixer nozzle. Cartridges are made of polypropylene and include a cap and two pistons.

Size, oz.	Mix Ratio	Pkg. Qty.		Pkg.
With Bayonet Connection				
1.42	4:1	1	74695A31	$4.46
1.69	1:1	5	74695A34	13.77
1.69	2:1	5	74695A35	14.82
1.69	10:1	5	74695A37	26.25
With Twist-Lock Connection				
1.69	1:1	5	74695A11	13.77
With Bell-Mount Connection				
6.76	1:1	5	7451A22	19.94
13.5	1:1	5	7451A32	25.23

Dual-Cartridge Plungers



Hand Dispensing

Dispense contents from dual cartridges up to 1.69 oz.

	Choose a Mix Ratio		
For Hand Dispensing	1:1	74695A27	$1.41
For Standard Guns	1:1, 2:1, 4:1, 10:1	74695A41	3.62
For 3M Guns	1:1, 2:1, 10:1	7467A52	10.50

Caulk Gun Conversion Kits for Dual Cartridges



Adapt a standard caulk gun to dispense two-part adhesives from 1.69-oz. cartridges. Kit contains a polypropylene sleeve to hold the cartridge and a plunger to dispense the contents.

Mix Ratio		1-9	10-Up
1:1	74695A68	$3.49	$2.79
2:1	74695A74	3.49	2.79

Dual-Cartridge Mixer Nozzles



Simultaneously mix and dispense two-part adhesives. All nozzles are made of polypropylene.

Taper tips are for precise dispensing. **Blunt** tips dispense more adhesive at a time. **Luer lock hub** tips offer the most precise dispensing. They require a needle with a luer lock hub (please see pages 3481-3482). **3-step, 4-step,** and **5-step** tips let you trim the opening size to the diameter you need.

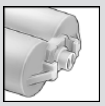

Bayonet Connection



Twist-Lock Connection

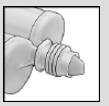

Bell-Mount Connection

To find a nozzle that will connect to your filled or empty two-part adhesive cartridge, match the connection style of your cartridge from those shown at left and then locate the nozzles with that connection style in the table.

Bayonet connection is the most common. Most of the filled cartridges we carry have a bayonet connection.

3M nozzles are for 3M cartridges only.



Taper Tip



Blunt Tip



Luer Lock Hub Tip



3-Step Tip



4-Step Tip



5-Step Tip

Style	Nozzle Tip: Opening Size	O'all Length	Fits Cartridge Size, oz.		Each	Pkg. Qty.	Pkg.
With Bayonet Connection							
Taper	0.07″	3.4″	1.69	74695A941	$1.24	12	$11.16
Taper	0.07″	3.9″	1.69	74695A943	1.22	12	11.04
Taper	0.07″	4.1″	1.69	74695A945	1.37	10	10.20
Taper	0.07″	5.9″	1.69	74695A947	1.26	12	11.40
Blunt	0.15″	2.9″	1.69	74695A949	1.26	12	11.40
Blunt	0.19″	3.3″	1.69	74695A952	1.22	12	10.92
Blunt	0.19″	3.7″	1.69	74695A954	1.52	10	11.40
Blunt	0.19″	5.3″	1.69	74695A956	1.44	12	12.96
Luer Lock Hub	0.07″	4.1″	1.69	74695A958	3.02	10	22.60
Luer Lock Hub	0.07″	5.9″	1.69	74695A961	2.94	12	26.52
4-Step	0.046″-0.066″	5.3″	1.69	74695A61	1.26	—	—
5-Step	0.046″-0.066″	5.9″	1.69	74695A59	1.26	—	—
With Twist-Lock Connection							
Taper	0.07″	3.7″	1.69	74695A63	1.48	—	—
Taper	0.07″	6.1″	1.69	74695A25	1.48	—	—
With Bell-Mount Connection							
3-Step	0.114″-0.134″	5.1″	6.76 and 13.5	74695A84	2.32	—	—
3-Step	0.114″-0.134″	6.3″	6.76 and 13.5	74695A85	2.57	—	—
3-Step	0.12″-0.366″	7.3″	6.76 and 13.5	7451A61	2.05	—	—
3-Step	0.12″-0.366″	9.2″	6.76 and 13.5	7451A62	2.23	—	—
4-Step	0.018″-0.497″	8.4″	6.76 and 13.5	7451A63	3.72	—	—
4-Step	0.018″-0.497″	11.5″	6.76 and 13.5	7451A64	6.37	—	—
With 3M Twist-Lock Connection							
4-Step	0.04″-0.193″	5.8″	1.25 and 1.69	7467A12	2.93	—	—
With 3M Bell-Mount Connection							
5-Step	0.07″-0.21″	7.3″	6.76 and 13.5	7467A93	3.90	—	—

Plastic Syringes









A convenient option for dispensing small amounts of adhesives and sealants. All are made of polypropylene.

Manual Syringes—Include a barrel, piston, and plunger.

Air-Powered Syringes—Are for the repetitive dispensing operations of air-powered dispensers (see page 3482). Syringes include a barrel and a piston.

Syringes **with taper tip** let you trim the opening size to the diameter you need.

Syringes **with luer lock tip** require a needle with a luer lock hub (please see pages 3481-3482).

Capacity, oz.	Color	Opening Size		Pkg. Qty.		Each
Manual Syringes						
With Taper Tip						
0.2 (6 cc)	Semi-Clear	0.024″	7510A661	5	$7.22	—
0.34 (10 cc)	Semi-Clear	0.028″	7510A66	10	16.34	$2.16
1.01 (30 cc)	Semi-Clear	0.046″	7510A67	10	18.65	2.50
1.01 (30 cc)	Semi-Clear	0.17″	7510A69	10	19.55	2.64
1.69 (50 cc)	Semi-Clear	0.149″	7510A68	10	29.13	3.66
2.03 (60 cc)	Clear	0.169″	7510A804	—	—	1.27
4.73 (140 cc)	Clear	0.175″	7510A805	—	—	12.50
With Luer Lock Tip						
0.034 (1 cc)	Semi-Clear	—	7510A603♣	10	6.57	—
0.1 (3 cc)	Semi-Clear	—	7510A651	10	7.12	—
0.17 (5 cc)	Semi-Clear	—	7510A652	10	7.25	—
0.2 (6 cc)	Clear	—	7510A801	—	—	.58
0.34 (10 cc)	Semi-Clear	—	7510A653	10	7.50	—
0.68 (20 cc)	Semi-Clear	—	7510A654	5	7.87	—
1.01 (30 cc)	Semi-Clear	—	7510A655	5	6.11	—
1.69 (50 cc)	Semi-Clear	—	7510A65	10	22.00	2.70
2.03 (60 cc)	Clear	—	7510A802	—	—	2.73
4.73 (140 cc)	Clear	—	7510A803	—	—	12.50
Air-Powered Syringes						
With Taper Tip						
0.2 (6 cc)	Semi-Clear	0.024″	66305A55	5	6.37	—
1.01 (30 cc)	Semi-Clear	0.046″	66305A5	10	17.56	2.36
With Luer Lock Tip						
0.1 (3 cc)	Semi-Clear	—	66305A51	10	6.50	—
0.17 (5 cc)	Semi-Clear	—	66305A52	10	7.55	—
0.34 (10 cc)	Semi-Clear	—	66305A53	10	10.25	—
1.01 (30 cc)	Semi-Clear	—	66305A54	5	12.38	—
With Luer Lock Tip for Light-Activated Adhesives						
0.1 (3 cc)	Black	—	7510A701	—	—	2.69
0.17 (5 cc)	Black	—	7510A702	—	—	2.97
0.34 (10 cc)	Black	—	7510A703	—	—	3.15
1.01 (30 cc)	Black	—	7510A704	—	—	3.99
Accessories						
Luer Lock Tip Caps			7510A24	10	11.00	—

♣ Has a luer slip tip. Requires a needle with a luer lock hub.

Glass Syringes

Designed for dispensing tiny quantities. Syringes have a luer lock tip and require a needle with a luer lock hub (please see pages 3481-3482). They are often used in gas chromatography applications.



Capacity, oz.			Capacity, oz.		
0.001 (0.025 cc)	6500T51	$62.00	0.009 (0.25 cc)	6500T54	$59.00
0.002 (0.05 cc)	6500T52	59.00	0.017 (0.5 cc)	6500T55	59.00
0.003 (0.1 cc)	6500T53	59.00			

Reusable Stainless Steel Dispensing Needles

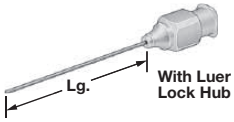



Thanks to the nickel-plated brass hub on these needles, they can be cleaned, washed, boiled, or sterilized and reused.

10-Piece Set with ¼ NPT Hub—Includes two each of 10-, 13-, 16-, 19-, and 22-gauge needles.

Gauge	ID	OD	Lg.		
Blunt-Tip Needles					
With Luer Lock Hub					
5	0.189″	0.219″	2″	6710A11	$4.85
6	0.173″	0.203″	2″	6710A12	4.63
7	0.150″	0.180″	2″	6710A13	4.53
8	0.135″	0.165″	2″	6710A14	4.42
9	0.118″	0.148″	2″	6710A15	4.37
10	0.106″	0.134″	2″	6710A16	4.32
11	0.094″	0.120″	2″	6710A17	4.26
12	0.085″	0.109″	¼″	6710A61	3.41
12	0.085″	0.109″	2″	6710A18	4.20
12	0.085″	0.109″	4″	6710A41	4.47
13	0.071″	0.095″	2″	6710A19	4.13
14	0.063″	0.083″	¼″	6710A63	3.41
14	0.063″	0.083″	2″	6710A21	4.08
14	0.063″	0.083″	4″	6710A42	4.27
15	0.054″	0.072″	2″	6710A22	4.03
16	0.047″	0.065″	¼″	6710A65	2.84
16	0.047″	0.065″	2″	6710A23	3.95
16	0.047″	0.065″	4″	6710A43	4.07
17	0.042″	0.058″	2″	6710A24	3.92
18	0.033″	0.050″	¼″	6710A67	2.84
18	0.033″	0.050″	2″	6710A25	3.87
18	0.033″	0.050″	4″	6710A44	3.96
19	0.027″	0.042″	2″	6710A26	3.82
20	0.024″	0.036″	¼″	6710A69	2.84
20	0.024″	0.036″	2″	6710A27	3.73
20	0.024″	0.036″	4″	6710A45	3.91
21	0.020″	0.032″	2″	6710A28	3.69
22	0.016″	0.028″	¼″	6710A72	2.64
22	0.016″	0.028″	2″	6710A29	3.64
22	0.016″	0.028″	4″	6710A46	3.86
23	0.013″	0.025″	2″	6710A31	3.59
24	0.012″	0.022″	¼″	6710A74	2.64
24	0.012″	0.022″	2″	6710A32	3.53
24	0.012″	0.022″	4″	6710A47	3.81
25	0.010″	0.020″	2″	6710A33	3.59
26	0.010″	0.018″	¼″	6710A76	2.64
26	0.010″	0.018″	2″	6710A34	3.79
26	0.010″	0.018″	4″	6710A48	3.76
27	0.008″	0.016″	2″	6710A35	3.99
28	0.007″	0.014″	2″	6710A36	4.15
29	0.007″	0.013″	2″	6710A37	4.37
30	0.006″	0.012″	2″	6710A38	4.58
With ⅛ NPT Hub					
10	0.106″	0.134″	2″	7590A41	7.63
13	0.071″	0.095″	2″	7590A42	7.08
16	0.047″	0.065″	2″	7590A43	6.83
19	0.027″	0.042″	2″	7590A44	6.75
22	0.016″	0.028″	2″	7590A45	6.97
With ¼ NPT Hub					
10	0.106″	0.134″	2″	7590A53	7.50
13	0.071″	0.095″	2″	7590A54	7.00
16	0.047″	0.065″	2″	7590A55	6.75
19	0.027″	0.042″	2″	7590A56	6.63
22	0.016″	0.028″	2″	7590A57	6.88
10-Piece Set with ¼ NPT Hub				7590A58	47.27
Sharp-Tip Needles					
With Luer Lock Hub					
12	0.085″	0.109″	½″	6937A21	8.97
16	0.047″	0.065″	½″	6937A23	8.24
20	0.024″	0.036″	½″	6937A26	8.05
22	0.016″	0.028″	½″	6937A27	7.95
25	0.010″	0.020″	½″	6937A28	7.76

Plastic Dispensing Tips

Tips are tapered so you can trim the opening size to the diameter you need. All are polypropylene with a luer lock hub.



Gauge	Opening Size	Lg.		1-49	50-Up	Gauge	Opening Size	Lg.		1-49	50-Up
14	0.063″	1¼″	6699A1	$0.39	$0.31	22	0.017″	1¼″	6699A5	$0.38	$0.30
16	0.048″	1¼″	6699A2	.39	.31	24	0.013″	1¼″	6699A6	.38	.30
18	0.035″	1¼″	6699A3	.39	.31	25	0.011″	1¼″	6699A7	1.50	1.17
20	0.024″	1¼″	6699A4	.38	.31	27	0.008″	1¼″	6699A8	2.12	1.65

Stainless Steel and PTFE Dispensing Needles

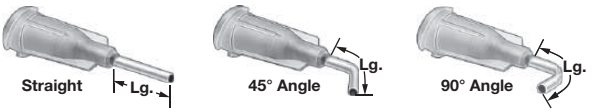

Use for precision dispensing of adhesives, fluids, solvents, fluxes, oils, and pastes. Needles have a blunt tip and a polypropylene luer lock hub.

Stainless Steel Needles—*12-piece straight needle assortment* contains one of each gauge of the 1″ long needles. Assortment comes in a plastic bag.

Straight PTFE-lined needles work well with instant-bonding adhesives. *45° and 90° angle* needles get into hard-to-reach areas.

PTFE Needles—Flexible and can be cut to length for easier positioning. Their nonstick surface works better with instant-bonding adhesives than stainless steel needles.

Stainless Steel Needles

Gauge	ID	OD		¼″ Lg. Pkg. of 10	½″ Lg. Pkg. of 50★	1″ Lg. Pkg. of 50	1½″ Lg. Pkg. of 50
Straight							
14	0.067″	0.083″	75165A2■	$9.88	$13.12	$13.37	$14.38
15	0.060″	0.072″	75165A3♦	9.88	13.00	13.37	14.38
16	0.053″	0.065″	75165A4	9.83	13.00	13.37	14.38
18	0.038″	0.050″	75165A5	9.50	11.75	12.12	12.88
19	0.032″	0.042″	75165A6	9.40	11.88	12.12	12.88
20	0.026″	0.036″	75165A7	9.38	11.88	12.12	12.88
21	0.023″	0.032″	75165A8	9.33	11.88	12.12	12.88
22	0.019″	0.028″	75165A9	9.33	11.88	12.12	12.88
23	0.017″	0.025″	75165A11	9.25	11.88	12.12	12.88
25	0.012″	0.020″	75165A12	9.25	11.88	12.12	12.88
26	0.010″	0.018″	75165A13	____	11.88	12.12	12.88
27	0.008″	0.016″	75165A14	9.63	11.88	12.12	13.25
30	0.006″	0.012″	75165A15	12.38	12.25	____	____
12-Piece Straight Needle Assortment			75165A791	25.03			

Gauge	ID	OD		Pkg. of 5	Pkg. of 5	
Straight PTFE Lined						
18	0.027″	0.072″	75165A221	____	$11.25	$11.50	____
21	0.020″	0.064″	75165A223	____	11.33	11.58	____
25	0.006″	0.050″	75165A224	____	11.48	11.63	____

Gauge	ID	OD		Pkg. of 10	Pkg. of 10	Pkg. of 10
45° Angle						
14	0.067″	0.083″	75165A161	____	$13.91	$13.53	$14.00
15	0.060″	0.072″	75165A75	____	13.41	13.53	14.00
16	0.053″	0.065″	75165A57	____	13.36	13.53	14.00
18	0.038″	0.050″	75165A76	____	12.75	12.93	13.31
19	0.032″	0.042″	75165A401	____	12.80	12.93	13.31
20	0.026″	0.036″	75165A402	____	12.80	12.93	13.31
21	0.023″	0.032″	75165A403	____	12.80	12.93	10.53
22	0.019″	0.028″	75165A404	____	12.80	12.93	13.31
23	0.017″	0.025″	75165A405	____	12.80	12.93	13.31
25	0.012″	0.020″	75165A406	____	12.80	12.93	13.31
26	0.010″	0.018″	75165A407	____	12.80	12.93	13.31
27	0.008″	0.016″	75165A408	____	12.80	12.93	13.47
90° Angle							
14	0.067″	0.083″	75165A501	____	13.95	13.53	14.03
15	0.060″	0.072″	75165A502	____	13.43	13.53	14.03
16	0.053″	0.065″	75165A503	____	13.36	13.53	14.03
18	0.038″	0.050″	75165A504	____	12.78	12.93	13.31
19	0.032″	0.042″	75165A505	____	12.82	12.93	13.31
20	0.026″	0.036″	75165A506	____	12.83	12.93	13.31
21	0.023″	0.032″	75165A507	____	12.83	12.93	10.55
22	0.019″	0.028″	75165A508	____	12.83	12.93	13.31
23	0.017″	0.025″	75165A509	____	12.83	12.93	13.31
25	0.012″	0.020″	75165A611	____	12.83	12.93	13.31
26	0.010″	0.018″	75165A612	____	12.83	12.93	13.31
27	0.008″	0.016″	75165A613	____	12.83	12.93	13.47

★ 30 gauge is a package of 10.
■ For ¼″ lg., ID is 0.059″; OD is 0.072″. ♦ For ¼″ lg., ID is 0.054″.

PTFE Needles

Gauge	ID	OD		2″ Lg. Pkg. of 10
Straight				
14	0.066″	0.082″	75175A691	$18.38
16	0.053″	0.065″	75175A692	18.25
18	0.042″	0.054″	75175A693	18.13
20	0.034″	0.046″	75175A694	18.00
22	0.028″	0.040″	75175A695	17.88

Push-On Needle Covers

		Pkg. of 50
For 1″ Lg. Straight Needles	75165A17	$7.33
For 1½″ Lg. Straight Needles	75165A18	7.48

Plastic Dispensing Needles

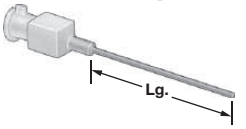

Made of polypropylene, these disposable needles are an economical alternative to stainless steel and PTFE needles. They have a luer lock hub and a flexible blunt tip that can be cut to length.

Gauge	ID	OD	Lg.		1-9	10-Up
15	0.054″	0.072″	1½″	6934A41	$1.74	$1.48
18	0.032″	0.053″	1½″	6934A43	1.73	1.47
20	0.024″	0.039″	1½″	6934A45	1.73	1.47
25	0.013″	0.029″	1½″	6934A49	1.70	1.44

Build-Your-Own Air-Powered Dispensers

Use these components to create a dispensing system that delivers consistency in repetitive bonding processes.

Foot-Pedal Controls



A knob adjusts the air pressure to control the amount of adhesive released when you push the pedal. Controls operate at 0-100 psi and have a ¼″ male quick-disconnect air inlet.

Standard is 3¾″ Ht.×3¾″ Wd.×7¼″ Dp.

Drip free stops any drips after foot pedal is released. It is 3¾″ Ht.×3¾″ Wd.×8½″ Dp.

Standard	66505A11	$292.85
Drip Free	66505A33	398.21

Syringe Adapters and Adapter Kit



Adapters convert taper-tip and luer lock tip plastic syringes (please see page 3481) into air-powered dispensing syringes. They have a gasket seal and a 360° swivel for easy operation. The included 6 ft. hose has a male fitting for connecting to a foot-pedal control.

Adapter kit includes 0.1-oz. (3 cc), 0.17-oz. (5 cc), 0.34-oz. (10 cc), and 1.01-oz. (30 cc) syringe adapters, a needle and syringe assortment, a syringe holder stand, a filter, a 2-oz. squeeze bottle, and disposable gloves.

For Syringes	Adapters Each		Replacement Gaskets Pkg. of 5	
0.17 oz. (5 cc), 0.2 oz. (6 cc)	66275A12	$29.31	66275A16	$7.53
0.34 oz. (10 cc), 0.41 oz. (12 cc)	66275A13	31.51	66275A17	8.14
1.01 oz. (30 cc), 1.18 oz. (35 cc)	66275A14	31.63	66275A18	8.14
Adapter Kit		66505A13		193.67

Syringe Holder Stand



Stand is made of metal.

66505A36 ..... $27.79

Controlled-Flow Dispensing Pens and Bottles



Pens and bottles have a unique valve that releases a precise amount of adhesive. All are made of plastic. *Aluminum color* pen and bottle are ESD (electrostatic discharge) safe.

Cap., oz.	Color	Dispensers Each		Repl. Tips Pkg. of 10	
Pens					
0.34	Clear	6931A31	$8.50	6931A48	$12.24
0.34	Aluminum	6931A32	7.40	6931A48	12.24
Bottles					
2	Clear	6931A33	7.46	6931A48	12.24
2	Aluminum	6931A34	16.18	6931A48	12.24
4	Clear	6931A35	9.52	6931A48	12.24

Mixing Cups and Sticks



Keep these polypropylene cups and wood sticks on hand for mixing your two-part adhesives.

	Size	Pkg. Qty.		Pkg.
4-oz. Cups	3″ Dia.×1½″ Ht.	6	7632A21	$5.56
8-oz. Cups	4½″ Dia.×1½″ Ht.	6	7632A22	7.77
Sticks	6″ Lg.×¾″ Wd.	12	7632A11	3.29

Single-Component Dispensing Guns, Cartridges, and Nozzles

Choose a gun and add a cartridge, cartridge holder, and nozzle (all sold separately) to make dispensing one-part adhesives, sealants, and fluids easy. Not for use with two-part adhesives.

Dispensing Guns

Manual guns are for small dispensing jobs. They are similar to a caulk gun.

Air-powered gun provides controlled dispensing for small or large jobs. Gun requires *air hose* (sold separately). Hose has a 1/4"-28 female fitting on one end that connects directly to the gun while the other end has a 1/4" male quick-disconnect for the air supply. Operating range is 0-100 psi.

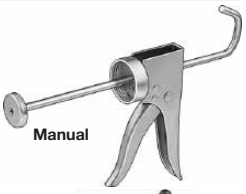
Manual


Air Powered

Fits Cartridge Size, oz.		
Manual		
2.5 and 6	7579A61	$142.73
12 and 12.8	7579A62	150.07
Air Powered		
2.5, 6, and 12	7579A18	366.28
10-ft. Air Hose	7579A14	89.25

Empty Cartridges

The tip has 1/4 NPT female threads. Cartridges include a piston and cap and are made of polyethylene. The *12.8-oz. cartridge* can also be used with a standard caulk gun.



Capacity, oz.			Capacity, oz.		
2.5	7579A41	$3.90	12	7579A43	$6.96
6	7579A42	4.37	12.8	7579A44	5.87

Cartridge Holders

Holders thread onto a manual gun or attach to an air-powered gun with a quick-disconnect bayonet connection.


For Manual Guns


For Air-Powered Guns

Fits Cartridge Size, oz.	Material	For Manual Guns		For Air-Powered Guns	
2.5	Steel	7579A63	$53.20	7579A15	$91.04
6	Steel	7579A64	59.55	7579A17	92.15
12	Steel	7579A65	76.19	7579A16	116.09
12.8	Polyethylene	7579A66	121.65		

Nozzles

All are made of polyethylene and have 1/4 NPT male threads. They fit 2.5-, 6-, and 12-oz. cartridges. An adapter (sold separately) is required for use with 12.8-oz. cartridges.

Ribbon nozzles spread material as they dispense.


Round


Ribbon

Opening	Lg.			Opening	Lg.		
Round				**Ribbon**			
1/32"	4"	7579A33	$1.57	3/64" x 3/8"	5"	7579A74	$14.38
1/16"	2 1/2"	7579A31	1.57	1/16" x 1/2"	4"	7579A75	8.10
1/16"	4"	7579A34	1.57	1/8" x 1"	4 1/4"	7579A77	10.98
1/16"	6"	7579A51	2.65	1/8" x 1 3/4"	4"	7579A76	10.98
1/8"	2 1/2"	7579A32	1.57				
1/8"	4"	7579A53	1.38				
1/8"	6"	7579A52	2.60				

Accessories

12.8-oz. adapters permit a 12.8-oz. cartridge to be used with the nozzles above.

7579A36 ..... $2.11

Luer lock adapters let you add a luer lock hub needle (please see pages 3481 and 3482) to a cartridge for more precise dispensing.

7579A37 ..... Pkg. of 10 $10.91

Nozzle extension is 6 3/8" long for getting into hard-to-reach areas.

7579A35 ..... $7.56

Nonstick Glue Pots

Pot stores up to 25 oz. of adhesives, cements, and lacquers for up to two weeks without hardening. A brush with a seal is included. Overall size is 5" Lg. x 5" Wd. x 4" Ht.



Glue Pot	7465A11	$49.18
Replacement Brush	7465A12	5.53

Notched Trowels

Steel has notches on two sides. Handle is wood. Overall size is 11" x 4 1/2".


Steel

Notch Shape	Notch Size		
U	1/4"	7612T24	$17.33

Plastic with handle have notches on all four sides. Overall size is 8 1/2" x 4 1/4".


Plastic with Handle

Notch Shape	Notch Size		1-11	12-Up
V	3/32"	7683T15	$1.33	$1.16
V	1/8"	7683T16	1.33	1.16
V	3/16"	7683T17	1.33	1.16

Plastic without handle have different size notches on each side, except *trowel with V notches* has one straight side. Overall size is 4 1/4" x 4 1/4".


Square-Notch Plastic without Handle


V-Notch Plastic without Handle

Notch Shape	Notch Size		Pkg. of 36
Square	1/16", 1/8", 1/4", 1/8" x 1/4"	9405T64	$15.07
V	1/8", 3/16", 1/4"	9405T63	15.07

Brushes for Adhesives

All brushes have natural bristles and a wood handle.





Overall Lg.	Bristles Lg.	Bristles Wd.		
Flat				
9"	2 1/4"	1"	7185T9	$5.86
10"	3"	2"	7185T8	8.25
Round				
7 1/2"	1 3/8"	1/4"	7185T1	5.27
7 1/2"	1 5/8"	1/2"	7185T3	6.76
9"	1 7/8"	3/4"	7185T5	10.77
9 1/2"	2 1/8"	7/8"	7185T7	16.04

Laminating Rollers


Smooth


Grooved

Smooth rollers, also known as brayers, press down on surfaces to be laminated or bonded. They won't accumulate rubber cement, wax, or clay during use. Roller is acrylic; handle is steel.

Grooved rollers have thin ridges that allow air to escape. Roller is aluminum. Handle is wood with a threaded hole for a handle extension.

Dia.	Wd.		
Smooth			
1"	4"	7533A12	$10.07
1"	6"	7533A13	11.62
1"	8"	7533A14	13.96
Grooved			
3/4"	3"	7722T11	15.33
3/4"	6"	7722T12	20.16

Dia.	Wd.		
Grooved (Cont.)			
1"	3"	7722T13	$17.20
1"	6"	7722T14	20.62
2"	3"	7722T15	27.67
2"	6"	7722T16	26.09
2"	8"	7722T18	31.09

Flexible Tube Dispensers

Extract all the contents from plastic and metal tubes up to 3" wide. Dispenser is plastic and the handle stores tube caps and nozzles.



73345A26 ..... $5.20

Caps for Cartridges and Bottles

Unroll these caps onto the tip for an airtight seal. Caps stretch to fit most sizes.



7526A11 ..... Pkg. of 35 $6.68

Cartridge Sealers

Slip the cone over the tip of a 10- to 32-oz. cartridge, then insert the barbed T-handle pin into the cone to complete the seal.

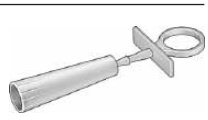

7554A14 ..... $1.43

Caulk Guns

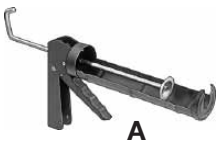
A


B&C

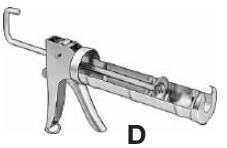
D


E

Dispense cartridges with ease and control. The higher the thrust ratio the easier it is to dispense thick adhesives and sealants.

Style A are metal. 7622T23 has a rubber handle and trigger.

Style C are metal and offer drip-free dispensing. Both 9263T12 and 9263T13 have a rubber handle and trigger. 9263T12 also has a dual stroke for fast applications.

Style E are metal and have a rotating frame that pivots around the rod for easy bead applications.

	Thrust Ratio	Pressure Rod	Frame		
For 8½- to 10-oz. Cartridges					
A	26:1	Ratchet	Half-Barrel	**7622T27**	$36.13
For 10- to 13-oz. Cartridges					
A	5:1	Ratchet	Half-Barrel	**7622T22**	3.00
A	6:1	Ratchet	Half-Barrel	**7622T23**	14.82
B	10:1	Smooth	Skeleton	**7636T31**	5.60
C	10:1	Smooth	Skeleton	**9263T13**	6.79
C	10:1	Smooth	Skeleton	**9263T11**	11.24
C	12:1	Smooth	Skeleton	**9263T12**	21.60
D	12:1	Smooth	Half-Barrel	**74605T73**	$9.89
E	18:1	Smooth	Skeleton	**76015T13**	21.87
E	26:1	Smooth	Skeleton	**76015T16**	38.84
For 29- to 32-oz. Cartridges					
A	6:1	Ratchet	Half-Barrel	**7622T25**	18.58
B	10:1	Smooth	Skeleton	**7636T32**	10.95
E	18:1	Smooth	Skeleton	**76015T12**	23.94

Bulk-Load Caulk Guns

Immerse into a pail of caulk, pull back the pressure rod, and suction draws the sealant up into the barrel.

Guns



Guns are metal and have a smooth pressure rod and round nozzle. *16-oz. capacity* gun can also be used with 10- to 13-oz. cartridges.

Sausage-style pack conversion kit allows 16-oz. and 30-oz. capacity guns to accept 10-oz. and 20-oz. sausage-style packs of sealant.

Capacity, oz.	Thrust Ratio	Opening		
16	12:1	½″	**72355T5**	$71.55
30	12:1	½″	**7565T4**	86.02
80	12:1	¾″	**7565T1**	198.56
Sausage-Style Pack Conversion Kit			**7565T7**	9.91

Additional Nozzles


Round

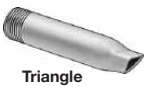
Triangle

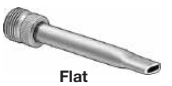
Flat

Nozzles are 3" long and have 3/8" NPSM (straight) pipe threads. All are made of metal.

Opening		
Round		
3/16″	**7566T12**	$2.95
1/4″	**7566T11**	6.29
3/8″	**7566T19**	4.93
1/2″	**7566T16**	2.89
Triangle		
3/8″	**7566T14**	$6.13
Flat		
1/8″ × 3/8″	**7566T22**	8.53
1/8″ × 3/4″	**7566T21**	4.38

Air-Powered Caulk Guns


F&G


H


J

Compressed air does the work for you.

Standard—All have a 1/4 NPT male air connection. An air pressure regulator (see pages 1021-1025) is recommended to maintain a smooth bead.

Adjustable Flow—A built-in regulator adjusts the air pressure. Guns are equipped with a 1/4 BSPP male air connection in the handle and include a quick-disconnect fitting. Air hose is not included.

For Cartridge Size, oz.	Max. psi	Gun Material	Hose Lg., ft.		
Standard					
F 10-13	70	Plastic	10	**7679T11**	$61.02
G 10-13	100	Metal	10	**7679T13**	117.50
H 10-13 and 29-32	70	Plastic	3	**7679T21**	100.34
Adjustable Flow					
J 10	75	Metal and Plastic	—	**76025T61**	125.82
J 20	100	Metal and Plastic	—	**76025T47**	155.20
J 29	100	Metal and Plastic	—	**76025T62**	149.10
Replacement Parts				**76025T11**	

Battery-Operated Caulk Guns



Power without a cord. Guns are plastic and have variable-speed and anti-drip controls.They include an 18-volt battery and charger.

For Cartridge Size, oz.	Charge Time, min.	Cartridges Dispensed per Charge	Guns		Replacement Batteries		Replacement Charger	
10	30	Up to 200	**7631T61**	$305.33	**29735A123**	$86.15	—	—
29	30	Up to 100	**7631T17**	295.03	**7631T18**	66.67	**7631T19**	$67.80

Extensions for Caulk Cartridges and Bulk-Load Caulk Guns


Cartridge Extension


Extension Kit

Put a bead of sealant anywhere—even hard-to-reach areas.

Cartridge Extension—Adjusts from 7" to 12½" long and bends up to 180°.

Extension Kit for Bulk-Load Guns and Threaded Cartridges—Includes an adapter, two angle joints, and four nozzles. Fits Albion, Cox, and Newborn barrel-style bulk-load guns.

Cartridge Extension	**7809A11**	$3.00
Extension Kit	**7809A17**	8.38

Bead-Smoothing Sprays and Tools



Achieve the perfect bead every time.

Smoothing Spray—Creates a slippery surface that keeps sealant from smearing or widening when smoothed. Works with all sealants on any nonporous surface. Covers approximately eight 10-oz. cartridges of caulk.

Smoothing Tool—Made of plastic with a flexible rubber tip.

Smoothing Spray	**7326A14**	$8.63
Smoothing Tool	**7146A23**	2.40

Hand-Held Dispensers for Packaging Tape


Economy and Standard


Curved Grip


Heavy Duty


Wide


Hold-a-Roll

Use with packaging tape on pages 3487-3488. All dispensers have a metal blade, a plastic handle, and a wipe-down flap to smooth tape to your surface. **Dispensers with tape** include one roll of packaging tape, except 3M hold-a-roll comes with two rolls.

Economy—Frame is metal and plastic. An adjustable brake controls tension for tighter box closure.

Cushion grip has a foam-covered handle.

Retractable blade prevents accidental cuts as the blade stays retracted until pressure is applied to the wipe-down flap.

Standard—Have a steel frame and a nonslip handle. An adjustable brake controls tension for tighter box closure.

Curved Grip—Handle shape is designed for comfort. Frame is plastic.

Heavy Duty—The steel frame is beefier than the standard dispenser to withstand heavy use. A rubber roller keeps tape in ready position, and an adjustable brake controls tension for a tighter box closure.

Wide—Hold 3″ and 4″ wide tape rolls. Frame is steel and plastic. 75835A51 and 75835A82 have an adjustable brake to control tension for tighter box closure.

Hold-a-Roll—Economy version of 3M hold-a-roll. Frame is plastic.

3M Hold-a-Roll—Fit in your hand for greater control and precision. Frame is plastic. Includes two rolls of 3M Scotch #375 tape.

	Max. Tape Wd.	For Spool ID	Max. Tape Roll Dia.	Dispensers		Dispensers with Tape		Repl. Blades		Repl. Wipe-Down Flaps	
Economy	2″	3″	5¼″	75865A61	$11.80	75865A92	$14.58	75865A71	$4.36	75865A72	$4.36
Economy Cushion Grip	2″	3″	5¼″	76845A11	13.51	76845A42	19.88	75865A71	4.36	75865A72	4.36
Economy Retractable Blade	2″	3″	5½″	74715A21	14.04	74715A52	18.47	74715A22	4.12	74715A23	4.12
Standard	2″	3″	4½″	76305A11	18.04	76305A42	24.09	76305A16	2.44	76305A19	5.40
Curved Grip	2″	3″	4¾″	7640A11	19.71	7640A42	24.76	76305A15	12.54	7640A15	5.81
Heavy Duty	2″	3″	5″	7584A12	19.44	7584A43	24.19	7584A17	6.00	7584A16	4.72
Heavy Duty Wide	3″	3″	5½″	7584A41	33.64	7584A72	39.81	7584A47	6.50	7584A49	6.50
Wide	3″	3″	5½″	75835A51	22.22	75835A82	29.97	75835A53	3.05	75835A55	3.05
Wide	4″	3″	6¼″	75835A52	39.74	75835A83	53.42	75835A54	5.76	75835A56	5.05
Hold-a-Roll	2″	3″	5″	3386A11	10.18	3386A46	16.20	3386A12	4.47		
3M Hold-a-Roll	2″	3″	4¾″			7786A11	45.39	75805A16	13.26		

Hand-Held Dispensers for Filament-Reinforced Tape


Economy Plastic


Plastic


Steel


Wide-Width Steel

Use with filament-reinforced tape on page 3488. All have a serrated blade. Tape is not included. Plastic dispenser has a brake to control tension for tighter box closure.

	Max. Tape Wd.	Max. Tape Roll Dia.	Dispensers		Repl. Blades	
Economy Plastic	1″	6½″	76325A15	$12.41		
Plastic	1″	5½″	76325A11	35.48	76325A14	$11.25
Steel	1″	5½″	76325A19	66.05	76325A18	8.77
Wide-Width Steel	2″	5¾″	76325A16	74.00	76325A17	13.00

Tabletop Tape Dispensers


Single-Roll Economy


Single-Roll for 1″ and 3″ Cores


Single-Roll Heavy Duty


Multi-Roll Economy


Multi-Roll Standard (75725A74)


Multi-Roll Heavy Duty


Multi-Roll Extra Wide

For use with masking, paper, Scotch, and filament-reinforced tape, unless otherwise stated. Tape is not included.

Single Roll—Have a plastic housing with a nonskid base.

Economy is for use with Scotch tape only.

For 1″ and 3″ cores includes two spools so you can use 1″ or 3″ ID tape. Use with Scotch tape only.

Heavy duty is larger and heavier than other single roll dispensers.

Multi Roll—Keep all of your tape in one dispenser.

Economy holds three 1″ wide tape rolls or any combination up to 3″ wide. Housing is metal with a weighted base.

Standard have a plastic housing with a weighted base. 75725A72 holds two 1″ wide tape rolls or one 2″ wide roll. 75725A74 holds six 1″ wide tape rolls or any combination up to 6″ wide.

Heavy duty accommodates one 2″ wide tape roll or two 1″ wide rolls. Housing is plastic with a nonskid base.

Extra wide have a metal housing with suction cups on the base. 76765A1 tape holder adjusts from 1″ to 10″ wide; it holds up to three tape rolls. 76765A2 tape holder adjusts from 1″ to 18″ wide; it holds up to six tape rolls.

	Max. Total Tape Wd.	For Spool ID	Max. Tape Roll Dia.	Dispensers Available Colors			Repl. Blades		Repl. Spool Holders	
Single Roll										
Economy	1″	1″	2½″	Beige, Black, Brown	7636A22	$5.74	7636A23	$1.72	7636A24	$2.77
For 1″ and 3″ Cores	1″	1″ and 3″	4½″	Beige, Black, Brown	76355A21	12.41	76355A51	2.43	76355A52	2.43
Heavy Duty	1″	3″	5½″	Beige	7635A2	50.63	7635A66	14.11	7635A65	14.11
Multi Roll										
Economy	3″	3″	6″	Blue	7603A11	27.38	7603A21	5.90		
Standard	2″	3″	6⅞″	Beige	75725A72	84.95	75725A22	14.26		
Standard	6″	3″	6⅞″	Beige	75725A74	111.39	75725A42	16.34		
Heavy Duty	2″	3″	5½″	Tan	75795A14	71.07	75795A65	15.36	75795A66	15.36
Extra Wide	10″	1″ to 3″	6″	Gray	76765A1	139.03	76765A3	11.38		
Extra Wide	18″	1″ to 3″	6″	Gray	76765A2	157.08	76765A4	14.20		

Select-a-Length Tape Dispensers


Economy Lever


Standard Lever


Electric/Battery Operated Auto-Repeat


Auto-Cut and Repeat

Dispense the exact length you need, saving tape and time. For filament-reinforced tape, use Auto-Cut and Repeat Dispensers. Tape is not included.

Economy Lever—Adjust the lever to set tape length, pull to dispense, and tear manually. Housing is plastic.

Standard Lever—Set the sliding gauge to desired length, pull the lever to dispense, and tear manually. Housing is steel and plastic.

Electric/Battery Operated Auto-Repeat—Dispenses tape continuously to one of three selectable lengths and tear manually. Plug the included 6-ft. cord with two-prong plug into an outlet or use with three D batteries (sold separately). Housing is plastic.

Auto-Cut and Repeat—Dispenses and cuts tape continuously to a set length. It also has a three-digit LED display and a touch pad. Includes a 5-ft. cord with three-prong plug. Housing is steel and plastic.

	Length Dispensed	Accepts Tape Width	For Spool ID	Max. Tape Roll Dia.	Dispensers	Each	Repl. Blades	Each	Repl. Spool Holders	Each
Economy Lever	½″ to 4″	¼″ to 1″	3″	4¾″	7757A1	$58.96	7757A21	$8.59		
Standard Lever	½″ to 4″	¼″ to 1″	3″	5¼″	76335A14	324.61	76335A15	20.72	7635A65	$14.11
Electric/Battery Operated Auto-Repeat	1 3/16″, 1¾″, 3 9/16″	¼″ to 1″	1″ or 3″	5¼″	76365A31	107.25	76365A13	9.33	76365A65	9.33
Auto-Cut and Repeat	¾″ to 39¼″	¼″ to 2″	1″ or 3″	7″	76655A76	564.83	76655A81	84.28	76655A82	19.12
D Batteries for Electric/Battery Operated (Three required, 6/Pkg.)									71455K55	Pkg. $7.32

Dispensers for Water-Activated Packaging Tape

As tape passes through the dispensers a brush wets the adhesive. Tape is not included.

Pull-and-Tear



Pull the tape to desired length and tear off. Use with general purpose water-activated packaging tape 7624A4, 7624A5, and 7624A7 on page 3488. Tank holds 4 oz. of water. Housing is steel with nonskid rubber feet.

Accepts Tape Width	Max. Tape Roll Dia.	Dispensers		Repl. Brushes		Repl. Blades	
1″ to 3″	7″	76215A15	$107.71	76215A16	$32.07	76215A17	$32.07

Select-a-Length


Large Tank


Extra Large Tank

Set to dispense the desired length and pull the lever. Fewer moving parts and an enclosed housing minimize maintenance.

Large Tanks—Length dispensed adjusts in 2″ increments (10″, 12,″ 14″, etc. up to 30″). Dispensers have a handle on the left side and a 44-oz. capacity water tank. Housing is steel and plastic with nonskid rubber feet.

Standard can be used with the following water-activated tape on page 3488: general purpose 7624A4, 7624A5, and 7624A7; heavy duty reinforced; and warning message. Optional heater for standard dispenser (sold separately) quickly activates glue to ensure good adhesion. It has a 6-ft. cord with three-prong plug.

For pull tab is for use with pull-tab water-activated tape 6161A33 on page 3488.

Extra Large Tanks—Set to dispense any length between 5″ and 36″. Dispensers have a handle on the right side and a 70-oz. capacity water tank. Housing is plastic. Can be used with all water-activated tape on page 3488.

Heated dispenser quickly activates glue to ensure good adhesion. It has a 6-ft. cord with three-prong plug.

	Length Dispensed	Accepts Tape Width	Max. Tape Roll Dia.	Dispensers	Each	Optional Heaters	Each	Repl. Brushes	Set of 2	Repl. Water Tanks	Each
Large Tanks											
Standard	10″ to 30″	1½″ to 3″	7½″	76205A3	$384.70	76205A6	$143.94	76205A4	$52.42	76185A77	$19.87
For Pull Tab	10″ to 30″	1½″ to 3″	7½″	76205A7	413.92			76205A4	52.42	76185A77	19.87
Extra Large Tanks					Each				Each		Each
Standard	5″ to 36″	2″ to 3¼″	9″	76225A23	$430.00			76225A32	$37.71	76225A34	$26.69
Heated	5″ to 36″	2″ to 3¼″	9″	76225A25	471.15			76225A32	37.71	76225A34	26.69

Auto-Cut Electric Dispensers with Heater



Tape lengths are selected, cut, and dispensed with the press of a button. Length dispensed adjusts in 3″ increments (6″, 9,″ 12″, etc. up to 45″). Choose one of 14 set tape lengths or push the override button for other lengths. Dispensers have a top heater for glue activation, a 34-oz. water tank, and a color-coded keypad. Housing is steel and plastic. All have a 6-ft. cord with three-prong plug.

Standard—Use with all water-activated tape on page 3488.

For Pull Tab—Use with pull-tab water-activated tape 6161A33 on page 3488.

Repeating—Dispenses and cuts tape continuously. Can be used with all water-activated tape on page 3488.

	Length Dispensed	Accepts Tape Width	Max. Tape Roll Dia.	Dispensers	Each	Repl. Brushes	Set of 3	Repl. Water Tanks	Each
Standard	6″ to 45″	1½″ to 3″	10″	76185A21	$1,203.52	76185A71	$75.00	76185A33	$34.62
For Pull Tab	6″ to 45″	1½″ to 3″	10″	76185A28	1,269.53	76185A71	75.00	76185A33	34.62
Repeating	6″ to 45″	1½″ to 3″	10″	76185A23	1,244.14	76185A71	75.00	76185A33	34.62

Clamp-On Dual-Roll Tape Dispensers

Use the included C-clamp to attach the dispenser to any surface up to 2¼″ thick. Dispenser has two 3″ ID spools—each holds up to a 1″ wide tape roll, or use both spools to hold one tape roll up to 2″ wide. Maximum roll diameter is 6″. Made of steel with plastic spools. Tape is not included.



Dispenser	12725A11	$31.67
Replacement Blade	12725A36	7.00

Workbench-Mount Tape Dispensers

Always have tape where you need it. Use the included bracket and screws to mount these dispensers to any vertical surface of a workbench, cabinet, and table. Dispensers have a 3″ ID spool. Use with masking and Scotch tape. Tape is not included.

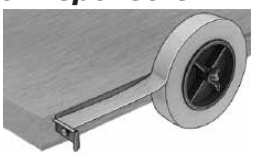

Max. Tape Wd.	Max. Tape Roll Dia.	Dispensers		Repl. Blades	
1″	11″	76435A75	$22.81	76435A85	$7.02
2″	11″	76435A76	81.06	76435A86	14.48

Packaging Tape

Securely seal packages and bundle loads. Tape is made of polypropylene unless otherwise stated. Spool ID is 3″. For dispensers, see page 3485.

General Purpose—Has synthetic rubber adhesive that stretches for use on overstuffed cartons.

Extreme Conditions—Has acrylic adhesive that lasts longer than rubber adhesive and won't yellow from exposure to sunlight. Temperature range is –10° to 200° F.

Moisture Resistant—Rubber adhesive locks out moisture, and sticks well on rough and corrugated paper, printed cartons, and shrink wrap.

High-Strength Conformable—Made of PVC for more strength and stretchability than polypropylene tape. It is abrasion and puncture resistant and has rubber adhesive that works well on rough and corrugated paper as well as on printed cartons.

Quiet-Unwind—Tape unwinds without making a loud ripping noise.



Wd.	Lg., yds.	Thick.	Available Colors		Clear Each	Clear Pkg. Qty.	Clear	Other Colors Each
General Purpose								
2″	60	0.0025″	Clear, Tan	76255A31	$3.21	36	$105.74	$3.21
2″	110	0.0025″	Clear, White	76255A32♦	5.68	36	185.57	5.68
3″	60	0.0025″	Clear	76255A212	4.80	24	88.42	—
3″	110	0.0025″	Clear, Tan	76255A34	8.36	24	182.73	8.36
4″	110	0.002″	Clear	76255A28	10.83	—	—	—
Heavy Duty								
2″	60	0.003″	Clear	76255A412	8.89	36	285.04	—
2″	1,000	0.003″	Clear	76255A432	69.54	6	298.03	—
3″	60	0.003″	Clear	76255A422	9.90	24	213.97	—
3″	1,000	0.003″	Clear	76255A44	111.54	—	—	—
Extreme Conditions								
2″	55	0.002″	Clear	75495A213	1.56	36	37.65	—
2″	110	0.002″	Clear	75495A233	2.98	36	71.90	—
3″	55	0.002″	Clear	75495A253	2.33	24	37.48	—
3″	110	0.002″	Clear	75495A273	4.47	24	71.90	—
Heavy Duty Extreme Conditions								
2″	60	0.003″	Clear	75495A343	4.16	36	100.37	—
3″	60	0.003″	Clear	75495A363	6.22	24	100.05	—
Moisture Resistant								
2″	55	0.002″	Clear	76255A512	3.56	36	115.23	—
2″	110	0.002″	Clear, Tan	76255A36	6.13	36	193.10	6.13
3″	110	0.002″	Clear, Tan	76255A37	9.27	—	—	9.27
High-Strength Conformable								
2″	55	0.002″	Clear, Tan, White	76015A66	6.44	—	—	6.44
Quiet Unwind								
2″	110	0.002″	Clear	75495A41	4.38	—	—	—
3″	125	0.002″	Clear	75495A43	7.51	—	—	—

♦ White tape is 0.002″ thick.

3M Scotch #375 Heavy Duty Packaging Tape

Extra-strength synthetic rubber adhesive on this polypropylene tape handles the most demanding packaging jobs. Tape is 0.003″ thick. Temperature range is –30° to 150° F. *Dispensers* are plastic and have a metal blade. For other dispensers, see page 3485.

Tape with disposable dispenser includes one roll of #375 tape.

Tape with reusable dispenser is refillable and includes two rolls of #375 tape.

Tape with Disposable Dispenser



Tape with Reusable Dispenser



Wd.	Lg., yds.	Available Colors		Roll
Tape				
2″	55	Clear, Tan	76865A21	$8.69
2″	1,000	Clear	76865A47	141.06
3″	55	Clear, Tan	76865A31	13.70

Wd.	Lg., yds.	Color		Each
Tape with Disposable Dispenser				
2″	55	Clear	75635A68	$11.76
Tape with Reusable Dispenser				
2″	55	Clear	7786A11	45.39

Easy-to-Tear Paper Packaging Tape

The strong backing on this kraft paper tape resists moisture and weathering; yet it can still be torn by hand. Rubber adhesive provides a secure seal. Tape is 0.007″ thick and color is tan. Temperature range is 32° to 180° F.



Wd.	Lg., yds.		Each	Pkg. Qty.	
1″	60	77225A9	$4.36	—	—
1½″	60	77225A7	6.52	—	—
2″	60	77225A615	8.24	24	$180.56
3″	60	77225A415	13.00	16	189.91

Packaging Tape

Water-Activated Packaging Tape



Pull Tab



Warning Message



Tamper Evident

Water-activated adhesive makes this kraft paper tape the most effective choice for sealing corrugated, printed, and overstuffed cartons. For dispensers, see page 3486.

Heavy duty reinforced has tri-directional fiberglass strands that provide extra strength. **Pull tab** has no need for box cutters or knives, just pull the center strip to open the seal. **Warning message** has red lettering. **Tamper evident** leaves a red layer when tape is removed.

Wd.	Lg., yds.	Thick.	Color		Each	Pkg. Qty.	
General Purpose							
1″	166	0.004″	Brown	7624A5	$2.42	—	—
1½″	166	0.004″	Brown	7624A4	3.62	—	—
1½″	166	0.003″	White	7624A7	4.37	—	—
2″	200	0.006″	Brown	7624A1	5.22	—	—
2½″	200	0.006″	Brown	7624A2	6.54	—	—
3″	200	0.006″	Brown	7624A312	7.85	10	$70.44
Heavy Duty Reinforced							
2″	150	0.006″	Brown	76235A69	7.30	—	—
2⅜″	150	0.006″	Brown	76235A76	7.96	—	—
2½″	150	0.007″	Brown	76235A64	10.17	—	—
2¾″	150	0.006″	Brown	76235A813	9.29	10	83.29
3″	150	0.006″	Brown	76235A773	10.08	10	91.97
3″	150	0.007″	Brown	76235A823	12.21	10	109.47
3″	150	0.006″	White	76235A663	12.10	10	110.39
Pull Tab							
2¾″	166	0.006″	Brown	6161A33	12.50	—	—
Warning Message							
2⅞″	150	0.006″	Brown	6144A55	11.71	—	—
Tamper Evident							
3¼″	150	0.008″	Brown	6090A35	17.51	—	—

Tamper-Evident Packaging Tape



Peel Back

Know if high-value and confidential items have been tampered with. For dispensers, see page 3485.

Diagonal Stripe—Diagonal stripes printed on the tape cannot be realigned if the tape has been cut, revealing package has been tampered with. Tape is white polypropylene with synthetic rubber adhesive. Stripes and lettering are blue.

Peel Back—When tape is peeled back, an "OPENED" message is revealed. The tape cannot be resealed without evidence of tampering. Tape is red polypropylene with acrylic adhesive. Lettering is black.

Wd.	Lg., yds.	Thick.		
Diagonal Stripe				
With "Security Tape" Message				
2″	55	0.002″	2073T63	$4.94
With "If Seal Has Been Broken, Check Contents" Message				
2″	55	0.002″	2073T64	4.94
Peel Back				
With "Opened" Message				
2″	60	0.003″	2073T11	50.15
3″	60	0.003″	2073T12	67.03

Filament-Reinforced Tape

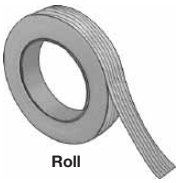

Roll

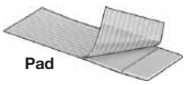

Pad

Embedded filaments give this polypropylene tape the strength for packaging, bundling, and strapping. Tape also has excellent abrasion and moisture resistance. Adhesive is synthetic rubber. Temperature range is up to 120°F, except double-reinforced pad is 0° to 160°F.

For dispensers, see pages 3485-3487.

Economy—Semi-Clear

Filaments run along the length.
Light Duty—Has fiberglass filaments and is 0.004″ thick.
Heavy Duty—Has polypropylene filaments and is 0.006″ thick.

Wd.	Lg., yds.		Each	Pkg. Qty.	
Light Duty					
⅜″	60	7742A9	$1.80	—	—
½″	60	7742A11	2.93	—	—
¾″	60	7742A122	4.75	48	$184.66
1″	60	7742A132	5.76	36	186.61
1½″	60	7742A14	8.62	—	—
2″	60	7742A152	7.95	24	171.74
3″	60	7742A16	11.95	—	—
Heavy Duty					
½″	60	77245A62	4.16	—	—
¾″	60	77245A63	6.27	—	—
1″	60	77245A64	8.19	—	—
1½″	60	77245A65	12.27	—	—

Standard—Semi-Clear

All have fiberglass filaments and are 0.006″ thick.
Single Reinforced—Filaments run along the length.
Double Reinforced—Filaments run along the length and width for added reinforcement. Ideal for extra-heavy, overseas, and valuable shipments. *Double-reinforced pad* has the same filaments and thickness as the double-reinforced tape, but in a format similar to a self-stick note pad. 20 strips per pad.

Wd.	Lg., yds.		Each
Single Reinforced			
⅜″	60	7623A61	$3.87
½″	60	7623A62	5.30
¾″	60	7623A63	7.92
1″	60	7623A64	10.58
2″	60	7623A66	21.00
Double Reinforced			
¾″	55	7623A71	14.24
1″	55	7623A72	18.82
2″	55	7623A73	37.33
3″	55	7623A74	47.94

Double-Reinforced Pad (2″×6″) 7623A19 Pkg. of 5 $10.99

High Strength—Clear

Tape is 3M #898. Fiberglass filaments run along the length, yet you can see through it to read messages on cartons. It is 0.007″ thick and meets ASTM D5330 Type II requirements.

Wd.	Lg., yds.		Each
½″	60	7686A11	$12.12
¾″	60	7686A12	17.24
1″	60	7686A13	20.97
1½″	60	7686A14	31.58
2″	60	7686A15	42.10
3″	60	7686A16	53.87

Message Packaging Tape



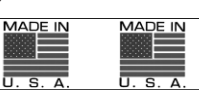



Label and seal packages in one step. Tape is 0.002″ thick and made of polypropylene with synthetic rubber adhesive. For dispensers, see page 3485.

Caution! and **Made In U.S.A.** are white with red and blue lettering.
Fragile is white with red lettering.

	Wd.		55-yd. Rolls 1-35	55-yd. Rolls 36-Up
Caution!	2″	19545T11	$4.00	$3.60
Made In U.S.A.	2″	19545T13	4.00	3.60
Fragile	2″	19545T12	4.00	3.60

Strapping and Bundling Tape

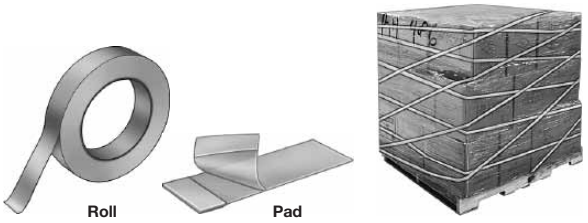

Band and bundle loads with this polypropylene film tape that's as strong as filament-reinforced tape, yet stretches when loads shift. Temperature range is 32° to 150°F.

Standard Duty—Has acrylic adhesive and is 0.003″ thick. Color is ivory. *Standard duty pad* has the same thickness as standard duty tape, but in a format similar to a self-stick note pad. Adhesive is synthetic rubber. Color is clear. 25 strips per pad.

Heavy Duty—High-tack rubber adhesive makes it good for holding and securing large, heavy items that may shift during transport. Tape is 0.005″ thick. Color is ivory.

Wd.	Lg., yds.			
Standard Duty				
1/2″	60	7637A11		$2.42
3/4″	60	7637A12		3.62
2″	60	7637A14		9.65
Standard Duty Pad (2″×6″)		7637A95	Pkg. of 5	$6.33
Heavy Duty				
1/2″	60	7637A31		4.27
1″	60	7637A33		8.91
2″	60	7637A34		18.76

3M Scotch Tape

A traditional choice for mending, holding, and splicing. Tape is clear and 0.002″ thick. For dispensers, see pages 3485-3487.

#600—Has acrylic adhesive for sealing as well as light duty packaging applications. It is treated for easy release and is moisture resistant.

#610 Cellophane—Has rubber adhesive for better holding properties than #600.

#810 Magic—Has acrylic adhesive that becomes as clear as glass upon application. The ink-receptive surface allows you to write on it.

Wd.	Lg., yds.	Spool ID		
#600				
1/2″	36	1″	7772A14	$1.96
1/2″	72	3″	7772A23	3.49
3/4″	36	1″	7772A16	2.65
3/4″	72	3″	7772A24	5.03
1″	72	3″	7772A25	6.70
#610 Cellophane				
1/2″	72	3″	7588A11	9.13
3/4″	72	3″	7588A13	13.30
1″	72	3″	7588A15	17.41
#810 Magic				
1/2″	36	1″	75995A11	2.33
1/2″	72	3″	75995A13	4.21
3/4″	36	1″	75995A15	3.03
3/4″	72	3″	75995A17	5.76

Super-Thin Electrical Tape

Shield and insulate electrical connections with tape that's only 0.0025″ thick, yet durable, conformable, and abrasion resistant. Tape consists of 0.001″ thick electrical-grade polyester film with 0.0015″ thick adhesive. UL listed.

General Purpose—Noncorrosive with better adhesion than solvent-resistant tape. Adhesive is rubber. Color is yellow and temperature range is 0° to 325° F.

Solvent Resistant—Also resists oil. Adhesive is acrylic. Color is white and temperature range is –20° to 325° F.

Wd.	Lg., yds.	General Purpose		Solvent Resistant	
1/4″	72	77075A21	$7.68	77075A31	$4.19
1/2″	72	77075A22	15.58	77075A32	7.92
3/4″	72	77075A23	23.33	77075A33	11.92
1″	72	77075A24	31.10	77075A34	16.63
2″	72	77075A25	57.54	77075A35	29.04

Poly-Bag Sealing Tape and Dispensers

Let this tape and dispenser seal your bagged parts just like supermarket produce. Tightly twist the end of the bag and insert into the dispenser. A bag-end trimmer gives you consistent results. Tape is 0.002″ thick and made of UPVC (unplasticized polyvinyl chloride) with rubber adhesive. Maximum temperature is 170°F.



Dispenser with Tape (Each Sold Separately)

Tape

Wd.	Available Colors		180-yd. Rolls 1-23	180-yd. Rolls 24-Up
3/8″	Blue, Green, Red, White, Yellow	2203T2	$5.43	$3.74

Dispensers

	Max. Tape Wd.	For Spool ID	Max. Tape Roll Dia.		
Dispenser	1/2″	3″	6 1/2″	2203T7	$22.35
Replacement Inside Blade Kit				2203T21	7.00
Replacement Trimmer Blade				2203T12	4.00

Label Protection Tape and Dispensers

Protect labels from moisture, oil, solvents, alkalies, and most acids. Tape is 0.002″ thick and made of clear UPVC (unplasticized polyvinyl chloride) with rubber adhesive. Temperature range is 15° to 210°F.

Dispensers can also be used with packaging tape. Do not use with duct tape.



Dispenser with Tape (Each Sold Separately)

Tape

Wd.	Lg., yds.		
2″	72	76295A22	$6.32
3″	72	76295A24	12.62
4″	72	76295A26	15.42
5″	72	76295A28	23.86
6″	72	76295A29	28.66

Dispensers

Max. Tape Wd.	For Spool ID	Max. Tape Roll Dia.	Dispensers		Repl. Blades	
4 1/4″	3″	6 1/2″	75765A18	$24.10	75765A24	$7.37
6″	3″	5 3/4″	75765A22	31.30	75765A25	9.88

Liquid Electrical Tape

Apply this liquid for a skin-tight protective coating that insulates and resists moisture, acids, and corrosion. Adheres to metal, plastic, vinyl, rubber, and composite surfaces.

Moisture and Crack Resistant—Use as a seal on plastic tape. Liquid is made of synthetic rubber. Allow 20 minutes between coats. Reaches full strength in 24 hours. Temperature range is –30° to 200°F. Top has an applicator brush.

High Temperature—Use this vinyl liquid on electrical connections and terminals. It dries to the touch in approximately 10 minutes and reaches full strength in 24 hours. Temperature range is –50° to 250°F. Top has an applicator brush.

Spray On—Use this rubber-based liquid on electrical connections and terminals. Allow 20 minutes between coats. Reaches full strength in 24 hours. Temperature range is –30° to 200°F.



High Temperature

Size	Available Colors		
Moisture and Crack Resistant			
4-oz. Brush-Top Can	Black, Red	76425A51	$7.89
High Temperature			
4-oz. Brush-Top Can	Black, Clear, Green, Red, White	76425A22	13.44
32-oz. Brush-Top Can	Black, Clear, Green, Red, White	76425A23	60.01
Spray On			
6-oz. Aerosol	Black	1992A14	9.20

3M Scotch Brand Electrical Tape

Rolls



Hold and insulate wire and cable splices. Tape is rated for up to 600 volts, unless noted.

Super #33+ General Duty—A super-stretchy tape that easily conforms to irregular surfaces and provides corrosion protection and flame retardance, plus resists abrasion, chemicals, and UV rays. Tape is 0.007″ thick vinyl. Maximum temperature is 220°F. UL listed and CSA certified.

#35 Choose-a-Color General Duty—Use for identification to keep track of circuits, piping systems, motor leads, and splices. Tape is 0.007″ thick vinyl. Maximum temperature is 220°F. UL listed and CSA certified.

Super #88 Heavy Duty—Tape is 0.0085″ thick vinyl, making it tougher than general duty tape for corrosion protection and flame retardance, plus resistance to abrasion, chemicals, and UV rays. It also remains conformable down to 0°F. Maximum temperature is 220°F. UL listed, CSA certified, and meets MIL-I-24391C.

#22 Ultra Heavy Duty—Extra thickness provides good electrical insulation and mechanical strength. Tape is 0.01″ thick vinyl. Maximum temperature is 175°F. UL listed and CSA certified.

#23 and **#130C Self-Fusing Splicing—**Highly conformable, EPR-based (ethylene propylene rubber) tape can be used for splices up to 69,000 volts. Tape is 0.03″ thick and temperature range is 0° to 190°F. #23 has a peel-off liner.

#27 and **#69 High-Temperature Corrosion Resistant—**Corrosion and puncture resistant glass-cloth tape that won't shrink, rot, or burn. The adhesive becomes stronger at high temperatures. Use indoors only. Tape is 0.007″ thick and not rated for voltage.

#27 provides heat-stable insulation for "hot spot" applications such as furnace and oven controls, and motor leads. Temperature range is –40° to 265°F.

#69 reinforces insulation in heavy-load and high-heat applications. Temperature range is –40° to 390°F. Meets MIL-I-19166C requirements.

#70 High-Temperature Self Fusing—This arc-resistant tape has no adhesive; it fuses instantly to itself to protect cables. Made of 0.012″ thick silicone rubber with a peel-off liner. Not rated for voltage. Temperature range is 35° to 355°F.

#77 Fire Retardant Wrap—Also known as electric-arc proofing wrap, it expands in a fire to protect cables from flames and heat. It doesn't have an adhesive—use as cable wrap with #69 glass-cloth electrical tape (sold separately). Tape is 0.03″ thick and not rated for voltage. Temperature range is –40° to 220°F.

#2210, #2228, and **#2229 Insulating—**Also known as mastic tape. It is thicker than other tape for cushioning, insulating, and sealing out moisture and environmental contaminants in electrical connections. All have rubber-based adhesive and a peel-off liner.

#2210 is 0.09″ thick vinyl tape with excellent resistance to abrasion, chemicals, corrosion, and UV rays. Maximum temperature is 175°F.

#2228 is 0.065″ thick rubber tape suitable for use with cable, wire, and motor lead connections up to 1,000 volts and with bus bar connections up to 35,000 volts. Maximum temperature is 190°F.

#2229 sealing tape is 0.125″ thick and conformable to mold around irregular shapes. Maximum temperature is 190°F.

#2200 and **#2229 Insulating Pads—**Use to cover a large area. Pads are 0.125″ thick to cushion, insulate, and seal out moisture and environmental contaminants in electrical connections. All have a peel-off liner.

#2200 pads have excellent resistance to abrasion, chemicals, corrosion, and UV rays. Made of an all-weather grade PVC film with a rubber-based adhesive. Maximum temperature is 175°F.

#2229 pads are conformable to mold around irregular shapes and have a rubber-based adhesive. Maximum temperature is 190°F.

#2520 Puncture Resistant—This puncture- and cut-resistant cotton tape is coated with a high-grade electrical insulating varnish and can be used as insulation for bus bars, service drop connectors, and temporary splices. Tape is 0.008″ thick. Temperature range is 35° to 220°F.

Scotchfil Insulating Putty—Noncorrosive, electrical-grade putty in tape form that wraps, stretches, and molds around irregular shapes for insulation build-up. Putty is 0.125″ thick and has a peel-off liner. Temperature range is –40° to 175°F.

Scotch #	Wd.	Lg.	Color		
General Duty					
Super 33+	¾″	20 ft.	Black	76455A21	$2.20
Super 33+	¾″	66 ft.	Black	76455A22	5.65
Choose-a-Color General Duty—To Order: Please specify color.					
35	¾″	66 ft.	Blue, Brown, Gray, Green, Orange, Red, Violet, White, Yellow	76455A42	5.25
Heavy Duty					
Super 88	¾″	44 ft.	Black	76455A14	4.40
Super 88	¾″	66 ft.	Black	76455A26	6.35
Super 88	1½″	44 ft.	Black	76455A28	8.28
Ultra Heavy Duty					
22	¾″	108 ft.	Black	76455A16	13.87
Self-Fusing Splicing					
23	¾″	30 ft.	Black	76455A72	17.54
23	1″	30 ft.	Black	76455A71	21.65
23	1½″	30 ft.	Black	76455A73	33.03
23	2″	30 ft.	Black	76455A74	43.43
130C	¾″	30 ft.	Black	76455A18	15.96
130C	1″	30 ft.	Black	76455A65	19.91
High-Temperature Corrosion Resistant					
27	½″	66 ft.	White	76455A17	10.90
27	¾″	66 ft.	White	76455A19	16.18

Scotch #	Wd.	Lg.	Color		
High-Temperature Corrosion Resistant (Cont.)					
69	½″	66 ft.	White	76455A27	$13.78
69	¾″	66 ft.	White	76455A29	20.67
High-Temperature Self Fusing					
70	1″	30 ft.	Blue-Gray	76455A35	48.27
Fire-Retardant Wrap					
77	1½″	20 ft.	Black	77255A3	16.65
77	3″	20 ft.	Black	77255A4	30.90
Insulating					
2210	4″	10 ft.	Black	75735A66	64.55
2228	1″	10 ft.	Black	75735A71	16.61
2228	2″	10 ft.	Black	75735A65	31.70
2229	1″	10 ft.	Black	75735A72	12.21
Insulating Pads					
2200	3¼″	4½″	Black	75735A67	4.41
2200	4½″	6½″	Black	75735A68	6.91
2229	2½″	3¾″	Black	75735A73	2.35
2229	3¾″	6½″	Black	75735A74	5.01
Puncture Resistant					
2520	¾″	60 ft.	Yellow	76455A23	30.91
2520	1″	108 ft.	Yellow	76455A24	56.73
Insulating Putty					
Scotchfil	1½″	5 ft.	Black	75695A67	13.70

Multicolored Handy Packs



Packs include one roll of each color listed in the table. Tape is 0.007″ thick vinyl. Maximum temperature is 220°F. UL listed and CSA certified.

Scotch #	Wd.	Lg.	Colors		Pkg.
35	½″	20 ft.	Blue, Green, Red, White, Yellow	76455A96	$7.82
35	½″	20 ft.	Blue, Brown, Green, Orange, Red, Violet, White, Yellow	76455A95	15.68

Electrical Tape

Insulate wire and cable splices up to 600 volts. Tape is also great for harnessing wire and cable and as jacketing for cable splices and repairs. It is resistant to moisture, weather, abrasion, chemicals, and copper corrosion. Made of 0.007″ thick PVC with rubber adhesive. Temperature range is 35° to 175°F. UL listed.

Wd.	Lg., yds.	Available Colors		Roll 1-9	Roll 10-Up
¾″	20	Black	7619A11	$1.06	$0.95
¾″	22	Blue, Green, Orange, Red, White, Yellow	7619A19	1.38	1.25

Self-Fusing Tape



No need for adhesive, this tape fuses to itself for a permanent seal and stretches to fit virtually any form.

All Weather—Insulates and seals above and below ground, in hot and cold weather, and in wet and dry environments. Made of EPR (ethylene proplyene rubber), this tape fuses to itself within minutes and can't be unwrapped. Great for sealing wires, joints, pipes, and hose as well as for insulating battery terminals. It has a peel-off liner. Temperature range is –40° to 190° F.

High Temperature—Temperature range is –65° to 390° F for applications such as electrical coil insulation, splices, cable harnesses, masking applications, and bus bar insulation. It has a peel-off liner.

Standard tape meets MIL-A-A-59163 Type I requirements, except 1/4″ wide.

Easy-Wrap tape is thicker in the middle and tapers at the edges like a triangle, allowing each edge to overlap evenly for uniform application. Middle also has a ridge with a thin colored line that acts as a guide. Meets MIL-A-A-59163 Type II requirements.

Wd.	Lg., yds.	Thick.	Available Colors		
All Weather					
1″	10	0.020″	Black	7682A65	$22.53
1″	10	0.020″	White	7682A66	23.08
Standard High Temperature					
1/4″	12	0.010″	Black, Clear, Gray, Red	7643A61	9.42
1/2″	18	0.010″	Black, Clear, Gray, Red	7643A74	13.14
1″	10	0.012″	Black, Clear, Gray, Red	7643A79	10.52
1″	12	0.020″	Black, Clear, Gray, Red	7643A75	14.45
Easy-Wrap High Temperature					
1″	12	0.020″	Black, Clear, Gray, Red	7643A71	13.61
1 1/2″	12	0.030″	Black, Clear, Gray, Red	7643A72	25.97
2″	12	0.020″	Black, Clear, Gray, Red	7643A76	26.31
2″	12	0.030″	Black, Clear, Gray, Red	7643A73	30.16

Antistatic Wire and Cable Protection Tape

For high-temperature wrapping applications where static can be a problem, use this tape. It is flexible as well as chemical and UV resistant so it withstands harsh environments that normally wear out standard fiberglass cloth tape. Made of extra-strength aramid (comparable to Kevlar) cloth fused with antistatic PTFE. Tape consists of a 0.005″ thick backing with 0.002″ of silicone adhesive. Temperature range is –100° to 500° F. Color is black.

Wd.	5-yd. Rolls		18-yd. Rolls	
1/2″	3468A11	$18.28	3468A31	$38.90
1″	3468A12	36.59	3468A32	77.86
2″	3468A13	73.17	3468A33	155.68

High-Friction Black Cloth Tape

Also known as friction tape, this traditional black cotton electrician's tape provides an abrasion-resistant shield for wrapping low-voltage splices. The rubber adhesive applied to both sides works as a nonslip surface when used on tool handles. Tape is 0.015″ thick. Temperature range is 35° to 175° F.

Wd.		20-yd. Rolls 1-19	20-Up
3/4″	76465A1	$3.27	$2.94
1 1/2″	76465A5	6.42	5.68

High-Strength Fiberglass Cloth Tape



With good temperature and abrasion resistance, this conformable and flexible fiberglass tape is great for electrical insulating. Use as a protective wrap for wire and cables. Tape is 0.007″ thick and consists of 0.0045″ fiberglass cloth with 0.0025″ of adhesive. Color is white.

Solvent Resistant—Resists solvents and oils. Has an acrylic adhesive. Temperature range is –20° to 350° F.

Extreme Temperature—Withstands temperatures from –100° to 500° F. Has a silicone adhesive.

Wd.	Lg., yds.	Solvent Resistant		Extreme Temperature	
1/2″	18	7574A24	$13.74	7574A11	$11.68
1″	18	7574A25	27.52	7574A12	23.24
2″	18	7574A26	55.07	7574A13	46.60

EMI-Shielding Tape

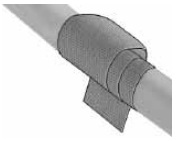

With high conformability, this tape is used for EMI (electromagnetic interference) shielding of cables and other electronic components.

Mesh with Conductive Adhesive

This tape is highly conductive throughout, including the acrylic adhesive. Made of a puncture-resistant polyester fabric woven with copper and nickel. It has a peel-off liner. Tape is 0.004″ thick and consists of a 0.003″ thick backing with 0.001″ adhesive. Temperature range is –5° to 250° F. Color is silver.

Wd.	Lg., ft.		
1″	12	3413A31	$45.45
1″	25	3413A21	72.14
1″	50	3413A11	129.85
2″	12	3413A32	87.05
2″	25	3413A22	138.18
2″	50	3413A12	248.72
4″	12	3413A33	170.22
4″	25	3413A23	270.19
4″	50	3413A13	486.34

High-Temperature Mesh

Made of a strip of metalized polyester, this tape is edged by a two-ply woven tinned copper mesh for strength and flexibility and has a temperature range of –40° to 345° F. Choose tape with a center strip made of either copper or aluminum metalized polyester. Tape has an acrylic adhesive and a paper release liner. When wrapping objects, tape should overlap half of its width to achieve a highly effective 4-ply shielding. Tape is 0.0250″ thick. Supplied on a plastic spool.

	Wd.	Lg., ft.		
Aluminum with Copper Mesh	1″	16	9270K11	$66.26
Copper with Copper Mesh	1″	16	9270K21	68.46

High-Temperature Foil

This flexible, soft aluminum tape has a temperature range of –40° to 325° F. The adhesive supplies electrical conductivity on surfaces that can't be soldered. Meets UL 510 requirements. It has a peel-off liner. Tape is 0.004″ thick and consists of a 0.002″ thick aluminum foil with 0.002″ acrylic adhesive. Color is silver.

Wd.	Lg., ft.		
2″	15	76925A5	$21.44
2″	108	76925A1	74.95

Tape Made with Kapton® Polyimide for Soldering and Splicing

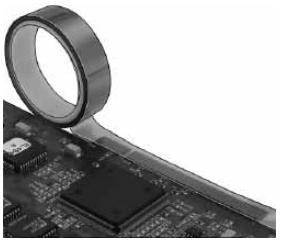

The Kapton® polyimide in this tape has high heat resistance, making the tape suitable for masking electrical components as well as wrapping and splicing wire and cable. Color is amber.

High Temperature—The 0.0015″ thick silicone adhesive on this tape performs in temperatures of –100° to 500° F. Complies with UL 510. Use for masking gold parts when wave soldering printed circuit boards.

0.0025″ thick tape has a 0.001″ thick film.

0.0035″ thick tape has a 0.002″ thick film.

General Purpose—Consists of 0.001″ thick film with 0.0015″ of acrylic adhesive. Temperature range is –20° to 350° F.

Discs, Rings, and **Squares—**Mask small areas and cover openings. Tape consists of 0.001″ thick film with 0.0015″ of silicone adhesive. Temperature range is –100° to 500° F.

Tape

All are supplied on a plastic spool.

Wd.	High Temperature 0.0025″ Thick		High Temperature 0.0035″ Thick		General Purpose 0.0025″ Thick	
1-yard Rolls						
4″	7648A821	$9.01	7648A841	$18.42	7648A861	$10.48
6″	7648A822	13.00	7648A842	27.75	7648A863	15.18
5-yard Rolls						
1/8″	7648A71	2.65	7648A72	5.12	7648A73	2.79
1/4″	7648A711	4.56	7648A721	9.25	7648A731	4.56
3/8″	7648A712	5.16	7648A722	10.38	7648A732	5.31
1/2″	7648A713	5.53	7648A723	11.53	7648A733	5.69
3/4″	7648A714	8.59	7648A724	17.28	7648A734	8.88
1″	7648A715	11.47	7648A725	23.00	7648A735	11.84
2″	7648A716	22.97	7648A726	45.97	7648A736	23.75
4″	7648A717	41.84	7648A727	91.97	7648A48	43.22
6″	7648A718	61.16	7648A728	137.94	7648A49	63.19
36-yard Rolls						
1/8″	7648A15	9.52	7648A25	18.37	7648A59	9.99
1/4″	7648A36	11.17	7648A46	25.66	7648A61	18.03
3/8″	7648A37	21.43	7648A47	33.03	7648A62	27.03
1/2″	7648A32	23.80	7648A42	42.77	7648A63	30.03
3/4″	7648A33	35.80	7648A43	64.17	7648A64	45.00
1″	7648A34	47.69	7648A44	85.63	7648A65	60.03
2″	7648A35	95.31	7648A45	171.14	7648A66	120.06
4″	7648A81	190.69	7648A91	342.34	7648A68	240.09
6″	7648A82	285.97	7648A92	513.51	7648A69	360.14

Discs



Small quantity comes on sheets. **Large quantity** comes on a roll.

Dia.	Small Qty. Pkg. Qty.		Small Qty. Pkg.	Large Qty. Pkg. Qty.		Large Qty. Pkg.
1/4″	100	77595A31	$6.80	1,000	77595A13	$23.74
3/8″	100	77595A32	6.83	1,000	77595A15	24.67
1/2″	100	77595A33	10.23	1,000	77595A17	31.26
3/4″	50	77595A34	10.28	500	77595A22	32.58
1″	50	77595A35	11.37	250	77595A26	33.97

Rings



Come on a roll.

OD	ID	Pkg. Qty.		Pkg.
1/2″	5/32″	45	77595A51	$8.50
1″	13/32″	25	77595A52	9.78
1 3/4″	7/8″	15	77595A53	13.00

Squares



Come on a roll.

Square Size	Pkg. Qty.		Pkg.
1/2″	60	77595A41	$9.16
3/4″	40	77595A42	9.69
1″	25	77595A43	10.24
2″	15	77595A44	13.11

Low-Static Polyimide Tape

Minimize electrostatic discharge (ESD) that can degrade circuit boards. A unique coating on this film limits ESD when film is unwound from the roll and when it is removed from printed circuit boards. Use as a masking tape in clean rooms where high ESD is a concern.

Tape is 0.0026″ thick and consists of 0.001″ thick film with 0.0016″ of silicone adhesive. Temperature range is –40° to 355° F. Supplied on a plastic spool. Color is amber.

Wd.	5-yd. Rolls		36-yd. Rolls	
1/4″	7639A61	$6.67	7639A71	$15.09
1/2″	7639A62	8.21	7639A72	28.76
3/4″	7639A63	9.09	7639A73	43.07
1″	7639A64	15.92	7639A74	55.09
2″	7639A65	26.84	7639A75	105.93

Heat-Transfer Insulating Tape Made with Kapton® Polyimide

Kapton® polyimide gives this tape excellent electrical isolation. One side of the film has thermally conductive acrylic adhesive. The other side has a silicone rubber coating over the Kapton® polyimide. Silicone provides a slick surface so assembly components won't stick to it. Use tape as a gap filler between components.

Tape is 0.0045″ thick and consists of 0.001″ of Kapton® polyimide film, 0.002″ of silicone rubber, and 0.0015″ of acrylic adhesive. Temperature range is –20° to 300° F. Color is pale green.

1-yd. rolls are wound without a spool, except 7171A21 has a cardboard spool. **18-yd. rolls** have a cardboard spool.

Wd.	1-yd. Rolls		18-yd. Rolls	
1/2″	7171A21	$6.90	7171A11	$60.92
1″	7171A22	13.18	7171A12	101.36
2″	7171A23	26.36	7171A13	202.78

Heat-Transfer Tape—

Adhesive on Both Sides

Create an effective thermal interface between electronic components—both sides of this aluminum film have a thermally conductive acrylic adhesive. Use to attach components to heat sinks and to metal chassis walls in place of screws and other mechanical fasteners; you won't need thermal grease or additional thermal compounds.

Tape is 0.009″ thick. Temperature range is –20° to 255° F. Supplied on a cardboard spool. Color is gray.

Wd.	4-yd. Rolls		33-yd. Rolls	
1″	6838A11	$155.36	6838A21	$913.89
2″	6838A12	225.12	6838A22	1,531.40

Conductive Copper Tape

Shield integrated circuit chips, cables, and motors with electrically conductive copper foil tape. It can be soldered and is suitable for EMI/RFI (electromagnetic interference/radio-frequency interference) shielding. Tape has a peel-off liner.

Temperature range is –40° to 325° F. Supplied on a cardboard spool. Meets UL 510.

With Conductive Adhesive—Use to modify printed circuit boards, repair security-alarm circuits, and prototype wiring-board layout and design. Tape consists of a 0.0014″ thick foil with 0.0021″ of acrylic adhesive.

With Nonconductive Adhesive—Protects electronic components from electrostatic discharge. Great for holding pieces during soldering because solder flows freely across the tape surface. Tape consists of a 0.0014″ thick foil with 0.0015″ of acrylic adhesive.

Wd.	Short Rolls Lg., yds.		Short Rolls	Long Rolls Lg., yds.		Long Rolls
With Conductive Adhesive						
1/4″	6	76555A711	$7.48	18	76555A641	$14.56
1/2″	6	76555A712	14.96	18	76555A642	26.93
3/4″	6	76555A713	19.24	18	76555A643	40.39
1″	6	76555A714	20.69	18	76555A644	46.38
2″	6	76555A715	39.90	18	76555A646	84.85
3″	6	76555A716	58.12	18	76555A647	120.38
6″	6	76555A719	100.65	—	—	—
With Nonconductive Adhesive						
1/4″	6	76555A721	5.40	36	76555A651	13.25
1/2″	6	76555A722	10.65	36	76555A648	26.17
3/4″	6	76555A723	13.84	36	76555A649	36.76
1″	6	76555A724	15.70	36	76555A652	42.93
2″	6	76555A725	30.51	36	76555A654	81.19
3″	6	76555A726	45.77	36	76555A655	112.67
6″	6	76555A73	83.68	—	—	—

Masking Tape

Tape is made of crepe paper.

General Purpose—Also use for bundling. All have rubber adhesive.

3M #234 Scotch—Slightly thicker than standard masking tape.

3M #232 Scotch Clean Release—Leaves less adhesive residue behind than Scotch #234.

3M #401+ Scotch for Curved Surfaces—Adheres well to contours.

High Temperature—Withstands heat up to 325°F.

For Long-Term Paint Jobs—Removes cleanly with no adhesive residue, even after exposure to direct sunlight for several days. All have acrylic adhesive.

Long-Life for Delicate Surfaces—Adheres to drywall and painted surfaces but won't damage surfaces when removed.

For Fine-Line Paint Jobs—Creates sharper paint lines than general purpose masking tape.



Standard tape is also known as frog tape. It works for 7 days outside and 21 days inside. Adhesive is rubber.

Smooth Backed—Has a smooth surface for even painting and a super-strong adhesive for better holding than other masking tape. Adhesive is acrylic, except 3M #250 Scotch smooth backed has rubber adhesive.

For Delicate Surfaces—Have a gentle acrylic adhesive that won't damage painted and finished surfaces.

For Trim—Made of paper with a 3/4" wide strip of acrylic adhesive along one edge. The other side has no adhesive so it won't stick to your drop cloth or other items.

Stretch Plastic—Stretches to form smooth curves for painting precise lines. It resists solvents and moisture. Adhesive is rubber.

Wd.	Lg., yds.	Thick.	Color		Each	Pkg. Qty.	Pkg.
General Purpose							
Standard							
1/8"	60	0.0055"	Off-White	76275A67	$0.98		
1/4"	60	0.0055"	Off-White	76275A65	1.10		
1/2"	60	0.0055"	Off-White	76275A113	1.16	72	$76.32
3/4"	60	0.0055"	Off-White	76275A123	2.16	48	88.32
1"	60	0.0055"	Off-White	76275A133	2.21	36	72.72
1 1/2"	60	0.0055"	Off-White	76275A143	4.30	24	90.96
2"	60	0.0055"	Off-White	76275A253	4.45	24	94.56
3"	60	0.0055"	Off-White	76275A163	7.94	16	108.32
4"	60	0.0055"	Off-White	76275A183	11.38	12	116.16
6"	60	0.0055"	Off-White	76275A21	25.05		
3M #234 Scotch							
1/2"	60	0.0059"	Off-White	7783A11	5.98		
3/4"	60	0.0059"	Off-White	7783A12	7.96		
1"	60	0.0059"	Off-White	7783A132	9.94	36	292.32
1 1/2"	60	0.0059"	Off-White	7783A14	14.92		
2"	60	0.0059"	Off-White	7783A152	19.90	24	389.76
3"	5	0.0059"	Off-White	7783A66	8.23		
3"	60	0.0059"	Off-White	7783A16	29.83		
4"	5	0.0059"	Off-White	7783A67	9.82		
4"	60	0.0059"	Off-White	7783A17	39.79		
3M #232 Scotch Clean Release							
1/4"	60	0.0063"	Off-White	76995A16	5.88		
3/8"	60	0.0063"	Off-White	76995A18	6.52		
1/2"	60	0.0063"	Off-White	76995A21	7.12		
3/4"	60	0.0063"	Off-White	76995A22	9.49		
1"	60	0.0063"	Off-White	76995A23	11.86		
1 1/2"	60	0.0063"	Off-White	76995A24	17.80		
2"	60	0.0063"	Off-White	76995A25	23.73		
3"	5	0.0063"	Off-White	76995A76	8.71		
3"	60	0.0063"	Off-White	76995A26	35.59		
3 3/4"	5	0.0063"	Off-White	76995A77	10.35		
3 3/4"	60	0.0063"	Off-White	76995A27	47.45		
3M #401+ Scotch for Curved Surfaces							
1/8"	60	0.0067"	Green	7771A11	2.67		
1/4"	60	0.0067"	Green	7771A12	3.35		
1/2"	60	0.0067"	Green	7771A13	3.35		
3/4"	60	0.0067"	Green	7771A14	5.02		
1"	60	0.0067"	Green	7771A152	6.69	24	144.96
1 1/2"	60	0.0067"	Green	7771A16	10.05		
2"	60	0.0067"	Green	7771A172	13.62	12	141.60
3"	60	0.0067"	Green	7771A18	20.08		
4"	5	0.0067"	Green	7771A69	9.02		
4"	60	0.0067"	Green	7771A19	26.78		
6"	5	0.0067"	Green	7771A71	13.57		
6"	60	0.0067"	Green	7771A21	38.63		
High Temperature							
1/2"	60	0.0067"	Tan	7627A21	3.26		
3/4"	60	0.0067"	Tan	7627A22	4.70		
1"	60	0.0067"	Tan	7627A232	6.19	36	200.88
1 1/2"	60	0.0067"	Tan	7627A24	9.28		
2"	60	0.0067"	Tan	7627A252	12.40	24	268.56
3"	60	0.0067"	Tan	7627A27	18.51		
For Long-Term Paint Jobs							
3M #2090 Scotch Long-Life Blue—7-Day Removal							
1/8"	60	0.0054"	Blue	7776A13	2.01		
1/4"	60	0.0054"	Blue	7776A14	3.00		
1/2"	60	0.0054"	Blue	7776A15	4.08		
3/4"	60	0.0054"	Blue	7776A212	4.64	48	$192.96
1"	60	0.0054"	Blue	7776A232	6.04	36	187.92
1 1/2"	60	0.0054"	Blue	7776A252	9.09	24	188.88
2"	60	0.0054"	Blue	7776A272	12.41	24	258.00
3"	60	0.0054"	Blue	7776A292	18.09	12	188.16
4"	60	0.0054"	Blue	7776A33	32.37		
6"	60	0.0054"	Blue	7776A36	48.54		
3M #2080 Scotch Long-Life Blue—60-Day Removal							
3/4"	60	0.0038"	Blue	7776A61	6.20		
1"	60	0.0038"	Blue	7776A62	8.64		
1 1/2"	60	0.0038"	Blue	7776A64	12.34		
2"	60	0.0038"	Blue	7776A662	16.45	12	177.00
Long-Life For Delicate Surfaces—60-Day Removal							
1"	60	0.0038"	Yellow	7776A73	6.51		
1 1/2"	60	0.0038"	Yellow	7776A75	9.78		
2"	60	0.0038"	Yellow	7776A77	13.04		
For Fine-Line Paint Jobs							
Standard							
1"	60	0.0053"	Green	7825A14	8.22		
1 1/2"	60	0.0053"	Green	7825A16	12.32		
2"	60	0.0053"	Green	7825A18	16.44		
Smooth-Backed							
1"	54	0.0045"	Blue	7641A54	7.64		
1 1/2"	54	0.0045"	Blue	7641A56	12.37		
2"	54	0.0045"	Blue	7641A581	15.04	12	162.12
3M #250 Scotch Smooth-Backed							
1"	60	0.0059"	Tan	7641A75	62.48		
For Delicate Surfaces							
1"	60	0.0057"	Yellow	7825A51	8.22		
1 1/2"	60	0.0057"	Yellow	7825A53	12.32		
2"	60	0.0057"	Yellow	7825A55	16.44		
Smooth-Backed For Delicate Surfaces							
1"	54	0.0045"	White	7641A43	6.41		
1 1/2"	54	0.0045"	White	7641A45	10.35		
2"	54	0.0045"	White	7641A47	12.54		
For Trim							
2"	16	0.0035"	Tan	7641A16	1.84		
2"	60	0.0035"	Tan	7641A19	4.18		
3"	60	0.0035"	Tan	7641A31	5.88		
6"	60	0.0035"	Tan	7641A32	9.93		
12"	60	0.0035"	Tan	7641A34	21.37		
Stretch Plastic							
1/16"	60	0.0047"	Green	76345A7	18.84		
1/8"	60	0.0047"	Green	76345A8	18.84		
1/4"	60	0.0047"	Green	76345A1	18.84		
3/8"	60	0.0047"	Green	76345A2	21.82		
1/2"	60	0.0047"	Green	76345A3	22.59		
3/4"	60	0.0047"	Green	76345A4	26.18		
1"	60	0.0047"	Green	76345A5	26.50		
2"	5	0.0047"	Green	76345A48	14.42		
2"	60	0.0047"	Green	76345A16	46.44		
4"	5	0.0047"	Green	76345A49	23.63		
4"	60	0.0047"	Green	76345A19	87.08		

Masking Tape Discs

Use these crepe paper discs for masking during spray painting, as well as for dust protection and temporary hole covering. They withstand temperatures up to 325°F. Discs are 0.0067" thick and have a rubber adhesive. Color is tan.

Dia.	Pkg. Qty.		Pkg.
1/8"	100	77235A61	$3.89
1/8"	2,500	77235A41	9.34
1/4"	100	77235A62	3.89
1/4"	2,500	77235A42	10.86
3/8"	100	77235A63	3.89
3/8"	2,500	77235A43	11.23
1/2"	100	77235A64	$3.89
1/2"	2,500	77235A44	11.66
3/4"	100	77235A65	5.48
3/4"	2,000	77235A46	16.03
1"	100	77235A66	5.48
1"	1,000	77235A48	13.88
1 1/2"	75	77235A67	$5.86
1 1/2"	1,000	77235A51	23.14
2"	75	77235A68	5.48
2"	250	77235A52	15.51
3"	50	77235A69	7.80
3"	250	77235A53	26.29
4"	50	77235A71	$9.59
4"	125	77235A54	22.98
5"	25	77235A72	9.75
5"	125	77235A55	32.57

Choose-a-Color Masking Tape

Choose a color that will stand out or blend in.

General Purpose—Made of crepe paper with a synthetic rubber adhesive. It's 0.005″ thick and has a temperature range of 50° to 130°F.

3M #471—Meets OSHA requirements for identifying hazardous areas, fire lanes, and safety equipment. Tape is made of vinyl with a synthetic rubber adhesive. It's 0.005″ thick and has a temperature range of 40° to 170°F.

Wd.	Available Colors		
General Purpose—60-yard Rolls			
½″	Black, Dark Blue, Dark Green, Gray, Light Blue, Light Green, Orange, Red, White, Yellow	76265A41	$3.38
¾″	Black, Dark Blue, Dark Green, Gray, Light Blue, Light Green, Orange, Red, White, Yellow	76265A42	4.45
1″	Black, Dark Blue, Dark Green, Gray, Light Blue, Light Green, Orange, Red, White, Yellow	76265A43	5.88
2″	Black, Dark Blue, Dark Green, Gray, Light Blue, Light Green, Orange, Red, White, Yellow	76265A44	11.85
3″	Black, Light Blue, Orange, Red, White	76265A46	15.26
3M #471—36-yard Rolls			
¼″	Black, Blue, Green, Orange, Red, White, Yellow	7779A31	11.81
½″	Black, Blue, Green, Orange, Red, White, Yellow	7779A22	16.20
¾″	Black, Blue, Green, Orange, Red, White, Yellow	7779A24	19.51
1″	Black, Blue, Green, Orange, Red, White, Yellow	7779A14	24.93
1½″	Blue	7779A15	35.44
2″	Black, Blue, Green, Orange, Red, White, Yellow	7779A16	47.86
3″	Black, Blue, Green, Orange, Red, White, Yellow	7779A26	70.87
4″	Black, Red, White, Yellow	7779A28	94.50

Masking Tape Applicators



Applicator works with all standard masking tape up to 2″ wide and can be used on trim, painted walls, woodwork, and glass. Use with tape that has a 3″ spool ID. Tape not included.

2470A32 ..... $15.91

Masking Tape for Gaps



Protect against drips and paint overspray—this thick foam tape fills gaps in door jambs and openings that flat masking tape can't. It also seals out dust and other contaminants. Tape has a rubber adhesive and is ¼″ thick. The width is perforated every ¾″. Color is blue.

Wd.	Lg., yds.		
5¼″	7	7647A1	$70.53

Clean-Release Masking Tape

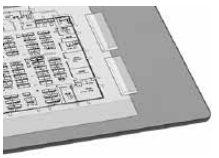

Also known as drafting tape, this tape temporarily holds materials without damaging them. Use to mount drawings, tracings, and blueprints. Made of off-white crepe paper with a rubber adhesive.

Wd.	Lg., yds.		
½″	60	76905A815	$4.45
¾″	60	76905A817	5.95
1″	60	76905A819	7.53

All-in-One Paint Masking Systems



Often used for masking vehicles, this system consists of a clear polyethylene film with an acrylic adhesive and a dispenser with cutting blade. The film acts like a plastic drop cloth, clinging to the surface to seal off the covered area. It's antistatic and lint-free. Film is 0.001″ thick.

Wd.	Lg., yds.	Masking Systems		Film Refills	
21″	38	76705A65	$20.42	76705A66	$15.12
43″	38	76705A67	35.84	76705A68	29.24
72″	38	76705A71	42.42	76705A72	35.28

Light-Blocking Tape



Black Tape

Black Tape—Made of pinhole-free crepe paper to seal out light. Often used in photoprocessing labs. Tape is 0.006″ thick with a rubber adhesive. Temperature range is 45° to 100°F.

3M #616 Lithographer's Tape—Also known as Ruby Red lithographer's tape. It blocks out light that can affect photo-sensitive film and plates, yet it's translucent so work underneath is visible. Tape is 0.0024″ thick and has a rubber adhesive.

Wd.	Lg., yds.		
Black Tape			
2″	60	6998A16	$33.00
3M #616 Lithographer's Tape			
¼″	72	7691A72	10.55
½″	72	7691A74	17.56
1″	72	7691A76	30.34
2″	72	7691A78	60.64

Plastic Masking Tape for High Temperatures

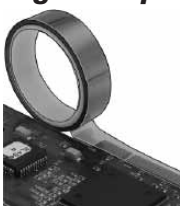

Use for high-temperature masking jobs such as powder-coating and masking circuit boards. Adhesive is silicone. Tape and discs resist corrosive chemicals and remove without leaving residue. They also resist tearing and breaking. All are 0.003″ thick. Temperature range is –40° to 265°F; can withstand temperatures up to 400°F for 20 minutes. Color is green.

Wd.	Tape 18-yd. Rolls		Tape 72-yd. Rolls	
⅜″	7630A45	$2.90	7630A25	$5.00
½″	7630A41	3.32	7630A21	5.73
¾″	7630A44	4.96	7630A24	8.56
1″	7630A42	6.61	7630A22	11.40
1½″	7630A46	9.93	7630A26	17.12
2″	7630A43	13.24	7630A23	22.83
4″	7630A47	26.46	7630A27	45.62

Dia.	Discs Pkg. Qty.		Pkg.
⅜″	250	7787A23	$10.27
½″	250	7787A24	11.03
⅝″	250	7787A25	12.49
¾″	250	7787A26	13.24
⅞″	250	7787A27	13.95
1″	100	7787A28	9.54
1½″	100	7787A29	13.24
2″	50	7787A31	8.38
4″	25	7787A33	13.32

Plastic Masking Tape for Plating

Made of vinyl to resist chemicals, this tape won't contaminate plating baths. Color is yellow.

Nonadhesive adheres to itself for a leakproof bond. Temperature range is 15° to 150°F. Tape is 0.004″ thick.

Rubber adhesive works well as a straight-edge mask for anodizing and plating. Temp. range is 15° to 175°F. Tape is 0.007″ thick.

Wd.	Nonadhesive Lg., yds.			Rubber Adhesive Lg., yds.		
1″	153	76095A125	$15.15	22	76095A137	$7.83
2″	153	76095A126	30.19	22	76095A138	15.57

Masking Tape for Blasting and Plasma Spraying

The combination of a silicone rubber/glass-cloth film and a silicone adhesive gives this tape high abrasion resistance with a temperature range from –100° to 500°F. It's tough enough to use during powder-coating, grit blasting, and plasma spraying. Tape is 0.011″ thick and has a yellow liner. Color is white.

Wd.	5-yd. Rolls		36-yd. Rolls	
½″	7591A61	$5.62	7591A41	$21.61
1″	7591A63	11.24	7591A43	43.23
2″	7591A65	20.99	7591A45	80.74

Liquid Masking Tape



Brush on this liquid to cover areas that you don't want painted—it's especially useful for small surfaces and irregular shapes. To remove, wash or peel off. Not for use with water-based paints. Comes in a 1-oz. bottle. Color is blue.

7216A1 ..... $4.95

Chemical-Resistant Surface-Protection Tape

Made of Surlyn film, this tape resists breaking down even in the harshest chemical environments. It is conformable, abrasion resistant, and heat sealable for use as an invisible protective barrier. Tape is 0.012″ thick. It has acrylic adhesive and a liner. Temperature range is –40° to 180° F. Color is clear.

Wd.	Lg., yds.		
1″	36	7622A41	$27.71
3″	36	7622A42	80.06

Easy-Tear Surface-Protection Tape

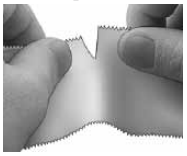

A serrated edge makes this tape easy to tear, even when wearing gloves. Made of polyethylene with a rubber adhesive. Tape is waterproof, conformable, and 0.0075″ thick. Temperature range is 35° to 160° F.

Wd.	Lg., yds.	Color		
2″	60	Black	7566A33	$9.53
2″	60	Red	7566A34	9.53
2″	60	Silver	7566A31	9.53
2″	60	White	7566A32	9.53

Clean-Release Surface-Protection Tape



Tape removes cleanly and leaves no residue. Color is clear.

General Purpose—This polyethylene tape temporarily protects highly polished surfaces from scratching and marring. Use on metals, plastics, and glass. Tape is 0.003″ thick and has an acrylic adhesive. Temperature range is 40° to 90° F.

Heat Resistant—Made of embossed polypropylene and often used to protect screen-printed graphics during high-temperature manufacturing processes. Effective at temperatures from –40° to 300° F, it's 0.004″ thick and has a silicone adhesive.

Wd.	Lg., yds.		
General Purpose			
1″	330	6092A14	$15.90
2″	330	6092A16	28.18
6″	330	6092A24	84.56
12″	330	6092A34	151.56
Heat Resistant			
2″	36	7572A16	16.02
3″	36	7572A19	24.00

Super-Tough Surface-Protection Tape

Made of acetal for toughness and abrasion resistance, this heavy duty tape also resists chemicals. Tape has 0.002″ thick acrylic adhesive and a liner. The liner is not included in the tape thickness. Maximum temperature is 180° F. Color is clear.

Thick.	Lg., yds.	1″ Wide		2″ Wide	
0.005″	5	3402A14	$17.07	3402A15	$34.11
0.007″	5	3402A24	22.45	3402A25	44.88
0.012″	5	3402A34	37.40	3402A35	74.81
0.022″	5	3402A44	69.68	3402A45	138.09

3M Scotchrap #51 Corrosion-Protection Tape



Providing all-weather corrosion protection, this tape is resistant to salt water, acids, alkalies, and UV rays. It is also impact and abrasion resistant. The high-tack rubber adhesive adheres to piping and electrical conduit above and below ground.

Made of 0.020″ thick black vinyl. Temperature range is –55° to 175° F. Meets Fed. Spec. L-T-1512A, Type 2 for corrosion protection.

Wd.	Lg., yds.		
1″	33	7621A13	$14.97
2″	33	7621A11	29.77
4″	33	7621A17	60.09

Abrasion-Resistant Surface-Protection Tape

Protect surfaces from chipping, scratching, and abrasion with this strong, conformable tape. Designed primarily for indoor use, it will adhere to most metal and plastic surfaces. Made of polyurethane with an acrylic adhesive and a liner. Tape is 0.009″ thick. Temperature range is –40° to 250° F. Color is black.

Wd.	Lg., yds.		
1″	18	7571A1	$27.71
3″	18	7571A2	83.22

Moisture-Resistant Surface-Protection Tape



Designed as a moisture seal for floor joints in wet areas such as galleys or lavatories, this tape works well in harsh, wet environments. A tough polyurethane backing with a urethane adhesive makes it moisture and leak resistant as well as flame retardant. Tape is 0.009″ thick. Temperature range is –65° to 300° F. Color is clear.

Wd.	Lg., yds.		
1½″	36	7350A3	$89.42
2″	36	7350A4	106.04
3″	36	7350A5	158.98
4″	36	7350A6	211.96
6″	36	7350A8	286.12

UV-Resistant Surface-Protection Tape

Temporarily protect surfaces exposed to sunlight during installation, manufacturing, storage, and transit. Use this tape outdoors or inside on glass and smooth metals such as polished aluminum, stainless steel, painted metals, and laminates. Made of polyethylene with a low-tack acrylic adhesive. Tape is 0.002″ thick and can remain on for up to six months. Temperature range is 40° to 90° F. Color is clear.

Wd.	Lg., yds.		
1″	200	6317A13	$10.40
2″	200	6317A15	20.78
4″	200	6317A18	38.20
6″	200	6317A22	62.29
12″	200	6317A28	119.02

Super-Thin Surface-Protection Tape

Only 0.002″ thick, yet this 3M #850 polyester tape is strong and chemical resistant. Adhesive is acrylic. Temperature range is –60° to 300° F.
Silver metalized is for decorative edging, striping, and die cutting.
Solid red is for splicing film, reinforcing film edges, building up low areas on cylinders and rubber plates, and marking defects.

Wd.	Lg., yds.	Silver Metalized		Solid Red	
¼″	5	75895A21	$4.57		
¼″	72	75895A681	21.68		
½″	5	75895A22	6.11	75895A26	$6.87
½″	72	75895A661	35.21	75895A671	28.65
1″	5	75895A23	12.16	75895A27	12.32
1″	72	75895A663	52.92	75895A673	54.83
3″	5	75895A24	36.50	75895A28	36.50
3″	72	75895A683	158.70	75895A685	172.59

Optically Clear Tape Made with Teflon® FEP

Optical clarity is coupled with chemical and temperature resistance in this protective tape. Use for covering bar code sensors and delicate printed surfaces. It also can be used as a cable wrap and as primary insulation on motors and coils.

Tape is 0.0035″ thick and consists of a 0.002″ thick film with 0.0015″ silicone adhesive. Temperature range is –100° to 400° F.

Wd.	5-yd. Rolls		36-yd. Rolls	
½″			7562A11	$52.50
¾″			7562A12	78.70
1″	7562A17	$27.29	7562A13	104.97
1½″			7562A14	146.38
2″	7562A21	52.07	7562A15	200.28
8″	7562A18	169.32	7562A19	651.24

Protective-Overlay Tape

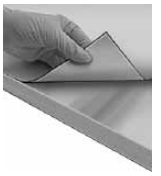

Put a protective, nonstick covering that's easy to clean on virtually any surface. This all-purpose FEP overlay resists corrosive chemicals, moisture, and weather. Use it to line chutes and hoppers and to cover shelves in laboratories.

It has a peel-off liner and is made of a 0.001″ thick fluoropolymer film laminated to a 0.008″ thick vinyl film. It also has 0.001″ of acrylic adhesive, for a total thickness of 0.01″.

Temperature range is –20° to 200° F. Color is white.

Wd.	5-yd. Rolls		36-yd. Rolls	
1″	76485A81	$30.77	76485A21	$118.35
2″	76485A82	60.86	76485A22	234.06
4″	76485A83	111.55	76485A23	429.05
25″	76485A84	391.51		

Super-Slippery Tape Made with Teflon® PTFE



Tougher and more conformable than tape made with Kapton® polyimide, this tape provides a super-slick surface along with excellent resistance to electrical current. It works well as high-performance electrical and insulation tape and can also be used for masking and wrapping laminating rollers to prevent buildup. Color is gray.

Note: This is not pipe thread tape. For PTFE pipe thread tape, see page 3470.

High Temperature— Made with a silicone adhesive. *0.0035″ thick* tape has 0.002″ thick film. *0.0045″ thick* tape has 0.003″ thick film. *0.0115″ thick* tape has 0.01″ thick film. Temperature range is –100° to 500° F.

Extra Tough— Consists of a strong, thick layer of Teflon® PTFE backed with acrylic adhesive. *0.022″ thick* tape has 0.02″ thick film. *0.032″ thick* tape has 0.03″ thick film. *0.062″ thick* tape has 0.06″ thick film. Temperature range is 0° to 250° F.

High Bond— Slick Teflon® PTFE is backed with 3M #4941 VHB (very high bond) foam adhesive for strength, padding, and vibration resistance. Tape is 0.065″ thick and consists of 0.02″ film with 0.045″ acrylic adhesive. Temperature range is 0° to 200° F.

Discs, Rings, and **Squares—** All are 0.0035″ thick and consist of 0.002″ thick film with 0.0015″ silicone adhesive. Temperature range is –100° to 500° F.

Tape

Wd.	Lg., ft.	0.0035″ Thick		0.0045″ Thick		0.0115″ Thick	
High Temperature							
¼″	15	76475A31	$4.72	76475A41	$5.23	76475A51	$11.23
¼″	54	76475A11	11.48	76475A16	12.76	76475A17	31.90
½″	15	76475A32	8.60	76475A42	9.53	76475A52	20.45
½″	54	76475A12	20.92	76475A1	23.24	76475A5	58.10
¾″	15	76475A33	12.86	76475A43	14.26	76475A53	30.60
¾″	54	76475A13	31.29	76475A2	34.77	76475A6	86.93
1″	15	76475A34	17.15	76475A44	19.00	76475A54	40.79
1″	54	76475A14	41.72	76475A3	46.35	76475A7	115.88
2″	3	76475A68	10.84	76475A78	12.05	76475A87	29.66
2″	15	76475A35	34.29	76475A45	38.00	76475A55	81.56
2″	54	76475A15	83.41	76475A4	92.68	76475A8	231.70
3″	3	76475A69	16.26	76475A79	18.07	76475A88	44.48
3″	15	76475A36	51.43	76475A46	56.99	76475A56	122.31
3″	54	76475A21	125.09	76475A23	138.99	76475A25	347.48
4″	3	76475A71	21.69	76475A84	24.10	76475A89	59.32
4″	15	76475A37	68.58	76475A47	76.00	76475A57	163.12
4″	54	76475A22	166.82	76475A24	185.36	76475A26	463.40
6″	3	76475A72	30.62	76475A85	34.02	76475A9	83.74
6″	15	76475A38	96.83	76475A48	107.30	76475A58	230.30
6″	54	76475A27	235.53	76475A28	261.70	76475A29	654.25

Wd.	Lg., ft.	0.022″ Thick		0.032″ Thick		0.062″ Thick	
Extra Tough							
1″	3	76475A91	$33.91	76475A94	$37.68	76475A97	$86.66
1″	15	76475A61	84.78	76475A62	94.20	76475A63	216.66
2″	3	76475A92	67.81	76475A95	75.34	76475A98	173.28
2″	15	76475A65	169.51	76475A66	188.35	76475A67	376.70
6″	3	76475A93	162.73	76475A96	180.82	76475A99	415.88
6″	15	76475A81	406.84	76475A82	452.04	76475A83	904.08

Wd.	Lg., ft.	0.065″ Thick	
High Bond			
1″	1	76475A18	$18.14
1″	2	76475A49	29.93
1″	3	76475A59	38.09
1″	4	76475A64	45.35
2″	1	76475A19	35.82
2″	2	76475A73	59.10
2″	3	76475A75	75.22
2″	4	76475A77	89.55
3″	1	76475A39	47.52
3″	2	76475A74	78.41
3″	3	76475A76	99.80
3″	4	76475A86	118.81

Discs



Dia.	Pkg. Qty.		Pkg.
¼″	440	7801A31	$8.34
½″	130	7801A32	8.34
¾″	130	7801A33	10.77
1″	75	7801A34	11.45

Rings



OD	ID	Pkg. Qty.		Pkg.
½″	5/32″	45	7801A23	$7.84
1″	13/32″	25	7801A21	10.09
1¾″	⅞″	15	7801A22	12.76

Squares



Wd.	Lg.	Pkg. Qty.		Pkg.
½″	½″	60	7801A11	$8.02
¾″	¾″	40	7801A12	9.62
1″	1″	25	7801A13	10.28
2″	2″	15	7801A14	24.39

Ultra-Slippery Tape Made with Teflon® PTFE

Our most slippery tape, the slick surface allows items to glide smoothly over it. Often used for packaging and heat-sealing applications. Tape is 0.005″ thick and consists of 0.003″ film with 0.002″ adhesive. Color is gray.

General Purpose— Has an acrylic adhesive and temperature range of –40° to 350° F.

High Temperature— Has a silicone adhesive that withstands temperatures of –40° to 500° F.

Wd.	Lg., yds.	General Purpose		High Temperature	
¼″	5	6305A41	$4.88	6305A43	$10.44
¼″	18	6305A42	15.73	6305A44	25.03
½″	5	6305A11	8.42	6305A21	12.54
½″	18	6305A16	15.30	6305A26	24.38
¾″	5	6305A46	11.70	6305A47	17.41

Wd.	Lg., yds.	General Purpose		High Temperature	
1″	5	6305A12	$14.97	6305A22	$23.17
1″	18	6305A17	30.62	6305A27	48.77
2″	5	6305A13	29.94	6305A23	46.35
2″	18	6305A18	61.28	6305A28	97.55
3″	5	6305A48	41.57	6305A49	64.37

Conformable Slippery Tape Made with Teflon® PTFE

Use as a nonstick surface on packaging equipment and heat sealing machines, and as a lining on molds, guide rails, and chutes. It has more stretch and conforms better to uneven surfaces than standard PTFE tape. Also known as skived tape, it has a low-friction surface and high chemical resistance. Tape has a silicone adhesive and a temperature range of –40° to 500°F.

Note: This is not pipe thread tape. For PTFE pipe thread tape, see page 3470.

Standard—Tape includes a liner. *0.0045″ thick* tape has 0.003″ film and 0.0015″ adhesive. *0.0065″ thick* tape has 0.005″ film and 0.0015″ adhesive. *0.0115″ thick* tape has 0.01″ film and 0.0015″ adhesive. *1-yard rolls* are gray. *5-yard* and *18-yard rolls* are tan.

Weather Resistant—Tape is UV resistant. *0.006″ thick* tape has 0.003″ film and 0.003″ adhesive. *0.0065″ thick* tape has 0.005″ film and 0.0015″ adhesive. *0.0125″ thick* tape has 0.01″ film and 0.0025″ adhesive. Color is white. *5-yard rolls* include a liner.

Standard

Wd.	0.0045″ Thick		0.0065″ Thick		0.0115″ Thick	
1-yard Rolls						
2″	76025A815	$18.48	76025A825	$23.38	76025A835	$35.51
3½″	76025A816	32.35	76025A826	40.92	76025A836	62.14
4″	76025A817	36.96	76025A827	46.75	76025A837	71.00
6″	76025A818	55.48	76025A828	70.17	76025A838	106.57
10″	76025A819	92.39	76025A829	116.86	76025A839	177.48
5-yard Rolls						
½″	76025A711	6.94	76025A721	8.77	76025A731	13.34
¾″	76025A712	10.42	76025A722	13.16	76025A732	19.74
1″	76025A713	13.87	76025A723	17.52	76025A733	26.29
1½″	76025A714	20.81	76025A724	26.29	76025A734	39.43
2″	76025A715	27.76	76025A725	35.07	76025A735	52.60
3½″	76025A716	48.59	76025A726	61.38	76025A736	92.07
4″	76025A717	55.51	76025A727	70.12	76025A737	105.18
6″	76025A718	83.33	76025A728	105.26	76025A738	157.89
10″	76025A719	138.77	76025A729	175.29	76025A739	262.94
18-yard Rolls						
½″	76025A671	18.27	76025A691	23.39	76025A681	35.63
¾″	76025A672	27.41	76025A692	35.63	76025A682	53.45

Standard (Cont.)

Wd.	0.0045″ Thick		0.0065″ Thick		0.0115″ Thick	
18-yard Rolls (Cont.)						
1″	76025A673	$36.51	76025A693	$47.46	76025A683	$71.19
1½″	76025A811	54.77	76025A812	71.20	76025A813	106.80
2″	76025A675	73.06	76025A694	94.98	76025A685	142.47
3½″	76025A676	127.87	76025A695	166.23	76025A686	249.35
4″	76025A677	146.09	76025A696	189.92	76025A687	284.88
6″	76025A678	219.29	76025A697	285.08	76025A688	427.62
10″	76025A679	365.19	76025A698	474.74	76025A689	712.12

Weather Resistant

Wd.	0.006″ Thick		0.0065″ Thick		0.0125″ Thick	
1-yard Rolls						
1″	76025A322	$19.35	76025A327	$24.69	76025A333	$37.47
2″	76025A323	38.68	76025A328	49.37	76025A334	74.92
5-yard Rolls						
½″	76025A421	16.45	76025A426	21.06	76025A432	32.08
1″	76025A422	29.05	76025A427	37.18	76025A433	56.65
2″	76025A423	58.08	76025A428	74.34	76025A434	113.26

Wear-Resistant Slippery UHMW Tape



Provides a nonstick, low-friction surface similar to PTFE tape but with higher abrasion and impact resistance. Ideal for chutes, packaging lines, slides, and anywhere high-pressure sliding contact occurs. You can also use it between touching parts to eliminate squeaks and rattles. Tape consists of UHMW polyethylene film with acrylic adhesive. Color is translucent. Tape up to 0.012″ thick has a temperature range of 0° to 200°F and includes a liner. 0.022″ thick tape and thicker has a temperature range of 0° to 120°F.

Tape—Tape up to 0.022″ thick has 0.002″ adhesive. Tape 0.036″ and thicker has 0.005″ adhesive.

Discs, Rings, and **Squares—**Shapes are 0.012″ thick with 0.002″ acrylic adhesive and a liner.

Tape

Wd.	0.005″ Thick		0.007″ Thick		0.012″ Thick	
1-yard Rolls						
6″	76445A825	$10.69	76445A835	$13.98	76445A845	$21.39
12″	76445A828	18.65	76445A838	24.39	76445A858	37.30
5-yard Rolls						
½″	76445A721	2.80	76445A741	3.54	76445A761	5.39
¾″	76445A722	4.17	76445A742	5.27	76445A762	8.01
1″	76445A723	5.56	76445A743	7.03	76445A763	10.69
2″	76445A724	11.15	76445A744	14.08	76445A764	21.42
3″	76445A725	16.72	76445A745	21.12	76445A765	32.13
6″	76445A726	31.26	76445A746	39.48	76445A766	60.05
12″	76445A727	73.17	76445A747	90.39	76445A767	104.74
18-yard Rolls						
½″	76445A711	7.38	76445A21	9.45	76445A31	14.39
¾″	76445A712	10.97	76445A22	14.04	76445A32	21.39
1″	76445A713	14.64	76445A12	18.74	76445A14	28.55

Wd.	0.005″ Thick		0.007″ Thick		0.012″ Thick	
18-yard Rolls (Cont.)						
2″	76445A714	$29.34	76445A23	$37.56	76445A33	$57.21
3″	76445A715	44.01	76445A24	56.33	76445A34	85.82
6″	76445A716	82.26	76445A41	105.29	76445A42	160.41
12″	76445A717	143.48	76445A44	183.65	76445A48	279.79

Wd.	0.022″ Thick		0.036″ Thick		0.067″ Thick	
1-yard Rolls						
6″	76445A915	$14.00	76445A925	$17.01	76445A935	$49.70
12″	76445A919	42.06	76445A929	51.07	76445A939	149.39
5-yard Rolls						
½″	76445A911	7.01	76445A921	11.91	76445A931	24.89
1″	76445A771	21.26	76445A772	23.17	76445A773	40.39
2″	76445A774	42.44	76445A775	46.26	76445A776	80.64
6″	76445A781	127.49	76445A782	138.96	76445A783	242.23

Discs

Dia.	Pkg. Qty.		Pkg.
¼″	440	7802A21	$14.46
½″	130	7802A22	12.30
¾″	48	7802A23	9.96
1″	24	7802A24	11.39

Rings

OD	ID	Pkg. Qty.		Pkg.
½″	⅛″	45	7802A31	$8.80
1″	⅜″	25	7802A32	10.72
1¾″	⅞″	15	7802A33	13.90

Squares

Wd.	Lg.	Pkg. Qty.		Pkg.
½″	½″	60	7802A11	$10.67
¾″	¾″	40	7802A12	11.68
1″	1″	25	7802A13	12.54
2″	2″	15	7802A14	17.59

High-Bond, Wear-Resistant Slippery UHMW Tape

All the benefits of UHMW polyethylene tape, plus a high bond adhesive make this tape perfect for difficult-to-bond surfaces such as plastic, foam, metal, and powder-coated surfaces.

With High-Bond Adhesive—Adhesive is chemical-resistant acrylic. *0.012″ thick* tape has 0.01″ film and 0.002″ adhesive. *0.022″ thick* tape has 0.02″ film and 0.002″ adhesive. Temperature range is 0° to 180°F. Color is translucent.

With 3M #4941 VHB (Very High Bond) Foam Adhesive—Provides a super-strong bond along with the shock absorbance of foam. Tape is 0.07″ thick (0.02″ film and 0.05″ adhesive). Temperature range is –40° to 180°F. Color is gray.

With High-Bond Adhesive

Wd.	Lg., ft.	0.012″ Thick Roll		0.022″ Thick Roll	
½″	15	7344A14	$6.59	7344A24	$8.03
1″	15	7344A31	15.16	7344A41	16.66
2″	15	7344A32	30.31	7344A42	33.31
4″	15	7344A55	52.72	7344A56	64.11
6″	3	7344A81	19.77	7344A82	24.09
6″	15	7344A33	79.57	7344A43	87.44

With 3M #4941 VHB Foam Adhesive

Wd.	1-ft. Length		2-ft. Length	
1″	7344A72	$14.89	7344A75	$24.57
2″	7344A84	29.31	7344A85	48.36
3″	7344A92	43.74	7344A95	72.17
	3-ft. Length		**4-ft. Length**	
1″	7344A77	$31.26	7344A78	$37.22
2″	7344A86	61.56	7344A87	73.28
3″	7344A97	91.85	7344A93	109.35

Antistatic Slippery UHMW Tape

Use to create a slick, static-free surface for working on small items, as a wear-resistant covering for parts that require abrasion resistance, and to eliminate squeaks and rattles on machinery. Tape has 0.005″ thick rubber adhesive and a temperature range of 0° to 175° F. Color is black.

Thick.	Wd.	Lg., yds.		
0.010″	1″	5	7746A31	$14.07
0.015″	1″	5	7746A32	14.72
0.025″	1″	5	7746A33	21.08

Shock-Absorbing Slippery UHMW Tape



Cushion surfaces with this tough, wear-resistant foam-backed tape. It dampens noise and vibration in chutes, bins, and similar delivery systems. It also reduces friction in low-speed conveyors. The surface is easy to clean and resistant to tearing, gouging, and most chemicals.

Tape is 0.067″ thick (0.005″ UHMW polyethylene film laminated to 0.0605″ polyurethane foam and coated with 0.0015″ of acrylic adhesive). It comes with a liner and has a temperature range up to 200° F. Color is off-white.

Wd.	10-ft. Rolls		100-ft. Rolls	
1″	76635A8	$29.77	76635A651	$166.34

Super Wear-Resistant Slippery Tape

Often referred to as Rulon or bearing tape, this self-lubricating PTFE tape brings you more abrasion and wear resistance than regular PTFE tape. Use on bearing liners, chutes, and guide rails, and for applications requiring high temperatures and chemical resistance.

Tape is 0.010″ thick (0.008″ film with 0.002″ silicone adhesive). Temperature range is –100° to 500° F. Color is red.

Wd.	5-yd. Rolls		18-yd. Rolls	
½″	7800A11	$24.51	7800A21	$64.50
1″	7800A12	49.01	7800A22	128.97
2″	7800A14	98.06	7800A24	258.05

Ultra Wear-Resistant Slippery Tape

When you need excellent wear and friction properties, plus insulation and good chemical resistance, this PEEK-backed tape does the job. Use it for sliding bearing surfaces, abrasion-resistant wire wraps, and high-heat applications, as well as on hard surfaces such as steel, ceramic, and glass. Comes with a liner. Color is tan.

General purpose tape resists high humidity and chemicals. It has 0.002″ thick acrylic adhesive and a temperature range of –40° to 300° F.

Clean release tape leaves behind less adhesive residue than General-Purpose tape. It has 0.002″ thick silicone adhesive and a temperature range of –40° to 400° F.

Wd.	Lg., ft.	Thick.	General Purpose		Clean Release	
1″	9	0.004″	7263A21	$17.84	7263A81	$19.06
1″	9	0.007″	7263A22	29.74	7263A82	31.76
1″	9	0.012″	7263A23	46.10	7263A83	49.23
2″	1	0.004″	7263A61	5.34	7263A91	5.60
2″	1	0.007″	7263A62	8.90	7263A92	9.33
2″	1	0.012″	7263A63	13.80	7263A93	14.46

Dirt-Trapping Surface-Protection Tape



Minimize cleanup and protect surfaces. Dust, dirt, and paint overspray get trapped in the tape's polyester fibers. A low-tack adhesive backing makes it easy to apply and remove. Tape is 0.002″ thick. Not rated for temperature. Color is white.

Wd.	Lg., yds.		
1″	16	7922A2	$5.98
2″	16	7922A3	11.90
4″	16	7922A4	23.80
6″	16	7922A5	35.72
28″	16	7922A6	166.64

Wear-Resistant Fiberglass Tape Coated with Teflon® PTFE



Super-slick PTFE is reinforced with fiberglass for strength, durability, and resistance to tears, punctures, and abrasion. Tape withstands high temperatures and exposure to chemicals. Use as a release surface on heat sealers and blister forming equipment, as a slick lining on chutes and rails, and for mold protection.

For adhesive-backed PTFE-coated fiberglass sheets, see 5739T on page 3571.

Nonconductive—Does not conduct electrical current. It has 0.002″ thick silicone adhesive and a temperature range of –100° to 500° F. Color is tan.

Semiconductive—Resists static buildup and discharges minor amounts of surface static electricity. Comes with a liner. It has 0.002″ thick silicone adhesive and a temperature range of –100° to 500° F. Color is black.

Long Life—Fiberglass is laminated with PTFE for longer life and better conformability than Nonconductive and Semiconductive tapes. It has 0.002″ thick silicone adhesive and a temperature range of –100° to 550° F. Color is brown.

Wd.	5-yd. Rolls		18-yd. Rolls	
Nonconductive				
0.005″ Thick				
¼″	76495A51	$3.44	76495A12	$9.06
½″	76495A52	6.28	76495A14	16.52
¾″	76495A53	9.41	76495A16	24.77
1″	76495A54	12.53	76495A18	32.97
1½″	76495A55	18.81	76495A17	49.49
2″	76495A56	25.27	76495A19	66.50
3″	76495A57	35.56	76495A31	93.59
4″	76495A58	47.42	76495A32	124.80
6″	76495A59	71.12	76495A39	187.15
12″	76495A81	150.48	76495A82	396.00
0.007″ Thick				
¼″	76495A61	5.04	76495A22	13.26
½″	76495A62	9.14	76495A24	24.04
¾″	76495A63	13.73	76495A26	36.13
1″	76495A64	18.31	76495A28	48.18
1½″	76495A65	26.71	76495A27	70.29
2″	76495A66	34.66	76495A29	91.21
3″	76495A67	51.99	76495A33	136.82
4″	76495A68	67.47	76495A34	177.56
6″	76495A69	101.22	76495A41	266.38
12″	76495A84	221.60	76495A85	583.17
0.0115″ Thick				
½″	76495A71	14.74	76495A35	38.80
1″	76495A72	28.99	76495A36	76.30
1½″	76495A73	42.35	76495A37	111.44
2″	76495A74	51.22	76495A38	134.78
4″	76495A91	102.28	76495A92	292.23
Semiconductive				
0.005″ Thick				
1″	7649A61	19.82	7649A33	52.15
2″	7649A62	30.59	7649A42	80.49
3″	7649A63	45.87	7649A43	120.71
4″	7649A64	57.86	7649A51	152.27
0.007″ Thick				
1″	7649A71	29.59	7649A35	77.88
2″	7649A72	45.81	7649A44	120.55
3″	7649A73	66.57	7649A45	175.19
0.008″ Thick				
1″	7649A81	31.67	7649A36	83.35
2″	7649A82	48.47	7649A46	127.56
3″	7649A83	72.69	7649A47	191.29
0.012″ Thick				
1″	7649A91	49.10	7649A41	129.20
2″	7649A92	76.33	7649A48	200.87
3″	7649A93	114.53	7649A49	301.39
Long Life				
0.006″ Thick				
1″	7601A31	37.41	_____	____
2″	7601A41	74.07	_____	____
0.008″ Thick				
1″	7601A32	41.57	_____	____
2″	7601A42	82.30	_____	____
0.012″ Thick				
1″	7601A33	47.81	_____	____
2″	7601A43	93.82	_____	____

Slippery Nonadhesive Tape Made with Teflon® PTFE



Fiberglass is coated with slippery PTFE on one side and silicone that grips horizontal surfaces on the other. Use as a moveable work surface, release sheet, gasket, and diaphragm. Tape is 0.009″ thick. Temperature range is –100° to 500° F. Color is copper.

Wd.	Lg., ft.		
1″	3	7245A3	$12.66
2″	3	7245A4	22.06
4″	3	7245A6	40.79
6″	3	7245A8	61.76
12″	1	7245A9	43.72

Surface-Gripping Tape



Easy Release

Tape is coated with silicone to grip smooth surfaces and resist sticky substances such as ink. Also known as roller wrap, it's often used on rollers such as those found in the printing and textile industries. Adhesive is 0.003″ thick rubber.

High Grip—Has a smooth surface for maximum grip. Tape is 0.013″ thick.

Easy Release—Has a pebbled surface for moderate grip. Tape is 0.024″ thick.

High-Temperature Conformable—Withstands temperatures up to 265° F. Smooth and thinner than the other tapes, it conforms to surfaces better and adds less bulk. Tape is 0.008″ thick.

Wd.	Color	3-yd. Rolls		9-yd. Rolls	
High Grip					
¾″	Gray	76005A21	$56.49	76005A11	$112.98
1″	Gray	76005A22	70.84	76005A12	141.68
2″	Gray	76005A23	136.12	76005A13	302.48
Easy Release					
2″	Gray	76005A24	156.66	76005A14	313.33
High-Temperature Conformable					
¾″	Off-White	_____	____	7565A21	21.50
1″	Off-White	_____	____	7565A22	27.02
2″	Off-White	_____	____	7565A23	54.05

Heat-Shrink Tape



Wrap this tough, flexible tape around an object and heat. Tape will shrink and apply pressure to the object. When wrapping objects, tape should overlap half of its width. It starts to shrink at 150° F and shrinks lengthwise only. Tape is 0.002″ thick. Temperature range is 175° to 350° F. Color is clear.

Wd.	Lg., yds.		
¾″	100	6820A12	$13.40
1″	100	6820A13	17.86
1¼″	100	6820A14	22.34
1½″	100	6820A15	26.82
2″	100	6820A16	35.74
2½″	100	6820A17	44.68

Reflective Tape

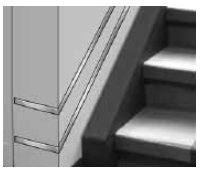

Mark aisles and stairs with a high-contrast reflective stripe. Tape also works with hand-held tachometers, and other applications that need a reflective surface.

Tape is 0.004″ thick and consists of a vinyl backing with acrylic adhesive and a liner. Maximum temperature 175° F. Color is silver.

Wd.	Lg., ft.		
½″	5	7178A12	$12.00
½″	50	7178A14	90.26
½″	150	7178A16	253.63
1″	5	7178A21	24.39
1″	25	7178A22	110.70
1½″	5	7178A23	36.58
1½″	25	7178A24	166.06
2″	5	7178A25	48.78
2″	25	7178A26	221.41

Clean Room Tape



Easy Remove



Wear Resistant

Tape releases minimal gaseous contaminants and leaves no adhesive residue so it's safe for sealing, masking, and hanging plastic sheeting in clean rooms. Spool is plastic. Temperature range is –10° to 175° F. Rolls come sealed in a plastic bag and are certified for clean rooms Class 10 and up.

Easy Remove—Tape has a rubber adhesive, so it's easy to remove and unaffected by moisture. Made of vinyl with adhesive, total tape thickness is 0.006″.

High Bond—Adheres better than Easy Remove tape. Made of polyethylene with synthetic rubber adhesive. Total tape thickness is 0.007″.

Conformable—Designed to mold around box corners. Made of polyethylene with acrylic adhesive, total tape thickness is 0.007″.

Wear Resistant—Striped with warning colors that won't fade, this abrasion- and chemical-resistant tape withstands high traffic and frequent cleaning. Made of vinyl with rubber adhesive. Total tape thickness is 0.01″.

Wd.	Lg., yds.	Available Colors		
Easy Remove				
¼″	36	Black, Blue, Clear, Red, White	76505A1	$10.13
½″	36	Black, Blue, Clear, Red, White	76505A2	10.36
¾″	36	Black, Blue, Clear, Red, White	76505A3	14.42
1″	36	Black, Blue, Clear, Red, White	76505A4	16.57
1½″	36	Black, Blue, Clear, Red, White	76505A5	23.87
2″	36	Black, Blue, Clear, Red, White	76505A6	26.51
3″	36	Black, Blue, Clear, Red, White	76505A7	37.12
4″	36	Black, Blue, Clear, Red, White	76505A8	45.09
High Bond				
¼″	36	Black, Blue, Clear, Red, White	7735A11	14.22
½″	36	Black, Blue, Clear, Red, White	7735A13	14.54
¾″	36	Black, Blue, Clear, Red, White	7735A15	15.11
1″	36	Black, Blue, Clear, Red, White	7735A17	17.29
1½″	36	Black, Blue, Clear, Red, White	7735A19	25.55
2″	36	Black, Blue, Clear, Red, White	7735A21	29.12
3″	36	Black, Blue, Clear, Red, White	7735A32	37.22
4″	36	Black, Blue, Clear, Red, White	7735A34	47.07
Conformable				
½″	36	Blue, Clear, Red, White	7735A44	15.83
¾″	36	Blue, Clear, Red, White	7735A47	18.00
1″	36	Blue, Clear, Red, White	7735A51	20.51
1¼″	36	Blue, Clear, Red, White	7735A52	22.79
1½″	36	Blue, Clear, Red, White	7735A53	24.96
2″	36	Blue, Clear, Red, White	7735A55	29.66
3″	36	Blue, Clear, Red, White	7735A58	39.27
Wear Resistant				
½″	18	Black/White, Black/Yellow, Red/White	7735A61	9.20
1″	18	Black/White, Black/Yellow, Red/White	7735A62	18.36
1½″	18	Black/White, Black/Yellow, Red/White	7735A63	22.09
2″	18	Black/White, Black/Yellow, Red/White	7735A64	25.04
3″	18	Black/White, Black/Yellow, Red/White	7735A65	37.64

Super-Soft Rattle-Reduction Tape

Also known as flocking tape, use this 0.029″ thick polyester and cotton tape to reduce squeaks and rattles between parts. Designed for the automobile industry, it's backed with 0.005″ thick acrylic adhesive that sticks well to slick plastic surfaces, foam, and fabric. Tape withstands temperatures up to 200° F. Color is black.

Wd.	Lg., yds.		
½″	5	7417A2	$5.93
1″	5	7417A3	9.55
2″	5	7417A4	15.87
3″	5	7417A5	22.15

Squeak-Reduction Tape

Quiet squeaky floor joists and reduce vibration. Made of thick foam with adhesive on one side and super-tough PET film on the other, it won't mold or mildew. Tape is 0.125″ thick. Temperature range is –20° to 160° F. Color is green.

Wd.	20-ft. Rolls		100-ft. Rolls	
1″	7970A12	$5.23	7970A11	$17.28
1 7/16″	7970A22	7.20	7970A21	24.43
2″	7970A28	9.73	7970A26	33.48
3″	7970A34	13.70	7970A32	48.38

Duct Tape



You'll get water resistance with excellent adhesion from this flexible, multipurpose tape. It has a shiny polyethylene coating and rubber adhesive, except for *conformable* and *easy-tear vinyl* tape, which have a matte vinyl coating, and *transparent* tape, which has an acrylic adhesive.

General Purpose—Use to secure fiberglass insulation, as a condensation barrier in refrigeration assemblies, and in short-term ductwork sealing. Tape is 0.01″ thick. Temperature range is 40° to 160° F.

Duct and Insulation Sealing—Thicker than our General Purpose tape; use for demanding HVAC applications. Tape is 0.012″ thick. Temperature range is 50° to 200° F.

Super Bond—Our thickest, strongest, stickiest duct tape. Bond to rough surfaces such as wood, plaster, stucco, brick, metal, and cement. Tape is 0.017″ thick and withstands temperatures up to 200° F.

Flame Retardant—Has flame-retardant adhesive and is 0.012″ thick with a temperature range of 40° to 200° F. Meets FAR (Federal Aviation Regulation) 25.853(a), though it is not intended for use in aircraft.

Nuclear Grade—Use in nuclear power plants to seal end caps on stainless steel pipes, hold labels and signs, and seal ductwork. Tape is 0.012″ thick. Temperature range is 50° to 200° F. Meets ANSI No. 45.2.2, ASME NQA-1, NRC (Nuclear Regulatory Commission) Guide 1.38.

Conformable (Gaffer's)—Tape is flexible, tough, and releases cleanly from surfaces. It's 0.012″ thick and has a temperature range of 40° to 200° F.

Easy-Tear Vinyl—Our thinnest duct tape; the embossed vinyl backing makes it easier to unwind and tear by hand. It leaves little residue behind, won't stick to itself during application. Tape is 0.007″ thick and withstands temperatures up to 200° F.

Long Life—Lasts up to a year without deterioration and removes cleanly—even after six months. Tape is 0.012″ thick and withstands temperatures up to 200° F.

Transparent—Makes repairs less obvious. Tape is UV resistant and easy to tear. Use it indoors and out to secure lightweight loads and for reinforcing, patching, splicing, and sealing. It's 0.009″ thick and withstands temperatures up to 170° F.

Economy Grade—Temperature range is 40° to 200° F. Tape is 0.008″ thick.

Handy Roll—Without a spool, rolls fit in your pocket so you can have tape on hand when you need it. Tape is 0.01″ thick and not rated for temperature.

Tape Pads—Make quick repairs with short strips of tape—no unwinding or tearing required. Each pad contains 20 strips of 0.009″ thick tape. Color is silver. Temperature range is 35° to 200° F.

Wd.	Lg., yds.	Available Colors		Each	Pkg. Qty.	
General Purpose						
1/2″	20	Black	76135A53	$3.40		
1/2″	20	Silver	76135A54	3.40		
1/2″	20	White	76135A52	3.40		
1″	60	Olive	76135A47	5.80		
1″	60	Silver	76135A49	5.80		
1″	60	White	76135A5	5.80		
1 1/2″	60	Black	76135A62	8.68		
1 1/2"	60	Silver	76135A44	8.68		
2″	20	Silver	76135A48	5.57		
2″	60	Black	76135A345	11.37	24	$203.52
2″	60	Blue	76135A335	11.37	24	203.52
2″	60	Brown	76135A38	11.37		
2″	60	Green	76135A36	11.37		
2″	60	Olive	76135A41	11.37		
2″	60	Red	76135A315	11.37	24	203.52
2″	60	Silver	76135A375	11.37	24	203.52
2″	60	White	76135A325	11.37	24	203.52
2″	60	Yellow	76135A355	11.37	24	203.52
2 1/2″	60	Black	76135A65	14.48		
2 1/2″	60	Silver	76135A66	14.48		
3″	60	Black	76135A455	16.10	16	192.00
3″	60	Olive	76135A46	16.10		
3″	60	Silver	76135A425	16.10	16	192.00
4″	60	Olive	76135A68	21.65		
4″	60	Silver	76135A435	21.65	12	193.80
6″	60	Olive	76135A69	34.39		
6″	60	Silver	76135A515	34.39	8	205.12
Duct and Insulation Sealing						
2″	60	Black	7612A6	15.59		
2″	60	Olive	7612A95	15.59		
2″	60	Silver	7612A711	15.59	24	310.80
3″	60	Silver	7612A8	23.90		
Super Bond						
1″	10	Black	7211A1	3.17		
1 7/8″	12	Black	7211A23	5.67		
1 7/8″	35	Black	7211A11	10.94		
Super Bond (Cont.)						
2 7/8″	30	Black	7211A36	$17.21		
Flame Retardant						
2″	60	Silver	76115A11	39.94		
2″	60	White	76115A22	39.94		
Nuclear Grade						
2″	60	Silver	76155A29	18.72		
Conformable (Gaffer's)						
1/2″	60	Black, Gray, White	7612A25	9.68		
1″	55	Black, Red, White	7612A2	11.71		
1 1/2″	55	Black	7612A15	17.57		
2″	10	Black, Gray, White	7612A51	9.13		
2″	49	Neon Green, Neon Orange, Neon Pink, Neon Yellow	7612A4	21.93		
2″	55	Black	7612A94	19.98		
2″	55	Brown, Dark Green, Red, White, Yellow	7612A97	19.98		
2″	55	Gray	7612A1	19.98		
3″	10	Black, Gray, White	7612A56	12.92		
3″	55	Dark Green, Gray	7612A21	31.94		
4″	55	Black, Gray, White	7612A27	46.84		
Easy-Tear Vinyl						
2″	50	Black, Blue, Green, Red, White, Yellow	7769A1	9.94		
2″	50	Gray	7769A13	9.94		
Long Life						
2″	25	Blue	7204A11	13.66		
2″	60	Black, Blue	7204A2	24.84		
Transparent						
1 7/8″	20	Clear	8532A21	9.48		
Economy Grade						
2″	60	Silver	7788A201	5.55	24	$106.56
Handy Roll						
2″	5	Blue, Red, Silver, White, Yellow	76135A9	2.83		
Tape Pad—3″ Lg. × 2″ Wd.			76135A81	5/Pkg.		$4.88
Tape Pad—6″ Lg. × 2″ Wd.			76135A84	5/Pkg.		9.33

Conformable Metalized Duct Tape



Looks like foil tape, but is more conformable and won't twist or curl. Use on flexible ducts and insulation. Tape consists of shiny polyethylene-coated cloth with rubber adhesive. It's 0.011″ thick, 2″ wide, and 60 yards long. Temperature range is 40° to 200° F. Color is silver.

7709A21 ..... $15.60

Metalized Plastic Insulation Tape



Join and seal seams on building insulation. Reinforced for extra strength, this metalized polypropylene/scrim (fiber)/kraft-laminated (FSK) tape sticks quickly at room temperature and also performs well at low temperatures. Tape is 3″ wide, 50 yards long, 0.0107″ thick, and has 0.0017″ acrylic adhesive. Temperature range is –40° to 175° F. Color is white.

7620A11 ..... $29.78

UL Printed Duct Tape



Tape is printed with UL 181B-FX for easy identification. Use it to seal flexible air ducts and connectors. Tape consists of 0.0015″ thick polypropylene with 0.0015″ acrylic adhesive. Temperature range is –35° to 260° F.

Wd.	Lg., yds.	Color		
2″	120	Black with Silver Print	7575A31	$11.57
2″	120	Silver with Red Print	7575A33	11.57
3″	120	Black with Silver Print	7575A32	17.34
3″	120	Silver with Red Print	7575A34	17.34

Insulation Duct Tape

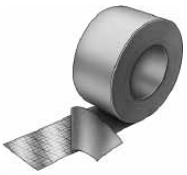

Also known as ASJ (all-service jacket) tape because it conforms to ASJ-faced fiberglass duct and pipe insulation. It also can be used as a vapor seal.

Tape has a fiber-reinforced foil/scrim (fiber)/kraft (FSK) backing and liner. Temperature range is 30° to 175° F. Color is white. 76755A67 has a synthetic rubber adhesive. 76755A65 and 76755A66 have an acrylic adhesive and are UL listed.

Wd.	Lg., yds.	Thick.		
3″	10	0.009″	76755A67	$8.73
3″	50	0.012″	76755A65	26.84
5″	50	0.012″	76755A66	44.71

Conformable Plastic Insulation Tape

Seal vinyl-faced fiberglass insulation joints and repair water heater blankets with this thin yet strong, shrink-resistant tape. It has a pebbly, embossed surface that matches the surface of insulation. Tape is 0.005″ thick with 0.0035″ acrylic adhesive, and withstands temperatures up to 175° F.

Wd.	Lg., yds.	Color		
3″	50	Black	77375A83	$20.06
3″	50	White	77375A82	20.06

Lead Foil Tape

Protect parts from radiation, x-rays, moisture, dust, and chemicals during electroplating and similar processes. This electrically conductive tape conforms well to curved surfaces. Temperature range is –30° to 225° F. Color is shiny silver.

With Liner—Tape in *5-yd. rolls* consist of 0.0047″ thick lead foil with 0.0021″ rubber adhesive. Tape in *36-yd. rolls* consist of a 0.005″ thick lead foil with 0.0015″ acrylic adhesive.

Without Liner—Tape consists of a 0.004″ thick lead foil with 0.0023″ rubber adhesive.

Wd.	5-yd. Rolls		36-yd. Rolls	
With Liner				
1/2″	76315A61	$13.90	76315A12	$43.07
3/4″	76315A62	17.94	76315A13	57.57
1″	76315A63	23.46	76315A14	72.08
2″	76315A64	44.28	76315A16	143.56
Without Liner				
1/2″	76315A51	12.67	76315A42	48.90
3/4″	76315A52	16.87	76315A43	67.65
1″	76315A53	21.11	76315A44	82.86
2″	76315A54	42.25	76315A46	165.70

Stainless Steel Foil Tape

Made from Type 304 stainless steel, this noncorrosive, nonstaining, and nonmagnetic tape bonds aggressively to metal. Use to patch and splice stainless steel in marine, food processing, and nuclear applications. Tape consists of 0.002″ thick foil, 0.002″ acrylic adhesive, and a liner. Temperature range is –30° to 250° F. Color is silver.

Wd.	3-yd. Rolls		18-yd. Rolls	
1″	76055A21	$10.24	76055A671	$34.13
2″	76055A22	20.47	76055A672	68.24
3″	76055A23	25.43	76055A673	84.76
8″	76055A24	56.06	76055A697	186.86
12″	76055A25	91.56	76055A698	261.60

Noise-Damping Foil Tape



Control the unwanted noise that comes from vibrating panels and support structures. This tape reduces vibration by converting it into a small amount of heat. Made of aluminum and a foam adhesive, it's 0.015″ thick and consists of a 0.01″ thick foil backing with 0.005″ adhesive. Temperature range is 35° to 140° F. Color is silver.

Wd.	Lg., yds.		
1″	5	6307A21	$17.64
2″	5	6307A22	44.09
2″	36	6307A11	157.46

Water-Soluble Tape

Temporarily hold or create dams in pipes to facilitate welding, then wash away with water or steam. Tape is 0.006″ thick with an acrylic adhesive that leaves no residue behind. Not rated for temperature. Color is white.

Wd.	Lg., yds.		
1″	100	7581A3	$48.33
2″	100	7581A5	90.00

Pipe Repair Tape



Repair broken and leaking pipes in minutes. When exposed to air, this resin-coated fiberglass tape becomes rock hard in about 30 minutes. To speed hardening, cover with water. Tape can be sanded and painted when dry.

Use on metal, PVC, rubber, fiberglass, copper, and plastic pipes. Tape retains fluid pressure on supply lines up to 150 psi. Maximum temperature is 600° F. Color is off-white.

Wd.	Lg., ft.		
2″	5	74635A65	$15.00
3″	9	74635A66	30.15
4″	15	74635A67	50.76

Tape for Protective Clothing



Fix tears and seal gloves, boots, and respirators to clothing with this chemical-resistant tape. It consists of a conformable film backing and rubber adhesive. Tape is 60 yards long and 2″ wide. Not rated for temperature. Color is yellow.

7846A1	$34.41	

Multipurpose Cloth Tape

Use for light duty tasks such as bundling wire, covering sharp edges, and protecting metal and glass surfaces. Tape is 0.011″ thick with 0.004″ rubber adhesive. Temperature range is 35° to 160° F. Color is white.

Wd.	Lg., yds.		
3/4″	60	76525A752	$8.57
1″	60	76525A754	10.65
2″	60	76525A756	21.37

Solvent-Resistant Cloth Tape

Provides excellent resistance to solvents, unwinds smoothly, and tears straight. Often used as blocking tape on silk screen frames, it's 0.012″ thick and consists of polyethylene-coated cloth with a rubber adhesive. Temperature range is 40° to 200° F. Color is white.

Wd.	Lg., yds.		
2″	60	76985A1	$19.24
3″	60	76985A2	28.77

Water-Resistant Cloth Tape

Flexible yet nonelastic, this long-lasting, conformable tape stays in place—even in damp conditions. Use for reinforcing and bundling. Tape is 15 yards long, 1 1/2″ wide, and 0.01″ thick. It consists of rayon fabric backed with zinc-oxide adhesive. Not rated for temperature. Color is tan.

7618A1	$18.25	

Foil Tape

Aluminum Foil Tape





Printed UL



Reinforced (FSK)

This flexible aluminum foil tape conforms to irregular and curved surfaces. Color is shiny silver.

General Purpose—Use for sealing air conditioning and refrigeration systems and for taping joints and seams on foil-jacketed insulation. Temperature range is 40° to 180° F. Tape has 0.002″ thick rubber adhesive. 2″-3″ wide tape meets UL 723. 4″ wide tape meets UL 25/50.

Economy—Able to withstand temperatures of –40° to 250° F; apply at –10° F to room temperature. Tape has 0.0015″ thick acrylic adhesive.

High Temperature—Withstands temperatures of –30° to 325° F; apply at –20° to 250° F. Use indoors and outdoors for masking, general sealing, metal patching, and creating moisture and dust barriers. Adhesive is acrylic. *0.003″ thick* tape and *0.006″ thick* tape have 0.001″ adhesive. *0.005″ thick* tape has 0.002″ adhesive and meets Fed. Spec. L-T-80B and SAE-AMS-T-23397.

Extreme Temperature—This tape functions in temperatures from –65° to 600° F; apply at 0° to 200° F. It also resists moisture and dust. Tape has 0.002″ thick silicone adhesive. Meets FAR (Federal Aviation Regulation) 25.853(a).

Printed UL—UL 181A-P and UL 181B-FX flexible duct standards are printed on this tape for easy identification. Tape has 0.002″ thick acrylic adhesive. Temperature range is –30° to 300° F.

Outdoor—Tape has butyl rubber adhesive to create a permanent seal against water and humidity. It can endure long-term UV exposure and resists flame spread and smoke. Use for repairing holes and leaks on gutters, downspouts, and roofing membranes. Adhesive is 0.009″ thick. Temperature range is 40° to 200° F. Meets UL 723.

Reinforced (FSK)—Also known as foil/scrim/kraft tape. Tape has a diamond-patterned aluminum foil/fiberglass scrim backing that resists tearing. It's well-suited for sealing, patching, and matching FSK duct. *0.006″ thick* tape has acrylic adhesive and a temperature range of –25° to 175° F. *0.007″ thick* tape has rubber adhesive and a temperature range of 32° to 175° F.

Tape

Wd.	Thick.	Liner	Short Rolls: Lg., yds.			Long Rolls: Lg., yds.		
General Purpose								
2″	0.004″	Yes	—		—	50	76145A61	$14.42
2½″	0.004″	Yes	—		—	50	76145A35	18.13
3″	0.004″	Yes	—		—	50	76145A62	21.64
4″	0.004″	Yes	—		—	50	76145A24	39.94
Economy								
2″	0.003″	Yes	—		—	50	7616A21	10.25
2½″	0.003″	Yes	—		—	50	7616A25	14.86
3″	0.003″	Yes	—		—	50	7616A31	15.32
4″	0.003″	Yes	—		—	50	7616A26	20.34
High Temperature								
1″	0.003″	No	5	7631A71	$1.71	60	7631A31	10.46
1″	0.005″	No	5	7631A81	2.35	60	7631A19	13.87
1″	0.006″	No	5	7631A91	3.63	60	7631A41	21.34
2″	0.003″	No	5	7631A72	3.41	60	7631A32	20.90
2″	0.005″	No	5	7631A82	4.69	60	7631A21	27.72
2″	0.006″	No	5	7631A92	7.25	60	7631A42	42.65
3″	0.003″	No	5	7631A73	5.12	60	7631A33	31.34
3″	0.005″	No	5	7631A83	7.04	60	7631A23	41.57
3″	0.006″	No	5	7631A93	10.87	60	7631A43	63.96

Wd.	Thick.	Liner	Short Rolls: Lg., yds.			Long Rolls: Lg., yds.		
High Temperature (Cont.)								
4″	0.003″	No	5	7631A34	$6.73	60	7631A94	$41.25
4″	0.005″	No	5	7631A84	9.26	60	7631A24	54.72
4″	0.006″	No	5	7631A44	14.31	60	7631A95	84.18
6″	0.003″	No	5	7631A61	9.40	60	7631A66	57.55
6″	0.005″	No	5	7631A62	12.92	60	7631A67	76.34
6″	0.006″	No	5	7631A63	19.96	60	7631A68	117.44
Extreme Temperature								
1″	0.004″	No	5	7594A8	17.42	60	7594A4	116.15
Printed UL								
2½″	0.004″	Yes	—		—	60	76145A33	24.68
3″	0.004″	Yes	—		—	60	76145A36	29.76
Outdoor								
2″	0.011″	Yes	11	7450A2	27.47	—		—
Reinforced (FSK)								
2″	0.006″	Yes	—		—	50	76145A41	12.75
2″	0.007″	Yes	—		—	50	76145A22	14.97
3″	0.006″	Yes	—		—	50	76145A42	19.12
3″	0.007″	Yes	10	76145A19	9.81	50	76145A34	22.95

Discs



Cover small spots and holes during paint stripping and electroplating, or use as a moisture and dust barrier. Discs have 0.0015″ thick acrylic adhesive. Temperature range is –30° to 325° F.

Dia.	Thick.	Pkg. Qty.		Pkg.
¼″	0.005″	100	77715A51	$8.62
¼″	0.005″	1,000	77715A33	24.48
½″	0.005″	100	77715A52	12.29
½″	0.005″	1,000	77715A37	36.99

Dia.	Thick.	Pkg. Qty.		Pkg.
¾″	0.005″	50	77715A53	$12.29
¾″	0.005″	500	77715A42	38.53
1″	0.005″	50	77715A54	10.77
1″	0.005″	250	77715A46	34.16

Dia.	Thick.	Pkg. Qty.		Pkg.
2″	0.005″	24	77715A55	$9.15
2″	0.005″	250	77715A47	73.48
3″	0.005″	24	77715A56	13.28
3″	0.005″	250	77715A48	91.52

Fiberglass-Reinforced Foil Tape



Aluminum foil is laminated to a tough fiberglass fabric to form a high-strength, reflective tape that can wrap around complex shapes. Use for flame-spray masking and wire harness heat shielding. Tape has silicone adhesive. Color is shiny silver.

General Purpose—Temperature range is –100° to 500° F. *0.007″ thick* tape has a 0.0025″ thick backing with 0.0045″ adhesive. *0.011″ thick* tape has a 0.0075″ thick backing with 0.0035″ of adhesive.

High Temperature—Temperature range is –30° to 600° F; apply at 40° F and above. Tape has a 0.004″ thick backing with 0.003″ adhesive.

Wd.	Lg., yds.	0.007″ Thick		0.011″ Thick	
General Purpose					
½″	5	76035A71	$7.77	76035A41	$8.58
½″	18	76035A63	20.84	76035A51	23.03
¾″	5	76035A72	11.72	76035A42	12.87
¾″	18	76035A64	31.44	76035A52	34.53
1″	5	76035A73	14.62	76035A43	17.16
1″	18	76035A65	39.25	76035A53	46.07
2″	5	76035A74	29.18	76035A44	34.30
2″	18	76035A66	78.34	76035A54	92.07

Wd.	Lg., yds.	0.007″ Thick		0.011″ Thick	
General Purpose (Cont.)					
3″	5	76035A75	$43.79	76035A45	$51.46
3″	18	76035A67	117.55	76035A55	138.13
High Temperature					
1″	5	7613A41	46.59	—	—
1″	36	7613A21	179.18	—	—
2″	5	7613A42	94.55	—	—
2″	36	7613A22	363.64	—	—

Weatherproof Aluminum Foil Tape



Forms a watertight bond with almost any building material including metal, wood, plastic, concrete, brick, asphalt, and glass—indoors and out. Also known as aluminum flashing tape, use it for sealing and repair jobs such as patching gutter joints. It has an asphalt-based adhesive that conforms to contours and sticks firmly on contact.

Tape can be painted and has a liner. It consists of 0.002″ thick aluminum foil with 0.048″ of adhesive. Temperature range is –40° to 200°F. Choose from shiny silver and nonreflective gray.

Wd.	Lg., yds.	Silver		Gray	
2″	11	76395A11	$17.88	76395A51	$17.88
3″	11	76395A12	26.38	76395A52	26.38
4″	11	76395A13	34.86	76395A53	34.86
6″	11	76395A14	51.86	76395A54	51.86
9″	11	76395A16	76.44	———	———
12″	11	76395A18	101.92	———	———
18″	11	76395A21	152.92	———	———

Weatherproof Rubber Tape

Create patches and seals that can withstand the elements. Color is black.

General purpose tape won't crack, sag, or harden under severe weather conditions. It is 0.125″ thick, odorless, nonstaining, and paintable. Temperature range is –20° to 180°F.

Super tough tape withstands higher temperatures than general purpose tape and is more durable and UV resistant. Also known as window shim tape. Tape is 0.125″ thick. Temperature range is –45° to 200°F.

Vibration-resistant sealing tape remains flexible after prolonged exposure to high temperatures and UV light. Also known as glazing tape. Tape is 0.125″ thick. Temperature range is –45° to 200°F.

Sealing tape is thin to seal seams and cracks. Tape is 0.03″ thick. Temperature range is –40° to 180°F.

Conformable tape stretches to mold to irregular shapes. Use it to repair and seal seams on rubber, metal, and asphalt roofs, as well as gutters. Tape is 0.08″ thick. Temperature range is –40° to 180°F.

Wd.	Lg., ft.		
Adhesive on Both Sides			
General Purpose			
1″	50	76385A14	$21.07
1½″	50	76385A15	36.62
2½″	25	76385A16	40.05
4″	25	76385A22	44.32
8″	25	76385A17	85.83
12″	25	76385A25	119.39
Super Tough			
3/8″	25	76385A32	9.48
1/2″	25	76385A33	11.99
Vibration Resistant			
3/8″	25	76385A42	19.44
1/2″	25	76385A43	21.38
Sealing			
3″	25	76385A85	37.94
Adhesive on One Side			
Conformable			
9″	10	7529A4	53.83

Carbon Fiber Nonadhesive Tape



Carbon fibers woven together form a graphite fabric for reinforcing lap joints and repairing cracks on graphite surfaces. Color is black. Use with epoxy resin adhesive.

Wd.	Lg., yds.		
1″	10	7438T11	$78.50
2″	10	7438T13	99.93
3″	10	7438T15	121.36
4″	10	7438T17	142.79
6″	10	7438T19	185.64

Super-Thin Plastic Sealing Tape

Often used for weatherstripping and sealing unused windows and hatches, this tough tape seals gaps to keep out cold, heat, dirt, and moisture. Tape is 0.006″ thick and consists of a 0.005″ thick polyethylene film with 0.001″ acrylic adhesive. Temperature range is –45° to 175°F. Color is clear.

Wd.	Lg., yds.		
2″	16	1228A56	$6.18

Extra-Thick Sealing Tape for Joints and Seams



This tough, abrasion-resistant tape sticks to itself, so you can layer it over joints and seams to create an extra strong bond. It adheres to aluminum, steel, and stainless steel as well as painted surfaces and plastics such as vinyl siding. Tape is 0.08″ thick and consists of a 0.004″ plastic backing with 0.075″ acrylic adhesive. Temperature range is –40° to 200°F. Color is white.

Wd.	Lg., yds.		
1″	18	7593A2	$64.03
2″	18	7593A4	128.05
2½″	18	7593A5	160.04
3″	18	7593A7	192.08

Gap-Filling Expandable Foam Sealing Tape



Tape comes compressed and gradually expands to follow contours and fill voids. Use for joints in metal buildings and roofs as well as for expansion/compression joints affected by movement due to thermal expansion and contraction. It also works as a gasket in nonmoving applications and as an alternative to caulk and rubber sealants.

It is UV and mildew resistant, and will not dry out and become hard or brittle. Made of polyurethane foam with an acrylic adhesive on one side. Temperature range is –40° to 185°F. Color is black.

Wd.	Lg., ft.	Thick. Compressed	Thick. Expanded		
1″	13	5/16″	1¼″	7650A12	$17.76
1″	13	3/8″	1½″	7650A13	23.88
1″	13	1/2″	2″	7650A14	26.34
1″	19	1/4″	1″	7650A11	20.67
2″	13	1/2″	2″	7650A15	52.36
3″	6	3/4″	3″	7650A16	56.93

Removable-on-One-Side Tape—

Adhesive on Both Sides

Tacky adhesive on one side of this tape lets you open and close bags and remove or reposition signs and labels. The other side has permanent adhesive. Tape is UV and solvent resistant. It is 0.003″ thick and consists of clear PVC coated with acrylic adhesive on both sides. Does not have a liner. Temperature range is –60° to 125°F.

Wd.	Lg., yds.		
1/4″	72	75975A655	$15.47
1/2″	72	75975A656	23.21
3/4″	72	75975A657	30.95
1″	72	75975A658	38.68

Tape for Hard-to-Bond Plastics



Also known as super bond tape, this tape has an aggressive adhesive that adheres to super-slick surfaces such as plastics and nylon. Use it to splice polyester conveyor belts and hold polyethylene barrel liners in place. Tape is 0.004″ thick and consists of a 0.0026″ polyester backing with 0.0014″ rubber adhesive. Temperature range is 40° to 200°F. Color is clear.

Wd.	Lg., yds.		
3/4″	36	76065A65	$12.75
1″	36	76065A67	15.93
2″	36	76065A69	31.87

Foam Tape with Adhesive on Both Sides

Multipurpose Foam Tape—

Adhesive on Both Sides



Consisting of polyurethane foam coated with acrylic adhesive on both sides, this tape absorbs shock and attaches well to rigid surfaces. It also offers excellent temperature resistance plus high strength and holding power. Use in mounting and holding applications. For polyurethane foam tape with adhesive on one side, see pages 3622-3623.

Standard—Has a paper liner. Temperature range is –20° to 220°F.

Weather Resistant—Has a polyethylene liner, except discs have a paper liner. Temperature range is –40° to 200°F.

Standard—Rolls

Wd.	Color	Short Rolls Lg., yds.			Long Rolls Lg., yds.		
0.031″ Thick							
1/4″	Off-White	5	7626A211	$10.58	72	7626A44	$39.17
1/2″	Black	5	7626A213	12.18	72	7626A81	71.63
1/2″	Off-White	5	7626A212	11.74	72	7626A116	58.69
3/4″	Black	5	7626A215	14.76	72	7626A82	98.40
3/4″	Off-White	5	7626A214	14.90	72	7626A111	93.13
1″	Black	5	7626A217	18.45	72	7626A83	123.02
1″	Off-White	5	7626A216	17.46	72	7626A112	116.41
1 1/2″	Off-White	5	7626A218	22.70	72	7626A126	174.60
2″	Off-White	5	7626A219	26.20	72	7626A117	201.52
3″	Off-White	5	7626A221	33.26	72	7626A45	302.33
4″	Off-White	5	7626A222	42.72	72	7626A47	388.36
0.063″ Thick							
1/4″	Off-White	5	7626A231	10.62	36	7626A52	28.71
1/2″	Black	5	7626A233	12.79	36	7626A91	44.11
1/2″	Off-White	5	7626A232	11.51	36	7626A113	38.35
3/4″	Black	5	7626A235	17.06	36	7626A92	58.82
3/4″	Off-White	5	7626A234	15.56	36	7626A114	45.76
1″	Black	5	7626A237	20.59	36	7626A93	73.53
1″	Off-White	5	7626A238	17.09	36	7626A115	58.93
1 1/2″	Off-White	5	7626A239	22.98	36	7626A118	88.37
2″	Off-White	5	7626A241	30.64	36	7626A119	117.84
3″	Off-White	5	7626A242	42.41	36	7626A55	176.70
0.125″ Thick							
1/4″	Off-White	5	7626A251	11.56	36	7626A63	33.99
1/2″	Off-White	5	7626A252	14.28	36	7626A121	51.00
3/4″	Off-White	5	7626A253	20.42	36	7626A122	78.53
1″	Off-White	5	7626A255	26.29	36	7626A123	101.13
1 1/2″	Off-White	5	7626A256	39.43	36	7626A124	151.67
2″	Off-White	5	7626A257	48.52	36	7626A125	202.17
3″	Off-White	5	7626A258	57.77	36	7626A67	262.60
4″	Off-White	5	7626A259	74.77	36	7626A68	339.88
0.25″ Thick							
1/4″	Off-White	5	7626A271	17.12	18	7626A71	32.31
1/2″	Off-White	5	7626A272	21.47	18	7626A131	49.93
3/4″	Off-White	5	7626A273	30.61	18	7626A74	66.54
1″	Off-White	5	7626A274	37.44	18	7626A132	83.19
2″	Off-White	5	7626A275	68.21	18	7626A133	166.37

Weather Resistant—Rolls

Color is black.

Wd.	5-yd. Rolls		33-yd. Rolls		66-yd. Rolls	
0.03″ Thick						
1/4″	75845A741	$10.37	75845A711	$29.63	75845A669	$51.36
1/2″	75845A742	18.12	75845A712	51.76	75845A671	82.57
3/4″	75845A743	27.23	75845A713	77.79	75845A672	108.98
1″	75845A744	36.30	75845A714	103.72	75845A673	136.33
0.062″ Thick						
1/4″	75845A761	14.81	75845A721	36.28	75845A679	62.90
1/2″	75845A762	25.88	75845A722	68.31	75845A681	108.97
3/4″	75845A763	38.90	75845A723	112.06	75845A682	156.99
1″	75845A764	51.86	75845A724	154.85	75845A683	203.54

Weather Resistant—Shapes



Square



Rectangle



Disc

All shapes are white and 0.063″ thick.

Wd.	Lg.	Pkg. Qty.		Pkg.
Squares				
1/2″	1/2″	250	76535A21	$6.40
3/4″	3/4″	250	76535A22	9.83
1″	1″	250	76535A23	15.45
Rectangles				
3/4″	1 1/2″	250	76535A31	18.51
3/4″	4 1/2″	40	76535A33	12.14
Discs				
3/4″ Dia.		25	76535A76	1.72
1″ Dia.		25	76535A77	3.25

Fire-Retardant Foam Tape—

Adhesive on Both Sides

Prevent the spread of fire while sealing, cushioning, and damping vibration indoors and outdoors. Tape is also resistant to UV light and ozone. It is made of silicone foam coated with acrylic adhesive on both sides. Foam, but not adhesive, meets UL94. Color is black. Has a paper liner. Temperature range is -35° to 250°F.

Wd.	Lg., yds.		
0.031″ Thick			
1/2″	20	7109A41	$81.57
3/4″	20	7109A43	123.67
1″	20	7109A45	145.62
2″	20	7109A47	303.58
0.062″ Thick			
1/2″	20	7109A51	85.06
3/4″	20	7109A53	129.08
1″	20	7109A55	152.07
2″	20	7109A57	317.29
0.125″ Thick			
1/2″	20	7109A61	99.37
3/4″	20	7109A63	151.37
1″	20	7109A65	178.61
2″	20	7109A67	373.66

Conformable Foam Tape—

Adhesive on Both Sides



Get more conformability than with other foam tapes for use in gasketing, mounting, and damping sound/vibration. Tape can be used indoors and outdoors. It consists of neoprene/EPDM/SBR foam coated with acrylic adhesive on both sides. Color is black. Has a paper liner. Temperature range is 0° to 155°F. For neoprene foam tape with adhesive on one side, see page 3614.

Wd.	Lg., yds.		
0.125″ Thick			
1/2″	25	75315A32	$11.65
3/4″	25	75315A34	17.11
1″	25	75315A36	21.94
0.188″ Thick			
1/2″	16	75315A53	9.65
3/4″	16	75315A55	14.41
1″	16	75315A57	18.44
0.25″ Thick			
1/2″	16	75315A71	11.39
3/4″	16	75315A73	17.11
1″	16	75315A75	21.76

Weather-Resistant Foam Tape—

Adhesive on Both Sides

This tape combines weather resistance and strength for outdoor use. It is also UV and solvent resistant. Tape consists of PVC foam coated with acrylic adhesive on both sides. Has a paper liner. Maximum temperature is 150°F. For vinyl foam tape with adhesive on one side, see page 3615.

Wd.	Available Colors	Short Rolls Lg., yds.			Long Rolls Lg., yds.		
0.031″ Thick							
1/2″	Black, White	5	76545A85	$15.82	72	76545A11	$138.29
3/4″	Black, White	5	76545A86	23.47	72	76545A12	184.42
1″	Black, White	5	76545A87	25.63	72	76545A13	230.52
0.063″ Thick							
1/4″	Black, White	5	76545A88	19.63	36	76545A21	52.37
1/2″	Black, White	5	76545A89	22.12	36	76545A14	78.53
3/4″	Black, White	5	76545A91	24.62	36	76545A15	104.69
1″	Black, White	5	76545A92	27.10	36	76545A16	130.81
1 1/2″	Black, White	5	76545A93	33.25	36	76545A24	195.86
0.125″ Thick							
1/4″	Black	5	76545A94	21.17	36	76545A31	68.16
1/2″	Black	5	76545A95	24.41	36	76545A17	66.27
3/4″	Black	5	76545A96	27.62	36	76545A18	136.21
1″	Black	5	76545A97	30.83	36	76545A19	170.29
2″	Black	5	76545A98	51.87	36	76545A32	340.59

3M VHB (Very High Bond) Foam Tape—Adhesive on Both Sides

Use this tape in place of some rivets and spot welds, liquid adhesives, and other permanent fasteners. Tape is foam with acrylic adhesive blended into the surface on both sides for significantly better holding power than other tapes. Tape has a paper or plastic liner. Apply at room temperature, unless otherwise stated.

Standard—Use with stainless steel, aluminum, glass, and sealed wood. Temperature range is –40° to 200° F.

Multipurpose—Tape is highly conformable and bonds to most plastics including rigid vinyl, ABS, and nylon. It also bonds to steel, aluminum, glass, and enamel and epoxy paint surfaces. Temperature range is –30° to 200° F. UL 746C listed.

Low Application Temperature—Can be applied in temperatures as low as 35° F and is conformable.

High Temperature—Maximum temperature is 230° F. UL 746C listed.

High-Temperature Conformable—For powder-coated and plastic surfaces. Temperature range is –30° to 250° F.

For Hard-to-Bond Surfaces—Bond powder-coated surfaces, polypropylene, and polystyrene. Also bonds with ABS, rigid vinyl, nylon, and enamel and epoxy paint surfaces. Temperature range is –40° to 160° F.

			Short Rolls		Long Rolls	
3M #	Wd.	Color	Lg., yds.		Lg., yds.	
Standard						
0.02″ Thick						
4905	½″	Clear	5	76665A81 $19.51	72	76665A67 $112.84
4905	¾″	Clear	5	76665A82 21.49	72	76665A68 150.44
4905	1″	Clear	5	76665A83 28.65	72	76665A69 176.16
4905	2″	Clear	5	76665A88 40.84	—	— —
4905	6″	Clear	1	76665A61 29.25	—	— —
4905	12″	Clear	1	76665A62 58.51	—	— —
0.025″ Thick						
4929	½″	Black	5	75935A11 20.80	72	75935A41 183.17
4929	¾″	Black	5	75935A12 23.64	72	75935A42 244.22
4929	1″	Black	5	75935A13 31.54	72	75935A43 262.14
4930	½″	White	5	75935A14 23.24	72	75935A651 174.15
4930	¾″	White	5	75935A15 26.02	72	75935A652 232.20
4930	1″	White	5	75935A16 34.74	72	75935A653 249.23
0.04″ Thick						
4910	½″	Clear	5	76665A84 19.82	36	76665A73 61.60
4910	¾″	Clear	5	76665A85 21.96	36	76665A74 82.13
4910	1″	Clear	5	76665A86 29.31	36	76665A75 102.66
4910	2″	Clear	5	76665A89 43.15	36	76665A76 192.33
4910	6″	Clear	1	76665A63 32.42	—	— —
4910	12″	Clear	1	76665A64 64.85	—	— —
0.045″ Thick						
4949	½″	Black	5	75935A17 24.96	36	75935A52 105.22
4949	¾″	Black	5	75935A18 28.40	36	75935A53 140.30
4949	1″	Black	5	75935A19 37.88	36	75935A54 150.59
4950	½″	White	5	75935A21 23.54	36	75935A655 90.82
4950	¾″	White	5	75935A22 26.50	36	75935A656 121.09
4950	1″	White	5	75935A23 35.42	36	75935A657 151.36
4950	2″	White	5	75935A24 70.82	36	75935A658 259.95
4950	6″	White	1	75935A32 42.10	—	— —
4950	12″	White	1	75935A33 84.20	—	— —
4951	½″	White	5	75935A25 25.46	36	75935A694 106.67
4951	¾″	White	5	75935A26 29.04	36	75935A699 142.23
4951	1″	White	5	75935A27 38.72	36	75935A71 152.66
0.12″ Thick						
4959	½″	White	5	75935A28 26.88	36	75935A661 118.79
4959	¾″	White	5	75935A29 30.90	36	75935A662 158.39
4959	1″	White	5	75935A31 41.20	36	75935A663 170.01
Multipurpose						
0.015″ Thick						
4926	½″	Gray	5	8127A81 21.56	72	8127A71 147.25
4926	¾″	Gray	5	8127A82 25.49	72	8127A72 202.20
4926	1″	Gray	5	8127A83 29.44	72	8127A73 252.77
Multipurpose (Cont.)						
0.025″ Thick						
4936	½″	Gray	5	8127A84 $18.75	72	8127A74 $156.43
4936	¾″	Gray	5	8127A85 21.55	72	8127A75 211.98
4936	1″	Gray	5	8127A86 28.56	72	8127A76 273.78
0.045″ Thick						
4941	½″	Gray	5	8127A51 20.95	36	8127A55 83.36
4941	¾″	Gray	5	8127A52 25.18	36	8127A56 111.33
4941	1″	Gray	5	8127A53 29.47	36	8127A57 138.93
4941	2″	Gray	5	8127A61 50.16	36	8127A62 255.17
4941	6″	Gray	1	8127A54 42.58	—	— —
4941	12″	Gray	1	8127A58 85.16	—	— —
0.09″ Thick						
4991	½″	Gray	5	8127A87 22.35	36	8127A77 89.68
4991	¾″	Gray	5	8127A88 25.76	—	— —
4991	1″	Gray	5	8127A89 34.20	36	8127A79 159.10
Low Application Temperature						
0.045″ Thick						
4943F	½″	Gray	5	3744A11 25.80	36	3744A16 118.00
4943F	¾″	Gray	5	3744A12 33.73	36	3744A17 157.33
4943F	1″	Gray	5	3744A13 41.69	36	3744A18 196.67
4943F	2″	Gray	5	3744A14 68.04	—	— —
0.062″ Thick						
4957F	½″	Gray	5	3744A21 27.98	36	3744A26 122.00
4957F	¾″	Gray	5	3744A22 32.02	36	3744A27 162.66
4957F	1″	Gray	5	3744A23 42.40	36	3744A28 203.33
4957F	2″	Gray	5	3744A24 71.69	—	— —
High Temperature						
0.025″ Thick						
4646	½″	Gray	5	7201A41 18.36	36	7201A51 55.44
4646	¾″	Gray	5	7201A42 25.49	36	7201A52 65.84
4646	1″	Gray	5	7201A43 29.98	36	7201A53 92.38
0.045″ Thick						
4611	½″	Gray	5	7201A21 19.33	36	7201A11 56.15
4611	¾″	Gray	5	7201A22 26.62	36	7201A12 74.86
4611	1″	Gray	5	7201A23 31.20	36	7201A13 93.57
High-Temperature Conformable						
0.045″ Thick						
5952	½″	Black	5	8127A32 28.31	36	8127A22 74.76
5952	¾″	Black	5	8127A33 39.83	15	8127A23 46.18
5952	1″	Black	5	8127A35 46.80	36	8127A25 124.60
For Hard-to-Bond Surfaces						
0.045″ Thick						
4952	½″	White	5	76675A21 21.27	36	76675A68 98.26
4952	¾″	White	5	76675A22 27.39	36	76675A71 130.99
4952	1″	White	5	76675A23 36.53	36	76675A73 163.76

3M VHB (Very High Bond) Foam Tape Shapes—Adhesive on Both Sides

Cut into shapes for your convenience, tape consists of foam with acrylic adhesive blended into the surface on both sides for maximum holding power. Use on metal, plastic, and glass. Has a paper or plastic liner. Temperature range is –30° to 200° F.



Square



Rectangle



Disc

3M #	Wd.	Lg.	Color		Pkg. of 5
Squares					
0.045″ Thick					
4941	½″	½″	Gray	7170A21	$8.03
4941	¾″	¾″	Gray	7170A22	8.73
4941	1″	1″	Gray	7170A23	10.25
4941	1½″	1½″	Gray	7170A24	12.75
4941	2″	2″	Gray	7170A25	16.03
Rectangles					
0.045″ Thick					
4941	½″	2″	Gray	7170A31	11.44
4941	½″	3″	Gray	7170A32	12.88
4941	½″	4″	Gray	7170A33	14.32
4941	¾″	2″	Gray	7170A34	13.25
4941	¾″	3″	Gray	7170A35	14.67
4941	¾″	4″	Gray	7170A36	16.10
4941	1″	2″	Gray	7170A37	14.67
4941	1″	3″	Gray	7170A38	15.25
4941	1″	4″	Gray	7170A39	15.98

3M #	Dia.	Color		Pkg. of 5
Discs				
0.02″ Thick				
4905	½″	Clear	7170A53	$7.25
4905	¾″	Clear	7170A54	7.88
4905	1″	Clear	7170A56	9.25
4905	1½″	Clear	7170A57	11.47
4905	2″	Clear	7170A58	14.48
0.045″ Thick				
4941	½″	Gray	7170A11	8.03
4941	¾″	Gray	7170A12	8.73
4941	1″	Gray	7170A13	10.25
4941	1½″	Gray	7170A14	12.75
4941	2″	Gray	7170A15	16.03

Tape with Adhesive on Both Sides

Light Duty Foam Tape—

Adhesive on Both Sides



Bond, seal, and absorb sound and vibration with an economical tape that stretches and conforms to irregular surfaces. Has a paper liner. For polyethylene foam tape with adhesive on one side, see page 3624.

Standard—Has a high tack and adheres to a wide variety of surfaces. Tape consists of polyethylene foam coated with rubber adhesive. *Rolls* temperature range is 0° to 150°F. *Shapes* temperature range is 0° to 140°F.

Weather Resistant—UV-resistant with good adhesion to plastics, wood, and metals. The adhesive bond increases over time. Tape consists of polyethylene foam coated with acrylic adhesive. Temperature range is –20° to 200°F.

Standard—Rolls

Wd.	Available Colors	Short Rolls Lg., yds.			Long Rolls Lg., yds.		
0.031″ Thick							
1/4″	Black, White	5	7598A901	$1.97	72	7598A65	$6.44
1/2″	Black, White	5	7598A911	3.93	72	7598A66	13.04
3/4″	Black, White	5	7598A912	5.20	72	7598A67	22.02
1″	Black, White	5	7598A913	6.59	72	7598A68	29.34
0.063″ Thick							
1/4″	Black, White	5	7598A904	1.90	36	7598A26	4.87
1/2″	Black, White	5	7598A914	3.81	36	7598A27	9.82
3/4″	Black, White	5	7598A915	5.09	36	7598A28	14.74
1″	Black, White	5	7598A916	6.41	36	7598A29	19.64
0.125″ Thick							
1/4″	Black, White	5	7598A907	2.71	18	7598A69	4.30
1/2″	White	—	—	—	18	7598A71	8.76
1″	White	—	—	—	18	7598A72	14.70

Weather Resistant—Rolls

Wd.	Available Colors	Short Rolls Lg., yds.			Long Rolls Lg., yds.		
0.031″ Thick							
1/4″	Black, White	5	7598A918	$2.11	72	7598A21	$7.19
1/2″	Black, White	5	7598A921	4.22	72	7598A22	14.60
3/4″	Black, White	5	7598A922	5.66	72	7598A23	21.92
1″	Black, White	5	7598A923	7.22	72	7598A24	29.19
2″	Black, White	5	7598A924	13.00	72	7598A25	58.44
0.063″ Thick							
1/4″	Black, White	5	7598A931	2.17	36	7598A54	5.86
1/2″	Black, White	5	7598A925	4.33	36	7598A55	11.60
3/4″	Black, White	5	7598A926	5.90	36	7598A56	17.39
1″	Black, White	5	7598A927	7.45	36	7598A57	23.19
2″	Black, White	5	7598A928	13.46	36	7598A58	45.46

Standard—Shapes



Square



Rectangle



Disc

All shapes are white and 0.063″ thick.

Wd.	Lg.	Pkg. Qty.		Pkg.
Squares				
1/2″	1/2″	250	75785T11	$4.35
3/4″	3/4″	250	75785T12	5.38
1″	1″	250	75785T13	7.71
Rectangles				
3/4″	1 1/2″	250	75785T87	9.22
3/4″	4 1/2″	40	75785T83	6.12
Discs				
3/4″ Dia.		100	75785T26	5.97
1″ Dia.		100	75785T27	11.10

Removable Foam Tape—

Adhesive on Both Sides

Thicker and more conformable than other removable tape, use this on irregular surfaces, trim, and signage.

Removable on Both Sides—Clear acrylic foam has acrylic adhesive blended into it on both sides so tape won't separate when removed from a surface. Tape has excellent resistance to sunlight. Has a plastic liner. Maximum temperature is 175°F.

Removable on One Side—One side has a tacky adhesive for temporary holding; the other side has permanent adhesive. Tape is white polyethylene foam coated with synthetic rubber adhesive on both sides. Has a paper liner. Temperature range is 0° to 150°F.

Wd.	Short Rolls Lg., yds.			Long Rolls Lg., yds.		
Removable on Both Sides						
0.031″ Thick						
1/2″	4	8117A81	$16.07	27	8117A63	$64.52
3/4″	4	8117A82	18.66	27	8117A65	86.03
1″	4	8117A83	21.29	27	8117A67	107.54
Removable on One Side						
0.039″ Thick						
1″	5	8117A25	3.22	72	8117A28	26.42
0.07″ Thick						
1″	5	8117A32	3.13	36	8117A36	13.02

Foam Sealing Tape—

Adhesive on Both Sides



Prevent water penetration with this sticky, flexible tape. It conforms to irregular shapes and expands to fill gaps. Use to seal metal to metal, fill gaps on freezers and windows, and for marine applications. Tape consists of soft, PVC foam that's coated on all sides with butyl rubber adhesive. Temperature range is –15° to 160°F. Color is black.

Wd.	Thick.	Lg., yds.		
3/8″	1/8″	26	75875A661	$23.30
1/2″	1/8″	26	75875A662	31.24
1/2″	3/16″	17	75875A663	21.87

Masking Tape—Adhesive on Both Sides

The choice for light duty bonding and splicing, tape is smooth paper coated with rubber adhesive on both sides. Has a paper liner.

General Purpose—Tape is white and 0.007″ thick. Temperature range is 30° to 200°F. Meets Fed. Spec. CID A-A-180C, Type II.

For Smooth Surfaces—Sticks better than general purpose tape when splicing and bonding paper, foil, and fabric. Tape is off-white and 0.006″ thick. Maximum temperature is 150°F.

Wd.	Lg., yds.		
General Purpose			
3/8″	36	76405A23	$5.65
1/2″	36	76405A11	6.15
3/4″	36	76405A12	8.45
1″	36	76405A13	11.28
1 1/2″	36	76405A14	16.50
1 3/4″	36	76405A24	19.71
2″	36	76405A15	24.22
3″	36	76405A17	34.36
4″	36	76405A25	47.35
For Smooth Surfaces			
1/4″	36	75985A665	12.87
1/2″	36	75985A666	19.31
3/4″	36	75985A667	25.73
1″	36	75985A668	32.17
2″	36	75985A671	60.40
3″	36	75985A672	87.06

Light Duty Tape—Adhesive on Both Sides

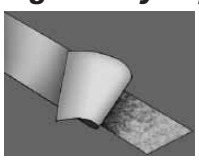

Seal envelopes and hang posters with this tissue-like transparent tape. It is 0.003″ thick, has an oversized liner that's easy to lift away, and can be torn by hand.

Standard—Has a rubber adhesive.

High Bond—Has a rubber adhesive that sticks to glossy surfaces and UV coatings.

UV Resistant—Stands up to UV light exposure better than standard and high-bond tape. Adhesive is acrylic.

Wd.	Standard Lg., yds.			High Bond Lg., yds.			UV Resistant Lg., yds.		
1/4″	36	7139A12	$5.88	72	7139A21	$13.61	72	7139A33	$13.85
1/2″	72	7139A14	17.83	72	7139A23	22.88	72	7139A36	22.88
3/4″	72	7139A16	23.68	72	7139A25	30.45	72	7139A39	30.45

General Purpose Tape—
Adhesive on Both Sides

Excellent adhesion makes this tape the choice for everything from holding and splicing to tacking carpet edges. Also known as polyethylene tape, it is 0.009″ thick and coated with synthetic rubber adhesive on both sides. Color is white. Has a paper liner. Temperature range is –40° to 120°F.

Wd.	Lg., yds.		
1/2″	36	77185A21	$17.58
3/4″	36	77185A22	23.44
1″	36	77185A23	29.30
2″	36	77185A24	58.59
3″	36	77185A25	87.89

Cloth Tape—Adhesive on Both Sides



For use when installing carpet, padding, and linoleum on stairways and floors, this tape is cotton cloth coated with rubber adhesive on both sides. Color is off-white. Has a plastic liner. Temperature range is 40° to 200°F.

Standard—Tape is 0.013″ thick.

Flame Retardant—Tape is 0.015″ thick. Meets FAR (Federal Aviation Regulation) 25.853(a), though it is not intended for use in aircraft.

Wd.	Lg., yds.		Each	Pkg. Qty.	
Standard					
1″	25	76125A172	$10.45	24	$212.22
2″	25	76125A182	20.89	12	212.11
3″	25	76125A212	30.89	8	211.84
Flame Retardant					
1″	25	76125A29	16.11	—	—
2″	25	76125A19	34.20	—	—
3″	25	76125A24	47.39	—	—

Moisture-Resistant Plastic/Cloth Tape—
Adhesive on Both Sides

Moisture and humidity are no problem for this tape. Use on a variety of indoor surfaces as well as sealed concrete and subfloors. Also has limited outdoor uses. Tape is 0.015″ thick and consists of woven polypropylene/cloth coated with rubber adhesive on both sides. Color is black. Has a paper liner. Temperature range is 0° to 150°F.

Wd.	Lg., yds.			Wd.	Lg., yds.		
1″	36	77195A1	$12.00	3″	36	77195A4	$33.49
1 1/2″	36	77195A6	18.00	4″	36	77195A7	43.64
2″	36	77195A2	24.00	6″	36	77195A8	65.45

Electrical Insulation PTFE Tape—
Adhesive on Both Sides

Not only does this PTFE tape withstand 5,000 volts, it is tougher and more conformable than polyimide tape. Tape is 0.014″ thick and consists of film coated with acrylic adhesive on both sides. Color is brown. Has a paper liner. Temperature range is 0° to 250°F.

Wd.	1-yd. Rolls		5-yd. Rolls	
1/2″	7748A51	$12.82	7748A41	$42.72
1″	7748A52	21.15	7748A42	80.12
2″	7748A53	40.68	7748A43	153.80

Heat-Resistant Tape Made with Kapton® Polyimide—Adhesive on Both Sides

Tape offers good adhesion to heat-generating components and can withstand voltage. It consists of film coated with acrylic adhesive on both sides. Color is amber. Has a paper liner. Temperature range is –40° to 300°F. **0.005″ thick** tape withstands 7,000 volts. **0.01″ thick** tape withstands 17,000 volts.

Wd.	Lg., yds.	0.005″ Thick		0.01″ Thick	
1/8″	5	7361A11	$5.62	7361A41	$7.80
1/4″	5	7361A12	11.19	7361A42	15.54
1/2″	5	7361A13	22.34	7361A43	31.03
3/4″	5	7361A14	33.53	7361A44	46.57
1″	5	7361A15	44.69	7361A45	62.07
2″	5	7361A16	89.35	7361A46	124.10

Fiberglass-Reinforced Cloth Tape—
Adhesive on Both Sides

With its excellent heat and abrasion resistance, this tape withstands plasma spraying and grit blasting. It can also be used as an underwrap for Masking Tape for Blasting and Plasma Flame Spraying (page 3494) and Fiberglass-Reinforced Foil Tape (page 3502). Tape is 0.007″ thick and consists of off-white fiberglass-reinforced cloth coated with silicone adhesive on both sides. Has a paper liner. Temperature range is –100° to 500°F.

Wd.	Lg., yds.		
1/2″	18	7577A1	$24.29
1″	18	7577A2	47.90
2″	18	7577A3	94.19

Tape for Bonding Silicone Rubber to Metal and Plastic—Adhesive on Both Sides

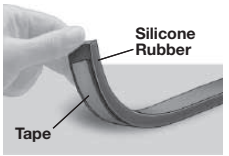

One side of this PET (polyester) film tape is coated with silicone adhesive for bonding to silicone rubber and the other side is coated with acrylic adhesive for a strong bond to metal and plastic. Tape is 0.004″ thick; color is clear. Each side has a PET liner. Maximum temperature is 245°F.

Wd.	Lg., yds.		
1/2″	18	7213A21	$42.23
3/4″	18	7213A23	57.85
1″	18	7213A25	73.48
2″	18	7213A27	111.24
6″	18	7213A29	315.81

Clean Room Tape—Adhesive on Both Sides

Tape is particle and residue free and suitable for Class 100 clean rooms. Comes on a plastic spool.

Standard—Tape is 0.012″ thick clear polyester coated with acrylic adhesive on both sides. Has a mylar liner. Temperature range is –10° to 175°F.

Removable—Can be removed and repositioned. Tape is 0.004″ thick clear polyester coated with acrylic adhesive on both sides. Does not have a liner. Temperature range is –10° to 140°F.

Foam—Connect sheets of plastic as well as repair ceiling tiles and pass-through windows. Tape is 0.127″ thick white polyethylene foam coated with rubber adhesive on both sides. Has a plastic liner. Maximum temperature is 150°F.

Wd.	Lg., yds.		
Standard			
1/4″	36	7487A42	$41.07
1/2″	36	7487A44	41.97
3/4″	36	7487A45	57.76
1″	36	7487A46	69.44
2″	36	7487A51	140.13
Removable			
1/2″	36	7487A62	37.79
3/4″	36	7487A63	49.58
1″	36	7487A64	61.44
2″	36	7487A67	107.99
Foam			
1″	18	7487A14	41.27
1 1/2″	18	7487A15	56.82
2″	18	7487A18	71.11

Solvent-Resistant Tape—
Adhesive on Both Sides

Mount and hold metal, glass, and most plastics in applications where solvents are a concern. Also known as polyester tape, it is 0.004″ thick and has a paper liner. Temperature range is –40° to 150°F.

General Purpose—Coated with acrylic adhesive on both sides. Color is clear.

High Bond—Withstands stress without ripping. Tape is coated with rubber adhesive on both sides. Color is off-white.

Wd.	Lg., yds.		
General Purpose			
1/2″	36	7602A52	$19.40
3/4″	36	7602A56	25.88
1″	36	7602A53	32.35
1 1/2″	36	7602A58	48.52
2″	36	7602A54	64.69
High Bond			
1/2″	36	75955A671	23.70
3/4″	36	75955A672	31.59
1″	36	75955A673	39.47

About Hook and Loop

Just like burrs grab onto your clothing, the hook aggressively grabs the loop for a sturdy and reliable fastener. The hook also grabs onto other fabric, such as carpet and upholstery. Use for bundling cable, holding matting in place, putting up signs, holding down tarps, creating display boards, and holding tools.

Open/Close Cycles—Number of times hook and loop can be pressed together and pulled apart until performance reaches 50%.

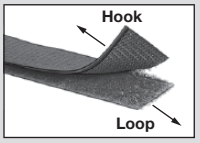

Pull-Apart Strength

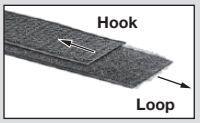

Slide-Apart Strength

Hook and Loop Type	Page(s)	Pull-Apart Strength	Slide-Apart Strength	Open/Close Cycles
General Purpose	3508-3509	Hard	Hard	1,000s
General Purpose Elastic	3508	Easy	Easy	1,000s
Super Adhesive	3509	Hard	Hard	1,000s
Weather Resistant	3509	Easy	Hard	1,000s
One Piece	3510	Easy	Hard	100s
Flame Retardant	3510	Easy	Easy	1,000s
Flame Resistant	3510	Easy	Easy	100s
Heat-Resistant Stainless Steel	3510	Easy	Hard	10s
Mil. Spec.	3510	Hard	Hard	1,000s
Super Wide	3510	Hard	Hard	10s
Marine Grade	3511	Easy	Hard	1,000s
Vinyl Bonding	3511	Very Hard	Very Hard	1,000s
Super-Grip Double Head	3511	Hard	Hard	10s
Self-Lock Hook Head	3511	Easy	Not Rated	10s
Self-Lock Mushroom Head	3511	Easy	Hard	100s

General Purpose Hook and Loop

A combination of moisture and chemical resistance makes this hook and loop the choice for most applications. Made of nylon. *Adhesive back* has acrylic adhesive. *Plain back* can be sewn, stapled, or screwed to your surface.

Hook and **loop** temperature range is –20° to 200°F. **Elastic loop** temperature range is 35° to 120°F.

Wd.	5-ft. Lengths		10-ft. Lengths		15-ft. Lengths		30-ft. Lengths		50-ft. Lengths		75-ft. Lengths	
Hook and Loop												
Adhesive Back—To Order: Please specify beige, black, blue, gray, green, red, or white.												
1/4"	9273K1	$4.85	9273K2	$7.66	9273K3	$11.06	9273K4	$21.27	9273K5	$33.18	9273K6	$42.54
1/2"	9273K11	6.07	9273K17	11.68	9273K24	15.88	9273K31	30.36	9273K37	46.70	9273K93	61.04
5/8"	9273K12	7.36	9273K18	12.19	9273K25	16.36	9273K32	31.93	9273K38	51.73	9273K44♣	63.86
3/4"	9273K13	8.00	9273K19	13.03	9273K26	18.83	9273K33	34.96	9273K39	54.19	9273K45♣	69.47
1"	9273K14	8.18	9273K21	13.90	9273K27	20.51	9273K34	37.18	9273K41	55.78	9273K46	74.38
1 1/2"	9273K15	11.52	9273K22	20.85	9273K28	31.66	9273K35	56.44	9273K42	91.19	9273K47	112.58
2"	9273K16	14.45	9273K23	26.96	9273K29	38.49	9273K36	70.30	9273K43	105.21	9273K48	141.16
4"	9273K96	36.00	9273K84	56.84	9273K86	82.11	9273K88	157.90	9273K91	246.32	9273K94	315.79
6"	9273K83	46.74	9273K85	73.81	9273K87	106.61	9273K89	205.02	9273K92	319.83	9273K95	410.04
Plain Back—To Order: Please specify beige, black, or white.												
5/8"	9273K49	4.76	9273K55	7.14	9273K61	10.53	9273K66	20.73	9273K72	30.58	9273K77♣	33.98
3/4"	9273K51	4.09	9273K56	6.14	9273K62	9.06	9273K67	17.82	9273K73	26.30	9273K78♣	29.22
1"	9273K52	4.66	9273K57	6.98	9273K63	10.31	9273K68	20.29	9273K74	29.93	9273K79	33.26
1 1/2"	9273K53	5.92	9273K58	10.51	9273K64	13.95	9273K69	24.72	9273K75	39.25	9273K81♣	48.46
2"	9273K54	7.48	9273K59	13.26	9273K65	17.61	9273K71	31.20	9273K76	49.56	9273K82♣	61.18
Hook—To Order: Please specify beige, black, or white.												
Adhesive Back												
1/2"	9489K53	4.41	9489K79	8.48	9489K629	11.53	9489K41	22.04	9489K742	33.91	_____	_____
5/8"	9489K59	4.10	9489K81	7.01	9489K31	10.46	9489K738	19.02	9489K743	27.97	9489K749	37.29
3/4"	9489K61	4.16	9489K82	7.10	9489K49	10.60	9489K739	19.28	9489K744	28.35	9489K21	37.80
1"	9489K62	4.52	9489K83	7.72	9489K267	11.52	9489K268	20.95	9489K746	30.80	9489K269	41.07
1 1/2"	9489K71	6.88	9489K89	11.74	9489K52	17.53	9489K741	31.88	9489K747	46.88	9489K689	62.50
2"	9489K72	7.92	9489K29	14.88	9489K271	22.22	9489K278	40.40	9489K748	59.41	9489K279	79.21
Plain Back												
5/8"	9489K304	1.68	9489K311	3.70	9489K697	4.79	9489K711	8.35	9489K319	11.64	9489K716	13.69
3/4"	9489K305	1.90	9489K312	4.18	9489K698	5.42	9489K712	9.44	9489K401	13.16	9489K718	15.48
1"	9489K306	2.60	9489K313	5.68	9489K246	7.37	9489K247	12.84	9489K402	17.89	9489K248	21.05
1 1/2"	9489K307	3.39	9489K314	5.97	9489K699	7.92	9489K713	14.03	9489K404	22.28	9489K719	27.50
2"	9489K308	4.02	9489K315	7.10	9489K261	13.71	9489K277	16.70	9489K405	26.52	9489K281	32.74
Loop—To Order: Please specify beige, black, or white.												
Adhesive Back												
1/2"	9489K147	4.41	9489K165	8.48	9489K179	11.53	9489K187	22.04	9489K189	33.91	_____	_____
5/8"	9489K148	4.10	9489K166	7.01	9489K101	10.46	9489K104	19.02	9489K191	27.97	9489K108	37.29
3/4"	9489K149	4.16	9489K167	7.10	9489K102	10.60	9489K105	19.28	9489K197	28.35	9489K109	37.80
1"	9489K691	4.52	9489K168	7.72	9489K213	11.52	9489K214	20.95	9489K198	30.80	9489K215	41.07
1 1/2"	9489K156	6.88	9489K169	11.74	9489K103	17.53	9489K107	31.88	9489K199	46.88	9489K201	62.50
2"	9489K157	8.55	9489K171	16.07	9489K216	23.99	9489K217	43.62	9489K219	64.15	9489K218	85.53
Plain Back												
5/8"	9489K408	1.68	9489K505	3.70	9489K202	4.79	9489K208	8.35	9489K604	11.64	9489K695	13.69
3/4"	9489K409	1.90	9489K506	4.18	9489K206	5.42	9489K209	9.44	9489K605	13.16	9489K696	15.48
1"	9489K501	2.60	9489K507	5.68	9489K287	7.37	9489K288	12.84	9489K606	17.89	9489K289	21.05
1 1/2"	9489K502	3.39	9489K508	5.97	9489K207	7.92	9489K301	14.03	9489K607	22.28	9489K932	27.50
2"	9489K503	4.02	9489K509	7.10	9489K297	7.47	9489K298	16.70	9489K608	26.52	9489K299	32.74
Elastic Loop—To Order: Please specify beige, black, or white.												
Plain Back												
5/8"	9652K67	6.31	9652K73	11.92	9652K78	16.83	9652K84	31.55	9652K89	49.08	9652K95	70.12
3/4"	9652K68	7.40	9652K74	13.97	9652K79	19.73	9652K85	36.99	9652K91	57.54	9652K96	82.20
1"	9652K69	9.31	9652K75	17.58	9652K81	24.83	9652K86	46.55	9652K92	72.41	9652K97	103.44
1 1/2"	9652K71	15.15	9652K76	25.25	9652K82	40.39	9652K87	75.74	9652K93	117.81	9652K98	168.30
2"	9652K72	17.99	9652K77	33.97	9652K83	47.96	9652K88	89.93	9652K94	139.89	9652K99	199.84

♣ Not available in beige.

General Purpose Hook and Loop Shapes

Strips—Plain Back

Hook and loop are black nylon with semirigid vinyl backing so you can glue, staple, screw, or nail these strips to a surface. Maximum temperature is 200° F.



Wd.	Lg.	Hook		Loop	
1″	48″	9737K11	$7.45	9737K21	$7.45
1¾″	48″	9737K51	10.48	9737K61	10.48

Squares—Adhesive Back

Made of flexible black nylon. ¾″ wide has synthetic rubber adhesive; 1″ wide has acrylic adhesive. Temperature range is –20° to 100° F.



Wd.	Lg.	Hook Pkg. of 10		Loop Pkg. of 10	
¾″	¾″	9737K71	$2.83	9737K81	$2.83
1″	1″	9737K72	2.79	9737K82	2.79

Discs with Hole—Plain Back

Use the ⅛″ diameter center hole to screw, nail, or rivet this hook and loop to a surface. Made of black nylon with rigid vinyl backing. Temperature range is –20° to 190° F.



Dia.	Pkg. Qty.	Hook Pkg.		Loop Pkg.	
⅝″	50	9735K35	$27.62	9735K45	$27.62
¾″	50	9735K36	28.57	9735K46	28.57
1⅛″	25	9735K38	16.25	9735K48	16.25

Discs—Adhesive Back

Made of flexible nylon with acrylic adhesive. Temp. range is –20° to 200° F. *Hook and loop* packages contain 100 hook and 100 loop discs.



Dia.	Pkg. Qty.	Black Pkg.		White Pkg.	
Hook and Loop					
½″	100	9736K861	$13.38	9736K862	$13.38
⅝″	100	9736K871	16.67	9736K872	16.68
¾″	100	9736K881	21.32	9736K882	21.32
⅞″	100	9736K891	23.86	9736K892	23.86
1⅜″	100	9736K911	48.50	9736K912	48.50
Hook					
½″	100	9736K44	7.04	9736K445	7.04
½″	250	9736K111	16.00	9736K115	16.00
½″	500	9736K161	29.09	9736K165	29.09
⅝″	100	9736K54	8.78	9736K545	8.78
⅝″	250	9736K121	19.95	9736K125	19.95
⅝″	500	9736K171	36.27	9736K175	36.27
¾″	100	9736K64	11.22	9736K645	11.22
¾″	250	9736K131	25.50	9736K135	25.50
¾″	500	9736K181	46.36	9736K185	46.36
⅞″	100	9736K74	12.56	9736K745	12.56
⅞″	250	9736K141	28.55	9736K145	28.55
⅞″	500	9736K191	51.90	9736K195	51.90
1⅜″	100	9736K331	25.53	9736K945	25.53
Hook (Cont.)					
1⅜″	250	9736K151	$58.02	9736K155	$58.02
1⅜″	500	9736K211	105.49	9736K215	105.49
Loop					
½″	100	9736K45	7.04	9736K455	7.04
½″	250	9736K221	16.00	9736K225	16.00
½″	500	9736K271	29.09	9736K275	29.09
⅝″	100	9736K55	8.78	9736K555	8.78
⅝″	250	9736K231	19.95	9736K235	19.95
⅝″	500	9736K281	36.27	9736K285	36.27
¾″	100	9736K65	11.22	9736K655	11.22
¾″	250	9736K241	25.50	9736K245	25.50
¾″	500	9736K291	46.36	9736K295	46.36
⅞″	100	9736K75	12.56	9736K755	12.56
⅞″	250	9736K251	28.55	9736K255	28.55
⅞″	500	9736K311	51.90	9736K315	51.90
1⅜″	100	9736K341	25.53	9736K955	25.53
1⅜″	250	9736K261	58.02	9736K265	58.02
1⅜″	500	9736K321	105.49	9736K325	105.49

Super-Adhesive-Back General Purpose Hook and Loop

An extra-strong rubber adhesive on the back sticks where others don't, such as to plastics. It also adheres to most metals and painted surfaces. Made of nylon. Temperature range is –40° to 120° F.

Wd.	5-ft. Lengths		10-ft. Lengths		15-ft. Lengths		30-ft. Lengths		50-ft. Lengths		75-ft. Lengths	
Hook and Loop												
Black												
1″	94985K811	$9.54	94985K812	$16.80	94985K813	$25.09	94985K814	$45.61	94985K815	$67.07	94985K816	$89.43
2″	94985K911	18.48	94985K912	32.54	94985K913	48.58	94985K914	88.32	94985K915	129.88	94985K916	173.18
White												
1″	94985K831	9.54	94985K832	16.80	94985K833	25.09	94985K834	45.61	94985K835	67.07	94985K836	89.43
2″	94985K931	18.48	94985K932	32.54	94985K933	48.58	94985K934	88.32	94985K935	129.88	94985K936	173.18
Hook												
Black												
1″	94985K667	4.88	94985K614	8.59	94985K612	12.82	94985K613	23.31	94985K668	34.28	94985K961	45.71
2″	94985K639	8.35	94985K665	16.49	94985K632	24.62	94985K634	44.77	94985K603	65.84	94985K636	87.78
White												
1″	94985K112	4.88	94985K113	8.59	94985K712	12.82	94985K711	23.31	94985K114	34.28	94985K713	45.71
2″	94985K115	8.27	94985K116	15.96	94985K731	23.83	94985K732	43.33	94985K117	63.72	94985K963	84.96
Loop												
Black												
1″	94985K658	4.88	94985K655	8.59	94985K652	12.82	94985K654	23.31	94985K664	34.28	94985K964	45.71
2″	94985K675	8.35	94985K674	16.49	94985K672	24.62	94985K673	44.77	94985K118	65.84	94985K965	87.78
White												
1″	94985K119	4.88	94985K121	8.59	94985K752	12.82	94985K751	23.31	94985K122	34.28	94985K966	45.71
2″	94985K123	8.27	94985K124	15.96	94985K771	23.83	94985K772	43.33	94985K125	63.72	94985K967	84.96

Weather-Resistant Hook and Loop

Made of black polyester, hook and loop offer resistance to water and UV light. Temperature range is –20° to 200° F. *Adhesive back* has acrylic adhesive. *Plain back* can be sewn, stapled, or screwed to your surface.

Wd.	5-ft. Lengths		10-ft. Lengths		15-ft. Lengths		30-ft. Lengths		50-ft. Lengths		75-ft. Lengths	
Hook and Loop												
Adhesive Back												
1″	95005K351	$15.40	95005K353	$26.70	95005K355	$34.41	95005K357	$53.39	95005K359	$80.06	95005K352	$128.49
2″	95005K371	28.09	95005K373	48.70	95005K375	58.06	95005K377	97.38	95005K379	146.06	95005K372	241.81
Plain Back												
1″	95005K811	10.01	95005K813	17.34	95005K815	20.67	95005K817	34.68	95005K819	52.03	95005K812	81.01
2″	95005K831	15.88	95005K833	27.53	95005K835	33.43	95005K837	55.05	95005K839	82.57	95005K832	128.59
Hook												
Adhesive Back												
1″	95005K628	9.16	95005K627	15.09	95005K626	17.78	95005K625	29.09	95005K624	43.10	95005K623	66.72
2″	95005K211	16.02	95005K213	26.40	95005K215	31.11	95005K217	50.90	95005K219	75.42	95005K212	126.06
Loop												
Adhesive Back												
1″	95005K271	9.16	95005K273	15.09	95005K275	17.78	95005K277	29.09	95005K279	43.10	95005K272	66.73
2″	95005K291	16.02	95005K293	26.40	95005K295	31.11	95005K297	50.90	95005K299	75.42	95005K292	126.06

Hook & Loop

For information about hook and loop, see page 3508.

One-Piece Hook and Loop



Hook on one side and loop on the other allow each strap to fasten to itself. Secure bundles by wrapping strap around and overlapping the ends. Loop is nylon. Temperature range is 0° to 220° F.
Straps have polypropylene hook. **Black perforated rolls** have polyethylene hook.

Straps

Wd.	5-ft. Lengths		10-ft. Lengths		15-ft. Lengths		30-ft. Lengths		50-ft. Lengths		75-ft. Lengths	
Black												
1/2"	94905K629	$3.09	94905K115	$5.08	94905K31	$5.99	94905K32	$9.98	94905K121	$14.52	94905K33	$18.15
5/8"	94905K111	4.40	94905K116	6.85	94905K51	8.07	94905K52	13.20	94905K122	19.56	94905K53	24.45
3/4"	94905K112	4.91	94905K117	8.09	94905K41	9.53	94905K42	15.60	94905K123	23.11	94905K43	28.89
1"	94905K113	6.00	94905K118	9.34	94905K61	11.00	94905K62	18.00	94905K124	26.67	94905K63	33.34
1 1/2"	94905K159	7.80	94905K161	12.99	94905K162	14.03	94905K163	23.91	94905K164	38.47	94905K165	51.98
2"	94905K114	8.92	94905K119	15.45	94905K71	17.24	94905K72	32.10	94905K125	48.74	94905K73	59.44
Orange												
1/2"	94905K143	3.09	94905K148	5.08	94905K34	5.99	94905K35	9.98	94905K154	14.52	94905K36	18.15
5/8"	94905K144	4.40	94905K149	6.85	94905K14	8.07	94905K15	13.20	94905K155	19.56	94905K16	24.45
3/4"	94905K145	4.91	94905K151	8.09	94905K44	9.53	94905K45	15.60	94905K156	23.11	94905K46	28.89
1"	94905K146	6.00	94905K152	9.34	94905K24	11.00	94905K25	18.00	94905K157	26.67	94905K26	33.34
2"	94905K147	8.92	94905K153	15.45	94905K87	17.24	94905K88	32.10	94905K158	48.74	94905K89	59.44
White												
1/2"	94905K126	3.09	94905K132	5.08	94905K84	5.99	94905K85	9.98	94905K137	14.52	94905K86	18.15
3/4"	94905K128	4.91	94905K134	8.09	94905K94	9.53	94905K95	15.60	94905K139	23.11	94905K96	28.89
1"	94905K129	6.00	94905K135	9.34	94905K64	11.00	94905K65	18.00	94905K141	26.67	94905K66	33.34
2"	94905K131	8.92	94905K136	15.45	94905K74	17.24	94905K75	32.10	94905K142	48.74	94905K76	59.44

Black Perforated Rolls

Wd.	Perforated Every 6" Pieces per Roll			Perforated Every 8" Pieces per Roll			Perforated Every 12" Pieces per Roll		
1/2"	30	94905K11	$13.40	22	94905K12	$13.40	15	94905K13	$13.40
3/4"	30	94905K17	14.44	22	94905K18	14.44	15	94905K19	14.44
1"	30	94905K21	14.95	22	94905K22	14.95	15	94905K23	14.95

Flame-Retardant Hook and Loop

This hook and loop meets UL 94HB for flame retardance. Made of beige nylon. Temperature range is –10° to 130° F. *Adhesive back* has acrylic adhesive. *Plain back* can be sewn, stapled, or screwed to your surface.

Wd.	5-ft. Lengths		10-ft. Lengths		15-ft. Lengths		30-ft. Lengths		50-ft. Lengths		75-ft. Lengths	
Hook and Loop												
Adhesive Back												
5/8"	9776K629	$12.88	9776K74	$20.74	9776K1	$26.97	9776K82	$50.85	9776K86	$75.74	9776K91	$103.74
3/4"	9776K71	14.32	9776K75	21.90	9776K78	28.48	9776K83	53.62	9776K87	79.89	9776K92	109.41
1"	9776K72	17.24	9776K76	26.20	9776K79	34.01	9776K84	64.09	9776K88	95.51	9776K93	130.84
2"	9776K73	31.64	9776K77	47.37	9776K81	61.59	9776K85	116.02	9776K89	172.84	9776K94	236.80
Plain Back												
5/8"	9776K133	7.45	9776K137	10.33	9776K142	13.36	9776K146	25.24	9776K151	37.54	9776K155	51.45
3/4"	9776K134	7.94	9776K138	11.53	9776K143	14.97	9776K147	28.16	9776K152	41.99	9776K156	57.50
1"	9776K135	8.85	9776K139	14.68	9776K144	19.08	9776K148	36.00	9776K153	53.65	9776K157	73.47
2"	9776K136	16.45	9776K141	25.15	9776K145	32.63	9776K149	61.50	9776K154	91.65	9776K158	125.55
Hook												
Adhesive Back												
5/8"	9776K95	6.47	9776K111	11.78	9776K11	14.97	9776K21	27.28	9776K115	40.14	9776K31	53.47
3/4"	9776K96	8.89	9776K112	16.16	9776K12	20.65	9776K22	37.60	9776K116	55.26	9776K32	73.65
1"	9776K97	10.59	9776K113	19.42	9776K13	24.66	9776K23	44.84	9776K117	66.00	9776K33	87.96
2"	9776K98	18.64	9776K114	34.08	9776K14	43.35	9776K24	78.97	9776K118	116.08	9776K34	154.79
Loop												
Adhesive Back												
5/8"	9776K119	6.47	9776K124	11.78	9776K16	14.97	9776K26	27.28	9776K128	40.14	9776K36	53.47
3/4"	9776K121	8.89	9776K125	16.16	9776K17	20.65	9776K27	37.60	9776K129	55.26	9776K37	73.65
1"	9776K122	10.59	9776K126	19.42	9776K18	24.66	9776K28	44.84	9776K131	66.00	9776K38	87.96
2"	9776K123	18.64	9776K127	34.08	9776K19	43.35	9776K29	78.97	9776K132	116.09	9776K39	154.79

Flame-Resistant Hook and Loop

With a maximum temperature of 370° F, hook and loop meets Federal Motor Vehicle Safety Standard 302 and FAR (Federal Aviation Regulation) 25.853(12) and (60), though it is not intended for use in aircraft. Made of off-white polyphenylene with a plain back that can be sewn, stapled, or screwed to your surface. Maximum continuous length is 150 feet.

Wd.	Hook	Per Ft.	Loop	Per Ft.
1"	96125K41	$2.67	96125K42	$2.67
2"	96125K61	5.26	96125K63	4.92

Heat-Resistant Stainless Steel Hook and Loop

Get the flexibility of hook and loop combined with the corrosion and heat resistance of stainless steel. Strength will diminish with repeated use. Has a plain back that can be sewn, stapled, or screwed to your surface. Color is brown and temperature range is –40° to 800° F. Maximum continuous length is 75 feet.

Wd.	Hook	Per Ft.	Loop	Per Ft.
1"	96225K41	$37.00	96225K61	$33.62

Mil. Spec. Hook and Loop

Hook meets MIL-A-A-55126B, Type 2, Class 1; and loop meets MIL-A-A-55126B, Class 1. Both are nylon and have a plain back that can be sewn, stapled, or screwed to your surface. Maximum temperature is 200° F.

Wd.	Color	Available Lengths, ft.	Hook	Per Ft.	Loop	Per Ft.
3/4"	Black	15, 30, 75	88045K211	$0.41	88045K231	$0.41
1"	Black	15, 30, 75	88045K711	.47	88045K731	.48
1"	White	15, 30, 75	88045K712	.44	88045K732	.45
1 1/2"	Black	15, 30, 75	88045K811	.74	88045K831	.74
2"	Black	15, 30, 75	88045K911	.85	88045K931	.87
2"	White	15, 30, 75	88045K912	.81	88045K932	.84

Super-Wide Hook and Loop

Cover a large surface area with this hook and loop. Hook is polypropylene; loop is nylon. The plain back can be sewn, stapled, or screwed to your surface. Color is black and maximum temperature is 210° F. Maximum continuous length is 75 feet.

Hook			Loop	
Wd.		Per Ft.	Wd.	Per Ft.
57"	94975K42	$17.20	60"	94975K82	$10.39

For information about hook and loop, see page 3508.

Marine-Grade Hook and Loop

A high-tack rubber adhesive on the back of this hook and loop is quick-setting in moist conditions and outdoors. Made of black polyester. Temperature range is –20° to 180° F.

Wd.	1-ft. Lengths		3-ft. Lengths		5-ft. Lengths		10-ft. Lengths		15-ft. Lengths		30-ft. Lengths	
Hook												
5/8"	8200K111	$5.49	8200K211	$7.62	8200K311	$9.44	8200K411	$14.62	8200K511	$19.80	8200K611	$42.65
3/4"	8200K121	6.10	8200K221	8.46	8200K321	10.50	8200K421	16.26	8200K521	22.02	8200K621	47.42
1"	8200K131	4.60	8200K231	9.73	8200K331	12.07	8200K431	18.68	8200K531	25.29	8200K631	54.49
1 1/2"	8200K141	10.53	8200K241	14.63	8200K341	18.16	8200K441	28.09	8200K541	38.05	8200K641	81.96
2"	8200K151	14.24	8200K251	19.78	8200K351	24.53	8200K451	37.98	8200K551	51.43	8200K651	110.76
Loop												
5/8"	8200K116	5.49	8200K216	7.62	8200K316	9.44	8200K416	14.62	8200K516	19.80	8200K616	42.65
3/4"	8200K126	6.10	8200K226	8.46	8200K326	10.50	8200K426	16.26	8200K526	22.02	8200K626	47.42
1"	8200K136	4.60	8200K236	9.73	8200K336	12.07	8200K436	18.68	8200K536	25.29	8200K636	54.49
1 1/2"	8200K146	10.53	8200K246	14.63	8200K346	18.16	8200K446	28.09	8200K546	38.05	8200K646	81.96
2"	8200K156	14.24	8200K256	19.78	8200K356	24.53	8200K456	37.98	8200K556	51.43	8200K656	110.76

Vinyl-Bonding Hook and Loop

Acrylic adhesive lets you adhere this hook and loop to vinyl and other plastics. Made of black nylon. Maximum temperature is 120° F.

Wd.	Available Lengths, ft.	Hook	Per Ft. 1-74	Per Ft. 75-Up	Loop	Per Ft. 1-74	Per Ft. 75-Up
1"	5, 15, 30, 75	96035K21	$2.52	$2.13	96035K41	$2.52	$2.13
2"	5, 15, 30, 75	96035K62	5.03	4.27	96035K82	5.03	4.27

Super-Grip Double-Head Hook

Two hooks are better than one when it comes to gripping power. Made of black nylon with acrylic adhesive on the back. Temperature range is –20° to 200° F.





Wd.	15-ft. Lengths		30-ft. Lengths		75-ft. Lengths	
Hook						
1 1/2"	94915K631	$25.95	94915K632	$45.20	94915K635	$83.70
2"	94915K751	28.50	94915K752	49.65	94915K755	91.95
Loop						
1 1/2"	9489K391	17.53	9489K545	31.88	9489K393	62.50
2"	9489K431	23.99	9489K432	43.62	9489K433	85.53

Self-Lock Hook-Head Fasteners

When parallel strips are pressed together, this low-profile hook material fastens to itself for a zipper-like closure. No loop needed. An audible click signals a secure hold. Material will not engage if it is not parallel. Made of clear polypropylene with rubber adhesive on the back. Temp. range is –40° to 120° F.

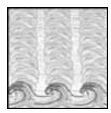



Wd.	15-ft. Lengths		45-ft. Lengths	
3/8"	7141A2	$9.29	7141A4	$25.36

Self-Lock Mushroom-Head Fasteners

Mushroom-shaped heads allow this material to attach to itself for a secure hold, eliminating the need for separate hook and loop. Made of polyolefin.

Adhesive Back—Have rubber adhesive. Maximum temperature is 120° F.

Super-Adhesive Back—A high-performance acrylic adhesive withstands moisture and high temperatures. Will bond to vinyl. Maximum temperature is 200° F.

Plain Back—Can be sewn, stapled, or screwed to your surface. Maximum temperature is 200° F.

Strips

Have 250 heads per square inch. Maximum continuous length is 150 feet.





Wd.	Black	Per Ft. 1-149	Per Ft. 150-Up	Clear	Per Ft. 1-149	Per Ft. 150-Up
Adhesive Back						
1/2"	96055K21	$2.05	$1.84			
3/4"	96055K22	2.70	1.87			
1"	96055K23	3.41	2.35			
1 1/2"	96055K29	4.86	2.91			
2"	96055K25	6.53	3.92			
3"	96055K28	9.79	5.88			
Super-Adhesive Back						
1/2"	96055K41	2.84	1.96	94935K41	$2.84	$1.96
3/4"	96055K42	3.75	2.58	94935K22	4.95	2.97
1"	96055K43	4.74	3.27	94935K43	4.74	3.27
1 1/2"	96055K49	6.74	4.05	94935K24	7.74	4.64
2"	96055K45	9.08	5.45	94935K45	9.08	5.45
3"	96055K48	12.38	8.17	94935K48	12.38	8.17
Plain Back						
1/2"	96055K31	2.03	1.40	94935K31	2.03	1.40
1"	96055K33	3.39	2.34	94935K33	3.39	2.34
2"	96055K35	6.49	3.89	94935K35	6.49	3.89

Squares and Rectangles

Super-adhesive back have 250 heads per square inch.

Plain back have 400 heads per square inch for a stronger hold. They also have two counterbored 0.142" dia. holes for fastening with a screw.



Plain Back

Wd.	Lg.	Black Pkg. of 10		Clear Pkg. of 10	
Super-Adhesive Back					
1"	1"	87535K61	$8.51	87535K51	$9.23
1"	2"	87535K63	16.36	87535K53	18.21
Plain Back					
1 1/2"	1 1/2"	87535K71	13.89		

Discs with Hole—Plain Back

Have 250 heads per square inch and a counterbored 0.16" dia. hole for fastening with a screw.



Dia.	Color	Pkg. of 10	
1 1/8"	Black	87535K41	$10.93

Discs—Super-Adhesive Back

Have 250 heads per square inch.



Dia.	Color	Pkg. of 10	
3/4"	Clear	87535K31	$10.60

Zippers

Plastic teeth and a metal tab are attached to polyester fabric. Zippers open and close from one end and can be used indoors and outdoors. Length is measured from end stop to end stop.

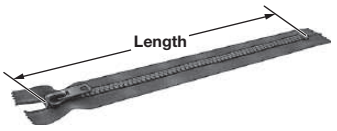

Teeth Wd.	Overall Wd.	Color	1-ft. Lengths		3-ft. Lengths		6-ft. Lengths	
3/16"	1 1/2"	Black	9418K211	$2.57	9418K213	$5.31	9418K216	$9.54
3/16"	1 1/2"	White	9418K221	2.57	9418K223	5.31	9418K226	9.54
3/8"	1 1/2"	Black	9418K231	4.23	9418K233	7.34	9418K236	11.37
3/8"	1 1/2"	White	9418K241	4.23	9418K243	7.34	9418K246	11.37

About Magnetic Poles

Magnets' holding power is concentrated in areas called poles. Similar poles repel each other, and opposite poles attract.

Holding Power on One Face

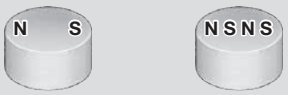

Two Poles — Four Poles

This orientation concentrates holding power on one face. Magnets with multiple north (N) and south (S) poles have greater holding power on thin material.

Holding Power on Both Faces



Two Poles — Eight Poles

This is the most common pole orientation. Magnets have good pull on both faces.

Flexible Magnets

Use scissors to cut magnets into custom shapes for use as latches, tool holders, display materials, and shelf labels. Magnets are ferrite bonded with synthetic rubber and resist corrosion and demagnetization. Temperature range is 0° to 150° F, except 3M VHB (very high bond) magnets have a temperature range of 0° to 140° F. Color is dark brown to black.

Strips



Holding Power on One Face



Holding Power on Both Faces

Thickness tolerance is ±0.005". Width tolerance is –4% to +8%.
Increased-pull magnets have at least 20% more pull than standard-pull magnets.

Thick.	Wd.	Lengths, ft.	Standard Pull: Max. Pull, lbs. per lin. ft.	Standard Pull: Plain Back	Per Ft.	Standard Pull: Adhesive Back	Per Ft.	Standard Pull: 3M VHB (Very High Bond) Adhesive Back	Per Ft.	Increased Pull: Max. Pull, lbs. per lin. ft.	Increased Pull: Plain Back	Per Ft.	Increased Pull: Adhesive Back	Per Ft.
Holding Power on One Face														
1/32"	1/4"	5, 10, 20, 50, 100	1.4	5759K11	$0.40	5759K12	$0.44			2	5769K63	$0.49	5769K64	$0.54
1/32"	3/8"	5, 10, 20, 50, 100	2	5759K13	.46	5759K14	.53			2.8	5769K65	.60	5769K66	.67
1/32"	1/2"	5, 10, 20, 50, 100	4	5699K14	.21	5759K26	.31	5759K45	$0.89					
1/32"	3/4"	5, 10, 20, 50, 100	8	5699K24	.29	5759K36	.43							
1/32"	1"	5, 10, 20, 50, 100	8	5699K16	.33	5759K28	.53	5759K46	1.53					
1/32"	1 1/2"	5, 10, 20, 50, 100	16	5699K26	.51	5759K38	.78							
1/32"	2"	5, 10, 20, 50, 100	16	5699K55	.64	5759K75	1.05	5759K51	3.09					
1/32"	3"	5, 10, 20, 50, 100	24	5699K29	.95	5759K39	1.42	5759K52	4.44					
1/32"	4"	5, 10, 20, 50, 100	26	5759K15	2.26	5759K16	3.13			35	5769K67	3.81	5769K68	4.63
1/16"	1/4"	5, 10, 20, 50, 100	2.7	5759K17	.41	5759K18	.52			3.9	5769K69	.68	5769K73	.80
1/16"	3/8"	5, 10, 20, 50, 100	4	5759K19	.56	5759K21	.66			5	5769K74	.86	5769K75	.92
1/16"	1/2"	5, 10, 20, 50, 100	6	5699K15	.32	5759K27	.48	5759K53	1.09	9	5769K21	.77	5769K61	1.00
1/16"	3/4"	5, 10, 20, 50, 100	11	5699K25	.40	5759K47	.61							
1/16"	1"	5, 10, 20, 50, 100	12	5699K17	.49	5759K29	.76	5759K54	1.90	18	5769K41	1.30	5769K81	1.66
1/16"	1 1/2"	5, 10, 20, 50, 100	23	5699K27	.73	5759K49	1.13							
1/16"	2"	5, 10, 20, 50, 100	24	5699K62	.96	5759K82	1.74	5759K55	4.12	35	5769K43	4.89	5769K44	5.24
1/16"	3"	5, 10, 20, 50, 100	45	5699K28	1.46	5759K59	1.94			50	5769K51	3.57	5769K91	4.60
1/16"	4"	5, 10, 20, 50, 100	50	5759K22	4.52	5759K33	5.32			70	5769K76	7.62	5769K77	8.30
1/8"	1/4"	5, 10, 20, 50, 100	3	5759K34	.94	5759K35	1.18			4	5769K78	1.46	5769K79	1.64
1/8"	3/8"	5, 10, 20, 50, 100	4	5759K37	1.04	5759K41	1.59			6	5769K84	1.88	5769K85	2.19
1/8"	1/2"	5, 10, 20, 50, 100	8	5699K11	.54	5759K23	.77			12	5769K22	1.21		
1/8"	1/2"	5, 10, 20, 50								12			5769K62	2.47
1/8"	3/4"	5, 10, 20, 50, 100	12	5699K41	.73	5759K63	1.05			18	5769K32	1.85		
1/8"	3/4"	5, 10, 20, 50								18			5769K72	2.56
1/8"	1"	5, 10, 20, 50, 100	16	5699K12	.93	5759K24	1.31			24	5769K42	2.26		
1/8"	1"	5, 10, 20, 50								24			5769K82	3.17
1/8"	1 1/2"	5, 10, 20, 50, 100	24	5699K42	1.33	5759K64	1.89			31	5769K45	6.32	5769K46	6.58
1/8"	2"	5, 10, 20, 50, 100	32	5699K68	1.79	5759K88	2.60			40	5769K47	8.17	5769K48	8.51
1/8"	3"	5, 10, 20, 50, 100	45	5699K49	2.94	5759K69	3.50							
1/8"	3"	5, 10, 20, 50								70	5769K52	6.65	5769K92	8.98
1/8"	4"	5, 10, 20, 50, 100	55	5759K43	8.20	5759K44	9.10			80	5769K86	14.47	5769K87	15.16
3/16"	0.95"	5, 10, 20, 50, 100	15	5699K13	1.87	5759K25	2.18			25	5769K49	5.23	5769K53	7.19
3/16"	1 1/2"	5, 10, 20, 50, 100	24	5699K72	2.67	5759K92	3.20			35	5769K54	6.03	5769K55	9.69
1/4"	5/8"	5, 10, 20, 50, 100	9	5699K73	1.22	5759K93	1.56			14	5769K56	4.45	5769K57	5.40
1/4"	2"	5, 10, 20, 50	31	5699K74	3.38	5759K94	3.98			50	5769K58	13.81	5769K59	15.15
Holding Power on Both Faces														
1/32"	1"	5, 10, 20, 50, 100	6	4774K34	1.02	4774K35	1.20			8	4774K43	1.50	4774K44	1.71
1/32"	2"	5, 10, 20, 50, 100	13	4774K36	1.68	4774K37	2.26			16	4774K45	2.63	4774K46	3.19
1/16"	1"	5, 10, 20, 50, 100	13	4774K38	1.60	4774K39	1.82			16	4774K47	2.53	4774K48	2.75
1/16"	2"	5, 10, 20, 50, 100	26	4774K41	2.58	4774K42	3.01			32	4774K49	4.80	4774K51	5.24
1/16"	3"	5, 10, 20, 50, 100	27	4774K24	1.82	4774K27	5.72			45	4774K29	6.61	4774K31	7.43
3/16"	3"	5, 10, 20, 50, 100	40			4774K28	12.51			65	4774K32	19.45	4774K33	20.72
3/16"	3"	5, 10, 20, 50	40	4774K26	4.43									

(Continued on following page)

Warning! ***Max. pull ratings are based on direct contact with rust-free and unpainted iron plate. Variations in material condition will significantly reduce these ratings. Do not use magnets for lifting over people.***

Flexible Magnets *(Continued from previous page)*

Sheets





Thickness tolerance is ±0.005″. Width tolerance is ±3%. Length tolerance is ±2%.

Thick.	Wd.	Lg.	Max. Pull, lbs.	Plain Back		Adhesive Back	
Holding Power on One Face							
0.015″	2″	3½″	2	5775K81	$0.28	5775K2★	$4.26
0.02″	2″	4″	3	5775K82	.36	5775K11	.31
0.02″	3″	5″	6.25	5775K83	.67	5775K21	.50
0.02″	5″	8″	16.5	5775K84	1.12	5775K4	1.39
0.02″	7″	10″	29	5775K85	2.28	5775K6	2.68
1/32″	12″	12″	85	5775K86	4.56	5775K8	4.84
1/32″	12″	18″	127.5	5775K87	6.92	5775K15	6.09
1/32″	12″	24″	170	5775K88	9.00	5775K17	8.03
1/16″	12″	24″	520	1834K1	16.93	1834K2	18.13
Holding Power on Both Faces							
1/32″	12″	24″	160	3327K5	6.62	5775K89	12.88
1/16″	12″	24″	200	3327K3	13.00	5775K91	20.76

★ Comes as one sheet that consists of ten 2″×3½″ pieces.

Squares and Discs



1



2



3

No cutting required—magnets come in convenient shapes and sizes. Thickness tolerance is ±1/16″.
(1) Squares—Width and length tolerances are ±0.06″.
(2&3) Discs—Diameter tolerance is ±0.025″.

	Thick.	Wd.	Lg.	Max. Pull, lbs.	Pkg. Qty		Pkg.
Holding Power on One Face—Adhesive back							
1	3/16″	1/2″	1/2″	0.4	8	58145K71	$4.42
1	3/16″	3/4″	3/4″	0.8	6	58145K73	3.41
1	3/16″	1″	1″	1.5	4	58145K75	4.06
Holding Power on Both Faces—Plain back							
2	3/16″	1/2″ Dia.	—	0.4	10	58145K81	3.78
2	3/16″	3/4″ Dia.	—	0.9	8	58145K83	3.91
3	3/16″	1″ Dia.	—	0.6	6	58145K85	5.43

Sheeting

Thickness tolerance is ±0.002″. Width tolerance is ±1/16″.

Thick.	Wd.	Max. Pull, lbs. per sq. ft.	Max. Continuous Length, ft.	Plain Back	Per Ft.	Adhesive Back	Per Ft.
Holding Power on One Face							
0.01″	24 3/8″	36	50	5756K12	$1.51	5756K11	$2.47
1/64″	24 3/8″	80	50	5756K31	2.10	5756K51	3.69
0.02″	24 3/8″	90	50	5756K32	2.85	5756K52	4.37
0.025″	24 3/8″	100	50	5756K33	3.54	5756K53	4.88
1/32″	24 3/8″	130	50	5756K35	3.98	5756K55	5.86
1/16″	24 3/8″	180	50	5756K36	8.52	5756K56	10.04

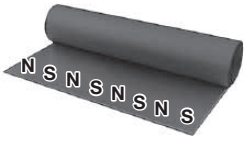

Holding Power on One Face

Flexible Magnets with Vinyl Face

Handwrite or use a silk screen printer to create messages and designs on the vinyl face. Magnets are ferrite bonded with synthetic rubber and resist corrosion and demagnetization. They can be cut with scissors. Temperature range is –15° to 160° F.

Sheets





Thickness tolerance is ±0.0035″. Width tolerance is ±0.03″. Length tolerance is ±1%.

Thick.	Wd.	Lg.	Max. Pull, lbs.	Pkg. Qty.		Pkg.
Holding Power on One Face—White vinyl on one face						
0.02″	2″	4″	5	25	5775K12	$5.00
0.02″	3″	5″	9	25	5775K22	9.50
0.02″	5″	8″	26	10	5775K3	12.10
0.02″	7″	10″	45	10	5775K5	13.58
0.03″	12″	12″	130	1	5775K7	3.65
0.03″	12″	18″	190	1	5775K16	6.54
0.03″	12″	24 3/8″	260	1	5775K18	7.97
0.06″	12″	24″	520	1	1834K3	23.53
Holding Power on Both Faces—White vinyl on both faces						
0.03″	12″	24″	240	1	3327K6	7.52
0.06″	12″	24″	210	1	3327K4	14.66

Sheeting

Thickness tolerance is ±0.002″. Width tolerance is ±0.03″.

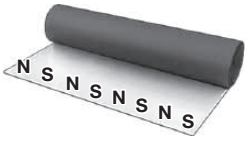

Holding Power on One Face

Thick.	Wd.	Max. Pull, lbs. per sq. ft.	Choose a Color	Max. Continuous Length, ft.		Per Ft.
Holding Power on One Face—Vinyl on one face						
0.015″	24 3/8″	80	White	50	5756K41	$3.74
0.02″	24 3/8″	90	White	50	5756K42	4.44
0.025″	24 3/8″	100	White	50	5756K43	4.83
0.03″	24 3/8″	130	White	50	5756K45	5.79
0.03″	24 3/8″	130	Black, Blue, Green, Silver, Yellow	10	5761K14	5.79
0.06″	24 3/8″	180	White	50	5756K46	10.66

High-Temperature Flexible Magnets

With a temperature range of –40° to 250° F, these magnets withstand higher temperatures than our other flexible magnets. They are ferrite bonded with synthetic rubber and resist corrosion and demagnetization. They can be cut with scissors. Color is brown. Thickness tolerance is ±0.007″. Width and length tolerances are ±1%.



Holding Power on Both Faces

Thick.	Wd.	Lg.	Max. Pull, lbs.	Plain Back		Adhesive Back	
Holding Power on Both Faces							
0.06″	9″	12″	160	7301T11	$12.43	7301T21	$14.85
0.06″	9″	24″	320	7301T15	23.40	7301T25	27.94
1/8″	9″	12″	160	7301T12	23.66	7301T22	25.86
1/8″	9″	24″	320	7301T16	44.76	7301T26	48.92
3/16″	9″	12″	Not Rated	7301T13	32.59	7301T23	34.64
3/16″	9″	24″	Not Rated	7301T17	61.92	7301T27	65.78
1/4″	9″	12″	Not Rated	7301T14	41.40	7301T24	43.33
1/4″	9″	24″	Not Rated	7301T18	78.83	7301T28	82.50

Warning! ***Max. pull ratings are based on direct contact with rust-free and unpainted iron plate. Variations in material condition will significantly reduce these ratings. Do not use magnets for lifting over people.***

Ultra-High-Pull Stretchable Magnets



Holding Power on One Face



Holding Power on Both Faces

Stretch these strips over corners and irregular surfaces. Magnets are neodymium-iron-boron bonded with synthetic rubber. They can be cut with scissors. Thickness tolerance is ±0.0075″. Width tolerance is ±0.02″. Length tolerance is ±0.012″. Color is brownish gray. Temperature range is 40° to 175°F.

Thick.	Wd.	Lg.	Max. Pull, lbs.		
Holding Power on One Face					
1/16″	1″	12″	25	3651K8	$25.40
1/16″	2″	12″	52	3651K3	51.20
Holding Power on Both Faces					
1/8″	1/2″	12″	6	3651K4	29.67
1/8″	1″	12″	12	3651K7	50.32

Magnetic-Receptive Flexible Sheets


Vinyl Face with Plain Back

Create a nonmetallic, nonmagnetic surface that magnets will stick to. Sheets are made of rubber and iron oxide and can be cut with scissors. Thickness tolerance is ±0.002″. Width tolerance is ±0.03″. Temperature range is 0° to 160°F.

Vinyl Face with Plain Back—You can handwrite on the face.

	Thick.	Wd.	Color	Max. Continuous Length, ft.		Per Ft.
Plain Back	0.025″	24 3/8″	Black	50	1086N11	$5.38
Adhesive Back	0.029″	24 3/8″	Black	50	1086N12	6.25
Vinyl Face with Plain Back	0.03″	24 3/8″	White	50	1086N13	6.03

Machinable High-Pull Neodymium Magnets

Neodymium-iron-boron bonded with epoxy resin makes these magnets machinable with carbide tooling. Magnets resist demagnetization. Temperature range is –20° to 300°F (unless noted). Color is gray.

Rectangular Bars

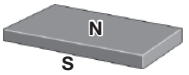

Length and width tolerances are ±2.5%. Thickness tolerance is ±0.005″.

Lg.	Wd.	Thick.	Max. Pull, lbs.		Each★
0.394″	0.197″	0.197″	1.1	5903K61	$3.22
0.5″	0.5″	0.125″	1.6	5903K54■	4.56
0.5″	0.5″	0.250″	3	5903K55■	6.80
0.75″	0.75″	0.250″	4	5903K56■	12.24
0.807″	0.303″	0.150″	1.5	5903K62	7.99
0.807″	0.303″	0.268″	2.8	5903K63	14.17
1″	1″	0.125″	3	5903K53■	6.40
1″	1″	0.250″	6	5903K51■	12.68
1″	1″	0.375″	9	5903K52■	17.36
1.181″	1.181″	0.079″	2	5903K64	15.13
1.181″	1.181″	0.197″	4	5903K65	28.46
1.181″	1.181″	0.394″	9	5903K66	50.72
1.5″	1.5″	0.250″	9	5903K57■	22.64
1.969″	0.394″	0.079″	1.5	5903K67	9.46
1.969″	0.394″	0.197″	3	5903K68	21.86
1.969″	0.394″	0.394″	7	5903K69	31.80
1.969″	0.394″	0.472″	8	5903K71	33.70
1.969″	1.969″	0.250″	10	5903K72	59.86
1.969″	1.969″	0.500″	20	5903K73	100.35
1.969″	1.969″	0.748″	30	5903K74	150.54
1.969″	1.969″	1.000″	40	5903K75	200.69

★ Prices are 25% lower in quantities of 50 or more.
■ Temperature range is –40° to 180°F.

Rings



OD, ID, and thickness tolerances are ±0.005″.

OD	ID	Thick.	Max. Pull, lbs.		Each★
1.023″	0.866″	0.197″	0.6	5901K71	$12.04
1.023″	0.866″	0.394″	1.1	5901K72	14.78
1.181″	0.630″	0.197″	2	5901K73	22.21
1.181″	0.630″	0.394″	4	5901K74	33.39
1.378″	0.811″	0.197″	2	5901K75	22.55
1.378″	0.827″	0.394″	4	5901K76	43.74

★ Prices are 25% lower in quantities of 50 or more.

Discs



Diameter tolerance for magnets up to 0.335″ dia. is ±0.007″; for 0.375″ dia. and larger, tolerance is ±0.025″. Thickness tolerance is ±0.005″.

Dia.	Thick.	Max. Pull, lbs.		Each★
0.079″	0.197″	0.3	5902K41	$1.68
0.079″	0.394″	0.6	5902K42	1.85
0.118″	0.138″	0.3	5902K43	2.11
0.118″	0.276″	0.6	5902K44	2.12
0.157″	0.276″	0.8	5902K45	2.67
0.157″	0.394″	1.1	5902K46	2.76
0.197″	0.079″	0.3	5902K47	1.60
0.197″	0.157″	0.6	5902K48	1.83
0.197″	0.276″	1	5902K49	2.39
0.197″	0.394″	1.4	5902K51	2.68
0.236″	0.079″	0.3	5902K52	1.58
0.236″	0.157″	0.7	5902K53	2.20
0.236″	0.394″	1.7	5902K54	4.22
0.25″	0.125″	0.7	5902K11■	3.03
0.25″	0.25″	1.4	5902K12■	3.46
0.335″	0.118″	0.7	5902K55	2.49
0.375″	0.25″	2.2	5902K13■	4.44
0.394″	0.197″	1.4	5902K56	6.64
0.394″	0.394″	2.9	5902K57	8.83
0.492″	0.197″	1.8	5902K58	8.34
0.492″	0.394″	3	5902K59	14.57
0.5″	0.125″	1.4	5902K14■	4.24
0.5″	0.25″	2.9	5902K15■	5.76
0.591″	0.118″	1.3	5902K61	5.78
0.591″	0.197″	2.1	5902K62	10.16
0.591″	0.303″	3	5902K63	14.78
0.591″	0.394″	4	5902K64	15.06
0.75″	0.188″	3	5902K16■	7.68
0.75″	0.25″	4	5902K17■	9.88
0.787″	0.197″	2.9	5902K65	14.85
0.787″	0.303″	4	5902K66	21.86
0.787″	0.394″	5	5902K67	22.68
0.984″	0.197″	3	5902K68	21.86
0.984″	0.394″	7	5902K69	31.79
1″	0.125″	2.9	5902K18■	8.72
1″	0.25″	5	5902K19■	11.08
1″	0.5″	11	5902K21■	17.32

★ Prices are 25% lower in quantities of 50 or more.
■ Temperature range is –40° to 180°F.

Build-Your-Own Neodymium Encased Magnets

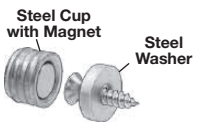

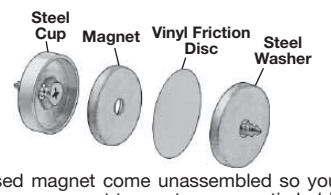

All the pieces of an encased magnet come unassembled so you can mount the washer wherever you want to create a magnetic hold. Maximum temperature is 175°F. Color is gray. **Press-fit** magnets flush mount into a hole. **Screw-in** magnets screw into a surface.

Cup OD	Cup Thick.	Magnet OD	Magnet ID	Magnet Thick.	Max. Pull, lbs.		
Press Fit							
3/8″	0.25″	0.25″	____	0.08″	2	3506K21	$1.80
Screw In							
1/2″	0.25″	0.36″	____	0.075″	6	3506K23	2.42
5/8″	0.25″	0.49″	____	0.105″	16	3506K25	2.62
3/4″	0.25″	0.55″	____	0.12″	19	3506K53	5.56
7/8″	0.281″	0.74″	0.375″	0.105″	23	3506K27	3.42
1″	0.27″	0.8″	0.44″	0.12″	26	3506K51	6.90
1 1/8″	0.27″	1″	0.5″	0.11″	30	3506K29	4.44
1 1/2″	0.27″	1.35″	0.5″	0.12″	35	3506K52	9.96

Warning! ***Max. pull ratings are based on direct contact with rust-free and unpainted iron plate. Variations in material condition will significantly reduce these ratings. Do not use magnets for lifting over people.***

Ultra-High-Pull Neodymium Magnets

These are the strongest magnets we offer. All are neodymium-iron-boron and resist demagnetization. They cannot be machined. **Plain** magnets are gray. **Nickel-plated** magnets are more corrosion resistant than plain magnets. Color is silver.

Discs

Diameter and thickness tolerances are ±0.005″.

Standard-pull magnets have a maximum temperature of 300° F (unless noted).

Increased-pull magnets have at least 20% more pull than standard-pull magnets. Temperature range is –40° to 245° F.



Dia.	Thick.	Max. Pull, lbs.	Plain	Each★	Nickel Plated	Each★
Standard Pull						
0.06″	1/8″	0.6			5862K11	$0.59
0.08″	0.06″	0.4			5862K72	.37
0.1″	0.04″	0.3			5862K74	.69
0.1″	0.06″	0.5			5862K75	1.17
0.118″	0.06″	0.5			5862K21	3.09
1/8″	0.04″	0.4			5862K77	1.40
1/8″	0.06″	0.6			5862K13	.48
1/8″	0.1″	0.7	5862K24	$1.57	5862K25	1.81
1/8″	1/8″	0.7	5862K51	1.92	5862K61	2.27
0.157″	0.04″	0.7			5862K23	3.38
0.187″	0.06″	0.9	5862K962■	1.04	5862K961■	1.08
0.187″	1/4″	3	5862K964■	2.12	5862K963■	2.19
1/4″	0.06″	1.3			5862K79	1.27
1/4″	0.1″	1.8	5862K52	2.10	58605K31	2.40
1/4″	1/8″	2.1			58605K33	2.69
1/4″	1/4″	2.5	58605K35	3.26	58605K75	3.59
0.32″	0.08″	2.2			5862K83	2.44
0.32″	1/4″	4	5862K44	5.15	5862K45■	5.27
3/8″	0.06″	1.5	5862K46	3.44	5862K47■	3.61
3/8″	0.1″	2.8	5862K26	3.81	5862K27	4.64
3/8″	1/8″	3	5862K95	3.94	5862K96	4.51
3/8″	1/4″	5	5862K55	5.63	5862K65	6.43
3/8″	3/8″	10	5862K966■	6.70	5862K965■	6.85
3/8″	1″	29	5862K968■	11.85	5862K967■	12.15
1/2″	0.06″	1.2	5862K48	2.16	5862K59■	3.76
1/2″	1/8″	4	5862K971■	4.65	5862K969■	4.80
1/2″	0.19″	5	5862K53	6.07	5862K63	6.27
1/2″	1/4″	7	58605K37	6.32	58605K77	6.42
1/2″	3/8″	14	5862K93	9.16	5862K94	9.32
1/2″	1/2″	19	5862K28	11.74	5862K29	11.95
1/2″	3/4″	32			5862K84	9.10
5/8″	1/8″	10			5862K86	6.60
5/8″	1/4″	13			5862K87	10.84
5/8″	1/2″	27			5862K88	11.87
3/4″	0.06″	3			5862K892	5.49
3/4″	0.1″	5	5862K3	7.22	5862K31	8.30
3/4″	1/8″	8			5862K893	8.73
3/4″	0.187″	10	5862K973■	12.60	5862K972■	12.95
3/4″	1/4″	14	5862K91	12.92	5862K92	16.21
3/4″	1/2″	28	5862K32	15.08	5862K33	22.83
7/8″	1/8″	9			5862K896	10.81
7/8″	1/4″	19			5862K897	22.15
7/8″	3/8″	15	58605K41	21.27		
1″	1/8″	10	58605K43	14.04	58605K83	14.21
1″	1/4″	14	58605K45	15.66	58605K85	16.74
1″	1/2″	35	5862K38	32.84	5862K39	33.36
1 1/2″	1/4″	29			5862K15	34.09
1 1/2″	3/8″	40			5862K17	49.27
1 1/2″	1/2″	55			5862K19	67.76
2″	1/8″	19	5862K4	36.08	5862K41	39.70
2″	1/4″	35	5862K42	59.46	5862K43	61.49
3″	1/4″	50	58605K47	121.16	58605K87	124.26
Increased Pull						
1/8″	1/8″	1.5			5862K981	1.90
1/4″	1/8″	3			5862K982	2.67
1/4″	1/4″	6			5862K983	3.62
3/8″	1/8″	4			5862K984	4.57
3/8″	1/4″	9			5862K985	6.48
1/2″	1/8″	6			5862K986	6.10
1/2″	1/4″	12			5862K987	9.33
1/2″	1/2″	24			5862K988	15.62
3/4″	1/4″	18			5862K989	17.14
3/4″	1/2″	35			5862K991	30.10

★ Prices are 25% lower in quantities of 50 or more.
■ Maximum temperature is 175° F.

Discs with Countersunk Mounting Hole

Discs are nickel plated. Dia. and thick. tolerances are ±0.004″. Max. temp. is 175° F. Fasteners are not included.



Dia.	Thick.	Max. Pull, lbs.	For Screw Size		Each★
3/8″	1/8″	2.5	No. 4	5862K12	$2.09
1/2″	1/8″	6	No. 4	5862K14	3.31
5/8″	1/8″	5	No. 6	5862K16	5.00
3/4″	1/8″	6	No. 8	5862K18	6.95
7/8″	1/8″	8	No. 8	5862K34	9.65
1″	3/16″	16	No. 10	5862K35	11.85

★ Prices are 25% lower in quantities of 50 or more.

Balls

Balls are nickel plated and have a diameter tolerance of ±0.005″. Maximum temperature is 175° F.



Dia.	Max. Pull, lbs.		Each★
1/4″	1	3945K2	$2.87
1/2″	2	3945K3	6.80
3/4″	4	3945K4	16.00

★ Prices are 25% lower in quantities of 50 or more.

Rings

OD, ID, and thickness tolerances are ±0.005″. Max. temp. is 300° F.



OD	ID	Thick.	Max. Pull, lbs.	Plain	Each★	Nickel Plated	Each★
1/4″	1/8″	0.1″	1.3	3360K1	$2.56	3360K11	$2.89
1/4″	1/8″	1/4″	2.3	3360K2	3.43	3360K21	3.77
3/8″	1/8″	0.06″	1.5			3360K81	1.43
3/8″	1/8″	0.1″	2.2			3360K7	2.04
3/8″	1/8″	1/4″	5			3360K71	3.98
1/2″	1/8″	0.1″	3			3360K72	6.34
1/2″	1/8″	1/4″	8			3360K73	6.67
1/2″	1/8″	1/2″	16			3360K74	15.56
1/2″	0.2″	0.1″	3	3360K3	5.94	3360K31	6.57
1/2″	0.2″	1/4″	8	3360K4	10.74	3360K41	12.97
1″	1/8″	0.1″	7			3360K75	5.42
1″	1/8″	1/4″	19			3360K76	11.26
1″	1/4″	0.1″	6			3360K77	13.74
1″	1/4″	1/4″	16			3360K78	39.60
1″	1/2″	0.1″	7	3360K5	18.45	3360K51	20.72
1″	1/2″	1/4″	20	3360K6	25.83	3360K61	28.29
1″	1/2″	1/2″	21			3360K79	44.15
1″	1/2″	3/4″	32			3360K8	45.27

★ Prices are 25% lower in quantities of 50 or more.

Rectangular Bars

Length, width, and thickness tolerances are ±0.005″. Temperature range is –40° to 300° F.



Lg.	Wd.	Thick.	Max. Pull, lbs.	Plain	Each★	Nickel Plated	Each★
1/8″	1/8″	1/8″	1.5			5848K41	$1.00
1/4″	1/4″	0.1″	1.7	5848K31	$1.69	5848K51	1.72
1/4″	1/4″	1/8″	2.7	5848K11	2.04	5848K12	2.07
3/8″	3/8″	0.1″	3	5848K13	2.88	5848K14	3.79
3/8″	3/8″	1/8″	4	5848K15	2.41	5848K16	4.64
1/2″	1/2″	0.1″	4	5848K17	3.07	5848K18	5.18
1/2″	1/2″	0.21″	7	5848K32	6.64	5848K52	7.28
1/2″	1/2″	1/4″	10	5848K21	7.28	5848K22	10.35
5/8″	1/4″	0.1″	3	5848K77	2.88	5848K78	3.17
5/8″	5/8″	0.1″	5	5848K23	6.29	5848K24	7.05
5/8″	5/8″	1/8″	6	5848K25	8.00	5848K26	8.84
3/4″	1/4″	0.1″	3	5848K81	4.63	5848K82	7.67
3/4″	1/4″	1/4″	9	5848K83	5.32	5848K84	10.60
3/4″	3/4″	0.1″	6	5848K27	10.21	5848K28	10.32
3/4″	3/4″	1/8″	8	5848K61	9.40	5848K62	11.08
3/4″	3/4″	0.32″	16	5848K33	21.96	5848K53	22.04
1″	1/4″	0.1″	4	5848K67	3.33	5848K68	6.00
1″	1/4″	1/4″	10	5848K71	7.29	5848K72	8.16
1″	1″	0.1″	8	5848K65	12.07	5848K66	21.47
1″	1″	3/8″	23	58585K61	24.55	58585K31	27.71
2″	1/4″	0.1″	6	5848K73	9.64	5848K74	9.93
2″	1/4″	1/4″	15	5848K75	15.20	5848K76	18.49
2″	2″	1/2″	65	5848K34	87.66	5848K54	97.44
2″	2″	1″	75	58585K71	181.65	58585K41	205.00

★ Prices are 25% lower in quantities of 50 or more.

Warning! ***Max. pull ratings are based on direct contact with rust-free and unpainted iron plate. Variations in material condition will significantly reduce these ratings. Do not use magnets for lifting over people.***

Adhesive-Back Ultra-High-Pull Neodymium Magnets





The adhesive back lets you press these corrosion-resistant, nickel-plated neodymium-iron-boron magnets into place. Maximum temperature is 175° F. Color is silver. They cannot be machined.

Rectangular Bars—Length tolerance is ±2.5%. Width tolerance is ±3.8%. Thickness tolerance is ±0.005″.

Discs—Diameter tolerance is ±2.7%. Thickness tolerance is ±0.005″.

Lg.	Wd./ Dia.	Thick.	Max. Pull, lbs.	Adhesive on North Pole Side	Each★	Adhesive on South Pole Side	Each★
Rectangular Bars with Adhesive							
1/4″	0.13″	0.100″	1.6	7048T31	$3.50	7048T32	$3.50
1/4″	1/4″	0.100″	2.2	7048T24	3.71	7048T25	3.71
3/8″	0.188″	0.188″	4	7048T33	4.64	7048T34	4.64
0.467″	0.153″	0.074″	1.7	7048T22	3.71	7048T23	3.71
1/2″	1/2″	0.100″	4	7048T26	6.68	7048T27	6.68
3/4″	3/4″	0.187″	12	7048T28	13.77	7048T29	13.77
Rectangular Bars with 3M VHB (Very High Bond) Adhesive							
1″	1/2″	0.055″	3	7048T12	7.41	7048T11	7.41
Discs with Adhesive							
—	0.187″	0.060″	0.9	7048T37	3.32	7048T38	3.32
—	1/4″	0.100″	1.9	7048T35	3.56	7048T36	3.56
—	0.315″	0.118″	2.9	7048T39	3.97	7048T41	3.97
Discs with Adhesive (Cont.)							
—	3/8″	0.100″	2.9	7048T42	$4.51	7048T43	$4.51
—	0.472″	0.118″	4	7048T44	6.14	7048T45	6.14
—	1/2″	0.125″	4	7048T46	6.00	7048T47	6.00
—	1/2″	0.250″	9	7048T48	8.50	7048T49	8.50
—	0.709″	0.118″	6	7048T51	8.18	7048T52	8.18
—	3/4″	0.187″	10	7048T53	11.55	7048T54	11.55
Discs with 3M VHB (Very High Bond) Adhesive							
—	3/8″	0.060″	2	7048T13	3.73	7048T14	3.73
—	1/2″	0.060″	2	7048T15	3.96	7048T16	3.96
—	3/4″	0.060″	3	7048T17	5.75	7048T18	5.75
—	1″	0.080″	6	7048T19	8.12	7048T21	8.12

★ Prices are 25% lower in quantities of 50 or more.

Ultra-High-Pull Encased Neodymium Magnets

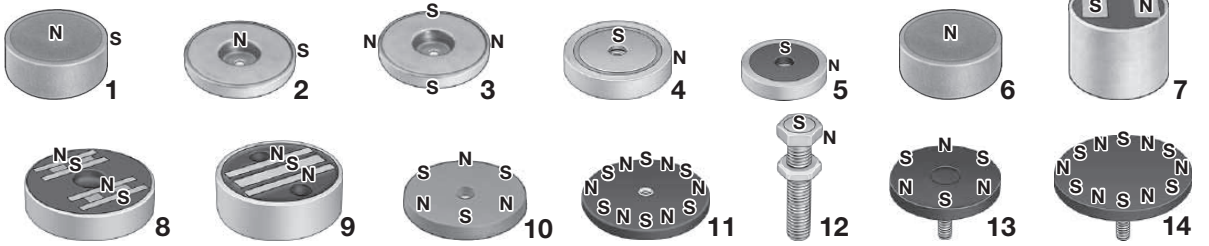

A casing protects the neodymium-iron-boron magnet material. Magnets cannot be machined. *Steel casings* also concentrate the magnetic field. *Casings with a cover* protect the exposed magnet face from corrosion. Maximum temperature is 175° F. Color is black to silver (unless noted).

With Mounting Hole—Diameter and thickness tolerances are ±0.025″, except magnets with a metric zinc-plated steel casing have a diameter tolerance of ±0.1 mm and a thickness tolerance of ±0.2 mm. Fasteners are not included.

With Threaded Stud—Magnets with a *metric zinc-plated steel casing* include a locknut. Diameter tolerance is –0.33 mm. Thickness tolerance is –1 mm. Magnets with a *rubber casing* have diameter and thickness tolerances of ±0.025″.

	Dia.	Thick.	Max. Pull, lbs.	Mtg. Hole/ Thread Size		Each★
With Mounting Hole						
Steel Casing						
1	3/8″	1/2″	6	8-32	5679K11	$14.15
1	1/2″	1/2″	16	10-32	5679K13	15.43
1	3/4″	1/2″	40	10-32	5679K15	21.02
1	1″	1/2″	90	1/4″-20	5679K17	29.33
1	1 1/4″	1/2″	130	5/16″-18	5679K21	40.80
1	2 1/32″	5/16″	95	3/16″	5752K21	30.27
1	2 5/8″	3/8″	200	9/32″	5752K25	42.38
Steel Casing with Steel Cover						
2	5/8″	3/16″	11	0.136″	5679K12	3.08
2	3/4″	1/4″	15	0.17″	5679K14	4.90
2	1″	1/4″	29	0.194″	5679K16	6.28
2	1 1/4″	3/8″	45	0.221″	5679K18	7.90
2	1 1/2″	3/8″	70	0.221″	5679K26	11.28
2	1 3/4″	3/8″	95	0.281″	5679K22	14.95
2	2″	1/2″	130	0.281″	5679K23	24.78
2	2 1/2″	5/8″	200	0.406″	5679K24	50.68
2	3″	3/4″	280	0.406″	5679K25	84.23
Steel Casing with Stainless Steel Cover						
2	1.21″	3/16″	40	1/8″	7061T11	11.04
2	1.43″	0.27″	65	0.192″	7061T12	13.68
2	2.04″	0.3″	90	0.193″	7061T13	18.16
2	2 3/8″	0.35″	110	0.27″	7061T14	25.40
2	2 5/8″	3/8″	140	0.28″	7061T15	26.16
Stainless Steel Casing with Stainless Steel Cover						
3	4.9″	1/2″	300	1/2″	7061T17	82.25
Metric Zinc-Plated Steel Casing						
4	32 mm	7 mm	70	M5×0.8	5679K27	25.55
4	40 mm	8 mm	110	M5×0.8	5679K28	36.90
Metric Zinc-Plated Steel Casing with Plastic Cover						
5	50 mm	10 mm	170	M8×1.25	5679K29	89.85
5	63 mm	14 mm	240	M10×1.5	5679K31	137.15
5	75 mm	15 mm	390	M10×1.5	5679K32	203.38
Aluminum Casing						
6	1/4″	1/2″	0.5	6-32	5867K21	9.83
6	3/8″	1/2″	2.6	8-32	5867K22	10.10
Aluminum Casing (Cont.)						
6	1/2″	1/2″	5	10-24	5867K23	$10.60
6	5/8″	1/2″	8	10-24	5867K24	13.46
6	3/4″	1/2″	12	10-24	5867K25	13.55
6	1″	1/2″	15	1/4″-20	5867K26	16.45
7	1/2″	29/64″	4	M5×0.8	5867K31■	19.51
7	5/8″	39/64″	11	M6×1	5867K32■	21.35
7	3/4″	1 3/16″	35	1/4″-20	5867K82	37.76
7	0.87″	25/32″	19	M6×1	5867K33■	28.81
7	63/64″	63/64″	33	M6×1	5867K34■	39.41
7	1″	1 5/16″	85	1/4″-20	5867K83	76.86
7	1 1/2″	2 1/16″	200	5/16″-18	5867K87	121.67
7	2″	2 7/16″	340	3/8″-16	5867K89	132.50
8	2″	1/2″	90	9/32″	5867K91	52.05
8	2″	1″	120	9/32″	5867K92	53.70
8	2 1/2″	1″	180	9/32″	5867K93	58.27
9	3″	1″	290	9/32″	5867K94▲	65.05
Rubber Casing						
10	1.69″	0.24″	20	M4×0.7	7132T21	23.16
10	2.57″	0.31″	32	M5×0.8	7132T22	39.20
11	3 1/2″	0.33″	100	M6×1	7132T23	52.96

	Dia.	Thick.	Choose a Length	Max. Pull, lbs.	Thread Size		Each★
With Threaded Stud							
Metric Zinc-Plated Steel Casing—Dimensions are in millimeters							
12	10	4	12, 16, 20, 25, 30	5	M6×1	1079N41	$12.35
12	13	5.3	16, 20, 25, 30, 40	11	M8×1.25	1079N42	13.46
12	17	6.4	20, 25, 30, 40, 50	16	M10×1.5	1079N43	16.16
12	19	7.5	25, 30, 40, 50, 60	24	M12×1.75	1079N44	18.81
12	24	10	30, 40, 50, 60, 80	32	M16×2	1079N45	23.54
Rubber Casing							
13	1.69″	0.24″	1″	20	1/4″-20	7132T24	23.16
13	2.57″	0.31″	1″	32	1/4″-20	7132T25	39.20
14	3 1/2″	0.33″	1″	100	1/4″-20	7132T26	52.96

★ Prices are 25% lower in quantities of 50 or more. ■ Color is blue. ▲ Has two mounting holes. Center-to-center is 1 7/8″.

Warning! ***Max. pull ratings are based on direct contact with rust-free and unpainted iron plate. Variations in material condition will significantly reduce these ratings. Do not use magnets for lifting over people.***

For information about magnetic poles, see page 3512.

Ultra-High-Temperature Alnico Magnets

Made of corrosion-resistant aluminum-nickel-cobalt, these magnets have a maximum temperature of 975° F, except the encased magnets have a maximum temperature of 425° F. Grade 8 magnets resist demagnetization better than Grade 5. Machining is not recommended.

Horseshoes, U-Shapes, and Bridges—Grade 5



Horseshoe



U-Shape



Bridge

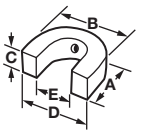

Length, width, and thickness tolerances are ±0.045″. Color is red (unless noted). Magnets with a mounting hole do not include fasteners.

Lg. (A)	Wd. (B)	Thick. (C)	(D)	(E)	Max. Pull, lbs.	Mtg. Hole Size		
Horseshoes								
1″	1 1/8″	19/64″	29/32″	1/4″	2.2	—	5841K11	$5.09
1″	1 1/8″	19/64″	29/32″	1/4″	5	—	5841K22	6.67
1 1/8″	1 7/64″	1/4″	47/64″	13/32″	6	—	5842K11	10.57
1 1/4″	1 1/2″	7/16″	1 1/4″	3/8″	9	—	5842K12♣	43.36
1 9/16″	1 13/16″	5/8″	1 5/8″	3/8″	22	—	5842K13♣	44.50
1 11/16″	3″	1″	3″	1 3/4″	55	3/16″	5842K18	97.89
2 1/2″	3″	3/4″	2 1/2″	1″	60	—	5842K19	107.41
4 1/8″	5″	1 1/4″	4″	1 1/2″	210	—	5842K22	288.66
U-Shapes								
1 13/16″	2 3/16″	15/16″	2 3/16″	1 3/16″	32	3/16″	5841K15	36.89
2″	2 7/16″	15/16″	2 7/16″	1 3/16″	35	1/4″	5841K16	50.98
2 1/4″	2 5/8″	15/16″	2 5/8″	1 3/8″	40	1/4″	5841K17	53.09
2 1/2″	3″	15/16″	3″	1 1/2″	50	1/4″	5841K18	72.27
Bridges								
3/4″	1 1/8″	3/4″	1 1/16″	9/16″	13	3/16″	5841K12	10.65
25/32″	1.181″	25/32″	1 3/16″	0.59″	9	0.197″	5841K33	10.65
63/64″	1.575″	63/64″	1 37/64″	0.787″	19	0.197″	5841K44	15.95
1″	1 1/2″	1″	1 3/8″	3/4″	22	3/16″	5841K13	15.92
1 1/8″	1 3/4″	1 1/8″	1 1/2″	7/8″	30	3/16″	5841K14	22.70
1.181″	1.771″	1.181″	1 49/64″	29/32″	25	0.197″	5841K55	22.73
1 13/16″	2 1/2″	1 7/8″	2 1/2″	1 3/8″	70	1/4″	5841K19	103.39

♣ Color is gray.

Encased—Grade 5

A steel casing protects the magnet material and concentrates the magnetic field. Diameter and thickness tolerances are ±0.012″. Magnets have a mounting hole (fasteners not included).



Dia.	Thick.	Max. Pull, lbs.	Mtg. Hole/ Thread Size	Color		
1/4″	1/2″	0.2	6-32	Gray	5736K15	$7.88
1/4″	3/4″	0.3	6-32	Gray	5736K17	8.93
1/4″	1″	0.4	6-32	Gray	5736K16	8.55
3/8″	1/2″	1.4	6-32	Gray	5736K2	8.23
3/8″	3/4″	1.5	6-32	Gray	5736K21	8.63
3/8″	1″	1.7	6-32	Gray	5736K24	8.70
1/2″	1/2″	2.5	6-32	Gray	5736K41	8.21
1/2″	3/4″	3	6-32	Gray	5736K39	8.83
1/2″	1″	3	6-32	Gray	5736K4	9.01
5/8″	1/2″	2.3	10-24	Gray	5736K42	9.13
5/8″	3/4″	4	10-24	Gray	5736K43	9.26
5/8″	1″	4	10-24	Gray	5736K44	9.38
11/16″	0.629″	5	10-32	Red	56905K81	6.16
3/4″	0.295″	6	0.18″	Red	56905K96	6.16
3/4″	1/2″	5	10-24	Gray	5736K51	9.21
3/4″	3/4″	9	10-24	Gray	5736K52	9.48
3/4″	1″	9	10-24	Gray	5736K5	9.78
13/16″	0.748″	8	10-32	Red	56905K82	7.35
7/8″	1″	10	10-32	Gray	5736K35	16.36
1″	1/2″	7	1/4″-20	Gray	5736K61	11.95
1″	3/4″	14	1/4″-20	Gray	5736K62	12.41
1″	1″	16	1/4″-20	Gray	5736K66	13.68
1 1/16″	1″	13	10-32	Red	56905K83	10.08
1 1/8″	0.344″	11	0.21″	Red	56905K97	7.79
1 1/4″	1/2″	6	1/4″-20	Gray	5736K7	13.16
1 1/4″	3/4″	15	1/4″-20	Gray	5736K71	13.40
1 1/4″	1″	22	1/4″-20	Gray	5736K74	13.66
1 1/4″	1 1/4″	25	1/4″-20	Gray	5736K75	14.47
1 3/8″	1.181″	32	10-32	Red	56905K84	16.00
1 1/2″	0.407″	28	0.218″	Red	56905K98	11.49

Rings—Grade 5 and Grade 8

Grade 5—OD, ID, and thickness tolerances are ±0.016″.
Grade 8—OD tolerance is ±0.032″. ID and thickness tolerances are ±0.016″.



OD	ID	Thick.	Max. Pull, lbs.	Color		
Grade 5						
1″	3/4″	1/2″	1.3	Gray	5704K14	$8.54
1 1/2″	1 1/8″	3/4″	3	Gray	5704K16	18.54
2″	1 1/2″	1″	6	Gray	5704K18	28.44
2 1/2″	1 7/8″	1 1/4″	8	Gray	5704K19	43.51
3″	2 1/4″	1 1/2″	14	Gray	5704K21	87.29
Grade 8						
3/8″	0.093″	1/8″	0.4	Black to Silver	57335K62	8.85
0.525″	1/4″	0.14″	0.1	Black to Silver	57335K64	4.94
0.91″	0.475″	0.27″	0.8	Black to Silver	57335K66	32.49
1.282″	0.532″	0.225″	0.3	Black to Silver	57335K68	28.83
1.94″	0.95″	0.27″	0.8	Black to Silver	57335K72	55.68

Discs—Grade 5 and Grade 8

Diameter and thickness tolerances are ±0.016″.



Grade 5



Grade 8

Dia.	Thick.	Max. Pull, lbs.	Color		
Grade 5					
0.689″	0.430″	3	Gray	5853K11	$5.63
0.759″	0.522″	3.5	Gray	5853K12	7.86
0.840″	0.626″	5	Gray	5853K13	9.22
0.908″	0.535″	6	Gray	5853K14	10.86
0.998″	0.648″	10	Gray	5853K15	12.50
1.114″	0.765″	12	Gray	5853K16	14.61
1.224″	0.633″	13	Gray	5853K17	15.53
1.451″	0.970″	15	Gray	5853K19	28.95
1.523″	0.880″	14	Gray	5853K18	35.37
Grade 8					
1/8″	1/8″	0.06	Gray to Black	57295K71	1.30
1/8″	1/4″	0.2	Gray to Black	57295K82	1.66
1/4″	1/4″	0.3	Gray to Black	57295K73	1.87
1/4″	1/2″	1	Gray to Black	57295K74	6.03
3/8″	1/4″	0.3	Gray to Black	57295K75	3.44
1/2″	1/4″	0.4	Gray to Black	57295K77	4.99

Buttons—Grade 5

Diameter tolerance is ±0.031″. Thickness tolerance is ±0.005″. Magnets have a mounting hole (fasteners not included).



Dia.	Thick.	Max. Pull, lbs.	Mtg. Hole Size	Color		
1/2″	3/8″	1.5	11/64″	Red	5688K51	$3.02
3/4″	1/2″	4	3/16″	Red	5688K52	4.35
3/4″	1/2″	4	7/32″	Gray	5850K1	4.35
7/8″	1″	9	1/4″	Gray	5850K3	12.63
1″	5/8″	7	3/16″	Red	5688K53	6.76
1 1/4″	3/4″	14	3/16″	Red	5688K34	17.12
1 1/4″	1″	10	9/32″	Red	5688K54	17.79
1 1/2″	7/8″	18	1/4″	Red	5688K35	25.56
1 1/2″	1 3/4″	35	3/8″	Gray	5850K7	61.18

Multi Pole—Grade 5







Diameter tolerance is ±0.031″. Thickness tolerance is ±0.005″. Magnets have a mounting hole (fasteners not included).

Dia.	Thick.	No. of Poles	Max. Pull, lbs.	Mtg. Hole Size	Color		
1″	3/4″	4	16	1/4″	Gray	5850K2	$9.86
1 1/4″	3/4″	6	25	1/4″	Gray	5850K4	16.14
1 1/2″	7/8″	6	30	3/8″	Gray	5850K5	33.57
2″	1 1/4″	8	75	1/2″	Gray	5850K29	47.78

(Continued on following page)

Warning! ***Max. pull ratings are based on direct contact with rust-free and unpainted iron plate. Variations in material condition will significantly reduce these ratings. Do not use magnets for lifting over people.***

Ultra-High-Temperature Alnico Magnets *(Continued from previous page)*

Made of corrosion-resistant aluminum-nickel-cobalt, these magnets have a maximum temperature of 1020° F. Grade 8 magnets resist demagnetization better than Grade 5. Machining is not recommended.

Channel Bars—Grade 5



Length tolerance is ±0.045″. Width and channel width tolerances are ±0.016″. Thickness tolerance is ±0.005″.

Lg.	Wd.	Thick.	Channel Wd.	Max. Pull, lbs.	Color		
5″	1/2″	5/16″	3/16″	11	Gray	5695K14	$34.70
5″	5/8″	3/8″	1/4″	16	Gray	5695K16	44.78
6″	3/4″	1/2″	1/4″	34	Gray	5695K18	55.97

Lg.	Wd.	Thick.	Channel Wd.	Max. Pull, lbs.	Color		
6″	1″	5/8″	3/8″	40	Gray	5695K22	$77.74
6″	1 1/4″	3/4″	7/16″	60	Gray	5695K24	109.72
6″	1 1/2″	7/8″	1/2″	60	Gray	5695K26	118.03

Round Bars—Grade 5 and Grade 8



Grade 5—Diameter tolerance is ±0.032″. Length tolerance is ±0.045″.
Grade 8—Diameter tolerance is ±0.016″. Length tolerance is +0.15″, –0.047″.

Dia.	Lg.	Max. Pull, lbs.	Color		
Grade 5					
1/8″	4″	0.3	Gray	5852K11	$2.52
3/16″	5″	0.7	Gray	5852K12	3.76
1/4″	6″	1.4	Gray	5852K13	7.83
0.300″	1″	1.1	Gray	5852K31	2.31
0.300″	2″	1.5	Gray	5852K32	3.46
0.300″	3″	1.5	Gray	5852K33	4.67
0.300″	4″	1.9	Gray	5852K34	6.21
0.300″	6″	2.2	Gray	5852K35	8.82
0.300″	8″	2.2	Gray	5852K14	11.34
3/8″	8″	3	Gray	5852K15	19.48
1/2″	8″	4	Gray	5852K16	36.14
Grade 8					
1/8″	4″	0.4	Black to Silver	57305K64	9.30
1/4″	4″	1.5	Black to Silver	57305K68	19.45
3/8″	4″	1.4	Black to Silver	57305K72	25.34
5/8″	4″	7	Black to Silver	57305K74	61.98

Rectangular Bars—Grade 5 and Grade 8



Grade 5—Length tolerance is ±0.125″. Width and thickness tolerances are ±0.016″.
Grade 8—Length tolerance is ±0.047″. Width and thickness tolerances are ±0.016″.

Lg.	Wd.	Thick.	Max. Pull, lbs.	Color		
Grade 5						
4″	3/8″	1/8″	1.7	Gray	5851K11	$4.23
4″	3/8″	3/16″	1.7	Gray	5851K13	6.44
4″	1/2″	1/8″	1.7	Gray	5851K12	6.34
6″	1/4″	1/4″	1.2	Gray	5851K14	12.40
6″	3/8″	3/8″	2.8	Gray	5851K15	18.21
6″	1/2″	1/4″	1.9	Gray	5851K16	15.32
6″	1/2″	1/2″	5	Gray	5851K19	24.74
6″	3/4″	1/2″	11	Gray	5851K18	41.89
6″	3/4″	3/4″	15	Gray	5851K22	61.33
6″	1″	1/2″	13	Gray	5851K21	56.42
6″	1″	1″	19	Gray	5851K23	80.81
Grade 8						
3/8″	1/8″	1/8″	0.3	Black to Silver	57315K41	2.47
1/2″	1/4″	1/8″	0.6	Black to Silver	57315K45	7.23
4″	1/4″	1/4″	1.6	Black to Silver	57315K47	18.66

High-Temperature Ceramic Magnets

Magnets are economical, corrosion-resistant ferrite and have a maximum temperature of 400° F. Color is gray. They cannot be machined.

Rectangular Bars

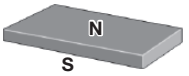

Length tolerance is ±5%. Width tolerance is ±6%, except 1/4″ and 1/2″ wide magnets have ±0.025″ tolerance. Thickness tolerance is ±0.005″.

Lg.	Wd.	Thick.	Max. Pull, lbs.		
1/2″	1/2″	1/2″	1.6	5738K76	$1.67
3/4″	3/8″	1/4″	1.5	5738K73	.57
3/4″	3/4″	1/4″	2.1	5738K74	1.17
1″	1/2″	1/4″	1	5738K75	1.27
1″	1″	1″	6	5738K77	3.60
1 1/4″	1/4″	1/4″	2	5738K78	1.73
1 1/2″	3/8″	1/4″	1.2	5738K61	.86
1 1/2″	3/8″	1/4″	2.9	5738K72	.76
1 7/8″	7/8″	3/8″	6	5738K31	1.05
2″	1/2″	1″	6	5738K55	5.15
2″	1″	1/8″	0.9	5738K52	1.71
2″	1″	3/16″	1.7	5738K53	1.35
2″	1″	1/4″	5	5738K32	1.23
2″	1″	1/2″	7	5738K33	2.04
2″	1″	3/4″	9	5738K34	3.05
2″	1″	1″	11	5738K35	3.96
2″	1 1/4″	1″	11	5738K56	6.62
2″	1 1/2″	1″	13	5738K57	11.03
2″	2″	1″	15	5738K36	4.21
3″	1/4″	1/4″	1.4	5738K62	1.49
3″	2″	1/4″	3	5738K63	3.43
3″	2″	1/2″	13	5738K68	4.05
3″	2″	1″	24	5738K66	5.03
4″	4″	1/4″	7	5738K67	6.75
6″	1″	1/2″	7	5738K64	6.87
6″	2″	1″	21	5738K65	18.92
6″	3″	1″	48	5738K71	14.26
6″	4″	1/2″	23	5738K69	10.23
6″	4″	1″	35	5738K51	18.57
10 1/2″	1″	3/4″	21	5738K54	32.08
10 1/2″	2″	1″	35	5738K58	69.64

Rings and Discs





Thickness tolerance is ±4.5%. OD tolerance is ±4%.
Rings—ID tolerance is ±0.026″, except IDs 1.75″ and 2.21″ have a tolerance of ±0.044″.

OD	ID	Thick.	Max. Pull, lbs.		
Rings					
0.5″	0.187″	0.125″	0.1	5856K1	$0.60
0.689″	0.296″	0.118″	0.4	5856K11	.60
0.75″	0.265″	0.25″	0.3	5856K2	.40
1.079″	0.597″	0.25″	0.7	5856K4	.40
1.125″	0.375″	0.236″	0.6	5856K3	.65
1.23″	0.885″	0.431″	0.6	5856K5	2.51
1.25″	0.375″	0.187″	1	5856K12	1.19
1.625″	0.705″	0.187″	0.8	5856K6	2.83
1.705″	0.705″	0.25″	0.7	5856K8	2.51
1.77″	0.866″	0.314″	2.5	5856K13	2.01
2.032″	0.705″	0.3″	1.7	5856K7	1.17
2.38″	1″	0.28″	3	5856K14	2.06
2.8″	1.203″	0.33″	4	5856K15	2.90
3.376″	1.28″	0.425″	7	5856K16	3.03
4.54″	1.75″	0.4″	9	5856K17	5.56
5.27″	2.21″	0.55″	17	5856K18	9.01
Discs					
0.25″	—	0.281″	0.4	5857K16	.71
0.312″	—	0.125″	0.2	5857K17	.44
0.35″	—	0.25″	0.5	5857K23	1.76
0.375″	—	0.41″	0.9	5857K24	1.23
0.5″	—	0.25″	0.3	5857K11	.43
0.562″	—	0.125″	0.4	5857K25	.85
0.625″	—	0.375″	1.3	5857K18	.87
0.71″	—	0.25″	1	5857K26	.78
0.75″	—	0.375″	1.6	5857K27	.98
0.875″	—	1″	4	5857K15	1.60
1″	—	0.625″	3	5857K28	3.20
1.079″	—	0.25″	0.5	5857K12	.83
2″	—	0.75″	8	5857K19	3.00
2.4″	—	0.25″	0.5	5857K14	4.60
3″	—	0.5″	8	5857K21	6.99
3″	—	0.75″	12	5857K22	8.60

Warning! ***Max. pull ratings are based on direct contact with rust-free and unpainted iron plate. Variations in material condition will significantly reduce these ratings. Do not use magnets for lifting over people.***

Encased Ceramic Magnets

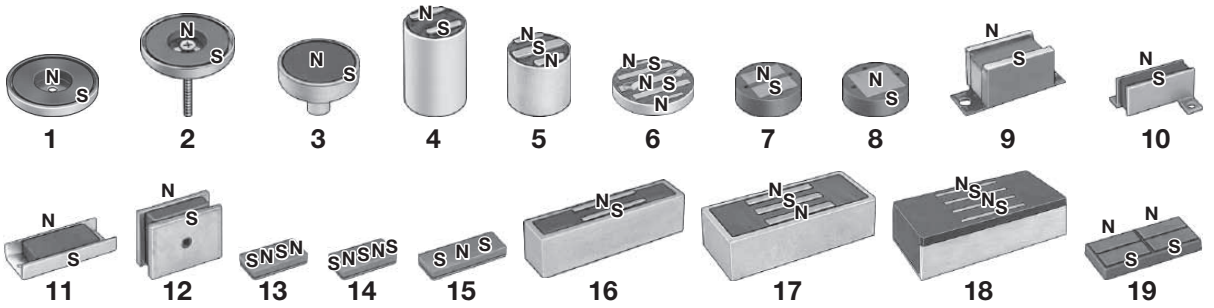

A casing protects the magnet material. Magnets are ferrite (unless noted). Color is gray to black (unless noted). They cannot be machined. *Steel casings* also concentrate the magnetic field.

Magnets with mounting holes do not include fasteners, except Style 2 includes a screw and two nuts.

Diameter, length, width, and thickness tolerances are ±0.063″, except round metric magnets have diameter and thickness tolerances of ±0.5 mm.

Magnets with a **steel, zinc-plated steel,** or **aluminum casing** have a maximum temperature of 180° F (unless noted). Magnets with a **stainless steel casing** have a maximum temperature of 390° F. Magnets with a **plastic casing** have a maximum temperature of 140° F.

	Dia.	Thick.	Max. Pull, lbs.	Mtg. Hole Size	Mtg. Hole Ctr.-to-Ctr.		
Round							
Steel Casing							
1	1.21″	0.17″	4	1/8″	—	5685K41	$1.20
1	1 15/64″	3/16″	14	5/32″	—	5685K31	1.40
1	1 13/32″	9/32″	22	3/16″	—	5685K26	2.36
1	1.7″	0.3″	12	0.157″	—	5685K42	2.26
1	2 1/32″	5/16″	35	3/16″	—	5685K32	2.85
1	2.19″	0.31″	30	0.2″	—	5685K45	3.00
1	2.37″	0.35″	45	0.2″	—	5685K43	3.00
1	2 5/8″	3/8″	80	9/32″	—	5685K28	4.72
1	2.8″	0.37″	75	0.269″	—	5685K46	4.46
1	2 7/8″	3/8″	85	9/32″	—	5685K33	5.58
1	3 3/16″	7/16″	95	9/32″	—	5685K39	6.40
1	3.8″	0.51″	110	0.38″	—	5685K44	10.80
1	4 29/32″	1/2″	190	1/2″	—	5685K35	19.48
1	16 mm	4.5 mm	3	3.5 mm	—	5685K61	4.36
1	20 mm	6 mm	6	4.1 mm	—	5685K62	4.54
1	25 mm	7 mm	8	5.5 mm	—	5685K63	4.88
1	32 mm	7 mm	16	5.5 mm	—	5685K64	5.36
1	40 mm	8 mm	20	5.5 mm	—	5685K65	7.22
1	50 mm	10 mm	40	8.5 mm	—	5685K66	8.80
1	63 mm	14 mm	65	8.5 mm	—	5685K67	15.40
1	80 mm	18 mm	120	8.5 mm	—	5685K68	30.20
1	100 mm	22 mm	150	10.5 mm	—	5685K69	81.54
2	1 15/64″	3/16″	14	6-32	—	5819K31	5.78
2	2 1/32″	5/16″	35	10-24	—	5819K33	8.38
2	2 1/4″	3/16″	10	5/16″-18	—	5819K41 ★	8.87
2	2 5/8″	3/8″	80	1/4″-20	—	5819K35	16.96
2	3 3/16″	7/16″	95	1/4″-20	—	5819K37	21.28
3	20 mm	13 mm	6	M3	—	5819K51	1.95
3	32 mm	15 mm	18	M4	—	5819K52	2.90
3	40 mm	16.5 mm	28	M4	—	5819K53	4.14
3	57 mm	18.5 mm	60	M4	—	5819K54	6.64
Zinc-Plated Steel Casing							
1	0.79″	0.24″	5	0.165″	—	5685K51	1.85
1	1.57″	0.31″	19	0.217″	—	5685K52	2.41
Stainless Steel Casing							
1	20 mm	6 mm	4	4.1 mm	—	5685K71	5.36
1	25 mm	7 mm	6	5.5 mm	—	5685K72	5.74
1	32 mm	7 mm	13	5.5 mm	—	5685K73	6.84
1	40 mm	8 mm	16	5.5 mm	—	5685K74	8.70
1	50 mm	10 mm	32	8.5 mm	—	5685K75	12.16
1	63 mm	14 mm	50	8.5 mm	—	5685K76	22.48
Aluminum Casing							
4	1/4″	1/2″	0.4	—	—	5703K47	3.87
4	1/2″	1/2″	2.2	—	—	5703K32	12.64
4	1/2″	1″	3	—	—	5703K18	13.47
4	5/8″	1″	5	—	—	5703K41	14.82
4	5/8″	1″	8	8-32	—	5703K48	11.48
4	3/4″	1″	17	10-32	—	5703K51	10.90
4	3/4″	1 1/4″	10	—	—	5703K42	17.11
4	1″	1″	23	1/4″-20	—	5703K52	14.85
4	1 1/4″	1 1/4″	40	1/4″-20	—	5703K53	18.83
5	5/8″	1″	7	—	—	5735K12	21.00
5	5/8″	1″	14	8-32	—	5735K71	16.19

	Dia.	Thick.	Max. Pull, lbs.	Mtg. Hole Size	Mtg. Hole Ctr.-to-Ctr.		
Round (Cont.)							
Aluminum Casing (Cont.)							
5	3/4″	1″	15	—	—	5735K62	$21.58
5	3/4″	1″	23	10-32	—	5735K72	17.58
5	7/8″	1″	27	—	—	5735K63	23.79
5	1″	1″	30	—	—	5735K68	24.02
5	1″	1″	40	1/4″-20	—	5735K73	19.52
5	1 1/4″	1 1/4″	50	—	—	5735K65	29.78
6	3″	1/2″	24	1/4″	1 7/8″	5782K71	58.75
Plastic Casing							
7	0.99″	0.24″	2.8	—	—	57005K84	2.53
8	1 1/2″	0.45″	6	—	—	57005K85	4.26

	Lg.	Wd.	Thick.	Max. Pull, lbs.	Mtg. Hole Size	Mtg. Hole Ctr.-to-Ctr.		
Rectangular								
Steel Casing								
9	2 5/8″	15/16″	5/16″	6	0.16″	2 5/16″	57005K24	$3.53
10	2″	1 5/8″	1″	35	7/32″	1 1/2″	57005K27	10.44
11	1″	7/8″	1/4″	7	1/8″	—	57005K21	2.80
11	4 1/2″	1″	9/16″	40	9/32″	4″	57005K41 ■	5.71
11	6 1/2″	1″	9/16″	55	9/32″	6″	57005K42 ■	8.47
11	12 1/2″	1″	9/16″	120	9/32″	12″	57005K43 ■	14.49
12	1″	13/16″	5/16″	8	3/16″	—	57005K22	1.44
12	1 1/4″	1″	3/8″	10	0.15″	—	57005K37	10.12
12	2″	1″	5/8″	45	3/16″	1″	57005K23	11.26
13	0.99″	0.52″	0.12″	2.2	—	—	57005K91 ▲	3.38
14	0.99″	0.52″	0.19″	3	—	—	57005K92 ▲	3.73
15	1.65″	0.47″	0.18″	4	—	—	57005K93 ▲	4.07
Zinc-Plated Steel Casing								
11	2.7″	1.05″	0.47″	25	0.192″	2.34″	57005K51	2.25
11	6″	1.52″	0.44″	100	1/4″	5″	57005K52	8.19
11	8″	1.05″	0.46″	60	0.435″	7″	57005K53	8.69
11	12″	1.72″	0.62″	150	1/4″	11″	57005K54	14.40
Cadmium-Plated Steel Casing								
11	2 3/4″	1 13/16″	1/2″	35	3/16″	2 3/8″	57005K25	7.15
Stainless Steel Casing								
9	3 1/4″	7/8″	1 3/8″	40	9/32″	2 3/4″	57005K31	21.27
9	3 1/4″	1 1/4″	1 3/8″	55	9/32″	2 3/4″	57005K57	25.71
9	5 1/4″	7/8″	1 3/8″	65	9/32″	4 1/2″	57005K33	25.71
9	5 1/4″	1 1/4″	1 3/8″	120	9/32″	4 1/2″	57005K34	37.23
9	5 1/4″	1 7/8″	2 1/8″	250	9/32″	4 1/2″	57005K38	51.91
Aluminum Casing								
16	4 1/2″	1″	1 1/4″	45	—	—	5740K11	19.13
16	4 1/2″	1″	1 1/4″	55	—	—	5740K13	19.77
16	4 1/2″	1″	1 1/4″	65	—	—	5740K12	21.07
16	4 1/2″	1 1/4″	1 1/4″	75	—	—	5740K14	21.69
17	4 1/2″	1″	1 1/4″	90	—	—	5740K22	32.14
17	4 1/2″	1 1/4″	1 1/4″	110	—	—	5740K21	33.56
17	4 1/2″	1 7/8″	1 1/4″	150	—	—	5740K24	35.71
18	4 1/2″	2″	1 1/4″	180	—	—	5740K31	49.11
18	4 1/2″	2 1/2″	1 1/4″	230	—	—	5740K33	50.38
Plastic Casing								
19	1.77″	0.79″	0.24″	5	—	—	57005K95	6.68
19	2.36″	0.79″	0.24″	6	—	—	57005K96	10.26

★ Ferrite bonded with synthetic rubber. Color is brown. Maximum temperature is 140° F. ■ Color is red. ▲ Maximum temperature is 140° F.

Warning! ***Max. pull ratings are based on direct contact with rust-free and unpainted iron plate. Variations in material condition will significantly reduce these ratings. Do not use magnets for lifting over people.***

High-Temperature High-Pull Samarium-Cobalt Magnets

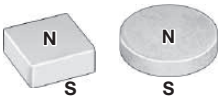

The original rare earth magnet, these are made of samarium-cobalt Grades 1:5 and 2:17. Length, width, diameter, and thickness tolerances are ±0.005″. Color is gray. They cannot be machined. **Grade 1:5** temperature range is –40° to 480°F. **Grade 2:17** temperature range is –40° to 570°F.

			Grade 1:5			Grade 2:17		
Lg.	Wd./ Dia.	Thick.	Max. Pull, lbs.			Max. Pull, lbs.		
Rectangular Bars								
1/4″	1/4″	0.1″	1	5715K32	$4.18	1.5	5767K51	$4.48
1/2″	1/2″	0.21″	5	5715K34	11.03	6	5767K52	11.25
3/4″	3/4″	0.32″	9	5715K36	28.33	10	5767K53	28.85
1″	1″	0.425″	16	5715K37	53.73	17	5767K54	48.98
1″	1 1/2″	0.188″	—	—	—	18	5767K61	34.05
1″	2″	0.5″	—	—	—	54	5767K62	90.57
2″	2″	0.5″	65	5715K38	108.81	70	5767K56	110.83
Discs								
—	1/8″	0.125″	0.3	5716K61	2.88	—	—	—
—	3/16″	0.06″	0.5	5716K69	1.03	—	—	—
—	1/4″	0.1″	1	5716K63	3.96	2.8	5768K26	4.36
—	5/16″	0.2″	2.3	5716K72	3.75	—	—	—
—	3/8″	0.2″	3	5716K73	4.55	—	—	—
—	1/2″	0.19″	4	5716K66	9.43	5	5768K22	10.80
—	5/8″	0.18″	5	5716K71	11.00	—	—	—
—	3/4″	0.285″	8	5716K67	22.86	10	5768K23	30.00
—	1″	0.375″	14	5716K68	38.86	16	5768K24	44.33

Easy On/Off Encased Magnets



Turn the knob to switch magnets on and off. Magnets are corrosion-resistant nickel-plated neodymium-iron-boron. Max. temp. is 180°F.

Standard magnets have a nickel-plated steel casing. Magnets **with mounting flange** have an aluminum and zinc-plated steel casing and two 0.17″ dia. mounting holes (fasteners not included).

Lg.	Wd.	Ht.	O'all Ht.	Max. Pull, lbs.	Mtg. Flange Lg.	Mtg. Flange Wd.	Mtg. Flange Ht.		
Standard									
1 1/4″	7/8″	1 1/8″	1 3/4″	95	—	—	—	9649T11	$38.26
1 1/2″	1 1/4″	1 1/4″	2″	150	—	—	—	9649T12	55.37
With Mounting Flange									
1 1/4″	7/8″	3/4″	1 3/4″	95	2 1/4″	1 3/8″	3/8″	9649T13	38.64
1 1/2″	1 1/4″	3/4″	2″	150	2 5/8″	1 3/4″	3/8″	9649T14	56.46

Ferrite Cores



Often used as inductors and transformers in electrical circuits, cores generate a magnetic hold when magnet wire is wrapped over them and energized. Remove the electric current and they lose their magnetism. Please see page 839 for magnet wire.

OD	ID	Ht.		
Rings				
0.23″	0.12″	0.06″	8495K28	$2.33
3/8″	3/16″	1/8″	8495K38	2.61
1/2″	5/16″	1/4″	8495K48	3.14
0.87″	0.54″	1/4″	8495K57	4.18
Rods				
1/4″	—	7 1/2″	8495K82	17.44
3/8″	—	7 1/2″	8495K83	23.75

High-Pull Encased Samarium-Cobalt Magnets



A nickel casing protects the samarium-cobalt Grade 2:17 magnet material and concentrates the magnetic field. Diameter and thickness tolerances are ±0.008″. Temperature range is 15° to 300°F. Color is silver. They cannot be machined.

Knurled magnets are easier to grip.

Thick.	Dia.	Max. Pull, lbs.	Smooth		Knurled	
0.31″	0.39″	0.9	57325K81	$16.29	57325K22	$16.05
0.31″	0.71″	9	57325K86	30.77	57325K24	30.00
0.39″	0.98″	17	57325K93	49.03	57325K26	44.21

Magnetic Pole Detectors



Viewing Paper—Press the sheet onto your magnet and pole locations show up as dark green. Sheets are 3″ square and can be used multiple times.

57702K21 ..... Pkg. of 3 $9.16

Electronic Detector—Point detector at your magnet and press the button. Red and green lights indicate north or south poles. Detector is 5 1/2″ Lg. × 1″ Wd. Batteries are included.

57255K71 ..... Each $45.08

Pocket-Size Magnetizers/Demagnetizers



Pass small tools through the holes to magnetize or demagnetize. No electricity is required.

Magnetizing/ Demagnetizing Area Dia.	Wd.	Ht.	O'all Size Lg.	Wd.	Ht.		
One Hole							
5/16″	—	—	1″	1″	1″	5863K51	$3.54
Two Hole							
—	1/2″	1″	2″	1″	2″	5863K49	6.04

Demagnetizers



Mount these continuous-use demagnetizers on your bench top to demagnetize parts and tools. All have an on/off switch and four mounting holes (fasteners not included). They operate on 120 volts AC and have a 6-ft. cord with plug.

Demagnetizing Area Dia.	Lg.	Wd.	Watts	O'all Size Lg.	Wd.	Ht.	Screw Size		
Loop									
3 1/2″	—	—	160	8″	4 1/4″	8″	#10	5843K22	$872.00
6″	—	—	520	11 1/2″	4″	11 1/2″	#10	5843K32	1,142.86
Surface									
—	4 1/2″	3″	250	7 1/4″	4 3/4″	4″	1/4″	5820K4	480.24
—	6″	4″	1,080	12″	6 1/4″	4 3/4″	5/16″	5820K6	743.76

Portable Demagnetizers

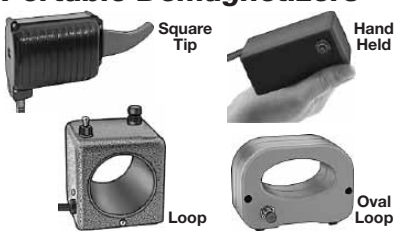

Small enough to take them where you need them, these intermittent-use demagnetizers have an on/off switch (except square tip does not). They operate on 120 volts AC and have a 5-ft. cord with plug.

Demagnetizing Area Dia.	Ht.	Wd.	Duty Cycle On	Off	Watts	O'all Size Ht.	Wd.	Dp.		
Square Tip	—	13/32″	13/32″	5 Min.	15 Min.	180	3″	5 3/4″	1 1/2″	5743K65	$86.67
Hand Held	—	1 3/4″	3 1/2″	5 Min.	15 Min.	300	1 3/4″	3 1/2″	1 3/4″	5922K11	139.16
Loop	3″	—	—	5 Sec.	2 Min.	620	4″	4″	4″	5946K12	233.87
Oval Loop	—	1 1/2″	3″	5 Sec.	3 Min.	300	3″	5″	2″	5731K77	84.55

Warning! ***Max. pull ratings are based on direct contact with rust-free and unpainted iron plate. Variations in material condition will significantly reduce these ratings. Do not use magnets for lifting over people.***

Surface-Contact DC-Powered Electromagnets



Position the face of these magnets in direct contact with a flat metal surface and turn on the power to create a magnetic hold. Magnets have 8″ long wire leads that connect to a required DC electromagnet power supply (sold separately on this page). Magnets have one or two threaded mounting holes (fasteners not included). Maximum temperature is 100° F.

Note: Holding power is not adjustable and when turned off, magnets still have some residual magnetism.



Round magnets **with spring-loaded release** have a pin that pops up to separate the object and magnet when the power is turned off.

Watts	Lg.	Wd./ Dia.	Ht.	Max. Pull, lbs.	Mtg. Hole Thread Size	Mtg. Hole Ctr.-to-Ctr.		
Rectangular								
12 Volts DC								
8	1½″	1½″	1¼″	100	10-32	—	5698K311	$66.25
10	2½″	1½″	1¼″	160	10-32	1″	5698K312	91.67
14	2½″	2½″	1½″	300	¼″-20	—	5698K313	90.22
29	4½″	2½″	1⅞″	600	¼″-20	2″	5698K315	143.27
24 Volts DC								
8	1½″	1½″	1¼″	100	10-32	—	5698K411	66.25
10	2½″	1½″	1¼″	160	10-32	1″	5698K412	91.67
14	2½″	2½″	1½″	300	¼″-20	—	5698K413	90.22
28	3½″	3½″	2″	700	⅜″-16	—	5698K414	129.60
29	4½″	2½″	1⅞″	600	¼″-20	2″	5698K415	143.27
110 Volts DC								
12	4½″	2½″	2″	750	¼″-20	2″	5698K72	162.80
37	6″	3″	2″	1,000	⅜″-16	3″	5698K71	210.67
58	8″	4″	2½″	1,700	⅜″-16	4″	5698K511	294.34
65	12″	6″	3½″	5,000	½″-13	3″	5698K74	679.41
Round								
12 Volts DC								
1.4	—	½″	1½″	4	6-32	—	5698K7	60.71
1.4	—	¾″	1¼″	9	10-32	—	5698K111	36.05
1.4	—	1″	¾″	26	10-32	—	5698K112	40.79
3.6	—	1″	1¼″	32	10-32	—	5698K113	44.67
4.4	—	1¼″	1¼″	50	¼″-20	—	5698K114	49.48
4.6	—	1½″	1½″	80	¼″-20	—	5698K115	57.14
5.6	—	2″	1⅝″	180	¼″-20	—	5698K116	64.95
24 Volts DC								
1.4	—	½″	1½″	4	6-32	—	5698K97	60.71
1.4	—	¾″	1¼″	9	10-32	—	5698K211	36.05
1.4	—	1″	¾″	26	10-32	—	5698K212	40.79
3.6	—	1″	1¼″	32	10-32	—	5698K213	44.67
4.4	—	1¼″	1¼″	50	¼″-20	—	5698K214	49.48
4.6	—	1½″	1½″	80	¼″-20	—	5698K215	57.14
5.6	—	2″	1⅝″	180	¼″-20	—	5698K216	64.95
24 Volts DC with Spring-Loaded Release								
0.9	—	0.78″	0.98″	1	M5	—	5893K92	99.90
2	—	1.18″	0.98″	6	M6	—	5893K94	110.55
2.9	—	1.57″	0.98″	22	M6	—	5893K96	153.25
110 Volts DC								
8	—	3½″	1½″	650	¼″-20	1″	5698K76	223.68
33	—	4″	3″	900	⅜″-16	1″	5698K77	240.00
60	—	10″	2½″	4,700	⅝″-11	3″	5698K75	679.41

DC-Powered Electromagnets with Parallel Poles



Parallel poles create a better magnetic hold on thinly painted, plated, or coated flat metal surfaces than other magnets. A terminal block (leads not included) on the magnets connect to a required DC electromagnet power supply (sold separately on this page). Magnets have two threaded mounting holes (fasteners not included). Maximum temperature is 105° F.

Note: Holding power is not adjustable and when turned off, magnets still have some residual magnetism.

Watts	Lg.	Wd.	Ht.	Max. Pull, lbs.	Mtg. Hole Thread Size	Mtg. Hole Ctr.-to-Ctr.		
12 Volts DC								
4	1″	1″	1⅜″	20	10-32	½″	5684K32	$161.82
6	2″	1″	1⅜″	80	10-32	1″	5684K33	171.89
11	3″	1″	1⅜″	170	¼″-20	2″	5684K34	188.89
13	4″	1″	1⅜″	210	¼″-20	3″	5684K35	192.91
52	8″	2″	2¾″	930	5⁄16″-18	6¼″	5684K39	296.04
24 Volts DC								
4	1″	1″	1⅜″	20	10-32	½″	5684K15	161.82
5	1⅝″	15⁄16″	1¼″	50	10-32	⅞″	5684K14	156.40
6	2″	1″	1⅜″	80	10-32	1″	5684K16	171.89
11	3″	1″	1⅜″	170	¼″-20	2″	5684K17	188.89
13	4″	1″	1⅜″	210	¼″-20	3″	5684K18	192.91
22	4″	2″	2¾″	470	5⁄16″-18	3″	5684K21	220.78
22	6″	1″	1⅜″	260	¼″-20	4½″	5684K19	222.82
38	6″	2″	2¾″	620	5⁄16″-18	4½″	5684K22	273.29
52	8″	2″	2¾″	930	5⁄16″-18	6¼″	5684K23	296.04

DC Electromagnet Power Supplies


Automatic


Manual

Also known as rectifiers, these power supplies convert AC power to DC. Choose a power supply with watts equal to or greater than the watts of your magnet. Power supplies have a NEMA 12 steel enclosure for protection from oil/coolant dripping and four 9⁄32″ mounting holes (fasteners not included). Maximum temperature is 140° F.

Automatic—Turn it off and the magnetic current reverses automatically for release. Use for high-speed automated magnetic equipment. The enclosure has a terminal strip with input and output connections. An SPST switch, limit switch, or 120 volt AC PLC output is required.

Manual—Flip the switch to reverse the magnetic current for release. *48-watt* power supplies have 5-ft. input and output cords with plugs. *800-watt* power supply has 5-ft. wire leads and a 5-ft. cord with plug.

Input, Volts AC	Output, Volts DC	Watts	Lg.	Wd.	Ht.		
Automatic							
120/240	12	100	10″	5″	12″	5888K28	$775.76
120/240	24	100	10″	5″	12″	5888K38	775.76
240/480	110	100	10″	5″	12″	5888K47	876.12
Manual							
120	12	48	6″	4″	3½″	57245K75	364.76
120	24	48	6″	4″	3½″	57245K85	364.76
120	110	800	6″	4″	3½″	57245K96	364.76

Plug-In Surface-Contact Electromagnets

The plug contains a power supply that converts power from AC to DC so no additional wiring or power source is needed. Position the face of these magnets in direct contact with a flat metal surface and plug in to create a magnetic hold. Cord is 3-ft. long. Maximum temperature is 100° F.

Note: Holding power is not adjustable and when turned off, magnets still have some residual magnetism.

Rectangular magnets have two threaded mounting holes; **round** have one (fasteners not included).





Watts	Lg.	Wd./ Dia.	Ht.	Max. Pull, lbs.	Mtg. Hole Thread Size	Mtg. Hole Ctr.-to-Ctr.		
Rectangular								
8.2	2½″	2½″	1½″	280	¼″-20	¾″	5692K39	$180.36
9.7	2½″	1½″	1¼″	200	10-32	1″	5692K36	168.74
30	4½″	2½″	1⅞″	800	¼″-20	2″	5692K37	305.58
Round								
2.8	—	1¼″	1¼″	40	¼″-20	—	5692K32	170.85
3.6	—	1¾″	1⅝″	110	¼″-20	—	5692K33	196.33
8	—	2″	1⅝″	150	¼″-20	—	5692K34	176.21
14	—	2″	2½″	180	¼″-20	—	5692K35	179.92
25	—	3″	3″	370	5⁄16″-18	—	5692K38	216.53

Warning! ***Max. pull ratings are based on direct contact with rust-free and unpainted iron plate. Variations in material condition will significantly reduce these ratings. Do not use magnets for lifting over people.***

Rubber Edge Seals

These firm rubber seals stop dust, noise, and vibration. They're firmer and more durable than foam rubber seals.

Water- and weather-resistant EPDM seals stand up to water, sunlight, ozone, and salts. Durometer is 65A (hard).

Water-resistant vinyl seals resist salts and detergents. They meet UL 94HB for flammability. Durometer is 70A (hard).

High-temperature silicone seals maintain their shape in hot environments. They resist water and salts. Durometer is 55A (medium).

Chemical-resistant Viton® fluoroelastomer seals resist fuels and aggressive chemicals, such as petroleum oil, hydrofluoric acid, and propyl alcohol. They meet MIL-R-83248. Durometer is 75A (hard).

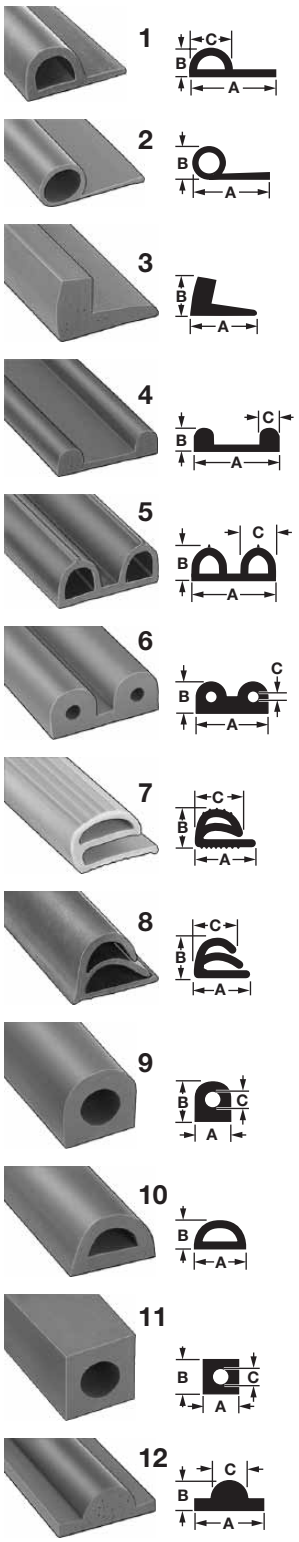

	Overall Wd. (A)	Overall Ht. (B)	(C)	Choose a Color	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Water- and Weather-Resistant EPDM—Plain Back (Temp. Range: -20° to 200°F)								
1	3/8"	1/8"	1/8"	Black	10, 20, 50	1142A36	$1.17	$0.99
1	1/2"	3/16"	3/16"	Black	10, 20, 50	1142A37	1.22	1.03
1	3/4"	1/4"	1/4"	Black	6, 12	1142A11	1.57	—
1	3/4"	11/32"	3/8"	Black	10, 20, 50	1142A81	1.33	1.14
1	7/8"	5/16"	1/2"	Black	6, 12	1142A14	1.83	—
1	1"	7/16"	7/16"	Black	10, 20, 50	1142A38	1.74	1.47
1	1 1/4"	5/8"	3/4"	Black	10, 20, 50	1142A82	2.07	1.76
1	1 11/32"	3/8"	9/16"	Black	6, 12	1142A15	2.15	—
1	1 3/8"	1/2"	5/8"	Black	10, 20, 50	1142A25	1.74	1.47
2	3/8"	1/8"	—	Black	10, 20, 50	1142A43	1.17	.99
2	1/2"	1/4"	—	Black	10, 20, 50	1142A75	1.09	.92
2	3/4"	3/8"	—	Black	10, 20, 50	1142A77	1.53	1.30
2	1"	1/4"	—	Black	10, 20, 50	1142A76	1.33	1.13
2	1 1/8"	3/8"	—	Black	10, 20, 50, 100	1142A84	1.45	1.22
2	2"	1/2"	—	Black	10, 20, 50	1142A78	1.93	1.64
2	2"	1"	—	Black	1, 5, 10, 20, 25	1142A79	3.66	3.11
2	2 1/2"	1"	—	Black	1, 5, 10, 20, 50	1142A44	4.03	3.42
4	15/16"	3/16"	1/4"	Black	10, 20, 50	1142A26	1.45	1.23
5	3/4"	5/16"	19/64"	Black	6, 12	1142A48	1.90	—
6	1 1/4"	1/2"	5/32"	Black	1, 5, 10, 20, 50	1142A27	4.03	3.42
8	13/16"	5/8"	5/8"	Black	1, 6, 12	1142A54	4.76	—
9	3/8"	3/8"	1/4"	Black	10, 20, 50	1142A49	1.45	1.23
9	1/2"	1/2"	1/4"	Black	10, 20, 50	1142A28	1.58	1.34
9	9/16"	5/8"	3/8"	Black	10, 20, 50	1142A29	1.76	1.50
9	5/8"	5/8"	3/8"	Black	10, 20, 50	1142A51	1.88	1.59
9	1"	1"	5/8"	Black	10, 20, 50	1142A52	2.42	2.06
10	3/8"	3/8"	—	Black	10, 20, 50	1142A71	1.33	1.13
10	1/2"	1/2"	—	Black	10, 20, 50	1142A72	1.53	1.30
10	5/8"	3/8"	—	Black	10, 20, 50	1142A33	1.39	1.18
10	7/8"	1/2"	—	Black	10, 20, 50	1142A34	1.58	1.34
10	1"	1/2"	—	Black	10, 20, 50	1142A73	1.94	1.65
11	1/4"	1/4"	1/8"	Black	5, 10, 20, 50	1142A12	1.22	1.03
11	3/8"	3/8"	1/8"	Black	5, 10, 20, 50	1142A13	1.39	1.18
11	1/2"	1/2"	1/4"	Black	5, 10, 20, 50	1142A16	1.45	1.23
11	5/8"	5/8"	1/4"	Black	5, 10, 20, 50	1142A17	1.58	1.34
11	3/4"	3/4"	1/2"	Black	5, 10, 20, 50	1142A23	1.90	1.61
11	1"	1"	3/4"	Black	5, 10, 20, 50	1142A24	2.03	1.72
12	3/4"	3/8"	3/8"	Black	10, 20, 50	1142A45	2.29	1.95
12	1"	1/2"	3/8"	Black	5, 10, 20, 50	1142A35	2.42	2.06
12	1 1/4"	1/2"	5/8"	Black	10, 20, 50	1142A46	2.95	2.51
Water-Resistant Vinyl—Plain Back (Temp. Range: 0° to 150°F)								
1	1 11/32"	37/64"	37/64"	Gray	5, 10, 20, 50, 100	1142A63	2.53	2.15
7	1/2"	23/64"	15/32"	Gray	6, 12	1142A18	1.81	—
7	49/64"	1/2"	31/32"	Gray	10, 20, 50, 100	1142A39	1.14	.97
7	13/16"	5/8"	3/4"	Gray	5, 10, 20, 50, 100	1142A61	1.79	1.52
7	27/32"	17/32"	11/16"	Gray	10, 20, 50, 100	1142A41	1.25	1.06
7	7/8"	33/64"	27/32"	Gray	10, 20, 50, 100	1142A62	1.13	.96
7	61/64"	17/32"	13/16"	Gray	10, 20, 50, 100	1142A42	1.15	.98
High-Temperature Silicone—Plain Back (Temp. Range: -100° to 480°F)								
1	3/4"	1/4"	1/4"	Black, Red	1, 5, 10, 20, 50, 100	1129A978	3.18	2.70
2	7/8"	3/8"	—	Black, Red	5, 10, 20, 50, 100	1129A979	2.03	1.73
3	3/4"	0.4"	—	Black, Red	5, 10, 20, 50, 100	1129A981	2.82	2.40
4	0.85"	0.23"	0.2"	Black, Red	5, 10, 20, 50, 100	1129A982	2.37	2.01
6	1 1/4"	1/2"	5/32"	Black, Red	1, 5, 10, 20, 50, 100	1129A983	5.57	4.73
7	9/16"	3/8"	3/8"	Black, Red	1, 5, 10, 20, 50, 100	1129A984	4.93	4.19
9	1/2"	1/2"	1/4"	Black, Red	5, 10, 20, 50, 100	1129A985	2.78	2.36
10	5/8"	3/8"	—	Black, Red	5, 10, 20, 50, 100	1129A986	2.53	2.15
10	3/4"	9/16"	—	Black, Red	5, 10, 20, 50, 100	1129A987	3.26	2.76
12	1"	3/8"	1/2"	Black, Red	1, 5, 10, 20, 50, 100	1129A988	4.95	4.21
High-Temperature Silicone—Adhesive Back (Temp. Range: -100° to 480°F; max. temp. of adhesive: 250°F)								
2	3/8"	1/8"	—	Black, Red	5, 10, 20, 50, 100	1129A989	1.58	1.34
2	3/8"	3/16"	—	Black, Red	5, 10, 20, 50, 100	1129A991	1.75	1.49
2	1/2"	1/4"	—	Black, Red	5, 10, 20, 50, 100	1129A992	1.86	1.58
10	7/64"	1/8"	—	Black, Red	5, 10, 20, 50, 100	1129A993	1.71	1.45
10	11/64"	3/16"	—	Black, Red	5, 10, 20, 50, 100	1129A994	1.88	1.60
10	3/8"	1/4"	—	Black, Red	5, 10, 20, 50, 100	1129A995	2.07	1.76
Chemical-Resistant Viton® Fluoroelastomer—Plain Back (Temp. Range: -20° to 500°F)								
1	3/4"	1/4"	1/4"	Black	1, 5, 10, 20, 50	2072T11	6.22	5.30
1	1 1/4"	5/8"	3/4"	Black	1, 5, 10, 15	2072T15	11.94	10.15
2	1/2"	1/4"	—	Black	1, 5, 10, 20, 50	2072T16	5.06	4.30
2	7/8"	3/8"	—	Black	1, 5, 10, 20, 50	2072T12	8.03	6.83
2	2"	1/2"	—	Black	1, 5, 10, 15	2072T17	12.10	10.29
2	2"	1"	—	Black	1, 5, 10, 15	2072T18	14.90	12.67
5	3/4"	0.31"	1/4"	Black	1, 5, 10, 20, 50	2072T19	10.39	8.83
6	1 1/4"	1/2"	0.16"	Black	1, 5, 10, 15	2072T21	13.13	11.16
9	1/2"	1/2"	9/32"	Black	1, 5, 10, 20, 50	2072T13	10.84	9.22
10	5/8"	3/8"	—	Black	1, 5, 10, 20, 50	2072T14	12.54	10.66

Soft Foam Rubber Edge Seals



Softer and more flexible than rubber seals, these seals will effortlessly conform to uneven surfaces to shield against dust, noise, and vibration. The foam has closed-cell construction, which resists absorption.

Water- and weather-resistant EPDM foam seals resist water, sunlight, and ozone.

High-temperature silicone foam seals will stand up to hot environments, plus they resist water and salts.

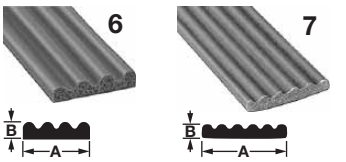

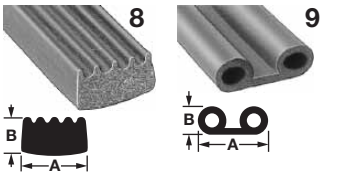

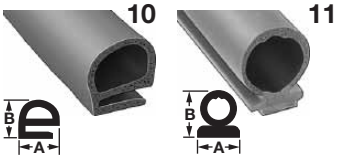

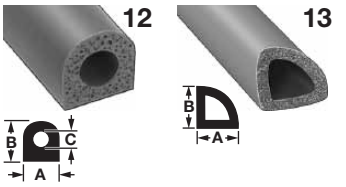

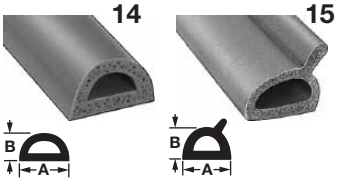



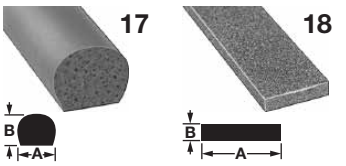

	Overall Wd. (A)	Overall Ht. (B)	(C)	Choose a Color	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up	Pkg.
Water- and Weather-Resistant EPDM—Adhesive Back (Temp. Range: 0° to 140° F)									
1	1¼″	½″	½″	Black	10, 20, 50, 100	**93085K91**	$0.96	$0.82	____
4	½″	⅛″	—	Black	10, 20, 50, 100	**93085K86**	.65	.55	____
4	½″	¼″	—	Black	10, 20, 50, 100	**93085K87**	.81	.69	____
6	⅜″	⅛″	—	White	17 (two 8½-ft. lgs.)	**93685K32**	____	____	$5.97
6	⅜″	3⁄16″	—	Black	10, 20, 50, 100	**93085K18**	.62	.53	____
6	⅜″	3⁄16″	—	Brown, White	17 (two 8½-ft. lgs.)	**93685K41**	____	____	6.67
6	⅝″	⅜″	—	Black	10, 20, 50, 100	**93085K19**	.81	.69	____
7	0.594″	0.105″	—	Black	10, 20, 50, 100	**93085K43**	1.49	1.27	____
8	½″	0.300″	—	Black	10, 20, 50, 100	**93085K42**	1.50	1.28	____
9	1½″	0.550″	—	Black	10, 20, 50, 100	**93085K92**	.91	.77	____
11	0.354″	0.492″	—	Black	5, 10, 20, 50, 100	**93085K93**	2.45	2.08	____
12	⅜″	7⁄16″	3⁄16″	Black	10, 20, 50, 100	**93085K11**	.58	.49	____
12	½″	½″	3⁄16″	Black	10, 20, 50, 100	**93085K12**	.65	.55	____
12	½″	½″	¼″	Black	10, 20, 50, 100	**93085K13**	.66	.56	____
12	⅝″	⅝″	¼″	Black	10, 20, 50, 100	**93085K81**	.88	.75	____
12	¾″	¾″	⅜″	Black	10, 20, 50, 100	**93085K82**	1.10	.93	____
12	1″	1″	½″	Black	5, 10, 20, 50, 100	**93085K83**	2.14	1.82	____
13	⅝″	⅝″	—	Black	10, 20, 50, 100	**93085K88**	.82	.70	____
14	⅜″	7⁄32″	—	Black	10, 20, 50, 100	**93085K67**	.65	.55	____
14	⅜″	7⁄32″	—	Brown, White	17 (two 8½-ft. lgs.)	**93705K6**	____	____	6.97
14	⅝″	⅜″	—	Black	10, 20, 50, 100	**93085K14**	.81	.69	____
14	¾″	⅜″	—	Black	10, 20, 50, 100	**93085K15**	.87	.74	____
14	¾″	17⁄32″	—	Black	10, 20, 50, 100	**93085K68**	1.00	.85	____
14	¾″	9⁄16″	—	Black	10, 20, 50, 100	**93085K16**	1.03	.88	____
14	13⁄16″	¾″	—	Black	10, 20, 50, 100	**93085K85**	1.21	1.03	____
14	1″	1″	—	Black	5, 10, 20, 50, 100	**93085K84**	1.83	1.56	____
15	11⁄16″	½″	—	Black	10, 20, 50, 100	**93085K89**	.80	.68	____
16	0.638″	0.370″	—	Black	10, 20, 50, 100	**93085K41**	1.66	1.41	____
18	0.394″	0.118″	—	Black	10, 30	**93085K21**	.47	.40	____
18	0.591″	0.197″	—	Black	10, 30	**93085K24**	1.03	.88	____
18	0.787″	0.197″	—	Black	10, 30	**93085K26**	1.36	1.16	____
High-Temperature Silicone—Plain Back (Temp. Range: -60° to 350° F)									
1	¾″	¼″	¼″	Black, Red	5, 10, 20, 50, 100	**9141K116**	2.87	2.44	____
1	1¼″	½″	½″	Black, Red	5, 10, 20, 50, 100	**9141K117**	2.66	2.26	____
2	⅞″	⅜″	—	Black, Red	5, 10, 20, 50, 100	**9141K118**	2.62	2.23	____
3	¾″	0.400″	—	Black, Red	5, 10, 20, 50, 100	**9141K119**	2.67	2.27	____
4	½″	¼″	—	Black, Red	5, 10, 20, 50, 100	**9141K149**	2.06	1.75	____
5	0.85″	0.230″	0.23″	Black, Red	5, 10, 20, 50, 100	**9141K167**	2.94	2.50	____
6	⅜″	3⁄16″	—	Black, Red	5, 10, 20, 50, 100	**9141K139**	1.69	1.43	____
6	¾″	3⁄16″	—	Black, Red	5, 10, 20, 50, 100	**9141K148**	2.07	1.76	____
6	⅝″	⅜″	—	Black, Red	5, 10, 20, 50, 100	**9141K147**	2.45	2.08	____
10	0.86″	13⁄16″	—	Black, Red	1, 5, 10, 20, 50, 100	**9141K127**	3.36	2.85	____
12	⅜″	7⁄16″	3⁄16″	Black, Red	5, 10, 20, 50, 100	**9141K128**	1.98	1.68	____
12	½″	½″	¼″	Black, Red	5, 10, 20, 50, 100	**9141K129**	2.43	2.07	____
12	¾″	¾″	⅜″	Black, Red	5, 10, 20, 50, 100	**9141K137**	3.01	2.55	____
12	1″	1″	½″	Black, Red	1, 5, 10, 20, 50, 100	**9141K138**	4.16	3.54	____
13	⅝″	⅝″	—	Black, Red	5, 10, 20, 50, 100	**9141K159**	2.63	2.24	____
14	⅝″	⅜″	—	Black, Red	5, 10, 20, 50, 100	**9141K157**	2.01	1.71	____
14	¾″	9⁄16″	—	Black, Red	5, 10, 20, 50, 100	**9141K158**	3.00	2.56	____
High-Temperature Silicone—Adhesive Back (Temp. Range: -70° to 450° F; max. temp. of adhesive: 250° F)									
17	⅛″	⅛″	—	Black, Gray	5, 10, 20, 50, 100	**9141K168**	2.32	1.97	____
17	3⁄16″	3⁄16″	—	Black, Gray	5, 10, 20, 50, 100	**9141K169**	2.59	2.20	____
17	¼″	¼″	—	Black, Gray	5, 10, 20, 50, 100	**9141K177**	2.69	2.29	____

Water-Resistant Rubber Flange-Mount Seals

The foam core makes these vinyl rubber seals firmer and more durable than hollow seals. They have a flange that can be positioned along a door's edge to cover gaps and block dust, noise, and vibration. In addition to water, these seals resist salts and detergents. Seals with a polyurethane foam core also resist refrigerants. Durometer is 70A (hard). Temperature range is 0° to 150° F.

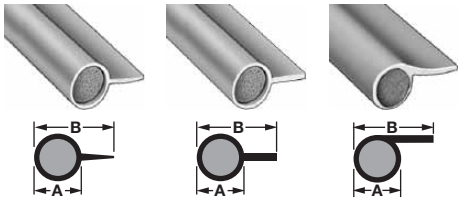

	Wd. (A)	Overall Wd. (B)	Flange Thick.	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Vinyl with EPDM Foam Core—Gray							
19	½″	1″	0.045″	1, 5, 10, 25, 50, 100	**1141A1**	$2.35	$1.76
20	39⁄64″	1 13⁄64″	0.060″	1, 5, 10, 25, 50, 100	**1141A3**	3.81	2.84
21	½″	1 3⁄16″	0.075″	1, 5, 10, 25, 50, 100	**1141A4**	2.73	2.04
Vinyl with Polyurethane Foam Core—Black							
20	⅜″	¾″	0.025″	1, 5, 10, 25, 50, 100	**1146A1**	1.31	.98
20	¾″	1½″	0.025″	1, 5, 10, 25, 50, 100	**1146A4**	2.65	1.98

Push-On Seals

Stop wind, dust, and water from entering doors. These seals push onto a door's edge, except Style 30 pushes into the gap on a metal track. Seals are made from closed-cell foam, which resists absorption, except Style 19 is all rubber. Bulbs are hollow for compressibility, except Styles 16 and 17 are solid. The gripping edges have fingers to provide a strong hold, except Style 19 has smooth gripping edges so they lay flat against the surface. All have a metal core, except Style 19 is all rubber.

Water- and Weather-Resistant Seals with EPDM Foam Bulb on Side

The EPDM foam rubber bulb on these seals resists water, sunlight, and ozone. Color is black. Temperature range is -20° to 150°F.



Style 1

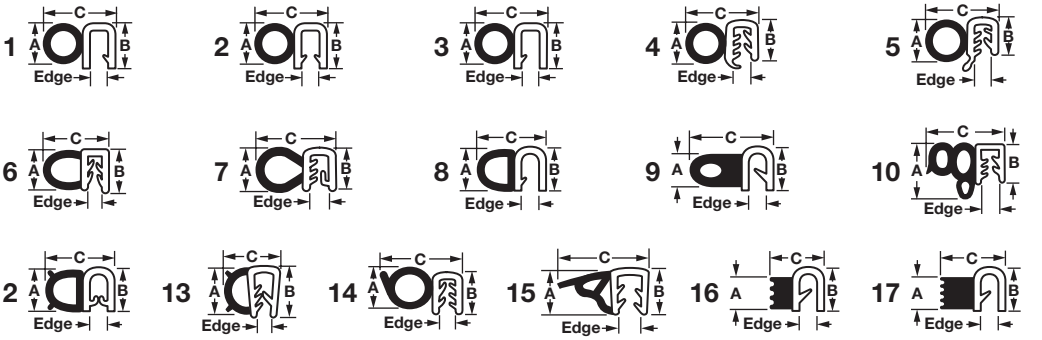

Fits Edge Thick.	(A)	(B)	(C)		Per Ft. 1-99	Per Ft. 100-Up
Style 1 with Vinyl Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/64"	9/32"	3/8"	15/32"	1120A76	$1.76	$1.50
1/64"	3/8"	3/8"	9/16"	1120A141	1.37	1.16
1/64"	7/16"	3/8"	5/8"	1120A151	1.51	1.28
1/64"	5/8"	3/8"	13/16"	1120A161	1.70	1.45
1/64"	3/4"	3/8"	15/16"	1120A171	2.26	1.92
1/32"	9/32"	3/8"	31/64"	1120A78	1.76	1.50
1/32"	3/8"	3/8"	37/64"	1120A711	1.45	1.23
1/32"	7/16"	3/8"	41/64"	1120A721	1.51	1.28
1/32"	5/8"	3/8"	49/64"	1120A731	1.70	1.45
1/32"	3/4"	3/8"	61/64"	1120A741	2.26	1.92
1/16"	13/64"	3/8"	7/16"	1120A371	1.51	1.28
1/16"	9/32"	3/8"	33/64"	1120A61	1.76	1.50
1/16"	3/8"	3/8"	19/32"	1120A811	1.45	1.23
1/16"	3/8"	9/16"	5/8"	1120A111	1.67	1.42
1/16"	7/16"	3/8"	43/64"	1120A821	1.51	1.28
1/16"	7/16"	9/16"	11/16"	1120A121	1.70	1.45
1/16"	5/8"	3/8"	51/64"	1120A831	1.70	1.45
1/16"	5/8"	9/16"	59/64"	1120A131	2.03	1.73
1/16"	3/4"	3/8"	63/64"	1120A841	2.26	1.92
1/16"	3/4"	9/16"	63/64"	1120A561	2.51	2.13
1/16"	1"	3/8"	1 15/64"	1120A381	2.22	1.89
3/32"	9/32"	3/8"	17/32"	1120A79	1.76	1.50
1/8"	9/32"	7/16"	9/16"	1120A62	1.83	1.55
1/8"	3/8"	9/16"	43/64"	1120A211	1.67	1.42
1/8"	7/16"	9/16"	47/64"	1120A221	1.57	1.33
1/8"	5/8"	9/16"	59/64"	1120A231	2.03	1.73
1/8"	3/4"	9/16"	11/16"	1120A571	2.51	2.13
3/16"	9/32"	17/32"	5/8"	1120A63	1.89	1.60
3/16"	3/8"	17/32"	47/64"	1120A311	1.67	1.42
3/16"	7/16"	17/32"	51/64"	1120A321	1.69	1.44
3/16"	5/8"	17/32"	63/64"	1120A331	2.03	1.73
3/16"	3/4"	17/32"	17/64"	1120A581	2.51	2.13
1/4"	9/32"	1/2"	11/16"	1120A64	1.89	1.60
1/4"	3/8"	1/2"	51/64"	1120A411	1.59	1.35
1/4"	7/16"	1/2"	55/64"	1120A421	1.70	1.46
1/4"	5/8"	1/2"	13/64"	1120A431	2.03	1.73
1/4"	3/4"	1/2"	111/64"	1120A591	2.51	2.13
1/2"	1"	1"	13/4"	1120A44	4.19	3.56
5/8"	3/4"	15/16"	15/8"	1120A47	3.83	3.26
3/4"	3/4"	7/8"	13/4"	1120A35	3.83	3.26
Style 2 with Vinyl Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/16"	13/64"	9/16"	7/16"	1120A391	1.74	1.48
1/16"	1"	9/16"	117/64"	1120A451	3.50	2.98
Style 3 with Vinyl Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/64"	3/8"	3/8"	9/16"	1120A142	1.37	1.16
1/64"	7/16"	3/8"	5/8"	1120A152	1.51	1.28
1/64"	5/8"	3/8"	13/16"	1120A162	1.70	1.45
1/64"	3/4"	3/8"	15/16"	1120A172	2.26	1.92
1/32"	3/8"	3/8"	37/64"	1120A712	1.45	1.23
1/32"	7/16"	3/8"	41/64"	1120A722	1.51	1.28
1/32"	5/8"	3/8"	53/64"	1120A732	1.70	1.45
1/32"	3/4"	3/8"	61/64"	1120A742	2.26	1.92
1/16"	3/8"	3/8"	19/32"	1120A812	1.45	1.23
1/16"	3/8"	9/16"	5/8"	1120A113	1.67	1.42

Fits Edge Thick.	(A)	(B)	(C)		Per Ft. 1-99	Per Ft. 100-Up
Style 3 with Vinyl Grip—Choose a Length: 10, 25, 50, 100 ft. (Cont.)						
1/16"	7/16"	3/8"	43/64"	1120A822	$1.51	$1.28
1/16"	7/16"	9/16"	11/16"	1120A123	1.70	1.45
1/16"	5/8"	3/8"	51/64"	1120A832	1.70	1.45
1/16"	5/8"	9/16"	59/64"	1120A133	2.03	1.73
1/16"	3/4"	3/8"	63/64"	1120A842	2.26	1.92
1/16"	3/4"	9/16"	63/64"	1120A563	2.51	2.13
1/8"	3/8"	9/16"	43/64"	1120A213	1.67	1.42
1/8"	7/16"	9/16"	47/64"	1120A223	1.57	1.33
1/8"	5/8"	9/16"	59/64"	1120A233	2.03	1.73
1/8"	3/4"	9/16"	11 32"	1120A573	2.51	2.13
3/16"	3/8"	17/32"	47/64"	1120A313	1.67	1.42
3/16"	7/16"	17/32"	51/64"	1120A323	1.69	1.44
3/16"	5/8"	17/32"	63/64"	1120A333	2.03	1.73
3/16"	3/4"	17/32"	17/64"	1120A583	2.51	2.13
1/4"	3/8"	1/2"	51/64"	1120A413	1.59	1.35
1/4"	7/16"	1/2"	55/64"	1120A423	1.70	1.46
1/4"	5/8"	1/2"	13/64"	1120A433	2.03	1.73
1/4"	3/4"	1/2"	111/64"	1120A593	2.51	2.13
1/2"	1"	1"	13/4"	1120A46	4.19	3.56
5/8"	3/4"	15/16"	15/8"	1120A49	3.83	3.26
3/4"	3/4"	7/8"	13/4"	1120A37	3.83	3.26
Style 4 with EPDM Grip—Choose a Length: 10, 25 ft.						
7/64"-1/8"	3/4"	41/64"	113/64"	12335A71	4.32	3.23
Style 5 with EPDM Grip—Choose a Length: 10, 25 ft.						
1/32"-3/32"	39/64"	45/64"	15/64"	12335A75	3.32	2.49
Style 6 with EPDM Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/32"-3/32"	25/64"	17/32"	15/16"	12335A45	4.25	3.18
Style 7 with EPDM Grip—Choose a Length: 10, 25 ft.						
3/64"-1/16"	5/8"	9/16"	15/64"	12335A16	2.61	1.94
1/16"-3/32"	5/8"	9/16"	15/64"	12335A17	2.61	1.94
3/32"-1/8"	5/8"	9/16"	15/64"	12335A18	2.61	1.94
Style 8 with Vinyl Grip—Choose a Length: 10, 25, 50, 100 ft.						
3/16"	3/8"	3/4"	23/32"	1120A9	2.97	2.52
3/16"	9/16"	3/4"	59/64"	1120A95	2.75	2.34
Style 9 with Vinyl Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/8"	7/16"	9/16"	23/32"	1120A97	2.22	1.89
Style 10 with EPDM Grip—Choose a Length: 10, 25, 82 ft.						
5/64"-7/64"	53/64"	5/8"	17/32"	12335A12	2.59	2.01
Style 11 with EPDM Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/32"-3/32"	23/64"	1/2"	9/16"	12335A43	3.24	2.42
Style 12 with Vinyl Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/8"	9/32"	9/16"	19/32"	1120A89	1.98	1.68
Style 13 with EPDM Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/32"-9/64"	29/64"	17/32"	23/32"	12335A44	3.02	2.26
Style 14 with EPDM Grip—Choose a Length: 10, 25 ft.						
5/64"-1/8"	11/16"	41/64"	11/16"	12335A73	4.14	3.10
Style 15 with EPDM Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/8"-1/4"	5/8"	21/32"	11/4"	12335A21	3.74	2.79
Style 16 with Vinyl Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/8"	3/8"	9/16"	1/2"	1120A8	2.02	1.72
Style 17 with Vinyl Grip—Choose a Length: 10, 25, 50, 100 ft.						
3/16"	5/8"	3/4"	47/64"	1120A85	2.97	2.52

(Continued on following page)

For information about rubber and durometer hardness, see page 3588.

Push-On Seals *(Continued from previous page)*

Oil-Resistant Seals with Buna-N Foam Bulb on Side

In addition to oil, these seals resist grease, salts, water, steam, and most detergents. Color is black. Temperature range is -40° to 212° F.

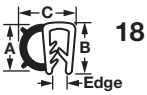

18



Fits Edge Thick.	(A)	(B)	(C)		Per Ft. 1-99	Per Ft. 100-Up
Style 18 with Buna-N Grip—Choose a Length: 10, 25, 50, 100 ft.						
3/64" - 9/64"	7/16"	33/64"	39/64"	12335A55	$5.71	$4.26

High-Temperature Seals with Silicone Rubber Bulb on Side

These all-rubber silicone seals can withstand temperatures up to 500° F, plus they resist water and salts. Color is red. Temperature range is -100° to 500° F.

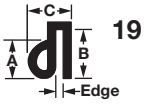

19



Fits Edge Thick.	(A)	(B)	(C)		Per Ft. 1-99	Per Ft. 100-Up
Style 19 with Silicone Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/16" - 5/32"	1/2"	5/8"	5/8"	12335A61	$4.69	$3.50

Water- and Weather-Resistant Seals with EPDM Foam Bulb on Top

These seals have an EPDM foam rubber bulb that resists water, sunlight, and ozone. Color is black. Temperature range is -20° to 150° F.

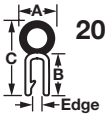

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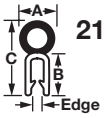

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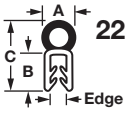

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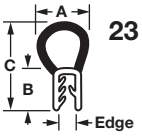

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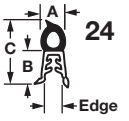

24



Style 20

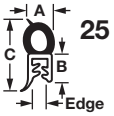

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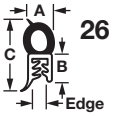

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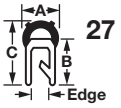

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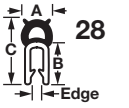

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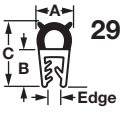

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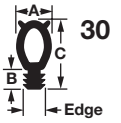

30

Fits Edge Thick.	(A)	(B)	(C)		Per Ft. 1-99	Per Ft. 100-Up
Style 20 with Vinyl Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/64"	9/32"	3/8"	21/32"	1120A69	$1.76	$1.50
1/32"	9/32"	3/8"	21/32"	1120A7	1.76	1.50
1/16"	13/64"	3/8"	37/64"	1120A181	1.51	1.28
1/16"	9/32"	3/8"	21/32"	1120A3	1.76	1.50
1/16"	3/8"	9/16"	15/16"	1120A112	1.67	1.42
1/16"	7/16"	9/16"	1"	1120A122	1.70	1.45
1/16"	5/8"	9/16"	1 3/16"	1120A132	2.03	1.73
1/16"	3/4"	9/16"	1 5/16"	1120A562	2.51	2.13
1/16"	1"	3/8"	1 3/8"	1120A191	2.22	1.89
3/32"	9/32"	3/8"	41/64"	1120A75	1.76	1.50
1/8"	9/32"	7/16"	45/64"	1120A5	1.83	1.55
1/8"	3/8"	9/16"	15/16"	1120A212	1.67	1.42
1/8"	7/16"	9/16"	1"	1120A222	1.57	1.33
1/8"	5/8"	9/16"	1 3/16"	1120A232	2.03	1.73
1/8"	3/4"	9/16"	1 5/16"	1120A572	2.51	2.13
3/16"	9/32"	17/32"	25/32"	1120A54	1.89	1.60
3/16"	3/8"	17/32"	29/32"	1120A312	1.67	1.42
3/16"	7/16"	17/32"	31/32"	1120A322	1.69	1.44
3/16"	5/8"	17/32"	1 5/32"	1120A332	2.03	1.73
3/16"	3/4"	17/32"	1 9/32"	1120A582	2.51	2.13
1/4"	9/32"	1/2"	49/64"	1120A6	1.89	1.60
1/4"	3/8"	1/2"	7/8"	1120A412	1.59	1.35
1/4"	7/16"	1/2"	15/16"	1120A422	1.70	1.46
1/4"	5/8"	1/2"	1 1/8"	1120A432	2.03	1.73
1/4"	3/4"	1/2"	1 1/4"	1120A592	2.51	2.13
1/2"	7/16"	1"	1 7/16"	1120A45	3.55	3.02

Fits Edge Thick.	(A)	(B)	(C)		Per Ft. 1-99	Per Ft. 100-Up
Style 20 with Vinyl Grip—Choose a Length: 10, 25, 50, 100 ft. (Cont.)						
5/8"	5/8"	15/16"	1 9/16"	1120A48	$3.60	$3.06
3/4"	3/4"	7/8"	1 5/8"	1120A36	3.83	3.26
Style 21 with Vinyl Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/16"	13/64"	9/16"	25/32"	1120A341	1.74	1.48
1/16"	1"	9/16"	1 37/64"	1120A361	3.50	2.98
Style 22 with EPDM Grip—Choose a Length: 10, 25 ft.						
3/64"-1/16"	21/32"	9/16"	1 5/32"	12335A13	2.32	1.80
1/16"-3/32"	21/32"	9/16"	1 5/32"	12335A14	2.32	1.80
3/32"-1/8"	21/32"	9/16"	1 5/32"	12335A15	2.52	1.87
Style 23 with EPDM Grip—Choose a Length: 10, 25 ft.						
1/32"-1/8"	15/16"	41/64"	1 35/64"	12335A25	3.11	2.33
Style 24 with EPDM Grip—Choose a Length: 10, 25 ft.						
5/64"-13/64"	5/8"	19/32"	1 23/64"	12335A24	3.85	2.87
Style 25 with EPDM Grip—Choose a Length: 10, 25, 82 ft.						
1/16"-5/64"	17/32"	33/64"	1 11/32"	12335A11	2.43	1.86
1/16"-5/64"	17/32"	33/64"	1 3/8"	12335A22	2.32	1.74
Style 26 with EPDM Grip—Choose a Length: 10, 25 ft.						
3/64"-1/8"	5/8"	41/64"	1 3/8"	12335A26	2.60	1.95
Style 27 with EPDM Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/32"-3/32"	5/16"	31/64"	21/32"	12335A41	3.10	2.31
Style 28 with Vinyl Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/8"	9/32"	9/16"	53/64"	1120A88	2.17	1.85
Style 29 with EPDM Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/32"-9/64"	29/64"	17/32"	53/64"	12335A42	2.89	2.16
1/8"-13/64"	29/64"	33/64"	53/64"	12335A52	2.97	2.22
Style 30 with EPDM Grip—Choose a Length: 10, 25, 50, 100 ft.						
5/32"-13/64"	3/8"	13/64"	11/16"	12335A46	2.01	1.50

Oil-Resistant Rubber Seals with Buna-N Foam Bulb on Top

The Buna-N foam rubber bulb on these seals resists oil, grease, salts, water, steam, and most detergents. Color is black. Temperature range is -40° to 212° F.

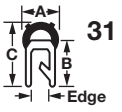

31

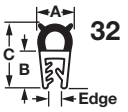

32



Style 32

Fits Edge Thick.	(A)	(B)	(C)		Per Ft. 1-99	Per Ft. 100-Up
Style 31 with Buna-N Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/32"-3/32"	21/64"	29/64"	39/64"	12335A54	$3.65	$2.73
Style 32 with Buna-N Grip—Choose a Length: 10, 25, 50, 100 ft.						
3/64"-9/64"	7/16"	33/64"	53/64"	12335A51	4.24	3.16
1/8"-13/64"	29/64"	33/64"	53/64"	12335A53	4.20	3.14

High-Temperature Fire-Rated Hollow Rubber Surface-Mount Seals

Tested in accordance with NFPA standards 80, 105, and 252, these silicone rubber seals are for use on fire-rated doors. They meet UL 10B, UL 10C, and UL 1784, as well as ASTM E1408, ASTM E283, and ASTM E90. Hollow construction provides compressibility. Attach these seals directly to a door's surface to shield against dust, noise, and vibration. Durometer is 75A (hard). Temperature range is -100° to 500° F; the adhesive has a temperature range of 0° to 190° F.





Wd. (A)	Ht. (B)	Choose a Color	Lengths, ft.		Per Ft. 1-299	Per Ft. 300-Up
1/2"	1/4"	Brown, Gray, White	10, 25, 100, 300	1067A3	$1.38	$1.03

Push-On Seals with Wiper & Slotted-Edge Seals

For information about rubber and durometer hardness, see page 3588.

Push-On Seals with Wiper

Push these seals onto a door's edge to deflect wind, dust, and water. The gripping edges have fingers to provide a strong hold, except Styles 1 and 2 have smooth gripping edges so they lay flat against the surface.

High-Temperature Seals with Silicone Wiper

Made of silicone rubber, these seals can handle temperatures up to 500°F, plus they resist water and salts. Durometer is 60A (medium hard). Temperature range is -100° to 500°F.

Style 1 seals are gray. **Style 2** seals are orange.



1

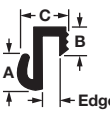



2



Fits Edge Thick.	(A)	(B)	(C)		1-99	Per Ft. 100-Up
Style 1 with Silicone Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/4"	27/64"	3/8"	51/64"	12335A65	$2.49	$1.86
Style 2 with Silicone Grip—Choose a Length: 10, 25, 50, 100 ft.						
1/16"	3/16"	1/4"	3/8"	12335A62	2.15	1.60
1/16"	1/2"	1/2"	43/64"	12335A63	2.87	2.14

Water- and Weather-Resistant Seals with EPDM Wiper

In addition to water, seals resist sunlight and ozone. All have a metal core. Temperature range is -20° to 150°F. Color is black. **Styles 3-5** have an EPDM foam wiper with closed-cell construction, which restricts absorption. **Styles 6-9** have an EPDM rubber wiper, which is firmer and more durable than the EPDM foam rubber wipers.



Style 3

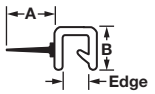

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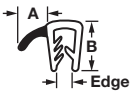

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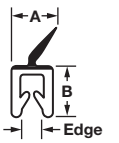

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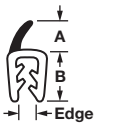

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9

Fits Edge Thick.	(A)	(B)		Per Ft. 1-99	100-Up
Style 3 with Vinyl Grip—Choose a Length: 10, 25, 50, 100 ft.					
1/16"	1"	9/16"	1120A866	$2.34	$1.99
1/16"	1 3/4"	9/16"	1120A873	2.89	2.46
3/32"	1"	9/16"	1120A872	2.34	1.99
1/8"	1"	9/16"	1120A868	2.34	1.99
1/8"	1 3/4"	9/16"	1120A875	2.89	2.46
3/16"	1"	17/32"	1120A871	2.34	1.99
3/16"	1 3/4"	17/32"	1120A876	2.89	2.46
1/4"	1"	1/2"	1120A867	2.34	1.99
1/4"	1 3/4"	1/2"	1120A874	2.89	2.46
1/4"	1 3/4"	11/16"	1120A863	3.12	2.65
1/2"	1 3/4"	19/32"	1120A861	3.12	2.65
1/2"	3"	19/32"	1120A865	3.81	3.24

Fits Edge Thick.	(A)	(B)		Per Ft. 1-99	100-Up
Style 4 with EPDM Grip—Choose a Length: 10, 25, 50, 100 ft.					
9/64"	29/64"	33/64"	12335A56	$2.40	$1.79
Style 5 with Vinyl Grip—Choose a Length: 10, 25, 50, 100 ft.					
3/16"	1"	17/32"	1120A98	2.65	2.25
1/4"	1"	1/2"	1120A99	2.65	2.25
Style 6 with EPDM Grip—Choose a Length: 10, 25, 50, 100 ft.					
7/64"	57/64"	33/64"	12335A29	2.83	2.41
Style 7 with EPDM Grip—Choose a Length: 10, 25, 82 ft.					
3/32"	53/64"	27/64"	12335A23	2.42	1.80
Style 8 with EPDM Grip—Choose a Length: 10, 25, 50, 100 ft.					
5/64"	17/64"	33/64"	12335A27	2.95	2.51
Style 9 with EPDM Grip—Choose a Length: 10, 25, 50, 100 ft.					
7/64"	9/16"	33/64"	12335A28	2.95	2.51

Push-On Seals with Glass Locking Slot





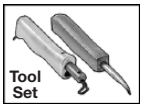

Seal stationary windows into place with these EPDM seals. To install, lubricate the seal with soap and water, then push the bottom of the seal around the edge of the window opening. Insert glass into the top opening of the seal. EPDM resists water, sunlight, and ozone. Durometer is 70A (hard). Temperature range is -30° to 155°F.

Optional Two-Piece Locking Gasket Tool Set— Use these tools to work the window into place when installing seal.

Fits Edge Thick.	Wd. (A)	Fits Glass Thick. (B)	Edge Clearance Thick. (C)	Lengths, ft.		Per Ft. 1-99	100-Up
3/64" to 1/16"	15/64"	3/16" to 1/4"	5/16"	5, 10, 25, 50, 100	3275T15	$1.86	$1.38
3/32" to 9/64"	7/8"	3/16" to 1/4"	1/4"	5, 10, 25, 50, 100	3275T22	1.52	1.13
3/16" to 1/4"	1 3/64"	3/16" to 1/4"	13/32"	5, 10, 25, 50, 100	3275T16	1.98	1.47
Optional Two-Piece Locking Gasket Tool Set					3275T44		60.17

High-Temperature Slotted Rope Edge Seals



Standard



Ultra Conformable

Also known as drop-warp and bolt-hole tape, these seals have openings along the center to accommodate bolts and rivets. Use them on metal flanges, as well as on oven, furnace, and boiler doors. They resist grease, oil, hydraulic fluid, and solvents. Color is white.

Standard—Made of fiberglass that is woven tighter than ultra-conformable seals for increased durability.

Ultra Conformable—Made with loosely knitted fiberglass to be more flexible and conformable than standard seals.

Plain-back seals have a maximum temperature of 1000°F. **Adhesive-back** seals will stay in place until you permanently secure them, making them the best choice when installing in confined spaces. Maximum temperature for the fiberglass is 1000°F; for the adhesive it is 150°F.

Thick.	1"×25 ft.		1 1/2"×25 ft.		2"×25 ft.		2 1/2"×25 ft.		3"×25 ft.	
Standard—Plain Back										
1/16"	8813K1	$4.12	8813K2	$5.38	8813K3	$5.83	8813K4	$7.78	8813K5	$8.93
1/8"	8813K11	6.36	8813K12	8.68	8813K13	11.06	8813K14	13.16	8813K15	15.47
Standard—Adhesive Back										
1/16"	8813K21	9.09	8813K22	11.97	8813K23	13.50	8813K24	13.61	8813K25	21.16
1/8"	8813K31	10.46	8813K32	13.83	8813K33	17.23	8813K34	20.38	8813K35	25.80
Ultra Conformable—Plain Back										
1/16"	5552T11	20.65	5552T12	21.86	5552T13	23.07	5552T14	26.11	5552T15	29.14
Ultra Conformable—Adhesive Back										
1/16"	5552T16	36.43	5552T17	36.93	5552T18	40.68	5552T19	43.72	5552T21	46.78

For information about rubber and durometer hardness, see page 3588.

High-Temperature Flange-Mount Rope Edge Seals

The flange on these seals slides into a slot that is commonly found on oven, furnace, and boiler doors; it can be positioned to cover large gaps.

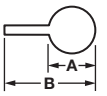

High-Temperature Fiberglass Seals with Fiberglass Core

In addition to high temperatures, these seals have a fiberglass cover and core that resists most refrigerants, salts, and grease. They're flexible and compressible, and are often used as caulking and for filling expansion joints. Flange thickness is 1/8". Color is white. Temperature range is -20° to 1000° F.



Wd. (A)	Overall Wd. (B)	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
3/8"	7/8"	5, 10, 25, 50, 100	8815K12	$1.80	$1.40
3/8"	1 1/8"	5, 10, 25, 50, 100	8815K14	1.86	1.44
3/8"	1 1/2"	5, 10, 25, 50, 100	8815K13	2.00	1.61
3/8"	2"	5, 10, 25, 50, 100	8815K15	2.09	1.68
1/2"	1 1/4"	5, 10, 25, 50, 100	8815K18	2.11	1.69
1/2"	1 3/8"	5, 10, 25, 50, 100	8815K19	2.15	1.72
1/2"	1 1/2"	5, 10, 25, 50, 100	8815K21	2.19	1.70
1/2"	1 3/4"	5, 10, 25, 50, 100	8815K22	2.28	1.78
1/2"	2"	5, 10, 25, 50, 100	8815K23	2.45	1.91
1/2"	2 1/4"	5, 10, 25, 50, 100	8815K24	2.51	1.96
1/2"	3"	5, 10, 25, 50, 100	8815K28	2.73	2.43
5/8"	1 1/8"	5, 10, 25, 50, 100	8815K26	2.22	1.73
5/8"	1 3/8"	5, 10, 25, 50, 100	8815K41	2.36	1.83
5/8"	1 1/2"	5, 10, 25, 50, 100	8815K27	$2.45	$1.91
5/8"	1 5/8"	5, 10, 25, 50, 100	8815K42	2.48	1.93
5/8"	2 1/8"	5, 10, 25, 50, 100	8815K29	2.71	2.17
3/4"	1 1/4"	5, 10, 25, 50, 100	8815K32	2.67	2.14
3/4"	1 1/2"	5, 10, 25, 50, 100	8815K33	2.77	2.22
3/4"	1 3/4"	5, 10, 25, 50, 100	8815K34	2.87	2.24
3/4"	2"	5, 10, 25, 50, 100	8815K36	2.96	2.37
3/4"	2 1/4"	1, 5, 10, 25, 50, 100	8815K38	3.04	2.37
3/4"	2 3/4"	1, 5, 10, 25, 50, 100	8815K39	3.33	2.59
3/4"	3"	1, 5, 10, 25, 50, 100	8815K51	3.17	2.52
1"	2"	1, 5, 10, 25, 50, 100	8815K52	3.94	3.14
1"	2 1/2"	1, 5, 10, 25, 50, 100	8815K53	4.11	3.27
1"	3"	1, 5, 10, 25, 50, 100	8815K54	4.26	3.39

Molten Metal Splash-Resistant Fiberglass Seals with Stainless Steel Core

A silicone-coated fiberglass cover sheds sparks and molten metal splash while a stainless steel spring core bounces back when pressure is relieved. These seals resist steam, most refrigerants, salts, and grease. Flange thickness is 1/16". Color is red. Temperature range is -80° to 450° F.



Wd. (A)	Overall Wd. (B)	Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
3/8"	7/8"	1, 5, 10, 25, 50	8858K11	$3.90	$3.12
3/8"	1 3/8"	1, 5, 10, 25, 50	8858K12	4.10	3.28
1/2"	1"	1, 5, 10, 25, 50	8858K15	4.10	3.28
1/2"	1 1/2"	1, 5, 10, 25, 50	8858K16	4.26	3.41
3/4"	1 3/4"	1, 5, 10, 25, 50	8858K21	$4.86	$3.88
3/4"	2 1/4"	1, 5, 10, 25, 50	8858K22	5.06	4.02
1"	2 1/2"	1, 5, 10, 25, 50	8858K26	5.57	4.43
1"	3"	1, 5, 10, 25, 50	8858K27	5.77	4.59

High-Temperature Chemical-Resistant Fiberglass Seals with Fiberglass Core

The PTFE coating on these fiberglass seals is slippery, so they are easier than the other seals to press-fit into oven, furnace, and boiler doors. The PTFE resists most acids, alkalies, refrigerants, salts, and grease. Flange thickness is 1/8". Color is white. Temperature range is -40° to 500° F.

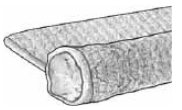

Wd. (A)	Overall Wd. (B)	Lengths, ft.		Per Ft. 1-24	Per Ft. 25-Up
3/8"	1"	1, 5, 10, 25	88255K11	$2.96	$2.36
1/2"	1"	1, 5, 10, 25	88255K16	3.20	2.56
3/4"	1"	1, 5, 10, 25	88255K22	$3.84	$3.07
3/4"	1 1/2"	1, 5, 10, 25	88255K24	4.09	3.27

Ultra High-Temperature Chemical-Resistant Ceramic Seals with Inconel 625 Nickel Core

A ceramic cover makes these seals more chemical resistant than the seals with a silica cover. Seals resist acids (except hydrofluoric and phosphoric), diluted alkalies, most refrigerants, salts, and grease. Flange thickness is 3/8". Color is white. Maximum temperature is 1700° F.



Wd. (A)	Overall Wd. (B)		1 ft.	10 ft.	25 ft.
3/8"	7/8"	8833K51	$18.44	$151.69	$338.36
1/2"	1"	8833K53	21.35	178.69	399.29
1/2"	2"	8833K55	24.75	222.00	505.97
3/4"	1 3/4"	8833K57	$27.80	$255.77	$559.86
1"	2"	8833K61	33.93	321.21	777.95
1"	3"	8833K62	41.05	433.15	992.52

Ultra High-Temperature Silica Seals with Inconel 625 Nickel Core

These seals have a strong Inconel core covered with woven silica yarn that's been treated to withstand extremely high heat. They resist most refrigerants, salts, and grease. Flange thickness is 3/32". Color is tan. Temperature range is -40° to 2300° F.

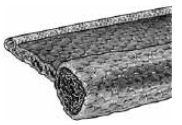

Wd. (A)	Overall Wd. (B)	Lengths, ft.		Per Ft. 1-24	Per Ft. 25-Up
3/8"	1"	1, 5, 10, 25	8853K11	$5.10	$4.08
3/8"	1 1/2"	1, 5, 10, 25	8853K13	6.32	5.05
1/2"	1"	1, 5, 10, 25	8853K18	5.45	4.36
1/2"	1 1/4"	1, 5, 10, 25	8853K19	5.83	4.66
1/2"	1 1/2"	1, 5, 10, 25	8853K21	6.54	5.23
1/2"	2"	1, 5, 10, 25	8853K22	$7.92	$6.34
3/4"	1 1/2"	1, 5, 10, 25	8853K26	10.19	8.15
3/4"	2"	1, 5, 10, 25	8853K27	11.40	9.12
3/4"	2 1/2"	1, 5, 10, 25	8853K29	12.13	9.70
3/4"	3"	1, 5, 10, 25	8853K31	12.61	10.09

Rope Seals & Silicone Gasket Material

For information about rubber and durometer hardness, see page 3588.

High-Temperature Rope Edge Seals

Seals are flexible and will conform to uneven surfaces. Push them into the groove that's commonly built into oven doors, furnaces, and tanks.

High-Temperature Fiberglass Seals


Standard


Ultra Conformable

These seals resist bleach, solvents, and most acids (do not use with hydrofluoric acid, hot phosphoric acid, and wet hydrogen chloride). Color is white. Maximum temperature is 1000° F.

Standard—A tighter braid makes these fiberglass seals more durable than the ultra-conformable seals.

Ultra Conformable—These loosely knitted seals are more flexible, compressible, and conformable than standard seals. The looser construction also makes them more likely to absorb liquids.

Wd.	Lengths, ft.		Per Ft. 1-49	Per Ft. 50-Up
Standard				
1/16″	10, 25, 50, 100	8818K41	$0.34	$0.26
1/8″	10, 25, 50, 100	8818K42	.35	.27
3/16″	10, 25, 50, 100	8818K43	.35	.27
1/4″	10, 25, 50, 100	8818K44	.39	.31
5/16″	10, 25, 50, 100	8818K45	.49	.38
3/8″	10, 25, 50, 100	8818K46	.79	.61
7/16″	10, 25, 50, 100	8818K47	.97	.76
1/2″	10, 25, 50	8818K48	1.16	.91
5/8″	5, 10, 25, 50	8818K49	1.97	1.55
3/4″	5, 10, 25, 50	8818K51	1.97	1.55

Wd.	Lengths, ft.		Per Ft. 1-49	Per Ft. 50-Up
Standard (Cont.)				
1″	1, 5, 10, 25	8818K52	$3.86	$3.02
1 1/4″	1, 5, 10, 25	8818K53	5.35	4.28
1 1/2″	1, 5, 10, 25	8818K54	7.08	5.66
Ultra Conformable				
1/4″	10, 25, 50, 100	8850K11	.71	.53
1/2″	5, 10, 25, 50, 100	8850K12	1.23	.92
3/4″	1, 5, 10, 25, 50	8850K13	2.86	2.15
1″	1, 5, 10, 25, 50	8850K14	4.41	3.31
1 1/4″	1, 5, 10, 25	8850K15	5.64	4.23

Ultra High-Temperature Silica Fiber Seals


Round Profile


Square Profile

Seals resist water, salts, and diluted acids. Color is white.

Round Profile—Made of 96% silica for excellent temperature resistance. Temperature range is -100° to 1800° F.

Square Profile—Seals have flat edges that provide more sealing surface than round-profile seals. They're made of 98% silica for excellent temperature resistance. Temperature range is -40° to 2300° F.

Wd.	Lengths, ft.		Per Ft. 1-24	Per Ft. 25-Up
Round Profile				
1/4″	5, 10, 25, 50, 100	8828K71	$3.09	$2.31
3/8″	1, 5, 10, 25, 50, 100	8828K72	4.26	3.18
1/2″	1, 5, 10, 25, 50, 100	8828K73	6.32	4.72
3/4″	1, 5, 10, 25, 50, 100	8828K74	9.86	7.36
1″	1, 5, 10, 25, 50, 75	8828K75	13.54	10.10

Wd.	Lengths, ft.		Per Ft. 1-24	Per Ft. 25-Up
Square Profile				
3/8″	1, 5, 10, 25, 50, 100, 300	88185K81	$3.83	$2.86
1/2″	1, 5, 10, 25, 50, 100, 200	88185K82	6.38	4.77
5/8″	1, 5, 10, 25, 50, 100	88185K83	11.32	8.45
3/4″	1, 5, 10, 25, 50, 75	88185K84	13.04	9.74
7/8″	1, 5, 10, 25, 60	88185K85	16.72	12.48
1″	1, 5, 10, 25, 50	88185K86	20.44	15.26
1 1/4″	1, 5, 10, 25, 30	88185K87	38.56	30.85
1 1/2″	1, 5, 15, 20	88185K88	49.32	39.77

Ultra High- and Low-Temperature Seals


Standard

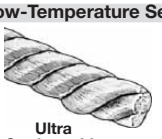
Ultra Conformable

A wide temperature range makes these ceramic seals equally suitable for use in cryogenic applications as they are for extreme-heat applications. They won't burn and they resist molten metal splash. They also resist steam, salts, grease, detergents, bleach, and hydraulic fluid; however, they will absorb these substances. Seals meet MIL-I-24244B. Color is white.

Standard—Made from tightly woven calcium alumina silicate. Temperature range is -300° to 1100° F.

Ultra Conformable—Made from alumina silicate that is loosely woven to make these seals stronger, more flexible, and able to resist higher temperatures than standard seals. Temperature range is -300° to 2300° F.

Wd.		5 ft.	10 ft.	25 ft.
Standard				
1/8″	88265K4	$16.68	$19.62	$28.45
1/4″	88265K5	17.66	21.58	33.35
3/8″	88265K1	10.84	16.09	31.75
1/2″	88265K2	15.01	23.48	49.51
3/4″	88265K6	39.24	64.73	141.25
1″	88265K3	31.88	54.59	115.96

Wd.		5 ft.	10 ft.	25 ft.
Ultra Conformable				
1/4″	88285K2	$18.37	$27.81	$62.35
3/8″	88285K4	16.54	28.77	63.60
1/2″	88285K5	25.57	46.08	110.40
3/4″	88285K3	57.06	98.25	188.33
1″	88285K6	73.15	124.69	245.89

Water- and Steam-Resistant Sticky Silicone Gel Gasket Material

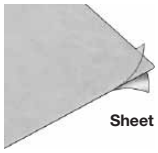
Sheet


Strip

Inherently sticky, these silicone gel sheets and strips conform to irregular surfaces and stay in place for an effective moisture barrier. They resist water, steam, salts, grease, oil, and detergents in low-pressure applications. Cut with scissors or a utility knife. Temperature range is -40° to 255° F. Not rated for pressure. Color is blue.

Gel—Sheets and strips are sticky on both sides.

Gel with Foam Facing—Sheets and strips are sticky on one side; the other side has a polyurethane foam facing with open-cell construction, which allows water, air, and gases to be absorbed.

Thick.	Wd.	Lg.	Gel		Gel with Foam Facing	
Sheets						
0.03″	9″	9″	2750K61	$56.77	2750K81	$61.80
0.06″	9″	9″	2750K63	74.26	2750K83	67.34
Strips						
0.03″	1″	25 ft.	2750K11	120.74	2750K41	128.64
0.03″	3″	25 ft.	2750K12	256.80	2750K43	247.45
0.06″	1″	20 ft.	2750K21	125.83	2750K45	109.96
0.06″	3″	20 ft.	2750K22	306.05	2750K47	271.19

Aramid Pipe Gaskets with Bolt Holes



The best choice for all-around use. Commonly called full-face gaskets, these cover the entire face of flat-surface pipe flanges and align with the bolt holes. All gasket specifications are sized to meet ANSI standards. Temperature range is -100° to 400° F.

Oil-resistant aramid/Buna-N gaskets also resist water and aliphatic hydrocarbons such as ethylene. Maximum pressure is 1,000 psi. Color is blue. *Adhesive-back* gaskets stay in place to make installation easier; the adhesive has a maximum temperature of 125° F.

Water-resistant aramid/SBR gaskets also resist inert gases and abrasion. Maximum pressure is 1,200 psi. Color is white.

For Pipe Size	ID	OD	No. of Bolt Holes	Plain-Back Oil-Resistant Aramid/Buna-N 1/32" Thick		1/16" Thick		1/8" Thick	Adhesive-Back Oil-Resistant Aramid/Buna-N 1/16" Thick		Plain-Back Water-Resistant Aramid/SBR 1/16" Thick	
For ANSI Class 150—Low-Pressure Pipe Flanges												
1/2	27/32"	3 1/2"	4	9472K631	$1.00	$1.59	$2.47		1092N11	$2.13		
3/4	1 1/16"	3 7/8"	4	9472K632	1.14	1.85	3.00		1092N12	2.40	4459K71	$2.41
1	1 5/16"	4 1/4"	4	9472K633	1.37	1.95	3.59		1092N13	2.40	4459K72	2.54
1 1/4	1 21/32"	4 5/8"	4	9472K634	1.77	2.46	4.38		1092N14	3.10	4459K73	3.20
1 1/2	1 29/32"	5"	4	9472K635	2.00	2.82	5.28		1092N15	3.50	4459K74	3.67
2	2 3/8"	6"	4	9472K636	3.20	3.82	7.91		1092N16	5.60	4459K75	4.97
2 1/2	2 7/8"	7"	4	9472K637	4.09	5.17	9.80		1092N17	7.15	4459K76	6.72
3	3 1/2"	7 1/2"	4	9472K638	4.26	5.58	10.17		1092N18	7.45	4459K77	7.25
3 1/2	4"	8 1/2"	8	9472K639	5.19	6.75	13.17		1092N19	9.60	4459K78	8.77
4	4 1/2"	9"	8	9472K641	5.78	6.75	14.69		1092N21	10.70	4459K79	9.11
5	5 9/16"	10"	8	9472K642	6.81	9.97	16.78		1092N22	12.60	4459K81	12.96
6	6 5/8"	11"	8	9472K643	8.65	10.54	20.21		1092N23	16.00	4459K82	13.70
8	8 5/8"	13 1/2"	8	9472K644	13.03	13.37	28.93		1092N24	22.95	4459K83	17.38
10	10 3/4"	16"	12	9472K645	16.93	18.27	36.91		1092N25	30.77	4459K84	23.75
12	12 3/4"	19"	12	9472K646	23.19	35.80	50.83		1092N26	44.27	4459K85	46.54
14	14"	21"	12	9472K127	—	36.84	—		—	—	—	—
16	16"	23 1/2"	16	9472K128	—	39.95	—		—	—	—	—
18	18"	25"	16	9472K129	—	47.22	—		—	—	—	—
20	20"	27 1/2"	20	9472K131	—	51.11	—		—	—	—	—
24	24"	32"	20	9472K132	—	70.38	—		—	—	—	—
For ANSI Class 300—Medium-Pressure Pipe Flanges												
1/2	27/32"	3 1/2"	4	9472K671	—	2.23	2.94		1092N27	2.45	4459K43	1.79
3/4	1 1/16"	4 5/8"	4	9472K672	—	2.37	3.44		1092N28	2.75	4459K93	2.53
1	1 5/16"	4 7/8"	4	9472K673	—	2.38	4.06		1092N29	2.85	4459K45	2.67
1 1/4	1 21/32"	5 1/4"	4	9472K674	—	2.97	5.22		1092N31	3.90	4459K46	3.36
1 1/2	1 29/32"	6 1/8"	4	9472K675	—	3.38	5.83		1092N32	4.35	4459K47	3.85
2	2 3/8"	6 1/2"	8	9472K676	—	4.58	7.95		1092N33	6.30	4459K48	5.22
2 1/2	2 7/8"	7 1/2"	8	9472K677	—	6.18	10.00		1092N34	7.90	4459K49	7.06
3	3 1/2"	8 1/4"	8	9472K678	—	6.65	11.24		1092N35	8.90	4459K67	7.62
3 1/2	4"	9"	8	9472K679	—	8.09	14.68		1092N36	12.25	4459K68	9.21
4	4 1/2"	10"	8	9472K681	—	8.26	13.80		1092N37	11.50	4459K69	9.56
5	5 9/16"	11"	8	9472K682	—	11.94	14.98		1092N38	15.00	4459K86	13.61
6	6 5/8"	12 1/2"	12	9472K683	—	12.63	22.02		1092N39	19.25	4459K87	17.33
8	8 5/8"	15"	12	9472K684	—	16.05	35.02		1092N41	30.57	4459K88	18.25
10	10 3/4"	17 1/2"	16	9472K685	—	21.90	43.98		1092N42	38.32	4459K89	24.94
12	12 3/4"	20 1/2"	16	9472K686	—	37.83	54.48		1092N43	51.59	4459K91	47.51

Rubber Pipe Gaskets with Bolt Holes



Damp vibration in your pipe line with these rubber gaskets. They bounce back after compressing and compensate for misaligned flanges. Commonly called full-face gaskets, they cover the entire face of flat-surface pipe flanges and align with the bolt holes. All gasket specifications are sized to meet ANSI standards. Gaskets meet ASTM D2000.

Oil-resistant compressible Buna-N gaskets also resist water and salts. They compress to ensure a tight seal. Temperature range is -20° to 170° F. Maximum pressure is 800 psi. Durometer is 60A (medium hard). Color is black.

High-temperature silicone gaskets resist water and salts. Temperature range is -80° to 450° F. Maximum pressure is 600 psi. Durometer is 60A (medium hard). Color is red.

Chemical-resistant Viton® fluoroelastomer gaskets resist boric acid, citric acid, isopropyl alcohol, fuel, oil, and transmission fluid. Temperature range is -20° to 450° F. Not rated for pressure. Durometer is 75A (hard). Color is black.

Water- and steam-resistant EPDM gaskets also resist salt water. Temperature range is -20° to 220° F. Maximum pressure is 800 psi. Durometer is 60A (medium hard). Color is black.

For Pipe Size	ID	OD	No. of Bolt Holes	Oil-Resistant Compressible Buna-N 1/16" Thick		1/8" Thick	High-Temperature Silicone 1/16" Thick		1/8" Thick	Chemical-Resistant Viton® Fluoroelastomer 1/16" Thick		1/8" Thick
For ANSI Class 150—Low-Pressure Pipe Flanges												
1/2	27/32"	3 1/2"	4	8516T231	$0.53	$0.94	8521T891	$1.45	$2.90	9473K611	$2.24	$6.25
3/4	1 1/16"	3 7/8"	4	8516T232	.63	1.06	8521T982	1.63	3.25	9473K612	2.24	6.25
1	1 5/16"	4 1/4"	4	8516T233	.72	1.21	8521T893	1.85	3.70	9473K613	2.50	7.00
1 1/4	1 21/32"	4 5/8"	4	8516T234	.78	1.38	8521T894	2.25	4.50	9473K614	2.95	8.25
1 1/2	1 29/32"	5"	4	8516T235	.91	1.56	8521T895	2.73	5.45	9473K615	3.49	9.75
2	2 3/8"	6"	4	8516T236	1.22	2.09	8521T896	3.30	6.61	9473K616	4.36	12.25
2 1/2	2 7/8"	7"	4	8516T237	1.59	2.74	8521T897	3.88	7.75	9473K617	5.18	14.50
3	3 1/2"	7 1/2"	4	8516T238	1.78	3.09	8521T898	4.98	9.95	9473K618	6.52	18.25
3 1/2	4"	8 1/2"	8	8516T239	2.12	3.86	8521T899	6.50	12.38	9473K619	7.81	23.69
4	4 1/2"	9"	8	8516T241	2.35	4.26	8521T911	8.00	15.24	9473K621	10.27	28.75
5	5 9/16"	10"	8	8516T242	2.85	5.18	8521T912	9.25	17.62	9473K622	12.41	34.75
6	6 5/8"	11"	8	8516T243	3.41	6.21	8521T913	11.08	21.10	9473K623	13.84	38.75
8	8 5/8"	13 1/2"	8	8516T244	4.56	8.59	8521T914	14.31	27.32	9473K624	18.20	53.50
10	10 3/4"	16"	12	8516T4	6.50	11.17	8521T915	20.91	40.00	9473K625	29.84	80.56
12	12 3/4"	19"	12	8516T5	8.56	15.56	8521T916	24.55	46.96	9473K626	49.32	94.35
Water- and Steam-Resistant EPDM—1/8" Thick; Choose a Pipe Size: 1, 1 1/2, 2, 2 1/2, 3, 4, 6												1082N51
For ANSI Class 300—Medium-Pressure Pipe Flanges												
Oil-Resistant Compressible Buna-N—1/8" Thick; Choose a Pipe Size: 1, 1 1/2, 2, 2 1/2, 3, 4, 6												8516T7
Chemical-Resistant Viton® Fluoroelastomer—1/8" Thick; Choose a Pipe Size: 1, 1 1/2, 2, 2 1/2, 3, 4, 6												9473K2

Pipe Gaskets with Bolt Holes

Ultra-Chemical-Resistant PTFE Pipe Gaskets with Bolt Holes



Here are the most chemical resistant pipe gaskets with bolt holes we offer. They are chemically inert (except to molten alkali metal and fluorine compounds), unless otherwise stated. Commonly called full-face gaskets, they cover the entire face of flat-surface pipe flanges and align with the bolt holes. All gasket specifications are sized to meet ANSI standards.

Compressible PTFE (Gore GR), Food-Grade Compressible PTFE, and **Compressible PTFE (Gore UPG)**—These soft expanded PTFE gaskets compress to ensure a tight seal. Temperature range is -450° to 600°F. Maximum pressure is 3,000 psi. Color is white. *Food-grade compressible PTFE* gaskets are made of FDA-listed material for use with food and beverage. *Compressible PTFE (Gore UPG)* gaskets are for use with cast iron pipe flanges.

Compressible Reinforced PTFE—Reinforced with a stainless steel insert, these soft expanded PTFE gaskets are stronger and can hold their shape better than gaskets without an insert. Temperature range is -150° to 500°F. Maximum pressure is 1,000 psi. Color is white.

PTFE—Made of pure PTFE, these gaskets have a slippery surface that prevents sticking. Temperature range is -450° to 500°F. Gaskets are not rated for pressure. They meet ASTM D3308 and MIL-P-22241. Color is white.

High-Strength PTFE—Resistant to hydrocarbons, solvents, refrigerants, and moderate concentrations of acids, these gaskets have a fiberglass filler to prevent them from thinning out when compressed. Temperature range is -450° to 500°F. Maximum pressure is 800 psi. Color is blue.

For Pipe Size	ID	OD	No. of Bolt Holes	Compressible PTFE (Gore GR) 1/16" Thick	Compressible PTFE (Gore GR) 1/8" Thick	Food-Grade Compressible PTFE 1/16" Thick	Food-Grade Compressible PTFE 1/8" Thick	Compressible PTFE (Gore UPG) 1/16" Thick	Compressible PTFE (Gore UPG) 1/8" Thick
For ANSI Class 150—Low-Pressure Pipe Flanges									
1/2	27/32"	3 1/2"	4	95665K671	$8.99	$15.73	8903K621	$3.84	$5.66	5209K421	$6.54	$11.44
3/4	1 1/16"	3 7/8"	4	95665K572	10.54	18.48	8903K262	4.70	7.42	5209K422	7.66	13.46
1	1 5/16"	4 1/4"	4	95665K673	12.41	21.85	8903K263	5.70	9.40	5209K423	9.04	15.88
1 1/4	1 21/32"	4 5/8"	4	95665K674	14.27	25.05	8903K264	6.76	10.88	5209K424	10.38	18.22
1 1/2	1 29/32"	5"	4	95665K675	16.44	28.86	8903K265	7.94	12.78	5209K425	11.94	21.00
2	2 3/8"	6"	4	95665K676	22.58	39.57	8903K266	11.86	18.46	5209K426	16.42	28.80
2 1/2	2 7/8"	7"	4	95665K677	29.94	52.47	8903K267	16.44	25.40	5209K427	21.78	38.18
3	3 1/2"	7 1/2"	4	95665K678	33.96	59.64	8903K268	18.86	32.66	5209K428	24.70	43.36
3 1/2	4"	8 1/2"	8	95665K679	42.50	74.58	8903K269	24.48	43.80	5209K209	30.92	—
4	4 1/2"	9"	8	95665K681	47.29	83.02	8903K271	26.76	46.70	5209K431	34.40	60.38
5	5 9/16"	10"	8	95665K682	57.27	100.46	8903K272	26.84	60.98	5209K432	41.66	73.06
6	6 5/8"	11"	8	95665K683	68.21	119.60	8903K273	32.60	67.76	5209K433	49.60	87.00
8	8 5/8"	13 1/2"	8	95665K684	100.40	176.26	8903K274	50.70	114.40	5209K434	73.02	128.12

For Pipe Size	OD	No. of Bolt Holes	Compressible Reinforced PTFE ID	Compressible Reinforced PTFE 1/8" Thick	PTFE ID	PTFE 1/16" Thick	PTFE 1/8" Thick	High-Strength PTFE ID	High-Strength PTFE 1/16" Thick
For ANSI Class 150—Low-Pressure Pipe Flanges									
1/2	3 1/2"	4	21/32"	1085N21	$37.30	27/32"	9483K821	$2.57	$5.50	27/32"	3369T21	$7.92
3/4	3 7/8"	4	7/8"	1085N22	39.30	1 1/16"	9483K822	3.10	6.63	1 1/16"	3369T22	9.33
1	4 1/4"	4	1 3/32"	1085N23	48.30	1 5/16"	9483K823	3.70	7.83	1 5/16"	3369T71	12.25
1 1/4	4 5/8"	4	—	—	—	1 21/32"	9483K824	4.06	8.87	1 21/32"	3369T23	12.94
1 1/2	5"	4	1 21/32"	1085N24	59.60	1 29/32"	9483K825	4.72	10.23	1 29/32"	3369T72	16.38
2	6"	4	2 3/8"	1085N25	78.37	2 3/8"	9483K826	6.72	13.55	2 3/8"	3369T73	23.56
2 1/2	7"	4	—	—	—	2 7/8"	9483K827	9.03	17.62	2 7/8"	3369T74	28.28
3	7 1/2"	4	3 1/2"	1085N26	109.20	3 1/2"	9483K828	10.31	20.03	3 1/2"	3369T75	34.79
3 1/2	8 1/2"	8	—	—	—	4"	9483K829	14.00	24.00	4"	3369T24	37.73
4	9"	8	4 1/2"	1085N27	142.71	4 1/2"	9483K831	15.57	26.67	4 1/2"	3369T76	51.17
5	10"	8	—	—	—	5 9/16"	9483K832	20.43	30.87	5 9/16"	3369T25	46.20
6	11"	8	6 5/8"	1085N28	204.60	6 5/8"	9483K833	24.57	35.15	6 5/8"	3369T77	56.10
8	13 1/2"	8	—	—	—	8 5/8"	9483K834	36.64	47.50	8 5/8"	3369T26	87.25
10	16"	12	—	—	—	10 3/4"	9483K835	35.75	66.02	10 3/4"	3369T27	130.88
12	19"	12	—	—	—	12 3/4"	9483K836	47.67	88.17	12 3/4"	3369T28	174.50

For ANSI Class 300—Medium-Pressure Pipe Flanges

Compressible PTFE (Gore GR)—Choose a Thickness: 1/16", 1/8"; Choose a Pipe Size: 1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4, 5, 6, 8 ... **95665K101**

Food-Grade Compressible PTFE—Choose a Thickness: 1/16", 1/8"; Choose a Pipe Size: 1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4, 5, 6, 8 ... **8903K21**

Compressible PTFE (Gore UPG)—Choose a Thickness: 1/16", 1/8"; Choose a Pipe Size: 1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4, 5, 6, 8 ... **5209K11**

PTFE—Choose a Thickness: 1/16", 1/8"; Choose a Pipe Size: 1, 1 1/2, 2, 2 1/2, 3, 4, 6 ... **9483K76**

High-Strength PTFE—1/16" Thick; Choose a Pipe Size: 1, 1 1/2, 2, 2 1/2, 3, 4, 6 ... **3369T9**

High-Temperature Pipe Gaskets with Bolt Holes



Even when temperatures rise, these gaskets maintain a strong seal. Commonly called full-face gaskets, they cover the entire face of flat-surface pipe flanges and align with the bolt holes. All gasket specifications are sized to meet ANSI standards.

Extreme-pressure graphite gaskets have a stainless steel insert for strength to handle pressure up to 5,000 psi. Temperature range is -325° to 850°F. Color is gray.

Oil-resistant carbon/Buna-N gaskets have a temperature range of -100° to 650°F. Maximum pressure is 2,000 psi. Color is black.

Graphite/Buna-N gaskets have a temperature range of -100° to 650°F. Maximum pressure is 2,000 psi. Color is brown.

Ultra-high-temperature vermiculite gaskets withstand temperatures from -235° to 1800°F. They are reinforced with a stainless steel insert for added strength under pressures up to 2,900 psi. Color is gold.

For Pipe Size	ID	OD	No. of Bolt Holes	Extreme-Pressure Graphite 1/16" Thick	Oil-Resistant Carbon/Buna-N 1/16" Thick	Graphite/Buna-N 1/16" Thick	Vermiculite 1/16" Thick
For ANSI Class 150—Low-Pressure Pipe Flanges							
1/2	27/32"	3 1/2"	4	—	—	9772K31	$4.53	—	—	1089N22	$29.73
3/4	1 1/16"	3 7/8"	4	94095K82	$3.05	9772K32	5.09	93245K72	$6.34	1089N23	35.55
1	1 5/16"	4 1/4"	4	94095K83	3.33	9772K33	5.67	93245K73	6.88	1089N24	41.58
1 1/4	1 21/32"	4 5/8"	4	94095K84	3.54	9772K34	6.71	93245K74	8.35	1089N25	45.61
1 1/2	1 29/32"	5"	4	94095K85	4.03	9772K35	7.82	93245K75	9.76	1089N26	52.07
2	2 3/8"	6"	4	94095K86	5.47	9772K36	10.19	93245K76	12.69	1089N27	70.18
2 1/2	2 7/8"	7"	4	94095K87	6.67	9772K37	14.22	93245K77	16.84	1089N28	93.42
3	3 1/2"	7 1/2"	4	94095K88	7.34	9772K38	14.92	93245K78	17.35	1089N29	100.87
3 1/2	4"	8 1/2"	8	94095K89	9.03	9772K39	16.29	—	—	—	—
4	4 1/2"	9"	8	94095K91	9.52	9772K51	17.37	93245K81	21.50	1089N31	134.50
5	5 9/16"	10"	8	94095K92	12.07	9772K52	22.82	93245K82	29.77	—	—
6	6 5/8"	11"	8	94095K93	13.65	9772K53	25.45	93245K83	40.24	1089N32	162.62
8	8 5/8"	13 1/2"	8	94095K94	18.34	9772K54	32.50	93245K84	42.46	—	—
10	10 3/4"	16"	12	94095K95	25.63	9772K55	43.02	93245K85	55.98	—	—
12	12 3/4"	19"	12	94095K96	35.98	9772K56	79.98	—	—	—	—

For ANSI Class 300—Medium-Pressure Pipe Flanges

Extreme-Pressure Graphite—1/16" Thick; Choose a Pipe Size: 1, 1 1/2, 2, 2 1/2, 3, 4, 6 ... **94095K56**

Aramid Pipe Gaskets



Use these general purpose gaskets on raised-surface pipe flanges. Also known as ring gaskets, they fit the surface inside the bolt holes. All gasket specifications are sized to meet ANSI standards. Temperature range is -100° to 400° F.

Oil-resistant aramid/Buna-N gaskets also resist water and aliphatic hydrocarbons such as ethylene. Maximum pressure is 1,000 psi. Color is blue. *Adhesive-back* gaskets stay in place to make installation easier; the adhesive has a maximum temperature of 125° F.

Water-resistant aramid/SBR gaskets also resist abrasion and inert gases. Maximum pressure is 1,200 psi. Color is white.

For Pipe Size	ID	OD	Plain-Back Oil-Resistant Aramid/Buna-N 1/32" Thick	1/16" Thick	1/8" Thick	Adhesive-Back Oil-Resistant Aramid/Buna-N 1/16" Thick	Plain-Back Water-Resistant Aramid/SBR 1/16" Thick
For ANSI Class 150—Low-Pressure Pipe Flanges							
1/2	27/32"	1 7/8"	9472K611 $0.30	$0.47	$0.67	1092N44 $0.49	4459K51 $0.60
3/4	1 1/16"	2 1/4"	9472K612 .43	.57	1.07	1092N45 .65	4459K52 .75
1	1 5/16"	2 5/8"	9472K613 .63	.97	1.38	1092N46 1.03	4459K53 1.26
1 1/4	1 21/32"	3"	9472K614 .97	1.19	2.19	1092N47 1.45	4459K55 1.55
1 1/2	1 29/32"	3 3/8"	9472K615 1.03	1.45	2.31	1092N48 1.55	4459K57 1.90
2	2 3/8"	4 1/8"	9472K616 1.53	1.95	3.50	1092N49 2.30	4459K54 2.54
2 1/2	2 7/8"	4 7/8"	9472K617 2.13	2.82	4.84	1092N51 3.20	4459K56 3.67
3	3 1/2"	5 3/8"	9472K618 2.63	3.07	5.40	1092N52 3.95	4459K58 3.99
3 1/2	4"	6 3/8"	9472K619 3.34	4.15	6.79	1092N53 5.35	4459K59 5.38
4	4 1/2"	6 7/8"	9472K621 4.03	4.39	7.73	1092N54 6.45	4459K61 6.77
5	5 9/16"	7 3/4"	9472K622 5.77	6.05	12.00	1092N55 10.10	4459K62 7.87
6	6 5/8"	8 3/4"	9472K623 6.53	6.86	12.53	1092N56 10.45	4459K63 8.92
8	8 5/8"	11"	9472K624 9.41	9.79	18.05	1092N57 14.33	4459K64 12.73
10	10 3/4"	13 3/8"	9472K625 12.40	12.52	24.81	1092N58 19.73	4459K65 18.78
12	12 3/4"	16 1/8"	9472K626 16.63	20.15	34.43	1092N59 28.73	4459K66 26.20
14	14"	17 3/4"	9472K199 ___	21.86	___	___ ___	___ ___
16	16"	20 1/4"	9472K201 ___	28.45	___	___ ___	___ ___
18	18"	21 5/8"	9472K202 ___	49.36	___	___ ___	___ ___
20	20"	23 7/8"	9472K203 ___	50.52	___	___ ___	___ ___
24	24"	28 1/4"	9472K256 ___	50.59	___	___ ___	___ ___
For ANSI Class 300—Medium-Pressure Pipe Flanges							
1/2	27/32"	2 1/8"	9472K651 ___	.54	.97	1092N61 .60	4459K21 .63
3/4	1 1/16"	2 5/8"	9472K652 ___	.71	1.47	1092N62 .95	4459K92 .79
1	1 5/16"	2 7/8"	9472K653 ___	1.20	1.69	1092N63 1.10	4459K23 1.32
1 1/4	1 21/32"	3 1/4"	9472K654 ___	1.53	2.78	1092N64 1.85	4459K24 1.63
1 1/2	1 29/32"	3 3/4"	9472K655 ___	1.80	2.88	1092N65 1.90	4459K25 1.99
2	2 3/8"	4 3/8"	9472K656 ___	2.55	4.94	1092N66 2.60	4459K27 2.67
2 1/2	2 7/8"	5 1/8"	9472K657 ___	3.38	5.06	1092N67 3.55	4459K29 3.85
3	3 1/2"	5 7/8"	9472K658 ___	3.66	6.65	1092N68 4.70	4459K31 4.20
3 1/2	4"	6 1/2"	9472K659 ___	5.59	9.14	1092N69 6.85	4459K33 5.65
4	4 1/2"	7 1/8"	9472K661 ___	5.63	9.22	1092N71 6.95	4459K34 7.10
5	5 9/16"	8 1/2"	9472K662 ___	7.44	15.32	1092N72 12.13	4459K35 8.26
6	6 5/8"	9 7/8"	9472K663 ___	8.82	16.82	1092N73 13.30	4459K37 9.35
8	8 5/8"	12 1/8"	9472K664 ___	11.39	22.93	1092N74 19.10	4459K39 13.28
10	10 3/4"	14 1/4"	9472K665 ___	13.57	28.22	1092N75 24.59	4459K41 19.48
12	12 3/4"	16 5/8"	9472K667 ___	24.17	38.39	1092N76 33.45	4459K42 25.98

Rubber Pipe Gaskets



Made of rubber, these gaskets compress to damp vibration. Also known as ring gaskets, use them with raised-surface pipe flanges; they fit the surface inside the bolt holes. All gasket specifications are sized to meet ANSI standards. Meet ASTM D2000.

Oil-resistant compressible Buna-N gaskets also resist water and salts. Temperature range is -20° to 170° F. Maximum pressure is 1,000 psi for ANSI Class 150 gaskets, 800 psi for ANSI Class 300. Durometer is 60A (medium hard). Color is black.

High-temperature silicone gaskets withstand temperatures from -80° to 450° F. They resist water and salts. Maximum pressure is 600 psi. Durometer is 60A (medium hard). Color is red.

Chemical-resistant Viton® fluoroelastomer gaskets resist boric acid, citric acid, isopropyl alcohol, fuel, oil, and transmission fluid. Temperature range is -20° to 450° F. Durometer is 75A (hard). Color is black.

Water- and abrasion-resistant SBR gaskets have a temperature range of -20° to 170° F. Maximum pressure is 800 psi. Durometer is 75A (hard). Color is red.

Water- and refrigerant-resistant neoprene gaskets have a temperature range of -20° to 170° F. Maximum pressure is 1,000 psi. Durometer is 60A (medium hard). Color is black.

Water- and steam-resistant EPDM gaskets also resist salt water. Temperature range is -20° to 220° F. Maximum pressure is 800 psi. Durometer is 60A (medium hard). Color is black.

For Pipe Size	ID	OD	Oil-Resistant Compressible Buna-N 1/16" Thick	1/8" Thick	High-Temperature Silicone 1/16" Thick	1/8" Thick	Chemical-Resistant Viton® Fluoroelastomer 1/16" Thick	1/8" Thick
For ANSI Class 150—Low-Pressure Pipe Flanges								
1/2	27/32"	1 7/8"	8516T131 $0.28	$0.71	8521T921 $1.15	$1.45	9473K631 $2.86	$3.38
3/4	1 1/16"	2 1/4"	8516T132 .31	.76	8521T922 1.30	1.62	9473K632 2.86	3.38
1	1 5/16"	2 5/8"	8516T133 .38	.82	8521T923 1.48	1.85	9473K633 3.38	3.78
1 1/4	1 21/32"	3"	8516T134 .44	.89	8521T924 1.80	2.25	9473K634 3.77	4.46
1 1/2	1 29/32"	3 3/8"	8516T135 .50	.92	8521T925 2.18	2.73	9473K635 4.46	5.27
2	2 3/8"	4 1/8"	8516T136 .66	1.00	8521T926 2.65	3.30	9473K636 5.60	6.13
2 1/2	2 7/8"	4 7/8"	8516T137 .88	1.53	8521T927 3.10	3.88	9473K637 6.63	7.25
3	3 1/2"	5 3/8"	8516T138 1.00	1.58	8521T928 3.98	4.97	9473K638 8.34	9.13
3 1/2	4"	6 3/8"	8516T139 1.26	2.19	8521T929 5.20	6.50	9473K639 10.98	12.02
4	4 1/2"	6 7/8"	8516T141 1.44	2.23	8521T931 6.40	8.03	9473K641 13.14	14.38
5	5 9/16"	7 3/4"	8516T142 1.79	2.48	8521T932 7.40	9.25	9473K642 15.89	17.38
6	6 5/8"	8 3/4"	8516T143 2.24	3.64	8521T933 8.85	11.07	9473K643 17.71	19.38
8	8 5/8"	11"	8516T144 3.12	4.50	8521T934 11.45	15.03	9473K644 23.30	26.75
10	10 3/4"	13 3/8"	8516T93 3.71	7.69	8521T935 16.73	20.91	9473K645 36.26	39.70
12	12 3/4"	16 1/8"	8516T94 6.41	11.03	8521T936 19.64	24.55	9473K646 38.19	41.16
Water- and Abrasion-Resistant SBR—1/8" Thick; Choose a Pipe Size: 1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4, 5, 6, 8								9774K6
Water- and Refrigerant-Resistant Neoprene—1/8" Thick; Choose a Pipe Size: 1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4, 5, 6, 8								97725K52
Water- and Steam-Resistant EPDM—1/8" Thick; Choose a Pipe Size: 1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4, 5, 6, 8								1082N52
For ANSI Class 300—Medium-Pressure Pipe Flanges								
Oil-Resistant Compressible Buna-N—1/8" Thick; Choose a Pipe Size: 1, 1 1/2, 2, 2 1/2, 3, 4, 6								8516T95
Chemical-Resistant Viton® Fluoroelastomer—1/8" Thick; Choose a Pipe Size: 1, 1 1/2, 2, 2 1/2, 3, 4, 6								9473K1

Ultra-Chemical-Resistant PTFE Pipe Gaskets



These are the most chemical resistant pipe gaskets we offer. They are chemically inert (except to molten alkali metal and fluorine compounds), unless otherwise stated. Also known as ring gaskets, use them with raised-surface pipe flanges; they fit the surface inside the bolt holes. All gasket specifications are sized to meet ANSI standards.

Compressible PTFE (Gore GR), Food-Grade Compressible PTFE, and **Compressible PTFE (Gore UPG)—**These soft expanded PTFE gaskets compress to ensure a tight seal. Temperature range is -450° to 600°F. Maximum pressure is 3,000 psi. Color is white. *Food-grade compressible PTFE* gaskets are made of FDA-listed material for use with food and beverage. *Compressible PTFE (Gore UPG)* gaskets are for use with cast iron pipe flanges.

PTFE—Made of pure PTFE, these gaskets have a slippery surface that prevents sticking. Temperature range is -450° to 500°F. Gaskets are not rated for pressure. They meet ASTM D3308 and MIL-P-22241. Color is white.

High-Strength PTFE—Resistant to hydrocarbons, solvents, refrigerants, and moderate concentrations of acids, these gaskets have a fiberglass filler to prevent them from thinning out when compressed. Temperature range is -450° to 500°F. Maximum pressure is 800 psi. Color is blue.

Reinforced PTFE and **Compressible Reinforced PTFE—**A stainless steel insert in these PTFE gaskets adds strength. Color is white. *Reinforced PTFE* gaskets have a temperature range of -300° to 400°F. Maximum pressure is 500 psi. *Compressible reinforced PTFE* gaskets have a temperature range of -150° to 500°F. Maximum pressure is 1,000 psi.

For Pipe Size	ID	OD	Compressible PTFE (Gore GR) 1/16" Thick		1/8" Thick	Food-Grade Compressible PTFE 1/16" Thick		1/8" Thick	Compressible PTFE (Gore UPG) 1/16" Thick		1/8" Thick
For ANSI Class 150—Low-Pressure Pipe Flanges											
1/2	27/32"	1 7/8"	95665K621	$3.36	$5.91	8903K311	$1.16	$1.94	5209K461	$2.46	$4.16
3/4	1 1/16"	2 1/4"	95665K622	4.36	7.63	8903K312	1.62	2.58	5209K462	3.18	5.56
1	1 5/16"	2 5/8"	95665K623	5.69	9.90	8903K313	2.18	3.50	5209K463	4.12	7.19
1 1/4	1 21/32"	3"	95665K624	6.92	12.12	8903K314	2.18	3.50	5209K464	5.02	8.82
1 1/2	1 29/32"	3 3/8"	95665K625	8.47	14.89	8903K315	3.60	5.82	5209K465	6.16	10.82
2	2 3/8"	4 1/8"	95665K626	11.86	20.79	8903K316	5.30	8.44	5209K466	8.62	15.12
2 1/2	2 7/8"	4 7/8"	95665K627	15.77	27.71	8903K317	7.58	12.18	5209K467	11.48	20.14
3	3 1/2"	5 3/8"	95665K628	18.76	32.94	8903K318	9.50	15.26	5209K468	13.66	23.98
4	4 1/2"	6 7/8"	95665K641	29.02	50.90	8903K321	15.98	25.08	5209K471	21.10	37.02
5	5 9/16"	7 3/4"	95665K642	35.95	62.43	8903K322	16.02	32.66	5209K472	26.14	45.86
6	6 5/8"	8 3/4"	95665K643	44.70	78.42	8903K323	20.74	43.54	5209K473	32.50	57.02
8	8 5/8"	11"	95665K644	68.21	119.60	8903K324	32.60	67.76	5209K474	49.60	87.00

For Pipe Size	ID	OD	PTFE 1/16" Thick		1/8" Thick	High-Strength PTFE 1/16" Thick		Reinforced PTFE 1/8" Thick		5/32" Thick
For ANSI Class 150—Low-Pressure Pipe Flanges										
1/2	27/32"	1 7/8"	9483K841	$0.86	$1.68	3369T11	$2.86	5480K32	$8.47	—
3/4	1 1/16"	2 1/4"	9483K842	1.08	2.11	3369T29	3.98	5480K33	9.03	—
1	1 5/16"	2 5/8"	9483K843	1.30	2.62	3369T61	5.36	5480K11	9.63	—
1 1/4	1 21/32"	3"	9483K844	1.83	3.52	3369T13	6.49	5480K34	11.86	—
1 1/2	1 29/32"	3 3/8"	9483K845	2.39	3.88	3369T62	8.45	5480K13	12.06	—
2	2 3/8"	4 1/8"	9483K846	3.20	5.71	3369T63	11.91	5480K15	13.03	—
2 1/2	2 7/8"	4 7/8"	9483K847	4.19	8.39	3369T64	14.48	5480K16	15.06	—
3	3 1/2"	5 3/8"	9483K848	4.44	9.25	3369T65	19.64	5480K19	18.86	—
4	4 1/2"	6 7/8"	9483K851	7.90	14.09	3369T66	30.56	5480K23	22.47	—
5	5 9/16"	7 3/4"	9483K852	9.67	18.57	3369T32	29.52	5480K24	28.35	—
6	6 5/8"	8 3/4"	9483K853	12.02	22.49	3369T33	36.93	5480K27	31.20	—
8	8 5/8"	11"	9483K859	17.93	33.85	3369T34	56.10	5480K28	—	$43.33
10	10 3/4"	13 3/8"	9483K855	34.05	63.15	3369T35	87.25	5480K29	—	53.67
12	12 3/4"	16 1/8"	9483K856	45.50	81.12	3369T36	130.88	5480K31	—	80.53

Compressible Reinforced PTFE—1/8" Thick; Choose a Pipe Size: 1/2, 3/4, 1, 1 1/2, 2, 3, 4, 6 — **1085N1**

For ANSI Class 300—Medium-Pressure Pipe Flanges

Compressible PTFE (Gore GR)—Choose a Thickness: 1/16", 1/8"; Choose a Pipe Size: 1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4, 5, 6, 8 — **95665K126**

Food-Grade Compressible PTFE—Choose a Thickness: 1/16", 1/8"; Choose a Pipe Size: 1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4, 5, 6, 8 — **8903K98**

Compressible PTFE (Gore UPG)—Choose a Thickness: 1/16", 1/8"; Choose a Pipe Size: 1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4, 5, 6, 8 — **5209K12**

PTFE—Choose a Thickness: 1/16", 1/8"; Choose a Pipe Size: 1, 1 1/2, 2, 2 1/2, 3, 4, 6 — **9483K77**

High-Strength PTFE—1/16" Thick; Choose a Pipe Size: 1, 1 1/2, 2, 2 1/2, 3, 4, 6 — **3369T8**

Reinforced PTFE—1/8" Thick; Choose a Pipe Size: 1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 4, 5, 6, 8, 10, 12 — **5480K17**

High-Temperature Pipe Gaskets



Maintain a strong seal in high temperatures with these gaskets. Also known as ring gaskets, use them with raised-surface pipe flanges; they fit the surface inside the bolt holes. All gasket specifications are sized to meet ANSI standards.

Extreme-pressure graphite gaskets have a stainless steel insert for strength to handle pressure up to 5,000 psi. Temperature range is -325° to 850°F. Color is gray.

Oil-resistant carbon/Buna-N gaskets have a temperature range of -100° to 650°F. Maximum pressure is 2,000 psi. Color is black.

Graphite/Buna-N gaskets have a temperature range of -100° to 650°F. Maximum pressure is 2,000 psi. Color is brown.

Ultra-high-temperature vermiculite gaskets withstand temperatures from -235° to 1800°F. They are reinforced with a stainless steel insert for added strength under pressures up to 2,900 psi. Color is brown.

For Pipe Size	ID	OD	Extreme-Pressure Graphite 1/16" Thick		Oil-Resistant Carbon/Buna-N 1/16" Thick		Graphite/Buna-N 1/16" Thick		Ultra-High-Temperature Vermiculite 1/16" Thick	
For ANSI Class 150—Low-Pressure Pipe Flanges										
1/2	27/32"	1 7/8"	94095K41	$0.76	9772K41	$1.27	93245K41	$1.80	1089N11	$8.56
3/4	1 1/16"	2 1/4"	94095K42	1.14	9772K42	1.67	93245K42	2.07	1089N12	11.70
1	1 5/16"	2 5/8"	94095K43	1.35	9772K43	2.77	93245K43	3.53	1089N13	15.20
1 1/4	1 21/32"	3"	94095K44	1.98	9772K44	3.37	93245K44	4.16	1089N14	18.22
1 1/2	1 29/32"	3 3/8"	94095K45	2.08	9772K45	4.10	93245K45	5.09	1089N15	22.32
2	2 3/8"	4 1/8"	94095K46	2.67	9772K46	5.56	93245K46	6.88	1089N16	30.98
2 1/2	2 7/8"	4 7/8"	94095K47	3.67	9772K47	7.67	93245K47	10.12	1089N17	41.77
3	3 1/2"	5 3/8"	94095K48	3.99	9772K48	8.39	93245K48	10.62	1089N18	44.90
4	4 1/2"	6 7/8"	94095K61	6.84	9772K61	11.69	93245K51	15.19	1089N19	68.45
5	5 9/16"	7 3/4"	94095K62	7.56	9772K62	15.53	93245K52	19.27	—	—
6	6 5/8"	8 3/4"	94095K63	8.50	9772K63	17.50	93245K53	21.62	1089N21	83.04
8	8 5/8"	11"	94095K64	12.24	9772K64	22.81	93245K54	29.76	—	—
10	10 3/4"	13 3/8"	94095K65	15.65	9772K65	28.85	93245K55	39.36	—	—
12	12 3/4"	16 1/8"	94095K66	25.20	9772K66	47.34	—	—	—	—

For ANSI Class 300—Medium-Pressure Pipe Flanges

Extreme-Pressure Graphite—1/16" Thick; Choose a Pipe Size: 1, 1 1/2, 2, 2 1/2, 3, 4, 6 — **94095K58**

High-Temperature Metallic Pipe Gaskets

The metal construction of these gaskets provides structural strength. They compensate for flange movement caused by vibration and pressure. Use them with both flat-surface and raised-surface pipe flanges; they fit the surface inside the bolt holes. All specifications are sized to meet ANSI standards.

Maximum pressure is 150 psi (unless otherwise indicated) for ANSI Class 150 flanges; 300 psi for ANSI Class 300 flanges; 600 psi for ANSI Class 600 flanges; and 1,500 psi for ANSI Class 1500 flanges.

Standard

Also known as spiral-wound gaskets, these have a 1/8" thick carbon steel outer ring and a 0.175" wide 304 stainless steel sealing element with a filler. Gaskets with an **inner ring** prevent flange erosion. Inner ring is 304 stainless steel. Gaskets meet ASME B16.20.

Mica/Graphite Filler—Temperature range is -50° to 480° F.

Chemical-Resistant PTFE Filler—The PTFE is chemically inert (except to molten alkali metal and fluorine). Temperature range is -50° to 500° F.

Graphite Filler—Temperature range is -50° to 840° F.





Gasket Shown with a Flat-Surface Pipe Flange



Gasket Shown with a Raised-Surface Pipe Flange

For Pipe Size	ID	OD	Sealing Element OD	Mica/Graphite Filler 1/8" Thick		Chemical-Resistant PTFE Filler 1/8" Thick		Graphite Filler 1/8" Thick	
For ANSI Class 150—Low-Pressure Pipe Flanges									
1/2	3/4"	1 7/8"	1 1/4"	44955K311	$3.29	44955K461	$3.77	44955K151	$4.44
3/4	1"	2 1/4"	1 9/16"	44955K312	3.33	44955K462	3.92	44955K152	4.59
1	1 1/4"	2 5/8"	1 7/8"	44955K313	3.37	44955K463	4.05	44955K153	4.77
1 1/4	1 7/8"	3"	2 3/8"	44955K314	3.77	44955K464	4.25	44955K154	5.16
1 1/2	2 1/8"	3 3/8"	2 3/4"	44955K315	3.81	44955K465	4.57	44955K155	5.53
2	2 3/4"	4 1/8"	3 3/8"	44955K316	4.01	44955K466	5.03	44955K156	5.70
2 1/2	3 1/4"	4 7/8"	3 7/8"	44955K317	4.46	44955K467	6.29	44955K157	6.51
3	4"	5 3/8"	4 3/4"	44955K318	4.85	44955K468	6.92	44955K158	7.66
4	5"	6 7/8"	5 7/8"	44955K319	6.03	44955K469	9.51	44955K159	10.38
5	6 1/8"	7 3/4"	7"	44955K321	7.53	44955K471	11.21	44955K161	13.45
6	7 3/16"	8 3/4"	8 1/4"	44955K322	8.36	44955K472	13.50	44955K162	15.46
8	9 3/16"	11"	10 3/8"	44955K323	10.54	44955K473	17.72	44955K163	19.83
10	11 5/16"	13 3/8"	12 1/2"	44955K324	13.61	44955K474	22.42	44955K164	24.58
For ANSI Class 300—Medium-Pressure Pipe Flanges									
1/2	3/4"	2 1/8"	1 1/4"	44955K331	3.33	44955K476	3.79	44955K171	4.31
3/4	1"	2 5/8"	1 9/16"	44955K332	3.40	44955K477	4.03	44955K172	4.40
1	1 1/4"	2 7/8"	1 7/8"	44955K333	3.44	44955K478	4.07	44955K173	4.54
1 1/4	1 7/8"	3 1/4"	2 3/8"	44955K334	3.88	44955K479	4.40	44955K174	4.94
1 1/2	2 1/8"	3 3/4"	2 3/4"	44955K335	3.92	44955K481	4.85	44955K175	5.40
2	2 3/4"	4 3/8"	3 3/8"	44955K336	4.14	44955K482	5.18	44955K176	5.83
2 1/2	3 1/4"	5 1/8"	3 7/8"	44955K337	4.92	44955K483	6.40	44955K177	6.35
3	4"	5 7/8"	4 3/4"	44955K338	5.38	44955K484	7.12	44955K178	7.56
4	5"	7 1/8"	5 7/8"	44955K339	6.47	44955K485	9.71	44955K179	10.73
5	6 1/8"	8 1/2"	7"	44955K341	8.66	44955K486	11.91	44955K181	13.91
6	7 3/16"	9 7/8"	8 1/4"	44955K342	9.58	44955K487	14.50	44955K182	15.85

For Pipe Size	ID	OD	Sealing Element OD	Graphite Filler 1/8" Thick	
For ANSI Class 600—High-Pressure Pipe Flanges					
1/2	3/4"	2 1/8"	1 1/4"	44955K511	$4.70
3/4	1"	2 5/8"	1 9/16"	44955K512	4.80
1	1 1/4"	2 7/8"	1 7/8"	44955K543	4.95
1 1/4	1 7/8"	3 1/4"	2 3/8"	44955K514	5.39
1 1/2	2 1/8"	3 3/4"	2 3/4"	44955K515	5.89
2	2 3/4"	4 3/8"	3 3/8"	44955K516	6.36
2 1/2	3 1/4"	5 1/8"	3 7/8"	44955K517	6.93
3	4"	5 7/8"	4 3/4"	44955K518	8.25
3 1/2	4 1/8"	6 3/8"	5 1/4"	44955K519	18.66
4	4 3/4"	7 5/8"	5 7/8"	44955K521	13.05
5	5 13/16"	9 1/2"	7"	44955K522	18.66
6	6 7/8"	10 1/2"	8 1/4"	44955K523	22.30
8	8 7/8"	12 5/8"	10 3/8"	44955K524	27.22
10	10 13/16"	15 3/4"	12 1/2"	44955K525	41.46
12	12 7/8"	18"	14 3/4"	44955K526	50.92

For Pipe Size	ID	OD	Sealing Element OD	Inner Ring ID	Graphite Filler 1/8" Thick	
For ANSI Class 1500—Extreme-Pressure Pipe Flanges						
1/2	3/4"	2 1/2"	1 1/4"	0.56"	44955K611	$19.01
3/4	1"	2 3/4"	1 9/16"	0.81"	44955K612	19.94
1	1 1/4"	3 1/8"	1 7/8"	1.06"	44955K613	20.47
1 1/4	1 9/16"	3 1/2"	2 3/8"	1.31"	44955K614	22.64
1 1/2	1 7/8"	3 7/8"	2 3/4"	1.63"	44955K615	24.68
2	2 5/16"	5 5/8"	3 3/8"	2.06"	44955K616	27.48
2 1/2	2 3/4"	6 1/2"	3 7/8"	2.50"	44955K617	31.70
3	3 5/8"	6 7/8"	4 3/4"	3.10"	44955K628	33.29
3 1/2	4 1/8"	7 3/8"	5 1/4"	3.69"	44955K619	34.82
4	4 5/8"	8 1/4"	5 7/8"	3.85"	44955K621	41.55
5	5 5/8"	10"	7"	4.90"	44955K622	68.36
6	6 3/4"	11 1/8"	8 1/4"	5.80"	44955K623	80.07
8	8 1/2"	13 7/8"	10 1/8"	7.75"	44955K624	90.02
10	10 1/2"	17 1/8"	12 1/4"	9.69"	44955K625	117.35
12	12 3/4"	20 1/2"	14 1/2"	11.50"	44955K626	150.65

Long Life

A space between the outer ring and the sealing element prevents the element from being squeezed inward and contaminating the process line. Also known as spiral-wound gaskets, these have a 1/8" thick carbon steel outer ring and a 0.175" wide 304 stainless steel sealing element with a graphite-based filler. Temperature range is -40° to 850° F.



For Pipe Size	ID	OD	Sealing Element OD	Graphite Filler 1/8" Thick	
For ANSI Class 150—Low-Pressure Pipe Flanges					
1/2	3/4"	1 7/8"	1 21/64"	3815T11	$27.57
3/4	1"	2 1/4"	1 19/32"	3815T12	29.80
1	1 1/4"	2 5/8"	1 55/64"	3815T13	32.11
1 1/4	1 9/16"	3"	2 1/16"	3815T31	34.43
1 1/2	1 3/4"	3 3/8"	2 15/32"	3815T14	37.15
2	2 3/8"	4 1/8"	3 1/16"	3815T15	37.65
2 1/2	2 7/8"	4 7/8"	3 9/16"	3815T16	38.94
3	3 5/8"	5 3/8"	4 7/16"	3815T17	39.40
3 1/2	4 1/8"	6 3/8"	4 55/64"	3815T32	40.15
4	4 5/8"	6 7/8"	5 9/16"	3815T18	39.80
5	5 47/64"	7 3/4"	6 39/64"	3815T33	40.68
6	6 13/16"	8 3/4"	7 15/16"	3815T19	44.93
8	8 13/16"	11"	10"	3815T34	56.13
10	10 59/64"	13 3/8"	12 27/64"	3815T35	78.56
12	13"	16 1/8"	14 23/64"	3815T36	88.52

For Pipe Size	ID	OD	Sealing Element OD	Graphite Filler 1/8" Thick	
For ANSI Class 300—Medium-Pressure Pipe Flanges					
1/2	3/4"	2 1/8"	1 21/64"	3815T21	$28.25
3/4	1"	2 5/8"	1 19/32"	3815T22	30.86
1	1 1/4"	2 7/8"	1 55/64"	3815T23	33.48
1 1/4	1 9/16"	3 1/4"	2 1/16"	3815T37	35.17
1 1/2	1 3/4"	3 3/4"	2 15/32"	3815T24	38.22
2	2 3/8"	4 3/8"	3 1/16"	3815T25	38.31
2 1/2	2 7/8"	5 1/8"	3 9/16"	3815T26	39.79
3	3 5/8"	5 7/8"	4 7/16"	3815T27	40.26
3 1/2	4 1/8"	6 1/2"	4 55/64"	3815T38	40.99
4	4 5/8"	7 1/8"	5 9/16"	3815T28	42.51
5	5 47/64"	8 1/2"	6 39/64"	3815T39	44.59
6	6 13/16"	9 7/8"	7 15/16"	3815T29	44.78
8	8 13/16"	12 1/8"	10"	3815T41	57.08
10	10 59/64"	14 1/4"	12 27/64"	3815T42	80.33
12	13"	16 5/8"	14 23/64"	3815T43	89.71

(Continued on following page)

High-Temperature Metallic Pipe Gaskets *(Continued from previous page)*

The metal construction of these gaskets provides structural strength. They compensate for flange movement caused by vibration and pressure. Use them with both flat-surface and raised-surface pipe flanges; they fit the surface inside the bolt holes. All specifications are sized to meet ANSI standards.

Steam Resistant

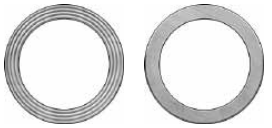

Corrugated Smooth

Made of 110 copper, these gaskets handle steam applications up to 600°F. They are electrically conductive and resist water, Freon, and fuel oil.

Corrugated gaskets conform to rough and uneven surfaces when put under low pressure for a tight seal. Maximum pressure is 500 psi.

Smooth gaskets have a maximum pressure of 1,500 psi.

For Pipe Size	ID	OD	Corrugated 0.04″ Thick		Smooth 0.063″ Thick	
For ANSI Class 150—Low-Pressure Pipe Flanges						
1	1 1/4″	2 5/8″	3604T11	$8.42	3604T21	$9.97
2	2 3/4″	4 1/8″	3604T12	9.94	3604T22	13.71
2 1/2	3 1/4″	4 7/8″	3604T13	10.72	3604T23	15.39
3	4″	5 3/8″	3604T14	11.53	3604T24	17.00
4	5″	6 7/8″	3604T15	13.64	3604T25	18.65
6	7 3/16″	8 3/4″	3604T16	14.84	3604T26	22.57

Oil-Resistant Aramid/Buna-N Pipe Gaskets with Fasteners



Pipe Gasket with Bolt Holes

Pipe Gasket

Each gasket comes with enough Grade 2 steel bolts and nuts to create a connection between two steel pipe flanges. Gaskets resist oil, water, and aliphatic hydrocarbons such as ethylene. All gasket specifications are sized to meet ANSI standards. Temperature range is -40° to 450°F. Maximum pressure is 725 psi. Color is green.

Pipe gaskets with bolt holes cover the entire face of flat-surface pipe flanges and align with the bolt holes.

Pipe gaskets are for use on raised-surface pipe flanges; they fit the surface inside the bolt holes.

For Pipe Size	ID	Bolt/Nut Qty.	Bolt Screw Size	Bolt Lg.	Pipe Gaskets with Bolt Holes OD	No. of Bolt Holes		1/16″ Thick	Pipe Gaskets OD		1/16″ Thick
For ANSI Class 150—Low-Pressure Pipe Flanges											
1/2	27/32″	4	1/2″	2 1/4″	3 1/2″	4	9166K76	$6.61	1 7/8″	9166K61	$5.26
3/4	1 1/16″	4	1/2″	2 1/4″	3 7/8″	4	9166K77	7.00	2 1/4″	9166K62	6.05
1	1 5/16″	4	1/2″	2 1/4″	4 1/4″	4	9166K78	7.61	2 5/8″	9166K63	6.30
1 1/4	1 21/32″	4	1/2″	2 1/2″	4 5/8″	4	9166K79	7.98	3″	9166K64	6.57
1 1/2	1 29/32″	4	1/2″	2 1/2″	5″	4	9166K81	9.05	3 3/8″	9166K65	7.24
2	2 3/8″	4	5/8″	2 1/2″	6″	4	9166K82	10.59	4 1/8″	9166K66	9.13
2 1/2	2 7/8″	4	5/8″	2 3/4″	7″	4	9166K83	11.10	4 7/8″	9166K67	9.91
3	3 1/2″	4	5/8″	2 3/4″	7 1/2″	4	9166K84	14.04	5 3/8″	9166K68	10.38
3 1/2	4″	8	5/8″	3″	8 1/2″	8	9166K85	19.22	6 3/8″	9166K75	17.64
4	4 1/2″	8	5/8″	3″	9″	8	9166K86	20.64	6 7/8″	9166K69	18.06
5	5 9/16″	8	5/8″	3″	10″	8	9166K87	27.79	7 3/4″	9166K93	25.77
6	6 5/8″	8	3/4″	3 1/4″	11″	8	9166K88	28.62	8 3/4″	9166K71	26.27
8	8 5/8″	8	3/4″	3 1/2″	13 1/2″	8	9166K89	34.74	11″	9166K72	27.83
10	10 3/4″	12	7/8″	3 3/4″	16″	12	9166K91	50.32	13 3/8″	9166K73	44.84
12	12 3/4″	12	7/8″	4″	19″	12	9166K92	61.84	16 1/8″	9166K74	53.45

Pipe Gaskets with Bolt Holes for Dissimilar Metals

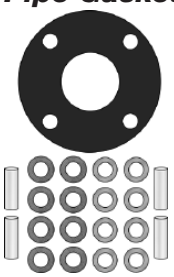

The included plastic sleeves and washers provide a layer of protection against dielectric corrosion, which occurs when different metals are joined. Commonly called full-face gaskets, these cover the entire face of flat-surface pipe flanges and align with the bolt holes. Each gasket comes with one full-length sleeve for each bolt hole, plus two phenolic and two zinc-plated metal washers for each bolt hole. Bolts are not included. Maximum temperature is 105°F. Color is black.

Oil-Resistant Compressible Buna-N—Maximum pressure is 455 psi. The included sleeves are PET.

Water- and Steam-Resistant EPDM—Maximum pressure is 285 psi. The included sleeves are phenolic.

For Pipe Size	ID	OD	No. of Bolt Holes	Oil-Resistant Compressible Buna-N 1/8″ Thick		Water- and Steam-Resistant EPDM 1/8″ Thick	
For ANSI Class 150—Low-Pressure Pipe Flanges							
1/2	1/2″	3 1/2″	4	9165K72	$7.83	_____	_____
3/4	3/4″	3 7/8″	4	9165K73	8.30	_____	_____
1	1″	4 1/4″	4	9165K61	8.76	9165K75	$27.19
1 1/2	1 1/2″	5″	4	9165K74	9.93	9165K76	30.91
2	2″	6″	4	9165K62	12.03	9165K77	37.14
2 1/2	2 1/2″	7″	4	9165K63	14.29	9165K78	43.00
3	3″	7 1/2″	4	9165K64	15.17	9165K79	46.26
4	4″	9″	8	9165K65	24.73	9165K81	81.69
5	5″	10″	8	9165K66	26.37	_____	_____
6	6″	11″	8	9165K67	28.58	9165K82	100.11
8	8″	13 1/2″	8	9165K68	35.94	_____	_____
10	10″	16″	12	9165K69	53.75	_____	_____
12	12″	19″	12	9165K71	66.27	_____	_____

Metric Pipe Gaskets for DIN Flanges



Pipe Gasket with Bolt Holes



Pipe Gasket

Sized to fit DIN flanges with a pressure class PN16, these gaskets are 1/8″ thick.

Oil-resistant aramid/Buna-N gaskets have a temperature range of -100° to 400°F. Maximum pressure is 1,000 psi. Color is blue.

Chemical-resistant Viton® fluoroelastomer gaskets resist boric acid, citric acid, isopropyl alcohol, fuel, oil, and transmission fluid. Durometer is 75A (hard). Temperature range is -20° to 450°F. Maximum pressure is 1,000 psi. Color is black.

Pipe Gaskets with Bolt Holes—Cover the entire face of flat-surface pipe flanges and align with the bolt holes.

Pipe Gaskets—For use on raised-surface pipe flanges; they fit the surface inside the bolt holes.

High-Temperature Metallic Pipe Gaskets—Also known as spiral-wound gaskets, these have a carbon steel outer ring, a 304 stainless steel sealing element with a graphite-based filler, and a 304 stainless steel inner ring that prevents flange erosion. They can be used with both flat-surface and raised-surface pipe flanges; they fit inside the bolt holes. Maximum temperature is 975°F. Not rated for pressure.

For Flange Size	ID, mm	OD, mm	No. of Bolt Holes	Oil-Resistant Aramid/Buna-N		Chemical-Resistant Viton® Fluoroelastomer	
Pipe Gaskets with Bolt Holes							
DIN 15	22	95	4	1106N421	$4.14	1106N571	$13.58
DIN 25	34	115	4	1106N422	6.11	1106N572	17.76
DIN 40	49	150	4	1106N423	10.07	1106N573	23.69
DIN 50	61	165	4	1106N424	12.27	1106N574	33.41
DIN 80	89	200	8	1106N425	17.16	1106N575	41.09
DIN 100	115	220	8	1106N426	20.53	1106N576	49.63
DIN 150	169	285	8	1106N427	34.97	1106N577	78.57
Pipe Gaskets							
DIN 15	22	51	—	1106N34	1.21	1106N49	5.10
DIN 25	34	71	—	1106N35	2.32	1106N51	7.35
DIN 40	49	92	—	1106N36	3.86	1106N52	11.30
DIN 50	61	107	—	1106N37	5.25	1106N5	16.38
DIN 80	89	142	—	1106N38	9.82	1106N54	21.52
DIN 100	115	162	—	1106N39	11.70	1106N55	28.50
DIN 150	169	218	—	1106N41	20.53	1106N56	43.61
High-Temperature Metallic Pipe Gaskets							
Choose a Flange Size: DIN 25, DIN 50, DIN 80, DIN 100				1106N71			

Made-to-Order Gaskets

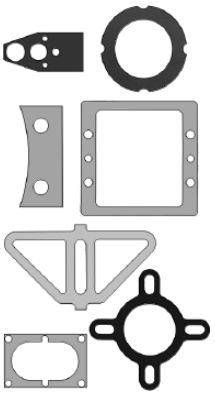

If you need a unique gasket shape or size, send us your DXF file and we'll precision cut it for you.

First select a material and thickness, then select a sheet size that's large enough to accommodate your gasket. Finally, send us your DXF file. Depending on the size of your gasket, we'll send you as many same-design gaskets as a sheet will yield, up to 20 gaskets for 12″×12″ sheets, and up to 40 gaskets for 24″×24″ sheets.

Oil-Resistant Aramid/Buna-N—Also resists aliphatic hydrocarbons, such as ethylene. Temperature range is -100° to 400° F. Maximum pressure is 1,000 psi. Color is blue.

Chemical-Resistant Viton® Fluoroelastomer—Resists boric acid, citric acid, isopropyl alcohol, fuel, oil, and transmission fluid. Temperature range is 0° to 399° F. Maximum pressure is 100 psi. Color is black.

Ultra-Chemical-Resistant PTFE—Made of soft expanded PTFE, which is chemically inert (except to molten alkali metal and elemental fluorine). Temperature range is -450° to 600° F. Maximum pressure is 3,000 psi. Color is white.

High-Temperature Graphite—Also known as Hochdruck, this material is graphite with stainless steel layers for added strength in hot environments. Temperature range is -400° to 850° F. Maximum pressure is 2,000 psi. Color is black.

Sheet Size Wd.	Lg.	Oil-Resistant Aramid/Buna-N		Chemical-Resistant Viton® Fluoroelastomer		Ultra-Chemical-Resistant PTFE		High-Temperature Graphite	
1/16″ Thick									
12″	12″	1076N11	$78.43	1076N17	$94.34	1076N13	$155.17	1076N15	$157.89
24″	24″	1076N21	141.51	1076N27	203.39	1076N23	333.33	1076N25	337.84
1/8″ Thick									
12″	12″	1076N12	113.21	1076N18	127.27	1076N14	247.18	1076N16	247.22
24″	24″	1076N22	181.82	1076N28	276.92	1076N24	474.68	1076N26	480.77

Discs of Gasket Material



Reduce your fabrication time by starting with a semi-finished gasket.

Oil-Resistant Aramid/Buna-N—Also resists water and aliphatic hydrocarbons such as ethylene. Temperature range is -100° to 400° F. Maximum pressure is 1,000 psi. Color is blue.

Chemical-Resistant Viton® Fluoroelastomer—Resists boric acid, citric acid, isopropyl alcohol, fuel, and oil. Temperature range is 0° to 395° F. Maximum pressure is 100 psi. Color is black.

Ultra-Chemical-Resistant Compressible PTFE—Discs compress to ensure a tight seal. They are chemically inert (except to molten alkali metal and elemental fluorine). Temperature range is -450° to 600° F. Maximum pressure is 3,000 psi. Color is white.

High-Temperature High-Pressure Graphite—Commonly known as Hochdruck, these discs are graphite with stainless steel layers. Temperature range is -400° to 850° F. Maximum pressure is 2,000 psi. Color is black.

Dia.	Oil-Resistant Aramid/Buna-N 1/16″ Thick	1/8″ Thick	Chemical-Resistant Viton® Fluoroelastomer 1/16″ Thick	1/8″ Thick	Ultra-Chemical-Resistant Compressible PTFE 1/16″ Thick	1/8″ Thick	High-Temperature High-Pressure Graphite 1/16″ Thick	1/8″ Thick
3″	1084N85 $0.93	$1.86	1084N83 $3.47	$4.52	1084N82 $3.35	$6.15	1084N84 $3.15	$5.91
4″	1084N99 1.66	3.33	1084N91 6.52	8.54	1084N86 6.02	11.04	1084N95 5.59	9.44
6″	1084N101 3.88	7.78	1084N92 16.67	21.85	1084N87 14.09	25.85	1084N96 13.40	25.07
8″	1084N102 7.08	14.26	1084N93 26.04	34.13	1084N88 25.78	47.31	1084N97 23.24	43.52
12″	1084N103 15.65	27.96	1084N94 93.76	128.88	1084N89 56.96	94.04	1084N98 53.58	90.24

Gasket Tape

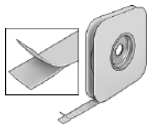

Very soft and conformable, this adhesive-back expanded PTFE gasket tape compresses into an extremely thin profile. Use it to create a leak-resistant seal in tight-tolerance applications, such as on precision machinery. This tape is chemically inert, except to molten alkali metal and elemental fluorine. Color is white.

Gore—Temperature range for the gasket tape is -450° to 600° F; temperature is not rated for the adhesive. Maximum pressure is 3,000 psi, except 0.250″ thick gasket tape is 580 psi.

Food Grade—Made of FDA-listed material for use with food and beverage. Temperature range for the gasket tape is -450° to 500° F; temperature is not rated for the adhesive. Maximum pressure is 2,900 psi.

Thick.	Wd.	Lg., ft.		
Gore				
0.010″	1/2″	5	95705K121	$42.23
0.010″	1/2″	50	95705K171	156.28
0.010″	3/4″	5	95705K122	63.93
0.010″	3/4″	50	95705K175	228.32
0.010″	1″	5	95705K123	75.61
0.020″	1/2″	5	95705K131	46.60
0.020″	1/2″	50	95705K172	166.52
0.020″	3/4″	5	95705K132	67.89
0.020″	3/4″	50	95705K176	249.19
0.020″	1″	5	95705K133	81.28
0.040″	1/2″	5	95705K141	54.77
0.040″	1/2″	50	95705K173	197.69

Thick.	Wd.	Lg., ft.		
Gore (Cont.)				
0.040″	3/4″	5	95705K142	$82.39
0.040″	3/4″	50	95705K177	305.78
0.040″	1″	50	95705K183	368.30
0.065″	1/2″	5	95705K151	70.30
0.065″	1/2″	50	95705K174	256.78
0.065″	3/4″	5	95705K152	109.00
0.065″	3/4″	50	95705K178	408.88
0.065″	1″	5	95705K153	135.83
0.065″	1″	50	95705K184	490.76
0.250″	1/2″	25	95705K204	849.75
0.250″	3/4″	25	95705K205	946.49
0.250″	1″	25	95705K206	1,080.11

Thick.	Wd.	Lg., ft.		
Food Grade				
0.020″	1/2″	50	9477K21	$41.08
0.020″	3/4″	50	9477K31	58.55
0.020″	1″	50	9477K41	74.36
0.040″	1/2″	50	9477K22	80.84
0.040″	3/4″	50	9477K32	111.52
0.040″	1″	50	9477K42	137.80
0.060″	1/2″	50	9477K23	140.00
0.060″	3/4″	50	9477K33	201.90
0.060″	1″	50	9477K43	255.65
0.120″	1/2″	50	9477K24	266.41
0.120″	3/4″	50	9477K34	382.15
0.120″	1″	50	9477K44	490.42

Gasket Tape for Pipe Flanges

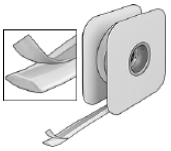

Because this adhesive-back expanded PTFE tape is thicker than other gasket tape, it fills the irregularities on rough-surfaced flanges when compressed for a tight seal. This gasket tape is chemically inert, except to molten alkali metal and elemental fluorine. Color is white.

Gore—Temperature range for the gasket tape is -450° to 600° F; temperature is not rated for the adhesive. Maximum pressure is 3,000 psi.

Food Grade—Made of FDA-listed material for use with food and beverage. Temperature range for the gasket tape is -450° to 500° F; temperature is not rated for the adhesive. Maximum pressure is 2,900 psi.

For Pipe Size	Thick.	Wd.	Lg., ft.		
Gore					
1/2	0.063″	1/8″	25	4502K32	$55.99
3/4 to 1 1/2	0.078″	3/16″	30	4502K33	91.40
2 to 4	0.094″	1/4″	20	4502K34	90.08
5 to 8	0.125″	3/8″	12	4502K35	94.10
10 to 16	0.188″	1/2″	5	4502K36	65.71
18 to 24	0.234″	5/8″	7	4502K37	141.21
24 to 36	0.250″	3/4″	7	4502K38	197.83
36 and up	0.344″	1″	7	4502K39	421.66

For Pipe Size	Thick.	Wd.	Lg., ft.		
Food Grade					
1/2	0.063″	1/8″	25	45925K71	$19.31
3/4 to 1 1/2	0.078″	3/16″	30	45925K72	31.35
2 to 4	0.156″	1/4″	20	45925K73	28.97
5 to 8	0.203″	3/8″	12	45925K74	27.19
10 to 16	0.203″	1/2″	5	45925K75	20.38
18 to 24	0.234″	5/8″	7	45925K76	46.02
24 to 36	0.281″	3/4″	7	45925K77	57.65
36 and up	0.203″	1″	7	45925K78	64.98

Sheets of Gasket Material

Sheets of Aramid Gasket Material

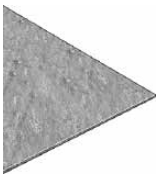

Make your own gaskets for a wide range of applications. Cut with a gasket cutter.

Oil-Resistant Aramid/Buna-N—Also resistant to water and aliphatic hydrocarbons such as ethylene. Temperature range is -100° to 400°F. Maximum pressure is 1,000 psi. Color is blue.

Oil-Resistant High-Strength Aramid/Buna-N—Stronger and able to withstand higher pressures than other types of aramid/Buna-N, these sheets also resist water, steam, and solvents. Temperature range is -40° to 750°F. Maximum pressure is 1,400 psi. Color is green.

Water-Resistant Aramid/SBR—These sheets also resist inert gases and abrasion. Temperature range is -100° to 400°F. Maximum pressure is 1,200 psi. Color is white.

Wd.	Lg.	1/64″ Thick		1/32″ Thick		1/16″ Thick		3/32″ Thick		1/8″ Thick	
Oil-Resistant Aramid/Buna-N											
6″	6″	9470K25	$2.23	9470K26	$3.01	9470K27	$3.75	9470K28	$5.19	9470K35	$6.96
15″	15″	9470K36	10.56	9470K37	14.24	9470K38	17.73	9470K39	24.50	9470K41	32.89
30″	30″	9470K42	31.93	9470K43	43.06	9470K44	53.65	9470K45	74.12	9470K46	79.29
30″	60″	9470K47	55.54	9470K48	74.89	9470K49	93.31	9470K65	128.91	9470K66	173.04
Oil-Resistant High-Strength Aramid/Buna-N											
15″	15″	9402K21	12.38	9402K22	15.80	9402K23	22.45	9402K24	30.33	9402K25	39.14
22 1/2″	30″	9402K71	28.74	9402K72	38.57	9402K73	58.50	9402K74	87.75	9402K75	105.26
30″	45″	9402K61	42.55	9402K62	57.12	9402K63	86.66	9402K68	130.01	9402K64	155.94
45″	60″	9402K81	78.62	9402K82	88.99	9402K83	134.07	9402K88	229.57	9402K84	253.87
Water-Resistant Aramid/SBR											
6″	6″	95695K66	2.67	95695K67	3.61	95695K68	4.51	95695K69	6.36	95695K11	8.53
15″	15″	95695K26	12.67	95695K27	17.09	95695K28	21.28	95695K29	29.40	95695K13	40.29
30″	30″	95695K36	38.32	95695K37	51.68	95695K38	64.60	95695K39	90.78	95695K12	121.86
30″	60″	95695K46	66.65	95695K47	89.87	95695K48	112.21	95695K49	154.69	95695K14	211.95

Sheets of Rubber Gasket Material



Rubber is vibration damping and bounces back after compression. Cut these sheets with scissors or a utility knife. They meet ASTM D2000.

Water- and Abrasion-Resistant SBR—Temperature range is -20° to 170°F. Maximum pressure is 800 psi. Durometer is 75A (hard). Color is red.

Water- and Refrigerant-Resistant Neoprene—Temperature range is -20° to 170°F. Maximum pressure is 1,000 psi. Durometer is 70A (hard). Color is black.

Water- and Refrigerant-Resistant Reinforced Neoprene—Sheets are reinforced with a nylon insert to prevent them from losing shape. Temperature range is -20° to 170°F. Maximum pressure is 1,000 psi. Durometer is 70A (hard). Color is black.

Oil-Resistant Compressible Buna-N—Temperature range is -20° to 170°F. Maximum pressure is 1,000 psi. Durometer is 60A (medium hard). Color is black.

Oil-Resistant Food-Grade Compressible Buna-N—Made of FDA-listed material for use with food and beverage. Temperature range is -20° to 170°F. Maximum pressure is 1,000 psi. Durometer is 60A (medium hard). Color is white.

Water- and Steam-Resistant EPDM—Temperature range is -20° to 220°F. Maximum pressure is 800 psi. Durometer is 60A (medium hard). Color is black.

Water-Resistant High-Pressure Natural Rubber—Temperature range is -20° to 170°F. Maximum pressure is 3,000 psi. Durometer is 40A (medium soft). Color is tan.

High-Temperature Silicone—In addition to withstanding temperatures from -80° to 450°F, these sheets resist water and salts. Maximum pressure is 1,000 psi. Durometer is 60A (medium hard). Color is red.

Chemical-Resistant Viton® Fluoroelastomer—Sheets resist boric acid, citric acid, isopropyl alcohol, fuel, and oil. Temperature range is -20° to 450°F. Not rated for pressure. Durometer is 75A (hard). Color is black.

Chemical-Resistant Food-Grade Viton® Fluoroelastomer—Made of FDA-listed material for use with food and beverage. Temperature range is 5° to 400°F. Not rated for pressure. Durometer is 75A (hard). Color is white.

Thick.	Wd.	Lg.	Water- and Abrasion-Resistant SBR		Water- and Refrigerant-Resistant Neoprene		Water- and Refrigerant-Resistant Reinforced Neoprene		Oil-Resistant Compressible Buna-N		Oil-Resistant Food-Grade Compressible Buna-N	
1/16″	12″	12″	8525T11	$3.12	8525T31	$3.92	8525T55	$7.39	8525T21	$4.18	8525T61	$5.83
1/16″	24″	24″	8525T12	8.90	8525T32	9.42	8525T56	27.89	8525T22	10.27	8525T62	15.10
1/8″	12″	12″	8525T13	5.54	8525T33	6.00	8525T57	14.32	8525T23	7.67	8525T63	10.45
1/8″	24″	24″	8525T14	15.45	8525T34	14.93	8525T58	50.48	8525T24	20.21	8525T64	29.25

Thick.	Wd.	Lg.	Water- and Steam-Resistant EPDM		Water-Resistant High-Pressure Natural Rubber		High-Temperature Silicone		Chemical-Resistant Viton® Fluoroelastomer		Chemical-Resistant Food-Grade Viton® Fluoroelastomer	
1/16″	12″	12″	8525T65	$4.46	8525T51	$6.67	8525T41	$9.93	9473K61	$31.89	9473K94	$57.44
1/16″	24″	24″	8525T66	14.16	8525T52	22.58	8525T42	36.09	9473K62	115.33	_____	____
1/8″	12″	12″	8525T67	5.73	8525T53	11.69	8525T43	15.95	9473K63	54.50	9473K95	102.57
1/8″	24″	24″	8525T68	18.18	8525T54	35.79	8525T44	60.78	9473K64	195.32	_____	____

Sheets of Water-Resistant Lightweight Fiber Gasket Material



These paper-thin sheets are commonly used for light-duty gasketing. Cut with scissors or a utility knife.

Paper fiber/Buna-N sheets resist water and some types of oil. Maximum temperature is 450°F. Maximum pressure is 1,000 psi. Color is gray.

Paper fiber/SBR sheets resist water and abrasion. Maximum temperature is 350°F. Maximum pressure is 1,000 psi. Color is gray.

Vegetable fiber sheets are impregnated with a compound that seals against fluid. They resist water, oil, and inert gases and meet MIL-G-12803. Temperature range is -20° to 250°F. Maximum pressure is 250 psi. Color is brown.

Wd.	Lg.	1/64″ Thick		1/32″ Thick		1/16″ Thick	
Paper Fiber/Buna-N							
12″	36″	9556K81	$6.00	9556K82	$9.61	9556K83	$20.55
Paper Fiber/SBR							
12″	36″	9556K84	4.66	9556K85	5.97	9556K86	9.82
18″	36″	9556K87	5.63	9556K88	8.38	9556K89	10.23
Vegetable Fiber							
36″	5 ft.	9453K103	13.40	9453K203	20.72	9453K504	40.88
36″	10 ft.	9453K105	24.17	9453K205	37.19	9453K506	73.53
36″	20 ft.	9453K106	43.16	9453K206	67.12	9453K507	132.26

Sheets of Ultra-Chemical-Resistant PTFE Gasket Material

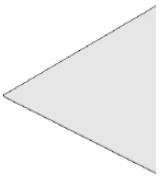

This is the most chemical-resistant gasket material we offer. Sheets are chemically inert (except to molten alkali metal and elemental fluorine), unless otherwise stated. Cut with a utility knife or gasket cutter.

Compressible PTFE (Gore GR)—These expanded PTFE sheets are compressible to ensure a tight seal. Temperature range is -450° to 600°F. Maximum pressure is 3,000 psi. Color is white.

Food-Grade Compressible PTFE—Made of FDA-listed material for use with food and beverage, these expanded PTFE sheets are compressible to ensure a tight seal. Temperature range is -450° to 600°F. Maximum pressure is 3,000 psi. Color is white.

PTFE—Sheets have a slippery surface that prevents sticking. They meet MIL-P-22241. Temperature range is -450° to 500°F. Not rated for pressure. Color is white.

High-Strength PTFE—Made of PTFE with a fiberglass filler to provide strength and prevent these sheets from thinning out when compressed. They resist hydrocarbons, solvents, refrigerants, and moderate concentrations of acids. Temperature range is -450° to 500°F. Maximum pressure is 800 psi. Color is blue.

Thick.	Wd.	Lg.		
Compressible PTFE (Gore GR)				
1/16″	6″	6″	95665K92	$38.61
1/16″	15″	15″	95665K93	182.44
1/16″	30″	30″	95665K94	551.73
1/16″	60″	60″	95665K95	1,668.85
1/8″	6″	6″	95665K96	70.23
1/8″	15″	15″	95665K97	333.44
1/8″	30″	30″	95665K98	1,111.45
1/8″	60″	60″	95665K99	3,080.93
Food-Grade Compressible PTFE				
1/16″	6″	6″	9499K19	22.73
1/16″	15″	15″	9499K21	107.43
1/16″	30″	30″	9499K22	324.89
1/16″	30″	60″	9499K23	565.04
1/16″	60″	60″	9499K24	982.65
1/8″	6″	6″	9499K44	37.89
1/8″	15″	15″	9499K45	179.01
1/8″	30″	30″	9499K46	541.40

Thick.	Wd.	Lg.		
Food-Grade Compressible PTFE (Cont.)				
1/8″	30″	60″	9499K47	$941.64
1/8″	60″	60″	9499K48	1,637.54
PTFE				
1/32″	6″	6″	1063T11	6.15
1/32″	12″	12″	1063T21	19.24
1/16″	6″	6″	1063T13	14.37
1/16″	12″	12″	1063T22	43.64
1/8″	6″	6″	1063T15	18.48
1/8″	12″	12″	1063T24	60.94
High-Strength PTFE				
1/16″	6″	6″	8602K31	38.22
1/16″	15″	15″	8602K32	136.54
1/16″	30″	30″	8602K33	455.17
1/8″	6″	6″	8602K35	70.15
1/8″	15″	15″	8602K37	250.69
1/8″	30″	30″	8602K39	835.63

Sheets of High-Temperature Gasket Material



Use these sheets when a strong seal is required in boilers and furnaces. Cut with a utility knife, except the metal-faced vermiculite can be die-cut.

Oil-Resistant Carbon/Buna-N—Temperature range is -100° to 650°F. Maximum pressure is 2,000 psi. Color is black.

High-Pressure Graphite—Offers excellent compression under moderate loads. Temperature range is -400° to 850°F. Maximum pressure is 2,000 psi. Color is gray.

Extreme-Pressure Graphite—A stainless steel insert adds strength to withstand pressure up to 10,000 psi. Temperature range is -400° to 850°F. Color is gray.

High-Pressure Fire-Rated Graphite—Made of American Bureau of Shipping Fire Safe approved graphite/Buna-N. Temperature range is -100° to 650°F. Maximum pressure is 2,000 psi. Color is brown.

Ultra-High-Temperature Chemical-Resistant Vermiculite—In addition to handling temperatures from -235° to 1800°F, these sheets resist acids (except hydrofluoric), alkalies, and detergents. They have a stainless steel insert that provides strength under pressure. Maximum pressure is 2,900 psi. Color is gold.

Ultra-High-Temperature Metal-Faced Vermiculite—An ETP (electrolytic tin plate) laminate covers the vermiculite core to ensure these gasket sheets maintain their shape as they expand and contract during heating/cooling cycles. These sheets resist vibration. Maximum temperature is 1830°F. Not rated for pressure.

Ultra-High-Temperature Ceramic—Our highest temperature gasket sheets, these are made of high-alumina ceramic and can withstand temperatures up to 2600°F. Not rated for pressure. Meet MIL-I-24244B. Color is white.

Thick.	Wd.	Lg.		
Oil-Resistant Carbon/Buna-N				
1/32″	6″	6″	13015K11	$16.68
1/32″	15″	15″	13015K51	35.78
1/32″	30″	30″	13015K52	123.43
1/32″	30″	60″	13015K53	215.98
1/16″	6″	6″	13015K12	27.02
1/16″	15″	15″	13015K54	59.06
1/16″	30″	30″	13015K55	206.65
1/16″	30″	60″	13015K56	363.38
1/8″	6″	6″	13015K13	52.43
1/8″	15″	15″	13015K57	118.85
1/8″	30″	30″	13015K58	408.81
1/8″	30″	60″	13015K59	725.33
High-Pressure Graphite				
1/32″	12″	12″	95715K61	18.61
1/32″	24″	24″	95715K71	62.03
1/32″	39″	39″	95715K81	145.42
1/32″	60″	60″	95715K91	320.39
1/16″	12″	12″	95715K62	25.01
1/16″	24″	24″	95715K72	83.37
1/16″	39″	39″	95715K82	195.36
1/16″	60″	60″	95715K92	427.80
1/8″	12″	12″	95715K63	46.26
1/8″	24″	24″	95715K73	154.17

Thick.	Wd.	Lg.		
High-Pressure Graphite (Cont.)				
1/8″	39″	39″	95715K83	$361.28
1/8″	60″	60″	95715K93	795.94
Extreme-Pressure Graphite				
1/32″	12″	12″	95675K65	24.39
1/32″	24″	24″	95675K75	77.34
1/32″	39″	39″	95675K85	181.27
1/32″	60″	60″	95675K95	373.91
1/16″	12″	12″	95675K66	33.85
1/16″	24″	24″	95675K76	108.95
1/16″	39″	39″	95675K86	255.34
1/16″	60″	60″	95675K96	521.25
1/8″	12″	12″	95675K67	60.59
1/8″	24″	24″	95675K77	198.06
1/8″	39″	39″	95675K87	464.10
1/8″	60″	60″	95675K97	950.72
High-Pressure Fire-Rated Graphite				
1/32″	6″	6″	12925K31	19.78
1/32″	15″	15″	12925K21	45.52
1/32″	30″	30″	12925K22	158.40
1/32″	30″	60″	12925K23	273.42
1/16″	6″	6″	12925K32	32.92
1/16″	15″	15″	12925K24	73.67
1/16″	30″	30″	12925K25	255.56

Thick.	Wd.	Lg.		
High-Pressure Fire-Rated Graphite (Cont.)				
1/16″	30″	60″	12925K26	$450.97
1/8″	6″	6″	12925K33	65.98
1/8″	15″	15″	12925K27	153.51
1/8″	30″	30″	12925K28	528.69
1/8″	30″	60″	12925K29	922.40
Ultra-High-Temperature Chemical-Resistant Vermiculite				
1/16″	6″	6″	9478K34	59.58
1/16″	15″	15″	9478K35	198.60
1/16″	30″	30″	9478K36	662.00
1/8″	6″	6″	9478K37	76.79
1/8″	15″	15″	9478K38	255.97
1/8″	30″	30″	9478K39	853.24
Ultra-High-Temperature Metal-Faced Vermiculite				
0.042″	7 3/4″	45″	3572T11	19.78
0.042″	24″	45″	3572T12	46.19
0.064″	7 3/4″	45″	3572T13	26.62
0.064″	24″	45″	3572T14	61.49
Ultra-High-Temperature Ceramic				
0.06″	12″	12″	1687T21	232.22
0.06″	12″	36″	1687T22	678.59

Sheets of Water- and Oil-Resistant Leather Gasket Material

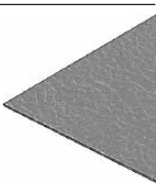

In addition to water and oil, these pliable leather sheets resist salts, grease, and detergents. They are vegetable tanned. Cut with scissors. Temperature range is 0° to 150°F. Maximum pressure is 500 psi. Color is tan. The 36″×84″ sheet size is approximate.

Thick.	12″×12″		24″×24″		36″×84″	
5/64″	9447K21	$23.51	9447K31	$87.66	9447K11	$245.91
1/8″	9447K22	29.48	9447K32	117.54	9447K12	267.08
3/16″	9447K23	35.79	9447K33	147.06	9447K13	272.91

Cork, Gasket Material Assortments & Gaskets for Boilers

Cork Gasket Material

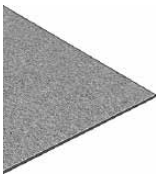

Commonly used in low-pressure applications, these sheets are highly compressible and conform to curved surfaces. This material is also used in bulletin boards. Cut with a utility knife.

Water- and Steam-Resistant Cork—Temperature range is -20° to 180°F. Maximum pressure is 55 psi. Color is tan. *Adhesive back* stays in place to make installation easier.

Oil-Resistant Cork/Buna-N—Temperature range is -20° to 170°F. Not rated for pressure. Meets SAE-AMS-C-6183. Color is brown/black.

Water-Resistant Low-Pressure Rubber/Cork—Not rated for pressure. Color is brown/black. *Plain back* has a temperature range of -20° to 230°F. Meets SAE-AMS-C-6183. *Adhesive back* stays in place to make installation easier. Temperature range is 0° to 200°F.

Thick.	Wd.	Lg.		
Water- and Steam-Resistant Cork— Plain Back				
1/16"	12"	36"	9487K1	$3.29
1/16"	48"	25 ft.	9487K71	102.35
3/32"	12"	36"	9487K2	5.02
3/32"	48"	25 ft.	9487K72	127.19
1/8"	12"	36"	9487K3	5.45
1/8"	48"	25 ft.	9487K73	134.03
3/16"	12"	36"	9487K6	9.89
3/16"	48"	20 ft.	9487K74	175.45
1/4"	12"	36"	9487K4	10.77
1/4"	48"	8 ft.	9487K36	90.48
3/8"	12"	36"	9487K8	16.93
3/8"	48"	8 ft.	9487K37	127.33
1/2"	12"	36"	9487K5	23.52
1/2"	48"	8 ft.	9487K38	166.14
Water- and Steam-Resistant Cork— Adhesive Back				
1/16"	12"	36"	9487K51	7.02
1/16"	48"	25 ft.	9487K81	189.21
3/32"	12"	36"	9487K52	8.56
3/32"	48"	25 ft.	9487K82	222.99
1/8"	1/2"	50 ft.	93305K61	5.99
1/8"	1"	50 ft.	93305K63	11.21
1/8"	2"	50 ft.	93305K64	22.42
1/8"	12"	36"	9487K53	9.80
1/8"	48"	25 ft.	9487K83	239.45

Thick.	Wd.	Lg.		
Water- and Steam-Resistant Cork (Cont.)				
3/16"	12"	36"	9487K62	$14.34
1/4"	12"	36"	9487K54	15.22
3/8"	12"	36"	9487K58	18.36
1/2"	12"	36"	9487K55	25.74
Oil-Resistant Cork/Buna-N— Plain Back				
1/32"	12"	36"	96165K31	11.73
1/32"	36"	36"	96165K51	23.04
1/16"	12"	36"	96165K32	15.74
1/16"	36"	36"	96165K53	31.84
3/32"	12"	36"	96165K38	18.91
3/32"	36"	36"	96165K64	41.37
1/8"	12"	36"	96165K33	25.39
1/8"	36"	36"	96165K55	55.81
3/16"	12"	36"	96165K34	32.56
3/16"	36"	36"	96165K57	79.97
1/4"	12"	36"	96165K35	37.95
1/4"	36"	36"	96165K59	93.83
3/8"	12"	36"	96165K36	46.50
3/8"	36"	36"	96165K61	110.77
1/2"	12"	36"	96165K37	58.65
1/2"	36"	36"	96165K63	148.44
Water-Resistant Rubber/Cork— Plain Back				
1/32"	12"	36"	9607K61	12.83
1/32"	36"	36"	9607K81	25.78
1/16"	12"	36"	9607K62	14.54
1/16"	36"	36"	9607K82	29.41

Thick.	Wd.	Lg.		
Water-Resistant Rubber/Cork (Cont.)				
3/32"	12"	36"	9607K68	$19.41
3/32"	36"	36"	9607K88	42.42
1/8"	12"	36"	9607K63	23.83
1/8"	36"	36"	9607K83	53.72
3/16"	12"	36"	9607K64	32.58
3/16"	36"	36"	9607K84	74.69
1/4"	12"	36"	9607K65	38.25
1/4"	36"	36"	9607K85	89.24
3/8"	12"	36"	9607K66	53.79
3/8"	36"	36"	9607K86	132.30
1/2"	12"	36"	9607K67	65.83
1/2"	36"	36"	9607K87	155.85
Water-Resistant Rubber/Cork— Adhesive Back				
1/32"	1/2"	100 ft.	94545K13	7.97
1/32"	3/4"	100 ft.	94545K17	11.23
1/32"	1"	100 ft.	94545K19	13.49
1/32"	2"	100 ft.	94545K21	25.58
1/16"	1/2"	100 ft.	94545K33	10.33
1/16"	3/4"	100 ft.	94545K37	14.18
1/16"	1"	100 ft.	94545K39	18.03
1/16"	2"	100 ft.	94545K41	33.68
1/8"	1/2"	50 ft.	94545K53	8.94
1/8"	3/4"	50 ft.	94545K57	12.30
1/8"	1"	50 ft.	94545K59	15.51
1/8"	2"	50 ft.	94545K61	25.89

Gasket Material Assortments

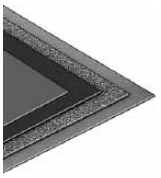

Each assortment includes a variety of materials.

No. of Pieces	Material	Thick. (Qty.)	Color	Temp. Range
4	Blended Fiber/Buna-N	1/32" (1)	Gray	Max. 350°F
	Paper/SBR	1/64" (1), 1/32" (1)	Gray	Max. 350°F
	Buna-N/Cork	1/16" (1)	Brown/Black	0° to 250°F
7	Buna-N	1/16" (2)	Black	-20° to 170°F
	Viton® Fluoroelastomer	1/16" (1)	Black	-20° to 400°F
	Graphite with SS Insert	1/16" (1)	Gray	-400° to 975°F
	Aramid Fiber	1/16" (2)	Green	Max. 750°F
	PTFE	1/16" (1)	White	-100° to 400°F
14	SBR with Cloth Reinforcement	1/8" (2)	Black	-20° to 212°F
	SBR	1/16" (3), 1/8" (2)	Red	-20° to 200°F
	Neoprene/Cork	1/16" (2), 1/8" (2)	Tan	0° to 212°F
	Vegetable Fiber	1/16" (3)	Tan	0° to 250°F

No. of Pieces	Wd.	Lg.		
4	12"	36"	9304K42	$29.07
7	12"	12"	9476K15	85.70
14	6"	6"	9476K12	25.48
14	12"	12"	9476K14	60.31

High-Temperature Gaskets for Boiler and Access Covers

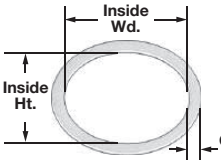

Elliptical



Oblong

Built to handle hot environments, these gaskets fit closures on industrial boilers. All are 1/4" thick.

Rubber-Coated Fiberglass—Made of woven fiberglass that is reinforced with brass wire and coated with rubber, these gaskets lay flat and maintain their shape when compressed. Temperature range is -20° to 400°F. Maximum pressure is 180 psi. Color is white.

EPDM—These gaskets stand up to steam. Temperature range is -55° to 380°F. Maximum pressure is 180 psi. Color is black.

Inside Ht.	*Inside* Wd.	Gasket Wd.		
Rubber-Coated Fiberglass— Elliptical				
3"	4"	1/2"	1899K111	$8.90
3"	4"	5/8"	1899K112	10.04
3"	4"	3/4"	1899K113	11.90
3 1/2"	4 1/2"	1/2"	1899K117	9.40
3 1/2"	4 1/2"	5/8"	1899K118	9.92
4"	6"	5/8"	1899K122	13.33
4"	6"	3/4"	1899K123	13.73
10"	14"	1 1/4"	1881K112	29.98
11"	15"	1 1/4"	1881K118	31.58
12"	16"	1 1/4"	1881K123	35.00
EPDM— Elliptical				
3"	4"	1/2"	1923K61	5.17
3"	4"	5/8"	1923K22	5.47
3 1/2"	4 1/2"	1/2"	1923K25	5.47

Inside Ht.	*Inside* Wd.	Gasket Wd.		
EPDM— Elliptical (Cont.)				
3 1/2"	4 1/2"	5/8"	1923K26	$5.71
4"	6"	3/4"	1923K62	7.49
10 1/2"	14 1/2"	1 3/8"	1923K63	26.70
11"	15"	1 1/4"	1923K64	26.85
12"	16"	1 1/4"	1923K65	28.11
14"	18"	1 1/2"	1923K27	36.18
EPDM— Oblong				
2 1/4"	3 1/4"	1/2"	1923K71	4.55
3"	4"	1/2"	1923K28	5.31
3"	4 1/2"	9/16"	1923K72	5.56
3 1/4"	4 1/2"	1/2"	1923K24	5.94
4"	6"	5/8"	1923K73	7.10
11"	15"	1 1/4"	1923K74	27.05
12"	16"	1 1/2"	1923K75	28.48

Gaskets for Quick-Clamp Tube Fittings

Ensure a tight seal in quick-clamp stainless steel sanitary tube fittings. Gaskets are not rated for pressure.

Standard Gaskets



Gaskets are 3-A certified.
Oil-resistant Buna-N gaskets have a temperature range of -30° to 200° F. Color is black.
Water- and steam-resistant EPDM gaskets have a temperature range of -20° to 300° F. Color is black.
High-temperature silicone gaskets have a temperature range of -40° to 450° F. Color is clear.
Ultra-chemical-resistant PTFE gaskets are chemically inert (except to molten alkali metal and elemental fluorine). They have a temperature range of -100° to 500° F. Color is white.
Chemical-resistant fluoroelastomer gaskets resist fuel, oil, and acid condensates. They have a temperature range of -30° to 400° F. Color is black.

For Tube OD	ID	OD	Thick.	Oil-Resistant Buna-N		Water- and Steam-Resistant EPDM		High-Temperature Silicone		Ultra-Chemical-Resistant PTFE		Chemical-Resistant Fluoroelastomer	
½″	0.38″	0.86″	0.178″	4509K11	$1.03	1100N11	$1.38	4520K41	$2.08	43315K21	$2.10	5044K11	$3.33
¾″	0.62″	0.86″	0.178″	4509K12	1.17	1100N12	1.53	4520K42	2.24	43315K22	2.07	5044K12	3.52
1″	0.9″	1.98″	0.203″	4509K13	.38	1100N13	1.25	4520K43	2.40	43315K23	2.46	5044K13	4.25
1½″	1.4″	1.98″	0.203″	4509K14	.50	1100N14	1.19	4520K44	2.38	43315K24	2.18	5044K14	3.49
2″	1.9″	2.52″	0.203″	4509K15	.55	1100N15	1.31	4520K45	2.40	43315K25	2.36	5044K15	3.55
2½″	2.4″	3.05″	0.203″	4509K16	.60	1100N16	1.66	4520K46	3.28	43315K26	3.27	5044K16	6.11
3″	2.9″	3.58″	0.203″	4509K17	.87	1100N17	1.91	4520K47	3.68	43315K27	3.68	5044K17	7.78
4″	3.87″	4.68″	0.203″	4509K18	1.19	1100N18	2.22	4520K48	4.72	43315K28	6.14	5044K18	11.56
6″	5.82″	6.51″	0.203″	4509K19	10.18	1100N19★	13.86	4520K49	16.00	43315K29	17.77	5044K19	53.70
8″	7.78″	8.67″	0.205″	4509K21	13.36	1100N21	16.80	4520K51	30.37	43315K31	43.48	5044K21	47.02
10″	9.77″	10.66″	0.205″	4509K22	15.65	1100N22	19.32	4520K52	40.52	43315K32	64.62	5044K22	56.32
12″	11.73″	12.66″	0.205″	4509K23	18.33	1100N23	21.84	4520K53	52.50	43315K33	77.78	5044K23	66.82

★ OD is 6.67″.

Clean Room Gaskets



Gaskets meet Class 10,000 clean room requirements and are made of FDA-listed material.
Oil-resistant Buna-N gaskets have a temperature range of -20° to 250° F. Color is black.
Water- and steam-resistant EPDM gaskets have a temperature range of -60° to 325° F. Color is black.
High-temperature silicone gaskets have a temperature range of -60° to 400° F. Color is clear. USP VI certified.
Ultra-chemical-resistant Teflon® PTFE gaskets are chemically inert (except to molten alkali metal and elemental fluorine). They have a temperature range of -100° to 500° F. Color is white.
Chemical-resistant Viton® fluoroelastomer gaskets resist fuel, oil, and acid condensates. They have a temperature range of -10° to 400° F. Color is black.

For Tube OD	ID	OD	Thick.	Oil-Resistant Buna-N		Water- and Steam-Resistant EPDM		High-Temperature Silicone		Ultra-Chemical-Resistant Teflon® PTFE		Chemical-Resistant Viton® Fluoroelastomer	
½″	0.38″	0.86″	0.085″	1314N11	$5.08	1314N21	$5.26	1314N31	$5.26	1314N41	$5.60	1314N51	$7.46
¾″	0.62″	0.86″	0.085″	1314N12	5.26	1314N22	5.44	1314N32	5.44	1314N42	5.82	1314N52	7.64
1″	0.9″	1.98″	0.085″	1314N13	4.14	1314N23	5.08	1314N33	5.60	1314N43	5.26	1314N53	7.82
1½″	1.4″	1.98″	0.085″	1314N14	3.96	1314N24	4.88	1314N34	5.26	1314N44	4.88	1314N54	6.90
2″	1.9″	2.52″	0.085″	1314N15	3.96	1314N25	5.08	1314N35	5.60	1314N45	5.08	1314N55	7.08
2½″	2.4″	3.05″	0.085″	1314N16	4.34	1314N26	5.44	1314N36	6.56	1314N46	5.60	1314N56	9.50
3″	2.9″	3.58″	0.085″	1314N17	4.52	1314N27	5.60	1314N37	6.72	1314N47	5.82	1314N57	11.14
4″	3.87″	4.68″	0.085″	1314N18	4.88	1314N28	5.82	1314N38	7.46	1314N48	6.56	1314N58	14.98

Metal-Detector-Grade Gaskets



If a piece wears off, fragments as small as 1 mm can be picked up by a metal-detection system to prevent contamination of your process line.
Oil-resistant Buna-N gaskets have a temperature range of -30° to 250° F. Color is red.
High-temperature silicone gaskets have a temperature range of -40° to 450° F. Color is red.
Ultra-chemical-resistant PTFE gaskets are made from a blend of PTFE and stainless steel. They are chemically inert (except to molten alkali metal and elemental fluorine). Temperature range is -350° to 550° F. Color is gray.

For Tube OD	ID	OD	Thick.	Oil-Resistant Buna-N		High-Temperature Silicone		Ultra-Chemical-Resistant PTFE	
½″	0.38″	0.86″	0.178″	1101N11	$1.78	1101N19	$1.78	1101N28	$4.78
¾″	0.62″	0.86″	0.178″	1101N12	1.78	1101N21	1.78	1101N29	4.78
1″	0.90″	1.98″	0.203″	1101N13	.88	1101N22	1.28	1101N31	10.13
1½″	1.40″	1.98″	0.203″	1101N14	.78	1101N23	1.25	1101N32	9.17
2″	1.90″	2.52″	0.203″	1101N15	1.09	1101N24	1.94	1101N33	10.38
2½″	2.40″	3.05″	0.203″	1101N16	1.47	1101N25	2.13	1101N34	13.38
3″	2.90″	3.58″	0.203″	1101N17	1.81	1101N26	2.34	1101N35	14.00
4″	3.87″	4.68″	0.203″	1101N18	2.69	1101N27	4.34	1101N36	20.43

Gaskets with Screen

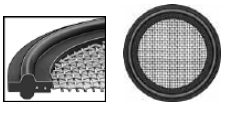

The built-in screen is made of corrosion-resistant 316 stainless steel and provides inline straining. The mesh size indicates the number of openings on the screen per square inch. Gaskets are 3-A certified.
Water- and steam-resistant EPDM gaskets have a temperature range of -20° to 300° F. Color is black.
High-temperature silicone gaskets have a temperature range of -40° to 450° F. Color is clear.
Ultra-chemical-resistant PTFE gaskets offer excellent resistance to detergents, hydraulic fluid, and salts. They have a temperature range of -100° to 500° F. Color is white.
Chemical-resistant fluoroelastomer gaskets resist fuel, oil, and acid condensates. They have a temperature range of -30° to 400° F. Color is black.

For Tube OD	ID	OD	Thick.	Choose a Mesh Size	Water- and Steam-Resistant EPDM		High-Temperature Silicone		Ultra-Chemical-Resistant PTFE		Chemical-Resistant Fluoroelastomer	
½″	0.38″	0.86″	0.205″	20×20, 40×40	2817T54	$47.88	2817T76	$48.30	2817T45	$112.78	2817T69	$44.00
¾″	0.62″	0.86″	0.205″	20×20, 40×40	2817T55	47.87	2817T77	48.30	2817T46	112.78	2817T71	44.00
1″	0.9″	1.98″	0.205″	20×20, 40×40	2817T56	48.10	2817T78	49.50	2817T47	107.52	2817T72	44.50
1½″	1.4″	1.98″	0.205″	20×20, 40×40	2817T57	45.56	2817T79	49.50	2817T48	107.52	2817T73	44.50
2″	1.9″	2.52″	0.205″	20×20, 40×40	2817T58	48.94	2817T81	52.60	2817T49	115.89	2817T74	47.60
2½″	2.4″	3.05″	0.205″	20×20, 40×40	2817T59	59.74	2817T82	62.70	2817T51	164.38	2817T75	58.00
3″	2.9″	3.58″	0.205″	20×20, 40×40	2817T61	68.46	2817T43	65.83	2817T52	148.45	2817T41	68.46
4″	3.87″	4.68″	0.205″	20×20, 40×40	2817T62	93.61	2817T44	93.61	2817T53	197.75	2817T42	93.61

About O-Rings

Inch O-rings are sized to the SAE standard AS568, which is known as a dash number. Metric O-rings are sized to the actual measured inside dia.

Applications Guide

Use the chart below to identify the best material for your application. Blank boxes indicate a poor rating or no rating. Information is intended for comparison only.

● Excellent
◓ Good

	Buna-N	Viton® Fluoro-elastomer	Silicone	EPDM	Polyurethane	Neoprene	Kalrez	PTFE	FEP	Aflas	Fluoro-silicone	Stainless Steel
Minimum Temperature, °F	–20°	0°	–40°	–40°	–20°	–30°	30°	–100°	15°	25°	–80°	–40°
Maximum Temperature, °F	225°	400°	400°	212°	180°	212°	525°	500°	400°	450°	400°	800°
Resistance to:												
Acids				◓		◓	●	●	●	●		
Alcohol	◓		◓	◓		◓	●	●	●	●	◓	●
Alkalies				●		◓	●	●	●	●		
Anilines						◓	●	●	●	◓	◓	●
Animal/Vegetable Oils	◓	◓	◓		◓	◓	●	●	●			●
Detergents			◓	●			●	●	●	●		●
Gasoline	◓	●			◓	◓	●	●	●	●	●	
Hydraulic Oils	◓	◓				◓	●	●	●	●	●	◓
Hydrocarbons	◓	◓			◓		●	●	●	●		
Ketones							●	●	●	●	◓	●
Refrigerants				◓				●	●			●
Salt Water	◓	◓	◓	◓		◓	●	●	●	◓	●	◓
Steam				◓		◓	●	●	◓	◓	◓	
Synthetic Lubricants		●					●	●	●	●	◓	●
Water	◓			●		◓	●	●	●	◓		●
Weather		◓	◓	◓		◓	●	●	●	●	●	●

O-Ring Size-Identification Tools



Inch Gauge



Deluxe Inch Cone

Use one of these plastic tools to identify your O-ring sizes. Inch tools identify the AS568 dash number. The metric cone identifies the actual O-ring size.

Inch Gauge—This sliding gauge identifies 312 dash numbers with 1/32″ to 13″ IDs in five widths: 0.070″, 0.103″, 0.139″, 0.210″, and 0.275″. It extends to 25″ long.

Standard Inch Cone—Comes as a two-piece measuring system to identify 226 dash numbers in five widths: 0.070″, 0.103″, 0.139″, 0.210″, and 0.275″. The cone identifies 112 dash numbers with 1/4″ to 3″ IDs; an included sizing tape identifies another 114 dash numbers with 3 1/8″ to 8″ IDs.

Deluxe Inch Cone—Identifies 209 dash numbers with 1/4″ to 5 5/8″ IDs in five widths: 0.070″, 0.103″, 0.139″, 0.210″, and 0.275″.

Metric Cone—Identifies 6 to 69 mm IDs in 12 widths: 1, 1.5, 1.6, 1.9, 2, 2.4, 2.5, 3, 3.1, 3.5, 4, and 5 mm.

	Ht.		
Inch Gauge	13 1/2″	9699K51	$22.22
Standard Inch Cone	7 3/4″	9440K41	24.42

	Ht.		
Deluxe Inch Cone	17 5/8″	9440K42	$52.22
Metric Cone	7 7/8″	9440K43	20.69

Multipurpose O-Rings





All O-rings are sized to the SAE standard AS568. They meet ASTM D2000/SAE J200.

Oil-Resistant Buna-N—The most widely used O-ring material, Buna-N also resists grease, hydraulic oils, and abrasion. Temperature range is –20° to 250° F. Durometer is A70 (medium). Color is black.

Chemical-Resistant Viton® Fluoroelastomer—Choose these O-rings for their excellent resistance to boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. Temperature range is 0° to 400° F. Durometer is A75 (medium). Color is black.

High-Temperature Silicone—O-rings stand up to temperatures from –80° to 450° F. They resist weather, detergents, and salt water. They're made from FDA-listed materials for use with food and beverage. Durometer is A70 (medium). Color is red.

Steam-Resistant EPDM—These O-rings are peroxide cured, so they're more resistant to high temperatures than standard EPDM. They also resist water and brake fluid. Temperature range is –70° to 250° F. Durometer is A70 (medium). Color is black.

Dash No.	Fractional Size ID	Fractional Size OD	Actual Inch Size ID	Actual Inch Size OD	Oil-Resistant Buna-N Pkg. Qty.		Oil-Resistant Buna-N Pkg.	Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.		Chemical-Resistant Viton® Fluoroelastomer Pkg.	High-Temperature Silicone Pkg. Qty.		High-Temperature Silicone Pkg.	Steam-Resistant EPDM Pkg. Qty.		Steam-Resistant EPDM Pkg.
Width: 1/32 Fractional (0.040″ Actual)																
001	1/32	3/32	0.029″	0.109″	100	9452K111	$3.34	100	9464K101	$4.92	25	1283N11	$3.38	25	9557K111	$3.06
001-1/2	1/16	1/8	0.070″	0.150″	100	9452K311	4.22	100	9464K181	9.05	—	—	—	25	9557K199	6.23
Width: 3/64 Fractional (0.050″ Actual)																
002	3/64	9/64	0.042″	0.142″	100	9452K112	3.19	100	9464K102	4.16	25	1283N12	3.38	25	9557K112	2.68
Width: 1/16 Fractional (0.060″ Actual)																
003	1/16	3/16	0.056″	0.176″	100	9452K11	3.24	100	9464K103	4.11	25	1283N13	3.38	25	9557K113	2.82
Width: 1/16 Fractional (0.070″ Actual)																
004	5/64	13/64	0.070″	0.210″	100	9452K12	3.30	100	9464K104	4.22	25	1283N14	3.38	25	9557K61	2.73
005	3/32	7/32	0.101″	0.241″	100	9452K13	3.30	100	9464K105	4.36	25	1283N15	3.38	25	9557K62	2.73
006	1/8	1/4	0.114″	0.254″	100	9452K14	3.27	100	9464K11	4.48	25	1283N16	3.16	100	9557K457	7.29
007	5/32	9/32	0.145″	0.285″	100	9452K15	3.27	100	9464K12	4.62	25	1283N17	3.16	100	9557K458	7.57
008	3/16	5/16	0.176″	0.316″	100	9452K16	3.28	100	9464K13	4.95	25	1283N18	3.16	100	9557K459	7.65
009	7/32	11/32	0.208″	0.348″	100	9452K17	2.08	100	9464K14	5.21	25	1283N19	3.16	100	9557K461	7.75
010	1/4	3/8	0.239″	0.379″	100	9452K18	2.11	100	9464K15	5.31	25	1283N21	3.16	100	9557K462	7.75
011	5/16	7/16	0.301″	0.441″	100	9452K19	3.33	100	9464K16	6.32	25	1283N22	3.29	100	9557K463	7.93

(Continued on following page)

Multipurpose O-Rings *(Continued from previous page)*

Dash No.	Fractional Size ID	Fractional Size OD	Actual Inch Size ID	Actual Inch Size OD	Oil-Resistant Buna-N Pkg. Qty.	Oil-Resistant Buna-N	Oil-Resistant Buna-N Pkg.	Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.	Chemical-Resistant Viton® Fluoroelastomer	Chemical-Resistant Viton® Fluoroelastomer Pkg.	High-Temperature Silicone Pkg. Qty.	High-Temperature Silicone	High-Temperature Silicone Pkg.	Steam-Resistant EPDM Pkg. Qty.	Steam-Resistant EPDM	Steam-Resistant EPDM Pkg.
Width: 1/16 Fractional (0.070" Actual) (Cont.)																
012	3/8	1/2	0.364"	0.504"	100	9452K21	$2.51	100	9464K17	$6.82	25	1283N23	$3.33	100	9557K464	$8.02
013	7/16	9/16	0.426"	0.566"	100	9452K57	3.99	100	9464K18	7.72	25	1283N24	3.53	100	9557K465	8.38
014	1/2	5/8	0.489"	0.629"	100	9452K58	4.14	100	9464K19	8.52	25	1283N25	3.62	100	9557K466	8.47
015	9/16	11/16	0.551"	0.691"	100	9452K59	4.22	100	9464K21	10.49	25	1283N26	3.69	100	9557K467	9.19
016	5/8	3/4	0.614"	0.754"	100	9452K6	4.32	100	9464K22	10.96	25	1283N27	4.07	100	9557K468	9.34
017	11/16	13/16	0.676"	0.816"	100	9452K71	4.49	50	9464K71	5.71	25	1283N28	4.27	100	9557K114	9.47
018	3/4	7/8	0.739"	0.879"	100	9452K72	4.73	50	9464K72	6.27	25	1283N29	4.62	100	9557K115	9.52
019	13/16	15/16	0.801"	0.941"	100	9452K73	4.96	50	9464K73	7.36	25	1283N31	4.87	100	9557K116	9.52
020	7/8	1	0.864"	1.004"	100	9452K74	5.49	50	9464K74	7.34	25	1283N32	5.29	100	9557K117	9.57
021	15/16	1 1/16	0.926"	1.066"	100	9452K75	5.35	50	9464K75	7.51	25	1283N33	5.78	100	9557K63	10.24
022	1	1 1/8	0.989"	1.129"	100	9452K76	5.74	50	9464K76	7.51	25	1283N34	6.07	100	9557K118	10.52
023	1 1/16	1 3/16	1.051"	1.191"	100	9452K77	5.99	50	9464K77	8.06	25	1283N35	6.13	100	9557K119	10.71
024	1 1/8	1 1/4	1.114"	1.254"	100	9452K78	6.20	50	9464K78	9.09	25	1283N36	6.82	100	9557K129	10.91
025	1 3/16	1 5/16	1.176"	1.316"	100	9452K79	6.77	50	9464K79	10.11	25	1283N37	7.22	100	9557K121	11.38
026	1 1/4	1 3/8	1.239"	1.379"	100	9452K113	7.52	50	9464K261	10.51	25	1283N38	7.33	100	9557K64	11.85
027	1 5/16	1 7/16	1.301"	1.441"	100	9452K114	8.15	50	9464K271	10.76	25	1283N39	7.58	100	9557K122	11.95
028	1 3/8	1 1/2	1.364"	1.504"	100	9452K115	8.37	50	9464K281	10.49	25	1283N41	7.80	100	9557K65	12.23
029	1 1/2	1 5/8	1.489"	1.629"	100	9452K116	8.45	25	9464K291	6.22	25	1283N42	7.98	100	9557K66	12.83
030	1 5/8	1 3/4	1.614"	1.754"	100	9452K117	9.03	25	9464K301	7.27	25	1283N43	8.96	100	9557K67	13.64
031	1 3/4	1 7/8	1.739"	1.879"	100	9452K118	9.43	25	9464K311	8.09	25	1283N44	10.24	100	9557K123	15.13
032	1 7/8	2	1.864"	2.004"	100	9452K119	9.73	25	9464K321	8.49	10	1283N45	5.33	50	9557K469	9.10
033	2	2 1/8	1.989"	2.129"	100	9452K121	10.45	25	9464K331	9.02	10	1283N46	6.31	50	9557K124	9.15
034	2 1/8	2 1/4	2.114"	2.254"	100	9452K122	11.21	25	9464K341	10.07	10	1283N47	6.51	50	9557K125	9.59
035	2 1/4	2 3/8	2.239"	2.379"	100	9452K123	11.67	10	9464K351	4.41	10	1283N122	5.69	50	9557K126	10.03
036	2 3/8	2 1/2	2.364"	2.504"	100	9452K124	11.86	10	9464K361	4.75	10	1283N123	6.22	50	9557K69	10.64
037	2 1/2	2 5/8	2.489"	2.629"	100	9452K125	12.25	10	9464K371	5.34	5	1283N124	4.22	50	9557K127	11.19
038	2 5/8	2 3/4	2.614"	2.754"	100	9452K126	12.80	10	9464K381	5.61	5	1283N125	4.29	50	9557K71	11.19
039	2 3/4	2 7/8	2.739"	2.879"	100	9452K127	12.81	10	9464K391	5.58	5	1283N126	4.29	50	9557K128	11.54
040	2 7/8	3	2.864"	3.004"	100	9452K128	13.01	10	9464K401	6.01	5	1283N127	4.36	25	9557K131	8.06
041	3	3 1/8	2.989"	3.129"	100	9452K129	14.04	10	9464K411	6.42	5	1283N128	4.76	20	9557K132	8.35
042	3 1/4	3 3/8	3.239"	3.379"	100	9452K131	15.33	10	9464K421	6.73	5	1283N129	5.02	25	9557K133	11.03
043	3 1/2	3 5/8	3.489"	3.629"	50	9452K132	9.58	10	9464K431	7.22	5	1283N131	5.42	15	9557K134	7.63
044	3 3/4	3 7/8	3.739"	3.879"	50	9452K133	9.98	10	9464K441	7.32	5	1283N132	5.56	10	9557K135	5.78
045	4	4 1/8	3.989"	4.129"	50	9452K134	10.29	10	9464K451	8.07	5	1283N133	5.80	10	9557K136	7.10
046	4 1/4	4 3/8	4.239"	4.379"	50	9452K135	11.74	10	9464K461	8.28	5	1283N134	6.56	10	9557K137	7.32
047	4 1/2	4 5/8	4.489"	4.629"	10	9452K312	4.73	10	9464K106	8.82	5	1283N135	6.76	10	9557K138	7.96
048	4 3/4	4 7/8	4.739"	4.879"	10	9452K313	5.25	2	9464K511	2.23	5	1283N136	6.82	10	9557K139	8.32
049	5	5 1/8	4.989"	5.129"	10	9452K314	6.02	2	9464K512	2.62	5	1283N137	6.89	10	9557K141	10.10
050	5 1/4	5 3/8	5.239"	5.379"	10	9452K315	6.20	2	9464K513	3.01	5	1283N138	6.89	10	9557K142	11.40
051	5 1/2	5 5/8	5.489"	5.629"	2	9452K301	11.16	1	9464K721	9.64	—	—	—	—	—	—
052	5 3/4	5 7/8	5.739"	5.879"	2	9452K302	11.21	1	9464K722	10.04	—	—	—	—	—	—
053	6	6 1/8	5.989"	6.129"	2	9452K303	11.40	1	9464K723	10.39	—	—	—	—	—	—
054	6 1/4	6 3/8	6.239"	6.379"	2	9452K304	12.17	1	9464K724	10.79	—	—	—	—	—	—
055	6 1/2	6 5/8	6.489"	6.629"	2	9452K305	12.62	1	9464K725	10.88	—	—	—	—	—	—
Width: 3/32 Fractional (0.103" Actual)																
102	1/16	1/4	0.049"	0.255"	100	9452K316	3.11	50	9464K107	4.51	25	1283N139	3.73	75	9557K143	6.07
103	3/32	9/32	0.081"	0.287"	100	9452K317	3.11	50	9464K514	4.57	25	1283N141	3.73	80	9557K144	7.39
104	1/8	5/16	0.112"	0.318"	100	9452K318	3.15	50	9464K108	4.59	25	1283N142	3.56	100	9557K145	7.50
105	5/32	11/32	0.143"	0.349"	100	9452K167	2.18	50	9464K515	4.62	25	1283N143	3.56	100	9557K146	7.88
106	3/16	3/8	0.174"	0.380"	100	9452K168	1.97	50	9464K109	4.65	25	1283N48	3.76	100	9557K147	7.97
107	7/32	13/32	0.206"	0.412"	100	9452K169	1.97	50	9464K112	4.66	25	1283N144	3.29	100	9557K72	8.07
108	1/4	7/16	0.237"	0.443"	100	9452K171	2.27	50	9464K113	4.86	25	1283N49	3.67	100	9557K148	8.16
109	5/16	1/2	0.299"	0.505"	100	9452K172	2.21	50	9464K44	5.04	25	1283N51	3.98	100	9557K149	8.35
110	3/8	9/16	0.362"	0.568"	100	9452K22	2.35	50	9464K23	5.78	25	1283N52	4.13	100	9557K471	8.53
111	7/16	5/8	0.424"	0.630"	100	9452K23	2.48	50	9464K24	6.11	25	1283N53	4.27	100	9557K472	9.57
112	1/2	11/16	0.487"	0.693"	100	9452K24	3.68	50	9464K25	6.41	25	1283N54	4.91	100	9557K473	10.31
113	9/16	3/4	0.549"	0.755"	100	9452K25	3.93	50	9464K26	6.73	25	1283N55	4.96	100	9557K474	10.75
114	5/8	13/16	0.612"	0.818"	100	9452K26	4.52	50	9464K27	6.84	25	1283N56	5.36	100	9557K475	10.33
115	11/16	7/8	0.674"	0.880"	100	9452K27	4.65	50	9464K28	7.56	25	1283N57	5.73	50	9557K476	5.74
116	3/4	15/16	0.737"	0.943"	100	9452K28	5.08	50	9464K29	8.27	25	1283N58	6.00	50	9557K477	6.28
117	13/16	1	0.799"	1.005"	100	9452K81	5.07	50	9464K81	9.26	25	1283N59	6.29	50	9557K73	6.46
118	7/8	1 1/16	0.862"	1.068"	100	9452K82	5.61	50	9464K82	10.08	25	1283N61	6.91	50	9557K151	7.48
119	15/16	1 1/8	0.924"	1.130"	100	9452K83	5.37	50	9464K83	10.85	25	1283N62	7.40	50	9557K152	7.50
120	1	1 3/16	0.987"	1.193"	100	9452K84	5.93	50	9464K84	11.35	25	1283N63	7.42	50	9557K153	7.57
121	1 1/16	1 1/4	1.049"	1.255"	100	9452K85	6.11	50	9464K85	11.86	25	1283N64	7.64	50	9557K154	7.75
122	1 1/8	1 5/16	1.112"	1.318"	100	9452K86	6.44	50	9464K86	11.63	25	1283N65	8.76	50	9557K155	8.89
123	1 3/16	1 3/8	1.174"	1.380"	100	9452K87	6.80	25	9464K87	6.60	25	1283N66	8.80	50	9557K156	8.92
124	1 1/4	1 7/16	1.237"	1.443"	100	9452K88	6.98	25	9464K88	6.72	25	1283N67	9.22	50	9557K157	8.85
125	1 5/16	1 1/2	1.299"	1.505"	100	9452K89	7.31	25	9464K89	6.86	25	1283N68	9.80	50	9557K158	10.24
126	1 3/8	1 9/16	1.362"	1.568"	100	9452K91	7.76	25	9464K91	7.77	10	1283N69	5.02	50	9557K159	10.30
127	1 7/16	1 5/8	1.424"	1.630"	100	9452K92	7.90	25	9464K92	7.77	10	1283N145	4.89	50	9557K161	10.35
128	1 1/2	1 11/16	1.487"	1.693"	100	9452K93	8.25	25	9464K93	8.48	10	1283N71	5.78	50	9557K162	10.35
129	1 9/16	1 3/4	1.549"	1.755"	100	9452K94	8.68	25	9464K94	9.24	10	1283N72	5.87	50	9557K163	10.77
130	1 5/8	1 13/16	1.612"	1.818"	100	9452K95	9.08	25	9464K95	9.93	10	1283N146	5.02	50	9557K164	10.92
131	1 11/16	1 7/8	1.674"	1.880"	100	9452K136	9.98	10	9464K131	5.13	10	1283N147	5.02	50	9557K165	10.84
132	1 3/4	1 15/16	1.737"	1.943"	100	9452K137	10.30	10	9464K132	5.73	10	1283N148	5.02	50	9557K166	11.02
133	1 13/16	2	1.799"	2.005"	100	9452K138	10.36	10	9464K133	5.64	10	1283N149	5.16	50	9557K167	11.04

(Continued on following page)

Multipurpose O-Rings *(Continued from previous page)*



All O-rings are sized to the SAE standard AS568. They meet ASTM D2000/SAE J200.

Oil-Resistant Buna-N—The most widely used O-ring material, Buna-N also resists grease, hydraulic oils, and abrasion. Temperature range is –20° to 250° F. Durometer is A70 (medium). Color is black.

Chemical-Resistant Viton® Fluoroelastomer—Choose these O-rings for their excellent resistance to boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. Temperature range is 0° to 400° F. Durometer is A75 (medium). Color is black.

High-Temperature Silicone—O-rings stand up to temperatures from –80° to 450° F. They resist weather, detergents, and salt water. They're made from FDA-listed materials for use with food and beverage. Durometer is A70 (medium). Color is red.

Steam-Resistant EPDM—These O-rings are peroxide cured, so they're more resistant to high temperatures than standard EPDM. They also resist water and brake fluid. Temperature range is –70° to 250° F. Durometer is A70 (medium). Color is black.

Dash No.	Fractional Size ID	Fractional Size OD	Actual Inch Size ID	Actual Inch Size OD	Oil-Resistant Buna-N Pkg. Qty.	Oil-Resistant Buna-N	Oil-Resistant Buna-N Pkg.	Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.	Chemical-Resistant Viton® Fluoroelastomer	Chemical-Resistant Viton® Fluoroelastomer Pkg.	High-Temperature Silicone Pkg. Qty.	High-Temperature Silicone	High-Temperature Silicone Pkg.	Steam-Resistant EPDM Pkg. Qty.	Steam-Resistant EPDM	Steam-Resistant EPDM Pkg.
Width: 3/32 Fractional (0.103″ Actual) (Cont.)																
134	1 7/8	2 1/16	1.862″	2.068″	100	9452K139	$10.31	10	9464K134	$5.64	10	1283N151	$5.69	50	9557K168	$11.21
135	1 15/16	2 1/8	1.925″	2.131″	100	9452K141	10.85	10	9464K135	5.93	10	1283N152	5.82	50	9557K169	11.02
136	2	2 3/16	1.987″	2.193″	100	9452K142	10.81	10	9464K136	6.08	10	1283N153	5.96	40	9557K3	7.77
137	2 1/16	2 1/4	2.050″	2.256″	100	9452K143	10.93	10	9464K137	6.10	10	1283N154	5.96	25	9557K171	5.95
138	2 1/8	2 5/16	2.112″	2.318″	50	9452K144	7.51	10	9464K138	6.23	10	1283N155	5.96	25	9557K172	6.01
139	2 3/16	2 3/8	2.175″	2.381″	50	9452K145	7.44	10	9464K139	6.35	10	1283N156	6.09	25	9557K173	5.96
140	2 1/4	2 7/16	2.237″	2.443″	50	9452K146	7.42	10	9464K151	6.40	10	1283N157	6.09	40	9557K174	9.20
141	2 5/16	2 1/2	2.300″	2.506″	50	9452K147	7.63	10	9464K141	6.64	10	1283N158	6.22	25	9557K175	7.88
142	2 3/8	2 9/16	2.362″	2.568″	50	9452K148	8.22	10	9464K142	6.63	10	1283N159	6.36	25	9557K74	7.98
143	2 7/16	2 5/8	2.425″	2.631″	50	9452K149	8.10	10	9464K143	6.67	10	1283N161	6.76	25	9557K177	8.72
144	2 1/2	2 11/16	2.487″	2.693″	50	9452K151	8.49	10	9464K144	7.09	10	1283N162	6.76	35	9557K178	8.57
145	2 9/16	2 3/4	2.550″	2.756″	50	9452K152	8.89	10	9464K145	7.44	10	1283N163	6.89	35	9557K179	8.73
146	2 5/8	2 13/16	2.612″	2.818″	50	9452K153	9.55	10	9464K146	7.66	10	1283N164	6.89	35	9557K181	8.80
147	2 11/16	2 7/8	2.675″	2.881″	50	9452K154	9.54	10	9464K147	8.36	10	1283N165	6.89	35	9557K182	8.80
148	2 3/4	2 15/16	2.737″	2.943″	50	9452K155	9.69	10	9464K148	8.42	10	1283N166	7.29	30	9557K183	9.21
149	2 13/16	3	2.800″	3.006″	50	9452K156	9.84	10	9464K149	8.73	10	1283N167	8.11	25	9557K184	8.97
150	2 7/8	3 1/16	2.862″	3.068″	50	9452K157	10.08	10	9464K159	8.79	10	1283N168	8.11	30	9557K185	8.79
151	3	3 3/16	2.987″	3.193″	50	9452K158	10.37	10	9464K152	9.13	5	1283N73	6.47	25	9557K186	9.45
152	3 1/4	3 7/16	3.237″	3.443″	50	9452K173	9.31	2	9464K516	2.83	10	1283N169	8.91	20	9557K187	9.50
153	3 1/2	3 11/16	3.487″	3.693″	50	9452K174	9.71	2	9464K114	2.86	5	1283N74	7.96	20	9557K188	9.57
154	3 3/4	3 15/16	3.737″	3.943″	50	9452K175	10.45	2	9464K517	3.11	5	1283N171	6.22	15	9557K189	7.22
155	4	4 3/16	3.987″	4.193″	50	9452K176	11.74	2	9464K518	3.24	5	1283N172	6.56	15	9557K191	7.94
156	4 1/4	4 7/16	4.237″	4.443″	25	9452K319	7.41	2	9464K519	3.66	5	1283N173	7.33	10	9557K192	6.45
157	4 1/2	4 11/16	4.487″	4.693″	25	9452K177	6.52	2	9464K115	3.68	5	1283N174	7.56	10	9557K193	6.56
158	4 3/4	4 15/16	4.737″	4.943″	25	9452K178	7.26	2	9464K116	3.79	5	1283N175	8.09	10	9557K194	6.67
159	5	5 3/16	4.987″	5.193″	25	9452K224	7.50	2	9464K521	4.12	5	1283N176	8.24	10	9557K195	8.36
160	5 1/4	5 7/16	5.237″	5.443″	25	9452K321	9.22	2	9464K522	4.23	2	1283N177	5.16	10	9557K196	9.90
161	5 1/2	5 11/16	5.487″	5.693″	25	9452K179	8.59	2	9464K117	4.63	2	1283N178	5.38	10	9557K197	9.75
162	5 3/4	5 15/16	5.737″	5.943″	25	9452K181	8.68	2	9464K523	4.69	2	1283N179	5.42	10	9557K198	10.86
163	6	6 3/16	5.987″	6.193″	25	9452K322	10.14	2	9464K524	4.75	2	1283N181	5.42	5	9557K201	6.35
164	6 1/4	6 7/16	6.237″	6.443″	25	9452K323	10.54	2	9464K525	4.75	2	1283N182	5.56	5	9557K202	6.52
165	6 1/2	6 11/16	6.487″	6.693″	25	9452K324	10.65	2	9464K526	4.98	2	1283N183	5.56	5	9557K203	6.69
166	6 3/4	6 15/16	6.737″	6.943″	25	9452K325	10.89	2	9464K527	4.87	2	1283N184	5.56	5	9557K204	7.03
167	7	7 3/16	6.987″	7.193″	25	9452K326	12.28	2	9464K528	5.06	2	1283N185	7.02	5	9557K205	7.70
168	7 1/4	7 7/16	7.237″	7.443″	25	9452K182	11.83	2	9464K529	5.17	2	1283N186	7.02	5	9557K206	8.02
169	7 1/2	7 11/16	7.487″	7.693″	25	9452K327	13.28	2	9464K531	5.20	2	1283N187	7.07	5	9557K207	8.09
170	7 3/4	7 15/16	7.737″	7.943″	25	9452K328	13.32	2	9464K532	5.47	2	1283N188	7.09	5	9557K208	8.25
171	8	8 3/16	7.987″	8.193″	2	9452K329	4.00	2	9464K533	5.54	2	1283N189	7.09	5	9557K209	9.69
172	8 1/4	8 7/16	8.237″	8.443″	25	9452K225	11.98	2	9464K534	5.70	2	1283N191	7.11	5	9557K211	10.03
173	8 1/2	8 11/16	8.487″	8.693″	25	9452K331	13.57	2	9464K535	5.60	2	1283N75	10.47	5	9557K212	10.47
174	8 3/4	8 15/16	8.737″	8.943″	25	9452K332	14.46	2	9464K536	5.60	1	1283N192	5.22	5	9557K213	10.83
175	9	9 3/16	8.987″	9.193″	2	9452K333	4.79	2	9464K537	5.58	1	1283N193	5.29	5	9557K214	11.08
176	9 1/4	9 7/16	9.237″	9.443″	25	9452K334	14.33	2	9464K538	5.64	1	1283N194	5.36	5	9557K215	11.42
177	9 1/2	9 11/16	9.487″	9.693″	2	9452K335	5.00	2	9464K539	5.86	1	1283N195	5.42	5	9557K216	11.86
178	9 3/4	9 15/16	9.737″	9.943″	25	9452K336	15.14	2	9464K541	5.99	1	1283N196	5.56	5	9557K217	12.21
Width: 1/8 Fractional (0.139″ Actual)																
201	3/16	7/16	0.171″	0.449″	100	9452K337	3.94	25	9464K542	5.00	25	1283N197	4.40	85	9557K218	7.20
202	1/4	1/2	0.234″	0.512″	100	9452K183	3.20	25	9464K118	5.28	25	1283N76	4.84	100	9557K219	9.07
203	5/16	9/16	0.296″	0.574″	100	9452K184	3.36	25	9464K543	5.66	25	1283N198	4.56	100	9557K221	9.34
204	3/8	5/8	0.359″	0.637″	100	9452K338	5.29	25	9464K65	5.85	25	1283N77	5.51	100	9557K222	9.38
205	7/16	11/16	0.421″	0.699″	100	9452K339	5.44	25	9464K544	6.22	25	1283N78	6.24	100	9557K223	9.84
206	1/2	3/4	0.484″	0.762″	100	9452K185	4.15	25	9464K66	6.19	25	1283N79	6.73	100	9557K224	10.00
207	9/16	13/16	0.546″	0.824″	100	9452K186	4.35	25	9464K119	6.14	25	1283N199	5.07	100	9557K225	10.33
208	5/8	7/8	0.609″	0.887″	100	9452K187	4.45	25	9464K67	6.22	25	1283N81	7.04	100	9557K226	10.52
209	11/16	15/16	0.671″	0.949″	100	9452K188	4.74	25	9464K121	6.27	—	—	—	80	9557K227	8.09
210	3/4	1	0.734″	1.012″	100	9452K29	6.91	25	9464K31	6.38	25	1283N82	7.84	50	9557K478	6.07
211	13/16	1 1/16	0.796″	1.074″	100	9452K31	7.22	25	9464K32	7.17	25	1283N83	8.42	50	9557K479	5.44
212	7/8	1 1/8	0.859″	1.137″	100	9452K32	7.16	25	9464K33	8.20	25	1283N84	8.76	50	9557K481	5.61
213	15/16	1 3/16	0.921″	1.199″	100	9452K33	7.16	25	9464K34	8.20	25	1283N85	9.24	50	9557K482	5.77
214	1	1 1/4	0.984″	1.262″	100	9452K34	7.23	25	9464K35	8.43	25	1283N86	10.00	50	9557K483	5.92
215	1 1/16	1 5/16	1.046″	1.324″	100	9452K35	7.74	25	9464K36	8.12	10	1283N87	5.16	50	9557K484	6.24
216	1 1/8	1 3/8	1.109″	1.387″	100	9452K36	8.26	25	9464K37	9.43	10	1283N88	5.71	50	9557K485	6.32
217	1 3/16	1 7/16	1.171″	1.449″	100	9452K37	8.68	25	9464K38	10.11	10	1283N89	5.82	50	9557K486	5.91
218	1 1/4	1 1/2	1.234″	1.512″	100	9452K38	8.95	25	9464K39	10.71	10	1283N91	6.16	50	9557K487	6.54
219	1 5/16	1 9/16	1.296″	1.574″	100	9452K39	9.69	25	9464K41	11.25	10	1283N92	6.29	50	9557K488	7.29
220	1 3/8	1 5/8	1.359″	1.637″	100	9452K41	10.04	25	9464K42	11.83	10	1283N93	6.33	50	9557K489	7.51
221	1 7/16	1 11/16	1.421″	1.699″	100	9452K42	10.28	25	9464K43	11.45	10	1283N201	5.22	50	9557K491	8.24
222	1 1/2	1 3/4	1.484″	1.762″	100	9452K63	11.66	25	9464K64	11.46	10	1283N94	7.13	50	9557K492	8.84

(Continued on following page)

Multipurpose O-Rings *(Continued from previous page)*

Dash No.	Fractional Size ID	Fractional Size OD	Actual Inch Size ID	Actual Inch Size OD	Oil-Resistant Buna-N Pkg. Qty.		Oil-Resistant Buna-N Pkg.	Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.		Chemical-Resistant Viton® Fluoroelastomer Pkg.	High-Temperature Silicone Pkg. Qty.		High-Temperature Silicone Pkg.	Steam-Resistant EPDM Pkg. Qty.		Steam-Resistant EPDM Pkg.
Width: 1/8 Fractional (0.139″ Actual) (Cont.)																
223	1 5/8	1 7/8	1.609″	1.887″	100	9452K61	$11.45	25	9464K45	$11.48	10	1283N95	$7.13	50	9557K493	$9.25
224	1 3/4	2	1.734″	2.012″	100	9452K62	12.48	25	9464K46	11.93	10	1283N96	8.18	25	9557K494	6.39
225	1 7/8	2 1/8	1.859″	2.137″	100	9452K96	13.12	10	9464K96	6.06	10	1283N97	9.33	25	9557K228	6.51
226	2	2 1/4	1.984″	2.262″	100	9452K64	13.45	10	9464K97	6.57	10	1283N98	9.64	25	9557K76	7.10
227	2 1/8	2 3/8	2.109″	2.387″	100	9452K65	13.73	10	9464K98	6.93	10	1283N99	9.98	25	9557K229	8.41
228	2 1/4	2 1/2	2.234″	2.512″	100	9452K66	13.94	10	9464K99	7.39	10	1283N101	10.36	25	9557K231	8.96
229	2 3/8	2 5/8	2.359″	2.637″	100	9452K67	14.22	10	9464K111	8.18	10	1283N102	11.00	25	9557K232	9.50
230	2 1/2	2 3/4	2.484″	2.762″	100	9452K69	14.56	10	9464K239	10.42	10	1283N103	11.73	25	9557K233	9.54
231	2 5/8	2 7/8	2.609″	2.887″	50	9452K159	9.64	10	9464K231	10.51	10	1283N104	12.18	25	9557K234	10.41
232	2 3/4	3	2.734″	3.012″	50	9452K161	9.77	10	9464K232	11.02	10	1283N105	12.22	25	9557K77	10.98
233	2 7/8	3 1/8	2.859″	3.137″	50	9452K162	9.75	10	9464K233	11.31	5	1283N106	7.09	25	9557K235	11.38
234	3	3 1/4	2.984″	3.262″	50	9452K163	10.56	10	9464K234	11.45	5	1283N107	7.24	25	9557K78	11.54
235	3 1/8	3 3/8	3.109″	3.387″	50	9452K164	11.23	10	9464K235	11.53	5	1283N108	8.22	25	9557K236	11.76
236	3 1/4	3 1/2	3.234″	3.512″	50	9452K165	12.07	10	9464K236	11.66	5	1283N109	8.36	25	9557K79	11.78
237	3 3/8	3 5/8	3.359″	3.637″	50	9452K166	12.25	10	9464K237	11.75	5	1283N111	8.49	10	9557K81	5.36
238	3 1/2	3 3/4	3.484″	3.762″	50	9452K226	11.07	5	9464K68	6.89	5	1283N112	9.84	25	9557K237	12.52
239	3 5/8	3 7/8	3.609″	3.887″	50	9452K189	11.10	5	9464K122	7.33	5	1283N203	6.56	25	9557K238	13.46
240	3 3/4	4	3.734″	4.012″	50	9452K191	11.15	5	9464K69	7.46	5	1283N113	10.09	10	9557K82	6.24
241	3 7/8	4 1/8	3.859″	4.137″	50	9452K351	12.70	5	9464K123	7.97	5	1283N114	10.18	10	9557K83	6.27
242	4	4 1/4	3.984″	4.262″	50	9452K192	11.29	5	9464K545	7.90	5	1283N115	10.27	10	9557K241	6.48
243	4 1/8	4 3/8	4.109″	4.387″	50	9452K193	11.11	5	9464K124	8.52	5	1283N204	7.49	10	9557K242	6.51
244	4 1/4	4 1/2	4.234″	4.512″	50	9452K194	11.82	5	9464K125	8.60	5	1283N205	7.62	15	9557K243	8.86
245	4 3/8	4 5/8	4.359″	4.637″	25	9452K195	7.69	5	9464K546	8.86	2	1283N206	4.49	15	9557K244	10.77
246	4 1/2	4 3/4	4.484″	4.762″	25	9452K196	7.67	5	9464K547	9.33	2	1283N207	4.51	10	9557K245	7.45
247	4 5/8	4 7/8	4.609″	4.887″	25	9452K197	8.34	5	9464K548	9.66	2	1283N208	4.89	15	9557K246	8.91
248	4 3/4	5	4.734″	5.012″	25	9452K198	8.40	5	9464K126	10.09	2	1283N209	5.02	15	9557K247	10.10
249	4 7/8	5 1/8	4.859″	5.137″	10	9452K352	6.82	5	9464K549	9.82	2	1283N211	5.02	10	9557K248	6.48
250	5	5 1/4	4.984″	5.262″	10	9452K353	7.25	5	9464K01	10.71	2	1283N212	5.02	10	9557K249	9.55
251	5 1/8	5 3/8	5.109″	5.387″	10	9452K199	6.17	5	9464K551	10.50	2	1283N213	5.02	10	9557K251	8.40
252	5 1/4	5 1/2	5.234″	5.512″	10	9452K201	6.37	5	9464K127	11.68	2	1283N214	5.16	10	9557K84	10.40
253	5 3/8	5 5/8	5.359″	5.637″	10	9452K354	7.92	2	9464K552	6.21	2	1283N215	5.16	10	9557K85	10.60
254	5 1/2	5 3/4	5.484″	5.762″	10	9452K355	9.21	2	9464K553	6.25	2	1283N216	5.29	10	9557K86	10.68
255	5 5/8	5 7/8	5.609″	5.887″	10	9452K356	9.28	2	9464K554	6.44	2	1283N217	5.42	5	9557K252	5.87
256	5 3/4	6	5.734″	6.012″	10	9452K357	9.34	2	9464K128	6.64	2	1283N218	5.56	5	9557K253	5.87
257	5 7/8	6 1/8	5.859″	6.137″	10	9452K202	7.98	2	9464K555	6.68	2	1283N219	5.96	5	9557K254	5.87
258	6	6 1/4	5.984″	6.262″	10	9452K358	9.29	2	9464K556	6.77	2	1283N221	6.36	5	9557K255	6.51
259	6 1/4	6 1/2	6.234″	6.512″	10	9452K359	9.67	2	9464K557	7.14	2	1283N116	7.38	5	9557K256	6.67
260	6 1/2	6 3/4	6.484″	6.762″	10	9452K109	9.76	2	9464K558	7.57	2	1283N223	6.62	5	9557K257	6.85
261	6 3/4	7	6.734″	7.012″	10	9452K361	9.78	2	9464K559	7.65	2	1283N224	6.76	5	9557K258	7.19
262	7	7 1/4	6.984″	7.262″	10	9452K362	9.80	2	9464K561	7.66	2	1283N225	6.89	5	9557K259	8.39
263	7 1/4	7 1/2	7.234″	7.512″	10	9452K363	9.85	2	9464K562	7.74	2	1283N226	7.29	5	9557K261	8.50
264	7 1/2	7 3/4	7.484″	7.762″	10	9452K203	8.66	2	9464K563	7.79	2	1283N227	7.38	5	9557K262	8.41
265	7 3/4	8	7.734″	8.012″	5	9452K364	7.68	2	9464K564	8.02	2	1283N228	7.82	5	9557K263	8.42
266	8	8 1/4	7.984″	8.262″	5	9452K365	7.72	2	9464K565	8.10	2	1283N229	7.89	5	9557K264	8.94
267	8 1/4	8 1/2	8.234″	8.512″	5	9452K366	7.82	2	9464K129	7.79	2	1283N231	7.96	5	9557K265	9.46
268	8 1/2	8 3/4	8.484″	8.762″	5	9452K367	7.82	2	9464K153	7.90	2	1283N232	8.04	5	9557K266	9.74
269	8 3/4	9	8.734″	9.012″	5	9452K368	8.11	2	9464K566	7.99	2	1283N233	8.16	5	9557K267	9.98
270	9	9 1/4	8.984″	9.262″	5	9452K369	8.92	2	9464K567	8.07	1	1283N234	5.76	5	9557K268	9.98
271	9 1/4	9 1/2	9.234″	9.512″	5	9452K101	8.97	2	9464K568	8.14	1	1283N235	5.78	5	9557K269	9.96
272	9 1/2	9 3/4	9.484″	9.762″	5	9452K371	9.04	2	9464K569	8.24	1	1283N236	5.89	5	9557K271	10.38
273	9 3/4	10	9.734″	10.012″	5	9452K372	9.07	2	9464K571	8.51	1	1283N237	5.96	5	9557K272	11.54
274	10	10 1/4	9.984″	10.262″	5	9452K373	9.10	2	9464K572	8.65	1	1283N238	6.09	5	9557K273	12.15
275	10 1/2	10 3/4	10.484″	10.762″	5	9452K374	10.21	2	9464K573	9.24	1	1283N239	6.49	1	9557K274	2.67
276	11	11 1/4	10.984″	11.262″	5	9452K375	10.29	2	9464K574	9.19	1	1283N241	7.36	2	9557K275	8.54
277	11 1/2	11 3/4	11.484″	11.762″	5	9452K376	10.37	2	9464K575	9.48	1	1283N242	7.40	2	9557K276	9.13
278	12	12 1/4	11.984″	12.262″	5	9452K204	9.15	2	9464K154	9.98	1	1283N243	7.93	2	9557K277	9.24
279	13	13 1/4	12.984″	13.262″	5	9452K377	10.63	2	9464K576	11.19	1	1283N244	8.04	2	9557K278	9.30
280	14	14 1/4	13.984″	14.262″	5	9452K378	10.67	2	9464K577	11.71	1	1283N245	8.24	2	9557K279	9.37
281	15	15 1/4	14.984″	15.262″	2	9452K379	6.61	2	9464K578	11.95	1	1283N246	8.36	2	9557K281	9.52
282	16	16 1/4	15.955″	16.233″	2	9452K102	6.72	2	9464K579	12.69	1	1283N247	12.64	2	9557K282	9.58
283	17	17 1/4	16.955″	17.233″	2	9452K381	7.71	1	9464K581	7.04	1	1283N248	12.78	2	9557K283	9.99
284	18	18 1/4	17.955″	18.233″	2	9452K382	8.05	1	9464K582	7.10	1	1283N249	12.91	2	9557K284	10.40
Width: 3/16 Fractional (0.210″ Actual)																
309	7/16	13/16	0.412″	0.832″	50	9452K383	5.28	15	9464K583	5.17	25	1283N251	7.16	80	9557K285	9.97
310	1/2	7/8	0.475″	0.895″	50	9452K205	3.96	10	9464K584	6.39	25	1283N252	7.58	75	9557K286	11.32
311	9/16	15/16	0.537″	0.957″	50	9452K384	5.40	15	9464K585	7.84	25	1283N253	7.89	75	9557K287	11.24
312	5/8	1	0.600″	1.020″	50	9452K385	5.74	10	9464K171	6.80	25	1283N254	8.56	70	9557K288	11.88
313	11/16	1 1/16	0.662″	1.082″	50	9452K386	5.96	15	9464K586	9.41	25	1283N255	9.24	70	9557K289	12.01
314	3/4	1 1/8	0.725″	1.145″	50	9452K387	6.11	10	9464K587	7.36	10	1283N256	5.29	70	9557K291	12.33
315	13/16	1 3/16	0.787″	1.207″	50	9452K388	6.34	10	9464K588	6.76	10	1283N257	5.42	65	9557K292	12.55
316	7/8	1 1/4	0.850″	1.270″	50	9452K389	6.49	10	9464K589	7.40	10	1283N258	5.56	65	9557K293	12.82
317	15/16	1 5/16	0.912″	1.332″	50	9452K4	6.84	10	9464K591	7.35	10	1283N259	6.09	60	9557K294	12.87
318	1	1 3/8	0.975″	1.395″	50	9452K206	5.96	10	9464K592	7.87	10	1283N261	6.36	60	9557K295	12.99
319	1 1/16	1 7/16	1.037″	1.457″	25	9452K401	5.61	10	9464K593	7.85	10	1283N262	6.49	50	9557K296	12.74
320	1 1/8	1 1/2	1.100″	1.520″	50	9452K207	5.97	10	9464K155	8.23	10	1283N263	6.62	50	9557K297	12.96
321	1 3/16	1 9/16	1.162″	1.582″	50	9452K402	7.37	10	9464K594	8.95	10	1283N264	7.02	50	9557K298	12.96

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Multipurpose O-Rings *(Continued from previous page)*



All O-rings are sized to the SAE standard AS568. They meet ASTM D2000/SAE J200.

Oil-Resistant Buna-N—The most widely used O-ring material, Buna-N also resists grease, hydraulic oils, and abrasion. Temperature range is –20° to 250° F. Durometer is A70 (medium). Color is black.

Chemical-Resistant Viton® Fluoroelastomer—Choose these O-rings for their excellent resistance to boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. Temperature range is 0° to 400° F. Durometer is A75 (medium). Color is black.

High-Temperature Silicone—O-rings stand up to temperatures from –80° to 450° F. They resist weather, detergents, and salt water. They're made from FDA-listed materials for use with food and beverage. Durometer is A70 (medium). Color is red.

Steam-Resistant EPDM—These O-rings are peroxide cured, so they're more resistant to high temperatures than standard EPDM. They also resist water and brake fluid. Temperature range is –70° to 250° F. Durometer is A70 (medium). Color is black.

Dash No.	Fractional Size ID	Fractional Size OD	Actual Inch Size ID	Actual Inch Size OD	Oil-Resistant Buna-N Pkg. Qty.		Oil-Resistant Buna-N Pkg.	Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.		Chemical-Resistant Viton® Fluoroelastomer Pkg.	High-Temperature Silicone Pkg. Qty.		High-Temperature Silicone Pkg.	Steam-Resistant EPDM Pkg. Qty.		Steam-Resistant EPDM Pkg.
Width: 3/16 Fractional (0.210″ Actual) (Cont.)																
322	1 1/4	1 5/8	1.225″	1.645″	50	9452K208	$6.24	10	9464K595	$9.47	10	1283N265	$7.16	50	9557K299	$13.19
323	1 5/16	1 11/16	1.287″	1.707″	25	9452K403	7.23	10	9464K596	9.43	10	1283N266	7.56	50	9557K301	13.66
324	1 3/8	1 3/4	1.350″	1.770″	50	9452K404	8.15	10	9464K172	9.91	10	1283N267	7.69	40	9557K302	11.97
325	1 1/2	1 7/8	1.475″	1.895″	50	9452K44	8.54	10	9464K47	11.37	5	1283N117	6.71	10	9557K303	3.92
326	1 5/8	2	1.600″	2.020″	50	9452K45	8.58	10	9464K48	11.37	5	1283N118	7.71	10	9557K304	3.92
327	1 3/4	2 1/8	1.725″	2.145″	50	9452K46	9.03	10	9464K49	11.49	5	1283N119	8.22	10	9557K305	4.41
328	1 7/8	2 1/4	1.850″	2.270″	50	9452K47	9.14	10	9464K51	12.27	10	1283N268	8.91	10	9557K87	4.78
329	2	2 3/8	1.975″	2.395″	50	9452K48	10.15	10	9464K52	12.65	5	1283N269	6.02	10	9557K88	5.09
330	2 1/8	2 1/2	2.100″	2.520″	50	9452K49	11.82	10	9464K53	12.38	5	1283N271	6.16	10	9557K306	5.33
331	2 1/4	2 5/8	2.225″	2.645″	50	9452K51	11.93	10	9464K54	13.16	5	1283N272	6.56	10	9557K307	5.63
332	2 3/8	2 3/4	2.350″	2.770″	50	9452K52	12.18	10	9464K55	14.09	5	1283N273	6.69	10	9557K308	5.93
333	2 1/2	2 7/8	2.475″	2.895″	50	9452K53	13.30	5	9464K56	8.30	5	1283N274	7.22	10	9557K89	6.17
334	2 5/8	3	2.600″	3.020″	50	9452K54	13.94	5	9464K57	8.27	5	1283N275	7.76	10	9557K309	6.54
335	2 3/4	3 1/8	2.725″	3.145″	50	9452K55	14.77	5	9464K58	8.46	5	1283N276	7.89	25	9557K311	12.71
336	2 7/8	3 1/4	2.850″	3.270″	50	9452K56	15.48	5	9464K59	8.77	5	1283N277	8.02	20	9557K312	11.57
337	3	3 3/8	2.975″	3.395″	50	9452K97	15.52	5	9464K61	9.38	2	1283N278	4.60	20	9557K313	11.81
338	3 1/8	3 1/2	3.100″	3.520″	50	9452K98	15.74	5	9464K62	10.06	2	1283N279	4.89	10	9557K91	8.16
339	3 1/4	3 5/8	3.225″	3.645″	50	9452K99	16.13	5	9464K63	10.85	2	1283N281	4.89	20	9557K314	12.40
340	3 3/8	3 3/4	3.350″	3.770″	25	9452K209	7.25	5	9464K597	11.22	2	1283N282	5.02	15	9557K315	9.89
341	3 1/2	3 7/8	3.475″	3.895″	25	9452K211	7.57	5	9464K156	11.82	2	1283N283	5.02	15	9557K316	11.71
342	3 5/8	4	3.600″	4.020″	25	9452K212	7.62	2	9464K157	5.59	2	1283N284	5.02	10	9557K317	8.73
343	3 3/4	4 1/8	3.725″	4.145″	25	9452K213	7.70	2	9464K173	5.72	2	1283N285	5.11	10	9557K318	8.86
344	3 7/8	4 1/4	3.850″	4.270″	25	9452K214	7.78	2	9464K598	5.77	2	1283N286	5.29	15	9557K319	9.75
345	4	4 3/8	3.975″	4.395″	25	9452K215	8.11	2	9464K174	5.74	2	1283N287	5.42	10	9557K321	10.78
346	4 1/8	4 1/2	4.100″	4.520″	25	9452K216	8.39	2	9464K175	5.69	2	1283N288	5.56	10	9557K322	10.72
347	4 1/4	4 5/8	4.225″	4.645″	5	9452K405	5.10	2	9464K158	6.12	2	1283N289	5.56	10	9557K323	8.82
348	4 3/8	4 3/4	4.350″	4.770″	5	9452K406	5.21	2	9464K611	6.30	2	1283N291	5.69	10	9557K324	9.06
349	4 1/2	4 7/8	4.475″	4.895″	5	9452K407	5.27	2	9464K612	6.57	2	1283N292	5.69	10	9557K325	10.02
350	4 5/8	5	4.600″	5.020″	5	9452K408	5.30	2	9464K613	6.37	2	1283N293	5.96	10	9557K326	10.12
351	4 3/4	5 1/8	4.725″	5.145″	5	9452K409	5.36	2	9464K614	7.19	2	1283N294	6.09	10	9557K327	10.15
352	4 7/8	5 1/4	4.850″	5.270″	5	9452K103	5.48	2	9464K615	7.22	2	1283N295	6.36	10	9557K328	9.59
353	5	5 3/8	4.975″	5.395″	5	9452K411	5.46	1	9464K161	3.97	2	1283N296	6.49	10	9557K329	11.85
354	5 1/8	5 1/2	5.100″	5.520″	5	9452K412	5.54	2	9464K616	7.28	2	1283N297	6.62	10	9557K331	11.93
355	5 1/4	5 5/8	5.225″	5.645″	5	9452K511	5.69	2	9464K162	7.52	2	1283N298	6.76	10	9557K332	11.60
356	5 3/8	5 3/4	5.350″	5.770″	5	9452K512	5.66	2	9464K617	7.36	2	1283N299	6.89	10	9557K333	11.61
357	5 1/2	5 7/8	5.475″	5.895″	5	9452K513	5.71	2	9464K618	7.78	2	1283N301	7.49	5	9557K334	6.64
358	5 5/8	6	5.600″	6.020″	5	9452K514	5.70	2	9464K619	7.78	1	1283N302	4.89	5	9557K335	6.43
359	5 3/4	6 1/8	5.725″	6.145″	5	9452K515	5.93	2	9464K621	8.08	1	1283N303	5.02	5	9557K336	6.81
360	5 7/8	6 1/4	5.850″	6.270″	5	9452K516	5.91	2	9464K622	8.12	1	1283N304	5.16	5	9557K337	7.53
361	6	6 3/8	5.975″	6.395″	5	9452K517	5.88	2	9464K623	8.20	1	1283N305	5.29	5	9557K338	7.58
362	6 1/4	6 5/8	6.225″	6.645″	5	9452K518	5.94	2	9464K624	8.43	1	1283N306	5.42	5	9557K339	8.95
363	6 1/2	6 7/8	6.475″	6.895″	5	9452K519	5.92	2	9464K625	8.54	1	1283N307	5.56	5	9557K341	8.64
364	6 3/4	7 1/8	6.725″	7.145″	5	9452K521	5.94	2	9464K626	8.95	1	1283N308	5.69	5	9557K342	8.59
365	7	7 3/8	6.975″	7.395″	5	9452K523	5.95	2	9464K627	9.77	1	1283N309	5.84	5	9557K343	10.29
366	7 1/4	7 5/8	7.225″	7.645″	5	9452K391	5.94	2	9464K628	9.82	1	1283N311	5.87	5	9557K344	9.92
367	7 1/2	7 7/8	7.475″	7.895″	10	9452K217	9.35	1	9464K629	6.94	1	1283N312	5.91	5	9557K345	9.94
368	7 3/4	8 1/8	7.725″	8.145″	5	9452K392	5.78	1	9464K631	7.35	1	1283N313	5.96	5	9557K346	12.29
369	8	8 3/8	7.975″	8.395″	5	9452K393	5.85	2	9464K632	12.58	1	1283N314	6.02	5	9557K347	12.37
370	8 1/4	8 5/8	8.225″	8.645″	5	9452K394	5.92	1	9464K633	7.87	1	1283N315	6.07	5	9557K348	12.46
371	8 1/2	8 7/8	8.475″	8.895″	5	9452K395	6.00	2	9464K634	11.55	1	1283N316	6.13	5	9557K349	12.55
372	8 3/4	9 1/8	8.725″	9.145″	5	9452K396	6.30	2	9464K635	11.56	1	1283N317	6.76	5	9557K351	12.36
373	9	9 3/8	8.975″	9.395″	5	9452K397	6.40	2	9464K636	11.56	1	1283N318	7.02	5	9557K352	12.20
374	9 1/4	9 5/8	9.225″	9.645″	5	9452K398	6.45	1	9464K637	6.05	1	1283N319	7.16	5	9557K353	12.89
375	9 1/2	9 7/8	9.475″	9.895″	5	9452K399	6.67	1	9464K638	6.18	1	1283N321	7.29	5	9557K354	12.35
376	9 3/4	10 1/8	9.725″	10.145″	5	9452K432	6.87	2	9464K639	12.55	1	1283N322	7.42	1	9557K355	2.67
377	10	10 3/8	9.975″	10.395″	5	9452K433	7.18	2	9464K641	13.64	1	1283N323	7.56	1	9557K356	2.78
378	10 1/2	10 7/8	10.475″	10.895″	5	9452K434	7.29	2	9464K642	14.09	1	1283N324	9.33	1	9557K357	3.81
379	11	11 3/8	10.975″	11.395″	5	9452K435	7.39	1	9464K643	8.03	1	1283N325	9.40	1	9557K358	3.88
380	11 1/2	11 7/8	11.475″	11.895″	5	9452K436	7.86	2	9464K644	14.42	1	1283N326	10.31	1	9557K359	3.96
381	12	12 3/8	11.975″	12.395″	5	9452K437	7.96	2	9464K645	14.64	1	1283N327	10.47	1	9557K361	4.19
382	13	13 3/8	12.975″	13.395″	5	9452K438	8.31	1	9464K846	8.96	1	1283N328	10.67	1	9557K362	4.32
383	14	14 3/8	13.975″	14.395″	5	9452K439	9.22	1	9464K647	10.39	1	1283N329	10.91	2	9557K363	10.13
384	15	15 3/8	14.975″	15.395″	5	9452K441	12.55	1	9464K848	10.85	1	1283N331	12.13	2	9557K364	11.84
385	16	16 3/8	15.955″	16.375″	5	9452K487	12.76	1	9464K649	12.24	1	1283N121	21.44	2	9557K365	11.91
386	17	17 3/8	16.955″	17.375″	5	9452K488	13.12	1	9464K651	12.25	1	1283N332	12.62	2	9557K366	12.21
387	18	18 3/8	17.955″	18.375″	5	9452K489	13.56	1	9464K652	12.38	1	1283N334	12.93	2	9557K367	12.22
388	19	19 3/8	18.955″	19.375″	5	9452K491	15.55	1	9464K653	12.84	1	1283N335	13.84	2	9557K368	12.00
389	20	20 3/8	19.955″	20.375″	1	9452K524	4.53	1	9464K654	13.94	1	1283N336	15.11	2	9557K369	11.70

(Continued on following page)

Multipurpose O-Rings *(Continued from previous page)*

Dash No.	Fractional Size ID	Fractional Size OD	Actual Inch Size ID	Actual Inch Size OD	Oil-Resistant Buna-N Pkg. Qty.	Oil-Resistant Buna-N	Oil-Resistant Buna-N Pkg.	Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.	Chemical-Resistant Viton® Fluoroelastomer	Chemical-Resistant Viton® Fluoroelastomer Pkg.	High-Temperature Silicone Pkg. Qty.	High-Temperature Silicone	High-Temperature Silicone Pkg.	Steam-Resistant EPDM Pkg. Qty.	Steam-Resistant EPDM	Steam-Resistant EPDM Pkg.
Width: 3/16 Fractional (0.210″ Actual) (Cont.)																
390	21	21 3/8	20.955″	21.375″	1	9452K493	$6.19	1	9464K655	$14.85	1	1283N337	$15.56	2	9557K371	$11.35
391	22	22 3/8	21.955″	22.375″	1	9452K494	6.81	1	9464K656	16.67	1	1283N338	23.38	1	9557K372	10.75
392	23	23 3/8	22.940″	23.360″	1	9452K495	7.21	1	9464K657	18.65	1	1283N339	25.33	1	9557K373	11.29
393	24	24 3/8	23.940″	24.360″	1	9452K496	7.73	1	9464K658	20.83	1	1283N341	25.73	1	9557K374	12.08
394	25	25 3/8	24.940″	25.360″	1	9452K497	7.82	1	9464K659	20.87	1	1283N342	26.56	1	9557K375	12.40
395	26	26 3/8	25.940″	26.360″	1	9452K498	7.92	1	9464K661	22.45	1	1283N343	28.02	1	9557K376	13.36
Width: 1/4 Fractional (0.275″ Actual)																
404	1 7/8	2 3/8	1.850″	2.400″	5	9452K499	7.90	2	9464K726	7.03	1	1283N344	6.49	1	9557K911	2.80
405	2	2 1/2	1.975″	2.525″	5	9452K501	7.90	2	9464K727	7.45	1	1283N345	6.56	1	9557K912	2.83
406	2 1/8	2 5/8	2.100″	2.650″	5	9452K502	8.40	2	9464K728	8.17	1	1283N346	6.58	1	9557K913	2.87
407	2 1/4	2 3/4	2.225″	2.775″	5	9452K231	7.76	2	9464K729	8.29	1	1283N347	9.24	1	9557K914	2.92
408	2 3/8	2 7/8	2.350″	2.900″	5	9452K232	8.70	2	9464K731	8.52	1	1283N348	6.93	1	9557K915	2.96
409	2 1/2	3	2.475″	3.025″	5	9452K233	8.91	2	9464K732	9.21	1	1283N349	6.93	1	9557K916	3.01
410	2 5/8	3 1/8	2.600″	3.150″	5	9452K234	9.76	2	9464K733	9.55	1	1283N351	7.49	1	9557K917	3.05
411	2 3/4	3 1/4	2.725″	3.275″	5	9452K235	9.76	2	9464K734	9.94	1	1283N352	7.71	1	9557K918	3.09
412	2 7/8	3 3/8	2.850″	3.400″	5	9452K236	10.43	2	9464K735	10.00	1	1283N353	7.84	1	9557K919	3.14
413	3	3 1/2	2.975″	3.525″	5	9452K237	10.43	2	9464K736	10.29	1	1283N354	8.27	1	9557K921	3.18
414	3 1/8	3 5/8	3.100″	3.650″	5	9452K238	11.03	2	9464K737	10.91	1	1283N355	8.82	1	9557K922	3.23
415	3 1/4	3 3/4	3.225″	3.775″	5	9452K239	11.03	2	9464K738	11.20	1	1283N356	9.16	1	9557K923	3.27
416	3 3/8	3 7/8	3.350″	3.900″	5	9452K241	13.28	2	9464K739	11.50	1	1283N357	9.56	1	9557K924	3.33
417	3 1/2	4	3.475″	4.025″	10	9452K218	12.69	2	9464K741	11.82	1	1283N358	9.64	1	9557K925	3.43
418	3 5/8	4 1/8	3.600″	4.150″	5	9452K242	13.86	2	9464K742	12.11	1	1283N359	9.67	1	9557K926	3.43
419	3 3/4	4 1/4	3.725″	4.275″	5	9452K243	13.86	2	9464K743	13.03	1	1283N361	9.69	1	9557K927	3.48
420	3 7/8	4 3/8	3.850″	4.400″	5	9452K244	14.51	2	9464K744	14.53	1	1283N362	10.40	1	9557K928	3.53
421	4	4 1/2	3.975″	4.525″	5	9452K245	14.51	2	9464K745	14.85	1	1283N363	12.69	1	9557K929	3.60
422	4 1/8	4 5/8	4.100″	4.650″	5	9452K246	14.79	2	9464K746	14.93	1	1283N364	10.89	1	9557K931	3.65
423	4 1/4	4 3/4	4.225″	4.775″	5	9452K247	14.79	2	9464K747	14.89	1	1283N365	10.91	1	9557K932	3.71
424	4 3/8	4 7/8	4.350″	4.900″	5	9452K248	15.64	2	9464K748	14.96	1	1283N366	10.93	1	9557K933	3.77
425	4 1/2	5	4.475″	5.025″	5	9452K219	5.10	2	9464K662	9.26	2	1283N367	6.87	5	9557K377	7.59
426	4 5/8	5 1/8	4.600″	5.150″	5	9452K413	6.44	2	9464K163	9.23	2	1283N368	6.93	5	9557K378	8.11
427	4 3/4	5 1/4	4.725″	5.275″	5	9452K414	6.44	2	9464K663	10.75	2	1283N369	7.00	5	9557K379	8.33
428	4 7/8	5 3/8	4.850″	5.400″	5	9452K415	6.49	2	9464K664	10.22	2	1283N371	7.07	5	9557K381	8.46
429	5	5 1/2	4.975″	5.525″	5	9452K416	7.20	2	9464K665	11.22	2	1283N372	7.11	5	9557K382	9.29
430	5 1/8	5 5/8	5.100″	5.650″	5	9452K417	7.26	2	9464K666	10.55	2	1283N373	7.16	5	9557K383	9.07
431	5 1/4	5 3/4	5.225″	5.775″	5	9452K418	7.46	2	9464K667	10.91	2	1283N374	7.22	5	9557K384	9.92
432	5 3/8	5 7/8	5.350″	5.900″	5	9452K419	7.50	2	9464K668	11.57	2	1283N375	7.33	5	9557K385	10.12
433	5 1/2	6	5.475″	6.025″	5	9452K221	6.31	2	9464K669	11.87	2	1283N376	7.56	5	9557K386	10.23
434	5 5/8	6 1/8	5.600″	6.150″	5	9452K104	7.81	2	9464K671	11.43	2	1283N377	7.76	5	9557K387	10.31
435	5 3/4	6 1/4	5.725″	6.275″	5	9452K421	8.94	2	9464K672	11.99	2	1283N378	7.98	5	9557K388	10.25
436	5 7/8	6 3/8	5.850″	6.400″	5	9452K422	9.07	2	9464K673	12.01	2	1283N379	8.18	5	9557K389	10.38
437	6	6 1/2	5.975″	6.525″	5	9452K423	9.28	2	9464K674	12.55	2	1283N381	8.18	1	9557K391	2.36
438	6 1/4	6 3/4	6.225″	6.775″	2	9452K424	4.30	2	9464K675	12.95	2	1283N382	8.62	1	9557K392	2.53
439	6 1/2	7	6.475″	7.025″	2	9452K425	4.32	2	9464K676	13.64	1	1283N383	5.53	1	9557K393	2.47
440	6 3/4	7 1/4	6.725″	7.275″	2	9452K222	2.96	1	9464K677	6.95	1	1283N384	5.58	5	9557K394	14.43
441	7	7 1/2	6.975″	7.525″	2	9452K426	4.39	1	9464K678	7.99	1	1283N385	5.62	5	9557K395	14.64
442	7 1/4	7 3/4	7.225″	7.775″	2	9452K427	4.43	2	9464K679	13.49	1	1283N386	5.73	5	9557K396	14.39
443	7 1/2	8	7.475″	8.025″	2	9452K428	4.56	2	9464K681	14.71	1	1283N387	5.87	5	9557K397	14.49
444	7 3/4	8 1/4	7.725″	8.275″	2	9452K429	4.83	1	9464K682	8.55	1	1283N388	6.00	5	9557K398	14.66
445	8	8 1/2	7.975″	8.525″	2	9452K43	5.25	2	9464K683	14.60	1	1283N389	6.13	1	9557K401	3.56
446	8 1/2	9	8.475″	9.025″	2	9452K431	5.19	2	9464K684	15.00	1	1283N391	6.58	1	9557K402	3.57
447	9	9 1/2	8.975″	9.525″	2	9452K442	6.11	2	9464K685	14.81	1	1283N392	8.07	1	9557K403	3.63
448	9 1/2	10	9.475″	10.025″	2	9452K223	5.03	1	9464K686	9.37	1	1283N393	8.33	1	9557K404	3.76
449	10	10 1/2	9.975″	10.525″	2	9452K443	6.85	1	9464K887	9.41	1	1283N394	9.00	1	9557K405	3.78
450	10 1/2	11	10.475″	11.025″	2	9452K444	7.24	1	9464K688	9.75	1	1283N395	10.13	1	9557K406	4.01
451	11	11 1/2	10.975″	11.525″	2	9452K445	7.77	1	9464K689	11.61	1	1283N396	10.73	1	9557K407	4.30
452	11 1/2	12	11.475″	12.025″	2	9452K446	8.51	1	9464K691	11.96	1	1283N397	11.33	1	9557K408	4.57
453	12	12 1/2	11.975″	12.525″	2	9452K447	8.60	1	9464K692	12.61	1	1283N398	11.49	2	9557K409	13.07
454	12 1/2	13	12.475″	13.025″	2	9452K448	8.77	1	9464K693	13.80	1	1283N399	11.64	2	9557K411	13.49
455	13	13 1/2	12.975″	13.525″	2	9452K449	8.91	1	9464K694	14.56	1	1283N401	11.80	2	9557K412	13.12
456	13 1/2	14	13.475″	14.025″	2	9452K105	8.90	1	9464K695	14.87	1	1283N402	11.98	2	9557K413	13.52
457	14	14 1/2	13.975″	14.525″	2	9452K451	8.88	1	9464K696	15.33	1	1283N403	9.09	2	9557K414	13.96
458	14 1/2	15	14.475″	15.025″	2	9452K452	9.17	1	9464K697	15.80	1	1283N404	10.18	2	9557K415	14.30
459	15	15 1/2	14.975″	15.525″	2	9452K453	9.24	1	9464K698	15.87	1	1283N405	10.22	2	9557K416	14.58
460	15 1/2	16	15.475″	16.025″	2	9452K454	9.32	1	9464K711	15.98	1	1283N406	10.87	2	9557K417	14.16
461	16	16 1/2	15.955″	16.505″	2	9452K455	9.37	1	9464K712	16.41	1	1283N407	12.67	2	9557K418	14.06
462	16 1/2	17	16.455″	17.005″	2	9452K456	9.49	1	9464K713	17.29	1	1283N408	12.84	2	9557K419	14.29
463	17	17 1/2	16.955″	17.505″	2	9452K457	9.57	1	9464K714	18.04	1	1283N409	12.84	2	9557K421	14.49
464	17 1/2	18	17.455″	18.005″	2	9452K458	9.54	1	9464K715	18.42	1	1283N411	13.40	2	9557K422	14.76
465	18	18 1/2	17.955″	18.505″	2	9452K459	9.73	1	9464K432	19.36	1	1283N412	15.02	2	9557K423	14.98
466	18 1/2	19	18.455″	19.005″	2	9452K106	10.53	1	9464K433	20.15	1	1283N413	16.82	2	9557K424	12.21
467	19	19 1/2	18.955″	19.505″	2	9452K461	9.89	1	9464K434	20.60	1	1283N414	17.73	2	9557K425	14.11
468	19 1/2	20	19.455″	20.005″	2	9452K462	10.37	1	9464K435	21.58	1	1283N415	18.62	1	9557K426	11.12
469	20	20 1/2	19.955″	20.505″	2	9452K463	10.79	1	9464K436	22.08	1	1283N416	19.53	1	9557K427	11.90
470	21	21 1/2	20.955″	21.505″	2	9452K464	12.12	1	9464K437	22.55	1	1283N417	20.98	1	9557K428	12.52
471	22	22 1/2	21.955″	22.505″	2	9452K465	12.29	1	9464K438	23.50	1	1283N418	21.42	1	9557K429	14.08
472	23	23 1/2	22.940″	23.490″	2	9452K466	15.05	1	9464K439	23.98	1	1283N419	24.89	1	9557K431	13.05
473	24	24 1/2	23.940″	24.490″	2	9452K467	15.77	1	9464K442	24.95	1	1283N421	26.62	1	9557K432	13.85
474	25	25 1/2	24.940″	25.490″	2	9452K468	16.29	1	9464K443	24.82	1	1283N422	27.49	1	9557K433	13.03
475	26	26 1/2	25.940″	26.490″	2	9452K469	16.66	1	9464K444	26.66	1	1283N423	30.09	1	9557K434	15.14

Other High-Temperature Silicone Dash Numbers—Choose a Dash Number: 901 to 916, 918, 920, 924, 928, or 932 ... 1283N1

Multipurpose Metric O-Rings



These metric O-rings meet ASTM D2000 and SAE J200.

Oil-Resistant Buna-N—The most widely used O-ring material, Buna-N O-rings also resist grease, hydraulic oils, and abrasion. Temperature range is –20° to 250° F. Durometer is A70 (medium). Color is black.

Chemical-Resistant Viton® Fluoroelastomer—Choose these O-rings for their excellent resistance to boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. Temperature range is 0° to 400° F. Durometer is A75 (medium). Color is black.

High-Temperature Silicone—Able to withstand temperatures from –60° to 400° F, these O-rings resist weather, detergents, and salt water. Durometer is A70 (medium). Color is red.

ID, mm	Oil-Resistant Buna-N Pkg. Qty.		Pkg.	Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.		Pkg.	High-Temperature Silicone Pkg. Qty.		Pkg.
1 mm Wide									
2	100	9262K101	$6.05	25	9263K283	$2.47	50	5233T112	$6.47
2.5	100	9262K511	6.30	25	9263K546	3.38	50	5233T113	6.47
3	100	9262K441	14.07	25	9263K511	6.08	50	5233T11	7.37
4	100	9262K102	6.53	25	9263K284	3.04	50	5233T12	8.12
5	100	9262K421	6.60	25	9263K285	3.26	50	5233T13	8.12
6	100	9262K103	6.60	25	9263K111	6.32	50	5233T14	8.22
7	100	9262K513	6.94	25	9263K547	5.44	50	5233T15	10.35
8	100	9262K442	15.76	25	9263K548	5.74	50	5233T16	10.45
9	50	9262K443	9.06	25	9263K513	7.31	50	5233T17	10.45
10	100	9262K104	7.49	25	9263K286	5.74	50	5233T18	10.45
11	100	9262K613	5.35	25	9263K549	7.06	50	5233T19	10.95
12	100	9262K105	7.80	25	9263K287	7.06	50	5233T21	11.05
13	100	9262K614	5.65	25	9263K551	8.24	50	5233T22	11.20
14	100	9262K106	8.66	10	9263K112	5.31	50	5233T23	14.68
15	50	9262K444	14.00	25	9263K552	9.26	50	5233T24	14.68
16	100	9262K107	9.42	10	9263K113	5.31	50	5233T25	14.73
17	100	9262K615	6.83	25	9263K553	10.00	25	5233T26	10.68
1.5 mm Wide									
3	100	9262K119	6.05	25	9263K288	3.11	50	5233T28	8.43
3.5	100	9262K517	6.05	25	9263K564	4.12	50	5233T126	5.76
4	100	9262K422	6.10	25	9263K289	3.33	50	5233T29	8.48
5	100	9262K121	6.23	25	9263K121	4.14	50	5233T31	8.48
6	100	9262K122	6.89	25	9263K292	4.41	50	5233T32	8.48
7	100	9262K124	7.16	25	9263K293	5.74	50	5233T33	10.45
7.5	100	9262K629	5.94	25	9263K568	6.32	50	5233T131	6.00
8	100	9262K445	14.76	25	9263K517	9.56	50	5233T34	10.45
9	100	9262K126	7.39	25	9263K294	6.32	50	5233T35	10.45
10	100	9262K127	7.53	25	9263K295	6.39	50	5233T36	10.45
11	100	9262K521	7.30	25	9263K572	7.94	50	5233T37	11.20
12	100	9262K128	7.80	25	9263K296	7.94	50	5233T38	11.20
13	100	9262K123	7.98	25	9263K123	8.62	50	5233T39	11.20
14	100	9262K634	6.63	25	9263K575	10.00	50	5233T41	14.58
2 mm Wide									
3	100	9262K161	5.93	25	9263K161	6.22	50	5233T46	8.43
4	100	9262K163	5.95	25	9263K163	6.44	50	5233T47	8.43
5	100	9262K165	6.09	25	9263K165	6.90	50	5233T48	8.43
6	100	9262K166	6.33	25	9263K166	7.89	50	5233T49	8.43
7	100	9262K167	7.06	25	9263K167	8.04	50	5233T51	10.45
8	100	9262K169	7.17	25	9263K169	8.53	50	5233T52	10.45
9	100	9262K173	7.89	25	9263K173	8.78	50	5233T53	10.45
10	100	9262K174	8.36	25	9263K174	9.10	50	5233T54	11.58
11	50	9262K446	9.25	25	9263K519	12.11	50	5233T55	11.58
12	100	9262K176	8.86	25	9263K176	11.56	50	5233T56	11.58
13	100	9262K177	9.47	10	9263K297	4.69	50	5233T57	11.58
14	100	9262K178	9.74	10	9263K178	5.00	50	5233T58	14.58
15	100	9262K179	9.77	10	9263K299	5.00	50	5233T59	14.68
16	100	9262K181	10.01	10	9263K181	5.31	50	5233T61	14.68
17	100	9262K182	12.84	25	9263K645	13.53	25	5233T62	11.45
18	100	9262K183	12.78	10	9263K115	6.67	25	5233T63	11.55
20	100	9262K186	11.05	10	9263K186	6.50	10	5233T247	5.20
22	50	9262K187	9.26	20	9263K501	12.25	10	5233T248	8.87
2.5 mm Wide									
10	100	9262K232	8.77	10	9263K232	5.04	25	5233T64	8.95
11	100	9262K234	9.11	10	9263K234	5.31	25	5233T65	10.45
12	100	9262K236	9.25	10	9263K236	5.78	25	5233T66	10.45
13	100	9262K238	9.84	10	9263K238	5.94	25	5233T67	10.45
14	100	9262K241	10.18	10	9263K241	6.15	25	5233T68	11.18
15	100	9262K243	10.26	10	9263K243	6.33	25	5233T69	11.18
16	100	9262K245	10.51	10	9263K245	6.74	25	5233T71	11.18
17	100	9262K247	10.71	10	9263K247	6.89	25	5233T72	11.43
18	100	9262K251	10.83	10	9263K251	7.06	25	5233T73	11.43
19	100	9262K253	11.04	10	9263K253	7.09	25	5233T74	11.43
3 mm Wide									
10	100	9262K263	8.99	10	9263K263	6.68	25	5233T76	13.43
14	100	9262K271	12.91	10	9263K722	7.06	25	5233T8	13.95
20	50	9262K267	7.85	10	9263K267	8.25	25	5233T85	14.05

	Choose a Width, mm	Choose an ID, mm	
Other Sizes			
Oil-Resistant Buna-N	1, 1.2, 1.3, 1.5, 1.6, 1.78, 1.8, 1.9, 2, 2.4, 2.5, 2.62, 2.7, 3, 3.1, 3.5, 3.53, 3.6, 4, 4.5, 5, 5.3, 5.7, 6, 8.4	1 to 400	9262K41
Chemical-Resistant Viton® Fluoroelastomer	1, 1.5, 1.6, 1.9, 2, 2.4, 2.5, 3, 3.1, 3.5, 4, 5	1.5 to 140	9263K11
High-Temperature Silicone	1, 1.5, 1.6, 1.8, 1.9, 2, 2.4, 2.5, 3, 3.5, 4, 5	2 to 150	5233T111

Brown Chemical-Resistant Viton® Fluoroelastomer O-Rings



These O-rings are brown for quick material identification and offer excellent resistance to boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. Temperature range is –10° to 400° F. Durometer is 75A (hard). All meet ASTM D2000. Inch o-rings are sized to the SAE standard AS568 and meet SAE J200.

Inch

Dash No.	Pkg. Qty.		Pkg.	Dash No.	Pkg. Qty.		Pkg.	Dash No.	Pkg. Qty.		Pkg.	Dash No.	Pkg. Qty.		Pkg.
006	100	5267T16	$8.74	012	100	5267T23	$12.08	017	50	5267T28	$9.18	114	50	5267T79	$12.28
007	100	5267T17	9.02	014	100	5267T25	14.50	111	50	5267T76	9.75	115	50	5267T81	12.82
008	100	5267T18	9.32	015	100	5267T26	15.52	112	50	5267T77	9.75	210	25	5267T174	9.80
010	100	5267T21	10.56	016	100	5267T27	16.11	113	50	5267T78	10.68	212	25	5267T176	10.67

Other Dash Numbers—Choose a Dash Number: 001 to 475 ... 5267T2

Metric

ID, mm	Pkg. Qty.		Pkg.	ID, mm	Pkg. Qty.		Pkg.	ID, mm	Pkg. Qty.		Pkg.	ID, mm	Pkg. Qty.		Pkg.
1 mm Wide				**1.5 mm Wide**				**2 mm Wide**				**2 mm Wide (Cont.)**			
2.5	25	1185N21	$5.27	3	50	1185N44	$8.07	6	50	1185N87	$10.94	14	25	1185N66	$10.49
3	50	1185N24	7.14	4	50	1185N46	8.17	7	25	1185N91	6.85	18	10	1185N71	6.05
4.5	50	1185N26	8.33	7	50	1185N53	10.59	8	25	1185N92	7.48	**2.5 mm Wide**			
5	50	1185N27	8.38	9	25	1185N57	6.67	10	25	1185N62	8.33	10	25	1185N94	10.44
8	50	1185N31	10.01	10	25	1185N33	6.79	12	25	1185N64	9.73	**3 mm Wide**			
12	25	1185N13	7.28	12	50	1185N35	9.76	13	25	1185N65	10.36	30	5	1185N115	6.56

Other Sizes—Choose a Width: 1, 1.5, 1.6, 2, 2.5, 3 mm; Choose an ID: 2 to 70 mm ... 1185N5

Made-to-Order O-Rings



When you need a large O-ring that's not an industry-standard size, we can make one for you. All meet ASTM D2000.

Oil-Resistant Buna-N—Resists oil, grease, hydraulic oils, and abrasion. Temperature range is –20° to 250° F. Durometer is 70A (hard). Color is black.

Chemical-Resistant Viton® Fluoroelastomer—Offers excellent resistance to boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. Temperature range is –15° to 400° F. Durometer is 75A (hard). Color is black.

Steam-Resistant EPDM—In addition to steam, these O-rings also resist water and brake fluid. Temperature range is –65° to 300° F. Durometer is 70A (hard). Color is black.

High-Temperature Silicone—With a temperature range of –80° to 450° F, these O-rings can take the heat. They're suitable for a wide range of static and dynamic sealing applications. Durometer is 70A (hard). Color is red.

Inch

Material	Choose an ID		Width 0.070"	0.103"	0.125"	0.139"	0.210"	0.250"	0.275"	0.312"	0.375"
Buna-N	2½" to 50"	1169N5	$8.93	$8.93	$8.93	$8.93	$8.93	$8.93	$8.93	$8.93	$8.93
Viton® Fluoroelastomer	2½" to 50"	1169N7	14.29	14.29	21.43	25.00	35.71	53.57	62.50	76.79	107.14
EPDM	2½" to 50"	1169N9	8.93	8.93	8.93	8.93	8.93	8.93	8.93	10.71	12.50
Silicone	2½" to 50"	1169N3	8.93	8.93	8.93	8.93	8.93	12.50	12.50	16.07	19.64

Metric

Material	Choose an ID		Width 1.5 mm	2 mm	2.5 mm	3 mm	3.5 mm	4 mm	4.5 mm	5 mm	5.5 mm	5.7 mm	6 mm	8 mm
Buna-N	63.5 to 1,300 mm	1169N4	$8.93	$8.93	$8.93	$8.93	$8.93	$8.93	$8.93	$8.93	$8.93	$8.93	$8.93	$8.93
Viton® Fluoroelastomer	63.5 to 1,300 mm	1169N6	14.29	14.29	14.29	19.64	23.21	25.00	28.57	32.14	37.50	39.29	43.75	75.00
EPDM	63.5 to 1,300 mm	1169N8	8.93	8.93	8.93	8.93	8.93	10.71	10.71	10.71	12.50	12.50★	12.50	14.29
Silicone	63.5 to 1,300 mm	1169N2	9.82	9.82	9.82	14.29	14.29	14.29	17.86	17.86	17.86	19.64★	19.64	21.43

★ Width is 5.8 mm.

Ultra-Compressible O-Rings



Softer than standard O-rings for a better seal in low-pressure applications.

Oil-Resistant Buna-N—The most widely used O-ring material. Temperature range is –30° to 225° F. Durometer is 50A (medium). All meet ASTM D2000. Inch O-rings are sized to the SAE standard AS568 and meet SAE J200. Color is black.

Chemical-Resistant Viton® Fluoroelastomer—Offers excellent resistance to boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. They are sized to the SAE standard AS568 and meet ASTM D2000. Temperature range is –15° to 400° F. Durometer is 60A (medium hard). Color is white.

High-Temperature Silicone—Resistant to ozone and salt water, these O-rings stand up to temperatures from –60° to 400° F. They are sized to the SAE standard AS568 and meet ASTM D2000. Color is red.

Inch

Dash No.	Oil-Resistant Buna-N Pkg. Qty.		Pkg.	Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.		Pkg.	High-Temperature Silicone Pkg. Qty.		Pkg.
006	150	2418T112	$10.00	25	1284N106	$5.18	25	1173N006	$3.92
007	125	2418T113	8.77	25	1284N107	5.51	25	1173N007	3.93
008	125	2418T114	9.17	25	1284N108	5.84	25	1173N008	4.72
010	120	2418T116	10.00	25	1284N11	6.33	25	1173N01	4.75
011	115	2418T117	9.97	25	1284N112	6.67	25	1173N011	5.50
012	110	2418T118	9.90	25	1284N113	7.33	25	1173N012	5.50
013	90	2418T119	9.60	25	1284N114	8.00	25	1173N013	6.29
014	80	2418T12	9.07	25	1284N115	9.00	25	1173N014	7.08
016	75	2418T122	9.50	25	1284N117	5.67	25	1173N016	8.65
111	90	2418T136	9.60	25	1284N14	6.67	25	1173N111	7.81
210	50	2418T165	10.00	25	1284N166	7.93	25	1173N21	5.63

Other Dash Numbers

Oil-Resistant Buna-N—Choose a Dash Number: 004 to 337 ... 2418T55

Chemical-Resistant Viton® Fluoroelastomer—Choose a Dash Number: 001 to 327 ... 1284N1

High-Temperature Silicone—Choose a Dash Number: 001 to 385 ... 1173N1

Metric

Oil-Resistant Buna-N—Choose a Width: 1, 1.5, 1.6, 2, 2.5, 3 mm; Choose an ID: 2 to 60 mm ... 1174N1

Metal-Detector-Grade O-Rings



If these O-rings deteriorate they can be picked up by metal detection systems and magnetic separators. All are made of FDA-listed materials and include a material certification with shelf life, cure date, and a traceable lot number. They are sized to SAE standard AS568 and meet ASTM D2000.

Oil-Resistant Buna-N—Resists animal oil, vegetable oil, and water. Temperature range is -40° to 250° F. Durometer is A70 (medium). Color is black.

Chemical-Resistant Fluoroelastomer—Resists a wide range of chemicals including citric and nitric acid. Temperature range is -15° to 400° F. Durometer is A75 (medium). Color is blue.

High-Temperature Silicone—In addition to high temperatures, these O-rings resist alcohol and water. Temperature range is -80° to 400° F. Durometer is A70 (medium). Color is red.

Dash No.	Oil-Resistant Buna-N Pkg. Qty.		Pkg.	Chemical-Resistant Fluoroelastomer Pkg. Qty.		Pkg.	High-Temperature Silicone Pkg. Qty.		Pkg.
006	25	1176N14	$6.07	10	1320N14	$10.00	10	1325N14	$10.37
007	25	1176N15	6.24	10	1320N15	10.14	10	1325N15	10.46
008	25	1176N16	6.28	10	1320N16	10.29	10	1325N16	10.54
010	25	1176N18	7.87	10	1320N18	9.74	10	1325N18	10.71
016	25	1176N25	7.72	10	1320N25	10.53	10	1325N25	10.92
111	10	1176N43	7.58	5	1320N45	8.33	5	1325N45	8.50
210	5	1176N54	6.85	2	1320N68	7.59	2	1325N68	7.33

Other Dash Numbers

Oil-Resistant Buna-N—Choose a Dash Number: 003 to 270	1176N1
Chemical-Resistant Fluoroelastomer—Choose a Dash Number: 003 to 270	1320N1
High-Temperature Silicone—Choose a Dash Number: 003 to 270	1325N1

Abrasion-Resistant O-Rings



These O-rings stand up to wear caused by moving parts, such as in cylinders. Inch O-rings are sized to the SAE standard AS568.

Oil-Resistant Buna-N—Harder than our multipurpose Buna-N O-rings, these have better wear resistance. In addition to oil, these O-rings also resist grease and hydraulic oils. They meet ASTM D2000; the inch O-rings also meet SAE J200. Temperature range is –20° to 250° F. Durometer is A90 (hard). Color is black.

Chemical-Resistant Viton® Fluoroelastomer—Offering the same excellent chemical resistance as multipurpose Viton® fluoroelastomer O-rings, except with a durometer of A90 (hard) for better wear resistance. These resist boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. They meet ASTM D2000/SAE J200. Temp. range is –20° to 400° F. Color is black.

High-Strength Polyurethane—More abrasion resistant than Buna-N and other rubber, polyurethane O-rings offer the best resistance to wear and tearing. They also resist salt water and gasoline. O-rings meet ASTM D2000/SAE J200. Temperature range is –40° to 200° F. Durometer is A70 (medium). Color is black.

Ultra-High-Strength Polyurethane—With a durometer of A90 (hard), these O-rings are harder and are better for high-pressure applications than high-strength polyurethane. They resist tearing. Temperature range is –65° to 275° F. Color is cream.

Inch

Dash No.	Oil-Resistant Buna-N Pkg. Qty.		Pkg.	Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.		Pkg.	High-Strength Polyurethane Pkg. Qty.		Pkg.	Ultra-High-Strength Polyurethane Pkg. Qty.		Pkg.
006	100	5308T115	$2.32	100	8297T116	$12.50	10	9558K11	$7.03	5	9558K512	$7.89
007	100	5308T116	2.32	100	8297T117	11.99	10	9558K12	7.11	5	9558K513	9.10
008	100	5308T117	2.23	100	8297T118	12.00	10	9558K13	7.19	5	9558K514	9.17
010	100	5308T119	2.32	100	8297T12	12.07	10	9558K15	7.31	5	9558K516	9.32
011	100	5308T12	2.43	50	8297T503	7.72	10	9558K16	7.42	5	9558K517	9.51
012	100	5308T121	3.19	100	8297T122	14.60	10	9558K17	7.69	5	9558K518	9.50
013	100	5308T122	3.43	50	8297T504	8.93	10	9558K18	7.77	5	9558K519	9.51
015	100	5308T124	3.85	50	8297T125	11.25	10	9558K21	8.29	5	9558K522	9.65
016	100	5308T125	4.16	50	8297T126	11.25	10	9558K22	9.10	5	9558K523	9.73
017	100	5308T126	4.19	50	8297T127	11.25	5	9558K54	10.15	5	9558K524	8.65
109	100	5308T167	2.90	10	8297T168	2.50	5	9558K79	11.03	5	9558K541	9.34
110	100	5308T168	3.01	10	8297T169	2.50	10	9558K23	9.28	5	9558K542	10.25
111	100	5308T169	3.12	10	8297T17	3.00	10	9558K24	9.33	5	9558K543	10.70
112	100	5308T17	3.18	10	8297T171	3.00	10	9558K25	9.76	5	9558K544	10.80
113	100	5308T171	3.19	10	8297T172	3.00	10	9558K26	9.85	5	9558K545	11.25
114	100	5308T172	3.83	10	8297T173	3.00	10	9558K27	9.97	5	9558K546	11.06
115	50	5308T173	2.05	10	8297T174	3.25	10	9558K28	10.72	5	9558K547	11.53
116	50	5308T174	2.45	10	8297T175	3.50	10	9558K29	11.05	1	9558K548	2.59
210	50	5308T255	3.24	10	8297T247	6.25	10	9558K31	11.38	1	9558K584	2.65
214	50	5308T259	3.78	10	8297T251	8.50	10	9558K35	12.35	1	9558K587	3.41

Other Dash Numbers

Oil-Resistant Buna-N—Choose a Dash Number: 001 to 472	5308T3
Chemical-Resistant Viton® Fluoroelastomer—Choose a Dash Number: 001 to 372	8297T101
High-Strength Polyurethane—Choose a Dash Number: 001 to 475	9558K51
Ultra-High-Strength Polyurethane—Choose a Dash Number: 005 to 348	9558K1

Metric

ID, mm	Oil-Resistant Buna-N Pkg. Qty.		Pkg.
1 mm Wide			
2	100	1247N109	$3.04
3	50	1247N114	7.33
4	100	1247N115	3.08
6	100	1247N116	3.15
8	100	1247N117	3.58
10	100	1247N101	3.88
12	100	1247N103	4.42
1.5 mm Wide			
3	100	1247N129	3.04
5	100	1247N134	3.49
6	100	1247N136	3.53
1.5 mm Wide (Cont.)			
7	100	1247N137	$3.85
9	100	1247N142	3.84
10	100	1247N119	4.19
12	100	1247N122	4.69
2 mm Wide			
5	100	1247N169	3.04
6	100	1247N173	3.27
7	100	1247N175	3.50
8	100	1247N177	3.89
9	100	1247N178	3.93
10	100	1247N147	4.26
2 mm Wide (Cont.)			
12	100	1247N149	$4.63
14	100	1247N152	4.96
16	100	1247N154	5.25
2.5 mm Wide			
10	100	1247N179	5.24
11	100	1247N181	5.62
15	100	1247N185	6.53
3 mm Wide			
10	100	1247N202	5.60
20	100	1247N205	7.61
22	100	1247N206	8.16

Other Sizes

Oil-Resistant Buna-N—Choose a Width: 1, 1.5, 1.6, 2, 2.5, 3 mm; Choose an ID: 2 to 70 mm	1247N1

X-Profile O-Rings



The lobes on these O-rings provide multiple points of contact for a better seal than round-profile O-rings. They also require less compression to make a seal, so they offer a longer service life. All O-rings meet ASTM D2000. Inch O-rings are sized to the SAE standard AS568 and meet SAE J200.

Double-seal O-rings are also known as Quattro Seals and X-rings. They have a cross-shaped profile that provides four points of contact.

Multi-seal O-rings have eight points of contact, as well as eight grooves that will hold lubricants to further reduce friction and wear.

Oil-Resistant Buna-N—The most widely used O-ring material, Buna-N O-rings also resist hydraulic oils. Temperature range is –30° to 225° F. Durometer is A70 (medium). Color is black.

Chemical-Resistant Viton® Fluoroelastomer—These O-rings offer excellent resistance to boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. Temperature range is –15° to 400° F. Durometer is A75 (medium). Color is black.

Double-Seal—Inch

Dash No.	Oil-Resistant Buna-N Pkg. Qty.		Pkg.	Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.		Pkg.
004	100	90025K119	$7.27	50	6540K171	$4.23
006	100	90025K123	7.26	50	6540K116	10.50
007	100	90025K126	7.44	50	6540K117	11.24
008	100	90025K127	7.78	50	6540K118	11.80
009	100	90025K129	7.78	50	6540K119	12.33
010	100	90025K133	7.78	50	6540K165	12.35
011	100	90025K135	8.00	50	6540K121	13.04
012	100	90025K137	8.47	50	6540K122	13.89
013	100	90025K139	8.50	25	6540K123	11.88
014	100	90025K143	8.59	25	6540K124	12.90
015	100	90025K145	9.00	25	6540K125	13.26
016	100	90025K147	10.56	25	6540K126	13.75
017	100	90025K149	10.75	25	6540K127	14.17
018	100	90025K154	11.19	25	6540K128	13.80
019	100	90025K361	12.00	25	6540K129	14.34
020	100	90025K362	12.34	25	6540K166	14.29
021	100	90025K363	13.22	25	6540K131	14.35
022	50	90025K364	8.43	10	6540K201	7.63
029	50	90025K365	11.14	10	6540K208	11.50
108	100	90025K441	7.89	25	6540K132	12.15
109	100	90025K368	7.78	25	6540K133	13.57
110	100	90025K222	8.40	25	6540K134	14.51
111	100	90025K224	9.54	25	6540K135	14.66
112	100	90025K226	10.23	25	6540K136	14.88
113	100	90025K228	10.29	25	6540K137	14.84
114	100	90025K234	10.03	10	6540K138	9.25
115	100	90025K236	11.46	10	6540K139	10.30
117	100	90025K244	12.40	10	6540K141	12.15
118	100	90025K246	12.51	10	6540K142	12.67
119	100	90025K248	17.70	10	6540K143	13.60
120	100	90025K254	17.86	10	6540K144	14.06
121	100	90025K256	$18.14	10	6540K145	$14.14
123	50	90025K442	9.63	10	6540K147	14.25
124	50	90025K443	10.00	10	6540K148	14.31
125	100	90025K258	14.40	10	6540K149	14.42
204	100	90025K375	13.03	25	6540K175	12.95
206	100	90025K376	12.59	—	—	—
207	100	90025K377	13.41	10	6540K249	11.22
208	100	90025K378	14.09	10	6540K177	7.81
210	100	90025K331	14.58	10	6540K168	14.38
211	100	90025K335	14.42	10	6540K151	14.50
212	100	90025K339	14.69	10	6540K152	14.69
214	25	90025K347	5.83	5	6540K154	13.01
215	25	90025K349	5.61	5	6540K155	13.83
216	25	90025K354	6.09	5	6540K156	14.77
217	25	90025K356	6.00	5	6540K157	14.98
218	50	90025K357	13.42	5	6540K158	14.19
219	50	90025K359	13.61	5	6540K159	14.30
220	25	90025K381	7.81	1	6540K193	3.35
222	25	90025K383	8.86	5	6540K162	14.54
223	25	90025K384	9.64	5	6540K163	14.58
224	25	90025K385	10.56	5	6540K164	14.66
225	25	90025K386	10.86	1	6540K252	3.87
226	25	90025K387	10.81	1	6540K253	4.00
228	25	90025K389	11.19	5	6540K178	12.66
232	10	90025K393	6.85	—	—	—
312	25	90025K401	5.92	—	—	—
325	25	90025K405	10.82	1	6540K281	6.30
326	25	90025K268	11.97	1	6540K282	6.47
330	25	90025K269	13.87	1	6540K186	4.02
332	10	90025K408	7.95	1	6540K284	9.43
334	10	90025K411	9.25	1	6540K285	9.69

Other Dash Numbers

Oil-Resistant Buna-N—Choose a Dash Number: 005 to 466 — 90025K12

Chemical Resistant Viton® Fluoroelastomer—Choose a Dash Number: 005 to 441 — 6540K101

Double-Seal—Metric

ID, mm	Oil-Resistant Buna-N Pkg. Qty.		Pkg.
1.5 mm Wide			
3	10	1200N109	$5.94
5	10	1200N115	6.25
6	10	1200N117	6.25
7	10	1200N119	6.56
8.5	10	1200N123	5.94
9	10	1200N124	6.88
9.5	10	1200N125	5.94
10	10	1200N101	7.19
12	10	1200N103	6.25
14	10	1200N105	8.13
16	10	1200N106	8.75
1.6 mm Wide			
3.1	5	1200N126	$6.41
7.1	5	1200N127	6.45
2 mm Wide			
4	10	1200N147	6.25
5	10	1200N149	6.56
6	10	1200N153	6.56
7	10	1200N155	6.88
8	10	1200N156	7.19
9	10	1200N157	7.23
10	10	1200N185	7.50
12	10	1200N129	7.86
2 mm Wide (Cont.)			
14	10	1200N132	$8.49
16	10	1200N134	9.12
20	5	1200N138	5.16
24	5	1200N143	5.82
2.5 mm Wide			
10	10	1200N158	7.81
15	10	1200N164	9.38
3 mm Wide			
10	10	1200N172	8.13
20	5	1200N175	5.63
22	5	1200N176	6.09

Other Sizes

Oil-Resistant Buna-N—Choose a Width: 1.5, 1.6, 2, 2.5, 3 mm; Choose an ID: 3 to 60 mm — 1200N2

Multi-Seal—Inch

Dash No.	Oil-Resistant Buna-N Pkg. Qty.		Pkg.
006	10	1161N11	$6.25
007	10	1161N12	6.27
008	10	1161N13	6.29
009	10	1161N14	6.31
010	10	1161N15	6.33
011	10	1161N16	6.35
012	10	1161N17	6.37
013	10	1161N18	6.39
014	10	1161N19	$7.81
015	10	1161N21	7.84
016	10	1161N22	7.86
017	5	1161N23	7.58
018	5	1161N24	7.62
020	5	1161N26	8.33
022	5	1161N28	9.09
109	5	1161N33	8.33
110	5	1161N34	$8.36
111	5	1161N35	9.09
112	5	1161N36	9.12
113	5	1161N37	9.15
114	5	1161N38	9.85
115	5	1161N39	9.88
116	5	1161N41	9.91
210	5	1161N56	8.44

Other Dash Numbers

Oil-Resistant Buna-N—Choose a Dash Number: 019 to 327 — 1161N2

Square-Profile O-Rings



With flat edges on all four sides, square-profile O-rings cover more surface than round-profile O-rings for a better seal in static applications, such as in hose, pipe, and faucet connections. All O-rings meet ASTM D2000. Inch O-rings are sized to the SAE standard AS568.

Oil-Resistant Buna-N—The most widely used O-ring material, Buna-N O-rings also resist hydraulic oils. Temperature range is –30° to 212° F. Durometer is A70 (medium). Color is black. Inch sizes meet SAE J200.

Chemical-Resistant Viton® Fluoroelastomer—Choose these O-rings for their excellent resistance to boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. Temperature range is –10° to 400° F. Durometer is A75 (medium). Color is black.

High-Temperature Silicone—These O-rings stand up to temperatures from –40° to 500° F and resist salt water and ozone. Durometer is A70 (medium). Color is red.

Inch

Dash No.	Oil-Resistant Buna-N Pkg. Qty.		Pkg.	Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.		Pkg.	High-Temperature Silicone Pkg. Qty.		Pkg.
006	100	4061T111	$10.48	25	1170N16	$7.08	25	1182N006	$4.70
007	100	4061T112	10.48	25	1170N17	7.81	25	1182N007	4.72
008	100	4061T113	10.48	25	1170N18	7.86	25	1182N008	4.73
009	100	4061T114	10.48	25	1170N19	8.59	25	1182N009	4.75
010	100	4061T115	10.48	25	1170N21	9.38	25	1182N01	5.50
011	100	4061T116	10.48	10	1170N22	4.06	25	1182N011	5.52
012	100	4061T117	10.48	10	1170N23	4.69	25	1182N012	6.31
013	100	4061T118	10.68	10	1170N24	5.31	25	1182N013	7.10
014	100	4061T119	10.10	10	1170N25	5.94	25	1182N014	7.12
015	100	4061T12	9.30	10	1170N26	6.56	25	1182N015	7.91
016	100	4061T121	9.96	10	1170N27	6.88	25	1182N016	8.70
018	100	4061T123	8.78	10	1170N29	7.94	25	1182N018	9.49
019	100	4061T124	8.90	10	1170N31	8.53	10	1182N019	4.11
020	100	4061T125	8.94	10	1170N32	9.14	10	1182N02	4.43
109	100	4061T155	10.04	10	1170N51	5.63	25	1182N109	6.29
110	100	4061T156	9.84	10	1170N52	6.56	25	1182N11	7.03

Other Dash Numbers

Oil-Resistant Buna-N—Choose a Dash Number: 021 to 447 ..... 4061T11
Chemical-Resistant Viton® Fluoroelastomer—Choose a Dash Number: 001 to 327 ..... 1170N1
High-Temperature Silicone—Choose a Dash Number: 001 to 385 ..... 1182N1

Metric

ID, mm	Oil-Resistant Buna-N Pkg. Qty.		Pkg.	ID, mm	Oil-Resistant Buna-N Pkg. Qty.		Pkg.	ID, mm	Oil-Resistant Buna-N Pkg. Qty.		Pkg.
1 mm Wide				**1.5 mm Wide**				**2 mm Wide (Cont.)**			
2	5	1171N109	$8.00	3	25	1171N135	$6.62	7	25	1171N183	$6.90
2.5	5	1171N112	8.02	4	25	1171N137	6.67	8	25	1171N184	6.92
3	25	1171N115	8.09	5	25	1171N139	6.70	9	25	1171N185	6.94
4	25	1171N116	8.11	6	25	1171N142	6.74	10	25	1171N155	6.82
4.5	25	1171N117	8.14	7	25	1171N144	6.78	12	25	1171N157	6.86
5	25	1171N118	8.16	9	25	1171N148	6.86	16	25	1171N162	7.65
6	25	1171N119	8.18	10	25	1171N124	6.82	**2.5 mm Wide**			
7	25	1171N121	8.21	12	25	1171N126	6.86	10	25	1171N186	6.97
8	25	1171N122	8.23	**2 mm Wide**				15	25	1171N192	7.81
10	25	1171N101	8.33	4	25	1171N175	6.84	**3 mm Wide**			
20	25	1171N113	8.54	6	25	1171N181	6.88	10	25	1171N199	6.84

Other Sizes

Oil-Resistant Buna-N—Choose a Width: 1, 1.5, 1.6, 1.8, 2, 2.5, 3 mm; Choose an ID: 2 to 60 mm 1171N1

Refrigerant-Resistant O-Rings



Made of neoprene, these O-rings resist Freon 12, ethylene glycol, ammonia, and isopropyl alcohol. They are sized to the SAE standard AS568 and meet ASTM D2000/SAE J200. Temperature range is –35° to 250° F. Durometer is A70 (medium). Color is black.

Dash No.	Neoprene Pkg. Qty.		Pkg.	Dash No.	Neoprene Pkg. Qty.		Pkg.	Dash No.	Neoprene Pkg. Qty.		Pkg.
003	100	94115K003	$1.82	020	100	94115K02	$5.93	117	100	94115K117	$5.93
004	100	94115K004	1.84	021	100	94115K021	8.71	118	100	94115K118	6.23
005	100	94115K005	2.07	022	100	94115K022	8.83	120	100	94115K12	7.12
006	100	94115K006	2.08	024	100	94115K024	11.31	122	100	94115K122	8.01
007	100	94115K007	2.08	026	60	94115K026	13.30	128	100	94115K128	11.57
008	100	94115K008	2.28	028	50	94115K028	13.34	153	20	94115K153	12.88
009	100	94115K009	2.28	029	60	94115K029	13.48	202	85	94115K202	9.40
010	100	94115K01	2.28	030	60	94115K03	13.67	210	100	94115K21	6.68
011	100	94115K011	2.64	031	50	94115K031	13.74	211	100	94115K211	6.97
012	100	94115K012	2.64	108	100	94115K108	7.48	212	100	94115K212	7.09
013	100	94115K013	2.85	109	100	94115K109	7.59	214	100	94115K214	8.45
014	100	94115K014	2.85	110	100	94115K11	2.97	218	100	94115K218	11.48
015	100	94115K015	2.97	111	100	94115K111	4.01	220	50	94115K22	5.93
016	100	94115K016	3.15	112	100	94115K112	4.03	222	50	94115K222	6.84
017	100	94115K017	3.80	113	100	94115K113	4.06	224	50	94115K224	7.76
018	100	94115K018	3.97	115	100	94115K115	4.12	230	25	94115K23	6.71
019	100	94115K019	5.11	116	100	94115K116	4.51	375	5	94115K375	14.75

Other Dash Numbers

Neoprene—Choose a Dash Number: 001 to 475 ..... 94115K515

Extreme-Chemical O-Rings



Choose one of these O-rings for applications involving chemicals. O-rings meet ASTM D2000/SAE J200, except Aflas O-rings do not meet SAE J200 and PTFE O-rings do not meet either specification. Inch O-rings are sized to the SAE standard AS568.

PTFE—These PTFE O-rings are chemically inert. Use them with most fluids and gases, including citric acid and acetone. They're made from FDA-listed materials for use with food and beverage. Temperature range is –50° to 500°F. Inch sizes have a durometer of D55 (hard); metric sizes have a durometer of D51 (hard). Color is white.

Aflas—Recommended for use with oils and lubricants, Aflas O-rings also resist steam, heat, and chemicals such as boric and phosphoric acids. Temperature range is 25° to 450°F. Durometer is A80 (hard). Color is black.

FEP with Silicone Core—The FEP shell is chemically resistant like PTFE, but the silicone core makes these O-rings more compressible. Both the FEP and the silicone are made from FDA-listed materials, so if the shell wears away, your food and beverage process is still protected. These O-rings resist ammonia, animal and vegetable oils, and ethanol. Temperature range is –75° to 400°F. The FEP has a durometer of D55 (hard) and is clear; the silicone has a durometer of A70 (medium) and is red-orange.

FEP with Viton® Fluoroelastomer Core—These O-rings also have a chemical-resistant FEP shell with a compressible core; but if the shell wears away, the core will continue to resist chemicals, such as boric acid, citric acid, isopropyl alcohol, and transmission fluid. Temp. range is –15° to 400°F. The FEP is made from FDA-listed materials for use with food and beverage; it meets ASTM D2116, has a durometer of D55 (hard), and is clear. The Viton® fluoroelastomer core has a durometer of A75 (medium) and is black.

Kalrez 4079—Inherently softer and more compressible than PTFE O-rings with comparable chemical resistance, these O-rings are often used in semiconductor environments. They resist boric acid, citric acid, ammonia, gasoline, ketones, grease, and oils. Temperature range is 30° to 600°F. Durometer is A75 (medium). Color is black.

Kalrez 6375—Similar to Kalrez 4079, but this formulation is preferred for chemical-processing environments. These O-rings resist boric acid, citric acid, ammonia, gasoline, ketones, grease, and oils. Temperature range is 30° to 525°F. Durometer is A75 (medium). Color is black.

Kalrez 7075—These O-rings withstand repeated compression better than any other extreme-chemical O-rings we offer, with chemical resistance similar to Kalrez 4079. They also last longer in thermal cycling applications that have large temperature swings. Temperature range is 30° to 620°F. Durometer is A75 (medium). Color is black.

Viton® ETP Fluoroelastomer—Choose Viton® ETP fluoroelastomer when you want an O-ring that's compressible like Kalrez but will stand up to low temperatures. These O-rings resist boric and citric acids, ketones, hydrocarbons, and animal and vegetable oils. Temperature range is –10° to 400°F. Durometer is A75 (medium). Color is black.

Dash No.	PTFE Pkg. Qty.		PTFE Pkg.	Aflas Pkg. Qty.		Aflas Pkg.	FEP with Silicone Core Each	FEP with Viton® Fluoroelastomer Core Each	Kalrez 4079 Each
004	25	9559K112	$11.52	—	—	—	—	—	9568K61 $27.32
006	25	9559K11	7.74	25	5240T11	$8.77	—	—	9568K11 27.48
007	25	9559K12	8.01	25	5240T12	8.77	—	—	9568K12 27.48
008	25	9559K13	8.52	25	5240T13	8.62	—	—	9568K13 29.00
009	25	9559K14	8.62	25	5240T14	7.88	—	—	9568K14 29.51
010	25	9559K15	8.42	25	5240T15	7.88	9319K912 $8.30	93445K412 $9.89	9568K15 30.18
011	25	9559K16	8.62	25	5240T16	8.33	9319K45 7.15	93445K338 8.13	9568K16 31.21
012	25	9559K17	8.47	25	5240T17	8.77	9319K46 7.15	93445K339 8.13	9568K17 32.39
013	25	9559K18	8.71	25	5240T18	9.52	9319K47 4.24	93445K341 5.09	9568K18 32.56
014	25	9559K19	8.89	25	5240T19	9.81	9319K14 4.24	93445K014 5.09	9568K19 33.07
015	25	9559K21	8.90	25	5240T21	10.41	9319K15 4.24	93445K015 5.09	9568K21 33.91
016	25	9559K22	8.92	25	5240T22	11.00	9319K16 4.24	93445K016 5.09	9568K22 35.78
017	25	9559K61	12.70	10	5240T23	4.75	9319K141 4.24	93445K342 5.09	9568K62 36.97
018	25	9559K62	12.39	10	5240T24	5.05	9319K21 4.24	93445K018 5.09	9568K34 38.15
019	25	9559K114	12.89	10	5240T25	5.50	9319K142 4.24	93445K343 5.09	9568K113 42.13
020	10	9559K63	5.75	10	5240T26	6.09	9319K143 4.24	93445K344 5.09	9568K114 44.79
021	10	9559K115	6.14	10	5240T27	6.84	9319K144 4.24	93445K413 5.09	9568K35 46.47
022	10	9559K116	6.35	10	5240T28	7.44	9319K145 4.24	93445K414 5.09	9568K115 51.55
024	10	9559K118	7.75	10	5240T31	8.62	9319K147 4.63	93445K416 5.56	9568K117 56.45
026	10	9559K121	11.64	5	5240T212	5.16	9319K149 4.63	93445K418 5.56	9568K63 64.11
028	10	9559K123	11.90	5	5240T214	5.95	9319K152 4.63	93445K421 5.56	9568K64 74.94
029	10	9559K124	12.78	5	5240T215	6.08	9319K153 4.63	93445K422 5.56	9568K211 84.47
030	10	9559K125	12.73	5	5240T216	6.22	9319K154 5.05	93445K423 5.91	9568K37 91.41
110	25	9559K23	8.68	15	5240T48	8.62	9319K11 7.09	93445K345 8.36	9568K23 41.37
111	25	9559K24	8.78	15	5240T49	8.62	9319K48 7.09	93445K346 8.36	9568K24 41.88
112	25	9559K25	9.80	15	5240T51	9.22	9319K23 7.09	93445K112 8.36	9568K25 44.44
113	25	9559K26	10.95	15	5240T52	9.66	9319K49 7.09	93445K347 8.36	9568K26 47.13
114	25	9559K27	12.71	15	5240T53	10.41	9319K24 4.43	93445K114 5.16	9568K27 48.16
115	25	9559K28	14.20	15	5240T54	11.00	9319K25 4.43	93445K115 5.16	9568K28 51.04
116	25	9559K29	14.79	15	5240T55	12.34	9319K26 4.43	93445K116 5.16	9568K29 54.43
117	10	9559K64	7.20	15	5240T56	13.67	9319K91 4.43	93445K117 5.16	9568K65 57.48
118	10	9559K153	8.31	10	5240T57	10.11	9319K92 4.43	93445K118 5.16	9568K66 60.20
120	10	9559K155	9.46	10	5240T59	12.19	9319K94 4.43	93445K12 5.16	9568K39 64.94
121	10	9559K156	10.16	10	5240T61	13.08	9319K95 4.70	93445K121 5.56	9568K959 69.75
210	10	9559K31	7.04	10	5240T124	11.89	9319K64 7.87	93445K353 9.07	9568K68 81.91
212	10	9559K33	9.41	10	5240T126	13.83	9319K32 5.24	93445K212 6.04	9568K69 89.20
214	10	9559K35	10.49	5	5240T233	7.43	9319K34 5.24	93445K214 6.04	9568K48 94.97
216	10	9559K37	10.92	5	5240T235	8.78	9319K36 5.26	93445K216 6.02	9568K71 102.26
218	10	9559K39	12.22	5	5240T237	9.81	9319K38 5.26	93445K218 6.02	9568K72 111.41
220	10	9559K42	13.68	5	5240T239	9.97	9319K41 5.24	93445K22 6.04	9568K73 126.69
222	5	9559K44	8.36	5	5240T242	10.03	9319K52 5.24	93445K222 6.04	9568K74 139.23

Other Dash Numbers

PTFE—Choose a Dash Number: 003 to 456 ... 9559K1
Aflas—Choose a Dash Number: 023 to 350 ... 5240T111
FEP with Silicone Core—Choose a Dash Number: 023 to 475 ... 9319K99
FEP with Viton® Fluoroelastomer Core—Choose a Dash Number: 023 to 475 ... 93445K811
Kalrez 4079—Choose a Dash Number: 001 to 339 ... 9568K888

Metric Sizes

PTFE—Choose a Width: 1, 1.5, 1.6, 1.8, 2, 2.5, 3 mm; Choose an ID: 2 to 60 mm ... 1196N4
Kalrez 4079—Choose a Width: 1.5, 1.6, 2, 2.5 mm; Choose an ID: 2.5 to 26 mm ... 1278N1

Other Materials

Kalrez 6375—Choose a Dash Number: 006 to 326 ... 1108T11
Kalrez 7075—Choose a Dash Number: 003 to 218 ... 1280N1
Viton® ETP Fluoroelastomer—Choose a Dash Number: 005 to 219 ... 2857T11

Water- and Steam-Resistant High-Temperature EPDM O-Rings



These are the highest temperature EPDM O-rings we offer. In addition to water and steam resistance, they also have broad chemical resistance, including brake fluids and acids. Temperature range is –70° to 300° F. Durometer is A70 (medium). Color is black.

Dash No.	Pkg. Qty		Pkg.
003	100	1289N103	$7.20
004	100	1289N104	6.67
005	100	1289N105	6.67
006	100	1289N106	6.29
007	100	1289N107	6.36
008	100	1289N108	6.13
009	100	1289N109	6.13
010	100	1289N11	6.13
011	100	1289N111	6.24
012	100	1289N112	6.13
013	100	1289N113	6.36
014	100	1289N114	7.16
015	50	1289N115	5.24
016	50	1289N116	5.51
017	50	1289N117	5.73
018	50	1289N118	6.16
019	50	1289N119	6.29
020	50	1289N12	$6.76
021	50	1289N121	6.91
022	50	1289N122	7.09
024	50	1289N124	7.60
026	25	1289N126	5.69
028	25	1289N128	6.11
029	25	1289N129	6.96
030	25	1289N13	7.49
031	10	1289N131	4.82
108	100	1289N152	6.36
109	100	1289N153	6.44
110	100	1289N154	6.89
111	100	1289N155	7.36
112	50	1289N156	5.60
113	50	1289N157	6.02
115	50	1289N159	6.69
116	50	1289N16	7.04
117	25	1289N161	$5.18
118	25	1289N162	5.42
120	25	1289N164	5.89
122	25	1289N166	6.24
128	10	1289N172	4.80
153	5	1289N197	6.24
202	50	1289N214	6.40
210	25	1289N222	5.58
211	25	1289N223	5.64
212	25	1289N224	5.98
214	25	1289N226	6.56
218	10	1289N23	4.80
220	10	1289N232	5.02
222	10	1289N234	5.11
224	10	1289N236	6.02
230	10	1289N242	7.36
385	1	1289N284	14.20

Other Dash Numbers

EPDM—Choose a Dash Number: 001 to 346 ..... 1289N1

Metric Sizes

EPDM—Choose a Width: 1, 1.5, 2, 2.5 mm; Choose an ID: 2 to 30 mm 1289N3

Extreme-Pressure Metal O-Rings

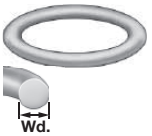

Made from silver-plated 321 stainless steel, these O-rings can withstand pressures up to 5,000 psi. They meet SAE standard AS9373. O-rings resist boric acid, acetone, benzene, isopropyl alcohol, and hydraulic oils. Temperature range is –40° to 800° F. Durometer is C28 (hard). Color is silver.

ID	OD	Silver-Plated Stainless Steel	
0.062″ Wide			
0.376″	1/2″	1181N11	$18.33
0.501″	5/8″	1181N12	18.43
0.626″	3/4″	1181N13	18.52
0.062″ Wide (Cont.)			
0.751″	7/8″	1181N14	$18.62
0.876″	1″	1181N15	18.72
1″	1 1/8″	1181N16	18.82
0.062″ Wide (Cont.)			
1.126″	1 1/4″	1181N17	$18.92
1.251″	1 3/8″	1181N18	19.02
1.376″	1 1/2″	1181N19	19.12

Chemical-Resistant Super-Resilient Viton® Fluoroelastomer O-Rings



These durable O-rings bounce back to shape after repeated compression better than other Viton® Fluoroelastomer O-rings. They offer excellent resistance to boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. Temperature range is –15° to 400° F. Durometer is A75 (medium). Color is black. All are sized to the SAE standard AS568 and meet ASTM D2000/SAE J200, unless noted.

Dash No.	Super-Resilient Viton® Fluoroelastomer Pkg. Qty.		Pkg.
010	25	1288N11	$4.11
011	25	1288N111	4.49
012	25	1288N112	4.80
013	25	1288N113	5.22
014	25	1288N114	$5.67
016	10	1288N116	3.78
017	10	1288N117	3.89
018	10	1288N118	3.96
110	5	1288N141	$3.11
111	5	1288N142	3.18
112	5	1288N143	3.22
113	5	1288N144	3.36
114	5	1288N145	$3.42
115	5	1288N146	3.51
210	5	1288N17	4.47
214	5	1288N174	5.42

Other Sizes

Viton® Fluoroelastomer—Choose a Dash Number: 001 to 446 ..... 1288N1

Viton® Fluoroelastomer—Choose a Width: 1, 1.5, 1.6, 1.9, 2, 2.4, 2.5, 3, 3.1, 3.5, 4, 5, 5.7, 6 mm; Choose an ID: 1.5 to 300 mm ..... 1295N1★

★ Not sized to SAE AS568.

Food-and-Beverage O-Rings



All of these O-rings are made from FDA-listed materials for use with food and beverage. They are sized to the SAE standard AS568 and meet ASTM D2000/SAE J200.

Steam-Resistant EPDM—These EPDM O-rings are peroxide cured, so they're more resistant to high temperatures than standard EPDM. Temperature range is –40° to 250° F. Durometer is A70 (medium). Color is black.

Oil-Resistant Buna-N—These O-rings resist grease, hydraulic oils, and abrasion. Temperature range is –20° to 250° F. Durometer is A70 (medium). Color is black.

Kalrez 6230—These high-purity O-rings are 3-A certified for dairy and meet USP Class VI. They withstand chemicals, acids, and concentrates used in food, beverage, and pharmaceutical applications. Temperature range is 30° to 500° F. Durometer is A75 (medium). Color is black.

Dash No.	Steam-Resistant EPDM Pkg. Qty.		Pkg.
010	25	9561K11	$3.00
011	25	9561K12	3.04
012	25	9561K13	3.57
013	25	9561K14	5.18
014	25	9561K15	5.36
015	25	9561K16	$6.07
016	25	9561K17	6.07
017	25	9561K18	6.21
018	25	9561K19	6.50
019	10	9561K21	2.86
020	10	9561K22	$3.14
022	10	9561K24	3.17
110	25	9561K41	3.57
111	25	9561K25	3.57
112	25	9561K26	4.29
113	25	9561K27	$6.07
114	25	9561K28	6.43
115	25	9561K29	6.79
210	10	9561K45	2.86
214	10	9561K49	3.43

Other Dash Numbers

Steam-Resistant EPDM—Choose a Dash Number: 021-221 ..... 9561K99

Other Materials

Oil-Resistant Buna-N—Choose a Dash Number: 010 to 221 ..... 9555K101

Kalrez 6230—Choose a Dash Number: 001 to 216 ..... 1285N1

Super-Resilient High-Temperature Silicone O-Rings

In addition to offering excellent recovery from compression, these silicone O-rings can withstand temperatures from –60° to 400° F. They resist weather, detergents, and salt water. They're made from FDA-listed materials for use with food and beverage and are sized to the SAE standard AS568. All meet ASTM D2000/SAE J200. Durometer is A70 (medium). Color is red.



Dash No.	Pkg. Qty.	Super-Resilient High-Temperature Silicone	Pkg.
006	25	9396K11	$3.66
007	25	9396K12	3.71
008	25	9396K13	3.77
010	25	9396K15	3.81
011	25	9396K16	3.86
012	50	9396K17	7.47
013	50	9396K18	7.77
014	50	9396K19	8.11
015	50	9396K21	$8.20
016	50	9396K22	8.29
017	50	9396K103	8.29
018	50	9396K65	8.40
109	50	9396K74	7.79
110	50	9396K23	7.79
111	50	9396K24	8.00
112	100	9396K25	12.52
113	100	9396K26	$12.68
114	100	9396K27	12.77
115	50	9396K28	7.88
116	50	9396K29	8.37
210	50	9396K31	10.48
212	25	9396K33	5.75
214	25	9396K35	9.16
218	25	9396K39	10.79

Other Dash Numbers

Super-Resilient High-Temperature Silicone—Choose a Dash Number: 001 to 475 ..... 9396K6

Clean Room O-Rings

These O-rings are made in a Class 10,000 clean room. All O-rings are sized to the SAE standard AS568 and meet ASTM D2000/SAE J200.



Oil-Resistant Buna-N—These O-rings are made from FDA-listed materials for use with food and beverage. They resist animal and vegetable oils, grease, and water. Temperature range is –35° to 250° F. Durometer is A70 (medium). Color is white.

Chemical-Resistant Viton® Fluoroelastomer—These O-rings resist citric and phosphoric acid, alcohol, and fuels. Temperature range is –15° to 400° F. Durometer is A75 (medium). Color is black.

High Purity Chemical-Resistant Viton® Fluoroelastomer—These are the highest purity chemical-resistant O-rings we offer. In addition to broad chemical resistance, these O-rings are 3-A certified for dairy and meet USP Class VI. Temperature range is 25° to 450° F. Durometer is A70 (medium). Color is white.

High Purity High-Temperature Silicone—These O-rings stand up to temperatures from –75° to 400° F. They are 3-A certified for dairy and meet USP Class VI. Durometer is A70 (medium). Color is clear.

Dash No.	Oil-Resistant Buna-N Pkg. Qty.			Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.			High Purity: Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.			High Purity: High-Temperature Silicone Pkg. Qty.		
006	25	1307N104	$9.00	25	1309N106	$9.09	5	1163N104	$7.03	5	1162N104	$7.58
007	25	1307N105	9.00	25	1309N107	9.10	5	1163N105	7.58	5	1162N105	7.60
008	25	1307N106	8.92	25	1309N108	9.32	5	1163N106	7.60	5	1162N106	7.62
010	25	1307N108	9.04	25	1309N11	9.57	5	1163N108	7.65	5	1162N108	7.67
011	25	1307N109	9.05	25	1309N111	9.82	5	1163N109	7.67	5	1162N109	8.33
012	25	1307N112	9.07	25	1309N112	10.12	5	1163N155	8.33	5	1162N112	8.36
013	25	1307N113	8.80	25	1309N113	10.45	5	1163N112	8.36	5	1162N113	8.38
014	25	1307N114	8.85	25	1309N114	10.75	5	1163N113	8.38	5	1162N114	8.41
015	25	1307N115	9.05	25	1309N115	9.37	5	1163N114	8.41	5	1162N115	9.09

Other Dash Numbers

Oil-Resistant Buna-N—Choose a Dash Number: 006 to 221 ..... 1307N1
Chemical-Resistant Viton® Fluoroelastomer—Choose a Dash Number: 001 to 118 ..... 1309N2
High Purity Chemical-Resistant Viton® Fluoroelastomer—Choose a Dash Number: 003 to 232 ..... 1163N1
High Purity High-Temperature Silicone—Choose a Dash Number: 003 to 232 ..... 1162N2

Mil. Spec. O-Rings

All of these O-rings are sized to the SAE standard AS568 and meet ASTM D2000/SAE J200.



MIL-R-83248C Chemical-Resistant Viton® Fluoroelastomer—These O-rings resist boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. Temperature range is 0° to 400° F. Durometer is A75 (medium). Color is black.

MIL-R-25988 Wide-Temperature Fluorosilicone—With a temperature range of –80° to 400° F, these O-rings stand up to a wide range of temperatures. They resist boric acid, citric acid, and ethanol. Durometer is A70 (medium). Color is blue.

MIL-P-25732 Oil-Resistant Buna-N—Choose these O-rings for their resistance to hydraulic oils, gasoline, and animal and vegetable oils. Temperature range is –65° to 275° F. Durometer is A70 (medium). Color is black.

MIL-P-5315 Oil-Resistant Buna-N—Just as resistant to hydraulic oils, gasoline, and animal and vegetable oils as other Buna-N, but these O-rings do not stand up to high temperatures. Temperature range is –65° to 155° F. Durometer is A65 (medium). Color is black.

MIL-P-83461 Oil-Resistant Buna-N—These O-rings resist hydraulic oils, gasoline, and animal and vegetable oils. Temperature range is –65° to 275° F. Durometer is A70 (medium). Color is black.

MIL-I-45208 Oil-Resistant Buna-N—Also meet SAE standard AS3578. These O-rings resist abrasion and hydraulic oils. Temperature range is –20° to 250° F. Durometer is A65 (medium). Color is black.

Dash No.	MIL-R-83248C Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.			MIL-R-25988 Wide-Temperature Fluorosilicone Pkg. Qty.			Dash No.	MIL-R-83248C Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.			MIL-R-25988 Wide-Temperature Fluorosilicone Pkg. Qty.		
006	50	1201T16	$4.82	5	8333T116	$1.75	108	25	1201T44	$5.84	5	8333T167	$5.25
007	50	1201T17	5.12	5	8333T117	1.88	110	25	1201T46	6.20	5	8333T169	6.00
008	50	1201T18	5.12	5	8333T118	2.12	111	25	1201T47	6.33	5	8333T17	6.25
010	50	1201T21	5.73	5	8333T12	2.25	112	25	1201T48	6.47	5	8333T171	6.50
011	50	1201T22	6.35	5	8333T121	2.50	113	25	1201T49	6.77	5	8333T172	6.88
012	50	1201T23	6.97	5	8333T122	2.75	114	25	1201T51	7.10	5	8333T173	7.12

Other Dash Numbers

MIL-R-83248C Chemical Resistant Viton® Fluoroelastomer—Choose a Dash Number: 001 to 475 ..... 1201T111
MIL-R-25988 Wide-Temperature Fluorosilicone—Choose a Dash Number: 001 to 341 ..... 8333T11

Other Mil Spec. O-Rings

MIL-P-25732 Oil-Resistant Buna-N—Choose a Dash Number: 002 to 328 ..... 4198T11
MIL-P-5315 Oil-Resistant Buna-N—Choose a Dash Number: 001 to 453 ..... 4464T11
MIL-P-83461 Oil-Resistant Buna-N—Choose a Dash Number: 003 to 433 ..... 4679T11
MIL-I-45208 Oil-Resistant Buna-N—Choose a Dash Number: 001 to 439 ..... 5018T11

Backup Rings

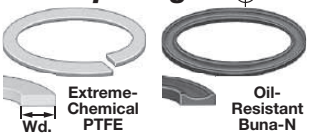

Extend the life of your O-ring and improve its performance in high-pressure applications with the support of a backup ring. These backup rings fit O-rings that are sized to the SAE standard AS568.

Extreme-Chemical PTFE—These backup rings are virtually unaffected by most chemicals, including citric acid and acetone. They have a rectangular profile and are split, so they install more easily than backup rings that are not split. Durometer is D55 (hard). Temperature range is -300° to 500°F. Color is white.

Oil-Resistant Buna-N—In addition to oil, these backup rings also resist grease and hydraulic oils. Also known as contoured backup rings, one side is concave to provide uniform contact with round-profile O-rings. They are not split. Durometer is A90 (hard). Temperature range is -40° to 250°F. Color is black.

Dash No.	ID	Pkg. Qty.	Extreme-Chemical PTFE	Pkg.
0.053″ Wide—0.045″ to 0.052″ Thick.				
005	0.124″	50	9560K31	$9.22
006	0.140″	50	9560K32	9.07
007	0.171″	50	9560K33	9.87
008	0.202″	50	9560K34	9.25
009	0.234″	50	9560K35	10.77
010	0.265″	50	9560K36	9.80
011	0.327″	50	9560K37	9.57
012	0.390″	50	9560K38	9.36
013	0.455″	50	9560K39	9.80
014	0.518″	50	9560K41	10.02
015	0.580″	50	9560K42	10.22
016	0.643″	50	9560K43	11.46
017	0.705″	50	9560K44	12.79
018	0.768″	50	9560K45	13.10
0.086″ Wide—0.045″ to 0.052″ Thick.				
110	0.390″	50	9560K51	$9.74
111	0.452″	50	9560K52	10.17
112	0.515″	50	9560K53	10.22
113	0.577″	50	9560K54	11.11
114	0.640″	50	9560K55	11.11
115	0.702″	50	9560K56	12.32
116	0.765″	50	9560K57	12.31
117	0.832″	25	9560K49	7.85
118	0.895″	50	9560K58	13.61
119	0.957″	25	9560K21	8.98
120	1.020″	25	9560K22	8.95
121	1.082″	25	9560K23	8.69
0.119″ Wide—0.045″ to 0.052″ Thick.				
210	0.766″	50	9560K61	12.50
0.119″ Wide—0.045″ to 0.052″ Thick. (Cont.)				
211	0.828″	50	9560K62	$12.64
212	0.891″	50	9560K63	13.26
213	0.953″	50	9560K64	14.54
214	1.016″	50	9560K65	14.57
215	1.078″	25	9560K66	10.80
216	1.141″	25	9560K67	10.77
217	1.203″	25	9560K68	12.28
218	1.266″	25	9560K69	11.13
219	1.334″	25	9560K71	11.14
222	1.522″	25	9560K74	14.44
0.183″ Wide—0.065″ to 0.075″ Thick.				
328	1.888″	10	9560K84	10.74
329	2.013″	10	9560K85	12.38
330	2.138″	10	9560K86	12.55

Other Materials

Oil-Resistant Buna-N—Choose a Dash Number: 004 to 475 ..... 5288T2

O-Rings for Straight Thread Tube Fittings



Also known as Boss O-rings, all are for use in straight-thread tube fittings. They are sized to the SAE standard AS568 and meet ASTM D2000/SAE J200.

Oil-Resistant Buna-N—The most widely used O-ring material, Buna-N also resists grease, hydraulic oils, and abrasion. Temperature range is -20° to 250°F. Durometer is A90 (hard). Color is black.

Chemical-Resistant Viton® Fluoroelastomer—Choose these O-rings for their excellent resistance to boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. Temperature range is 0° to 400°F. Durometer is A90 (hard). Color is black.

High-Temperature Silicone—O-rings stand up to temperatures from -60° to 400°F. They resist weather, detergents, and salt water. They're made from FDA-listed materials for use with food and beverage. Durometer is A70 (medium). Color is red-orange.

Steam-Resistant EPDM—These O-rings are peroxide cured, so they're more resistant to high temperatures than standard EPDM. They also resist water and detergents. Temperature range is -70° to 250°F. Durometer is A70 (medium). Color is black.

MIL-R-83248C Chemical-Resistant Viton® Fluoroelastomer—These O-rings meet strict military standards. They resist boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. Temperature range is 0° to 400°F. Durometer is A75 (medium). Color is black.

Chemical-Resistant Brown Viton® Fluoroelastomer—Because these O-rings are brown, they're easy to identify. They have excellent resistance to boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. Temperature range is -10° to 400°F. Durometer is A75 (medium).

Refrigerant-Resistant Neoprene—These O-rings resist Freon 12, ethylene glycol, and ozone. Temperature range is -35° to 250°F. Durometer is A70 (medium). Color is black.

Extreme-Chemical Kalrez 4079—Often used in semiconductor environments, these O-rings resist boric acid, citric acid, ammonia, gasoline, ketones, grease, and oils. Temperature range is 30° to 600°F. Durometer is A75 (medium). Color is black.

High-Strength Polyurethane—These tear-resistant O-rings resist salt water and gasoline. Temperature range is -40° to 200°F. Durometer is A70 (medium). Color is black.

Dash No.	Fits Tube OD	Wd.	ID	OD	Oil-Resistant Buna-N Pkg. Qty.		Pkg.	Chemical-Resistant Viton® Fluoroelastomer Pkg. Qty.		Pkg.	High-Temperature Silicone Pkg. Qty.		Pkg.	Steam-Resistant EPDM Pkg. Qty.		Pkg.
901	3/32″	0.056″	0.185″	0.297″	100	9751K111	$2.40	25	9752K111	$2.44	50	9396K419	$5.64	100	9557K435	$6.26
902	1/8″	0.064″	0.239″	0.367″	100	9751K112	2.41	25	9752K112	2.58	50	9396K421	4.25	100	9557K436	6.56
903	3/16″	0.064″	0.301″	0.429″	100	9751K113	3.03	25	9752K113	2.68	50	9396K422	4.31	90	9557K437	6.07
904	1/4″	0.072″	0.351″	0.495″	100	9751K114	3.35	25	9752K114	3.15	50	9396K423	4.39	90	9557K438	6.14
905	5/16″	0.072″	0.414″	0.558″	100	9751K115	3.98	25	9752K115	3.32	50	9396K424	6.98	90	9557K439	6.34
906	3/8″	0.078″	0.468″	0.624″	100	9751K116	4.35	25	9752K116	3.42	50	9396K425	7.40	80	9557K441	6.28
907	7/16″	0.082″	0.530″	0.694″	100	9751K117	4.75	25	9752K117	3.89	50	9396K426	7.60	80	9557K442	6.40
908	1/2″	0.087″	0.644″	0.818″	100	9751K118	5.38	25	9752K118	4.66	50	9396K427	7.89	80	9557K443	6.46
909	9/16″	0.097″	0.706″	0.900″	100	9751K119	6.68	25	9752K119	5.35	50	9396K428	7.16	80	9557K444	6.96
910	5/8″	0.097″	0.755″	0.949″	100	9751K121	7.43	25	9752K121	6.24	50	9396K429	9.86	80	9557K445	7.36
911	11/16″	0.116″	0.863″	1.095″	100	9751K122	8.26	25	9752K122	6.74	25	9396K431	7.08	70	9557K446	8.02
912	3/4″	0.116″	0.924″	1.156″	100	9751K123	9.53	25	9752K123	8.45	25	9396K432	7.39	70	9557K447	8.03
913	13/16″	0.116″	0.986″	1.218″	100	9751K124	10.53	25	9752K124	8.91	25	9396K433	7.90	70	9557K448	8.24
914	7/8″	0.116″	1.047″	1.279″	100	9751K125	12.20	25	9752K125	9.83	25	9396K434	8.20	70	9557K449	8.68
916	1″	0.116″	1.171″	1.403″	100	9751K126	13.23	25	9752K126	10.48	25	9396K435	9.13	70	9557K451	8.86
918	1 1/8″	0.116″	1.355″	1.587″	100	9751K127	13.77	25	9752K127	11.11	25	9396K436	10.46	60	9557K452	9.13
920	1 1/4″	0.118″	1.475″	1.711″	100	9751K128	14.81	25	9752K128	13.09	25	9396K437	11.39	60	9557K453	9.15
924	1 1/2″	0.118″	1.720″	1.956″	100	9751K129	14.01	10	9752K833	8.49	10	9396K438	5.30	50	9557K454	9.24
928	1 3/4″	0.118″	2.090″	2.326″	100	9751K131	14.98	5	9752K834	5.81	10	9396K511	5.99	40	9557K455	9.33
932	2″	0.118″	2.337″	2.573″	100	9751K132	14.96	5	9752K835	6.43	10	9396K512	5.71	40	9557K456	9.30

Other Materials

MIL-R-83248C Chemical-Resistant Viton® Fluoroelastomer—Choose a Dash Number: 902 to 932 ..... 1201T9
Chemical-Resistant Brown Viton® Fluoroelastomer—Choose a Dash Number: 901 to 924 ..... 5267T9
Refrigerant-Resistant Neoprene—Choose a Dash Number: 904 to 916 ..... 94115K9
Extreme-Chemical Kalrez 4079—Choose a Dash Number: 902 to 910 ..... 9568K9
High-Strength Polyurethane—Choose a Dash Number: 901 to 932 ..... 9558K9

For information about O-rings, see page 3540. For O-ring dimensions, see pages 3540-3545.

O-Ring Assortments

All assortments come in a plastic case. Inch O-rings are sized to the SAE standard AS568. **Round-profile** O-rings are for most sealing applications. **Square-profile** O-rings have flat edges, which cover more surface than round-profile O-rings for a better seal in static applications, such as in faucets. **X-profile** O-rings are double-seal style; they have four points of contact for a better seal than round-profile O-rings.

Oil-Resistant Buna-N—Buna-N is the most widely used O-ring material. O-rings meet ASTM D2000; the 380-piece metric set also meets JIS/JASO. Temperature range is -25° to 250° F.

Chemical-Resistant Viton® Fluoroelastomer—These O-rings have excellent resistance to boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. O-rings meet ASTM D2000/SAE J200. Temperature range is –15° to 400° F.

High-Temperature Silicone—These O-rings stand up to temperatures from –65° to 450° F. They resist weather, detergents, and salt water. They're made from FDA-listed materials for use with food and beverage.



Steam-Resistant EPDM—In addition to steam, these O-rings resist water and isopropyl alcohol. They meet ASTM D2000/SAE J200. Temp. range is –60° to 250° F.

Extreme-Chemical PTFE—PTFE is a hard material that is chemically inert to a wide range of chemicals, including citric acid, grease, and acetone. Temperature range is –100° to 500° F.

No. of Pieces	No. of Sizes	Dash Nos.	Durometer		
Round-Profile Inch Sizes					
Oil-Resistant Buna-N—Black					
200	12	010-012, 110-116, 211-212	A70 (Medium)	9486K63	$9.25
382	30	006-012, 110-116, 210-222, 325-327	A70 (Medium)	9408K41	24.76
611	37	006-012, 110-116, 210-222, 325-334	A70 (Medium)	9399K11	138.32
Ultra-Compressible Oil-Resistant Buna-N—Black					
382	30	006-012, 110-116, 210-222, 325-327	A50 (Soft)	9408K13	42.50
Abrasion- and Oil-Resistant Buna-N—Black					
382	30	006-012, 110-116, 210-222, 325-327	A90 (Hard)	9408K12	57.14
Chemical-Resistant Viton® Fluoroelastomer—Black					
180	30	006-012, 110-116, 210-222, 325-327	A75 (Medium)	9511K31	97.16
611	37	006-012, 110-116, 210-222, 325-334	A75 (Medium)	93145K11	281.67
High-Temperature Silicone—Red-Orange					
200	12	010-012, 110-116, 211-212	A70 (Medium)	93135K31	16.13
Steam-Resistant EPDM—Black					
200	12	010-012, 110-116, 211-212	A70 (Medium)	93045K11	9.91
Extreme-Chemical PTFE—White					
325	36	005-018, 110-121, 210-219	D55 (Hard)	94895K31	117.64
Round-Profile Inch Sizes—Assortments with Standard O-Rings and O-Rings for Straight-Thread Tube Fittings					
Oil-Resistant Buna-N—Black					
1,110	150	001-046, 110-151, 210-237, 325-338, 901-914, 916, 918, 920, 924, 928, 932	A70 (Medium)	9000K14	178.85
Chemical-Resistant Viton® Fluoroelastomer—Black					
1,110	150	001-046, 110-151, 210-237, 325-338, 901-914, 916, 918, 920, 924, 928, 932	A75 (Medium)	9465K11	502.28
Round-Profile Inch Sizes—Assortments with O-Rings for Straight-Thread Tube Fittings					
Oil-Resistant Buna-N—Black					
212	20	901-914, 916, 918, 920, 924, 928, 932	A90 (Hard)	9749K29	25.84
Abrasion- and Chemical-Resistant Viton® Fluoroelastomer—Black					
212	20	901-914, 916, 918, 920, 924, 928, 932	A90 (Hard)	9749K39	101.93
Round-Profile Inch Sizes—Dual-Material Assortments					
Oil-Resistant Buna-N—Black**/Chemical-Resistant Viton® Fluoroelastomer—**Brown					
1,168	19	006-012, 110-116, 210-214	A70/75 (Med.)	9726K25	176.87
Steam-Resistant EPDM—Black**/High-Temperature Silicone—**Red					
1,168	19	006-012, 110-116, 210-214	A70 (Medium)	9726K27	156.30
Square-Profile Inch Sizes					
Oil-Resistant Buna-N—Black					
382	30	006-012, 110-116, 210-222, 325-327	A70 (Medium)	9408K14	64.29
X-Profile Inch Sizes					
Oil-Resistant Buna-N—Black					
226	36	005-018, 110-121, 210-219	A70 (Medium)	93065K62	26.90

No. of Pieces	No. of Sizes	Widths and IDs	Durometer		
Round-Profile Metric Sizes					
Oil-Resistant Buna-N—Black					
380	36	1.9 mm Wd.—2.8, 3.8, 4.8, 5.8, 6.8, 7.8, 8.8, 9.8 mm IDs; 2.4 mm Wd.—9.8, 10.8, 11, 11.8, 12.8,13.8, 14.8, 15.8, 17.8, 19.8, 20.8, 21.8 mm IDs; 3.1 mm Wd.—24.4, 29.4 mm IDs; 3.5 mm Wd.—21.7, 22.1, 23.7, 24.7, 25.2, 25.7, 27.7, 28.7, 29.2, 29.7, 30.7, 31.2 mm IDs; 4.0 mm Wd.—14.5, 23.5 mm IDs	A70 (Medium)	93025K41	$31.64
385	30	2.0 mm Wd.—3, 4, 5, 6, 7, 8, 10 mm IDs; 2.5 mm Wd.—10, 11, 12, 14, 16, 17, 19 mm IDs; 3.0 mm Wd.—19, 20, 22, 24, 25, 27, 28, 30, 32, 33, 35, 36, 38 mm IDs; 4.0 mm Wd.—38, 41, 44 mm IDs	A70 (Medium)	9690K21	28.42
500	36	1.5 mm Wd.—5, 13, 16 mm IDs; 1.6 mm Wd.—2.2, 3.1, 4.1, 7.1, 9.1, 10.1, 13.1 mm IDs; 2.0 mm Wd.—4, 6, 8, 9, 10, 12, 14, 16, 19, 20 mm IDs; 2.4 mm Wd.—4.3, 5.3, 5.6, 7.6, 8.3, 8.6 mm IDs; 2.5 mm Wd.—10, 13-19 mm IDs; 3 mm Wd.—9, 10, 11 mm IDs	A70 (Medium)	9443K36	23.94
Abrasion- and Oil-Resistant Buna-N—Black					
385	30	2.0 mm Wd.—3, 4, 5, 6, 7, 8, 10 mm IDs; 2.5 mm Wd.—10, 11, 12, 14, 16, 17, 19 mm IDs; 3.0 mm Wd.—19, 20, 22, 24, 25, 27, 28, 30, 32, 33, 35, 36, 38 mm IDs; 4.0 mm Wd.—38, 41, 44 mm IDs	A90 (Hard)	9690K24	36.46
Chemical-Resistant Viton® Fluoroelastomer—Black					
500	36	1.5 mm Wd.—5, 13, 16 mm IDs; 1.6 mm Wd.—2.2, 3.1, 4.1, 7.1, 9.1, 10.1, 13.1 mm IDs; 2.0 mm Wd.—4, 6, 8, 9, 10, 12, 14, 16, 19, 20 mm IDs; 2.4 mm Wd.—4.3, 5.3, 5.6, 7.6, 8.3, 8.6 mm IDs; 2.5 mm Wd.—10, 13-19 mm IDs; 3 mm Wd.—9, 10, 11 mm IDs	A75 (Medium)	9443K39	108.65

Backup Ring Assortments

Improve performance and extend the life of O-rings by supporting them in high-pressure applications with a backup ring. Temperature range is -100° to 500° F. This assortment comes in a plastic case.

No. of Pieces	No. of Sizes	Dash Nos.	Durometer		
Extreme-Chemical PTFE—White					
325	36	005-018, 110-121, 210-219	D55 (Hard)	9560K15	$93.33

O-Ring Cord Stock



Round Profile



Square Profile



X Profile

Make your own O-rings from this cord stock. It meets ASTM D2000. **Round-profile** cord stock is for most sealing applications. **Square-profile** cord stock has flat edges on all four sides, which covers more surface than round profile for a better seal in static applications, such as hose, pipe, and faucet connections. **X-profile** cord stock is double-seal style; it has four points of contact for a better seal than round profile.

Oil-Resistant Buna-N—The most widely used material for O-rings. Temperature range is –25° to 212° F. Durometer is A70 (medium), except ultra compressible is A50 (soft) and abrasion resistant is A90 (hard). Color is black, except food and beverage cord stock is white. Food and beverage Buna-N is made from FDA-listed materials.

Chemical-Resistant Viton® Fluoroelastomer—This cord stock offers excellent resistance to boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. Temperature range is 5° to 395° F. Durometer is A75 (medium), except ultra compressible is A55 (soft) and abrasion resistant is A90 (hard). Color is black, except food and beverage cord stock is white and colored cord stock is brown. Food and beverage Viton® fluoroelastomer is made from FDA-listed materials.

High-Temperature Silicone—Able to handle temperatures from –60° to 400° F, this cord stock resists ozone, isopropyl alcohol, and salt water. Durometer is A70 (medium) and color is red-orange, except ultra compressible is A50 (soft) and color is black.

Steam-Resistant EPDM—In addition to steam, this cord stock also resists water, acetone, ethanol, and ammonia. Temperature range is –40° to 212° F. Durometer is A70 (medium). Color is black.

Refrigerant-Resistant Neoprene—Choose this cord stock for its resistance to Freon 12 and ozone. Temperature range is –30° to 212° F. Durometer is A70 (medium), except ultra compressible is A50 (soft). Color is black.

Extreme-Chemical Viton® ETP Fluoroelastomer—More chemical resistant than standard Viton® fluoroelastomer, this cord stock resists phosphoric acid, nitric acid, and hydrocarbons. Temp. range is 15° to 395° F. Durometer is A75 (medium). Color is black.

Round-Profile Inch Sizes

Fractional Wd.	Actual Wd.	Choose a Length, ft.	Oil-Resistant Buna-N	Per Ft.	Chemical-Resistant Viton® Fluoroelastomer	Per Ft.	High-Temperature Silicone	Per Ft.	Steam-Resistant EPDM	Per Ft.
Multipurpose										
1/32	0.039″	3, 10, 20, 50, 100	_____	____	96515K11	$1.09	_____	____	_____	____
1/16	0.070″	3, 10, 20, 50, 100	9407K21	$0.21	96515K41	1.38	96505K21	$0.28	9616K11	$0.25
3/32	0.103″	3, 10, 20, 50, 100	9407K11	.27	96515K42	1.83	96505K22	.37	9616K12	.41
1/8	0.139″	3, 10, 20, 50, 100	9407K12	.40	96515K43	2.43	96505K23	.54	9616K13	.50
3/16	0.210″	3, 10, 20, 50, 100	9407K13	.48	96515K44	3.63	96505K24	.77	9616K14	.58
1/4	0.275″	3, 10, 20, 50, 100	9407K14	.52	96515K45	5.38	96505K25	.89	9616K15	.68
5/16	0.313″	3, 10, 20, 50, 100	9407K15	.62	96515K46	7.74	96505K26	1.22	9616K16	.74
3/8	0.375″	3, 10, 20, 50, 100	9407K16	.78	96515K47	9.87	96505K27	1.67	9616K17	.79
7/16	0.437″	3, 10, 20, 50, 100	9407K17	1.29	96515K49	13.27	96505K47	2.51	9616K37	.98
1/2	0.500″	3, 10, 20, 50, 100	9407K22	1.61	96515K48	16.45	96505K28	2.78	9616K18	1.25
5/8	0.625″	3, 10, 20, 50, 100	9407K29	2.45	_____	____	96505K48	5.04	9616K38	2.14
3/4	0.750″	3, 10, 20, 50, 100	9407K23	3.29	_____	____	96505K29	7.16	9616K19	3.12
1	1.000″	3, 10, 20, 50, 100	9407K24	5.03	_____	____	_____	____	9616K21	4.75

Fractional Wd.	Actual Wd.	Choose a Length, ft.	Oil-Resistant Buna-N	Per Ft.	Chemical-Resistant Viton® Fluoroelastomer	Per Ft.	High-Temperature Silicone	Per Ft.	Refrigerant-Resistant Neoprene	Per Ft.
Ultra-Compressible										
1/16	0.070″	3, 10, 20, 50, 100	9864K23	$0.50	7643K71	$1.62	5229T47	$0.49	1430K51	$0.50
3/32	0.103″	3, 10, 20, 50, 100	9864K25	.55	7643K73	1.98	5229T49	.62	1430K53	.61
1/8	0.139″	3, 10, 20, 50, 100	9864K27	.65	7643K75	2.61	5229T51	.86	1430K55	.62
3/16	0.210″	3, 10, 20, 50, 100	9864K29	.82	7643K77	3.98	5229T53	1.50	1430K57	.88
1/4	0.275″	3, 10, 20, 50, 100	9864K31	1.30	7643K79	6.13	5229T55	2.31	1430K59	1.30
5/16	0.313″	3, 10, 20, 50, 100	9864K33	1.51	7643K81	7.81	5229T57	2.84	1430K61	1.54
3/8	0.375″	3, 10, 20, 50, 100	9864K35	1.97	7643K83	10.63	5229T59	2.91	1430K63	1.97
7/16	0.437″	3, 10, 20, 50, 100	9864K37	2.63	7643K85	16.05	5229T61	3.56	1430K65	2.64
1/2	0.500″	3, 10, 20, 50, 100	9864K39	3.03	7643K87	19.30	5229T63	4.84	1430K67	3.12
5/8	0.625″	3, 10, 20, 50, 100	9864K41	4.51	_____	____	5229T65	6.42	1430K69	5.42
3/4	0.750″	3, 10, 20, 50, 100	9864K43	6.12	_____	____	5229T67	8.66	1430K71	7.53
1	1.000″	3, 10, 20, 50, 100	9864K45	11.22	_____	____	5229T69	13.77	1430K73	8.67

	Choose a Fractional Width	Choose a Length, ft.	
Other Materials			
Colored (Brown) Chemical-Resistant Viton® Fluoroelastomer	1/16, 3/32, 1/8, 3/16, 1/4	3, 10, 20, 50, 100	1203N1
Abrasion- and Oil-Resistant Buna-N	1/8, 3/16, 1/4	3, 10, 20, 50, 100	1240N4
Abrasion- and Chemical-Resistant Viton® Fluoroelastomer	1/16, 3/32, 1/8, 3/16, 1/4	3, 10, 20, 50, 100	1165N1
Multipurpose Refrigerant-Resistant Neoprene	3/32, 1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 1	3, 10, 20, 50, 100	12975K1
Extreme-Chemical Viton® ETP Fluoroelastomer	1/16, 3/32, 1/8, 3/16	3, 10, 20, 50, 100	1102T11
Food and Beverage Oil-Resistant Buna-N	1/16, 3/32, 1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2	3, 10, 20, 50, 100	3286T1
Food and Beverage Chemical-Resistant Viton® Fluoroelastomer	1/16, 3/32, 1/8, 3/16	3, 10, 20, 50, 100	1092T11

Square-Profile Inch Sizes

Fractional Wd.	Choose a Length, ft.	Oil-Resistant Buna-N Actual Wd.		Per Ft.	Chemical-Resistant Viton® Fluoroelastomer Actual Wd.		Per Ft.	High-Temperature Silicone Actual Wd.		Per Ft.
Multipurpose										
1/16	3, 10, 20, 50, 100	_____	_____	____	_____	_____	____	0.070″	1177N11	$0.15
3/32	3, 10, 20, 50, 100	0.103″	9700K11	$0.60	0.093″	2542T21	$1.33	0.103″	1177N15	.25
1/8	3, 10, 20, 50, 100	0.139″	9700K12	.73	0.125″	2542T22	1.50	0.139″	1177N13	.40
3/16	3, 10, 20, 50, 100	0.210″	9700K13	.83	0.187″	2542T23	3.10	0.210″	1177N14	.68
1/4	3, 10, 20, 50, 100	0.275″	9700K14	1.10	0.250″	2542T24	4.60	0.275″	1177N12	1.13
5/16	3, 10, 20, 50, 100	0.313″	9700K19	1.25	0.312″	2542T25	6.86	_____	_____	____
3/8	3, 10, 20, 50, 100	0.375″	9700K15	1.87	0.375″	2542T26	9.45	_____	_____	____
1/2	3, 10, 20, 50, 100	0.500″	9700K16	2.74	0.500″	2542T27	16.05	_____	_____	____
5/8	3, 10, 20, 50	0.625″	9700K17	3.06	0.625″	2542T28	22.88	_____	_____	____
3/4	3, 10, 20, 50	0.750″	9700K18	4.48	0.750″	2542T29	31.62	_____	_____	____

X-Profile Inch Sizes

	Choose a Fractional Width	Choose a Length, ft.	
Multipurpose Oil-Resistant Buna-N	1/16, 3/32, 1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2	3, 10, 20, 50, 100	1034T6
Multipurpose Chemical-Resistant Viton® Fluoroelastomer	1/16, 3/32, 1/8, 3/16, 1/4	3, 10, 20, 50, 100	1205N1

(Continued on following page)

O-Ring Cord Stock (Continued from previous page)

Round-Profile Metric Sizes

Wd., mm	Choose a Length, ft.	Oil-Resistant Buna-N	Per Ft.	Chemical-Resistant Viton® Fluoroelastomer	Per Ft.	High-Temperature Silicone	Per Ft.	Steam-Resistant EPDM	Per Ft.
Multipurpose									
1	3, 10, 20, 50, 100			94245K11	$1.08				
1.5	3, 10, 20, 50, 100	9679K41	$0.24			1187N11	$0.27		
1.6	3, 10, 20, 50, 100	9679K11	.26	94245K51	1.14				
1.9	3, 10, 20, 50, 100	9679K42	.27	94245K12	1.17				
2	3, 10, 20, 50, 100	9679K12	.30	94245K13	1.21	1187N12	.28	1178N1	$3.16
2.4	3, 10, 20, 50, 100	9679K13	.33	94245K52	1.36				
2.5	3, 10, 20, 50, 100	9679K43	.25			1187N13	.33	1178N2	4.52
3	3, 10, 20, 50, 100	9679K14	.45	94245K53	1.84	1187N14	.34	1178N3	4.90
3.5	3, 10, 20, 50, 100	9679K15	.45	94245K14	1.88	1187N15	.38	1178N4	5.37
4	3, 10, 20, 50, 100	9679K16	.52	94245K54	2.34	1187N16	.39	1178N5	6.32
4.5	3, 10, 20, 50, 100	9679K17	.56	94245K15	2.48	1187N17	.40	1178N6	6.72
5	3, 10, 20, 50, 100	9679K18	.64	94245K56	2.90	1187N18	.61	1178N7	7.76
5.7	3, 10, 20, 50, 100	9679K19	.68	94245K55	3.78				
6	3, 10, 20, 50, 100	9679K21	.70	94245K16	3.57	1187N21	.64	1178N8	9.50
6.5	3, 10, 20, 50, 100	9679K22	.71						
7	3, 10, 20, 50, 100	9679K23	.77						
7.5	3, 10, 20, 50, 100	9679K24	.97						
8	3, 10, 20, 50, 100	9679K25	1.04						
8.5	3, 10, 20, 50, 100	9679K26	1.27	94245K57	7.89				
9	3, 10, 20, 50, 100	9679K27	1.41						
10	3, 10, 20, 50, 100	9679K28	1.79						
11	3, 10, 20, 50, 100	9679K31	2.32						

Wd., mm	Choose a Length, ft.	Oil-Resistant Buna-N	Per Ft.
Ultra-Compressible			
1	3, 10, 20, 50, 100	1209N1	$1.96
1.5	3, 10, 20, 50, 100	1209N2	2.32
2	3, 10, 20, 50, 100	1209N3	2.96
2.4	3, 10, 20, 50, 100	1209N4	4.08
Ultra-Compressible (Cont.)			
2.5	3, 10, 20, 50, 100	1209N5	$4.48
3	3, 10, 20, 50, 100	1209N6	5.19
3.5	3, 10, 20, 50, 100	1209N7	5.68
4	3, 10, 20, 50, 100	1209N8	6.43
Ultra-Compressible (Cont.)			
4.5	3, 10, 20, 50, 100	1209N9	$7.07
5	3, 10, 20, 50, 100	1209N11	8.13
5.5	3, 10, 20, 50, 100	1209N12	9.31
6	3, 10, 20, 50, 100	1209N13	9.91

	Choose a Width, mm	Choose a Length, ft.	
Other Materials			
Colored (Brown) Chemical-Resistant Viton® Fluoroelastomer	2, 3, 4, 5, 6	3, 10, 20, 50, 100	1193N1
Abrasion- and Oil-Resistant Buna-N	2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6	3, 10, 20, 50, 100	1212N1

Square-Profile Metric Sizes

Wd., mm	Choose a Length, ft.	Oil-Resistant Buna-N	Per Ft.	Chemical-Resistant Viton® Fluoroelastomer	Per Ft.
Multipurpose					
1	3, 10, 20, 50, 100			1175N11	$1.25
1.5	3, 10, 20, 50, 100	1216N1	$0.27	1175N12	1.63
2	3, 10, 20, 50, 100	1216N2	.28	1175N14	1.84
2.5	3, 10, 20, 50, 100	1216N3	.31		
3	3, 10, 20, 50, 100	1216N4	.35		
Multipurpose (Cont.)					
3.5	3, 10, 20, 50, 100	1216N5	$0.39	1175N15	$2.59
4	3, 10, 20, 50, 100	1216N6	.42		
4.5	3, 10, 20, 50, 100	1216N7	.47	1175N16	4.46
5	3, 10, 20, 50, 100	1216N8	.52		
6	3, 10, 20, 50, 100	1216N11	.64	1175N17	5.97

X-Profile Metric Sizes

	Choose a Width, mm	Choose a Length, ft.	
Multipurpose Oil-Resistant Buna-N	1.5, 2, 2.4, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6	3, 10, 20, 50, 100	1207N1
Multipurpose Chemical-Resistant Viton® Fluoroelastomer	1, 1.5, 1.6, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6	3, 10, 20, 50, 100	1191N1

O-Ring Cord Joining Kits



Make your own O-rings from Viton® fluoroelastomer and silicone cord stock. Also known as O-ring vulcanizing kits, they use a combination of heat and an adhesive to create a bond that's stronger and has greater elasticity than a bond made with adhesive alone. Kits come with a precision mold, a 120-volt AC heater, a die, a cutting knife, and three sets of a two-part adhesive (mix before use) for bonding Viton® fluoroelastomer cord stock. The adhesive for bonding silicone cord stock is sold separately.

Inch kit is for use with cord stock widths: 0.070″, 0.103″, 0.139″, 0.210″, 0.275″, 0.312″, 0.375″, and 0.500″.

Metric kit is for use with cord stock widths: 1.6, 2.4, 3, 4, and 5.7 mm.

Inch Kit	9450K21	$1,322.44	Repl. Adhesive for Viton® Fluoroelastomer	9450K32	$46.67
Metric Kit	9450K17	1,337.12	4″ × 4″ Solid Silicone Adhesive	9450K34	56.45

O-Ring Cord Splicing Kits



These kits include everything you need to make your own O-rings: cord stock, a splicing jig, adhesive, and a razor blade. Cord lengths are 7 ft. for inch kits and 3 ft. for inch/metric and metric kits.

Oil-Resistant Buna-N—This cord stock also resists grease, hydraulic oils, and abrasion. Durometer hardness is A70 (medium). Temperature range is –40° to 212° F. Color is black.

Chemical-Resistant Viton® Fluoroelastomer—Choose this cord stock for its excellent resistance to boric acid, citric acid, isopropyl alcohol, fuels, and transmission fluid. Temperature range is 5° to 400° F. Durometer is A75 (medium). Color is black.

Steam-Resistant EPDM—In addition to steam, this cord stock also resists water and isopropyl alcohol. Temperature range is –65° to 300° F. Durometer is A70 (medium). Color is black.

	Cord Stock Material	Included Widths	Included Widths, mm		
Inch Kit	Buna-N	0.103″, 0.139″, 0.210″, 0.275″		9694K21	$35.95
Inch Kit	Viton® Fluoroelastomer	0.103″, 0.139″, 0.210″, 0.275″		9696K31	120.02
Inch Kit	EPDM	0.070″, 0.103″, 0.139″, 0.210″, 0.275″		13105K41	32.25
Inch/Metric Kit	Buna-N	0.070″, 0.103″, 0.139″, 0.210″, 0.275″	1.5, 2, 2.5, 3, 3.5, 4, 5, 5.7, 8.4	9410K11	41.85
Metric Kit	Buna-N		1.5, 2, 2.5, 3, 3.5, 4, 5, 5.7, 8.4	9693K1	28.80
Optional 4″ Lg. × 5/8″ Wd. Splicing Jig for 0.103″-0.375″ Wd. Cord Stock				9462K2	3.14

O-Ring Supported U-Cup Seals





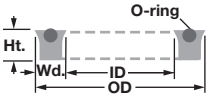

Square Profile



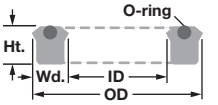

Rectangular Profile

Also known as polypacks and loaded-lip seals, an O-ring engages both the inner and outer walls of the U-cup for better sealing performance at lower pressures than unsupported U-cup seals. Use them for sealing rods and pistons. They resist grease, oil, and hydraulic fluids. Maximum pressure is 5,000 psi. Temperature range is –65° to 300° F. The U-cups are urethane and have a durometer of A92 (hard); the O-rings are Buna-N and have a durometer of A70 (medium). Color is black.

Square-profile seals are as wide as they are high to ensure uniform contact.

Rectangular-profile seals, also called Type B seals, have a taller body than square-profile seals for better stability and beveled lips for a tighter seal.

Square Profile

ID	OD		
1/8" Wd. x 1/8" Ht.			
1/4"	1/2"	9505K13	$2.94
3/8"	5/8"	9505K15	2.94
1/2"	3/4"	9505K17	2.94
5/8"	7/8"	9505K18	3.01
3/4"	1"	9505K19	3.21
7/8"	1 1/8"	9505K22	3.64
1"	1 1/4"	9505K23	3.70
5/32" Wd. x 5/32" Ht.			
3/4"	1 1/16"	9505K27	4.12
1"	1 5/16"	9505K28	4.10
1 3/16"	1 1/2"	9505K31	4.49
1 3/8"	1 11/16"	9505K32	5.42
3/16" Wd. x 3/16" Ht.			
3/8"	3/4"	9505K37	3.59
1/2"	7/8"	9505K39	3.59
5/8"	1"	9505K42	3.82
3/4"	1 1/8"	9505K44	4.06
7/8"	1 1/4"	9505K46	3.92

ID	OD		
3/16" Wd. x 3/16" Ht. (Cont.)			
1"	1 3/8"	9505K48	$4.06
1 1/8"	1 1/2"	9505K51	4.19
1 1/4"	1 5/8"	9505K53	5.25
1 3/8"	1 3/4"	9505K55	4.56
1 1/2"	1 7/8"	9505K56	4.66
1 5/8"	2"	9505K57	6.71
1 3/4"	2 1/8"	9505K58	5.00
2"	2 3/8"	9505K61	5.23
2 1/8"	2 1/2"	9505K62	5.42
2 3/8"	2 3/4"	9505K63	6.03
2 1/2"	2 7/8"	9505K64	6.28
2 3/4"	3 1/8"	9505K66	6.42
1/4" Wd. x 1/4" Ht.			
1/2"	1"	9505K79	5.01
5/8"	1 1/8"	9505K81	5.01
3/4"	1 1/4"	9505K82	5.01
7/8"	1 3/8"	9505K83	5.08
1"	1 1/2"	9505K85	4.76

ID	OD		
1/4" Wd. x 1/4" Ht. (Cont.)			
1 1/8"	1 5/8"	9505K87	$5.08
1 3/16"	1 11/16"	9505K88	5.50
1 1/4"	1 3/4"	9505K89	5.67
1 3/8"	1 7/8"	9505K91	5.53
1 1/2"	2"	9505K92	5.20
1 3/4"	2 1/4"	9505K94	5.96
2"	2 1/2"	9505K96	6.35
2 1/4"	2 3/4"	9505K98	7.02
2 1/2"	3"	9505K112	7.64
2 3/4"	3 1/4"	9505K114	8.71
3"	3 1/2"	9505K116	8.95
3 1/2"	4"	9505K121	10.25
3 3/4"	4 1/4"	9505K123	10.89
4"	4 1/2"	9505K124	11.55
4 1/2"	5"	9505K126	12.86
5/16" Wd. x 5/16" Ht.			
1 3/8"	2"	9505K146	6.18
1 7/8"	2 1/2"	9505K151	8.12

ID	OD		
5/16" Wd. x 5/16" Ht. (Cont.)			
2"	2 5/8"	9505K152	$8.84
2 3/8"	3"	9505K155	9.76
5 3/8"	6"	9505K166	20.41
3/8" Wd. x 3/8" Ht.			
1 1/4"	2"	9505K172	7.96
1 1/2"	2 1/4"	9505K174	9.45
1 3/4"	2 1/2"	9505K176	9.53
2"	2 3/4"	9505K178	10.90
2 1/4"	3"	9505K181	12.13
2 1/2"	3 1/4"	9505K182	12.64
2 3/4"	3 1/2"	9505K183	13.99
3"	3 3/4"	9505K184	15.67
3 1/4"	4"	9505K186	16.70
3 1/2"	4 1/4"	9505K187	21.07
3 3/4"	4 1/2"	9505K188	18.14
4"	4 3/4"	9505K189	22.29

Other Square-Profile Sizes

Choose a Size (Wd. x Ht.)	Choose an ID	Choose an OD	
1/8" x 1/8", 3/16" x 3/16", 7/32" x 7/32", 1/4" x 1/4", 5/16" x 5/16", 3/8" x 3/8", 1/2" x 1/2"	1/8" to 7 3/4"	3/8" to 8 3/4"	9505K21

Rectangular Profile

ID	OD		
1/8" Wd. x 3/16" Ht.			
3/4"	1"	9514K127	$3.78
1"	1 1/4"	9514K136	4.21
1 1/4"	1 1/2"	9514K144	4.53
1/8" Wd. x 1/4" Ht.			
1/4"	1/2"	9514K113	3.19
3/8"	5/8"	9514K116	3.27
1/2"	3/4"	9514K119	3.48
5/8"	7/8"	9514K124	3.65
3/4"	1"	9514K128	3.75
7/8"	1 1/8"	9514K133	3.91
1"	1 1/4"	9514K137	4.21
1 1/8"	1 3/8"	9514K141	4.40
1 1/4"	1 1/2"	9514K145	4.35
1 3/8"	1 5/8"	9514K151	4.80

ID	OD		
1/8" Wd. x 1/4" Ht. (Cont.)			
1 1/2"	1 3/4"	9514K154	$4.75
2"	2 1/4"	9514K159	6.09
3/16" Wd. x 0.230" Ht.			
1 3/4"	2 1/8"	9514K192	6.86
2"	2 3/8"	9514K196	9.63
3/16" Wd. x 1/4" Ht.			
1 1/4"	1 5/8"	9514K176	5.02
3/16" Wd. x 5/16" Ht.			
7/8"	1 1/4"	9514K168	5.24
1"	1 3/8"	9514K171	4.61
1 1/4"	1 5/8"	9514K177	5.02
1 1/2"	1 7/8"	9514K186	5.26
1 5/8"	2"	9514K189	5.46
1 3/4"	2 1/8"	9514K193	6.23

ID	OD		
3/16" Wd. x 5/16" Ht. (Cont.)			
2"	2 3/8"	9514K197	$6.38
3/16" Wd. x 3/8" Ht.			
1 3/8"	1 3/4"	9514K183	6.68
1 1/2"	1 7/8"	9514K187	5.40
1 5/8"	2"	9514K191	6.73
1 3/4"	2 1/8"	9514K194	5.80
2 1/2"	2 7/8"	9514K207	8.31
1/4" Wd. x 3/8" Ht.			
1"	1 1/2"	9514K236	4.82
1 1/8"	1 5/8"	9514K237	5.51
1 1/4"	1 3/4"	9514K238	5.10
1 3/8"	1 7/8"	9514K239	5.72
1 1/2"	2"	9514K241	5.98
1 3/4"	2 1/4"	9514K243	6.31

ID	OD		
1/4" Wd. x 3/8" Ht. (Cont.)			
2"	2 1/2"	9514K246	$6.86
2 1/2"	3"	9514K251	8.48
3"	3 1/2"	9514K255	10.02
3 1/2"	4"	9514K261	11.55
4"	4 1/2"	9514K265	12.97
4 1/2"	5"	9514K272	15.44
3/8" Wd. x 1/2" Ht.			
2 1/4"	3"	9514K351	13.94
1/2" Wd. x 3/4" Ht.			
3 1/2"	4 1/2"	9514K404	32.53
4 1/2"	5 1/2"	9514K408	55.11

Other Rectangular-Profile Sizes

Choose a Size (Wd. x Ht.)	Choose an ID	Choose an OD	
1/8" x 3/16", 1/8" x 1/4", 3/16" x 3/16", 3/16" x 1/4", 3/16" x 9/32", 3/16" x 5/16", 3/16" x 3/8", 1/4" x 3/8", 5/16" x 1/2", 5/16" x 5/8", 3/8" x 1/2", 1/2" x 3/4"	1/8" to 9 1/2"	7/16" to 10 1/2"	9514K14

U-Cup Seals



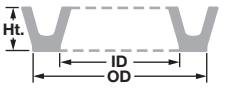

These molded Buna-N U-cup seals provide a uniform seal on rods and pistons in low-pressure air and hydraulic cylinders. Maximum pressure is 120 psi. Temperature range is –20° to 212° F. Durometer is A70 (medium). Meet ASTM D2000 and AN6226. Color is black.

ID	OD		Pkg. of 5	
1/4" Ht.				
1/4"	3/4"	9691K51		$4.23
3/8"	7/8"	9691K52		4.23
1/2"	1"	9691K53		4.23
5/8"	1 1/8"	9691K54		4.88
3/4"	1 1/4"	9691K55		4.88
7/8"	1 3/8"	9691K56		4.88
1"	1 1/2"	9691K57		4.88
1 1/8"	1 5/8"	9691K58		4.88
1 1/4"	1 3/4"	9691K59		4.88

ID	OD		Pkg. of 5	
5/16" Ht.				
1 1/4"	1 7/8"	9691K61		$6.11
1 3/8"	2"	9691K62		6.11
1 1/2"	2 1/8"	9691K63		6.95
1 5/8"	2 1/4"	9691K64		7.59
1 3/4"	2 3/8"	9691K65		7.59
1 7/8"	2 1/2"	9691K66		4.75
2"	2 5/8"	9691K67		8.65
2 1/4"	2 7/8"	9691K68		8.63
2 3/8"	3"	9691K69		8.65

Piston Cup Seals



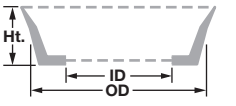

Seal pistons in hydraulic cylinders and pumps. Molded from cotton-reinforced Buna-N, these seals resist water, salt water, lubricating oils, and hydraulic fluids. Maximum pressure is 1,000 psi. Temperature range is –40° to 250° F. Color is black.

ID	OD		
1/2" Ht.			
3/8"	1 1/2"	9411K11	$5.28
3/8"	2"	9411K13	6.33
3/8"	2 1/2"	9411K17	7.31
1/2"	2"	9411K14	6.33
5/8"	2"	9411K15	6.33
3/4"	1 1/2"	9411K12	5.28
3/4"	2"	9411K16	6.33
3/4"	2 1/2"	9411K18	7.31

ID	OD		
5/8" Ht.			
5/8"	3"	9411K19	$8.57
3/4"	3 1/2"	9411K26	9.88
1"	3"	9411K21	8.57
3/4" Ht.			
1/2"	6"	9411K45	17.02
1"	5"	9411K44	13.70
2 3/4"	6"	9411K46	17.02

Rod Wipers

As the outer-most seal on a cylinder, these wipers scrape against the rod to prevent dust, dirt, and other contaminants from entering your hydraulic system. Maximum pressure is not rated.

Solid-profile polyurethane wipers are abrasion- and tear-resistant. Also known as U-type wipers, they resist ozone, grease, butyl alcohol, and hydraulic fluids. Temperature range is –65° to 200° F. Durometer is A90 (hard). Color is black.

Double-lip Buna-N wipers have an outer lip that scrapes the shaft and an inner lip that acts as a pressure seal. They're also known as 8600 type wipers and are commonly used with JIC cylinders that have rubber rod seals. Wipers resist water, grease, oil, hydraulic fluids, and detergents, as well as some ammonias, butyl alcohols, and refrigerants. Temperature range is –40° to 250° F. Durometer is A90 (hard). Color is black.

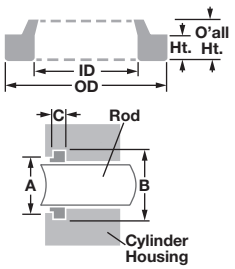



Wiper ID	OD	Ht.	O'all Ht.	Fits Groove (A)	(B)	(C)		
Solid-Profile Polyurethane								
3/8"	5/8"	1/8"	0.210"	0.535"	0.622"	0.124"	9403K54	$1.81
1/2"	3/4"	1/8"	0.210"	0.660"	0.747"	0.124"	9403K55	1.70
5/8"	7/8"	1/8"	0.210"	0.785"	0.872"	0.124"	9403K56	1.76
3/4"	1 1/8"	3/16"	0.305"	0.995"	1.122"	0.187"	9403K58	1.76
7/8"	1 1/4"	3/16"	0.305"	1.120"	1.247"	0.187"	9403K59	2.01
1"	1 3/8"	3/16"	0.305"	1.245"	1.372"	0.187"	9403K61	1.86
1 1/8"	1 1/2"	3/16"	0.305"	1.370"	1.497"	0.187"	9403K62	2.02
1 1/4"	1 5/8"	3/16"	0.305"	1.495"	1.622"	0.187"	9403K63	2.18
1 3/8"	1 3/4"	3/16"	0.305"	1.620"	1.747"	0.187"	9403K64	2.40
1 1/2"	1 7/8"	3/16"	0.305"	1.745"	1.872"	0.187"	9403K65	2.61
1 3/4"	2 1/8"	3/16"	0.305"	1.995"	2.122"	0.187"	9403K67	3.09
2"	2 1/2"	1/4"	0.395"	2.327"	2.497"	0.249"	9403K69	3.24
2 1/4"	2 5/8"	1/4"	0.395"	2.577"	2.747"	0.249"	9403K72	3.43
2 1/2"	3"	1/4"	0.395"	2.827"	2.997"	0.249"	9403K74	3.56
2 3/4"	3 1/4"	1/4"	0.395"	3.077"	3.247"	0.249"	9403K76	3.97
3"	3 1/2"	1/4"	0.395"	3.327"	3.497"	0.249"	9403K77	4.59
3 1/2"	4"	1/4"	0.395"	3.827"	3.997"	0.249"	9403K79	4.97
4"	4 1/2"	1/4"	0.395"	4.327"	4.497"	0.249"	9403K82	5.89

Wiper ID	OD	Ht.	O'all Ht.	Fits Groove (A)	(B)	(C)		
Solid-Profile Polyurethane (Cont.)								
4 1/2"	5 1/4"	3/8"	0.585"	4.993"	5.247"	0.374"	9403K84	$9.36
5"	5 3/4"	3/8"	0.585"	5.493"	5.747"	0.374"	9403K86	11.03
6"	6 3/4"	3/8"	0.585"	6.493"	6.747"	0.374"	9403K88	13.78
8"	8 3/4"	3/8"	0.585"	8.493"	8.747"	0.374"	9403K93	18.37
Double-Lip Buna-N								
1/2"	13/16"	0.203"	0.245"	0.620"	0.802"	0.203"	9422K19	4.04
5/8"	15/16"	0.203"	0.245"	0.745"	0.927"	0.203"	9422K21	4.31
3/4"	1 1/16"	0.203"	0.245"	0.870"	1.052"	0.203"	9422K22	5.25
1"	1 3/8"	0.203"	0.275"	1.135"	1.365"	0.218"	9422K24	4.37
1 1/8"	1 1/2"	0.218"	0.275"	1.260"	1.497"	0.218"	9422K25	5.80
1 3/8"	1 3/4"	0.218"	0.275"	1.510"	1.740"	0.218"	9422K27	5.05
1 1/2"	1 7/8"	0.218"	0.275"	1.635"	1.865"	0.218"	9422K28	4.96
1 3/4"	2 1/8"	0.218"	0.275"	1.885"	2.115"	0.218"	9422K29	5.52
2"	2 3/8"	0.218"	0.275"	2.135"	2.365"	0.218"	9422K31	5.73
2 1/2"	3"	0.281"	0.351"	2.635"	2.995"	0.281"	9422K33	8.83
3"	3 1/2"	0.281"	0.351"	3.135"	3.495"	0.281"	9422K35	15.82
3 1/2"	4"	0.281"	0.351"	3.635"	3.995"	0.281"	9422K36	6.95
4"	4 1/2"	0.281"	0.351"	4.135"	4.495"	0.281"	9422K37	8.60

Multipurpose Rod and Shaft Seals

A stainless steel spring reinforcement ensures that these seals stay engaged to prevent leaks at low pressures. Use them for linear- and rotary-motion applications, such as in cylinders and pumps. Maximum pressure is 3,000 psi for linear motion; it is 250 psi for rotary motion. Temperature range is –320° to 450° F.

PTFE seals have a slippery surface that prevents sticking and keeps friction at a minimum. They are virtually chemically inert, except to alkali metals and fluorinated fluid. Color is white.

Graphite-reinforced PTFE seals have excellent wear resistance. They resist steam and most chemicals, except sulfuric, nitric, and hydrofluoric acids. Color is black.





ID	OD	Wd.	Ht.	PTFE		Graphite-Reinforced PTFE	
1/8"	3/16"	1/32"	3/64"	13125K61	$39.65	13125K71	$52.87
1/8"	1/4"	1/16"	3/32"	13125K63	18.75	13125K73	31.33
3/16"	5/16"	1/16"	3/32"	13125K64	13.83	13125K74	20.83
3/16"	3/8"	3/32"	1/8"	13125K67	17.88	13125K77	29.65
1/4"	3/8"	1/16"	3/32"	13125K65	14.20	13125K75	20.88
1/4"	7/16"	3/32"	1/8"	13125K68	24.25	13125K78	29.65
3/8"	1/2"	1/16"	3/32"	13125K66	19.69	13125K76	23.00
3/8"	9/16"	3/32"	1/8"	13125K69	16.41	13125K79	27.19
1/2"	11/16"	3/32"	1/8"	13125K81	16.86	13125K91	27.83

ID	OD	Wd.	Ht.	PTFE		Graphite-Reinforced PTFE	
1/2"	3/4"	1/8"	11/64"	13125K83	$25.91	13125K93	$40.70
3/4"	15/16"	3/32"	1/8"	13125K82	22.97	13125K92	34.56
3/4"	1"	1/8"	11/64"	13125K84	29.58	13125K94	51.88
1"	1 1/4"	1/8"	11/64"	13125K85	27.42	13125K95	43.30
1 1/4"	1 1/2"	1/8"	11/64"	13125K86	38.20	13125K96	50.94
1 1/2"	1 3/4"	1/8"	11/64"	13125K11	39.28	13125K13	52.38
1 1/2"	1 7/8"	3/16"	1/4"	13125K87	63.48	13125K97	81.38
2"	2 1/4"	1/8"	11/64"	13125K12	46.68	13125K14	59.87
2 1/2"	2 7/8"	3/16"	1/4"	13125K88	76.24	13125K98	97.75

Stackable V-Ring Seals

Stack one or more rings between a male and female adapter—the V shape keeps the rings in position when under pressure. Each ring adds a layer of sealing force; the female adapter also has a sealing edge. Use them for linear- and rotary-motion applications, such as in cylinders, motors, pumps, and valves. Seals are molded from PTFE and are chemically inert, except to molten alkali metals and fluorines. Maximum pressure is 400 psi. Temperature range is –110° to 500° F. Color is white.

For a complete seal, you'll need at least one V-ring and a pack of male/female adapters.



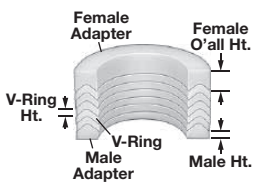

ID	OD	V-Rings Ht.		Pkg. of 5	One Male and One Female Adapter: Male Ht.	Female O'all Ht.		Pkg.
1/4"	5/8"	0.083"	9572K31	$7.90	0.083"	0.190"	9572K61	$3.33
5/16"	11/16"	0.083"	9572K32	8.00	0.083"	0.190"	9572K62	3.40
3/8"	3/4"	0.083"	9572K33	8.13	0.083"	0.190"	9572K63	3.48
3/8"	7/8"	0.083"	9572K37	8.65	0.083"	0.250"	9572K67	4.00
1/2"	7/8"	0.083"	9572K35	8.38	0.083"	0.250"	9572K65	3.63
1/2"	1"	0.083"	9572K39	8.97	0.083"	0.250"	9572K69	4.25
9/16"	1 1/16"	0.083"	9572K41	9.10	0.083"	0.250"	9572K71	4.35
5/8"	1 1/8"	0.083"	9572K42	9.27	0.083"	0.250"	9572K72	4.47
3/4"	1 1/4"	0.083"	9572K43	9.57	0.083"	0.250"	9572K73	4.70
7/8"	1 3/8"	0.083"	9572K45	9.90	0.083"	0.250"	9572K75	4.93
1"	1 1/2"	0.083"	9572K47	10.22	0.083"	0.250"	9572K77	5.18
1 1/8"	1 5/8"	0.083"	9572K48	10.27	0.083"	0.250"	9572K78	5.40
1 1/4"	1 3/4"	0.083"	9572K49	10.59	0.083"	0.250"	9572K79	5.65
1 3/8"	2"	0.140"	9572K51	14.70	0.140"	0.310"	9572K81	8.25
1 1/2"	2 1/8"	0.140"	9572K52	15.32	0.140"	0.310"	9572K82	8.65
1 3/4"	2 3/8"	0.140"	9572K54	16.55	0.140"	0.310"	9572K84	9.45

Shaft Seals

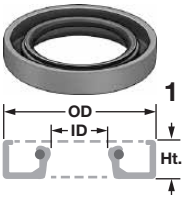

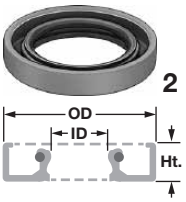

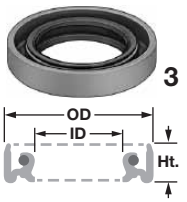

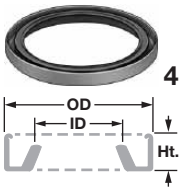

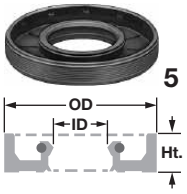

Use these seals on rotating shafts in motors, pumps, and gearboxes. They have Buna-N lips that resist grease, animal and vegetable oils, and most mineral oils. The Buna-N has a durometer hardness of A75 (medium). Temperature range is –40° to 210° F. The seals with spring-loaded lips are also called oil seals; the spring keeps the lip engaged at low pressures to prevent leakage.

Steel—Seals have a green coating on the OD (unless noted) that smooths surface imperfections to ensure a tight seal.

Buna-N—Seals have a steel core for strength.

(1) Spring-loaded single lip seals are economical general purpose seals. Maximum pressure is 10 psi at 0-1,000 fpm; 5 psi at 1,001-2,000 fpm; and 0 psi at 2,001-3,600 fpm.

(2) Spring-loaded double lip seals have a second lip that blocks contaminants from the main lip. Maximum pressure is 10 psi at 0-1,000 fpm; 5 psi at 1,001-2,000 fpm; and 0 psi at 2,001-3,600 fpm.

(3) Heavy duty spring-loaded double lip seals are built to handle moderate pressure changes; be sure to secure the seal with a retaining ring to prevent it from pressing out of the housing bore. These seals have a second lip that blocks contaminants from the main lip. Maximum pressure is 90 psi at 0 fpm and 50 psi at 1,000 fpm.

(4) Non-spring-loaded seals are typically used in grease-lubricated applications; because there is no spring, they will not retain oil. Install with the lip facing outward to block contaminants. Maximum pressure is 3 psi at 0-2,000 fpm.

(5) Spring-loaded double lip seals have a second lip that blocks contaminants from the main lip. Maximum pressure is 5 psi up to 3,600 fpm.

ID	OD	Ht.		
Steel				
(1) Spring-Loaded Single Lip—Inch sizes				
1/2″	7/8″	1/4″	5154T11	$5.61
5/8″	1″	1/4″	5154T12	6.27
5/8″	1 1/8″	1/4″	5154T13	6.21
0.669″	1″	3/16″	5154T14	8.64
3/4″	1 1/8″	3/16″	5154T15	8.88
3/4″	1 3/8″	1/4″	5154T16	6.24
13/16″	1 1/4″	3/16″	5154T17■	5.76
7/8″	1 1/4″	3/16″	5154T18	4.65
7/8″	1 3/8″	0.256″	5154T19	6.27
7/8″	1 1/2″	1/4″	5154T21	6.67
7/8″	1 5/8″	1/4″	5154T22	8.01
1″	1 1/2″	1/4″	5154T23	5.13
1″	1 5/8″	1/4″	5154T24	7.08
1 1/16″	1 1/2″	1/4″	5154T25	5.73
1 1/8″	1 3/4″	1/4″	5154T26	6.81
1 3/16″	1 11/16″	1/4″	5154T27	5.82
1 1/4″	2″	1/4″	5154T28	7.77
1 3/4″	2 1/4″	5/16″	5154T29	10.56
(1) Spring-Loaded Single Lip—Metric sizes				
12 mm	22 mm	7 mm	5154T63	5.55
12 mm	25 mm	7 mm	5154T64	5.70
17 mm	30 mm	7 mm	5154T65	6.06
25 mm	35 mm	7 mm	5154T66	6.12
25 mm	38 mm	7 mm	5154T67	6.87
25 mm	40 mm	7 mm	5154T68	6.81
25 mm	52 mm	8 mm	5154T69	8.52
30 mm	40 mm	7 mm	5154T71	5.82
30 mm	45 mm	8 mm	5154T72	7.05
30 mm	47 mm	7 mm	5154T73	7.65
32 mm	47 mm	8 mm	5154T74	9.06
40 mm	55 mm	8 mm	5154T75	4.02
45 mm	75 mm	8 mm	5154T76	13.11
50 mm	68 mm	8 mm	5154T77	7.05
50 mm	72 mm	8 mm	5154T78	12.09
100 mm	120 mm	12 mm	5154T79	26.67
(2) Spring-Loaded Double Lip—Inch sizes				
3/8″	3/4″	1/4″	5154T31	8.07
1/2″	1″	1/4″	5154T32	4.74
5/8″	1 1/8″	1/4″	5154T33	5.70
5/8″	1 3/8″	1/4″	5154T34	7.47
3/4″	1 1/4″	1/4″	5154T35	4.47
1″	1 1/2″	1/4″	5154T36	4.47
1″	1 5/8″	1/4″	5154T37	7.53

■ Seal is not coated.

ID	OD	Ht.		
Steel				
(2) Spring-Loaded Double Lip—Inch sizes (Cont.)				
1 1/8″	1 5/8″	0.256″	5154T38	$5.49
1 1/8″	1 7/8″	1/4″	5154T39	8.13
1 1/4″	1 3/4″	1/4″	5154T41	7.35
1 1/4″	2″	1/4″	5154T42	7.53
1 3/8″	2″	5/16″	5154T43	9.21
1 3/4″	2 1/2″	5/16″	5154T44	12.60
2″	2.623″	5/16″	5154T45	9.27
2 1/2″	3 1/4″	3/8″	5154T46	6.54
(3) Heavy Duty Spring-Loaded Double Lip—Inch sizes				
5/16″	3/4″	1/4″	5154T47■	7.20
1/2″	7/8″	5/16″	5154T48	7.35
7/8″	1 3/8″	1/4″	5154T49	5.37
1 1/4″	1 3/4″	1/4″	5154T51	9.84
(4) Non-Spring-Loaded—Inch sizes				
1/4″	1/2″	3/16″	5154T52■	3.99
5/16″	5/8″	5/32″	5154T53	4.44
1/2″	3/4″	1/8″	5154T54	4.47
1/2″	0.82″	5/32″	5154T55	5.76
3/4″	1″	1/8″	5154T56■	5.10
7/8″	1 1/8″	1/8″	5154T57■	3.81
1″	1 1/4″	1/8″	5154T58	4.17
1″	1 5/16″	1/8″	5154T59	5.61
1 1/8″	1 3/8″	1/8″	5154T61■	5.55
1 1/4″	1 1/2″	1/8″	5154T62	4.50
Buna-N				
(5) Spring-Loaded Double Lip—Metric sizes				
12 mm	22 mm	7 mm	1199N11	4.95
12 mm	25 mm	7 mm	1199N12	7.25
17 mm	30 mm	7 mm	1199N13	5.25
25 mm	35 mm	7 mm	1199N14	4.57
25 mm	38 mm	7 mm	1199N15	5.10
25 mm	40 mm	7 mm	1199N16	4.37
25 mm	52 mm	8 mm	1199N17	5.57
30 mm	40 mm	7 mm	1199N18	6.55
30 mm	45 mm	8 mm	1199N19	7.10
30 mm	47 mm	7 mm	1199N21	7.75
32 mm	47 mm	8 mm	1199N22	7.65
40 mm	55 mm	8 mm	1199N23	9.65
45 mm	75 mm	8 mm	1199N24	12.05
50 mm	68 mm	8 mm	1199N25	10.43
50 mm	72 mm	8 mm	1199N26	7.83
100 mm	120 mm	12 mm	1199N27	13.27

Stretch-Fit Shaft Seals

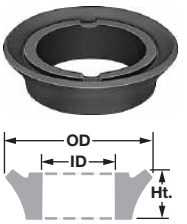

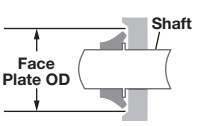

Stretch these seals over a shaft—they bounce back to shape when pressed firmly onto the face plate. As the shaft rotates, these seals self-adjust to deflect dust, dirt, and water and prevent the loss of lubricants. Use on motors, pumps, and gearboxes. Made of Buna-N, they resist water, grease, oil, detergents, salt water, UV light, hydraulic fluids, alcohol, and some refrigerants. Durometer hardness is A85 (hard). Maximum pressure is 6 psi in the opening direction and 100 psi in the closing direction. Temperature range is –20° to 225° F. Color is black.

For Shaft		Seal			For Minimum		
Dia.	Dia. Range	ID	OD★	Ht.★	Face Plate OD		
1/4″	0.21″-0.26″	0.193″	35/64″	0.19″	0.5″	9562K41	$4.42
3/8″	0.37″-0.45″	0.340″	57/64″	0.25″	0.89″	9562K42	5.00
1/2″	0.45″-0.53″	0.414″	11/64″	0.25″	0.97″	9562K43	5.05
5/8″	0.61″-0.69″	0.561″	1 15/64″	0.375″	1.21″	9562K44	5.33
3/4″	0.69″-0.77″	0.635″	1 23/64″	0.375″	1.29″	9562K45	5.25
1″	0.95″-1.07″	0.874″	1 39/64″	0.375″	1.55″	9562K46	5.27
1 1/4″	1.22″-1.30″	1.122″	1 55/64″	0.375″	1.82″	9562K47	6.04
1 1/2″	1.50″-1.70″	1.380″	2 7/64″	0.375″	2.1″	9562K48	6.89
1 3/4″	1.70″-1.89″	1.564″	2 23/64″	0.375″	2.3″	9562K49	6.56
2″	1.89″-2.09″	1.739″	2 39/64″	0.375″	2.49″	9562K51	7.24
2 1/4″	2.09″-2.29″	1.923″	2 55/64″	0.375″	2.69″	9562K52	7.60
2 1/2″	2.48″-2.68″	2.282″	3 7/64″	0.5″	3.08″	9562K53	8.13
2 3/4″	2.68″-2.88″	2.466″	3 23/64″	0.5″	3.28″	9562K54	8.51
3″	2.88″-3.07″	2.650″	3 39/64″	0.5″	3.48″	9562K55	8.56
3 1/4″	3.07″-3.27″	2.824″	3 55/64″	0.5″	3.69″	9562K56	8.51
3 1/2″	3.47″-3.66″	3.192″	4 7/64″	0.5″	4.07″	9562K57	14.08
4″	3.86″-4.14″	3.551″	4 39/64″	0.5″	4.46″	9562K59	12.90

★ Installed.

Pump Shaft Seals

A stainless steel outer shell locks seal components together, which makes them easy to install and eliminates the need for bonding adhesives. These seals are commonly used on circulating and dispensing pumps. They come with a seat, unless noted; the seats have a U-cup that is the same material as the diaphragm. Seals with a Buna-N diaphragm have a temperature range of –40° to 212°F and a durometer of A65 (medium). Seals with a Viton® fluoroelastomer diaphragm have a temperature range of 0° to 400°F and a durometer of A70 (medium).

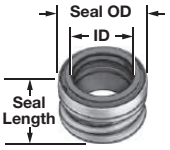

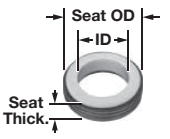

Style 1

These seals are comparable to Pac-Seal Type 16, John Crane Type 6, and Sealol Type 60L. Maximum pressure is 150 psi. Maximum speed is 5,000 fpm.



	Seal		Seat		Material			Industry		
ID	OD	Lg.	OD	Thick.	Diaphragm	Washer	Seat	No.		
304 Stainless Steel										
3/8″	0.917″	0.625″	0.875″	0.218″	Buna-N	Phenolic	Iron/Nickel	511	9281K121	$20.70
1/2″	0.917″	0.656″	1.000″	0.312″	Buna-N	Phenolic	Ceramic	162	9281K144	9.91
5/8″	1.185″	0.718″	1.187″	0.281″	Buna-N	Carbon	Ceramic	680	9281K125	13.36
5/8″	1.185″	0.718″	1.187″	0.343″	Buna-N	Phenolic	Ceramic	100	9281K174	6.76
5/8″	1.185″	0.718″	1.250″	0.406″	Viton® Fluoroelastomer	Phenolic	Ceramic	200	9281K62	18.94
5/8″	1.185″	0.812″	1.250″	0.406″	Buna-N	Phenolic	Ceramic	501	9281K178	11.08
3/4″	1.300″	0.718″	1.375″	0.406″	Viton® Fluoroelastomer	Phenolic	Ceramic	201	9281K63	19.84
3/4″	1.300″	0.812″	1.437″	0.406″	Buna-N	Phenolic	Ceramic	101	9281K222	8.89
1″	1.552″	0.812″	1.625″	0.437″	Buna-N	Phenolic	Ceramic	360	9281K273	15.09

Style 2

The extended spring on these seals accommodates variations in seal cavity length and pump misalignment. Maximum pressure is 150 psi. Maximum speed is 5,000 fpm.

304 stainless steel seals are comparable to Pac-Seal Type 21, John Crane Type 21, and Sealol Type 43 CE and 43 CU short.

316 stainless steel seals are comparable to Pac-Seal Type 51, John Crane Type 1, and Sealol Type 43 CE long.



	Seal		Seat		Material			Industry		
ID	OD	Lg.	OD	Thick.	Diaphragm	Washer	Seat	No.		
304 Stainless Steel										
1/2″	0.917″	0.718″	____	____	Buna-N	Carbon	____	400	9281K147▲	$11.30
1/2″	0.917″	0.812″	1.000″	0.312″	Buna-N	Phenolic	Ceramic	631	9281K67	13.29
1/2″	0.917″	0.812″	1.000″	0.312″	Viton® Fluoroelastomer	Carbon	Ceramic	168	9281K66	18.32
5/8″	1.100″	1.312″	1.148″	0.312″	Buna-N	Carbon	Ceramic	800	9281K191	12.04
5/8″	1.185″	0.875″	1.250″	0.406″	Buna-N	Carbon	Ceramic	508	9281K195	10.38
5/8″	1.185″	0.875″	1.250″	0.406″	Viton® Fluoroelastomer	Carbon	Ceramic	359	9281K69	18.67
5/8″	1.185″	1.312″	1.250″	0.406″	Buna-N	Carbon	Ceramic	274	9281K196	14.20
3/4″	1.302″	0.687″	1.287″	0.252″	Buna-N	Carbon	Ceramic	107165	9281K242	24.12
3/4″	1.300″	0.812″	1.375″	0.406″	Viton® Fluoroelastomer	Carbon	Ceramic	877	9281K71	23.72
7/8″	1.429″	0.937″	1.500″	0.406″	Buna-N	Carbon	Ceramic	309, 703	9281K252	15.62
7/8″	1.429″	0.937″	1.500″	0.406″	Viton® Fluoroelastomer	Carbon	Ceramic	309, 703	9281K72	27.69
1″	1.552″	1.000″	1.625″	0.437″	Buna-N	Carbon	Ceramic	235	9281K275	17.23
1″	1.552″	1.000″	1.625″	0.437″	Viton® Fluoroelastomer	Carbon	Ceramic	235	9281K73	28.68
1″	1.552″	1.000″	1.625″	0.437″	Viton® Fluoroelastomer	Carbon	Ceramic	245	9281K127	37.29
1 1/8″	1.750″	1.062″	1.750″	0.437″	Viton® Fluoroelastomer	Carbon	Ceramic	356	9281K74	32.31
1 1/4″	1.875″	1.062″	1.768″	0.367″	Buna-N	Carbon	Ceramic	976, 978	9281K358	30.68
1 1/4″	1.875″	1.062″	1.875″	0.437″	Buna-N	Carbon	Ceramic	185	9281K352	18.64
1 1/4″	1.875″	1.062″	1.875″	0.437″	Buna-N	Carbon	Ceramic	381	9281K361	21.78
1 1/4″	1.875″	1.062″	2.000″	0.437″	Buna-N	Carbon	Ceramic	466	9281K354	15.17
1 3/8″	2.000″	1.125″	2.000″	0.437″	Viton® Fluoroelastomer	Carbon	Ceramic	177	9281K76	48.24
1 1/2″	2.124″	1.093″	2.125″	0.437″	Viton® Fluoroelastomer	Carbon	Ceramic	11558	9281K78	55.95
1 1/2″	2.124″	1.125″	2.125″	0.437″	Viton® Fluoroelastomer	Carbon	Ceramic	758	9281K77	49.17
1 5/8″	2.375″	1.375″	2.375″	0.500″	Viton® Fluoroelastomer	Carbon	Ceramic	238	9281K79	68.21
1 3/4″	2.375″	1.375″	2.500″	0.500″	Viton® Fluoroelastomer	Carbon	Ceramic	237	9281K8	70.21
1 7/8″	2.515″	1.500″	2.625″	0.500″	Viton® Fluoroelastomer	Carbon	Ceramic	340	9281K81	87.45
2″	2.265″	1.500″	2.750″	0.500″	Buna-N	Carbon	Ceramic	267	9281K521	51.50
2″	2.265″	1.500″	2.750″	0.500″	Viton® Fluoroelastomer	Carbon	Ceramic	267	9281K83	92.39
316 Stainless Steel										
3/4″	1.199″	1.312″	1.375″	0.406″	Buna-N	Carbon	Ceramic	275	9281K237	42.56
7/8″	1.324″	1.375″	1.500″	0.406″	Buna-N	Carbon	Ceramic	188	9281K256	48.93
1″	1.449″	1.562″	1.625″	0.437″	Buna-N	Carbon	Ceramic	754	9281K279	29.26
1 1/8″	1.562″	1.625″	1.750″	0.437″	Buna-N	Carbon	Ceramic	204	9281K336	31.23
1 1/4″	1.687″	1.625″	1.875″	0.437″	Buna-N	Carbon	Ceramic	361	9281K365	33.08
1 3/8″	1.820″	1.687″	2.000″	0.437″	Buna-N	Carbon	Ceramic	354	9281K379	48.24
1 1/2″	1.949″	1.687″	2.125″	0.437″	Buna-N	Carbon	Ceramic	305	9281K429	57.49
1 5/8″	2.125″	2.000″	2.375″	0.500″	Buna-N	Carbon	Ceramic	745	9281K452	83.42
1 3/4″	2.300″	2.000″	2.500″	0.500″	Buna-N	Carbon	Ceramic	205	9281K467	86.56
1 7/8″	2.437″	2.125″	2.625″	0.500″	Buna-N	Carbon	Ceramic	523	9281K488	91.78

▲ Does not come with a seat.

Style 3

These seals are comparable to Pac-Seal Type 68, John Crane Type 6A, and Sealol Type 6. Maximum pressure is 75 psi. Maximum speed is 15,000 fpm.



	Seal		Seat		Material			Industry		
ID	OD	Lg.	OD	Thick.	Diaphragm	Washer	Seat	No.		
304 Stainless Steel										
1/2″	1.125″	0.187″	1.000″	0.312″	Viton® Fluoroelastomer	Carbon	Ceramic	80509	9281K84	$23.40
5/8″	1.437″	0.615″	♣	0.187″	Buna-N	Phenolic	Iron/Nickel	409	9281K87	26.20
5/8″	1.437″	0.615″	1.187″	0.343″	Buna-N	Phenolic	Ceramic	600	9281K88	13.75
5/8″	1.437″	0.615″	1.250″	0.406″	Buna-N	Phenolic	Ceramic	1000	9281K183	8.93
3/4″	1.575″	0.615″	1.375″	0.406″	Buna-N	Phenolic	Ceramic	601	9281K226	12.84

♣ Seat mounts on the shaft; there is a seal on the ID instead of the U-cup.

Compression Packing Seals



Cut these seals to size with a knife then pack them into place.

Multipurpose—These seals resist water, salt water, oil, mild acids, and mild alkalies. **Broad-temperature** seals are graphite-impregnated aramid for use in pumps and valves. They require lighter packing pressure than value seal, so they cause less friction for reduced shaft wear. **Value seal** are PTFE-impregnated synthetic fiber for use in pumps. They offer better chemical resistance than broad-temperature seals and are lubricated to prevent overheating.

High Temperature—All are rated for use with steam. **High-pressure** seals are graphite-impregnated graphite for high-performance service in pumps and valves. They resist water, salt water, oil, ammonia, corrosive acids, and mild alkalies. **Flexible** seals are chemically inert expanded graphite yarn. Use in pumps and valves. **Reinforced flexible** seals are expanded graphite yarn like the flexible seals, but they are reinforced with Inconel wire for shape retention. They are for use in valves only and resist water, salt water, oil, ammonia, mild acids, and mild alkalies. **High-speed** seals are expanded graphite with carbon-yarn corners for high-speed pump and valve applications. They are chemically inert. **Ultra-high-speed** seals are graphite-impregnated carbon; they dissipate heat away from the shaft to protect pumps and valves when operating at high speeds. They resist water, salt water, oil, ammonia, corrosive acids, and mild alkalies.

Ultra Compressible—Made from a lubricated, PTFE-impregnated aramid blend, these seals require less pressure than any other to make an effective seal. They are for use in pumps and resist water, salt water, oil, mild acids, and mild alkalies.

Food and Beverage—For use in pumps, these seals are made from FDA-listed materials. They are chemically inert PTFE lubricated with mineral oil.

Abrasion Resistant—For use in pump applications, these seals are abrasion and wear resistant. **Chemical-resistant** seals are a blend of aramid and PTFE. They resist water, salt water, oil, mild acids, and mild alkalies. **Ultra-wear-resistant** seals are aramid impregnated with PTFE and saturated in a lubricant, making them the most wear resistant of our seals. They resist water, salt water, oil, mild acids, and mild alkalies. **Long-life** seals combine a yarn that's comparable in strength to aramid with graphite for a soft seal that dissipates heat away from the shaft to extend the life of pumps. They resist water, salt water, oil, ammonia, mild acids, and mild alkalies.

Extreme Chemical—All are made from chemically inert PTFE. **Ultra-compressible** seals are lubricated for formability and reduced wear on the shaft. They are for use in pumps and valves. **High-pressure** seals are made without a lubricant, so they are harder than the other extreme-chemical seals to handle high-pressure valve applications. **High-speed** seals are also known as 100% GFO expanded PTFE; they contain a graphite powder, which dissipates heat away from the shaft and allows the pump to run cool at high speeds.

	Color	Temp. Range in Air, °F	Max. Temp. in Steam, °F♦	Max. Pressure, psi♦ Pumps	Valves	Steam	Max. Shaft Speed, ft. per min.	pH Resistance Range
Multipurpose								
Broad Temperature	Dull Gray	–400° to 600°	NR	200	1,200	NR	2,000	3-11
Value Seal	White	–10° to 450°	NR	500	NR	NR	2,300	2-12
High Temperature—Rated for use with steam.								
High Pressure	Dull Gray	–450° to 800°	1200°	500	3,500	3,500	4,000	1-14
Flexible	Shiny Gray	–400° to 650°	1200°	250	2,500	2,500	4,000	0-14
Reinforced Flexible	Shiny Gray	–100° to 650°	1200°	NR	3,500	3,500	Not Rated	1-14
High Speed	Shiny Gray	–300° to 650°	1200°	500	3,000	3,000	4,000	0-14
Ultra High Speed	Dull Gray	–450° to 650°	1200°	500	3,500	3,500	4,400	1-14
Ultra Compressible	White	–10° to 400°	NR	400	NR	NR	1,200	2-12
Food and Beverage	White	–400° to 500°	NR	250	NR	NR	1,200	0-14
Abrasion Resistant								
Chemical Resistant	White	–10° to 550°	NR	500	NR	NR	2,000	1-14
Ultra Wear Resistant	Yellow	–10° to 500°	NR	500	NR	NR	2,500	3-11
Long Life	Dull Black	–400° to 550°	NR	800	NR	NR	2,500	1-13
Extreme Chemical								
Ultra Compressible	White	–450° to 500°	NR	300	4,000	NR	2,000	0-14
High Pressure	White	–400° to 500°	NR	NR	2,000	NR	Not Rated	0-14
High Speed	Dull Black	–400° to 550°	NR	300	NR	NR	4,300	0-14

♦ NR = Not Recommended

Size, square		5 ft.	10 ft.	25 ft.
Multipurpose				
Broad Temperature				
1/8"	9518K81	$10.64	$16.12	$32.24
3/16"	9518K82	17.68	26.79	53.58
1/4"	9518K83	25.42	38.51	77.02
5/16"	9518K84	35.67	54.05	108.09
3/8"	9518K85	40.94	62.03	124.07
7/16"	9518K86	41.48	62.84	125.69
1/2"	9518K87	58.25	88.25	176.50
5/8"	9518K88	86.14	130.51	261.02
3/4"	9518K89	106.43	161.25	322.50
Value Seal				
1/8"	9316K4	6.35	9.62	19.24
3/16"	9316K5	12.03	18.22	36.44
1/4"	9316K6	19.61	29.71	59.43
5/16"	9316K84	24.27	36.77	73.55
3/8"	9316K85	35.56	53.88	107.76
7/16"	9316K16	46.06	69.80	139.59
1/2"	9316K24	60.26	91.30	182.60
5/8"	9316K87	87.75	132.95	265.90
3/4"	9316K26	117.62	178.21	356.41
High Temperature				
High Pressure				
1/8"	9457K5	29.13	44.13	88.26
3/16"	9457K6	46.51	70.47	140.93
1/4"	9457K16	68.83	104.28	208.57
5/16"	9457K21	91.38	138.46	276.92
3/8"	9457K22	112.38	170.28	340.56
7/16"	9457K34	133.89	202.86	405.72
1/2"	9457K35	180.07	272.83	545.66
5/8"	9457K36	254.12	385.03	770.06
3/4"	9457K37	368.19	557.86	1,115.72

Size, square		5 ft.	10 ft.	25 ft.
High Temperature (Cont.)				
Flexible				
1/8"	97675K4	$6.17	$9.35	$18.69
3/16"	97675K5	12.25	18.55	37.11
1/4"	97675K6	21.60	32.73	65.46
5/16"	97675K14	30.74	46.58	93.16
3/8"	97675K15	34.51	52.30	104.59
7/16"	97675K16	49.86	75.54	151.08
1/2"	97675K24	56.57	85.70	171.41
5/8"	97675K25	90.93	137.78	275.55
3/4"	97675K26	108.52	164.43	328.85
Reinforced Flexible				
1/8"	13005K131	16.08	24.36	48.72
3/16"	13005K132	28.51	43.20	86.39
1/4"	13005K133	43.47	65.86	131.73
5/16"	13005K134	64.03	97.02	194.04
3/8"	13005K135	76.03	115.19	230.38
7/16"	13005K136	62.49	120.32	254.53
1/2"	13005K137	88.20	133.63	267.27
5/8"	13005K138	131.26	198.88	397.77
3/4"	13005K139	210.70	319.24	638.47
High Speed				
1/4"	8322K56	44.14	66.88	133.75
5/16"	8322K34	53.90	81.67	163.33
3/8"	8322K35	70.46	106.75	213.51
7/16"	8322K36	83.64	126.72	253.45
1/2"	8322K44	102.29	154.99	309.98
5/8"	8322K45	132.37	200.56	401.11
3/4"	8322K46	191.54	290.21	580.42
Ultra High Speed				
1/8"	9437K4	19.28	29.20	58.41
3/16"	9437K5	27.37	41.48	82.95

Size, square		5 ft.	10 ft.	25 ft.
High Temperature (Cont.)				
Ultra High Speed (Cont.)				
1/4"	9437K6	$41.84	$63.39	$126.78
5/16"	9437K24	54.91	83.19	166.38
3/8"	9437K25	68.63	103.98	207.96
7/16"	9437K26	83.28	126.17	252.35
1/2"	9437K34	109.33	165.66	331.31
5/8"	9437K35	152.67	231.32	462.64
3/4"	9437K36	205.26	311.00	622.00
Ultra Compressible				
1/8"	9552K4	12.37	18.74	37.48
3/16"	9552K5	22.85	34.62	69.24
1/4"	9552K6	31.52	47.76	95.52
5/16"	9552K14	41.36	62.67	125.34
3/8"	9552K15	43.74	66.27	132.54
7/16"	9552K16	59.79	90.59	181.18
1/2"	9552K24	72.92	110.48	220.96
5/8"	9552K25	110.30	167.12	334.25
3/4"	9552K26	158.66	240.40	480.80
Food and Beverage				
1/8"	94695K85	21.46	32.51	65.02
3/16"	94695K86	29.92	45.34	90.67
1/4"	94695K87	47.25	71.58	143.17
5/16"	94695K88	58.96	89.34	178.68
3/8"	94695K89	81.40	123.33	246.66
7/16"	94695K91	91.85	139.16	278.33
1/2"	94695K92	127.92	193.81	387.63
5/8"	94695K93	154.73	234.44	468.87
3/4"	94695K94	225.64	341.88	683.75
1"	94695K95	386.13	585.04	1,170.09

(Continued on following page)

Compression Packing Seals *(Continued from previous page)*

Size, square		5 ft.	10 ft.	25 ft.
Abrasion Resistant				
Chemical Resistant				
1/8"	8550K54	$22.48	$34.06	$68.13
3/16"	8550K65	29.67	44.95	89.90
1/4"	8550K76	43.90	66.51	133.02
5/16"	8550K34	69.46	105.24	210.48
3/8"	8550K35	85.86	130.09	260.19
7/16"	8550K36	98.86	149.78	299.57
1/2"	8550K44	123.62	187.30	374.60
5/8"	8550K45	177.71	269.25	538.51
3/4"	8550K46	243.52	368.98	737.95
Ultra Wear Resistant				
1/8"	9468K16	17.23	26.11	52.21
3/16"	9468K18	21.48	32.54	65.08
1/4"	9468K19	28.43	43.08	86.16
5/16"	9468K21	39.65	60.08	120.16
3/8"	9468K23	51.91	78.64	157.29
7/16"	9468K35	65.36	99.03	198.05
1/2"	9468K36	80.90	122.58	245.15
5/8"	9468K48	110.27	167.07	334.14
3/4"	9468K49	161.02	243.97	487.93

Size, square		5 ft.	10 ft.	25 ft.
Abrasion Resistant (Cont.)				
Long Life				
1/8"	12945K4	$23.73	$35.96	$71.92
3/16"	12945K5	29.48	44.66	89.33
1/4"	12945K14	37.88	57.40	114.80
5/16"	12945K15	63.82	96.69	193.38
3/8"	12945K25	73.52	111.39	222.78
7/16"	12945K54	89.47	135.56	271.12
1/2"	12945K55	108.30	164.09	328.19
5/8"	12945K56	159.63	241.87	483.74
3/4"	12945K57	208.64	316.12	632.24
Extreme Chemical				
Ultra Compressible				
1/8"	9469K101	15.30	23.18	46.35
3/16"	9469K102	26.33	39.89	79.78
1/4"	9469K103	40.56	61.45	122.91
5/16"	9469K104	53.77	81.47	162.94
3/8"	9469K105	68.14	103.25	206.49
7/16"	9469K106	88.45	134.01	268.03
1/2"	9469K107	107.45	162.80	325.60
5/8"	9469K108	143.02	216.70	433.40
3/4"	9469K109	182.21	276.08	552.16

Size, square		5 ft.	10 ft.	25 ft.
Extreme Chemical (Cont.)				
High Pressure				
1/8"	9467K511	$14.98	$22.70	$45.39
3/16"	9467K512	24.27	36.77	73.55
1/4"	9467K513	44.80	67.88	135.76
5/16"	9467K514	50.46	76.45	152.90
3/8"	9467K515	66.80	101.20	202.41
7/16"	9467K516	74.67	113.14	226.28
1/2"	9467K517	111.70	169.24	338.47
5/8"	9467K518	159.99	242.41	484.83
3/4"	9467K519	196.31	297.44	594.87
High Speed				
1/8"	9466K4	21.92	33.20	66.41
3/16"	9466K5	28.86	43.73	87.46
1/4"	9466K6	46.04	69.76	139.52
5/16"	9466K24	70.40	106.67	213.34
3/8"	9466K25	86.53	131.11	262.22
7/16"	9466K26	107.64	163.09	326.17
1/2"	9466K64	127.92	193.82	387.64
5/8"	9466K65	187.84	284.60	569.20
3/4"	9466K66	247.64	375.20	750.41

Corrosion-Resistant Compressible Packing Seals for Valve Stems

- Temperature Range:
  Gore: –450° to 600°F;
  Value Seal: –450° to 500°F
- Max. Temperature in Steam:
  Gore: 600°F;
  Value Seal: 500°F
- Max. Pressure:
  Gore: 725 psi;
  Value Seal: Not rated
- pH Resistance Range: 0 to 14

These soft PTFE seals conform to fill irregularities caused by wear in valve stems. PTFE is self lubricating. Seals can be cut with a knife. Color is white.

Gore—Resists salt water, detergents, oil, grease, isopropyl alcohol, and hydraulic fluids.

Value Seal—Made with FDA-listed materials for use with food and beverage.



Dia.	Lg.		
Gore			
3/32"	16 ft.	97765K11	$45.72
5/32"	16 ft.	97765K13	95.26
1/4"	16 ft.	97765K15	109.87
5/16"	16 ft.	97765K16	137.33
3/8"	16 ft.	97765K17	200.11

Dia.	Lg.		
Value Seal			
3/32"	25 ft.	9441K1	$23.39
3/32"	50 ft.	9441K8	43.64
5/32"	20 ft.	9441K2	38.78
7/32"	10 ft.	9441K3	29.49
9/32"	9 ft.	9441K4	39.28

Compression Packing Lubricating Rings

- Temperature Range: –450° to 500°F
- Max. Temperature in Steam: 500°F
- Max. Pressure: 1,000 psi
- pH Resistance Range: 0 to 14

Install lubricating rings between layers of compression packing—the notches increase flexibility for bending around shafts and allow lubricants to distribute evenly. Also known as lantern rings, they're made of PTFE and resist most chemicals including acids, oil, grease, isopropyl alcohol, and hydraulic fluids. Maximum continuous length is 4 feet. They can be cut with a knife. Color is white.

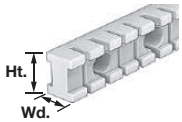

Ht.	Wd.		Per Ft. 1-3	Per Ft. 4-Up
7/16"	5/16"	1302K41	$100.60	$87.19
1/2"	3/8"	1302K42	101.95	88.36
9/16"	7/16"	1302K43	103.71	89.88

Ht.	Wd.		Per Ft. 1-3	Per Ft. 4-Up
5/8"	1/2"	1302K44	$104.51	$90.58
3/4"	5/8"	1302K45	107.24	92.95
1"	3/4"	1302K46	112.89	97.84

Ultra-Thin Packing Seals

- Max. Temperature: 212°F; low end not rated
- Max. Temperature in Steam: 250°F
- Max. Pressure: 160 psi
- pH Resistance Range: Not rated

Also known as candle wicking, this cotton yarn seal fits into tight spaces, such as in faucets. It resists water, salt water, and steam. It's furnished in a 2-oz. ball that contains approximately 78 ft. of random-cut lengths. Color is off-white.



0.036" Dia.	9484K1	$4.12

Packing Seal Tape for Pumps and Valves

- Temperature Range: –320° to 840°F
- Max. Temperature in Steam: 1200°F
- Max. Pressure: Not rated
- pH Resistance Range: 0 to 14



Made from high-purity graphite, this thin, flexible tape has no fibers, binders, or other additives that could contaminate your process. Graphite is self lubricating, plus it provides outstanding performance over a broad temperature range. This tape is resistant to most chemicals, including acids (except nitric and sulfuric), oil, grease, isopropyl alcohol, and hydraulic fluids. Color is dark gray.

Adhesive-back tape stays in place during installation.

Wd.	Thick.	Roll Lg.	Plain Back		Adhesive Back	
1/4"	0.015"	50 ft.	9481K11	$11.71	9481K21	$14.08
1/2"	0.015"	50 ft.	9481K12	13.90	9481K22	17.42
3/4"	0.015"	50 ft.	9481K13	15.49	9481K23	20.78
1"	0.015"	50 ft.	9481K14	17.03	9481K24	24.12

Flexible-Shaft Packing Seal Extractors



Because the shank bends, these extractors can easily get into tight spaces for packing removal. They are made of steel and have a T-handle for a secure grip and a nonremovable corkscrew tip. All meet Fed. Spec. GGG-E-950A.

Tip Dia.	O'all Lg.		
5/32"	7"	9569K67	$11.71
1/4"	7 1/2"	9492K11	10.01
5/16"	10 5/8"	9492K12	13.48
3/8"	14 1/2"	9492K13	23.93

Tip Dia.	O'all Lg.		
3/8"	22"	9492K14	$33.83
3/8"	30"	9492K15	42.34
1/2"	18"	9492K16	35.28
5/8"	22"	9492K17	38.07

3-Piece Set—One each of 7 1/2", 10 5/8", and 14 1/2" long tools.

9492K19 ..... $38.90

8-Piece Set—One of each tool listed above, except the included 7" long tool has an 11/64" tip diameter.

9492K21 ..... $165.05

Packing Seal Tools with Interchangeable Tips

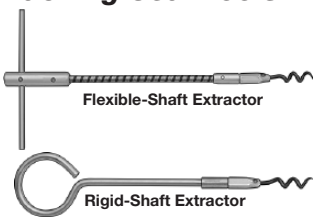

By swapping-out the tip, you can use one tool to remove compression packing, clean packing assemblies, and remove lubricating rings from pumps and valves. The extractors and all of the tips are made of steel. When choosing a tool, the tip diameter cannot be larger than the extraction hole on your cylinder or pump.

Flexible-shaft extractors bend slightly for access to packing in hard-to-reach places. **Rigid-shaft extractors** stay firm to grab dense packing that doesn't break up easily.

All extractor tools come with a replaceable corkscrew tip that screws into most types of packing for easy removal. Switch to one of the optional interchangeable tips for other applications. **Wood-screw tips** are for removing hardened packing. **Brush tips** are for cleaning packing assemblies. **Lubricating-ring tips** are for removing threaded lubricating rings.






Flexible-Shaft Extractors			Rigid-Shaft Extractors			Replacement Corkscrew Tips			Wood-Screw Tips			Brush Tips			Lubricating-Ring Tips		
O'all Lg.		Each	O'all Lg.		Each	Tip Dia.		Each	Tip Dia.		Each	Tip Dia.		Set of 2			Set of 3
7″	9756K12	$12.97	6″	9756K22	$10.81	1/4″	9756K42	$5.75	3/16″	9756K52	$5.75	7/32″, 5/16″	9756K62	$8.25	9756K72♦		$6.00
11″	9756K14	13.79	10″	9756K24	13.43	5/16″	9756K44	7.00	1/4″	9756K54	6.75	5/8″, 11/16″	9756K64	9.76	9756K74■		6.75
14″	9756K16	17.91	14″	9756K26	17.23	3/8″	9756K46	8.25	5/16″	9756K56	7.12	5/8″, 11/16″	9756K64	9.76	9756K74■		6.75

♦ For thread sizes: 8-32, 10-24, and 10-32. ■ For thread sizes: 1/4″-20, 1/4″-28, and 5/16″-18.

Packing Seal Tool Sets—All come in a plastic box.

13-Piece Set—Contains four flexible-shaft extractors (two each of 7″ and 11″ lg.); six corkscrew tips (three each of 1/4″ and 5/16″ dia.); and three 10″ general purpose extractor picks (one each of 1/8″, 3/16″, and 5/16″ dia.).

9498K11 ..... $90.22

21-Piece Set—Contains six flexible-shaft extractors (two each of 7″, 11″ and 14″ lg.); nine corkscrew tips (three each of 1/4″, 5/16″, and 3/8″ dia.); three wood-screw tips (one each of 3/16″, 1/4″, and 5/16″ dia.); and three 10″ general purpose extractor picks (one each of 1/8″, 3/16″, and 5/16″ dia.).

9498K12 ..... $142.71

47-Piece Set—Contains six flexible-shaft extractors (two each of 7″, 11″, and 14″ lg.); six rigid-shaft extractors (two each of 6″, 10″, and 14″ lg.); 15 corkscrew tips (five each of 1/4″, 5/16″, and 3/8″ dia.); three wood-screw tips (one each of 3/16″, 1/4″, and 5/16″ dia.); four brush tips (one each of 7/32″, 5/16″, 5/8″, and 11/16″ dia.) with two adapters; six lubricating-ring tips (for 8-32, 10-32, 10-24, 1/4″-20, 1/4″-28, and 5/16″-18 thread sizes); three 10″ general purpose extractor picks (one each of 1/8″, 3/16″, and 5/16″ dia.); two 6″ lg. general purpose O-ring extractors; and a packing-cutting knife.

9498K13 ..... $254.00

General Purpose Seal Tools

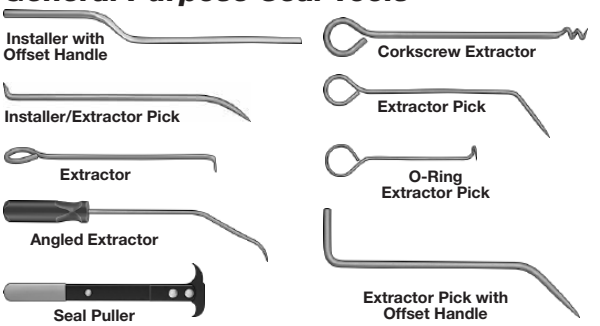

Use these tools to install and remove compression packing and seals from pumps, engines, and cylinders.

Seal puller has two different hook sizes to remove most oil and grease seals.

	Tip Dia.♣	O'all Lg.		Each
Installer with Offset Handle	1/2″	14″	9494K18	$22.86
Installer/Extractor Pick	3/16″	10″	9494K21	18.28
Installer/Extractor Pick	1/4″	12″	9494K17	25.14
Extractor	1/4″	8″	9494K15	17.07
Extractor	5/16″	10″	9494K22	18.38
Angled Extractor	3/16″	8″	94765K61	20.42
Angled Extractor	3/16″	11″	94765K63	21.87
Angled Extractor	1/4″	13″	94765K65	24.33
Corkscrew Extractor	3/8″	6″	9494K16	17.06
Corkscrew Extractor	1/2″	10″	9494K14	17.91
Corkscrew Extractor	1/2″	14″	9494K13	21.11
Corkscrew Extractor	5/8″	18″	9494K12	28.49
Corkscrew Extractor	5/8″	20″	9494K11	34.43
Extractor Pick	1/8″	9″	9494K64	8.21
Extractor Pick	3/16″	10″	9494K65	8.79
O-Ring Extractor Pick	1/8″	6″	9494K63	8.32
Extractor Pick w/ Offset Handle	5/16″	10″	9494K66	10.36
Seal Puller	—	12 1/2″	6887A11	11.91

♣ Measured at widest point of tip.

4-Piece Set—Includes one installer/extractor pick (12″ lg.) and three corkscrew extractors (6″, 10″, and 14″ lg.).

9494K23 ..... $72.24

10-Piece Set—Includes one installer with offset handle (14″ lg.); two installer/extractor picks (10″ and 12″ lg.); two extractors (8″ and 10″ lg.); and five corkscrew extractors (6″, 10″, 14″, 18″, and 20″ lg.).

9494K19 ..... $78.76

Ring and Rod-Seal Installers

Ring Installers



Install and remove piston rings.

For Ring Dia.		
1 1/4″-2 1/4″	6674A11	$13.53
2 3/4″-4 1/4″	6674A14	15.22
4 1/2″-7″	6674A16	17.85

Rod-Seal Installers

Install rubber and urethane U-cups, O-rings, and hydraulic seals. These tools are not for use with rigid materials, such as PTFE and nylon.

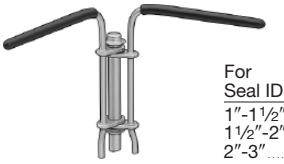

For Seal ID	Approximate Min. Opening Required		
1″-1 1/2″	1″	45015K21	$37.90
1 1/2″-2″	1 1/2″	45015K22	37.90
2″-3″	2″	45015K23	37.90

Piston Ring Compressors


Easy-Adjust Spring-Clutch with Two Bands


Quick Release


Low Friction

By compressing the piston rings, these tools allow you to smoothly insert pistons into cylinders.

Flared End—The flared end prevents this compressor from following the piston into the cylinder.

Easy-Adjust Spring Clutch—The diameter adjusts in small increments for a secure fit.

Quick Release—Push the lever and this compressor instantly releases for easy removal. It has a spring clutch that adjusts the diameter in small increments for a secure fit.

Low Friction—Also known as a wrinkle-band compressor, this style has fewer points of contact than the other styles for less friction. It has a cam lock that holds the size once you set it.

Dia. Range	O'all Ht.	No. of Bands		
Flared End				
1 3/4″ to 3 1/2″	2″	1	6728A12	$8.03
Easy-Adjust Spring Clutch				
2 1/8″ to 5″	3 1/2″	2	6686A1	15.62
3 1/2″ to 7″	3 1/2″	2	6686A2	17.58
3 1/2″ to 7″	7″	4	6686A6	36.16
7″ to 10″	7″	4	6686A7	44.48
Quick Release				
2 1/8″ to 5″	1 1/2″	1	6686A9	18.09
Low Friction				
3″ to 5″	1 1/2″	1	6686A11	18.56

Raw Materials

Felt	3566
Fabric	3569
Brake & Clutch Lining	3573
Pipe & Thermal Insulation	3574
Sound Insulation	3586
Rubber	3588
Foam	3612
Plastic	3626
Graphite, Carbon Fiber & Mica	3687
Glass	3689
Ceramic	3692
Wood	3695
Clay, Wax & Casting Compounds	3696
Aluminum	3698
Steel, Iron & Tungsten	3728
Stainless Steel	3770
Nickel & Titanium	3801
Copper, Brass & Bronze	3805
Tin, Lead, Zinc & Casting Metals	3825
Wire	3827
Expanded Metal Sheets	3834
Caps, Plugs & Grips	3835
Bumpers & Guards	3848
Trim	3860
Grommets	3866
Bellows	3871



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About Selecting Wool Felt

	Hard			Extra Firm	Firm	Medium	Soft	Very Soft		Ultra Soft
Felt Grade	**S2-32**	**S2-24**	**S2-20**	**F1**	**F3**	**F5**	**F7**	**F10**	**F13**	**F26**
Firmness (10% Deflection), psi	121	86	58	21	13	6	6	4	3	1
Density, lbs./sq. yd. @ 1″ thick	32	24	20	16	15.6	12.2	12.2	8.4	8.4	7.2
Minimum Wool Fiber Content	100%	100%	100%	95%	85%	95%	80%	95%	75%	45%
Durometer Hardness (Shore A) ±5	80	55	50	35	35	25	25	20	20	10
Tensile Strength, psi	500	600	500	500	400	400	250	225	75	Not Rated

Wool Felt Selector Pack—Includes seven samples; one 1¾″ × 1⅜″ piece of each of the following felts: F1, F3, F5, F7, F10, F13, and F26. Information about each felt is listed on the back side of the sample sheet.
9248K222 ..... $6.03

Hard Off-White S2 Felt



- Temperature Range: –80° to +200° F
- Vibration Absorption: Excellent
- Abrasion Resistance: Excellent

Made of 100% wool, this is the hardest felt we offer, yet it can still be used for polishing.
Grade S2-32—The hardest of these S2 grades, this material can be used as shock-absorbing bumpers, gaskets, and washers.
Grade S2-24—Slightly less firm than S2-32, this felt is commonly used for buffing, padding, in ink rollers, and in marking devices.
Grade S2-20—Use on polishing wheels for buffing lenses, mirrors, glass, marble, granite, metals, and wood.

	GRADE S2-32				GRADE S2-24				GRADE S2-20			
Thick.	12″×12″		36″×36″		12″×12″		36″×36″		12″×12″		36″×36″	
1/8″	8759K81	$18.15	8759K85	$122.58	8759K31	$14.00	8759K1	$94.56	8759K71	$11.40	8759K51	$77.02
1/4″	8759K82	33.19	8759K86	224.08	8759K33	28.07	8759K3	189.53	8759K73	23.02	8759K53	146.15
3/8″	8759K83	49.63	8759K87	335.14	8759K34	37.34	8759K4	243.09	8759K74	30.29	8759K54	194.03
1/2″	8759K84	68.03	8759K88	459.35	8759K35	50.25	8759K5	348.70	8759K75	34.30	8759K55	229.60

Extra Firm White F1 Felt



- Temperature Range:
  Plain back and cord: –80° to +200° F
  Adhesive back: 0° to +180° F
- Vibration Absorption: Excellent
- Abrasion Resistance: Excellent

Composed almost entirely of pure wool, F1 is one of the most versatile graded felts. Its high density provides wear and abrasion resistance when used for polishing, wicking, cushioning, wiping, and gasketing. ***Adhesive-back*** sheets, strips, and discs have a rubber-based adhesive.

Sheets and Sheeting

Sheets, Sheeting, and Strips

To Order: For sheeting, please specify length: 1, 2, 3, 4, 5, or 10 ft.
To Order: For strips, please specify length: 10, 25, or 50 ft.



Strips

	SHEETS		SHEETING		STRIPS							
	12″×12″		60″ Wide		1/2″ Wide		1″ Wide		1 1/2″ Wide		2″ Wide	
Thick.	Each		Per Ft.		Per Ft.		Per Ft.		Per Ft.		Per Ft.	
Plain Back												
1/16″	8334K35	$8.78	8755K11	$24.74	5051K151	$0.56	5051K161	$1.09	5051K221	$1.30	5051K231	$2.03
1/8″	8334K31	14.24	8755K12	37.60	5051K51	.87	5051K57	1.48	5051K64	2.14	5051K71	2.72
3/16″	8334K36	22.42	8755K13	51.64	5051K281	1.07	5051K291	2.01	5051K351	2.98	5051K361	3.41
1/4″	8334K32	26.19	8755K14	68.89	5051K52	1.48	5051K58	2.72	5051K65	3.79	5051K72	4.67
3/8″	8334K33	35.90	8755K15	91.71	5051K53	2.39	5051K59	3.63	5051K66	4.95	5051K73	6.63
1/2″	8334K34	47.87	8755K16	118.07	5051K54	2.83	5051K61	4.66	5051K67	6.36	5051K74	8.86
Adhesive Back												
1/16″	8334K15	11.85	_____	_____	5051K421	.75	5051K431	1.17	5051K481	1.73	5051K491	2.04
1/8″	8334K11	16.81	_____	_____	5051K11	.89	5051K17	1.97	5051K24	2.22	5051K31	2.78
3/16″	8334K16	24.13	_____	_____	5051K551	1.30	5051K561	2.23	5051K621	3.12	5051K631	4.04
1/4″	8334K12	28.49	_____	_____	5051K12	1.61	5051K18	3.06	5051K25	4.05	5051K32	5.56
3/8″	8334K13	41.71	_____	_____	5051K13	2.62	5051K19	3.90	5051K26	5.65	5051K33	7.26
1/2″	8334K14	52.50	_____	_____	5051K14	2.94	5051K21	5.08	5051K27	7.53	5051K34	9.08

	SHEETS				STRIPS			
	12″×12″		12″×60″		1/2″×30″		1″×30″		2″×30″	
Thick.	Each		Each		Each		Each		Each	
Plain Back										
3/4″	8334K38	$69.12	8755K801	$180.09	5051K91	$9.16	5051K93	$15.93	5051K95	$27.72
1″	8334K39	85.80	8755K901	225.42	5051K92	11.56	5051K94	20.81	5051K96	35.27

Cord



Cord

To Order: Please specify length in 5-ft. increments up to the maximum length listed.

Dia.	Max. Length		Per Ft.	Dia.	Max. Length		Per Ft.	Dia.	Max. Length		Per Ft.
1/8″	25 ft.	8767K21	$0.98	1/4″	25 ft.	8767K23	$1.26	1/2″	15 ft.	8767K25	$3.23
3/16″	25 ft.	8767K22	1.07	3/8″	15 ft.	8767K24	1.92				

Discs



Discs

	PLAIN BACK				ADHESIVE BACK			
Thick.	4″ Dia.		6″ Dia.	8″ Dia.	4″ Dia.		6″ Dia.	8″ Dia.
1/8″	8307K21	$2.81	8307K41 $5.65	8307K61 $9.05	8307K11	$3.71	8307K31 $7.44	8307K51 $11.27
1/4″	8307K22	5.40	8307K42 10.79	8307K62 17.34	8307K12	6.27	8307K32 12.61	8307K52 19.15
3/8″	8307K23	7.78	8307K43 15.56	8307K63 25.01	8307K13	8.73	8307K33 17.46	8307K53 26.45
1/2″	8307K24	10.02	8307K44 20.03	8307K64 30.35	8307K14	10.99	8307K34 21.97	8307K54 33.29

For information about graded wool felt, see page 3566.

Firm Gray F3 Felt

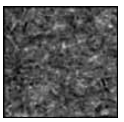

Sheets and Sheeting

- Temperature Range: Plain back: –80° to +200°F Adhesive back: 0° to +180°F
- Vibration Absorption: Excellent
- Abrasion Resistance: Excellent

Fabricated from coarse wool, this material is a common choice for vibration mountings.

Sheets, Sheeting, and Strips

Adhesive-back sheets and strips have a rubber-based adhesive.

To Order: For sheeting, please specify length: 1, 2, 3, 4, 5, or 10 ft. **To Order:** For strips, please specify length: ½″ wide strips are available in 10- and 25-ft. lengths. 1″, 1½″, and 2″ wide strips are available in 10-, 25-, and 50-ft. lengths.

	SHEETS 12″×12″	SHEETING 60″ Wide	STRIPS ½″ Wide	STRIPS 1″ Wide	STRIPS 1½″ Wide	STRIPS 2″ Wide
Thick.	Each	Per Ft.	Per Ft.	Per Ft.	Per Ft.	Per Ft.
Plain Back						
1/8″	87255K11 $9.70	8756K11 $23.90	87395K381 $0.64	87395K24 $1.07	87395K54 $1.33	87395K84 $1.52
3/16″	87255K12 13.31	8756K12 35.89	87395K111 .74	87395K121 1.45	87395K141 1.90	87395K171 2.35
1/4″	87255K13 16.89	8756K13 45.48	87395K382 1.07	87395K26 1.98	87395K56 2.82	87395K86 2.92
3/8″	87255K15 22.95	8756K14 67.42	87395K373 1.31	87395K28 2.40	87395K58 3.35	87395K88 4.29
1/2″	87255K17 30.58	8756K15 88.63	87395K374 2.04	87395K32 3.34	87395K62 4.78	87395K92 5.85
Adhesive Back						
1/8″	87255K51 14.05	_____ _____	87395K375 .81	87395K98 1.34	87395K38 1.97	87395K68 2.34
1/4″	87255K53 21.37	_____ _____	87395K376 1.19	87395K12 2.19	87395K42 2.95	87395K72 3.93
3/8″	87255K55 27.39	_____ _____	87395K377 1.67	87395K14 3.09	87395K44 4.09	87395K74 5.20
1/2″	87255K57 34.70	_____ _____	87395K378 2.29	87395K16 3.70	87395K46 4.94	87395K76 6.01

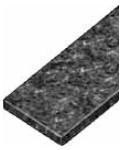

Strips

	SHEETS 12″×12″	SHEETS 12″×60″	STRIPS 1″×30″	STRIPS 2″×30″
Thick.	Each	Each	Each	Each
Plain Back				
3/4″	87255K93 $51.18	8756K811 $135.05	87395K91 $13.51	87395K95 $22.22
1″	87255K95 65.73	8756K911 173.56	87395K93 17.37	87395K97 28.53

Cord

To Order: Please specify length in 5-ft. increments up to the maximum length listed.

Dia.	Max. Length	Per Ft.	Dia.	Max. Length	Per Ft.	Dia.	Max. Length	Per Ft.
1/8″	25 ft.	8767K3 $0.85	1/4″	25 ft.	8767K1 $1.10	1/2″	15 ft.	8767K2 $2.81
3/16″	25 ft.	8767K4 .94	3/8″	15 ft.	8767K5 1.68			



Cord

Medium White F5 Felt



Sheets and Sheeting

- Temperature Range: Plain back: –80° to +200°F Adhesive back: 0° to +180°F
- Vibration Absorption: Good
- Abrasion Resistance: Good

This highly resilient felt is often used for grease seals and wipers. ***Adhesive-back*** sheets and strips have a rubber-based adhesive.

To Order: For sheeting, please specify length: 1, 2, 3, 4, 5, or 10 ft. **To Order:** For strips, please specify length: 10, 25, or 50 ft.

	SHEETS 12″×12″	SHEETING 66″ Wide	STRIPS ½″ Wide	STRIPS 1″ Wide	STRIPS 1½″ Wide	STRIPS 2″ Wide
Thick.	Each	Per Ft.	Per Ft.	Per Ft.	Per Ft.	Per Ft.
Plain Back						
1/8″	8341K31 $12.63	8757K11 $39.00	8344K51 $0.78	8344K57 $1.22	8344K64 $2.01	8344K71 $2.56
3/16″	8341K36 23.61	8757K12 60.80	8344K151 .87	8344K161 1.48	8344K231 2.19	8344K281 2.69
1/4″	8341K32 25.38	8757K13 69.77	8344K52 1.36	8344K58 2.37	8344K65 2.92	8344K72 4.48
3/8″	8341K33 37.84	8757K14 96.28	8344K53 1.84	8344K59 3.72	8344K66 5.10	8344K73 6.13
1/2″	8341K34 45.54	8757K15 118.92	8344K54 2.37	8344K61 4.65	8344K67 6.26	8344K74 7.61
Adhesive Back						
1/8″	8341K11 15.05	_____ _____	8344K11 .87	8344K17 1.52	8344K24 2.44	8344K31 3.18
1/4″	8341K12 27.95	_____ _____	8344K12 1.53	8344K18 2.40	8344K25 4.53	8344K32 5.79



Strips

	SHEETS 12″×12″	SHEETS 12″×66″	STRIPS 1″×33″	STRIPS 2″×33″
Thick.	Each	Each	Each	Each
Plain Back				
3/4″	8341K38 $63.51	8757K801 $166.47	8344K91 $18.33	8344K95 $22.36
1″	8341K39 79.20	8757K901 207.42	8344K93 22.06	8344K97 43.24

Soft Gray F7 Felt

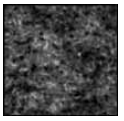

Sheets and Sheeting

- Temperature Range: Plain back: –80° to +200°F Adhesive back: 0° to +180°F
- Vibration Absorption: Good
- Abrasion Resistance: Good

When fabricating grease seals and wipers, this material's lower wool content makes it an economical alternative to F5 felt. ***Adhesive-back*** sheets and strips have a rubber-based adhesive.

To Order: For sheeting, please specify length: 1, 2, 3, 4, 5, or 10 ft. **To Order:** For strips, please specify length: ¼″ wide strips are only available in 10-ft. lengths. 1″, 1½″, and 2″ wide strips are available in 10-, 25-, and 50-ft. lengths.

	SHEETS 12″×12″	SHEETING 72″ Wide	STRIPS ¼″×10 ft.	STRIPS 1″ Wide	STRIPS 1½″ Wide	STRIPS 2″ Wide
Thick.	Each	Per Ft.	Each	Per Ft.	Per Ft.	Per Ft.
Plain Back						
1/8″	87385K12 $7.16	8766K11 $24.42	8762K111 $3.50	8762K36 $0.79	8762K66 $0.97	8762K96 $1.39
3/16″	87385K13 8.34	8766K12 32.14	_____ ___	8762K141 .80	8762K161 1.21	8762K181 1.53
1/4″	87385K14 10.92	8766K13 36.34	8762K211 4.80	8762K38 .97	8762K68 1.39	8762K98 1.85
3/8″	87385K16 14.80	8766K14 52.82	8762K311 7.40	8762K57 1.56	8762K72 2.35	8762K12 3.02
1/2″	87385K18 18.70	8766K15 69.10	8762K611 13.40	8762K59 2.11	8762K74 2.97	8762K14 3.53
Adhesive Back						
1/8″	87385K52 11.44	_____ _____	8762K711 4.70	8762K22 1.12	8762K55 1.56	8762K82 1.83
1/4″	87385K54 17.38	_____ _____	8762K811 6.10	8762K24 1.40	8762K54 2.11	8762K84 2.28
3/8″	87385K56 21.57	_____ _____	8762K911 9.30	8762K26 1.92	8762K56 2.80	8762K86 3.39
1/2″	87385K58 24.53	_____ _____	8762K441 15.10	8762K28 2.45	8762K58 3.49	8762K88 3.92

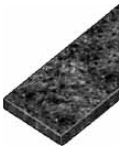

Strips

Wool Felt & Synthetic Felt

For information about graded wool felt, see page 3566.

Very Soft White F10 Felt



- Temperature Range: –80° to +200°F
- Vibration Absorption: Fair
- Abrasion Resistance: Fair

This material absorbs grease and oil even when compressed. **To Order:** For sheeting please specify length: 1, 2, 3, 4, 5, or 10 ft.

Thick.	12″×12″ Sheets	Each	72″ Wide Sheeting	Per Ft.
1/8″	2842T21	$9.78	8241K11	$29.06
3/16″	2842T23	10.92	8241K12	35.43
1/4″	2842T25	13.73	8241K13	40.75
3/8″	2842T27	18.14	8241K14	56.58
1/2″	2842T29	22.52	8241K15	69.99

Very Soft Gray F13 Felt

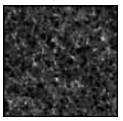

Sheets and Sheeting



Strips

- Temperature Range: Plain back: –80° to +200°F; Adhesive back: 0° to +180°F
- Vibration Absorption: Fair
- Abrasion Resistance: Fair

A gray, lower wool content version of F10 felt, this material is often used for grease and oil retention. ***Adhesive-back*** sheets and strips have a rubber-based adhesive.

To Order: For sheeting, please specify length: 1, 2, 3, 4, 5, or 10 ft.
To Order: For strips, please specify length: 10, 25, or 50 ft.

	SHEETS 12″×12″		SHEETING 72″ Wide		STRIPS 1″ Wide		1½″ Wide		2″ Wide	
Thick.		Each		Per Ft.		Per Ft.		Per Ft.		Per Ft.
Plain Back										
1/8″	87415K11	$4.35	8758K11	$11.94	87555K29	$0.46	87555K65	$0.54	87555K91	$0.61
1/4″	87415K13	7.51	8758K13	21.23	87555K35	.56	87555K67	.95	87555K92	1.08
3/8″	87415K15	9.10	8758K14	30.61	87555K15	1.01	87555K18	1.49	87555K31	1.86
1/2″	87415K17	11.55	8758K15	39.24	87555K44	1.33	87555K47	2.34	87555K54	2.46
Adhesive Back										
1/8″	87415K51	5.99	_____	_____	87555K17	.75	87555K48	1.02	87555K78	1.24
1/4″	87415K53	9.19	_____	_____	87555K223	1.03	87555K51	1.41	87555K79	1.77

Ultra Soft Gray F26 Felt

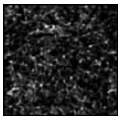

Sheets and Sheeting



Strips

- Temperature Range: Plain back: –80° to +200°F; Adhesive back: 0° to +180°F
- Vibration Absorption: Poor
- Abrasion Resistance: Poor

Use for packing and padding applications where the felt will be held between other materials. ***Adhesive-back*** sheets and strips have a rubber-based adhesive.

To Order: For sheeting, please specify length: 1, 2, 3, 4, 5, or 10 ft.
To Order: For strips, please specify length: 10, 25, or 50 ft.

	SHEETS 12″×12″		SHEETING 72″ Wide		STRIPS 1″ Wide		1½″ Wide		2″ Wide	
Thick.		Each		Per Ft.		Per Ft.		Per Ft.		Per Ft.
Plain Back										
1/8″	8353K21	$2.35	8845K11	$6.45	8348K51	$0.22	8348K57	$0.32	8348K64	$0.36
3/16″	8353K25	3.49	8845K12	7.95	8348K32	.30	8348K34	.38	8348K36	.50
1/4″	8353K22	3.68	8845K13	9.84	8348K52	.36	8348K58	.48	8348K65	.57
1/2″	8353K24	7.07	8845K15	17.09	8348K38	.68	8348K39	.96	8348K41	1.28
Adhesive Back										
1/8″	8353K11	6.73	_____	____	8348K11	.58	8348K17	.81	8348K24	1.05
1/4″	8353K12	8.09	_____	____	8348K12	.72	8348K18	1.08	8348K25	1.48

	SHEETS 12″×12″		12″×72″		STRIPS 1″×36″		2″×36″	
Thick.		Each		Each		Each		Each
Plain Back								
1″	8353K33	$12.72	8845K181	$33.11	8348K33	$3.25	8348K37	$5.38

Firm White Synthetic Felt



Sheeting



Strips

- Polyester Temp. Range: Plain back: –40° to +300°F; Adhesive back: 0° to +180°F
- Polypropylene Temp. Range: Plain back: –40° to +180°F
- Vibration Absorption: Polyester: Good; Polypropylene: Fair
- Abrasion Resistance: Good

An economical alternative to wool felt when vibration absorption and abrasion resistance are needed. Density is 15 lbs./sq. yd. @ 1″ thick for polyester; 12 lbs./sq. yd. @ 1″ thick for polypropylene. ***Adhesive-back*** sheeting and strips have a rubber-based adhesive.

Sheeting

To Order: For polyester, please specify length: 1, 2, or 5 ft.
To Order: For polypropylene, please specify length: 1, 5, 10, or 20 ft.

		POLYESTER Plain Back		Adhesive Back		POLYPROPYLENE Plain Back	
Thick.	Wd.		Per Ft.		Per Ft.		Per Ft.
1/16″	72″	8877K62	$12.74	8877K11	$16.55	88125K11	$10.62
1/8″	72″	8877K63	20.15	8877K12	23.67	88125K51	9.30
3/16″	72″	8877K64	29.13	8877K13	31.77	_____	_____
1/4″	72″	8877K65	36.65	8877K14	41.51	88125K61	17.80
3/8″	72″	8877K66	52.45	8877K15	57.38	88125K71	22.75
1/2″	72″	8877K67	67.44	8877K16	72.29	88125K81	47.25

Strips

To Order: Please specify length: 10, 25, or 50 ft.

	POLYESTER 1″ Wide		2″ Wide	
Thick.		Per Ft.		Per Ft.
Plain Back				
1/8″	88085K71	$0.45	88085K75	$0.88
1/4″	88085K311	.47	88085K313	.93
Adhesive Back				
1/8″	88085K91	.58	88085K95	1.16
1/4″	88085K515	.58	88085K512	1.18

Adhesive-Backed Lining Felt

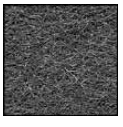

- Temperature Range: Cotton Flannel: Not rated; Wool/Rayon: –20° to +200°F

Line toolboxes and drawers to cushion and protect small parts.

Cotton flannel felt is green and has a rubber-based adhesive. Density is not rated.

Wool/rayon has an acrylic adhesive. Density is 0.75 lbs./sq. yd. **To Order:** Please specify color: black, brown, or green. For sheeting, also specify length.

		Sheets			32″ Wide Sheeting	
Thick.	Wd.	Lg.		Each	Max. Lg.	Per Ft.
Cotton Flannel						
1/64″	11 1/4″	13″	8764K2	$7.22	_____	_____
1/64″	11″	79″	8764K3	29.67	_____	_____
1/64″	11″	164″	8764K7	56.58	_____	_____
Wool/Rayon						
3/64″	24″	32″	8770K8	20.32	48 ft.	8770K9 $10.06

Cotton Fabric

Sheeting

Standard cotton sheets, also known as canvas and cotton duck, are often used as dust covers and drop cloths. Material is unbleached; color is off-white.

Flame- and water-resistant sheets are also mildew resistant and can be used as tarps. Color is olive green.

Water-repellent sheets have been saturated in wax and have a polyester coating on one side that resists corrosion and moisture. The fabric is extremely flexible and is excellent for protecting piping and wrapping irregularly shaped material. It adheres to itself but can be separated easily. Color is tan.

To Order: Please specify length.

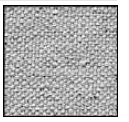
Standard

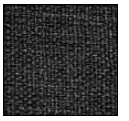
Flame and Water Resistant

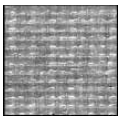
Water Repellent

Thick.	Trade No.	Density, oz./sq. yd.	Available Lengths, ft.	36″ Wide	Per Ft.	48″ Wide	Per Ft.	60″ Wide	Per Ft.
Standard									
0.026″	—	8	2, 5, 10, 20, 50, 100	8778K1	$1.43				
0.026″	12	12	2, 5, 10, 20, 50, 100	8777K11	1.95	8777K12	$2.53	8777K13	$2.99
0.028″	—	10	2, 5, 10, 20, 50, 100	8778K2	1.81				
0.030″	—	12	2, 5, 10, 20, 50, 100	8778K3	1.97				
0.031″	10	15	2, 5, 10, 20, 50, 100	8777K14	2.42	8777K15	3.18	8777K16	3.30
0.042″	8	18	2, 5, 10, 20, 50, 100	8777K17	2.71	8777K18	3.30		
0.046″	6	22	2, 5, 10, 20, 50, 100	8777K19	3.04	8777K21	3.69		
0.050″	4	24	2, 5, 10, 20, 50, 100	8777K26	3.66	8777K24	4.43		
Flame and Water Resistant									
0.028″	–	10	2, 5, 10, 20, 50, 100	8776K4	2.77				
0.030″	–	12	2, 5, 10, 20, 50, 100	8776K5	3.02				
0.036″	–	15	2, 5, 10, 20, 50, 100	8776K6	3.43				
Water Repellent									
0.013″	–	8	10, 25, 50, 100, 150	2079T4	1.15				

Strips

Able to endure tugs and pulls, these strips are ideal for use as ties and straps. Choose from off-white (unbleached) or white (bleached).


0.025″ Thick

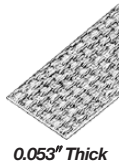
0.053″ Thick

Thick.	Wd.	Approx. Breaking Strength, lbs.	Length, ft.	Off-White	Each	White	Each
0.025″	1/2″	140	216	88495K41	$14.63	88495K31	$17.38
0.025″	5/8″	155	216	88495K42	16.22	88495K32	19.25
0.025″	3/4″	175	216	88495K43	17.77	88495K33	21.36
0.025″	1″	210	216	88495K45	21.97	88495K35	26.32
0.053″	3/4″	100	75	88445K44	14.07		
0.053″	1″	170	75	88445K45	15.07		
0.053″	1 1/2″	230	37	88445K46	11.44		

Muslin Cheesecloth Fabric

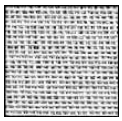

Use for lining, cleaning, straining, and polishing. Density is 1.3 oz./sq. yd. ***Off-white*** material is unbleached; ***white*** has been bleached.

To Order: Please specify length: 10, 25, 50, 100, 150, or 300 ft.

Thick.	Wd.	Off-White	Per Ft.	White	Per Ft.
0.011″	36″	8808K11	$0.49	8808K31	$0.60

Silk Fabric



This mildew-resistant sheeting is ideal for covering walls in audio/visual rooms. It is washable but will shrink approximately 3%. Color is black.

To Order: Please specify length: 1, 3, 10, 25, or 50 ft.

Thick.	Wd.	Density, oz./sq. yd.	Per Ft.
0.008″	54″	2	$57.50

Burlap Fabric

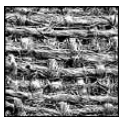

Commonly used for wrapping, cushioning, and packaging. Color is brown.

To Order: Please specify length: 10, 25, 50, 100, 150, or 300 ft.

Thick.	Wd.	Density, oz./sq. yd.	Per Ft.	Thick.	Wd.	Density, oz./sq. yd.	Per Ft.
0.028″	12″	8	8814K61 $0.40	0.028″	40″	8	8814K51 $1.09
0.028″	20″	8	8814K31 .60	0.028″	40″	9	8814K71 1.62
0.028″	30″	8	8814K41 .85				

Leather

Vegetable-tanned cow leather is often used in belting applications for its stiffness. Max. temperature is 150° F. Color is tan.

Mineral-tanned cow leather is tougher yet more supple than vegetable-tanned leather and is often used as hydraulic seals. Maximum temperature is 200° F. Also known as chrome-tanned leather, color is blue gray.

Sheets and *strips* have a smooth side and a rough side. *Cord* has one smooth side and three rough sides.

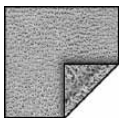
Sheets


Strips


Cord

Sheets

Thick.	12″×12″		24″×24″		24″×36″		24″×48″		30″×36″	
Vegetable Tanned										
5/64″	8706K11	$22.95	8706K12	$88.28	8706K13	$127.52	8706K14	$163.98	8706K67	$178.11
1/8″	8706K16	27.32	8706K17	104.33	8706K18	149.70	8706K19	191.30	8706K68	206.61
3/16″	8706K22	34.26	8706K23	115.79	8706K24	170.38	8706K25	221.05	8706K69	240.81

Strips

Thick.	1″×36″		2″×36″		3″×36″		4″×36″		5″×36″	
Vegetable Tanned										
5/64″	8706K51	$8.70	8706K52	$15.80	8706K53	$21.56	8706K54	$26.12	8706K55	$29.68
1/8″	8706K56	10.08	8706K57	18.33	8706K58	25.00	8706K59	30.30	8706K61	34.44
3/16″	8706K62	12.92	8706K63	23.51	8706K64	32.04	8706K65	38.90	8706K66	44.19
Mineral Tanned										
5/64″	8706K71	12.88	8706K72	24.18	8706K73	35.87	8706K74	39.12	8706K75	52.51
1/8″	8706K76	17.08	8706K77	33.15	8706K78	47.35	8706K79	61.60	8706K81	66.41
3/16″	8706K82	22.26	8706K83	40.21	8706K84	54.84	8706K85	66.51	8706K86	75.59

Cord

Thick.	Wd.	Lg.	Pkg. Qty.		Pkg.	Thick.	Wd.	Lg.	Pkg. Qty.		Pkg.
Vegetable Tanned						***Mineral Tanned***					
3/32″	1/8″	48″	5	8825T11	$8.33	3/32″	1/8″	48″	5	8825T12	$9.62

Rawhide

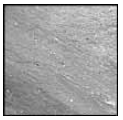

A durable stretch-resistant material, these cow rawhide sheets are a good choice for lacing applications and can be shaped easily when wet. Max. temp. is 140° F. Color is tan. Sizes are approximate.

Thick.	12″×28″	
0.063″-0.094″	8718T4	$40.55

Pigskin

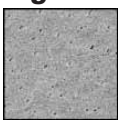

The dense fiber structure makes this material stronger than leather. Maximum temperature is not rated. Color is tan. Sheet size varies; equals approximately 13 to 15 sq. ft.

Thick.		
0.024″-0.030″	8724T11	$48.10

Nylon Fabric

Sheeting



Often used as tarps, this neoprene-coated sheeting resists solvents, oils, and UV rays. Maximum temperature is 180° F. **To Order:** Please specify length.

Thick.	Wd.	Density, oz./sq. yd.	Available Lengths, ft.	Color		Per Ft.
0.022″	60″	16	1, 5, 10, 20, 50	Black	8811K55	$16.73
0.040″	60″	40	1, 5, 10, 20, 50	Black	8811K56	30.81

Strips



0.019″ Thick



0.075″ Thick

An excellent choice for strapping applications. Strips can be used outdoors. Maximum temperature is not rated.

Approx. Thick.	Wd.	Approx. Breaking Strength, lbs.	Length, ft.	Black	Each	White	Each
0.019″	3/8″	120	75	87975K51	$10.84	87975K61	$10.84
0.019″	1/2″	170	75	87975K52	11.35	87975K62	11.35
0.019″	3/4″	250	75	87975K54	13.76	87975K64	13.76
0.019″	1″	290	75	87975K55	18.58	87975K65	18.58
0.075″	3/4″	2,800	37.5	87425K75	12.88	87425K45	13.98
0.075″	1″	3,800	37.5	87425K76	15.87	87425K46	16.29
0.075″	1 1/2″	5,700	37.5	87425K77	19.68	87425K47	20.43

Polyester Fabric

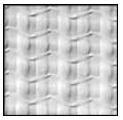

Often used as outdoor equipment covers and pit liners, this material combines sun-, water-, and mildew-resistance with tear-resistance. Maximum temperature is 180° F.

Thick.	Wd.	Density, oz./sq. yd.	Available Lengths, ft.	Available Color		Per Ft.
0.015″	61″	13	1, 10, 20, 100	Black, Blue, Gray, White	8810K41	$3.35
0.022″	61″	18	1, 5, 10, 50	Black	8843K33	5.32
0.022″	61″	18	1, 5, 10, 50	Gray	8843K34	5.32
0.022″	61″	18	1, 5, 10, 50	White	8843K31	5.32
0.027″	61″	22	1, 5, 10, 50	Black	88505K57	5.46
0.027″	61″	22	1, 5, 10, 50	Gray	88505K58	5.46
0.027″	61″	22	1, 5, 10, 50	White	88505K55	5.46

Wind- and Light-Blocking Mesh Fabric

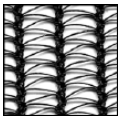

Shade your site. Material is HDPE mesh and can be used outdoors. Color is black.
To Order: Please specify length: 1, 5, 20, or 50 ft.

Thick.	Wd.	Density, oz./sq. yd.	Light Blocked		Per Ft.
0.039″	121″	3	40%	88275K39	$4.12
0.039″	121″	5	60%	88275K43	6.58

Elastic Fabric



Even after stretching up to twice their length, these elastic strips will bounce back to their original shape. Maximum temperature is not rated. Color is black.

Thick.	Wd.	Lg., ft.		Each
0.035″	1/4″	36	88225K61	$5.85
0.045″	3/4″	36	88225K67	8.38
0.055″	1″	36	88225K68	9.85

Lightweight Tyvek Fabric



Composed of high-density polyethylene fibers, this durable material is tear and water resistant and keeps its high strength in both wet and dry environments. Max. temperature is 240° F. Color is white. *0.007″ thick sheeting* is a good choice for lining and packaging applications; *0.010″ thick sheeting* can be used for printing applications.
To Order: Please specify length: 15, 30, 50, or 100 ft.

Thick.	Density, oz./sq. yd.	24″ Wide	Per Ft.	48″ Wide	Per Ft.	60″ Wide	Per Ft.
0.007″	2	1650T11	$1.20	1650T21	$2.29	1650T31	$2.73
0.010″	3	———	———	1650T41	4.58	1650T51	5.45

Velvet Fabric



Add cushioning and dampen vibration. Fabric is made of acrylic and nylon and has a low pile. Max. temperature is 180° F. Color is black. ***Adhesive-back*** fabric has an acrylic-base adhesive.
To Order: Please specify length: 3, 10, 20, 30, 50, or 100 ft.

Thick.	Wd.	Plain Back	Per Ft.	Adhesive Back	Per Ft.
0.030″	48″	88015K1	$4.09	88015K2	$9.16

Aramid Fabric



Use when temperature and chemical resistance are required, such as in insulation applications.

Nomex Aramid Sheets

Maximum temperature is 425° F. Color is off-white.

Thick.	Density, oz./sq. yd.	12″×12″		24″×24″	
0.010″	7	2587T11	$37.51	2587T21	$81.82

Kevlar Aramid Sheeting

Material is cut resistant. Max. temp. is 300° F. Color is yellow.
To Order: Please specify length: 1, 2, 3, 6, 15, or 30 ft.

Thick.	Wd.	Density, oz./sq. yd.		Per Ft.
0.024″	60″	8	1206T1	$29.25



Nomex Aramid Strips

Maximum temperature is 600° F. Color is off-white.

Thick.	Available Lengths, ft.	1″ Wide	Per Ft.	2″ Wide	Per Ft.	3″ Wide	Per Ft.	4″ Wide	Per Ft.	6″ Wide	Per Ft.
0.050″	10, 150	8796K42	$0.27	8796K43	$0.54	8796K44	$0.77	8796K45	$1.03	8796K46	$1.49
0.125″	10, 50	8796K52	.47	8796K53	.95	8796K54	1.37	8796K55	1.83	8796K56	2.62

Aramid-and-Fiberglass Fabric

The choice for excellent abrasion and mildew resistance. The fabric's self-extinguishing and nonmelting properties make it ideal for insulation applications. Maximum temperature is 600° F. Color is yellow.

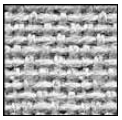
Sheeting

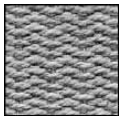
Strips

Sheeting

To Order: Please specify length: 1, 2, 3, 6, 15, or 30 ft.

Thick.	Wd.	Density, oz./sq. yd.		Per Ft.
0.030″	40″	8	8821K4	$19.42
0.057″	40″	17	8821K5	29.31
0.110″	40″	30	8821K6	44.76

Strips

To Order: Please specify length: 5, 10, 15, 25, 50, or 100 ft., except 8822K61 is not available in 100-ft. lengths.

Wd.	1/16″ Thick	Per Ft.	1/8″ Thick	Per Ft.
1/2″	8822K51	$0.50	8822K61	$1.00
1″	8822K53	.83	8822K63	1.94
2″	8822K55	1.46	8822K65	3.34
3″	8822K56	2.12	8822K66	4.77

PTFE-Coated Fiberglass Fabric

The PTFE coating is chemical resistant and nonstick. Maximum temperature is 500° F.

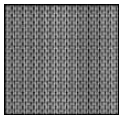
Adhesive-Back Sheets

Sheets

Adhesive-back sheets have a silicone adhesive. Color is tan.

Silicone-back sheets have a good gripping surface without adhesive. The PTFE is copper colored; silicone backing is black.


Silicone-Back Sheets

Thick.	Density, oz./sq. yd.	12″×12″	
Adhesive Back			
0.003″	6	5739T11	$10.57
0.006″	11	5739T31	12.22
0.010″	17	5739T51	14.94
Silicone Back			
0.009″	12	5737T21	43.72

Sheeting

Standard sheeting is tan.

Porous sheeting is good for curing, drying, and dipping applications. Color is tan.

Conductive sheeting can be grounded to reduce static electricity in your application. Color is black.

Tear-resistant sheeting is 50% more tear resistant than standard sheeting. Color is tan.

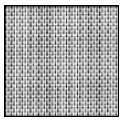
Standard and Porous Sheeting

To Order: Please specify length: 1, 3, 5, 10, 20, or 25 ft.

Thick.	Wd.	Density, oz./sq. yd.		Per Ft.
Standard				
0.003″	37 1/2″	4	8577K81	$13.82
0.005″	37 1/2″	8	8577K82	16.90
0.006″	37 1/2″	9	8577K83	17.57
0.010″	37 1/2″	14	8577K84	19.71
0.014″	43 3/4″	17	8577K85	26.70
0.020″	37 1/2″	27	8577K86	29.35
Porous				
0.003″	38″	2	87865K41	8.35
0.005″	40″	4	87865K42	12.90
0.010″	40″	8	87865K43	22.98
0.030″	40″	14	87865K44▲	28.31
Conductive				
0.005″	37 1/2″	8	8665K82	26.10
0.014″	43 3/4″	21	8665K84	41.14
Tear Resistant				
0.003″	37 1/2″	4	8876K81	10.75
0.005″	37 1/2″	8	8876K82	13.16
0.006″	37 1/2″	9	8876K83	15.36
0.010″	40 1/4″	14	8876K84	23.92

▲Has an open weave; openings are 3/16″×3/16″.

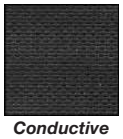
Conductive Sheeting

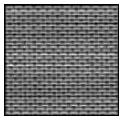
Tear-Resistant Sheeting

Lava Rock Fabric

Combining superior strength with temperature resistance, this material, commonly known as basalt fabric, is a good choice for insulation and pipe wrapping. Max. temperature is 1200° F. Color is brown.



To Order: Please specify length: 15, 25, 50, or 100 ft.

Thick.	Wd.	Density, oz./sq. yd.		Per Ft.
1/16″	1″	28	1727T12	$1.05
1/16″	2″	28	1727T14	1.79

Fiberglass Fabric

Resistant to rot and mildew, this woven fiberglass fabric also provides good chemical resistance. Color is white. Maximum temperature is 1000° F, except 0.005″ thick strips have a maximum temperature of 300° F. ***Adhesive-back*** strips have an acrylic adhesive, which has a maximum temperature of 300° F.



Sheeting

Commonly used as curtains and welding blankets.

To Order: Please specify length: 1, 3, 5, 10, 15, 20, or 25 ft.

Thick.	Wd.	Density, oz./sq. yd.		Per Ft.
0.070″	40″	30	8816K1	$7.50
0.125″	40″	64	8816K2	14.89

Strips

Often used in sealing applications.

To Order: Please specify length: 0.005″ thick strips are only available in 108-ft. rolls. 0.063″ and 0.125″ thick strips are available in 10, 25, 50, or 100-ft. lengths, unless noted.

Thick.	Wd.		Each
Plain Back			
0.005″	1/2″	9345K1	$6.70
0.005″	3/4″	9345K2	7.94
0.005″	1″	9345K3	9.07
0.005″	1 1/2″	9345K4	10.63
			Per Ft.
0.063″	1/2″	8817K61	$0.14
0.063″	3/4″	8817K62	.21
0.063″	1″	8817K63	.26
0.063″	1 1/4″	8817K64	.29
0.063″	1 1/2″	8817K65	.32
0.063″	2″	8817K66	.39
0.063″	2 1/2″	8817K67	.45
0.063″	3″	8817K68	.53
0.063″	4″	8817K69	.70
0.063″	6″	8817K71	1.00
0.125″	1/2″	8817K81♣	.26
0.125″	3/4″	8817K82	.32
0.125″	1″	8817K83	.38
0.125″	1 1/4″	8817K84	.47
0.125″	1 1/2″	8817K85	.52

Thick.	Wd.		Per Ft.
Plain Back (Cont.)			
0.125″	2″	8817K86	$0.67
0.125″	2 1/2″	8817K87	.80
0.125″	3″	8817K88	.95
0.125″	4″	8817K89	1.26
0.125″	6″	8817K91	2.04
Adhesive Back			
0.063″	1/2″	87965K11	.72
0.063″	3/4″	87965K13	.76
0.063″	1″	87965K14	.82
0.063″	1 1/2″	87965K15	.98
0.063″	2″	87965K16	1.00
0.063″	3″	87965K17	1.26
0.063″	4″	87965K18	1.67
0.125″	1/2″	87965K81♣	.95
0.125″	3/4″	87965K84	1.11
0.125″	1″	87965K85	1.15
0.125″	1 1/2″	87965K86	1.27
0.125″	2″	87965K87	1.42
0.125″	3″	87965K88	1.84
0.125″	4″	87965K89	2.34

♣Not available in 100-ft. length.

Vermiculite-Coated Fiberglass Fabric

Resistant to sparks and molten metal splatter, this fabric also has excellent temperature resistance and is a good choice for curtains, blankets, and gaskets. Maximum temperature is 1500° F. Color is tan.

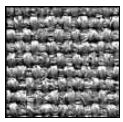

Sheeting

To Order: Please specify length: 1, 3, 5, 10, 20, or 25 ft.

Thick.	Wd.	Density, oz./sq. yd.		Per Ft.
0.020″	60″	10	87825K21	$13.20
0.035″	60″	20	87825K31	17.83
0.080″	60″	40	87825K41	24.40

Strips

To Order: Please specify length: 10, 25, 50, or 100 ft.

Thick.	Wd.		Per Ft.
1/16″	3/4″	87835K21	$0.37
1/16″	1″	87835K22	.42
1/16″	1 1/2″	87835K23	.56
1/16″	2″	87835K24	.72
1/16″	3″	87835K25	1.00
1/16″	4″	87835K26	1.33
1/16″	6″	87835K27	1.89

Thick.	Wd.		Per Ft.
1/8″	1″	87835K72	$0.62
1/8″	1 1/2″	87835K73	.88
1/8″	2″	87835K74	1.14
1/8″	3″	87835K75	1.56
1/8″	4″	87835K76	2.16
1/8″	6″	87835K77	3.22

Aluminum Foil Backed Fiberglass Fabric

Protect your equipment from radiant heat. Often used to create curtains and screens, this sheeting has an aluminum foil backing that reflects heat and withstands temperatures up to 300° F. The fiberglass fabric base is off-white and has a maximum temperature of 1000° F. Foil backing is silver.

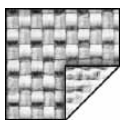

To Order: Please specify length: 1, 3, 5, 10, 15, 20, or 25 ft.

Thick.	Wd.	Density, oz./sq. yd.		Per Ft.
0.030″	48″	19	88475K2	$12.35
0.056″	40″	28	87715K49	15.51

Silicone-Coated Fiberglass Fabric

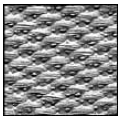

Not only water-, oil-, and puncture-resistant, this fabric even protects against molten metal splatter when used in the vertical position. It's often used as welding curtains and heat shields. Maximum temperature is 500° F. Color is gray, except 0.060″ thick sheeting is red.

To Order: Please specify length: 1, 3, 5, 10, 15, 20, or 25 ft.

Thick.	Wd.	Density, oz./sq. yd.		Per Ft.
0.017″	60″	17	87815K1	$17.49
0.035″	60″	32	87815K2	26.19
0.060″	60″	53	87815K3	41.15

Wet-and-Stick Fiberglass Fabric

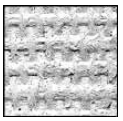

Sheeting



Strips

Similar to plaster, this adhesive-impregnated material becomes moldable when water is added and hardens as it dries to meet your sealing, insulating, and covering needs. Maximum temperature is 1100° F. Color is off-white.

Sheeting

To Order: Please specify length: 1, 3, 5, 10, 20, or 25 ft.

Thick.	Wd.	Density, oz./sq. yd.		Per Ft.
0.035″	60″	22	87945K1	$9.66

Strips

To Order: Please specify length: 10, 25, 50 or 100 ft.

Thick.	Wd.		Per Ft.
0.035″	1″	87905K1	$0.61
0.035″	2″	87905K2	.82
0.035″	3″	87905K3	.98
0.035″	4″	87905K4	1.11
0.035″	6″	87905K6	1.27

Carbon Fiber Fabric



Sheeting



Strips

The heat-stabilized carbon fiber composition makes this material resistant to very high temperatures. Color is black.

Sheeting

Resistant to flames and molten metal splatter, sheeting will not ignite or melt when exposed for as long as 2 minutes to temperatures up to 2600° F. Maximum temperature is 800° F.

Thick.	Wd.	Density, oz./sq. yd.	Max. Length		Per Ft.
0.020″	60″	11	150 ft.	87113T31	$27.37

Strips

Use for high-temperature seals and heat insulation. Maximum temperature is 700° F when oxygen is present and 5000° F when oxygen is not present.

To Order: Please specify length: 1, 3, 5, 10, 25, 50, or 75 ft.

Thick.	Wd.		Per Ft.
1/16″	1″	87365K11	$2.34
1/16″	2″	87365K12	3.47
1/16″	3″	87365K13	4.31
1/16″	4″	87365K14	5.42
1/8″	1″	87365K21	$3.81
1/8″	2″	87365K22	5.53
1/8″	3″	87365K23	8.34
1/8″	4″	87365K24	9.79

Sewing Awl Kit



Faster than hand sewing, this handy tool is the perfect choice for repetitive stitching of leather, canvas, and similar materials. Sewing awl kit is furnished with one spool of 12½ yards of black polyester thread; one 2⅛″ long straight sewing needle; one 1¾″ long curved sewing needle; and one wrench for changing the needles. One needle and wrench can be stored in the awl's hollow handle.

		Each
Sewing Awl Kit	6356K55	$26.84
Repl. Spool of Thread—Black Polyester (12½ yds.)	6356K91	6.87
Repl. Spool of Thread—White Polyester (12½ yds.)	6356K92	6.87
Repl. Straight Sewing Needle	6356K44	5.22
Repl. Curved Sewing Needle	6356K46	5.22

Acrylic-Coated Fiberglass Fabric



This abrasion-resistant fabric sheds molten splatter when placed at an incline of 15° or greater. Maximum continuous temperature is 1000° F. Color is black.

To Order: Please specify length: 1, 3, 5, 10, 20, or 25 ft.

Thick.	Wd.	Density, oz./sq. yd.		Per Ft.
0.040″	40″	21	8838K2	$13.20
0.040″	60″	21	8838K4	19.66

Silica Fabric

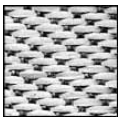

Flexible



High Temperature

Containing 96% silica, the material resists the highest temperatures of any fabric we offer.

Flexible—Max. temp. is 1800° F. Color is tan. ***Adhesive-back*** strips have a rubber adhesive, which has a max. temperature of 275° F.

High Temperature—The fabric's thickness makes it resistant to higher temperatures than flexible sheeting and strips. Max. temp. is 2300° F. Color is off-white.

Sheeting

Commonly used as curtains, covers, insulation, and splash shields, this sheeting can be used to protect against welding splatter.

To Order: Please specify length: 1, 3, 5, 10, 20, or 50 ft.

Thick.	Wd.	Density, oz./sq. yd.		Per Ft.
Flexible				
0.026″	36″	18	8799K3	$9.82
0.054″	36″	36	8799K4	16.60
High Temperature				
0.090″	39″	40	8851K33	27.09

Flexible Strips

A good choice for gaskets and as insulation wrapping for pipes, wires, and hose.

To Order: Please specify length: 2, 5, 10, 20, or 50 ft. 0.030″ and 0.062″ thick strips are also available in 100-ft. lengths.

Thick.	Wd.		Per Ft.
Plain Back			
0.062″	1″	8827K11	$2.98
0.062″	1½″	8827K12	3.51
0.062″	2″	8827K13	3.96
0.062″	4″	8827K14	5.77
0.062″	6″	8827K15	7.85
0.125″	1″	8827K21	4.06
0.125″	1½″	8827K22	5.02
0.125″	2″	8827K23	5.96
0.125″	4″	8827K24	8.25
0.125″	6″	8827K25	11.44
Plain Back (Cont.)			
0.250″	1″	8827K41	$6.45
0.250″	2″	8827K42	12.07
0.250″	3″	8827K43	17.57
Adhesive Back			
0.030″	1″	7761T11	1.28
0.030″	1½″	7761T13	1.44
0.030″	2″	7761T15	1.61
0.030″	4″	7761T17	3.03

Industrial Steel Needles

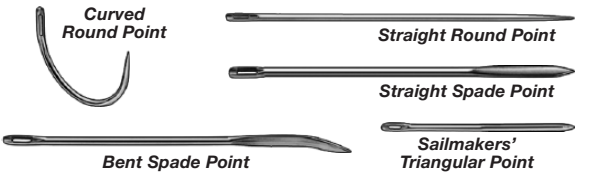

Needles

Dia.	Lg.		Pkg. of 12
Curved Round Point			
0.056″	2″	8847K25	$16.26
0.036″	2½″	8847K26	17.13
0.064″	3″	8847K29	18.59
0.064″	3½″	8847K31	20.01
0.072″	4″	8847K32	21.67
0.080″	6″	8847K34	33.84
0.092″	8″	8847K35	37.73
Straight Round Point			
0.072″	4″	8847K61	22.44
0.080″	6″	8847K63	28.95
Straight Round Point (Cont.)			
0.080″	8″	8847K64	$32.80
0.092″	8″	8847K67	38.09
0.092″	10″	8847K65	51.30
Straight Spade Point			
0.144″	6″	8847K21	27.93
Bent Spade Point			
0.144″	6″	8847K14	30.47
Sailmakers' Triangular Point			
0.092″	3″	8847K96★	47.49

★Pkg. qty. is 25.

Leather Palm Protectors

		Each
Left Hand Protector	8847K98	$18.10
Right Hand Protector	8847K97	18.10

Thread



Nylon Thread— Meets Fed. Spec. VT-295. Maximum temperature is 350° F. Color is white.
Polyester Thread— Meets Fed. Spec. VT-285. Maximum temperature is 400° F. Color is white.
Kevlar Thread— Five times stronger than steel wire and flame resistant. Meets MIL-T-87128. Maximum temperature is 600° F. Color is yellow.
PTFE-Coated Fiberglass Thread— The PTFE coating lets this thread slide easily. This thread has excellent chemical, ultraviolet, heat, and flame resistance and has a maximum temperature of 1000° F; coating has a maximum temperature of 500° F. Color is tan.
PTFE-Coated Quartz Thread— The coating provides a slippery surface. Quartz thread resists acids, alkalies, and the build up of contaminants. Thread is nonburning and has a maximum temperature of 2000° F; coating has a maximum temperature of 500° F. Color is tan.

Thread Diameter	Trade Size	Tensile Strength, lbs.	Yds./ Spool		
Nylon Thread					
0.016″	69	10.5	360	87695K31	$6.25
0.025″	207	31.5	138	87695K32	7.97
0.032″	346	53	82	87695K33	8.28
Polyester Thread					
0.023″	138	21	206	87635K61	11.74
0.030″	346	50	82	87635K62	11.74
0.045″	693	118	120	87635K63	12.77
Kevlar Thread					
0.014″	69	23	300	8800K41	31.68
0.025″	207	64	100	8800K44	28.60
Kevlar Thread (Cont.)					
0.038″	346	135	66	8800K43	$27.17
PTFE-Coated Fiberglass Thread					
0.014″	—	12	100	8839K21	21.39
0.017″	—	16	100	8839K22	23.30
0.021″	—	20	100	8839K23	25.84
PTFE-Coated Quartz Thread					
0.014″	—	12	100	6373K88	71.65
0.017″	—	20	100	6373K89	92.42

Brake and Clutch Lining

Also known as friction materials, these sheets and strips can be riveted or bonded. They do not contain asbestos.

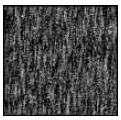
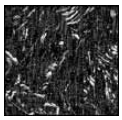
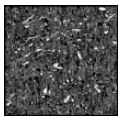

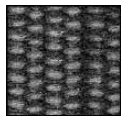

	Low-Friction Sheets	Medium-Friction Sheets	High-Friction Sheets	Metal-Free Strips	High-Strength Strips
Max. Rubbing Speed	4,500 ft./min. @ 600 psi	5,000 ft./min. @ 500 psi	5,000 ft./min. @ 500 psi	4,000 ft./min. @ 250 psi	5,000 ft./min. @ 200 psi
Max. Operating Temp.	600° F	550° F	550° F	480° F	500° F
Max. Operating Pressure	600 psi	500 psi	500 psi	250 psi	200 psi
Max. Coefficient of Friction	0.14	0.35	0.55	0.47	0.51

Molded Sheets

Use ***low-friction*** sheets for a smooth stop. ***High-friction*** sheets provide immediate engagement. **Also Available:** 30″ x 30″ molded sheets. Please ask for 3976K888 and specify thickness and low, medium, or high friction.

	Low Friction				Medium Friction				High Friction			
Thick.	7½″ x 7½″		15″ x 15″		7½″ x 7½″		15″ x 15″		7½″ x 7½″		15″ x 15″	
1/8″	3976K31	$26.38	3976K11	$55.92	6090K21	$24.30	6090K11	$51.51	60895K11	$31.36	60895K21	$66.46
3/16″	3976K32	22.00	3976K12	46.63	6090K22	24.72	6090K12	52.40	60895K12	33.20	60895K22	70.37
1/4″	3976K33	29.19	3976K13	61.87	6090K23	26.50	6090K13	56.18	60895K13	34.68	60895K23	73.50
5/16″	3976K34	30.49	3976K14	64.63	6090K24	27.31	6090K14	57.89	60895K14	36.41	60895K24	77.18
3/8″	3976K35	32.49	3976K15	68.86	6090K25	29.39	6090K15	62.29	60895K15	38.59	60895K25	81.80
1/2″	3976K36	35.54	3976K16	75.34	6090K26	32.79	6090K16	69.51	60895K16	45.26	60895K26	95.93
5/8″	3976K37	45.70	3976K17	96.87	6090K27	38.38	6090K17	81.36	60895K17	52.44	60895K27	111.16
3/4″	3976K38	48.11	3976K18	101.98	6090K28	41.41	6090K18	87.77	60895K18	55.02	60895K28	116.63
1″	—	—	—	—	6090K29	62.71	6090K19	132.93	—	—	—	—

Strips

Metal-free strips are also known as nonmetallic molded strips. ***High-strength*** strips, also known as semimetallic woven strips, have a brass wire woven into the material to increase strength and improve heat dissipation.
To Order: Please specify length: 1, 2, 3, 4, 5, 6, 10, or 15 ft. *High-strength* strips are also available in 20- and 25-ft. lengths.

		Metal-Free		High Strength	
Thick.	Wd.		Per Ft.		Per Ft.
3/16″	1″	6175K811	$3.28	6224K341	$4.12
3/16″	1 1/4″	6175K812	4.01	6224K342	4.43
3/16″	1 1/2″	6175K813	4.82	6224K343	5.69
3/16″	1 3/4″	6175K814	5.50	6224K344	6.00
3/16″	2″	6175K815	5.83	6224K345	6.86
3/16″	2 1/4″	6175K816	6.35	—	—
3/16″	2 1/2″	6175K817	6.35	6224K346	8.07
3/16″	2 3/4″	6175K818	7.55	—	—
3/16″	3″	6175K819	8.09	6224K347	9.89
3/16″	4″	6175K821	10.39	—	—
3/16″	5″	6175K822	12.77	—	—
3/16″	6″	6175K823	15.08	—	—
1/4″	1″	6175K824	4.07	6224K348	4.29
1/4″	1 1/4″	6175K825	4.78	6224K349	5.39
1/4″	1 1/2″	6175K826	5.50	6224K351	6.53
1/4″	1 3/4″	6175K827	6.32	6224K352	7.17
1/4″	2″	6175K828	7.06	6224K353	8.08
1/4″	2 1/4″	6175K829	7.73	6224K354	9.16
1/4″	2 1/2″	6175K831	8.50	6224K355	10.44
1/4″	2 3/4″	—	—	6224K356	10.89
1/4″	3″	6175K832	9.98	6224K357	11.70
1/4″	3 1/2″	6175K833	11.45	6224K358	13.48
1/4″	4″	6175K834	12.88	6224K359	15.69
1/4″	5″	6175K835	$15.93	6224K361	$19.56
1/4″	6″	6175K836	18.83	—	—
5/16″	2″	6175K837	9.08	6224K362	9.89
5/16″	2 1/2″	6175K838	10.84	—	—
5/16″	3″	6175K839	12.60	6224K363	14.07
5/16″	4″	6175K841	16.19	—	—
3/8″	2″	6175K842	9.94	6224K364	11.86
3/8″	2 1/2″	6175K843	11.97	—	—
3/8″	3″	6175K844	13.95	6224K365	17.19
3/8″	3 1/2″	6175K845	15.92	6224K366	20.08
3/8″	4″	6175K846	17.86	6224K367	21.71
3/8″	4 1/2″	6175K847	19.87	—	—
3/8″	5″	6175K848	21.87	—	—
3/8″	5 1/2″	—	—	6224K368	31.00
3/8″	6″	6175K849	25.29	—	—
3/8″	7″	6175K851	29.73	—	—
3/8″	8″	6175K852	33.71	—	—
1/2″	2 1/2″	—	—	6224K369	20.87
1/2″	3″	—	—	6224K371	25.05
1/2″	4″	—	—	6224K372	29.72
1/2″	5″	—	—	6224K373	36.88
1/2″	6″	—	—	6224K374	42.51
1/2″	8″	—	—	6224K375	59.07

About Selecting Thermal Insulation

A material's resistance to temperature and its ability to block heat are important factors to consider when choosing thermal insulation. *R-value* measures the material's capacity to slow heat flow; the higher the R-value, the better the material insulates. The chart below shows R-value for 1″ thick insulation. To calculate the R-value of additional thicknesses, divide the material's thickness by its K-factor. *K-factor* measures the heat flow rate from one side of the insulation to the other; the lower the K-factor, the better the material insulates.

Use the chart to find the insulation material that best suits your application. If insulating below 0° F, use polyethylene, foam rubber, aerogel, or polyimide insulation.

Insulation Material	Max Temp., °F	R-Value @ 1″ thick	Pages
PVC Foam	160°	4.5	3581
Polystyrene Foam	165°	3.9-5.0	3581
Polyethylene Foam	180°	4.0	3576, 3582
Spray Foam	200°	5.0	3581
Polyurethane	200°	5.3-6.2	3578, 3581
Foam Rubber	220°	3.7	3574-3575, 3582
Cork	265°	3.6	3582
Melamine	350°	4.0	3578, 3582
Fiberglass	350°-1000°	1.7-4.8	3575, 3577, 3583

Insulation Material	Max Temp., °F	R-Value @ 1″ thick	Pages
Silicone Foam	390°	2.6	3575, 3582
Aerogel	390°	9.5	3582
Polyimide	550°	4.2	3582
Cellular Glass	900°	3.4	3578
Mineral Wool	1200°	3.7-4.4	3577, 3581-3582
Calcium Silicate	1200°-1700°	1.0	3585
Millboard	1400°-2000°	1.0	3585
Ceramic	1500°-2730°	0.8-3.6	3584
Silica	2000°	1.3	3585

Selecting Insulation for Pipe and Fittings

Pipe and Tubing Application	Good	Better	Best
Hot and Cold Water (up to 200° F)	Polyethylene (pg. 3576)	Low-Temp. Polyethylene (pg. 3576)	Foam Rubber (pgs. 3574-3575)
Steam (up to 400° F)	Polyurethane (pg. 3578)	Melamine (pg. 3578)	Silicone (pg. 3575)
High Temperatures (up to 1200° F)	Fiberglass (pg. 3577)	Cellular Glass (pg. 3578)	Mineral Wool (pg. 3577)

To select the proper pipe insulation, measure the outside diameter (OD) of your pipe with a ruler to find the corresponding insulation ID. Pipe size is the accepted industry designation, not the actual size.

Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	2	2 1/2	3	3 1/2	4	6
Pipe OD	3/8″	1/2″	5/8″	27/32″	1 1/16″	1 5/16″	1 5/8″	2 3/8″	2 7/8″	3 1/2″	4″	4 1/2″	6 5/8″
Insulation ID	3/8″	1/2″	5/8″	7/8″	1 1/8″	1 3/8″	1 5/8″	2 3/8″	2 7/8″	3 5/8″	4 1/8″	4 1/2″	6 5/8″

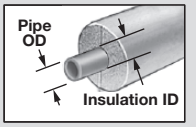

Ultra-Flexible Foam Rubber Pipe Insulation

- Temperature Range: –295° to 220° F, except Slit with Adhesive Strip is –295° to 180° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.25
- Density: 3-6 lbs./cu. ft.
- Color: Black

The most flexible pipe insulation we offer, this soft Buna-N/PVC rubber flexes for easy installation over curved or irregular surfaces and recovers its shape well after compression. Use on chilled water and refrigeration lines and with hot water plumbing. Material has a closed-cell construction for moisture resistance. Insulation can be used outdoors when coated with latex paint; seal seams and joints with contact adhesive (both sold separately). Meets ASTM E84 25/50 for flame and smoke and ASTM C534.

Unslit and Slit with Adhesive Strip Insulation for Pipe and Tubing





Insulation ID	Lg., ft.	UNSLIT 3/8″ Thick		UNSLIT 1/2″ Thick		UNSLIT 3/4″ Thick		SLIT WITH ADHESIVE STRIP 1/2″ Thick		SLIT WITH ADHESIVE STRIP 3/4″ Thick		SLIT WITH ADHESIVE STRIP 1″ Thick	
1/4″	6	4463K23	$2.28	4463K114	$3.38								
3/8″	6	4463K121	2.37	4463K131	3.57	4463K161	$5.33						
1/2″	6	4463K122	2.54	4463K132	3.77	4463K162	5.91						
5/8″	6	4463K123	2.76	4463K133	4.08	4463K163	6.28	44745K21	$7.08	44745K47	$12.24	44745K73	$15.32
3/4″	6	4463K124	2.95	4463K134	4.22	4463K164	6.84	44745K23	7.94	44745K49	13.24	44745K75	19.92
7/8″	6	4463K125	3.09	4463K135	4.56	4463K165	7.52	44745K25	8.66	44745K51	13.71	44745K77	21.56
1 1/8″	6	4463K126	3.52	4463K136	5.12	4463K166	9.21	44745K27	9.85	44745K53	14.74	44745K79	22.18
1 3/8″	6	4463K127	3.94	4463K137	5.48	4463K167	10.26	44745K29	11.22	44745K55	16.86	44745K81	25.80
1 5/8″	6	4463K128	4.87	4463K138	6.36	4463K168	13.83	44745K31	12.28	44745K57	17.62	44745K83	26.49
1 7/8″	6	4463K129	5.44	4463K139	7.71	4463K169	15.63	44745K33	13.70	44745K59	18.28	44745K85	28.88
2 1/8″	6	4463K151	5.79	4463K141	7.96	4463K171	16.39	44745K35	14.89	44745K61	18.92	44745K87	30.23
2 3/8″	6			4463K142	9.46	4463K172	17.63	44745K37	19.79	44745K63	20.79	44745K89	31.75
2 5/8″	6			4463K143	10.57	4463K173	20.62	44745K39	21.34	44745K65	21.59	44745K91	37.38
2 7/8″	6			4463K144	11.95	4463K174	23.54	44745K41	23.61	44745K67	24.64	44745K93	44.47
3 1/8″	6			4463K145	12.46	4463K175	24.06	44745K43	25.17	44745K69	26.78	44745K95	46.10
3 5/8″	6			4463K146	16.81	4463K176	28.21	44745K45	27.26	44745K71	30.99	44745K97	48.36
4 1/8″	6			4463K147	19.56	4463K177	32.33	44745K46	26.32	44745K72	35.85	44745K96	67.01
4 1/2″	6			4463K148	20.01	4463K178	34.38	44745K48	34.01	44745K74	44.92	44745K98	72.76
5 1/2″	6			4463K149	28.76	4463K179	41.49						
6 5/8″	6			4463K191	34.83	4463K192	50.23						

Long-Length Unslit Insulation for Pipe and Tubing



Insulation ID	3/8″ Thick Lg., ft.			1/2″ Thick Lg., ft.		
5/8″	125	4463K411	$61.96	95	4463K511	$66.07
3/4″	110	4463K412	58.25	85	4463K512	61.08
7/8″	95	4463K413	54.85	75	4463K513	61.09
1 1/8″	75	4463K414	47.29	55	4463K514	50.37

(Continued on following page)

For information about thermal insulation, see page 3574.

Measuring and Selecting Insulation ID for Pipe and Fittings

Measure the outside diameter (OD) of your pipe with a ruler to find the nearest corresponding insulation ID. Pipe size is the accepted industry designation, not the actual size.

Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	2	2 1/2	3 1/2
Pipe OD	3/8"	1/2"	5/8"	27/32"	1 1/16"	1 5/16"	1 5/8"	2 3/8"	2 7/8"	4"
Insulation ID	3/8"	1/2"	5/8"	7/8"	1 1/8"	1 3/8"	1 5/8"	2 3/8"	2 7/8"	4 1/8"

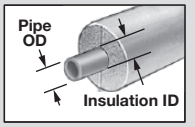

Ultra-Flexible Foam Rubber Pipe Insulation *(Continued from previous page)*

Slit Insulation for Fittings

Also Available: 3/8" thick slit insulation for fittings. Please ask for 93715K112 and specify fitting type (90° elbow or tee) and insulation ID.





Insulation ID	FOR 90° ELBOWS 1/2" Thick		3/4" Thick		1" Thick		FOR TEES 1/2" Thick		3/4" Thick		1" Thick	
5/8"	93715K71	$2.49	93715K23	$5.25	93715K62	$6.22	93715K81	$3.22	93715K132	$5.97	93715K152	$8.07
7/8"	93715K73	2.83	93715K25	5.85	93715K64	6.73	93715K83	3.48	93715K134	7.08	93715K154	9.20
1 1/8"	93715K75	3.92	93715K26	6.30	93715K65	8.50	93715K85	5.66	93715K135	7.19	93715K155	9.93
1 3/8"	93715K77	4.53	93715K27	6.89	93715K66	9.03	93715K87	5.95	93715K136	8.36	93715K156	11.50
1 5/8"	93715K79	5.21	93715K28	8.38	93715K67	10.75	93715K89	6.23	93715K137	10.14	93715K157	12.60
1 7/8"	93715K72	6.20	93715K29	9.41	93715K68	11.73	93715K82	7.40	93715K138	12.47	93715K158	15.02
2 1/8"	93715K74	6.43	93715K51	10.02	93715K69	12.76	93715K84	7.45	93715K139	13.37	93715K159	16.66
2 3/8"	93715K13	7.07	93715K52	12.02	93715K91	14.74	93715K121	8.30	93715K141	14.54	93715K161	18.73
2 5/8"	93715K14	9.12	93715K53	12.83	93715K92	16.32	93715K122	8.93	93715K142	15.81	93715K162	22.98
2 7/8"	93715K15	8.18	93715K54	13.81	93715K93	17.91	93715K123	9.22	93715K143	17.39	93715K163	24.96
3 1/8"	93715K16	10.04	93715K55	15.21	93715K94	18.73	93715K124	12.73	93715K144	19.30	93715K164	25.55
3 3/8"	93715K17	10.23	93715K56	16.67	93715K95	20.71	93715K125	14.22	93715K145	20.75	93715K165	27.90
4 1/8"	93715K19	14.26	93715K58	17.70	93715K97	24.90	93715K127	17.77	93715K147	21.60	93715K167	29.14
4 3/8"	93715K21	14.94	93715K59	18.83	93715K98	26.15	93715K128	18.77	93715K148	23.87	93715K168	30.61

Accessories

White Latex Paint—This product is compliant under all state VOC rules in effect on November 1, 2011.

One Quart ..... 4530K183 .. $21.11

Contact Adhesive—This product is compliant under all state VOC rules in effect on November 1, 2011.

One Pint ..... 4463K211 .. $14.34

Flexible Tear-Resistant Silicone Foam Pipe Insulation

- Temperature Range: –100° to 500° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.39
- Density: 40-50 lbs./cu. ft.
- Color: Black

Resistant to tearing, silicone stretches over pipe and tubing even when the temperature rises. Use on heating and cooling pipes and electrical components. Material has a closed-cell construction that provides moisture resistance. Can be used outdoors. Lengths are unslit. Seal and join lengths with a silicone adhesive/sealant (see pages 3472-3473).



Insulation ID	ID Tolerance	Thick.	Lg., ft.		
1/4"	±0.125"	3/8"	6	45295K51	$41.99
3/8"	±0.125"	7/16"	6	45295K52	59.79
1/2"	±0.125"	1/2"	6	45295K53	81.78
3/4"	±0.250"	1/4"	6	45295K54	44.47
3/4"	±0.250"	1/2"	6	45295K55	$95.91
1"	±0.400"	1/2"	6	45295K56	114.34
1 1/2"	±0.400"	1/4"	6	45295K57	70.48

Flexible Quick-Install Fiberglass Pipe Insulation

- Temperature Range: 1/8" thick: 40° to 250° F; 1/4" thick: 40° to 350° F
- Heat Flow Rate (K-Factor) @ 75° F: 1/8" thick: 0.60; 1/4" thick: 0.49
- Density: 30-40 lbs./cu. ft.
- Color: Gray

Hook-and-loop fasteners make it easy to install, remove, and reuse this insulation time and again. Use on steam and hot water pipes and fittings. Meets ASTM E84 5/55 for flame and smoke.

Insulation for Pipe and Tubing



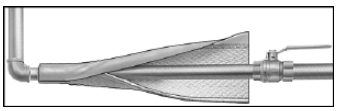

Insulation ID	Lg., ft.	1/8" Thick		1/4" Thick	
7/8"	25	45985K11	$196.98	45985K21	$330.00
1 1/8"	25	45985K12	211.64	45985K22	335.16
1 3/8"	25	45985K13	240.95	45985K23	372.27
1 5/8"	25	45985K14	262.93	45985K24	422.66
1 7/8"	25	45985K15	292.24	45985K25	472.66
2 3/8"	25	45985K17	299.61	45985K27	557.42

Insulation for Fittings

Insulation ID	FOR 90° ELBOWS 1/8" Thick		1/4" Thick		FOR TEES 1/8" Thick		1/4" Thick	
7/8"	46015K31	$16.64	46015K81	$23.92	46015K11	$15.13	46015K61	$20.15
1 1/8"	46015K32	18.93	46015K82	27.08	46015K12	17.28	46015K62	22.74
1 3/8"	46015K33	21.45	46015K83	30.75	46015K13	19.47	46015K63	25.62
1 5/8"	46015K34	27.21	46015K84	36.04	46015K14	22.47	46015K64	29.66
1 7/8"	46015K35	29.87	46015K85	39.74	46015K15	24.77	46015K65	32.74
2 3/8"	46015K37	34.00	46015K87	46.83	46015K17	28.87	46015K67	38.64



For 90° Elbows



For Tees

Insulation ID	FOR UNIONS 1/8" Thick		1/4" Thick		FOR GATE VALVES 1/8" Thick		1/4" Thick	
7/8"	46015K21	$18.70	46015K71	$24.75	46015K1	$16.66	46015K51	$23.50
1 1/8"	46015K22	21.60	46015K72	28.89	46015K2	19.02	46015K52	26.52
1 3/8"	46015K23	23.79	46015K73	31.75	46015K3	21.47	46015K53	29.88
1 5/8"	46015K24	26.23	46015K74	35.06	46015K4	23.75	46015K54	33.58
1 7/8"	46015K25	29.38	46015K75	39.60	46015K5	25.95	46015K55	38.18
2 3/8"	46015K27	35.06	46015K77	48.21	46015K7	32.37	46015K57	48.97



For Unions



For Gate Valves

Thermal Insulation

For information about thermal insulation, see page 3574.

Measuring and Selecting Insulation ID for Pipe and Fittings

Measure the outside diameter (OD) of your pipe with a ruler to find the nearest corresponding insulation ID. Pipe size is the accepted industry designation, not the actual size.

Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	2	2 1/2	3	3 1/2
Pipe OD	3/8"	1/2"	5/8"	27/32"	1 1/16"	1 5/16"	1 5/8"	2 3/8"	2 7/8"	3 1/2"	4"
Insulation ID	3/8"	1/2"	5/8"	7/8"	1 1/8"	1 3/8"	1 5/8"	2 3/8"	2 7/8"	3 5/8"	4 1/8"

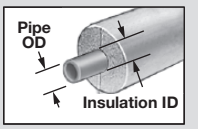

Semi-Flexible Polyethylene Foam Rubber Pipe Insulation

- Temperature Range: Standard: 0 to 180° F
  Low Temperature: –330° to 210° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.25
- Density: 1-2 lbs./cu. ft.
- Color: Dark gray to black, unless otherwise stated

An economical choice for insulating pipe, this foam rubber has a water-resistant closed-cell construction. Use for hot and cold plumbing applications. Can be used outdoors if coated with latex paint; seal seams and joints with contact adhesive (both sold separately). Meets ASTM E84 25/50 for flame and smoke.

Standard Unslit and Slit with Adhesive Strip Insulation for Pipe and Tubing





Insulation ID	Lg., ft.	UNSLIT 3/8" Thick		UNSLIT 1/2" Thick		UNSLIT 3/4" Thick		SLIT WITH ADHESIVE STRIP 3/8" Thick		SLIT WITH ADHESIVE STRIP 1/2" Thick		SLIT WITH ADHESIVE STRIP 3/4" Thick	
3/8"	6	4530K121	$1.57	4530K141	$2.41	4530K161	$3.83	4734K111	$2.53	4734K131	$3.87	4734K151	$5.76
1/2"	6	4530K122	1.73	4530K142	2.58	4530K162	4.03	4734K112	2.63	4734K132	3.95	4734K152	5.97
5/8"	6	4530K123	1.91	4530K143	2.78	4530K163	4.70	4734K113	2.97	4734K133	4.18	4734K153	6.45
3/4"	6	4530K124	2.05	4530K144	2.93	4530K164	5.17	4734K114	3.26	4734K134	4.61	4734K154	7.33
7/8"	6	4530K125	2.18	4530K145	3.17	4530K165	5.62	4734K115	3.45	4734K135	4.88	4734K155	7.54
1 1/8"	6	4530K126	2.69	4530K146	3.85	4530K166	6.41	4734K116	3.91	4734K136	5.48	4734K156	10.21
1 3/8"	6	4530K127	3.01	4530K147	4.30	4530K167	7.54	4734K117	4.25	4734K137	6.23	4734K157	11.93
1 5/8"	6	4530K128	3.92	4530K148	5.39	4530K168	9.72	4734K118	5.25	4734K138	7.27	4734K158	15.09
1 7/8"	6	4530K129	4.29	4530K149	5.94	4530K169	10.83	4734K119	6.13	4734K139	8.73	4734K159	16.92
2 1/8"	6	4530K131	4.90	4530K151	6.23	4530K171	12.18	4734K121	6.83	4734K141	9.51	4734K161	18.17
2 3/8"	6	4530K132	5.07	4530K152	6.72	4530K172	13.69	4734K122	7.45	4734K142	9.67	4734K162	19.60
2 5/8"	6	4530K133	5.89	4530K153	7.20	4530K173	14.45	4734K123	8.80	4734K143	10.67	4734K163	22.06
2 7/8"	6							4734K124	10.21	4734K144	12.67	4734K164	25.72
3 1/8"	6	4530K134	6.77	4530K154	8.97	4530K174	16.99	4734K125	10.92	4734K145	13.72	4734K165	27.12
3 5/8"	6							4734K126	15.80	4734K146	18.09	4734K166	31.29
4 1/8"	6									4734K147	19.92	4734K171	35.64

Low-Temperature Slit with Adhesive Strip Insulation for Pipe and Tubing





Insulation ID	Lg., ft.	BLACK SLIT WITH ADHESIVE STRIP 3/8" Thick		BLACK SLIT WITH ADHESIVE STRIP 1/2" Thick		BLACK SLIT WITH ADHESIVE STRIP 3/4" Thick		WHITE SLIT WITH ADHESIVE STRIP 1/2" Thick	
3/8"	6	54325K111	$3.39	54325K131	$4.90			54325K331	$4.90
1/2"	6	54325K112	3.56	54325K132	5.24	54325K152	$7.64	54325K332	5.24
5/8"	6	54325K113	3.92	54325K133	5.64	54325K153	8.81	54325K333	5.64
3/4"	6	54325K114	4.36	54325K134	6.09	54325K154	10.56	54325K334	6.09
7/8"	6	54325K115	4.66	54325K135	6.37	54325K155	10.56	54325K335	6.37
1 1/8"	6	54325K116	5.19	54325K136	7.27	54325K156	12.80	54325K336	7.27
1 3/8"	6	54325K117	5.89	54325K137	8.16	54325K157	14.81	54325K337	8.16
1 5/8"	6	54325K118	7.01	54325K138	9.36	54325K158	19.27	54325K338	9.36
2"	6	54325K119	8.63	54325K139	11.25	54325K159	22.59	54325K339	11.25
2 1/8"	6	54325K121	9.00	54325K141	12.27	54325K161	24.59	54325K341	12.27
2 3/8"	6	54325K122	9.62	54325K142	13.21	54325K162	26.39	54325K342	13.21

Low-Temperature Slit Insulation for Fittings





Insulation ID	FOR 90° ELBOWS 3/8" Thick		FOR 90° ELBOWS 1/2" Thick		FOR TEES 3/8" Thick		FOR TEES 1/2" Thick	
5/8"	9619K11	$2.34	9619K31	$2.53	9619K51	$2.53	9619K71	$3.05
7/8"	9619K13	2.56	9619K33	2.66	9619K53	2.71	9619K73	3.15
1 1/8"	9619K15	3.75	9619K35	4.47	9619K55	4.52	9619K75	5.33
1 3/8"	9619K17	4.00	9619K37	4.71	9619K57	4.72	9619K77	5.59
1 5/8"	9619K19	4.34	9619K39	5.06	9619K59	5.22	9619K79	5.93
1 7/8"	9619K12	4.77	9619K32	5.59	9619K52	5.73	9619K72	6.64
2 1/8"	9619K14	5.26	9619K34	6.17	9619K54	6.32	9619K74	7.30

Accessories

White Latex Paint—This product is compliant under all state VOC rules in effect on November 1, 2011.

One Quart ... 4530K183 ... $21.11

Contact Adhesive—This product is compliant under all state VOC rules in effect on November 1, 2011.

One Pint ... 4463K211 ... $14.34

For information about thermal insulation, see page 3574.

Measuring and Selecting Insulation ID for Pipe and Fittings

Measure the outside diameter (OD) of your pipe with a ruler to find the nearest corresponding insulation ID. Pipe size is the accepted industry designation, not the actual size.

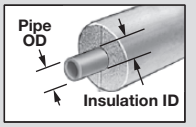

Pipe Size	3/8	1/2	1	1 1/4	2	2 1/2	4	5	6	8	10
Pipe OD	5/8"	27/32"	1 5/16"	1 5/8"	2 3/8"	2 7/8"	4 1/2"	5 1/2"	6 5/8"	8 5/8"	10 3/4"
Insulation ID	5/8"	7/8"	1 3/8"	1 5/8"	2 3/8"	2 7/8"	4 1/2"	5 1/2"	6 5/8"	8 5/8"	10 3/4"

Rigid High-Temperature Fiberglass Pipe Insulation

- Temperature Range:
  Slit Insulation for Pipe and Tubing:
  Insulation: 0° to 850° F
  Jacketing: –20° to 150° F
  Slit Insulation for Fittings: 0° to 1000° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.23
- Density: 3-6 lbs./cu. ft.

Our most popular choice for rigid pipe insulation, fiberglass resists high temperatures as well as corrosion. Use in steam applications as well as hot and cold piping systems. Can be used outdoors with metal jacketing (see page 3580). All meet ASTM E84 25/50 for flame and smoke and ASTM C585. Insulation for pipe and tubing also meets ASTM C547.

Slit insulation for pipe and tubing has a vapor-retardant all-service jacket (ASJ) constructed from kraft paper, reinforced fiberglass mesh, and aluminum foil. The jacket has an adhesive strip for sealing. Seal joints with ASJ tape (sold separately). Color is yellow with white jacketing.

Slit insulation for fittings installs with the included ties. Color is brown.

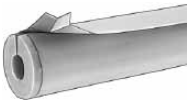

Slit Insulation for Pipe and Tubing

Insulation ID	Lg., ft.	½" Thick		1" Thick		1½" Thick		2" Thick		3" Thick	
5/8"	3	5556K26	$8.29	5556K56	$10.01	5556K66	$18.99				
7/8"	3	5556K11	8.29	5556K31	10.01	5556K41	17.95	5556K71	$28.71	5556K412	$37.55
1"	3	5556K12	9.35	5556K32	10.94	5556K42	18.14	5556K72	28.71	5556K413	41.43
1 3/8"	3	5556K13	9.68	5556K33	11.69	5556K43	20.42	5556K73	30.58	5556K414	42.38
1 5/8"	3	5556K14	10.28	5556K34	12.76	5556K44	20.98	5556K74	32.29	5556K415	44.72
1 7/8"	3	5556K15	11.91	5556K35	13.70	5556K45	21.95	5556K75	33.71	5556K416	44.79
2 1/8"	3	5556K27	12.76	5556K57	14.85	5556K67	24.18	5556K87	35.49		
2 3/8"	3	5556K16	12.76	5556K36	14.85	5556K46	24.18	5556K76	35.49	5556K417	45.87
2 5/8"	3	5556K28	13.24	5556K58	16.83	5556K68	25.97	5556K88	38.25	5556K431	47.88
2 7/8"	3	5556K17	13.26	5556K37	16.80	5556K47	25.97	5556K77	38.25	5556K418	47.75
3 1/2"	3			5556K38	18.03	5556K48	27.16	5556K78	40.55	5556K419	50.75
4 1/2"	3			5556K39	23.91	5556K49	30.88	5556K79	44.54	5556K422	57.21
5 1/2"	3			5556K51	25.45	5556K61	34.57	5556K81	50.98	5556K424	64.76
6 5/8"	3			5556K52	27.01	5556K62	34.38	5556K82	52.52	5556K425	69.23
8 5/8"	3			5556K53	39.22	5556K63	43.11	5556K83	60.32	5556K427	86.25
10 3/4"	3			5556K54	41.60	5556K64	46.49	5556K84	68.42		
12 3/4"	3			5556K55	45.31	5556K65	52.76	5556K85	76.70		

All-Service Jacket (ASJ) Tape—3" Wd. x 10 yds. Lg. ..... 76755A67 ..... $8.73

Slit Insulation for Fittings





FOR 90° ELBOWS

Insulation ID	1" Thick		1½" Thick		2" Thick	
5/8"	5556K711	$6.50	5556K712	$10.00	5556K713	$15.78
7/8"	5556K714	6.67	5556K715	10.75	5556K716	17.06
1"	5556K745	7.22	5556K746	11.41	5556K747	16.53
1 3/8"	5556K717	7.16	5556K718	11.81	5556K719	19.72
1 5/8"	5556K721	7.44	5556K722	12.41	5556K723	20.91
1 7/8"	5556K748	7.97	5556K749	13.59	5556K751	22.38
2 1/8"	5556K724	7.63	5556K725	13.19	5556K726	21.38
2 3/8"	5556K752	8.63	5556K753	15.06	5556K754	23.22
2 5/8"	5556K727	8.25	5556K728	14.41	5556K729	22.19
2 7/8"	5556K755	11.09	5556K756	17.72	5556K757	23.63
3 1/2"	5556K776	12.47	5556K777	20.50	5556K778	29.81
4 1/2"	5556K779	15.85	5556K781	26.15	5556K782	36.53
5 1/2"	5556K783	22.28	5556K784	31.72	5556K785	43.56
6 5/8"	5556K786	25.61	5556K787	40.34	5556K788	58.89
8 5/8"	5556K789	33.63	5556K799	59.58	5556K801	76.53
10 3/4"	5556K802	48.98	5556K803	62.47	5556K804	84.82
12 3/4"	5556K805	59.60	5556K806	78.17	5556K807	102.69

FOR TEES

Insulation ID	1" Thick		1½" Thick		2" Thick	
5/8"	5556K731	$7.97	5556K732	$12.19		
7/8"	5556K733	8.19	5556K734	12.81		
1"	5556K758	8.38	5556K759	12.97	5556K761	$18.56
1 3/8"	5556K735	8.59	5556K736	13.94	5556K737	21.76
1 5/8"	5556K738	8.97	5556K739	14.16	5556K741	23.00
1 7/8"	5556K762	9.25	5556K763	15.41	5556K764	23.59
2 1/8"	5556K742	9.25	5556K743	14.44	5556K744	23.59
2 3/8"	5556K765	9.91	5556K766	18.97	5556K767	24.47
2 7/8"			5556K768	18.71		
3 1/2"			5556K769	22.65	5556K771	32.65
4 1/2"			5556K772	30.44	5556K773	42.38
6 5/8"			5556K774	52.50	5556K775	75.94

Rigid Very-High-Temperature Mineral Wool Pipe Insulation

- Temperature Range: 0° to 1200° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.23
- Density: 8 lbs./cu. ft.
- Color: Green-yellow

Insulate against the highest temperatures with the most temperature resistant pipe insulation we offer. The material is often used in mechanical and process piping systems for its low shrinkage. Can be used outdoors with metal jacketing (see page 3580). Insulation lengths are slit and install with metal bands (see page 3580). Meets ASTM E84 5/0 for flame and smoke and ASTM C547.



Insulation ID	Lg., ft.	1" Thick		1½" Thick		2" Thick	
7/8"	3	9364K11	$14.33	9364K31	$23.66	9364K51	$30.37
1"	3	9364K12	14.78	9364K32	24.10	9364K52	31.34
1 3/8"	3	9364K13	15.65	9364K33	22.38	9364K53	33.54
1 5/8"	3	9364K14	16.22	9364K34	25.50	9364K54	35.63
1 7/8"	3	9364K15	16.83	9364K35	26.56	9364K55	37.47
2 3/8"	3	9364K16	21.05	9364K36	29.18	9364K56	38.89
2 7/8"	3	9364K17	$21.67	9364K37	$31.11	9364K57	$44.29
3 1/2"	3	9364K18	22.80	9364K38	32.19	9364K58	46.90
4 1/2"	3	9364K19	24.76	9364K39	35.34	9364K59	49.07
5 1/2"	3	9364K21	28.16	9364K41	37.41	9364K61	54.38
6 5/8"	3	9364K22	30.35	9364K42	38.80	9364K62	56.97
8 5/8"	3			9364K43	50.42	9364K63	68.83

Thermal Insulation

For information about thermal insulation, see page 3574.

Measuring and Selecting Insulation ID for Pipe and Fittings

Measure the outside diameter (OD) of your pipe with a ruler to find the nearest corresponding insulation ID. Pipe size is the accepted industry designation, not the actual size.

Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	2	2 1/2	3	3 1/2
Pipe OD	3/8″	1/2″	5/8″	27/32″	1 1/16″	1 5/16″	1 5/8″	2 3/8″	2 7/8″	3 1/2″	4″
Insulation ID	3/8″	1/2″	5/8″	7/8″	1 1/8″	1 3/8″	1 5/8″	2 3/8″	2 7/8″	3 5/8″	4 1/8″

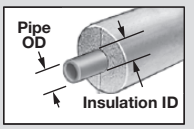

Rigid High-Strength Polyurethane Pipe Insulation

- Temperature Range: –295° to 300° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.17
- Density: 2 lbs./cu. ft.
- Color: Beige, except insulation for pipe and tubing has white jacketing

Stronger and more durable than other insulation, polyurethane is often used in chiller plants and low-pressure steam applications as well as with chilled water and refrigeration lines. Material has a closed-cell construction for moisture resistance. Can be used outdoors with additional jacketing. Meets ASTM E84 25/50 for flame and smoke.

Insulation for pipe and tubing has a kraft paper all-service jacket (ASJ) that resists mold and mildew by allowing moisture to evaporate. The jacket has a self-sealing adhesive strip.

Insulation for 90° elbows and ***for tees*** fits over threaded connections.

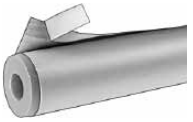





Insulation ID	Lg., ft.	FOR PIPE AND TUBING 1″ Thick		FOR PIPE AND TUBING 2″ Thick		FOR 90° ELBOWS 1″ Thick		FOR 90° ELBOWS 2″ Thick		FOR TEES 1″ Thick		FOR TEES 2″ Thick	
7/8″	3	5431K14	$13.13	5431K341	$28.42	9097T11	$9.84	9097T311	$17.62	9097T51	$9.84	9097T711	$17.62
1″	3	5431K15	13.96	5431K351	29.35	9097T12	9.84	9097T321	17.62	9097T52	9.84	9097T721	17.62
1 3/8″	3	5431K16	15.62	5431K361	31.47	9097T13	11.34	9097T331	20.74	9097T53	11.34	9097T731	20.74
1 5/8″	3	5431K17	16.44	5431K371	33.59	9097T14	11.34	9097T341	20.74	9097T54	11.34	9097T741	20.74
1 7/8″	3	5431K18	17.79	5431K381	36.30	9097T15	12.20	9097T351	24.34	9097T55	12.20	9097T751	24.34
2 3/8″	3	5431K21	20.09	5431K411	37.78	9097T16	13.18	9097T361	24.34	9097T56	13.10	9097T761	24.34
2 7/8″	3	5431K23	22.26	5431K431	41.85	9097T17	15.74	9097T371	30.26	9097T57	15.74	9097T771	30.16
3 1/2″	3	5431K25	25.03	5431K451	45.47	9097T18	16.82	9097T381	30.26	9097T58	16.82	9097T781	30.26
4″	3	5431K26	27.88	5431K461	49.42	9097T19	19.42	9097T391	35.42	9097T59	19.42	9097T791	35.42
4 1/2″	3	5431K27	29.57	5431K671	56.29	9097T21	19.42	9097T411	35.42	9097T61	19.42	9097T811	35.42

Rigid Lightweight Melamine Pipe Insulation

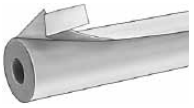

- Temperature Range:
  Insulation: –40° to 350° F
  Reinforced Jacketing: –40° to 240° F
  Clean Room Jacketing: 0° to 140° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.25
- Density: 0.5 lbs./cu. ft.
- Color: Insulation: Light gray
  Jacketing: White

Melamine's lightweight construction allows for quick and easy installation. Use on cold and hot water piping and with refrigeration systems. Jackets have an easy-seal adhesive strip. Seal seams with a silicone sealant and join lengths with PVC tape (both sold separately). Meets ASTM E84 25/50 for flame and smoke. *Silicone sealant* is VOC compliant in all 50 states as of October 1, 2008.

Insulation with reinforced jacket has an all-service jacket (ASJ) made of kraft paper, fiberglass mesh, and aluminum foil and resists dents.

Insulation with class 100 clean room jacket has PVC jacketing suitable for sanitary and washdown applications.

WITH REINFORCED JACKET

Insulation ID	Lg., ft.	1″ Thick		Insulation ID	Lg., ft.	1″ Thick	
1/2″	4	93495K11	$25.28	1 5/8″	4	93495K19	$36.19
5/8″	4	93495K12	28.20	1 7/8″	4	93495K21	41.37
3/4″	4	93495K13	28.40	2″	4	93495K22	41.93
7/8″	4	93495K14	28.64	2 3/8″	4	93495K24	48.79
1″	4	93495K15	28.76	2 1/2″	4	93495K25	49.78
1 1/8″	4	93495K16	28.70	3″	4	93495K28	54.22
1 3/8″	4	93495K17	35.44	4″	4	93495K93	88.23
1 1/2″	4	93495K18	35.88	4 1/2″	4	93495K95	110.32

WITH CLASS 100 CLEAN ROOM JACKET

Insulation ID	Lg., ft.	1″ Thick		Insulation ID	Lg., ft.	1″ Thick	
1/2″	4	93335K11	$29.58	1 5/8″	4	93335K19	$41.12
5/8″	4	93335K12	32.45	1 7/8″	4	93335K21	47.98
3/4″	4	93335K13	32.45	2″	4	93335K22	48.17
7/8″	4	93335K14	32.82	2 3/8″	4	93335K24	56.72
1″	4	93335K15	34.07	2 1/2″	4	93335K25	57.16
1 1/8″	4	93335K16	35.38	3″	4	93335K28	61.83
1 3/8″	4	93335K17	41.06	4″	4	93335K93	100.71
1 1/2″	4	93335K18	41.12	4 1/2″	4	93335K95	125.98

Silicone Sealant—10.1 oz. cartridge ..... 7587A33 ..... $6.47
PVC Insulation Tape—2″ Wd. x 108 ft. Lg. ..... 45325K66 ..... 10.67

Ultra-Rigid Chemical-Resistant Cellular Glass Pipe Insulation

- Temperature Range:
  Insulation: –450° to 900° F
  Jacketing: –40° to 240° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.29
- Density: 7.5 lbs./cu. ft.
- Color: Black, except insulation for pipe has white jacketing

Unaffected by corrosive environments, organic solvents, and nearly all acids, cellular glass is a good choice for underground-steam, chilled-water, and chemical-processing systems. Material is pure glass with a lightweight, brittle construction. Its closed-cell structure provides moisture resistance. Seal joints with tape (sold separately). Use insulation outdoors and underground with additional jacketing (sold separately). Meets ASTM E84 5/0 for flame and smoke.

Insulation for pipe lengths has a self-sealing jacket made of kraft paper. ***Insulation for 90° elbows*** and ***for tees*** is shaped to fit threaded or socket-weld fittings.

To Order: For 90° elbows and tees, please specify fitting style: threaded or socket-weld.







Insulation ID	Lg., ft.	FOR PIPE 1″ Thick		FOR PIPE 2″ Thick		FOR 90° ELBOWS 1″ Thick		FOR 90° ELBOWS 2″ Thick		FOR TEES 1″ Thick		FOR TEES 2″ Thick	
1″	2	6140K12	$12.97	6140K32	$31.50	6140K72	$11.49	6140K112	$24.49	6140K152	$11.49	6140K172	$24.49
1 3/8″	2	6140K13	14.76	6140K33	33.96	6140K73	12.68	6140K113	27.19	6140K153	12.68	6140K173	27.19
1 5/8″	2	6140K14	16.63	6140K34	36.53	6140K74	14.53	6140K114	29.37	6140K154	14.53	6140K174	29.37
1 7/8″	2	6140K15	17.67	6140K35	39.07	6140K75	15.57	6140K115	32.26	6140K155	15.57	6140K175	32.26
2 3/8″	2	6140K16	20.36	6140K36	43.20	6140K76	23.58	6140K116	35.25	6140K156	23.58	6140K176	35.25

Joint Sealing Tape—4″ Wd. x 10 ft. Lg. ..... 45565K315 ..... $34.31
Underground Jacketing—24″ Wd. x 5 ft. Lg. ..... 45565K314 ..... $70.98

Condensation-Reducing Pipe Wrap

Prevent moisture from building up on pipe, tubing, and fittings made from copper, iron, and steel.
Butyl Rubber— For indoor use only.
Cork/Synthetic Rubber with Adhesive-Backing— For indoor use only.
Aluminum-Faced Vinyl Foam with Adhesive-Backing— The foam's closed-cell structure is nonabsorbent. Can be used outdoors.
Synthetic Rubber with Adhesive-Backing— Protect pipe from corrosion above and below ground. Material is bacteria and UV resistant and can be used outdoors.



Material	Thick.	Wd.	Lg., ft.	Temp. Range (°F)	Color		
Butyl Rubber	5/32″	2″	30	–30° to 175°	Black	4476K2	$14.16
Cork/Synthetic Rubber	1/8″	2″	30	20° to 190°	Black	93855K11	13.77
Aluminum-Faced Vinyl Foam	1/8″	2″	30	–40° to 180°	Gray	6801K21	10.65
Synthetic Rubber	1/32″	2″	75	–20° to 140°	Gray	5459K72	52.86
Synthetic Rubber	1/32″	4″	75	–20° to 140°	Gray	5459K75	105.72
Synthetic Rubber	1/32″	6″	75	–20° to 140°	Gray	5459K77	158.58

Insulation Repair Wrap

- Max. Temperature: 900°F
- Color: White

Protect and repair insulation with this cotton fiber and resin mesh. For small sections, dip the wrap in warm water for five seconds then install. For large sections, apply dry to piping and spray with water. The wrap hardens in 10 minutes and achieves full strength in 24 hours. Once dry, wrap can be painted. Can be used outdoors. Meets ASTM E84-89A for flame and smoke.



Thick.	4″×9 ft.		6″×9 ft.		8″×9 ft.	
0.025″	45545K41	$8.61	45545K43	$12.98	45545K45	$17.28

Sweat-Stop Pipe Coating

- Temperature Range: Spray: 0° to 120°F
  Mastic: 0° to 150°F
- Color: Spray: White
  Mastic: Black

Condensation won't form on metal, PVC, and CPVC pipe used in cold water piping and refrigeration and air conditioning lines once this coating is applied.
Spray is for use indoors. ***Mastic*** can be used outdoors; apply with a brush or a trowel.

	Size	Coverage		
Spray	18 oz.	8 sq. ft. (2 coats)	6780K12	$18.21
Mastic	5 gal.	32 sq. ft. (1/4″ thick)	4588K2	146.28

Plastic Jacketing for Pipe Insulation

- Temperature Range: 0° to 140°F, except fiberglass insulation included with jacketing for fittings is 0° to 450°F
- Color: White

Durable PVC jacketing protects insulation from impact. Seal joints with tape or adhesive (sold separately). Meets ASTM E84 25/50 for flame and smoke. *Silicone adhesive* is compliant under all state VOC rules in effect on October 1, 2008.
Jacketing for pipe comes cut and curled for easy installation over your insulation. *0.030″ thick* jacketing can be used outdoors.
Jacketing for fittings comes with a removable 1½″ thick piece of fiberglass insulation with a heat flow rate (K-factor) of 0.28 @ 75°F. Use the included fiberglass insulation when covering bare fittings; remove when covering insulated fittings. Jacketing and fiberglass insulation can be used outdoors.

Jacketing for Pipe

Fits Max. OD	Lg., ft.	0.020″ Thick		0.030″ Thick		Fits Max. OD	Lg., ft.	0.020″ Thick		0.030″ Thick	
3″	4	45325K111	$8.24	45325K151	$10.35	6″	4	45325K117	$12.12	45325K157	$19.65
3½″	4	45325K112	8.71	45325K152	11.65	6½″	4	45325K118	12.59	45325K158	20.12
4″	4	45325K113	9.18	45325K153	12.59	7″	4	45325K119	12.82	45325K159	21.88
4½″	4	45325K114	10.35	45325K154	14.24	8½″	4	45325K122	16.24	45325K162	25.76
5″	4	45325K115	10.94	45325K155	16.35	10″	4	45325K132	18.59	45325K172	29.41
5½″	4	45325K116	11.41	45325K156	17.65	12½″	4	45325K135	21.88	45325K175	36.59

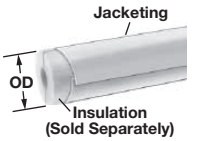

Jacketing Rolls

Thick.	Wd.	Lg., ft.		
0.010″	35½″	203	45325K191	$265.29
0.020″	35½″	102	45325K192	265.29
0.030″	35½″	68	45325K193	265.29



Jacketing for Fittings






Fits Max. OD	45° Elbows		90° Elbows		Tees		End Caps	
2″	45315K151	$1.90	45315K123	$2.12	45315K161	$3.47	45315K181	$0.68
2¼″	45315K56	1.48	45315K18	2.27	45315K1	3.91	45315K35	.85
2½″	45315K152	2.40	45315K125	2.52	45315K162	4.25	45315K182	1.01
2¾″	45315K57	2.46	45315K19	2.65	45315K2	4.96	45315K36	1.33
3″	45315K153	2.64	45315K127	2.83	45315K163	5.01	45315K183	1.47
3⅜″	45315K58	3.12	45315K21	3.04	45315K3	5.01	45315K37	1.90
3¾″	45315K154	3.33	45315K129	3.64	45315K164	5.72	45315K184	2.05
4⅛″	45315K175	4.12	45315K133	4.38	45315K165	6.75	45315K185	2.35
4¾″	45315K176	4.42	45315K141	4.75	45315K166	7.90	45315K186	2.69
5¼″	45315K177	5.31	45315K142	5.51	45315K167	8.92	45315K187	2.86
5¾″	45315K178	7.10	45315K143	7.37	45315K168	11.18	45315K188	3.88
6¼″	45315K11	10.64	45315K22	10.98	45315K4	15.55	45315K38	4.83
6¾″	45315K179	11.26	45315K145	11.60	45315K169	17.22	45315K189	6.28
7¾″	45315K195	13.75	45315K147	15.03	45315K171	30.56	45315K191	7.85
8¾″	45315K196	21.35	45315K148	18.55	45315K172	37.14	45315K192	9.04
10⅞″	45315K198	27.88	45315K155	27.88	45315K174	57.94	45315K194	11.13
11⅞″	45315K13	30.69	45315K26	30.69	45315K6	47.81	45315K44	12.06
12⅞″	45315K14	34.30	45315K28	41.47	45315K7	52.48	45315K46	12.79

Accessories

PVC Tape—2″ Wd. × 108 ft. Lg. — 45325K66 — $10.67
Silicone Adhesive—10.1 oz. cartridge — 7587A33 — $6.47

Metal Jacketing for Pipe Insulation

Weatherize your insulation with metal jacketing. Jacketing with a moisture barrier provides an extra layer of corrosion protection.

Aluminum Jacketing for Pipe and Tubing



Smooth



Stucco Embossed



Corrugated

- Maximum Temperature:
  Without moisture barrier: 300° F
  With moisture barrier: 200° F

Smooth jacketing is easy to clean; ***stucco-embossed jacketing*** conceals dents and scratches; and ***corrugated jacketing*** is extra strong. Jacketing is corrosion resistant and installs with banding (sold separately). **To Order:** Please specify length.

			Without Moisture Barrier			With Moisture Barrier			
Thick.	Wd.		5-ft. Lg.	25-ft. Lg.	100-ft. Lg.		5-ft. Lg.	25-ft. Lg.	100-ft. Lg.
Smooth									
0.016″	36″	4556K5	$36.33	$145.40	$421.12	4556K51	$36.82	$147.34	$426.61
0.016″	48″	4556K6	45.62	184.67	563.34	4556K61	46.22	187.07	568.81
Stucco Embossed									
0.016″	36″	9669K5	47.88	180.00	499.26	9669K51	53.17	199.78	554.13
0.016″	48″	9669K6	63.78	240.00	665.57	9669K61	70.82	266.39	809.72
Corrugated									
0.016″	36″	4479K33	31.39	132.53	449.06	4479K22	31.77	137.27	454.76
0.016″	48″	4479K171	35.34	173.43	556.15	4479K24	40.26	175.09	561.43

Aluminum Adhesive-Backed Jacketing for Pipe and Tubing



Smooth



Stucco Embossed

- Temperature Range: –10° F to 245° F

Adhesive backing provides a quick and easy way to install jacketing. Its reinforcing film blocks vapor from passing through. Meets UL 723 10/20 for flame and smoke.
Smooth jacketing is easy to clean; ***stucco-embossed jacketing*** conceals dents and scratches.

Thick.	Wd.	Lg., ft.		
Smooth White				
0.006″	35½″	10	7102K41	$91.64
Stucco-Embossed Silver				
0.006″	35½″	10	7102K71	94.50

Aluminum Jacketing for Elbows



- Temperature Range: Not rated

Jacketing is impact and corrosion resistant and clamps together with two bands (sold separately). Select the Fits Max. OD that is equal to or larger than the outside diameter of your insulation.

Fits Max. OD			Fits Max. OD			Fits Max. OD		
3″	4569K11	$11.36	5″	4569K15	$15.40	7⅝″	4569K18	$28.74
3⅝″	4569K12	11.36	5⅝″	4569K16	17.58	8⅝″	4569K19	41.38
4″	4569K13	13.11	6⅝″	4569K17	21.48	9⅝″	4569K21	47.94
4⅜″	4569K14	15.04						

Stainless Steel (Type 304) Jacketing for Pipe and Tubing



- Maximum Temperature: 1200° F

Corrosion resistant and suitable for washdown applications. Install with banding (sold separately). Jacketing protects high-temperature insulation.

Thick.	Wd.	Lg., ft.			Thick.	Wd.	Lg., ft.		
0.010″	36″	3	45755K411	$36.82	0.010″	36″	10	45755K412	$122.73
0.016″	36″	3	45755K431	47.90	0.016″	36″	10	45755K432	159.66
0.024″	36″	3	45755K471	71.64	0.024″	36″	10	45755K472	238.81

Galvanized Steel Pipe Cradles



- Temperature Range: –120° to 500° F

Don't let pipe hangers damage your insulation. These rounded-edge cradles slide between the two to distribute the pressure.

OD	Lg.			OD	Lg.			OD	Lg.		
2″	12″	9164T11	$2.40	3½″	12″	9164T17	$3.46	5″	12″	9164T25	$5.22
2½″	12″	9164T13	2.76	4″	12″	9164T21	4.14	5½″	12″	9164T27	5.34
3″	12″	9164T15	3.43	4½″	12″	9164T23	4.86	6″	12″	9164T29	5.72

Stainless Steel (Type 304) Banding



(Two Bands Shown)

- Temperature Range: Not rated

Save time with ready-to-use banding. These durable bands come with an easy-to-close fastener on one end. Bands are 0.020″ thick and ½″ wide. Use blue banding to identify asbestos-free insulation.
To Order: Please specify color: blue or silver.

Fits Max. OD	Thick.	Wd.			Fits Max. OD	Thick.	Wd.		
3½″	0.020″	½″	7760K1	$3.58	8½″	0.020″	½″	7760K8	$4.35
4″	0.020″	½″	7760K2	3.74	9½″	0.020″	½″	7760K9	4.52
4½″	0.020″	½″	7760K3	3.74	10½″	0.020″	½″	7760K15	4.75
5″	0.020″	½″	7760K4	3.83	11½″	0.020″	½″	7760K11	5.01
5½″	0.020″	½″	7760K5	3.90	12½″	0.020″	½″	7760K12	5.27
6½″	0.020″	½″	7760K6	4.04	16″	0.020″	½″	7760K13	6.02
7½″	0.020″	½″	7760K7	4.27	18″	0.020″	½″	7760K14	6.35

Heat-Reflecting Air Bubble Insulation



- Temperature Range: –60° to 180° F
- Color: Silver

Reflect 96% of radiant heat away from pipe and ducting. This lightweight metallized sheeting meets ASTM E84 20/30 for flame and smoke.

Thick.	Lg., ft.	24″ Wide		36″ Wide		48″ Wide	
5/16″	25	9367K33	$33.85	9367K65	$53.59	9367K21	$62.74
5/16″	50	9367K34	61.25	9367K66	91.06	9367K22	113.08
5/16″	75	9367K44	77.18	9367K76	133.22	9367K23	154.35
5/16″	100	9367K54	102.90	9367K86	151.77	9367K24	187.09

Very-High-Temperature Mineral Wool Insulation Fill

- Maximum Temperature: 800° F
- Heat Flow Rate (K-factor): 0.27 @ 75° F
- Color: White to gray

Small puffs of loose-fill insulation let you decide how densely to pack it. Pour or blow it into walls and ceilings, or mix it into insulating cements as a filler. Fibers are treated to minimize dust. Meets ASTM E84 0/5 for flame and smoke.



2.8 cu. ft., 30-lb. Bag ..... 9332K65 ..... $30.06

Gap-Sealing Spray Foam Insulation

- Temperature Range: –200° to 240° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.20
- Density: 1-1.4 lbs./cu. ft.



Fill cracks with this single-use can of expanding insulation. Foam expands two to three times its original size, can be cut after one hour, and reaches full strength in 24 hours. Includes one dispensing tube. Insulation can be used outdoors if painted or covered for UV resistance. Meets ASTM E84 25/50 for flame and smoke.

Low pressure expands with less force.

Size, oz.	Coverage (1½″ Bead), sq. ft.	Color		1-11	12-Up
Standard					
12	16	Beige	8551K11	$8.66	$6.92
24	32	Beige	8551K31	13.17	11.06
29	39	Beige	8551K61	20.57	18.45
Low Pressure					
24	32	Gray	8551K75	18.56	16.13

Quick-Cure Spray Foam Insulation

- Temperature Range: –40° to 175° F
- Heat Flow Rate (K-Factor): Not rated
- Density: 1.9 lbs./cu. ft.
- Color: Light blue



Expanding quickly to fill large voids, this foam insulation cures in four minutes and is hard enough to be cut within ten minutes. Spray can is for single use and includes two dispensing tubes. Can be used outdoors. Meets ASTM E84 25/210 for flame and smoke.

Size, oz.	Coverage, cu. ft.		
12.5	0.3	54315K51	$42.31

Lightweight Moisture-Resistant Polystyrene Foam Insulation

A good choice for packaging applications, this durable and lightweight foam has a closed-cell construction that keeps moisture at bay.

Low Density

- Temperature Range: –150° to 165° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.26
- Density: 1 lb./cu. ft.
- Color: Uncoated: White
  Coated: White with gold facing



Meets ASTM E84 15/125 for flame and smoke.

Uncoated material meets UL 94HF1 for flame retardance.

Coated material has a polypropylene coating that blocks moisture from passing through. Can be used outdoors

Thick.	Pkg. Qty.	12″×12″	Pkg.	24″×48″	Pkg.
Uncoated					
1″	6	9335K11	$19.19	9335K1	$50.64
1½″	4	9335K21	21.47	9335K2	50.64
2″	3	9335K31	21.59	9335K3	50.64
Coated					
¾″	8	93475K61	32.60	93475K62	66.45
1″	6	93475K63	33.32	93475K64	64.38
1½″	4	93475K65	33.27	93475K66	64.38

High Density

- Temperature Range: –150° to 165° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.20
- Density: 1.6 lbs./cu. ft.
- Color: Yellow



More rigid and compression resistant than low-density polystyrene. Sheets are scored for easy trimming. Can be used outdoors and below ground.

Thick.	48″×48″	
1″	9255K1	$29.00
1½″	9255K2	42.04
2″	9255K3	55.42

Void-Filling Spray Foam Insulation

- Temperature Range: –200° to 200° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.16
- Color: Off-white to beige



Take care of large cavities immediately when this insulation's two parts combine to expand up to at least three times their original size. Foam can be cut after five minutes and reaches full strength in one hour.

The 1.8- and 3-lb. sizes are single-use and include two cans of foam and two fan spray nozzles. For all other sizes, foam is contained in two multi-use cylinders and comes with a trigger-style gun, five cone spray nozzles, and three fan spray nozzles. Insulation can be used outdoors if painted or covered for UV resistance.

Fire-rated foam meets ASTM E84 20/400 for flame and smoke.

Size, lbs.	Density, lbs./cu. ft.	Coverage, cu. feet		
Standard				
1.8	1.8	1	9325K47	$39.78
3	1.8	1.8	9325K51	64.00
15	1.8	8.7	9325K56	296.06
15	2.5	6	9325K58	341.85
30	1.8	17	9325K48	435.10
30	2.5	12	9325K59	507.98
88	1.8	50	9325K49	834.60
Fire Rated				
15	1.8	8.7	9325K52	307.05
30	1.8	17	9325K71	450.17
88	1.8	50	9325K73	857.85
Repl. Cone-Spray Nozzle for 15-, 30-, and 88-lb. Sizes			9325K44	$4.66
Repl. Fan-Spray Nozzle for 15-, 30-, and 88-lb. Sizes			9325K45	4.66

Water-Resistant PVC Foam Insulation

- Temperature Range: –325° to 160° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.22
- Density: Low Density: 3 lbs./cu. ft.
  High Density: 5 lbs./cu. ft.



These lightweight PVC sheets have a closed-cell construction, which resists moisture absorption. They also have good impact resistance. Can be used outdoors. Color is tan.

Thick.	32″×48″		Thick.	32″×48″	
Low Density			***High Density***		
⅜″	9318K74	$39.19	⅜″	9318K64	52.44
½″	9318K75	48.39	½″	9318K65	65.48
¾″	9318K76	65.77	¾″	9318K66	86.00
1″	9318K77	82.71	1″	9318K67	110.83
1½″	9318K78	118.81	1½″	9318K68	154.27

Moisture-Venting Polyurethane Foam Insulation

- Temperature Range: Plain Back: –20° to 200° F
  Adhesive Back: 200° F max. temp.; low end not rated
- Heat Flow Rate (K-factor) @ 75° F: 0.25-0.30
- Density: 2 lbs./cu. ft.
- Color: Black

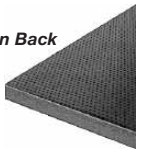

An open-cell construction allows moisture to evaporate from this foam insulation. Material resists cracking and fading and has an easy-to-clean vinyl facing for added strength and abrasion resistance. Meets FMVSS-302 flammability requirements.

Thick.	54″×48″ Sheets Each		54″ Wide Rolls Max. Lg., ft.	Per Ft.
Plain Back				
½″	9385K51	$49.55	144	9385K21 $12.24
1″	9385K53	61.18	144	9385K23 15.10
Adhesive Back				
½″	9385K71	71.33	144	9385K61 18.94
1″	9385K73	81.45	144	9385K63 20.11

Low-Temperature Polyethylene Foam Rubber Insulation



- Temperature Range: –330° to 210° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.25
- Density: 1-2 lbs./cu. ft.
- Color: Black

The closed-cell construction of these flexible foam sheets controls condensation even at low temperatures. Can be used outdoors if coated with latex paint (sold separately). Install with contact adhesive (sold separately). Meets ASTM E84 25/50 for flame and smoke.

White latex paint is compliant under all state VOC rules in effect on November 1, 2011. *Contact adhesive* is compliant under all state VOC rules in effect on November 1, 2011.

Thick.	36″×48″		Thick.	36″×48″	
1/4″	93265K44	$13.47	3/4″	93265K47	$28.92
3/8″	93265K45	17.44	1″	93265K48	36.88
1/2″	93265K46	21.71			

White Latex Paint—One quart	4530K183	$21.11
Contact Adhesive—One pint	4463K211	14.34

Cork Insulation



- Temperature Range: –328° to 266° F
- Heat Flow Rate (K-Factor) @ 68° F: 0.28
- Density: 7-8 lbs./cu. ft.
- Color: Brown

Resistant to moisture and low temperatures, this semi-rigid insulation is a good choice for use in cold storage applications. It also controls noise and vibration.

Thick.	12″×36″		Thick.	12″×36″	
1/2″	9354K21	$5.82	3″	9354K33	$23.73
1″	9354K11	9.20	4″	9354K44	31.64
2″	9354K12	16.94			

Abrasion-Resistant Silicone Foam Insulation



- Temperature Range: –65° to 390° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.39
- Density: 13 lbs./cu. ft.
- Color: White

Flexible even in high temperatures, these sheets have an aramid facing that protects against the most abrasive conditions and reduces tearing. Insulation can be used outdoors. Install with adhesive (sold separately). Foam, but not adhesive, meets UL 94HF1 and UL 94V0 for flame retardance.

Contact adhesive is compliant under all state VOC rules in effect on November 1, 2011.

Thick.	36″×36″		Thick.	36″×36″	
1/8″	9158T22	$171.73	3/8″	9158T24	$485.79
1/4″	9158T23	312.21	1/2″	9158T25	617.87

Contact Adhesive—One pint	4463K211	$14.34

Very-High-Temperature Mineral Wool Insulation



With Wire Mesh

- Temp. Range: 0° to 1200° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.23
- Density: 8 lbs./cu. ft.
- Color: Green

When insulating in high temperatures such as in oven and power generating applications, durable mineral wool provides compression and moisture resistance. Sheets are semi-rigid and can be used outdoors with metal jacketing (see page 3580).

Plain sheets meet ASTM E84 25/50 for flame and smoke. ***Wire mesh*** reinforced sheets withstand extreme shock and vibration. Can be cut with wire-cutting pliers.

Thick.	Wd.	Lg.	Plain		Wire Mesh on One Side		Wire Mesh on Both Sides	
1″	24″	48″	9328K41	$7.92	9328K21	$23.13	9328K11	$28.01
1 1/2″	24″	48″	9328K42	11.88	9328K22	25.09	9328K12	29.92
2″	24″	48″	9328K43	13.67	9328K23	26.10	9328K13	29.62

Ultra-Flexible Foam Rubber Insulation



Plain Back

- Temperature Range:
  Plain back: –295° to 220° F
  Adhesive Back: 20° to 180° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.25
- Density: 3-6 lbs./cu. ft.
- Color: Black

Soft Buna-N/PVC foam creates an extremely flexible insulation sheet. The material is elastomeric and has a closed-cell construction for moisture resistance. Can be used outdoors if coated with latex paint (sold separately). Meets ASTM E84 25/50 for flame and smoke. Install plain-back insulation with contact adhesive (sold separately).

White latex paint is compliant under all state VOC rules in effect on November 1, 2011. *Contact adhesive* is compliant under all state VOC rules in effect on November 1, 2011.

Thick.	Wd.	Lg., ft.	Plain Back		Adhesive Back	
1/8″	2″	30			5541K11	$9.94
1/4″	36″	4	9349K9	$17.48	9349K26	44.17
3/8″	36″	4	9349K1	23.11	9349K28	48.90
1/2″	36″	4	9349K2	24.27	9349K22	53.94
3/4″	36″	4	9349K3	32.60	9349K33	63.15
1″	36″	4	9349K4	46.34	9349K24	70.68
1 1/2″	36″	4	9349K5	90.60	9349K35	113.75

White Latex Paint—One quart	4530K183	$21.11
Contact Adhesive—One pint	4463K211	14.34

Lightweight Melamine Insulation



With Facing

- Temperature Range:
  Insulation: –40° to 350° F
  Facing: 30° to 150° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.26
- Density: 0.6 lbs./cu. ft.
- Color: Light gray

The lowest-density insulation sheets we offer, melamine's open-cell construction creates a lightweight and easy-to-install insulation. Can be used outdoors with jacketing or coating. Meets ASTM E84 25/50 for flame and smoke.

Sheets with facing have a white paper jacket reinforced with a fibrous layer of aluminum foil for impact resistance. Facing can be painted.

Thick.	24″×48″		24″×96″		48″×96″	
Uncoated						
1/2″	86145K21	$31.10	86145K22	$57.90	86145K23	$111.49
1″	86145K24	45.50	86145K25	86.76	86145K26	169.26
2″	86145K27	78.59	86145K28	148.58	86145K29	283.12
With Facing						
1/2″	9249K21	48.88	9249K22	90.11	9249K23	169.18
1″	9249K24	67.15	9249K25	124.92	9249K26	235.60
2″	9249K27	101.05	9249K28	191.88	9249K29	349.24

All-Service Jacket (ASJ) Tape—3″ × 10 yd.	76755A67	$8.73

Super-Insulating Thin Aerogel

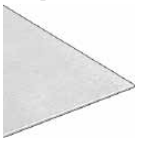

- Temperature Range: –290° to 390° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.105

Flexible, lightweight, and thin, aerogel maneuvers into the tight spaces that other insulation can't. Material is silica aerogel with reinforcing fibers and is often used for its temperature resistance in power generating applications. For increased insulation, it can be layered, laminated, or wrapped with foil.

Thick.	Density, lbs./cu. ft.	Color	12″×26″	
0.079″	10.7	Black	9590K8	$53.38
0.197″	8	White	9590K1	53.76

Compression-Resistant Polyimide Insulation



- Temperature Range: –300° to 550° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.24
- Density: 12 lbs./cu. ft.
- Color: Gold

This semi-rigid polyimide is durable and won't crack when subjected to extreme compression. Can be used outdoors with jacketing. Meets UL 94V0 for flame retardance.

Thick.	24″×24″		Thick.	24″×24″	
1/8″	93015K62	$73.64	1/4″	93015K66	$139.66
3/16″	93015K64	110.62	3/8″	93015K68	202.50

Flexible Fiberglass Insulation

A popular choice when flexibility is a must, fiberglass insulation can be layered for increased thermal efficiency, unless otherwise stated. For improved durability and extra moisture resistance, choose insulation with a vapor seal, wrapping, or facing.

Narrow Strips

- Temperature Range: –50° to 250° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.30
- Density: 0.6 lbs./cu. ft.
- Color: Insulation: Gold
  Vapor Seal: ½″ thick is clear
  1″ thick is gray



The wrap's vapor seal prevents heat loss from hot water pipes and condensation from forming on cold water pipes. Use electrical tape to secure ends of wrap to pipe. For indoor use only. Meets ASTM E84 25/50 for flame and smoke.

½″ thick insulation includes a separate 2″×40 ft. vapor seal; *1″ thick* has a vapor-seal backing.

Thick.	Wd.	Lg., ft.		
½″	3″	35	4478K1	$7.00
1″	3″	25	4478K4	10.44

Strips

- Temperature Range: Not rated
- Heat Flow Rate (K-Factor) @ 75° F:
  3⅝″ and 6½″ Thick: 0.34
  3½″ Thick: 0.27
- Density: 0.5 lbs./cu. ft.
- Color: Insulation: White
  Kraft Paper Facing: Tan
  Polyethylene Wrapping: White



In addition to good heat insulation, these strips, also known as batts, reduce the transmission of sound through walls, ceilings, and floors when installed inside standard framework. Strips provide corrosion resistance. For indoor use only.

Uncoated—Meets ASTM E84 25/50 for flame and smoke.

Kraft Paper Faced—Edges are extended to aid installation. Seal joints with ASJ tape (sold separately).

Polyethylene Wrapped—More moisture-resistant than kraft paper, polyethylene increases strength and reduces fiber dust. It's solid on the front, perforated on the back, and has extended edges for easy installation. Seal joints with FSK tape (sold separately). Meets ASTM E84 25/50 for flame and smoke.

Thick.	Wd.	Lg.	Pkg. Qty.		Pkg.
Uncoated					
3⅝″	16″	96″	16	95195K52	$69.30
6½″	24″	48″	18	95195K58	99.74
Kraft Paper Faced					
3⅝″	16″	96″	16	95195K72	74.53
6½″	24″	48″	18	95195K78	94.66
Polyethylene Wrapped					
3½″	15″	93″	11	95195K65	71.61
6½″	15″	93″	9	95195K66	74.85
All-Service Jacket (ASJ) Tape—3″×10 yd.				76755A67	$8.73
Aluminum Foil (FSK) Tape—3″×10 yd.				76145A19	9.81

Sheeting

- Temperature Range:
  Uncoated: 0° to 350° F
  Vinyl faced: Not rated
  Foil faced: 0° to 250° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.26-0.30
- Density: 0.75-0.95 lbs./cu. ft.
- Color: Uncoated: Yellow
  Vinyl Faced: Yellow with white facing
  Foil Faced: Brown with silver facing



This double-duty sheeting insulates in high temperatures while reducing sound transmission. Sheeting provides corrosion resistance. For indoor use only.

Uncoated sheeting meets ASTM E84 25/50 for flame and smoke. ***Vinyl-faced*** sheeting has a tear-resistant facing with corners that extend to aid installation. Cannot be layered. ***Foil-faced*** sheeting has a foil-layer facing bonded to kraft paper. One edge is extended to aid installation. Cannot be layered. Meets ASTM E84 25/50 for flame and smoke.

Thick.	48″×10 ft.		48″×100 ft.	
Uncoated 2″	9346K38	$33.03	9346K28	$171.71
Vinyl Faced 2″	9330K82	39.99	9330K62	224.54
Foil Faced 1½″	9160K4	28.89	9160K2	181.42

Very-High-Temperature Sheeting

- Temperature Range: 0° to 1000° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.26
- Density: 2.4 lbs./cu. ft.
- Color: Gray to brown

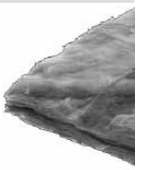

Whether it's for industrial furnaces or other extreme-heat applications, lightweight fiberglass sheeting can handle the heat. Can be used outdoors with metal jacketing (see page 3580). Meets ASTM E84 25/50 for flame and smoke.

Thick.	24″×8 ft.	
1″	9356K11	$20.47
1½″	9356K12	29.45
2″	9356K13	38.46

Paper

- Temperature Range: –425° to 1200° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.21
- Density: 8.0 lbs./cu. ft.
- Color: White



Fiberglass paper won't shrink or lose shape in high-temperature applications, such as in air furnaces and hot water tanks. For indoor use only. Meets UL 94V0 for flame retardance.

Thick.	16″×10 ft.	
⅛″	9323K21	$33.08

High-Temperature Rigid Fiberglass Insulation

- Temperature Range:
  Insulation: 0° to 450° F
  Facings: 0° to 150° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.23
- Density: Medium: 3 lbs./cu. ft.
  High: 6 lbs./cu. ft.
- Color: Insulation: Yellow
  Foil Facing: Silver
  Kraft Paper Facing: White



Able to insulate in high-heat environments, these rigid sheets also reduce noise transmission. Sheets have vapor-retarding facings on one side. Seal foil-faced joints with FSK tape; seal kraft-paper-faced joints with ASJ tape (both sold separately). Can be used outdoors with metal jacketing (see page 3580). Meets ASTM E84 25/50 for flame and smoke. *High-density* sheets can withstand heavy use.

Foil facing is constructed from foil kraft paper.

Thick.	Wd.	Lg.	Medium Density		High Density	
Foil Faced						
1″	24″	48″	9350K1	$15.91	9351K1	$22.43
1½″	24″	48″	9350K2	20.59	9351K2	30.29
2″	24″	48″	9350K3	24.36	9351K3	36.94
Kraft Paper Faced						
1″	24″	48″	9350K4	19.55	9351K4	26.62
1½″	24″	48″	9350K5	23.28	9351K5	33.13
2″	24″	48″	9350K6	27.53	9351K6	40.43
Aluminum Foil (FSK) Tape—3″×10 yd.					76145A19	$9.81
All-Service Jacket (ASJ) Tape—3″×10 yd.					76755A67	8.73

High-Temperature Fiberglass Wrap Insulation

- Temperature Range:
  Insulation: –60° to 450° F
  Facing: –40° to 150° F
- Heat Flow Rate (K-Factor) @ 75° F: 0.27
- Density: 3 lbs./cu. ft.
- Color: Insulation: Yellow
  Foil Facing: Silver
  Kraft Paper Facing: White

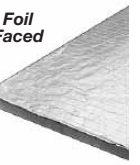

Also known as pipe and tank wrap, these strips are made of dense, thick fiberglass that provides excellent strength and flexibility. Seal foil-faced joints with FSK tape; seal kraft-paper-faced joints with ASJ tape (both sold separately). Strips have a facing on one side and can be used outdoors with metal jacketing (see page 3580).

Foil facing is constructed from foil kraft paper.

Thick.	36″×20 ft.	
Foil Faced		
1″	9333K71	$130.94
1½″	9333K73	176.64
2″	9333K75	229.22
Kraft Paper Faced		
1″	9333K91	142.62
1½″	9333K93	186.08
2″	9333K95	219.74
Aluminum Foil (FSK) Tape—3″×10 yd.	76145A19	$9.81
All-Service Jacket (ASJ) Tape—3″×10 yd.	76755A67	8.73

Thermal Insulation

For information about thermal insulation, see page 3574.

Ultra-Thin Flexible Paper Insulation

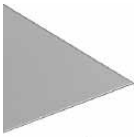

- Temperature Range: –4° to 266° F
- Heat Flow Rate (K-Factor): 0.003″ Thick: 0.15 @ 356° F; 0.015″ Thick: 0.25 @ 356° F
- Density: 0.003″ Thick: 87 lbs./cu. ft.; 0.015″ Thick: 93 lbs./cu. ft.
- Color: Off-white

Often used in high-humidity applications for its low-moisture absorption, this paper is made of inorganic materials. It meets UL 94V0 5VA for flame retardance and can be used as a flame barrier.

Thick.	Wd.	Lg.		
0.003″	36″	24″	9583T21	$6.72
0.015″	36″	24″	9583T22	27.18

Flexible Ceramic Insulation

The flexible option when insulating against extreme heat, this ceramic insulation can be used as a wrap and protects against molten metal sparks and splashes. It can also be used as a heat shield or to fabricate gaskets, line ovens and furnaces, and insulate hose and cables.

Extra High Temperature Strips



- Temperature Range: Insulation: –40° to 1500° F; Adhesive: Max. temp. is 300° F; low end not rated
- Heat Flow Rate (K-Factor): 0.82 @ 800° F
- Density: 35 lbs./cu. ft.
- Color: White

Strips are calcium aluminum silicate fiber and have an adhesive backing for easy installation.

Thick.	1″×25 ft.		2″×25 ft.		3″×25 ft.	
1/32″	4057K1	$25.13	4057K4	$41.87	4057K7	$64.80
1/16″	4057K2	25.93	4057K5	38.22	4057K8	63.60
1/8″	4057K3	34.48	4057K6	55.00	4057K9	82.18

Ultra High Temperature Rolls



- Maximum Temperature: 2000° F
- Heat Flow Rate (K-Factor): 4 lbs. cu./ft.: 1.0 @ 800° F; 6 lbs. cu./ft.: 0.75 @ 800° F; 8 lbs. cu./ft.: 0.65 @ 800° F
- Color: White to off-white

An economical choice for ultra heat resistant insulation. Material is alumina silica. Meets UL 723 0/0 for flame and smoke.

Thick.	Wd.	Lg., ft.	4 lbs./cu. ft. Density		6 lbs./cu. ft. Density		8 lbs./cu. ft. Density	
1/4″	24″	20	_____	_____	93315K51	$31.67	93315K71	$34.17
1/2″	24″	50	_____	_____	93315K82	87.72	93315K92	113.79
1″	24″	25	93315K34	$61.82	93315K54	75.00	93315K74	97.37
1 1/2″	24″	15	93315K16	53.33	93315K86	68.57	93315K96	86.84
2″	24″	12 1/2	93315K18	57.48	93315K88	74.55	93315K98	94.74

Ultra High Temperature Foil-Faced Strips



- Maximum Temperature: 2100° F
- Heat Flow Rate (K-Factor): 0.73 @ 800° F
- Density: 8 lbs./cu. ft.
- Color: Insulation: White; Facing: Silver

The foil facing on one side of these strips reflects radiant heat. Insulation is AES (alkaline earth silicate).

Thick.	1″×12 ft.		2″×12 ft.		3″×12 ft.	
1/2″	9379K91	$9.88	9379K92	$12.46	9379K93	$14.30

Extreme Temperature Strips



- Temperature Range: –50° to 2300° F
- Heat Flow Rate (K-Factor): 0.48 @ 800° F
- Density: 12 lbs./cu. ft.
- Color: White

Material is alumina oxide fiber.

Thick.	1″×25 ft.		2″×25 ft.		3″×25 ft.	
1/8″	87575K87	$23.59	87575K88	$39.29	87575K89	$55.34
	1″×50 ft.		2″×50 ft.		3″×50 ft.	
1/32″	87575K81	$14.69	87575K82	$24.88	87575K83	$36.01
1/16″	87575K84	21.45	87575K85	38.41	87575K86	57.72

Extreme Temperature Rolls



- Temperature Range: –425° to 2300° F
- Heat Flow Rate (K-Factor): 1/16″ and 1/8″ Thick: 0.71 @ 800° F; 1/4″ Thick: 0.57 @ 800° F
- Density: 6-9 lbs./cu. ft.
- Color: White

With a –425° F minimum temperature, these rolls resist the largest temperature range of the flexible ceramic insulation we offer.

Thick.	6″×20 ft.		12″×10 ft.		24″×5 ft.	
1/8″	93285K12	$35.57	93285K15	$35.57	93285K18	$35.57
	6″×100 ft.		12″×50 ft.		24″×25 ft.	
1/16″	93285K22	$76.93	93285K24	$76.93	93285K26	$76.93
1/8″	93285K42	134.20	93285K44	134.20	93285K46	134.20
1/4″	93285K62	277.96	93285K64	277.96	93285K66	277.96

Extra High Temperature Rigid Ceramic Insulation



Moisture-resistant sheets are silica ceramic insulation wrapped in polyethylene.

Thermal-shock-resistant sheets have excellent resistance to fluctuating temperatures. *Sheet with binder* is easier to handle at room temperature than sheet without binder, but contains a small amount of organic material that burns off and releases smoke at around 400° F. *Sheet without binder* won't produce smoke when heated.

Moldable sheets are rigid alumina silica that is formable when wet. Can be molded multiple times until exposed to heat.

Thick.	Wd.	Lg.	Temp. Range	Heat Flow Rate (K-Factor)	Density, lbs./cu. ft.	Color		
Moisture Resistant								
3/16″	19 1/2″	23 1/2″	0° to 1925° F	0.28 @ 1470° F	19	White	6841K1	$49.74
1/4″	19 1/2″	23 1/2″	0° to 1925° F	0.28 @ 1470° F	19	White	6841K2	62.75
3/8″	23 1/2″	39″	0° to 1925° F	0.28 @ 1470° F	19	White	6841K3	135.85
3/4″	23 1/2″	39″	0° to 1925° F	0.28 @ 1470° F	19	White	6841K4	188.48
1″	23 1/2″	39″	0° to 1925° F	0.28 @ 1470° F	19	White	6841K5	225.78
Thermal Shock-Resistant—With Binder								
1″	24″	36″	0° to 2300° F	0.85 @ 1000° F	18	Off-White	93595K73	74.44
Thermal Shock-Resistant—Without Binder								
1″	24″	36″	0° to 2300° F	0.85 @ 1000° F	18	Off-White	93595K75	87.33
Moldable								
1/16″	23″	24″	–120° to 2732° F	1.2 @ 1200° F	75	White	93615K14	131.25
1/8″	23″	24″	–120° to 2732° F	1.2 @ 1200° F	75	White	93615K16	153.06
1/4″	23″	24″	–120° to 2732° F	1.2 @ 1200° F	75	White	93615K18	196.08

For information about thermal insulation, see page 3574.

Harsh-Environment Silica Insulation



- Temperature Range: 0° to 2000° F
- Heat Flow Rate (K-Factor): 0.78 @ 800° F
- Density: 10 lbs./cu. ft.
- Color: White

Commonly used in furnaces and engine compartments, these 100% silica sheets withstand the high temperatures and corrosive acids that others can't. Insulation can be used outdoors with PVC or metal jacketing (sold separately; see pages 3579-3580).

To Order: Please specify length: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, or 25 ft.

Thick.	Wd.		Per Ft.
1/4"	36"	93435K41	$19.83
1/2"	36"	93435K43	34.50
1"	36"	93435K45	56.64

Rigid Calcium Silicate Insulation



These high-strength, durable sheets withstand the high heat conditions of ovens and furnaces.

High Temperature Sheets

- Maximum Temperature: 1200° F
- Heat Flow Rate (K-Factor): 0.73 @ 800° F
- Density: 14.5 lbs./cu. ft.
- Color: Gold

Meet ASTM E84 0/0 for flame and smoke.

Thick.	6"x36" Pkg. of 2		12"x36" Pkg. of 2		18"x36" Pkg. of 2	
1 1/2"	9391K51	$29.51	9391K52	$56.83		
2"	9391K61	39.07	9391K62	77.49	9391K63	$177.52

Extra High Temperature Sheets

- Maximum Temperature: 1700° F
- Heat Flow Rate (K-Factor): 0.80 @ 800° F
- Density: 40 lbs./cu. ft.
- Color: White

Can be machined. Meet ASTM E84 0/0 for flame and smoke.

Thick.	12"x12"		24"x48"		48"x48"	
1/2"	9353K31	$14.89	9353K41	$107.20	9353K61	$186.41
3/4"	9353K32	19.01	9353K42	136.85	9353K62	228.08
1"	9353K33	22.28	9353K43	152.81	9353K63	256.72

Extra High Temperature High-Strength Sheets

- Maximum Temperature: 1700° F
- Heat Flow Rate (K-Factor): 1.05 @ 800° F
- Density: 55 lbs./cu. ft.
- Color: White

These sheets have exceptional strength when compressed. Can be machined.

Thick.	12"x12"		24"x48"		48"x48"	
1/2"	93505K12	$32.07	93505K22	$220.00	93505K32	$370.58
1"	93505K14	42.83	93505K24	297.03	93505K34	523.71
1 1/2"	93505K16	69.93	93505K26	476.90	93505K36	844.44

Firebricks and Accessories

Firebricks



- Maximum Temperature: See below
- Heat Flow Rate (K-Factor): 1.7-2.2 @ 1500° F
- Density: 42-48 lbs./cu. ft.
- Color: Off-white

Often used in furnaces, these bricks have been machined and fit together snugly to minimize heat loss. Cut with a brick saw and install with fire brick bonding mortar (both sold separately). For indoor use only.

Max. Temp., ° F	Thick.	Wd.	Lg.		
2300	2 1/2"	4 1/2"	9"	9355K2	$9.57
2600	2 1/2"	4 1/2"	9"	9355K1	11.68
Brick Saw				6914A61	$18.40

Firebrick Bonding Mortar

- Maximum Temperature: 3000° F
- Density: 129 lbs./cu. ft.
- Color: Gray

Apply with a trowel to lay, coat, and bond firebricks. One pail contains enough ready-to-use mortar to set approximately 40 bricks. For indoor use only.

15-lb. Pail		9368K6	$35.40

Refractory Sealing Compound

- Temperature Range: –50° F to 2350° F
- Density: 100 lbs./cu. ft.
- Color: Tan

Worn firebrick can be revitalized. Coat bricks with this high-strength compound for renewed heat resistance and performance. Apply with a brush or spray for a crack-free seal.

1-gal. Container—93 sq. ft.		9366K5	$133.38

Extreme Temperature Ready-Mixed Cement

- Maximum Temperature: 2700° F
- Density: 127 lbs./cu. ft.
- Color: Gray

Set and repair furnaces, heaters, stoves, and boilers with this ready-to-use cement. It experiences minimal shrinkage creating a permanent smokeproof and gasproof joint. Use on cast iron and steel. A minimum temp. of 500° F is needed to harden cement. Apply with a trowel or spatula. For indoor use only. Cut with a carbide-tipped saw.

	Coverage (approx. sq. ft. @ 1/8" thick)		
8 oz.	0.63	9372K81	$9.86
1 pt.	1.25	9372K82	13.20
1 qt.	2.5	9372K83	19.09
1 gal.	10	9372K84	55.72

Millboard Insulation



When insulating kilns, ovens, furnaces, and boilers, this millboard insulation acts as a high-temperature heat shield.

High temperature and ***extra high temperature*** sheets are made of rock wool mineral fibers, clay, and filler.

Ultra high temperature sheets are made of ceramic fibers, clay, and filler.

High Temperature Sheets

- Maximum Temperature: 1380° F
- Heat Flow Rate (K-Factor): 0.81 @ 750°F
- Density: 59 lbs./cu. ft.
- Color: Off-white

Thick.	39"x39"	
1/16"	9362K16	$21.50
1/8"	9362K11	34.55
3/16"	9362K12	43.50
1/4"	9362K13	63.95
3/8"	9362K14	85.37

Extra High Temperature Sheets

- Maximum Temperature: 1800° F
- Heat Flow Rate (K-Factor): 1.05 @ 750°F
- Density: 60 lbs./cu. ft.
- Color: Yellow

Thick.	40"x40"	
1/8"	9360K1	$70.68
3/16"	9360K2	117.52
1/4"	9360K3	141.12
3/8"	9360K4	221.85
1/2"	9360K5	284.08

Ultra High Temperature Sheets

- Maximum Temperature: 2000° F
- Heat Flow Rate (K-Factor): 0.73 @ 800° F
- Density: 35-40 lbs./cu. ft.
- Color: White

Thick.	55"x55"	
1/16"	9390K11	$61.91
1/8"	9390K12	111.64
3/16"	9390K13	174.81
1/4"	9390K14	224.19

Sound Absorbers

Quiet noisy environments by reducing sound reflection off hard surfaces, such as walls and ceilings. Sound absorbers are also often used to line the inside of enclosures that have been built around loud machinery. For indoor use only, unless otherwise stated.

For information about hearing protection, please see page 1849.

Sheeting

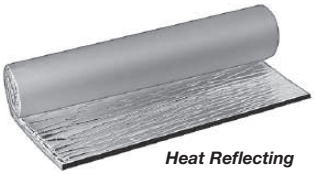

Heat Reflecting



Standard



Water Resistant

Made of humidity-resistant polyurethane foam, this flexible sheeting resists dirt and dust. Color is gray, except water-resistant sheeting is black. All sheeting meets FMVSS-302.

Plain-back sheeting has a temperature range of –40° to 225° F. Meets UL 94HBF for flame retardance. ***Adhesive-back*** sheeting has a temperature range of –40° to 175° F.

Easy-to-clean sheeting has a skin on both sides. *Water-resistant* sheeting has a urethane coating that also protects against oil. *Heat-reflecting* sheeting has a foil facing. *Heavy-duty heat-reflecting* sheeting has a tear-resistant foil facing.

To Order: Please specify length up to 50 ft., except standard sheeting is available in lengths up to 25 ft.

	Sound Absorbed	Thick.	Wd.	Plain Back	Per Ft.	Adhesive Back	Per Ft.
Standard	45%	1″	54″	5692T15	$14.53	5692T48	$19.05
Easy-to-Clean	30%	½″	54″	—	—	5692T61	10.46
Easy-to-Clean	75%	1″	54″	5692T13	12.95	5692T49	15.29
Water Resistant	65%	1″	54″	5692T14	13.93	5692T51	15.91
Heat Reflecting	25%	½″	54″	—	—	5692T62	10.33
Heat Reflecting	60%	1″	54″	5692T35	14.69	5692T52	17.03
Heavy-Duty Heat Reflecting	25%	½″	54″	—	—	5692T63	11.64
Heavy-Duty Heat Reflecting	60%	1″	54″	5692T36	15.93	5692T53	17.61

Sheets

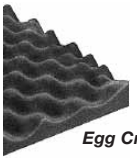

Egg Crate

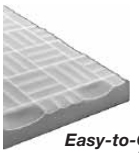

Easy-to-Clean and Fire Retardant



Water Resistant

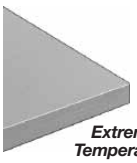

Extreme Temperature

Egg crate sheets are made of humidity-resistant, flexible polyurethane foam that has peaks and valleys to absorb more sound at high frequencies than flat-surface sheets. Color is gray. *Plain back* have a temperature range of –40° to 225° F and meet UL 94HF1 for flame retardance. 97″ long sheets meet California Flammability Requirements (CAL 117). *Adhesive-back* foam resists temperatures of –40° to 225° F; the adhesive has a maximum temperature of 175° F and is not rated for minimum temperature.

Easy-to-clean sheets are semi-rigid melamine foam with a gray coating that resists dust and dirt and can be wiped down. Sheets have one smooth and one peaked side for increased sound absorption. Temperature range is 0° to 300° F. Meet UL 94V0 for flame retardance and ASTM E84 10/55 for flame and smoke.

Fire-retardant sheets are made of semi-rigid melamine foam that has one smooth and one peaked side for increased sound absorption. Color is white. Temperature range is 0° to 300° F. Meet UL 94V0 for flame retardance and ASTM E84 5/20 for flame and smoke.

Water-resistant sheets will not degrade if used in areas occasionally splashed with salt water. Made of rigid polypropylene foam with a temperature range of –40° to 185° F. Color is gray. Can be used outdoors.

Extreme-temperature sheets are made of flexible polyimide foam, which has a temperature range of –235° to 400° F; adhesive backing has a temperature range of –60° to 250° F. Color is yellow. Meet UL 94HF1 for flame retardance.

Sound Absorbed	Thick.	Wd.	Lg.		
Egg Crate—*Plain Back*					
45%	1″	54″	54″	9710T64	$34.84
60%	1″	50″	97″	9710T94	63.38
60%	2″	50″	97″	9710T95	108.84
60%	3″	50″	97″	9710T96	161.90
75%	2″	54″	54″	9710T65	63.14
95%	3″	54″	54″	9710T66	93.39
Egg Crate—*Adhesive Back*					
45%	1″	26″	26″	9710T11	25.58
75%	2″	26″	26″	9710T21	35.82
95%	3″	26″	26″	9710T31	50.40
Easy-to-Clean—*Plain Back*					
95%	2″	24″	48″	9162T153	68.98
100%	3″	24″	48″	9162T152	94.34

Sound Absorbed	Thick.	Wd.	Lg.		
Fire Retardant—*Plain Back*					
50%	1″	24″	48″	9162T317	$39.35
85%	2″	24″	48″	9162T328	56.49
100%	3″	24″	48″	9162T561	77.00
Water Resistant—*Plain Back*					
35%	1″	24″	48″	9107T11	44.56
50%	2″	24″	48″	9107T12	66.09
Extreme Temperature—*Adhesive Back*					
15%	¼″	12″	12″	6564T3	10.26
35%	½″	12″	12″	6564T4	15.62
35%	½″	24″	48″	6564T11	104.80
50%	¾″	12″	12″	6564T5	20.16
70%	1″	12″	12″	6564T6	25.53
70%	1″	24″	48″	6564T12	170.83
85%	2″	12″	12″	6564T7	43.67

Panels



Fire Retardant (Three Shown)

Fire-retardant panels are ideal for use in large open areas because they have two peaked sides for increased sound absorption. Made of semi-rigid melamine foam, these ceiling-mount panels install with the two included hangers. Temperature range is 0° to 300° F. Color is white. Meet UL 94V0 for flame retardance and ASTM E84 5/20 for flame and smoke.

Heavy-duty panels are made of quilted, flexible double-faced fiberglass with a vinyl coating that resists abrasion, oil, dirt, moisture, and most solvents. Panels have five ⅝″ grommets on one 48″ side for wall mounting, unless noted. Temperature range is –20° to 180° F. Color is gray.

Sound Absorbed	Thick.	Wd.	Lg.	Wt., lbs.		
Fire Retardant—*Ceiling Mount*						
70%	2″	24″	48″	2	9190T3	$55.64
Heavy Duty—*Wall Mount*						
65%	1″	48″	48″	3¾	9781T61	76.22
65%	1″	48″	96″	7½	9781T15	138.58
85%	2″	24″	48″	3¾	53485T43★	50.16
85%	2″	48″	48″	7¼	9781T63	93.29
85%	2″	48″	96″	14½	9781T12	169.62

★ Has two ⅝″ grommets on one 48″ side.

Ready-to-Hang Cylinder



Great for use in noisy indoor areas with high ceilings, this cylinder absorbs sound from all directions. Constructed of molded fiberglass with a gray nylon cover, it's equivalent to 10 to 15 sq. ft. of acoustical ceiling tile. Install horizontally using the two ½″ ID eyelets. Temperature range is –30° to 500° F. Meets ASTM E84 25/320 for flame and smoke.

Sound Absorbed	Dia.	Lg.	Wt., lbs.		
93%	12″	24″	6	53905T313	$149.09

Sound Barriers

Block noise from traveling to other parts of your facility. When sound hits these barriers, it's reflected back toward the source. *Curtains* have five 5/8" grommets on their top edge for hanging and hook-and-loop fasteners on their sides for joining multiple curtains.

Tear-resistant curtains are black and sheeting is gray. Temperature range is –20° to 180° F. Can be used outdoors.

See-through barriers are ideal for use as an enclosure window and wherever visibility is required. Temperature range is 0° to 150° F. For indoor use only.



See-Through Curtain (Four Shown)

				Curtains			Sheeting		
	Barrier Rating	Thick.	Wd.	Lg., ft.		Each	Max. Lg., ft.		Per Ft.
Tear Resistant	Good (26 dB)	0.090"	54"	8	6745T35	$192.10	60	6745T83	$23.46
See Through	Good (26 dB)	0.160"	48"	8	9639T82	210.96	60	9639T22	24.86
Curtain Hooks					54895T44	Pkg. of 10			$8.89

Sound Absorber-Barriers

Often used to line the inside of enclosures that have been built around loud machinery, this double-duty insulation reduces noise within an area and prevents the noise from escaping into other parts of your facility. For indoor use only, unless otherwise stated.

Sheeting

Foam sheeting has a vinyl barrier bonded to gray polyurethane foam sheets. It resists breaking down in humid environments. Temperature range is –20° to 180° F. *Foil-faced* sheeting resists dirt, grease, and water.

Fiberglass sheeting consists of a yellow fiberglass absorber, a vinyl barrier, and a corrosion- and tear-resistant reinforced aluminum foil facing. It's also known as lagging. Temp. range is –20° to 180° F. Can be used outdoors. Meets ASTM E84 15/20 for flame and smoke.

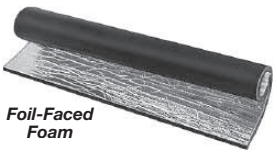

Foil-Faced Foam



Uncoated Foam



Foil-Faced Fiberglass

				Uncoated		Foil Faced		
Sound Absorbed	Barrier Rating	Total Thick.	Wd.	Max. Lg., ft.	Per Ft.	Max Lg., ft.		Per Ft.
Foam								
70%	Good (26 dB)	1/2"	54"	60	54495T46 $37.08	30	54495T57	$53.00
70%	Good (26 dB)	1"	54"	30	54495T48 44.51	30	54495T59	57.85
Fiberglass								
70%	Better (29 dB)	1"	54"	—	— —	30	9345T11	20.70
Tape for Fiberglass Sheeting—4" Wd. x 200-ft. Lg. roll							9345T3 Roll	$99.22

Sheets

Made of gray melamine foam with a vinyl barrier, these sheets are fire-resistant. Install with the thicker foam side facing the noise source. Temperature range is 0° to 250° F.

Flat-surface sheets are FDA compliant and meet ASTM E84 5/20 for flame and smoke.

Peaked-surface sheets have more surface area for sound absorption than flat-surface sheets. They also have an easy-to-clean vinyl-based coating. Meet ASTM E84 15/150 for flame and smoke.



Peaked Surface

	Sound Absorbed	Barrier Rating	Thick.	24"x48"	
Flat Surface	65%	Best (30 dB)	1 1/4"	54995T21	$67.22
Peaked Surface	85%	Better (28 dB)	1 3/8"	54995T22	89.25

Quilted Panels and Screens

Connect panels to panels or connect screens to screens with the included hook-and-loop fasteners. The insulation is flexible and made of a vinyl barrier sandwiched between quilted vinyl-coated fiberglass absorbers. Color is gray. Temperature range is –20° to 180° F.

Panels have five 5/8" grommets across the top for hanging and a 1.5 lbs./sq. ft. hanging weight. Meet ASTM E84 25/35 for flame and smoke. Only intended for hanging.

Screen acts as a partition from loud machinery and noisy areas. The included frame assembles without tools.

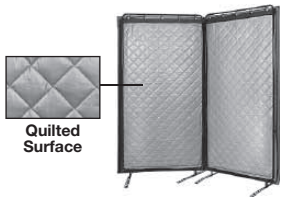

Quilted Surface

Screens (Two Shown)

Sound Absorbed	Barrier Rating	Thick.	Wd.	Lg.		
Panels						
85%	Better (29 dB)	2 1/8"	48"	48"	53645T33	$204.14
85%	Better (29 dB)	2 1/8"	48"	96"	53645T58	326.46
Screen						
65%	Good (27 dB)	2"	48"	100"	53495T34	461.24

Sound and Vibration Dampers

Stop sound at its source. Dampers reduce the amount of noise emitted from a vibrating surface. For damping pads, see page 1444; for damping mounts, see page 1434.

Tape

Often used on panels and support structures, this damping tape is made of adhesive-backed aluminum foil. Thickness is 0.015". Temperature range is 35° to 140° F.



Vibration Reduced	Wd.	Lg., yds.		
5%	1"	5	6307A21	$17.64
5%	2"	5	6307A22	44.09

Coating

Control vibration of irregular shapes and large areas. Multiple coats can be applied to achieve desired noise reduction. Maximum temperature is 250° F.

18-oz. Aerosol—This product is compliant under all state VOC rules in effect on November 1, 2011.



	Approx. Coverage	Color		
18-oz. Aerosol	20 sq. ft.	Black	9545T5	$13.15
1-qt. Bottle	10 sq. ft.	Gray	9545T2	33.33

Adhesive-Back Sheets

Plastic resists oil and grease. Maximum temperature is 125° F. *9709T39* and *9709T57* sheets meet UL 94HB for flame retardance. *9709T26* meets UL 94HF1 and UL 94V0 for flame retardance.

Aluminum resists water and corrosion. Temperature range is –40° to 175° F.



Vibration Reduced	Thick.	Wd.	Lg.	Color		
Plastic						
10%	1/16"	32"	54"	Black	9709T39	$21.75
13%	3/64"	24"	54"	Black	9709T26	26.54
32%	1/8"	48"	54"	Blue	9709T57	234.44
Aluminum						
22%	1/64"	24"	48"	Silver	9709T45	27.53

About Rubber

Rubber compresses and bounces back to shape, so it is often used in sealing, cushioning, and shock-absorbing applications.

Applications Guide

Use the chart below to identify which materials have resistance to 11 common chemicals. Boxes with a • symbol indicate the chemical will have little or no effect on the material. Blank boxes indicate that the chemical is not recommended for that material. Information is intended for comparison only.

	Minimum Temp., °F	Maximum Temp., °F	Acetic Acids	Animal/Vegetable Oils	Detergents	Gasoline	Grease	Hydraulic Oils	Isopropyl Alcohol	Salt Water	Steam	Synthetic Lubricants	Water	Pages
Multipurpose														
Neoprene	0°	200°			•				•	•			•	3589-3593
High Temperature														
Silicone	-60°	400°	•		•				•	•			•	3593-3598
Oil Resistant														
Buna-N	-20°	170°		•	•	•	•	•	•	•			•	3598-3602
Buna-N/Vinyl	-20°	200°		•	•	•	•	•	•	•			•	3600
Chemical Resistant														
Viton® Fluoroelastomer	0°	400°		•	•	•	•	•	•	•	•	•	•	3602-3603
Aflas	40°	400°			•	•		•	•	•	•	•	•	3599, 3603
Fluorosilicone	-65°	450°		•		•	•	•	•	•			•	3602
Kalrez	0°	525°	•	•	•	•		•	•	•	•		•	3602
Abrasion Resistant														
Polyurethane	-10°	200°		•		•	•						•	3603-3609
Natural Gum	-20°	140°			•				•	•			•	3606, 3608
SBR	-20°	170°								•			•	3606-3607
Weather Resistant														
EPDM	-40°	225°	•		•				•	•	•		•	3609-3611
Butyl	-40°	225°	•		•				•	•	•		•	3610
Santoprene	-50°	250°	•				•			•			•	3610-3611

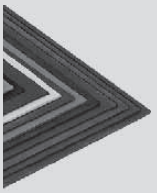

Material Selector Pack—Includes 15 pieces, one each of the following rubber materials: Buna-N, butyl, ECH, EPDM, latex, natural rubber, neoprene, polyethylene, polyurethane, soft polyurethane, Santoprene, SBR, silicone, vinyl, and Viton® fluoroelastomer. Each piece ranges in size from 4″×4″ to 6″×6″ and from 1/16″ to 1/8″ thick.

8450K2 ..... Pkg. $58.22

Durometer Hardness Scales

An international standard for measuring the hardness of rubber and plastic, a durometer rating indicates a material's resistance to surface penetration. There are several durometer scales and a material's durometer rating can fall across more than one scale. For example, a typical shoe heel rates 95 on the Shore OO scale, 70 on the Shore A scale, and 22 on the Shore D scale; all of these ratings indicate that a shoe heel has a relative hardness of hard. As a material gets harder, it generally offers more wear resistance but it becomes less flexible.

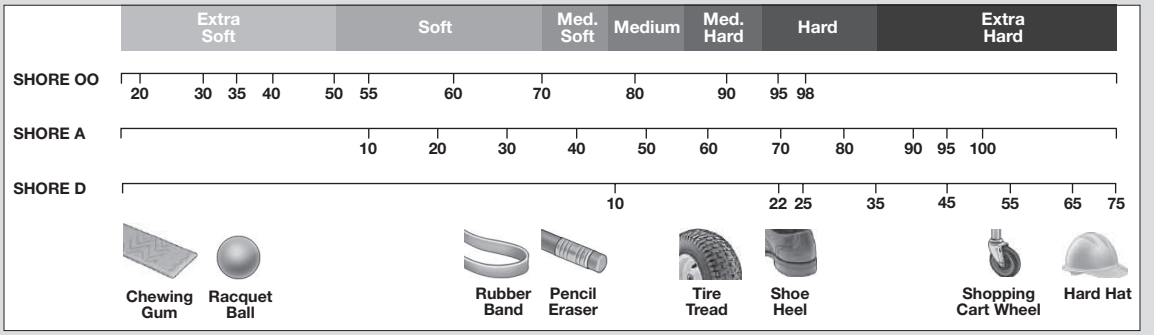

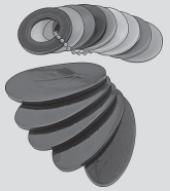

Durometer Hardness Selector Pack—Includes 14 pieces, one each of the following durometer hardnesses: 30OO, 40OO, 50OO, 60OO, 70OO, 30A, 40A, 50A, 60A, 70A, 80A, 90A, 95A, and 75D. Each piece is oval or ring shape and ranges in size from 1/8″ to 3/16″ thick.

8450K4 ..... Pkg. $24.93

For information about rubber and durometer hardness scales, see page 3588.

Multipurpose Neoprene Rubber Sheets and Strips



- Color: Black
- Tensile Strength: 900 psi
- Temperature Range: -30° to 200° F, except buffed texture sheets are -20° to 170° F
- For use outdoors, except crisscross texture and buffed texture sheets

Neoprene is also known as chloroprene. It offers good oil and abrasion resistance. Softer durometer rubber has better conformability; harder durometer rubber is more wear resistant. A durometer of 30A is soft, 40A is medium soft, 50A is medium, 60A is medium hard, and 70A is hard. Durometer tolerance is ±5.

Strips and Sheets

The rubber meets ASTM D2000 BC. Strips, sheets, and cut-to-length sheets have a width tolerance of -0.125″ to +0.5″, except 1″×36″ strips have a width tolerance of ±0.125″ and 6″×6″ sheets have a width tolerance of +0.500″. Strips and sheets have a length tolerance of -0.125″ to +0.500″, except 6″×6″ sheets have a plus tolerance. **Rubber with material certification** comes with a traceable lot number and cure date. **Adhesive-back** strips and sheets have an acrylic adhesive with a temperature range of -20° to 200° F.

Thick.	Thick. Tolerance	Choose a Durometer		*Strips with Material Certification* 1″×36″ Each	2″×36″ Each	4″×36″ Each	6″×36″ Each	*Sheets with Material Certification* 6″×6″ Each	12″×12″ Each	12″×24″ Each	*Cut-to-Length Sheets* 36″ Wide Per Ft.	
Plain Back												
1/64″	±0.010″	50A, 60A, 70A	1370N28	$4.52	$5.66	$8.29	$9.41	$5.01	$7.86	$10.68	9455K285	$10.02
1/32″	±0.010″	30A, 40A, 50A, 60A, 70A	1370N26	4.83	6.21	9.30	12.55	5.26	8.82	11.66	9455K91	11.31
1/16″	±0.016″	30A, 40A, 50A, 60A, 70A	1370N24	5.32	7.06	11.23	13.87	5.72	9.94	13.41	9455K92	13.59
3/32″	±0.016″	30A, 40A, 50A, 60A, 70A	1370N44	6.72	9.52	14.99	16.90	6.47	11.43	16.88	9455K93	17.35
1/8″	±0.020″	30A, 40A, 50A, 60A, 70A	1370N29	7.78	11.37	18.90	22.68	7.73	14.03	21.13	9455K94	23.66
3/16″	±0.031″	30A, 40A, 50A, 60A, 70A	1370N43	9.50	14.40	23.49	27.69	9.19	17.61	27.62	9455K95	30.96
1/4″	±0.031″	30A, 40A, 50A, 60A, 70A	1370N27	11.59	18.01	29.72	38.69	11.53	23.17	35.49	9455K96	42.63
3/8″	±0.047″	30A, 40A, 50A, 60A, 70A	1370N46	14.80	23.35	38.10	50.69	14.72	29.16	49.56	9455K97	58.59
1/2″	±0.047″	30A, 40A, 50A, 60A, 70A	1370N25	18.93	30.94	52.36	67.03	18.58	36.72	62.73	9455K98	77.91
3/4″	±0.094″	30A, 40A, 50A, 60A, 70A	1370N45	—	42.32	71.81	101.77	26.52	55.50	94.39	9455K99	117.58
1″	±0.100″	30A, 40A, 50A, 60A, 70A	1370N23	—	58.21	92.05	130.61	33.72	73.60	125.85	9455K78	153.54
Adhesive Back												
1/64″	±0.010″	50A, 60A, 70A	1374N45	8.06	11.30	16.61	20.06	7.61	14.76	22.60	8583K71	23.06
1/32″	±0.010″	30A, 40A, 50A, 60A, 70A	1374N43	8.74	12.20	17.74	21.74	8.47	16.78	25.69	8583K61	27.36
1/16″	±0.016″	30A, 40A, 50A, 60A, 70A	1374N41	9.24	12.74	19.01	22.90	8.94	17.88	27.78	8583K62	29.70
3/32″	±0.016″	30A, 40A, 50A, 60A, 70A	1374N48	10.04	12.83	19.92	24.46	9.71	18.60	29.58	8583K63	33.54
1/8″	±0.020″	30A, 40A, 50A, 60A, 70A	1374N46	11.84	16.30	23.01	28.90	11.13	21.86	35.34	8583K64	40.65
3/16″	±0.031″	30A, 40A, 50A, 60A, 70A	1374N47	12.75	16.75	23.74	30.49	12.28	22.32	36.29	8583K65	46.42
1/4″	±0.031″	30A, 40A, 50A, 60A, 70A	1374N44	18.08	25.67	37.09	45.21	16.68	33.50	60.82	8583K66	68.38
3/8″	±0.047″	30A, 40A, 50A, 60A, 70A	1374N49	20.81	29.10	43.10	52.93	19.28	38.81	72.73	8583K67	81.42
1/2″	±0.047″	30A, 40A, 50A, 60A, 70A	1374N42	25.78	38.91	59.62	73.78	22.21	53.97	95.43	8583K68	96.03

Extra-Long Strips

All meet ASTM D2000 BC. Durometer is 60A (medium hard). Width tolerance is ±0.039″ for 3/8″ wide strips, ±0.051″ for 1/2″ wide strips, and ±0.079″ for 1″ wide strips.

Thick.	Thick. Tolerance	Wd.	Lengths, ft.		Per Ft.
1/8″	±0.027″	1/2″	10, 20, 50, 100	90125K56	$0.96
1/8″	±0.027″	1″	10, 20, 50, 100	90125K57	1.17
1/4″	±0.039″	3/8″	10, 20, 50, 100	90125K51	.76
1/4″	±0.039″	1/2″	10, 20, 50, 100	90125K53	1.07
1/4″	±0.039″	1″	10, 20, 50, 100	90125K58	1.79
3/8″	±0.039″	1/2″	10, 20, 50, 100	90125K55	$2.10
3/8″	±0.039″	1″	10, 20, 50, 100	90125K59	3.74
1/2″	±0.051″	1/2″	10, 20, 50, 100	90125K61	2.68
1/2″	±0.051″	1″	10, 20, 50, 100	90125K62	4.39

Sheets with Buffed Texture

These sheets are rough on one side to accept adhesive and smooth on the other. Durometer is 60A (medium hard). Sheets have width and length tolerances of ±0.125″. Cut-to-length sheets meet MIL-R-3065. They have a width tolerance of ±1″.

Thick.	Thick. Tolerance		*Sheets* 12″×12″ Each	12″×24″ Each	*Cut-to-Length Sheets* 36″ Wide Per Ft.	
1/16″	±0.016″	86015K811	$7.92	$10.22	86015K31	$11.66
1/8″	±0.020″	86015K812	12.39	19.26	86015K33	22.63
3/16″	±0.031″	86015K813	$17.08	$26.47	86015K35	$32.88
1/4″	±0.031″	86015K814	22.29	33.97	86015K37	42.77

Sheets with Crisscross Texture

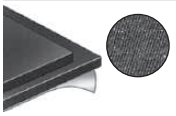

These sheets have a nonslip gripping surface on both sides. All meet ASTM D2000 BC. Sheets have a width tolerance of +0.500″ and a plus length tolerance. Cut-to-length sheets have a width tolerance of +1″. **Adhesive-back** sheets have an acrylic adhesive with a temperature range of -30° to 180° F.

Thick.	Thick. Tolerance	Choose a Durometer	*Sheets* 12″×12″	Each	12″×24″	Each	*Cut-to-Length Sheets* 36″ Wide	Per Ft.
Plain Back								
1/32″	±0.010″	40A, 50A, 60A, 70A	8445K11	$7.45	8445K21	$12.43	8445K31	$14.92
1/16″	±0.016″	40A, 50A, 60A, 70A	8445K12	9.78	8445K22	16.31	8445K32	19.22
3/32″	±0.016″	40A, 50A, 60A, 70A	8445K13	14.85	8445K23	24.64	8445K33	29.60
1/8″	±0.020″	40A, 50A, 60A, 70A	8445K14	18.81	8445K24	31.31	8445K34	37.60
3/16″	±0.031″	40A, 50A, 60A, 70A	8445K15	28.98	8445K25	48.18	8445K35	57.92
1/4″	±0.031″	40A, 50A, 60A, 70A	8445K16	35.33	8445K26	59.01	8445K36	70.75
Adhesive Back								
1/32″	±0.010″	40A, 50A, 60A, 70A	8445K61	11.08	8445K71	18.47	8445K81	22.17
1/16″	±0.016″	40A, 50A, 60A, 70A	8445K62	13.33	8445K72	21.91	8445K82	26.26
3/32″	±0.016″	40A, 50A, 60A, 70A	8445K63	19.63	8445K73	32.16	8445K83	38.44
1/8″	±0.020″	40A, 50A, 60A, 70A	8445K64	24.21	8445K74	40.09	8445K84	48.10
3/16″	±0.031″	40A, 50A, 60A, 70A	8445K65	34.38	8445K75	55.65	8445K85	68.74
1/4″	±0.031″	40A, 50A, 60A, 70A	8445K66	42.42	8445K76	70.56	8445K86	84.86

Multipurpose Rubber

For information about rubber and durometer hardness scales, see page 3588.

Ultra-Strength Multipurpose Neoprene Rubber Sheets and Strips



- Color: Black
- Tensile Strength: 2,500 psi
- Temperature Range: –40° to 212° F
- For use outdoors

Stronger and more durable than High-Strength Multipurpose Neoprene, this rubber can handle high-tension applications such as belting. Neoprene is also known as chloroprene. It has good oil and abrasion resistance. Softer durometer rubber has better conformability; harder durometer rubber is more wear resistant. A durometer of 50A is medium, 60A is medium hard, and 70A is hard. Durometer tolerance is ±5.

The rubber meets ASTM D2000 BC and MIL-R-3065. Strips and sheets have width and length tolerances of ±0.250″. Cut-to-length sheets have a width tolerance of +2″.

Rubber with material certification comes with a traceable lot number and cure date. **Adhesive-back** strips and sheets have an acrylic adhesive with a temperature range of –20° to 212° F.

Thick.	Thick. Tolerance	Choose a Durometer	Strips with Material Certification 2″×36″	Each	4″×36″	Each	Sheets with Material Certification 6″×6″	Each	12″×12″	Each	12″×24″	Each	Cut-to-Length Sheets 36″ Wide	Per Ft.
Plain Back														
1/64″	±0.010″	50A, 60A, 70A	1310N71	$9.51	1310N81	$14.81	_____	____	1310N31	$12.91	1310N51	$21.60	9013K41	$28.01
1/32″	±0.012″	50A, 60A, 70A	1310N72	9.60	1310N82	15.42	_____	____	1310N32	13.13	1310N52	22.29	9013K42	28.67
1/16″	±0.016″	50A, 60A, 70A	1310N73	10.08	1310N83	16.18	1310N13	$9.49	1310N33	14.13	1310N53	24.25	9013K31	30.38
1/8″	±0.020″	50A, 60A, 70A	1310N74	14.57	1310N84	25.16	1310N14	10.94	1310N34	21.59	1310N54	39.17	9013K32	52.47
1/4″	±0.031″	50A, 60A, 70A	1310N75	24.72	1310N85	45.54	1310N15	15.63	1310N35	38.53	1310N55	73.06	9013K33	104.13
3/8″	±0.047″	50A, 60A, 70A	1310N76	32.48	1310N86	61.05	1310N16	19.11	1310N36	51.44	1310N56	98.84	9013K34	141.73
1/2″	±0.047″	50A, 60A, 70A	1310N77	41.07	1310N87	78.30	1310N17	24.39	1310N37	65.77	1310N57	127.51	9013K35	185.60
3/4″	±0.093″	50A, 60A, 70A	1310N78	53.92	1310N88	104.07	1310N18	30.73	1310N38	87.19	1310N58	170.35	9013K36	251.11
1″	±0.100″	50A, 60A, 70A	1310N79	65.98	1310N89	128.25	1310N19	45.13	1310N39	107.30	1310N59	210.59	9013K37	312.70
1 1/4″	±0.126″	50A, 60A, 70A	_____	____	_____	____	1310N21	51.50	1310N41	122.83	1310N61	241.45	_____	____
1 1/2″	±0.150″	50A, 60A, 70A	_____	____	_____	____	1310N22	56.07	1310N42	134.29	1310N62	264.35	_____	____
2″	±0.200″	50A, 60A, 70A	_____	____	_____	____	1310N23	61.17	1310N43	147.07	1310N63	289.90	_____	____
3″	±0.300″	50A, 60A, 70A	_____	____	_____	____	1310N24	69.26	1310N44	167.25	1310N64	330.28	_____	____
Adhesive Back														
1/16″	±0.016″	50A, 60A, 70A	1312N41	14.39	1312N51	24.76	1312N11	12.77	1312N21	20.94	1312N31	37.84	8463K31	50.60
1/8″	±0.020″	50A, 60A, 70A	1312N42	19.71	1312N52	35.41	1312N12	13.81	1312N22	29.63	1312N32	55.19	8463K32	76.84
1/4″	±0.031″	50A, 60A, 70A	1312N43	29.98	1312N53	55.98	1312N13	18.13	1312N23	46.40	1312N33	88.74	8463K33	128.52
3/8″	±0.047″	50A, 60A, 70A	1312N44	38.86	1312N54	73.69	1312N14	24.38	1312N24	60.86	1312N34	117.59	8463K34	170.18
1/2″	±0.047″	50A, 60A, 70A	1312N45	48.24	1312N55	92.48	1312N15	26.14	1312N25	76.19	1312N35	148.20	8463K35	217.00

High-Strength Multipurpose Neoprene Rubber Sheets, Bars, and Strips

- Color: Black
- Tensile Strength: 1,500 psi, except square bars and 30A sheets and strips are 1,200 psi.
- Temperature Range: –20° to 212° F
- For use outdoors, except square bars

This rubber has better shock-absorbing qualities and will provide longer life than Standard Multipurpose Neoprene. Neoprene is also called chloroprene. It has good oil and abrasion resistance. Softer durometer rubber has better conformability; harder durometer rubber is more wear resistant. A durometer of 30A is soft, 40A is medium soft, 50A is medium, 60A is medium hard, and 70A is hard. Durometer tolerance is ±5.

Strips and Sheets



The rubber meets ASTM D2000 BC and MIL-R-3065. Strips and sheets have width and length tolerances of ±0.250″. Cut-to-length sheets have a width tolerance of +2″. **Rubber with material certification** comes with a traceable lot number and cure date. **Adhesive-back** strips and sheets have an acrylic adhesive with a temperature range of –20° to 212° F.

Thick.	Thick. Tolerance	Choose a Durometer		Strips with Material Certification 2″×36″ Each	4″×36″ Each	6″×36″ Each	Sheets with Material Certification 6″×6″ Each	12″×12″ Each	12″×24″ Each	Cut-to-Length Sheets 36″ Wide	Per Ft.
Plain Back											
1/64″	±0.010″	30A, 40A, 50A, 60A, 70A	1290N68	$8.58	$11.55	$14.11	$6.70	$10.61	$15.19	8568K291	$13.48
1/32″	±0.012″	30A, 40A, 50A, 60A, 70A	1290N66	9.59	13.21	16.34	7.29	12.06	17.65	8568K292	16.45
1/16″	±0.016″	30A, 40A, 50A, 60A, 70A	1290N64	11.29	16.35	20.31	8.35	14.42	22.14	8568K381	21.75
3/32″	±0.016″	30A, 40A, 50A, 60A, 70A	1290N72	13.73	20.25	24.89	9.80	18.53	27.27	8568K382	29.01
1/8″	±0.020″	30A, 40A, 50A, 60A, 70A	1290N69	16.09	24.22	30.71	11.22	22.06	34.09	8568K383	36.10
3/16″	±0.031″	30A, 40A, 50A, 60A, 70A	1290N71	21.71	32.71	44.21	14.25	29.63	48.00	8568K384	51.26
1/4″	±0.031″	30A, 40A, 50A, 60A, 70A	1290N67	26.54	40.56	53.71	17.06	36.23	58.42	8568K385	65.29
3/8″	±0.047″	30A, 40A, 50A, 60A, 70A	1290N74	35.63	55.13	73.71	22.31	47.85	80.26	8568K386	91.53
1/2″	±0.047″	30A, 40A, 50A, 60A, 70A	1290N65	45.72	72.92	97.64	28.61	63.05	106.55	8568K387	123.07
3/4″	±0.094″	30A, 40A, 50A, 60A, 70A	1290N73	50.52	81.51	109.64	31.75	70.60	119.15	8568K388	138.74
1″	±0.100″	30A, 40A, 50A, 60A, 70A	1290N63	63.85	103.78	139.98	39.88	89.60	155.59	8568K389	179.42
Adhesive Back											
1/16″	±0.016″	30A, 40A, 50A, 60A, 70A	1292N31	15.96	23.92	29.85	_____	21.94	32.74	8456K31	37.46
3/32″	±0.016″	30A, 40A, 50A, 60A, 70A	1292N36	17.93	27.48	32.99	_____	24.89	37.56	8456K32	43.59
1/8″	±0.020″	30A, 40A, 50A, 60A, 70A	1292N34	20.03	31.43	37.39	_____	28.04	43.86	8456K33	49.22
3/16″	±0.031″	30A, 40A, 50A, 60A, 70A	1292N35	25.39	39.82	47.68	_____	36.11	53.59	8456K34	65.70
1/4″	±0.031″	30A, 40A, 50A, 60A, 70A	1292N33	30.47	47.26	58.07	_____	43.74	69.15	8456K35	81.31
3/8″	±0.047″	30A, 40A, 50A, 60A, 70A	1292N37	39.05	61.27	79.36	_____	55.27	89.93	8456K36	107.65
1/2″	±0.047″	30A, 40A, 50A, 60A, 70A	1292N32	48.52	78.40	101.60	_____	68.81	118.97	8456K37	139.43

Metric Sheets



All meet ASTM D2000 BC and MIL-R-3065. Sheets have width and length tolerances of ±0.250″. Cut-to-length sheets have a width tolerance of +2″.

Thick.	Thick. Tolerance	Choose a Durometer	Sheets 12″×12″	Each	12″×24″	Each	Cut-to-Length Sheets 36″ Wide	Per Ft.
0.5 mm	±0.250 mm	50A, 60A, 70A	85785K21	$4.89	85785K41	$8.58	85785K61	$10.86
1 mm	±0.300 mm	50A, 60A, 70A	85785K22	6.73	85785K42	11.81	85785K62	14.95
1.5 mm	±0.300 mm	50A, 60A, 70A	85785K23	7.45	85785K43	13.08	85785K63	16.56
5 mm	±0.790 mm	50A, 60A, 70A	85785K29	23.73	85785K49	41.66	85785K69	52.73

For information about rubber and durometer hardness scales, see page 3588.

Super-Soft Multipurpose Neoprene Sheets and Strips



- Color: Black
- Tensile Strength: 450 psi
- Temperature Range: –30° to 225° F

Our most conformable neoprene rubber, these strips and sheets will bounce back after compression. All meet ASTM D2000 BC. Durometer tolerance for 10A is +10; for 20A it is ±5. Strips have a width tolerance of +0.250″. Sheets have a width tolerance of +0.500″. Both have a plus length tolerance. Cut-to-length sheets have a width tolerance of +1″.

To Order: Please specify durometer: 10A (soft) or 20A (soft). Strips with a thickness of 1/16″ and greater are only available in 10A.

		Strips				Sheets						Cut-to-Length Sheets 36″ Wide	
		2″×36″		4″×36″		6″×6″		12″×12″		12″×24″			
Thick.	Thick. Tolerance		Each		Each		Each		Each		Each		Per Ft.
1/32″	±0.010″	3207K27	$7.72	3207K28	$13.74	9109K86	$3.72	9109K87	$12.16	9109K88	$20.73	9109K89	$25.56
1/16″	±0.016″	3207K11	12.20	3207K16	21.72	9109K61	5.88	9109K36	19.23	9109K42	32.78	9109K47	40.41
1/8″	±0.020″	3207K12	20.07	3207K17	36.39	9109K62	10.06	9109K37	32.96	9109K43	61.74	9109K48	67.49
1/4″	±0.031″	3207K13	30.32	3207K18	54.90	9109K63	13.27	9109K38	44.05	9109K44	86.77	9109K49	103.35
3/8″	±0.047″	3207K14	39.29	3207K19	71.10	9109K64	19.01	9109K39	59.71	9109K45	103.78	9109K51	133.70
1/2″	±0.047″	3207K15	47.08	3207K26	85.31	9109K65	23.52	9109K41	73.83	9109K46	123.05	9109K52	160.30

Food-Grade Multipurpose Neoprene Rubber Sheets

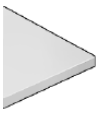

- Color: White
- Tensile Strength: 1,200 psi
- Temperature Range: 0° to 200° F
- For use outdoors

Made from FDA-listed material for use with food. Neoprene is also called chloroprene. Durometer is 55A (medium); durometer tolerance is ±5. 6″×6″ sheets have width and length tolerances of ±0.125″; 12″×12″ and 12″×24″ sheets have width and length tolerances of –0.125″ to +0.500″; 36″ wide sheets have width and length tolerances of -0.500″ to +1″.

Plain-back sheets meet ASTM D2000 BC, except 6″×6″ and 1/64″ and 1/32″ thick sheets. **Adhesive-back** sheets have an acrylic adhesive and a temperature range of 0° to 200° F. **Crisscross** textured sheets have nonslip gripping surface on both sides with a plain back.

To Order: For 36″ wide sheets, please specify length: 1 ft., 2 ft., 3 ft., 4 ft., 5 ft., 6 ft., or 10 ft., unless noted.

Thick.	Thick. Tolerance	6″×6″	Each	12″×12″	Each	12″×24″	Each	36″ Wide	Per Ft.
Sheets									
Plain Back									
1/64″	±0.010″	8616K451	$5.62	8616K461	$8.06	8616K463	$11.31	8616K481	$14.56
1/32″	±0.012″	8616K452	5.98	8616K462	8.82	8616K464	12.11	8616K482	15.38
1/16″	±0.016″	8616K453	6.20	8616K62	13.05	8616K42	21.75	8616K72	25.59
3/32″	±0.016″	8616K454	6.80	8616K63	18.82	8616K43	31.31	8616K73	37.62
1/8″	±0.020″	8616K455	7.42	8616K64	22.87	8616K44	38.11	8616K74	45.08
3/16″	±0.031″	8616K456	8.60	8616K65	34.07	8616K45	57.45	8616K75	66.80
1/4″	±0.031″	8616K457	9.82	8616K66	46.83	8616K46	78.05	8616K76	90.91
3/8″	±0.047″	_____	____	8616K67	65.89	8616K47	114.05	8616K77	131.83
1/2″	±0.047″	_____	____	8616K68	79.51	8616K48	132.53	8616K78	158.99
3/4″	±0.094″	_____	____	8616K69	94.60	8616K49	157.73	8616K79★	198.78
1″	±0.100″	_____	____	8616K71	126.69	8616K51	211.18	8616K81★	253.39
Adhesive Back									
1/64″	±0.010″	1340N11	6.56	1340N21	11.77	1340N31	18.73	1340N1	25.69
1/32″	±0.012″	1340N12	6.98	1340N22	12.31	1340N32	19.40	1340N2	26.50
1/16″	±0.012″	1340N13	7.16	1340N23	13.64	1340N33	22.30	1340N3	30.94
3/32″	±0.016″	1340N14	7.76	1340N24	16.04	1340N34	27.08	1340N4	38.12
1/8″	±0.020″	1340N15	8.38	1340N25	18.52	1340N35	32.02	1340N5	45.54
3/16″	±0.020″	1340N16	9.58	1340N26	23.30	1340N36	41.60	1340N6	59.90
1/4″	±0.031″	1340N17	10.80	1340N27	28.16	1340N37	51.32	1340N7	74.50
Crisscross Textured Sheets									
Plain Back									
1/32″	±0.012″	1410N11	7.02	1410N21	11.38	1410N31	17.22	_____	____
1/16″	±0.012″	1410N12	7.53	1410N22	13.42	1410N32	21.29	_____	____
3/32″	±0.016″	1410N13	8.18	1410N23	16.09	1410N33	26.62	_____	____
1/8″	±0.020″	1410N14	8.87	1410N24	18.82	1410N34	32.11	_____	____
3/16″	±0.020″	1410N15	10.20	1410N25	24.16	1410N35	42.76	_____	____
1/4″	±0.031″	1410N16	11.56	1410N26	29.56	1410N36	53.56	_____	____

★ Available in 1, 2, and 3 ft. lengths only.

Nonmarking Multipurpose Neoprene Rubber Sheets



- Color: Black
- Tensile Strength: 1,200 psi
- Temperature Range: –30° to 220° F

While other black rubber can leave a mark after use, these specially formulated neoprene sheets leave no evidence behind. Neoprene is also known as chloroprene. Sheets meet ASTM D2000 BC. Durometer is 50A (medium); durometer tolerance is ±5. Sheets have width and length tolerances of +0.500". Cut-to-length sheets have a width tolerance of +1".

		Sheets				Cut-to-Length Sheets 36″ Wide	
		12″×12″		12″×24″			
Thick.	Thick. Tolerance		Each		Each		Per Ft.
1/32″	±0.010″	8837K111	$6.05	8837K211	$10.00	8837K311	$12.04
1/16″	±0.016″	8837K112	10.85	8837K212	18.01	8837K312	21.70
1/8″	±0.020″	8837K114	20.69	8837K214	34.35	8837K314	41.38
1/4″	±0.031″	8837K116	40.22	8837K216	67.87	8837K316	80.42

Multipurpose Rubber

For information about rubber and durometer hardness scales, see page 3588.

Fabric-Reinforced Multipurpose Neoprene Rubber Sheets

These sheets are often used as flange gaskets, diaphragm packing, and anywhere heavy compression would squeeze nonreinforced neoprene out of place. The rubber meets ASTM D2000 BC. Durometer tolerance is ±5.

Medium-Strength Sheets



- Color: Black
- Tensile Strength: 1,000 psi
- Temperature Range: -30° to 200°F

Sheets have one layer of cotton/polyester fabric for every 1/16″ of thickness, so they maintain their size and shape under heavy compression better than the standard nonreinforced Multipurpose Neoprene. Durometer is 70A (hard). Sheets have a width tolerance of +0.500″ and a plus length tolerance. Cut-to-length sheets have a width tolerance of +1″.

		Sheets				Cut-to-Length Sheets	
		12″×12″		12″×24″		36″ Wide	
Thick.	Thick. Tolerance		Each		Each		Per Ft.
1/16″	±0.016″	8698K71	$8.29	8698K51	$13.76	8698K31	$17.58
3/32″	±0.016″	8698K72	11.25	8698K52	18.75	8698K32	23.89
1/8″	±0.020″	8698K73	14.59	8698K53	24.27	8698K33	32.32
3/16″	±0.031″	8698K74	$26.22	8698K54	$39.04	8698K34	$48.91
1/4″	±0.031″	8698K75	29.41	8698K55	48.88	8698K35	63.03

High-Strength Sheets



- Color: Black
- Tensile Strength: 1,500 psi
- Temperature Range: -40° to 220°F
- For use outdoors

Sheets have one layer of nylon one-ply fabric for each 1/16″ of thickness. The rubber meets MIL-R-3065. Durometer is 70A (hard). Sheets have width and length tolerances of ±0.250″. Cut-to-length sheets have a width tolerance of +2″.

		Sheets				Cut-to-Length Sheets	
		12″×12″		12″×24″		48″ Wide	
Thick.	Thick. Tolerance		Each		Each		Per Ft.
1/16″	±0.016″	8599K31	$17.56	8599K51	$29.29	8599K11	$45.48
3/32″	±0.016″	8599K32	20.73	8599K52	34.53	8599K12	52.89
1/8″	±0.020″	8599K33	27.49	8599K53	44.06	8599K13	70.49
3/16″	±0.031″	8599K34	$38.63	8599K54	$60.36	8599K14	$96.58
1/4″	±0.031″	8599K35	45.22	8599K55	75.36	8599K15	120.55

Ultra-Strength Sheets



- Color: Black
- Tensile Strength: 2,500 psi
- Temperature Range: -40° to 240°F
- For use outdoors

For every 1/4″ of thickness there is one layer of super-strong fiberglass cloth that stands up to high stress and flex. It has good oil and abrasion resistance. Durometer is 55A (medium). They have width and length tolerances of -0.500″ to +1″.

Thick.	Thick. Tolerance	6″×6″		12″×12″		12″×24″		12″×36″		12″×48″	
1/2″	±0.047″	8455K11	$35.73	8455K21	$102.56	8455K31	$186.47	8455K41	$269.54	8455K51	$339.04
1″	±0.100″	8455K12	66.79	8455K22	191.69	8455K32	348.52	8455K42	503.77	8455K52	633.67
1 1/2″	±0.150″	8455K13	89.95	8455K23	269.95	8455K33	490.84	8455K43	691.63	8455K53	869.97
2″	±0.200″	8455K14	113.06	8455K24	339.28	8455K34	616.78	8455K44	869.25	8455K54	1,093.39

Multipurpose Neoprene Rubber Balls

Let these balls bounce inside of vibrating sifters for an effective screen cleaner or use them as seals in pumps and check valves.

Balls



- Color: Black or white
- Tensile Strength: 2,000 psi
- Temperature Range: 0° to 212°F
- For use outdoors

These balls have a durometer of 55A (medium); durometer tolerance is ±5. All have a diameter tolerance of ±0.016″. **Black** balls meet ASTM D2000. **White** balls are made from FDA-listed material for use with food and beverage.

	Pkg.	Black		White	
Dia.	Qty.		Pkg.		Pkg.
5/8″	10	9957K11	$10.01	96405K71	$8.67
1″	10	9957K12	16.33	96405K72	13.82
1 1/8″	5	9957K13	12.14	96405K73	12.21
1 3/8″	5	9957K14	$14.29	96405K74	$13.09
2″	2	9957K15	15.73	96405K78	14.23

Tight-Tolerance Balls



- Color: Black
- Tensile Strength: 1,450 psi (3/16″ dia.); 2,100 psi (1/4″-3/4″ dia.)
- Temperature Range: -15° to 200°F
- For use outdoors

Durometer is 70A (hard); durometer tolerance is ±5. All meet ASTM D2000 BC.

Dia.	Dia. Tolerance		Each
3/16″	±0.003″	1241T1	$2.75
1/4″	±0.003″	1241T2	1.91
5/16″	±0.003″	1241T3	$3.94
3/8″	±0.003″	1241T4	2.22
1/2″	±0.004″	1241T6	$2.48
3/4″	±0.004″	1241T8	7.76

Multipurpose Neoprene Rubber Rods



- Color: Black
- Tensile Strength: 1,050 psi, except 30A and 40A rods are 700 psi
- Temperature Range: -20° to 200°F
- For use outdoors (unless noted)

The cylindrical shape fits into channels and other narrow spaces for sealing and cushioning. Neoprene is commonly called chloroprene. All meet ASTM D2000 BC. Softer durometer rubber has better conformability; harder durometer rubber is more wear resistant. A durometer of 30A is soft, 40A is medium soft, 50A is medium, and 75A is hard. Durometer tolerance is ±5. Rods have a plus length tolerance, except those with 75A durometer are ±0.250″.

Dia.	Dia. Tolerance	Choose a Durometer		6″ Lg.	36″ Lg.
1/8″	±0.027″	30A, 40A, 50A	8466K11★	____	$17.19
1/4″	±0.039″	30A, 40A, 50A	8466K12★	____	19.38
3/8″	±0.039″	30A, 40A, 50A	8466K13★	____	25.00
1/2″	±0.051″	30A, 40A, 50A	8466K14★	____	33.76
3/4″	±0.125″	75A	8629K31	$3.25	14.50
1″	±0.125″	75A	8629K32	4.40	20.14
1 1/4″	±0.125″	75A	8629K33	5.98	27.68
1 1/2″	±0.125″	75A	8629K35	10.35	48.23
1 3/4″	±0.125″	75A	8629K36	$11.00	$50.31
2″	±0.125″	75A	8629K37	12.42	56.53
2 1/4″	±0.125″	75A	8629K38	16.13	73.94
2 1/2″	±0.125″	75A	8629K39	19.89	91.42
3″	±0.125″	75A	8629K41	26.53	123.32
3 1/2″	±0.125″	75A	8629K42	41.91	194.58
4″	±0.125″	75A	8629K43	51.50	237.02

★ Not for use outdoors.

For information about rubber and durometer hardness scales, see page 3588.

Multipurpose Neoprene Rubber Tubes



- Color: Black
- Tensile Strength: 1,200 psi (square tubes); 1,100 psi (round tubes)
- Temp. Range: -20° to 200° F

Jackets, seals, and insulation are just a few of the many uses for these rubber tubes. Neoprene is also called chloroprene. All tubes meet ASTM D2000 BC. They have a durometer of 75A (hard); durometer tolerance is ±5. **Square tubes** have height and width tolerances of ±0.079″, except 3/4″ tubes have height and width tolerances of ±0.063″. ID tolerance is ±0.039″ for 1/4″ and 3/8″ IDs, ±0.051″ for 5/8″ ID, and ±0.063 for 7/8″ ID. All have a plus length tolerance. **Round tubes** have an OD tolerance of ±0.125″ and an ID tolerance of ±0.063″. Length tolerance is ±0.250″. Wall thickness tolerance is ±0.063″.

Square Tubes

Ht.	Wd.	ID	Wall Thick.		6″ Lg.	12″ Lg.	36″ Lg.
3/4″	3/4″	1/4″	1/4″	1520T61	$6.17	$10.28	$25.69
1″	1″	3/8″	5/16″	1520T62	9.42	15.71	39.27
1 1/4″	1 1/4″	5/8″	5/16″	1520T63	$12.21	$20.35	$50.87
1 1/2″	1 1/2″	7/8″	5/16″	1520T65	15.03	25.06	62.64

Round Tubes

OD	ID	Wall Thick.		6″ Lg.	36″ Lg.
3/4″	1/4″	1/4″	8637K51	$3.17	$12.60
1″	1/4″	3/8″	8637K52	3.91	15.84
1″	3/8″	5/16″	8637K53	5.08	20.32
1″	5/8″	3/16″	8637K54	3.40	13.60
1 1/4″	1/4″	1/2″	8637K55	7.48	29.72
1 1/4″	1/2″	3/8″	8637K56	6.59	26.60
1 1/4″	5/8″	5/16″	8637K57	5.79	23.09
1 3/8″	3/8″	1/2″	8637K58	6.94	28.06
1 3/8″	1/2″	7/16″	8637K59	7.36	29.60
1 1/2″	3/8″	9/16″	8637K61	9.20	36.70
1 1/2″	7/8″	5/16″	8637K62	7.50	30.07
1 3/4″	1/4″	3/4″	8637K63	$12.03	$48.57
1 3/4″	3/8″	11/16″	8637K64	11.43	45.97
1 7/8″	1/2″	11/16″	8637K65	11.43	45.97
2″	3/8″	13/16″	8637K67	15.56	61.93
2 1/2″	3/8″	1 1/16″	8637K69	20.61	81.81
2 1/2″	3/4″	7/8″	8637K71	18.72	75.53
3″	1/2″	1 1/4″	8637K72	26.72	105.91
3″	1″	1″	8637K73	23.73	94.17
3 1/2″	3/4″	1 3/8″	8637K74	42.07	169.86
4″	7/8″	1 9/16″	8637K75	50.63	202.20
5″	7/8″	2 1/16″	8637K76	70.88	282.97

Super-Soft High-Temperature Silicone Rubber Sheets and Strips

Like other silicone, this rubber stays flexible over a wide temperature range, but its softness gives it better conformability.

Strips and Sheets

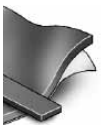

- Color: Red
- Tensile Strength: 200 psi
- Temp. Range: -40° to 300° F
- For use outdoors

All meet ASTM D2000 GE and MIL-A-A-59588. They are made from FDA-listed material for use with food and beverage. Durometer tolerance is ±5. **Strips** have a durometer of 10A (soft). They have a length tolerance of ±0.375″. 2″×36″ strips have a width tolerance of ±0.062″; 4″×36″ strips have a width tolerance of ±0.093″; and 6″×36″ strips have a width tolerance of ±0.125″. **Sheets** have width and length tolerances of ±0.125″, except 24″×24″ sheets have width and length tolerances of ±0.375″ and 36″×36″ sheets have width and length tolerances of ±0.500″. **Adhesive-back** sheets have an acrylic adhesive with a temp. range of -40° to 280° F.

To Order: For sheets, please specify durometer: 10A (soft), 20A (soft), or 30A (soft), except 6"×6" and 3/16" thick sheets are only available in 10A and 20A.

Plain-Back Strips

Thick.	Thick. Tolerance	2″×36″		4″×36″		6″×36″	
1/16″	±0.016″	5963K11	$17.88	5963K12	$29.81	5963K13	$37.26
1/8″	±0.020″	5963K14	28.80	5963K15	48.01	5963K16	60.01
3/16″	±0.031″	5963K17	$43.99	5963K18	$73.32	5963K19	$91.65
1/4″	±0.031″	5963K21	53.80	5963K22	89.66	5963K23	112.08

Plain-Back Sheets / Adhesive-Back Sheets

Thick.	Thick. Tolerance	6″×6″		12″×12″		24″×24″		36″×36″		12″×12″		24″×24″	
1/32″	±0.012″	9010K81	$5.55	9010K11	$17.96	9010K21	$56.79	9010K31	$102.24	9010K41	$23.64	9010K51	$78.81
1/16″	±0.016″	9010K82	7.70	9010K12	25.43	9010K22	81.33	9010K32	146.40	9010K42	30.44	9010K52	101.46
1/8″	±0.020″	9010K83	13.75	9010K13	42.42	9010K23	131.11	9010K33	240.74	9010K43	45.47	9010K53	151.57
3/16″	±0.020″	9010K84	21.42	9010K14	62.36	9010K24	203.82	9010K34	366.84	9010K44	67.84	9010K54	226.14
1/4″	±0.020″	9010K85	26.67	9010K15	76.20	9010K25	254.00	9010K35	448.21	9010K45	81.64	9010K55	272.15

Ultra-Thin Sheets

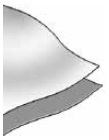

- Color: 10A durometer is gray; 20A is black; 35A is cream
- Tensile Strength: 250 psi (10A durometer); 800 psi (20A and 35A)
- Temp. Range: -80° to 425° F
- For use outdoors

Durometer tolerance is ±5. 6″×6″ sheets have width and length tolerances of ±0.156″. 12″×12″ sheets have width and length tolerances of ±0.313″. 24″×36″ sheets have a width tolerance of ±0.688″ and a length tolerance of ±1″. 36″×36″ sheets have width and length tolerances of ±1″.

Thick.	Thick. Tolerance	Choose a Durometer	6″×6″		12″×12″		24″×36″		36″×36″	
0.010″	±0.002″	10A, 20A, 35A	86435K121	$9.90	86435K41	$26.53	86435K61	$127.16	86435K81	$165.08
0.015″	±0.003″	10A, 20A, 35A	86435K13	10.94	86435K43	28.59	86435K63	136.76	86435K83	182.35
0.020″	±0.003″	10A, 20A, 35A	86435K15	12.27	86435K45	31.90	86435K65	153.38	86435K85	204.50

Adhesive-Back Strips and Sheets with Crisscross Texture

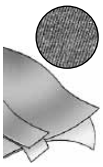

- Color: Gray
- Tensile Strength: 600 psi
- Temp. Range: -100° to 500° F
- For use outdoors

A crisscross texture provides a nonslip gripping surface on both sides. Durometer is 30A (soft); durometer tolerance is ±5. Adhesive is silicone and has a temperature range of -100° to 500° F. **Strips** have a width tolerance of ±0.031″ and a plus length tolerance. **Sheets** have a width tolerance of ±0.688″ and length tolerances up to ±1″, except 6″×6″ sheets have width and length tolerances of ±0.156″ and 12″×12″ sheets have a width and length tolerances of ±0.313″. **Cut-to-length sheets** have a width tolerance of ±0.313″.

Strips

Thick.	Thick. Tolerance	Lg.	1/2″ Wide		3/4″ Wide		1″ Wide		2″ Wide	
1/32″	±0.010″	10 ft.	8622K51	$12.57	8622K52	$17.90	8622K53	$21.22	8622K54	$36.04
1/32″	±0.010″	60 ft.	8622K21	57.21	8622K22	79.04	8622K23	99.53	8622K24	173.64

Sheets / Cut-to-Length Sheets

Thick.	Thick. Tolerance	6″×6″ Each		12″×12″ Each		18″×12″ Each		18″×24″ Each		18″×36″ Each		Cut-to-Length Sheets 12″ Wide Per Ft.	
1/32″	±0.010″	8622K44	$9.87	8622K45	$25.98	8622K41	$37.15	8622K42	$75.34	8622K43	$110.42	8622K31	$27.97

High-Temperature Silicone Rubber Sheets, Bars, and Strips

Also known as polysiloxane, this silicone rubber offers good resistance to ozone and salt water. Softer durometer rubber has better conformability; harder durometer rubber is more wear resistant.

Strips and Sheets with Material Certification



- Color: Red
- Tensile Strength: min. 650 psi
- Temp. Range: min. -60° to 420°F
- For use outdoors

These strips and sheets include material certification with a traceable lot number and cure date. The rubber meets ASTM D2000 GE. They are made from FDA-listed material for use with food and beverage, except plain-back strips are made from FDA-listed material for use with food. Strips and plain-back sheets meet MIL-ZZR-765, except 4″×36″, 6″×36″, and 6″×6″ sizes. Strips, adhesive-back sheets, and 6″×6″ plain-back sheets meet MIL-A-A-59588. Durometer tolerance is ±5. **Strips** have a durometer of 50A (medium). They have length tolerances up to ±1″. 1″×36″ and smaller strips have width tolerances up to ±0.079″; all other strips have width tolerances up to ±0.125″. **Sheets** have a width tolerance up to +0.250″ and a plus length tolerance, except 6″×6″ sheets have width and length tolerances of ±0.125″. **Adhesive-back** strips and sheets have an acrylic adhesive. Adhesive temperature range is -40° to 300°F for strips and -65° to 250°F for sheets.

To Order: For sheets, please specify durometer: 40A (medium soft), 50A (medium), 60A (medium hard), or 70A (hard).

Thick.	Thick. Tolerance	Strips with Material Certification: ½″×36″	¾″×36″	1″×36″	2″×36″	4″×36″	6″×36″	Sheets with Material Certification	6″×6″	12″×12″	24″×24″	36″×36″
Plain Back												
1/32″	±0.015″	1462N3	$4.29	$4.89	$5.70	$6.66	____	____	1460N3	$5.37	$8.01	$22.86	$42.91
1/16″	±0.032″	1462N1	4.44	5.09	5.93	7.28	$23.16	$29.59	1460N1	7.15	11.93	36.46	69.57
3/32″	±0.032″	1462N8	5.67	6.61	7.53	9.17	____	____	1460N7	10.30	14.90	46.75	89.74
1/8″	±0.032″	1462N5	6.79	8.13	9.23	11.97	35.26	45.39	1460N5	10.36	17.95	57.35	110.53
3/16″	±0.032″	1462N6	7.34	8.94	10.46	14.10	____	____	1460N6	12.63	22.52	69.03	141.61
1/4″	±0.046″	1462N4	9.66	11.01	12.91	17.62	55.14	71.30	1460N4	15.34	28.55	94.13	182.64
3/8″	±0.047″	1462N7	12.75	14.64	17.13	23.65	79.56	103.17	1460N8	21.49	35.96	119.83	233.05
1/2″	±0.051″	1462N2	14.94	17.94	20.41	27.92	93.38	133.09	1460N2	24.95	43.37	145.54	283.48
Adhesive Back												
1/32″	±0.010″	1466N3	5.49	6.86	8.24	10.53	____	____	1464N3	____	12.19	38.40	64.11
1/16″	±0.027″	1466N1	5.79	7.07	8.60	11.17	____	____	1464N1	____	15.95	49.40	84.05
3/32″	±0.020″	1466N7	6.93	8.62	10.25	13.84	____	____	1464N7	____	19.94	63.65	107.54
1/8″	±0.027″	1466N5	7.82	9.18	10.95	14.30	____	____	1464N5	____	23.07	74.06	125.97
3/16″	±0.031″	1466N6	8.97	11.03	13.17	17.78	____	____	1464N6	____	29.76	85.44	158.49
1/4″	±0.031″	1466N4	11.28	13.68	16.12	21.87	____	____	1464N4	____	36.57	105.90	196.81
3/8″	±0.047″	1466N8	15.60	18.07	22.44	30.20	____	____	1464N8	____	48.64	142.19	264.93
1/2″	±0.051″	1466N2	18.88	23.70	27.19	37.28	____	____	1464N2	____	56.25	179.29	321.07

Cut-to-Length Sheets

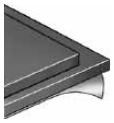

- Color: Red
- Tensile Strength: 700 psi
- Temp. Range: -80° to 500°F
- For use outdoors

The rubber meets ASTM D2000 GE, AMS 3302, MIL-ZZR-765, and NSF/ANSI Standards. Durometer is 50A (medium); durometer tolerance is ±5. Width tolerance is +0.05″, except 6″ wide sheets have a width tolerance of +0.070″ and 36″ wide sheets have a width tolerance of +0.250″. **Adhesive-back** sheets have an acrylic adhesive with a temperature range of -65° to 250°F.

Thick.	Thick. Tolerance	½″ Wide	Per Ft.	1″ Wide	Per Ft.	2″ Wide	Per Ft.	4″ Wide	Per Ft.	6″ Wide	Per Ft.	36″ Wide	Per Ft.
Plain Back													
1/16″	±0.012″	2614T36	$0.87	2614T37	$1.45	2614T38	$2.61	2614T44	$3.48	2614T46	$5.80	2614T48	$29.01
3/32″	±0.017″	2614T39	1.21	2614T41	2.02	2614T42	3.64	2614T16	4.85	2614T17	8.09	2614T49	40.44
1/8″	±0.017″	2614T18	1.50	2614T19	2.49	2614T24	4.49	2614T45	5.98	2614T47	9.98	2614T54	49.88
3/16″	±0.022″	2614T25	1.97	2614T51	3.29	2614T52	5.92	2614T545	7.90	2614T555	13.16	2614T55	65.81
1/4″	±0.022″	2614T565	2.56	2614T26	4.28	2614T27	7.69	2614T28	10.26	2614T29	17.10	2614T56	85.50
Adhesive Back													
1/16″	±0.012″	2614T62	1.21	2614T63	2.02	2614T64	3.64	2614T57	4.85	2614T59	8.08	2614T65	40.39
3/32″	±0.017″	2614T66	1.58	2614T67	2.64	2614T68	4.75	2614T69	6.33	2614T71	10.55	2614T72	52.76
1/8″	±0.017″	2614T73	1.87	2614T74	3.11	2614T75	5.60	2614T58	7.47	2614T61	12.45	2614T76	62.25
3/16″	±0.022″	2614T77	2.26	2614T78	3.77	2614T79	6.78	2614T81	9.04	2614T82	15.07	2614T83	75.33
1/4″	±0.022″	2614T84	2.93	2614T85	4.88	2614T86	8.79	2614T87	11.72	2614T88	19.53	2614T89	97.65

Thick Sheets

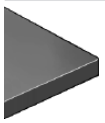

- Color: Red
- Tensile Strength: 700 psi
- Temp. Range: -80° to 400°F
- For use outdoors

All sheets meet ASTM D2000 GE, AMS 3302, and MIL-A-A-59588. They are made from FDA-listed material for use with food and beverage. Durometer is 50A (medium); durometer tolerance is ±5. Width and length tolerances are ±0.125″ for 6″×6″ and 12″×12″ sheets, ±0.250″ for 12″×36″ sheets, and ±0.500″ for 36″×36″ sheets.

Thick.	Thick. Tolerance	6″×6″		12″×12″		12″×36″		36″×36″	
5/8″	±0.062″	2617T67	$37.80	2617T21	$75.60	2617T61	$184.28	2617T41	$472.50
3/4″	±0.075″	2617T68	43.10	2617T22	86.19	2617T62	210.09	2617T42	538.70
1″	±0.100″	2617T71	51.07	2617T24	102.14	2617T64	248.98	2617T44	638.40
1 1/2″	±0.150″	2617T73	57.16	2617T26	114.31	2617T66	278.64	2617T46	714.46

Metric Sheets

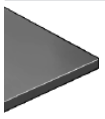

- Color: Red
- Tensile Strength: 700 psi
- Temp. Range: -100° to 500°F
- For use outdoors

These sheets meet ASTM D2000 GE, MIL-A-A-59588, and MIL-ZZR-765. They are made from FDA-listed material for use with food and beverage. Durometer is 50A (medium); durometer tolerance is ±5. Width and length tolerances are ±0.125″ for 12″×12″ sheets, ±0.375″ for 24″×24″ sheets (except 2.0 mm and 2.5 mm thick sheets are ±0.125″), and ±0.500″ for 36″×36″ sheets (except 0.5 mm and 1.0 mm thick sheets are ±0.375″).

Thick.	Thick. Tolerance	12″×12″		24″×24″		36″×36″	
0.5 mm	±0.25 mm	3788T21	$9.84	3788T31	$31.48	3788T41	$52.67
1.0 mm	±0.3 mm	3788T22	12.08	3788T32	39.31	3788T42	67.76
2.0 mm	±0.4 mm	3788T24	18.29	3788T34	57.06	3788T44	102.99
2.5 mm	±0.4 mm	3788T25	20.58	3788T35	64.72	3788T45	115.45
3.0 mm	±0.5 mm	3788T26	23.81	3788T36	74.93	3788T46	133.90
5.0 mm	±0.5 mm	3788T27	36.80	3788T37	118.02	3788T47	209.70

(Continued on following page)

High-Temperature Silicone Rubber Sheets, Bars, and Strips *(Continued from previous page)*

Semi-Clear Sheets



- Color: Semi-clear white
- Tensile Strength: 700 psi
- Temp. Range: –80° to 450° F
- For use outdoors

All meet AMS 3302. They are made from FDA-listed material for use with food and beverage. Durometer is 50A (medium); durometer tolerance is ±5. Sheets have a width tolerance of +1″ and a plus length tolerance. **Adhesive-back** sheets have an acrylic adhesive with a temperature range of –65° to 250° F.

Thick.	Thick. Tolerance	Plain Back 12″×12″		Plain Back 24″×36″		Plain Back 36″×36″		Adhesive Back 12″×12″		Adhesive Back 24″×36″		Adhesive Back 36″×36″	
1/32″	±0.007″	86465K21	$10.69	86465K91	$51.66	86465K71	$65.40	86465K34	$14.55	86465K41	$69.90	86465K51	$86.94
1/16″	±0.012″	86465K23	13.76	86465K93	53.77	86465K73	82.23	86465K32	18.98	86465K42	85.07	86465K52	105.38
1/8″	±0.017″	86465K25	25.42	86465K95	122.33	86465K75	153.31	86465K36	30.39	86465K43	150.24	86465K53	174.68
1/4″	±0.022″	86465K11	38.85	86465K12	193.52	86465K13	242.81	86465K14	44.69	86465K15	222.60	86465K16	279.30

Clear Sheets



- Color: Clear
- Tensile Strength: 800 psi
- Temp. Range: –80° to 425° F
- For use outdoors

These sheets are made from FDA-listed material for use with food and beverage. Durometer is 40A (medium soft); durometer tolerance is ±5. They have width and length tolerances of ±0.375″, except 12″×12″ sheets have width and length tolerances of ±0.125″. **Adhesive-back** sheets have an acrylic adhesive with a temperature range of –40° to 300° F.

Thick.	Thick. Tolerance	Plain Back 12″×12″		Plain Back 24″×36″		Plain Back 36″×36″		Adhesive Back 12″×12″		Adhesive Back 24″×36″		Adhesive Back 36″×36″	
0.020″	±0.010″	86915K12	$20.41	86915K32	$97.90	86915K52	$117.55	86915K22	$25.09	86915K42	$106.77	86915K62	$131.40
1/32″	±0.012″	86915K14	22.82	86915K34	109.30	86915K54	131.25	86915K24	27.56	86915K44	118.76	86915K64	145.43
1/16″	±0.016″	86915K16	33.57	86915K36	161.32	86915K56	193.51	86915K26	37.90	86915K46	172.61	86915K66	209.20

Colored Sheets

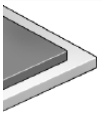

- Color: Black, blue, brown, gray, or white
- Tensile Strength: 700 psi
- Temp. Range: –80° to 400° F
- For use outdoors

All sheets meet ASTM D2000 GE and MIL-A-A-59588. They are made from FDA-listed material for use with food and beverage. Durometer is 50A (medium); durometer tolerance is ±5. They have width and length tolerances of ±0.250″, except 12″×12″ sheets have width and length tolerances of ±0.125″ and 36″×36″ sheets have width and length tolerances of ±0.500″.

Thick.	Thick. Tolerance	Choose a Color	12″×12″		24″×24″		36″×36″	
1/32″	±0.010″	Black, Blue, Brown, Gray, White	5812T12	$12.06	5812T22	$33.62	5812T32	$61.22
1/16″	±0.012″	Black, Blue, Brown, Gray, White	5812T13	16.02	5812T23	50.79	5812T33	92.80
1/8″	±0.020″	Black, Blue, Brown, Gray, White	5812T14	24.04	5812T24	87.53	5812T34	141.33
1/4″	±0.031″	Black, Blue, Brown, Gray, White	5812T15	36.39	5812T25	126.33	5812T35	234.20

Extra-Hard Sheets



- Color: Red
- Tensile Strength: 750 psi
- Temp. Range: –100° to 450° F
- For use outdoors

These sheets meet ASTM D2000 GE. They are made from FDA-listed material for use with food and beverage. Durometer is 90A (extra hard); durometer tolerance is ±5. Sheets have width and length tolerances of ±0.125″.

Thick.	Thick. Tolerance	12″×12″	
1/32″	±0.012″	5773T21	$12.32
1/16″	±0.016″	5773T22	19.05
3/32″	±0.016″	5773T23	$26.04
1/8″	±0.020″	5773T24	29.79

Sheets with Crisscross Texture

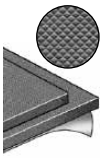

- Color: Red
- Tensile Strength: 700 psi
- Temp. Range: –80° to 450° F
- For use outdoors

A crisscross texture provides a nonslip gripping surface on both sides. The rubber meets ASTM D2000 GE, MIL-A-A-59588, and AMS 3302. These sheets are made from FDA-listed material for use with food and beverage. Durometer is 50A (medium); durometer tolerance is ±5. 12″×12″ sheets have width and length tolerances of ±0.125″; 24″×24″ have width and length tolerances of ±0.375″. **Adhesive-back** sheets have an acrylic adhesive with a temperature range of –40° to 300° F.

Thick.	Thick. Tolerance	Plain Back 12″×12″		Plain Back 24″×24″		Adhesive Back 12″×12″		Adhesive Back 24″×24″	
1/32″	±0.012″	5777T11	$11.31	———	———	5777T41	$18.18	5777T51	$44.58
1/16″	±0.016″	5777T12	18.61	———	———	5777T42	25.50	5777T52	70.23
1/8″	±0.020″	5777T14	30.06	———	———	5777T44	37.13	5777T54	104.44
3/16″	±0.031″	5777T15	43.05	5777T25	$115.15	5777T45	51.42	5777T55	131.60
1/4″	±0.031″	5777T16	48.02	5777T26	133.94	5777T46	63.01	5777T56	148.38

Bars



- Color: Red
- Tensile Strength: 700 psi
- Temp. Range: –80° to 400° F
- For use outdoors

All bars meet ASTM D2000 GE and MIL-A-A-59588. They are made from FDA-listed material for use with food and beverage. Durometer is 60A (medium hard); durometer tolerance is ±5. Thickness and width tolerances are ±0.040″.

To Order Please specify length: 3 ft., 5 ft., 10 ft., 25 ft., or 100 ft.

Thick.	Wd.		Per Ft.
Rectangular Bars			
1/8″	1/4″	5508T41	$1.22
Square Bars			
1/4″	1/4″	5508T42	1.50
3/8″	3/8″	5508T43	2.46
Square Bars (Cont.)			
1/2″	1/2″	5508T44	$3.63
5/8″	5/8″	5508T45	5.16
3/4″	3/4″	5508T46	6.47

High-Temperature Rubber

For information about rubber and durometer hardness scales, see page 3588.

High-Strength High-Temperature Silicone Rubber Sheets

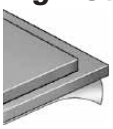

- Color: Gray or red
- Tensile Strength: 1,200 psi
- Temp. Range: -80° to 480° F
- For use outdoors

Greater strength than standard High-Temperature Silicone translates into better shock-absorbing qualities and longer life. Silicone, commonly called polysiloxane, offers good resistance to ozone and salt water. All sheets meet ASTM D2000 GE, MIL-A-A-59588, and MIL-ZZR-765. They are made from FDA-listed material for use with food and beverage. Durometer is 50A (medium); durometer tolerance is ±5. **Gray** sheets have width and length tolerances of ±0.125″, except 24″×24″ sheets have width and length tolerances of ±0.375″. **Red** 6″×6″ sheets have width and length tolerances of ±0.063″, 12″×12″ sheets have width and length tolerances of ±0.125″, and 24″×24″ sheets have width and length tolerances of ±0.375″. **Adhesive-back** sheets have an acrylic adhesive with a temperature range of -40° to 300° F.

Thick.	Thick. Tolerance	Plain Back 6″×6″		Plain Back 12″×12″		Plain Back 24″×24″		Adhesive Back 6″×6″		Adhesive Back 12″×12″		Adhesive Back 24″×24″	
Gray													
1/16″	±0.016″	5781T58	$6.73	5781T11	$21.34	5781T17	$72.48	5781T48	$7.73	5781T31	$25.61	5781T37	$82.78
1/8″	±0.020″	5781T59	11.50	5781T13	38.69	5781T19	128.40	5781T49	12.55	5781T33	42.07	5781T39	137.35
1/4″	±0.031″	5781T61	19.97	5781T15	67.71	5781T21	216.92	5781T51	21.16	5781T35	72.89	5781T41	230.11
Red													
1/16″	±0.016″	5787T31	3.81	5787T11	14.69	5787T17	54.41	5787T61	5.31	5787T41	21.24	5787T47	75.85
1/8″	±0.020″	5787T33	9.26	5787T13	25.00	5787T19	92.60	5787T63	10.98	5787T43	30.75	5787T49	109.82
1/4″	±0.031″	5787T35	10.94	5787T15	42.19	5787T21	156.25	5787T65	17.77	5787T45	49.76	5787T51	177.71

Food-Grade High-Temperature Silicone Rubber Sheets and Strips

Made from FDA-listed materials for use with food. Silicone, also called polysiloxane, offers good resistance to ozone and salt water.

Strips and Sheets



- Color: White
- Tensile Strength: 650 psi
- Temp. Range: -60° to 420° F
- For use outdoors

The rubber meets MIL-A-A-59588. Durometer tolerance is ±5. **Strips** have a durometer of 50A (medium). They have a width tolerance of ±0.125″ and a length tolerance of ±1″, except 1/2″×36″ and 1″×36″ strips have a width tolerance of ±0.062″. **Sheets** have width and length tolerances of ±0.125″, except 24″×24″ sheets have width and length tolerances of ±0.500″ and 36″×36″ sheets have width and length tolerances of ±1″. **Adhesive-back** sheets have an acrylic adhesive with a temperature range of -35° to 250° F.

To Order: For sheets, please specify durometer: 40A (medium soft), 50A (medium), or 60A (medium hard).

Thick.	Thick. Tolerance	Strips 1/2″×36″		Strips 1″×36″		Strips 2″×36″		Strips 4″×36″		Strips 6″×36″	
Plain Back											
1/16″	±0.032″	8417K38	$4.80	8417K44	$8.17	8417K49	$12.49	8417K55	$22.10	8417K61	$28.83
1/8″	±0.032″	8417K39	7.25	8417K45	12.33	8417K51	18.85	8417K56	33.35	8417K62	43.51
1/4″	±0.046″	8417K41	11.64	8417K46	19.79	8417K52	30.27	8417K57	53.56	8417K63	69.86
3/8″	±0.046″	8417K42	14.41	8417K47	24.49	8417K53	37.46	8417K58	66.27	8417K64	86.44
1/2″	±0.046″	8417K43	16.19	8417K48	27.52	8417K54	42.10	8417K59	74.48	8417K65	106.86

Thick.	Thick. Tolerance	Sheets 6″×6″		Sheets 12″×12″		Sheets 24″×24″		Sheets 36″×36″	
Plain Back									
1/32″	±0.015″	86045K58	$4.64	86045K76	$10.03	86045K94	$31.89	86045K166	$57.97
1/16″	±0.032″	86045K59	7.69	86045K77	16.69	86045K95	52.68	86045K171	96.09
3/32″	±0.032″	86045K61	9.70	86045K78	20.98	86045K96	66.72	86045K175	121.30
1/8″	±0.032″	86045K62	11.60	86045K79	25.80	86045K97	80.63	86045K179	145.02
3/16″	±0.032″	86045K63	14.93	86045K81	33.17	86045K98	103.70	86045K184	186.64
1/4″	±0.046″	86045K64	18.63	86045K82	41.38	86045K99	129.38	86045K188	232.86
3/8″	±0.046″	86045K65	23.05	86045K83	51.23	86045K29	160.07	86045K193	288.15
1/2″	±0.046″	86045K66	25.91	86045K84	57.58	86045K39	179.91	86045K197	323.82
Adhesive Back									
1/32″	±0.015″	86045K49	5.62	86045K67	12.15	86045K85	38.62	86045K131	70.21
1/16″	±0.032″	86045K51	8.56	86045K68	18.58	86045K86	58.64	86045K135	106.96
3/32″	±0.032″	86045K52	10.60	86045K69	22.92	86045K87	72.86	86045K139	132.47
1/8″	±0.032″	86045K53	12.55	86045K71	27.90	86045K88	87.19	86045K144	156.82
3/16″	±0.032″	86045K54	15.86	86045K72	35.24	86045K89	110.18	86045K148	198.30
1/4″	±0.046″	86045K55	19.46	86045K73	43.23	86045K91	135.17	86045K153	243.29
3/8″	±0.046″	86045K56	24.18	86045K74	53.74	86045K92	167.89	86045K157	302.24
1/2″	±0.046″	86045K57	27.17	86045K75	60.38	86045K93	188.69	86045K162	339.62

Semi-Clear Sheets



- Color: Semi-clear white
- Tensile Strength: 1,000 psi
- Temp. Range: -80° to 400° F
- For use outdoors

All meet ASTM D2000 GE and NSF/ANSI Standards. Durometer is 50A (medium); durometer tolerance is ±5. 12″×12″ sheets have width and length tolerances of ±0.125″, 24″×24″ sheets have width and length tolerances of ±0.250″, and 36″×36″ sheets have width and length tolerances of ±0.500″.

Thick.	Thick. Tolerance	12″×12″		24″×24″		36″×36″	
1/32″	±0.010″	5827T21	$14.77	5827T31	$48.50	5827T41	$89.69
1/16″	±0.012″	5827T22	21.57	5827T32	69.43	5827T42	129.26
1/8″	±0.020″	5827T23	33.60	5827T33	106.66	5827T43	203.40
1/4″	±0.031″	5827T24	56.13	5827T34	194.56	5827T44	291.61

High-Purity High-Temperature Silicone Rubber Sheets



- Color: Clear
- Tensile Strength: 1,250 psi
- Temp. Range: -65° to 400° F
- For use outdoors

These platinum-cured silicone rubber sheets meet the strict purity standards of USP Class VI. Silicone, also known as polysiloxane, offers good resistance to ozone and salt water. All meet ASTM D2000 GE. They are made from FDA-listed material for use with food and beverage. Durometer is 55A (medium); durometer tolerance is ±5. Sheets have width and length tolerances of ±0.125″.

Thick.	Thick. Tolerance	6″×8″		12″×12″	
0.005″	±0.003″	87315K61	$32.04	87315K71	$90.78
0.010″	±0.003″	87315K62	34.82	87315K72	99.52
0.020″	±0.003″	87315K63	38.15	87315K73	107.92

Thick.	Thick. Tolerance	6″×8″		12″×12″	
0.040″	±0.004″	87315K64	$41.53	87315K74	$120.67
0.060″	±0.004″	87315K65	48.80	87315K75	141.58

For information about rubber and durometer hardness scales, see page 3588.

Glow-in-the-Dark High-Temperature Silicone Rubber Sheets



- Color: Glow-in-the-dark yellow
- Tensile Strength: 500 psi
- Temp. Range: -60° to 400° F
- For use outdoors

Expose these yellow sheets to light and they'll glow bright green in the dark. Use them to illuminate pathways. Silicone, also called polysiloxane, offers good resistance to ozone and salt water. Durometer is 60A (medium hard); durometer tolerance is ±5. Sheets have width and length tolerances of ±0.125".

Thick.	Thick. Tolerance	6"×6"		12"×12"	
1/16"	±0.126"	1257N11	$15.38	1257N13	$51.25
1/8"	±0.126"	1257N12	$23.95	1257N14	$79.85

Fire-Retardant High-Temperature Silicone Rubber Sheets



- Color: Black
- Tensile Strength: 300 psi
- Temp. Range: -80° to 425° F
- For use outdoors

These sheets meet UL 94V0 for flame retardance and FAR 25.856. Silicone, commonly called polysiloxane, offers good resistance to ozone and salt water. Durometer is 65A (medium hard); durometer tolerance is ±5. 6"×6" sheets have width and length tolerances of ±0.156". 12"×12" sheets have width and length tolerances of ±0.313".

Thick.	Thick. Tolerance	6"×6"		12"×12"	
0.020"	±0.003"	1282N11	$10.80	1282N15	$33.75
1/32"	±0.004"	1282N12	13.73	1282N16	42.92
1/16"	±0.006"	1282N13	$20.68	1282N17	$64.62
1/8"	±0.008"	1282N14	36.77	1282N18	114.92

EMI/RFI Shielding High-Temperature Silicone Rubber Strips



- Color: Gray
- Tensile Strength: 700 psi
- Temp. Range: -85° to 390° F
- For use outdoors

Monel wires inside these strips conduct electricity to protect equipment from damaging static charges. They have a buffed texture with a rough surface on one side and are smooth on the other. Silicone, also called polysiloxane, offers good resistance to ozone and salt water. All meet ASTM D2000 GE, MIL-A-A-59588, and MIL-R-5847. Durometer is 40A (medium soft); durometer tolerance is ±5. Width and length have a plus tolerance.

Thick.	Thick. Tolerance	3"×36"		6"×36"		9"×36"	
1/32"	±0.010"	5831T21	$38.15	5831T31	$69.47	5831T41	$90.97
1/16"	±0.010"	5831T22	46.07	5831T32	83.87	5831T42	112.43
1/8"	±0.010"	5831T24	80.74	5831T34	146.90	5831T44	189.91
3/16"	±0.010"	5831T25	122.70	5831T35	223.20	5831T45	289.19
1/4"	±0.010"	5831T26	157.18	5831T36	239.27		

Thermally Conductive High-Temperature Silicone Rubber Sheets



- Color: Yellow
- Tensile Strength: 40 psi
- Temp. Range: -75° to 390° F
- For use outdoors

Commonly used in electronics applications, these sheets transfer heat better than any other silicone we offer. Thermal conductivity is 5 W/m-K. They are conformable with a slightly tacky surface that lightly adheres to both smooth and rough surfaces. Sheets meet UL 94V0 for flame retardance. Silicone, also known as polysiloxane, offers good resistance to ozone and salt water. Durometer is 45OO (extra soft); durometer tolerance is ±5. Width and length tolerances are ±0.156".

Thick.	Thick. Tolerance	4"×4"		8"×8"	
0.020"	±0.002"	1272N11	$15.24	1272N15	$38.10
0.040"	±0.004"	1272N12	22.87	1272N16	60.18
0.060"	±0.006"	1272N13	$29.84	1272N17	$82.90
0.080"	±0.008"	1272N14	38.95	1272N18	108.20

Fabric-Reinforced High-Temperature Silicone Rubber Sheets and Strips



- Color: Red
- Tensile Strength:
  1,100 psi (1/32" thick);
  1,300 psi (1/16"-1/8" thick)
- Temp. Range: -100° to 500° F
- For use outdoors

One layer of fiberglass cloth is inserted between two layers of silicone rubber to give these strips and sheets the strength to stand up to high stress and flex. Use them as flange gaskets and anywhere heavy compression would squeeze nonreinforced silicone rubber out of place. Silicone, commonly called polysiloxane, offers good resistance to ozone and salt water. All meet AMS 3320H, except 1/32" thick sheets meet AMS 3315. They are made with FDA-listed material for use with food and beverage. Durometer is 70A (hard); durometer tolerance is ±10. Strips and sheets have a width tolerance of +1" and a plus length tolerance. Cut-to-length sheets have a width tolerance of +1". **Adhesive-back** strips and sheets have an acrylic adhesive with a temperature range of -65° to 250° F.

		Strips					*Sheets*				*Cut-to-Length Sheets*
Thick.	Thick. Tolerance	2"×36" Each	4"×36" Each		6"×36" Each		12"×12" Each	24"×36" Each		36"×36" Each	36" Wide Per Ft.
Plain Back											
1/32"	±0.007"	3635K42	$6.39	3635K53	$12.29	3635K64	$16.78	8612K56	$13.48	8612K66	$49.74			8612K46	$26.13
1/16"	±0.012"	3635K11	9.41	3635K12	17.17	3635K13	23.52	8612K51	18.35	8612K61	71.55			8612K21	37.66
3/32"	±0.017"	3635K14	13.37	3635K15	22.19	3635K16	31.83	8612K53	26.58	8612K62	91.65			8612K32	47.06
1/8"	±0.017"	3635K17	16.35	3635K18	27.16	3635K19	37.20	8612K55	29.08	8612K63	121.46			8612K43	63.58
Adhesive Back															
1/32"	±0.007"	3635K72	10.89	3635K83	20.81	3635K94	32.10	8612K16	21.95	8612K76	87.71	8612K86	$125.69		
1/16"	±0.012"	3635K21	16.29	3635K22	29.30	3635K23	39.73	8612K11	23.96	8612K71	104.98	8612K81	152.03		
3/32"	±0.017"	3635K24	19.70	3635K25	33.87	3635K26	44.73	8612K12	27.08	8612K72	116.65	8612K82	170.34		
1/8"	±0.017"	3635K27	21.82	3635K28	38.14	3635K29	49.74	8612K13	32.89	8612K73	135.24	8612K83	198.74		

High-Temperature Silicone Rubber Tubes



- Color: Red
- Tensile Strength: 700 psi
- Temp. Range: -60° to 450° F
- For use outdoors

These tubes are often used as jackets, seals, and insulation in hot environments. Silicone, also known as polysiloxane, offers good resistance to ozone and salt water. All meet ASTM D2000 GE. Durometer is 60A (medium hard); durometer tolerance is ±5. 6" long tubes have a length tolerance of ±0.188", and 36" long tubes have a tolerance of ±1".

OD	OD Tol.	ID	ID Tol.	Wall Thick.	6" Lg.		36" Lg.	
3/4"	±0.063"	1/4"	±0.039"	1/4"	5546T11	$5.94	5546T21	$25.93
1"	±0.079"	1/4"	±0.039"	3/8"	5546T12	7.29	5546T22	35.71
1"	±0.079"	3/8"	±0.039"	5/16"	5546T13	7.53	5546T23	32.76
1"	±0.079"	5/8"	±0.051"	3/16"	5546T14	6.42	5546T24	28.06
1 1/4"	±0.079"	1/4"	±0.031"	1/2"	5546T15	10.48		
1 1/4"	±0.079"	1/4"	±0.039"	1/2"			5546T25	45.16
1 1/4"	±0.079"	1/2"	±0.051"	3/8"	5546T16	$9.77	5546T26	$40.31
1 1/4"	±0.079"	5/8"	±0.063"	5/16"	5546T17	8.76	5546T27	36.67
1 3/8"	±0.079"	1/2"	±0.051"	7/16"	5546T18	7.57	5546T28	44.85
1 1/2"	±0.079"	3/8"	±0.039"	9/16"	5546T19	9.06	5546T29	52.86
1 1/2"	±0.079"	7/8"	±0.063"	5/16"	5546T41	8.57	5546T31	39.05

High-Temperature Rubber & Oil-Resistant Rubber

For information about rubber and durometer hardness scales, see page 3588.

High-Temperature Silicone Rubber 90° Angles and U-Channels



- Color: Red
- Tensile Strength: 700 psi
- Temp. Range: -60° to 400° F
- For use outdoors

Use these 90° angles and U-channels to seal and cushion edges. Silicone, also called polysiloxane, offers good resistance to ozone and salt water. All meet ASTM D2000 GE. Durometer is 50A (medium); durometer tolerance is ±5. Wall thickness tolerance is ±0.027″, except 2″ high U-channels have a wall thickness tolerance of ±0.016″.

90° Angles

Ht. (Outside)	Ht. Tolerance	Wd. (Outside)	Wd. Tolerance		Per Ft.
1/8″ Thick.					
1/2″	±0.031″	1/2″	±0.051″	3482K4	$2.40
3/4″	±0.063″	3/4″	±0.063″	3482K5	3.37
1″	±0.051″	1″	±0.079″	3482K6	3.70

U-Channels

Ht. (Outside)	Ht. Tolerance	Wd. (Outside)	Wd. Tolerance		Per Ft.
1/8″ Thick.					
1/2″	±0.051″	1/2″	±0.051″	3510K4	$3.12
1″	±0.079″	1″	±0.079″	3510K5	4.25
2″	±0.098″	2″	±0.098″	3510K6	6.61

High-Temperature Silicone Rubber Rods

Seal and cushion narrow spaces such as channels. Silicone, also known as polysiloxane, offers good resistance to ozone and salt water.

Rods



- Color: Black or red
- Tensile Strength: 350 psi (black); 650 psi (red)
- Temp. Range: -100° to 400° F (black); -60° to 420° F (red)
- For use outdoors

Durometer tolerance is ±5.
Black rods have a durometer of 20A (soft).
Red rods meet MIL-A-A-59588. Durometer is 40A (medium soft).

Dia.	Dia. Tolerance		Per Ft.
Black			
1/8″	±0.016″	1249N11	$1.69
1/4″	+0.040″	1249N12	2.75
Black (Cont.)			
3/8″	±0.039″	1249N13	$4.63
1/2″	±0.051″	1249N14	6.88
Red			
1 1/4″	±0.079″	1246N11	$17.23

Food-Grade Rods



- Color: Red
- Tensile Strength: 650 psi
- Temp. Range: -65° to 400° F
- For use outdoors

Made from FDA-listed material for use with food and beverage. Durometer tolerance is ±5. Length tolerance is ±0.250″.
To Order: Please specify durometer: 40A (medium soft), 50A (medium), 60A (medium hard), or 70A (hard).

Dia.	Dia. Tolerance	36″ Lg.	
1/8″	±0.016″	9808K21	$6.81
1/4″	±0.027″	9808K22	7.25
3/8″	±0.027″	9808K23	$8.89
1/2″	±0.031″	9808K24	9.87
3/4″	±0.039″	9808K25	$14.09
1″	±0.051″	9808K26	19.20

High-Temperature Silicone Rubber Balls



- Color: Semi-clear white
- Tensile Strength: 2,000 psi
- Temp. Range: -60° to 500° F
- For use outdoors

Use these balls as seals in pumps and check valves, or let them bounce inside of vibrating sifters as an effective screen cleaner. Silicone, commonly called polysiloxane, offers good resistance to ozone and salt water. All meet ASTM D2000 GE. They are made from FDA-listed material for use with food and beverage. Durometer is 60A (medium hard); durometer tolerance is ±5.

Dia.	Dia. Tol.	Pkg. Qty.		Pkg.
5/8″	±0.016″	10	8945K51	$10.33
7/8″	±0.016″	5	8945K53	8.91
1″	±0.016″	5	8945K55	$11.67
1 1/8″	±0.016″	1	8945K57	5.13
1 3/8″	±0.016″	2	8945K59	$10.50
2″	±0.016″	1	8945K61	12.12

Oil-Resistant Buna-N Rubber Sheets, Bars, and Strips

Buna-N rubber is also known as nitrile, NBR, and acrylonitrile butadiene. It resists fuel oil, hydraulic oil, ethylene glycol, and grease.

Strips and Sheets



- Color: Black
- Tensile Strength: 800 psi
- Temp. Range: -20° to 170° F

The rubber meets ASTM D2000 BF. Durometer tolerance is ±5. Strips and sheets have width and length tolerances of ±0.250″, except 1″×36″ sheets have a width tolerance of ±0.125″ and a length tolerance of -0.250″ to 1″. Cut-to-length sheets have a width tolerance of ±0.250″. **Adhesive-back** strips and sheets have an acrylic adhesive with a temp. range of -20° to 170° F.
To Order: Please specify durometer: 40A (medium soft) or 50A (medium). 1/32" thick cut-to-length sheets are only available in 50A.

Thick.	Thick. Tolerance		Strips 1″×36″ Each	Strips 2″×36″ Each	Strips 4″×36″ Each	Strips 6″×36″ Each	Sheets 12″×12″ Each	Sheets 12″×24″ Each	*Cut-to-Length Sheets* 36″ Wide	Per Ft.
Plain Back										
1/32″	±0.010″	9023K21	$1.64	____	____	____	$4.30	$7.41	8635K361	$9.14
1/16″	±0.016″	9023K17	2.22	$4.03	$6.14	$7.66	5.19	9.05	8635K362	12.38
3/32″	±0.016″	9023K31	____	____	____	____	8.77	15.23	8635K363	18.39
1/8″	±0.020″	9023K27	3.64	6.62	11.08	13.14	8.90	15.58	8635K364	23.20
3/16″	±0.031″	9023K29	5.80	10.55	17.33	23.13	12.26	22.43	8635K365	31.16
1/4″	±0.031″	9023K23	7.89	14.35	21.18	25.72	15.53	27.63	8635K366	40.67
3/8″	±0.047″	9023K37	____	____	____	____	24.66	42.90	8635K367	57.60
1/2″	±0.047″	9023K19	14.01	25.48	42.73	49.29	29.86	53.45	8635K368	75.00
3/4″	±0.094″	9023K33	____	____	____	____	45.03	76.28	8635K369	104.77
1″	±0.100″	9023K13	____	____	____	____	60.76	103.75	8635K371	134.13
Adhesive Back										
1/32″	±0.010″	9023K48	4.28	____	____	____	____	____	____	____
1/16″	±0.016″	9023K46	4.84	8.80	14.71	19.16	11.38	20.82	8635K2	31.20
1/8″	±0.020″	9023K51	6.47	11.77	20.51	28.81	17.05	29.35	8635K4	41.74
3/16″	±0.031″	9023K53	8.73	15.88	27.40	34.81	22.52	42.29	8635K5	52.38
1/4″	±0.031″	9023K49	10.17	18.50	31.51	40.98	25.73	41.92	8635K6	58.63
1/2″	±0.047″	9023K47	16.99	30.90	52.91	63.97	42.80	80.00	8635K8	91.57

(Continued on following page)

Oil-Resistant Buna-N Rubber Sheets, Bars, and Strips *(Continued from previous page)*

Square Bars



- Color: Black
- Tensile Strength: 1,200 psi
- Temp. Range: -20° to 225° F

All meet ASTM D2000 BG. Durometer is 75A (hard); durometer tolerance is ±5. These bars have a plus length tolerance.

Thick.	Thick. Tolerance	Wd.	Wd. Tolerance		6″ Lg.	12″ Lg.	36″ Lg.
3/4″	±0.063″	3/4″	±0.063″	1847T213	____	____	$22.13
1″	±0.079″	1″	±0.079″	1847T22	____	$16.47	43.35
1 1/4″	±0.079″	1 1/4″	±0.079″	1847T23	____	24.24	63.78
1 1/2″	±0.079″	1 1/2″	±0.079″	1847T25	$20.38	33.66	88.59
2″	±0.098″	2″	±0.098″	1847T27	34.82	57.52	151.38

High-Strength Oil-Resistant Buna-N Rubber Sheets and Strips

- Color: Black
- Tensile Strength: 1,500 psi
- Temp. Range: -40° to 212° F

These strips and sheets offer better shock-absorbing qualities and longer life than standard Oil-Resistant Buna-N. Buna-N is also known as nitrile, NBR, and acrylonitrile butadiene. It resists fuel oil, hydraulic oil, ethylene glycol, and grease.

Strips and Sheets



All meet ASTM D2000 BG and MIL-R-3065. Durometer tolerance is ±5. Strips and sheets have width and length tolerances of ±0.25″. Cut-to-length sheets have a width tolerance of ±0.250″, except 1/64″ thick cut-to-length sheets have a width tolerance of +1″.
To Order: Please specify durometer: 40A (medium soft) or 50A (medium).

Thick.	Thick. Tolerance	*Strips 2″ x 36″*	Each	*Sheets* 12″ x 12″	Each	12″ x 24″	Each	*Cut-to-Length Sheets* 36″ Wide	Per Ft.
1/64″	±0.005″	____	____	86715K259	$4.68	86715K629	$7.34	86715K818	$7.96
1/32″	±0.012″	9028K11	$4.89	86715K269	6.45	86715K639	10.95	86715K839	14.04
1/16″	±0.016″	9028K12	7.76	86715K279	10.30	86715K649	18.31	86715K849	22.40
3/32″	±0.016″	9028K13	9.97	86715K289	13.90	86715K659	23.02	86715K859	30.21
1/8″	±0.020″	9028K14	13.42	86715K299	19.31	86715K669	33.58	86715K869	42.38
3/16″	±0.031″	9028K15	19.07	86715K469	27.45	86715K679	46.32	86715K879	60.24
1/4″	±0.031″	9028K16	23.96	86715K479	34.48	86715K689	58.22	86715K889	76.41
3/8″	±0.047″	9028K17	38.84	86715K489	55.32	86715K699	94.20	86715K899	120.21
1/2″	±0.047″	9028K18	43.47	86715K499	61.79	86715K829	107.31	86715K929	143.00
3/4″	±0.094″	9028K19	59.31	86715K939	93.31	86715K959	162.27	86715K979	204.45
1″	±0.100″	9028K21	69.25	86715K949	113.88	86715K969	198.01	86715K989	248.76

Metric Sheets



All meet ASTM D2000 BG and MIL-R-3065. Durometer tolerance is ±5. Width and length tolerances are ±0.250″.
To Order: Please specify durometer: 50A (medium), 60A (medium hard), or 70A (hard).

Thick.	Thick. Tolerance	*Sheets* 12″ x 24″	Each	*Cut-to-Length Sheets* 36″ Wide	Per Ft.	Thick.	Thick. Tolerance	*Sheets* 12″ x 24″	Each	*Cut-to-Length Sheets* 36″ Wide	Per Ft.
0.5 mm	±0.250 mm	86495K31	$8.65	86495K41	$11.53	2.5 mm	±0.400 mm	86495K35	$21.37	86495K45	$28.49
1 mm	±0.300 mm	86495K32	11.85	86495K42	15.80	3 mm	±0.400 mm	86495K36	24.68	86495K46	32.91
2 mm	±0.400 mm	86495K34	17.75	86495K44	23.67	5 mm	±0.790 mm	86495K38	42.19	86495K48	56.25

Sheets with Crisscross Texture



These sheets have a crisscross texture to provide a nonslip gripping surface on both sides. Durometer is 50A (medium); durometer tolerance is ±5. Sheets have width and length tolerances of ±0.250″. Cut-to-length sheets have a width tolerance of ±0.250″.

Thick.	Thick. Tolerance	*Sheets* 12″ x 12″	Each	12″ x 24″	Each	*Cut-to-Length Sheets* 36″ Wide	Per Ft.
1/16″	±0.016″	1845T22	$13.11	1845T32	$22.86	1845T42	$28.56
1/8″	±0.020″	1845T24	22.56	1845T34	39.24	1845T44	49.04
1/4″	±0.031″	1845T26	40.16	1845T36	69.80	1845T46	87.27

Chemical- and Steam-Resistant Aflas Rubber Rods



- Color: Black
- Tensile Strength: 1,650 psi
- Temp. Range: 0° to 400° F
- For Outdoor Use

Use these small-diameter rods to seal narrow spaces. Made of Aflas, these rods are a stronger, steam-tolerant alternative to Viton® fluoroelastomer. Aflas stands up to tough chemicals, such as acids, bases, bleach, and hydraulic fluids. Durometer is 75A (hard). Durometer tolerance is ±5.

Dia.	Dia. Tolerance		3 ft.	10 ft.	25 ft.	50 ft.
0.063″	±0.007″	1350N11	$3.43	$11.43	$27.14	$54.29
0.07″	±0.007″	1350N12	3.86	12.86	30.71	61.43
0.079″	±0.008″	1350N13	4.54	15.14	35.71	71.43
0.103″	±0.009″	1350N14	4.80	16.00	37.86	75.71
0.118″	±0.009″	1350N15	7.46	24.86	59.29	118.57
0.125″	±0.010″	1350N16	7.80	26.00	62.14	124.29
0.139″	±0.010″	1350N17	8.31	27.71	63.57	127.14
0.157″	±0.010″	1350N18	9.43	31.43	75.00	150.00
0.21″	±0.011″	1350N19	10.37	34.57	82.14	164.29
0.275″	±0.016″	1350N21	17.40	58.00	137.86	275.71
0.313″	±0.016″	1350N22	24.00	80.00	190.71	381.43
0.375″	±0.016″	1350N23	35.40	118.00	280.71	561.43
0.5″	±0.016″	1350N24	62.20	207.33	493.89	987.78

Oil-Resistant Rubber

For information about rubber and durometer hardness scales, see page 3588.

Ultra-Strength Oil-Resistant Buna-N Rubber Sheets and Strips



- Color: Black
- Tensile Strength: 2,500 psi
- Temp. Range: -40° to 212°F

With the greatest tensile strength of all our oil-resistant rubber, these super-strong Buna-N strips and sheets can handle high-tension applications such as belting. Buna-N is also known as nitrile, NBR, and acrylonitrile butadiene. It resists fuel oil, hydraulic oil, ethylene glycol, and grease. Durometer is 50A (medium); durometer tolerance is ±5. Strips and sheets have width and length tolerances of ±0.250″. Cut-to-length sheets have a width tolerance of +2″, except 1/64″ thick sheets have a width tolerance of +1″.

Adhesive-back strips and sheets have an acrylic adhesive with a temperature range of -20° to 212°F.

Thick.	Thick. Tolerance	Strips 2″×36″	Each	Sheets 12″×12″	Each	12″×24″	Each	Cut-to-Length Sheets 36″ Wide	Per Ft.
Plain Back									
1/64″	±0.005″			8969K531	$5.18	8969K701	$9.25	8969K881	$12.33
1/32″	±0.012″	8969K111	$5.21	8969K541	9.51	8969K721	16.98	8969K891	22.64
1/16″	±0.016″	8969K211	5.47	8969K551	10.00	8969K731	17.85	8969K911	23.80
3/32″	±0.016″	8969K311	7.55	8969K561	13.79	8969K741	23.99	8969K921	32.84
1/8″	±0.020″	8969K411	9.52	8969K571	17.38	8969K751	28.99	8969K931	41.38
3/16″	±0.031″	8969K511	14.61	8969K581	24.89	8969K761	44.45	8969K941	59.26
1/4″	±0.031″	8969K611	17.20	8969K591	31.42	8969K771	56.10	8969K951	74.80
3/8″	±0.047″	8969K711	25.81	8969K614	47.13	8969K781	84.16	8969K961	112.21
1/2″	±0.047″	8969K811	34.21	8969K621	62.46	8969K791	111.54	8969K971	148.72
Adhesive Back									
1/32″	±0.012″	8969K901	9.79	8969K634	17.88	8969K814	31.93	8969K894	42.57
1/16″	±0.016″	8969K114	10.44	8969K644	19.06	8969K824	34.04	8969K914	45.39
3/32″	±0.016″	8969K124	11.13	8969K654	20.33	8969K834	36.31	8969K924	48.41
1/8″	±0.020″	8969K134	13.28	8969K664	24.26	8969K844	43.32	8969K934	57.76
3/16″	±0.031″	8969K144	18.57	8969K674	33.88	8969K854	59.22	8969K944	80.72
1/4″	±0.031″	8969K154	23.14	8969K684	38.80	8969K864	70.85	8969K954	92.42

Food-Grade Oil-Resistant Buna-N Rubber Sheets and Strips

Made from FDA-listed material for use with food and beverage, these strips and sheets offer good resistance to animal and vegetable oils. Buna-N is also known as nitrile, NBR, and acrylonitrile butadiene.

Medium-Strength Strips and Sheets

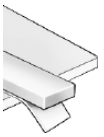

- Color: White
- Tensile Strength: 1,000 psi
- Temp. Range: -20° to 220°F

Durometer is 60A (medium hard); durometer tolerance is ±5. Strips and sheets have width and length tolerances of -0.125″ to +0.500″, except 36″ wide sheets have a width tolerance of ±1″. **Adhesive-back** strips and sheets have an acrylic adhesive with a temperature range of -20° to 220°F.

To Order: For 36" wide sheets, please specify length: 1 ft., 2 ft., 3 ft., 4 ft., 5 ft., 6 ft., or 10 ft.

Thick.	Thick. Tolerance	Strips 2″×36″	Each	4″×36″	Each	6″×36″	Each	Sheets 12″×12″	Each	12″×24″	Each	24″×24″	Each	36″ Wide Sheets	Per Ft.
Plain Back															
1/16″	±0.016″	86795K91	$8.41		$12.04		$15.75	86795K311	$11.82		$18.40		$35.05	86795K51	$21.61
1/8″	±0.020″	86795K92	14.43		22.99		30.88	86795K312	22.75		35.49		65.13	86795K52	41.87
3/16″	±0.031″	86795K93	20.39		34.01		44.94	86795K313	33.15		51.53		95.48	86795K53	62.98
1/4″	±0.031″	86795K94	26.91		44.34		61.44	86795K314	45.15		70.02		130.56	86795K54	85.59
Adhesive Back															
1/16″	±0.016″	86795K95	10.53		18.51		23.12	86795K321	20.62		34.21		63.28	86795K55	44.99
1/8″	±0.020″	86795K96	14.62		25.69		35.74	86795K322	27.58		49.12		93.36	86795K56	65.69
3/16″	±0.031″	86795K97	22.10		37.30		50.48	86795K323	36.47		65.51		122.65	86795K57	86.72
1/4″	±0.031″	86795K98	27.95		46.51		64.59	86795K324	48.66		83.90		157.69	86795K58	109.71

High-Strength Strips and Sheets



- Color: White
- Tensile Strength: 1,500 psi
- Temp. Range: -20° to 200°F

Greater tensile strength than medium-strength Food-Grade Oil-Resistant Buna-N rubber gives these strips and sheets better shock-absorbing qualities and longer life. All meet ASTM D2000 BF. Durometer is 60A (medium hard); durometer tolerance is ±5. Strips have a width tolerance of ±0.125″ and a length tolerance of ±1″. Sheets have width and length tolerances of ±0.500″. 36″ wide sheets have a width tolerance of ±1″.

To Order: For 36" wide sheets, please specify length: 1 ft., 2 ft., 3 ft., 4 ft., 5 ft., 6 ft., or 10 ft.

Thick.	Thick. Tolerance	Strips 2″×36″	Each	4″×36″	Each	6″×36″	Each	Sheets 12″×12″	Each	12″×24″	Each	24″×24″	Each	36″ Wide Sheets	Per Ft.
1/16″	±0.016″	86305K92	$7.79		$14.73		$18.21	86305K11	$13.92		$21.86		$41.67	86305K52	$27.39
1/8″	±0.020″	86305K94	14.19		28.09		38.55	86305K13	26.15		41.58		72.31	86305K54	49.69
3/16″	±0.031″	86305K96	22.31		41.61		51.72	86305K15	32.82		58.52		105.26	86305K56	69.97
1/4″	±0.031″	86305K98	27.68		50.83		69.76	86305K17	42.54		75.25		139.56	86305K58	89.92

Food-Grade Ultra-Strength Oil-Resistant Buna-N/Vinyl Rubber Sheets



- Color: White
- Tensile Strength: 2,000 psi
- Temp. Range: -20° to 220°F
- For use outdoors

The addition of vinyl makes these sheets the strongest Food-Grade Oil-Resistant rubber we offer. Use them for high-tension applications, such as belting. They're made from FDA-listed material for use with food and offer good resistance to animal and vegetable oils. This material is also known as nitrile-vinyl. All meet ASTM D2000 BK. Durometer is 70A (hard); durometer tolerance is ±5. All have width and length tolerances of ±0.250″.

To Order: For 36" wide sheets, please specify length: 1 ft., 2 ft., 3 ft., 4 ft., 5 ft., 6 ft., or 10 ft.

Thick.	Thick. Tolerance	12″×12″	Each	12″×24″	Each	24″×24″	Each	36″ Wide	Per Ft.
1/32″	±0.012″	8615K81	$6.78	8615K91	$11.44	8615K71	$19.50	8615K41	$14.12
1/16″	±0.016″	8615K82	10.27	8615K92	17.33	8615K72	28.64	8615K42	21.39
3/32″	±0.016″	8615K83	14.16	8615K93	23.90	8615K73	39.82	8615K43	29.51
1/8″	±0.020″	8615K84	17.43	8615K94	29.41	8615K74	53.26	8615K44	36.31
3/16″	±0.031″	8615K85	25.25	8615K95	42.61	8615K75	78.33	8615K45	52.60
1/4″	±0.031″	8615K86	32.82	8615K96	55.38	8615K76	92.85	8615K46	68.37

For information about rubber and durometer hardness scales, see page 3588.

Graphene-Filled Ultra-Strength Oil-Resistant Buna-N Rubber Sheets



- Color: Black
- Tensile Strength: 3,500 psi
- Temp. Range: 0° to 325° F
- For use outdoors

These sheets have graphene reinforcement for increased strength and temperature resistance. All meet ASTM D2240, ASTM D412, and ASTM D624. Durometer is 90A (extra hard); durometer tolerance is ±5. Width and length tolerances are ±0.250″.

Thick.	Thick. Tolerance	6″×6″		6″×12″		12″×12″		12″×24″		24″×24″	
1/32″	±0.012″	80115K111	$10.34	80115K112	$18.09	80115K113	$31.01	80115K114	$51.69	80115K115	$86.15
1/16″	±0.016″	80115K121	18.45	80115K122	32.28	80115K123	55.34	80115K124	92.23	80115K125	153.72
3/32″	±0.016″	80115K131	22.85	80115K132	39.98	80115K133	68.54	80115K134	114.24	80115K135	190.40
1/8″	±0.020″	80115K141	30.00	80115K142	52.49	80115K143	89.99	80115K144	149.98	80115K145	249.96
3/16″	±0.031″	80115K151	41.47	80115K152	72.57	80115K153	124.42	80115K154	207.37	80115K155	345.62
1/4″	±0.031″	80115K161	51.47	80115K162	90.06	80115K163	154.40	80115K164	257.33	80115K165	428.88

Oil-Resistant High-Temperature Buna-N Rubber Sheets



- Color: Black
- Tensile Strength: 1,500 psi
- Temp. Range: -40° to 300° F

Because these sheets are made from peroxide-cured Buna-N rubber, they have better heat resistance than standard Oil-Resistant Buna-N rubber sheets. Buna-N is also known as nitrile, NBR, and acrylonitrile butadiene. It resists fuel oil, hydraulic oil, ethylene glycol, and grease. All meet ASTM D2000 BG and MIL-R-3065. Durometer is 65A (medium hard); durometer tolerance is ±5. Sheets have width and length tolerances of ±0.250″. Cut-to-length sheets have a width tolerance of ±0.250″.

Thick.	Thick. Tolerance	Sheets 12″×12″ Each	Sheets 12″×24″ Each	Cut-to-Length Sheets 36″ Wide Per Ft.
1/32″	±0.012″	1861T21 $9.86	1861T31 $17.17	1861T41 $21.47
1/16″	±0.016″	1861T22 12.61	1861T32 21.93	1861T42 27.40

Thick.	Thick. Tolerance	Sheets 12″×12″ Each	Sheets 12″×24″ Each	Cut-to-Length Sheets 36″ Wide Per Ft.
1/8″	±0.020″	1861T24 $24.99	1861T34 $43.42	1861T44 $50.48
1/4″	±0.031″	1861T26 44.73	1861T36 83.69	1861T46 97.29

Fabric-Reinforced Oil-Resistant Buna-N Rubber Sheets



- Color: Black
- Tensile Strength: 1,500 psi
- Temp. Range: -40° to 220° F

To maintain their size and shape under heavy compression, these sheets have one layer of nylon fabric for every 1/16″ of thickness. Use them as flange gaskets and diaphragm packing. Buna-N is also known as nitrile, NBR, and acrylonitrile butadiene. It resists fuel oil, hydraulic oil, ethylene glycol, and grease. All meet ASTM D2000 BG. Durometer is 60A (medium hard); durometer tolerance is ±5. Sheets have width and length tolerances of ±0.250″. Cut-to-length sheets have a width tolerance of ±0.250″.

Thick.	Thick. Tolerance	Sheets 12″×12″ Each	Sheets 12″×24″ Each	Cut-to-Length Sheets 48″ Wide Per Ft.
1/16″	±0.016″	1890T12 $27.02	1890T22 $42.83	1890T42 $50.77
1/8″	±0.020″	1890T14 36.70	1890T24 63.62	1890T44 82.63
1/4″	±0.031″	1890T16 60.82	1890T26 106.48	1890T46 143.50

Oil-Resistant Buna-N Rubber Tubes

- Color: Black
- Tensile Strength: 1,200 psi
- Temp. Range: -20° to 225° F

Applications for these tubes include jackets, seals, and insulation. Buna-N is also known as nitrile, NBR, and acrylonitrile butadiene. It resists fuel oil, hydraulic oil, ethylene glycol, and grease. All tubes meet ASTM D2000 BG. Durometer is 75A (hard); durometer tolerance is ±5. Length tolerance is +0.500″, except 36″ long tubes are +1″.

Square Tubes



Ht.	Ht. Tolerance	Wd.	Wd. Tolerance	ID	ID Tolerance	6″ Lg.		12″ Lg.		36″ Lg.	
3/4″	±0.063″	3/4″	±0.063″	1/4″	±0.039″					1427T113	$25.77
1″	±0.079″	1″	±0.079″	3/8″	±0.039″					1427T123	39.44
1 1/4″	±0.079″	1 1/4″	±0.079″	5/8″	±0.051″			1427T132	$19.81	1427T133	52.12
1 1/2″	±0.079″	1 1/2″	±0.079″	7/8″	±0.063″			1427T152	28.19	1427T153	74.19
2″	±0.098″	2″	±0.098″	3/8″	±0.039″	1427T161	$33.80	1427T162	55.85	1427T163	146.97

Round Tubes



OD	OD Tolerance	ID	ID Tolerance	Wall Thick.	Wall. Thick. Tolerance	6" Lg.		36" Lg.	
3/4"	±0.063"	1/4"	±0.031"	1/4"	±0.039"	86805K51	$5.08	86805K21	$21.96
1"	±0.079"	1/4"	±0.031"	3/8"	±0.039"	86805K52	8.52	86805K22	38.63
1"	±0.079"	3/8"	±0.039"	5/16"	±0.039"	86805K53	7.92	86805K23	31.99
1"	±0.079"	5/8"	±0.051"	3/16"	±0.031"	86805K54	6.48	86805K24	28.16
1 1/4"	±0.079"	1/2"	±0.051"	3/8"	±0.039"	86805K56	11.81	86805K26	46.93
1 1/4"	±0.079"	5/8"	±0.051"	5/16"	±0.039"	86805K57	10.45	86805K27	41.92
1 3/8"	±0.079"	1/2"	±0.051"	7/16"	±0.051"	86805K58	13.55	86805K28	53.14
1 1/2"	±0.079"	3/8"	±0.039"	9/16"	±0.051"	86805K59	17.66	86805K29	68.57
1 1/2"	±0.079"	7/8"	±0.063"	5/16"	±0.039"	86805K61	14.83	86805K31	55.07
2"	±0.098"	3/8"	±0.039"	13/16"	±0.063"	86805K62	30.47	86805K32	119.81
2 1/2"	±0.126"	3/4"	±0.063"	7/8"	±0.063"	86805K63	32.95	86805K33	131.81
3"	±0.126"	1"	±0.079"	1"	±0.079"	86805K64	40.05	86805K34	160.20

Oil-Resistant Buna-N Rubber Balls



- Color: Black
- Tensile Strength: 1,800 psi
- Temp. Range: -40° to 212° F

Use these balls as seals in pumps and check valves or let them bounce inside of vibrating sifters for an effective screen cleaner. Buna-N is also known as nitrile, NBR, and acrylonitrile butadiene. It offers good resistance to petroleum-based oils. All meet ASTM D2000 BF and ASTM D2000 BG. Durometer is 70A (hard); durometer tolerance is ±5.

Dia.	Dia. Tolerance		
3/16″	±0.003″	1854T42	$1.31
1/4″	±0.003″	1854T44	1.56
5/16″	±0.003″	1854T46	1.57

Dia.	Dia. Tolerance		
3/8″	±0.003″	1854T48	$1.85
7/16″	±0.004″	1854T52	1.91
1/2″	±0.004″	1854T54	2.32

Dia.	Dia. Tolerance		
5/8″	±0.004″	1854T56	$2.80
3/4″	±0.004″	1854T58	3.24

Oil-Resistant & Chemical-Resistant Rubber

For information about rubber and durometer hardness scales, see page 3588.

Oil-Resistant Buna-N Rubber Rods



- Color: Black
- Tensile Strength: 1,200 psi
- Temp. Range: -20° to 220° F, except 75A durometer rods are -20° to 225° F.

Seal and cushion narrow spaces, such as inside channels and seams. Buna-N is also known as nitrile, NBR, and acrylonitrile butadiene. It resists fuel oil, hydraulic oil, ethylene glycol, and grease. All rods meet ASTM D2000 BG. A durometer of 50A is medium, 60A is medium hard, 70A is hard, and 75A is hard. Durometer tolerance is ±5. They have a plus length tolerance.

Dia.	Dia. Tolerance	Choose a Durometer	6″ Lg.		36″ Lg.	
1/8″	±0.027″	50A, 60A, 70A			9027K11	$11.70
1/4″	±0.039″	50A, 60A, 70A			9027K12	13.14
3/8″	±0.039″	50A, 60A, 70A			9027K13	17.59
1/2″	±0.051″	50A, 60A, 70A			9027K14	21.60
3/4″	±0.063″	75A	86975K11	$7.06	86975K61	21.53
1″	±0.079″	75A	86975K12	11.83	86975K62	35.43
1 1/4″	±0.079″	75A	86975K13	18.14	86975K63	53.17
1 3/8″	±0.079″	75A	86975K14	22.56	86975K64	65.26
1 1/2″	±0.079″	75A	86975K15	$24.91	86975K65	$77.09
1 3/4″	±0.098″	75A	86975K16	35.11	86975K66	104.64
2″	±0.098″	75A	86975K17	45.57	86975K67	128.15
2 1/4″	±0.098″	75A	86975K18	60.62	86975K68	181.77
2 1/2″	±0.126″	75A	86975K19	69.14	86975K69	206.46
3″	±0.126″	75A	86975K21	84.55	86975K71	247.94
3 1/2″	±0.126″	75A	86975K22	105.96	86975K72	314.24
4″	±0.126″	75A	86975K23	137.78	86975K73	406.90

Chemical-Resistant Viton® Fluoroelastomer Rubber Sheets and Strips



- Color: Black
- Tensile Strength: 1,000 psi
- Temp. Range: -20° to 400° F
- For use outdoors

Viton® fluoroelastomer stands up to tough chemicals, such as nitric acid, ethylene glycol, and isopropyl alcohol. It is also known as FKM. Durometer is 75A (hard); durometer tolerance is ±5. Strips and sheets have a plus length tolerance. The width tolerance is +0.250″ for strips, +0.500″ for sheets, and +1″ for cut-to-length sheets.

		Strips				*Sheets*						*Cut-to-Length Sheets*	
		2″×36″		4″×36″		6″×6″		12″×12″		12″×24″		36″ Wide	
Thick.	Thick. Tolerance		Each		Each		Each		Each		Each		Per Ft.
1/32″	±0.012″	8297K11	$18.45	8297K12	$33.53	86075K21★	$8.72	86075K31★	$30.29	86075K51★	$51.71	86075K71★	$65.04
1/16″	±0.016″	8297K14	32.61	8297K15	59.27	86075K22	15.38	86075K32	55.42	86075K52	96.76	86075K72	119.02
3/32″	±0.016″	8297K17	42.00	8297K18	76.34	86075K23	19.72	86075K33	68.91	86075K53	119.86	86075K73	153.72
1/8″	±0.020″	8297K21	57.26	8297K22	104.11	86075K24	26.99	86075K34	93.97	86075K54	164.86	86075K74	208.13
3/16″	±0.031″	8297K24	82.80	8297K25	150.53	86075K25	39.06	86075K35	135.78	86075K55	237.83	86075K75	302.08
1/4″	±0.031″	8297K27	107.19	8297K28	194.91	86075K26	50.51	86075K36	175.83	86075K56	307.67	86075K76	390.05
5/16″	±0.031″					86075K27	62.28	86075K37	216.51	86075K57	376.82	86075K77	471.08
3/8″	±0.047″					86075K28	71.75	86075K38	249.59	86075K58	434.05	86075K78	543.17
1/2″	±0.047″					86075K29	91.58	86075K39	318.45	86075K59	553.85	86075K79	693.79

★ Thickness tolerance is ±0.010″.

High-Strength Chemical-Resistant Viton® Fluoroelastomer Rubber Sheets and Strips



- Color: Black
- Tensile Strength: 1,500 psi
- Temp. Range: 0° to 400° F
- For use outdoors

Offering higher tensile strength than standard Chemical-Resistant Viton® Fluoroelastomer, these strips and sheets provide greater tear resistance and longer life. Viton® fluoroelastomer, also known as FKM, stands up to harsh environments, such as those involving nitric acid, ethylene glycol, and isopropyl alcohol. All meet ASTM D2000 HK and MIL-R-83248A. Durometer is 75A (hard); durometer tolerance is ±5. Strips and sheets have width and length tolerances of ±0.250″. Cut-to-length sheets have a width tolerance of +1″. **Adhesive-back** strips have an acrylic adhesive with a temperature range of 0° to 220° F.

		Plain Back								*Adhesive Back*
		Strips	*Sheets*				*Cut-to-Length Sheets*			*Strips*
		2″×36″	6″×6″		12″×12″		12″×24″		36″ Wide	2″×36″
Thick.	Thick. Tolerance	Each	Each		Each		Each		Per Ft.	Each
1/32″	±0.012″	8999K11	$31.28	8625K11	$17.02	8625K21	$51.63	8625K41	$87.41	8625K61	$117.43	8999K21	$34.15
1/16″	±0.016″	8999K12	58.40	8625K12	34.15	8625K22	113.31	8625K42	185.40	8625K62	219.30	8999K22	61.48
3/32″	±0.016″	8999K13	84.82	8625K13	41.84	8625K23	140.47	8625K43	242.96	8625K63	318.68	8999K23	88.64
1/8″	±0.020″	8999K14	101.16	8625K14	59.52	8625K24	189.51	8625K44	329.52	8625K64	379.85	8999K24	105.78
3/16″	±0.031″	8999K15	154.71	8625K15	82.99	8625K29	270.71	8625K45	445.64	8625K69	581.17	8999K25	157.25
1/4″	±0.031″	8999K16	189.11	8625K16	105.62	8625K25	333.08	8625K46	545.25	8625K65	711.26	8999K26	190.92

Chemical-Resistant Low-Temperature Fluorosilicone Rubber Sheets



- Color: Blue
- Tensile Strength: 900 psi
- Temp. Range: -65° to 450° F
- For use outdoors

Temperatures as low as -65° F have little effect on these fluorosilicone sheets. Use them with isopropyl alcohol, boric acid, and ethanol. Durometer is 60A (medium hard); durometer tolerance is ±5. All sheets have width and length tolerances of ±0.250″.

Thick.	Thick. Tolerance	6″×6″		12″×12″		12″×36″	
1/64″	±0.004″	2183T1	$29.81	2183T11	$36.14	2183T21	$90.34
1/32″	±0.004″	2183T2	44.89	2183T12	56.11	2183T22	140.28
1/16″	±0.005″	2183T3	58.53	2183T13	75.52	2183T23	188.80
1/8″	±0.007″	2183T5	84.88	2183T15	125.75	2183T25	314.38
1/4″	±0.012″	2183T6	117.11	2183T16	187.37	2183T26	468.42

Chemical-Resistant Ultra-High Temperature Kalrez Rubber Sheets



- Color: Black
- Tensile Strength: 2,200 psi
- Temp. Range: 0° to 525° F
- For use outdoors

Even when temperatures rise to 525° F, these Kalrez sheets are resistant to virtually all classes of chemicals. They are not resistant to fluorinated solvents. Durometer is 75A (hard); durometer tolerance is ±5. All have a width tolerance of +0.250″ and a plus length tolerance.

Thick.	Thick. Tolerance	3″×3″		6″×6″		6″×12″	
0.020″	±0.003″	1211N19	$134.34	1211N15	$351.84	1211N11	$639.71
0.030″	±0.003″	1211N21	146.54	1211N16	424.20	1211N12	771.28
1/16″	±0.004″	1211N22	230.79	1211N17	668.08	1211N13	1,214.69
1/8″	±0.007″	1211N23	375.19	1211N18	1,146.43	1211N14	2,084.41

Food-Grade Chemical-Resistant Viton® Fluoroelastomer Rubber Sheets and Strips



- Color: Black
- Tensile Strength: 700 psi
- Temperature Range: -20° to 450° F
- For use outdoors

Resistant to the chemicals that are commonly used to clean and sterilize food-processing equipment, these strips and sheets are made from FDA-listed material for use with food and beverage. Viton® fluoroelastomer is also known as FKM. Durometer is 75A (hard); durometer tolerance is ±5. All have a length tolerance of -0.250″ to +1″. Width tolerance is ±0.250″, except 1″×36″ strips have a width tolerance of ±0.125″.

		Strips				Sheets			
Thick.	Thick. Tolerance	1″×36″		2″×36″		6″×6″		12″×12″	
1/64″	±0.005″	1235N31	$8.29	1235N41	$14.22	1235N11	$8.29	1235N21	$23.70
1/32″	±0.010″	1235N32	9.97	1235N42	17.09	1235N12	9.97	1235N22	28.48
1/16″	±0.016″	1235N33	16.06	1235N43	27.54	1235N13	16.06	1235N23	45.90
1/8″	±0.020″	1235N35	30.95	1235N44	53.06	1235N14	30.95	1235N24	88.44
1/4″	±0.031″	1235N37	61.51	1235N45	105.44	1235N15	61.51	1235N25	175.73

Chemical- and Steam-Resistant Aflas Rubber Sheets



- Color: Black
- Tensile Strength: 1,450 psi
- Temperature Range: 40° to 400° F
- For use outdoors

With similar chemical resistance to Viton® fluoroelastomer, Aflas provides a stronger, steam-tolerant alternative. Aflas stands up to tough chemicals, such as nitric acid, ethylene glycol, and isopropyl alcohol. Durometer is 75A (hard); durometer tolerance is ±5. All sheets have width and length tolerances of ±0.500″.

Thick.	Thick. Tolerance	6″×6″		12″×12″	
1/32″	±0.010″	5499T11	$9.85	5499T19	$32.84
1/16″	±0.016″	5499T12	18.95	5499T21	63.17
1/8″	±0.020″	5499T14	33.12	5499T23	110.41
3/16″	±0.031″	5499T15	44.21	5499T24	147.38
1/4″	±0.031″	5499T16	56.22	5499T25	187.40
3/8″	±0.031″	5499T17	78.92	5499T26	263.07

Chemical-Resistant Viton® Fluoroelastomer Rubber Rods



- Color: Black
- Tensile Strength: 1,500 psi
- Temperature Range: -20° to 400° F
- For use outdoors

These small-diameter rods provide a seal in narrow spaces. Made of Viton® fluoroelastomer, they are for use in harsh environments, such as those involving nitric acid, ethylene glycol, and isopropyl alcohol. Viton® fluoroelastomer is also known as FKM. All meet ASTM D2000 HK and MIL-R-83248C. Durometer is 75A (hard); durometer tolerance is ±5. Length has a plus tolerance.

Dia.	Dia. Tolerance	36″ Lg.		Dia.	Dia. Tolerance	36″ Lg.	
1/8″	±0.006″	9029K11	$13.21	3/8″	±0.013″	9029K13	$68.26
1/4″	±0.010″	9029K12	23.60	1/2″	±0.018″	9029K14	118.87

Chemical-Resistant Viton® Fluoroelastomer Rubber Balls



- Color: Black
- Tensile Strength: 1,500 psi
- Temperature Range: 0° to 400° F
- For use outdoors

Clean screens in vibrating sifters with the bounce of these balls, or use them as seals in pumps and check valves. Also known as FKM, Viton® fluoroelastomer is for use in harsh environments, such as those involving ethylene glycol and isopropyl alcohol. All meet ASTM D2000 HK. Durometer is 70A (hard); durometer tolerance is ±5.

Dia.	Dia. Tolerance			Dia.	Dia. Tolerance		
3/16″	±0.003″	3645K1	$2.10	1/2″	±0.004″	3645K5	$5.42
1/4″	±0.003″	3645K2	2.87	5/8″	±0.004″	3645K6	9.66
5/16″	±0.003″	3645K3	3.20	3/4″	±0.004″	3645K7	8.61
7/16″	±0.004″	3645K4	3.25				

Super-Cushioning Abrasion-Resistant Polyurethane Rubber Sheets and Strips

Even after repetitive compression, these super-soft sheets and strips maintain their cushioning ability. Use them to dampen noise and isolate vibration. This material is also known as Sorbothane.

Strips and Sheets



- Color: Black
- Tensile Strength:
  80 psi (30OO durometer);
  100 psi (40OO-50OO);
  150 psi (60OO);
  200 psi (70OO)
- Temperature Range: -20° to 160° F

Durometer tolerance is ±5. Strips have a durometer of 50OO (soft). They have width tolerances up to -0.080″ to +0.090″. They have a length tolerance of ±0.250″. Sheets have a width tolerance of ±0.060″ and a length tolerance of ±0.063″, except 1/8″ thick 24″×24″ sheets have a width tolerance of ±0.025″ and a length tolerance of ±0.063″. **Adhesive-back** sheets have an acrylic adhesive with a temperature range of 50° to 140° F.

To Order: For plain-back sheets, please specify durometer: 30OO (extra soft), 40OO (extra soft), 50OO (soft), 60OO (soft), or 70OO (medium soft), unless noted. For adhesive-back sheets, please specify durometer: 40OO, 50OO, or 70OO.

		Plain-Back Strips						Plain-Back Sheets					
Thick.	Thick. Tolerance	2″×36″		4″×36″		6″×36″		4″×4″		12″×12″		24″×24″	
1/8″	±0.025″	3462K11	$15.63	3462K15	$28.58	3462K19	$40.69	8514K51■	$5.73	8514K61★	$22.05	8514K71★	$76.02
3/16″	±0.030″	—	—	—	—	—	—	8514K52■	6.45	8514K62	29.74	8514K72★	105.56
1/4″	±0.040″	3462K12	25.58	3462K16	49.49	3462K21	70.15	8514K53■	7.64	8514K63	37.42	8514K73	136.12
3/8″	±0.040″	3462K13	37.06	3462K17	73.83	3462K22	96.91	8514K54■	8.66	8514K64	55.62	8514K74	190.75
1/2″	±0.045″	3462K14	44.72	3462K18	86.81	3462K23	120.84	8514K55■	10.10	8514K65	70.93	8514K75	258.98
5/8″	±0.060″	—	—	—	—	—	—	—	—	8514K66	83.70	8514K76	314.32
3/4″	±0.060″	—	—	—	—	—	—	—	—	8514K67	103.91	8514K77	368.87
1″	±0.070″	—	—	—	—	—	—	—	—	8514K68	129.12	8514K78	465.65

■ Not available in 30OO or 60OO. ★ Not available in 30OO durometer.

		Adhesive-Back Sheets		
Thick.	Thick. Tolerance	4″×4″		5″×5″	
1/2″	±0.030″	8794K11	$11.64	8794K21	$17.04

(Continued on following page)

Super-Cushioning Abrasion-Resistant Polyurethane Rubber Sheets and Strips

(Continued from previous page)

Even after repetitive compression, these super-soft strips and sheets maintain their cushioning ability. Use them to dampen noise and isolate vibration. This material is also known as Sorbothane.

Ultra-Thin Sheets



- Color: Black
- Tensile Strength:
  100 psi (40OO and 50OO durometer);
  150 psi (60OO);
  200 psi (70OO)
- Temperature Range: -20° to 160° F

Durometer tolerance is ±5. Width tolerance is ±0.060″. Length tolerance is ±0.063″.

To Order: Please specify durometer: 40OO (extra soft), 50OO (soft), 60OO (soft), or 70OO (medium soft).

Thick.	Thick. Tolerance	4″×6″		Thick.	Thick. Tolerance	6″×12″	
0.040″	±0.007″	8824T11	$12.67	0.100″	±0.015″	8824T13	$16.34
0.060″	±0.007″	8824T12	14.39				

Abrasion-Resistant Polyurethane Rubber Sheets, Bars, and Strips

This polyurethane combines the shock absorbing qualities of rubber with the tear resistance of plastic. Use it for high-tension applications such as conveyor belts, as well as for high-wear applications such as cutting surfaces, bumpers, and liners.

Adhesive-Back Strips

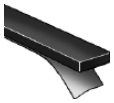

- Color: Black
- Tensile Strength: 2,000 psi (40A durometer);
  4,400 psi (60A);
  7,300 psi (90A)
- Temperature Range: -20 to 190° F
- For use outdoors

Adhesive is acrylic and has a temperature range of -20° to 200° F. Durometer tolerance is ±5. Strips have width and length tolerances of +0.250″.

To Order: Please specify durometer: 40A (medium soft), 60A (medium hard), or 90A (extra hard).

Thick.	Thick. Tolerance	1″×48″		2″×48″		Thick.	Thick. Tolerance	1″×48″		2″×48″	
1/8″	±0.016″	8997K51	$21.73	8997K61	$43.34	3/8″	±0.016″	8997K54	$39.53	8997K64	$74.77
3/16″	±0.016″	8997K52	26.22	8997K62	46.05	1/2″	±0.010″	8997K55	43.23	8997K65	83.72
1/4″	±0.016″	8997K53	31.60	8997K63	56.40						

Sheets



- Color: Black or semi-clear amber
- Tensile Strength: 800 psi (40A durometer);
  min. 4,100 psi (60A);
  min. 6,350 psi (80A);
  min. 4,000 psi (90A);
  min. 5,600 psi (95A);
  min. 7,500 psi (75D)
- Temperature Range: -20° to 190° F, except plain-back black sheets are -20° to 200° F
- For use outdoors

Durometer tolerance is ±5. Width and length tolerances are +0.250″, except plain-back black sheets have width and length tolerances of ±0.250″.

Adhesive-back sheets have an acrylic adhesive with a temperature range of -20° to 200° F.

To Order: Please specify durometer: 40A (medium soft), 60A (medium hard), 80A (hard), 90A (extra hard), 95A (extra hard), or 75D (extra hard). Adhesive-back sheets are only available in 40A, 60A, 80A, and 90A.

Thick.	Thick. Tolerance	6″×6″		12″×12″		12″×24″		12″×48″		24″×24″		24″×48″	
Plain Back—Semi-Clear Amber													
1/16″	±0.015″	8789K12	$13.00	8789K11	$28.52	8789K13	$46.56	8789K15	$79.20	8789K17	$79.20	8789K19	$132.02
1/8″	±0.015″	8789K22	13.80	8789K21	39.80	8789K23	72.13	8789K25	108.51	8789K27	108.51	8789K29	180.82
3/16″	±0.015″	8789K32	15.61	8789K31	48.03	8789K33	80.04	8789K35	133.40	8789K37	133.40	8789K39	222.34
1/4″	±0.015″	8789K42	18.24	8789K41	57.52	8789K43	93.54	8789K45	155.89	8789K47	155.89	8789K49	259.82
3/8″	±0.015″	8789K52	23.43	8789K51	70.49	8789K53	117.49	8789K55	195.82	8789K57	195.82	8789K59	331.89
1/2″	±0.015″	8789K62	34.25	8789K61	86.40	8789K63	144.00	8789K65	240.01	8789K67	240.01	8789K69	406.79
3/4″	±0.020″	8789K72	38.06	8789K71	114.57	8789K73	190.91	8789K75	318.10	8789K77	318.10	8789K79	539.15
1″	±0.020″	8789K82	44.56	8789K81	134.05	8789K83	223.42	8789K85	372.37	8789K87	372.37	8789K88	631.13
Plain Back—Black													
1/16″	±0.010″	8716K23	13.56	8716K61	29.43	8716K711	48.78	8716K511	81.33	8716K811	81.33	8716K911	135.55
1/8″	±0.010″	8716K24	14.27	8716K62	41.83	8716K721	67.88	8716K521	116.34	8716K821	116.34	8716K921	193.94
3/16″	±0.010″	8716K25	15.90	8716K63	48.86	8716K731	73.44	8716K531	133.86	8716K831	133.86	8716K931	216.01
1/4″	±0.015″	8716K27	19.40	8716K64	59.52	8716K741	90.94	8716K541	161.68	8716K841	161.68	8716K941	275.57
3/8″	±0.015″	8716K29	25.46	8716K65	73.33	8716K751	111.56	8716K551	193.24	8716K861	193.24	8716K961	338.06
1/2″	±0.025″	8716K58	31.21	8716K66	89.60	8716K761	140.28	8716K561	247.37	8716K851	247.37	8716K951	438.36
3/4″	±0.025″	8716K59	43.35	8716K67	130.41	8716K771	193.20	8716K571	356.09	8716K871	356.09	8716K971	603.75
1″	±0.025″	8716K69	45.78	8716K68	137.79	8716K781	204.04	8716K581	376.20	8716K881	376.20	8716K981	637.62
1 1/2″	±0.035″	8716K83	74.91	8716K76	187.27	8716K77	332.93	8716K78	572.23	8716K79	572.23	8716K81	1,040.41
Adhesive Back—Black													
1/8″	±0.016″	8997K11	18.37	8997K21	62.68					8997K31	163.83		
3/16″	±0.016″	8997K12	23.76	8997K22	67.17					8997K32	181.10		
1/4″	±0.016″	8997K13	28.42	8997K23	80.26					8997K33	216.58		
3/8″	±0.016″	8997K14	35.04	8997K24	103.68					8997K34	264.89		

Cut-to-Length Sheets



- Color: Black
- Tensile Strength:
  3,000 psi (60A durometer);
  6,500 psi (90A)
- Temperature Range: -30° to 170° F
- For use outdoors

All meet ASTM D2000 BG. Durometer tolerance is ±5. Width tolerance is ±0.250″.

To Order: 6″ wide and 12″ wide sheets are only available in 90A. For 36″ wide sheets, please specify durometer: 60A (medium hard) or 90A (extra hard).

Thick.	Thick. Tolerance	6″ Wide	Per Ft.	12″ Wide	Per Ft.	36″ Wide	Per Ft.	Thick.	Thick. Tolerance	6″ Wide	Per Ft.	12″ Wide	Per Ft.	36″ Wide	Per Ft.
0.02″	±0.005″	2178T21	$3.60	2178T31	$6.91	2178T41	$19.19	3/32″	±0.008″	2178T24	$12.75	2178T34	$24.34	2178T44	$69.54
1/32″	±0.005″	2178T22	5.14	2178T32	9.95	2178T42	27.63	1/8″	±0.008″	2178T25	14.02	2178T35	28.04	2178T45	77.88
1/16″	±0.005″	2178T23	10.15	2178T33	17.94	2178T43	51.25								

(Continued on following page)

For information about rubber and durometer hardness scales, see page 3588.

Abrasion-Resistant Polyurethane Rubber Sheets, Bars, and Strips

(Continued from previous page)

Metric Sheets



- Color: Semi-clear amber
- Tensile Strength: 5,500 psi
- Temperature Range: -10° to 200°F
- For use outdoors

Durometer is 80A (hard); durometer tolerance is ±5. Width tolerance is +0.250″. Length has a plus tolerance.

Thick.	Thick. Tolerance	12″×12″		24½″×39″	
3 mm	±0.4 mm	2656T64	$63.51	2656T11	$315.09
6 mm	±0.4 mm	2656T65	121.64	2656T13	583.67
8 mm	±0.4 mm	2656T66	158.22	2656T14	735.96

Sheets with Ultra-Smooth Texture



- Color: Black
- Tensile Strength: 4,100 psi
- Temperature Range: -20° to 200°F
- For use outdoors

These sheets have one shiny side that accepts an adhesive. Durometer is 60A (medium hard); durometer tolerance is ±5. Width and length tolerances are ±0.250″.

Thick.	Thick. Tolerance	6″×6″		12″×12″		24″×24″	
1/16″	±0.010″	2185T21	$11.50	2185T31	$33.69	2185T41	$89.38
1/8″	±0.010″	2185T22	17.00	2185T32	48.96	2185T42	136.80
1/4″	±0.025″	2185T23	23.69	2185T33	70.12	2185T43	185.25
3/8″	±0.025″	2185T24	26.39	2185T34	76.20	2185T44	223.67
1/2″	±0.025″	2185T25	35.81	2185T35	105.02	2185T45	273.98

Ultra-Thin Sheets

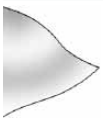

- Color: Semi-clear white
- Tensile Strength: 7,000 psi
- Temperature Range: -40° to 225°F
- For use outdoors

Durometer is 85A (hard); durometer tolerance is ±5. Width tolerance is ±0.250″.

Thick.	Thick. Tolerance	4″ Wide	Per Ft.	12″ Wide	Per Ft.
0.015″	±0.003″	1446T11	$2.20	1446T31	$6.45
0.030″	±0.003″	1446T21	3.46	1446T41	10.21

Adhesive-Back Ultra-Thin Sheets

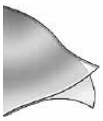

- Color: Semi-clear white
- Tensile Strength: 80 psi
- Temperature Range: -40° to 175°F
- For use outdoors

Adhesive is acrylic and has a temperature range of -40° to 175°F. Durometer is 80A (hard). Width tolerance is +0.016″.

Thick.	Thick. Tolerance	1″ Wide	Per Ft.	2″ Wide	Per Ft.	3″ Wide	Per Ft.	4″ Wide	Per Ft.	6″ Wide	Per Ft.	12″ Wide	Per Ft.
0.014″	±0.002″	1867T21	$2.13	1867T22	$4.07	1867T23	$6.00	1867T24	$7.99	1867T25	$12.43	1867T26	$24.74

Square Bars



- Color: Black or semi-clear amber
- Tensile Strength:
  min. 800 psi (40A durometer);
  min. 4,100 psi (60A);
  min. 6,350 psi (80A);
  min. 4,000 psi (90A);
  min. 5,600 psi (95A);
  min. 7,500 psi (75D)
- Temperature Range:
  -20° to 200°F (black);
  -20° to 190°F (semi-clear amber)
- For use outdoors

Durometer tolerance is ±5. Length tolerance is ±0.250″ for black bars and +0.250″ for semi-clear amber bars.

To Order: Please specify durometer: 40A (medium soft), 60A (medium hard), 80A (hard), 90A (extra hard), 95A (extra hard), or 75D (extra hard).

Thick.	Wd.	Thick./Wd. Tolerance	6″ Lg.		12″ Lg.		24″ Lg.		36″ Lg.		48″ Lg.	
Black												
3/4″	3/4″	-0.015″	8631K81	$12.98	8631K231	$22.33	8631K211	$36.35	8631K251	$44.66	8631K261	$51.93
1″	1″	-0.020″	8631K82	14.31	8631K232	24.61	8631K212	40.07	8631K252	48.08	8631K262	57.24
1½″	1½″	-0.030″	8631K83	31.20	8631K234	53.92	8631K214	77.38	8631K254	99.16	8631K264	124.81
2″	2″	-0.040″	8631K84	56.29	8631K235	82.40	8631K215	139.14	8631K255	178.99	8631K265	225.15
3″	3″	-0.060″	8631K85	87.53	8631K236	137.68	8631K216	231.33	8631K256	297.20	8631K266	371.50
Semi-Clear Amber												
3/4″	3/4″	±0.015″	8792K16	12.64	8792K12	20.74	8792K13	35.41	8792K14	43.50	8792K15	50.58
1″	1″	±0.020″	8792K21	19.26	8792K23	31.59	8792K24	53.93	8792K25	66.25	8792K26	77.04
1½″	1½″	±0.030″	8792K27	30.57	8792K32	48.91	8792K33	74.58	8792K34	99.21	8792K35	122.27
2″	2″	±0.040″	8792K31	38.52	8792K43	60.84	8792K44	96.73	8792K45	124.81	8792K46	156.01

Food-Grade Abrasion-Resistant Polyurethane Rubber Sheets and Strips



- Color: Semi-clear white
- Tensile Strength:
  3,000 psi (60A durometer);
  4,300 psi (70A);
  5,600 psi (80A);
  6,200 psi (90A)
- Temperature Range: -40° to 185°F
- For use outdoors

Use in food-processing environments for cutting surfaces, liners, and other high-wear applications. These strips and sheets are made from FDA-listed material for use with food and beverage. Durometer tolerance is ±5. Width and length tolerances are ±0.250″.

To Order: Please specify durometer: 60A (medium hard), 70A (hard), 80A (hard), or 90A (extra hard).

Thick.	Thick. Tolerance	Strips 1″×48″		Strips 2″×48″		Strips 3″×48″		Sheets 6″×6″		Sheets 12″×24″		Sheets 24″×24″	
3/16″	±0.010″	8787K51	$44.49	8787K61	$61.94	8787K71	$77.43	8787K11	$35.40	8787K31	$128.31	8787K41	$221.22
1/4″	±0.015″	8787K52	48.92	8787K62	73.31	8787K72	90.54	8787K12	41.15	8787K32	159.12	8787K42	274.35
3/8″	±0.015″	8787K54	50.92	8787K64	81.13	8787K74	101.38	8787K14	46.72	8787K34	178.71	8787K44	311.45
1/2″	±0.025″	8787K55	60.40	8787K65	98.15	8787K75	122.80	8787K15	56.63	8787K35	218.96	8787K45	377.51
1″	±0.025″	8787K57	103.43	8787K67	164.47	8787K77	208.75	8787K17	75.91	8787K37	366.90	8787K47	632.58

Super-Stretchable Abrasion-Resistant Natural Rubber Sheets and Strips

These natural rubber sheets and strips will stretch up to six times their length. Use them in dynamic applications, such as vibration isolators and shock mounts. Natural rubber is often called gum rubber and latex rubber.

Strips and Sheets



- Color: Tan or white
- Tensile Strength:
  3,000 psi (tan);
  2,800 psi (white)
- Temperature Range:
  -20° to 140°F (tan);
  -40° to 158°F (white)

All meet ASTM D2000 AA. Durometer is 40A (medium soft); durometer tolerance is ±5. **Tan** strips and sheets are made from FDA-listed material for use with food and beverage. Width and length tolerances are ±0.250″, except 36″ wide sheets have a width tolerance of ±1″ and a length tolerance of -0.500″ to +1″. **White** strips and sheets are made from FDA-listed material for use with food. Strips have a width tolerance of +0.250″ and a length tolerance of +1″. Sheets have width and length tolerances of +0.500″, except 36″ wide sheets have a width tolerance of +1″ and a length tolerance of +3″.

To Order: For 36″ wide sheets, please specify length: 1 ft., 2 ft., 3 ft., 4 ft., 5 ft., 6 ft., or 10 ft.

Thick.	Thick. Tolerance	Strips 2″×36″ Each	Strips 4″×36″ Each	Strips 6″×36″ Each	Sheets 12″×12″ Each	Sheets 12″×24″ Each	Sheets 24″×24″ Each	36″ Wide Sheets Per Ft.
Tan								
1/16″	±0.016″	6856K41	$5.21	$8.99	$12.40	8633K91	$6.89	$12.01	$24.74	8633K71	$17.36
1/8″	±0.020″	6856K42	7.68	13.87	21.31	8633K92	12.10	20.92	42.46	8633K72	30.32
3/16″	±0.031″	6856K43	12.26	22.26	31.65	8633K93	17.64	31.78	72.46	8633K73	45.05
1/4″	±0.031″	6856K44	14.76	27.60	40.26	8633K94	22.75	40.92	81.86	8633K74	57.51
3/8″	±0.047″	6856K45	21.69	41.97	58.52	8633K95	34.10	59.33	118.84	8633K75	80.29
1/2″	±0.047″	6856K46	27.83	53.53	75.53	8633K96	43.42	76.96	154.37	8633K76	102.20
3/4″	±0.094″	6856K47	40.80	80.00	113.20	8633K97	64.84	112.75	219.21	8633K77	149.99
1″	±0.100″	6856K48	54.26	105.28	146.51	8633K98	83.14	149.85	300.10	8633K78	195.76
White								
1/16″	±0.016″	87145K41	5.53	9.54	13.15	87145K21	7.31	12.74	26.25	87145K31	18.42
1/8″	±0.020″	87145K42	8.15	14.72	22.61	87145K22	12.84	22.20	45.05	87145K32	32.17
3/16″	±0.031″	87145K43	13.00	23.61	33.57	87145K23	18.71	33.71	76.87	87145K33	47.79
1/4″	±0.031″	87145K44	15.66	29.29	42.71	87145K24	24.14	43.42	86.86	87145K34	61.02

Ultra-Thin Sheets

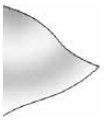

- Color: Semi-clear amber
- Tensile Strength: 4,000 psi
- Temperature Range:
  -75° to 250°F

Sheets are made from FDA-listed material for use with food. Durometer is 40A (medium soft); durometer tolerance is ±5. Width tolerance is ±0.125″ for 6″ wide sheets and ±2″ for 42″ wide sheets.

Thickness Selector Pack—Includes seven 6″×6″ ultra-thin sheets, one of each thickness from 0.006″ to 0.030″, except 0.025″.

8611K222 ..... Per Pkg. $19.54

Thick.	Thick. Tolerance	6″ Wide Per Yd.		42″ Wide Per Ft.	
0.006″	±0.002″	85995K12	$2.83	8611K11	$5.51
0.008″	±0.002″	85995K13	2.88	8611K12	5.79
0.010″	±0.002″	85995K14	3.20	8611K13	6.75
0.012″	±0.002″	85995K15	3.61	8611K14	7.84
0.014″	±0.002″	85995K16	3.97	8611K15	8.17
0.020″	±0.003″	85995K27	5.36	8611K16	10.94
0.025″	±0.003″	85995K28	5.95	8611K17	12.15
0.030″	±0.005″	85995K19	7.59	8611K18	15.49

Economical Abrasion-Resistant SBR Rubber Sheets and Strips

Commonly used for tires, conveyor belts, and chutes, SBR (styrene butadiene rubber) is harder and offers better abrasion resistance than natural rubber. It is also known as skirtboard.

Medium-Strength Strips



- Color: Black
- Tensile Strength: 700 psi
- Temperature Range:
  -20° to 170°F

All meet ASTM D1330. Durometer is 75A (hard); durometer tolerance is ±5. Width and length tolerances are ±0.250″.

Thick.	Thick. Tolerance	2″×36″		4″×36″		6″×36″	
1/16″	±0.016″	8634K17	$3.35	8634K31	$5.08	8634K47	$6.64
1/8″	±0.020″	8634K22	5.09	8634K33	8.39	8634K52	9.74
3/16″	±0.031″	8634K23	6.75	8634K34	11.71	8634K53	13.61
1/4″	±0.031″	8634K24	8.39	8634K35	14.98	8634K54	18.53
1/2″	±0.047″	8634K26	15.53	8634K37	26.62	8634K56	35.99

(Continued on following page)

For information about rubber and durometer hardness scales, see page 3588.

Economical Abrasion-Resistant SBR Rubber Sheets and Strips

(Continued from previous page)

Medium-Strength Sheets



- Color: Black or red
- Tensile Strength: 700 psi (black); 400 psi (red)
- Temperature Range: -20° to 170°F

All meet ASTM D1330. Durometer is 75A (hard); durometer tolerance is ±5. Sheets have width and length tolerances of ±0.250″. Cut-to-length sheets have a width tolerance of ±0.250″.

Red sheets meet ASTM D2000 AA. They are made from FDA-listed material for use with food and beverage, except cut-to-length sheets.

Thick.	Thick. Tolerance	Sheets 12″×12″	Each	Sheets 12″×24″	Each	Cut-to-Length Sheets 36″ Wide	Per Ft.
Black							
1/16″	±0.016″	8634K41	$3.18	8634K61	$5.65	8634K11	$6.92
3/32″	±0.016″	8634K57	4.78	8634K77	8.34	8634K27	8.69
1/8″	±0.020″	8634K42	5.80	8634K62	11.19	8634K12	12.18
3/16″	±0.031″	8634K43	8.67	8634K63	15.65	8634K13	18.27
1/4″	±0.031″	8634K44	11.65	8634K64	20.54	8634K14	24.40
3/8″	±0.047″	8634K45	17.51	8634K65	31.37	8634K15	36.58
1/2″	±0.047″	8634K46	23.32	8634K66	41.99	8634K16	45.89
3/4″	±0.094″	8634K48	34.73	8634K68	62.45	8634K18	67.65
1″	±0.100″	8634K49	50.83	8634K69	88.29	8634K19	94.94
Red							
1/16″	±0.016″	9454K42	3.56	9454K62	6.32	9454K2	7.43
3/32″	±0.016″	9454K43	5.14	9454K63	9.28	9454K3	10.69
1/8″	±0.020″	9454K44	6.87	9454K64	12.40	9454K4	14.42
3/16″	±0.031″	9454K45	9.75	9454K65	17.46	9454K5	20.07
1/4″	±0.031″	9454K46	12.99	9454K66	22.86	9454K6	26.59

High-Strength Sheets



- Color: Black
- Tensile Strength: 1,000 psi
- Temp. Range: -20° to 180°F

All meet ASTM D2000 AA. Durometer is 60A (medium hard); durometer tolerance is ±5. Width tolerance is ±0.125″.

Thick.	Thick. Tolerance	6″ Wide	Per Ft.	12″ Wide	Per Ft.
1/4″	±0.031″	86335K17	$4.30	86335K13	$7.13
3/8″	±0.047″	86335K23	5.10	86335K21	9.31
1/2″	±0.047″	86335K35	5.67	86335K31	11.30
3/4″	±0.093″	86335K45	11.36	86335K41	20.65
1″	±0.100″	86335K55	15.50	86335K51	29.33

Fabric-Reinforced Abrasion-Resistant SBR Rubber Sheets

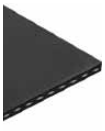

- Color: Black
- Tensile Strength: 400 psi (sheets); 1,300 psi (cut-to-length sheets)
- Temp. Range: -20° to 170°F (sheets); -30° to 170°F (cut-to-length sheets)

With one layer of polyester fabric for every 1/16″ of thickness, these sheets maintain their size and shape under heavy compression better than the nonreinforced abrasion-resistant SBR. Use them as flange gaskets. SBR (styrene butadiene rubber) is commonly called skirtboard.

Durometer tolerance is ±5. Sheets have a durometer of 70A (hard). They have width and length tolerances of ±0.250″. Cut-to-length sheets have a durometer of 65A (medium hard). They have a width tolerance of ±1″.

Thick.	Thick. Tolerance	Sheets 12″×12″	Each	Sheets 12″×24″	Each	Cut-to-Length Sheets 36″ Wide	Per Ft.
1/16″	±0.016″	8617K41	$7.13	8617K61	$12.93	8617K51	$19.38
1/8″	±0.020″	8617K43	12.73	8617K63	23.14	8617K53	34.20
1/4″	±0.031″	8617K45	25.21	8617K65	45.85	8617K55	63.14

Abrasion-Resistant Polyurethane Rubber Balls



- Color: Black (unless noted)
- Tensile Strength: 5,600 psi
- Temp. Range: -20° to 200°F
- For use outdoors

Use these polyurethane balls as seals in pumps and check valves or let them bounce inside of vibrating sifters for an effective screen cleaner. They are made of polyurethane, which combines the shock absorbing qualities of rubber with the strength of plastic. Durometer is 95A (extra hard); durometer tolerance is ±5.

Dia.	Dia. Tolerance		
3/4″	±0.020″	6490K12★	$4.41
1″	±0.020″	6490K14★	6.40
1 1/2″	±0.020″	6490K16	9.44
2″	±0.020″	6490K18	13.81
2 1/2″	±0.020″	6490K21	21.23
3″	±0.020″	6490K23	27.73
3 1/2″	±0.020″	6490K24	34.74
4″	±0.020″	6490K27	41.57
4 1/2″	±0.020″	6490K43	53.35
5″	±0.020″	6490K44	66.66

★Color is semi-clear amber.

Abrasion-Resistant Rubber

For information about rubber and durometer hardness scales, see page 3588.

Food-Grade Abrasion-Resistant Natural Rubber Balls



- Color: White
- Tensile Strength: 3,000 psi
- Temperature Range: 0° to 180° F

Made from FDA-listed material for use with food and beverage, these balls serve as an effective screen cleaner when they bounce inside of vibrating sifters. Also use them as seals in pumps and check valves. Natural rubber is also known as gum rubber and latex rubber. All meet ASTM D2000 AA. Durometer is 45A (medium soft); durometer tolerance is ±5.

Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.
5/8″	±0.016″	10	96385K61	$13.02
1″	±0.016″	10	96385K62	13.23
1 1/8″	±0.016″	5	96385K63	10.14
1 3/8″	±0.016″	5	96385K64	10.42
2″	±0.016″	1	96385K68	5.76

Abrasion-Resistant Polyurethane Rubber Rods

Stronger than natural rubber, these polyurethane rods combine the shock-absorbing qualities of rubber with the tear resistance of plastic. Use them to seal narrow spaces such as channels.

Rods



- Color: Black or semi-clear amber
- Tensile Strength:
  min. 800 psi (40A durometer);
  min. 4,100 psi (60A);
  min. 6,350 psi (80A);
  min. 4,000 psi (90A);
  min. 5,600 psi (95A);
  min. 7,500 psi (75D)
- Temperature Range: -20° to 200° F
- For use outdoors

Durometer tolerance is ±5.
Black rods have a length tolerance of ±0.250″.
Semi-clear amber rods have a plus length tolerance.
To Order: Please specify durometer: 40A (medium soft), 60A (medium hard), 80A (hard), 90A (extra hard), 95A (extra hard), or 75D (extra hard),

Dia.	Dia. Tolerance	6″ Lg.		12″ Lg.		24″ Lg.		36″ Lg.		48″ Lg.	
Black											
1/4″	±0.025″	8695K171	$9.13	8695K371	$15.22	8695K151	$25.49	8695K431	$32.46	8695K711	$38.05
3/8″	±0.025″	8695K172	9.63	8695K372	16.06	8695K152	27.22	8695K432	36.11	8695K712	40.14
1/2″	±0.025″	8695K173	10.25	8695K373	17.08	8695K153	28.61	8695K433	38.43	8695K713	42.70
5/8″	±0.025″	8695K174	12.33	8695K374	20.54	8695K154	33.15	8695K434	46.22	8695K714	51.36
3/4″	±0.025″	8695K175	13.38	8695K375	22.30	8695K155	36.89	8695K435	50.17	8695K715	55.74
7/8″	±0.025″	8695K176	16.48	8695K376	27.47	8695K141	40.23	8695K421	59.74	8695K761	68.67
1″	±0.025″	8695K177	17.32	8695K377	28.86	8695K156	48.35	8695K436	64.95	8695K716	72.16
1 1/8″	±0.050″	8695K178	19.80	8695K378	32.99	8695K142	55.26	8695K422	71.76	8695K764	82.48
1 1/4″	±0.050″	8695K179	21.88	8695K379	36.47	8695K157	61.09	8695K437	82.05	8695K717	91.18
1 1/2″	±0.050″	8695K181	27.22	8695K381	45.36	8695K158	75.98	8695K438	102.07	8695K718	113.41
1 3/4″	±0.050″	8695K182	34.81	8695K121	58.02	8695K122	99.87	8695K123	130.53	8695K124	145.05
2″	±0.050″	8695K183	46.37	8695K382	77.28	8695K159	129.45	8695K439	173.83	8695K719	193.21
2 1/4″	±0.050″	8695K184	54.18	8695K111	90.30	8695K112	145.92	8695K113	203.17	8695K114	225.74
2 1/2″	±0.050″	8695K185	63.86	8695K115	106.43	8695K116	179.58	8695K117	228.00	8695K118	266.08
3″	±0.050″	8695K187	70.35	8695K383	121.13	8695K161	192.90	8695K441	248.31	8695K767	302.82
4″	±0.060″	8695K442	87.69	8695K443	146.42	8695K444	244.30	8695K445	366.66	8695K446	407.85
Semi-Clear Amber											
1/4″	±0.020″	8784K82	8.19	8784K11	13.88	8784K12	23.49	8784K13	30.61	8784K14	35.59
3/8″	±0.020″	8784K83	8.64	8784K15	14.65	8784K16	24.80	8784K17	32.31	8784K18	37.57
1/2″	±0.020″	8784K84	9.17	8784K19	15.55	8784K21	26.32	8784K22	34.30	8784K23	39.88
5/8″	±0.020″	8784K85	11.05	8784K24	18.74	8784K25	31.71	8784K26	41.31	8784K27	48.04
3/4″	±0.020″	8784K86	12.30	8784K28	20.87	8784K29	35.31	8784K31	46.01	8784K32	53.50
7/8″	±0.020″	8784K87	14.77	8784K33	25.04	8784K34	42.37	8784K35	55.21	8784K36	64.20
1″	±0.020″	8784K88	15.52	8784K37	26.31	8784K38	44.53	8784K39	58.02	8784K41	67.47
1 1/8″	±0.020″	8784K89	17.74	8784K42	30.07	8784K43	50.89	8784K44	66.31	8784K45	77.11
1 1/4″	±0.020″	8784K91	19.61	8784K46	33.25	8784K47	56.27	8784K48	73.31	8784K49	85.25
1 1/2″	±0.020″	8784K92	24.01	8784K51	40.72	8784K52	68.91	8784K53	89.79	8784K54	104.41
1 3/4″	±0.020″	8784K93	31.18	8784K55	52.87	8784K56	85.87	8784K57	116.59	8784K58	135.57
2″	±0.020″	8784K94	41.58	8784K59	70.51	8784K61	119.33	8784K62	155.49	8784K63	180.80
2 1/4″	±0.023″	8784K95	48.08	8784K64	81.53	8784K65	135.12	8784K66	178.81	8784K67	209.06
2 1/2″	±0.025″	8784K96	57.22	8784K68	97.19	8784K69	159.91	8784K71	216.06	8784K72	248.77
3″	±0.030″	8784K98	62.82	8784K77	99.15	8784K78	165.22	8784K79	225.31	8784K81	273.14
4″	±0.040″	8784K167	97.20	8784K168	162.03	8784K169	268.15	8784K177	337.15	8784K988	383.13

Metric Rods



- Color: Semi-clear amber
- Tensile Strength: 5,500 psi
- Temperature Range: -10° to 200° F
- For use outdoors

Durometer is 80A (hard); durometer tolerance is ±5. Length has a plus tolerance.

Dia.	Dia. Tolerance	12″ Lg.	
5 mm	-0.250 mm to +0.500 mm	2656T57	$21.12
10 mm	-0.250 mm to +0.500 mm	2656T58	22.40
20 mm	-0.250 mm to +0.500 mm	2656T59	33.17
25 mm	-0.250 mm to +0.500 mm	2656T61	36.43
40 mm	-0.250 mm to +0.500 mm	2656T62	65.27
50 mm	-0.250 mm to +0.500 mm	2656T63	91.97

Super-Stretchable Abrasion-Resistant Natural Rubber Rods



- Color: Black
- Tensile Strength: 2,500 psi
- Temperature Range: -75° to 250°F

The thin profile seals narrow spaces such as channels and seams. Natural rubber will stretch up to six times its length. It is also known as gum rubber and latex rubber. Durometer is 40A (medium soft); durometer tolerance is ±5.

Dia.	Dia. Tolerance		Per Ft.	Dia.	Dia. Tolerance		Per Ft.
1/16″	±0.015″	1775T21	$0.58	1/4″	±0.015″	1775T25	$1.34
1/8″	±0.015″	1775T23	.92	3/8″	±0.015″	1775T27	1.98

Abrasion-Resistant Polyurethane Rubber Tubes



- Color: Black or semi-clear amber
- Tensile Strength:
  2,000 psi (40A durometer);
  4,400 psi (60A);
  7,200 psi (80A);
  4,000 psi (90A);
  5,600 psi (95A);
  7,500 psi (75D)
- Temperature Range: -20° to 200°F
- For use outdoors

Use these tubes as jackets, seals, and insulation in areas where rubbing and scraping could cause wear. They are made of polyurethane, which combines the shock-absorbing qualities of rubber with the tear resistance of plastic.

Durometer tolerance is ±5. OD tolerance is -0.010″ to +0.020″ for 7/8″ to 2″ OD and up to -0.020″ to +0.040″ for 2 1/2″ to 4″ OD. ID tolerance is -0.020″ to +0.010″ for 1/4″ to 2″ ID and up to -0.030″ to +0.015″ for 2 1/4″ to 3″ ID . Length tolerance is +0.250″.

To Order: For 1″ long, 2″ long, 4″ long, and 12 1/2″ long tubes, please specify durometer: 80A (hard) and 95A (extra hard). For 6″ long and 36″ long tubes, please specify durometer: 40A (medium soft), 60A (medium hard), 80A (hard), 90A (extra hard), 95A (extra hard), or 75D (extra hard), unless noted.

OD	ID	Wall Thick.	Black 1″ Lg.		Black 2″ Lg.		Black 4″ Lg.		Semi-Clear Amber 1″ Lg.		Semi-Clear Amber 2″ Lg.		Semi-Clear Amber 4″ Lg.	
7/8″	1/4″	5/16″	9697K111	$3.69	9697K115	$5.21	9697K117	$9.54	8795K21	$3.30	8795K25	$5.28	8795K27	$9.69
1″	3/8″	5/16″	9697K121	4.40	9697K125	6.95	9697K127	13.85	8795K31	3.98	8795K35	6.63	8795K37	11.93
1 1/8″	1/2″	5/16″	9697K131	4.52	9697K135	7.42	9697K137	13.36	8795K41	4.41	8795K45	7.21	8795K47	13.03
1 1/4″	5/8″	5/16″	9697K141	4.83	9697K145	8.12	9697K147	15.63	8795K51	5.15	8795K55	7.59	8795K57	12.90
1 1/2″	3/4″	3/8″	9697K151	6.13	9697K155	10.43	9697K157	19.18	8795K61	5.57	8795K65	9.42	8795K67	17.37
2″	1″	1/2″	9697K161	6.92	9697K165	11.09	9697K167	19.45	8795K71	6.96	8795K75	11.15	8795K77	19.55

OD	ID	Wall Thick.	Black 6″ Lg.		Black 12 1/2″ Lg.		Black 36″ Lg.		Semi-Clear Amber 6″ Lg.		Semi-Clear Amber 12 1/2″ Lg.		Semi-Clear Amber 36″ Lg.	
7/8″	1/4″	5/16″	9697K118■	$13.01	9697K119	$21.69			8795K28■	$13.21	8795K29	$22.02		
1″	3/8″	5/16″	87235K11	13.75	9697K129	26.50	87235K81	$71.63	8795K38■	16.27	8795K39	26.52		
1 1/8″	1/2″	5/16″	9697K138■	18.10	9697K139	30.16			8795K48■	17.63	8795K49	29.39		
1 1/4″	1/2″	3/8″	87235K12	16.42			87235K82	80.51						
1 1/4″	5/8″	5/16″	9697K148■	20.71	9697K149	34.52			8795K58■	18.70	8795K59	32.25		
1 1/2″	3/4″	3/8″	9697K158■	19.18	9697K159	48.22			8795K68■	24.81	8795K69	43.68		
1 3/4″	1″	3/8″	87235K56	21.01			87235K29	96.97	8835K51	20.45			8835K19	$94.35
2″	1/2″	3/4″	87235K57	28.69			87235K31	117.37	8835K52	29.56			8835K21	119.81
2″	1″	1/2″	87235K58	24.45	9697K169	47.60	87235K32	99.17	8835K53	24.85	8795K79	41.89	8835K22	99.75
2″	1 1/4″	3/8″	87235K59	20.73			87235K33	82.91	8835K54	21.02			8835K23	87.60
2″	1 1/2″	1/4″	87235K61	18.56			87235K34	74.24	8835K55	18.89			8835K24	78.72
2 1/2″	3/4″	7/8″	87235K13	46.55			87235K83	183.78						
2 1/2″	1″	3/4″	87235K63	39.85			87235K36	159.42	8835K57	39.60			8835K26	165.00
2 1/2″	1 1/2″	1/2″	87235K65	33.09			87235K38	132.34	8835K59	31.84			8835K28	132.67
2 3/4″	1 1/2″	5/8″	87235K67	42.74			87235K42	170.95	8835K62	38.01			8835K31	165.28
2 3/4″	1 3/4″	1/2″	87235K68	34.23			87235K43	136.91	8835K63	35.24			8835K32	140.98
3″	1″	1″	87235K71	58.58			87235K45	234.32	8835K65	58.10			8835K34	232.40
3″	1 1/2″	3/4″	87235K72	52.67			87235K46	210.70	8835K66	48.22			8835K35	200.91
3″	2″	1/2″	87235K73	37.67			87235K47	150.70	8835K67	37.61			8835K36	156.70
3″	2 1/4″	3/8″	87235K74	31.39			87235K48	125.56	8835K68	32.66			8835K37	130.63
3 1/2″	2″	3/4″	87235K76	42.10			87235K52	168.39	8835K72	56.91			8835K39	227.65
3 1/2″	2 1/2″	1/2″	87235K77	36.43			87235K53	145.72	8835K73	45.23			8835K41	188.47
4″	3″	1/2″	87235K79	49.59			87235K55	198.38	8835K75	48.71			8835K43	202.97

■ Only available in 80A and 95A durometer.

Weather-Resistant EPDM Rubber Sheets and Strips

Sunlight, ozone, and water have little effect on these strips and sheets.

Strips



- Color: Black
- Tensile Strength: 1,000 psi
- Temperature Range: -40° to 225°F
- For use outdoors

The rubber meets ASTM D2000 BA. Durometer is 60A (medium hard); durometer tolerance is ±5. Strips have a width tolerance of +0.250″ and a plus length tolerance. **Adhesive-back** strips have an acrylic adhesive with a temperature range of -30° to 180°F.

Thick.	Thick. Tolerance	2″ x 36″		4″ x 36″		6″ x 36″	
Plain Back							
1/32″	±0.012″	8990K11	$2.36	8990K31	$4.29	8990K51	$5.54
1/16″	±0.016″	8990K12	3.05	8990K32	5.84	8990K52	8.12
3/32″	±0.016″	8990K13	4.19	8990K33	8.18	8990K53	10.99
1/8″	±0.020″	8990K14	5.93	8990K34	11.62	8990K54	15.13
3/16″	±0.031″	8990K15	9.37	8990K35	18.17	8990K55	23.08
1/4″	±0.031″	8990K16	12.40	8990K36	24.32	8990K56	29.85
3/8″	±0.047″	8990K17	19.45	8990K37	38.72	8990K57	47.53
1/2″	±0.047″	8990K18	28.25	8990K38	50.35	8990K58	67.67
Adhesive Back							
1/32″	±0.012″	8990K19	6.21	8990K39	9.58	8990K59	13.06
1/16″	±0.016″	8990K21	7.97	8990K41	11.09	8990K61	14.99
3/32″	±0.016″	8990K22	9.24	8990K42	14.12	8990K62	18.55
1/8″	±0.020″	8990K23	8.51	8990K43	15.17	8990K63	19.61
1/4″	±0.031″	8990K25	14.14	8990K45	27.46	8990K65	41.27
3/8″	±0.047″	8990K26	23.16	8990K46	42.23	8990K66	56.74
1/2″	±0.047″	8990K27	35.26	8990K47	55.95	8990K67	73.94

(Continued on following page)

Weather-Resistant EPDM Rubber Sheets and Strips *(Continued from previous page)*

Sunlight, ozone, and water have little effect on these strips and sheets.

Sheets



- Color: Black
- Tensile Strength: 1,000 psi
- Temperature Range: -40° to 225° F
- For use outdoors

All meet ASTM D2000 BA. Durometer is 60A; durometer tolerance is ±5. Sheets have a width tolerance of +0.500″ and a plus length tolerance. Cut-to-length sheets have a width tolerance of +1″. **Adhesive-back** sheets have an acrylic adhesive. Adhesive temperature range is -30° to 180° F, except 6×6″ sheets have an adhesive temperature range of -30° to 225° F.

		Sheets 6″×6″		Sheets 12″×12″		Sheets 12″×24″		Cut-to-Length Sheets 36″ Wide	
Thick.	Thick. Tolerance		Each		Each		Each		Per Ft.
Plain Back									
1/64″	±0.006″			8610K61	$3.19	8610K62	$5.29	8610K63	$6.32
1/32″	±0.012″	8610K41★	$1.64	8610K81	4.14	8610K71	6.87	8610K22	8.22
1/16″	±0.016″	8610K42	2.36	8610K82	5.89	8610K72	9.82	8610K11	11.79
3/32″	±0.016″	8610K43	3.46	8610K83	8.45	8610K73	14.07	8610K33	17.29
1/8″	±0.020″	8610K45	4.42	8610K84	11.04	8610K74	18.04	8610K12	22.09
3/16″	±0.031″	8610K46	6.70	8610K85	16.76	8610K75	27.76	8610K34	33.52
1/4″	±0.031″	8610K47	8.92	8610K86	22.30	8610K76	37.19	8610K35	44.62
3/8″	±0.047″	8610K48	13.46	8610K87	33.64	8610K77	56.08	8610K44	67.29
1/2″	±0.047″	8610K49	18.31	8610K88	45.96	8610K78	76.29	8610K55	91.55
Adhesive Back									
1/32″	±0.012″	8610K51★	4.36	8610K89	8.71	8610K1	18.08	8610K13	21.14
1/16″	±0.016″	8610K52	5.02	8610K91	13.36	8610K2	20.81	8610K14	24.34
3/32″	±0.016″	8610K53	6.34	8610K92	15.32	8610K3	26.37	8610K15	30.73
1/8″	±0.020″	8610K54	7.40	8610K93	15.17	8610K4	28.12	8610K16	37.00
1/4″	±0.031″	8610K56	12.30	8610K95	30.29	8610K6	51.23	8610K18	59.69
3/8″	±0.047″	8610K57	16.89	8610K96	41.37	8610K7	70.68	8610K19	82.00
1/2″	±0.047″	8610K58	21.65	8610K97	55.06	8610K8	91.77	8610K21	105.11

★Thickness tolerance is ±0.010″.

Food-Grade Steam- and Weather-Resistant EPDM Rubber Sheets



- Color: Cream
- Tensile Strength: 800 psi
- Temperature Range: -40° to 220° F
- For use outdoors

Made from FDA-listed material for use with food and beverage, these EPDM sheets can be used in steamy environments. They resist sunlight, ozone, and water. Durometer is 40A (medium soft); durometer tolerance is ±5. Sheets have a width tolerance of +0.500″ and a plus length tolerance. 36″ wide sheets have a width tolerance of +1″.

To Order: For 36″ wide sheets, please specify length: 1 ft., 2 ft., 3 ft., 4 ft., 5 ft., 6 ft., 8 ft., or 10 ft.

		12″×12″		12″×24″		36″ Wide	
Thick.	Thick. Tolerance		Each		Each		Each
1/32″	±0.012″	8143K111	$9.57	8143K211	$15.58	8143K41	$19.10
1/16″	±0.016″	8143K121	15.72	8143K221	26.14	8143K42	31.40
3/32″	±0.016″	8143K131	22.06	8143K231	36.76	8143K43	44.12
1/8″	±0.020″	8143K141	29.67	8143K241	49.46	8143K44	59.25
3/16″	±0.031″	8143K151	43.41	8143K251	72.33	8143K45	86.85
1/4″	±0.031″	8143K161	55.40	8143K261	92.36	8143K46	110.82

Weather- and Chemical-Resistant Santoprene Rubber Sheets and Strips



- Color: Black
- Tensile Strength: 600 psi
- Temperature Range: -50° to 275° F
- For use outdoors

A cross between plastic and rubber, Santoprene offers good resistance to weather and chemicals while retaining its stretchability. It is also known as thermoplastic and TPE. Durometer is 55A (medium); durometer tolerance is ±5. Strips have a width tolerance of +0.250″ and a plus length tolerance. Sheets have a width tolerance of +0.500″ and a plus length tolerance. Cut-to-length sheets have a width tolerance of +1″.

		Strips 3″×36″		Strips 9″×36″		Sheets 12″×12″		Sheets 12″×24″		Cut-to-Length Sheets 36″ Wide	
Thick.	Thick. Tolerance		Each		Each		Each		Each		Per Ft.
1/32″	±0.012″	86215K51	$5.48	86215K71	$12.83	86215K11	$6.28	86215K21	$11.09	86215K41	$13.36
1/16″	±0.016″	86215K52	10.40	86215K72	24.32	86215K12	11.67	86215K22	19.41	86215K42	25.33
3/32″	±0.016″	86215K53	15.35	86215K73	35.08	86215K13	17.52	86215K23	29.20	86215K43	36.54
1/8″	±0.020″	86215K54	17.81	86215K74	44.19	86215K14	20.65	86215K24	35.30	86215K44	46.03
1/4″	±0.031″	86215K56	32.76	86215K76	78.75	86215K16	34.30	86215K26	62.33	86215K46	82.03

Weather-Resistant Airtight Butyl Rubber Sheets and Strips



- Color: Black
- Tensile Strength: 1,500 psi
- Temperature Range: -40° to 225° F
- For use outdoors

Often used as inner tubes, butyl rubber won't allow air, fumes, or gases to pass through. This butyl rubber, also known as isobutylene isoprene, resists sunlight, ozone, and water. All meet ASTM D2000 AA. Durometer is 60A (medium hard); durometer tolerance is ±5. Strips have a width tolerance of +0.250″ and a plus length tolerance. Sheets have a width tolerance of +0.500″ and a plus length tolerance. Cut-to-length sheets have a width tolerance of +1″. **Adhesive-back** strips and sheets have an acrylic adhesive with a temperature range of -30° to 180° F.

		Strips 2″×36″		Sheets 12″×12″		Sheets 12″×24″		Cut-to-Length Sheets 36″ Wide	
Thick.	Thick. Tolerance		Each		Each		Each		Per Ft.
Plain Back									
1/16″	±0.016″	8609K45	$8.38	8609K1	$9.88	8609K18	$16.52	8609K29	$21.34
1/8″	±0.020″	8609K46	12.26	8609K2	14.62	8609K19	25.37	8609K38	33.11
1/4″	±0.031″	8609K47	24.62	8609K3	27.64	8609K21	50.23	8609K41	66.10
Adhesive Back									
1/16″	±0.016″	8609K48	10.96	8609K11	13.70	8609K25	21.65	8609K42	26.42
1/8″	±0.020″	8609K49	15.57	8609K15	19.38	8609K27	32.97	8609K43	41.21
1/4″	±0.031″	8609K52	31.20	8609K17	38.75	8609K28	60.09	8609K44	73.27

For information about rubber and durometer hardness scales, see page 3588.

High-Strength Weather-Resistant EPDM Rubber Sheets and Strips

With greater strength than standard Weather-Resistant EPDM Rubber, these strips and sheets provide better shock-absorbing qualities and longer life. They resist sunlight, ozone, and water.

Strips and Sheets



- Color: Black
- Tensile Strength:
  1,200 psi (40A durometer);
  1,500 psi (50A);
  1,800 psi (60A)
- Temperature Range: -55° to 300°F
- For use outdoors

Rubber is peroxide cured for increased temperature resistance. It meets ASTM D2000 CA. Durometer tolerance is ±5. Strips have a width tolerance of +0.250″ and a plus length tolerance. Sheets have a width tolerance of +0.500″ and a plus length tolerance. Cut-to-length sheets have a width tolerance of +1″.

To Order: Please specify durometer: 40A (medium soft), 50A (medium), or 60A (medium hard).

Thick.	Thick. Tolerance	Strips 2″×36″		Strips 4″×36″		Strips 6″×36″	
1/32″	±0.012″	8985K11	$3.64	8985K21	$7.31	8985K31	$10.68
1/16″	±0.016″	8985K12	5.82	8985K22	11.57	8985K32	17.77
3/32″	±0.016″	8985K13	8.06	8985K23	16.88	8985K33	24.94
1/8″	±0.020″	8985K14	10.60	8985K24	21.16	8985K34	31.78
3/16″	±0.031″	8985K15	15.76	8985K25	31.57	8985K35	46.18
1/4″	±0.031″	8985K16	20.48	8985K26	40.96	8985K36	61.45

Thick.	Thick. Tolerance	Sheets 6″×6″	Each	Sheets 12″×12″	Each	Sheets 12″×24″	Each	Cut-to-Length Sheets 36″ Wide	Per Ft.
1/32″	±0.012″	8985K67	$2.45	8985K41	$8.37	8985K51	$13.71	8985K61	$16.46
1/16″	±0.016″	8985K68	4.02	8985K42	12.61	8985K52	21.01	8985K62	25.23
3/32″	±0.016″	8985K69	6.10	8985K43	18.14	8985K53	30.24	8985K63	36.30
1/8″	±0.020″	8985K7	8.24	8985K44	23.17	8985K54	38.62	8985K64	46.36
3/16″	±0.031″	8985K71	12.90	8985K45	34.23	8985K55	57.06	8985K65	68.95
1/4″	±0.031″	8985K72	17.63	8985K46	44.79	8985K56	74.67	8985K66	89.61

Sheets with Crisscross Texture



- Color: Black
- Tensile Strength: 1,500 psi
- Temperature Range: -40° to 240°F
- For use outdoors

A crisscross texture provides a nonslip gripping surface on both sides. All meet ASTM D2000 and MIL-R03065. Durometer tolerance is ±5. Sheets have width and length tolerances of ±0.250″. Cut-to-length sheets have a width tolerance of ±0.250″.

To Order: Please specify durometer: 40A (medium soft), 60A (medium hard), or 80A (hard).

Thick.	Thick. Tolerance	Sheets 12″×12″	Each	Sheets 12″×24″	Each	Cut-to-Length Sheets 36″ Wide	Per Ft.
1/16″	±0.016″	3727T22	$13.04	3727T32	$20.16	3727T42	$27.18
1/8″	±0.020″	3727T24	17.33	3727T34	27.82	3727T44	37.49
1/4″	±0.031″	3727T26	35.28	3727T36	63.44	3727T46	87.63

Fabric-Reinforced Weather-Resistant EPDM Rubber Sheets



- Color: Black
- Tensile Strength: 1,500 psi
- Temperature Range: -40° to 240°F
- For use outdoors

For every 1/16″ of thickness, there is one layer of super-strong fiberglass cloth that stands up to high stress and flex. Use these sheets as flange gaskets and anywhere heavy compression would squeeze nonreinforced EPDM out of place. EPDM resists sunlight, ozone, and water. All meet ASTM D2000 BA. Durometer is 50A (medium); durometer tolerance is ±5. Sheets have width and length tolerances of ±0.250″. Cut-to-length sheets have a width tolerance of ±0.250″.

Thick.	Thick. Tolerance	Sheets 12″×12″	Each	Sheets 12″×24″	Each	Cut-to-Length Sheets 36″ Wide	Per Ft.
1/16″	±0.016″	2658T21	$31.31	2658T31	$56.22	2658T41	$63.89
3/32″	±0.016″	2658T22	33.33	2658T32	59.87	2658T42	68.03
1/8″	±0.020″	2658T23	37.07	2658T33	66.65	2658T43	75.40
3/16″	±0.031″	2658T24	53.02	2658T34	100.88	2658T44	113.00
1/4″	±0.031″	2658T25	56.40	2658T35	107.76	2658T45	131.87

Weather- and Chemical-Resistant Santoprene Rubber Rods



- Color: Black
- Tensile Strength: 750 psi
- Temperature Range: -75° to 250°F
- For use outdoors

Seal channels and other narrow spaces with these Santoprene rods. Santoprene, also known as thermoplastic and TPE, is a blend of rubber for stretchability and plastic for durability. It offers good resistance to sunlight, ozone, water, ethylene glycol, and detergent solutions. Durometer is 60A (medium hard); durometer tolerance is ±5.

Dia.	Dia. Tolerance		Per Ft.	Dia.	Dia. Tolerance		Per Ft.
1/8″	±0.016″	6289K11	$0.36	3/8″	±0.027″	6289K13	$1.76
1/4″	±0.020″	6289K12	.87	1/2″	±0.031″	6289K14	2.43

Weather-Resistant EPDM Rubber Rods



- Color: Black
- Tensile Strength: 1,200 psi
- Temperature Range: -40° to 240°F
- For use outdoors

Resistant to sunlight, ozone, and water, these rods are sized to seal narrow spaces such as channels. All meet ASTM D2000 BA. Durometer is 60A (medium hard); durometer tolerance is ±5. Length tolerance is -0.250″ to +0.500″, except 36″ long rods have a length tolerance of ±1″.

Dia.	Dia. Tolerance	6″ Lg.		12″ Lg.		36″ Lg.	
1 1/4″	±0.079″	1241N11	$2.28	1241N12	$3.98	1241N13	$10.78
1 1/2″	±0.079″	1241N21	3.02	1241N22	5.46	1241N23	15.18
1 3/4″	±0.098″	1241N31	3.88	1241N32	7.18	1241N33	20.38
2″	±0.125″	1241N41	4.88	1241N42	9.18	1241N43	26.38

About Foam

Foam is a rubber or plastic that is not completely solid—it contains cells of air. This makes it very lightweight and good for gasketing, sealing, and cushioning applications. Open-cell foam has cells that connect to one another, allowing gas, water, and air to be absorbed and pass through. Closed-cell foam has cells that are completely closed, restricting water, air, and gas from absorbing or passing through.

Material Sample Pack—Includes one individually marked piece of each of the materials marked with a ★ below. Each piece is approximately 4″×4″. Thicknesses range from 1/8″ to 1/2″.

2172T21 ..... Pkg. $45.74

Material	Page(s)
Buna-N★	3620-3621
ECH★	3620
EPDM★	3613-3614
EVA★	3625
Ionomer★	3625
Natural Rubber★	3615-3616, 3619
Neoprene★	3614, 3619
Nylon	3625
Polyester	3621
Polyethylene★	3624-3625
Polyimide★	3621
Polyurethane★	3616, 3622-3624
Santoprene	3621
Silicone★	3612, 3617-3619, 3621
Vinyl★	3615
Viton® Fluoroelastomer★	3620

Maximum Temperature

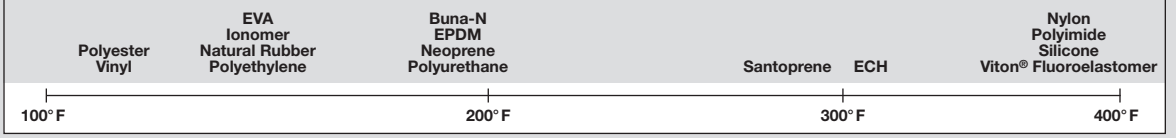

Oil Resistance

A material's ability to maintain its physical properties when it comes in contact with petroleum-based fluids and resist absorption/swelling.

Excellent	Good
Blended Buna-N, Buna-N	ECH, EVA, Ionomer, Neoprene, Nylon, Polyethylene, Polyimide, Polyurethane, Viton® Fluoroelastomer

Weather Resistance

How well a material withstands exposure to sunlight, oxygen, and ozone without breaking down.

Excellent	Good
EPDM, Ionomer, Silicone	Blended Buna-N, Blended EPDM, ECH, EVA, Neoprene, Nylon, Polyethylene, Polyurethane, Santoprene, Vinyl, Viton® Fluoroelastomer

Recovery from Compression

The resilience of a material and its ability to return to its original shape after compression.

Excellent	Good
Ionomer, Natural Rubber, Polyurethane, Santoprene, Silicone	ECH, EPDM, EVA, Neoprene, Polyethylene, Polyimide, Viton® Fluoroelastomer

Hardness

The "Pressure to Compress 25%" rating is an indicator of material hardness. This rating is measured in pounds per square inch (psi). The higher the psi value, the harder the foam. Hardness is not a measure of how quickly foam will recover after compression.

Hardness Sample Pack—Includes six samples, one each of the following pressure to compress 25% ratings: 0.6 psi, 2-5 psi, 5-9 psi, 9-14 psi, 15-20 psi, and 30-60 psi. Sizes are 6″×6″. Thicknesses range from 1/32″ to 1/2″.

2172T11 ..... Pkg. $31.40

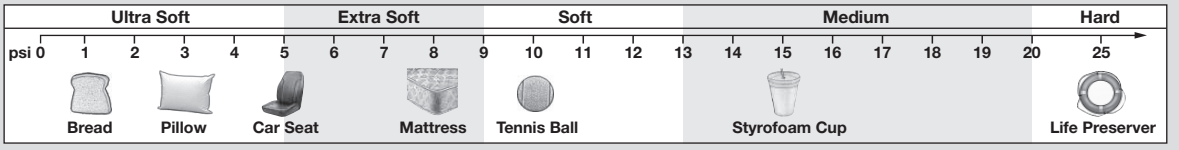

High-Temperature Foam

High-Temperature Super-Resilient Silicone Foam

- Color: Brown
- Temperature Range: -100° to 500° F
- Closed cell (restricts absorption)
- For use outdoors

This premium silicone is the most resilient foam we offer. It withstands repeated compression through a wide range of temperatures. It is equivalent to Cohrlastic and is also known as Norseal, polysiloxane, and silicone sponge.

Adhesive-Back Strips and Sheets—Crisscross Texture





- Pressure to Compress 25%: 9 psi (soft)
- Density: 29 lbs./cu. ft.

Foam meets ASTM D1056 2D3. Material has a skin on the top and bottom. Adhesive is acrylic and has a temperature range of 40° to 120° F. Width tolerance is ±0.063″. Length tolerance is ±1″.

Thick.	Thick. Tolerance		1/2″×36″	1″×36″	2″×36″	4″×36″	6″×36″	12″×12″	24″×24″	36″×36″
1/16″	±0.015″	1299N11	$13.06	$19.44	$28.10	$50.38	$74.68	$53.44	$207.66	$292.19
1/8″	±0.031″	1299N12	15.94	24.68	36.83	67.23	100.06	71.03	280.87	397.63
3/16″	±0.031″	1299N13	17.46	26.53	42.85	77.54	115.05	80.53	320.41	454.57
1/4″	±0.047″	1299N14	19.18	26.83	44.30	81.21	120.80	90.84	363.46	516.56
3/8″	±0.047″	1299N15	20.38	28.32	50.54	99.70	148.23	110.31	444.47	633.21
1/2″	±0.047″	1299N16	21.69	33.00	55.85	119.24	166.04	123.43	495.80	713.96

For information about foam and foam hardness ratings, see page 3612.

Weather- and Abrasion-Resistant Blended EPDM Foam

- Color: Black
- Temperature Range: See below
- Closed cell (restricts absorption)
- For use outdoors

EPDM foam is blended with neoprene and SBR for good resistance to water, sunlight, and oxidation in areas where rubbing and scraping could cause wear on other foam.

Adhesive-Back Strips—Smooth Texture



- Temperature Range: -40° to 155° F
- Pressure to Compress 25%: 7 psi (extra soft)
- Density: 6 lbs./cu. ft.

Foam, but not adhesive, meets ASTM D1056 2A2 and UL 94HF1. Material does not have a skin. Adhesive is rubber and has a temperature range of -10° to 150° F. Width tolerance is ±0.031″ for 1/4″ to 1″ widths, ±0.063″ for 1 1/4″ to 4″ widths, and ±0.094″ for 6″ width. Length tolerance is ±3″.

Thick.	Thick. Tolerance	Length	1/4″ Wide		3/8″ Wide		1/2″ Wide		5/8″ Wide		3/4″ Wide		1″ Wide	
1/16″	±0.031″	50 ft.	8694K111	$4.04	8694K112	$4.51	8694K11	$4.99	8694K113	$5.76	8694K62	$6.65	8694K63	$8.48
1/8″	±0.031″	50 ft.	8694K117	4.84	8694K118	5.39	8694K16	5.97	8694K119	6.89	8694K67	7.76	8694K68	9.92
3/16″	±0.031″	50 ft.	8694K124	7.22	8694K125	7.78	8694K17	7.24	8694K126	8.43	8694K72	10.36	8694K73	13.46
1/4″	±0.031″	50 ft.	8694K131	7.55	8694K132	8.15	8694K12	9.30	8694K133	9.69	8694K77	12.97	8694K78	15.77
3/8″	±0.045″	25 ft.	8694K137	6.01	8694K138	6.28	8694K13	6.59	8694K139	7.60	8694K82	10.18	8694K83	11.57
1/2″	±0.045″	25 ft.	—	—	8694K144	7.97	8694K14	9.03	8694K145	10.26	8694K87	12.27	8694K88	16.25
3/4″	±0.063″	25 ft.	—	—	—	—	—	—	—	—	8694K51	18.09	8694K53	21.27
1″	±0.094″	25 ft.	—	—	—	—	—	—	—	—	8694K52	21.65	8694K54	25.67

Thick.	Thick. Tolerance	Length	1 1/4″ Wide		1 1/2″ Wide		2″ Wide		3″ Wide		4″ Wide		6″ Wide	
1/16″	±0.031″	50 ft.	8694K114	$10.34	8694K91	$12.00	8694K64	$14.65	8694K115	$22.54	8694K65	$27.38	8694K116	$39.68
1/8″	±0.031″	50 ft.	8694K121	12.09	8694K92	14.17	8694K69	17.30	8694K122	25.03	8694K41	31.14	8694K123	46.89
3/16″	±0.031″	50 ft.	8694K127	15.37	8694K93	17.35	8694K74	21.52	8694K128	32.05	8694K42	40.27	8694K129	56.70
1/4″	±0.031″	50 ft.	8694K134	17.73	8694K94	21.32	8694K79	26.77	8694K135	34.94	8694K85	48.78	8694K136	63.01
3/8″	±0.045″	25 ft.	8694K141	13.73	8694K95	16.86	8694K84	22.77	8694K142	29.35	8694K43	44.87	8694K143	56.04
1/2″	±0.045″	25 ft.	8694K146	19.01	8694K96	21.01	8694K89	26.03	8694K147	37.46	8694K57	48.10	8694K148	68.09
3/4″	±0.063″	25 ft.	8694K149	29.31	8694K97	29.85	8694K55	37.35	8694K151	59.75	8694K58	75.84	8694K152	95.60
1″	±0.094″	25 ft.	8694K153	31.09	8694K98	38.26	8694K56	48.75	8694K154	64.86	8694K44	93.41	8694K155	110.50

Sheets—Smooth Texture

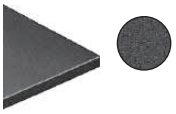

- Temperature Range: -40° to 200° F
- Density: Ultra soft and extra soft are 6 lbs./cu. ft. and soft is 9 lbs./cu. ft.
- Pressure to Compress 25%: 4 psi (ultra soft), 7 psi (extra soft), 11 psi (soft)

Foam meets UL 94HF1, MIL-C-3133, and MIL-STD-670. Material does not have a skin. Sheets have a width tolerance of ±1 1/4″ and a length tolerance of ±2 1/2″. Cut-to-length sheets have a width tolerance of ±1 1/4″.

		42″ Wd. ×72″ Lg. Sheets						*42″ Wide Cut-to-Length Sheets*					
		Ultra Soft		Extra Soft		Soft		Ultra Soft		Extra Soft		Soft	
Thick.	Thick. Tolerance		Each		Each		Each		Per Ft.		Per Ft.		Per Ft.
1/16″	±0.015″	8647K1	$19.38	8647K106	$21.36	8647K109	$16.06	8647K102	$3.80	8647K108	$4.03	8647K12	$2.92
1/8″	±0.020″	8647K51	28.63	8647K71	29.62	8647K81	38.96	8647K21	5.49	8647K31	5.57	8647K41	7.77
3/16″	±0.026″	8647K52	35.21	8647K72	37.09	8647K82	48.35	8647K22	7.44	8647K32	7.62	8647K42	9.61
1/4″	±0.025″	8647K53	41.79	8647K73	44.38	8647K83	56.92	8647K23	8.32	8647K33	8.80	8647K43	11.25
3/8″	±0.035″	8647K55	66.90	8647K75	71.03	8647K85	90.66	8647K25	13.26	8647K35	14.69	8647K45	17.99
1/2″	±0.040″	8647K56	85.29	8647K76	92.08	8647K86	114.04	8647K26	16.95	8647K36	18.90	8647K46	22.45
3/4″	±0.065″	8647K58	99.61	8647K78	104.80	8647K88	127.63	8647K28	19.93	8647K38	21.89	8647K48	25.76
1″	±0.082″	8647K59	133.01	8647K79	140.16	8647K89	177.48	8647K29	26.38	8647K39	28.65	8647K49	33.90
1 1/4″	±0.095″	8647K61	148.75	8647K64	157.23	8647K67	200.68	8647K501	29.74	8647K601	32.81	8647K701	38.47
1 1/2″	±0.150″	8647K101	167.47	8647K107	178.93	8647K11	274.28	8647K103	42.94	8647K104	43.22	8647K105	53.78
2″	±0.175″	8647K621	216.11	8647K651	235.86	8647K681	286.82	8647K201	41.72	8647K301	46.26	8647K401	56.24

Weather-Resistant EPDM Foam

- Color: Black
- Temperature Range: See below
- Closed cell (restricts absorption), unless noted
- For use outdoors

Made of EPDM, this foam has the best resistance to water, sunlight, and oxidation of all the foam we offer.

Adhesive-Back Strips—Smooth Texture



- Temperature Range: -40° to 220° F
- Pressure to Compress 25%: 4 psi (ultra soft)
- Density: 12 lbs./cu. ft.

Foam, but not adhesive, meets ASTM D1056 2A1. Material does not have a skin. Adhesive is acrylic and has a temperature range of -20° to 200° F. Width tolerance is ±1/32″. Length tolerance is ±1 ft.

Thick.	Thick. Tolerance	Length	3/8″ Wide		1/2″ Wide		3/4″ Wide		1″ Wide	
1/8″	±0.032″	50 ft.	93725K52	$13.51	93725K54	$16.43	93725K56	$23.47	93725K58	$30.27
3/16″	±0.032″	50 ft.	93725K62	14.79	93725K64	18.86	93725K66	27.20	93725K68	35.01
1/4″	±0.032″	50 ft.	93725K72	16.56	93725K74	20.78	93725K76	30.27	93725K78	39.50

Sheets—Crisscross Texture

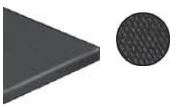

- Temperature Range: -20° to 200° F
- Open cell (absorbent)
- Pressure to Compress 25%: 7 psi (extra soft), 13 psi (medium)
- Density: Extra soft is 30 lbs./cu. ft. and medium is 35 lbs./cu. ft.

Material has a skin on the top and bottom. Sheets are 36″ wide. Width tolerance is +1″ for 1/8″ to 1/4″ thick foam and +3″ for 3/8″ and 1/2″ thick foam.

Thick.	Thick. Tolerance	Extra Soft		Medium	
			Per Ft.		Per Ft.
1/8″	±0.015″	86005K11	$17.52	86005K51	$20.47
3/16″	±0.030″	86005K12	24.83	86005K52	28.32
1/4″	±0.030″	86005K13	30.48	86005K53	37.22
3/8″	±0.040″	86005K14	47.11	86005K54	52.29
1/2″	±0.040″	86005K15	59.57	86005K55	66.67

(Material continued on following page)

Weather-Resistant EPDM Foam *(Material continued from previous page)*

- Color: Black
- Temperature Range: See below
- Closed cell (restricts absorption)
- For use outdoors

Made of EPDM, this foam has the best resistance to water, sunlight, and oxidation of all the foam we offer.

Rods—Ultra-Smooth Texture



- Temperature Range: 0° to 165° F
- Pressure to Compress 25%: 11 psi (soft)
- Density: 21 lbs./cu. ft.

Foam meets ASTM D1056 2A3 and has a skin. Sold in 100-ft. lengths. Length tolerance is ±2 ft.

Dia.	Dia. Tolerance		
1/8"	±0.020"	8605K41	$17.31
1/4"	±0.032"	8605K42	23.52
3/8"	±0.032"	8605K43	$33.38
1/2"	±0.032"	8605K44	51.80

Round Tubes—Ultra-Smooth Texture



- Temperature Range: –40° to 225° F
- Pressure to Compress 25%: 7 psi (extra soft)
- Density: 14 lbs./cu. ft.

Foam meets ASTM D1056 2A2 and has a skin. OD tolerance is ±1/16". Sold in 6-ft. lengths. Length tolerance is ±1 1/2".

OD	ID	ID Tolerance	Wall Thick.		
7/16"	1/4"	±0.039"	3/32"	4339T1	$8.22
1/2"	1/4"	±0.039"	1/8"	4339T2	9.10
5/8"	1/4"	±0.039"	3/16"	4339T3	10.68
5/8"	7/16"	±0.051"	3/32"	4339T4	9.20
5/8"	1/2"	±0.051"	1/16"	4339T5	$8.40
3/4"	1/4"	±0.039"	1/4"	4339T6	12.55
3/4"	7/16"	±0.051"	5/32"	4339T7	10.82
3/4"	1/2"	±0.051"	1/8"	4339T8	10.30

Weather- and Oil-Resistant Neoprene Foam

- Color: Black
- Temperature Range: See below
- Closed cell (restricts absorption), unless noted
- For use outdoors

In addition to their good resistance to water, sunlight, and oxidation, these neoprene foam sheets and strips resist swelling when they come into contact with oil.

Strips—Ultra-Smooth Texture



- Temperature Range:
  Extra Soft: –40° to 212° F
  Medium: –70° to 200° F
- Pressure to Compress 25%:
  Extra Soft: 7 psi
  Medium: 13 psi
- Density:
  Extra Soft: 17 lbs./cu. ft.
  Medium: 16 lbs./cu. ft.

Material has a skin on the top and bottom.
Plain-back strips meet ASTM D1056 2C2. They have a width tolerance of ±0.080". Length tolerance is ±6".
Adhesive-back strips have an acrylic adhesive that has a temperature range of –30° to 212° F. Width tolerance for extra-soft strips is ±0.05"; for medium strips it is ±1/32". Length tolerance for extra-soft strips is ±1 ft.; for medium strips it is +10", -0".

Extra Soft

Thick.	Thick. Tolerance	Lg.	Plain Back 1" Wide		Plain Back 2" Wide		Thick.	Thick. Tolerance	Lg.	Adhesive Back 1/2" Wide		Adhesive Back 5/8" Wide	
3/8"	±0.032"	25 ft.	93635K11	$43.71	93635K12	$80.69	3/16"	±0.032"	50 ft.	93375K31	$40.38	93375K33	$50.36
1/2"	±0.032"	25 ft.	93635K15	51.62	93635K16	94.14	5/16"	±0.032"	50 ft.	93375K35	61.46	93375K37	68.14

Medium

Thick.	Thick. Tolerance	Lg.	Adhesive Back 1/4" Wide		Adhesive Back 1/2" Wide		Adhesive Back 3/4" Wide		Adhesive Back 1" Wide		Adhesive Back 2" Wide	
1/16"	±0.032"	10 ft.	93375K11	$12.16	93375K14	$14.44	93375K19	$16.72	93375K25	$18.62	93375K32	$27.36
1/8"	±0.032"	10 ft.	93375K12	13.68	93375K15	16.72	93375K21	20.52	93375K26	23.56	93375K34	37.62
1/4"	±0.032"	10 ft.	93375K13	17.10	93375K16	22.32	93375K22	28.44	93375K27	33.84	93375K36	58.68
3/8"	±0.045"	10 ft.	_____	_____	93375K17	28.44	93375K23	37.08	93375K28	45.36	93375K38	82.08
1/2"	±0.045"	10 ft.	_____	_____	93375K18	34.56	93375K24	46.08	93375K29	56.88	93375K39	105.12

Sheets—Crisscross Texture



- Temperature Range: –20° to 160° F
- Open cell (absorbent)
- Pressure to Compress 25%: 4 psi (ultra soft), 7 psi (extra soft)
- Density: Ultra soft is 27 lbs./cu. ft. and extra soft is 33 lbs./cu. ft.

Material has a skin on the top and bottom. **Plain-back** cut-to-length sheets meet ASTM D1056 1C1 and 1C2. They have a width tolerance of +3". **Adhesive-back** sheets have width and length tolerances of +3". Adhesive is acrylic and has a temperature range of 0° to 160° F.

Thick.	Thick. Tolerance	36" Wide Plain-Back Cut-to-Length Sheets Ultra Soft Per Ft.		36" Wide Plain-Back Cut-to-Length Sheets Extra Soft Per Ft.		36" x 48" Adhesive-Back Sheets Ultra Soft Each		36" x 48" Adhesive-Back Sheets Extra Soft Each	
1/8"	±0.015"	8570K11	$22.79	8570K19	$20.87	8613K11	$88.62	8613K31	$81.54
3/16"	±0.030"	8570K12	30.77	8570K21	28.02	8613K12	136.42	8613K32	125.41
1/4"	±0.030"	8570K13	38.97	8570K22	35.60	8613K13	170.11	8613K33	156.46
3/8"	±0.040"	8570K15	46.45	8570K24	42.52	8613K15	223.51	8613K35	198.81
1/2"	±0.040"	8570K16	59.20	8570K25	54.23	8613K16	244.32	8613K36	224.99
3/4"	±0.060"	8570K18	91.16	8570K28	82.78	8613K18	443.93	8613K38	361.53
1"	±0.060"	8570K39	106.33	8570K31	96.95	8613K19	461.53	8613K39	425.87

Rods—Ultra-Smooth Texture



- Temperature Range: –40° to 150° F
- Density: 15 lbs./cu. ft.
- Pressure to Compress 25%: 10 psi (soft)

Use rods to seal and cushion narrow spaces, such as channels. Foam meets ASTM D1056 and has a skin for a sleek surface.

Dia.	Dia. Tolerance		3 ft.	15 ft.	30 ft.	100 ft.	300 ft.
1/8"	±0.032"	1298N1	$4.00	$8.00	$12.00	$29.45	$81.82
3/16"	±0.040"	1298N2	7.33	14.67	22.00	54.00	154.55
1/4"	±0.046"	1298N3	9.43	18.86	28.29	59.40	170.00
5/16"	±0.046"	1298N4	12.67	25.33	38.00	93.27	263.64
3/8"	±0.046"	1298N5	17.33	34.67	52.00	111.69	309.09
1/2"	±0.062"	1298N6	$17.40	$34.80	$52.20	$124.57	$360.00
5/8"	±0.062"	1298N7	18.20	36.40	72.00	190.91	_____
3/4"	±0.062"	1298N8	20.90	52.26	94.00	276.36	_____
1"	±0.093"	1298N9	22.50	60.00	118.00	327.27	_____

For information about foam and foam hardness ratings, see page 3612.

Weather-Resistant Ultra-Conformable Vinyl Foam

• Color: See below • Temperature Range: See below • Closed cell (restricts absorption) • For use outdoors

These vinyl foam sheets and strips are so conformable that once they're compressed they won't fully spring back. Use them to fill gaps and seal uneven surfaces. They offer excellent resistance to water, sunlight, and oxidation.

Adhesive-Back Strips—Ultra-Smooth Texture, unless otherwise stated



- Color: Black, gray, or yellow
- Temperature Range: -30° to 140° F, except yellow is 40° to 180° F
- Pressure to Compress 25%: Black is 4 psi (ultra soft), gray is 2.5 psi (ultra soft) for 25-, 50-, and 100-ft. lengths and 1.6 psi (ultra soft) for all other lengths, yellow is 2.5 psi (ultra soft)
- Density: Black is 12 lbs./cu. ft., gray and yellow are 7 lbs./cu. ft.

Thickness tolerance is ±20%. Width tolerance is ±1/32″ for 1/4″ to 1 1/4″ widths and ±3/32″ for 2″ to 6″ widths. Length tolerance is ±6″, except 3-ft. length has a tolerance of ±1/4″, and 60-ft. length has a tolerance of ±15″. Adhesive is acrylic and has a temperature range of 50° to 110° F. Material has a skin, except yellow does not have a skin and is smooth.

Thick.	Width	Length		
Black				
1/8″	1/2″	100 ft.	8512K63	$10.84
1/8″	3/4″	100 ft.	8512K64	17.28
1/8″	1″	100 ft.	8512K65	19.30
1/8″	2″	100 ft.	8512K67	33.48
1/8″	3″	100 ft.	8512K39	44.38
1/8″	6″	100 ft.	8512K41	73.96
3/16″	1/2″	50 ft.	8512K73	7.03
3/16″	3/4″	50 ft.	8512K74	10.13
3/16″	1″	50 ft.	8512K75	13.15
3/16″	2″	50 ft.	8512K77	21.44
3/16″	3″	50 ft.	8512K43	32.26
3/16″	6″	50 ft.	8512K45	53.77
1/4″	1/2″	50 ft.	8512K83	8.28
1/4″	3/4″	50 ft.	8512K84	12.28
1/4″	1″	50 ft.	8512K85	15.75
1/4″	2″	50 ft.	8512K87	25.50
1/4″	3″	50 ft.	8512K49	35.52
1/4″	6″	50 ft.	8512K51	59.20
3/8″	1/2″	25 ft.	8512K91	7.62
3/8″	3/4″	25 ft.	8512K92	10.59
3/8″	1″	25 ft.	8512K93	14.05
3/8″	2″	25 ft.	8512K94	22.69
3/8″	3″	25 ft.	8512K53	30.95
3/8″	6″	25 ft.	8512K55	44.85
Black (Cont.)				
1/2″	1/2″	25 ft.	8512K95	$6.95
1/2″	3/4″	25 ft.	8512K96	10.05
1/2″	1″	25 ft.	8512K97	12.02
1/2″	2″	25 ft.	8512K98	21.17
1/2″	3″	25 ft.	8512K59	28.17
1/2″	6″	25 ft.	8512K61	46.95
Gray				
1/8″	1/4″	17 ft.	93675K11	1.68
1/8″	1/2″	100 ft.	8512K14	9.81
1/8″	3/4″	100 ft.	8512K16	14.46
1/8″	1″	100 ft.	8512K18	18.59
1/8″	2″	100 ft.	8512K12	22.40
1/8″	3″	100 ft.	8512K13	32.74
1/8″	6″	100 ft.	8512K15	67.50
3/16″	3/8″	17 ft.	93675K12	2.03
3/16″	3/8″	60 ft.	93675K16	4.92
3/16″	1/2″	50 ft.	8512K24	6.08
3/16″	3/4″	50 ft.	8512K26	8.93
3/16″	1″	50 ft.	8512K28	10.23
3/16″	1 1/4″	30 ft.	93675K15	7.95
3/16″	2″	50 ft.	8512K17	15.56
3/16″	3″	50 ft.	8512K19	20.84
3/16″	6″	50 ft.	8512K21	47.79
Gray (Cont.)				
1/4″	3/8″	17 ft.	93675K13	$2.23
1/4″	1/2″	50 ft.	8512K34	6.99
1/4″	3/4″	50 ft.	8512K36	9.90
1/4″	1″	50 ft.	8512K38	13.89
1/4″	2″	50 ft.	8512K22	20.22
1/4″	3″	50 ft.	8512K23	28.88
1/4″	6″	50 ft.	8512K25	54.00
3/8″	1/2″	10 ft.	93675K14	2.41
3/8″	1/2″	25 ft.	8512K44	4.83
3/8″	3/4″	10 ft.	93675K17	3.43
3/8″	3/4″	25 ft.	8512K46	6.78
3/8″	1″	25 ft.	8512K48	8.89
3/8″	2″	25 ft.	8512K27	14.10
3/8″	3″	25 ft.	8512K29	18.92
3/8″	6″	25 ft.	8512K31	35.03
1/2″	1/2″	25 ft.	8512K54	5.87
1/2″	3/4″	25 ft.	8512K56	8.01
1/2″	1″	25 ft.	8512K58	10.71
1/2″	2″	25 ft.	8512K32	13.69
1/2″	3″	25 ft.	8512K33	20.18
1/2″	6″	25 ft.	8512K35	36.69
Yellow				
3/8″	2″	3 ft.	8512K11	9.20

Food-Grade Adhesive-Back Strip—Wrinkled Texture



- Color: White
- Temperature Range: -15° to 160° F
- Pressure to Compress 25%: 0.5 psi (ultra soft)
- Density: 8 lbs./cu. ft.

Foam, but not adhesive, meets NSF/ANSI Standard 51 for food contact. Material has a skin. Adhesive is acrylic and has a temperature range of -15° to 160° F. Length tolerance is ±2″. Strip is 25 feet long.

Thick.	Thick. Tolerance	Width	Width Tolerance		
1/8″	±0.013″	3/8″	±0.038″	1812T21	$24.69

Sheets—Ultra-Smooth Texture



- Color: Gray
- Temperature Range: -30° to 160° F
- Pressure to Compress 25%: 5 psi (extra soft)
- Density: 9 lbs./cu. ft.

Material has a skin on the top. Width tolerance is ±2″. Length tolerance is ±1″. Adhesive is acrylic and has a temperature range of -20° to 160° F.

		Plain Back				*Adhesive Back*			
		54″ Wd. × 36″ Lg.		54″ Wide Cut to Length		54″ Wd. × 36″ Lg.		54″ Wide Cut to Length	
Thick.	Thick. Tolerance		Each		Per Ft.		Each		Per Ft.
1/8″	±0.013″	86025K52	$14.54	86025K42	$5.58	86025K72	$20.78	86025K62	$7.82
3/16″	±0.019″	86025K54	17.54	86025K44	7.14	86025K74	26.74	86025K64	8.83
1/4″	±0.025″	86025K56	24.12	86025K46	8.33	86025K76	31.44	86025K66	10.87
3/8″	±0.038″	86025K58	27.42	86025K48	10.94	86025K78	35.56	86025K68	14.73

Wear-Resistant Natural Gum Foam

• Color: Black • Temperature Range: -20° to 160° F • Open cell (absorbent) • For use outdoors

Because this natural rubber foam readily bounces back to shape after compression, it's a good choice for repetitive sealing applications, such as on doors.

Sheets—Crisscross Texture

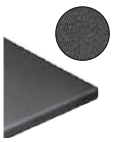

- Pressure to Compress 25%: 4 psi (ultra soft), 8 psi (extra soft), 13 psi (medium)
- Density: Ultra soft is 22 lbs./cu. ft., extra soft is 26 lbs./cu. ft., medium is 30 lbs./cu. ft.

Foam meets MIL-C-3133 and MIL-STD-670. Material has a skin on the top and bottom. Width tolerance is +3″.

To Order: Please specify length and hardness: ultra soft, extra soft, medium.

Thick.	Thick. Tolerance	36″ Wide Per Ft.		Thick.	Thick. Tolerance	36″ Wide Per Ft.	
1/8″	±0.015″	8601K41	$4.67	3/8″	±0.040″	8601K45	$12.34
3/16″	±0.030″	8601K42	6.87	1/2″	±0.040″	8601K46	16.80
1/4″	±0.030″	8601K43	9.07	3/4″	±0.060″	8601K48	23.28
5/16″	±0.030″	8601K44	11.65	1″	±0.060″	8601K49	29.68

(Material continued on following page)

Wear-Resistant Foam

For information about foam and foam hardness ratings, see page 3612.

Wear-Resistant Natural Gum Foam *(Continued from previous page)*

• Color: Black • Temperature Range: -20° to 160° F • Open cell (absorbent) • For use outdoors

Because this natural rubber foam readily bounces back to shape after compression, it's a good choice for repetitive sealing applications, such as on doors.

Adhesive-Back Strips—Crisscross Texture

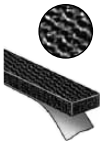

• Pressure to Compress 25%: 7 psi (extra soft) • Density: 26 lbs./cu. ft.

Material does not have a skin. Adhesive is acrylic and has a temperature range of -20° to 160° F. Width tolerance is ±0.03″ for 1/4″ to 1 1/2″ widths and ±0.09″ for 2″ to 6″ widths. Length tolerance is ±3″.

Width		10 ft.	50 ft.
1/16″ Thick. (±0.015″)			
1/4″	93625K112	___	$7.45
3/8″	93625K43	___	8.06
1/2″	93625K44	___	10.18
5/8″	93625K45	___	11.70
3/4″	93625K46	___	15.07
1″	93625K47	___	18.75
1 1/2″	93625K148	$7.16	25.50
2″	93625K149	9.28	32.30
2 1/2″	93625K161	9.57	39.87
3″	93625K129	13.44	53.50
4″	93625K182	17.64	71.27
6″	93625K192	26.02	106.92
1/8″ Thick. (±0.015″)			
1/4″	93625K115	___	7.72
3/8″	93625K53	___	9.00
1/2″	93625K54	___	10.88
5/8″	93625K55	___	13.19
3/4″	93625K56	___	15.77
1″	93625K57	___	19.63
1 1/2″	93625K158	7.35	25.19
2″	93625K159	9.53	33.87
2 1/2″	93625K162	10.40	43.32
3″	93625K133	14.54	71.59
4″	93625K183	18.22	89.23
6″	93625K193	26.93	127.00
5/32″ Thick. (±0.015″)			
3/8″	93625K21	___	10.23
1/2″	93625K11	___	12.50
5/8″	93625K22	___	15.11
3/4″	93625K12	___	16.98

Width		10 ft.	50 ft.
5/32″ Thick. (Cont.)			
1″	93625K13	___	$20.96
1 1/2″	93625K131	$7.56	27.55
2″	93625K132	9.98	36.60
2 1/2″	93625K163	11.12	46.35
3″	93625K134	14.93	72.38
4″	93625K184	19.33	79.54
6″	93625K194	27.58	114.20
1/4″ Thick. (±0.030″)			
1/4″	93625K123	___	11.73
3/8″	93625K61	___	13.74
1/2″	93625K62	___	16.69
5/8″	93625K63	___	20.02
3/4″	93625K64	___	22.79
1″	93625K65	___	28.87
1 1/2″	93625K166	9.56	39.10
2″	93625K167	12.47	52.26
2 1/2″	93625K164	15.29	63.71
3″	93625K135	18.31	82.14
4″	93625K185	24.12	109.59
6″	93625K195	35.72	164.34
5/16″ Thick. (±0.030″)			
3/8″	93625K23	___	16.05
1/2″	93625K14	___	19.63
5/8″	93625K24	___	23.06
3/4″	93625K15	___	26.27
1″	93625K16	___	33.18
1 1/2″	93625K141	10.73	45.43
2″	93625K142	14.32	60.49
2 1/2″	93625K165	16.83	70.14
3″	93625K136	21.44	94.61

Width		10 ft.	50 ft.
3/8″ Thick. (±0.040″)			
3/8″	93625K71	___	$17.84
1/2″	93625K72	___	22.30
5/8″	93625K73	___	26.93
3/4″	93625K74	___	31.00
1″	93625K75	___	39.77
1 1/2″	93625K176	$12.40	54.68
2″	93625K177	16.53	73.72
2 1/2″	93625K171	21.12	88.01
3″	93625K137	24.78	113.40
4″	93625K187	33.01	144.70
6″	93625K197	49.52	226.81
7/16″ Thick. (±0.040″)			
3/8″	93625K25	___	20.77
1/2″	93625K17	___	25.05
5/8″	93625K26	___	30.79
3/4″	93625K18	___	35.80
1″	93625K19	___	45.90
1 1/2″	93625K151	13.07	62.16
2″	93625K152	17.43	83.40
3″	93625K138	27.34	130.81
1/2″ Thick. (±0.040″)			
3/8″	93625K27	___	24.54
1/2″	93625K28	___	30.46
5/8″	93625K39	___	35.74
3/4″	93625K68	___	43.55
1″	93625K69	___	57.06
1 1/2″	93625K178	15.62	70.04
2″	93625K179	20.75	94.08
3″	93625K181	31.13	151.58
4″	93625K189	41.49	205.73
6″	93625K191	55.99	257.60

Wear-Resistant Quick-Recovery Polyurethane Foam

• Color: Black • Temperature Range: -40° to 190° F • Open cell (absorbent) • For use outdoors

Even after extended compression, these high-performance polyurethane foam sheets and strips bounce back to shape faster than any other foam we offer. Use them to seal out dust and particles.

Sheets and Strips—Ultra-Smooth Texture



• Pressure to Compress 25%: 3 psi (ultra soft), 6 psi (extra soft), 11 psi (soft), 18 psi (medium), 45 psi (hard)

• Density: Ultra soft, extra soft, and soft are 15 lbs./cu. ft., medium is 20 lbs./cu. ft., and hard is 30 lbs./cu. ft.

Foam, but not adhesive, meets UL 94HBF. Material has a skin on the top and bottom. Adhesive is acrylic and has a temperature range of -40° to 190° F. Sheets have width and length tolerances of ±1″. Strips have a width tolerance of ±1/16″ and a length tolerance of ±1 ft.

Thick.	Thick. Tolerance	*Plain-Back Sheets* 12″×12″		24″×24″		36″×54″		*Adhesive-Back Sheets* 12″×12″		24″×24″		36″×54″	
Ultra Soft													
3/16″	±0.019″	86375K111	$8.98	86375K211	$30.71	86375K31	$81.81	86375K141	$11.98	86375K241	$36.18	86375K35	$94.46
1/4″	±0.025″	86375K112	12.47	86375K212	38.44	86375K32	110.03	86375K142	15.76	86375K242	47.50	86375K36	122.24
3/8″	±0.038″	86375K113	17.74	86375K213	54.75	86375K33	146.71	86375K143	19.95	86375K243	63.70	86375K37	163.26
1/2″	±0.050″	86375K114	18.98	86375K214	60.40	86375K34	162.68	86375K144	28.29	86375K244	66.45	86375K38	176.81
Extra Soft													
3/16″	±0.019″	86375K121	8.92	86375K221	29.66	86375K11	80.83	86375K151	9.82	86375K251	31.74	86375K21	88.42
1/4″	±0.025″	86375K122	10.17	86375K222	34.99	86375K13	91.28	86375K152	10.43	86375K252	35.26	86375K23	102.53
3/8″	±0.038″	86375K123	13.74	86375K223	43.73	86375K15	110.60	86375K153	15.62	86375K253	44.07	86375K25	126.25
1/2″	±0.050″	86375K124	15.49	86375K224	48.09	86375K17	127.74	86375K154	19.46	86375K254	52.84	86375K27	141.25
Soft													
1/4″	±0.025″	86375K134	10.83	86375K234	37.26	86375K64	98.42	86375K164	12.58	86375K264	39.30	86375K68	111.78
Medium													
1/16″	±0.006″	86375K132	6.84	86375K232	22.34	86375K62	60.96	86375K162	7.76	86375K262	29.05	86375K66	77.14
1/8″	±0.013″	86375K133	8.38	86375K233	29.12	86375K63	79.30	86375K163	9.91	86375K263	35.39	86375K67	93.66
Hard													
1/32″	±0.006″	86375K131	5.71	86375K231	19.00	86375K61	51.01	86375K161	8.89	86375K261	25.09	86375K65	64.11

Thick.	Thick. Tolerance	Length	*Adhesive-Back Strips* 1/2″ Wide		3/4″ Wide		1″ Wide		2″ Wide	
Extra Soft										
1/8″	±0.013″	39 ft.	93275K12	$17.66	93275K14	$24.32	93275K16	$30.96	93275K18	$53.03
3/16″	±0.019″	48 ft.	93275K22	23.39	93275K24	32.78	93275K26	42.28	93275K28	72.94
1/4″	±0.025″	39 ft.	93275K32	21.62	93275K34	30.12	93275K36	38.69	93275K38	68.12
3/8″	±0.038″	29 ft.	93275K42	17.70	93275K44	28.76	93275K46	35.52	93275K48	63.23
1/2″	±0.050″	19 ft.	93275K52	17.66	93275K54	23.67	93275K56	29.92	93275K58	53.07

For information about foam and foam hardness ratings, see page 3612.

High-Temperature Resilient Silicone Foam

• Color: See below • Temperature Range: –60° to +390°F, unless noted • For use outdoors

These sheets and strips will bounce back to shape, even after extended compression. Made of silicone foam, also known as polysiloxane, they'll maintain their flexibility across a wide range of temperatures.

Adhesive-Back Strips—Crisscross Texture

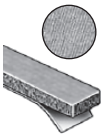

• Color: Gray
• Pressure to Compress 25%: 4 psi (ultra soft)
• Open cell (absorbent)
• Density: 12 lbs./cu. ft.

Foam, but not adhesive, meets UL 94V0. Material has a skin on the top and bottom. Adhesive is acrylic and has a temperature range of -20° to 325°F. Width tolerance is ±1/16". Length tolerance is ±18", except length tolerance for 1/8" thick strips is ±36".

Thick.	Thick. Tolerance	Length	½" Wide		¾" Wide		1" Wide		2" Wide	
1/16"	±0.016"	30 ft.	93415K31	$44.05	93415K33	$60.81	93415K35	$81.48	93415K37	$138.89
1/8"	±0.031"	30 ft.	93415K41	51.86	93415K43	79.22	93415K45	101.24	93415K47	181.21
3/16"	±0.031"	15 ft.	93415K51	38.01	93415K53	54.54	93415K55	69.41	93415K57	123.33
1/4"	±0.047"	15 ft.	93415K61	41.73	93415K63	61.01	93415K65	77.89	93415K67	135.10

Low-Absorbent Sheets and Strips—Ultra-Smooth Texture



• Color: Gray
• Temperature Range: -65° to 400°F
• Closed cell (restricts absorption)
• Pressure to Compress 25%: 7 psi (extra soft), 10 psi (soft), 16 psi (medium)
• Density: Extra soft is 18 lbs./cu. ft., soft is 24 lbs./cu. ft., medium is 29 lbs./cu. ft.

Soft foam, but not adhesive, meets AMS 3195. Medium foam, but not adhesive, meets AMS 3196. Material has a skin on the top and bottom. Adhesive is acrylic and has a temperature range of -30° to 220°F. Width and length tolerances are ±5/16" for 12"×12" sheets, ±11/16" for 24"×24" sheets, and ±1" for 36"×36" sheets and all strips.

To Order: For sheets, please specify extra soft, soft, or medium. Strips are available only in extra soft.

Hardness Selector Pack—Includes three 6"×6" sheets, one of each hardness rating: extra soft, soft, and medium. Thicknesses range from 1/8" to 1/2".

1059N845 **Per Pkg.** $29.00

Thick.	Thick. Tolerance	Plain-Back Sheets 12"×12"		Plain-Back Sheets 24"×24"		Plain-Back Sheets 36"×36"		Adhesive-Back Sheets 12"×12"		Adhesive-Back Sheets 24"×24"		Adhesive-Back Sheets 36"×36"	
1/8"	±0.020"	1059N358	$22.25	1059N348	$75.10	1059N338	$139.08	1059N368	$27.97	1059N378	$94.39	1059N388	$174.79
3/16"	±0.020"	1059N359	28.75	1059N349	97.04	1059N339	179.70	1059N369	34.47	1059N379	116.33	1059N389	215.42
1/4"	±0.020"	1059N361	33.42	1059N351	112.78	1059N341	208.86	1059N371	39.13	1059N381	132.07	1059N391	244.57
3/8"	±0.031"	1059N362	43.60	1059N352	147.17	1059N342	272.53	1059N372	48.50	1059N382	163.69	1059N392	303.13
1/2"	±0.059"	1059N363	57.88	1059N353	195.36	1059N343	361.77	1059N374	63.59	1059N383	214.63	1059N393	397.46

Thick.	Thick. Tolerance	Plain-Back Strips ½"×36"		1"×36"		2"×36"		4"×36"		6"×36"	
1/8"	±0.020"	1158K71	$8.87	1158K75	$11.20	1158K79	$15.03	1158K84	$23.22	1158K88	$28.81
1/4"	±0.020"	1158K72	10.58	1158K76	14.63	1158K81	21.51	1158K85	34.08	1158K89	43.88
3/8"	±0.031"	1158K73	12.07	1158K77	17.58	1158K82	27.11	1158K86	42.32	1158K91	55.48
1/2"	±0.059"	1158K74	14.76	1158K78	21.75	1158K83	36.36	1158K87	57.61	1158K92	80.17

Absorbent Sheets—Ultra-Smooth Texture



• Color: White • Open cell (absorbent) • Pressure to Compress 25%: 3 psi (ultra soft) • Density: 12 lbs./cu. ft.

Foam, but not adhesive, meets UL 94HF1 and UL 94V0, except 1/16" and 3/32" thick foam, which only meet UL 94HF1. Material has a skin on the top and bottom. Adhesive is acrylic and has a temperature range of -25° to 300°F. Width and length tolerances are ±1/8" for 6"×6" and 12"×12" sheets and +1", -1/4" for 24"×24" and 36"×36" sheets. Cut-to-length sheets have a width tolerance of ±1/4". **To Order:** For cut-to-length sheets, please specify length: 1, 2, 3, 4, 5, 6, 7, or 10 ft.

Thick.	Thick. Tolerance	Plain-Back Sheets 6"×6"		12"×12"		24"×24"		Adhesive-Back Sheets 12"×12"		24"×24"		36"×36"	
1/16"	±0.016"	86235K62	$9.18	86235K312	$18.37	86235K342	$65.35	86235K311	$26.49	86235K341	$83.12	86235K361	$198.00
3/32"	±0.020"	86235K63	8.13	86235K323	21.16	86235K352	73.92	86235K322	30.50	86235K351	95.62	86235K381	219.57
1/8"	±0.025"	86235K65	9.17	86235K42	25.26	86235K531	86.55	86235K132	33.50	86235K532	103.95	86235K932	241.36
3/16"	±0.030"	86235K66	10.70	86235K43	31.99	86235K541	97.26	86235K142	39.14	86235K542	118.19	86235K942	281.75
1/4"	±0.040"	86235K67	13.41	86235K44	36.03	86235K551	120.84	86235K152	42.24	86235K552	160.48	86235K952	304.11
3/8"	±0.060"	86235K68	14.67	86235K45	45.75	86235K561	158.87	86235K162	50.08	86235K562	182.16	86235K962	378.56
1/2"	±0.050"	86235K69	17.32	86235K46	57.77	86235K571	196.40	86235K172	59.47	86235K572	191.00	86235K212	441.52
3/4"	±0.090"	86235K71	32.01	86235K47	106.88	86235K581	367.92	86235K182	120.93	86235K582	393.71	86235K982	776.71
1"	±0.090"	86235K72	44.79	86235K48	148.93	86235K591	466.57	86235K192	155.65	86235K592	488.25	86235K992	1,018.68

Plain-Back Cut-to-Length Sheets

Thick.	Thick. Tolerance	36" Wide	Per Ft.	Thick.	Thick. Tolerance	36" Wide	Per Ft.
1/16"	±0.016"	86235K74	$37.05	1/4"	±0.040"	86235K77	$71.57
1/8"	±0.025"	86235K75	49.74	3/8"	±0.060"	86235K78	93.12
3/16"	±0.030"	86235K76	57.48	1/2"	±0.050"	86235K79	122.58

Sheets with Aluminized Face—Ultra-Smooth Texture



• Color: White • Open cell (absorbent) • Pressure to Compress 25%: 3 psi (ultra soft) • Density: 12 lbs./cu. ft.

A 0.004" thick piece of aluminized fiberglass on this silicone foam reflects radiant heat to protect sensitive equipment. These sheets have a skin on the top and bottom. Adhesive is acrylic and has a temperature range of -25° to 300°F. Width and length tolerances are ±1/8" for 12"×12" sheets and +1", -1/4" for 24"×24" and 36"×36" sheets. Cut-to-length sheets have a width tolerance of +1", -1/4".

Thick.	Thick. Tolerance	Plain-Back Sheets 12"×12" Each		24"×24" Each		Plain-Back Cut-to-Length Sheets 36" Wide Per Ft.		Adhesive-Back Sheets 12"×12" Each		24"×24" Each		36"×36" Each	
0.1"	±0.02"	86105K72	$32.76	86105K82	$120.84			86105K71	$40.45	86105K81	$128.65	86105K91	$289.17
0.2"	±0.04"	86105K12	51.21	86105K14	177.92	86105K46	$89.86	86105K13	55.03	86105K15	196.79	86105K17	388.10

High-Temperature Foam

For information about foam and foam hardness ratings, see page 3612.

High-Temperature Silicone Foam

• Color: See below • Temperature Range: See below • Closed cell (restricts absorption) • For use outdoors

Made of silicone, also called polysiloxane, these foam sheets and strips maintain their flexibility across a wide range of temperatures.

Adhesive-Back Strips—Ultra-Smooth Texture



• Color: Orange
• Temperature Range: –100° to 400°F
• Pressure to Compress 25%: 10 psi (soft)
• Density: 39 lbs./cu. ft.

Foam, but not adhesive, meets ASTM D1056 2D3. Material has a skin. Adhesive is acrylic and has a temperature range of -20° to 180°F. Width tolerance is ±0.15″. Length tolerance is ±3″ for 3-ft. lengths and ±6″ for 15-ft. lengths.

Thick.	Thick. Tolerance	Length	1/4″ Wide		3/8″ Wide		1/2″ Wide		3/4″ Wide		1″ Wide		2″ Wide	
1/16″	±0.024″	15 ft.	5109K11	$10.91	5109K12	$15.02	5109K13	$18.95	5109K14	$24.39	5109K15	$28.70	5109K16	$48.64
3/32″	±0.024″	15 ft.	5109K21	12.43	5109K22	16.94	5109K23	21.61	5109K24	28.20	5109K25	32.08	5109K26	55.50
1/8″	±0.032″	15 ft.	5109K31	13.97	5109K32	19.15	5109K33	24.35	5109K34	31.76	5109K35	35.89	5109K36	62.39
3/16″	±0.032″	15 ft.	5109K41	16.26	5109K42	22.27	5109K43	28.32	5109K44	35.97	5109K45	41.71	5109K46	72.57
1/4″	±0.035″	3 ft.	5109K51	4.61	5109K52	6.32	5109K53	8.02	5109K54	10.46	5109K55	12.17	5109K56	21.10

Adhesive-Back Strips—Crisscross Texture

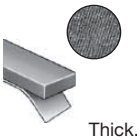

• Color: Orange
• Temperature Range: –100° to 500°F
• Pressure to Compress 25%: 10 psi (soft)
• Density: 29 lbs./cu. ft.

Material has a skin on the top and bottom. Adhesive is silicone and has a temperature range of -100° to 500°F. Width tolerance is ±0.15″. Length tolerance is +6″.

Thick.	Thick. Tolerance	Length	1/4″ Wide		3/8″ Wide		1/2″ Wide		3/4″ Wide		1″ Wide		2″ Wide	
1/16″	±0.016″	30 ft.	8645K15	$21.56	8645K16	$28.37	8645K11	$37.45	8645K12	$56.21	8645K13	$65.48	8645K14	$113.48
3/32″	±0.016″	30 ft.	8645K25	29.24	8645K26	40.59	8645K21	49.46	8645K22	64.21	8645K23	76.64	8645K24	129.48
1/8″	±0.031″	30 ft.	8645K35	31.95	8645K36	42.28	8645K31	52.71	8645K32	70.07	8645K33	81.56	8645K34	145.49
3/16″	±0.031″	15 ft.	8645K45	24.36	8645K46	32.34	8645K41	40.23	8645K42	51.92	8645K43	63.93	8645K44	100.54
1/4″	±0.047″	15 ft.	8645K57	16.67	8645K58	24.25	8645K59	30.31	8645K61	45.47	8645K62	55.58	8645K63	101.05

Sheets—Smooth and Crisscross Texture



Smooth



Crisscross

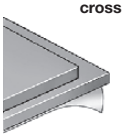

• Color: Red
• Temperature Range: –85° to 400°F
• Pressure to Compress 25%: 3 psi (ultra soft), 7 psi (extra soft), 12 psi (soft), 18 psi (medium)
• Density: Smooth texture: ultra soft is 12 lbs./cu. ft., extra soft is 20 lbs./cu. ft.;
Crisscross texture: extra soft is 32 lbs./cu. ft., soft is 35 lbs./cu. ft., medium is 45 lbs./cu. ft.

Foam, but not adhesive, meets ASTM D1056 2D0, 2D1, and 2D2 for smooth texture and ASTM D1056 2D2, 2D3, and 2D4 for crisscross texture. Adhesive is acrylic and has a temperature range of –40° to 250°F. Width and length tolerances are ±1% for sheets with a smooth texture and ±1″ for sheets with crisscross texture. Sheets with crisscross texture have a skin on the top and bottom.

To Order: For smooth texture sheets, please specify ultra soft or extra soft. For crisscross texture sheets, please specify extra soft (except 1/16″ thick), soft, or medium.

Thick.	Thick. Tolerance	*Plain-Back Sheets* 12″×12″		24″×24″		36″×36″		*Adhesive-Back Sheets* 12″×12″		24″×24″		36″×36″	
Smooth Texture—Without Skin													
1/8″	+0.032″, -0.032″	8785K82	$21.19	8785K88	$50.22	8785K95	$124.04	8785K16	$22.84	8785K23	$71.71	8785K29	$120.65
3/16″	+0.032″, -0.032″	8785K83	29.08	8785K89	66.57	8785K96	156.28	8785K17	29.32	8785K24	92.21	8785K31	159.07
1/4″	+0.046″, -0.032″	8785K84	32.77	8785K91	110.55	8785K97	193.33	8785K18	36.41	8785K25	116.60	8785K32	200.18
3/8″	+0.046″, -0.046″	8785K85	41.78	8785K92	137.68	8785K98	249.56	8785K19	44.55	8785K26	145.87	8785K33	259.46
1/2″	+0.046″, -0.046″	8785K86	61.24	8785K93	188.77	8785K99	331.18	8785K21	63.32	8785K27	202.03	8785K34	345.06
Crisscross Texture—With Skin													
1/16″	+0.032″, -0.032″	8608K51	10.27	8608K61	34.24	8608K71	57.06	8608K521	14.62	8608K531	47.10	8608K541	81.21
1/8″	+0.032″, -0.032″	8608K52	13.83	8608K62	45.83	8608K72	76.83	8608K522	17.95	8608K532	56.83	8608K542	99.74
3/16″	+0.032″, -0.032″	8608K53	19.23	8608K63	60.81	8608K73	101.35	8608K523	23.70	8608K533	71.48	8608K543	128.68
1/4″	+0.046″, -0.046″	8608K54	23.05	8608K64	75.63	8608K74	126.05	8608K524	28.30	8608K534	84.54	8608K544	152.22
3/8″	+0.046″, -0.046″	8608K56	28.47	8608K66	94.97	8608K76	164.20	8608K525	33.64	8608K535	103.32	8608K545	187.85
1/2″	+0.046″, -0.046″	8608K57	39.94	8608K67	126.54	8608K77	226.82	8608K526	45.53	8608K536	142.50	8608K546	248.78

Rods—Ultra-Smooth Texture



• Color: Red or white
• Temperature Range: -85° to 400°F
• Pressure to Compress 25%: 12 psi (soft)
• Density: 35 lbs./cu. ft.

Material has a skin. Use an RTV silicone (see 7587A on page 3472 and 7545A on page 3473) to bond to most surfaces. Length tolerance is ±4″ for 10-ft. lengths and ±36″ for 100-ft. lengths. **To Order:** Please specify red or white.

Dia.	Dia. Tolerance	10-ft. Length		100-ft. Length	
1/8″	+0.032″, -0.016″	93345K32	$9.79	93345K41	$81.40
1/4″	+0.040″, -0.040″	93345K34	12.68	93345K43	104.97
3/8″	+0.040″, -0.040″	93345K36	16.69	93345K45	140.33
1/2″	+0.080″, -0.080″	93345K38	20.47	93345K47	164.00
5/8″	+0.080″, -0.080″	93345K51	$23.71	93345K81	$206.00
3/4″	+0.080″, -0.080″	93345K53	36.44	93345K83	240.38
1″	+0.160″, -0.160″	93345K55	41.28	93345K85	337.50
2″	+0.188″, -0.188″	93345K11	127.46	93345K21	1,061.29

Fabric-Reinforced High-Temperature Silicone Foam

• Color: Gray • Temperature Range: -100° to 500°F • Closed cell (restricts absorption) • For use outdoors

Fiberglass fabric inside of this foam provides strength to handle high-stress applications, such as gaskets. Silicone, also known as polysiloxane, will maintain its flexibility across a wide range of temperatures.

Adhesive-Back Strips—Crisscross Texture

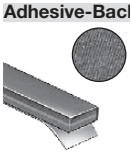

• Pressure to Compress 25%: 12 psi (soft)
• Density: 35 lbs./cu. ft.

Material has a skin on the top and bottom. Adhesive is acrylic and has a temperature range of -20° to 325°F. Width tolerance is ±1/16″. Length tolerance is +6″.

Thick.	Thick. Tolerance	Length	1/2″ Wide		3/4″ Wide		1″ Wide		2″ Wide	
1/16″	±0.016″	30 ft.	93325K31	$48.28	93325K32	$70.24	93325K33	$86.62	93325K34	$149.52
1/8″	±0.031″	30 ft.	93325K41	62.28	93325K42	88.11	93325K43	108.45	93325K44	197.15
3/16″	±0.031″	15 ft.	93325K51	42.94	93325K52	66.56	93325K53	80.96	93325K54	146.70

High-Temperature Food-Grade Silicone Foam

• Color: Gray • Temperature Range: –65° to 390° F • Open cell (absorbent) • For use outdoors

These silicone foam sheets are made from FDA-listed materials for use with food. Silicone, also called polysiloxane, maintains its flexibility across a wide range of temperatures.

Sheets—Ultra-Smooth Texture

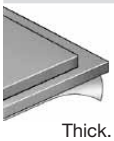

• Pressure to Compress 25%: 10 psi (soft) • Density: 22 lbs./cu. ft.

Foam meets AMS 3195. Material has a skin on the top and bottom. Adhesive is acrylic and has a temperature range of -25° to 300° F. Width and length tolerances are ±1/8″ for 12″×12″ sheets, ±7/32″ for 24″×24″ sheets, and ±1/4″ for 36″×36″ sheets.

Thick.	Thick. Tolerance	Plain Back 12″×12″		Plain Back 24″×24″		Plain Back 36″×36″		Adhesive Back 12″×12″		Adhesive Back 24″×24″		Adhesive Back 36″×36″	
1/16″	±0.020″	87485K211	$14.84	87485K221	$42.73	87485K231	$89.22	5025T171	$24.67	5025T181	$78.96	5025T191	$152.13
1/8″	±0.025″	87485K212	20.51	87485K222	65.40	87485K232	131.46	5025T172	30.22	5025T182	100.21	5025T192	187.68
3/16″	±0.025″	87485K213	26.22	87485K223	88.22	87485K233	165.77	5025T173	35.80	5025T183	121.60	5025T193	228.93
1/4″	±0.030″	87485K214	32.11	87485K224	111.78	87485K234	203.80	5025T174	41.57	5025T184	143.69	5025T194	262.16
3/8″	±0.045″	87485K215	43.73	87485K225	138.45	87485K235	267.27	5025T175	50.41	5025T185	167.88	5025T195	327.02
1/2″	±0.050″	87485K216	52.98	87485K226	183.02	87485K236	353.84	5025T176	67.26	5025T186	228.63	5025T196	447.21

High-Temperature Fire-Retardant Silicone Foam

• Color: Gray • Temperature Range: –85° to 400° F • Closed cell (restricts absorption) • For use outdoors

Prevent the spread of flames with these self-extinguishing silicone foam sheets. Silicone, also called polysiloxane, maintains its flexibility across a wide range of temperatures.

Sheets—Smooth Texture



• Pressure to Compress 25%: 3 psi (ultra soft) • Density: 12 lbs./cu. ft.

Foam, but not adhesive, meets UL 945VA; it also meets UL 94V0, except 1/4″ thick sheets meet UL 94V1 instead. Adhesive is acrylic and has a temperature range of -50° to 275° F. Width and length tolerances are ±1%.

Thick.	Thick. Tolerance	Plain Back 6″×6″		Plain Back 12″×12″		Plain Back 24″×24″		Plain Back 36″×36″		Adhesive Back 12″×12″		Adhesive Back 24″×24″	
1/4″	★	85925K303	$13.46	85925K113	$29.91	85925K321	$106.83	85925K343	$213.65	85925K403	$39.53	85925K423	$121.05
3/8″	±0.046″	85925K305	21.54	85925K115	39.06	85925K322	139.49	85925K345	278.97	85925K405	48.60	85925K425	152.50
1/2″	±0.046″	85925K306	25.75	85925K116	55.28	85925K323	171.90	85925K346	343.80	85925K407	59.30	85925K427	190.24
5/8″	±0.062″	85925K307	31.70	85925K117	57.05	85925K324	203.75	85925K347	407.50	85925K408	66.89	85925K428	215.91
3/4″	±0.093″	85925K308	35.77	85925K118	64.29	85925K325	229.59	85925K348	459.18	85925K409	73.27	85925K429	239.13
1″	±0.125″	85925K311	44.52	85925K211	82.56	85925K331	294.86	85925K351	589.72	85925K411	95.08	85925K431	310.20
1 1/4″	±0.156″	85925K312	53.10	85925K212	98.59	85925K332	352.12	85925K352	704.23	85925K412	112.42	85925K432	364.42
1 1/2″	±0.188″	85925K313	61.22	85925K213	110.73	85925K334	395.45	85925K353	790.91	85925K413	124.78	85925K433	408.18
2″	±0.188″	85925K314	78.78	85925K214	141.23	85925K335	504.38	85925K354	1,008.77	85925K414	158.57	85925K434	516.67

★ Thick. tolerance is +0.046″, -0.032″.

Strips—Smooth Texture



• Pressure to Compress 25%: 10 psi (soft) • Density: 39 lbs./cu. ft.

Foam, but not adhesive, meets UL 94HB. Adhesive is acrylic with a temperature range of -40° to 350° F. Width tolerance is ±1/16″ and length tolerance is ±6″.

Thick.	Thick. Tolerance	Plain Back 1/2″×10 ft.		Plain Back 1″×10 ft.		Plain Back 2″×10 ft.		Adhesive Back 1/2″×10 ft.		Adhesive Back 1″×10 ft.		Adhesive Back 2″×10 ft.	
1/32″	±0.016″	85925K304	$22.19	85925K309	$31.20	85925K315	$51.10	85925K119	$23.35	85925K205	$32.85	85925K206	$53.78
1/16″	±0.016″	85925K242	22.85	85925K244	32.35	85925K249	53.25	85925K102	24.06	85925K104	34.06	85925K109	56.07
3/32″	±0.020″	85925K316	22.52	85925K317	31.78	85925K318	52.30	85925K207	23.71	85925K208	33.44	85925K209	55.05
1/8″	±0.031″	85925K255	26.63	85925K301	38.31	85925K302	63.33	85925K111	28.02	85925K112	40.31	85925K114	66.67
3/16″	±0.031″	85925K319	28.31	85925K326	41.43	85925K327	68.62	85925K215	29.81	85925K216	43.61	85925K217	72.22
1/4″	±0.040″	85925K337	34.81	85925K338	52.20	85925K339	86.60	85925K224	36.65	85925K229	54.96	85925K235	91.17
3/8″	±0.050″	85925K328	48.46	85925K329	74.91	85925K336	125.23	85925K218	51.00	85925K219	78.85	85925K222	131.82
1/2″	±0.060″	85925K341	54.60	85925K342	85.13	85925K355	142.27	85925K236	57.48	85925K237	89.61	85925K238	149.75

Fabric-Faced Wear-Resistant Natural Gum Foam

- Color: Black
- Temperature Range: –20° to 160° F
- Open cell (absorbent)
- For use outdoors

The original mouse pad material. These natural rubber foam sheets have a crisscross-textured skin on one side for a nonslip gripping surface with a layer of polyester fabric on the other side that allows objects to smoothly slide across it.

Sheet—Crisscross Texture

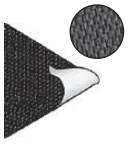

• Pressure to Compress 25%: 8 psi (extra soft)
• Density: 26 lbs./cu. ft.

Width tolerance is +3″.

Thick.	Thick. Tolerance	54″ Wide	Per Ft.
1/8″	±0.015″	1805T32	$13.33

Fabric-Covered Wear-Resistant Neoprene Foam

- Color: Black
- Temperature Range: 15° to 150° F
- Closed cell (restricts absorption)
- For use outdoors

Just like the material found in wetsuits, these neoprene foam sheets are encased in nylon fabric for additional protection from wear caused by rubbing and abrasion.

Sheets—Smooth Texture



• Pressure to Compress 25%: Not Rated
• Density: 11 lbs./cu. ft.

Width tolerance is -2 1/2″ to +5 1/8″. Length tolerance is ±4 1/4″ for 83″ long sheets and ±6 1/2″ for 130″ long sheets.

Thick.	Thick. Tolerance	51″ Wd. × 83″ Lg.		51″ Wd. × 130″ Lg.	
0.060″	±0.010″	1580T2	$82.15	1580T5	$92.37
0.120″	±0.010″	1580T3	83.73	1580T6	97.00
0.260″	±0.020″	1580T4	142.55	1580T7	160.62

Chemical-Resistant & Oil-Resistant Foam

For information about foam and foam hardness ratings, see page 3612.

Ultra-Chemical-Resistant Viton® Fluoroelastomer Foam

• Color: Black • Temperature Range: -10° to 400°F • Closed cell (restricts absorption) • For use outdoors

Offering excellent resistance to corrosive environments, these sheets stand up to a wide range of chemicals, fuels, and oils at high temperatures. Viton® fluoroelastomer is also known as FKM.

Sheets—Ultra-Smooth Texture



• Pressure to Compress 25%: Not Rated • Density: Not Rated

Sheets have a skin on top and bottom. Width and length tolerances are ±0.250″, except 6″×6″ sheets have width and length tolerances of ±0.156″.

Thick.	Thick. Tolerance	6″×6″		12″×12″		12″×24″	
1/8″	±0.050″	3156T33	$47.36	3156T13	$157.87	3156T23	$263.11
1/4″	±0.060″	3156T34	73.06	3156T14	243.53	3156T24	405.89
3/8″	±0.080″	3156T35	104.78	3156T15	349.27	3156T25	582.11
1/2″	±0.125″	3156T36	139.81	3156T16	466.03	3156T26	776.72

Oil-Resistant Buna-N Foam

• Color: Black
• Temperature Range: -40° to 200°F
• Closed cell (restricts absorption)
• For use outdoors

These Buna-N foam sheets resist fuel, oil, and solvents. Buna-N is also known as nitrile, NBR, and acrylonitrile butadiene.

Sheets—Smooth Texture



• Pressure to Compress 25%: 4 psi (ultra soft) • Density: 14 lbs./cu. ft.

All meet ASTM D1056 2B1. Material does not have a skin. Width tolerance is ±1.250″, and length tolerance is ±2″.

Thick.	Thick. Tolerance	40″×68″	
1/16″	±0.030″	1887T32	$54.93
1/8″	±0.030″	1887T34	89.27
1/4″	±0.030″	1887T36	166.74
3/8″	±0.045″	1887T38	220.76
1/2″	±0.045″	1887T42	$273.40
5/8″	±0.060″	1887T44	328.65
3/4″	±0.060″	1887T46	371.93
1″	±0.090″	1887T48	478.38

Oil-Resistant Fire-Retardant Blended Buna-N Foam

• Color: Black • Temperature Range: -40° to 200°F • Closed cell (restricts absorption) • For use outdoors

Buna-N is blended with neoprene and vinyl for an oil-resistant foam that will char when exposed to flames to prevent melting, dripping, and the possibility of spreading fire.

Adhesive-Back Strips—Coarse Texture



• Pressure to Compress 25%: 4 psi (ultra soft) • Density: 5 lbs./cu. ft.

Foam, but not adhesive, meets ASTM D1056 2C1 and UL 94HF1. Material does not have a skin. Adhesive is acrylic and has a temperature range of -40° to 200°F. Width tolerance is ±0.063″. Length tolerance is ±18″.

Thick.	Thick. Tolerance	Lg., ft.	3/8″ Wide		1/2″ Wide		3/4″ Wide		1″ Wide		2″ Wide	
1/8″	±0.032″	50	93695K22	$5.72	93695K24	$7.52	93695K26	$9.79	93695K28	$13.17	93695K29	$24.76
3/16″	±0.032″	50	93695K42	6.46	93695K44	8.40	93695K46	10.61	93695K48	14.57	93695K49	28.72
1/4″	±0.032″	50	93695K52	6.87	93695K54	9.20	93695K56	11.80	93695K58	16.15	93695K59	33.36

Cut-to-Length Sheets—Smooth Texture



• Pressure to Compress 25%: 4 psi (ultra soft); 7 psi (extra soft); 11 psi (soft) • Density: 5 lbs./cu. ft. (ultra soft); 7 lbs./cu. ft. (extra soft); 8 lbs./cu. ft. (soft)

All sheets meet UL 94HF1. Material does not have a skin. Width tolerance is +4″. **Ultra-soft** sheets meet ASTM D1056 2C1; **extra-soft** sheets meet ASTM D1056 2C2; and **soft** sheets meet ASTM D1056 2C3.

Thick.	Thick. Tolerance	54″ Wide: Ultra Soft	Per Ft.	Extra Soft	Per Ft.	Soft	Per Ft.
1/8″	±0.032″	85175K17	$7.01	85175K47	$7.65	85175K77	$9.08
3/16″	±0.032″	85175K23	9.10	85175K53	10.09	85175K83	13.23
1/4″	±0.032″	85175K24	11.69	85175K54	12.69	85175K84	15.38
3/8″	±0.040″	85175K27	14.78	85175K57	16.67	85175K87	22.48
1/2″	±0.040″	85175K29	18.78	85175K59	21.29	85175K89	25.64
3/4″	±0.063″	85175K35	26.76	85175K65	33.42	85175K95	39.11
1″	±0.063″	85175K39	34.23	85175K69	38.73	85175K99	48.18

Oil-Resistant High-Temperature ECH Foam

• Color: Black • Temperature Range: -20° to 300°F • Closed cell (restricts absorption) • For use outdoors

Equally resistant to oil as Buna-N foam, this ECH foam also stands up to hot environments.

Sheets—Smooth Texture



• Pressure to Compress 25%: 4 psi (ultra soft); 7 psi (extra soft); 11 psi (soft) • Density: 15 lbs./cu. ft. (extra soft and ultra soft); 18 lbs./cu. ft. (soft)

Material does not have a skin. Width and length tolerances are ±1.500″. **Ultra-soft** sheets meet ASTM D1056 2B1; **extra-soft** sheets meet ASTM D1056 2B2; and **soft** sheets meet ASTM D1056 2B3.

Thick.	Thick. Tolerance	37″×47″: Ultra Soft		Extra Soft		35″×45″: Soft	
1/16″	±0.032″	86125K311	$77.30	86125K611	$82.71	86125K811	$83.51
1/8″	±0.032″	86125K331	106.14	86125K631	112.72	86125K831	114.92
1/4″	±0.032″	86125K351	177.40	86125K651	190.94	86125K851	192.13
3/8″	±0.040″	86125K371	258.50	86125K671	276.61	86125K871	281.77
1/2″	±0.040″	86125K391	312.65	86125K691	320.68	86125K891	310.78

Oil-Resistant, High-Temperature & Super-Cushioning Foam

For information about foam and foam hardness ratings, see page 3612.

High-Strength Oil-Resistant Blended Buna-N Foam

- Color: Black, except soft strips are gray
- Temperature Range: See below
- Closed cell (restricts absorption)
- For use outdoors

A blend of Buna-N and vinyl gives these strips oil resistance with enhanced strength.

Adhesive-Back Strips—Coarse and Smooth Texture



- Temperature Range: –20° to 175° F
- Pressure to Compress 25%: 3 psi (ultra soft); 12 psi (soft)
- Density: 5 lbs./cu. ft. (ultra soft); 13 lbs./cu. ft. (soft)

Material does not have a skin. Adhesive is acrylic and has a temperature range of –20° to 175° F. Width tolerance is ±0.063″. Length tolerance is ±30″. **Ultra-soft** strips meet ASTM D1056 2C1. **Soft** strips meet ASTM D1056 2C3/2C4.



Thick.	Thick. Tolerance	Lg., ft.	½″ Wide		¾″ Wide		1″ Wide		2″ Wide	
			Ultra Soft—Coarse Texture							
1/8″	±0.032″	50	93745K21	$7.65	93745K23	$10.50	93745K25	$12.05	93745K27	$21.95
3/16″	±0.032″	50	93745K31	8.17	93745K33	11.82	93745K35	13.47	93745K37	25.58
1/4″	±0.032″	50	93745K41	9.58	93745K43	13.01	93745K45	16.03	93745K47	30.80
			Soft—Smooth Texture							
1/8″	±0.032″	50	93745K51	$10.76	93745K53	$15.19	93745K55	$19.52	93745K57	$36.13
3/16″	±0.032″	50	93745K61	12.78	93745K63	18.47	93745K65	24.12	93745K67	44.61
1/4″	±0.032″	50	93745K71	15.25	93745K73	21.86	93745K75	28.43	93745K77	52.60

Weather- and Chemical-Resistant Santoprene Foam

- Color: Black
- Temperature Range: –50° to 275° F
- Closed cell (restricts absorption)
- For use outdoors

With good resistance to water, sunlight, and oxidation, these Santoprene foam rods offer better chemical resistance than EPDM foam. Use them to seal and cushion narrow spaces, such as channels.

Rods—Ultra-Smooth Texture



- Pressure to Compress 25%: 4 psi (ultra soft)
- Density: 28 lbs./cu. ft.

Foam has a skin. **To Order:** Please specify length: 5, 10, 25, 50, or 100 ft.

Dia.	Dia. Tolerance		Per Ft.	Dia.	Dia. Tolerance		Per Ft.
1/8″	±0.016″	6322K11	$0.21	3/8″	±0.027″	6322K13	$0.77
1/4″	±0.020″	6322K12	.41	1/2″	±0.031″	6322K14	1.28

High-Temperature Lightweight Polyimide Foam

- Color: Yellow
- Temperature Range: –300° to 400° F
- Open cell (absorbent)

This polyimide foam is lighter in weight than silicone and remains soft and conformable across a broader temperature range.

Sheets—Coarse Texture

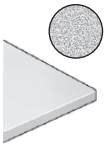

- Pressure to Compress 25%: 1.3 psi (ultra soft)
- Density: 0.4 lbs./cu. ft.

Foam meets ASTM E84 0/5 for flame and smoke. Material does not have a skin. Width and length tolerances are ±0.156″.

Thick.	Thick. Tolerance	24″ Wd. × 48″ Lg.		Thick.	Thick. Tolerance	24″ Wd. × 48″ Lg.	
1/4″	±0.090″	8723K41	$44.67	1″	±0.250″	8723K45	$123.71
1/2″	±0.120″	8723K43	78.17	2″	±0.250″	8723K47	209.97

High-Temperature Weather-Resistant Silicone Foam

- Color: Red
- Temperature Range: –100° to 500° F
- Closed cell (restricts absorption)
- For use outdoors

Even after exposure to sunlight, oxygen, rain, and snow, these silicone foam strips remain flexible. Silicone is also known as polysiloxane.

Adhesive-Back Strips—Ultra-Smooth Texture



- Pressure to Compress 25%: 9 psi (soft)
- Density: 39 lbs./cu. ft.

Foam, but not adhesive, meets ASTM D1056 2D3. Strips have an ultra-smooth texture with a skin on the top and the bottom. Adhesive is acrylic and has a temperature range of –20° to 180° F. Width tolerance is ±1/2″, except 1/4″ wide strips have a width tolerance of ±0.063″ and 1/2″ wide strips have a width tolerance of ±0.188″. Length tolerance is ±6″ for 10-ft. lengths and ±3″ for 3-ft. lengths.

Thick.	Thick. Tolerance	Lg., ft.		1/4″ Wide	1/2″ Wide	1″ Wide	1 1/2″ Wide	2″ Wide	2 1/2″ Wide	3″ Wide
1/16″	±0.035″	10	1279N2	$12.80	$20.00	$33.99	$48.00	$61.99	$77.50	$93.00
1/8″	±0.035″	10	1279N1	15.19	24.40	42.79	61.99	79.92	99.60	120.00
3/16″	±0.047″	10	1279N3	16.80	27.60	49.19	70.80	92.39	115.50	138.60
1/4″	±0.047″	10	1279N4	18.40	30.40	54.79	79.19	103.59	129.49	155.40
3/8″	±0.063″	10	1279N5	____	43.19	94.80	119.18	143.59	179.49	215.40
1/2″	±0.063″	3	1279N6	____	14.15	40.43	47.75	55.07	68.86	82.62

Super-Cushioning Polyester Foam Mesh



- Color: Black, white, or beige
- Temperature Range: –20° to 140° F
- Closed cell (restricts absorption)

There are hundreds of cushioning pillows in every foot of this pliable mesh. It's often used as a protective liner in drawers and cabinets and anywhere a nonskid surface is required. Sheets are washable and moisture and bacteria resistant. **To Order:** Please specify length in 5-ft. increments.

Thick.	Wd.	Black		White		Beige	
			Per Ft.		Per Ft.		Per Ft.
1/8″	24″	85695K1	$2.35	85695K3	$2.35	85695K5	$2.35
1/8″	36″	85695K2	3.54	85695K4	3.54	85695K6	3.55

Super-Cushioning Polyurethane Foam

- Color: Gray, unless otherwise stated
- Temperature Range: -20° to 180°F, unless otherwise stated
- Open cell (absorbent)

This foam provides gentle cushioning support better than other types of foam. It is commonly used for packing and insulating.

Sheets—Smooth and Coarse Texture

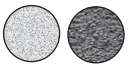

Smooth Coarse

- Color: Gray or white (plain back); gray (adhesive back)
- Pressure to Compress 25%: Gray is 1.1 psi (ultra soft); white is 0.6 psi (ultra soft)
- Density: 2 lbs./cu. ft. (gray); 2.8 lbs./cu. ft. (white)

Material does not have a skin. Sheets have width and length tolerances of ±0.500″; cut-to-length sheets have a width tolerance of ±0.500″. **Adhesive-back** sheets have an acrylic adhesive with a temperature range of -20° to 180°F.



To Order: For plain-back sheets, please specify color: gray or white.

		Plain Back—Smooth Texture								Adhesive Back—Coarse Texture			
		Sheets								Sheets		Cut-to-Length Sheets	
Thick.	Thick. Tolerance	12″×12″	Each	24″×24″	Each	24″×72″	Each	36″×36″	Each	48″×54″	Each	54″ Wide	Per Ft.
1/8″	±0.031″	—	—	—	—	—	—	—	—	8614K71	$31.44	8614K81	$9.45
1/4″	±0.031″	—	—	—	—	—	—	—	—	8614K72	36.78	8614K82	10.72
1/2″	±0.063″	8643K542	$6.66	8643K549	$16.51	8643K558	$43.45	8643K566	$35.06	8614K73	47.14	8614K83	15.09
3/4″	±0.063″	8643K543	9.33	8643K551	24.78	8643K559	66.32	8643K567	48.16	—	—	—	—
1″	±0.063″	8643K544	11.22	8643K552	31.65	8643K561	79.49	8643K568	63.01	8614K74	80.35	8614K84	22.41
1 1/2″	±0.063″	8643K545	13.81	8643K553	44.38	8643K562	116.03	8643K569	89.25	—	—	—	—
2″	±0.063″	8643K546	16.61	8643K554	60.95	8643K563	149.45	8643K571	114.96	—	—	—	—
3″	±0.063″	8643K547	23.08	8643K556	84.47	8643K564	202.39	8643K572	172.10	—	—	—	—
4″	±0.063″	8643K548	30.12	8643K557	112.46	8643K565	269.74	8643K573	225.95	—	—	—	—

Egg-Crate Sheets—Smooth Texture

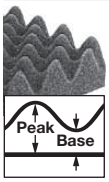

- Pressure to Compress 25%: 0.6 psi (ultra soft)
- Density: 1.5 lbs./cu. ft.

The contoured peaks gently cushion objects and damp vibration. This polyurethane foam is commonly used for packing and insulating. These sheets come nested together in a set of two. Material does not have a skin. Width and length tolerances are ±0.250″.

Peak Height	Base Height	18″×24″		24″×36″	
2″	1/2″	85365K43	$28.71	85365K47	$45.57
3″	1/2″	85365K51	35.13	85365K55	62.25

Cubed Sheets—Smooth Texture



- Pressure to Compress 25%: Not Rated
- Density: 1.6 lbs./cu. ft.

Also called plucking foam, these scored foam sheets allow you to pull out individual cubes for a custom-shaped cushion. Material does not have a skin. Thickness tolerance is ±0.125″. Cubes have width and depth tolerances of ±0.125″.

Thick.	Cube Wd.	Cube Dp.	No. of Cubes	12″×12″	
1″	5/8″	5/8″	361	3157T21	$6.77
				24″×24″	
1″	1″	1″	576	3157T22	$22.97

Square Bars and Strips—Smooth Texture

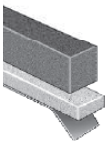

- Color: Gray (square bars); white (strips)
- Temperature Range: -20° to 180°F, except min. temperature for strips is not rated
- Pressure to Compress 25%: Square bars are 0.3 psi (ultra soft); strips are not rated
- Density: Square bars are 1 lb./cu. ft.; strips are not rated

Material does not have a skin. **Square bars** have a thickness and width tolerance of ±0.063″, and a length tolerance of ±0.250″. **Adhesive-back strips** have an acrylic adhesive with a maximum temperature of 110°F.

Square Bars

Thick.	Wd.	Lg.		
1 1/4″	1 1/4″	42″	93665K41	$3.56
2 1/4″	2 1/4″	42″	93665K42	7.13

Adhesive-Back Strips

Thick.	Wd.	Lg., ft.		
1/4″	3/8″	17	93655K31	$2.54
1/4″	3/4″	17	93655K33	3.89
1/4″	1″	17	93655K35	4.79
1/4″	1 1/2″	17	93655K36	6.58

Rods—Smooth Texture



- Pressure to Compress 25%: 0.3 psi (ultra soft)
- Density: 1 lb./cu. ft.

Use these rods to gently cushion narrow spaces, such as channels. Material does not have a skin. Length tolerance is ±0.063″, except 36″ long rods have a length tolerance of ±0.250″.

Dia.	Dia. Tolerance	Pkg. Qty.	1/2″ Long	Pkg.	1″ Long	Pkg.	1 1/2″ Long	Pkg.	2″ Long	Pkg.	36″ Long	Each
2″	±0.125″	—	—	—	—	—	—	—	—	—	8875K12	$6.64
3″	±0.125″	10	8883K32	$4.10	8883K34	$6.61	8883K36	$9.25	8883K38	$11.44	8875K13	10.97
4″	±0.125″	5	8883K42	3.48	8883K44	5.29	8883K46	7.36	8883K48	9.19	8875K14	16.07
5″	±0.125″	5	8883K52	3.30	8883K54	6.36	8883K56	8.50	8883K58	10.80	8875K15	21.68
6″	±0.125″	5	8883K62	5.00	8883K64	8.29	8883K66	10.87	8883K68	10.91	8875K16	27.92
8″	±0.125″	5	8883K82	7.18	8883K84	9.40	8883K86	11.53	8883K88	13.35	8875K18	38.03

Balls and Cubes—Smooth Texture



- Pressure to Compress 25%: 0.5 psi (ultra soft)
- Density: 1.5 lbs./cu. ft.

Material does not have a skin. **Balls** have a diameter tolerance of ±0.250″. **Cubes** have a square size tolerance of ±0.125″.

Balls

Dia.			Dia.		
3″	8874K11	$6.06	6″	8874K16	$20.10
3 1/2″	8874K13	7.22	7″	8874K17	26.70
4″	8874K15	7.91	8″	8874K18	32.32

Cubes

Square Size			Square Size		
2 3/4″	8882K11	$4.00	6″	8882K14	$14.31
3 1/2″	8882K12	4.30	7″	8882K15	18.21
4″	8882K13	5.30	8″	8882K16	26.64

Super-Cushioning Fire-Retardant Polyurethane Foam



- Color: Gray
- Temperature Range: See below
- Open cell (absorbent)

When these strips and sheets are exposed to flames, the surface chars to create a protective barrier that prevents melting, dripping, and the possibility of spreading fire. This foam provides gentle cushioning support better than other types of foam. It is commonly used for packing and insulating.

Strips—Smooth Texture

- Temperature Range: -20° to 200° F
- Pressure to Compress 25%: 0.8 psi (ultra soft)
- Density: 2 lbs./cu. ft.

The foam meets UL 94HF1. Material does not have a skin. Strips have a width tolerance of ±0.0313″ and a length tolerance of ±5″. **Adhesive-back** strips have a rubber adhesive with a temperature range of 0° to 140° F.

Thick.	Thick. Tolerance	Lg., ft.	*Adhesive-Back Strips* ½″ Wide		¾″ Wide		1″ Wide		2″ Wide	
1/8″	±0.018″	100	8709K22	$9.04	8709K24	$11.32	8709K26	$14.18	8709K28	$21.70
3/16″	±0.028″	100	8709K32	9.89	8709K34	12.48	8709K36	15.61	8709K38	23.24
1/4″	±0.037″	50	8709K42	6.97	8709K44	8.81	8709K46	10.52	8709K48	17.62
3/8″	±0.056″	50	8709K52	8.11	8709K54	10.02	8709K56	12.47	8709K58	21.20
1/2″	±0.075″	50	8709K62	8.98	8709K64	11.34	8709K66	13.96	8709K68	22.41
1″	±0.150″	25	8709K72	9.36	8709K74	11.42	8709K76	14.04	8709K78	23.43

Sheets—Smooth Texture

- Temperature Range: -20° to 200° F
- Pressure to Compress 25%: 0.8 psi (ultra soft)
- Density: 2 lbs./cu. ft.

The foam meets UL 94HF1. Material does not have a skin. Sheets have width and length tolerances of ±0.250″, except 54″×120″ sheets have a width tolerance of ±0.250″ and a length tolerance of ±5″. **Adhesive-back** sheets have a rubber adhesive with a temperature range of 0° to 140° F.

Thick.	Thick. Tolerance	*Plain-Back Sheets* 24″×24″		36″×36″		54″×120″		*Adhesive-Back Sheets* 24″×24″		36″×36″		54″×120″	
1/8″	±0.018″	86225K11	$4.65	86225K41	$8.72	86225K21	$36.41	86225K51	$9.16	86225K61	$17.20	86225K31	$71.78
1/4″	±0.037″	86225K13	7.52	86225K43	14.12	86225K23	58.93	86225K53	13.30	86225K63	24.98	86225K33	104.27
3/8″	±0.056″	86225K14	9.74	86225K44	18.29	86225K24	76.35	86225K54	13.86	86225K64	26.03	86225K34	108.63
1/2″	±0.075″	86225K15	13.18	86225K45	24.74	86225K25	103.26	86225K55	17.55	86225K65	32.95	86225K35	137.53
1″	±0.150″	86225K17	22.91	86225K47	43.01	86225K27	179.52	86225K57	26.06	86225K67	48.94	86225K37	204.27

Cut-to-Length Sheets—Smooth Texture



- Temperature Range: -40° to 225° F
- Pressure to Compress 25%: 0.7 psi (ultra soft)
- Density: 2 lbs./cu. ft.

Foam, but not adhesive, meets UL 94HF1. Material does not have a skin. Width tolerance is ±2″. **Adhesive-back** sheets have a rubber adhesive with a temperature range of -20° to 180° F.

Thick.	Thick. Tolerance	Wd.	Plain Back Per Ft.		Adhesive Back Per Ft.	
1/4″	±0.060″	54″	86115K21	$10.33	86115K61	$14.64
1/2″	±0.060″	54″	86115K31	15.35	86115K71	20.38
1″	±0.060″	54″	86115K51	33.14	86115K91	38.95

Super-Cushioning Ultra-Conformable Polyurethane Foam

- Color: Blue, green, pink, or yellow
- Temperature Range: 50° to 120° F
- Open cell (absorbent)

Commonly called memory foam and Confor, these sheets have the best cushioning qualities of all the foam we offer. They take several seconds to recover from compression, but maintain their resiliency over time.

Sheets—Coarse Texture

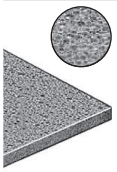

- Pressure to Compress 25%: Not Rated
- Density: 6 lbs./cu. ft.

Material does not have a skin. Width and length tolerances are ±0.250″.

To Order: Please specify color: blue, green, pink, or yellow.

Thick.	Thick. Tolerance	12″×12″		18″×20″		20″×36″	
1/4″	±0.062″	86195K31	$7.12	86195K51	$16.22	86195K11	$27.69
1/2″	±0.062″	86195K33	11.45	86195K53	26.04	86195K12	46.89
3/4″	±0.062″	86195K35	17.96	86195K55	38.00	86195K15	65.53
1″	±0.062″	86195K37	20.32	86195K57	46.19	86195K13	81.29
2″	±0.062″	86195K39	35.94	86195K59	81.69	86195K14	151.35

Super-Absorbent Polyurethane Foam

- Color: Blue
- Temperature Range: -20° to 180° F
- Open cell (absorbent)

Similar to a sponge, these open-cell foam sheets can absorb and hold up to 30 times their weight in liquid. This polyurethane material is also known as Aquazone.

Sheets—Smooth Texture

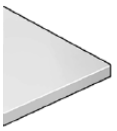

- Pressure to Compress 25%: 0.6 psi (ultra soft)
- Density: 1.8 lbs./cu. ft.

Material does not have a skin. Width and length tolerances are ±0.125″.

Thick.	Thick. Tolerance	12″×12″		24″×24″		48″×48″	
1/4″	±0.063″	8884K41	$3.80	8884K51	$10.37	8884K61	$34.57
1/2″	±0.063″	8884K42	8.15	8884K52	22.22	8884K62	74.08
1″	±0.063″	8884K44	15.90	8884K54	43.36	8884K64	144.54
1 1/2″	±0.063″	8884K45	22.92	8884K55	62.51	8884K65	208.37
2″	±0.063″	8884K46	30.00	8884K56	81.81	8884K66	272.70

Super-Cushioning Foam

For information about foam and foam hardness ratings, see page 3612.

Super-Cushioning Ultra-Conformable Antistatic Polyurethane Foam

- Color: Pink
- Temperature Range: -20° to 180° F
- Open cell (absorbent)

Protect sensitive equipment from damage. In addition to providing gentle cushioning support, these sheets conduct static electricity away with a surface resistivity of 10^{11} ohms. They are commonly used for packing and insulating.

Sheets—Smooth Texture



- Pressure to Compress 25%: 0.3 psi (ultra smooth)
- Density: 1.4 lbs./cu. ft.

Material does not have a skin. Thickness tolerance is ±0.031″ for 1/8″ and 1/4″ thick sheets, ±0.063″ for 3/8″ to 3/4″ thick sheets, and ±0.125″ for 1″ and 1 1/2″ thick sheets. Width and length tolerances are ±0.125″.

Thick.	24″ × 24″		36″ × 36″		54″ × 82″	
1/8″	87035K41	$2.90	87035K51	$5.50	87035K61	$16.31
1/4″	87035K42	5.42	87035K52	10.26	87035K62	30.45
3/8″	87035K43	7.05	87035K53	13.36	87035K63	39.63
1/2″	87035K44	8.44	87035K54	15.98	87035K64	47.42
3/4″	87035K45	11.45	87035K55	21.68	87035K65	64.33
1″	87035K46	14.05	87035K56	26.59	87035K66	78.91
1 1/2″	87035K47	19.27	87035K57	36.48	87035K67	108.25

Super-Cushioning Laminated Polyurethane Foam

- Color: Black
- Temperature Range: -20° to 160° F
- Polyurethane face is open cell (absorbent); polyethylene backing is closed cell (restricts absorption)

Gently cushion shock and reduce vibration with this dual-material foam. These sheets are often used for packing and insulating.

Sheets—Smooth and Coarse Texture



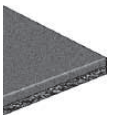

- Pressure to Compress 25%: polyurethane side is 1 psi (ultra soft); polyethylene side is 9 psi (soft)
- Density: 2 lbs./cu. ft.

Material does not have a skin. Thickness tolerance is ±0.063″. Width and length tolerances are ±0.125″. The polyurethane side has a smooth texture; the polyethylene side has a coarse texture.

Thick.	12″ × 12″		24″ × 24″		24″ × 48″	
1″	85105K15	$11.92	85105K35	$39.75	85105K55	$66.25
2″	85105K16	19.27	85105K36	64.24	85105K56	107.07
4″	85105K17	29.27	85105K37	97.55	85105K57	162.59

Super-Cushioning Chemical-Resistant Polyethylene Foam

- Color: See below
- Temperature Range: -20° to 160° F
- Closed cell (restricts absorption)
- For use outdoors

Cushion objects while protecting them from chemicals and moisture. This material, also known as Ethafoam, provides gentle cushioning support better than other types of foam. It is commonly used for packing and insulating.

Sheets—Coarse Texture

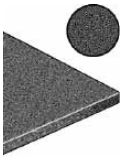

- Color: Blue, gray, or white
- Pressure to Compress 25%: Blue is 7 psi (extra soft); gray and white are 9 psi (soft)
- Density: Blue is 1.8 lbs./cu. ft.; gray and white are 2.2 lbs./cu. ft.

Material does not have a skin. Thickness tolerance is ±0.063″, except 48″ × 54″ sheets have a ±0.375″ thickness tolerance. Width and length tolerances are ±1″. **Laminated sheets** have a 1/4″ layer of soft, gray foam, so they hold their shape longer and bounce back faster than nonlaminated sheets.

Thick.	Color	24″ × 18″		24″ × 54″	
Sheets					
1/4″	Gray	9334K32	$6.07	9334K21	$15.24
3/8″	Gray	9334K33	8.73	9334K22	21.71
1/2″	Gray	9334K34	10.76	9334K23	26.91
3/4″	Gray	9334K35	15.71	9334K24	39.17
1″	Gray	9334K36	19.89	9334K25	49.76
2″	Blue	9334K39	31.63	9334K27	85.52
2″	Gray	9334K37	34.25	9334K29	76.31

Thick.	Color	48″ × 54″	
2″	Gray	86155K44	$178.89
2″	White	86155K33	162.78

Laminated Sheets		12″ × 12″		24″ × 27″	
1″	Blue/Gray	85145K43	$18.13	85145K63	$60.39
1 1/2″	Blue/Gray	85145K45	27.14	85145K65	84.80
2″	Blue/Gray	85145K49	36.24	85145K69	120.39

Adhesive-Back Strips—Ultra-Smooth Texture



- Color: White
- Pressure to Compress 25%: 5 psi (extra soft)
- Density: 2 lbs./cu. ft.

Strips have a skin on the top with an ultra-smooth texture for a sleek surface. Adhesive is rubber and has a temperature range of 0° to 150° F. Thickness tolerance is ±0.019″, except 1/4″ thick strips have a ±0.025″ thickness tolerance. Width tolerance is ±0.313″. Length tolerance is +12″.

Thick.	Length	3/8″ Wide		1/2″ Wide		5/8″ Wide	
1/8″	75 ft.	93565K52	$6.53	93565K53	$7.67	93565K54	$8.86
3/16″	50 ft.	93565K62	5.39	93565K63	6.30	93565K64	7.28
1/4″	50 ft.	93565K72	5.66	93565K73	6.70	93565K74	7.77

Thick.	Length	3/4″ Wide		1″ Wide		2″ Wide	
1/8″	75 ft.	93565K55	$10.32	93565K56	$11.37	93565K58	$20.08
3/16″	50 ft.	93565K65	8.26	93565K66	9.50	93565K68	16.35
1/4″	50 ft.	93565K75	8.92	93565K76	10.43	93565K78	18.94

Rods—Smooth Texture



- Color: Gray
- Pressure to Compress 25%: 4 psi (ultra soft)
- Density: 2 lbs./cu. ft.

Material does not have a skin. Diameter tolerance is ±0.040″.

Dia.	20-ft. Length		250-ft. Length	
3/8″	93295K31	$4.24	93295K41	$32.75
1/2″	93295K33	4.87	93295K43	35.50
5/8″	93295K35	7.05	93295K45	46.05

Super-Cushioning Antistatic Polyethylene Foam

- Color: Pink
- Temperature Range: -20° to 160° F
- Closed cell (restricts absorption)

These foam sheets divert static electricity with a surface resistivity of 10^{12} ohms. Use them to protect sensitive equipment from damage. This foam provides gentle cushioning support better than other types of foam.

Sheets—Smooth Texture



- Pressure to Compress 25%: 9 psi (soft)
- Density: 2.2 lbs./cu. ft.

Material does not have a skin. Width and length tolerances are ±0.125″.

Thick.	Thick. Tolerance	12″ × 12″		24″ × 36″	
1/8″	±0.013″	8726K13	$2.09	8726K12	$11.13
1/4″	±0.025″	8726K23	3.23	8726K22	15.31
3/8″	±0.038″	8726K33	6.03	8726K32	22.75
1/2″	±0.063″	8726K43	7.72	8726K42	26.80
3/4″	±0.063″	8726K53	$12.06	8726K52	$37.12
1″	±0.063″	8726K63	12.71	8726K62	46.24
2″	±0.063″	8726K73	19.95	8726K72	70.73

(Material continued on following page)

Super-Cushioning Antistatic Polyethylene Foam *(Continued from previous page)*

Cut-to-Length Sheets—Smooth Texture

- Pressure to Compress 25%: 9 psi (soft)
- Density: 1.8 lbs./cu. ft.

Material does not have a skin. Width tolerance is +4″.

Thick.	Thick. Tolerance	48″ Wide	Per Ft.
1/8″	±0.013″	8726K91	$3.86
1/4″	±0.025″	8726K92	5.74
1/2″	±0.063″	8726K93	$10.61

Super-Cushioning Polyethylene Foam

- Color: See below
- Temperature Range: See below
- Closed cell (restricts absorption)
- For use outdoors

This foam provides gentle cushioning support better than other types of foam. It's commonly used for packing and insulating.

Food-Grade Sheets—Ultra-Smooth Texture



- Color: Black or white
- Temperature Range: -110° to 155° F
- Pressure to Compress 25%: 5 psi (extra soft); 9 psi (soft)
- Density: 2 lbs./cu. ft. (extra soft); 4 lbs./cu. ft. (soft)

Made from FDA-listed material for use with food and beverage. Sheets have an ultra-smooth texture with a skin on the top and the bottom for a sleek surface. Thickness tolerance is ±15% and width tolerance is ±1″. 24″×24″ and 36″×54″ sheets have a length tolerance of ±1″. **Adhesive-back** sheets have a rubber adhesive with a temperature range of 0° to 140° F.

To Order: Please specify color: black or white. For 54″ wide sheets, please also specify length: 2 ft., 4 ft., 6 ft., 8 ft., 10 ft., or 25 ft.

Thick.	24″×24″ Each	36″×54″ Each	54″ Wide Per Ft.
Plain Back—Extra Soft			
1/8″	8722K7 $3.92	8722K2 $9.66	8722K83 $3.22
3/16″	8722K8 5.38	8722K3 13.44	8722K84 4.48
1/4″	8722K9 6.95	8722K4 18.06	8722K85 6.02
3/8″	8722K11 10.91	8722K5 28.32	8722K86 9.44
Plain Back—Soft			
1/16″	8722K6 3.59	8722K1 9.33	8722K87 3.11
Adhesive Back—Extra Soft			
1/8″	8722K24 $7.24	8722K13 $18.09	8722K93 $6.03
3/16″	8722K25 8.03	8722K14 20.07	8722K94 6.69
1/4″	8722K26 9.72	8722K15 24.30	8722K95 8.10
3/8″	8722K27 12.56	8722K16 31.41	8722K96 10.47
Adhesive Back—Soft			
1/16″	8722K23 6.37	8722K17 17.13	8722K97 5.71

Sheets—Smooth Texture



- Color: Gray or white
- Temperature Range: -20° to 160° F
- Pressure to Compress 25%: 7 psi (extra soft)
- Density: 2 lbs./cu. ft.

Cushion objects while protecting them from chemicals and moisture. Also known as Ethafoam. Material does not have a skin. Thickness tolerance is ±0.063″. Width and length tolerances are ±0.125″. **Adhesive-back** sheets have an acrylic adhesive with a temperature range of -20° to 160° F.

To Order: Please specify color: gray or white.

Thick.	12″×12″	24″×24″	48″×48″
Plain Back			
1/2″	8865K11 $8.33	8865K21 $30.05	8865K31 $95.72
3/4″	8865K12 12.18	8865K22 40.56	8865K32 133.12
1″	8865K13 15.21	8865K23 49.98	8865K33 166.60
1.667″	8865K14 27.03	8865K24 88.73	8865K34 295.78
Adhesive Back			
1/2″	8865K51 $11.96	8865K61 $41.13	8865K71 $111.44
3/4″	8865K52 15.01	8865K62 47.06	8865K72 145.33
1″	8865K53 18.16	8865K63 57.28	8865K73 178.93
1.667″	8865K54 30.54	8865K64 103.23	8865K74 314.52

Ultra-Strength Wear- and Weather-Resistant Ionomer Foam

- Color: See below
- Temperature Range: -85° to 175° F
- Closed cell (restricts absorption)
- For use outdoors

Exceptionally strong, these lightweight ionomer foam sheets offer excellent resistance to impact, UV light, and water. They stand up to wear caused by rubbing and scraping and are often used as bumpers and buoys.

Sheets—Coarse Texture



- Pressure to Compress 25%: 11 psi (soft); medium not rated
- Density: 3 lbs./cu. ft. (soft); 4 lbs./cu. ft. (medium)

Material does not have a skin. Thickness tolerance is ±0.05″. Width and length tolerances are ±0.500″.

Hardness	Thick.	Color	24″×24″		48″×50″	
Soft	3/16″	Gray	86205K12	$5.71	86205K14	$22.86
			24″×36″		48″×76″	
Soft	5/16″	Black	86205K53	$12.67	86205K55	$50.67
Medium	1/4″	Black	86205K62	13.38	86205K63	53.54

Super-Cushioning High-Strength EVA Foam

- Color: Black
- Temperature Range: -70° to 160° F
- Closed cell (restricts absorption)
- For use outdoors

Often used as padding in helmets, gloves, and boots, these super-strong EVA foam sheets lessen impact and resist tearing better than other types of foam.

Sheets—Smooth Texture



- Pressure to Compress 25%: 4 psi (ultra soft)
- Density: 2 lbs./cu. ft.

Material does not have a skin. Width and length tolerances are ±0.125″.

Thick.	Thick. Tolerance	12″×12″		29″×47″	
1/8″	±0.031″	86095K41	$3.34	86095K21	$14.38
1/4″	±0.063″	86095K42	6.71	86095K22	28.93
3/8″	±0.063″	86095K43	9.13	86095K23	39.37
1/2″	±0.063″	86095K44	11.93	86095K24	51.41
3/4″	±0.063″	86095K45	16.33	86095K25	70.37
1″	±0.063″	86095K46	19.96	86095K26	86.05

Chemical-Resistant Nylon Foam

- Color: Gray
- Temperature Range: -40° to 400° F
- Closed cell (restricts absorption)
- For use outdoors

Made of nylon, these foam sheets offer good resistance to a wide range of chemicals, fuels, and oils at high temperatures.

Sheets—Smooth Texture



- Pressure to Compress 25%: 28 psi (hard)
- Density: 3 lbs./cu. ft.

Material does not have a skin. Thickness tolerance is ±0.033″. Width and length tolerances are ±0.125″.

Thick.	6″×6″	12″×12″	12″×24″
1/8″	3623K61 $2.27	3623K71 $7.26	3623K81 $12.63
1/4″	3623K62 3.18	3623K72 10.16	3623K82 17.67
3/8″	3623K63 4.17	3623K73 13.32	3623K83 23.16
1/2″	3623K64 5.40	3623K74 17.26	3623K84 30.01

About Plastics

Use the charts below to identify the best plastic for your application. Circles indicate that a majority of a material's shapes and sizes meet the applicable rating. Blank boxes indicate a poor rating or no rating. Information is intended for comparison only and is given without obligation or liability.

● Excellent ◓ Good

Clear Multipurpose Plastic

	Maximum Temp., °F	Minimum Temp., °F	Tensile Strength	Impact Strength	Chemical Resistance	Slippery	Machin-ability	Electrical Insulator	Pages
PETG	140°	–40°	◓	◓	◓				3631
Acrylic	160°	32°	◓				◓	◓	3634-3636
Cast Acrylic	170°	–40°	●				◓	◓	3632-3634
Cellulose	170°	50°		◓				◓	3636
Polycarbonate	180°	–40°	◓	●			◓	◓	3627-3631

Clear Multipurpose Selector Pack—Contains five pieces; one 2″×2″×½″ thick piece of each plastic listed above. **5331K5** $29.74

Multipurpose Plastic

	Maximum Temp., °F	Minimum Temp., °F	Tensile Strength	Impact Strength	Chemical Resistance	Slippery	Machin-ability	Electrical Insulator	Pages
LDPE	120°	50°		●	◓				3658-3659
PVC	140°	32°	◓		●		◓	●	3637-3640
ABS	140°	50°	◓	●			●	●	3644
Polystyrene	155°	0°		◓			●	●	3643
HDPE	180°	50°		◓	◓		●		3659-3661
Polypropylene	180°	45°		◓	◓		◓	●	3641-3642
UHMW	180°	–20°		●	◓	◓	◓	●	3662-3667
Delrin® Acetal	180°	–20°	◓	◓		◓	●	●	3651-3654
Nylon	185°	–40°	●	◓			◓	◓	3645-3648
Cast Nylon	200°	–20°	●			◓	●	●	3649-3650
CPVC	200°	32°	◓	◓	◓		◓	●	3640
Rexolite Polystyrene	212°	–75°	●	◓				●	3643
Noryl PPO	220°	–40°	◓	◓			●	●	3643
Polyester	230°	–40°	●				◓	◓	3657

Multipurpose Selector Pack—Contains eleven pieces; one 2″×2″×½″ thick piece of LDPE, ABS, Polystyrene, HDPE, UHMW, Delrin® Acetal, Nylon, Cast Nylon, Rexolite Polystyrene, Noryl PPO, and Polyester. **5331K93** $52.11

High-Temperature Plastic

	Maximum Temp., °F	Minimum Temp., °F	Tensile Strength	Impact Strength	Chemical Resistance	Slippery	Machin-ability	Electrical Insulator	Pages
PVDF	265°	–25°	◓	◓	◓	◓	◓		3673
Polysulfone	285°	–40°	●	◓	◓		◓	◓	3674
Radel PPSU	320°	50°	●	●	◓		●	◓	3675
Ultem PEI	335°	–20°	●				◓	●	3675
FEP	400°	–320°		●	●	◓		●	3674
PPS	425°	50°	●		◓		◓	●	3675
PEEK	480°	–20°	●	◓	◓		●	◓	3676
PFA	500°	–320°		●	●	◓		●	3675
Torlon PAI	500°	–320°	●		◓	◓	◓		3677
Teflon® PTFE	500°	–350°		◓	●	●	◓	●	3668-3670
Polyimide	550°	–425°	●		◓		◓	●	3677

High-Temperature Selector Pack—Contains five pieces; one 2″×2″×½″ thick piece of Ultem PEI, PEEK, PFA, Torlon PAI, and Polyimide. **5331K91** $94.79

Additional Plastics

Static Control

Antistatic Polycarbonate 3630
Antistatic Cast Acrylic 3634
Conductive ABS/PVC 3642
Antistatic Acetal 3656
Static-Dissipative UHMW 3666
Conductive UHMW 3666
Antistatic PTFE 3672

Self-Lubricating

MDS-Filled Nylon 3648, 3650
Oil-Filled Cast Nylon 3650
Turcite Acetal 3656
Hydex Polyester 3657
Oil-Filled UHMW 3667
Rulon PTFE 3674
Carbon-Filled PEEK 3676

Reinforced

Glass-Filled Polycarbonate 3630
Strengthened Acrylic 3636
Strengthened PVC 3639
Glass-Filled Nylon 3648
Glass-Filled Acetal 3654
Glass-Filled UHMW 3665
Glass-Filled PTFE 3673

Impact-Resistant Polycarbonate

At only half the weight of glass, this material maintains excellent clarity and impact strength over a wide temperature range. It's comparable to Lexan, Hyzod, Tuffak, and Makrolon. Use it for windows, instrument gauge covers, machine guards, and signs.

Sheets

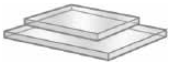

- Color: Clear
- Temp. Range: –40° to 180°F
- Tensile Strength: Good
- Impact Strength: Excellent

Sheets have greater impact strength than Plexiglas® acrylic and can be used in similar applications. Width and length tolerances are -1/4" to +5/8", except 6"x6" and 6"x12" are +1/4". Can be used outdoors (except FDA-compliant sheets, which are for indoor use only). All sheets are UL 972 rated as burglar resistant. 1/16" to 3/16" thick sheets meet UL 94V2 for flame retardance. 1/4" to 2" thick sheets meet UL 94V0 for flame retardance.

Thick.	Thick. Tolerance	6"x6"		6"x12"		12"x12"		12"x24"		12"x36"		12"x48"	
Standard													
1/16"	±0.003"					8574K24	$4.83	8574K38	$8.23	8574K243	$12.64	8574K244	$14.74
3/32"	±0.005"					8574K25	8.41	8574K39	13.84	8574K253	18.92	8574K254	24.47
1/8"	±0.006"					8574K26	9.16	8574K41	15.09	8574K263	21.75	8574K264	26.98
3/16"	±0.010"					8574K27	13.39	8574K42	22.07	8574K273	31.83	8574K274	37.70
1/4"	±0.013"	8574K281	$5.06	8574K282	$8.52	8574K28	16.83	8574K43	27.72	8574K283	39.95	8574K284	47.30
3/8"	±0.019"	8574K311	7.93	8574K312	13.36	8574K31	29.23	8574K44	45.88	8574K313	62.63	8574K314	78.03
1/2"	±0.025"	8574K321	10.77	8574K322	18.14	8574K32	33.00	8574K45	56.93	8574K323	85.05	8574K324	102.46
3/4"	+0.075"	8574K331	89.38	8574K332	153.23	8574K33	192.38	8574K1	383.90				
1"	+0.100"	8574K791	115.17	8574K792	197.43	8574K4	239.11	8574K5	433.26				
1 1/4"	+0.125"	8574K691	124.72	8574K692	211.65	8574K8	326.93	8574K9	583.93				
1 1/2"	+0.150"	8574K481	145.03	8574K482	246.10	8574K131	370.04	8574K141	678.99				
2"	+0.200"	8574K491	197.29	8574K492	301.91	8574K15	467.51	8574K16	843.86				

Thick.	Thick. Tolerance	24"x24"		24"x36"		24"x48"		36"x36"		48"x48"		48"x96"	
1/16"	±0.003"	8574K51	$14.74	8574K245	$23.07	8574K63	$24.83	8574K246	$40.64	8574K81	$43.96	8574K71	$79.02
3/32"	±0.005"	8574K52	24.47	8574K255	34.52	8574K64	39.92	8574K256	63.82	8574K82	67.39	8574K72	118.22
1/8"	±0.006"	8574K53	26.98	8574K265	39.14	8574K21	43.49	8574K266	49.06	8574K83	79.90	8574K73	144.98
3/16"	±0.010"	8574K54	37.70	8574K275	57.29	8574K22	63.65	8574K276	78.93	8574K84	116.93	8574K74	212.18
1/4"	±0.013"	8574K55	47.30	8574K285	71.90	8574K23	79.89	8574K286	99.07	8574K85	147.08	8574K75	266.31
3/8"	±0.019"	8574K56	78.03	8574K315	112.73	8574K65	137.24	8574K316	155.31	8574K86	242.16	8574K76	417.51
1/2"	±0.025"	8574K57	102.46	8574K325	153.09	8574K66	178.21	8574K326	210.92	8574K87	322.68	8574K77	567.00
3/4"	+0.075"	8574K2	679.30			8574K3	1,275.18			8574K88	2,285.20	8574K78	4,256.29
1"	+0.100"	8574K6	796.32			8574K7	1,563.02			8574K89	2,945.05	8574K79	5,484.27
1 1/4"	+0.125"	8574K111	1,075.64			8574K69	2,036.39			8574K121	3,779.49		
1 1/2"	+0.150"	8574K151	1,250.74			8574K161	2,367.88			8574K171	4,394.73		
2"	+0.200"	8574K17	1,585.18			8574K18	2,989.22						

		12"x12"		24"x24"		48"x48"		48"x96"	
FDA Compliant									
1/4"	±0.012"	8574K172	$16.49	8574K173	$52.40	8574K174	$179.73	8574K175	$319.52
UV Resistant									
1/8"	±0.006"	8574K122	7.17	8574K123	24.14	8574K124	77.87	8574K125	144.64
1/4"	±0.012"	8574K132	13.80	8574K133	43.13	8574K134	145.98	8574K135	271.09

Tinted Sheets

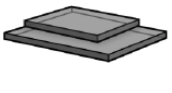

- Color: Semi-clear bronze or gray
- Temp. Range: –40° to 180°F
- Tensile Strength: Good
- Impact Strength: Excellent

Tint reduces light transmission up to 50%. Width and length tolerances are -1/4" to +5/8". Can be used outdoors. All sheets are UL 972 rated as burglar resistant. 1/8" and 3/16" thick sheets meet UL 94V2 for flame retardance. 1/4" thick sheets meet UL 94V0 for flame retardance.

To Order: Please specify color.

Thick.	Thick. Tolerance	12"x12"		12"x24"		24"x24"		24"x48"		48"x48"		48"x96"	
1/8"	–0.013"	87225K21	$9.57	87225K22	$16.66	87225K23	$29.22	87225K24	$51.73	87225K26	$92.35		
3/16"	–0.020"	87225K41	14.09	87225K42	24.52	87225K43	43.01	87225K44	76.14	87225K46	135.98	87225K47	$247.24
1/4"	–0.026"	87225K61	17.16	87225K62	29.85	87225K63	52.39	87225K64	92.72	87225K66	165.56	87225K67	301.04

Colored Sheets

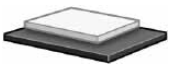

- Color: Black or white
- Temp. Range: –40° to 180°F
- Tensile Strength: Good
- Impact Strength: Good

Black sheets have width and length tolerances of +1/2", except 3"x3" and 6"x6" sheets are ±1/8". Meet UL 94HB for flame retardance.

White sheets have width and length tolerances of ±1/2". Can be used outdoors. They are UL 972 rated as burglar resistant.

Thick.	Thick. Tolerance	3"x3"		6"x6"		12"x12"		12"x24"		24"x24"		24"x48"	
Black													
1/4"	+0.025"	85625K31	$9.13	85625K71	$17.48	85625K23	$42.74	85625K24	$79.15	85625K26	$147.36	85625K27	$275.96
3/8"	+0.025"	85625K32	10.53	85625K62	22.12	85625K33	58.31	85625K34	107.93	85625K15	199.74	85625K19	379.30
1/2"	+0.025"	85625K35	12.08	85625K61	25.91	85625K43	72.33	85625K44	134.34	85625K46	244.85	85625K47	489.71
3/4"	+0.025"	85625K36	14.33	85625K58	35.36	85625K53	120.52	85625K54	225.94	85625K16	417.10	85625K21	774.68
1"	+0.025"	85625K37	17.33	85625K59	45.32	85625K63	149.45	85625K64	275.95	85625K66	521.82	85625K67	989.60
1 1/2"	+0.025"	85625K38	22.10	85625K48	61.87	85625K73	220.48	85625K74	407.05	85625K17	769.69	85625K22	1,365.61
2"	+0.025"	85625K39	26.36	85625K49	76.94	85625K83	291.05	85625K84	537.37	85625K18	1,016.09	85625K29	1,719.54

		12"x12"		24"x24"		48"x48"		48"x96"	
White									
1/8"	±0.006"	8574K192	$6.69	8574K193	$21.87	8574K194	$74.05	8574K195	$137.53
1/4"	±0.012"	8574K211	13.29	8574K212	43.46	8574K213	147.12	8574K214	273.23

(Material continued on following page)

Impact-Resistant Polycarbonate *(Material continued from previous page)*

At only half the weight of glass, this material maintains excellent clarity and impact strength over a wide temperature range. It's comparable to Lexan, Hyzod, Tuffak, and Makrolon. Use it for windows, instrument gauge covers, machine guards, and signs.

Film



- Color: Clear or semi-clear
- Temp. Range: Not rated
- Tensile Strength: Good
- Impact Strength: Excellent

Width and length tolerances are ±5/8″. Can be used outdoors. *Smooth sides* have a clear gloss finish. *Textured sides* have a semi-clear matte finish, which diffuses light and masks scratches, scuffs, and fingerprints.

Thick.	24″×24″		24″×48″	
Both Sides Smooth				
0.005″	85585K102	$2.33	85585K72	$4.46
0.010″	85585K103	3.92	85585K73	7.60
0.015″	85585K14	5.53	85585K24	10.24
0.020″	85585K15	7.15	85585K25	13.07
0.030″	85585K17	10.50	85585K27	18.91
0.040″	8574K19	13.66	85585K28	25.58

Thick.	24″×24″		24″×48″	
Both Sides Textured				
0.005″	85585K82	$2.09	85585K92	$4.23
0.010″	85585K83	3.25	85585K93	6.70
0.015″	85585K54	5.18	85585K64	10.35
0.020″	85585K55	6.51	85585K65	13.19
One Side Textured, One Side Smooth				
0.010″	85585K33	2.81	85585K43	5.80
0.015″	85585K34	4.20	85585K44	8.95
0.020″	85585K35	5.38	85585K45	11.42

Rectangular Bars



- Color: Clear
- Temp. Range: –40° to 180°F, except 3/64″ to 7/64″ not rated
- Tensile Strength: Good
- Impact Strength: Excellent

Width tolerance is ±1/32″. Length tolerance is +1/2″. Can be used outdoors. Bars have greater impact strength than Plexiglas® acrylic and can be used in similar applications.

Thick.	Thick. Tolerance	Available Lengths, ft.	1″ Wide	Per Ft.	1 1/2″ Wide	Per Ft.	2″ Wide	Per Ft.	2 1/2″ Wide	Per Ft.	3″ Wide	Per Ft.	4″ Wide	Per Ft.
3/64″	±0.005″	2, 4, 6	1749K65	$0.39	1749K66	$0.53	1749K67	$0.66	1749K68	$0.79	1749K69	$0.94	1749K71	$1.20
1/16″	±0.005″	2, 4, 6	1749K72	.46	1749K73	.67	1749K74	.81	1749K75	.99	1749K76	1.18	1749K77	1.51
5/64″	±0.005″	2, 4, 6	1749K78	.61	1749K79	.83	1749K81	1.03	1749K82	1.27	1749K83	1.47	1749K84	1.91
3/32″	±0.006″	2, 4, 6	1749K85	.68	1749K86	.93	1749K87	1.16	1749K89	1.42	1749K91	1.65	1749K92	2.14
7/64″	±0.006″	2, 4, 6	1749K93	.75	1749K94	1.03	1749K95	1.29	1749K96	1.51	1749K97	1.82	1749K98	2.37
1/8″	–0.013″	2, 4, 6	1749K119	.80	1749K219	1.05	1749K319	1.31	1749K419	1.54	1749K519	1.85	1749K619	2.42
7/32″	±0.012″	2, 4, 6	1749K129	1.36	1749K229	1.83	1749K329	2.26	1749K429	2.68	1749K529	3.21	1749K629	4.18
3/8″	±0.019″	2, 4, 6	1749K139	2.49	1749K239	3.35	1749K339	4.12	1749K439	4.89	1749K539	5.86	1749K639	7.64
1/2″	±0.025″	2, 4, 6	1749K149	3.52	1749K249	4.70	1749K349	5.82	1749K449	6.90	1749K549	8.27	1749K649	10.80

Tight Tolerance Bars



- Color: Semi-clear gray
- Max. Temp.: 250°F
- Tensile Strength: Excellent
- Impact Strength: Good

All six sides are consistently flat, square, and parallel. Width and length tolerances are ±0.010″. Can be used outdoors. Meet UL 94HB for flame retardance.

Thick.	Thick. Tolerance	1″×12″		1″×24″		2″×12″		2″×24″		4″×12″	
1/2″	±0.005″	9115K43	$23.87	9115K111	$47.74	9115K41	$43.40	9115K112	$86.80	9115K42	$78.91
3/4″	±0.005″	9115K73	34.68	9115K116	69.36	9115K71	63.06	9115K117	126.12	9115K72	114.65
1″	±0.005″	9115K83	43.82	9115K122	87.64	9115K81	79.68	9115K123	159.36	9115K82	144.87
2″	±0.005″	9115K93	81.47	9115K127	162.94	9115K91	148.12	9115K128	296.24	9115K92	269.32

Thick.	Thick. Tolerance	4″×24″		6″×12″		6″×24″		12″×12″		12″×24″	
1/2″	±0.005″	9115K113	$157.82	9115K44	$109.90	9115K114	$219.80	9115K46	$199.82	9115K115	$399.64
3/4″	±0.005″	9115K118	229.30	9115K74	156.34	9115K119	306.68	9115K76	284.26	9115K121	568.52
1″	±0.005″	9115K124	289.74	9115K84	197.54	9115K125	395.08	9115K86	359.17	9115K126	718.34
2″	±0.005″	9115K129	538.64	9115K94	367.25	9115K133	734.50	9115K96	667.73	9115K134	1,335.46

Rods



- Color: Diameters up to 2″, semi-clear; all others, semi-clear gray
- Temp. Range: –40° to 240°F
- Tensile Strength: Good
- Impact Strength: Good

All rods are cut with a rough finish on the face. Meet UL 94HB for flame retardance and ASTM D3935. They are made from FDA-compliant resins.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/8″	+0.002″	8	8571K11	$0.77
3/16″	+0.002″	8	8571K42	.91
1/4″	+0.002″	8	8571K12	1.22
5/16″	+0.002″	8	8571K44	1.52
3/8″	+0.002″	8	8571K13	1.92
7/16″	+0.002″	8	8571K45	2.39
1/2″	+0.002″	8	8571K14	2.80
5/8″	+0.002″	1, 2, 3, 4, 5, 6, 7, 8	8571K31	4.15
3/4″	+0.002″	1, 2, 3, 4, 5, 6, 7, 8	8571K15	5.17
1″	+0.002″	1, 2, 3, 4, 5, 6, 7, 8	8571K16	8.69
1 1/8″	+0.005″	1, 2, 3, 4, 5, 6, 7, 8	8571K33	11.76

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1 1/4″	+0.005″	1, 2, 3, 4, 5, 6, 7, 8	8571K17	$13.93
1 3/8″	+0.005″	1, 2, 3, 4, 5, 6, 7, 8	8571K35	16.17
1 1/2″	+0.005″	1, 2, 3, 4, 5, 6, 7, 8	8571K18	17.80
2″	+0.005″	1, 2, 3, 4, 5, 6, 7, 8	8571K22	35.64
2 1/4″	+0.030″	1, 2, 3, 4	8571K37	42.65
2 1/2″	+0.030″	1, 2, 3, 4	8571K39	48.81
3″	+0.030″	1, 2, 3, 4	8571K23	61.29
4″	+0.250″	1, 2, 3, 4	8571K41	106.70
5″	+0.250″	1, 2, 3, 4	8571K46	164.88
6″	+0.250″	1, 2, 3, 4	8571K43	232.45



Dia.	Dia. Tolerance	1″ Long		2″ Long		3″ Long		4″ Long		6″ Long	
3″	+0.25″	8508K32	$24.95	8508K33	$32.16	8508K34	$42.62	8508K35	$51.98	8508K37	$64.45
4″	+0.25″	8508K42	31.57	8508K43	44.70	8508K44	59.57	8508K45	74.90	8508K47	102.50
6″	+0.25″	8508K52	49.74	8508K53	79.53	8508K54	112.61	8508K55	147.18	8508K51	209.37

(Material continued on following page)

Impact-Resistant Polycarbonate *(Material continued from previous page)*

Circles



- Color: Clear
- Temp. Range: –40° to 180°F
- Tensile Strength: Good
- Impact Strength: Excellent

Circles are cut from sheets for a clear, smooth face. Diameter tolerance is ±1/8". All are UL 972 rated as burglar resistant. 1/16" to 3/16" thick circles meet UL 94V2 for flame retardance. 1/4" to 1/2" thick circles meet UL 94V0 for flame retardance.

Dia.	1/16" Thick		1/8" Thick		3/16" Thick		1/4" Thick		3/8" Thick		1/2" Thick	
4"	8508K77	$16.50	8508K78	$17.19	8508K79	$21.35	8508K81	$29.03	8508K82	$33.58	8508K83	$41.25
6"	8508K92	18.22	8508K93	19.34	8508K94	25.24	8508K95	30.68	8508K96	36.02	8508K97	45.05

Black Rods



- Color: Black
- Temp. Range: –40° to 240°F
- Tensile Strength: Good
- Impact Strength: Good

Length tolerance is +1/2". Rods meet UL 94HB for flame retardance, ASTM D3935, and ASTM D6098. They are made of FDA-compliant resins.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/4"	+0.002"	1, 2, 3, 4, 5	85485K41	$1.79
1/2"	+0.002"	1, 2, 3, 4, 5	85485K43	3.92
3/4"	+0.002"	1, 2, 3, 4, 5	85485K45	7.35
1"	+0.002"	1, 2, 3, 4, 5	85485K47	11.02
1 1/2"	+0.005"	1, 2, 3, 4, 5	85485K49	$22.54
2"	+0.005"	1, 2, 3, 4, 5	85485K53	41.16
3"	+0.030"	1, 2, 3, 4, 5	85485K55	86.76

Round Tubes



- Color: Clear
- Temp. Range: –40° to 200°F
- Tensile Strength: Good
- Impact Strength: Excellent

OD and ID tolerances are ±0.050". Tubes meet UL 94HB for flame retardance and are made of FDA-compliant resins.

OD	ID	Wall Thick.		1-ft. Lg.	2-ft. Lg.	3-ft. Lg.	4-ft. Lg.	8-ft. Lg.
3/8"	1/8"	1/8"	8585K101	____	____	____	____	$11.15
3/8"	1/4"	1/16"	8585K102	____	____	____	____	8.86
1/2"	1/4"	1/8"	8585K103	____	____	____	____	16.86
1/2"	3/8"	1/16"	8585K104	____	____	____	____	9.71
5/8"	3/8"	1/8"	8585K105	____	____	____	____	20.29
5/8"	1/2"	1/16"	8585K106	____	____	____	____	11.14
3/4"	1/4"	1/4"	8585K107	____	____	____	____	25.00
3/4"	5/8"	1/16"	8585K108	____	____	____	____	15.68
7/8"	3/4"	1/16"	8585K109	____	____	____	____	19.84
1"	3/4"	1/8"	8585K201	____	____	____	____	24.69
1"	7/8"	1/16"	8585K202	____	____	____	____	14.62
1 1/8"	1"	1/16"	8585K203	____	____	____	____	17.82
1 1/4"	1"	1/8"	8585K204	____	____	____	____	23.83
1 1/4"	1 1/8"	1/16"	8585K205	____	____	____	____	19.89
1 1/2"	1 1/4"	1/8"	8585K206	____	____	____	____	27.84
1 1/2"	1 3/8"	1/16"	8585K207	____	____	____	____	21.49
1 3/4"	1 1/4"	1/4"	8585K24	$18.09	$31.92	$45.75	$58.52	106.40
1 3/4"	1 1/2"	1/8"	8585K25	9.16	16.16	23.16	29.63	53.87
2"	1 3/4"	1/8"	8585K26	10.34	18.24	26.14	33.44	60.80
2"	1 7/8"	1/16"	8585K27	$5.98	$10.56	$15.14	$19.36	$35.20
2 1/4"	2"	1/8"	8585K28	11.70	20.64	29.58	37.84	68.80
2 1/4"	2 1/8"	1/16"	8585K29	6.94	12.24	17.54	22.44	40.80
2 1/2"	2 1/4"	1/8"	8585K31	12.83	22.64	33.21	41.51	75.47
2 1/2"	2 3/8"	1/16"	8585K32	7.48	13.20	18.92	24.20	44.00
2 3/4"	2 1/2"	1/8"	8585K36	14.73	26.00	37.27	47.67	86.67
3"	2 5/8"	3/16"	8585K37	25.11	44.32	63.52	81.25	147.73
3"	2 3/4"	1/8"	8585K38	15.64	27.60	39.56	50.60	92.00
3"	2 7/8"	1/16"	8585K39	9.25	16.32	23.39	29.92	54.40
3 1/8"	3"	1/16"	8585K42	9.52	16.80	24.08	30.80	56.00
3 1/2"	3"	1/4"	8585K44	38.53	68.00	97.47	124.67	226.67
3 1/2"	3 1/4"	1/8"	8585K47	17.91	31.60	45.29	57.93	105.33
4"	3 1/2"	1/4"	8585K49	32.98	58.20	83.42	106.70	194.00
4"	3 3/4"	1/8"	8585K55	24.75	43.68	62.61	80.08	145.60
4 1/2"	4 1/4"	1/8"	8585K56	31.01	54.72	78.43	100.32	182.40
5"	4 3/4"	1/8"	8585K57	31.28	55.20	79.12	101.20	184.00
6"	5 3/4"	1/8"	8585K58	36.01	63.55	91.09	116.51	211.84
8"	7 3/4"	1/8"	8585K59	54.18	95.62	137.05	175.30	318.72

Square Tubes



- Color: Clear
- Temp. Range: –40° to 200°F
- Tensile Strength: Good
- Impact Strength: Excellent

Thickness tolerance is ±0.008". Tubes meet UL 94HB for flame retardance and are made of FDA-compliant resins.

Outside Ht.	Outside Wd.	Ht./Wd. Tolerance	Wall Thick.	Available Lengths, ft.		Per Ft.
1/2"	1/2"	±0.010"	1/16"	6	3161T11	$2.91
3/4"	3/4"	±0.020"	1/16"	6	3161T21	4.48
1"	1"	±0.020"	0.080"	1, 2, 3, 4, 5, 6	3161T31	$6.46
2"	2"	±0.030"	0.080"	1, 2, 3, 4, 5, 6	3161T41	12.91

90° Angles



- Color: Clear
- Temp. Range: –40° to 200°F
- Tensile Strength: Good
- Impact Strength: Excellent

Leg length tolerances are ±0.030", thickness tolerance is ±0.005", and length tolerance is +1/2". Meet UL 94HB for flame retardance.

Outside Leg Lgs.	Wall Thick.	2-ft. Lengths		4-ft. Lengths	
1/2" × 1/2"	0.050"	1755K11	$2.04	1755K61	$3.80
1" × 1"	0.050"	1755K12	3.67	1755K62	6.72
1 1/2" × 1 1/2"	0.050"	1755K13	5.33	1755K63	10.09

U-Channels



- Color: Clear
- Temp. Range: –40° to 200°F
- Tensile Strength: Good
- Impact Strength: Excellent

Leg length tolerances are ±0.020", base tolerance is ±0.015", and thickness tolerance is ±0.005". Length tolerance is +1/2". Meet UL 94HB for flame retardance.

Outside Base	Outside Legs	Wall Thick.	2-ft. Lengths		4-ft. Lengths	
0.235"	0.300"	0.050"	1753K11	$1.87	1753K61	$3.50
0.365"	0.345"	0.050"	1753K12	2.03	1753K62	3.81
0.490"	0.400"	0.050"	1753K13	2.57	1753K63	4.84

Balls



- Color: Clear
- Max. Temp.: 240°F
- Tensile Strength: Good
- Impact Strength: Good

Dia.	Dia. Tolerance	Package Qty.		Pkg.
1/4"	±0.001"	25	9363K31	$9.11
3/8"	±0.001"	5	9363K33	10.40
1/2"	±0.001"	2	9363K35	9.57
3/4"	±0.001"	1	9363K37	14.07
1"	±0.001"	1	9363K38	24.22

Polycarbonate

For comparative information about plastics, see page 3626.

Scratch- and UV-Resistant Polycarbonate

- Color: See below
- Temp. Range: –40° to 180° F
- Tensile Strength: Good
- Impact Strength: Excellent

A clear coating provides exceptional abrasion resistance and protects against UV degradation. It allows these sheets to maintain clarity better than other polycarbonates and withstand harsh cleaners and solvents. All sheets can be used outdoors. 1/16" to 3/8" thick sheets meet UL 94HB for flame retardance. 1/2" thick sheets meet UL 94V0 for flame retardance.

Sheets

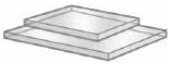

- Color: Clear

Width and length tolerances are -1/4" to +5/8", except for 6"x6" and 6"x12" are +1/4". Sheets have greater impact strength than Plexiglas® acrylic and can be used in similar applications.

Thick.	Thick. Tolerance	6"x6"		6"x12"		12"x12"		12"x24"		12"x36"		12"x48"	
1/16"	±0.003"					8707K161	$19.38	8707K162	$33.84	8707K168	$55.87	8707K163	$58.42
1/8"	±0.006"					8707K111	21.23	8707K112	36.95	8707K118	58.32	8707K113	61.20
3/16"	±0.009"					8707K121	24.16	8707K122	42.03	8707K128	66.42	8707K123	69.56
1/4"	±0.013"	8707K129	$11.98	8707K171	$21.42	8707K173	27.23	8707K175	47.34	8707K177	74.97	8707K179	78.41
3/8"	±0.019"	8707K169	19.03	8707K172	33.94	8707K174	41.50	8707K176	74.88	8707K178	118.81	8707K181	134.94
1/2"	±0.025"	8707K651	21.90	8707K159	39.09	8707K151	48.53	8707K152	86.31	8707K158	136.82	8707K153	143.46

Thick.	Thick. Tolerance	24"x24"		24"x36"		24"x48"		36"x36"		48"x48"		48"x96"	
1/16"	±0.003"	8707K164	$58.42	8707K167	$95.76	8707K165	$98.32	8707K166	$109.80	8707K66	$182.28	8707K76	$319.20
1/8"	±0.006"	8707K114	64.31	8707K117	99.99	8707K115	111.80	8707K116	115.33	8707K61	199.96	8707K71	350.26
3/16"	±0.009"	8707K124	73.09	8707K127	113.87	8707K125	127.12	8707K126	131.33	8707K62	223.03	8707K72	398.76
1/4"	±0.013"	8707K134	82.34	8707K137	128.53	8707K135	143.23	8707K136	148.24	8707K63	251.31	8707K73	449.97
3/8"	±0.019"	8707K144	130.87	8707K147	203.71	8707K145	227.66	8707K146	234.94	8707K64	399.33	8707K74	713.21
1/2"	±0.025"	8707K154	150.69	8707K157	234.53	8707K155	262.12	8707K156	347.90	8707K65	459.86	8707K75	821.18

Tinted Sheets

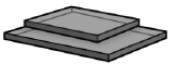

- Color: Semi-clear gray

Tint reduces light transmission up to 50%. Width and length tolerances are –1/4" to +5/8", except for 6"x6" are +1/4".

Thick.	Thick. Tolerance	6"x6"		12"x12"		12"x24"		24"x24"		24"x48"		48"x96"	
1/8"	±0.006"	87115K116	$9.82	87115K111	$22.99	87115K112	$39.99	87115K114	$69.55	87115K115	$120.92	87115K71	$378.81
3/16"	±0.009"	87115K126	11.61	87115K121	27.67	87115K122	48.13	87115K124	83.69	87115K125	145.54	87115K72	455.94
1/4"	±0.013"	87115K136	14.24	87115K131	31.52	87115K132	54.81	87115K134	95.32	87115K135	165.75	87115K73	519.31

High-Strength Glass-Filled Polycarbonate

- Color: Black
- Temp. Range: –40° to 265° F
- Tensile Strength: Excellent
- Impact Strength: Good

Material is 20% glass-filled to provide excellent tensile strength for use in structural applications. Meets UL 94HB for flame retardance, ASTM D3935, and ASTM D6098.

Sheets



Width and length tolerances are ±1/8" for 6" and 12" sides; +1" for 24" and 48" sides.

Thick.	Thick. Tolerance	6"x6"		12"x12"		12"x24"		24"x48"	
3/8"	+0.125"	85645K11	$30.72	85645K22	$111.75	85645K23	$205.97	85645K24	$750.33
1/2"	+0.125"	85645K12	36.93	85645K52	135.31	85645K53	249.81	85645K54	870.64
1"	+0.125"	85645K13	66.72	85645K72	236.11	85645K73	427.52	85645K74	1,574.06
2"	+0.125"	85645K14	126.71	85645K92	463.81	85645K93	837.86	85645K94	3,055.71

Rods



Length tolerance is +1/2".

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/2"	+0.002"	1, 2, 3, 4, 5	85665K83	$8.12
3/4"	+0.002"	1, 2, 3, 4, 5	85665K84	16.42
1"	+0.002"	1, 2, 3, 4, 5	85665K85	25.49

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1 1/2"	+0.005"	1, 2, 3, 4	85665K92	$53.81
2"	+0.005"	1, 2, 3, 4	85665K93	85.06
3"	+0.250"	1, 2, 3, 4	85665K94	186.52

Antistatic Polycarbonate

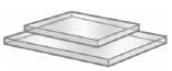

- Color: Clear
- Temp. Range: –40° to 180° F
- Tensile Strength: Good
- Impact Strength: Excellent

Use these sheets for applications where static electricity is a concern. Width and length tolerances are –9/32". 1/8" and 3/16" thick sheets meet UL 94V2 for flame retardance. 1/4" to 1/2" thick sheets meet UL 94V0 for flame retardance.

Thick.	Thick. Tolerance	6"x6"		12"x12"		12"x24"		24"x24"		24"x48"		48"x48"	
1/8"	–0.013"	8184K21	$14.04	8184K11	$39.80	8184K31	$69.21	8184K51	$120.37	8184K71	$209.35	8184K91	$364.13
3/16"	–0.019"	8184K23	15.90	8184K13	47.83	8184K33	83.21	8184K53	144.69	8184K73	251.68	8184K93	437.71
1/4"	–0.026"	8184K25	18.82	8184K15	55.56	8184K35	96.59	8184K55	167.99	8184K75	292.21	8184K95	508.17
3/8"	–0.020"	8184K27	22.57	8184K17	69.94	8184K37	121.64	8184K57	211.57	8184K77	367.92	8184K97	639.93
1/2"	±0.025"	8184K29	26.69	8184K19	86.62	8184K39	150.66	8184K59	262.05	8184K79	455.72	8184K99	792.60

For comparative information about plastics, see page 3626.

Ultra-Impact-Resistant Polycarbonate

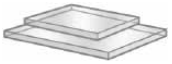

- Color: Clear
- Temp. Range: –40° to 180° F
- Tensile Strength: Good
- Impact Strength: Excellent

Often used as security glazing for doors and windows to protect against forced entry. Resists abrasion and UV degradation, making it good for machine guards. Has greater impact strength than Plexiglas® acrylic and can be used in similar applications. Width and length tolerances are +1/4″ for sizes 6″×6″ and 6″×12″; -1/2″ to +5/8″ for all other sizes. The **3/4″ thick sheets** are 3-ply with an acrylic inner layer and polycarbonate exterior layers. The **1 1/4″ thick sheets** are 4-ply polycarbonate laminates. All sheets can be used outdoors.

Thick.	Thick. Toler.	6″×6″		6″×12″		12″×12″		12″×24″		24″×24″		24″×48″	
3/4″	±0.065″	84805K21	$42.14	84805K22	$76.63	84805K31	$92.32	84805K32	$181.29	84805K33	$356.10	84805K34	$611.52
1 1/4″	±0.065″	84805K41	69.18	84805K42	125.86	84805K51	151.46	84805K52	297.21	84805K53	525.07	84805K54	891.84

Mirrored Polycarbonate



- Color: Mirrored with gray back
- Temp. Range: –20° to 240° F
- Tensile Strength: Good
- Impact Strength: Excellent

When you need a reflective surface and vandalism is a concern, choose these break-resistant sheets. One side is coated with aluminum for a mirror finish and the other is painted gray. Sheets can be used outdoors. Width and length tolerances are ±1/16″.

Thick.	Thick. Toler.	3″×24″		6″×6″		6″×24″		12″×12″		24″×24″		36″×36″	
1/8″	±0.013″	2518T12	$12.51	2518T11	$9.46	2518T13	$24.50	2518T14	$24.50	2518T15	$84.85	2518T16	$205.80

Wear-Resistant Slippery PTFE

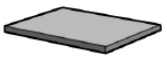

- Color: Dark gray
- Temp. Range: –325° to 500° F
- Tensile Strength: Poor
- Impact Strength: Not rated

Filled with carbon and graphite, these naturally slippery PTFE sheets stand up to wear. They are often fabricated into wear rings, wear pads, and rotational bearings. Width and length tolerances are +3/32″.

Thick.	Thick. Toler.	12″×12″		24″×24″		36″×36″	
3/16″	+0.019″	1331N11	$95.48	1331N21	$298.38	1331N31	$626.60
1/4″	+0.025″	1331N12	122.95	1331N22	384.22	1331N32	768.44
1/2″	+0.050″	1331N13	223.41	1331N23	698.15	1331N33	1,326.48
1″	+0.100″	1331N14	363.06	1331N24	1,134.55	1331N34	2,042.19

Easy-to-Form Clear PETG

- Color: Clear
- Temp. Range: –40° to 140° F
- Tensile Strength: Good
- Impact Strength: Good

You can form this material into complex shapes without sacrificing durability, but it has less impact resistance than polycarbonate. Applications include shelving, display racks, and signs. Made from FDA-compliant resins.

Sheets

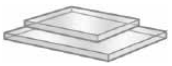

Width and length tolerances are ±1/8″. Sheets have greater impact strength than Plexiglas® acrylic and can be used in similar applications. Meet UL 94HB for flame retardance.

Thick.	Thick. Tolerance	12″×12″		12″×24″		24″×24″		24″×48″		48″×48″		48″×96″	
1/16″	+0.004″, -0.009″	85815K11	$1.97	85815K21	$3.94	85815K32	$7.88	85815K42	$15.47	85815K62	$29.49	85815K82	$51.56
5/64″	+0.010″, -0.006″	85815K12	2.62	85815K22	5.24	85815K33	10.33	85815K43	20.09	85815K63	37.50	85815K83	66.96
3/32″	+0.016″, -0.004″	85815K13	3.92	85815K23	7.80	85815K34	13.37	85815K44	26.56	85815K64	46.21	85815K84	83.56
1/8″	+0.005″, -0.019″	85815K14	4.79	85815K24	9.24	85815K35	16.30	85815K45	31.50	85815K65	54.73	85815K85	98.96
3/16″	+0.007″, -0.028″	85815K15	6.24	85815K25	12.30	85815K36	23.50	85815K46	43.19	85815K66	79.37	85815K86	142.86
1/4″	+0.010″, -0.038″	85815K16	8.34	85815K26	16.43	85815K37	31.42	85815K47	57.53	85815K67	106.04	85815K87	190.86

Rods



Length tolerance is +1″.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/8″	±0.005″	6	8325K13	$0.19
3/16″	±0.007″	6	8325K15	.36
1/4″	±0.010″	6	8325K17	.67
5/16″	±0.010″	6	8325K19	1.09
3/8″	±0.010″	6	8325K21	1.55
1/2″	±0.012″	6	8325K23	$2.57
3/4″	±0.025″	1, 2, 3, 4, 5, 6	8325K27	4.66
1″	±0.030″	1, 2, 3, 4, 5, 6	8325K29	7.85
1 1/4″	±0.035″	1, 2, 3, 4, 5, 6	8325K31	11.64
1 1/2″	±0.040″	1, 2, 3, 4, 5, 6	8325K33	15.91

Tubes



OD and ID tolerances are ±0.010″ for ODs 1″ and smaller; ±0.020″ for ODs 1 1/4″ and larger. Length tolerance is +1″.

OD	ID	Available Lengths, ft.		Per Ft.
1/16″ Wall Thick.				
5/16″	3/16″	6	9245K15	$0.72
3/8″	1/4″	6	9245K17	.94
1/2″	3/8″	6	9245K21	1.19
5/8″	1/2″	6	9245K25	1.55
3/4″	5/8″	6	9245K29	1.80
7/8″	3/4″	6	9245K33	2.13
1″	7/8″	6	9245K37	2.42
1 1/4″	1 1/8″	6	9245K41	3.06
1/8″ Wall Thick.				
1/2″	1/4″	6	9245K19	$1.76
5/8″	3/8″	6	9245K23	2.23
3/4″	1/2″	6	9245K27	2.76
7/8″	5/8″	6	9245K31	3.30
1″	3/4″	6	9245K35	3.76
1 1/4″	1″	6	9245K39	4.52
1 3/8″	1 1/8″	6	9245K43	5.06
1 1/2″	1 1/4″	1, 2, 3, 4, 5, 6	9245K45	7.51
1/8″ Wall Thick. (Cont.)				
1 5/8″	1 3/8″	1, 2, 3, 4, 5, 6	9245K47	$6.07
1 3/4″	1 1/2″	1, 2, 3, 4, 5, 6	9245K49	6.52
2″	1 3/4″	1, 2, 3, 4, 5, 6	9245K51	7.17
2 1/4″	2″	1, 2, 3, 4, 5, 6	9245K53	7.84
2 1/2″	2 1/4″	1, 2, 3, 4, 5, 6	9245K55	8.38
2 3/4″	2 1/2″	1, 2, 3, 4, 5, 6	9245K57	9.27
3″	2 3/4″	1, 2, 3, 4, 5, 6	9245K59	10.17
3 1/4″	3″	1, 2, 3, 4, 5, 6	9245K61	11.64

Optically Clear and Colored Cast Acrylic

All shapes offer excellent clarity over a wide temperature range. Comparable to Plexiglas® acrylic shapes and Lucite, this material can be used outdoors.

Sheets

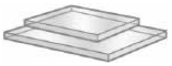

- Color: Clear
- Temp. Range: –40° to 170°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Width and length tolerances are ±1/4". When heated, sheets will uniformly shrink 0.5 to 2% in width and 1 to 2% in length. Made from FDA-compliant resins.

Thick.	Thick. Tolerance	6"×6"		6"×12"		12"×12"		12"×24"		12"×36"	
1/16"	+0.010", –0.023"	_____	____	8560K178	$2.60	8560K171	$4.99	8560K172	$8.98	8560K173	$12.32
3/32"	+0.001", –0.034"	_____	____	8560K188	2.57	8560K181	4.95	8560K182	8.96	8560K183	12.19
7/64"	+0.023", –0.014"	_____	____	8560K199	4.17	8560K191	7.25	8560K192	13.02	8560K193	17.77
1/8"	+0.015", –0.025"	_____	____	8560K275	5.07	8560K239	8.63	8560K257	15.76	8560K258	22.20
3/16"	+0.007", –0.043"	_____	____	8560K163	6.02	8560K211	10.13	8560K219	20.14	8560K213	25.19
7/32"	+0.035", –0.018"	_____	____	8560K179	7.48	8560K221	13.02	8560K222	23.75	8560K223	29.56
1/4"	+0.020", –0.040"	8560K358	$5.49	8560K359	10.99	8560K354	16.36	8560K355	28.08	8560K356	40.60
5/16"	+0.055", –0.002"	8560K615	5.84	8560K931	11.06	8560K591	19.11	8560K593	27.03	8560K594	47.83
7/16"	+0.059", –0.018"	8560K241	7.05	8560K656	14.96	8560K242	26.11	8560K243	47.45	8560K244	65.21
1/2"	+0.025", –0.065"	8560K274	8.46	8560K279	17.49	8560K265	30.24	8560K266	52.58	8560K267	75.26
11/16"	+0.048", –0.049"	8560K369	11.38	8560K165	21.38	8560K361	37.22	8560K362	68.08	8560K363	85.35
15/16"	+0.038", –0.069"	8560K379	13.78	8560K167	24.98	8560K371	43.20	8560K372	72.02	8560K373	108.02
1"	+0.048", –0.112"	8560K329	17.14	8560K168	31.25	8560K321	54.03	8560K322	93.95	8560K323	134.47
1 1/4"	+0.052", –0.094"	8560K385	20.61	8560K386	42.38	8560K381	73.99	8560K382	121.76	8560K383	180.30
1 1/2"	+0.077", –0.159"	8560K918	22.95	8560K951	45.90	8560K912	76.50	8560K933	168.31	8560K934	220.07
2"	+0.108", –0.202"	8560K919	26.12	8560K952	52.56	8560K914	91.40	8560K935	212.84	8560K936	270.95
2 1/2"	+0.079", –0.181"	8560K927	42.86	8560K953	85.20	8560K916	148.17	8560K937	350.32	8560K938	456.68
3"	+0.102", –0.208"	8560K928	51.62	8560K954	97.70	8560K921	172.05	8560K939	429.51	8560K941	518.00
3 1/2"	+0.121", –0.239"	8560K929	60.29	8560K955	119.84	8560K923	208.42	8560K942	492.77	8560K943	642.39
4"	+0.142", –0.268"	8560K932	81.26	8560K956	161.52	8560K925	280.91	8560K944	664.14	8560K945	865.80

Thick.	Thick. Tolerance	24"×24"		24"×36"		24"×48"		48"×48"		48"×96"	
1/16"	+0.010", –0.023"	8560K174	$15.03	8560K175	$20.32	8560K176	$24.00	8560K177	$43.29	_____	_____
3/32"	+0.001", –0.034"	8560K184	14.89	8560K185	20.07	8560K186	23.82	8560K187	42.80	_____	_____
7/64"	+0.023", –0.014"	8560K194	21.76	8560K195	29.35	8560K196	34.80	8560K197	62.58	8560K198	$104.33
1/8"	+0.015", –0.025"	8560K259	23.21	8560K261	33.24	8560K262	42.20	8560K263	76.73	8560K264	137.02
3/16"	+0.007", –0.043"	8560K214	30.90	8560K215	41.91	8560K216	49.95	8560K217	90.31	8560K218	150.50
7/32"	+0.035", –0.018"	8560K224	38.64	8560K225	54.61	8560K226	65.78	8560K227	118.14	8560K228	196.94
1/4"	+0.020", –0.040"	8560K357	51.59	8560K434	74.17	8560K435	94.01	8560K436	170.93	8560K437	305.24
5/16"	+0.055", –0.002"	8560K603	58.79	8560K604	79.96	8560K605	95.56	8560K611	173.10	8560K614	307.18
7/16"	+0.059", –0.018"	8560K245	71.31	8560K246	109.19	8560K247	132.39	8560K248	236.26	8560K249	393.77
1/2"	+0.025", –0.065"	8560K268	95.57	8560K269	136.87	8560K271	173.76	8560K272	315.93	8560K273	564.16
11/16"	+0.048", –0.049"	8560K364	111.01	8560K365	158.92	8560K366	190.76	8560K367	349.33	8560K368	577.89
15/16"	+0.038", –0.069"	8560K374	140.41	8560K375	192.92	8560K376	234.91	8560K377	430.72	_____	_____
1"	+0.048", –0.112"	8560K324	170.76	8560K325	244.54	8560K326	310.46	8560K327	564.48	8560K328	1,008.00

Colored Sheets

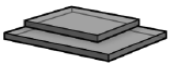

- Color: Semi-clear bronze or gray; opaque black, blue, green, red, white, or yellow
- Temp. Range: –40° to 170°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Width and length tolerances are ±1/4". **To Order:** Please specify color.

Thick.	Thick. Tolerance	12"×12"		12"×24"		12"×48"		24"×24"		24"×36"		36"×48"	
1/8"	+0.007", –0.030"	8505K11	$6.74	8505K12	$13.46	8505K13	$26.39	8505K14	$26.39	8505K15	$32.44	8505K16	$72.13
3/16"	+0.007", –0.043"	8505K81	7.82	8505K82	15.62	8505K83	31.26	8505K84	31.26	8505K85	46.88	8505K86	93.79
1/4"	+0.004", –0.049"	8505K91	9.42	8505K92	18.80	8505K93	37.60	8505K94	37.60	8505K95	59.11	8505K96	113.88

Fluorescent Sheets

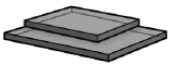

- Color: Semi-clear amber, blue, green, or red
- Temp. Range: –40° to 170°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Width and length tolerances are ±1/4". **To Order:** Please specify color.

Thick.	Thick. Tolerance	12"×12"		12"×24"		24"×24"		24"×36"		36"×48"	
3/32"	+0.027", –0.015"	85635K411	$6.54	85635K441	$11.96	85635K461	$20.93	85635K471	$27.93	85635K651	$50.25
1/8"	+0.007", –0.030"	85635K421	7.84	85635K451	14.37	85635K481	25.08	85635K491	33.51	85635K511	60.26
1/4"	+0.004", –0.049"	85635K431	13.36	85635K531	19.74	85635K541	43.90	85635K551	59.22	85635K561	107.69

Mil. Spec. Sheets

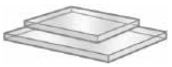

- Color: Clear
- Temp. Range: –40° to 170°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Sheets meet military specification MIL-P-5425. Width and length tolerances are +1/8".

Thick.	Thick. Tolerance	6"×6"		12"×12"		12"×18"		12"×24"		18"×18"		18"×24"	
1/8"	±0.020"	8473K111	$21.85	8473K276	$57.43	8473K277	$79.78	8473K278	$97.00	8473K317	$110.91	8473K318	$132.90
1/4"	±0.030"	8473K112	30.25	8473K285	77.84	8473K341	108.05	8473K342	133.95	8473K347	150.30	8473K348	179.98

(Material continued on following page)

Optically Clear and Colored Cast Acrylic *(Material continued from previous page)*

Rectangular Bars



- Color: Clear
- Temp. Range: –40° to 180°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Width and length tolerances are ±1/8″. Bars meet UL 94HB for flame retardance and ASTM D4802. 1/16″ to 3/8″ thick bars are made from FDA-compliant resins.

Thick.	Thick. Tolerance	Available Lengths, ft.	1″ Wide	Per Ft.	1½″ Wide	Per Ft.	2″ Wide	Per Ft.	2½″ Wide	Per Ft.	3″ Wide	Per Ft.	4″ Wide	Per Ft.
1/16″	+0.006″, –0.007″	2, 4	1227T719	$0.41	1227T729	$0.57	1227T739	$0.73	1227T749	$0.91	1227T759	$1.06	1227T769	$1.38
1/8″	–0.026″	2, 4	1227T119	.87	1227T129	1.21	1227T139	1.54	1227T149	1.76	1227T159	2.07	1227T169	2.53
3/16″	+0.008″, –0.029″	2, 4	1227T819	1.20	1227T829	1.69	1227T839	2.24	1227T849	2.68	1227T859	3.21	1227T869	3.85
1/4″	–0.052″	2, 4	1227T219	1.51	1227T229	2.09	1227T239	2.55	1227T249	3.00	1227T259	3.48	1227T269	4.05
3/8″	+0.014″, –0.056″	2, 4	1227T319	2.11	1227T329	2.95	1227T339	3.62	1227T349	4.16	1227T359	4.84	1227T369	5.73
1/2″	+0.019″, –0.075″	2, 4	1227T419	2.42	1227T429	4.03	1227T439	4.50	1227T449	5.23	1227T459	6.07	1227T469	7.23
3/4″	+0.029″, –0.113″	2, 4	1227T519	5.10	1227T529	6.67	1227T539	8.11	1227T549	9.40	1227T559	10.98	1227T569	14.00
1″	+0.038″, –0.150″	2, 4	1227T619	6.41	1227T629	8.64	1227T639	10.26	1227T649	12.52	1227T659	13.68	1227T669	17.84

Round Tubes



- Color: Clear
- Temp. Range: 0° to 150°F
- Tensile Strength: Good
- Impact Strength: Poor

Length tolerance is ±1″. Wall thickness tolerance is ±15%. Meet UL 94HB for flame retardance (except 14″ OD size). Tubes up to 8″ OD are also made from FDA-compliant resins.

OD	OD Tolerance	ID	Wall Thick.	Available Lengths, ft.		Per Ft.
1½″	±0.020″	1″	1/4″	1, 3, 5	8486K531	$44.54
1½″	±0.020″	1⅛″	3/16″	1, 3, 5	8486K431	40.95
1½″	±0.020″	1¼″	1/8″	1, 3, 5	8486K331	35.42
1¾″	±0.020″	1¼″	1/4″	1, 3, 5	8486K931	45.20
1¾″	±0.020″	1⅜″	3/16″	1, 3, 5	8486K435	42.46
1¾″	±0.020″	1½″	1/8″	1, 3, 5	8486K335	37.04
2″	±0.020″	1½″	1/4″	1, 3, 5	8486K535	44.23
2″	±0.020″	1⅝″	3/16″	1, 3, 5	8486K441	43.26
2″	±0.020″	1¾″	1/8″	1, 3, 5	8486K341	37.72
2¼″	±0.020″	1¾″	1/4″	1, 3, 5	8486K541	45.26
2¼″	±0.020″	1⅞″	3/16″	1, 3, 5	8486K445	43.65
2¼″	±0.020″	2″	1/8″	1, 3, 5	8486K345	38.42
2½″	±0.020″	2″	1/4″	1, 3, 5	8486K545	47.13
2½″	±0.020″	2⅛″	3/16″	1, 3, 5	8486K451	43.36
2½″	±0.020″	2¼″	1/8″	1, 3, 5	8486K351	39.83
2¾″	±0.020″	2¼″	1/4″	1, 3, 5	8486K551	45.77
2¾″	±0.020″	2⅜″	3/16″	1, 3, 5	8486K455	46.21
2¾″	±0.020″	2½″	1/8″	1, 3, 5	8486K355	40.04
3″	±0.020″	2½″	1/4″	1, 3, 5	8486K555	48.16
3″	±0.020″	2⅝″	3/16″	1, 3, 5	8486K461	44.63
3″	±0.020″	2¾″	1/8″	1, 3, 5	8486K361	40.47
3¼″	±0.030″	2¾″	1/4″	1, 3, 5	8486K561	48.37
3¼″	±0.030″	2⅞″	3/16″	1, 3, 5	8486K465	44.87
3¼″	±0.030″	3″	1/8″	1, 3, 5	8486K365	41.58
3½″	±0.030″	3″	1/4″	1, 3, 5	8486K565	48.99
3½″	±0.030″	3⅛″	3/16″	1, 3, 5	8486K471	44.54
3½″	±0.030″	3¼″	1/8″	1, 3, 5	8486K371	42.61
3¾″	±0.030″	3¼″	1/4″	1, 3, 5	8486K942	47.52
3¾″	±0.030″	3⅜″	3/16″	1, 3, 5	8486K941	46.77
3¾″	±0.030″	3½″	1/8″	1, 3, 5	8486K94	43.39
4″	±0.045″	3¼″	3/8″	1, 3, 5	8486K631	95.04
4″	±0.045″	3½″	1/4″	1, 3, 5	8486K571	50.57
4″	±0.045″	3⅝″	3/16″	1, 3, 5	8486K475	47.24
4″	±0.045″	3¾″	1/8″	1, 3, 5	8486K375	43.74
4¼″	±0.045″	3¾″	1/4″	1, 3, 5	8486K945	49.85
4¼″	±0.045″	3⅞″	3/16″	1, 3, 5	8486K944	47.57
4¼″	±0.045″	4″	1/8″	1, 3, 5	8486K943	44.63
4½″	±0.045″	3¾″	3/8″	1, 3, 5	8486K635	100.30
4½″	±0.045″	4″	1/4″	1, 3, 5	8486K575	50.42
4½″	±0.045″	4⅛″	3/16″	1, 3, 5	8486K481	$49.37
4½″	±0.045″	4¼″	1/8″	1, 3, 5	8486K381	45.09
4¾″	±0.045″	4″	3/8″	1, 3, 5	8486K951	102.00
4¾″	±0.045″	4¼″	1/4″	1, 3, 5	8486K949	53.19
4¾″	±0.045″	4⅜″	3/16″	1, 3, 5	8486K948	49.09
4¾″	±0.045″	4½″	1/8″	1, 3, 5	8486K947	43.69
5″	±0.045″	4¼″	3/8″	1, 3, 5	8486K641	106.64
5″	±0.045″	4½″	1/4″	1, 3, 5	8486K581	53.58
5″	±0.045″	4⅝″	3/16″	1, 3, 5	8486K485	49.24
5″	±0.045″	4¾″	1/8″	1, 3, 5	8486K385	46.52
5¼″	±0.045″	4½″	3/8″	1, 3, 5	8486K955	101.58
5¼″	±0.045″	4¾″	1/4″	1, 3, 5	8486K954	57.46
5¼″	±0.045″	4⅞″	3/16″	1, 3, 5	8486K953	53.56
5¼″	±0.045″	5″	1/8″	1, 3, 5	8486K952	44.61
5½″	±0.045″	4¾″	3/8″	1, 3, 5	8486K645	108.24
5½″	±0.045″	5″	1/4″	1, 3, 5	8486K585	54.96
5½″	±0.045″	5¼″	1/8″	1, 3, 5	8486K391	47.34
5¾″	±0.045″	5¼″	1/4″	1, 3, 5	8486K958	52.69
5¾″	±0.045″	5⅜″	3/16″	1, 3, 5	8486K957	46.75
5¾″	±0.045″	5½″	1/8″	1, 3, 5	8486K956	43.57
6″	±0.045″	5¼″	3/8″	1, 3, 5	8486K651	115.28
6″	±0.045″	5½″	1/4″	1, 3, 5	8486K935	50.98
6″	±0.045″	5⅝″	3/16″	1, 3, 5	8486K495	47.63
6″	±0.045″	5¾″	1/8″	1, 3, 5	8486K395	47.98
7″	±0.065″	6¼″	3/8″	1, 3, 5	8486K655	199.19
7″	±0.065″	6½″	1/4″	1, 3, 5	8486K591	62.12
7″	±0.065″	6⅝″	3/16″	1, 3, 5	8486K831	56.45
7″	±0.065″	6¾″	1/8″	1, 3, 5	8486K731	51.08
8″	±0.065″	7¼″	3/8″	1, 3, 5	8486K661	208.33
8″	±0.065″	7½″	1/4″	1, 3, 5	8486K595	77.22
8″	±0.065″	7⅝″	3/16″	1, 3, 5	8486K835	57.08
8″	±0.065″	7¾″	1/8″	1, 3, 5	8486K735	55.30
10″	±0.065″	9″	1/2″	2, 4	84865K213	330.60
10″	±0.065″	9½″	1/4″	2, 4	84865K212	142.87
10″	±0.065″	9¾″	1/8″	2, 4	84865K211	73.42
10½″	±0.065″	10¼″	1/8″	2, 4	84865K214	74.05
12″	±0.065″	11½″	1/4″	2, 4	84865K217	187.68
12″	±0.065″	11¾″	1/8″	2, 4	84865K216	105.72
14″	±0.080″	13″	1/2″	2, 4	84865K218	540.69

Circles



- Color: Clear
- Temp. Range: –40° to 180°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Circles are cut from sheets for a clear, smooth face. Thickness tolerance is ±15%, except for 1/8″ and 1/4″ thick sheets it is –25%. Diameter tolerance is ±1/8″.

Dia.	1/8″ Thick		1/4″ Thick		1/2″ Thick		1″ Thick	
1″	1221T71	$6.05	1221T81	$11.75	1221T91	$16.41	1221T61	$30.48
2″	1221T13	6.37	1221T23	7.15	1221T33	9.22	1221T62	34.38
3″	1221T15	6.67	1221T25	8.66	1221T35	11.00	1221T63	39.60
4″	1221T17	7.54	1221T27	9.14	1221T37	12.44	1221T64	45.90
5″	1221T75	9.74	1221T85	12.24	1221T95	21.05	1221T65	52.74
6″	1221T19	10.24	1221T29	12.60	1221T39	21.18	1221T66	62.50

Cubes

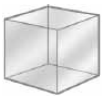

- Color: Clear
- Temp. Range: –40° to 180°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Meet UL 94HB for flame retardance and ASTM D1547. Material is made from FDA-compliant resins.

Square Size	Square Tolerance		
1/4″	±0.054″	8680K22	$0.78
1/2″	±0.093″	8680K24	1.14
1″	±0.142″	8680K26	4.20
1½″	±0.121″	8680K27	17.20
2″	±0.152″	8680K28	42.48
3″	±0.300″	8680K29	152.00

(Material continued on following page)

Optically Clear and Colored Cast Acrylic *(Material continued from previous page)*

All shapes offer exceptional resistance to scratches and scuffs over a wide temperature range. Comparable to Plexiglas® acrylic shapes and Lucite, this material can be used outdoors.

Rods



- Color: Clear
- Temp. Range: 0° to 150° F
- Tensile Strength: Good
- Impact Strength: Poor

Meet UL 94HB for flame retardance and are made from FDA-compliant resins. Rods have a rough finish on the face.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/2"	±0.005"	1, 2, 3, 4, 5, 6, 7, 8	8528K32	$5.13
5/8"	±0.010"	1, 2, 3, 4, 5, 6, 7, 8	8528K51	5.62
3/4"	±0.010"	1, 2, 3, 4, 5, 6, 7, 8	8528K33	5.98
7/8"	±0.010"	1, 2, 3, 4, 5, 6, 7, 8	8528K52	6.26
1"	±0.010"	1, 2, 3, 4, 5, 6, 7, 8	8528K34	8.34
1 1/4"	±0.015"	1, 2, 3, 4, 5, 6, 7, 8	8528K53	11.05
1 1/2"	±0.015"	1, 2, 3, 4, 5, 6, 7, 8	8528K36	11.84
1 3/4"	±0.015"	1, 2, 3, 4, 5, 6, 7, 8	8528K54	14.96
2"	±0.015"	1, 2, 3, 4, 5, 6, 7, 8	8528K38	20.49
2 1/2"	±0.030"	1, 2, 3, 4, 5, 6	8528K41	$42.99
3"	±0.030"	1, 2, 3, 4, 5, 6	8528K43	55.19
3 1/2"	±0.045"	1, 2, 3, 4, 5	8528K45	122.37
4"	±0.045"	1, 2, 3, 4, 5	8528K47	175.07
4 1/2"	±0.045"	1, 2, 3, 4, 5	8528K55	223.72
5"	±0.045"	1, 2, 3, 4, 5	8528K49	296.07
5 1/2"	±0.045"	1, 2, 3, 4, 5	8528K56	351.96
6"	±0.045"	1, 2, 3, 4, 5	8528K57	467.90



Dia.	Dia. Tolerance	2" Long		4" Long		6" Long	
2"	±0.015"	8581K44	$4.50	8581K62	$7.53	8581K81	$10.52
3"	±0.030"	8581K45	13.06	8581K63	21.75	8581K82	30.44
4"	±0.045"	8581K46	43.47	8581K64	72.42	8581K83	101.38
6"	±0.045"	8581K48	104.94	8581K66	174.82	8581K85	222.60
8"	±0.050"	_____	____	8581K67	222.87	8581K86	301.47

Fluorescent Rods



- Color: Semi-clear amber, blue, green, or red
- Temp. Range: 0° to 180° F
- Tensile Strength: Excellent
- Impact Strength: Poor

Diameter tolerance range is –0.010" to +0.050". **To Order:** Please specify color.

Dia.	Available Lengths, ft.		Per Ft.
1/2"	1, 2, 3, 4	84925K11	$14.72
3/4"	1, 2, 3, 4	84925K21	16.74
1"	1, 2, 3, 4	84925K31	18.41
1 1/2"	1, 2, 3, 4	84925K41	$27.59
2"	1, 2, 3, 4	84925K51	54.66
2 1/2"	1, 2, 3, 4	84925K61	110.83

Antistatic Cast Acrylic

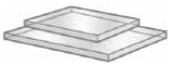

- Color: Clear
- Max. Temp.: 180° F
- Tensile Strength: Excellent
- Impact Strength: Poor

An antistatic surface provides excellent control of electrostatic discharge and does not attract dust and other contaminants. Comparable to Plexiglas® acrylic shapes. Width and length tolerances are ±1/32". Sheets meet UL 94HB for flame retardance.

Thick.	Thick. Tolerance	6"×6"		12"×12"		12"×24"		24"×24"		24"×48"		48"×96"	
1/8"	±0.037"	8774K17	$14.47	8774K11	$40.04	8774K12	$69.58	8774K13	$121.04	8774K14	$210.48	8774K16	$647.83
3/16"	±0.049"	8774K22	16.19	8774K23	46.89	8774K24	81.53	8774K25	141.79	8774K26	246.54	8774K28	758.94
1/4"	±0.059"	8774K31	19.40	8774K32	55.41	8774K33	96.33	8774K34	167.54	8774K35	291.32	8774K37	896.72
3/8"	±0.081"	8774K47	21.00	8774K41	61.52	8774K42	107.04	8774K43	186.15	8774K44	323.71	8774K46	996.37
1/2"	±0.098"	8774K52	24.97	8774K53	76.46	8774K54	132.97	8774K55	231.29	8774K56	402.75	_____	_____

Scratch-Resistant Cast Acrylic

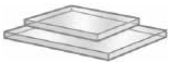

- Color: Clear
- Temp. Range: 0° to 175° F
- Tensile Strength: Excellent
- Impact Strength: Poor

A clear coating makes this material 45 times more scratch resistant than uncoated acrylic. Comparable to Plexiglas® acrylic shapes. Width and length tolerances are ±1/16". Can be used outdoors. Sheets meet UL 94HB for flame retardance.

Thick.	Thick. Tolerance	6"×6"		12"×12"		12"×24"		24"×24"		24"×48"		48"×96"	
1/8"	±0.025"	8536K134	$7.02	8536K131	$20.16	8536K132	$35.03	8536K133	$60.93	8536K32	$106.05	8536K23	$383.67
3/16"	±0.033"	8536K144	8.80	8536K141	24.71	8536K142	43.08	8536K143	74.82	8536K33	129.60	8536K24	469.23
1/4"	±0.040"	8536K164	10.39	8536K161	27.83	8536K162	48.41	8536K163	84.18	8536K35	146.39	8536K26	529.41

UV-Resistant Acrylic

This material stands up to the weather to maintain good clarity over time. Use it for windows and signs.

Rectangular Bars



- Color: Clear
- Temp. Range: 40° to 150° F
- Tensile Strength: Good
- Impact Strength: Poor

Length tolerance is –1/16" to +1".

Thick.	Wd.	Thick. Tolerance	Wd. Tolerance	6 ft. Lengths	
1/8"	1/8"	±0.015"	±0.015"	8728K11	$1.16
1/8"	3/8"	±0.005"	±0.010"	8725K11	4.43
1/8"	1/2"	±0.005"	±0.015"	8725K12	5.86
1/8"	5/8"	±0.005"	±0.015"	8725K13	5.62
3/16"	3/16"	±0.010"	±0.010"	8728K12	1.80
3/16"	1/2"	±0.015"	±0.020"	8725K14	6.97
3/16"	3/4"	±0.015"	±0.025"	8725K15	9.38
3/16"	1"	±0.019"	±0.030"	8725K16	$10.00
1/4"	1/4"	±0.015"	±0.015"	8728K13	3.32
1/4"	1/2"	±0.015"	±0.015"	8725K17	9.25
3/8"	3/8"	±0.015"	±0.015"	8728K14	6.58
1/2"	1/2"	±0.015"	±0.015"	8728K15	11.16
3/4"	3/4"	±0.015"	±0.015"	8728K17	24.44
1"	1"	±0.035"	±0.035"	8728K18	43.00

(Material continued on following page)

UV-Resistant Acrylic *(Material continued from previous page)*

Sheets

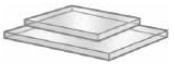

- Color: Clear
- Temp. Range: 32° to 160° F
- Tensile Strength: Good
- Impact Strength: Poor

Width and length tolerances are ±1⁄8″. Can be used outdoors. Meet UL 94HB for flame retardance.

Thick.	Thick. Tolerance	12″ × 12″		12″ × 24″		24″ × 24″		24″ × 48″		48″ × 96″	
1⁄16″	+0.004″, –0.009″	8589K11	$4.17	8589K12	$7.87	8589K13	$15.04	8589K14	$28.23	8589K15	$92.57
5⁄64″	+0.010″, –0.006″	8589K21	4.31	8589K22	8.15	8589K23	15.51	8589K24	28.17	8589K25	95.83
3⁄32″	+0.016″, –0.004″	8589K31	4.49	8589K32	8.49	8589K33	15.66	8589K34	28.40	8589K35	99.74
1⁄8″	–0.013″	8589K41	5.40	8589K42	9.82	8589K43	18.18	8589K44	33.08	8589K45	112.83
3⁄16″	–0.020″	8589K61	7.19	8589K62	12.62	8589K63	23.35	8589K64	42.50	8589K65	145.05
1⁄4″	–0.026″	8589K81	9.03	8589K82	16.33	8589K83	30.23	8589K84	55.76	8589K85	187.74

Textured Sheets

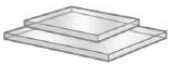

- Color: Clear
- Temp. Range: 32° to 160° F
- Tensile Strength: Good
- Impact Strength: Poor

These sheets have a nonglare finish with a matte texture on one side and a smooth finish on the other. Width and length tolerances are ±1/8″. Can be used outdoors. Meet UL 94HB for flame retardance.

Thick.	Thick. Tolerance	12″ × 12″		24″ × 24″		48″ × 96″	
1⁄8″	±0.019″	1178T11	$7.90	1178T12	$28.14	1178T13	$186.48

Rods



- Color: Clear
- Temp. Range: –40° to 180° F
- Tensile Strength: Good
- Impact Strength: Poor

Length tolerance is +1″. Can be used outdoors. Meet UL 94HB for flame retardance and are made from FDA-compliant resins.

Dia.	Dia. Tolerance	6-ft. Lengths	
1⁄8″	±0.005″	8531K11	$0.55
3⁄16″	±0.007″	8531K12	1.34
1⁄4″	±0.010″	8531K13	2.23
5⁄16″	±0.010″	8531K14	3.57
3⁄8″	±0.010″	8531K15	$4.46
1⁄2″	±0.012″	8531K17	7.26
5⁄8″	±0.015″	8531K19	11.36
3⁄4″	±0.025″	8531K21	16.23
1″	±0.030″	8531K23	$28.16
1 1⁄4″	±0.035″	8531K25	44.43
1 1⁄2″	±0.040″	8531K37	61.36
2″	±0.040″	8531K41	122.90

Round Tubes



- Color: Clear
- Temp. Range: –40° to 180° F
- Tensile Strength: Good
- Impact Strength: Poor

Length tolerance is +1″. OD and ID tolerances are ±0.020″. Can be used outdoors. Meet UL 94HB for flame retardance and are made from FDA-compliant resins.

OD	ID	Wall Thick.	6-ft. Lengths	
3⁄8″	1⁄4″	1⁄16″	8532K11	$2.73
1⁄2″	1⁄4″	1⁄8″	8532K12	6.70
1⁄2″	3⁄8″	1⁄16″	8532K13	3.97
5⁄8″	3⁄8″	1⁄8″	8532K14	8.46
3⁄4″	1⁄2″	1⁄8″	8532K15	10.80
3⁄4″	5⁄8″	1⁄16″	8532K16	5.87
7⁄8″	5⁄8″	1⁄8″	8532K17	$12.27
1″	3⁄4″	1⁄8″	8532K18	14.28
1″	7⁄8″	1⁄16″	8532K21	7.22
1 1⁄4″	1″	1⁄8″	8532K19	17.43
2″	1 3⁄4″	1⁄8″	8532K22	27.99
3″	2 3⁄4″	1⁄8″	8532K23	41.85

Square Tubes



- Color: Clear
- Temp. Range: –40° to 180° F
- Tensile Strength: Good
- Impact Strength: Poor

Length tolerance is +1″. Can be used outdoors. Meet UL 94HB for flame retardance and are made from FDA-compliant resins.

Outside Sq. Size	Outside and Inside Tolerance	Wall Thick.	6-ft. Lengths	
1⁄2″	±0.010″	1⁄16″	8516K33	$5.23
3⁄4″	±0.010″	1⁄16″	8516K35	7.86
1″	±0.015″	1⁄16″	8516K37	9.49
2″	±0.015″	1⁄8″	8516K39	40.24

Circles



- Color: Clear
- Temp. Range: 32° to 160° F
- Tensile Strength: Good
- Impact Strength: Poor

Circles are cut from sheets for a clear, smooth face. Thickness tolerance is –0.013″ for 1⁄8″ thicknesses; –0.026″ for 1⁄4″ thicknesses. Can be used outdoors. Meet UL 94HB for flame retardance.

Dia.	Dia. Tolerance	1⁄8″ Thick		1⁄4″ Thick	
2″	±0.031″	8581K22	$3.11	8581K33	$3.35
3″	±0.031″	8581K23	3.71	8581K34	3.93
4″	±0.031″	8581K24	4.69	8581K35	6.62
6″	±0.031″	8581K26	6.12	8581K37	9.06
7″	±0.031″	____	____	8581K38	15.12
8″	±0.031″	____	____	8581K39	18.91

Balls



- Color: Clear
- Max. Temp.: 180° F
- Tensile Strength: Good
- Impact Strength: Poor

Meet UL 94HB for flame retardance.

Dia.	Pkg. Qty.		Pkg.	Dia.	Pkg. Qty.		Pkg.
1⁄16″	500	1383K41	$14.17	5⁄16″	50	1383K53	$9.07
1⁄8″	250	1383K42	11.81	3⁄8″	50	1383K54	11.35
5⁄32″	250	1383K43	12.87	1⁄2″	25	1383K55	10.30
3⁄16″	100	1383K44	8.54	5⁄8″	25	1383K56	11.97
7⁄32″	100	1383K51	13.08	3⁄4″	10	1383K57	9.48
1⁄4″	100	1383K52	8.82	1″	5	1383K58	11.59

Half Rounds



- Color: Clear
- Temp. Range: –40° to 180° F
- Tensile Strength: Good
- Impact Strength: Poor

Length tolerance is +1″. Can be used outdoors. Meet UL 94HB for flame retardance and are made from FDA-compliant resins.

OD	OD Tolerance	6-ft. Lengths	
1⁄2″	±0.015″	3135T11	$5.29
3⁄4″	±0.015″	3135T12	9.93
1″	±0.025″	3135T13	16.00

Elongated Hex Bars

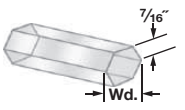

- Color: Clear
- Temp. Range: –40° to 180° F
- Tensile Strength: Good
- Impact Strength: Poor

Length tolerance is +1″. Can be used outdoors. Meet UL 94HB for flame retardance and are made from FDA-compliant resins.

Wd.	Wd. Tolerance	6-ft. Lengths	
1″	±0.025″	3135T14	$15.48

Strengthened UV-Resistant Acrylic

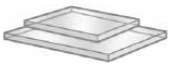

- Color: Clear
- Temp. Range: 32° to 170° F
- Tensile Strength: Good
- Impact Strength: Poor

Modified to be stronger than standard acrylic, this material also resists damage from UV rays. Often used for skylights, signage, and windows, it's suitable for outdoor applications. Width and length tolerances are ±1/8". It meets UL 94HB for flame retardance.

Thick.	Thick. Tolerance	6"×6"		6"×12"		12"×12"		24"×24"		24"×48"		48"×96"	
1/16"	+0.004", –0.009"	4615T61	$1.43	4615T62	$2.33	4615T63	$3.90	4615T64	$14.15	4615T65	$26.87	4615T66	$89.57
5/64"	+0.010", –0.006"	4615T71	1.64	4615T72	2.66	4615T73	4.45	4615T74	16.17	4615T75	30.70	4615T76	102.32
3/32"	+0.009", –0.010"	4615T81	1.85	4615T82	3.00	4615T83	5.02	4615T84	18.25	4615T85	34.64	4615T86	115.48
7/64"	+0.021", –0.003"	4615T14	2.16	4615T15	3.51	4615T11	5.87	4615T12	21.43	4615T16	40.51	4615T13	135.03
1/8"	+0.013", –0.013"	4615T91	2.14	4615T92	3.47	4615T93	5.81	4615T94	21.09	4615T95	40.03	4615T96	133.45
3/16"	+0.008", –0.029"	4615T25	3.01	4615T26	4.89	4615T21	8.32	4615T22	30.50	4615T28	56.48	4615T23	188.27
7/32"	+0.023", –0.021"	4615T34	3.74	4615T35	6.08	4615T31	10.22	4615T32	37.57	4615T36	70.14	4615T33	233.81
1/4"	+0.025", –0.025"	4615T17	4.08	4615T27	6.63	4615T37	11.10	4615T47	40.30	4615T57	76.52	4615T67	255.06
5/16"	+0.077"	4615T44	5.82	4615T45	9.45	4615T41	15.71	4615T42	57.92	4615T46	109.07	4615T43	363.56
1/2"	+0.050", –0.050"	4615T54	8.25	4615T55	13.41	4615T51	22.02	4615T87	80.87	4615T56	154.71	4615T53	515.71

Mirrored Acrylic

A lightweight, economical alternative to mirrored glass, one side is coated with aluminum for a reflective surface. This acrylic can be used outdoors.

Sheets



- Color: Mirrored finish
- Temp. Range: 32° to 160° F
- Tensile Strength: Good
- Impact Strength: Poor

Width and length tolerances are ±1/16". *Plain-back* sheets meet UL 94HB for flame retardance. *Adhesive-back* sheets have a rubber-based adhesive with a temperature range of 32° to 150° F.

Thick.	Thick. Tolerance	3"×24"		6"×6"		6"×24"		12"×12"		24"×24"		36"×36"	
Plain Back													
1/8"	+0.005", –0.019"	1518T12	$6.65	1518T11	$3.68	1518T13	$11.78	1518T14	$11.78	1518T15	$43.06	1518T16	$84.72
1/4"	+0.010", –0.038"	1518T19	13.76	1518T18	5.90	1518T21	19.42	1518T22	19.36	1518T23	65.41	1518T24	127.56
Adhesive Back													
1/8"	+0.005", –0.019"	1518T511	9.50	1518T51	4.63	1518T513	14.13	1518T52	14.91	1518T512	48.86	1518T514	94.58
1/4"	+0.010", –0.038"	1518T531	18.38	1518T53	8.58	1518T533	23.23	1518T54	21.18	1518T532	72.97	1518T534	141.80

Circles



- Color: Mirrored finish
- Temp. Range: –40° to 160° F
- Tensile Strength: Excellent
- Impact Strength: Poor

Thickness tolerance for 1/8" thick circles is –0.013", and for 1/4" thick circles it's –0.041" to +0.019". *Adhesive-back* circles have a rubber-based adhesive with a temperature range of –40° to 160° F.

Dia.	Dia. Tolerance	1/8" Thick		1/4" Thick	
Plain Back					
3"	±0.063"	1516T11	$4.81	1516T15	$5.21
6"	±0.063"	1516T12	9.42	1516T16	11.41
9"	±0.063"	1516T13	18.57	1516T17	26.18
12"	±0.063"	1516T14	26.16	1516T18	37.51

Dia.	Dia. Tolerance	1/8" Thick		1/4" Thick	
Adhesive Back					
3"	±0.063"	1516T31	$5.84	1516T35	$7.19
6"	±0.063"	1516T32	10.39	1516T36	13.93
9"	±0.063"	1516T33	21.07	1516T37	28.67
12"	±0.063"	1516T34	30.01	1516T38	40.62

Clear Cellulose

- Color: Clear
- Max. Temp.: Film: 225° F; tubes: 170° F
- Tensile Strength: Poor
- Impact Strength: Good

When visibility is important, cellulose provides a clear view. It's often used for printing and packaging applications, such as shipping tubes.

Film (Acetate)



Width tolerance is ±1/32". Length tolerance is +2" for 4-ft. lengths; for all others it is ±1/32". Film with 0.005" thickness is also known as triacetate.

Thick.	Thick. Tolerance	42"×4 ft.		42"×25 ft.		42"×50 ft.	
0.005"	±0.0005"	8564K44	$19.57	8564K55	$84.38	8564K15	$134.81
0.010"	±0.0010"	8564K46	27.38	8564K57	134.97	8564K28	234.50
0.020"	±0.0020"	8564K48	46.50	8564K59	176.23	8564K42	327.63

Tubes (Butyrate)



Length tolerance is +1".

OD	ID	OD/ID Toler.	Wall Thick.	6-ft. Lengths	
1/4"	1/8"	±0.015"	1/16"	8565K31	$2.80
5/16"	3/16"	±0.015"	1/16"	8565K32	3.44
3/8"	1/4"	±0.015"	1/16"	8565K33	4.01
1/2"	1/4"	±0.015"	1/8"	8565K34	8.04

OD	ID	OD/ID Toler.	Wall Thick.	6-ft. Lengths	
5/8"	3/8"	±0.015"	1/8"	8565K35	$10.75
5/8"	1/2"	±0.015"	1/16"	8565K36	8.69
3/4"	1/2"	±0.015"	1/8"	8565K37	11.10
1"	3/4"	±0.015"	1/8"	8565K38	15.90

OD	ID	OD/ID Toler.	Wall Thick.	6-ft. Lengths	
1 1/4"	1"	±0.020"	1/8"	8565K39	$19.79
1 1/2"	1 3/8"	±0.020"	1/16"	8565K41	17.47
2"	1 3/4"	±0.025"	1/8"	8565K42	47.44
3 1/2"	3 1/4"	±0.040"	1/8"	8565K5	83.93

Formable Chemical-Resistant Kydex Acrylic/PVC

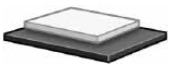

- Color: Black, gray, or white
- Temp. Range: –40° to 150° F
- Tensile Strength: Good
- Impact Strength: Excellent

Often used for vehicle interiors and equipment housings, this material maintains its shape after heating and forming. It resists corrosive chemicals and cleaning solutions. One side is textured and the other is smooth. Width and length tolerances are ±1/8". Sheets meet UL 94V0 for flame retardance. **To Order:** Please specify color.

Thick.	Thick. Tolerance	12"×12"		12"×24"		24"×48"		48"×48"		48"×96"	
1/8"	±0.009"	8650K11	$9.40	8650K12	$17.17	8650K13	$63.16	8650K14	$115.54	8650K15	$211.73
3/16"	±0.013"	8650K21	13.95	8650K22	25.53	8650K23	94.16	8650K24	171.06	8650K25	312.22
1/4"	±0.018"	8650K31	17.50	8650K32	32.18	8650K33	119.24	8650K34	216.56	8650K35	398.74

Chemical-Resistant PVC

Often used for tanks, pipes, and in chemical-processing applications, PVC resists acids and alkalies. This material is also known as Type I PVC. *Bars* and *sheets* are excellent electrical insulators and meet UL 94V0 for flame retardance.

Rectangular Bars



- Color: Dark gray
- Temp. Range: 32° to 140° F
- Tensile Strength: Good
- Impact Strength: Poor

Width tolerance for 1/8″ to 3/4″ thick bars is ±0.030″; for 1″ to 2″ thick bars it is ±0.125″. Thickness tolerance for 1/8″ to 1″ thick bars is ±10%; for all others it is +20%.

Thick.	Wd.	Available Lengths, ft.		Per Ft.
1/8″	1″	4	8740K11	$1.02
1/8″	1 1/2″	4	8740K19	1.26
1/8″	2″	4	8740K31	1.69
1/8″	2 1/2″	4	8740K44	2.12
1/8″	3″	4	8740K56	2.55
1/8″	4″	4	8740K68	3.29
1/4″	1″	4	8740K12	1.89
1/4″	1 1/2″	4	8740K21	2.62
1/4″	2″	4	8740K33	3.37
1/4″	2 1/2″	4	8740K45	4.32
1/4″	3″	1, 2, 3, 4	8740K57	4.92
1/4″	4″	1, 2, 3, 4	8740K69	5.05
3/8″	3/8″	5	8660K31	1.19
3/8″	1″	1, 2, 3, 4	8740K13	2.70
3/8″	1 1/2″	1, 2, 3, 4	8740K23	3.74
3/8″	2″	1, 2, 3, 4	8740K34	5.05
3/8″	3″	1, 2, 3, 4	8740K58	7.09
3/8″	4″	1, 2, 3, 4	8740K71	8.98
1/2″	1/2″	5	8660K33	$1.42
1/2″	1″	1, 2, 3, 4	8740K14	3.58
1/2″	1 1/2″	1, 2, 3, 4	8740K24	5.05
1/2″	2″	1, 2, 3, 4	8740K35	6.20
1/2″	2 1/2″	1, 2, 3, 4	8740K47	7.72
1/2″	3″	1, 2, 3, 4	8740K59	9.32
1/2″	4″	1, 2, 3, 4	8740K73	12.03
5/8″	5/8″	1, 2, 3, 4, 5	8660K44	4.04
3/4″	3/4″	1, 2, 3, 4, 5	8660K35	3.07
3/4″	1″	1, 2, 3, 4	8740K15	4.47
3/4″	1 1/2″	1, 2, 3, 4	8740K25	6.57
3/4″	2″	1, 2, 3, 4	8740K36	8.52
3/4″	2 1/2″	1, 2, 3, 4	8740K48	10.47
3/4″	3″	1, 2, 3, 4	8740K61	12.46
3/4″	4″	1, 2, 3, 4	8740K74	16.31
1″	1″	1, 2, 3, 4	8740K16	5.50
1″	1 1/2″	1, 2, 3, 4	8740K26	7.88
1″	2″	1, 2, 3, 4	8740K37	10.45
1″	2 1/2″	1, 2, 3, 4	8740K49	$12.26
1″	3″	1, 2, 3, 4	8740K63	15.23
1″	4″	1, 2, 3, 4	8740K75	19.83
1 1/4″	1″	1, 2, 3, 4	8740K17	9.61
1 1/4″	1 1/4″	1, 2, 3, 4, 5	8660K39	8.85
1 1/4″	2″	1, 2, 3, 4	8740K38	18.06
1 1/4″	2 1/2″	1, 2, 3, 4	8740K51	19.13
1 1/4″	3″	1, 2, 3, 4	8740K64	26.38
1 1/4″	4″	1, 2, 3, 4	8740K76	34.63
1 1/2″	1 1/2″	1, 2, 3, 4	8740K28	21.31
1 1/2″	2″	1, 2, 3, 4	8740K39	28.36
1 1/2″	2 1/2″	1, 2, 3, 4	8740K53	27.65
1 1/2″	3″	1, 2, 3, 4	8740K65	31.69
1 1/2″	4″	1, 2, 3, 4	8740K77	41.45
2″	2″	1, 2, 3, 4	8740K43	29.29
2″	2 1/2″	1, 2, 3, 4	8740K55	35.64
2″	3″	1, 2, 3, 4	8740K67	42.89
2″	4″	1, 2, 3, 4	8740K79	55.72

Sheets



- Color: Dark gray
- Temp. Range: 0° to 150° F
- Tensile Strength: Good
- Impact Strength: Good

Width and length tolerances for 1/16″ to 1″ thick sheets are ±1/8″; for 1 1/2″ to 3″ thick sheets they are +1/4″.

Thick.	Thick. Tolerance	6″×6″		12″×12″		12″×24″		12″×36″		24″×24″	
1/16″	±0.006″	_____	____	8747K111	$3.04	8747K123	$5.21	8747K134	$7.38	8747K145	$9.15
1/8″	±0.013″	_____	____	8747K112	5.66	8747K124	9.64	8747K135	13.76	8747K146	16.60
3/16″	±0.019″	_____	____	8747K113	7.90	8747K125	13.54	8747K136	19.26	8747K147	23.36
1/4″	±0.025″	_____	____	8747K114	10.08	8747K126	17.28	8747K137	23.80	8747K148	29.76
3/8″	±0.038″	8747K105	$4.36	8747K115	15.19	8747K127	25.96	8747K138	36.94	8747K149	44.75
1/2″	±0.050″	8747K635	5.65	8747K116	18.86	8747K128	31.23	8747K139	44.75	8747K151	55.06
3/4″	±0.075″	8747K106	8.67	8747K117	29.86	8747K129	51.06	8747K141	76.59	8747K152	89.64
1″	+0.100″	8747K107	10.86	8747K118	40.70	8747K131	66.51	8747K142	94.94	8747K153	114.65
1 1/2″	+0.300″	8747K108	24.70	8747K119	85.54	8747K132	146.23	8747K143	202.25	8747K154	246.47
2″	+0.400″	8747K109	36.21	8747K121	122.68	8747K133	209.97	8747K144	296.45	8747K155	359.20
3″	+0.600″	8747K223	59.85	8747K401	203.29	8747K402	324.62	8747K403	479.70	8747K404	602.64

Thick.	Thick. Tolerance	24″×36″		24″×48″		36″×36″		48″×48″		48″×96″	
1/16″	±0.006″	8747K156	$13.11	8747K167	$15.85	8747K179	$17.52	8747K191	$28.36	8747K212	$49.74
1/8″	±0.013″	8747K157	24.06	8747K168	29.16	8747K181	31.26	8747K192	50.66	8747K213	88.77
3/16″	±0.019″	8747K158	32.35	8747K169	40.04	8747K182	43.82	8747K193	69.21	8747K214	123.67
1/4″	±0.025″	8747K159	40.47	8747K171	50.94	8747K183	57.74	8747K194	90.98	8747K215	161.06
3/8″	±0.038″	8747K161	64.25	8747K172	76.27	8747K184	86.82	8747K195	136.68	8747K216	241.91
1/2″	±0.050″	8747K162	80.00	8747K173	96.54	8747K185	107.65	8747K196	169.44	8747K217	308.63
3/4″	±0.075″	8747K163	129.14	8747K174	156.54	8747K186	175.42	8747K197	270.79	8747K218	481.67
1″	+0.100″	8747K164	172.88	8747K175	209.60	8747K187	227.51	8747K198	356.28	8747K219	641.95

Clear Sheets

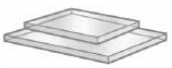

- Color: Clear
- Temp. Range: 32° to 120° F
- Tensile Strength: Good
- Impact Strength: Poor

Width and length tolerances are +1/4″.

Thick.	Thick. Tolerance	6″×6″		12″×24″		24″×24″		24″×36″		24″×48″		48″×96″	
1/16″	±0.006″	87545K73	$7.96	87545K121	$10.20	87545K131	$18.55	87545K141	$25.30	87545K151	$30.67	87545K171	$101.42
1/8″	±0.013″	87545K74	11.34	87545K321	16.11	87545K331	29.28	87545K341	39.94	87545K351	48.41	87545K371	160.10
3/16″	±0.019″	87545K75	13.36	87545K421	26.78	87545K431	48.69	87545K441	66.42	87545K451	80.50	87545K471	266.22
1/4″	±0.025″	87545K76	16.04	87545K521	32.15	87545K531	58.45	87545K541	79.73	87545K551	96.64	87545K571	319.57
3/8″	±0.038″	87545K77	22.54	87545K621	46.28	87545K631	84.13	87545K641	114.77	87545K651	139.10	87545K671	460.00
1/2″	±0.050″	87545K78	34.15	87545K721	63.13	87545K731	114.77	87545K741	156.52	87545K751	189.74	_____	_____

Static Cling Film



- Color: Clear
- Temp. Range: –10° to 100° F
- Tensile Strength: Good
- Impact Strength: Not rated

Static allows this film to stick to surfaces. Width and length tolerances are ±1/16″.

Thick.	Thick. Tolerance	Wd.	Lg.	Pkg. of 6		Pkg. of 50	
0.007″	±0.0005″	9″	12″	7524T15	$5.41	7524T16	$27.91

(Material continued on following page)

Chemical-Resistant PVC *(Material continued from previous page)*

Often used for tanks, pipes, and in chemical-processing applications, PVC resists acids and alkalies. This material is also known as Type I PVC. *Rods* and *tubes* meet UL 94V0 for flame retardance.

Film



- Color: Clear
- Temp. Range: 15° to 140°F
- Tensile Strength: Poor
- Impact Strength: Poor

Width tolerance is ±1/4″. Length tolerance for rolls is +3%.

Rolls

Thick.	Thick. Tolerance	Wd.	Roll Lg., ft.		Roll
0.004″	±0.0002″	36″	25	8562K11	$18.94
0.004″	±0.0002″	36″	150	8562K12	98.02
0.004″	±0.0002″	48″	25	8562K15	26.39
0.004″	±0.0002″	48″	150	8562K16	130.67
0.005″	±0.0003″	20″	25	87875K91	11.75
0.008″	±0.0004″	36″	25	8562K13	30.02
0.008″	±0.0004″	36″	75	8562K14	81.56
0.008″	±0.0004″	48″	25	8562K17	39.54
0.008″	±0.0004″	48″	75	8562K18	108.76

Sheeting

Thick.	Thick. Tolerance	Wd.	Max. Lg., ft.		Per Ft.
0.016″	±0.0016″	54″	210	87875K72	$2.47
0.020″	±0.0020″	54″	180	87875K17	2.86
0.040″	±0.0020″	48″	150	87875K61	4.42
0.060″	±0.0030″	48″	150	87875K62	6.38
0.080″	±0.0040″	48″	30	87875K37★	10.95
0.120″	±0.0060″	48″	60	87875K63	11.41
0.160″	±0.0080″	48″	30	87875K57★	19.25
0.200″	±0.0100″	48″	30	87875K64	18.40

★Film has blue tint.

Antistatic Film

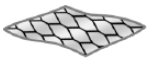

- Color: Clear
- Max. Temp.: 140°F
- Tensile Strength: Poor
- Impact Strength: Poor

Conductive material in the film grounds static charge. Chemical resistance is not rated. Width tolerance is +3/4″.

Thick.	Thick. Tolerance	Wd.	Max. Lg., ft.		Per Ft.
0.012″	±0.0019″	54″	98	8714K67	$14.68

Adhesive-Back Film



- Color: White
- Temp. Range: –10° to 150°F
- Tensile Strength: Poor
- Impact Strength: Poor

This film has a permanent acrylic adhesive on one side. It can be used outdoors. Width and length tolerances are ±1/32″.

Thick.	Thick. Tolerance	Wd.	Lg.		
0.0045″	±0.0005″	27″	20″	8590K21	$2.29
0.0045″	±0.0005″	27″	38″	8590K22	3.92

Tinted Rods



- Color: Clear with gray-blue tint
- Impact Strength: Poor
- Temp. Range: 32° to 140°F
- Tensile Strength: Good

These rods can be used outdoors.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/4″	+0.008″	5	8646K31	$1.11
3/8″	+0.015″	5	8646K33	1.46
1/2″	+0.015″	5	8646K35	1.70
3/4″	+0.022″	1, 2, 3, 4, 5	8646K39	$3.38
1″	+0.030″	1, 2, 3, 4, 5	8646K43	5.55

Rods



- Color: Dark gray
- Temp. Range: 5° to 140°F
- Tensile Strength: Good
- Impact Strength: Poor

Also Available: 3″, 6″, and 9″ long rods. Length tolerance is +1/2″. Please ask for 8745K871 and specify diameter and length.

Dia.	Dia. Toler.	Available Lengths, ft.		Per Ft.
1/8″	±0.005″	5	8745K11	$0.70
5/32″	±0.005″	5	8745K12	.82
3/16″	±0.005″	5	8745K13	.96
1/4″	±0.008″	5	8745K41	.72
5/16″	+0.009″	5	8745K32	.82
3/8″	+0.011″	5	8745K42	.84
1/2″	+0.015″	5	8745K43	.93
5/8″	+0.019″	5	8745K44	1.11
3/4″	+0.022″	5	8745K45	1.42
7/8″	+0.026″	5	8745K46	1.80
1″	+0.030″	5	8745K47	2.46
1 1/8″	+0.034″	5	8745K18	$2.96
1 1/4″	+0.038″	1, 2, 3, 4, 5	8745K19	3.69
1 3/8″	+0.041″	1, 2, 3, 4, 5	8745K21	4.51
1 1/2″	+0.045″	1, 2, 3, 4, 5	8745K22	5.33
1 5/8″	+0.049″	1, 2, 3, 4, 5	8745K23	6.41
1 3/4″	+0.052″	1, 2, 3, 4, 5	8745K24	7.13
1 7/8″	+0.056″	1, 2, 3, 4, 5	8745K25	7.99
2″	+0.060″	1, 2, 3, 4, 5	8745K26	9.15
2 1/8″	+0.064″	1, 2, 3, 4, 5	8745K73	9.91
2 1/4″	+0.068″	1, 2, 3, 4, 5	8745K27	11.07
2 3/8″	+0.071″	1, 2, 3, 4, 5	8745K29	12.74
2 1/2″	+0.075″	1, 2, 3, 4, 5	8745K61	$13.92
2 5/8″	+0.078″	1, 2, 3, 4, 5	8745K53	17.52
2 3/4″	+0.082″	1, 2, 3, 4, 5	8745K62	15.81
2 7/8″	+0.086″	1, 2, 3, 4, 5	8745K54	20.14
3″	+0.090″	1, 2, 3, 4, 5	8745K63	20.16
3 1/4″	+0.097″	1, 2, 3, 4, 5	8745K64	22.53
3 1/2″	+0.105″	1, 2, 3, 4, 5	8745K65	25.96
4″	+0.120″	1, 2, 3, 4, 5	8745K28	31.20
6″	+0.180″	1, 2, 3, 4, 5	8745K48	96.01
8″	+0.320″	1, 2, 3, 4, 5	8745K49	204.71

Oversized Round Tubes



- Color: Dark gray
- Temp. Range: 32° to 140°F
- Tensile Strength: Good
- Impact Strength: Poor

These tubes can be used outdoors. OD is oversized and ID is undersized for finishing to sizes listed. Sold in 1-ft. increments; maximum length is 5 feet.

OD	ID	Wall Thick.		Per Ft.
1/2″	1/4″	1/8″	8749K71	$3.58
5/8″	1/4″	3/16″	8749K72	5.26
3/4″	1/4″	1/4″	8749K73	7.21
7/8″	3/8″	1/4″	8749K74	9.12
7/8″	5/8″	1/8″	8749K75	6.43
1″	1/2″	1/4″	8749K76	10.22
1 1/8″	5/8″	1/4″	8749K77	11.56
1 1/4″	3/4″	1/4″	8749K78	13.23
1 1/2″	1″	1/4″	8749K79	15.83
1 5/8″	9/16″	17/32″	8749K11	10.67
2″	1 1/4″	3/8″	8749K44	11.28
2 1/8″	3/4″	11/16″	8749K42	$17.44
2 1/4″	1 1/8″	9/16″	8749K17	17.30
2 1/4″	1 1/2″	3/8″	8749K45	12.73
2 3/8″	1″	11/16″	8749K14	20.71
2 1/2″	1″	3/4″	8749K46	23.63
2 1/2″	1 1/2″	1/2″	8749K22	18.85
2 5/8″	1 1/2″	9/16″	8749K23	21.19
2 3/4″	1″	7/8″	8749K47	28.47
3″	1″	1″	8749K48	32.04
3″	1 1/4″	7/8″	8749K18	31.68
3″	1 1/2″	3/4″	8749K52	28.45
3″	2″	1/2″	8749K28	$23.49
3 1/4″	1 1/4″	1″	8749K59	36.31
3 9/16″	1 1/2″	1 1/32″	8749K26	42.72
4″	2 1/2″	3/4″	8749K54	41.64
4″	3″	1/2″	8749K25	31.07
4 1/2″	2″	1 1/4″	8749K29	65.29
5″	3″	1″	8749K33	71.49
5 9/16″	4″	25/32″	8749K55	69.24
6″	4″	1″	8749K56	96.84
6 5/8″	4″	1 5/16″	8749K57	125.36
8 5/8″	5 3/4″	1 7/16″	8749K58	185.08

(Material continued on following page)

Chemical-Resistant PVC *(Material continued from previous page)*

Often used for tanks, pipes, and in chemical-processing applications, PVC resists acids and alkalies. This material is also known as Type I PVC.

Rectangular Tubes



- Color: Dark gray
- Temp. Range: 5° to 140° F
- Tensile Strength: Good
- Impact Strength: Poor

Inside and outside tolerances are ±10%. Length tolerance is ±1″. Corners are slightly rounded.

Outside Ht.	Outside Wd.	Wall Thick.	5-ft. Lengths	
3/4″	3/4″	0.060″	85095K67	$10.01
7/8″	7/8″	0.118″	85095K71	19.29
1″	1″	0.078″	85095K74	14.12
1″	2″	0.078″	85095K91	21.43

Outside Ht.	Outside Wd.	Wall Thick.	5-ft. Lengths	
1 3/8″	1 3/8″	0.078″	85095K76	$23.23
1 3/8″	2 3/4″	0.098″	85095K92	33.82
1 3/8″	3.35″	0.098″	85095K93	36.64
2″	2″	0.078″	85095K82	25.89

Outside Ht.	Outside Wd.	Wall Thick.	5-ft. Lengths	
2″	4″	0.098″	85095K95	$54.66
2.28″	3 3/8″	0.098″	85095K94	46.57
3″	3″	0.078″	85095K84	48.08

90° Angles



- Color: Dark gray
- Temp. Range: 32° to 140° F
- Tensile Strength: Good
- Impact Strength: Poor

Length tolerance is +1″, –2″.

Outside Leg Lgs.	Leg Lg. Tolerance	Wall Thick.	Wall Thick. Tolerance	5-ft. Lengths	
1/2″ × 1/2″	+0.125″	0.080″	±0.010″	8659K37	$6.05
3/4″ × 3/4″	+0.125″	0.080″	±0.010″	8659K58	7.43
1″ × 1″	±0.125″	1/8″	±0.063″	8659K39	9.43
1 1/4″ × 1 1/4″	+0.040″	1/8″	±0.015″	8659K53	10.32
1 1/4″ × 1 1/4″	±0.125″	3/16″	±0.063″	8659K41	12.05
1 1/4″ × 1 1/4″	+0.040″	1/4″	±0.030″	8659K64	17.07
1 1/2″ × 3/4″	±0.125″	0.080″	±0.010″	8659K43	11.14
1 1/2″ × 3/4″	±0.125″	0.157″	±0.019″	8659K63	12.19
1 1/2″ × 1 1/2″	+0.050″	1/8″	±0.015″	8659K54	12.38

Outside Leg Lgs.	Leg Lg. Tolerance	Wall Thick.	Wall Thick. Tolerance	5-ft. Lengths	
1 1/2″ × 1 1/2″	+0.050″	3/16″	±0.023″	8659K48	$13.62
1 1/2″ × 1 1/2″	+0.050″	1/4″	±0.063″	8659K47	16.93
2″ × 2″	±0.125″	0.080″	±0.010″	8659K61	15.88
2″ × 2″	+0.060″	1/8″	±0.015″	8659K55	14.18
2″ × 2″	+0.060″	3/16″	±0.023″	8659K49	18.74
2″ × 2″	+0.060″	1/4″	±0.063″	8659K51	22.93
2 3/8″ × 2 3/8″	±0.125″	0.275″	±0.033″	8659K56	58.15
3″ × 3/4″	±0.125″	1/8″	±0.015″	8659K62	21.61
3 1/2″ × 3 1/2″	±0.125″	0.275″	±0.033″	8659K52	78.12

Clear 90° Angles



- Color: Clear
- Temp. Range: 32° to 140° F
- Tensile Strength: Good
- Impact Strength: Good

Length tolerance is ±1″. Meet UL 94V0 for flame retardance.

Outside Leg Lgs.	Leg Lg. Tolerance	Wall Thick.	Wall Thick. Tolerance	5-ft. Lengths	
1″ × 1″	±0.125″	1/8″	±0.063″	2579T53	$12.73
1 1/4″ × 1 1/4″	±0.125″	3/16″	±0.063″	2579T54	15.78
1 1/2″ × 1 1/2″	±0.125″	3/16″	±0.063″	2579T55	18.61
1 1/2″ × 1 1/2″	±0.125″	1/4″	±0.063″	2579T56	23.91
2″ × 2″	±0.125″	1/4″	±0.063″	2579T57	31.09

U-Channels

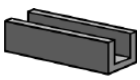

- Color: Dark gray
- Temp. Range: 5° to 140° F
- Tensile Strength: Good
- Impact Strength: Poor

Base and leg tolerances are ±10%. Length tolerance is –2″.

Outside Base	Outside Legs	Wall Thick.	Wall Thick. Tolerance	5-ft. Lengths	
0.510″	0.590″	0.060″	±0.0072″	85065K33	$6.92
0.944″	0.787″	0.066″	±0.0079″	85065K36	10.18
1.140″	1.650″	0.080″	±0.0096″	85065K46	19.83
1.870″	0.787″	0.137″	±0.0164″	85065K49	24.40
2.510″	1.456″	0.080″	±0.0096″	85065K55	22.86
3.540″	0.787″	0.100″	±0.0120″	85065K56	25.88

Strengthened Chemical-Resistant PVC

With greater impact strength than standard PVC, this material is used for parts that are subject to shock. Commonly referred to as Type II PVC, it is resistant to chemicals and meets UL 94V0 for flame retardance.

Rods



- Color: Light gray
- Temp. Range: –40° to 140° F
- Tensile Strength: Good
- Impact Strength: Excellent

Rods are excellent electrical insulators.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/4″	+0.008″	5	87025K27	$3.23
3/8″	+0.011″	5	87025K29	1.35
1/2″	+0.015″	5	87025K31	1.68
5/8″	+0.019″	5	87025K33	4.95
3/4″	+0.022″	5	87025K35	3.12
7/8″	+0.026″	5	87025K37	4.11
1″	+0.030″	1, 2, 3, 4, 5	87025K39	5.25
1 1/8″	+0.034″	1, 2, 3, 4, 5	87025K41	9.25
1 1/4″	+0.038″	1, 2, 3, 4, 5	87025K43	6.88
1 3/8″	+0.041″	1, 2, 3, 4, 5	87025K45	8.43
1 1/2″	+0.045″	1, 2, 3, 4, 5	87025K47	9.34
1 5/8″	+0.049″	1, 2, 3, 4, 5	87025K49	10.94
1 3/4″	+0.052″	1, 2, 3, 4, 5	87025K51	12.10

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1 7/8″	+0.056″	1, 2, 3, 4, 5	87025K56	$18.02
2″	+0.060″	1, 2, 3, 4, 5	87025K55	14.28
2 1/4″	+0.068″	1, 2, 3, 4, 5	87025K57	17.23
2 3/8″	+0.071″	1, 2, 3, 4, 5	87025K59	25.73
2 1/2″	+0.075″	1, 2, 3, 4, 5	87025K61	21.10
2 3/4″	+0.082″	1, 2, 3, 4, 5	87025K62	27.32
3″	+0.090″	1, 2, 3, 4, 5	87025K63	29.88
3 1/4″	+0.097″	1, 2, 3, 4, 5	87025K74	35.29
3 1/2″	+0.105″	1, 2, 3, 4, 5	87025K65	39.16
4″	+0.120″	1, 2, 3, 4, 5	87025K67	48.02
4 1/2″	+0.135″	1, 2, 3, 4, 5	87025K69	76.65
5″	+0.150″	1, 2, 3, 4, 5	87025K71	88.02
6″	+0.180″	1, 2, 3, 4, 5	87025K73	132.68

Sheets

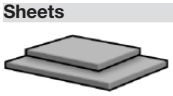

- Color: Light gray
- Temp. Range: 0° to 160° F
- Tensile Strength: Good
- Impact Strength: Excellent

Length and width tolerances are +1/4″. Sheets meet ASTM D1784.

Thick.	Thick. Tolerance	6″ × 6″		12″ × 12″		12″ × 24″		24″ × 24″		24″ × 48″	
1/16″	±0.006″	87025K116	$1.93	87025K111	$7.14	87025K122	$12.86	87025K127	$21.43	87025K133	$35.72
1/8″	±0.013″	87025K117	3.02	87025K112	11.18	87025K123	20.12	87025K128	33.53	87025K134	55.88
1/4″	±0.025″	87025K118	5.58	87025K113	20.67	87025K124	37.21	87025K129	62.02	87025K135	103.36
1/2″	±0.050″	87025K119	9.59	87025K114	35.50	87025K125	63.90	87025K131	106.51	87025K136	177.51
3/4″	±0.075″	87025K121	11.89	87025K115	44.02	87025K126	79.24	87025K132	132.06	87025K137	220.10
1″	±0.100″	87025K21	15.91	87025K11	58.94	87025K12	106.10	87025K13	176.83	87025K38	294.72

High-Temperature Chemical-Resistant CPVC

- Color: Gray
- Temp. Range: 32° to 200°F
- Tensile Strength: Good
- Impact Strength: Good

This material has greater heat resistance than PVC. It also resists many chemicals and is often used in piping and chemical-processing applications. All shapes are excellent electrical insulators and meet UL 94V0 for flame retardance.

Rectangular Bars



Width tolerance is ±1/8".

Thick.	Thick. Toler.	Available Lengths, ft.	1" Wide	Per Ft.	1 1/2" Wide	Per Ft.	2" Wide	Per Ft.	2 1/2" Wide	Per Ft.	3" Wide	Per Ft.	4" Wide	Per Ft.
1/8"	±0.013"	1, 2, 3, 4	8788K111	$1.85	8788K181	$2.56	8788K281	$3.28	8788K391	$3.89	8788K511	$4.63	8788K631	$5.95
1/4"	±0.025"	1, 2, 3, 4	8788K121	3.32	8788K191	4.66	8788K291	6.09	8788K411	7.33	8788K531	8.82	8788K641	11.52
3/8"	±0.038"	1, 2, 3, 4	8788K131	5.00	8788K211	6.82	8788K311	9.12	8788K431	11.06	8788K541	13.20	8788K651	17.27
1/2"	±0.050"	1, 2, 3, 4	8788K141	6.55	8788K231	9.09	8788K331	12.13	8788K441	14.75	8788K551	17.66	8788K661	22.93
3/4"	±0.075"	1, 2, 3, 4	8788K151	9.88	8788K241	14.17	8788K341	17.85	8788K451	22.89	8788K561	27.49	8788K671	34.16
1"	±0.100"	1, 2, 3, 4	8788K161	13.23	8788K251	18.89	8788K351	24.13	8788K461	29.05	8788K571	34.91	8788K681	45.54
1 1/4"	±0.250"	1, 2, 3, 4	8788K171	17.33	8788K261	24.60	8788K361	32.40	8788K471	37.16	8788K581	45.40	8788K691	56.66
1 1/2"	±0.300"	1, 2, 3, 4	_____	___	8788K271	29.53	8788K371	37.14	8788K481	45.41	8788K591	51.98	8788K711	67.97
2"	±0.400"	1, 2, 3, 4	_____	___	_____	___	8788K382	48.37	8788K491	57.90	8788K611	69.32	8788K731	87.35

Sheets

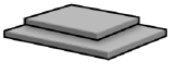

Width and length tolerances for 6"×6" sheets are ±1/8"; for all other sheets they are +1/4".

Thick.	Thick. Toler.	6"×6"		12"×12"		12"×24"		12"×36"		24"×24"		24"×48"	
1/32"	±0.003"	_____	___	8748K21	$6.92	8748K23	$12.64	8748K25	$17.95	8748K27	$22.71	8748K31	$42.17
1/16"	±0.006"	_____	___	8748K22	9.93	8748K24	18.17	8748K26	25.79	8748K28	32.62	8748K32	60.60
1/8"	±0.013"	8748K117	$5.72	8748K111	19.08	8748K112	33.24	8748K113	46.80	8748K114	57.76	8748K116	100.51
1/4"	±0.025"	8748K118	10.51	8748K131	33.94	8748K132	59.09	8748K133	83.96	8748K134	103.61	8748K136	181.81
1/2"	±0.050"	8748K119	18.47	8748K151	61.54	8748K152	106.96	8748K153	153.39	8748K154	189.35	8748K156	335.20
1"	±0.100"	8748K125	33.95	8748K171	113.17	8748K172	198.54	8748K173	287.27	8748K174	354.65	8748K176	633.31

Oversized Tubes



OD is oversized and ID is undersized for finishing to sizes listed. Tubes can be used outdoors, and they meet UL 94 5VA and 5VB for flame retardance. **To Order:** Please specify length: 1, 2, 3, 4, or 5 ft.

OD	ID	Wall Thick.		Per Ft.	OD	ID	Wall Thick.		Per Ft.	OD	ID	Wall Thick.		Per Ft.
1 5/8"	9/16"	17/32"	2441T11	$23.00	2 7/8"	1 1/2"	11/16"	2441T17	$55.67	4 3/4"	3"	7/8"	2441T24	$115.67
2 1/8"	3/4"	11/16"	2441T12	38.37	3 9/16"	1 1/2"	1 1/32"	2441T21	88.97	5"	3"	1"	2441T25	134.45
2 3/8"	1"	11/16"	2441T14	43.88	4"	2 1/2"	3/4"	2441T22	87.46	6 5/8"	4"	1 5/16"	2441T27	227.94

Rods



Diameter tolerance is oversized.

Dia.	Available Lengths, ft.		Per Ft.	Dia.	Available Lengths, ft.		Per Ft.	Dia.	Available Lengths, ft.		Per Ft.
1/4"	1, 2, 3, 4, 5	87135K87	$1.14	1 3/8"	1, 2, 3, 4, 5	87135K48	$10.33	2 3/4"	1, 2, 3, 4, 5	87135K72	$59.54
3/8"	1, 2, 3, 4, 5	87135K88	1.76	1 1/2"	1, 2, 3, 4, 5	87135K52	12.85	3"	1, 2, 3, 4, 5	87135K74	71.21
1/2"	1, 2, 3, 4, 5	87135K32	1.97	1 5/8"	1, 2, 3, 4, 5	87135K54	17.85	3 1/4"	1, 2, 3, 4, 5	87135K76	82.00
5/8"	1, 2, 3, 4, 5	87135K34	2.67	1 3/4"	1, 2, 3, 4, 5	87135K56	16.70	3 1/2"	1, 2, 3, 4, 5	87135K78	112.61
3/4"	1, 2, 3, 4, 5	87135K36	3.60	1 7/8"	1, 2, 3, 4, 5	87135K58	19.26	4"	1, 2, 3, 4, 5	87135K82	143.30
7/8"	1, 2, 3, 4, 5	87135K38	4.61	2"	1, 2, 3, 4, 5	87135K62	21.91	4 1/2"	1, 2, 3, 4, 5	87135K84	181.72
1"	1, 2, 3, 4, 5	87135K42	5.83	2 1/4"	1, 2, 3, 4, 5	87135K64	28.27	5"	1, 2, 3, 4	87135K86	227.50
1 1/8"	1, 2, 3, 4, 5	87135K44	7.35	2 3/8"	1, 2, 3, 4, 5	87135K66	44.10	5 1/2"	1, 2, 3, 4	87135K89	354.55
1 1/4"	1, 2, 3, 4, 5	87135K46	8.25	2 1/2"	1, 2, 3, 4, 5	87135K68	51.66	6"	1, 2, 3, 4	87135K91	359.29

Lightweight Rigid Foam PVC

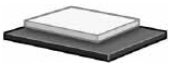

- Color: White or black
- Temp. Range: 15° to 130°F
- Tensile Strength: Poor
- Impact Strength: Poor

Paint, print, or mount photos on this material to create signs and partitions. Foam construction also makes it easy to cut and bond. Width and length tolerances are ±1/4". *White sheets* can be used outdoors and meet UL 94V0 for flame retardance.

Thick.	Thick. Tolerance	Available Colors	24"×24"		24"×36"		24"×48"	
1/8"	±0.006"	Black, White	84775K12	$17.70	84775K72	$24.18	84775K82	$32.23
1/4"	±0.012"	Black, White	84775K14	32.10	84775K74	43.73	84775K84	58.32
3/8"	±0.039"	White	84775K221	49.80	84775K761	64.96	84775K861	86.61
1/2"	±0.026"	Black, White	84775K24	62.00	84775K77	84.87	84775K87	113.17
3/4"	±0.039"	White	84775K681	91.65	84775K781	121.62	84775K881	150.61
1"	±0.065"	White	84775K691	116.38	84775K791	149.61	84775K891	186.17

Polypropylene Low-Tack Adhesive-Back Film



- Color: Clear or semi-clear white
- Max. Temp.: 110°F
- Tensile Strength: Poor
- Impact Strength: Poor

Film has an acrylic adhesive, yet it can be removed without leaving a residue. Width tolerance is ±1/8". Length tolerance is +6". *Semi-clear white* film has a dull appearance.

Thick.	Thick. Tolerance	12"×12 ft. Clear		12"×12 ft. Semi-Clear		24"×30 ft. Clear		24"×30 ft. Semi-Clear	
0.002"	±0.0001"	7524T11	$13.30	7524T13	$13.30	7524T12	$45.00	7524T14	$45.00

Easy-to-Machine Chemical-Resistant Polypropylene

This material has a hard surface that won't bind or stick to cutting tools. It also resists many chemicals and solvents.

Rectangular Bars



- Color: Semi-clear white
- Max. Temp.: 225° F
- Tensile Strength: Poor
- Impact Strength: Good

Width tolerance is +1/8" and thickness tolerance is ±10%. Bars are excellent electrical insulators. Resin is FDA compliant and meets NSF/ANSI standards and UL 94HB for flame retardance.

Thick.	Wd.	Available Lengths, ft.		Per Ft.
1/8"	1"	4	8782K11	$0.37
1/8"	1 1/2"	4	8782K19	.50
1/8"	2"	4	8782K31	.69
1/8"	2 1/2"	4	8782K44	.83
1/8"	3"	4	8782K56	1.03
1/8"	4"	4	8782K68	1.33
1/4"	1"	4	8782K12	.71
1/4"	1 1/2"	4	8782K21	.94
1/4"	2"	4	8782K33	1.28
1/4"	2 1/2"	4	8782K45	1.61
1/4"	3"	4	8782K57	1.82
1/4"	4"	4	8782K69	2.45
3/8"	1"	4	8782K13	.97
3/8"	1 1/2"	4	8782K23	1.34
3/8"	2"	4	8782K34	1.84
3/8"	2 1/2"	4	8782K46	2.29
3/8"	3"	4	8782K58	2.66
3/8"	4"	4	8782K71	3.52
1/2"	1"	4	8782K14	1.24
1/2"	1 1/2"	4	8782K24	$1.76
1/2"	2"	4	8782K35	2.42
1/2"	2 1/2"	4	8782K47	2.97
1/2"	3"	2, 3, 4	8782K59	3.40
1/2"	4"	2, 3, 4	8782K73	4.55
3/4"	1"	4	8782K15	1.82
3/4"	1 1/2"	4	8782K25	2.59
3/4"	2"	4	8782K36	3.32
3/4"	2 1/2"	2, 3, 4	8782K48	4.05
3/4"	3"	2, 3, 4	8782K61	4.86
3/4"	4"	2, 3, 4	8782K74	6.38
1"	1"	1, 2, 3, 4	8782K16	2.33
1"	1 1/2"	1, 2, 3, 4	8782K26	3.32
1"	2"	1, 2, 3, 4	8782K37	4.40
1"	2 1/2"	1, 2, 3, 4	8782K49	5.45
1"	3"	1, 2, 3, 4	8782K63	6.40
1"	4"	1, 2, 3, 4	8782K75	8.41
1 1/4"	1"	1, 2, 3, 4	8782K17	4.02
1 1/4"	1 1/2"	1, 2, 3, 4	8782K27	4.48
1 1/4"	2"	1, 2, 3, 4	8782K38	$7.83
1 1/4"	2 1/2"	1, 2, 3, 4	8782K51	7.98
1 1/4"	3"	1, 2, 3, 4	8782K64	8.50
1 1/4"	4"	1, 2, 3, 4	8782K76	13.10
1 1/2"	1 1/2"	1, 2, 3, 4	8782K28	6.24
1 1/2"	2"	1, 2, 3, 4	8782K39	8.80
1 1/2"	2 1/2"	1, 2, 3, 4	8782K53	9.87
1 1/2"	3"	1, 2, 3, 4	8782K65	10.90
1 1/2"	4"	1, 2, 3, 4	8782K77	14.88
1 3/4"	1"	1, 2, 3, 4	8782K18	5.11
1 3/4"	1 1/2"	1, 2, 3, 4	8782K29	7.93
1 3/4"	2"	1, 2, 3, 4	8782K41	9.65
1 3/4"	2 1/2"	1, 2, 3, 4	8782K54	11.85
1 3/4"	3"	1, 2, 3, 4	8782K66	13.34
1 3/4"	4"	1, 2, 3, 4	8782K78	16.56
2"	2"	1, 2, 3, 4	8782K43	11.02
2"	2 1/2"	1, 2, 3, 4	8782K55	13.61
2"	3"	1, 2, 3, 4	8782K67	14.92
2"	4"	1, 2, 3, 4	8782K79	18.62

Sheets

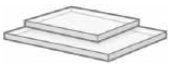

- Color: Semi-clear or opaque white
- Temp. Range: 0° to 180° F
- Tensile Strength: Poor
- Impact Strength: Good

Sheets are stress relieved to resist warping and cracking during machining. They're excellent electrical insulators. Resin is FDA and USDA compliant, and meets UL 94HB for flame retardance. Width and length tolerances are +1/2" for *semi-clear white* and ±1/8" for *opaque white*.

Thick.	Thick. Tolerance	6" × 6"		6" × 12"		12" × 12"		12" × 24"		12" × 36"	
Semi-Clear White											
1/16"	±0.006"					8742K131	$3.42	8742K231	$5.55	8742K331	$7.57
3/32"	±0.009"					8742K132	4.82	8742K232	8.15	8742K332	11.86
1/8"	±0.013"					8742K133	5.42	8742K233	9.16	8742K333	13.33
3/16"	±0.019"					8742K134	8.13	8742K234	13.76	8742K334	20.02
1/4"	±0.025"					8742K135	10.83	8742K235	17.50	8742K335	26.66
3/8"	±0.038"			8742K128	$9.01	8742K136	15.01	8742K236	26.27	8742K336	40.03
1/2"	±0.050"			8742K129	11.74	8742K137	19.57	8742K237	35.85	8742K337	52.17
3/4"	±0.075"			8742K144	17.23	8742K139	28.71	8742K239	52.64	8742K339	69.39
1"	±0.100"			8742K146	23.00	8742K141	41.53	8742K241	63.89	8742K341	86.25
1 1/2"	±0.150"	8742K96	$19.54	8742K147	39.07	8742K142	78.14	8742K242	130.24	8742K342	169.31
2"	±0.200"	8742K97	28.45	8742K148	56.90	8742K143	109.06	8742K243	180.19	8742K343	256.06
3"	±0.300"	8742K98	56.15	8742K149	122.53	8742K145	202.81	8742K245	343.74	8742K345	472.54

Thick.	Thick. Tolerance	24" × 24"		24" × 36"		24" × 48"		48" × 48"		48" × 96"	
1/16"	±0.006"	8742K431	$9.09	8742K531	$13.12	8742K631	$15.14	8742K831	$27.26	8742K931	$50.48
3/32"	±0.009"	8742K432	14.83	8742K532	20.39	8742K632	25.95	8742K832	42.25	8742K932	74.13
1/8"	±0.013"	8742K433	16.66	8742K533	22.91	8742K633	26.66	8742K833	47.49	8742K933	83.31
3/16"	±0.019"	8742K434	25.03	8742K534	32.53	8742K634	40.04	8742K834	67.57	8742K934	125.13
1/4"	±0.025"	8742K435	33.32	8742K535	43.32	8742K635	53.32	8742K835	89.97	8742K935	166.62
3/8"	±0.038"	8742K436	50.04	8742K536	65.05	8742K636	75.05	8742K836	135.10	8742K936	250.18
1/2"	±0.050"	8742K437	57.07	8742K537	78.26	8742K637	97.83	8742K837	176.09	8742K937	326.09
3/4"	±0.075"	8742K439	83.74	8742K539	114.85	8742K639	143.56	8742K839	258.41	8742K939	478.53
1"	±0.100"	8742K441	111.81	8742K541	150.14	8742K641	191.67	8742K841	345.01	8742K941	638.91

Thick.	Thick. Tolerance	12" × 12"		12" × 24"		24" × 24"		24" × 36"		24" × 48"	
Opaque White											
1/8"	±0.006"	2898K11	$4.20	2898K14	$8.17	2898K17	$15.49	2898K41	$18.84	2898K21	$19.89
3/16"	±0.009"	2898K12	6.15	2898K15	11.95	2898K18	22.71	2898K42	26.28	2898K22	27.60
1/4"	±0.013"	2898K13	7.17	2898K16	14.09	2898K19	26.62	2898K43	34.74	2898K23	36.42
1/2"	±0.025"	2898K24	15.99	2898K25	29.13	2898K26	48.96	2898K27	66.75	2898K28	81.60

Rods



- Color: White
- Temp. Range: 45° to 180° F
- Tensile Strength: Poor
- Impact Strength: Good

Rods meet UL 94HB for flame retardance. Rods with a 2 1/4" and larger diameter are stress relieved to resist warping and cracking during machining.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/8"	±0.005"	8	8658K47	$0.45
3/16"	±0.005"	8	8658K49	0.62
1/4"	+0.010"	8	8658K51	0.84
3/8"	+0.015"	8	8658K52	0.99
1/2"	+0.020"	8	8658K53	1.26
3/4"	+0.030"	8	8658K54	2.32
1"	+0.040"	1, 2, 3, 4, 5, 6, 7, 8	8658K55	3.54
1 1/4"	+0.050"	1, 2, 3, 4, 5, 6, 7, 8	8658K56	5.42
1 1/2"	+0.060"	1, 2, 3, 4, 5, 6, 7, 8	8658K57	7.76
1 3/4"	+0.070"	1, 2, 3, 4, 5, 6, 7, 8	8658K58	$10.71
2"	+0.080"	1, 2, 3, 4, 5, 6, 7, 8	8658K59	12.12
2 1/4"	+0.090"	1, 2, 3, 4	8658K61	15.02
2 1/2"	+0.100"	1, 2, 3, 4	8658K62	17.43
3"	+0.120"	1, 2, 3, 4	8658K63	22.96
3 1/2"	+0.140"	1, 2, 3, 4	8658K64	29.40
4"	+0.160"	1, 2, 3, 4	8658K65	38.77
5"	+0.200"	1, 2, 3, 4	8658K66	57.02
6"	+0.240"	1, 2, 3, 4	8658K67	83.21

(Material continued on following page)

Easy-to-Machine Chemical-Resistant Polypropylene *(Material continued from previous page)*

This material has a hard surface that won't bind or stick to cutting tools. It also resists many chemicals and solvents.

Oversized Black Tubes



- Color: Black
- Temp. Range: Not rated
- Tensile Strength: Poor
- Impact Strength: Excellent

These tubes can be used outdoors. OD is oversized and ID is undersized for finishing to the sizes listed.

OD	ID	Wall Thick.	Available Lengths, ft.		Per Ft.
1/4"	1/8"	1/16"	5	1859T11	$0.83
1/2"	1/4"	1/8"	5	1859T12	2.33
3/4"	1/4"	1/4"	1, 2, 3, 4, 5	1859T16	4.63
1"	1/2"	1/4"	1, 2, 3, 4, 5	1859T17	6.93
1 1/4"	3/4"	1/4"	1, 2, 3, 4, 5	1859T18	$8.53
1 1/2"	1"	1/4"	1, 2, 3, 4, 5	1859T22	9.57
2"	1 1/2"	1/4"	1, 2, 3, 4, 5	1859T23	13.06

90° Angles



- Color: Semi-clear white
- Temp. Range: –40° to 180° F
- Tensile Strength: Poor
- Impact Strength: Good

These angles are excellent electrical insulators. Leg length tolerance is ±0.025". Length tolerance is ±1/4".

Outside Leg Lgs.	Wall Thick.	Wall Thick. Tolerance	5-ft. Lengths	
1 1/2" × 1 1/2"	1/4"	±0.010"	87215K35	$27.23
2" × 2"	1/4"	±0.010"	87215K37	31.22

U-Channels

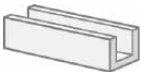

- Color: White
- Temp. Range: 45° to 210° F
- Tensile Strength: Poor
- Impact Strength: Excellent

These U-channels are excellent electrical insulators. Meet UL 94HB for flame retardance. Base, leg, and wall thick. tolerances are ±0.020".

Outside Base	Outside Legs	Wall Thick.	Available Lengths, ft.		Per Ft.
2 1/2"	2 1/4"	3/16"	1, 2, 3, 4, 5	87495K41	$11.66
2 1/2"	3 1/4"	3/16"	1, 2, 3, 4, 5	87495K51	14.14

Solid Balls



- Color: Semi-clear white
- Max. Temperature: 180° F
- Tensile Strength: Poor
- Impact Strength: Poor

Diameter tolerance is ±0.002".

Dia.	Pkg. Qty.		Pkg.	Dia.	Pkg. Qty.		Pkg.
1/8"	500	1974K2	$7.59	3/8"	100	1974K17	$7.92
5/32"	500	1974K4	8.61	7/16"	50	1974K6	10.48
3/16"	500	1974K5	11.21	1/2"	100	1974K19	11.30
7/32"	250	1974K8	8.95	5/8"	50	1974K21	11.54
1/4"	250	1974K13	9.25	3/4"	25	1974K22	8.37
9/32"	100	1974K7	10.51	7/8"	1	1974K23	1.42
5/16"	250	1974K16	11.02	1"	10	1974K24	6.32

Hollow Balls



- Color: Semi-clear white
- Max. Temperature: 220° F
- Tensile Strength: Poor
- Impact Strength: Poor

Balls float to slow evaporation and cut heat loss in tanks.

Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.
0.787"	±0.010"	150	3748K31	$52.08
1"	±0.015"	25	9338K11	7.56
1.400"	±0.015"	25	9338K13	7.89
1.496"	±0.010"	50	3748K33	69.16
1.969"	±0.020"	40	3748K34	66.25
2.953"	±0.030"	10	3748K35	26.82
3.937"	±0.050"	1	3748K18	7.35

Flame-Retardant Polypropylene

Often used in semiconductor applications, this polypropylene meets multiple flame-retardance standards. It's also lightweight and easy to fabricate.

Sheets

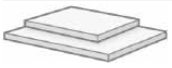

- Color: White
- Temp. Range: 50° to 180° F
- Tensile Strength: Poor
- Impact Strength: Excellent

Meet UL 94V0, UL 94 5VA, and FM 4910 for flame retardance. Width and length tolerances are ±1/4", except 48"×96" sheets have tolerances of +1/2".

Thick.	Thick. Toler.	6"×6"		6"×12"		12"×12"		12"×24"		24"×24"		48"×96"	
1/4"	±0.013"	86325K11	$13.74	86325K12	$24.49	86325K23	$31.33	86325K33	$52.25	86325K53	$90.87	86325K73	$574.78
1/2"	±0.025"	86325K13	21.63	86325K14	38.50	86325K25	58.94	86325K35	98.30	86325K55	170.97	86325K75	1,081.42
1"	±0.050"	86325K15	37.03	86325K16	71.65	86325K28	109.69	86325K38	182.95	86325K58	318.20	86325K78	2,012.63
2"	±0.100"	86325K17	70.20	86325K18	130.93	86325K82	215.10	86325K84	358.50	86325K88	623.47		

Film

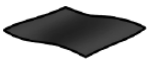

- Color: Black
- Temp. Range: –40° to 200° F
- Tensile Strength: Poor
- Impact Strength: Good

An alternative to polycarbonate, polyester, PVC, and aramid paper, this film is an excellent electrical insulator and can be used outdoors. Film sheets meet UL 94V0 and rolls meet UL 94VTM0 for flame retardance. Width tolerance is ±1/4". Length tolerance for sheets is ±1/4" and for rolls it is +10 ft.

Thick.	Thick. Toler.	12"×12"	
Sheets			
0.017"	±0.004"	1451T11	$4.25
0.030"	±0.004"	1451T21	5.97
Sheets (Cont.)			
0.040"	±0.004"	1451T31	$7.33
0.062"	±0.004"	1451T41	10.87

Thick.	Thick. Toler.	24"×100 ft.	
Rolls			
0.005"	+0.001", –0.001"	1451T51	$178.57
0.010"	+0.003", –0.0015"	1451T61	274.99

Electrically Conductive Flame-Retardant ABS/PVC



- Color: Black
- Temp. Range: Not rated
- Tensile Strength: Poor
- Impact Strength: Good

This material conducts electricity to remove static charge. It also meets UL 94V1 for flame retardance and ASTM D4673. One side is textured; the other is smooth. Width and length tolerances are ±1/8" for 6"×6" to 24"×48" sheets; they are ±1/2" for 48"×54" and 54"×96" sheets.

Thick.	Thick. Toler.	6"×6"		12"×12"		12"×24"		24"×48"		48"×54"		54"×96"	
1/16"	±0.005"	87265K58	$3.89	87265K13	$13.57	87265K23	$23.52	87265K33	$79.72	87265K43	$138.62	87265K53	$243.19
1/8"	±0.006"	87265K59	6.75	87265K11	24.89	87265K21	37.30	87265K31	151.50	87265K41	229.13	87265K51	421.90
3/16"	±0.009"	87265K61	9.56	87265K14	34.19	87265K27	57.86	87265K37	201.26	87265K47	350.40	87265K57	597.74
1/4"	±0.013"	87265K62	11.92	87265K12	40.76	87265K22	70.86	87265K32	246.78	87265K42	429.10	87265K52	745.10

For comparative information about plastics, see page 3626.

Easy-to-Machine Polystyrene

This stiff plastic won't slow down cutting tools. It's economical and often used for signs and containers.

Sheets

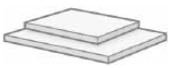

- Color: Opaque to semi-clear white
- Temp. Range: 0° to 155° F
- Tensile Strength: Poor
- Impact Strength: Good

Width and length tolerances are ±1/8". Sheets meet UL 94HB for flame retardance, except 1/32" thick.

Thick.	Thick. Tolerance	12"×24"		36"×36"		40"×72"	
1/32"	±0.003"	8734K31	$2.42	8734K38	$9.33	8734K29	$17.28
1/16"	±0.005"	8734K32	4.47	8734K39	17.25	8734K22	31.94
3/32"	±0.006"	8734K33	5.70	8734K41	22.00	8734K24	40.74
1/8"	±0.008"	8734K34	7.87	8734K42	30.35	8734K25	56.20
5/32"	±0.010"	8734K35	$9.03	8734K43	$34.82	8734K26	$64.48
3/16"	±0.012"	8734K36	12.71	8734K44	49.01	8734K27	90.76
1/4"	±0.012"	8734K37	15.07	8734K45	58.13	8734K28	107.65

Strips

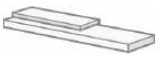

- Color: Opaque to semi-clear white
- Temp. Range: 0° to 155° F
- Tensile Strength: Poor
- Impact Strength: Good

Width and length tolerances are ±1/8". Strips meet UL 94HB for flame retardance.

Thick.	Thick. Tolerance	2"×24"		2"×48"		4"×24"		4"×48"		6"×24"		6"×48"	
1/8"	±0.013"	1195N22	$1.62	1195N21	$3.04	1195N42	$3.07	1195N41	$5.84	1195N62	$4.39	1195N61	$8.37
3/16"	±0.019"	1195N24	2.45	1195N23	4.70	1195N44	4.61	1195N43	8.80	1195N64	6.60	1195N63	12.62
1/4"	±0.025"	1195N26	2.98	1195N25	5.67	1195N46	5.68	1195N45	10.83	1195N66	7.94	1195N65	15.21

Rods



- Color: White
- Temp. Range: –10° to 170° F
- Tensile Strength: Poor
- Impact Strength: Good

Rods are excellent electrical insulators and meet UL 94HB for flame retardance.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/4"	+0.015"	8	8720K32	$1.03
3/8"	+0.015"	8	8720K33	1.44
1/2"	+0.015"	8	8720K34	3.18
5/8"	+0.015"	1, 2, 3, 4, 5, 6, 7, 8	8720K35	3.90
3/4"	+0.015"	1, 2, 3, 4, 5, 6, 7, 8	8720K36	$4.60
1"	+0.015"	1, 2, 3, 4, 5, 6, 7, 8	8720K37	5.28
1 1/2"	+0.015"	1, 2, 3, 4, 5, 6, 7, 8	8720K38	12.10
2"	+0.015"	1, 2, 3, 4, 5, 6, 7, 8	8720K39	18.48

Electrical Insulating Noryl PPO

- Color: Black
- Temp. Range: –40° to 220° F
- Tensile Strength: Good
- Impact Strength: Good

Use PPO for electrical insulating applications where moisture is a concern. This material has a dielectric strength of 500 volts/mil, it absorbs almost no moisture, and it resists most salt solutions, acids, and bases. It can be used outdoors.

Sheets



Width and length tolerances are ±1/8". Thickness tolerance for 1/16" to 1/8" thick sheets is ±10%; for 1/4" to 2" thick sheets it is +0.025". 1/16" to 1/8" thick sheets meet UL 94V1 for flame retardance; all others meet UL 94V0.

Thick.	6"×6"		12"×12"		12"×24"	
1/16"	8561K419	$8.23	8561K421	$16.62	8561K422	$31.43
3/32"	8561K425	10.68	8561K426	21.57	8561K427	40.78
1/8"	8561K431	11.46	8561K432	22.96	8561K433	43.55
1/4"	8561K411	12.51	8561K331	25.07	8561K332	47.55
3/8"	8561K412	17.67	8561K341	35.52	8561K342	65.08
1/2"	8561K413	21.79	8561K351	44.34	8561K352	81.33
3/4"	8561K414	30.11	8561K361	65.12	8561K362	121.42
1"	8561K415	38.65	8561K371	85.36	8561K372	156.50
1 1/4"	8561K416	47.10	8561K381	108.82	8561K382	206.24
1 1/2"	8561K417	56.25	8561K391	129.75	8561K392	245.85
2"	8561K418	77.62	8561K321	178.28	8561K322	337.94

Rods



3/16" diameter rod meets UL 94V1 for flame retardance; all others meet UL 94V0.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
3/16"	+0.002"	5	8580K71	$0.79
1/4"	+0.002"	5	8580K12	1.22
3/8"	+0.002"	5	8580K13	2.13
1/2"	+0.002"	5	8580K14	3.78
3/4"	+0.002"	1, 2, 3, 4, 5	8580K15	7.05
1"	+0.002"	1, 2, 3, 4, 5	8580K16	9.44
1 1/4"	+0.002"	1, 2, 3, 4, 5	8580K17	14.10
1 1/2"	+0.002"	1, 2, 3, 4, 5	8580K18	18.49
1 3/4"	+0.002"	1, 2, 3, 4, 5	8580K19	23.51
2"	+0.002"	1, 2, 3, 4, 5	8580K21	30.67

Ultra Electrical Insulating Rexolite Polystyrene

- Color: Semi-clear cream to yellow
- Temp. Range: –75° to 212° F
- Tensile Strength: Good
- Impact Strength: Good

With a dielectric strength of 2,000 volts/mil, Rexolite is the most electrically insulating plastic we offer. It is often used for cable connectors, electrical housings, and in microwave applications. Material meets MIL-LP-516A.

Sheets

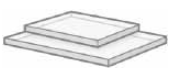

Width and length tolerances are +1/4".

Thick.	Thick. Toler.	6"×6"		6"×12"		12"×12"	
1/8"	+0.008"	1491T11	$40.55	1491T21	$67.58	1491T31	$112.64
1/4"	+0.008"	1491T12	41.25	1491T22	68.74	1491T32	114.57
1/2"	+0.012"	1491T13	51.80	1491T23	86.33	1491T33	143.88

Rods



Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/8"	±0.002"	1, 2, 4	1491T61	$5.34
1/4"	±0.002"	1, 2, 4	1491T62	4.37
3/8"	±0.002"	1, 2, 4	1491T63	5.51
1/2"	±0.002"	1, 2, 4	1491T64	7.09
3/4"	±0.002"	1, 2, 4	1491T65	10.32
1"	±0.002"	1, 2, 4	1491T66	15.43

Easy-to-Machine Impact-Resistant ABS

ABS resists breaking upon impact and is often used in protective applications, such as equipment housings and machine guards. Its rigid surface won't slow down cutting tools.

Rectangular Bars



- Color: Beige or black
- Max. Temp.: 160°F
- Tensile Strength: Good
- Impact Strength: Excellent

Resin is FDA compliant and meets UL 94HB for flame retardance. Width and length tolerances are +1/8". **To Order:** Please specify color. Sold in 1, 2, and 4 ft. lengths.

Thick.	Thick. Toler.	1" Wide	Per Ft.	1½" Wide	Per Ft.	2" Wide	Per Ft.	2½" Wide	Per Ft.	3" Wide	Per Ft.	4" Wide	Per Ft.
1/4"	±0.025"	8712K111	$1.50	8712K142	$2.12	8712K173	$2.56	8712K208	$3.08	8712K244	$3.54	8712K279	$4.37
3/8"	±0.038"	8712K115	2.22	8712K146	3.52	8712K177	3.85	8712K213	4.91	8712K248	5.90	8712K284	6.57
1/2"	±0.050"	8712K119	2.95	8712K151	4.21	8712K182	5.13	8712K217	6.14	8712K253	7.10	8712K288	8.78
3/4"	±0.075"	8712K124	4.42	8712K155	6.35	8712K186	7.71	8712K222	9.25	8712K257	10.62	8712K293	13.13
1"	±0.100"	8712K128	5.90	8712K159	8.45	8712K191	10.30	8712K226	12.31	8712K262	14.18	8712K297	17.52
1 1/4"	±0.125"	8712K133	8.44	8712K164	12.66	8712K195	15.43	8712K231	18.46	8712K266	21.28	8712K302	26.25
1 1/2"	±0.150"	_____	___	8712K168	16.88	8712K199	20.56	8712K235	24.62	8712K271	28.38	8712K306	35.02
2"	±0.200"	_____	___	_____	___	8712K204	27.29	8712K239	31.66	8712K275	36.69	8712K311	49.25

Strips

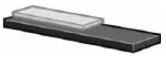

- Color: Semi-clear beige or opaque black
- Max. Temp.: 140°F
- Tensile Strength: Good
- Impact Strength: Good

Strips meet UL 94HB for flame retardance and ASTM D4673. Width and length have a plus tolerance. **To Order:** Please specify color. Sold in 5, 10, and 20 ft. lengths.

Thick.	Thick. Toler.	1/2" Wide	Per Ft.	1" Wide	Per Ft.	2" Wide	Per Ft.	4" Wide	Per Ft.	6" Wide	Per Ft.	11" Wide	Per Ft.
0.010"	+0.003"	8586K11	$0.44	8586K68	$0.47	8586K74	$0.56	8586K548	$0.86	8586K97	$1.13	8586K958	$1.69
0.020"	±0.002"	8586K33	.63	8586K69	.67	8586K75	.99	8586K869	1.38	8586K98	1.79	8586K688	2.82
1/32"	±0.003"	8586K531	.66	8586K71	.81	8586K77	1.16	8586K873	1.84	8586K99	2.44	8586K738	3.74
3/64"	+0.007"	8586K54	.72	8586K72	1.06	8586K78	1.57	8586K95	2.57	8586K868	3.49	8586K762	5.92
1/16"	±0.005"	8586K64	1.16	8586K73	1.38	8586K79	2.20	8586K96	3.19	8586K658	4.26	8586K142	6.51

Sheets

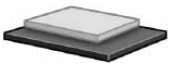

- Color: Beige or black
- Max. Temp.: 160°F
- Tensile Strength: Good
- Impact Strength: Excellent

Resin is FDA compliant and meets UL 94HB for flame retardance. Width and length tolerances are +1". **To Order:** Please specify color.

Thick.	Thick. Toler.	6"x6"		12"x12"		12"x24"		24"x24"		24"x48"		36"x36"	
1/16"	±0.006"	_____	___	8586K151	$4.21	8586K351	$7.02	8586K451	$12.68	8586K251	$23.00	8586K551	$29.56
1/8"	±0.013"	_____	___	8586K161	8.44	8586K361	14.07	8586K461	25.09	8586K261	44.44	8586K561	59.11
1/4"	±0.025"	_____	___	8586K171	14.43	8586K371	23.95	8586K471	49.74	8586K271	89.02	8586K571	101.16
3/8"	±0.038"	8586K65	$8.44	8586K181	21.60	8586K381	36.00	8586K481	74.91	8586K281	133.24	8586K581	151.16
1/2"	±0.050"	8586K66	9.20	8586K191	29.74	8586K391	49.52	8586K491	94.66	8586K291	176.07	8586K591	208.00
3/4"	±0.075"	8586K67	16.20	8586K211	41.57	8586K411	69.29	8586K511	118.66	8586K311	220.64	8586K611	290.98
1"	±0.100"	8586K81	17.13	8586K221	49.54	8586K421	82.21	8586K521	157.73	8586K321	278.92	8586K621	347.80
1 1/2"	±0.150"	8586K91	23.20	8586K231	75.05	8586K431	124.55	_____	___	_____	___	8586K631	526.82
2"	±0.200"	8586K82	54.95	8586K83	156.33	8586K84	257.14	_____	___	_____	___	_____	___

Film



- Color: Semi-clear beige
- Temp. Range: 40° to 140°F
- Tensile Strength: Good
- Impact Strength: Excellent

Width and length tolerances are ±1/16".

Thick.	Thick. Tolerance	12"x12"	
0.003"	±0.0003"	5751T11	$8.59
0.005"	±0.0005"	5751T31	11.54
0.010"	±0.0010"	5751T51	$19.28
0.020"	±0.0020"	5751T71	34.34

Rods



- Color: Beige or black
- Max Temp.: 160°F
- Tensile Strength: Good
- Impact Strength: Excellent

All rods meet UL 94HB for flame retardance and ASTM D4673. *Beige* rods are made with FDA-compliant resin. **To Order:** Please specify color.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/8"	–0.010"	5	8587K35	$0.50
3/16"	–0.010"	5	8587K37	0.70
1/4"	+0.002"	5	8587K1	0.74
3/8"	+0.002"	5	8587K2	1.62
1/2"	+0.002"	5	8587K3	2.26
5/8"	+0.002"	1, 2, 3, 4, 5	8587K4	3.50
3/4"	+0.002"	1, 2, 3, 4, 5	8587K5	4.07
7/8"	+0.002"	1, 2, 3, 4, 5	8587K91	6.34
1"	+0.002"	1, 2, 3, 4, 5	8587K6	7.00
1 1/4"	+0.005"	1, 2, 3, 4, 5	8587K92	$11.92
1 1/2"	+0.005"	1, 2, 3, 4, 5	8587K7	15.22
1 3/4"	+0.005"	1, 2, 3, 4, 5	8587K8	20.24
2"	+0.005"	1, 2, 3, 4, 5	8587K9	23.66
2 1/2"	+0.030"	1, 2, 3, 4, 5	8587K11	38.85
3"	+0.250"	1, 2, 3, 4, 5	8587K12	60.45
3 1/2"	+0.250"	1, 2, 3, 4, 5	8587K13	80.19
4"	+0.250"	1, 2, 3, 4, 5	8587K14	100.96
5"	+0.250"	1, 2, 3, 4, 5	8587K15	148.93

Oversized Tubes



- Color: Black
- Max. Temp.: 140°F
- Tensile Strength: Good
- Impact Strength: Excellent

Oversized for finishing to the sizes listed. OD tolerance is +0.040"; ID tolerance is –0.040". Meet UL 94HB for flame retardance.

OD	ID	Wall Thick.	Available Lengths, ft.		Per Ft.
1/4"	1/8"	1/16"	3, 5	1839T241	$0.76
1/2"	1/4"	1/8"	3, 5	1839T281	1.78
5/8"	1/4"	3/16"	3, 5	1839T331	3.47
5/8"	1/2"	1/16"	3, 5	1839T371	2.07
3/4"	1/4"	1/4"	3, 5	1839T461	4.70
3/4"	1/2"	1/8"	3, 5	1839T421	$3.66
1"	1/2"	1/4"	1, 3, 5	1839T511	6.96
1 1/4"	1"	1/8"	1, 3, 5	1839T591	5.84
1 1/2"	1"	1/4"	1, 3, 5	1839T641	10.24
2"	1 1/2"	1/4"	1, 3, 5	1839T681	13.74

Wear-Resistant Nylon

Also known as nylon 6/6, this general-purpose material resists wear and abrasion as well as gasoline, mineral oil, and refrigerants.

Rectangular Bars



- Color: Off-white or black
- Max. Temp.: 210°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Width tolerance is +1/8″, –0.010″. Maximum length for all bars is 4 feet. All bars meet ASTM D6779.

Off-white bars are made with resin that is FDA compliant, USDA compliant, and meets NSF/ANSI standards. The resin also meets 3-A sanitary standard requirements, UL 94V2 for flame retardance, and ASTM D5989. **Black bars** are made with resin that meets UL 94HB for flame retardance (unless noted).

Wd.	Off-White	Per Ft.	Black	Per Ft.
1/8″ Thick (+0.025″, –0.010″)				
1″	8733K11	$2.24	8674K105	$2.23
1 1/2″	8733K12	3.04	8674K106	3.15
2″	8733K13	3.87	8674K107	3.91
2 1/2″	8733K811	4.68	8674K108	4.80
3″	8733K14	5.27	8674K109	5.58
4″	8733K15	6.38	8674K114	6.78
6″	8733K17	8.69	8674K103	9.02
3/16″ Thick (±0.025″)				
1″	8733K86	3.51	8674K223	3.12
1 1/2″	8733K87	4.79	8674K323	4.69
2″	8733K88	6.07	8674K423	6.30
2 1/2″	8733K815	7.05	8674K523	7.18
3″	8733K89	8.30	8674K623	8.46
4″	8733K91	10.03	8674K723	10.22
6″	8733K92	13.68	8674K923	13.94
1/4″ Thick (±0.025″)				
1/4″	8732K11	2.55	8674K81★	2.76
1″	8733K18	3.82	8674K115	3.90
1 1/2″	8733K19	5.21	8674K116	5.27
2″	8733K21	6.62	8674K117	6.88
2 1/2″	8733K816	8.46	8674K118	8.70
3″	8733K22	9.02	8674K119	9.48
4″	8733K23	10.94	8674K124	11.45
6″	8733K25	14.93	8674K203	15.50
5/16″ Thick (+0.025″, –0.005″)				
5/16″	8732K12	4.35	8674K82★	4.70
3/8″ Thick (±0.025″)				
3/8″	8732K13	5.89	8674K83★	6.31
1″	8733K26	5.82	8674K125	6.04
1 1/2″	8733K27	7.93	8674K126	8.07
2″	8733K28	10.08	8674K127	10.27
2 1/2″	8733K817	11.71	8674K128	12.01
3″	8733K73	13.73	8674K129	14.05
4″	8733K74	16.63	8674K134	16.95
6″	8733K75	22.70	8674K303	23.12
7/16″ Thick (+0.025″, –0.005″)				
7/16″	8732K14	$6.18	8674K84★	$6.67
1/2″ Thick (±0.025″)				
1/2″	8732K15	7.24	8674K85★	7.82
1″	8733K34	6.72	8674K135	6.70
1 1/2″	8733K35	9.15	8674K136	9.40
2″	8733K36	11.61	8674K137	12.10
2 1/2″	8733K818	14.11	8674K138	14.47
3″	8733K37	15.84	8674K139	16.26
4″	8733K38	19.21	8674K145	19.93
6″	8733K41	26.17	8674K403	26.67
5/8″ Thick (±0.025″)				
5/8″	8732K16	11.11	8674K86★	11.99
1″	8733K42	8.60	8674K913	8.89
1 1/2″	8733K43	11.76	8674K933	12.21
2″	8733K44	14.94	8674K943	15.22
2 1/2″	8733K819	15.43	8674K953	15.72
3″	8733K45	20.36	8674K963	20.75
4″	8733K46	24.66	8674K973	25.12
6″	8733K48	33.66	8674K983	33.34
3/4″ Thick (±0.025″)				
3/4″	8732K17	13.83	8674K87★	14.94
1″	8733K49	9.86	8674K146	10.05
1 1/2″	8733K51	13.40	8674K147	13.65
2″	8733K52	17.04	8674K148	17.37
2 1/2″	8733K823	18.26	8674K149	18.76
3″	8733K53	23.27	8674K154	23.70
4″	8733K54	28.19	8674K155	28.93
6″	8733K56	38.44	8674K503	38.07
7/8″ Thick (+0.025″, –0.005″)				
7/8″	8732K18	18.32	8674K88★	19.78
1″ Thick (+0.025″)				
1″	8733K64	10.44	8674K156	10.71
1 1/2″	8733K65	17.27	8674K157	17.59
2″	8733K66	21.91	8674K158	22.32
2 1/2″	8733K825	23.52	8674K159	24.12
1″ Thick (+0.025″) (Cont.)				
3″	8733K67	$29.87	8674K164	$29.60
4″	8733K68	36.20	8674K165	37.29
6″	8733K71	49.38	8674K603	49.40
1 1/4″ Thick (+0.060″)				
1″	8733K827	12.00	8674K166	12.31
1 1/2″	8733K93	19.41	8674K167	19.77
2″	8733K94	24.66	8674K168	25.12
2 1/2″	8733K826	27.25	8674K169	27.95
3″	8733K95	33.60	8674K174	33.08
4″	8733K96	40.74	8674K175	40.18
6″	8733K97	56.06	8674K703	55.52
1 1/2″ Thick (+0.060″)				
1″	8733K65	17.27	8674K993	17.82
1 1/2″	8733K835	20.38	8674K176	20.91
2″	8733K81	32.57	8674K177	32.27
2 1/2″	8733K833	32.33	8674K178	33.16
3″	8733K82	44.41	8674K179	43.99
4″	8733K83	53.84	8674K184	53.33
6″	8733K85	73.40	8674K903	72.72
1 3/4″ Thick (+0.060″)				
1″	8733K841	15.16	8674K185	15.55
1 1/2″	8733K842	21.77	8674K186	22.33
2″	8733K843	29.02	8674K187	29.77
2 1/2″	8733K844	36.29	8674K188	37.21
3″	8733K845	39.70	8674K189	40.71
4″	8733K846	52.94	8674K194	54.28
6″	8733K847	69.03	8674K803	75.39
2″ Thick (+0.060″)				
1″	8733K66	21.91	8674K815	22.41
1 1/2″	8733K81	32.57	8674K825	33.63
2″	8733K161	42.11	8674K195	41.72
2 1/2″	8733K853	43.21	8674K196	44.31
3″	8733K163	57.42	8674K197	56.88
4″	8733K165	69.60	8674K198	68.94
6″	8733K167	94.90	8674K893	93.88

★ Meets UL 94V2 for flame retardance.

Strips



- Color: Semi-clear off-white
- Temp. Range: –40° to 185°F
- Tensile Strength: Excellent
- Impact Strength: Good

Width tolerance is +0.015″, –0.002″. Thickness tolerance is ±0.003″ for 0.010″ to 0.040″ thick strips and ±0.005″ for 0.050″ to 0.125″ thick strips. All strips meet ASTM D6779.

Plain-back strips are made with resin that is FDA compliant and meets NSF/ANSI standards. 0.031″ to 0.062″ thick strips meet UL 94HB for flame retardance, and 0.125″ thick strips meet UL 94V2.

Thick.	Available Lengths, ft.	1/2″ Wide	Per Ft.	1″ Wide	Per Ft.	2″ Wide	Per Ft.	4″ Wide	Per Ft.	6″ Wide	Per Ft.	12″ Wide	Per Ft.
Plain Back													
0.010″	5, 10, 20, 25, 50	_____	___	8730K62	$0.17	8730K65	$0.34	8730K68	$0.67	8730K82	$1.01	_____	___
0.015″	5, 10, 20, 25, 50	_____	___	8730K63	.20	8730K66	.32	8730K69	.75	8730K83	1.12	_____	___
0.020″	5, 10, 20, 25, 50	8730K85	$0.12	8730K64	.22	8730K67	.45	8730K81	.88	8730K84	1.33	8730K86	$2.59
0.031″	5, 10, 20, 25, 50	8730K55	.17	8730K15	.34	8730K26	.67	8730K37	1.34	8730K48	2.01	8730K834	3.80
0.040″	5, 10, 20, 25, 50	8730K56	.22	8730K16	.45	8730K27	.89	8730K38	1.76	8730K49	2.65	8730K835	4.86
0.050″	5, 10, 20, 25, 50	8730K57	.26	8730K17	.49	8730K28	.96	8730K39	1.91	8730K51	2.87	8730K836	5.45
0.062″	5, 10, 20, 25, 50	8730K58	.30	8730K18	.61	8730K29	1.20	8730K41	2.40	8730K52	3.59	8730K837	6.36
0.125″	5, 10, 20, 25, 50	8730K61	.71	8730K71	1.34	8730K72	2.36	8730K73	4.29	8730K74	6.30	8730K77	12.12
Adhesive Back													
0.031″	1, 2, 5, 10, 20	_____	___	_____	___	_____	___	8730K14	3.97	8730K19	5.71	8730K25	10.52
0.062″	1, 2, 5, 10, 20	_____	___	_____	___	_____	___	8730K31	6.75	8730K36	9.35	8730K42	17.32
0.125″	1, 2, 5, 10, 20	_____	___	_____	___	_____	___	8730K47	10.72	8730K59	14.88	8730K78	28.70

Film



- Color: Semi-clear off-white
- Max. Temp.: 450°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Resin is FDA compliant and meets UL 94V2 for flame retardance. Length and width tolerances are ±1/4″ for 12″ sides, ±1/2″ for 24″ sides, and ±1″ for 48″ sides.

Thick.	Thick. Tolerance	12″×12″		12″×24″		12″×48″		24″×24″		24″×48″	
0.001″	±0.0003″	8539K191	$1.64	8539K193	$2.82	8539K195	$4.69	8539K197	$4.69	8539K199	$7.82
0.002″	±0.0004″	8539K192	2.91	8539K194	4.99	8539K196	8.32	8539K198	8.32	8539K201	13.86

(Material continued on following page)

Wear-Resistant Nylon *(Material continued from previous page)*

Also known as nylon 6/6, this general-purpose material resists wear and abrasion as well as gasoline, mineral oil, and refrigerants.

Sheets



- Color: Off-white or black
- Temp. Range: –40° to 185°F
- Tensile Strength: Excellent
- Impact Strength: Good

Width and length tolerances are ±1/8″ for 6″ and 12″ sides, +1/2″ for 24″ sides, and +1″ for 48″ sides. All sheets meet ASTM D6779 and D5989. **Off-white sheets** are made with resin that is FDA compliant and meets NSF/ANSI standards. Resin for off-white sheets also meets UL 94V2 for flame retardance, except 1/32″ to 7/64″ thick meet UL 94HB.

Thick.	Thick. Tolerance	6″×6″ Off-White		6″×6″ Black		12″×12″ Off-White		12″×12″ Black		12″×24″ Off-White		12″×24″ Black	
1/32″	±0.003″	8539K881	$1.58	8540K311	$2.04	8539K23	$3.32	8540K121	$3.85	8539K29	$6.06	8540K221	$7.01
3/64″	+0.006″	8539K883	2.63	8540K313	3.06	8539K232	5.51	8540K123	6.42	8539K292	10.05	8540K223	11.70
1/16″	±0.005″	8539K884	2.94	8540K314	3.34	8539K11	6.17	8540K111	6.88	8539K31	11.41	8540K211	13.31
5/64″	±0.009″	8539K885	3.65	8540K315	4.84	8539K233	8.75	8540K124	10.16	8539K311	15.96	8540K224	18.53
3/32″	±0.007″	8539K886	3.71	8540K316	4.22	8539K12	9.94	8540K112	11.83	8539K32	18.35	8540K212	21.59
7/64″	–0.016″	8539K887	3.97	8540K317	4.62	8539K234	10.72	8540K125	12.47	8539K321	19.54	8540K225	22.74
1/8″	±0.010″	8539K888	4.33	8540K318	4.92	8539K13	12.78	8540K113	15.23	8539K33	24.01	8540K213	28.35
3/16″	+0.025″	8539K889	5.95	8540K319	6.70	8539K14	20.50	8540K114	22.15	8539K34	36.66	8540K214	39.91
1/4″	+0.025″	8539K111	7.41	8540K321	8.90	8539K15	22.95	8540K115	25.70	8539K35	39.75	8540K215	44.51
3/8″	+0.025″	8539K121	11.16	8540K322	11.49	8539K17	33.68	8540K117	38.52	8539K37	61.68	8540K217	68.97
1/2″	+0.025″	8539K101	11.32	8540K323	13.58	8539K18	39.63	8540K118	43.07	8539K38	74.38	8540K218	79.89
5/8″	+0.025″	8539K141	16.27	8540K324	17.57	8539K19	52.01	8540K126	55.12	8539K39	96.22	8540K226	97.27
3/4″	+0.025″	8539K151	18.33	8540K325	19.79	8539K21	60.01	8540K127	64.20	8539K41	110.15	8540K227	113.29
1″	+0.025″	8539K161	24.64	8540K326	25.16	8539K22	79.18	8540K119	85.73	8539K42	145.43	8540K219	151.23
1 1/2″	+0.025″	8539K171	33.26	8540K327	35.63	8539K24	111.48	8540K128	121.13	8539K44	202.72	8540K228	213.76
2″	+0.025″	8539K181	43.71	8540K328	45.65	8539K25	145.10	8540K129	155.21	8539K45	266.52	8540K229	273.91
2 1/2″	+0.025″	8539K211	55.97	8540K329	58.29	8539K26	183.24	8540K131	198.19	8539K46	330.11	8540K231	349.75
3″	+0.025″	8539K221	63.90	8540K331	67.15	8539K27	203.20	8540K132	217.84	8539K47	367.38	8540K232	384.43

Thick.	Thick. Tolerance	12″×48″ Off-White		12″×48″ Black		24″×24″ Off-White		24″×24″ Black		24″×48″ Off-White		24″×48″ Black	
1/32″	±0.003″	8539K696	$11.53	8540K721	$13.35	8539K891	$11.53	8540K421	$13.35	8539K491	$19.54	8540K621	$22.62
3/64″	+0.006″	8539K698	19.13	8540K722	22.27	8539K893	19.13	8540K423	22.27	8539K493	32.43	8540K623	37.74
1/16″	±0.005″	8539K71	21.43	8540K711	23.40	8539K91	21.43	8540K411	23.56	8539K51	36.28	8540K611	41.26
5/64″	±0.009″	8539K711	28.82	8540K724	33.47	8539K911	28.82	8540K424	33.47	8539K511	51.47	8540K624	59.76
3/32″	±0.007″	8539K72	33.10	8540K712	36.82	8539K92	33.10	8540K412	36.82	8539K52	58.92	8540K612	66.94
7/64″	–0.016″	8539K721	35.30	8540K725	41.08	8539K921	35.30	8540K425	41.08	8539K521	63.04	8540K625	73.36
1/8″	±0.010″	8539K73	43.12	8540K713	48.31	8539K93	43.12	8540K413	48.31	8539K53	77.32	8540K613	87.86
3/16″	+0.025″	8539K74	66.80	8540K714	72.31	8539K94	66.80	8540K414	72.31	8539K54	121.46	8540K614	131.47
1/4″	+0.025″	8539K75	72.86	8540K715	77.15	8539K95	72.29	8540K415	82.38	8539K55	132.49	8540K615	148.36
3/8″	+0.025″	8539K77	110.78	8540K716	123.96	8539K96	112.14	8540K417	125.36	8539K57	205.61	8540K617	225.39
1/2″	+0.025″	8539K78	133.55	8540K717	142.37	8539K97	135.20	8540K418	142.37	8539K58	242.82	8540K618	266.22
5/8″	+0.025″	8539K79	177.13	8540K726	184.82	8539K98	174.96	8540K426	175.09	8539K59	305.76	8540K626	324.25
3/4″	+0.025″	8539K81	201.27	8540K727	211.09	8539K99	201.27	8540K427	217.13	8539K61	363.05	8540K627	377.62
1″	+0.025″	8539K82	265.83	8540K719	276.71	8539K28	265.83	8540K419	276.71	8539K62	479.32	8540K619	503.11
1 1/2″	+0.025″	8539K84	361.51	8540K728	379.08	8539K68	361.51	8540K428	391.90	8539K64	688.59	8540K628	712.55
2″	+0.025″	8539K85	467.34	8540K729	490.29	8539K69	467.34	8540K429	502.16	8539K65	890.18	8540K629	913.02

Rods



- Color: Off-white or black
- Max. Temp.: 185°F
- Tensile Strength: Excellent
- Impact Strength: Good, except 1/16″ and 1/8″ dia. are poor

All rods meet ASTM D5989 and D6779. **Off-white rods** are made with resin that is FDA compliant and meets NSF/ANSI standards. Resin for 1/16″ dia. rod meets UL 94HB for flame retardance; for all other sizes it meets UL 94V2. **Black rods** meet UL 94V2 for flame retardance.

Dia.	Dia. Toler.	Available Lengths, ft.	Off-White	Per Ft.	Black	Per Ft.
1/16″	+0.005″	4	8538K11	$0.41	—	—
1/8″	+0.005″	4	8538K12	.42	8541K12	$0.52
3/16″	+0.005″	5	8538K13	.37	8541K43	.55
1/4″	+0.005″	5	8538K14	.45	8541K14	.49
5/16″	+0.005″	5	8538K15	.50	8541K15	.66
3/8″	+0.005″	5	8538K16	.67	8541K16	.81
7/16″	+0.005″	5	8538K17	.84	8541K17	1.09
1/2″	+0.005″	5	8538K18	.95	8541K18	1.17
9/16″	+0.005″	5	8538K42	1.66	8541K74	1.86
5/8″	+0.005″	5	8538K19	1.61	8541K19	1.91
3/4″	+0.005″	5	8538K21	2.23	8541K21	2.51
7/8″	+0.005″	1, 2, 3, 4, 5	8538K22	3.26	8541K22	3.62
1″	+0.005″	1, 2, 3, 4, 5	8538K23	3.73	8541K23	3.95
1 1/8″	+0.005″	1, 2, 3, 4, 5	8538K24	5.19	8541K75	6.04
1 1/4″	+0.005″	1, 2, 3, 4, 5	8538K25	5.83	8541K25	6.54
1 3/8″	+0.005″	1, 2, 3, 4, 5	8538K26	8.82	8541K56	9.24
1 1/2″	+0.005″	1, 2, 3, 4, 5	8538K27	8.61	8541K27	9.08
1 5/8″	+0.005″	1, 2, 3, 4, 5	8538K28	9.53	8541K76	10.83
1 3/4″	+0.005″	1, 2, 3, 4, 5	8538K29	11.54	8541K29	12.50

Dia.	Dia. Toler.	Available Lengths, ft.	Off-White	Per Ft.	Black	Per Ft.
1 7/8″	+0.005″	1, 2, 3, 4, 5	8538K31	$13.55	8541K77	$14.92
2″	+0.005″	1, 2, 3, 4, 5	8538K32	14.56	8541K32	15.99
2 1/8″	+0.030″	1, 2, 3, 4, 5	8538K63	19.67	8541K78	22.96
2 1/4″	+0.030″	1, 2, 3, 4, 5	8538K33	21.18	8541K79	24.72
2 3/8″	+0.030″	1, 2, 3, 4, 5	8538K64	23.52	8541K81	25.38
2 1/2″	+0.030″	1, 2, 3, 4, 5	8538K34	26.04	8541K34	28.71
2 5/8″	+0.030″	1, 2, 3, 4, 5	8538K65	30.82	8541K82	35.77
2 3/4″	+0.030″	1, 2, 3, 4, 5	8538K66	30.66	8541K83	35.79
3″	+0.250″	1, 2, 3, 4, 5	8538K35	39.75	8541K35	42.75
3 1/2″	+0.250″	1, 2, 3, 4, 5	8538K36	57.84	8541K84	65.77
3 3/4″	+0.250″	1, 2, 3, 4, 5	8538K68	65.38	8541K85	74.32
4″	+0.250″	1, 2, 3, 4	8538K37	69.16	8541K37	73.31
4 1/2″	+0.250″	1, 2, 3, 4	8538K71	95.13	8541K86	102.73
4 3/4″	+0.250″	1, 2, 3, 4	8538K72	96.98	8541K87	104.74
5″	+0.250″	1, 2, 3, 4	8538K38	112.11	8541K88	121.06
5 1/2″	+0.250″	1, 2, 3, 4	8538K74	125.04	8541K89	135.05
5 3/4″	+0.250″	1, 2, 3, 4	8538K75	133.41	8541K91	144.08
6″	+0.250″	1, 2, 3, 4	8538K39	146.73	8541K39	153.56
8″	+0.250″	1, 2, 3, 4	8538K41	272.54	8541K92	294.35



Dia.	Dia. Toler.	3″ Long Off-White		3″ Long Black		6″ Long Off-White		6″ Long Black	
3″	+0.25″	8538K76	$15.97	8541K57	$18.02	8538K82	$19.97	8541K63	$22.52
4″	+0.25″	8538K77	25.98	8541K58	29.51	8538K83	43.30	8541K64	49.18
5″	+0.25″	8538K78	44.40	8541K59	50.96	8538K84	74.00	8541K65	84.94
6″	+0.25″	8538K79	53.25	8541K61	63.58	8538K85	88.75	8541K66	98.55
8″	+0.25″	8538K81	104.66	8541K62	112.32	8538K86	174.43	8541K67	191.39

(Material continued on following page)

Wear-Resistant Nylon *(Material continued from previous page)*

Tubes



- Color: Off-white
- Temp. Range: –40° to 165°F
- Tensile Strength: Excellent
- Impact Strength: Good

Resin is FDA compliant and meets UL 94HB for flame retardance. Tubes meet ASTM D6779. Length tolerance is +1″.

OD	ID	OD/ID Toler.	Wall Thick.		5-ft. Lengths
1/4″	1/8″	±0.005″	1/16″	8628K48	$3.46
3/8″	1/8″	±0.005″	1/8″	8628K94	8.82
3/8″	1/4″	±0.005″	1/16″	8628K51	5.05
3/8″	5/16″	±0.005″	1/32″	8628K52	3.04
1/2″	1/4″	±0.005″	1/8″	8628K27	10.56
1/2″	3/8″	±0.005″	1/16″	8628K28	6.34
1/2″	7/16″	±0.005″	1/32″	8628K55	3.89
5/8″	3/8″	±0.010″	1/8″	8628K32	12.55
5/8″	1/2″	±0.010″	1/16″	8628K56	$7.88
5/8″	9/16″	±0.010″	1/32″	8628K57	5.34
3/4″	1/2″	±0.010″	1/8″	8628K58	14.20
3/4″	5/8″	±0.010″	1/16″	8628K59	10.14
3/4″	11/16″	±0.010″	1/32″	8628K61	6.07
7/8″	3/4″	±0.010″	1/16″	8628K63	11.80
7/8″	13/16″	±0.010″	1/32″	8628K64	6.93
1″	3/4″	±0.010″	1/8″	8628K66	19.20
1″	7/8″	±0.010″	1/16″	8628K67	$13.54
1″	15/16″	±0.010″	1/32″	8628K68	8.22
1 1/4″	1″	±0.015″	1/8″	8628K73	22.49
1 1/4″	1 1/8″	±0.015″	1/16″	8628K74	15.50
1 1/4″	1 3/16″	±0.015″	1/32″	8628K95	10.14
1 1/2″	1 1/4″	±0.015″	1/8″	8628K78	35.25
1 1/2″	1 3/8″	±0.015″	1/16″	8628K79	18.74
1 1/2″	1 7/16″	±0.015″	1/32″	8628K96	11.51

Oversized Tubes



- Color: Off-white
- Temp. Range: –40° to 165°F
- Tensile Strength: Excellent
- Impact Strength: Good

Resin is FDA compliant and meets UL 94HB for flame retardance. Tubes meet ASTM D6779. OD is oversized and ID is undersized for finishing to the sizes listed. Length tolerance is +1″.

OD	ID	Wall Thick.		5-ft. Lengths
1/2″	1/4″	1/8″	8628K53	$11.75
5/8″	1/4″	3/16″	8628K31	16.93
3/4″	1/4″	1/4″	8628K35	21.36
7/8″	3/8″	1/4″	8628K49	23.92
7/8″	5/8″	1/8″	8628K62	17.16
1″	1/2″	1/4″	8628K65	$27.76
1 1/8″	5/8″	1/4″	8628K69	33.55
1 1/4″	3/4″	1/4″	8628K92	34.28
1 1/2″	1″	1/4″	8628K77	42.26
1 3/4″	1 1/4″	1/4″	8628K84	51.43
2″	1 1/2″	1/4″	8628K85	$67.02
2″	1 3/4″	1/8″	8628K97	58.03
2 1/4″	2″	1/8″	8628K971	51.68
2 1/2″	2″	1/4″	8628K972	99.83
2 1/2″	2 1/4″	1/8″	8628K86	57.03

Hex Bars



- Color: Off-white
- Max. Temp.: 185°F
- Tensile Strength: Excellent
- Impact Strength: Good

Hex bars are made with resin that is FDA compliant, meets NSF/ANSI standards, meets 3-A sanitary standard requirements, and meets UL 94V2 for flame retardance. Hex bars meet ASTM D5989 and D6779. Hex tolerance is –0.010″.

Hex Size	Available Lengths, ft.		Per Ft.
3/8″	4, 5	8731K23	$5.56
1/2″	4, 5	8731K26	7.30
5/8″	1, 2, 3, 4, 5	8731K16	$8.68
3/4″	1, 2, 3, 4, 5	8731K17	10.39
7/8″	1, 2, 3, 4, 5	8731K18	$14.50
1″	1, 2, 3, 4, 5	8731K19	16.00

Balls



- Color: Off-white

Balls are not rated for temperature, tensile strength, or impact strength.

Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.
1/16″	±0.002″	100	9613K11	$13.17
3/32″	±0.002″	100	9613K12	2.98
1/8″	±0.001″	100	9613K13	3.30
5/32″	±0.001″	100	9613K14	7.32
3/16″	±0.001″	100	9613K15	$5.59
1/4″	±0.001″	100	9613K17	8.36
5/16″	±0.001″	100	9613K19	10.78
3/8″	±0.001″	100	9613K21	14.67
1/2″	±0.001″	50	9613K24	$12.47
5/8″	±0.002″	10	9613K26	6.54
3/4″	±0.001″	10	9613K28	6.74
1″	±0.001″	5	9613K37	7.72

Wear- and Moisture-Resistant Nylon

- Color: Off-white
- Temp. Range: –40° to 200°F
- Tensile Strength: Good
- Impact Strength: Poor

Because it absorbs less moisture, this material holds its shape better than standard nylon. Also known as nylon 6/12, it's often machined into hose fittings and valve components. Meets ASTM D5989 and D6779.

Sheets

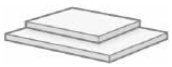

Width and length tolerances are ±1/8″ for 6″ and 12″ sides and +1/2″ for 24″ sides.

Thick.	Thick. Tolerance	6″×6″		6″×12″		12″×12″		12″×24″	
1/8″	±0.010″	8681K111	$13.60	8681K116	$21.43	8681K711	$32.67	8681K712	$50.69
1/4″	±0.025″	8681K112	23.40	8681K117	39.03	8681K731	65.06	8681K732	118.92
3/8″	±0.025″	8681K113	31.58	8681K118	52.61	8681K751	87.69	8681K752	159.47
1/2″	±0.025″	8681K114	36.33	8681K119	61.85	8681K771	103.09	8681K772	185.95
1″	±0.025″	8681K115	62.72	8681K121	109.49	8681K791	191.02	8681K792	344.62

Rods



Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/4″	+0.002″	1, 2, 3, 4, 5	8682K81	$2.30
3/8″	+0.002″	1, 2, 3, 4, 5	8682K82	4.27
1/2″	+0.002″	1, 2, 3, 4, 5	8682K83	4.78
5/8″	+0.002″	1, 2, 3, 4, 5	8682K84	7.21
3/4″	+0.002″	1, 2, 3, 4, 5	8682K85	9.16
1″	+0.002″	1, 2, 3, 4, 5	8682K86	14.39
1 1/4″	+0.005″	1, 2, 3, 4	8682K87	25.00
1 1/2″	+0.005″	1, 2, 3, 4	8682K88	$29.15
1 3/4″	+0.005″	1, 2, 3, 4	8682K89	34.60
2″	+0.005″	1, 2, 3, 4	8682K91	43.04
3″	+0.030″	1, 2, 3, 4	8682K94	107.72
4″	+0.250″	1, 2, 3, 4	8682K95	181.86
5″	+0.250″	1, 2, 3, 4	8682K96	259.52
6″	+0.250″	1, 2, 3, 4	8682K97	367.58

Nylon

For comparative information about plastics, see page 3626.

High-Strength Glass-Filled Nylon

- Color: Off-white
- Temp. Range: –40° to 230° F
- Tensile Strength: Excellent
- Impact Strength: Good

With 30% glass-fiber reinforcement, this material has twice the strength of standard nylon. It is an excellent electrical insulator and is used in high-stress applications, such as railway tie insulators and automotive parts. Material meets ASTM D4066, D5989, and D6779.

Sheets



Width and length tolerances are ±1/8″ for 6″ and 12″ sides and +1/2″ for 24″ sides.

Thick.	Thick. Tolerance	6″×6″		12″×24″	
1/4″	+0.125″	1473T11	$27.79	1473T27	$176.23
1/2″	+0.125″	1473T15	40.54	1473T31	276.94
3/4″	+0.125″	1473T19	60.54	1473T35	422.53
1″	+0.125″	1473T23	72.38	1473T69	510.08

Rods



Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1″	+0.125″	1, 2	1473T513	$24.08
1 1/2″	+0.125″	1, 2	1473T553	42.20
1 3/4″	+0.125″	1, 2	1473T593	56.57
2″	+0.125″	1, 2	1473T633	64.67

Very-Wear-Resistant Kevlar-Filled Nylon

- Color: Yellow
- Temp. Range: –40° to 300° F
- Tensile Strength: Excellent
- Impact Strength: Good

With added Kevlar, this nylon stands up to applications requiring extreme wear resistance. Also known as Hydlar Z, it can last up to 20 times longer than unfilled nylon. It is used for parts under continual wear and abrasion, such as wear strips and bushings.

Sheets

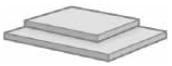

Width and length tolerances are ±1/8″ for 6″ and 12″ sides and +1/2″ for 24″ sides. Thickness tolerance is +0.025″.

Thick.	6″×6″		12″×12″		12″×24″	
1/4″	8501K92	$49.24	8501K22	$152.91	8501K42	$271.08
3/8″	8501K93	62.11	8501K23	186.35	8501K43	341.95
1/2″	8501K94	67.71	8501K24	203.16	8501K44	372.75
1″	8501K97	134.66	8501K27	404.01	8501K47	741.28

Rods



Diameter tolerance is +0.005″.

Dia.	Max. Lg., ft.		Per Ft.	Dia.	Max. Lg., ft.		Per Ft.
1/4″	5	8502K42	$7.42	1″	5	8502K46	$30.09
1/2″	5	8502K43	10.23	1 1/4″	5	8502K47	42.65
5/8″	5	8502K44	17.61	1 1/2″	4	8502K48	54.84
3/4″	5	8502K45	20.95	2″	4	8502K49	94.07

Self-Lubricating MDS-Filled Nylon

This material is modified with MDS for a more slippery surface than standard nylon. It reduces the need for lubricating products in high-friction applications, such as gears and bearings. Meets ASTM D6779.

Sheets



- Color: Black
- Temp. Range: –40° to 230° F
- Tensile Strength: Excellent
- Impact Strength: Good

Width and length tolerances are ±1/8″ for 12″ sides, +1/2″ for 24″ sides, and +1″ for 48″ sides. Sheets meet UL 94HB for flame retardance and ASTM D5989.

Thick.	Thick. Tolerance	12″×12″		12″×24″		12″×48″		24″×24″		24″×48″	
1/32″	±0.003″	8555K31	$4.14	8555K51	$7.44	8555K11	$13.31	8555K71	$13.31	8555K84	$24.14
1/16″	±0.005″	8555K32	7.99	8555K52	14.33	8555K12	25.65	8555K72	25.65	8555K85	45.64
1/8″	±0.010″	8555K34	15.94	8555K54	28.35	8555K14	49.58	8555K74	49.66	8555K87	90.19
1/4″	+0.025″	8555K36	27.49	8555K56	48.51	8555K16	95.75	8555K76	95.75	8555K89	158.37
3/8″	+0.025″	8555K37	41.31	8555K57	74.03	8555K17	131.89	8555K77	131.89	8555K91	241.60
1/2″	+0.025″	8555K38	50.57	8555K58	85.09	8555K18	162.84	8555K98	162.84	8555K92	298.35
3/4″	+0.025″	8555K39	71.22	8555K59	126.02	8555K19	229.14	8555K79	229.14	8555K93	425.44
1″	+0.025″	8555K41	88.36	8555K61	158.40	8555K21	283.86	8555K81	283.86	8555K94	526.26
2″	+0.025″	8555K43	165.14	8555K63	291.11	8555K23	519.13	8555K83	519.13	8555K96	979.50

Strips

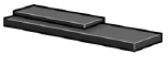

- Color: Black
- Temp. Range: –20° to 220° F
- Tensile Strength: Excellent
- Impact Strength: Good

Width tolerance is +0.015″, -0.020″. 0.015″ and 0.020″ thick strips are not rated for flame retardance; 0.031″ to 0.093″ meet UL 94HB, and 0.125″ meet UL 94V2.

Thick.	Thick. Tolerance	Available Lengths, ft.	1″ Wide	Per Ft.	2″ Wide	Per Ft.	4″ Wide	Per Ft.	6″ Wide	Per Ft.
0.015″	±0.002″	5, 10, 20, 25, 50, 500	8751K62	$0.20	8751K73	$0.40	8751K84	$0.77	8751K95	$1.11
0.020″	±0.002″	5, 10, 20, 25, 50, 500	8751K63	.24	8751K74	.45	8751K85	.91	8751K96	1.36
0.031″	±0.003″	5, 10, 20, 25, 50, 500	8751K15	.39	8751K26	.78	8751K37	1.55	8751K48	2.32
0.040″	±0.003″	5, 10, 20, 25, 50, 400	8751K16	.50	8751K27	.97	8751K38	1.88	8751K49	2.81
0.050″	±0.004″	5, 10, 20, 25, 50, 400	8751K17	.60	8751K28	1.18	8751K39	2.24	8751K51	3.36
0.062″	±0.005″	5, 10, 20, 25, 50, 250	8751K18	.75	8751K29	1.48	8751K41	2.69	8751K52	4.05
0.093″	±0.006″	5, 10, 20, 25, 50, 200	8751K19	1.13	8751K31	2.20	8751K42	3.92	8751K53	5.88
0.125″	±0.005″	5, 10, 20, 25, 50, 125	8751K21	1.52	8751K32	2.63	8751K43	4.65	8751K54	7.70

Rods



- Color: Black
- Temp. Range: –40° to 230° F
- Tensile Strength: Excellent
- Impact Strength: Good

Rods meet UL 94HB for flame retardance and ASTM D5989.

Dia.	Dia. Toler.	Available Lengths, ft.		Per Ft.
3/16″	+0.002″	5	8554K38	$0.48
1/4″	+0.002″	5	8554K9	.62
5/16″	+0.002″	5	8554K26	.72
3/8″	+0.002″	5	8554K27	.95
7/16″	+0.002″	5	8554K31	1.25
1/2″	+0.002″	5	8554K1	1.30
9/16″	+0.002″	5	8554K32	$1.93
5/8″	+0.002″	5	8554K2	1.97
3/4″	+0.002″	5	8554K3	2.67
7/8″	+0.002″	1, 2, 3, 4, 5	8554K28	3.86
1″	+0.002″	1, 2, 3, 4, 5	8554K4	4.32
1 1/8″	+0.005″	1, 2, 3, 4, 5	8554K29	6.33
1 1/4″	+0.005″	1, 2, 3, 4, 5	8554K8	$8.69
1 3/8″	+0.005″	1, 2, 3, 4, 5	8554K33	9.01
1 1/2″	+0.005″	1, 2, 3, 4, 5	8554K5	10.11
1 5/8″	+0.005″	1, 2, 3, 4, 5	8554K36	11.78
1 3/4″	+0.005″	1, 2, 3, 4, 5	8554K7	12.92
2″	+0.005″	1, 2, 3, 4, 5	8554K6	16.21

Wear-Resistant Easy-to-Machine Cast Nylon

- Color: Off-white
- Temp. Range: –20° to 200° F
- Tensile Strength: Excellent
- Impact Strength: Poor

Lightweight and stiff, cast nylon resists abrasion and is easier to machine than other types of nylon. It is an excellent electrical insulator, has a slippery surface, and meets ASTM D5989. Resin is FDA compliant and meets 3-A sanitary standard requirements and UL 94HB for flame retardance. This material is comparable to Nylatron and Nycast.

Rectangular Bars



Width tolerance is +1/4″ and thickness tolerance is +0.025″.

To Order Please specify length: 1, 2, 3, or 4 ft.

Thick.	1″ Wide	Per Ft.	1½″ Wide	Per Ft.	2″ Wide	Per Ft.	2½″ Wide	Per Ft.	3″ Wide	Per Ft.	4″ Wide	Per Ft.	6″ Wide	Per Ft.
1/4″	8687K11	$6.88	8687K19	$7.72	8687K29	$10.28	8687K41	$12.22	8687K53	$12.86	8687K64	$18.00	8687K132	$19.92
3/8″	8687K12	7.37	8687K21	8.98	8687K31	12.17	8687K43	14.57	8687K54	15.36	8687K65	21.76	8687K133	24.03
1/2″	8687K13	8.47	8687K23	10.47	8687K33	14.39	8687K44	17.58	8687K55	18.36	8687K66	26.25	8687K134	28.97
3/4″	8687K15	10.85	8687K24	13.63	8687K34	19.14	8687K45	23.69	8687K56	24.66	8687K67	35.72	8687K135	39.67
1″	8687K16	13.45	8687K25	17.08	8687K35	24.32	8687K46	28.98	8687K57	31.58	8687K68	46.09	8687K136	49.74
1 1/4″	8687K17	16.25	8687K26	20.80	8687K36	29.91	8687K47	35.73	8687K58	39.06	8687K69	57.27	8687K137	64.06
1 1/2″	8687K75	18.65	8687K27	23.98	8687K37	34.71	8687K48	41.64	8687K59	45.42	8687K71	66.85	8687K138	74.43
1 3/4″	8687K18	20.39	8687K28	26.34	8687K38	38.25	8687K49	45.84	8687K61	49.74	8687K73	73.88	8687K139	83.71
2″	8687K77	23.21	8687K79	29.94	8687K39	43.63	8687K51	52.51	8687K63	57.32	8687K74	84.67	8687K141	97.89
3″	8733K236	35.65	8733K237	49.13	8733K238	62.21	8733K239	70.39	8733K241	77.55	8733K243	94.00	8733K245	128.16

Sheets

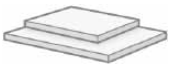

Width and length tolerances are +1/8″ for 6″ × 6″ sheets; they are +1″ for all others. Thickness tolerance is +0.025″. Sheets can be used outdoors.

Thick.	6″ × 6″		12″ × 12″		12″ × 24″		12″ × 48″		24″ × 24″		24″ × 48″	
1/4″	85055K118	$10.93	85055K1	$36.66	85055K2	$65.33	85055K3	$119.35	85055K4	$123.17	85055K5	$206.21
3/8″	85055K151	13.58	85055K6	45.18	85055K62	81.02	85055K7	152.64	85055K64	152.64	85055K8	256.15
1/2″	85055K111	16.77	85055K11	54.96	85055K12	100.57	85055K13	175.81	85055K9	175.81	85055K14	315.87
3/4″	85055K112	22.35	85055K15	75.74	85055K16	137.70	85055K17	237.82	85055K72	237.82	85055K18	396.36
1″	85055K113	29.35	85055K19	95.25	85055K28	172.04	85055K29	312.14	85055K78	312.14	85055K31	509.61
1 1/2″	85055K114	35.22	85055K33	116.18	85055K34	210.58	85055K35	382.87	85055K74	382.87	85055K37	696.13
2″	85055K115	48.35	85055K41	158.68	85055K43	297.02	85055K44	540.10	85055K79	540.10	85055K45	872.82
3″	85055K116	69.55	85055K51	232.44	85055K53	388.41	85055K54	667.57	85055K76	667.57	85055K55	1,213.77
4″	85055K117	69.97	85055K56	250.44	85055K57	425.08	85055K58	790.24	85055K77	790.24	85055K59	1,457.74

Oversized Tubes



OD is oversized and ID is undersized for finishing to the sizes listed. Tubes can be used outdoors.

OD	ID	Wall Thick.	Available Lengths, ft.		Per Ft.	OD	ID	Wall Thick.	Available Lengths, ft.		Per Ft.
2″	1″	1/2″	1, 2	85005K112	$24.76	4″	3″	1/2″	1, 2	85005K332	$53.39
2″	1 1/2″	1/4″	1, 2	85005K122	17.47	4 1/2″	2 1/2″	1″	1, 2	85005K342	82.16
2 1/4″	1″	5/8″	1, 2	85005K132	31.75	4 1/2″	3″	3/4″	1, 2	85005K352	69.50
2 1/4″	1 1/4″	1/2″	1, 2	85005K142	30.45	4 1/2″	3 1/2″	1/2″	1, 2	85005K362	49.87
2 1/2″	1″	3/4″	1, 2	85005K152	39.45	5″	3″	1″	1, 2	85005K372	85.38
2 1/2″	1 1/2″	1/2″	1, 2	85005K162	30.81	5″	3 1/2″	3/4″	1, 2	85005K812	71.58
2 3/4″	1 1/2″	5/8″	1, 2	85005K172	40.77	5″	4″	1/2″	1, 2	85005K822	53.39
2 3/4″	1 3/4″	1/2″	1, 2	85005K182	40.16	5 1/2″	3 1/2″	1″	1, 2	85005K832	99.74
3″	1″	1″	1, 2	85005K222	49.43	5 1/2″	4″	3/4″	1, 2	85005K841	76.53
3″	1 1/2″	3/4″	1, 2	85005K232	42.73	5 1/2″	4 1/2″	1/2″	1, 2	85005K852	57.81
3″	2″	1/2″	1, 2	85005K212	41.69	6″	3″	1 1/2″	1, 2	85005K862	126.93
3 1/4″	1 1/4″	1″	1, 2	85005K242	55.58	6″	4″	1″	1, 2	85005K872	95.81
3 1/4″	2″	5/8″	1, 2	85005K252	48.78	6 1/2″	3″	1 3/4″	1, 2	85005K882	152.74
3 1/4″	2 1/4″	1/2″	1, 2	85005K262	45.92	6 1/2″	4″	1 1/4″	1, 2	85005K892	136.96
3 1/2″	1 1/2″	1″	1, 2	85005K272	61.76	7″	4″	1 1/2″	1, 2	85005K912	157.00
3 1/2″	2″	3/4″	1, 2	85005K282	52.25	7″	5″	1″	1, 2	85005K922	126.71
3 1/2″	2 1/2″	1/2″	1, 2	85005K312	47.72	7 1/2″	4″	1 3/4″	1, 2	85005K932	155.32
4″	2″	1″	1, 2	85005K322	67.05	7 1/2″	5 1/2″	1″	1, 2	85005K942	136.71

Rods



Length tolerance is +1″.

Dia.	Dia. Toler.	Length, ft.			Dia.	Dia. Toler.	Length, ft.			Dia.	Dia. Toler.	Length, ft.		
2″	+0.015″	2	85035K21	$44.87	3 1/2″	+0.250″	2	85035K32	$107.55	6″	+0.250″	1	85035K61	$125.96
2 1/4″	+0.015″	2	85035K24	55.76	4″	+0.250″	2	85035K41	127.37	7″	+0.250″	1	85035K71	164.67
2 1/2″	+0.015″	2	85035K23	64.73	4 1/2″	+0.250″	1	85035K34	88.38	7 1/2″	+0.250″	1	85035K62	186.17
2 3/4″	+0.015″	2	85035K25	72.80	5″	+0.250″	1	85035K51	97.50	8″	+0.250″	1	85035K81	219.14
3″	+0.250″	2	85035K31	83.06	5 1/2″	+0.250″	1	85035K52	110.91					



Dia.	Dia. Tolerance	2″ Long		4″ Long		6″ Long	
6″	+0.500″	8482K83	$46.54	8482K81	$84.84	8482K82	$92.68
8″	+0.500″	8482K73	70.19	8482K71	128.41	8482K72	176.59
10″	+0.500″	8482K13	121.51	8482K11	176.16	8482K12	235.18
12″	+0.500″	8482K23	144.26	8482K21	253.25	8482K22	347.16
14″	+0.500″	8482K33	214.58	8482K31	345.25	8482K32	439.23
16″	+0.500″	8482K43	258.11	8482K41	419.00	8482K42	559.48

Self-Lubricating Oil-Filled Cast Nylon

- Color: Green
- Temp. Range: 32° to 230° F
- Tensile Strength: Good
- Impact Strength: Good

This nylon stays slippery because it contains an oil lubricant. Use it to fabricate parts for applications where adding lubrication would be difficult, including harsh environments and hard-to-reach places. It's an excellent electrical insulator, can be used outdoors, and meets ASTM D5989.

Rectangular Bars



Width tolerance is +1/8". Thickness tolerance is +0.025".

Thick.	Available Lgs., ft.	1" Wide	Per Ft.	1 1/2" Wide	Per Ft.	2" Wide	Per Ft.
1/4"	1, 2, 3, 4	2858K51	$6.71	2858K52	$8.43	2858K53	$10.30
1/2"	1, 2, 3, 4	2858K61	9.12	2858K62	11.78	2858K63	14.65

Thick.	Available Lgs., ft.	1" Wide	Per Ft.	1 1/2" Wide	Per Ft.	2" Wide	Per Ft.
3/4"	1, 2, 3, 4	2858K71	$11.87	2858K72	$15.61	2858K73	$19.65
1"	1, 2, 3, 4	2858K81	14.91	2858K82	19.80	2858K83	25.08

Sheets

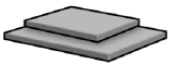

Width and length tolerances are +1/8" for 6"×6" sheets; they are +1" for all others. Thickness tolerance is +0.025".

Thick.	6"×6"		12"×12"		12"×24"	
1/4"	84845K111	$15.81	84845K66	$50.61	84845K67	$87.42
3/8"	84845K112	19.73	84845K76	63.26	84845K77	108.34
1/2"	84845K121	22.27	84845K17	67.99	84845K39	124.55
3/4"	84845K122	28.71	84845K18	89.11	84845K48	148.52

Thick.	6"×6"		12"×12"		12"×24"	
1"	84845K123	$36.80	84845K19	$117.45	84845K49	$190.85
1 1/2"	84845K124	52.50	84845K28	152.97	84845K58	270.74
2"	84845K125	64.58	84845K29	188.09	84845K59	332.55
3"	84845K126	91.05	84845K38	265.88	84845K81	470.08

Rods



Length tolerance is +1". Diameter has a plus tolerance.

Dia.	1-ft. Lengths		2-ft. Lengths	
1"	8664K11	$30.39	8664K51	$51.66
1 1/4"	8664K12	31.35	8664K52	53.26
1 1/2"	8664K13	32.31	8664K53	55.62
1 3/4"	8664K14	33.23	8664K54	57.20
2"	8664K15	41.54	8664K55	70.62

Dia.	1-ft. Lengths		2-ft. Lengths	
3"	8664K71	$66.81	8664K81	$112.35
4"	8664K72	101.40	8664K82	171.94
5"	8664K73	150.99	8664K83	251.56
6"	8664K74	207.46	8664K84	348.53
8"	8664K75	331.69	8664K85	563.22

Oversized Tubes



OD is oversized and ID is undersized for finishing to the sizes listed. Length has a plus tolerance.

OD	ID	Wall Thick.	Available Lengths: 1 ft., 2 ft.	Per Ft.
2"	1"	1/2"	84755K414	$20.03
2"	1 1/2"	1/4"	84755K424	14.59
2 1/4"	1"	5/8"	84755K434	26.48
2 1/4"	1 1/4"	1/2"	84755K444	24.87
2 1/2"	1"	3/4"	84755K454	34.47
2 1/2"	1 1/2"	1/2"	84755K464	27.89
2 3/4"	1 1/2"	5/8"	84755K474	36.23
2 3/4"	1 3/4"	1/2"	84755K484	32.03
3"	1"	1"	84755K494	51.47
3"	1 1/2"	3/4"	84755K514	44.61

OD	ID	Wall Thick.	Available Lengths: 1 ft., 2 ft.	Per Ft.
3"	2"	1/2"	84755K524	$36.80
3 1/4"	1 1/4"	1"	84755K534	55.77
3 1/4"	2"	5/8"	84755K544	44.49
3 1/4"	2 1/4"	1/2"	84755K554	38.98
3 1/2"	1 1/2"	1"	84755K564	58.29
3 1/2"	2"	3/4"	84755K574	49.87
3 1/2"	2 1/2"	1/2"	84755K584	40.09
4"	2"	1"	84755K594	63.83
4"	3"	1/2"	84755K614	44.97
4 1/2"	2 1/2"	1"	84755K624	75.33

OD	ID	Wall Thick.	Available Lengths: 1 ft., 2 ft.	Per Ft.
4 1/2"	3"	3/4"	84755K634	$64.42
4 1/2"	3 1/2"	1/2"	84755K644	48.66
5"	3"	1"	84755K654	80.22
5"	3 1/2"	3/4"	84755K664	69.07
5"	4"	1/2"	84755K674	51.20
5 1/2"	3 1/2"	1"	84755K684	86.73
5 1/2"	4"	3/4"	84755K694	74.57
5 1/2"	4 1/2"	1/2"	84755K714	57.53
6"	3"	1 1/2"	84755K724	118.48
6"	4"	1"	84755K734	93.19

Self-Lubricating MDS-Filled Cast Nylon

- Color: Black
- Max. Temp.: 230° F
- Tensile Strength: Excellent
- Impact Strength: Poor

The addition of MDS results in a nylon with exceptional wear resistance as well as self-lubricating properties. Often used for wear strips and bearings, it's an excellent electrical insulator, has a slippery surface, and can be used outdoors. Meets ASTM D5989.

Rectangular Bars



Width tolerance is +1/8". Thickness tolerance is +0.025".

Thick.	Available Lengths, ft.	1" Wide	Per Ft.	1 1/2" Wide	Per Ft.	2" Wide	Per Ft.	2 1/2" Wide	Per Ft.	3" Wide	Per Ft.	4" Wide	Per Ft.
1/4"	1, 2, 3, 4	2882K11	$6.10	2882K12	$7.36	2882K13	$9.36	2882K14	$11.15	2882K15	$12.76	2882K16	$16.19
1/2"	1, 2, 3, 4	2882K21	7.92	2882K22	11.32	2882K23	14.39	2882K24	17.12	2882K25	19.57	2882K26	24.85
3/4"	1, 2, 3, 4	2882K31	10.91	2882K32	15.59	2882K33	19.79	2882K34	23.56	2882K35	26.93	2882K36	34.20
1"	1, 2, 3, 4	2882K41	14.95	2882K42	23.12	2882K43	25.34	2882K44	30.20	2882K45	34.52	2882K46	43.84

Sheets

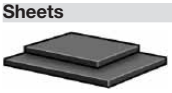

Width and length tolerances are +1/4" for 6"×6" sheets; for all others they are +1". Thickness tolerance is +0.025".

Thick.	6"×6"		12"×12"		12"×48"	
1/4"	2449T81	$13.68	2449T11	$46.44	2449T39	$131.20
3/8"	2449T82	17.07	2449T13	58.09	2449T41	180.41
1/2"	2449T83	21.70	2449T15	71.56	2449T43	183.29
3/4"	2449T84	30.21	2449T17	98.44	2449T45	253.85
1"	2449T85	37.22	2449T19	126.00	2449T47	316.51
1 1/2"	2449T86	49.96	2449T21	149.02	2449T49	446.83
2"	2449T87	60.71	2449T23	169.96	2449T51	546.48

Rods

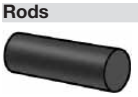

Diameter has a plus tolerance.

Dia.	Avail. Lgs., ft.		Per Ft.
1"	1, 2	2889K21	$15.43
1 1/2"	1, 2	2889K31	17.90
2"	1, 2	2889K116	27.50
2 1/2"	1, 2	2889K126	40.80
3"	1, 2	2889K136	54.93

Dia.	Avail. Lgs., ft.		Per Ft.
3 1/2"	1, 2	2889K146	$71.23
4"	1, 2	2889K156	82.20
4 1/2"	1	2889K161	95.09
5"	1	2889K171	116.23

Wear- and Water-Resistant Delrin® Acetal Resin

- Color: White or black
- Temp. Range: –20° to 180° F
- Tensile Strength: Good
- Impact Strength: Good

Considered the workhorse of plastics, Delrin® acetal resin combines moisture resistance and a slippery, wear-resistant surface with an ability to hold tight tolerances. Also known as acetal homopolymer, it's often used for gears, bushings, impellers, and other parts that require its strength and rigidity.

Rectangular Bars



Thickness tolerance for 1/8" to 1 3/4" thick bars is +0.025"; for 2" to 3" thick bars it's +0.050"; and for 4" thick bars it's +0.125". Width tolerance is +1/4". All bars are USDA compliant and meet NSF/ANSI standards. They also meet ASTM D6100. *White* bars are FDA compliant.

To Order Please specify length: 1, 2, 3, or 4 ft.

Wd.	White	Per Ft.	Black	Per Ft.
1/8" Thick				
1"	8739K11	$2.04	8662K11	$2.20
1 1/2"	8739K12	2.91	8662K12	3.15
2"	8739K13	3.87	8662K13	4.20
2 1/2"	8739K95	4.89	8662K14	5.64
3"	8739K14	5.29	8662K15	5.82
4"	8739K15	7.04	8662K16	7.74
5"	8739K96	9.41	8662K271	9.95
6"	8739K17	11.29	8662K272	11.94
1/4" Thick				
1/4"	8741K32	1.26	8663K11	1.41
1"	8739K18	3.72	8662K21	4.01
1 1/2"	8739K19	5.29	8662K22	5.73
2"	8739K21	7.00	8662K23	7.57
2 1/2"	8739K86	7.62	8662K24	8.36
3"	8739K22	9.41	8662K25	10.23
4"	8739K23	12.21	8662K26	12.75
5"	8739K24	14.52	8662K273	15.27
6"	8739K25	16.19	8662K274	17.62
5/16" Thick				
5/16"	8741K33	2.05	8663K13	2.23
3/8" Thick				
3/8"	8741K34	2.77	8663K15	2.94
1"	8739K26	4.86	8662K31	5.29
1 1/2"	8739K27	7.83	8662K32	8.26
2"	8739K28	9.41	8662K33	10.23
2 1/2"	8739K87	11.47	8662K34	11.96
3"	8739K29	12.78	8662K35	13.83
4"	8739K31	15.72	8662K36	17.04
5"	8739K32	18.90	8662K275	20.28
6"	8739K33	22.46	8662K276	23.52
1/2" Thick				
1/2"	8741K36	3.44	8663K17	3.80
1"	8739K34	6.56	8662K41	7.13
1 1/2"	8739K35	9.02	8662K42	9.80
2"	8739K36	11.55	8662K43	12.49
2 1/2"	8739K88	14.19	8662K44	15.35
3"	8739K37	15.85	8662K45	17.21
1/2" Thick (Cont.)				
4"	8739K38	$19.50	8662K46	$21.19
5"	8739K39	23.46	8662K277	25.06
6"	8739K41	27.96	8662K278	29.60
5/8" Thick				
5/8"	8741K38	5.08	8663K19	5.51
1"	8739K971	7.15	8662K87	8.49
1 1/2"	8739K972	10.73	8662K88	12.21
2"	8739K973	12.88	8662K89	14.53
2 1/2"	8739K974	20.12	8662K97	23.20
3"	8739K975	25.20	8662K98	27.21
4"	8739K976	32.20	8662K99	34.69
3/4" Thick				
3/4"	8741K39	7.17	8663K21	7.83
1"	8739K42	9.41	8662K51	10.23
1 1/2"	8739K43	12.60	8662K52	13.65
2"	8739K44	16.05	8662K53	17.38
2 1/2"	8739K89	18.45	8662K54	20.17
3"	8739K45	22.11	8662K55	23.99
4"	8739K46	27.36	8662K56	29.70
5"	8739K47	33.17	8662K279	35.00
6"	8739K48	39.33	8662K281	41.37
1" Thick				
1"	8739K92	11.47	8662K61	12.64
1 1/2"	8739K49	15.55	8662K62	16.87
2"	8739K51	19.98	8662K63	21.67
2 1/2"	8739K91	23.19	8662K64	25.14
3"	8739K52	27.69	8662K65	30.03
4"	8739K53	34.42	8662K66	37.32
5"	8739K54	43.87	8662K282	46.49
6"	8739K55	52.33	8662K283	54.14
1 1/4" Thick				
1"	8739K56	13.32	8662K71	14.41
1 1/4"	8741K44	15.55	8663K23	16.87
1 1/2"	8739K57	18.45	8662K72	20.01
2"	8739K58	23.64	8662K73	25.62
2 1/2"	8739K59	29.13	8662K74	29.88
1 1/4" Thick (Cont.)				
3"	8739K61	$32.89	8662K75	$34.76
4"	8739K62	43.02	8662K76	47.14
5"	8739K63	54.69	8662K284	57.94
6"	8739K64	60.22	8662K285	63.73
1 1/2" Thick				
1 1/2"	8739K93	15.55	8662K82	20.56
2"	8739K65	27.96	8662K83	30.33
2 1/2"	8739K66	32.75	8662K84	35.56
3"	8739K67	39.08	8662K85	42.37
4"	8739K68	49.48	8662K86	52.18
5"	8739K69	60.61	8662K286	63.61
6"	8739K71	72.14	8662K287	76.33
1 3/4" Thick				
1"	8739K72	17.34	8662K91	18.74
1 1/2"	8739K73	27.36	8662K92	29.70
1 3/4"	8741K48	28.83	8663K25	31.55
2"	8739K74	35.22	8662K93	38.20
2 1/2"	8739K75	43.59	8662K94	47.28
3"	8739K76	45.49	8662K95	49.38
4"	8739K77	55.55	8662K96	60.24
5"	8739K78	70.61	8662K288	73.91
6"	8739K79	78.21	8662K289	81.87
2" Thick				
2"	8739K94	35.22	8662K19	38.20
2 1/2"	8739K81	38.25	8662K29	40.68
3"	8739K82	51.93	8662K39	56.36
4"	8739K83	63.39	8662K49	68.78
5"	8739K84	80.64	8662K298	84.64
6"	8739K85	89.27	8662K299	93.75
2 1/2" Thick				
2 1/2"	8741K52	54.69	8663K261	59.05
3" Thick				
3"	8741K53	72.14	8662K37	77.96
4"	8739K981	83.07	8662K38	87.80
4" Thick				
4"	8741K55	144.06	8663K29	153.07

Strips

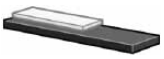

Thickness tolerance for 0.010" to 0.040" thick strips is ±0.003"; for 0.062" and 0.093" thick strips it's ±0.006". Width tolerance for 1" to 6" wide strips is ±0.020"; for 12" wide strips it's ±0.500". *White* strips are FDA compliant and meet NSF/ANSI standards; 0.062" and 0.093" thick white strips meet ASTM D6100.

Thick.	Available Lengths, ft.	*1" Wide* White	Per Ft.	*1" Wide* Black	Per Ft.	*2" Wide* White	Per Ft.	*2" Wide* Black	Per Ft.	*3" Wide* White	Per Ft.	*3" Wide* Black	Per Ft.
0.010"	5, 10, 25, 50, 100	8738K11	$0.27	2638T51	$0.28	8738K21	$0.50	2638T52	$0.55	8738K71	$0.61	2638T91	$0.65
0.015"	5, 10, 25, 50, 100	8738K12	.36	2638T61	.39	8738K22	.64	2638T62	.70	8738K72	.84	2638T92	.90
0.020"	5, 10, 25, 50, 100	8738K13	.40	2638T11	.43	8738K23	.73	2638T12	.81	8738K73	.97	2638T93	1.08
0.025"	5, 10, 25, 50, 100	8738K14	.45	2638T71	.50	8738K24	.81	2638T72	.88	8738K74	1.08	2638T94	1.19
0.031"	5, 10, 25, 50, 100	8738K15	.60	2638T21	.64	8738K25	1.10	2638T22	1.20	8738K75	1.31	2638T95	1.46
0.040"	5, 10, 25, 50, 100	8738K16	.78	2638T81	.74	8738K26	1.26	2638T82	1.38	8738K76	1.65	2638T96	1.83
0.062"	5, 10, 25, 50, 100	8738K18	1.05	2638T31	1.17	8738K28	1.91	2638T32	2.21	8738K77	2.23	2638T97	2.87
0.093"	5, 10, 25, 50, 100	8738K19	1.18	2638T41	1.45	8738K29	2.14	2638T42	2.75	8738K78	3.12	2638T98	4.16

Thick.	Available Lengths, ft.	*4" Wide* White	Per Ft.	*4" Wide* Black	Per Ft.	*6" Wide* White	Per Ft.	*6" Wide* Black	Per Ft.	*12" Wide* White	Per Ft.	*12" Wide* Black	Per Ft.
0.010"	5, 10, 25, 50, 100	8738K31	$0.91	2638T53	$0.98	8738K41	$1.29	2638T54	$1.41	8738K61	$2.14	2638T55	$2.35
0.015"	5, 10, 25, 50, 100	8738K32	1.16	2638T63	1.26	8738K42	1.68	2638T64	1.85	8738K52	2.91	2638T65	3.34
0.020"	5, 10, 25, 50, 100	8738K33	1.32	2638T13	1.48	8738K43	1.88	2638T14	2.29	8738K53	3.28	2638T15	3.88
0.025"	5, 10, 25, 50, 100	8738K34	1.46	2638T73	1.60	8738K44	2.09	2638T74	2.30	8738K54	3.63	2638T75	4.06
0.031"	5, 10, 25, 50, 100	8738K35	2.01	2638T23	2.27	8738K45	2.87	2638T24	3.41	8738K55	4.98	2638T25	5.78
0.040"	5, 10, 25, 50, 100	8738K36	2.57	2638T83	2.90	8738K46	3.67	2638T84	3.99	8738K56	6.39	2638T85	7.34
0.062"	5, 10, 25, 50, 100	8738K38	3.47	2638T33	3.97	8738K48	4.95	2638T34	5.97	8738K58	8.63	2638T35	9.92
0.093"	5, 10, 25, 50, 100	8738K39	3.93	2638T43	5.78	8738K49	5.60	2638T44	7.89	8738K59	11.79	2638T45	15.50

(Material continued on following page)

Wear- and Water-Resistant Delrin® Acetal Resin *(Material continued from previous page)*

- Color: White or black
- Temp. Range: –20° to 180° F
- Tensile Strength: Good
- Impact Strength: Good

Considered the workhorse of plastics, Delrin® acetal resin combines moisture resistance and a slippery, wear-resistant surface with an ability to hold tight tolerances. Also known as acetal homopolymer, it's often used for gears, bushings, impellers, and other parts that require its strength and rigidity.

Adhesive-Back Strips



Adhesive is acrylic. Width tolerance is ±1/32". Length tolerance is ±1". FDA compliant.

Thick	Thick. Toler.	4" Wd. x 36" Lg. White		Thick	Thick. Toler.	4" Wd. x 36" Lg. White		Thick	Thick. Toler.	4" Wd. x 36" Lg. White	
0.020"	±0.002"	2556T12	$64.54	0.030"	±0.003"	2556T14	$75.65	0.040"	±0.004"	2556T16	$78.87

Sheets



Thick. tolerance for 1/32" and 3/64" thick sheets is ±0.006"; for 1/16" to 3/32" thick sheets it's ±0.010"; and for 7/64" to 4" thick sheets it's –0.016", +0.025". Width and length tolerances for 6" and 12" sides are ±1/8"; 24" sides are +1/2"; and 48" sides are +1". All sheets meet ASTM D6100. *White* sheets are USDA compliant and meet NSF/ANSI standards.

Thick.	6" x 6" White		6" x 6" Black		12" x 12" White		12" x 12" Black		12" x 24" White		12" x 24" Black	
1/32"					8573K281	$4.12	8575K131	$6.49	8573K271	$7.33	8575K132	$11.35
3/64"					8573K283	6.56	8575K283	7.23	8573K273	11.69	8575K273	12.83
1/16"					8573K11	8.91	8575K111	9.85	8573K31	15.47	8575K211	17.12
5/64"					8573K284	9.81	8575K284	10.69	8573K274	17.41	8575K274	19.08
3/32"					8573K12	12.21	8575K112	13.16	8573K32	21.20	8575K212	27.28
7/64"					8573K285	12.30	8575K285	13.23	8573K275	21.90	8575K275	23.48
1/8"					8573K13	15.14	8575K113	15.69	8573K33	26.28	8575K213	27.26
3/16"					8573K14	22.96	8575K114	24.10	8573K34	39.87	8575K214	41.86
1/4"	8573K121	$8.98	8575K141	$9.92	8573K15	24.50	8575K115	29.11	8573K35	48.09	8575K215	50.58
3/8"	8573K122	11.80	8575K142	12.35	8573K17	37.60	8575K116	40.95	8573K37	66.67	8575K216	71.15
1/2"	8573K123	12.97	8575K143	14.33	8573K18	44.48	8575K117	50.29	8573K38	78.64	8575K217	87.37
5/8"	8573K124	17.49	8575K144	18.34	8573K19	59.97	8575K121	65.65	8573K39	107.08	8575K221	114.06
3/4"	8573K125	18.93	8575K145	20.34	8573K21	67.67	8575K118	74.32	8573K41	119.63	8575K218	129.12
1"	8573K126	24.73	8575K146	26.33	8573K22	83.98	8575K119	96.18	8573K42	153.02	8575K219	167.11
1 1/4"	8573K127	31.03	8575K147	33.94	8573K23	107.63	8575K231	123.88	8573K43	196.11	8575K232	214.87
1 1/2"	8573K128	35.71	8575K148	38.29	8573K24	118.78	8575K431	133.62	8573K44	216.44	8575K432	232.07
1 3/4"	8573K129	43.34	8575K149	45.15	8573K25	139.20	8575K161	148.72	8573K45	253.40	8575K165	268.22
2"	8573K131	45.98	8575K151	48.87	8573K26	147.85	8575K631	165.79	8573K46	269.56	8575K632	288.45
2 1/4"	8573K132	57.10	8575K152	58.96	8573K141	156.73	8575K162	158.26	8573K151	292.07	8575K166	296.45
2 1/2"	8573K133	58.21	8575K153	59.24	8573K67	186.96	8575K711	205.59	8573K68	339.21	8575K721	356.58
2 3/4"	8573K134	64.38	8575K154	67.48	8573K142	189.50	8575K163	197.26	8573K152	357.14	8575K167	381.54
3"	8573K135	65.17	8575K155	70.56	8573K111	219.32	8575K712	248.33	8573K221	397.29	8575K722	430.16
4"	8573K139	88.74	8575K159	96.71	8573K115	279.11	8575K716	325.94	8573K252	503.37	8575K726	567.70

Thick.	12" x 48" White		12" x 48" Black		24" x 24" White		24" x 24" Black		24" x 48" White		24" x 48" Black	
1/32"	8573K261	$13.82	8575K134	$20.06	8573K331	$13.82	8575K133	$20.06	8573K211	$27.65	8575K135	$36.48
3/64"	8573K263	22.13	8575K263	24.34	8573K333	22.13	8575K253	24.34	8573K213	40.02	8575K243	44.10
1/16"	8573K27	27.38	8575K461	30.27	8573K71	27.38	8575K411	30.27	8573K51	46.89	8575K651	55.04
5/64"	8573K264	33.09	8575K264	36.19	8573K334	33.09	8575K254	36.19	8573K214	59.84	8575K244	65.57
3/32"	8573K28	37.58	8575K462	40.44	8573K72	37.58	8575K412	40.44	8573K52	67.10	8575K652	73.52
7/64"	8573K265	39.37	8575K265	42.37	8573K335	39.37	8575K255	42.37	8573K215	74.99	8575K245	80.70
1/8"	8573K29	46.58	8575K463	48.20	8573K73	46.58	8575K413	48.20	8573K53	83.18	8575K653	87.64
3/16"	8573K87	70.66	8575K464	74.04	8573K74	70.66	8575K414	74.04	8573K54	126.17	8575K654	134.61
1/4"	8573K88	85.22	8575K465	89.45	8573K75	85.22	8575K415	89.45	8573K55	152.17	8575K655	162.63
3/8"	8573K89	118.03	8575K466	125.83	8573K77	118.03	8575K416	125.83	8573K57	218.58	8575K656	228.78
1/2"	8573K91	142.99	8575K467	154.51	8573K78	142.99	8575K417	154.51	8573K58	264.79	8575K657	280.93
5/8"	8573K92	192.75	8575K468	201.71	8573K79	192.75	8575K421	201.71	8573K59	356.95	8575K658	366.75
3/4"	8573K93	217.50	8575K469	228.35	8573K81	217.50	8575K418	228.35	8573K61	402.78	8575K659	415.18
1"	8573K94	278.22	8575K471	295.53	8573K82	278.22	8575K419	295.53	8573K62	515.23	8575K661	537.33
1 1/4"	8573K95	356.56	8575K171	373.95	8573K83	356.56	8575K233	380.74	8573K63	660.29	8575K191	699.89
1 1/2"	8573K96	393.52	8575K172	411.79	8573K84	393.52	8575K433	411.79	8573K64	728.74	8575K192	781.38
1 3/4"	8573K97	460.95	8575K173	489.53	8573K85	460.88	8575K184	480.68	8573K181	833.55	8575K193	885.23
2"	8573K98	489.54	8575K174	511.74	8573K86	490.13	8575K633	511.74	8573K182	901.55	8575K194	958.32
2 1/4"	8573K161	585.23	8575K175	594.02	8573K171	585.23	8575K185	594.02	8573K183	1,097.99	8575K195	1,114.48
2 1/2"	8573K69	616.84	8575K176	619.08	8573K172	596.69	8575K741	619.08	8573K184	1,119.50	8575K196	1,161.50
2 3/4"	8573K162	666.91	8575K177	764.37	8573K173	666.91	8575K186	713.76	8573K185	1,214.77	8575K197	1,297.74
3"	8573K321	711.86	8575K178	770.76	8573K174	689.30	8575K742	746.33	8573K186	1,253.27	8575K198	1,356.97
4"	8573K325	909.94	8575K183	1,010.04	8573K178	909.94	8575K746	990.35	8573K191	1,613.37	8575K225	1,790.86

Tight-Tolerance Bars

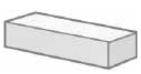

Bars are consistently flat, square, and parallel. Width and length tolerances are ±0.010". Bars are FDA and USDA compliant and meet NSF/ANSI standards. They also meet ASTM D6100.

Thick.	Thick. Tolerance	Available Lengths, ft.	1" Wide White	Per Ft.	2" Wide White	Per Ft.	4" Wide White	Per Ft.	6" Wide White	Per Ft.	12" Wide White	Per Ft.
1/4"	+0.005"	1, 2, 4	9123K71	$4.41	9123K72	$6.70	9123K73	$11.52	9123K74	$15.66	9123K75	$28.74
3/8"	+0.005"	1, 2, 4	9123K76	5.53	9123K77	9.25	9123K78	16.21	9123K79	22.35	9123K81	41.85
1/2"	+0.005"	1, 2, 4	9123K82	6.39	9123K83	10.99	9123K84	19.65	9123K85	27.42	9123K86	51.88
3/4"	+0.005"	1, 2, 4	9123K87	9.25	9123K88	15.53	9123K89	28.44	9123K91	40.42	9123K92	76.39
1"	+0.005"	1, 2, 4	9123K93	10.93	9123K94	20.07	9123K95	37.27	9123K96	52.73	9123K97	98.29

(Material continued on following page)

Wear- and Water-Resistant Delrin® Acetal Resin *(Material continued from previous page)*

Tight-Tolerance Tubes



OD and ID tolerances are ±0.010″. Length tolerance is +1″. Meet NSF/ANSI standards and ASTM D6778.

OD	ID	Wall Thick.	Available Lengths, ft.	White	Per Ft.
1/8″	1/16″	1/32″	3, 5	8627K119	$1.10
3/16″	1/8″	1/32″	3, 5	8627K129	1.20
1/4″	1/8″	1/16″	3, 5	8627K139	1.72
3/8″	1/4″	1/16″	3, 5	8627K149	2.88
1/2″	3/8″	1/16″	3, 5	8627K159	3.63
5/8″	3/8″	1/8″	1, 3, 5	8627K179	5.29
5/8″	1/2″	1/16″	1, 3, 5	8627K169	$4.06
3/4″	1/2″	1/8″	1, 3, 5	8627K199	6.08
3/4″	5/8″	1/16″	1, 3, 5	8627K189	4.50
7/8″	5/8″	1/8″	1, 3, 5	8627K229	6.83
7/8″	3/4″	1/16″	1, 3, 5	8627K219	4.78
1″	3/4″	1/8″	1, 3, 5	8627K239	6.49

Oversized Tubes



OD is oversized +0.040″ and ID is undersized –0.040″ for finishing to sizes listed. Length tolerance is +1″. Meet ASTM D6778. *White* tubes meet NSF/ANSI standards.

OD	ID	Wall Thick.	Available Lengths, ft.	White	Per Ft.	Black	Per Ft.
1/4″	1/8″	1/16″	3, 5	8627K519	$1.10	1830T119	$1.22
1/2″	1/4″	1/8″	1, 3, 5	8627K539	3.04	1830T129	3.23
5/8″	1/4″	3/16″	1, 3, 5	8627K559	4.62	1830T139	4.98
5/8″	1/2″	1/16″	1, 3, 5	8627K579	3.43	1830T149	3.70
3/4″	1/4″	1/4″	1, 3, 5	8627K619	6.73	1830T169	7.26
3/4″	1/2″	1/8″	1, 3, 5	8627K599	5.79	1830T159	6.42
7/8″	5/8″	1/8″	1, 3, 5	8627K639	5.38	1830T179	5.81
1″	1/2″	1/4″	1, 3, 5	8627K629	8.58	1830T189	9.18
1 1/4″	3/4″	1/4″	1, 3, 5	8627K659	9.37	1830T199	10.03
1 1/4″	1″	1/8″	1, 3, 5	8627K699	$7.22	1830T219	$8.05
1 1/2″	1″	1/4″	1, 3, 5	8627K739	10.12	1830T229	10.82
1 1/2″	1 1/4″	1/8″	1, 3, 5	8627K759	9.72	1830T239	10.40
1 3/4″	1 1/4″	1/4″	1, 3, 5	8627K789	15.20	1830T249	15.65
1 3/4″	1 1/2″	1/8″	1, 3, 5	8627K829	12.68	1830T259	12.63
2″	1 1/2″	1/4″	1, 3, 5	8627K889	17.16	1830T269	18.36
2″	1 3/4″	1/8″	1, 3, 5	8627K899	10.90	1830T279	11.66
2 1/4″	2″	1/8″	1, 3, 5	8627K919	13.64	1830T289	14.59
2 1/2″	2″	1/4″	1, 3, 5	8627K929	22.05	1830T299	23.59

Rods



Diameter tolerance for rods 2″ dia. and smaller is +0.005″; for 2 1/4″ to 2 3/4″ dia. it's +0.030″; and for 3″ dia. and larger it's +0.250″. All rods meet ASTM D6100. *White* rods are USDA compliant and meet NSF/ANSI standards.

Dia.	Available Lengths, ft.	White	Per Ft.	Black	Per Ft.
3/16″	5	8572K49	$0.53	8576K49	$0.53
1/4″	5	8572K51	.58	8576K11	.58
5/16″	5	8572K52	.73	8576K12	.78
3/8″	5	8572K53	.97	8576K13	.96
7/16″	5	8572K54	1.39	8576K14	1.41
1/2″	5	8572K55	1.55	8576K15	1.51
9/16″	5	8572K56	2.13	8576K16	2.12
5/8″	5	8572K57	2.29	8576K17	2.31
3/4″	5	8572K58	2.83	8576K18	2.95
7/8″	1, 2, 3, 4, 5	8572K59	4.08	8576K19	4.25
1″	1, 2, 3, 4, 5	8572K61	4.90	8576K21	5.06
1 1/8″	1, 2, 3, 4, 5	8572K22	6.63	8576K22	7.06
1 1/4″	1, 2, 3, 4, 5	8572K23	7.37	8576K23	7.37
1 3/8″	1, 2, 3, 4, 5	8572K24	10.05	8576K24	9.98
1 1/2″	1, 2, 3, 4, 5	8572K25	$10.38	8576K25	$10.37
1 5/8″	1, 2, 3, 4, 5	8572K26	12.69	8576K26	12.64
1 3/4″	1, 2, 3, 4, 5	8572K27	13.77	8576K27	13.75
1 7/8″	1, 2, 3, 4, 5	8572K71	14.49	8576K51	15.44
2″	1, 2, 3, 4, 5	8572K29	17.53	8576K29	17.28
2 1/4″	1, 2, 3, 4, 5	8572K31	23.01	8576K31	22.64
2 1/2″	1, 2, 3, 4, 5	8572K32	27.61	8576K32	27.10
2 3/4″	1, 2, 3, 4, 5	8572K72	27.42	8576K52	29.02
3″	1, 2, 3, 4, 5	8572K34	41.58	8576K34	41.13
3 1/4″	1, 2, 3, 4, 5	8572K73	47.54	8576K53	52.13
3 1/2″	1, 2, 3, 4, 5	8572K35	62.29	8576K35	61.39
4″	1, 2, 3, 4, 5	8572K36	72.63	8576K36	71.18
4 1/2″	1, 2, 3, 4, 5	8572K37	113.01	8576K81	112.24
5″	1, 2, 3, 4, 5	8572K38	131.94	8576K38	131.19



Dia.	1/2″ Long White	1/2″ Long Black	1″ Long White	1″ Long Black	2″ Long White	2″ Long Black
3″	8582K11 $5.47	9986K11 $5.69	8582K12 $9.12	9986K12 $9.48	8582K14 $15.20	9986K13 $15.79
4″	8582K21 9.56	9986K21 9.98	8582K22 15.94	9986K22 16.73	8582K24 26.56	9986K23 27.41
5″	8582K31 17.37	9986K51 18.14	8582K32 28.95	9986K52 30.23	8582K34 48.25	9986K53 50.38
6″	8582K41 22.57	9986K31 23.86	8582K42 37.61	9986K32 39.89	8582K44 62.68	9986K33 66.48
7″	8582K51 25.86	9986K71 27.42	8582K52 45.42	9986K72 48.11	8582K54 79.04	9986K74 84.08
8″	8582K61 33.16	9986K41 35.33	8582K62 58.23	9986K42 62.06	8582K64 101.34	9986K43 107.99
10″	8582K71 64.05	9986K81 68.50	8582K72 98.11	9986K82 104.12	8582K74 170.53	9986K84 180.28

Dia.	3″ Long White	3″ Long Black	4″ Long White	4″ Long Black	6″ Long White	6″ Long Black
3″	8582K15 $19.01	9986K14 $19.74	8582K16 $21.12	9986K15 $21.94	8582K18 $26.40	9986K16 $27.42
4″	8582K25 33.20	9986K24 33.46	8582K26 36.89	9986K25 37.17	8582K28 46.11	9986K26 46.47
5″	8582K36 60.31	9986K54 62.97	8582K81 67.02	9986K56 71.73	8582K39 83.77	9986K55 87.47
6″	8582K45 78.35	9986K34 83.10	8582K46 87.06	9986K35 92.33	8582K48 108.82	9986K36 115.42
7″	8582K56 103.13	9986K76 114.85	8582K82 117.99	9986K77 135.52	8582K59 161.64	9986K79 180.01
8″	8582K65 132.22	9986K44 140.90	8582K66 151.29	9986K45 161.21	8582K68 207.24	9986K46 220.84

Balls



Resin is made from FDA and USDA compliant materials. Resin also meets NSF/ANSI Standard 61.

Dia.	Dia. Toler.	Pkg. Qty.	White	Pkg.
Inch				
1/16″	±0.001″	100	9614K5	$4.21
3/32″	±0.001″	100	9614K51	1.72
1/8″	±0.001″	100	9614K52	2.04
5/32″	±0.001″	100	9614K53	3.04
3/16″	±0.001″	100	9614K54	3.36
7/32″	±0.001″	100	9614K22	8.55
1/4″	±0.001″	100	9614K24	8.75
Inch (Cont.)				
5/16″	±0.001″	100	9614K57	$7.16
3/8″	±0.001″	100	9614K58	14.88
7/16″	±0.001″	50	9614K93	9.62
1/2″	±0.001″	50	9614K59	11.36
5/8″	±0.001″	25	9614K6	9.32
3/4″	±0.001″	10	9614K25	5.49
7/8″	±0.001″	10	9614K95	10.04
Inch (Cont.)				
1″	±0.001″	10	9614K27	$11.43
1 1/2″	±0.002″	1	9614K39	3.58
Metric—Dimensions in mm				
2	±0.0254	100	9614K71	1.88
3	±0.0254	100	9614K72	2.28
4	±0.0254	100	9614K73	3.64
5	±0.0254	100	9614K74	5.60

Delrin® Acetal Resin

For comparative information about plastics, see page 3626.

Rigid Glass-Filled Delrin® Acetal Resin

- Color: White
- Temp. Range: –40° to 185°F
- Tensile Strength: Good
- Impact Strength: Poor

Composed of 20% glass for increased rigidity, this material is wear and water resistant as well as an excellent electrical insulator. Meets UL 94HB for flame retardance and ASTM D6100.

Sheets

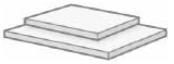

Thickness tolerance is +1/8″. Width and length tolerances for 6″ and 12″ sides are ±1/8″; 24″ sides are +1/2″; and 48″ sides are +1″.

Thick.	6″×6″		12″×12″		12″×24″		12″×48″	
3/8″	8684K91	$38.63	8684K11	$127.56	8684K12	$228.63	8684K14	$449.17
1/2″	8684K92	49.34	8684K16	166.18	8684K17	302.87	8684K19	567.17
3/4″	8684K93	71.11	8684K21	244.65	8684K22	444.43	8684K24	846.53
1″	8684K94	92.91	8684K26	324.08	8684K27	567.41	8684K29	1,106.07
1 1/2″	8684K95	135.29	8684K81	474.32	8684K82	819.72	8684K84	1,591.68

Rods



Dia.	Dia. Toler.	Available Lengths, ft.		Per Ft.
3/8″	+0.002″	1, 2, 3, 4, 5	8719K11	$5.45
1/2″	+0.002″	1, 2, 3, 4, 5	8719K12	8.00
3/4″	+0.002″	1, 2, 3, 4, 5	8719K13	12.70
1″	+0.002″	1, 2, 3, 4, 5	8719K14	21.59
1 1/4″	+0.005″	1, 2, 3, 4, 5	8719K15	28.13
1 1/2″	+0.005″	1, 2, 3, 4, 5	8719K16	45.19
2″	+0.005″	1, 2, 3, 4, 5	8719K17	73.06

Ultra-Wear-Resistant PTFE-Filled Delrin® Acetal Resin

- Color: Brown
- Temp. Range: –40° to 185°F
- Tensile Strength: Good
- Impact Strength: Poor

The addition of PTFE to Delrin® acetal resin provides this water-resistant material with a more slippery, wear-resistant surface. Material is also known as Delrin® acetal resin AF.

Strips

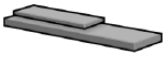

Material contains 13% PTFE. Thickness tolerance for 0.020″ and 0.031″ thick strips is ±0.003″; for 0.062″ and 0.093″ thick strips it's ±0.006″. Width tolerance is ±0.020″.

Thick.	Available Lengths, ft.	1″ Wide		2″ Wide		4″ Wide		6″ Wide		12″ Wide	
			Per Ft.		Per Ft.		Per Ft.		Per Ft.		Per Ft.
0.020″	5, 10, 25, 50, 100	2636T11	$1.56	2636T12	$2.93	2636T13	$5.55	2636T14	$7.84	2636T15	$14.95
0.031″	5, 10, 25, 50, 100	2636T21	2.25	2636T22	4.27	2636T23	8.09	2636T24	11.51	2636T25	21.90
0.062″	5, 10, 25, 50, 100	2636T31	3.77	2636T32	7.13	2636T33	13.57	2636T34	19.38	2636T35	37.00
0.093″	5, 10, 25, 50, 100	2636T41	5.06	2636T42	9.60	2636T43	18.29	2636T44	26.15	2636T45	49.74

Sheets

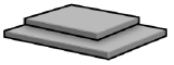

Material contains 13% PTFE. Width and length tolerances for 6″ and 12″ sides are ±1/8″; 24″ sides are +1/2″; and 48″ sides are +1″. Meet UL 94HB for flame retardance and ASTM D6778.

Thick.	Thick. Toler.	6″×6″		12″×12″		12″×24″		12″×48″		24″×24″	
1/8″	+0.010″	8578K411	$19.27	8578K311	$57.62	8578K511	$104.93	8578K811	$190.78	8578K611	$190.78
1/4″	+0.025″	8578K412	35.80	8578K312	113.80	8578K512	207.26	8578K812	376.83	8578K612	376.83
3/8″	+0.025″	8578K413	52.38	8578K313	166.50	8578K513	303.23	8578K813	551.33	8578K613	551.33
1/2″	+0.025″	8578K414	70.91	8578K314	225.41	8578K514	410.51	8578K814	746.38	8578K614	746.38
5/8″	+0.025″	8578K415	77.36	8578K315	253.94	8578K515	462.48	8578K815	840.87	8578K615	840.87
3/4″	+0.025″	8578K416	90.20	8578K316	299.35	8578K516	545.18	8578K816	991.24	8578K616	991.24
1″	+0.025″	8578K417	114.31	8578K317	390.24	8578K517	722.67	8578K817	1,313.95	8578K617	1,313.95

Oversized Tubes



Material contains 10% PTFE. OD is oversized +0.040″ and ID is undersized –0.040″ for finishing to sizes listed. Meet UL 94HB for flame retardance and ASTM D6778.

OD	ID	Wall Thick.	Available Lengths, ft.		Per Ft.	OD	ID	Wall Thick.	Available Lengths, ft.		Per Ft.
1/4″	1/8″	1/16″	1, 2, 3, 4, 5	1817T11	$3.90	1″	1/2″	1/4″	1, 2, 3, 4, 5	1817T17	$33.12
1/2″	1/4″	1/8″	1, 2, 3, 4, 5	1817T12	11.92	1 1/4″	3/4″	1/4″	1, 2, 3, 4, 5	1817T21	43.39
5/8″	1/4″	3/16″	1, 2, 3, 4, 5	1817T13	18.24	1 1/4″	1″	1/8″	1, 2, 3, 4, 5	1817T22	30.37
5/8″	1/2″	1/16″	1, 2, 3, 4, 5	1817T14	11.11	1 1/2″	1″	1/4″	1, 2, 3, 4, 5	1817T23	52.44
3/4″	1/4″	1/4″	1, 2, 3, 4, 5	1817T16	25.16	2″	1 1/2″	1/4″	1, 2, 3, 4, 5	1817T24	71.92
3/4″	1/2″	1/8″	1, 2, 3, 4, 5	1817T15	18.88						

Rods



Material contains 13% PTFE. Meet UL 94HB for flame retardance, ASTM D6100, and ASTM D6778.

Dia.	Dia. Toler.	Available Lengths, ft.		Per Ft.	Dia.	Dia. Toler.	Available Lengths, ft.		Per Ft.
1/4″	+0.002″	1, 2, 3, 4, 5	8579K12	$1.56	1 3/4″	+0.008″	1, 2, 3, 4	8579K38	$42.35
3/8″	+0.002″	1, 2, 3, 4, 5	8579K14	3.53	2″	+0.008″	1, 2, 3, 4	8579K42	57.05
1/2″	+0.002″	1, 2, 3, 4, 5	8579K16	5.63	2 1/4″	+0.250″	1, 2, 3, 4	8579K46	69.24
5/8″	+0.002″	1, 2, 3, 4, 5	8579K24	8.15	2 1/2″	+0.250″	1, 2, 3, 4	8579K48	80.64
3/4″	+0.002″	1, 2, 3, 4, 5	8579K26	11.68	3″	+0.250″	1, 2, 3, 4	8579K52	114.54
1″	+0.002″	1, 2, 3, 4, 5	8579K28	17.10	3 1/2″	+0.250″	1, 2, 3, 4	8579K54	199.74
1 1/8″	+0.005″	1, 2, 3, 4	8579K32	21.52	4″	+0.250″	1, 2, 3, 4	8579K56	256.38
1 1/4″	+0.005″	1, 2, 3, 4	8579K34	24.51	5″	+0.250″	1, 2, 3, 4	8579K58	380.97
1 1/2″	+0.005″	1, 2, 3, 4	8579K36	32.08					



Dia.	Dia. Toler.	1/2″ Long		1″ Long		3″ Long		6″ Long	
3″	+0.250″	9969K11	$9.16	9969K12	$17.18	9969K14	$40.09	9969K16	$74.45
4″	+0.250″	9969K21	20.51	9969K22	38.46	9969K24	89.73	9969K26	166.65
6″	+0.250″	9969K31	42.07	9969K32	71.19	9969K34	171.50	9969K36	323.58

Chemical- and Wear-Resistant Acetal

- Color: White or black
- Temp. Range: –20° to 180° F
- Tensile Strength: Good
- Impact Strength: Good

When you need resistance to moisture and chemicals, such as alcohols, solvents, and gasoline, as well as a low-friction surface, this material offers it all. Also known as acetal copolymer, it has good strength and rigidity for machining tight-tolerance parts, such as gears and rollers.

Rectangular Bars



Width tolerance is +1/4". Length tolerance for 1-ft. long bars is +1/2"; for 2- and 4-ft. long bars it's +1". Bars are FDA and USDA compliant and meet NSF/ANSI Standards. They also meet ASTM D6100.

Thick.	Thick. Tolerance	Available Lengths, ft.	1" Wide White	Per Ft.	1 1/2" Wide White	Per Ft.	2" Wide White	Per Ft.	3" Wide White	Per Ft.	4" Wide White	Per Ft.
1/8"	±0.005"	1, 2, 4	8492K651	$1.50	8492K652	$2.22	8492K653	$2.75	8492K654	$3.54	8492K655	$4.12
1/4"	+0.025"	1, 2, 4	8492K671	2.67	8492K672	3.96	8492K673	5.04	8492K674	6.57	8492K675	7.55
3/8"	+0.025"	1, 2, 4	8492K681	3.25	8492K682	5.21	8492K683	6.80	8492K684	9.04	8492K685	10.83
1/2"	+0.025"	1, 2, 4	8492K691	4.07	8492K692	5.94	8492K693	7.88	8492K694	11.23	8492K695	13.92
3/4"	+0.025"	1, 2, 4	8492K751	5.47	8492K752	7.68	8492K753	10.16	8492K754	14.18	8492K755	18.18
1"	+0.025"	1, 2, 4	8492K771	6.31	8492K772	9.62	8492K773	12.80	8492K774	17.93	8492K775	22.52
1 1/2"	+0.025"	1, 2, 4	8492K781	9.38	8492K782	13.62	8492K783	17.70	8492K784	24.41	8492K785	31.56
2"	+0.050"	1, 2, 4	8492K791	12.19	8492K792	16.54	8492K793	21.11	8492K794	29.88	8492K795	38.65

Sheets



Thickness tolerance for sheets 1/32" to 3/32" thick is ±0.009"; for 7/64" to 3" thick it's –0.016" to +0.025"; and for 4" thick it's +0.125". Width and length tolerances for 6" and 12" sides are ±1/8"; 24" and 48" sides are +1". Sheets are FDA and USDA compliant and meet NSF/ANSI standards. They also meet ASTM D6100.

Thick.	6"×6" White		6"×6" Black		12"×12" White		12"×12" Black		12"×24" White		12"×24" Black	
1/32"					8492K112	$4.59	8492K114	$4.99	8492K212	$8.29	8492K214	$9.01
3/64"					8492K132	6.98	8492K134	7.69	8492K232	12.61	8492K234	13.89
1/16"					8492K111	6.28	8492K113	6.68	8492K211	11.63	8492K213	12.45
5/64"					8492K142	9.93	8492K144	10.88	8492K242	17.95	8492K244	19.67
3/32"					8492K152	10.98	8492K154	12.09	8492K252	19.85	8492K254	21.86
7/64"					8492K162	11.88	8492K164	12.48	8492K262	21.48	8492K264	22.56
1/8"					8492K121	11.14	8492K123	12.58	8492K221	22.02	8492K223	22.96
3/16"	8492K916	$10.30	8492K918	$10.77	8492K172	21.38	8492K174	22.35	8492K272	38.64	8492K274	40.38
1/4"	8492K926	11.58	8492K928	12.04	8492K131	21.90	8492K133	23.46	8492K231	39.98	8492K233	41.56
3/8"	8492K936	16.88	8492K938	17.41	8492K141	31.93	8492K143	32.94	8492K241	58.28	8492K243	60.13
1/2"	8492K946	19.71	8492K948	20.81	8492K151	37.32	8492K153	39.36	8492K251	68.12	8492K253	71.85
5/8"	8492K956	18.77	8492K958	19.61	8492K182	47.33	8492K184	49.47	8492K282	85.56	8492K284	89.40
3/4"	8492K966	22.66	8492K968	23.62	8492K161	57.19	8492K163	59.59	8492K261	101.64	8492K263	108.41
1"	8492K976	30.77	8492K978	31.99	8492K171	77.62	8492K173	80.69	8492K271	141.66	8492K273	146.82
1 1/4"	8492K986	38.78	8492K988	39.38	8492K181	92.52	8492K183	97.56	8492K281	186.25	8492K283	190.87
1 1/2"	8492K996	42.72	8492K998	44.55	8492K191	108.42	8492K193	112.37	8492K291	196.72	8492K293	204.43
1 3/4"	8492K917	49.56	8492K919	51.94	8492K192	125.01	8492K194	131.01	8492K292	225.94	8492K294	236.80
2"	8492K927	83.34	8492K929	85.68	8492K611	140.13	8492K613	144.10	8492K711	254.93	8492K713	263.02
2 1/4"	8492K937	49.64	8492K939	52.80	8492K62	151.88	8492K623	155.08	8492K72	276.59	8492K723	285.45
2 1/2"	8492K947	58.72	8492K949	61.54	8492K63	170.78	8492K633	176.37	8492K73	318.00	8492K733	327.09
3"	8492K957	62.85	8492K959	68.82	8492K64	192.93	8492K643	209.19	8492K74	350.23	8492K743	378.17
4"	8492K967	81.80	8492K969	88.08	8492K66	248.62	8492K663	267.71	8492K76	465.23	8492K763	490.78

Thick.	12"×48" White		12"×48" Black		24"×24" White		24"×24" Black		24"×48" White		24"×48" Black	
1/32"	8492K312	$15.21	8492K314	$16.52	8492K412	$15.21	8492K414	$16.52	8492K512	$27.65	8492K514	$30.03
3/64"	8492K332	23.11	8492K334	25.47	8492K432	23.11	8492K434	25.47	8492K532	42.02	8492K534	46.31
1/16"	8492K311	21.03	8492K313	24.06	8492K411	21.07	8492K413	23.24	8492K511	40.52	8492K513	43.68
5/64"	8492K342	32.91	8492K344	36.06	8492K442	32.91	8492K444	36.06	8492K542	59.84	8492K544	64.05
3/32"	8492K352	36.38	8492K354	40.07	8492K452	36.38	8492K454	40.07	8492K552	66.15	8492K554	69.55
7/64"	8492K362	39.37	8492K364	41.36	8492K462	39.37	8492K464	41.36	8492K562	71.59	8492K564	75.20
1/8"	8492K321	39.94	8492K323	41.65	8492K421	39.96	8492K423	41.68	8492K521	72.66	8492K523	75.79
3/16"	8492K372	70.84	8492K374	74.04	8492K472	70.84	8492K474	74.04	8492K572	128.80	8492K574	134.61
1/4"	8492K331	72.66	8492K333	75.45	8492K431	72.57	8492K433	75.45	8492K531	131.94	8492K533	137.18
3/8"	8492K341	105.81	8492K343	109.14	8492K441	105.79	8492K443	109.14	8492K541	192.35	8492K543	198.42
1/2"	8492K351	123.60	8492K353	130.46	8492K451	123.48	8492K453	130.40	8492K551	228.31	8492K553	237.10
5/8"	8492K382	156.87	8492K384	163.90	8492K482	156.87	8492K484	163.90	8492K582	285.17	8492K584	297.96
3/4"	8492K361	188.96	8492K363	197.43	8492K461	189.47	8492K463	197.45	8492K561	344.53	8492K563	359.00
1"	8492K371	257.23	8492K373	267.37	8492K471	257.17	8492K473	267.37	8492K571	467.56	8492K573	486.13
1 1/4"	8492K381	324.15	8492K383	328.09	8492K481	325.85	8492K483	333.33	8492K581	589.30	8492K583	598.50
1 1/2"	8492K391	357.03	8492K393	372.37	8492K491	357.72	8492K493	374.36	8492K591	647.96	8492K593	676.99
1 3/4"	8492K392	414.21	8492K394	434.14	8492K492	414.21	8492K494	434.14	8492K592	753.15	8492K594	776.97
2"	8492K316	464.37	8492K315	477.43	8492K811	464.32	8492K813	477.46	8492K911	844.23	8492K915	865.32
2 1/4"	8492K326	502.91	8492K325	512.00	8492K82	502.88	8492K823	512.00				
2 1/2"	8492K336	576.36	8492K335	584.07	8492K83	576.38	8492K833	589.82				
3"	8492K346	647.32	8492K345	676.12	8492K84	636.72	8492K843	666.03				
4"	8492K366	828.66	8492K365	866.10	8492K86	827.12	8492K853	866.10				

Film

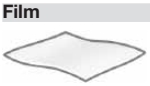

Finish is matte on one side and semi-gloss on the other. Width and length tolerances are ±1/8". FDA compliant and meet NSF/ANSI standards.

Thick.	Thick. Tolerance	12"×12" Semi-Clear White		Thick.	Thick. Tolerance	12"×12" Semi-Clear White	
0.003"	±0.0003"	5742T11	$12.25	0.010"	±0.0010"	5742T51	$29.59
0.005"	±0.0005"	5742T31	16.66	0.020"	±0.0020"	5742T71	49.56

(Material continued on following page)

Chemical- and Wear-Resistant Acetal *(Material continued from previous page)*

- Color: White or black
- Temp. Range: –20° to 180° F
- Tensile Strength: Good
- Impact Strength: Good

When you need resistance to moisture and chemicals, such as alcohols, solvents, and gasoline, as well as a low-friction surface, this material offers it all. Also known as acetal copolymer, it has good strength and rigidity for machining tight-tolerance parts, such as gears and rollers.

Oversized Tubes



OD is oversized +0.040″ and ID is undersized –0.040″ for finishing to sizes listed. Tubes are FDA compliant and meet NSF/ANSI standards. They also meet UL 94HB for flame retardance.

OD	ID	Wall Thick.	Available Lengths, ft.	White	Per Ft.
1/4″	1/8″	1/16″	5	1808T11	$1.16
1/2″	1/4″	1/8″	1, 2, 3, 4, 5	1808T12	3.98
5/8″	1/4″	3/16″	1, 2, 3, 4, 5	1808T13	6.02
5/8″	3/8″	1/8″	1, 2, 3, 4, 5	1808T19	3.62
5/8″	1/2″	1/16″	1, 2, 3, 4, 5	1808T14	4.29
3/4″	1/4″	1/4″	1, 2, 3, 4, 5	1808T16	8.71
3/4″	1/2″	1/8″	1, 2, 3, 4, 5	1808T15	$7.35
1″	1/2″	1/4″	1, 2, 3, 4, 5	1808T17	10.55
1 1/4″	3/4″	1/4″	1, 2, 3, 4, 5	1808T18	11.81
1 1/4″	1″	1/8″	1, 2, 3, 4, 5	1808T21	9.33
1 1/2″	1″	1/4″	1, 2, 3, 4, 5	1808T22	14.98
2″	1 1/2″	1/4″	1, 2, 3, 4, 5	1808T23	20.27

Rods



Rods are FDA and USDA compliant and meet NSF/ANSI standards. They also meet UL 94HB for flame retardance and ASTM D6100.

Also Available: 3″, 6″, and 9″ long rods. Please ask for 8497K871 and specify diameter, length, and white or black.

Dia.	Dia. Toler.	Available Lengths, ft.	White	Per Ft.	Black	Per Ft.
1/8″	+0.003″	4	8497K11	$0.38		—
3/16″	+0.003″	4	8497K121	.37	8497K123	$0.44
1/4″	+0.003″	4	8497K131	.50	8497K133	.53
5/16″	+0.003″	4	8497K151	.65	8497K153	.71
3/8″	+0.003″	4	8497K171	.79	8497K173	.79
7/16″	+0.003″	4	8497K191	1.15	8497K193	1.38
1/2″	+0.003″	4	8497K211	1.26	8497K213	1.38
9/16″	+0.003″	4	8497K231	1.85	8497K233	1.91
5/8″	+0.003″	4	8497K251	1.97	8497K253	2.09
3/4″	+0.003″	4	8497K271	2.39	8497K273	2.61
7/8″	+0.003″	1, 2, 3, 4	8497K292	3.62	8497K294	4.00
1″	+0.003″	1, 2, 3, 4	8497K311	4.08	8497K313	4.50
1 1/4″	+0.005″	1, 2, 3, 4	8497K351	6.10	8497K353	6.67
1 1/2″	+0.005″	1, 2, 3, 4	8497K371	8.57	8497K373	9.00
1 3/4″	+0.005″	1, 2, 3, 4	8497K411	10.33	8497K413	11.31
2″	+0.005″	1, 2, 3, 4	8497K431	13.44	8497K433	15.02
2 1/4″	+0.015″	1, 2, 3, 4	8497K451	$16.98	8497K453	$18.98
2 1/2″	+0.015″	1, 2, 3, 4	8497K471	21.09	8497K473	23.21
3″	+0.250″	1, 2	8497K491	31.50	8497K493	33.84
3 1/2″	+0.250″	1, 2	8497K511	47.30	8497K513	50.49
4″	+0.250″	1	8497K531	55.12	8497K533	60.69
4 1/2″	+0.250″	1	8497K551	85.53	8497K553	93.96
5″	+0.250″	1	8497K571	100.99	8497K573	113.28
5 1/2″	+0.250″	1	8497K591	110.57	8497K593	123.94
6″	+0.250″	1	8497K611	127.52	8497K613	138.43
6 1/2″	+0.250″	1	8497K621	156.92	8497K623	171.15
7″	+0.250″	1	8497K631	185.23	8497K633	207.50
7 1/2″	+0.250″	1	8497K641	213.21	8497K643	219.27
8″	+0.250″	1	8497K651	238.12	8497K653	253.96
9″	+0.300″	1	8497K671	284.25	8497K673	319.22
10″	+0.300″	1	8497K691	325.66	8497K693	345.18

Self-Lubricating Chemical-Resistant Turcite Acetal



- Color: Blue or red
- Temp. Range: –50° to 180° F
- Tensile Strength: Good
- Impact Strength: Poor

The silicone additive in this chemical-resistant material creates an ultra-slippery, self-lubricating surface that reduces friction to extend the life of your parts. FDA compliant. Meets UL 94HB for flame retardance.

Dia. tolerance for rods up to 1 3/4″ dia. is +0.010″; for rods 2″ dia. and larger it's +0.250″.

Blue, also known as Turcite A, is more wear resistant than red, making it a good choice for heavier loads at moderate speeds. **Red**, also known as Turcite X, is more slippery than blue, making it suitable for low-load applications at high speeds.

Dia.	Available Lengths, ft.	Blue	Per Ft.	Red	Per Ft.
1/4″	1, 2, 3, 4, 5, 6, 7, 8	7521T11	$7.73	7521T31	$8.69
3/8″	1, 2, 3, 4, 5, 6, 7, 8	7521T12	12.73	7521T32	13.97
1/2″	1, 2, 3, 4, 5, 6, 7, 8	7521T13	15.11	7521T33	16.88
5/8″	1, 2, 3, 4, 5, 6, 7, 8	7521T14	19.45	7521T34	20.64
3/4″	1, 2, 3, 4, 5, 6, 7, 8	7521T15	21.48	7521T35	23.26
1″	1, 2, 3, 4, 5, 6, 7, 8	7521T16	26.90	7521T36	28.90
1 1/4″	1, 2, 3, 4, 5, 6, 7, 8	7521T17	51.64	7521T37	56.94
1 1/2″	1, 2, 3, 4, 5, 6, 7, 8	7521T18	$62.69	7521T38	$68.33
1 3/4″	1, 2, 3, 4, 5, 6, 7, 8	7521T21	70.80	7521T41	87.14
2″	1, 2, 3, 4, 5, 6, 7, 8	7521T22	102.24	7521T42	132.17
2 1/2″	1, 2, 3, 4	7521T23	135.73	7521T43	212.03
3″	1, 2, 3, 4	7521T24	223.06	7521T44	310.31
3 1/2″	1, 2, 3, 4	7521T25	296.09	7521T45	399.62

Antistatic Acetal

- Color: Off-white
- Temp. Range: –20° to 180° F
- Tensile Strength: Good
- Impact Strength: Good

When static is a concern, machine your conveyor components, rollers, and other moving parts from this antistatic material. It also has a slippery, wear-resistant surface for decreased friction and is resistant to moisture and chemicals, such as alcohols, solvents, and gasoline.

Sheets

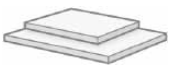

Width and length tolerances are +1/16″. Meet UL 94HB for flame retardance and ASTM D6100.

Thick.	Thick. Tolerance	6″ × 6″		12″ × 12″		12″ × 24″		24″ × 48″	
1/4″	+0.025″	8513T11	$29.21	8513T31	$102.57	8513T51	$181.12	8513T71	$649.16
3/8″	+0.025″	8513T13	46.42	8513T33	160.92	8513T53	286.76	8513T73	1,031.52
1/2″	+0.025″	8513T15	51.58	8513T35	181.70	8513T55	324.72	8513T75	1,172.29

Rods



Meet UL 94HB for flame retardance, ASTM D6100, and ASTM D6778.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.	Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/4″	+0.002″	1, 2, 3, 4, 5	8753K22	$1.93	3/4″	+0.002″	1, 2, 3, 4, 5	8753K26	$8.28
1/2″	+0.002″	1, 2, 3, 4, 5	8753K24	4.71	1″	+0.002″	1, 2, 3, 4, 5	8753K28	13.37

Moisture-Resistant Polyester

Also known as PET and PETE, this strong, rigid plastic has exceptional moisture and wear resistance. Commonly used for valves and barriers, it machines easily and holds its shape well even in moist environments.

Sheets

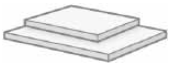

- Color: Off-white
- Temp. Range: –40° to 230° F
- Tensile Strength: Excellent
- Impact Strength: Poor

Sheets have a slippery surface and can be used outdoors. Width and length tolerances for 6″ and 12″ sides are ±1/8″; 24″ and 48″ sides are +1″. FDA compliant. Meet ASTM D6261.

Thick.	Thick. Toler.	6″×6″		12″×12″		12″×24″		24″×24″		24″×48″	
1/4″	+0.025″	8597K92	$12.15	8597K52	$42.39	8597K72	$78.83	8597K12	$145.78	8597K32	$269.97
1/2″	+0.025″	8597K93	17.79	8597K53	62.06	8597K73	115.42	8597K13	213.45	8597K33	395.28
3/4″	+0.025″	8597K95	25.29	8597K55	84.46	8597K75	157.09	8597K15	290.51	8597K35	537.98
1″	+0.025″	8597K96	34.51	8597K56	115.29	8597K76	214.42	8597K16	396.52	8597K36	734.30
1 1/4″	+0.025″	8597K97	43.21	8597K57	144.33	8597K77	268.43	8597K17	496.42	8597K37	919.29
1 1/2″	+0.025″	8597K98	48.57	8597K58	162.25	8597K78	301.77	8597K18	558.07	8597K39	1,033.47

Film



- Color: Clear or semi-clear white
- Temp. Range: –50° to 300° F
- Tensile Strength: Excellent
- Impact Strength: Not rated

Width tolerance is ±1/8″. Length has a plus tolerance. *Semi-clear white* film has a rough matte finish on both sides.

Thick.	Thick. Toler.	Wd.	10-ft. Length		25-ft. Length	
Clear						
0.0005″	±0.00005″	27″	8567K102	$6.12	8567K104	$12.25
0.001″	±0.0001″	40″	8567K12	12.72	8567K14	25.44
0.002″	±0.0002″	40″	8567K22	13.56	8567K24	27.13
0.003″	±0.0003″	40″	8567K32	15.53	8567K34	31.06
0.004″	±0.0004″	40″	8567K42	18.73	8567K44	37.45
0.005″	±0.0005″	40″	8567K52	22.34	8567K54	44.67
0.007″	±0.0007″	40″	8567K62	39.02	8567K64	78.03
0.01″	±0.001″	40″	8567K92	45.71	8567K94	91.42
Semi-Clear White						
0.005″	±0.0005″	20″	_____	_____	8567K95	55.92
0.005″	±0.0005″	40″	_____	_____	8567K96	109.58

High-Temperature Film



- Color: Semi-clear off-white
- Max. Temp.: 400° F
- Tensile Strength: Excellent
- Impact Strength: Not rated

Often used as a separator when heating parts in an oven or as a cover when etching or sanding, this film releases cleanly from rubber and most synthetic resins. Film should be larger than the piece it is releasing from. Thickness tolerance is not rated. Width and length tolerances are ±1/8″.

Thick.	Wd.	50-ft. Length	
0.0010″	20″	7594T11	$72.38
0.0015″	20″	7594T21	84.42

Adhesive-Back Film



- Color: Clear
- Temp. Range: –50° to 275° F
- Tensile Strength: Excellent
- Impact Strength: Not rated

Adhesive is acrylic. Width and length tolerances are ±1/32″. Film, but not adhesive, meets UL 94VTM2 for flame retardance.

Thick.	Thick. Toler.	27″×20″		27″×38″	
0.002″	±0.0002″	8689K42	$3.23	8689K44	$6.03

Static-Dissipative Adhesive-Back Film



- Color: Clear
- Max. Temp.: 150° F
- Tensile Strength: Excellent
- Impact Strength: Not Rated

Apply this film to reduce static buildup. Adhesive is acrylic. Thickness tolerance is ±0.0004″. Width and length tolerances are ±1/32″.

Thick.	24″×48″		48″×48″		48″×96″	
0.004″	8187K12	$121.47	8187K13	$207.89	8187K14	$366.56

Metallized Film



- Color: Silver or gold
- Temp. Range: –50° to 300° F
- Tensile Strength: Excellent
- Impact Strength: Not rated

Film has a thin aluminum coating on one side. Width and length tolerances are ±10%.

Thick.	Thick. Toler.	Wd.	12-ft. Length	
Silver Colored Finish				
0.002″	±0.0002″	27″	7538T11	$9.94
0.005″	±0.0005″	27″	7538T12	18.05
Gold Colored Finish				
0.002″	±0.0002″	27″	7538T21	17.14

Rods



- Color: Off-white
- Temp. Range: –40° to 230° F
- Tensile Strength: Excellent
- Impact Strength: Poor

Rods have a slippery surface and can be used outdoors. Meet ASTM D6261.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/2″	+0.002″	5	8598K12	$1.49
5/8″	+0.002″	5	8598K11	2.24
3/4″	+0.002″	5	8598K13	2.82
1″	+0.002″	1, 2, 3, 4, 5	8598K14	5.08
1 1/4″	+0.005″	1, 2, 3, 4, 5	8598K15	7.95
1 1/2″	+0.005″	1, 2, 3, 4, 5	8598K16	11.43
1 3/4″	+0.005″	1, 2, 3, 4, 5	8598K17	$15.30
2″	+0.005″	1, 2, 3, 4, 5	8598K18	18.90
2 1/2″	+0.030″	1, 2, 3, 4, 5	8598K21	30.29
3″	+0.250″	1, 2, 3, 4, 5	8598K22	44.66
3 1/2″	+0.250″	1, 2, 3, 4, 5	8598K23	65.21
4″	+0.250″	1, 2, 3, 4, 5	8598K24	76.01

Self-Lubricating Wear-Resistant Hydex Polyester



- Color: Off-white
- Temp. Range: –40° to 220° F
- Tensile Strength: Good
- Impact Strength: Poor

Fifty percent more abrasion resistant than standard polyester, Hydex rods combine moisture resistance and easy machinability with the PTFE additive's self-lubricating properties. Also known as PBT, they're often used for bearings, gears, and pistons. Can be used outdoors. Material is FDA and USDA compliant and meets 3-A sanitary requirements. It also meets ASTM D6261.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/4″	+0.002″	1, 2, 3, 4, 5	7593T11	$4.21
3/8″	+0.002″	1, 2, 3, 4, 5	7593T12	7.44
1/2″	+0.002″	1, 2, 3, 4, 5	7593T13	12.50
5/8″	+0.002″	1, 2, 3, 4, 5	7593T14	17.12
3/4″	+0.002″	1, 2, 3, 4, 5	7593T15	21.04
1″	+0.002″	1, 2, 3, 4, 5	7593T16	35.60
1 1/4″	+0.005″	1, 2, 3, 4, 5	7593T17	49.02
1 3/8″	+0.005″	1, 2, 3, 4, 5	7593T18	$60.31
1 1/2″	+0.005″	1, 2, 3, 4, 5	7593T19	64.28
1 3/4″	+0.005″	1, 2, 3, 4, 5	7593T21	80.98
2″	+0.005″	1, 2, 3, 4, 5	7593T22	106.57
2 1/2″	+0.030″	1, 2, 3, 4, 5	7593T23	184.85
3″	+0.250″	1, 2, 3, 4, 5	7593T24	231.77

Moisture-Resistant Easy-to-Form LDPE Polyethylene

This low-density polyethylene can be used to create parts for tanks, laboratory containers, and other items that will be in direct contact with moisture.

Rectangular Bars



- Color: Semi-clear to opaque white
- Max. Temp.: 120° F
- Tensile Strength: Poor
- Impact Strength: Excellent

Width tolerance is +1/16". FDA and USDA compliant.

Thick.	Thick. Tolerance	Available Lengths, ft.	1" Wide	Per Ft.	1½" Wide	Per Ft.	2" Wide	Per Ft.	2½" Wide	Per Ft.	3" Wide	Per Ft.	4" Wide	Per Ft.
1/8"	±0.006"	4	8588K111	$0.50	8588K118	$0.63	8588K128	$0.94	8588K139	$1.06	8588K151	$1.26	8588K163	$1.62
1/4"	±0.013"	4	8588K112	.90	8588K119	1.24	8588K129	1.61	8588K141	1.90	8588K153	2.19	8588K164	2.95
3/8"	±0.019"	4	8588K113	1.28	8588K121	1.72	8588K131	2.22	8588K143	2.78	8588K154	3.24	8588K165	4.46
1/2"	±0.025"	4	8588K114	1.58	8588K123	2.20	8588K133	2.89	8588K144	3.62	8588K155	4.27	8588K166	5.66
3/4"	±0.038"	4	8588K115	2.19	8588K124	3.24	8588K134	4.23	8588K145	5.21	8588K156	6.21	8588K167	7.85
1"	±0.050"	1, 2, 3, 4	8588K116	2.95	8588K125	4.27	8588K135	5.71	8588K146	6.62	8588K157	7.85	8588K168	9.86
1 1/4"	±0.063"	1, 2, 3, 4	8588K117	4.03	8588K126	5.71	8588K136	8.73	8588K147	9.30	8588K158	9.93	8588K169	15.34
1 1/2"	±0.075"	1, 2, 3, 4	_____	___	8588K127	7.62	8588K137	10.32	8588K148	11.57	8588K159	13.33	8588K171	17.50
2"	+0.200"	1, 2, 3, 4	_____	___	_____	___	8588K138	13.62	8588K149	15.70	8588K161	18.36	8588K173	23.04

Sheets

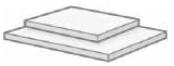

- Color: Semi-clear to opaque white
- Max. Temp.: 120° F
- Tensile Strength: Poor
- Impact Strength: Excellent

Width and length tolerances are +1/16". FDA and USDA compliant.

Thick.	Thick. Tolerance	6"×6"		6"×12"		12"×12"		12"×24"		12"×36"	
1/16"	±0.003"	_____	___	_____	___	8657K111	$2.47	8657K211	$4.27	8657K311	$6.15
3/32"	±0.005"	_____	___	_____	___	8657K19	5.31	8657K12	9.34	8657K13	13.00
1/8"	±0.006"	_____	___	_____	___	8657K112	4.04	8657K212	7.17	8657K312	10.17
3/16"	±0.009"	_____	___	_____	___	8657K113	5.88	8657K213	10.14	8657K313	14.97
1/4"	±0.013"	_____	___	8657K331	$5.38	8657K114	7.89	8657K214	13.56	8657K314	19.68
3/8"	±0.019"	_____	___	8657K332	7.81	8657K115	10.19	8657K215	17.17	8657K315	25.99
1/2"	±0.025"	8657K131	$7.92	8657K333	10.48	8657K116	13.05	8657K216	23.38	8657K316	34.58
5/8"	±0.031"	8657K132	12.42	8657K334	16.87	8657K21	21.12	8657K22	27.88	8657K23	51.62
3/4"	±0.038"	8657K133	11.13	8657K335	14.63	8657K118	19.08	8657K218	33.18	8657K318	46.04
1"	±0.050"	8657K134	14.22	8657K336	19.08	8657K119	23.74	8657K219	41.51	8657K319	59.08
1 1/2"	±0.150"	8657K136	33.27	8657K337	37.86	8657K121	46.29	8657K221	80.15	8657K321	115.57
2"	±0.200"	8657K137	48.03	8657K338	70.44	8657K41	88.98	8657K42	142.87	8657K43	220.78

Thick.	Thick. Tolerance	24"×24"		24"×36"		24"×48"		48"×48"		48"×96"	
1/16"	±0.003"	8657K411	$7.43	8657K511	$10.67	8657K611	$12.22	8657K811	$21.31	8657K911	$37.05
3/32"	±0.005"	8657K14	15.46	8657K15	23.26	8657K16	25.92	8657K17	44.17	8657K18	60.97
1/8"	±0.006"	8657K412	12.33	8657K512	17.69	8657K612	19.95	8657K812	35.20	8657K912	61.24
3/16"	±0.009"	8657K413	17.69	8657K513	25.37	8657K613	29.46	8657K813	50.52	8657K913	87.83
1/4"	±0.013"	8657K414	23.54	8657K514	33.78	8657K614	39.67	8657K814	67.26	8657K914	117.00
3/8"	±0.019"	8657K415	30.86	8657K515	43.93	8657K615	53.71	8657K815	91.86	8657K915	165.10
1/2"	±0.025"	8657K416	41.14	8657K516	58.44	8657K616	71.63	8657K816	122.50	8657K916	220.12
5/8"	±0.031"	8657K24	62.25	8657K25	93.37	8657K26	113.14	8657K27	204.40	8657K28	345.04
3/4"	±0.038"	8657K418	57.76	8657K518	83.96	8657K618	100.47	8657K818	171.07	8657K918	309.23
1"	±0.050"	8657K419	71.84	8657K519	107.86	8657K619	124.92	8657K819	217.21	8657K919	394.93
1 1/2"	±0.150"	8657K421	140.11	8657K521	201.04	8657K621	232.09	8657K821	406.66	8657K921	739.39
2"	±0.200"	8657K44	250.40	8657K45	356.45	8657K46	427.82	8657K47	727.45	8657K48	1,334.03

Radiation-Resistant Sheets

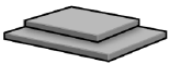

- Color: Purple
- Temp. Range: –30° to 145° F
- Tensile Strength: Poor
- Impact Strength: Excellent

The addition of 5% boron partially shields against neutrons. Width and length tolerances are +1/16".

Thick.	Thick. Tolerance	6"×6"		12"×12"		24"×24"		24"×48"		48"×96"	
1/2"	±0.050"	96150A820	$20.16	96150A220	$32.34	96150A320	$113.91	96150A420	$181.88	96150A720	$468.75

Rods



- Color: Semi-clear to opaque white
- Max. Temp.: 155° F
- Tensile Strength: Poor
- Impact Strength: Not rated

These rods are FDA compliant.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/4"	+0.035"	8	8754K42	$0.87
3/8"	+0.035"	8	8754K43	1.08
1/2"	+0.050"	8	8754K44	1.30
5/8"	+0.050"	8	8754K45	1.77
3/4"	+0.050"	8	8754K46	2.01
1"	+0.050"	1, 2, 3, 4, 5, 6, 7, 8	8754K47	3.72
1 1/4"	+0.050"	1, 2, 3, 4, 5, 6, 7, 8	8754K48	5.52
1 1/2"	+0.060"	1, 2, 3, 4, 5, 6, 7, 8	8754K49	7.08

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
2"	+0.080"	1, 2, 3, 4, 5, 6, 7, 8	8754K71	$13.57
2 1/4"	+0.100"	1, 2, 3, 4, 5, 6, 7, 8	8754K72	17.24
2 1/2"	+0.100"	1, 2, 3, 4, 5, 6, 7, 8	8754K73	20.20
3"	+0.200"	1, 2, 3, 4, 5, 6, 7, 8	8754K74	27.80
3 1/2"	+0.200"	1, 2, 3, 4, 5, 6, 7, 8	8754K75	34.60
4"	+0.250"	1, 2, 3, 4, 5, 6, 7, 8	8754K76	40.48
5"	+0.300"	1, 2, 3, 4, 5, 6, 7, 8	8754K77	54.60
6"	+0.500"	1, 2, 3, 4, 5, 6, 7, 8	8754K78	79.16



Dia.	Dia. Tolerance	1" Long		3" Long	
7"	+0.600"	8754K91	$49.66	8754K92	$76.05
8"	+0.600"	8754K95	55.67	8754K96	91.16

Dia.	Dia. Tolerance	1" Long		3" Long	
9"	+0.600"	8754K81	$63.58	8754K82	$105.23
10"	+0.600"	8754K85	68.39	8754K86	121.35

Moisture-Resistant LDPE Polyethylene Film

A good choice for packaging and construction applications, this film can withstand direct contact with moisture and can be used outdoors.

Multipurpose Film



- Color: Semi-clear white or opaque black
- Temp. Range: –60° to 150°F
- Tensile Strength: Poor
- Impact Strength: Not rated

These sheets have a slippery surface. Thickness tolerance is ±10%. Width and length have a plus tolerance. Meet ASTM D4397. Comparable to Visqueen.



Wd., ft.	Lg., ft.	Semi-Clear White	Roll	Opaque Black	Roll
Light Duty (0.002″ Thick.)					
10	100	8651K92	$34.19	8651K95	$36.92
Standard Duty (0.004″ Thick.)					
3	50	8593K71	9.54	8593K72	9.98
3	100	8553K101	16.91	8553K301	20.59
4	50	8593K75	12.73	—	—
4	100	8553K103	22.52	8553K303	27.03
6	50	8593K19	24.54	—	—
6	100	8553K105	34.84	8553K305	37.63
8	50	8593K49	29.69	8593K59	32.07
8	100	8553K107	37.70	8553K307	40.73
10	25	8553K813	17.19	8553K814	18.91
10	50	8593K12	33.32	8593K22	38.47
10	100	8553K109	48.11	8553K309	52.89
12	50	8593K14	37.70	—	—
12	100	8553K111	57.74	8553K311	69.28
16	50	8593K16	45.42	8593K26	49.05
16	100	8553K113	73.12	8553K313	87.73
20	25	8553K815	37.11	8553K816	40.83
20	50	8593K18	54.79	8593K28	59.17
20	100	8553K115	76.59	8553K315	82.73
24	100	8553K117	104.40	8553K317	125.27
32	100	8553K119	195.40	8553K319	210.11
40	100	8553K121	234.87	8553K321	246.63

Wd., ft.	Lg., ft.	Semi-Clear White	Roll	Opaque Black	Roll
Medium Duty (0.006″ Thick.)					
3	100	8553K501	$35.53	—	—
4	50	8593K81	26.67	—	—
4	100	8553K503	53.06	—	—
6	100	8553K505	52.56	8553K705	$63.07
8	100	8553K507	60.94	8553K707	70.07
10	25	8553K817	27.89	8553K818	33.47
10	50	8593K42	42.57	8593K52	46.82
10	100	8553K509	72.13	8553K709	78.05
12	50	8593K44	49.32	8593K54	54.25
12	100	8553K511	82.22	8553K711	98.68
16	50	8593K46	65.34	8593K56	65.34
16	100	8553K513	104.40	8553K713	125.27
20	25	8553K819	61.89	8553K912	74.27
20	50	8593K48	83.28	8593K58	89.94
20	100	8553K515	124.61	8553K715	129.56
24	100	8553K517	143.00	8553K717	166.53
32	100	8553K519	229.31	8553K719	240.25
40	100	8553K521	241.22	8553K721	251.53
Heavy Duty (0.008″ Thick.)					
20	100	—	—	8593K61	157.65
Extra Heavy Duty (0.010″ Thick.)					
20	50	8593K91	150.25	—	—
20	100	8593K63	173.29	8593K62	187.14

Reinforced Film



- Color: Semi-clear white or opaque black
- Temp. Range: Not rated
- Tensile Strength: Not rated
- Impact Strength: Not rated

A polyester string reinforcement gives this film added strength and tear resistance. It's a good choice for use as window coverings, construction film, and vapor barriers. Finish is matte. Thickness tolerance is ±0.0005″. Width and length have a plus tolerance.

Thick.	Wd., ft.	Lg., ft.	Semi-Clear White	Roll	Opaque Black	Roll
0.006″	6	25	85505K31	$23.11	85505K41	$24.47
0.006″	6	100	85505K11	73.77	85505K21	77.04
0.006″	10	25	85505K33	38.51	85505K43	44.44

Thick.	Wd., ft.	Lg., ft.	Semi-Clear White	Roll	Opaque Black	Roll
0.006″	10	100	85505K13	$122.94	85505K23	$128.40
0.006″	20	25	85505K36	77.04	85505K46	80.63
0.006″	20	100	85505K16	225.70	85505K26	240.75

Lightweight Aluminum-Faced LDPE Polyethylene

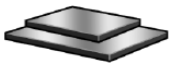

- Color: Black on one side; silver on the other
- Temp. Range: 0° to 170°F
- Tensile Strength: Good
- Impact Strength: Not rated

These sheets offer the flexibility of LDPE with aluminum facing on both sides; one side is painted black. They are commonly used to create wall panels and canopies that will be used outdoors.

Width and length tolerances are ±5/32″. Sheets meet UL 94V0 for flame retardance and ASTM E84 5/15 for flame and smoke.

Thick.	Thick. Tolerance	12″×24″		24″×24″		24″×48″		48″×48″	
1/8″	+0.001″, −0.015″	2888K11	$29.43	2888K12	$49.46	2888K13	$73.70	2888K14	$156.39

Rigid HDPE Polyethylene

Often machined into plugs, seals, and low-load rollers, HDPE polyethylene offers the excellent moisture resistance of LDPE with a higher-density, firmer construction. It also resists many chemicals, such as alcohols and ethers.

Rectangular Bars



- Color: White
- Max. Temp.: 180°F
- Tensile Strength: Poor
- Impact Strength: Good

Width tolerance is +1/16″. These bars are an excellent electrical insulator and are FDA compliant. They also meet UL 94HB for flame retardance and ASTM D4976.

Thick.	Thick. Toler.	Available Lengths, ft.	1″ Wide	Per Ft.	1½″ Wide	Per Ft.	2″ Wide	Per Ft.	2½″ Wide	Per Ft.	3″ Wide	Per Ft.	4″ Wide	Per Ft.
1/8″	±0.006″	4	8671K11	$0.47	8671K19	$0.76	8671K31	$0.85	8671K44	$0.95	8671K56	$1.14	8671K68	$1.48
1/4″	±0.013″	4	8671K12	.92	8671K21	1.21	8671K33	1.53	8671K45	1.80	8671K57	2.07	8671K69	2.72
3/8″	±0.019″	4	8671K13	1.21	8671K23	1.69	8671K34	2.16	8671K46	2.58	8671K58	2.91	8671K71	3.88
1/2″	±0.025″	4	8671K14	1.66	8671K24	2.22	8671K35	2.80	8671K47	3.32	8671K59	3.79	8671K73	5.02
3/4″	±0.038″	1, 2, 3, 4	8671K15	2.33	8671K25	3.26	8671K36	4.13	8671K48	4.87	8671K61	5.56	8671K74	7.16
1″	±0.050″	1, 2, 3, 4	8671K16	2.94	8671K26	4.12	8671K37	5.18	8671K49	6.10	8671K63	7.05	8671K75	9.38
1 1/4″	±0.063″	1, 2, 3, 4	8671K17	4.56	8671K27	6.44	8671K38	8.11	8671K51	9.57	8671K64	11.39	8671K76	14.41
1 1/2″	±0.075″	1, 2, 3, 4	—	—	8671K28	8.16	8671K39	10.28	8671K53	12.10	8671K65	14.33	8671K77	18.28
1 3/4″	±0.175″	1, 2, 3, 4	8671K18	6.84	8671K29	9.68	8671K41	12.20	8671K54	14.37	8671K66	17.10	8671K78	21.94
2″	±0.200″	1, 2, 3, 4	—	—	—	—	8671K43	13.52	8671K55	16.46	8671K67	19.02	8671K79	24.08

(Material continued on following page)

Rigid HDPE Polyethylene *(Material continued from previous page)*

Often machined into plugs, seals, and low-load rollers, HDPE polyethylene offers the excellent moisture resistance of LDPE with a higher-density, firmer construction. It also resists many chemicals, such as alcohols and ethers.

Sheets

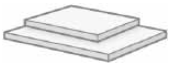

- Color: Semi-clear to opaque white
- Max. Temp.: 180° F
- Tensile Strength: Poor
- Impact Strength: Good

Width and length tolerances are +1/16". These sheets are an excellent electrical insulator and are FDA compliant. They also meet UL 94HB for flame retardance and ASTM D4976.

Thick.	Thick. Tolerance	6"×6"		6"×12"		12"×12"		12"×24"		12"×48"	
1/32"	±0.002"					8619K61	$3.11	8619K62	$5.62	8619K63	$9.26
1/16"	±0.003"					8619K421	3.57	8619K422	6.45	8619K423	10.13
3/32"	±0.005"					8619K71	4.05	8619K72	7.18	8619K73	12.19
1/8"	±0.006"					8619K441	4.23	8619K442	7.38	8619K443	12.68
3/16"	±0.009"					8619K451	5.94	8619K452	10.36	8619K453	17.45
1/4"	±0.013"			8619K751	$4.62	8619K461	7.46	8619K462	12.94	8619K463	22.28
3/8"	±0.019"			8619K761	8.20	8619K431	10.50	8619K432	18.32	8619K433	31.67
1/2"	±0.025"	8619K611	$7.21	8619K771	9.06	8619K471	13.57	8619K472	23.03	8619K473	42.39
5/8"	±0.031"	8619K612	11.73	8619K781	16.42	8619K81	21.24	8619K82	35.58	8619K83	62.62
3/4"	±0.038"	8619K613	10.52	8619K791	15.00	8619K481	20.00	8619K482	34.31	8619K483	60.53
1"	±0.050"	8619K614	13.23	8619K851	19.06	8619K491	25.49	8619K492	43.60	8619K493	75.81
1 1/4"	±0.063"	8619K919	23.35	8619K861	35.32	8619K91	48.54	8619K92	74.20	8619K93	130.78
1 1/2"	±0.150"	8619K615	29.07	8619K871	57.15	8619K521	74.26	8619K522	86.48	8619K523	150.44
2"	±0.200"	8619K616	38.66	8619K881	60.42	8619K531	77.98	8619K532	115.10	8619K533	200.26
3"	±0.300"	8619K617	69.85	8619K891	98.59	8619K541	127.73	8619K542	222.34	8619K543	380.60
4"	±0.400"	8619K618	101.54	8619K892	152.32	8619K551	203.09	8619K552	312.47	8619K553	543.70

Thick.	Thick. Tolerance	24"×24"		24"×36"		24"×48"		48"×48"		48"×96"	
1/32"	±0.002"	8619K64	$9.26	8619K65	$12.04	8619K66	$14.18	8619K67	$23.77	8619K68	$39.32
1/16"	±0.003"	8619K424	10.13	8619K426	13.25	8619K425	15.22	8619K427	26.48	8619K112	46.06
3/32"	±0.005"	8619K74	12.19	8619K75	17.28	8619K76	19.16	8619K77	34.39	8619K78	60.11
1/8"	±0.006"	8619K444	12.68	8619K446	18.37	8619K445	21.00	8619K447	36.56	8619K114	63.53
3/16"	±0.009"	8619K454	17.45	8619K456	25.82	8619K455	29.56	8619K457	51.40	8619K115	89.40
1/4"	±0.013"	8619K464	22.28	8619K466	32.30	8619K465	36.96	8619K467	64.27	8619K116	111.77
3/8"	±0.019"	8619K434	31.67	8619K436	45.64	8619K435	52.25	8619K437	90.98	8619K438	160.82
1/2"	±0.025"	8619K474	42.39	8619K476	58.95	8619K475	67.51	8619K477	120.10	8619K117	205.96
5/8"	±0.031"	8619K84	62.62	8619K85	86.74	8619K86	109.63	8619K87	187.96	8619K88	335.04
3/4"	±0.038"	8619K484	60.53	8619K486	84.59	8619K485	97.97	8619K487	172.90	8619K118	300.70
1"	±0.050"	8619K494	75.81	8619K496	108.79	8619K495	124.51	8619K497	216.59	8619K119	378.12
1 1/4"	±0.063"	8619K94	130.78	8619K95	190.44	8619K96	228.70	8619K97	414.45	8619K98	699.38
1 1/2"	±0.150"	8619K524	150.44	8619K526	215.82	8619K525	264.33	8619K527	441.10	8619K528	830.70
2"	±0.200"	8619K534	200.26	8619K536	287.30	8619K535	333.48	8619K537	594.71	8619K538	1,104.59
3"	±0.300"	8619K544	380.60	8619K546	545.86	8619K545	654.43	8619K547	1,097.71	8619K548	1,995.83

Marine-Grade Sheets



- Color: White or black
- Max. Temp.: 180° F
- Tensile Strength: Poor
- Impact Strength: Good

Also known as starboard, these sheets won't degrade when exposed to salt water, humidity, and UV light. They have a textured finish that won't show scuffs or scratches. Width and length tolerances are +1/16". These sheets are an excellent electrical insulator. They're also FDA compliant and meet UL 94HB for flame retardance and ASTM D4976.

Thick.	Thick. Tolerance	6"×6" White		6"×6" Black		12"×12" White		12"×12" Black		24"×24" White		24"×24" Black	
3/16"	±0.009"	9785T571	$4.32	9785T572	$4.32	9785T511	$6.81	9785T512	$6.81	9785T521	$19.63	9785T522	$19.63
1/4"	±0.013"	9785T171	5.13	9785T172	5.13	9785T111	9.14	9785T112	9.14	9785T121	26.76	9785T122	26.76
1/2"	±0.025"	9785T271	8.30	9785T272	8.30	9785T211	16.61	9785T212	16.61	9785T221	50.85	9785T222	50.85
3/4"	±0.038"	9785T371	11.70	9785T372	11.70	9785T311	23.32	9785T312	23.32	9785T321	71.44	9785T322	71.44
1"	±0.050"	9785T471	21.05	9785T472	21.05	9785T411	33.38	9785T412	33.38	9785T421	99.30	9785T422	99.30

Thick.	Thick. Tolerance	24"×48" White		24"×48" Black		48"×48" White		48"×48" Black		48"×96" White		48"×96" Black	
3/16"	±0.009"	9785T531	$32.98	9785T532	$32.98	9785T551	$54.23	9785T552	$54.23	9785T561	$90.38	9785T562	$90.38
1/4"	±0.013"	9785T131	43.76	9785T132	43.76	9785T151	70.89	9785T152	70.89	9785T161	119.94	9785T162	119.94
1/2"	±0.025"	9785T231	83.16	9785T232	83.16	9785T251	135.59	9785T252	135.59	9785T261	226.80	9785T262	226.80
3/4"	±0.038"	9785T331	119.26	9785T332	119.26	9785T351	194.92	9785T352	194.92	9785T361	322.60	9785T362	322.60
1"	±0.050"	9785T431	163.70	9785T432	163.70	9785T451	250.98	9785T452	250.98	9785T461	426.67	9785T462	426.67

Strips

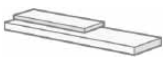

- Impact Strength: Excellent
- Color: Semi-clear to opaque white
- Temp. Range: –40° to 150° F
- Tensile Strength: Poor

Thickness tolerance for 0.02" to 0.04" thick strips is ±0.003"; and for 0.05" to 1/8" thick it's ±0.005". Width tolerance is ±1/8". Length tolerance is +1". These strips are an excellent electrical insulator. They're also FDA compliant and meet ASTM D4976.

Wd.	Available Lengths, ft.		Per Ft.
0.02" Thick.			
1"	5, 10, 25, 100	8619K712	$0.34
2"	5, 10, 25, 100	8619K719	.63
3"	5, 10, 25, 100	8619K727	.87
4"	5, 10, 25, 100	8619K735	1.16
6"	5, 10, 25, 100	8619K743	1.66
1/32" Thick.			
1"	5, 10, 25, 100	8619K713	.49
2"	5, 10, 25, 100	8619K721	.88
3"	5, 10, 25, 100	8619K728	1.28
4"	5, 10, 25, 100	8619K736	1.67
6"	1, 5, 10, 25, 100	8619K744	2.43

Wd.	Available Lengths, ft.		Per Ft.
0.04" Thick.			
1"	5, 10, 25, 100	8619K714	$0.63
2"	5, 10, 25, 100	8619K722	1.17
3"	5, 10, 25, 100	8619K729	1.65
4"	5, 10, 25, 100	8619K737	2.11
6"	1, 5, 10, 25, 100	8619K745	3.02
0.05" Thick.			
1"	5, 10, 25, 100	8619K715	.74
2"	5, 10, 25, 100	8619K723	1.34
3"	5, 10, 25, 100	8619K731	1.88
4"	1, 5, 10, 25, 100	8619K738	2.55
6"	1, 5, 10, 25, 100	8619K746	3.46

Wd.	Available Lengths, ft.		Per Ft.
1/16" Thick.			
1"	5, 10, 25, 100	8619K716	$0.88
2"	5, 10, 25, 100	8619K724	1.67
3"	1, 5, 10, 25, 100	8619K732	2.43
4"	1, 5, 10, 25, 100	8619K739	3.04
6"	1, 5, 10, 25, 100	8619K747	4.27
1/8" Thick.			
1"	5, 10, 25, 100	8619K717	1.56
2"	1, 5, 10, 25, 100	8619K725	2.84
3"	1, 5, 10, 25, 100	8619K733	4.04
4"	1, 5, 10, 25, 100	8619K741	5.21
6"	1, 5, 10, 25, 100	8619K748	7.60

(Material continued on following page)

Rigid HDPE Polyethylene *(Material continued from previous page)*

Rods



- Color: Semi-clear to opaque white
- Temp. Range: –40° to 200°F
- Tensile Strength: Poor
- Impact Strength: Not Rated

These rods are FDA and USDA compliant. They also meet UL 94HB for flame retardance and ASTM D4976. Diameter has a plus tolerance.

Dia.	Available Lengths, ft.		Per Ft.
1/4″	8	8624K11	$0.67
3/8″	8	8624K12	.80
1/2″	8	8624K13	.87
5/8″	8	8624K14	1.53
3/4″	8	8624K15	1.86
1″	1, 2, 3, 4, 5, 6, 7, 8	8624K16	2.82
1 1/4″	1, 2, 3, 4, 5, 6, 7, 8	8624K29	4.22
1 1/2″	1, 2, 3, 4, 5, 6, 7, 8	8624K17	5.96
1 3/4″	1, 2, 3, 4, 5, 6, 7, 8	8624K19	7.92
2″	1, 2, 3, 4, 5, 6, 7, 8	8624K18	$9.08
2 1/4″	1, 2, 3, 4, 5, 6, 7, 8	8624K42	11.70
2 1/2″	1, 2, 3, 4, 5, 6, 7, 8	8624K44	14.41
3″	1, 2, 3, 4, 5, 6, 7, 8	8624K46	20.37
3 1/2″	1, 2, 3, 4, 5, 6, 7, 8	8624K48	26.37
4″	1, 2, 3, 4, 5, 6, 7, 8	8624K54	32.66
5″	1, 2, 3, 4, 5, 6, 7, 8	8624K56	50.69
6″	1, 2, 3, 4, 5, 6, 7, 8	8624K58	70.39



Dia.	1″ Long		3″ Long		6″ Long	
4″	8624K611	$14.38	8624K641	$21.10	8624K671	$31.99
5″	8624K621	16.45	8624K651	26.23	8624K681	44.49
6″	8624K631	18.54	8624K661	31.09	8624K691	57.87

Balls



- Color: Semi-clear white
- Temp. Range: Not rated
- Tensile Strength: Poor
- Impact Strength: Poor

Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.	Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.
1/8″	±0.002″	250	9587K11	$3.23	7/16″	±0.002″	100	9587K21	$11.02
1/4″	±0.002″	250	9587K13	11.24	1/2″	±0.002″	50	9587K23	8.83
3/8″	±0.002″	100	9587K17	10.06	9/16″	±0.002″	25	9587K25	7.25

Durable HDPE Polyethylene Film

Its high-density construction creates a durable plastic film that's resistant to moisture and chemicals, such as alcohols and ethers.

Tear-Resistant Film





- Tensile Strength: Not rated
- Impact Strength: Not rated
- Color: Semi-clear white or opaque black/gray
- Temp. Range: –10° to 120°F

A woven-fiber reinforcement makes this film tear and puncture resistant. It is commonly used for tarps and machine covers. Thickness tolerance is ±0.0005″. Width and length have a plus tolerance. Film can be used outdoors.

Opaque black/gray is black on one side, gray on the other.

Thick.	Wd., ft.	Lg., ft.	Semi-Clear White		Opaque Black/Gray	
				Roll		Roll
0.004″	8	25	8552K71	$24.51	8552K81	$24.51
0.004″	8	100	8552K41	81.71	8552K61	81.71
0.004″	16	25	8552K74	44.93	8552K84	44.93
0.004″	16	100	8552K44	149.80	8552K64	149.80
0.004″	24	25	8552K76	67.42	8552K86	67.42
0.004″	24	100	8552K46	224.70	8552K66	224.70
0.004″	40	25	8552K78	112.35	8552K88	112.35
0.004″	40	100	8552K48	345.69	8552K68	345.69

Flame-Retardant Woven Film



- Color: Semi-clear white
- Temp. Range: –40° to 180°F
- Tensile Strength: Not rated
- Impact Strength: Not rated

Meets Canvas Products Association International Specification 84, Sections 6 and 7; ASTM E84 10/40 for flame and smoke; and Cal. No. 294-40. Thick. toler. is ±0.0005″; width toler. is ±4″, except 20-ft. wide sheeting is ±6″; length has a plus tolerance.

Thick.	Lg., ft.	6-ft. Wide		8-ft. Wide		12-ft. Wide		20-ft. Wide	
			Roll		Roll		Roll		Roll
0.005″	100	85045K58	$102.42	85045K62	$136.56	85045K66	$196.96	85045K76	$304.82

Heavy Duty Film



Film with Peel-and-Stick Zipper

- Color: Black
- Temp. Range: Not rated
- Tensile Strength: Poor
- Impact Strength: Not rated

This extra-thick film is an excellent electrical insulator. Thickness tolerance is ±0.005″. Width tolerance is +1/4″. Can be used outdoors.

Thick.	Wd.	Max. Length, ft.		Per Ft.	Thick.	Wd.	Max. Length, ft.		Per Ft.
0.015″	47″	100	86255K61	$3.73	0.03″	47″	100	86255K71	$6.50

Peel-and-stick zipper adheres to the plastic film to create an entrance. Length is 7 ft. Temp. range is 20° to 150°F.

84645A58 ..... Each $10.41

Rigid Slippery VHMW Polyethylene

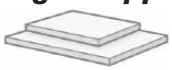

- Color: White
- Max. Temp.: 180°F
- Tensile Strength: Poor
- Impact Strength: Excellent

Ideal for use as chutes, liners, and gaskets, this durable, slippery plastic resists many chemicals (such as aqueous acids, alkalies, and salt solutions) and won't discolor or degrade during prolonged outdoor exposure. Width and length tolerances are +1/16″. These sheets are FDA and USDA compliant. They also meet ASTM D4976.

Thick.	Thick. Tolerance	12″ × 12″		24″ × 48″		48″ × 48″		48″ × 96″	
1/4″	±0.013″	8769K51	$7.47	8769K52	$46.94	8769K54	$86.95	8769K53	$177.81
3/8″	±0.019″	8769K61	10.52	8769K62	70.41	8769K64	126.65	8769K63	228.61
1/2″	±0.025″	8769K71	11.78	8769K72	75.54	8769K74	140.74	8769K73	287.23

Impact-Resistant Slippery UHMW Polyethylene

UHMW is tough enough to resist the scuffs, scrapes, and strikes that other plastics can't. In addition to excellent abrasion, wear, and impact resistance, it has a slippery surface that is good for bearings, bushings, machine guards, and chute and hopper liners.

Rectangular Bars



- Color White or black
- Temp. Range: –20° to 180° F
- Tensile Strength: Poor
- Impact Strength: Excellent

Thickness tolerance for 1/8" to 3/8" thick bars is ±0.030"; for 1/2" to 1" thick it's ±0.070"; for 1 1/4" to 2" thick it's ±0.120"; and for 2 1/4" to 4" thick it's ±5%. Width tolerance is ±1/16". Length tolerance is ±1/8". These bars are FDA and USDA compliant. They also meet ASTM D4020.

To Order: Please specify length: 1, 2, 3, 4, or 5 ft.

Wd.	White Per Ft.	Black Per Ft.
1/8" Thick.		
1/2"	8702K18 $1.20	8702K432 $1.34
3/4"	8702K22 1.29	8702K435 1.44
1"	8702K19 1.48	8702K436 1.66
1 1/4"	8702K196 1.67	8702K437 1.87
1 1/2"	8702K24 2.15	8702K438 2.41
1 3/4"	8702K197 2.33	8702K439 2.61
2"	8702K25 2.66	8702K441 2.98
2 1/4"	8702K198 2.76	8702K442 3.09
2 1/2"	8702K26 2.87	8702K443 3.21
3"	8702K27 3.17	8702K445 3.55
4"	8702K28 4.19	8702K446 4.69
5"	8702K91 5.04	8702K447 5.64
6"	8702K29 6.07	8702K448 6.80
1/4" Thick.		
1/4"	8702K611 1.22	8702K449 1.37
1/2"	8702K61 1.35	8702K461 1.51
3/4"	8702K62 1.67	8702K462 1.87
1"	8702K63 2.00	8702K463 2.24
1 1/4"	8702K678 2.33	8702K464 2.61
1 1/2"	8702K64 2.51	8702K465 2.81
1 3/4"	8702K679 3.06	8702K466 3.43
2"	8702K65 3.51	8702K467 3.93
2 1/4"	8702K685 3.74	8702K468 4.19
2 1/2"	8702K66 4.03	8702K469 4.51
3"	8702K67 4.64	8702K471 5.20
4"	8702K68 6.04	8702K472 6.76
5"	8702K92 7.60	8702K473 8.51
6"	8702K69 8.98	8702K474 10.06
5/16" Thick.		
5/16"	8702K711 2.91	8702K475 3.26
3/8" Thick.		
3/8"	8702K721 1.94	8702K476 2.17
1/2"	8702K71 2.11	8702K477 2.36
3/4"	8702K72 2.26	8702K478 2.53
1"	8702K73 2.77	8702K479 3.10
1 1/4"	8702K731 3.28	8702K481 3.67
1 1/2"	8702K74 4.01	8702K482 4.49
1 3/4"	8702K732 4.37	8702K483 4.89
2"	8702K75 4.94	8702K484 5.53
2 1/4"	8702K751 5.35	8702K485 5.99
2 1/2"	8702K76 6.02	8702K486 6.74
3"	8702K77 7.05	8702K487 7.90
4"	8702K78 9.35	8702K488 10.47
5"	8702K93 10.90	8702K489 12.21
6"	8702K79 12.80	8702K491 14.34
1/2" Thick.		
1/2"	8702K81 2.29	8702K492 2.56
3/4"	8702K82 2.92	8702K493 3.27
1"	8702K83 3.71	8702K494 4.16
1 1/4"	8702K651 4.39	8702K495 4.92
1/2" Thick. (Cont.)		
1 1/2"	8702K84 $5.33	8702K496 $5.97
1 3/4"	8702K652 5.84	8702K497 6.54
2"	8702K85 6.83	8702K498 7.65
2 1/4"	8702K653 7.10	8702K499 7.95
2 1/2"	8702K86 7.58	8702K514 8.49
3"	8702K87 10.82	8702K515 12.12
4"	8702K88 11.61	8702K516 13.00
5"	8702K94 14.13	8702K517 15.83
6"	8702K89 16.56	8702K518 18.55
5/8" Thick.		
5/8"	8702K793 4.21	8702K519 4.72
1"	8702K794 4.94	8702K522 5.53
1 1/4"	8702K795 5.50	8702K523 6.16
1 1/2"	8702K796 6.56	8702K524 7.35
1 3/4"	8702K797 7.23	8702K525 8.10
2"	8702K798 7.90	8702K526 8.85
2 1/4"	8702K799 8.90	8702K527 9.97
2 1/2"	8702K811 9.85	8702K528 11.03
3"	8702K812 10.77	8702K529 12.06
4"	8702K813 13.16	8702K532 14.74
5"	8702K814 15.80	8702K533 17.70
6"	8702K815 18.23	8702K534 20.42
3/4" Thick.		
3/4"	8702K111 4.13	8702K535 4.63
1"	8702K112 5.19	8702K536 5.81
1 1/4"	8702K315 6.61	8702K537 7.40
1 1/2"	8702K113 7.33	8702K538 8.21
1 3/4"	8702K318 8.30	8702K539 9.30
2"	8702K114 9.49	8702K563 10.63
2 1/4"	8702K554 10.65	8702K564 11.93
2 1/2"	8702K115 12.51	8702K565 14.01
3"	8702K116 13.10	8702K566 14.67
4"	8702K117 17.10	8702K567 19.15
5"	8702K95 21.20	8702K568 23.74
6"	8702K119 24.95	8702K569 27.94
1" Thick.		
1"	8702K122 6.43	8702K571 7.20
1 1/4"	8702K964 7.90	8702K572 8.85
1 1/2"	8702K123 9.68	8702K573 10.84
1 3/4"	8702K965 10.52	8702K574 11.78
2"	8702K124 11.99	8702K575 13.43
2 1/4"	8702K966 12.95	8702K576 14.50
2 1/2"	8702K125 14.41	8702K577 16.14
3"	8702K126 17.20	8702K578 19.26
4"	8702K127 21.50	8702K579 24.08
5"	8702K96 26.39	8702K581 29.56
6"	8702K129 31.12	8702K582 33.61
1 1/4" Thick.		
1 1/4"	8702K421 8.95	8702K583 10.02
1 1/2"	8702K422 10.77	8702K584 12.06
1 1/4" Thick. (Cont.)		
1 3/4"	8702K423 $11.54	8702K585 $12.92
2"	8702K424 13.17	8702K586 14.75
2 1/4"	8702K425 16.45	8702K587 18.42
2 1/2"	8702K426 17.95	8702K588 20.10
3"	8702K427 19.70	8702K589 22.06
4"	8702K428 24.27	8702K591 27.18
5"	8702K429 28.21	8702K592 30.47
6"	8702K431 33.86	8702K593 36.57
1 1/2" Thick.		
1 1/2"	8702K133 12.26	8702K594 13.73
1 3/4"	8702K335 13.79	8702K595 15.44
2"	8702K134 16.71	8702K596 18.72
2 1/4"	8702K339 18.52	8702K597 20.74
2 1/2"	8702K135 20.70	8702K598 23.18
3"	8702K136 24.42	8702K599 27.35
4"	8702K137 31.12	8702K612 33.61
5"	8702K97 39.53	8702K613 42.69
6"	8702K139 47.73	8702K614 51.55
1 3/4" Thick.		
1 3/4"	6509A13 13.92	8702K615 15.59
2"	8702K451 18.42	8702K616 20.63
2 1/4"	8702K452 20.50	8702K617 22.96
2 1/2"	8702K453 24.00	8702K618 26.88
3"	8702K454 27.63	8702K619 30.95
4"	8702K456 35.36	8702K621 38.19
5"	8702K457 42.50	8702K622 45.90
6"	8702K458 53.04	8702K623 57.28
2" Thick.		
2"	8702K144 20.05	8702K624 22.46
2 1/4"	8702K248 22.78	8702K625 25.51
2 1/2"	8702K145 27.44	8702K626 30.73
3"	8702K146 31.80	8702K627 34.34
4"	8702K147 41.66	8702K628 44.99
5"	8702K98 52.70	8702K629 56.92
6"	8702K149 62.22	8702K631 67.20
2 1/4" Thick.		
2 1/4"	6509A14 21.93	8702K632 24.56
2 1/2" Thick.		
2 1/2"	8702K513 31.34	8702K633 35.10
4"	8702K51 52.86	8702K634 57.09
5"	8702K52 66.06	8702K635 71.34
6"	8702K53 79.28	8702K636 85.62
3" Thick.		
3"	8702K545 35.50	8702K637 38.34
4"	8702K54 63.44	8702K638 68.52
5"	8702K55 79.28	8702K639 85.62
6"	8702K56 95.08	8702K641 102.69
4" Thick.		
4"	8702K945 67.33	8702K642 72.72

Oversized Rectangular Bars



- Color: White
- Temp. Range: –40° to 180° F
- Tensile Strength: Poor
- Impact Strength: Excellent

Bars are oversized for finishing to the sizes listed. Thickness tolerance is +0.015". Width and length tolerances are +0.020". FDA compliant.

Thick.	2"×12"	2"×24"	4"×12"	6"×12"	6"×24"	12"×12"
1/4"	9721K11 $6.30	9721K71 $16.17	9721K111 $16.17	9721K112 $20.31	9721K81 $38.04	9721K16 $24.87
3/8"	9721K21 7.75	9721K72 19.02	9721K211 19.02	9721K212 23.56	9721K82 44.82	9721K26 27.54
1/2"	9721K31 10.20	9721K73 22.00	9721K311 22.00	9721K312 26.94	9721K83 51.85	9721K36 38.67
5/8"	9721K41 14.66	9721K78 27.04	9721K411 27.04	9721K412 36.57	9721K413 68.80	9721K414 65.33
3/4"	9721K513 15.86	9721K74 27.93	9721K511 27.90	9721K512 39.87	9721K84 75.37	9721K94 71.39
7/8"	9721K613 17.80	9721K79 33.68	9721K611 33.68	9721K612 45.00	9721K614 85.65	9721K615 81.37
1"	9721K14 19.16	9721K75 34.72	9721K141 34.72	9721K142 48.78	9721K85 93.20	9721K95 87.93
1 1/4"	9721K24 21.60	9721K711 45.54	9721K241 45.54	9721K222 55.39	9721K243 106.41	9721K244 101.20
1 1/2"	9721K34 25.72	9721K76 46.83	9721K341 46.83	9721K342 66.63	9721K86 128.89	9721K96 120.96
2"	9721K44 32.14	9721K77 58.98	9721K441 58.98	9721K442 84.09	9721K87 163.83	9721K97 153.78

(Material continued on following page)

Impact-Resistant Slippery UHMW Polyethylene *(Material continued from previous page)*

Sheets

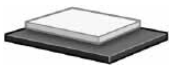

- Color: White or black
- Temp. Range: –40° to 180° F
- Tensile Strength: Good
- Impact Strength: Excellent

Width and length tolerances are ±1/8", except 24"×96", 48"×48", and 48"×96" sheets are ±1/2". All sheets meet UL 94HB for flame retardance.

White sheets are FDA and USDA compliant and meet 3-A sanitary standard requirements. They also meet ASTM D4020, D6712, and D4976. **Black** sheets meet ASTM D4020.

Thick.	Thick. Tolerance	6"×6" White		6"×6" Black		6"×12" White		6"×12" Black		12"×12" White		12"×12" Black	
1/16"	±0.04"	8752K841	$5.19							8752K121	$6.92		
1/8"	±0.02"	8752K842	5.70							8752K111	7.61	4296A26	$7.94
3/16"	±0.02"	8752K843	7.18	4296A161	$8.25					8752K112	12.20	4296A211	14.03
1/4"	±0.04"	8752K831	3.18	4296A162	4.23	8752K844	$7.12	4296A177	$8.16	8752K113	12.27	4296A27	13.32
3/8"	±0.04"	8752K832	4.18	4296A163	5.52	8752K845	10.72	4296A178	11.25	8752K114	15.95	4296A28	18.62
1/2"	±0.07"	8752K833	5.69	4296A164	6.04	8752K846	14.32	4296A179	16.32	8752K115	17.52	4296A29	21.66
3/4"	±0.07"	8752K834	8.38	4296A165	8.90	8752K847	19.14	4296A181	20.64	8752K116	25.85	4296A212	29.73
1"	±0.07"	8752K835	11.17	4296A166	11.48	8752K848	25.57	4296A182	29.14	8752K117	33.35	4296A36	39.60
1 1/2"	±0.12"	8752K836	16.04	4296A167	20.38	8752K849	34.58	4296A183	40.52	8752K118	59.12	4296A213	67.99
2"	±0.12"	8752K931	20.15	4296A168	24.43	8752K851	41.91	4296A184	48.13	8752K122	70.48	4296A214	85.43
2 1/4"	±0.12"	8752K932	23.65	4296A169	27.20	8752K852	45.97	4296A185	49.49	8752K933	79.72	4296A215	91.68
2 1/2"	±0.13"	8752K942	26.31	4296A171	30.26	8752K853	51.03	4296A186	55.03	8752K943	88.58	4296A216	101.87
3"	±0.15"	8752K952	30.25	4296A172	34.79	8752K854	61.26	4296A187	66.00	8752K953	102.30	4296A217	117.65
3 1/2"	±0.18"	8752K962	36.77	4296A173	42.29	8752K855	71.51	4296A188	77.03	8752K963	125.10	4296A218	143.87
4"	±0.20"	8752K972	42.87	4296A174	49.30	8752K856	79.44	4296A189	85.56	8752K973	146.32	4296A219	168.27
4 1/2"	±0.23"	8752K982	46.02	4296A175	52.92	8752K857	89.39	4296A191	96.28	8752K983	157.76	4296A221	181.42
5"	±0.25"	8752K986	51.86	4296A176	59.64	8752K858	99.31	4296A192	106.94	8752K987	178.47	4296A222	205.24

Thick.	Thick. Tolerance	12"×24" White		12"×24" Black		12"×36" White		12"×36" Black		24"×24" White		24"×24" Black	
1/16"	±0.04"	8752K221	$11.72			8752K321	$13.57			8752K421	$21.99		
1/8"	±0.02"	8752K211	14.32	4296A37	$15.23	8752K311	15.82	4296A611	$18.19	8752K411	24.05	4296A48	$25.20
3/16"	±0.02"	8752K212	22.33	4296A311	25.68	8752K312	23.54	4296A612	27.07	8752K412	36.84	4296A561	42.37
1/4"	±0.04"	8752K213	18.44	4296A38	23.10	8752K313	23.85	4296A627	32.00	8752K413	36.34	4296A49	40.76
3/8"	±0.04"	8752K214	26.08	4296A39	31.50	8752K314	32.05	4296A613	37.11	8752K414	50.55	4296A56	57.78
1/2"	±0.07"	8752K215	36.27	4296A46	36.48	8752K315	42.04	4296A614	48.35	8752K415	66.43	4296A57	69.30
3/4"	±0.07"	8752K216	47.15	4296A312	54.22	8752K316	61.75	4296A615	71.01	8752K416	95.92	4296A562	110.31
1"	±0.07"	8752K217	61.11	4296A47	69.30	8752K317	80.10	4296A616	92.12	8752K417	126.77	4296A58	132.05
1 1/2"	±0.12"	8752K218	86.62	4296A313	99.61	8752K318	118.59	4296A617	136.38	8752K418	164.65	4296A563	189.35
2"	±0.12"	8752K222	146.48	4296A314	177.56	8752K322	149.47	4296A618	170.16	8752K422	210.07	4296A564	232.45
2 1/4"	±0.12"	8752K231	154.44	4296A315	167.40	8752K331	193.05	4296A619	234.28	8752K431	233.98	4296A565	257.40
2 1/2"	±0.13"	8752K232	165.00	4296A316	209.11	8752K332	206.25	4296A621	241.96	8752K432	280.50	4296A566	286.00
3"	±0.15"	8752K233	198.00	4296A317	232.63	8752K333	247.50	4296A622	269.15	8752K433	312.00	4296A567	343.20
3 1/2"	±0.18"	8752K234	222.44	4296A318	234.35	8752K334	278.06	4296A623	312.59	8752K434	345.17	4296A568	378.25
4"	±0.20"	8752K235	254.22	4296A319	279.15	8752K335	317.78	4296A624	341.01	8752K435	394.48	4296A569	433.92
4 1/2"	±0.23"	8752K236	275.78	4296A321	282.86	8752K336	344.73	4296A625	369.71	8752K436	429.00	4296A571	471.19
5"	±0.25"	8752K237	295.86	4296A322	327.14	8752K337	369.83	4296A626	396.87	8752K437	476.67	4296A572	514.80

Thick.	Thick. Tolerance	24"×36" White		24"×36" Black		24"×48" White		24"×48" Black		24"×96" White		24"×96" Black	
1/16"	±0.04"	8752K521	$26.64			8752K621	$39.96			8752K161	$73.63		
1/8"	±0.02"	8752K511	28.83	4296A651	$33.15	8752K611	43.65	4296A59	$44.71	8752K151	79.29	4296A691	$91.18
3/16"	±0.02"	8752K512	49.51	4296A652	56.94	8752K612	65.49	4296A671	75.31	8752K152	124.85	4296A692	143.58
1/4"	±0.04"	8752K513	45.43	4296A667	60.63	8752K613	63.60	4296A66	72.95	8752K153	122.65	4296A699	157.54
3/8"	±0.04"	8752K514	59.75	4296A653	69.17	8752K614	90.37	4296A67	103.98	8752K154	166.94	4296A693	184.88
1/2"	±0.07"	8752K515	81.31	4296A654	93.51	8752K615	122.98	4296A68	136.94	8752K155	219.54	4296A694	241.49
3/4"	±0.07"	8752K516	119.67	4296A655	137.62	8752K616	174.42	4296A672	199.74	8752K156	323.11	4296A695	355.42
1"	±0.07"	8752K517	159.56	4296A656	183.49	8752K617	229.61	4296A69	231.09	8752K157	430.81	4296A696	473.89
1 1/2"	±0.12"	8752K518	229.15	4296A657	252.07	8752K618	335.71	4296A673	369.28	8752K158	618.72	4296A697	680.59
2"	±0.12"	8752K522	290.85	4296A658	319.94	8752K622	420.11	4296A674	462.12	8752K162	736.33	4296A698	770.00

Thick.	Thick. Tolerance	36"×36" White		36"×36" Black		48"×48" White		48"×48" Black		48"×96" White		48"×96" Black	
1/16"	±0.04"	8752K141	$40.77			8752K821	$70.12			8752K921	$132.15		
1/8"	±0.02"	8752K131	47.42	4296A76	$45.88	8752K811	79.37	4296A82	$82.75	8752K911	144.17	4296A871	$165.80
3/16"	±0.02"	8752K132	76.98	4296A631	88.53	8752K812	134.28	4296A711	154.42	8752K912	204.67	4296A872	225.14
1/4"	±0.04"	8752K133	68.14	4296A77	77.36	8752K813	120.38	4296A83	132.05	8752K913	227.13	4296A879	279.27
3/8"	±0.04"	8752K134	98.58	4296A78	111.41	8752K814	166.97	4296A84	180.85	8752K914	298.74	4296A873	330.85
1/2"	±0.07"	8752K135	121.97	4296A79	130.01	8752K815	223.61	4296A85	213.31	8752K915	406.56	4296A874	447.22
3/4"	±0.07"	8752K136	179.50	4296A632	197.45	8752K816	317.13	4296A712	348.84	8752K916	598.35	4296A875	658.19
1"	±0.07"	8752K137	239.34	4296A81	249.59	8752K817	418.13	4296A86	426.63	8752K917	797.80	4296A876	877.58
1 1/2"	±0.12"	8752K138	343.73	4296A633	378.10	8752K818	612.30	4296A713	673.53	8752K918	1,145.77	4296A877	1,260.35
2"	±0.12"	8752K142	402.98	4296A634	467.24	8752K822	704.98	4296A714	768.80	8752K991	1,347.76	4296A878	1,455.58

Adhesive-Ready Strips



- Color: Semi-clear white
- Temp. Range: –20° to 180° F
- Tensile Strength: Poor
- Impact Strength: Excellent

One side is etched for adhesive; the other side is smooth. Width tolerance is ±1/32". These strips are FDA and USDA compliant. They also meet UL 94V2 for flame retardance as well as ASTM D4020, MIL-B-17901, and MIL-P-23536.

Thick.	Thick. Tolerance	Max. Length, ft.	6" Wide	Per Ft.	12" Wide	Per Ft.	24" Wide	Per Ft.
1/32"	±0.003"	50	4196A11	$2.91	4196A21	$5.11		
1/16"	±0.006"	50	4196A12	5.39	4196A22	9.69	4196A32	$17.90
3/32"	±0.009"	50	4196A13	6.71	4196A23	11.92	4196A33	21.06
1/8"	±0.013"	50	4196A14	7.74	4196A24	13.79	4196A34	24.29

(Material continued on following page)

Impact-Resistant Slippery UHMW Polyethylene *(Material continued from previous page)*

UHMW is tough enough to resist the scuffs, scrapes, and strikes that other plastics can't. In addition to excellent abrasion, wear, and impact resistance, it has a slippery surface that is good for bearings, bushings, machine guards, and chute and hopper liners.

Strips

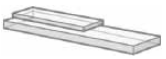

- Color: Semi-clear white
- Temp. Range: –20° to 180° F
- Tensile Strength: Poor
- Impact Strength: Excellent

Width tolerance is ±1/32″. All strips are FDA compliant. They also meet UL 94V2 for flame retardance, as well as ASTM D4020 and MIL-P-23536.

Adhesive-back strips have a rubber-based adhesive.

Thick.	Thick. Tolerance	Max. Length, ft.	1″ Wide	Per Ft.	1 1/2″ Wide	Per Ft.	2″ Wide	Per Ft.	3″ Wide	Per Ft.	4″ Wide	Per Ft.	6″ Wide	Per Ft.
Plain Back														
1/32″	±0.004″	50	7701T61	$0.50	7701T65	$0.69	7701T62	$0.86	7701T66	$1.25	7701T63	$1.61	7701T64	$2.38
3/64″	±0.011″	50	7701T11	.72	7701T12	.88	7701T13	1.15	7701T14	1.71	7701T15	2.18	7701T17	3.14
0.050″	±0.005″	50	7701T19	.84	7701T18	1.04	7701T21	1.58	7701T22	2.08	7701T23	2.81	7701T25	3.92
1/16″	±0.007″	50	7701T71	.94	7701T75	1.25	7701T72	1.76	7701T76	2.50	7701T73	3.39	7701T74	4.89
5/64″	±0.010″	50	7701T27	1.15	7701T28	1.62	7701T29	2.34	7701T26	3.38	7701T31	3.84	7701T33	6.07
3/32″	±0.010″	50	7701T81	1.21	7701T85	1.80	7701T82	2.40	7701T86	3.56	7701T83	4.27	7701T84	6.40
1/8″	±0.013″	50	7701T91	1.49	7701T95	2.18	7701T92	2.83	7701T96	3.93	7701T93	5.11	7701T94	7.07
Adhesive Back														
1/32″	±0.004″	50	7701T111	.85	7701T115	1.25	7701T112	1.58	7701T116	2.04	7701T113	2.63	7701T114	4.01
3/64″	±0.011″	50	7701T35	.99	7701T36	1.38	7701T37	1.85	7701T38	2.58	7701T39	3.52	7701T41	5.03
0.050″	±0.005″	50	7701T43	1.16	7701T44	1.54	7701T45	2.27	7701T46	2.96	7701T47	4.11	7701T49	5.83
1/16″	±0.007″	50	7701T211	1.18	7701T225	1.75	7701T212	2.26	7701T226	3.42	7701T213	4.23	7701T214	5.91
5/64″	±0.010″	50	7701T51	1.60	7701T52	2.11	7701T53	3.12	7701T54	4.25	7701T55	5.85	7701T57	8.18
3/32″	±0.010″	50	7701T311	1.73	7701T316	2.23	7701T312	3.31	7701T317	4.58	7701T313	6.03	7701T314	8.61
1/8″	±0.013″	50	7701T411	2.01	7701T425	2.61	7701T412	3.68	7701T426	4.96	7701T413	6.49	7701T414	9.17

Plain-Back Film



- Color: Semi-clear off-white
- Max. Temp.: 150° F
- Tensile Strength: Good
- Impact Strength: Not rated

Width tolerance is ±1/32″, except 0.004″ thick film has a width tolerance of ±1/8″. All are FDA compliant.

Thick.	Thick. Tolerance	Wd.	Available Lengths, ft.		Per Ft.
0.004″	±0.0004″	12″	1, 2, 3, 6, 10, 20	85655K11	$1.61
0.005″	+0.0020″	24″	1, 2, 3, 6, 10, 20	85655K12	3.11
0.010″	+0.0030″	24″	1, 2, 3, 6, 10, 20	85655K13	5.74
0.020″	+0.0030″	24″	1, 2, 3, 6, 10, 20	85655K15	9.93

Adhesive-Back Film



- Color: Semi-clear to opaque off-white
- Max. Temp.: 200° F
- Tensile Strength: Not rated
- Impact Strength: Not rated

Adhesive is acrylic. Film, but not adhesive, is FDA compliant.

Sheeting has a width tolerance of ±1/32″ and a plus length tolerance. For indoor use only.

Sheets have a ±1/8″ width tolerance and a ±1/16″ length tolerance. They can be used outdoors and are USDA compliant. Also meet ASTM D4020.

		Sheeting							*Sheets*	
Thick.	Thick. Tolerance	Available Lengths, ft.	12″ Wide	Per Ft.	18″ Wide	Per Ft.	24″ Wide	Per Ft.	12″ x 12″	Each
0.005″	±0.0006″	2, 3, 6, 10, 20	1441T12	$4.57	1441T14	$6.42	1441T16	$8.06	1441T11	$9.64
0.007″	±0.0008″	2, 3, 6, 10, 20	1441T32	5.03	1441T34	7.08	1441T36	8.88	1441T31	10.17
0.012″	±0.0012″	2, 3, 6, 10, 20	1441T52	6.40	1441T54	9.00	1441T56	11.30	1441T51	11.11
0.022″	±0.0023″	2, 3, 6, 10, 20	1441T72	9.01	1441T73	12.66	1441T76	15.89	1441T71	14.30
1/32″	±0.0040″								1441T91	17.73
3/64″	–0.0043″; +0.001″								1441T21	19.75

Rods



- Color: White
- Temp. Range: –40° to 180° F
- Tensile Strength: Poor
- Impact Strength: Excellent

All have a plus diameter tolerance. Rods are FDA compliant and meet UL 94HB for flame retardance.

Dia.	Available Lengths, ft.		Per Ft.	Dia.	Available Lengths, ft.		Per Ft.	Dia.	Available Lengths, ft.		Per Ft.
1/4″	1, 2, 3, 4, 5	8701K37	$1.01	1 1/2″	1, 2, 3, 4, 5	8701K47	$4.54	4″	1, 2, 3, 4, 5	8701K59	$33.23
3/8″	1, 2, 3, 4, 5	8701K39	1.06	1 3/4″	1, 2, 3, 4, 5	8701K48	5.97	4 1/2″	1, 2, 3, 4, 5	8701K61	41.61
1/2″	1, 2, 3, 4, 5	8701K41	1.12	2″	1, 2, 3, 4, 5	8701K49	8.76	5″	1, 2, 3, 4, 5	8701K63	46.31
5/8″	1, 2, 3, 4, 5	8701K42	1.63	2 1/4″	1, 2, 3, 4, 5	8701K51	9.75	5 1/2″	1, 2, 3, 4, 5	8701K65	61.36
3/4″	1, 2, 3, 4, 5	8701K43	1.74	2 1/2″	1, 2, 3, 4, 5	8701K53	13.22	6″	1, 2, 3, 4, 5	8701K67	64.79
7/8″	1, 2, 3, 4, 5	8701K851	2.92	2 3/4″	1, 2, 3, 4, 5	8701K54	16.65	6 1/2″	1, 2, 3, 4, 5	8701K93	101.02
1″	1, 2, 3, 4, 5	8701K45	3.08	3″	1, 2, 3, 4, 5	8701K55	18.17	7″	1, 2, 3, 4, 5	8701K94	162.29
1 1/8″	1, 2, 3, 4, 5	8701K861	3.49	3 1/4″	1, 2, 3, 4, 5	8701K56	24.28	8″	1, 2, 3, 4, 5	8701K95	207.72
1 1/4″	1, 2, 3, 4, 5	8701K46	3.40	3 1/2″	1, 2, 3, 4, 5	8701K57	26.40	9″	1, 2, 3, 4, 5	8701K96	287.54
1 3/8″	1, 2, 3, 4, 5	8701K73	4.21	3 3/4″	1, 2, 3, 4, 5	8701K58	28.57	10″	1, 2, 3, 4, 5	8701K97	338.75



Dia.	3″ Long		6″ Long		9″ Long	
4″	9352K11	$12.23	9352K12	$21.16	9352K13	$29.71
5″	9352K21	17.76	9352K22	30.03	9352K23	43.88
6″	9352K31	22.62	9352K32	40.85	9352K33	59.38
7″	9352K41	38.43	9352K42	74.57	9352K43	110.24
8″	9352K51	47.69	9352K52	93.86	9352K53	138.79
9″	9352K61	69.52	9352K62	136.97	9352K63	202.52

(Material continued on following page)

For comparative information about plastics, see page 3626.

Impact-Resistant Slippery UHMW Polyethylene *(Material continued from previous page)*

Tubes



- Color: White
- Temp. Range: –20° to 180° F
- Tensile Strength: Good
- Impact Strength: Excellent

OD and ID tolerances for tubes with a 7/8″ to 1 7/8″ OD are ±0.14″; 2″ to 4 1/2″ OD are ±0.32″; and 5″ to 8 5/8″ OD are ±0.4″. These tubes are an excellent electrical insulator. They are FDA and USDA compliant and meet 3-A sanitary standard requirements. They also meet UL 94HB for flame retardance and ASTM D4020.

To Order: Please specify length: 1, 2, 3, 4, or 5 ft.

OD	ID	Wall Thick.		Per Ft.
7/8″	1/4″	5/16″	8705K31	$6.94
1″	1/2″	1/4″	8705K33	6.50
1 1/4″	5/8″	5/16″	8705K91	10.49
1 3/8″	5/8″	3/8″	8705K35	8.31
1 3/8″	3/4″	5/16″	8705K37	7.87
1 3/8″	1″	3/16″	8705K72	7.87
1 1/2″	1/2″	1/2″	8705K49	8.80
1 1/2″	1″	1/4″	8705K14	7.87
1 5/8″	1 1/4″	3/16″	8705K59	8.87
1 7/8″	1 1/4″	5/16″	8705K63	13.57
2″	1″	1/2″	8705K73	$22.34
2″	1 1/2″	1/4″	8705K18	9.19
2″	1 3/4″	1/8″	8705K71	11.02
2 1/4″	1 3/4″	1/4″	8705K74	17.06
2 1/4″	1 7/8″	3/16″	8705K93	13.20
2 3/8″	1 3/4″	5/16″	8705K75	20.95
2 1/2″	1 1/2″	1/2″	8705K76	25.13
2 1/2″	2″	1/4″	8705K23	10.91
2 5/8″	2 1/4″	3/16″	8705K94	10.88
2 3/4″	2″	3/8″	8705K77	27.55
3″	2″	1/2″	8705K78	$31.48
3″	2 1/2″	1/4″	8705K82	16.57
3 1/8″	2 3/4″	3/16″	8705K88	16.01
3 1/2″	2 1/2″	1/2″	8705K83	35.27
3 1/2″	3″	1/4″	8705K84	24.40
4″	3″	1/2″	8705K85	37.09
4″	3 1/2″	1/4″	8705K86	28.78
4 1/2″	4″	1/4″	8705K87	30.34
5″	4 1/2″	1/4″	8705K89	32.23
6 1/4″	5 3/4″	1/4″	8705K95	34.32
8 5/8″	7 7/8″	3/8″	8705K96	48.97

90° Angles



- Color: White
- Temp. Range: –20° to 180° F
- Tensile Strength: Good
- Impact Strength: Excellent

Leg length and wall thickness tolerances are ±0.060″. Inside and outside corners are rounded and leg edges are straight, unless noted. These angles are an excellent electrical insulator, are FDA and USDA compliant, and meet 3-A sanitary requirements. They also meet ASTM D4020.

Outside Leg Lgs.	Wall Thick.	Available Lengths, ft.		Per Ft.
1 1/2″ × 5/8″	1/4″	2, 5, 8	9852K61▲	$5.39
1 1/2″ × 1 1/2″	1/4″	2, 5, 8	9852K36	2.92
2″ × 2″	1/4″	2, 5, 8	9852K37	3.74
3″ × 3″	1/2″	2, 5, 8	9852K38	$8.12
3 1/2″ × 3 1/2″	1/2″	2, 5, 8	9852K62▲	12.43

▲ Inside and outside corners are square.

U-Channels



- Color: White
- Temp. Range: –20° to 180° F
- Tensile Strength: Good
- Impact Strength: Excellent

Base width and leg height tolerances are ±0.080″. Wall thickness tolerance is not rated. Inside and outside corners are square. These U-channels are an excellent electrical insulator, are FDA and USDA compliant, and meet 3-A sanitary standard requirements. They also meet ASTM D4020, D6712, and D4976.

Outside Base	Outside Leg	Wall Thick.	Available Lengths, ft.		Per Ft.
1″	3/4″	1/4″	2, 5, 8	9928K53	$2.64
1 1/4″	3/4″	1/8″	2, 5, 8	9928K61	3.04
1 1/2″	7/8″	1/4″	2, 5, 8	9928K55	3.14
2″	1″	1/4″	2, 5, 8	9928K57	3.51
2 1/2″	1″	1/4″	2, 5, 8	9928K58	$4.04
3″	1″	1/4″	2, 5, 8	9928K62	4.82
3″	1″	3/8″	2, 5, 8	9928K59	5.37
4 1/4″	1 1/4″	3/8″	2, 5, 8	9928K63	6.81

Abrasion-Resistant Glass-Filled UHMW Polyethylene

- Color: Blue
- Temp. Range: –40° to 180° F
- Tensile Strength: Good
- Impact Strength: Excellent

The addition of glass to UHMW creates an ultra-abrasion-resistant material with the same low-friction surface and impact resistance of standard UHMW. Often used as a liner for chutes and hoppers, this plastic's slippery surface and increased abrasion resistance keep materials, including metal, flowing freely. It's also known as Tivar 88.

Rectangular Bars



Width and length tolerances are ±1/8″. Meet ASTM D4020, D6712, and D4976.

Thick.	Thick. Tolerance	Lg., ft.	1/2″ Wide		3/4″ Wide		1″ Wide		2″ Wide		3″ Wide	
1/4″	±0.025″	5	9329K11	$11.84	9329K12	$15.98	9329K13	$18.98	9329K14	$35.00	9329K15	$49.23
3/8″	±0.038″	5	9329K21	15.63	9329K22	21.74	9329K23	25.67	9329K24	47.39	9329K25	66.61
1/2″	±0.050″	5	9329K31	19.83	9329K32	28.24	9329K33	33.34	9329K34	61.57	9329K35	86.62
3/4″	±0.075″	5	9329K41	26.04	9329K42	37.82	9329K43	44.64	9329K44	82.38	9329K45	115.80
1″	±0.100″	5	9329K51	30.15	9329K52	44.19	9329K53	52.16	9329K54	96.42	9329K55	135.63
1 1/2″	±0.150″	5	9329K61	34.81	9329K62	57.14	9329K63	67.47	9329K64	124.56	9329K65	175.12

Sheets

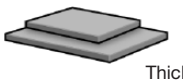

Width and length tolerances are ±1/8″. These sheets are an excellent electrical insulator. Meet ASTM D4020, D6712, and D4976.

Thick.	Thick. Tolerance	6″ × 6″		12″ × 12″		12″ × 24″		12″ × 36″		24″ × 24″	
1/8″	±0.020″	84765K122	$7.37	84765K112	$25.08	84765K212	$48.10	84765K312	$65.14	84765K412	$83.66
1/4″	±0.025″	84765K123	5.62	84765K113	19.15	84765K213	36.30	84765K313	48.52	84765K413	61.60
3/8″	±0.037″	84765K124	8.38	84765K114	28.43	84765K214	52.14	84765K314	75.74	84765K414	93.28
1/2″	±0.050″	84765K125	11.04	84765K115	41.79	84765K215	76.42	84765K315	103.95	84765K415	125.50
3/4″	±0.075″	84765K126	16.16	84765K116	61.04	84765K216	111.63	84765K316	149.37	84765K416	186.08
1″	±0.100″	84765K127	21.51	84765K117	81.44	84765K217	148.77	84765K317	193.75	84765K417	247.96
1 1/2″	±0.150″	84765K128	31.79	84765K118	85.12	84765K218	167.02	84765K318	270.10	84765K418	357.92

Thick.	Thick. Tolerance	24″ × 36″		24″ × 48″		36″ × 36″		48″ × 48″		48″ × 96″	
1/8″	±0.020″	84765K512	$116.56	84765K612	$137.03						
1/4″	±0.025″	84765K513	86.17	84765K613	104.14	84765K653	$119.15	84765K713	$177.01	84765K843	$328.52
3/8″	±0.037″	84765K514	131.96	84765K614	148.37	84765K654	175.03	84765K714	283.88	84765K844	492.77
1/2″	±0.050″	84765K515	174.45	84765K615	205.66	84765K655	222.68	84765K715	375.25	84765K845	657.07
1″	±0.100″	84765K517	332.43	84765K617	400.62	84765K657	425.78	84765K717	648.22	84765K847	1,215.48

UHMW Polyethylene

For comparative information about plastics, see page 3626.

Static-Dissipative UHMW Polyethylene

- Color: Black
- Temp. Range: –20° to 180° F
- Tensile Strength: Good, except rods are poor
- Impact Strength: Excellent, except film is not rated

Reduce static electricity in applications where it's a concern. Material has a slippery surface and excellent wear and impact resistance. Can be used outdoors.

Rectangular Bars



Thickness tolerance for 1/8" to 3/8" thick bars is ±0.020"; for 1/2" to 1" thick bars it's ±0.070"; and for 1 1/4" to 1 1/2" thick bars it's ±0.120". Width and length tolerances are ±1/8". Meet UL 94HB for flame retardance and ASTM D4020.

Thick.	Wd.	Available Lengths, ft.		Per Ft.
1/8"	1/2"	3, 5	9542K182	$1.32
1/8"	3/4"	3, 5	9542K282	1.40
1/8"	1"	3, 5	9542K382	.85
1/8"	1 1/2"	3, 5	9542K482	.90
1/8"	2"	3, 5	9542K582	1.03
1/8"	2 1/2"	3, 5	9542K682	1.26
1/8"	3"	3, 5	9542K782	1.44
1/4"	1/2"	3, 5	9542K112	1.29
1/4"	3/4"	3, 5	9542K122	1.83
1/4"	1"	3, 5	9542K132	2.31
1/4"	1 1/2"	3, 5	9542K162	3.17
1/4"	2"	3, 5	9542K142	4.05
1/4"	2 1/2"	3, 5	9542K172	5.00
1/4"	3"	3, 5	9542K152	6.00
3/8"	1/2"	3, 5	9542K212	1.81
3/8"	3/4"	3, 5	9542K222	2.50
3/8"	1"	3, 5	9542K232	2.97
3/8"	1 1/2"	3, 5	9542K262	4.10
3/8"	2"	3, 5	9542K242	5.48
3/8"	2 1/2"	3, 5	9542K272	6.50
3/8"	3"	3, 5	9542K252	7.36
1/2"	1/2"	3, 5	9542K312	$2.28
1/2"	3/4"	3, 5	9542K322	3.08
1/2"	1"	3, 5	9542K332	3.84
1/2"	1 1/2"	3, 5	9542K362	5.43
1/2"	2"	3, 5	9542K342	6.48
1/2"	2 1/2"	3, 5	9542K372	7.87
1/2"	3"	3, 5	9542K352	9.17
5/8"	1/2"	3, 5	9542K812	2.63
5/8"	3/4"	3, 5	9542K822	3.68
5/8"	1"	3, 5	9542K832	4.40
5/8"	1 1/2"	3, 5	9542K842	5.73
5/8"	2"	3, 5	9542K852	7.57
5/8"	2 1/2"	3, 5	9542K862	9.07
5/8"	3"	3, 5	9542K872	10.72
3/4"	1/2"	3, 5	9542K412	2.84
3/4"	3/4"	3, 5	9542K422	4.11
3/4"	1"	3, 5	9542K432	4.95
3/4"	1 1/2"	3, 5	9542K462	5.95
3/4"	2"	3, 5	9542K442	8.28
3/4"	2 1/2"	3, 5	9542K472	9.79
3/4"	3"	3, 5	9542K452	11.30
1"	1/2"	1, 3, 5	9542K512	$3.29
1"	3/4"	1, 3, 5	9542K522	4.58
1"	1"	1, 3, 5	9542K532	5.73
1"	1 1/2"	1, 3, 5	9542K562	6.73
1"	2"	1, 3, 5	9542K542	9.40
1"	2 1/2"	1, 3, 5	9542K572	11.14
1"	3"	1, 3, 5	9542K552	12.85
1 1/4"	1/2"	1, 3, 5	9542K912	4.68
1 1/4"	3/4"	1, 3, 5	9542K922	5.40
1 1/4"	1"	1, 3, 5	9542K932	6.19
1 1/4"	1 1/2"	1, 3, 5	9542K942	7.27
1 1/4"	2"	1, 3, 5	9542K952	10.58
1 1/4"	2 1/2"	1, 3, 5	9542K962	11.02
1 1/4"	3"	1, 3, 5	9542K972	14.09
1 1/2"	1/2"	1, 3, 5	9542K612	5.13
1 1/2"	3/4"	1, 3, 5	9542K622	5.67
1 1/2"	1"	1, 3, 5	9542K632	6.73
1 1/2"	1 1/2"	1, 3, 5	9542K662	7.63
1 1/2"	2"	1, 3, 5	9542K642	11.10
1 1/2"	2 1/2"	1, 3, 5	9542K672	11.33
1 1/2"	3"	1, 3, 5	9542K652	15.23

Sheets



Width and length tolerances are ±1/8", except 48"×96" sheets are +1/2". Meet UL 94HB for flame retardance and ASTM D4020.

Thick.	Thick. Tolerance	6"×6"		12"×12"		12"×24"		24"×24"		24"×48"		48"×96"	
1/8"	±0.020"	85705K19	$2.87	85705K22	$6.88	85705K23	$11.61	85705K28	$21.22	85705K27	$40.85	85705K24	$143.35
3/16"	±0.020"	85705K29	3.94	85705K11	8.88	85705K12	16.17	85705K13	31.56	85705K14	58.97	85705K16	197.24
1/4"	±0.020"	85705K39	5.67	85705K32	10.87	85705K33	18.67	85705K38	35.44	85705K37	68.76	85705K34	236.29
1/2"	±0.070"	85705K59	7.86	85705K42	16.96	85705K43	31.85	85705K48	63.28	85705K47	119.53	85705K44	413.59
3/4"	±0.070"	85705K69	10.55	85705K82	23.58	85705K83	45.91	85705K88	91.20	85705K87	179.30	85705K84	620.41
1"	±0.070"	85705K79	14.39	85705K52	33.59	85705K53	63.17	85705K58	126.35	85705K57	239.10	85705K54	799.67
1 1/2"	±0.120"	85705K89	19.97	85705K62	49.35	85705K63	95.17	85705K68	182.11	85705K67	337.20	85705K64	1,174.90
2"	±0.120"	85705K18	24.98	85705K72	65.57	85705K73	126.46	85705K78	243.55	85705K77	449.64	85705K74	1,561.24

Film

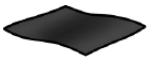

Width has a plus tolerance. Material meets UL 94V2 for flame retardance and ASTM D4020.

Thick.	Thick. Tolerance	Available Lengths, ft.	25" Wide	Per Ft.
0.005"	±0.0005"	1, 2, 3, 6, 10, 15	8327K11	$5.63
0.010"	±0.001"	1, 2, 3, 6, 10, 15	8327K12	8.75
0.020"	±0.002"	1, 2, 3, 6, 10, 15	8327K13	17.07

Rods



Rods meet UL 94V2 for flame retardance and ASTM D4020.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/4"	+0.020"	5	9900K11	$2.32
3/8"	±0.010"	5	9900K13	2.46
1/2"	±0.010"	5	9900K15	2.50
5/8"	±0.010"	5	9900K17	3.39
3/4"	±0.010"	1, 2, 3, 4, 5	9900K19	4.40
7/8"	±0.010"	1, 2, 3, 4, 5	9900K21	4.72
1"	+0.060"	1, 2, 3, 4, 5	9900K23	6.40
1 1/4"	+0.060"	1, 2, 3, 4, 5	9900K25	$8.82
1 1/2"	+0.060"	1, 2, 3, 4, 5	9900K27	11.83
1 3/4"	+0.060"	1, 2, 3, 4, 5	9900K29	14.73
2"	+0.125"	1, 2, 3, 4, 5	9900K31	17.13
2 1/4"	+0.125"	1, 2, 3, 4, 5	9900K33	20.52
2 1/2"	+0.125"	1, 2, 3, 4, 5	9900K35	25.36
2 3/4"	+0.125"	1, 2, 3, 4, 5	9900K37	$30.02
3"	+0.187"	1, 2, 3, 4, 5	9900K39	33.38
3 1/4"	+0.187"	1, 2, 3, 4, 5	9900K41	39.67
3 1/2"	+0.187"	1, 2, 3, 4, 5	9900K43	41.72
4"	+0.187"	1, 2, 3, 4, 5	9900K45	54.80
5"	+0.187"	1, 2, 3, 4, 5	9900K47	89.46

Electrically Conductive UHMW Polyethylene



- Color: Black
- Temp. Range: –200° to 180° F
- Tensile Strength: Poor
- Impact Strength: Excellent

The addition of carbon allows these sheets to conduct electricity. They are also self-lubricating with a slippery surface and have excellent abrasion resistance and impact strength. Width and length tolerances are –1/4". Can be used outdoors. Meet UL 94HB for flame retardance.

Thick.	Thick. Tolerance	6"×6"		12"×12"		12"×24"		24"×24"		24"×48"		48"×48"	
1/4"	+0.080"	8826K62	$9.76	8826K12	$21.95	8826K22	$38.17	8826K32	$70.24	8826K42	$132.53	8826K52	$242.21
3/8"	+0.080"	8826K63	14.31	8826K13	32.20	8826K23	56.00	8826K33	103.04	8826K43	194.42	8826K53	355.31
1/2"	+0.050"	8826K64	19.16	8826K14	43.12	8826K24	75.00	8826K34	138.00	8826K44	260.38	8826K54	475.86
3/4"	+0.050"	8826K65	28.70	8826K15	66.00	8826K25	114.78	8826K35	211.20	8826K45	398.49	8826K55	728.28
1"	+0.050"	8826K66	36.49	8826K16	81.67	8826K26	155.91	8826K36	263.85	8826K46	498.91	8826K56	914.67

For comparative information about plastics, see page 3626.

Self-Lubricating Impact-Resistant UHMW Polyethylene

- Color: Gray
- Temp. Range: –450° to 180° F
- Tensile Strength: Good
- Impact Strength: Excellent

Often used for chain guides and rollers, this material is oil filled for self-lubrication. It also offers excellent impact strength and good wear resistance.

Sheets

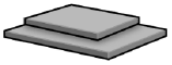

Width and length tolerances are ±1/8". Excellent electrical insulator. Sheets are FDA compliant and USDA approved. They also meet UL 94HB for flame retardance.

Thick.	Thick. Tolerance	6"×6"		12"×12"		12"×24"		12"×36"		24"×48"		48"×60"	
1/4"	±0.030"	84945K123	$9.77	84945K113	$14.64	84945K213	$27.40	84945K313	$39.07	84945K613	$86.80	84945K813	$211.84
3/8"	±0.030"	84945K124	14.61	84945K114	21.58	84945K214	41.05	84945K314	58.62	84945K614	130.19	84945K814	315.85
1/2"	±0.030"	84945K125	18.44	84945K115	27.27	84945K215	51.98	84945K315	74.43	84945K615	166.36	84945K815	403.03
3/4"	±0.030"	84945K126	24.84	84945K116	38.89	84945K216	73.56	84945K316	106.89	84945K616	239.58	84945K816	579.48
1"	±0.030"	84945K127	32.43	84945K117	47.73	84945K217	90.98	84945K317	130.98	84945K617	295.78	84945K817	716.36
1 1/2"	±0.030"	84945K128	45.63	84945K118	68.23	84945K218	129.48	84945K318	188.33	84945K618	428.16	84945K818	1,035.87

Oversized Rods



Diameters are oversized +0.060" to +0.187" to allow for finishing to the sizes listed. Rods meet NSF/ANSI standards. They also meet UL 94V2 for flame retardance, ASTM D4020, and MIL-P-21922.

Dia.	Available Lengths, ft.		Per Ft.	Dia.	Available Lengths, ft.		Per Ft.	Dia.	Available Lengths, ft.		Per Ft.
1"	1, 2, 3, 4, 5	5243T11	$6.00	2"	1, 2, 3, 4, 5	5243T23	$17.12	3 1/4"	1, 2, 3, 4, 5	5243T33	$41.39
1 1/8"	1, 2, 3, 4, 5	5243T13	8.12	2 1/4"	1, 2, 3, 4, 5	5243T25	21.00	3 1/2"	1, 2, 3, 4, 5	5243T35	45.35
1 1/4"	1, 2, 3, 4, 5	5243T15	8.29	2 1/2"	1, 2, 3, 4, 5	5243T27	25.36	3 3/4"	1, 2, 3, 4, 5	5243T37	52.23
1 3/8"	1, 2, 3, 4, 5	5243T17	10.31	2 3/4"	1, 2, 3, 4, 5	5243T29	30.02	4"	1, 2, 3, 4, 5	5243T39	57.08
1 1/2"	1, 2, 3, 4, 5	5243T19	11.50	3"	1, 2, 3, 4, 5	5243T31	33.37	5"	1, 2, 3, 4, 5	5243T41	79.88
1 3/4"	1, 2, 3, 4, 5	5243T21	14.34								

Mold- and Mildew-Resistant UHMW Polyethylene

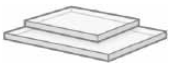

- Color: Semi-clear off-white
- Temp. Range: –200° to 175° F
- Tensile Strength: Poor
- Impact Strength: Excellent

A silver-based additive protects these sheets from degradation caused by bacteria, algae, and fungus. Width and length tolerances are –1/4". Surface is slippery. Sheets are FDA compliant and meet UL 94HB for flame retardance.

Thick.	Thick. Tolerance	6"×6"		12"×12"		12"×24"		24"×24"		24"×48"		48"×48"	
1/2"	+0.050"	8724K63	$22.16	8724K13	$46.05	8724K23	$80.09	8724K33	$141.69	8724K43	$258.53	8724K53	$483.15
3/4"	+0.050"	8724K64	30.75	8724K14	64.23	8724K24	110.48	8724K34	193.82	8724K44	362.23	8724K54	679.88
1"	+0.050"	8724K85	41.00	8724K15	80.04	8724K25	141.62	8724K35	258.39	8724K45	482.89	8724K55	866.35

High-Temperature UHMW Polyethylene

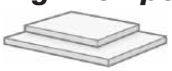

- Color: White
- Temp. Range: –40° to 275° F
- Tensile Strength: Good
- Impact Strength: Excellent

Also known as Tivar H.O.T., these sheets last up to 10 times longer in high-temperature applications than standard UHMW. Along with excellent impact and wear resistance, they offer a slippery surface. Sheets are excellent electrical insulators and can be used outdoors. Width and length tolerances for 6"×6" sheets are +1/8"; all others are ±1/16". All are FDA and USDA compliant. They also meet ASTM D4020, D6712, and D4976.

Thick.	Thick. Tolerance	6"×6"		12"×12"		12"×24"		24"×24"		24"×48"		48"×48"	
1/8"	±0.020"	_____	____	8270K21	$10.33	8270K22	$17.22	8270K23	$31.21	8270K24	$58.22	8270K25	$107.61
1/4"	±0.025"	_____	____	8270K31	14.35	8270K32	25.08	8270K33	47.79	8270K34	89.12	8270K35	157.73
1/2"	±0.050"	8270K57	$12.13	8270K51	22.24	8270K52	41.02	8270K53	67.60	8270K54	163.22	8270K55	288.88
1"	±0.100"	8270K77	17.24	8270K71	40.40	8270K72	80.79	8270K73	158.90	8270K74	293.55	8270K75	538.63
1 1/2"	±0.150"	8270K87	21.87	8270K81	56.14	8270K82	107.90	8270K83	215.08	8270K84	412.65	8270K85	729.07

Metal-Detector-Grade UHMW Polyethylene

- Color: Blue-Gray
- Temp. Range: –235° to 175° F
- Tensile Strength: Poor
- Impact Strength: Excellent

Containing additives that allow it to be located by metal detectors, this material can be used in food-processing applications to reduce contamination risks. It is self-lubricating and has excellent wear and abrasion resistance. Resin is FDA compliant.

Sheets

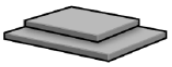

Width and length tolerances are +0.06".

Thick.	Thick. Tolerance	6"×6"		12"×12"		12"×24"		24"×24"		24"×48"	
1"	±0.100"	2150T541	$24.72	2150T542	$89.73	2150T543	$162.80	2150T544	$295.52	2150T545	$537.31
1 1/2"	±0.150"	2150T551	34.61	2150T552	125.65	2150T553	227.98	2150T554	413.83	2150T555	752.41
2"	±0.200"	2150T561	43.92	2150T562	159.44	2150T563	289.28	2150T564	525.09	2150T565	954.71

Oversized Rods



Diameters are oversized for finishing to the sizes listed. Length has a plus tolerance.

Dia.	Available Lengths, ft.		Per Ft.
1"	1, 3, 5	2150T14	$8.24
2"	1, 3, 5	2150T16	19.55
3"	1, 3, 5	2150T17	39.35

Teflon® PTFE

For comparative information about plastics, see page 3626.

Shapes Made with Teflon® PTFE

- Color: White
- Temp. Range: –350° to 500° F
- Tensile Strength: Poor
- Impact Strength: Good

Made with virgin Teflon® PTFE resins, this material has a slippery surface and surpasses most plastics when it comes to chemical resistance and performance in extreme temperatures. It resists most solvents and is also an excellent electrical insulator. Can be used outdoors.

Rectangular Bars



Width tolerance is +1/16". These bars are FDA compliant and meet UL 94V0 for flame retardance. Widths 1/4" and smaller meet ASTM D3308; widths 5/16" and larger meet ASTM D3294.

Thick.	Wd.	Thick. Tolerance	Available Lengths, ft.		Per Ft.
1/8"	1/8"	±0.035"	1, 2, 3, 4, 5, 6	8737K11	$11.07
1/8"	1/2"	±0.035"	1, 2, 3, 4	8735K11	7.29
1/8"	1"	±0.035"	1, 2, 3, 4	8735K12	12.07
1/8"	1 1/2"	±0.035"	1, 2, 3, 4	8735K13	15.91
1/8"	2"	±0.035"	1, 2, 3, 4	8735K14	21.21
1/8"	3"	±0.035"	1, 2, 3, 4	8735K63	28.38
1/8"	4"	±0.035"	1, 2, 3, 4	8735K15	37.84
3/16"	3/16"	±0.035"	1, 2, 3, 4, 5, 6	8737K12	14.10
3/16"	1/2"	±0.035"	1, 2, 3, 4	8735K17	9.74
3/16"	1"	±0.035"	1, 2, 3, 4	8735K18	15.91
3/16"	1 1/2"	±0.035"	1, 2, 3, 4	8735K19	22.51
3/16"	2"	±0.035"	1, 2, 3, 4	8735K21	28.38
3/16"	3"	±0.035"	1, 2, 3, 4	8735K75	42.57
3/16"	4"	±0.035"	1, 2, 3, 4	8735K22	52.50
1/4"	1/4"	±0.035"	1, 2, 3, 4, 5, 6	8737K13	13.66
1/4"	1/2"	±0.035"	1, 2, 3, 4	8735K24	12.07
1/4"	1"	±0.035"	1, 2, 3, 4	8735K25	21.21
1/4"	1 1/2"	±0.035"	1, 2, 3, 4	8735K26	28.38
1/4"	2"	±0.035"	1, 2, 3, 4	8735K27	37.84
1/4"	3"	±0.035"	1, 2, 3, 4	8735K76	52.50
1/4"	4"	±0.035"	1, 2, 3, 4	8735K28	70.00
5/16"	5/16"	±0.035"	1, 2, 3, 4, 5, 6	8737K14	13.18
3/8"	3/8"	±0.038"	1, 2, 3, 4, 5, 6	8737K15	19.93
3/8"	1/2"	±0.038"	1, 2, 3, 4	8735K31	15.91
3/8"	1"	±0.038"	1, 2, 3, 4	8735K32	28.38
3/8"	1 1/2"	±0.038"	1, 2, 3, 4	8735K33	42.57
3/8"	2"	±0.038"	1, 2, 3, 4	8735K34	52.50
3/8"	3"	±0.038"	1, 2, 3, 4	8735K66	73.26
3/8"	4"	±0.038"	1, 2, 3, 4	8735K35	91.30
1/2"	1/2"	±0.046"	1, 2, 3, 4	8735K36	21.60
1/2"	1"	±0.046"	1, 2, 3, 4	8735K37	37.84
1/2"	1 1/2"	±0.046"	1, 2, 3, 4	8735K38	52.50
1/2"	2"	±0.046"	1, 2, 3, 4	8735K39	$70.00
1/2"	3"	±0.046"	1, 2, 3, 4	8735K67	91.30
1/2"	4"	±0.046"	1, 2, 3, 4	8735K41	116.67
5/8"	1/2"	±0.062"	1, 2, 3, 4	8735K42	25.00
5/8"	5/8"	±0.062"	1, 2, 3, 4, 5, 6	8737K19	44.03
5/8"	1"	±0.062"	1, 2, 3, 4	8735K43	47.30
5/8"	1 1/2"	±0.062"	1, 2, 3, 4	8735K44	65.62
5/8"	2"	±0.062"	1, 2, 3, 4	8735K45	81.40
5/8"	3"	±0.062"	1, 2, 3, 4	8735K68	109.38
5/8"	4"	±0.062"	1, 2, 3, 4	8735K46	140.00
3/4"	1/2"	±0.070"	1, 2, 3, 4	8735K47	28.38
3/4"	3/4"	±0.070"	1, 2, 3, 4, 5, 6	8737K22	56.70
3/4"	1"	±0.070"	1, 2, 3, 4	8735K48	52.50
3/4"	1 1/2"	±0.070"	1, 2, 3, 4	8735K49	73.26
3/4"	2"	±0.070"	1, 2, 3, 4	8735K51	91.30
3/4"	3"	±0.070"	1, 2, 3, 4	8735K71	126.00
3/4"	4"	±0.070"	1, 2, 3, 4	8735K52	161.54
7/8"	7/8"	±0.062"	1, 2, 3, 4, 5, 6	8737K25	68.29
1"	1"	±0.087"	1, 2, 3, 4	8735K64	70.33
1"	1 1/2"	±0.087"	1, 2, 3, 4	8735K59	91.30
1"	2"	±0.087"	1, 2, 3, 4	8735K61	116.67
1"	3"	±0.087"	1, 2, 3, 4	8735K72	161.50
1"	4"	±0.087"	1, 2, 3, 4	8735K62	203.64
1 1/4"	1 1/4"	±0.062"	1, 2, 3, 4, 5, 6	8737K31	118.50
1 1/2"	1 1/2"	±0.135"	1, 2, 3, 4	8735K65	136.08
1 1/2"	2"	±0.135"	1, 2, 3, 4	8735K77	161.54
1 1/2"	3"	±0.135"	1, 2, 3, 4	8735K78	229.09
1 1/2"	4"	±0.135"	1, 2, 3, 4	8735K79	294.74
2"	2"	±0.180"	1, 2, 3, 4	8735K81	219.93
2"	3"	±0.180"	1, 2, 3, 4	8735K73	294.74
2"	4"	±0.180"	1, 2, 3, 4	8735K74	379.66

Adhesive-Ready Rectangular Bars



One side is etched for bonding with adhesive (not included). The other side and edges have a smooth finish. Etched side is brown. Width tolerance is +1/16". These bars are FDA compliant and meet UL 94V0 for flame retardance. 1/8" to 1/4" thick bars meet ASTM D3308; 3/8" and 1/2" thick bars meet ASTM D3294.

To Order Please specify length: 1, 2, 3, or 4 ft.

Thick.	Thick. Tolerance	1/2" Wide	Per Ft.	1" Wide	Per Ft.	1 1/2" Wide	Per Ft.	2" Wide	Per Ft.	3" Wide	Per Ft.	4" Wide	Per Ft.
1/8"	+0.007", –0.007"	7998K11	$7.24	7998K21	$12.91	7998K31	$18.26	7998K41	$22.00	7998K51	$31.92	7998K61	$42.60
3/16"	+0.012", –0.012"	7998K12	12.34	7998K22	17.83	7998K32	25.27	7998K42	40.82	7998K52	42.10	7998K62	55.42
1/4"	+0.031", –0.015"	7998K13	13.21	7998K23	24.41	7998K33	32.67	7998K43	39.27	7998K53	54.79	7998K63	68.28
3/8"	+0.038", –0.019"	7998K14	17.43	7998K24	30.50	7998K34	45.72	7998K44	56.72	7998K54	79.54	7998K64	101.50
1/2"	+0.046", –0.022"	7998K16	22.00	7998K25	40.67	7998K35	56.77	7998K45	70.74	7998K55	101.71	7998K65	127.63

Adhesive-Ready Sheets and Film

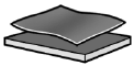

One side is etched for bonding with adhesive (not included). The other side has a smooth finish. Etched side is brown. Width and length tolerances are ±1/4". These sheets and film are FDA compliant. They also meet UL 94V0 for flame retardance and ASTM D3308.

Thick.	Thick. Tolerance	6"×6"		6"×12"		12"×12"		12"×24"		12"×36"	
0.015"	+0.002", –0.002"	8711K91	$7.81	8711K71	$13.96	8711K72	$25.41	8711K73	$45.34	8711K74	$67.78
0.020"	+0.002", –0.002"	8711K92	8.59	8711K81	16.65	8711K82	27.77	8711K83	49.67	8711K84	73.12
1/32"	+0.003", –0.003"	8711K93	9.87	8711K11	19.17	8711K12	32.52	8711K22	58.03	8711K52	85.49
1/16"	+0.005", –0.005"	8711K94	17.25	8711K19	31.68	8711K13	53.26	8711K23	95.13	8711K53	134.48
3/32"	+0.006", –0.006"	8711K95	23.04	8711K31	44.68	8711K14	73.86	8711K24	131.92	8711K54	186.01
1/8"	+0.007", –0.007"	8711K96	37.21	8711K41	53.84	8711K15	90.40	8711K25	161.37	8711K55	237.76
3/16"	+0.012"	8711K97	47.19	8711K51	78.61	8711K16	133.88	8711K26	239.00	8711K56	364.17
1/4"	+0.030", –0.015"	8711K98	54.14	8711K61	99.12	8711K17	166.97	8711K27	298.18	8711K57	439.26

Thick.	Thick. Tolerance	12"×48"		24"×24"		24"×48"		36"×36"		48"×48"	
0.015"	+0.002", –0.002"	8711K75	$82.19	8711K76	$82.19	8711K77	$146.70	8711K78	$162.14	8711K79	$262.04
0.020"	+0.002", –0.002"	8711K85	88.68	8711K86	88.68	8711K87	158.35	8711K88	174.95	8711K89	282.78
1/32"	+0.003", –0.003"	8711K18	103.63	8711K32	103.63	8711K21	185.07	8711K42	204.40	8711K62	330.36
1/16"	+0.005", –0.005"	8711K28	163.33	8711K33	163.33	8711K29	304.75	8711K43	321.92	8711K63	520.26
3/32"	+0.006", –0.006"	8711K38	235.54	8711K34	235.44	8711K39	420.64	8711K44	448.41	8711K64	724.61
1/8"	+0.007", –0.007"	8711K48	288.19	8711K35	288.19	8711K49	533.88	8711K45	589.93	8711K65	953.33
3/16"	+0.012"	8711K58	426.78	8711K36	426.69	8711K59	762.17	8711K46	810.40	8711K66	1,360.66
1/4"	+0.030", –0.015"	8711K68	532.41	8711K37	532.41	8711K69	950.87	8711K47	1,050.45	8711K67	1,688.26

(Material continued on following page)

Shapes Made with Teflon® PTFE *(Material continued from previous page)*

White Sheets

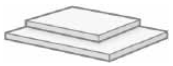

For 2″×3″ to 4″×6″ sheets, width and length tolerances are +1/16″. For 6″×6″ to 48″×96″ sheets, width and length tolerances are ±1/4″. They are FDA compliant and meet UL 94V0 for flame retardance. 1/32″ to 1/4″ thick sheets meet ASTM D3308; 3/8″ to 2″ thick meet ASTM D3294.

Thick.	Thick. Tolerance	2″×3″		2″×6″		3″×3″		3″×6″		4″×6″	
3/4″	+0.070″, –0.035″	8743K11	$27.24	8743K12	$50.40	8743K13	$42.57			8743K17	$93.77
1″	+0.087″, –0.043″	8743K21	37.84	8743K22	70.00	8743K23	50.85	8743K24	$87.65	8743K27	112.00
1 1/2″	+0.035″, –0.068″	8743K31	51.50	8743K32	87.65			8743K34	120.96		
2″	+0.180″, –0.090″	8743K41	67.20	8743K42	112.00	8743K43	87.65	8743K44	112.00	8743K47	202.87

Thick.	Thick. Tolerance	6″×6″		12″×12″		12″×24″		12″×36″		12″×48″	
1/32″	+0.003″, –0.003″	8545K11	$7.31	8545K21	$20.89	8545K31	$39.54	8545K151	$54.84	8545K171	$73.12
0.039″	+0.004″, –0.004″	8545K12	8.11	8545K201	26.06	8545K202	49.30	8545K203	68.40	8545K133	84.84
1/16″	+0.005″, –0.005″	8545K13	15.24	8545K22	49.74	8545K32	87.85	8545K152	120.94	8545K134	154.88
3/32″	+0.006″, –0.006″	8545K14	16.98	8545K23	54.84	8545K33	95.38	8545K153	131.62	8545K135	168.75
1/8″	+0.007″, –0.007″	8545K15	20.06	8545K24	73.12	8545K34	121.88	8545K154	168.75	8545K136	212.73
3/16″	+0.012″, –0.012″	8545K16	28.46	8545K25	95.38	8545K35	168.75	8545K155	239.32	8545K137	307.89
1/4″	+0.030″, –0.015″	8545K1	37.95	8545K26	121.88	8545K36	212.73	8545K156	307.89	8545K138	396.61
3/8″	+0.038″, –0.019″	8545K18	51.30	8545K27	186.79	8545K37	347.37	8545K157	503.39	8545K173	649.18
1/2″	+0.046″, –0.022″	8545K19	79.20	8545K28	256.36	8545K38	386.44	8545K158	560.66	8545K139	723.81
5/8″	+0.054″, –0.027″	8545K211	86.09	8545K71	259.09	8545K81	483.05	8545K161	678.57	8545K141	876.92
3/4″	+0.070″, –0.035″	8545K212	103.30	8545K72	298.74	8545K82	560.66	8545K162	789.23	8545K142	1,052.31
1″	+0.087″, –0.043″	8545K213	132.00	8545K74	447.46	8545K84	812.31	8545K163	1,182.09	8545K143	1,530.43
1 1/2″	+0.135″, –0.068″	8545K214	157.85	8545K144	560.66	8545K145	1,052.31	8545K146	1,486.96	8545K174	1,954.29
2″	+0.180″, –0.090″	8545K215	193.98	8545K165	812.31	8545K166	1,530.43	8545K164	2,230.99	8545K175	2,893.15

Thick.	Thick. Tolerance	24″×24″		24″×48″		36″×36″		48″×48″		48″×96″	
1/32″	+0.003″, –0.003″	8545K41	$73.12	8545K247	$117.00	8545K51	$126.98	8545K61	$212.73	8545K125	$396.61
0.039″	+0.004″, –0.004″	8545K204	84.84	8545K148	143.06	8545K205	157.85	8545K206	265.31	8545K126	494.64
1/16″	+0.005″, –0.005″	8545K42	154.88	8545K149	286.60	8545K52	318.30	8545K62	529.05	8545K127	993.88
3/32″	+0.006″, –0.006″	8545K43	168.75	8545K251	307.89	8545K53	346.38	8545K63	541.84	8545K128	1,017.30
1/8″	+0.007″, –0.007″	8545K44	212.73	8545K252	396.61	8545K54	446.19	8545K64	742.86	8545K129	1,397.01
3/16″	+0.012″, –0.012″	8545K45	307.89	8545K253	575.41	8545K55	647.34	8545K65	1,080.00	8545K131	1,999.74
1/4″	+0.030″, –0.015″	8545K46	396.61	8545K254	742.86	8545K56	810.00	8545K66	1,397.01	8545K132	2,597.74
3/8″	+0.038″, –0.019″	8545K47	649.18	8545K255	1,052.31	8545K57	1,148.51	8545K67	1,954.29		
1/2″	+0.046″, –0.022″	8545K48	723.81	8545K256	1,361.19	8545K58	1,486.96	8545K68	2,533.33		
5/8″	+0.054″, –0.027″	8545K91	876.92	8545K257	1,652.17	8545K111	1,832.14	8545K121	3,081.08		
3/4″	+0.070″, –0.035″	8545K92	1,052.31	8545K258	1,954.29	8545K112	2,167.61	8545K122	3,648.00		
1″	+0.087″, –0.043″	8545K94	1,530.43	8545K159	2,533.33	8545K114	2,810.96	8545K124	4,864.00		
1 1/2″	+0.135″, –0.068″	8545K147	1,954.29	8545K261	3,648.00						
2″	+0.180″, –0.090″	8545K167	2,893.15	8545K262	5,632.00						

Black Sheets



To Order: Please ask for 8545K881 and specify thickness, width, and length from the sizes above. Black sheets cost 10% more than the corresponding sizes in white.

Film



Width tolerance is ±1/16″. Film is FDA compliant and meets UL 94V0 for flame retardance and ASTM D3308.

Thick.	Thick. Tolerance	Available Lengths, ft.	6″ Wide	Per Ft.	12″ Wide	Per Ft.	24″ Wide	Per Ft.	36″ Wide	Per Ft.	48″ Wide	Per Ft.
0.002″	±0.0005″	1, 2, 3, 6, 10, 20	8569K12	$1.57	8569K34	$3.08	8569K96	$5.02	8569K74	$7.54	8569K84	$10.05
0.003″	±0.0005″	1, 2, 3, 6, 10, 20	8569K14	2.22	8569K36	4.24	8569K58	7.54	8569K75	10.52	8569K85	13.13
0.005″	±0.0005″	1, 2, 3, 6, 10, 20	8569K16	3.70	8569K38	7.07	8569K61	11.69	8569K76	15.41	8569K86	20.55
0.010″	±0.0010″	1, 2, 3, 6, 10, 20	8569K18	6.79	8569K41	11.69	8569K63	20.55	8569K77	27.49	8569K87	36.65
0.015″	±0.0020″	1, 2, 3, 6, 10, 20	8569K21	9.04	8569K43	15.41	8569K65	27.49	8569K78	41.51	8569K88	55.00
0.020″	±0.0020″	1, 2, 3, 6, 10, 20	8569K23	11.24	8569K45	20.55	8569K67	36.65	8569K79	55.00	8569K89	67.82
1/32″	±0.0030″	1, 2, 3, 6, 10, 20	8569K25	15.94	8569K47	28.41	8569K69	52.56	8569K81	73.35	8569K91	71.27
0.040″	±0.0040″	1, 2, 3, 6, 10, 20	8569K26	19.73	8569K48	36.65	8569K71	67.82	8569K95	88.46	8569K98	113.02
1/16″	±0.0050″	1, 2, 3, 6, 10, 20	8569K27	27.65	8569K49	53.40	8569K72	92.89	8569K82	128.18	8569K92	177.81
1/8″	±0.0070″	1, 2, 3, 6, 10, 20	8569K28	54.99	8569K51	73.12	8569K73	163.04	8569K83	231.22	8569K94	256.36

90° Angles



Edges are straight. Leg length tolerance is ±0.050″. These angles are FDA compliant and meet UL 94V0 for flame retardance, ASTM D1710, and AMS 3671.

Outside Leg Lgs.	Wall Thick.	Wall Thick. Tolerance	Available Lengths, ft.		Per Ft.
1/2″ × 1/2″	1/16″	+0.015″	1, 2, 3, 4, 5	8604K11	$10.74
1″ × 1″	1/8″	+0.015″	1, 2, 3, 4, 5	8604K12	35.33
1 1/2″ × 1 1/2″	1/4″	+0.015″	1, 2, 3, 4, 5	8604K13	97.20
2″ × 2″	1/4″	+0.015″	1, 2, 3, 4, 5	8604K14	119.78

U-Channels



Edges are straight. Base width and leg height tolerances are ±0.050″. These U-channels are FDA compliant and meet UL 94V0 for flame retardance, ASTM D1710, and AMS 3671.

Outside Base	Outside Leg	Wall Thick.	Wall Thick. Tolerance	Available Lengths, ft.		Per Ft.
1/2″	9/16″	1/16″	+0.015″	1, 2, 3, 4, 5	8592K11	$14.90
1 7/8″	25/32″	9/64″	+0.015″	1, 2, 3, 4, 5	8592K12	62.96
2 1/2″	2 1/4″	3/16″	+0.015″	1, 2, 3, 4, 5	8592K13	148.94

(Material continued on following page)

Shapes Made with Teflon® PTFE *(Material continued from previous page)*

- Color: White
- Temp. Range: –350° to 500° F
- Tensile Strength: Poor
- Impact Strength: Good

Made with virgin Teflon® PTFE resins, this material has a slippery surface and surpasses most plastics when it comes to chemical resistance and performance in extreme temperatures. It resists most solvents and is also an excellent electrical insulator. Can be used outdoors.

Oversized Tubes



OD is oversized and ID is undersized for finishing to the sizes listed. These tubes are FDA compliant and meet UL 94V0 for flame retardance and ASTM D1710.

OD	ID	Wall Thick.	Available Lengths, ft.		Per Ft.
1/4″	1/16″	3/32″	1, 2, 3, 4, 5, 6	8547K22	$4.76
1/4″	1/8″	1/16″	1, 2, 3, 4, 5, 6	8547K23	3.26
5/16″	3/16″	1/16″	1, 2, 3, 4, 5, 6	8547K24	4.47
3/8″	1/4″	1/16″	1, 2, 3, 4, 5, 6	8547K11	4.89
7/16″	5/16″	1/16″	1, 2, 3, 4, 5, 6	8547K25	6.68
1/2″	1/4″	1/8″	1, 2, 3, 4, 5, 6	8547K31	8.66
1/2″	5/16″	3/32″	1, 2, 3, 4, 5, 6	8547K62	7.89
1/2″	3/8″	1/16″	1, 2, 3, 4, 5, 6	8547K12	6.90
9/16″	7/16″	1/16″	1, 2, 3, 4, 5, 6	8547K27	7.36
5/8″	1/4″	3/16″	1, 2, 3, 4, 5, 6	8547K32	14.62
5/8″	3/8″	1/8″	1, 2, 3, 4, 5, 6	8547K26	12.00
5/8″	1/2″	1/16″	1, 2, 3, 4, 5, 6	8547K61	7.60
3/4″	1/4″	1/4″	1, 2, 3, 4, 5, 6	8547K42	24.19
3/4″	3/8″	3/16″	1, 2, 3, 4, 5, 6	8547K63	19.15
3/4″	1/2″	1/8″	1, 2, 3, 4, 5, 6	8547K13	14.49
3/4″	5/8″	1/16″	1, 2, 3, 4, 5, 6	8547K28	8.86
7/8″	3/8″	1/4″	1, 2, 3, 4, 5, 6	8547K44	38.54
7/8″	5/8″	1/8″	1, 2, 3, 4, 5, 6	8547K14	17.41
1″	1/2″	1/4″	1, 2, 3, 4, 5, 6	8547K45	$34.25
1″	5/8″	3/16″	1, 2, 3, 4, 5, 6	8547K46	30.67
1″	3/4″	1/8″	1, 2, 3, 4, 5, 6	8547K15	20.15
1″	7/8″	1/16″	1, 2, 3, 4, 5, 6	8547K29	13.82
1 1/4″	7/8″	3/16″	1, 2, 3, 4, 5, 6	8547K16	32.13
1 1/4″	1″	1/8″	1, 2, 3, 4, 5, 6	8547K47	25.63
1 3/8″	7/8″	1/4″	1, 2, 3, 4, 5, 6	8547K39	41.30
1 3/8″	1″	3/16″	1, 2, 3, 4, 5, 6	8547K17	34.67
1 1/2″	1″	1/4″	1, 2, 3, 4, 5, 6	8547K35	45.95
1 1/2″	1 1/4″	1/8″	1, 2, 3, 4, 5, 6	8547K18	26.57
1 3/4″	1 3/8″	3/16″	1, 2, 3, 4, 5, 6	8547K19	43.25
1 3/4″	1 1/2″	1/8″	1, 2, 3, 4, 5, 6	8547K38	31.02
1 7/8″	1 1/2″	3/16″	1, 2, 3, 4, 5, 6	8547K36	46.27
2″	1 1/2″	1/4″	1, 2, 3, 4, 5, 6	8547K21	59.58
2″	1 3/4″	1/8″	1, 2, 3, 4, 5, 6	8547K41	35.87
2 1/4″	1 1/2″	3/8″	1, 2, 3, 4, 5, 6	8547K33	96.83
2 1/2″	2″	1/4″	1, 2, 3, 4, 5, 6	8547K37	78.10
3″	2″	1/2″	1, 2, 3, 4, 5, 6	8547K34	148.71



OD	ID	Wall Thick.	3″ Long		6″ Long		12″ Long	
3 1/2″	3″	1/4″	8556K12	$59.35	8556K15	$98.75	8556K18	$165.40
4″	2″	1″	8556K14	96.60	8556K17	168.62	8556K19	314.37
4″	2 1/2″	3/4″	8556K11	81.91	8556K41	144.90	8556K71	255.42
4″	3″	1/2″	8556K16	62.91	8556K46	108.20	8556K76	196.73
4″	3 1/2″	1/4″	8556K22	66.19	8556K24	105.68	8556K25	177.49
4 1/2″	4″	1/4″	8556K26	70.70	8556K28	118.20	8556K29	195.30
5″	2 1/2″	1 1/4″	8556K13	139.33	8556K43	254.23	8556K73	475.10
5″	4″	1/2″	8556K27	75.61	8556K57	136.37	8556K87	244.05
6″	3″	1 1/2″	8556K21	189.69	8556K51	353.66	8556K81	642.05
6″	4″	1″	8556K23	148.62	8556K53	271.18	8556K83	498.60
6″	5″	1/2″	8556K33	92.41	8556K63	160.40	8556K93	288.17
7″	3″	2″	8556K36	271.18	8556K66	506.77	8556K96	936.76
7″	5″	1″	8556K37	174.98	8556K67	325.40	8556K97	579.62
7″	5 1/2″	3/4″	8556K38	142.06	8556K68	258.77	8556K98	467.44

Rods



These rods are FDA compliant. They meet UL 94V0 for flame retardance, ASTM D1710, and 3-A sanitary standards.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/8″	+0.002″	1, 2, 3, 4, 5, 6	8546K31	$1.23
3/16″	+0.005″	1, 2, 3, 4, 5, 6	8546K32	1.65
1/4″	+0.005″	1, 2, 3, 4, 5, 6	8546K11	2.29
5/16″	+0.005″	1, 2, 3, 4, 5, 6	8546K35	3.67
3/8″	+0.005″	1, 2, 3, 4, 5, 6	8546K12	5.19
7/16″	+0.005″	1, 2, 3, 4, 5, 6	8546K42	5.69
1/2″	+0.005″	1, 2, 3, 4, 5, 6	8546K13	7.35
9/16″	+0.005″	1, 2, 3, 4, 5, 6	8546K43	9.09
5/8″	+0.005″	1, 2, 3, 4, 5, 6	8546K14	10.98
11/16″	+0.005″	1, 2, 3, 4, 5, 6	8546K44	12.96
3/4″	+0.005″	1, 2, 3, 4, 5, 6	8546K15	15.49
13/16″	+0.005″	1, 2, 3, 4, 5, 6	8546K45	18.14
7/8″	+0.005″	1, 2, 3, 4, 5, 6	8546K25	21.10
15/16″	+0.005″	1, 2, 3, 4, 5, 6	8546K46	24.05
1″	+0.005″	1, 2, 3, 4, 5, 6	8546K16	27.14
1 1/8″	+0.005″	1, 2, 3, 4, 5, 6	8546K26	34.79
1 1/4″	+0.005″	1, 2, 3, 4, 5, 6	8546K17	40.82
1 3/8″	+0.083″	1, 2, 3, 4, 5, 6	8546K27	$46.03
1 1/2″	+0.090″	1, 2, 3, 4, 5, 6	8546K18	53.14
1 5/8″	+0.098″	1, 2, 3, 4, 5, 6	8546K28	64.39
1 3/4″	+0.105″	1, 2, 3, 4, 5, 6	8546K29	77.88
1 7/8″	+0.113″	1, 2, 3, 4, 5, 6	8546K41	85.85
2″	+0.120″	1, 2, 3, 4, 5, 6	8546K19	98.70
2 1/4″	+0.135″	1, 2, 3, 4, 5, 6	8546K47	115.11
2 1/2″	+0.150″	1, 2, 3, 4, 5, 6	8546K21	159.34
2 3/4″	+0.165″	1, 2, 3, 4, 5, 6	8546K48	176.76
3″	+0.180″	1, 2, 3, 4, 5, 6	8546K22	221.72
3 1/4″	+0.195″	1, 2, 3, 4, 5, 6	8546K49	246.81
3 1/2″	+0.210″	1, 2, 3, 4, 5, 6	8546K23	286.16
4″	+0.240″	1, 2, 3, 4, 5, 6	8546K24	358.84
4 1/2″	+0.270″	1, 2, 3	8546K51	405.48
5″	+0.300″	1, 2, 3	8546K34	497.74
6″	+0.360″	1, 2, 3	8546K52	672.95



Dia.	Dia. Tolerance	1″ Long		3″ Long		6″ Long	
2″	+0.120″	1396T11	$12.40	1396T21	$31.88	1396T31	$53.48
3″	+0.180″	1396T12	28.05	1396T22	72.15	1396T32	120.26
4″	+0.240″	1396T13	49.84	1396T23	128.16	1396T33	213.60
5″	+0.300″	1396T14	68.68	1396T24	180.29	1396T34	298.74
6″	+0.360″	1396T15	96.14	1396T25	252.36	1396T35	420.60
8″	+0.157″	1396T16	190.94	1396T26	627.39	1396T36	1,054.01

Hexagonal Bars



Hex size is measured across the flats. Hex tolerance is +0.01″. These bars are FDA compliant and meet UL 94V0 for flame retardance, ASTM D1710, and ASTM 4894.

Hex Size	Available Lengths, ft.		Per Ft.
1/4″	1, 2, 3, 4, 5, 6	8544K11	$8.85
3/8″	1, 2, 3, 4, 5, 6	8544K13	$16.55
1/2″	1, 2, 3, 4, 5, 6	8544K15	$25.60

Extreme-Temperature Slippery PTFE

- Color: White
- Temp. Range: See below
- Tensile Strength: Poor
- Impact Strength: Good

This PTFE has a slippery surface and surpasses most plastics when it comes to chemical resistance and performance in extreme temperatures. It resists most solvents. This material is also an excellent electrical insulator and can be used outdoors.

Sheets

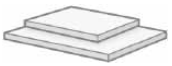

- Temp. Range: –350° to 500° F

Width and length tolerances are ±1/4″. Meet 3-A sanitary standards, made from resins that are FDA compliant, and meet UL 94V0 for flame retardance. 1/32″ to 1/8″ thick sheets meet ASTM D3308; 3/16″ and 1/4″ thick meet ASTM D3294.

Thick.	Thick. Tolerance	6″×6″		12″×12″		12″×24″		24″×24″		36″×36″		48″×48″	
1/32″	+0.004″	9266K81	$4.42	9266K11	$18.19	9266K21	$35.21	9266K41	$66.20	9266K51	$116.26	9266K61	$201.75
1/16″	+0.007″	9266K82	8.69	9266K12	35.51	9266K22	64.58	9266K42	136.69	9266K52	267.42	9266K62	424.17
3/32″	+0.010″	9266K83	12.16	9266K13	44.28	9266K23	81.81	9266K43	159.76	9266K53	333.64	9266K63	520.13
1/8″	+0.013″	9266K84	16.11	9266K14	56.30	9266K24	110.90	9266K44	194.99	9266K54	401.83	9266K64	637.43
3/16″	+0.019″	9266K85	24.08	9266K15	91.81	9266K25	152.69	9266K45	284.07	9266K55	646.52	9266K65	1,025.30
1/4″	+0.025″	9266K86	32.18	9266K16	110.14	9266K26	198.78	9266K46	379.08	9266K56	780.33	9266K66	1,329.69

Tight-Tolerance Sheets



- Temp. Range: –350° to 500° F

These sheets are consistently flat, square, and parallel on all six sides. Width and length tolerances are ±0.010″. Made from resins that are FDA compliant and meet UL 94V0 for flame retardance. Sheets meet ASTM D3294, AMS 3667, and MIL-P-22241.

Thick.	Thick. Tolerance	2″×12″		12″×12″	
1/4″	±0.005″	9711K11	$38.03	9711K16	$135.13
3/8″	±0.005″	9711K21	66.54	9711K26	271.86
1/2″	±0.005″	9711K31	79.87	9711K36	333.87

Tear-Resistant Film



- Temp. Range: –350° to 500° F

Film has a textured finish. Width and length tolerances for 6″×6″ film are ±1/8″; for 12″×12″ and 36″×36″ film they are +1/4″. Made from resins that are FDA compliant and meets UL 94V0 for flame retardance.

Thick.	Thick. Tolerance	6″×6″		12″×12″		36″×36″	
0.009″	±0.004″	1761T71	$6.71	1761T21	$23.51	1761T41	$174.00
0.012″	±0.004″	1761T72	7.53	1761T22	26.36	1761T42	190.76
0.016″	±0.004″	1761T73	10.03	1761T23	35.14	1761T43	243.75
0.020″	±0.004″	1761T74	11.56	1761T24	40.54	1761T44	270.00
0.030″	±0.004″	1761T75	18.12	1761T25	63.51	1761T45	406.73
0.060″	±0.004″	1761T76	28.41	1761T26	87.62	1761T46	571.03

Adhesive-Backed Film



- Max. Temp.: 250° F

Acrylic adhesive on one side lets you bond this film to nearly any surface. Width tolerance is ±1/4″. Made from resins that are FDA compliant.

Thick.	Thick. Tolerance	Max. Lg., ft.	12″ Wide		36″ Wide	
				Per Ft.		Per Ft.
0.005″	±0.0005″	100	2208T61	$14.59	2208T72	$40.50
0.010″	±0.0005″	100	2208T62	16.49	2208T82	45.76
0.020″	±0.002″	15	2208T71	67.94		
0.030″	±0.003″	15	2208T81	86.12		
0.060″	±0.006″	15	2208T91	102.72		

Rods



- Temp. Range: –330° to 500° F

These rods are made from resins that are FDA compliant and meet UL 94V0 for flame retardance, ASTM D1710, and MIL-P-19468A.

Dia.	Dia. Toler.	Available Lengths, ft.		Per Ft.	Dia.	Dia.Toler.	Available Lengths, ft.		Per Ft.
1/4″	+0.002″	1, 2, 3, 4, 5, 6	2905K11	$0.91	13/4″	+0.010″	1, 2, 3, 4, 5, 6	2905K17	$34.10
1/2″	+0.002″	1, 2, 3, 4, 5, 6	2905K12	2.56	2″	+0.010″	1, 2, 3, 4, 5, 6	2905K18	44.01
3/4″	+0.004″	1, 2, 3, 4, 5, 6	2905K13	5.84	21/2″	+0.110″	1, 2, 3, 4, 5, 6	2905K19	81.65
1″	+0.004″	1, 2, 3, 4, 5, 6	2905K14	10.69	3″	+0.126″	1, 2, 3, 4, 5, 6	2905K25	103.13
11/4″	+0.010″	1, 2, 3, 4, 5, 6	2905K15	16.21	31/2″	+0.142″	1, 2, 3, 4, 5, 6	2905K27	127.73
11/2″	+0.010″	1, 2, 3, 4, 5, 6	2905K16	24.50	4″	+0.157″	1, 2, 3, 4, 5, 6	2905K23	156.03



Dia.	Dia. Toler.	1/2″ Long		1″ Long		11/2″ Long		2″ Long		6″ Long	
2″	+0.120″	8596K113	$5.15	8596K133	$10.34	8596K153	$15.85	8596K173	$16.95	8596K333	$46.29
4″	+0.240″	8596K117	23.14	8596K137	46.29	8596K157	54.23	8596K177	65.09	8596K337	155.52
6″	+0.310″	8596K122	59.69	8596K142	101.90	8596K162	139.10	8596K182	183.32	8596K342	392.77

Balls

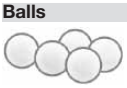

- Max. Temp.: 500° F

Dia.	Dia. Toler.	Pkg. Qty.		Pkg.	Dia.	Dia. Toler.	Pkg. Qty.		Pkg.
1/16″	±0.002″	100	9660K11	$11.30	3/8″	±0.002″	20	9660K41	$7.50
3/32″	±0.002″	100	9660K12	12.14	1/2″	±0.002″	10	9660K24	7.67
1/8″	±0.002″	100	9660K13	12.91	5/8″	±0.002″	5	9660K26	9.28
5/32″	±0.002″	100	9660K14	13.18	3/4″	±0.002″	1	9660K28	2.42
3/16″	±0.002″	50	9660K15	9.82	1″	±0.002″	1	9660K33	4.03
1/4″	±0.002″	50	9660K37	11.13	11/4″	±0.005″	1	9660K51	37.83
5/16″	±0.002″	25	9660K19	8.02	11/2″	±0.005″	1	9660K61	41.25

(Material continued on following page)

Extreme-Temperature Slippery PTFE *(Material continued from previous page)*

- Color: White
- Temp. Range: –300° to 500°F
- Tensile Strength: Poor
- Impact Strength: Good

This PTFE has a slippery surface and surpasses most plastics when it comes to chemical resistance and performance in extreme temperatures. It resists most solvents. This material is also an excellent electrical insulator and can be used outdoors.

Cord



Length tolerance is ±1″. This cord is made from FDA compliant resin and meets UL 94V0 for flame retardance and ASTM D3295.

Dia.	Dia. Toler.	Short Lengths Lg., ft.			Long Lengths Lg., ft.		
0.028″	±0.002″	50	84935K73	$12.64	100	84935K32	$19.24
0.031″	±0.002″	50	84935K74	13.32	100	84935K34	20.69
0.035″	±0.002″	25	84935K75	10.32	100	84935K36	26.61
0.039″	±0.002″	25	84935K76	12.89	100	84935K38	30.25
0.047″	±0.002″	25	84935K77	15.70	100	84935K42	42.08
0.050″	±0.002″	25	84935K78	16.26	100	84935K44	47.27
0.055″	±0.002″	10	84935K79	10.02	100	84935K46	54.15
0.062″	±0.002″	10	84935K81	11.67	100	84935K48	69.05
0.070″	±0.002″	10	84935K82	$14.54	100	84935K52	$87.07
0.078″	±0.003″	10	84935K83	18.18	100	84935K54	110.84
0.094″	±0.003″	5	84935K84	14.74	100	84935K56	156.79
0.100″	±0.003″	5	84935K85	15.77	25	84935K58	44.16
0.109″	±0.003″	2	84935K86	11.31	25	84935K62	53.58
0.125″	±0.003″	2	84935K87	12.45	25	84935K64	70.33
0.150″	±0.003″	2	84935K88	14.94	25	84935K66	99.60
0.188″	±0.003″	1	84935K89	15.14	10	84935K71	72.80

Antistatic PTFE



- Color: Black
- Temp. Range: –320° to 500°F
- Impact Strength: Good
- Tensile Strength: Poor

Used for applications where static electricity is a concern, this modified PTFE also offers a slippery surface with outstanding resistance to most solvents. Width and length tolerances are +1/4″, –1/16″. Sheets can be used outdoors. Meet UL 94V0 for flame retardance and ASTM D4745.

Thick.	Thick. Tolerance	6″×6″		12″×12″		12″×24″		24″×24″		24″×48″	
1/4″	±0.020″	8775K56	$40.79	8775K61	$133.26	8775K65	$231.76	8775K69	$410.00	8775K74	$710.70
1/2″	±0.050″	8775K57	84.29	8775K62	275.33	8775K66	468.78	8775K71	816.03	8775K75	1,421.40
3/4″	±0.075″	8775K58	123.88	8775K63	406.17	8775K67	710.63	8775K72	1,218.28	8775K76	2,132.10
1″	±0.100″	8775K59	144.98	8775K64	469.06	8775K68	868.76	8775K73	1,535.11	8775K77	2,842.80

Ultra-Clean PTFE

- Color: White
- Max. Temp.: 500°F
- Tensile Strength: Poor
- Impact Strength: Good

All shapes are molded in a clean room environment, bagged, and labeled with lot and batch numbers for traceability. PTFE has outstanding chemical resistance and a very slippery surface. It's also an excellent electrical insulator. Can be used outdoors.

Sheets

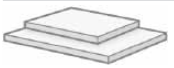

Width and length have plus tolerances. These sheets are FDA compliant and meet UL 94V0 for flame retardance and AMS 3652, 3660, and 3667.

Thick.	Thick. Tolerance	6″×6″		12″×12″	
1/16″	±0.005″	1345T11	$26.47	1345T21	$85.96
1/8″	±0.01″	1345T12	53.93	1345T22	128.35
1/4″	±0.02″	1345T13	85.96	1345T23	189.56
1/2″	±0.04″	1345T15	150.87	1345T25	352.04

Rods



Length has a plus tolerance. These rods are FDA compliant and meet UL 94V0 for flame retardance and AMS 3652, 3660, and 3667.

Dia.	Dia. Tolerance	1-ft. Lengths	
1″	+0.25″	1407T11	$76.41
1 1/4″	+0.25″	1407T12	118.84
1 1/2″	+0.25″	1407T13	141.70
2″	+0.25″	1407T15	201.75

Weldable PTFE

- Color: White
- Max. Temp.: 500°F
- Tensile Strength: Poor
- Impact Strength: Good

Also known as NXT, this modified PTFE can be welded. It retains the outstanding chemical resistance and slippery surface of standard PTFE. Can be used outdoors.

Sheets

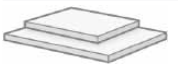

Width and length tolerances are +3/32″ for 6″×6″ sheets and +1/4″ for 12″×12″. These sheets are FDA compliant and meet UL 94V0 for flame retardance and AMS 3652, 3660, and 3667.

Thick.	Thick. Tolerance	6″×6″		12″×12″	
1/16″	±0.003″	1019T11	$22.06	1019T21	$71.64
1/8″	±0.006″	1019T12	47.56	1019T22	98.57
1/4″	±0.020″	1019T13	61.61	1019T23	177.43
3/8″	±0.030″	1019T14	85.96	1019T24	246.43
1/2″	±0.040″	1019T15	109.52	1019T25	316.84

Rods



Length has a plus tolerance. These rods are FDA compliant and meet UL 94V0 for flame retardance and AMS 3652, 3660, and 3667.

Dia.	Dia. Toler.	1-ft. Lengths		Dia.	Dia. Toler.	1-ft. Lengths	
1″	+0.25″	1022T11	$68.77	2″	+0.25″	1022T15	$183.91
1 1/4″	+0.25″	1022T12	111.71	2 1/2″	+0.25″	1022T17	254.64
1 1/2″	+0.25″	1022T13	124.61	2 3/4″	+0.25″	1022T18	295.57
1 3/4″	+0.25″	1022T14	150.71	3″	+0.25″	1022T19	360.01

Reprocessed PTFE



- Color: White
- Temp. Range: –330° to 500°F
- Tensile Strength: Poor
- Impact Strength: Not rated

Often called mechanical-grade PTFE, this material provides low friction at an economical cost. It is not for use as an electrical insulator. Rods can be used outdoors, and they meet ASTM D1710.

Dia.	Dia. Toler.	Available Lengths, ft.		Per Ft.	Dia.	Dia. Toler.	Available Lengths, ft.		Per Ft.	Dia.	Dia. Toler.	Available Lengths, ft.		Per Ft.
1/8″	±0.002″	6	8803K91	$0.94	3/4″	+0.004″	1, 2, 3, 4, 5, 6	8803K16	$6.92	2″	+0.010″	1, 2, 3, 4, 5, 6	8803K19	$43.34
3/16″	+0.002″	6	8803K92	.96	7/8″	+0.004″	1, 2, 3, 4, 5, 6	8803K72	9.49	2 1/4″	+0.102″	1, 2, 3, 4, 5, 6	8803K82	68.03
1/4″	+0.002″	6	8803K11	.97	1″	+0.004″	1, 2, 3, 4, 5, 6	8803K17	12.40	2 1/2″	+0.102″	1, 2, 3, 4, 5, 6	8803K21	83.41
5/16″	+0.002″	6	8803K12	1.58	1 1/8″	+0.010″	1, 2, 3, 4, 5, 6	8803K74	16.68	2 3/4″	+0.110″	1, 2, 3, 4, 5, 6	8803K42	92.74
3/8″	+0.002″	1, 2, 3, 4, 5, 6	8803K13	2.07	1 1/4″	+0.010″	1, 2, 3, 4, 5, 6	8803K76	18.55	3″	+0.126″	1, 2, 3, 4, 5, 6	8803K22	104.74
1/2″	+0.002″	1, 2, 3, 4, 5, 6	8803K14	2.77	1 1/2″	+0.010″	1, 2, 3, 4, 5, 6	8803K18	25.28	3 1/2″	+0.142″	1, 2, 3, 4, 5, 6	8803K26	122.69
5/8″	+0.004″	1, 2, 3, 4, 5, 6	8803K15	5.86	1 3/4″	+0.010″	1, 2, 3, 4, 5, 6	8803K79	35.10	4″	+0.157″	1, 2, 3, 4, 5, 6	8803K32	168.59

For comparative information about plastics, see page 3626.

Wear-Resistant Glass-Filled PTFE

- Color: Off-white to gray
- Temp. Range: –350° to 500° F
- Tensile Strength: Poor
- Impact Strength: Not rated, except sheets are good

The addition of glass provides increased durability for high-wear applications. This PTFE also has a slippery surface and excellent resistance to chemicals (except strong alkalies and hydrofluoric acid). It's commonly used for gaskets, seals, and valve components. Can be used outdoors. Meets UL 94V0 for flame retardance.

Sheets

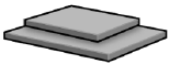

Width and length tolerances are ±1/4″. Thickness tolerance is ±10%. Sheets are an excellent electrical insulator.

Thick.	6″×6″		12″×12″		12″×24″	
1/32″	8636K11	$7.81	8636K21	$30.21	8636K31	$56.40
1/16″	8636K12	13.53	8636K22	52.88	8636K32	99.53
1/8″	8636K14	22.56	8636K24	89.05	8636K34	169.20
1/4″	8636K16	40.60	8636K26	161.14	8636K36	307.64
3/8″	8636K17	$57.14	8636K27	$289.02	8636K37	$662.09
1/2″	8636K18	73.84	8636K28	294.26	8636K38	563.00
3/4″	8636K61	97.46	8636K72	423.00	8636K82	812.16
1″	8636K62	141.00	8636K74	541.44	8636K84	1,041.23

Rods



Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/4″	+0.005″	1, 2, 3, 4, 5, 6	85275K24	$3.53
3/8″	+0.005″	1, 2, 3, 4, 5, 6	85275K28	6.99
1/2″	+0.005″	1, 2, 3, 4, 5, 6	85275K34	12.07
5/8″	+0.005″	1, 2, 3, 4, 5, 6	85275K38	17.87
3/4″	+0.005″	1, 2, 3, 4, 5, 6	85275K44	25.61
1″	+0.005″	1, 2, 3, 4, 5, 6	85275K48	43.17
1 1/8″	+0.005″	1, 2, 3, 4, 5, 6	85275K54	54.38
1 1/4″	+0.075″	1, 2, 3, 4, 5, 6	85275K58	63.54
1 1/2″	+0.090″	1, 2, 3, 4, 5, 6	85275K68	$82.42
1 3/4″	+0.105″	1, 2, 3, 4, 5, 6	85275K74	106.69
2″	+0.120″	1, 2, 3, 4, 5, 6	85275K78	132.75
2 1/2″	+0.150″	1	85275K84	185.27
3″	+0.180″	1	85275K88	262.79
3 1/4″	+0.195″	1	85275K94	358.16
3 1/2″	+0.210″	1	85275K98	302.38
4″	+0.240″	1	85275K104	477.45

Oversized Tubes



Oversized for finishing to the sizes listed. Tubes with a 1″ OD and smaller have an OD tolerance of +0.025″ and an ID tolerance of –0.025″; 2″ OD and larger have an OD tolerance of +0.188″ and an ID tolerance of –0.188″. Length has a plus tolerance.

OD	ID	Wall Thick.	1-ft. Lengths	
1/2″	1/4″	1/8″	1370T21	$17.56
5/8″	3/8″	1/8″	1370T22	25.85
3/4″	1/2″	1/8″	1370T23	32.62
1″	3/4″	1/8″	1370T24	44.82
2″	1″	1/2″	1370T11	$146.45
2 1/2″	1″	3/4″	1370T12	214.04
2 1/2″	1 1/2″	1/2″	1370T13	168.98
3″	1″	1″	1370T14	305.57
3″	1 1/4″	7/8″	1370T15	$285.86
3″	1 3/4″	5/8″	1370T16	258.08
3 1/2″	1 1/2″	1″	1370T17	342.79
3 1/2″	2″	3/4″	1370T18	320.36

High-Strength Chemical-Resistant PVDF

- Color: Semi-clear white to off-white
- Temp. Range: –25° to 265° F
- Tensile Strength: Good
- Impact Strength: Good

Count on PVDF for long-lasting strength and chemical resistance. It resists most mineral and organic acids, hydrocarbons, and alcohols. Comparable to Kynar and Solef, it's often used for pump parts, tank liners, and seals. This material also has a slippery surface and can be used outdoors. Resin is FDA compliant.

Sheets

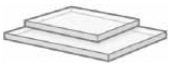

Width and length tolerances are ±1/8″. Sheets meet UL 94V0 for flame retardance.

Thick.	Thick. Tolerance	6″×6″		12″×12″	
1/4″	+0.025″	8688K711	$27.83	8688K621	$92.43
3/8″	+0.025″	8688K721	41.68	8688K631	140.47
1/2″	+0.025″	8688K731	43.32	8688K641	171.06
3/4″	+0.025″	8688K751	73.54	8688K651	247.10
1″	+0.025″	8688K761	84.04	8688K661	280.20
1 1/2″	+0.025″	8688K771	124.61	8688K671	423.72

Film



Width tolerance is +2.5″. This film is an excellent electrical insulator. It meets UL 94VTM0 for flame retardance.

Thick.	Thick. Tolerance	Max. Length, ft.	24″ Wide	
0.003″	±0.0003″	50	8675K21	$9.91
0.005″	±0.0005″	50	8675K22	15.76
0.010″	±0.0010″	50	8675K23	28.59
0.015″	±0.0015″	50	8675K24	41.26
0.020″	±0.0020″	50	8675K25	56.27

Rods



Diameter tolerance for 1/4″ to 1″ diameter rods is +0.002″, and for 1 1/2″ to 2″ diameter rods it's +0.005″. They meet UL 94V0 for flame retardance.

Dia.	Available Lengths, ft.		Per Ft.
1/4″	1, 2, 3, 4, 5	8683K51	$2.75
3/8″	1, 2, 3, 4, 5	8683K52	5.48
1/2″	1, 2, 3, 4, 5	8683K53	8.99
3/4″	1, 2, 3, 4, 5	8683K54	$18.13
1″	1, 2, 3, 4, 5	8683K55	34.30
1 1/2″	1, 2, 3, 4, 5	8683K56	$78.62
2″	1, 2, 3, 4, 5	8683K57	124.36

Ultra-Moisture-Resistant CTFE



- Color: White
- Max. Temp.: 245° F
- Tensile Strength: Poor
- Impact Strength: Good

Often used for gaskets and bearings, CTFE absorbs almost no moisture and has a slippery surface. Resin is FDA compliant. Also known as Kel-F, PCTFE, and Neoflon, this material is an excellent electrical insulator and can be used outdoors. Rods have a diameter tolerance of +0.005″.

Dia.	Available Lengths, ft.		Per Ft.
1/8″	1, 2, 3, 4, 5, 6	85415K16	$6.21
3/16″	1, 2, 3, 4, 5, 6	85415K26	10.64
1/4″	1, 2, 3, 4, 5, 6	85415K36	16.09
3/8″	1, 2, 3, 4, 5, 6	85415K46	$31.08
1/2″	1, 2, 3, 4, 5, 6	85415K56	53.82
3/4″	1, 2, 3, 4, 5, 6	85415K58	135.98
1″	1, 2, 3, 4, 5, 6	85415K66	$232.37
1 1/2″	1, 2, 3, 4, 5, 6	85415K86	634.89

Self-Lubricating High-Temperature Rulon PTFE

Manufactured from PTFE modified with epoxy-coated fibers, Rulon has a very slippery surface that rarely needs lubrication. It also withstands extreme temperatures.

Sheets

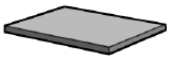

- Color: Gold, maroon, or blue-green
- Temp. Range: –400° to 550°F
- Tensile Strength: Poor
- Impact Strength: Excellent

Width and length tolerances are ±1/4". Thickness has a plus tolerance, except 1/32" and 1/16" thick sheets are ±0.003" and 1/8" to 1/4" thick sheets are ±0.016".

Gold (Grade J)—The most slippery of the Rulon materials, this grade can be used to create gaskets and wear strips.

Maroon (Grade LR)—Use for sleeve, flange, and linear bearing applications.

Blue-Green (Grade 142)—This bronze-filled material can be used for linear slides and piston rings.

	6"×6"				
Thick.	Gold		Maroon		Blue-Green	
1/32"	5824T66	$47.26	5824T76	$31.10	5824T81	$35.82
1/16"	5824T67	66.62	5824T77	56.58	5824T82	48.54
1/8"	5824T61	170.98	5824T71	159.10	5824T83	139.64
1/4"	5824T62	210.30	5824T72	169.85		
1/2"	5824T63	414.76	5824T73	342.20		
3/4"	5824T64	604.65	5824T74	478.87		
1"	5824T65	691.03	5824T75	575.34		

Rods



- Color: Gold, maroon, or white
- Temp. Range: –400° to 550°F
- Tensile Strength: Poor
- Impact Strength: Excellent

Diameter has a plus tolerance. Length tolerance is ±1/4".

Gold (Grade J)—The most slippery of the Rulon materials, this grade can be used to create gaskets and wear strips.

Maroon (Grade LR)—Use for sleeve, flange, and linear bearing applications.

White (Grade 641)—This material is made with FDA-compliant resin and can be used for bearings and pumps.

Dia.	Lg., ft.	Gold		Maroon		White	
1/4"	1	5814T19	$27.45	5814T41	$26.03	5814T61	$49.47
3/8"	1	5814T21	40.77	5814T43	35.69	5814T62	72.62
1/2"	1	5814T23	69.17	5814T45	46.53	5814T63	83.71
5/8"	1	5814T24	104.83	5814T46	93.86	5814T64	126.50
3/4"	1	5814T27	150.12	5814T49	101.25	5814T65	168.83
7/8"	1	5814T28	203.96	5814T51	145.00	5814T66	224.93
1"	1	5814T29	235.29	5814T53	155.18	5814T67	227.63
1 1/2"	1	5814T31	481.24	5814T59	267.00	5814T68	477.79

Impact-Resistant Slippery FEP

Extremely resistant to breaking on impact, FEP can be used for applications such as valve components and gaskets. It also has a slippery surface.

Sheets



- Color: Semi-clear white
- Temp. Range: –320° to 400°F
- Tensile Strength: Poor
- Impact Strength: Excellent

Width and length tolerances are +1/8". Sheets are excellent electrical insulators and can be used outdoors. Meet ASTM D3368. Resin is FDA compliant and meets UL 94V0 for flame retardance.

Thick.	Thick. Tolerance	6"×6"	
3/32"	+0.019"	85375K213	$34.40
1/8"	+0.025"	85375K214	42.05
1/4"	+0.050"	85375K215	78.73
3/8"	+0.075"	85375K216	104.20
1/2"	+0.100"	85375K217	134.70

Film



- Color: Clear
- Temp. Range: Plain Back: –320° to 400°F, Adhesive Back: –100° to 400°F
- Tensile Strength: Poor
- Impact Strength: Not rated

Width tolerance is ±1/16". **Plain back** is an excellent electrical insulator, can be used outdoors, and meets UL 94V0 for flame retardance.

Thick.	Thick. Tolerance	Max. Length, ft.	24" Wide	Per Ft.
Plain Back				
0.001"	±0.0001"	50	85905K62	$5.47
0.002"	±0.0002"	50	85905K64	8.32
0.005"	±0.0004"	50	85905K66	14.43
Thick.	Thick. Tolerance.		12"×12"	Each
Adhesive Back				
0.0035"	±0.0004"		5805T11	$17.55

Rods



- Color: Semi-clear white
- Temp. Range: –320° to 400°F
- Tensile Strength: Poor
- Impact Strength: Excellent

Rods are excellent electrical insulators and can be used outdoors. Meet ASTM D2116. Resin is FDA and USDA compliant and meets UL 94V0 for flame retardance.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/8"	+0.002"	1, 2, 3, 4, 5, 6	85325K14	$3.89
3/16"	+0.002"	1, 2, 3, 4, 5, 6	85325K18	4.26
1/4"	+0.002"	1, 2, 3, 4, 5, 6	85325K24	6.82
3/8"	+0.002"	1, 2, 3, 4, 5, 6	85325K28	12.72

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/2"	+0.002"	1, 2, 3, 4, 5, 6	85325K34	$22.67
3/4"	+0.002"	1, 2, 3, 4, 5, 6	85325K38	53.94
1"	+0.002"	1, 2, 3, 4, 5, 6	85325K44	72.37
2"	+0.005"	1, 2, 3, 4, 5, 6	85325K52	256.32

Rigid Chemical-Resistant Polysulfone

- Color: Semi-clear amber
- Temp. Range: –40° to 285°F
- Tensile Strength: Excellent
- Impact Strength: Good

A very hard plastic, polysulfone also resists chemicals such as mineral acids, alkalies, salt solutions, and hydrocarbons. Resin is FDA compliant, meets NSF/ANSI standards, and meets UL 94V0 for flame retardance. This material can be used in food-service applications.

Sheets

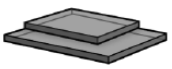

Width and length tolerances are +1/2". Thickness tolerance is +0.025".

Thick.	6"×6"		12"×12"		12"×24"	
3/8"	86735K71	$33.84	86735K11	$117.58	86735K31	$205.77
1/2"	86735K72	45.55	86735K13	160.73	86735K33	274.59
5/8"	86735K73	52.95	86735K15	186.87	86735K35	328.90
3/4"	86735K74	64.02	86735K17	224.41	86735K37	394.98
1"	86735K75	83.58	86735K19	299.13	86735K39	506.15
1 1/2"	86735K76	117.22	86735K21	411.44	86735K41	759.58
2"	86735K77	147.83	86735K23	526.40	86735K43	940.00

Rods



Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/4"	+0.002"	1, 2, 3, 4, 5	8676K39	$1.42
3/8"	+0.002"	1, 2, 3, 4, 5	8676K44	3.01
1/2"	+0.002"	1, 2, 3, 4, 5	8676K45	5.12
3/4"	+0.002"	1, 2, 3, 4, 5	8676K47	10.50
1"	+0.002"	1, 2, 3, 4, 5	8676K48	14.61
1 1/2"	+0.002"	1, 2, 3, 4, 5	8676K49	30.66
2"	+0.002"	1, 2, 3, 4, 5	8676K53	50.47

For comparative information about plastics, see page 3626.

High-Temperature High-Strength PFA

Even in demanding environments, PFA delivers exceptional performance. It handles severe temperatures, is an excellent electrical insulator, and can be used outdoors. It's often used to line pumps and insulate cables from wear and damage.

Film



- Color: Clear
- Temp. Range: –320° to 500°F
- Tensile Strength: Poor
- Impact Strength: Not rated

Width tolerance is ±1/16″.

Thick.	Thick. Tolerance	Max. Length, ft.	24″ Wide	Per Ft.
0.001″	±0.0001″	50	84955K22	$7.02
0.002″	±0.0002″	50	84955K24	12.18
0.005″	±0.0004″	50	84955K26	27.51

Rods



- Color: Semi-clear white
- Temp. Range: –320° to 500°F
- Tensile Strength: Poor
- Impact Strength: Excellent

Rods have a slippery surface. Resin is FDA compliant and meets UL 94V0 for flame retardance. Maximum length is 6 feet.

Dia.	Dia. Toler.		Per Ft.	Dia.	Dia. Toler.		Per Ft.
1/8″	±0.005″	85555K21	$11.89	3/8″	±0.005″	85555K24	$30.50
3/16″	±0.005″	85555K22	16.68	1/2″	±0.005″	85555K25	70.88
1/4″	±0.005″	85555K23	19.84	3/4″	±0.005″	85555K26	115.06

Ultra-Chemical Resistant PPS

- Color: Off-white
- Max. Temp.: 425°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Because of its chemical resistance to strong bases, acids, and fuels, PPS can be used in chemical production applications. Also known as Techtron and comparable to Ryton, it's an excellent electrical insulator and meets ASTM D6358. Resin is FDA compliant.

Sheets

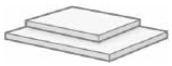

Width and length tolerances are +1/2″.

Thick.	Thick. Tolerance	6″×6″	
1/4″	+0.025″	1906T21	$130.63
3/8″	+0.025″	1906T22	192.70
1/2″	+0.025″	1906T23	251.43
1″	+0.025″	1906T25	493.19

Rods



Maximum length is 8 feet.

Dia.	Dia. Toler.		Per Ft.	Dia.	Dia. Toler.		Per Ft.
3/8″	+0.003″	1913T11	$15.02	1″	+0.003″	1913T15	$107.25
1/2″	+0.003″	1913T12	26.83	1 1/4″	+0.005″	1913T16	156.85
5/8″	+0.003″	1913T13	40.77	1 1/2″	+0.005″	1913T17	189.31
3/4″	+0.003″	1913T14	60.29	2″	+0.005″	1913T19	326.14

Ultra-Machinable Radel PPSU



- Color: Semi-clear amber
- Max. Temp.: 320°F
- Tensile Strength: Excellent
- Impact Strength: Excellent

This PPSU offers excellent machinability for fabricating wear-resistant parts. Machine with high-speed steel tooling. It's often used for food applications. Resin is FDA compliant and meets UL 94V0 for flame retardance. Rods meet ASTM D6394.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.	Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/2″	+0.002″	1, 2, 3, 4, 5	1397T11	$9.63	1″	+0.005″	1, 2, 3, 4, 5	1397T14	$36.74
5/8″	+0.002″	1, 2, 3, 4, 5	1397T12	14.43	1 1/2″	+0.005″	1, 2, 3, 4, 5	1397T16	69.58
3/4″	+0.002″	1, 2, 3, 4, 5	1397T13	19.82	2″	+0.030″	1, 2, 3, 4, 5	1397T17	114.54

High-Strength Electrical Insulating Ultem PEI

- Color: Semi-clear amber
- Temp. Range: –20° to 335°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Offering durability and excellent electrical insulating properties, this material is used for circuit-breaker housings, manifolds, and semiconductor components. Resin is FDA compliant. *Bars, sheets,* and *rods* are USDA compliant and meet NSF/ANSI standards. They meet UL 94V0 for flame retardance. *Film* 0.003″ to 0.040″ thick meets UL 94VTM0 for flame retardance.

Rectangular Bars



Width and length tolerances are ±1/2″. Thickness tolerance is +0.003″. Bars meet ASTM D5205 and D7293.

Thick.	2″×12″		2″×24″		4″×12″	
1/4″	7612K11	$31.01	7612K21	$59.22	7612K31	$54.39
3/8″	7612K12	39.59	7612K22	77.52	7612K32	71.32
1/2″	7612K13	47.87	7612K23	93.43	7612K33	86.29
3/4″	7612K14	$65.00	7612K24	$127.35	7612K34	$117.56
1″	7612K15	83.06	7612K25	162.82	7612K35	153.60

Sheets and Film

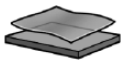

Width and length tolerances are +1/2″ for 6″×6″ sheets and ±1″ for 12″×12″ and 12″×24″ sheets, unless noted. Thickness tolerance for 0.003″ to 1/8″ thick sheets is ±10% and for 1/4″ to 1″ thick sheets it's +0.025″. 1/16″ to 1″ thick sheets meet ASTM D5205; 1/4″ and thicker also meet ASTM D7293.

Thick.	6″×6″		12″×12″		12″×24″	
0.003″					7576K11★	$17.66
0.005″					7576K12★	23.61
0.010″					7576K13★	38.70
0.020″					7576K14★	63.95
0.040″			8685K41	$19.89	8685K42	35.01
1/16″			8685K43	28.42	8685K44	51.89
3/32″			8685K45	45.42	8685K46	79.49
1/8″			8685K47	60.32	8685K48	105.56
1/4″	7612K51	$40.02	8685K511	109.43	8685K512	191.50
3/8″	7612K52	52.47	8685K491	141.28	8685K492	256.25
1/2″	7612K53	63.51	8685K521	188.78	8685K522	340.67
3/4″	7612K54	86.53	8685K61	267.33	8685K62	468.44
1″	7612K55	111.02	8685K531	356.09	8685K532	630.00

★Width tolerance is +2.5″.

Rods



Rods meet ASTM D5205 and D7293.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
1/4″	+0.003″	1, 2, 3, 4, 5	8686K71	$1.88
3/8″	+0.003″	1, 2, 3, 4, 5	8686K72	3.88
1/2″	+0.003″	1, 2, 3, 4, 5	8686K73	6.50
5/8″	+0.003″	1, 2, 3, 4, 5	8686K74	9.93
3/4″	+0.003″	1, 2, 3, 4, 5	8686K75	14.00
1″	+0.003″	1, 2, 3, 4, 5	8686K76	24.48
1 1/4″	+0.005″	1, 2, 3, 4	8686K77	37.17
1 1/2″	+0.005″	1, 2, 3, 4	8686K78	47.54
2″	+0.005″	1, 2, 3, 4	8686K81	85.58
2 1/2″	+0.015″	1, 2, 3, 4	8686K82	129.23
3″	+0.250″	1, 2, 3, 4	8686K83	179.57
3 1/2″	+0.250″	1, 2, 3, 4	8686K84	239.15

High-Strength High-Temperature PEEK

Often a lightweight substitute for metal parts in high-temperature and high-stress applications, PEEK resists chemicals, wear, and moisture.

Rectangular Bars



- Color: Tan
- Temp. Range: –20° to 480° F
- Tensile Strength: Excellent
- Impact Strength: Good

Length and width tolerances are +1½″ and thickness tolerance is +0.025″. Bars are excellent electrical insulators and can be used outdoors. Meet MIL-P-46183. Resin is FDA compliant and meets UL 94V0 for flame retardance.

Thick.	Available Lengths, ft.	1″ Wide		1½″ Wide		2″ Wide		2½″ Wide		3″ Wide		4″ Wide	
			Per Ft.		Per Ft.		Per Ft.		Per Ft.		Per Ft.		Per Ft.
¼″	1, 2, 4	9089K111	$36.50	9089K112	$52.56	9089K113	$65.70	9089K114	$75.92	9089K115	$80.30	9089K116	$109.50
⅜″	1, 2, 4	9089K117	48.28	9089K118	68.21	9089K119	81.36	9089K121	96.63	9089K122	110.43	9089K123	147.24
½″	1, 2, 4	9089K124	62.22	9089K125	85.60	9089K126	111.99	9089K127	129.41	9089K128	136.88	9089K129	186.66
⅝″	1, 2, 4	9089K131	73.63	9089K132	101.71	9089K133	139.27	9089K134	161.03	9089K135	184.05	9089K136	214.72
¾″	1, 2, 4	9089K137	92.10	9089K138	132.63	9089K139	165.78	9089K141	191.57	9089K142	202.62	9089K143	276.30
1″	1, 2, 4	9089K144	113.78	9089K145	155.30	9089K146	204.81	9089K147	236.67	9089K148	250.32	9089K149	341.35
1¼″	1, 2, 4	9089K911	134.66	9089K912	168.32	9089K913	213.20	9089K914	254.35	9089K915	308.58	9089K916	374.04
1½″	1, 2, 4	9089K917	155.30	9089K918	194.13	9089K919	245.89	9089K921	293.34	9089K922	355.90	9089K923	431.39

Sheets

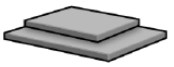

- Color: Tan
- Temp. Range: –20° to 480° F
- Tensile Strength: Excellent
- Impact Strength: Good

Width and length tolerances are –¼″ to +½″. Thickness tolerance for 1/16″ thick sheets is ±0.005″, for 5/64″ to 3/32″ thick sheets it's ±0.010″, and for ⅛″ to 1½″ thick sheets it's –0.010″ to +0.025″. Sheets meet MIL-P-46183. Resin is FDA compliant and meets UL 94V0 for flame retardance.

Thick.	6″×6″		6″×12″		12″×12″	
1/16″	8504K71	$46.67	8504K81	$78.02	8504K21	$141.85
5/64″	8504K72	59.21	8504K82	98.99	8504K22	179.98
3/32″	8504K73	68.96	8504K83	115.28	8504K23	209.60
⅛″	8504K75	94.04	8504K85	157.21	8504K25	285.83
¼″	8504K34	96.36	8504K811	157.67	8504K65	291.99
⅜″	8504K39	134.94	8504K812	220.81	8504K69	408.90

Thick.	6″×6″		6″×12″		12″×12″	
½″	8504K35	$164.25	8504K813	$268.78	8504K66	$497.74
⅝″	8504K26	185.51	8504K814	340.11	8504K44	618.38
¾″	8504K36	243.14	8504K815	397.87	8504K67	736.80
1″	8504K37	300.38	8504K816	491.54	8504K68	910.25
1¼″	8504K27	309.19	8504K817	566.85	8504K45	1,030.63
1½″	8504K28	359.05	8504K818	658.27	8504K46	1,196.85

Film



- Color: Semi-clear tan
- Temp. Range: Plain Back: –40° to 350° F
  Adhesive Back: –40° to 200° F
- Tensile Strength: Not rated
- Impact Strength: Not rated

Width and length tolerances are ±⅛″, except 24″×24″ sizes are +2.5″. Thickness tolerance is ±10%. Film is an excellent electrical insulator and can be used outdoors. *Adhesive-back film* has an acrylic adhesive.

Thick.	Plain Back 6″×6″		Plain Back 12″×12″		Plain Back 24″×24″		Adhesive Back 6″×6″		Adhesive Back 12″×12″		Adhesive Back 12″×18″	
0.002″							4671T41	$8.43	4671T42	$28.68	4671T43	$44.49
0.003″	8504K11	$6.56	8504K14	$22.66	8504K17	$79.88						
0.005″	8504K12	11.24	8504K15	37.77	8504K18	122.88	4671T51	14.05	4671T52	45.03	4671T53	67.66
0.010″	8504K13	21.41	8504K16	75.57	8504K19	225.67	4671T61	24.54	4671T62	79.39	4671T63	111.92

Rods



- Color: Tan or black
- Temp. Range: –20° to 480° F
- Tensile Strength: Excellent
- Impact Strength: Good

Diameter tolerance for ¼″ to 2½″ dia. rods is +0.015″, and for 3″ to 4″ dia. rods it is +0.250″. Rods meet ASTM D6262. Resin is FDA compliant and meets UL 94V0 for flame retardance. Maximum length is 4 feet for tan, and 8 feet for black.

Dia.	Tan	Per Ft.	Black	Per Ft.
¼″	8503K244	$6.01	7707T11	$6.33
⅜″	8503K111	12.04	7707T13	12.89
½″	8503K222	20.07	7707T15	21.87
⅝″	8503K232	29.39	7707T17	31.51
¾″	8503K333	$39.45	7707T19	$44.22
1″	8503K444	61.46	7707T21	65.85
1¼″	8503K451	100.55	7707T23	104.92
1½″	8503K555	133.45	7707T25	143.06
2″	8503K666	$225.20	7707T27	$241.39
2½″	8503K777	354.21		
3″	8503K88	474.38		
4″	8503K99	1,036.20		



Dia.	3″ Long Tan		3″ Long Black		6″ Long Tan		6″ Long Black		9″ Long Tan		9″ Long Black	
1″	7269K11	$24.94	7269K41	$27.43	7269K21	$39.28	7269K42	$43.48	7269K31	$52.63	7269K43	$58.59
1½″	7269K12	48.57	7269K44	53.43	7269K22	88.33	7269K45	97.80	7269K32	118.35	7269K46	131.71
2″	7269K13	85.68	7269K51	94.24	7269K26	148.51	7269K52	173.79	7269K33	193.77	7269K53	213.14
2½″	7269K14	142.63			7269K24	245.66			7269K34	314.52		
3″	7269K15	185.26			7269K25	327.26			7269K35	435.04		

Very-High-Strength Glass-Filled PEEK



- Color: Tan
- Temp. Range: –20° to 480° F
- Tensile Strength: Excellent
- Impact Strength: Poor

With 30% glass content, these rods offer superior hardness. They are excellent electrical insulators and meet UL 94V0 for flame retardance.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
½″	+0.025″	1, 2, 3, 4	8678K11	$33.04
1″	+0.025″	1, 2, 3, 4	8678K12	107.47
1¼″	+0.025″	1, 2, 3, 4	8678K13	162.00
1½″	+0.025″	1, 2, 3, 4	8678K14	225.20

Self-Lubricating Carbon-Filled PEEK



- Color: Black
- Max. Temp.: 480° F
- Tensile Strength: Excellent
- Impact Strength: Poor

Graphite-reinforced carbon enhances these rods' stiffness, and the addition of PTFE lubricants ensures a slippery surface.

Dia.	Dia. Tolerance	Available Lengths, ft.		Per Ft.
¼″	+0.020″	1, 2, 4	1595A11	$20.76
½″	+0.020″	1, 2, 4	1595A13	29.79
1″	+0.020″	1, 2, 4	1595A17	103.36
1¼″	+0.020″	1, 2, 4	1595A18	143.47
1½″	+0.020″	1, 2, 4	1595A19	196.92

Ultra-Strength High-Temperature Torlon PAI

Capable of maintaining its shape and strength across a range of temperatures, Torlon PAI is often used in high-friction applications, such as non-lubricated bearings, seals, and compressor parts.

Sheets

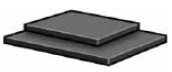

- Color: Black
- Temp. Range: –320° to 500°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Width and length tolerances are +1″. Sheets have a slippery surface and are made from Torlon 4301 resin. Meet UL 94V0 for flame retardance.

Thick.	Thick. Tolerance	6″×6″		12″×12″	
1/4″	+0.05″	8563K421	$320.21	8563K521	$776.27
3/8″	+0.05″	8563K441	449.24	8563K541	1,055.00
1/2″	+0.05″	8563K451	476.94	8563K551	1,120.03

Electrically Insulating Sheets

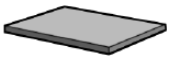

- Color: Yellow
- Temp. Range: –320° to 500°F
- Tensile Strength: Excellent
- Impact Strength: Good

Suitable for use as electrical connectors, these sheets are excellent electrical insulators. Width and length tolerances are +1″, and thickness tolerance is +0.05″. Made from Torlon 4203 resin. Meet UL 94V0 for flame retardance.

Thick.	6″×6″		Thick.	6″×6″	
1/4″	2461T11	$328.56	5/8″	2461T14	$571.38
3/8″	2461T12	467.59	3/4″	2461T15	662.62
1/2″	2461T13	496.44	1″	2461T16	856.09

Rods



- Color: Black
- Temp. Range: –320° to 500°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Diameter has a plus tolerance. Rods have a slippery surface and meet UL 94V0 for flame retardance.

Dia.	Available Lengths, ft.		Per Ft.	Dia.	Available Lengths, ft.		Per Ft.	Dia.	Available Lengths, ft.		Per Ft.
1/4″	1, 2, 3, 4	8566K81	$16.64	5/8″	1, 2, 3, 4	8566K91	$62.93	1 1/4″	1, 2, 3, 4	8566K87	$227.35
3/8″	1, 2, 3, 4	8566K83	31.58	3/4″	1, 2, 3, 4	8566K85	103.19	1 1/2″	1, 2, 3, 4	8566K89	326.80
1/2″	1, 2, 3, 4	8566K84	38.63	1″	1, 2, 3, 4	8566K86	139.41				

Balls



- Color: Olive green
- Temp. Range: Not rated
- Tensile Strength: Not rated
- Impact Strength: Not rated

These balls are often used for applications such as rollers and bearings, and they meet UL 94V0 for flame retardance.

Dia.	Dia. Toler.	Pkg. Qty.		Pkg.	Dia.	Dia. Toler.	Pkg. Qty.		Pkg.	Dia.	Dia. Toler.	Pkg. Qty.		Pkg.
1/8″	±0.001″	50	9593K11	$8.86	1/4″	±0.001″	25	9593K17	$8.65	3/8″	±0.001″	15	9593K21	$10.75
3/16″	±0.001″	25	9593K15	8.58	5/16″	±0.001″	25	9593K19	11.30	1/2″	±0.001″	10	9593K23	11.49

Ultra-High-Temperature Kapton® and Vespel® Polyimide

Even at high temperatures, polyimide provides outstanding hardness. Kapton® is an excellent electrical insulator and meets UL 94V0 for flame retardance, except **Kapton® polyimide electrically conductive film** is not an electrical insulator. Vespel® meets MIL-R-46198, AMS 3644C, ASTM D6456, and UL 945V for flame retardance.

Kapton® Polyimide Film and Sheeting



- Color: Semi-clear amber
- Temp. Range: –450° to 750°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Also known as Type HN. *Film* has width and length tolerances of ±1/16″. *Sheeting* has a width tolerance of +2.5″.

		Film		*Sheeting*		
Thick.	Thick. Toler.	12″×12″	Each	Max. Length, ft.	24″ Wide	Per Ft.
0.001″	±0.0001″	2271K1	$11.40	20	2271K4	$19.84
0.002″	±0.0002″	2271K2	14.94	20	2271K5	27.30
0.005″	±0.0005″	2271K3	28.53	20	2271K6	55.42

Kapton® Polyimide Adhesive-Back Film



- Color: Semi-clear amber
- Temp. Range: –40° to 500°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Width and length tolerances are ±1/16″. Adhesive is silicone.

Thick.	Thick. Tolerance	12″×12″	
0.001″	±0.0001″	2271K71	$16.38
0.002″	±0.0002″	2271K72	20.10
0.005″	±0.0005″	2271K73	36.12

Kapton® Polyimide Heavy Duty Film



- Color: Brown to black
- Temp. Range: –450° to 660°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Suitable for mechanical seals and electrical connectors, this film can also be used outdoors. Width and length tolerances are –1/8″ to +5/8″.

Thick.	Thick. Tolerance	13″×23″	
0.010″	±0.0005″	7161T11	$140.74
0.020″	±0.001″	7161T21	260.63

Kapton® Polyimide Electrically Conductive Film

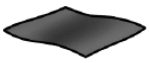

- Color: Semi-clear black
- Temp. Range: –450° to 460°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Film conducts electricity, removing static charge. Width and length tolerances are ±1/8″.

Thick.	Thick. Tolerance	12″×12″	
0.001″	±0.0001″	2271K69	$32.02

Kapton® Polyimide Thermally Conductive Film

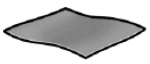

- Color: Amber
- Temp. Range: –450° to 750°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Because this film dissipates heat, it's often used for printed circuit boards and power supplies. Width and length tolerances are ±1/8″.

Thick.	Thick. Tolerance	12″×12″	
0.002″	±0.0002″	2271K24	$27.00

Vespel® Polyimide Rods



- Color: Amber
- Temp. Range: –425° to 550°F
- Tensile Strength: Excellent
- Impact Strength: Poor

Use these rods to make valve components and seal rings.

Dia.	Dia. Toler.	Available Lengths		Per Inch
1/4″	+0.01″	1″, 2″, 3″, 4″, 5″, 6″, 8″, 10″, 12″, 18″	87405K41	$36.14
3/8″	+0.01″	1″, 2″, 3″, 4″, 5″, 6″, 8″, 10″, 12″, 18″	87405K42	44.85
1/2″	+0.01″	1″, 2″, 3″, 4″, 5″, 6″, 8″, 10″, 12″, 18″	87405K43	54.51
5/8″	+0.01″	1″, 2″, 3″, 4″, 5″, 6″, 8″, 10″, 12″, 18″	87405K44	58.79
3/4″	+0.01″	1″, 2″, 3″, 4″, 5″, 6″, 8″, 10″, 12″, 18″	87405K45	58.23
1″	+0.01″	1″, 2″, 3″, 4″, 5″, 6″, 8″, 10″, 12″, 18″	87405K46	101.97
1 1/4″	+0.01″	1″, 2″, 3″, 4″, 5″, 6″, 8″, 10″, 12″, 18″	87405K47	148.08
1 1/2″	+0.01″	1″, 2″, 3″, 4″, 5″, 6″, 8″, 10″, 12″, 18″	87405K48	222.54
2″	+0.01″	1″, 2″, 3″, 4″, 5″, 6″, 8″, 10″, 12″, 18″	87405K49	396.08

About Plastic Laminates

Hard fiber, fiberglass, Garolite, and carbon fiber (also referred to as plastic laminates and composites) are usually created by combining fiber, paper, or fabric with epoxy or resin. Commonly called thermosets because they are created by setting under heat, they have very different properties than more common plastics such as polyethylene and nylon. They are not designed to be heated, so you cannot bend and form them.

Fiberglass and Garolite Material Selector Pack—Includes one individually marked piece of electrical-grade fiberglass (GPO3) and the following grades of Garolite: XX, CE, LE, G-9, G-10, G-11, and G-7. Each piece is 2″×2″×1/16″.
5331K3 ..... $21.68

Tensile Strength—Refers to the amount of stretching a material can withstand before breaking. E-glass and glass carbon are not rated for tensile strength.

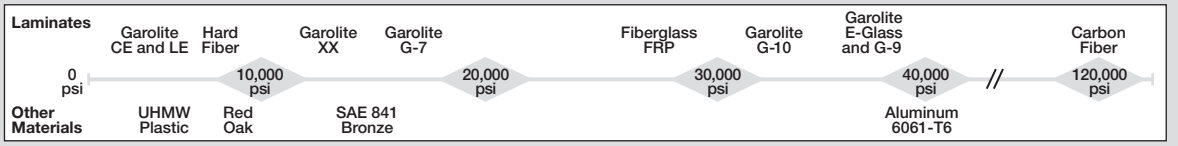

Electrical Insulation—All plastic laminates have some electrical insulating capabilities. Ratings are based on their relative insulating (dielectric) strength, which is the maximum voltage the material can withstand. E-glass, glass carbon, and carbon fiber do not have an electrical insulation rating.

Excellent	Good	Poor
G-11	G-10, G-10/FR4, G-9, XX, G-7, GPO3	Hard Fiber, FRP, CE, LE

Machinability—Plastic laminates are difficult to machine; carbide or diamond-tipped tools are generally required when machining to achieve the best results. The machinability ratings below are based on speed, life of the tooling, and the level of ease to attain a satisfactory finish.

Good	Fair	Difficult
Hard Fiber, XX, CE, LE, Glass Carbon	GPO3, E-glass, Carbon Fiber	FRP, G-9, G-10, G-10/FR4, G-11, G-7

Moisture Resistance—The base material affects the amount of moisture absorbed into the laminates. Cloth-based laminates have a higher absorption rate than laminates with other base materials. E-glass, glass carbon, and carbon fiber are not rated for moisture resistance.

Excellent	Good	Fair	Poor
G-10, G-10/FR4, Carbon Fiber, G-11, GPO3	G-7, G-9	FRP	Hard Fiber, CE, LE, XX

Hard Fiber

Hard Fiber



- Color: Opaque gray, unless noted
- Max. Temperature: 235° F
- Tensile Strength: Good
- Impact Strength: Good
- Electrical Insulator: Poor, except electrical-grade sheets are good
- Machine: Use high-speed steel tooling
- Hardness: Rockwell R70-R80

Also known as vulcanized fiber, this material has a cotton-fabric base that has been chemically treated to produce a hard, dense substance that is also lightweight. Meets UL 94HB for flame retardance, MIL-F-1148A, and MIL-F-10336A, except *electrical-grade sheets* meet UL 94HB and MIL-I-695A.

Sheets—Smooth Finish

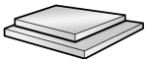

Width and length tolerances are ±1/8″ for 12″×12″ sheets, ±1″ for 24″×39″ sheets, and ±2″ for 39″×48″ sheets. Flatness tolerance is not rated.

Thick.	Thick. Tolerance	12″×12″		24″×39″		39″×48″	
1/64″	±0.002″	8652K71	$6.93	8652K81	$24.27	8652K91	$34.96
1/32″	±0.003″	8652K72	9.64	8652K82	43.04	8652K92	66.68
1/16″	±0.005″	8652K73	18.39	8652K83	78.57	8652K93	126.15
3/32″	±0.007″	8652K74	29.77	8652K84	111.73	8652K94	181.64
1/8″	±0.015″	8652K75	40.47	8652K85	140.46	8652K95	213.79
3/16″	±0.015″	8652K76	54.02	8652K86	197.09	8652K96	267.67
1/4″	±0.015″	8652K77	69.59	8652K87	248.37	8652K97	352.35
3/8″	±0.020″	8652K78	107.58	8652K88	381.33	8652K98	509.39
1/2″	±0.025″	8652K79	127.55	8652K89	482.85	8652K99	761.95

Rods—Smooth Finish



Length tolerance is ±3″. Straightness tolerance is not rated.

Dia.	Dia. Tolerance	45″ Length	
3/16″	±0.005″	8653K43	$20.20
1/4″	±0.005″	8653K44	24.73
5/16″	±0.006″	8653K45	25.53
3/8″	±0.006″	8653K46	31.17
1/2″	±0.006″	8653K51	36.89
9/16″	±0.006″	8653K52	47.86
5/8″	±0.006″	8653K54	58.78
3/4″	±0.006″	8653K55	74.44

Electrical-Grade Sheets—Smooth Finish

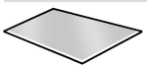

- Color: Opaque gray to blue-green

Also known as fishpaper, these sheets offer good electrical-insulation properties and flexibility. Thickness tolerance is ±10%. Width and length tolerances are ±1/8″ for 12″×12″ sheets, ±1″ for 24″×39″ sheets, and ±2″ for 39″×48″ sheets. Flatness tolerance is not rated.

Thick.	12″×12″		24″×39″		39″×48″	
0.005″	8490K15	$7.08	8490K25	$23.35	8490K35	$35.38
0.010″	8490K11	5.48	8490K21	17.76	8490K31	26.82
0.015″	8490K12	7.18	8490K22	25.19	8490K32	36.34
0.020″	8490K13	$8.62	8490K23	$31.14	8490K33	$47.52
0.025″	8490K16	14.50	8490K26	47.86	8490K36	72.51
0.030″	8490K14	10.32	8490K24	46.39	8490K34	72.02

Tubes—Smooth Finish



Length tolerance is ±3″. Wall thickness and straightness tolerances are not rated.

OD	ID	Wall Thick.	40″ Length	
9/16″	7/16″	1/16″	8654K29	$23.76
5/8″	1/2″	1/16″	8654K33	23.82
11/16″	7/16″	1/8″	8654K35	33.23
3/4″	1/2″	1/8″	8654K37	32.25
7/8″	3/4″	1/16″	8654K43	$29.33
1″	7/8″	1/16″	8654K49	31.79
1 1/4″	1″	1/8″	8654K55	47.61
1 1/2″	1 1/4″	1/8″	8654K57	49.89
1 3/4″	1 1/2″	1/8″	8654K61	$57.79
2″	1 1/2″	1/4″	8654K63	96.02
2 1/4″	2″	1/8″	8654K65	73.14

Structural Fiberglass (FRP)

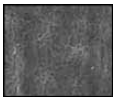

- Color: See below
- Max. Temperature: 140° F, unless noted
- Tensile Strength: Good
- Impact Strength: Good
- Electrical Insulator: Poor
- Machine: Use carbide tooling
- Hardness: Barcol 40-45, except high-temperature sheets are Barcol 10

Nonconductive, lightweight, and stronger than wood, fiberglass-reinforced polyester (FRP) is ideal for structural applications.

Strips and Sheets—Smooth Finish

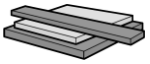

- Color: *Standard:* Opaque green; *Fire-Retardant:* Opaque dark gray

Standard sheets have a ±3/16″ width tolerance and +1/2″ length tolerance. Flatness tolerance is 0.008″ per inch. UV resistant. FDA compliant.

Fire-retardant sheets have a ±1/4″ width and length tolerance. Flatness tolerance is 0.008″ per inch. UV resistant. Made with a flame-retardant resin.

Thick.	Thick. Tolerance	2″×96″		4″×96″		12″×12″		24″×24″		48″×48″		48″×96″	
Standard													
1/8″	±0.025″	7251K11	$25.77	7251K21	$44.65	8537K23	$10.17	8537K43	$42.49	8537K33	$110.12	8537K13	$202.24
3/16″	±0.028″	7251K12	36.49	7251K22	56.19	8537K24	12.59	8537K44	45.82	8537K34	164.71	8537K14	288.00
1/4″	±0.037″	7251K13	41.36	7251K23	66.55	8537K25	16.20	8537K45	68.71	8537K35	200.39	8537K15	348.44
3/8″	±0.056″	7251K14	58.55	7251K24	99.71	8537K27	28.79	8537K47	107.72	8537K37	326.51	8537K17	567.85
1/2″	±0.075″	7251K15	66.84	7251K25	108.71	8537K26	32.49	8537K46	125.15	8537K36	382.72	8537K16	665.71
Fire Retardant													
1/8″	±0.025″	8494K111	29.95	8494K112	49.92	8494K122	12.48	8494K127	48.67	8494K133	164.74	8494K138	249.60
3/16″	±0.028″	8494K113	47.76	8494K114	69.80	8494K123	18.37	8494K128	66.12	8494K134	242.46	8494K139	367.36
1/4″	±0.037″	8494K115	46.27	8494K116	77.74	8494K124	23.14	8494K129	83.29	8494K135	305.40	8494K141	462.72
3/8″	±0.056″	8494K117	76.42	8494K118	118.44	8494K125	38.21	8494K131	137.55	8494K136	504.35	8494K142	764.16
1/2″	±0.075″	8494K119	91.20	8494K121	127.68	8494K126	45.60	8494K132	164.16	8494K137	601.92	8494K143	912.00

High-Temperature Sheets—Smooth Finish

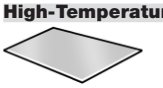

- Color: Opaque cream
- Max. Temperature: 370° F

Width and length tolerances are ±1/8″. Thickness tolerance is ±0.008″. Flatness tolerance is not rated.

Thick.	12″×24″		24″×24″		24″×36″	
0.032″	2217K33	$12.44	2217K37	$20.18	2217K39	$27.64
0.060″	2217K43	17.64	2217K47	28.62	2217K49	39.21

Square Bars—Smooth Finish



- Color: 1″ Square: Opaque white; 1 1/4″ and 1 1/2″ Square: Opaque yellow

Length tolerance is +1/2″. Straightness tolerance is 0.040″ per foot. UV resistant. FDA compliant.

Square Size	Square Size Tolerance	5-ft. Length		10-ft. Length	
1″	±0.01″	9947T21	$34.81	9947T31	$65.68
1 1/4″	±0.01″	9947T41	51.31	9947T51	96.82
1 1/2″	±0.01″	9947T61	71.78	9947T71	135.43

Round Tubes—Smooth Finish



- Color: Opaque green

Length tolerance is +1/2″. Straightness tolerance is 0.03″ per foot. UV resistant. FDA compliant.

OD	ID	Wall Thick.	Thick. Toler.	5-ft. Length		10-ft. Length	
1″	3/4″	1/8″	±0.040″	8535K71	$14.61	8535K21	$25.34
1 1/4″	1″	1/8″	±0.040″	8535K26	18.15	8535K76	31.56
1 1/2″	1 1/4″	1/8″	±0.040″	8535K72	21.26	8535K22	36.96
1 3/4″	1 1/2″	1/8″	±0.040″	8535K27	22.50	8535K77	39.13
2″	1 1/2″	1/4″	±0.040″	8535K73	42.82	8535K23	76.81
3″	2″	1/2″	±0.075″	8535K74	93.13	8535K24	167.71

Rods—Smooth Finish



- Color: Opaque white

Length tolerance is +1/2″. Straightness tolerance is not rated. FDA compliant.

Dia.	Dia. Tolerance	5-ft. Length		10-ft. Length	
1/8″	±0.010″	8543K27	$2.68	8543K31	$4.85
3/16″	±0.010″	8543K28	2.73	8543K33	4.97
1/4″	±0.010″	8543K59	2.80	8543K21	5.09
5/16″	±0.010″	8543K47	3.91	8543K35	7.10
3/8″	±0.010″	8543K49	4.84	8543K22	8.80
1/2″	±0.010″	8543K51	7.31	8543K23	13.27
5/8″	±0.010″	8543K53	11.35	8543K37	20.63
3/4″	±0.010″	8543K55	15.71	8543K25	28.68
1″	±0.010″	8543K57	29.21	8543K26	53.36
1 1/4″	±0.010″	8543K11	44.63	8543K17	81.50
1 1/2″	±0.010″	8543K12	60.40	8543K18	110.92

Chemical-Resistant Sheets—Smooth Finish

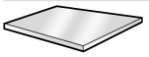

- Color: Opaque white
- Max. Temperature: 265° F

Width and length tolerances are ±1/8″. Thickness tolerance is ±0.015″. Flatness tolerance is not rated.

Thick.	12″×24″		24″×24″		24″×36″	
1/4″	2194K23	$28.89	2194K27	$46.87	2194K29	$64.21

Square Tubes—Smooth Finish



- Color: Opaque green

Length tolerance is +1/2″. Straightness tolerance is 0.03″ per foot. UV resistant. FDA compliant.

Outside Ht.	Outside Wd.	Wall Thick.	Thick. Toler.	5-ft. Length		10-ft. Length	
1″	1″	1/8″	±0.019″	8548K21	$17.11	8548K31	$30.95
1 1/4″	1 1/4″	1/8″	±0.019″	8548K42	10.50	8548K52	17.50
1 1/2″	1 1/2″	1/8″	±0.019″	8548K22	25.13	8548K32	45.48
1 3/4″	1 3/4″	1/8″	±0.019″	8548K43	15.43	8548K53	25.71
2″	2″	1/8″	±0.019″	8548K23	30.79	8548K33	55.71
2″	2″	1/4″	±0.038″	8548K24	51.83	8548K34	97.27
2 1/2″	2 1/2″	1/4″	±0.038″	8548K71	64.96	8548K81	121.96
3″	3″	1/4″	±0.038″	8548K25	77.46	8548K35	145.43
4″	4″	1/4″	±0.038″	8548K26	102.06	8548K36	191.74
6″	6″	3/8″	±0.056″	8548K29	182.87	8548K39	324.34

90° Angles—Smooth Finish



- Color: *Standard:* Opaque green; *Fire-Retardant:* Opaque dark gray

Leg length tolerance is ±3/32″. Length tolerance is ±1/2″. Straightness tolerance is ±0.05″ per foot. UV resistant.

Standard angles are FDA compliant.

Fire-retardant angles are made with a flame-retardant resin.

Outside Leg Lgs.	Wall Thick.	Thick. Toler.	5-ft. Length		10-ft. Length	
Standard						
1″ × 3/4″	3/16″	±0.019″	8542K66	$12.90	8542K76	$22.44
1″ ×1″	1/8″	±0.013″	8542K51	9.65	8542K21	18.44
1 1/4″ ×1 1/4″	1/8″	±0.013″	8542K67	12.90	8542K77	22.44
1 1/2″ ×1 1/2″	3/16″	±0.019″	8542K11	16.75	8542K16	32.00
1 1/2″ ×1 1/2″	1/4″	±0.025″	8542K62	20.70	8542K52	39.56
2″ ×2″	1/4″	±0.025″	8542K55	26.86	8542K25	51.33
3″ ×3″	1/4″	±0.025″	8542K56	36.25	8542K26	69.35
3″ ×3″	3/8″	±0.038″	8542K12	53.93	8542K22	105.62
4″ ×4″	1/4″	±0.025″	8542K57	46.11	8542K27	88.30
4″ ×4″	3/8″	±0.038″	8542K13	68.19	8542K23	133.54
4″ ×4″	1/2″	±0.050″	8542K14	98.44	8542K24	172.31
6″ ×6″	3/8″	±0.038″	8542K15	96.65	8542K29	169.41
Fire Retardant						
1″ ×1″	1/8″	±0.013″	9944T44	14.38	9944T45	27.14
1 1/2″ ×1 1/2″	1/4″	±0.025″	9944T46	35.61	9944T47	67.19
2″ ×2″	1/4″	±0.025″	9944T48	48.40	9944T49	91.33
3″ ×3″	1/4″	±0.025″	9944T51	87.44	9944T52	164.98

(Material continued on following page)

Fiberglass

For information about fiberglass, see page 3678.

Structural Fiberglass (FRP) *(Material continued from previous page)*

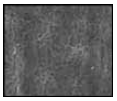

- Color: Opaque green
- Max. Temperature: 140° F
- Tensile Strength: Good
- Impact Strength: Good
- Electrical Insulator: Poor
- Machine: Use carbide tooling
- Hardness: Barcol 40-45

Nonconductive, lightweight, and stronger than wood, fiberglass-reinforced polyester (FRP) is ideal for structural applications.

U-Channels—Smooth Finish



Base and leg tolerances are ±3/32″. Length tolerance is +1/2″. Straightness tolerance is 0.050″ per foot. FDA compliant.

Outside Base	Leg Lgs.	Wall Thick.	Thick. Toler.	5-ft. Length		10-ft. Length	
2″	9/16″	1/8″	±0.013″	8529K61	$11.74	8529K21	$22.44
3″	7/8″	1/4″	±0.025″	8529K62	26.98	8529K22	51.56
3″	1″	1/4″	±0.025″	8529K11	29.30	8529K31	56.00
3 1/2″	1 1/2″	3/16″	±0.019″	8529K41	30.58	8529K51	58.44
4″	1 1/8″	1/4″	±0.025″	8529K63	35.46	8529K23	67.78
6″	1 5/8″	1/4″	±0.025″	8529K65	51.20	8529K25	98.12
8″	2 3/16″	1/4″	±0.025″	8529K45	69.78	8529K55	133.75

I-Beams—Smooth Finish

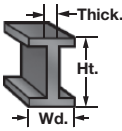

Length tolerance is +1/2″. Thickness tolerance is ±10%. Straightness tolerance is 0.050″ per foot. FDA compliant.

Ht.	Wd.	Thick.	5-ft. Length		10-ft. Length	
3″	1 1/2″	1/4″	9468T41	$44.92	9468T42	$84.76
3 1/2″	1 1/2″	3/16″	9468T51	44.04	9468T52	83.10
4″	2″	1/4″	9468T11	53.96	9468T12	101.82
6″	3″	1/4″	9468T21	103.69	9468T22	195.65
8″	4″	3/8″	9468T31	145.22	9468T32	274.00

Electrical-Grade Fiberglass (GPO3)



- Color: Opaque red, except tubes are black
- Max. Temperature: 265° F
- Tensile Strength: Excellent
- Impact Strength: Excellent
- Electrical Insulator: Good
- Machine: Use carbide tooling
- Hardness: Barcol 50-55

Combining good electrical insulation with arc resistance and high strength, GPO3 fiberglass is a good choice for use in electrical applications. Made of fiberglass-reinforced polyester, this material is also known as polyester-grade industrial laminate. Meets UL 94V0 for flame retardance, except tubes, rods, and 1/32″ thick sheets do not.

Sheets—Smooth Finish

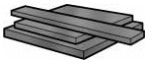

Width and length tolerances are ±1/32″, except 36″ and 72″ sides are ±9/16″ and 96″ sides are ±1″. Flatness tolerance is 0.6″ for 12″ and 24″ lengths, 1.8″ for 36″ and 72″ lengths, and 2.4″ for 96″ lengths.

Thick.	Thick. Toler.	3″×36″		3″×72″		6″×36″		6″×72″		12″×36″		12″×72″	
1/8″	±0.010″	3345K11	$6.46	3345K21	$10.73	3345K31	$10.73	3345K41	$18.48	3345K51	$18.48	3345K61	$35.78
1/4″	±0.015″	3345K12	13.25	3345K22	22.02	3345K32	22.02	3345K42	37.92	3345K52	37.92	3345K62	61.16
3/8″	±0.020″	3345K13	16.02	3345K23	26.62	3345K33	26.62	3345K43	45.85	3345K53	45.85	3345K63	88.73
1/2″	±0.024″	3345K14	20.35	3345K24	33.82	3345K34	33.82	3345K44	58.37	3345K54	58.37	3345K64	112.73
1″	±0.033″	3345K16	36.98	3345K26	61.45	3345K36	61.45	3345K46	105.83	3345K56	105.83	3345K66	204.83

Thick.	Thick. Toler.	12″×12″		12″×24″		24″×24″		24″×36″		36″×72″		48″×96″	
1/32″	±0.008″	8549K79	$4.33	8549K89	$7.89	8549K97	$13.74	8549K98	$18.32	8549K99	$50.89		
1/16″	±0.008″	8549K42	5.09	8549K52	9.28	8549K62	16.17	8549K72	21.56	8549K82	59.89	8549K311	$93.32
3/32″	±0.009″	8549K43	6.24	8549K53	11.38	8549K63	19.82	8549K73	26.43	8549K83	73.42	8549K321	112.23
1/8″	±0.010″	8549K44	9.94	8549K54	15.40	8549K64	26.83	8549K74	35.78	8549K84	99.38	8549K331	144.16
3/16″	±0.013″	8549K45	14.84	8549K55	23.01	8549K65	40.08	8549K75	53.44	8549K85	148.45	8549K341	215.35
1/4″	±0.015″	8549K46	17.33	8549K56	31.60	8549K66	55.04	8549K76	73.39	8549K86	203.87	8549K351	295.76
3/8″	±0.020″	8549K47	20.95	8549K57	38.20	8549K67	66.55	8549K77	88.73	8549K87	246.48	8549K361	359.47
1/2″	±0.024″	8549K48	26.62	8549K58	48.54	8549K68	84.55	8549K78	112.73	8549K88	313.14	8549K371	458.85
3/4″	±0.029″	8549K59	36.93	8549K92	67.34	8549K95	117.30	8549K222	156.41	8549K225	434.46	8549K381	680.75
1″	±0.033″	8549K69	48.36	8549K93	88.19	8549K96	153.62	8549K223	204.83	8549K226	568.96	8549K391	893.74

Tubes—Smooth Finish



Length tolerance is ±1″. Straightness tolerance is 0.050″ per foot.

OD	ID	Wall Thick.	Thick. Toler.	3-ft. Length		6-ft. Length	
1/2″	13/32″	1/16″	±0.019″	2197K13	$3.85	2197K23	$6.42
3/4″	5/8″	1/16″	±0.010″	2197K11	7.25	2197K21	12.09
1″	13/16″	3/32″	±0.026″	2197K15	9.43	2197K25	15.71
1 1/2″	1 1/4″	1/8″	±0.018″	2197K17	19.50	2197K27	32.50
2″	1 3/4″	1/8″	±0.018″	2197K19	25.70	2197K29	42.84

90° Angles—Smooth Finish



Leg length tolerance is ±3/32″. Thickness tolerance is ±0.020″. Length tolerance is ±1″. Straightness tolerance is 0.050″ per foot.

Outside Leg Lgs.	Wall Thick.	3-ft. Length		6-ft. Length	
1 1/4″ × 1 1/4″	1/8″	8522K31	$6.82	8522K51	$11.36
1 1/2″ × 1 1/2″	1/8″	8522K32	8.18	8522K52	13.64
1 5/8″ × 2 9/16″	3/16″	8522K13	25.62	8522K23	42.70
1 5/8″ × 4″	3/16″	8522K14	40.52	8522K24	69.69
2″ × 2″	1/8″	8522K11	22.55	8522K21	37.58
2″ × 2″	1/4″	8522K15	29.21	8522K25	48.69
2″ × 4 3/16″	1/8″	8522K12	24.69	8522K22	41.14
2 3/4″ × 3″	1/4″	8522K16	39.36	8522K26	67.97
3″ × 3″	1/4″	8522K33	24.43	8522K53	40.72

Rods—Smooth Finish



Length tolerance is ±1″. Straightness tolerance is not rated.

Dia.	Dia. Toler.	3-ft. Length		6-ft. Length	
1/8″	0.001″	2591K11	$2.50	2591K16	$3.90
3/16″	0.002″	2591K21	3.77	2591K26	6.28
1/4″	0.005″	2591K31	5.02	2591K36	8.36
3/8″	0.005″	2591K41	5.76	2591K46	9.60
1/2″	0.010″	2591K51	7.85	2591K56	13.08
3/4″	0.015″	2591K61	11.77	2591K66	19.62
1″	0.020″	2591K71	20.83	2591K76	34.71
1 1/2″	0.030″	2591K91	45.87	2591K96	76.45

U-Channels—Smooth Finish



Base tolerance is ±0.040″. Leg tolerance is ±0.020″. Thickness tolerance is ±0.025″. Length tolerance is ±1/8″. Straightness tolerance is 0.050″ per foot.

Outside Base	Leg Lgs.	Wall Thick.	3-ft. Length		6-ft. Length	
2″	1″	1/4″	8523K62	$15.61	8523K72	$26.02
2 9/16″	1 1/4″	5/32″	8523K11	14.18	8523K21	23.62
3 21/32″	2 9/16″	3/16″	8523K12	31.84	8523K22	53.08
4 1/4″	2″	3/16″	8523K13	36.01	8523K23	60.04
4 3/4″	1 5/8″	3/16″	8523K14	31.61	8523K24	52.76
6 1/2″	2 3/4″	1/4″	8523K16	52.24	8523K26	85.44
8 1/2″	2 11/16″	3/16″	8523K63	41.16	8523K73	68.60
11 9/32″	1 5/8″	3/8″	8523K64	71.09	8523K74	118.48

Hard and Strong Garolite (XX)



- Color: Opaque tan to brown, except sheets are also offered in opaque black
- Max. Temperature: 265°F
- Tensile Strength: Excellent
- Impact Strength: Poor
- Electrical Insulator: Good
- Machine: Use carbide tooling
- Hardness: Rockwell M100-M105

Lighter than metal but dense and strong, this paper-based material absorbs less moisture than Impact-Resistant CE Garolite. Sometimes called paper-grade industrial laminate, phenolic, or Bakelite, it is often used for gasketing and gears. All meet MIL-I-24768/11. *Sheets, strips,* and *rods* also meet UL 94HB for flame retardance.

Sheets—Smooth Finish

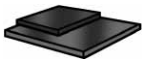

Width and length tolerances are ±1″, except 6″×6″ sheets are ±½″. Flatness tolerance is not rated.

Thick.	Thick. Toler.	6″×6″		12″×12″		12″×24″		24″×24″		24″×36″		36″×48″	
Opaque Tan/Brown													
1/32″	±0.004″	—	—	8525K411	$3.53	8525K412	$6.10	8525K413	$10.62	8525K414	$15.11	8525K415	$26.29
1/16″	±0.005″	—	—	8525K111	4.32	8525K131	7.50	8525K161	13.10	8525K201	18.74	8525K291	32.54
1/8″	±0.008″	—	—	8525K112	7.30	8525K132	12.77	8525K162	22.20	8525K202	31.73	8525K292	55.12
3/16″	±0.010″	—	—	8525K113	10.14	8525K133	17.58	8525K163	30.57	8525K203	43.67	8525K293	76.00
1/4″	±0.012″	—	—	8525K114	12.86	8525K134	22.35	8525K164	38.84	8525K204	55.49	8525K294	96.53
3/8″	±0.017″	8525K31	$8.21	8525K116	18.82	8525K136	32.80	8525K166	57.00	8525K206	81.40	8525K296	141.63
1/2″	±0.021″	8525K32	10.72	8525K118	24.61	8525K138	42.76	8525K168	74.38	8525K208	106.29	8525K298	184.85
5/8″	±0.024″	8525K33	13.12	8525K119	30.10	8525K139	52.37	8525K169	91.05	8525K209	130.09	8525K299	226.23
3/4″	±0.027″	8525K34	15.43	8525K121	35.41	8525K141	61.55	8525K171	107.01	8525K211	152.93	8525K301	265.98
1″	±0.033″	8525K35	20.16	8525K123	46.20	8525K143	80.45	8525K173	139.86	8525K213	199.79	8525K303	347.50
1 1/4″	±0.037″	8525K36	23.77	8525K451	54.52	8525K452	94.83	8525K453	164.94	8525K454	235.60	8525K455	409.77
1 1/2″	±0.041″	8525K37	26.99	8525K461	61.93	8525K462	107.72	8525K463	187.33	8525K464	267.62	8525K465	465.39
Opaque Black													
1/32″	±0.004″	—	—	85315K411	4.23	85315K412	8.41	85315K413	14.64	85315K414	20.92	85315K415	36.33
1/16″	±0.005″	—	—	85315K111	5.72	85315K131	10.22	85315K161	17.74	85315K201	24.38	85315K291	45.88
1/8″	±0.008″	—	—	85315K112	9.22	85315K132	18.53	85315K162	29.27	85315K202	43.37	85315K292	76.17
3/16″	±0.010″	—	—	85315K113	13.66	85315K133	25.26	85315K163	43.80	85315K203	62.90	85315K293	108.46
1/4″	±0.012″	—	—	85315K114	16.52	85315K134	32.75	85315K164	49.99	85315K204	74.50	85315K294	136.69
3/8″	±0.017″	7031K26	7.61	85315K116	26.56	85315K136	45.88	85315K166	79.93	85315K206	108.32	85315K296	188.34
1/2″	±0.021″	7031K36	9.88	85315K118	34.08	85315K138	58.32	85315K168	98.99	85315K208	147.58	85315K298	256.65
3/4″	±0.027″	7031K22	15.61	85315K121	45.30	85315K141	76.95	85315K171	135.72	85315K211	177.75	85315K301	331.61
1″	±0.033″	7031K32	21.93	85315K123	60.00	85315K143	100.36	85315K173	181.91	85315K213	204.02	85315K303	452.93

Strips—Smooth Finish



Width tolerance is ±0.016″, and length tolerance is ±1″. Flatness tolerance is not rated.

Thick.	Thick. Tolerance	2″ Wd.×48″ Lg.		3″ Wd.×48″ Lg.	
1/32″	±0.004″	9322K11	$2.65	9322K21	$3.94
1/16″	±0.005″	9322K12	3.25	9322K22	4.06
1/8″	±0.008″	9322K13	4.76	9322K23	6.38
3/16″	±0.010″	9322K14	6.97	9322K29	9.45
1/4″	±0.012″	9322K15	$8.66	9322K25	$11.31
5/16″	±0.014″	9322K16	12.35	9322K26	18.09
3/8″	±0.017″	9322K17	12.01	9322K27	16.60
1/2″	±0.021″	9322K18	15.55	9322K28	21.57

Tubes—Smooth Finish



Wall thickness tolerance is ±0.008″, and length tolerance is ±1″. Straightness tolerance is not rated.

OD	ID	Wall Thick.	40″ Length	
1/4″	3/16″	1/32″	8527K322	$9.30
5/16″	3/16″	1/16″	8527K335	6.21
5/16″	1/4″	1/32″	8527K113	9.49
3/8″	3/16″	3/32″	8527K351	7.08
3/8″	1/4″	1/16″	8527K132	6.76
3/8″	5/16″	1/32″	8527K114	10.06
7/16″	3/16″	1/8″	8527K371	8.16
7/16″	1/4″	3/32″	8527K152	8.10
7/16″	5/16″	1/16″	8527K133	7.47
7/16″	3/8″	1/32″	8527K115	10.14
1/2″	1/4″	1/8″	8527K172	9.54
1/2″	5/16″	3/32″	8527K153	8.61
1/2″	3/8″	1/16″	8527K134	7.80
9/16″	3/16″	3/16″	8527K381	11.16
9/16″	5/16″	1/8″	8527K173	9.75
9/16″	3/8″	3/32″	8527K154	10.98
9/16″	1/2″	1/32″	8527K117	10.74
5/8″	1/4″	3/16″	8527K212	12.36
5/8″	3/8″	1/8″	8527K174	11.49
5/8″	1/2″	1/16″	8527K136	$8.49
11/16″	5/16″	3/16″	8527K213	13.43
11/16″	1/2″	3/32″	8527K156	10.44
11/16″	5/8″	1/32″	8527K119	11.13
3/4″	1/4″	1/4″	8527K252	14.58
3/4″	3/8″	3/16″	8527K214	15.18
3/4″	1/2″	1/8″	8527K176	12.51
3/4″	5/8″	1/16″	8527K138	9.21
13/16″	3/4″	1/32″	8527K122	11.90
7/8″	3/8″	1/4″	8527K254	20.11
7/8″	1/2″	3/16″	8527K216	16.93
7/8″	5/8″	1/8″	8527K178	14.04
7/8″	3/4″	1/16″	8527K141	10.14
15/16″	3/4″	3/32″	8527K161	12.60
1″	1/2″	1/4″	8527K256	21.65
1″	5/8″	3/16″	8527K218	19.00
1″	3/4″	1/8″	8527K181	15.57
1 1/16″	1″	1/32″	8527K125	16.94
1 1/8″	3/4″	3/16″	8527K221	21.22
1 1/8″	1″	1/16″	8527K144	$12.41
1 3/16″	1″	3/32″	8527K164	15.52
1 1/4″	3/4″	1/4″	8527K261	27.48
1 1/4″	1″	1/8″	8527K184	19.55
1 5/16″	1 1/4″	1/32″	8527K231	18.20
1 3/8″	1″	3/16″	8527K224	26.96
1 3/8″	1 1/4″	1/16″	8527K232	15.48
1 1/2″	1″	1/4″	8527K264	33.15
1 1/2″	1 1/4″	1/8″	8527K234	23.70
1 1/2″	1 3/8″	1/16″	8527K265	18.27
1 5/8″	1 1/2″	1/16″	8527K242	17.68
1 3/4″	1 1/4″	1/4″	8527K236	39.32
1 3/4″	1 1/2″	1/8″	8527K244	25.35
1 7/8″	1 1/2″	3/16″	8527K245	36.50
2″	1 1/2″	1/4″	8527K246	45.77
2″	1 7/8″	1/16″	8527K247	22.99
2 1/4″	2″	1/8″	8527K248	35.51
3″	2 1/2″	1/4″	8527K249	73.55

Rods—Smooth Finish



Diameter tolerance is ±0.001″ for rods up to 1 1/4″ dia.; ±0.003″ for rods 1 3/8″ dia. and larger. Length tolerance is ±3/8″ for 1-ft. lengths and ±1″ for 4-ft. lengths. Straightness tolerance is not rated. **To Order:** Please specify length.

Dia.		1-ft.	4-ft.
1/16″	8526K88	—	$5.50
1/8″	8526K89	—	5.67
1/4″	8526K11	—	7.66
5/16″	8526K12	—	9.57
3/8″	8526K13	—	10.64
7/16″	8526K81	$3.95	13.72
1/2″	8526K82	$4.99	$17.34
9/16″	8526K83	5.45	18.94
5/8″	8526K84	6.24	21.67
3/4″	8526K85	8.33	28.92
7/8″	8526K86	10.62	36.87
1″	8526K221	14.33	49.74
1 1/8″	8526K222	$17.05	$59.19
1 1/4″	8526K223	19.33	67.13
1 3/8″	8526K224	22.12	76.82
1 1/2″	8526K225	26.16	90.84
2″	8526K226	45.65	158.50

Impact-Resistant Garolite (CE)

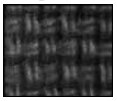

- Color: Opaque tan to brown, except graphite-filled sheets are black
- Max. Temperature: 235° F
- Tensile Strength: Good
- Impact Strength: Good
- Electrical Insulator: Poor
- Machine: Use carbide tooling
- Hardness: Rockwell M90-M105

This general-purpose laminate is used primarily for mechanical applications, such as bushings, gears, and rollers. Material has a cotton-cloth base and is sometimes called canvas-grade industrial laminate, phenolic, and Bakelite. *Sheets* and *rods* meet UL 94HB for flame retardance. *Sheets*, *tubes*, and *rods* meet MIL-I-24768/14. *Graphite-filled sheets* do not meet a UL or MIL specification.

Sheets—Smooth Finish



Width and length tolerances are ±1″. Flatness tolerance is not rated. Hardness for 4″×6″ sheets is Barcol 50-60.

Thick.	Thick. Toler.	4″×6″		12″×12″		12″×24″		24″×24″		24″×36″		36″×48″	
1/32″	±0.007″			8491K1	$5.63	8491K2	$9.40	8491K3	$18.11	8491K4	$23.28	8491K5	$42.69
1/16″	±0.008″			8491K6	5.98	8491K7	11.43	8491K8	20.59	8491K9	24.98	8491K11	49.74
1/8″	±0.010″			8491K12	11.91	8491K13	23.12	8491K14	42.71	8491K15	52.60	8491K16	96.41
3/16″	±0.013″			8491K17	17.00	8491K18	33.04	8491K19	63.24	8491K21	76.20	8491K22	137.96
1/4″	±0.015″			8491K23	21.66	8491K24	40.50	8491K25	77.71	8491K26	97.71	8491K27	176.85
3/8″	±0.020″			8491K28	32.51	8491K29	60.32	8491K31	104.89	8491K32	132.99	8491K33	242.24
1/2″	±0.024″			8491K34	36.28	8491K35	67.66	8491K36	124.65	8491K37	169.99	8491K38	304.91
5/8″	±0.027″			8491K39	42.73	8491K41	83.75	8491K42	145.66	8491K43	198.64	8491K44	361.16
3/4″	±0.029″	5528K21	$13.13	8491K45	49.32	8491K46	95.48	8491K47	166.05	8491K48	226.45	8491K49	411.72
1″	±0.033″	5528K31	16.36	8491K51	65.82	8491K52	123.20	8491K53	214.26	8491K54	292.20	8491K55	531.27
1 1/4″	±0.037″			8491K56	82.27	8491K57	153.99	8491K58	267.80	8491K59	367.01	8491K61	664.03
1 1/2″	±0.041″	5528K51	24.94	8491K62	96.82	8491K63	184.80	8491K64	321.39	8491K65	438.29	8491K66	796.89
2″	±0.049″			8491K67	129.09	8491K68	246.39	8491K69	428.49	8491K71	584.36	8491K72	1,062.47

Wear-Resistant Slippery Sheets—Smooth Finish



The addition of graphite to CE Garolite acts like a lubricant to reduce surface friction. Often used for bearings and wear pads, this material is a good choice for high-friction applications. Thickness tolerance is ±15% for thicknesses up to 1/4″; +10% for 1/2″ to 1″ thick. Length and width tolerances are ±1″, except 12″×12″ sheets are ±1/4″. Flatness tolerance is not rated.

Thick.	12″×12″		18″×39″		39″×39″	
1/16″	2547K11	$7.60	2547K12	$29.84	2547K13	$54.26
1/8″	2547K21	12.82	2547K22	50.36	2547K23	91.56
1/4″	2547K31	29.47	2547K32	115.78	2547K33	210.50
1/2″	2547K41	$46.44	2547K42	$182.46	2547K43	$331.74
3/4″	2547K51	61.40	2547K52	241.21	2547K53	438.56
1″	2547K61	76.85	2547K62	301.92	2547K63	548.94

Tubes—Smooth Finish



Wall thickness tolerance is ±0.008″, and length tolerance is ±1″. Straightness tolerance is not rated.

OD	ID	Wall Thick.	40″ Length		OD	ID	Wall Thick.	40″ Length		OD	ID	Wall Thick.	40″ Length	
1/4″	3/16″	1/32″	86555K221	$9.39	5/8″	1/4″	3/16″	86555K262	$13.36	1″	3/4″	1/8″	86555K452	$16.38
5/16″	3/16″	1/16″	86555K231	8.99	5/8″	3/8″	1/8″	86555K254	13.12	1 1/8″	5/8″	1/4″	86555K471	26.44
5/16″	1/4″	1/32″	86555K222	11.08	5/8″	1/2″	1/16″	86555K235	11.26	1 1/8″	1″	1/16″	86555K433	15.47
3/8″	3/16″	3/32″	86555K241	9.80	11/16″	1/2″	3/32″	86555K245	12.38	1 1/4″	3/4″	1/4″	86555K472	29.03
3/8″	1/4″	1/16″	86555K232	9.77	3/4″	1/4″	1/4″	86555K272	17.66	1 1/4″	1″	1/8″	86555K453	21.86
3/8″	5/16″	1/32″	86555K223	11.46	3/4″	3/8″	3/16″	86555K264	15.57	1 3/8″	1″	3/16″	86555K463	30.39
7/16″	5/16″	1/16″	86555K233	9.65	3/4″	1/2″	1/8″	86555K255	14.15	1 1/2″	1″	1/4″	86555K473	38.77
7/16″	3/8″	1/32″	86555K224	11.76	3/4″	5/8″	1/16″	86555K431	12.15	1 1/2″	1 1/4″	1/8″	86555K454	25.82
1/2″	1/4″	1/8″	86555K252	11.62	7/8″	5/8″	1/8″	86555K451	14.49	1 5/8″	1 1/4″	3/16″	86555K464	36.02
1/2″	5/16″	3/32″	86555K243	10.96	7/8″	3/4″	1/16″	86555K432	13.82	1 3/4″	1 1/4″	1/4″	86555K474	45.73
1/2″	3/8″	1/16″	86555K234	10.46	1″	1/2″	1/4″	86555K275	22.38	2″	1 1/2″	1/4″	86555K475	52.43
9/16″	1/2″	1/32″	86555K225	12.40	1″	5/8″	3/16″	86555K461	20.23	3″	2 1/2″	1/4″	86555K476	107.98

Rods—Smooth Finish



Diameter tolerance is ±0.005″. Length tolerance is ±3/8″ for 1-ft. lengths and ±1″ for 4-ft. lengths. Straightness tolerance is not rated. **To Order:** Please specify length.

Dia.	1 ft.	4 ft.	Dia.	1 ft.	4 ft.	Dia.	1 ft.	4 ft.	Dia.	1 ft.	4 ft.
1/4″ 8467K11		$8.42	5/8″ 8467K83	$6.30	$21.89	1 3/8″ 8467K44	$20.65	$71.71	3 1/2″ 8467K49	$101.15	$351.22
5/16″ 8467K12		10.30	3/4″ 8467K84	8.26	28.67	1 1/2″ 8467K45	24.30	84.39	4″ 8467K51	129.96	451.26
3/8″ 8467K13		11.55	7/8″ 8467K85	10.28	35.71	2″ 8467K46	41.37	143.64	4 1/2″ 8467K52	149.73	519.88
7/16″ 8467K14		14.78	1″ 8467K41	12.38	42.99	2 1/2″ 8467K47	61.13	212.24	5″ 8467K53	196.13	681.01
1/2″ 8467K81	$5.05	17.55	1 1/8″ 8467K42	15.09	52.40	3″ 8467K48	83.95	291.50	6″ 8467K54	245.27	851.63
9/16″ 8467K82	5.66	19.67	1 1/4″ 8467K43	17.49	60.72						

Ultra-Impact-Resistant Garolite (E-Glass)

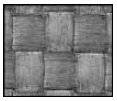

- Color: Opaque reddish brown
- Max. Temperature: 160° F
- Tensile Strength: Excellent
- Impact Strength: Excellent
- Electrical Insulator: Not rated
- Machine: Use carbide tooling
- Hardness: Rockwell M110

An alternative to our ultra-impact-resistant polycarbonate, E-glass Garolite provides outstanding protection from impact and punctures, making it ideal for use as machine guards. Length and width tolerances are ±1/8″. Flatness tolerance is not rated. Finish is smooth. Meets UL 752.



Thick.	Thick. Tolerance	12″×12″		12″×24″		24″×24″		24″×48″	
0.283″	±0.026″	3819K65	$36.41	3819K66	$53.82	3819K67	$91.81	3819K68	$158.30
0.489″	±0.036″	3819K75	46.48	3819K76	74.37	3819K77	134.80	3819K78	232.42
1.310″	±0.058″	3819K85	99.33	3819K86	175.28	3819K87	321.35	3819K88	584.27

Machinable Garolite (LE)

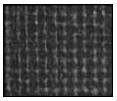

- Color: Opaque tan to brown
- Max. Temperature: 235° F
- Tensile Strength: Excellent, except tubes are good
- Impact Strength: Poor
- Electrical Insulator: Poor
- Machine: Use carbide tooling
- Hardness: Rockwell M100-M105

A fine-weave cotton-cloth base gives LE Garolite good machinability and wear resistance. It is sometimes referred to as industrial laminate, phenolic, or Bakelite. Meets UL 94HB for flame retardance and MIL-I-24768/13, except tubes and thick sheets do not meet UL 94HB.

Sheets—Smooth Finish



Width and length tolerances are ±1″. Flatness tolerance is not rated.

Thick.	Thick. Toler.	6″×6″		12″×12″		12″×24″		24″×24″		24″×36″		36″×48″	
1/32″	±0.005″	—	—	8474K101	$6.51	8474K102	$9.50	8474K103	$17.65	8474K104	$24.98	8474K105	$38.43
1/16″	±0.006″	—	—	8474K111	10.35	8474K112	16.55	8474K113	26.46	8474K114	36.88	8474K115	63.80
1/8″	±0.007″	6842K61	$6.25	8474K121	18.59	8474K122	31.97	8474K123	54.81	8474K124	73.75	8474K125	125.07
3/16″	±0.009″	6842K62	9.33	8474K131	27.87	8474K132	46.21	8474K133	77.85	8474K134	104.59	8474K135	186.56
1/4″	±0.012″	6842K63	11.98	8474K141	31.73	8474K142	56.44	8474K143	99.21	8474K144	129.33	8474K145	239.64
5/16″	±0.015″	6842K64	14.39	8474K151	39.43	8474K152	70.11	8474K153	123.26	8474K154	163.70	8474K155	287.80
3/8″	±0.017″	6842K65	17.61	8474K161	47.28	8474K162	86.73	8474K163	147.71	8474K164	209.04	8474K165	352.28
1/2″	±0.021″	6842K66	21.77	8474K171	55.66	8474K172	98.07	8474K173	170.97	8474K174	241.26	8474K175	435.49
3/4″	±0.027″	6842K22	26.60	8474K191	83.37	8474K192	146.49	8474K193	269.76	8474K194	368.31	8474K195	648.77
1″	±0.065″	6842K32	35.32	8474K201	105.02	8474K202	204.52	8474K203	356.67	8474K204	505.28	8474K205	861.51
1 1/4″	±0.069″	6842K42	46.02	8474K211	136.26	8474K212	239.85	8474K213	434.81	8474K214	610.35	8474K215	1,122.38
1 1/2″	±0.082″	6842K52	52.99	8474K221	168.54	8474K222	296.63	8474K223	589.39	8474K224	734.93	8474K225	1,292.52

Strips—Smooth Finish



Width tolerance is ±0.016″, and length tolerance is ±1″. Flatness tolerance is not rated.

Thick.	Thick. Tolerance	2″ Wd.×48″ Lg.		3″ Wd.×48″ Lg.	
1/16″	±0.006″	9322K52	$7.45	9322K62	$12.64
1/8″	±0.007″	9322K53	13.93	9322K63	17.32
3/16″	±0.009″	9322K54	20.09	9322K64	28.13
1/4″	±0.012″	9322K55	$22.87	9322K65	$33.28
3/8″	±0.017″	9322K57	35.90	9322K67	52.24
1/2″	±0.021″	9322K58	45.55	9322K68	66.28

Tubes—Smooth Finish



Wall thickness tolerance is ±0.012″, and length tolerance is ±1″. Straightness tolerance is not rated.

OD	ID	Wall Thick.	40″ Length	
1/4″	3/16″	1/32″	8640K322	$11.73
5/16″	3/16″	1/16″	8640K335	9.57
5/16″	1/4″	1/32″	8640K453	10.29
3/8″	3/16″	3/32″	8640K351	10.37
3/8″	1/4″	1/16″	8640K132	12.00
3/8″	5/16″	1/32″	8640K454	10.62
7/16″	1/4″	3/32″	8640K152	11.15
7/16″	5/16″	1/16″	8640K133	11.73
7/16″	3/8″	1/32″	8640K455	11.64
1/2″	1/4″	1/8″	8640K172	12.70
1/2″	5/16″	3/32″	8640K153	11.53
1/2″	3/8″	1/16″	8640K134	11.38
9/16″	3/8″	3/32″	8640K154	12.19
9/16″	1/2″	1/32″	8640K457	11.70
5/8″	1/4″	3/16″	8640K212	15.80
5/8″	3/8″	1/8″	8640K174	$14.60
5/8″	1/2″	1/16″	8640K136	12.48
11/16″	5/8″	1/32″	8640K119	13.42
3/4″	1/4″	1/4″	8640K252	20.89
3/4″	3/8″	3/16″	8640K214	18.02
3/4″	1/2″	1/8″	8640K176	16.76
3/4″	5/8″	1/16″	8640K138	13.47
13/16″	3/4″	1/32″	8640K122	12.78
7/8″	3/8″	1/4″	8640K254	24.87
7/8″	1/2″	3/16″	8640K216	20.53
7/8″	5/8″	1/8″	8640K178	18.68
7/8″	3/4″	1/16″	8640K141	13.92
15/16″	3/4″	3/32″	8640K161	16.00
1″	1/2″	1/4″	8640K256	28.33
1″	5/8″	3/16″	8640K218	24.91
1″	3/4″	1/8″	8640K181	$19.42
1 1/16″	1″	1/32″	8640K125	14.80
1 1/8″	5/8″	1/4″	8640K258	32.98
1 1/8″	3/4″	3/16″	8640K221	23.80
1 1/8″	1″	1/16″	8640K144	17.68
1 1/4″	3/4″	1/4″	8640K261	33.91
1 1/4″	1″	1/8″	8640K184	25.86
1 5/16″	1 1/4″	1/32″	8640K231	15.50
1 1/2″	1″	1/4″	8640K264	45.30
1 1/2″	1 1/4″	1/8″	8640K234	30.41
1 3/4″	1 1/2″	1/8″	8640K244	34.35
2″	1 1/2″	1/4″	8640K246	58.83
2 1/2″	1 1/2″	1/2″	8640K247	135.39
3″	2″	1/2″	8640K248	173.57

Rods—Smooth Finish



Diameter tolerance is ±0.001″ for diameters up to 1 1/4″ and ±0.005″ for diameters 1 1/2″ and larger. Length tolerance is ±3/8″ for 1-ft. lengths and ±1″ for 4-ft. lengths. Straightness tolerance is not rated. **To Order:** Please specify length.

Dia.		1 ft.	4 ft.
1/16″	8470K71	—	$7.70
1/8″	8470K72	—	7.96
1/4″	8470K73	—	10.47
5/16″	8470K74	—	12.66
3/8″	8470K75	—	14.02
7/16″	8470K78	$4.85	16.83
1/2″	8470K79	5.80	20.14
9/16″	8470K81	$6.83	$23.70
5/8″	8470K82	7.81	27.13
3/4″	8470K83	10.44	36.24
7/8″	8470K84	13.32	46.24
1″	8470K57	16.40	56.93
1 1/8″	8470K58	19.93	69.21
1 1/4″	8470K59	23.15	80.37
1 1/2″	8470K61	$32.76	$113.74
2″	8470K62	62.60	217.35
2 1/2″	8470K63	98.14	340.78
3″	8470K64	142.27	493.98
4″	8470K65	256.06	889.11
5″	8470K66	348.29	1,209.34
6″	8470K67	445.07	1,545.38

Electrically Conductive Garolite (Glass Carbon)



- Color: Opaque black
- Max. Temperature: 290° F
- Tensile Strength: Not rated
- Impact Strength: Not rated
- Not an electrical insulator
- Machine: Use diamond-tipped tooling
- Hardness: Rockwell M110

The graphite-carbon portion of this glass-based material conducts electricity, removing static charges. Material is sometimes called industrial laminate or phenolic. Width and length tolerances are ±1″, except 12″×12″ sheets are ±1/4″. Flatness tolerance is not rated. Finish is smooth.

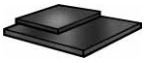

Thick.	Thick. Tolerance	12″×12″		12″×24″		24″×42″	
1/32″	±0.011″	2235K11	$11.42	2235K13	$19.41	2235K15	$57.10
1/16″	±0.009″	2235K21	16.37	2235K23	27.83	2235K25	81.85
3/32″	±0.010″	2235K31	22.56	2235K33	38.36	2235K35	112.82
1/8″	±0.015″	2235K41	26.59	2235K43	45.20	2235K45	132.93

Electrical-Grade Garolite (G-9)

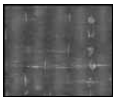

- Color: Opaque brown to gray
- Max. Temperature: 280°F
- Tensile Strength: Excellent
- Impact Strength: Excellent
- Electrical Insulator: Good
- Machine: Use carbide tooling
- Hardness: Rockwell M90-M115

Often used as arc barriers and switchboard panels, this high-strength material has excellent arc resistance. Sometimes called melamine-grade industrial laminate, phenolic, and Bakelite, G-9 Garolite has a woven fiberglass fabric base. Meets UL 94V0 for flame retardance, except 1/32" thick sheets do not.

Sheets—Smooth Finish



Width and length tolerances are ±1". Flatness tolerance is not rated.

Thick.	Thick. Tolerance	12"×12"		24"×24"	
1/32"	±0.005"	8661K118	$8.74	8661K119	$26.29
1/16"	±0.008"	8661K121	14.95	8661K161	45.09
1/8"	±0.012"	8661K122	27.08	8661K162	82.00
1/4"	±0.022"	8661K124	51.99	8661K164	158.16

Rods—Smooth Finish



Diameter tolerance is ±0.001", and length tolerance is ±1". Straightness tolerance is not rated. **To Order:** Please specify length.

Dia.	1 ft.	4 ft.	Dia.	1 ft.	4 ft.
1/16"	8534K12	—	$11.30	1/2"	8534K51	$9.78	$33.96
1/8"	8534K14	—	11.66	5/8"	8534K52	14.14	49.09
1/4"	8534K17	—	12.95	3/4"	8534K53	16.69	57.96
5/16"	8534K41	$4.57	15.87	1"	8534K54	26.97	93.65
3/8"	8534K42	5.16	17.90				

Multipurpose Garolite (G-10)



- Color: Opaque yellow to green
- Max. Temperature: 265°F
- Tensile Strength: Excellent
- Impact Strength: Excellent
- Electrical Insulator: Good
- Machine: Use carbide tooling
- Hardness: Rockwell M100-M110

Combining good electrical insulating properties with high strength and low moisture absorption, this fiberglass-cloth based material is sometimes called epoxy-grade industrial laminate and phenolic. *Sheets* and *tubes* meet MIL-I-24768/2. *90° angles* meet MIL-I-247681/27.

Sheets—Smooth Finish

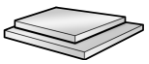

Width and length tolerances are ±1". Flatness tolerance is not rated.

Thick.	Thick. Tolerance	6"×6"		12"×12"		24"×24"		24"×36"		36"×48"	
1/32"	±0.007"	9910T59	$3.21	9910T11	$6.47	9910T12	$20.24	9910T13	$26.09	9910T14	$45.26
1/16"	±0.008"	9910T61	5.57	9910T15	9.98	9910T16	33.08	9910T17	44.04	9910T18	78.48
3/32"	±0.009"	9910T62	8.02	9910T81	15.22	9910T82	47.86	9910T83	63.59	9910T84	113.02
1/8"	±0.012"	9910T63	10.81	9910T21	19.36	9910T22	63.99	9910T23	85.42	9910T24	152.32
3/16"	±0.019"	9910T64	15.30	9910T25	28.27	9910T26	93.63	9910T27	122.70	9910T28	215.49
1/4"	±0.022"	9910T65	19.26	9910T31	36.75	9910T32	119.22	9910T33	156.73	9910T34	271.21
3/8"	±0.030"	9910T66	27.89	9910T35	52.75	9910T36	168.11	9910T37	222.00	9910T38	392.78
1/2"	±0.036"	9910T67	35.95	9910T41	67.44	9910T42	215.57	9910T43	285.49	9910T44	506.27
5/8"	±0.040"	9910T68	43.48	9910T45	82.49	9910T46	259.36	9910T47	344.55	9910T48	612.42
3/4"	±0.043"	9910T69	52.18	9910T51	97.01	9910T52	311.37	9910T53	413.45	9910T54	734.89
1"	±0.049"	9910T71	67.40	9910T55	126.82	9910T56	400.30	9910T57	532.91	9910T58	949.25
1 1/4"	±0.055"	9910T85	82.95	9910T86	157.37	9910T87	494.78	9910T88	657.29	9910T89	1,168.31
1 1/2"	±0.061"	9910T91	95.15	9910T92	180.51	9910T93	567.53	9910T94	753.94	9910T95	1,340.10
2"	±0.073"	9910T111	123.24	9910T112	233.81	9910T113	735.09	9910T114	976.54	9910T115	1,735.76

Tubes—Smooth Finish



Wall thickness tolerance is ±0.031", and length tolerance is +9". Straightness tolerance is not rated. Meet UL 94HB for flame retardance.

OD	ID	Wall Thick.	39" Length		OD	ID	Wall Thick.	39" Length		OD	ID	Wall Thick.	39" Length	
3/16"	1/8"	1/32"	8668K82	$43.84	5/8"	1/4"	3/16"	8668K42	$54.32	1"	1/2"	1/4"	8668K137	$92.42
1/4"	1/8"	1/16"	8668K83	44.86	5/8"	3/8"	1/8"	8668K34	51.08	1"	5/8"	3/16"	8668K46	82.96
1/4"	3/16"	1/32"	8668K91	43.84	5/8"	1/2"	1/16"	8668K15	49.54	1"	3/4"	1/8"	8668K37	72.66
5/16"	3/16"	1/16"	8668K92	44.86	11/16"	5/16"	3/16"	8668K43	59.01	1 1/8"	3/4"	3/16"	8668K47	92.59
3/8"	3/16"	3/32"	8668K93	44.75	11/16"	1/2"	3/32"	8668K25	52.66	1 1/8"	1"	1/16"	8668K19	69.44
3/8"	1/4"	1/16"	8668K12	42.62	3/4"	1/4"	1/4"	8668K139	68.06	1 1/4"	3/4"	1/4"	8668K141	109.07
7/16"	3/16"	1/8"	8668K94	46.66	3/4"	3/8"	3/16"	8668K44	63.89	1 1/4"	7/8"	3/16"	8668K18	102.20
7/16"	1/4"	3/32"	8668K22	43.35	3/4"	1/2"	1/8"	8668K35	59.01	1 1/4"	1"	1/8"	8668K39	87.82
7/16"	5/16"	1/16"	8668K13	45.06	3/4"	5/8"	1/16"	8668K16	53.47	1 3/8"	1"	3/16"	8668K49	111.76
1/2"	1/4"	1/8"	8668K32	45.92	13/16"	5/8"	3/32"	8668K26	59.01	1 1/2"	1 1/4"	1/8"	8668K71	104.51
1/2"	5/16"	3/32"	8668K23	46.77	7/8"	3/8"	1/4"	8668K138	81.04	2"	1 3/4"	1/8"	8668K147	121.37
1/2"	3/8"	1/16"	8668K14	46.77	7/8"	1/2"	3/16"	8668K45	73.50	2 1/4"	2"	1/8"	8668K149	131.94
9/16"	3/16"	3/16"	8668K95	56.66	7/8"	5/8"	1/8"	8668K36	66.20	2 1/2"	2 1/4"	1/8"	8668K151	141.65
9/16"	5/16"	1/8"	8668K33	49.26	7/8"	3/4"	1/16"	8668K17	59.65	2 3/4"	2 1/2"	1/8"	8668K153	154.37
9/16"	3/8"	3/32"	8668K24	49.26	15/16"	3/4"	3/32"	8668K27	64.71	3"	2 3/4"	1/8"	8668K154	164.69
										3 1/4"	3"	1/8"	8668K155	176.60

90° Angles—Smooth Finish



Leg length tolerance is ±0.062". Wall thickness tolerance is ±0.028". Length tolerance is +6".

Outside Leg Lgs.	Wall Thick.	30" Length		Outside Leg Lgs.	Wall Thick.	30" Length		Outside Leg Lgs.	Wall Thick.	30" Length	
1"×1"	1/8"	7300T11	$133.52	1 1/2"×1 1/2"	1/8"	7300T14	$135.54	2"×2"	1/8"	7300T17	$142.48
1"×1"	3/16"	7300T12	145.94	1 1/2"×1 1/2"	3/16"	7300T15	152.91	2"×2"	3/16"	7300T18	156.95
1"×1"	1/4"	7300T13	160.36	1 1/2"×1 1/2"	1/4"	7300T16	167.18	2"×2"	1/4"	7300T19	174.00

Flame-Retardant Multipurpose Garolite (G-10/FR4)



- Color: Opaque yellow-brown to green, unless noted
- Max. Temperature: 265°F
- Tensile Strength: Excellent
- Impact Strength: Excellent
- Electrical Insulator: Good
- Machine: Use carbide tooling
- Hardness: Rockwell M110-M115

This flame-retardant version of G-10 Garolite offers excellent strength, low water absorption, and good electrical insulating qualities in dry and humid conditions. Material is fiberglass-cloth with a flame-retardant resin. Meets MIL-I-24768/27. Meets UL 94V0 for flame retardance, except tubes do not.

Rectangular Bars—Smooth Finish



Width and length tolerances are ±0.031″. Flatness tolerance is not rated. **To Order:** Please specify length.

Width	2 ft.	4 ft.
1/8″ Thick *(±0.012″)*		
1″	8557K11 $2.96	$5.69
1½″	8557K12 4.22	8.12
2″	8557K13 5.44	10.47
2½″	8557K14 7.04	13.53
3″	8557K15 7.92	15.23
4″	8557K16 11.76	22.61
6″	8557K18 15.43	29.68
1/4″ Thick *(±0.022″)*		
1″	8557K21 5.56	10.70
1½″	8557K22 8.16	15.70
2″	8557K23 10.76	20.70
3″	8557K25 14.96	28.77
4″	8557K26 20.13	38.72

Width	2 ft.	4 ft.
3/8″ Thick *(±0.038″)*		
1″	8557K31 $8.63	$16.59
1½″	8557K32 12.15	23.37
2″	8557K33 15.96	30.70
3″	8557K35 22.28	42.84
1/2″ Thick *(±0.036″)*		
1″	8557K41 11.21	21.56
1½″	8557K42 16.34	31.42
2″	8557K43 20.68	39.77
3″	8557K45 29.25	56.25
4″	8557K46 40.03	76.98
3/4″ Thick *(±0.043″)*		
1″	8557K51 17.30	33.26
1½″	8557K52 24.13	46.40

Width	2 ft.	4 ft.
3/4″ Thick *(±0.043″) (Cont.)*		
2″	8557K53 $30.44	$58.53
3″	8557K55 43.41	83.49
1″ Thick *(±0.049″)*		
1″	8557K61 22.13	42.56
1½″	8557K62 32.05	61.63
2″	8557K63 40.35	77.60
3″	8557K65 58.53	112.56
4″	8557K66 77.53	149.09
1 1/4″ Thick *(±0.055″)*		
1″	8557K71 27.65	53.18
1½″	8557K72 38.53	74.09
2″	8557K73 49.19	94.59
3″	8557K75 71.03	136.59

Width	2 ft.	4 ft.
1 1/2″ Thick *(±0.061″)*		
1½″	8557K82 $44.97	$86.49
2″	8557K83 54.07	103.98
3″	8557K85 78.43	150.83
1 3/4″ Thick *(±0.062″)*		
1½″	8557K92 48.50	93.27
2″	8557K93 61.87	118.98
3″	8557K95 88.71	170.60
2″ Thick *(±0.073″)*		
1″	8557K19 38.27	73.60
1½″	8557K29 56.14	107.96
2″	8557K39 69.94	134.50
3″	8557K59 101.09	194.40
4″	8557K69 124.99	240.37

Sheets—Smooth Finish

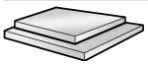

Width and length tolerances are –1/2″ for 6″x6″ sheets; ±1″ for all other sheet sizes. Flatness tolerance is not rated.

Thick.	Thick. Toler.	6″x6″	12″x12″	12″x24″	24″x24″	24″x36″	36″x48″
1/32″	±0.007″	8667K111 $2.65	8667K51 $5.74	8667K52 $9.97	8667K53 $16.21	8667K54 $22.11	8667K55 $36.49
1/16″	±0.008″	8667K112 4.00	8667K211 7.91	8667K241 14.13	8667K271 26.99	8667K11 36.81	8667K31 61.99
3/32″	±0.009″	8667K113 5.92	8667K212 12.84	8667K242 22.32	8667K272 38.83	8667K12 52.95	8667K32 91.04
1/8″	±0.012″	8667K1 7.58	8667K213 15.43	8667K243 26.46	8667K273 46.68	8667K13 63.66	8667K33 115.74
3/16″	±0.019″	8667K115 11.50	8667K214 23.96	8667K244 41.69	8667K274 72.48	8667K14 98.83	8667K34 176.86
1/4″	±0.022″	8667K116 15.04	8667K215 30.28	8667K245 52.68	8667K275 93.01	8667K15 126.85	8667K35 230.63
5/16″	±0.026″	8667K131 19.76	8667K132 38.92	8667K133 69.46	8667K134 120.65	8667K135 158.37	8667K136 299.38
3/8″	±0.030″	8667K117 22.61	8667K217 44.57	8667K247 79.05	8667K277 136.89	8667K17 179.56	8667K37 339.43
1/2″	±0.036″	8667K118 30.07	8667K218 55.52	8667K248 99.19	8667K278 179.15	8667K18 239.47	8667K38 444.20
5/8″	±0.040″	8667K119 37.62	8667K219 69.34	8667K249 123.97	8667K279 219.86	8667K19 299.84	8667K39 545.16
3/4″	±0.043″	8667K121 45.17	8667K221 78.19	8667K251 148.74	8667K281 259.12	8667K21 332.37	8667K41 642.50
1″	±0.049″	8667K122 60.18	8667K223 111.01	8667K253 198.38	8667K283 339.44	8667K23 462.91	8667K43 841.65
1 1/4″	±0.055″	8667K123 75.17	8667K61 138.75	8667K62 247.93	8667K63 416.98	8667K64 568.65	8667K65 1,033.91
1 1/2″	±0.061″	8667K124 85.89	8667K71 151.93	8667K72 272.41	8667K73 468.10	8667K74 638.37	8667K75 1,160.68
2″	±0.073″	8667K125 121.64	8667K81 198.61	8667K82 346.05	8667K83 620.30	8667K84 824.66	8667K85 1,474.45
2 1/2″	±0.091″	8667K151 158.32	8667K152 311.83	8667K153 556.50	8667K154 966.68	8667K155 1,268.92	8667K156 2,398.72

Choose-a-Color Sheets—Smooth Finish

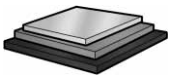

Width and length tolerances are ±1/4″ for 6″ and 12″ sides; ±1/2″ for 24″ sides; and ±1″ for 36″ and 48″ sides. Flatness tolerance is not rated. **To Order:** Please specify color: black, blue, or tan.

Thick.	Thick. Toler.	6″x6″	12″x12″	12″x24″	24″x24″	24″x36″	36″x48″
1/16″	±0.008″	85345K71 $3.34	85345K11 $10.75	85345K21 $19.19	85345K31 $33.70	85345K41 $45.74	85345K51 $78.88
1/8″	±0.012″	85345K72 6.65	85345K12 17.87	85345K22 34.03	85345K32 56.69	85345K42 74.05	85345K52 129.67
1/4″	±0.022″	85345K74 12.51	85345K14 31.44	85345K24 59.09	85345K34 98.65	85345K44 135.70	85345K54 239.38
3/8″	±0.038″	85345K75 18.39	85345K15 48.96	85345K25 89.01	85345K35 157.06	85345K45 202.28	85345K55 360.72

Precision-Ground Sheets—Smooth Finish

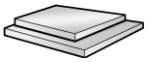

Both faces are ground. Thickness tolerance is ±0.005″. Width and length tolerances are ±1/4″. Flatness tolerance is not rated.

Thick.	12″x12″	18″x24″	24″x36″
1/8″	2911T11 $31.03	2911T12 $83.69	2911T13 $153.33
1/4″	2911T21 42.88	2911T22 115.21	2911T23 211.00

Thick.	12″x12″	18″x24″	24″x36″
1/2″	2911T31 $74.88	2911T32 $202.20	2911T33 $372.17
1″	2911T61 116.49	2911T62 303.00	2911T63 541.30

Film—Smooth Finish



- Color: Translucent yellow to light green

Width and length tolerances are ±1/4″. Flatness tolerance is not rated. ***Wear-resistant*** film has a coating that extends life.

Thick.	Thick. Tolerance	12″x12″	24″x36″
Precision			
0.005″	±0.0005″	1331T23 $11.03	1331T57 $41.69
0.010″	±0.0010″	1331T25 11.79	1331T59 44.62
0.015″	±0.0015″	1331T27 12.69	1331T61 46.64
0.020″	±0.0020″	1331T29 13.66	1331T63 50.27
0.025″	±0.0023″	1331T31 14.61	1331T65 53.70
0.031″	±0.0033″	1331T33 14.86	1331T67 57.27

Thick.	Thick. Tolerance	12″x12″	24″x36″
Wear Resistant			
0.010″	±0.0020″	1331T35 $16.05	1331T69 $62.76
0.015″	±0.0030″	1331T37 16.95	1331T71 66.15
0.020″	±0.0040″	1331T39 17.89	1331T73 69.79
0.025″	±0.0045″	1331T41 18.77	1331T75 71.10
0.031″	±0.0065″	1331T43 19.66	1331T77 72.40

(Material continued on following page)

Flame-Retardant Multipurpose Garolite (G-10/FR4) *(Material continued from previous page)*



- Color: Opaque yellow-brown to green
- Max. Temperature: 265°F
- Tensile Strength: Excellent
- Impact Strength: Excellent
- Electrical Insulator: Good
- Machine: Use carbide tooling
- Hardness: Rockwell M110-M115

This flame-retardant version of G-10 Garolite offers excellent strength, low water absorption, and good electrical insulating qualities in dry and humid conditions. Material is fiberglass-cloth with a flame-retardant resin. Meets MIL-I-24768/27. Meets UL 94V0 for flame retardance, except tubes do not.

Copper-Clad Sheets—Smooth Finish

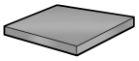

Sheets are 24″×36″. Copper is 0.0014″ thick. Width and length tolerances are ±1″. Flatness tolerance is not rated.

Thick.	Thick. Tolerance	Copper Clad on One Side		Copper Clad on Both Sides	
1/32″	±0.007″	8521K33	$32.08	8521K44	$37.30
1/16″	±0.008″	8521K35	$42.16	8521K46	$48.22

Tubes—Smooth Finish



Length tolerance is +6″. Wall thickness and straightness tolerances are not rated.

OD	ID	Wall Thick.		
Sold in 18″ lengths.				
1/4″	3/16″	1/32″	6394A44	$26.50
5/16″	3/16″	1/16″	6394A11	29.08
3/8″	3/16″	3/32″	6394A46	31.87
7/16″	3/16″	1/8″	6394A12	37.96
9/16″	3/16″	3/16″	6394A13	50.54
Sold in 42″ lengths.				
3/8″	1/4″	1/16″	6394A14	55.33
1/2″	1/4″	1/8″	6394A15	48.89
1/2″	5/16″	3/32″	6394A48	44.32
1/2″	3/8″	1/16″	6394A17	56.70
5/8″	1/4″	3/16″	6394A16	65.16
5/8″	3/8″	1/8″	6394A18	55.57
5/8″	1/2″	1/16″	6394A21	43.48
3/4″	3/8″	3/16″	6394A19	75.70
Sold in 42″ lengths. (Cont.)				
3/4″	1/2″	1/8″	6394A22	$63.48
3/4″	5/8″	1/16″	6394A24	47.00
7/8″	1/2″	3/16″	6394A23	85.02
7/8″	5/8″	1/8″	6394A25	70.41
7/8″	3/4″	1/16″	6394A52	49.04
1″	1/2″	1/4″	6394A54	103.65
1″	5/8″	3/16″	6394A26	95.22
1″	3/4″	1/8″	6394A27	76.58
1″	7/8″	1/16″	6394A31	53.15
1 1/8″	3/4″	3/16″	6394A28	103.91
1 1/8″	7/8″	1/8″	6394A32	81.63
1 1/8″	1″	1/16″	6394A33	57.98
1 1/4″	3/4″	1/4″	6394A29	135.52
1 1/4″	1″	1/8″	6394A34	90.98
Sold in 42″ lengths. (Cont.)				
1 3/8″	1″	3/16″	6394A35	$122.09
1 3/8″	1 1/4″	1/16″	6394A36	66.40
1 1/2″	1 1/4″	1/8″	6394A37	100.89
1 5/8″	1 1/4″	3/16″	6394A38	155.90
1 5/8″	1 1/2″	1/16″	6394A39	105.38
1 3/4″	1 1/2″	1/8″	6394A41	112.33
1 7/8″	1 1/2″	3/16″	6394A42	152.08
2″	1 3/4″	1/8″	6394A56	125.92
2 1/4″	2″	1/8″	6394A58	140.64
2 1/2″	2 1/4″	1/8″	6394A62	155.06
2 3/4″	2 1/2″	1/8″	6394A64	162.17
3″	2 3/4″	1/8″	6394A66	172.13
3 1/4″	3″	1/8″	6394A68	184.87

Rods—Smooth Finish



Diameter tolerance is ±0.005″. Length tolerance is ±1″. Straightness tolerance is not rated. **To Order:** Please specify length.

Dia.	1 ft.	4 ft.	Dia.	1 ft.	4 ft.	Dia.	1 ft.	4 ft.	Dia.	1 ft.	4 ft.
1/16″ 8669K11	$3.59	$12.48	1/2″ 8669K17	$8.20	$28.47	1″ 8669K26	$22.97	$79.74	2″ 8669K51	$76.16	$264.44
1/8″ 8669K12	3.80	13.20	9/16″ 8669K18	9.98	34.65	1 1/8″ 8669K27	27.23	94.54	2 1/2″ 8669K53	125.77	436.70
3/16″ 8669K13	3.92	13.61	5/8″ 8669K19	12.39	43.01	1 1/4″ 8669K28	29.74	103.28	3″ 8669K55	159.43	553.57
1/4″ 8669K14	4.42	15.36	3/4″ 8669K24	15.90	55.21	1 3/8″ 8669K29	34.66	120.33	3 1/2″ 8669K57	208.98	725.64
5/16″ 8669K15	4.81	16.70	7/8″ 8669K25	19.00	65.96	1 1/2″ 8669K48	39.70	137.84	4″ 8669K58	269.99	937.45
3/8″ 8669K16	5.38	18.69									

High Temperature Garolite (G-11)



- Color: Opaque green to greenish brown
- Max. Temperature: 335°F
- Tensile Strength: Excellent
- Impact Strength: Excellent
- Electrical Insulator: Excellent
- Machine: Use diamond-tipped tooling
- Hardness: Rockwell M110-M115

Suitable for continuous use in elevated temperatures, this fiberglass-based material retains at least 50% of its structural strength at temperatures above 300°F. It is sometimes called epoxy-grade industrial laminate and phenolic. Meets UL 94HB for flame retardance and MIL-I-24768/3.

Sheets—Smooth Finish

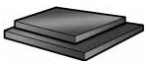

Width and length tolerances are ±1/2″ for 6″×6″ sheets and ±1″ for all other sizes. Flatness tolerance is not rated.

Thick.	Thick. Tolerance	6″×6″		12″×12″		12″×24″		24″×24″		24″×36″		36″×48″	
1/32″	±0.005″	—	—	8710K113	$8.61	8710K114	$15.53	8710K115	$28.21	8710K116	$40.20	8710K117	$66.92
1/16″	±0.008″	—	—	8710K121	14.80	8710K141	26.92	8710K161	44.73	8710K181	61.81	8710K211	108.72
1/8″	±0.012″	8710K537	$14.81	8710K122	28.24	8710K142	46.89	8710K162	85.39	8710K182	122.20	8710K212	205.66
3/16″	±0.019″	8710K331	16.79	8710K123	36.05	8710K143	67.12	8710K163	116.74	8710K183	160.33	8710K213	280.35
1/4″	±0.022″	8710K332	21.13	8710K124	49.94	8710K144	86.88	8710K164	151.10	8710K184	206.70	8710K214	362.44
5/16″	±0.026″	8710K538	28.37	8710K125	62.78	8710K145	109.20	8710K165	189.90	8710K185	258.94	8710K215	450.33
3/8″	±0.030″	8710K333	29.72	8710K126	70.55	8710K146	132.60	8710K166	228.31	8710K186	298.81	8710K216	555.51
1/2″	±0.033″	8710K334	43.37	8710K127	94.17	8710K147	174.14	8710K167	306.51	8710K187	419.16	8710K217	727.71
3/4″	±0.043″	8710K335	58.34	8710K133	130.13	8710K134	232.62	8710K135	414.57	8710K136	605.87	8710K137	1,051.13
1″	±0.049″	8710K336	70.89	8710K153	165.44	8710K154	303.42	8710K155	535.41	—	—	—	—

Rods—Smooth Finish



Diameter tolerance is ±0.001″ for rods up to 1 1/4″ dia. and ±0.003″ for rods 1 3/8″ dia. and larger. Length tolerance is ±1″. Straightness tolerance is not rated. **To Order:** Please specify length.

Dia.	1 ft.	4 ft.	Dia.	1 ft.	4 ft.	Dia.	1 ft.	4 ft.	Dia.	1 ft.	4 ft.
1/16″ 8638K71	$4.82	$16.75	5/16″ 8638K75	$6.93	$24.06	5/8″ 8638K79	$20.12	$69.87	1 1/4″ 8638K84	$53.38	$185.36
1/8″ 8638K72	4.54	15.78	3/8″ 8638K76	8.49	29.48	3/4″ 8638K81	26.17	90.88	1 3/8″ 8638K85	69.29	240.59
3/16″ 8638K73	4.88	16.94	7/16″ 8638K77	11.74	40.77	7/8″ 8638K82	30.88	107.21	1 1/2″ 8638K86	70.72	245.54
1/4″ 8638K74	5.64	19.60	1/2″ 8638K78	13.37	46.42	1″ 8638K83	36.16	125.57	2″ 8638K87	143.65	498.78

For information about Garolite, see page 3678.

Ultra High Temperature Garolite (G-7)



- Color: Opaque off-white to light green
- Max. Temperature: 425° F
- Tensile Strength: Excellent
- Impact Strength: Excellent
- Electrical Insulator: Good
- Machine: Use diamond-tipped tooling
- Hardness: Rockwell M67-M105

Not only heat- and arc-resistant, this material also has good electrical insulating properties. It has a fiberglass-fabric base and is sometimes called silicone-grade industrial laminate, phenolic, and Bakelite. Meets MIL-I-24768/17 and UL 94V0 for flame retardance.

Sheets—Smooth Finish

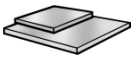

Width and length tolerances are ±1″, except 4″×6″ sheets are ±½″. Flatness tolerance is not rated.

Thick.	Thick. Toler.	4″×6″		12″×12″		12″×24″		24″×24″		24″×36″		36″×48″	
1/32″	±0.005″		—	8641K113	$21.33	8641K114	$39.14	8641K115	$76.87	8641K116	$101.67	8641K117	$187.62
1/16″	±0.008″		—	8641K121	36.89	8641K141	66.92	8641K161	109.02	8641K181	159.75	8641K211	300.91
1/8″	±0.012″		—	8641K122	67.57	8641K142	120.34	8641K162	200.00	8641K182	293.88	8641K212	532.48
3/16″	±0.019″		—	8641K123	94.75	8641K143	172.11	8641K163	291.86	8641K183	415.11	8641K213	762.23
1/4″	±0.022″	7017K41	$31.80	8641K124	118.59	8641K144	196.21	8641K164	354.04	8641K184	518.27	8641K214	954.81
3/8″	±0.030″		—	8641K126	147.72	8641K146	286.51	8641K166	461.72	8641K186	704.26	8641K216	1,374.17
1/2″	±0.033″	7017K61	56.42	8641K127	203.31	8641K147	346.14	8641K167	621.62	8641K187	873.90	8641K217	1,694.26
3/4″	±0.043″	7017K71	85.35	8641K133	290.92	8641K134	544.17	8641K135	1,008.10	8641K136	1,341.06	8641K137	2,563.19
1″	±0.049″	7017K81	107.00	8641K153	356.46	8641K154	669.09	8641K155	1,248.26	8641K156	1,694.65	8641K157	3,222.99

Rods—Smooth Finish



Diameter tolerance is ±0.003″, and length tolerance is ±1″. Straightness tolerance is not rated. To Order: Please specify length.

Dia.		1 ft.	4 ft.	Dia.		1 ft.	4 ft.	Dia.		1 ft.	4 ft.
1/4″	8524K61	$10.02	$34.78	1/2″	8524K64	$23.50	$81.61	1″	8524K67	$55.37	$192.26
5/16″	8524K62	13.39	46.48	5/8″	8524K65	32.35	112.32	1 1/2″	8524K68	127.93	444.21
3/8″	8524K63	15.59	54.13	3/4″	8524K66	40.60	140.96				

High Temperature Compressible Graphite

- Color: Opaque dark gray
- Max. Temperature: 975° F
- Tensile Strength: Nonreinforced: Fair Reinforced: Good
- Impact Strength: Not rated
- Electrical Insulator: Not rated
- Machine: Use carbide tooling
- Hardness: Not rated

Use these graphite sheets as seals and gaskets in high-temperature environments. They are softer than conductive graphite and can compress by as much as 35% their thickness for a tight seal. When oxygen is not present, the maximum temperature of this material is 4500° F.

Sheets—Smooth Finish



Thickness tolerance is ±0.031″ for the 1/32″ and 1/16″ thick sheets; it is ±0.047″ for the 1/8″ thick sheets. Width and length tolerances are ±1″ for the 12″×12″ sheets; ±2″ for the 12″×24″ sheets; and ±3″ for the 36″×36″ sheets. ***Reinforced*** sheets have a 0.002″ thick Type 316 stainless steel insert for additional strength.

Thick.	12″×12″		12″×24″		36″×36″	
Nonreinforced						
1/16″	1276N12	$18.96	1276N13	$39.04	1276N14	$145.76
1/8″	1276N16	30.64	1276N17	65.52	1276N18	277.50
Reinforced						
1/32″	1276N21	$27.76	1276N22	$58.66	1276N23	$173.20
1/16″	1276N25	42.58	1276N26	90.98	1276N27	224.72
1/8″	1276N29	62.64	1276N31	124.42	1276N32	321.72

High Temperature Conductive Graphite

- Color: Opaque black
- Max. Temperature: 800° F
- Tensile Strength: Good
- Impact Strength: Not rated
- Electrical Insulator: Not rated
- Machine: Use carbide tooling
- Hardness: Not rated

The very fine grain of this graphite adds strength and density to this conductive, heat-resistant material. It is often used in applications that require resistance to high temperatures, such as fabricating furnace parts, and to manufacture crucibles or ingot molds because it does not adhere to metal. When oxygen is not present, the maximum temperature of this material is 5000° F.

Rectangular Bars—Smooth Finish



Grain size is 0.0004″. Thickness tolerance is ±0.005″. Width and length tolerances are +1/8″.

Thick.	Wd.	3″ Length		6″ Length		12″ Length		Thick.	Wd.	3″ Length		6″ Length		12″ Length	
1/4″	1/4″	1763T11	$7.31	1763T21	$8.02	1763T31	$15.03	1/2″	1/2″	1763T14	$8.72	1763T24	$14.30	1763T34	$17.04
1/4″	1/2″	1763T12	8.05	1763T22	9.44	1763T32	15.74	1/2″	1″	1763T15	10.92	1763T25	18.13	1763T35	19.52
1/4″	1″	1763T13	9.25	1763T23	15.35	1763T33	16.46	1″	1″	1763T16	13.86	1763T26	19.58	1763T36	30.57

Sheets—Smooth Finish



Standard sheets have 0.0004″ grain. Thickness tolerance is ±0.005″. Width and length tolerances are +0.031″. ***Premium*** sheets have 0.00004″ grain that provides decreased porosity and increased life span as compared to standard sheets. Thickness tolerance is ±0.005″. Width and length tolerances are ±1/8″.

Thick.	4″×6″		6″×6″		12″×12″		Thick.	4″×6″		6″×6″		12″×12″	
Standard							***Premium***						
1/4″	9121K61	$23.71	9121K64	$32.27	9121K67	$109.01	1/4″	9015K81	$70.98	9015K83	$102.57	—	—
1/2″	9121K62	32.32	9121K65	43.62	9121K68	153.10	1/2″	9015K82	117.81	9015K84	161.19	—	—
1″	9121K63	47.30	9121K66	71.58	9121K69	255.66							

Rods—Smooth Finish



Grain size is 0.0004″. Diameter tolerance is +0.02″, and length tolerance is +1/8″.

Dia.	Lg.			Dia.	Lg.			Dia.	Lg.		
1/4″	6″	9121K71	$7.47	1″	12″	9121K74	$43.31	2″	12″	9121K76	$119.99
1/2″	6″	9121K72	14.88	1 1/2″	12″	9121K75	78.47	3″	12″	9121K77	201.46
3/4″	12″	9121K73	37.68								

High-Strength Lightweight Carbon Fiber

- Color: Opaque black
- Max. Temperature: 150° F
- Tensile Strength: Excellent
- Impact Strength: Not rated
- Electrical Insulator: Not rated
- Machine: Use carbide tooling
- Hardness: Not rated

The carbon-fiber base of this material creates a strong, lightweight laminate with a sleek, attractive finish.

Also Available: Adhesive for use with carbon fiber. Please ask for 1813A243.

Rigid Rectangular Bars—Smooth Finish



Thickness tolerance is ±0.005″. Width tolerance is ±0.005″. Length tolerance is ±1/2″. Flatness tolerance is not rated.

Thick.	Wd.	Lg.		
0.019″	0.118″	48″	2153T21	$8.55
0.034″	0.121″	48″	2153T22	10.26
0.040″	0.166″	48″	2153T23	11.54
0.057″	0.177″	48″	2153T24	14.32
0.070″	0.437″	48″	2153T25	17.50
0.092″	0.220″	48″	2153T26	19.77
0.125″	0.325″	12″	2153T27	7.38
0.125″	0.500″	12″	2153T28	11.11

Flexible Sheets—Smooth Finish



Width and length tolerances are –1/2″. Flatness tolerance is not rated.

Thick.	Thick. Toler.	12″×12″		12″×24″	
1/16″	±0.008″	86585K52	$57.43	86585K62	$79.24
3/32″	±0.009″	86585K53	77.40	86585K63	114.29
1/8″	±0.012″	86585K54	99.06	86585K64	146.76
3/16″	±0.019″	86585K55	142.87	86585K65	208.42

Rigid Tubes—Smooth Finish



Wall thickness tolerance is not rated. Length tolerance is ±1/4″. Straightness tolerance is not rated.

OD	ID	Wall Thick.	4 ft.	
0.125″	0.072″	0.027″	2153T31	$9.61
0.156″	0.110″	0.023″	2153T32	10.64
0.188″	0.116″	0.036″	2153T33	13.75
0.254″	0.158″	0.048″	2153T35	20.23
0.315″	0.236″	0.040″	2153T37	20.45
0.375″	0.290″	0.043″	2153T39	21.59
0.517″	0.413″	0.052″	2153T41	45.65
0.625″	0.505″	0.060″	2153T43	51.56

Rigid Rods—Smooth Finish



Diameter tolerance is ±0.010″. Length tolerance is ±1/2″. Straightness tolerance is not rated.

Dia.	Lg.		
1/16″	48″	2153T66	$8.08
3/32″	48″	2153T68	10.13
1/8″	48″	2153T71	12.05
1/4″	24″	2153T52	16.00
5/16″	24″	2153T54	25.54

Rigid Rectangular Bars—Patterned Smooth Finish



Thickness tolerance is ±0.006″. Width and length tolerances are ±1/8″. Flatness tolerance is not rated.

Thick.	Wd.	Lg.		
1/32″	1″	12″	8194K12	$4.43
1/32″	3″	12″	8194K52	10.72
1/32″	3″	24″	8194K92	19.47
1/16″	1″	12″	8194K14	6.71
1/16″	3″	12″	8194K54	15.81
1/16″	3″	24″	8194K94	29.38
1/8″	1″	12″	8194K16	11.64
1/8″	3″	12″	8194K56	28.15
1/8″	3″	24″	8194K96	50.95

Rigid Sheets—Patterned Smooth Finish

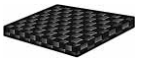

Width and length tolerances are ±1/8″. Flatness tolerance is not rated.

Thick.	Thick. Toler.	12″×12″		12″×24″	
1/32″	±0.003″	8181K12	$36.58	8181K32	$68.75
1/16″	±0.004″	8181K14	57.37	8181K34	105.95
1/8″	±0.006″	8181K16	95.00	8181K36	175.00

Rigid Tubes—Patterned Smooth Finish



Wall thickness tolerance is ±0.005″. Length tolerance is ±1/8″. Straightness tolerance is not rated. **To Order:** Please specify length.

OD	ID	Wall Thick.		1 ft.	3 ft.	6 ft.
0.570″	0.500″	0.035″	5287T32	$24.96	$68.00	____
0.840″	0.750″	0.045″	5287T33	26.22	71.74	$130.43
1.000″	0.938″	0.031″	5287T21	30.55	84.00	152.73
1.100″	1.000″	0.050″	5287T34	27.12	80.21	145.83
1.313″	1.188″	0.063″	5287T23	46.12	126.82	230.59
1.350″	1.250″	0.050″	5287T35	30.33	91.67	166.67
1.600″	1.500″	0.050″	5287T36	34.44	108.86	197.92
1.625″	1.500″	0.063″	5287T24	55.60	152.91	278.02
1.875″	1.750″	0.063″	5287T25	64.14	176.37	320.68

Dia.	Lg.		
3/8″	12″	2153T56	$17.95
1/2″	12″	2153T58	26.63
5/8″	12″	2153T62	39.58
3/4″	12″	2153T64	46.15

Ultra-Conductive Graphene Sheets

- Color: Silver
- Max. Temperature: 750° F
- Tensile Strength: Excellent
- Impact Strength: Not rated
- Electrical Insulator: Poor
- Hardness: Not rated

This highly conductive graphene material is often used in electronic devices, such as cell phones, laptop computers, digital cameras, and LEDs. Graphene is 97% carbon. It can be folded without tearing or damaging the sheet, and can be cut into smaller pieces with scissors. Thickness, width, and length tolerances are not rated.

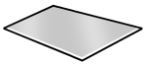

Thick.	Wd.	Lg.		
0.001″	8″	8″	1334N1	$34.00

Carbon Foam

- Color: Opaque charcoal gray
- Max. Temperature: 600° F
- Tensile Strength: Poor
- Impact Strength: Not rated
- Electrical Insulator: Not rated
- Machine: Use carbide tooling
- Hardness: Not rated

Often used in insulating, filtering, and electrical applications, this brittle foam resists high temperatures and chemicals. Sheets have an open-pore construction that allows fluid and air to flow through—the fewer pores per square inch (PPI), the greater the flow. Finish is textured. In oxygen-free environments, max. temperature is 6300° F.

To Order: Please specify flow rate: low flow (100 PPI), medium flow (60 PPI), or high flow (20 PPI).

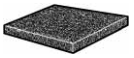

Thick.	3″×3″		6″×6″		12″×12″	
1/4″	3947K11	$32.50	3947K14	$49.74	3947K17	$108.00
1/2″	3947K12	40.00	3947K15	69.57	3947K18	238.89
1″	3947K13	52.38	3947K16	106.00	3947K19	320.69

Very High Temperature Mica

- Color: Opaque silver with brown spots, except clear film
- Max. Temperature: 930° F
- Electrical Insulator: Excellent
- Machine: Use carbide tooling
- Hardness: Not rated

Often used in thermal and electrical insulation, this material is also known as muscovite mica and is composed of laminated aluminum silicate and potassium, except clear film is not laminated. *Sheets* and *opaque film* meet UL 94V0 for flame retardance.

Sheets

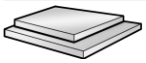

Width and length tolerances are ±0.375″ for 10″ × 12″ sheets and ±0.437″ for 20″ × 24″ sheets.

Thick.	Thick. Toler.	10″×12″		20″×24″	
1/8″	±0.013″	8779K51	$64.05	8779K31	$156.19
1/4″	±0.025″	8779K52	81.85	8779K32	209.93
1/2″	±0.050″	8779K53	140.53	8779K33	334.63
3/4″	±0.075″	8779K54	$180.62	8779K34	$410.40
1″	±0.100″	8779K55	254.47	8779K35	586.49

Opaque Film

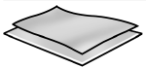

Width tolerance is ±0.437″, and length tolerance is ±0.157″.

Thick.	Thick. Tolerance	23″×39″		Thick.	Thick. Tolerance	23″×39″	
Flexible Film				*Rigid Film*			
0.004″	±0.0004″	85825K41	$13.76	0.004″	±0.0004″	8779K11	$13.60
0.008″	±0.0008″	85825K42	17.45	0.008″	±0.0008″	8779K12	18.34
0.012″	±0.0012″	85825K43	20.86	0.012″	±0.0012″	8779K13	22.85
0.016″	±0.0016″	85825K44	24.95	0.016″	±0.0016″	8779K14	27.76
0.020″	±0.0020″	85825K45	29.74	0.020″	±0.0020″	8779K15	34.25
0.024″	±0.0024″	85825K46	35.36	0.024″	±0.0024″	8779K16	49.64

Clear Film

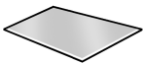

Clear mica is commonly used as see-through insulation. Width and length tolerances are ±0.01″.

Thick.	Thick. Toler.	3″×5″		4″×8″		5″×8″		6″×7″	
Rigid Film									
0.004″	±0.001″	8802K16	$2.29	8802K18	$7.34	8802K19	$9.19	8802K21	$10.98

Tubes



Wall thickness tolerance is ±0.015″, and length tolerance is ±5/32″.

OD	ID	Wall Thick.	24″ Length		OD	ID	Wall Thick.	24″ Length		OD	ID	Wall Thick.	24″ Length	
3/8″	1/4″	1/16″	5067K11	$54.40	5/8″	5/16″	5/32″	5067K46	$53.71	3/4″	1/2″	1/8″	5067K48	$64.22
1/2″	3/8″	1/16″	5067K14	50.48	5/8″	1/2″	1/16″	5067K17	51.55	3/4″	5/8″	1/16″	5067K21	57.60

Ultra High Temperature Mica

- Color: Opaque green with brown spots
- Max. Temperature: 1290° F
- Electrical Insulator: Excellent
- Machine: Use carbide tooling
- Hardness: Not rated

Use this material in circuit breakers, heating elements, and other applications that require resistance to extremely high temperatures. Also known as phlogopite and amber mica, material is made of aluminum silicate with magnesium and a high-temperature silicone-based binder. Meets UL 94V0 for flame retardance.

Sheets



Thickness tolerance is ±10%. Width and length tolerances are –1″.

Thick.	10″×12″		20″×24″	
1/8″	85165K81	$67.24	85165K61	$172.04
1/4″	85165K82	84.58	85165K62	229.88
1/2″	85165K83	148.35	85165K63	348.78
3/4″	85165K84	190.49	85165K64	436.08
1″	85165K85	269.60	85165K65	633.08

Film

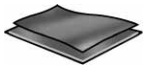

Width and length tolerances are +11/16″.

Thick.	Thick. Tolerance	23″×39″		Thick.	Thick. Tolerance	23″×39″	
Flexible Film				*Rigid Film*			
0.004″	±0.0004″	85955K21	$14.16	0.008″	±0.0008″	85165K19	$14.00
0.008″	±0.0008″	85955K22	17.78	0.012″	±0.0012″	85165K21	22.76
0.012″	±0.0012″	85955K23	21.75	0.016″	±0.0016″	85165K22	28.32
0.016″	±0.0016″	85955K24	25.93	0.020″	±0.0020″	85165K23	35.06
0.020″	±0.0020″	85955K25	31.21	0.024″	±0.0024″	85165K24	50.94
0.024″	±0.0024″	85955K26	36.89				

Fire- and Safety-Rated Wire-Reinforced Glass



- Color: Clear
- Temperature Range: Not rated
- Machine: Use glass-cutting tools
- Annealed

Coated with a safety film that increases the glass's impact resistance, allowing it to meet Consumer Product Safety Commission Cat. I and II. Also meets UL 9, 10B, and 10C, as well as NFPA 80, 252, and 257. Glass is 5/16″ thick. Thickness, width, and length tolerances are ±1/16″. Edges are cut.

Wd.	Lg.			Wd.	Lg.		
4″	6″	8481K11	$43.10	18 3/4″	29 3/4″	8481K35	$196.84
5″	26″	8481K12	66.21	18 3/4″	33 3/4″	8481K44	217.05
6″	21″	8481K52	63.07	19 1/2″	49 1/2″	8481K45	306.02
7″	7″	8481K13	44.64	22 3/4″	29 3/4″	8481K46	225.00
10″	10″	8481K14	45.45	22 3/4″	33 3/4″	8481K27	233.34
10 3/4″	10 3/4″	8481K15	45.45	23″	23″	8481K28	169.23
11″	11″	8481K16	46.30	23″	29″	8481K54	207.69
12″	12″	8481K17	47.17	23 3/8″	30 3/8″	8481K47	220.51
12″	24″	8481K18	109.09	23 3/8″	34 3/8″	8481K31	246.15
16 3/4″	29 3/4″	8481K33	185.27	25″	31″	8481K56	257.08
16 3/4″	33 3/4″	8481K34	207.59	34 3/4″	33 3/4″	8481K48	342.31
17″	17″	8481K22	116.23				

Heat-Resistant Borosilicate Glass

- Color: Clear
- Max. Temperature: 445° F, except tempered pressure-rated discs are 500° F
- Machine: Use glass-cutting tools
- Annealed, unless noted

Also known as Pyrex and Schott glass, this glass resists clouding and pitting and is highly chemical and heat resistant. With a low rate of thermal expansion, it also stays dimensionally stable during changes in temperature. Meets MIL-G-47033, except balls do not.

Sheets

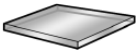

Edges are cut. Width and length tolerances are ±0.062″. Thickness tolerance is ±0.008″ for 1/8″ to 1/4″ thick sheets, ±0.011″ for 3/8″ thick sheets, and ±0.019″ for 5/8″ and 3/4″ thick sheets. **To Order:** Please specify thickness.
Also Available: Other sheet sizes. Please ask for 8476K999 and specify thickness, width, and length.

Wd.	Lg.		1/8″, 3/16″, or 1/4″ Thick	3/8″ Thick	5/8″ Thick	3/4″ Thick
2″	1″	8476K32	$3.83	$6.67	$14.06	$24.74
2″	2″	8476K12	3.89	10.38	12.90	26.58
3″	1″	8476K33	3.59	11.42	15.39	24.93
3″	2″	8476K36	4.63	8.26	20.03	32.00
3″	3″	8476K13	6.91	12.82	21.27	28.92
4″	1″	8476K35	4.74	7.17	13.74	28.74
4″	3″	8476K41	7.38	13.52	23.38	41.86
4″	4″	8476K14	8.76	19.24	24.51	51.03
5″	3″	8476K43	7.52	13.80	28.30	43.87
5″	4″	8476K45	12.26	20.17	30.21	54.89
5″	5″	8476K15	12.12	21.97	25.40	67.10
6″	4″	8476K47	14.63	20.51	29.09	58.78
6″	5″	8476K62	13.65	26.06	42.22	75.87
6″	6″	8476K16	15.44	26.71	44.00	85.12
7″	4″	8476K49	$13.03	$25.71	$34.05	$68.70
7″	7″	8476K17	18.50	40.56	69.77	98.61
8″	4″	8476K64	14.40	25.92	37.80	80.16
8″	6″	8476K72	18.22	37.84	53.38	89.13
8″	8″	8476K18	24.62	47.34	78.82	135.92
9″	5″	8476K68	18.51	37.17	53.33	86.80
9″	6″	8476K74	18.73	41.74	74.12	131.09
9″	9″	8476K19	28.27	65.55	92.83	173.52
10″	6″	8476K76	25.90	44.14	77.78	133.09
10″	10″	8476K21	33.46	67.20	96.72	177.07
12″	3″	8476K66	15.93	27.03	54.38	89.72
12″	6″	8476K78	26.38	50.25	89.36	145.58
12″	8″	8476K84	32.15	62.62	93.48	173.65
12″	12″	8476K23	46.48	109.36	187.38	211.67

Tubes



Ends are ground. Length tolerance is ±0.031″. Wall thickness tolerance is ±0.004″ for 0.047″ thick., ±0.008″ for 0.063″ to 0.079″ thick., and ±0.016″ for 0.094″ to 0.157″ thick. Metric tubes are not rated for wall thickness tolerance.

OD	ID	Wall Thick.		12″ Length
Inch				
0.25″	0.16″	0.047″	8729K31	$3.64
0.38″	0.22″	0.079″	8729K33	5.29
0.50″	0.31″	0.094″	8729K35	7.27
0.50″	0.38″	0.063″	8729K37	5.64
0.63″	0.44″	0.094″	8729K39	9.03
0.63″	0.50″	0.063″	8729K41	6.32
0.75″	0.50″	0.126″	8729K43	13.18
0.75″	0.62″	0.063″	8729K45	9.89
0.88″	0.62″	0.126″	8729K47	15.50
Inch (Cont.)				
1″	0.69″	0.157″	8729K49	$21.62
1″	0.82″	0.094″	8729K51	13.43
Metric				
5 mm	0.6 mm	2.2 mm	8729K57	3.70
6 mm	1.2 mm	2.4 mm	8729K65	5.27
6 mm	2.7 mm	1.65 mm	8729K66	4.97
7 mm	3 mm	2 mm	8729K76	4.70
8 mm	3 mm	2.5 mm	8729K86	5.76
9 mm	3 mm	3 mm	8729K96	8.36

Oil Cup Cylinders



Ends are ground. Wall thickness tolerance is ±1/64″ for 1 1/4″ to 2 1/4″ OD, ±1/32″ for 2 1/2″ to 3 1/2″ OD, and ±1/16″ for 4 1/4″ OD. Height tolerance is ±1/32″, except 4 1/4″ OD is ±1/16″.

OD	ID	Wall Thick.	Ht.	Max. Temp., °F	Max. psi		
1 1/4″	1″	1/8″	1 1/8″	212°	150	1176K21	$9.03
1 1/2″	1 1/4″	1/8″	1 3/8″	212°	130	1176K22	9.97
1 3/4″	1 15/32″	9/64″	1 5/8″	212°	130	1176K23	11.52
2″	1 11/16″	5/32″	1 7/8″	185°	110	1176K24	12.41
2 1/4″	1 29/32″	11/64″	2 1/8″	185°	105	1176K25	22.78
2 1/2″	2 1/8″	3/16″	2 3/8″	185°	100	1176K26	$24.81
3″	2 19/32″	13/64″	3″	150°	85	1176K27	27.43
3 1/2″	3 1/16″	7/32″	4″	150°	60	1176K28	36.68
4 1/4″	3 3/4″	1/4″	5″	125°	50	1176K29	58.45

Rods



Ends are ground. Length tolerance is ±0.031″.

Dia.	Dia. Tolerance		12″ Length		24″ Length	
Inch						
1/2″	±0.020″	8496K51	$6.31	8496K61	$11.47	
5/8″	±0.024″	8496K52	8.40	8496K62	15.27	
3/4″	±0.031″	8496K53	9.34	8496K63	16.98	
1″	±0.039″	8496K54	21.65	8496K64	39.36	
1 1/4″	±0.051″	8496K55	29.18	8496K65	53.05	
1 1/2″	±0.067″	8496K56	40.91	8496K66	74.39	
Metric						
2 mm	±0.4 mm	8496K1	$1.75	8496K2	$3.19	
3 mm	±0.4 mm	8496K11	1.89	8496K21	3.44	
4 mm	±0.4 mm	8496K12	1.98	8496K22	3.60	
5 mm	±0.4 mm	8496K13	2.04	8496K23	3.71	
6 mm	±0.4 mm	8496K14	2.64	8496K24	4.48	
7 mm	±0.4 mm	8496K15	3.23	8496K25	5.30	
8 mm	±0.4 mm	8496K16	3.43	8496K26	5.54	

Discs



Ends are ground. Thickness tolerance is ±0.031″. **To Order:** Please specify thickness.
Also Available: Other disc sizes. Please ask for 8477K999 and specify the diameter and thickness.

Dia.	Dia. Toler.		1/8″, 3/16″, or 1/4″ Thick	3/8″ Thick	1/2″ or 5/8″ Thick	3/4″ Thick
1″	±0.015″	8477K18	$7.95	$17.09	$17.94	$19.26
1 1/4″	±0.015″	8477K28	8.34	12.86	17.82	22.71
1 1/2″	±0.015″	8477K38	8.59	13.12	18.83	24.14
1 3/4″	±0.015″	8477K24	8.51	16.67	19.77	25.89
2″	±0.015″	8477K48	9.18	17.41	21.57	35.55
2 1/4″	±0.015″	8477K68	11.27	18.87	25.93	38.58
2 1/2″	±0.015″	8477K78	11.85	25.15	24.05	37.56
2 3/4″	±0.015″	8477K92	10.90	20.16	24.88	39.36
3″	±0.015″	8477K88	16.20	29.83	40.15	46.63
3 1/2″	±0.015″	8477K19	$15.80	$25.33	$34.93	$51.55
3 3/4″	±0.015″	8477K95	18.38	34.88	52.02	71.45
4″	±0.015″	8477K29	21.67	36.75	49.03	54.59
4 1/4″	±0.015″	8477K37	17.55	36.24	48.60	58.64
4 1/2″	±0.015″	8477K39	17.79	39.95	51.74	59.54
5″	±0.015″	8477K49	25.59	51.06	64.69	78.55
5 1/2″	±0.015″	8477K69	28.81	55.59	70.04	74.49
6″	±0.015″	8477K79	36.00	79.87	93.61	111.29
6 1/2″	±0.015″	8477K94	40.47	102.16	129.08	153.90

(Material continued on following page)

Heat-Resistant Borosilicate Glass *(Material continued from previous page)*

Pressure-Rated Discs



Commonly used as sight glass. Tempered glass offers higher strength than annealed glass. Edges are ground. Thickness tolerance is ±0.031″, and diameter tolerance is ±0.015″.

Dia.	Thick.	Max. psi		
Annealed Glass				
3½″	¾″	175	8475K71	$38.37
4″	¾″	150	8475K72	42.30
4½″	⅜″	35	8475K39	44.71
5″	¾″	100	8475K42	66.44
6″	¾″	75	8475K43	82.68
6¾″	¾″	60	8475K44	97.02
8⅜″	¾″	40	8475K45	138.12

Dia.	Thick.	Max. psi		
Tempered Glass				
3½″	¾″	525	8475K81	$48.66
4″	¾″	450	8475K82	64.24
4½″	⅜″	105	8475K83	74.84
5″	¾″	300	8475K84	101.82
6″	¾″	225	8475K63	132.02
6¾″	¾″	180	8475K64	151.60
8⅜″	¾″	120	8475K65	197.14
9″	¾″	105	8475K66	211.37
10″	¾″	85	8475K67	221.78

Balls



3⁄32″ and ⅛″ diameter balls have a 0.000048″ sphericity; 5⁄32″ to ¼″ diameters have a 0.0001″ sphericity. Machining is not recommended.

Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.
3⁄32″	±0.0001″	50	8996K21	$8.75
⅛″	±0.0001″	100	8996K22	10.32
5⁄32″	±0.0002″	100	8996K23	11.48

Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.
3⁄16″	±0.0002″	100	8996K24	$11.48
¼″	±0.0002″	100	8996K25	14.95

Ultra-Tough Gorilla Glass

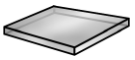

- Color: Clear
- Max. Temperature: 570° F
- Machine: Not recommended

Ultra-thin yet extremely durable, this glass has been chemically strengthened to maximize toughness and scratch resistance. Often used for display and touch-screen applications, such as smartphones and tablets, it is lightweight and cleans easily. Width and length tolerances are ±0.010″.

Thick.	Thick. Tolerance	Width	Length		
0.022″	±0.002″	2″	2″	8410T1	$46.95
0.022″	±0.002″	3″	3″	8410T2	53.33
0.022″	±0.002″	4″	4″	8410T3	60.00
0.022″	±0.002″	5″	5″	8410T4	65.22
0.022″	±0.002″	6″	6″	8410T5	69.39
0.022″	±0.002″	7″	7″	8410T6	74.00
0.022″	±0.002″	8″	8″	8410T7	81.73
0.022″	±0.002″	9″	9″	8410T8	94.83
0.022″	±0.002″	10″	10″	8410T9	102.19
0.022″	±0.002″	12″	12″	8410T11	123.81
0.031″	±0.002″	2″	2″	8410T21	45.45
0.031″	±0.002″	3″	3″	8410T22	50.54
0.031″	±0.002″	4″	4″	8410T23	55.56
0.031″	±0.002″	5″	5″	8410T24	62.50
0.031″	±0.002″	6″	6″	8410T25	66.67

Thick.	Thick. Tolerance	Width	Length		
0.031″	±0.002″	7″	7″	8410T26	$73.47
0.031″	±0.002″	8″	8″	8410T27	79.09
0.031″	±0.002″	9″	9″	8410T28	85.96
0.031″	±0.002″	10″	10″	8410T29	96.55
0.031″	±0.002″	12″	12″	8410T31	104.92
0.043″	±0.002″	2″	2″	8410T41	37.50
0.043″	±0.002″	3″	3″	8410T42	41.86
0.043″	±0.002″	4″	4″	8410T43	46.59
0.043″	±0.002″	5″	5″	8410T44	52.66
0.043″	±0.002″	6″	6″	8410T45	60.64
0.043″	±0.002″	7″	7″	8410T46	66.00
0.043″	±0.002″	8″	8″	8410T47	77.36
0.043″	±0.002″	9″	9″	8410T48	85.45
0.043″	±0.002″	10″	10″	8410T49	93.75
0.043″	±0.002″	12″	12″	8410T51	103.28

Very High Temperature Heat-Resistant Glass Ceramic

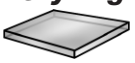

- Color: Transparent light rose
- Max. Temperature: 1255° F
- Machine: Use diamond tooling
- Annealed

Combining the transparency of glass with the high heat resistance of ceramics, this material offers good resistance to rapid temperature changes. Edges are cut. Thickness tolerance is ±0.016″, and width and length tolerances are ±0.062″.

Thick.	Wd.	Lg.		
0.188″	3″	3″	84815K43	$4.20
0.197″	2″	2″	84815K41	2.08
0.197″	4″	4″	84815K45	8.93
0.197″	5″	5″	84815K47	12.63
0.197″	6″	6″	84815K49	19.01

Thick.	Wd.	Lg.		
0.197″	7″	7″	84815K51	$25.06
0.197″	8″	8″	84815K53	30.38
0.197″	9″	9″	84815K55	39.64
0.197″	10″	10″	84815K57	45.94
0.197″	12″	12″	84815K59	68.49

Extreme Temperature Quartz Pure Glass



- Color: Clear
- Max. Temperature: 2100° F
- Machine: Use diamond tooling
- Annealed

Containing 99.995% silicon dioxide, this glass provides excellent UV transmission, as well as high transmission in the visible and infrared ranges. Use in high-intensity lighting, fiber-optic production, and optical lens systems. All sides are ground and polished. Diameter tolerance is ±0.010″; thickness tolerance is +0.005″.

Dia.	1/16″ Thick		1/8″ Thick		1/4″ Thick		1/2″ Thick		3/4″ Thick	
½″	1357T41	$8.82	1357T42	$11.80	1357T43	$15.29	1357T61	$45.94	1357T62	$54.70
¾″	1357T44	9.15	1357T45	12.10	1357T46	15.42	1357T63	46.48	1357T64	55.78
1″	1357T11	9.38	1357T21	12.40	1357T31	15.79	1357T65	48.13	1357T66	56.50
1½″	1357T47	12.67	1357T51	16.62	1357T54	22.09	1357T67	52.83	1357T68	65.81
2″	1357T12	18.62	1357T22	22.65	1357T32	31.11	1357T71	62.90	1357T72	90.44
2½″	1357T48	25.39	1357T52	28.25	1357T55	40.70	1357T73	82.91	1357T74	127.52
3″	1357T13	30.31	1357T23	36.82	1357T33	55.22	1357T75	105.98	1357T76	141.89
3½″	1357T49	74.27	1357T53	80.89	1357T56	88.85	1357T77	135.94	1357T78	158.12
4″	1357T14	65.86	1357T24	78.35	1357T34	96.70	1357T81	151.02	1357T82	176.09
5″	1357T15	90.67	1357T25	99.74	1357T35	125.52	1357T83	193.38	1357T84	234.67
6″	1357T16	148.18	1357T26	195.50	1357T36	245.65	1357T85	243.22	1357T86	299.42

Easy-to-Machine Glass-Mica Ceramic

- Color: See below
- Max. Temperature: See below
- Machine: Use carbide tooling
- Electrical Insulator: Excellent, except very high temperature sheets are good
- Porosity: Nonporous
- Compressive Strength: 32,000 to 50,000 psi

Machine complicated shapes and precision parts from this material, which doesn't require firing before use, in a fraction of the time it would take using fired ceramics. Use standard metalworking tools to machine. Its good electrical and thermal resistance make it a common choice for heating and soldering fixtures.

High Temperature Sheets

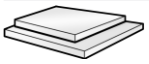

- Color: Opaque light gray
- Max. Temperature: 930° F

Also known as Mykroy/Mycalex. Thickness tolerance is ±0.015″, and width and length tolerances are ±1/8″.

Thick.	2″×5″		10″×14″	
1/16″	8499K715	$86.67	8499K115	$363.54
1/8″	8499K716	96.25	8499K116	318.50
1/4″	8499K719	83.41	8499K117	295.87
3/8″	8499K725	95.24	8499K119	319.91
1/2″	8499K727	103.94	8499K123	354.86
3/4″	8499K729	139.19	8499K127	507.05
1″	8499K735	165.80	8499K129	696.62

High Temperature Rods



- Color: Opaque light gray
- Max. Temperature: 930° F

Also known as Mykroy/Mycalex. Diameter tolerance is ±0.005″, and length tolerance is ±0.100″.

Dia.	3″ Length		6″ Length		12″ Length	
1/4″	8499K614	$25.04	8499K514	$30.04	8499K331	$57.74
3/8″	8499K616	27.36	8499K515	33.28	8499K332	61.95
1/2″	8499K618	33.68	8499K518	40.82	8499K333	77.54
5/8″	8499K619	40.31	8499K519	49.38	8499K334	97.14
3/4″	8499K623	54.18	8499K521	68.57	8499K335	130.77
1″	8499K625	78.54	8499K525	85.17	8499K336	166.96
1 1/4″	8499K627	88.77	8499K527	98.13	8499K337	199.22

Very High Temperature Sheets

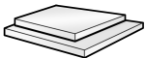

- Color: Opaque off-white
- Max. Temperature: 1100° F

Also known as Mykroy/Mycalex. Thickness, width, and length tolerances are ±0.015″.

Thick.	3″×3″		4″×6″		6″×6″	
1/8″	8478K95	$48.25	8478K65	$105.55	8478K85	$150.78
1/4″	8478K96	63.24	8478K66	138.33	8478K86	197.62
1/2″	8478K97	71.57	8478K67	156.56	8478K87	223.66
3/4″	8478K98	$98.32	8478K68	$215.07	8478K88	$307.24
1″	8478K99	127.68	8478K69	276.67	8478K89	399.00

Ultra High Temperature Rectangular Bars



- Color: Opaque white
- Max. Temperature: 1470° F

Also known as Macor. Width tolerance is +0.060″, and length tolerance is +1/4″.

Wd.	Lg.		
1/16″ Thick *(+0.015″)*			
1″	6″	2145T11	$80.02
2″	6″	2145T21	124.56
1/8″ Thick *(+0.015″)*			
1″	6″	2145T12	87.65
2″	6″	2145T22	139.90
3/16″ Thick *(+0.015″)*			
1″	6″	2145T13	86.73
2″	6″	2145T23	146.24
1/4″ Thick *(+0.015″)*			
1/4″	3″	8489K84	18.53
1/4″	6″	8489K85	34.50
1/4″	12″	8489K86	61.76
1″	6″	2145T14	96.96
2″	6″	2145T24	168.07

Wd.	Lg.		
5/16″ Thick *(+0.015″)*			
1″	6″	2145T15	$111.63
2″	6″	2145T25	186.05
3/8″ Thick *(+0.030″)*			
3/8″	3″	8489K87	27.57
3/8″	6″	8489K88	51.77
3/8″	12″	8489K89	91.91
1″	6″	2145T16	116.15
2″	6″	2145T26	193.59
1/2″ Thick *(+0.030″)*			
1/2″	3″	8489K41	41.17
1/2″	6″	8489K42	77.65
1/2″	12″	8489K43	137.24
1″	6″	2145T17	121.34
2″	6″	2145T27	202.24

Wd.	Lg.		
3/4″ Thick *(+0.060″)*			
3/4″	3″	8489K91	$53.77
3/4″	6″	8489K92	107.40
3/4″	12″	8489K93	194.82
1″	6″	2145T19	137.75
2″	6″	2145T29	242.86
1″ Thick *(+0.060″)*			
1″	3″	8489K44	99.10
1″	6″	8489K45	184.99
1″	12″	8489K46	330.34
2″	6″	2145T31	286.04
2″ Thick *(+0.060″)*			
2″	3″	8489K47	256.69
2″	6″	8489K48	470.01
2″	12″	8489K49	881.48

Ultra High Temperature Sheets

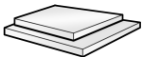

- Color: Opaque white
- Max. Temperature: 1470° F

Also known as Macor. Width and length tolerances are +1/4″.

Thick.	Thick. Tolerance	2″×2″		3″×3″		4″×4″		6″×6″		6″×12″	
1/16″	+0.015″	8489K231	$37.32	8489K51	$56.80	8489K241	$85.43	8489K52	$167.16	8489K111	$303.92
1/8″	+0.015″	8489K232	41.62	8489K54	67.63	8489K242	101.83	8489K55	199.24	8489K112	362.26
3/16″	+0.015″	8489K233	45.37	8489K57	78.49	8489K243	117.55	8489K58	230.17	8489K113	418.18
1/4″	+0.015″	8489K234	47.93	8489K61	84.52	8489K244	130.69	8489K62	255.70	8489K114	464.91
5/16″	+0.015″	8489K235	49.30	8489K94	93.37	8489K245	144.36	8489K95	282.46	8489K115	513.56
3/8″	+0.030″	8489K236	51.91	8489K64	101.14	8489K246	156.22	8489K65	305.66	8489K116	555.74
1/2″	+0.030″	8489K237	67.15	8489K67	112.36	8489K247	178.93	8489K68	364.00	8489K117	646.88
5/8″	+0.060″	8489K238	73.80	8489K97	142.41	8489K248	211.47	8489K98	413.77	8489K118	752.31
3/4″	+0.060″	8489K239	85.35	8489K121	163.16	8489K249	244.58	8489K122	470.83	8489K123	856.06
1″	+0.060″	8489K151	96.88	8489K71	186.70	8489K153	300.61	8489K72	592.76	8489K119	1,084.85

Ultra High Temperature Rods



- Color: Opaque white
- Max. Temperature: 1470° F

Also known as Macor. Diameter tolerance is +0.015″ for 1/16″ to 3/4″ diameters; +0.060″ for 7/8″ and 1″ diameters; and +0.125″ for 1 1/2″ and 2″ diameters. Length tolerance is +1/4″.

Dia.	3″ Length		6″ Length		12″ Length	
1/16″	8489K11	$26.92	8489K12	$44.12	8489K13	$78.17
1/8″	8489K14	20.47	8489K15	39.28	8489K16	68.15
3/16″	8489K17	21.04	8489K18	40.71	8489K19	70.11
1/4″	8489K21	18.96	8489K22	37.50	8489K23	72.74
5/16″	8489K74	19.84	8489K75	38.10	8489K76	73.33
3/8″	8489K24	29.43	8489K25	49.36	8489K26	84.38
1/2″	8489K27	42.06	8489K28	67.46	8489K29	115.32
5/8″	8489K77	48.61	8489K78	79.58	8489K79	138.89
3/4″	8489K131	71.34	8489K132	122.32	8489K133	209.10
7/8″	8489K81	72.95	8489K82	141.57	8489K83	249.16
1″	8489K31	99.19	8489K32	168.88	8489K33	288.69
1 1/2″	8489K34	163.08	8489K35	310.40	8489K36	545.42
2″	8489K37	253.73	8489K38	438.16	8489K39	796.65

Electrical-Insulating Boron-Nitride Ceramic

- Color: Opaque white
- Max. Temperature: 1020° F
- Machine: Use carbide tooling
- Electrical Insulator: Excellent
- Porosity: 7%
- Compressive Strength: 16,000 to 18,000 psi

Used primarily in high-power electrical applications for its excellent electrical insulating properties, this material also resists changes in temperature and is often used in arc welding and semiconductor equipment. Also known as white graphite, this ceramic has a slippery feel due to its low coefficient of friction.

Sheets

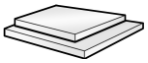

Thickness tolerance is ±0.010″. Width and length tolerances are ±1/16″.

Thick.	Wd.	Lg.		
1/16″	3″	5″	84995K11	$116.71
1/8″	5″	6″	84995K12	268.57

Thick.	Wd.	Lg.		
1/4″	5″	12″	84995K13	$539.33
3/8″	5″	6″	84995K14	431.15

Thick.	Wd.	Lg.		
3/8″	5″	12″	84995K15	$686.32
1/2″	5″	12″	84995K16	837.23

Square Bars



Square size tolerance is ±0.010″, and length tolerance is ±1/16″.

Sq. Size	6″ Length		12″ Length	
1/8″	84995K41	$29.52	84995K51	$52.71
1/4″	84995K42	31.79	84995K52	60.79
3/8″	84995K43	46.78	84995K53	88.26
1/2″	84995K44	71.22	84995K54	133.19

Sq. Size	6″ Length		12″ Length	
3/4″	84995K45	$123.29	84995K55	$232.62
1″	84995K61	161.04	84995K71	302.08
1 1/2″	84995K62	330.64	84995K72	586.97
2″	84995K63	520.61	84995K73	945.71

Rods



Diameter tolerance is +0.020″, and length tolerance is ±1/16″.

Dia.	6″ Length		12″ Length	
1/8″	84995K21	$50.04	84995K31	$95.56
1/4″	84995K22	56.11	84995K32	104.49
3/8″	84995K23	65.76	84995K33	123.57
1/2″	84995K24	83.40	84995K34	153.20

Dia.	6″ Length		12″ Length	
3/4″	84995K25	$150.94	84995K35	$270.70
1″	84995K26	199.59	84995K36	368.12
1 1/4″	84995K28	267.08	84995K38	479.92
1 1/2″	84995K27	373.66	84995K37	718.57

High Temperature Machinable Alumina Bisque Ceramic

- Color: Opaque white
- Max. Temperature: 2475° F
- Machine: Use carbide tooling
- Electrical Insulator: Poor
- Porosity: 36%
- Compressive Strength: 9,000 psi

Often used to create prototype components, this ceramic is chemical and temperature resistant and comes semifired so it can be machined using conventional metalworking tools. Material can be fully fired to create a denser, harder material with increased electrical and mechanical properties. Shrinks 15% to 18% when fired.

Sheets

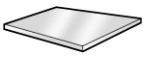

Thickness tolerance is +0.031″. Width and length tolerances are +1″.

Thick.	6″×6″	
1/4″	8484K61	$197.29
1/2″	8484K62	230.30
3/4″	8484K63	279.66

Rods



Diameter tolerance is +0.063″ for 1/4″ to 1″ diameters and +0.125″ for 1 1/2″ to 3″ diameters. Length tolerance is +1/4″.

Dia.	Lg.		
1/4″	12″	8484K69	$44.90
1/2″	6″	8484K71	52.07
1/2″	12″	8484K72	86.71
3/4″	12″	8484K73	107.68
1″	12″	8484K74	133.43

Dia.	Lg.		
1 1/2″	12″	8484K75	$166.09
2″	12″	8484K76	211.76
2 1/2″	12″	8484K77	238.52
3″	12″	8484K78	281.60

Alumina Silicate Ceramic

- Color: Opaque light gray
- Max. Temperature: 2010° F
- Machine: Use carbide tooling
- Electrical Insulator: Poor
- Porosity: 2% to 3%
- Compressive Strength: 25,000 psi

Also known as lava and wonderstone, this material is often used in applications that require corrosion resistance and low thermal expansion, such as in standoffs and welding jigs. Material is unfired but can be fully fired to increase strength and hardness if the sheets have been machined to 1/4″×6 1/2″×6 1/2″ or smaller and if rods or square bars have been machined to 1/2″×12″ or smaller.

Sheets

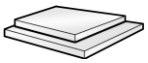

Thickness tolerance is ±0.01″. Width and length tolerances are +1/8″.

Thick.	4″×4″		6″×6″		9 1/2″×9 1/2″	
1/8″	8479K11	$12.11	8479K12	$26.64	8479K115	$60.54
1/4″	8479K41	16.66	8479K42	36.64	8479K116	83.28
3/8″	8479K22	20.16	8479K98	44.35	8479K117	100.80
1/2″	8479K14	23.41	8479K99	51.50	8479K58	117.05

Thick.	4″×4″		6″×6″		9 1/2″×9 1/2″	
3/4″	8479K16	$29.73	8479K111	$65.41	8479K59	$148.65
1″	8479K18	35.32	8479K112	77.70	8479K62	176.60
1 1/2″	8479K96	41.48	8479K113	84.03	8479K64	216.37
2″	8479K97	45.36	8479K114	99.81	8479K66	260.17

Square Bars



Square size tolerance is +0.020″, and length tolerance is +1/8″.

Sq. Size	6″ Length	
1/2″	8479K61	$6.37
3/4″	8479K86	10.72

Sq. Size	6″ Length	
1″	8479K88	$21.27
2″	8479K95	56.09

Rods



Diameter tolerance is +0.015″, length tolerance is +1/8″.

Dia.	Lg.		
1/8″	3″	8479K91	$9.29
1/4″	3″	8479K21	7.60
3/8″	6″	8479K92	20.44
1/2″	6″	8479K72	24.24

Dia.	Lg.		
5/8″	6″	8479K68	$30.16
3/4″	9 1/2″	8479K69	34.80
7/8″	9 1/2″	8479K71	38.10
1″	9 1/2″	8479K73	44.17

Dia.	Lg.		
1 1/4″	9 1/2″	8479K74	$52.73
1 1/2″	9 1/2″	8479K75	66.96
2″	9 1/2″	8479K76	104.28
2 1/2″	9 1/2″	8479K77	140.91

Dia.	Lg.		
3″	9 1/2″	8479K78	$188.47
3 1/2″	9 1/2″	8479K79	240.85
4″	9 1/2″	8479K118	291.02
5″	9 1/2″	8479K84	420.82

Very High Temperature Nonporous High-Alumina Ceramic

- Color: Opaque white
- Max. Temperature: 3075° F, except balls are 2000° F
- Machine: Use diamond grinding wheel
- Electrical Insulator: Poor
- Porosity: Nonporous
- Compressive Strength: 300,000 psi

Seal out air and gas in high-temperature and high-wear applications. This ultrahard ceramic can also be used in applications that require superior strength and corrosion resistance. Even after machining, no additional firing is required.

Rectangular Bars and Sheets

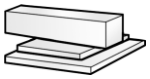

Width tolerance is ±0.008″ for rectangular bars and ±10% for sheets. Length tolerance is ±1/4″, except 6 1/4″ and 8 1/2″ lengths are ±7/16″.

Thick.	Wd.	Lg.	Thick. Tol.		
Rectangular Bars					
0.125″	1/8″	12″	±0.004″	87125K62	$27.50
0.250″	1/4″	12″	±0.008″	87125K64	42.87
Sheets					
0.025″	4 1/2″	4 1/2″	±0.003″	8462K21	10.75
0.040″	4 1/2″	4 1/2″	±0.004″	8462K23	12.08
Sheets (Cont.)					
0.060″	4 1/2″	4 1/2″	±0.006″	8462K25	$27.25
0.157″	2″	4 1/4″	±0.050″	8459K22	150.00
0.177″	3″	6 1/4″	±0.050″	8459K24	256.93
0.197″	4″	8 1/2″	±0.050″	8459K26	327.49

Rods



Length tolerance is ±0.020″.

Dia.	Dia. Toler.	12″ Length	
1/16″	±0.003″	87065K41	$19.21
1/8″	±0.004″	87065K42	20.94
3/16″	±0.006″	87065K44	27.98
13/64″	−0.006″	87065K45	27.06
1/4″	±0.008″	87065K46	27.14
5/16″	±0.009″	87065K48	32.61
3/8″	±0.011″	87065K49	32.00
1/2″	±0.015″	87065K51	48.83
5/8″	±0.019″	87065K53	78.16
3/4″	±0.023″	87065K55	98.29



Dia.	Length	Dia. Toler.		
1″	1/16″	±0.050″	8464K22	$56.31
2 1/2″	1/8″	±0.125″	8464K29	87.05
6″	3/16″	±0.180″	8464K39	156.64

Precision-Ground Rods



Length tolerance is ±0.015″.

Dia.	Dia. Toler.	12″ Length	
1/8″	±0.001″	8446K11	$43.39
3/16″	±0.001″	8446K13	51.77
1/4″	±0.001″	8446K15	54.88
3/8″	±0.001″	8446K17	72.88
1/2″	±0.001″	8446K19	82.83

Insulating Beads



Fit over wires for insulation. OD tolerance is ±2%, and ID tolerance is ±0.003″. Length tolerance is ±0.010″.

OD	ID	Lg.	Pkg. Qty.		Pkg.
0.090″	0.040″	0.125″	5	87085K61	$6.56
0.170″	0.065″	0.188″	5	87085K63	9.70
0.330″	0.133″	0.313″	5	87085K65	11.09

Tubes



Length tolerance is ±0.015″. Wall thickness tolerance is not rated.

OD	ID	Wall Thick.	12″ Length		24″ Length	
0.063″	0.031″	0.016″	8746K451	$24.77	8746K452	$45.03
0.094″	0.063″	0.016″	8746K461	15.88	8746K462	28.87
0.125″	0.063″	0.031″	8746K11	14.90	8746K312	27.09
0.156″	0.094″	0.031″	8746K12	14.96	8746K322	27.20
0.187″	0.094″	0.047″	8746K13	15.05	8746K332	27.36
0.187″	1/8″	0.032″	8746K14	15.05	8746K342	27.36
0.250″	1/8″	0.063″	8746K15	15.20	8746K352	27.63
0.250″	0.156″	0.047″	8746K16	15.57	8746K362	28.30
0.250″	0.188″	0.031″	8746K17	$15.75	8746K372	$28.63
0.375″	1/4″	0.063″	8746K18	29.18	8746K382	53.05
0.500″	1/4″	0.125″	8746K19	35.40	8746K392	64.37
0.500″	3/8″	0.063″	8746K21	36.27	8746K412	65.94
0.625″	1/2″	0.063″	8746K22	39.03	8746K422	70.96
0.750″	1/2″	0.125″	8746K24	53.76	8746K442	97.74
0.875″	5/8″	0.125″	8746K541	70.57	8746K542	128.31
1.000″	3/4″	0.125″	8746K551	131.98	8746K552	239.97

Multiple-Bore Tubes



Two Bore

OD tolerance is ±3%, and ID tolerance is ±0.003″. Length tolerance is ±0.015″.

OD	ID	18″ Length		24″ Length	
Two Bore					
0.094″	0.025″	87175K71	$24.18	87175K73	$32.23
0.125″	0.040″	87175K77	21.47	87175K79	28.61
0.188″	0.063″	87175K83	21.73	87175K84	29.00

OD	ID	18″ Length		24″ Length	
Four Bore					
0.188″	0.031″	87175K91	$21.83	87175K93	$29.10

Balls



1/8″ to 1/2″ diameters have a 0.000025″ sphericity. 5/8″ to 1″ diameters have a 0.0001″ sphericity.

Dia.	Dia. Tolerance		
1/8″	±0.0001″	9599K11	$1.75
3/16″	±0.0001″	9599K12	1.69
1/4″	±0.0001″	9599K13	1.72
5/16″	±0.0001″	9599K14	$2.06
3/8″	±0.0001″	9599K15	2.06
1/2″	±0.0001″	9599K16	3.94
5/8″	±0.001″	9599K17	$13.74
3/4″	±0.001″	9599K23	22.95
1″	±0.001″	9599K25	41.42

Very High Temperature Machinable High-Alumina Ceramic

- Color: Opaque white
- Max. Temperature: 3000° F
- Machine: Use carbide tooling
- Electrical Insulator: Excellent
- Porosity: 48%
- Compressive Strength: 4,350 psi

Commonly used in induction furnace components and hot glass handling, this high-alumina ceramic combines excellent machinability with high temperature resistance and strength. The 99% alumina content makes it ideal for use in high-vacuum applications. Material comes fired and is unaffected by water.

Sheets

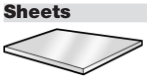

Width and length tolerances are ±0.100″.

Thick.	Thick. Tol.	6″×6″	
1/16″	±0.015″	8978T61	$113.33
1/8″	±0.035″	8978T63	134.78
1/4″	±0.050″	8978T65	204.17
1/2″	±0.065″	8978T67	341.18

Rods

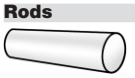

Diameter and length tolerances are ±0.063″.

Dia.	12″ Length	
1/2″	8978T71	$318.33
3/4″	8978T73	368.25
1″	8978T75	418.46
1 1/2″	8978T77	576.47

Wear-Resistant Zirconia Ceramic

- Color: Opaque ivory
- Max. Temperature: 1000° F
- Machine: Use diamond grinding wheel
- Electrical Insulator: Poor
- Porosity: Nonporous
- Compressive Strength: 254,000 psi

As fracture-resistant and durable as many metals, this ceramic has been fired to obtain a high hardness and can be used in high-wear applications. Length tolerance is ±0.015″.



Dia.	Dia. Tolerance	12″ Length		Dia.	Dia. Tolerance	12″ Length	
1/16″	±0.003″	8750K31	$51.02	1/4″	±0.008″	8750K37	$70.39
1/8″	±0.004″	8750K33	55.11	3/8″	±0.011″	8750K39	112.23
3/16″	±0.006″	8750K35	62.81	1/2″	±0.015″	8750K41	115.44

Fracture-Resistant Silicon Nitride Ceramic

- Color: Translucent black
- Max. Temperature: 1470° F
- Machine: Use diamond tooling
- Electrical Insulator: Poor
- Porosity: Nonporous
- Compressive Strength: 580,000 psi

Often used to create bearings, silicon nitride ceramic is harder than many common bearing steels but is lightweight and can be easily polished. Balls have a 0.000005″ sphericity.



Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.	Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.
1/16″	+0.00005″, –0.00004″	5	9576K22	$7.24	1/4″	+0.00005″, –0.00004″	2	9576K34	$8.10
3/32″	+0.00005″, –0.00004″	5	9576K24	8.14	9/32″	+0.00005″, –0.00004″	2	9576K36	9.24
1/8″	+0.00005″, –0.00004″	5	9576K26	8.48	3/8″	+0.00005″, –0.00004″	1	9576K38	5.63
5/32″	+0.00005″, –0.00004″	5	9576K28	10.61	1/2″	+0.00005″, –0.00004″	1	9576K46	13.33
3/16″	+0.00005″, –0.00004″	2	9576K32	7.52	9/16″	+0.00005″, –0.00004″	1	9576K48	19.51

Recycled Plastic Lumber

- Color: Opaque brownish gray
- Max. Temperature: 120° F
- Machine: Use carbide tooling

Get the look of wood without having to worry about splintering or rotting. This UV-resistant high-density polyethylene (HDPE) material can be used in direct sunlight and high traffic applications, such as marine decking. Width and thickness tolerances are ±0.100″. Length tolerance is +0.25″, –0.10″.

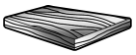

Thick.	Wd.	Lg.			Thick.	Wd.	Lg.		
1/2″	8″	6 ft.	8506K38	$25.35	1 1/2″	3 1/2″	6 ft.	8506K36	$31.55
3/4″	5 1/2″	6 ft.	8506K34	24.62	1 1/2″	5 1/2″	6 ft.	8506K37	55.30
7/8″	2 1/8″	6 ft.	8506K41	12.82	1 1/2″	7 1/2″	6 ft.	8506K43	76.28
1″	5 1/2″	6 ft.	8506K42	32.55					

Wood

- Color: *Balsa* is light yellow; *Birch* is white to light brown; *Oak* is white to red; *Maple* is white to brown

Balsa is the lightest and softest of all woods but is still very strong. The surface is sanded and has either a straight or wavy grain.

Birch is softer than maple and oak. The surface is smooth and has a straight grain.

Oak is a heavy wood with high wear resistance and is much harder than birch. The surface is less smooth than birch and typically has a straight grain.

Maple is a heavy wood with high wear resistance and is much harder than birch. The surface is smooth and has a straight grain.

Strips



Material is balsa. Thickness, width, and length tolerances are not rated.

Thick.	Wd.	Lg.			Thick.	Wd.	Lg.			Thick.	Wd.	Lg.		
1/8″	4″	36″	5068K43	$5.83	1/4″	4″	36″	5068K44	$9.62	1″	4″	36″	5068K46	$27.30
1/8″	6″	36″	5068K51	8.55	1/4″	6″	36″	5068K53	11.97	2″	3″	36″	5068K41	31.38
3/16″	6″	36″	5068K52	9.70	1/2″	4″	36″	5068K45	17.85	3″	3″	6″	5068K42	6.15

Dowel Rods



Birch rods have a ±0.007″ diameter tolerance and ±1/32″ length tolerance. Oak and maple rods have a ±0.015″ diameter tolerance and ±1/16″ length tolerance.

	BIRCH				OAK				MAPLE			
	Pkg.	36″ Length		48″ Length	36″ Length		48″ Length		36″ Length		48″ Length	
Dia.	Qty.		Pkg.			Each		Each		Each		Each
1/8″	50	9683K11	$11.00	9683K51	$13.73							
3/16″	25	9683K12	8.70	9683K52	10.66							
1/4″	25	9683K13	10.54	9683K53	13.05	96825K73	$0.90	96825K13	$1.19	97015K73	$1.02	97015K13	$1.26
5/16″	10	9683K14	6.98	9683K54	8.51							
3/8″	10	9683K15	8.14	9683K55	9.85	96825K75	1.23	96825K15	1.62	97015K75	1.38	97015K15	1.81
7/16″	10	9683K16	9.98	9683K56	12.26								
1/2″	5	9683K17	7.45	9683K57	9.13	96825K77	2.01	96825K17	2.62	97015K77	3.02	97015K17	3.97
5/8″	5	9683K18	9.27	9683K58	11.30	96825K78	2.78	96825K18	3.66	97015K78	2.67	97015K18	3.37
3/4″	5	9683K19	11.79	9683K59	14.80	96825K79	4.14	96825K19	5.45	97015K79	4.60	97015K19	5.67
7/8″	2	9683K24	8.38	9683K64	10.47	96825K81	4.48	96825K21	5.90	97015K81	4.92	97015K21	6.10
1″	2	9683K21	9.71	9683K61	11.95	96825K82	5.16	96825K22	5.94	97015K82	5.72	97015K22	6.99
1 1/8″	1	9683K25	5.84	9683K65	7.30	96825K83	7.39	96825K23	8.90	97015K83	8.14	97015K23	10.02
1 1/4″	1	9683K23	6.26	9683K63	7.83	96825K84	9.02	96825K24	10.71	97015K84	10.07	97015K24	11.65
1 1/2″	1	9683K26	18.00	9683K66	22.50	96825K85	24.81	96825K25	31.61	97015K85	35.82	97015K25	43.43
2″	1	9683K27	26.57	9683K67	33.21	96825K86	43.55	96825K26	52.44	97015K86	48.79	97015K26	58.65

Balls



Material is either birch or maple. Diameter tolerance is ±0.031″.

Dia.	Pkg. Qty.		Pkg.	Dia.	Pkg. Qty.		Pkg.	Dia.	Pkg. Qty.		Pkg.
3/8″	50	9941K11	$9.50	1″	25	9941K19	$9.30	2″	2	9941K27	$7.00
1/2″	50	9941K13	10.00	1 1/4″	25	9941K21	13.00	2 1/4″	2	9941K29	9.50
5/8″	50	9941K15	12.00	1 1/2″	10	9941K23	8.90	2 1/2″	2	9941K31	10.60
3/4″	50	9941K17	13.00	1 3/4″	10	9941K25	11.50	3″	1	9941K33	7.85

Marine-Grade Plywood

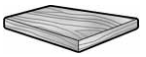

When exposed to weather, water, steam, or dry heat, this premium plywood won't bubble, buckle, or delaminate. It is sanded equally on both sides and is free of surface and core defects. Width and length tolerances are ±3/8". Meets BS1088 marine standards.

Thick.	Thick. Toler.	12"×12"		12"×24"		24"×24"		24"×36"		36"×48"	
3/8"	–0.041"	1125T21	$8.19	1125T22	$15.02	1125T23	$27.31	1125T24	$37.55	1125T25	$68.27
1/2"	–0.048"	1125T31	10.67	1125T32	19.56	1125T33	35.56	1125T34	48.89	1125T35	88.89
3/4"	–0.061"	1125T41	15.43	1125T42	28.29	1125T43	51.43	1125T44	70.71	1125T45	128.57

Modeling Clay

Clay stays workable when stored in a plastic bag. Sizes are approximate.

General Purpose Clay—Sold in packages of four 1/4-lb. sticks of the same color; each stick is 3/4" Thick.×1" Wd.×5" Lg.

To Order: Please specify color: blue, brown, gray, green, red, or yellow.

1334T2 ..... **Pkg.** $5.93

Shrink-Resistant Clay—Smooth and nonhardening, clay will not shrink or crack. Sold in a 2-lb. block; 2 1/2" Thick.×2 3/4" Wd.×5 1/4" Lg. Color is green-gray.

6102T11 ..... **Each** $34.52

Soft Sculpting Clay—The formula is sulfur-free, which reduces its potential to corrode metals. Often used when working with silicone rubber, the clay is smooth and can be melted and poured at 185° F. Sold in a 2-lb. block; 2 3/4" Thick.×2 3/4" Wd.×5" Lg. Color is green-gray.

6102T21 ..... **Each** $19.34

Hard Styling Clay—Carve or extrude this crack-resistant clay or heat it to approximately 120° F for easier sculpting. Sold in a 2-lb. block; 2 3/4" Thick.×2 3/4" Wd.×5" Lg. Color is brown.

6102T31 ..... **Each** $17.61

Extra-Hard Styling Clay—30% to 40% lighter than similar clays, this clay is crack and shrink resistant. It's also sulfur-free, which reduces its potential to corrode metals. Excellent for milling, it can be heated to 135° F for easier sculpting. Sold in a 1 3/4-lb. rod; 2 1/2" Dia.×10" Lg. Color is dark brown.

6102T41 ..... **Each** $17.65

Hard Natural Wax

Hard but brittle, this carnauba wax is the hardest natural wax available. It is wear resistant and often used as a polish because of its lustrous appearance. This wax is also used as a mold-release agent for wax blends. Softening temperature is 177° F. Hardness is not rated. Color is yellow. Sold in 1-lb. packages of wax flakes.

7259T22 ..... **Pkg.** $26.30

Sheet Lining Wax

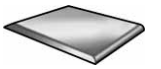

Flexible enough to conform to angles, bends, and detailed surfaces, lining wax is even bendable at room temperature. Use it as lining in stamping prototypes and to produce castings of die patterns. Hardness is not rated. Thickness tolerance is ±0.002". Sheets are approximately 12"×24".

Standard Sheets—Softening temperature is 180° F. Color is brown.

High Temperature Sheets—The 220° F softening temperature is suitable for use with casting and laminate resins. Color is tan. *Tacky-back sheets* have adhesive on one side and adhere to most oil-free surfaces.

Thick.	STANDARD SHEETS Plain Back		HIGH TEMPERATURE SHEETS Plain Back		Tacky Back	
1/32"	86925K41	$19.58	8691K62	$18.05	8691K31	$20.43
1/16"	86925K43	21.41	———	———	8691K11	25.53
5/64"	86925K44	26.18	———	———	8691K32	31.61
3/32"	86925K45	27.65	8691K66	30.23	8691K33	31.89
1/8"	86925K47	33.74	8691K68	34.32	8691K12	38.53
3/16"	86925K49	50.68	8691K73	47.30	8691K13	50.93
1/4"	86925K51	58.12	8691K75	58.71	8691K14	76.36

Bonding Wax

Protect small or fragile items from vibration. This wax has good surface adhesion that holds temporarily. Remove wax with hot water. ***1-lb. tray*** is 1" Thick.×5" Wd.×8" Lg.

	Melting Temp., °F	Color		
6-oz. Jar	165° to 175°	White	1129K14	$4.75
1-lb. Tray	140° to 150°	Yellow	1129K11	15.45

Sealing and Lubricating Wax

Seal your containers against water seepage or lubricate your tools. Hardness is not rated. Sizes are approximate.

Beeswax

Melting temperature is 160° F. Color varies from cream to yellow.

1-lb. block is 1 1/4" Thick.×3 1/2" Wd.×6 3/4" Lg.

Candle is 1 1/4" Dia.×6" Lg.

Plugs are sold in packages of 16. Each plug weighs 1 oz. and is 1 3/8" Dia.×1 1/4" Lg.

Beads come in a 1-lb. package containing 14,700 beads.

	Each		Pkg.	
1-lb. Block	1100K92	$20.59		
Candle	1100K95	9.25		
Plugs			1100K97	$23.06
Beads			1100K89	10.02

Paraffin Wax

Melting temperature is 140° F. Color is white.

Blocks are FDA compliant. *1-lb. block* is 1 1/2" Thick.×2 1/2" Wd.×9" Lg. *10-lb. block* is 1/2" Thick.×12" Wd.×19" Lg.

Candles are also known as plumbers' candles. Sold in packages of 3; each candle is 1 1/8" Dia.×4 1/2" Lg.

Beads are FDA compliant. Sold in a 1-lb. package of 17,000 beads.

	Each		Pkg.	
1-lb. Block	1085K94	$5.82		
10-lb. Block	1085K92	53.44		
Candles			1085K96	$5.66
Beads			1085K91	4.42

Machinable Wax

Although this wax is hard and tough, it can be turned, milled, drilled, tapped, carved, and sawed easily without tool wear.

Nonabrasive Wax

Check CNC setups with this nonabrasive wax. Softening temperature is 214° F. Hardness is Shore 50D-52D. All dimensions have a ±1/8" tolerance. **To Order:** Please specify color: blue, green, or purple.

BARS

Thick.	Wd.	Lg.			Thick.	Wd.	Lg.		
1 1/4"	3 1/2"	12"	9389K11	$31.87	2 1/2"	10"	18"	9389K41	$190.01
1 1/2"	3 5/8"	12"	9389K21	43.98	3 1/2"	3 1/2"	12"	9389K51	80.80
2"	16"	24"	9389K31	324.28	5 1/2"	5 1/2"	12"	9389K59	152.70

RODS

Dia.	Lg.		
2 1/4"	24"	9389K69	$62.93

Casting Wax

Its low rate of thermal expansion makes this wax virtually crack resistant. Softening temperature is 144° to 156° F. Hardness is Shore 40D. All dimensions have a ±1/8" tolerance. Color is red.

BARS

Thick.	Wd.	Lg.			Thick.	Wd.	Lg.		
2"	3 1/2"	12"	93955K73	$62.67	5 1/2"	5 1/2"	12"	93955K62	$184.41
2"	4"	12"	93955K74	71.63	7 3/8"	7 3/8"	6"	93955K78	183.62
3"	10"	18"	93955K75	269.47	9"	9"	6"	93955K79	254.52

RODS

Dia.	Lg.		
2 3/8"	6"	93955K77	$27.31
3 7/8"	6"	93955K81	40.34
4 7/8"	6"	93955K82	63.80
6 7/8"	6"	93955K83	123.14

Ultra-Machinable Prototyping Foam

Urethane Foam Sheets



Foam can be carved with woodcarving tools and bonded with epoxy, super glue, contact cement, or polyurethane and acrylic adhesives. Softening temperature is 245° F. Color is off-white.

Wd.	Lg.	Density, lbs./cu. ft.	Hardness, Shore D	1″ Thick		2″ Thick		3″ Thick		4″ Thick	
24″	48″	6	8	3152T11	$53.39	3152T12	$96.26	3152T24	$141.16	3152T25	$186.08
24″	48″	10	16	3152T26	74.44	3152T27	136.76	3152T17	199.08	3152T18	261.40
24″	48″	20	36	3152T19	136.98	3152T21	246.32	3152T22	351.65	3152T23	453.11

Fine-Cell Urethane Foam (Butterboard) Sheets and Rods

Material can be carved, milled, and sanded. With a finer cell structure than urethane foam, this material can handle more detailed work. All dimensions have a plus tolerance. Density is 48 lbs./cu. ft., hardness is Shore D63, and softening temperature is 245° F. Color is pale yellow.

Thick.	SHEETS 6″×12″		12″×12″		12″×24″		24″×24″	
2″	86595K1	$82.44	86595K11	$159.19	86595K12	$307.40	86595K13	$495.16
3″	86595K2	104.30	86595K21	192.79	86595K22	364.26	86595K23	681.25
4″	86595K3	127.64	86595K31	251.78	86595K32	468.29	86595K33	877.27
6″	86595K4	195.48	86595K41	352.54	86595K42	651.01	86595K43	1,251.47

Dia.	RODS 12″ Length	
2″	86595K51	$63.79
3″	86595K52	91.67
4″	86595K53	104.84
5″	86595K55	143.43

Resin Fillers

Add these hollow spheres to epoxy, urethane, or polyester resins to reduce weight and shrinkage. Sold in 2-qt. containers.

Glass microspheres are a good choice when water resistance or sanding is required. Sphere diameter is 0.00236″. Color is clear.
1414T36 ..... $20.55

Ceramic spheres act as a thickening agent. Sphere diameter is 0.0055″. Color is gray.
1414T48 ..... $21.76

Casting Compounds



Capture intricate details when creating prototypes, molds, and linings with these easy-to-mix two-part compounds. For release agents, see page 2196. For hardness information, see page 3588.

Compounds cure at room temperature, except FDA-compliant urethane cures at 120° F. They shrink 1.5% or less during cure, except see-through urethane, FDA-compliant urethane, and foam urethane shrink 5%.

Hard (Shore 80A) General Purpose Black Urethane Sample—Contains 4 ounces. 8644K57 $17.50

Hardness (Shore)	Time to Harden, minutes	Cure Time, hrs.	Max. Temp., ° F	Small Size Volume, cu. in.	Wt., lbs.		Large Size Volume, cu. in.	Wt., lbs.	
General Purpose Urethane—*Our most popular choice, this urethane is water and abrasion resistant. Color is black, except 85D is blue-green.*									
Soft (20A)	15	168	180°	25	1	8644K51 $34.88	250	10	8644K52 $225.58
Med. Soft (40A)	15	168	180°	25	1	8644K53 34.88	250	10	8644K54 225.58
Med. Hard (60A)	15	168	180°	25	1	8644K24 33.33	250	10	8644K26 217.22
Hard (80A)	15	168	180°	25	1	8644K11 31.91	250	10	8644K12 217.22
Extra Hard (94A)	15	168	180°	25	1	8644K18 33.33	250	10	8644K19 202.24
Extra Hard (60D)	15	168	180°	25	1	8644K55 34.88	250	10	8644K56 225.58
Extra Hard (85D)	5	2	180°	80	5	8690K1 72.45	320	20	8690K2 192.71
See-Through Urethane—*Color is clear.*									
Hard (80A)	6	144	180°	25	1	8644K59 35.71	—	—	—
Extra Hard (75D)	6	144	180°	25	1	8644K58 35.71	—	—	—
Easy-to-Work Urethane—*Combine the liquid components to form a putty that can be molded into or around any shape. Color is black.*									
Med. Hard (60A)	15	168	180°	25	1	8644K28 31.91	100	4	8644K29 93.45
Extra Hard (85A)	15	168	180°	25	1	8644K13 33.33	100	4	8644K15 93.45
Fine-Detail Urethane—*Flows smoothly into crevices to replicate complex detail. Color is white. Ready to demold in 2 hours.*									
Extra Hard (83D)	8	168	135°	94	3.6	87075K57 84.37	374	14.4	87075K59 207.68
FDA-Compliant Urethane—*Complies to FDA 21 CFR. Color is white.*									
Med. Hard (60A)	8	12	180°	25	1	8644K34 35.33	250	10	8644K33 230.22
Hard (78A)	4	12	180°	25	1	8644K37 35.33	250	10	8644K39 230.22
Extra Hard (88A)	4	12	180°	25	1	8644K41 35.33	250	10	8644K43 230.22
Extra Hard (75D)	5	12	180°	25	1	8644K47 35.33	250	10	8644K49 230.22
Machinable Urethane—*Material is aluminum-filled and cures to a gray color.*									
Extra Hard (83D)	6	18	225°	83	5	87155K44 87.89	334	20	87155K46 198.83
Foam Urethane—*Cast large parts with this lightweight foam. It starts as a liquid that expands 7 times its original size. Color is off-white.*									
Extra Hard (30D)	1	2	250°	216	1	8690K72 221.17	648	3	8690K71 487.66
Machinable Epoxy—*Cures into a tough surface that can be machined. Color is gray.*									
Extra Hard (86D)	50	18	225°	40	2.7	87045K51 74.78	—	—	—
Fast-Setting Acrylic—*Adjust the consistency from thin to thick to fit your application. Color is light blue.*									
Extra Hard (85D)	2	0.17	350°	20	1	1355T33 87.31	62	3	1355T34 199.56
Fast-Setting Silicone—*Mold this putty into or around any shape. Components are putty and can be mixed with your hands. Color is green.*									
Med. Soft (40A)	2	0.25	600°	4	0.2	8595K12 13.15	46	2.2	8595K13 78.26
Chemical-Resistant Silicone—*This durable, tear-resistant compound easily demolds. Color is blue.*									
Med. Hard (65A)	120	24	400°	22	1	8595K77 41.43	242	11	8595K11 266.19

High Temperature Ceramic Casting Compounds

These two-part compounds harden in 20 minutes and cure in 16-24 hours at room temperature. Shrinkage rate is 1.5%.

Corrosion-resistant silicon carbide has a high heat transfer rate, making it ideal for use in metal casting molds. It has the added benefit of excellent erosion and oxidation resistance.

Shock-resistant silica withstands rapid changes in temperature without cracking and has a low rate of thermal expansion.

Ultra high temperature zirconium oxide is often used in metal handling applications. In addition to its high temperature resistance, it's also chemical resistant.

	Color	Max. Temp., ° F	Small Size Volume, cu. in.	Wt., lbs.		Large Size Volume, cu. in.	Wt., lbs.	
Corrosion-Resistant Silicon Carbide	Black	2700°	47	4	8498K43 $57.38	119	10	8498K13 $102.46
Shock-Resistant Silica	White	2700°	62	4	8498K41 57.38	155	10	8498K11 102.46
High-Strength Alumina	White	3000°	38	4	8498K44 57.38	96	10	8498K35 102.46
Ultra High Temperature Zirconium Oxide	Tan	4000°	27	4	8498K42 76.78	69	10	8498K17 137.10

About Metals

If you are not sure which metal is right for your application, use the charts below to compare the 11 most common types. The information provided is for use as a general guideline; the properties will vary among the different alloys and grades within each material. For more details about these metals, please see the pages listed below.

Compare Types of Metals

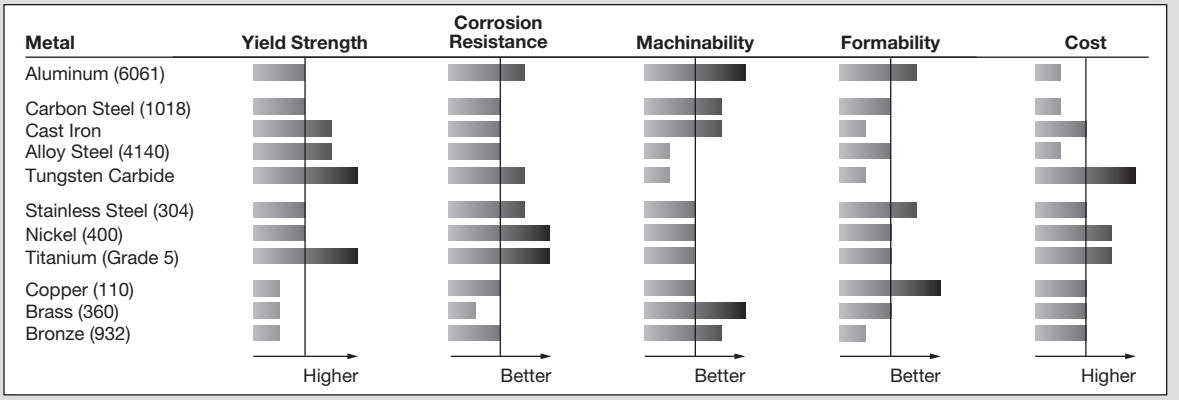

Features and Uses of Metals

		Pages
Aluminum	This general-purpose material is lightweight, corrosion resistant, easy to machine, and a good conductor of heat and electricity. It's often used for pipe fittings, vehicle bodies, and lightweight fasteners.	3699-3727
Carbon Steel	Offers good machinability and weldability at an economical cost but lacks corrosion resistance. This type of steel is used for a variety of structural applications.	3728-3741
Cast Iron	Provides good machinability and strength. It absorbs vibration so finished parts, such as gears and rollers, run more quietly than those made of carbon steel.	3744-3745
Alloy & Tool Steel	When compared to carbon steel, these steels offer greater strength, hardness, and wear resistance. Alloy steel will stand up to high-stress applications. Tool steel is used to make drill bits, punches, chisels, and similar cutting tools.	3745-3768
Tungsten	One of the hardest metals, tungsten is very wear resistant and can withstand extremely high temperatures. It's used to make long-lasting cutting tools.	3768-3769
Stainless Steel	This metal contains at least 10% chromium to increase corrosion resistance. It's used in chemical- and food-processing equipment. Stainless steel is typically not as strong as steel and can be more difficult to machine.	3770-3800
Nickel	It can handle many aggressive chemicals and acids. While nickel is more corrosion resistant than stainless steel, it is also more costly. Nickel is often used in marine applications and chemical-processing equipment.	3801-3802
Titanium	This premium metal is extremely strong yet relatively lightweight. Titanium has excellent resistance to corrosion, pitting, and stress cracking. It's often used for chemical-processing equipment and in marine environments.	3803-3804
Copper, Brass & Bronze	Commonly called red metals, each of these alloys has a high copper content that provides good weather resistance. Copper is an excellent conductor of heat and electricity, while brass and bronze offer good machinability and wear resistance. These metals are commonly used for piping, wire, valves, and bearings.	3805-3825

About Aluminum

A lightweight and economical metal, aluminum is a good conductor of heat and electricity. Depending on the alloy, it can either be heat treated or cold worked to increase its strength, but it will typically not be as strong as steel.

A corrosion-resistant layer forms naturally on its surface, so aluminum offers good corrosion resistance to salt water and chemicals. Clean this layer for improved weldability.

Hardness

As hardness increases, metals become more wear resistant, but they can also be less malleable. The chart below shows hardness measured on different scales.

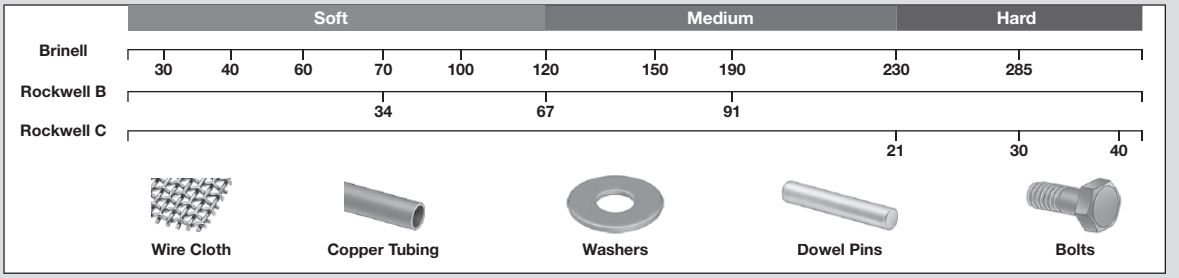

(Continued on following page)

More About Aluminum

Alloy Comparison

Use the chart below to identify the best aluminum for your application. Circles indicate that a majority of a material's shapes and sizes meet the applicable rating. Yield strength is approximate and may vary by size and shape.

● Excellent
◓ Good
○ Poor

Aluminum Types	Min. Yield Strength, psi	Hardness, Brinell	Corrosion Resistance	Formability	Machinability	Weldability	Pages
Multipurpose							
Multipurpose 6061	35,000	95	◓	◓	◓	◓	3699-3710
Metric 6060	23,000	70	◓	◓	◓	○	3710
Strengthened 6013	50,000	120	◓	○	◓	◓	3710-3711
Machinable Cast MIC6	15,000	65	○	○	◓	○	3711-3712
Architectural 6063	16,000	55	●	◓	◓	◓	3712-3714
Formable 3003	17,000	40	●	◓	○	◓	3715-3716
High Strength							
High Strength 2024	37,000	120	○	◓	◓	◓	3717-3720
Hard 7075	56,000	130	○	○	◓	○	3720-3722
Very High Strength 7050	68,000	___	○	○	◓	○	3722
Mold Quality QC-10	74,000	150	○	○	◓	○	3722
High Strength Corrosion Resistant 2014	57,000	135	◓	○	◓	○	3727
High Strength Marine Grade 5456	33,000	90	●	◓	○	●	3727
Highly Corrosion Resistant							
Highly Corrosion Resistant 5086	17,000	___	●	◓	○	◓	3723
Easy-to-Weld 5052	10,000	60	●	◓	○	◓	3723-3724
Strengthened 5083	28,000	___	●	◓	◓	○	3725
Highly Conductive 6101	28,000	71	●	◓	○	◓	3725
Ultra Corrosion Resistant 1100	2,500	23	●	●	○	◓	3725-3726
Easy-to-Machine							
Very Easy-to-Machine 2011	18,000	80	○	◓	●	○	3726-3727
Corrosion Resistant 6020	39,000	100	◓	○	●	○	3727

Temper

Temper indicates the processing done to aluminum alloys for strength and hardness.

Heat Treated (T)— Material has been heat treated for added strength, and it can be heat treated further. These tempers are useful for parts requiring machining, such as fittings and fasteners.

Cold Worked (H)— Material has been cold worked or strain hardened for added strength and cannot be heat treated. Cold-worked aluminum is best for decorative structural components, chemical-processing equipment, and heat exchangers.

Softened (O)— Material has been annealed (heat treated) for softness and bendability and is stress relieved. Use softened aluminum for forming and bending applications that require a very malleable material.

Multipurpose 6061 Aluminum

The most widely used aluminum, Alloy 6061 is a popular choice for vehicle parts and pipe fittings. It has better corrosion resistance and weldability than Alloys 2024 and 7075, but it's not as strong. It is nonmagnetic, heat treatable, and resists stress cracking. Temperature range is –320° to 300° F.

Rectangular Bars— Unpolished



- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6511, unless noted)
- Meet ASTM B221

Width tolerance for 1/4" to 1 3/4" wide bars is ±0.014"; for 2" to 5" wide bars it is ±0.034"; for 6" to 12" wide bars it is ±0.084". Length tolerance for 1/2-ft. to 6-ft. lengths is ±1".

Also Available: Bars with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below (except cubes) for an additional $10. Please ask for 1614T995 and specify thickness, width, and length.

Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/16" Thick (±0.006")						
1/2"	8975K111 ■	___	___	$1.05	$1.45	$2.55
5/8"	8975K127 ■	___	___	1.19	1.66	2.91
3/4"	8975K192 ■	___	___	1.55	2.15	3.78
7/8"	8975K194 ■	___	___	1.67	2.33	4.08
1"	8975K196 ■	___	$1.04	1.94	2.70	4.74
1 1/4"	8975K198 ■	$1.06	1.45	2.71	3.76	6.60
1 1/2"	8975K199 ■	1.22	1.67	3.12	4.34	7.61
1 3/4"	8975K204 ■	1.30	1.79	3.34	4.65	8.15
2"	8975K206 ■	1.49	2.05	3.82	5.31	9.32
2 1/4"	8975K207 ■	1.61	2.22	4.14	5.75	10.09
2 1/2"	8975K208 ■	1.73	2.37	4.42	6.15	10.79
2 3/4"	8975K209 ■	1.79	2.46	4.58	6.37	11.17
3"	8975K295 ■	1.86	2.56	4.78	6.64	11.65
3/32" Thick (±0.006")						
3/8"	8975K296 ■	___	___	1.09	1.51	2.65

■ Temper is T6.

Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/32" Thick (±0.006") (Cont.)						
1/2"	8975K297 ■	___	___	$1.45	$2.01	$3.53
3/4"	8975K298 ■	___	$0.97	1.81	2.52	4.42
1"	8975K299 ■	$0.94	1.29	2.41	3.35	5.88
2"	8975K342 ■	1.88	2.59	4.83	6.71	11.78
3"	8975K343 ■	2.83	3.89	7.24	10.07	17.67
1/8" Thick (±0.007")						
1/2"	8975K577	___	.99	1.84	2.55	4.48
1"	8975K578	.75	1.18	2.20	3.06	5.37
1 1/4"	8975K579	.97	1.52	2.83	3.94	6.91
1 1/2"	8975K581	1.18	1.85	3.45	4.79	8.41
2"	8975K582	1.43	2.25	4.20	5.84	10.24
2 1/2"	8975K532	1.79	2.81	5.24	7.28	12.77
3"	8975K83	2.15	3.38	6.31	8.77	15.38
4"	8975K418	2.92	4.59	8.56	11.90	20.88
6"	8975K921	4.37	6.86	12.78	17.15	31.18

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Multipurpose 6061 Aluminum *(Material continued from previous page)*

The most widely used aluminum, Alloy 6061 is a popular choice for vehicle parts and pipe fittings. It has better corrosion resistance and weldability than Alloys 2024 and 7075, but it's not as strong. It is nonmagnetic, heat treatable, and resists stress cracking. Temperature range is –320° to 300° F.

Rectangular Bars—Unpolished (Cont.)



- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6511, unless noted)
- Meet ASTM B221

Width tolerance for 1/4" to 1 3/4" wide bars is ±0.014"; for 2" to 5" wide bars it is ±0.034"; for 6" to 12" wide bars it is ±0.084". Length tolerance for 1/2-ft. to 6-ft. lengths is ±1".

Also Available: Bars with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below (except cubes) for an additional $10. Please ask for 1614T995 and specify thickness, width, and length.

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/16" Thick (±0.007")						
1/2"	8975K584	$0.62	$0.98	$1.82	$2.54	$4.45
3/4"	8975K585	.87	1.37	2.55	3.54	6.21
1"	8975K586	1.13	1.77	3.30	4.58	8.04
1 1/4"	8975K587	1.34	2.11	3.93	5.46	9.58
1 1/2"	8975K588	1.76	2.77	5.16	7.17	12.58
2"	8975K53	2.25	3.53	6.58	9.15	16.05
3"	8975K85	3.22	5.06	9.44	13.12	23.02
4"	8975K421	4.34	6.83	12.72	17.69	31.03
1/4" Thick (±0.012")						
1/4"	9008K76	___	___	2.09	2.91	5.10
3/8"	8975K589	.78	1.11	2.06	2.87	5.03
1/2"	8975K591	.84	1.15	2.14	2.98	5.22
5/8"	8975K592	1.10	1.72	3.21	4.46	7.83
3/4"	8975K594	1.25	1.96	3.66	5.09	8.93
7/8"	8975K595	1.34	2.11	3.94	5.47	9.60
1"	8975K596	1.72	2.70	5.03	7.00	12.28
1 1/4"	8975K597	1.91	3.00	5.58	7.76	13.62
1 1/2"	8975K518	2.12	3.33	6.20	8.62	15.13
1 3/4"	8975K598	2.41	3.78	7.04	9.79	17.18
2"	8975K71	2.81	4.42	8.24	11.46	20.10
2 1/4"	8975K599	2.96	4.64	8.66	12.03	21.11
2 1/2"	8975K68	3.88	6.10	11.37	15.81	27.73
2 3/4"	8975K611	4.16	6.53	12.18	16.93	29.70
3"	8975K87	4.66	7.32	13.65	18.98	33.29
3 1/2"	8975K612	4.81	7.55	14.08	19.57	34.34
4"	8975K514	6.07	9.54	17.79	24.73	43.38
5"	8975K432	6.11	11.20	20.88	29.03	50.93
6"	8975K437	7.22	13.37	25.03	34.80	61.05
8"	8975K443	11.40	17.91	33.39	46.42	81.43
10"	8975K561	13.23	20.79	38.74	53.86	94.49
12"	8975K142	15.56	30.39	45.56	63.34	111.12
5/16" Thick (±0.008")						
5/16"	9008K77	1.73	2.34	4.18	5.81	10.19
1"	8975K613	1.79	2.81	5.24	7.29	12.79
1 1/2"	8975K18	2.59	4.06	7.57	10.53	18.47
2"	8975K58	3.49	5.48	10.21	14.19	24.90
3"	8975K89	5.13	8.06	15.01	20.87	36.62
3/8" Thick (±0.008")						
3/8"	9008K78	.95	1.50	2.79	3.88	6.81
1/2"	8975K614	1.23	1.93	3.60	5.01	8.79
3/4"	8975K615	1.61	2.53	4.71	6.55	11.49
1"	8975K54	2.12	3.33	6.20	8.62	15.13
1 1/4"	8975K464	2.64	4.15	7.74	10.76	18.87
1 1/2"	8975K41	3.17	4.98	9.29	12.91	22.65
1 3/4"	8975K616	3.60	5.65	10.53	14.64	25.68
2"	8975K59	4.46	7.00	13.05	18.15	31.84
2 1/2"	8975K468	5.35	8.41	15.67	21.78	38.21
3"	8975K91	6.41	10.07	18.77	26.10	45.79
3 1/2"	8975K617	6.62	10.39	19.37	26.93	47.25
4"	8975K426	8.56	13.44	25.06	34.83	61.11
5"	8975K211	10.70	16.82	31.35	43.58	76.46
6"	8975K213	11.27	20.85	36.22	50.36	88.35
8"	8975K372	16.49	25.91	48.29	67.13	117.77
10"	8975K129	18.89	29.69	55.33	76.92	134.94
12"	8975K154	23.34	40.61	68.35	95.02	166.70
7/16" Thick (±0.008")						
7/16"	9008K79	1.55	2.23	3.97	5.52	9.68
1/2" Thick (±0.009")						
1/2"	9008K81	1.36	2.14	3.99	5.54	9.72
3/4"	8975K618	2.07	3.26	6.07	8.44	14.80
1"	8975K11	2.81	4.42	8.24	11.46	20.10
1 1/4"	8975K473	3.56	5.59	10.42	14.49	25.42
1 1/2"	8975K42	4.27	6.71	12.51	17.39	30.51
1 3/4"	8975K619	4.69	7.37	13.74	19.11	33.52
2"	8975K74	5.47	8.60	16.02	22.28	39.08
2 1/2"	8975K477	7.43	11.68	21.77	30.27	53.10

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/2" Thick (±0.009") (Cont.)						
3"	8975K513	$8.92	$14.02	$26.12	$36.31	$63.71
3 1/2"	8975K621	9.27	14.56	27.13	37.72	66.18
4"	8975K215	11.89	18.68	34.82	48.40	84.92
5"	8975K217	14.31	22.48	41.90	58.25	102.20
6"	8975K219	15.80	29.24	50.37	70.02	122.85
8"	8975K222	21.03	33.04	61.58	85.61	150.20
10"	8975K106	22.39	35.18	65.57	91.16	159.93
12"	8975K135	27.06	48.53	79.24	110.16	193.26
9/16" Thick (±0.009")						
9/16"	9008K82	2.02	3.17	5.91	8.22	14.42
5/8" Thick (±0.009")						
5/8"	9008K11	2.10	3.31	6.16	8.57	15.03
1"	8975K12	3.56	5.60	10.43	14.50	25.44
1 1/4"	8975K482	4.45	6.99	13.03	18.12	31.79
1 1/2"	8975K43	5.45	8.57	15.97	22.21	38.96
2"	8975K77	6.98	10.98	20.45	28.44	49.89
2 1/2"	8975K622	7.54	11.85	22.09	30.71	53.88
3"	8975K224	9.94	15.62	29.11	40.47	71.00
4"	8975K226	12.74	20.02	37.30	51.86	90.98
5"	8975K228	15.92	25.02	46.63	64.83	113.74
8"	8975K186	24.57	38.61	71.95	100.03	175.49
12"	8975K158	32.41	64.90	94.92	131.97	231.52
11/16" Thick (±0.009")						
11/16"	9008K83	2.78	4.37	8.15	11.33	19.88
3/4" Thick (±0.010")						
3/4"	9008K12	3.00	4.71	8.78	12.21	21.42
1"	8975K14	4.27	6.71	12.51	17.39	30.51
1 1/4"	8975K486	5.46	8.58	16.00	22.24	39.02
1 1/2"	8975K45	6.55	10.29	19.17	26.65	46.75
1 3/4"	8975K623	6.90	10.85	20.21	28.10	49.30
2"	8975K78	8.55	13.43	25.03	34.80	61.05
2 1/2"	8975K624	9.45	14.85	27.67	38.46	67.48
3"	8975K231	12.35	19.41	36.17	50.29	88.23
3 1/2"	8975K625	12.67	19.91	37.10	51.57	90.48
4"	8975K233	16.20	25.46	47.44	65.95	115.71
5"	8975K49	19.80	31.11	57.98	80.61	141.42
6"	8975K235	21.48	39.73	69.72	96.93	170.06
8"	8975K446	31.74	49.87	92.94	129.21	226.68
10"	8975K121	32.97	51.82	96.57	134.25	235.53
12"	8975K149	39.72	69.94	116.33	161.73	283.74
13/16" Thick (±0.010")						
13/16"	9008K84	3.72	5.85	10.89	15.14	26.57
7/8" Thick (±0.010")						
7/8"	9008K13	3.54	5.55	10.35	14.39	25.25
1"	8975K922	4.86	7.63	14.23	19.78	34.70
1 1/2"	8975K931	7.23	11.36	21.17	29.43	51.64
2"	8975K941	9.52	14.96	27.88	38.76	68.00
15/16" Thick (±0.010")						
15/16"	9008K85	4.63	7.27	13.55	18.83	33.04
1" Thick (±0.012")						
1"	9008K14	4.03	6.34	11.81	16.42	28.81
1 1/4"	8975K526	6.84	10.76	20.04	27.87	48.89
1 1/2"	8975K52	8.21	12.91	24.05	33.44	58.67
1 3/4"	8975K626	8.47	13.31	24.81	34.50	60.52
2"	8975K237	10.94	17.19	32.03	44.53	78.13
2 1/2"	8975K39	13.23	20.79	38.74	53.86	94.49
3"	8975K239	15.88	24.95	46.50	64.65	113.42
3 1/2"	8975K627	16.90	26.56	49.50	68.82	120.74
4"	8975K242	19.64	30.86	57.51	79.96	140.28
5"	8975K352	23.68	37.22	69.36	96.42	169.16
6"	8975K244	24.58	45.47	81.88	113.83	199.71
8"	8975K179	36.69	57.65	107.44	149.37	262.05
10"	8975K102	45.86	72.07	134.30	186.71	327.57
12"	8975K628	48.36	66.15	141.63	196.91	345.45
1 1/8" Thick (±0.012")						
1 1/8"	9008K86	6.66	10.46	19.50	27.10	47.55

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Multipurpose 6061 Aluminum *(Material continued from previous page)*

Rectangular Bars—Unpolished (Cont.)

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1¼″ Thick (±0.012″)						
1¼″	9008K15	$7.21	$11.33	$21.11	$29.34	$51.48
1½″	8975K67	9.27	14.57	27.15	37.75	66.22
1¾″	8975K939	10.34	16.25	30.29	42.11	73.88
2″	8975K246	12.29	19.31	35.99	50.04	87.79
2¼″	8975K955	13.85	21.77	40.57	56.40	98.94
2½″	8975K961	16.06	25.23	47.02	65.37	114.69
3″	8975K248	19.37	30.44	56.72	78.86	138.35
3½″	8975K971	22.27	34.99	65.21	90.65	159.04
4″	8975K251	24.92	39.16	72.99	101.47	178.02
5″	8975K981	30.81	48.42	90.23	125.45	220.08
6″	8975K979	35.53	55.84	104.06	144.67	253.81
1⅜″ Thick (±0.014″)						
1⅜″	9008K87	8.48	13.32	24.83	34.52	60.56
1½″ Thick (±0.014″)						
1½″	9008K46	9.26	14.56	27.13	37.72	66.17
1¾″	8975K991	12.88	20.24	37.72	52.44	92.00
2″	8975K253	14.81	23.28	43.39	60.32	105.82
2¼″	8975K301	16.56	26.02	48.49	67.41	118.26
2½″	8975K166	18.61	29.24	54.50	75.76	132.92
2¾″	8975K401	19.99	31.41	58.53	81.37	142.76
3″	8975K255	21.83	34.30	63.93	88.87	155.92
3½″	8975K171	26.70	41.96	78.20	108.72	190.74
4″	8975K257	29.70	46.67	86.97	120.91	212.12
5″	8975K501	37.38	58.74	109.47	152.19	267.00
6″	8975K259	43.37	68.15	127.01	176.57	309.77
1⅝″ Thick (±0.014″)						
1⅝″	9008K48	12.17	19.12	35.63	49.54	86.91
1¾″ Thick (±0.014″)						
1¾″	9008K51	13.23	20.79	38.74	53.85	94.48
2″ Thick (±0.024″)						
2″	9008K53	14.74	23.16	43.16	60.00	105.27
2½″	8975K262	26.95	42.35	78.92	109.72	192.50
3″	8975K264	28.88	45.38	84.57	117.57	206.27

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
2″ Thick (±0.024″) (Cont.)						
3½″	8975K629	$31.35	$49.26	$91.80	$127.63	$223.91
4″	8975K266	39.31	61.78	115.13	160.06	280.80
5″	8975K631	43.14	67.79	126.33	175.63	308.12
6″	8975K268	46.73	86.39	161.01	223.84	392.70
2¼″ Thick (±0.024″)						
2¼″	9008K55	21.15	33.23	61.93	86.09	151.04
2½″ Thick (±0.024″)						
2½″	9008K57	24.96	39.23	73.10	101.63	178.30
3″	8975K271	36.27	57.00	106.22	147.68	259.08
3½″	8975K273	48.15	75.67	141.02	196.05	343.95
4″	8975K275	52.86	83.07	154.80	215.21	377.57
5″	8975K277	61.43	96.53	179.89	250.09	438.75
2¾″ Thick (±0.024″)						
2¾″	9008K59	29.51	46.38	86.43	120.16	210.81
3″ Thick (±0.024″)						
3″	9008K62	36.04	56.64	105.55	146.75	257.45
3½″	8975K279	53.50	84.07	156.67	217.81	382.13
4″	8975K282	56.88	89.38	166.57	231.57	406.26
4½″	8975K284	64.11	100.74	187.75	261.01	457.92
5″	8975K286	71.08	111.70	208.17	289.41	507.73
6″	8975K288	82.55	129.72	241.75	336.09	589.63
3¼″ Thick (±0.024″)						
3¼″	9008K64	36.55	57.44	107.04	148.81	261.07
3½″ Thick (±0.024″)						
3½″	9008K66	40.16	63.11	117.62	163.52	286.88
4″ Thick (±0.034″)						
4″	9008K68	50.40	79.19	147.59	205.18	359.97
5″	8975K291	94.51	148.51	276.77	384.77	675.04
6″	8975K293	112.42	176.66	329.24	457.72	803.02
5″ Thick (±0.034″)						
5″	9008K74	78.14	122.79	228.83	318.13	558.13
6″ Thick (±0.044″)						
6″	9008K88	117.92	185.31	345.34	480.11	842.30



Sq. Size	Sq. Tolerance		
2″	±0.024″	9140T271	$8.64
2½″	±0.024″	9140T272	15.26
3″	±0.024″	9140T273	$24.22
3½″	±0.024″	8975K571	39.36
4″	±0.034″	8975K572	$56.48
5″	±0.034″	8975K574	86.00

Miniature Tight-Tolerance Rectangular Bars—Unpolished



- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B221

These bars also meet AMS 4150 and AMS-QQ-A200. Thickness and width tolerances are ±0.003″. Length has a plus tolerance.

Thick.	Wd.		2 ft.	4 ft.	6 ft.
1/16″	1/4″	9447T31	$2.62	$4.66	$5.82
1/8″	1/8″	9447T32	2.77	4.92	6.15
1/4″	1/4″	9447T33	$4.75	$8.45	$10.56
3/8″	3/8″	9447T34	9.03	16.05	20.06
3/8″	1/2″	9447T35	$12.44	$21.57	$27.65
1/2″	1/2″	9447T36	12.89	22.91	28.64

Metric Rectangular Bars—Unpolished



- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B221

Width tolerance for 5 mm to 25 mm wide bars is ±0.254 mm; for 30 mm to 50 mm bars it is ±0.356 mm. Flatness tolerance is 0.006″ per inch of width. Length tolerance is ±1/4″.

Wd., mm		1 ft.	3 ft.	6 ft.
2 mm Thick (±0.152 mm)				
5	9146T11	—	$0.80	$1.36
10	9146T12	—	1.50	2.55
15	9146T13	—	2.14	3.63
20	9146T14	$1.22	2.87	4.86
25	9146T15	1.41	3.33	5.65
30	9146T16	1.68	3.97	6.73
40	9146T17	2.16	5.09	8.63
3 mm Thick (±0.152 mm)				
5	9146T19	—	.99	1.68
10	9146T21	—	2.23	3.78
15	9146T22	1.32	3.13	5.30
20	9146T23	1.64	3.87	6.56
25	9146T24	1.98	4.67	7.92
30	9146T25	2.33	5.49	9.31
40	9146T26	3.00	7.07	11.98
4 mm Thick (±0.178 mm)				
5	9146T28	—	1.33	2.25
10	9146T29	1.34	3.17	5.37
15	9146T31	1.95	4.60	7.79
20	9146T32	2.36	5.58	9.45

Wd., mm		1 ft.	3 ft.	6 ft.
4 mm Thick (±0.178 mm) (Cont.)				
25	9146T33	$2.83	$6.67	$11.31
30	9146T34	3.24	7.64	12.95
40	9146T35	4.01	9.46	16.04
5 mm Thick (±0.178 mm)				
5	9146T37	—	1.65	2.80
10	9146T38	1.32	3.12	5.28
15	9146T39	1.92	4.52	7.66
20	9146T41	2.48	5.84	9.90
25	9146T42	3.00	7.07	11.99
30	9146T43	3.50	8.25	13.99
40	9146T44	4.51	10.66	18.06
6 mm Thick (±0.178 mm)				
6	9146T46	1.25	2.96	5.01
10	9146T47	1.90	4.49	7.61
15	9146T48	2.54	6.00	10.17
20	9146T49	3.27	7.72	13.08
25	9146T51	4.09	9.66	16.37
30	9146T52	4.66	10.99	18.62
40	9146T53	5.99	14.13	23.95

Wd., mm		1 ft.	3 ft.	6 ft.
8 mm Thick (±0.203 mm)				
8	9146T55	$2.06	$4.86	$8.24
10	9146T56	2.40	5.68	9.62
15	9146T57	3.25	7.68	13.01
20	9146T58	4.07	9.61	16.28
25	9146T59	4.95	11.68	19.79
30	9146T61	5.79	13.66	23.15
40	9146T62	7.46	17.60	29.83
10 mm Thick (±0.203 mm)				
10	9146T64	3.04	7.19	12.18
15	9146T65	4.24	10.01	16.96
20	9146T66	5.28	12.45	21.11
25	9146T67	6.18	14.59	24.73
30	9146T68	7.24	17.08	28.95
40	9146T69	8.91	21.04	35.66
20 mm Thick (±0.254 mm)				
20	9146T77	10.00	23.61	40.01
30	9146T78	13.99	33.02	55.96
25 mm Thick (±0.254 mm)				
25	9146T82	14.55	34.35	58.22
50	9146T84	21.84	51.55	87.38

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Multipurpose 6061 Aluminum *(Material continued from previous page)*

The most widely used aluminum, Alloy 6061 is a popular choice for vehicle parts and pipe fittings. It has better corrosion resistance and weldability than Alloys 2024 and 7075, but it's not as strong. It is nonmagnetic, heat treatable, and resists stress cracking. Temperature range is –320° to 300°F.

Anodized Rectangular Bars and Sheets—Clear or Black Coating

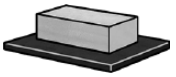

- Yield Strength: 40,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T6511, unless noted)
- Meet ASTM B221, unless noted

In addition to a uniform finish, the anodized coating provides increased abrasion resistance. Thickness tolerance for 1/16" thick bars and sheets is ±0.004"; for 1/8" to 1/2" thick it's ±0.009". Width tolerance for 3/8" to 1 1/2" wide bars and sheets is ±0.014"; for 2" to 12" wide it's ±0.044". Length tolerance is +1/8".

Thick.	Wd.	Choose a Color		½ ft.	1 ft.	2 ft.	3 ft.
1/16"	1"	Clear, Black	7083T11♠	$5.93	$8.90	$14.23	$19.77
1/16"	2"	Clear, Black	7083T12♠	10.81	16.21	25.93	36.02
1/16"	4"	Clear, Black	7083T13♠	20.56	30.84	49.34	68.53
1/16"	6"	Clear, Black	7083T14♠	28.86	43.29	69.28	96.22
1/16"	12"	Clear, Black	7083T15♠	—	81.21	129.93	180.46
1/8"	1/2"	Clear, Black	7083T16	3.51	5.16	7.90	10.97
1/8"	1"	Clear, Black	7083T17	5.50	8.25	13.20	18.34
1/8"	1 1/2"	Clear, Black	7083T18	7.71	11.56	18.50	25.69
1/8"	2"	Clear, Black	7083T19	9.91	14.87	23.80	33.05
1/8"	4"	Clear, Black	7083T21	18.75	28.12	45.00	62.50
1/8"	6"	Clear, Black	7083T22	27.59	41.38	66.20	91.95
1/8"	12"	Clear, Black	7083T23♠	—	64.67	113.56	157.72
1/4"	1/2"	Clear, Black	7083T24	4.55	6.68	10.23	14.21
1/4"	3/4"	Clear, Black	7083T25	5.38	8.08	12.92	17.95
1/4"	1"	Clear, Black	7083T26	6.68	10.03	16.04	22.28
1/4"	1 1/2"	Clear, Black	7083T27	9.28	13.92	22.27	30.93
1/4"	2"	Clear, Black	7083T28	13.49	20.24	32.39	44.98

♠ Temper is T6. Meet ASTM B209.

Thick.	Wd.	Choose a Color		½ ft.	1 ft.	2 ft.	3 ft.
1/4"	4"	Clear, Black	7083T29	$25.29	$37.94	$60.70	$84.31
1/4"	6"	Clear, Black	7083T31	37.08	50.68	89.00	123.61
1/4"	12"	Clear, Black	7083T32	—	99.04	173.93	241.57
3/8"	3/8"	Clear, Black	7083T33	4.67	6.85	10.50	14.58
3/8"	1"	Clear, Black	7083T35	7.98	11.97	19.16	26.61
3/8"	2"	Clear, Black	7083T37	14.04	21.06	33.69	46.79
3/8"	4"	Clear, Black	7083T38	25.63	38.44	61.50	85.42
3/8"	6"	Clear, Black	7083T39	37.50	51.25	89.99	124.99
3/8"	12"	Clear, Black	7083T41	—	115.80	203.35	282.43
1/2"	1/2"	Clear, Black	7083T42	6.06	9.09	14.55	20.21
1/2"	1"	Clear, Black	7083T43	9.28	13.92	22.27	30.93
1/2"	1 1/2"	Clear, Black	7083T44	12.73	19.10	30.56	42.44
1/2"	2"	Clear, Black	7083T45	16.19	24.29	38.86	53.97
1/2"	4"	Clear, Black	7083T46	29.43	44.14	70.63	98.10
1/2"	6"	Clear, Black	7083T47	43.00	64.48	103.20	143.31
1/2"	12"	Clear, Black	7083T48	—	126.78	222.65	309.23

Hard Anodized Rectangular Bars—Gray



- Yield Strength: 40,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T6511)
- Meet ASTM B221

The anodized coating increases surface hardness for improved wear and corrosion resistance. The harder surface also makes these bars more difficult to machine. The coating is about 0.001" thick and forms a bond with the aluminum. Bars have a width tolerance of ±0.014". Length tolerance is ±1/16".

Thick	Wd.		1 ft.	3 ft.
1/8"	1/2"	6023K33	$5.72	$12.73
1/8"	1"	6023K15	9.19	18.75
1/8"	1 1/2"	6023K34	12.84	32.10
1/8"	2"	6023K27	17.47	35.66
3/16"	1/2"	6023K11	6.13	12.52
3/16"	3/4"	6023K13	7.59	15.50
3/16"	1"	6023K16	8.10	16.53
3/16"	1 1/2"	6023K22	14.61	29.82
1/4"	1/4"	6023K35	3.83	9.58
1/4"	1/2"	6023K12	7.13	14.55
1/4"	3/4"	6023K14	8.12	16.57
1/4"	1"	6023K17	9.03	18.43
1/4"	1 1/4"	6023K36	8.62	21.55

Thick	Wd.		1 ft.	3 ft.
1/4"	1 1/2"	6023K23	$12.78	$26.09
1/4"	2"	6023K28	22.80	46.53
1/4"	2 1/2"	6023K37	23.27	58.17
1/4"	3"	6023K38	27.83	69.58
1/4"	4"	6023K39	31.17	77.92
3/8"	3/8"	6023K41	4.85	12.13
3/8"	3/4"	6023K42	6.95	17.38
3/8"	1"	6023K18	10.89	22.23
3/8"	1 1/2"	6023K24	14.06	28.70
3/8"	2"	6023K29	17.94	36.62
1/2"	1/2"	6023K43	5.45	13.63
1/2"	3/4"	6023K44	8.10	20.24
1/2"	1"	6023K19	12.59	25.70

Thick	Wd.		1 ft.	3 ft.
1/2"	1 1/4"	6023K45	$11.75	$29.38
1/2"	1 1/2"	6023K25	16.79	34.26
1/2"	2"	6023K31	21.91	44.72
1/2"	3"	6023K47	26.83	67.08
1/2"	4"	6023K48	35.28	88.20
3/4"	3/4"	6023K49	13.42	25.21
3/4"	1"	6023K21	16.43	33.53
3/4"	1 1/2"	6023K51	27.10	50.94
1"	1"	6023K52	24.50	61.25
1"	1 1/2"	6023K26	27.20	55.52
1"	2"	6023K32	40.44	82.54
1"	3"	6023K54	49.62	124.04
1"	4"	6023K55	62.32	155.80

Sheets—Unpolished

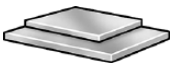

- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B209

Sheets meet AMS 4027. Width tolerance is ±1/16". Length tolerance is ±1/8".

Also Available: Sheets with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $10. Please ask for 9015T777 and specify thickness and size.

Thick.	Thick. Tolerance		2"×24"	2"×48"	4"×24"	4"×48"	6"×6"	6"×12"	6"×24"	6"×48"	8"×8"
0.016"	±0.002"	89015K201	$3.85	$6.84	$6.74	$12.52	$3.08	$5.78	$9.53	$16.85	$4.81
0.025"	±0.002"	89015K202	4.51	8.01	7.90	14.67	3.61	6.77	11.17	19.74	5.64
0.032"	±0.003"	89015K203	4.99	8.86	8.73	16.22	3.99	7.48	12.35	21.83	6.24
0.040"	±0.004"	89015K204	5.53	9.81	9.68	17.97	4.42	8.29	13.69	24.19	6.91
0.050"	±0.004"	89015K205	6.24	11.08	10.92	20.29	4.99	9.36	15.45	27.31	7.80
0.063"	±0.004"	89015K206	6.79	12.06	11.89	22.08	5.44	10.19	16.82	29.72	8.49
0.080"	±0.005"	89015K207	7.72	13.70	13.50	25.08	6.17	11.58	19.10	33.76	9.65
0.090"	±0.005"	89015K208	8.78	15.58	15.36	28.53	7.02	13.17	21.73	38.41	10.97
0.125"	±0.005"	89015K209	11.42	20.28	19.99	37.13	9.14	17.14	28.28	49.98	14.28
0.160"	±0.009"	89015K211	13.11	23.26	22.93	42.59	10.48	19.66	32.44	57.34	16.38
0.190"	±0.009"	89015K212	14.67	26.04	25.67	47.68	11.74	22.01	36.31	64.19	18.34

Thick.	Thick. Tolerance		12"×12"	12"×24"	12"×36"	12"×48"	18"×18"	24"×24"	24"×48"	36"×36"	48"×48"
0.016"	±0.002"	89015K201	$9.63	$16.37	$24.07	$27.92	$19.26	$28.41	$52.00	$55.85	$96.29
0.025"	±0.002"	89015K202	11.28	19.18	28.20	32.71	22.56	33.28	60.92	65.43	112.81
0.032"	±0.003"	89015K203	12.47	21.21	31.18	36.17	24.95	36.80	67.36	72.35	124.74
0.040"	±0.004"	89015K204	13.82	23.50	34.56	40.09	27.65	40.78	74.65	80.18	138.24
0.050"	±0.004"	89015K205	15.61	26.53	39.02	45.26	31.21	46.04	84.28	90.52	156.07
0.063"	±0.004"	89015K206	16.98	28.87	42.46	49.26	33.97	50.11	91.72	98.51	169.85
0.080"	±0.005"	89015K207	19.29	32.80	48.23	55.95	38.58	56.91	104.18	111.89	192.92
0.090"	±0.005"	89015K208	21.95	37.31	54.87	63.65	43.89	64.74	118.51	127.29	219.47
0.125"	±0.005"	89015K209	28.56	48.55	71.40	79.69	57.12	79.97	148.52	165.65	285.61
0.160"	±0.009"	89015K211	32.76	55.70	81.91	95.02	65.53	96.65	176.93	190.03	327.64
0.190"	±0.009"	89015K212	36.68	62.35	91.69	106.37	73.36	108.20	198.06	212.73	366.78

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Multipurpose 6061 Aluminum *(Material continued from previous page)*

Thick Sheets—Unpolished



- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6511)
- Meet ASTM B221

Flatness tolerance is 0.010″ per inch of width. Width tolerance for the 2″ and 4″ wide sheets is ±0.034″; for the 6″, 8″, and 12″ wide sheets it is ±0.084″. Length tolerance is ±1/16″.

Also Available: Sheets with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $10. Please ask for 8812T666 and specify thickness and size.

Thick.	Thick. Tolerance		2″×48″	4″×48″	6″×6″	6″×12″	6″×48″	8″×8″	12″×12″	12″×48″
1/4″	±0.008″	9246K42	$16.44	$31.24	$7.22	$13.37	$45.22	$14.80	$30.39	$82.22
5/16″	±0.008″	9246K46	20.75	39.77	10.03	18.15	55.33	17.29	____	____
3/8″	±0.008″	9246K47	23.39	44.45	11.27	20.85	64.33	21.05	40.61	116.97
7/16″	±0.009″	9246K48	27.43	52.58	13.03	24.00	73.15	22.86	____	____
1/2″	±0.009″	9246K49	29.60	56.24	15.80	29.24	81.40	26.64	48.53	148.00
5/8″	±0.009″	9246K52	37.04	70.38	18.52	34.26	101.86	33.34	64.90	185.20
3/4″	±0.010″	9246K56	44.45	84.45	21.48	39.73	122.24	40.00	69.94	222.25
7/8″	±0.012″	9246K57	54.85	105.13	26.05	48.00	146.27	45.71	____	____
1″	±0.012″	9246K58	52.62	99.98	24.58	45.47	144.71	47.36	66.15	263.11
1 1/8″	±0.012″	9246K59	65.00	124.59	30.88	56.88	173.34	54.17	____	____
1 1/4″	±0.012″	9246K62	65.85	125.11	35.53	55.84	181.08	59.26	95.48	329.24
1 1/2″	±0.014″	9246K66	79.02	150.14	43.37	68.15	217.31	71.12	114.58	395.11
1 3/4″	±0.014″	9246K67	92.20	175.18	46.10	85.28	253.55	82.98	133.69	461.00
2″	±0.024″	9246K68	105.24	199.96	46.73	86.39	289.42	94.72	152.60	526.22

Oversized Thick Sheets—Unpolished



- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T651)
- Meet ASTM B209

Width and length tolerances are ±1/16″.

Thick.	Thick. Tolerance		2″×24″	4″×24″	6″×6″	6″×12″	8″×8″	12″×12″	12″×24″	18″×18″	24″×24″
1/4″	+0.015″	89155K11	$14.96	$30.08	$13.35	$23.32	$21.07	$43.43	$82.03	$91.85	$160.85
3/8″	+0.020″	89155K12	20.99	42.20	18.73	32.72	29.56	60.93	115.09	128.86	225.67
1/2″	+0.027″	89155K13	25.96	52.20	23.17	40.47	36.56	75.36	142.35	159.38	279.12
5/8″	+0.027″	89155K14	32.65	65.65	29.14	50.91	45.99	94.79	179.05	200.46	351.07
3/4″	+0.037″	89155K15	37.30	75.01	33.29	58.16	52.55	108.30	204.57	229.03	401.11
1″	+0.047″	89155K16	44.47	89.42	39.69	69.34	62.64	129.11	243.87	273.04	478.18
1 1/4″	+0.047″	89155K17	52.73	106.02	47.06	82.21	74.27	153.07	289.14	323.72	566.94
1 1/2″	+0.047″	89155K18	63.19	127.06	56.40	98.53	89.01	183.46	346.54	387.99	679.49
1 3/4″	+0.060″	89155K19	74.13	149.07	66.16	115.59	104.43	215.23	406.54	455.17	797.14
2″	+0.060″	89155K21	84.25	169.40	75.19	131.35	118.67	244.59	462.00	517.26	905.89
2 1/4″	+0.060″	89155K23	101.56	204.21	90.64	158.35	143.06	294.85	556.95	623.56	1,092.05
2 1/2″	+0.085″	89155K25	99.67	200.42	88.96	155.41	140.40	289.38	546.60	611.98	1,071.77
2 3/4″	+0.085″	89155K31	107.55	216.25	95.98	167.68	151.49	312.23	589.77	660.32	1,156.42
3″	+0.085″	89155K33	115.42	232.09	103.01	179.96	162.58	335.10	632.96	708.67	1,241.10
3 1/2″	+0.115″	89155K35	136.52	274.52	121.84	212.86	192.31	396.36	748.68	838.23	1,468.00
4″	+0.145″	89155K41	157.22	316.13	140.32	245.13	221.46	456.45	862.18	965.30	1,690.55

Tight-Tolerance Rectangular Bars and Sheets—Precision Ground on All Sides

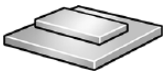

- Yield Strength: 40,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T651, except 1/8″ and 3/16″ are T6)
- Meet ASTM B209

All six sides are precision ground and parallel to 0.005″, so these bars and sheets are ready to use in your CNC machine. They are also known as blanks. Each comes with a traceable lot number and material test report. Thickness tolerance is ±0.002″, except 3/16″ thick sheets have a thickness tolerance of +0.004″. Width and length tolerances are ±0.002″. Flatness tolerance is not rated.

Thick.		1/2″×12″	1″×12″	2″×3″	2″×4″	2″×6″	2″×12″	3″×3″	3″×6″	4″×4″	4″×6″
1/8″	9057K111	$45.48	$52.17	$45.48	$48.15	$52.17	$60.19	$49.49	$56.18	$54.84	$60.19
3/16″	9057K141	46.72	53.59	46.72	49.47	53.59	61.84	50.85	57.72	56.34	61.84
1/4″	9057K171	38.81	44.52	38.81	41.10	44.52	51.37	42.24	47.95	46.81	51.37
3/8″	9057K211	47.14	53.87	47.14	49.38	56.12	62.85	51.63	60.61	58.36	62.85
1/2″	9057K241	52.97	60.53	52.97	55.49	63.05	70.62	58.01	68.10	65.58	70.62
5/8″	9057K271	58.60	66.97	58.60	61.39	69.76	78.13	64.18	75.34	72.55	78.13
3/4″	9057K311	65.48	74.84	65.48	68.60	77.96	87.31	71.72	84.19	81.08	87.31
7/8″	9057K341	67.77	79.73	71.76	74.15	79.73	91.69	75.74	87.70	83.72	91.69
1″	9057K371	71.69	84.35	75.91	78.44	84.35	97.00	80.13	92.78	88.56	97.00
1 1/4″	9057K411	89.53	99.47	89.53	92.84	99.47	119.37	96.16	109.42	106.11	119.37
1 1/2″	9057K441	104.45	116.05	104.45	108.31	116.05	139.26	112.18	127.66	123.79	139.26
2″	9057K471	143.64	159.60	143.64	148.96	159.60	191.52	154.28	175.56	170.24	191.52

Thick.		4″×8″	4″×12″	6″×6″	6″×12″	8″×8″	8″×12″	12″×12″	12″×18″	12″×24″	24″×24″
1/8″	9057K111	$62.87	$72.23	$64.20	$74.91	$73.57	$93.63	$120.38	$141.79	$267.52	$176.56
3/16″	9057K141	64.59	74.21	65.96	76.96	75.58	96.19	123.68	145.67	181.39	274.84
1/4″	9057K171	53.66	61.65	54.80	63.93	62.79	79.91	94.97	121.01	150.69	228.32
3/8″	9057K211	69.58	80.81	71.83	98.76	89.79	130.19	175.08	219.98	278.34	448.93
1/2″	9057K241	78.19	90.80	80.71	110.98	100.89	146.29	196.73	247.18	312.75	504.44
5/8″	9057K271	86.50	100.45	89.29	122.78	111.62	161.84	217.65	273.46	346.01	558.08
3/4″	9057K311	96.67	112.26	99.79	137.21	124.73	180.86	243.23	305.59	386.67	623.66
7/8″	9057K341	115.61	127.57	119.60	175.41	159.46	231.22	310.95	390.68	494.33	797.31
1″	9057K371	122.30	134.96	126.52	185.56	168.69	244.61	328.95	413.30	522.95	843.47
1 1/4″	9057K411	139.26	152.53	145.90	218.84	212.21	278.53	378.00	510.63	663.16	____
1 1/2″	9057K441	162.47	177.94	170.21	255.31	247.57	324.94	440.99	595.73	773.67	____
2″	9057K471	223.44	244.72	234.08	351.11	340.47	446.87	606.47	819.26	1,063.98	____

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Multipurpose 6061 Aluminum *(Material continued from previous page)*

The most widely used aluminum, Alloy 6061 is a popular choice for vehicle parts and pipe fittings. It has better corrosion resistance and weldability than Alloys 2024 and 7075, but it's not as strong. It is nonmagnetic, heat treatable, and resists stress cracking. Temperature range is –320° to 300° F.

Tight-Tolerance Cubes—Precision Ground on All Sides



- Yield Strength: 40,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T651)
- Meet ASTM B209

Also known as blanks, these cubes are ready for use in your CNC machine. Square tolerance is ±0.002″. Flat and parallel tolerances for 1″ to 3″ cubes are 0.002″; for 4″ to 7½″ cubes they are 0.005″. Each comes with a traceable lot number and material test report.

Sq. Size			Sq. Size			Sq. Size		
1″	9057K86	$54.33	2½″	9057K87	$70.02	5″	9057K88	$226.58
1½″	9057K91	59.03	3″	9057K82	92.33	6″	9057K85	340.28
2″	9057K79	63.86	4″	9057K84	137.20	7½″	9057K89	479.52

Tight-Tolerance Rectangular Bars and Sheets—Precision Ground on Top and Bottom



- Yield Strength: 40,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T651, except ⅛″ and 3⁄16″ are T6)
- Meet ASTM B209

The top and bottom are ground flat and parallel to 0.002″, while the sides have a saw-cut or mill edge. Each piece comes with a traceable lot number and material test report. Thickness tolerance is ±0.002″. Width and length have a plus tolerance.

Thick.		2″×12″	2″×24″	4″×12″	4″×24″	6″×6″	6″×12″	6″×24″	12″×12″	12″×18″	12″×24″
⅛″	3511T81	$55.10	———	$72.20	———	$53.20	$76.00	———	$126.67	———	———
3⁄16″	3511T82	56.88	———	77.15	———	57.54	81.08	———	130.77	———	———
¼″	3511T83	38.70	$54.54	52.78	$86.21	42.22	58.06	$103.80	102.04	$144.26	$175.93
⅜″	3511T84	58.67	82.67	80.00	130.67	64.00	88.00	157.34	154.67	226.67	266.67
½″	3511T85	66.96	94.35	91.31	149.13	73.04	100.44	179.57	176.52	249.57	304.35
⅝″	3511T86	75.24	106.02	102.60	167.58	82.08	112.86	201.78	198.36	280.44	342.00
¾″	3511T87	84.04	118.42	114.60	187.18	91.68	126.06	225.38	221.56	313.24	382.00
⅞″	3511T88	97.92	137.98	133.53	218.10	106.82	146.88	262.61	258.16	364.98	445.10
1″	3511T89	99.00	139.50	135.00	220.50	108.00	148.50	283.50	261.00	369.00	450.00
1¼″	3511T91	110.96	156.35	151.31	247.13	121.04	166.44	317.74	312.70	448.87	504.35
1½″	3511T92	143.09	201.62	195.12	318.69	156.09	214.63	409.75	403.24	578.85	650.39

Metric Tight-Tolerance Rectangular Bars and Sheets—Precision Ground on Top and Bottom



- Yield Strength: 40,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T651)
- Meet ASTM B209

These bars and sheets are ground flat on the top and bottom. The sides have a saw-cut or mill edge. They meet AMS 4027. Each piece comes with a traceable lot number and material test report. Thickness tolerance is ±0.05 mm. Width and length have plus tolerances.

Choose a Thickness, mm	Choose a Size	
6, 8, 10, 15, 20, 25, 30	2″×12″, 2″×24″, 4″×12″, 4″×24″, 6″×6″, 6″×12″, 6″×24″, 12″×12″, 12″×24″, 24″×24″	6945T21

Polished Sheets—Brushed and Mirror-Like Finishes



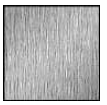

Brushed

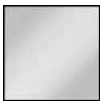

Mirror-Like

- Yield Strength: 40,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6, except 0.375″ is T651)
- Meet ASTM B209

Sheets are polished on one side then covered with a protective peel-off film. Width and length tolerances are ±1⁄16″. Flatness tolerance is 0.125″.

Brushed sheets have grain lines running in one direction. **Mirror-like** sheets have no grain lines.

Thick.	Thick. Tolerance		2″×24″	4″×24″	6″×6″	6″×12″	6″×24″	12″×12″	12″×24″	24″×24″
Brushed										
0.032″	±0.003″	1651T1	$8.49	$14.55	$6.67	$10.92	$20.62	$20.62	$35.17	$60.64
0.050″	±0.003″	1651T2	10.05	17.23	7.90	12.92	24.41	24.41	41.64	71.79
0.062″	±0.003″	1651T3	10.79	18.50	8.48	13.88	26.21	26.21	44.71	77.09
0.080″	±0.004″	1651T4	12.51	21.45	9.83	16.09	30.39	30.39	51.83	89.37
0.090″	±0.004″	1651T5	13.32	22.83	10.46	17.12	32.34	32.34	55.16	95.11
0.125″	±0.005″	1651T6	15.78	27.05	12.40	20.29	38.32	38.32	65.37	112.70
0.190″	±0.007″	1651T7	22.70	38.92	17.84	29.19	55.13	55.13	94.05	162.15
0.250″	±0.012″	1651T8	27.05	46.37	21.25	34.78	65.69	65.69	112.06	193.20
0.375″	±0.015″	1651T9	35.92	61.58	28.22	46.18	87.24	87.24	148.82	256.58
Mirror-Like										
0.032″	±0.003″	1655T1	9.52	16.32	7.48	12.24	23.12	23.12	39.43	67.99
0.050″	±0.003″	1655T2	11.03	18.90	8.66	14.18	26.78	26.78	45.68	78.76
0.062″	±0.003″	1655T3	11.81	20.24	9.28	15.18	28.67	28.67	48.91	84.33
0.080″	±0.004″	1655T4	13.80	23.66	10.84	17.74	33.51	33.51	57.17	98.57
0.090″	±0.004″	1655T5	14.71	25.21	11.56	18.91	35.72	35.72	60.93	105.05
0.125″	±0.005″	1655T6	18.19	31.18	14.29	23.39	44.17	44.17	75.35	129.92
0.190″	±0.007″	1655T7	23.59	40.43	18.53	30.32	57.28	57.28	97.71	168.47
0.250″	±0.012″	1655T8	27.53	47.20	21.63	35.40	66.86	66.86	114.06	196.65
0.375″	±0.015″	1655T9	41.00	70.29	32.22	52.72	99.58	99.58	169.86	292.87

Hard Anodized Sheets—Gray

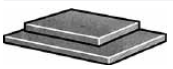

- Yield Strength: 35,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T651, except 0.063″ to 0.190″ are T6)

The anodized coating increases the surface hardness for improved wear and corrosion resistance. The harder surface also makes these sheets more difficult to machine. The coating is about 0.001″ thick and forms a bond with the aluminum. Width and length tolerances are ±1⁄16″. The 0.250″ to 1.000″ thick sheets meet ASTM B209.

Thick.	Thick. Tolerance		6″×6″	6″×12″	12″×12″	24″×24″
0.063″	±0.003″	7255K1	$30.88	$50.19	$77.21	$193.02
0.125″	±0.005″	7255K2	35.70	44.62	66.93	223.10
0.190″	±0.007″	7255K3	38.90	53.48	92.38	243.11
0.250″	±0.012″	7255K4	46.21	63.54	95.32	288.84

Thick.	Thick. Tolerance		6″×6″	6″×12″	12″×12″	24″×24″
0.375″	±0.015″	7255K5	$53.23	$73.19	$113.12	$332.70
0.500″	±0.023″	7255K6	67.72	90.30	127.92	376.24
0.750″	±0.031″	7255K7	97.18	126.33	165.20	485.89
1.000″	±0.039″	7255K8	111.39	144.80	189.36	556.93

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Multipurpose 6061 Aluminum *(Material continued from previous page)*

Rectangular Tubes—Unpolished



- Yield Strength: 35,000 psi
- Hardness: Soft (80 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B221

Height and width tolerances are ±0.085″. Length tolerance is ±1/4″.

Outside Ht.	Outside Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/16″ Wall Thick. (±0.007″)							
1/4″	1/4″	6546K46	—	—	—	$4.12	$7.11
1/4″	1/2″	6546K47	—	—	$4.29	5.92	10.21
3/8″	3/8″	6546K48	—	—	4.44	6.14	10.58
1/2″	1/2″	6546K49	—	$3.10	5.43	7.50	12.93
1/2″	1″	6546K51	—	3.66	6.41	8.86	15.27
3/4″	3/4″	6546K52	—	3.73	6.54	9.02	15.56
1″	1″	6546K53	—	5.61	9.82	13.56	23.38
1/8″ Wall Thick. (±0.015″)							
3/4″	1 1/2″	6546K54	$4.52	7.74	13.55	18.72	32.27
1″	1″	6546K21	3.84	6.59	11.52	15.92	27.44
1″	1 1/2″	6546K38	4.90	8.40	14.70	20.30	35.00
1″	2″	6546K39	5.93	10.17	17.80	24.59	42.39
1″	3″	6546K55	8.44	14.47	25.33	34.98	60.31
1 1/4″	1 1/4″	6546K56	4.97	8.52	14.90	20.58	35.48
1 1/4″	2 1/2″	6546K57	7.57	12.97	22.71	31.35	54.06
1 1/2″	1 1/2″	6546K22	6.16	10.56	18.49	25.53	44.02
1 1/2″	2″	6546K58	7.03	12.05	21.08	29.12	50.20
1 1/2″	2 1/2″	6546K59	8.68	14.88	26.04	35.96	62.00
1 3/4″	1 3/4″	6546K6	7.03	12.06	21.10	29.13	50.23
1 3/4″	3 1/2″	6546K61	9.46	16.22	28.38	39.20	67.58
2″	2″	6546K23	7.49	12.83	22.46	31.01	53.47
2″	3″	6546K41	9.48	16.26	28.45	39.29	67.74
2″	4″	6546K42	10.68	18.30	32.03	44.24	76.27
2″	5″	6546K62	13.95	23.92	41.86	57.80	99.66
2″	6″	6546K63	14.95	25.64	44.86	61.96	106.82
2″	8″	6546K64	16.26	27.87	55.74	67.36	116.13
2 1/2″	2 1/2″	6546K43	9.21	15.79	27.64	38.16	65.80
3″	3″	6546K65	11.10	19.02	38.04	45.97	79.26
3″	4″	6546K66	13.67	23.44	41.02	56.64	97.66
5″	5″	6546K67	16.15	27.68	48.44	66.89	115.33
3/16″ Wall Thick. (±0.015″)							
1″	1″	6546K34	4.56	7.81	13.67	18.87	32.54
1 1/2″	3″	6546K69	10.26	17.59	30.78	42.50	73.28
2″	2″	6546K24	10.82	18.54	32.45	44.80	77.25
2″	4″	6546K44	13.90	23.83	41.71	57.59	99.30

Outside Ht.	Outside Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/16″ Wall Thick. (±0.015″) (Cont.)							
2″	6″	6546K71	$17.75	$30.42	$53.24	$73.53	$126.77
3″	3″	6546K25	16.32	27.98	48.97	67.62	116.59
3″	4″	6546K72	16.49	28.27	49.48	68.33	117.81
3″	6″	6546K45	21.61	37.04	64.82	89.51	154.33
4″	4″	6546K26	19.65	33.69	58.96	81.43	140.39
4″	6″	6546K73	22.55	38.66	67.66	93.44	161.10
5″	5″	6546K74	21.30	36.52	63.91	88.26	152.17
6″	6″	6546K75	23.63	40.51	70.89	97.89	168.78
8″	8″	6546K76	28.47	48.81	85.42	117.95	203.37
1/4″ Wall Thick. (±0.020″)							
2″	2″	6546K27	13.39	22.95	40.16	55.47	95.63
2″	3″	6546K28	16.28	27.90	48.83	67.44	116.27
2″	4″	6546K29	19.97	34.24	59.92	82.74	142.66
2″	6″	6546K77	23.17	39.72	69.51	95.98	165.49
2″	8″	6546K78	31.12	53.35	93.36	128.92	222.28
2 1/2″	2 1/2″	6546K31	15.01	25.73	45.03	62.19	107.22
3″	3″	6546K32	18.73	32.11	56.19	77.59	133.78
3″	4″	6546K35	21.77	37.32	65.32	90.20	155.52
4″	4″	6546K33	24.26	41.59	72.79	100.51	173.30
4″	6″	6546K36	28.12	48.21	84.37	116.51	200.88
4″	8″	6546K79	33.27	57.03	99.80	137.83	237.63
5″	5″	6546K81	25.68	44.02	77.03	106.37	183.40
6″	6″	6546K37	31.01	53.17	106.33	128.49	221.53
3/8″ Wall Thick. (±0.038″)							
4″	4″	6546K82	33.60	57.60	100.80	139.20	240.00
5″	8″	6546K83	55.69	95.47	167.07	230.71	397.78
6″	6″	6546K84	51.02	87.47	153.06	211.38	364.44
8″	8″	6546K85	77.50	132.86	232.50	321.07	553.57
1/2″ Wall Thick. (±0.050″)							
4″	4″	6546K86	44.55	76.36	133.64	184.54	318.18
4″	6″	6546K87	55.68	95.46	167.05	230.68	397.73
4″	8″	6546K88	74.75	128.14	224.25	309.68	533.93
6″	6″	6546K89	69.36	118.91	208.09	287.36	495.45
8″	8″	6546K91	98.24	168.41	294.72	407.00	701.72

Round Tubes—Unpolished



- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6511, unless noted)
- Meet ASTM B241, unless noted

OD tolerance for 1/4″ to 7/8″ dia. tubes is ±0.010″; for 1″ to 8″ dia. tubes it is ±0.035″; for 10″ and 12″ dia. tubes it is ±0.065″. Straightness tolerance for 1/4″ dia. tubes is 0.500″ per foot; for 3/8″ to 12″ dia. tubes it is 0.020″ per foot. Length tolerance for 1/2-ft. lengths is ±1/2″; for 1-ft. to 6-ft. lengths it is ±1″; for 1″ and 3″ lengths it is +1/8″.

OD	ID		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
0.035″ Wall Thick. (±0.006″)							
1/4″	0.180″	9056K61★	$3.08	$5.13	$9.24	$12.11	$20.53
3/8″	0.305″	9056K63★	3.59	5.99	10.78	14.13	23.95
1/2″	0.430″	9056K92★	3.93	6.55	11.79	15.46	26.21
5/8″	0.555″	9056K91★	4.57	7.61	13.70	17.96	30.44
7/8″	0.805″	9056K72★	4.90	8.16	14.69	19.26	32.65
1″	0.930″	9056K89★	5.30	8.83	15.90	20.84	35.33
0.049″ Wall Thick. (±0.008″)							
1/4″	0.152″	9056K62★	3.67	6.12	11.01	14.44	24.47
3/8″	0.277″	9056K64★	4.00	6.67	12.01	15.75	26.69
1/2″	0.402″	9056K65★	4.30	7.17	12.91	16.93	28.69
3/4″	0.652″	9056K69★	4.66	7.76	13.98	18.33	31.06
1″	0.902″	9056K74★	5.47	9.12	16.42	21.52	36.48
1 1/2″	1.402″	9056K78★	7.95	13.24	23.84	31.26	52.98
2″	1.902″	9056K82★	13.02	21.70	39.07	51.22	86.82
0.058″ Wall Thick. (±0.007″)							
5/8″	0.509″	9056K67★	5.89	9.82	17.68	23.19	39.30
0.065″ Wall Thick. (±0.009″)							
1/2″	0.370″	9056K66★	4.70	7.83	14.09	18.47	31.30
5/8″	0.495″	9056K68★	5.03	8.38	15.09	19.79	33.54
3/4″	0.620″	9056K71★	5.43	9.05	16.29	21.36	36.21
7/8″	0.745″	9056K73★	5.67	9.45	17.01	22.31	37.81
1″	0.870″	9056K75★	5.81	9.68	17.42	22.84	38.71
1 1/4″	1.120″	9056K76★	6.69	11.14	20.06	26.30	44.57
1 1/2″	1.370″	9056K79★	9.35	15.58	28.05	36.77	62.33
1 3/4″	1.620″	9056K81★	8.40	13.99	25.19	33.03	55.98
2″	1.870″	9056K83★	9.48	15.80	28.44	37.29	63.20
2 1/2″	2.370″	9056K84★	12.19	20.32	36.59	47.97	81.30
3″	2.870″	9056K85★	20.96	34.93	62.87	82.43	139.72

OD	ID		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
0.083″ Wall Thick. (±0.009″)							
1 1/4″	1.084″	9056K77★	$9.57	$15.94	$28.70	$37.62	$63.77
0.125″ Wall Thick. (±0.020″)							
3/4″	1/2″	9056K33▲	3.54	5.89	10.61	13.91	23.58
1″	3/4″	9056K36▲	4.61	7.68	13.82	18.12	30.71
1 1/4″	1″	9056K37▲	5.54	9.23	16.62	21.79	36.93
1 1/2″	1 1/4″	9056K38▲	7.15	11.91	21.45	28.12	47.66
1 3/4″	1 1/2″	9056K39▲	8.27	13.79	24.81	32.53	55.14
2″	1 3/4″	9056K4▲	9.22	15.37	27.66	36.27	61.47
3″	2 3/4″	9056K41▲	12.47	20.79	37.42	49.06	83.15
4″	3 3/4″	9056K42▲	14.31	23.84	42.92	56.27	95.38
0.250″ Wall Thick. (±0.025″)							
1″	1/2″	9056K28▲	5.62	9.37	16.87	22.12	37.49
1 1/4″	3/4″	9056K29▲	7.48	12.46	22.43	29.41	49.85
1 1/2″	1″	9056K27	11.60	19.34	34.80	45.63	77.34
2″	1 1/2″	9056K13	14.22	23.71	42.67	55.95	94.83
2 1/4″	1 3/4″	9056K16	16.24	27.07	48.73	63.90	108.30
2 1/2″	2″	9056K18	18.26	30.44	54.79	71.83	121.75
2 3/4″	2 1/4″	9056K31	20.28	33.80	60.85	79.78	135.22
3″	2 1/2″	9056K21	22.30	37.17	66.91	87.72	148.68
3 1/2″	3″	9056K24	26.41	44.02	79.23	103.88	176.07
4″	3 1/2″	9056K51	29.01	48.34	87.02	114.09	193.38
4 1/2″	4″	9056K32	31.37	52.28	94.11	123.39	209.14
5″	4 1/2″	9056K55	32.80	54.67	98.41	129.03	218.70
0.375″ Wall Thick. (±0.021″)							
2″	1 1/4″	9056K14	19.81	33.01	59.42	77.91	132.05
3″	2 1/4″	9056K22■	25.57	42.62	76.73	100.59	170.50
3 1/2″	2 3/4″	9056K25■	30.42	50.70	91.26	119.65	202.80

★Temper is T6. Meet ASTM B210. ▲Temper is T6. Meet ASTM B429. ■ Meet ASTM B429.

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Multipurpose 6061 Aluminum *(Material continued from previous page)*

The most widely used aluminum, Alloy 6061 is a popular choice for vehicle parts and pipe fittings. It has better corrosion resistance and weldability than Alloys 2024 and 7075, but it's not as strong. It is nonmagnetic, heat treatable, and resists stress cracking. Temperature range is –320° to 300° F.

Round Tubes—Unpolished (Cont.)



- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6511, unless noted)
- Meet ASTM B241, unless noted

OD tolerance for 1/4″ to 7/8″ dia. tubes is ±0.010″; for 1″ to 8″ dia. tubes it is ±0.035″; for 10″ and 12″ dia. tubes it is ±0.065″. Straightness tolerance for 1/4″ dia. tubes is 0.500″ per foot; for 3/8″ to 12″ dia. tubes it is 0.020″ per foot. Length tolerance for 1/2-ft. lengths is ±1/2″; for 1-ft. to 6-ft. lengths it is ±1″; for 1″ and 3″ lengths it is +1/8″.

OD	ID		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
0.500″ Wall Thick. (±0.045″)							
2″	1″	9056K15	$24.95	$41.58	$74.84	$98.12	$166.31
2 1/4″	1 1/4″	9056K17	29.16	48.60	87.48	114.70	194.41
2 1/2″	1 1/2″	9056K19	33.31	55.52	99.94	131.04	222.10
2 3/4″	1 3/4″	9056K34	36.53	60.88	109.59	143.68	243.53
3″	2″	9056K23	39.58	65.96	118.73	155.67	263.85
3 1/2″	2 1/2″	9056K26	42.41	70.68	127.22	166.80	282.72
4″	3″	9056K53	45.45	75.75	136.35	178.77	303.00
4 1/2″	3 1/2″	9056K35	48.97	81.62	146.92	192.63	326.49
5″	4″	9056K57	52.25	87.09	156.76	205.53	348.36
6″	5″	9056K43	60.08	100.14	180.25	236.32	400.55
0.750″ Wall Thick. (±0.055″)							
3″	1 1/2″	9056K44■	48.06	80.09	144.17	189.02	320.37
3 1/4″	1 3/4″	9056K45	51.10	85.16	153.29	200.98	340.65

OD	ID		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
0.750″ Wall Thick. (±0.055″) (Cont.)							
3 1/2″	2″	9056K46■	$55.37	$92.28	$166.11	$217.79	$369.14
3 3/4″	2 1/4″	9056K47■	58.51	97.52	175.54	218.45	390.09
4″	2 1/2″	9056K48	63.78	106.30	191.33	250.86	425.18
4 1/2″	3″	9056K49	68.27	113.79	204.82	268.54	455.15
5″	3 1/2″	9056K86	71.88	119.81	215.65	282.74	479.22
6″	4 1/2″	9056K52	80.46	134.10	241.39	316.49	536.42
1.000″ Wall Thick. (±0.065″)							
4″	2″	9056K54	65.52	109.21	196.57	257.73	436.83
4 1/2″	2 1/2″	9056K56	75.21	125.35	225.63	295.83	501.41
5″	3″	9056K58♣	84.37	140.62	253.11	331.86	562.47
5 1/2″	3 1/2″	9056K59	93.42	155.71	280.27	367.47	622.83
6″	4″	9056K87	102.40	170.67	307.20	402.78	682.67
6 1/2″	4 1/2″	9056K88♣	110.92	184.87	332.77	436.30	739.49

■ Meet ASTM B429. ♣Temper is T6.



OD	ID		1″ Lg.	3″ Lg.
0.250″ Wall Thick. (±0.010″)				
1 1/2″	1″	7392T12	$2.00	$4.45
2″	1 1/2″	7392T13	2.42	5.37
2 1/2″	2″	7392T14	2.61	5.80
3″	2 1/2″	7392T15	3.01	6.68
3 1/2″	3″	7392T16	3.35	7.45
4″	3 1/2″	7392T17	3.73	8.28
4 1/2″	4″	7392T18	4.05	9.00
5″	4 1/2″	7392T19	4.57	10.16
6″	5 1/2″	7392T21	5.35	11.88

OD	ID		1″ Lg.	3″ Lg.
0.500″ Wall Thick. (±0.010″)				
2″	1″	7392T22	$3.35	$7.45
2 1/2″	1 1/2″	7392T23	3.95	8.77
3″	2″	7392T24	4.54	10.09
3 1/2″	2 1/2″	7392T25	5.13	11.40
4″	3″	7392T26	5.63	12.52
4 1/2″	3 1/2″	7392T27	6.17	13.72
5″	4″	7392T28	6.89	15.32
5 1/2″	4 1/2″	7392T29	7.45	16.56
6″	5″	7392T31	8.23	18.28

OD	ID		1″ Lg.	3″ Lg.
1.000″ Wall Thick. (±0.065″)				
4″	2″	7392T39	$6.91	$15.36
4 1/2″	2 1/2″	7392T41	7.53	16.73
5″	3″	7392T42	8.16	18.13
6″	4″	7392T44	9.41	20.91
7″	5″	7392T46	10.62	23.59
8″	6″	7392T48	11.84	26.32
2.000″ Wall Thick. (±0.075″)				
8″	4″	7392T49	16.78	37.28
10″	6″	7392T51	20.44	45.43
12″	8″	7392T53	25.30	56.23

Polished Round Tubes—Mirror-Like Finish



- Yield Strength: 40,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B221

Tubes are polished on the outside and covered with a protective peel-off film. OD tolerance is ±0.025″. Length tolerance is ±1/16″.

OD	ID		1 ft.	3 ft.
1/4″ Wall Thick. (±0.037″)				
1″	1/2″	7785T11	$21.32	$53.31
1 1/4″	3/4″	7785T21	25.71	64.27
1 1/2″	1″	7785T31	28.95	72.38

OD	ID		1 ft.	3 ft.
1/4″ Wall Thick. (±0.037″) (Cont.)				
1 3/4″	1 1/4″	7785T41	$44.70	$111.74
2″	1 1/2″	7785T51	46.92	117.30
2 1/4″	1 3/4″	7785T61	50.44	126.10

OD	ID		1 ft.	3 ft.
1/4″ Wall Thick. (±0.037″) (Cont.)				
2 1/2″	2″	7785T71	$54.61	$136.52
3″	2 1/2″	7785T81	58.65	146.63
4″	3 1/2″	7785T91	70.25	175.62

Anodized Round Tubes—Clear or Black Coating



- Yield Strength: 38,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T6)
- Meet ASTM B221

The inside, outside, and ends are anodized for a uniform finish and increased abrasion resistance. OD tolerance for 1″ to 3″ dia. tubes is ±0.015″; for 4″ dia. tubes it is 0.025″. Length has a plus tolerance.

OD	ID	Choose a Color		1/2 ft.	1 ft.	3 ft.
1/4″ Wall Thick.						
1″	1/2″	Clear, Black	8438T1	$12.06	$19.95	$46.39
1 1/2″	1″	Clear, Black	8438T2	19.70	32.59	75.78
2″	1 1/2″	Clear, Black	8438T3	26.76	44.26	102.94

OD	ID	Choose a Color		1/2 ft.	1 ft.	3 ft.
1/4″ Wall Thick. (Cont.)						
2 1/2″	2″	Clear, Black	8438T4	$34.25	$56.64	$131.72
3″	2 1/2″	Clear, Black	8438T5	40.86	67.57	157.15
4″	3 1/2″	Clear, Black	8438T6	52.24	86.40	200.94

Hard Anodized Rods—Gray



- Yield Strength: 35,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T6511, except 1/8″ to 3/8″ are T6)
- Meet ASTM B221

The anodized coating increases the surface hardness for improved wear and corrosion resistance. The harder surface also makes these rods more difficult to machine. The coating is about 0.001″ thick and forms a bond with the aluminum. Rods have a length tolerance of ±1/16″.

Dia.	Dia. Tolerance		1 ft.	3 ft.
1/8″	±0.007″	6750K11	$1.85	$4.63
3/16″	±0.007″	6750K12	2.78	6.17
1/4″	±0.008″	6750K13	3.60	8.00
5/16″	±0.008″	6750K14	5.35	11.88
3/8″	±0.008″	6750K15	5.94	13.19

Dia.	Dia. Tolerance		1 ft.	3 ft.
1/2″	±0.009″	6750K16	$6.29	$13.97
5/8″	±0.009″	6750K17	9.29	20.65
3/4″	±0.010″	6750K18	13.93	30.96
7/8″	±0.010″	6750K21	21.03	46.74
1″	±0.012″	6750K19	23.22	51.61

Dia.	Dia. Tolerance		1 ft.	3 ft.
1 1/4″	±0.012″	6750K23	$26.71	$59.35
1 1/2″	±0.014″	6750K24	39.83	88.51
2″	±0.024″	6750K26	68.87	132.45
2 1/2″	±0.024″	6750K28	101.40	187.77
3″	±0.024″	6750K31	133.34	261.46

Chrome-Coated Rods—Matte Gray



- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6/T651)

The flat-finish coating, sometimes called industrial chrome, offers good wear resistance.

Choose a Diameter	Choose a Length	
1/8″, 3/16″, 1/4″, 5/16″, 3/8″, 1/2″, 5/8″, 3/4″, 1″	1 ft., 3 ft.	7830K21

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

For information about aluminum alloys, see pages 3698-3699.

Multipurpose 6061 Aluminum *(Material continued from previous page)*

Rods—Unpolished



- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6511, unless noted)
- Meet ASTM B221, unless noted

Diameter tolerance for 1/8″ to 1 7/8″ dia. rods is ±0.006″; for 2″ to 5 3/4″ dia. rods it is ±0.034″; and for 6″ to 16″ dia. rods it is ±0.104″. Length tolerance for 1/2″ to 1/2-ft. lengths is +1/8″, –0.015″; for 1-ft. to 6-ft. lengths it is ±1″.

Also Available: Rods with certification. Each comes with a traceable lot number and material test report. Offered in the same diameters listed below (except short rods that are 1/2″ to 3″ long) for an additional $10. Please ask for 1615T45 and specify diameter and length.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1 1/8″	8974K19♦	___	___	$1.60	$2.00	$3.07
3/16″	8974K21♦	___	$1.47	2.47	3.23	5.88
1/4″	8974K22♦	$1.54	2.00	3.81	4.99	9.08
5/16″	8974K23♦	1.90	2.79	5.33	6.97	12.68
3/8″	8974K24	1.99	2.92	5.58	7.30	13.28
7/16″	8974K26♦	2.09	3.07	5.86	7.67	13.95
1/2″	8974K28	2.10	3.08	5.88	7.70	14.00
9/16″	8974K46	2.15	3.15	6.02	7.89	14.34
5/8″	8974K48	2.41	3.54	6.76	8.85	16.09
3/4″	8974K11	3.17	4.65	8.87	11.62	21.12
7/8″	8974K12	4.28	6.27	11.97	15.68	28.51
1″	8974K13	5.32	7.80	14.89	19.50	35.46
1 1/8″	8974K15	6.43	9.44	18.01	23.59	42.89
1 1/4″	8974K16	7.53	11.04	21.08	27.60	50.18
1 3/8″	8974K17	8.79	12.90	24.62	32.25	58.63
1 1/2″	8974K18	9.67	14.18	27.07	35.45	64.46
1 5/8″	8974K66	11.35	16.65	31.78	41.61	75.66
1 3/4″	8974K68	13.23	19.41	37.06	48.53	88.23
1 7/8″	8974K49	13.34	19.57	37.35	48.92	88.94
2″	8974K71	17.28	25.34	48.38	63.36	115.20
2 1/8″	8974K73	19.51	28.62	54.63	71.54	130.07
2 1/4″	8974K75	20.00	29.33	56.00	73.34	133.34
2 3/8″	8974K51	23.19	34.01	64.93	85.03	154.60
2 1/2″	8974K77	26.00	38.14	72.81	95.35	173.36

♦ Temper is T6. Meet ASTM B211.

Dia.		1/2″ Lg.	1″ Lg.	3″ Lg.
2 5/8″	8974K53	$27.20	$39.89	$76.15	$99.72	$181.30
2 3/4″	8974K79	31.46	46.15	88.09	115.36	209.75
2 7/8″	8974K55	31.72	49.84	95.15	124.60	226.54
3″	8974K82	33.70	54.92	104.84	137.29	249.62
3 1/8″	8974K84	36.53	59.52	113.64	148.81	270.56
3 1/4″	8974K86	38.09	64.45	123.05	161.13	292.97
3 3/8″	8974K57	40.58	68.68	131.12	171.70	312.19
3 1/2″	8974K88	42.59	72.07	137.59	180.18	327.60
3 5/8″	8974K59	44.95	76.07	145.22	190.17	345.76
3 3/4″	8974K96	48.82	82.62	157.73	206.55	375.55
4″	8974K97	53.71	90.89	173.52	227.23	413.14
4 1/4″	8974K61	55.16	93.35	178.21	233.38	424.32
4 1/2″	8974K62	57.72	97.68	186.49	244.21	444.02
4 3/4″	8974K2	64.31	108.83	207.77	272.09	494.70
5″	8974K98	77.81	131.68	251.40	329.21	598.56
5 1/4″	8974K3	81.27	137.54	262.57	343.84	625.17
5 1/2″	8974K4	86.23	145.92	278.57	364.80	663.27
5 3/4″	8974K5	86.99	147.22	281.05	368.04	669.17
6″	8974K6	94.72	160.30	306.02	400.74	728.62
6 1/2″	8974K7	128.44	215.59	362.37	458.70	___
7″	8974K8	148.95	250.03	420.26	531.98	___
7 1/2″	8974K9	165.48	277.77	466.89	591.00	___
8″	8974K99	179.59	301.45	506.69	641.38	___



Dia.		1/2″ Lg.	1″ Lg.	3″ Lg.
1″	1610T11	$1.38	$2.07	$4.32
1 1/4″	1610T12	1.97	2.96	6.17
1 1/2″	1610T13	2.57	3.86	8.04
1 3/4″	1610T14	3.56	5.33	11.11
2″	1610T15	4.03	6.05	12.60
2 1/4″	1610T16	4.25	6.37	13.28
2 1/2″	1610T17	5.10	7.66	15.95
2 3/4″	1610T18	5.30	7.95	16.57
3″	1610T19	5.49	8.24	17.16
3 1/4″	1610T27	6.22	9.34	19.45

Dia.		1/2″ Lg.	1″ Lg.	3″ Lg.
3 1/2″	1610T28	$6.96	$10.44	$21.76
3 3/4″	1610T29	7.42	11.14	23.20
4″	1610T37	7.94	11.91	24.82
4 1/4″	1610T38	9.07	13.60	28.33
4 1/2″	1610T39	10.29	15.44	32.16
4 3/4″	1610T47	11.32	16.97	35.36
5″	1610T48	12.06	18.09	37.68
5 1/2″	1610T49	13.92	20.88	43.50
6″	1610T56	16.06	24.09	50.18
6 1/2″	1610T57	24.70	37.05	77.19

Dia.		1/2″ Lg.	1″ Lg.	3″ Lg.
7″	1610T58	$28.43	$42.64	$88.83
7 1/2″	1610T59	31.07	46.60	97.08
8″	1610T66	36.68	55.01	114.61
9″	1610T67■	42.56	63.84	133.00
10″	1610T68■	50.51	75.76	157.84
11″	1610T69■	59.69	89.54	186.54
12″	1610T76■	69.33	104.00	216.67
14″	1610T77■	93.24	139.86	291.38
16″	1610T78■	116.80	175.20	365.00

■ Temper is T6.

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 35,000 psi
- Hardness: Not rated
- Temper: (T6511, unless noted)
- Meet ASTM B221, unless noted

Diameter tolerance is ±0.0005″. Straightness tolerance is 0.0125″ per foot. Length tolerance for 1/2-ft. to 2-ft. lengths is –1/2″; for 3-ft. and 6-ft. lengths it is ±1″.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″	9062K24♦	$4.53	$6.53	$8.70	$10.88	$18.13
3/16″	9062K25♦	4.12	5.97	9.89	12.36	20.60
1/4″	9062K26	4.62	6.70	11.09	13.86	23.10
5/16″	9062K27	5.31	7.70	12.74	15.93	26.55
3/8″	9062K28	5.64	8.18	13.54	16.92	28.20
7/16″	9062K35	6.60	9.58	15.85	19.81	33.02
1/2″	9062K31	7.16	10.38	17.19	21.49	35.81
9/16″	9062K36	7.39	10.72	17.74	22.18	36.96
5/8″	9062K32	7.65	11.09	18.36	22.94	38.24
3/4″	9062K33	9.55	13.85	22.92	28.65	47.75
7/8″	9062K34	11.05	16.03	26.52	33.16	55.26

♦ Temper is T6. Meet ASTM B211

Dia.		1″	1 1/8″	1 1/4″	1 3/8″	1 1/2″	1 3/4″	2″	2 1/4″	2 1/2″	2 3/4″	3″
1″	9062K21	$12.60	$18.27	$30.24	$37.80	$63.00						
1 1/8″	9062K37	16.09	23.32	38.61	48.26	80.43						
1 1/4″	9062K22	17.70	25.66	42.48	53.10	88.50						
1 3/8″	9062K38	20.38	29.56	48.92	61.15	101.92						
1 1/2″	9062K23	23.20	33.63	55.67	69.59	115.98						
1 3/4″	9062K39	35.71	51.79	85.71	107.14	178.57						
2″	9062K41	51.72	75.00	124.14	155.17	258.62						
2 1/4″	9062K42	66.67	96.67	160.00	200.00	333.33						
2 1/2″	9062K43	80.64	116.93	193.55	241.93	403.22						
2 3/4″	9062K44	88.71	128.63	212.90	266.13	443.55						
3″	9062K45	93.75	135.94	225.00	281.25	468.75						

Tight-Tolerance Flat Discs—Precision Ground on Top and Bottom



- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6511)
- Meet ASTM B221

The top and bottom are precision ground and flat to 0.010″, while the circumference has a mill edge. Each comes with a traceable lot number and material test report. Length tolerance is ±0.002″.

Dia.	Dia. Tolerance		1/4″ Lg.	3/8″ Lg.	1/2″ Lg.	3/4″ Lg.	1″ Lg.	1 1/2″ Lg.	2″ Lg.	3″ Lg.
2″	±0.024″	7775T21	$36.71	$37.63	$38.55	$39.47	$40.38	$42.22	$44.05	$45.89
3″	±0.024″	7775T31	45.28	46.41	47.54	48.68	49.81	52.07	54.34	56.60
4″	±0.034″	7775T41	56.53	57.23	57.94	58.65	60.06	65.01	67.83	70.66
6″	±0.044″	7775T51	67.13	69.37	72.72	77.20	80.55	91.74	96.22	111.88
8″	±0.054″	7775T61	86.97	88.55	93.29	105.94	110.68	129.66	135.98	158.12
10″	±0.054″	7775T71	107.74	112.42	121.79	140.53	152.24	163.95	187.37	234.21
12″	±0.054″	7775T81	145.59	151.92	164.57	189.89	205.72	221.54	253.19	316.49

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Multipurpose 6061 Aluminum *(Material continued from previous page)*

The most widely used aluminum, Alloy 6061 is a popular choice for vehicle parts and pipe fittings. It has better corrosion resistance and weldability than Alloys 2024 and 7075, but it's not as strong. It is nonmagnetic, heat treatable, and resists stress cracking. Temperature range is –320° to 300° F.

Metric Rods—Unpolished



- Yield Strength: 35,000 psi
- Hardness: Soft (80 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B221

Straightness tolerance is 0.0125″ per foot. Length tolerance is ±1/4″.

Dia., mm	Dia. Tolerance, mm		1 ft.	3 ft.	6 ft.
5	±0.18	4634T31	—	$1.17	$1.98
6	±0.18	4634T32	—	1.72	2.92
7	±0.20	4634T33	$0.97	2.21	3.74
8	±0.20	4634T34	1.22	2.88	4.88
9	±0.20	4634T35	1.45	3.43	5.81
10	±0.20	4634T36	1.80	4.24	7.19
12	±0.20	4634T37	2.58	6.09	10.33
14	±0.23	4634T38	$3.52	$8.30	$14.07
15	±0.23	4634T39	4.03	9.52	16.13
16	±0.23	4634T41	4.60	10.85	18.39
20	±0.25	4634T42	7.59	17.92	30.38
25	±0.25	4634T43	11.23	26.50	44.91
30	±0.31	4634T44	14.54	34.30	58.14
40	±0.31	4634T45	23.12	54.56	92.48

Tight-Tolerance Metric Rods—Precision Ground



- Yield Strength: 40,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6511, except 4 to 6 mm are T6)
- Meet ASTM B221, except 4 to 6 mm meet B211

Diameter tolerance is ±0.013 mm. Straightness tolerance is 0.021″ per foot. Length tolerance is ±1″.

Dia., mm		1 ft.	3 ft.	6 ft.
4	6940T11	$7.21	$14.88	$23.25
5	6940T12	7.99	16.50	25.78
6	6940T16	9.35	19.30	30.15
8	6940T17	10.88	22.46	35.09
10	6940T18	$11.88	$24.52	$38.31
12	6940T19	13.25	27.36	42.75
15	6940T21	14.99	30.94	48.35
20	6940T22	18.77	38.75	60.55
25	6940T23	$25.28	$52.19	$81.55
30	6940T24	35.87	74.05	115.70
40	6940T25	48.67	100.48	157.00
50	6940T26	68.00	140.38	219.35

Half-Round Bars—Unpolished



- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B221

Diameter tolerance is ±0.012″. Straightness tolerance is 0.0125″ per foot. Length tolerance is ±1/2″.

Dia.		1 ft.	3 ft.	6 ft.
1/4″	8242T21	$1.12	$2.59	$4.46
3/8″	8242T31	2.08	4.81	8.30
1/2″	8242T41	$2.90	$6.73	$11.60
5/8″	8242T51	4.04	9.37	16.16
3/4″	8242T61	$5.17	$11.99	$20.68
1″	8242T71	8.28	19.20	33.10

Hexagonal Bars—Unpolished

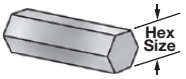

- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T651, unless noted)
- Meet ASTM B211, unless noted

Hex tolerance is ±0.006″. Length tolerance for 1/2-ft. lengths is ±1/2″; for 1-ft. to 6-ft. lengths it is ±1″.

Hex Size		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″	89845K71 ★	$0.88	$1.08	$1.42	$1.76	$2.45
3/16″	89845K72 ★	1.38	1.78	2.67	3.46	4.94
1/4″	89845K73 ■	1.48	2.02	3.23	4.31	6.73
5/16″	89845K74 ★	2.53	3.45	5.52	7.36	11.50
3/8″	89845K75 ■	3.00	4.20	6.90	9.30	15.00
7/16″	89845K76 ★	3.37	4.71	7.74	10.43	16.83
1/2″	89845K81	2.94	4.83	9.71	12.58	21.00
9/16″	89845K77 ★	4.59	6.40	11.13	15.58	27.82
5/8″	89845K12	4.28	7.03	12.22	17.11	30.56
11/16″	89845K78 ★	$5.29	$8.68	$15.10	$21.14	$37.75
3/4″	89845K82	5.99	9.84	17.12	23.97	42.80
7/8″	89845K14	7.33	12.04	20.94	29.32	52.36
1″	89845K83	8.68	14.26	24.80	34.72	62.00
1 1/8″	89845K52	11.39	18.71	32.54	45.56	81.36
1 1/4″	89845K54	11.68	19.18	33.36	46.70	83.40
1 1/2″	89845K56	14.35	23.58	41.00	57.41	102.51
1 3/4″	89845K58	17.05	28.02	48.73	68.22	121.82
2″	89845K61	22.24	36.54	63.54	88.96	158.85

★ Temper is T6. Meet ASTM B221. ■ Temper is T6.

Hard Anodized Hexagonal Bars—Gray



- Yield Strength: 35,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T6511)
- Meet ASTM B221

The anodized coating increases surface hardness for improved wear and corrosion resistance. The harder surface also makes these bars more difficult to machine. The coating is about 0.001″ thick and forms a bond with the aluminum. Hex tolerance is ±0.003″. Length tolerance is ±1/16″.

Hex Size		1 ft.	3 ft.
1/4″	6707T11	$10.40	$26.00
3/8″	6707T12	12.06	30.16
1/2″	6707T13	$14.06	$35.16
5/8″	6707T14	15.56	38.91
3/4″	6707T15	$17.88	$44.69
1″	6707T16	22.40	56.00
1 1/4″	6707T17	$30.95	$77.37
1 1/2″	6707T18	39.17	97.93

Metric Hexagonal Bars—Unpolished



- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6)

Hex tolerance for 5 mm to 18 mm sizes is ±0.23 mm; for 20 mm to 30 mm sizes it is ±0.31 mm. Straightness tolerance is 0.0125″ per foot. Length tolerance is ±1/2″ per foot.

Hex Size, mm		1 ft.	3 ft.	6 ft.
5	8252T11	$0.74	$1.73	$2.98
6	8252T21	1.05	2.44	4.21
7	8252T31	1.44	3.33	5.74
8	8252T41	1.87	4.34	7.48
10	8252T51	$2.92	$6.79	$11.70
12	8252T61	3.76	8.73	15.05
14	8252T71	4.95	11.48	19.79
16	8252T81	6.25	14.51	25.01
18	8252T91	$7.90	$18.33	$31.61
20	8252T22	9.75	22.62	39.00
25	8252T32	13.07	30.32	52.27
30	8252T42	17.33	40.21	69.32

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

For information about aluminum alloys, see pages 3698-3699.

Multipurpose 6061 Aluminum *(Material continued from previous page)*

Hexagonal Tubes—Unpolished

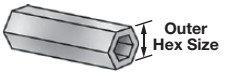

- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B221

Straightness tolerance is 0.0125″ per foot. Length tolerance is ±1/2″.

Hex Size Outer	Hex Size Inner	Outer Hex Tolerance		1 ft.	3 ft.	6 ft.
1/8″ Wall Thick. (±0.013″)						
1/2″	1/4″	±0.016″	9063T31	$3.58	$8.96	$14.93
5/8″	3/8″	±0.018″	9063T32	5.54	13.86	23.10
3/4″	1/2″	±0.020″	9063T33	6.45	16.12	26.86
1″	3/4″	±0.023″	9063T34	8.79	21.98	36.63
1 1/4″	1″	±0.026″	9063T35	15.67	39.19	65.31
1 1/2″	1 1/4″	±0.031″	9063T36	$21.89	$54.73	$91.22
1/4″ Wall Thick. (±0.025″)						
1″	1/2″	±0.023″	9063T37	16.40	41.01	68.35
1 1/2″	1″	±0.031″	9063T38	20.79	51.98	86.64

90° Angles—Unpolished



- Yield Strength: 35,000 psi
- Hardness: Soft (80 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B221

Inside corner and leg edges are rounded, except on the 0.04″ thick angles they are squared. Outside corner is squared. Thickness tolerance for 0.04″ and 1/16″ thick angles is ±0.006″; for 1/8″ to 1/2″ thick angles it is ±0.009″. Leg length tolerance for 1/4″ to 1 3/4″ leg lengths is ±0.014″; for 2″ to 6″ leg lengths it is ±0.044″. Length tolerance is ±1/2″.

Thick.	Outside Leg Lgs.		1 ft.	2 ft.	3 ft.	4 ft.	8 ft.
0.04″	1/4″×1/4″	8982K1	—	—	—	$4.41	$6.79
0.04″	5/8″×5/8″	8982K2	—	—	—	6.99	10.76
1/16″	1/4″×1/4″	8982K3	—	$0.94	$1.31	1.66	2.68
1/16″	1/2″×1/2″	8982K54	$0.93	1.47	1.89	2.44	4.21
1/16″	5/8″×5/8″	8982K5	1.39	2.43	3.40	4.30	6.94
1/16″	3/4″×3/4″	8982K56	1.39	2.43	3.12	4.30	6.94
1/16″	1″×1″	8982K39	1.67	2.92	3.75	4.84	8.34
1/8″	1/2″×1″	8982K91	1.79	3.47	5.00	6.10	10.52
1/8″	3/4″×3/4″	8982K28	2.66	5.17	7.44	9.09	15.67
1/8″	1″×1″	8982K4	2.89	5.61	8.07	9.86	17.00
1/8″	1″×1 1/2″	8982K87	2.94	5.71	8.22	10.04	17.31
1/8″	1″×2″	8982K88	3.60	7.00	10.07	12.30	21.20
1/8″	1 1/4″×1 1/4″	8982K11	3.90	7.57	10.90	13.31	22.95
1/8″	1 1/2″×1 1/2″	8982K13	4.92	9.55	13.75	16.79	28.94
1/8″	2″×2″	8982K14	6.59	12.79	18.41	22.47	38.75
3/16″	1″×1″	8982K15	4.76	9.24	13.30	16.23	27.99
3/16″	1″×2″	8982K92	5.46	10.61	15.27	18.64	32.14
3/16″	1 1/4″×1 1/4″	8982K16	6.36	12.34	17.76	21.69	37.39
3/16″	1 1/2″×1 1/2″	8982K17	7.16	13.91	20.02	24.44	42.14
3/16″	2″×2″	8982K18	11.25	21.84	31.43	38.38	66.17
1/4″	1″×1″	8982K19	6.01	11.67	16.80	20.51	35.37
1/4″	1 1/4″×1 1/4″	8982K31	7.45	14.46	20.81	25.42	43.82
1/4″	1 1/2″×1 1/2″	8982K32	$10.57	$20.51	$29.52	$36.05	$62.15
1/4″	1 3/4″×1 3/4″	8982K34	12.43	24.12	34.72	42.39	73.09
1/4″	2″×2″	8982K36	13.48	26.16	37.65	45.98	79.27
1/4″	2″×3″	8982K57	15.13	29.36	42.27	51.61	88.98
1/4″	2″×4″	8982K58	16.12	31.28	45.03	54.98	94.80
1/4″	2 1/2″×2 1/2″	8982K37	16.08	31.22	44.93	54.87	94.60
1/4″	3″×3″	8982K61	15.98	31.03	44.66	54.53	94.02
1/4″	3″×6″	8982K81	24.51	47.58	68.48	83.62	144.17
1/4″	4″×4″	8982K63	21.69	42.11	60.61	74.01	127.60
1/4″	5″×5″	8982K44	27.57	53.53	77.04	94.08	162.20
1/4″	6″×6″	8982K46	32.90	63.86	91.92	112.24	193.52
3/8″	2″×2″	8982K38	15.22	29.55	42.54	51.94	89.55
3/8″	2″×3″	8982K93	20.88	40.52	58.33	71.22	122.80
3/8″	2 1/2″×2 1/2″	8982K65	20.53	39.85	57.36	70.04	120.76
3/8″	3″×3″	8982K67	23.50	45.61	65.65	80.17	138.22
3/8″	3″×4″	8982K94	27.78	53.93	77.63	94.79	163.43
3/8″	4″×4″	8982K69	31.97	62.06	89.32	109.07	188.05
3/8″	4″×6″	8982K95	39.31	76.31	109.83	134.11	231.23
3/8″	6″×6″	8982K72	43.30	84.05	120.99	147.73	254.71
1/2″	3″×3″	8982K74	30.73	59.66	85.87	104.85	180.78
1/2″	4″×4″	8982K76	41.96	81.44	117.23	143.14	246.80
1/2″	5″×5″	8982K78	47.19	91.60	131.85	161.00	277.58

90° Angles with Material Certification—Unpolished



- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B308

Each comes with a traceable lot number and physical test report. Inside corner and leg edges are rounded; outside corner is squared. Thickness tolerance is ±0.008″. Leg length tolerance for 3/4″ to 1 1/2″ leg lengths is ±0.014″; for 2″ to 4″ leg lengths it is ±0.034″. Length has a plus tolerance.

Thick.	Outside Leg Lgs.		8 ft.
1/8″	3/4″×3/4″	1618T22	$25.67
1/8″	1″×1″	1618T24	27.00
1/8″	1 1/4″×1 1/4″	1618T26	32.95
1/8″	1 1/2″×1 1/2″	1618T28	38.94
1/8″	2″×2″	1618T36	48.75
3/16″	1″×1″	1618T32	$37.99
3/16″	1 1/2″×1 1/2″	1618T34	52.14
3/16″	2″×2″	1618T38	76.17
1/4″	1″×1″	1618T42	45.37
1/4″	1 1/2″×1 1/2″	1618T44	72.15
1/4″	2″×2″	1618T46	$89.27
1/4″	2″×3″	1618T48	98.98
1/4″	3″×3″	1618T52	104.02
1/4″	4″×4″	1618T54	137.60

Anodized 90° Angles—Clear or Black Coating

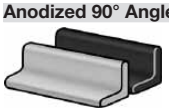

- Yield Strength: 40,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B308

The anodized coating provides a uniform finish and increased abrasion resistance. Inside corner and leg edges are rounded; outside corner is squared. Thickness tolerance is ±0.008″. Straightness tolerance is 0.0125″ per foot. Leg length tolerance for 3/4″ to 1 1/2″ leg lengths is ±0.012″; for 2″ and 3″ leg lengths it is ±0.034″. Length tolerance is ±1/16″.

Thick.	Outside Leg Lgs.	Choose a Color		1 ft.	3 ft.
1/8″	3/4″	Clear, Black	6941T11	$10.94	$22.80
1/8″	1″	Clear, Black	6941T12	11.49	23.41
1/8″	1 1/2″	Clear, Black	6941T13	13.85	26.59
1/8″	2″	Clear, Black	6941T14	18.23	31.34
1/4″	1″	Clear, Black	6941T15	$17.50	$35.34
1/4″	1 1/2″	Clear, Black	6941T16	23.70	48.64
1/4″	2″	Clear, Black	6941T17	28.70	56.93
1/4″	3″	Clear, Black	6941T18	33.20	86.02

Z-Bars—Unpolished

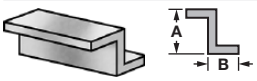

- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B221

All edges are squared. Thickness tolerance is ±0.007″. Straightness tolerance is 0.0125″ per foot. Leg length and height tolerances are ±0.012″. Length tolerance is ±1/4″.

Thick.	Ht. (A)	Leg Lgs. (B)		1 ft.	3 ft.	6 ft.
1/16″	1/2″	3/4″	7062T11	$2.82	$6.54	$11.28
1/16″	5/8″	3/4″	7062T12	2.86	6.64	11.45
1/16″	1″	3/4″	7062T14	3.25	7.55	13.02
1/16″	3/4″	1″	7062T13	3.58	8.31	14.33
1/16″	1″	1″	7062T15	3.77	8.75	15.09
1/16″	1 1/8″	1 1/8″	7062T16	3.96	9.18	15.82
1/8″	1/2″	3/4″	7062T17	$5.05	$11.73	$20.22
1/8″	5/8″	3/4″	7062T18	5.17	11.98	20.66
1/8″	1″	3/4″	7062T21	5.96	13.82	23.82
1/8″	3/4″	1″	7062T19	6.61	15.33	26.43
1/8″	1″	1″	7062T22	6.99	16.21	27.94
1/8″	1 1/8″	1 1/8″	7062T23	7.63	17.70	30.51

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Multipurpose 6061 Aluminum *(Material continued from previous page)*

The most widely used aluminum, Alloy 6061 is a popular choice for vehicle parts and pipe fittings. It has better corrosion resistance and weldability than Alloys 2024 and 7075, but it's not as strong. It is nonmagnetic, heat treatable, and resists stress cracking. Temperature range is –320° to 300° F.

U-Channels—Unpolished

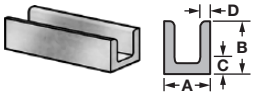

- Yield Strength: 35,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B221 and B308

Inside corners and leg edges are rounded; outside corners are squared. Base width tolerance is ±0.084″. Leg length tolerance is ±0.044″. Straightness tolerance is 0.0125″ per foot. Length tolerance is ±½″.

Base Wd. (A)	Leg Lg. (B)	Base Thick. (C)	Leg Thick. (D)		½ ft.	1 ft.	3 ft.	5 ft.
2″	1″	0.13″	0.13″	1630T29	$3.31	$5.52	$12.89	$18.41
2″	1¼″	0.17″	0.26″	1630T47	5.84	9.74	22.73	32.47
3″	1½″	0.13″	0.20″	1630T31	6.34	10.57	24.65	35.22
3″	1¾″	0.17″	0.26″	1630T32	8.46	14.10	32.90	47.00
4″	2″	0.15″	0.23″	1630T33	9.14	15.23	35.53	50.76
4″	2¼″	0.19″	0.29″	1630T34	12.06	20.10	46.89	66.99
5″	2¼″	0.15″	0.26″	1630T35	11.74	19.57	45.66	65.23
5″	2¾″	0.19″	0.32″	1630T36	15.60	26.00	60.66	86.65
6″	2½″	0.17″	0.29″	1630T37	14.28	23.80	55.54	79.34
6″	3¼″	0.21″	0.35″	1630T38	19.37	32.29	75.33	107.62
7″	2¾″	0.17″	0.29″	1630T39	$16.12	$26.87	$62.71	$89.58
7″	3½″	0.21″	0.38″	1630T41	22.68	37.80	88.21	126.01
8″	3″	0.19″	0.35″	1630T42	19.95	33.24	77.57	110.81
8″	3¾″	0.25″	0.41″	1630T43	25.97	43.29	101.01	144.30
9″	4″	0.29″	0.44″	1630T44	29.93	49.88	116.40	166.28
10″	3½″	0.25″	0.41″	1630T45	27.55	45.91	107.12	153.03
10″	4¼″	0.31″	0.50″	1630T48	33.15	55.25	128.91	184.16
12″	4″	0.29″	0.47″	1630T51	32.10	53.50	124.84	178.35
12″	5″	0.35″	0.62″	1630T52	43.40	72.33	168.78	241.11

T-Bars—Unpolished

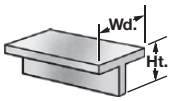

- Yield Strength: 35,000 psi
- Hardness: Soft (80 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B221

Edges are squared, unless noted. Height tolerance is ±0.014″. Width tolerance is ±0.024″. Straightness tolerance is 0.0125″ per foot. Length tolerance is ±¼″.

Ht.	Wd.		2 ft.	4 ft.	8 ft.
0.050″ Thick (±0.006″)					
½″	⅝″	1668T22	$2.13	$3.72	$6.10
1″	1½″	1668T32	4.42	7.70	12.62
0.063″ Thick (±0.006″)					
¾″	1¼″	1668T42♠	3.57	6.22	10.19
1″	1¼″	1668T52♠	3.80	6.63	10.87
0.125″ Thick (±0.007″)					
¼″	½″	1668T62	2.46	4.28	7.02
½″	1″	1668T72	4.75	8.28	13.57
¾″	1½″	1668T82	6.99	12.19	19.98
⅞″	1½″	1668T92♠	7.41	12.91	21.17

♠ Edges are rounded.

Ht.	Wd.		2 ft.	4 ft.	8 ft.
0.125″ Thick (±0.007″) (Cont.)					
1″	1″	1668T23	$7.63	$13.30	$21.81
1″	2″	1668T33	11.10	19.35	31.72
1¼″	2″	1668T43	11.99	20.90	34.26
1½″	2″	1668T53	12.41	21.63	35.46
1½″	3″	1668T63	15.11	26.34	43.18
0.188″ Thick (±0.007″)					
1″	1″	1668T73	9.14	15.93	26.11
1″	2″	1668T83	12.36	21.55	35.32
1½″	1½″	1668T93	12.38	21.57	35.36
1½″	3″	1668T24	18.48	32.21	52.80

I-Beams—Unpolished

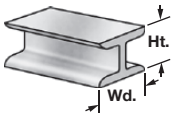

- Yield Strength: 40,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B221 and B308

Also known as American Standard I-Beams. Edges are rounded. Height tolerance is ±0.044″; width tolerance is ±0.024″; thickness tolerance is ±0.008″. Straightness tolerance is 0.0125″ per foot, and length tolerance is ±¼″.

Ht.	Wd.	Thick.		3 ft.	6 ft.
3″	2.51″	0.35″	8003K11	$55.21	$95.19
4″	2.80″	0.33″	8003K13	68.43	117.99
6″	3.33″	0.23″	8003K15	$89.38	$154.11
6″	3.44″	0.34″	8003K17	101.66	175.28

Metric Multipurpose 6060 Aluminum



- Yield Strength: 23,000 psi
- Hardness: Soft (70 Brinell)
- Temper: Heat Treated (T66)

Offering good machinability and corrosion resistance, 6060 is often used for light structural and architectural applications. It is nonmagnetic and heat treatable, plus its unpolished finish is good for anodizing. Temperature range is not rated. These rods have a length tolerance of ±10 mm.

Dia., mm		1 meter
3	1681T21	$8.17
4	1681T22	8.94
6	1681T23	10.72
7	1681T24	$14.02
8	1681T25	17.34
10	1681T26	19.28
12	1681T27	$23.12
15	1681T28	28.36
20	1681T29	46.60
25	1681T31	$74.09
30	1681T33	96.08

Strengthened Multipurpose 6013 Aluminum

Compared to Alloy 6061, this multipurpose Alloy 6013 offers the same good corrosion resistance and weldability with increased strength, hardness, and machinability. It is also nonmagnetic and heat treatable. Temperature range is not rated.

Rods—Unpolished

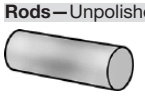

- Yield Strength: 52,000 psi
- Hardness: Medium (125 Brinell)
- Temper: Heat Treated (T8)

Meet AMS-QQ-A225. Diameter tolerance is ±0.006″. Length tolerance is ±1″.

Dia.		1 ft.	3 ft.	6 ft.
1″	9049K13	$21.23	$53.95	$88.44
1¼″	9049K14	30.67	77.95	127.78
1½″	9049K15	$45.98	$116.86	$191.57
1¾″	9049K16	64.24	163.27	267.65
2″	9049K17	$75.84	$192.75	$315.99
2½″	9049K18	116.16	295.25	484.01

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Strengthened Multipurpose 6013 Aluminum *(Material continued from previous page)*

Sheets—Unpolished

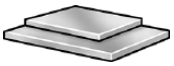

- Yield Strength: 50,000 psi
- Hardness: Soft (120 Brinell)
- Temper: Heat Treated (T651)

Width tolerance is ±1/16″. Length tolerance is ±1″. The 8″×8″ through 24″×24″ sheets and all 2″ thick sheets meet ASTM B209.

Thick.	Thick. Tolerance		2″×12″	2″×36″	3″×12″	4″×12″	6″×12″	8″×8″	12″×12″	18″×18″	24″×24″
1/2″	+0.036″	9050K15	$21.67	$54.17	$32.50	$43.33	$54.17	$46.94	$108.33	$216.67	$361.11
3/4″	+0.037″	9050K16	26.77	66.93	40.16	53.55	66.93	58.01	133.86	267.73	446.21
1″	+0.077″, −0.003″	9048K11	33.69	84.23	50.54	67.39	84.23	73.00	168.46	336.93	561.55
2″	+0.090″	9048K14	65.98	164.95	98.97	131.96	164.95	142.95	329.90	659.79	1,099.65

Machinable Multipurpose MIC6 Cast Aluminum

This stress-relieved cast alloy stands up to high-speed machining while maintaining tight tolerances. Also known as cast tool and jig plate, MIC6 is often used for precision machine tables, tooling, and machinery. It is nonmagnetic and not heat treatable. Temperature range is not rated.

Rectangular Bars—Precision Ground



- Yield Strength: 15,000 psi
- Hardness: Soft (65 Brinell)

The top and bottom of these bars are ground to a flatness of 0.015″ then covered with a protective film. The sides are saw cut. Width tolerance is ±0.030″. Length tolerance is ±0.060″.

Wd.		2 ft.	4 ft.	6 ft.
1/4″ Thick (±0.005″)				
1″	7315T11	$11.80	$20.66	$29.51
1 1/2″	7315T12	16.39	28.09	39.02
2″	7315T13	20.39	34.95	48.54
2 1/2″	7315T14	24.39	41.81	58.07
3″	7315T15	28.39	48.66	67.59
4″	7315T16	36.38	62.37	86.63
3/8″ Thick (±0.005″)				
3/4″	7315T17	14.53	24.90	34.59
1″	7315T18	16.76	28.73	39.90
1 1/2″	7315T19	21.23	36.39	50.54
2″	7315T21	25.69	44.04	61.17
2 1/2″	7315T22	30.16	51.70	71.80
3″	7315T23	34.62	59.36	82.44
4″	7315T24	43.56	74.67	103.71
1/2″ Thick (±0.005″)				
1″	7315T25	18.60	31.89	44.29
1 1/2″	7315T26	24.11	41.34	57.41
2″	7315T27	29.63	50.79	70.54
2 1/2″	7315T28	35.14	60.24	83.66
3″	7315T29	40.65	69.68	96.78
4″	7315T31	51.67	88.57	123.02
5/8″ Thick (±0.005″)				
1 1/2″	7315T32	28.32	48.56	67.44
2″	7315T33	34.60	59.31	82.37

Wd.		2 ft.	4 ft.	6 ft.
5/8″ Thick (±0.005″) (Cont.)				
2 1/2″	7315T34	$40.87	$70.07	$97.32
3″	7315T35	47.15	80.83	112.27
4″	7315T36	59.71	102.36	142.17
3/4″ Thick (±0.005″)				
1 1/2″	7315T37	30.87	52.91	73.49
2″	7315T38	37.77	64.75	89.93
2 1/2″	7315T39	44.69	76.61	106.40
3″	7315T41	51.59	88.44	122.84
4″	7315T42	65.41	112.13	155.74
1″ Thick (±0.005″)				
2″	7315T43	50.07	85.84	119.22
2 1/2″	7315T44	58.56	100.38	139.42
3″	7315T45	67.04	114.93	159.62
3 1/2″	7315T46	75.52	129.47	179.82
4″	7315T47	83.89	143.81	199.74
1 1/2″ Thick (±0.005″)				
1 1/2″	7315T48	54.77	93.89	130.40
2″	7315T49	66.64	114.24	158.66
3″	7315T51	90.37	154.92	215.17
4″	7315T52	114.11	195.61	271.68
2″ Thick (±0.005″)				
2″	7315T53	87.76	150.45	208.96
3″	7315T54	117.31	201.11	279.32
4″	7315T55	146.87	251.77	349.68

Sheets—Precision Ground



- Yield Strength: 15,000 psi
- Hardness: Soft (65 Brinell)

The top and bottom of these sheets are ground to a flatness of 0.015″ then covered with a protective film. The sides are saw cut. Thickness tolerance is ±0.005″. Width and length tolerances are ±1/16″.

Thick.		6″×6″	6″×12″	6″×24″	8″×8″	12″×12″	12″×24″	12″×48″	18″×18″	24″×24″	24″×72″
1/4″	86825K72	$13.61	$24.75	$45.38	$20.63	$43.32	$86.64	$169.15	$94.89	$156.77	$412.56
5/16″	86825K74	14.94	27.17	50.71	22.64	47.55	95.09	185.65	104.15	172.07	452.81
3/8″	86825K76	15.47	28.13	52.51	23.44	49.23	98.45	192.22	107.83	178.15	468.82
7/16″	86825K78	18.38	33.41	62.37	27.84	58.47	116.95	228.33	128.09	211.62	556.90
1/2″	86825K82	18.79	34.16	63.77	28.47	59.78	119.56	233.43	130.95	216.35	569.33
5/8″	86825K84	21.39	38.89	72.60	32.41	68.06	136.13	265.77	149.09	246.33	648.23
3/4″	86825K86	25.21	45.84	85.56	38.20	80.21	160.43	313.22	175.71	290.30	763.94
7/8″	86825K89	30.62	55.67	103.92	46.39	97.42	194.85	380.41	213.40	352.58	927.84
1″	86825K91	32.74	59.53	111.12	49.61	104.17	208.35	406.77	228.19	377.01	992.13
1 1/4″	86825K92	42.91	78.02	145.63	65.01	136.53	273.06	533.11	299.06	494.10	1,300.27
1 1/2″	86825K93	50.32	91.50	170.79	76.25	160.12	320.24	625.22	350.73	579.47	1,524.93
1 3/4″	86825K94	57.02	103.67	193.52	86.39	181.42	362.84	708.41	397.40	656.58	1,727.83
2″	86825K95	59.54	108.25	202.07	90.21	189.44	378.88	739.71	414.96	685.59	1,804.18
2 1/4″	86825K96	66.97	121.76	227.28	101.47	213.08	426.16	832.02	466.74	771.14	2,029.31
2 1/2″	86825K97	74.42	135.30	252.57	112.75	236.78	473.56	924.57	518.66	856.92	2,255.06
2 3/4″	86825K98	82.32	160.07	263.43	155.49	265.25	493.92	912.84	567.10	914.67	_____
3″	86825K99	91.83	178.56	293.86	173.46	295.90	550.98	1,018.30	632.61	1,020.34	_____
3 1/2″	86825K62	104.75	203.68	335.21	197.86	337.53	628.51	1,161.58	721.62	1,163.91	_____
4″	86825K64	117.13	227.76	374.82	221.25	377.42	702.79	1,298.86	806.91	1,301.46	_____

Metric Sheets—Precision Ground



- Yield Strength: 15,000 psi
- Hardness: Soft (65 Brinell)

The top and bottom of these sheets are ground to a flatness of 0.015″ then covered with a protective film. The sides are saw cut. Thickness tolerance is ±0.127 mm. Width and length tolerances are ±0.030″.

Choose a Thickness, mm	Choose a Size	
6, 10, 15, 20, 25, 30	6″×6″, 6″×12″, 6″×24″, 12″×12″, 12″×24″, 24″×24″	7627T58

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Machinable Multipurpose MIC6 Cast Aluminum *(Material continued from previous page)*

This stress-relieved cast alloy stands up to high-speed machining while maintaining tight tolerances. Also known as cast tool and jig plate, MIC6 is often used for precision machine tables, tooling, and machinery. It is nonmagnetic and not heat treatable. Temperature range is not rated.

Discs—Precision Ground



- Yield Strength: 15,000 psi
- Hardness: Soft (65 Brinell)

The top and bottom are ground to a flatness of 0.015″ then covered with a protective film. The circumference is saw cut. Length tolerance is ±0.005″.

Dia.	Dia. Tolerance		1/4″ Lg.	3/8″ Lg.	1/2″ Lg.	3/4″ Lg.	1″ Lg.
6″	+0.125″	6943T1	$17.33	$19.77	$24.76	$31.94	$39.93
8″	+0.125″	6943T3	24.52	27.96	35.02	45.19	56.49
10″	+0.125″	6943T4	39.86	45.47	56.95	73.48	91.85
12″	+0.125″	6943T5	51.99	59.30	74.27	95.83	119.79
16″	+0.125″	6943T6	$91.85	$104.76	$131.21	$169.30	$211.63
18″	+0.125″	6943T7	105.73	120.59	151.04	194.89	243.61
20″	+0.125″	6943T8	128.25	146.27	183.21	236.40	295.50
24″	+0.125″	6943T9	173.31	197.67	247.58	319.46	399.33

Highly Corrosion-Resistant Architectural 6063 Aluminum

With superb corrosion resistance and good weldability, Alloy 6063 is perfect for outdoor use as architectural trim, railings, and door frames. It is nonmagnetic and heat treatable. Temperature range is –320° to 212°F.

Rectangular Bars—Unpolished



- Yield Strength: 16,000 psi
- Hardness: Soft (55 Brinell)
- Temper: Heat Treated (T5)
- Meet ASTM B221

Flatness tolerance is 0.006″ per inch of width. Length tolerance is ±1″.

Wd.		4 ft.	8 ft.
1/8″ Thick (±0.007″)			
1/2″	89755K22	$3.46	$5.24
5/8″	89755K24	4.19	6.35
3/4″	89755K26	5.04	7.63
1″	89755K28	5.64	8.55
1 1/4″	89755K31	7.08	10.72
1 1/2″	89755K71	8.49	12.86
2″	89755K73	11.59	17.56
3/16″ Thick (±0.007″)			
1/2″	89755K75	5.17	7.84
3/4″	89755K34	6.61	10.02
1″	89755K36	8.50	12.88
1 1/4″	89755K77	10.89	16.50
1 1/2″	89755K38	12.39	18.78
2″	89755K79	17.42	26.39
1/4″ Thick (±0.008″)			
1/4″	89755K69	3.39	5.13
1/2″	89755K39	6.52	9.88
3/4″	89755K45	8.84	13.40
1″	89755K32	11.29	17.10
1 1/4″	89755K82	14.45	21.89
1 1/2″	89755K48	16.90	25.61
1/4″ Thick (±0.008″) (Cont.)			
1 3/4″	89755K84	$20.24	$30.66
2″	89755K49	22.01	33.35
3/8″ Thick (±0.008″)			
3/8″	89755K72	6.53	10.54
1/2″	89755K86	8.67	13.98
5/8″	89755K54	10.33	16.66
3/4″	89755K88	13.04	21.04
1″	89755K91	16.32	26.33
1 1/4″	89755K93	20.43	32.95
1 1/2″	89755K95	24.45	39.44
2″	89755K97	32.66	52.67
1/2″ Thick (±0.009″)			
1/2″	89755K74	11.61	18.73
3/4″	89755K99	16.32	26.33
1″	89755K11	21.77	35.11
1 1/4″	89755K12	27.21	43.89
1 1/2″	89755K13	30.70	49.51
2″	89755K14	38.92	62.77
5/8″ Thick (±0.009″)			
5/8″	89755K15	18.11	29.21
1″	89755K16	27.17	43.83
5/8″ Thick (±0.009″) (Cont.)			
1 1/4″	89755K17	$33.99	$54.83
1 1/2″	89755K18	38.38	61.91
2″	89755K19	51.19	82.56
3/4″ Thick (±0.009″)			
3/4″	89755K76	24.45	39.44
1″	89755K51	30.73	49.57
1 1/2″	89755K52	43.54	70.22
1 3/4″	89755K55	50.76	81.87
2″	89755K56	56.45	91.05
7/8″ Thick (±0.010″)			
7/8″	89755K57	33.31	53.72
1″	89755K58	38.10	61.45
2″	89755K59	60.95	98.31
1″ Thick (±0.012″)			
1″	89755K64	40.98	66.09
1 1/4″	89755K65	51.19	82.56
1 1/2″	89755K66	58.02	93.58
1 3/4″	89755K67	60.95	98.31
2″	89755K68	69.63	112.31

Rectangular Bars with Rounded Edges—Unpolished



- Yield Strength: 25,000 psi
- Hardness: Soft (68 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B221

Flatness tolerance is 0.006″ per inch of width. Length tolerance is ±1/4″.

Wd.		3 ft.	6 ft.
1/16″ Thick (±0.006″)			
1/2″	4490T111	$1.68	$2.54
1″	4490T121	3.26	4.94
1 1/2″	4490T131	4.57	6.92
2″	4490T141	5.74	8.70
3/32″ Thick (±0.006″)			
1/2″	4490T151	2.37	3.59
3/4″	4490T161	3.45	5.23
1/8″ Thick (±0.007″)			
1/4″	4490T171	1.78	2.54
5/8″	4490T181	3.98	6.03
1″	4490T191	6.16	9.34
1 1/2″	4490T211	7.60	11.52
2″	4490T221	10.58	16.03
2 1/2″	4490T231	12.82	19.43
3/16″ Thick (±0.007″)			
1/2″	4490T241	3.95	5.98
1″	4490T251	6.78	10.27
1/4″ Thick (±0.008″)			
1/4″	4490T261	$2.55	$3.86
1/2″	4490T271	4.87	7.38
3/4″	4490T281	6.89	10.44
1″	4490T291	9.64	14.60
1 1/2″	4490T311	14.61	22.14
2″	4490T321	19.48	29.52
3/8″ Thick (±0.008″)			
3/8″	4490T331	4.75	7.66
5/8″	4490T341	7.67	12.37
3/4″	4490T351	9.55	15.41
1″	4490T361	12.76	20.58
1 1/2″	4490T371	18.31	29.54
2″	4490T381	24.43	39.41
7/16″ Thick (±0.008″)			
7/16″	4490T391	6.62	10.68
3/4″	4490T411	12.13	19.56
1/2″ Thick (±0.009″)			
1/2″	4490T421	$8.67	$14.95
1″	4490T431	16.50	28.45
1 1/2″	4490T441	22.86	39.41
2″	4490T451	29.76	51.31
5/8″ Thick (±0.009″)			
5/8″	4490T461	12.67	21.85
1″	4490T471	17.92	30.90
2″	4490T481	33.65	58.01
3/4″ Thick (±0.010″)			
3/4″	4490T491	17.13	29.54
1″	4490T511	22.86	39.41
1 1/2″	4490T521	32.29	55.68
1 3/4″	4490T531	38.01	65.54
1″ Thick (±0.012″)			
1″	4490T541	28.70	49.49
1 1/2″	4490T551	40.68	70.14
2″	4490T561	51.41	88.63

Double-Wall Round Tube—Unpolished



- Yield Strength: 31,000 psi
- Hardness: Soft (73 Brinell)
- Temper: Heat Treated (T6)

OD and wall thickness tolerances are ±0.034″. Straightness tolerance is 0.015″ per foot. Length tolerance is ±1/2″.

OD	Outer Wall Thick.	ID	Inner Wall Thick.		1 ft.	3 ft.	6 ft.
3.062″	0.11″	1.922″	0.14″	8891K11	$39.00	$93.60	$156.00

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Highly Corrosion-Resistant Architectural 6063 Aluminum *(Material cont. from previous page)*

Rectangular Tubes—Unpolished



- Yield Strength: 16,000 psi
- Hardness: Soft (60 Brinell)
- Temper: Heat Treated (T52, unless noted)
- Meet ASTM B221

Length tolerance is ±1/2″.

Outside Ht.	Outside Wd.		1 ft.	3 ft.	6 ft.
1/16″ Wall Thick. (±0.010″)					
1/2″	1/2″	88875K11	$1.60	$3.99	$6.65
1/2″	1″	88875K12	2.79	6.97	11.61
3/4″	3/4″	88875K13	2.42	6.05	10.08
1″	1″	88875K51	3.15	7.87	13.11
1″	1 1/2″	88875K15	3.92	9.80	16.34
1″	2″	88875K16	4.68	11.71	19.52
1 1/4″	1 1/4″	88875K17	3.94	9.85	16.42
1/8″ Wall Thick. (±0.015″)					
3/4″	3/4″	88875K52	3.42	8.54	14.24
3/4″	1 1/2″	88935K53	5.19	13.00	22.62
1″	1″	88875K54	6.60	16.50	27.50
1″	1 1/2″	88935K55	6.45	15.49	27.17
1″	2″	88935K56	7.76	19.41	35.38
1″	3″	88935K57	9.13	22.09	39.00
1″	4″	88875K21	12.72	31.80	53.00
1″	6″	88875K22	18.07	45.17	75.29

▲Temper is T5.

Outside Ht.	Outside Wd.		1 ft.	3 ft.	6 ft.
1/8″ Wall Thick. (±0.015″) (Cont.)					
1 1/4″	1 1/4″	88875K58	$6.64	$16.60	$27.67
1 1/4″	2 1/2″	88935K59	8.93	21.41	37.57
1 1/2″	1 1/2″	88875K61	8.04	20.10	33.50
1 1/2″	2″	88935K62	8.20	19.82	34.33
1 1/2″	3″	88935K629	9.20	22.27	39.62
1 3/4″	1 3/4″	88875K64	9.59	23.98	39.97
1 3/4″	3″	88935K65	10.12	23.79	42.55
1 3/4″	4″	88935K988	12.31	29.91	52.01
2″	2″	88875K67	11.10	27.74	46.24
2″	3″	88935K101	11.10	25.78	45.01
2″	4″	88935K69	13.19	32.02	55.59
2″	5″	88935K71	14.32	34.72	60.34
2″	6″	88935K72	16.44	39.75	69.16
2 1/2″	2 1/2″	88875K79	13.78	34.45	57.42
3″	3″	88875K73	14.91	37.28	62.14
4″	4″	88875K74	20.11	50.27	83.78

Outside Ht.	Outside Wd.		1 ft.	3 ft.	6 ft.
1/8″ Wall Thick. (±0.015″) (Cont.)					
5″	5″	88875K37	$26.57	$66.42	$110.70
6″	6″	88875K39	32.04	80.11	133.52
3/16″ Wall Thick. (±0.015″)					
4″	4″	88875K41	28.00	69.99	116.65
4 1/2″	4 1/2″	88875K43	31.69	79.22	132.04
5″	5″	88875K45	35.35	88.38	147.30
6″	6″	88875K47	40.87	102.17	170.29
8″	8″	88875K53	50.77	126.92	211.54
1/4″ Wall Thick. (±0.025″)					
1 1/2″	3″	88935K11▲	14.00	36.68	66.69
2″	2″	88875K75	19.26	48.14	80.24
2″	3″	88935K12▲	15.03	39.35	71.55
2″	4″	88935K13▲	18.93	49.58	90.14
3″	3″	88875K76	28.79	71.98	119.96
4″	4″	88875K77	35.93	89.83	149.71
4″	6″	88935K14▲	29.27	76.67	139.40
6″	6″	88875K78	48.89	122.23	203.71

Round Tubes—Unpolished



- Yield Strength: 16,000 psi
- Hardness: Soft (60 Brinell)
- Temper: Heat Treated (T5)
- Meet ASTM B221

OD and ID tolerances are ±0.025″. Straightness tolerance is 0.010″ per foot. Length tolerance is ±1/4″.

OD	ID		2 ft.	4 ft.	8 ft.
0.049″ Wall Thick. (±0.010″)					
5/8″	0.527″	1658T11	$3.19	$5.32	$8.86
0.065″ Wall Thick. (±0.010″)					
1/4″	0.120″	1658T12	2.78	4.63	7.71
1/2″	0.370″	1658T13	2.88	4.80	8.00
5/8″	0.495″	1658T14	3.49	5.81	9.69
3/4″	0.620″	1658T15	4.19	6.99	11.65
7/8″	0.745″	1658T16	4.76	7.94	13.23

OD	ID		2 ft.	4 ft.	8 ft.
0.065″ Wall Thick. (±0.010″) (Cont.)					
1″	0.870″	1658T17	$5.47	$9.11	$15.19
1 1/2″	1.370″	1658T18	8.78	14.64	24.40
0.07″ Wall Thick. (±0.010″)					
3/8″	0.235″	1658T19	2.02	3.37	5.62
0.109″ Wall Thick. (±0.011″)					
1 5/8″	1.407″	1658T31	14.88	24.80	41.33

OD	ID		2 ft.	4 ft.	8 ft.
0.115″ Wall Thick. (±0.011″)					
3/8″	0.145″	1658T32	$2.68	$4.47	$7.45
1/2″	0.270″	1658T33	6.60	11.00	18.34
0.118″ Wall Thick. (±0.011″)					
9/16″	0.328″	1658T34	4.61	7.69	12.81
0.219″ Wall Thick. (±0.021″)					
7/8″	0.438″	1658T35	12.98	21.63	36.05

Anodized Round Tubes—Clear Coating



- Yield Strength: 16,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T5)
- Meet ASTM B221

The anodized coating provides a uniform finish and increases abrasion resistance. Straightness tolerance is 0.010″ per foot. Length tolerance is ±1/4″.

OD	ID		6 ft.
0.065″ Wall Thick. (±0.010″)			
1/4″	0.120″	4568T11	$9.67
1/2″	0.370″	4568T13	11.11
5/8″	0.495″	4568T14	12.27
3/4″	0.620″	4568T15	14.07
7/8″	0.745″	4568T16	15.39
1″	0.870″	4568T17	20.33
1 1/2″	1.370″	4568T18	28.69

OD	ID		6 ft.
0.070″ Wall Thick. (±0.010″)			
3/8″	0.235″	4568T22	$9.56
0.115″ Wall Thick. (±0.011″)			
3/8″	0.145″	4568T12	10.84
1/2″	0.270″	4568T23	22.76
0.118″ Wall Thick. (±0.011″)			
0.563″	0.328″	4568T24	15.08

OD	ID		6 ft.
0.205″ Wall Thick. (±0.021″)			
1 5/8″	1.215″	4568T19	$49.74
0.219″ Wall Thick. (±0.021″)			
7/8″	0.438″	4568T25	42.15

Rods—Unpolished



- Yield Strength: 16,000 psi
- Hardness: Soft (60 Brinell)
- Temper: Heat Treated (T6, except 3/4″ to 1 5/8″ are T52)
- Meet ASTM B221

Diameter tolerance for 1/8″ and 1/4″ dia. rods is ±0.002″; for 3/8″ to 1 5/8″ dia. rods it is ±0.014″. Straightness tolerance is 0.0125″ per foot. Length tolerance is ±1″.

Dia.		2 ft.	4 ft.	8 ft.
1/8″	1640T11	$1.13	$1.88	$3.14
1/4″	1640T12	2.34	3.90	6.50
3/8″	1640T13	2.67	4.45	7.42

Dia.		2 ft.	4 ft.	8 ft.
1/2″	1640T14	$4.53	$7.54	$12.57
5/8″	1640T15	8.65	14.42	24.03
3/4″	1640T16	9.87	16.45	27.42

Dia.		2 ft.	4 ft.	8 ft.
1″	1640T17	$16.69	$27.81	$46.35
1 1/2″	1640T18	33.83	56.39	93.98
1 5/8″	1640T19	40.23	67.04	111.74

H-Bars—Unpolished

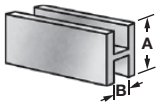

- Yield Strength: 25,000 psi
- Hardness: Soft (68 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B221

Thickness tolerance is ±0.008″. Height tolerance is ±0.024″. Inside width tolerance is ±0.026″. Straightness tolerance is 0.0125″ per foot, except 1.060″ high bars have a straightness tolerance of 0.050″ per foot. Length tolerance is ±1/4″.

Thick.	Ht. (A)	Inside Wd. (B)		1 ft.	3 ft.	6 ft.
0.050″	1.000″	1.85″	4558T18	$2.96	$6.82	$11.37
0.050″	1.060″	0.60″	4558T19	2.40	5.54	9.24
0.050″	1.074″	0.94″	4558T51	2.37	5.47	9.11
0.050″	1.724″	1.02″	4558T52	3.37	7.78	12.96
0.055″	1.500″	2.00″	4558T53	4.14	9.55	15.92
0.062″	1.500″	0.91″	4558T54	3.65	8.42	14.03

Thick.	Ht. (A)	Inside Wd. (B)		1 ft.	3 ft.	6 ft.
0.094″	1.500″	0.50″	4558T55	$5.35	$12.34	$20.56
0.125″	2.000″	1.75″	4558T56	8.99	20.74	34.56
0.188″	1.500″	0.50″	4558T57	9.32	21.50	35.83
0.200″	2.400″	1.35″	4558T58	15.03	34.67	57.79
0.250″	2.375″	0.50″	4558T59	16.21	37.40	62.34

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Highly Corrosion-Resistant Architectural 6063 Aluminum *(Material cont. from previous page)*

With superb corrosion resistance and good weldability, Alloy 6063 is perfect for outdoor use as architectural trim, railings, and door frames. It is nonmagnetic and heat treatable. Temperature range is –320° to 212° F.

90° Angles—Unpolished



- Yield Strength: 16,000 psi
- Hardness: Soft (55 Brinell)
- Temper: Heat Treated (T5, unless noted)
- Meet ASTM B221

Edges are squared. Leg length tolerance for 1/4" to 1 3/4" leg lengths is ±0.014"; for 2" to 4" leg lengths it is ±0.034". Straightness tolerance is 0.0125" per foot. Length tolerance is ±1".

Thick.	Outside Leg Lgs.		4 ft.	8 ft.
1/16"	1/4" x 1/4"	88805K13	$2.15	$2.98
1/16"	3/8" x 3/8"	88805K14	3.07	4.26
1/16"	1/2" x 3/8"	88805K62	3.93	5.46
1/16"	1/2" x 1/2"	88805K68	4.38	6.09
1/16"	5/8" x 5/8"	88805K15	4.80	6.67
1/16"	3/4" x 3/4"	88805K69	4.95	7.99
1/16"	1" x 1"	88805K73	8.25	13.31
1/16"	1 1/2" x 1 1/2"	88805K1♦	8.65	13.95
1/8"	1/2" x 1/2"	88805K74	6.41	10.34
1/8"	1/2" x 1"	88805K76	9.58	16.52
1/8"	1/2" x 2"	88805K92	13.41	23.12
1/8"	5/8" x 5/8"	88805K16	7.22	11.65
1/8"	3/4" x 3/4"	88805K75	8.82	15.21
1/8"	7/8" x 7/8"	88805K17	$9.82	$16.93
1/8"	1" x 1"	88805K77	13.00	22.41
1/8"	1" x 1 1/2"	88805K79	13.51	23.29
1/8"	1" x 2"	88805K18	15.50	26.72
1/8"	1 1/4" x 1 1/4"	88805K78	14.95	25.78
1/8"	1 1/2" x 1 1/2"	88805K81	17.17	29.60
1/8"	1 1/2" x 2"	88805K93	16.55	28.54
1/8"	1 3/4" x 1 3/4"	88805K88	20.58	35.49
1/8"	2" x 2"	88805K94	18.91	32.60
1/8"	2" x 3"	88805K3♦	33.45	57.67
1/8"	2" x 4"	88805K5♦	40.19	69.30
1/8"	2 1/2" x 2 1/2"	88805K2♦	33.45	57.67
1/8"	3" x 3"	88805K4♦	40.19	69.30
1/8"	4" x 4"	88805K6♦	$39.85	$68.70
3/16"	1" x 1"	88805K95	17.32	29.86
3/16"	1 1/4" x 1 1/4"	88805K96	20.91	36.05
3/16"	1 1/2" x 1 1/2"	88805K97	26.59	45.85
3/16"	2" x 2"	88805K98	31.30	53.96
3/16"	3" x 3"	88805K7♦	32.18	55.49
3/16"	4" x 4"	88805K99	48.45	83.53
1/4"	1" x 1"	88805K19	19.01	32.77
1/4"	1" x 2"	88805K61	28.00	48.28
1/4"	1 1/2" x 1 1/2"	88805K8	27.45	47.33
1/4"	2" x 2"	88805K9	32.38	55.82
1/4"	2 1/2" x 2 1/2"	88805K11♦	40.36	69.58
1/4"	3" x 3"	88805K12♦	53.07	91.50

♦ Temper is T52.

Anodized 90° Angles—Clear Coating



- Yield Strength: 16,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T5)
- Meet ASTM B221

In addition to providing a uniform finish, the anodized coating also increases abrasion resistance. Edges are squared, unless noted. Thickness tolerance is ±0.007". Leg length tolerance for 3/8" to 1 3/4" leg lengths is ±0.014"; for 2" leg lengths it is ±0.024". Straightness tolerance is 0.050" per foot. Length tolerance is ±1/4".

Thick.	Outside Leg Lgs.		6 ft.
1/16"	3/8"	4630T11	$8.02
1/16"	1/2"	4630T12	10.71
1/16"	5/8"	4630T13	12.16
1/16"	3/4"	4630T14★	13.89
1/16"	1"	4630T15★	15.09
1/16"	1 1/4"	4630T16	$17.74
1/16"	1 1/2"	4630T17	20.43
1/16"	1 3/4"	4630T18	21.55
1/16"	2"	4630T19	22.33
1/8"	1/2"	4630T21	14.21
1/8"	3/4"	4630T22	$19.51
1/8"	1"	4630T23	26.79
1/8"	1 1/4"	4630T24	29.68
1/8"	1 1/2"	4630T25	31.37
1/8"	2"	4630T27	47.74

★ Inside corner and legs are rounded.

U-Channels—Unpolished



- Yield Strength: 16,000 psi
- Hardness: Soft (55 Brinell)
- Temper: Heat Treated (T5)
- Meet ASTM B221

Edges are squared. Thickness tolerance is ±0.008". Straightness tolerance is 0.050" per foot. Base tolerance for 3/8" to 1 3/4" base sizes is ±0.031"; for 2" to 5" base sizes it's ±0.064". Leg length tolerance for 3/8" to 1 3/4" leg lengths is ±0.014"; for 2" to 4" leg lengths it's ±0.034". Length tolerance is ±1/4".

Thick.	Outside Base	Outside Leg Lgs.		4 ft.	8 ft.
1/16"	3/8"	3/8"	9001K12	$4.59	$6.96
1/16"	1/2"	1/2"	9001K6	5.48	8.30
1/16"	1/2"	3/4"	9001K23	7.10	10.75
1/16"	1/2"	1"	9001K24	8.81	13.35
1/16"	3/4"	3/4"	9001K25	7.96	12.06
1/16"	1"	1/2"	9001K26	7.36	11.15
1/16"	1"	1"	9001K27	10.57	16.02
3/32"	1/2"	1/2"	9001K28	8.16	12.37
1/8"	1/2"	1/2"	9001K42	9.87	14.96
1/8"	1/2"	3/4"	9001K44	12.86	19.49
1/8"	3/4"	3/8"	9001K45	9.15	13.86
1/8"	3/4"	1/2"	9001K46	11.05	16.75
1/8"	3/4"	3/4"	9001K47	13.99	21.20
1/8"	3/4"	1"	9001K48	17.17	26.01
1/8"	1"	1/2"	9001K49	11.18	18.04
1/8"	1"	3/4"	9001K51	13.76	22.20
1/8"	1"	1"	9001K52	16.98	27.38
1/8"	1"	1 1/2"	9001K53	18.66	30.10
1/8"	1"	2"	9001K54	35.36	57.04
1/8"	1 1/4"	1"	9001K55	$19.35	$31.21
1/8"	1 1/4"	1 1/4"	9001K56	20.71	33.41
1/8"	1 1/2"	1/2"	9001K57	14.33	23.12
1/8"	1 1/2"	1"	9001K58	21.52	32.60
1/8"	1 1/2"	1 1/2"	9001K59	26.70	40.46
1/8"	1 1/2"	2"	9001K62	29.90	48.23
1/8"	1 3/4"	1/2"	9001K64	16.43	26.50
1/8"	1 3/4"	3/4"	9001K65	18.38	29.64
1/8"	1 3/4"	1"	9001K66	21.49	34.66
1/8"	1 3/4"	1 3/4"	9001K68	29.03	46.82
1/8"	1 3/4"	2"	9001K69	31.93	51.50
1/8"	2"	1/2"	9001K71	17.52	28.25
1/8"	2"	3/4"	9001K73	20.96	33.81
1/8"	2"	1"	9001K74	23.58	38.04
1/8"	2"	1 1/2"	9001K75	27.58	44.48
1/8"	2"	2"	9001K76	32.75	52.83
1/8"	2"	3"	9001K77	44.99	72.56
1/8"	2 1/2"	1"	9001K78	24.67	39.79
1/8"	2 1/2"	1 1/2"	9001K79	30.48	49.16
1/8"	2 1/2"	2"	9001K81	$36.28	$58.52
1/8"	2 1/2"	2 1/2"	9001K82	42.09	67.88
1/8"	3"	1"	9001K83	26.21	42.27
1/8"	3"	1 1/2"	9001K85	33.38	53.84
1/8"	3"	2"	9001K86	39.18	63.20
1/8"	3"	3"	9001K87	42.58	68.68
1/8"	3"	4"	9001K5	52.40	88.81
1/8"	3 1/2"	1"	9001K89	30.48	49.16
1/8"	4"	1"	9001K92	31.72	51.16
1/8"	4"	2"	9001K93	39.70	64.03
1/8"	4"	3"	9001K94	49.94	80.55
1/8"	4"	4"	9001K95	56.84	91.68
3/16"	5"	2"	9001K97	56.72	96.13
1/4"	2"	1"	9001K98	34.12	57.83
1/4"	2"	2"	9001K99	45.56	77.22
1/4"	3"	1"	9001K1	39.25	66.53
1/4"	3"	2"	9001K2	56.70	96.10
1/4"	4"	1"	9001K3	47.97	81.31
1/4"	4"	2"	9001K4	62.15	105.34

Anodized U-Channels—Clear Coating

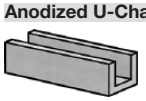

- Yield Strength: 16,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T5)
- Meet ASTM B221

Anodizing provides a uniform finish and increases abrasion resistance. Edges are squared, unless noted. Thickness toler. is ±0.007". Straightness toler. is 0.050" per foot. Base toler. for 3/8" to 1 3/4" base sizes is ±0.014"; for 2" and 3" base sizes it's ±0.024". Leg length toler. for 3/8" to 1" leg lengths is ±0.012"; for 1 1/4" to 2" leg lengths it's ±0.024". Length toler. is ±1/4".

Thick.	Outside Base	Outside Leg Lgs.		6 ft.
1/16"	3/8"	3/8"	4592T23★	$10.86
1/16"	3/8"	1/2"	4592T24	15.54
1/16"	1/2"	1/2"	4592T11	13.87
1/16"	5/8"	7/8"	4592T29★	17.35
1/16"	11/16"	1/2"	4592T26	14.23
1/16"	3/4"	1/2"	4592T13	14.61
1/16"	1"	1/2"	4592T16	19.68
1/16"	1"	1"	4592T31	20.31
1/16"	1 1/8"	1/2"	4592T17	20.55
1/16"	1 1/2"	3/4"	4592T18	$20.93
1/16"	1 3/4"	13/16"	4592T19	22.70
1/16"	2"	3/4"	4592T32	31.34
3/32"	3/4"	1/2"	4592T27	16.97
3/32"	2"	3/4"	4592T22★	29.39
1/8"	1/2"	3/4"	4592T33	25.28
1/8"	1/2"	1"	4592T12	26.74
1/8"	17/32"	1"	4592T25	27.08
1/8"	3/4"	3/4"	4592T28	28.98
1/8"	3/4"	1"	4592T14	$29.99
1/8"	1"	1/2"	4592T34	25.17
1/8"	1"	1"	4592T35	33.56
1/8"	1 1/4"	1 1/4"	4592T36	42.51
1/8"	1 1/2"	1 1/2"	4592T37	32.63
1/8"	2"	2"	4592T21★	44.58
1/8"	3"	1"	4592T38	62.45
3/16"	3/4"	1"	4592T15	34.80

★ Outside corners are rounded.

Yield strength is approximate and may vary based on size and shape.

For information about aluminum alloys, see pages 3698-3699.

Color-Anodized 5005/5205 Aluminum

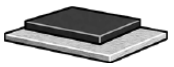

- Yield Strength: 15,000 psi
- Hardness: Not rated
- Temper: 1/2 Hard (H34)

When appearance matters, these anodized sheets offer an attractive finish with good corrosion resistance. They're made of either Alloy 5005 or 5205, which are both non-magnetic and not heat treatable. Temperature range is not rated. Width and length tolerances are ±3/32".

Black sheets have one side that is color anodized with a matte finish then covered with a protective film. **Gold** and **silver** sheets are color anodized on both sides; one side has a brushed finish that is covered with a protective film.

Coating Color		2"×24"	4"×24"	6"×6"	6"×12"	6"×24"	12"×12"	12"×24"	24"×24"
0.040" Thick (±0.004")									
Black	6062K1	$3.81	$6.98	$3.17	$5.24	$9.52	$9.52	$17.45	$31.73
Gold	6062K2	4.69	8.60	3.91	6.45	11.72	11.72	21.49	39.07
Silver	6062K3	4.69	8.60	3.91	6.45	11.72	11.72	21.49	39.07

Corrosion-Resistant Formable 3003 Aluminum

Often used for tanks, heat exchangers, and general sheet metal work, Alloy 3003 offers excellent corrosion resistance with good formability and weldability. It is nonmagnetic and not heat treatable. Temperature range is –300° to 300°F, unless otherwise stated.

Rectangular Bars with Material Certification—Unpolished



- Yield Strength: 21,000 psi
- Hardness: Soft (40 Brinell)
- Temper: 1/2 Hard (H14)
- Meet ASTM B209

Bars are saw cut. Each comes with a traceable lot number and physical test report. Width tolerance is ±1/16". Length tolerance is ±1/2".

Thick.	Thick. Tolerance	Wd.		1 ft.	3 ft.	6 ft.
1/8"	±0.006"	1"	9134K11	$8.03	$17.99	$32.12
1/8"	±0.006"	1 1/2"	9134K12	12.25	24.08	43.00
1/8"	±0.006"	2"	9134K13	11.32	25.36	45.29
1/8"	±0.006"	3"	9134K15	15.48	30.41	54.30
1/8"	±0.006"	4"	9134K16	17.18	38.49	68.73
3/16"	±0.009"	1"	9134K21	12.79	28.64	51.14
3/16"	±0.009"	1 1/2"	9134K22	16.80	37.63	67.20
3/16"	±0.009"	2"	9134K23	$19.98	$44.77	$79.94
3/16"	±0.009"	3"	9134K25	25.31	56.70	101.25
3/16"	±0.009"	4"	9134K26	30.63	68.61	122.51
1/4"	±0.014"	1"	9134K31	23.25	52.08	93.00
1/4"	±0.014"	2"	9134K33	40.57	90.87	162.27
1/4"	±0.014"	3"	9134K35	55.82	125.03	223.27
1/4"	±0.014"	4"	9134K36	68.71	153.90	274.83

Sheets—Unpolished

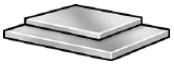

- Yield Strength: 21,000 psi
- Hardness: Soft (40 Brinell)
- Temper: 1/2 Hard (H14)
- Meet ASTM B209

Width and length tolerances for 0.016" to 0.190" thick sheets are ±1/16"; for 0.250" thick sheets they are ±1/4".

Thick.	Thick. Tolerance		6"×6"	6"×12"	6"×24"	12"×12"	12"×24"	24"×24"	24"×36"	36"×48"	36"×96"
0.016"	±0.002"	8973K14	$1.05	$1.77	$3.25	$3.18	$5.92	$10.04	$15.59	$27.03	$47.81
0.020"	±0.002"	8973K17	1.19	2.00	3.67	3.59	6.69	11.33	17.60	30.54	53.95
0.025"	±0.002"	8973K19	1.28	2.15	3.95	3.86	6.95	12.20	18.92	32.86	58.08
0.032"	±0.003"	8973K21	1.62	2.72	4.99	4.99	9.29	15.42	23.76	41.43	73.42
0.040"	±0.004"	8973K28	1.88	3.16	5.81	5.93	11.05	17.93	27.46	48.04	85.40
0.050"	±0.004"	8973K29	2.00	3.37	6.19	6.10	11.63	19.11	29.08	51.06	91.02
0.063"	±0.004"	8973K37	2.43	4.09	7.52	7.46	13.97	23.22	35.11	61.87	110.58
0.080"	±0.005"	8973K38	2.64	4.62	8.72	7.23	13.84	26.42	38.73	70.20	132.10
0.090"	±0.005"	8973K91	3.03	5.31	10.01	9.86	16.68	30.33	47.01	81.89	151.65
0.100"	±0.006"	8973K92	3.51	6.14	11.58	11.40	19.29	35.08	54.37	94.71	175.38
0.125"	±0.006"	8973K93	4.23	7.41	13.97	13.76	23.29	42.35	65.64	114.33	211.73
0.190"	±0.009"	8973K94	7.00	12.25	23.10	22.75	38.50	70.01	108.51	189.02	350.03
0.250"	±0.015"	8973K95	10.27	17.96	33.88	33.36	56.46	102.65	159.11	277.17	513.27

Textured Sheets—Unpolished

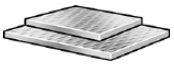

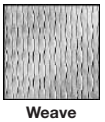

Weave



Diamond



Tread

- Yield Strength: 17,000 psi
- Hardness: Soft (40 Brinell)
- Temper: 1/2 Hard (H14)
- Meet ASTM B209

The textured surface on these sheets increases rigidity and hides fingerprints and dents. Thickness tolerance is ±0.004". Width and length have plus tolerances. Not rated for temperature.

Texture selector pack includes one 1 1/2"×3"×0.032" thick piece each of weave, diamond, and tread textures.

Thick.	Choose a Texture	12"×12"	12"×24"	24"×24"	24"×36"	24"×48"	48"×48"
0.032"	Weave, Diamond, Tread	9058K11 $13.46	9058K12 $19.75	9058K13 $26.93	9058K14 $37.78	9058K15 $48.47	9058K16 $89.75
0.063"	Weave, Diamond, Tread	9058K17 19.08	9058K18 34.45	9058K19 59.74	9058K21 83.51	9058K22 107.52	9058K23 199.12
0.080"	Weave, Diamond, Tread	9058K24 23.10	9058K25 46.17	9058K26 81.52	9058K27 121.71	9058K28 146.75	9058K29 267.02
Texture Selector Pack							9058K1 2.05

Painted Sheets—White on one side; choose a color on the other side

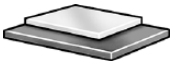

- Yield Strength: 17,000 psi
- Hardness: Not rated
- Temper: 1/2 Hard (H14 or H24)
- Meet ASTM B209

One side of these sheets is painted gloss white, while the other side is painted a gloss color of your choosing. Sheets may be either Alloy 3003 or 3105. Width and length tolerances are ±3/32".

Thick.	Thick. Tolerance	Choose a Color	12"×12"	12"×24"	24"×24"	24"×36"
0.040"	±0.004"	Black, Orange, Red, White, Yellow	4279T11 $18.78	4279T12 $29.19	4279T13 $50.35	4279T14 $68.14

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Corrosion-Resistant Formable 3003 Aluminum *(Material continued from previous page)*

Often used for tanks, heat exchangers, and general sheet metal work, Alloy 3003 offers excellent corrosion resistance with good formability and weldability. It is nonmagnetic and not heat treatable. Temperature range is –300° to 300° F, unless otherwise stated.

Foil



- Yield Strength: General Purpose: 21,000 psi; PTFE Coated: 5,000 psi
- Hardness: Not rated
- Temper: General Purpose: ½ hard (H14); PTFE Coated: Softened (O)

Foil is cold rolled. Width tolerance is ±1/8″. Length tolerance for the 5-ft. and 10-ft. rolls is ±6″; for the 25-ft. rolls it is ±3 ft.; for the 50-ft. rolls it is ±5 ft.

General purpose foil is unpolished. The 0.012″ thick foil is Alloy 3105 and has a thickness tolerance of ±0.0015″, while the 0.016″ thick foil is Alloy 3003 and has a thickness tolerance of ±0.002″. Temperature range is -18° to 300° F.

PTFE-coated foil is Alloy 3003 with a green PTFE coating on one side. Thickness tolerance is ±0.001″.

Thick.	Wd.	Lg., ft.		
General Purpose				
0.012″	2″	10	8980K13	$15.87
0.012″	6″	10	8980K17	21.52
0.012″	14″	5	8980K52	21.52
0.012″	14″	10	8980K54	28.78
0.012″	18″	5	8980K63	22.74
0.012″	20″	10	8980K78	37.50
0.016″	2″	25	8980K18	24.13

Thick.	Wd.	Lg., ft.		
General Purpose (Cont.)				
0.016″	6″	25	8980K19	$37.61
0.016″	6″	50	8980K41	51.00
0.016″	10″	50	8980K11	75.25
0.016″	12″	50	8980K12	95.85
0.016″	14″	50	8980K16	109.76
0.016″	18″	50	8980K81	129.97
0.016″	20″	50	8980K14	149.00

Thick.	Wd.	Lg., ft.		
General Purpose (Cont.)				
0.016″	28″	50	8980K15	$190.72
0.016″	36″	25	8980K21	152.14
0.016″	36″	50	8980K86	205.33
PTFE Coated				
0.0054″	6″	25	8656K51	77.17
0.0054″	12½″	25	8656K61	143.32

Tubes—Unpolished



- Yield Strength: 21,000 psi
- Hardness: Soft (40 Brinell)
- Temper: ½ hard (H14)
- Meet ASTM B210

Length tolerance is ±1/32″. Wall thickness tolerance is ±0.002″.

Telescoping tubes are sized so that each tube fits inside the next larger size.

Wall Thick.	OD	ID	1 ft. Pkg. Qty.		Pkg.	6 ft.	Each
Telescoping							
0.014″	1/16″	0.035″	3	7237K12	$1.90	7237K22	$4.11
0.014″	3/32″	0.066″	3	7237K13	2.03	7237K23	4.35
0.014″	1/8″	0.097″	3	7237K14	2.12	7237K24	4.71
0.014″	5/32″	0.128″	1	7237K15	1.01	7237K25	6.67
0.014″	3/16″	0.159″	1	7237K16	1.01	7237K26	6.67
0.014″	7/32″	0.191″	1	7237K17	1.14	7237K27	7.00
0.014″	1/4″	0.222″	1	7237K18	1.14	7237K28	7.00
0.014″	9/32″	0.253″	1	7237K19	1.27	7237K29	7.64
Non-Telescoping							
0.016″	1/4″	0.218″	1	7237K31	2.78	7237K51	13.64
0.016″	9/32″	0.249″	1	7237K32	2.94	7237K52	14.48

Wall Thick.	OD	ID	1 ft. Pkg. Qty.		Pkg.	6 ft.	Each
Non-Telescoping (Cont.)							
0.016″	5/16″	0.280″	1	7237K33	$3.14	7237K53	$15.48
0.016″	11/32″	0.312″	1	7237K34	3.36	7237K54	16.50
0.016″	3/8″	0.343″	1	7237K35	3.56	7237K55	17.52
0.016″	13/32″	0.374″	1	7237K36	3.94	7237K56	19.36
0.016″	7/16″	0.405″	1	7237K37	4.00	7237K57	19.64
0.016″	15/32″	0.436″	1	7237K38	4.47	7237K58	22.17
0.016″	1/2″	0.468″	1	7237K39	4.55	7237K59	22.57
0.016″	17/32″	0.499″	1	7237K41	4.68	7237K61	23.22
0.016″	9/16″	0.530″	1	7237K42	4.84	7237K62	24.00
0.016″	5/8″	0.593″	1	7237K43	5.03	7237K63	24.91

Hollow Balls—Unpolished



- Yield Strength: Not rated
- Hardness: Not rated
- Temper: Not rated

Diameter tolerance is ±0.01″. Not rated for temperature.

Dia.	Pkg. Qty.		Pkg.
1/4″	10	1089T21	$7.60
5/16″	10	1089T22	7.76
3/8″	10	1089T23	8.26

Dia.	Pkg. Qty.		Pkg.
7/16″	10	1089T24	$8.67
1/2″	10	1089T25	8.94
9/16″	10	1089T26	9.70

Dia.	Pkg. Qty.		Pkg.
5/8″	10	1089T28	$10.10
3/4″	10	1089T27	9.75

Honeycomb Cores—Unpolished

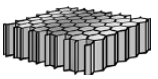

- Yield Strength: Not rated
- Hardness: Not rated
- Temper: Not rated

The honeycomb design gives these sheets a high strength-to-weight ratio. Temperature range is 0° to 180° F. Thickness tolerance is ±0.008″. Width and length tolerances are +1/2″.

O'all Thick.	Cell Size	Density, lbs./cu. ft.	Max. Load, psi		12″×12″	24″×24″	24″×48″
1/4″	1/2″	2.5	165	9635K1	$25.54	$58.20	$98.84
3/8″	1/2″	2.5	165	9635K2	27.30	63.60	112.11
1/2″	1/2″	2.5	165	9635K3	25.38	59.68	105.38
3/4″	1/2″	2.5	165	9635K4	26.17	61.47	108.90
1″	1″	1.4	75	9635K5	29.00	67.70	119.62
1 1/4″	1″	1.4	75	9635K6	26.04	61.43	106.67
1 1/2″	1″	1.4	75	9635K7	27.13	63.77	111.36

Honeycomb Panels

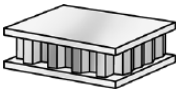

- Yield Strength: Not rated
- Hardness: Not rated
- Temper: Not rated

An unpolished honeycomb core is bonded between two aluminum sheets that are painted white. Sheets come covered with a protective peel-off film. Temperature range is 0° to 180° F. Thickness tolerance is ±0.02″. Width and length tolerances are +0.063″.

O'all Thick.	Cell Size	Cover Thick.	12″×12″ Max. Load, lbs.	Deflection @ 100-lb. Load			24″×24″ Max. Load, lbs.	Deflection @ 100-lb. Load			24″×48″ Max. Load, lbs.	Deflection @ 100-lb. Load		
1/8″	3/8″	0.032″	262	0.1″	8458K111	$34.63	269	0.4″	8458K113	$109.42	130	2.8″	8458K115	$189.97
1/4″	3/8″	0.032″	535	0.02″	8458K112	37.91	537	0.1″	8458K114	114.93	267	0.7″	8458K116	200.31
3/8″	1/4″	0.032″	825	0.01″	8458K63	39.27	825	0.04″	8458K73	118.08	400	0.3″	8458K83	221.20
1/2″	1/4″	0.032″	1,125	0.01″	8458K64	42.68	1,125	0.02″	8458K74	130.17	550	0.2″	8458K84	225.35
3/4″	1/4″	0.032″	1,725	0.005″	8458K65	41.52	1,725	0.01″	8458K75	135.93	850	0.1″	8458K85	231.20
1″	1″	0.032″	462	0.005″	8458K66	40.00	925	0.01″	8458K76	117.55	925	0.04″	8458K86	208.48

Yield strength is approximate and may vary based on size and shape.

For information about aluminum alloys, see pages 3698-3699.

Rigid Aluminum Foam



Small Cell Large Cell

- Yield Strength: Not rated
- Hardness: Not rated
- Temper: Not rated
- Meets ASTM B557, E9, and E72

With good compression strength for its light weight, this Alloy A356 rigid foam can be used in place of aluminum honeycomb. Also use it for sound insulation and as architectural facades. Carbide- or diamond-tipped blades and bits are required for machining. Temp. range is not rated. Flatness toler. is 0.06″ per foot. Width and length tolerances are ±0.08″.

Thick.	Thick. Tolerance		4″×4″	6″×6″	12″×12″
Small Cell					
1/2″	±0.039″	9236T61	$13.00	$22.89	$73.84
1″	±0.039″	9236T71	15.59	27.46	88.58

Thick.	Thick. Tolerance		6″×6″	12″×12″
Large Cell				
1″	±0.039″	9236T31	$21.17	$68.30
1.7″	±0.039″	9236T51	24.96	80.51

High-Strength 2024 Aluminum

Alloy 2024 is often used when a material with a high strength-to-weight ratio is required, such as for wheels, gears, shafts, and bolts. It is nonmagnetic and heat treatable. Temperature range is –320° to 300° F.

Rectangular Bars—Unpolished



- Yield Strength: 45,000 psi
- Hardness: Soft (120 Brinell)
- Temper: Heat Treated (T351, except 1/8″ to 3/8″ thick are T4)
- Meet ASTM B211

Width tolerance for 1/4″ to 3″ wide bars is ±0.008″; for 3 1/2″ to 6″ wide bars it is ±0.020″. Length tolerance for the 1/2-ft. lengths is ±1/8″; for 1-ft. to 6-ft. lengths it is ±1″.

Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″ Thick (±0.002″)						
1″	89215K417	$6.16	$8.56	$15.75	$19.86	$34.24
2″	89215K465	12.33	17.12	31.51	39.73	68.50
3/16″ Thick (±0.002″)						
1/2″	89215K411	5.00	6.94	12.77	16.09	27.75
1 1/4″	89215K433	10.64	14.78	27.19	34.28	59.10
1 1/2″	89215K447	11.97	16.63	30.60	38.58	66.52
1/4″ Thick (±0.002″)						
1/4″	86895K81	4.29	5.96	10.98	13.84	23.86
1/2″	89215K413	6.23	8.66	15.93	20.09	34.63
3/4″	89215K479	8.95	12.43	22.87	28.84	49.72
1″	89215K419	10.57	14.68	27.01	34.05	58.71
1 1/4″	89215K435	11.38	15.80	29.08	36.67	63.22
1 1/2″	89215K449	13.45	18.68	34.38	43.34	74.73
1 3/4″	89215K462	15.06	20.91	38.48	48.52	83.66
2″	89215K468	17.31	24.05	44.24	55.78	96.18
2 1/2″	89215K107	20.54	28.52	52.49	66.18	114.10
3″	89215K109	23.52	32.67	60.12	75.80	130.69
4″	89215K112	30.45	42.29	77.82	98.12	169.17
5/16″ Thick (±0.002″)						
1 1/2″	89215K453	16.33	22.68	41.74	52.63	90.74
3/8″ Thick (±0.002″)						
3/8″	86895K82	4.28	5.94	10.93	13.78	23.76
1/2″	89215K415	9.41	13.07	24.05	30.32	52.28
3/4″	89215K482	12.99	18.04	33.18	41.84	72.14
1″	89215K422	15.22	21.14	38.91	49.06	84.58
1 1/4″	89215K438	20.17	28.02	51.56	65.01	112.08
1 1/2″	89215K456	23.54	32.69	60.15	75.84	130.76
2″	89215K114	30.02	41.69	76.71	96.73	166.77
3″	89215K118	35.10	48.75	89.70	113.10	195.00
4″	89215K121	45.65	63.40	116.65	147.08	253.59
6″	89215K247	62.95	87.43	160.87	202.84	349.72
1/2″ Thick (±0.002″)						
1/2″	86895K11	6.82	9.47	17.42	21.97	37.88
3/4″	89215K484	10.47	14.54	26.75	33.73	58.16
1″	89215K425	13.41	18.62	34.27	43.21	74.50
1 1/4″	89215K442	15.78	21.91	40.32	50.84	87.65
1 1/2″	89215K123	17.99	24.99	45.98	57.97	99.95
1 3/4″	89215K125	20.22	28.09	51.68	65.16	112.35
2″	89215K127	22.51	31.27	57.53	72.54	125.07
2 1/2″	89215K129	27.48	38.17	70.23	88.55	152.67
3″	89215K132	31.76	44.12	81.18	102.35	176.47
4″	89215K134	40.92	56.83	104.56	131.84	227.31
6″	89215K136	57.34	79.64	146.53	184.75	318.54
5/8″ Thick (±0.003″)						
5/8″	86895K12	8.14	11.30	20.79	26.22	45.20
3/4″	89215K487	13.09	18.18	33.44	42.17	72.70
1″	89215K428	16.66	23.13	42.56	53.67	92.53
1 1/4″	89215K138	20.32	28.22	51.92	65.46	112.87
1 1/2″	89215K141	21.91	30.43	55.99	70.59	121.71
2″	89215K143	27.16	37.72	69.40	87.51	150.88
3/4″ Thick (±0.003″)						
3/4″	86895K13	11.22	15.59	28.69	36.17	62.36
1″	89215K145	17.16	23.84	43.86	55.30	95.34
1 1/4″	89215K147	21.25	29.52	54.31	68.47	118.06
1 1/2″	89215K149	24.24	33.66	61.94	78.10	134.65
1 3/4″	89215K152	27.15	37.70	69.38	87.48	150.82
2″	89215K154	34.38	47.75	87.86	110.78	191.00
2 1/2″	89215K156	37.87	52.59	96.77	122.02	210.38
3/4″ Thick (±0.003″) (Cont.)						
3″	89215K158	$44.75	$62.15	$114.35	$144.18	$248.59
3 1/2″	89215K161	47.09	65.40	120.34	151.73	261.60
4″	89215K163	49.42	68.64	126.29	159.24	274.55
6″	89215K167	76.04	105.61	194.32	245.01	422.43
1″ Thick (±0.003″)						
1″	86895K21	13.49	18.73	34.47	43.47	74.94
1 1/4″	89215K169	28.68	39.84	73.31	92.43	159.36
1 1/2″	89215K172	30.17	41.91	77.11	97.22	167.62
1 3/4″	89215K174	33.80	46.95	86.38	108.92	187.79
2″	89215K176	38.61	53.62	98.67	124.41	214.50
2 1/2″	89215K178	45.32	62.95	115.83	146.04	251.80
3″	89215K181	50.82	70.58	129.87	163.75	282.33
3 1/2″	89215K183	64.16	89.11	163.97	206.74	356.45
4″	89215K185	70.60	98.06	180.42	227.49	392.22
5″	89215K187	77.98	108.31	199.28	251.27	433.22
6″	89215K189	93.49	129.85	238.92	301.25	519.40
1 1/8″ Thick (±0.003″)						
1 1/8″	86895K23	16.04	22.27	40.98	51.67	89.09
1 1/4″ Thick (±0.003″)						
1 1/4″	86895K45	18.73	26.01	47.85	60.34	104.03
1 1/2″	89215K192	41.82	58.08	106.86	134.74	232.31
2″	89215K194	45.32	62.95	115.83	146.04	251.80
2 1/2″	89215K196	60.14	83.53	153.69	193.78	334.11
3″	89215K198	66.95	92.98	171.09	215.73	371.94
4″	89215K201	85.31	118.49	218.02	274.90	473.96
1 1/2″ Thick (±0.003″)						
1 1/2″	86895K25	23.51	32.66	60.09	75.76	130.62
2″	89215K203	53.74	74.64	137.33	173.16	298.55
2 1/2″	89215K205	64.79	89.99	165.59	208.78	359.97
3″	89215K207	72.17	100.24	184.44	232.56	400.96
4″	89215K209	94.60	131.38	241.75	304.81	525.54
6″	89215K212	122.75	170.49	313.71	395.54	681.97
1 3/4″ Thick (±0.005″)						
1 3/4″	86895K27	31.95	44.38	81.65	102.95	177.50
2″	89215K214	65.19	90.54	166.59	210.05	362.16
3″	89215K216	78.01	108.34	199.35	251.35	433.37
4″	89215K218	104.01	144.46	265.81	335.15	577.84
2″ Thick (±0.005″)						
2″	86895K29	37.06	51.47	94.70	119.40	205.87
2 1/2″	89215K225	85.04	118.11	217.33	274.02	472.45
3″	89215K227	91.62	127.25	234.14	295.22	509.00
4″	89215K229	116.98	162.47	298.95	376.94	649.89
6″	89215K232	146.99	204.16	375.65	473.65	816.63
2 1/4″ Thick (±0.008″)						
2 1/4″	86895K32	46.86	65.08	119.75	150.99	260.33
2 1/2″ Thick (±0.008″)						
2 1/2″	86895K34	80.24	111.45	205.07	258.56	445.80
3″	89215K234	122.40	170.00	312.80	394.41	680.01
4″	89215K236	138.72	192.66	354.50	446.98	770.66
6″	89215K238	178.02	247.25	454.93	573.61	988.98
3″ Thick (±0.008″)						
3″	86895K36	115.50	160.41	295.15	372.15	641.64
4″	89215K241	160.07	222.32	409.08	515.79	889.30
6″	89215K245	206.97	287.46	528.93	666.91	1,149.84
3 1/2″ Thick (±0.010″)						
3 1/2″	86895K38	117.89	163.73	301.26	379.85	654.92
4″ Thick (±0.010″)						
4″	86895K41	158.01	219.46	403.80	509.14	877.82

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

High-Strength 2024 Aluminum *(Material continued from previous page)*

Alloy 2024 is often used when a material with a high strength-to-weight ratio is required, such as for wheels, gears, shafts, and bolts. It is nonmagnetic and heat treatable. Temperature range is –320° to 300° F.

Sheets—Unpolished

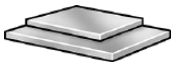

- Yield Strength: 41,000 psi
- Hardness: Soft (120 Brinell)
- Temper: Heat Treated (T3, except 0.250″ to 1.500″ thick are T351)
- Meet ASTM B209

Width and length tolerances are ±1/16″.

Also Available: Sheets with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $10. Please ask for 7846T13 and specify thickness, width, and length.

Thick.	Thick. Tolerance		6″×6″	8″×8″	12″×12″	12″×24″	18″×18″	24″×24″	24″×48″	48″×48″	48″×72″
0.020″	±0.003″	88835K111	$3.33	$4.66	$9.99	$17.98	$21.31	$32.62	$57.26	$101.20	$133.16
0.025″	±0.003″	88835K112	3.63	5.08	10.89	19.60	23.23	35.57	62.44	110.35	145.20
0.032″	±0.002″	88835K113	4.59	6.42	13.76	24.76	29.35	44.94	78.87	139.40	183.42
0.040″	±0.002″	88835K114	5.52	7.73	16.57	29.83	35.36	54.14	95.02	167.94	220.98
0.050″	±0.002″	88835K115	6.88	9.63	20.63	37.13	44.01	67.38	118.27	209.03	275.04
0.063″	±0.002″	88835K116	7.95	11.13	23.85	42.94	50.89	77.92	136.76	241.72	318.05
0.080″	±0.003″	88835K117	9.98	13.97	29.94	53.90	63.88	97.81	171.67	303.41	399.23
0.090″	±0.003″	88835K118	11.14	15.60	33.43	60.17	71.31	109.19	191.64	338.71	445.67
0.100″	±0.004″	88835K119	12.06	16.88	36.18	65.12	77.18	115.77	202.60	361.78	482.37
0.125″	±0.004″	88835K121	14.97	20.95	44.90	80.82	95.79	143.68	251.45	449.01	598.68
0.160″	±0.007″	88835K122	14.92	18.65	48.50	82.07	104.45	156.68	276.06	537.19	746.10
0.190″	±0.007″	88835K123	17.17	21.46	55.81	94.44	120.20	180.29	317.66	618.15	858.54
0.250″	±0.014″	9040K41	31.09	44.05	82.92	145.11	163.25	259.12	____	____	____
0.375″	±0.017″	9040K42	43.58	61.73	116.20	203.36	228.78	363.14	____	____	____
0.500″	±0.023″	9040K43	53.36	75.59	142.28	248.99	280.12	444.63	____	____	____
0.750″	±0.031″	9040K44	69.36	107.20	201.78	353.11	397.25	630.56	____	____	____
1.000″	±0.039″	9040K45	79.08	122.21	230.04	402.57	452.89	718.87	____	____	____
1.250″	±0.039″	9040K46	92.96	158.03	297.47	520.57	585.64	929.59	____	____	____
1.500″	±0.039″	9040K47	103.33	175.66	330.65	578.63	650.96	1,033.27	____	____	____

Clad Sheets—Corrosion-Resistant Coating

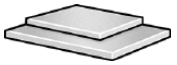

- Yield Strength: 45,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T3)
- Meet ASTM B209

Sheets meet AMS 4041 and AMS-QQ-A-250/5. Width and length tolerances are ±1/16″.

Thick.	Thick. Tolerance		6″×6″	12″×12″	24″×24″
0.016″	±0.015″	1924T71	$4.45	$14.24	$44.50
0.020″	±0.002″	1924T72	5.46	17.48	54.61
0.025″	±0.002″	1924T73	5.73	18.32	57.25
0.032″	±0.025″	1924T74	6.69	21.42	66.94
0.040″	±0.003″	1924T75	7.97	25.50	79.69
0.050″	±0.004″	1924T76	$9.97	$31.91	$99.72
0.063″	±0.004″	1924T77	11.65	37.27	116.48
0.090″	±0.005″	1924T78	13.49	43.18	134.95
0.125″	±0.006″	1924T79	18.76	60.02	187.55

Tight-Tolerance Rectangular Bars and Sheets—Precision Ground on Top and Bottom

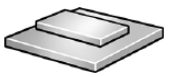

- Yield Strength: 47,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T351)
- Meet ASTM B209

These bars and sheets are ground flat to 0.002″ on the top and bottom, while the sides have a saw-cut or mill edge. They meet AMS QQ-A-250/4 and AMS 4035. Each piece comes with a traceable lot number and material test report. Thickness tolerance is ±0.002″. Width and length have plus tolerances.

Thick.		2″×12″	4″×12″	6″×6″	6″×12″	6″×24″	8″×8″	12″×12″	12″×24″	18″×18″	24″×24″
1/4″	8509K91	$77.67	$86.30	$81.98	$94.93	$151.88	$90.61	$155.33	$258.89	$271.83	$431.48
3/8″	8509K92	88.09	117.45	111.58	129.20	200.85	123.33	205.54	352.36	369.98	587.27
1/2″	8509K93	93.67	133.82	127.13	147.20	235.52	140.51	234.18	401.45	421.53	669.09
5/8″	8509K94	102.91	147.02	139.67	161.72	251.40	154.37	257.28	433.70	455.76	735.09
3/4″	8509K95	106.14	159.21	150.36	176.90	302.49	168.05	300.72	513.00	548.38	884.48
1″	8509K96	115.68	168.26	157.74	189.29	359.65	178.77	336.52	599.42	652.00	1,051.61

Rods—Unpolished



- Yield Strength: 45,000 psi
- Hardness: Soft (120 Brinell)
- Temper: Heat Treated (T351, except 3/16″ to 3/8″ dia. rods are T4)
- Meet ASTM B211

Rods also meet AMS QQ-A-225/6 and AMS 4120. Dia. tolerance for 3/16″ to 5″ dia. rods is ±0.012″; for 5 1/2″ to 6″ dia. rods it is ±0.020″. Length tolerance for 1/2″ to 1/2-ft. lengths is ±1/8″; for 1-ft. to 6-ft. lengths it is ±1″.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/16″	86985K66	____	$1.80	$3.77	$4.75	$8.19
1/4″	86985K68	$1.83	2.87	6.00	7.56	13.04
5/16″	86985K72	2.55	4.01	8.38	10.56	18.21
3/8″	86985K74	3.68	5.78	12.09	15.25	26.29
1/2″	86985K76	4.38	6.88	14.39	18.15	31.29
5/8″	86985K52	5.69	8.94	18.69	23.56	40.62
3/4″	86985K54	6.42	10.09	21.10	26.60	45.87
7/8″	86985K56	8.72	13.70	28.64	36.12	62.27
1″	86985K58	11.36	17.85	37.32	47.06	81.14
1 1/8″	86985K11	14.49	22.78	47.62	60.05	103.53
1 1/4″	86985K12	16.61	26.11	54.59	68.83	118.67
1 3/8″	86985K13	19.71	30.97	64.76	81.66	140.79
1 1/2″	86985K14	23.80	37.41	78.21	98.62	170.03
1 5/8″	86985K15	27.43	43.11	90.13	113.65	195.94
1 3/4″	86985K16	31.44	49.41	103.31	130.26	224.59
1 7/8″	86985K91	35.44	55.70	116.46	146.84	253.17
2″	86985K17	40.27	63.27	132.30	166.81	287.61
2 1/8″	86985K92	43.01	67.59	141.33	178.19	307.23
2 1/4″	86985K18	$48.19	$75.73	$158.34	$199.64	$344.21
2 3/8″	86985K21	54.36	85.42	178.61	225.20	388.28
2 1/2″	86985K19	56.45	88.71	185.49	233.87	403.23
2 5/8″	86985K22	62.31	97.91	204.73	258.13	445.06
2 3/4″	86985K23	68.36	107.42	224.61	283.21	488.29
2 7/8″	86985K24	73.37	115.30	241.08	303.97	524.09
3″	86985K25	77.99	122.55	256.24	323.09	557.05
3 1/8″	86985K26	84.60	132.95	277.98	350.49	604.30
3 1/4″	86985K27	88.28	138.73	290.08	365.75	630.60
3 3/8″	86985K28	93.58	147.06	307.48	387.70	668.44
3 1/2″	86985K29	99.10	155.74	325.63	410.58	707.89
3 3/4″	86985K42	113.72	178.70	373.64	471.12	812.27
4″	86985K44	129.11	202.88	424.20	534.86	922.18
4 1/2″	86985K46	159.11	250.04	522.80	659.19	1,136.53
5″	86985K48	168.08	320.87	603.54	763.98	____
5 1/2″	86985K62	193.01	368.47	693.08	877.32	____
6″	86985K64	226.94	433.24	814.91	1,031.53	____

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

High-Strength 2024 Aluminum *(Material continued from previous page)*

Rods—Unpolished (Cont.)



Dia.		½″ Lg.	¾″ Lg.	1″ Lg.	3″ Lg.
2″	9034K71	$6.04	$7.49	$8.25	$19.06
2½″	9034K72	8.98	11.14	12.27	28.34
3″	9034K76	12.13	15.04	16.57	38.26
3¼″	9034K77	13.62	16.88	18.60	42.95
3½″	9034K78	15.88	19.68	21.68	50.08

Dia.		½″ Lg.	¾″ Lg.	1″ Lg.	3″ Lg.
4″	9034K79	$20.73	$25.71	$28.32	$65.41
4½″	9034K73	25.60	31.74	34.97	80.76
5″	9034K81	31.57	39.13	43.12	99.58
5½″	9034K74	36.62	45.40	50.02	115.52
6″	9034K75	44.29	54.91	60.50	139.72

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 37,000 psi
- Hardness: Soft (120 Brinell)
- Temper: Heat Treated (T351, T3511, or T4)
- Meet ASTM B211

Rods also meet AMS QQ-A-225. Diameter tolerance is –0.0005″. Straightness tolerance is 0.005″ per foot. Length tolerance is ±⅛″.

Dia.		1 ft.	3 ft.	6 ft.
3/32″	9061K37	$3.46	$8.04	$13.86
⅛″	9061K31	3.61	8.37	14.43
3/16″	9061K32	4.14	9.61	16.57
¼″	9061K33	6.70	15.54	26.79
5/16″	9061K34	7.67	17.79	30.68

Dia.		1 ft.	3 ft.	6 ft.
⅜″	9061K35	$8.52	$19.77	$34.08
7/16″	9061K38	9.34	21.67	37.36
½″	9061K36	9.99	23.17	39.95
9/16″	9061K39	11.54	26.78	46.18
⅝″	9061K17	12.13	28.15	48.53

Dia.		1 ft.	3 ft.	6 ft.
¾″	9061K18	$14.45	$33.52	$57.80
⅞″	9061K19	17.89	41.50	71.56
1″	9061K21	22.40	51.97	89.60
1¼″	9061K22	33.08	76.75	132.33
1½″	9061K23	43.98	102.04	175.93

Tubes—Unpolished



- Yield Strength: 42,000 psi
- Hardness: Soft (120 Brinell)
- Temper: Heat Treated (T3)
- Meet ASTM B210

Thickness tolerance is ±12%. OD tolerance for ¼″ to 1″ dia. tubes is ±0.008″; for 1½″ to 6″ dia. tubes it is ±0.020″. Length tolerance is ±1″.

Wall Thick.	OD	ID		1 ft.	3 ft.	6 ft.
0.035″	¼″	0.180″	1968T12	$8.95	$21.64	$37.31
0.035″	⅜″	0.305″	1968T66	12.19	29.46	50.80
0.035″	½″	0.430″	1968T15	9.43	22.79	39.29
0.035″	⅝″	0.555″	1968T77	16.54	39.97	68.91
0.035″	1″	0.930″	1968T17	10.53	25.44	43.86
0.035″	1½″	1.430″	1968T47	15.01	36.27	62.54
0.049″	⅜″	0.277″	1968T67	11.22	27.11	46.74
0.049″	½″	0.402″	1968T73	12.65	30.56	52.69
0.049″	⅝″	0.527″	1968T78	14.45	34.92	60.20
0.049″	⅞″	0.777″	1968T86	14.28	34.50	59.49
0.049″	1″	0.902″	1968T92	14.58	35.23	60.74
0.058″	⅜″	0.259″	1968T68	10.05	24.28	41.86
0.058″	½″	0.384″	1968T74	16.33	39.46	68.03
0.058″	⅝″	0.509″	1968T79	19.26	46.53	80.23
0.058″	¾″	0.634″	1968T83	15.02	36.29	62.57
0.058″	⅞″	0.759″	1968T87	16.46	39.77	68.57
0.065″	¼″	0.120″	1968T22	8.18	19.78	34.10
0.065″	⅜″	0.245″	1968T69	13.93	33.66	58.03
0.065″	½″	0.370″	1968T24	9.35	22.60	38.96
0.065″	⅝″	0.495″	1968T81	12.78	30.87	53.23
0.065″	¾″	0.620″	1968T26	9.96	24.08	41.51
0.065″	⅞″	0.745″	1968T88	16.05	38.80	66.89
0.065″	1″	0.870″	1968T37	14.50	35.05	60.43
0.065″	1½″	1.370″	1968T49	22.53	54.44	93.87
0.065″	2″	1.870″	1968T57	38.55	93.17	160.63
0.065″	2½″	2.370″	1968T61	48.03	116.06	200.11

Wall Thick.	OD	ID		1 ft.	3 ft.	6 ft.
0.065″	3″	2.870″	1968T65	$56.18	$135.78	$234.10
0.083″	½″	0.334″	1968T75	12.94	31.27	53.91
0.083″	⅝″	0.459″	1968T82	12.69	30.66	52.86
0.083″	¾″	0.584″	1968T84	15.38	37.17	64.09
0.083″	1″	0.834″	1968T93	19.78	47.79	82.40
0.095″	½″	0.310″	1968T76	12.62	30.49	52.57
0.095″	¾″	0.560″	1968T85	20.76	50.18	86.51
0.095″	⅞″	0.685″	1968T89	20.58	49.72	85.73
0.095″	1″	0.810″	1968T94	20.60	49.78	85.83
0.120″	½″	0.260″	1968T23	14.33	34.62	59.69
0.120″	¾″	0.510″	1968T33	19.96	48.24	83.17
0.120″	⅞″	0.635″	1968T91	21.63	52.28	90.14
0.120″	1″	0.760″	1968T39	23.24	56.16	96.83
0.120″	1½″	1.260″	1968T51	24.98	60.37	104.09
0.120″	2″	1.760″	1968T14	64.47	155.80	268.62
0.120″	2½″	2.260″	1968T16	67.92	164.14	283.00
0.120″	3″	2.760″	1968T18	94.60	228.61	394.15
0.120″	4″	3.760″	1968T25	119.97	289.94	499.89
0.250″	1″	0.500″	1968T27	37.92	91.64	158.00
0.250″	1½″	1.000″	1968T28	52.63	127.18	219.28
0.250″	2″	1.500″	1968T29	83.39	201.52	347.44
0.250″	2½″	2.000″	1968T32	103.34	249.73	430.57
0.250″	3″	2.500″	1968T34	127.46	308.03	531.09
0.250″	4″	3.500″	1968T36	171.17	413.66	713.21
0.250″	5″	4.500″	1968T38	213.73	516.52	890.55
0.250″	6″	5.500″	1968T41	255.34	617.06	1,063.90

Hexagonal Bars—Unpolished

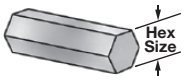

- Yield Strength: 45,000 psi
- Hardness: Soft (120 Brinell)
- Temper: Heat Treated (T4 for ¼″ hex size; T351 for ½″ to 2″ hex sizes)
- Meet ASTM B211

Hex size tolerance is ±0.005″. Length tolerance is ±1″.

Hex Size		1 ft.	3 ft.	6 ft.
¼″	89765K14	$2.40	$6.33	$10.92
½″	89765K11	5.80	15.29	26.37
¾″	89765K12	9.61	25.33	43.67

Hex Size		1 ft.	3 ft.	6 ft.
⅞″	89765K13	$12.34	$32.52	$56.07
1″	89765K65	16.03	42.26	72.87
1⅛″	89765K67	18.01	47.48	81.87

Hex Size		1 ft.	3 ft.	6 ft.
1¼″	89765K69	$22.18	$58.46	$100.80
1½″	89765K74	23.87	62.93	108.50
2″	89765K81	42.28	111.46	192.18

90° Angles—Unpolished

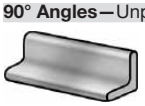

- Yield Strength: 42,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T3511)
- Meet ASTM B221

Angles also meet AMS QQ-A-200/3. Inside corner and leg edges are rounded; outside corner is squared. Leg length tolerance is ±0.026″. Length tolerance is ±1″.

Outside Leg Lgs.		1 ft.	3 ft.	6 ft.
1/16″ Thick (±0.006″)				
½″	9681T13	$12.90	$31.18	$53.76
⅝″	9681T14	15.07	36.42	62.80
¾″	9681T15	15.85	38.30	66.03
⅞″	9681T16	17.71	42.81	73.81
1″	9681T17	16.48	39.83	68.67
1½″	9681T19	22.12	53.45	92.15

Outside Leg Lgs.		1 ft.	3 ft.	6 ft.
⅛″ Thick (±0.007″)				
¾″	9681T33	$18.21	$44.00	$75.87
1″	9681T34	23.23	56.14	96.79
1¼″	9681T35	27.68	66.89	115.33
1½″	9681T36	31.06	75.07	129.43
2″	9681T38	39.38	95.18	164.10
2½″	9681T39	45.23	109.31	188.47

Outside Leg Lgs.		1 ft.	3 ft.	6 ft.
3/16″ Thick (±0.007″)				
1¼″	9681T53	$35.31	$85.33	$147.12
1½″	9681T54	39.61	95.73	165.06
2″	9681T55	50.50	122.04	210.41
2½″	9681T56	61.94	149.69	258.09
¼″ Thick (±0.008″)				
2″	9681T73	62.05	149.96	258.56
3″	9681T74	88.62	214.17	369.26

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

High-Strength 2024 Aluminum *(Material continued from previous page)*

Alloy 2024 is often used when a material with a high strength-to-weight ratio is required, such as for wheels, gears, shafts, and bolts. It is nonmagnetic and heat treatable. Temperature range is –320° to 300° F.

T-Bars—Unpolished

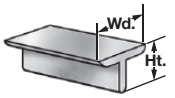

- Yield Strength: 42,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T3511)
- Meet ASTM B221

These T-bars also meet AMS QQ-A-200/3. Edges are rounded. Thickness tolerance is ±0.007″. Height tolerance is ±0.024″. Width tolerance for 1 3/8″ and 1 1/2″ wide bars is ±0.014″; for 2″ to 3″ wide bars it is ±0.024″. Flatness tolerance is ±0.012″. Straightness tolerance is 0.050″ per foot. Length tolerance is ±1″.

Thick.	Ht.	Wd.		1 ft.	3 ft.	6 ft.
1/16″	1″	1 3/8″	9751T12	$19.62	$46.59	$81.74
1/16″	3/4″	1 1/2″	9751T14	22.30	52.95	92.90
1/8″	1″	2″	9751T16	30.84	73.25	128.51
1/8″	2″	2 1/2″	9751T18	42.50	100.95	177.10
1/8″	1 1/2″	3″	9751T24	42.34	100.55	176.40

Thick.	Ht.	Wd.		1 ft.	3 ft.	6 ft.
1/8″	2 1/2″	3″	9751T28	$49.21	$116.87	$205.04
3/16″	2″	2 1/2″	9751T22	56.97	135.31	237.39
3/16″	2″	3″	9751T26	61.77	146.70	257.37
3/16″	2 1/2″	3″	9751T32	67.05	159.24	279.36

Z-Bars—Unpolished

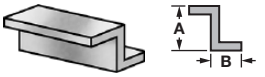

- Yield Strength: 42,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T3511)
- Meet ASTM B221

Z-bars also meet AMS QQ-A-200/3. All edges are squared. Thickness tolerance is ±0.009″. Height and leg length tolerances are ±0.024″. Length tolerance is ±1″.

Thick.	Ht. (A)	Legs (B)		1 ft.	3 ft.	6 ft.
0.05″	3/4″	3/4″	9931T22	$16.69	$40.34	$69.55
0.05″	7/8″	3/4″	9931T23	17.58	42.47	73.23
0.05″	1 1/8″	7/8″	9931T21	15.91	38.44	66.28
1/16″	1/2″	3/4″	9931T24	15.21	36.76	63.38
1/16″	5/8″	3/4″	9931T25	15.81	38.20	65.87
1/16″	5/8″	1″	9931T32	15.52	37.50	64.66
1/16″	3/4″	1″	9931T26	17.95	43.37	74.78

Thick.	Ht. (A)	Legs (B)		1 ft.	3 ft.	6 ft.
1/16″	1″	3/4″	9931T27	$17.95	$43.37	$74.78
1/16″	1″	1″	9931T28	19.36	46.79	80.67
1/16″	1 1/8″	7/8″	9931T31	17.71	42.80	73.80
1/16″	1 1/8″	1 1/8″	9931T29	22.18	53.59	92.40
1/8″	1 3/8″	1 1/4″	9931T33	33.35	80.59	138.94
1/8″	2″	1 1/2″	9931T34	41.93	101.33	174.70

Hard High-Strength 7075 Aluminum

Originally developed for aircraft frames, uses for Alloy 7075 now include keys, gears, and other high-stress parts. It is nonmagnetic and heat treatable. Temperature range is –320° to 210° F.

Rectangular Bars—Unpolished



- Yield Strength: 56,000 psi
- Hardness: Medium (130 Brinell)
- Temper: Heat Treated (T7351, unless noted)
- Meet ASTM B211

Width tolerance is ±0.010″. Length tolerance for 1/2-ft. lengths is +1/8″; for 1-ft. to 6-ft. lengths it is ±1″.

Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/4″ Thick (±0.002″)						
1″	9055K36 ★	$9.83	$16.86	$28.79	$40.73	$70.23
1 1/2″	9055K37 ★	13.82	23.69	40.47	57.25	98.71
2″	9055K38 ★	18.36	31.48	53.78	76.08	131.17
2 1/2″	9055K39 ★	21.00	36.00	61.49	86.99	149.98
1/2″ Thick (±0.002″)						
1″	9055K11	12.73	21.82	37.28	52.74	90.93
1 1/2″	9055K43 ★	22.64	38.81	66.30	93.79	161.70
2″	9055K12	29.93	51.30	87.64	123.98	213.76
2 1/2″	9055K44 ★	33.56	57.54	98.29	139.04	239.73
3″	9055K45 ★	37.66	64.56	110.29	156.02	269.00
4″	9055K46 ★	48.74	83.56	139.27	201.94	348.17
3/4″ Thick (±0.003″)						
1″	9055K13	14.16	24.27	41.46	58.64	101.11
2″	9055K14	24.91	42.70	72.94	103.19	177.91
3″	9055K15	32.26	55.31	94.48	133.66	230.44
1″ Thick (±0.003″)						
1″	9055K47 ★	20.00	34.29	58.58	82.87	142.88
1 1/2″	9055K16	26.92	46.15	78.84	111.53	192.29
2″	9055K17	29.04	49.79	85.05	120.32	207.44
2 1/2″	9055K18	36.37	62.34	106.50	150.66	259.76
3″	9055K19	41.77	71.60	122.32	173.04	298.34
4″	9055K21	53.04	90.93	155.34	219.76	378.89

Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1 1/4″ Thick (±0.003″)						
1 1/2″	9055K22	$27.47	$47.09	$80.45	$113.81	$196.22
2″	9055K23	33.18	56.88	97.17	137.46	237.00
2 1/2″	9055K24	45.53	78.05	133.33	188.62	325.20
3″	9055K25	60.19	103.19	176.28	249.38	429.96
1 1/2″ Thick (±0.003″)						
1 1/2″	9055K48	38.70	66.34	113.33	160.32	276.42
2″	9055K26	44.45	76.20	130.17	184.14	317.48
2 1/2″	9055K27	60.83	104.28	178.15	252.02	434.51
3″	9055K28	70.10	120.18	205.30	290.42	500.73
4″	9055K29	74.67	128.00	218.67	309.34	533.34
2″ Thick (±0.005″)						
2″	9055K49	58.65	100.54	171.76	242.97	418.92
2 1/2″	9055K31	59.95	102.77	175.57	248.36	428.21
3″	9055K32	72.16	123.70	211.32	298.94	515.41
4″	9055K33	94.65	162.25	277.18	392.10	676.04
2 1/2″ Thick (±0.008″)						
2 1/2″	9055K51	79.64	136.52	233.23	329.93	568.85
3″	9055K34	92.79	159.07	271.75	384.43	662.81
3″ Thick (±0.008″)						
3″	9055K52	115.96	198.79	339.59	480.40	828.28
4″	9055K35	149.26	255.87	437.11	618.34	1,066.11

★ Temper is T651.

Tight-Tolerance Rectangular Bars and Sheets—Precision Ground on Top and Bottom



- Yield Strength: 73,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T651)
- Meet ASTM B209

These bars and sheets are ground flat to 0.002″ on the top and bottom, while the sides have a saw-cut or mill edge. They also meet AMS QQ-A-250/12. Each comes with a traceable lot number and material test report. Thickness tolerance is ±0.002″. Width and length have plus tolerances.

Thick.		2″×12″	4″×12″	6″×6″	6″×12″	6″×24″	8″×8″	12″×12″	12″×24″	18″×18″	24″×24″
1/4″	9478T11	$78.98	$88.27	$83.62	$97.56	$163.53	$92.92	$167.25	$278.75	$292.69	$464.58
3/8″	9478T12	88.00	119.43	113.14	132.00	214.97	125.71	220.00	377.14	396.00	628.57
1/2″	9478T13	93.12	136.10	128.94	150.43	252.15	143.27	250.72	415.47	451.29	716.33
5/8″	9478T14	101.96	149.02	141.18	164.71	268.23	156.86	274.51	454.90	486.27	784.31
3/4″	9478T15	106.32	157.17	147.92	175.66	316.19	166.42	295.85	526.98	573.21	924.53
1″	9478T16	112.16	163.15	152.95	183.54	348.73	173.34	321.20	581.21	632.20	1,019.67

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Hard High-Strength 7075 Aluminum *(Material continued from previous page)*

Tight-Tolerance Rectangular Bars and Sheets—Precision Ground on All Sides

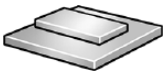

- Yield Strength: 73,000 psi
- Hardness: Medium (150 Brinell)
- Temper: Heat Treated (T651)
- Meet ASTM B209

All six sides are precision ground and parallel, so these bars and sheets are ready to use in your CNC machine. They are also known as blanks. Each comes with a traceable lot number and material test report. Thickness, width, and length tolerances are ±0.002″. Flatness tolerance is 0.002″.

Thick.		2″×12″	4″×12″	6″×6″	6″×12″	8″×8″	8″×12″	12″×12″	12″×24″
3/16″	1190T68	$88.32	$101.28	$93.18	$129.64	$121.54	$162.05	$202.56	____
1/4″	1190T69	86.61	110.86	103.93	131.65	124.72	166.30	207.87	$346.45
3/8″	1190T71	101.21	129.55	121.45	153.84	145.74	190.27	242.90	404.83
1/2″	1190T72	118.25	151.36	141.90	179.74	170.28	217.58	283.79	472.99
5/8″	1190T73	123.61	158.22	148.33	187.88	173.05	227.44	296.66	494.43
3/4″	1190T74	130.04	177.33	165.51	200.98	183.24	236.44	319.20	591.11
1″	1190T75	138.04	188.24	175.69	213.33	194.51	250.98	338.82	627.45
1 1/4″	1190T76	182.77	249.23	232.62	282.46	257.54	332.31	448.62	830.77
1 1/2″	1190T77	198.41	270.56	252.52	306.63	279.57	360.74	487.00	901.85
2″	1190T78	234.93	320.36	299.00	363.07	331.04	427.14	576.64	1,067.86

Sheets—Unpolished

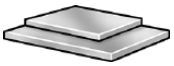

- Yield Strength: 61,000 psi
- Hardness: Medium (150 Brinell)
- Temper: Heat Treated (T6 for 0.032″ to 0.190″ thick sheets; T651 for 0.250″ to 3″ thick sheets)
- Meet ASTM B209

Width and length tolerances are ±1/16″.

Also Available: Sheets with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $10. Please ask for 9810T88 and specify thickness, width, and length.

Thick.	Thick. Tolerance		6″×6″	6″×12″	6″×24″	8″×8″	12″×12″	12″×24″	18″×18″	24″×24″	24″×48″	48″×48″
0.032″	+0.002″,-0.002″	8885K81	$4.97	$9.11	$16.73	$8.28	$16.57	$29.82	$39.76	$53.01	$92.78	$165.67
0.040″	+0.002″,-0.002″	8885K82	6.06	11.11	20.41	10.10	20.21	36.37	48.49	64.66	113.15	202.05
0.050″	+0.002″,-0.002″	8885K83	7.07	12.96	23.79	11.78	23.56	42.40	56.53	75.38	131.91	235.55
0.063″	+0.002″,-0.002″	8885K84	8.17	14.98	27.50	13.62	27.23	49.02	65.36	87.14	152.50	272.32
0.090″	+0.003″,-0.003″	8885K85	10.79	19.79	36.34	17.99	35.98	64.77	86.35	115.14	201.49	359.81
0.125″	+0.004″,-0.004″	8885K86	14.77	27.09	49.74	24.62	49.25	88.65	118.20	157.60	275.80	492.50
0.160″	+0.007″,-0.007″	8885K87	19.09	34.99	64.26	31.81	63.62	114.52	152.69	203.58	356.27	636.20
0.190″	+0.007″,-0.007″	8885K88	21.33	39.10	71.81	35.55	71.10	127.98	170.64	227.51	398.15	710.98
0.250″	+0.019″,-0.019″	9037K91	21.71	39.80	73.09	36.19	72.37	130.27	173.69	231.58	405.27	723.70
0.375″	+0.022″,-0.022″	9037K92	31.26	57.30	105.23	52.09	104.18	187.53	250.04	333.39	583.43	1,041.84
0.500″	+0.028″,-0.028″	9037K93	41.67	76.40	140.30	69.46	138.91	250.04	333.39	444.52	777.90	1,389.11
0.750″	+0.104″,-0.031″	9037K94	72.52	108.79	208.25	103.61	207.21	362.62	393.71	580.20	1,036.07	____
1.000″	+0.124″,-0.039″	9037K95	92.63	138.95	265.99	132.33	264.66	463.16	502.86	741.06	1,323.32	____
1.500″	+0.124″,-0.039″	9037K96	102.22	224.88	358.79	204.44	357.77	633.76	664.43	1,022.20	____	____
2.000″	+0.150″,-0.055″	9037K97	131.02	288.25	459.89	262.05	458.58	812.35	851.66	1,310.24	____	____
2.500″	+0.200″,-0.075″	9037K98	167.50	368.50	587.93	335.00	586.26	1,038.51	1,088.76	1,675.02	____	____
3.000″	+0.200″,-0.075″	9037K99	201.00	442.20	705.52	402.00	703.51	1,246.21	1,306.51	2,010.02	____	____

Rods—Unpolished



- Yield Strength: 62,000 psi
- Hardness: Medium (150 Brinell)
- Temper: Heat Treated (T6 or T651)
- Meet ASTM B211

Length tolerance for 1/2-ft. to 6-ft. lengths is ±1/8″; 1/4″ to 3″ lengths is +1/8″. The 1/2-ft. to 6-ft. lengths also meet AMS QQ-A-225/9.

Dia.	Dia. Tolerance		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/4″	±0.002″	90465K71	$1.95	$2.82	$4.45	$6.19	$10.86
3/8″	±0.002″	90465K72	3.07	4.91	7.98	11.66	20.45
1/2″	±0.002″	90465K73	3.96	6.34	10.31	15.07	26.43
5/8″	±0.002″	90465K66	5.68	9.33	15.42	22.72	40.57
3/4″	±0.002″	90465K67	6.70	11.01	18.19	26.80	47.86
7/8″	±0.002″	90465K68	9.10	14.95	24.70	36.40	65.00
1″	±0.002″	90465K11	9.55	17.51	29.44	43.76	79.57
1 1/8″	±0.003″	90465K12	10.51	19.28	32.42	48.19	87.62
1 1/4″	±0.003″	90465K13	12.49	22.91	38.52	57.27	104.12
1 3/8″	±0.003″	90465K14	15.01	27.53	46.29	68.82	125.12
1 1/2″	±0.003″	90465K15	17.89	32.81	55.17	82.02	149.12
1 5/8″	±0.004″	90465K16	20.95	38.42	64.61	96.04	174.62
1 3/4″	±0.004″	90465K17	24.19	44.36	74.60	110.89	201.62
1 7/8″	±0.004″	90465K18	27.79	50.96	85.70	127.39	231.62
2″	±0.004″	90465K19	28.09	51.50	86.62	128.76	234.11
2 1/8″	±0.006″	90465K22	$31.29	$57.37	$96.49	$143.43	$260.78
2 1/4″	±0.006″	90465K24	35.13	64.41	108.33	161.03	292.78
2 3/8″	±0.006″	90465K26	39.13	71.74	120.66	179.36	326.11
2 1/2″	±0.006″	90465K28	43.29	79.37	133.49	198.43	360.78
2 5/8″	±0.006″	90465K32	47.77	87.58	147.30	218.96	398.11
2 3/4″	±0.006″	90465K34	60.29	110.54	185.90	276.34	502.44
3″	±0.006″	90465K36	61.44	107.52	189.44	281.60	512.00
3 1/4″	±0.008″	90465K38	72.16	126.28	222.49	330.73	601.33
3 1/2″	±0.012″	90465K42	82.88	145.04	255.55	379.87	690.67
3 3/4″	±0.012″	90465K44	95.04	166.32	293.04	435.60	792.00
4″	±0.012″	90465K46	115.20	201.60	355.20	528.00	960.00
4 1/2″	±0.012″	90465K74	141.08	246.88	434.98	646.60	1,175.63
5″	±0.012″	90465K48	163.38	285.91	503.74	748.80	1,361.46
5 1/2″	±0.016″	90465K75	210.56	368.49	649.24	965.09	1,754.70
6″	±0.016″	90465K76	233.25	408.18	719.17	1,069.04	1,943.71



Dia.	Dia. Tolerance		1/4″ Lg.	1/2″ Lg.	1″ Lg.	3″ Lg.
2″	±0.004″	9035K41	$5.81	$7.21	$8.41	$20.03
2 1/4″	±0.006″	9035K42	7.35	9.13	10.65	25.35
2 1/2″	±0.006″	9035K43	9.10	11.30	13.18	31.38
2 3/4″	±0.006″	9035K44	10.99	13.64	15.91	37.88
3″	±0.008″	9035K45	13.07	17.58	22.08	45.07
3 1/4″	±0.008″	9035K46	14.72	19.80	24.88	50.77
3 1/2″	±0.012″	9035K47	16.24	21.84	27.44	56.00
4″	±0.012″	9035K48	$20.73	$27.87	$34.31	$71.47
4 1/2″	±0.012″	9035K49	21.94	29.84	38.62	87.77
5″	±0.012″	9035K51	24.53	30.93	44.80	106.67
5 1/2″	±0.020″	9035K52	26.31	36.33	52.62	125.29
6″	±0.020″	9035K53	33.35	46.06	66.70	158.82
7″	±0.025″	9035K54	40.86	56.43	81.72	194.58
8″	±0.030″	9035K55	51.13	70.61	102.27	243.50

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Hard High-Strength 7075 Aluminum *(Continued from previous page)*

Originally developed for aircraft frames, uses for Alloy 7075 now include keys, gears, and other high-stress parts. It is nonmagnetic and heat treatable. Temperature range is –320° to 210° F.

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 73,000 psi
- Hardness: Medium (150 Brinell)
- Temper: Heat Treated (T6 or T651)
- Meet ASTM B211

Diameter tolerance is –0.0005″. Straightness tolerance is 0.005″ per foot. Length tolerance is ±1/8″.

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/32″	9063K29	$8.02	$9.95	$13.54	$16.86	$27.64
1/8″	9063K24	8.33	10.34	14.07	17.52	28.72
3/16″	9063K25	10.01	12.43	16.91	21.06	34.52
1/4″	9063K26	12.21	15.16	20.64	25.69	42.12
5/16″	9063K27	13.37	16.59	22.58	28.11	46.09
3/8″	9063K28	14.74	18.30	24.90	31.00	50.82
7/16″	9063K31	14.97	18.59	25.30	31.49	51.63
1/2″	9063K16	15.38	19.09	25.98	32.35	53.03

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
9/16″	9063K32	$16.06	$19.93	$27.13	$33.78	$55.37
5/8″	9063K17	15.54	19.56	28.19	35.10	57.54
11/16″	9063K33	17.32	21.81	30.15	39.13	64.14
3/4″	9063K18	18.10	22.79	31.50	40.22	67.03
7/8″	9063K19	17.33	22.39	33.94	41.88	72.21
1″	9063K21	20.53	26.52	38.49	49.61	85.54
1 1/4″	9063K22	24.72	35.85	55.62	71.69	123.61
1 1/2″	9063K23	37.84	55.76	89.62	115.51	199.15

Metric Tight-Tolerance Rods—Precision Ground



- Yield Strength: 73,000 psi
- Hardness: Medium (150 Brinell)
- Temper: Heat Treated (T6 or T651)
- Meet ASTM B211

Diameter tolerance is –0.0127 mm. Straightness tolerance is 0.005″ per foot. Length tolerance is ±1/8″.

Choose a Diameter, mm	Choose a Length, ft.	
4, 5, 6, 8, 10, 12, 15, 20, 25, 30, 40	1, 3, 6	9403T111

90° Angles—Unpolished



- Yield Strength: 70,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T6511)
- Meet ASTM B221

Inside corner and legs are rounded. Outside corner is squared. Angles meet AMS QQ-A200/11. Straightness tolerance is 0.050″ per foot. Leg length tolerance for 1/2″ to 7/8″ leg lengths is ±0.010″; for 1″ to 2 1/2″ leg lengths it is ±0.024″. Length tolerance is ±1/8″.

Outside Leg Lgs.		1 ft.	3 ft.	6 ft.
1/16″ Thick (±0.006″)				
1/2″	9178T11	$11.73	$29.32	$48.86
3/4″	9178T12	13.82	34.54	57.57
7/8″	9178T13	16.35	40.87	68.11
1″	9178T14	16.35	40.87	68.11

Outside Leg Lgs.		1 ft.	3 ft.	6 ft.
1/16″ Thick (±0.006″) (Cont.)				
1 1/2″	9178T15	$28.22	$70.56	$117.60
1/8″ Thick (±0.007″)				
7/8″	9178T16	17.04	42.59	70.98
1″	9178T17	19.37	48.43	80.71

Outside Leg Lgs.		1 ft.	3 ft.	6 ft.
1/8″ Thick (±0.007″) (Cont.)				
1 1/4″	9178T18	$22.56	$56.40	$94.00
1 1/2″	9178T19	26.24	65.60	109.33
2″	9178T21	31.82	79.56	132.60
2 1/2″	9178T23	39.17	97.92	163.20

Very High-Strength 7050 Aluminum

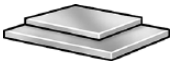

- Yield Strength: 68,000 psi
- Hardness: Not rated
- Temper: Heat Treated (T7451)
- Meet ASTM B594

With higher strength and better corrosion resistance than Alloy 7075, this Alloy 7050 is preferred for applications requiring resistance to fatigue and stress cracking. These sheets meet AMS 4050 and are ultrasonically inspected (USI) for defects below the surface material. They are unpolished, nonmagnetic, and heat treatable. Temperature range is not rated. Width and length tolerances are ±1/16″.

Thick.	Thick. Tolerance		6″×6″	12″×12″
1/2″	±0.028″	1281T61	$46.07	$159.98
3/4″	±0.037″	1281T62	67.63	234.84
1″	±0.039″	1281T63	85.60	297.23
1 1/4″	±0.039″	1281T64	103.60	359.71
1 1/2″	±0.039″	1281T65	118.87	412.73
1 3/4″	±0.055″	1281T66	138.67	481.49

Thick.	Thick. Tolerance		6″×6″	12″×12″
2″	±0.055″	1281T67	$147.91	$513.56
2 1/4″	±0.055″	1281T68	159.98	555.50
2 1/2″	±0.075″	1281T69	177.75	617.17
2 3/4″	±0.075″	1281T71	188.27	653.72
3″	±0.075″	1281T72	201.64	700.15

Porous Mold-Quality Aluminum

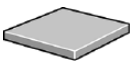

- Yield Strength: Not rated
- Hardness: Not rated
- Temper: Not rated

Use this aluminum alloy to create molds for vacuum-forming and thermoforming applications. Also known as Metapor, it is porous to let air and moisture escape, which prevents bubbles and blemishes in your piece. Sheets must be milled to expose the pores; average pore diameter is 0.0006″ with a total porosity of 15%. It is nonmagnetic and not heat treatable. Maximum temperature is 225° F; minimum temperature is not rated. Thickness, width, and length tolerances are ±2 mm.

Thick., mm		150×150 mm	250×250 mm	500×500 mm
10	8189K12	$75.86	$175.97	$580.00
15	8189K14	93.30	208.89	696.30

Thick., mm		150×150 mm	250×250 mm	500×500 mm
30	8189K16	$153.38	$347.65	$1,081.67
50	8189K18	248.35	522.03	1,624.24

Mold-Quality High-Strength QC-10 Aluminum

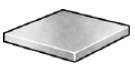

- Yield Strength: 74,000 psi
- Hardness: Medium (150 Brinell)
- Temper: Not rated

Offering high strength, surface hardness, and thermal conductivity, QC-10 is suitable for use in production injection molds and blow molds. These sheets are unpolished, nonmagnetic, and heat treatable. Maximum temperature is 275° F; minimum temperature is not rated. Width and length tolerances are ±1/16″.

Thick.	Thick. Tolerance		3″×3″	6″×6″	12″×12″
1″	+0.114″	1643T45	$23.76	$72.59	$263.96
1 1/4″	+0.114″	1643T46	29.19	89.20	324.35
1 1/2″	+0.114″	1643T47	35.11	107.27	390.07
1 3/4″	+0.140″	1643T48	38.74	117.96	430.50

Thick.	Thick. Tolerance		3″×3″	6″×6″	12″×12″
2″	+0.140″	1643T49	$42.67	$129.42	$474.07
2 1/4″	+0.140″	1643T51	47.49	144.06	527.68
3″	+0.190″	1643T52	49.21	149.27	546.78

Yield strength is approximate and may vary based on size and shape.

Highly Corrosion-Resistant 5086 Aluminum

Alloy 5086 offers excellent corrosion resistance with good formability, so it is commonly used in marine applications, such as in ships, oil rigs, tanks, and pressure vessels. It is nonmagnetic and not heat treatable. Temperature range is not rated.

Sheets—Unpolished

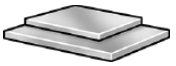

- Yield Strength: 17,000 psi
- Hardness: Not rated
- Temper: 1/4 Hard (H32)
- Meet ASTM B209

Width and length tolerances are ±1/4″.

Thick.	Thick. Tolerance		2″×24″	4″×24″	6″×6″	6″×12″	6″×24″	12″×12″	12″×24″	24″×24″	24″×48″	48″×48″
0.063″	±0.003″	5865T71	$2.88	$5.35	$2.47	$4.11	$6.66	$6.58	$12.34	$22.22	$43.61	$82.28
0.090″	±0.005″	5865T72	3.85	7.15	3.30	5.50	8.91	8.80	16.49	29.69	58.28	109.96
0.125″	±0.006″	5865T73	5.23	9.71	4.48	7.47	12.10	11.95	22.41	40.34	79.19	149.42
0.190″	±0.009″	5865T74	7.62	14.15	6.53	10.88	17.63	17.41	32.64	58.76	115.34	217.63
0.250″	±0.015″	5865T75	12.34	19.20	9.60	16.46	24.96	24.68	46.62	82.28	153.59	274.26
0.375″	±0.017″	5865T76	21.90	31.63	17.03	26.77	46.72	46.23	82.73	145.99	272.52	486.64
0.500″	±0.023″	5865T77	28.32	40.90	22.02	34.61	63.55	62.92	113.26	195.06	358.67	629.24
0.750″	±0.031″	5865T78	45.54	63.75	36.43	54.64	91.99	91.08	163.94	282.33	519.13	910.75
1.000″	±0.039″	5865T79	60.18	84.25	48.14	72.22	121.57	120.36	216.65	373.12	686.06	1,203.62

90° Angles—Unpolished



- Yield Strength: 21,000 psi
- Hardness: Not rated
- Temper: 1/8 Hard (H111)
- Meet ASTM B221

Inside corner and leg edges are rounded; outside corner is squared. Thickness tolerance is ±0.012″. Leg length tolerance is ±0.033″. Straightness tolerance is 0.0125″ per foot. Length tolerance is ±1/4″.

Thick.	Outside Leg Lgs.		1 ft.	3 ft.	6 ft.
1/8″	1″	4039T14	$16.57	$41.43	$69.05
1/8″	1 1/2″	4039T15	20.64	51.60	86.00
1/4″	1 1/4″	4039T16	21.72	54.29	90.48
1/4″	2″	4039T11	$25.86	$64.64	$107.74
1/4″	3″	4039T12	30.14	75.36	125.60
1/4″	4″	4039T13	35.04	87.61	146.02

Tubes—Unpolished



- Yield Strength: 28,000 psi
- Hardness: Not rated
- Temper: 1/4 Hard (H32)
- Meet ASTM B210

OD tolerance is ±0.008″. Straightness tolerance is 0.010″ per foot. Length tolerance is ±1/4″.

Wall Thick.	OD	ID	Wall Thick. Tolerance		1 ft.	3 ft.	6 ft.
0.113″	1.050″	0.824″	±0.014″	4481T17	$29.98	$74.94	$124.90
0.133″	1.315″	1.049″	±0.017″	4481T11	35.08	87.69	146.15
0.140″	1.660″	1.380″	±0.018″	4481T12	42.11	105.28	175.46
0.145″	1.900″	1.610″	±0.018″	4481T13	43.82	109.55	182.59
0.154″	2.375″	2.067″	±0.019″	4481T14	51.43	128.57	214.29
0.179″	1.315″	0.957″	±0.022″	4481T18	43.29	108.22	180.36
0.191″	1.660″	1.278″	±0.024″	4481T19	53.42	133.55	222.59
0.200″	1.900″	1.500″	±0.025″	4481T21	$59.59	$148.98	$248.30
0.203″	2.875″	2.469″	±0.025″	4481T15	75.00	187.50	312.50
0.216″	3.500″	3.068″	±0.027″	4481T16	93.50	233.75	389.58
0.218″	2.375″	1.939″	±0.027″	4481T22	67.59	168.98	281.64
0.276″	2.875″	2.323″	±0.034″	4481T23	97.06	242.65	404.42
0.300″	3.500″	2.900″	±0.037″	4481T24	113.90	284.75	474.58

Easy-to-Weld Highly Corrosion-Resistant 5052 Aluminum

When a combination of weldability and resistance to salt water is required, Alloy 5052 stands up to the challenge. It is commonly used for the bodies of boats, buses, trucks, and trailers, as well as for chemical drums. It is nonmagnetic and not heat treatable. Temperature range is –300° to 300° F.

Tubes—Unpolished



- Yield Strength: 10,000 psi
- Hardness: Not rated
- Temper: Softened (O)
- Meet ASTM B210

OD and ID tolerances are ±0.004″. Straightness tolerance for the 1/4″ dia. tubes is 0.500″ per foot; for 3/8″ to 1″ dia. tubes it is 0.010″ per foot. Length tolerance is ±1/4″.

OD	ID		1 ft.	3 ft.	6 ft.
0.035″ Wall Thick. (±0.002″)					
1/4″	0.180″	9898T11	$18.84	$45.23	$75.38
3/8″	0.305″	9898T12	20.00	48.00	80.00
3/4″	0.680″	9898T14	22.16	53.18	88.64
1″	0.930″	9898T15	23.37	56.09	93.49
0.049″ Wall Thick. (±0.003″)					
1/4″	0.152″	9898T21	20.43	49.02	81.70
3/8″	0.277″	9898T22	24.11	57.87	96.45
0.049″ Wall Thick. (±0.003″) (Cont.)					
1/2″	0.402″	9898T23	$24.65	$59.17	$98.61
3/4″	0.652″	9898T24	25.41	60.97	101.62
1″	0.902″	9898T25	26.34	63.22	105.36
0.065″ Wall Thick. (±0.004″)					
1/2″	0.370″	9898T31	30.76	73.83	123.05
5/8″	0.495″	9898T32	34.09	81.82	136.37
1″	0.870″	9898T33	38.26	91.83	153.05

Foil—Unpolished



- Yield Strength: 47,100 psi
- Hardness: Soft (88 Brinell)
- Temper: Hardened (H19)

Width tolerance is ±0.010″. Thickness tolerance is ±0.0002″. Length has a plus tolerance.

Wd.		25 ft.
0.002″ Thick.		
2″	1180N11	$38.08
0.002″ Thick. (Cont.)		
6″	1180N14	$99.81
0.002″ Thick. (Cont.)		
12″	1180N17	$192.66

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Easy-to-Weld Highly Corrosion-Resistant 5052 Aluminum

(Material continued from previous page)

When a combination of weldability and resistance to salt water is required, Alloy 5052 stands up to the challenge. It is commonly used for the bodies of boats, buses, trucks, and trailers, as well as for chemical drums. It is nonmagnetic and not heat treatable. Temperature range is –300° to 300° F.

Rectangular Bars with Material Certification—Unpolished



- Yield Strength: 28,000 psi
- Hardness: Soft (60 Brinell)
- Temper: ¼ hard (H32)
- Meet ASTM B209

Each comes with a traceable lot number and physical test report. Width and length tolerances are ±1/16″.

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″ Thick (±0.007″)						
½″	9135K8	$8.38	$10.13	$15.36	$19.56	$34.92
¾″	9135K9	9.01	10.89	16.52	21.03	37.55
1″	9135K11	9.59	9.99	17.58	22.37	39.95
1¼″	9135K7	10.70	12.93	19.62	24.96	44.58
1½″	9135K12	12.06	12.56	22.11	28.14	50.25
2″	9135K13	11.78	14.72	25.92	32.98	58.90
2½″	9135K14	12.81	16.02	28.19	35.88	64.07
3″	9135K15	14.02	17.52	30.84	39.25	70.09
4″	9135K16	16.47	20.58	36.23	46.10	82.33
3/16″ Thick (±0.010″)						
1″	9135K21	10.94	15.86	24.07	30.63	54.70
1½″	9135K22	13.80	17.25	30.37	38.65	69.02
2″	9135K23	16.18	20.22	35.59	45.29	80.88

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/16″ Thick (±0.010″) (Cont.)						
2½″	9135K24	$18.14	$22.67	$39.90	$50.79	$90.69
3″	9135K25	21.19	26.49	46.63	59.34	105.97
4″	9135K26	25.21	31.51	55.46	70.59	126.05
1/4″ Thick (±0.015″)						
½″	9135K27	13.46	16.82	29.61	37.68	67.29
¾″	9135K28	14.43	18.03	31.74	40.39	72.13
1″	9135K31	15.64	17.99	34.41	43.79	78.20
1¼″	9135K29	17.02	21.27	37.44	47.65	85.09
1½″	9135K32	17.98	20.68	39.56	50.35	89.91
2″	9135K33	21.71	24.97	47.77	60.80	108.57
2½″	9135K34	23.75	27.31	52.25	66.50	118.75
3″	9135K35	25.20	28.98	55.45	70.57	126.02
4″	9135K36	28.13	32.35	61.89	78.77	140.66

Sheets—Unpolished

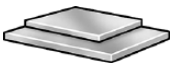

- Yield Strength: 23,000 psi
- Hardness: Soft (60 Brinell)
- Temper: ¼ hard (H32)
- Meet ASTM B209

Width and length tolerances are ±1/8″.

Thick.	Thick. Tolerance		2″×24″	4″×24″	6″×6″	6″×12″	6″×24″	12″×12″	12″×24″	24″×24″	24″×48″	48″×48″
0.032″	±0.003″	88895K102	$3.01	$4.52	$2.71	$4.22	$5.49	$5.43	$9.04	$16.28	$31.95	$60.29
0.040″	±0.004″	88895K103	3.87	5.80	3.48	5.42	7.04	6.96	11.61	20.89	41.01	77.38
0.050″	±0.004″	88895K104	4.52	6.78	4.07	6.33	8.23	8.14	13.57	24.42	47.94	90.45
0.062″	±0.004″	88895K101	5.49	8.24	4.94	7.69	11.09	10.98	18.67	32.95	58.22	109.84
0.080″	±0.005″	88895K105	6.42	9.63	5.78	8.99	12.97	12.85	21.84	38.54	68.08	128.46
0.090″	±0.005″	88895K107	7.30	10.95	6.57	10.22	14.75	14.60	24.82	43.81	77.39	146.02
0.100″	±0.005″	88895K108	7.93	11.89	7.14	11.10	16.02	15.86	26.96	47.57	84.04	158.57
0.125″	±0.006″	88895K106	8.27	12.41	7.45	11.58	16.71	16.55	28.13	49.65	87.71	165.49
0.190″	±0.011″	88895K109	22.29	27.87	19.51	25.08	33.44	33.72	47.37	83.60	147.69	278.66
0.250″	±0.015″	88895K111	27.82	34.77	24.34	31.29	38.59	38.25	59.11	104.31	184.28	347.69
0.375″	±0.020″	88895K112	27.21	39.58	24.74	32.16	49.98	49.48	84.12	148.44	262.25	494.81
0.500″	±0.027″	88895K113	33.53	48.77	30.48	39.63	61.58	60.97	103.64	182.90	323.12	609.66

Sheets—Brushed and Mirror-Like Finishes



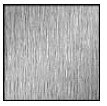

Brushed

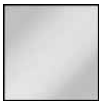

Mirror-Like

- Yield Strength: 20,000 psi
- Hardness: Soft (60 Brinell)
- Temper: ¼ Hard (H32)
- Meet ASTM B209

One side is polished and covered with a protective peel-off film. Width and length tolerances are ±1/16″. Flatness tolerance is 0.375″.

Brushed sheets have grain lines running in one direction. **Mirror-like** sheets have no grain lines.

Finish selector pack includes one 1¾″×3″×0.032″ thick piece each of unpolished, brushed, and mirror-like finishes.

Thick.	Thick. Tolerance		2″×24″	4″×24″	6″×6″	6″×12″	6″×24″	12″×12″	12″×24″	24″×24″
Brushed										
0.032″	±0.003″	8199K101	$11.01	$12.98	$9.83	$11.80	$14.55	$14.55	$20.84	$39.33
0.040″	±0.004″	8199K102	12.40	14.62	11.07	13.29	16.39	16.39	23.47	44.29
0.050″	±0.004″	8199K109	13.11	17.10	11.40	15.39	17.67	17.67	30.21	57.00
0.063″	±0.004″	8199K103	14.26	18.60	12.40	16.74	19.22	19.22	32.86	62.00
0.080″	±0.005″	8199K104	15.51	20.23	13.49	18.21	20.90	20.90	35.74	67.43
0.090″	±0.006″	8199K111	16.53	21.56	14.37	19.40	22.28	22.28	38.09	71.86
0.100″	±0.006″	8199K105	17.22	22.46	14.97	20.21	23.21	23.21	39.68	74.86
0.125″	±0.006″	8199K106	21.16	27.60	18.40	24.84	28.52	28.52	48.76	92.00
0.190″	±0.009″	8199K107	27.70	36.13	24.09	32.52	37.34	37.34	63.84	120.45
0.250″	±0.014″	8199K108	34.67	45.23	30.15	40.71	46.74	46.74	79.90	150.76
Mirror-Like										
0.032″	±0.003″	8202K101	13.24	15.61	11.82	14.19	17.50	17.50	25.06	47.29
0.040″	±0.004″	8202K102	15.73	18.54	14.05	16.86	20.79	20.79	29.78	56.19
0.050″	±0.004″	8202K109	16.66	21.73	14.49	19.56	22.45	22.45	38.39	72.43
0.063″	±0.004″	8202K103	17.55	22.89	15.26	20.60	23.65	23.65	40.43	76.29
0.080″	±0.005″	8202K104	18.79	24.51	16.34	22.06	25.33	25.33	43.31	81.71
0.090″	±0.005″	8202K111	19.85	25.89	17.26	23.30	26.75	26.75	45.73	86.29
0.100″	±0.006″	8202K105	20.50	26.74	17.83	24.07	27.63	27.63	47.24	89.14
0.125″	±0.006″	8202K106	24.04	31.35	20.90	28.22	32.40	32.40	55.39	104.50
0.190″	±0.009″	8202K107	31.19	40.68	27.12	36.61	42.04	42.04	71.87	135.61
0.250″	±0.014″	8202K108	41.64	54.32	36.21	48.89	56.13	56.13	95.96	181.06
Finish Selector Pack									1115T11	18.94

Yield strength is approximate and may vary based on size and shape.

For information about aluminum alloys, see pages 3698-3699.

Strengthened Highly Corrosion-Resistant 5083 Aluminum

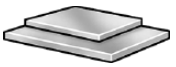

- Yield Strength: 28,000 psi
- Hardness: Not rated
- Temper: 1/8 hard (H116)
- Meet ASTM B209 or B928

When it comes to marine applications, corrosion-resistant Alloy 5083 is the strongest aluminum we offer. It is often used around salt water and in drilling rigs and communication towers. Sheets are unpolished, nonmagnetic, and not heat treatable. Temperature range is not rated. Width and length tolerances are ±1/4".

Thick.	Thick. Tolerance		2"x24"	2"x48"	4"x24"	6"x6"	6"x12"	6"x24"	6"x48"	12"x12"	12"x24"	24"x24"
1/8"	±0.007"	4058T71	$15.45	$24.38	$24.27	$14.34	$20.96	$35.42	$61.90	$35.31	$61.78	$110.33
3/16"	±0.009"	4058T72	21.51	33.96	33.80	19.97	29.19	49.32	86.20	49.17	86.04	153.65
1/4"	±0.014"	4058T73	35.80	56.51	56.26	33.24	48.58	76.97	143.45	76.71	143.20	255.71
3/8"	±0.017"	4058T74	36.71	57.95	57.69	34.09	49.82	78.93	147.11	78.67	146.84	262.22
1/2"	±0.023"	4058T75	38.36	60.55	60.28	35.62	52.06	82.47	153.71	82.20	153.44	274.00
3/4"	±0.031"	4058T76	53.85	85.00	84.62	50.00	73.08	115.77	215.77	115.39	215.39	384.62
1"	±0.039"	4058T77	64.29	101.49	101.03	59.70	87.25	138.23	257.63	137.77	257.17	459.23

Highly Conductive Corrosion-Resistant 6101 Aluminum



- Yield Strength: 28,000 psi
- Hardness: Soft (71 Brinell)
- Temper: Heat Treated (T61)
- Meet ASTM B317

An economical alternative to copper, Alloy 6101 is often used in electrical applications, such as bus bars in switchboards and battery banks. These bars are unpolished and have rounded edges. Maximum temperature is 300°F; minimum temperature is not rated. Width tolerance for 3/4" to 3" wide bars is ±0.024"; for 4" to 6" wide bars it is ±0.044". Flatness tolerance is 0.004" per inch. Length tolerance is ±1/2".

Wd.		1 ft.	3 ft.	6 ft.
1/8" Thick (±0.007")				
3/4"	9397T11	$5.92	$15.60	$26.89
1/4" Thick (±0.008")				
3/4"	9397T12	11.20	29.53	50.92
1"	9397T13	14.43	38.05	65.61
1 1/2"	9397T14	18.60	49.04	84.55
2"	9397T15	22.72	59.91	103.29
2 1/2"	9397T16	23.96	63.17	108.92
3"	9397T17	26.08	68.76	118.55
4"	9397T18	27.64	72.86	125.62
5"	9397T19	31.35	82.66	142.51
6"	9397T21	35.89	94.61	163.12

Wd.		1 ft.	3 ft.	6 ft.
3/8" Thick (±0.008")				
1 1/2"	9397T22	$20.97	$55.30	$95.34
2"	9397T23	26.59	70.09	120.85
3"	9397T24	28.96	76.36	131.65
4"	9397T25	32.83	86.55	149.23
5"	9397T26	35.65	93.99	162.05
1/2" Thick (±0.009")				
2"	9397T27	29.09	76.70	132.24
3"	9397T28	35.89	94.61	163.12
4"	9397T29	39.17	103.26	178.03
5"	9397T31	42.29	111.48	192.21
6"	9397T32	44.65	117.71	202.95

Ultra-Corrosion-Resistant 1100 Aluminum

With 99% aluminum content, Alloy 1100 offers superior corrosion resistance, weldability, formability, and conductivity. Use it for sheet metal work where strength and hardness are not required, such as heat exchangers, chemical equipment, and decorative trim. It is nonmagnetic and not heat treatable. Temperature range is –20° to 200°F.

Foil

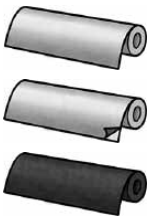

- Yield Strength:
  Softened: 2,500 psi;
  Hardened: 20,000 psi
- Hardness:
  Softened: 23 Brinell;
  Hardened: 45 Brinell
- Temper:
  Softened (O);
  Hardened (H19)

General purpose foil varies between Alloys 1100, 1145, and 1235. Use it for a wrap, cover, mask, or patch. It has a thickness tolerance of ±10%, a width tolerance of ±1/16", and a length tolerance of +5 ft.

Adhesive-back foil varies between Alloys 1100, 1145, and 1235; the adhesive is acrylic. Use it for a wrap, cover, mask, or patch. It has a thickness tolerance of ±10%, a width tolerance of ±1/16", and a length tolerance of –1 ft., +5 ft.

Black foil is Alloy 1100. The black color soaks up light and eliminates reflections. Use it for a wrap, cover, mask, or patch. It has a thickness tolerance of ±10%, a width tolerance of ±1/16", and a length tolerance of ±1 ft.

Hardened foil varies between Alloys 1100, 1145, and 1235. Use it as EMI/RFI shielding of electronics. It has a thickness tolerance of ±10%, a width tolerance of ±1/8", and a length tolerance of +5 ft.

Thick.	Wd.	Lg., ft.		
General Purpose—Softened				
0.0007"	12"	500	9060K51	$44.60
0.0007"	12"	1,000	9060K19	72.65
0.0007"	18"	500	9060K52	64.46
0.0007"	18"	1,000	9060K23	107.44
0.0010"	6"	100	9060K61	12.93
0.0010"	12"	100	9060K62	17.27
0.0010"	12"	250	9060K53	30.60
0.0010"	12"	500	9060K12	50.24
0.0010"	18"	100	9060K63	23.36
0.0010"	18"	250	9060K54	43.25
0.0010"	18"	500	9060K17	72.65
0.0010"	18"	1,000	9060K24	118.61
0.0015"	6"	250	9060K56	42.03
0.0015"	6"	500	9060K21	66.00
0.0015"	8"	250	9060K57	53.43
0.0015"	8"	500	9060K22	84.82
0.0020"	6"	100	9060K64	21.31
0.0020"	12"	100	9060K65	32.13
0.0020"	12"	250	9060K66	68.75
0.0020"	18"	100	9060K67	44.38
0.0020"	18"	250	9060K18	84.34

Thick.	Wd.	Lg., ft.		
General Purpose—Softened (Cont.)				
0.0020"	18"	500	9060K59	$140.07
0.0030"	12"	50	9060K72	31.11
0.0030"	36"	50	9060K73	78.85
0.0030"	36"	100	9060K14	134.88
0.0030"	48"	50	9060K74	101.67
0.0030"	48"	100	9060K15	174.50
0.0050"	6"	50	9060K75	25.00
0.0050"	12"	50	9060K76	45.26
0.0050"	24"	50	9060K77	84.41
0.0050"	36"	50	9060K78	122.23
0.0050"	36"	100	9060K16	212.75
0.0050"	48"	50	9060K79	161.47
0.0050"	48"	100	9060K27	280.84
0.0100"	6"	50	9060K68	42.39
0.0100"	12"	50	9060K69	64.77
0.0100"	24"	50	9060K71	109.40
Adhesive Back—Softened				
0.0015"	6"	180	8941K24	143.59
0.0015"	18"	50	8941K27	182.25
0.0015"	18"	180	8941K26	594.05

Thick.	Wd.	Lg., ft.		
Adhesive Back—Softened (Cont.)				
0.0020"	6"	100	8941K25	$107.31
0.0040"	6"	180	8941K28	212.01
0.0040"	18"	180	8941K31	495.74
Black—Softened				
0.0020"	12"	10	7073T24	19.22
0.0020"	24"	10	7073T26	34.69
Hardened				
0.0010"	6"	50	9012K11	24.36
0.0010"	6"	100	9012K13	40.14
0.0010"	18"	50	9012K15	61.08
0.0010"	18"	100	9012K17	99.74
0.0020"	6"	50	9012K19	23.84
0.0020"	6"	100	9012K21	39.97
0.0020"	18"	50	9012K23	59.27
0.0020"	18"	100	9012K25	98.76
0.0030"	2"	25	9012K26	9.30
0.0030"	6"	50	9012K27	23.34
0.0030"	6"	100	9012K29	38.53
0.0030"	18"	50	9012K31	62.47
0.0030"	18"	100	9012K33	98.98



Thick.	Wd.	Lg.	Pkg. Qty.		Pkg.
General Purpose—Softened					
0.0005"	9"	10 3/4"	500	9060K34	$18.21

Thick.	Wd.	Lg.	Pkg. Qty.		Pkg.
General Purpose—Softened (Cont.)					
0.0007"	12"	10 3/4"	500	9060K35	$30.57

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Ultra-Corrosion-Resistant 1100 Aluminum *(Material continued from previous page)*

With 99% aluminum content, Alloy 1100 offers superior corrosion resistance, weldability, formability, and conductivity. Use it for sheet metal work where strength and hardness are not required, such as heat exchangers, chemical equipment, and decorative trim. It is nonmagnetic and not heat treatable. Temperature range is –200° to 300° F.

Rectangular Bars—Unpolished



- Yield Strength: 15,000 psi
- Hardness: Soft (28 Brinell)
- Temper: ½ hard (H14)
- Meet ASTM B209

Width tolerance is ±1/16″. Length tolerance is ±1/4″.

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″ Thick (±0.006″)						
1″	2474T11	$1.71	$2.02	$3.65	$4.50	$7.76
1½″	2474T12	1.78	2.80	5.98	7.38	12.73
2″	2474T13	2.37	3.72	7.95	9.81	16.91
3″	2474T14	3.55	5.58	11.92	14.71	25.37
4″	2474T15	4.85	7.61	16.27	20.07	34.61
1/4″ Thick (±0.014″)						
1″	2474T16	2.19	3.45	7.36	9.09	15.67
1½″	2474T17	3.28	5.16	11.02	13.60	23.45
2″	2474T18	4.38	6.89	14.72	18.17	31.32

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/4″ Thick (±0.014″) (Cont.)						
3″	2474T19	$6.20	$9.75	$20.83	$25.70	$44.31
4″	2474T21	8.04	12.64	27.00	33.32	57.44
3/8″ Thick (±0.02″)						
1″	2474T51	23.70	37.24	79.57	98.19	169.29
1½″	2474T23	25.79	40.53	86.59	106.86	184.24
2″	2474T52	30.87	48.51	103.63	127.89	220.50
3″	2474T53	38.37	60.29	128.81	158.95	274.06
4″	2474T54	43.64	68.57	146.50	180.79	311.70

Sheets—Unpolished

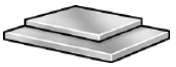

- Yield Strength: 15,000 psi
- Hardness: Soft (32 Brinell)
- Temper: ½ hard (H14)
- Meet ASTM B209

Width and length tolerances are ±1/4″.

Thick.	Thick. Tolerance		6″×6″	6″×12″	6″×24″	12″×12″	12″×24″	24″×24″	24″×36″	24″×48″	48″×48″	48″×96″
0.032″	±0.004″	88685K91	$2.91	$4.66	$5.94	$5.82	$9.90	$18.63	$26.79	$33.77	$61.72	$116.46
0.050″	±0.005″	88685K92	3.28	5.25	6.69	6.56	11.15	20.98	30.16	38.03	69.51	131.15
0.063″	±0.005″	88685K93	3.65	6.39	9.32	9.13	15.53	29.23	42.02	52.98	96.83	182.69
0.090″	±0.006″	88685K94	4.64	8.11	11.82	11.59	19.71	37.09	53.32	67.23	122.88	231.84
0.125″	±0.007″	88685K95	6.58	11.52	16.78	16.45	27.97	52.65	75.68	95.43	174.40	329.06
0.190″	±0.011″	88685K96	9.57	16.74	24.40	23.92	40.66	76.54	110.03	138.74	253.55	478.40
0.250″	±0.016″	88685K97	12.14	21.24	30.95	30.35	51.59	97.11	139.60	176.02	309.54	606.95
0.375″	±0.023″	88685K99	26.07	48.13	86.23	84.22	160.43	280.74	401.06	521.38	1,022.71	2,005.32

Soft Sheets—Unpolished



- Yield Strength: 5,000 psi
- Hardness: Soft (23 Brinell)
- Temper: Softened (O)
- Meet ASTM B209

These pliable sheets are annealed to the softest state possible, which is sometimes called “dead soft.” Width and length tolerances are ±1/16″.

Thick.	Thick. Tolerance		2″×24″	4″×24″	6″×6″	6″×12″	6″×24″	12″×12″	12″×24″	24″×24″	24″×48″	48″×48″
0.020″	±0.002″	2471T92	$4.83	$7.08	$4.51	$6.44	$8.40	$8.37	$12.88	$18.68	$32.20	_____
0.032″	±0.002″	2471T93	5.07	8.87	4.65	7.60	9.33	9.29	16.05	23.65	42.23	_____
0.040″	±0.004″	2471T94	5.46	9.92	4.96	7.94	10.96	10.91	17.86	27.28	49.60	_____
0.050″	±0.004″	2471T95	5.85	10.54	5.27	8.20	11.77	11.71	19.90	31.03	58.54	_____
0.063″	±0.004″	2471T86	5.46	9.82	4.91	7.64	11.02	10.92	18.56	31.65	57.85	$109.15
0.080″	±0.005″	2471T87	7.03	12.64	5.62	9.84	14.19	14.05	23.89	40.74	74.47	140.50
0.090″	±0.005″	2471T89	7.89	14.21	6.32	11.05	15.95	15.79	26.84	45.79	83.68	157.88
0.125″	±0.006″	2471T91	11.39	20.50	9.11	15.94	23.00	22.78	38.72	66.05	120.71	227.75

Very Easy-to-Machine 2011 Aluminum

Alloy 2011 has the best machinability of all aluminum alloys. It is the most widely selected aluminum for screws, tube fittings, hose parts, and other items that require extensive machining. It is nonmagnetic and heat treatable. Maximum temperature is 212° F; minimum temperature is not rated.

Rods—Unpolished



- Yield Strength: 18,000 psi
- Hardness: Soft (115 Brinell)
- Temper: Heat Treated (T3)
- Meet ASTM B211

Length tolerance for the ½-ft. rods is ±1/8″; for the 1-ft. to 6-ft. rods it is ±1″.

Dia.	Dia. Tolerance		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/4″	±0.002″	88615K11	$0.91	$1.43	$3.05	$3.76	$6.48
3/8″	±0.002″	88615K12	1.79	2.82	6.02	7.42	12.80
1/2″	±0.002″	88615K13	2.44	3.83	8.18	10.09	17.40
5/8″	±0.002″	88615K31	3.69	5.80	12.39	15.29	26.36
3/4″	±0.002″	88615K33	4.10	6.44	13.76	16.98	29.27
7/8″	±0.002″	88615K42	5.17	8.12	17.36	21.42	36.93
1″	±0.002″	88615K43	6.19	9.73	20.79	25.65	44.23
1 1/8″	±0.003″	88615K45	6.68	10.49	22.41	27.66	47.69
1 1/4″	±0.003″	88615K47	8.21	12.90	27.56	34.01	58.63
1 3/8″	±0.003″	88615K51	9.91	15.57	33.26	41.05	70.77

Dia.	Dia. Tolerance		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1 1/2″	±0.003″	88615K52	$11.76	$18.49	$39.49	$48.74	$84.03
1 5/8″	±0.004″	88615K54	13.78	21.65	46.26	57.09	98.43
1 3/4″	±0.004″	88615K56	13.97	21.95	46.88	57.85	99.75
1 7/8″	±0.004″	88615K23	16.01	25.16	53.76	66.34	114.38
2″	±0.004″	88615K58	18.20	28.60	61.10	75.40	130.00
2 1/4″	±0.006″	88615K61	23.00	36.15	77.22	95.29	164.30
2 1/2″	±0.006″	88615K62	28.37	44.58	95.25	117.54	202.65
2 3/4″	±0.006″	88615K63	34.30	53.90	115.15	142.10	245.00
3″	±0.006″	88615K64	36.26	56.98	121.72	150.21	258.98

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

For information about aluminum alloys, see pages 3698-3699.

Very Easy-to-Machine 2011 Aluminum *(Material continued from previous page)*

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 38,000 psi
- Hardness: Soft (95 Brinell)
- Temper: Heat Treated (T3)
- Meet ASTM B211

Diameter tolerance is –0.0005″. Straightness tolerance is 0.005″ per foot. Length tolerance is ±1/8″.

Dia.		1 ft.	3 ft.	6 ft.
1/8″	1915T11	$4.48	$10.82	$18.66
1/4″	1915T12	5.85	14.14	24.38
3/8″	1915T13	8.25	19.94	34.38
1/2″	1915T14	10.58	25.57	44.09
5/8″	1915T15	$15.24	$36.82	$63.49
3/4″	1915T16	17.88	43.20	74.48
1″	1915T17	25.23	60.97	105.12
1 1/2″	1915T19	46.12	111.46	192.17

Hexagonal Bars—Unpolished

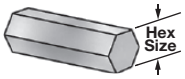

- Yield Strength: 38,000 psi
- Hardness: Soft (115 Brinell)
- Temper: Heat Treated (T3)
- Meet ASTM B211

Hex size tolerance is ±0.003″. Length tolerance is ±1″.

Hex Size		1 ft.	3 ft.	6 ft.
1/4″	88705K71	$1.97	$4.76	$8.20
5/16″	88705K72	2.76	6.68	11.52
3/8″	88705K73	3.67	8.86	15.28
1/2″	88705K74	5.13	12.39	21.36
9/16″	88705K11	6.40	15.47	26.68
5/8″	88705K12	7.61	18.40	31.72
3/4″	88705K13	$10.20	$24.64	$42.48
7/8″	88705K15	13.39	31.06	53.56
1″	88705K16	16.02	37.17	64.08
1 1/8″	88705K17	20.18	46.82	80.72
1 1/4″	88705K51	24.82	57.58	99.28

Strengthened Easy-to-Machine 2017 Aluminum



- Yield Strength: Not rated
- Hardness: Not rated
- Temper: Heat Treated (T4)

As a stronger alternative to Alloy 2011, use this Alloy 2017 for items that require extensive machining such as fittings. Balls have a reflective finish and are weldable and heat treatable. They are nonmagnetic. Diameter tolerance is ±0.001″. Temperature range is not rated.

Dia.	Pkg. Qty.		Pkg.
1/32″	100	34665K21	$11.20
5/64″	100	34665K25	11.20
3/32″	100	34665K27	$12.00
1/8″	100	34665K29	13.19

High-Strength Corrosion-Resistant Coated 2014 Aluminum

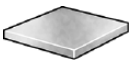

- Yield Strength: 57,000 psi
- Hardness: Soft (135 Brinell)
- Temper: Heat Treated (T6)
- Meet ASTM B209

Both sides of these Alloy 2014 sheets are clad in a thin layer of Alloy 6063 aluminum for increased corrosion resistance. Use them as an economical alternative to high-strength Alloy 2024 for applications such as heavy duty forgings, fittings, and tanks. These sheets are unpolished. Width and length tolerances are ±3/32″. Temperature range is –320° to 212°F.

Thick.	Thick. Tolerance		12″×12″
0.032″	±0.002″	1204N11	$36.69
0.050″	±0.002″	1204N12	44.00
0.080″	±0.003″	1204N13	$53.68
0.125″	±0.004″	1204N14	71.69

High-Strength Marine-Grade 5456 Aluminum

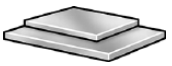

- Yield Strength: 33,000 psi
- Hardness: Soft (90 Brinell)
- Temper: Hardened (H116)
- Meet ASTM B928

Offering excellent weldability, Alloy 5456 is often used for pressure vessels and storage tanks in salt-water environments. These sheets are unpolished, nonmagnetic, and not heat treatable. Width and length tolerances are ±0.250″. Temperature range is not rated.

Thick.	Thick. Tolerance	12″×12″		24″×24″	
1/8″	±0.006″	1306N11	$27.23	1306N21	$90.00
3/16″	±0.011″	1306N12	33.29	1306N22	110.00
1/4″	±0.014″	1306N13	40.48	1306N23	133.78
3/8″	±0.017″	1306N14	$58.17	1306N24	$192.22
1/2″	±0.023″	1306N15	70.20	1306N25	232.00
3/4″	±0.031″	1306N16	89.74	1306N26	296.55

Corrosion-Resistant Easy-to-Machine 6020 Aluminum



- Yield Strength: 39,000 psi
- Hardness: Soft (100 Brinell)
- Temper: Heat Treated (T8, except 7/8″, 1 3/8″, and 1 1/2″ dia. rods are T9)

Compared to other easy-to-machine aluminum, Alloy 6020 offers the best corrosion resistance. Use it for screw machine products, valves, and hydraulic parts. This material has an excellent surface finish and responds well to anodizing. These rods are unpolished, nonmagnetic, and heat treatable. Length tolerance is ±1″. Temperature range is not rated.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
3/8″	±0.002″	9038K24	$4.80	$12.67	$21.84
3/4″	±0.002″	9038K32	15.38	40.54	69.89
7/8″	±0.002″	9038K33	20.76	54.74	94.38
1″	±0.002″	9038K34	24.28	64.00	110.35
1 1/4″	±0.003″	9038K18	37.01	97.57	168.23
1 3/8″	±0.003″	9038K19	$44.69	$117.83	$203.15
1 1/2″	±0.003″	9038K21	53.43	140.86	242.87
1 3/4″	±0.004″	9038K22	66.67	175.77	303.06
2″	±0.004″	9038K23	83.61	220.42	380.04

Yield strength is approximate and may vary based on size and shape.

About Steel

Carbon steel is an economical choice for machining and structural applications, and it can be surface hardened.

Alloy steel has greater strength and hardness than carbon steel, making it useful for high-stress applications. Heat treating can further enhance strength and hardness.

Tool steel is used to make cutting tools, and it can be heat treated for extreme hardness.

● Excellent
◓ Good
○ Poor

Use the charts below to identify the best steel for your application. Circles indicate that a majority of a material's shapes and sizes meet the applicable rating. Information is intended for comparison only and is not guaranteed.

Carbon Steel

	Min. Yield Strength, psi	*Hardness (Rockwell)*		Machin-ability	Weld-ability	Impact Resistance	Wear Resistance	Form-ability	Pages
		Unhardened	Hardened						
Gen. Purpose Low Carbon	30,000	B50	C60	◓	●	____	____	____	3729-3737
High Strength 1045	65,000	B86	C62	◓	◓	____	____	○	3738
Shaft Quality 1060	50,000	____	C60	____	____	◓	◓	○	3738
High Strength 1144	100,000	C23	____	◓	○	○	◓	○	3739
Easy-to-Machine 1117	58,000	B75	B89	●	○	____	____	____	3741
Very Easy-to-Machine 1215	60,000	B85	____	●	○	____	____	○	3739
Ultra Machinable 12L14	60,000	B82	C65	●	○	○	○	○	3740-3741
Abrasion Resistant AR400	140,000	____	C38	◓	●	●	●	◓	3741
Impact Resistant A516	38,000	B78	____	◓	◓	◓	____	____	3741
Spring Steel	50,000	B88	C66	○	◓	●	●	○	3742-3743
Cast Iron	55,000	C20	C60	●	____	____	◓	____	3744-3745

Alloy Steel

	Min. Yield Strength, psi	*Hardness (Rockwell)*		Machin-ability	Weld-ability	Impact Resistance	Wear Resistance	Form-ability	Pages
		Unhardened	Hardened						
Multipurpose 4140/4142	60,000	B90	C60	◓	◓	◓	◓	◓	3746-3750
Easy-to-Machine 41L40	85,000	B96	C34	●	____	◓	◓	◓	3745
Wear Resistant 4150	48,000	B90	C63	◓	◓	____	◓	____	3745
High Strength A514	100,000	____	C27	◓	◓	◓	○	◓	3745
Very High Strength 300M	230,000	C23	C54	○	◓	◓	◓	◓	3751
Impact Resistant 4340	68,500	C27	C40	◓	◓	◓	◓	____	3750
Ultra Impact Resistant C300	110,000	C30	C55	○	◓	●	○	◓	3751
Easy-to-Weld 4130	50,000	B85	C60	◓	●	____	____	●	3751-3753
Easy-to-Weld 8620	55,000	B85	C60	◓	●	◓	○	●	3753
Bearing Quality E52100	62,000	C24	C60	○	○	◓	◓	○	3754

Tool Steel

	Min. Yield Strength, psi	*Hardness (Rockwell)*		Machin-ability	Weld-ability	Impact Resistance	Wear Resistance	Form-ability	Pages
		Unhardened	Hardened						
Multipurpose O1	50,000	B85	C65	◓	◓	◓	◓	●	3756-3758
Ultra Machinable W1	50,000	B88	C65	●	◓	◓	◓	●	3755
Wear Resistant A2	51,000	B88	C65	◓	◓	◓	◓	○	3759-3762
Ultra Wear Resistant D2	50,000	B90	C62	○	○	○	●	○	3762-3763
High Temperature H13	52,000	B94	C53	◓	◓	●	◓	○	3762
Shock Resistant S7	50,000	B90	C61	◓	◓	●	◓	◓	3764
Easy-to-Machine P20	101,000	____	C26	◓	____	◓	◓	____	3765
High Speed M2	60,000	B97	C66	○	○	○	●	○	3765-3767
Ultra Wear Resistant M4	60,000	B97	C65	○	____	○	●	____	3768
Ultra-Hard Tungsten Carbide	319,000	____	C79	◓	____	◓	●	○	3768-3769

Hardness

As hardness increases, metals become more wear resistant but they may be less malleable. The chart below shows hardness on different scales.

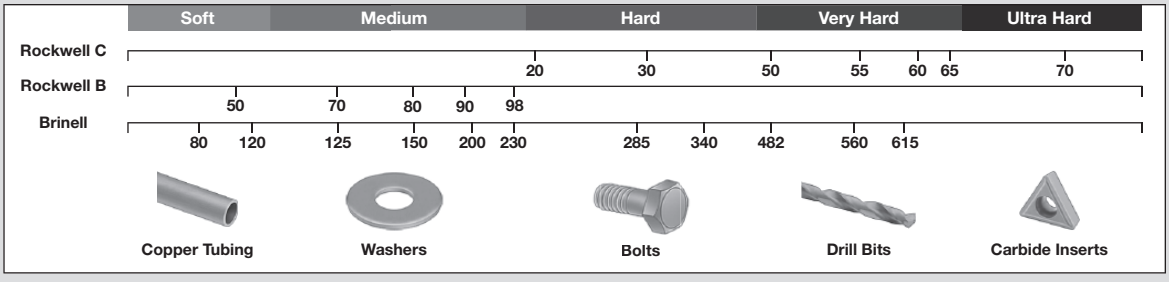

General Purpose Low-Carbon Steel

One of the most widely used types of steel, low-carbon steel is weldable, machinable, and can be surface hardened by heat treating. It is suitable for a variety of applications, such as structural and power transmission components.

Rectangular Bars—Unpolished (Cold Drawn)



- Yield Strength: 54,000 psi
- Hardness: Medium (Rockwell B70)
- Can be surface hardened to Rockwell C60
- Meet ASTM A108

Material is 1018 carbon steel. Thickness and width tolerances are –0.006″ for 1/8″ to 4″ wide bars; they are –0.010″ for 4 1/2″ to 6″ wide bars; and they are –0.013″ for bars 7″ and wider. Length tolerance is ±1/8″ for 1/2-ft. lengths, ±1″ for 1-ft. lengths, ±2″ for 2-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″ Thick						
1/8″	9143K261	___	_____	$0.91	$1.18	$2.03
1/4″	8910K389	___	_____	1.45	1.87	3.22
3/8″	8910K391	___	$1.18	2.12	2.74	4.72
1/2″	8910K392	___	1.37	2.46	3.17	5.47
5/8″	8910K393	$0.96	1.66	2.98	3.84	6.62
3/4″	8910K394	1.16	2.00	3.60	4.64	8.00
1″	8910K395	1.44	2.49	4.48	5.77	9.95
1 1/8″	8910K396	1.66	2.87	5.16	6.65	11.47
1 1/4″	8910K397	1.71	2.96	5.32	6.86	11.82
1 1/2″	8910K398	1.72	2.97	5.35	6.90	11.89
2″	8910K399	2.17	3.75	6.75	8.70	15.00
2 1/2″	8910K401	2.72	4.69	8.44	10.88	18.76
3/16″ Thick						
3/16″	9143K12	___	1.37	2.47	3.18	5.48
1/2″	8910K261	1.09	1.88	3.39	4.37	7.54
5/8″	8910K262	1.33	2.29	4.12	5.31	9.16
3/4″	8910K263	1.61	2.78	5.01	6.46	11.13
1″	8910K264	2.06	3.55	6.39	8.24	14.20
1 1/4″	8910K265	2.46	4.25	7.64	9.85	16.98
1 1/2″	8910K266	2.50	4.30	7.74	9.98	17.21
1 3/4″	8910K531	2.55	4.40	7.92	10.21	17.60
2″	8910K533	2.91	5.03	9.05	11.66	20.10
2 1/4″	8910K535	3.20	5.52	9.94	12.81	22.09
2 1/2″	8910K538	3.56	6.14	11.05	14.24	24.56
3″	8910K542	4.18	7.20	12.96	16.70	28.80
4″	8910K545	5.57	9.60	17.28	22.27	38.39
1/4″ Thick						
1/4″	9143K13	___	1.57	2.83	3.64	6.28
3/8″	8910K267	1.19	2.05	3.69	4.76	8.21
1/2″	8910K268	1.43	2.46	4.43	5.71	9.85
5/8″	8910K269	1.74	3.00	5.40	6.96	12.00
3/4″	8910K381	1.99	3.44	6.18	7.97	13.74
7/8″	8910K382	2.32	4.00	7.21	9.29	16.02
1″	8910K383	2.75	4.75	8.54	11.01	18.98
1 1/4″	8910K548	3.37	5.82	10.47	13.50	23.27
1 3/8″	8910K551	3.71	6.40	11.52	14.84	25.59
1 1/2″	8910K553	4.05	6.98	12.56	16.19	27.91
1 3/4″	8910K555	4.58	7.91	14.23	18.34	31.62
2″	8910K557	5.20	8.97	16.15	20.82	35.89
2 1/4″	8910K561	5.71	9.84	17.71	22.83	39.36
2 1/2″	8910K564	6.49	11.19	20.14	25.96	44.76
2 3/4″	8910K567	7.29	12.56	22.62	29.15	50.26
3″	8910K571	7.58	13.07	23.53	30.32	52.28
3 1/4″	8910K574	8.21	14.15	25.47	32.82	56.59
3 1/2″	8910K577	8.89	15.32	27.58	35.54	61.28
3 3/4″	8910K581	9.28	16.00	28.81	37.13	64.02
4″	8910K584	9.94	17.14	30.85	39.76	68.55
4 1/2″	8910K587	11.83	20.39	36.71	47.32	81.58
5″	8910K591	12.60	21.73	39.11	50.41	86.92
5 1/2″	8910K11	14.88	25.66	46.18	59.52	102.62
6″	8910K12	15.44	26.62	47.92	61.76	106.48
8″	9143K724	20.36	35.10	63.19	81.44	140.42
10″	9143K725	23.68	40.59	72.73	94.71	169.13
5/16″ Thick						
5/16″	9143K14	1.32	2.27	4.09	5.27	9.08
1/2″	8910K384	1.88	3.25	5.85	7.54	13.00
3/4″	8910K385	2.52	4.35	7.83	10.10	17.41
1″	8910K611	3.29	5.67	10.20	13.15	22.67
1 1/4″	8910K613	3.88	6.70	12.06	15.54	26.79
1 1/2″	8910K615	4.56	7.86	14.14	18.22	31.42
1 3/4″	8910K618	6.07	10.47	18.85	24.30	41.89
2″	8910K622	6.79	11.70	21.06	27.14	46.80
2 1/2″	8910K625	7.90	13.62	24.51	31.59	54.46
2 3/4″	8910K628	8.93	15.40	27.73	35.74	61.62
3″	8910K632	8.96	15.44	27.80	35.83	61.77
3 1/2″	8910K635	10.45	18.02	32.43	41.79	72.06
4″	8910K638	12.46	21.49	38.68	49.86	85.96
6″	8910K13	18.70	32.24	58.03	74.80	128.96

Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/8″ Thick						
3/8″	9143K15	$1.67	$2.88	$5.19	$6.69	$11.53
1/2″	8910K386	2.16	3.73	6.70	8.64	14.90
5/8″	8910K387	2.57	4.43	7.98	10.29	17.74
3/4″	8910K388	2.74	4.73	8.52	10.98	18.93
1″	8910K645	3.45	5.95	10.71	13.81	23.81
1 1/8″	9143K726	3.76	6.49	11.68	15.06	25.96
1 1/4″	8910K647	4.25	7.32	13.18	16.99	29.29
1 3/8″	8910K649	4.58	7.89	14.21	18.32	31.58
1 1/2″	8910K653	4.75	8.19	14.75	19.01	32.77
1 3/4″	8910K656	5.49	9.46	17.03	21.95	37.85
2″	8910K659	6.18	10.65	19.17	24.71	42.60
2 1/4″	8910K663	7.57	13.06	23.50	30.29	52.23
2 1/2″	8910K666	8.10	13.97	25.14	32.40	55.87
2 3/4″	8910K669	8.94	15.41	27.74	35.76	61.65
3″	8910K673	9.56	16.49	29.68	38.26	65.96
3 1/2″	8910K676	10.82	18.65	33.57	43.27	74.61
3 3/4″	8910K679	11.42	19.68	35.43	45.67	78.74
4″	8910K683	14.16	24.42	43.95	56.65	97.67
4 1/2″	8910K14	16.28	28.06	50.51	65.10	112.25
5″	8910K15	17.46	30.11	54.20	69.86	120.44
5 1/2″	8910K16	19.31	33.29	59.93	77.24	133.17
6″	8910K17	21.06	36.31	65.37	84.25	145.26
7/16″ Thick						
7/16″	9143K16	1.79	3.08	5.54	7.14	12.31
1/2″ Thick						
1/2″	9143K17	2.72	4.69	8.44	10.88	18.75
5/8″	8910K691	3.70	6.38	11.48	14.80	25.52
3/4″	8910K693	4.15	7.16	12.89	16.61	28.64
7/8″	8910K695	4.57	7.88	14.18	18.28	31.52
1″	8910K698	4.65	8.02	14.44	18.61	32.09
1 1/8″	9143K727	4.80	8.28	14.90	19.20	33.10
1 1/4″	8910K933	5.48	9.44	16.99	21.90	37.76
1 3/8″	8910K936	6.71	11.58	20.84	26.86	46.31
1 1/2″	8910K939	7.01	12.08	21.75	28.03	48.33
1 5/8″	8910K943	7.09	12.22	21.99	28.34	48.87
1 3/4″	8910K946	7.57	13.06	23.51	30.30	52.24
2″	8910K949	7.93	13.67	24.61	31.72	54.69
2 1/4″	8910K953	8.91	15.36	27.64	35.62	61.42
2 1/2″	8910K956	9.89	17.05	30.69	39.56	68.21
2 3/4″	8910K959	10.69	18.42	33.16	42.74	73.69
3″	8910K702	11.69	20.16	36.28	46.77	80.63
3 1/4″	8910K18	14.03	24.18	43.53	56.11	96.74
3 1/2″	8910K19	14.29	24.64	44.36	57.17	98.57
4″	8910K21	14.88	25.65	46.17	59.50	102.59
4 1/2″	8910K22	16.68	28.75	51.76	66.71	115.02
5″	8910K23	18.54	31.96	57.53	74.15	127.85
5 1/2″	8910K4	20.45	35.26	63.47	81.80	141.04
6″	8910K5	21.78	37.55	67.59	87.12	150.20
8″	9143K729	32.34	55.44	99.32	129.35	230.98
5/8″ Thick						
5/8″	9143K18	4.45	6.96	12.52	16.14	27.83
3/4″	8910K715	5.43	9.37	16.86	21.73	37.47
1″	8910K718	5.92	10.20	18.36	23.67	40.81
1 1/8″	8910K722	6.89	11.88	21.39	27.57	47.54
1 1/4″	8910K725	7.47	12.88	23.18	29.87	51.50
1 1/2″	8910K728	8.11	13.99	25.18	32.46	55.96
1 3/4″	8910K732	9.37	16.16	29.09	37.49	64.64
2″	8910K735	10.39	17.91	32.24	41.56	71.65
2 1/4″	8910K738	13.41	23.12	41.62	53.64	92.48
2 1/2″	8910K742	13.66	23.56	42.40	54.65	94.23
2 3/4″	8910K6	15.73	27.12	48.83	62.93	108.50
3″	8910K27	16.48	28.41	51.14	65.91	113.64
3 1/4″	8910K8	17.54	30.24	54.43	70.15	120.95
3 1/2″	8910K9	18.18	31.34	56.41	72.71	125.36
4″	8910K31	18.90	32.59	58.66	75.60	130.35
4 1/2″	8910K32	24.16	41.66	74.99	96.66	166.65
5″	8910K33	25.91	44.67	80.41	103.63	178.68
5 1/2″	8910K34	27.03	46.33	83.01	108.10	193.04
6″	8910K35	27.95	47.92	85.85	111.81	199.66

(Material continued on following page)

Warning! ***Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.***

General Purpose Low-Carbon Steel *(Material continued from previous page)*

One of the most widely used types of steel, low-carbon steel is weldable, machinable, and can be surface hardened by heat treating. It is suitable for a variety of applications, such as structural and power transmission components.

Rectangular Bars (Cont.)—Unpolished (Cold Drawn)



- Yield Strength: 54,000 psi
- Hardness: Medium (Rockwell B70)
- Can be surface hardened to Rockwell C60
- Meet ASTM A108

Material is 1018 carbon steel. Thickness and width tolerances are –0.006″ for 1/8″ to 4″ wide bars; they are –0.010″ for 4 1/2″ to 6″ wide bars; and they are –0.013″ for bars 7″ and wider. Length tolerance is ±1/8″ for 1/2-ft. lengths, ±1″ for 1-ft. lengths, ±2″ for 2-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/4″ Thick						
3/4″	9143K19	$5.63	$9.71	$17.48	$22.53	$38.84
7/8″	8910K755	6.06	10.45	18.81	24.25	41.81
1″	8910K758	7.45	12.85	23.12	29.80	51.38
1 1/8″	8910K762	7.84	13.52	24.34	31.37	54.08
1 1/4″	8910K765	8.22	14.16	25.50	32.86	56.66
1 3/8″	8910K768	8.90	15.35	27.62	35.60	61.38
1 1/2″	8910K772	9.46	16.30	29.35	37.83	65.22
1 5/8″	8910K775	10.25	17.67	31.80	40.99	70.67
1 3/4″	8910K778	11.04	19.03	34.26	44.16	76.13
2″	8910K782	11.59	19.99	35.98	46.38	79.96
2 1/4″	8910K785	12.85	22.15	39.87	51.39	88.60
2 1/2″	8910K788	14.31	24.68	44.42	57.26	98.72
2 3/4″	8910K36	15.51	26.73	48.12	62.03	106.94
3″	8910K37	16.93	29.20	52.55	67.73	116.78
3 1/2″	8910K38	19.17	33.05	59.49	76.68	132.21
4″	8910K39	21.11	36.39	65.51	84.43	145.57
4 1/2″	8910K308	23.26	40.11	72.20	93.06	160.44
5″	8910K41	25.92	44.44	79.62	103.70	185.17
5 1/2″	8910K42	28.39	48.66	87.19	113.55	202.76
6″	8910K43	30.80	52.80	94.59	123.19	219.98
7″	9143K733	39.30	67.38	120.72	157.21	280.74
8″	9143K734	43.80	74.61	133.01	175.18	324.41
10″	9143K735	57.29	97.61	174.00	229.18	424.40
7/8″ Thick						
7/8″	9143K736	7.16	12.35	22.22	28.64	49.38
1″	8910K811	9.18	15.83	28.49	36.72	63.31
1 1/4″	8910K814	10.69	18.43	33.18	42.76	73.73
1 1/2″	8910K817	12.69	21.88	39.39	50.77	87.53
1 3/4″	8910K821	14.67	25.30	45.54	58.70	101.20
2″	8910K44	15.68	27.04	48.68	62.74	108.17
2 1/2″	8910K45	21.10	36.37	65.47	84.38	145.49
3″	8910K46	22.51	38.81	69.87	90.05	155.26
3 1/2″	8910K47	25.64	43.95	78.75	102.55	183.13
4″	8910K48	27.64	47.39	84.91	110.58	197.46
5″	8910K49	35.36	60.62	108.62	141.46	252.60
6″	8910K51	42.42	72.73	130.30	169.70	303.03
1″ Thick						
1″	9143K21	8.46	14.59	26.27	33.85	58.37
1 1/4″	8910K832	11.97	20.63	37.14	47.87	82.53
1 3/8″	8910K835	13.16	22.70	40.86	52.66	90.79
1 1/2″	8910K838	13.94	24.04	43.27	55.77	96.15
1 3/4″	8910K842	14.87	25.64	46.14	59.47	102.54
2″	8910K52	15.40	26.56	47.81	61.62	106.24
2 1/4″	8910K53	16.36	28.20	50.76	65.43	112.81
2 1/2″	8910K54	18.21	31.39	56.50	72.82	125.56
2 3/4″	8910K55	19.71	33.98	61.16	78.83	135.91
3″	8910K56	21.17	36.50	65.70	84.68	146.00
3 1/2″	8910K57	23.74	40.94	73.69	94.97	163.75
4″	8910K58	25.46	43.65	78.21	101.86	181.89
4 1/2″	8910K59	28.85	49.45	88.60	115.39	206.05
5″	8910K61	34.93	59.88	107.28	139.71	249.49
5 1/2″	8910K62	39.64	67.95	121.74	158.55	283.12
6″	8910K63	41.85	71.75	128.55	167.42	298.96
7″	9143K737	51.37	87.53	156.03	205.50	380.55
8″	9143K738	60.19	102.54	182.79	240.75	445.83
9″	9143K739	70.40	119.94	213.81	281.60	521.48
10″	9143K74	78.22	133.27	237.57	312.89	579.43
1 1/8″ Thick						
1 1/8″	9143K741	11.33	19.54	35.17	45.33	78.15
1 1/2″	8910K64	16.68	28.76	51.77	66.72	115.04
2″	8910K65	18.87	32.54	58.58	75.50	130.17
3″	8910K66	28.25	48.43	86.77	113.01	201.80
4″	8910K67	36.35	62.31	111.63	145.38	259.61
1 1/4″ Thick						
1 1/4″	9143K22	13.86	23.90	43.02	55.45	95.61
1 1/2″	8910K68	16.16	27.86	50.15	64.64	111.45
1 3/4″	8910K69	18.77	32.36	58.25	75.08	129.45
2″	8910K71	19.41	33.47	60.25	77.65	133.88
2 1/4″	8910K72	23.84	41.11	73.99	95.37	164.43
2 1/2″	8910K73	24.81	42.77	77.00	99.24	171.10

Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1 1/4″ Thick (Cont.)						
3″	8910K74	$25.62	$43.92	$78.70	$102.49	$183.02
3 1/4″	8910K75	28.08	48.14	86.25	112.32	200.57
3 1/2″	8910K76	32.40	55.55	99.53	129.62	231.46
4″	8910K77	35.24	60.41	108.24	140.96	251.71
4 1/2″	8910K78	43.00	73.72	132.08	172.02	307.17
5″	8910K79	44.47	75.77	135.07	177.89	329.43
6″	8910K81	51.51	87.76	156.44	206.04	381.56
1 3/8″ Thick						
1 3/8″	9143K742	15.23	26.25	47.26	60.91	105.02
1 1/2″ Thick						
1 1/2″	9143K23	16.45	28.36	51.04	65.79	113.43
1 3/4″	8910K82	23.30	40.17	72.31	93.19	160.68
2″	8910K83	24.92	42.97	77.35	99.70	171.89
2 1/4″	8910K84	28.39	48.66	87.19	113.55	202.76
2 1/2″	8910K85	30.17	51.72	92.67	120.69	215.52
2 3/4″	8910K86	31.22	53.53	95.90	124.90	223.03
3″	8910K87	33.77	57.88	103.71	135.06	241.18
3 1/2″	8910K88	38.98	66.83	119.73	155.93	278.45
4″	8910K89	44.44	76.18	136.49	177.76	317.43
4 1/2″	8910K91	51.86	88.36	157.51	207.46	384.18
5″	8910K92	55.99	95.38	170.03	223.94	414.71
5 1/2″	8910K93	59.23	100.91	179.89	236.93	438.75
6″	8910K94	61.16	104.21	185.76	244.66	453.07
1 3/4″ Thick						
1 3/4″	9143K24	21.52	37.10	66.78	86.07	148.40
2″	8910K95	29.03	49.77	89.17	116.13	207.38
2 1/4″	8910K96	33.25	57.00	102.12	132.99	237.48
2 1/2″	8910K97	35.26	60.44	108.29	141.03	251.84
3″	8910K98	41.49	71.12	127.42	165.94	296.33
3 1/2″	8910K99	47.27	80.53	143.56	189.08	350.15
4″	8910K101	51.09	87.05	155.18	204.38	378.48
6″	8910K102	78.90	134.41	239.61	315.58	584.41
2″ Thick						
2″	9143K25	25.71	44.07	78.97	102.84	183.64
2 1/4″	8910K103	37.99	65.13	116.70	151.98	271.39
2 1/2″	8910K104	40.66	69.70	124.88	162.64	290.42
3″	8910K105	44.86	76.91	137.79	179.45	320.44
3 1/2″	8910K106	52.25	89.02	158.69	209.01	387.05
4″	8910K107	55.59	94.70	168.82	222.35	411.76
4 1/2″	8910K108	66.29	112.94	201.33	265.17	491.05
5″	8910K109	72.12	122.88	219.04	288.50	534.25
6″	8910K201	83.99	143.09	255.08	335.96	622.15
8″	9143K743	117.34	199.91	356.36	469.35	869.16
10″	9143K744	145.64	248.13	442.32	582.57	1,078.83
2 1/4″ Thick						
2 1/4″	9143K745	43.31	74.24	133.01	173.22	309.33
3″	8910K202	52.48	89.41	159.38	209.92	388.74
3 1/2″	8910K203	60.86	103.68	184.83	243.43	450.80
4″	8910K204	67.34	114.73	204.52	269.37	498.83
2 1/2″ Thick						
2 1/2″	9143K746	50.68	86.34	153.92	202.72	375.41
3″	8910K205	57.45	97.88	174.48	229.80	425.56
3 1/2″	8910K206	66.20	112.79	201.05	264.80	490.37
4″	8910K207	73.11	124.55	222.02	292.42	541.52
5″	8910K208	95.35	162.45	289.59	381.41	706.31
6″	8910K209	111.41	189.82	338.37	445.66	825.29
3″ Thick						
3″	9143K747	69.45	118.32	210.91	277.79	514.42
3 1/2″	8910K301	80.06	136.40	243.15	320.25	593.05
4″	8910K302	83.61	142.45	253.93	334.44	619.33
5″	8910K303	108.27	184.46	328.81	433.07	801.98
6″	8910K304	130.48	222.31	396.29	521.94	966.55
3 1/2″ Thick						
3 1/2″	9143K748	93.02	158.48	282.51	372.09	689.06
5″	8910K305	129.39	220.44	392.95	517.55	958.42
6″	8910K306	157.59	268.50	478.62	630.38	1,167.37
4″ Thick						
4″	9143K749	121.50	207.00	369.00	486.00	900.00
6″	8910K307	177.89	303.07	540.26	711.56	1,317.71
5″ Thick						
5″	9143K75	210.41	358.47	639.01	841.63	1,558.57

(Material continued on following page)

Warning! ***Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.***

General Purpose Low-Carbon Steel *(Material continued from previous page)*

Metric Rectangular Bars—Unpolished (Cold Drawn)



- Yield Strength: 34,000 psi
- Hardness: Medium (Rockwell B90)

Material is Grade S235 carbon steel, which is comparable to 1008-1018. Width tolerance for 6 mm wide bars is –0.075 mm; for all others it is –0.16 mm. Length tolerance is ±2″.

Wd., mm		1 ft.	3 ft.	6 ft.
2 mm Thick (–0.06 mm)				
6	6775T21	$1.14	$3.02	$5.20
12	6775T23	1.78	4.69	8.09
20	6775T25	2.11	5.55	9.57
25	6775T27	2.60	6.86	11.83
3 mm Thick (–0.06 mm)				
6	6775T31	1.75	4.61	7.95
12	6775T33	1.91	5.03	8.67
20	6775T35	3.06	8.07	13.91
25	6775T37	3.74	9.86	17.00
4 mm Thick (–0.08 mm)				
6	6775T41	1.61	4.25	7.32
12	6775T43	2.22	5.84	10.07
20	6775T45	3.48	9.16	15.80
25	6775T47	4.29	11.31	19.50
5 mm Thick (–0.08 mm)				
6	6775T51	$2.78	$7.32	$12.62
12	6775T53	3.00	7.91	13.63
20	6775T55	4.10	10.82	18.65
25	6775T57	4.64	12.24	21.11
6 mm Thick (–0.08 mm)				
6	6775T61	1.91	5.03	8.67
12	6775T63	3.21	8.47	14.61
20	6775T65	4.66	12.28	21.17
25	6775T67	5.60	14.76	25.44
8 mm Thick (–0.09 mm)				
12	6775T83	3.67	9.68	16.69
20	6775T85	5.66	14.93	25.75
25	6775T87	6.80	17.92	30.90
50	6775T89	12.20	32.16	55.45
10 mm Thick (–0.09 mm)				
12	6775T11	$4.81	$12.67	$21.85
20	6775T12	6.80	17.92	30.90
25	6775T13	8.22	21.67	37.37
50	6775T14	15.27	40.25	69.39
15 mm Thick (–0.11 mm)				
20	6775T15	9.84	25.93	44.71
25	6775T16	11.87	31.30	53.96
50	6775T17	21.32	56.20	96.90
20 mm Thick (–0.13 mm)				
20	6775T22	12.19	32.14	55.41
25	6775T24	15.27	40.25	69.39
50	6775T26	26.70	70.38	121.35
25 mm Thick (–0.13 mm)				
25	6775T28	17.84	47.03	81.09
50	6775T32	33.38	88.01	151.74

Tight-Tolerance Rectangular Bars—Precision Ground



- Yield Strength: 36,000 psi
- Hardness: Not rated

Material is either 1018 carbon steel or meets ASTM A36. Width tolerance is ±0.005″.

Wd.		1 ft.	2 ft.
1/16″ Thick (±0.001″)			
1/2″	9517K291	$5.23	$8.71
3/4″	9517K293	6.34	10.57
1″	9517K295	7.78	12.97
1 1/4″	9517K297	9.56	15.94
1 1/2″	9517K299	10.17	16.95
2″	9517K312	11.99	19.99
2 1/2″	9517K314	15.00	25.00
3″	9517K316	17.19	28.65
3 1/2″	9517K318	18.62	31.03
4″	9517K321	20.71	34.51
5″	9517K323	25.00	41.67
6″	9517K325	27.39	45.65
3/32″ Thick (±0.001″)			
1/2″	9517K327	6.71	11.18
3/4″	9517K329	8.21	13.69
1″	9517K332	9.53	15.89
1 1/4″	9517K334	10.58	17.63
1 1/2″	9517K336	11.68	19.46
2″	9517K338	12.84	21.40
3″	9517K341	15.85	26.42
4″	9517K343	19.46	32.43
1/8″ Thick (±0.001″)			
1/2″	9517K345	7.04	11.74
3/4″	9517K347	8.38	13.97
1″	9517K349	9.80	16.33
1 1/4″	9517K352	11.02	18.37
1 1/2″	9517K354	11.76	19.60
2″	9517K356	13.13	21.88
2 1/2″	9517K358	15.53	25.89
3″	9517K361	16.62	27.70
3 1/2″	9517K363	19.19	31.98
4″	9517K365	21.28	35.47
5″	9517K367	25.14	41.90
6″	9517K369	29.23	48.72
8″	9517K372	38.11	63.52
5/32″ Thick (±0.001″)			
1/2″	9517K374	7.32	12.20
3/4″	9517K376	8.63	14.39
1″	9517K378	10.07	16.78
1 1/2″	9517K381	12.02	20.04
2″	9517K383	14.59	24.31
3″	9517K385	18.37	30.61
4″	9517K387	23.69	39.48
3/16″ Thick (±0.001″)			
3/16″	9517K389	8.84	14.73
1/2″	9517K392	10.59	17.65
3/4″	9517K394	12.01	20.02
1″	9517K396	14.24	23.74
1 1/4″	9517K398	14.97	24.95
1 1/2″	9517K411	16.37	27.28
2″	9517K413	20.16	33.60
2 1/2″	9517K415	24.33	40.55
3/16″ Thick (±0.001″) (Cont.)			
3″	9517K417	$26.53	$44.21
3 1/2″	9517K419	30.52	50.86
4″	9517K422	32.45	54.09
5″	9517K424	40.31	67.19
6″	9517K426	45.20	75.33
1/4″ Thick (±0.001″)			
1/4″	9517K428	8.59	14.31
1/2″	9517K431	10.81	18.01
3/4″	9517K433	12.20	20.34
1″	9517K435	14.43	24.05
1 1/4″	9517K437	15.31	25.51
1 1/2″	9517K439	16.54	27.56
2″	9517K442	20.51	34.18
2 1/2″	9517K444	24.61	41.01
3″	9517K446	26.98	44.96
3 1/2″	9517K448	31.49	52.48
4″	9517K451	33.73	56.22
5″	9517K453	40.63	67.72
6″	9517K455	45.92	76.54
8″	9517K457	54.44	90.73
5/16″ Thick (±0.001″)			
5/16″	9517K459	9.91	16.51
1/2″	9517K462	11.06	18.44
3/4″	9517K464	12.67	21.12
1″	9517K466	15.23	25.38
1 1/2″	9517K468	18.05	30.08
2″	9517K471	21.01	35.01
3″	9517K473	27.00	45.00
4″	9517K475	35.85	59.75
3/8″ Thick (±0.001″)			
3/8″	9517K476	12.59	20.99
1/2″	9517K478	13.67	22.79
3/4″	9517K481	15.09	25.15
1″	9517K483	16.87	28.11
1 1/4″	9517K485	18.30	30.50
1 1/2″	9517K487	20.50	34.16
2″	9517K489	24.32	40.53
2 1/2″	9517K492	25.90	43.17
3″	9517K494	29.59	49.31
4″	9517K496	36.64	61.07
5″	9517K498	42.80	71.33
6″	9517K511	50.02	83.36
7/16″ Thick (±0.001″)			
7/16″	9517K513	14.47	24.12
1/2″ Thick (±0.001″)			
1/2″	9517K515	14.74	24.56
3/4″	9517K517	16.99	28.32
1″	9517K519	20.23	33.71
1 1/2″	9517K522	21.92	36.53
2″	9517K524	26.33	43.88
2 1/2″	9517K526	29.20	48.67
3″	9517K528	34.85	58.08
1/2″ Thick (±0.001″) (Cont.)			
4″	9517K531	$43.22	$72.03
5″	9517K533	47.62	79.37
6″	9517K535	54.39	90.65
9/16″ Thick (±0.001″)			
9/16″	9517K537	16.36	27.27
5/8″ Thick (±0.001″)			
5/8″	9517K539	18.04	30.07
3/4″	9517K542	19.36	32.26
1″	9517K544	21.59	35.98
1 1/2″	9517K546	26.84	44.74
2″	9517K548	31.51	52.52
2 1/2″	9517K551	32.57	54.29
3″	9517K553	38.58	64.30
3 1/2″	9517K555	40.72	67.86
4″	9517K557	49.00	81.66
5″	9517K559	57.85	96.42
3/4″ Thick (±0.001″)			
3/4″	9517K562	19.17	31.95
1″	9517K564	23.76	39.60
1 1/4″	9517K566	25.79	42.99
1 1/2″	9517K568	28.42	47.37
2″	9517K571	33.13	55.22
2 1/2″	9517K573	37.20	62.00
3″	9517K575	42.67	71.11
4″	9517K577	51.66	86.10
5″	9517K579	60.28	100.47
6″	9517K582	68.94	114.90
7/8″ Thick (±0.001″)			
7/8″	9517K584	28.48	47.46
1″	9517K586	29.33	48.88
2″	9517K588	39.74	66.23
3″	9517K591	48.19	80.31
4″	9517K593	57.58	95.96
1″ Thick (±0.001″)			
1″	9517K595	30.71	51.19
1 1/2″	9517K597	34.93	58.21
2″	9517K599	40.46	67.44
2 1/2″	9517K612	44.98	74.97
3″	9517K614	50.57	84.29
4″	9517K616	59.20	98.66
5″	9517K618	70.94	118.24
6″	9517K621	78.10	130.16
1 1/4″ Thick (±0.001″)			
1 1/4″	9517K623	40.42	67.36
1 1/2″	9517K625	44.05	73.41
2″	9517K627	49.10	81.83
3″	9517K629	59.02	98.36
4″	9517K632	69.38	115.64
5″	9517K634	80.90	134.83
6″	9517K636	89.71	149.52

(Material continued on following page)

General Purpose Low-Carbon Steel *(Material continued from previous page)*

One of the most widely used types of steel, low-carbon steel is weldable, machinable, and can be surface hardened by heat treating. It is suitable for a variety of applications, such as structural and power transmission components.

Metric Tight-Tolerance Rectangular Bars—Precision Ground



- Yield Strength: 36,000 psi
- Hardness: Not rated
- Can be surface hardened to Rockwell C65

Material is either 1018 carbon steel or meets ASTM A36. Width tolerance is ±0.127 mm.

Wd., mm		1 ft.	2 ft.
3 mm Thick (±0.025 mm)			
10	7974T252	$12.96	$21.60
15	7974T262	18.61	31.01
20	7974T272	23.82	39.70
25	7974T282	28.64	47.74

Wd., mm		1 ft.	2 ft.
4 mm Thick (±0.025 mm)			
10	7974T312	$15.29	$25.48
15	7974T322	22.02	36.70
20	7974T332	28.22	47.04
25	7974T342	33.99	56.65

Wd., mm		1 ft.	2 ft.
5 mm Thick (±0.025 mm)			
10	7974T352	$20.02	$33.36
15	7974T362	28.87	48.12
20	7974T372	37.07	61.79
25	7974T382	44.68	74.47

Wd., mm		1 ft.	2 ft.
10 mm Thick (±0.025 mm)			
10	7974T392	$39.13	$65.21
15	7974T402	43.67	72.78
20	7974T412	56.16	93.60
25	7974T422	67.76	112.94

Rectangular Bars with Rounded Edges



- Yield Strength: 35,000 psi
- Hardness: Soft (Rockwell B50)
- Can be surface hardened to Rockwell C60

Material is 1008-1010 carbon steel. Width tolerance is ±0.008″ and length tolerance is ±0.020″. 1/16″ thick bars are cold rolled; all others are hot rolled.

Wd.		1 ft.	3 ft.	6 ft.
1/16″ Thick (±0.003″)				
1/4″	6511K211	$2.87	$6.88	$11.47
3/8″	6511K221	3.05	7.31	12.19
1/2″	6511K231	3.16	7.58	12.64
3/4″	6511K251	3.40	8.17	13.61
7/8″	6511K131	3.53	8.47	14.12
1″	6511K271	3.68	8.83	14.71
1 1/4″	6511K281	3.86	9.26	15.44
1 1/2″	6511K291	4.06	9.74	16.23
2″	6511K151	4.33	10.39	17.31
3/32″ Thick (±0.003″)				
3/8″	6511K321	3.46	8.30	13.83
1/2″	6511K331	3.60	8.64	14.40
3/4″	6511K351	3.91	9.38	15.64
1″	6511K371	4.26	10.22	17.03
1 1/2″	6511K391	4.61	11.06	18.44
2″	6511K181	5.20	12.49	20.81

Wd.		1 ft.	3 ft.	6 ft.
1/8″ Thick (±0.004″)				
3/8″	6511K421	$3.24	$7.78	$12.96
1/2″	6511K431	3.47	8.32	13.87
5/8″	6511K441	3.62	8.69	14.49
3/4″	6511K451	3.78	9.08	15.13
7/8″	6511K461	4.95	11.87	19.79
1″	6511K471	5.01	12.02	20.04
1 1/2″	6511K491	5.72	13.73	22.89
2″	6511K511	6.10	14.63	24.39
3/16″ Thick (±0.004″)				
1/2″	6511K531	3.14	7.54	12.57
5/8″	6511K541	4.09	9.81	16.35
3/4″	6511K551	4.66	11.18	18.63
1″	6511K571	4.69	11.25	18.75
1 1/4″	6511K581	4.87	11.68	19.47
1 1/2″	6511K591	5.04	12.11	20.18

Nickel-Coated Rectangular Bars



- Yield Strength: 45,000 psi
- Hardness: Hard (Rockwell C45)
- Meet ASTM B733

Bars are 1018 carbon steel with a nickel coating for increased wear and corrosion resistance. Coating meets AMS 2404 and MIL-C-26074. Width tolerance is ±0.004″.

Wd.		1/2 ft.	1 ft.	3 ft.
1/8″ Thick (±0.002″)				
1/4″	8131K31	$3.30	$5.47	$12.71
3/8″	8131K32	4.13	6.84	15.90
1/2″	8131K33	4.54	7.52	17.48
3/4″	8131K34	5.86	9.69	22.54
1″	8131K35	7.94	13.14	30.55
2″	8131K36	13.46	22.25	51.75

Wd.		1/2 ft.	1 ft.	3 ft.
3/16″ Thick (±0.002″)				
1/2″	8131K37	$5.82	$9.62	$22.38
1″	8131K38	9.27	15.33	35.64
1/4″ Thick (±0.002″)				
1/2″	8131K39	6.83	11.30	26.28
3/4″	8131K41	9.22	15.26	35.48
1″	8131K42	11.01	18.21	42.35

Wd.		1/2 ft.	1 ft.	3 ft.
3/8″ Thick (±0.002″)				
1/2″	8131K43	$7.19	$11.89	$27.66
1″	8131K44	11.93	19.73	45.89
1/2″ Thick (±0.002″)				
1″	8131K45	14.19	23.47	54.59
2″	8131K46	27.47	45.43	105.66

Zinc-Galvanized Rectangular Bars



- Yield Strength: 30,000 psi
- Hardness: Soft (Rockwell B66)
- Meet ASTM A108

Bars are 1010-1018 carbon steel with a zinc coating for increased corrosion resistance. Width tolerance is ±0.010″, and length tolerance is ±1/8″.

Wd.		1 ft.	3 ft.	6 ft.
1/8″ Thick (±0.008″)				
1/8″	8962K31	—	$4.79	$8.26
3/4″	8962K11	—	5.85	10.09
1″	8962K12	—	7.27	12.53
1 1/4″	8962K13	—	8.85	15.26
3/16″ Thick (+0.003″)				
3/16″	8962K32	—	4.90	8.45
1/4″ Thick (+0.003″)				
1/4″	8962K33	—	6.26	10.79
5/16″ Thick (+0.003″)				
5/16″	8962K34	—	8.74	15.07

Wd.		1 ft.	3 ft.	6 ft.
3/8″ Thick (+0.003″)				
3/8″	8962K35	—	$10.30	$17.76
1/2″ Thick (+0.003″)				
1/2″	8962K36	$6.91	16.02	27.62
5/8″ Thick (+0.003″)				
5/8″	8962K37	10.90	25.29	43.61
3/4″ Thick (+0.003″)				
3/4″	8962K38	13.85	32.13	55.39
1″ Thick (+0.003″)				
1″	8962K39	23.67	54.91	94.68

Zinc-Galvanized Perforated Rectangular Bars



- Yield Strength: Not rated
- Hardness: Medium (Rockwell B85)

Material is 1006-1026 carbon steel with a zinc coating for increased corrosion resistance. All holes are 3/8″ diameter on 3/4″ centers. 1 3/8″ wide bars have one row of holes; all others have two rows. Length tolerance is ±1/8″. Width tolerance for 1 3/8″ and 2 1/4″ wide bars is ±0.005″, and for 2 3/4″ wide bars it is +0.065″.

Wd.		3 ft.	6 ft.
3/64″ Thick (–0.011″)			
2 1/4″	8962K28	$4.00	$6.89

Wd.		3 ft.	6 ft.
5/64″ Thick (+0.007″, –0.003″)			
1 3/8″	8962K14	$3.09	$5.33

Wd.		3 ft.	6 ft.
5/64″ Thick (+0.007″, –0.003″) (Cont.)			
2 3/4″	8962K26	$5.07	$8.75

(Material continued on following page)

General Purpose Low-Carbon Steel *(Material continued from previous page)*

Sheets—Unpolished (Cold Rolled)



- Yield Strength:
  0.030″ to 0.134″ thick sheets: not rated;
  1/4″ to 3/4″ thick sheets: 60,000 psi
- Hardness:
  0.030″ to 0.134″ thick sheets: not rated;
  1/4″ to 3/4″ thick sheets: medium (Rockwell B80)

Material is 1006-1026 carbon steel. Width and length tolerances are ±1/8″ for 6″×6″ to 10″×10″ sheets; for all others they are ±1/4″.

Thick.	Thick. Tolerance	12″×12″		12″×24″		24″×24″		24″×36″		24″×48″	
0.030″	±0.003″	—	—	6544K13	$8.27	6544K15	$14.39	6544K17	$18.77	6544K19	$21.76
0.060″	±0.006″	6544K53	$9.60	6544K14	16.70	6544K16	29.04	6544K18	37.88	6544K21	43.92
0.075″	±0.004″	6544K54	16.46	6544K55	28.63	6544K56	49.80	6544K57	64.95	6544K58	75.31
0.090″	±0.004″	6544K59	18.05	6544K61	31.40	6544K62	54.61	6544K63	71.23	6544K64	82.58
0.120″	±0.006″	6544K65	20.34	6544K66	35.38	6544K67	61.54	6544K68	80.26	6544K69	93.06
0.134″	±0.006″	6544K71	23.50	6544K72	40.87	6544K73	71.09	6544K74	92.72	6544K75	107.50

Thick.	Thick. Tolerance	6″×6″		8″×8″		10″×10″		12″×12″		12″×24″	
1/4″	–0.013″	6544K22	$19.81	6544K23	$30.63	6544K24	$41.61	6544K25	$52.10	6544K76	$90.61
3/8″	–0.013″	6544K28	29.47	6544K29	45.57	6544K31	61.91	6544K32	77.52	6544K77	134.82
1/2″	–0.013″	6544K34	35.85	6544K35	55.44	6544K36	75.32	6544K37	94.31	6544K78	164.02
3/4″	–0.013″	6544K39	44.09	6544K41	68.17	6544K42	92.62	6544K43	115.97	6544K79	201.69

Sheets—Ground



- Yield Strength: 36,000 psi
- Hardness: Not rated
- Can be surface hardened to Rockwell C65

Material is either 1018 carbon steel or meets ASTM A36. These ground sheets are decarb free, improving the surface for heat treating. For 1/16″ to 3/16″ thick sheets, width and length tolerances are –1/16″, +1/2″. For 1/4″ and thicker sheets, width and length tolerances are ±1/8″.

Thick.	Thick. Toler.	3″×3″		3″×6″		4″×4″		6″×6″		6″×12″		8″×8″	
1/16″	±0.001″	1388K142	$7.00	1388K146	$11.67	1388K144	$10.36	1388K15	$19.44	1388K172	$32.13	1388K17	$30.85
3/32″	±0.001″	1388K262	7.98	1388K266	13.29	1388K264	11.80	1388K27	22.14	1388K292	36.60	1388K29	35.14
1/8″	±0.001″	1388K382	8.29	1388K386	13.81	1388K384	12.26	1388K39	23.00	1388K452	38.02	1388K45	36.50
5/32″	±0.001″	1388K542	8.57	1388K546	14.28	1388K544	12.68	1388K55	23.78	1388K572	39.32	1388K57	37.74
3/16″	±0.001″	1388K662	9.22	1388K666	15.36	1388K664	13.63	1388K67	25.58	1388K692	42.28	1388K69	40.59
1/4″	±0.003″	1388K102	11.28	1388K106	18.81	1388K104	16.70	1388K111	31.32	1388K123	51.78	1388K121	49.71
3/8″	±0.003″	1388K202	13.99	1388K206	23.31	1388K204	20.70	1388K211	38.83	1388K223	64.19	1388K221	61.62
1/2″	±0.003″	1388K302	15.64	1388K306	26.07	1388K304	23.15	1388K311	43.42	1388K323	71.79	1388K321	68.91
3/4″	±0.003″	1388K402	20.20	1388K406	33.66	1388K404	29.89	1388K411	56.06	1388K423	92.68	1388K421	88.97
1″	±0.003″	1388K502	22.09	1388K506	36.82	1388K504	32.69	1388K511	61.32	1388K523	101.38	1388K521	97.32
1 1/4″	±0.003″	1388K602	26.95	1388K606	44.93	1388K604	39.94	1388K611	74.87	1388K623	123.80	1388K621	118.85
1 1/2″	±0.003″	1388K702	29.00	1388K706	48.34	1388K704	42.97	1388K711	80.56	1388K723	133.20	1388K721	127.87
2″	±0.003″	1388K802	36.60	1388K806	61.01	1388K804	54.23	1388K811	101.67	1388K823	168.11	1388K821	161.39

Thick.	Thick. Toler.	8″×12″		10″×10″		12″×12″		12″×18″		12″×24″		12″×36″	
1/16″	±0.001″	1388K191	$38.26	1388K174	$38.83	1388K19	$49.91	1388K193	$63.01	1388K194	$82.35	1388K197	$104.53
3/32″	±0.001″	1388K351	43.57	1388K294	44.23	1388K35	56.84	1388K353	71.76	1388K354	93.80	1388K357	119.06
1/8″	±0.001″	1388K471	45.27	1388K454	45.94	1388K47	59.05	1388K473	74.55	1388K474	97.44	1388K477	123.68
5/32″	±0.001″	1388K591	46.81	1388K574	47.51	1388K59	61.06	1388K593	77.09	1388K594	100.76	1388K597	127.89
3/16″	±0.001″	1388K751	50.34	1388K694	51.09	1388K75	65.67	1388K753	82.90	1388K754	108.36	1388K757	137.54
1/4″	±0.003″	1388K171	61.64	1388K131	62.56	1388K141	80.41	1388K173	101.52	1388K163	132.69	1388K177	168.42
3/8″	±0.003″	1388K271	76.42	1388K231	77.56	1388K241	99.68	1388K273	125.85	1388K263	164.49	1388K277	208.79
1/2″	±0.003″	1388K371	85.46	1388K331	86.74	1388K341	111.48	1388K373	140.75	1388K363	183.96	1388K377	233.50
3/4″	±0.003″	1388K465	110.34	1388K431	111.99	1388K441	143.93	1388K467	181.72	1388K463	237.51	1388K451	301.47
1″	±0.003″	1388K571	120.69	1388K531	122.50	1388K541	157.44	1388K573	198.78	1388K563	259.80	1388K577	329.77

Thick.	Thick. Toler.	12″×48″		16″×16″		18″×18″		18″×24″		24″×24″		24″×48″	
1/16″	±0.005″	1388K201	$126.70	1388K192	$73.94	1388K195	$90.16	1388K199	$104.53	1388K196	$126.70	1388K198	$238.21
3/32″	±0.005″	1388K362	144.32	1388K352	84.22	1388K355	102.69	1388K359	119.06	1388K356	144.32	1388K358	271.32
1/8″	±0.005″	1388K482	149.93	1388K472	87.49	1388K475	106.69	1388K479	123.68	1388K476	149.93	1388K478	281.87
5/32″	±0.005″	1388K601	155.03	1388K592	90.47	1388K595	110.32	1388K599	127.89	1388K596	155.03	1388K598	291.46
3/16″	±0.005″	1388K762	166.72	1388K752	97.29	1388K755	118.64	1388K759	137.54	1388K756	166.72	1388K758	313.44
1/4″	±0.005″	1388K182	204.16	1388K161	119.14	1388K175	145.28	1388K179	168.42	1388K181	204.16	1388K183	383.83
3/8″	±0.005″	1388K282	253.08	1388K261	147.69	1388K275	180.09	1388K279	208.79	1388K281	253.08	1388K283	475.81
1/2″	±0.005″	1388K385	283.05	1388K361	165.18	1388K375	201.41	1388K379	233.50	1388K381	283.05	1388K383	532.14
3/4″	±0.005″	1388K455	365.44	1388K461	213.26	1388K469	260.04	1388K453	301.47	1388K481	365.44	1388K483	687.04
1″	±0.005″	1388K582	399.73	1388K561	233.27	1388K575	284.45	1388K579	329.77	1388K581	399.73	1388K583	751.52

Sheets with Mold- and Mildew-Resistant Coating



- Yield Strength: 40,000 psi
- Hardness: Soft (Rockwell B55)
- Meet ASTM A653

A coating is applied to one side of these sheets to protect from degradation caused by bacteria and fungi. Coating is blue. Width and length tolerances are ±0.031″.

Thick.	Thick. Tolerance	12″×15″		30″×24″		30″×48″	
0.022″	±0.005″	2102T17	$12.16	2102T14	$36.58	2102T15	$68.25
0.040″	±0.005″	2102T27	20.96	2102T24	62.50	2102T25	117.66
0.052″	±0.005″	2102T37	24.24	2102T34	77.85	2102T35	146.00

(Material continued on following page)

General Purpose Low-Carbon Steel *(Material continued from previous page)*

One of the most widely used types of steel, low-carbon steel is weldable, machinable, and can be surface hardened by heat treating. It is suitable for a variety of applications, such as structural and power transmission components.

Zinc-Galvanized Sheets



- Yield Strength: 40,000 psi
- Hardness: Soft (Rockwell B55 with coating)
- Meet ASTM A653

Material is CS Type B carbon steel. Sheets have a zinc coating for increased corrosion resistance. Width and length tolerances are ±1/16″.

Thick.	Thick. Tol.	12″×12″		24″×48″		48″×48″	
0.012″	+0.006″	8943K11	$6.67	8943K12	$16.56		
0.015″	+0.006″	8943K111	7.67	8943K13	18.03	8943K23	$32.37
0.019″	+0.006″	8943K112	8.68	8943K14	19.17	8943K24	36.03
0.024″	+0.008″	8943K113	11.52	8943K15	23.66	8943K25	41.90
0.036″	+0.008″	8943K114	12.52	8943K16	34.14	8943K26	54.20
0.046″	+0.01″	8943K115	$16.42	8943K17	$44.32	8943K27	$69.00
0.071″	+0.016″	8943K116	17.92	8943K18	57.18	8943K28	96.96
0.096″	+0.018″	8943K117	19.99	8943K19	77.00	8943K29	128.33
0.112″	+0.018″	8943K118	21.87	8943K31	83.58	8943K41	140.30
0.130″	+0.018″	8943K119	23.39	8943K32	93.57		

Foil—Unpolished (Cold Rolled)



- Yield Strength: 44,000 psi
- Hardness: Medium (Rockwell B90)
- Meet ASTM A109

Material is 1010 carbon steel. Width tolerance is ±0.010″.

Thick	Thick. Tolerance	Wd.		10 ft.	25 ft.	100 ft.
0.001″	±0.0001″	1″	6544K81	$12.10	$19.84	$39.68
0.001″	±0.0001″	3″	6544K82	15.09	28.69	67.67
0.001″	±0.0001″	7″	6544K83	21.03	42.84	110.12
0.004″	±0.0005″	1″	6544K84	11.43	17.35	35.05
0.004″	±0.0005″	3″	6544K85	$13.25	$23.05	$54.74
0.004″	±0.0005″	7″	6544K86	18.59	36.40	87.71
0.007″	±0.0008″	1″	6544K87	12.07	20.06	42.49
0.007″	±0.0008″	7″	6544K89	25.18	52.53	135.38

Square Tubes—Rough Finish (Hot Rolled)



- Yield Strength:
  0.060″ to 0.083″ thick: 32,000 psi;
  0.120″ to 0.250″ thick: 46,000 psi (unless noted)
- Hardness: Not rated
- 0.060″ to 0.083″ thick meet ASTM A513;
  0.120″ to 0.250″ thick meet ASTM A500
  (unless noted)

Material is 1005-1026 carbon steel. Straightness tolerance is 1/16″ per 3 ft. of length. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Wd.	Ht.	Wd./Ht. Tolerance		1 ft.	3 ft.	6 ft.
0.060″ Wall Thick. (±0.006″)						
1/2″	1/2″	±0.030″	6527K154	$2.88	$5.23	$8.72
3/4″	3/4″	±0.030″	6527K164	4.38	7.97	13.28
1″	1″	±0.030″	6527K174	5.86	10.66	17.76
1 1/4″	1 1/4″	±0.030″	6527K184	7.89	14.35	23.92
0.083″ Wall Thick. (±0.008″)						
3/4″	3/4″	±0.030″	6527K254	4.91	8.93	14.88
1″	1″	±0.030″	6527K264	7.17	13.03	21.72
1 1/2″	1 1/2″	±0.030″	6527K274	11.10	20.18	33.64
2″	2″	±0.030″	6527K284	13.88	25.24	42.07
0.120″ Wall Thick. (±0.012″)						
1″	1″	±0.030″	6527K364	7.97	14.48	24.14
1 1/2″	1 1/2″	±0.030″	6527K374★	11.67	21.22	35.36
2″	2″	±0.030″	6527K384	15.54	28.26	47.10
0.125″ Wall Thick. (±0.013″)						
2 1/2″	2 1/2″	±0.030″	6527K414	$17.50	$31.82	$53.03
3″	3″	±0.030″	6527K424	20.13	36.60	61.00
3 1/2″	3 1/2″	±0.030″	6527K434	22.83	41.51	69.19
4″	4″	±0.030″	6527K444	24.53	44.60	74.34
0.188″ Wall Thick. (±0.0188″)						
2″	2″	±0.030″	6527K514	19.68	35.78	59.64
3″	3″	±0.030″	6527K524	21.29	38.72	64.53
4″	4″	±0.030″	6527K534	36.80	66.90	111.50
0.250″ Wall Thick. (±0.025″)						
2″	2″	±0.030″	6527K614	23.04	41.89	69.82
3″	3″	±0.030″	6527K624	37.21	62.02	103.36
4″	4″	±0.030″	6527K634	51.76	77.65	129.41
6″	6″	±0.060″	6527K644	79.31	126.17	180.25

★ Yield strength is 32,000 psi. Meets ASTM A513.

Metric Square Tubes—Unpolished



- Yield Strength: 34,000 psi
- Hardness: Soft (Rockwell B67)

Material is Grade S235 carbon steel. Length tolerance is ±2″.

Wd., mm	Ht., mm	Wd./Ht. Tolerance, mm		1 ft.	3 ft.	6 ft.
1 mm Wall Thick. (±0.15 mm)						
12	12	±0.20	6527K71	$2.92	$7.30	$12.16
2 mm Wall Thick. (±0.10 mm)						
25	25	±0.25	6527K72	10.45	26.14	43.56
40	40	±0.30	6527K74	15.74	39.36	65.60
2 mm Wall Thick. (±0.10 mm) (Cont.)						
50	25	±0.30	6527K73	$14.65	$36.63	$61.05
55	55	±0.35	6527K75	19.98	41.62	83.25
3 mm Wall Thick. (±0.10 mm)						
100	100	±0.65	6527K76	46.08	115.19	191.98

Zinc-Galvanized Perforated Square Tubes

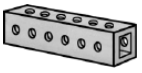

- Yield Strength:
  1″ to 1 1/2″ wide tubes: not rated;
  1 3/4″ to 2 1/2″ wide tubes: 60,000 psi
- Hardness: Not rated
- Meet ASTM A653

Tubes have a zinc coating for increased corrosion resistance. Each size tube fits inside the next largest size so you can create custom lengths. 1″ to 1 1/2″ tubes are 1006-1026 carbon steel, and 1 3/4″ to 2 1/2″ tubes are Grade 50 carbon steel. Width and height tolerances are not rated.

Wd.	Ht.	Hole Dia. on 1″ Centers		3 ft.	6 ft.
0.083″ Wall Thick. (±0.008″)					
1″	1″	11/32″	6535K212	$15.12	$26.07
1 1/4″	1 1/4″	11/32″	6535K232	18.62	32.10
1 1/2″	1 1/2″	7/16″	6535K252	21.18	36.51
2″	2″	7/16″	6535K292	30.11	51.92
0.105″ Wall Thick. (±0.011″)					
1″	1″	11/32″	6535K312	18.17	31.33
0.105″ Wall Thick. (±0.011″) (Cont.)					
1 1/4″	1 1/4″	11/32″	6535K332	$22.45	$38.70
1 1/2″	1 1/2″	7/16″	6535K352	24.24	41.79
1 3/4″	1 3/4″	7/16″	6535K372	30.06	51.83
2″	2″	7/16″	6535K392	30.58	52.73
2 1/4″	2 1/4″	7/16″	6535K412	34.24	59.03
2 1/2″	2 1/2″	7/16″	6535K432	34.43	59.37

(Material continued on following page)

***Warning!** Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.*

General Purpose Low-Carbon Steel *(Material continued from previous page)*

Round and Angled Round Tubes—Unpolished



- Yield Strength: Cold drawn tubes: 45,000 psi; hot rolled tubes: 38,000 psi
- Hardness: Cold drawn tubes: medium (Rockwell B55-B68); hot rolled tubes: soft (Rockwell B55-B62)
- Meet ASTM A513

Round Tubes—Material is 1005-1026 carbon steel. Tubes are cold drawn unless noted. Wall thickness tolerance is not rated. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Angled Round Tubes—These tubes are hot rolled 1026 carbon steel, except 0.250″ wall thick. is cold rolled. Length tolerance is –1/8″.

OD	OD Tolerance	ID		1 ft.	3 ft.	6 ft.
0.049″ Wall Thick.						
1.000″	±0.004″	0.902″	7767T151	$2.54	$5.80	$10.18
1.500″	±0.005″	1.402″	7767T171	3.81	8.69	15.25
2.000″	±0.005″	1.902″	7767T191	4.54	10.35	18.16
0.065″ Wall Thick.						
1.000″	±0.004″	0.870″	7767T231	2.94	6.71	11.78
1.500″	±0.005″	1.370″	7767T271	4.53	10.33	18.13
2.000″	±0.005″	1.870″	7767T291★	5.59	12.75	22.37
3.000″	±0.008″	2.870″	7767T331★	9.15	20.87	36.62
4.000″	±0.010″	3.870″	7767T351★	10.87	24.78	43.47
0.120″ Wall Thick.						
1.000″	±0.004″	0.760″	7767T371★	5.07	11.55	20.26
1.500″	±0.005″	1.260″	7767T431★	7.50	17.09	29.98
3.500″	±0.009″	3.260″	7767T471★	16.09	36.67	64.34
4.000″	±0.010″	3.760″	7767T491★	17.03	38.83	68.12
4.500″	±0.020″	4.260″	7767T161★	20.25	46.17	81.00
0.134″ Wall Thick.						
1.625″	±0.005″	1.357″	7767T51★	11.79	26.88	47.15
0.188″ Wall Thick.						
0.750″	+0.005″	0.375″	7767T61	8.40	19.15	33.60
1.000″	+0.005″	0.625″	7767T62	10.96	25.00	43.86
1.125″	+0.005″	0.750″	7767T63	12.87	29.35	51.49
1.250″	+0.005″	0.875″	7767T64	13.59	30.99	54.37
1.375″	+0.005″	1.000″	7767T65	16.28	37.12	65.13
1.500″	+0.005″	1.125″	7767T53	19.81	45.16	79.23
1.625″	+0.005″	1.250″	7767T55	22.86	52.11	91.42
1.750″	+0.006″	1.375″	7767T66	21.21	48.35	84.83
2.000″	+0.006″	1.625″	7767T57	27.21	62.05	108.86

★ Hot rolled.

OD	OD Tolerance	ID		1 ft.	3 ft.	6 ft.
0.188″ Wall Thick. (Cont.)						
2.500″	+0.008″	2.125″	7767T67	$27.12	$61.83	$108.47
3.000″	+0.009″	2.625″	7767T68	31.36	71.51	125.45
3.125″	+0.009″	2.750″	7767T59	39.08	89.09	156.30
0.250″ Wall Thick.						
1.000″	+0.005″	0.500″	7767T72	15.15	34.55	60.62
1.125″	+0.005″	0.625″	7767T74	16.16	36.86	64.66
1.250″	+0.005″	0.750″	7767T69	22.16	50.53	88.65
1.375″	+0.005″	0.875″	7767T76	20.72	47.24	82.88
1.500″	+0.005″	1.000″	7767T78	23.68	53.99	94.72
1.750″	+0.006″	1.250″	7767T82	27.05	61.69	108.22
2.000″	+0.006″	1.500″	7767T71	32.13	73.26	128.53
2.500″	+0.008″	2.000″	7767T84	34.49	78.64	137.97
3.000″	+0.009″	2.500″	7767T73	44.41	101.26	177.65
3.500″	+0.010″	3.000″	7767T75	51.53	117.48	206.11
4.000″	+0.011″	3.500″	7767T77	57.28	130.59	229.11
0.375″ Wall Thick.						
1.500″	+0.005″	0.750″	7767T85	30.94	70.54	123.75
1.750″	+0.006″	1.000″	7767T79	39.41	89.87	157.66
2.000″	+0.006″	1.250″	7767T81	43.44	99.04	173.76
2.250″	+0.007″	1.500″	7767T83	47.66	108.65	190.62
2.500″	+0.008″	1.750″	7767T86	44.20	100.78	176.80
0.500″ Wall Thick.						
2.750″	+0.008″	1.750″	7767T89	64.66	147.42	258.63
3.000″	+0.009″	2.000″	7767T91	78.73	179.50	314.92
3.500″	+0.010″	2.500″	7767T93	88.82	202.52	355.29
4.000″	+0.011″	3.000″	7767T95	97.26	221.76	389.05
5.500″	+0.015″	4.500″	7767T97	130.00	296.40	520.00

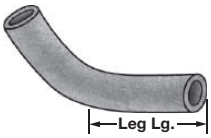

45° Angle



90° Angle

OD	OD Tolerance	ID	Leg Lg., ft.	45° Angle		90° Angle	
0.120″ Wall Thick.							
1.000″	±0.004″	0.760″	2	7767T985	$84.48	7767T981	$91.21
1.500″	±0.005″	1.260″	2	7767T986	89.08	7767T982	94.69
0.134″ Wall Thick.							
1.625″	±0.005″	1.360″	2	7767T987	102.36	7767T983	109.16
0.250″ Wall Thick.							
2.000″	±0.006″	1.500″	2	7767T988	152.35	7767T984	167.54

Rods—Unpolished (Cold Drawn)



- Yield Strength: 54,000 psi
- Hardness: Medium (Rockwell B70)
- Can be surface hardened to C60
- Meet ASTM A108

Material is 1018 carbon steel. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths; all others have a length tolerance of ±1/16″.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1/4″	–0.002″	8920K115	$1.03	$2.57	$4.67
5/16″	–0.002″	8920K265	1.28	3.19	5.80
3/8″	–0.002″	8920K135	1.74	4.34	7.89
1/2″	–0.002″	8920K155	3.09	7.72	14.04
9/16″	–0.002″	8920K365	3.46	8.66	15.75
5/8″	–0.002″	8920K175	4.81	12.02	21.85
3/4″	–0.002″	8920K195	6.94	17.34	31.53
13/16″	–0.002″	8920K465	6.98	17.45	31.72
7/8″	–0.002″	8920K215	8.25	20.61	37.48
1″	–0.002″	8920K231	10.82	27.06	49.20
1 1/8″	–0.002″	8920K251	12.71	31.78	57.79
1 1/4″	–0.002″	8920K271	17.37	39.60	69.48
1 3/8″	–0.002″	8920K291	20.51	46.76	82.04
1 1/2″	–0.002″	8920K311	22.61	51.55	90.43
1 5/8″	–0.003″	8920K331	25.22	57.51	100.89
1 3/4″	–0.003″	8920K72	28.09	64.04	112.35
1 7/8″	–0.003″	8920K74	31.56	71.96	126.24
2″	–0.003″	8920K75	35.15	80.15	140.61

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
2 1/8″	–0.003″	8920K76	$38.88	$88.64	$155.51
2 1/4″	–0.003″	8920K77	42.73	97.42	170.91
2 3/8″	–0.003″	8920K78	46.65	106.36	186.60
2 1/2″	–0.003″	8920K79	50.71	115.62	202.84
2 5/8″	–0.004″	8920K81	54.84	125.05	219.38
2 3/4″	–0.004″	8920K82	59.07	134.68	236.28
2 7/8″	–0.004″	8920K83	64.58	147.24	258.32
3″	–0.004″	8920K84	69.03	157.38	276.11
3 1/8″	–0.004″	8920K85	74.34	169.51	297.38
3 1/4″	–0.004″	8920K86	79.00	180.13	316.02
3 3/8″	–0.004″	8920K87	83.72	190.89	334.90
3 1/2″	–0.004″	8920K88	90.03	205.26	360.10
3 5/8″	–0.004″	8920K89	108.25	246.81	433.00
3 3/4″	–0.004″	8920K91	115.84	264.12	463.36
3 7/8″	–0.004″	8920K92	119.58	272.65	478.33
4″	–0.004″	8920K93	127.43	290.54	509.72
4 1/2″	–0.005″	8920K94	167.19	381.18	668.74
5″	–0.005″	8920K95	203.06	462.97	812.23



Dia.	Dia. Tolerance	1/2″ Long		1″ Long		3″ Long		6″ Long	
2″	–0.003″	7786T12	$3.03	7786T14	$4.55	7786T16	$10.73	7786T18	$19.47
3″	–0.004″	7786T32	5.44	7786T34	8.69	7786T36	23.34	7786T38	46.09
4″	–0.004″	7786T52	9.53	7786T54	14.17	7786T56	37.04	7786T58	72.56
5″	–0.005″	7786T62	14.00	7786T64	21.98	7786T66	63.12	7786T68	124.12
6″	–0.005″	7786T72	17.14	7786T74	31.16	7786T86	85.70	7786T78	155.82

(Material continued on following page)

General Purpose Low-Carbon Steel *(Material continued from previous page)*

One of the most widely used types of steel, low-carbon steel is weldable, machinable, and can be surface hardened by heat treating. It is suitable for a variety of applications, such as structural and power transmission components.

Metric Rods—Unpolished (Cold Drawn)



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B85)
- Meet ASTM A108

Material is 1018 carbon steel. Length tolerance is ±2″.

Dia., mm	Dia. Tolerance		1 ft.	3 ft.	6 ft.
2	–0.05 mm	8920K12	$1.04	$2.86	$5.20
3	–0.05 mm	8920K14	1.34	3.67	6.68
4	–0.05 mm	8920K16	1.39	3.82	6.94
5	–0.05 mm	8920K18	1.43	3.93	7.15
6	–0.05 mm	8920K22	1.91	5.25	9.54
7	–0.05 mm	8920K24	2.43	6.67	12.13
8	–0.05 mm	8920K26	3.06	8.43	15.32
9	–0.05 mm	8920K28	3.35	9.21	16.74
10	–0.05 mm	8920K32	$3.42	$9.40	$17.09
12	–0.05 mm	8920K34	4.64	12.77	23.22
15	–0.05 mm	8920K36	6.88	18.91	34.39
20	–0.05 mm	8920K38	9.29	25.55	46.45
25	–0.05 mm	8920K42	13.51	37.14	67.53
30	–0.05 mm	8920K44	18.18	49.99	90.89
40	–0.07 mm	8920K46	28.58	78.61	142.92
50	–0.07 mm	8920K48	42.23	116.13	211.15

Chrome-Coated Rods—Dull Finish



- Yield Strength: 45,000 psi
- Hardness: Very hard (Rockwell C60 with coating)

These rods are 1018 carbon steel with a dull chrome coating for increased wear and corrosion resistance. Coating meets AMS QQ-C-320 and AMS 2406. Length tolerance is ±1/8″.

Dia.	Dia. Tolerance		½ ft.	1 ft.	3 ft.
1/4″	±0.002″	7936K31	—	$5.07	$11.80
5/16″	±0.002″	7936K37	—	6.46	16.14
3/8″	±0.002″	7936K32	—	7.07	16.44
7/16″	±0.002″	7936K38	—	15.75	30.89
1/2″	±0.002″	7936K33	$9.07	16.53	32.41
9/16″	±0.002″	7936K39	10.44	19.02	37.29
5/8″	±0.002″	7936K34	11.67	21.25	41.67
3/4″	±0.002″	7936K35	14.39	26.20	51.38
7/8″	±0.002″	7936K41	16.66	30.34	59.50
15/16″	±0.002″	7936K42	$17.43	$31.75	$62.25
1″	±0.002″	7936K36	22.71	41.36	81.10
1 1/8″	±0.002″	7936K43	25.86	47.09	92.34
1 1/4″	±0.002″	7936K44	27.93	50.87	99.74
1 3/8″	±0.002″	7936K45	31.57	57.51	112.76
1 1/2″	±0.002″	7936K46	34.88	63.53	124.57
1 5/8″	±0.002″	7936K47	37.57	68.43	134.17
1 3/4″	±0.002″	7936K48	46.11	83.98	164.67
2″	±0.002″	7936K51	54.76	99.74	195.56

Zinc-Galvanized Rods



- Yield Strength: 30,000 psi
- Hardness: Soft (Rockwell B66 with coating)
- 3/16″ to 3/4″ dia. rods meet ASTM A108; 7/8″ to 1″ dia. rods meet ASTM A36.

Rods are 1006-1035 carbon steel with a zinc coating for increased corrosion resistance. They are cold drawn, unless noted. Length tolerance is ±1/8″.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
3/16″	±0.003″	9120K31	—	$2.60	$4.49
1/4″	±0.003″	9120K32	—	3.49	6.01
5/16″	±0.003″	9120K33	—	4.68	8.07
3/8″	±0.003″	9120K34	—	6.09	10.50
7/16″	±0.003″	9120K35	—	7.96	13.72
1/2″	±0.003″	9120K36	—	$9.67	$16.67
5/8″	±0.003″	9120K37	—	14.42	24.87
3/4″	±0.003″	9120K38	$8.63	20.02	34.51
7/8″	±0.003″	9120K39★	9.35	21.68	37.38
1″	±0.003″	9120K41★	12.24	28.40	48.96

★ Hot rolled.

Hexagonal Bars—Unpolished (Cold Drawn)



- Yield Strength: 54,000 psi
- Hardness: Medium (Rockwell B70)
- Can be surface hardened to C60
- Meet ASTM A29 and A108

Material is 1018 carbon steel. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Hex Size	Hex Tolerance		1 ft.	3 ft.	6 ft.
1/4″	–0.002″	6512K121	$1.01	$2.42	$4.03
5/16″	–0.002″	6512K141	1.58	3.79	6.31
3/8″	–0.002″	6512K161	2.27	5.45	9.09
1/2″	–0.002″	6512K181	3.96	9.52	15.86
5/8″	–0.002″	6512K221	5.70	13.69	22.82
11/16″	–0.002″	6512K251	6.24	14.98	24.97
3/4″	–0.002″	6512K41	7.11	17.06	28.43
7/8″	–0.003″	6512K43	9.42	22.60	37.67
1″	–0.003″	6512K45	11.78	28.28	47.13
1 1/8″	–0.003″	6512K441	$14.04	$33.70	$56.16
1 1/4″	–0.003″	6512K48	17.33	41.59	69.32
1 3/8″	–0.003″	6512K531	20.98	50.34	83.90
1 1/2″	–0.003″	6512K34	24.98	59.95	99.92
1 5/8″	–0.004″	6512K541	29.30	70.31	117.18
1 3/4″	–0.004″	6512K551	33.98	81.54	135.90
2″	–0.004″	6512K35	38.90	93.36	155.60
2 1/2″	–0.004″	6512K36	67.90	162.96	271.60

Metric Hexagonal Bars—Unpolished (Cold Drawn)



- Yield Strength: Not rated
- Hardness: Medium (Rockwell B80)

Material is either Grade S235 or 1018 carbon steel. Length tolerance is ±2″.

Hex Size, mm	Hex Tolerance, mm		1 ft.	3 ft.	6 ft.
5	–0.05	6512K11	$1.52	$3.81	$6.93
6	–0.05	6512K57	1.55	3.88	7.06
7	–0.05	6512K13	1.64	4.10	7.45
8	–0.05	6512K58	2.14	5.34	9.71
10	–0.05	6512K15	3.19	7.99	14.52
12	–0.05	6512K17	4.31	10.76	19.57
13	–0.05	6512K59	5.05	12.63	22.96
15	–0.05	6512K19	$6.38	$15.94	$28.98
18	–0.05	6512K61	9.18	22.96	41.74
19	–0.05	6512K62	10.23	25.58	46.51
20	–0.05	6512K21	11.10	27.74	50.44
22	–0.08	6512K63	13.43	33.57	61.04
25	–0.08	6512K27	16.65	41.61	75.66
50	–0.10	6512K37	61.66	154.14	280.25

(Material continued on following page)

***Warning!* Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.**

General Purpose Low-Carbon Steel *(Material continued from previous page)*

90° Angles—Rough Finish (Hot Rolled)



- Yield Strength: 36,000 psi
- Hardness: Not rated

Material meets ASTM A36. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft lengths. Thickness, wall thickness, and leg length tolerances are not rated.

Outside Leg Lgs.	Wall Thick.		1 ft.	3 ft.	6 ft.
1/2″×1/2″	1/8″	9017K124	$3.01	$6.94	$11.57
3/4″×3/4″	1/8″	9017K424	3.93	7.37	12.28
1″×1″	1/8″	9017K444	4.74	8.88	14.80
1″×1″	3/16″	9017K144	3.98	9.19	15.32
1″×1″	1/4″	9017K654	7.50	14.06	23.44
1 1/4″×1 1/4″	1/8″	9017K474	4.85	9.10	15.16
1 1/4″×1 1/4″	3/16″	9017K15	4.86	11.21	18.69
1 1/4″×1 1/4″	1/4″	9017K76	5.81	13.41	22.35
1 1/2″×1 1/2″	1/8″	9017K484	5.36	10.04	16.74
1 1/2″×1 1/2″	3/16″	9017K594	6.38	11.97	19.95
1 1/2″×1 1/2″	1/4″	9017K674	10.25	19.21	32.02
1 1/2″×2″	1/8″	9017K11	5.43	12.52	20.87
1 1/2″×2″	3/16″	9017K17	5.28	12.18	20.30
1 1/2″×2″	1/4″	9017K77	7.64	17.63	29.38
1 1/2″×2 1/2″	1/4″	9017K79	8.53	19.69	32.81
1 3/4″×1 3/4″	1/8″	9017K13	5.83	13.46	22.43
1 3/4″×1 3/4″	3/16″	9017K164	5.44	12.56	20.93
1 3/4″×1 3/4″	1/4″	9017K78	7.82	18.04	30.07
2″×2″	1/8″	9017K494	6.89	12.92	21.54
2″×2″	3/16″	9017K184	6.00	13.84	23.06
2″×2″	1/4″	9017K694	12.42	23.29	38.81

Outside Leg Lgs.	Wall Thick.		1 ft.	3 ft.	6 ft.
2″×2″	3/8″	9017K85	$12.12	$27.97	$46.62
2″×2 1/2″	1/4″	9017K8	9.28	21.42	35.70
2″×3″	1/4″	9017K81	10.11	23.32	38.87
2″×3″	3/8″	9017K87	14.91	34.41	57.35
2 1/2″×2 1/2″	3/16″	9017K224	7.62	17.59	29.31
2 1/2″×2 1/2″	1/4″	9017K714	14.10	26.44	44.06
2 1/2″×2 1/2″	3/8″	9017K86	14.63	33.76	56.27
2 1/2″×2 1/2″	1/2″	9017K91	18.89	43.59	72.65
2 1/2″×3″	1/4″	9017K82	10.87	25.07	41.79
3″×3″	3/16″	9017K244	8.92	19.89	34.29
3″×3″	1/4″	9017K734	14.65	27.47	45.79
3″×3″	3/8″	9017K88	18.19	41.99	69.98
3″×3″	1/2″	9017K92	22.80	52.62	87.70
3″×4″	1/4″	9017K83	13.72	31.66	52.76
3″×5″	1/4″	9017K84	15.61	36.01	60.02
4″×4″	1/4″	9017K754	26.08	48.89	81.49
4″×4″	3/8″	9017K89	23.33	53.84	89.74
4″×4″	1/2″	9017K93	29.86	68.90	114.84
5″×5″	3/8″	9017K9	29.29	67.58	112.64
5″×5″	1/2″	9017K94	37.05	85.51	142.51
6″×6″	1/2″	9017K95	46.62	107.59	179.31

Zinc-Galvanized 90° Angles



- Yield Strength: 36,000 psi
- Hardness: Medium (Rockwell B68)

Material meets ASTM A36. Angles have a zinc coating for increased corrosion resistance. Wall thickness tolerance is ±0.008″. Length tolerance is ±1/8″.

Outside Leg Lgs.	Leg Lg. Tolerance	Wall Thick.		1 ft.	3 ft.	6 ft.
3/4″	±0.032″	1/8″	8968K11	____	$9.16	$15.80
1″	±0.032″	1/8″	8968K12	____	11.92	20.56
1 1/4″	±0.050″	1/8″	8968K13	____	13.84	23.87
1 1/2″	±0.125″	1/8″	8968K56	____	16.13	27.81
1 1/2″	±0.125″	1/4″	8968K61	$13.22	30.66	52.87

Outside Leg Lgs.	Leg Lg. Tolerance	Wall Thick.		1 ft.	3 ft.	6 ft.
2″	±0.050″	3/16″	8968K14	$12.07	$28.00	$48.28
2″	±0.125″	1/8″	8968K58	9.34	21.66	37.34
2″	±0.125″	1/4″	8968K63	17.20	39.90	68.79
3″	±0.125″	1/4″	8968K64	25.27	58.61	101.06

Zinc-Galvanized Perforated 90° Angles



1 1/4″×1 1/4″



1 1/2″×1 1/2″

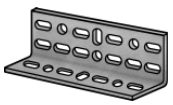

1 1/2″×2 1/4″

- Yield Strength: Not rated
- Hardness: Soft (Rockwell B65)

These angles are 1006-1026 carbon steel with a zinc coating for increased corrosion resistance. All holes are 3/8″ diameter on 3/4″ centers. Length tolerance is ±1/8″.

Outside Leg Lgs.	Leg Lg. Tolerance	Wall Thick.	Wall Thick. Tolerance		3 ft.	6 ft.
1 1/4″×1 1/4″	±1/16″	3/64″	±0.006″	8968K21	$3.85	$6.76
1 1/2″×1 1/2″	±1/16″	5/64″	±0.013″	8968K24	4.94	8.66
1 1/2″×2 1/4″	±1/16″	5/64″	±0.013″	8968K27	11.65	20.43

U-Channels—Rough Finish (Hot Rolled)



- Yield Strength: 36,000 psi
- Hardness: Not rated

Material meets ASTM A36. These U-channels have tapered legs and square edges. Leg length tolerance is ±0.063″.

Outside Base	Outside Leg Lgs.	Wall Thick.	Wall Thick. Toler.		1 ft.	3 ft.	6 ft.
3/4″	3/8″	1/8″	±0.010″	7779T31	$4.42	$11.54	$20.07
1″	1/2″	1/8″	±0.010″	7779T37	4.34	11.36	19.75
1 1/2″	3/4″	1/8″	±0.010″	7779T35	9.95	26.00	45.22

Outside Base	Outside Leg Lgs.	Wall Thick.	Wall Thick. Toler.		1 ft.	3 ft.	6 ft.
2″	5/8″	1/4″	±0.020″	7779T41	$9.87	$25.79	$44.86
2″	1″	1/8″	±0.010″	7779T33	6.76	17.68	30.74
2″	1″	3/16″	±0.015″	7779T39	8.84	23.10	40.17

Hardened Balls—Reflective Finish



- Yield Strength: 44,000 psi
- Hardness: Very Hard (Rockwell C60)
- Meet ASTM A29

Balls are 1010-1020 carbon steel. They are case hardened for a very strong surface.

Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.
1/16″	±0.005″	500	96455K71	$4.47
3/32″	±0.005″	500	96455K72	3.63
1/8″	±0.005″	500	96455K49	2.04
5/32″	±0.005″	500	96455K73	3.25
3/16″	±0.005″	250	96455K51	2.17
7/32″	±0.005″	250	96455K74	2.79

Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.
1/4″	±0.005″	250	96455K52	$3.20
9/32″	±0.005″	250	96455K75	7.41
5/16″	±0.005″	250	96455K53	5.58
11/32″	±0.005″	100	96455K76	2.65
3/8″	±0.005″	250	96455K54	5.87
7/16″	±0.005″	100	96455K55	6.46

Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.
1/2″	±0.005″	100	96455K56	$8.18
9/16″	±0.005″	100	96455K57	12.96
5/8″	±0.005″	50	96455K58	7.65
3/4″	±0.005″	25	96455K59	7.67
7/8″	±0.005″	20	96455K77	9.82
1″	±0.005″	10	96455K62	6.22

Warning! Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.

High-Strength 1045 Carbon Steel

This economical material is stronger than low-carbon steel. It's often used for bolts, studs, and shafts.

Square Bars—Unpolished (Cold Drawn)



- Yield Strength: 77,000 psi
- Hardness: Medium (Rockwell B88)
- Can be surface hardened to Rockwell C60
- Meet ASTM A29 and A108

Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Square Size	Square Tolerance		1 ft.	3 ft.	6 ft.
1/2″	–0.004″	6545K1	$6.83	$15.83	$27.30
3/4″	–0.004″	6545K2	11.56	27.29	46.25
1″	–0.005″	6545K7	21.25	49.30	85.00
1 1/4″	–0.005″	6545K37	31.61	73.33	126.43
1 1/2″	–0.005″	6545K39	$40.58	$94.15	$162.33
1 3/4″	–0.006″	6545K41	54.09	125.50	216.38
2″	–0.006″	6545K43	65.97	153.05	263.88

Rods—Unpolished (Cold Drawn)



- Yield Strength: 77,000 psi
- Hardness: Medium (Rockwell B88)
- Meet ASTM A108

Diameter tolerance is –0.006″. Straightness tolerance for 1- to 6-ft. lengths is 1/8″. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths. For 1/2″ to 9″ lengths, length has a plus tolerance.

Dia.		1 ft.	3 ft.	6 ft.
1/4″	8924K93	—	$2.55	$4.40
3/8″	8924K94	—	4.04	6.97
1/2″	8924K95	—	6.36	10.97
5/8″	8924K372	—	9.86	17.00
3/4″	8924K392	—	13.74	23.69
7/8″	8924K92	$8.05	18.69	32.22
1″	8924K1	9.91	23.00	39.65
1 1/8″	8924K2	12.44	28.85	49.74
1 1/4″	8924K3	15.04	34.88	60.14
1 3/8″	8924K4	17.96	41.66	71.83
1 1/2″	8924K5	$20.51	$49.57	$85.47
1 5/8″	8924K6	22.66	52.58	90.65
1 3/4″	8924K54	27.55	63.92	110.21
1 7/8″	8924K56	29.73	68.97	118.92
2″	8924K58	34.20	79.33	136.78
2 1/8″	8924K62	38.07	88.33	152.29
2 1/4″	8924K64	41.22	95.63	164.88
2 3/8″	8924K66	47.25	109.62	189.00
2 1/2″	8924K68	51.68	119.90	206.72
2 5/8″	8924K72	56.84	131.86	227.34
2 3/4″	8924K74	$61.10	$141.76	$244.41
2 7/8″	8924K76	66.00	153.13	264.02
3″	8924K78	69.04	160.17	276.16
3 1/8″	8924K82	70.48	163.52	281.93
3 1/4″	8924K84	72.98	169.31	291.92
3 1/2″	8924K86	88.17	204.54	352.66
3 5/8″	8924K88	108.71	252.20	434.83
3 3/4″	8924K89	117.10	271.67	468.39
4″	8924K91	120.32	279.14	481.27



Dia.	1/2″ Long		1″ Long		3″ Long		6″ Long		9″ Long	
2″	—	—	8924K261	$5.04	8924K263	$10.07	8924K266	$18.38	8924K269	$25.18
3″	—	—	8924K361	9.39	8924K363	20.86	8924K366	38.08	8924K369	52.16
4″	8924K46	$9.10	8924K461	16.38	8924K463	36.40	8924K466	66.43	8924K469	91.00
5″	8924K52	17.55	8924K521	25.69	8924K523	57.08	8924K526	104.18	8924K529	142.71
6″	8924K96	24.05	8924K961	33.66	8924K963	74.81	8924K966	136.52	8924K969	187.02

Rods—Ground



- Yield Strength: 65,000 psi
- Hardness: Medium (Rockwell B86)
- Can be surface hardened to Rockwell C62
- Meet ASTM A108

These ground rods are decarb free, improving the surface for heat treating. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1/8″	–0.001″	8279T16	$5.42	$12.57	$21.67
3/16″	–0.001″	8279T19	6.02	13.97	24.08
1/4″	–0.001″	8279T23	6.57	15.24	26.28
5/16″	–0.001″	8279T25	7.82	18.13	31.26
3/8″	–0.001″	8279T26	8.19	19.00	32.76
1/2″	–0.001″	8279T27	8.71	20.22	34.86
5/8″	–0.001″	8279T28	9.29	21.56	37.18
3/4″	–0.001″	8279T29	11.24	26.07	44.95
7/8″	–0.001″	8279T41	12.80	29.68	51.18
1″	–0.002″	8279T11	$14.11	$32.74	$56.45
1 1/4″	–0.002″	8279T12	20.57	47.73	82.30
1 1/2″	–0.002″	8279T14	27.80	64.50	111.20
1 3/4″	–0.002″	8279T15	37.84	87.79	151.37
2″	–0.002″	8279T17	49.40	114.61	197.61
2 3/16″	–0.002″	8279T18	56.32	130.67	225.29
2 1/2″	–0.002″	8279T21	70.61	163.83	282.46
2 3/4″	–0.002″	8279T22	87.41	202.79	349.64
3″	–0.002″	8279T24	96.33	223.48	385.31

Shaft-Quality 1060 Carbon Steel

With a hardened surface for increased strength, this 1060 carbon steel is suitable for making shafts and components for linear bearing systems. Also known as clean steel, it has few imperfections on or below the surface so components work smoothly with roller and ball bearings.

Hardened Rods—Precision Ground



- Yield Strength: 50,000 psi
- Hardness: Very Hard (Rockwell C60)
- Meet ASTM A576

Straightness tolerance for 1/4″ to 3/8″ diameter rods is not rated; for all others it is 0.002″ per foot.

Dia.	Dia. Tolerance		1/2 ft.	1 ft.	3 ft.	6 ft.
1/4″	–0.001″	1555T12	$5.57	$10.13	$27.85	$50.64
3/8″	–0.001″	1555T13	5.97	10.85	29.84	54.25
1/2″	–0.001″	1555T14	6.37	11.58	31.84	57.89
5/8″	–0.001″	1555T18	7.87	14.30	39.33	71.50
3/4″	–0.001″	1555T22	10.15	18.45	50.74	92.26
7/8″	–0.001″	1555T24	14.01	25.47	70.03	127.33
1″	–0.001″	1555T26	$14.01	$25.47	$70.03	$127.33
1 1/8″	–0.001″	1555T28	15.20	27.63	75.99	138.17
1 1/4″	–0.001″	1555T32	19.05	34.63	95.24	173.17
1 1/2″	–0.001″	1555T34	21.25	38.64	106.25	193.19
2″	–0.001″	1555T36	37.27	67.76	186.35	338.82

Hardened Metric Rods—Precision Ground



- Yield Strength: 50,000 psi
- Hardness: Very Hard (Rockwell C60)
- Meet ASTM A576

Straightness tolerance is 0.002″ per foot.

Dia., mm	Dia. Tolerance		1/2 ft.	1 ft.	3 ft.	6 ft.
12	–0.010 mm	1555T62	$8.40	$15.28	$42.02	$76.40
16	–0.010 mm	1555T64	8.75	15.92	43.77	79.59
20	–0.012 mm	1555T66	11.67	21.22	58.36	106.10
25	–0.012 mm	1555T68	$12.40	$22.55	$62.00	$112.73
50	–0.015 mm	1555T72	42.31	76.93	211.55	384.63

Warning! ***Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.***

High-Strength Easy-to-Machine 1144 Carbon Steel

This medium-carbon steel offers high yield strength and hardness, even without further heat treating. Its composition also results in fast, reliable machining and increased tool life.

Rods—Unpolished (Cold Drawn)



- Yield Strength: 100,000 psi
- Hardness: Hard (Rockwell C23)
- Meet ASTM A29, A108, A311

Commonly called Stressproof, these rods are stress-relieved to minimize warping during machining. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1/4″	–0.003″	6628K224	$0.98	$2.25	$4.09
5/16″	–0.003″	6628K245	1.36	3.11	5.66
3/8″	–0.003″	6628K264	2.07	4.74	8.62
1/2″	–0.003″	6628K284	3.27	7.50	13.64
5/8″	–0.003″	6628K324	4.70	10.77	19.59
3/4″	–0.003″	6628K344	6.30	14.43	26.24
7/8″	–0.003″	6628K52	7.99	18.32	33.31
1″	–0.003″	6628K53	10.02	22.96	41.74

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1 1/4″	–0.003″	6628K54	$15.96	$37.02	$63.83
1 1/2″	–0.003″	6628K44	22.13	51.34	88.51
1 3/4″	–0.004″	6628K46	28.76	66.72	115.04
2″	–0.004″	6628K48	36.14	83.84	144.55
2 1/2″	–0.004″	6628K55	54.42	126.25	217.67
3″	–0.005″	6628K56	99.38	230.56	397.52
4″	–0.005″	6628K58	180.37	418.45	721.47

Extra-Strength Rods—Unpolished (Cold Drawn)



- Yield Strength: 125,000 psi
- Hardness: Hard (Rockwell C30)

Also known as Fatigueproof, these rods have enhanced strength and resistance to breaking from repeated impact compared to Stressproof rods. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1/4″	–0.004″	6628K23	$1.50	$3.76	$6.83
5/16″	–0.004″	6628K25	2.06	5.14	9.35
3/8″	–0.004″	6628K27	2.52	6.31	11.47
1/2″	–0.005″	6628K29	4.14	10.35	18.81
5/8″	–0.005″	6628K31	5.96	14.89	27.07
3/4″	–0.005″	6628K33	8.58	21.44	38.98
7/8″	–0.005″	6628K35	10.74	26.84	48.80

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1″	–0.005″	6628K37	$14.03	$35.07	$63.76
1 1/4″	–0.005″	6628K39	21.07	52.68	95.79
1 1/2″	–0.005″	6628K41	29.22	73.06	132.83
1 3/4″	–0.006″	6628K43	39.78	99.45	180.81
2″	–0.006″	6628K45	48.37	120.92	219.86
2 1/2″	–0.006″	6628K47	70.84	177.09	321.98
3″	–0.006″	6628K49	102.23	255.58	464.69

Very Easy-to-Machine 1215 Carbon Steel

For excellent machinability without lead, 1215 carbon steel can substitute for 12L14. It contains added sulfur and phosphorus to speed up machining. Use it for shaft couplings, studs, and pins.

Square Bars—Unpolished (Cold Drawn)



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B85)
- Meet ASTM A108

Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Square Size	Square Tolerance		1 ft.	3 ft.	6 ft.
1/2″	–0.002″	4416T41	$4.05	$9.35	$15.58
5/8″	–0.002″	4416T43	5.58	12.88	21.47
3/4″	–0.002″	4416T45	7.29	16.81	28.02
1″	–0.003″	4416T47	12.05	27.81	46.35
1 1/4″	–0.003″	4416T49	16.85	38.89	64.81

Square Size	Square Tolerance		1 ft.	3 ft.	6 ft.
1 1/2″	–0.003″	4416T51	$23.38	$53.96	$89.94
1 3/4″	–0.004″	4416T53	30.69	70.83	118.05
2″	–0.004″	4416T55	38.39	88.58	147.64
2 1/2″	–0.004″	4416T59	84.84	195.78	326.30

Rods—Unpolished (Cold Drawn)



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B85)
- Meet ASTM A108

Straightness tolerance is 1/8″ per 5 feet. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
3/16″	–0.002″	4416T91	____	$3.91	$5.89
1/4″	–0.002″	4416T92	____	4.07	6.27
5/16″	–0.002″	4416T93	____	5.27	8.46
3/8″	–0.002″	4416T94	____	5.45	9.02
7/16″	–0.002″	4416T95	____	7.54	12.57
1/2″	–0.002″	4416T96	____	8.17	13.62
5/8″	–0.002″	4416T97	____	10.88	18.14
3/4″	–0.002″	4416T18	____	14.63	25.22
7/8″	–0.002″	4416T19	$7.45	17.28	29.80
1″	–0.002″	4416T21	9.62	22.33	38.50

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1 1/8″	–0.002″	4416T22	$11.25	$26.11	$45.01
1 1/4″	–0.002″	4416T23	13.54	31.41	54.15
1 3/8″	–0.002″	4416T24	15.40	35.73	61.60
1 1/2″	–0.002″	4416T25	18.56	43.06	74.25
1 3/4″	–0.003″	4416T26	24.18	56.10	96.72
2″	–0.003″	4416T27	31.14	72.24	124.55
2 1/2″	–0.003″	4416T28	47.74	110.77	190.98
3″	–0.004″	4416T29	66.60	154.51	266.40
3 1/2″	–0.004″	4416T31	96.61	224.14	386.44
4″	–0.004″	4416T32	154.13	357.58	616.52

Hex Bars—Unpolished (Cold Drawn)



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B85)
- Meet ASTM A108

Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Hex Size	Hex Tolerance		1 ft.	3 ft.	6 ft.
1/4″	–0.002″	4416T61	$1.65	$3.67	$6.33
3/8″	–0.002″	4416T63	1.97	4.40	7.58
1/2″	–0.002″	4416T65	2.93	6.53	11.26
9/16″	–0.002″	4416T67	3.37	7.52	12.96
5/8″	–0.002″	4416T69	3.97	8.86	15.28
11/16″	–0.002″	4416T71	4.60	10.27	17.71
3/4″	–0.002″	4416T73	5.47	12.19	21.02
13/16″	–0.003″	4416T75	6.03	13.46	23.20

Hex Size	Hex Tolerance		1 ft.	3 ft.	6 ft.
7/8″	–0.003″	4416T77	$6.75	$15.07	$25.98
15/16″	–0.003″	4416T79	7.51	16.76	28.89
1″	–0.003″	4416T81	8.12	18.12	31.25
1 1/2″	–0.003″	4416T83	16.76	37.39	64.46
2″	–0.004″	4416T85	27.29	60.89	104.98
2 1/2″	–0.004″	4416T87	46.81	104.43	180.05
3″	–0.005″	4416T89	70.57	157.42	271.42

Warning! ***Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.***

Ultra-Machinable 12L14 Carbon Steel

When superior machinability is needed, 12L14 is the steel of choice. Lead added to the material acts as a lubricant for very fast machining and excellent surface finish. It's used to fabricate a wide variety of machine parts.

Square Bars—Unpolished (Cold Drawn)



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B84)
- Can be surface hardened to Rockwell C60
- Meet ASTM A108

These bars are annealed. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Square Size	Square Tolerance		1 ft.	3 ft.	6 ft.
1/4″	–0.002″	6547K112	$2.52	$5.86	$10.10
5/16″	–0.002″	6547K132	2.96	6.87	11.85
3/8″	–0.002″	6547K152	4.76	11.05	19.06
7/16″	–0.002″	6547K172	5.62	13.05	22.50
1/2″	–0.002″	6547K192	6.74	15.64	26.96
9/16″	–0.002″	6547K51	8.04	18.66	32.17
5/8″	–0.002″	6547K52	8.86	20.56	35.44
3/4″	–0.002″	6547K53	11.48	26.64	45.93
7/8″	–0.003″	6547K54	14.32	33.23	57.30
1″	–0.003″	6547K55	$18.75	$43.50	$75.00
1 1/8″	–0.003″	6547K31	22.73	52.72	90.90
1 1/4″	–0.003″	6547K33	27.82	64.55	111.29
1 3/8″	–0.003″	6547K35	32.41	75.18	129.62
1 1/2″	–0.003″	6547K37	38.84	90.12	155.38
1 3/4″	–0.004″	6547K39	46.53	107.96	186.14
2″	–0.004″	6547K41	57.23	132.77	228.92
2 1/4″	–0.004″	6547K71	99.43	230.68	397.73
2 1/2″	–0.004″	6547K43	115.57	268.13	462.29

Rods—Unpolished (Cold Drawn)



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B84)
- Meet ASTM A29 and A108

Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1/4″	–0.002″	90075K115	$1.13	$2.63	$4.53
3/8″	–0.002″	90075K135	2.06	4.79	8.26
7/16″	–0.002″	90075K145	3.02	7.01	12.08
1/2″	–0.002″	90075K155	3.41	7.91	13.64
5/8″	–0.002″	90075K175	5.05	11.72	20.20
3/4″	–0.002″	90075K192	7.12	16.53	28.50
7/8″	–0.002″	90075K212	9.48	22.00	37.93
1″	–0.002″	90075K232	11.90	27.62	47.62
1 1/8″	–0.002″	90075K252	15.07	34.96	60.27
1 1/4″	–0.002″	90075K272	18.59	43.12	74.34
1 3/8″	–0.002″	90075K292	22.05	51.16	88.20
1 1/2″	–0.002″	90075K312	26.78	62.12	107.11
1 5/8″	–0.003″	90075K32	30.78	71.41	123.12
1 3/4″	–0.003″	90075K36	34.99	81.18	139.97
1 7/8″	–0.003″	90075K42	39.39	91.39	157.57
2″	–0.003″	90075K46	$43.10	$99.99	$172.39
2 1/8″	–0.003″	90075K52	48.68	112.93	194.71
2 1/4″	–0.003″	90075K56	54.58	126.61	218.30
2 3/8″	–0.003″	90075K62	58.59	135.92	234.35
2 1/2″	–0.003″	90075K66	63.77	147.95	255.09
2 5/8″	–0.004″	90075K72	69.06	160.21	276.23
2 3/4″	–0.004″	90075K74	74.45	172.74	297.82
2 7/8″	–0.004″	90075K76	79.91	185.39	319.63
3″	–0.004″	90075K78	85.69	198.81	342.78
3 1/8″	–0.004″	90075K82	104.23	241.83	416.94
3 1/4″	–0.004″	90075K84	112.77	261.63	451.09
3 1/2″	–0.004″	90075K88	128.62	298.41	514.50
3 5/8″	–0.004″	90075K92	156.98	364.19	627.91
3 3/4″	–0.004″	90075K94	167.99	389.73	671.94
4″	–0.004″	90075K98	188.06	436.30	752.25

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 65,000 psi
- Hardness: Medium (Rockwell B82)
- Can be surface hardened to Rockwell C65
- Meet ASTM A108

These rods are annealed. Straightness tolerance is 1/16″ per 3 feet. Length tolerance for 1- and 3-ft. lengths is –1/8″; for 6-ft. lengths it is ±6″.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
3/32″	–0.0005″	5227T42	___	$2.70	$4.65
1/8″	–0.0005″	5227T43	___	2.73	4.71
5/32″	–0.0005″	5227T44	___	3.75	6.46
3/16″	–0.0005″	5227T45	___	4.08	7.04
1/4″	–0.0005″	5227T232	$2.17	5.03	8.68
5/16″	–0.0005″	5227T242	3.04	7.04	12.14
3/8″	–0.0005″	5227T252	3.56	8.25	14.23
7/16″	–0.0005″	5227T192	4.08	9.47	16.33
1/2″	–0.0005″	5227T262	4.51	10.47	18.05
5/8″	–0.0005″	5227T272	6.50	15.09	26.02
3/4″	–0.0005″	5227T282	8.21	19.05	32.84
7/8″	–0.0005″	5227T312	11.97	27.78	47.89
1″	–0.0005″	5227T322	16.22	37.64	64.89
1 1/8″	–0.0005″	5227T14	$19.34	$44.86	$77.35
1 1/4″	–0.0005″	5227T152	22.40	51.97	89.60
1 1/2″	–0.0005″	5227T172	29.91	69.38	119.62
1 5/8″	–0.0005″	5227T16	35.66	82.73	142.64
1 3/4″	–0.0005″	5227T18	39.33	91.25	157.33
1 7/8″	–0.0005″	5227T33	45.15	104.75	180.60
2″	–0.0005″	5227T34	66.39	154.03	265.57
2 1/8″	–0.0005″	5227T35	71.42	165.68	285.66
2 1/4″	–0.0005″	5227T36	77.61	180.06	310.45
2 1/2″	–0.0005″	5227T37	83.94	194.73	335.74
2 5/8″	–0.0005″	5227T38	90.80	210.66	363.20
2 3/4″	–0.0005″	5227T39	94.79	219.92	379.17
2 7/8″	–0.0005″	5227T41	99.17	230.06	396.66

Metric Tight-Tolerance Rods—Precision Ground



- Yield Strength: 65,000 psi
- Hardness: Medium (Rockwell B82)
- Can be surface hardened to Rockwell C65
- Meet ASTM A108

These rods are annealed. Straightness tolerance is 1/16″ per 3 feet. Length tolerance for 1- and 3-ft. lengths is –1/8″; for 6-ft. lengths it is ±6″.

Dia., mm	Dia. Tolerance		1 ft.	3 ft.	6 ft.
2	–0.012 mm	5544T212	$2.06	$3.99	$6.88
3	–0.012 mm	5544T222	2.21	4.28	7.38
4	–0.012 mm	5544T232	2.36	4.56	7.86
5	–0.012 mm	5544T242	2.55	4.94	8.51
6	–0.012 mm	5544T252	2.73	5.27	9.09
7	–0.012 mm	5544T262	3.18	6.15	10.61
8	–0.012 mm	5544T272	3.52	6.80	11.72
9	–0.012 mm	5544T282	3.69	7.65	13.19
10	–0.012 mm	5544T312	$4.03	$8.34	$14.38
12	–0.012 mm	5544T332	4.95	11.48	19.79
13	–0.012 mm	5544T342	5.42	12.56	21.66
14	–0.012 mm	5544T352	5.74	13.32	22.97
15	–0.012 mm	5544T362	6.73	15.61	26.92
20	–0.012 mm	5544T382	9.56	22.18	38.25
25	–0.012 mm	5544T372	15.26	35.39	61.02
40	–0.012 mm	5544T392	33.07	76.72	132.27

(Material continued on following page)

***Warning!** Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.*

Ultra-Machinable 12L14 Carbon Steel *(Material continued from previous page)*

Hexagonal Bars—Unpolished (Cold Drawn)



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B84)
- Can be surface hardened to Rockwell C60
- Meet ASTM A108

Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Hex Size	Hex Tolerance		1 ft.	3 ft.	6 ft.
3/16″	–0.002″	6606K122	$1.15	$2.66	$4.58
1/4″	–0.002″	6606K112	1.43	3.31	5.70
5/16″	–0.002″	6606K132	1.85	4.29	7.39
3/8″	–0.002″	6606K152	2.76	6.40	11.03
7/16″	–0.002″	6606K172	3.29	7.64	13.18
1/2″	–0.002″	6606K192	3.65	8.48	14.62
9/16″	–0.002″	6606K142	4.17	9.67	16.67
5/8″	–0.002″	6606K212	5.45	12.64	21.80
11/16″	–0.002″	6606K162	5.71	13.24	22.83
3/4″	–0.002″	6606K232	6.75	15.67	27.02
13/16″	–0.003″	6606K182	7.72	17.92	30.89

Hex Size	Hex Tolerance		1 ft.	3 ft.	6 ft.
7/8″	–0.003″	6606K85	$9.20	$21.35	$36.81
15/16″	–0.003″	6606K222	9.54	22.13	38.16
1″	–0.003″	6606K87	11.38	26.41	45.54
1 1/8″	–0.003″	6606K242	13.68	31.73	54.71
1 1/4″	–0.003″	6606K89	16.91	39.24	67.65
1 3/8″	–0.003″	6606K31	19.02	44.14	76.10
1 1/2″	–0.003″	6606K33	24.42	56.65	97.67
1 3/4″	–0.004″	6606K35	32.70	75.85	130.78
2″	–0.004″	6606K37	39.92	92.61	159.67
3″	–0.005″	6606K38	97.41	225.99	389.64

Easy-to-Machine 1117 Carbon Steel



- Yield Strength: 58,000 psi
- Hardness: Medium (Rockwell B75)
- Can be surface hardened to Rockwell B89
- Meet ASTM A108

Extend the life of your tools and get improved surface finish with this machinable material. These rods are cold drawn. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1/4″	–0.002″	8290T12	$2.21	$4.74	$7.90
5/16″	–0.002″	8290T13	2.34	5.01	8.35
3/8″	–0.002″	8290T11	3.40	7.29	12.15
1/2″	–0.002″	8290T16	4.93	10.55	17.59
9/16″	–0.002″	8290T17	5.31	11.38	18.96
5/8″	–0.002″	8290T14	6.98	14.96	24.94
3/4″	–0.002″	8290T15	7.79	18.08	31.17
7/8″	–0.002″	8290T19	10.46	22.42	37.36
1″	–0.002″	8290T18	12.28	28.48	49.10

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1 1/8″	–0.002″	8290T21	$13.93	$29.84	$49.74
1 1/4″	–0.002″	8290T22	16.91	39.23	67.64
1 1/2″	–0.002″	8290T26	20.76	48.16	83.04
1 5/8″	–0.003″	8290T27	23.22	53.87	92.88
1 3/4″	–0.003″	8290T28	27.41	63.59	109.64
2″	–0.003″	8290T31	35.09	81.41	140.36
2 1/8″	–0.003″	8290T32	36.63	84.98	146.52
2 1/4″	–0.003″	8290T33	40.19	93.23	160.75
2 1/2″	–0.003″	8290T35	48.56	112.66	194.25

Abrasion-Resistant AR400 Carbon Steel

This material withstands abrasion and wear from sliding and gouging because of its uniform hardness and the addition of elements such as nickel and molybdenum. It's suitable for use as wear strips, liners, and deflector plates.

Hardened Rectangular Bars—Unpolished (Hot Rolled)



- Yield Strength: 140,000 psi
- Hardness: Hard (Rockwell C38)

Length tolerance is ±1/8″. Width tolerance is ±0.020″.

Wd.		1 ft.	3 ft.	6 ft.
1/4″ Thick (±0.020″)				
2″	1607T21	$16.10	$45.09	$80.51
2 1/2″	1607T22	19.13	53.55	95.63
3″	1607T23	19.82	55.50	99.11
4″	1607T24	24.84	69.55	124.20

Wd.		1 ft.	3 ft.	6 ft.
3/8″ Thick (±0.020″)				
2″	1607T25	$21.56	$60.37	$107.81
2 1/2″	1607T26	23.24	65.06	116.18
3″	1607T27	28.86	80.81	144.31
4″	1607T28	33.56	93.97	167.81

Wd.		1 ft.	3 ft.	6 ft.
1/2″ Thick (±0.020″)				
2″	1607T29	$27.87	$78.02	$139.33
2 1/2″	1607T31	32.59	91.24	162.93
3″	1607T32	34.50	96.60	172.50
4″	1607T33	44.36	124.20	221.79

Hardened Sheets—Unpolished (Hot Rolled)



- Yield Strength: Not rated
- Hardness: Hard (Rockwell C39)
- Meet ASTM A6

Reduced levels of carbon and sulfur make these sheets formable as well as abrasion resistant. Width and length tolerances are –1/8″.

Thick.	Thick. Tolerance	6″×6″		6″×12″		12″×12″		12″×24″		24″×24″	
1/8″	+0.030″, –0.010″	1607T111	$25.10	1607T112	$31.79	1607T113	$58.57	1607T114	$96.22	1607T11	$167.34
3/16″	+0.030″, –0.010″	1607T121	27.16	1607T122	34.40	1607T123	63.37	1607T124	104.12	1607T12	181.07
1/4″	+0.030″, –0.010″	1607T131	28.13	1607T132	35.63	1607T133	65.64	1607T134	107.83	1607T13	187.53
3/8″	+0.030″, –0.010″	1607T141	38.68	1607T142	48.99	1607T143	90.24	1607T144	148.26	1607T14	257.84
1/2″	+0.030″, –0.010″	1607T151	40.07	1607T152	50.76	1607T153	93.50	1607T154	153.61	1607T15	267.15
3/4″	+0.030″, –0.010″	1607T161	48.40	1607T162	61.30	1607T163	112.92	1607T164	185.52	1607T16	322.64
1″	+0.030″, –0.010″	1607T171	59.23	1607T172	75.03	1607T173	138.21	1607T174	227.06	1607T17	394.88

Impact-Resistant A516 Carbon Steel



- Yield Strength: 38,000 psi
- Hardness: Medium (Rockwell B78)
- Meet ASTM A516

Even in low temperatures, A516 resists breaking upon impact. Also known as pressure vessel quality steel (PVQ), it can be used for boilers, storage tanks, and pressure vessels. These sheets are ground. Width tolerance is +1/8″.

Thick.	Thick. Tolerance	6″×6″		6″×12″		12″×12″		12″×24″		24″×24″	
1/16″	+0.040″	1631T1	$26.32	1631T3	$43.87	1631T5	$70.20	1631T7	$120.65	1631T9	$219.36
1/8″	+0.040″	1631T11	27.99	1631T13	46.64	1631T71	74.63	1631T73	128.27	1631T75	233.22
3/16″	+0.040″	1631T77	28.86	1631T23	48.10	1631T25	76.96	1631T27	132.27	1631T29	240.49
1/4″	+0.040″	1631T31	30.03	1631T79	50.04	1631T35	80.07	1631T37	137.62	1631T39	250.22
3/8″	+0.040″	1631T41	33.53	1631T43	55.88	1631T45	89.40	1631T47	153.66	1631T49	279.38
1/2″	+0.040″	1631T51	35.74	1631T53	59.56	1631T55	95.30	1631T57	163.80	1631T59	297.81
1″	+0.040″	1631T61	47.74	1631T63	79.56	1631T65	127.30	1631T67	218.80	1631T69	397.81

Warning! ***Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.***

General Purpose 1074/1075 Spring Steel

Often used for springs and shims, this material is easier to form and bend than 1095 spring steel, but it has a lesser degree of bounce-back when heat treated. *Annealed sheets* can be formed and heat treated for spring properties.

Annealed Sheets—Unpolished (Cold Rolled)



- Yield Strength: 50,000 psi
- Hardness: Medium (Rockwell B88)
- Can be hardened up to Rockwell C64
- Meet ASTM A684

Thickness tolerance is ±0.003″. Width tolerance for 8″ widths is ±1/64″ and for 17″ widths it is +3″, –2″. Length tolerance for 12″ and 24″ lengths is ±1/16″ and for 48″ lengths it is ±1/2″. Flatness tolerance is 3/8″.

Thick.	8″×12″		8″×24″		17″×48″	
0.025″	9071K71	$16.42	9071K41	$25.26	9071K11	$47.81
0.032″	9071K72	17.58	9071K42	26.54	9071K12	50.54
0.035″	9071K73	18.50	9071K43	28.44	9071K13	60.35
0.042″	9071K74	19.01	9071K44	31.98	9071K14	64.60
0.050″	9071K55	22.67	9071K45	36.04	9071K15	79.16
0.062″	9071K56	23.42	9071K46	36.64	9071K16	82.74
0.072″	9071K57	$27.18	9071K47	$43.11	9071K17	$87.89
0.083″	9071K58	32.45	9071K48	51.48	9071K18	90.83
0.094″	9071K59	34.24	9071K49	53.45	9071K19	111.02
0.109″	9071K61	34.32	9071K51	56.32	9071K21	119.18
0.125″	9071K62	35.43	9071K52	58.26	9071K22	140.69
0.187″	9071K63	48.70	9071K53	93.71	9071K23	205.64

Spring-Tempered Strips—Unpolished (Cold Rolled)



- Yield Strength: Not rated
- Hardness: Hard (Rockwell C44)

This material is also known as scaleless blue steel. Width tolerance is ±0.008″. Length tolerance for lengths up to 5 feet is ±1/4″ and for all other lengths it is +12″, –1″. Color varies from silver to blue-gray to straw.

Wd.	Lg., ft.		
0.010″ Thick (±0.0006″)			
1/2″	10	9074K11	$12.14
1″	10	9074K12	19.71
1″	75	9074K112	55.75
2″	5	9074K13	23.76
4″	10	9074K214	43.12
6″	5	9074K15	36.15
6″	10	9074K215	48.20
0.015″ Thick (±0.0006″)			
1/2″	10	9074K16	13.20
1″	5	9074K17	12.32
1″	50	9074K217	49.33
2″	5	9074K18	23.82
2″	25	9074K218	47.63
4″	10	9074K219	49.50
6″	10	9074K221	54.82
0.018″ Thick (±0.0007″)			
1/2″	10	9074K22	14.19
1″	5	9074K23	13.71
2″	5	9074K24	27.01
6″	10	9074K126	55.75
0.020″ Thick (±0.0008″)			
1/2″	10	9074K27	14.79
1/2″	100	9074K127	55.75
1″	5	9074K28	14.79
1″	50	9074K128	55.75
2″	5	9074K29	27.01
0.020″ Thick (±0.0008″) (Cont.)			
2″	25	9074K229	$54.04
4″	10	9074K231	48.20
6″	10	9074K232	65.68
0.025″ Thick (±0.001″)			
1/2″	10	9074K33	18.71
1/2″	75	9074K233	56.14
1″	5	9074K34	17.18
1″	50	9074K234	68.73
2″	5	9074K35	33.59
2″	25	9074K235	67.15
6″	5	9074K237	46.47
0.032″ Thick (±0.0011″)			
1/2″	5	9074K38	12.05
1/2″	50	9074K238	48.20
1″	5	9074K39	24.73
1″	25	9074K239	49.50
2″	10	9074K241	44.07
4″	10	9074K242	65.68
6″	5	9074K243	51.22
0.035″ Thick (±0.0011″)			
1/2″	5	9074K44	12.80
1/2″	50	9074K244	51.22
1″	5	9074K45	23.82
1″	25	9074K245	47.63
2″	10	9074K246	46.47
0.035″ Thick (±0.0011″) (Cont.)			
4″	10	9074K247	$73.88
6″	5	9074K248	51.22
0.042″ Thick (±0.0013″)			
1/2″	5	9074K63	14.98
1″	25	9074K632	55.95
2″	10	9074K633	48.84
3″	10	9074K634	72.63
4″	5	9074K635	65.09
6″	4	9074K636	55.19
0.050″ Thick (±0.0014″)			
1/2″	5	9074K49	17.18
1″	5	9074K51	32.08
1″	25	9074K251	64.25
2″	10	9074K252	51.22
3″	5	9074K52	44.62
4″	5	9074K253	51.22
6″	4	9074K154	55.75
0.062″ Thick (±0.0016″)			
1/2″	5	9074K55	24.73
1/2″	25	9074K255	49.50
1″	10	9074K256	44.07
2″	10	9074K157	58.39
3″	5	9074K56	54.80
4″	4	9074K158	58.39
6″	3	9074K159	57.15
0.094″ Thick (±0.002″)			
1/2″	5	9074K61	$26.97
1/2″	100	9074K261	246.34
5/8″	5	9074K62	26.97
3/4″	5	9074K183	33.72
1″	4	9074K184	33.72
1 1/4″	3	9074K185	35.03
1 1/2″	3	9074K186	36.06
1 1/2″	50	9074K266	266.64
2″	2	9074K187	33.72
2″	25	9074K267	241.74
2 1/2″	2	9074K188	34.06
2 1/2″	25	9074K268	248.67
3″	1	9074K189	34.54
3″	25	9074K269	260.70
4″	1	9074K191	36.06
4″	10	9074K271	232.19
5″	1	9074K192	38.31
5″	10	9074K272	240.51
0.125″ Thick (±0.002″)			
1/2″	5	9074K193	32.26
3/4″	4	9074K194	33.72
7/8″	3	9074K195	34.97
1″	3	9074K196	35.85
1 1/4″	2	9074K197	37.15
1 1/2″	2	9074K198	38.31

Wear-Resistant 1095 Spring Steel

A high carbon content gives this spring steel good wear resistance and hardness for demanding applications. Use it to fabricate parts that will be used under continual stress, such as spring clips and washers. *Annealed sheets* can be formed and heat treated for spring properties.

Annealed Sheets—Unpolished (Cold Rolled)



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B90)
- Can be hardened up to Rockwell C66

Thickness tolerance for sheets up to 0.050″ thick is ±0.002″; for all others it is ±0.003″. Width tolerance for 8″ widths is ±0.016″ and for 15″ widths it is +5″. Length tolerance for 12″ and 24″ lengths is ±1/16″; for 48″ lengths it is ±1/2″. Flatness tolerance is 3/8″.

Thick.	8″×12″		8″×24″		15″×48″	
0.025″	9043K42	$18.30	9043K24	$25.71	9043K12	$42.73
0.032″	9043K43	18.99	9043K25	26.64	9043K13	53.23
0.035″	9043K44	20.06	9043K26	27.44	9043K14	59.60
0.042″	9043K45	21.25	9043K27	28.94	9043K15	72.17
0.050″	9043K46	26.94	9043K28	37.91	9043K16	82.94
0.062″	9043K47	27.78	9043K29	39.20	9043K17	91.77
0.072″	9043K48	$29.03	9043K31	$40.90	9043K18	$107.06
0.083″	9043K49	34.34	9043K32	48.40	9043K19	116.40
0.094″	9043K51	35.64	9043K33	50.95	9043K21	138.93
0.109″	9043K52	39.43	9043K34	57.35	9043K22	149.03
0.125″	9043K53	43.63	9043K35	58.98	9043K23	153.32
0.187″	9043K57	49.95	9043K36	86.01	9043K37	209.78

Spring-Tempered Strips and Sheets—Polished with blue tint

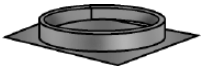

- Yield Strength: Not rated
- Hardness: Hard (Rockwell C48)

This material is also known as blue-tempered steel. Width tolerance for widths up to 4″ is ±0.005″; for 6″ to 12 3/8″ widths it is ±0.0236″. Length tolerance for 1- to 9-ft. lengths is +3″, –1/8″ and for 10- to 100-ft. lengths it is +12″, –1″.

Wd.	Small Size Lg., ft.		Large Size Lg., ft.	
0.002″ Thick (±0.0005″)				
3/4″	9072K21	10	$29.96	50	$83.36
1″	9072K22	10	30.32	50	89.88
2″	9072K23	5	30.41	25	89.88
3″	9072K24	4	31.30	25	95.27
0.003″ Thick (±0.0005″)				
1/2″	9072K25	25	$30.56	100	$80.08
1″	9072K26	10	31.00	50	91.00
2″	9072K27	5	27.93	50	92.31
3″	9072K28	5	30.56	25	103.80
0.004″ Thick (±0.0005″)				
1/2″	9072K29	25	$31.06	100	$92.81
2″	9072K283	5	32.56	50	93.73
4″	9072K32	4	32.69	25	101.92
6″	9072K33	2	33.39	10	74.04

(Material continued on following page)

Wear-Resistant 1095 Spring Steel *(Material continued from previous page)*

Spring-Tempered Strips and Sheets—Polished with blue tint

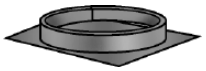

- Yield Strength: Not rated
- Hardness: Hard (Rockwell C48)

This material is also known as blue-tempered steel. Width tolerance for widths up to 4″ is ±0.005″; for 6″ to 12⅜″ widths it is ±0.0236″. Length tolerance for 1- to 9-ft. lengths is +3″, –⅛″ and for 10- to 100-ft. lengths it is +12″, –1″.

Wd.		Small Size Lg., ft.		Large Size Lg., ft.	
0.005″ Thick (±0.0005″)					
¼″	9072K34	25	$30.20	100	$70.40
⅜″	9072K35	25	31.07	100	74.04
½″	9072K36	25	31.56	100	82.71
¾″	9072K37	10	32.09	100	84.29
1″	9072K38	10	32.13	100	94.18
1½″	9072K39	10	33.02	100	94.95
2″	9072K41	5	33.10	50	96.22
3″	9072K42	5	34.75	25	77.31
6″	9072K43	2	33.78	10	76.31
0.008″ Thick (±0.0005″)					
¼″	9072K44	25	27.25	100	78.11
⅜″	9072K45	25	32.78	100	80.12
½″	9072K46	25	33.24	100	87.26
¾″	9072K47	10	31.78	100	90.21
1″	9072K48	10	33.76	100	98.00
2″	9072K49	5	33.48	50	101.06
3″	9072K51	4	37.17	25	80.41
6″	9072K52	2	38.65	10	82.27
0.010″ Thick (±0.0005″)					
¼″	9072K53	25	27.87	100	79.49
⅜″	9072K54	25	28.77	100	80.92
½″	9072K55	25	34.93	100	87.73
⅝″	9072K56	25	35.45	100	89.86
¾″	9072K57	25	36.15	100	91.39
⅞″	9072K58	10	33.03	100	94.66
1″	9072K61	10	34.48	100	100.31
1¼″	9072K62	10	35.08	100	104.45
1½″	9072K63	10	35.78	75	111.18
2″	9072K64	10	36.61	75	120.49
2½″	9072K65	5	32.13	50	101.92
3″	9072K66	5	34.08	50	107.40
4″	9072K67	5	36.81	25	93.08
6″	9072K68	4	31.02	25	101.58
8″	9072K69	3	30.32	25	107.53
10″	9072K71	3	31.12	20	101.81
12⅜″	9072K72	2	27.86	20	106.35
0.012″ Thick (±0.001″)					
3⁄16″	9072K73	25	26.95	100	77.99
¼″	9072K74	25	28.90	100	79.80
⅜″	9072K75	25	29.35	100	81.62
½″	9072K76	25	35.42	100	88.56
¾″	9072K77	25	36.80	100	92.29
1″	9072K78	10	35.13	100	101.15
2″	9072K79	10	37.27	50	81.41
3″	9072K81	5	33.04	50	109.55
4″	9072K82	5	33.77	25	95.14
6″	9072K83	3	28.94	25	102.69
8″	9072K84	3	30.88	20	103.04
10″	9072K85	3	31.65	20	105.20
12⅜″	9072K86	3	33.61	20	107.97
0.015″ Thick (±0.001″)					
⅛″	9072K87	25	28.58	100	69.28
¼″	9072K88	25	29.22	100	76.62
5⁄16″	9072K89	25	30.38	100	80.85
⅜″	9072K91	25	32.37	100	82.60
½″	9072K92	25	35.94	100	90.15
⅝″	9072K93	25	36.51	100	91.48
¾″	9072K94	10	25.01	100	92.52
1″	9072K95	10	31.89	100	101.76
1¼″	9072K96	10	32.55	100	104.09
1½″	9072K97	10	33.84	75	86.60
2″	9072K98	10	34.40	50	82.39
3″	9072K99	5	29.92	50	109.55
4″	9072K121	4	30.43	25	95.74
6″	9072K122	3	29.46	20	83.36
8″	9072K123	2	31.92	10	73.23
10″	9072K124	2	32.66	10	79.98
12⅜″	9072K125	2	34.48	10	101.25
0.016″ Thick (±0.001″)					
¼″	9072K126	25	29.70	100	81.50
½″	9072K127	25	36.40	100	90.22
⅝″	9072K128	25	37.05	100	92.34
¾″	9072K129	10	26.57	100	94.40
0.016″ Thick (±0.001″) (Cont.)					
1″	9072K131	10	$32.13	100	$103.58
1½″	9072K132	10	32.69	75	88.76
3″	9072K133	6	31.01	25	76.04
8″	9075K785	1	25.78	10	75.36
12⅜″	9075K795	1	27.76	10	82.27
0.020″ Thick (±0.0015″)					
⅛″	9072K137	25	31.41	100	70.29
¼″	9072K138	25	33.37	100	71.72
5⁄16″	9072K139	25	32.72	100	74.19
⅜″	9072K141	25	35.30	100	78.48
½″	9072K142	25	37.70	100	92.41
⅝″	9072K143	10	26.64	100	94.26
¾″	9072K144	10	28.21	100	97.09
1″	9072K145	10	33.36	100	105.16
1½″	9072K146	10	33.81	50	82.22
2″	9072K147	10	36.28	50	78.94
3″	9072K148	5	32.02	25	77.91
4″	9072K149	4	32.80	25	82.42
6″	9072K151	3	31.91	20	91.29
8″	9072K152	2	33.53	10	78.24
10″	9072K153	2	35.85	10	81.68
12⅜″	9072K154	2	38.27	6	86.58
0.025″ Thick (±0.0015″)					
¼″	9072K155	25	32.65	100	72.82
5⁄16″	9072K156	25	35.00	100	75.99
⅜″	9072K157	25	36.36	100	80.11
½″	9072K158	10	26.66	100	93.73
⅝″	9072K159	10	26.03	100	95.31
¾″	9072K161	10	28.93	100	98.16
⅞″	9072K162	10	30.41	100	102.14
1″	9072K163	10	34.80	75	80.57
1¼″	9072K164	5	29.76	50	73.41
1½″	9072K165	5	34.99	50	78.94
2″	9072K166	5	33.48	50	80.27
3″	9072K167	4	33.33	25	79.84
4″	9072K168	3	31.16	10	66.11
6″	9072K169	2	33.23	10	68.68
8″	9072K171	2	38.12	10	80.00
10″	9072K172	2	38.85	10	82.91
12⅜″	9072K173	2	60.45	5	97.64
0.028″ Thick (±0.0025″)					
⅛″	9072K174	25	31.41	100	71.42
¼″	9072K175	25	33.17	100	73.44
⅜″	9072K176	25	37.03	100	80.40
½″	9072K177	10	27.62	100	93.53
⅝″	9072K178	10	28.49	100	96.35
¾″	9072K179	10	29.58	100	99.14
1″	9072K181	10	35.50	75	82.22
2″	9072K182	5	26.69	25	81.24
3″	9072K183	4	34.05	25	89.17
6″	9072K184	2	33.88	10	67.26
8″	9072K185	2	38.74	10	82.48
10″	9072K186	1	28.59	9	81.53
0.030″ Thick (±0.002″)					
6″	9072K187	2	34.41	10	68.50
8″	9072K188	2	39.21	10	83.80
10″	9072K189	1	29.00	10	86.81
12⅜″	9072K191	1	39.39	5	76.73
0.032″ Thick (±0.002″)					
3⁄16″	9072K192	25	33.08	100	74.07
¼″	9072K193	25	33.80	100	77.35
5⁄16″	9072K194	25	36.57	100	79.08
⅜″	9072K195	25	37.43	100	82.09
½″	9072K196	20	31.78	100	95.25
⅝″	9072K197	10	27.66	100	97.54
¾″	9072K198	10	30.18	100	99.01
1″	9072K199	10	37.17	50	67.00
1¼″	9072K201	10	40.43	50	70.21
1½″	9072K202	5	23.94	50	74.97
2″	9072K203	5	27.46	25	81.55
2½″	9072K204	3	31.80	20	80.20
3″	9072K205	4	34.51	20	83.36
0.032″ Thick (±0.002″) (Cont.)					
4″	9072K206	3	$32.91	20	$87.36
6″	9072K207	2	34.93	10	70.25
8″	9072K208	2	39.86	10	84.36
10″	9072K209	2	42.83	10	88.32
12⅜″	9072K211	2	60.45	5	78.44
0.035″ Thick (±0.002″)					
¼″	9072K212	25	34.26	100	76.16
⅜″	9072K213	10	26.64	100	82.58
½″	9072K214	10	30.38	100	96.37
¾″	9072K215	10	30.79	75	75.55
1″	9072K216	10	34.36	50	68.98
1½″	9072K217	5	24.62	50	76.28
2″	9072K218	5	28.20	25	81.79
3″	9072K219	3	28.59	20	82.08
6″	9072K221	2	35.51	10	71.10
8″	9072K222	2	40.16	10	86.89
10″	9072K223	1	29.74	7	83.65
12⅜″	9072K224	2	58.97	7	82.92
0.042″ Thick (±0.002″)					
¼″	9072K225	25	36.35	100	77.83
⅜″	9072K226	10	26.01	100	83.79
½″	9072K227	10	27.35	100	97.66
⅝″	9072K228	10	27.75	75	86.60
¾″	9072K229	10	31.44	50	69.35
1″	9072K231	10	32.21	50	72.17
1¼″	9072K232	5	25.67	50	71.86
1½″	9072K233	5	26.30	25	68.52
2″	9072K234	4	28.58	25	84.11
3″	9072K235	3	29.49	20	83.42
4″	9072K236	2	30.32	10	70.75
6″	9072K237	2	36.05	9	73.18
8″	9072K238	1	24.78	7	87.00
10″	9072K239	1	30.54	5	88.25
12⅜″	9072K241	2	60.09	5	81.53
0.050″ Thick (±0.003″)					
3⁄16″	9072K242	25	37.17	100	76.35
¼″	9072K243	25	38.65	100	79.61
⅜″	9072K244	10	27.31	100	84.92
½″	9072K245	10	28.25	100	98.97
⅝″	9072K246	10	28.89	50	79.93
¾″	9072K247	10	25.96	50	80.89
1″	9072K248	5	25.75	50	88.34
1¼″	9072K249	5	27.02	25	78.80
1½″	9072K251	4	28.06	25	80.68
2″	9072K252	4	29.21	25	85.51
3″	9072K253	2	24.78	10	70.54
4″	9072K254	2	31.41	10	72.19
6″	9072K255	1	24.78	7½	81.53
8″	9072K256	1	26.12	6	89.99
10″	9072K257	1	31.65	4	86.99
12⅜″	9072K258	2	61.04	3	81.53
0.062″ Thick (±0.003″)					
3⁄16″	9072K259	25	35.73	100	79.58
¼″	9072K261	10	25.93	100	82.71
⅜″	9072K262	10	28.53	100	87.17
½″	9072K263	10	29.78	50	67.00
⅝″	9072K264	5	23.91	50	81.37
¾″	9072K265	5	24.75	50	83.24
1″	9072K266	5	27.48	25	66.72
1¼″	9072K267	4	22.44	25	79.73
1½″	9072K268	4	23.47	25	83.21
1¾″	9072K269	3	24.61	20	83.60
2″	9072K271	3	25.21	20	84.72
2½″	9072K272	2	26.06	10	74.05
3″	9072K273	2	26.34	10	75.35
4″	9072K274	1	25.64	7	81.53
6″	9072K278	1	26.56	6½	80.24
8″	9072K279	1	27.49	5	85.29
10″	9072K281	1	33.10	3½	90.12
12⅜″	9072K282	1	30.73	2	55.68

Warning! ***Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.***

Easy-to-Machine Gray Cast Iron

Gray iron machines faster with less wear on cutting tools than most types of steel. This material also absorbs vibration, resulting in finished parts that run quieter than those made of steel. It's often used for gears, pulleys, rollers, and bushings.

Oversized Rectangular Bars—Unpolished



- Yield Strength: Not rated
- Hardness: Hard (Rockwell C22)
- Can be hardened up to Rockwell C50
- Meet ASTM A247

Thickness and width tolerances are +0.250″.

Wd.		1 ft.	2 ft.
¼″ Thick			
2″	8928K69	$34.41	$59.33
3″	8928K72	43.62	75.20
4″	8928K73	52.86	91.13
5″	8928K74	63.75	109.92
6″	8928K75	74.08	127.73
8″	8928K42	95.49	164.64
10″	8928K49	109.81	189.33
⅜″ Thick			
2″	8928K76	37.74	65.07
3″	8928K77	54.81	83.04
4″	8928K52	62.72	108.13
5″	8928K78	73.74	127.14
½″ Thick			
3″	8928K48	71.11	122.60
4″	8928K56	74.88	129.10
5″	8928K79	80.17	138.23
6″	8928K82	87.24	150.42
8″	8928K86	118.04	203.52
10″	8928K58	131.17	226.15
⅝″ Thick			
5″	8928K89	80.36	138.55
6″	8928K91	102.07	175.99

Wd.		1 ft.	2 ft.
¾″ Thick			
5″	8928K92	$84.16	$145.10
6″	8928K93	105.32	181.59
1″ Thick			
1″	8923K52	38.26	65.96
1½″	8923K61	39.83	68.68
2″	8923K62	40.66	70.11
2½″	8923K63	49.32	74.73
3″	8923K64	49.80	85.87
3½″	8923K65	54.10	93.27
4″	8923K66	58.31	100.54
5″	8928K94	73.15	110.83
6″	8923K67	65.68	113.24
8″	8928K96	128.32	221.25
10″	8928K97	164.09	282.92
12″	8925K12	211.06	363.90
1½″ Thick			
1½″	8923K53	53.01	91.39
2″	8923K68	56.65	97.68
2½″	8923K69	66.44	114.55

Wd.		1 ft.	2 ft.
1½″ Thick (Cont.)			
3″	8923K71	$75.45	$130.08
4″	8923K72	87.47	150.81
12″	8925K18	221.66	382.18
2″ Thick			
2″	8923K54	58.38	100.65
2½″	8923K73	69.13	119.19
3″	8923K74	77.40	133.44
4″	8923K75	88.17	152.02
5″	8923K76	93.83	161.78
6″	8923K22	117.95	203.36
8″	8923K23	178.73	308.15
12″	8925K41	246.88	425.66
2½″ Thick			
2½″	8923K32	71.25	122.85
3″	8923K33	81.66	140.80
4″	8923K34	92.17	158.91
6″	8923K35	152.59	263.09
8″	8923K36	195.81	337.61
12″	8925K37	271.72	____

Oversized Rods—Unpolished



- Yield Strength: Not rated
- Hardness: Hard (Rockwell C22)
- Can be hardened up to Rockwell C50
- Meet ASTM A247

Dia.	Dia. Tolerance		1 ft.	3 ft.
⅝″	+0.085″	8909K76	$15.90	$37.86
¾″	+0.085″	8909K77	17.57	41.83
1″	+0.085″	8909K17	12.74	30.34
1¼″	+0.085″	8909K78	16.25	38.68
1½″	+0.090″	8909K18	16.39	39.03
1¾″	+0.090″	8909K79	18.40	43.82
2″	+0.090″	8909K19	26.47	63.03
2¼″	+0.110″	8909K51	33.43	79.59
2½″	+0.110″	8909K53	38.88	92.56
2¾″	+0.110″	8909K88	45.74	108.90

Dia.	Dia. Tolerance		1 ft.	3 ft.
3″	+0.110″	8909K54	$49.65	$118.22
3¼″	+0.125″	8909K82	60.75	144.65
3½″	+0.125″	8909K56	66.54	158.43
3¾″	+0.125″	8909K87	80.09	190.70
4″	+0.125″	8909K84	82.43	196.27
4½″	+0.140″	8909K57	101.62	241.95
5″	+0.140″	8909K58	121.87	290.16
5½″	+0.155″	8909K85	151.17	359.94
6″	+0.155″	8909K61	161.81	385.27

Dia.	Dia. Tolerance		1 ft.	3 ft.
6½″	+0.170″	8909K86	$189.75	$451.78
7″	+0.170″	8909K45	192.65	____
7½″	+0.190″	8909K46	219.68	____
8″	+0.190″	8909K47	242.02	____
8½″	+0.216″	8909K48	270.68	____
9″	+0.216″	8909K91	280.47	____
9½″	+0.254″	8909K92	299.41	____
10″	+0.254″	8909K73	419.47	____
12″	+0.582″	8909K75	546.39	____



Dia.	Dia. Tolerance	½″ Long		1″ Long		1½″ Long		2″ Long		3″ Long	
8″	+0.190″	8926K44	$23.25	8926K32	$34.90	8926K36	$47.59	8926K38	$57.68	8926K84	$78.65
9″	+0.216″	8926K45	29.16	8926K33	42.91	8926K14	55.15	8926K26	66.85	8926K85	91.15
10″	+0.254″	8926K46	35.88	8926K34	60.48	8926K15	82.48	8926K27	99.98	8926K86	136.34
12″	+0.582″	8926K47	51.57	8926K35	78.77	8926K17	107.38	8926K28	130.93	8926K87	177.53

Tight-Tolerance Rods—Unpolished



- Yield Strength: Not rated
- Hardness: Hard (Rockwell C22)
- Can be hardened up to Rockwell C50
- Meet ASTM A247

Diameter tolerance is +0.010″.

Dia.		1 ft.	3 ft.	6 ft.
⅝″	8909K12	$17.12	$39.71	$68.47
¾″	8909K14	17.94	41.61	71.75
1″	8909K15	15.34	35.58	61.34
1¼″	8909K21	16.25	37.71	65.02

Dia.		1 ft.	3 ft.	6 ft.
1½″	8909K22	$19.14	$44.42	$76.58
1¾″	8909K37	21.90	50.81	87.60
2″	8909K39	26.20	60.78	104.79
2½″	8909K49	39.42	91.47	157.70

Dia.		1 ft.	3 ft.	6 ft.
3″	8909K93	$52.34	$121.44	$209.38
4″	8909K94	84.48	195.99	337.91
5″	8909K95	125.20	290.47	500.81
6″	8909K96	220.54	511.65	882.15

Oversized Round Tubes—Unpolished



- Yield Strength: Not rated
- Hardness: Hard (Rockwell C22)
- Can be hardened up to Rockwell C50
- Meet ASTM A247

OD tolerance is +0.170″ and ID tolerance is –0.250″.

OD	ID	Wall Thickness		16″ Lengths
3½″	1½″	1″	8929K12	$143.16
4″	2″	1″	8929K14	158.63
4½″	2½″	1″	8929K16	179.65

OD	ID	Wall Thickness		16″ Lengths
5″	3″	1″	8929K18	$194.94
5½″	3½″	1″	8929K21	201.53
6″	3″	1½″	8929K22	232.72

OD	ID	Wall Thickness		16″ Lengths
6″	4″	1″	8929K23	$221.88
7″	4″	1½″	8929K27	280.72

Warning! *Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.*

For information about the comparisons between iron and steel, see page 3728.

Impact-Resistant Ductile Cast Iron

With graphite to make it strong and resilient, ductile cast iron withstands repeated stress without breaking. It is light and absorbs vibration for finished parts that run quieter than those made of steel. It's often used in place of medium-carbon steel.

Oversized Rectangular Bars—Unpolished



- Yield Strength: 55,000 psi
- Hardness: Hard (Rockwell C20)
- Can be hardened up to Rockwell C60
- Meet ASTM A536

Wd.	Thick./Wd. Tolerance		1 ft.	3 ft.
1″ Thick				
1½″	+0.250″	89175K51	$38.08	$90.67
2½″	+0.250″	89175K52	54.04	128.66
3½″	+0.250″	89175K53	71.80	170.96
4½″	+0.250″	89175K54	87.66	208.72
1½″ Thick				
2″	+0.250″	89175K55	$58.57	$139.45
3″	+0.250″	89175K56	80.22	191.00
7″	+0.250″	89175K57	150.61	358.59
2″ Thick				
2½″	+0.250″	89175K58	$83.33	$198.41
3½″	+0.250″	89175K59	103.96	247.53

Oversized Rods—Unpolished



- Yield Strength: 55,000 psi
- Hardness: Hard (Rockwell C20)
- Can be hardened up to Rockwell C60
- Meet ASTM A536

Diameter tolerance for all rods up to 10″ dia. is +0.105″ to +0.412″; for 12″ dia. rods it is +0.829″.

Dia.		½ ft.	1 ft.	2 ft.
1″	89105K233	$8.35	$14.24	$24.55
1¼″	89105K243	11.26	19.22	33.13
1½″	89105K253	12.93	22.06	38.04
1¾″	89105K263	16.02	27.32	47.11
2″	89105K273	19.44	33.17	57.19
2¼″	89105K283	22.56	38.48	66.34
2½″	89105K293	26.98	46.02	79.34
2¾″	89105K313	31.14	53.12	91.59
3″	89105K323	$36.58	$62.40	$107.58
3¼″	89105K333	39.27	67.00	115.51
3½″	89105K343	45.01	76.79	132.39
3¾″	89105K353	50.12	85.49	147.40
4″	89105K363	55.60	94.85	163.54
4½″	89105K383	70.52	120.30	207.41
4¾″	89105K393	76.14	129.88	223.93
5″	89105K413	83.54	142.51	245.71
5½″	89105K423	$93.51	$159.52	$275.04
6″	89105K433	115.21	196.53	338.85
6½″	89105K453	129.50	220.92	380.89
7″	89105K473	143.89	245.46	423.20
7½″	89105K493	153.87	262.48	452.55
8″	89105K513	170.02	290.03	500.05
10″	89105K533	250.43	427.20	736.55
12″	89105K553	360.21	614.48	1,059.45



Dia.	½″ Long		1″ Long		1½″ Long		2″ Long		3″ Long	
6″	8588T13	$15.58	8588T23	$28.34	8588T33	$38.65	8588T43	$46.84	8588T53	$63.85
7″	8588T14	17.52	8588T24	31.84	8588T34	43.45	8588T44	52.26	8588T54	71.79
8″	8588T15	23.00	8588T25	41.84	8588T35	57.01	8588T45	69.12	8588T55	94.25

High-Strength A514 Alloy Steel



- Yield Strength: 100,000 psi
- Hardness: Hard (Rockwell C21)
- Meet ASTM A514

A high yield strength makes A514 suitable for structural applications and supporting heavy loads. Also known as high-strength low-alloy (HSLA) steel, this material has been heat treated for enhanced strength and hardness. These unpolished sheets are hot rolled. Width and length tolerances are –1/8″.

Thick.	Thick. Tolerance		6″×6″		6″×12″		12″×12″		12″×24″		24″×24″	
3/16″	+0.030″, –0.010″	3845T111	$34.45	3845T112	$50.53	3845T113	$80.39	3845T114	$133.22	3845T115	$229.69
1/4″	+0.030″, –0.010″	3845T211	35.68	3845T212	52.33	3845T213	83.25	3845T214	137.96	3845T215	237.86
3/8″	+0.030″, –0.010″	3845T311	37.02	3845T312	54.29	3845T313	86.37	3845T314	143.13	3845T315	246.77
1/2″	+0.030″, –0.010″	3845T411	41.74	3845T412	61.22	3845T413	97.40	3845T414	161.41	3845T415	278.29
3/4″	+0.030″, –0.010″	3845T511	53.94	3845T512	79.11	3845T513	125.85	3845T514	208.56	3845T515	359.58
1″	+0.030″, –0.010″	3845T611	66.12	3845T612	96.97	3845T613	154.27	3845T614	255.65	3845T615	440.77

Wear-Resistant 4150 Alloy Steel



- Yield Strength: 65,000 psi
- Hardness: Medium (Rockwell B90)
- Can be hardened up to Rockwell C63
- Meet ASTM A29 and A108

With more carbon than 4140/4142 alloy steel, 4150 resists wear from friction and abrasion. It's often used for gears, shafts, and ball screws. These unpolished rods are cold finished. Diameter tolerance for ½″ to 1½″ dia. rods is –0.004″; for 1¾″ to 2½″ dia. rods it is –0.005″; and for 3″ dia. rods it is –0.006″. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Dia.		1 ft.	3 ft.	6 ft.
1/2″	4455T11	$8.07	$18.73	$32.29
9/16″	4455T12	9.88	22.92	39.52
5/8″	4455T13	11.78	27.32	47.10
3/4″	4455T14	16.47	38.22	65.89
7/8″	4455T15	16.91	39.24	67.66
1″	4455T16	$21.27	$49.35	$85.09
1 1/8″	4455T17	23.71	55.01	94.85
1 1/4″	4455T18	27.53	63.87	110.12
1 3/8″	4455T19	33.60	77.95	134.40
1 1/2″	4455T21	38.98	90.45	155.94
1 3/4″	4455T23	$51.78	$120.12	$207.11
2″	4455T25	65.18	151.21	260.71
2 1/4″	4455T26	79.01	183.31	316.05
2 1/2″	4455T28	93.58	217.11	374.32
3″	4455T32	129.15	299.62	516.59

Easy-to-Machine 41L40 Alloy Steel



- Yield Strength: 85,000 psi
- Hardness: Medium (Rockwell B96)
- Can be hardened up to Rockwell C34
- Meet ASTM A108

Although its strength and wear resistance are similar to 4140/4142 alloy steel, 41L40 has added lead for fast machining. These rods are cold drawn. Diameter tolerance for 5/16″ to 1½″ dia. rods is –0.003″ and for 2″ to 2½″ dia. rods it is –0.004″. Straightness tolerance is 3/16″ per 10 feet.

Dia.		1 ft.	3 ft.	6 ft.
5/16″	6776T115	$3.19	$7.28	$12.77
3/8″	6776T125	4.11	9.38	16.45
1/2″	6776T13	4.44	10.12	17.75
9/16″	6776T14	5.37	12.24	21.48
5/8″	6776T15	6.20	14.14	24.80
11/16″	6776T16	$7.33	$16.70	$29.30
3/4″	6776T17	8.52	19.43	34.08
7/8″	6776T18	11.08	25.27	44.33
1″	6776T21	13.14	29.96	52.57
1 1/8″	6776T22	16.06	36.62	64.24
1 1/4″	6776T23	$20.65	$47.09	$82.61
1 3/8″	6776T25	23.07	52.59	92.26
1 1/2″	6776T26	27.30	62.24	109.20
2″	6776T31	44.10	100.56	176.42
2 1/2″	6776T35	63.81	145.49	255.24

Warning! ***Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.***

Multipurpose 4140/4142 Alloy Steel

Also known as chrome-moly steel, this versatile material is used for many parts, such as gears, axles, shafts, collets, and dieholders. It resists fracturing from repeated stress. When hardened, it offers increased abrasion and impact resistance.

Rectangular Bars—Unpolished (Cold Drawn)



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B90)
- Can be hardened up to Rockwell C60
- Meet ASTM A29 and A108

Bars are annealed. Width tolerance for 3/8″ to 1 1/2″ wide bars is –0.008″; for 1 3/4″ bars and wider it is –0.012″. Straightness tolerance for 1/4″ to 5/8″ thick bars is 1/4″ per 10 feet, and for 3/4″ to 3 1/2″ thick bars it is 3/16″ per 10 feet. Length tolerance is ±1/8″ for 1/2-ft. lengths, ±1″ for 1-ft. lengths, ±2″ for 2-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/4″ Thick (–0.010″)						
1″	6554K12	$4.30	$6.93	$12.48	$16.08	$27.73
2″	6554K14	7.70	12.42	22.36	28.82	49.69
2 1/2″	6554K26	9.40	15.16	27.28	35.17	60.63
3″	6554K15	11.07	17.85	32.13	41.41	71.40
3/8″ Thick (–0.011″)						
3/8″	6552K61	2.51	4.04	7.28	9.38	16.17
1″	6554K16	5.71	9.21	16.58	21.37	36.84
1 1/2″	6554K17	7.70	12.42	22.35	28.81	49.67
2″	6554K21	9.88	15.94	28.68	36.97	63.74
2 1/2″	6554K29	12.14	19.59	35.25	45.44	78.34
3″	6554K23	13.71	22.11	39.79	51.28	88.42
4″	6554K36	17.89	28.86	51.94	66.95	115.43
7/16″ Thick (–0.005″)						
7/16″	6552K63	3.41	5.51	9.91	12.78	22.03
1/2″ Thick (–0.012″)						
1/2″	6552K65	4.11	6.62	11.92	15.36	26.49
3/4″	6554K39	6.40	10.33	18.59	23.97	41.32
1″	6554K22	7.36	11.88	21.38	27.56	47.51
1 1/2″	6554K27	9.15	14.76	26.56	34.23	59.02
2″	6554K28	12.08	19.48	35.07	45.21	77.94
2 1/2″	6554K87	14.95	24.11	43.40	55.94	96.45
3″	6554K31	17.42	28.09	50.56	65.17	112.36
3 1/2″	6554K46	20.42	32.94	59.29	76.42	131.76
4″	6554K32	22.56	36.38	65.49	84.41	145.54
5″	6554K49	28.60	46.12	83.02	107.00	184.49
9/16″ Thick (–0.005″)						
9/16″	6552K67	4.80	7.75	13.95	17.98	31.00
5/8″ Thick (–0.008″)						
5/8″	6552K69	5.92	9.54	17.18	22.14	38.18
1″	6554K24	8.52	13.73	24.72	31.87	54.94
3/4″ Thick (–0.011″)						
3/4″	6552K73	7.51	12.11	21.79	28.09	48.43
1″	6554K45	9.36	15.09	27.17	35.01	60.37
1 1/2″	6554K47	13.86	22.36	40.24	51.86	89.42
2″	6554K48	17.95	28.95	52.10	67.15	115.78
2 1/2″	6554K88	21.99	35.47	63.85	82.29	141.88
3″	6554K51	25.88	41.74	75.13	96.84	166.96
4″	6554K52	33.11	53.41	96.13	123.90	213.62
7/8″ Thick (–0.006″)						
7/8″	6552K75	9.27	14.96	26.92	34.70	59.83
1″ Thick (–0.011″)						
1″	6552K77	$11.38	$18.36	$33.05	$42.60	$73.45
1 1/4″	6554K55	16.96	27.35	49.23	63.45	109.39
1 1/2″	6554K56	18.91	30.50	54.91	70.77	122.02
1 3/4″	6554K57	21.35	34.43	61.98	79.88	137.73
2″	6554K58	23.46	37.84	68.11	87.79	151.36
2 1/2″	6554K79	27.40	44.20	79.55	102.53	176.78
3″	6554K61	33.18	53.52	96.34	124.17	214.09
3 1/2″	6554K59	37.63	60.69	109.24	140.80	242.76
4″	6554K62	42.22	68.10	122.58	157.99	272.40
1 1/8″ Thick (–0.006″)						
1 1/8″	6552K33	14.12	22.77	40.99	52.83	91.08
1 1/4″ Thick (–0.011″)						
1 1/4″	6552K35	17.02	27.45	49.41	63.68	109.80
2″	6554K66	28.82	46.49	83.68	107.86	185.96
2 1/2″	6554K65	34.22	55.19	99.34	128.03	220.75
3″	6554K68	39.56	63.81	114.86	148.04	255.25
4″	6554K69	51.38	82.87	149.17	192.26	331.49
1 3/8″ Thick (–0.006″)						
1 3/8″	6552K37	20.19	32.57	58.63	75.57	130.29
1 1/2″ Thick (–0.011″)						
1 1/2″	6552K39	23.60	38.06	68.50	88.29	152.23
2″	6554K73	33.14	53.45	96.21	124.01	213.81
2 1/2″	6554K81	39.36	63.48	114.27	147.28	253.93
3″	6554K75	46.30	74.69	134.43	173.27	298.74
3 1/2″	6554K67	55.82	90.03	162.05	208.87	360.12
4″	6554K76	58.91	95.02	171.03	220.44	380.07
1 3/4″ Thick (–0.007″)						
1 3/4″	6552K41	31.70	51.13	92.03	118.62	204.52
2″ Thick (–0.007″)						
2″	6552K43	39.93	64.41	115.94	149.43	257.64
2 1/4″ Thick (–0.007″)						
2 1/4″	6552K45	62.59	100.95	181.71	234.20	403.79
2 1/2″ Thick (–0.007″)						
2 1/2″	6552K47	75.96	122.51	220.52	284.23	490.05
2 3/4″ Thick (–0.009″)						
2 3/4″	6552K49	94.12	151.81	273.26	352.20	607.25
3″ Thick (–0.009″)						
3″	6552K51	104.57	168.66	303.59	391.30	674.65
3 1/2″ Thick (–0.009″)						
3 1/2″	6552K55	143.06	230.74	415.34	535.32	922.97

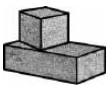

Thick.	Wd.	Thick. Tolerance		3″ Long
1″	3″	–0.011″	6554K615	$19.05
1″	4″	–0.011″	6554K625	24.24
1 1/2″	2″	–0.011″	6554K735	19.03
1 1/2″	3″	–0.011″	6554K755	26.59
1 1/2″	4″	–0.011″	6554K765	33.83
2″	2″	–0.007″	6552K435	22.93
2 1/4″	2 1/4″	–0.007″	6552K455	$35.94
2 1/2″	2 1/2″	–0.007″	6552K475	43.61
2 3/4″	2 3/4″	–0.009″	6552K495	54.05
3″	3″	–0.009″	6552K515	60.04
3 1/4″	3 1/4″	–0.009″	6554K746	70.61
3 1/2″	3 1/2″	–0.009″	6552K555	82.14

Hardened Oversized Rectangular Bars—Ground



- Yield Strength: 95,000 psi
- Hardness: Hard (Rockwell C26)
- Meet ASTM A304 and A322

Bars are decarb free, improving the surface for heat treating. Width tolerance is +1/8″.

Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/2″ Thick (+0.040″)						
1″	9116K11	$8.28	$14.65	$26.12	$33.77	$63.71
1 1/2″	9116K12	12.57	22.24	39.64	51.24	96.68
2″	9116K13	16.03	28.35	50.54	65.34	123.28
2 1/2″	9116K14	19.61	34.70	61.85	79.95	150.85
3″	9116K15	22.37	39.57	70.54	91.18	172.04
3/4″ Thick (+0.040″)						
1″	9116K21	11.23	19.87	35.43	45.80	86.41
1 1/2″	9116K22	15.22	26.93	48.00	62.05	117.07
2″	9116K23	21.03	37.21	66.33	85.74	161.77
2 1/2″	9116K24	26.24	46.42	82.75	106.97	201.83
3″	9116K25	31.55	55.82	99.51	128.63	242.70
1″ Thick (+0.040″)						
1″	9116K31	12.69	22.45	40.02	51.74	97.62
1 1/2″	9116K32	19.29	34.13	60.84	78.65	148.39
1″ Thick (+0.040″) (Cont.)						
2″	9116K33	$26.66	$47.16	$84.07	$108.67	$205.04
2 1/2″	9116K34	30.82	54.53	97.20	125.65	237.08
3″	9116K35	42.02	74.34	132.52	171.31	323.23
1 1/2″ Thick (+0.040″)						
1 1/2″	9116K41	22.80	40.34	71.90	92.95	175.37
2″	9116K42	25.97	45.94	81.89	105.86	199.74
2 1/2″	9116K43	36.80	65.11	116.06	150.03	283.08
3″	9116K44	45.65	80.77	143.98	186.13	351.18
2″ Thick (+0.040″)						
2″	9116K51	41.32	73.10	130.30	168.44	317.81
2 1/2″	9116K52	49.81	86.11	155.67	203.05	383.12
3″	9116K53	57.71	102.11	182.02	235.29	443.95

(Material continued on following page)

***Warning!** Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.*

Multipurpose 4140/4142 Alloy Steel *(Material continued from previous page)*

Hardened Tight-Tolerance Rectangular Bars—Precision Ground



- Yield Strength: 85,000 psi
- Hardness: Hard (Rockwell C26)
- Meet ASTM A29 and A322

Width tolerance is +0.005″. Flatness tolerance for lengths up to 3 feet is 0.015″ and for 6-ft. lengths it is 0.03″. Length tolerance for 3″ and 6″ lengths is ±1⁄8″; for 1-ft. lengths it is ±1⁄4″; and for 1 1⁄2-ft. to 6-ft. lengths, length has a plus tolerance.

Wd.		1⁄2 ft.	1 ft.	1 1⁄2 ft.	3 ft.	6 ft.
3⁄32″ Thick (±0.002″)						
1⁄2″	8892K962	$9.72	$16.94	$22.10	$38.30	$73.65
3⁄4″	8892K963	12.04	20.99	27.38	47.45	91.25
1″	8892K964	14.41	25.11	32.75	56.76	109.16
1 1⁄2″	8892K965	19.04	33.18	43.27	75.00	144.24
2″	8892K966	23.73	41.34	53.93	93.48	179.76
3″	8892K967	32.56	56.73	74.00	128.26	246.65
4″	8892K968	41.72	72.69	94.81	164.34	316.03
1⁄8″ Thick (±0.002″)						
1⁄8″	8892K516	12.04	20.97	27.36	47.42	91.19
1⁄4″	8892K526	10.81	18.84	24.58	42.60	81.93
3⁄8″	8892K536	11.18	19.49	25.42	44.05	84.72
1⁄2″	8892K11	11.49	20.03	26.12	45.28	87.08
3⁄4″	8892K12	11.80	20.56	26.82	46.49	89.40
1″	8892K13	12.82	22.33	29.13	50.49	97.09
1 1⁄4″	8892K14	14.03	24.44	31.88	55.26	106.26
1 1⁄2″	8892K15	14.24	24.81	32.37	56.10	107.89
2″	8892K16	16.37	28.52	37.21	64.49	124.02
2 1⁄2″	8892K17	19.54	34.04	44.41	76.97	148.02
3″	8892K18	22.46	39.14	51.05	88.49	170.17
4″	8892K19	27.34	47.64	62.14	107.71	207.14
5″	8892K21	34.92	60.85	79.37	137.57	264.56
6″	8892K22	41.03	71.49	93.24	161.62	310.81
3⁄16″ Thick (±0.002″)						
3⁄16″	8892K94	17.28	30.11	39.28	68.08	130.92
3⁄8″	8892K546	11.28	19.65	25.63	44.42	85.42
1⁄2″	8892K23	10.65	18.56	24.21	41.97	80.71
3⁄4″	8892K24	10.81	18.83	24.56	42.57	81.86
1″	8892K25	12.50	21.79	28.42	49.26	94.73
1 1⁄4″	8892K26	13.02	22.68	29.59	51.28	98.62
1 1⁄2″	8892K27	14.46	25.19	32.86	56.96	109.54
2″	8892K28	17.27	30.10	39.26	68.05	130.86
2 1⁄2″	8892K29	20.55	35.81	46.71	80.96	155.70
3″	8892K31	23.81	41.49	54.11	93.80	180.38
4″	8892K32	30.19	52.60	68.61	118.92	228.69
5″	8892K33	36.55	63.69	83.07	143.99	276.90
6″	8892K34	42.92	74.78	97.54	169.07	325.13
1⁄4″ Thick (±0.002″)						
1⁄4″	8892K95	10.10	17.60	22.95	39.78	76.50
3⁄8″	8892K556	10.11	17.62	22.98	39.83	76.59
1⁄2″	8892K35	10.23	17.83	23.25	40.31	77.51
3⁄4″	8892K36	10.37	18.08	23.58	40.87	78.59
1″	8892K37	11.79	20.54	26.79	46.44	89.31
1 1⁄4″	8892K38	13.02	22.69	29.60	51.31	98.67
1 1⁄2″	8892K39	14.52	25.29	32.99	57.18	109.97
2″	8892K41	17.75	30.93	40.34	69.92	134.47
2 1⁄2″	8892K42	21.00	36.60	47.74	82.74	159.12
3″	8892K43	24.10	42.00	54.78	94.95	182.60
4″	8892K44	30.46	53.07	69.22	119.98	230.74
5″	8892K45	36.97	64.42	84.02	145.64	280.07
6″	8892K46	44.27	77.14	100.62	174.40	335.39
8″	8892K97	56.01	97.59	127.29	178.21	424.31
10″	8892K98	70.01	121.99	159.12	275.81	530.40
5⁄16″ Thick (±0.002″)						
5⁄16″	8892K2	11.30	19.69	25.69	44.53	85.63
1⁄2″	8892K6	11.47	19.98	26.06	45.17	86.86
3⁄4″	8892K7	12.15	21.18	27.62	47.88	92.08
1″	8892K8	13.65	23.78	31.02	53.77	103.40
1 1⁄4″	8892K3	15.14	26.39	34.42	59.65	114.72
1 1⁄2″	8892K4	16.97	29.57	38.57	66.86	128.57
2″	8892K5	20.63	35.95	46.90	81.29	156.32
2 1⁄2″	8892K87	24.12	42.03	54.82	95.02	182.73
3″	8892K89	27.80	48.43	63.17	109.50	210.57
4″	8892K91	34.95	60.89	79.42	137.66	264.74
5″	8892K92	42.11	73.38	95.71	165.90	319.04
6″	8892K93	49.25	85.81	111.93	194.01	373.10
8″	8892K99	62.17	108.33	141.30	244.92	471.00
10″	8892K301	77.71	135.41	176.62	306.14	588.74

Wd.		1⁄2 ft.	1 ft.	1 1⁄2 ft.	3 ft.	6 ft.
3⁄8″ Thick (±0.002″)						
3⁄8″	8892K96	$12.73	$22.19	$28.94	$50.16	$96.46
1⁄2″	8892K47	11.68	20.35	26.55	46.01	88.49
3⁄4″	8892K48	12.97	22.60	29.47	51.08	98.24
1″	8892K49	15.30	26.66	34.77	60.27	115.91
1 1⁄4″	8892K51	16.81	29.29	38.20	66.22	127.35
1 1⁄2″	8892K52	18.80	32.77	42.74	74.08	142.46
2″	8892K53	22.64	39.44	51.44	89.17	171.48
2 1⁄2″	8892K54	26.46	46.11	60.15	104.25	200.49
3″	8892K55	30.28	52.76	68.82	119.28	229.39
4″	8892K56	37.94	66.10	86.22	149.45	287.40
5″	8892K57	45.60	79.45	103.63	179.63	345.45
6″	8892K58	53.25	92.78	121.01	209.76	403.38
8″	8892K401	67.37	117.38	153.11	265.39	510.36
10″	8892K501	84.21	146.73	191.39	331.74	637.97
1⁄2″ Thick (±0.002″)						
1⁄2″	8892K59	14.05	24.48	31.93	55.34	106.43
3⁄4″	8892K61	15.83	27.59	35.98	62.37	119.94
1″	8892K62	17.82	31.05	40.49	70.19	134.98
1 1⁄4″	8892K63	19.57	34.10	44.48	77.11	148.28
1 1⁄2″	8892K64	21.67	37.76	49.26	85.38	164.19
2″	8892K65	25.83	45.01	58.71	101.76	195.69
2 1⁄2″	8892K66	30.02	52.30	68.22	118.25	227.40
3″	8892K67	34.19	59.57	77.70	134.69	259.01
4″	8892K68	42.27	73.65	96.07	166.51	320.22
5″	8892K69	50.86	88.63	115.60	200.38	385.34
6″	8892K71	52.92	92.22	120.28	208.49	400.94
8″	8892K601	70.08	122.12	159.28	276.09	530.94
10″	8892K701	86.21	150.22	195.93	339.62	653.11
5⁄8″ Thick (±0.002″)						
5⁄8″	8892K111	16.94	29.53	38.51	66.75	128.37
3⁄4″	8892K566	20.00	34.85	45.46	78.80	151.53
1″	8892K112	21.10	36.77	47.96	83.14	159.88
1 1⁄2″	8892K113	28.14	49.04	63.96	110.86	213.20
2″	8892K114	30.36	52.89	68.99	119.58	229.97
3″	8892K115	38.64	67.32	87.81	152.20	292.69
4″	8892K116	49.50	86.25	112.50	194.99	374.99
6″	8892K117	65.56	114.24	149.01	258.28	496.69
8″	8892K801	82.94	144.52	188.50	326.74	628.34
10″	8892K901	103.68	180.65	235.63	408.42	785.43
3⁄4″ Thick (±0.002″)						
3⁄4″	8892K72	21.44	37.36	48.73	84.47	162.45
1″	8892K74	24.94	43.46	56.68	98.25	188.95
1 1⁄2″	8892K76	31.03	54.07	70.52	122.24	235.07
2″	8892K78	36.63	63.82	83.24	144.29	277.48
3″	8892K81	47.92	83.49	108.90	188.76	363.00
4″	8892K83	59.18	103.11	134.49	233.12	448.31
6″	8892K85	81.69	142.35	185.67	321.83	618.90
8″	8892K907	103.33	180.05	234.85	407.08	782.84
10″	8892K908	129.17	225.07	293.57	508.86	978.57
1″ Thick (±0.002″)						
1″	8892K118	34.95	60.90	79.44	137.69	264.79
1 1⁄4″	8892K576	37.59	65.50	85.43	148.08	284.77
1 1⁄2″	8892K119	38.84	67.67	88.27	152.99	294.22
2″	8892K121	45.62	79.49	103.68	179.71	345.60
2 1⁄2″	8892K586	71.36	124.08	131.31	227.61	437.71
3″	8892K122	59.22	103.18	134.58	233.28	448.61
4″	8892K123	81.60	142.18	185.45	321.45	618.17
6″	8892K124	99.89	174.06	227.03	393.53	756.78
8″	8892K909	128.61	224.10	292.31	506.66	974.35
10″	8892K912	157.99	275.29	359.08	622.40	1,196.93
1 1⁄2″ Thick (±0.002″)						
1 1⁄2″	8892K596	69.88	121.76	158.82	275.29	529.41
2″	8892K969	77.60	135.21	176.37	305.70	587.89
4″	8892K971	122.86	214.07	279.23	484.00	930.76
2″ Thick (±0.002″)						
2″	8892K973	96.22	167.66	218.69	379.06	728.97
4″	8892K974	147.27	256.61	334.70	580.15	1,115.68

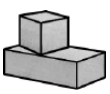

Thick.	Wd.	Lg.	Thick. Tolerance		
1″	2 1⁄2″	3″	±0.002″	89715K977	$34.58
1″	3″	3″	±0.002″	8892K882	45.95
1 1⁄2″	2″	3″	±0.002″	8892K883	94.97
2″	2″	3″	±0.002″	89715K979	57.57

Thick.	Wd.	Lg.	Thick. Tolerance		
2″	3″	3″	±0.002″	89715K981	$66.13
2″	4″	3″	±0.002″	89715K982	88.15
3″	3″	3″	±0.002″	89715K983	171.43
3″	3″	6″	±0.002″	8892K886	311.73

(Material continued on following page)

Multipurpose 4140/4142 Alloy Steel *(Material continued from previous page)*

Also known as chrome-moly steel, this versatile material is used for many parts, such as gears, axles, shafts, collets, and dieholders. It resists fracturing from repeated stress. When hardened, it offers increased abrasion and impact resistance.

Hardened Rectangular Bars—Ground



- Yield Strength: 93,000 psi
- Hardness: Hard (Rockwell C28)
- Meet ASTM A322

These hardened bars are ground on all four sides for a smooth surface. Width tolerance is +0.015″.

Wd.		1½ ft.	3 ft.
⅛″ Thick (+0.015″)			
½″	7939T11	$25.62	$45.75
¾″	7939T41	31.05	55.44
1″	7939T12	36.66	65.47
1¼″	7939T42	40.25	71.88
1½″	7939T43	43.10	76.97
2″	7939T13	51.10	91.25

Wd.		1½ ft.	3 ft.
¼″ Thick (+0.015″)			
½″	7939T14	$35.78	$63.90
¾″	7939T15	36.32	64.85
1″	7939T16	43.66	77.96
1½″	7939T18	52.79	94.27
2″	7939T21	63.91	114.12
3″	7939T51	84.11	150.20
6″	7939T53	143.93	257.02

Wd.		1½ ft.	3 ft.
½″ Thick (+0.015″)			
½″	7939T55	$50.82	$90.75
¾″	7939T25	57.18	102.11
1″	7939T26	66.18	118.17
1½″	7939T27	80.47	143.69
2″	7939T28	91.55	163.48
3″	7939T57	117.59	209.98
6″	7939T58	174.35	311.34

Oversized Sheets—Ground



- Yield Strength: 115,000 psi
- Hardness: Hard (Rockwell C22)
- Can be hardened up to Rockwell C37
- Meet ASTM A829

Sheets are annealed. They are also decarb free, improving the surface for heat treating. Width and length tolerances are +⅛″.

Thick.	Thick. Tolerance	6″×6″		6″×12″		6″×24″		8″×8″		10″×12″		12″×12″	
¼″	+0.040″	4473T31	$27.03	4473T39	$45.31	4473T42	$79.49	4473T44	$43.72	4473T53	$67.57	4473T55	$79.49
⅜″	+0.040″	4473T32	30.09	4473T41	50.45	4473T43	88.51	4473T45	48.68	4473T54	75.23	4473T56	88.51
½″	+0.040″	4473T33	33.91	4473T11	56.85	4473T12	99.74	4473T46	54.86	4473T13	84.78	4473T57	99.74
⅝″	+0.040″	4473T34	41.55	4473T14	69.66	4473T15	122.21	4473T47	67.22	4473T16	103.88	4473T59	122.21
¾″	+0.040″	4473T35	45.64	4473T17	76.52	4473T18	134.24	4473T48	73.83	4473T19	114.10	4473T61	134.24
1″	+0.040″	4473T36	57.66	4473T21	96.67	4473T22	169.59	4473T49	93.27	4473T23	144.15	4473T62	169.59
1¼″	+0.040″	4473T37	66.87	4473T24	112.11	4473T25	196.68	4473T51	108.17	4473T26	167.18	4473T63	196.68
1½″	+0.040″	4473T38	70.53	4473T27	118.25	4473T28	207.45	4473T52	114.10	4473T29	176.33	4473T64	207.45

Hardened Tight-Tolerance Sheets—Precision Ground



- Yield Strength: 93,000 psi
- Hardness: Hard (Rockwell C28)
- Meet ASTM A322

Width and length have a plus tolerance.

Thick.	Thick. Tolerance	3″×3″		6″×6″		6″×12″		12″×12″		12″×24″		12″×36″	
⅛″	±0.001″	4468T14	$17.63	4468T11	$43.74	4468T15	$90.40	4468T12	$156.30	4468T19	$312.45	4468T13	$375.09
3/16″	±0.001″	4468T24	20.10	4468T16	45.89	4468T25	103.07	4468T17	178.17	4468T29	356.25	4468T18	427.67
¼″	±0.001″	4468T34	20.75	4468T21	50.91	4468T35	106.41	4468T22	183.98	4468T39	367.79	4468T23	441.52
⅜″	±0.001″	4468T44	23.43	4468T26	58.13	4468T45	120.15	4468T27	206.20	4468T49	415.28	4468T28	498.54
½″	±0.001″	4468T54	24.06	4468T31	64.67	4468T55	123.39	4468T32	211.05	4468T59	426.50	4468T33	512.00
⅝″	±0.001″	4468T61	29.07	4468T36	69.15	4468T62	149.06	4468T37	254.15	4468T63	515.23	4468T38	618.52
¾″	±0.001″	4468T64	34.73	4468T41	84.18	4468T65	178.11	4468T42	302.71	4468T66	615.62	4468T43	739.04
1″	±0.001″	4468T67	42.13	4468T46	100.48	4468T68	216.02	4468T47	365.98	4468T69	746.67	4468T48	896.36
1¼″	±0.001″	4468T71	50.08	4468T51	113.15	4468T72	256.77	4468T52	415.53	4468T73	887.52	4468T53	1,065.45
1½″	±0.002″	4468T74	69.28	4468T56	136.93	4468T75	355.22	4468T57	574.84	4468T76	1,227.80	4468T58	1,473.95

Rods—Unpolished (Cold Drawn)



- Yield Strength: 60,000 psi
- Hardness: Hard (Rockwell C25)
- Can be hardened up to Rockwell C60
- Meet ASTM A29 and A108

Rods are annealed. Length tolerance for ½″ to ½-ft. long rods is a plus tolerance; for 1-ft. and longer rods it is ±1″.

Dia.	Dia. Tolerance		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
¼″	–0.003″	8927K18	$1.00	$1.66	$2.74	$3.57	$6.16
5/16″	–0.003″	8927K19	1.55	2.69	4.79	6.24	10.76
⅜″	–0.003″	8927K94	1.82	3.17	5.65	7.36	12.69
7/16″	–0.003″	8927K95	2.68	4.67	8.31	10.83	18.67
½″	–0.003″	8927K96	2.36	4.10	7.29	9.51	16.39
9/16″	–0.003″	8927K97	3.88	6.75	12.02	15.66	27.00
⅝″	–0.003″	8927K98	3.68	6.40	11.40	14.85	25.61
¾″	–0.003″	8927K11	4.82	8.38	14.91	19.43	33.50
⅞″	–0.003″	8927K12	6.19	10.77	19.17	24.99	43.08
1″	–0.003″	8927K13	7.79	13.55	24.12	31.44	54.20
1⅛″	–0.003″	8927K14	9.26	16.09	28.64	37.33	64.36
1¼″	–0.003″	8927K15	10.94	19.02	33.86	44.13	76.08
1⅜″	–0.003″	8927K16	13.10	22.77	40.54	52.84	91.10
1½″	–0.003″	8927K17	15.36	26.71	47.54	61.96	106.83
1⅝″	–0.004″	8927K42	17.62	30.64	54.53	71.07	122.54
1¾″	–0.004″	8927K44	20.01	34.80	61.94	80.72	139.18
1⅞″	–0.004″	8927K46	21.83	37.95	67.56	88.06	151.82
2″	–0.004″	8927K48	24.93	43.34	77.15	100.55	173.37

Dia.	Dia. Tolerance		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
2⅛″	–0.004″	8927K52	$28.14	$48.93	$87.09	$113.51	$195.71
2¼″	–0.004″	8927K54	29.90	51.98	92.53	120.61	207.94
2⅜″	–0.004″	8927K56	33.31	57.91	103.09	134.36	231.66
2½″	–0.004″	8927K58	36.22	62.96	112.07	146.07	251.85
2⅝″	–0.005″	8927K62	39.19	68.14	121.28	158.08	272.55
2¾″	–0.005″	8927K64	42.22	73.40	130.65	170.28	293.59
2⅞″	–0.005″	8927K66	45.10	78.40	139.55	181.89	313.60
3″	–0.005″	8927K68	48.48	107.89	150.04	195.55	337.16
3⅛″	–0.005″	8927K72	58.00	100.83	179.48	233.93	403.33
3¼″	–0.005″	8927K74	59.92	104.17	185.42	241.67	416.68
3⅜″	–0.005″	8927K76	66.08	114.89	204.50	266.54	459.55
3½″	–0.005″	8927K78	69.14	120.20	213.96	278.88	480.82
3⅝″	–0.005″	8927K82	82.91	144.13	256.56	334.39	576.53
3¾″	–0.005″	8927K84	89.29	155.23	276.31	360.14	620.93
4″	–0.005″	8927K86	86.39	177.02	315.10	410.69	708.09
5″	–0.006″	8927K99	152.16	264.54	470.88	613.73	1,058.15
6″	–0.006″	8927K111	194.71	304.24	541.55	705.84	1,216.96



Dia.	Dia. Tolerance	½″ Long		1″ Long		1½″ Long		2″ Long		3″ Long		4″ Long	
3″	–0.005″	8960K51	$11.03	8960K52	$14.22	8960K53	$17.63	8960K54	$21.22	8960K55	$28.17	8960K67	$34.78
4″	–0.005″	8960K11	17.23	8960K12	31.56	8960K13	39.07	8960K14	43.34	8960K16	57.88	8960K68	68.91
5″	–0.006″	8960K61	27.46	8960K62	39.66	8960K63	52.62	8960K64	66.46	8960K65	95.90	8960K69	109.85
6″	–0.006″	8960K31	52.48	8960K32	75.34	8960K33	98.56	8960K34	112.28	8960K36	154.88	8960K71	182.86

(Material continued on following page)

Multipurpose 4140/4142 Alloy Steel *(Material continued from previous page)*

Metric Rods—Ground (Cold Drawn)



- Yield Strength: 90,000 psi
- Hardness: Hard (Rockwell C29)
- Meet ASTM A29 and A108

Rods are annealed. Diameter tolerance is –0.051 mm.

Dia., mm		1 ft.	3 ft.	6 ft.
3	8927K93	$3.50	$8.27	$14.02
5	8927K24	3.95	9.32	15.79
7	8927K28	4.75	11.22	19.02
10	8927K36	$6.71	$15.84	$26.85
12	8927K38	7.83	18.48	31.33
16	8927K87	16.22	38.28	64.88
20	8927K89	$19.95	$47.07	$79.78
25	8927K91	24.75	58.40	98.98
30	8927K92	37.85	89.33	151.40

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B90)
- Can be hardened up to Rockwell C60
- Meet ASTM A108

Diameter tolerance for 1/8″ to 1 1/2″ dia. rods is –0.0005″, and for 2″ to 3″ dia. rods it is –0.0015″. Straightness tolerance is 1/16″ per 3 feet. Length tolerance for 1-ft. lengths is ±1/2″; for 3-ft. lengths it is ±1″; and for 6-ft. lengths it is a plus tolerance.

Dia.		1 ft.	3 ft.	6 ft.
1/8″	5252T12	$6.03	$10.96	$18.26
3/16″	5252T13	6.38	11.97	19.95
1/4″	5252T115	6.86	13.28	22.14
5/16″	5252T215	7.59	14.68	24.47
3/8″	5252T315	8.28	16.55	27.59
1/2″	5252T415	$15.87	$31.21	$52.89
5/8″	5252T515	19.40	39.48	66.91
3/4″	5252T615	21.16	49.95	84.66
7/8″	5252T14	25.55	60.30	102.21
1″	5252T715	28.93	68.28	115.73
1 1/4″	5252T15	$44.26	$104.45	$177.03
1 1/2″	5252T16	59.44	140.28	237.77
2″	5252T18	105.31	248.54	421.26
2 1/2″	5252T19	158.48	374.02	633.93
3″	5252T22	171.49	404.72	685.96

Metric Tight-Tolerance Rods—Precision Ground



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B90)
- Can be hardened up to Rockwell C60
- Meet ASTM A108

Diameter tolerance is –0.0127 mm. Straightness tolerance is 1/16″ per 3 feet. Length tolerance for 1-ft. lengths is ±1/2″; for 3-ft. lengths it is ±1″; and for 6-ft. lengths it is a plus tolerance.

Dia., mm		1 ft.	3 ft.	6 ft.
3	5836T11	$7.10	$14.43	$22.20
5	5836T13	8.04	16.61	25.95
6	5836T215	6.83	11.93	16.66
8	5836T225	7.21	14.89	23.27
10	5836T235	$8.66	$17.60	$27.93
12	5836T245	11.23	23.21	37.44
14	5836T255	15.13	31.88	54.03
18	5836T275	18.12	42.77	72.50
20	5836T285	$19.88	$46.92	$79.53
25	5836T295	26.23	61.91	104.94
35	5836T32	50.89	120.11	203.57
45	5836T34	81.29	191.85	325.17

Hardened Rods—Unpolished (Cold Drawn)



- Yield Strength: 95,000 psi
- Hardness: Hard (Rockwell C35)
- Meet ASTM A29, A108, and A193

Diameter tolerance is ±0.007″. Straightness tolerance is 3/16″ per 10 feet. Length tolerance is ±1/8″ for 1/2-ft. lengths, ±1″ for 1-ft. lengths, ±2″ for 2-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/8″	8935K336	$1.60	$2.66	$4.68	$6.17	$10.64
1/2″	8935K356	2.76	4.61	8.11	10.69	18.43
5/8″	8935K29	4.00	6.67	11.74	15.47	26.68
3/4″	8935K32	4.35	7.25	12.76	16.82	29.00
7/8″	8935K34	6.79	11.32	19.92	26.26	45.27
1″	8935K36	8.51	14.18	24.95	32.89	56.70
1 1/8″	8935K38	8.84	14.74	25.94	34.20	58.96
1 1/4″	8935K42	10.14	16.91	29.75	39.22	67.62
1 3/8″	8935K44	11.85	19.75	34.76	45.82	79.00
1 1/2″	8935K11	14.03	23.38	41.15	54.25	93.53
1 5/8″	8935K12	16.13	26.89	47.32	62.37	107.54
1 3/4″	8935K13	18.05	30.08	52.95	69.79	120.33
1 7/8″	8935K14	20.20	33.67	59.26	78.12	134.69
2″	8935K15	$22.91	$38.18	$67.20	$88.58	$152.73
2 1/8″	8935K16	25.01	41.69	73.37	96.71	166.74
2 1/4″	8935K17	28.49	47.49	83.58	110.18	189.96
2 3/8″	8935K18	29.92	49.86	87.76	115.68	199.45
2 1/2″	8935K19	33.06	55.09	96.97	127.82	220.38
2 5/8″	8935K21	35.06	58.44	102.85	135.57	233.74
2 3/4″	8935K22	37.17	61.95	109.02	143.71	247.78
3″	8935K24	45.62	76.03	133.81	176.38	304.11
3 1/8″	8935K25	49.20	82.00	144.31	190.23	327.98
3 1/4″	8935K26	53.05	88.42	155.63	205.15	353.70
3 1/2″	8935K28	61.15	101.92	179.37	236.44	407.66
3 3/4″	8935K91	67.76	112.94	198.77	262.01	451.75
4″	8935K92	75.44	125.74	221.30	291.71	502.95

Hardened Tight-Tolerance Rods—Chrome Plated



- Yield Strength: 100,000 psi
- Hardness: Hard (Rockwell C30)

Rods are chrome plated for corrosion resistance. Chrome plating is 0.005″ thick.

Dia.	Dia. Tolerance		3 ft.	6 ft.
1″	–0.0015″	6689T12	$64.93	$108.21
1 1/4″	–0.0015″	6689T14	90.63	151.05
1 1/2″	–0.0015″	6689T16	$112.93	$188.21
2″	–0.0015″	6689T18	181.90	303.16

Metric Hardened Tight-Tolerance Rods—Chrome Plated



- Yield Strength: 100,000 psi
- Hardness: Hard (Rockwell C30)

Rods are chrome plated for corrosion resistance. Chrome plating is 0.005″ thick.

Dia., mm	Dia. Tolerance, mm		3 ft.	6 ft.
32	–0.038	6689T32	$78.70	$131.16
35	–0.038	6689T34	105.60	176.00
36	–0.038	6689T36	$108.95	$181.58
40	–0.038	6689T38	159.53	265.89

(Material continued on following page)

Multipurpose 4140/4142 Alloy Steel *(Material continued from previous page)*

Also known as chrome-moly steel, this versatile material is used for many parts, such as gears, axles, shafts, collets, and dieholders. It resists fracturing from repeated stress. When hardened, it offers increased abrasion and impact resistance.

High-Strength Rods—Unpolished (Cold Drawn)



- Yield Strength: 130,000 psi
- Hardness: Hard (Rockwell C32)
- Meet ASTM A108

Commonly called ETD-150, this modified version of 4140 alloy steel has been drawn at high temperatures for excellent strength. Diameter tolerance is –0.006″. Straightness tolerance is 3/16″ per 10 feet. Length tolerance is ±1″.

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
5/8″	6818T21	$5.96	$9.60	$15.24	$19.21	$33.12
3/4″	6818T22	8.33	13.43	21.30	26.85	46.30
13/16″	6818T23	9.67	15.58	24.72	31.17	53.74
7/8″	6818T24	11.43	18.42	29.21	36.84	63.51
1″	6818T25	13.84	22.29	35.36	44.58	76.87
1 1/4″	6818T26	$18.63	$30.01	$47.61	$60.02	$103.49
1 1/2″	6818T27	26.76	43.11	68.38	86.22	148.65
1 3/4″	6818T28	36.33	58.54	92.86	117.08	201.86
2″	6818T31	45.90	73.95	117.30	147.90	255.00

Tubes—Unpolished (Hot Rolled)



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B85)
- Can be hardened up to Rockwell C60
- Meet ASTM A519

OD tolerance for 2 1/2″ to 4 1/4″ OD tubes is ±0.025″; for 4 1/2″ OD and larger it is ±0.037″. Straightness tolerance is 0.030″ per foot. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

OD	ID	Wall Thick.	Wall Thick. Tolerance		1 ft.	3 ft.	6 ft.
2 1/2″	1 1/2″	1/2″	±0.050″	6920T11	$65.34	$151.60	$261.38
2 3/4″	1 3/4″	1/2″	±0.050″	6920T12	82.52	191.45	330.08
3″	1 1/2″	3/4″	±0.075″	6920T24	105.76	245.37	423.05
3″	2″	1/2″	±0.050″	6920T13	88.59	205.53	354.36
3 1/4″	1 3/4″	3/4″	±0.075″	6920T25	115.42	267.77	461.68
3 1/4″	2″	5/8″	±0.063″	6920T22	91.22	211.62	364.87
3 1/4″	2 1/4″	1/2″	±0.050″	6920T21	83.16	192.93	332.63
3 1/2″	1 1/2″	1″	±0.100″	6920T29	139.00	322.47	555.98
3 3/4″	2 1/4″	3/4″	±0.075″	6920T26	133.72	310.24	534.90
3 3/4″	2 3/4″	1/2″	±0.050″	6920T23	$98.28	$228.00	$393.11
4″	2 3/4″	5/8″	±0.063″	6920T32	118.65	275.26	474.59
4″	3″	1/2″	±0.050″	6920T31	97.30	225.73	389.19
4 1/4″	2 3/4″	3/4″	±0.075″	6920T27	157.38	365.11	629.50
4 1/2″	2″	1 1/4″	±0.125″	6920T33	225.88	524.03	903.50
4 3/4″	3 1/4″	3/4″	±0.075″	6920T28	169.53	393.32	678.13
5″	2 1/2″	1 1/4″	±0.125″	6920T34	256.49	595.05	1,025.94
5 1/2″	3″	1 1/4″	±0.125″	6920T35	290.69	674.39	1,162.75
6″	2″	2″	±0.200″	6920T36	393.96	913.98	1,575.83

Hardened Hexagonal Bars—Unpolished (Hot Rolled)



- Yield Strength: 105,000 psi
- Hardness: Hard (Rockwell C35)
- Meet ASTM A29 and A193

Hex bars are stress relieved to reduce warping during machining. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Hex Size	Hex Tolerance		1 ft.	3 ft.	6 ft.
1/2″	+0.007″, –0.007″	6607K34	$8.07	$18.73	$32.29
5/8″	+0.01″, –0.01″	6607K35	12.07	28.01	48.30
3/4″	+0.01″, –0.01″	6607K37	15.32	37.30	66.61
7/8″	+0.01″, –0.01″	6607K39	20.32	49.46	88.33
1″	+0.01″, –0.01″	6607K51	25.98	63.26	112.96
1 1/8″	+0.021″, –0.013″	6607K53	32.53	79.20	141.43
1 1/4″	+0.021″, –0.013″	6607K55	$38.48	$93.69	$167.31
1 3/8″	+0.021″, –0.013″	6607K57	45.66	111.17	198.52
1 1/2″	+0.021″, –0.013″	6607K59	52.26	127.25	227.23
1 3/4″	+0.031″, –0.016″	6607K61	68.47	166.71	297.69
2″	+0.031″, –0.016″	6607K63	85.98	209.33	373.81

Metric Hexagonal Bars—Unpolished (Cold Drawn)



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B92)
- Can be hardened up to Rockwell C20
- Meet ASTM A108 and A304

Hex bars are annealed.

Hex Size, mm	Hex Tolerance, mm		1 ft.	3 ft.	6 ft.
5	–0.051	6607K1	$2.64	$6.12	$10.55
7	–0.051	6607K2	3.24	7.51	12.95
10	–0.051	6607K3	6.28	14.56	25.10
12	–0.051	6607K4	9.04	20.97	36.15
15	–0.051	6607K5	$12.82	$29.74	$51.27
20	–0.013	6607K6	20.93	48.55	83.70
27	–0.013	6607K7	35.21	81.68	140.83
50	–0.102	6607K8	108.23	251.10	432.93

High-Strength Impact-Resistant 4340 Alloy Steel



- Yield Strength: 68,500 psi
- Hardness: Hard (Rockwell C27)
- Can be hardened up to Rockwell C53

Use this material for power transmission and structural applications involving extreme impact, heat, and wear. 1/2″ and 3/4″ diameter rods are cold drawn; all others are hot rolled. Straightness tolerance is 0.050″ per foot. Length tolerance is ±1/8″.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1/2″	±0.009″	4437T11	$6.64	$15.42	$26.58
3/4″	±0.009″	4437T12	11.82	27.43	47.29
7/8″	±0.009″	4437T13	24.13	55.98	96.52
1″	±0.009″	4437T14	28.26	65.57	113.05
1 1/8″	±0.016″	4437T15	29.28	67.93	117.12
1 1/4″	±0.016″	4437T16	35.96	83.43	143.84
1 1/2″	±0.016″	4437T17	$49.01	$113.69	$196.02
1 3/4″	±0.016″	4437T18	58.89	136.62	235.56
2″	±0.016″	4437T21	71.56	166.01	286.23
2 1/4″	±0.047″	4437T22	108.10	250.80	432.41
2 1/2″	±0.047″	4437T23	111.89	259.58	447.56
3″	±0.047″	4437T25	123.72	287.04	494.90

***Warning!* Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.**

Very High-Strength 300M Alloy Steel



- Yield Strength: 230,000 psi
- Hardness: Hard (Rockwell C23)
- Can be hardened up to Rockwell C54
- Meet ASTM A579

A modified version of 4340 steel, 300M is used in applications requiring high yield strength, such as torsion bars and drive shafts. This material has been normalized for consistent hardening and machining. These unpolished rods are hot rolled.

Dia.	Dia. Tolerance		½ ft.	1 ft.	3 ft.
½″	+0.016″	3236T11	$34.67	$56.00	$133.33
¾″	+0.016″	3236T12	37.63	60.79	144.74
⅞″	+0.016″	3236T13	31.84	51.43	122.45
1″	+0.016″	3236T14	$35.69	$57.64	$137.25
1½″	+0.016″	3236T15	51.59	83.33	198.41
2″	+0.016″	3236T16	74.00	119.54	284.62

Ultra Impact-Resistant C300 Alloy Steel



- Yield Strength: 110,000 psi
- Hardness: Hard (Rockwell C30)
- Can be hardened up to Rockwell C55

Also known as maraging steel and VascoMax, C300 has excellent resistance to cracking from impact and compression. It's often used for dies and tooling applications. These unpolished rods are hot rolled.

Dia.	Dia. Tolerance		½ ft.	1 ft.	3 ft.
¼″	+0.002″	1689T11	$19.83	$33.04	$82.61
⅜″	+0.003″	1689T12	25.30	42.16	105.41
½″	+0.004″	1689T13	29.76	49.60	124.00
⅝″	+0.004″	1689T14	42.72	71.20	178.00
¾″	+0.004″	1689T15	$55.38	$92.31	$230.77
⅞″	+0.004″	1689T16	69.82	116.36	290.91
1″	+0.004″	1689T17	77.20	128.67	321.67

Easy-to-Weld 4130 Alloy Steel

Its carbon content is low enough for good weldability but high enough to give this steel abrasion and impact resistance. 4130 is often used for gears, fasteners, and structural applications.

Sheets with Material Certification—Unpolished



- Yield Strength: 50,000 psi
- Hardness: Medium (up to Rockwell B85)
- Can be hardened up to Rockwell C60

Meet AMS 6350-6351. Each sheet comes with a traceable lot number and material test report. All sheets are annealed. 0.025″ to 0.125″ thick sheets are cold rolled; 0.160″ and thicker are hot rolled. Width and length tolerances are ±1/16″.

Thick.	Thick. Tolerance	6″×12″		6″×36″		12″×12″		12″×24″		24″×24″		36″×36″	
0.025″	±0.005″	4459T14	$13.91	4459T18	$25.68	4459T16	$21.40	4459T24	$28.53	4459T26	$53.50	4459T28	$89.17
0.032″	±0.005″	4459T141	14.83	4459T181	27.38	4459T161	22.82	4459T241	30.42	4459T261	57.04	4459T281	95.07
0.040″	±0.009″	4459T142	15.48	4459T182	28.58	4459T162	23.82	4459T242	31.76	4459T262	59.54	4459T282	99.24
0.050″	±0.009″	4459T143	16.62	4459T183	30.69	4459T163	25.57	4459T243	34.10	4459T263	63.94	4459T283	106.56
0.063″	±0.009″	4459T144	18.39	4459T184	33.95	4459T164	28.29	4459T244	37.72	4459T264	70.73	4459T284	117.89
0.071″	±0.009″	4459T145	19.13	4459T185	35.32	4459T165	29.43	4459T245	39.24	4459T265	73.58	4459T285	122.64
0.080″	±0.009″	4459T146	20.05	4459T186	37.02	4459T166	30.85	4459T246	41.14	4459T266	77.13	4459T286	128.55
0.100″	±0.009″	4459T147	22.58	4459T187	41.69	4459T167	34.74	4459T247	46.32	4459T267	86.84	4459T287	144.74
0.125″	±0.009″	4459T148	25.65	4459T188	47.35	4459T168	39.46	4459T248	52.61	4459T268	98.64	4459T288	164.40
0.160″	±0.009″	4459T149	28.23	4459T189	52.11	4459T169	43.42	4459T249	57.90	4459T269	108.56	4459T289	180.93
0.190″	±0.009″	4459T15	30.93	4459T19	57.10	4459T17	47.58	4459T25	63.44	4459T27	118.95	4459T29	198.25
0.250″	±0.009″	4459T151	36.04	4459T191	66.54	4459T171	55.45	4459T251	73.93	4459T271	138.62	4459T291	231.03

Rods



- Yield Strength: Not rated
- Hardness: Hard (Rockwell C20)
- Can be hardened up to Rockwell C54
- Meet ASTM A108

Meet AMS 2301 and AMS 6348. These rods are normalized for consistent hardening and machining. Rods with diameters ⅜″ to 1″ are cold drawn; diameters 1⅛″ to 3″ are turned and polished. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
⅜″	–0.005″	6673T39	$3.46	$8.03	$13.84
½″	–0.005″	6673T21	4.68	10.86	18.73
⅝″	–0.005″	6673T22	6.96	16.16	27.86
¾″	–0.005″	6673T25	9.82	22.79	39.29
⅞″	–0.005″	6673T42	14.79	34.31	59.16
1″	–0.005″	6673T27	17.10	39.68	68.41
1⅛″	–0.005″	6673T47	$19.69	$45.68	$78.76
1¼″	–0.005″	6673T29	23.50	54.51	93.98
1½″	–0.005″	6673T32	32.47	75.33	129.88
2″	–0.006″	6673T34	51.65	119.83	206.60
2½″	–0.006″	6673T36	75.36	174.84	301.44
3″	–0.006″	6673T38	102.60	238.03	410.40

Rectangular Tubes—Unpolished (Cold Drawn)



- Yield Strength: 75,000 psi
- Hardness: Hard (Rockwell C19)
- Can be hardened up to Rockwell C49

Meet AMS-T-6736 and MIL-T-6736B. All tubes are annealed. Height and width tolerances are ±0.020″. Straightness tolerance is 0.075″ per 3 feet. Length tolerance is ±1″.

Ht.	Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
0.035″ Wall Thick. (±0.0035″)							
⅜″	⅜″	6582K21	$8.86	$14.76	$25.98	$34.24	$59.04
½″	½″	6582K22	8.83	14.71	25.89	34.13	58.84
½″	1″	6566K25	9.11	15.18	26.71	35.21	60.71
⅝″	⅝″	6582K23	8.58	14.31	25.18	33.19	57.23
¾″	¾″	6582K24	10.69	17.81	31.35	41.32	71.24
1″	1″	6582K26	11.14	18.56	32.67	43.06	74.25
0.049″ Wall Thick. (±0.0049″)							
½″	1″	6566K52	9.75	16.25	28.61	37.71	65.02
⅝″	⅝″	6582K27	10.50	17.50	30.79	40.59	69.98
¾″	¾″	6582K28	9.36	15.60	27.46	36.20	62.41
¾″	1½″	6566K31	13.90	23.17	40.77	53.75	92.67
0.049″ Wall Thick. (±0.0049″) (Cont.)							
1″	1″	6582K29	$12.30	$20.50	$36.09	$47.57	$82.02
1″	1½″	6566K54	15.41	25.68	45.19	59.57	102.71
0.065″ Wall Thick. (±0.0065″)							
½″	1″	6566K33	11.28	18.79	33.07	43.60	75.17
⅝″	⅝″	6582K32	10.85	18.09	31.83	41.96	72.35
¾″	¾″	6582K41	12.42	20.69	36.42	48.01	82.77
1″	1″	6582K43	12.53	20.88	36.74	48.43	83.50
1″	1½″	6566K34	17.87	29.79	52.43	69.11	119.15
1″	1¾″	6566K35	17.93	29.88	52.59	69.32	119.52
1″	2″	6566K56	18.53	30.88	54.35	71.64	123.52

(Material continued on following page)

Easy-to-Weld 4130 Alloy Steel *(Material continued from previous page)*

Its carbon content is low enough for good weldability but high enough to give this steel abrasion and impact resistance. 4130 is often used for gears, fasteners, and structural applications.

Round Tubes—Unpolished (Cold Drawn)



- Yield Strength: 70,000 psi
- Hardness: Hard (Rockwell C19)
- Can be hardened up to Rockwell C49

Meet AMS-T-6736 and MIL-T-6736B. Wall thickness tolerance is ±15%. Straightness tolerance is 0.030″ per 3 feet. Length tolerance is ±1″.

OD	ID	OD Tolerance		1 ft.	3 ft.	6 ft.
0.028″ Wall Thick.						
0.250″	0.194″	±0.005″	89955K439	$5.87	$13.61	$23.46
0.375″	0.319″	±0.005″	89955K469	5.94	13.77	23.75
0.500″	0.444″	±0.005″	89955K479	5.98	13.88	23.93
0.625″	0.569″	±0.005″	89955K489	6.71	15.57	26.84
0.750″	0.694″	±0.005″	89955K438	6.53	15.14	26.11
1.000″	0.944″	±0.010″	89955K499	8.64	20.04	34.56
0.035″ Wall Thick.						
0.188″	0.118″	±0.005″	89955K119	5.79	13.42	23.14
0.250″	0.180″	±0.005″	89955K219	5.65	13.11	22.60
0.313″	0.243″	±0.005″	89955K239	6.35	14.73	25.40
0.375″	0.305″	±0.005″	89955K149	6.35	14.74	25.41
0.500″	0.430″	±0.005″	89955K259	6.53	15.16	26.13
0.625″	0.555″	±0.005″	89955K279	6.58	15.28	26.34
0.750″	0.680″	±0.005″	89955K299	6.80	15.78	27.21
0.875″	0.805″	±0.005″	89955K849	7.91	18.36	31.65
1.000″	0.930″	±0.005″	89955K339	8.20	19.02	32.79
1.125″	1.055″	±0.005″	89955K919	10.06	23.35	40.26
1.250″	1.180″	±0.011″	89955K369	10.36	24.02	41.42
1.375″	1.305″	±0.012″	89955K979	11.40	26.45	45.61
1.500″	1.430″	±0.013″	89955K389	13.23	30.70	52.93
0.049″ Wall Thick.						
0.250″	0.152″	±0.005″	89955K229	6.08	14.09	24.30
0.313″	0.215″	±0.005″	89955K249	6.40	14.85	25.60
0.375″	0.277″	±0.005″	89955K159	6.18	14.35	24.74
0.438″	0.340″	±0.005″	89955K739	6.61	15.34	26.44
0.500″	0.402″	±0.005″	89955K269	6.46	14.98	25.83
0.625″	0.527″	±0.005″	89955K289	6.73	15.61	26.91
0.750″	0.652″	±0.005″	89955K329	7.01	16.27	28.05
0.875″	0.777″	±0.005″	89955K859	7.18	16.67	28.74
1.000″	0.902″	±0.005″	89955K359	7.76	18.00	31.04
1.125″	1.027″	±0.005″	89955K929	10.51	24.38	42.04
1.250″	1.152″	±0.005″	89955K379	12.00	27.85	48.01
1.375″	1.277″	±0.005″	89955K989	11.96	27.74	47.82
1.500″	1.402″	±0.005″	89955K399	13.90	32.25	55.60
1.750″	1.652″	±0.019″	89955K189	18.55	43.05	74.22
2.000″	1.902″	±0.020″	89955K429	19.22	44.60	76.89
0.058″ Wall Thick.						
0.375″	0.259″	±0.005″	89955K118	7.09	16.44	28.35
0.438″	0.322″	±0.005″	89955K128	8.58	19.90	34.31
0.500″	0.384″	±0.005″	89955K138	8.66	20.09	34.63
0.625″	0.509″	±0.005″	89955K148	8.53	19.79	34.12
0.750″	0.634″	±0.005″	89955K158	8.98	20.85	35.94
0.875″	0.759″	±0.005″	89955K168	9.16	21.26	36.66
1.000″	0.884″	±0.005″	89955K178	9.41	21.84	37.66
1.125″	1.009″	±0.005″	89955K188	9.65	22.39	38.61
1.250″	1.134″	±0.005″	89955K198	9.90	22.96	39.59
1.375″	1.259″	±0.005″	89955K218	11.41	26.47	45.64
1.500″	1.384″	±0.005″	89955K228	11.67	27.07	46.67
1.750″	1.634″	±0.010″	89955K238	11.80	27.37	47.19
0.065″ Wall Thick.						
0.250″	0.120″	±0.005″	89955K519	6.13	14.23	24.53
0.313″	0.183″	±0.005″	89955K539	6.33	14.69	25.32
0.375″	0.245″	±0.005″	89955K449	6.51	15.11	26.06
0.438″	0.308″	±0.005″	89955K749	7.06	16.38	28.24
0.500″	0.370″	±0.005″	89955K559	7.39	17.14	29.56
0.563″	0.433″	±0.005″	89955K789	7.60	17.63	30.40
0.625″	0.495″	±0.005″	89955K579	7.66	17.77	30.63
0.750″	0.620″	±0.005″	89955K599	8.07	18.73	32.30
0.875″	0.745″	±0.005″	89955K869	8.12	18.83	32.47
1.000″	0.870″	±0.005″	89955K639	8.62	20.00	34.48
1.125″	0.995″	±0.005″	89955K939	11.61	26.93	46.43
1.250″	1.120″	±0.005″	89955K659	12.96	30.06	51.82
1.375″	1.245″	±0.005″	89955K129	13.96	32.38	55.83
1.500″	1.370″	±0.005″	89955K679	15.09	35.01	60.36
1.625″	1.495″	±0.010″	89955K248	16.78	38.93	67.12
0.065″ Wall Thick. (Cont.)						
1.750″	1.620″	±0.010″	89955K199	$17.27	$40.07	$69.09
2.000″	1.870″	±0.010″	89955K699	20.05	46.53	80.22
0.083″ Wall Thick.						
0.375″	0.209″	±0.005″	89955K459	7.93	18.39	31.71
0.438″	0.272″	±0.005″	89955K759	8.72	20.22	34.87
0.500″	0.334″	±0.005″	89955K569	9.08	21.06	36.31
0.563″	0.397″	±0.005″	89955K799	9.65	22.40	38.62
0.625″	0.459″	±0.005″	89955K589	9.36	21.70	37.42
0.750″	0.584″	±0.005″	89955K629	9.38	21.75	37.50
0.875″	0.709″	±0.005″	89955K879	10.39	24.10	41.55
1.000″	0.834″	±0.005″	89955K649	10.39	24.10	41.55
1.125″	0.959″	±0.005″	89955K949	11.99	27.83	47.98
1.250″	1.084″	±0.005″	89955K669	14.38	33.37	57.54
1.375″	1.209″	±0.005″	89955K139	15.00	34.80	60.00
1.500″	1.334″	±0.005″	89955K689	16.82	39.02	67.28
1.625″	1.459″	±0.010″	89955K258	18.85	43.73	75.40
1.750″	1.584″	±0.010″	89955K319	19.70	45.72	78.82
2.000″	1.834″	±0.010″	89955K719	19.77	45.87	79.09
0.095″ Wall Thick.						
0.313″	0.123″	±0.005″	89955K268	9.33	21.65	37.32
0.438″	0.248″	±0.005″	89955K278	10.04	23.29	40.16
0.500″	0.310″	±0.005″	89955K288	14.32	33.23	57.29
0.750″	0.560″	±0.005″	89955K298	15.17	35.19	60.67
1.000″	0.810″	±0.005″	89955K318	16.05	37.23	64.19
1.125″	0.935″	±0.005″	89955K328	16.32	37.87	65.29
1.250″	1.060″	±0.005″	89955K338	18.98	44.03	75.91
1.375″	1.185″	±0.005″	89955K348	19.37	44.93	77.47
1.500″	1.310″	±0.010″	89955K358	20.18	46.81	80.70
1.625″	1.435″	±0.010″	89955K368	20.71	48.05	82.84
1.750″	1.560″	±0.010″	89955K378	21.73	50.43	86.94
2.000″	1.810″	±0.010″	89955K388	24.53	56.90	98.11
2.500″	2.310″	±0.010″	89955K398	22.73	52.74	90.93
0.120″ Wall Thick.						
0.375″	0.135″	±0.005″	89955K729	11.10	25.74	44.38
0.438″	0.198″	±0.005″	89955K769	11.39	26.42	45.55
0.500″	0.260″	±0.005″	89955K779	12.05	27.97	48.22
0.563″	0.323″	±0.005″	89955K819	12.38	28.73	49.54
0.625″	0.385″	±0.005″	89955K829	12.84	29.79	51.37
0.750″	0.510″	±0.005″	89955K839	12.77	29.62	51.07
0.875″	0.635″	±0.005″	89955K889	14.85	34.44	59.38
1.000″	0.760″	±0.005″	89955K899	15.22	35.32	60.89
1.125″	0.885″	±0.005″	89955K959	17.87	41.46	71.49
1.250″	1.010″	±0.005″	89955K969	19.53	45.32	78.13
1.375″	1.135″	±0.005″	89955K169	20.83	48.32	83.31
1.500″	1.260″	±0.005″	89955K179	21.49	49.86	85.96
1.750″	1.510″	±0.010″	89955K349	21.86	50.72	87.44
2.000″	1.760″	±0.010″	89955K419	23.63	54.83	94.53
2.250″	2.010″	±0.010″	89955K529	26.79	62.15	107.16
2.500″	2.260″	±0.010″	89955K549	35.61	82.62	142.44
3.000″	2.760″	±0.010″	89955K619	78.77	182.73	315.06
0.156″ Wall Thick.						
0.625″	0.313″	±0.005″	89955K418	27.40	63.57	109.60
0.188″ Wall Thick.						
0.625″	0.249″	±0.005″	89955K998	16.30	37.83	65.22
0.750″	0.374″	±0.005″	89955K201	17.55	40.73	70.22
1.000″	0.624″	±0.005″	89955K301	20.90	48.49	83.60
1.125″	0.749″	±0.005″	89955K401	24.05	55.81	96.22
1.250″	0.874″	±0.005″	89955K428	25.39	58.92	101.58
1.500″	1.124″	±0.005″	89955K501	27.76	64.40	111.04
2.000″	1.624″	±0.010″	89955K601	31.35	72.73	125.40
2.500″	2.124″	±0.010″	89955K701	38.26	88.75	153.02
0.250″ Wall Thick.						
1.000″	0.500″	±0.005″	89955K801	21.57	50.05	86.29
3.000″	2.500″	±0.010″	89955K901	65.62	152.24	262.49

(Material continued on following page)

Easy-to-Weld 4130 Alloy Steel *(Material continued from previous page)*

Round Tubes with Material Certification—Unpolished (Cold Drawn)



- Yield Strength: 70,000 psi
- Hardness: Hard (Rockwell C19)
- Can be hardened up to Rockwell C49

Each tube comes with a traceable lot number and material test report. All meet AMS-T-6736 and MIL-T-6736B. Wall thickness tolerance is ±15%. Straightness tolerance is 0.030″ per 3 feet. Length tolerance is ±1″.

OD	ID	OD Tolerance		6 ft.
0.049″ Wall Thick.				
0.375″	0.277″	±0.005″	89955K156	$34.74
0.500″	0.402″	±0.005″	89955K266	35.83
0.750″	0.652″	±0.005″	89955K326	38.05
1.000″	0.902″	±0.005″	89955K356	41.04
0.065″ Wall Thick.				
0.500″	0.370″	±0.005″	89955K556	39.56
0.750″	0.620″	±0.005″	89955K596	42.30
0.065″ Wall Thick. (Cont.)				
0.875″	0.745″	±0.005″	89955K866	$42.47
1.000″	0.870″	±0.005″	89955K636	44.48
0.083″ Wall Thick.				
0.750″	0.584″	±0.005″	89955K626	47.50
0.875″	0.709″	±0.005″	89955K876	51.55
1.000″	0.834″	±0.005″	89955K646	51.55
1.250″	1.084″	±0.005″	89955K666	67.54
0.120″ Wall Thick.				
0.625″	0.385″	±0.005″	89955K826	$61.37
0.750″	0.510″	±0.005″	89955K836	61.07
0.875″	0.635″	±0.005″	89955K886	69.38
2.000″	1.760″	±0.010″	89955K416	104.53
0.250″ Wall Thick.				
1.000″	0.500″	±0.005″	89955K893	96.29
3.000″	2.500″	±0.010″	89955K963	272.49

Hardened Round Tubes



- Yield Strength: 110,000 psi
- Hardness: Hard (Rockwell C30)
- Meet ASTM A519

Wall thickness tolerance is not rated. All are unpolished (cold drawn), except 0.313″ and 0.344″ thick tubes are hot rolled.

OD	ID	OD Toler.	ID Toler.		1 ft.	3 ft.	6 ft.
0.214″ Wall Thick.							
1.415″	0.987″	+0.042″	-0.030″	3342T13	$32.10	$74.48	$128.42
0.250″ Wall Thick.							
1.315″	0.815″	+0.039″	-0.024″	3342T12	32.01	74.26	128.03
0.313″ Wall Thick.							
2.330″	1.704″	±0.020″	_____	3342T15	48.09	111.57	_____
0.344″ Wall Thick.							
2.375″	1.687″	±0.020″	_____	3342T16	$73.77	$171.14	$295.07
0.380″ Wall Thick.							
2.710″	1.950″	+0.027″	-0.023″	3342T17	100.02	232.04	400.07
0.534″ Wall Thick.							
3.063″	1.995″	+0.030″	-0.023″	3342T18	137.54	319.10	550.18

Stress-Resistant 5160 Alloy Steel



- Yield Strength: 97,000 psi
- Hardness: Hard (Rockwell C24)
- Can be hardened up to Rockwell C63
- Meet ASTM A689

Similar to spring steel, this material handles repeated cycles of stress without breaking. It's often used for flat springs. These unpolished bars are hot rolled. Width tolerance for 1¾″ to 2½″ wide bars is +0.030″; for 3″ and wider it is +0.045″. Straightness tolerance is ⅛″ per 5 feet. Length tolerance is ±⅛″.

Wd.		1 ft.	3 ft.	6 ft.
0.214″ Thick (±0.006″)				
1¾″	8644T61	$11.68	$23.36	$38.94
2″	8644T514	12.13	24.27	40.45
2¼″	8644T62	13.32	26.63	44.39
2½″	8644T534	13.65	27.30	45.50
0.250″ Thick (±0.006″)				
1¼″	8644T114	10.30	20.60	34.34
3″	8644T134	16.08	32.16	53.60
4″	8644T64	19.89	39.77	66.29
0.323″ Thick (±0.006″)				
1¾″	8644T65	13.20	26.40	44.00
2″	8644T214	14.66	29.33	48.88
2¼″	8644T66	16.09	32.18	53.63
2½″	8644T67	17.19	34.38	57.30
0.323″ Thick (±0.006″) (Cont.)				
3″	8644T234	$19.39	$38.77	$64.62
3½″	8644T68	21.97	43.94	73.24
0.360″ Thick (±0.006″)				
1¾″	8644T69	14.36	28.71	47.85
2″	8644T324	15.99	31.98	53.30
2¼″	8644T71	17.58	35.16	58.60
2½″	8644T72	18.76	37.53	62.55
3″	8644T73	21.18	42.36	70.60
3½″	8644T74	23.15	46.31	77.18
4″	8644T75	26.03	52.06	86.77
0.375″ Thick (±0.006″)				
1½″	8644T76	13.97	27.95	46.58
2½″	8644T78	18.93	37.86	63.10
0.375″ Thick (±0.006″) (Cont.)				
3″	8644T79	$20.97	$41.93	$69.89
4″	8644T344	27.22	54.45	90.75
0.499″ Thick (±0.008″)				
1¾″	8644T82	19.03	38.06	63.43
2″	8644T414	20.40	40.80	68.00
2¼″	8644T83	21.39	42.78	71.30
2½″	8644T84	22.95	45.90	76.50
3″	8644T434	26.87	53.74	89.57
3½″	8644T85	28.26	56.53	94.21
4″	8644T86	31.05	62.10	103.50

Easy-to-Weld Wear-Resistant 8620 Alloy Steel



- Yield Strength: 55,000 psi
- Hardness: Medium (Rockwell B85)
- Can be hardened up to Rockwell C60
- Meet ASTM A29 and A108

A low carbon content makes 8620 weldable, and it contains nickel, chromium, and molybdenum for abrasion resistance. ¼″ to ⅞″ diameter rods are cold drawn; 1″ diameter and larger are turned and polished for a smooth surface. Diameter tolerance is –0.005″. Length tolerance is +⅛″ for lengths less than 1 ft., ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Dia.		1 ft.	3 ft.	6 ft.
¼″	8930K2	$1.61	$3.73	$6.43
5/16″	8930K315	2.06	4.77	8.23
⅜″	8930K335	2.56	5.94	10.24
7/16″	8930K515	3.35	7.77	13.40
½″	8930K355	4.00	9.27	15.98
9/16″	8930K715	5.13	11.90	20.51
⅝″	8930K375	5.77	13.38	23.07
11/16″	8930K915	6.63	15.39	26.54
¾″	8930K11	5.92	17.45	30.08
⅞″	8930K12	$9.78	$22.68	$39.10
1″	8930K13	12.23	28.38	48.93
1⅛″	8930K14	15.49	35.94	61.97
1¼″	8930K15	18.70	43.38	74.79
1⅜″	8930K16	22.64	52.52	90.56
1½″	8930K17	25.77	59.80	103.10
1⅝″	8930K18	30.23	70.14	120.93
1¾″	8930K54	33.80	78.42	135.21
2″	8930K58	42.48	98.55	169.91
2⅛″	8930K62	$47.07	$109.21	$188.29
2¼″	8930K64	51.81	120.21	207.26
2⅜″	8930K66	56.68	131.50	226.73
2½″	8930K68	61.72	143.18	246.87
2¾″	8930K74	72.13	167.34	288.51
3″	8930K78	84.41	195.83	337.63
3½″	8930K88	87.88	234.27	437.44
4″	8930K98	153.34	355.75	613.36



Dia.	½″ Long		1″ Long		1½″ Long		2″ Long		3″ Long		6″ Long	
3″	4470T11	$7.35	4470T12	$11.83	4470T13	$16.34	4470T14	$20.87	4470T15	$28.48	4470T16	$53.33
4″	4470T21	14.63	4470T22	22.21	4470T23	30.62	4470T24	39.08	4470T25	54.59	4470T26	99.22
5″	4470T31	22.84	4470T32	36.51	4470T33	47.71	4470T34	60.75	4470T35	82.75	4470T36	150.37

***Warning!* Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.**

Bearing-Quality E52100 Alloy Steel

Also known as chrome steel, E52100 is an extremely hard and wear-resistant material. It's used for parts such as bearings, bushings, and punches.

Rods—Ground (Cold Drawn)



- Yield Strength: 62,000 psi
- Hardness: Hard (Rockwell C24)
- Can be hardened up to Rockwell C60
- Meet ASTM A108 and A295

These rods are annealed. Straightness tolerance is 3/16″ per 10 feet. Length tolerance is ±1″ for 1-ft. lengths, ±3″ for 3-ft. lengths, and ±6″ for 6-ft. lengths.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
3/16″	±0.006″	8938K12	$1.27	$2.95	$5.09
1/4″	±0.006″	8938K115	1.94	4.50	7.75
5/16″	±0.006″	8938K315	2.73	6.32	10.90
3/8″	±0.006″	8938K135	3.38	7.84	13.52
7/16″	±0.006″	8938K515	4.51	10.47	18.05
1/2″	±0.006″	8938K155	5.61	13.00	22.42
9/16″	±0.006″	8938K715	6.70	15.54	26.79
5/8″	±0.006″	8938K24	8.13	18.86	32.52
11/16″	±0.006″	8938K9	9.98	23.15	39.91
3/4″	±0.006″	8938K26	11.04	25.62	44.17
7/8″	±0.006″	8938K28	13.99	32.46	55.96
1″	±0.006″	8938K32	$17.91	$41.55	$71.64
1 1/8″	±0.006″	8938K34	21.71	50.36	86.83
1 1/4″	±0.006″	8938K36	26.23	60.84	104.90
1 3/8″	±0.006″	8938K67	30.84	71.54	123.35
1 1/2″	±0.006″	8938K68	37.79	87.68	151.17
1 5/8″	±0.007″	8938K69	43.62	101.20	174.49
1 3/4″	±0.007″	8938K71	49.60	115.07	198.40
2″	±0.007″	8938K73	61.09	141.74	244.38
2 1/2″	±0.007″	8938K77	88.78	205.96	355.11
3″	±0.008″	8938K81	121.43	281.72	485.72

Hardened Balls—Reflective Finish



- Yield Strength: 295,000 psi
- Hardness: Very Hard (Rockwell C60)
- Meet ASTM A295

Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.
3/64″	±0.0001″	100	9528K122	$7.92
1/16″	±0.0001″	100	9528K51	5.85
5/64″	±0.0001″	100	9528K123	8.62
1/12″	±0.0001″	100	9528K52	5.70
3/32″	±0.0001″	100	9528K34	4.36
7/64″	±0.0001″	100	9528K124	10.20
1/8″	±0.0001″	100	9528K11	2.90
9/64″	±0.0001″	100	9528K93	4.60
5/32″	±0.0001″	100	9528K12	3.18
11/64″	±0.0001″	100	9528K94	5.53
3/16″	±0.0001″	100	9528K13	3.22
7/32″	±0.0001″	100	9528K14	3.75
1/4″	±0.0001″	100	9528K15	4.37
17/64″	±0.0001″	100	9528K95	8.19
9/32″	±0.0001″	100	9528K16	5.60
5/16″	±0.0001″	100	9528K17	5.74
11/32″	±0.0001″	100	9528K18	8.55
3/8″	±0.0001″	100	9528K19	9.86
13/32″	±0.0001″	100	9528K21	11.75
7/16″	±0.0001″	100	9528K22	12.55
15/32″	±0.0001″	50	9528K23	$7.77
1/2″	±0.0001″	50	9528K24	7.50
17/32″	±0.0001″	50	9528K35	11.45
9/16″	±0.0001″	50	9528K25	12.14
19/32″	±0.0001″	25	9528K36	7.32
5/8″	±0.0001″	25	9528K26	7.72
21/32″	±0.0001″	25	9528K27	7.79
11/16″	±0.0001″	25	9528K28	9.56
23/32″	±0.0001″	25	9528K37	10.79
3/4″	±0.0001″	25	9528K29	12.17
25/32″	±0.0001″	10	9528K31	6.28
13/16″	±0.0001″	20	9528K38	12.69
7/8″	±0.0001″	10	9528K32	7.76
15/16″	±0.0001″	10	9528K39	10.29
1″	±0.0001″	5	9528K33	7.02
1 1/16″	±0.0001″	5	9528K41	11.12
1 1/8″	±0.0001″	5	9528K42	12.51
1 3/16″	±0.0001″	1	9528K43	2.99
1 1/4″	±0.0001″	1	9528K44	2.98
1 5/16″	±0.0001″	4	9528K61	14.98
1 3/8″	±0.0001″	1	9528K62	$4.90
1 7/16″	±0.0001″	2	9528K63	14.05
1 1/2″	±0.0002″	1	9528K64	5.50
1 9/16″	±0.0002″	1	9528K125	10.85
1 5/8″	±0.0002″	1	9528K65	11.12
1 11/16″	±0.0002″	1	9528K126	13.07
1 3/4″	±0.0002″	1	9528K66	13.87
1 7/8″	±0.0002″	1	9528K67	19.09
2″	±0.0002″	1	9528K71	19.96
2 1/8″	±0.0002″	1	9528K87	41.15
2 1/4″	±0.0002″	1	9528K73	58.40
2 3/8″	±0.0002″	1	9528K74	71.91
2 1/2″	±0.0002″	1	9528K72	92.48
2 5/8″	±0.0002″	1	9528K88	99.74
2 3/4″	±0.0002″	1	9528K92	109.80
3″	±0.0005″	1	9528K75	115.85
3 1/4″	±0.0005″	1	9528K127	122.48
3 1/2″	±0.0005″	1	9528K128	165.34
4″	±0.0005″	1	9528K131	229.84
4 1/2″	±0.0030″	1	9528K132	314.93

Metric Hardened Balls—Reflective Finish



- Yield Strength: 295,000 psi
- Hardness: Very Hard (Rockwell C60)
- Meet ASTM A295

Dia., mm	Dia. Toler., mm	Pkg. Qty.		Pkg.
1	±0.0025	100	9292K29	$6.07
1.5	±0.0025	100	9292K42	6.13
2	±0.0025	100	9292K31	6.17
2.5	±0.0025	100	9292K32	6.22
3	±0.0025	100	9292K33	6.23
3.5	±0.0025	100	9292K35	6.58
4	±0.0025	100	9292K37	6.69
4.5	±0.0025	50	9292K38	5.12
5	±0.0025	100	9292K39	$7.89
5.5	±0.0025	50	9292K74	5.25
6	±0.0025	50	9292K41	5.86
6.5	±0.0025	50	9292K76	6.22
7	±0.0025	50	9292K43	6.62
8	±0.0025	25	9292K45	3.37
9	±0.0025	20	9292K44	3.67
10	±0.0025	20	9292K47	4.51
12	±0.0025	10	9292K49	$4.16
13	±0.0025	5	9292K46	2.33
14	±0.0025	5	9292K51	2.78
15	±0.0025	5	9292K52	3.15
16	±0.0025	5	9292K53	3.85
18	±0.0025	3	9292K55	4.08
24	±0.0025	3	9292K56	6.64

Tight-Tolerance Hardened Balls—Reflective Finish



- Yield Strength: Not rated
- Hardness: Very Hard (Rockwell C60)
- Meet ASTM A295

Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.
1/8″	±0.00005″	5	9528K45	$2.92
9/64″	±0.00005″	5	9528K46	3.75
5/32″	±0.00005″	5	9528K47	4.00
3/16″	±0.00005″	5	9528K48	5.94
7/32″	±0.00005″	5	9528K49	7.75
1/4″	±0.00005″	2	9528K53	4.47
17/64″	±0.00005″	2	9528K54	$5.29
9/32″	±0.00005″	2	9528K55	5.67
5/16″	±0.00005″	2	9528K56	6.27
11/32″	±0.00005″	2	9528K57	7.00
3/8″	±0.00005″	2	9528K58	8.74
13/32″	±0.00005″	1	9528K59	$6.16
7/16″	±0.00005″	1	9528K68	6.53
15/32″	±0.00005″	1	9528K69	7.25
1/2″	±0.00005″	1	9528K76	8.85
17/32″	±0.00005″	1	9528K77	10.15

Warning! Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.

Ultra-Machinable W1 Tool Steel

With lower amounts of alloy elements than other tool steels, W1 offers excellent machinability. This is a water-hardening tool steel that is often used for hammers, files, taps, and reamers.

Rectangular Bars—Unpolished (Cold Drawn)



- Yield Strength: 55,000 psi
- Hardness: Medium (Rockwell B88)
- Can be hardened up to Rockwell C65
- Meet ASTM A686

Bars are annealed. Thickness and width tolerances are ±0.0015″.

Wd.		3 ft.	6 ft.
1/16″ Thick			
1/16″	8894K112	$2.48	$4.28
1/8″	8895K252	3.36	6.58
3/16″	8895K362	5.25	10.29
1/4″	8895K352	6.06	11.88
3/32″ Thick			
3/32″	8894K122	4.22	7.28
3/16″	8895K361	6.07	11.91
1/4″	8895K314	7.46	14.63
5/16″	8895K363	9.91	19.43
3/8″	8895K364	11.65	22.84
1/8″ Thick			
1/8″	8894K142	5.42	9.34
3/16″	8895K365	6.48	12.71

Wd.		3 ft.	6 ft.
1/8″ Thick (Cont.)			
1/4″	8895K319	$7.16	$14.04
5/16″	8895K366	10.12	19.84
3/8″	8895K321	10.45	20.49
1/2″	8895K322	17.31	33.94
3/4″	8895K324	24.56	48.16
5/32″ Thick			
1/4″	8895K371	7.07	13.86
3/8″	8895K372	10.92	21.41
3/16″ Thick			
3/16″	8894K462	7.37	12.71
1/4″	8895K374	7.88	14.33
5/16″	8895K367	8.48	16.62
3/8″	8895K329	9.72	19.05

Wd.		3 ft.	6 ft.
3/16″ Thick (Cont.)			
1/2″	8895K331	$15.03	$29.47
5/8″	8895K332	16.55	32.46
3/4″	8895K333	23.40	45.88
1/4″ Thick			
1/4″	8894K182	9.89	17.05
5/16″	8895K368	10.49	20.56
3/8″	8895K336	11.22	22.00
1/2″	8895K337	17.35	34.01
3/4″	8895K338	26.29	51.55
5/16″ Thick			
5/16″	8894K212	13.47	23.23
3/8″ Thick			
3/8″	8894K232	19.36	33.38

Wd.		3 ft.	6 ft.
7/16″ Thick			
7/16″	8894K252	$26.30	$45.35
1/2″ Thick			
1/2″	8894K211	36.22	64.67
3/4″	8895K382	44.95	88.13
1″	8895K383	59.87	117.39
5/8″ Thick			
5/8″	8894K282	54.77	97.80
3/4″ Thick			
3/4″	8894K312	79.02	141.11
7/8″ Thick			
7/8″	8894K332	107.47	191.91
1″ Thick			
1″	8894K342	134.34	239.90

Rods—Ground



- Yield Strength: 50,000 psi
- Hardness: Medium (Rockwell B96)
- Can be hardened up to Rockwell C65
- Meet ASTM A686

Also known as drill rods, these rods are decarb free, improving the surface for heat treating. Diameter tolerance for 0.0625″ to 0.4844″ dia. rods is ±0.0005″, and for 0.5000″ to 2.000″ dia. rods it is ±0.0010″. Straightness tolerance is 0.005″ per foot. Length tolerance for 1- and 3-ft. lengths is ±1/4″; for 6-ft. lengths it is ±1/2″.

Dia.	Drill Bit Size		3 ft.	6 ft.
0.0625″	1/16″	8890K113	$2.11	$4.05
0.0630″	52	8890K115	2.13	4.10
0.0660″	51	8890K116	2.14	4.11
0.0690″	50	8890K117	2.15	4.14
0.0720″	49	8890K118	2.17	4.18
0.0750″	48	8890K119	2.19	4.22
0.0770″	47	8890K121	2.21	4.25
0.0781″	5/64″	8890K122	2.23	4.29
0.0790″	46	8890K124	2.24	4.31
0.0810″	45	8890K125	2.28	4.39
0.0850″	44	8890K126	2.29	4.41
0.0880″	43	8890K127	2.32	4.47
0.0920″	42	8890K128	2.33	4.49
0.0937″	3/32″	8890K129	2.35	4.52
0.0950″	41	8890K132	2.38	4.57
0.0970″	40	8890K133	2.42	4.66
0.0990″	39	8890K134	2.43	4.68
0.1010″	38	8890K135	2.44	4.69
0.1030″	37	8890K136	2.45	4.71
0.1060″	36	8890K137	2.48	4.76
0.1080″	35	8890K138	2.49	4.78
0.1093″	7/64″	8890K139	2.51	4.82
0.1100″	34	8890K142	2.54	4.89
0.1120″	33	8890K143	2.60	5.00
0.1150″	32	8890K144	2.62	5.03
0.1200″	31	8890K145	2.63	5.06
0.1250″	1/8″	8890K146	2.68	5.16
0.1270″	30	8890K148	2.71	5.21
0.1340″	29	8890K149	2.73	5.25
0.1390″	28	8890K151	2.74	5.27
0.1406″	9/64″	8890K152	2.84	5.46
0.1430″	27	8890K154	2.88	5.53
0.1460″	26	8890K155	2.90	5.58
0.1480″	25	8890K156	2.93	5.63
0.1510″	24	8890K157	2.95	5.67

Dia.	Drill Bit Size		3 ft.	6 ft.
0.1530″	23	8890K158	$2.98	$5.74
0.1550″	22	8890K159	3.01	5.79
0.1563″	5/32″	8890K161	3.03	5.82
0.1570″	21	8890K163	3.04	5.85
0.1610″	20	8890K164	3.05	5.87
0.1640″	19	8890K165	3.07	5.90
0.1680″	18	8890K166	3.09	5.94
0.1718″	11/64″	8890K167	3.10	5.97
0.1720″	17	8890K169	3.11	5.99
0.1750″	16	8890K171	3.12	6.00
0.1780″	15	8890K172	3.14	6.03
0.1800″	14	8890K173	3.15	6.06
0.1820″	13	8890K174	3.16	6.07
0.1850″	12	8890K175	3.16	6.08
0.1875″	3/16″	8890K177	3.17	6.10
0.1880″	11	8890K178	3.19	6.13
0.1910″	10	8890K179	3.22	6.19
0.1940″	9	8890K181	3.24	6.23
0.1970″	8	8890K182	3.29	6.33
0.1990″	7	8890K183	3.31	6.36
0.2010″	6	8890K184	3.35	6.44
0.2031″	13/64″	8890K185	3.45	6.64
0.2040″	5	8890K187	3.56	6.85
0.2070″	4	8890K188	3.66	7.03
0.2120″	3	8890K189	3.72	7.15
0.2187″	7/32″	8890K191	3.77	7.25
0.2190″	2	8890K193	3.80	7.31
0.2270″	1	8890K194	3.81	7.33
0.2340″	A	8890K195	3.87	7.44
0.2343″	15/64″	8890K207	3.88	7.46
0.2380″	B	8890K209	3.91	7.51
0.2420″	C	8890K211	3.91	7.52
0.2460″	D	8890K212	4.10	7.89
0.2500″	E, 1/4″	8890K213	4.10	7.88
0.2570″	F	8890K215	4.11	7.91

Dia.	Drill Bit Size		3 ft.	6 ft.
0.2610″	G	8890K216	$4.13	$7.95
0.2656″	17/64″	8890K217	4.14	7.96
0.2660″	H	8890K219	4.33	8.33
0.2720″	I	8890K221	4.49	8.63
0.2770″	J	8890K222	4.58	8.81
0.2810″	K	8890K223	4.62	8.89
0.2812″	9/32″	8890K224	4.66	8.97
0.2902″	L	8890K226	4.98	9.58
0.2950″	M	8890K227	5.06	9.73
0.2968″	19/64″	8890K228	5.10	9.80
0.3020″	N	8890K231	5.18	9.97
0.3125″	5/16″	8890K232	5.20	10.00
0.3160″	O	8890K234	6.04	11.62
0.3230″	P	8890K235	6.21	11.94
0.3281″	21/64″	8890K236	6.25	12.02
0.3320″	Q	8890K238	6.57	12.64
0.3390″	R	8890K239	6.62	12.73
0.3437″	11/32″	8890K241	6.74	12.97
0.3480″	S	8890K243	7.14	13.74
0.3580″	T	8890K244	7.40	14.23
0.3593″	23/64″	8890K245	7.51	14.45
0.3680″	U	8890K246	7.95	15.29
0.3750″	3/8″	8890K247	8.05	15.49
0.3770″	V	8890K249	8.18	15.73
0.3860″	W	8890K251	8.21	15.79
0.3906″	25/64″	8890K252	8.32	16.00
0.3970″	X	8890K254	8.51	16.37
0.4040″	Y	8890K255	8.55	16.44
0.4062″	13/32″	8890K256	8.65	16.64
0.4130″	Z	8890K258	8.70	16.73
0.4218″	27/64″	8890K259	8.75	16.82
0.4375″	7/16″	8890K262	8.80	16.92
0.4531″	29/64″	8890K264	9.11	17.52
0.4687″	15/32″	8890K266	9.34	17.96
0.4843″	31/64″	8890K268	10.21	19.63

Dia.		1 ft.	3 ft.	6 ft.
0.500″	8890K1	$5.11	$10.63	$20.45
0.516″	8890K2	5.97	12.42	23.89
0.531″	8890K3	6.14	12.77	24.55
0.563″	8890K5	6.50	13.51	25.99
0.594″	8890K7	6.98	14.52	27.92
0.625″	8890K9	7.44	15.47	29.75
0.656″	8890K12	7.79	16.19	31.14
0.688″	8890K14	8.09	16.83	32.36
0.719″	8890K17	9.22	19.18	36.89
0.750″	8890K19	10.48	21.81	41.94
0.781″	8890K21	10.80	22.46	43.20

Dia.		1 ft.	3 ft.	6 ft.
0.813″	8890K24	$11.65	$24.24	$46.61
0.844″	8890K25	12.04	25.04	48.15
0.875″	8890K29	12.57	26.15	50.28
0.906″	8890K34	13.58	28.25	54.33
0.938″	8890K32	14.84	30.86	59.34
0.969″	8890K52	15.04	31.29	60.18
1.000″	8890K76	17.27	35.93	69.09
1.063″	8890K79	17.77	36.97	71.09
1.125″	8890K98	18.34	38.14	73.35
1.188″	8890K99	21.70	45.14	86.80
1.250″	8890K101	22.61	47.02	90.43

Dia.		1 ft.	3 ft.	6 ft.
1.313″	8890K102	$26.12	$54.34	$104.50
1.375″	8890K103	27.38	56.94	109.50
1.438″	8890K104	31.34	65.19	125.37
1.500″	8890K105	29.91	62.22	119.66
1.563″	8890K201	35.43	73.70	141.73
1.625″	8890K106	38.76	80.61	155.02
1.688″	8890K204	41.25	85.80	165.00
1.750″	8890K107	43.12	89.68	172.47
1.875″	8890K108	48.60	101.08	194.39
1.938″	8890K112	49.95	103.89	199.78
2.000″	8890K109	51.93	108.01	207.72

Warning! ***Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.***

Multipurpose O1 Tool Steel

Commonly used for dies, punches, and gauges, O1 is a popular tool steel that resists wear and abrasion. It is an oil-hardening material.

Oversized Flat Stock—Ground

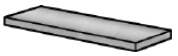

- Yield Strength: 50,000 psi
- Hardness: Medium (Rockwell B91)
- Can be hardened up to Rockwell C64
- Meet ASTM A681

Oversized flat stock is decarb free, improving the surface for heat treating. Width tolerance is +0.090″.

Wd.		1½ ft.	3 ft.	6 ft.
¼″ Thick (+0.040″)				
½″	8151K57	$17.15	$33.16	$57.17
2″	8151K58	49.18	95.09	163.94
½″ Thick (+0.040″)				
½″	8151K11	15.43	29.84	51.44
¾″	8151K12	31.81	61.50	106.03
1″	8151K13	37.30	72.11	124.32
2″	8151K14	63.34	122.45	211.12
⅝″ Thick (+0.040″)				
⅝″	8151K17	$31.85	$61.57	$106.16
1″	8151K19	41.23	79.72	137.44
2″	8151K21	71.31	137.87	237.70
¾″ Thick (+0.040″)				
¾″	8151K23	39.70	76.75	132.33
1″	8151K24	46.22	89.37	154.08
2″	8151K25	77.94	150.69	259.81
1″ Thick (+0.040″)				
1″	8151K27	$54.22	$104.82	$180.72
1½″	8151K28	78.94	152.63	263.15
2″	8151K29	90.27	174.52	300.89
2½″	8151K31	110.46	213.56	368.21
1½″ Thick (+0.040″)				
2″	8151K61	134.63	260.29	448.78
6″	8151K63	378.90	732.54	1,263.00

Tight-Tolerance Flat Stock—Precision Ground



- Yield Strength: 50,000 psi
- Hardness: Medium (Rockwell B85)
- Can be hardened up to Rockwell C65
- Meet ASTM A681

Width tolerance for 10″ and 12″ wide flat stock is +0.015″; for all other sizes it is +0.005″.

Wd.		1½ ft.	3 ft.	6 ft.
1/64″ Thick (±0.001″)				
½″	9516K2	$66.27	$114.25	———
1″	9516K75	62.80	108.27	———
2″	9516K3	109.14	188.18	———
1/32″ Thick (±0.001″)				
½″	9516K11	11.26	19.42	———
¾″	9516K12	15.21	26.23	———
1″	9516K13	17.39	29.99	———
1½″	9516K14	22.98	39.62	———
2″	9516K15	35.37	60.99	———
3″	9516K16	42.28	72.89	———
4″	9516K17	54.76	94.39	———
6″	9516K78	58.48	100.83	———
3/64″ Thick (±0.001″)				
½″	9516K222	11.41	19.68	———
¾″	9516K223	14.80	25.51	———
1″	9516K224	17.93	30.91	———
2″	9516K225	30.85	53.19	———
4″	9516K235	56.49	97.39	———
1/16″ Thick (±0.001″)				
¼″	9516K7	20.29	35.68	$69.96
½″	9516K22	7.59	13.35	26.18
⅝″	9516K8	9.90	17.41	34.13
¾″	9516K23	10.00	17.59	34.49
1″	9516K24	12.12	21.31	41.78
1¼″	9516K25	14.15	24.88	48.79
1½″	9516K26	16.28	28.63	56.13
1¾″	9516K9	17.97	31.60	61.96
2″	9516K27	19.19	33.74	66.16
2½″	9516K28	22.81	40.11	78.65
3″	9516K29	26.17	46.02	90.24
3½″	9516K152	29.51	51.90	101.77
4″	9516K31	32.58	57.29	112.34
3/32″ Thick (±0.001″)				
½″	9516K32	9.58	16.85	33.04
¾″	9516K33	13.03	22.47	44.32
1″	9516K34	15.42	27.12	53.17
1½″	9516K35	19.96	35.11	68.84
2″	9516K36	24.43	42.97	84.25
2½″	9516K37	28.75	50.57	99.15
3″	9516K38	31.27	55.00	107.84
4″	9516K39	39.50	69.46	136.19
⅛″ Thick (±0.001″)				
⅛″	9516K41	22.25	38.36	———
¼″	9516K154	8.55	15.04	29.50
5/16″	9516K42	9.34	16.42	32.20
½″	9516K45	9.68	17.02	33.38
⅝″	9516K606	10.11	17.77	34.85
¾″	9516K46	11.17	19.65	38.53
1″	9516K47	12.97	22.80	44.71
1¼″	9516K48	14.87	26.15	51.28
1½″	9516K49	16.87	29.67	58.18
2″	9516K51	20.89	36.74	72.03
2½″	9516K52	26.95	47.39	92.92
3″	9516K53	30.20	53.12	104.15
3½″	9516K54	33.66	59.20	116.07
4″	9516K55	36.67	64.48	126.44
⅛″ Thick (±0.001″) (Cont.)				
6″	9516K516	$52.52	$92.37	$181.11
8″	9516K517	74.55	131.10	257.06
5/32″ Thick (±0.001″)				
¾″	9516K56	14.87	26.15	51.28
1″	9516K57	17.58	30.91	60.61
1½″	9516K58	22.37	39.35	77.15
2″	9516K59	27.17	47.78	93.68
4″	9516K61	43.58	76.63	150.26
3/16″ Thick (±0.001″)				
3/16″	9516K62	19.58	34.44	67.53
½″	9516K63	12.41	21.82	42.79
¾″	9516K64	14.65	25.77	50.52
1″	9516K65	17.15	30.16	59.13
1¼″	9516K66	21.10	37.11	72.77
1½″	9516K67	24.62	42.44	80.70
2″	9516K68	27.75	48.80	95.68
3″	9516K69	36.05	63.39	124.30
4″	9516K71	44.36	78.01	152.97
6″	9516K613	64.19	112.89	221.35
¼″ Thick (±0.001″)				
¼″	9516K72	15.68	27.58	54.07
⅜″	9516K615	16.14	28.39	55.67
½″	9516K83	16.28	28.63	56.13
⅝″	9516K73	17.88	31.44	61.64
¾″	9516K84	19.41	34.13	66.92
1″	9516K85	21.06	37.04	72.63
1¼″	9516K617	21.54	37.88	74.27
1½″	9516K86	27.53	48.41	94.92
2″	9516K87	27.72	48.76	95.60
2½″	9516K88	33.70	59.26	116.19
3″	9516K89	38.19	67.17	131.70
4″	9516K91	56.39	97.23	169.61
4½″	9516K76	51.44	90.46	177.37
5″	9516K79	56.32	99.05	194.22
6″	9516K541	68.81	121.00	237.26
8″	9516K542	96.24	169.25	331.87
10″	9516K518	117.01	205.78	403.50
5/16″ Thick (±0.001″)				
5/16″	9516K92	18.97	33.37	65.43
½″	9516K93	19.33	34.00	66.67
¾″	9516K156	20.44	35.94	70.47
1″	9516K94	25.71	45.21	88.65
1¼″	9516K622	28.96	50.92	99.85
1½″	9516K95	31.40	55.22	108.28
2″	9516K96	34.99	61.53	120.65
3″	9516K97	45.97	80.85	158.53
4″	9516K98	55.04	96.79	189.79
⅜″ Thick (±0.001″)				
⅜″	9516K99	20.91	36.78	72.11
½″	9516K101	20.92	36.80	72.15
⅝″	9516K624	24.37	42.85	84.02
¾″	9516K102	24.01	42.22	82.79
1″	9516K103	26.81	47.14	92.44
1¼″	9516K158	30.37	53.42	104.74
1½″	9516K104	33.54	58.99	115.67
⅜″ Thick (±0.001″) (Cont.)				
2″	9516K105	$40.19	$70.68	$138.59
2½″	9516K106	47.30	83.19	163.12
3″	9516K107	52.74	92.75	181.86
4″	9516K108	65.25	114.74	224.99
6″	9516K519	91.46	160.84	315.37
8″	9516K521	132.54	233.10	457.05
½″ Thick (±0.001″)				
½″	9516K203	22.97	40.39	79.19
⅝″	9516K109	26.74	47.03	92.21
¾″	9516K204	28.52	50.16	98.35
1″	9516K206	30.47	53.58	105.06
1¼″	9516K626	37.34	65.67	128.76
1½″	9516K171	40.42	71.08	139.37
2″	9516K207	48.25	84.85	166.38
3″	9516K208	64.29	113.06	221.68
4″	9516K209	79.34	139.52	273.57
6″	9516K524	116.86	205.51	402.96
8″	9516K525	163.23	287.06	562.87
10″	9516K526	193.52	340.32	667.30
12″	9516K527	225.88	397.24	778.91
⅝″ Thick (±0.001″)				
⅝″	9516K112	35.28	62.04	121.65
¾″	9516K113	37.53	66.00	129.42
1″	9516K114	42.47	74.69	146.45
1½″	9516K115	52.58	92.47	181.32
2″	9516K116	62.51	109.93	215.55
3″	9516K117	77.49	136.27	267.19
4″	9516K118	94.54	166.26	326.00
6″	9516K528	129.39	227.54	446.16
¾″ Thick (±0.001″)				
¾″	9516K131	42.48	74.71	146.49
1″	9516K132	45.85	80.64	158.11
1¼″	9516K628	51.45	90.48	177.41
1½″	9516K133	59.73	105.05	205.98
2″	9516K134	69.17	121.65	238.52
3″	9516K135	86.13	151.47	297.00
4″	9516K136	107.17	188.47	369.54
6″	9516K533	151.30	266.08	521.73
8″	9516K534	213.20	374.94	735.17
1″ Thick (±0.001″)				
1″	9516K137	57.40	100.94	197.93
1¼″	9516K138	63.99	112.54	220.66
1½″	9516K226	71.06	124.97	245.04
2″	9516K227	90.60	159.32	312.40
3″	9516K228	104.32	183.46	359.73
4″	9516K229	130.20	228.97	448.96
6″	9516K536	182.70	321.30	630.00
8″	9516K537	256.65	451.35	885.00
1½″ Thick (±0.001″)				
2″	9516K632	109.70	192.92	378.28
4″	9516K634	184.07	323.70	634.71
6″	9516K636	255.71	449.70	881.77
2″ Thick (±0.001″)				
2″	9516K638	140.55	247.18	484.66
4″	9516K641	212.40	373.54	732.43

(Material continued on following page)

Warning! *Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.*

Multipurpose O1 Tool Steel *(Material continued from previous page)*

Flat Stock—Ground

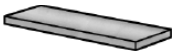

- Yield Strength: 80,000 psi
- Hardness: Medium (Rockwell B88)
- Can be hardened up to Rockwell C65
- Meets ASTM A681

This flat stock is annealed. Width tolerance is +0.015″. Length tolerance for 1/2-ft. lengths is ±1/8″; for all others, length has a plus tolerance.

Wd.		1/2 ft.	1 1/2 ft.	3 ft.
1/8″ Thick (+0.015″)				
1/2″	9018K91	$5.68	$13.72	$23.66
3/4″	9018K92	7.36	17.78	30.66
1″	9018K93	8.73	21.10	36.38
1 1/4″	9018K94	10.09	24.38	42.03
1 1/2″	9018K95	11.52	27.85	48.02
2″	9018K96	14.31	34.58	59.62
3″	9018K98	19.87	48.02	82.79
4″	9018K99	25.42	61.43	105.92
3/16″ Thick (+0.015″)				
3/16″	9018K64	7.77	18.77	32.36
1/2″	9018K11	8.51	20.57	35.47
3/4″	9018K12	9.75	23.57	40.64
1″	9018K13	11.41	27.58	47.55
1 1/4″	9018K14	13.02	31.47	54.26
2″	9018K16	17.11	41.35	71.29
3″	9018K17	22.35	54.02	93.14
4″	9018K18	27.14	65.59	113.09
1/4″ Thick (+0.015″)				
1/4″	9018K19	9.00	21.74	37.48
1/2″	9018K21	10.03	24.24	41.79

Wd.		1/2 ft.	1 1/2 ft.	3 ft.
1/4″ Thick (+0.015″) (Cont.)				
3/4″	9018K22	$11.37	$27.47	$47.37
1″	9018K23	12.58	30.41	52.43
1 1/4″	9018K66	14.22	34.36	59.25
1 1/2″	9018K24	15.99	38.65	66.64
2″	9018K25	19.05	46.03	79.37
2 1/2″	9018K26	22.13	53.47	92.19
3″	9018K27	24.74	59.78	103.07
4″	9018K28	30.62	73.99	127.57
3/8″ Thick (+0.015″)				
3/4″	9018K29	15.46	37.35	64.40
1″	9018K31	17.53	42.37	73.06
2″	9018K34	25.86	62.51	107.77
1/2″ Thick (+0.015″)				
1/2″	9018K36	16.26	39.31	67.77
3/4″	9018K37	19.31	46.66	80.44
1″	9018K38	21.88	52.87	91.16
1 1/4″	9018K39	25.31	61.17	105.46
1 1/2″	9018K41	27.21	65.76	113.38
2″	9018K42	32.34	78.16	134.76
2 1/2″	9018K8	37.27	90.06	155.28

Wd.		1/2 ft.	1 1/2 ft.	3 ft.
1/2″ Thick (+0.015″) (Cont.)				
3″	9018K43	$42.02	$101.55	$175.08
4″	9018K44	50.89	122.99	212.06
6″	9018K451	72.86	176.09	303.60
5/8″ Thick (+0.015″)				
5/8″	9018K73	21.01	50.78	87.55
3/4″	9018K45	22.74	54.97	94.77
1″	9018K46	26.03	62.90	108.45
1 1/2″	9018K47	31.54	76.21	131.40
4″	9018K52	55.06	133.07	229.43
3/4″ Thick (+0.015″)				
3/4″	9018K53	25.58	61.82	106.58
1″	9018K54	29.35	70.93	122.29
1 1/2″	9018K55	36.90	89.19	153.77
2″	9018K56	43.57	105.30	181.56
2 1/2″	9018K7	47.10	113.82	196.25
3″	9018K75	51.37	124.17	214.08
4″	9018K57	63.22	152.80	263.45
1″ Thick (+0.015″)				
1″	9018K58	35.58	85.99	148.26
1 1/4″	9018K59	41.49	100.28	172.89

Metric Tight-Tolerance Flat Stock—Precision Ground

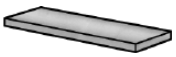

- Yield Strength: 80,000 psi
- Hardness: Medium (Rockwell B88)
- Can be hardened up to Rockwell C65
- Meets ASTM A681

This flat stock is annealed. Thickness tolerance is +0.05 mm. Width tolerance is +0.20 mm. Length tolerance is +95 mm.

Thick., mm	Wd., mm		3 ft.
3	15	9497K11	$45.92
3	25	9497K13	53.79
3	100	9497K19	109.34
4	15	9497K22	47.50
4	30	9497K25	$57.06
5	15	9497K33	53.56
5	20	9497K34	60.38
5	25	9497K35	60.60
5	30	9497K36	$64.31
6	20	9497K45	68.84
6	25	9497K46	79.93
6	150	9497K54	208.51
10	15	9497K55	$98.19
10	20	9497K56	111.70
10	25	9497K57	118.89
10	40	9497K59	150.82

Tight-Tolerance Flat Stock with Material Certification—Precision Ground



- Yield Strength: 70,000 psi
- Hardness: Medium (Rockwell B85)
- Can be hardened up to Rockwell C64
- Meets ASTM A681

Each piece of flat stock comes with a traceable lot number and material test report. Material type (O1) is stamped on the material for identification. Thickness tolerance is ±0.001″. Width tolerance is +0.005″. Flatness tolerance is 0.006″.

Thick.	Wd.		1 1/2 ft.
1/16″	1/2″	6678T21	$14.87
1/16″	1″	6678T22	18.55
1/8″	1/2″	6678T23	18.46
1/8″	3/4″	6678T24	23.95
1/8″	1″	6678T25	$26.64
1/8″	1 1/2″	6678T26	34.35
1/8″	2″	6678T27	40.95
1/4″	1/4″	6678T32	25.95
1/4″	3/4″	6678T34	$35.40
1/4″	1″	6678T35	37.20
1/4″	1 1/2″	6678T36	45.77
1/4″	3″	6678T38	71.78
3/8″	3/8″	6678T42	$30.10
3/8″	1″	6678T45	50.08
1/2″	1″	6678T52	58.10
1/2″	1 1/2″	6678T53	71.36

Tight-Tolerance Sheets—Precision Ground



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B88)
- Can be hardened up to Rockwell C62

These sheets are annealed. Thickness tolerance is ±0.001″. Width tolerance is +0.005″. Length has a plus tolerance.

Thick.	6″×6″		12″×12″		12″×36″	
1/8″	4476T31	$19.73	4476T32	$62.91	4476T34	$176.77
1/4″	4476T51	21.58	4476T52	82.59	4476T54	244.35
3/8″	4476T61	31.64	4476T62	119.14	4476T64	333.06
1/2″	4476T71	$48.40	4476T72	$172.29		
3/4″	4476T81	64.30	4476T82	243.55		
1″	4476T91	77.50	4476T92	276.31		

Rods—Ground



- Yield Strength: 50,000 psi
- Hardness: Medium (Rockwell B96)
- Can be hardened up to Rockwell C62

All rods are decarb free, improving the surface for heat treating. They are either rough turned or ground. Diameter tolerance for 1/2″ to 2 3/4″ dia. rods is +0.051″; for 3″ to 4″ dia. rods it is +0.083″; and for 6″ and 8″ dia. rods it is +0.16″. Straightness tolerance is 1/8″ per 5 feet.

Dia.		1 ft.	3 ft.	6 ft.
1/2″	89905K11	$3.25	$7.16	$13.01
5/8″	89905K12	4.85	10.67	19.40
3/4″	89905K13	6.96	15.31	27.84
7/8″	89905K14	9.14	20.12	36.58
1″	89905K15	11.47	25.23	45.88
1 1/8″	89905K16	14.41	31.70	57.64
1 1/4″	89905K17	$17.79	$39.13	$71.14
1 1/2″	89905K18	24.26	53.38	97.05
1 3/4″	89905K19	31.82	70.00	127.28
2″	89905K21	41.42	91.12	165.68
2 1/4″	89905K22	54.18	119.19	216.71
2 1/2″	89905K25	65.53	144.16	262.10
2 3/4″	89905K28	$77.47	$170.42	$309.86
3″	89905K29	93.81	206.38	375.23
3 1/4″	89905K43	107.64	236.80	430.55
3 1/2″	89905K44	122.09	268.61	488.38
3 3/4″	89905K45	131.18	288.59	524.70
4″	89905K46	153.07	336.75	612.27



Dia.	1/2″ Long		1″ Long		1 1/2″ Long		2 1/2″ Long		3 1/2″ Long		4″ Long	
4″	8441K11	$11.11	8441K12	$17.85	8441K13	$24.68	8441K14	$38.20	8441K15	$52.59	8441K16	$58.52
6″	8441K21	18.77	8441K22	35.29	8441K23	48.71	8441K24	70.59	8441K25	98.83	8441K26	112.94
8″	8441K31	31.29	8441K32	58.83	8441K33	81.19	8441K34	117.65	8441K35	164.71	8441K36	188.24

(Material continued on following page)

Warning! **Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.**

Multipurpose O1 Tool Steel *(Material continued from previous page)*

Commonly used for dies, punches, and gauges, O1 is a popular tool steel that resists wear and abrasion. It is an oil-hardening material.

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 50,000 psi
- Hardness: Medium (Rockwell B89)
- Can be hardened up to Rockwell C65
- Meet ASTM A681

These rods are annealed. Also known as drill rods, the diameter tolerance for 0.0625″ to 0.4844″ dia. rods is ±0.0005″; for 0.5000″ and larger rods, it is ±0.001″. Length tolerance for 1- and 3-ft. lengths is ±1/4″, and for 6-ft. lengths it is ±1 1/2″.

Dia.	Drill Bit Size		3 ft.	6 ft.
0.0625″	1/16″	8893K115	$1.88	$3.42
0.0630″	52	8893K117	1.67	3.03
0.0660″	51	8893K118	1.79	3.26
0.0690″	50	8893K119	1.96	3.57
0.0720″	49	8893K121	2.22	4.04
0.0750″	48	8893K122	2.40	4.36
0.0770″	47	8893K123	2.58	4.69
0.0782″	5/64″	8893K125	2.75	5.00
0.0790″	46	8893K126	2.66	4.83
0.0810″	45	8893K127	2.78	5.05
0.0850″	44	8893K128	3.00	5.46
0.0880″	43	8893K129	3.32	6.04
0.0920″	42	8893K131	3.61	6.56
0.0938″	3/32″	8893K133	2.18	3.96
0.0950″	41	8893K134	1.94	3.53
0.0970″	40	8893K135	1.99	3.61
0.0990″	39	8893K136	2.19	3.98
0.1010″	38	8893K137	2.24	4.08
0.1030″	37	8893K138	2.33	4.24
0.1060″	36	8893K139	2.42	4.40
0.1080″	35	8893K141	2.58	4.69
0.1094″	7/64″	8893K143	2.75	5.00
0.1100″	34	8893K144	2.62	4.77
0.1120″	33	8893K145	2.75	5.00
0.1150″	32	8893K146	2.85	5.18
0.1200″	31	8893K147	3.19	5.80
0.1250″	1/8″	8893K148	3.25	5.91
0.1270″	30	8893K149	2.62	4.77
0.1340″	29	8893K151	2.85	5.18
0.1390″	28	8893K152	3.19	5.80
0.1406″	9/64″	8893K153	3.31	6.01
0.1430″	27	8893K154	3.32	6.04
0.1460″	26	8893K155	3.42	6.21
0.1480″	25	8893K156	3.58	6.51
0.1510″	24	8893K157	3.64	6.62
0.1530″	23	8893K158	$3.78	$6.87
0.1550″	22	8893K159	3.84	6.99
0.1563″	5/32″	8893K162	3.31	6.01
0.1570″	21	8893K164	3.24	5.89
0.1610″	20	8893K165	3.42	6.21
0.1640″	19	8893K166	3.58	6.51
0.1680″	18	8893K167	3.71	6.75
0.1719″	11/64″	8893K169	3.75	6.81
0.1720″	17	8893K171	3.93	7.15
0.1750″	16	8893K172	4.02	7.31
0.1780″	15	8893K173	4.24	7.70
0.1800″	14	8893K174	4.34	7.89
0.1820″	13	8893K175	4.36	7.93
0.1850″	12	8893K176	4.53	8.23
0.1875″	3/16″	8893K178	3.80	6.90
0.1880″	11	8893K179	3.71	6.75
0.1910″	10	8893K181	3.78	6.87
0.1940″	9	8893K182	3.97	7.22
0.1970″	8	8893K183	4.15	7.54
0.1990″	7	8893K184	4.15	7.54
0.2010″	6	8893K185	4.34	7.89
0.2031″	13/64″	8893K187	4.31	7.83
0.2040″	5	8893K188	4.45	8.09
0.2070″	4	8893K189	4.53	8.23
0.2120″	3	8893K191	4.75	8.64
0.2188″	7/32″	8893K193	4.30	7.81
0.2190″	2	8893K194	4.45	8.09
0.2270″	1	8893K195	4.75	8.64
0.2340″	A	8893K196	5.05	9.19
0.2344″	15/64″	8893K198	5.35	9.72
0.2380″	B	8893K199	5.36	9.74
0.2420″	C	8893K201	5.42	9.86
0.2460″	D	8893K202	5.57	10.13
0.2500″	1/4″, E	8893K204	3.81	6.93
0.2570″	F	8893K205	4.45	8.09
0.2610″	G	8893K206	$4.54	$8.25
0.2656″	17/64″	8893K208	3.89	7.07
0.2660″	H	8893K209	4.75	8.64
0.2720″	I	8893K211	5.00	9.09
0.2770″	J	8893K212	5.19	9.44
0.2810″	K	8893K213	5.36	9.74
0.2813″	9/32″	8893K215	5.19	9.43
0.2900″	L	8893K216	5.62	10.21
0.2950″	M	8893K217	5.88	10.70
0.2969″	19/64″	8893K219	5.60	10.19
0.3020″	N	8893K221	6.13	11.15
0.3125″	5/16″	8893K223	5.65	10.28
0.3160″	O	8893K224	6.04	10.98
0.3230″	P	8893K225	6.30	11.45
0.3281″	21/64″	8893K227	5.92	10.77
0.3320″	Q	8893K228	6.63	12.05
0.3390″	R	8893K229	6.87	12.49
0.3438″	11/32″	8893K231	6.50	11.81
0.3480″	S	8893K233	7.19	13.07
0.3580″	T	8893K234	7.76	14.10
0.3594″	23/64″	8893K236	7.31	13.29
0.3680″	U	8893K237	8.12	14.76
0.3750″	3/8″	8893K239	7.96	13.73
0.3770″	V	8893K241	8.30	15.10
0.3860″	W	8893K242	8.73	15.88
0.3906″	25/64″	8893K244	8.17	14.86
0.3970″	X	8893K245	9.27	16.85
0.4040″	Y	8893K246	9.62	17.49
0.4063″	13/32″	8893K248	8.86	16.10
0.4130″	Z	8893K249	10.00	18.18
0.4219″	27/64″	8893K252	8.88	16.15
0.4375″	7/16″	8893K254	8.91	16.20
0.4531″	29/64″	8893K256	8.76	15.92
0.4688″	15/32″	8893K258	8.90	16.19
0.4844″	31/64″	8893K261	9.89	17.98

Dia.		1 ft.	3 ft.	6 ft.
0.5000″	8893K1	$5.17	$9.47	$17.22
0.5156″	8893K2	5.45	9.99	18.17
0.5313″	8893K3	5.53	10.14	18.43
0.5469″	8893K4	6.12	11.22	20.40
0.5625″	8893K5	6.17	11.32	20.58
0.5781″	8893K6	6.81	12.49	22.71
0.5938″	8893K7	6.87	12.59	22.89
0.6094″	8893K8	7.54	13.83	25.14
0.6250″	8893K9	7.71	14.13	25.69
0.6563″	8893K12	8.27	15.17	27.58
0.6875″	8893K14	9.05	16.59	30.16
0.7188″	8893K17	$9.91	$18.17	$33.04
0.7500″	8893K19	10.76	19.73	35.88
0.7813″	8893K21	11.46	21.02	38.21
0.8125″	8893K24	12.72	23.32	42.40
0.8750″	8893K29	14.34	26.30	47.81
0.9063″	8893K34	15.74	28.86	52.47
0.9375″	8893K47	16.57	30.39	55.25
0.9688″	8893K52	17.75	32.55	59.18
1.0000″	8893K72	18.79	34.45	62.63
1.0625″	8893K79	20.39	37.38	67.96
1.1250″	8893K98	23.44	42.97	78.12
1.1875″	8893K99	$25.29	$46.37	$84.31
1.2500″	8893K101	28.08	51.49	93.61
1.3125″	8893K102	29.56	54.20	98.55
1.3750″	8893K103	32.45	59.50	108.18
1.4375″	8893K104	35.39	64.88	117.97
1.5000″	8893K105	38.64	70.83	128.79
1.6250″	8893K106	42.23	77.43	140.78
1.7500″	8893K107	48.98	89.80	163.27
1.8750″	8893K108	56.40	103.40	188.00
2.0000″	8893K109	61.01	111.85	203.37
2.2500″	8893K111	90.52	165.96	301.75

Metric Tight-Tolerance Rods—Precision Ground



- Yield Strength: 50,000 psi
- Hardness: Medium (Rockwell B89)
- Can be hardened up to Rockwell C62
- Meet ASTM A681

These rods are annealed. Also known as drill rods, the diameter tolerance for 2 mm to 12 mm rods is ±0.013 mm; for 13 mm and larger rods it is ±0.025 mm.

Dia., mm		3 ft.
2	88625K61	$2.49
3	88625K62	2.76
4	88625K63	3.05
5	88625K64	3.62
6	88625K65	4.47
7	88625K66	4.79
8	88625K67	$5.70
9	88625K68	6.81
10	88625K69	7.79
11	88625K71	9.49
12	88625K72	10.82
13	88625K73	12.29
14	88625K74	$13.05
15	88625K75	14.88
16	88625K76	16.32
17	88625K77	18.66
18	88625K78	20.88
19	88625K79	22.60
20	88625K81	$23.80
21	88625K82	26.91
22	88625K83	30.86
24	88625K85	34.83
25	88625K86	37.82
30	88625K89	44.38

Hardened Tight-Tolerance Rods—Precision Ground



- Yield Strength: Not rated
- Hardness: Very Hard (Rockwell C58)

These rods are also known as drill rods. Diameter tolerance is –0.0003″.

Dia.		1 ft.
1/16″	4347T31	$26.12
5/64″	4347T32	25.49
3/32″	4347T33	17.01
7/64″	4347T34	$18.38
1/8″	4347T35	19.07
5/32″	4347T36	19.63
3/16″	4347T37	$19.95
1/4″	4347T41	19.72
5/16″	4347T43	24.03
3/8″	4347T45	$26.71
7/16″	4347T46	38.61
1/2″	4347T47	42.95

Warning! ***Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.***

Wear-Resistant A2 Tool Steel

Compared to O1 tool steel, A2 has better wear resistance and keeps a sharper cutting edge. It's often used for punches, broaches, and dies. This is an air-hardening tool steel.

Tight-Tolerance Flat Stock—Precision Ground

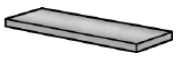

- Yield Strength: 51,000 psi
- Hardness: Medium (Rockwell B89)
- Can be hardened up to Rockwell C65
- Meets ASTM A681

All sizes are annealed. Width tolerance is +0.005". 1/16" and thicker sizes meet MIL-QQT-570A.

Wd.		½ ft.	1 ft.	1½ ft.	3 ft.	6 ft.
1/32" Thick (±0.001")						
½"	9019K315	$7.47	$13.07	$17.12	$31.13	———
¾"	9019K325	10.08	17.64	23.10	42.00	———
1"	9019K335	11.73	20.53	26.88	48.87	———
2"	9019K345	20.22	35.38	46.34	84.25	———
3/64" Thick (±0.001")						
½"	9019K355	7.57	13.25	17.35	31.54	———
¾"	9019K365	9.80	17.14	22.45	40.82	———
1"	9019K375	11.93	20.87	27.34	49.70	———
2"	9019K385	20.56	35.99	47.12	85.68	———
1/16" Thick (±0.001")						
½"	9019K11	7.14	11.90	15.71	27.62	$47.62
¾"	9019K12	8.78	14.63	19.31	33.95	58.53
1"	9019K13	9.86	16.44	21.70	38.14	65.76
1¼"	9019K14	10.05	16.75	22.12	38.87	67.02
1½"	9019K15	12.15	20.25	26.73	46.98	81.00
2"	9019K16	13.08	21.80	28.77	50.56	87.18
2½"	9019K17	14.43	24.05	31.75	55.80	96.20
3"	9019K18	18.15	30.25	39.93	70.18	121.00
4"	9019K19	19.87	33.12	43.72	76.84	132.48
3/32" Thick (±0.001")						
½"	9019K21	7.67	12.79	16.88	29.66	51.14
¾"	9019K22	9.25	15.41	20.35	35.76	61.66
1"	9019K23	12.10	20.17	26.63	46.80	80.69
1¼"	9019K24	12.80	21.34	28.16	49.50	85.34
1½"	9019K25	13.87	23.12	30.52	53.64	92.48
2"	9019K85	15.52	25.87	34.15	60.02	103.48
3"	9019K86	18.86	31.43	41.48	72.91	125.71
4"	9019K87	23.09	38.49	50.81	89.30	153.96
1/8" Thick (±0.001")						
½"	9019K26	6.91	11.51	15.19	26.70	46.04
⅝"	9019K107	8.16	13.60	17.95	31.54	54.38
¾"	9019K27	8.69	14.49	19.12	33.61	57.95
1"	9019K28	10.87	18.11	23.91	42.03	72.46
1¼"	9019K29	11.62	19.36	25.56	44.93	77.46
1½"	9019K31	13.49	22.48	29.67	52.14	89.90
2"	9019K32	16.55	27.59	36.41	64.00	110.34
2½"	9019K33	17.38	28.97	38.24	67.22	115.89
3"	9019K88	18.93	31.55	41.65	73.20	126.21
4"	9019K34	23.49	39.15	51.68	90.83	156.61
5/32" Thick (±0.001")						
½"	9019K35	10.13	16.88	22.28	39.17	67.53
¾"	9019K36	12.30	20.50	27.05	47.55	81.98
1"	9019K37	14.31	23.86	31.49	55.35	95.43
1¼"	9019K38	15.82	26.36	34.80	61.17	105.46
1½"	9019K39	15.82	26.38	34.82	61.19	105.50
2"	9019K41	19.09	31.82	42.01	73.83	127.30
3"	9019K89	23.61	39.36	51.95	91.31	157.43
4"	9019K91	30.24	50.39	66.52	116.91	201.57
3/16" Thick (±0.001")						
½"	9019K42	10.32	17.20	22.71	39.92	68.82
¾"	9019K92	11.67	19.45	25.67	45.12	77.79
1"	9019K43	14.09	23.48	31.00	54.49	93.94
1¼"	9019K93	15.68	26.14	34.50	60.64	104.56
1½"	9019K44	15.94	26.57	35.07	61.63	106.26
2"	9019K45	18.79	31.32	41.34	72.65	125.26
3"	9019K94	24.59	40.99	54.10	95.09	163.95
4"	9019K46	29.15	48.58	64.12	112.70	194.31
1/4" Thick (±0.001")						
¼"	9019K95	13.44	22.41	29.57	51.98	89.62
½"	9019K47	11.10	18.50	24.43	42.93	74.02
¾"	9019K48	11.55	19.25	25.40	44.65	76.98
1"	9019K49	13.34	22.23	29.34	51.57	88.92
1¼"	9019K51	15.29	25.48	33.64	59.13	101.94
1½"	9019K52	17.41	29.02	38.30	67.32	116.07
2"	9019K53	20.74	34.57	45.63	80.20	138.27
2½"	9019K54	25.69	42.82	53.80	94.55	163.02
3"	9019K96	28.02	46.70	61.64	108.34	186.79
4"	9019K55	34.68	57.80	76.30	134.10	231.21
6"	9019K511	46.46	77.44	102.21	179.65	309.74
12"	9019K513	97.51	162.52	214.53	377.05	650.08

Wd.		½ ft.	1 ft.	1½ ft.	3 ft.	6 ft.
5/16" Thick (±0.001")						
5/16"	9019K138	$15.48	$25.80	$34.05	$59.84	$103.18
½"	9019K56	13.32	22.20	29.31	51.52	88.82
¾"	9019K97	15.15	25.25	33.32	58.57	100.98
1"	9019K57	16.73	27.89	36.81	64.70	111.56
1½"	9019K98	20.55	34.24	45.20	79.44	136.97
2"	9019K58	25.19	41.98	55.41	97.39	167.91
3"	9019K59	32.57	54.28	71.65	125.93	217.12
4"	9019K61	42.78	71.31	94.13	165.43	285.23
6"	9019K611	55.13	91.88	121.28	213.16	367.52
3/8" Thick (±0.001")						
⅜"	9019K99	19.80	33.01	43.57	76.57	132.02
½"	9019K101	18.76	31.26	41.27	72.53	125.05
¾"	9019K62	19.38	32.30	42.63	74.92	129.18
1"	9019K63	20.78	34.63	45.71	80.35	138.53
1½"	9019K64	22.68	37.80	49.90	87.71	151.22
1¾"	9019K149	25.88	43.14	56.94	100.08	172.56
2"	9019K65	29.29	48.82	64.44	113.26	195.27
2½"	9019K151	35.07	58.44	77.14	135.59	233.77
3"	9019K66	38.83	64.72	85.43	150.16	258.89
4"	9019K67	48.30	80.50	106.26	186.77	322.01
6"	9019K711	64.09	106.81	140.99	247.80	427.24
8"	9019K712	95.75	159.58	210.65	370.23	638.32
1/2" Thick (±0.001")						
½"	9019K68	18.76	31.27	41.27	72.53	125.06
¾"	9019K102	19.42	32.37	42.73	75.10	129.48
1"	9019K69	21.28	35.46	46.81	82.27	141.84
1½"	9019K71	27.46	45.77	60.42	106.19	183.09
2"	9019K72	35.04	58.40	77.08	135.48	233.58
2½"	9019K103	41.98	69.97	92.36	162.32	279.87
3"	9019K104	47.74	79.56	105.02	184.58	318.25
3½"	9019K73	55.02	91.70	121.04	212.74	366.79
4"	9019K74	58.62	97.69	128.96	226.65	390.78
6"	9019K811	79.29	132.15	174.43	306.58	528.58
8"	9019K812	112.71	187.85	247.96	435.81	751.39
5/8" Thick (±0.001")						
⅝"	9019K152	31.02	51.70	68.24	119.94	206.80
¾"	9019K913	25.60	42.66	56.32	98.98	170.66
1"	9019K914	28.40	47.33	62.47	109.80	189.31
1½"	9019K915	36.01	60.01	79.21	139.22	240.04
2"	9019K916	44.81	74.69	98.58	173.27	298.74
3"	9019K917	57.27	95.44	125.98	221.43	381.77
4"	9019K918	74.97	124.94	164.92	289.87	499.77
6"	9019K919	94.97	158.29	208.94	367.23	633.15
3/4" Thick (±0.001")						
¾"	9019K75	28.08	46.81	61.79	108.59	187.23
1"	9019K76	31.07	51.78	68.35	120.13	207.12
1¼"	9019K154	33.80	56.33	74.36	130.69	225.33
1½"	9019K105	38.80	64.67	85.36	150.03	258.67
2"	9019K77	47.31	78.86	104.09	182.95	315.43
3"	9019K106	60.41	100.69	132.91	233.59	402.75
4"	9019K78	78.05	130.08	171.71	301.79	520.32
6"	9019K814	106.52	177.53	234.35	411.88	710.14
1" Thick (±0.001")						
1"	9019K79	39.50	65.83	86.89	152.72	263.31
1½"	9019K81	49.20	82.01	108.25	190.26	328.03
2"	9019K82	56.02	93.37	123.25	216.62	373.48
3"	9019K83	72.90	121.51	160.39	281.90	486.03
4"	9019K84	88.81	148.02	195.39	343.41	592.09
6"	9019K945	126.57	210.95	278.46	489.41	843.81
1½" Thick (±0.001")						
1½"	9019K691	81.13	135.21	178.48	313.69	540.84
2"	9019K692	94.65	157.75	208.23	365.98	631.00
3"	9019K694	135.31	225.51	297.68	523.19	902.05
4"	9019K695	166.15	276.92	365.54	642.46	1,107.69
6"	9019K697	268.20	447.00	590.05	1,037.05	1,788.02
2" Thick (±0.001")						
2"	9019K731	123.27	205.46	271.20	476.66	821.82
3"	9019K732	170.35	283.93	374.78	658.71	1,135.70
4"	9019K733	220.34	367.24	484.75	851.99	1,468.94
6"	9019K734	329.37	548.95	724.61	1,273.56	2,195.80

(Material continued on following page)

Warning! ***Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.***

Wear-Resistant A2 Tool Steel *(Material continued from previous page)*

Compared to O1 tool steel, A2 has better wear resistance and keeps a sharper cutting edge. It's often used for punches, broaches, and dies. This is an air-hardening tool steel.

Flat Stock—Ground

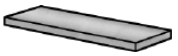

- Yield Strength: 55,000 psi
- Hardness: Medium (Rockwell B89)
- Can be hardened up to Rockwell C62
- Meets ASTM A681

Meets MIL-QQT-570A. This flat stock is annealed. Width tolerance is +0.015". Flatness tolerance is 0.010" per foot.

Wd.		½ ft.	1½ ft.	3 ft.
⅛" Thick (+0.015")				
½"	89885K11	$4.62	$12.03	$19.23
¾"	89885K12	5.82	14.08	24.27
1"	89885K13	6.38	15.41	26.57
1¼"	89885K14	7.90	17.45	32.93
1½"	89885K15	9.00	21.75	37.50
2"	89885K16	11.58	27.97	48.23
3"	89885K17	15.10	36.49	62.91
4"	89885K18	18.86	45.58	78.59
3⁄16" Thick (+0.015")				
½"	89885K71	6.68	16.14	27.82
1"	89885K73	9.55	23.07	39.78
1½"	89885K75	12.33	29.80	51.38
2"	89885K77	15.25	36.86	63.56
3"	89885K79	21.02	50.80	87.59
4"	89885K95	26.80	64.77	111.67
6"	89885K96	38.35	92.68	159.79
¼" Thick (+0.015")				
¼"	89885K19	9.53	23.02	39.69
½"	89885K21	9.42	22.77	39.26
¾"	89885K22	10.45	25.25	43.53
1"	89885K23	11.62	28.08	48.42
1¼"	89885K82	12.84	31.04	53.51
1½"	89885K24	13.94	33.69	58.09
1¾"	89885K117	17.07	41.25	71.12
2"	89885K25	18.54	44.79	77.23
2½"	89885K118	20.60	49.78	85.82
3"	89885K26	21.72	52.50	90.51
4"	89885K27	31.15	75.29	129.81
6"	89885K97	41.49	100.26	172.86
8"	89885K98	56.08	135.53	233.67
12"	89885K231	78.54	189.79	327.23
5⁄16" Thick (+0.015")				
½"	89885K84	9.36	22.61	38.99
¾"	89885K119	12.94	31.28	53.93

Wd.		½ ft.	1½ ft.	3 ft.
5⁄16" Thick (+0.015") (Cont.)				
1"	89885K86	$14.07	$34.01	$58.64
1½"	89885K88	16.82	40.65	70.08
2"	89885K91	20.63	49.85	85.95
⅜" Thick (+0.015")				
⅜"	89885K28	13.41	32.40	55.86
½"	89885K29	11.43	27.63	47.63
¾"	89885K31	13.72	33.16	57.18
1"	89885K32	16.03	38.75	66.81
1¼"	89885K33	18.17	43.91	75.71
1½"	89885K34	20.44	49.40	85.18
2"	89885K35	21.72	52.49	90.50
3"	89885K36	33.45	80.84	139.38
4"	89885K37	42.47	102.63	176.95
6"	89885K232	54.60	131.94	227.48
8"	89885K233	75.62	182.74	315.07
12"	89885K234	104.26	251.95	434.40
½" Thick (+0.015")				
½"	89885K38	13.57	32.79	56.53
¾"	89885K39	15.63	37.78	65.13
1"	89885K41	20.45	49.43	85.22
1¼"	89885K42	22.63	54.68	94.28
1½"	89885K43	26.21	63.35	109.22
2"	89885K44	28.95	69.95	120.61
2½"	89885K93	35.86	86.67	149.43
3"	89885K45	39.50	95.46	164.59
4"	89885K46	47.86	115.67	199.43
6"	89885K235	66.64	161.04	277.65
8"	89885K236	88.86	214.74	370.24
12"	89885K237	126.62	305.99	527.57
⅝" Thick (+0.015")				
⅝"	89885K47	20.48	49.49	85.33
¾"	89885K48	21.64	52.30	90.17
1"	89885K49	25.21	60.92	105.03
1¼"	89885K51	28.94	69.94	120.59

Wd.		½ ft.	1½ ft.	3 ft.
⅝" Thick (+0.015") (Cont.)				
1½"	89885K52	$31.82	$76.90	$132.59
2"	89885K53	37.68	91.07	157.02
2½"	89885K54	45.19	109.20	188.28
3"	89885K55	50.87	122.94	211.97
4"	89885K56	64.19	155.13	267.46
6"	89885K238	83.95	202.88	349.80
¾" Thick (+0.015")				
¾"	89885K57	25.51	61.66	106.31
1"	89885K58	29.46	71.18	122.73
1½"	89885K59	36.06	87.14	150.25
2"	89885K61	43.71	105.62	182.11
3"	89885K62	56.93	137.58	237.21
4"	89885K63	72.59	175.42	302.44
6"	89885K239	99.16	239.64	413.17
8"	89885K241	122.38	295.74	509.90
12"	89885K242	162.88	393.62	678.65
1" Thick (+0.015")				
1"	89885K64	48.32	86.93	149.88
1¼"	89885K65	41.97	101.42	174.87
1½"	89885K66	45.69	110.43	190.39
2"	89885K67	49.97	120.76	208.20
3"	89885K68	65.42	158.09	272.57
4"	89885K69	80.95	195.64	337.31
6"	89885K243	106.68	257.80	444.48
8"	89885K244	147.63	356.78	615.13
12"	89885K245	216.51	523.24	902.14
1½" Thick (+0.015")				
2"	89885K246	77.31	186.84	322.14
4"	89885K247	119.89	289.74	499.55
6"	89885K248	189.63	458.28	790.13
2" Thick (+0.015")				
2"	89885K249	103.27	249.57	430.29
4"	89885K251	172.07	415.83	716.95

Oversized Flat Stock—Ground



- Yield Strength: 55,000 psi
- Hardness: Medium (Rockwell B89)
- Can be hardened up to Rockwell C65
- Meets ASTM A681

This flat stock is decarb free, improving the surface for heat treating. Width tolerance is +0.090".

Wd.		½ ft.	1½ ft.	3 ft.
¼" Thick (+0.050")				
½"	8224K41	$12.91	$20.43	$35.85
2"	8224K42	20.68	39.42	69.15
3"	8224K76	23.91	52.42	91.96
4"	8224K43	30.44	66.73	117.07
½" Thick (+0.050")				
½"	8224K11	15.85	34.75	60.96
¾"	8224K12	20.57	40.29	70.68
1"	8224K13	21.42	46.96	82.38
2"	8224K14	30.35	66.54	116.74
2½"	8224K15	37.03	81.18	142.42
3"	8224K16	42.72	93.65	164.29
4"	8224K77	55.92	122.60	215.08

Wd.		½ ft.	1½ ft.	3 ft.
⅝" Thick (+0.050")				
⅝"	8224K17	$21.05	$46.15	$80.97
¾"	8224K18	21.25	46.60	81.75
1"	8224K19	24.76	54.28	95.23
2"	8224K21	34.51	75.66	132.74
3"	8224K22	46.00	100.85	176.93
4"	8224K78	58.95	129.24	226.73
¾" Thick (+0.050")				
¾"	8224K23	25.45	55.79	97.87
1"	8224K24	28.47	62.42	109.51
2"	8224K25	39.26	86.08	151.01
3"	8224K26	49.93	109.46	192.04
4"	8224K79	62.73	137.51	241.25

Wd.		½ ft.	1½ ft.	3 ft.
1" Thick (+0.050")				
1"	8224K27	$34.61	$75.87	$133.10
1½"	8224K28	43.13	94.55	165.88
2"	8224K29	47.73	104.65	183.59
2½"	8224K31	55.40	121.45	213.07
3"	8224K32	60.76	133.21	233.70
1½" Thick (+0.050")				
2"	8224K44	77.64	170.21	298.61
4"	8224K45	142.33	312.04	547.43
6"	8224K46	193.05	423.22	742.49
2" Thick (+0.050")				
2"	8224K47	103.07	225.97	396.44
4"	8224K48	176.69	387.35	679.57

Tight-Tolerance Flat Stock with Material Certification—Precision Ground



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B88)
- Can be hardened up to Rockwell C65
- Meets ASTM A681

Each piece of flat stock comes with a traceable lot number and material test report. A2 is stamped on the material for identification. This flat stock is annealed. Width tolerance is +0.005". Flatness tolerance is 0.0006" per inch.

Wd.		1½ ft.
1⁄16" Thick (±0.001")		
½"	5852T12	$20.39
1"	5852T13	31.78
⅛" Thick (±0.001")		
½"	5852T14	24.19
¾"	5852T15	30.08
1"	5852T16	35.88
1½"	5852T17	47.12
2"	5852T18	58.62

Wd.		1½ ft.
¼" Thick (±0.001")		
¼"	5852T23	$35.47
½"	5852T24	40.80
¾"	5852T25	49.83
1"	5852T26	55.62
1½"	5852T27	76.30
2"	5852T28	94.50
3"	5852T32	114.45
4"	5852T33	136.88

Wd.		1½ ft.
⅜" Thick (±0.001")		
⅜"	5852T34	$57.12
½"	5852T35	58.40
¾"	5852T36	71.15
1"	5852T37	79.00
1½"	5852T38	107.95
2"	5852T42	133.20
½" Thick (±0.001")		
½"	5852T43	72.42

Wd.		1½ ft.
½" Thick (±0.001") (Cont.)		
¾"	5852T44	$87.60
1"	5852T45	92.21
1½"	5852T46	106.32
2"	5852T47	129.90
3"	5852T48	179.82
4"	5852T52	228.88
6"	5852T53	298.38

(Material continued on following page)

Warning! ***Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.***

Wear-Resistant A2 Tool Steel *(Material continued from previous page)*

Tight-Tolerance Sheets—Precision Ground



- Yield Strength: Not rated
- Hardness: Medium (Rockwell B89)
- Can be hardened up to Rockwell C62

These sheets are annealed. Thickness tolerance is ±0.001″. Width and length tolerances are +3/16″.

Thick.	6″×6″		12″×12″		12″×36″	
1/16″	4471T11	$37.28	4471T12	$83.25	4471T13	$235.81
1/8″	4471T21	42.11	4471T22	104.21	4471T23	288.79
3/16″	4471T31	45.70	4471T32	124.06	4471T33	327.75
1/4″	4471T41	50.95	4471T42	137.73	4471T43	346.38
3/8″	4471T51	$60.85	4471T52	$177.14	4471T53	$415.33
1/2″	4471T61	70.51	4471T62	185.26	4471T63	498.07
3/4″	4471T71	86.39	4471T72	264.06	4471T73	679.00
1″	4471T81	120.21	4471T82	387.16	4471T83	1,005.16

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 55,000 psi
- Hardness: Hard (Rockwell B110)
- Can be hardened up to Rockwell C62
- Meet ASTM A681

All rods are annealed. Also known as drill rods, they have a straightness tolerance of 0.005″ per foot. Length tolerance for 1-ft. lengths is ±3/16″; for 3-ft. lengths it is +1/8″; and for 6-ft. lengths it is ±1 1/2″.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1/16″	±0.0003″	8888K171	—	$1.97	$3.78
5/64″	±0.0003″	8888K191	—	3.16	6.07
3/32″	±0.0003″	8888K211	—	3.19	6.13
7/64″	±0.0003″	8888K161	—	3.53	6.79
1/8″	±0.0005″	8888K181	—	3.86	7.43
9/64″	±0.0005″	8888K221	—	4.89	9.41
5/32″	±0.0005″	8888K231	—	4.96	9.54
11/64″	±0.0005″	8888K261	—	5.12	9.85
3/16″	±0.0005″	8888K271	—	5.28	10.15
13/64″	±0.0005″	8888K281	—	6.86	13.20
7/32″	±0.0005″	8888K311	—	7.35	14.13
15/64″	±0.0005″	8888K351	—	7.89	15.17
1/4″	±0.0005″	8888K361	—	8.21	15.78
17/64″	±0.0005″	8888K371	—	8.99	17.28
9/32″	±0.0005″	8888K381	—	8.47	16.29
19/64″	±0.0005″	8888K391	—	9.48	18.24
5/16″	±0.0005″	8888K411	—	9.98	19.20
21/64″	±0.0005″	8888K711	—	11.73	22.56
11/32″	±0.0005″	8888K721	—	12.87	24.75
3/8″	±0.0005″	8888K421	—	13.70	26.34
25/64″	±0.0005″	8888K741	—	16.37	31.49
13/32″	±0.0005″	8888K431	—	18.43	35.45
27/64″	±0.0005″	8888K751	—	18.81	36.18
7/16″	±0.0005″	8888K441	—	19.12	36.77
29/64″	±0.0005″	8888K761	—	$21.69	$41.72
31/64″	±0.0005″	8888K781	—	23.54	45.27
1/2″	±0.001″	8888K65	$10.46	23.84	41.83
17/32″	±0.001″	8888K12	12.60	28.72	50.39
9/16″	±0.001″	8888K14	13.03	29.71	52.13
19/32″	±0.001″	8888K17	15.00	34.20	60.00
5/8″	±0.001″	8888K19	15.24	34.74	60.95
21/32″	±0.001″	8888K21	18.13	41.34	72.52
11/16″	±0.001″	8888K24	18.48	42.13	73.92
3/4″	±0.001″	8888K29	21.76	49.61	87.04
13/16″	±0.001″	8888K32	25.71	58.63	102.86
7/8″	±0.001″	8888K34	28.11	64.10	112.45
1″	±0.001″	8888K47	31.94	72.83	127.77
1 1/16″	±0.001″	8888K48	36.05	82.19	144.19
1 1/8″	±0.001″	8888K49	40.43	92.18	161.72
1 1/4″	±0.001″	8888K51	46.72	106.52	186.87
1 3/8″	±0.001″	8888K52	56.55	128.92	226.18
1 1/2″	±0.001″	8888K53	66.72	152.13	266.89
1 3/4″	±0.001″	8888K54	90.80	207.01	363.18
2″	±0.001″	8888K55	112.07	255.51	448.27
2 1/4″	±0.001″	8888K56	134.56	306.81	538.26
2 1/2″	±0.001″	8888K62	166.81	380.33	667.25
2 3/4″	±0.001″	8888K63	161.60	368.45	646.41
3″	±0.001″	8888K64	190.25	433.78	761.01

Tight-Tolerance Rods with Material Certification—Precision Ground



- Yield Strength: 55,000 psi
- Hardness: Medium (Rockwell B94)
- Can be hardened up to Rockwell C65
- Meet ASTM A681

Each rod comes with a traceable lot number and material test report. All are annealed. Also known as drill rods, they have a straightness tolerance of 0.005″ per foot.

Dia.	Dia. Tolerance		3 ft.
1/16″	±0.0003″	6676T21	$5.46
1/8″	±0.0005″	6676T31	9.08
3/16″	±0.0005″	6676T41	10.20
1/4″	±0.0005″	6676T51	$12.84
5/16″	±0.0005″	6676T61	15.57
3/8″	±0.0005″	6676T71	21.39
1/2″	±0.0010″	6676T81	$33.43
3/4″	±0.0015″	6676T83	57.06
1″	±0.0015″	6676T85	81.56

Hardened Tight-Tolerance Rods—Precision Ground



- Yield Strength: Not rated
- Hardness: Very Hard (Rockwell C58)

Also known as drill rods, the length tolerance for 1/2-ft. lengths is ±0.015″; for 1-ft. lengths it is a plus tolerance.

Dia.	Dia. Tolerance		1/2 ft.	1 ft.
5/64″	–0.0003″	4345T12	$14.70	$25.34
3/32″	–0.0003″	4345T13	10.19	17.57
1/8″	–0.0003″	4345T15	11.32	19.51
5/32″	–0.0003″	4345T16	11.97	20.63
3/16″	–0.0003″	4345T17	$13.55	$23.36
7/32″	–0.0003″	4345T18	13.61	23.46
1/4″	–0.0003″	4345T19	14.56	25.10
5/16″	–0.0003″	4345T22	17.13	29.53
11/32″	–0.0003″	4345T23	$17.29	$29.81
3/8″	–0.0003″	4345T24	19.06	32.87
7/16″	–0.0003″	4345T25	28.62	46.57
1/2″	–0.0003″	4345T26	30.61	52.78

Metric Tight-Tolerance Rods—Precision Ground



- Yield Strength: 55,000 psi
- Hardness: Medium (Rockwell B92)
- Can be hardened up to Rockwell C62
- Meet ASTM A681

These rods are annealed. Diameter tolerance is ±0.025 mm. Also known as drill rods, they have a straightness tolerance of 0.0125″ per foot. Length tolerance for 1-ft. lengths is ±3/16″; for 3-ft. lengths it is ±1/8″; and for 6-ft. lengths it is ±1 1/2″.

Dia., mm		1 ft.	3 ft.	6 ft.
2	8116K31	$2.03	$4.22	$8.12
3	8116K32	2.60	5.41	10.41
4	8116K33	2.78	5.78	11.12
5	8116K34	3.44	7.14	13.74
6	8116K35	4.58	9.54	18.34
7	8116K36	5.17	10.75	20.68
8	8116K37	5.71	13.02	22.84
9	8116K38	$6.94	$14.44	$27.76
10	8116K39	8.53	17.73	34.10
11	8116K41	10.60	22.04	42.38
12	8116K42	12.24	25.45	48.95
13	8116K43	14.18	29.50	56.73
14	8116K44	16.44	34.20	65.77
15	8116K45	18.72	38.93	74.87
16	8116K46	$20.72	$43.09	$82.87
17	8116K47	23.64	49.17	94.55
18	8116K48	26.62	55.37	106.49
19	8116K49	29.22	60.78	116.89
20	8116K51	33.81	70.32	135.23
22	8116K53	39.30	81.74	157.20
25	8116K56	50.48	105.00	201.93

(Material continued on following page)

Warning! *Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.*

Wear-Resistant A2 Tool Steel *(Material continued from previous page)*

Compared to O1 tool steel, A2 has better wear resistance and keeps a sharper cutting edge. It's often used for punches, broaches, and dies. This is an air-hardening tool steel.

Oversized Rods—Ground



- Yield Strength: 55,000 psi
- Hardness: Medium (Rockwell B95)
- Can be hardened up to Rockwell C64

All rods are decarb free, improving the surface for heat treating. Diameter tolerance for ½″ to 1¾″ dia. rods is +0.045″; for 2″ to 4″ dia. rods it is +0.095″; and for 6″ and 8″ dia. rods it is +0.213″. Straightness tolerance for 1- to 6-ft. lengths is ⅛″ per 5 feet; for all other lengths, straightness tolerance is not rated.

Dia.		1 ft.	3 ft.	6 ft.
½″	89925K11	$9.57	$21.05	$38.27
⅝″	89925K12	12.91	28.41	51.66
¾″	89925K13	17.35	38.16	69.39
⅞″	89925K14	21.29	46.83	85.15
1″	89925K15	24.93	54.86	99.74
1⅛″	89925K16	29.74	65.42	118.95
1¼″	89925K17	$34.27	$75.39	$137.08
1½″	89925K18	46.02	101.25	184.09
1¾″	89925K19	57.93	127.45	231.72
2″	89925K21	72.88	160.33	291.50
2¼″	89925K22	94.67	208.27	378.67
2½″	89925K25	110.47	243.03	441.88
2¾″	89925K28	$124.85	$274.67	$499.40
3″	89925K29	135.81	298.77	543.22
3¼″	89925K31	166.50	366.31	666.01
3½″	89925K32	186.08	409.38	744.32
3¾″	89925K33	206.19	453.61	824.75
4″	89925K34	219.29	482.44	877.17



Dia.	½″ Long		1″ Long		1½″ Long		2½″ Long		3½″ Long		6″ Long	
2″	8443K46	$5.36	8443K41	$11.63	8443K45	$13.35	8443K44	$20.20	8443K42	$27.11	8443K43	$42.27
3″	8443K56	10.00	8443K51	15.05	8443K55	24.88	8443K54	37.65	8443K52	47.91	8443K53	74.69
4″	8443K11	16.14	8443K12	29.47	8443K13	40.17	8443K14	60.79	8443K15	77.37	8443K18	132.30
6″	8443K21	31.57	8443K22	52.07	8443K23	73.33	8443K24	116.43	8443K25	153.54	8443K28	260.10
8″	8443K31	57.26	8443K32	88.54	8443K33	124.44	8443K34	191.88	8443K35	253.19	8443K38	447.83

High-Temperature H13 Tool Steel



- Yield Strength: 52,000 psi
- Hardness: Medium (Rockwell B94)
- Can be hardened up to Rockwell C53
- Meets ASTM A681

Commonly used in die-casting applications, H13 resists cracking from repeated heating and cooling. It maintains its strength and abrasion resistance up to 1000°F. This flat stock is decarb free, improving the surface for heat treating, and it is an air-hardening tool steel. Width tolerance is +0.015″.

Wd.		2 ft.
¼″ Thick (+0.015″)		
1″	1409T11	$107.25
2″	1409T12	155.59
3″	1409T13	201.46
4″	1409T14	246.89
½″ Thick (+0.015″)		
1″	1409T21	$181.01
2″	1409T22	271.33
3″	1409T23	355.53
4″	1409T24	440.21
¾″ Thick (+0.015″)		
1″	1409T31	$235.48
2″	1409T32	334.80
3″	1409T33	439.87
4″	1409T34	518.89
1″ Thick (+0.015″)		
1″	1409T41	$271.11
2″	1409T42	380.64
3″	1409T43	477.10
4″	1409T44	573.39

Ultra Wear-Resistant D2 Tool Steel

A high content of carbon and chromium gives D2 excellent wear resistance, which makes it a popular choice for long-run dies and shear blades. This is an air-hardening tool steel.

Tight-Tolerance Flat Stock—Precision Ground

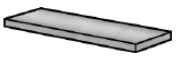

- Yield Strength: 50,000 psi
- Hardness: Medium (Rockwell B97)
- Can be hardened up to Rockwell C62
- Meets ASTM A681

This flat stock is annealed. Width tolerance is +0.005″. Flatness tolerance is 0.015″ per 3 feet. Length tolerance for ½-ft. lengths is ±⅛″; all other lengths have a plus tolerance.

Wd.		½ ft.	1½ ft.	3 ft.
1/16″ Thick (±0.001″)				
¼″	88905K241	$6.25	$14.51	$25.01
½″	88905K31	7.29	16.90	29.14
¾″	88905K32	9.54	22.12	38.14
1″	88905K33	10.92	25.34	43.69
1½″	88905K35	13.87	32.18	55.49
2″	88905K36	16.98	39.40	67.93
3″	88905K38	20.73	48.09	82.92
4″	88905K39	28.92	67.09	115.68
3/32″ Thick (±0.001″)				
¼″	88905K251	8.25	19.13	32.99
½″	88905K43	9.60	22.28	38.41
¾″	88905K44	11.69	27.12	46.76
1″	88905K45	14.09	32.69	56.36
2″	88905K48	21.70	50.34	86.79
4″	88905K52	36.48	84.62	145.90
6″	88905K54	52.30	121.33	209.19
⅛″ Thick (±0.001″)				
¼″	88905K261	8.96	20.78	35.83
½″	88905K55	9.84	22.82	39.35
¾″	88905K56	11.86	27.51	47.43
1″	88905K57	13.70	31.80	54.82
1¼″	88905K58	15.22	35.32	60.89
1½″	88905K59	16.89	39.18	67.56
2″	88905K61	20.53	47.62	82.11
2½″	88905K62	23.61	54.78	94.45
3″	88905K63	25.86	59.99	103.43
4″	88905K64	32.63	75.71	130.53
6″	88905K66	47.02	109.09	188.09
5/32″ Thick (±0.001″)				
1″	88905K68	18.19	42.21	72.77
2″	88905K71	28.09	65.18	112.38
5/32″ Thick (±0.001″) (Cont.)				
3″	88905K72	$38.13	$88.46	$152.51
6″	88905K75	64.41	149.42	257.62
3/16″ Thick (±0.001″)				
½″	88905K76	13.20	30.62	52.79
¾″	88905K77	15.70	36.42	62.80
1″	88905K78	18.05	41.89	72.22
1¼″	88905K79	18.32	42.51	73.30
2″	88905K82	26.75	62.07	107.01
3″	88905K84	34.72	80.54	138.87
4″	88905K85	41.53	96.36	166.13
6″	88905K87	60.34	139.99	241.36
¼″ Thick (±0.001″)				
¼″	88905K281	12.98	30.13	51.94
½″	88905K88	15.03	34.87	60.12
¾″	88905K89	17.14	39.77	68.57
1″	88905K91	18.85	43.73	75.39
1½″	88905K92	23.62	54.81	94.50
2″	88905K93	28.46	66.03	113.85
3″	88905K94	38.34	88.94	153.35
4″	88905K95	47.78	110.85	191.12
5″	88905K96	56.75	131.66	227.00
6″	88905K97	64.22	148.98	256.87
5/16″ Thick (±0.001″)				
½″	88905K98	17.34	40.22	69.34
1″	88905K322	23.90	55.45	95.60
1½″	88905K324	28.57	66.28	114.27
2″	88905K325	33.55	77.83	134.19
2½″	88905K327	38.05	88.28	152.21
3″	88905K329	43.21	100.25	172.84
4″	88905K331	53.73	124.65	214.92
3/8″ Thick (±0.001″)				
⅜″	88905K311	$18.27	$42.39	$73.09
½″	88905K334	21.12	49.00	84.49
¾″	88905K335	25.02	58.05	100.09
1″	88905K337	29.00	67.29	116.02
1¼″	88905K339	30.74	71.31	122.95
1½″	88905K341	33.09	76.76	132.34
2″	88905K342	39.82	92.38	159.27
2½″	88905K343	45.17	104.79	180.67
3″	88905K344	51.20	118.77	204.78
4″	88905K345	63.80	148.00	255.18
5″	88905K347	75.86	175.98	303.42
6″	88905K349	85.71	198.85	342.84
½″ Thick (±0.001″)				
½″	88905K381	25.91	60.12	103.65
¾″	88905K351	31.57	73.24	126.27
1″	88905K352	35.01	81.21	140.01
1¼″	88905K353	37.90	87.93	151.60
1½″	88905K354	40.71	94.45	162.85
2″	88905K355	47.61	110.46	190.45
2½″	88905K357	54.09	125.48	216.34
3″	88905K359	61.23	142.05	244.91
4″	88905K361	76.14	176.63	304.54
6″	88905K363	104.60	242.67	418.39
⅝″ Thick (±0.001″)				
⅝″	88905K391	31.70	73.54	126.79
¾″ Thick (±0.001″)				
¾″	88905K471	35.95	83.40	143.80
1″ Thick (±0.001″)				
1″	88905K481	43.22	100.27	172.88

(Material continued on following page)

Ultra Wear-Resistant D2 Tool Steel *(Material continued from previous page)*

Flat Stock—Precision Ground

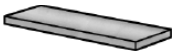

- Yield Strength: 50,000 psi
- Hardness: Medium (Rockwell B97)
- Can be hardened up to Rockwell C62
- Meets ASTM A681

This flat stock is annealed. Width tolerance is +0.015″. Flatness tolerance is 0.015″ per 3 feet.

Wd.		1½ ft.	3 ft.
⅛″ Thick (+0.015″)			
½″	8898K11	$23.63	$40.75
¾″	8898K12	27.75	47.84
1″	8898K13	32.09	55.32
1¼″	8898K78	36.28	62.55
1½″	8898K14	40.59	69.98
2″	8898K15	49.33	85.05
3″	8898K16	67.11	115.71
4″	8898K17	81.92	141.25
5⁄32″ Thick (+0.015″)			
½″	8898K18	29.49	50.84
¾″	8898K19	34.66	59.76
1″	8898K21	40.31	69.50
3⁄16″ Thick (+0.015″)			
¾″	8898K27	35.76	61.65
1″	8898K28	41.19	71.01
1¼″	8898K81	41.42	71.41
¼″ Thick (+0.015″)			
½″	8898K34	33.85	58.37
¾″	8898K35	40.07	69.09
1″	8898K36	45.95	79.22
1¼″	8898K83	50.83	87.63

Wd.		1½ ft.	3 ft.
¼″ Thick (+0.015″) (Cont.)			
1½″	8898K37	$57.56	$99.24
2″	8898K38	69.25	119.39
3″	8898K39	91.01	156.91
4″	8898K41	105.13	181.26
5⁄16″ Thick (+0.015″)			
1″	8898K44	54.37	93.74
1¼″	8898K85	58.56	100.97
1½″	8898K45	67.99	117.23
⅜″ Thick (+0.015″)			
½″	8898K49	47.62	82.11
¾″	8898K51	56.21	96.91
1″	8898K52	64.30	110.87
1¼″	8898K87	73.16	126.14
1½″	8898K53	80.50	138.79
2″	8898K54	96.81	166.91
3″	8898K55	127.01	218.98
4″	8898K56	154.46	266.31
6″	8898K433	211.35	364.39
½″ Thick (+0.015″)			
¾″	8898K57	68.64	118.34
1″	8898K58	78.35	135.08

Wd.		1½ ft.	3 ft.
½″ Thick (+0.015″) (Cont.)			
1¼″	8898K89	$81.20	$140.00
1½″	8898K59	98.31	169.50
2″	8898K61	123.44	212.82
4″	8898K63	187.25	322.85
6″	8898K437	256.74	442.66
¾″ Thick (+0.015″)			
¾″	8898K64	84.74	146.11
1″	8898K65	114.07	196.68
1½″	8898K66	119.33	205.74
2″	8898K67	124.27	214.26
3″	8898K68	177.91	306.75
4″	8898K69	227.78	392.72
6″	8898K442	315.93	544.70
8″	8898K443	375.26	647.00
1″ Thick (+0.015″)			
1″	8898K71	96.94	167.13
1½″	8898K72	131.94	227.48
2″	8898K73	163.86	282.51
3″	8898K74	230.90	398.10
4″	8898K75	287.87	496.33
6″	8898K76	385.10	663.96

Oversized Flat Stock—Ground

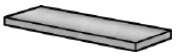

- Yield Strength: 50,000 psi
- Hardness: Hard (Rockwell C17)
- Can be hardened up to Rockwell C62
- Meets ASTM A681

This flat stock is decarb free, improving the surface for heat treating. Width tolerance is +⅛″.

Wd.		1½ ft.	3 ft.	6 ft.
½″ Thick (+0.042″)				
½″	1079T41	$32.10	$55.44	$97.27
¾″	1079T42	40.92	70.69	124.01
1″	1079T43	44.94	77.62	136.18
1½″	1079T44	46.41	80.16	140.63
2″	1079T45	54.63	94.36	165.54
3″	1079T46	72.85	125.83	220.76

Wd.		1½ ft.	3 ft.	6 ft.
⅝″ Thick (+0.042″)				
¾″	1079T17	$44.91	$77.57	$136.09
1″	1079T18	48.88	84.42	148.11
2″	1079T19	88.94	153.63	269.52
¾″ Thick (+0.042″)				
1″	1079T23	55.77	96.32	168.99
2″	1079T24	100.52	173.63	304.61

Wd.		1½ ft.	3 ft.	6 ft.
¾″ Thick (+0.042″) (Cont.)				
3″	1079T25	$135.63	$234.26	$410.99
1″ Thick (+0.042″)				
1″	1079T26	65.91	113.85	199.74
1½″	1079T27	90.36	156.08	273.82
2″	1079T28	114.70	198.11	347.57
2½″	1079T29	140.18	242.14	424.80

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 50,000 psi
- Hardness: Hard (Rockwell B110)
- Can be hardened up to Rockwell C62
- Meet ASTM A681

These rods are annealed. Diameter tolerance for ⅛″ to 7⁄16″ dia. rods is ±0.0005″, and for ½″ dia. and larger rods it is ±0.001″. Also known as drill rods, all have a straightness tolerance of 0.005″ per foot. Length tolerance for ½- to 3-ft. lengths is ±¼″; for 6-ft. lengths it is ±½″.

Dia.		½ ft.	1 ft.	1½ ft.	3 ft.	6 ft.
⅛″	88565K1	$6.80	$9.44	$13.22	$21.15	$37.76
3⁄16″	88565K2	7.06	9.80	13.72	21.95	39.20
¼″	88565K3	8.71	12.10	16.94	27.10	48.39
5⁄16″	88565K4	10.46	14.53	20.35	32.55	58.13
⅜″	88565K5	14.79	20.54	28.76	46.02	82.17
7⁄16″	88565K6	20.17	28.01	39.21	62.74	112.03
½″	88565K7	25.27	35.10	49.14	78.63	140.41
⅝″	88565K8	34.66	48.15	67.40	107.84	192.58

Dia.		½ ft.	1 ft.	1½ ft.	3 ft.	6 ft.
¾″	88565K9	$53.25	$73.96	$103.54	$165.67	$295.84
⅞″	88565K31	62.05	86.19	120.66	193.05	344.74
1″	88565K32	76.69	106.52	149.12	238.60	426.07
1¼″	88565K33	121.71	169.03	236.65	378.64	676.14
1½″	88565K34	164.75	228.82	320.35	512.56	915.28
1¾″	88565K85	205.51	285.43	399.61	639.37	1,141.73
2″	88565K86	252.63	350.88	491.22	785.96	1,403.50

Oversized Rods—Ground



- Yield Strength: 50,000 psi
- Hardness: Medium (Rockwell B96)
- Can be hardened up to Rockwell C62
- Meet ASTM A681

All rods are decarb free, improving the surface for heat treating. Diameter tolerance for ½″ to 2¾″ dia. rods is +0.051″; for 3″ to 4″ dia. rods it is +0.083″; and for 6″ and 8″ dia. rods it is +0.160″. Straightness tolerance is ⅛″ per 5 feet.

Dia.		1 ft.	3 ft.	6 ft.
½″	89945K11	$7.64	$15.90	$30.58
⅝″	89945K12	10.44	21.72	41.76
¾″	89945K13	15.26	31.74	61.04
⅞″	89945K14	20.84	43.34	83.35
1″	89945K15	24.30	50.55	97.22
1⅛″	89945K16	28.71	59.72	114.85

Dia.		1 ft.	3 ft.	6 ft.
1¼″	89945K17	$35.90	$74.67	$143.59
1½″	89945K18	50.92	105.91	203.67
1¾″	89945K19	67.86	141.16	271.46
2″	89945K21	85.93	178.73	343.72
2¼″	89945K22	107.67	223.96	430.70
2½″	89945K25	128.92	268.16	515.69

Dia.		1 ft.	3 ft.	6 ft.
2¾″	89945K28	$134.57	$279.91	$538.28
3″	89945K29	159.90	332.60	639.61
3¼″	89945K31	180.11	374.62	720.43
3½″	89945K33	200.76	417.58	803.03
3¾″	89945K34	221.97	461.69	887.87
4″	89945K35	243.74	506.97	974.95



Dia.	½″ Long		1″ Long		1½″ Long		2½″ Long		3½″ Long		6″ Long	
4″	8846K11	$23.21	8846K12	$35.46	8846K13	$47.28	8846K14	$72.23	8846K15	$96.52	8846K18	$157.56
6″	8846K21	38.10	8846K22	60.98	8846K23	81.31	8846K24	124.19	8846K25	166.20	8846K28	270.96
8″	8846K31	59.91	8846K32	95.83	8846K33	129.64	8846K34	196.28	8846K35	256.17	8846K38	437.43

Warning! ***Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.***

Shock-Resistant S7 Tool Steel

Capable of withstanding repeated shock and impact without fracturing, S7 is suitable for chisels, rivets, and punches. This material is an air-hardening tool steel.

Flat Stock—Ground

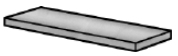

- Yield Strength: 55,000 psi
- Hardness: Medium (Rockwell B90)
- Can be hardened up to Rockwell C58
- Meets ASTM A681

This flat stock is annealed. Width tolerance is +0.015". Flatness tolerance is 0.015" per 3 feet. Length tolerance for 1½-ft. lengths is ±¼"; for 3-ft. lengths it is a plus tolerance.

Wd.		1½ ft.	3 ft.
⅛" Thick (+0.015")			
½"	88815K11	$21.91	$37.78
¾"	88815K12	26.59	45.85
1"	88815K13	31.26	53.89
1½"	88815K14	39.70	68.45
2"	88815K15	48.96	84.42
3"	88815K16	67.62	116.58
4"	88815K17	86.12	148.49

Wd.		1½ ft.	3 ft.
¼" Thick (+0.015")			
½"	88815K34	$32.11	$55.36
¾"	88815K35	38.60	66.55
1"	88815K36	27.37	47.19
1½"	88815K37	56.82	97.97
2"	88815K38	69.63	120.06
3"	88815K39	95.26	164.25
4"	88815K41	121.30	209.14

Wd.		1½ ft.	3 ft.
½" Thick (+0.015")			
¾"	88815K58	$66.32	$114.34
1"	88815K59	77.12	132.96
1¼"	88815K82	87.03	150.06
1½"	88815K84	97.65	168.37
2"	88815K61	119.20	205.51
3"	88815K62	162.19	279.63
4"	88815K63	205.23	353.85

Tight-Tolerance Flat Stock—Precision Ground

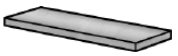

- Yield Strength: 55,000 psi
- Hardness: Medium (Rockwell B90)
- Can be hardened up to Rockwell C61
- Meets ASTM A681

Flat stock is decarb free, improving the surface for heat treating. Width tolerance is +0.005".

Wd.		1½ ft.	3 ft.
⅛" Thick (±0.001")			
½"	7077T11	$21.12	$39.12
1"	7077T13	30.47	56.42
¼" Thick (±0.001")			
½"	7077T21	33.86	62.70
¾"	7077T23	41.07	76.05
1"	7077T25	47.97	88.84

Wd.		1½ ft.	3 ft.
¼" Thick (±0.001") (Cont.)			
1¼"	7077T27	$54.43	$100.79
1½"	7077T29	59.97	111.05
2"	7077T31	76.18	141.07
⅜" Thick (±0.001")			
¾"	7077T41	57.09	105.73
1"	7077T43	66.54	123.23

Wd.		1½ ft.	3 ft.
½" Thick (±0.001")			
¾"	7077T51	$67.68	$125.33
1"	7077T53	78.94	146.18
1½"	7077T55	100.60	186.30
2"	7077T57	123.03	227.84
1" Thick (±0.001")			
1"	7077T61	119.61	221.50

Oversized Flat Stock—Ground

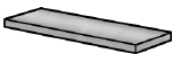

- Yield Strength: 55,000 psi
- Hardness: Medium (Rockwell B90)
- Can be hardened up to Rockwell C55
- Meets ASTM A681

Flat stock is decarb free, improving the surface for heat treating. Width tolerance is +0.040".

Wd.		1½ ft.	3 ft.	6 ft.
½" Thick (+0.080")				
½"	8692K41	$20.60	$35.41	$64.38
¾"	8692K42	28.42	48.85	88.81
1"	8692K43	33.05	56.80	103.27
1½"	8692K44	46.25	79.50	144.54
2"	8692K45	65.09	111.87	203.40
3"	8692K46	78.95	135.70	246.72

Wd.		1½ ft.	3 ft.	6 ft.
⅝" Thick (+0.080")				
¾"	8692K17	$33.47	$57.52	$104.59
2"	8692K19	70.78	121.66	221.20
3"	8692K21	106.22	182.57	331.95
¾" Thick (+0.080")				
¾"	8692K22	37.44	64.35	117.00
1"	8692K23	44.68	76.79	139.62

Wd.		1½ ft.	3 ft.	6 ft.
¾" Thick (+0.080") (Cont.)				
2"	8692K24	$79.76	$137.08	$249.24
1" Thick (+0.080")				
1"	8692K26	54.63	93.89	170.71
1½"	8692K27	71.95	123.66	224.83
2"	8692K28	85.67	147.24	267.71
3"	8692K31	127.39	218.96	398.10

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 55,000 psi
- Hardness: Hard (Rockwell B110 maximum)
- Can be hardened up to Rockwell C58
- Meet ASTM A681

These rods are annealed. Diameter tolerance for 1/16" and 3/32" dia. rods is ±0.0003"; for ⅛" to 7/16" dia. rods it is ±0.0005"; and for ½" dia. rods and larger it is ±0.001". Straightness tolerance is 0.005" per foot. Length tolerance is ±3/16" for 1-ft. lengths, +⅛" for 3-ft. lengths, and ±1½" for 6-ft. lengths.

Dia.		1 ft.	3 ft.	6 ft.
1/16"	88595K201	____	$4.45	$7.67
3/32"	88595K202	____	5.86	10.10
⅛"	88595K203	____	7.77	13.39
5/32"	88595K204	____	10.09	17.40
3/16"	88595K205	____	11.57	19.94
7/32"	88595K206	____	14.46	24.93

Dia.		1 ft.	3 ft.	6 ft.
¼"	88595K207	____	$15.54	$26.80
5/16"	88595K208	____	18.35	31.63
⅜"	88595K209	____	25.06	43.20
7/16"	88595K21	____	34.12	58.82
½"	88595K75	$18.33	35.44	61.11
⅝"	88595K76	26.08	50.41	86.92

Dia.		1 ft.	3 ft.	6 ft.
¾"	88595K77	$40.18	$77.69	$133.94
⅞"	88595K78	55.52	107.33	185.05
1"	88595K79	71.52	138.27	238.40
1¼"	88595K81	96.66	186.87	322.19
1½"	88595K82	143.01	276.48	476.69
1¾"	88595K83	192.41	371.98	641.35

Oversized Rods—Ground



- Yield Strength: 50,000 psi
- Hardness: Medium (Rockwell B90)
- Can be hardened up to Rockwell C55
- Meet ASTM A681

All rods are decarb free, improving the surface for heat treating. Diameter tolerance for ½" to 2¾" dia. rods is +0.051"; for 3" to 6" dia. rods it is +0.125"; and for 8" dia. rods it is +0.160". Straightness tolerance is ⅛" per 5 feet.

Dia.		1 ft.	3 ft.	6 ft.
½"	90015K61	$7.13	$16.55	$28.54
⅝"	90015K62	8.30	19.26	33.20
¾"	90015K63	11.02	25.55	44.06
⅞"	90015K64	13.14	30.48	52.56
1"	90015K65	20.40	47.32	81.59
1⅛"	90015K66	23.77	55.14	95.07

Dia.		1 ft.	3 ft.	6 ft.
1¼"	90015K67	$27.93	$64.79	$111.71
1½"	90015K68	41.03	95.18	164.11
1¾"	90015K69	54.88	127.33	219.53
2"	90015K71	67.57	156.76	270.28
2¼"	90015K72	83.86	194.56	335.45
2½"	90015K75	101.82	236.22	407.28

Dia.		1 ft.	3 ft.	6 ft.
2¾"	90015K78	$121.13	$281.02	$484.52
3"	90015K79	141.84	329.08	567.38
3¼"	90015K81	163.87	380.18	655.49
3½"	90015K82	189.31	439.19	757.22
3¾"	90015K83	224.93	521.84	899.72
4"	90015K84	236.93	549.68	947.72



Dia.	½" Long		1" Long		1½" Long		2½" Long		3½" Long		4" Long	
4"	8453K11	$15.69	8453K12	$28.22	8453K13	$35.89	8453K14	$56.83	8453K15	$77.77	8453K16	$89.73
6"	8453K21	32.91	8453K22	55.52	8453K23	77.86	8453K24	128.36	8453K25	177.27	8453K26	196.78
8"	8453K31	58.32	8453K32	97.18	8453K33	135.98	8453K34	214.51	8453K35	279.01	8453K36	317.51

Warning! ***Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.***

Hardened Shock-Resistant S2 Tool Steel



- Yield Strength: 290,000 psi
- Hardness: Very Hard (Rockwell C55)
- Meet ASTM A681

An extremely strong tool steel, S2 offers excellent impact resistance. These balls have been through hardened yet retain a tough core that resists breaking under shock loads. They are ground and polished to a reflective finish.

Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.
3/16"	±0.001"	100	1995T11	$3.03
1/4"	±0.001"	100	1995T12	5.60
5/16"	±0.001"	100	1995T13	8.63
7/16"	±0.001"	50	1995T14	9.16
1/2"	±0.001"	50	1995T15	$11.59
9/16"	±0.001"	25	1995T16	7.66
11/16"	±0.001"	25	1995T17	13.41
3/4"	±0.001"	10	1995T18	6.60
13/16"	±0.001"	10	1995T19	$8.63
7/8"	±0.001"	10	1995T21	10.63
15/16"	±0.001"	10	1995T22	12.29
1"	±0.001"	5	1995T23	7.51

Hardened Easy-to-Machine P20 Tool Steel



- Yield Strength: 101,000 psi
- Hardness: Hard (Rockwell C26)

P20 is supplied in a hardened condition that is ready for machining. It has the wear resistance and highly polishable surface needed to fabricate long-lasting molds and dies.

These rods are ground for a smooth surface. Diameter tolerance for 1/2" to 3" dia. rods is +0.047"; for 4" to 8" dia. rods it is +0.157"; and for 10" dia. rods it is +0.250". Straightness tolerance is 3/16" per foot.

Dia.		1 ft.	3 ft.	6 ft.
1/2"	9098K11	$9.28	$21.16	$37.12
3/4"	9098K13	16.89	38.50	67.55
1"	9098K15	26.05	59.41	104.22
1 1/4"	9098K17	$37.27	$84.97	$149.07
1 1/2"	9098K18	49.92	113.83	199.70
1 3/4"	9098K19	62.63	142.81	250.54
2"	9098K21	$77.47	$176.63	$309.88
2 1/2"	9098K23	114.00	259.91	455.98
3"	9098K25	155.99	355.65	623.94



Dia.	1/2" Long	1" Long	1 1/2" Long	2 1/2" Long	4" Long	6" Long
4"	9086K11 $16.68	9086K12 $32.09	9086K13 $46.21	9086K14 $70.60	9086K16 $112.96	9086K18 $154.04
6"	9086K21 28.31	9086K22 54.46	9086K23 78.43	9086K24 109.80	9086K26 191.71	9086K28 261.44
8"	9086K31 44.92	9086K32 86.53	9086K33 119.79	9086K34 182.99	9086K36 292.80	9086K38 399.29
10"	9086K41 85.95	9086K42 159.73	9086K43 229.21	9086K44 322.33	9086K46 494.24	9086K48 716.29

Tough Wear-Resistant PM Tool Steel



- Yield Strength: Not rated
- Hardness: Hard (Rockwell C24)
- Can be hardened up to Rockwell C64

Excellent resistance to wear, abrasion, and chipping makes this material useful for punches and stamping tools. These rods are decarb free, improving the surface for heat treating. Diameter tolerance for 1/4" and 3/8" dia. rods is +0.020"; for 1/2" to 1 1/2" dia. rods it is +0.040"; and for 2" dia. rods it is +0.060".

Dia.		1/2 ft.	1 ft.	3 ft.
1/4"	1726T11	$2.81	$4.86	$12.47
3/8"	1726T12	5.70	9.89	25.35
1/2"	1726T13	10.17	17.64	45.22
3/4"	1726T14	$19.95	$34.58	$88.67
1"	1726T15	31.56	54.71	140.28
1 1/4"	1726T16	46.71	80.96	207.58
1 3/8"	1726T17	$53.12	$92.07	$236.07
1 1/2"	1726T18	61.79	107.10	274.61
2"	1726T19	103.21	178.89	458.70

High-Speed M2 Tool Steel

A high molybdenum content allows this material to maintain sharp cutting edges even at elevated temperatures. It's used to fabricate high-speed cutting tools.

Tight-Tolerance Flat Stock—Precision Ground

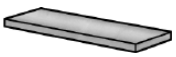

- Yield Strength: Not rated
- Hardness: Medium (Rockwell B97)
- Can be hardened up to Rockwell C65
- Meets ASTM A600

Width tolerance is +0.005".

Wd.		1 1/2 ft.	3 ft.
1/16" Thick (±0.001")			
1/2"	7319K11	$41.16	$72.21
3/4"	7319K12	53.99	94.72
1"	7319K13	63.26	110.99
1/8" Thick (±0.001")			
1/2"	7319K32	$57.32	$100.57
3/4"	7319K33	70.89	124.37
1 1/2"	7319K36	110.28	193.47
1/8" Thick (±0.001") (Cont.)			
2"	7319K37	$136.17	$238.89
3/16" Thick (±0.001")			
1/2"	7319K51	74.68	131.01
1/4" Thick (±0.001")			
1/2"	7319K62	$87.87	$154.15
3/4"	7319K63	106.48	186.81
1 1/2"	7319K66	167.83	294.44

Hardened Sheets—Unpolished



- Yield Strength: Not rated
- Hardness: Very Hard (Rockwell C63)
- Meet ASTM A600

0.029" thick sheets are cold rolled; all others are hot rolled. Width and length tolerances are not rated.

Thick.	Thick. Tolerance	6"×12"
0.029"	±0.003"	2634T13 $102.55
0.039"	±0.003"	2634T14 $109.09
0.055"	±0.01"	2634T15 $119.55

Oversized Rods—Ground



- Yield Strength: 60,000 psi
- Hardness: Hard (Rockwell C29)
- Can be hardened up to Rockwell C66

These rods are decarb free, improving the surface for heat treating. Diameter tolerance is +0.045". Straightness tolerance is 0.048" per foot.

Dia.		1 ft.	3 ft.	6 ft.
1/2"	8518K11	$29.11	$65.20	$116.43
5/8"	8518K12	40.66	91.07	162.62
3/4"	8518K13	53.82	120.56	215.29
1"	8518K15	$68.44	$153.31	$273.77
1 1/4"	8518K17	95.19	213.23	380.76
1 1/2"	8518K18	128.52	287.88	514.08
1 3/4"	8518K19	$165.59	$370.92	$662.35
2"	8518K21	206.04	461.54	824.17
3"	8518K25	424.44	950.73	1,697.74

(Material continued on following page)

Warning! ***Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.***

High-Speed M2 Tool Steel *(Material continued from previous page)*

A high molybdenum content allows this material to maintain sharp cutting edges even at elevated temperatures. It's used to fabricate high-speed cutting tools.

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 105,000 psi
- Hardness: Hard (Rockwell B110 maximum)
- Can be hardened up to Rockwell C66
- Meet ASTM A600

Also known as drill rods. All sizes are annealed. Diameter tolerance for 1/16" to 7/16" dia. rods is ±0.0005"; for 1/2" dia. and larger rods, it is ±0.001". Straightness tolerance is 0.005" per foot.

Dia.	3 ft.		Dia.	3 ft.		Dia.	3 ft.		Dia.	3 ft.	
1/16"	88995K11	$8.72	1/8"	88995K15	$19.17	5/16"	88995K19	$45.38	5/8"	88995K24	$154.43
5/64"	88995K12	12.95	5/32"	88995K16	23.21	3/8"	88995K21	63.60	3/4"	88995K25	222.04
3/32"	88995K13	15.09	3/16"	88995K17	25.70	7/16"	88995K22	86.67	1"	88995K26	350.84
7/64"	88995K14	16.72	1/4"	88995K18	34.60	1/2"	88995K23	109.32	1 1/4"	88995K27	473.05

Hardened Oversized Rods—Precision Ground



- Yield Strength: Not rated
- Hardness: Very Hard (Rockwell C62)

Also known as reamer blanks. Diameter tolerance is +0.0002". Straightness tolerance is 0.001". Length tolerance is ±1/32".

Also Available: Fractional sizes from 1/64" to 1" (×1/64"), letter sizes A to Z, and wire gauge size Nos. 1 to 80. Please ask for 3023A71 and specify size.

Dia.	Lg.			Dia.	Lg.			Dia.	Lg.			Dia.	Lg.		
3/64"	1 3/4"	3023A213	$2.02	1/8"	2 3/4"	3023A218	$2.13	7/32"	3 3/4"	3023A225	$3.40	21/64"	4 5/8"	3023A233	$5.62
1/16"	1 7/8"	3023A214	2.04	5/32"	3 1/8"	3023A221	2.48	1/4"	4"	3023A227	3.90	3/8"	5"	3023A236	7.31
3/32"	2 1/4"	3023A216	2.09	3/16"	3 1/2"	3023A223	2.53	5/16"	4 1/2"	3023A232	5.13	1/2"	6"	3023A245	13.16

Hardened Undersized Rods—Precision Ground



- Yield Strength: Not rated
- Hardness: Very Hard (Rockwell C62)

Also known as drill rods. Diameter tolerance for diameters up to 0.5000" is –0.0002"; for 0.5625" to 0.6250" dia. rods it is –0.0003"; and for 0.6875" to 1.0000" dia. rods it is –0.0005". Straightness tolerance is 0.001". Length tolerance is ±1/32".

Dia.	Drill Bit Size	Lg.			Dia.	Drill Bit Size	Lg.			Dia.	Drill Bit Size	Lg.		
0.0135"	80	3/4"	3009A298	$2.05	0.1015"	38	2 1/2"	3009A252	$2.40	0.2344"	15/64"	3 7/8"	3009A126	$4.19
0.0145"	79	3/4"	3009A297	2.06	0.1040"	37	2 1/2"	3009A251	2.40	0.2380"	B	4"	3009A183	4.30
0.0156"	1/64"	3/4"	3009A111	2.07	0.1065"	36	2 1/2"	3009A249	2.41	0.2420"	C	4"	3009A184	4.39
0.0160"	78	7/8"	3009A296	2.07	0.1094"	7/64"	2 5/8"	3009A117	2.42	0.2460"	D	4"	3009A185	4.44
0.0180"	77	7/8"	3009A295	2.08	0.1100"	35	2 5/8"	3009A248	2.42	0.2500"	E, 1/4"	4"	3009A127	4.49
0.0200"	76	7/8"	3009A294	2.08	0.1110"	34	2 5/8"	3009A247	2.43	0.2570"	F	4 1/8"	3009A187	4.88
0.0210"	75	1"	3009A293	2.09	0.1130"	33	2 5/8"	3009A246	2.43	0.2610"	G	4 1/8"	3009A188	4.98
0.0225"	74	1"	3009A292	2.09	0.1160"	32	2 3/4"	3009A245	2.44	0.2656"	17/64"	4 1/8"	3009A128	5.09
0.0240"	73	1 1/8"	3009A291	2.11	0.1200"	31	2 3/4"	3009A244	2.44	0.2660"	H	4 1/8"	3009A189	5.09
0.0250"	72	1 1/8"	3009A289	2.12	0.1250"	1/8"	2 3/4"	3009A118	2.44	0.2720"	I	4 1/8"	3009A191	5.36
0.0260"	71	1 1/4"	3009A288	2.12	0.1285"	30	2 3/4"	3009A243	2.45	0.2770"	J	4 1/8"	3009A192	5.49
0.0280"	70	1 1/4"	3009A287	2.13	0.1360"	29	2 7/8"	3009A242	2.45	0.2810"	K	4 1/4"	3009A193	5.62
0.0292"	69	1 3/8"	3009A286	2.13	0.1405"	28	2 7/8"	3009A241	2.47	0.2812"	9/32"	4 1/4"	3009A129	5.68
0.0310"	68	1 3/8"	3009A285	2.14	0.1406"	9/64"	2 7/8"	3009A119	2.47	0.2900"	L	4 1/4"	3009A194	5.75
0.0312"	1/32"	1 3/8"	3009A112	2.14	0.1440"	27	3"	3009A239	2.48	0.2950"	M	4 3/8"	3009A195	6.01
0.0320"	67	1 3/8"	3009A284	2.15	0.1470"	26	3"	3009A238	2.48	0.2969"	19/64"	4 3/8"	3009A131	6.13
0.0330"	66	1 3/8"	3009A283	2.15	0.1495"	25	3"	3009A237	2.49	0.3020"	N	4 3/8"	3009A196	6.14
0.0350"	65	1 1/2"	3009A282	2.16	0.1520"	24	3 1/8"	3009A236	2.50	0.3125"	5/16"	4 1/2"	3009A132	6.19
0.0360"	64	1 1/2"	3009A281	2.17	0.1540"	23	3 1/8"	3009A235	2.51	0.3160"	O	4 1/2"	3009A197	6.41
0.0370"	63	1 1/2"	3009A279	2.17	0.1562"	5/32"	3 1/8"	3009A121	2.52	0.3230"	P	4 5/8"	3009A198	6.68
0.0380"	62	1 1/2"	3009A278	2.18	0.1570"	22	3 1/8"	3009A234	2.54	0.3281"	21/64"	4 5/8"	3009A133	6.73
0.0390"	61	1 5/8"	3009A277	2.18	0.1590"	21	3 1/4"	3009A233	2.57	0.3320"	Q	4 3/4"	3009A199	6.81
0.0400"	60	1 5/8"	3009A276	2.19	0.1610"	20	3 1/4"	3009A232	2.59	0.3390"	R	4 3/4"	3009A201	6.94
0.0410"	59	1 5/8"	3009A275	2.20	0.1660"	19	3 1/4"	3009A231	2.62	0.3438"	11/32"	4 3/4"	3009A134	7.01
0.0420"	58	1 5/8"	3009A274	2.21	0.1695"	18	3 1/4"	3009A229	2.63	0.3480"	S	4 7/8"	3009A202	7.76
0.0430"	57	1 3/4"	3009A273	2.23	0.1719"	11/64"	3 1/4"	3009A122	2.65	0.3580"	T	4 7/8"	3009A203	8.05
0.0465"	56	1 3/4"	3009A272	2.24	0.1730"	17	3 3/8"	3009A228	2.67	0.3594"	23/64"	4 7/8"	3009A135	8.09
0.0469"	3/64"	1 3/4"	3009A113	2.24	0.1770"	16	3 3/8"	3009A227	2.67	0.3680"	U	5"	3009A204	8.62
0.0520"	55	1 7/8"	3009A271	2.25	0.1800"	15	3 3/8"	3009A226	2.72	0.3750"	3/8"	5"	3009A136	8.67
0.0550"	54	1 7/8"	3009A269	2.25	0.1820"	14	3 3/8"	3009A225	2.94	0.3770"	V	5"	3009A205	8.91
0.0595"	53	1 7/8"	3009A268	2.26	0.1850"	13	3 1/2"	3009A224	2.79	0.3860"	W	5 1/8"	3009A206	9.48
0.0625"	1/16"	1 7/8"	3009A114	2.27	0.1875"	3/16"	3 1/2"	3009A123	2.88	0.3906"	25/64"	5 1/8"	3009A137	9.52
0.0635"	52	1 7/8"	3009A267	2.28	0.1890"	12	3 1/2"	3009A223	2.90	0.3970"	X	5 1/8"	3009A207	9.77
0.0670"	51	2"	3009A266	2.28	0.1910"	11	3 1/2"	3009A222	3.03	0.4040"	Y	5 1/4"	3009A208	10.30
0.0700"	50	2"	3009A265	2.29	0.1935"	10	3 5/8"	3009A221	3.15	0.4062"	13/32"	5 1/4"	3009A138	10.55
0.0730"	49	2"	3009A264	2.30	0.1960"	9	3 5/8"	3009A219	3.17	0.4130"	Z	5 1/4"	3009A209	10.59
0.0760"	48	2"	3009A263	2.30	0.1990"	8	3 5/8"	3009A218	3.25	0.4219"	27/64"	5 3/8"	3009A139	10.73
0.0781"	5/64"	2"	3009A115	2.31	0.2010"	7	3 5/8"	3009A217	3.26	0.4375"	7/16"	5 1/2"	3009A141	11.15
0.0785"	47	2"	3009A262	2.32	0.2031"	13/64"	3 5/8"	3009A124	3.34	0.4531"	29/64"	5 5/8"	3009A142	11.41
0.0810"	46	2 1/8"	3009A261	2.33	0.2040"	6	3 3/4"	3009A216	3.39	0.4688"	15/32"	5 3/4"	3009A143	11.66
0.0820"	45	2 1/8"	3009A259	2.35	0.2055"	5	3 3/4"	3009A215	3.46	0.4844"	31/64"	5 7/8"	3009A144	13.25
0.0860"	44	2 1/8"	3009A258	2.35	0.2090"	4	3 3/4"	3009A214	3.46	0.5000"	1/2"	6"	3009A145	13.97
0.0890"	43	2 1/4"	3009A257	2.35	0.2130"	3	3 3/4"	3009A213	3.67	0.5625"	9/16"	6"	3009A149	20.46
0.0935"	42	2 1/4"	3009A256	2.36	0.2187"	7/32"	3 3/4"	3009A125	3.74	0.6250"	5/8"	6"	3009A154	23.29
0.0937"	3/32"	2 1/4"	3009A116	2.36	0.2210"	2	3 7/8"	3009A212	3.86	0.6875"	11/16"	6"	3009A158	25.20
0.0960"	41	2 3/8"	3009A255	2.39	0.2280"	1	3 7/8"	3009A211	3.94	0.7500"	3/4"	6"	3009A163	26.98
0.0980"	40	2 3/8"	3009A254	2.38	0.2340"	A	3 7/8"	3009A182	4.12	1.0000"	1"	6"	3009A181	46.40
0.0995"	39	2 3/8"	3009A253	2.39										

(Material continued on following page)

Warning! *Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.*

High-Speed M2 Tool Steel *(Material continued from previous page)*

Hardened Undersized Rod Sets—Precision Ground



Each set is supplied in a metal indexed case with fold-out panels. Also known as drill rods, they are hardened to Rockwell C62. Diameter tolerance is –0.0002″. Straightness tolerance is 0.001″. Length tolerance is ±1/32″.

Size Range	Rods per Set		
1/16″-1/2″ (×1/64″)	29	2952A5	$161.38
A-Z	26	2952A8	161.38

Size Range	Rods per Set		
1-60	60	2952A6	$139.37
61-80	20	2952A7	47.68

Metric Hardened Undersized Rods—Precision Ground



- Yield Strength: Not rated
- Hardness: Very Hard (Rockwell C62)

Diameter tolerance is –0.005 mm. Also known as drill rods, they have a straightness tolerance of 0.001″. Length tolerance is ±1/32″.

Dia., mm	Lg.			Dia., mm	Lg.			Dia., mm	Lg.			Dia., mm	Lg.		
1.00	15/8″	2900A211	$2.47	3.15	23/4″	2900A259	$2.99	5.30	33/4″	2900A317	$4.14	8.60	43/4″	2900A365	$7.85
1.05	15/8″	2900A212	2.48	3.20	23/4″	2900A261	3.00	5.35	33/4″	2900A318	4.22	8.70	43/4″	2900A366	7.98
1.10	13/4″	2900A213	2.50	3.25	23/4″	2900A262	3.01	5.40	33/4″	2900A319	4.29	8.80	47/8″	2900A367	8.12
1.15	13/4″	2900A214	2.51	3.30	27/8″	2900A263	3.02	5.45	37/8″	2900A321	4.40	8.90	47/8″	2900A368	8.25
1.20	17/8″	2900A215	2.52	3.35	27/8″	2900A264	3.04	5.50	37/8″	2900A322	4.48	9.00	47/8″	2900A369	8.38
1.25	17/8″	2900A216	2.53	3.40	27/8″	2900A265	3.05	5.55	37/8″	2900A323	4.55	9.10	47/8″	2900A371	8.51
1.30	17/8″	2900A217	2.54	3.45	27/8″	2900A266	3.06	5.60	37/8″	2900A324	4.62	9.20	5″	2900A372	8.65
1.35	17/8″	2900A218	2.56	3.50	27/8″	2900A267	3.07	5.65	37/8″	2900A325	4.69	9.30	5″	2900A373	8.78
1.40	17/8″	2900A219	2.57	3.55	27/8″	2900A268	3.08	5.70	37/8″	2900A326	4.76	9.40	5″	2900A374	8.91
1.45	17/8″	2900A221	2.58	3.60	3″	2900A269	3.10	5.75	37/8″	2900A327	4.84	9.50	5″	2900A375	9.05
1.50	17/8″	2900A222	2.59	3.65	3″	2900A271	3.11	5.80	37/8″	2900A328	4.91	9.60	51/8″	2900A376	9.18
1.55	17/8″	2900A223	2.60	3.70	3″	2900A272	3.12	5.85	37/8″	2900A329	4.98	9.70	51/8″	2900A377	9.45
1.60	17/8″	2900A224	2.62	3.75	3″	2900A273	3.13	5.90	37/8″	2900A331	5.05	9.80	51/8″	2900A378	9.73
1.65	2″	2900A225	2.63	3.80	31/8″	2900A274	3.14	5.95	37/8″	2900A332	5.12	9.90	51/8″	2900A379	10.00
1.70	2″	2900A226	2.64	3.85	31/8″	2900A275	3.16	6.00	4″	2900A333	5.15	10.00	51/8″	2900A381	10.28
1.75	2″	2900A227	2.65	3.90	31/8″	2900A276	3.17	6.05	4″	2900A334	5.22	10.10	51/4″	2900A382	10.51
1.80	2″	2900A228	2.66	3.95	31/8″	2900A277	3.18	6.10	4″	2900A335	5.29	10.20	51/4″	2900A383	10.78
1.85	2″	2900A229	2.68	4.00	31/4″	2900A278	3.19	6.15	4″	2900A336	5.36	10.30	51/4″	2900A384	11.06
1.90	2″	2900A231	2.69	4.05	31/4″	2900A279	3.20	6.20	4″	2900A337	5.44	10.40	51/4″	2900A385	11.33
1.95	2″	2900A232	2.70	4.10	31/4″	2900A281	3.22	6.25	4″	2900A338	5.51	10.50	53/8″	2900A386	11.62
2.00	21/8″	2900A234	2.71	4.15	31/4″	2900A282	3.23	6.30	4″	2900A339	5.58	10.60	53/8″	2900A387	11.89
2.05	21/8″	2900A235	2.72	4.20	31/4″	2900A283	3.24	6.40	41/8″	2900A341	5.65	10.70	53/8″	2900A388	12.16
2.10	21/8″	2900A236	2.74	4.25	31/4″	2900A284	3.25	6.50	41/8″	2900A342	5.72	10.80	51/2″	2900A389	12.41
2.15	21/8″	2900A237	2.75	4.30	31/4″	2900A285	3.26	6.60	41/8″	2900A343	5.80	10.90	51/2″	2900A391	12.68
2.20	21/4″	2900A238	2.76	4.35	33/8″	2900A286	3.28	6.70	41/8″	2900A344	5.87	11.00	51/2″	2900A392	12.95
2.25	21/4″	2900A239	2.77	4.40	33/8″	2900A287	3.29	6.80	41/8″	2900A345	5.94	11.10	51/2″	2900A393	13.23
2.30	21/4″	2900A241	2.78	4.45	33/8″	2900A288	3.30	6.90	41/8″	2900A346	6.01	11.20	55/8″	2900A394	13.51
2.35	21/4″	2900A242	2.80	4.50	33/8″	2900A289	3.31	7.00	41/8″	2900A347	6.08	11.30	55/8″	2900A395	13.78
2.40	23/8″	2900A243	2.81	4.55	33/8″	2900A291	3.32	7.10	41/4″	2900A348	6.15	11.40	55/8″	2900A396	14.05
2.45	23/8″	2900A244	2.81	4.60	33/8″	2900A292	3.34	7.20	41/4″	2900A349	6.23	11.50	55/8″	2900A397	14.32
2.50	23/8″	2900A245	2.83	4.65	31/2″	2900A293	3.35	7.30	41/4″	2900A351	6.30	11.60	53/4″	2900A398	14.60
2.55	21/2″	2900A246	2.84	4.70	31/2″	2900A294	3.36	7.40	43/8″	2900A352	5.57	11.70	53/4″	2900A399	14.87
2.60	21/2″	2900A247	2.86	4.75	31/2″	2900A295	3.37	7.50	43/8″	2900A353	6.40	11.80	53/4″	2900A411	15.14
2.65	21/2″	2900A248	2.87	4.80	31/2″	2900A296	3.38	7.60	43/8″	2900A354	6.53	11.90	53/4″	2900A412	15.41
2.70	21/2″	2900A249	2.88	4.85	31/2″	2900A297	3.40	7.70	41/2″	2900A355	6.67	12.00	57/8″	2900A413	15.67
2.75	25/8″	2900A251	2.89	4.90	35/8″	2900A298	4.40	7.80	41/2″	2900A356	6.79	12.10	57/8″	2900A414	15.94
2.80	25/8″	2900A252	2.90	4.95	35/8″	2900A299	3.65	7.90	41/2″	2900A357	6.92	12.20	57/8″	2900A415	16.21
2.85	25/8″	2900A253	2.92	5.00	35/8″	2900A311	3.72	8.00	41/2″	2900A358	7.05	12.30	57/8″	2900A416	16.48
2.90	23/4″	2900A254	2.93	5.05	35/8″	2900A312	3.79	8.10	45/8″	2900A359	7.19	12.40	57/8″	2900A417	16.76
2.95	23/4″	2900A255	2.94	5.10	35/8″	2900A313	3.86	8.20	45/8″	2900A361	7.32	12.50	6″	2900A418	17.04
3.00	23/4″	2900A256	2.95	5.15	33/4″	2900A314	3.93	8.30	45/8″	2900A362	7.45	12.60	6″	2900A419	17.31
3.05	23/4″	2900A257	2.96	5.20	33/4″	2900A315	4.00	8.40	43/4″	2900A363	7.59	12.70	6″	2900A421	17.59
3.10	23/4″	2900A258	2.98	5.25	33/4″	2900A316	4.07	8.50	43/4″	2900A364	7.72				

Bearing Quality High-Temperature M50 Tool Steel



- Yield Strength: 320,000 psi
- Hardness: Very Hard (Rockwell C60)

M50 maintains its strength and wear resistance at high temperatures. These hardened tight-tolerance balls are precision ground and then polished for a reflective finish.

Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.	Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.
1/8″	±0.00005″	10	9670K11	$7.25	15/32″	±0.00005″	2	9670K39	$10.53
3/16″	±0.00005″	5	9670K17	7.76	1/2″	±0.00005″	2	9670K41	11.35
7/32″	±0.00005″	10	9670K19	14.67	17/32″	±0.00005″	2	9670K43	12.91
1/4″	±0.00005″	10	9670K23	14.88	9/16″	±0.00005″	1	9670K45	7.44
9/32″	±0.00005″	2	9670K27	5.59	5/8″	±0.00005″	1	9670K49	7.59
5/16″	±0.00005″	2	9670K29	5.97	11/16″	±0.00005″	1	9670K51	9.38
11/32″	±0.00005″	2	9670K31	6.47	3/4″	±0.00005″	1	9670K53	10.52
3/8″	±0.00005″	2	9670K33	7.31	7/8″	±0.00005″	1	9670K57	19.26
13/32″	±0.00005″	2	9670K35	7.75	1″	±0.00005″	1	9670K59	23.42
7/16″	±0.00005″	2	9670K37	8.76					

Warning! ***Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.***

Ultra-Hard High-Speed M42 Tool Steel



- Yield Strength: Not rated
- Hardness: Ultra Hard (Rockwell C66)

Also known as cobalt steel, this material is capable of cutting extremely hard metals. It maintains its hardness in high-speed cutting applications that generate intense heat. These precision-ground rods have been hardened. Diameter tolerance is –0.0002″.

Dia.	Lg.		
1/64″	1 1/2″	8813A12	$5.29
1/32″	1 1/2″	8813A14	3.46
3/64″	1 3/4″	8813A16	3.49
1/16″	1 7/8″	8813A18	3.38
5/64″	2″	8813A22	3.49
3/32″	2 1/4″	8813A24	3.68
7/64″	2 3/4″	8813A26	3.83
1/8″	2 3/4″	8813A28	3.93

Dia.	Lg.		
9/64″	3″	8813A32	$4.04
5/32″	3 1/4″	8813A34	4.57
11/64″	3 1/4″	8813A36	4.67
3/16″	3 1/2″	8813A38	5.26
13/64″	3 5/8″	8813A42	6.21
7/32″	3 3/4″	8813A44	6.89
15/64″	3 7/8″	8813A46	7.53
1/4″	4″	8813A48	8.18

Dia.	Lg.		
17/64″	4 1/8″	8813A52	$9.26
9/32″	4 1/4″	8813A54	9.60
19/64″	4 3/8″	8813A56	10.53
5/16″	4 1/2″	8813A58	11.43
21/64″	4 5/8″	8813A62	12.33
11/32″	4 3/4″	8813A64	13.57
23/64″	4 7/8″	8813A66	14.79
3/8″	5″	8813A68	16.64

Dia.	Lg.		
25/64″	5 1/8″	8813A81	$17.82
13/32″	5 1/4″	8813A82	19.61
27/64″	5 3/8″	8813A83	21.68
7/16″	5 1/2″	8813A84	23.18
29/64″	5 5/8″	8813A85	24.55
15/32″	5 3/4″	8813A86	25.70
31/64″	5 7/8″	8813A87	27.71
1/2″	6″	8813A88	29.49

Ultra Wear-Resistant High-Speed M4 Tool Steel

Made from powdered metal, M4 has a consistent microstructure that gives it outstanding resistance to wear and abrasion. Comparable to CPM Rex M4, this material is used for punches, dies, and high-speed cutting tools.

Oversized Flat Stock—Ground

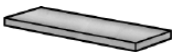

- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B97)
- Can be hardened up to Rockwell C65

This flat stock is decarb free, improving the surface for heat treating. Width tolerance is +0.015″.

Wd.	6″ Lg.	9″ Lg.	18″ Lg.
1/8″ Thick (+0.015″)			
1/2″	9211K341 $35.45	$46.72	$80.56
3/4″	9211K521 40.36	53.20	91.73
1″	9211K531 43.27	57.04	98.34
3″	9211K571 83.14	109.59	188.95

Wd.	6″ Lg.	9″ Lg.	18″ Lg.
1/4″ Thick (+0.015″)			
1/2″	9211K651 $60.41	$79.63	$137.29
3/4″	9211K661 63.86	84.18	145.14
1″	9211K671 69.63	91.78	158.24
3″	9211K721 125.31	165.18	284.79

Wd.	6″ Lg.	9″ Lg.	18″ Lg.
3/8″ Thick (+0.015″)			
1/2″	9211K811 $77.04	$101.55	$175.09
3/4″	9211K821 80.56	106.20	183.10
1″	9211K831 83.69	110.32	190.20
3″	9211K871 208.85	275.30	474.66

Oversized Rods—Ground



- Yield Strength: 60,000 psi
- Hardness: Hard (Rockwell C29)
- Can be hardened up to Rockwell C65

These rods are decarb free, improving the surface for heat treating. Diameter tolerance for 1/2″ to 1 3/4″ diameter rods is +0.017″; for 2″ diameter rods it is +0.034″. Straightness tolerance is 0.048″.

Dia.	1 ft.	3 ft.	6 ft.
1/2″	9097K12 $39.82	$94.57	$165.92
5/8″	9097K14 57.57	136.72	239.86
3/4″	9097K16 75.28	178.78	313.65

Dia.	1 ft.	3 ft.	6 ft.
7/8″	9097K18 $94.69	$224.90	$394.56
1″	9097K22 100.29	238.18	417.86
1 1/4″	9097K24 145.05	344.50	604.39

Dia.	1 ft.	3 ft.	6 ft.
1 1/2″	9097K26 $199.43	$473.65	$830.96
1 3/4″	9097K28 261.43	620.90	1,089.29
2″	9097K32 340.42	808.50	1,418.42

Ultra-Hard Tungsten Carbide

Commonly referred to as carbide, tungsten carbide is harder than tool steel. With excellent wear resistance, it's used to machine tools such as end mills and inserts that last longer than those made of steel. All shapes are C2 tungsten carbide.

Flat Stock—Unpolished



- Yield Strength: 319,000 psi
- Hardness: Ultra Hard (Rockwell C79)

Thickness tolerance for 1/16″ and 1/8″ thick is +0.040″; for 1/4″ and 1/2″ thick it is +0.060″. Width tolerance for 1/16″ and 1/8″ widths is +0.030″; for 1/4″ and larger widths it is +0.060″.

Thick.	Wd.	Lg.		
1/16″	1/16″	6″	1690T11	$7.78
1/16″	1/4″	6″	1690T13	17.19
1/16″	1/2″	6″	1690T15	42.50
1/16″	3/4″	6″	1690T16	79.14

Thick.	Wd.	Lg.		
1/16″	1″	6″	1690T17	$67.86
1/8″	1/8″	12″	1690T18	19.44
1/8″	1/4″	6″	1690T19	23.03
1/8″	1/2″	6″	1690T32	39.47

Thick.	Wd.	Lg.		
1/8″	3/4″	6″	1690T34	$52.50
1/8″	1″	6″	1690T35	67.50
1/4″	1/4″	12″	1690T42	68.98
1/4″	1/2″	6″	1690T44	60.47

Thick.	Wd.	Lg.		
1/4″	3/4″	6″	1690T46	$75.56
1/4″	1″	12″	1690T47	192.55
1/2″	1/2″	12″	1690T48	188.43
1/2″	3/4″	12″	1690T49	265.45

Rods—Precision Ground



- Yield Strength: Not rated
- Hardness: Ultra Hard (Rockwell C79)

Diameter tolerance for rods up to 4 1/2″ long is –0.0003″, and for 6″ and 12″ long rods it is –0.0005″. Length tolerance for rods up to 6″ long is +5/8″, –1/16″; for 12″ long rods it is +1 1/4″, –1/16″.

Dia.	Lg.		
1/16″	1 1/2″	8788A361	$3.50
3/32″	2″	8788A122	4.00
7/64″	2 1/4″	8788A123	4.58
1/8″	1 1/2″	8788A124	2.67
1/8″	2 1/4″	8788A125	4.75
1/8″	3″	8788A126	4.92
1/8″	4″	8788A127	7.33
1/8″	6″	8788A128	11.33
1/8″	12″	8788A129	24.14
9/64″	2 1/2″	8788A131	6.58
5/32″	2 1/2″	8788A132	7.62
11/64″	2 3/4″	8788A133	8.50
3/16″	2″	8788A134	4.84
3/16″	3″	8788A135	9.33

Dia.	Lg.		
3/16″	4″	8788A152	$11.33
3/16″	6″	8788A153	17.07
3/16″	12″	8788A154	35.53
13/64″	3″	8788A155	10.24
7/32″	3″	8788A156	11.66
15/64″	3 1/4″	8788A157	12.50
1/4″	2″	8788A158	6.50
1/4″	3″	8788A159	11.33
1/4″	4″	8788A161	17.49
1/4″	6″	8788A162	24.53
1/4″	12″	8788A163	51.68
17/64″	3 1/2″	8788A164	15.09
9/32″	3 1/2″	8788A165	17.70

Dia.	Lg.		
19/64″	3 3/4″	8788A191	$18.10
5/16″	3″	8788A192	18.51
5/16″	4″	8788A193	22.16
5/16″	6″	8788A194	34.82
5/16″	12″	8788A195	70.45
3/8″	2 1/2″	8788A196	15.29
3/8″	3″	8788A197	20.58
3/8″	4″	8788A198	27.70
3/8″	6″	8788A199	42.88
3/8″	12″	8788A221	92.72
27/64″	4 1/2″	8788A222	39.16
7/16″	3″	8788A223	26.11
7/16″	6″	8788A224	53.60

Dia.	Lg.		
1/2″	3″	8788A251	$25.72
1/2″	4″	8788A252	36.40
1/2″	6″	8788A253	61.25
1/2″	12″	8788A254	126.10
5/8″	3 1/2″	8788A255	53.60
5/8″	6″	8788A256	103.85
5/8″	12″	8788A257	233.71
3/4″	4″	8788A258	80.41
3/4″	6″	8788A259	133.52
3/4″	12″	8788A261	277.54
1″	4″	8788A262	137.23
1″	6″	8788A263	226.41
1″	12″	8788A264	492.99

(Material continued on following page)

***Warning!** Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.*

For information about the comparisons between steel and tungsten carbide, see page 3728.

Ultra-Hard Tungsten Carbide *(Material continued from previous page)*

Metric Rods—Precision Ground



- Yield Strength: Not rated
- Hardness: Ultra Hard (Rockwell C79)

Length tolerance is ±1.5 mm.

Dia., mm	Dia. Tolerance, mm	Lg., mm		
3	–0.007	38	8791A92	$2.76
3	–0.007	75	8791A93	5.14
4	–0.007	50	8791A95	5.17
4	–0.007	75	8791A97	10.19
5	–0.007	50	8791A99	5.61
5	–0.007	75	8791A12	$10.61
6	–0.007	50	8791A14	7.07
6	–0.007	75	8791A16	11.75
10	–0.007	100	8791A42	39.26
16	–0.007	127	8791A54	104.45
18	–0.007	100	8791A56	$112.21
20	–0.007	100	8791A58	123.25
20	–0.007	152	8791A62	191.72
22	–0.007	100	8791A64	187.16
25	–0.007	100	8791A66	190.93

Rods Notched at Both Ends—Precision Ground

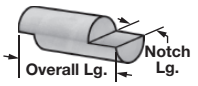

- Yield Strength: Not rated
- Hardness: Ultra Hard (Rockwell C79)

Length tolerance is +5/8″, –1/16″.

Dia.	Dia. Tolerance	Overall Lg.	Notch Lg.		
1/8″	–0.0003″	1 1/2″	1/4″	8788A136	$5.49
1/8″	–0.0003″	3″	1/4″	8788A137	13.19
3/16″	–0.0003″	2″	1/4″	8788A138	11.15
3/16″	–0.0003″	3″	1/4″	8788A139	14.56
3/16″	–0.0003″	6″	1/4″	8788A151	27.37
1/4″	–0.0003″	2″	3/8″	8788A166	15.98
1/4″	–0.0003″	3″	3/8″	8788A167	22.34
1/4″	–0.0003″	4″	3/8″	8788A168	28.90
1/4″	–0.0003″	6″	3/8″	8788A169	40.79
5/16″	–0.0003″	3″	3/8″	8788A225	$29.38
5/16″	–0.0003″	6″	3/8″	8788A226	46.46
3/8″	–0.0003″	2 1/2″	1/2″	8788A227	33.92
3/8″	–0.0003″	3″	1/2″	8788A228	39.49
3/8″	–0.0003″	4″	1/2″	8788A229	50.64
3/8″	–0.0003″	6″	1/2″	8788A265	57.10
1/2″	–0.0003″	3″	1/2″	8788A266	49.64
1/2″	–0.0003″	4″	1/2″	8788A267	65.03
1/2″	–0.0003″	6″	1/2″	8788A268	89.85

Balls—Precision Ground

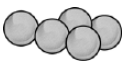

- Yield Strength: Not rated
- Hardness: Ultra Hard (Rockwell C77)

Dia.	Dia. Tolerance	Pkg. Qty.		Pkg.
1/32″	±0.0001″	5	9598K52	$6.07
3/64″	±0.0001″	5	9598K53	6.44
1/16″	±0.0001″	5	9598K54	6.76
5/64″	±0.0001″	5	9598K55	9.60
3/32″	±0.0001″	5	9598K56	7.26
7/64″	±0.0001″	5	9598K57	11.09
1/8″	±0.0001″	5	9598K58	11.71
5/32″	±0.0001″	5	9598K59	12.66
3/16″	±0.0001″	1	9598K6	$2.72
7/32″	±0.0001″	1	9598K61	2.99
1/4″	±0.0001″	1	9598K62	3.00
9/32″	±0.0001″	2	9598K63	11.16
5/16″	±0.0001″	2	9598K64	12.16
11/32″	±0.0001″	2	9598K65	12.40
3/8″	±0.0001″	2	9598K66	12.84
7/16″	±0.0001″	1	9598K68	8.62
1/2″	±0.0001″	1	9598K7	$12.05
9/16″	±0.0001″	1	9598K71	14.81
5/8″	±0.0001″	1	9598K72	18.97
3/4″	±0.0001″	1	9598K74	27.01
13/16″	±0.0001″	1	9598K81	60.19
7/8″	±0.0001″	1	9598K82	60.20
15/16″	±0.0001″	1	9598K83	54.01
1″	±0.0001″	1	9598K84	67.24

Metric Balls—Precision Ground

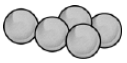

- Yield Strength: Not rated
- Hardness: Ultra Hard (Rockwell C77)

Dia., mm	Dia. Tolerance, mm	Pkg. Qty.		Pkg.
1	±0.0025	5	9686K81	$10.15
2	±0.0025	5	9686K82	11.25
3	±0.0025	5	9686K83	11.52
3.5	±0.0025	5	9686K84	12.50
4	±0.0025	2	9686K85	6.05
5	±0.0025	2	9686K86	$6.46
6	±0.0025	2	9686K87	6.67
7	±0.0025	2	9686K89	8.14
8	±0.0025	2	9686K91	13.29
10	±0.0025	1	9686K93	8.34
12	±0.0025	1	9686K95	$13.42
13	±0.0025	1	9686K77	24.35
14	±0.0025	1	9686K78	28.47
15	±0.0025	1	9686K79	35.75

High-Strength Durable Tungsten



- Yield Strength: 80,000 psi
- Hardness: Hard (Rockwell C24)
- Meet ASTM B777

Also known as chatter-free tungsten, this material is used for boring bars and grinding tools that dampen noise and vibration while machining. The addition of copper and nickel makes this a rigid, high-density tungsten alloy.

Dia.	Dia. Tolerance	8″ Lg.		12″ Lg.	
1/8″	+0.015″	8279K11	$34.32	8279K12	$42.90
3/16″	+0.015″	8279K13	40.06	8279K14	50.07
1/4″	+0.015″	8279K15	56.98	8279K16	71.22
5/16″	+0.030″	8279K17	63.83	8279K18	79.79
3/8″	+0.030″	8279K21	72.05	8279K22	90.06
7/16″	+0.030″	_____	____	8279K24	105.45
1/2″	+0.030″	8279K25	94.02	8279K26	117.52
9/16″	+0.030″	_____	____	8279K28	148.01
5/8″	+0.030″	8279K31	127.20	8279K32	159.00
3/4″	+0.030″	8279K33	$160.02	8279K34	$200.03
7/8″	+0.030″	8279K35	209.46	8279K36	261.83
1″	+0.060″	8279K37	245.14	8279K38	306.43
1 1/8″	+0.060″	_____	_____	8279K42	420.36
1 1/4″	+0.060″	_____	_____	8279K44	509.23
1 3/8″	+0.060″	_____	_____	8279K46	630.78
1 1/2″	+0.060″	_____	_____	8279K48	658.45
1 5/8″	+0.060″	_____	_____	8279K52	765.76
2″	+0.060″	_____	_____	8279K54	1,196.87

***Warning!* Hardness and yield strength are not guaranteed and are intended only as a basis for comparison.**

About Stainless Steel

When you need a corrosion-resistant metal, stainless steel is a practical choice. It contains chromium, which makes it more corrosion resistant than other types of steel. The designation 18-8 refers to stainless steel that has approximately 18% chromium and 8% nickel; it generally applies to types 301, 302, 303, and 304.

Hardening—Some types of stainless steel harden by cold working, and others can be heat treated. The 300 series hardens by cold working, many in the 400 series can be hardened by heat treating, and those designated "PH" can be heat treated by the process of precipitation hardening. All hardness values given below are in the unhardened condition.

Corrosion Resistance—An invisible film forms on the surface of stainless steel when it's in contact with oxygen. This allows it to withstand damage from corrosives including many acids, bases, and detergents, as well as salt water.

Formability—Stainless steel is generally formable and bendable, but types that harden by cold working can require more force to bend than carbon steel.

Machinability—During machining, stainless steel can become gummy and stick to cutting tools, making it typically more difficult to machine than steel.

Weldability—Take care to clean stainless steel before and after welding operations. Contaminants, such as lubricants and particles from grinding tools, will reduce corrosion resistance at welded points.

● Excellent
◓ Good
○ Poor

Use the chart below to identify the best stainless steel for your application. Circles indicate that a majority of a material's shapes and sizes meet the applicable rating. Yield strength is approximate and may vary based on size and shape.

Stainless Steel Types	Min. Yield Strength, psi	Hardness, Rockwell	Corrosion Resistance	Formability	Machinability	Weldability	Pages
Multipurpose							
Multipurpose 304	25,000	B75	◓	◓	◓	◓	3771-3779
High Strength 301	75,000	C25	◓	◓	◓	◓	3780
High Temperature 309	30,000	B75	◓	◓	○	◓	3781
Economy-Grade 430	30,000	B75	◓	◓	●	◓	3781
Weldable 321	25,000	B76	◓	◓	◓	◓	3790
Highly Corrosion Resistant							
Super Corrosion-Resistant 316	25,000	B74	●	◓	◓	◓	3782-3786
Ultra Corrosion-Resistant Alloy 20	35,000	B95	●	___	○	◓	3791
Strengthened A286	50,000	B90	●	◓	◓	◓	3787
Wear-Resistant Nitronic 60	50,000	B86	●	○	○	◓	3791
High Strength 2205	65,000	C30	●	◓	◓	◓	3797
Easy-to-Machine							
Easy-to-Machine 303	25,000	B76	◓	◓	●	○	3787-3790
Very Easy-to-Machine 416	40,000	B81	○	◓	●	○	3791-3792
Wear Resistant							
Wear Resistant 410	30,000	B81	○	●	◓	◓	3792-3793
Mold Quality 420	50,000	C25	○	◓	◓	◓	3794
Very Wear-Resistant 420V	_____	C28	◓	○	◓	○	3794
Ultra Hard 440C	65,000	C20	○	◓	○	○	3795-3797
Impact Resistant 440A	_____	C54	○	○	◓	○	3794
Blade Quality S30V	95,000	C25	◓	○	◓	○	3797
High Strength							
High Strength 13-8 PH	_____	C39	◓	◓	◓	◓	3798
Very High Strength 15-5 PH	145,000	C35	◓	___	○	___	3798
Corrosion Resistant 17-4 PH	110,000	C28	◓	◓	◓	◓	3798-3800

Hardness

As hardness increases, metals become more wear resistant, but they may be less malleable. The chart below shows hardness on different scales.

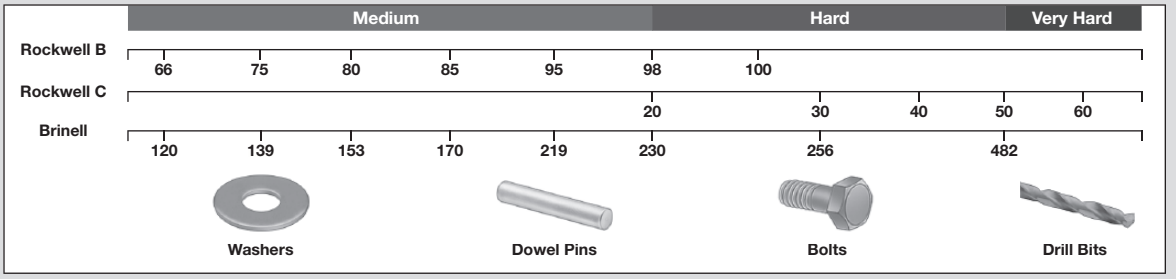

Finish

Stainless steel does not always have a shiny finish. In fact, stainless steel is available in a number of finishes, ranging from an unpolished, dull surface to a reflective mirror-like shine.



Unpolished
Not reflective



Ground
Smooth, matte finish



Brushed (#3 Satin)
Shiny with grain lines in one direction



Fine Brushed (#4 Satin)
Shiny with very thin grain lines in one direction

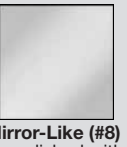

Mirror-Like (#8)
Highly polished with no grain lines

Multipurpose 304 Stainless Steel

From cookware to chemical-processing equipment, 304 is the most commonly used stainless steel. It maintains its corrosion resistance up to 1500°F. It is not heat treatable and may become slightly magnetic when worked.

Rectangular Bars—Unpolished (Hot Rolled)



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B75)
- Bars up to 1″ thick: Meet ASTM A276 and A479, unless noted;
  1½″ to 5″ thick bars: Meet ASTM A240

Width tolerance for ½″ to 3½″ wide bars is +0.094″, –0.031″; for 4″ to 6″ wide bars it is ±⅛″. Length tolerance is ±1″ per foot. Material up to 1″ thick is true bar, which is rolled for a more precise edge than bars that are sheared from plate, unless noted.

Also Available: Bars with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes as bars up to 1″ thick listed below for an additional $15. Please ask for 1250T1 and specify thickness, width, and length.

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
⅛″ Thick (±0.010″)						
½″	8992K113★	$1.66	$2.77	$4.82	$6.28	$10.66
⅝″	8992K116★	1.95	3.25	5.65	7.37	12.51
¾″	8992K123	2.26	3.76	6.54	8.52	14.47
1″	8992K133	2.68	4.47	7.77	10.13	17.20
1¼″	8992K494	3.31	5.51	9.58	12.48	21.19
1½″	8992K495	3.93	6.55	11.39	14.84	25.20
2″	8992K781★	4.94	8.23	14.31	18.64	31.65
3″	8992K382★	6.97	11.62	20.21	26.33	44.71
4″	8992K16★	9.25	15.42	26.81	34.93	59.31
6″	8992K31★	13.17	21.96	38.17	49.74	84.45
3⁄16″ Thick (±0.015″)						
½″	8992K136★	2.40	4.00	6.95	9.06	15.38
1″	8992K497	3.94	6.57	11.43	14.89	25.28
1¼″	8992K498	4.99	8.31	14.45	18.83	31.97
1½″	8992K499	5.99	9.98	17.34	22.60	38.37
2″	8992K501	6.97	11.62	20.20	26.33	44.70
2½″	8992K502	8.68	14.46	25.14	32.75	55.61
3″	8992K503	11.97	19.95	34.69	45.20	76.74
4″	8992K41★	13.17	21.96	38.17	49.74	84.45
6″	8992K33★	19.25	32.08	55.77	72.67	123.38
¼″ Thick (±0.015″)						
½″	8992K504	3.72	6.19	10.77	14.03	23.82
¾″	8992K505	4.31	7.18	12.48	16.27	27.62
1″	8992K506	5.63	9.39	16.32	21.27	36.11
1⅛″	8992K442★	5.63	9.39	16.32	21.27	36.11
1¼″	8992K507	6.59	10.98	19.09	24.88	42.24
1½″	8992K508	7.66	12.76	22.18	28.91	49.08
1¾″	8992K511	8.44	14.07	24.45	31.86	54.10
2″	8992K512	10.56	17.61	30.61	39.89	67.72
2½″	8992K513	12.04	20.07	34.89	45.46	77.18
3″	8992K514	13.76	22.94	39.88	51.96	88.22
3½″	8992K515	16.01	26.68	46.38	60.44	102.62
4″	8992K516	18.31	30.51	53.04	69.12	117.35
5″	8992K61★	21.37	35.62	61.92	80.69	136.99
6″	8992K196★	25.06	41.77	72.62	94.63	160.67
5⁄16″ Thick (±0.012″)						
1″	8992K517	6.40	10.67	18.55	24.17	41.03
2″	8992K518	13.41	22.35	38.85	50.62	85.95
⅜″ Thick (±0.015″)						
½″	8992K519	6.38	10.63	18.48	24.08	40.88
¾″	8992K524	6.81	11.35	19.73	25.70	43.64
1″	8992K525	7.83	13.05	22.69	29.57	50.20
1¼″	8992K526	10.84	18.07	31.41	40.94	69.50
1½″	8992K527	11.11	18.51	32.18	41.94	71.20

★Gauer bar, sheared from plate. Meet ASTM A240.

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
⅜″ Thick (±0.015″) (Cont.)						
1¾″	8992K528	$12.95	$21.59	$37.53	$48.91	$83.04
2″	8992K724	14.08	23.47	40.80	53.16	90.26
2½″	8992K537	17.59	29.31	50.95	66.40	112.73
3″	8992K538	20.62	34.36	59.74	77.85	132.17
4″	8992K539	26.81	44.68	77.67	101.21	171.83
6″	8992K541	36.94	61.56	107.02	139.46	236.77
½″ Thick (±0.015″)						
¾″	8992K542	7.67	12.78	22.22	28.95	49.15
1″	8992K543	9.90	16.49	28.67	37.36	63.43
1¼″	8992K544	12.35	20.58	35.78	46.63	79.16
1½″	8992K545	14.09	23.48	40.81	53.18	90.29
1¾″	8992K901	16.40	27.34	47.53	61.93	105.15
2″	8992K902	18.77	31.28	54.38	70.86	120.30
2½″	8992K903	22.87	38.12	66.26	86.35	146.60
3″	8992K904	26.81	44.68	77.67	101.21	171.83
3½″	8992K905	31.28	52.14	90.64	118.11	200.53
4″	8992K906	33.55	55.92	97.22	126.68	215.08
5″	8992K907	40.22	67.03	116.53	151.86	257.82
6″	8992K908	47.36	78.93	137.22	178.81	303.58
⅝″ Thick (±0.020″)						
1″	8992K111	14.98	24.96	43.39	56.54	96.00
1½″	8992K115	21.75	36.25	63.03	82.13	139.44
2″	8992K119	28.32	47.21	82.07	106.94	181.57
2½″	8992K124	32.42	54.04	93.94	122.42	207.84
3″	8992K128	38.29	63.81	110.94	144.56	245.44
5″	8992K37	59.07	98.45	171.16	223.04	378.67
¾″ Thick (±0.020″)						
1″	8992K132	17.96	29.93	52.03	67.79	115.10
1½″	8992K137	26.81	44.68	77.67	101.21	171.83
2″	8992K141	31.25	52.09	90.55	118.00	200.34
2½″	8992K145	38.29	63.81	110.94	144.56	245.44
3″	8992K149	45.02	75.03	130.43	169.97	288.57
4″	8992K154	56.71	94.51	164.30	214.10	363.50
5″	8992K158	68.22	113.70	197.66	257.58	437.31
6″	8992K162	79.31	132.18	229.79	299.44	508.39
1″ Thick (±0.020″)						
1¼″	8992K167	28.32	47.20	82.06	106.93	181.55
1½″	8992K171	31.25	52.09	90.55	118.00	200.34
2″	8992K175	40.81	68.01	118.24	154.08	261.59
2½″	8992K179	51.27	85.44	148.54	193.56	328.63
3″	8992K184	56.70	94.50	164.29	214.09	363.48
4″	8992K189	71.67	119.45	207.66	270.60	459.42
5″	8992K53	88.19	146.98	255.52	332.97	565.32



Thick.	Thick. Tolerance	6″×6″		Thick.	Thick. Tolerance	6″×6″		Thick.	Thick. Tolerance	6″×6″	
1½″	±0.014″	1251T74	$157.96	2½″	+0.031″	1251T43	$245.67	4″	+0.063″	1251T47	$409.43
2″	±0.016″	1251T41	184.58	3″	+0.047″	1251T45	319.24	5″	+0.078″	1251T49	466.67

Tight-Tolerance Rectangular Bars—Unpolished



- Yield Strength: 30,000 psi
- Hardness: Not rated
- Meet ASTM A276 and A484

Thickness and width tolerances are ±0.012″. Length tolerance is ±1″ per foot. Bars from ¼″ to ⅞″ thick are cold drawn; 1″ to 2″ thick bars are hot rolled.

Also Available: Bars with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $10. Please ask for 5382T78 and specify thickness, width, and length.

Thick.	Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
¼″	¼″	89415K11	$3.44	$5.97	$10.84	$14.80	$26.91
¼″	1″	89415K12	12.73	22.07	40.07	54.69	99.43
¼″	2″	89415K14	21.68	37.59	68.24	93.14	169.34
¼″	3″	89415K16	32.01	55.51	100.77	137.53	250.05
⅜″	⅜″	89415K13	6.15	10.67	19.38	26.44	48.08
½″	½″	89415K15	7.45	12.93	23.47	32.03	58.24
½″	1″	89415K17	18.10	31.40	56.99	77.78	141.42
½″	2″	89415K18	32.86	57.00	103.47	141.21	256.74
½″	3″	89415K19	$47.02	$81.55	$148.04	$202.04	$367.34
⅝″	⅝″	89415K27	8.56	14.85	26.96	36.80	66.91
¾″	¾″	89415K29	10.20	17.69	32.11	43.82	79.68
⅞″	⅞″	89415K31	13.86	24.04	43.65	59.57	108.31
1″	1″	89415K33	14.38	24.93	45.27	61.78	112.32
1¼″	1¼″	89415K35	25.08	43.49	78.95	107.75	195.90
1½″	1½″	89415K37	34.38	59.63	108.25	147.73	268.60
2″	2″	89415K39	54.14	93.89	170.45	232.62	422.95

(Material continued on following page)

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

Multipurpose 304 Stainless Steel *(Material continued from previous page)*

From cookware to chemical-processing equipment, 304 is the most commonly used stainless steel. It maintains its corrosion resistance up to 1500° F. It is not heat treatable and may become slightly magnetic when worked.

Rectangular Bars—Brushed Finish (#4 Satin)



- Yield Strength: 30,000 psi
- Hardness: ¼″ thick bars: Medium (Rockwell B92); ½″ and 1″ thick bars: Not rated
- ¼″ thick bars: Meet ASTM A240; ½″ and 1″ thick bars: Meet ASTM A479

Bars are annealed. Width tolerance for ¼″ thick bars is +0.094″, –0.031″; for ½″ and 1″ thick bars it is +0.062″, –0.031″. Length tolerance is ±1″ per foot.

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
¼″ Thick (+0.050″, –0.010″)						
1″	4539T11	$9.15	$14.86	$25.73	$33.73	$57.17
2″	4539T12	14.49	23.55	40.77	53.45	90.59
3″	4539T13	20.65	33.55	58.07	76.13	129.04
½″ Thick (±0.015″)						
1″	4539T17	17.53	28.48	49.29	64.63	109.54
2″	4539T18	29.77	48.38	83.74	109.79	186.09

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
½″ Thick (±0.015″) (Cont.)						
3″	4539T19	$42.02	$68.29	$118.19	$154.96	$262.64
1″ Thick (±0.020″)						
1″	4539T24	37.52	60.96	105.52	138.34	234.48
2″	4539T25	56.33	91.53	158.42	207.71	352.05
3″	4539T26	71.64	116.41	201.48	264.17	447.74

Metric Rectangular Bars—Unpolished (Cold Drawn)



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B80)

All are annealed. Length tolerance for 1-ft. lengths is ±1″; for 3-ft. and 6-ft. lengths it is ±2″.

Wd., mm	Wd. Tolerance, mm		1 ft.	3 ft.	6 ft.
3 mm Thick. (–0.060 mm)					
12	–0.11	5378T11	$11.45	$26.56	$45.79
20	–0.13	5378T12	13.64	31.64	54.56
25	–0.13	5378T13	16.25	37.71	65.02
5 mm Thick. (–0.075 mm)					
12	–0.11	5378T14	15.45	35.85	61.81
20	–0.13	5378T15	18.61	43.18	74.45
25	–0.13	5378T16	22.18	51.45	88.70
8 mm Thick. (–0.090 mm)					
20	–0.13	5378T17	28.85	66.93	115.40
25	–0.13	5378T18	34.34	79.68	137.38
50	–0.16	5378T19	49.41	114.62	197.62

Wd., mm	Wd. Tolerance, mm		1 ft.	3 ft.	6 ft.
10 mm Thick. (–0.090 mm)					
20	–0.13	5378T21	$33.60	$77.95	$134.39
25	–0.13	5378T22	40.48	93.90	161.90
50	–0.16	5378T23	60.71	140.85	242.84
15 mm Thick. (–0.110 mm)					
20	–0.13	5378T24	45.42	105.37	181.67
25	–0.13	5378T25	53.57	124.28	214.27
50	–0.16	5378T26	87.91	203.95	351.63
20 mm Thick. (–0.130 mm)					
20	–0.13	5378T27	54.30	125.96	217.18
25	–0.13	5378T28	63.91	148.27	255.63
50	–0.16	5378T29	106.04	246.02	424.17

Strips—Unpolished (Cold Rolled)



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B84)
- Meet ASTM A240

Strips are annealed. Width tolerance is ±0.005″. Flatness tolerance is 0.040″. Length tolerance is ±⅛″.

Thick.	Thick. Tolerance		1″×36″	1½″×36″	2″×36″	3″×36″	4″×18″	4″×36″	5″×18″	5″×36″	6″×18″	6″×36″
0.007″	±0.001″	1421T15	$3.31	$4.60	$5.68	$7.88	$5.35	$9.72	$6.08	$11.05	$6.74	$12.26
0.015″	±0.002″	1421T16	3.77	5.24	6.47	8.99	6.10	11.09	6.93	12.60	7.69	13.98
0.024″	±0.002″	1421T17	5.46	7.59	9.37	13.01	8.82	16.04	10.03	18.23	11.13	20.23
0.030″	±0.002″	1421T18	6.81	9.46	11.68	16.22	11.00	20.01	12.51	22.73	13.88	25.23
0.048″	±0.004″	1421T19	10.39	14.43	17.82	24.74	16.78	30.51	19.09	34.67	21.16	38.48
0.060″	±0.004″	1421T25	13.43	18.65	23.03	31.98	21.69	39.44	24.67	44.82	27.36	49.74
0.075″	±0.004″	1421T26	16.91	23.49	29.00	40.27	27.31	49.67	31.06	56.43	34.45	62.63
0.090″	±0.006″	1421T27	17.52	24.33	30.04	41.72	28.29	51.46	32.19	58.47	35.69	64.89
0.120″	±0.006″	1421T28	26.71	37.09	45.80	63.61	43.13	78.44	49.06	89.13	54.41	98.92
0.187″	±0.008″	1421T29	30.89	42.91	52.98	73.57	49.89	90.74	56.75	103.09	62.93	114.42

Strips—Brushed Finish (#3 Satin)

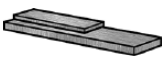

- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B93 maximum)
- Meet ASTM A240

These annealed strips meet AMS 5513 and MIL-S-5059. Width tolerance is ±1/16″. Flatness tolerance is ½″. Length tolerance is ±⅛″.

Thick.	Thick. Tolerance		1″×24″	2″×12″	2″×24″	3″×12″	3″×24″	4″×12″	4″×24″	5″×12″	5″×24″	6″×24″
0.024″	±0.002″	9085K3	$7.33	$7.33	$12.76	$10.40	$16.64	$12.06	$19.29	$13.11	$20.97	$21.89
0.048″	±0.003″	9085K4	9.09	9.09	15.82	12.89	20.63	14.95	23.91	16.26	26.00	27.14
0.063″	±0.006″	9085K1	9.95	9.95	17.32	14.11	22.57	16.36	26.17	17.79	28.45	29.70
0.090″	±0.007″	9085K5	14.39	14.39	25.04	20.40	32.64	23.67	37.84	25.73	41.15	42.95
0.125″	±0.009″	9085K2	17.56	17.56	30.57	24.90	39.85	28.89	46.19	31.41	50.23	52.43
0.187″	±0.007″	9085K6	30.74	30.74	53.49	43.58	69.73	50.55	80.83	54.96	87.90	91.75

Strips—Mirror-Like Finish (#8)

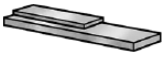

- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B80)
- Meet ASTM A240

All sizes are annealed. These strips have a peel-off protective masking on the polished side. Width and length tolerances are ±1/32″.

Thick.	Thick. Tolerance		1″×36″	2″×36″	4″×36″	6″×36″
0.024″	±0.004″	5303T11	$19.82	$34.42	$59.86	$78.05
0.030″	±0.004″	5303T12	23.57	40.92	71.16	92.78
0.048″	±0.004″	5303T13	28.24	49.03	85.28	111.18
0.060″	±0.004″	5303T14	33.66	58.44	101.64	132.52

Thick.	Thick. Tolerance		1″×36″	2″×36″	4″×36″	6″×36″
0.075″	±0.005″	5303T15	$38.76	$67.29	$117.03	$152.58
0.090″	±0.007″	5303T16	44.66	77.54	134.86	175.83
0.120″	±0.007″	5303T17	50.99	88.52	153.96	200.73
0.187″	±0.007″	5303T18	63.24	109.80	190.97	248.98

(Material continued on following page)

***Warning!** Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.*

Multipurpose 304 Stainless Steel *(Material continued from previous page)*

Foil—Bright Finish (Cold Rolled Annealed)



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B80)
- Meets ASTM A240

This foil can be used as a wrap or liner. Width tolerance for 6″ and 12″ wide foil is ±1/8″; for 24″ wide foil it is ±1/2″. **Adhesive-back** foil has an acrylic adhesive.

Thick.	Wd.	Thick. Tolerance		10 ft.	25 ft.	50 ft.	100 ft.
Plain Back							
0.002″	12″	±0.0002″	3254K91	$28.90	$57.65	$92.15	$147.44
0.002″	24″	±0.0002″	3254K92	53.46	106.64	170.46	272.73
0.005″	12″	±0.0003″	3254K93	96.19	191.88	306.71	490.74
0.005″	24″	±0.0003″	3254K94	170.98	341.08	545.21	872.34

Thick.	Wd.	Thick. Tolerance		10 ft.	25 ft.	50 ft.	100 ft.
Adhesive Back							
0.002″	6″	±0.0002″	8452K95	—	$80.69	$128.98	$206.36
0.002″	12″	±0.0002″	8452K96	—	162.08	259.07	414.52

Foil—Bright Finish (Cold Rolled Full Hard)



- Yield Strength: 30,000 psi
- Hardness: Hard (Rockwell C40)
- Meets ASTM A666

Use this foil as a wrap or cover on piping and signs. Width tolerance is ±0.005″. Length tolerance is ±1/32″.

Thick.	Thick. Tolerance		2″×5 ft.	2″×10 ft.	6″×5 ft.	6″×10 ft.
0.001″	±0.00005″	3254K311	$9.64	$16.06	$19.67	$32.78
0.002″	±0.00010″	3254K312	10.25	17.08	20.92	34.86
0.003″	±0.00015″	3254K313	10.55	17.58	21.53	35.88
0.004″	±0.00020″	3254K314	11.07	18.46	22.60	37.67
0.005″	±0.00025″	3254K315	11.55	19.25	23.57	39.29
0.006″	±0.00030″	3254K316	12.13	20.21	24.75	41.25
0.007″	±0.00035″	3254K317	12.77	21.28	26.05	43.42
0.008″	±0.00040″	3254K318	13.47	22.46	27.50	45.83

Thick.	Thick. Tolerance		2″×5 ft.	2″×10 ft.	6″×5 ft.	6″×10 ft.
0.009″	±0.00045″	3254K319	$14.27	$23.78	$29.12	$48.53
0.010″	±0.00050″	3254K322	14.66	24.44	29.93	49.88
0.012″	±0.00060″	3254K323	15.47	25.78	31.57	52.61
0.015″	±0.00090″	3254K324	17.13	28.55	34.96	58.26
0.018″	±0.00100″	3254K325	18.68	31.13	38.12	63.54
0.020″	±0.00100″	3254K326	19.93	33.21	40.67	67.78
0.025″	±0.00100″	3254K327	21.27	35.45	43.40	72.34
0.031″	±0.00100″	3254K328	23.52	39.20	48.00	80.00

Sheets—Unpolished



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B79)
- Meet ASTM A240

All sheets are annealed. Width and length tolerances are ±1/8″. Sheets from 0.024″ to 0.188″ thick are cold rolled; 0.250″ to 0.500″ thick sheets are hot rolled.

Also Available: Sheets with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $10. Please ask for 3368T1 and specify thickness, width, and length.

Thick.	Thick. Tolerance		6″×6″	6″×12″	8″×8″	10″×10″	12″×12″	12″×18″	12″×24″	12″×30″	12″×36″	12″×48″
0.024″	±0.002″	8983K101	$2.18	$3.95	$3.68	$5.31	$7.36	$10.63	$13.63	$15.81	$18.13	$23.30
0.030″	±0.002″	8983K102	2.53	4.59	4.28	6.18	8.55	12.35	15.84	18.37	21.06	27.08
0.036″	±0.003″	8983K103	2.81	5.09	4.74	6.85	9.48	13.70	17.56	20.37	23.35	30.03
0.048″	±0.003″	8983K104	3.57	6.47	6.03	8.70	12.05	17.41	22.32	25.89	29.68	38.16
0.060″	±0.004″	8983K105	4.25	7.70	7.17	10.35	14.33	20.70	26.54	30.79	35.30	45.39
0.075″	±0.004″	8983K106	5.25	9.52	8.87	12.81	17.73	25.62	32.84	38.10	43.68	56.16
0.090″	±0.004″	8983K107	6.06	10.98	10.22	14.76	20.44	29.52	37.85	43.90	50.34	64.72
0.120″	±0.007″	8983K108	8.51	15.42	14.35	20.73	28.71	41.47	53.16	61.67	70.71	90.91
0.188″	±0.007″	8983K109	12.12	22.28	20.58	29.70	41.17	59.41	76.21	88.07	101.62	130.28
0.250″	±0.055″	8983K201	14.01	25.76	23.80	34.35	47.60	68.69	88.12	101.83	117.50	150.64
0.375″	±0.055″	8983K202	19.94	36.67	33.88	48.89	67.77	97.79	125.45	144.97	167.27	214.45
0.500″	±0.055″	8983K203	26.69	49.07	45.34	65.42	90.68	130.85	167.87	193.98	223.82	286.95

Thick.	Thick. Tolerance		18″×18″	24″×24″	24″×36″	24″×48″	30″×96″	36″×36″	36″×48″	36″×96″	48″×48″	48″×96″
0.024″	±0.002″	8983K101	$14.72	$23.30	$33.66	$43.06	$92.13	$46.61	$59.83	$106.30	$76.59	$136.28
0.030″	±0.002″	8983K102	17.10	27.08	39.11	50.04	107.05	54.16	69.52	123.52	89.00	158.36
0.036″	±0.003″	8983K103	18.96	30.03	43.37	55.49	118.70	60.05	77.08	136.96	98.68	175.59
0.048″	±0.003″	8983K104	24.10	38.16	55.12	70.52	150.86	76.32	97.97	174.06	125.42	223.16
0.060″	±0.004″	8983K105	28.67	45.39	65.56	83.88	179.44	90.78	116.53	207.04	149.18	265.44
0.075″	±0.004″	8983K106	35.47	56.16	81.12	103.78	222.01	112.32	144.17	256.16	184.57	328.41
0.090″	±0.004″	8983K107	40.88	64.72	93.49	119.60	255.86	129.44	166.16	295.22	212.71	378.49
0.120″	±0.007″	8983K108	57.41	90.91	131.31	167.99	359.38	181.81	233.38	414.66	298.77	531.62

Textured Sheets—Unpolished

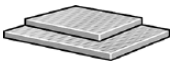

- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B80)
- Meet ASTM A480

Textured sheets provide traction and hide fingerprints and dents. All sizes are cold finished. Width and length tolerances are ±1/32″.

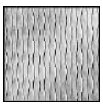

Weave



Diamond



Honeycomb

Texture Selector Pack—Includes one piece each of the weave, diamond, and honeycomb textures. Each piece is approximately 1 5/8″×3 1/8″×0.024″ thick.

9077K1 ..... $3.28

Thick.	Thick. Tolerance	Available Textures		6″×6″	12″×12″	12″×24″	24″×24″	24″×36″	36″×48″	48″×48″
0.024″	±0.002″	Weave, Diamond, Honeycomb	9077K91	$9.88	$31.63	$55.35	$96.87	$120.59	$156.18	$197.69
0.036″	±0.002″	Weave, Diamond, Honeycomb	9077K92	13.27	42.46	74.31	130.04	161.88	209.65	265.38
0.060″	±0.003″	Weave, Diamond, Honeycomb	9077K93	18.28	58.50	102.38	179.16	223.04	288.86	365.64
0.075″	±0.004″	Weave, Diamond, Honeycomb	9077K94	22.17	70.94	124.15	217.27	270.47	350.29	443.40

(Material continued on following page)

***Warning!** Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.*

Multipurpose 304 Stainless Steel *(Material continued from previous page)*

From cookware to chemical-processing equipment, 304 is the most commonly used stainless steel. It maintains its corrosion resistance up to 1500° F. It is not heat treatable and may become slightly magnetic when worked.

Sheets—Brushed and Mirror-Like Finishes

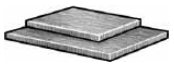

- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B80)
- Meet ASTM A240

All sheets are annealed and have a peel-off protective masking on the polished side. 0.024″ to 0.180″ thick sheets are cold rolled; 0.250″ and 0.375″ thick sheets are hot rolled. Width and length tolerances are ±1/4″.

Brushed #3 Satin Finish—Grain lines in one direction.
Brushed #4 Satin Finish—Fine grain lines in one direction.
Mirror-Like #8 Finish—Polished with no grain lines.

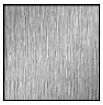

Brushed #3 Satin

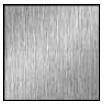

Brushed #4 Satin

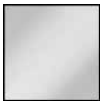

Mirror-Like #8

Finish Selector Pack—Includes one piece each of the three finishes listed above and one unpolished piece. Each piece is approximately 1 3/4″ × 3″ × 1/32″ thick.

1113T11 ..... $29.13

Thick.	Thick. Tolerance		6″×6″	12″×12″	12″×18″	12″×24″	12″×48″	24″×24″	24″×36″	24″×48″	36″×48″	36″×96″
Brushed (#3 Satin)												
0.024″	±0.004″	**89815K11**	$5.01	$14.55	$19.07	$22.37	$39.24	$34.35	$45.23	$52.93	$69.68	$122.25
0.030″	±0.003″	**89815K12**	5.83	16.93	22.19	26.03	45.67	39.98	52.64	61.60	81.09	142.26
0.036″	±0.003″	**89815K13**	6.40	18.59	24.37	28.59	50.14	43.90	57.80	67.64	89.04	156.21
0.048″	±0.003″	**89815K14**	8.16	23.69	31.05	36.43	63.90	55.94	73.65	86.19	113.46	199.06
0.060″	±0.006″	**89815K15**	10.00	29.03	38.05	44.64	78.30	68.54	90.25	105.62	139.03	243.92
0.075″	±0.006″	**89815K16**	11.71	34.00	44.57	52.28	91.71	80.28	105.71	123.71	162.85	285.71
0.090″	±0.005″	**89815K17**	17.22	49.98	65.52	76.86	134.82	118.02	155.40	181.86	239.40	420.00
0.120″	±0.005″	**89815K18**	18.73	54.35	71.25	83.58	146.61	128.34	168.99	197.77	260.34	456.74
Brushed (#4 Satin)												
0.030″	±0.004″	**9748K1**	6.58	22.20	32.89	40.30	66.34	66.34	90.73	116.50	158.99	274.12
0.036″	±0.004″	**9748K2**	7.46	25.17	37.29	45.67	75.19	75.19	102.84	132.05	180.21	310.71
0.048″	±0.004″	**9748K3**	8.57	28.92	42.84	52.48	86.39	86.39	118.17	151.72	207.06	357.00
0.060″	±0.004″	**9748K4**	9.88	33.35	49.41	60.53	99.64	99.64	136.29	174.99	238.81	411.75
0.078″	±0.005″	**9748K5**	12.04	40.64	60.20	73.75	121.40	121.40	166.05	213.21	290.97	501.67
0.105″	±0.007″	**9748K6**	14.47	48.83	72.34	88.61	145.88	145.88	199.53	256.19	349.62	602.80
0.120″	±0.007″	**9748K7**	15.84	53.48	79.22	97.05	159.77	159.77	218.52	280.58	382.91	660.19
0.180″	±0.007″	**9748K8**	21.13	71.32	105.67	129.44	213.09	213.09	291.46	374.23	510.72	880.55
0.250″	±0.010″	**4529T9**	26.00	87.75	130.00	159.25	262.17	262.17	358.59	460.43	628.35	1,083.36
0.375″	±0.070″	**4529T1**	35.63	118.77	184.95	216.34	358.02	358.02	487.82	———	———	———
Mirror-Like (#8)												
0.030″	±0.004″	**9785K21**	7.09	23.75	33.81	41.06	67.78	61.68	92.35	112.14	164.91	———
0.036″	±0.004″	**9785K22**	8.22	27.52	39.17	47.58	78.53	71.46	107.00	129.93	191.08	———
0.048″	±0.004″	**9785K23**	9.12	30.55	43.49	52.82	87.19	79.34	118.80	144.26	212.14	———
0.060″	±0.004″	**9785K24**	10.28	34.43	49.02	59.54	98.27	89.43	133.90	162.59	239.11	———
0.078″	±0.005″	**9785K25**	12.52	41.93	59.69	72.50	119.67	108.89	163.05	197.99	291.16	———
0.090″	±0.005″	**9785K26**	14.24	47.69	67.89	82.46	136.11	123.86	185.46	225.20	331.17	———
0.105″	±0.007″	**9785K27**	15.43	51.67	73.56	89.35	147.49	134.21	200.96	244.02	358.85	———
0.120″	±0.007″	**9785K28**	17.28	57.88	82.40	100.09	165.21	150.33	225.10	273.33	401.96	———
0.180″	±0.007″	**9785K29**	22.37	74.91	106.65	129.53	213.81	194.56	291.32	353.75	520.22	———
0.250″	±0.010″	**9785K41**	35.89	120.19	171.10	207.83	343.04	312.16	452.38	567.56	834.65	———

Machinable Sheets—Unpolished (Hot Rolled)

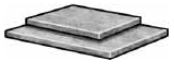

- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B92)
- Meet ASTM A240 and A480

Also known as Prodec, this material can be machined faster with less wear on cutting tools than standard 304 stainless steel. All sheets are annealed. Width and length tolerances are +1/2″, –1/8″.

Thick.	Thick. Tolerance		2″×6″	3″×4″	3″×6″	4″×6″	6″×6″	6″×12″	12″×12″	12″×24″	24″×24″	24″×48″
3/16″	+0.050″, –0.010″	**6620K16**	$14.17	$14.17	$15.84	$18.34	$22.09	$41.09	$69.60	$126.69	$231.71	$416.75
1/4″	+0.050″, –0.010″	**6620K18**	17.50	17.50	19.56	22.65	27.28	51.99	85.97	156.50	286.22	514.79
3/8″	+0.060″, –0.010″	**6620K22**	21.00	21.00	23.47	27.18	32.74	62.39	103.15	187.78	343.44	617.69
1/2″	+0.060″, –0.010″	**6620K24**	28.41	28.41	31.75	36.76	44.28	84.38	139.53	253.99	464.53	835.49
5/8″	+0.060″, –0.010″	**6620K26**	34.91	34.91	39.02	45.18	54.42	103.70	171.47	312.13	570.87	1,026.74
3/4″	+0.065″, –0.010″	**6620K28**	42.37	42.37	47.36	54.83	66.05	125.87	208.12	378.85	692.90	1,246.22
7/8″	+0.065″, –0.010″	**6620K32**	51.97	51.97	58.08	67.25	81.01	154.38	255.26	464.67	849.86	1,528.52
1″	+0.075″, –0.010″	**6620K34**	58.57	58.57	65.45	75.79	91.29	173.97	287.66	523.64	957.71	1,722.50
1 1/4″	+0.075″, –0.010″	**6620K36**	62.72	62.72	70.99	82.28	98.84	188.15	———	———	———	———
1 1/2″	+0.075″, –0.010″	**6620K38**	71.86	71.86	81.34	94.27	113.24	215.56	———	———	———	———
2″	+0.150″, –0.010″	**6620K42**	90.13	90.13	102.03	118.25	142.04	270.39	———	———	———	———
2 1/2″	+0.150″, –0.010″	**6620K46**	110.39	110.39	124.96	144.83	173.97	331.16	———	———	———	———

Tight-Tolerance Blanks with Material Certification—Precision Ground

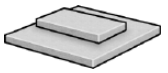

- Yield Strength: 40,000 psi
- Hardness: Medium (Rockwell B84)
- Meet ASTM A240

These blanks are consistently flat, square, and parallel on all six sides. Each comes with a traceable lot number and material test report. All are annealed. Thickness, width, and length tolerances are ±0.002″.

Thick.		2″×12″	4″×4″	4″×12″	6″×6″	6″×12″	8″×8″	8″×12″	12″×12″	12″×18″	24″×24″
1/8″	**9064K87**	$105.73	$101.20	$123.10	$110.27	$157.85	$142.74	$196.36	$262.82	$342.88	$755.24
1/4″	**9064K89**	123.36	118.07	143.62	128.64	184.15	166.53	229.09	306.63	400.02	881.11
3/8″	**9064K91**	169.74	162.47	197.63	177.02	253.40	229.15	315.24	421.94	550.46	1,212.46
1/2″	**9064K92**	185.45	177.50	215.91	193.40	276.85	250.36	344.40	460.97	601.38	1,324.63
3/4″	**9064K94**	212.32	203.22	247.20	221.41	316.96	286.63	394.30	527.76	688.51	1,516.54
1″	**9064K95**	251.44	240.66	292.75	262.22	375.36	339.44	466.96	625.01	815.38	1,796.00

(Material continued on following page)

***Warning!* Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.**

Multipurpose 304 Stainless Steel *(Material continued from previous page)*

Rectangular Tubes—Unpolished (Cold Rolled)



- Yield Strength: Not rated
- Hardness: Not rated
- Meet ASTM A554

Also known as hollow bars, these tubes are welded and have rounded corners. Straightness tolerance is 1/8″ per 3 feet. Length tolerance is +1″, –1/16″.

Outside Ht.	Outside Wd.	Ht./Wd. Tolerance		½ ft.	1 ft.	3 ft.	6 ft.
0.065″ Wall Thick. (±0.007″)							
½″	½″	±0.015″	89825K31	$5.11	$8.76	$21.17	$36.50
¾″	¾″	±0.015″	89825K32	5.59	9.58	23.14	39.90
¾″	1½″	±0.020″	89825K56	7.90	13.54	32.72	56.41
1″	1″	±0.015″	89825K33	6.14	10.52	25.42	43.83
1″	1½″	±0.020″	89825K23	8.36	14.33	34.62	59.69
1¼″	1¼″	±0.015″	89825K34	8.10	13.89	33.56	57.86
1½″	1½″	±0.020″	89825K35	8.93	15.30	36.97	63.75
1½″	2″	±0.020″	89825K24	10.85	18.59	44.93	77.47
2″	2″	±0.020″	89825K36	10.55	18.09	43.73	75.39
0.083″ Wall Thick. (±0.008″)							
1½″	1½″	±0.020″	89825K37	9.82	16.83	40.66	70.11
2″	2″	±0.020″	89825K38	13.36	22.91	55.37	95.46
0.120″ Wall Thick. (±0.012″)							
1″	1″	±0.015″	89825K39	8.29	14.20	34.32	59.18
1″	1½″	±0.020″	89825K57	12.69	21.76	52.58	90.66
1″	2″	±0.020″	89825K58	14.55	24.95	60.29	103.95
1″	3″	±0.030″	89825K59	22.46	38.50	93.04	160.42
1¼″	1¼″	±0.015″	89825K41	9.40	16.11	38.92	67.11
1½″	1½″	±0.020″	89825K42	11.74	20.12	48.63	83.84
1½″	3″	±0.030″	89825K61	24.06	41.25	99.69	171.88
2″	2″	±0.020″	89825K43	15.33	26.28	63.50	109.49
2″	3″	±0.030″	89825K63	24.06	41.25	99.69	171.88
2″	4″	±0.030″	89825K66	29.24	50.13	121.15	208.88
2″	6″	±0.060″	89825K25	40.60	69.60	168.20	290.00

Outside Ht.	Outside Wd.	Ht./Wd. Tolerance		½ ft.	1 ft.	3 ft.	6 ft.
0.120″ Wall Thick. (±0.012″) (Cont.)							
2½″	2½″	±0.020″	89825K44	$23.08	$39.56	$95.61	$164.84
3″	3″	±0.030″	89825K45	25.20	43.20	104.41	180.02
4″	4″	±0.030″	89825K46	31.92	54.71	132.22	227.97
0.180″ Wall Thick. (±0.018″)							
1½″	3″	±0.030″	89825K62	35.74	61.26	148.05	255.26
2″	3″	±0.030″	89825K64	36.51	62.59	151.25	260.78
2″	4″	±0.030″	89825K67	43.93	75.31	181.99	313.78
2″	6″	±0.060″	89825K72	58.07	99.55	240.59	414.81
3″	4″	±0.030″	89825K69	55.17	94.58	228.57	394.08
3″	6″	±0.060″	89825K73	68.29	117.08	282.94	487.82
4″	6″	±0.060″	89825K74	68.95	118.20	285.64	492.48
0.187″ Wall Thick. (±0.019″)							
1½″	1½″	±0.020″	89825K86	28.44	48.75	117.81	203.12
2″	2″	±0.020″	89825K87	29.51	50.59	122.26	210.80
2½″	2½″	±0.020″	89825K88	34.24	58.70	141.86	244.59
4″	4″	±0.030″	89825K89	49.52	84.89	205.16	353.72
0.250″ Wall Thick. (±0.025″)							
2″	3″	±0.030″	89825K65	53.31	91.38	220.85	380.77
2″	4″	±0.030″	89825K26	58.64	100.53	242.94	418.87
3″	3″	±0.030″	89825K47	63.91	109.55	264.75	456.47
3″	4″	±0.030″	89825K71	65.35	112.03	270.75	466.81
4″	4″	±0.030″	89825K48	76.74	131.56	317.93	548.15
4″	8″	±0.060″	89825K27	122.58	210.14	507.85	875.60

Rectangular Tubes—Brushed Finish (#4 Satin)



- Yield Strength: Not rated
- Hardness: Not rated
- Meet ASTM A554

These tubes are welded and have rounded corners. Straightness tolerance is 1/8″ per 3 feet. Length tolerance is +1″, –1/16″.

Outside Ht.	Outside Wd.	Ht./Wd. Tolerance		½ ft.	1 ft.	3 ft.	6 ft.
0.065″ Wall Thick. (±0.007″)							
1″	1″	±0.015″	89825K49	$7.63	$12.72	$31.80	$57.82
1½″	1½″	±0.020″	89825K51	10.30	17.17	42.92	78.03

Outside Ht.	Outside Wd.	Ht./Wd. Tolerance		½ ft.	1 ft.	3 ft.	6 ft.
0.120″ Wall Thick. (±0.012″)							
1½″	1½″	±0.020″	89825K53	$11.52	$19.20	$48.00	$87.28
2″	2″	±0.020″	89825K55	17.52	29.20	72.99	132.71

Oval Tubes—Unpolished (Cold Rolled)



- Yield Strength: 70,000 psi
- Hardness: Medium (Rockwell B90)
- Meet ASTM A269

Wall thickness tolerance is ±0.0065″. Height and width tolerances are not rated. Length tolerance is ±1/8″.

Ht.	Wd.	Wall Thick.		1 ft.	2 ft.	4 ft.
2 1/8″	3 1/2″	0.065″	5203T11	$65.99	$114.63	$199.36
2 1/4″	4 1/8″	0.065″	5203T12	71.97	125.03	217.44

Ht.	Wd.	Wall Thick.		1 ft.	2 ft.	4 ft.
2 3/8″	4 7/8″	0.065″	5203T13	$76.79	$133.39	$231.98

Round Tubes—Mirror-Like Finish (#7)



- Yield Strength: Not rated
- Hardness: Medium (Rockwell B79)
- Meet ASTM A554

OD tolerance is ±0.020″. Straightness tolerance is 0.030″ per 3 feet.

OD	ID		1 ft.	3 ft.	6 ft.
0.035″ Wall Thick. (±0.0035″)					
½″	0.430″	1750T22	$8.06	$19.36	$32.26
¾″	0.680″	1750T23	9.66	23.18	38.63
⅞″	0.805″	1750T24	11.08	26.60	44.33
1″	0.930″	1750T25	12.74	30.59	50.98
1¼″	1.180″	1750T26	14.68	35.23	58.72
1½″	1.430″	1750T27	16.94	40.66	67.77
2″	1.930″	1750T28	19.23	46.15	76.91
0.049″ Wall Thick. (±0.0049″)					
½″	0.402″	1750T29	12.47	29.93	49.89
¾″	0.652″	1750T11	15.29	36.69	61.15
⅞″	0.777″	1750T13	16.16	38.77	64.62
1″	0.902″	1750T15	17.82	42.77	71.29
1¼″	1.152″	1750T17	20.50	49.21	82.02
1½″	1.402″	1750T19	22.60	54.25	90.41
2″	1.902″	1750T31	25.44	61.06	101.76

OD	ID		1 ft.	3 ft.	6 ft.
0.065″ Wall Thick. (±0.0065″)					
½″	0.370″	1750T32	$14.40	$34.55	$57.59
¾″	0.620″	1750T12	16.62	39.90	66.50
⅞″	0.745″	1750T14	18.56	44.54	74.24
1″	0.870″	1750T16	19.62	47.10	78.50
1¼″	1.120″	1750T18	22.55	54.12	90.20
1½″	1.370″	1750T21	25.56	61.35	102.25
2″	1.870″	1750T33	28.93	69.44	115.73
0.120″ Wall Thick. (±0.012″)					
⅞″	0.635″	1750T34	20.22	48.53	80.88
1″	0.760″	1750T35	22.82	54.77	91.28
1⅛″	0.885″	1750T36	25.77	61.86	103.10
1¼″	1.010″	1750T37	28.96	69.50	115.84
1½″	1.260″	1750T38	32.98	79.14	131.90
2″	1.760″	1750T39	40.95	98.28	163.80
3″	2.760″	1750T41	68.48	164.35	273.92

(Material continued on following page)

Multipurpose 304 Stainless Steel *(Material continued from previous page)*

From cookware to chemical-processing equipment, 304 is the most commonly used stainless steel. It maintains its corrosion resistance up to 1500° F. It is not heat treatable and may become slightly magnetic when worked.

Small-Diameter Round Tubes—Unpolished (Cold Rolled)



- Yield Strength: 35,000 psi
- Hardness: Not rated
- Meet ASTM A269

This material is 304/304L stainless steel. It contains less carbon than standard 304 for better weldability. Tubes are welded. Length tolerance is ±1/32″.

OD	ID	OD Tolerance		1 ft.	3 ft.	6 ft.
0.028″ Wall Thick. (+0.007″)						
1/8″	0.0690″	±0.005″	8457K51	$3.96	$13.50	$23.27
3/16″	0.1315″	±0.005″	8457K52	4.52	15.43	26.60
1/4″	0.1940″	±0.005″	8457K53	4.98	16.98	29.27
5/16″	0.2565″	±0.005″	8457K54	5.54	18.91	32.60
3/8″	0.3190″	±0.005″	8457K55	6.11	20.84	35.93
0.028″ Wall Thick. (+0.007″) (Cont.)						
7/16″	0.3815″	±0.005″	8457K56	$6.79	$23.16	$39.93
1/2″	0.4440″	±0.005″	8457K57	7.58	25.87	44.60
9/16″	0.5065″	±0.005″	8457K58	8.26	28.19	48.60
5/8″	0.5690″	±0.005″	8457K59	8.79	29.99	51.71
3/4″	0.6940″	±0.005″	8457K5	9.62	32.83	56.60

Round Tubes—Unpolished (Cold Drawn)



- Yield Strength: Not rated
- Hardness: Not rated
- 0.083″ & 0.120″ Wall Thick.: Meet ASTM A269; 0.188″ to 0.750″ Wall Thick.: Meet ASTM A511

These tubes are annealed. OD tolerance for 1/2″ to 1 1/4″ OD tubes is ±0.005″; for 1 1/2″ to 5″ OD tubes it is ±0.015″; and for 5 1/2″ and 6″ OD tubes it is ±0.030″. Straightness tolerance is 0.045″ per foot. Length tolerance is ±1″ per foot.

Also Available: Round tubes with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $15. Please ask for 5362T1 and specify wall thickness, OD, and length.

OD	ID		1/2 ft.	1 ft.	2 ft.	4 ft.
0.083″ Wall Thick. (±0.012″)						
1/2″	0.334″	89495K21	$11.48	$19.09	$33.16	$57.67
5/8″	0.459″	89495K23	13.44	22.35	38.83	67.53
3/4″	0.584″	89495K24	15.71	26.12	45.38	78.92
1″	0.834″	89495K64	18.28	30.41	52.82	91.86
1 1/4″	1.084″	89495K2	21.13	35.15	61.05	106.18
1 1/2″	1.334″	89495K3	24.59	40.90	71.05	123.57
0.120″ Wall Thick. (±0.018″)						
1/2″	0.260″	89495K9	12.30	20.46	35.54	61.81
5/8″	0.385″	89495K185	14.33	23.83	41.40	72.00
3/4″	0.510″	89495K195	16.69	27.75	48.21	83.85
7/8″	0.635″	89495K225	19.40	32.26	56.05	97.47
1″	0.760″	89495K235	22.47	37.38	64.93	112.92
1 1/2″	1.260″	89495K255	26.02	43.27	75.18	130.74
2″	1.760″	89495K265	30.28	50.36	87.48	152.14
0.188″ Wall Thick. (±0.026″)						
1 1/4″	0.874″	89495K65	31.65	52.65	91.46	159.06
1 1/2″	1.124″	89495K68	32.80	54.56	94.77	164.82
1 3/4″	1.374″	89495K85	35.58	59.18	102.80	178.79
4″	3.624″	89495K88	80.31	133.58	232.04	403.55
5″	4.624″	89495K98	108.69	180.79	314.06	546.20
0.250″ Wall Thick. (±0.031″)						
1 1/4″	0.750″	89495K66	33.66	55.99	97.26	169.15
1 1/2″	1.000″	89495K69	35.68	59.35	103.11	179.32
1 5/8″	1.125″	89495K78	36.60	60.88	105.75	183.92
1 3/4″	1.250″	89495K86	39.85	66.28	115.14	200.24
2″	1.500″	89495K11	41.53	69.08	120.00	208.69
2 1/4″	1.750″	89495K12	46.59	77.49	134.62	234.12
2 1/2″	2.000″	89495K13	50.52	84.04	145.99	253.89
2 3/4″	2.250″	89495K14	57.57	95.76	166.36	289.32
3″	2.500″	89495K15	58.85	97.88	170.04	295.72
3 1/2″	3.000″	89495K16	73.30	121.92	211.80	368.34
3 3/4″	3.250″	89495K17	74.78	124.38	216.07	375.78
4″	3.500″	89495K89	86.49	143.87	249.92	434.64
4 1/2″	4.000″	89495K95	93.33	155.23	269.66	468.98
5″	4.500″	89495K99	97.38	161.97	281.38	489.35
0.250″ Wall Thick. (±0.031″) (Cont.)						
5 1/2″	5.000″	89495K27	$116.59	$193.92	$336.88	$585.87
6″	5.500″	89495K29	145.16	241.45	419.43	729.45
0.375″ Wall Thick. (±0.047″)						
1 1/4″	0.500″	89495K67	43.36	72.13	125.30	217.91
1 1/2″	0.750″	89495K75	49.67	82.62	143.52	249.60
1 3/4″	1.000″	89495K87	51.28	85.29	148.16	257.67
2″	1.250″	89495K31	64.01	106.47	184.95	321.65
2 1/4″	1.500″	89495K32	69.00	114.76	199.36	346.71
2 1/2″	1.750″	89495K33	69.39	115.42	200.51	348.71
2 3/4″	2.000″	89495K34	76.48	127.21	220.99	384.33
3″	2.250″	89495K35	88.44	147.11	255.55	444.43
3 1/4″	2.500″	89495K36	99.08	164.81	286.30	497.91
4″	3.250″	89495K37	102.99	171.31	297.60	517.56
4 1/2″	3.750″	89495K96	118.44	197.00	342.22	595.16
5″	4.250″	89495K25	155.95	259.39	450.60	783.65
6″	5.250″	89495K38	181.32	301.59	523.91	911.14
0.500″ Wall Thick. (±0.0625″)						
1 1/2″	0.500″	89495K76	47.72	79.37	137.88	239.79
2 1/2″	1.500″	89495K41	83.54	138.96	241.40	419.82
2 3/4″	1.750″	89495K42	92.39	153.67	266.94	464.25
3″	2.000″	89495K43	102.58	170.63	296.41	515.49
3 1/4″	2.250″	89495K44	107.45	178.72	310.46	539.93
3 1/2″	2.500″	89495K45	113.55	188.86	328.08	570.58
3 3/4″	2.750″	89495K46	111.48	185.43	322.12	560.20
4″	3.000″	89495K47	163.15	271.36	471.40	819.83
5″	4.000″	89495K26	155.39	258.46	448.99	780.86
5 1/2″	4.500″	89495K28	174.85	290.84	505.23	878.66
0.625″ Wall Thick. (±0.078″)						
3 3/4″	2.500″	89495K51	104.13	173.20	300.88	523.27
4″	2.750″	89495K52	155.64	258.88	449.72	782.13
0.750″ Wall Thick. (±0.094″)						
3 1/4″	1.750″	89495K61	167.64	278.83	484.37	842.39
3 1/2″	2.000″	89495K62	176.33	293.30	509.51	886.10
4″	2.500″	89495K63	180.14	299.63	520.50	905.22

Metric Round Tubes—Polished (Cold Drawn)



- Yield Strength: 24,500 psi
- Hardness: Medium (Rockwell B70)
- Meet ASTM A213 and A269

These tubes are annealed. They have a polished surface with minimal grain lines. Length tolerance for 1-ft. lengths is ±1″; for 3-ft. and 6-ft. lengths it is ±2″.

OD, mm	ID, mm	OD Tolerance, mm		1 ft.	3 ft.	6 ft.
1 mm Wall Thick. (±0.15 mm)						
10	8	±0.13	5366T11	$19.50	$45.24	$78.00
15	13	±0.13	5366T15	21.27	49.33	85.06
20	18	±0.13	5366T16	23.79	55.19	95.16
2 mm Wall Thick. (±0.30 mm)						
8	4	±0.13	5366T17	22.69	52.63	90.75
10	6	±0.13	5366T18	24.84	57.62	99.34
12	8	±0.13	5366T19	27.92	64.78	111.69
15	11	±0.13	5366T25	30.26	70.21	121.05
20	16	±0.13	5366T26	33.00	76.56	132.00
2 mm Wall Thick. (±0.30 mm) (Cont.)						
25	21	±0.13	5366T27	$36.48	$84.64	$145.93
50	46	±0.25	5366T28	65.59	152.16	262.35
3 mm Wall Thick. (±0.30 mm)						
12	6	±0.13	5366T29	40.22	93.31	160.88
15	9	±0.13	5366T31	44.55	103.36	178.20
20	14	±0.13	5366T32	48.21	111.84	192.83
25	19	±0.13	5366T33	53.72	124.62	214.87
50	44	±0.25	5366T34	80.95	187.82	323.82

(Material continued on following page)

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

Multipurpose 304 Stainless Steel *(Material continued from previous page)*

Textured Round Tubes—Unpolished (Cold Rolled)



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B90 maximum)
- Meet ASTM A554

Often used for handrails, these welded tubes have a diamond texture that hides fingerprints and dents. Length tolerance is ±1⁄8″.

OD	ID	OD Tolerance		1 ft.	3 ft.	6 ft.
0.048″ Wall Thick. (±0.003″)						
1 1⁄4″	1.154″	±0.005″	7427K11	$13.39	$31.06	$53.56
1 1⁄2″	1.404″	±0.005″	7427K14	15.65	36.31	62.60

OD	ID	OD Tolerance		1 ft.	3 ft.	6 ft.
0.060″ Wall Thick. (±0.003″)						
1 1⁄4″	1.13″	±0.005″	7427K17	$14.88	$34.52	$59.52
1 1⁄2″	1.38″	±0.005″	7427K21	16.84	39.07	67.36

Rods—Unpolished



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B76)
- Meet ASTM A276 and A479

All sizes are annealed. Straightness tolerance is 1⁄8″ per 5 feet. 1⁄8″ to 1⁄2″ dia. rods are cold drawn; 9⁄16″ to 3 1⁄2″ and 3 3⁄4″ dia. rods are cold finished; and 3 5⁄8″ and 4″ to 8″ dia. rods are hot rolled.

1⁄2-ft. to 6-ft. Lengths—This material is 304/304L stainless steel. It contains less carbon than standard 304 for better weldability. Length tolerance is ±1⁄2″ per foot.

1⁄4″ to 4″ Lengths—Length tolerance is ±1⁄16″.

Also Available: Rods with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes as 1⁄2-ft. to 6-ft. lengths listed below for an additional $10. Please ask for 1301T16 and specify diameter and length.

Dia.	Dia. Tolerance		1⁄2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1⁄8″	±0.001″	89535K16	$1.23	$2.19	$3.95	$5.17	$8.77
3⁄16″	±0.001″	89535K84	1.35	2.40	4.32	5.67	9.61
1⁄4″	±0.001″	89535K85	1.35	2.42	4.35	5.71	9.67
5⁄16″	±0.002″	89535K86	1.64	2.94	5.28	6.93	11.74
3⁄8″	±0.002″	89535K87	2.44	4.37	7.86	10.30	17.46
7⁄16″	±0.002″	89535K17	3.42	6.10	10.98	14.40	24.41
1⁄2″	±0.002″	89535K15	3.59	6.41	11.54	15.13	25.65
9⁄16″	±0.002″	89535K18	4.34	7.76	13.96	18.31	31.03
5⁄8″	±0.002″	89535K11	5.15	9.20	16.55	21.70	36.78
11⁄16″	±0.002″	89535K19	5.24	9.36	16.85	22.09	37.44
3⁄4″	±0.002″	89535K12	6.01	10.74	19.33	25.35	42.96
13⁄16″	±0.002″	89535K33	7.09	12.65	22.77	29.86	50.61
7⁄8″	±0.002″	89535K34	8.75	15.62	28.11	36.86	62.47
15⁄16″	±0.002″	89535K35	10.04	17.93	32.27	42.30	71.70
1″	±0.003″	89535K37	11.42	20.39	36.71	48.13	81.57
1 1⁄16″	±0.003″	89535K39	12.33	22.02	39.64	51.97	88.08
1 1⁄8″	±0.003″	89535K41	13.83	24.69	44.44	58.27	98.76
1 3⁄16″	±0.003″	89535K43	14.76	26.36	47.44	62.20	105.42
1 1⁄4″	±0.003″	89535K45	16.36	29.21	52.58	68.94	116.84
1 5⁄16″	±0.003″	89535K47	17.32	30.92	55.66	72.97	123.68
1 3⁄8″	±0.003″	89535K49	19.34	34.53	62.16	81.50	138.14
1 7⁄16″	±0.003″	89535K51	18.93	33.80	60.85	79.78	135.22

Dia.	Dia. Tolerance		1⁄2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1 1⁄2″	±0.003″	89535K53	$22.61	$40.38	$72.68	$95.29	$161.51
1 9⁄16″	±0.003″	89535K55	24.52	43.78	78.80	103.31	175.11
1 5⁄8″	±0.003″	89535K57	27.08	48.35	87.03	114.11	193.41
1 11⁄16″	±0.003″	89535K59	28.62	51.10	91.98	120.60	204.40
1 3⁄4″	±0.003″	89535K61	29.59	52.84	95.11	124.70	211.36
1 7⁄8″	±0.003″	89535K63	33.33	59.51	107.12	140.45	238.05
1 15⁄16″	±0.003″	89535K64	30.63	53.60	107.21	140.39	255.26
2″	±0.003″	89535K65	38.65	57.97	124.22	151.83	276.05
2 1⁄8″	±0.003″	89535K66	36.01	63.02	126.05	165.06	300.11
2 1⁄4″	±0.003″	89535K67	40.37	70.65	141.31	185.05	336.45
2 3⁄8″	±0.003″	89535K68	43.98	76.97	153.94	201.59	366.53
2 1⁄2″	±0.003″	89535K69	45.89	80.30	160.60	210.31	382.38
2 5⁄8″	±0.003″	89535K71	51.26	89.71	179.42	234.95	427.19
2 3⁄4″	±0.003″	89535K73	54.28	94.99	189.97	248.78	452.32
2 7⁄8″	±0.003″	89535K74	59.16	103.53	207.06	271.14	492.99
3″	±0.003″	89535K75	60.33	105.58	211.16	276.52	502.76
3 1⁄8″	±0.003″	89535K76	65.36	114.38	228.77	299.57	544.68
3 1⁄4″	±0.003″	89535K77	68.49	119.85	239.71	313.90	570.73
3 1⁄2″	±0.003″	89535K79	84.35	147.61	295.21	386.59	702.89
3 5⁄8″	±0.003″	89535K81	90.36	158.13	316.27	414.16	753.02
3 3⁄4″	±0.003″	89535K82	96.59	169.04	338.07	442.71	804.93
4″	±0.062″	89535K83	109.68	191.94	383.88	502.69	913.99



Dia.	Dia. Tolerance		1⁄4″ Lg.	1⁄2″ Lg.	3⁄4″ Lg.	1″ Lg.	1 1⁄2″ Lg.	2″ Lg.	3″ Lg.	4″ Lg.
2″	±0.063″	9208K11	$8.28	$9.11	$11.04	$13.80	$17.94	$22.08	$29.54	$30.92
2 1⁄2″	±0.063″	9208K12	11.47	12.62	15.30	19.12	24.85	30.59	40.91	42.83
3″	±0.063″	9208K13	15.08	16.59	20.11	25.14	32.68	40.22	53.80	56.31
3 1⁄2″	±0.063″	9208K14	21.09	23.20	28.12	35.14	45.69	56.23	75.21	78.72
4″	±0.078″	9208K15	27.42	30.16	36.56	45.70	59.41	73.12	97.80	102.37
5″	±0.078″	9208K16	41.33	45.38	54.95	68.72	89.31	109.89	147.01	153.81
6″	±0.188″	9208K17	57.54	63.18	76.50	95.68	124.33	152.99	204.66	214.14
7″	±0.188″	9208K18	81.07	89.01	107.77	134.79	175.17	215.54	288.34	301.70
8″	±0.188″	9208K19	96.32	105.76	128.04	160.15	208.12	256.09	342.58	358.45

Machinable Rods—Unpolished



- Yield Strength: 25,000 psi
- Hardness: Medium (Rockwell B84)
- Meet ASTM A276 and A479

Also known as Project 70+, this 304/304L stainless steel can be machined faster with less wear on cutting tools than standard 304. It also offers better weldability because of its low carbon content. Rods meet AMS 5639 and AMS 5647. All sizes are annealed.

5⁄16″ to 3⁄4″ dia. rods are cold drawn; 7⁄8″ to 2″ dia. rods are cold finished. Straightness tolerance is not rated. Length tolerance is ±1″ per foot.

Dia.	Dia. Tolerance		1⁄2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
5⁄16″	±0.002″	9210K29	$3.01	$5.10	$9.73	$12.97	$23.16
3⁄8″	±0.002″	9210K31	3.72	6.30	12.03	16.04	28.64
7⁄16″	±0.002″	9210K32	4.81	8.14	15.54	20.71	36.99
1⁄2″	±0.002″	9210K12	6.27	10.61	20.25	27.00	48.21
5⁄8″	±0.002″	9210K13	8.83	14.95	28.53	38.05	67.94
3⁄4″	±0.002″	9210K14	10.67	18.06	34.48	45.97	82.09
7⁄8″	±0.002″	9210K15	14.35	24.28	46.36	61.81	110.37

Dia.	Dia. Tolerance		1⁄2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1″	±0.003″	9210K16	$19.11	$32.34	$61.74	$82.33	$147.01
1 1⁄4″	±0.003″	9210K19	28.03	47.44	90.56	120.75	215.63
1 3⁄8″	±0.003″	9210K22	33.98	57.51	109.79	146.38	261.40
1 1⁄2″	±0.003″	9210K23	38.45	65.06	124.21	165.61	295.74
1 5⁄8″	±0.003″	9210K24	44.55	75.40	143.94	191.92	342.71
1 3⁄4″	±0.003″	9210K25	50.87	86.08	164.33	219.11	391.27
2″	±0.003″	9210K28	61.71	104.43	199.37	265.82	474.68

(Material continued on following page)

***Warning!** Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.*

Multipurpose 304 Stainless Steel *(Material continued from previous page)*

From cookware to chemical-processing equipment, 304 is the most commonly used stainless steel. It maintains its corrosion resistance up to 1500° F. It is not heat treatable and may become slightly magnetic when worked.

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B80)
- Meet ASTM A276 and A479

All sizes are annealed. Diameter tolerance is ±0.0005″. Straightness tolerance is 1/16″ per 5 feet.

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″	8934K24	$4.27	$6.64	$10.67	$14.23	$23.72
3/16″	8934K25	4.90	7.62	12.25	16.33	27.22
1/4″	8934K26	6.40	9.96	16.01	21.34	35.57
5/16″	8934K27	7.61	11.84	19.03	25.37	42.29
3/8″	8934K28	9.69	15.07	24.22	32.30	53.83
7/16″	8934K29	11.18	17.39	27.95	37.26	62.10
1/2″	8934K31	12.51	19.47	31.28	41.71	69.52
9/16″	8934K32	14.91	23.20	37.29	49.72	82.86
5/8″	8934K33	18.65	29.01	46.63	62.17	103.62
11/16″	8934K34	21.32	33.16	53.29	71.05	118.42
3/4″	8934K18	24.89	38.72	62.22	82.96	138.27

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
13/16″	8934K35	$27.00	$42.00	$67.50	$90.00	$150.00
7/8″	8934K19	29.99	46.65	74.97	99.95	166.59
15/16″	8934K36	30.75	47.83	76.87	102.50	170.83
1″	8934K21	33.51	52.13	83.78	111.70	186.17
1 1/8″	8934K37	46.59	72.47	116.47	155.29	258.82
1 1/4″	8934K22	47.13	73.31	117.82	157.09	261.82
1 3/8″	8934K38	54.98	85.53	137.45	183.27	305.45
1 1/2″	8934K23	66.00	102.67	165.00	220.00	366.67
2″	8934K39	117.82	183.27	294.55	392.73	654.55
2 1/2″	8934K41	157.09	244.36	392.73	523.64	872.73
3″	8934K42	233.59	363.37	583.98	778.64	1,297.74

Undersized Tight-Tolerance Rods with Material Certification—Precision Ground



- Yield Strength: 25,000 psi
- Hardness: Medium (Rockwell B76)
- Meet ASTM A276 and A479

Rods meet AMS 5639 and AMS 5947. Each comes with a traceable lot number and material test report. All sizes are annealed. Straightness tolerance is 0.006″ per foot. Length tolerance is ±1″.

Dia.	Dia. Tolerance		3 ft.	6 ft.
1/16″	–0.0002″	1255T11	$21.49	$35.81
1/8″	–0.0002″	1255T12	23.23	38.72
3/16″	–0.0002″	1255T13	25.33	42.22
1/4″	–0.0002″	1255T14	30.34	50.57

Dia.	Dia. Tolerance		3 ft.	6 ft.
5/16″	–0.0002″	1255T15	$34.37	$57.29
3/8″	–0.0002″	1255T16	41.30	68.83
1/2″	–0.0002″	1255T17	50.71	84.52
5/8″	–0.0002″	1255T18	64.92	108.20

Dia.	Dia. Tolerance		3 ft.	6 ft.
3/4″	–0.0002″	1255T19	$81.32	$135.53
7/8″	–0.0002″	1255T21	103.00	171.66
1″	–0.0002″	1255T23	132.39	220.65
1 1/2″	–0.0002″	1255T25	212.28	353.80

Rods—Mirror-Like Finish (#8)



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B80)
- Meet ASTM A276 and A479

All meet AMS 5639. They are annealed and have a peel-off protective masking. Length tolerance is ±1/16″.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1/8″	±0.010″	1256T21	$8.98	$20.85	$35.94
1/4″	±0.010″	1256T23	13.96	32.38	55.83
3/8″	±0.010″	1256T25	15.56	36.09	62.23

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1/2″	±0.010″	1256T27	$17.91	$41.54	$71.62
3/4″	±0.010″	1256T29	25.37	58.86	101.49
1″	±0.010″	1256T31	31.36	72.76	125.45

Metric Rods—Unpolished (Cold Drawn)



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B80)

These rods are annealed. Diameter tolerance for 2 mm to 18 mm rods is –0.043 mm; and for 19 mm to 45 mm rods it is –0.062 mm. Straightness tolerance is 1 mm. Length tolerance for 1- and 1½-ft. lengths is ±1″; for 3-ft. lengths it is +5 3/8″.

Dia., mm		1 ft.	1½ ft.	3 ft.
2	1272T32	—	$1.94	$3.24
3	1272T33	$2.13	2.91	4.85
4	1272T34	2.84	3.87	6.45
5	1272T35	3.17	4.32	7.20
6	1272T36	4.34	5.92	9.86
7	1272T37	5.87	8.00	13.33
8	1272T38	6.92	9.43	15.72
9	1272T39	8.81	12.02	20.03
10	1272T41	10.17	13.87	23.12
11	1272T42	12.36	16.85	28.09

Dia., mm		1 ft.	1½ ft.	3 ft.
12	1272T43	$13.71	$18.70	$31.17
13	1272T44	15.28	20.84	34.73
14	1272T45	17.65	24.07	40.11
15	1272T46	19.95	27.20	45.34
16	1272T47	22.39	30.53	50.89
17	1272T48	25.26	34.44	57.40
18	1272T51	27.83	37.94	63.24
19	1272T52	30.86	42.08	70.13
20	1272T53	34.72	47.35	78.92

Dia., mm		1 ft.	1½ ft.	3 ft.
21	1272T54	$37.69	$51.39	$85.65
22	1272T55	39.22	53.48	89.14
25	1272T56	43.19	58.89	98.15
26	1272T57	53.32	72.71	121.18
27	1272T58	56.16	76.58	127.64
30	1272T59	68.21	93.02	155.03
35	1272T61	85.79	116.99	194.98
40	1272T62	105.38	143.69	239.49
45	1272T63	141.99	193.63	322.71

Hexagonal Bars—Unpolished (Cold Drawn)



- Yield Strength: 25,000 psi
- Hardness: Medium (Rockwell B100)
- Meet ASTM A276 and A479

Hex bars meet AMS 5639. This material is 304/304L stainless steel. It contains less carbon than standard 304 for better weldability. All sizes are annealed. Hex tolerance for 3/8″ to 1″ sizes is ±0.004″; for 1 1/8″ to 3″ sizes it is ±0.008″. Straightness tolerance is 1/16″ per 5 feet. Length tolerance is ±1″ per foot.

Hex Size		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/8″	89455K55	$3.43	$5.88	$11.27	$14.69	$24.49
7/16″	89455K52	4.29	7.36	14.10	18.39	30.65
1/2″	89455K53	5.89	10.10	19.36	25.25	42.09
9/16″	89455K54	7.12	12.21	23.40	30.52	50.86
5/8″	89455K13	8.05	13.80	26.46	34.51	57.52
11/16″	89455K14	9.34	16.02	30.70	40.04	66.74
3/4″	89455K15	10.72	18.38	35.22	45.94	76.57
13/16″	89455K16	12.54	21.49	41.19	53.73	89.55
7/8″	89455K17	14.54	24.93	47.78	62.32	103.86
15/16″	89455K18	16.85	28.89	55.37	72.22	120.37
1″	89455K19	19.13	32.79	62.85	81.98	136.63

Hex Size		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1 1/8″	89455K21	$22.57	$38.70	$74.17	$96.74	$161.24
1 1/4″	89455K22	27.84	47.72	91.47	119.31	198.85
1 3/8″	89455K23	31.39	53.80	103.12	134.51	224.18
1 1/2″	89455K24	40.80	69.94	134.05	174.85	291.42
1 5/8″	89455K25	46.28	79.34	152.07	198.35	330.58
1 3/4″	89455K26	53.66	91.98	176.30	229.96	383.26
2″	89455K27	65.63	112.51	215.64	281.27	468.79
2 1/4″	89455K28	78.71	134.94	258.63	337.34	562.23
2 1/2″	89455K29	93.10	159.60	305.91	399.01	665.02
3″	89455K31	114.88	196.94	377.48	492.36	820.60

(Material continued on following page)

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

Multipurpose 304 Stainless Steel *(Material continued from previous page)*

Half-Round Bars—Unpolished (Cold Drawn)



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B80)
- Meet ASTM A276 and A479

Half rounds meet AMS 5639. All sizes are annealed. Length tolerance is ±1″ per foot.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1/4″	±0.004″	1267T49	$10.19	$21.85	$36.41
1/2″	±0.004″	1267T56	12.34	22.50	37.50
5/8″	±0.004″	1267T57	$15.51	$31.86	$53.10
3/4″	±0.004″	1267T58	19.82	43.57	72.61

U-Channels—Unpolished (Hot Rolled)

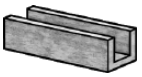

- Yield Strength: 30,000 psi
- Hardness: Not rated
- Meet ASTM A276 and A479

These annealed U-channels meet AMS 5639. Base tolerance for 1 1/2″ to 4″ bases is ±3/64″; for 5″ and 6″ bases, it is ±1/16″. Leg length tolerance is ±3/64″. Thickness tolerance is ±0.020″. Length tolerance for 1/2-ft. lengths is ±1″; for 1-ft. to 7-ft. lengths it is ±1″ per foot.

Outside Base	Outside Leg Lgs.		1/2 ft.	1 ft.	3 ft.	7 ft.
1/8″ Thick						
1 1/2″	3/4″	1262T38	$14.98	$24.89	$62.10	$120.81
2″	1″	1262T39	22.21	36.90	92.08	179.14
3/16″ Thick						
3″	1 1/2″	1262T41	31.12	51.71	129.01	251.00
1/4″ Thick						
2″	1″	1262T43	28.91	48.02	119.82	233.12
3″	1 1/2″	1262T45	38.53	64.01	159.70	310.71

Outside Base	Outside Leg Lgs.		1/2 ft.	1 ft.	3 ft.	7 ft.
1/4″ Thick (Cont.)						
4″	1 3/4″	1262T47	$42.75	$71.01	$177.19	$344.73
4″	2″	1262T49	47.41	78.76	196.51	382.31
6″	3″	1262T53	92.66	153.94	384.11	747.29
5/16″ Thick						
5″	1 7/8″	1262T56	66.72	114.61	276.56	538.06
3/8″ Thick						
6″	3″	1262T57	139.06	231.01	576.41	1,121.43

90° Angles—Unpolished (Hot Rolled)



- Yield Strength: 25,000 psi
- Hardness: Medium (Rockwell B79)
- Meet ASTM A276 and A479

All sizes are annealed. Inside corner and leg edges are rounded and outside corner is square, unless noted. Leg length tolerance is ±1/8″. Thickness tolerance is not rated. Length tolerance is ±1″ per foot.

Outside Leg Lgs.		1/2 ft.	1 ft.	3 ft.	7 ft.
1/8″ Thick					
1″×1″	8993K13	$5.27	$8.79	$22.20	$46.26
1 1/4″×1 1/4″	8993K14	5.83	9.71	24.53	51.10
1 1/2″×1 1/2″	8993K15	7.03	11.71	29.58	61.63
2″×2″	8993K61	9.61	16.02	40.46	84.29
3/16″ Thick					
1″×1″	8993K81	7.57	12.62	31.88	66.41
1 1/4″×1 1/4″	8993K62	8.55	14.24	35.98	74.96
1 1/2″×1 1/2″	8993K63	10.01	16.68	42.15	87.81
2″×2″	8993K64	12.48	20.80	52.54	109.46
2″×3″	1260T52	21.98	36.63	92.53	192.78
2 1/2″×2 1/2″	8993K65	15.28	25.46	64.32	134.00
3″×3″	1260T53	17.04	28.40	71.74	149.45
1/4″ Thick					
1″×1″	8993K66	8.59	14.31	36.15	75.31
1″×2″	1260T39	17.71	29.51	74.56	155.34
1 1/4″×1 1/4″	8993K67	11.05	18.42	46.54	96.96
1 1/2″×1 1/2″	8993K68	11.97	19.96	50.41	105.03

Outside Leg Lgs.		1/2 ft.	1 ft.	3 ft.	7 ft.
1/4″ Thick (Cont.)					
1 1/2″×3″	1260T41	$26.42	$44.03	$111.23	$231.73
2″×2″	8993K69	16.28	27.13	68.54	142.79
2″×3″	1260T54	29.59	49.32	124.60	259.59
2 1/2″×2 1/2″	8993K71	19.87	33.11	83.65	174.27
3″×3″	8993K72	22.10	36.84	93.07	193.89
3″×4″	1260T56	36.49	60.82	153.65	320.11
3″×5″	1260T42	41.22	68.70	173.57	361.60
4″×4″	8993K83	30.19	50.32	127.11	264.82
4″×6″	1260T43★	82.82	138.03	348.71	726.48
3/8″ Thick					
2″×2″	8993K73	21.20	35.34	89.28	186.00
2″×3″	1260T44	36.23	60.39	152.55	317.82
2 1/2″×2 1/2″	8993K74	25.43	42.39	107.09	223.11
3″×3″	8993K75	29.73	49.54	125.16	260.75
3″×4″	1260T58	47.40	78.99	199.56	415.75
3 1/2″×3 1/2″	8993K87	36.06	60.10	151.84	316.33
4″×4″	8993K85	38.75	64.58	163.14	339.88

★ Inside corner, outside corner, and leg edges are square.

T-Bars—Unpolished

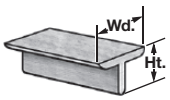

- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B92)
- Meet ASTM A276 and A479

T-bars are annealed and have rounded edges. Thickness tolerance is not rated. Length tolerance is ±1″ per foot.

Ht.	Wd.	Ht./Wd. Tolerance		1 ft.	3 ft.	6 ft.
1/8″ Thick						
1″	1″	±0.078″	1352T11	$20.94	$52.48	$87.61
3/16″ Thick						
1 1/2″	1 1/2″	±0.078″	1352T12	37.41	93.77	156.54

Ht.	Wd.	Ht./Wd. Tolerance		1 ft.	3 ft.	6 ft.
1/4″ Thick						
2″	2″	±0.094″	1352T13	$61.01	$152.91	$255.28
3″	3″	±0.141″	1352T15	83.71	209.81	350.27
3/8″ Thick						
4″	4″	±0.125″	1352T16	140.55	352.27	588.09

Precision Balls—Reflective Finish



- Yield Strength: Not rated
- Hardness: Hard (Rockwell C25)
- Meet ASTM A276 and A580

Diameter tolerance for 1/16″ to 1″ diameter balls is ±0.0005″; for 1 1/4″ to 2″ diameter balls it is ±0.001″.

Dia.	Pkg. Qty.		Pkg.
1/16″	100	9291K41	$5.00
3/32″	100	9291K42	5.25
1/8″	100	9291K43	5.36
5/32″	100	9291K44	5.52
3/16″	100	9291K45	7.05
7/32″	100	9291K46	$8.21
1/4″	100	9291K47	8.38
9/32″	100	9291K48	13.25
5/16″	50	9291K49	9.24
11/32″	25	9291K51	8.66
3/8″	25	9291K52	$10.60
7/16″	25	9291K53	11.62
1/2″	15	9291K54	10.83
5/8″	5	9291K56	7.65
3/4″	5	9291K58	10.28
1″	1	9291K63	$12.34
1 1/4″	1	9291K65	20.82
1 1/2″	1	9291K67	30.85
1 3/4″	1	9291K69	43.92
2″	1	9291K71	46.86

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

High-Strength Multipurpose 301 Stainless Steel

Able to withstand repeated stress and wear, 301 provides the strength required for applications such as springs and fasteners. It maintains its corrosion resistance up to 1550° F. This material is not heat treatable and may be slightly magnetic.

Spring-Tempered Strips and Sheets—Unpolished (Cold Rolled)



- Yield Strength: 142,000 psi
- Hardness: Hard (Rockwell C42)
- Meet ASTM A666

Length tolerance is ±1/4″.

Wd.	Wd. Tolerance		Small Size Lg., ft.		Large Size Lg., ft.	
0.002″ Thick. (±0.0002″)						
2″	±0.005″	2416K203	5	$42.04	25	$134.86
12″	±0.010″	2416K205	1	23.98	10	93.03
0.003″ Thick. (±0.0003″)						
2″	±0.005″	2416K207	5	43.46	50	142.57
12″	±0.010″	2416K209	1	24.68	10	96.92
0.004″ Thick. (±0.0003″)						
1″	±0.005″	2416K212	5	42.12	50	134.86
2″	±0.005″	2416K213	5	42.12	50	142.11
4″	±0.005″	2416K214	5	42.12	25	134.86
12″	±0.010″	2416K216	1	25.18	10	112.17
0.005″ Thick. (±0.0003″)						
1/8″	±0.005″	2416K217	10	48.18	100	123.37
1/4″	±0.005″	2416K218	10	46.82	100	124.31
1/2″	±0.005″	2416K219	10	41.40	100	121.00
1″	±0.005″	2416K221	5	39.06	50	134.86
2″	±0.005″	2416K222	5	39.06	50	142.74
12″	±0.010″	2416K224	1	25.48	10	116.80
0.006″ Thick. (±0.0004″)						
1/2″	±0.005″	2416K225	10	39.04	100	114.43
2″	±0.005″	2416K228	5	39.04	50	146.74
12″	±0.010″	2416K231	1	25.74	10	135.00
0.008″ Thick. (±0.0004″)						
1/4″	±0.005″	2416K232	10	46.78	100	113.89
3/8″	±0.005″	2416K233	10	39.54	100	114.91
1/2″	±0.005″	2416K234	5	39.54	100	136.11
3/4″	±0.005″	2416K235	5	39.54	50	116.37
1″	±0.005″	2416K236	5	39.54	50	119.11
2″	±0.005″	2416K237	5	38.02	50	135.09
3″	±0.005″	2416K238	5	38.02	50	137.49
6″	±0.010″	2416K239	1	25.04	10	111.77
8″	±0.010″	2416K241	1	25.04	10	121.29
12″	±0.010″	2416K242	1	25.04	10	137.12
0.010″ Thick. (±0.0007″)						
1/8″	±0.005″	2416K243	10	48.12	100	128.97
1/4″	±0.005″	2416K244	10	47.08	100	128.26
1/2″	±0.005″	2416K245	10	39.22	100	110.71
3/4″	±0.005″	2416K247	10	39.22	100	117.66
1″	±0.005″	2416K248	10	39.22	100	111.66
2″	±0.005″	2416K249	5	39.22	75	132.54
3″	±0.005″	2416K251	5	39.22	75	134.91
4″	±0.005″	2416K252	5	39.22	50	139.09
6″	±0.010″	2416K253	1	27.36	20	135.46
12″	±0.010″	2416K254	1	27.36	10	125.43
0.012″ Thick. (±0.0010″)						
1/4″	±0.005″	2416K255	10	47.40	100	125.80
3/8″	±0.005″	2416K256	10	39.20	100	114.23
1/2″	±0.005″	2416K257	10	39.20	100	122.11
1″	±0.005″	2416K259	10	39.20	100	122.11

Wd.	Wd. Tolerance		Small Size Lg., ft.		Large Size Lg., ft.	
0.012″ Thick. (±0.0010″) (Cont.)						
2″	±0.005″	2416K261	5	$39.20	75	$134.86
4″	±0.005″	2416K262	5	39.20	25	122.74
12″	±0.010″	2416K265	1	27.88	10	134.86
0.015″ Thick. (±0.0010″)						
1/8″	±0.005″	2416K266	10	49.36	100	115.00
1/4″	±0.005″	2416K267	10	48.04	100	115.26
1/2″	±0.005″	2416K268	10	40.18	100	112.63
3/4″	±0.005″	2416K269	10	40.18	100	112.71
1″	±0.005″	2416K271	10	40.18	100	113.03
2″	±0.005″	2416K272	5	36.53	75	136.03
3″	±0.005″	2416K273	5	36.53	25	113.49
6″	±0.010″	2416K274	1	29.06	20	136.09
8″	±0.010″	2416K275	1	29.06	10	129.43
10″	±0.010″	2416K276	1	29.06	10	133.34
12″	±0.010″	2416K277	1	29.06	10	138.26
0.020″ Thick. (±0.0010″)						
1/4″	±0.005″	2416K278	10	48.70	100	115.40
3/8″	±0.005″	2416K279	10	38.32	100	108.91
1/2″	±0.005″	2416K281	10	38.32	100	109.40
3/4″	±0.005″	2416K282	10	38.32	100	110.14
1″	±0.005″	2416K283	10	38.32	100	119.26
2″	±0.005″	2416K284	10	38.32	50	116.06
3″	±0.005″	2416K285	5	36.85	25	116.31
4″	±0.005″	2416K286	5	36.85	25	115.09
6″	±0.010″	2416K287	5	38.32	20	142.54
12″	±0.010″	2416K288	1	29.80	10	143.14
0.025″ Thick. (±0.0010″)						
1/4″	±0.005″	2416K289	10	49.14	100	115.66
1/2″	±0.005″	2416K291	10	38.52	100	112.26
5/8″	±0.005″	2416K292	10	38.52	100	112.51
3/4″	±0.005″	2416K293	10	38.52	100	113.20
1″	±0.005″	2416K294	10	38.52	100	134.86
2″	±0.005″	2416K295	5	37.04	25	123.40
3″	±0.005″	2416K296	5	37.04	25	131.06
4″	±0.005″	2416K297	5	37.04	25	131.06
6″	±0.010″	2416K298	1	30.70	10	105.69
12″	±0.010″	2416K299	1	30.70	5	121.94
0.031″ Thick. (±0.0015″)						
1/4″	±0.005″	2416K301	10	49.38	100	115.91
3/8″	±0.005″	2416K302	10	38.26	100	111.60
1/2″	±0.005″	2416K303	10	38.26	100	112.03
3/4″	±0.005″	2416K304	10	38.26	100	134.86
1″	±0.005″	2416K305	5	38.26	25	117.09
2″	±0.005″	2416K306	5	36.79	25	118.23
3″	±0.005″	2416K307	5	36.79	25	121.46
4″	±0.005″	2416K308	5	38.26	25	135.09
6″	±0.010″	2416K309	1	31.64	10	115.00
12″	±0.010″	2416K311	1	31.64	5	134.86

Sheets—Unpolished (Cold Rolled)



- Yield Strength: 1/4 hard sheets: 75,000 psi; 1/2 hard sheets: 110,000 psi; full hard sheets: 140,000 psi
- Hardness: 1/4 hard sheets: Rockwell C25; 1/2 hard sheets: Rockwell C32; full hard sheets: Rockwell C43
- Meet ASTM A240

Width and length tolerances are ±1/16″. **1/4 hard sheets** are used for molding and light duty applications. Meet AMS 5517. **1/2 hard sheets** are suitable for door trim and food-service equipment. Meet AMS 5518. **Full hard sheets** are often used for disc springs and hose clamps. Meet AMS 5519.

Also Available: Sheets with certification. Each comes with a traceable lot number and material test report. Offered in the same thicknesses and sizes listed below for an additional $15. Please ask for 3543T1 and specify temper (1/4 hard, 1/2 hard, full hard), thickness, and size.

Thick.	Thick. Tolerance		6″×6″	12″×12″	12″×36″
1/4 Hard					
0.015″	±0.003″	1217T18	$11.03	$24.46	$49.92
0.024″	±0.003″	1217T19	11.99	26.58	54.25
0.029″	±0.005″	1217T28	13.49	29.90	61.03
0.042″	±0.005″	1217T29	15.21	33.73	68.84
0.048″	±0.005″	1217T38	17.41	38.61	78.79
0.059″	±0.007″	1217T39	21.03	46.62	95.15
0.075″	±0.009″	1217T48	24.57	54.47	111.17
1/2 Hard					
0.015″	±0.003″	1217T49	11.04	24.48	49.96
0.024″	±0.003″	1217T58	12.00	26.60	54.28
0.029″	±0.005″	1217T59	13.49	29.90	61.03

Thick.	Thick. Tolerance		6″×6″	12″×12″	12″×36″
1/2 Hard (Cont.)					
0.042″	±0.005″	1217T68	$15.21	$33.73	$68.84
0.048″	±0.005″	1217T69	17.41	38.61	78.79
0.059″	±0.007″	1217T71	21.04	46.65	95.21
0.075″	±0.009″	1217T72	24.57	54.47	111.17
Full Hard					
0.015″	±0.003″	1217T73	11.74	26.03	53.12
0.024″	±0.003″	1217T74	12.89	28.59	58.34
0.029″	±0.005″	1217T75	14.87	32.97	67.28
0.042″	±0.005″	1217T76	16.34	36.23	73.94
0.048″	±0.005″	1217T77	18.73	41.53	84.76
0.059″	±0.007″	1217T78	23.11	51.23	104.56

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

For information about stainless steel, see page 3770.

High-Temperature Multipurpose 309 Stainless Steel

Often used in heat exchangers and furnaces, 309 provides good corrosion resistance at elevated temperatures because of its high levels of chromium and nickel. It maintains its corrosion resistance up to 1500°F, is not heat treatable, and may become slightly magnetic when worked.

Rectangular Bars—Unpolished (Hot Rolled)



- Yield Strength: 35,000 psi
- Hardness: Medium (Rockwell B95)
- Meet ASTM A240

Bars are annealed. Width tolerance is +1/8", –1/16". Length tolerance is ±1/2" per foot.

Wd.		1 ft.	3 ft.	6 ft.
1/4" Thick. (+0.050", –0.010")				
1/2"	9205K11	$7.86	$20.59	$37.44
3/4"	9205K12	9.48	24.84	45.16
1"	9205K13	11.31	29.62	53.86
1 1/2"	9205K14	17.69	46.34	84.25
2"	9205K15	22.81	59.75	108.63
3"	9205K17	31.24	81.81	148.74

Wd.		1 ft.	3 ft.	6 ft.
3/8" Thick. (+0.060", –0.010")				
1/2"	9205K18	$10.16	$26.61	$48.39
1"	9205K21	19.30	50.56	91.92
1 1/2"	9205K22	24.89	65.18	118.51
2"	9205K23	28.61	74.93	136.23
2 1/2"	9205K24	36.90	96.64	175.70
3"	9205K25	43.16	113.05	205.54

Wd.		1 ft.	3 ft.	6 ft.
1/2" Thick. (+0.060", –0.010")				
5/8"	9205K34	$21.74	$56.94	$103.53
1"	9205K28	34.84	91.25	165.91
1 1/2"	9205K29	46.93	122.90	223.46
1" Thick. (+0.075", –0.010")				
1"	9205K52	63.65	166.70	303.09
3"	9205K56	170.10	445.51	810.01

Foil—Unpolished (Cold Rolled)



- Yield Strength: Not rated
- Hardness: Medium (Rockwell B75)
- Meets ASTM A240

Use this foil as a heat-treating wrap in temperatures up to 2250°F. It includes a crimping tool. All sizes are annealed. Width tolerance is +0.75", –0.01". Length tolerance is ±3/4".

Thick.	Thick. Tolerance	Wd.		10 ft.	25 ft.	50 ft.	100 ft.
0.002"	±0.0002"	12"	32645K7	$51.49	$98.76	$151.95	$281.38

Thick.	Thick. Tolerance	Wd.		10 ft.	25 ft.	50 ft.	100 ft.
0.002"	±0.0002"	24"	32645K8	$74.54	$142.97	$219.95	$407.31

Rods—Unpolished



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B82)
- Meet ASTM A276 and A479

These rods are cold finished and annealed, and they meet AMS 5650. Straightness tolerance for 1/2" to 2" dia. rods is 1/16" per 5 feet; 1/4" and 3/8" dia. rods are not rated. Length tolerance is ±1" per foot.

Dia.	Dia. Tolerance		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/4"	±0.001"	9200K11	$3.85	$5.88	$11.36	$14.44	$26.74
3/8"	±0.002"	9200K12	7.74	11.83	22.85	29.04	53.77
1/2"	±0.002"	9200K13	9.05	13.83	26.72	33.94	62.86
5/8"	±0.002"	9200K14	12.44	19.01	36.72	46.66	86.40
3/4"	±0.002"	9200K15	16.15	24.67	47.66	60.56	112.14

Dia.	Dia. Tolerance		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
7/8"	±0.002"	9200K16	$25.95	$37.84	$76.58	$95.50	$180.19
1"	±0.003"	9200K17	27.24	41.62	80.41	102.16	189.19
1 1/4"	±0.003"	9200K19	37.70	57.60	111.27	141.38	261.82
1 1/2"	±0.003"	9200K21	49.82	76.12	147.04	186.83	345.98
2"	±0.003"	9200K22	84.01	128.34	247.94	315.03	583.38

Economy-Grade 430 Stainless Steel

Use 430 for decorative and light-duty applications, rather than outdoors or in extreme temperatures. This material maintains its corrosion resistance up to 1250°F. It is magnetic and not heat treatable.

Strips—Unpolished

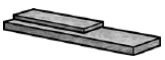

- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B88 maximum)
- Meet ASTM A240

Strips have a peel-off protective masking on one side. All sizes are annealed. Width tolerance is ±0.005". Length tolerance is ±1/32".

Thick.	Thick. Tolerance	1/2"×12"		3/4"×12"		1"×12"	
0.012"	±0.002"	8457K41	$0.74	8457K42	$0.97	8457K43	$1.20
0.018"	±0.002"	8457K44	1.07	8457K45	1.20	8457K46	1.43
0.025"	±0.002"	8457K47	1.09	8457K48	1.43	8457K49	1.77

Foil—Unpolished (Cold Rolled)



- Yield Strength: Not rated
- Hardness: Medium (Rockwell B75)
- Meets ASTM A240

This foil is annealed. Width tolerance is ±0.010". Length tolerance is ±1/8".

Thick.	Thick. Tolerance		2"×5 ft.	2"×10 ft.	6"×5 ft.	6"×10 ft.
0.006"	±0.0003"	3803T89	$9.66	$16.10	$27.21	$45.35
0.007"	±0.0004"	3803T91	10.29	17.15	28.98	48.30
0.008"	±0.0004"	3803T92	11.39	18.99	32.09	53.49
0.010"	±0.0005"	3803T93	12.51	20.85	35.23	58.72
0.012"	±0.0006"	3803T94	13.10	21.84	36.91	61.52

Thick.	Thick. Tolerance		2"×5 ft.	2"×10 ft.	6"×5 ft.	6"×10 ft.
0.015"	±0.0009"	3803T95	$14.38	$23.96	$40.50	$67.50
0.020"	±0.0010"	3803T96	15.72	26.19	44.27	73.78
0.025"	±0.0010"	3803T97	17.41	29.01	49.04	81.73
0.030"	±0.0015"	3803T98	19.21	32.02	54.11	90.19
0.035"	±0.0015"	3803T99	21.24	35.40	59.83	99.71

Sheets

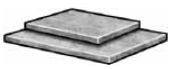

- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B95 maximum)
- Meet ASTM A240

Thickness tolerance for 0.012" to 0.035" thick sheets is ±0.002"; for 0.046" to 0.075" thick sheets it is ±0.004". Width and length tolerances are ±1/32". **Brushed finish** sheets have a peel-off protective masking on one side.

Thick.		6"×12"	12"×12"	12"×24"	24"×24"	48"×48"
Unpolished						
0.012"	1294T31	$7.93	$14.68	$24.47	_____	_____
0.018"	1294T32	8.26	15.29	25.49	_____	_____
0.025"	1294T33	9.09	16.84	28.07	_____	_____
0.035"	1294T27	11.28	18.79	33.83	$56.38	$187.93
0.046"	1294T28	14.87	24.78	44.60	74.34	247.80
0.060"	1294T29	17.03	28.39	51.10	85.17	283.90

Thick.		6"×12"	12"×12"	12"×24"	24"×24"	48"×48"
Brushed Finish (#3 Satin)						
0.035"	1292T33	$12.32	$20.53	$36.96	$61.60	$205.33
0.046"	1292T34	16.26	27.10	48.78	81.30	271.00
0.060"	1292T35	19.41	32.35	58.23	97.06	323.52
0.075"	1292T36	22.36	37.27	67.08	111.80	372.66

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

Super-Corrosion-Resistant 316 Stainless Steel

Molybdenum gives 316 excellent corrosion resistance for use in a variety of marine and chemical-processing applications. This material maintains its corrosion resistance up to 1500°F. It is not heat treatable and may become slightly magnetic when worked.

Rectangular Bars—Unpolished (Hot Rolled)



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B92)
- Meet ASTM A276 and A479

All sizes are true bar, which is rolled for a precise edge. This 316/316L stainless steel contains less carbon than standard 316 for better weldability. Bars are annealed. Width tolerance for ½″ to 1″ wide bars is ±0.015″; for 1¼″ to 2″ wide bars it is ±0.031″; and for 3″ and 4″ wide bars it is ±0.062″. Length tolerance is ±1″ per foot.

Also Available: Bars with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $15. Please ask for 5368T88 and specify thickness, width, and length.

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/16″ Thick (±0.008″)						
1″	9083K35	$9.27	$15.49	$26.90	$35.07	$61.00
1/4″ Thick (±0.015″)						
½″	9083K36	10.22	17.09	29.67	38.68	67.27
1″	9083K22	11.41	19.07	33.11	43.18	75.09
1¼″	9083K23	13.57	22.67	39.36	51.32	89.25
1½″	9083K37	15.19	25.38	44.07	57.47	99.94
2″	9083K12	17.51	29.27	50.81	66.25	115.22
3″	9083K17	23.08	38.56	66.95	87.30	151.82
4″	9083K38	33.00	55.15	95.75	124.84	217.11
3/8″ Thick (±0.012″)						
¾″	9083K39	11.96	19.98	34.69	45.23	78.66
1″	9083K41	15.19	25.38	44.07	57.47	99.94
1¼″	9083K24	18.86	31.52	54.72	71.35	124.08
1½″	9083K42	21.12	35.29	61.26	79.88	138.92
2″	9083K13	28.07	46.90	81.44	106.18	184.66
1/2″ Thick (±0.015″)						
1″	9083K44	17.39	29.06	50.45	65.78	114.40
1¼″	9083K25	20.90	34.92	60.63	79.06	137.49
1½″	9083K45	24.72	41.31	71.72	93.51	162.62
2″	9083K14	33.46	55.91	97.07	126.57	220.12
3″	9083K18	47.42	79.25	137.59	179.40	312.00
4″	9083K46	57.68	96.38	167.34	218.18	379.45

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
5/8″ Thick (±0.020″)						
1″	9083K26	$23.63	$39.48	$68.54	$89.37	$155.43
1¼″	9083K27	27.84	46.53	80.78	105.32	183.17
1½″	9083K28	32.52	54.34	94.35	123.02	213.95
2″	9083K29	37.88	63.30	109.91	143.30	249.22
3″	9083K31	48.08	80.34	139.48	181.87	316.29
3/4″ Thick (±0.020″)						
1″	9083K47	24.55	41.02	71.21	92.85	161.48
1½″	9083K21	34.19	57.14	99.21	129.35	224.96
2″	9083K15	44.33	74.08	128.62	167.70	291.65
3″	9083K19	63.34	105.84	183.76	239.60	416.69
4″	9083K49	77.80	130.00	225.71	294.29	511.81
1″ Thick (±0.020″)						
1½″	9083K52	49.32	82.41	143.08	186.56	324.45
2″	9083K16	58.93	98.48	170.98	222.93	387.70
3″	9083K32	89.23	149.11	258.88	337.55	587.04
1½″ Thick (±0.031″)						
2″	9083K33	74.36	124.26	215.74	281.29	489.20
3″	9083K34	107.41	179.48	311.62	406.31	706.63
2″ Thick (±0.031″)						
3″	9083K51	138.91	232.12	403.01	525.47	913.86

Tight-Tolerance Rectangular Bars—Unpolished (Cold Drawn)



- Yield Strength: 25,000 psi
- Hardness: Medium (Rockwell B90)
- Meet ASTM A276

This 316/316L stainless steel contains less carbon than standard 316 for better weldability. All sizes are annealed. Thickness tolerance for 3/16″ to 9/16″ is ±0.006″; for 5/8″ to 1¾″ thick bars it is ±0.012″; for 2″ and 2½″ thick bars it is +0.032″. Width tolerance is ±0.008″. Length tolerance is ±1″ per foot.

Also Available: Bars with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $15. Please ask for 5381T1 and specify thickness, width, and length.

Thick.	Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/16″	3/16″	89075K51	$4.03	$6.73	$11.69	$15.24	$26.50
1/4″	1/4″	89075K52	5.38	8.99	15.61	20.35	35.40
1/4″	1″	89075K56	18.16	30.35	52.69	68.70	119.48
5/16″	5/16″	89075K53	6.01	10.05	17.44	22.74	39.55
3/8″	3/8″	89075K54	8.39	14.02	24.34	31.74	55.20
7/16″	7/16″	89075K55	10.01	16.73	29.04	37.86	65.85
1/2″	1/2″	89075K14	14.39	24.05	41.75	54.44	94.67
1/2″	1″	89075K59	26.89	44.94	78.03	101.73	176.93
1/2″	2″	89075K61	44.74	74.76	129.80	169.23	294.32
9/16″	9/16″	89075K43	16.19	27.06	46.98	61.25	106.52

Thick.	Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
5/8″	5/8″	89075K44	$18.68	$31.21	$54.19	$70.66	$122.88
3/4″	3/4″	89075K17	24.69	41.25	71.63	93.39	162.42
7/8″	7/8″	89075K21	27.76	46.39	80.54	105.01	182.63
1″	1″	89075K24	43.14	72.09	125.17	163.20	283.83
1⅛″	1⅛″	89075K45	44.47	74.31	129.02	168.23	292.57
1¼″	1¼″	89075K27	54.41	90.91	157.85	205.81	357.93
1½″	1½″	89075K31	72.62	121.35	210.68	274.70	477.74
1¾″	1¾″	89075K46	84.97	141.98	246.51	321.41	558.98
2″	2″	89075K47	104.67	174.90	303.67	395.94	688.59
2½″	2½″	89075K48	142.25	237.70	412.71	538.11	935.84

Foil—Unpolished (Cold Rolled)

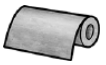

- Yield Strength: Not rated
- Hardness: Hard (Rockwell C40)
- Meets ASTM A240 and A666

Material is 316 stainless steel. This foil is full-hard temper for rigidity. Width tolerance is ±0.005″. Length tolerance is ±1/8″.

Thick.	Thick. Tolerance		2″×5 ft.	2″×10 ft.	6″×5 ft.	6″×10 ft.
0.004″	±0.0002″	3774T77	$13.79	$22.99	$36.30	$60.50
0.005″	±0.0003″	3774T78	15.83	26.38	41.65	69.42
0.006″	±0.0003″	3774T79	16.53	27.55	43.50	72.50
0.008″	±0.0004″	3774T81	20.77	34.62	54.67	91.11
0.010″	±0.0005″	3774T82	20.84	34.73	54.83	91.39

Thick.	Thick. Tolerance		2″× 5 ft.	2″×10 ft.	6″×5 ft.	6″×10 ft.
0.012″	±0.0006″	3774T83	$23.15	$38.58	$60.91	$101.52
0.015″	±0.001″	3774T84	25.98	43.29	68.36	113.93
0.020″	±0.001″	3774T85	29.82	49.70	78.47	130.78
0.025″	±0.001″	3774T86	35.07	58.46	92.30	153.83
0.031″	±0.001″	3774T87	41.41	69.01	108.97	181.61

Strips—Unpolished (Cold Rolled)

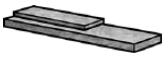

- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B93)
- Meet ASTM A240

Material is 316 stainless steel. All strips meet MIL-S-5059. They are annealed and have a peel-off protective masking on one side. Width tolerance is ±1/16″. Length tolerance is ±1/8″.

Thick.	Thick. Tolerance		1″×24″	2″×12″	2″×24″	3″×12″	3″×24″	4″×12″	4″×24″	5″×12″	5″×24″	6″×24″
0.015″	±0.002″	9090K3	$5.97	$5.97	$11.16	$8.37	$15.65	$10.42	$19.48	$12.18	$22.77	$25.53
0.030″	±0.004″	9090K5	7.68	7.68	14.34	10.77	20.12	13.39	25.04	15.66	29.28	32.82
0.063″	±0.006″	9090K1	10.60	10.60	19.80	14.86	27.77	18.49	34.57	21.61	40.42	45.31
0.090″	±0.009″	9090K8	14.86	14.86	27.76	20.83	38.94	25.92	48.47	30.30	56.66	63.52
0.125″	±0.010″	9090K2	16.35	16.35	30.53	22.92	42.83	28.51	53.31	33.33	62.32	69.87
0.187″	±0.010″	9090K9	20.18	20.18	37.68	28.28	52.85	35.18	65.79	41.13	76.91	86.22

(Material continued on following page)

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

Super-Corrosion-Resistant 316 Stainless Steel *(Material continued from previous page)*

Sheets—Unpolished



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B93)
- Meet ASTM A240

All sizes are annealed. Width and length tolerances are ±1/8″.

0.024″ to 0.120″ Thick Sheets—Material is 316 stainless steel. These cold rolled sheets meet MIL-S-5059. They have a protective peel-off masking on one side.

0.188″ to 0.500″ Thick Sheets—This 316/316L stainless steel contains less carbon than standard 316 for better weldability. Sheets are hot rolled.

Also Available: Sheets with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $10. Please ask for 5359T88 and specify thickness, width, and length.

Thick.	Thick. Tolerance		6″×6″	6″×12″	12″×12″	12″×24″	12″×48″	24″×24″	24″×36″	24″×48″	36″×48″	36″×96″
0.024″	±0.003″	88885K1	$7.26	$10.89	$16.04	$25.59	$44.50	$44.50	$55.58	$81.37	$106.01	$191.00
0.030″	±0.004″	88885K2	7.91	11.87	17.49	27.90	48.51	48.51	60.59	88.69	115.55	208.20
0.036″	±0.004″	88885K3	8.85	13.28	19.57	31.21	54.27	54.27	67.78	99.23	129.28	232.93
0.048″	±0.005″	88885K7	11.54	17.31	25.51	40.70	70.76	70.76	88.38	129.38	168.56	303.71
0.060″	±0.006″	88885K4	13.19	19.79	29.16	46.52	80.88	80.88	101.01	147.88	192.66	347.13
0.075″	±0.007″	88885K5	15.85	23.77	35.03	55.88	97.16	97.16	121.34	177.63	231.42	416.98
0.105″	±0.009″	88885K8	20.61	30.91	45.56	72.68	126.37	126.37	157.83	231.05	301.01	542.36
0.120″	±0.010″	88885K6	23.21	34.82	51.31	81.86	142.34	142.34	177.77	260.23	339.04	610.88
0.188″	±0.050″	9195K1	32.28	50.87	82.17	131.08	227.93	227.93	284.66	416.73	542.92	978.23
0.250″	±0.050″	9195K2	34.25	59.37	103.33	179.82	312.27	312.27	389.90	570.87	____	____
0.375″	±0.060″	9195K3	50.73	87.93	153.04	266.34	462.50	462.50	577.49	845.52	____	____
0.500″	±0.060″	9195K4	65.54	113.60	197.71	344.08	597.49	597.49	746.05	1,092.31	____	____

Sheets—Brushed and Mirror-Like Finishes (Cold Rolled)

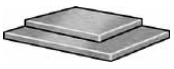

Brushed Finish (#4 Satin)

- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B95 maximum)
- Meet ASTM A240

Material is 316 stainless steel. All sizes meet MIL-S-5059. Sheets are annealed and have a peel-off protective masking on the polished side. Flatness tolerance is 13/32″. Width and length tolerances are +1/16″. **Brushed #4 satin finish** has fine grain lines in one direction. **Mirror-like #8 finish** is polished with no grain lines.

Finish Selector Pack—Includes a brushed #4, a mirror-like #8, and an unpolished piece. Each piece is approximately 1 3/4″×3″×1/32″ thick.

1121T11 ..... $32.00

Thick.	Thick. Tolerance		6″×6″	12″×12″	12″×24″	24″×24″
Brushed (#4 Satin) Finish						
0.030″	±0.007″	9745K71	____	$21.88	$39.71	$72.20
0.036″	±0.007″	9745K72	____	26.58	48.24	87.71
0.048″	±0.007″	9745K73	$20.53	32.92	59.76	108.65
0.060″	±0.010″	9745K74	25.07	40.18	72.94	132.62
0.078″	±0.010″	9745K75	30.27	48.53	88.09	160.17
0.105″	±0.010″	9745K76	39.96	64.06	116.28	211.42
0.120″	±0.010″	9745K77	45.67	73.22	132.91	241.65
0.180″	±0.010″	9745K78	68.30	109.50	198.76	361.38
0.250″	±0.010″	9745K79	114.70	183.89	333.79	606.89

Thick.	Thick. Tolerance		6″×6″	12″×12″	12″×24″	24″×24″
Mirror-Like (#8) Finish						
0.030″	±0.007″	9759K71	____	$27.12	$49.23	$89.51
0.036″	±0.007″	9759K72	____	31.48	57.15	103.90
0.048″	±0.007″	9759K73	$23.89	38.31	69.53	126.42
0.060″	±0.010″	9759K74	28.26	45.30	82.23	149.51
0.078″	±0.010″	9759K75	33.65	53.95	97.92	178.04
0.105″	±0.010″	9759K76	42.82	68.64	124.60	226.55
0.120″	±0.010″	9759K77	49.35	79.12	143.62	261.12
0.180″	±0.010″	9759K78	77.78	124.70	226.35	411.54

Machinable Sheets—Unpolished (Hot Rolled)

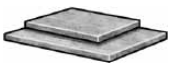

- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B95 maximum)
- Meet ASTM A240

Also known as Prodec, this 316/316L stainless steel can be machined faster with less wear on cutting tools than standard 316. It also offers better weldability because of its low carbon content. Width and length tolerances are ±1/8″.

Thick.	Thick. Tolerance		3″×3″	3″×6″	6″×6″	6″×12″	8″×8″	10″×10″	12″×12″	12″×24″	24″×24″
1/4″	+0.050″, –0.010″	4816T52	$36.23	$48.75	$69.77	$102.42	$95.71	$123.44	$154.30	$268.34	$447.24
3/8″	+0.060″, –0.010″	4816T53	49.97	67.24	96.23	141.26	132.01	170.26	212.82	370.12	616.87
1/2″	+0.060″, –0.010″	4816T54	74.68	100.49	143.83	211.13	197.30	254.46	318.08	553.18	921.96
3/4″	+0.065″, –0.010″	4816T56	113.66	153.23	218.90	321.62	300.57	387.29	484.11	841.93	____
1″	+0.065″, –0.010″	4816T57	133.90	180.51	257.88	378.88	354.08	456.24	570.30	991.83	____
1 1/2″	+0.075″, –0.010″	4816T58	173.87	234.54	334.42	491.27	459.45	591.89	739.86	____	____
2″	+0.075″, –0.010″	4816T59	233.59	315.10	449.30	660.03	617.29	795.22	994.02	____	____

Tight-Tolerance Blanks with Material Certification—Precision Ground

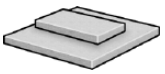

- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B87)
- Meet ASTM A240

Material is 316 stainless steel. These blanks are consistently flat, square, and parallel on all six sides. Each comes with a traceable lot number and material test report. All sizes are annealed. Thickness, width, and length tolerances are ±0.002″.

Thick.		2″×2″	2″×6″	2″×12″	3″×3″	3″×6″	3″×12″	4″×4″	4″×8″	4″×12″	6″×6″
1/8″	8896K1	$71.99	$85.80	$99.60	$73.96	$93.69	$145.95	$104.53	$136.09	$153.84	$127.22
1/4″	8896K3	86.88	103.54	120.20	89.26	113.06	176.14	126.15	164.24	185.66	153.53
3/8″	8896K4	112.49	134.06	155.64	115.57	146.39	228.06	163.34	212.65	240.39	198.79
1/2″	8896K5	125.43	149.48	173.54	128.86	163.23	254.29	182.13	237.11	268.04	221.65
5/8″	8896K6	137.60	163.99	190.38	141.37	179.07	278.98	199.81	260.13	294.06	243.16
3/4″	8896K7	149.56	178.24	206.92	153.65	194.63	303.21	217.16	282.72	319.60	264.28
1″	8896K8	174.41	207.86	241.31	179.19	226.97	353.60	253.26	329.71	372.72	308.21

Thick.		6″×12″	8″×8″	8″×12″	9″×9″	10″×10″	12″×12″	12″×18″	12″×24″	18″×18″	24″×24″
1/8″	8896K1	214.00	209.07	282.04	274.16	280.07	351.08	492.10	596.63	610.44	986.17
1/4″	8896K3	258.26	252.31	340.38	330.86	338.00	423.69	593.87	720.03	736.69	1,190.13
3/8″	8896K4	334.39	326.69	440.72	428.39	437.64	548.59	768.94	932.29	953.86	1,540.97
1/2″	8896K5	372.85	364.25	491.40	477.65	487.96	611.67	857.37	1,039.50	1,063.55	1,718.18
5/8″	8896K6	409.04	399.62	539.11	524.03	535.34	671.06	940.61	1,140.42	1,166.81	1,884.99
3/4″	8896K7	444.57	434.33	585.93	569.54	581.83	729.34	1,022.31	1,239.47	1,268.15	2,048.71
1″	8896K8	518.46	506.51	683.31	664.20	678.53	850.56	1,192.21	1,445.47	1,478.91	2,389.20

(Material continued on following page)

Super-Corrosion-Resistant 316 Stainless Steel *(Material continued from previous page)*

Molybdenum gives 316 excellent corrosion resistance for use in a variety of marine and chemical-processing applications. This material maintains its corrosion resistance up to 1500°F. It is not heat treatable and may become slightly magnetic when worked.

Rectangular Tubes—Unpolished



- Yield Strength: Not rated
- Hardness: Medium (Rockwell B88)
- Meet ASTM A554

This 316/316L stainless steel contains less carbon than standard 316 for better weldability. Also known as hollow bar, these tubes are cold formed and welded. Outside and inside corners are rounded. Straightness tolerance is 0.075″ per 3 feet. Length tolerance is ±1″ per foot.

⌐ Outside ¬ Ht.	Wd.	Ht./Wd. Tolerance		½ ft.	1 ft.	3 ft.	6 ft.
0.062″ Wall Thick. (±0.006″)							
3/4″	3/4″	±0.015″	2937K12	$8.56	$15.34	$38.34	$63.90
1½″	1½″	±0.020″	2937K31	12.12	21.71	54.28	90.46
0.065″ Wall Thick. (±0.007″)							
1″	1″	±0.015″	2937K11	10.22	18.30	45.76	76.27
0.120″ Wall Thick. (±0.012″)							
1″	1″	±0.015″	2937K13	11.19	20.05	50.12	83.53
1″	1½″	±0.020″	2937K32	13.30	23.82	59.54	99.23
1″	2″	±0.020″	2937K33	15.86	28.41	71.03	118.38
1½″	1½″	±0.020″	2937K15	16.72	29.95	74.87	124.78
2″	2″	±0.020″	2937K17	19.89	35.63	89.06	148.44

⌐ Outside ¬ Ht.	Wd.	Ht./Wd. Tolerance		½ ft.	1 ft.	3 ft.	6 ft.
0.120″ Wall Thick. (±0.012″) (Cont.)							
3″	3″	±0.030″	2937K19	$23.57	$42.22	$105.54	$175.90
0.180″ Wall Thick. (±0.018″)							
2″	4″	±0.030″	2937K21	42.87	76.78	191.96	319.93
3″	3″	±0.030″	2937K23	44.69	80.04	200.11	333.52
0.250″ Wall Thick. (±0.025″)							
2″	2″	±0.020″	2937K24	34.97	62.64	156.60	261.00
2″	4″	±0.030″	2937K25	48.52	86.90	217.25	362.09
3″	3″	±0.030″	2937K27	50.38	90.24	225.59	375.98
4″	4″	±0.030″	2937K29	65.25	116.86	292.16	486.93

Round Tubes—Unpolished



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B79)
- 0.035″ to 0.120″ wall thickness: Meet ASTM A213 and A269; 0.188″ to 0.500″ wall thickness: Meet ASTM A511

Material is 316 stainless steel. All sizes are annealed. 0.035″ to 0.120″ wall thicknesses are cold drawn; 0.188″ to 0.500″ wall thicknesses are hot rolled. OD tolerance for ¼″ to 1″ OD tubes is ±0.010″; for 1¼″ to 2½″ OD tubes it is ±0.023″; and for 3″ to 5″ OD tubes it is ±0.031″. Straightness tolerance is 0.045″ per 3 feet. Length tolerance is ±1″.

OD	ID		½ ft.	1 ft.	2 ft.	4 ft.
0.035″ Wall Thick. (±0.005″)						
1/4″	0.180″	89495K275	$2.59	$4.31	$7.18	$11.97
5/16″	0.243″	89495K295	2.91	4.85	8.09	13.48
3/8″	0.305″	89495K345	3.23	5.38	8.96	14.94
1/2″	0.430″	89495K355	4.02	6.69	11.15	18.59
5/8″	0.555″	89495K365	5.03	8.38	13.96	23.27
3/4″	0.680″	89495K375	5.71	9.52	15.87	26.45
1″	0.930″	89495K385	8.48	14.14	23.56	39.27
0.065″ Wall Thick. (±0.010″)						
1/4″	0.120″	89495K395	3.59	5.98	9.96	16.60
5/16″	0.183″	89495K405	4.19	6.99	11.65	19.42
3/8″	0.245″	89495K415	5.02	8.36	13.93	23.22
1/2″	0.370″	89495K425	5.94	9.89	16.49	27.48
5/8″	0.495″	89495K435	11.49	19.15	31.92	53.20
3/4″	0.620″	89495K445	13.24	22.07	36.78	61.30
1″	0.870″	89495K455	15.68	26.13	43.54	72.57
1¼″	1.120″	89495K465	18.69	31.16	51.93	86.55
0.120″ Wall Thick. (±0.018″)						
3/8″	0.135″	89495K475	8.30	13.83	23.05	38.41
1/2″	0.260″	89495K485	9.90	16.50	27.50	45.83
3/4″	0.510″	89495K495	11.55	19.24	32.07	53.45
7/8″	0.635″	89495K505	14.40	24.00	40.00	66.67
1″	0.760″	89495K515	17.58	29.31	48.85	81.41
1¼″	1.010″	89495K525	21.02	35.04	58.40	97.33
1½″	1.260″	89495K535	25.19	41.98	69.96	116.60
2″	1.760″	89495K545	40.96	68.27	113.79	189.65
0.188″ Wall Thick. (±0.026″)						
1¼″	0.875″	89495K18	45.95	76.58	127.63	212.72
1½″	1.125″	89495K48	53.28	88.80	148.01	246.68
2″	1.625″	89495K54	65.19	108.64	181.07	301.79
2½″	2.125″	89495K56	76.20	127.00	211.67	352.79

OD	ID		½ ft.	1 ft.	2 ft.	4 ft.
0.188″ Wall Thick. (±0.026″) (Cont.)						
3″	2.625″	89495K58	$89.68	$149.47	$249.11	$415.19
3½″	3.125″	89495K59	92.58	154.29	257.15	428.59
0.250″ Wall Thick. (±0.031″)						
1¼″	0.750″	89495K19	54.02	90.03	150.05	250.08
1½″	1.000″	89495K49	56.79	94.65	157.75	262.91
2″	1.500″	89495K71	60.74	101.23	168.71	281.19
2½″	2.000″	89495K72	65.92	109.86	183.10	305.17
3″	2.500″	89495K73	70.72	117.86	196.43	327.39
3½″	3.000″	89495K1	94.43	157.38	262.30	437.17
3¾″	3.250″	89495K5	95.69	159.49	265.81	443.02
4″	3.500″	89495K74	100.69	167.82	279.70	466.17
5″	4.500″	89495K6	134.56	224.27	373.78	622.96
0.375″ Wall Thick. (±0.047″)						
1¼″	0.500″	89495K39	48.26	80.43	134.06	223.43
1½″	0.750″	89495K53	69.71	116.18	193.63	322.71
2″	1.250″	89495K81	71.99	119.98	199.97	333.28
2½″	1.750″	89495K82	77.99	129.98	216.63	361.05
3″	2.250″	89495K83	92.23	153.72	256.20	427.00
3½″	2.750″	89495K4	141.00	234.99	391.66	652.76
4″	3.250″	89495K84	145.21	242.02	403.37	672.29
5″	4.250″	89495K7	201.47	335.79	559.65	932.75
0.500″ Wall Thick. (±0.063″)						
2″	1.000″	89495K55	132.45	220.76	367.93	613.21
2½″	1.500″	89495K57	142.17	236.94	394.91	658.18
3″	2.000″	89495K91	142.88	238.13	396.88	661.47
3½″	2.500″	89495K92	148.85	248.08	413.46	689.10
3¾″	2.750″	89495K93	151.60	252.67	421.12	701.86
4″	3.000″	89495K94	171.12	285.20	475.34	792.23
5″	4.000″	89495K8	355.52	592.53	987.55	1,645.92

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B76)
- Meet ASTM A276

Material is 316/316L stainless steel, which contains less carbon than standard 316 for better weldability. These rods meet AMS 5648. All sizes are annealed. Diameter tolerance is ±0.0005″. Straightness tolerance is 1/8″ per 6 feet. Length tolerance is ±1″ per foot.

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″	8936K1	$3.49	$5.37	$9.50	$12.39	$20.65
3/16″	8936K2	3.94	6.07	10.74	14.00	23.34
1/4″	8936K3	4.43	6.81	12.05	15.71	26.19
5/16″	8936K4	5.29	8.14	14.40	18.79	31.31
3/8″	8936K5	6.89	10.60	18.75	24.46	40.77
7/16″	8936K24	9.14	14.06	24.87	32.44	54.07
1/2″	8936K6	10.51	16.17	28.60	37.31	62.18
9/16″	8936K25	13.64	20.99	37.14	48.44	80.73
5/8″	8936K7	15.56	23.94	42.36	55.25	92.08
11/16″	8936K26	18.63	28.67	50.72	66.16	110.26
3/4″	8936K18	20.95	32.23	57.03	74.38	123.97

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
13/16″	8936K27	$24.20	$37.23	$65.88	$85.93	$143.21
7/8″	8936K19	26.01	40.02	70.80	92.35	153.91
15/16″	8936K28	28.05	43.16	76.36	99.60	166.00
1″	8936K21	29.05	44.69	79.06	103.13	171.88
1 1/8″	8936K29	38.77	59.65	105.53	137.65	229.42
1¼″	8936K22	44.56	68.55	121.28	158.20	263.66
1⅜″	8936K31	57.43	88.35	156.31	203.89	339.81
1½″	8936K23	64.24	98.83	174.86	228.08	380.13
2″	8936K32	98.53	151.58	268.18	349.80	583.00
2½″	8936K33	153.10	235.53	416.71	543.53	905.89
3″	8936K34	204.09	313.99	555.51	724.58	1,207.64

(Material continued on following page)

***Warning!** Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.*

Super-Corrosion-Resistant 316 Stainless Steel *(Material continued from previous page)*

Rods—Unpolished



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B74)
- Meet ASTM A182, A193, A276, A479, and A484

Also Available: Rods with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes as ½-ft. to 6-ft. length listed below for an additional $10. Please ask for 1305T99 and specify diameter and length.

All sizes are annealed. Straightness tolerance is 1/8″ per 5 feet. 1/8″ to 3 5/8″ and 3 7/8″ dia. rods are cold finished; 3 3/4″ and 4″ to 8″ dia. rods are hot rolled. Diameter tolerance for 1/8″ to 2 7/8″ dia. rods is ±0.003″; for 3″ to 3 7/8″ dia. rods it is ±0.063″; and for 4″ to 8″ dia. rods it is ±0.188″.

½-ft. to 6-ft. Lengths—Material is 316/316L stainless steel, which contains less carbon than standard 316 for better weldability. Length tolerance is ±1/2″ per foot.

¼″ to 5″ Lengths—Material is 316 stainless steel. Length tolerance is ±1/16″.

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″	89325K88	$1.81	$3.23	$5.82	$7.63	$12.94
3/16″	89325K89	1.86	3.32	5.98	7.84	13.29
1/4″	89325K91	1.94	3.46	6.22	8.16	13.83
5/16″	89325K92	1.71	3.06	5.51	7.22	12.24
3/8″	89325K93	2.83	5.05	9.09	11.92	20.21
7/16″	89325K86	3.06	5.47	9.85	12.91	21.88
1/2″	89325K85	3.72	6.64	11.96	15.68	26.58
9/16″	89325K84	4.61	8.22	14.80	19.41	32.90
5/8″	89325K83	5.56	9.93	17.87	23.43	39.72
11/16″	89325K82	6.58	11.76	20.69	27.28	47.03
3/4″	89325K17	7.84	14.00	25.20	33.03	55.99
13/16″	89325K18	8.83	15.76	28.37	37.20	63.05
7/8″	89325K19	10.03	17.91	32.24	42.27	71.64
15/16″	89325K22	11.29	20.16	36.28	47.57	80.63
1″	89325K24	12.60	22.50	40.50	53.09	89.99
1 1/16″	89325K26	13.95	24.91	44.85	58.80	99.66
1 1/8″	89325K28	15.35	27.42	49.35	64.71	109.67
1 3/16″	89325K32	16.80	29.99	53.99	70.78	119.97
1 1/4″	89325K34	18.28	32.63	58.74	77.02	130.54
1 5/16″	89325K36	19.80	35.34	63.62	83.41	141.39
1 3/8″	89325K38	21.35	38.13	68.63	89.99	152.52
1 7/16″	89325K41	21.83	38.98	70.17	92.00	155.94
1 1/2″	89325K43	25.41	45.38	81.68	107.09	181.51

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1 9/16″	89325K45	$26.22	$46.81	$84.26	$110.48	$187.25
1 5/8″	89325K51	27.90	49.82	89.68	117.58	199.28
1 11/16″	89325K52	29.61	52.87	95.17	124.78	211.49
1 3/4″	89325K54	31.33	55.95	100.70	132.03	223.78
1 7/8″	89325K56	30.36	53.14	106.28	139.17	253.04
1 15/16″	89325K58	31.93	55.88	111.77	146.36	266.11
2″	89325K63	34.03	59.55	119.09	155.95	283.55
2 1/8″	89325K64	38.41	67.22	134.45	176.06	320.11
2 1/4″	89325K65	43.07	75.36	150.73	197.38	358.88
2 3/8″	89325K66	49.62	86.84	173.69	227.45	413.54
2 1/2″	89325K67	54.81	95.92	191.83	251.21	456.74
2 5/8″	89325K68	60.26	105.45	210.91	276.19	502.16
2 3/4″	89325K69	65.36	114.38	228.77	299.58	544.69
2 7/8″	89325K81	73.06	127.86	255.72	334.87	608.86
3″	89325K71	78.18	136.82	273.63	358.33	651.51
3 1/8″	89325K72	83.45	146.04	292.07	382.48	695.41
3 1/4″	89325K73	92.90	162.58	325.16	425.80	774.19
3 3/8″	89325K74	103.58	181.26	362.51	474.72	863.13
3 1/2″	89325K75	109.63	191.86	383.72	502.49	913.61
3 5/8″	89325K76	117.49	205.61	411.21	538.49	979.08
3 3/4″	89325K77	125.62	219.83	439.66	575.75	1,046.81
3 7/8″	89325K78	133.88	234.29	468.57	613.61	1,115.65
4″	89325K79	140.64	246.11	492.23	644.58	1,171.97



Dia.		¼″ Lg.	½″ Lg.	¾″ Lg.	1″ Lg.	1 1/4″ Lg.	1 1/2″ Lg.	2″ Lg.	3″ Lg.	4″ Lg.	5″ Lg.
2″	9260K1	$7.09	$8.79	$10.49	$13.04	$16.45	$18.15	$21.55	$30.34	$31.76	$33.46
2 1/2″	9260K2	11.42	14.16	16.90	21.01	26.49	29.23	34.71	48.87	51.15	53.90
3″	9260K3	16.29	20.20	24.11	29.97	37.79	41.70	49.51	69.71	72.97	76.88
3 1/2″	9260K4	22.84	28.32	33.80	42.03	52.99	58.47	69.43	97.76	102.32	107.81
4″	9260K5	29.30	36.33	43.36	53.91	67.97	75.01	89.07	125.40	131.26	138.29
5″	9260K6	41.69	51.72	61.75	76.70	96.56	106.60	126.66	178.38	186.64	196.67
6″	9260K7	58.26	72.28	86.29	107.18	134.94	148.95	176.98	249.26	260.80	274.82
7″	9260K8	80.27	99.57	118.88	147.66	185.90	205.21	243.82	343.40	359.30	378.61
8″	9260K9	94.49	117.23	139.96	173.83	218.85	241.59	287.05	404.28	423.00	445.73

Metric Rods—Unpolished (Cold Drawn)



- Yield Strength: 29,000 psi
- Hardness: Medium (Rockwell B80)

Material is 316 stainless steel. These rods are annealed. Straightness tolerance is 1.0 mm. Length tolerance for 1-ft. and 1½-ft. lengths is ±1″; for 3-ft. lengths it is +5 3/8″.

Dia., mm	Dia. Tolerance, mm		1 ft.	1½ ft.	3 ft.
2	–0.025	1335T22	$4.10	$5.86	$9.76
3	–0.025	1335T43	5.37	7.67	12.79
4	–0.030	1335T24	6.67	9.52	15.87
5	–0.030	1335T45	7.88	11.26	18.76
6	–0.030	1335T26	9.31	13.30	22.17
7	–0.036	1335T47	12.19	17.41	29.02
8	–0.036	1335T28	14.26	20.37	33.95
9	–0.036	1335T49	22.71	32.44	54.07

Dia., mm	Dia. Tolerance, mm		1 ft.	1½ ft.	3 ft.
10	–0.036	1335T36	$29.25	$41.78	$69.64
12	–0.043	1335T32	35.18	50.26	83.76
14	–0.043	1335T34	43.60	62.28	103.80
15	–0.043	1335T55	49.51	70.73	117.88
16	–0.043	1335T56	57.65	82.36	137.26
18	–0.043	1335T58	65.07	92.96	154.93
20	–0.052	1335T61	70.91	101.30	168.84
25	–0.052	1335T65	75.32	107.60	179.33

Machinable Rods—Unpolished



- Yield Strength: 25,000 psi
- Hardness: Medium (Rockwell B80)
- Meet ASTM A276 and A479

This material is also known as Project 70+. It can be machined faster with less wear on cutting tools than standard 316. This 316/316L stainless steel also contains less carbon for improved weldability. Rods are annealed and meet AMS 5648 and AMS 5653.

Diameter tolerance is ±0.003″. Straightness tolerance is not rated. Length tolerance is ±1″ per foot. 5/16″ to 1″ dia. rods are cold drawn; 1 1/8″ to 2″ dia. rods are cold finished.

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
5/16″	9298K26	$4.75	$8.48	$14.93	$19.68	$33.93
3/8″	9298K27	6.19	11.05	19.45	25.64	44.20
1/2″	9298K12	9.32	16.64	29.29	38.60	66.56
5/8″	9298K13	14.30	25.53	44.93	59.22	102.11
3/4″	9298K14	20.23	36.13	63.59	83.82	144.52
7/8″	9298K15	25.47	45.49	80.06	105.53	181.95
1″	9298K16	30.58	54.60	96.10	126.68	218.42
1 1/8″	9298K17	37.39	66.76	117.50	154.88	267.04

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1 1/4″	9298K18	$44.64	$79.72	$140.31	$184.95	$318.88
1 3/8″	9298K19	52.38	93.53	164.61	216.98	374.11
1 1/2″	9298K21	61.36	109.57	192.85	254.21	438.29
1 5/8″	9298K22	69.91	124.83	219.71	289.61	499.33
1 3/4″	9298K23	79.87	142.62	251.01	330.88	570.48
1 7/8″	9298K24	88.56	158.13	278.32	366.87	632.54
2″	9298K25	98.48	175.87	309.52	408.01	703.46

(Material continued on following page)

***Warning!** Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.*

Super-Corrosion-Resistant 316 Stainless Steel *(Material continued from previous page)*

Molybdenum gives 316 excellent corrosion resistance for use in a variety of marine and chemical-processing applications. This material maintains its corrosion resistance up to 1500°F. It is not heat treatable and may become slightly magnetic when worked.

Passivated Rods—Unpolished



- Yield Strength: 30,000 psi
- Hardness: Hard (Rockwell B95)
- Meet ASTM A276, A479, and A484

Material is 316 stainless steel. These rods have been passivated for enhanced corrosion resistance. They meet AMS 5648 and AMS-S-7720. All sizes are cold finished and annealed. Diameter tolerance is ±1/16″. Length tolerance is ±1/16″.

Dia.		1 ft.	3 ft.	6 ft.
1/8″	1325T1	$6.75	$15.66	$27.00
3/16″	1325T2	8.12	18.85	32.50
1/4″	1325T3	8.75	20.30	35.00

Dia.		1 ft.	3 ft.	6 ft.
3/8″	1325T4	$16.75	$38.86	$67.00
1/2″	1325T5	31.30	72.62	125.20
5/8″	1325T6	35.70	82.82	142.80

Dia.		1 ft.	3 ft.	6 ft.
3/4″	1325T7	$49.09	$113.89	$196.36
7/8″	1325T8	62.50	145.00	250.00
1″	1325T9	86.67	201.07	346.67

Hexagonal Bars—Unpolished (Cold Drawn)



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B93)
- Meet ASTM A276, A479, and A484

This 316/316L stainless steel contains less carbon than standard 316 for better weldability. These hex bars also meet ASTM A182 and A314, and AMS 5648 and AMS 5653. All sizes are annealed.

Hex tolerance for 7/16″ to 1″ sizes is –0.004″; for 1 1/8″ to 2 1/2″ sizes it is –0.008″. Straightness tolerance is 1/16″ per 5 feet. Length tolerance is ±1″ per foot.

Hex Size		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
7/16″	89205K85	$6.29	$10.91	$17.83	$24.34	$41.96
1/2″	89205K86	8.09	14.02	22.92	31.29	53.94
9/16″	89205K32	9.92	17.19	28.10	38.35	66.12
5/8″	89205K33	11.49	19.92	32.56	44.44	76.62
11/16″	89205K35	12.82	22.22	36.32	49.57	85.47
3/4″	89205K38	14.25	24.69	40.36	55.08	94.97
7/8″	89205K44	18.33	31.77	51.93	70.87	122.19
1″	89205K49	23.23	40.27	65.83	89.84	154.89

Hex Size		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1 1/8″	89205K55	$28.43	$49.27	$80.54	$109.91	$189.50
1 1/4″	89205K57	34.49	59.78	97.71	133.35	229.91
1 3/8″	89205K63	41.06	71.18	116.35	158.78	273.76
1 1/2″	89205K65	49.32	85.49	139.74	190.70	328.80
1 5/8″	89205K96	58.57	101.51	165.94	226.46	390.44
1 3/4″	89205K69	66.22	114.78	187.62	256.05	441.47
2″	89205K72	84.84	147.06	240.38	328.05	565.60
2 1/2″	89205K81	120.96	209.66	342.71	467.70	806.38

Metric Hexagonal Bars—Unpolished (Cold Drawn)

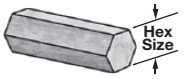

- Yield Strength: 29,000 psi
- Hardness: Medium (Rockwell B80)
- Meet ASTM A479

This 316/316L stainless steel contains less carbon than standard 316 for better weldability. All sizes are annealed. Length tolerance for 1-ft. lengths is ±1″; for 3-ft and 6-ft. lengths it is ±2″.

Hex Size, mm	Hex Tolerance, mm		1 ft.	3 ft.	6 ft.
5	–0.075	89205K24	$9.90	$22.98	$39.62
6	–0.075	89205K25	11.88	27.56	47.51
8	–0.09	89205K27	17.12	39.71	68.47
10	–0.09	89205K28	21.98	50.98	87.90
12	–0.11	89205K29	27.00	62.64	108.00

Hex Size, mm	Hex Tolerance, mm		1 ft.	3 ft.	6 ft.
14	–0.11	89205K87	$37.38	$86.73	$149.54
22	–0.13	89205K91	76.38	177.20	305.51
24	–0.13	89205K92	92.37	214.29	369.47
30	–0.13	89205K93	116.42	270.09	465.67
36	–0.16	89205K95	170.23	394.93	680.92

90° Angles—Unpolished (Hot Rolled)



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B79)
- Meet ASTM A276 and A479

These annealed angles are 316 stainless steel. Inside corner, outside corner, and leg edges are rounded. Leg length tolerance is ±1/8″. Thickness tolerance is not rated. Length tolerance is ±1″ per foot.

Leg Lg.		1/2 ft.	1 ft.	2 ft.	3 ft.	7 ft.
1/8″ Thick						
3/4″	1321T19	$4.30	$7.69	$14.40	$20.17	$37.70
1″	1321T21	5.83	10.43	19.52	27.34	51.11
1 1/4″	1321T22	7.05	12.62	23.63	33.09	61.85
1 1/2″	1321T23	8.41	15.04	28.16	39.45	73.73
2″	1321T24	10.88	19.47	36.45	51.06	95.43
3/16″ Thick						
1″	1321T31	8.09	14.48	27.12	37.98	71.00
1 1/4″	1321T32	9.96	17.82	33.37	46.73	87.35
1 1/2″	1321T33	11.76	21.04	39.39	55.17	103.12
2″	1321T34	15.62	27.94	52.33	73.28	136.98
2 1/2″	1321T35	19.27	34.48	64.57	90.43	169.02

Leg Lg.		1/2 ft.	1 ft.	2 ft.	3 ft.	7 ft.
1/4″ Thick						
1″	1321T41	$10.09	$18.05	$33.80	$47.34	$88.48
1 1/4″	1321T42	12.66	22.65	42.41	59.40	111.02
1 1/2″	1321T43	14.98	26.81	50.19	70.30	131.40
2″	1321T44	20.02	35.82	67.08	93.94	175.59
2 1/2″	1321T45	24.76	44.30	82.96	116.19	217.17
3″	1321T46	27.04	48.38	90.60	126.89	237.17
4″	1321T54	77.08	137.93	258.29	361.74	676.15
3/8″ Thick						
2″	1321T51	25.93	46.41	86.90	121.70	227.48
2 1/2″	1321T52	31.47	56.32	105.46	147.70	276.07
3″	1321T53	37.16	66.50	124.53	174.41	326.00
4″	1321T55	111.08	198.77	372.21	521.29	974.38

Precision Balls—Reflective Finish



- Yield Strength: Not rated
- Hardness: Hard (Rockwell B91)
- Meet ASTM A493

Material is 316 stainless steel. Diameter tolerance for 1/16″ to 1″ dia. balls is ±0.0005″; for 1 1/8″ to 2″ dia. balls it is ±0.001″.

Dia.	Pkg. Qty.		Pkg.
1/16″	100	96415K68	$7.45
3/32″	100	96415K69	7.59
1/8″	100	96415K71	7.45
5/32″	100	96415K72	8.76
3/16″	100	96415K73	11.39
7/32″	50	96415K74	7.30
1/4″	50	96415K75	8.13

Dia.	Pkg. Qty.		Pkg.
5/16″	25	96415K76	$7.50
3/8″	10	96415K77	6.39
7/16″	10	96415K78	7.50
1/2″	5	96415K79	7.62
9/16″	5	96415K83	8.45
5/8″	5	96415K84	11.47
3/4″	1	96415K81	3.34

Dia.	Pkg. Qty.		Pkg.
7/8″	1	96415K87	$9.99
1″	1	96415K82	18.15
1 1/8″	1	96415K89	19.52
1 1/4″	1	96415K91	23.95
1 3/8″	1	96415K92	29.73
1 1/2″	1	96415K93	34.92
2″	1	96415K94	69.65

***Warning!* Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.**

Strengthened Corrosion-Resistant A286 Stainless Steel



- Yield Strength: 50,000 psi
- Hardness: Medium (Rockwell B90)
- Can be hardened up to Rockwell C38

Combining the corrosion resistance of 316 with titanium for added strength, A286 is often used to make fasteners and engine components. It maintains its corrosion resistance up to 1500° F and can be heat treated for hardness. It is nonmagnetic. These unpolished sheets are cold rolled and annealed. Thickness tolerance is ±0.003″. Width and length tolerances are ±1/16″.

Thick.		6″×6″	12″×12″	12″×24″	24″×24″	24″×48″
0.032″	9193K1	$25.10	$57.24	$99.41	$187.44	$334.71
0.040″	9193K2	27.55	62.80	109.08	205.67	367.27

Thick.		6″×6″	12″×12″	12″×24″	24″×24″	24″×48″
0.050″	9193K3	$33.49	$76.37	$132.64	$250.10	$446.60
0.063″	9193K4	39.55	90.18	156.62	295.32	527.35

Easy-to-Machine 303 Stainless Steel

For fabricating fittings and fasteners, 303 machines quickly without sticking to cutting tools. It maintains its corrosion resistance up to 1500° F, is not heat treatable, and may become slightly magnetic when worked.

Rectangular Bars—Unpolished



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B95)
- Meet ASTM A314 and A582

These annealed bars meet AMS 5640. 1/8″ and 3/16″ thick bars are cold drawn; 1/4″ and 5/16″ thick bars are cold drawn or hot rolled; and 3/8″ to 4″ thick bars are hot rolled.

Width tolerance for 1/2″ to 2″ wide bars is ±0.031″; for 2 1/2″ to 6″ wide bars it is +0.093″, –0.062″. Straightness tolerance is 1/8″ per 5 feet. Length tolerance is ±1/2″ per foot.

Also Available: Bars with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $10. Please ask for 3366T1 and specify thickness, width, and length.

Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″ Thick (±0.003″)						
1/2″	9084K96	$4.03	$7.12	$13.63	$17.96	$30.97
5/8″	9084K97	4.64	8.20	15.69	20.69	35.67
3/4″	9084K98	5.32	9.42	18.01	23.75	40.94
1″	9084K14	5.37	9.50	18.18	23.96	41.31
1 1/4″	9084K15	7.24	12.81	24.50	32.29	55.68
1 1/2″	9084K16	9.38	16.60	31.75	41.85	72.16
2″	9084K17	10.64	18.83	36.03	47.49	81.88
3/16″ Thick (±0.005″)						
1/2″	9084K99	3.93	6.95	13.29	17.52	30.21
5/8″	9084K112	4.07	7.20	13.77	18.15	31.29
3/4″	9084K122	5.37	9.50	18.18	23.96	41.31
1″	9084K1	6.64	11.74	22.46	29.60	51.04
1 1/4″	9084K23	8.38	14.83	28.36	37.39	64.46
1 1/2″	9084K24	9.65	17.07	32.65	43.04	74.20
2″	9084K25	12.36	21.86	41.82	55.12	95.04
2 1/2″	9084K132	15.44	27.32	52.27	68.90	118.80
3″	9084K26	16.66	29.48	56.39	74.33	128.16
4″	9084K27	22.29	39.44	75.45	99.46	171.48
1/4″ Thick (±0.015″)						
1/2″	9084K2	4.69	8.31	15.89	20.94	36.11
5/8″	9084K142	6.68	11.81	22.60	29.79	51.36
3/4″	9084K29	9.30	16.45	31.46	41.48	71.51
1″	9084K31	11.97	21.19	40.53	53.42	92.11
1 1/4″	9084K32	13.19	23.34	44.66	58.86	101.49
1 1/2″	9084K33	15.92	28.17	53.90	71.04	122.49
1 3/4″	9084K34	16.75	29.63	56.68	74.72	128.82
2″	9084K35	18.15	32.10	61.42	80.96	139.58
2 1/2″	9084K36	21.44	37.94	72.57	95.67	164.94
3″	9084K37	22.67	40.12	76.74	101.16	174.42
3 1/2″	9084K152	24.65	43.60	83.42	109.96	189.58
4″	9084K38	30.24	53.49	102.34	134.90	232.58
5″	9084K39	38.92	68.86	131.73	173.64	299.38
6″	9084K41	48.03	84.98	162.56	214.29	369.46
5/16″ Thick (±0.015″)						
3/4″	9084K162	12.27	21.70	41.52	54.73	94.36
1″	9084K172	13.06	23.11	44.21	58.27	100.47
1 1/2″	9084K212	16.47	29.14	55.74	73.47	126.68
2″	9084K222	20.43	36.15	69.15	91.15	157.16
2 1/2″	9084K232	24.06	42.56	81.42	107.33	185.05
3/8″ Thick (±0.015″)						
1/2″	9084K3	9.66	17.08	32.68	43.08	74.28
3/4″	9084K43	12.06	21.34	40.83	53.82	92.79
1″	9084K44	14.21	25.15	48.11	63.41	109.33
1 1/4″	9084K45	15.09	26.70	51.08	67.33	116.08
1 1/2″	9084K46	15.88	28.09	53.74	70.84	122.13
1 3/4″	9084K47	17.26	30.54	58.42	77.01	132.78
2″	9084K48	19.92	35.24	67.41	88.86	153.21
2 1/2″	9084K49	22.94	40.58	77.63	102.33	176.43
3″	9084K51	26.79	47.40	90.67	119.52	206.07
3 1/2″	9084K242	30.38	53.76	102.84	135.56	233.72
4″	9084K52	32.65	57.77	110.52	145.68	251.18
6″	9084K92	52.65	93.15	178.20	234.90	405.00
1/2″ Thick (±0.015″)						
3/4″	9084K53	14.55	25.75	49.25	64.93	111.94
1″	9084K54	19.10	33.79	64.64	85.21	146.92

Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/2″ Thick (±0.015″) (Cont.)						
1 1/4″	9084K55	$22.48	$39.76	$76.07	$100.28	$172.89
1 1/2″	9084K56	22.55	39.90	76.33	100.62	173.48
1 3/4″	9084K57	26.49	46.86	89.65	118.18	203.76
2″	9084K58	28.81	50.98	97.53	128.56	221.65
2 1/2″	9084K59	36.73	64.98	124.31	163.86	282.52
3″	9084K61	39.90	70.60	135.06	178.04	306.96
4″	9084K62	50.41	89.18	170.61	224.90	387.76
5″	9084K63	65.61	116.08	222.07	292.73	504.71
6″	9084K64	77.07	136.36	260.87	343.87	592.88
5/8″ Thick (±0.020″)						
3/4″	9084K65	17.46	30.89	59.10	77.91	134.32
1″	9084K66	20.56	36.37	69.58	91.72	158.14
1 1/4″	9084K67	22.45	39.72	75.98	100.15	172.68
1 1/2″	9084K68	26.10	46.17	88.33	116.44	200.76
1 3/4″	9084K69	30.22	53.46	102.28	134.82	232.45
2″	9084K71	33.62	59.48	113.78	149.98	258.59
2 1/2″	9084K72	39.72	70.27	134.43	177.20	305.52
3″	9084K73	46.26	81.84	156.57	206.38	355.83
3/4″ Thick (±0.020″)						
1″	9084K74	21.83	38.62	73.88	97.38	167.90
1 1/4″	9084K75	23.64	41.82	80.00	105.46	181.82
1 1/2″	9084K76	30.98	54.81	104.85	138.21	238.29
1 3/4″	9084K77	34.91	61.76	118.16	155.75	268.54
2″	9084K78	37.74	66.77	127.73	168.37	290.29
2 1/2″	9084K79	43.73	77.38	148.02	195.12	336.42
3″	9084K81	52.94	93.67	179.19	236.20	407.24
4″	9084K82	65.45	115.79	221.51	292.00	503.44
6″	9084K93	106.44	188.32	360.26	474.89	818.78
1″ Thick (±0.020″)						
1 1/2″	9084K83	38.48	68.08	130.23	171.67	295.98
1 3/4″	9084K282	43.00	76.07	145.53	191.83	330.74
2″	9084K84	48.97	86.64	165.74	218.47	376.68
2 1/2″	9084K85	57.65	101.99	195.12	257.20	443.45
3″	9084K86	64.35	113.85	217.80	287.09	494.99
4″	9084K87	82.39	145.77	278.86	367.59	633.77
1 1/4″ Thick (±0.031″)						
1 1/2″	9084K88	45.38	80.30	153.61	202.48	349.11
1 3/4″	9084K292	50.87	90.00	172.17	226.95	391.29
2″	9084K89	55.66	98.48	188.39	248.33	428.16
3″	9084K91	76.16	134.74	257.77	339.79	585.84
1 1/2″ Thick (±0.031″)						
2″	9084K312	65.92	116.63	223.12	294.11	507.09
2 1/2″	9084K412	78.59	139.04	266.00	350.63	604.54
3″	9084K432	94.21	166.67	318.85	420.31	724.67
4″	9084K442	122.73	217.13	415.38	547.54	944.04
2″ Thick (±0.031″)						
2″	9084K4	81.57	144.31	276.07	363.92	627.44
2 1/2″	9084K532	104.72	185.28	354.45	467.23	805.57
3″	9084K542	124.41	220.11	421.07	555.05	956.98
4″	9084K552	161.26	285.31	545.81	719.48	1,240.48
2 1/2″ Thick (+0.062″, –0.031″)						
2 1/2″	9084K562	117.37	207.66	397.25	523.65	902.85
3″ Thick (+0.062″, –0.031″)						
3″	9084K617	209.41	370.49	708.77	934.28	1,610.83
4″ Thick (+0.062″, –0.031″)						
4″	9084K627	397.44	699.50	1,224.13	1,589.78	

(Material continued on following page)

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

Easy-to-Machine 303 Stainless Steel *(Material continued from previous page)*

For fabricating fittings and fasteners, 303 machines quickly without sticking to cutting tools. It maintains its corrosion resistance up to 1500°F, is not heat treatable, and may become slightly magnetic when worked.

Tight-Tolerance Rectangular Bars—Unpolished (Cold Drawn)



- Yield Strength: 35,000 psi
- Hardness: Medium (Rockwell B83)
- Meet ASTM A484 and A582

All sizes are annealed. These bars also meet AMS 5640. Width tolerance is ±0.015″. Length tolerance is ±1″ per foot.

Also Available: Bars with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $10. Please ask for 1237T97 and specify thickness, width, and length.

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
⅛″ Thick (±0.002″)						
1″	1279T11	$6.21	$10.78	$18.73	$25.52	$44.38
2″	1279T12	11.10	19.27	33.46	45.60	79.30
3⁄16″ Thick (±0.002″)						
3⁄16″	8986K11	2.66	4.61	8.01	10.91	18.98
½″	1279T13	4.51	7.82	13.59	18.52	32.20
¾″	1279T15	5.76	9.99	17.35	23.64	41.12
1″	1279T19	7.04	12.22	21.22	28.91	50.28
1½″	1279T17	10.29	17.85	31.00	42.25	73.47
2″	1279T18	13.47	23.39	40.61	55.34	96.24
¼″ Thick (±0.002″)						
¼″	8986K12	3.27	5.68	9.87	13.44	23.38
½″	1279T32	5.78	10.03	17.42	23.74	41.29
¾″	1279T22	14.91	25.88	44.95	61.25	106.52
1″	1279T23	18.76	32.55	56.54	77.03	133.97
1¼″	1279T24	22.65	39.31	68.27	93.02	161.77
1½″	1279T25	22.74	39.47	68.54	93.39	162.41
1¾″	1279T26	22.89	39.73	68.99	94.01	163.49
2″	1279T27	25.62	44.48	77.24	105.24	183.03
2½″	1279T28	29.30	50.85	88.30	120.32	209.25
3″	1279T29	31.94	55.43	96.26	131.16	228.11
4″	1279T31	47.64	82.70	143.62	195.68	340.32
5⁄16″ Thick (±0.003″)						
5⁄16″	8986K13	4.03	7.00	12.15	16.56	28.80
2″	1279T33	21.24	36.87	64.02	87.23	151.71
⅜″ Thick (±0.003″)						
⅜″	8986K14	5.90	10.24	17.79	24.24	42.15
½″	1279T34	11.31	19.62	34.08	46.43	80.75
¾″	1279T36	16.60	28.81	50.03	68.17	118.56
1″	1279T37	17.49	30.36	52.72	71.83	124.92
1¼″	1279T38	18.00	31.24	54.26	73.93	128.57
1½″	1279T39	19.64	34.08	59.19	80.65	140.26
1¾″	1279T41	19.83	34.42	59.78	81.45	141.65
2″	1279T42	23.52	40.82	70.90	96.60	168.00
2½″	1279T43	26.96	46.79	81.26	110.73	192.57
3″	1279T44	31.57	54.80	95.17	129.67	225.52
3½″	1279T45	44.76	77.70	134.93	183.85	319.74
4″	1279T46	49.46	85.84	149.07	203.12	353.25
7⁄16″ Thick (±0.003″)						
7⁄16″	8986K15	6.86	11.91	20.69	28.19	49.03
½″ Thick (±0.004″)						
½″	8986K16	7.69	13.36	23.19	31.60	54.96
¾″	1279T495	18.35	31.85	55.31	75.37	131.07
1″	1279T51	22.07	38.31	66.53	90.65	157.66
1¼″	1279T52	24.04	41.73	72.47	98.74	171.72
1½″	1279T53	25.28	43.87	76.19	103.82	180.55
1¾″	1279T35	28.69	49.80	86.48	117.83	204.93
2″	1279T55	30.64	53.18	92.35	125.83	218.84
2½″	1279T56	37.64	65.34	113.46	154.60	268.87
3″	1279T57	41.47	71.99	125.01	170.34	296.24
4″	1279T58	74.04	128.51	223.17	304.09	528.85
9⁄16″ Thick (±0.004″)						
9⁄16″	8986K44	$9.77	$16.96	$29.46	$40.14	$69.81
⅝″ Thick (±0.004″)						
⅝″	8986K47	10.95	19.00	33.00	44.96	78.19
¾″	1279T61	21.62	37.53	65.17	88.80	154.43
1″	1279T62	22.48	39.03	67.77	92.34	160.60
1¼″	1279T63	24.65	42.78	74.29	101.23	176.05
1½″	1279T64	27.00	46.87	81.39	110.90	192.87
2″	1279T65	35.49	61.60	106.97	145.75	253.48
2½″	1279T66	42.33	73.48	127.61	173.87	302.39
3″	1279T67	49.25	85.48	148.44	202.26	351.76
¾″ Thick (±0.004″)						
¾″	8986K49	14.31	24.83	43.12	58.76	102.19
1″	1279T69	22.85	39.66	68.87	93.83	163.19
1½″	1279T71	28.81	50.00	86.84	118.32	205.78
1¾″	1279T72	32.16	55.81	96.93	132.07	229.69
2″	1279T73	37.11	64.41	111.86	152.42	265.08
2½″	1279T74	42.51	73.78	128.13	174.59	303.63
4″	1279T75	85.01	147.55	256.23	349.13	607.19
⅞″ Thick (±0.004″)						
⅞″	8986K52	18.80	32.63	56.67	77.21	134.28
1″ Thick (±0.004″)						
1″	8986K54	26.15	45.39	78.83	107.40	186.79
1½″	1279T78	37.41	64.94	112.77	153.66	267.23
1¾″	1279T79	41.21	71.53	124.23	169.27	294.38
2″	1279T59	53.04	92.07	159.89	217.86	378.88
2½″	1279T82	61.54	106.82	185.51	252.76	439.59
3″	1279T83	69.66	120.90	209.97	286.09	497.55
4″	1279T84	102.86	178.53	310.04	422.44	734.68
1⅛″ Thick (±0.004″)						
1⅛″	8986K56	32.32	56.09	97.41	132.73	230.83
1¼″ Thick (±0.004″)						
1¼″	8986K59	38.58	66.97	116.30	158.47	275.60
1½″	1279T85	42.70	74.12	128.72	175.39	305.02
2″	1279T86	52.34	90.85	157.77	214.97	373.86
2½″	1279T87	61.05	105.97	184.02	250.74	436.07
3″	1279T88	70.94	123.14	213.84	291.37	506.73
1½″ Thick (±0.006″)						
1½″	8986K64	54.56	94.71	164.47	224.10	389.74
2″	1279T92	61.75	107.18	186.14	253.63	441.09
2½″	1279T93	72.06	125.07	217.20	295.95	514.70
3″	1279T94	84.47	146.61	254.61	346.92	603.34
1¾″ Thick (±0.006″)						
1¾″	8986K68	70.14	121.74	211.42	288.07	500.99
2″ Thick (±0.006″)						
2″	8986K71	88.85	154.22	267.82	364.92	634.65
2½″	1279T96	98.46	170.90	296.80	404.40	703.31
3″	1279T97	114.49	198.71	345.09	470.21	817.75
4″	1279T98	164.00	284.65	494.33	673.56	1,171.41

Sheets—Unpolished (Hot Rolled)



- Yield Strength: 35,000 psi
- Hardness: Medium (Rockwell B93)
- Meet ASTM A895

These sheets are annealed. Thickness tolerance for ½″ to 1¾″ thick sheets is +0.070″, –0.010″; for 2″ thick sheets it is +0.125″, –0.010″. Width and length tolerances are ±⅛″.

Thick.		3″×3″	6″×6″	6″×12″	12″×12″
½″	1243T15	$28.45	$75.94	$131.92	$229.43
⅝″	1243T16	36.19	96.61	167.83	291.88
¾″	1243T17	42.07	112.29	195.07	339.25
1″	1243T18	53.16	141.89	246.49	428.67
1¼″	1243T19	$67.02	$178.91	$310.79	$540.51
1½″	1243T23	76.24	203.52	353.54	614.86
1¾″	1243T24	86.12	229.88	399.34	694.50
2″	1243T25	95.53	255.00	442.98	770.40

Tight-Tolerance Sheets—Precision Ground



- Yield Strength: Not rated
- Hardness: Medium (Rockwell B81)
- Meet ASTM A895

All sizes are annealed. Thickness tolerance is ±0.002″. Width and length have a plus tolerance. These sheets are ground flat and parallel to 0.002″. Each comes with a traceable lot number and material test report.

Thick.		3″×3″	6″×6″	6″×12″	12″×12″
⅛″	1246T15	$108.57	$147.66	$309.43	$542.86
3⁄16″	1246T19	115.10	156.54	328.04	575.51
¼″	1246T25	120.50	163.87	343.41	602.48
⅜″	1246T35	120.73	164.19	344.07	603.63
½″	1246T45	$145.60	$198.02	$414.97	$728.01
⅝″	1246T55	167.57	227.89	477.57	837.84
¾″	1246T65	184.52	250.94	525.87	922.58
1″	1246T75	234.84	319.38	669.29	1,174.19

(Material continued on following page)

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

Easy-to-Machine 303 Stainless Steel *(Material continued from previous page)*

Rods—Unpolished



- Yield Strength: 25,000 psi
- Hardness: Medium (Rockwell B76)
- Meet ASTM A582

All sizes are annealed. Straightness tolerance is 1/8″ per 5 feet. Rods from 3/32″ to 3″ in dia. are cold finished with a diameter tolerance of ±0.003″. Rods from 3 1/8″ to 8″ in dia. are hot rolled with a diameter tolerance of –0.063″, +0.188″. Length tolerance for 1/2-ft. to 6-ft. lengths is ±1″ per foot; for 1/4″ to 5″ lengths it is ±1/16″.

Also Available: Rods with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes as 1/2-ft. to 6-ft. lengths listed below for an additional $10. Please ask for 5343T78 and specify diameter and length.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/32″	8984K1	$0.67	$1.11	$1.92	$2.62	$4.44
1/8″	8984K2	.93	1.55	2.69	3.67	6.22
5/32″	8984K3	1.10	1.83	3.17	4.31	7.31
3/16″	8984K13	1.17	1.94	3.37	4.59	7.78
7/32″	8984K89	1.18	1.96	3.39	4.63	7.84
1/4″	8984K97	1.47	2.44	4.23	5.77	9.78
5/16″	8984K98	1.95	3.25	5.63	7.67	13.00
3/8″	8984K99	2.40	4.01	6.94	9.46	16.03
7/16″	8984K82	3.08	5.13	8.88	12.10	20.51
1/2″	8984K83	3.95	6.58	11.40	15.53	26.32
9/16″	8984K85	5.04	8.39	14.54	19.81	33.58
5/8″	8984K87	5.98	9.97	17.27	23.54	39.89
11/16″	8984K88	7.07	11.79	20.41	27.81	47.14
3/4″	8984K91	8.22	13.70	23.72	32.33	54.79
13/16″	8984K15	9.42	15.70	27.18	37.04	62.78
7/8″	8984K16	10.67	17.79	30.80	41.97	71.14
15/16″	8984K17	12.29	20.48	35.48	48.34	81.94
1″	8984K18	14.12	23.54	40.77	55.55	94.16
1 1/16″	8984K19	15.57	25.95	44.94	61.23	103.78
1 1/8″	8984K31	17.10	28.50	49.36	67.26	114.00
1 3/16″	8984K32	18.67	31.11	53.88	73.42	124.44
1 1/4″	8984K33	20.22	33.69	58.36	79.51	134.77
1 5/16″	8984K36	21.85	36.41	63.07	85.93	145.65
1 3/8″	8984K41	22.38	37.30	64.61	88.04	149.22
1 7/16″	8984K37	24.71	41.18	71.33	97.19	164.73

Dia.		1/2″ Lg.	1 ft.	2 ft.	3 ft.	6 ft.
1 1/2″	8984K39	$26.90	$44.84	$77.66	$105.82	$179.35
1 9/16″	8984K43	28.09	46.82	81.10	110.50	187.29
1 5/8″	8984K45	30.54	50.90	88.15	120.11	203.58
1 11/16″	8984K47	32.45	54.09	93.68	127.65	216.36
1 3/4″	8984K49	34.50	57.50	99.59	135.71	230.01
1 13/16″	8984K51	37.41	62.36	108.00	147.16	249.43
1 7/8″	8984K52	38.43	64.05	110.93	151.16	256.20
1 15/16″	8984K53	40.21	67.01	116.06	158.14	268.04
2″	8984K57	43.61	72.68	125.88	171.52	290.71
2 1/8″	8984K59	49.24	82.06	142.14	193.67	328.26
2 1/4″	8984K61	54.25	90.42	156.60	213.38	361.66
2 3/8″	8984K63	59.40	99.01	171.48	233.66	396.03
2 1/2″	8984K64	64.75	107.92	186.91	254.68	431.66
2 5/8″	8984K65	71.38	118.97	206.06	280.78	475.89
2 3/4″	8984K67	77.06	128.44	222.46	303.12	513.76
2 7/8″	8984K69	84.21	140.36	243.10	331.24	561.43
3″	8984K71	91.69	152.82	264.69	360.67	611.30
3 1/8″	8984K73	97.59	162.64	281.70	383.84	650.57
3 1/4″	8984K74	105.49	175.81	304.51	414.92	703.25
3 3/8″	8984K75	114.92	191.54	331.74	452.03	766.15
3 1/2″	8984K76	127.79	212.99	368.90	502.66	851.96
3 5/8″	8984K77	131.61	219.36	379.93	517.68	877.43
3 3/4″	8984K81	134.07	223.44	387.01	527.33	893.78
4″	8984K79	147.69	246.15	426.33	580.91	984.60
4 1/2″	8984K86	177.10	295.16	511.22	696.58	1,180.65



Dia.		1/4″ Lg.	1/2″ Lg.	3/4″ Lg.	1″ Lg.	1 1/4″ Lg.	1 1/2″ Lg.	2″ Lg.	3″ Lg.	4″ Lg.	5″ Lg.
2″	9198K11	$6.10	$7.27	$9.01	$11.34	$13.37	$15.41	$19.48	$27.62	$35.18	$41.86
2 1/2″	9198K12	9.06	10.79	13.38	16.83	19.86	22.88	28.92	41.01	52.23	62.16
3″	9198K13	12.84	15.28	18.95	23.84	28.12	32.40	40.96	58.07	73.97	88.03
3 1/2″	9198K14	17.89	21.30	26.41	33.23	39.19	45.15	57.08	80.94	103.09	122.68
4″	9198K15	20.68	24.62	30.52	38.40	45.29	52.18	65.97	93.54	119.14	141.78
5″	9198K16	34.08	40.62	50.19	63.26	74.47	85.91	108.55	154.08	196.10	233.45
6″	9198K17	46.65	55.60	68.70	86.59	101.93	117.59	148.58	210.89	268.41	319.53
7″	9198K18	63.19	75.31	93.05	117.29	138.06	159.27	201.25	285.65	363.55	432.80
8″	9198K19	77.26	92.08	113.78	143.41	168.81	194.74	246.07	349.27	444.52	529.19

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 35,000 psi
- Hardness: Medium (Rockwell B83)
- Meet ASTM A314, A581, and A582

These annealed rods meet MIL-S-52263, MIL-S-862, and AMS 5640. Diameter tolerance is –0.0005″. Straightness tolerance is 1/16″ per foot. Length tolerance for 1/2-ft. lengths is ±1/8″; for all other lengths it is ±1″ per foot.

Also Available: Rods with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $15. Please ask for 1732T1 and specify diameter and length.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/16″	88915K11	$3.04	$3.86	$6.35	$8.28	$13.80
3/32″	88915K12	3.15	4.02	6.60	8.60	14.34
1/8″	88915K13	3.30	4.20	6.90	8.99	14.99
5/32″	88915K14	3.77	4.80	7.89	10.29	17.15
3/16″	88915K15	3.97	5.05	8.30	10.82	18.04
7/32″	88915K16	4.88	6.21	10.20	13.30	22.17
1/4″	88915K17	5.10	6.48	10.65	13.90	23.16
9/32″	88915K18	6.00	7.64	12.55	16.37	27.28
5/16″	88915K19	6.17	7.85	12.90	16.82	28.04
11/32″	88915K24	6.97	8.87	14.57	19.01	31.68
3/8″	88915K21	7.63	9.71	15.95	20.81	34.68
7/16″	88915K85	8.77	12.28	20.17	26.31	43.85
1/2″	88915K22	9.10	12.64	22.26	29.34	50.58
9/16″	88915K82	10.90	15.14	26.66	35.14	60.58
5/8″	88915K23	13.19	18.32	32.24	42.50	73.28
11/16″	88915K54	15.04	20.89	36.77	48.46	83.56

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/4″	88915K71	$16.76	$23.28	$40.98	$54.02	$93.13
13/16″	88915K72	18.59	25.82	45.45	59.91	103.30
7/8″	88915K73	22.98	31.91	56.17	74.04	127.66
15/16″	88915K74	24.60	34.16	60.13	79.26	136.65
1″	88915K75	26.02	36.13	63.60	83.83	144.54
1 1/16″	88915K81	28.38	39.41	69.37	91.44	157.66
1 1/8″	88915K76	30.91	42.94	75.57	99.61	171.75
1 3/16″	88915K78	33.17	46.07	81.08	106.88	184.27
1 1/4″	88915K77	34.96	48.56	85.47	112.66	194.24
1 5/16″	88915K83	37.58	52.20	91.87	121.10	208.79
1 3/8″	88915K84	40.39	56.09	98.72	130.13	224.37
1 7/16″	88915K86	42.30	58.75	103.40	136.30	235.00
1 1/2″	88915K79	44.27	61.49	108.22	142.66	245.96
1 5/8″	88915K25	46.15	64.09	112.80	148.69	256.37
1 3/4″	88915K26	58.96	81.89	144.13	189.98	327.56
2″	88915K27	64.20	89.16	156.92	206.85	356.64

Super Tight-Tolerance Rods with Material Certification—Precision Ground



- Yield Strength: 35,000 psi
- Hardness: Hard (Rockwell C26 maximum)
- Meet ASTM A314, A581, and A582

All sizes are annealed and meet AMS 5640. Each comes with a traceable lot number and material test report. Diameter tolerance is –0.0002″. Straightness tolerance is 0.006″ per foot. Length tolerance is ±1″.

Dia.		3 ft.	6 ft.
1/16″	1247T11	$16.32	$26.12
1/8″	1247T12	18.43	29.48
3/16″	1247T13	19.56	31.30
1/4″	1247T14	20.89	33.43
5/16″	1247T15	$24.75	$39.60
3/8″	1247T16	28.25	45.20
1/2″	1247T17	39.30	62.88
5/8″	1247T18	61.75	98.80
3/4″	1247T19	$86.42	$138.27
7/8″	1247T21	107.68	172.29
1″	1247T22	127.04	203.26
1 1/4″	1247T23	142.34	227.74

(Material continued on following page)

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

Easy-to-Machine 303 Stainless Steel *(Material continued from previous page)*

For fabricating fittings and fasteners, 303 machines quickly without sticking to cutting tools. It maintains its corrosion resistance up to 1500° F, is not heat treatable, and may become slightly magnetic when worked.

Metric Rods—Unpolished (Cold Drawn)



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B83)

All sizes are annealed. Straightness tolerance is 1 mm. Length tolerance for 1-ft. and 1½-ft. lengths is ±1″; for 3-ft. lengths it is +5⅜″.

Dia., mm	Dia. Tolerance, mm		1 ft.	1½ ft.	3 ft.
2	–0.025	1274T41	$1.30	$1.85	$3.09
3	–0.025	1274T42	1.68	2.41	4.01
4	–0.030	1274T43	2.16	3.08	5.14
5	–0.030	1274T44	2.68	3.83	6.38
6	–0.030	1274T45	4.63	6.62	11.03
7	–0.036	1274T46	5.90	8.43	14.05
8	–0.036	1274T47	6.76	9.66	16.10
9	–0.036	1274T48	7.71	11.02	18.36
10	–0.036	1274T49	10.87	15.52	25.87
11	–0.043	1274T51	13.36	19.08	31.80
12	–0.043	1274T52	$16.14	$23.05	$38.42
13	–0.043	1274T53	17.79	25.42	42.36
14	–0.043	1274T54	20.54	29.34	48.90
15	–0.043	1274T55	22.95	32.78	54.64
16	–0.043	1274T56	26.40	37.71	62.85
17	–0.043	1274T57	27.64	39.48	65.80
18	–0.043	1274T58	31.74	45.34	75.56
20	–0.052	1274T59	35.67	50.95	84.92
25	–0.052	1274T61	49.69	70.99	118.31

Hexagonal Bars—Unpolished (Cold Drawn)



- Yield Strength: 30,000 psi
- Hardness: Hard (Rockwell C26 maximum)
- Meet ASTM A484 and A582

These annealed hex bars meet AMS 5640. Hex tolerance for 3⁄16″ to 15⁄16″ sizes is –0.004″; for 1″ to 3″ sizes it is –0.008″. Length tolerance is ±1″ per foot.

Hex Size		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
3⁄16″	89665K74	—	$3.15	$5.54	$7.31	$12.60
1⁄4″	89665K75	$2.82	4.41	7.75	10.22	17.62
5⁄16″	89665K82	3.80	5.93	10.44	13.76	23.73
3⁄8″	89665K84	4.32	6.74	11.87	15.64	26.97
7⁄16″	89665K86	5.70	8.90	15.66	20.65	35.60
1⁄2″	89665K88	6.87	10.73	18.89	24.91	42.94
9⁄16″	89665K69	8.60	13.43	23.64	31.16	53.73
5⁄8″	89665K14	9.41	14.71	25.89	34.12	58.83
11⁄16″	89665K16	11.38	17.78	31.29	41.25	71.12
3⁄4″	89665K19	12.95	20.24	35.62	46.95	80.95
13⁄16″	89665K24	14.88	23.25	40.92	53.94	93.00
7⁄8″	89665K22	16.98	26.54	46.70	61.56	106.14
15⁄16″	89665K27	19.14	29.91	52.63	69.38	119.62
1″	89665K71	20.56	32.12	56.53	74.52	128.48
1 1⁄16″	89665K31	$24.97	$39.02	$68.67	$90.51	$156.06
1 1⁄8″	89665K34	27.00	42.18	74.24	97.86	168.73
1 1⁄4″	89665K37	32.48	50.76	89.33	117.75	203.02
1 5⁄16″	89665K39	35.77	55.88	98.36	129.65	223.54
1 3⁄8″	89665K43	38.37	59.95	105.52	139.10	239.82
1 1⁄2″	89665K46	42.32	66.13	116.39	153.42	264.52
1 5⁄8″	89665K73	48.63	75.99	133.74	176.29	303.95
1 3⁄4″	89665K48	55.27	86.36	152.00	200.36	345.45
2″	89665K51	69.48	108.56	191.06	251.85	434.22
2 1⁄4″	89665K53	97.40	152.18	267.84	353.06	608.72
2 3⁄8″	89665K56	104.90	163.90	288.47	380.25	655.61
2 1⁄2″	89665K59	112.67	176.05	309.84	408.43	704.19
2 3⁄4″	89665K63	141.89	221.70	390.19	514.34	886.79
3″	89665K66	163.87	256.04	450.63	594.01	1,024.16

Weldable 321 Stainless Steel

When an application requires welding, 321 is the stainless steel of choice because its titanium content preserves corrosion resistance around the welded area. It maintains its corrosion resistance up to 1500° F, is not heat treatable, and may become slightly magnetic when worked.

Sheets—Unpolished



- Yield Strength: 25,000 psi
- Hardness: Medium (Rockwell B95 maximum)
- Meet ASTM A240

All sizes are annealed and meet AMS 5510. Width and length have a plus tolerance. Sheets from 0.016″ to 0.125″ thick are cold rolled and have a flatness tolerance of 0.40″. Sheets from 0.188″ to 0.250″ thick are hot rolled and have a flatness tolerance of 0.90″.

Thick.	Thick. Tolerance		6″×6″	12″×12″	12″×36″	24″×24″
0.016″	±0.003″	1754T44	$4.27	$13.62	$37.08	$44.95
0.020″	±0.003″	1754T45	5.43	17.32	47.16	57.16
0.025″	±0.003″	1754T46	6.11	19.48	53.05	64.30
0.032″	±0.004″	1754T47	6.89	21.96	59.80	72.48
0.035″	±0.004″	1754T48	7.71	24.59	66.96	81.16
0.040″	±0.004″	1754T49	8.71	27.78	75.63	91.67
0.050″	±0.005″	1754T51	9.75	31.10	84.68	102.64
0.062″	±0.005″	1754T52	$11.12	$35.45	$96.52	$117.00
0.080″	±0.006″	1754T53	12.84	40.97	111.54	135.20
0.090″	±0.006″	1754T54	14.17	45.18	123.02	149.12
0.105″	±0.008″	1754T55	15.58	49.68	135.27	163.96
0.125″	±0.008″	1754T56	18.53	59.11	160.94	195.08
0.188″	+0.045″, –0.010″	1754T57	28.08	89.56	243.86	295.59
0.250″	+0.045″, –0.010″	1754T58	36.96	117.89	320.97	389.06

Foil—Unpolished (Cold Rolled)



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B95 maximum)
- Meets ASTM A240

Use this foil as a heat-treating wrap in temperatures up to 2000° F. It includes a crimping tool. Meets AMS 5510. All sizes have a soft temper. Width tolerance is ±0.010″. Length tolerance is ±3⁄4″.

Wd.		10 ft.	25 ft.	50 ft.	100 ft.
0.002″ Thick (±0.0002″)					
10″	3254K7	$23.80	$45.82	$77.60	$147.81
0.002″ Thick (±0.0002″) (Cont.)					
20″	3254K1	$34.97	$67.33	$114.02	$217.19

Rods—Unpolished



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B76)
- Meet ASTM A276 and A479

These annealed rods meet AMS 5645. Length tolerance is ±1″ per foot. Dia. tolerance for ½″ to 2″ dia. rods is ±0.003″; for 3″ dia. rods it is +0.047″. Rods from ½″ to 2″ in dia. are cold finished with a straightness tolerance of 1⁄16″ per 5 feet. 3″ dia. rods are hot rolled with a straightness tolerance of 1⁄8″ per 5 feet.

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1⁄2″	86615K32	$6.56	$11.39	$19.37	$26.43	$45.57
5⁄8″	86615K46	9.26	16.07	27.32	37.28	64.28
3⁄4″	86615K52	12.55	21.79	37.03	50.54	87.14
1″	86615K66	19.92	34.59	58.80	80.24	138.35
1 1⁄2″	86615K72	$36.84	$63.95	$108.72	$148.37	$255.81
2″	86615K76	62.05	107.72	183.13	249.92	430.89
3″	86615K83	119.73	207.86	353.36	482.24	831.44

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

Wear- and Corrosion-Resistant Nitronic 60 Stainless Steel



- Yield Strength: 50,000 psi
- Hardness: Medium (Rockwell B86)
- Meet ASTM A276 and A479

Also Available: Rods with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $10. Please ask for 3609T1 and specify diameter and length.

Offering outstanding resistance to surface wear and corrosion, Nitronic 60 is used for fasteners, valves, and shafts. This material is nonmagnetic and cannot be heat treated. Its maximum temperature for corrosion resistance is not rated. These unpolished rods are hot rolled and annealed, and they meet AMS 5848. Diameter tolerance for 1/4″ to 2″ dia. rods is ±0.003″; for 2 1/2″ and 3″ dia. rods it is +0.047″. Straightness tolerance is 1/8″ per foot.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/4″	9583K21	$4.69	$7.81	$14.09	$19.20	$32.55
3/8″	9583K23	6.93	11.55	20.83	28.38	48.11
1/2″	9583K11	10.00	16.67	30.07	40.98	69.45
5/8″	9583K24	15.45	25.74	46.45	63.29	107.27
3/4″	9583K12	19.55	32.58	58.79	80.10	135.77
1″	9583K13	32.90	54.84	98.93	134.80	228.48

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1 1/4″	9583K14	$42.54	$70.90	$127.91	$174.29	$295.40
1 1/2″	9583K15	62.19	103.65	187.00	254.81	431.88
1 3/4″	9583K16	84.49	140.81	254.05	346.16	586.72
2″	9583K17	100.73	167.88	302.89	412.71	699.51
2 1/2″	9583K18	138.67	231.11	416.96	568.15	962.96
3″	9583K19	200.74	334.57	603.62	822.48	1,394.03

Ultra-Corrosion-Resistant Alloy 20 Stainless Steel



- Yield Strength: 35,000 psi
- Hardness: Medium (Rockwell B95 maximum)
- Meet ASTM B473

Alloy 20 can withstand harsh acids and caustic environments. It also contains columbium to maintain corrosion resistance around welded points. It is nonmagnetic and cannot be heat treated. Max. temp. for corrosion resistance is not rated. These unpolished rods are cold finished and annealed. Straightness tolerance is 1/16″ per 5 feet.

Dia.	Dia. Tolerance		1/2 ft.	1 ft.	3 ft.	6 ft.
1/4″	±0.003″	9091K27	$8.25	$13.75	$31.89	$54.99
3/8″	±0.003″	9091K12	13.43	22.39	51.93	89.54
1/2″	±0.003″	9091K13	23.30	38.83	90.07	155.30
5/8″	±0.003″	9091K14	30.02	50.04	116.09	200.16

Dia.	Dia. Tolerance		1/2 ft.	1 ft.	3 ft.	6 ft.
3/4″	±0.003″	9091K15	$39.27	$65.45	$151.84	$261.79
7/8″	±0.003″	9091K16	51.33	85.56	198.49	342.23
1″	±0.003″	9091K17	64.12	106.88	247.95	427.50
1 1/2″	±0.003″	9091K21	130.44	217.39	504.35	869.57

Very Easy-to-Machine 416 Stainless Steel

One of the most machinable stainless steels available, 416 contains sulfur for fast machining without clogging cutting tools. It's used for gears, screws, and shafts. 416 maintains its corrosion resistance up to 1200° F. It is magnetic and can be heat treated for hardness.

Square Bars—Unpolished (Cold Drawn)



- Yield Strength: 40,000 psi
- Hardness: Medium (Rockwell B93)
- Can be hardened up to Rockwell C40
- Meet ASTM A582

These bars are annealed. Square tolerance for 3/8″ to 1″ sizes is –0.004″; for 1 1/4″ to 2″ sizes it is –0.006″. Straightness tolerance for 1/2″ to 2″ sizes is 1/8″ per 5 feet; 3/8″ sizes are not rated. Length tolerance is ±1″ per foot.

Square Size		1 ft.	3 ft.	6 ft.
3/8″	3699T101	$23.39	$48.39	$80.65
1/2″	3699T21	28.79	59.57	99.29
5/8″	3699T31	35.48	73.40	122.33

Square Size		1 ft.	3 ft.	6 ft.
3/4″	3699T41	$43.39	$89.78	$149.63
1″	3699T612	64.86	134.18	223.64
1 1/4″	3699T712	79.25	163.97	273.29

Square Size		1 ft.	3 ft.	6 ft.
1 1/2″	3699T81	$96.22	$199.09	$331.81
1 3/4″	3699T197	116.28	240.58	400.96
2″	3699T198	140.80	291.31	485.52

Sheets—Unpolished (Hot Rolled)

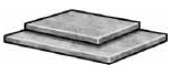

- Yield Strength: 40,000 psi
- Hardness: Medium (Rockwell B81)
- Can be hardened up to Rockwell C39
- Meet ASTM A895

All sizes are annealed. Thickness tolerance for 1/4″ and 1/2″ thick sheets is +0.060″, –0.010″; for 3/4″ and 1″ thick sheets it is +0.070″, –0.010″. Width and length tolerances are ±1/8″.

Thick.		6″×6″	6″×12″	12″×12″	12″×24″
1/4″	1323T14	$62.70	$108.86	$189.48	$344.50
1/2″	1323T2	110.69	192.18	334.50	608.18

Thick.		6″×6″	6″×12″	12″×12″	12″×24″
3/4″	1323T3	$143.95	$249.93	$435.00	$790.91
1″	1323T5	172.07	298.76	520.00	945.45

Rods—Unpolished



- Yield Strength: 40,000 psi
- Hardness: Medium (Rockwell B81)
- Can be hardened up to Rockwell C41
- Meet ASTM A484 and A582

All sizes are annealed. Straightness tolerance is 1/8″ per 5 feet. Length tolerance is ±1″ per foot. Rods from 1/8″ to 2 3/4″ in dia. are cold finished with a diameter tolerance of ±0.003″. Rods from 3″ to 4″ in dia. are hot rolled with a diameter tolerance of +1/16″.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″	89095K42	$1.06	$1.77	$3.12	$4.11	$7.08
5/32″	89095K44	1.30	2.17	3.83	5.05	8.70
3/16″	89095K46	1.77	2.95	5.19	6.84	11.80
7/32″	89095K48	2.11	3.52	6.19	8.15	14.06
1/4″	89095K52	3.00	5.00	8.80	11.60	20.00
5/16″	89095K54	3.07	5.12	9.01	11.88	20.48
3/8″	89095K56	3.10	5.17	9.10	12.00	20.69
7/16″	89095K93	3.88	6.46	11.37	14.99	25.85
1/2″	89095K94	4.50	7.49	13.19	17.38	29.97
9/16″	89095K954	5.78	9.63	16.95	22.35	38.53
5/8″	89095K96	7.08	11.80	20.78	27.39	47.22
11/16″	89095K97	8.30	13.83	24.34	32.08	55.31
3/4″	89095K98	9.19	15.31	26.95	35.53	61.26
13/16″	89095K99	10.09	16.81	29.59	39.00	67.25
7/8″	89095K21	11.74	19.57	34.45	45.41	78.30
15/16″	89095K22	12.05	20.09	35.35	46.60	80.34
1″	89095K23	12.92	21.54	37.90	49.96	86.14
1 1/16″	89095K24	14.25	23.75	41.81	55.11	95.02
1 1/8″	89095K25	15.27	25.45	44.79	59.04	101.79
1 3/16″	89095K26	16.66	27.76	48.86	64.41	111.05

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1 1/4″	89095K27	$18.03	$30.05	$52.90	$69.73	$120.22
1 5/16″	89095K28	19.48	32.46	57.13	75.31	129.84
1 3/8″	89095K29	20.13	33.55	59.04	77.82	134.18
1 7/16″	89095K31	22.90	38.16	67.17	88.54	152.65
1 1/2″	89095K32	23.95	39.91	70.25	92.60	159.66
1 9/16″	89095K33	24.09	40.16	70.67	93.16	160.62
1 5/8″	89095K34	25.57	42.62	75.01	98.87	170.47
1 3/4″	89095K36	30.23	50.38	88.67	116.88	201.52
1 7/8″	89095K38	36.78	61.30	107.89	142.22	245.21
2″	89095K72	42.69	71.15	125.22	165.06	284.59
2 1/8″	89095K73	43.74	72.91	128.32	169.15	291.63
2 1/4″	89095K74	43.97	73.29	128.99	170.03	293.15
2 3/8″	89095K75	49.16	81.94	144.21	190.09	327.75
2 1/2″	89095K76	54.48	90.80	159.81	210.66	363.21
2 5/8″	89095K77	58.12	96.87	170.50	224.74	387.49
2 3/4″	89095K78	63.81	106.35	187.17	246.73	425.39
3″	89095K81	75.91	126.51	222.66	293.51	506.05
3 1/4″	89095K83	96.83	161.39	284.04	374.42	645.55
3 1/2″	89095K84	98.16	163.60	287.93	379.55	654.39
4″	89095K86	111.02	185.03	325.66	429.28	740.13

(Material continued on following page)

***Warning!** Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.*

Very Easy-to-Machine 416 Stainless Steel *(Material continued from previous page)*

One of the most machinable stainless steels available, 416 contains sulfur for fast machining without clogging cutting tools. It's used for gears, screws, and shafts. 416 maintains its corrosion resistance up to 1200° F. It is magnetic and can be heat treated for hardness.

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 40,000 psi
- Hardness: Medium (Rockwell B82)
- Can be hardened up to Rockwell C38
- Meet ASTM A582

These annealed rods meet AMS 5610. Diameter tolerance is ±0.0005″. Straightness tolerance is 1/16″ per 5 feet. Length tolerance is ±1″ per foot.

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″	88955K22	$5.60	$8.60	$10.94	$14.26	$24.58
5/32″	88955K23	6.03	9.25	11.76	15.33	26.43
3/16″	88955K24	6.13	9.41	11.97	15.60	26.89
1/4″	88955K25	7.20	11.06	14.06	18.32	31.59
5/16″	88955K26	9.55	14.72	18.72	24.39	42.06
3/8″	88955K27	12.49	19.25	24.48	31.90	55.00
7/16″	88955K28	13.75	21.10	26.83	34.97	60.30

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
½″	88955K29	$16.85	$25.87	$32.89	$42.87	$73.92
5/8″	88955K71	19.16	29.42	37.40	48.75	84.05
3/4″	88955K72	23.84	36.59	46.52	60.64	104.55
7/8″	88955K73	25.79	39.60	50.34	65.62	113.13
1″	88955K63	33.71	51.74	65.79	85.75	147.84
1 1/4″	88955K74	38.48	59.06	75.09	97.88	168.75
1 1/2″	88955K75	46.70	71.69	91.15	118.81	204.84

Hardened Tight-Tolerance Rods—Precision Ground



- Yield Strength: Not rated
- Hardness: Hard (Rockwell C26)
- Meet ASTM A582/A582M

Diameter tolerance is ±0.0005″. Straightness tolerance is 1/16″ per 5 feet. Length tolerance is ±1″.

Dia.		1 ft.	3 ft.	6 ft.
1/8″	7014T1	$9.57	$19.58	$29.00
3/16″	7014T2	10.54	21.56	31.94
3/8″	7014T3	17.08	34.93	51.75

Dia.		1 ft.	3 ft.	6 ft.
½″	7014T4	$24.60	$50.32	$74.55
5/8″	7014T5	27.99	57.26	84.83
3/4″	7014T6	43.30	88.57	131.21

Dia.		1 ft.	3 ft.	6 ft.
7/8″	7014T7	$47.47	$97.09	$143.84
1″	7014T8	56.17	114.89	170.20
1 1/2″	7014T9	145.09	296.77	439.66

Hardened Tight-Tolerance Metric Rods—Precision Ground



- Yield Strength: 138,000 psi
- Hardness: Hard (Rockwell C32)
- Meet ASTM A582

Also known as Project 70+, this material can be machined faster with less wear on cutting tools than standard 416. Diameter tolerance is –0.0127 mm. Straightness tolerance is 1/16″ per foot. Length tolerance is ±1″ per foot.

Dia., mm		1 ft.	3 ft.	6 ft.
5	3821T101	$9.18	$20.43	$32.68
6	3821T102	10.70	23.80	38.08
7	3821T103	11.68	25.98	41.57
8	3821T104	12.75	28.35	45.36

Dia., mm		1 ft.	3 ft.	6 ft.
10	3821T105	$13.65	$30.35	$48.56
12	3821T106	18.18	40.44	64.70
14	3821T107	20.67	45.98	73.56
16	3821T108	22.37	49.75	79.60

Dia., mm		1 ft.	3 ft.	6 ft.
18	3821T109	$29.47	$65.54	$104.87
20	3821T201	31.46	69.98	111.97
25	3821T202	37.90	84.30	134.88
50	3821T203	143.62	319.44	511.11

Hexagonal Bars—Unpolished



- Yield Strength: 40,000 psi
- Hardness: Medium (Rockwell B81)
- Can be hardened up to Rockwell C41
- Meet ASTM A484 and A582

All sizes are cold finished and annealed. Hex tolerance for 3/8″ sizes is –0.003″; for 1/2″ to 2″ sizes it is –0.006″. Straightness tolerance is 1/16″ per 5 feet. Length tolerance is ±1″ per foot.

Hex Size		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/8″	86755K91	$3.35	$5.81	$9.87	$13.47	$23.23
1/2″	86755K87	5.54	9.62	16.35	22.31	38.47
9/16″	86755K88	6.84	11.88	20.20	27.56	47.52
5/8″	86755K89	8.50	14.76	25.09	34.24	59.03
3/4″	86755K58	11.65	20.22	34.37	46.90	80.87

Hex Size		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
7/8″	86755K64	$14.29	$24.81	$42.18	$57.56	$99.25
1″	86755K69	19.81	34.40	58.48	79.81	137.60
1 1/4″	86755K74	27.02	46.91	79.75	108.84	187.65
1 1/2″	86755K81	38.95	67.62	114.95	156.87	270.47
2″	86755K85	54.37	94.39	160.47	218.99	377.57

Wear-Resistant 410 Stainless Steel

Often used for fasteners and valves, 410 withstands abrasion and can be heat treated for greater hardness. It maintains its corrosion resistance up to 1200° F and is magnetic.

Sheets—Unpolished



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B90)
- Can be hardened up to Rockwell C45
- Meet ASTM A240

These sheets are annealed and meet AMS 5504. Width and length tolerances are ±1/8″. Sheets from 0.029″ to 0.090″ thick are cold finished with a thickness tolerance of ±0.005″. Sheets from 0.188″ to 1.000″ thick are hot rolled with a thickness tolerance of +0.075″, –0.010″.

Thick.		6″×6″	12″×12″	12″×24″	24″×48″
0.029″	1316T112	$4.25	$8.87	$16.21	$61.63
0.040″	1316T114	5.17	10.79	19.70	74.92
0.048″	1316T115	6.54	13.66	24.95	94.85
0.060″	1316T116	7.98	16.65	30.41	115.63
0.090″	1316T118	12.83	26.78	48.92	186.00

Thick.		6″×6″	12″×12″	12″×24″	24″×48″
0.188″	1316T119	$35.63	$74.36	$135.81	$516.37
0.250″	1316T121	43.56	90.91	166.05	631.35
0.375″	1316T131	64.01	133.59	243.99	927.73
0.500″	1316T151	77.18	161.08	294.20	1,118.62
1.000″	1316T211	139.82	291.80	532.94	2,026.37

Tight-Tolerance Sheets—Precision Ground



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B96)
- Can be hardened up to Rockwell C31
- Meet ASTM A240

All sizes are annealed. Thickness tolerance is ±0.001″. Width tolerance is +0.005″. Length tolerance for 6″ lengths is +1/8″; for 24″ lengths it is +1/2″.

Thick.		6″×6″	6″×24″	8″×24″	10″×24″	12″×24″
1/16″	9524K11	$79.70	$212.16	$271.19	$322.85	$368.97
1/8″	9524K13	86.22	229.52	293.38	349.27	399.16
3/16″	9524K14	112.38	299.17	382.42	455.26	520.30

Thick.		6″×6″	6″×24″	8″×24″	10″×24″	12″×24″
1/4″	9524K16	$124.56	$331.59	$423.85	$504.59	$576.67
5/16″	9524K17	133.39	355.10	453.91	540.37	617.56
3/8″	9524K18	138.75	369.36	472.14	562.07	642.37

(Material continued on following page)

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

Wear-Resistant 410 Stainless Steel *(Material continued from previous page)*

Tight-Tolerance Sheets (Cont.)—Precision Ground

Thick.		6″×6″	6″×24″	8″×24″	10″×24″	12″×24″
1/2″	9524K21	$145.25	$386.66	$494.25	$588.39	$672.45
5/8″	9524K23	182.57	486.02	621.26	739.59	845.25
3/4″	9524K24	197.17	524.88	670.94	798.74	912.84
1″	9524K25	$227.67	$606.07	$774.71	$922.28	$1,054.03
1 1/4″	9524K26	242.52	645.59	825.23	982.41	1,122.76
1 1/2″	9524K27	259.76	691.50	883.92	1,052.28	1,202.61

Tight-Tolerance Rectangular Bars—Precision Ground



- Yield Strength: 30,000 psi
- Hardness: Medium (Rockwell B96)
- Can be hardened up to Rockwell C31
- Meet ASTM A240

These bars are annealed. Width tolerance is +0.005″. Length tolerance is ±1/8″ for 1/2-ft. lengths; ±1/4″ for 1-ft. lengths; and +1/2″ for 2-ft. lengths.

Wd.		1/2 ft.	1 ft.	2 ft.
1/16″ Thick (±0.001″)				
1/2″	9524K19	$23.91	$39.85	$66.41
3/4″	9524K29	26.57	44.29	73.81
1″	9524K39	30.55	50.92	84.86
1 1/4″	9524K49	33.21	55.34	92.24
1 1/2″	9524K59	35.86	59.77	99.62
2″	9524K69	39.85	66.42	110.70
2 1/2″	9524K79	46.49	77.48	129.14
3″	9524K89	53.12	88.54	147.56
3 1/2″	9524K99	58.44	97.40	162.34
4″	9524K119	63.76	106.27	177.12
5″	9524K129	70.40	117.34	195.56
1/8″ Thick (±0.001″)				
1/2″	9524K179	25.87	43.12	71.86
3/4″	9524K189	28.74	47.90	79.84
1″	9524K199	33.05	55.09	91.81
1 1/4″	9524K219	35.93	59.88	99.80
1 1/2″	9524K229	38.80	64.66	107.77
2″	9524K239	43.11	71.85	119.75
2 1/2″	9524K249	50.30	83.83	139.72
3″	9524K259	57.48	95.80	159.67
3 1/2″	9524K269	63.23	105.38	175.64
4″	9524K279	68.98	114.96	191.60
5″	9524K289	76.16	126.94	211.56
3/16″ Thick (±0.001″)				
3/16″	9524K349	26.22	43.70	72.83
1/2″	9524K359	33.72	56.20	93.66
3/4″	9524K369	37.47	62.44	104.07
1″	9524K379	43.08	71.80	119.66
1 1/4″	9524K389	46.81	78.02	130.04
1 1/2″	9524K399	50.57	84.28	140.46
2″	9524K419	56.19	93.65	156.08
2 1/2″	9524K429	65.56	109.26	182.10
3″	9524K439	74.92	124.87	208.11
3 1/2″	9524K449	82.42	137.37	228.95
4″	9524K459	89.91	149.85	249.75
5″	9524K469	99.27	165.44	275.74
1/4″ Thick (±0.001″)				
1/4″	9524K529	26.99	44.98	74.96
1/2″	9524K539	37.37	62.28	103.80
3/4″	9524K549	41.53	69.21	115.35
1″	9524K559	47.75	79.59	132.65
1 1/4″	9524K569	51.90	86.51	144.18
1 1/2″	9524K579	56.05	93.41	155.69
2″	9524K589	62.27	103.79	172.98
2 1/2″	9524K599	72.66	121.10	201.84
3″	9524K619	83.04	138.41	230.68
3 1/2″	9524K629	91.35	152.25	253.75
4″	9524K639	99.64	166.07	276.78
5″	9524K649	110.03	183.38	305.64
5/16″ Thick (±0.001″)				
5/16″	9524K699	$31.13	$51.88	$86.47
1/2″	9524K719	40.02	66.71	111.18
3/4″	9524K729	44.47	74.11	123.52
1″	9524K739	51.13	85.22	142.04
1 1/4″	9524K749	55.58	92.63	154.39
1 1/2″	9524K759	60.03	100.05	166.75
2″	9524K769	66.70	111.16	185.27
2 1/2″	9524K779	77.82	129.68	216.14
3″	9524K789	88.91	148.19	246.98
3 1/2″	9524K799	97.83	163.04	271.74
4″	9524K819	106.71	177.85	296.41
5″	9524K829	117.82	196.37	327.29
3/8″ Thick (±0.001″)				
3/8″	9524K879	34.69	57.81	96.35
1/2″	9524K889	41.61	69.35	115.59
3/4″	9524K899	46.25	77.08	128.46
1″	9524K919	53.19	88.65	147.75
1 1/4″	9524K929	57.81	96.34	160.57
1 1/2″	9524K939	62.44	104.07	173.45
2″	9524K949	69.38	115.63	192.72
2 1/2″	9524K959	80.94	134.90	224.83
3″	9524K969	92.49	154.15	256.92
3 1/2″	9524K979	101.75	169.59	282.65
4″	9524K989	111.00	185.00	308.33
5″	9524K998	122.57	204.29	340.48
1/2″ Thick (±0.001″)				
1/2″	9524K149	43.57	72.61	121.02
3/4″	9524K159	48.42	80.69	134.49
1″	9524K169	55.68	92.80	154.66
1 1/4″	9524K174	60.52	100.87	168.12
1 1/2″	9524K184	65.36	108.94	181.56
2″	9524K194	72.64	121.07	201.78
2 1/2″	9524K214	84.72	141.20	235.34
3″	9524K224	96.83	161.38	268.96
3 1/2″	9524K234	106.50	177.50	295.84
4″	9524K244	116.18	193.64	322.73
5″	9524K254	128.30	213.83	356.39
5/8″ Thick (±0.001″)				
5/8″	9524K319	54.77	91.29	152.15
3/4″	9524K329	60.85	101.41	169.02
1″	9524K339	69.99	116.65	194.42
1 1/4″	9524K344	76.07	126.79	211.31
1 1/2″	9524K354	82.16	136.93	228.21
2″	9524K364	91.29	152.15	253.59
2 1/2″	9524K374	106.51	177.51	295.85
3″	9524K384	121.73	202.88	338.13
3 1/2″	9524K394	133.89	223.16	371.93
4″	9524K414	146.06	243.43	405.71
5″	9524K424	161.26	268.77	447.95
3/4″ Thick (±0.001″)				
3/4″	9524K479	$65.73	$109.55	$182.59
1″	9524K489	75.58	125.97	209.95
1 1/4″	9524K499	82.17	136.95	228.25
1 1/2″	9524K519	88.73	147.88	246.47
2″	9524K524	98.58	164.30	273.83
2 1/2″	9524K534	115.01	191.68	319.46
3″	9524K544	131.45	219.08	365.14
3 1/2″	9524K554	144.61	241.02	401.70
4″	9524K564	157.74	262.90	438.17
5″	9524K574	174.18	290.30	483.84
7/8″ Thick (±0.001″)				
7/8″	9524K634	75.06	125.09	208.49
1″	9524K644	82.05	136.75	227.92
1 1/4″	9524K659	92.51	154.18	256.96
1 1/2″	9524K669	101.24	168.73	281.21
2″	9524K679	109.97	183.29	305.48
2 1/2″	9524K689	129.18	215.29	358.82
3″	9524K694	146.62	244.36	407.27
3 1/2″	9524K714	158.85	264.75	441.25
4″	9524K724	174.56	290.93	484.89
1″ Thick (±0.001″)				
1″	9524K744	87.28	145.46	242.44
1 1/4″	9524K754	94.86	158.11	263.51
1 1/2″	9524K764	102.46	170.76	284.60
2″	9524K774	113.82	189.71	316.18
2 1/2″	9524K784	132.82	221.36	368.94
3″	9524K794	151.79	252.98	421.64
3 1/2″	9524K814	166.96	278.27	463.79
4″	9524K824	182.13	303.55	505.91
1 1/4″ Thick (±0.001″)				
1 1/4″	9524K874	101.06	168.43	280.71
1 1/2″	9524K884	109.12	181.87	303.11
2″	9524K894	121.27	202.11	336.85
2 1/2″	9524K914	141.49	235.81	393.02
3″	9524K924	161.69	269.48	449.14
3 1/2″	9524K934	177.86	296.43	494.05
4″	9524K944	194.02	323.37	538.95
1 1/2″ Thick (±0.001″)				
1 1/2″	9524K994	116.88	194.81	324.68
2″	9524K114	129.89	216.49	360.81
2 1/2″	9524K124	151.53	252.55	420.92
3″	9524K134	173.19	288.65	481.08
3 1/2″	9524K144	190.50	317.51	529.18
4″	9524K154	207.79	346.32	577.20

Rods—Unpolished



- Yield Strength: 40,000 psi
- Hardness: Medium (Rockwell B81)
- Meet ASTM A276 and A479

All sizes are annealed. Straightness tolerance is 1/16″ per 5 feet. Rods from 1/2″ to 2″ in dia. are cold finished with a diameter tolerance of ±0.003″. Rods from 2 1/4″ to 4″ in dia. are hot rolled with a diameter tolerance of +0.063″. Length tolerance for 1/2-ft. lengths is +1/8″; for 1-ft. to 6-ft. lengths it is ±1″ per foot.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/2″	86705K61	$3.55	$5.92	$10.61	$14.31	$24.67
5/8″	86705K42	5.69	9.49	17.00	22.93	39.53
3/4″	86705K63	7.26	12.10	21.68	29.24	50.42
7/8″	86705K11	9.63	16.05	28.76	38.80	66.89
1″	86705K12	13.39	22.32	39.99	53.93	92.99
1 1/8″	86705K13	16.87	28.11	50.37	67.94	117.14
1 1/4″	86705K14	20.34	33.90	60.73	81.91	141.23
1 3/8″	86705K15	24.22	40.36	72.31	97.54	168.17
1 1/2″	86705K16	28.22	47.03	84.25	113.65	195.94
1 5/8″	86705K17	32.49	54.15	97.02	130.87	225.63
1 3/4″	86705K18	$37.50	$62.50	$111.98	$151.04	$260.42
2″	86705K19	47.21	78.68	140.97	190.15	327.84
2 1/4″	86705K21	49.82	83.04	148.77	200.67	345.98
2 3/8″	86705K22	56.91	94.85	169.94	229.23	395.22
2 1/2″	86705K23	60.97	101.62	182.07	245.58	423.42
3″	86705K24	83.00	138.34	247.86	334.32	576.41
3 1/4″	86705K25	97.13	161.88	290.04	391.22	674.51
3 1/2″	86705K26	105.28	175.46	314.36	424.03	731.08
3 3/4″	86705K27	124.00	206.66	370.27	499.44	861.10
4″	86705K28	132.10	220.17	394.48	532.09	917.39

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

Mold-Quality Wear-Resistant 420 Stainless Steel

This hard material can be finely polished to a very smooth surface, making it suitable for fabricating molds. 420 stainless steel maintains its corrosion resistance up to 1150° F, is magnetic, and can be heat treated.

Tight-Tolerance Rectangular Bars—Precision Ground



- Yield Strength: 50,000 psi
- Hardness: Hard (Rockwell C25)
- Can be hardened up to Rockwell C55

These bars are annealed. Width tolerance is +0.015″. Length tolerance is ±1/8″ for 1/2-ft. lengths, ±1/4″ for 1-ft. lengths, and +1/2″ for 2-ft. lengths.

Wd.		½ ft.	1 ft.	2 ft.
¼″ Thick (+0.015″)				
1″	7025T15	$65.64	$109.40	$182.33
2″	7025T16	95.68	159.47	265.79
3″	7025T17	130.72	217.86	363.10
4″	7025T18	158.27	263.78	439.64
½″ Thick (+0.015″)				
1″	7025T19	86.55	144.25	240.42
2″	7025T25	122.59	204.31	340.52
3″	7025T26	164.85	274.75	457.92
4″	7025T27	198.04	330.07	550.12

Wd.		½ ft.	1 ft.	2 ft.
¾″ Thick (+0.015″)				
1″	7025T28	$110.66	$184.44	$307.40
2″	7025T29	155.78	259.63	432.72
3″	7025T35	197.42	329.03	548.38
4″	7025T36	235.98	393.30	655.50
1″ Thick (+0.015″)				
1″	7025T37	129.19	215.32	358.86
2″	7025T38	180.11	300.19	500.31
3″	7025T39	227.27	378.78	631.30
4″	7025T45	281.10	468.50	780.83

Hardened Sheets—Unpolished (Cold Rolled)



- Yield Strength: Not rated
- Hardness: Hard (Rockwell C48)

Width tolerance is +0.125″, –0.010″. Flatness tolerance is 0.010″ per inch. Length has a plus tolerance.

Thick.	Thick. Tolerance		6″×6″	6″×12″	6″×24″	6″×48″
0.010″	±0.001″	2626T3	$41.05	$60.86	$110.57	$176.92
0.012″	±0.001″	2626T4	43.43	64.39	116.99	187.18
0.015″	±0.001″	2626T5	45.92	68.09	123.72	197.95
0.018″	±0.001″	2626T6	48.24	71.53	129.97	207.95
0.020″	±0.001″	2626T7	50.62	75.06	136.38	218.21

Thick.	Thick. Tolerance		6″×6″	6″×12″	6″×24″	6″×48″
0.025″	±0.001″	2626T8	$53.12	$78.77	$143.11	$228.97
0.032″	±0.001″	2626T9	54.43	80.71	146.64	234.62
0.039″	±0.001″	2626T53	54.79	81.24	147.59	236.15
0.058″	±0.002″	2626T54	58.48	86.71	157.53	252.05
0.125″	±0.003″	2626T55	91.17	135.27	———	———

Rods—Unpolished



- Yield Strength: 40,000 psi
- Hardness: Hard (Rockwell C25 maximum)
- Can be hardened up to Rockwell C48
- Meet ASTM A276 and A484

All sizes are cold finished and annealed. Diameter tolerance is ±0.003″. Straightness tolerance is 1/16″ per 5 feet. Length tolerance is ±1″ per foot.

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
½″	3234T11	$5.48	$9.27	$16.99	$23.17	$38.61
5/8″	3234T12	7.92	13.38	24.53	33.45	55.75
¾″	3234T13	10.70	18.09	33.16	45.22	75.36

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1″	3234T14	$17.88	$30.22	$55.41	$75.56	$125.93
1¼″	3234T15	25.60	43.26	79.31	108.15	180.25
1½″	3234T16	33.86	57.23	104.92	143.08	238.46

Very Wear-Resistant 420V Stainless Steel



- Yield Strength: Not rated
- Hardness: Hard (Rockwell C28)
- Can be hardened up to Rockwell C59

The addition of vanadium and carbon gives 420V excellent wear resistance. It can replace tool steels in highly abrasive applications. This material is magnetic and can be heat treated. Minimum temperature for corrosion resistance is not rated. These unpolished strips are hot rolled and annealed. Width tolerance is +1/8″.

Thick.	Thick. Tolerance		1″×6″	1″×18″	1½″×18″	2″×18″
0.140″	+0.050″	9520K33	$22.50	$51.82	$70.91	$87.54

Thick.	Thick. Tolerance		1″×6″	1″×18″	1½″×18″	2″×18″
0.156″	+0.050″	9520K63	$26.30	$60.58	$82.89	$102.33

Impact- and Wear-Resistant 440A Stainless Steel

Resistant to damage from impact and abrasion, 440A is often used for cutlery and valve components. This material is magnetic. Maximum temperature for corrosion resistance is not rated.

Hardened Sheets—Unpolished

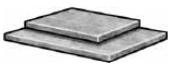

- Yield Strength: Not rated
- Hardness: Very Hard (Rockwell C55)

Width and length tolerance is ±1/8″. Flatness tolerance is 0.010″ per inch.

Thick.	Thick. Tolerance		3″×6″	6″×6″	6″×12″	6″×24″
0.010″	±0.001″	2629T1	$29.69	$44.65	$67.21	$116.89
0.015″	±0.001″	2629T2	32.61	49.05	73.83	128.40
0.020″	±0.001″	2629T3	35.94	54.05	81.36	141.49
0.025″	±0.001″	2629T4	39.73	59.75	89.94	156.41

Thick.	Thick. Tolerance		3″×6″	6″×6″	6″×12″	6″×24″
0.031″	±0.001″	2629T5	$42.28	$63.58	$95.71	$166.45
0.039″	±0.001″	2629T6	44.36	66.71	100.41	174.63
0.047″	±0.001″	2629T7	46.79	70.37	105.92	184.21
0.062″	±0.001″	2629T8	56.91	85.59	128.84	224.07

Hardened Hollow Ball—Reflective Finish



- Yield Strength: Not rated
- Hardness: Very Hard (Rockwell C54)

Found in floats and ball valves, this ball meets AMSQQ-S-763B.

Dia.	Dia. Tolerance		Each
1″	±0.005″	9327K33	$10.37

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

Ultra-Hard Wear-Resistant 440C Stainless Steel

One of the hardest stainless steels after heat treating, 440C offers excellent wear and abrasion resistance. It's often used for bearings, valves, and knife blades. This material maintains its corrosion resistance up to 800° F and is magnetic.

Rectangular Bars—Unpolished (Hot Rolled)



- Yield Strength: Not rated
- Hardness: Hard (Rockwell C29, maximum)
- Can be hardened up to Rockwell C60
- Meet ASTM A276

All sizes are true bar, which is rolled for a precise edge. These bars also meet AMS 5630. Width tolerance for ½″ to 2″ wide bars is ±0.031″; for 3″ and 4″ wide bars it is +0.062″, –0.031″. Straightness tolerance is ⅛″ per 5 feet. Length tolerance is ±1″ per foot.

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/16″ Thick (±0.015″)						
1½″	88585K211	$38.25	$63.74	$108.90	$148.74	$265.60
1/4″ Thick (±0.015″)						
1″	88585K224	24.86	41.43	70.78	96.67	172.63
1½″	88585K228	34.65	57.75	98.66	134.75	240.63
2″	88585K233	47.27	78.78	134.58	183.82	328.25
3″	88585K237	62.00	103.33	176.52	241.10	430.54
4″	88585K243	82.26	137.10	234.21	319.89	571.24
3/8″ Thick (±0.015″)						
¾″	88585K459	28.18	46.96	80.22	109.58	195.67
1″	88585K247	32.29	53.82	91.95	125.59	224.26
1½″	88585K252	44.08	73.46	125.50	171.42	306.10
2″	88585K256	49.84	83.07	141.92	193.84	346.14
3″	88585K261	73.98	123.30	210.63	287.69	513.73
4″	88585K265	111.74	186.23	318.14	434.53	775.95
1/2″ Thick (±0.015″)						
½″	88585K529	29.65	49.42	84.43	115.32	205.93
¾″	88585K539	32.95	54.92	93.83	128.16	228.85

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/2″ Thick (±0.015″) (Cont.)						
1″	88585K269	$37.76	$62.93	$107.51	$146.84	$262.22
1½″	88585K274	49.99	83.32	142.34	194.42	347.18
2″	88585K278	64.29	107.14	183.04	250.00	446.43
3″	88585K284	86.06	143.43	245.03	334.68	597.64
4″	88585K288	116.46	194.10	331.59	452.91	808.76
3/4″ Thick (±0.020″)						
¾″	88585K599	39.40	65.67	112.18	153.23	273.62
1″	88585K293	48.46	80.76	137.97	188.45	336.51
1½″	88585K297	63.23	105.38	180.03	245.89	439.09
2″	88585K302	96.38	160.63	274.41	374.81	669.30
3″	88585K306	110.27	183.79	313.97	428.84	765.78
4″	88585K311	145.41	242.35	414.02	565.49	1,009.81
1″ Thick (±0.020″)						
1½″	88585K315	76.85	128.09	218.82	298.87	533.70
2″	88585K319	92.87	154.79	264.43	361.17	644.94
3″	88585K324	125.72	209.53	357.94	488.90	873.03
4″	88585K202	171.84	286.40	489.27	668.26	1,193.33

Oversized Rectangular Bars—Ground



- Yield Strength: 65,000 psi
- Hardness: Hard (Rockwell C20)
- Can be hardened up to Rockwell C60
- Meet ASTM A276

These bars are annealed. Thickness and width tolerances are +0.015″. Length tolerance is ±⅛″ for ½-ft. lengths; ±¼″ for 1-ft. lengths; and +½″ for 2-ft. lengths.

Wd.		½ ft.	1 ft.	2 ft.
1/16″ Thick				
½″	9575K1	$33.65	$56.08	$93.46
¾″	9575K2	37.39	62.32	103.87
1″	9575K3	43.00	71.66	119.44
1¼″	9575K4	46.74	77.89	129.82
1½″	9575K5	50.47	84.11	140.19
2″	9575K6	56.08	93.47	155.79
2½″	9575K7	59.71	99.52	165.86
3″	9575K83	63.00	105.00	175.00
3½″	9575K93	74.72	124.53	207.55
4″	9575K119	86.49	144.14	240.24
5″	9575K129	99.09	165.14	275.24
6″	9575K139	104.44	174.07	290.12
12″	9575K169	186.93	311.56	519.26
1/8″ Thick				
½″	9575K179	37.63	62.71	104.52
¾″	9575K189	41.81	69.68	116.13
1″	9575K199	48.07	80.12	133.54
1¼″	9575K219	52.25	87.09	145.15
1½″	9575K229	56.44	94.06	156.77
2″	9575K239	62.70	104.50	174.17
2½″	9575K249	66.72	111.20	185.33
3″	9575K259	73.01	121.68	202.80
3½″	9575K269	82.35	137.25	228.75
4″	9575K279	90.35	150.59	250.98
5″	9575K289	103.10	171.83	286.39
6″	9575K299	119.20	198.67	331.11
12″	9575K339	199.93	333.21	555.35
3/16″ Thick				
3/16″	9575K349	35.49	59.15	98.59
½″	9575K359	42.58	70.96	118.27
¾″	9575K369	47.31	78.85	131.41
1″	9575K379	54.41	90.68	151.13
1¼″	9575K389	59.13	98.56	164.26
1½″	9575K399	63.87	106.45	177.41
2″	9575K419	70.96	118.27	197.12
2½″	9575K429	74.52	124.20	207.00
3″	9575K439	80.10	133.50	222.50
3½″	9575K449	91.79	152.98	254.96
4″	9575K459	103.97	173.28	288.80
5″	9575K469	119.51	199.19	331.98
6″	9575K479	134.28	223.80	373.00

Wd.		½ ft.	1 ft.	2 ft.
1/4″ Thick				
1/4″	9575K529	$34.89	$58.15	$96.91
½″	9575K539	45.61	76.01	126.69
¾″	9575K549	50.99	84.98	141.63
1″	9575K559	56.35	93.92	156.53
1¼″	9575K569	61.74	102.89	171.49
1½″	9575K579	67.10	111.84	186.40
2″	9575K589	77.82	129.71	216.18
2½″	9575K599	87.08	145.13	241.88
3″	9575K619	92.35	153.91	256.52
3½″	9575K629	96.34	160.57	267.62
4″	9575K639	121.61	202.69	337.81
5″	9575K649	134.08	223.46	372.44
6″	9575K659	147.81	246.34	410.57
8″	9575K669	187.87	313.12	521.87
5/16″ Thick				
5/16″	9575K699	41.33	68.88	114.80
½″	9575K719	47.24	78.73	131.21
¾″	9575K729	50.18	83.63	139.38
1″	9575K739	59.03	98.39	163.98
1¼″	9575K749	64.94	108.23	180.39
1½″	9575K759	73.79	122.98	204.97
2″	9575K769	88.55	147.58	245.97
2½″	9575K779	96.40	160.67	267.79
3″	9575K789	101.13	168.55	280.91
3½″	9575K799	116.83	194.71	324.52
4″	9575K101	127.84	213.07	355.11
5″	9575K109	141.49	235.81	393.02
6″	9575K839	159.63	266.05	443.42
3/8″ Thick				
3/8″	9575K879	44.19	73.64	122.74
½″	9575K889	56.81	94.68	157.80
¾″	9575K899	63.12	105.20	175.34
1″	9575K106	69.42	115.70	192.83
1¼″	9575K203	69.43	115.72	192.87
1½″	9575K206	78.92	131.53	219.21
2″	9575K949	94.70	157.84	263.06
2½″	9575K959	101.49	169.16	281.93
3″	9575K969	107.62	179.37	298.95
3½″	9575K979	126.01	210.01	350.02
4″	9575K989	142.68	237.80	396.33
5″	9575K998	167.27	278.79	464.65
6″	9575K601	174.58	290.96	484.94

Wd.		½ ft.	1 ft.	2 ft.
1/2″ Thick				
½″	9575K149	$59.25	$98.75	$164.58
¾″	9575K159	65.80	109.67	182.79
1″	9575K602	75.68	126.14	210.23
1¼″	9575K603	82.26	137.11	228.51
1½″	9575K604	88.84	148.07	246.78
2″	9575K605	98.70	164.50	274.17
2½″	9575K606	109.36	182.26	303.77
3″	9575K607	111.38	185.63	309.39
3½″	9575K238	134.37	223.94	373.24
4″	9575K248	157.97	263.29	438.81
5″	9575K258	174.39	290.65	484.42
6″	9575K268	187.37	312.28	520.47
5/8″ Thick				
5/8″	9575K319	64.14	106.90	178.17
¾″	9575K329	71.26	118.77	197.95
1″	9575K338	81.95	136.59	227.65
1¼″	9575K348	89.10	148.51	247.51
1½″	9575K358	96.22	160.36	267.27
2″	9575K368	106.92	178.19	296.99
2½″	9575K378	115.50	192.50	320.84
3″	9575K388	122.43	204.04	340.07
3½″	9575K398	142.35	237.25	395.41
4″	9575K418	161.46	269.11	448.51
5″	9575K428	179.39	298.99	498.31
6″	9575K438	197.05	328.41	547.35
3/4″ Thick				
¾″	9575K478	79.82	133.03	221.72
1″	9575K489	91.81	153.01	255.02
1¼″	9575K499	99.77	166.28	277.14
1½″	9575K519	107.76	179.59	299.32
2″	9575K528	119.73	199.55	332.58
2½″	9575K538	130.29	217.16	361.93
3″	9575K548	137.50	229.16	381.94
3½″	9575K558	157.39	262.31	437.19
4″	9575K568	171.28	285.46	475.77
5″	9575K578	204.80	341.34	568.90
6″	9575K588	222.76	371.27	618.78
7/8″ Thick				
7/8″	9575K638	75.05	125.08	208.47
1″	9575K648	79.11	131.86	219.76
1¼″	9575K658	91.27	152.12	253.54
1½″	9575K668	97.36	162.27	270.45

(Material continued on following page)

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

Ultra-Hard Wear-Resistant 440C Stainless Steel *(Material continued from previous page)*

One of the hardest stainless steels after heat treating, 440C offers excellent wear and abrasion resistance. It's often used for bearings, valves, and knife blades. This material maintains its corrosion resistance up to 800° F and is magnetic.

Oversized Rectangular Bars (Cont.)—Ground



- Yield Strength: 65,000 psi
- Hardness: Hard (Rockwell C20)
- Can be hardened up to Rockwell C60
- Meet ASTM A276

These bars are annealed. Thickness and width tolerances are +0.015". Length tolerance is ±1/8" for 1/2-ft. lengths; ±1/4" for 1-ft. lengths; and +1/2" for 2-ft. lengths.

Wd.		1/2 ft.	1 ft.	2 ft.
7/8" Thick (Cont.)				
2"	9575K679	$115.63	$192.72	$321.20
2 1/2"	9575K689	123.74	206.23	343.72
3"	9575K698	129.81	216.35	360.58
3 1/2"	9575K718	135.90	226.49	377.49
4"	9575K728	152.14	253.56	422.60
1" Thick				
1"	9575K748	100.04	166.74	277.90
1 1/4"	9575K758	108.74	181.23	302.05
1 1/2"	9575K768	117.44	195.73	326.21
2"	9575K778	130.47	217.46	362.43
2 1/2"	9575K788	137.34	228.90	381.50
3"	9575K798	141.91	241.64	394.16

Wd.		1/2 ft.	1 ft.	2 ft.
1" Thick (Cont.)				
3 1/2"	9575K207	$167.83	$279.71	$466.19
4"	9575K303	192.10	320.17	533.61
6"	9575K838	242.48	404.14	673.56
1 1/4" Thick				
1 1/4"	9575K878	115.60	192.67	321.11
1 1/2"	9575K888	124.84	208.07	346.78
2"	9575K898	138.69	231.16	385.26
2 1/2"	9575K304	145.55	242.59	404.31
3"	9575K307	157.71	262.84	438.07
3 1/2"	9575K309	187.64	312.73	521.21
4"	9575K948	221.95	369.91	616.52
6"	9575K958	249.65	416.09	693.48

Wd.		1/2 ft.	1 ft.	2 ft.
1 1/2" Thick				
1 1/2"	9575K403	$129.07	$215.12	$358.54
2"	9575K408	143.41	239.02	398.36
2 1/2"	9575K608	152.97	254.95	424.91
3"	9575K609	166.51	277.52	462.54
3 1/2"	9575K143	197.06	328.43	547.38
4"	9575K153	229.44	382.40	637.33
6"	9575K501	263.73	439.55	732.59
2" Thick				
2"	9575K506	204.25	340.42	567.37

Rods—Unpolished



- Yield Strength: 65,000 psi
- Hardness: Hard (Rockwell C20)
- Can be hardened up to Rockwell C60
- Meet ASTM A276

All sizes are annealed and meet AMS 5630. Rods from 1/4" to 2" in dia. are cold finished; 2 1/8" to 5" dia. rods are hot rolled. Diameter tolerance for 1/4" to 2" dia. rods is ±0.003"; for 2 1/8" to 3 1/2" dia. rods it is +0.047"; and for 3 3/4" to 5" dia. rods it is +0.078". Straightness tolerance is 0.075" per 6 feet. Length tolerance for 1/2-ft. and 1" to 4" long rods is +1/8"; for 1-ft to 6-ft. rods it is ±1" per foot.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/4"	88985K93	$4.27	$7.11	$12.74	$17.18	$29.62
3/8"	88985K94	7.53	12.56	22.50	30.35	52.32
7/16"	88985K955	9.00	15.00	26.88	36.25	62.50
1/2"	88985K96	9.14	15.23	27.28	36.80	63.45
9/16"	88985K97	11.03	18.39	32.94	44.43	76.61
5/8"	88985K98	11.76	19.61	35.13	47.38	81.69
11/16"	88985K15	13.92	23.21	41.58	56.09	96.70
3/4"	88985K18	15.15	25.25	45.23	61.01	105.19
13/16"	88985K21	17.78	29.63	53.09	71.61	123.47
7/8"	88985K24	20.61	34.36	61.55	83.03	143.15
15/16"	88985K26	23.67	39.45	70.67	95.33	164.36
1"	88985K29	25.02	41.70	74.72	100.79	173.77
1 1/16"	88985K32	27.62	46.03	82.48	111.25	191.81
1 1/8"	88985K35	30.38	50.64	90.73	122.38	211.00
1 3/16"	88985K37	31.97	53.28	95.46	128.76	222.00
1 1/4"	88985K41	35.40	59.00	105.70	142.58	245.82
1 5/16"	88985K43	48.32	65.08	116.61	157.28	271.18
1 3/8"	88985K46	42.87	71.45	128.01	172.67	297.70

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
17/16"	88985K49	$45.57	$75.96	$136.09	$183.56	$316.48
1 1/2"	88985K53	48.70	81.17	145.43	196.16	338.21
1 5/8"	88985K55	54.21	90.35	161.87	218.34	376.44
1 3/4"	88985K57	62.87	104.78	187.74	253.23	436.60
1 7/8"	88985K59	70.68	117.80	211.06	284.69	490.84
2"	88985K77	76.55	127.58	228.58	308.31	531.57
2 1/8"	88985K79	80.73	134.55	241.08	325.17	560.64
2 1/4"	88985K81	87.49	145.82	261.26	352.39	607.57
2 3/8"	88985K82	94.31	157.19	281.63	379.87	654.95
2 1/2"	88985K83	98.85	164.75	295.18	398.15	686.47
2 5/8"	88985K84	108.98	181.63	325.42	438.94	756.80
2 3/4"	88985K85	119.58	199.30	357.08	481.64	830.42
3"	88985K86	144.45	240.75	431.34	581.81	1,003.12
3 1/8"	88985K87	151.90	253.16	453.58	611.80	1,054.83
3 1/4"	88985K88	161.66	269.43	482.73	651.12	1,122.62
3 1/2"	88985K89	208.71	347.84	623.22	840.62	1,449.35
3 3/4"	88985K91	234.45	390.75	700.10	944.32	1,628.13
4"	88985K92	266.16	425.11	794.77	1,035.05	1,848.31



Dia.		1" Lg.	2" Lg.	3" Lg.	4" Lg.
2"	88985K115	$18.61	$36.15	$47.84	$69.10
2 1/4"	88985K125	21.27	41.31	54.68	78.98
3"	88985K135	35.11	68.21	90.28	130.41

Dia.		1" Lg.	2" Lg.	3" Lg.	4" Lg.
3 1/2"	88985K145	$50.73	$98.56	$130.44	$188.42
4"	88985K165	64.69	125.69	166.35	240.28
5"	88985K175	78.34	152.30	201.52	291.21

Hardened Rods—Precision Ground



- Yield Strength: 275,000 psi
- Hardness: Very Hard (Rockwell C54)
- Meet ASTM A276

These rods meet AMS 5630. Diameter tolerance is –0.0002". Straightness tolerance is 0.006" per foot. Length tolerance is ±1/4".

Dia.		1/2 ft.	1 ft.	2 ft.
1/8"	1328T18	$34.53	$57.56	$95.93
3/16"	1328T28	42.20	70.33	117.21
1/4"	1328T38	43.67	72.79	121.31

Dia.		1/2 ft.	1 ft.	2 ft.
3/8"	1328T48	$44.78	$74.64	$124.40
1/2"	1328T58	47.13	78.55	130.92
5/8"	1328T68	51.08	85.14	141.90

Dia.		1/2 ft.	1 ft.	2 ft.
3/4"	1328T78	$58.99	$98.31	$163.85
7/8"	1328T88	61.92	103.20	172.00
1"	1328T98	67.83	113.05	188.42

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 65,000 psi
- Hardness: Hard (Rockwell C20)
- Can be hardened up to Rockwell C60
- Meet ASTM A276

All sizes are annealed and meet AMS 5630. Diameter tolerance is –0.0005". Straightness tolerance is 1/16" per foot. Length tolerance for 1/2-ft. lengths is ±1/8"; for 1-ft. to 6-ft. lengths it is ±1" per foot.

Also Available: Rods with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $15. Please ask for 3534T1 and specify diameter and length.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8"	9094K31	$6.20	$10.34	$17.58	$23.99	$41.36
5/32"	9094K32	6.96	11.60	19.71	26.90	46.38
3/16"	9094K33	7.75	12.92	21.96	29.97	51.68
1/4"	9094K14	8.56	14.27	24.25	33.09	57.06
5/16"	9094K15	9.08	15.13	25.72	35.10	60.51
3/8"	9094K16	10.14	16.91	28.74	39.22	67.62
7/16"	9094K17	10.78	17.96	30.54	41.67	71.85
1/2"	9094K18	14.29	23.82	40.49	55.26	95.27

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
5/8"	9094K19	$15.82	$26.37	$44.83	$61.18	$105.48
3/4"	9094K21	20.22	33.69	57.28	78.17	134.77
7/8"	9094K22	24.26	40.43	68.73	93.80	161.72
1"	9094K23	30.32	50.54	85.91	117.25	202.15
1 1/4"	9094K24	42.26	70.44	119.74	163.41	281.75
1 1/2"	9094K25	57.04	95.07	161.61	220.56	380.27
1 3/4"	9094K26	68.97	114.94	195.41	266.67	459.78
2"	9094K27	90.48	150.80	256.36	349.86	603.20

(Material continued on following page)

Warning! *Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.*

Ultra-Hard Wear-Resistant 440C Stainless Steel (Material continued from previous page)

Hardened Balls—Reflective



- Yield Strength: Not rated
- Hardness: Very Hard (Rockwell C58)
- Meet ASTM A276 and A756

All sizes meet AMS 5630.

Dia.	Pkg. Qty.		Pkg.
Standard (±0.0005″)			
1/16″	100	9529K14	$5.36
5/64″	100	9529K34	5.40
3/32″	100	9529K33	5.55
7/64″	100	9529K35	5.77
1/8″	100	9529K11	5.87
9/64″	100	9529K36	6.05
5/32″	100	9529K12	6.11
3/16″	100	9529K13	6.88
7/32″	100	9529K44	8.86
1/4″	100	9529K15	10.56
9/32″	50	9529K16	7.51
5/16″	50	9529K17	7.80
11/32″	50	9529K18	11.72
3/8″	50	9529K19	13.34
7/16″	25	9529K21	11.02
1/2″	10	9529K22	6.38
9/16″	10	9529K23	6.28
5/8″	5	9529K24	7.43
11/16″	5	9529K25	7.82
3/4″	5	9529K26	7.80
13/16″	1	9529K27	2.78
7/8″	1	9529K28	2.99

Dia.	Pkg. Qty.		Pkg.
Standard (±0.0005″) (Cont.)			
15/16″	1	9529K29	$3.00
1″	1	9529K31	4.56
1 1/16″	1	9529K32	5.08
1 1/8″	1	9529K54	8.50
1 3/16″	1	9529K55	10.61
1 1/4″	1	9529K49	11.33
1 3/8″	1	9529K56	14.85
1 1/2″	1	9529K51	15.16
2″	1	9529K53	38.71
3″	1	9529K57	160.00
Tight-Tolerance (±0.0001″)			
1/16″	50	9642K21	4.89
5/64″	50	9642K23	5.40
3/32″	50	9642K25	6.02
7/64″	50	9642K27	5.00
1/8″	50	9642K29	5.11
9/64″	25	9642K31	7.69
5/32″	50	9642K33	5.56
3/16″	50	9642K35	7.72
7/32″	50	9642K37	9.72
1/4″	50	9642K39	10.99
17/64″	50	9642K41	11.79

Dia.	Pkg. Qty.		Pkg.
Tight-Tolerance (±0.0001″) (Cont.)			
9/32″	50	9642K43	$12.59
5/16″	50	9642K45	13.29
11/32″	25	9642K47	7.91
3/8″	10	9642K49	4.65
13/32″	10	9642K51	10.07
7/16″	10	9642K53	8.00
1/2″	10	9642K57	8.30
9/16″	5	9642K59	7.75
5/8″	5	9642K61	10.16
11/16″	1	9642K62	3.29
3/4″	1	9642K63	3.49
13/16″	1	9642K64	6.30
7/8″	1	9642K65	7.07
15/16″	1	9642K66	8.81
1″	1	9642K67	10.14
1 1/16″	1	9642K68	11.68
1 1/8″	1	9642K69	13.77
1 1/4″	1	9642K71	18.35
1 3/8″	1	9642K72	24.06
1 1/2″	1	9642K73	24.53
2″	1	9642K74	62.71

Hardened Metric Balls—Reflective



- Yield Strength: Not rated
- Hardness: Very Hard (Rockwell C58)
- Meet ASTM A276 and A756

These balls meet AMS 5630. Diameter tolerance is ±0.0025 mm.

Dia., mm	Pkg. Qty.		Pkg.
1	250	1598K16	$9.48
1.5	250	1598K17	9.93
2	250	1598K18	11.26
2.5	250	1598K22	12.15
3	250	1598K23	13.18
3.5	100	1598K24	6.53
4	50	1598K25	5.51

Dia., mm	Pkg. Qty.		Pkg.
5	50	1598K26	$7.73
6	50	1598K27	9.53
7	25	1598K28	7.10
8	25	1598K29	9.66
9	20	1598K31	9.49
10	10	1598K32	10.39
12	10	1598K33	11.41

Dia., mm	Pkg. Qty.		Pkg.
13	5	1598K34	$6.85
14	5	1598K35	9.26
15	5	1598K36	11.80
16	3	1598K37	10.22
18	3	1598K38	10.66
24	1	1598K39	12.71

High-Strength Corrosion-Resistant 2205 Stainless Steel

Often used in caustic, high-pressure applications, 2205 resists cracking even when faced with a combination of tensile stress, corrosive chemicals, and heat. It maintains its corrosion resistance up to 600° F and is not heat treatable. Material is magnetic.

Sheets—Unpolished

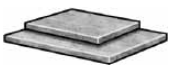

- Yield Strength: 65,000 psi
- Hardness: Hard (Rockwell C31, max.)
- Meet ASTM A240 and A923

All sheets are annealed. Width and length tolerances are ±1/16″. Sheets from 0.060″ to 0.135″ thick are cold rolled and have a thickness tolerance of ±0.006″. Sheets from 0.188″ to 1.000″ thick are hot rolled and have a thickness tolerance of –0.010″.

Thick.		3″×6″	6″×6″	12″×12″	24″×24″
0.060″	3623T81	$12.89	$20.55	$63.51	$186.80
0.075″	3623T82	14.59	23.26	71.90	211.47
0.105″	3623T83	19.35	30.85	95.36	280.46
0.120″	3623T84	22.20	35.40	109.41	321.78
0.135″	3623T85	24.42	38.94	120.35	353.96
0.188″	3623T86	30.51	48.64	150.33	442.15

Thick.		3″×6″	6″×6″	12″×12″	24″×24″
0.250″	3623T87	$38.60	$61.53	$190.19	$559.39
0.375″	3623T88	51.71	82.43	254.78	749.36
0.500″	3623T89	68.16	108.66	335.85	987.80
0.750″	3623T91	93.29	148.72	459.68	1,352.00
1.000″	3623T92	118.20	188.44	582.46	1,713.11

Rods—Polished



- Yield Strength: 65,000 psi
- Hardness: Hard (Rockwell C30)
- Meet ASTM A182 and A276

These rods are cold finished and annealed. Diameter tolerance is ±0.003″. Straightness tolerance is 1/16″ per 5 feet. Length tolerance is ±1/2″ per foot.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/4″	9079K12	$18.28	$31.86	$58.86	$80.33	$138.50
1″	9079K13	30.10	52.45	96.92	132.26	228.04
1 1/2″	9079K15	58.80	102.45	189.32	258.36	445.45

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
2″	9079K17	$94.73	$165.05	$304.99	$416.23	$717.63
3″	9079K19	176.93	308.29	569.67	777.43	1,340.40

Blade-Quality Wear-Resistant S30V Stainless Steel



- Yield Strength: 95,000 psi
- Hardness: Hard (Rockwell C25)
- Can be hardened up to Rockwell C62

With excellent strength and wear resistance, S30V is a preferred material for knives and cutlery. It can be heat treated for increased hardness and maintains its corrosion resistance to 200° F. Material is magnetic. These sheets are hot rolled and annealed. They have a ground finish. Thickness tolerance is +0.005″. Width and length tolerances are +1/8″. Flatness tolerance is 1/8″ per 5 feet.

Thick.		1″×12″	2″×12″	4″×12″	6″×12″	12″×12″
3/32″	4976T1	$31.27	$54.41	$94.46	$123.16	$214.20
1/8″	4976T2	37.54	65.31	113.40	147.86	257.14

Thick.		1″×12″	2″×12″	4″×12″	6″×12″	12″×12″
3/16″	4976T3	$45.06	$78.39	$136.10	$177.46	$308.62
1/4″	4976T4	54.28	94.43	163.96	213.78	371.79

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

High-Strength 13-8 PH Stainless Steel



- Yield Strength: Not rated
- Hardness: Hard (Rockwell C39, maximum)

13-8 PH can be hardened at lower temperatures than other heat-treatable types of stainless steel. It maintains its corrosion resistance up to 1100° F. These unpolished rods are cold finished and annealed, and they meet AMS 5629. Material is magnetic. Straightness tolerance is 0.0125″ per foot. Length tolerance is ±1″ per foot.

Dia.	Dia. Tolerance		½ ft.	1 ft.	3 ft.
1/4″	±0.001″	3667T18	$11.31	$18.82	$43.66
5/16″	±0.002″	3667T17	18.98	31.58	73.27
3/8″	±0.002″	3667T19	22.85	38.02	88.21
1/2″	±0.002″	3667T31	$35.67	$59.36	$137.72
3/4″	±0.002″	3667T22	70.97	118.09	274.00
1″	±0.003″	3667T24	132.94	221.23	513.29

Very High-Strength 15-5 PH Stainless Steel



- Yield Strength: 145,000 psi
- Hardness: Hard (Rockwell C35)
- Can be hardened up to Rockwell C45

Offering outstanding strength, 15-5 PH is used for gears and shafts, and it can be hardened further by low-temperature heat treating. It maintains its corrosion resistance up to 1100° F. These unpolished rods are cold finished and annealed. Material is magnetic. All sizes meet AMS 2300 and AMS 5659. Diameter tolerance is ±0.003″. Straightness tolerance is 1/16″ per 5 feet. Length tolerance for ½-ft. lengths is +1/8″; for 1-ft. to 6-ft. lengths it is ±1″ per foot.

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/4″	87095K82	$2.96	$5.15	$8.82	$12.02	$21.46
3/8″	87095K84	5.20	9.04	15.48	21.09	37.66
7/16″	87095K56	5.80	10.09	17.27	23.54	42.03
1/2″	87095K62	8.97	15.60	26.72	36.41	65.02
9/16″	87095K22	10.89	18.94	32.43	44.18	78.90
5/8″	87095K23	11.30	19.66	33.66	45.87	81.91
3/4″	87095K24	$16.01	$27.84	$47.67	$64.95	$115.98
7/8″	87095K25	19.95	34.70	59.43	80.98	144.60
1″	87095K27	23.45	40.79	69.85	95.17	169.95
1 1/8″	87095K28	29.69	51.64	88.43	120.48	215.15
1 1/4″	87095K31	35.04	60.93	104.34	142.17	253.88
1 1/2″	87095K33	48.25	83.92	143.71	195.80	349.65

Corrosion-Resistant High-Strength 17-4 PH Stainless Steel

With a higher chromium content than 15-5 PH, 17-4 PH offers better corrosion resistance as well as high strength. Also known as 630 stainless steel, this material can be hardened by low-temperature heat treating. It maintains its corrosion resistance up to 1100° F. Material is magnetic.

Rectangular Bars—Unpolished (Hot Rolled)



- Yield Strength: 110,000 psi
- Hardness: Hard (Rockwell C32)
- Can be hardened up to Rockwell C44
- Meet ASTM A564

All sizes are annealed and meet AMS 5643. Width tolerance for 3/4″ to 2″ wide bars is ±0.031″; for 2 1/4″ to 4″ wide bars it is ±0.062″. Straightness tolerance is 1/8″ per 5 feet. Length tolerance is ±1″ per foot.

Also Available Bars with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $10. Please ask for 3375T1 and specify thickness, width, and length.

Wd.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/4″ Thick (±0.015″)						
3/4″	88775K112	$10.56	$18.33	$31.17	$42.53	$73.33
1″	88775K11	11.48	19.92	33.87	46.22	79.69
1 1/4″	88775K13	13.26	23.03	39.15	53.42	92.11
1 1/2″	88775K55	15.38	26.71	45.40	61.96	106.83
2″	88775K71	19.80	34.37	58.42	79.73	137.47
2 1/2″	88775K724	20.64	35.83	60.92	83.13	143.33
3″	88775K15	24.75	42.97	73.05	99.69	171.88
5/16″ Thick (±0.020″)						
3/4″	88775K59	13.48	23.40	39.78	54.29	93.60
2″	88775K132	26.35	45.74	77.77	106.13	182.98
3/8″ Thick (±0.015″)						
3/4″	88775K166	13.81	23.97	40.75	55.62	95.89
1″	88775K17	13.94	24.21	41.15	56.16	96.83
1 1/2″	88775K73	19.78	34.34	58.38	79.67	137.36
2″	88775K19	25.90	44.96	76.43	104.30	179.83
3″	88775K22	34.59	60.05	102.09	139.33	240.22
1/2″ Thick (±0.015″)						
3/4″	88775K56	15.39	26.72	45.42	61.99	106.88
1″	88775K24	17.25	29.95	50.92	69.50	119.82
1 1/4″	88775K152	24.08	41.81	71.07	96.99	167.23
1 1/2″	88775K26	27.05	46.95	79.82	108.94	187.82
1 3/4″	88775K161	28.52	49.52	84.18	114.89	198.08
2″	88775K28	31.43	54.56	92.76	126.59	218.26
2 1/2″	88775K172	32.66	56.70	96.39	131.55	226.81
3″	88775K31	44.26	76.84	130.62	178.26	307.35
5/8″ Thick (±0.020″)						
3/4″	88775K181	19.95	34.63	58.87	80.34	138.52
1″	88775K192	24.82	43.79	73.27	99.99	172.39
1 1/2″	88775K211	32.94	57.19	97.23	132.69	228.77
2″	88775K222	33.80	58.69	99.77	136.16	234.75
2 1/2″	88775K231	39.09	67.86	115.36	157.43	271.43
3″	88775K242	46.63	80.95	137.62	187.82	323.82
3/4″ Thick (±0.020″)						
1″	88775K33	22.64	39.31	66.83	91.20	157.24
1 1/4″	88775K332	28.52	49.52	84.18	114.87	198.06
1 1/2″	88775K35	29.79	51.71	87.91	119.97	206.84
1 3/4″	88775K367	33.32	57.85	98.34	134.21	231.39
2″	88775K37	38.61	67.03	113.94	155.50	268.10
3/4″ Thick (±0.020″) (Cont.)						
2 1/2″	88775K341	$42.64	$74.03	$125.84	$171.74	$296.10
3″	88775K39	54.04	93.81	159.48	217.64	375.25
3 1/2″	88775K364	60.69	105.36	179.12	244.45	421.46
4″	88775K374	68.15	118.31	201.12	274.47	473.23
1″ Thick (±0.031″)						
1″	88775K75	28.79	49.98	84.96	115.95	199.91
1 1/4″	88775K42	31.21	54.18	92.11	125.70	216.73
1 1/2″	88775K352	35.30	61.28	104.17	142.16	245.11
1 3/4″	88775K254	41.20	71.52	121.59	165.93	286.09
2″	88775K44	48.23	83.74	142.36	194.28	334.96
2 1/2″	88775K422	53.95	93.66	159.22	217.29	374.63
3″	88775K46	66.46	115.39	196.16	267.70	461.56
3 1/2″	88775K57	74.87	129.98	220.96	301.55	519.91
4″	88775K87	86.32	149.85	254.75	347.66	599.42
1 1/4″ Thick (±0.031″)						
1 1/4″	88775K77	48.78	84.69	143.98	196.49	338.77
1 1/2″	88775K48	52.13	90.50	153.85	209.96	362.00
2″	88775K431	59.31	102.97	175.06	238.90	411.90
2 1/4″	88775K51	66.83	116.02	197.24	269.17	464.09
2 1/2″	88775K53	74.20	128.81	218.98	298.84	515.25
3″	88775K442	85.46	148.37	252.22	344.21	593.47
1 1/2″ Thick (±0.031″)						
1 1/2″	88775K69	59.73	103.70	176.30	240.60	414.82
2″	88775K58	61.89	107.44	182.65	249.27	429.77
2 1/2″	88775K67	75.07	130.32	221.55	302.35	521.30
2 3/4″	88775K68	78.69	136.62	232.26	316.96	546.49
4″	88775K89	114.46	198.72	337.83	461.04	794.89
1 3/4″ Thick (±0.016″)						
1 3/4″	88775K79	73.12	126.94	215.79	294.50	507.75
2″ Thick (±0.031″)						
2″	88775K81	85.77	148.90	253.13	345.44	595.59
3″	88775K824	114.46	198.72	337.83	461.04	794.89
2 1/4″ Thick (±0.031″)						
2 1/4″	88775K83	98.68	171.31	291.24	397.45	685.26
2 1/2″ Thick (±0.031″)						
2 1/2″	88775K85	121.31	210.60	358.02	488.59	842.40
3″	88775K274	141.06	244.90	416.33	568.17	979.61

(Material continued on following page)

Warning! *Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.*

Corrosion-Resistant High-Strength 17-4 PH Stainless Steel *(Cont. from previous page)*

Hardened Rectangular Bars—Unpolished (Hot Rolled)



- Yield Strength: 190,000 psi
- Hardness: Hard (Rockwell C44)
- Meet ASTM A564

All sizes are true bar, which is rolled for a precise edge. Thickness tolerance for 1/4″ to 3/4″ thick bars is ±0.020″; for 1″ and 1 1/2″ thick bars it is ±0.031″. Width tolerance is +0.062″, –0.031″. Length tolerance is ±3″.

Thick.	Wd.		3 ft.
1/4″	3/4″	4860T41	$155.55
1/4″	1″	4860T42	164.55
1/4″	2″	4860T44	219.00
1/2″	3/4″	4860T51	193.62
1/2″	1″	4860T52	206.17
1/2″	1 1/2″	4860T53	260.56
1/2″	2″	4860T54	$293.89
1/2″	3″	4860T55	390.17
3/4″	1″	4860T62	245.44
3/4″	2″	4860T64	370.43
3/4″	3″	4860T65	485.69
1″	1″	4860T72	310.91
1″	1 1/2″	4860T73	$393.13
1″	2″	4860T74	431.59
1″	3″	4860T75	542.67
1 1/2″	1 1/2″	4860T83	530.52
1 1/2″	2″	4860T84	571.86
1 1/2″	3″	4860T85	784.43

Strips—Unpolished (Cold Rolled)

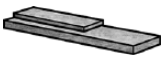

- Yield Strength: 145,000 psi
- Hardness: Hard (Rockwell C30)
- Can be hardened up to Rockwell C38
- Meet ASTM A693

Strips meet AMS 5604. All sizes are annealed. Width tolerance is ±0.010″. Length tolerance is ±0.015″.

Thick.	Thick. Tolerance		4″×60″
0.003″	±0.00015″	3254T11	$48.11
0.004″	±0.00020″	3254T12	54.08
0.005″	±0.00025″	3254T13	62.63
0.006″	±0.00030″	3254T14	79.62
0.008″	±0.00040″	3254T15	$87.00
0.010″	±0.00050″	3254T16	96.55
0.012″	±0.00060″	3254T17	109.88
0.015″	±0.00100″	3254T18	133.52
0.018″	±0.00100″	3254T19	$147.84
0.020″	±0.00100″	3254T21	160.43
0.025″	±0.00100″	3254T22	193.96
0.031″	±0.00100″	3254T23	210.17

Sheets—Unpolished



- Yield Strength: 160,000 psi
- Hardness: Hard (Rockwell C36)
- Can be hardened up to Rockwell C47
- 0.031″ to 0.125″ thick sheets: Meet ASTM A693

All sheets are annealed. Width and length tolerances are +1/4″, –1/16″. Sheets from 0.031″ to 0.125″ thick are cold rolled with a thickness tolerance of ±0.008″; they meet AMS 5604. Sheets from 0.188″ to 0.500″ thick are hot rolled with a thickness tolerance of +0.055″, –0.010″.

Thick.		6″×6″	12″×12″	12″×24″	12″×36″
0.031″	1773T1	$12.77	$33.94	$61.71	$85.71
0.040″	1773T2	15.09	40.09	72.90	101.25
0.050″	1773T3	16.41	43.62	79.30	110.14
0.063″	1773T4	20.06	53.31	96.93	134.63
0.080″	1773T5	24.07	63.97	116.31	161.54
0.090″	1773T6	26.48	70.37	127.94	177.70
0.100″	1773T7	$35.87	$95.33	$173.33	$240.74
0.125″	1773T8	37.03	98.41	178.93	248.52
0.188″	6625K1	55.34	147.09	267.43	371.43
0.250″	6625K2	66.71	177.30	322.36	447.72
0.375″	6625K3	136.85	273.70	497.64	691.16
0.500″	6625K4	182.47	364.94	663.52	921.56

Tight-Tolerance Sheets—Precision Ground



- Yield Strength: 110,000 psi
- Hardness: Hard (Rockwell C33)
- Can be hardened up to Rockwell C47
- Meet ASTM A693

These sheets are annealed and meet AMS 5604. Thickness tolerance is ±0.001″. Width and length tolerances are +1/4″.

Thick.		6″×6″	6″×12″	6″×24″	12″×24″
1/16″	5492T81	$193.76	$298.29	$518.18	$901.19
1/8″	5492T82	171.74	264.40	459.31	798.80
3/16″	5492T83	174.97	269.37	467.93	813.80
1/4″	5492T84	175.71	270.51	469.91	817.24
5/16″	5492T85	178.37	274.61	477.04	829.63
3/8″	5492T86	$180.59	$278.03	$482.98	$839.96
1/2″	5492T87	219.85	338.47	587.98	1,022.58
5/8″	5492T88	259.05	438.85	761.90	———
3/4″	5492T89	296.13	501.67	870.96	———
1″	5492T91	357.00	604.80	1,050.00	———

Rods—Unpolished



- Yield Strength: Not rated
- Hardness: Hard (Rockwell C28)
- Can be hardened up to Rockwell C44
- Meet ASTM A564

All sizes are annealed and meet AMS 5643. Diameter tolerance is ±0.003″. Straightness tolerance is 1/16″ per 5 feet. Length tolerance is ±1/2″ per foot. 3/16″ to 5/16″ dia. rods are cold drawn; 3/8″ to 3 1/2″ dia. rods are cold finished.

Also Available: Rods with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $10. Please ask for 3393T1 and specify diameter and length.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/16″	88855K1	$3.15	$5.48	$9.31	$12.71	$21.91
1/4″	88855K2	3.73	6.47	10.99	15.00	25.87
5/16″	88855K9	4.56	7.91	13.45	18.35	31.64
3/8″	88855K3	5.43	9.44	16.04	21.89	37.74
7/16″	88855K4	6.21	10.77	18.31	24.99	43.09
1/2″	88855K5	7.83	13.59	23.11	31.53	54.37
9/16″	88855K6	8.04	13.96	23.73	32.38	55.83
5/8″	88855K7	8.27	14.36	24.40	33.30	57.42
11/16″	88855K151	11.29	19.60	33.32	45.48	78.41
3/4″	88855K16	13.19	22.91	38.94	53.14	91.62
13/16″	88855K18	14.39	24.98	42.47	57.96	99.93
7/8″	88855K22	15.00	26.04	44.26	60.41	104.15
15/16″	88855K25	20.40	35.41	60.20	82.16	141.65
1″	88855K28	21.27	36.93	62.79	85.68	147.73
1 1/16″	88855K31	22.83	39.64	67.39	91.96	158.56
1 1/8″	88855K34	24.29	42.17	71.69	97.84	168.69
1 3/16″	88855K36	27.30	47.40	80.58	109.96	189.59
1 1/4″	88855K39	30.62	53.16	90.38	123.34	212.65
1 5/16″	88855K42	$31.10	$54.00	$91.80	$125.27	$215.99
1 3/8″	88855K45	31.32	54.38	92.45	126.17	217.53
1 7/16″	88855K47	32.72	56.81	96.57	131.79	227.23
1 1/2″	88855K52	34.41	59.75	101.57	138.61	238.99
1 9/16″	88855K57	36.33	63.08	107.23	146.33	252.30
1 5/8″	88855K64	39.43	68.45	116.37	158.81	273.81
1 3/4″	88855K82	45.24	78.55	133.53	182.22	314.18
1 7/8″	88855K84	48.35	83.94	142.70	194.74	335.76
2″	88855K86	58.97	102.37	174.03	237.50	409.48
2 1/8″	88855K87	64.24	111.53	189.60	258.74	446.11
2 1/4″	88855K88	68.01	118.07	200.72	273.92	472.28
2 3/8″	88855K89	70.66	122.67	208.53	284.58	490.66
2 1/2″	88855K91	83.63	145.19	246.83	336.85	580.78
2 3/4″	88855K93	99.40	172.56	293.36	400.35	690.26
3″	88855K95	116.76	202.71	344.61	470.29	810.85
3 1/8″	88855K96	125.81	218.42	371.32	506.74	873.69
3 1/4″	88855K97	135.24	234.79	399.14	544.71	939.16
3 1/2″	88855K99	154.33	267.93	455.48	621.59	1,071.71

(Material continued on following page)

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

Corrosion-Resistant High-Strength 17-4 PH Stainless Steel *(Cont. from previous page)*

With a higher chromium content than 15-5 PH, 17-4 PH offers better corrosion resistance as well as high strength. Also known as 630 stainless steel, this material can be hardened by low-temperature heat treating. It maintains its corrosion resistance up to 1100° F. Material is magnetic.

Rods—Unpolished



- Yield Strength: 110,000 psi
- Hardness: Hard (Rockwell C35)
- Can be hardened up to Rockwell C44
- Meet ASTM A564

All sizes are annealed and meet AMS 5643. Rods with a 3″ and 3½″ dia. are cold finished; 4″ to 6″ dia. rods are hot rolled. Diameter tolerance for 3″ dia. rods is ±0.003″; for 3½″ to 4½″ dia. rods it is +1/16″; and for 5″ and 6″ dia. rods it is +1/8″. Length tolerance is ±1/16″.

Dia.		½″ Lg.	1″ Lg.	2″ Lg.	3″ Lg.
3″	1319T1	$14.60	$25.95	$47.84	$64.87
3½″	1319T2	19.29	34.29	63.23	85.74
4″	1319T3	23.40	42.48	77.27	105.42

Dia.		½″ Lg.	1″ Lg.	2″ Lg.	3″ Lg.
4½″	1319T4	$26.96	$48.94	$89.02	$121.45
5″	1319T5	32.75	59.45	108.14	147.53
6″	1319T6	48.68	88.37	160.73	219.28

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 118,000 psi
- Hardness: Hard (Rockwell C36)
- Can be hardened up to Rockwell C44
- Meet ASTM A564

These rods are annealed. Diameter tolerance is –0.0005″. Straightness tolerance is 1/16″ per foot. Length tolerance for ½-ft. lengths is ±1/8″; for 1-ft. to 6-ft. lengths it is ±1″ per foot.

Also Available: Rods with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $15. Please ask for 3394T1 and specify diameter and length.

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″	9095K83	$5.12	$8.54	$14.51	$19.80	$34.14
5/32″	9095K87	5.83	9.72	16.53	22.56	38.89
3/16″	9095K92	6.43	10.71	18.21	24.85	42.85
1/4″	9095K96	6.91	11.52	19.58	26.71	46.06
5/16″	9095K101	8.01	13.34	22.68	30.95	53.37
3/8″	9095K105	8.87	14.79	25.14	34.31	59.15
7/16″	9095K47	9.67	16.11	27.39	37.38	64.45

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/2″	9095K52	$10.61	$17.68	$30.05	$41.01	$70.71
5/8″	9095K56	13.44	22.40	38.08	51.96	89.59
3/4″	9095K61	17.40	28.99	49.29	67.26	115.97
7/8″	9095K65	18.61	31.02	52.74	71.97	124.09
1″	9095K69	23.60	39.34	66.88	91.27	157.36
1 1/4″	9095K74	37.89	63.16	107.37	146.53	252.63
1 1/2″	9095K78	52.17	86.94	147.80	201.71	347.77

Tight-Tolerance Metric Rods—Precision Ground



- Yield Strength: 118,000 psi
- Hardness: Hard (Rockwell C36)
- Can be hardened up to Rockwell C44
- Meet ASTM A564

All sizes are annealed. Diameter tolerance is –0.0127 mm. Straightness tolerance is 3/16″ per foot. Length tolerance for ½-ft. lengths is ±1/8″; for 1-ft. to 6-ft. lengths it is ±1″ per foot.

Dia., mm		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
2	3180T31	$5.04	$8.04	$13.40	$17.48	$29.13
4	3180T34	5.44	8.69	14.48	18.88	31.47
5	3180T35	4.60	7.34	12.24	15.97	26.61
6	3180T36	5.40	8.62	14.37	18.74	31.24
7	3180T37	5.86	9.35	15.58	20.33	33.88
8	3180T38	6.28	10.01	16.69	21.77	36.28
9	3180T39	6.84	10.91	18.19	23.72	39.54
10	3180T16	7.90	12.60	21.01	27.40	45.67
12	3180T17	9.77	15.59	25.98	33.89	56.48
14	3180T18	12.04	19.22	32.03	41.77	69.62

Dia., mm		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
15	3180T29	$14.83	$23.66	$39.44	$51.44	$85.74
16	3180T19	17.10	27.27	45.46	59.29	98.82
18	3180T21	18.91	30.17	50.29	65.59	109.32
20	3180T22	21.61	34.48	57.46	74.95	124.91
25	3180T23	23.35	37.25	62.09	80.99	134.98
30	3180T24	33.38	53.25	88.75	115.76	192.94
35	3180T25	48.54	77.44	129.07	168.35	280.59
40	3180T26	60.45	96.44	160.73	209.65	349.42
45	3180T27	76.38	121.86	203.10	264.92	441.53
50	3180T28	80.42	128.30	213.83	278.90	464.84

Hardened Rods—Unpolished



- Yield Strength: 105,000 psi
- Hardness: Hard (Rockwell C33)
- Meet ASTM A564

All sizes meet AMS 5643 and are hardened to H1150 temper. Diameter tolerance is ±0.003″, except 4″ diameter is +1/16″. Straightness tolerance is 1/16″ per 5 feet. Length tolerance for ½-ft. lengths is ±1/8″; for 1-ft. to 6-ft. lengths it is ±1″ per foot.

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/2″	87205K22	$6.34	$11.01	$19.07	$25.99	$44.05
3/4″	87205K11	11.74	20.38	35.30	48.10	81.52
7/8″	87205K12	15.25	26.48	45.86	62.49	105.91
1″	87205K13	18.54	32.19	55.75	75.96	128.75
1 1/8″	87205K14	22.32	38.76	67.12	91.46	155.02
1 1/4″	87205K15	26.75	46.43	80.42	109.58	185.73
1 3/8″	87205K16	29.30	50.87	88.10	120.04	203.46
1 1/2″	87205K17	33.58	58.29	100.96	137.56	233.16
1 5/8″	87205K18	37.72	65.49	113.42	154.55	261.95

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1 3/4″	87205K19	$42.62	$73.99	$128.15	$174.61	$295.95
1 7/8″	87205K51	47.46	82.39	142.71	194.45	329.58
2″	87205K52	52.22	90.67	157.03	213.97	362.66
2 1/8″	87205K53	59.59	103.46	179.19	244.16	413.83
2 1/4″	87205K54	63.78	110.73	191.78	261.32	442.91
2 1/2″	87205K55	75.69	131.40	227.59	310.11	525.61
2 3/4″	87205K56	90.68	157.44	272.68	371.55	629.74
3″	87205K57	105.92	183.90	318.51	434.00	735.59
4″	87205K61	185.27	321.65	557.11	759.11	1,286.62

Tight-Tolerance Hardened Rods—Precision Ground



- Yield Strength: 170,000 psi
- Hardness: Hard (Rockwell C40)
- Meet ASTM A484 and A564

These rods meet AMS 5643 and are hardened to H900 temper. Diameter tolerance is –0.0005″. Straightness tolerance is 1/16″ per foot. Length tolerance for ½-ft. lengths is ±1/8″; for 1-ft. to 6-ft. lengths it is ±1″ per foot.

Also Available: Rods with certification. Each comes with a traceable lot number and material test report. Offered in the same sizes listed below for an additional $15. Please ask for 3413T1 and specify diameter and length.

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″	1141T11	$6.31	$10.52	$15.45	$21.04	$37.58
3/16″	1141T12	8.33	13.88	20.37	27.75	49.56
1/4″	1141T23	9.09	15.14	22.23	30.28	54.08
5/16″	1141T24	10.54	17.56	25.77	35.12	62.71
3/8″	1141T25	11.52	19.19	28.17	38.39	68.55
1/2″	1141T26	13.61	22.69	33.30	45.38	81.03
5/8″	1141T27	17.54	29.24	42.92	58.48	104.42
3/4″	1141T28	22.77	37.95	55.71	92.56	135.55

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
7/8″	1141T29	$27.77	$46.28	$67.93	$92.56	$165.28
1″	1141T31	34.95	58.25	85.51	116.51	208.05
1 1/8″	1141T13	48.74	81.23	119.23	162.46	290.10
1 1/4″	1141T32	49.28	82.13	120.55	164.26	293.32
1 3/8″	1141T14	65.02	108.36	159.06	216.72	387.00
1 1/2″	1141T33	65.34	108.89	159.84	217.79	388.91
1 3/4″	1141T15	81.38	135.63	199.08	271.25	484.38
2″	1141T16	99.22	165.37	242.74	330.74	590.60

Warning! ***Yield strength and hardness are not guaranteed and are intended only as a basis for comparison.***

Low-Expansion Invar 36

Because Invar holds its size and shape when temperatures rise, this nickel-iron alloy is the go-to metal when dimensional stability is required. It is commonly used when precision is a priority, such as for scientific instruments and optical devices.

Sheets—Unpolished

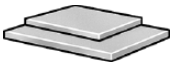

- Yield Strength: 40,000 psi
- Hardness: Medium (Rockwell B90 max.)
- Temper: Soft (Annealed)
- Meet ASTM F1684

Width and length have plus tolerances.

Thick.	Thick. Tolerance	6″×6″		12″×12″		12″×24″	
0.010″	±0.0005″	4287K11	$13.90	4287K12	$41.70	4287K13	$69.50
0.020″	±0.001″	4287K21	19.94	4287K22	59.81	4287K23	99.69
0.040″	±0.001″	4287K31	32.18	4287K32	96.53	4287K33	160.88
0.060″	±0.002″	4287K41	43.20	4287K42	129.60	4287K43	216.00
0.100″	±0.003″	4287K51	72.86	4287K52	215.42	4287K53	316.80

Rods—Unpolished



- Yield Strength: 40,000 psi
- Hardness: Medium (Rockwell B90 max.)
- Temper: Soft (Annealed)
- Meet ASTM F1684

Length has a plus tolerance.

Dia.	Dia. Tolerance		½ ft.	1 ft.	3 ft.
1/8″	±0.003″	4279K11	$7.91	$13.18	$32.95
1/4″	±0.004″	4279K12	10.71	17.84	44.61
3/8″	±0.007″	4279K13	22.00	36.66	91.66
1/2″	±0.005″	4279K14	31.21	52.02	130.05
5/8″	±0.005″	4279K15	43.57	75.42	167.59
3/4″	±0.010″	4279K16	60.84	105.30	234.00
1″	±0.010″	4279K18	107.25	180.99	335.16

Low-Expansion Machinable Kovar

This nickel-iron-cobalt alloy expands at the same low rate as glass when heated. It offers better machinability than Invar and is often used anywhere a dependable glass-to-metal seal is required, such as in diodes and microwave tubes. All come with a traceable lot number and material test report.

Sheets with Material Certification—Unpolished

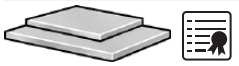

- Yield Strength: 50,000 psi
- Hardness: Medium (Rockwell B82 max.)
- Temper: Soft (Annealed)
- Meet ASTM F15

Width and length have plus tolerances.

Thick.	Thick. Tolerance		4″×4″	6″×6″	12″×12″
0.010″	±0.001″	1215N17	$11.33	$22.26	$40.48
0.020″	±0.001″	1215N18	22.27	43.75	79.55
0.040″	±0.001″	1215N21	38.08	74.80	136.00
0.060″	±0.002″	1215N23	52.89	103.89	188.89
0.090″	±0.003″	1215N24	73.86	145.08	263.79
0.125″	±0.003″	1215N26	99.40	195.25	355.00

Rods with Material Certification—Ground

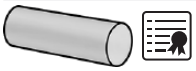

- Yield Strength: 55,000 psi
- Hardness: Medium (Rockwell B105 max.)
- Temper: Surface Hardened (Condition B)
- Meet ASTM F15

Straightness tolerance is 1/8″ per 5 feet. Length has a plus tolerance.

Dia.	Dia. Tolerance		½ ft.	1 ft.	3 ft.
3/16″	±0.002″	1215N11	$12.52	$20.87	$52.17
1/4″	±0.002″	1215N12	19.68	32.80	82.00
3/8″	±0.002″	1215N13	40.62	67.69	169.23
1/2″	±0.002″	1215N14	62.07	103.45	258.62
5/8″	±0.002″	1215N15	87.87	146.45	366.13
3/4″	±0.002″	1215N16	118.18	196.97	492.42

Multipurpose 400 Nickel

Comparable to Monel, this nickel-copper alloy is known for its high strength, excellent corrosion resistance, and good weldability and formability. It is widely used in chemical-processing equipment and marine hardware, and in highly corrosive environments such as those involving salt water, sulfuric acid, and alkalies.

Sheets—Unpolished

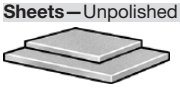

- Yield Strength: 25,000 psi
- Hardness: Medium (Rockwell B68)
- Temper: Soft (Annealed)
- Meet ASTM B127

Width and length tolerances are ±1/4″.

Thick.	Thick. Tolerance		2″×12″	6″×6″	6″×12″	12″×12″	12″×24″
0.020″	±0.003″	9227K1	$18.99	$33.30	$44.82	$73.43	$126.61
0.031″	±0.004″	9227K2	27.85	48.82	63.12	107.67	185.64
0.062″	±0.004″	9227K3	53.01	92.95	120.16	204.98	353.42
0.078″	±0.004″	9227K4	$60.55	$106.16	$137.24	$234.12	$403.66
0.125″	±0.004″	9227K5	90.19	158.13	204.43	348.73	601.26

Rods—Unpolished

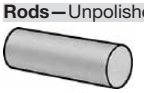

- Yield Strength: 50,000 psi
- Hardness: Medium (Rockwell B83)
- Temper: Stress Relieved
- Meet ASTM B164

Length tolerance for the 1/2-ft. and 1-ft. lengths is ±1/2″; for 4-ft. lengths it is ±6″.

Dia.	Dia. Tolerance		½ ft.	1 ft.	4 ft.
1/4″	±0.003″	88745K11	$15.74	$21.78	$41.09
3/8″	±0.003″	88745K13	22.48	27.29	90.96
1/2″	±0.003″	88745K21	37.46	49.45	149.85
5/8″	±0.003″	88745K23	$46.56	$64.67	$215.57
3/4″	±0.003″	88745K25	66.79	87.04	290.15
1″	±0.003″	88745K27	104.74	123.28	440.28

Highly Corrosion-Resistant 200 Nickel

200 nickel is 99% pure, so it offers outstanding corrosion resistance along with good formability, weldability, and electrical conductivity. It is often used in food-processing equipment and chemical shipping drums.

Sheets—Unpolished

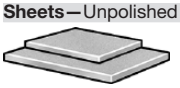

- Yield Strength: 12,000 psi
- Hardness: Not rated
- Temper: Soft (Annealed)
- Meet ASTM B162

Width and length have plus tolerances.

Thick.	Thick. Tolerance		2″×12″	4″×12″	6″×6″	6″×12″	6″×24″	12″×12″	12″×24″
0.019″	±0.002″	9197K1	$25.50	$39.67	$31.17	$51.00	$85.00	$85.00	$141.67
0.062″	±0.006″	9197K5	70.70	109.98	86.42	141.41	235.68	235.68	392.80
0.125″	±0.010″	9197K6	124.98	194.41	152.75	249.95	416.59	416.59	694.31

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Highly Corrosion-Resistant 200 Nickel (Material continued from previous page)

200 nickel is 99% pure, so it offers outstanding corrosion resistance along with good formability, weldability, and electrical conductivity. It is often used in food-processing equipment and chemical shipping drums.

Rods—Unpolished



- Yield Strength: 60,000 psi
- Hardness: Not rated
- Temper: Hardened (Cold Drawn)
- Meet ASTM B160

Diameter tolerance is ±0.005″. Straightness tolerance is 0.030″ per foot. Length has a plus tolerance.

Dia.		½ ft.	1 ft.	3 ft.	6 ft.
¼″	9136K21	$15.57	$25.15	$65.87	$119.77
⅜″	9136K22	32.60	52.67	137.94	250.80
½″	9136K23	52.74	85.19	223.12	405.67
¾″	9136K25	$102.19	$165.07	$432.34	$786.07
1″	9136K26	142.67	230.46	603.60	1,097.45

High-Strength 625 Nickel

A blend of nickel, chromium, and molybdenum gives 625 nickel the strength, weldability, and corrosion resistance necessary for use in expansion joints, exhaust systems, and marine components. It is comparable to Inconel 625 and Haynes 625. These sheets and rods come with a traceable lot number and material test report.

Sheets with Material Certification—Unpolished

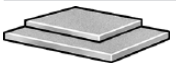

- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B94)
- Temper: Soft (Annealed)
- Meet ASTM B443

These sheets also meet AMS 5599. Width and length tolerances are ±1/16″.

Thick.	Thick. Tolerance		6″×6″	12″×12″	12″×24″
0.020″	±0.002″	8786K1	$42.74	$57.86	$105.20
0.032″	±0.002″	8786K2	44.72	80.11	145.66
0.040″	±0.003″	8786K3	49.74	110.76	201.38
0.050″	±0.003″	8786K4	50.99	115.89	210.71
0.063″	±0.003″	8786K5	52.18	163.06	296.47
0.080″	±0.003″	8786K6	58.40	182.51	331.84
0.125″	±0.005″	8786K7	71.50	262.18	476.69
0.188″	±0.035″	8786K8	93.37	342.36	622.48
0.250″	±0.046″	8786K9	120.28	441.04	801.89

Rods with Material Certification—Unpolished



- Yield Strength: 60,000 psi
- Hardness: Medium (Rockwell B97)
- Temper: Soft (Annealed)
- Meet ASTM B446

Rods also meet AMS 5666. Straightness tolerance is 1/16″ per 5 feet. Length has a plus tolerance.

Dia.	Dia. Tolerance		3″ Lg.	6″ Lg.	12″ Lg.	36″ Lg.
⅜″	±0.002″	8791K111	$32.84	$38.22	$54.33	$123.29
½″	±0.002″	8791K112	35.81	45.31	67.23	146.15
⅝″	±0.002″	8791K113	41.50	60.12	75.63	193.93
¾″	±0.002″	8791K114	51.21	83.76	109.61	281.06
1″	±0.003″	8791K115	57.04	99.98	130.85	335.51
1¼″	±0.003″	8791K116	79.82	162.35	263.82	676.47
1⅜″	±0.003″	8791K117	83.56	169.96	276.18	708.16
1½″	±0.003″	8791K118	95.80	194.84	316.61	811.83
2″	±0.003″	8791K119	159.79	325.00	528.13	1,354.17

High-Temperature Alloy X Nickel

Equivalent to Inconel HX and Hastelloy X, this nickel alloy offers good strength and weldability, along with excellent oxidation resistance in temperatures up to 2000° F. It is often used for components in gas turbine engines and furnaces. These sheets and rods come with a traceable lot number and material test report.

Sheets with Material Certification—Unpolished

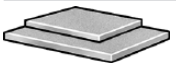

- Yield Strength: 54,000 psi
- Hardness: Medium (Rockwell B88)
- Temper: Soft (Annealed)
- Meet ASTM B435

All of these sheets also meet AMS 5536. Width and length tolerances are ±1/16″.

Thick.	Thick. Tolerance		6″×6″	12″×12″	12″×24″
0.020″	+0.002″, –0.002″	6505K111	$42.37	$64.90	$118.00
0.025″	+0.002″, –0.002″	6505K112	41.92	69.43	126.24
0.029″	+0.002″, –0.002″	6505K113	43.16	93.04	169.17
0.040″	+0.003″, –0.003″	6505K114	45.83	109.79	199.62
0.050″	+0.003″, –0.003″	6505K115	46.05	117.92	214.40
0.063″	+0.003″, –0.003″	6505K116	48.54	150.74	274.07
0.090″	+0.004″, –0.004″	6505K117	68.65	212.96	387.20
0.125″	+0.005″, –0.005″	6505K118	73.81	253.72	461.30
0.187″	+0.035″, –0.010″	6505K119	119.75	411.64	748.43
0.250″	+0.046″, –0.010″	6505K121	146.56	503.78	915.97

Rods with Material Certification—Unpolished



- Yield Strength: 45,000 psi
- Hardness: Medium (Rockwell B86)
- Temper: Soft (Annealed)
- Meet ASTM B572

These rods also meet AMS 5754. Straightness tolerance is 1/16″ per 5 feet. Length has a plus tolerance.

Dia.	Dia. Tolerance		3″ Lg.	6″ Lg.	12″ Lg.	36″ Lg.
¼″	±0.001″	6513K51	$23.10	$28.97	$38.76	$77.51
⅜″	±0.002″	6513K53	26.31	34.53	43.31	104.71
½″	±0.002″	6513K55	31.58	40.31	54.26	123.04
¾″	±0.002″	6513K57	37.63	62.57	119.18	297.94
⅞″	±0.002″	6513K59	43.50	72.73	138.53	346.33
1″	±0.003″	6513K61	48.12	77.74	148.07	370.18
1¼″	±0.003″	6513K63	65.42	105.68	201.29	503.22
1½″	±0.003″	6513K65	84.74	136.88	260.73	651.82
1¾″	±0.003″	6513K67	112.74	182.11	346.88	867.21
2″	±0.003″	6513K69	142.47	230.15	438.38	1,095.95

High-Strength Extreme-Temperature 718 Nickel

Whether the temperature dips to –300° F or rises to 1200° F, 718 nickel will maintain its high strength, even after long-term exposure. It is comparable to Inconel 718. Unlike 625 nickel, this alloy can be further strengthened by heat treating. It has good weldability and is often used for cryogenic tanks, fasteners, and gas turbine engine components. These sheets and rods come with a traceable lot number and material test report.

Sheets with Material Certification—Unpolished

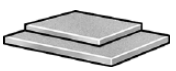

- Yield Strength: 70,000 psi
- Hardness: Medium (Rockwell B94)
- Temper: Soft (Annealed)
- Meet ASTM B670

Sheets also meet AMS 5596. Width and length tolerances are ±1/16″.

Thick.	Thick. Tolerance		6″×6″	12″×12″	12″×24″
0.020″	+0.002″, –0.002″	1099N1	$47.99	$63.80	$106.34
0.032″	+0.002″, –0.002″	1099N2	51.18	90.94	151.56
0.040″	+0.003″, –0.003″	1099N3	54.84	122.09	203.49
0.063″	+0.003″, –0.003″	1099N5	69.08	201.99	336.65
0.125″	+0.005″, –0.005″	1099N6	76.32	286.20	477.00
0.187″	+0.035″, –0.010″	1099N7	111.58	418.41	697.35
0.250″	+0.046″, –0.010″	1099N8	145.66	546.22	910.36

Rods with Material Certification—Unpolished



- Yield Strength: 70,000 psi
- Hardness: Medium (Rockwell B96)
- Temper: Soft (Annealed)
- Meet ASTM B637

Rods also meet AMS 5662. Length has a plus tolerance.

Dia.	Dia. Tolerance		½ ft.	1 ft.	3 ft.
⅜″	±0.002″	1050N1	$39.61	$55.10	$137.74
½″	±0.002″	1050N2	45.29	71.86	179.64
⅝″	±0.002″	1050N3	60.20	94.98	237.46
¾″	±0.002″	1050N4	76.87	128.12	320.31
1″	±0.003″	1050N5	85.85	143.09	357.72
1½″	±0.003″	1050N6	216.40	360.66	901.66
2″	±0.003″	1050N7	351.72	586.21	1,465.52

Yield strength is approximate and may vary based on size and shape.

High-Strength Grade 5 Titanium

While titanium is known for its high strength-to-weight ratio, Grade 5's high aluminum content makes it the strongest. This is the most widely used titanium, offering a versatile mix of good corrosion resistance, weldability, and formability. It's often used for turbine blades, fasteners, and spacer rings.

Rectangular Bars—Ground

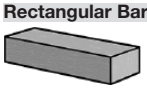

- Yield Strength: 120,000 psi
- Hardness: Hard (Rockwell C30)
- Temper: Soft (Annealed)
- Meet ASTM B265

Straightness tolerance is 1/8" per 5 feet. Length has a plus tolerance. Width and length have plus tolerances.

Wd.	1/2 ft.	1 ft.	3 ft.
1/8" Thick (+0.010", –0.010")			
1/2"	**9081K11** $24.31	$39.58	$94.23
1"	**9081K15** 42.61	69.36	165.15
2"	**9081K18** 75.74	123.30	293.57
3"	**9081K19** 104.93	170.81	406.69
1/4" Thick (+0.046", –0.010")			
1/2"	**9081K21** $32.43	$54.18	$125.71
1"	**9081K25** 53.04	88.61	205.59
2"	**9081K28** 94.08	157.16	364.64
3"	**9081K29** 130.65	218.25	506.38
1/2" Thick (+0.045", –0.010")			
3"	**9081K49** $206.71	$345.32	$801.21
3/4" Thick (+0.060", –0.010")			
3/4"	**9081K53** 101.37	169.35	392.92
1"	**9081K55** 122.72	205.00	475.64

Rectangular Bars with Material Certification—Ground



These bars come with a traceable lot number and material test report. They are available in the same sizes with the same specifications as the bars above for an additional $10. Please specify thickness, width, and length when ordering.

Rectangular Bars with Material Certification **1080N2**

Sheets—Ground

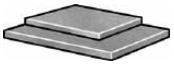

- Yield Strength: 120,000 psi
- Hardness: Hard (Rockwell C30)
- Temper: Soft (Annealed)
- Meet ASTM B265

Flatness tolerance is 1/2" per 36". Width and length tolerances are ±0.0625".

Thick.	Thick. Tolerance	6"×6"	12"×12"	12"×24"	24"×24"	24"×36"
0.016"	±0.002"	**9039K11** $68.30	**9039K12** $195.16	**9039K13** $365.92	**9039K28** $683.05	**9039K14** $975.78
0.032"	±0.004"	**9039K15** 74.66	**9039K16** 213.30	**9039K17** 399.94	**9039K29** 746.55	**9039K18** 1,066.50
0.063"	±0.005"	**9039K19** 110.40	**9039K21** 315.44	**9039K22** 591.45	**9039K3** 1,104.05	**9039K23** 1,577.21
0.125"	±0.008"	**9039K24** 159.25	**9039K25** 455.00	**9039K26** 853.12	**9039K31** 1,592.50	**9039K27** 2,275.00

Sheets with Material Certification—Ground

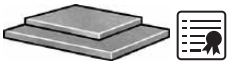

These sheets come with a traceable lot number and material test report. They are available in the same sizes with the same specifications as the sheets above for an additional $10.

Choose a Thickness	Choose a Size	
0.016", 0.032", 0.063", 0.125"	6"×6", 12"×12", 12"×24", 24"×24", 24"×36"	**1033N1**

Rods—Ground



- Yield Strength: 120,000 psi
- Hardness: Hard (Rockwell C30)
- Temper: Soft (Annealed)
- Meet ASTM B348

Straightness tolerance is 1/8" per 5 feet. Length has a plus tolerance.

Dia.	Dia. Tolerance		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8"	±0.0005"	**89055K51**	$4.74	$8.01	$15.66	$20.40	$36.43
3/16"	±0.0005"	**89055K52**	7.19	12.17	23.79	30.98	55.33
1/4"	±0.0005"	**89055K53**	10.70	18.11	35.40	46.10	82.33
5/16"	±0.0005"	**89055K54**	15.83	26.78	52.35	68.17	121.74
3/8"	±0.0005"	**89055K55**	19.07	32.28	63.09	82.17	146.73
1/2"	±0.002"	**89055K56**	24.13	40.84	79.82	103.95	185.63
5/8"	±0.002"	**89055K57**	31.81	53.83	105.21	137.02	244.67
3/4"	±0.002"	**89055K58**	44.91	76.00	148.55	193.46	345.47

Dia.	Dia. Tolerance		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
7/8"	±0.002"	**89055K59**	$58.94	$99.75	$194.96	$253.90	$453.39
1"	±0.0025"	**89055K61**	66.04	111.75	218.43	284.46	507.97
1 1/4"	±0.0025"	**89055K62**	97.81	165.53	323.54	421.36	752.42
1 1/2"	±0.003"	**89055K63**	133.30	225.59	440.92	574.22	1,025.40
1 3/4"	±0.003"	**89055K64**	181.45	307.07	600.18	781.63	1,395.77
2"	±0.003"	**89055K65**	226.78	383.78	750.11	976.89	1,744.44
2 1/4"	±0.003"	**89055K66**	279.28	472.63	923.78	1,203.06	2,148.32
2 1/2"	±0.003"	**89055K67**	332.22	562.22	1,098.88	1,431.10	2,555.53



Dia.	Dia. Tolerance	1/2" Lg.		1" Lg.	
2"	±0.003"			**89055K629**	$38.13
3"	±0.003"	**9257K11**	$61.87	**9257K13**	85.53
3 1/2"	±0.005"	**9257K14**	80.08	**9257K16**	119.81

Dia.	Dia. Tolerance	1/2" Lg.		1" Lg.	
4"	+0.062"	**9257K17**	$92.22	**9257K19**	$140.15
5"	+0.078"	**9257K21**	137.85	**9257K23**	223.21

Rods with Material Certification—Ground



These rods come with a traceable lot number and material test report. They're available in the same diameters with the same specifications as the rods above in 1/2-ft., 1-ft., 2-ft., 3-ft., and 6-ft. lengths for an additional $10. Please specify diameter and length when ordering.

Rods with Material Certification **1034N1**

Hexagonal Bars—Cold Drawn



- Yield Strength: 120,000 psi
- Hardness: Hard (Rockwell C30)
- Temper: Soft (Annealed)
- Meet ASTM B348

Straightness tolerance is 1/8" per 5 feet. Length has a plus tolerance.

Hex Size	Hex Size Tolerance		1 ft.	3 ft.	6 ft.
7/16"	-0.003"	**9226K12**	$69.89	$162.14	$279.55
1/2"	-0.004"	**9226K13**	84.00	194.88	336.00
9/16"	-0.004"	**9226K14**	95.06	220.53	380.23

Hex Size	Hex Size Tolerance		1 ft.	3 ft.	6 ft.
3/4"	-0.004"	**9226K15**	$159.72	$370.56	$638.89
13/16"	-0.004"	**9226K16**	177.27	411.26	709.07

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

High-Strength Grade 5 Titanium *(Material continued from previous page)*

While titanium is known for its high strength-to-weight ratio, Grade 5's high aluminum content makes it the strongest. This is the most widely used titanium, offering a versatile mix of good corrosion resistance, weldability, and formability. It's often used for turbine blades, fasteners, and spacer rings.

Balls—Reflective Finish



- Yield Strength: 120,000 psi
- Hardness: Hard (Rockwell C30)
- Temper: Soft (Annealed)

These balls are made to Grade 200 tolerances. Diameter tolerance is ±0.001″.

Dia.	Pkg. Qty.		Pkg.
1/32″	5	9288K27	$6.25
1/16″	5	9288K29	8.04
1/8″	5	9288K31	$10.55
5/32″	5	9288K33	11.10
3/16″	5	9288K35	$12.20
1/4″	5	9288K39	14.62
3/8″	1	9288K42	$23.42
1/2″	1	9288K43	25.79

Highly Corrosion-Resistant Grade 2 Titanium

Because Grade 2 is 99% pure titanium, it is more corrosion resistant than Grades 5 and 9, but it is not as strong. It has good formability and weldability. Common uses include chemical processing equipment, heat exchangers, and marine hardware.

Rectangular Bars—Unpolished



- Yield Strength: 40,000 psi
- Hardness: Medium (Rockwell B68)
- Temper: Soft (Annealed)
- Meet ASTM B265

Width and length have plus tolerances.

Wd.		½ ft.	1 ft.	3 ft.
1/8″ Thick (±0.010″)				
1/2″	9139K11	$8.40	$13.99	$32.54
3/4″	9139K13	10.00	16.67	38.77
1″	9139K15	13.81	23.06	53.51
1 1/2″	9139K17	25.09	30.15	70.12
2″	9139K18	23.52	39.20	91.17
3″	9139K19	30.46	50.77	118.07
1/4″ Thick (±0.050″)				
1/2″	9139K21	12.33	20.55	47.80
1″	9139K25	21.42	35.70	83.02
2″	9139K28	35.20	58.67	136.44

Wd.		½ ft.	1 ft.	3 ft.
3/8″ Thick (±0.060″)				
3/8″	9101K21	$12.18	$20.30	$47.20
3/4″	9139K33	21.16	35.27	82.02
1″	9139K35	27.43	45.72	106.33
1 1/2″	9139K37	36.46	60.77	141.33
2″	9139K38	44.37	73.94	171.96
3″	9139K39	59.75	99.59	231.60
1/2″ Thick (±0.060″)				
1/2″	9101K22	19.47	32.45	75.47
3/4″	9139K43	26.31	43.84	101.96
1″	9139K45	33.41	55.69	129.51
1 1/2″	9139K47	42.79	71.32	165.86

Wd.		½ ft.	1 ft.	3 ft.
5/8″ Thick (±0.060″)				
5/8″	9101K23	$29.68	$49.46	$115.02
3/4″ Thick (±0.065″)				
3/4″	9101K24	49.48	82.46	191.77
1 1/2″	9139K57	60.22	100.36	233.40
2″	9139K58	77.47	129.12	300.27
3″	9139K59	112.99	188.31	437.93
1″ Thick (±0.075″)				
1″	9139K65	55.73	92.88	216.00
2″	9139K68	97.66	162.76	378.52
3″	9139K69	142.48	237.47	552.26

Rectangular Bars with Material Certification—Unpolished



These bars come with a traceable lot number and material test report. They are available in the same sizes with the same specifications as the bars above for an additional $7. Please specify thickness, width, and length when ordering.

Rectangular Bars with Material Certification 9139K78

Sheets with Material Certification—Unpolished



- Yield Strength: 40,000 psi
- Hardness: Medium (Rockwell B65)
- Temper: Soft (Annealed)
- Meet ASTM B265

These sheets come with a traceable lot number and material test report. Thick. tolerance for 0.020″ to 0.035″ thick sheets is ±0.004″; for 0.063″ to 0.125″ thick sheets it is ±0.010″; for 0.188″ and 0.250″ thick sheets it is ±0.050″. Width and length have plus tolerances.

Thick.		6″×6″	12″×12″	12″×24″	24″×24″	24″×36″
0.020″	9051K111	$11.68	$35.03	$58.38	$105.08	$145.94
0.035″	9051K112	18.89	56.68	94.47	170.04	236.17
0.063″	9051K113	27.74	83.23	138.72	249.69	346.79
0.078″	9051K114	38.98	116.94	194.89	350.81	487.23

Thick.		6″×6″	12″×12″	12″×24″	24″×24″	24″×36″
0.125″	9051K115	$43.80	$120.45	$208.05	$394.20	$547.50
0.188″	9051K116	61.59	169.38	292.56	554.32	769.89
0.250″	9051K117	74.05	203.63	351.73	666.43	925.60

Rods—Unpolished



- Yield Strength: 40,000 psi
- Hardness: Medium (Rockwell B65)
- Temper: Soft (Annealed)
- Meet ASTM B348

Diameter tolerance is ±0.003″. Straightness tolerance is 1/16″ per 5 feet. Length has a plus tolerance.

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/16″	89145K28	$1.21	$1.60	$3.05	$4.07	$7.27
1/8″	89145K11	1.89	3.21	6.12	8.16	14.57
3/16″	89145K12	2.63	5.26	8.49	11.32	20.22
1/4″	89145K13	4.71	7.97	15.22	20.30	36.25
5/16″	89145K14	8.65	14.63	27.94	37.25	66.52
3/8″	89145K15	8.80	14.90	28.44	37.92	67.72
7/16″	89145K91	11.56	19.56	37.35	49.80	88.93
1/2″	89145K16	11.72	19.83	37.86	50.48	90.14
5/8″	89145K17	15.74	26.63	50.84	67.78	121.04

Dia.		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/4″	89145K18	$21.80	$36.90	$70.44	$93.92	$167.71
7/8″	89145K19	28.75	48.65	92.88	123.84	221.15
1″	89145K21	32.72	55.37	105.70	140.94	251.67
1 1/4″	89145K22	53.74	90.94	173.62	231.49	413.38
1 1/2″	89145K23	70.85	119.90	228.90	305.20	545.00
1 3/4″	89145K24	96.48	163.27	311.69	415.59	742.13
2″	89145K25	116.29	196.79	375.70	500.93	894.52
2 1/4″	89145K26	183.92	311.25	594.20	792.27	1,414.77
2 1/2″	89145K27	181.60	307.32	586.71	782.28	1,396.92

Rods with Material Certification—Unpolished

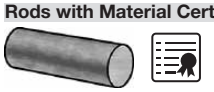

These rods come with a traceable lot number and material test report. They're available in the same sizes with the same specifications as the rods above for an additional $7. Please specify diameter and length when ordering.

Rods with Material Certification 89145K781

High-Strength Weldable Grade 9 Titanium



- Yield Strength: 105,000 psi
- Hardness: Not rated
- Temper: Stress Relieved

Grade 9 titanium has less aluminum than Grade 5, so it offers better weldability but it is not as strong. These tubes have an unpolished finish. OD tolerance is +0.004″. ID tolerance is ±0.003″. Straightness tolerance is 0.025″ per foot. Length tolerance is ±1″.

Wall Thick.	OD	ID		1 ft.	3 ft.	5 ft.
0.016″	1/4″	0.218″	8806T11	$44.48	$120.48	$185.35
0.019″	3/8″	0.337″	8806T15	44.12	119.48	183.82
0.02″	1/4″	0.210″	8806T13	46.58	126.16	194.09
0.026″	1/2″	0.448″	8806T19	54.68	148.09	227.83

Wall Thick.	OD	ID		1 ft.	3 ft.	5 ft.
0.028″	3/8″	0.319″	8806T17	$65.73	$178.03	$273.89
0.032″	5/8″	0.561″	8806T21	66.50	180.11	277.09
0.039″	3/4″	0.672″	8806T23	83.39	225.86	347.47
0.051″	1″	0.898″	8806T25	122.51	331.79	510.44

Yield strength is approximate and may vary based on size and shape.

About Copper, Brass, and Bronze

Although copper, brass, and bronze are distinct alloys, they're often collectively called red metals because they share many common characteristics. These alloys have a high copper content that provides inherent corrosion resistance as well as an attractive russet coloring. Red metals are worked (wrought) or cast into shape and are commonly joined by soldering or brazing; however, some can be welded.

Copper alloys have a minimum of 99.3% copper content. They are an excellent conductor of heat and electricity and are commonly used for bus bars and wire connectors in electrical applications.

Brass alloys consist primarily of copper, but they can contain as much as 40% zinc, which increases their machinability. They are often used for nuts, rivets, hinges, and locks.

Bronze alloys, while mostly copper, contain small amounts of tin, iron, and sometimes zinc. The alloys designated as bearing bronze have a good combination of low friction and high wear resistance, making them the best choice for use as bearings. The other bronze alloys are widely used for gears, valves, and pump parts.

Use the charts below to identify the best material for your application. Circles indicate that a majority of a material's shapes and sizes meet the applicable rating. Yield strength is approximate and may vary based on size and shape.

● Excellent
◓ Good
○ Poor

Alloy Types	Min. Yield Strength, psi	Hardness (Rockwell)	Machinability	Formability	Electrical Conductivity	Weldability	Pages
Copper							
Multipurpose 110	33,000	F40	○	●	●	○	3806-3808
Super-Conductive 101	10,000	F60	○	●	●	◓	3808-3810
Easy-to-Machine 145	18,000	—	●	◓	●	—	3810
High-Strength 182	40,000	B60	○	●	◓	○	3810-3811
Weldable 122	—	—	○	●	◓	◓	3811
Brass							
Ultra-Machinable 360	15,000	B35	●	○	○	—	3811-3814
Formable Easy-to-Machine 353	25,000	B60	●	◓	○	—	3814
Easy-to-Machine Architectural 385	16,000	B42	●	○	○	—	3814-3815
Easy-to-Form 260	—	—	○	●	○	◓	3815-3817
Machinable and Formable 330	60,000	B73	◓	●	○	○	3818
Weldable 464 Naval	20,000	B55	○	◓	○	◓	3818
Machinable 485 Naval	25,000	B60	◓	○	○	—	3819
Bearing Bronze							
Multipurpose 932	18,000	B34	◓	—	○	—	3819-3820
Machinable 936	21,000	B26	◓	—	○	—	3820-3821
Corrosion-Resistant 954	28,800	B80	◓	—	○	◓	3821-3822
Wear- and Corrosion-Resistant AMPCO 18	37,000	B88	◓	○	○	◓	3822
Corrosion-Resistant High-Strength 863	62,000	B97	○	—	○	○	3822
High-Strength 544	50,000	—	◓	◓	○	—	3823
Self-Lubricating Oil-Filled SAE 840 and 841	11,000	—	◓	○	—	—	3823
High-Temperature Graphite-Filled SAE 841	8,500	—	◓	○	—	—	3824
Bronze							
High-Strength 630	60,000	—	○	—	○	◓	3824
Machinable High-Strength 642	42,000	B80	◓	○	○	—	3824
Easy-to-Weld Corrosion-Resistant 655	43,000	B75	○	●	○	●	3824
Machinable Corrosion-Resistant 316	28,000	—	◓	◓	○	○	3824
Corrosion-Resistant Easy-to-Form 220	45,000	B58	○	●	○	◓	3825
Very High-Strength 510	80,000	—	○	●	○	◓	3825

Hardness

The chart below compares the hardness of metals using different scales; the larger the number, the harder the material. As metal gets harder, it becomes more wear resistant, but may also become less malleable. Red metals generally fall onto the soft end of the spectrum.

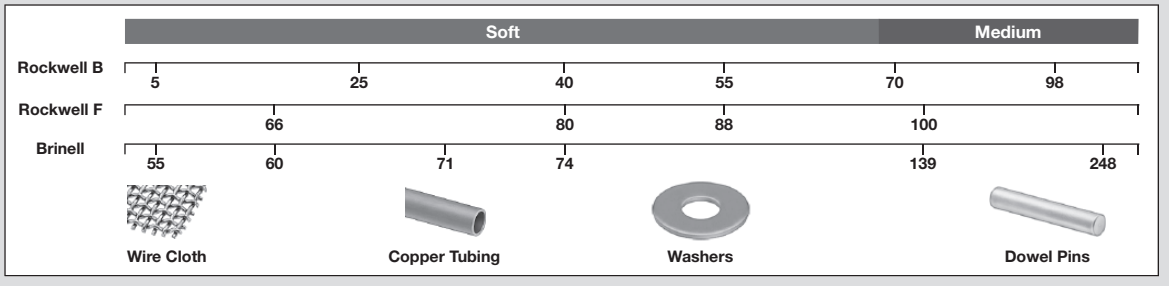

For information about copper alloys, see page 3805.

Multipurpose 110 Copper

Offering high electrical conductivity and formability, 110 copper is 99.90% pure. Also known as electrolytic tough pitch (ETP) copper, it is often used in electrical applications, such as for bus bars and wire connectors, as well as for flashing, gaskets, and rivets. This material can be soldered and brazed. It is not heat treatable.

Rectangular Bars—Unpolished



- Yield Strength: Not rated
- Hardness: Rockwell F65
- Temper: 1/2 Hard (H02)
- Meet ASTM B187

Width tolerance for 1/4″ to 2″ wide bars is ±0.008″; for 2 1/2″ to 6″ wide bars it is ±0.018″. Straightness tolerance is 1/4″ per 5 ft. Length tolerance is ±1/4″.

Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/16″ Thick (±0.004″)						
1/2″	8964K21	$1.29	$1.90	$3.45	$4.83	$8.62
5/8″	8964K1	1.62	2.37	4.31	6.04	10.78
3/4″	8964K2	2.01	2.95	5.37	7.52	13.42
1″	8964K3	2.37	3.48	6.33	8.86	15.83
2″	8964K23	4.31	6.32	11.49	16.09	28.73
4″	8964K32	8.53	12.51	22.75	31.85	56.88
1/8″ Thick (±0.005″)						
1/2″	8964K4	2.45	3.60	6.54	9.16	16.36
3/4″	8964K5	3.50	5.13	9.34	13.07	23.34
1″	8964K78	4.54	6.66	12.12	16.96	30.29
1 1/2″	8964K79	6.40	9.38	17.06	23.88	42.65
2″	8964K89	8.53	12.51	22.74	31.84	56.85
3″	8964K41	13.78	20.22	36.76	51.46	91.89
4″	8964K92	16.28	23.88	43.42	60.79	108.55
5″	8964K65	22.86	33.53	60.96	85.35	152.41
6″	8964K14	24.42	35.81	65.12	91.16	162.79
3/16″ Thick (±0.004″)						
3/4″	8964K221	4.99	7.32	13.31	18.63	33.27
1″	8964K222	6.26	9.18	16.68	23.36	41.71
1 1/2″	8964K223	9.10	13.35	24.27	33.98	60.68
2″	8964K927	11.86	17.40	31.63	44.28	79.08
3″	8964K16	17.41	25.54	46.43	65.00	116.07
4″	8964K94	22.71	33.31	60.57	84.80	151.42
1/4″ Thick (±0.005″)						
1/4″	89275K45	2.05	3.42	5.46	7.65	13.66
1/2″	8964K6	3.94	5.77	10.50	14.69	26.24
3/4″	8964K7	5.76	8.45	15.37	21.52	38.43
1″	8964K8	6.92	10.15	18.45	25.83	46.13
1 1/2″	8964K851	10.34	15.16	27.56	38.59	68.91
2″	8964K22	13.51	19.82	36.03	50.44	90.07
3″	8964K24	20.26	29.72	54.04	75.66	135.10
4″	8964K66	28.88	42.35	77.01	107.81	192.52
5″	8964K67	36.14	53.00	96.36	134.91	240.91
6″	8964K26	39.36	57.72	104.95	146.93	262.38
5/16″ Thick (±0.004″)						
5/16″	89275K46	6.39	9.38	17.05	23.87	42.62
1″	8964K68	8.44	12.39	22.52	31.53	56.30
2″	8964K69	16.30	23.91	43.47	60.86	108.67
4″	8964K9	31.46	46.15	83.90	117.47	209.76
3/8″ Thick (±0.005″)						
3/8″	89275K35	4.11	6.02	10.95	15.33	27.37
1″	8964K871	10.04	14.72	26.77	37.48	66.93
1 1/2″	8964K28	14.90	21.86	39.74	55.64	99.36
2″	8964K31	19.88	29.15	53.00	74.20	132.50
3″	8964K13	32.18	47.20	85.82	120.14	214.54
3/8″ Thick (±0.005″) (Cont.)						
4″	8964K33	$39.36	$57.72	$104.95	$146.93	$262.38
6″	8964K35	56.85	83.38	151.60	212.23	378.99
1/2″ Thick (±0.005″)						
1/2″	89275K36	6.73	9.86	17.94	25.11	44.84
1″	8964K37	13.32	19.54	35.53	49.74	88.82
1 1/2″	8964K39	19.88	29.15	53.00	74.20	132.50
2″	8964K42	26.00	38.13	69.32	97.05	173.30
3″	8964K138	41.58	60.98	110.88	155.23	277.20
4″	8964K44	50.53	74.11	134.75	188.65	336.87
5″	8964K139	63.80	93.57	170.13	238.18	425.32
6″	8964K46	64.31	94.33	171.50	240.10	428.75
5/8″ Thick (±0.005″)						
5/8″	89275K71	9.99	14.65	26.64	37.29	66.59
1″	8964K48	16.47	24.15	43.91	61.47	109.77
1 1/2″	8964K51	24.74	36.28	65.96	92.35	164.91
2″	8964K53	32.18	47.20	85.81	120.14	214.53
4″	8964K55	60.76	89.11	162.02	226.83	405.05
3/4″ Thick (±0.005″)						
3/4″	89275K37	13.70	20.09	36.53	51.14	91.32
1 1/2″	8964K57	29.11	42.70	77.64	108.70	194.10
2″	8964K59	37.76	55.38	100.70	140.97	251.74
3″	8964K226	60.15	88.22	160.41	224.57	401.02
4″	8964K227	80.16	117.56	213.75	299.25	534.38
7/8″ Thick (±0.005″)						
7/8″	89275K59	24.06	35.29	64.16	89.82	160.40
1″	8964K806	26.57	38.97	70.86	99.20	177.15
2″	8964K807	52.60	77.15	140.28	196.39	350.69
4″	8964K808	98.40	144.32	262.39	367.35	655.98
1″ Thick (±0.005″)						
1″	89275K38	23.24	34.08	61.97	86.76	154.93
2″	8964K809	48.68	71.39	129.81	181.73	324.52
3″	8964K62	79.92	117.22	213.12	298.37	532.80
4″	8964K606	100.96	148.07	269.22	376.91	673.06
1 1/4″ Thick (±0.005″)						
1 1/4″	89275K39	33.98	49.83	90.60	126.85	226.51
1 1/2″ Thick (±0.005″)						
1 1/2″	89275K41	54.27	79.60	144.73	202.62	361.83
3″	8964K607	101.88	149.43	271.69	380.37	679.23
2″ Thick (±0.005″)						
2″	89275K42	80.63	118.26	215.02	301.03	537.55
3″	8964K608	125.43	183.97	334.49	468.28	836.22
4″	8964K609	162.27	237.99	432.71	605.80	1,081.78
2 1/2″ Thick (±0.012″)						
2 1/2″	89275K43	124.45	182.52	331.86	464.60	829.65
3″ Thick (±0.012″)						
3″	89275K44	158.78	232.88	423.41	592.78	1,058.53

Rectangular Bars with Rounded Edges—Unpolished



- Yield Strength: 37,000 psi
- Hardness: Rockwell F75
- Temper: 1/2 Hard (H02)
- Meet ASTM B187

Thickness tolerance is ±0.004″. Width tolerance for 3/4″ to 2″ wide bars is ±0.008″; for 3″ and 4″ wide bars it is ±0.012″. Straightness tolerance is 1/8″. Length tolerance is ±1/4″.

Thick.	Wd.		1 ft.	3 ft.	6 ft.
1/8″	3/4″	2557T51	$7.33	$18.32	$30.54
1/8″	1″	2557T52	9.13	22.82	38.03
1/8″	1 1/2″	2557T53	13.32	33.30	55.50
1/8″	2″	2557T54	17.89	44.73	74.55
1/8″	3″	2557T55	25.08	62.69	104.48
1/8″	4″	2557T56	32.66	81.64	136.07
3/16″	3/4″	2557T57	$10.54	$26.35	$43.92
3/16″	1″	2557T58	13.16	32.89	54.82
3/16″	1 1/2″	2557T59	18.06	45.16	75.26
3/16″	2″	2557T61	22.96	57.40	95.66
1/4″	3/4″	2557T62	12.04	30.09	50.15
1/4″	1″	2557T63	14.59	36.48	60.80
1/4″	1 1/2″	2557T64	21.60	53.99	89.98
1/4″	2″	2557T65	$28.42	$71.06	$118.43
1/4″	3″	2557T66	40.71	101.78	169.64
1/4″	4″	2557T67	53.07	132.68	221.13
3/8″	1″	2557T68	20.78	51.94	86.57
3/8″	1 1/2″	2557T69	31.15	77.87	129.78
3/8″	2″	2557T71	41.22	103.06	171.77
3/8″	3″	2557T72	62.07	155.17	258.61

Rectangular Bars with Rounded Edges—Silver Plated



- Yield Strength: 33,000 psi
- Hardness: Rockwell F65
- Temper: Hard (H04)
- Meet ASTM B187

A thin layer (0.000003″ thick) of silver makes these copper bars slower to tarnish than unplated bars for low electrical resistance at contact points over time. Thickness tolerance is ±0.004″. Width tolerance for 1″ to 2″ wide bars is ±0.008″; for 2 1/2″ to 6″ wide bars it is ±0.012″. Straightness tolerance is 1/8″. Length tolerance is ±1/8″.

Thick.	Wd.		1 ft.	3 ft.	6 ft.
1/4″	1″	88865K621	$13.29	$33.82	$60.39
1/4″	1 3/8″	88865K622	17.39	44.27	79.05
1/4″	1 1/2″	88865K623	24.11	50.01	89.30
1/4″	1 3/4″	88865K624	$22.88	$58.23	$103.98
1/4″	2″	88865K625	23.99	61.07	109.05
1/4″	2 1/2″	88865K611	28.27	71.97	128.51
1/4″	3″	88865K633	$33.76	$85.93	$153.45
1/4″	4″	88865K655	43.31	110.25	196.87
1/4″	6″	88865K699	52.31	133.16	237.79

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Multipurpose 110 Copper *(Material continued from previous page)*

Soft and 1/8 to 1/4 Hard Temper Sheets—Unpolished

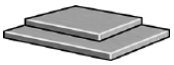

- Yield Strength: Not rated
- Hardness: Rockwell F40
- Temper:
  0.016″ to 0.187″ Thick Sheets: Soft (Annealed);
  0.250″ to 1.500″ Thick Sheets: 1/8 (H00) to 1/4 Hard (H01)
- Meet ASTM B152

Width and length tolerances are ±1/4″. The 0.016″ to 0.062″ thick sheets also meet ASTM B370.

Thick.	Thick. Tolerance		2″×24″	4″×24″	6″×6″	6″×24″	12″×12″	12″×24″	12″×48″	24″×24″	36″×48″	36″×96″
0.016″	±0.003″	8963K101	$9.48	$13.55	$6.77	$19.78	$19.78	$34.68	$60.14	$60.14	$149.01	$270.92
0.021″	±0.003″	8963K201	8.13	11.61	5.81	16.95	16.95	29.72	51.55	51.55	127.72	232.22
0.027″	±0.004″	8963K301	10.54	15.06	7.53	21.98	21.98	38.54	66.85	66.85	165.62	301.13
0.032″	±0.004″	8963K401	12.02	17.17	8.59	25.07	25.07	43.96	76.24	76.24	188.89	343.43
0.043″	±0.005″	8963K501	15.61	22.30	11.15	32.55	32.55	57.08	99.00	99.00	245.26	445.93
0.062″	±0.006″	8963K601	22.64	32.34	16.17	38.81	38.81	67.92	132.61	132.61	355.78	646.87
0.093″	±0.007″	8963K701	31.64	45.19	22.60	54.23	54.23	94.91	185.29	185.29	497.12	903.86
0.125″	±0.007″	8963K801	39.87	56.96	28.48	68.36	68.36	119.62	233.55	233.55	626.59	1,139.26
0.187″	±0.007″	8963K901	63.93	91.33	45.66	109.59	109.59	191.79	374.45	374.45	1,004.62	1,826.58
0.250″	±0.012″	8995K81	51.91	81.11	38.94	97.34	97.34	178.45	324.46	324.46	_____	_____
0.313″	±0.015″	8995K82	61.81	96.58	46.36	115.90	115.90	212.48	386.32	386.32	_____	_____
0.375″	±0.015″	8995K83	81.08	126.69	60.81	152.03	152.03	278.71	506.75	506.75	_____	_____
0.500″	±0.015″	8995K84	96.93	151.46	72.70	181.75	181.75	333.20	605.82	605.82	_____	_____
0.625″	±0.019″	8995K85	114.44	178.81	85.83	214.57	214.57	393.39	715.25	715.25	_____	_____
0.750″	±0.019″	8995K86	131.98	206.22	98.99	247.47	247.47	453.69	824.89	824.89	_____	_____
1.000″	±0.024″	8995K87	161.54	242.31	107.69	296.15	296.15	538.46	_____	_____	_____	_____
1.250″	±0.029″	8995K88	195.42	293.13	130.28	358.27	358.27	651.40	_____	_____	_____	_____
1.500″	±0.029″	8995K89	225.68	338.52	150.45	413.74	413.74	752.26	_____	_____	_____	_____

Soft and 1/8 to 1/4 Hard Temper Sheets with Material Certification—Unpolished

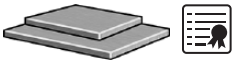

These sheets come with a traceable lot number and material test report. They are available in the same sizes as the soft and 1/8 to 1/4 hard sheets above for an additional $15. Please specify thickness, width, and length when ordering.

Soft and 1/8 to 1/4 Hard Temper Sheets with Material Certification **1012N01**

1/2 Hard Temper Sheets—Unpolished

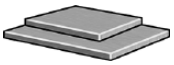

- Yield Strength: 37,000 psi
- Hardness: Rockwell F77
- Temper: 1/2 Hard (H02)
- Meet ASTM B152

Width and length tolerances are ±1/16″.

Thick.	Thick. Tolerance		2″×36″	4″×36″	6″×6″	6″×36″	12″×12″	12″×24″	12″×48″	24″×24″	36″×48″
0.020″	±0.004″	8963K661	$11.37	$19.49	$8.12	$29.24	$19.49	$35.74	$64.98	$64.98	$162.44
0.025″	±0.004″	8963K662	13.66	23.42	9.76	35.13	23.42	42.94	78.07	78.07	195.17
0.032″	±0.004″	8963K663	16.04	27.49	11.46	41.24	27.49	50.40	91.64	91.64	229.10
0.040″	±0.005″	8963K664	19.26	33.02	13.76	49.52	33.02	60.53	110.05	110.05	275.13
0.050″	±0.005″	8963K665	23.17	39.72	16.55	59.58	39.72	72.82	132.39	132.39	330.98
0.062″	±0.006″	8963K666	27.54	47.22	19.67	70.83	47.22	86.57	157.40	157.40	393.49
0.080″	±0.007″	8963K667	33.26	57.02	23.76	85.52	57.02	104.53	190.05	190.05	475.13
0.093″	±0.007″	8963K668	38.13	65.37	27.24	98.05	65.37	119.84	217.89	217.89	544.73
0.125″	±0.007″	8963K669	49.94	85.61	35.67	128.41	85.61	156.95	285.36	285.36	713.41
0.156″	±0.008″	8963K671	60.46	103.64	43.18	155.46	103.64	190.00	345.46	345.46	863.65
0.187″	±0.008″	8963K672	70.36	120.63	50.26	180.94	120.63	221.15	402.08	402.08	1,005.21

1/2 Hard Temper Sheets with Material Certification—Unpolished

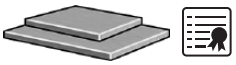

Furnished with a traceable lot number and material test report, these sheets are available in the same sizes as the 1/2 hard sheets above for an additional $10. Please specify thickness, width, and length when ordering.

1/2 Hard Temper Sheets with Material Certification **1234N56**

Sheets—Brushed and Mirror-Like Finishes

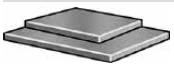

- Yield Strength: 36,000 psi
- Hardness: Rockwell B40
- Temper: 1/4 Hard (H01)
- Meet ASTM B152

Sheets are finished on one side. The finished side is covered with a protective peel-off film. Width and length have plus tolerances. Flatness tolerance is 1/8″.

Brushed sheets have grain lines running in one direction. **Mirror-like** sheets have no grain lines.

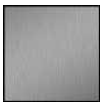

Brushed



Mirror-Like

Thick.	Thick. Tolerance	12″×12″		12″×24″		24″×24″	
Brushed							
0.032″	±0.005″	9801K11	$39.01	9801K31	$68.41	9801K51	$126.00
0.040″	±0.005″	9801K12	48.79	9801K32	86.11	9801K52	162.62
0.062″	±0.007″	9801K13	73.11	9801K33	129.94	9801K53	241.92
0.080″	±0.007″	9801K14	79.04	9801K34	158.11	9801K54	305.41
0.125″	±0.010″	9801K15	117.70	9801K35	213.86	9801K55	403.50
0.187″	±0.010″	9801K16	197.60	9801K36	346.21	9801K56	653.23
0.250″	±0.010″	9801K17	254.77	9801K37	467.08	9801K57	849.23
Mirror-Like							
0.032″	±0.005″	9821K11	43.30	9821K31	75.77	9821K51	142.67
0.040″	±0.005″	9821K12	54.42	9821K32	95.94	9821K52	181.23
0.062″	±0.007″	9821K13	74.81	9821K33	133.04	9821K53	252.07
0.080″	±0.007″	9821K14	88.96	9821K34	166.79	9821K54	314.69
0.125″	±0.010″	9821K15	122.52	9821K35	220.58	9821K55	426.90
0.187″	±0.010″	9821K16	195.39	9821K36	381.24	9821K56	712.33
0.250″	±0.010″	9821K17	275.06	9821K37	504.27	9821K57	916.85

Finish Selector Pack—One sheet each of 1 1/2″×3″×0.032″ thick unpolished, brushed, and mirror-like **1127T15** 22.96

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Multipurpose 110 Copper *(Material continued from previous page)*

Offering high electrical conductivity and formability, 110 copper is 99.90% pure. Also known as electrolytic tough pitch (ETP) copper, it is often used in electrical applications, such as for bus bars and wire connectors, as well as for flashing, gaskets, and rivets. This material can be soldered and brazed. It is not heat treatable.

Foil—Unpolished



- Yield Strength: 10,000 psi
- Hardness: Not rated
- Temper: Soft (Annealed)
- Meet ASTM B152

Width tolerance for the rolls is ±1/64″; for the sheets it is ±1/8″. Length tolerance for 50-ft. rolls is +5 ft.; for 100-ft. rolls it is ±8 ft.; for the sheets it is ±1/8″.

Wd.	Lg., ft.		
0.002″ Thick (±0.0003″)			
1/2″	100	9053K11	$29.00
1″	100	9053K22	33.35
1 1/2″	100	9053K67	37.46
2″	50	9053K312	36.45
2″	100	9053K31	42.05
4″	50	9053K422	70.05
4″	100	9053K42	82.76
6″	50	9053K532	91.87
6″	100	9053K53	125.52
0.003″ Thick (±0.0003″)			
1/2″	100	9053K12	37.70
1″	100	9053K23	41.81
1 1/2″	100	9053K68	47.62

Wd.	Lg., ft.		
0.003″ Thick (±0.0003″) (Cont.)			
2″	50	9053K322	$52.62
2″	100	9053K32	58.95
4″	50	9053K432	84.24
4″	100	9053K43	122.06
0.005″ Thick (±0.0008″)			
1/2″	100	9053K14	55.71
1″	100	9053K25	61.72
1 1/2″	100	9053K71	79.29
2″	50	9053K342	77.81
2″	100	9053K34	98.48
4″	50	9053K452	133.88
4″	100	9053K45	176.88
6″	50	9053K562	228.21

Wd.	Lg., ft.		
0.005″ Thick (±0.0008″) (Cont.)			
6″	100	9053K56	$250.95
0.007″ Thick (±0.0010″)			
1/2″	100	9053K16	62.65
1″	100	9053K27	69.35
1 1/2″	100	9053K73	103.79
2″	50	9053K362	100.48
2″	100	9053K36	132.03
0.010″ Thick (±0.0015″)			
1/2″	100	9053K18	69.35
1″	100	9053K29	98.01
1 1/2″	100	9053K75	147.71
2″	100	9053K38	180.98

Wd.	Lg., ft.		
0.010″ Thick (±0.0015″) (Cont.)			
4″	100	9053K49	$300.57
6″	100	9053K61	443.68
0.016″ Thick (±0.0015″)			
1/2″	100	9053K19	77.67
1″	100	9053K64	106.10
1 1/2″	100	9053K76	159.50
2″	100	9053K39	191.63
0.021″ Thick (±0.0015″)			
1/2″	100	9053K21	86.22
1″	100	9053K65	139.39
1 1/2″	100	9053K77	188.00
2″	100	9053K41	236.02

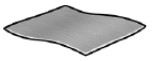

Thick.	Thick. Tolerance	6″×12″ Pkg. of 25		12″×12″ Pkg. of 25	
0.0028″	±0.0003″	8944K24	$41.27	8944K34	$82.30
0.005″	±0.0008″	8944K25	70.53	8944K35	134.27
0.008″	±0.0010″	8944K26	108.32	8944K36	208.64

Thick.	Thick. Tolerance	6″×12″ Pkg. of 25		12″×12″ Pkg. of 25	
0.010″	±0.0015″	8944K27	$130.68	8944K37	$243.90
0.012″	±0.0015″	8944K28	153.45	8944K38	298.85

Rods—Unpolished



- Yield Strength: Not rated
- Hardness: Rockwell F65
- Temper: Hard (H04)
- Meet ASTM B187

Diameter tolerance for 1/8″ to 1″ dia. rods is ±0.002″; for 1 1/16″ to 6″ dia. rods it is ±0.009″. Straightness tolerance is 1/2″ per 10 ft. Length tolerance for 1/2″ to 4″ lengths is ±1/16″; for 1/2-ft. to 6-ft. lengths it is ±1/4″.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″	8966K71	$0.88	$1.23	$2.29	$3.35	$5.88
3/16″	8966K3	1.54	2.15	4.00	5.85	10.26
1/4″	8966K4	2.29	3.21	5.96	8.70	15.27
5/16″	8966K5	3.45	4.84	8.98	13.13	23.03
3/8″	8966K12	4.34	6.08	11.28	16.49	28.93
7/16″	8966K51	5.07	7.10	13.18	19.26	33.79
1/2″	8966K13	7.38	10.34	19.20	28.06	49.23
9/16″	8966K76	10.99	15.39	28.59	41.78	73.30
5/8″	8966K14	11.24	15.73	29.21	42.69	74.90
3/4″	8966K11	15.47	21.66	40.22	58.79	103.14
13/16″	8966K77	21.14	29.60	54.96	80.33	140.93
7/8″	8966K35	21.69	30.36	56.39	82.42	144.59
1″	8966K36	25.21	35.29	65.54	95.79	168.06
1 1/16″	8966K78	29.32	41.04	76.22	111.40	195.44
1 1/8″	8966K37	30.48	42.68	79.26	115.84	203.23

Dia.		1/2″ Lg.	1″ Lg.	2″ Lg.	3″ Lg.	4″ Lg.
1 1/4″	8966K15	$35.68	$49.95	$92.77	$135.59	$237.87
1 3/8″	8966K16	41.42	57.99	107.69	157.40	276.14
1 1/2″	8966K17	46.45	65.03	120.76	176.50	309.65
1 5/8″	8966K18	52.49	73.49	136.48	199.47	349.94
1 3/4″	8966K19	59.77	83.68	155.40	227.12	398.46
2″	8966K31	76.67	107.33	199.33	291.33	511.11
2 1/4″	8966K33	92.10	128.94	239.45	349.97	613.98
2 1/2″	8966K38	96.43	135.00	250.71	366.42	642.85
2 3/4″	8966K39	135.38	189.53	351.99	514.44	902.53
3″	8966K46	148.49	207.89	386.08	564.27	989.95
3 1/2″	8966K79	197.92	277.09	514.59	752.09	1,319.46
4″	8966K81	263.52	368.93	685.16	1,001.39	1,756.83
5″	8966K82	306.19	545.40	956.85	_____	_____
6″	8966K83	408.77	728.13	1,277.42	_____	_____



Dia.		1/2″ Lg.	1″ Lg.	2″ Lg.	3″ Lg.	4″ Lg.
1″	9103K8	$4.42	$7.69	$10.96	$15.58	$19.23
1 1/2″	9103K9	9.96	17.33	24.69	35.09	43.32
2″	9103K2	11.70	20.47	38.77	47.38	58.49
2 1/2″	9103K4	14.21	24.87	40.51	57.57	71.07

Dia.		1/2″ Lg.	1″ Lg.	2″ Lg.	3″ Lg.	4″ Lg.
3″	9103K3	$18.67	$32.15	$59.12	$84.01	$103.72
4″	9103K5	28.82	49.63	91.26	129.69	160.11
5″	9103K6	42.30	72.85	133.95	190.35	235.00
6″	9103K7	60.94	104.95	192.98	274.23	338.56

Metric Rods—Unpolished



- Yield Strength: 17,000 psi
- Hardness: 35 Brinell
- Temper: Not rated

Meet European standard EN 13601. Diameter tolerance is ±0.11 mm. Length tolerance is ±153 mm.

Dia., mm		1 meter
2	8966K91	$8.66
3	8966K92	9.34

Dia., mm		1 meter
4	8966K93	$11.37
5	8966K94	15.94

Dia., mm		1 meter
6	8966K95	$23.78
8	8966K96	35.83

Dia., mm		1 meter
10	8966K97	$50.36
12	8966K98	72.43

Super-Conductive 101 Copper

With 99.99% copper content, 101 copper has higher purity than 110 copper, resulting in superior electrical conductivity. It's commonly called oxygen-free electronic (OFE) and oxygen-free high-conductivity (OFHC) copper. Use it in electrical applications, such as for coaxial cables and terminal lugs, and also in high-temperature and vacuum environments. This material can be welded, soldered, and brazed. It is not heat treatable.

Soft Temper Sheets—Unpolished

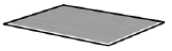

- Yield Strength: 10,000 psi
- Hardness: Rockwell F65 max.
- Temper: Soft (Annealed)
- Meet ASTM F68

Thickness tolerance is ±0.007″. Width and length tolerances are ±1/16″.

Thick.	12″×12″		12″×36″	
0.020″	2545T11	$24.56	2545T12	$63.14
0.032″	2545T21	30.96	2545T22	80.35

Thick.	12″×12″		12″×36″	
0.040″	2545T31	$35.33	2545T32	$92.78
0.050″	2545T41	40.65	2545T42	110.33

Thick.	12″×12″		12″×36″	
0.062″	2545T51	$47.94	2545T52	$130.77
0.125″	2545T81	80.49	2545T82	222.90

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Super-Conductive 101 Copper *(Material continued from previous page)*

Rectangular Bars—Unpolished



- Yield Strength: Not rated
- Hardness: Rockwell F77
- Temper: Hard (H04), unless noted
- Meet ASTM B187, unless noted

Width tolerance for 1/4″ to 2″ wide bars is ±0.015″; for 4″ and 6″ wide bars it is ±0.030″. Straightness tolerance is 3/4″ per 5 ft. Length tolerance is ±1/4″.

Wd.		1 ft.	2 ft.	4 ft.
1/16″ Thick (±0.006″)				
1″	3350K201	$10.04	$16.56	$27.14
2″	3350K202	18.80	30.99	50.80
4″	3350K203	27.54	45.41	74.44
6″	3350K204	41.91	69.09	113.26
1/8″ Thick (±0.004″)				
1″	3350K205	15.92	26.25	43.04
2″	3350K206	29.20	48.14	78.91
4″	3350K207	47.29	77.97	127.82
6″	3350K208★	65.12	107.36	176.00
1/4″ Thick (±0.005″)				
1/4″	3350K209	10.32	17.01	27.88
1/2″	3350K211	17.28	28.48	46.69

★Temper is 1/2 hard (H02). Meets ASTM B152.

Wd.		1 ft.	2 ft.	4 ft.
1/4″ Thick (±0.005″) (Cont.)				
1″	3350K212	$29.01	$47.83	$78.41
2″	3350K213	53.96	88.96	145.83
4″	3350K214	88.68	146.20	239.68
6″	3350K215	120.53	198.71	325.76
3/8″ Thick (±0.005″)				
3/8″	3350K216	21.33	35.17	57.65
1″	3350K217	40.69	67.08	109.97
2″	3350K218	65.12	107.36	176.00
4″	3350K219	120.82	199.19	326.54
1/2″ Thick (±0.005″)				
1/2″	3350K221	33.94	55.96	91.74
1″	3350K222	49.22	81.15	133.04

Wd.		1 ft.	2 ft.	4 ft.
1/2″ Thick (±0.005″) (Cont.)				
2″	3350K223	$87.60	$144.42	$236.75
4″	3350K224	150.28	247.75	406.15
3/4″ Thick (±0.007″)				
3/4″	3350K225	66.54	109.71	179.85
1″	3350K226	110.45	182.10	298.52
2″	3350K227	205.12	338.18	554.39
4″	3350K228	285.74	471.09	772.28
1″ Thick (±0.008″)				
1″	3350K229	90.92	149.90	245.74
2″	3350K231	172.27	284.02	465.60
4″	3350K232	319.42	526.62	863.31

Sheets—Unpolished

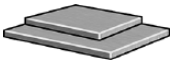

- Yield Strength: 34,000 psi
- Hardness: Rockwell F60
- Temper: 1/8 Hard to 1/4 Hard (H00 to H01)
- Meet ASTM B152 and F68

Width and length tolerances are ±1/8″.

Thick.	Thick. Tolerance		2″×24″	4″×24″	6″×6″	6″×12″	6″×24″	12″×12″	12″×24″	12″×48″	24″×24″	24″×48″
0.025″	±0.003″	89675K71	$12.14	$21.04	$8.90	$16.18	$25.89	$25.89	$46.93	$84.15	$84.15	$161.82
0.032″	±0.003″	89675K72	15.51	26.88	11.37	20.68	33.08	33.08	59.97	107.53	107.53	206.78
0.040″	±0.004″	89675K73	19.04	33.00	13.96	25.38	40.61	40.61	73.61	132.00	132.00	253.84
0.050″	±0.004″	89675K74	22.95	39.78	16.83	30.60	48.96	48.96	88.73	159.11	159.11	305.98
0.063″	±0.005″	89675K75	27.96	48.47	20.51	37.29	59.66	59.66	108.13	193.88	193.88	372.85
0.080″	±0.006″	89675K76	34.69	60.12	25.44	46.25	74.00	74.00	134.12	240.50	240.50	462.50
0.093″	±0.006″	89675K77	38.71	67.10	28.39	51.61	82.58	82.58	149.68	268.39	268.39	516.14
0.125″	±0.006″	89675K78	48.08	83.34	35.26	64.11	102.58	102.58	185.92	333.37	333.37	641.10
0.188″	±0.007″	89675K79	74.63	129.36	54.73	99.51	159.21	159.21	288.57	517.44	517.44	995.08
0.250″	±0.009″	89675K81	86.32	149.63	63.30	115.10	184.16	184.16	333.78	598.50	598.50	1,150.97
0.375″	±0.012″	89675K82	130.03	225.38	95.35	173.37	277.39	277.39	502.77	901.52	901.52	1,733.69
0.500″	±0.015″	89675K83	168.67	292.36	123.69	224.89	359.83	359.83	652.19	1,169.45	1,169.45	2,248.94

1/2 Hard Temper Sheets—Unpolished

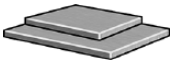

- Yield Strength: Not rated
- Hardness: Rockwell F77
- Temper: 1/2 Hard (H02)
- Meet ASTM F68

Width and length tolerances are ±1/4″.

Thick.	Thick. Tolerance		4″×4″	6″×6″	9″×9″	12″×12″
0.250″	±0.012″	2554T51	$35.26	$51.13	$105.79	$176.32
0.375″	±0.015″	2554T52	50.84	73.71	152.51	254.18
0.500″	±0.015″	2554T53	66.53	96.47	199.60	332.66
0.625″	±0.019″	2554T54	81.61	118.34	244.84	408.06

Thick.	Thick. Tolerance		4″×4″	6″×6″	9″×9″	12″×12″
0.750″	±0.019″	2554T55	$96.14	$139.41	$288.43	$480.71
0.875″	±0.024″	2554T56	110.10	148.64	319.29	550.50
1.000″	±0.024″	2554T57	121.57	164.12	352.55	607.84

Tubes—Unpolished



- Yield Strength: 30,000 psi
- Hardness: Rockwell F90
- Temper: Hard (H80)
- Meet ASTM B75 and F68

Wall thickness tolerance is ±0.006″. OD tolerance is ±0.003″. Straightness tolerance is 1/2″. Length tolerance is ±1/8″.

Wall Thick.	OD	ID		1 ft.	3 ft.	6 ft.
0.032″	1/8″	0.061″	8965K22	$2.54	$6.35	$10.58
0.032″	3/16″	0.124″	8965K23	2.68	6.70	11.16
0.032″	3/8″	0.311″	8965K26	6.43	16.09	26.81
0.032″	1/2″	0.436″	8965K27	9.39	23.47	39.11
0.032″	3/4″	0.686″	8965K28	16.22	40.54	67.57

Wall Thick.	OD	ID		1 ft.	3 ft.	6 ft.
0.035″	1/4″	0.180″	8965K24	$4.45	$11.13	$18.55
0.065″	3/8″	0.245″	8965K31	11.07	27.67	46.11
0.065″	1/2″	0.370″	8965K32	15.89	39.72	66.20
0.065″	3/4″	0.620″	8965K33	28.05	70.12	116.86
0.125″	1″	0.750″	8965K34	51.49	128.74	214.56

Rods—Unpolished

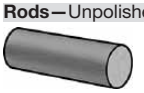

- Yield Strength: Not rated
- Hardness: Rockwell F65
- Temper: Hard (H04)
- Meet ASTM B187

Diameter tolerance is ±0.008″. Straightness tolerance is 1/2″ per 6 ft. Length tolerance for 1/2-ft. and 1-ft. lengths is ±1/8″; for 2-ft. to 6-ft. lengths it is ±1/2″.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″	8965K35	$1.85	$3.05	$4.57	$6.64	$10.88
5/32″	8965K36	2.83	4.67	7.00	10.17	16.67
3/16″	8965K11	3.71	6.11	9.16	13.31	21.82
1/4″	8965K12	4.52	7.45	11.18	16.23	26.61
5/16″	8965K13	6.68	11.00	16.50	23.96	39.28
3/8″	8965K14	9.11	15.01	22.51	32.70	53.60
7/16″	8965K15	12.23	20.15	30.23	43.90	71.97
1/2″	8965K82	13.78	22.69	34.04	49.44	81.05
9/16″	8965K38	22.43	36.94	55.41	80.48	131.94
5/8″	8965K71	21.62	29.25	49.59	72.48	127.16

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
11/16″	8965K39	$30.79	$41.66	$70.63	$103.23	$181.11
3/4″	8965K72	28.34	38.35	65.02	95.03	166.72
7/8″	8965K68	34.81	47.09	79.85	116.71	204.75
1″	8965K73	41.19	55.73	94.50	138.12	242.31
1 1/8″	8965K45	62.25	84.22	142.81	208.73	366.19
1 1/4″	8965K74	59.65	80.71	136.85	200.01	350.90
1 1/2″	8965K75	87.46	118.33	200.64	293.24	514.46
2″	8965K76	130.27	179.19	303.85	444.09	779.10
2 1/2″	8965K49	240.52	396.15	594.22	863.04	1,414.82
3″	8965K57	287.03	543.02	814.53	1,183.01	1,939.36

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

For information about copper alloys, see page 3805.

Super-Conductive 101 Copper *(Material continued from previous page)*

With 99.99% copper content, 101 copper has higher purity than 110 copper, resulting in superior electrical conductivity. It's commonly called oxygen-free electronic (OFE) and oxygen-free high-conductivity (OFHC) copper. Use it in electrical applications, such as for coaxial cables and terminal lugs, and also in high-temperature and vacuum environments. This material can be welded, soldered, and brazed. It is not heat treatable.

Rods—Unpolished (Cont.)



- Yield Strength: Not rated
- Hardness: Rockwell F75, except 6″ dia. are not rated
- Temper: Hard (H04), except 6″ dia. are extruded
- Meet ASTM B187 and F68

Length tolerance is ±1/16″.

Dia.	Dia. Tolerance		1″ Lg.	2″ Lg.	3″ Lg.	4″ Lg.	5″ Lg.	6″ Lg.
2″	±0.008″	8312K72	$31.01	$59.37	$77.05	$98.71	$115.93	$130.27
3″	±0.008″	8312K73	68.27	130.91	164.26	217.60	255.41	287.03
4″	±0.008″	8312K74	81.07	155.32	194.83	258.18	303.14	340.61
5″	±0.010″	8312K75	126.44	242.25	303.87	402.68	472.80	531.24
6″	±0.063″	8312K76	176.23	337.66	423.55	561.28	659.03	740.48

Rods—Titanium Clad



- Yield Strength: Not rated
- Hardness: Not rated

A 0.02″ to 0.04″ thick layer of titanium is bonded to these copper rods for long life and dimensional stability in highly corrosive environments. Length tolerance for 3-ft. lengths is ±3/4″; for 6-ft. lengths it is ±1 1/2″.

Dia.	Dia. Tolerance		3 ft.	6 ft.
1/4″	±0.005″	1025N1	$105.00	$150.00
3/8″	±0.010″	1025N2	134.62	192.31
1/2″	±0.010″	1025N3	168.27	240.38
5/8″	±0.010″	1025N4	$229.09	$327.27
3/4″	±0.010″	1025N5	248.18	381.82
1″	±0.020″	1025N6	453.53	697.74

Balls—Reflective Finish



- Yield Strength: Not rated
- Hardness: Not rated
- Temper: Hard (H04)
- Meet ASTM B2 and B3

Balls are 102 copper, which has 99.95% copper content. It is slightly less conductive than 101.

Dia.	Dia. Tolerance		Pkg. of 100	Dia.	Dia. Tolerance		Pkg. of 100	Dia.	Dia. Tolerance		Pkg. of 100
1/16″	±0.001″	64715K14	$7.77	5/64″	±0.001″	64715K16	$8.40	3/32″	±0.001″	64715K18	$8.69

Easy-to-Machine 145 Copper

The addition of tellurium makes this copper easy to machine while maintaining good corrosion resistance and high electrical conductivity. Also called tellurium copper, 145 copper is often used for transformer and circuit-breaker terminals, welding torch tips, and fasteners. This material can be soldered and brazed. It is not heat treatable.

Rectangular Bars—Unpolished



- Yield Strength: 18,000 psi
- Hardness: Not rated
- Temper: Hard (H04)
- Meet ASTM B301

Thickness tolerance is ±0.005″. Width tolerance for 2″ wide bars is ±0.010″; for 4″ wide bars it is ±0.012″; for 6″ wide bars it is ±0.300″. Length tolerance is ±1/4″.

Thick.	Wd.		1 ft.	3 ft.	6 ft.
1/4″	2″	9100K61	$38.43	$99.57	$174.69
1/4″	4″	9100K51	76.82	199.04	349.20
1/4″	6″	9100K52	106.70	276.45	485.00
3/8″	2″	9100K62	55.64	144.15	252.90
3/8″	4″	9100K53	106.70	276.45	485.00
3/8″	6″	9100K54	143.90	372.83	654.08
1/2″	2″	9100K63	$78.92	$204.49	$358.75
1/2″	4″	9100K55	137.04	355.07	622.93
1/2″	6″	9100K56	191.90	497.18	872.25
3/4″	4″	9100K57	191.90	497.18	872.25
3/4″	6″	9100K58	261.75	678.17	1,189.77
1″	4″	9100K59	232.65	602.77	1,057.50

Rods—Unpolished



- Yield Strength: 30,000 psi
- Hardness: Not rated
- Temper: 1/2 Hard (H02)
- Meet ASTM B301

Diameter tolerance is ±0.0025″. Length tolerance is ±1/4″.

Dia.		1 ft.	3 ft.	6 ft.
1/8″	9100K27	_____	$3.85	$6.75
3/16″	9100K28	_____	10.56	18.53
1/4″	9100K29	_____	15.23	26.72
5/16″	9100K31	_____	24.11	42.29
3/8″	9100K13	_____	32.29	56.65
1/2″	9100K14	$22.53	51.37	90.13
5/8″	9100K15	$33.47	$76.31	$133.88
3/4″	9100K16	45.80	104.43	183.21
7/8″	9100K17	59.58	135.83	238.30
1″	9100K18	77.73	177.22	310.91
1 1/8″	9100K19	94.16	214.68	376.63
1 1/4″	9100K21	111.56	254.36	446.25
1 3/8″	9100K22	$125.73	$286.68	$502.94
1 1/2″	9100K23	148.20	337.89	592.79
1 5/8″	9100K24	161.52	368.26	646.07
1 3/4″	9100K25	180.78	412.17	723.10
2″	9100K26	221.37	504.72	885.48

High-Strength 182 Copper

This 182 copper is stronger, harder, and more wear resistant than 110 copper. Also known as RWMA Class 2 chromium copper, it is commonly used in resistance welding, for circuit-breaker parts, and for molds to make plastic parts. This material cannot be soldered, brazed, or welded. It can be heat treated.

Rods—Unpolished



- Yield Strength: Not rated
- Hardness: Rockwell B70
- Temper: Hard (H04)

Length tolerance for 1- and 3-ft. lengths is ±1/4″; for 6-ft. lengths it is ±1/2″.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1/8″	±0.003″	89985K101	$18.35	$42.34	$70.56
3/16″	±0.003″	89985K102	20.35	46.97	78.28
1/4″	±0.003″	89985K103	22.65	52.27	87.11
3/8″	±0.003″	89985K104	34.88	80.50	134.16
1/2″	±0.003″	89985K105	42.01	96.95	161.59
5/8″	±0.005″	89985K106	$50.72	$117.04	$195.06
3/4″	±0.005″	89985K107	62.40	144.01	240.01
1″	±0.005″	89985K108	104.04	240.09	400.15
1 1/4″	±0.005″	89985K109	135.14	311.87	519.78
1 1/2″	±0.005″	89985K111	172.31	397.63	662.72

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

High-Strength 182 Copper *(Material continued from previous page)*

Rectangular Bars—Unpolished



- Yield Strength: 40,000 psi
- Hardness: Rockwell B60
- Temper: Hard (H04)

Width tolerance for 1/8″ wide bars is ±0.005″; for 3/8″ to 2″ wide bars it is ±0.009″. Length has a plus tolerance.

Wd.		1 ft.	3 ft.	6 ft.
1/8″ Thick (±0.005″)				
1/8″	89985K417	$16.62	$41.54	$69.23
1/4″ Thick (±0.005″)				
1/2″	89985K52	24.92	62.31	103.85
1″	89985K54	54.35	135.88	226.47
1 1/2″	89985K55	57.53	143.83	239.71
2″	89985K56	79.54	198.86	331.43
3/8″ Thick (±0.005″)				
3/8″	89985K437	27.46	68.65	114.42
1/2″	89985K58	32.00	80.00	133.33
3/4″	89985K59	40.41	101.03	168.38
1″	89985K617	57.18	142.94	238.24
2″	89985K637	87.82	219.55	365.91

Wd.		1 ft.	3 ft.	6 ft.
1/2″ Thick (±0.005″)				
1/2″	89985K447	$36.75	$91.88	$153.13
3/4″	89985K657	57.18	142.94	238.24
1″	89985K667	68.84	172.10	286.84
1 1/2″	89985K687	87.82	219.55	365.91
2″	89985K697	88.89	222.22	370.37
5/8″ Thick (±0.007″)				
1″	89985K717	74.40	186.00	310.00
1 1/2″	89985K737	87.23	218.08	363.46
2″	89985K747	100.97	261.43	435.71
3/4″ Thick (±0.007″)				
3/4″	89985K467	68.84	172.10	286.84
1″	89985K757	82.91	207.27	345.45

Wd.		1 ft.	3 ft.	6 ft.
3/4″ Thick (±0.007″) (Cont.)				
1 1/2″	89985K777	$93.86	$234.64	$391.07
1 3/4″	89985K787	103.03	257.59	429.31
2″	89985K797	120.80	302.00	503.33
1″ Thick (±0.007″)				
1″	89985K477	89.28	223.20	372.00
1 1/4″	89985K82	100.97	252.41	420.69
1 1/2″	89985K83	123.60	309.00	515.00
2″	89985K85	153.52	383.80	639.66
1 1/2″ Thick (±0.007″)				
1 1/2″	89985K497	159.37	398.44	664.06
2″	89985K88	200.82	502.06	836.76

Hexagonal Bars—Unpolished

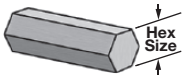

- Yield Strength: 40,000 psi
- Hardness: Rockwell B70
- Temper: Hard (H04)

Hex size tolerance is ±0.006″. Length has a plus tolerance.

Hex Size		1 ft.	3 ft.	6 ft.
1/2″	89985K89	$39.00	$97.50	$162.50
5/8″	89985K917	50.82	127.06	211.76

Hex Size		1 ft.	3 ft.	6 ft.
3/4″	89985K927	$61.58	$153.95	$256.58
1″	89985K937	87.82	219.55	365.91

Hex Size		1 ft.	3 ft.	6 ft.
1 1/8″	89985K947	$119.17	$297.93	$496.55
1 1/4″	89985K957	111.00	277.50	462.50

Weldable 122 Copper



- Yield Strength: Not rated
- Hardness: Not rated
- Temper: 1/2 Hard (H02)
- Meet ASTM B251

The addition of phosphorus makes 122 copper easier to weld and braze than 110 copper. It has excellent resistance to corrosion caused by water, soil, and weather, making it the go-to material for plumbing and underground applications. It's also used for storage tanks and chemical equipment. It is not as electrically conductive as other copper and it is not heat treatable. These tubes are unpolished. You can create telescoping tubes by fitting a tube inside the next larger size. OD tolerance is ±0.002″. Length tolerance is ±1/32″.

For additional sizes and longer lengths, see 122 copper tubing on pages 157-158.

		1 ft.		6 ft.	
OD	ID	Pkg. Qty.		Pkg.	Each
0.014″ Wall Thick (±0.001″)					
1/16″	0.0345″	3	7190K51	$2.78	7190K71 $5.24
3/32″	0.0658″	3	7190K52	2.95	7190K72 5.54
1/8″	0.0970″	1	7190K54	1.33	7190K73 7.91
5/32″	0.1283″	1	7190K53	1.39	7190K75 8.68

		1 ft.		6 ft.	
OD	ID	Pkg. Qty.		Pkg.	Each
0.014″ Wall Thick (±0.001″) (Cont.)					
3/16″	0.1595″	1	7190K55	$2.06	7190K76 $9.88
7/32″	0.1910″	1	7190K56	2.32	7190K77 11.13
1/4″	0.2220″	1	7190K57	2.68	7190K78 12.88

Ultra-Machinable 360 Brass

The standard by which machinability is measured for all red metals (copper, brass, and bronze), the lead content in 360 brass results in minimal tool wear during high-speed machining operations. Often called free-machining and free-cutting brass, it stands up to drilling, milling, and tapping operations. It is commonly used for gears, pinions, and lock components. This material can be soldered and brazed. It is not heat treatable.

Rectangular Bars—Unpolished



- Yield Strength: 15,000 psi
- Hardness: Rockwell B35
- Temper: 1/2 Hard (H02)
- Meet ASTM B16, except 1/16″ thick meet ASTM B121

Thickness tolerance for 1/16″ to 7/8″ thick bars is ±0.009″; for 1″ to 3″ thick bars it is ±0.014″. Width tolerance is ±0.020″. Length tolerance for 1/2-ft. to 3-ft. lengths is ±1/2″; for 6-ft. lengths it is ±3″.

Thick.	Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/16″	1/4″	8951K01★	$2.88	$3.89	$6.62	$8.50	$14.40
1/16″	3/8″	8951K02★	3.19	4.30	7.33	9.40	15.93
1/16″	1/2″	8951K03★	3.02	4.08	6.95	8.91	15.11
1/16″	3/4″	8951K04★	4.56	5.83	8.39	10.76	18.23
1/16″	1″	8951K05★	6.85	8.77	12.60	16.17	27.40
1/16″	2″	8951K06★	9.92	13.39	22.82	29.26	49.60
1/16″	4″	8951K07★	18.38	24.81	42.27	54.22	91.89
1/8″	1/8″	8951K08	1.65	2.13	3.37	4.47	6.88
1/8″	1/4″	8951K09	2.02	2.61	4.12	5.47	8.41
1/8″	3/8″	8954K23	3.69	4.76	7.53	9.98	15.36
1/8″	1/2″	8954K25	4.57	5.91	9.33	12.38	19.05
1/8″	5/8″	8954K3	6.54	8.45	13.36	17.72	27.26
1/8″	3/4″	8954K4	7.09	9.16	14.47	19.20	29.54
1/8″	1″	8954K36	7.35	12.24	22.53	28.90	48.98
1/8″	1 1/4″	8954K144	9.98	14.64	30.61	34.55	58.56
1/8″	1 1/2″	8954K145	9.41	15.68	28.85	37.00	62.72
1/8″	1 3/4″	8954K11	9.80	16.33	30.04	38.53	65.31
1/8″	2″	8954K146	10.88	18.13	33.36	42.79	72.52

Thick.	Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″	2 1/2″	8954K147	$11.84	$19.73	$36.30	$46.56	$78.92
1/8″	3″	8954K148	13.92	23.20	42.68	54.74	92.78
1/8″	4″	8954K149	17.37	28.95	53.26	68.31	115.78
5/32″	5/32″	8951K11	2.94	3.80	6.01	7.98	12.27
3/16″	3/16″	8951K12	3.19	4.13	6.52	8.65	13.31
3/16″	1/4″	8954K9	3.73	4.82	7.61	10.10	15.54
3/16″	3/8″	8954K8	4.68	6.04	9.55	12.66	19.48
3/16″	1/2″	8954K7	7.24	9.36	14.79	19.62	30.18
3/16″	5/8″	8954K5	5.40	9.00	16.56	21.24	36.00
3/16″	3/4″	8954K801	6.76	11.26	20.72	25.68	45.05
3/16″	7/8″	8954K12	7.42	12.37	22.77	29.20	49.49
3/16″	1″	8954K174	9.82	16.37	30.12	38.63	65.47
3/16″	1 1/4″	8954K175	10.77	17.95	33.03	42.37	71.81
3/16″	1 1/2″	8954K176	12.18	20.30	37.34	47.90	81.18
3/16″	2″	8954K177	13.77	22.95	42.22	54.16	91.79
3/16″	2 1/2″	8954K178	16.98	28.31	52.09	66.81	113.23
3/16″	3″	8954K179	19.47	32.45	59.70	76.58	129.79
3/16″	4″	8954K412	23.33	38.88	71.53	91.75	155.51

★ Made of 353 brass.

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Ultra-Machinable 360 Brass *(Material continued from previous page)*

The standard by which machinability is measured for all red metals (copper, brass, and bronze), the lead content in 360 brass results in minimal tool wear during high-speed machining operations. Often called free-machining and free-cutting brass, it stands up to drilling, milling, and tapping operations. It is commonly used for gears, pinions, and lock components. This material can be soldered and brazed. It is not heat treatable.

Rectangular Bars—Unpolished (Cont.)



- Yield Strength: 15,000 psi
- Hardness: Rockwell B35
- Temper: 1/2 Hard (H02)
- Meet ASTM B16

Thickness tolerance for 1/16″ to 7/8″ thick bars is ±0.009″; for 1″ to 3″ thick bars it is ±0.014″. Width tolerance is ±0.020″. Length tolerance for 1/2-ft. to 3-ft. lengths is ±1/2″; for 6-ft. lengths it is ±3″.

Thick.	Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/4″	1/4″	8951K13	$4.32	$5.58	$8.82	$11.71	$18.01
1/4″	5/16″	8954K6	4.04	6.74	12.40	15.36	26.95
1/4″	3/8″	8954K502	4.04	7.59	12.40	17.32	30.38
1/4″	1/2″	8954K411	6.03	10.05	18.49	22.91	40.20
1/4″	5/8″	8954K182	6.37	10.61	19.53	25.05	42.45
1/4″	3/4″	8954K183	7.54	12.57	23.13	29.67	50.28
1/4″	1″	8954K184	9.56	15.94	29.33	37.62	63.76
1/4″	1 1/4″	8954K185	11.56	19.26	35.44	45.45	77.04
1/4″	1 1/2″	8954K186	13.73	22.89	42.12	54.02	91.56
1/4″	1 3/4″	8954K13	14.92	23.87	45.75	59.67	99.45
1/4″	2″	8954K187	17.58	29.30	53.92	69.16	117.22
1/4″	2 1/4″	8954K14	19.14	31.90	58.69	75.28	127.59
1/4″	2 1/2″	8954K101	20.68	34.48	63.43	81.36	137.90
1/4″	3″	8954K102	21.74	36.23	66.67	85.51	144.94
1/4″	4″	8954K103	28.96	48.27	88.83	113.93	193.10
5/16″	5/16″	8951K14	4.25	7.09	13.05	16.73	28.36
5/16″	3/8″	8954K51	—	—	—	—	36.69
5/16″	1/2″	8954K188	6.28	10.47	19.27	24.72	41.90
5/16″	5/8″	8954K189	7.77	12.96	23.84	30.57	51.82
5/16″	3/4″	8954K191	9.34	15.57	28.66	36.76	62.30
5/16″	1″	8954K192	11.80	19.66	36.18	46.41	78.66
5/16″	1 1/2″	8954K193	16.69	27.81	51.18	65.64	111.25
5/16″	2″	8954K104	20.59	34.31	63.13	80.97	137.24
3/8″	3/8″	8951K17	5.28	8.80	16.20	20.77	35.21
3/8″	1/2″	8954K194	7.47	12.45	22.90	29.37	49.78
3/8″	5/8″	8954K195	9.14	15.23	28.03	35.95	60.94
3/8″	3/4″	8954K196	11.77	19.61	36.09	46.29	78.46
3/8″	7/8″	8954K15	12.90	21.49	39.55	50.72	85.97
3/8″	1″	8954K197	14.07	23.45	43.15	55.35	93.81
3/8″	1 1/4″	8954K198	18.30	30.50	56.13	71.99	122.02
3/8″	1 1/2″	8954K721	19.38	32.30	59.44	76.24	129.22
3/8″	1 3/4″	8954K18	20.80	34.67	63.80	81.83	138.70
3/8″	2″	8954K105	29.86	44.00	75.44	97.44	157.16
3/8″	2 1/2″	8954K106	35.98	53.02	90.89	117.40	189.36
3/8″	3″	8954K107	41.28	60.84	104.29	134.71	217.27
3/8″	4″	8954K108	50.01	73.70	126.34	163.19	263.21
3/8″	6″	8954K19	54.15	90.25	166.07	213.00	361.02
7/16″	7/16″	8951K16	8.07	11.89	20.39	26.33	42.47
1/2″	1/2″	8951K71	8.56	12.62	21.63	27.94	45.07
1/2″	5/8″	8954K211	11.83	19.72	36.28	46.54	78.88
1/2″	3/4″	8954K212	13.84	23.07	42.45	54.45	92.28
1/2″	7/8″	8954K2	14.82	24.70	45.45	58.29	98.80
1/2″	1″	8954K871	16.91	28.19	51.87	66.52	112.75
1/2″	1 1/4″	8954K161	21.22	35.37	65.08	83.47	141.47
1/2″	1 1/2″	8954K109	23.14	38.58	70.98	91.04	154.30
1/2″	1 3/4″	8954K24	26.08	43.47	79.98	102.59	173.88
1/2″	2″	8954K121	30.61	51.02	93.88	120.41	204.08
1/2″	2 1/2″	8954K122	36.97	61.62	113.37	145.41	246.46
1/2″	3″	8954K123	42.28	70.47	129.66	166.31	281.88
1/2″	3 1/2″	8954K28	46.68	77.80	143.15	183.61	311.20
1/2″	4″	8954K124	54.07	90.11	165.81	212.67	360.45
1/2″	5″	8954K39	60.16	100.27	184.50	236.64	401.08
1/2″	6″	8954K59	69.93	116.54	214.44	275.04	466.17
9/16″	9/16″	8951K72	8.37	13.95	25.66	32.91	55.78
5/8″	5/8″	8951K73	11.27	18.78	34.56	44.32	75.12
5/8″	3/4″	8954K213	17.92	26.41	45.27	58.47	94.31
5/8″	7/8″	8954K214	21.28	31.36	53.76	69.43	111.99
5/8″	1″	8954K961	$23.95	$35.29	$60.50	$78.15	$126.05
5/8″	1 1/4″	8954K125	26.36	38.85	66.60	86.03	138.76
5/8″	1 1/2″	8954K331	24.09	38.54	73.88	96.36	160.60
5/8″	1 3/4″	8954K341	28.09	46.82	86.15	110.50	187.28
5/8″	2″	8954K164	46.45	68.46	117.36	151.59	244.50
5/8″	2 1/2″	8954K351	38.79	64.66	118.97	152.59	258.62
5/8″	3″	8954K371	46.54	77.57	142.72	183.06	310.27
5/8″	4″	8954K382	60.16	100.27	184.50	236.64	401.08
3/4″	3/4″	8951K74	14.90	22.85	45.71	58.62	99.36
3/4″	7/8″	8954K394	19.96	31.93	61.20	79.82	133.04
3/4″	1″	8954K126	23.79	36.47	72.94	93.56	158.57
3/4″	1 1/4″	8954K32	28.01	42.95	85.89	110.16	186.72
3/4″	1 1/2″	8954K395	31.27	48.63	95.94	124.74	211.42
3/4″	1 3/4″	8954K407	32.33	50.09	98.85	128.50	217.80
3/4″	2″	8954K127	47.14	69.46	119.08	153.81	248.08
3/4″	2 1/2″	8954K128	57.95	85.40	146.40	189.10	305.00
3/4″	3″	8954K129	67.37	99.28	170.20	219.84	354.58
3/4″	4″	8954K415	70.08	107.46	214.91	275.65	467.20
7/8″	1 1/2″	8954K419	33.80	51.82	103.64	132.93	225.31
7/8″	2″	8954K463	43.54	66.76	133.52	171.25	290.25
1″	1″	8951K51	25.23	38.69	77.39	99.26	168.23
1″	1 1/4″	8954K167	40.35	59.47	101.95	131.68	212.39
1″	1 1/2″	8954K171	47.75	70.38	120.64	155.83	251.34
1″	1 3/4″	8954K467	43.54	66.76	133.52	171.25	290.25
1″	2″	8954K141	63.60	93.72	160.67	207.53	334.72
1″	2 1/2″	8954K142	76.95	113.39	194.39	251.09	404.98
1″	3″	8954K143	88.98	131.12	224.78	290.35	468.30
1″	3 1/2″	8954K472	81.75	125.35	250.70	321.55	545.00
1″	4″	8954K476	90.65	139.00	277.99	356.55	604.33
1″	5″	8954K481	109.95	168.59	337.18	432.48	733.01
1″	6″	8954K485	128.15	196.50	392.99	504.05	854.33
1 1/4″	1 1/4″	8951K53	40.84	62.63	125.25	160.65	272.29
1 1/4″	1 1/2″	8954K489	51.82	79.47	158.93	203.84	345.50
1 1/4″	1 3/4″	8954K494	60.58	92.89	185.79	238.30	403.89
1 1/4″	2″	8954K504	66.76	106.81	204.72	267.02	445.04
1 1/4″	2 1/2″	8954K521	83.43	127.92	255.84	328.15	556.18
1 1/4″	3″	8954K531	96.50	147.97	295.94	379.57	643.34
1 1/4″	4″	8954K551	124.61	191.07	382.15	490.14	830.75
1 3/8″	1 3/4″	8954K561	64.15	98.36	196.72	252.32	427.66
1 1/2″	1 1/2″	8951K55	54.47	83.52	167.05	214.26	363.15
1 1/2″	2″	8954K565	80.09	122.81	245.62	315.03	533.95
1 1/2″	2 1/2″	8954K57	96.50	147.97	295.94	379.57	643.34
1 1/2″	3″	8954K581	112.16	171.98	343.97	441.17	747.75
1 1/2″	4″	8954K601	144.68	221.85	443.70	569.09	964.56
1 3/4″	1 3/4″	8951K57	68.15	104.49	208.98	268.04	454.31
1 3/4″	2″	8954K621	87.02	138.31	266.81	354.83	601.38
1 3/4″	2 1/2″	8954K631	109.05	167.21	334.43	428.94	727.02
1 3/4″	3″	8954K641	124.25	202.00	381.14	504.99	841.65
2″	2″	8951K59	81.58	125.09	250.19	320.90	543.89
2″	2 1/2″	8954K651	109.95	168.59	337.18	432.48	733.01
2″	3″	8954K661	131.92	202.28	404.55	518.88	879.46
2″	4″	8954K671	170.88	273.42	524.05	683.54	1,139.23
2 1/4″	2 1/4″	8951K62	101.01	154.89	309.77	397.32	673.42
2 1/2″	2 1/2″	8951K64	116.95	179.32	358.63	459.99	779.64
2 1/2″	3 1/2″	8954K681	186.94	286.65	573.30	735.32	1,246.30
3″	3″	8951K66	186.51	285.98	571.96	733.61	1,243.40

Rectangular Bars with Material Certification—Unpolished

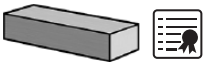

These bars come with a traceable lot number and material test report. They're available in the same sizes as the rectangular bars on page 3811 and above for an additional $15. Please specify thickness, width, and length when ordering.

Rectangular Bars with Material Certification 2569T95

Metric Hexagonal Bars—Unpolished

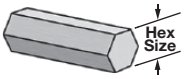

- Yield Strength: 23,000 psi
- Hardness: Rockwell B75
- Temper: 1/2 Hard

Made from Alloy CuZn36Pb3, the European equivalent of 360, these bars conform to EN 12164. Hex size tolerance for 4 to 8 mm bars is ±0.09 mm; for 10 to 17 mm bars it's ±0.11 mm; for 19 to 24 mm bars it's ±0.13 mm. Length tolerance is ±51 mm.

Hex Size, mm		1 meter
4	1452N51	$18.08
5	1452N52	27.21
6	1452N53	32.25
7	1452N54	$33.03
8	1452N55	33.88
10	1452N56	52.95
12	1452N57	$72.73
14	1452N58	99.25
17	1452N59	134.13
19	1452N61	$163.89
22	1452N62	206.11
24	1452N63	250.46

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Ultra-Machinable 360 Brass *(Material continued from previous page)*

Hexagonal Bars—Unpolished

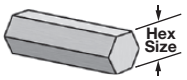

- Yield Strength: 44,000 psi
- Hardness: Rockwell B25
- Temper: 1/2 Hard (H02)
- Meet ASTM B16

Hex size tolerance for 1/8″ to 1 1/4″ bars is ±0.006″; for 1 3/8″ to 2 1/2″ bars it is ±0.009″. Length tolerance is ±1/2″.

Hex Size		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/8″	8952K21	$1.70	$2.06	$3.54	$4.57	$7.37
3/16″	8952K22	1.89	2.30	3.94	5.08	8.20
1/4″	8952K23	2.47	3.01	5.16	6.67	10.76
5/16″	8952K24	4.17	5.07	8.69	11.23	18.11
3/8″	8952K25	5.94	7.23	12.39	16.00	25.81
7/16″	8952K26	7.04	8.57	14.69	18.98	30.61
1/2″	8952K27	9.10	11.08	19.00	24.54	39.58
9/16″	8952K11	11.45	13.94	23.90	30.88	49.80
5/8″	8952K12	12.87	16.73	28.96	39.90	64.35
11/16″	8952K28	18.51	24.07	41.65	57.39	92.56
3/4″	8952K13	17.32	22.51	38.96	53.68	86.58
13/16″	8952K29	23.28	30.26	52.38	72.17	116.40

Hex Size		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
7/8″	8952K14	$23.04	$29.96	$51.85	$71.44	$115.22
15/16″	8952K31	30.38	39.50	68.36	94.18	151.91
1″	8952K93	29.35	38.15	66.03	85.10	146.73
1 1/8″	8952K81	35.78	46.52	80.51	103.77	178.92
1 1/4″	8952K82	43.28	56.26	97.38	125.51	216.39
1 3/8″	8952K83	51.38	66.80	115.61	149.01	256.91
1 1/2″	8952K84	57.70	75.02	129.83	167.34	288.52
1 5/8″	8952K85	68.47	85.59	154.06	198.56	342.35
1 3/4″	8952K86	76.54	95.67	172.21	221.95	382.68
2″	8952K87	94.54	118.18	212.72	274.17	472.71
2 1/4″	8952K88	123.22	154.03	277.25	357.35	616.12
2 1/2″	8952K89	157.11	196.38	353.49	455.61	785.54

Rods—Unpolished



- Yield Strength: 15,000 psi
- Hardness: Rockwell B25, except 3/32″ to 15/32″ dia. are not rated
- Temper: 1/2 Hard (H02)
- Meet ASTM B16

Diameter tolerance for 3/32″ to 2 1/4″ dia. rods is ±0.003″; for 2 3/8″ to 4″ dia. rods it is ±0.006″; for 4 1/4″ to 6″ dia. rods it is ±0.12″. Length tolerance for 1/2″ to 3″ lengths is ±1/16″; for 1/2-ft. to 6-ft. lengths it is ±1/2″.

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/32″	8953K921	$0.93	$1.24	$1.70	$2.29	$3.09
1/8″	8953K101	1.46	1.95	2.68	3.60	4.87
5/32″	8953K106	2.45	3.26	4.49	6.04	8.16
3/16″	8953K112	2.82	3.76	5.17	6.96	9.40
7/32″	8953K118	3.34	4.46	6.13	8.24	11.14
1/4″	8953K124	3.62	4.82	6.63	8.92	12.05
9/32″	8953K131	4.16	5.55	7.63	10.26	13.87
5/16″	8953K138	5.10	6.80	9.36	12.59	17.01
11/32″	8953K144	6.35	8.47	11.64	15.67	21.17
3/8″	8953K149	7.29	9.72	13.36	17.97	24.29
13/32″	8953K156	8.29	11.05	15.20	20.45	27.63
7/16″	8953K162	9.38	12.51	17.20	23.14	31.27
15/32″	8953K167	10.37	13.82	19.01	24.19	34.56
1/2″	8953K174	11.99	15.98	21.97	25.97	39.95
17/32″	8953K89	12.14	17.34	23.84	26.87	43.34
9/16″	8953K91	12.30	18.93	26.03	28.39	47.32
19/32″	8953K13	12.87	19.89	29.25	33.94	58.51
5/8″	8953K92	12.88	19.91	29.27	33.96	58.55
21/32″	8953K93	13.35	20.98	31.79	36.87	63.57
11/16″	8953K2	13.95	22.76	33.03	42.58	73.41
23/32″	8953K94	14.26	23.26	33.76	43.52	75.03
3/4″	8953K95	14.85	24.23	35.18	45.34	78.17
25/32″	8953K96	15.24	24.87	36.09	46.52	80.21
13/16″	8953K3	17.46	28.50	41.36	53.31	91.92
7/8″	8953K97	18.73	30.56	44.36	57.17	98.57
15/16″	8953K32	23.28	35.54	55.15	71.08	122.55
1″	8953K98	24.35	37.16	57.66	74.32	128.14
1 1/16″	8953K33	29.29	38.53	69.36	89.40	154.14
1 1/8″	8953K28	30.34	39.92	71.86	92.61	159.68

Dia.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
13/16″	8953K34	$35.84	$47.16	$84.89	$109.42	$188.65
1 1/4″	8953K29	36.06	47.45	85.40	110.07	189.78
1 5/16″	8953K36	42.91	56.46	101.62	130.98	225.83
1 3/8″	8953K35	43.28	56.94	102.50	132.11	227.77
1 7/16″	8953K37	50.55	66.52	119.73	154.31	266.06
1 1/2″	8953K17	50.22	66.08	118.95	153.32	264.34
1 9/16″	8953K38	58.57	77.07	138.73	178.80	308.28
1 5/8″	8953K39	58.26	76.65	137.97	177.83	306.61
1 3/4″	8953K72	65.18	85.77	154.38	198.98	343.07
1 7/8″	8953K8	84.38	111.02	199.84	257.57	444.09
2″	8953K24	85.59	110.36	202.71	261.27	450.46
2 1/16″	8953K6	88.72	114.81	234.85	302.69	521.88
2 1/8″	8953K68	92.55	119.77	244.98	315.75	544.40
2 1/4″	8953K71	101.96	131.94	269.88	347.85	599.74
2 3/8″	8953K73	113.59	147.00	300.67	387.53	668.16
2 1/2″	8953K26	117.75	152.38	311.69	401.74	692.65
2 5/8″	8953K75	120.39	160.52	361.17	465.51	802.61
2 3/4″	8953K77	132.11	176.15	396.33	510.82	880.73
3″	8953K511	138.88	186.77	431.00	555.51	957.77
3 1/8″	8953K956	144.83	195.72	____	____	____
3 1/4″	8953K957	151.09	204.18	____	____	____
3 3/8″	8953K958	158.11	219.60	____	____	____
3 1/2″	8953K959	165.75	236.78	____	____	____
3 3/4″	8953K965	190.27	271.82	____	____	____
4″	8953K516	244.71	349.58	____	____	____
4 1/4″	8953K966	252.93	361.33	____	____	____
4 1/2″	8953K967	283.52	405.03	____	____	____
5″	8953K968	348.55	536.23	____	____	____
6″	8953K976	434.26	723.77	____	____	____



Dia.		1/2″ Lg.	1″ Lg.	2″ Lg.	3″ Lg.
1″	1784N11	$2.73	$4.37	$7.29	$9.11
1 1/2″	1784N12	8.60	13.77	22.94	28.68
2″	1784N13	15.29	24.46	40.76	50.95
2 1/2″	1784N14	24.00	38.40	64.00	80.00

Dia.		1/2″ Lg.	1″ Lg.	2″ Lg.	3″ Lg.
3″	1784N15	$24.87	$39.79	$66.32	$82.90
4″	1784N16	42.20	67.52	112.53	140.66
5″	1784N17	59.12	94.59	157.66	197.07
6″	1784N18	74.19	118.70	197.84	247.30

Rods with Material Certification—Unpolished

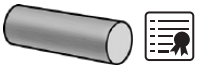

Furnished with a traceable lot number and material test report, these rods are available in the same sizes as the 1/2-ft. to 6-ft. length rods above for an additional $15. Please specify diameter and length when ordering.

Rods with Material Certification 2572T777

Metric Rods—Unpolished



- Yield Strength: 23,000 psi
- Hardness: Rockwell B75
- Temper: 1/2 Hard

Made from Alloy CuZn36Pb3, the European equivalent of 360, these rods conform to EN 12164. Diameter tolerance for 2 to 5 mm dia. rods is ±0.05 mm; for 6 to 25 mm dia. rods it is ±0.08 mm. Length tolerance is ±51 mm.

Dia., mm		1 meter
2	1452N11	$5.69
3	1452N12	5.75
4	1452N13	8.05
5	1452N14	12.68

Dia., mm		1 meter
6	1452N15	$17.29
7	1452N16	23.07
8	1452N17	26.91
9	1452N18	31.42

Dia., mm		1 meter
10	1452N19	$38.78
12	1452N21	49.58
14	1452N22	60.02
15	1452N23	68.94

Dia., mm		1 meter
16	1452N24	$75.30
18	1452N25	95.16
20	1452N26	117.44
25	1452N27	168.92

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

For information about brass alloys, see page 3805.

Ultra-Machinable 360 Brass *(Material continued from previous page)*

The standard by which machinability is measured for all red metals (copper, brass, and bronze), the lead content in 360 brass results in minimal tool wear during high-speed machining operations. Often called free-machining and free-cutting brass, it stands up to drilling, milling, and tapping operations. It is commonly used for gears, pinions, and lock hardware. This material can be soldered and brazed. It is not heat treatable.

Tight-Tolerance Rods—Precision Ground

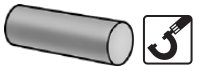

- Yield Strength: 25,000 psi
- Hardness: Rockwell B60
- Temper: 1/2 Hard (H02)
- Meet ASTM B16

Diameter tolerance is ±0.0002″. Straightness tolerance is 1/16″ per 5 ft. Length tolerance is ±1/8″.

Dia.		1 ft.	3 ft.	6 ft.
1/8″	2575T1	$13.09	$24.72	$36.36
3/16″	2575T2	15.43	29.14	42.86
1/4″	2575T3	18.51	34.97	51.43
5/16″	2575T4	$20.57	$38.86	$57.14
3/8″	2575T5	21.33	45.34	66.67
1/2″	2575T6	30.64	65.10	95.74
5/8″	2575T7	$37.88	$78.12	$118.37
3/4″	2575T8	45.72	97.14	142.86
1″	2575T44	65.31	138.77	204.08

Formable Easy-to-Machine 353 Brass

With less lead than 360 brass, this 353 brass is more formable while maintaining good machinability. Commonly called engraver's brass, it's well suited for fabrication processes such as knurling and threading. Use it to make nuts, gears, drawer pulls, and hinges. This material can be soldered and brazed. It is not heat treatable.

Sheets—Unpolished

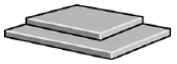

- Yield Strength: 50,000 psi
- Hardness: Rockwell B65
- Temper: 1/2 Hard (H02)
- Meet ASTM B121

Width and length tolerances are ±1/4″.

Thick.	Thick. Tolerance	6″×6″		12″×12″		12″×24″		12″×48″		24″×48″	
0.063″	±0.005″	8948K12	$21.77	8948K22	$47.32	8948K42	$82.31	8948K62	$152.84	8948K82	$272.11
0.125″	±0.006″	8948K14	39.79	8948K24	86.50	8948K44	150.46	8948K64	273.56	8948K84	497.39
0.150″	±0.007″	8948K15	50.23	8948K25	105.93	8948K45	184.19	8948K65	334.90		
0.250″	±0.009″	8948K17	73.72	8948K27	165.50	8948K47	278.75	8948K67	506.83	8948K87	921.50
0.375″	±0.012″	8948K19	108.64	8948K29	236.69	8948K49	410.78	8948K69	746.87	8948K89	1,357.95
0.500″	±0.015″	8948K21	144.37	8948K31	314.55	8948K51	545.90	8948K71	992.55	8948K91	1,804.63
0.750″	±0.018″	8948K23	203.79	8948K32	415.88	8948K52	747.25	8948K72	1,358.63		

Rods—Unpolished

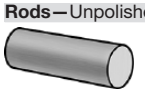

- Yield Strength: 25,000 psi
- Hardness: Rockwell B60, except 1/8″ to 7/16″ are not rated
- Temper: 1/2 Hard (H02)
- Meet ASTM B453

Diameter tolerance is ±0.005″. Length tolerance is ±1/4″.

Dia.		1 ft.	3 ft.	6 ft.
1/8″	8313K21	$2.46	$5.75	$10.27
1/4″	8313K17	3.06	7.14	12.75
5/16″	8313K18	4.78	11.15	19.91
3/8″	8313K19	$6.37	$14.86	$26.54
7/16″	8313K22	8.17	19.07	34.05
1/2″	8313K14	10.05	23.45	41.88
5/8″	8313K15	$15.77	$36.80	$65.72
3/4″	8313K16	21.17	49.39	88.20
1″	8313K23	38.36	89.50	159.83

Easy-to-Machine Architectural 385 Brass

Often called architectural bronze, this 385 brass is easy to machine and has excellent formability when heated. It is typically used for handrails, ornamental trim, and hardware, such as hinges and lock bodies. This material can be soldered and brazed. It is not heat treatable.

Rectangular Bars—Unpolished

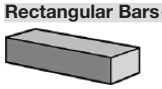

- Yield Strength: 16,000 psi
- Hardness: Rockwell B42
- Temper: 1/2 Hard (H02), except 1/8″ Thick. × 1 1/4″ Wd. are extruded
- Meet ASTM B455

Thickness tolerance is ±0.010″. Width tolerance is ±0.045″. Length tolerance for 2-ft. and 4-ft. lengths is ±1/2″; for 8-ft. lengths it is ±3″.

Thick.	Wd.		2 ft.	4 ft.	8 ft.
1/8″	1/2″	9122K21	$8.60	$15.32	$26.88
1/8″	3/4″	9122K22	12.19	21.71	38.09
1/8″	1″	9122K23	15.69	27.95	49.04
1/8″	1 1/4″	9122K28	21.29	37.93	66.54
1/8″	1 1/2″	9122K25	23.08	41.10	72.11
1/8″	2″	9122K27	30.77	54.81	96.15
3/16″	1″	9122K53	26.13	46.54	81.65
1/4″	1/4″	9122K66	12.03	21.42	37.58
1/4″	1/2″	9122K31	$16.92	$30.14	$52.88
1/4″	1″	9122K32	32.31	57.56	100.98
1/4″	1 1/2″	9122K34	45.85	81.67	143.28
1/4″	2″	9122K35	61.13	108.89	191.04
1/4″	3″	9122K56	95.48	170.08	298.38
3/8″	1/2″	9122K41	23.91	42.59	74.72
3/8″	3/4″	9122K42	34.40	61.27	107.49
3/8″	1″	9122K43	46.23	82.35	144.48
3/8″	2″	9122K45	$88.14	$157.00	$275.44
1/2″	1/2″	9122K69	38.61	68.78	120.67
1/2″	3/4″	9122K51	48.13	85.73	150.40
1/2″	1″	9122K52	62.67	111.63	195.85
1/2″	2″	9122K62	116.50	207.51	364.06
3/4″	3/4″	9122K71	74.82	133.28	233.82
3/4″	1″	9122K64	95.48	170.08	298.38
1″	1″	9122K72	127.56	227.21	398.62

Rods—Unpolished

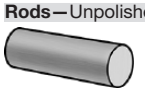

- Yield Strength: 16,000 psi
- Hardness: Rockwell B42
- Temper: 1/2 Hard (H02)
- Meet ASTM B455

Diameter tolerance is ±0.002″. Length tolerance for 2-ft. and 4-ft. lengths is ±1/2″; for 8-ft. lengths it is ±3″.

Dia.		2 ft.	4 ft.	8 ft.
1/4″	9122K75	$9.66	$16.10	$26.84
1/2″	9122K76	$33.57	$55.96	$93.26
3/4″	9122K77	$69.48	$115.80	$193.00

Metric Rods—Unpolished



- Yield Strength: 60,000 psi
- Hardness: Rockwell B53
- Temper: 1/2 Hard

Meets European standard EN 12164. Diameter tolerance for 2 to 6 mm dia. rods is –0.05 mm; for 8 to 20 mm dia. rods it is –0.08 mm. Straightness tolerance is 0.4 mm per 400 mm. Length tolerance is ±153 mm.

Dia., mm		1 meter
2	9122K79	$4.75
3	9122K81	5.75
4	9122K82	$8.65
5	9122K83	11.65
6	9122K84	$14.63
8	9122K85	23.68
10	9122K86	$34.26
20	9122K88	118.09

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Easy-to-Machine Architectural 385 Brass *(Material continued from previous page)*

90° Angles—Unpolished



- Yield Strength: 16,000 psi
- Hardness: Rockwell B42
- Temper: ½ Hard (H02), except 1/16″ thick. are hot extruded (M30)
- Meet ASTM B455

Edges are squared. Thickness and leg length tolerances are ±1%. Length tolerance for 2-ft. and 4-ft. lengths is ±1/2″; for 8-ft. lengths it is ±3″.

Outside Leg Lgs.		2 ft.	4 ft.	8 ft.
1/16″ Thick (±0.0006″)				
¾″×¾″	9124K44	$13.80	$26.65	$47.59
⅛″ Thick (±0.0013″)				
½″×½″	9124K41	16.54	31.95	57.05
¾″×¾″	9124K45	25.72	49.67	88.69
¾″×1″	9124K46	25.98	50.16	89.57
1″×1″	9124K48	34.30	66.23	118.26
1¼″×1¼″	9124K53	43.59	84.17	150.31
1½″×1½″	9124K55	52.57	101.52	181.29
2″×2″	9124K58	66.44	128.30	229.11
3/16″ Thick (±0.0019″)				
1″×1″	9124K49	$51.92	$100.27	$179.05
1¼″×1¼″	9124K54	66.22	127.88	228.36
1½″×1½″	9124K56	77.03	148.74	265.61
2″×2″	9124K59	99.64	192.40	343.57
¼″ Thick (±0.0025″)				
1½″×1½″	9124K57	97.96	189.17	337.80
2″×2″	9124K61	121.56	234.73	419.16
3″×3″	9124K63	171.04	330.29	589.80

U-Channels—Unpolished

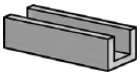

- Yield Strength: 16,000 psi
- Hardness: Rockwell B42
- Temper: ½ Hard (H02)
- Meet ASTM B455

Edges are squared. Thickness, base, and leg length tolerances are ±1%. Length tolerance is ±3″.

Outside Base	Outside Leg Lgs.		4 ft.	8 ft.
0.093″ Thick				
½″	½″	2582T34	$40.60	$67.67
½″	¾″	2582T37	50.83	84.71
0.125″ Thick				
¾″	¾″	2582T35	$66.79	$111.32
1″	1″	2582T42	90.52	150.87
0.125″ Thick (Cont.)				
1¼″	1¼″	2582T36	$99.07	$165.12

Easy-to-Form 260 Brass

A combination of copper and zinc makes 260 brass the most formable brass we offer. It provides good corrosion resistance but is not as machinable as 300 series brass. Sometimes called cartridge brass, it is commonly used for ammunition casings, radiator components, and decorative door hardware. This material can be welded, soldered, and brazed. It is not heat treatable.

Sheets—Unpolished

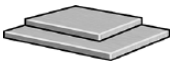

- Yield Strength: 52,000 psi
- Hardness: Rockwell B50, except 0.010″ to 0.016″ thick. are not rated
- Temper: 0.010″ to 0.250″ thick. are ½ Hard (H02); 0.500″ to 1.000″ thick. are ⅛ Hard (H01)
- Meet ASTM B36

Width and length tolerances are ±1/4″.

Thick.	Thick. Tolerance		2″×36″	4″×36″	6″×6″	6″×36″	12″×12″	12″×24″	12″×96″	24″×24″	24″×48″	24″×96″
0.010″	±0.002″	8956K151	$6.34	$10.24	$3.90	$14.63	$9.76	$16.59	$53.66	$29.27	$53.66	$97.56
0.012″	±0.002″	8956K161	6.65	10.74	4.09	15.34	10.23	17.38	56.24	30.67	56.24	102.25
0.016″	±0.003″	8956K171	7.74	12.50	4.76	17.86	11.91	20.24	65.48	35.72	65.48	119.06
0.020″	±0.004″	8956K401	9.63	15.56	5.19	22.23	14.82	25.19	81.49	44.45	81.49	148.17
0.025″	±0.004″	8956K411	11.39	18.40	6.13	26.28	17.52	29.78	96.36	52.56	96.36	175.20
0.032″	±0.004″	8956K421	14.61	23.60	7.87	33.71	22.47	38.20	123.60	67.42	123.60	224.72
0.040″	±0.005″	8956K431	18.05	29.16	9.72	41.65	27.77	47.20	152.72	83.30	152.72	277.67
0.050″	±0.006″	8956K441	21.79	35.21	11.74	50.29	33.53	57.00	184.41	100.59	184.41	335.29
0.063″	±0.006″	8956K451	27.04	43.68	14.56	62.40	41.39	66.56	228.80	124.80	228.80	416.00
0.080″	±0.007″	8956K461	32.29	52.16	17.39	74.51	47.19	79.48	273.20	149.02	273.20	496.72
0.093″	±0.007″	8956K471	36.49	58.94	19.65	84.20	53.33	89.82	308.74	168.41	308.74	561.35
0.125″	±0.007″	8956K481	43.60	70.43	23.48	114.03	63.72	107.32	368.92	201.23	368.92	670.77
0.188″	±0.010″	8956K491	73.76	119.16	39.72	192.92	107.81	181.57	624.16	340.45	624.16	1,134.83
0.250″	±0.010″	8956K281	98.27	131.02	64.20	222.74	124.47	209.64	720.62	393.07	720.62	1,310.22
0.500″	±0.015″	8956K291	265.38	408.28	200.06	608.34	408.28	____	____	____	____	____
0.750″	±0.020″	8956K301	374.33	575.90	282.19	858.09	575.90	____	____	____	____	____
1.000″	±0.024″	8956K311	485.17	746.42	365.75	1,112.17	746.42	____	____	____	____	____

Sheets with Material Certification—Unpolished

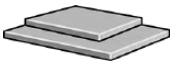

These sheets come with a traceable lot number and material test report. They are available in the same sizes with the same specifications as the sheets above for an additional $15. Please specify thickness, width, and length when ordering.

Sheets with Material Certification 1026N1

Sheets—Brushed Finish

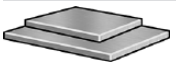



- Yield Strength: 40,000 psi
- Hardness: Rockwell B43
- Temper: ¼ Hard (H01)
- Meet ASTM B134 and B36

Sheets are brushed on one side with grain lines running in one direction. The brushed side is covered with a protective peel-off film. Width and length have plus tolerances. Flatness tolerance is ⅛″.

Thick.	Thick. Tolerance		12″×12″	12″×24″	24″×24″
0.032″	±0.005″	9758K101	$26.44	$47.89	$88.14
0.040″	±0.005″	9758K102	33.77	57.71	109.05
0.050″	±0.005″	9758K103	38.18	71.86	136.35
0.062″	±0.007″	9758K104	46.80	83.18	157.63
0.080″	±0.007″	9758K105	$76.23	$139.14	$272.82
0.125″	±0.010″	9758K106	112.42	207.30	398.66
0.187″	±0.010″	9758K107	178.99	328.78	632.26

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Easy-to-Form 260 Brass *(Material continued from previous page)*

A combination of copper and zinc makes 260 brass the most formable brass we offer. It provides good corrosion resistance but is not as machinable as 300 series brass. Sometimes called cartridge brass, it is commonly used for ammunition casings, radiator components, and decorative door hardware. This material can be welded, soldered, and brazed. It is not heat treatable.

Sheets—Mirror-Like Finish

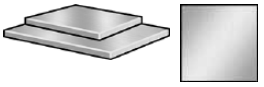

- Yield Strength: 40,000 psi
- Hardness: Rockwell B43
- Temper: 1/4 Hard (H01)
- Meet ASTM B134 and B36

Sheets are polished to a mirror-like finish on one side with no grain lines, then covered with a protective peel-off film. Width and length have plus tolerances. Flatness tolerance is 1/8″.

Thick.	Thick. Tolerance		12″×12″	12″×24″	24″×24″
0.032″	±0.005″	9791K101	$44.11	$74.55	$140.34
0.040″	±0.005″	9791K102	49.16	84.10	155.95
0.050″	±0.005″	9791K103	50.00	92.59	185.18
0.062″	±0.007″	9791K104	57.74	104.87	201.67
0.080″	±0.007″	9791K105	$81.72	$142.12	$273.31
0.125″	±0.010″	9791K106	117.45	217.43	418.13
0.187″	±0.010″	9791K107	178.82	336.06	646.27

Foil—Unpolished

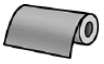

- Yield Strength: Rolls: 52,000 psi; Sheets: Not rated
- Hardness: Rolls: Rockwell F91; Sheets: Rockwell F58
- Temper: Rolls: 1/2 Hard (H02); Sheets: Soft (Annealed)
- Meet ASTM B36

Thickness tolerance for 0.002″ to 0.005″ thick foil is ±0.0005″; for 0.010″ to 0.032″ thick foil it is ±0.002″. Width tolerance for the rolls is ±0.01″; for the sheets it is ±1/8″. Length tolerance for the rolls is +10%, –5%; for the sheets it is ±1/8″.

Thick.	Wd.	Lg., ft.		
0.002″	1/2″	25	90355K223	$61.51
0.002″	1″	20	90355K423	61.51
0.002″	2″	20	90355K521	92.26
0.005″	1/2″	50	90355K224	61.51
0.005″	1″	25	90355K424	61.51
0.005″	2″	15	90355K624	61.51
0.005″	4″	10	90355K824	61.51
0.010″	1/2″	50	90355K227	$61.51
0.010″	1″	35	90355K427	61.51
0.010″	2″	15	90355K627	61.51
0.010″	4″	10	90355K827	61.51
0.015″	1/2″	50	90355K229	61.51
0.015″	1″	35	90355K429	61.51
0.015″	2″	15	90355K629	61.51
0.020″	1/2″	50	90355K231	$61.51
0.020″	1″	25	90355K431	61.51
0.020″	2″	30	90355K591	92.26
0.025″	1″	25	90355K432	61.51
0.025″	2″	15	90355K632	61.51
0.032″	1″	20	90355K433	61.51
0.032″	2″	15	90355K633	61.51

12″×12″ Sheets—0.005″ Thick. (Pkg. of 5) 8939K25 28.68

Round Tubes—Unpolished



- Yield Strength: Not rated
- Hardness: Rockwell B54
- Temper: As drawn (H58)
- Meet ASTM B135

Wall thick. tolerance for 0.032″ to 0.049″ sizes is ±0.004″; for 0.065″ size it is ±0.006″. OD tolerance is ±0.004″. Length tolerance is ±1/4″.

Wall Thick.	OD	ID		1 ft.	3 ft.
0.032″	3/16″	0.124″	7782T38	$3.98	$10.47
0.032″	1/4″	0.186″	7782T11	5.48	14.43
0.032″	5/16″	0.249″	7782T39	6.16	16.21
0.032″	3/8″	0.311″	7782T42	7.46	19.63
0.032″	1/2″	0.436″	7782T13	7.13	18.76
0.032″	1″	0.936″	7782T15	13.42	35.32
0.032″	1 3/8″	1.311″	7782T52	17.21	45.29
0.032″	2 1/4″	2.186″	7782T58	27.11	71.35
0.049″	3/16″	0.090″	7782T59	4.69	12.34
0.049″	1/4″	0.152″	7782T61	6.82	17.94
0.049″	5/16″	0.215″	7782T62	8.77	23.08
0.049″	3/8″	0.277″	7782T63	$10.84	$28.53
0.049″	5/8″	0.527″	7782T64	13.11	34.50
0.049″	3/4″	0.652″	7782T65	15.89	41.82
0.049″	7/8″	0.777″	7782T66	18.94	49.84
0.065″	1/4″	0.120″	7782T21	8.66	22.80
0.065″	5/16″	0.183″	7782T41	10.98	28.90
0.065″	3/8″	0.245″	7782T43	13.64	35.89
0.065″	7/16″	0.308″	7782T45	15.87	41.76
0.065″	1/2″	0.370″	7782T23	13.24	34.84
0.065″	5/8″	0.495″	7782T47	17.04	44.84
0.065″	3/4″	0.620″	7782T48	20.83	54.82
0.065″	7/8″	0.745″	7782T49	$23.00	$60.53
0.065″	1″	0.870″	7782T27	22.82	60.05
0.065″	1 1/8″	0.995″	7782T51	26.28	69.17
0.065″	1 1/4″	1.120″	7782T31	27.95	73.55
0.065″	1 3/8″	1.245″	7782T53	32.50	85.53
0.065″	1 1/2″	1.370″	7782T33	34.06	89.64
0.065″	1 5/8″	1.495″	7782T54	38.68	101.78
0.065″	1 3/4″	1.620″	7782T55	41.81	110.03
0.065″	1 7/8″	1.745″	7782T56	42.58	112.05
0.065″	2 1/2″	2.370″	7782T37	59.01	155.29

Balls—Reflective Finish



- Yield Strength: 57,000 psi
- Hardness: Rockwell B75
- Temper: Not rated

Diameter tolerance is ±0.001″.

Dia.	Pkg. Qty.		Pkg.
1/16″	100	9617K29	$9.44
3/32″	100	9617K31	9.04
1/8″	100	9617K32	6.93
5/32″	100	9617K33	8.23
3/16″	100	9617K34	$8.71
7/32″	100	9617K35	11.43
1/4″	100	9617K36	13.91
5/16″	50	9617K38	12.12
11/32″	25	9617K39	$9.66
3/8″	25	9617K41	10.28
7/16″	10	9617K42	8.67
1/2″	10	9617K43	8.89
9/16″	10	9617K44	$11.95
5/8″	10	9617K45	14.82
3/4″	5	9617K47	13.27

Miniature Strips—Unpolished

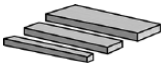

- Yield Strength: Not rated
- Hardness: Not rated
- Temper: 1/2 Hard (H02)
- Meet ASTM B36

Width tolerance is ±0.005″. Length tolerance is ±1/32″.

Thick.	Thick. Tolerance	1/4″×12″		1/2″×12″		3/4″×12″		1″×12″		2″×12″	
0.016″	±0.002″	8859K661	$1.06	8859K671	$1.37	8859K681	$1.61	8859K691	$2.06	8859K711	$3.99
0.025″	±0.002″	8859K72	1.36	8859K73	1.74	8859K74	2.13	8859K75	2.99	8859K76	5.74
0.032″	±0.002″	8859K82	1.30	8859K83	2.23	8859K84	2.58	8859K85	3.74	8859K86	7.24
0.064″	±0.002″	8859K87	1.99	8859K88	3.74	8859K89	4.94	8859K91	7.36	8859K81	11.21
0.094″	±0.004″	8859K311	3.11	8859K312	4.85	8859K313	7.21	8859K314	9.59	8859K315	16.38

Miniature Thin Sheets—Unpolished

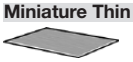

- Yield Strength: Not rated
- Hardness: Not rated
- Temper: 1/2 Hard (H02)
- Meet ASTM B36

Thickness tolerance is ±0.001″. Width tolerance is ±0.015″. Length tolerance is ±1/32″.

Thick.	Wd.	Lg.	Pkg. Qty.		Pkg.
0.005″	4″	10″	6	8859K92	$18.44
0.010″	4″	10″	6	8859K93	22.56
0.016″	4″	10″	6	8859K94	$21.39
0.032″	4″	10″	3	8859K95	18.28

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Easy-to-Form 260 Brass *(Material continued from previous page)*

Miniature Rectangular Tubes—Unpolished

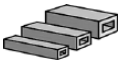

- Yield Strength: Not rated
- Hardness: Not rated
- Temper: 1/2 Hard (H02) to 3/4 Hard (H03)
- Meet ASTM B135

Each tube fits into the next larger size for creating telescoping tubes. Wall thick. tolerance is ±0.001″. Height and width tolerances are ±0.002″. Length tolerance is ±1/32″.

Wall Thick.	Ht.	Wd.	1 ft. Pkg. Qty.		Pkg.
0.014″	1/16″	1/16″	2	8859K391	$3.25
0.014″	3/32″	3/32″	2	8859K411	3.59
0.014″	3/32″	3/16″	1	8859K113	3.59
0.014″	1/8″	1/8″	1	8859K42	2.20
0.014″	1/8″	1/4″	1	8859K114	$4.71
0.014″	5/32″	5/32″	1	8859K43	2.00
0.014″	5/32″	5/16″	1	8859K115	4.69
0.014″	3/16″	3/16″	1	8859K44	2.58
0.014″	3/16″	3/8″	1	8859K116	$4.69
0.014″	7/32″	7/32″	1	8859K45	2.80
0.014″	1/4″	1/4″	1	8859K46	3.03

Miniature Round Tubes—Unpolished



- Yield Strength: Not rated
- Hardness: Not rated
- Temper: 1/2 Hard (H02) to 3/4 Hard (H03)
- Meet ASTM B135

Create telescoping tubes by fitting a tube inside the next larger size. OD tolerance is ±0.002″. Length tolerance is ±1/32″.

OD	ID	1 ft. Pkg. Qty.		Pkg.	3 ft. Pkg. Qty.		Pkg.
0.014″ Wall Thick. (±0.001″)							
1/16″	0.035″	3	8859K171	$2.92	5	8859K231	$12.94
3/32″	0.066″	3	8859K18	3.14	5	8859K232	15.13
1/8″	0.097″	1	8859K19	1.56	5	8859K234	18.69
5/32″	0.128″	1	8859K21	1.87	5	8859K235	18.24
3/16″	0.160″	1	8859K22	1.97	6	8859K186	25.00
7/32″	0.191″	1	8859K23	2.48	6	8859K187	25.58
1/4″	0.222″	1	8859K24	2.83	5	8859K188	26.21
9/32″	0.253″	1	8859K25	3.07	5	8859K172	25.04
5/16″	0.285″	1	8859K26	3.30	4	8859K173	23.75
11/32″	0.316″	1	8859K27	3.34	1	8859K362	7.33
3/8″	0.347″	1	8859K28	$3.32	3	8859K175	$24.10
13/32″	0.378″	1	8859K29	4.02	1	8859K329	9.09
7/16″	0.410″	1	8859K31	4.14	1	8859K331	9.75
15/32″	0.441″	1	8859K32	4.04	1	8859K332	10.36
1/2″	0.472″	1	8859K33	3.44	1	8859K333	11.56
17/32″	0.503″	1	8859K34	4.84	1	8859K334	12.47
9/16″	0.535″	1	8859K35	5.08	1	8859K335	13.38
19/32″	0.566″	1	8859K36	5.32	1	8859K336	14.01
5/8″	0.597″	1	8859K37	5.44	1	8859K337	14.72
21/32″	0.628″	1	8859K38	5.66	1	8859K338	15.54

Metric Miniature Round Tubes—Unpolished

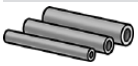

- Yield Strength: Not rated
- Hardness: Not rated
- Temper: 1/2 Hard (H02) to 3/4 Hard (H03)
- Meet ASTM B135

Each tube fits into the next larger size, allowing you to create telescoping tubes. OD tolerance is ±0.051 mm. Length tolerance is ±0.794 mm.

OD, mm	ID, mm	300 mm Pkg. Qty.		Pkg.
0.45 mm Wall Thick. (±0.025 mm)				
2	1.1	4	88605K21	$4.09
3	2.1	4	88605K22	4.09
4	3.1	3	88605K23	4.72
5	4.1	3	88605K24	$5.31
6	5.1	2	88605K25	4.91
7	6.1	2	88605K26	4.91
8	7.1	2	88605K27	$5.01
9	8.1	1	88605K28	3.28
10	9.1	1	88605K29	3.38

Miniature Hexagonal Tubes—Unpolished

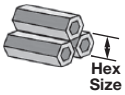

- Yield Strength: Not rated
- Hardness: Not rated
- Temper: 1/2 Hard (H02) to 3/4 Hard (H03)
- Meet ASTM B135

Outside hex tolerance is ±0.004″. Length tolerance is ±1/32″.

Outside Hex	Inside Hex	1 ft.	
0.014″ Wall Thick. (±0.001″)			
3/32″	0.0658″	8859K117	$2.24
1/8″	0.097″	8859K118	2.47
5/32″	0.1283″	8859K119	2.94
3/16″	0.1595″	8859K121	3.50

Miniature Rods—Unpolished

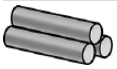

- Yield Strength: Not rated
- Hardness: Not rated
- Temper: 1/2 Hard (H02) to 3/4 Hard (H03)
- Meet ASTM B134

Diameter tolerance is ±0.002″. Length tolerance is ±1/32″.

Dia.	1 ft. Pkg. Qty.		Pkg.	3 ft. Pkg. Qty.		Pkg.
0.020″	5	8859K471	$1.79	—	—	—
0.031″	5	8859K481	2.04	—	—	—
0.047″	4	8859K491	2.01	—	—	—
0.063″	3	8859K511	1.90	10	8859K162	$16.82
0.072″	3	8859K258	2.58	1	8859K339	2.44
0.081″	3	8859K257	3.14	1	8859K341	2.96
0.094″	1	8859K52	$1.22	5	8859K166	$12.11
0.114″	2	8859K156	3.25	1	8859K344	4.01
0.125″	1	8859K53	1.68	5	8859K164	17.69
0.156″	1	8859K54	2.47	5	8859K168	17.93
0.187″	1	8859K155	2.91	1	8859K349	6.69
0.250″	1	8859K351	3.60	1	8859K361	10.07

Metric Miniature Rods—Unpolished

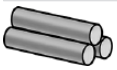

- Yield Strength: 9,000 psi
- Hardness: Not rated
- Temper: 1/4 Hard (H01) to 1/2 Hard (H02)
- Meet ASTM B134

Diameter tolerance is ±0.051 mm. Length tolerance is ±0.794 mm.

Dia., mm	300 mm Pkg. Qty.		Pkg.
1	5	88605K43	$2.46
2	4	88605K46	2.67
2.5	4	88605K47	$3.18
3	3	88605K48	3.59
3.5	3	88605K49	$4.91
4	3	88605K51	5.28

Yield strength is approximate and may vary based on size and shape.

For information about brass alloys, see page 3805.

Machinable and Formable 330 Brass



- Yield Strength: 60,000 psi
- Hardness: Rockwell B73
- Temper: Hard drawn (H80)
- Meet ASTM B135

The low lead content in this 330 brass gives it a good balance between workability and machinability. It is used as fire station poles, pump cylinder lines, and plumbing accessories. This material can be soldered and brazed. It is not heat treatable. These tubes are unpolished. OD tolerance is ±0.004″. Length tolerance for 1-ft. and 3-ft. lengths is ±1/2″; for 6-ft. lengths it is ±3″.

OD	ID		1 ft.	3 ft.	6 ft.
0.125″ Wall Thick. (±0.008″)					
5/8″	3/8″	1705T28	$21.72	$54.31	$90.52
3/4″	1/2″	1705T29	25.69	64.23	107.05
7/8″	5/8″	1705T31	30.94	77.35	128.91
1″	3/4″	1705T32	33.60	84.01	140.01
1 1/4″	1″	1705T33	43.38	108.46	180.77

OD	ID		1 ft.	3 ft.	6 ft.
0.125″ Wall Thick. (±0.008″) (Cont.)					
1 3/8″	1 1/8″	1705T34	$45.47	$113.68	$189.46
1 1/2″	1 1/4″	1705T35	50.11	125.27	208.78
2″	1 3/4″	1705T37	59.39	148.48	247.46
2 1/2″	2 1/4″	1705T39	71.77	179.43	299.05

Weldable 464 Naval Brass

Known for its high corrosion resistance in saltwater environments, 464 brass also offers good weldability, strength, and wear resistance. It's widely used for marine hardware, pump and propeller shafts, and rivets. This material can be welded, soldered, and brazed. It is not heat treatable.

Rectangular Bars—Unpolished



- Yield Strength: 22,000 psi
- Hardness: Rockwell B55
- Temper: 1/2 Hard (H02)
- Meet ASTM B21

Width tolerance for 1/2″ to 1 1/4″ wide bars is ±0.006″; for 1 1/2″ to 4″ wide bars it is ±0.014″. Straightness tolerance is 1/2″ per 10 feet. Length tolerance is ±1/2″.

Width		1 ft.	3 ft.	6 ft.
1/4″ Thick (±0.005″)				
1″	8949K41	$15.88	$36.85	$63.53
1 1/2″	8949K42	21.36	49.56	85.45
3/8″ Thick (±0.005″)				
4″	8949K11	77.27	179.27	309.08
1/2″ Thick (±0.005″)				
1/2″	8972K21	17.00	39.44	68.00
1″	8949K13	30.27	70.23	121.08
1 1/2″	8949K15	43.19	100.19	172.74
2″	8949K17	55.10	127.84	220.42

Width		1 ft.	3 ft.	6 ft.
1/2″ Thick (±0.005″) (Cont.)				
2 1/2″	8949K19	$67.09	$155.64	$268.35
3″	8949K22	75.55	175.27	302.19
5/8″ Thick (±0.006″)				
5/8″	8972K22	25.48	59.10	101.90
3/4″ Thick (±0.006″)				
3/4″	8972K38	35.73	82.90	142.93
1″	8949K24	43.46	100.83	173.85
1 1/2″	8949K26	60.20	139.68	240.82
3″	8949K28	109.54	254.14	438.17

Width		1 ft.	3 ft.	6 ft.
1″ Thick (±0.006″)				
1″	8972K41	$58.53	$135.80	$234.14
1 1/4″	8949K31	65.78	152.62	263.14
1 1/2″	8949K33	75.33	174.75	301.30
2″	8949K35	96.17	223.10	384.66
3″	8949K37	138.18	320.58	552.72
1 1/2″ Thick (±0.007″)				
1 1/2″	8972K43	114.47	265.57	457.88
2″ Thick (±0.007″)				
2″	8972K45	197.98	459.31	791.92

Sheets—Brushed and Mirror-Like Finishes

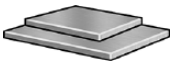

- Yield Strength: 58,000 psi
- Hardness: Rockwell B82
- Temper: 1/4 Hard (H01)
- Meet ASTM B171

Sheets are finished on one side. The finished side is covered with a protective peel-off film. Width and length have plus tolerances. Flatness tolerance is 1/2″ per 24″.

Brushed sheets have grain lines running in one direction. **Mirror-like** sheets have no grain lines.



Brushed

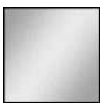

Mirror-Like

Thick.	Thick. Tolerance	12″×12″		12″×24″		24″×24″	
Brushed							
0.032″	±0.005″	9739K11	$28.10	9739K31	$54.81	9739K51	$93.68
0.040″	±0.005″	9739K12	34.60	9739K32	64.26	9739K52	117.33
0.062″	±0.007″	9739K13	53.30	9739K33	102.62	9739K53	194.40
0.080″	±0.007″	9739K14	68.05	9739K34	131.26	9739K54	237.53
0.125″	±0.010″	9739K15	100.49	9739K35	192.74	9739K55	367.83
0.187″	±0.010″	9739K16	150.52	9739K36	274.96	9739K56	511.46
0.250″	±0.010″	9739K17	196.89	9739K37	403.82	9739K57	678.92
Mirror-Like							
0.032″	±0.005″	9794K11	35.37	9794K31	69.12	9794K51	128.00
0.040″	±0.005″	9794K12	41.17	9794K32	76.31	9794K52	145.49
0.062″	±0.007″	9794K13	61.31	9794K33	118.25	9794K53	218.98
0.080″	±0.007″	9794K14	76.49	9794K34	146.83	9794K54	271.91
0.125″	±0.010″	9794K15	108.42	9794K35	203.04	9794K55	386.81
0.187″	±0.010″	9794K16	149.76	9794K36	289.62	9794K56	534.84
0.250″	±0.010″	9794K17	208.07	9794K37	401.28	9794K57	743.12

Thick Sheets—Unpolished



- Yield Strength: 20,000 psi
- Hardness: Not rated
- Temper: As hot rolled or forged
- Meet ASTM B171

Width and length tolerances are ±1/8″.

Thick.	Thick. Tolerance	6″×6″		12″×12″	
1/4″	±0.020″	8949K54	$91.80	8949K45	$277.98
1/2″	±0.050″	8949K55	140.79	8949K46	418.53
3/4″	±0.056″	8949K56	182.50	8949K47	593.50

Thick.	Thick. Tolerance	6″×6″		12″×12″	
1″	±0.066″	8949K57	$226.55	8949K48	$741.06
1 1/4″	±0.076″	8949K39	262.72	8949K49	899.63
1 1/2″	±0.076″	8949K43	332.12	8949K51	1,049.23

Rods—Unpolished

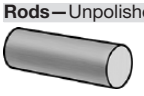

- Yield Strength: 22,000 psi
- Hardness: Rockwell B55
- Temper: 1/2 Hard (H02)
- Meet ASTM B21

Diameter tolerance is ±0.003″. Straightness tolerance is 1/2″ per 10 feet. Length tolerance is ±1/2″.

Dia.		1 ft.	3 ft.	6 ft.
3/16″	8970K51	$4.76	$6.84	$10.53
1/4″	8970K52	5.64	9.64	14.83
5/16″	8970K53	8.31	14.22	21.87
3/8″	8970K54	8.85	17.69	29.49
7/16″	8970K55	9.66	22.02	38.64

Dia.		1 ft.	3 ft.	6 ft.
1/2″	8970K56	$12.32	$28.09	$49.28
9/16″	8970K57	12.08	31.30	54.91
5/8″	8970K58	13.87	35.94	63.05
3/4″	8970K59	19.59	50.76	89.05
7/8″	8970K75	25.59	66.30	116.31

Dia.		1 ft.	3 ft.	6 ft.
1″	8970K78	$43.49	$112.69	$197.70
1 1/4″	8970K81	47.07	121.95	213.95
1 1/2″	8970K83	65.32	169.25	296.93
2″	8970K85	104.79	271.51	476.34

Yield strength is approximate and may vary based on size and shape.

Machinable 485 Naval Brass



- Yield Strength: 25,000 psi
- Hardness ; Rockwell B60, except 3/16″ to 7/16″ dia. rods are not rated
- Temper: 1/2 Hard (H02), except 3″ dia. is as hot extruded (M30)
- Meet ASTM B21

485 brass offers the same strength and corrosion resistance as 464 brass with the addition of lead for improved machinability. Also known as high-leaded naval brass, it is commonly used for marine hardware, valve stems, and screw-machine products. This material can be soldered and brazed. It is not heat treatable. These rods are unpolished. Length tolerance for 1-ft. and 3-ft. lengths is ±1/2″; for 6-ft. lengths it is ±3″.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
3/16″	±0.002″	9105K11	$3.27	$8.73	$15.59
1/4″	±0.002″	9105K12	3.82	10.19	18.19
5/16″	±0.002″	9105K21	4.77	11.14	19.89
3/8″	±0.002″	9105K13	6.37	16.98	30.33
7/16″	±0.002″	9105K22	7.22	19.26	34.40
1/2″	±0.002″	9105K23	8.92	23.78	42.46
5/8″	±0.002″	9105K24	13.61	36.29	64.81
3/4″	±0.002″	9105K25	19.13	51.01	91.09
7/8″	±0.002″	9105K26	25.45	67.87	121.20

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1″	±0.002″	9105K27	$32.47	$86.58	$154.60
1 1/8″	±0.003″	9105K42	37.96	101.23	180.77
1 1/4″	±0.003″	9105K28	46.65	124.39	222.12
1 3/8″	±0.003″	9105K43	54.32	144.84	258.65
1 1/2″	±0.003″	9105K29	64.48	171.94	307.04
1 3/4″	±0.003″	9105K31	82.95	221.21	395.02
2″	±0.003″	9105K32	104.45	278.52	497.36
3″	±0.005″	9105K33	234.83	626.20	1,118.22

Multipurpose 932 Bearing Bronze

Offering excellent antifriction qualities along with good strength and wear resistance, 932 bronze is the preferred material for bushings, bearings, and thrust washers. It is also known as SAE 660. This material can be soldered and brazed. It is nonsparking and is not heat treatable.

Oversized Rectangular Bars—Unpolished



- Yield Strength: 20,000 psi
- Hardness: Rockwell B34
- Temper: As cast (M07)
- Meet ASTM B505

Thickness and width are oversized +0.078″ to +0.156″ to allow for finishing. Straightness tolerance is 0.007″ per inch. Length has a plus tolerance.

Wd.		1 ft.	3 ft.
1/4″ Thick			
4″	8234K21	$75.96	$176.66
8″	8234K41	134.52	312.84
3/8″ Thick			
4″	8234K22	97.44	226.61
8″	8234K42	161.57	375.75
1/2″ Thick			
4″	8234K23	129.61	301.43
8″	8234K43	199.83	464.73

Wd.		1 ft.	3 ft.
5/8″ Thick			
4″	8234K24	$136.40	$317.21
8″	8234K44	230.62	536.33
3/4″ Thick			
4″	8234K25	157.54	366.37
8″	8234K45	263.91	613.74
1″ Thick			
4″	8234K26	186.72	434.24
8″	8234K46	324.36	754.32

Wd.		1 ft.	3 ft.
1 1/4″ Thick			
4″	8234K27	$220.49	$512.77
8″	8234K47	381.58	887.39
1 1/2″ Thick			
4″	8234K28	251.89	585.78
8″	8234K48	439.40	1,021.86
1 3/4″ Thick			
4″	8234K29	277.96	646.42
8″	8234K49	491.61	1,143.28

Tight-Tolerance Rectangular Bars—Precision Ground on Top and Bottom



- Yield Strength: 20,000 psi
- Hardness: Rockwell B26
- Temper: As cast (M07)
- Meet ASTM B505

Width and length have plus tolerances. Flatness tolerance is 0.010″ per foot.

Wd.		1 ft.	2 ft.
1/4″ Thick (±0.002″)			
1″	8294K11	$45.80	$81.79
1 1/2″	8294K12	59.32	105.92
2″	8294K13	73.71	131.62
2 1/2″	8294K14	85.88	153.36
3″	8294K15	99.30	177.33
3/8″ Thick (±0.002″)			
1″	8294K21	57.76	103.15
1 1/2″	8294K22	75.77	135.31
2″	8294K23	92.02	164.33
2 1/2″	8294K24	109.82	196.10

Wd.		1 ft.	2 ft.
1/2″ Thick (±0.002″)			
1″	8294K31	$65.86	$117.61
1 1/2″	8294K32	87.03	155.41
2″	8294K33	106.05	189.37
2 1/2″	8294K34	124.47	222.27
3″	8294K35	142.12	253.78
6″	8294K36	252.15	450.26
5/8″ Thick (±0.002″)			
1″	8294K41	78.42	140.04
1 1/2″	8294K42	102.20	182.50
3″	8294K45	167.29	298.74

Wd.		1 ft.	2 ft.
3/4″ Thick (±0.002″)			
1″	8294K51	$86.47	$154.41
1 1/2″	8294K52	113.27	202.27
2″	8294K53	139.10	248.40
2 1/2″	8294K54	167.00	298.21
3″	8294K55	191.41	341.81
1″ Thick (±0.002″)			
1″	8294K61	105.29	188.02
1 1/2″	8294K62	141.41	252.51
2″	8294K63	177.52	317.00
3″	8294K65	221.63	395.77

Oversized Rods—Unpolished



- Yield Strength: 20,000 psi
- Hardness: Rockwell B27
- Temper: As cast (M07)
- Meet ASTM B505

Diameter is oversized +0.010″ to +0.032″ to allow for finishing. Straightness tolerance is 1/4″ per 5 feet. Length has a plus tolerance.

Dia.		3″ Lg.	6 1/2″ Lg.	13″ Lg.
3/8″	8914K1	$4.10	$6.35	$10.25
1/2″	8914K2	5.50	8.52	13.74
5/8″	8914K3	7.90	12.24	19.75
3/4″	8914K4	9.70	15.03	24.24
7/8″	8914K5	12.74	19.75	31.86
1″	8914K6	15.61	24.19	39.02
1 1/8″	8914K7	19.49	30.21	48.73
1 1/4″	8914K8	22.84	35.41	57.11
1 3/8″	8914K9	27.99	43.39	69.98
1 1/2″	8914K111	32.42	50.24	81.04

Dia.		3″ Lg.	6 1/2″ Lg.	13″ Lg.
1 5/8″	8914K112	$36.39	$56.41	$90.98
1 3/4″	8914K113	40.03	62.05	100.08
1 7/8″	8914K114	45.50	70.53	113.75
2″	8914K115	50.54	78.33	126.34
2 1/4″	8914K116	61.84	95.85	154.60
2 1/2″	8914K117	76.71	118.90	191.78
2 3/4″	8914K118	90.77	140.70	226.93
3″	8914K119	108.58	168.31	271.46
3 1/4″	8914K121	124.70	193.28	311.74
3 1/2″	8914K122	140.97	218.51	352.43

Dia.		3″ Lg.	6 1/2″ Lg.	13″ Lg.
3 3/4″	8914K123	$159.48	$247.20	$398.71
4″	8914K124	178.64	276.89	446.60
4 1/4″	8914K125	199.52	309.25	498.79
4 1/2″	8914K126	209.81	325.21	524.53
5″	8914K127	256.77	398.00	641.93
5 1/2″	8914K128	307.39	476.45	768.47
6″	8914K129	357.64	554.34	894.10
7″	8914K131	487.68	755.90	1,219.19
8″	8914K132	615.78	954.47	1,539.46

Tight-Tolerance Rods—Precision Ground



- Yield Strength: 20,000 psi
- Hardness: Rockwell B26
- Temper: As cast (M07)
- Meet ASTM B505

Diameter tolerance is ±0.0005″. Straightness tolerance is 1/4″ per 5 feet. Length has a plus tolerance.

Choose a Diameter	Choose a Length	
3/8″, 1/2″, 5/8″, 3/4″, 7/8″, 1″, 1 1/8″, 1 1/4″, 1 1/2″, 1 3/4″, 2″, 2 1/2″, 3″	6″, 12″	1022N1

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

Multipurpose 932 Bearing Bronze *(Material continued from previous page)*

Offering excellent antifriction qualities along with good strength and wear resistance, 932 bronze is the preferred material for bushings, bearings, and thrust washers. It is also known as SAE 660. This material can be soldered and brazed. It is nonsparking and is not heat treatable.

Oversized Tubes—Unpolished



- Yield Strength: 18,000 psi
- Hardness: Rockwell B34
- Temper: As cast (M07)
- Meet ASTM B505

OD is oversized +0.030″ to +0.134″ and ID is undersized –0.019″ to –0.202″ to allow for finishing. Straightness tolerance is 0.004″ per inch. Length has a plus tolerance.

Wall Thick.	OD	ID		3″ Lg.	6½″ Lg.	13″ Lg.
1/8″	1″	3/4″	8911K304	$6.02	$9.76	$16.26
1/8″	1 1/8″	7/8″	8911K305	6.89	11.17	18.62
1/8″	1 1/4″	1″	8911K307	7.98	12.94	21.56
1/8″	1 3/8″	1 1/8″	8911K308	8.74	14.17	23.61
1/8″	1 1/2″	1 1/4″	8911K309	9.96	16.16	26.93
1/8″	1 5/8″	1 3/8″	8911K412	11.56	18.75	31.25
1/8″	1 3/4″	1 1/2″	8911K312	11.94	19.37	32.28
1/8″	2″	1 3/4″	8911K313	13.88	22.51	37.51
1/8″	2 1/4″	2″	8911K314	15.11	24.51	40.85
1/8″	2 3/4″	2 1/2″	8911K315	18.86	30.58	50.97
3/16″	1″	5/8″	8911K317	8.45	13.71	22.85
1/4″	1″	1/2″	8911K318	9.62	15.59	25.99
1/4″	1 1/8″	5/8″	8911K319	11.04	17.91	29.85
1/4″	1 1/4″	3/4″	8911K413	12.75	20.68	34.47
1/4″	1 3/8″	7/8″	8911K322	14.17	22.98	38.30
1/4″	1 1/2″	1″	8911K323	15.95	25.87	43.11
1/4″	1 5/8″	1 1/8″	8911K324	17.43	28.27	47.11
1/4″	1 3/4″	1 1/4″	8911K325	19.14	31.04	51.73
1/4″	1 7/8″	1 3/8″	8911K327	20.58	33.38	55.63
1/4″	2″	1 1/2″	8911K328	23.21	37.63	62.72
1/4″	2 1/8″	1 5/8″	8911K329	24.82	40.25	67.09
1/4″	2 1/4″	1 3/4″	8911K414	26.82	43.50	72.50
1/4″	2 3/8″	1 7/8″	8911K332	28.50	46.21	77.02
1/4″	2 1/2″	2″	8911K333	29.36	47.62	79.36
1/4″	2 3/4″	2 1/4″	8911K334	32.56	52.80	88.00
1/4″	3″	2 1/2″	8911K335	34.55	56.02	93.37
1/4″	3 1/2″	3″	8911K337	38.36	62.20	103.67
1/4″	4″	3 1/2″	8911K338	48.40	78.49	130.82
1/4″	4 1/2″	4″	8911K339	54.63	88.58	147.64
5/16″	1 1/4″	5/8″	8911K415	14.37	23.30	38.83
5/16″	2″	1 3/8″	8911K342	27.23	44.15	73.59
3/8″	1 1/4″	1/2″	8911K343	16.01	25.96	43.27
3/8″	1 3/8″	5/8″	8911K344	18.55	30.08	50.13
3/8″	1 1/2″	3/4″	8911K345	20.36	33.01	55.02
3/8″	1 3/4″	1″	8911K347	25.59	41.50	69.17
3/8″	2″	1 1/4″	8911K348	30.24	49.03	81.72
3/8″	2 1/4″	1 1/2″	8911K349	34.48	55.91	93.19
3/8″	2 1/2″	1 3/4″	8911K417	37.60	60.97	101.61
3/8″	2 3/4″	2″	8911K352	41.67	67.57	112.61
3/8″	3″	2 1/4″	8911K353	46.13	74.80	124.67
3/8″	3 1/4″	2 1/2″	8911K354	49.68	80.57	134.28
7/16″	1 1/2″	5/8″	8911K355	21.95	35.59	59.32
1/2″	1 1/2″	1/2″	8911K357	22.62	36.68	61.14
1/2″	1 3/4″	3/4″	8911K358	26.84	43.52	72.54

Wall Thick.	OD	ID		3″ Lg.	6½″ Lg.	13″ Lg.
1/2″	2″	1″	8911K359	$32.46	$52.64	$87.73
1/2″	2 1/4″	1 1/4″	8911K418	35.69	57.88	96.47
1/2″	2 1/2″	1 1/2″	8911K362	42.13	68.32	113.87
1/2″	2 3/4″	1 3/4″	8911K363	46.39	75.23	125.39
1/2″	3″	2″	8911K364	51.81	84.02	140.04
1/2″	3 1/4″	2 1/4″	8911K365	55.46	89.93	149.89
1/2″	3 1/2″	2 1/2″	8911K367	59.79	96.95	161.59
1/2″	4″	3″	8911K368	70.36	114.10	190.16
1/2″	4 1/2″	3 1/2″	8911K369	81.21	131.69	219.48
1/2″	5″	4″	8911K371	86.53	140.32	233.86
1/2″	6″	5″	8911K372	109.66	177.83	296.38
1/2″	6 1/2″	5 1/2″	8911K373	119.25	193.39	322.31
5/8″	1 3/4″	1/2″	8911K374	27.26	44.20	73.67
5/8″	2″	3/4″	8911K375	32.47	52.65	87.75
5/8″	2 1/4″	1″	8911K377	39.50	64.06	106.77
5/8″	2 1/2″	1 1/4″	8911K378	43.95	71.27	118.79
5/8″	3″	1 3/4″	8911K379	55.52	90.03	150.05
5/8″	3 1/4″	2″	8911K419	60.82	98.63	164.38
5/8″	3 3/4″	2 1/2″	8911K382	71.82	116.46	194.10
3/4″	2″	1/2″	8911K383	35.83	58.10	96.84
3/4″	2 1/4″	3/4″	8911K384	41.99	68.09	113.49
3/4″	2 1/2″	1″	8911K385	49.51	80.29	133.81
3/4″	3″	1 1/2″	8911K387	62.29	101.02	168.36
3/4″	3 1/2″	2″	8911K388	76.19	123.56	205.93
3/4″	4″	2 1/2″	8911K389	92.17	149.47	249.12
7/8″	2 1/2″	3/4″	8911K391	51.96	84.25	140.42
7/8″	3″	1 1/4″	8911K392	68.68	111.37	185.62
7/8″	3 1/4″	1 1/2″	8911K393	76.62	124.25	207.09
7/8″	3 1/2″	1 3/4″	8911K394	83.77	135.85	226.41
1″	3″	1″	8911K395	70.08	113.64	189.40
1″	3 1/2″	1 1/2″	8911K397	85.70	138.97	231.61
1″	4″	2″	8911K398	104.95	170.19	283.65
1″	4 1/2″	2 1/2″	8911K399	118.44	192.07	320.11
1″	5″	3″	8911K401	133.14	215.90	359.84
1″	5 1/2″	3 1/2″	8911K402	155.23	251.72	419.53
1″	6″	4″	8911K403	170.26	276.09	460.15
1″	7″	5″	8911K404	204.33	331.34	552.23
1″	8″	6″	8911K405	233.54	378.72	631.20
1″	10″	8″	8911K406	300.57	487.40	812.34
1 1/4″	4 1/2″	2″	8911K407	133.27	216.12	360.20
1 1/2″	5″	2″	8911K408	167.58	271.75	452.92
1 1/2″	6″	3″	8911K409	216.89	351.72	586.20
1 3/4″	6″	2 1/2″	8911K422	233.78	379.10	631.83

Machinable 936 Bearing Bronze

An easier-to-machine alternative to 932 bronze, this 936 bronze also has better corrosion resistance. It is also known as modified SAE 64. Use it to machine bearings and bushings for oil pumps and gasoline engines. This material can be soldered and brazed. It is not heat treatable.

Oversized Tubes—Unpolished



- Yield Strength: 21,000 psi
- Hardness: Rockwell B26
- Temper: As cast (M07)
- Meet ASTM B505

OD is oversized +1/32″ to +3/32″ and ID is undersized –1/32″ to –3/32″ to allow for finishing. Straightness tolerance is 3/8″ per 5 feet. Length has a plus tolerance.

Wall Thick.	OD	ID		6″ Lg.	13″ Lg.
1/4″	1″	1/2″	8918K111	$24.83	$41.38
1/4″	1 1/4″	3/4″	8918K113	32.26	53.76
1/4″	1 1/2″	1″	8918K114	39.31	65.52
1/4″	1 3/4″	1 1/4″	8918K115	46.02	76.70
1/4″	2″	1 1/2″	8918K117	52.41	87.35
1/4″	2 1/4″	1 3/4″	8918K118	59.90	99.83
1/4″	2 1/2″	2″	8918K119	65.82	109.70
1/4″	3″	2 1/2″	8918K121	78.62	131.03
1/4″	5″	4 1/2″	8918K122	140.51	234.18
3/8″	1 1/2″	3/4″	8918K125	47.17	78.62
3/8″	1 3/4″	1″	8918K126	61.36	102.27
3/8″	2″	1 1/4″	8918K127	67.39	112.31
3/8″	2 1/4″	1 1/2″	8918K128	82.36	137.27

Wall Thick.	OD	ID		6″ Lg.	13″ Lg.
3/8″	2 1/2″	1 3/4″	8918K129	$87.76	$146.27
1/2″	1 1/2″	1/2″	8918K131	55.03	91.72
1/2″	2″	1″	8918K132	82.36	137.27
1/2″	2 1/2″	1 1/2″	8918K133	109.70	182.83
1/2″	2 3/4″	1 3/4″	8918K134	117.01	195.02
1/2″	3″	2″	8918K135	128.65	214.41
1/2″	3 1/4″	2 1/4″	8918K137	139.76	232.94
1/2″	3 1/2″	2 1/2″	8918K138	135.65	226.09
1/2″	4″	3″	8918K139	148.34	247.23
1/2″	5″	4″	8918K141	190.93	318.22
1/2″	5 1/2″	4 1/2″	8918K142	209.65	349.42
1/2″	6″	5″	8918K143	238.57	397.61
5/8″	2 1/2″	1 1/4″	8918K145	124.33	207.21

Wall Thick.	OD	ID		6″ Lg.	13″ Lg.
5/8″	3″	1 3/4″	8918K146	$129.49	$215.82
5/8″	3 1/4″	2″	8918K147	145.14	241.90
5/8″	3 3/4″	2 1/2″	8918K148	166.14	276.90
3/4″	2″	1/2″	8918K149	97.34	162.23
3/4″	2 1/2″	1″	8918K151	138.95	231.59
3/4″	3″	1 1/2″	8918K152	145.14	241.90
3/4″	3 1/2″	2″	8918K153	168.88	281.47
3/4″	4″	2 1/2″	8918K154	198.62	331.03
3/4″	4 1/2″	3″	8918K155	222.30	370.50
1″	3″	1″	8918K157	163.06	271.77
1″	4″	2″	8918K158	238.57	397.61
1″	5″	3″	8918K159	299.01	498.35
1″	6″	4″	8918K161	365.20	608.66

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

For information about bronze alloys, see page 3805.

Machinable 936 Bearing Bronze *(Material continued from previous page)*

Oversized Rods—Unpolished



- Yield Strength: 21,000 psi
- Hardness: Rockwell B26
- Temper: As cast (M07)
- Meet ASTM B505

Diameter is oversized +1/32″ to +1/16″ to allow for finishing. Straightness tolerance is 3/8″ per 5 feet. Length has a plus tolerance.

Dia.		6″ Lg.	13″ Lg.
1/2″	8917K54	____	$13.11
5/8″	8917K58	____	16.39
3/4″	8917K62	____	23.19
1″	8917K66	____	40.32
1 1/8″	8917K68	____	96.05
1 1/4″	8917K72	____	60.48
1 1/2″	8917K24	$47.47	$79.11
1 3/4″	8917K25	64.06	106.77
2″	8917K26	81.53	135.88
2 1/4″	8917K27	102.92	171.53
2 1/2″	8917K28	125.79	209.65
2 3/4″	8917K85	____	284.90
3″	8917K29	$174.08	$290.14
3 1/2″	8917K31	235.85	393.09
4″	8917K32	308.96	514.93
5″	8917K33	482.56	804.26

Oversized Rectangular Bars—Unpolished



- Yield Strength: 20,000 psi
- Hardness: Rockwell B26
- Temper: As cast (M07)
- Meet ASTM B505

Thickness and width are oversized +1/8″ to allow for finishing. Flatness tolerance is 0.050″. Length has a plus tolerance.

Choose a Thickness	Choose a Width	Choose a Length	
1/4″, 3/8″, 1/2″, 5/8″, 3/4″, 1″, 1 1/4″, 2″	4″, 8″	1 ft., 3 ft.	9110K71

Corrosion-Resistant 954 Bearing Bronze

Also known as aluminum bronze, the high aluminum and iron content gives 954 bronze the ideal combination of strength and corrosion resistance for bearings, bushings, valve bodies, and worm gears. This material can be welded, soldered, and brazed. Its strength increases with heat treating.

Oversized Rectangular Bars—Unpolished



- Yield Strength: 28,800 psi
- Hardness: Rockwell B86
- Temper: As cast (M07)
- Meet ASTM B505

Thickness is oversized +0.067″ to +0.142″ and width is oversized +0.043″ to +0.128″ to allow for finishing. Straightness tolerance is 0.007″ per inch. Length has a plus tolerance.

Wd.		1/2 ft.	1 ft.	2 ft.	3 ft.	6 ft.
1/4″ Thick						
1″	8959K11	$8.63	$15.27	$27.21	$37.17	$66.37
1 1/2″	8959K12	12.71	22.48	40.08	54.74	97.75
2″	8959K13	16.35	28.93	51.57	70.43	125.77
2 1/2″	8959K14	19.51	34.52	61.54	84.05	150.09
3″	8959K15	23.53	41.63	74.20	101.35	180.98
4″	8959K361	27.47	48.59	86.62	118.32	211.28
6″	8959K371	42.18	74.62	133.02	181.68	324.43
3/8″ Thick						
1″	8959K16	13.05	23.09	41.17	56.23	100.41
1 1/2″	8959K17	15.39	27.23	48.54	66.29	118.38
2″	8959K18	19.44	34.39	61.31	83.74	149.53
2 1/2″	8959K19	23.62	41.78	74.48	101.74	181.67
3″	8959K21	32.71	57.87	103.16	140.90	251.60
4″	8959K441	38.14	67.48	120.29	164.29	293.38
1/2″ Thick						
1/2″	8959K451	7.69	13.61	24.26	33.13	59.16
1″	8959K22	16.32	28.87	51.46	70.29	125.51
1 1/2″	8959K23	22.81	40.35	71.93	98.24	175.43
2″	8959K24	29.05	51.39	91.61	125.13	223.44
2 1/2″	8959K25	31.30	55.38	98.72	134.83	240.77
3″	8959K26	40.62	71.86	128.10	174.97	312.44
4″	8959K521	48.01	84.94	151.42	206.81	369.31
6″	8959K531	71.65	126.77	225.98	308.66	551.18
5/8″ Thick						
1″	8959K27	20.23	35.79	63.81	87.15	155.63
1 1/2″	8959K28	27.74	49.07	87.47	119.48	213.35
2″	8959K176	31.40	55.55	99.03	135.26	241.53
3″	8959K571	43.87	77.61	138.35	188.96	337.43
4″	8959K581	56.18	99.40	177.19	242.02	432.18
3/4″ Thick						
3/4″	8959K591	15.98	28.28	50.41	68.86	122.96
1″	8959K177	23.49	41.57	74.10	101.21	180.73
1 1/2″	8959K178	32.67	57.79	103.02	140.72	251.28
2″	8959K179	41.01	72.56	129.34	176.66	315.46
3/4″ Thick (Cont.)						
3″	8959K641	$51.30	$90.76	$161.79	$220.99	$394.62
4″	8959K651	65.70	116.23	207.19	283.00	505.35
1″ Thick						
1″	8959K181	30.02	53.11	94.68	129.32	230.92
1 1/2″	8959K182	41.91	74.15	132.19	180.55	322.41
2″	8959K183	46.46	82.20	146.54	200.15	357.41
3″	8959K184	64.85	114.73	204.52	279.34	498.83
4″	8959K185	81.92	144.94	258.37	352.90	630.18
5″	8959K186	97.47	172.45	307.41	419.87	749.77
6″	8959K731	115.42	204.21	364.03	497.21	887.87
1 1/4″ Thick						
1 1/4″	8959K741	36.46	64.51	114.99	157.06	280.46
2″	8959K751	53.41	94.50	168.46	230.09	410.87
3″	8959K761	76.06	134.58	239.90	327.66	585.11
4″	8959K771	96.65	171.00	304.82	416.34	743.46
1 1/2″ Thick						
1 1/2″	8959K781	50.52	85.49	159.32	217.60	388.58
2″	8959K187	63.26	107.05	199.50	272.48	486.58
2 1/2″	8959K188	75.96	128.55	239.58	327.22	584.33
3″	8959K821	87.53	148.13	276.05	377.05	673.30
4″	8959K831	110.98	187.81	350.02	478.07	853.70
6″	8959K841	159.74	270.33	503.79	688.11	1,228.76
2″ Thick						
2″	8959K851	82.01	138.78	258.64	353.27	630.84
3″	8959K189	116.86	197.76	368.56	503.40	898.92
4″	8959K191	144.84	245.11	456.80	623.92	1,114.15
6″	8959K881	209.73	354.92	661.45	903.44	1,613.29
2 1/2″ Thick						
4″	8959K192	172.83	292.48	545.08	744.50	1,329.47
3″ Thick						
3″	8959K193	155.80	263.66	491.37	671.14	1,198.46
4″	8959K921	207.22	350.68	653.54	892.64	1,594.00
4″ Thick						
4″	8959K931	273.04	462.06	861.12	1,176.16	2,100.29

Tight-Tolerance Rectangular Bars—Precision Ground Top and Bottom

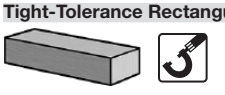

- Yield Strength: 32,000 psi
- Hardness: Rockwell B94
- Temper: As cast (M07)
- Meet ASTM B505

Width and length tolerances are +1/8″. Flatness tolerance is 0.01″ per foot.

Wd.		1 ft.
1/4″ Thick (±0.002″)		
1″	4492T11	$36.40
2″	4492T12	64.96
3″	4492T13	71.13
3/8″ Thick (±0.002″)		
1″	4492T21	$40.40
2″	4492T22	62.91
3″	4492T23	82.86
1/2″ Thick (±0.002″)		
1″	4492T31	$44.00
2″	4492T32	71.59
3″	4492T33	103.51
3/4″ Thick (±0.002″)		
1″	4492T51	$51.39
2″	4492T52	83.81
3″	4492T53	114.74

(Material continued on following page)

Yield strength is approximate and may vary based on size and shape.

For information about bronze alloys, see page 3805.

Corrosion-Resistant 954 Bearing Bronze *(Material continued from previous page)*

Also known as aluminum bronze, the high aluminum and iron content gives 954 bronze the ideal combination of strength and corrosion resistance for bearings, bushings, valve bodies, and worm gears. This material can be welded, soldered, and brazed. Its strength increases with heat treating.

Oversized Tubes—Unpolished



- Yield Strength: 32,000 psi
- Hardness: Rockwell B86
- Temper: As cast (M07)
- Meet ASTM B505

OD is oversized +0.055″ to +0.145″ and ID is undersized –0.055″ to –0.155″ to allow for finishing. Straightness tolerance is 1/4″ per 5 feet. Length has a plus tolerance.

OD	ID		6 1/2″ Lg.	13″ Lg.
1/4″ Wall Thick.				
1 1/4″	3/4″	8916K1	$25.90	$43.17
1 1/2″	1″	8916K2	32.18	53.63
1 3/4″	1 1/4″	8916K3	37.62	62.70
2″	1 1/2″	8916K4	43.51	72.52
2 1/4″	1 3/4″	8916K5	49.07	81.78
2 1/2″	2″	8916K6	58.06	96.76
3″	2 1/2″	8916K7	71.49	119.15
3 1/2″	3″	8916K8	87.51	145.85
3/8″ Wall Thick.				
1 3/4″	1″	8916K9	48.80	81.33
2″	1 1/4″	8916K109	56.36	93.93
2 1/4″	1 1/2″	8916K79	63.77	106.28
2 1/2″	1 3/4″	8916K81	75.27	125.45
1/2″ Wall Thick.				
2″	1″	8916K83	65.71	109.51
2 1/2″	1 1/2″	8916K84	88.20	147.00
2 3/4″	1 3/4″	8916K85	100.52	167.53
3″	2″	8916K87	105.49	175.82
3 1/2″	2 1/2″	8916K88	131.39	218.98

OD	ID		6 1/2″ Lg.	13″ Lg.
1/2″ Wall Thick. (Cont.)				
4″	3″	8916K89	$145.47	$242.45
5″	4″	8916K92	176.60	294.33
5 1/2″	4 1/2″	8916K94	197.99	329.98
6″	5″	8916K95	208.70	347.84
5/8″ Wall Thick.				
2 1/2″	1 1/4″	8916K45	_____	174.13
3″	1 3/4″	8916K97	126.83	211.38
3 3/4″	2 1/2″	8916K99	151.03	251.72
3/4″ Wall Thick.				
2 1/2″	1″	8916K101	112.54	187.56
3 1/2″	2″	8916K102	161.39	268.98
5 1/2″	4″	8916K103	253.30	422.16
1″ Wall Thick.				
3″	1″	8916K104	150.24	250.40
4″	2″	8916K105	212.70	354.50
4 1/2″	2 1/2″	8916K106	239.47	399.11
5″	3″	8916K107	268.85	448.09
1 1/2″ Wall Thick.				
6″	3″	8916K108	433.67	722.78

Oversized Rods—Unpolished



- Yield Strength: 32,000 psi
- Hardness: Rockwell B86
- Temper: As cast (M07)
- Meet ASTM B505

Diameter is oversized +0.0525″ to +0.145″ to allow for finishing. Straightness tolerance is 1/4″ per 5 feet. Length has a plus tolerance.

Dia.		6″ Lg.	13″ Lg.	36″ Lg.	72″ Lg.
3/8″	8958K53	$11.40	$18.77	$38.88	$67.04
1/2″	8958K54	10.53	17.35	35.94	61.97
5/8″	8958K61	12.38	20.40	42.25	72.85
3/4″	8958K62	16.96	27.94	57.87	99.77
7/8″	8958K55	21.53	35.46	73.45	126.63
1″	8958K63	25.87	42.62	88.28	152.20
1 1/4″	8958K64	36.42	59.98	124.25	214.23
1 1/2″	8958K65	49.59	81.68	169.20	291.73
1 5/8″	8958K56	55.80	91.90	190.37	328.23
1 3/4″	8958K66	63.97	105.36	218.25	376.30

Dia.		6″ Lg.	13″ Lg.	36″ Lg.	72″ Lg.
2″	8958K67	$82.06	$135.16	$279.97	$482.71
2 1/4″	8958K57	101.01	166.36	344.61	594.16
2 1/2″	8958K69	124.83	205.60	425.89	734.30
2 3/4″	8958K58	143.62	236.55	489.99	844.81
3″	8958K68	168.78	277.98	575.82	992.80
3 1/2″	8958K59	247.82	413.04	_____	_____
4″	8958K21	270.73	451.22	_____	_____
4 1/2″	8958K22	321.61	536.02	_____	_____
5″	8958K23	371.20	618.66	_____	_____
6″	8958K24	507.03	845.05	_____	_____

Wear- and Corrosion-Resistant AMPCO 18 Bearing Bronze



- Yield Strength: 37,000 psi
- Hardness: Rockwell B88
- Temper: As cast (M07)
- Meet ASTM B505

This aluminum-bronze material offers superior wear resistance, higher strength, and better corrosion resistance than 954 bronze. Use it for bearings and gears in operations where it's essential to avoid unnecessary downtime. This material can be welded and is heat treatable. These rods are unpolished. Diameter tolerance is oversized +0.052″ to +0.072″ to allow for finishing. Length has a plus tolerance.

Dia.		12″ Lg.	36″ Lg.
1/2″	1024N11	$40.00	$88.89
3/4″	1024N13	53.16	115.56
1″	1024N14	68.44	152.08

Dia.		12″ Lg.	36″ Lg.
1 1/4″	1024N15	$98.10	$218.00
1 1/2″	1024N16	131.54	292.31
1 3/4″	1024N17	162.82	361.82

Dia.		12″ Lg.	36″ Lg.
2″	1024N18	$203.68	$452.63

Corrosion-Resistant High-Strength 863 Bronze

While technically a bronze, 863 bronze is frequently called manganese brass. This material offers good corrosion resistance and can handle heavy loads at high speeds when properly lubricated. It's often used for heavy-load bearings, hydraulic cylinder parts, and large valve stems. It's not heat treatable.

Oversized Tubes—Unpolished



- Yield Strength: 62,000 psi
- Hardness: Rockwell B97
- Temper: As cast (M07)
- Meet ASTM B505

OD is oversized +0.0525″ to +0.109″ and ID is undersized –0.0505″ to –0.165″ to allow for finishing. Straightness tolerance is 1/4″ per 5 feet. Length has a plus tolerance.

Wall Thick.	OD	ID		6″ Lg.	13″ Lg.
1/4″	1 1/2″	1″	89355K31	$29.62	$49.36
1/4″	2″	1 1/2″	89355K34	39.69	66.15
1/4″	2 1/2″	2″	89355K35	50.25	83.75

Wall Thick.	OD	ID		6″ Lg.	13″ Lg.
1/2″	2″	1″	89355K32	$55.53	$92.55
1/2″	3″	2″	89355K36	87.59	145.98

Wall Thick.	OD	ID		6″ Lg.	13″ Lg.
3/4″	2 1/2″	1″	89355K33	$88.28	$147.14
1″	4″	2″	89355K37	193.41	322.35

Oversized Rods—Unpolished



- Yield Strength: 62,000 psi
- Hardness: Rockwell B97
- Temper: As cast (M07)
- Meet ASTM B505

Diameter is oversized +0.0525″ to +0.0725″ to allow for finishing. Straightness tolerance is 1/4″ per 5 feet. Length has a plus tolerance.

Dia.		1 ft.	3 ft.	6 ft.
1″	89225K52	$34.20	$89.56	$162.84

Dia.		1 ft.	3 ft.	6 ft.
1 1/2″	89225K53	$67.11	$175.75	$319.55

Dia.		1 ft.	3 ft.	6 ft.
2″	89225K54	$108.93	$285.29	$518.70

Yield strength is approximate and may vary based on size and shape.

For information about bronze alloys, see page 3805.

High-Strength 544 Bearing Bronze



- Yield Strength: 50,000 psi
- Hardness: Not rated
- Temper: Hard (H04)
- Meet ASTM B139

Known for its ability to resist stress cracking and fatigue, 544 bronze also offers excellent machinability and good formability. It's commonly called phosphor bronze and is widely used for shafts, gears, and valve parts. This material can be soldered and brazed. It is not heat treatable. These rods have an unpolished finish. Length tolerance for ½-ft. to 2-ft. lengths is ±¼"; for 3-ft. and 6-ft. lengths it is ±½".

Dia.	Dia. Tolerance		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
3/16"	±0.002"	8971K21	$2.39	$4.24	$7.55	$10.50	$18.42
1/4"	±0.002"	8971K31	3.39	5.99	10.68	14.84	26.04
5/16"	±0.002"	8971K33	5.47	9.69	17.27	24.00	42.11
3/8"	±0.002"	8971K35	7.78	13.76	24.53	34.11	59.84
7/16"	±0.002"	8971K22	9.04	16.00	28.52	39.65	69.57
1/2"	±0.002"	8971K71	11.19	19.81	35.31	49.08	86.11
9/16"	±0.004"	8971K119	11.69	20.68	36.87	51.25	89.92
5/8"	±0.004"	8971K23	12.22	21.63	38.55	53.60	94.03
11/16"	±0.004"	8971K24	14.05	24.86	44.31	61.60	108.07
3/4"	±0.004"	8971K73	15.83	28.01	49.93	69.41	121.78
7/8"	±0.004"	8971K25	20.34	35.99	64.16	89.19	156.48

Dia.	Dia. Tolerance		½ ft.	1 ft.	2 ft.	3 ft.	6 ft.
1"	±0.004"	8971K75	$27.58	$48.79	$86.97	$120.91	$212.12
1 1/8"	±0.004"	8971K26	30.54	54.04	96.33	133.93	234.96
1 1/4"	±0.004"	8971K77	35.36	62.56	111.51	155.03	271.98
1 3/8"	±0.004"	8971K27	41.06	72.64	129.49	180.03	315.84
1 1/2"	±0.004"	8971K79	49.42	87.43	155.85	216.67	380.12
1 5/8"	±0.004"	8971K28	54.04	95.61	170.44	236.95	415.70
1 3/4"	±0.004"	8971K29	62.43	110.46	196.91	273.75	480.26
2"	±0.005"	8971K41	78.38	138.68	247.21	343.69	602.96
2 1/4"	±0.006"	8971K126	96.62	169.08	314.00	442.82	805.13
2 1/2"	±0.006"	8971K133	116.06	203.10	377.18	531.93	967.14

Self-Lubricating Oil-Filled SAE 840 and 841 Bearing Bronze

Powdered bronze is pressed and then impregnated with SAE 30 oil to make this material self-lubricating and corrosion resistant. It is often used for parts in hard-to-reach areas that would be difficult to access for lubrication, such as well pumps and turbine blades. It is not heat treatable.

Sheets—Unpolished

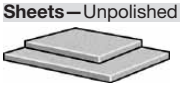

- Yield Strength: SAE 840: 7,000 psi; SAE 841: 11,000 psi
- Hardness: Not rated
- Temper: As pressed
- Meet ASTM B438

The 5"×6" sheets are SAE 841; the 6"×12" sheets are SAE 840, except the 1/8" thick sheets are SAE 841. Width and length have plus tolerances.

Thick.	Thick. Tolerance	5"×6"		6"×12"	
1/8"	±0.010"	8933K11	$68.27	8933K24	$138.12
3/16"	±0.010"	8933K12	76.22	8933K25	153.36
1/4"	±0.010"	8933K13	75.20	8933K19	164.05
3/8"	±0.010"	8933K14	91.10	8933K21	205.72

Thick.	Thick. Tolerance	5"×6"		6"×12"	
1/2"	±0.010"	8933K15	$102.88	8933K22	$248.75
5/8"	±0.010"	8933K16	119.12	8933K26	252.48
3/4"	±0.010"	8933K17	138.83	8933K27	330.62
1"	±0.010"	8933K18	157.34	8933K23	402.60

Oversized Tubes—Unpolished



- Yield Strength: 11,000 psi
- Hardness: Not rated
- Temper: As pressed
- Meet ASTM B438

Tubes are SAE 841. OD is oversized and ID is undersized to allow for finishing. Length has a plus tolerance.

OD	ID		3" Lg.	6½" Lg.
3/16" Wall Thick.				
1"	5/8"	8931K111	$17.27	$26.57
1/4" Wall Thick.				
1"	1/2"	8931K121	18.27	28.11
1 1/8"	5/8"	8931K131	22.57	34.73
1 1/4"	3/4"	8931K141	24.27	37.34
1 3/8"	7/8"	8931K151	28.14	43.29
1 1/2"	1"	8931K161	30.66	47.17
1 3/4"	1 1/4"	8931K171	31.26	48.09
2"	1 1/2"	8931K181	36.08	55.51
2 1/4"	1 3/4"	8931K191	41.83	64.35
5/16" Wall Thick.				
1 1/8"	1/2"	8931K201	24.02	36.96
1 1/4"	5/8"	8931K211	25.08	38.58
1 1/2"	7/8"	8931K221	32.23	49.59
1 5/8"	1"	8931K231	34.11	52.47
3/8" Wall Thick.				
1 1/4"	1/2"	8931K241	25.81	39.70
1 3/8"	5/8"	8931K251	33.56	51.63
1 1/2"	3/4"	8931K261	32.28	49.66
1 3/4"	1"	8931K271	38.42	59.11
2"	1 1/4"	8931K281	42.00	64.62

OD	ID		3" Lg.	6½" Lg.
3/8" Wall Thick. (Cont.)				
2 1/4"	1 1/2"	8931K291	$50.56	$77.78
2 1/2"	1 3/4"	8931K301	53.57	82.42
2 3/4"	2"	8931K311	58.79	90.44
3"	2 1/4"	8931K321	68.12	104.80
3 3/4"	3"	8931K331	82.73	127.27
7/16" Wall Thick.				
1 1/2"	5/8"	8931K341	34.35	52.84
1/2" Wall Thick.				
1 1/2"	1/2"	8931K351	37.06	57.02
1 3/4"	3/4"	8931K361	43.90	67.54
2"	1"	8931K371	48.93	75.28
2 1/4"	1 1/4"	8931K381	58.86	90.55
2 1/2"	1 1/2"	8931K391	61.91	95.25
2 3/4"	1 3/4"	8931K401	68.61	105.55
3"	2"	8931K411	78.49	120.76
3 1/4"	2 1/4"	8931K421	87.10	134.00
3 1/2"	2 1/2"	8931K431	92.86	142.86
4"	3"	8931K441	102.80	158.15
5/8" Wall Thick.				
2"	3/4"	8931K451	53.95	83.00
2 1/2"	1 1/4"	8931K461	69.39	106.75

OD	ID		3" Lg.	6½" Lg.
5/8" Wall Thick. (Cont.)				
3"	1 3/4"	8931K471	$84.51	$130.02
3 3/4"	2 1/2"	8931K481	116.76	179.63
11/16" Wall Thick.				
2"	5/8"	8931K491	56.20	86.46
3/4" Wall Thick.				
2"	1/2"	8931K501	60.68	93.36
2 1/2"	1"	8931K511	80.28	123.50
3"	1 1/2"	8931K521	92.44	142.21
4"	2 1/2"	8931K531	136.51	210.02
7/8" Wall Thick.				
3"	1 1/4"	8931K541	97.87	150.57
3 1/2"	1 3/4"	8931K551	133.25	205.00
1" Wall Thick.				
3"	1"	8931K561	104.20	160.31
4"	2"	8931K571	156.57	240.87
4 1/2"	2 1/2"	8931K581	190.41	292.94
5"	3"	8931K591	207.77	319.64
6"	4"	8931K601	256.87	395.18
7"	5"	8931K611	306.15	471.00
1 1/2" Wall Thick.				
6"	3"	8931K621	327.13	503.27

Oversized Rods—Unpolished



- Yield Strength: 11,000 psi
- Hardness: Not rated
- Temper: As pressed
- Meet ASTM B438

Rods are SAE 841. Diameter is oversized to allow for finishing. Length has a plus tolerance.

Dia.		3" Lg.	6½" Lg.
1/4"	8932K31 ★	$2.69	———
3/8"	8932K32	6.00	———
1/2"	8932K41	9.17	$12.74
5/8"	8932K42	12.76	17.72
3/4"	8932K43	15.49	21.51
7/8"	8932K44	17.05	26.23
1"	8932K45	21.12	32.50

★ Length is 2".

Dia.		3" Lg.	6½" Lg.
1 1/8"	8932K46	$22.63	$34.81
1 1/4"	8932K47	27.20	41.84
1 3/8"	8932K48	31.85	49.00
1 1/2"	8932K49	35.00	53.85
1 5/8"	8932K51	41.39	63.67
1 3/4"	8932K52	44.88	69.04
2"	8932K53	54.93	84.51

Dia.		3" Lg.	6½" Lg.
2 1/4"	8932K54	$68.55	$105.46
2 1/2"	8932K55	81.49	125.37
3"	8932K56	115.30	177.38
4"	8932K57	199.97	307.64
5"	8932K58	304.24	468.06
6"	8932K59	427.15	657.15

Yield strength is approximate and may vary based on size and shape.

High-Temperature Graphite-Filled SAE 841 Bearing Bronze

An excellent alternative to oil-filled bronze, this graphite-filled bronze provides dry lubrication in temperatures as high as 700° F. It is frequently used for self-lubricating bearings, sleeves, and bushings. This material is not heat treatable.

Oversized Tubes—Unpolished



- Yield Strength: 8,500 psi
- Hardness: Not rated
- Temper: As pressed
- Meet ASTM 438

OD is oversized and ID is undersized to allow for finishing. Length has a plus tolerance.

Wall Thick.	OD	ID		4″ Lg.
3/16″	1″	5/8″	1260N13	$24.32
3/16″	1 1/4″	3/4″	1260N17	34.28
1/4″	1″	1/2″	1260N11	29.75
1/4″	1 1/8″	5/8″	1260N15	32.00
1/4″	1 1/2″	1″	1260N21	41.45
1/4″	1 3/4″	1 1/4″	1260N27	47.52
1/4″	2″	1 1/2″	1260N31	$51.45
3/8″	1 1/2″	3/4″	1260N19	48.05
3/8″	1 3/4″	1″	1260N23	57.00
3/8″	2″	1 1/4″	1260N29	65.11
3/8″	2 3/4″	2″	1260N33	89.04
1/2″	2″	1″	1260N25	74.20

Oversized Rods—Unpolished



- Yield Strength: 8,500 psi
- Hardness: Not rated
- Temper: As pressed
- Meet ASTM 438

The OD is oversized to allow for finishing. Length has a plus tolerance.

Dia.	Lg.		
1/4″	2″	1028N1	$2.58
3/8″	2″	1028N2	3.69
1/2″	4″	1028N3	10.46
5/8″	4″	1028N4	17.16
3/4″	4″	1028N5	$18.71
7/8″	4″	1028N6	24.15
1″	4″	1028N7	31.46
1 1/8″	4″	1028N8	34.58
1 1/4″	4″	1028N9	$42.48
1 1/2″	4″	1028N11	54.48
1 3/4″	4″	1028N12	68.04
2″	4″	1028N13	85.04

High-Strength 630 Bronze



- Yield Strength: 50,000 psi
- Hardness: Rockwell B90
- Temper: HR50
- Meet ASTM B150

The addition of nickel gives this material strength while maintaining the ductility, wear resistance, and corrosion resistance for which bronze is known. Also called aluminum-nickel-bronze, 630 bronze is an excellent choice for heavy-load applications, such as hydraulic valve parts and pump shafts. This material can be welded. It is not heat treatable. These rods are unpolished. Diameter tolerance is ±0.004″. Length tolerance is ±1/4″.

Dia.		1 ft.	3 ft.	6 ft.
3/8″	8203K11	$14.29	$33.16	$57.17
1/2″	8203K21	23.54	54.62	94.17
5/8″	8203K31	34.33	79.65	137.33
3/4″	8203K41	$47.34	$109.82	$189.34
7/8″	8203K51	60.26	139.79	241.02
1″	8203K61	73.50	170.52	294.00
1 1/4″	8203K81	$110.94	$257.39	$443.77
1 3/8″	8203K91	129.09	299.49	516.36
1 1/2″	8203K14	150.94	350.17	603.75

Machinable High-Strength 642 Bronze



- Yield Strength: 42,000 psi
- Hardness: Rockwell B65
- Temper: HR50
- Meet ASTM B150

642 bronze is a lead-free alternative to 316 bronze that offers the same good machinability with reduced strength and corrosion resistance. Also called aluminum-silicon-bronze, it's used for valve bodies, gears, and bolts. It is not heat treatable. These rods are unpolished. Diameter tolerance is ±0.004″. Length tolerance is ±1/4″.

Dia.		1 ft.	3 ft.	6 ft.
5/16″	89195K11	$8.50	$18.30	$32.68
3/8″	89195K13	11.19	24.09	43.02
1/2″	89195K15	19.29	41.55	74.19
5/8″	89195K48	$27.99	$60.28	$107.64
3/4″	89195K41	38.58	83.10	148.40
7/8″	89195K47	51.38	110.67	197.63
1″	89195K43	$64.32	$138.53	$247.38
1 1/2″	89195K45	125.07	269.38	481.03
2″	89195K51	202.13	435.36	777.42

Easy-to-Weld Corrosion-Resistant 655 Bronze



- Yield Strength: 43,000 psi
- Hardness: Rockwell B75, unless noted
- Temper: Hard (H04)
- Meet ASTM B98

Commonly called high silicon bronze, this 655 bronze contains more silicon than other bronze alloys, so it is suitable for all types of welding. With excellent formability and corrosion resistance, it is often used to make parts for use in marine applications as well as in pumps and boilers. It is not heat treatable. These rods are unpolished. Diameter tolerance for 1/4″ to 1/2″ dia. rods is ±0.002″; for 5/8″ to 1 1/2″ dia. rods it is ±0.004″. Straightness tolerance is 1/4″ per 10 feet. Length tolerance is ±1/2″.

Dia.		1 ft.	3 ft.	6 ft.
1/4″	89575K11★	$4.42	$10.57	$19.21
5/16″	89575K13★	7.26	17.37	31.58
3/8″	89575K15★	8.59	20.53	37.33
1/2″	89575K72	$15.16	$36.26	$65.92
5/8″	89575K22	20.73	49.57	90.12
3/4″	89575K23	31.49	75.31	136.93
1″	89575K25	$53.85	$128.76	$234.11
1 1/4″	89575K26	79.54	190.21	345.83
1 1/2″	89575K27	122.27	292.40	531.63

★ Hardness is not rated.

Machinable Corrosion-Resistant 316 Bronze



- Yield Strength: 28,000 psi
- Hardness: Rockwell B70
- Temper: 1/2 Hard (H02)
- Meet ASTM B140

Just like 220 bronze, 316 bronze offers excellent corrosion resistance and can be used outdoors; however, the addition of lead makes it more machinable. Also known as leaded commercial bronze, it's used for cable clamps, hardware, and fasteners. This material can be soldered and brazed. It is not heat treatable. These rods are unpolished. Diameter tolerance is ±0.0025″. Straightness tolerance is 1/4″ per 10 feet. Length tolerance is ±1/2″.

Dia.		1 ft.	3 ft.	6 ft.
5/16″	8947K23	$8.80	$23.19	$39.99
3/8″	8947K25	11.63	30.65	52.85
1/2″	8947K51	19.87	52.40	90.34
5/8″	8947K53	29.87	78.75	135.77
3/4″	8947K55	$40.08	$105.68	$182.20
7/8″	8947K64	50.36	132.77	228.92
1″	8947K57	64.36	169.67	292.53
1 1/4″	8947K67	89.44	235.79	406.54
1 1/2″	8947K59	$123.60	$325.86	$561.82
1 3/4″	8947K71	160.85	424.07	731.15
2″	8947K62	198.94	524.49	904.29

Yield strength is approximate and may vary based on size and shape.

Corrosion-Resistant Easy-to-Form 220 Bronze

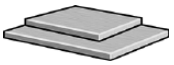

- Yield Strength: 33,000 psi
- Hardness: Rockwell B56
- Temper: 1/2 Hard (H02), except 0.187″ sheets are 1/4 Hard (H01)
- Meet ASTM B36

Excellent formability along with corrosion resistance makes 220 bronze a great choice for weatherstripping, trim, and decorative hardware. This material is commonly called commercial bronze. It can be welded, soldered, and brazed. It is not heat treatable. These sheets are unpolished. Thickness tolerance for 0.020″ to 0.050″ thick sheets is ±0.002″; for 0.064″ to 0.187″ thick sheets it is ±0.008″. Length and width tolerances are ±3/16″.

Thick.		2″×24″	4″×24″	6″×6″	6″×12″	6″×24″	12″×12″	12″×24″	12″×48″	24″×24″	24″×48″
0.020″	88825K111	$15.03	$21.86	$12.29	$17.76	$25.95	$25.95	$43.71	$79.23	$79.23	$136.60
0.032″	88825K112	18.42	26.79	15.07	21.76	31.81	31.81	53.57	97.10	97.10	167.41
0.040″	88825K113	22.01	32.02	18.01	26.02	38.02	38.02	64.04	116.07	116.07	200.12
0.050″	88825K114	25.61	37.26	20.96	30.27	44.24	44.24	74.52	135.06	135.06	232.86
0.064″	88825K115	32.95	47.93	26.96	38.95	56.92	56.92	95.87	173.76	173.76	299.59
0.080″	88825K116	34.53	50.23	28.25	40.81	59.65	59.65	100.46	182.08	182.08	313.93
0.090″	88825K117	36.73	53.43	30.05	43.41	63.44	63.44	106.85	193.67	193.67	333.91
0.125″	88825K118	45.88	66.74	37.54	54.23	79.25	79.25	133.48	241.94	241.94	417.13
0.187″	88825K211	76.63	111.46	62.70	90.56	132.36	132.36	222.93	404.06	404.06	696.65

Very High-Strength 510 Bronze

Because this material is very strong and formable, it is the best choice for applications involving repetitive motion, such as springs, bellows, switches, and electrical contacts. This material can be welded, soldered, and brazed. It is not heat treatable.

Sheets—Unpolished

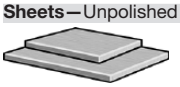

- Yield Strength: 80,000 psi
- Hardness: Rockwell B92
- Temper: Spring (H08)
- Meet ASTM B103

Width tolerance is ±0.016″. Length tolerance is ±1/4″.

Thick.	Thick. Tolerance		1/2″×96″	1″×96″	2″×12″	2″×48″	6″×12″	6″×48″	6″×96″	12″×12″	12″×48″	12″×96″
0.005″	±0.001″	9052K111	$16.81	$23.53	$8.07	$18.15	$14.79	$26.90	$41.69	$19.50	$43.71	$67.24
0.008″	±0.001″	9052K112	23.43	32.81	11.25	25.31	20.62	37.49	58.11	27.18	60.92	93.73
0.010″	±0.002″	9052K113	25.53	35.75	12.26	27.58	22.47	40.85	63.32	29.62	66.38	102.13
0.013″	±0.002″	9052K114	24.99	34.07	11.36	26.12	20.44	43.16	67.01	28.39	70.41	113.57
0.016″	±0.003″	9052K115	31.80	43.36	14.45	33.24	26.02	54.92	85.27	36.13	89.61	144.53
0.020″	±0.004″	9052K116	33.37	44.49	14.30	33.37	25.43	57.21	90.58	36.55	95.35	158.91
0.025″	±0.004″	9052K117	34.41	45.89	14.75	34.41	26.22	59.00	93.41	37.69	98.33	163.88
0.032″	±0.004″	9052K118	36.70	48.93	15.73	36.70	27.96	62.91	99.61	40.19	104.85	174.75
0.040″	±0.004″	9052K119	47.20	62.94	20.23	47.20	35.96	80.92	128.12	51.70	134.86	224.77
0.050″	±0.006″	9052K121	47.40	63.99	18.96	46.22	35.55	82.95	130.35	49.77	137.46	237.00
0.064″	±0.006″	9052K122	62.69	84.64	25.08	61.13	47.02	109.71	172.41	65.83	181.81	313.47
0.090″	±0.007″	9052K123	87.90	118.66	35.16	85.70	65.92	153.82	241.71	92.29	254.90	439.48
0.125″	±0.007″	9052K124	108.03	145.85	43.21	105.33	81.03	189.06	297.09	113.44	313.30	174.75

Rods—Unpolished



- Yield Strength: Not rated
- Hardness: Not rated
- Temper: Hard (H04)
- Meet ASTM B139

Length tolerance for 1-ft and 3-ft. lengths is ±1/4″; for 6-ft. lengths it is ±6″.

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
1/4″	±0.002″	88555K11	$6.88	$17.19	$28.65
5/16″	±0.002″	88555K13	10.22	25.55	42.58
3/8″	±0.002″	88555K15	13.39	33.49	55.81
1/2″	±0.002″	88555K17	21.84	54.59	90.98
5/8″	±0.004″	88555K39	21.48	53.70	89.50
3/4″	±0.004″	88555K41	47.43	118.57	197.62

Dia.	Dia. Tolerance		1 ft.	3 ft.	6 ft.
7/8″	±0.004″	88555K52	$42.90	$107.24	$178.73
1″	±0.004″	88555K43	80.62	201.55	335.92
1 1/4″	±0.004″	88555K45	108.75	271.88	453.14
1 1/2″	±0.004″	88555K47	146.45	366.11	610.19
1 3/4″	±0.004″	88555K58	133.08	332.69	554.49
2″	±0.004″	88555K49	245.18	612.95	1,021.59

Interference-Shielding Nickel Foil



- Yield Strength: 35,000 psi
- Hardness: Not rated
- Temper: Soft (Annealed)
- Meet ASTM A753

Use this nickel-iron-cobalt foil as a magnetic shield to protect electronic equipment from EMI/RFI interference. It is comparable to Mu-Metal. Thickness tolerance is ±10%. Width tolerance is ±1/16″. The adhesive on the adhesive-back foil is rubber.

Thick.	Wd.	Lengths, ft.		Per Ft.
Plain Back				
0.002″	4″	1, 2, 3, 4, 5	8912K11	$37.82
0.004″	4″	1, 2, 3, 4, 5	8912K12	35.45
0.004″	15″	1, 2, 3, 4, 5	8912K13	69.90
0.006″	4″	1, 2, 3, 4, 5	8912K14	50.73
0.006″	15″	1, 2, 3, 4, 5	8912K15	104.18
0.010″	4″	1, 2, 3, 4, 5	8912K16	61.09
0.010″	15″	1, 2, 3, 4, 5	8912K17	143.82

Thick.	Wd.	Lengths, ft.		Per Ft.
Adhesive Back				
0.002″	4″	1, 2, 3, 4, 5	8912K41	$41.82
0.004″	4″	1, 2, 3, 4, 5	8912K42	39.36
0.004″	15″	1, 2, 3, 4, 5	8912K43	82.45
0.006″	4″	1, 2, 3, 4, 5	8912K44	54.64
0.006″	15″	1, 2, 3, 4, 5	8912K45	116.73
0.010″	4″	1, 2, 3, 4, 5	8912K46	64.90
0.010″	15″	1, 2, 3, 4, 5	8912K47	156.36

Tin

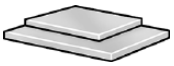

Commonly used to make gaskets and filters, these soft sheets are very easy to form. The material is considered commercially pure, because it contains more than 99.9% tin. Width and length tolerances are ±0.062″.

Thick.	Thick. Tolerance	6″×6″		12″×12″		12″×24″		24″×24″	
1/32″	±0.007″	8906K131	$29.39	8906K121	$89.24	8906K141	$175.26	8906K161	$309.32
1/16″	±0.008″	8906K231	57.60	8906K221	162.13	8906K241	313.96	8906K261	599.39
1/8″	±0.012″	8906K431	113.59	8906K421	326.88	8906K441	633.02	8906K461	1,139.35

Yield strength is approximate and may vary based on size and shape.

Lead & Zinc

Lead

With a minimum of 98% pure lead content, this material is soft with good corrosion resistance and excellent formability. Applications for lead include radiation shields, sound barriers, and vibration dampers.

Sheets

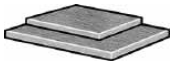

These sheets are cold rolled. Width and length tolerances are ±1/8". They meet Fed. Spec. QQL-201F.

Thick.	Thick. Tolerance	4"×36"		6"×6"		12"×12"		12"×24"		12"×36"		12"×48"	
3/64"	±0.006"	9032K281	$18.54	9032K271	$8.51	9032K111	$19.70	9032K119	$34.04	9032K128	$46.65	9032K137	$74.00
1/16"	±0.006"	9032K282	29.54	9032K272	11.03	9032K112	27.80	9032K121	47.33	9032K129	68.27	9032K138	101.75
3/32"	±0.008"	9032K283	39.00	9032K273	16.33	9032K113	41.93	9032K122	75.86	9032K131	97.27	9032K139	156.26
1/8"	±0.010"	9032K284	62.58	9032K274	23.44	9032K114	50.07	9032K123	90.51	9032K132	143.32	9032K141	177.54
3/16"	±0.012"	9032K285	82.74	9032K275	31.22	9032K115	83.96	9032K124	148.39	9032K133	211.55	9032K142	270.57
1/4"	±0.012"	9032K286	99.66	9032K276	35.28	9032K116	99.60	9032K125	189.16	9032K134	257.53	9032K143	325.56
1/2"	±0.020"	—	—	9032K277	90.82	9032K117	157.11	9032K126	299.22	9032K135	433.53	—	—
1"	±0.020"	—	—	9032K278	207.57	9032K261	340.96	9032K262	638.27	—	—	—	—

Thick.	Thick. Tolerance	24"×24"		24"×36"		24"×48"		36"×36"		36"×48"		48"×48"	
3/64"	±0.006"	9032K146	$64.89	9032K155	$92.47	9032K164	$122.85	9032K182	$141.11	9032K191	$176.13	9032K227	$231.75
1/16"	±0.006"	9032K147	91.90	9032K156	130.37	9032K165	173.95	9032K183	196.93	9032K192	249.44	9032K228	328.21
3/32"	±0.008"	9032K148	136.51	9032K157	195.02	9032K166	258.40	9032K184	292.53	9032K193	370.54	9032K229	487.55
1/8"	±0.010"	9032K149	169.60	9032K158	248.79	9032K167	332.99	9032K185	361.06	9032K194	481.41	—	—
3/16"	±0.012"	9032K151	275.81	9032K159	381.51	9032K168	508.60	9032K186	551.63	—	—	—	—
1/4"	±0.012"	9032K152	333.07	9032K161	453.59	—	—	9032K187	664.41	—	—	—	—

Vinyl-Coated Sheet



The vinyl coating is red and prevents lead from leaving marks on surfaces. Width and length tolerances are ±0.065".

Thick.	Thick. Tolerance	2"×12"	
0.085"	±0.065"	2310K3	$55.08

Rectangular Bars



Bars meet Fed. Spec. QQL-201F.

Thick.	Wd.	Lg.			Thick.	Wd.	Lg.		
2"	3"	6"	9033K22	$70.55	2"	4"	8"	9033K11	$127.85

Discs



Use these cast-lead discs as spacers, washers, and counterbalances. Thickness tolerance is ±0.010". OD tolerance is ±0.015". ID tolerance is ±0.008". Discs meet ASTM B29, ASTM B749, and Fed. Spec. QQL-171e Grade C.

Thick.	OD	ID	Approx. Wt., lbs.			Thick.	OD	ID	Approx. Wt., lbs.		
1/2"	2 3/4"	13/32"	1 1/4	90385K22	$16.89	1"	8 1/2"	41/64"	23	90385K54	$168.24
1/2"	4 1/2"	25/64"	3 1/4	90385K32	36.09	1"	10 3/4"	41/64"	37	90385K64	252.06
1/2"	6"	25/64"	5 3/4	90385K42	56.77	1"	13"	41/64"	54	90385K74	355.56
1/2"	8 1/2"	41/64"	11 1/2	90385K52	90.85	2"	4 1/2"	25/64"	13	90385K36	114.14
1"	4 1/2"	25/64"	6 1/2	90385K34	68.19	2"	6"	25/64"	23	90385K46	168.24
1"	6"	25/64"	11 1/2	90385K44	98.75	2"	8 1/2"	41/64"	46	90385K56	302.84

Shot and Balls



All are precision manufactured to ±0.010" to ensure size and a smooth finish. Those sizes with a trade number are classified as lead shot; all others are classified as lead balls.

Trade No.	Dia.	Approx. Pkg. Qty.		5-lb. Pkg.	Trade No.	Dia.	Approx. Pkg. Qty.		5-lb. Pkg.	Trade No.	Dia.	Approx. Pkg. Qty.		5-lb. Pkg.
9	0.08"	45,600	9030K21	$37.43	6	0.11"	17,600	9030K24	$37.43	—	0.25"	1,500	9030K27	$74.09
8	0.09"	32,000	9030K22	37.43	5	0.12"	13,440	9030K25	37.43	—	0.30"	750	9030K28	74.09
7 1/2	0.10"	27,200	9030K23	37.43	4	0.13"	10,560	9030K26	37.43	—	0.44"	250	9030K29	74.09

Wool

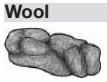

Pack lead wool into joints to create a watertight seal in pipe and plumbing connections. It can be cut with scissors.

5-lb. Bag	9021K11	$33.72

Insulating Lead Wire



This bend-and-stay (soft temper) wire is 99.9% pure lead. It is often used for bearing alignment and caulking. Diameter tolerance is +0.001", –0.005". Tensile strength is 1,100 psi. Maximum temperature is 621°F. Wire has a matte finish. It meets ASTM B29 and B749.

Wire Dia.	5-lb. Spools Ft./Spool			25-lb. Spools Ft./Spool		
0.125"	82	8879K1	$42.64	410	8879K13	$176.78
0.188"	36	8879K2	42.64	180	8879K14	176.78
0.250"	20	8879K3	42.64	100	8879K15	176.78

Zinc

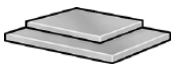

Considered commercially pure, this material is 99% zinc and the softest of all the zinc alloys. It is nonsparking and corrosion resistant, and has excellent formability. Use it instead of lead for sound barriers and vibration dampers, as well as for EMI/RFI shields and architectural sheeting. These sheets are unpolished. Thickness tolerance is ±0.003".

Thick.	12"×12"		12"×24"		12"×48"	
0.008"	1007T161	$7.20	1007T171	$12.90	—	—
0.020"	1007T811	11.08	1007T821	19.26	1007T831	$38.00
0.027"	1007T911	15.80	—	—	—	—
0.030"	1007T111	19.00	1007T121	34.43	1007T131	65.72

Thick.	14"×12"		14"×24"		14"×48"		28"×36"		28"×48"	
0.040"	1007T211	$23.11	1007T221	$41.75	1007T231	$77.54	1007T241	$122.28	—	—
0.060"	1007T311	29.21	1007T321	52.77	1007T331	98.01	1007T341	154.55	1007T351	$188.48
0.125"	1007T51	77.23	1007T52	139.51	1007T53	259.09	1007T54	408.56	1007T55	498.25
0.187"	1007T61	80.99	1007T62	146.31	1007T63	271.71	1007T64	428.47	1007T65	522.52
0.250"	1007T71	93.86	1007T72	169.55	1007T73	314.89	1007T74	496.55	1007T75	605.55

Casting Metals


Indium Alloy Bar


Lead Ingot


Tin Bar

Bismuth Alloy—When melted, bismuth alloys expand slightly as they solidify, pushing into the crevices of a mold to produce detailed replicas. These alloys are useful for repairing dies, creating fusible links, and holding delicate parts for machining.
Indium Alloy—Similar in composition to bismuth alloys, but the addition of indium lowers the melting temperature to allow casting in molds made from glass, quartz, mica, and ceramic.
Lead—Use as caulking, castings, and hot-dipped coatings. Meets ASTM B29.
Lead-Base Babbitt—Cast light-load bearings with this soft alloy. It has superior antifriction properties.
Lead-Base Coppered Babbitt—Use this alloy to cast bearings for low-speed, heavy-load applications. It is able to withstand shock and vibration and requires less lubrication than other types of babbitt.
Lead Hammer Metal—Commonly used to cast nonmarring hammer heads, this ductile material is hard and won't chip.
Lead-Free Pewter Alloy—Use as an alternative to lead. This alloy has less copper than standard pewter, which makes it easier to pour when melted.
Tin—After melting, tin is generally alloyed with other metals such as lead, silver, and copper to make solder and babbitt.
Tin-Base Babbitt—Cast bearings for high-speed, high-wear applications. It withstands higher temperatures than lead-base babbitt and withstands heavy, sustained loads.
Zinc Alloy—Nonshrinking and corrosion resistant, use this alloy in casting applications that require easy machinability.
Silicon-Bronze Alloy—Often used to cast gears, propellers, bells, and plaques, this alloy renders an excellent surface finish.
Babbitt Paste—An integral component of casting babbitt bearings, apply a thin coat of this paste to bronze, cast iron, and steel bearing housings before casting to prevent separation.

Melting Temp., °F	Approx. Composition	Approx. Size	Approx. Wt., lbs.		
Bismuth Alloy					
158°	50% Bismuth; 27% Lead; 13% Tin; 10% Cadmium	1/2″×3″ Hex	1½	8921K12	$48.78
160°	43% Bismuth; 38% Lead; 11% Tin; 8% Cadmium	5/8″×1½″×4½″ Bar	1½	8921K22	45.78
203°	53% Bismuth; 32% Lead; 15% Tin	1″×1″×3″ Bar	1½	8921K23	49.89
255°	56% Bismuth; 44% Lead	1/2″×3″×3″ Square	1½	8921K14	45.09
281°	40% Bismuth; 60% Tin	1/2″×1½″×4½″ Bar	1½	8921K18	64.80
281°	58% Bismuth; 42% Tin	5/8″×1½″×5½″ Bar	1½	8921K16	63.84
Indium Alloy					
117°	45% Bismuth; 23% Lead; 19% Indium; 8% Tin; 5% Cadmium	1/4″×2″×4½″ Bar	½	88635K2	101.84
134°	48% Bismuth; 25% Lead; 5% Indium; 13% Tin; 9% Cadmium	1/2″×3½″ Disc	1½	88635K26	133.56
136°	49% Bismuth; 18% Lead; 21% Indium; 12% Tin	1/4″×1 7/8″×4½″ Bar	½	88635K4	111.04
142°	48% Bismuth; 25% Lead; 4% Indium; 13% Tin; 10% Cadmium	1/2″×3½″ Disc	1½	88635K28	117.72
Lead					
620°	99.9% Lead	1¾″×3¼″×3¼″ Ingot	5	9031K1	30.55
620°	99.9% Lead	1¾″×3¼″×16¼″ Ingot	25	9031K6	137.45
620°	99.9% Lead	2 11/16″×3 7/8″×21¼″ Ingot	60	9031K5	305.45
Lead-Base Babbitt					
459°	80% Lead; 5% Tin; 15% Antimony	1⅛″×1 5/8″×7½″ Bar	5	8899K11	49.17
Lead-Base Coppered Babbitt					
625°	75% Lead; 10% Tin; 14% Antimony; 0.3% Copper; 0.5% Arsenic	1½″×3¾″ Disc	4½	8901K71	44.44
Lead Hammer Metal					
430°	94% Lead; 6% Antimony	1⅛″×1 5/8″×6 5/8″ Bar	5	9045K11	28.77
Lead-Free Pewter Alloy					
525°	92% Tin; 7% Antimony; 0.3% Copper	1/2″×1″×11½″ Bar	1	5387K24	32.21
Tin					
450°	100% Tin	1/2″×1″×11½″ Bar	1	8886K11	54.55
Tin-Base Babbitt					
669°	89% Tin; 7% Antimony; 4% Copper	1½″×2″×5½″ Bar	4½	8900K11	209.68
Zinc Alloy					
750°	95% Zinc; 0.1% Copper; 4% Aluminum	6¼″×2¾″×1¼″ Ingot	4½	9069K2	42.48
Silicon-Bronze Alloy					
1780°	4% Zinc; 92% Copper; 4% Silicon	Ingot (size and no. of pieces will vary)	1	5389K12	15.51
Babbitt Paste					
Not rated	40% Lead; 40% Tin; 10% Zinc Chloride; 5% Zinc Oxide	1-lb. Can	1	9006K42	73.35

About Wire



Bend-and-stay wire bends easily and retains its new shape when released. It is also known as soft-temper and annealed wire. It is commonly used as tying and locking wire.



Spring-back wire resists bending and generally returns to its original shape when released. It is also known as spring-temper wire. It is often used to construct springs and wire rope.

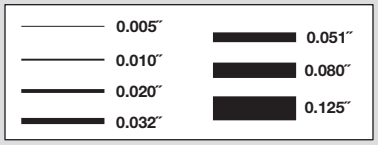

The sizes above are some of the wire diameters we offer.

For a wire gauge conversion chart, go to mcmaster.com and search for **9896KAC**.

Flat Stainless Steel Wire



- Bend-and-stay wire (soft temper)
- Tensile Strength: 90,000 psi

The flat surface helps prevent this wire from rolling and slipping, plus it provides a tight, secure wrap around pipes, rods, and other round surfaces. Wire is 304 stainless steel. Thickness tolerance is ±0.0005″. Width tolerance is ±0.002″. Maximum temperature is 500° F. Wire has a matte finish.

		¼-lb. Spools			1-lb. Spools		
Thick.	Wd.	Ft./ Spool			Ft./ Spool		
0.010″	0.020″	378	4253K11	$16.74	1,515	4253K31	$55.80
0.010″	0.030″	252	4253K12	16.74	1,008	4253K32	55.80
0.020″	0.020″	189	4253K13	17.54	756	4253K33	58.45
0.020″	0.040″	94	4253K14	16.16	378	4253K34	53.86
0.020″	0.060″	63	4253K15	16.16	252	4253K35	53.86
0.032″	0.032″	73	4253K16	15.71	295	4253K36	52.38
0.032″	0.064″	37	4253K17	13.38	148	4253K37	44.60
0.032″	0.096″	24	4253K18	$13.15	98	4253K38	$43.83
0.040″	0.040″	47	4253K19	13.85	189	4253K39	46.17
0.040″	0.080″	23	4253K21	13.37	95	4253K41	44.58
0.040″	0.120″	15	4253K22	12.78	63	4253K42	42.60
0.050″	0.050″	30	4253K23	13.40	121	4253K43	44.67
0.050″	0.100″	15	4253K24	12.55	61	4253K44	41.83

Temperature ratings are not guaranteed and are intended only as a basis for comparison.

ⓘ For a wire gauge conversion chart, go to mcmaster.com and search for **9896KAC**.

Stainless Steel Wire

A good choice for use around chemicals and in food-processing environments, stainless steel wire is known for its corrosion resistance.

Bend-and-Stay 302/304 Stainless Steel—Matte Finish



Spool

- Bend-and-stay wire (soft temper)
- Meets ASTM A555 and A580
- Tensile Strength: 75,000 psi

Diameter tolerance for 0.002″ to 0.032″ dia. wire is ±0.0005″; for 0.038″ to 0.162″ dia. wire it is ±0.001″. Maximum temperature is 550° F.

Wire Dia.	¼-lb. Spools Ft./Spool			1-lb. Spools Ft./Spool			5-lb. Coils Ft./Coil			10-lb. Coils Ft./Coil		
0.005″	3,720	9882K11	$35.33	14,890	9882K21	$55.67						
0.006″	2,585	9882K13	31.55	10,340	9882K23	52.12						
0.007″	1,895	9882K15	29.30	7,595	9882K25	49.74						
0.008″	1,450	9882K17	28.59	5,815	9882K27	49.54						
0.010″	930	9882K31	25.22	3,720	9882K41	46.54						
0.012″	645	9882K35	22.57	2,585	9882K45	43.26						
0.014″	470	9882K39	22.17	1,895	9882K49	42.64						
0.015″	410	8860K11	9.21	1,655	8860K18	26.94	8,275	8860K25■	$99.27	16,550	9070K68■	$184.17
0.020″	230	8860K12	8.85	930	8860K61▲	20.52	4,655	8860K81■	64.55	9,310	9070K69■	121.79
0.025″	145	8860K13	8.15	595	8860K62▲	20.20	2,980	8860K82■	64.00	5,960	9070K71■	120.76
0.032″	91	8860K14	6.10	360	8860K63▲	13.29	1,820	8860K83■	49.99	3,640	9070K72	94.33
0.038″	64	8860K71	6.09	255	8860K73	14.21	1,125	8860K86	53.80	2,580	9070K51■	101.50
0.041″	55	8860K15	6.83	220	8860K64▲	14.88	1,105	8860K84■	56.02	2,210	9070K81	105.69
0.045″	46	8860K75	6.37	180	8860K77	14.87	915	8860K87	54.17	1,840	9070K53■	106.22
0.051″	35	8860K16	6.51	140	8860K65▲	15.38	715	8860K85■	53.30	1,430	9070K82	101.27
0.064″	22	8860K17	5.77	91	8860K19	12.94	455	8860K26■	49.55	910	9070K93	94.15
0.081″	—			57	8860K21♣	11.98	285	8860K27	49.85	570	9070K94	94.71
0.102″	—			36	8860K22♣	11.91	180	8860K28	48.25	360	9070K95	91.68
0.125″	—			23	8860K23♣	11.78	115	8860K29	44.42	235	9070K76	84.41
0.162″	—			14	8860K24♣	12.06	71	8860K31	48.20	140	9070K85	91.58

■ Material comes on a spool. ▲ Material comes in a can. ♣ Material comes coiled.



Wire Dia.	Ft./Spool	¹⁄₁₆-lb. Spools		Wire Dia.	Ft./Spool	¹⁄₁₆-lb. Spools		Wire Dia.	Ft./Spool	¹⁄₁₆-lb. Spools	
0.002″	5,795	9882K51	$88.84	0.003″	2,575	9882K52	$68.88	0.004″	1,445	9882K53	$55.36



Wire Dia.	Pkg. Qty.	1-ft. Lengths	Pkg.	Wire Dia.	Pkg. Qty.	1-ft. Lengths	Pkg.	Wire Dia.	Pkg. Qty.	1-ft. Lengths	Pkg.
0.008″	50	6517K68	$7.38	0.020″	50	6517K11	$8.11	0.045″	50	6517K24	$11.90
0.010″	50	6517K61	7.62	0.025″	50	6517K65	8.59	0.051″	50	6517K27	12.25
0.012″	50	6517K62	7.75	0.032″	50	6517K66	10.83	0.064″	50	6517K69	12.46
0.014″	50	6517K63	8.00	0.038″	50	6517K67	11.39	0.081″	50	6517K71	12.81
0.015″	50	6517K64	7.99	0.041″	50	6517K22	11.57	0.102″	50	6517K72	13.23

Safety Lock Wire Assortment—Comes with a ¼-lb. coil each of wire diameters: 0.020″, 0.025″, 0.032″, 0.041″, and 0.051″. A tie-twisting tool is included.

8862K13 ..... $44.26

Tie-Twisting Tool—Handle is wood and rotates for quick twisting. Hook and shaft are steel.

2002T3 ..... $2.88

Spring-Back 302/304 Stainless Steel—Matte Finish



- Spring-back wire (spring temper)
- Meets ASTM A313 and A555
- Tensile Strength: 205,000 psi

Diameter tolerance is ±0.001″. Maximum temperature is 570° F.

Wire Dia.	¼-lb. Coils Ft./Coil			1-lb. Coils Ft./Coil			Wire Dia.	¼-lb. Coils Ft./Coil			1-lb. Coils Ft./Coil		
0.031″	96	9495K76	$8.25	385	9495K25	$26.71	0.063″	23	9495K93	$3.87	95	9495K39	$15.51
0.033″	86	9495K78	5.13	340	9495K26	20.53	0.067″	21	9495K94	7.30	84	9495K41	15.51
0.035″	76	9495K79	5.01	305	9495K27	20.53	0.071″	18	9495K95	7.27	75	9495K65	15.51
0.037″	68	9495K81	5.01	270	9495K28	19.57	0.075″	16	9495K96	7.25	67	9495K67	15.19
0.039″	61	9495K82	4.89	245	9495K29	19.57	0.080″	—			59	9495K44	15.19
0.041″	55	9495K84	4.89	220	9495K31	19.57	0.086″	—			51	9495K71	14.08
0.043″	50	9495K85	4.78	200	9495K32	19.09	0.091″	—			46	9495K46	14.08
0.045″	46	9495K86	4.78	185	9495K33	19.09	0.094″	—			43	9495K47	14.08
0.047″	42	9495K87	4.78	170	9495K61	21.66	0.102″	—			36	9495K48	13.92
0.049″	39	9495K88	3.98	155	9495K63	15.91	0.106″	—			33	9495K73	13.92
0.051″	36	9495K89	3.98	140	9495K36	15.67	0.110″	—			31	9495K75	13.92
0.055″	31	9495K91	3.91	120	9495K37	24.65	0.125″	—			24	9495K53	13.92
0.059″	27	9495K92	3.87	105	9495K38	15.51	0.162″	—			14	9495K101	13.92



Wire Dia.	Pkg. Qty.	1-ft. Lengths	Pkg.	Wire Dia.	Pkg. Qty.	1-ft. Lengths	Pkg.	Wire Dia.	Pkg. Qty.	1-ft. Lengths	Pkg.
0.031″	50	8908K32	$7.78	0.043″	100	8908K46	$10.33	0.059″	100	8908K62	$14.25
0.033″	100	8908K34	10.04	0.045″	100	8908K48	11.91	0.063″	100	8908K64	14.97
0.035″	100	8908K36	9.53	0.047″	100	8908K52	12.40	0.075″	100	8908K88	16.50
0.037″	100	8908K38	9.23	0.049″	100	8908K54	11.37	0.080″	100	8908K89	17.78
0.039″	100	8908K42	9.38	0.051″	100	8908K56	11.86	0.094″	100	8908K91	21.67
0.041″	100	8908K44	9.75	0.055″	100	8908K58	12.29				

(Material continued on following page)

Temperature ratings are not guaranteed and are intended only as a basis for comparison.

For a wire gauge conversion chart, go to mcmaster.com and search for **9896KAC**.

Stainless Steel Wire *(Material continued from previous page)*

Spring-Back 302/304 Stainless Steel—Bright Finish



- Spring-back wire (spring temper)
- Meets ASTM A313 and A555
- Tensile Strength: 205,000 psi

Diameter tolerance for 0.005″ to 0.032″ dia. wire is ±0.0005″; for 0.040″ to 0.162″ dia. wire it is ±0.001″. Maximum temperature is 570° F.

Wire Dia.	¼-lb. Coils Ft./Coil			1-lb. Coils Ft./Coil		
0.005″	3,710	9495K112	$15.35	14,840	9495K114	$51.16
0.008″	1,445	9495K113	15.94	5,795	9495K115	53.13
0.009″	1,145	9495K51	17.46	4,595	9495K11	50.64
0.010″	930	9495K52	15.04	3,720	9495K12	49.21
0.012″	645	9495K55	14.59	2,585	9495K14	48.72
0.014″	470	9495K57	12.87	1,895	9495K16	43.51
0.015″	410	89085K11	21.43	1,655	89085K42	40.49
0.016″	360	9495K59	11.59	1,450	9495K17	39.83
0.018″	285	9495K62	10.80	1,145	9495K18	36.33
0.020″	230	9495K64	9.60	930	9495K19	32.80
0.022″	190	9495K66	9.04	765	9495K21	30.41
0.024″	160	9495K68	8.40	645	9495K22	28.66
0.025″	145	89085K13	$20.78	595	89085K44	$42.31
0.026″	135	9495K72	8.44	550	9495K23	28.31
0.029″	110	9495K74	9.23	440	9495K24	27.05
0.032″	91	89085K14	20.53	360	89085K46	39.56
0.040″	58	89085K15	22.36	230	89085K19	39.47
0.051″	35	89085K16	22.38	140	89085K21	36.19
0.063″	23	89085K17	19.89	94	89085K54	37.73
0.080″	—	—	—	58	89085K22	33.92
0.102″	—	—	—	36	89085K23	32.51
0.125″	—	—	—	23	89085K58	30.57
0.162″	—	—	—	14	89085K24	38.27



Wire Dia.	Pkg. Qty.	1-ft. Lengths	Pkg.	Wire Dia.	Pkg. Qty.	1-ft. Lengths	Pkg.	Wire Dia.	Pkg. Qty.	1-ft. Lengths	Pkg.
0.010″	100	8908K86	$11.67	0.025″	50	89085K82	$7.50	0.051″	25	89085K84	$6.94
0.015″	100	8908K87	12.25	0.026″	50	8908K26	6.53	0.063″	25	89085K85	6.91
0.020″	100	8908K21	12.81	0.029″	50	8908K28	7.40	0.080″	25	89085K86	7.10
0.022″	100	8908K22	12.12	0.040″	25	89085K83	8.16	0.102″	25	89085K87	8.93
0.024″	100	8908K24	12.39								

Spring-Back 304 Stainless Steel—Coated with PTFE



- Spring-back wire (spring temper)
- Meets ASTM A313
- Tensile Strength: Not rated

The PTFE coating makes the surface slippery. Wire diameter includes the coating; diameter tolerance is ±0.0005″. Length has a plus tolerance. Maximum temperature is 500° F.

Wire Dia.	68″ Lengths		Wire Dia.	68″ Lengths		Wire Dia.	68″ Lengths		Wire Dia.	68″ Lengths		Wire Dia.	68″ Lengths	
0.006″	1749T11	$43.41	0.016″	1749T19	$43.41	0.031″	1749T29	$54.00	0.041″	1749T38	$54.00	0.061″	1749T52	$67.38
0.007″	1749T12	43.41	0.018″	1749T21	43.41	0.032″	1749T31	54.00	0.045″	1749T41	67.38	0.065″	1749T54	67.38
0.008″	1749T13	43.41	0.020″	1749T23	43.41	0.033″	1749T32	54.00	0.051″	1749T44	67.38	0.072″	1749T58	76.19
0.009″	1749T14	43.41	0.024″	1749T24	43.41	0.035″	1749T34	54.00	0.053″	1749T46	67.38	0.074″	1749T59	76.19
0.010″	1749T15	43.41	0.026″	1749T26	54.00	0.037″	1749T35	54.00	0.055″	1749T47	67.38	0.080″	1749T63	76.19
0.014″	1749T17	43.41	0.028″	1749T27	54.00	0.039″	1749T36	54.00	0.057″	1749T48	67.38	0.082″	1749T64	76.19
0.015″	1749T18	43.41	0.029″	1749T28	54.00	0.040″	1749T37	54.00	0.060″	1749T51	67.38			

Bend-and-Stay 316L Stainless Steel



- Bend-and-stay wire (soft temper)
- Meets ASTM A555 and A580
- Tensile Strength: 75,000 psi

Choose this 316L stainless steel wire over 302/304 stainless steel for superior corrosion resistance. Diameter tolerance is ±0.001″. Maximum temperature is 400° F. Wire diameters 0.015″ to 0.064″ have a bright finish; 0.080″ to 0.125″ have a matte finish.

Wire Dia.	¼-lb. Coils Ft./Coil			1-lb. Coils Ft./Coil		
0.015″	410	92705K11	$17.89	1,655	92705K18	$57.91
0.020″	230	92705K12	20.45	930	92705K19	53.64
0.032″	91	92705K14	15.99	360	92705K22	48.60
0.036″	71	92705K31	15.93	285	92705K33	48.26
0.040″	58	92705K15	15.91	230	92705K23	47.90
0.051″	35	92705K16	15.85	140	92705K24	47.50
0.064″	22	92705K17	18.01	91	92705K25	46.52
0.080″	—	—	—	58	92705K26	45.68
0.102″	—	—	—	36	92705K27	44.97
0.125″	—	—	—	23	92705K28	42.50

Spring-Back 316 Stainless Steel



- Spring-back wire (spring temper)
- Meets ASTM A313 and A555
- Tensile Strength: 222,000 psi

316 stainless steel is more corrosion resistant than 302/304 stainless steel. Diameter tolerance is ±0.001″. Maximum temperature is 570° F. Wire diameters 0.015″ to 0.032″ may have either a matte or bright finish; 0.040″ to 0.125″ have a matte finish.

Wire Dia.	¼-lb. Coils Ft./Coil			1-lb. Coils Ft./Coil		
0.015″	410	89045K31	$16.39	1,655	89045K12	$50.94
0.020″	230	89045K32	15.68	930	89045K38	45.89
0.032″	91	89045K34	14.42	360	89045K18	44.77
0.040″	58	89045K35	14.34	230	89045K42	44.62
0.051″	35	89045K36	14.25	140	89045K43	42.29
0.064″	22	89045K37	14.09	91	89045K44	41.87
0.080″	—	—	—	58	89045K45	41.51
0.102″	—	—	—	36	89045K46	40.58
0.125″	—	—	—	23	89045K28	40.20

Bend-and-Stay 410 Stainless Steel—Matte Finish



- Bend-and-stay wire (soft temper)
- Meets ASTM A580
- Tensile Strength: 70,000 psi

410 stainless steel is magnetic. Diameter tolerance is ±0.001″. Maximum temperature is 300° F.

Wire Dia.	¼-lb. Spools Ft./Spool			1-lb. Coils Ft./Coil		
0.032″	91	6504K41	$7.05	360	6504K11	$23.20
0.040″	58	6504K42	6.92	230	6504K12	22.61
0.051″	35	6504K43	6.34	140	6504K13	22.05
0.064″	22	6504K44	8.24	91	6504K14	20.19
0.080″	—	—	—	58	6504K15	19.98
0.105″	—	—	—	34	6504K16	19.39
0.128″	—	—	—	22	6504K17	19.18

Bend-and-Stay 430 Stainless Steel—Matte Finish



- Bend-and-stay wire (soft temper)
- Meets ASTM A580
- Tensile Strength: 70,000 psi

In addition to being magnetic like 410 stainless steel, this 430 stainless steel contains more chromium for better corrosion resistance. Diameter tolerance is ±0.001″. Maximum temperature is 300° F.

Wire Dia.	¼-lb. Spools Ft./Spool			1-lb. Coils Ft./Coil		
0.032″	91	89065K61	$9.18	360	89065K21	$20.72
0.040″	58	89065K62	9.67	230	89065K22	22.97
0.051″	35	89065K63	9.50	140	89065K23	22.35
0.064″	22	89065K64	8.73	91	89065K24	19.00
0.080″	—	—	—	58	89065K17	18.29
0.105″	—	—	—	34	89065K25	18.10
0.125″	—	—	—	23	89065K19	19.27

Temperature ratings are not guaranteed and are intended only as a basis for comparison.

Aluminum & Steel Wire

For information about wire, see page 3827.

For a wire gauge conversion chart, go to mcmaster.com and search for **9896KAC**.

Lightweight Aluminum Wire



Spool

- Bend-and-stay wire (soft temper)
- Meets ASTM B211
- Tensile Strength: 11,000 psi

With 99% aluminum content, this 1100 aluminum wire is lightweight with fair corrosion resistance and good electrical conductivity. Diameter tolerance for 0.013″ to 0.032″ dia. wire is ±0.0005″; for 0.040″ to 0.126″ dia. wire it is ±0.002″. Maximum temperature is 200° F. Finish is matte.

Wire Dia.	¼-lb. Spools Ft./Spool		Each	1-lb. Spools Ft./Spool		Each	5-lb. Spools Ft./Spool		Each	1-ft. Lengths Pkg. Qty.		Pkg.
0.013″	1,735	8904K39	$15.86	6,940	8904K76	$44.40	34,700	8904K45	$151.03	25	8904K87	$6.46
0.016″	1,085	8904K37	12.14	4,355	8904K77	27.62	21,790	8904K46	119.05	25	8904K88	7.09
0.020″	680	8904K35	10.69	2,725	8904K78	23.84	13,635	8904K47	102.74	25	8904K89	9.17
0.025″	430	8904K33	10.45	1,720	8904K79	23.09	8,605	8904K48	99.54	25	8904K91	11.90
0.032″	265	8904K31	10.32	1,075	8904K81	23.01	5,380	8904K49	99.19	25	8904K92	14.24
0.040″	165	8904K71	10.08	675	8904K82	22.50	3,390	8904K51	96.97	10	8904K93	7.28
0.051″	105	8904K72	10.00	425	8904K83	22.32	2,130	8904K52	96.20	10	8904K94	7.70
0.064″	67	8904K73	9.99	265	8904K84	22.28	1,340	8904K53	96.02	10	8904K95	7.94
0.081″	42	8904K74	10.20	165	8904K85	20.81	840	8904K54	78.59	10	8904K96	8.34
0.114″	21	8904K41	6.53	84	8904K42	17.95	420	8904K55	81.59	—	—	—
0.126″	17	8904K75	9.54	69	8904K86	20.82	330	8904K56	80.31	—	—	—

12-lb. Coil—Please specify 0.080″, 0.114″, or 0.125″ dia. wire ... 8866K887

Steel Wire

An economical alternative to stainless steel, steel offers similar strength without the inherent corrosion-resistant properties. Use steel wire for bundling and as tag wire.

1006-1008 Carbon Steel—Zinc Galvanized



Spool

- Bend-and-stay wire (soft temper)
- Meets ASTM A641
- Tensile Strength: 70,000 psi

Galvanizing provides better corrosion resistance than the matte and oil finishes on steel. Diameter tolerance is ±0.003″. Maximum temperature is 300° F.

Wire Dia.	¼-lb. Spools Ft./Spool		Each	1-lb. Spools Ft./Spool		Each	5-lb. Spools Ft./Spool		Each	10-lb. Coils Ft./Coil		Each	1-ft. Lengths Pkg. of 50	
0.014″	475	8872K19	$6.36	1,910	8872K39	$15.15	9,565	8872K59	$48.62	19,130	8872K21■	$82.84	8872K72	$7.41
0.016″	355	8872K18	6.03	1,425	8872K38	14.40	7,145	8872K58	45.99	14,290	8872K22■	81.43	8872K73	7.91
0.018″	285	8872K17	5.64	1,140	8872K37	12.87	5,720	8872K57	40.90	11,440	8872K23■	72.24	8872K74	8.15
0.023″	175	8872K16	4.86	705	8872K36	12.03	3,540	8872K56	38.15	7,085	8872K24■	67.49	—	—
0.029″	110	8872K15	4.62	455	8872K35	11.08	2,290	8872K55	35.23	4,580	8872K25■	65.21	—	—
0.035″	77	8872K14	4.56	305	8872K34	11.39	1,545	8872K54	32.80	3,095	8872K26■	61.53	8872K75	12.17
0.041″	55	8872K13	4.36	220	8872K33	11.12	1,115	8872K53	32.72	2,230	8872K27	59.74	8872K76	12.73
0.048″	41	8872K12	4.22	165	8872K32	11.29	830	8872K52	32.58	1,660	8872K28	58.09	8872K77	12.97
0.063″	23	8872K11	4.01	95	8872K31	10.94	475	8872K51	32.47	955	8872K41	57.28	8872K78	14.18
0.080″	14	8872K29	3.71	58	8872K49	10.58	290	8872K69	29.89	585	8872K42	53.39	—	—
0.106″	—	—	—	33	8872K61 ♣	6.23	165	8872K62 ♣	26.23	335	8872K63	44.15	—	—
0.135″	—	—	—	20	8872K64 ♣	6.58	100	8872K65 ♣	26.30	205	8872K66	41.30	—	—

■ Material comes on a spool. ♣ Material comes coiled.

1006-1008 Carbon Steel—Matte Finish



Coil

- Bend-and-stay wire (soft temper)
- Meets ASTM A853
- Tensile Strength: 70,000 psi max.

Also known as black-annealed wire, this wire ranges in color from dark gray to brown. It is typically used for bailing. Diameter tolerance is ±0.003″. Maximum temperature is 300° F.

Wire Dia.	¼-lb. Spools Ft./Spool		Each	1-lb. Spools Ft./Spool		Each	5-lb. Spools Ft./Spool		Each	10-lb. Coils Ft./Coil		Each	1-ft. Lengths Pkg. of 10	
0.014″	475	8870K19	$3.87	1,910	8870K39	$9.97	9,565	8870K59	$36.39	19,130	8870K21■	$58.70	—	—
0.016″	355	8870K18	3.51	1,425	8870K38	9.04	7,145	8870K58	32.96	14,290	8870K22■	53.16	—	—
0.018″	285	8870K17	3.37	1,140	8870K37	8.68	5,720	8870K57	31.61	11,440	8870K23■	51.00	—	—
0.023″	175	8870K16	3.25	705	8870K36	8.40	3,540	8870K56	30.62	7,085	8870K24■	49.39	—	—
0.029″	110	8870K15	3.02	455	8870K35	7.79	2,290	8870K55	28.40	4,580	8870K25■	45.81	—	—
0.035″	77	8870K14	2.70	305	8870K34	6.94	1,545	8870K54	25.33	3,095	8870K26■	40.86	—	—
0.041″	55	8870K13	2.51	220	8870K33	6.46	1,115	8870K53	23.56	2,230	8870K27	38.01	—	—
0.048″	41	8870K12	2.43	165	8870K32	6.23	830	8870K52	22.74	1,660	8870K28	36.69	—	—
0.063″	23	8870K11	2.39	95	8870K31	6.12	475	8870K51	22.36	955	8870K41	36.06	8870K81	$4.38
0.080″	14	8870K29	2.31	58	8870K49	5.97	290	8870K69	21.75	585	8870K42	35.09	8870K82	6.89
0.106″	—	—	—	33	8870K61 ♣	5.78	165	8870K62 ♣	22.62	335	8870K63	37.70	8870K83	10.01
0.135″	—	—	—	20	8870K64 ♣	6.04	100	8870K65 ♣	23.65	205	8870K66	39.41	8870K84	13.79
0.148″	—	—	—	17	8870K71 ♣	5.99	85	8870K72 ♣	23.44	170	8870K73	39.06	8870K85	14.51

100-lb. Coil—Please specify 0.063″, 0.080″, 0.106″, 0.135″, or 0.148″ dia. wire ... 8855K887

■ Material comes on a spool. ♣ Material comes coiled.

1065 Carbon Steel—Oil-Coated Matte Finish



- Spring-back wire (spring temper)
- Meets ASTM A229
- Tensile Strength: 165,000 psi

This wire is lubricated for corrosion resistance. It meets MIL-W-21425B Type 1. Diameter tolerance is ±0.002″. Length has a plus tolerance. Maximum temperature is 250° F. Color is black.

Wire Dia.	Pkg. Qty.	3-ft. Lengths	Pkg.	Wire Dia.	Pkg. Qty.	3-ft. Lengths	Pkg.	Wire Dia.	Pkg. Qty.	3-ft. Lengths	Pkg.
0.063″	6	9667K51	$12.18	0.120″	3	9667K54	$11.76	0.162″	3	9667K57	$11.76
0.092″	6	9667K52	12.18	0.125″	3	9667K55	11.76	0.177″	3	9667K58	11.76
0.105″	6	9667K53	12.18	0.148″	3	9667K56	11.76	0.187″	3	9667K59	11.76

(Material continued on following page)

Temperature ratings are not guaranteed and are intended only as a basis for comparison.

For a wire gauge conversion chart, go to mcmaster.com and search for **9896KAC**.

Steel Wire *(Material continued from previous page)*

1065 Carbon Steel—Oil-Coated Matte Finish (Cont.)



- Spring-back wire (spring temper)
- Meets ASTM A229
- Tensile Strength: 243,000 psi

This 72-piece assortment includes 18 each of 0.062″ diameter wire; 12 each of 0.072″, 0.080″, 0.091″, and 0.105″; and 6 each of 0.120″. Each piece is 18″ long; length tolerance is ±1/16″.

8919K27 ..... $38.89

1008 Carbon Steel—PVC Coated



- Bend-and-stay wire (soft temper)
- Meets ASTM A853
- Tensile Strength: 45,000 psi

Use this wire outdoors—a black PVC coating protects it from corrosion. The coating is approximately 0.007″ thick. Meets Fed. Spec. QQ-W-461. Maximum temperature is 385° F.

Wire Dia.	Ft./Coil	3-lb. Coils	
0.063″	285	8867K25	$12.40

1080 Carbon Steel—Phosphate-Coated Matte Finish


Coil

- Spring-back wire (spring temper)
- Meets ASTM A228
- Tensile Strength: 261,000 psi

Also known as music wire, this strong steel wire is coated for corrosion resistance and lubricity. Diameter tolerance for 0.006″ to 0.080″ dia. wire is ±0.0005″; for 0.091″ to 0.187″ dia. wire it is ±0.001″. Maximum temperature is 300° F.

Wire Dia.	¼-lb. Coils Ft./Coil		Each	1-lb. Coils Ft./Coil		Each	5-lb. Coils Ft./Coil		Each	1-ft. Lengths Pkg. Qty.		Pkg.
0.006″	2,585	9666K141	$19.17	—	—	—	—	—	—	100	8907K88	$10.67
0.008″	1,450	9666K142	16.60	—	—	—	—	—	—	100	8907K89	9.44
0.009″	1,155	9666K11	13.94	4,625	9666K72	$46.82	23,145	9666K511	$173.41	100	8907K91	9.28
0.010″	935	9666K12	12.89	3,745	9666K73	42.91	18,745	9666K512	161.07	100	8907K92	9.24
0.011″	730	9666K13	9.89	2,935	9666K74	37.15	14,680	9666K513	159.84	100	8907K93	9.10
0.012″	650	9666K14	10.18	2,600	9666K75	33.97	13,020	9666K514	127.26	100	8907K94	8.86
0.013″	550	9666K15	9.39	2,215	9666K76	31.35	11,090	9666K515	117.42	100	8907K95	8.63
0.014″	475	9666K16	8.29	1,910	9666K77	27.65	9,565	9666K516	103.62	100	8907K96	8.51
0.016″	365	9666K17	6.87	1,465	9666K78	22.94	7,325	9666K517	85.92	100	8907K97	8.40
0.018″	285	9666K18	6.22	1,155	9666K79	20.73	5,785	9666K518	77.64	100	8907K98	8.40
0.020″	230	9666K19	5.47	935	9666K81	18.26	4,685	9666K519	68.40	100	8907K21	3.53
0.022″	190	9666K21	4.78	775	9666K82	15.95	3,875	9666K521	59.67	100	8907K22	4.90
0.024″	160	9666K22	4.27	650	9666K83	14.30	3,255	9666K522	53.46	100	8907K24	4.65
0.026″	140	9666K54	3.94	560	9666K23	10.87	2,800	9666K84	42.96	100	8907K26	5.67
0.029″	140	9666K55	3.80	445	9666K24	10.10	2,235	9666K85	39.84	100	8907K28	6.12
0.031″	110	9666K56	3.77	390	9666K25	9.61	1,955	9666K86	37.77	100	8907K32	6.48
0.033″	86	9666K57	3.69	340	9666K26	9.04	1,720	9666K87	36.51	100	8907K34	6.97
0.035″	76	9666K58	3.62	305	9666K27	8.74	1,525	9666K88	34.50	100	8907K36	8.37
0.037″	68	9666K59	3.52	270	9666K28	8.48	1,370	9666K89	33.45	100	8907K38	9.03
0.039″	61	9666K61	3.45	245	9666K29	8.27	1,235	9666K91	33.15	100	8907K42	10.01
0.041″	55	9666K62	3.41	220	9666K31	7.37	1,115	9666K92	28.92	100	8907K44	10.75
0.043″	50	9666K63	3.41	200	9666K32	7.22	1,015	9666K93	28.59	100	8907K46	11.41
0.045″	46	9666K64	3.35	185	9666K33	6.99	925	9666K94	27.45	100	8907K48	11.62
0.047″	42	9666K65	3.31	170	9666K34	6.99	850	9666K95	27.45	100	8907K52	12.56
0.049″	39	9666K66	3.20	155	9666K35	6.99	780	9666K96	27.45	100	8907K54	12.98
0.051″	36	9666K67	3.07	140	9666K36	6.71	720	9666K97	26.55	100	8907K56	12.81
0.055″	31	9666K68	3.07	120	9666K37	6.50	620	9666K98	26.47	100	8907K58	11.82
0.059″	27	9666K69	3.07	105	9666K38	6.49	540	9666K99	27.72	100	8907K62	11.79
0.063″	22	9666K71	3.00	94	9666K39	6.45	470	9666K101	25.23	100	8907K64	14.46
0.067″	—	—	—	83	9666K41	6.46	415	9666K102	25.15	—	—	—
0.071″	—	—	—	74	9666K42	6.45	370	9666K103	23.91	—	—	—
0.075″	—	—	—	68	9666K43	6.46	340	9666K104	25.08	—	—	—
0.080″	—	—	—	58	9666K44	6.07	290	9666K105	23.94	—	—	—
0.091″	—	—	—	46	9666K46	6.08	230	9666K107	23.97	—	—	—
0.094″	—	—	—	43	9666K47	6.08	215	9666K108	23.97	—	—	—
0.102″	—	—	—	36	9666K48	6.08	180	9666K109	23.97	—	—	—
0.105″	—	—	—	34	9666K123	5.83	170	9666K124	24.30	25	8907K12	9.51
0.110″	—	—	—	32	9666K51	6.08	160	9666K112	23.97	—	—	—
0.120″	—	—	—	26	9666K125	5.94	130	9666K126	24.74	25	8907K13	14.16
0.125″	—	—	—	24	9666K53	5.95	120	9666K114	23.46	25	8907K14	13.74
0.148″	—	—	—	17	9666K127	6.24	85	9666K128	25.99	5	8907K15	14.91
0.187″	—	—	—	10	9666K129	6.24	50	9666K131	25.99	5	8907K18	14.83

Easy-to-Form Brass Wire



- Bend-and-stay wire (soft temper)
- Meets ASTM B134
- Tensile Strength: 50,000 psi

Made from the most formable brass alloy, this 260 brass wire offers good strength, corrosion resistance, and electrical conductivity. Diameter tolerance is ±0.0008″. Maximum temperature is 400° F. Wire has a bright finish.

Wire Dia.	¼-lb. Spools Ft./Spool			1-lb. Spools Ft./Spool		
0.020″	210	8864K81	$9.17	850	8864K71	$27.22
0.025″	130	8864K82	8.65	535	8864K72	25.67
0.032″	83	8864K83	8.24	335	8864K73	24.44
0.040″	52	8864K84	$7.94	210	8864K74	$23.57
0.051″	32	8864K85	7.73	130	8864K75	22.95
0.064″	20	8864K86	7.41	83	8864K76	21.98

High-Strength Bronze Wire



- Spring-back wire (spring temper)
- Meets ASTM B159
- Tensile Strength: 130,000 psi

Offering higher tensile strength than brass wire, this 510 bronze wire has good corrosion and fatigue resistance. Diameter tolerance is ±0.001″. Maximum temperature is 250° F. Wire has a bright finish. The 0.025″ and 0.032″ dia. wire comes in a ¼-lb. coil; the 0.051″ to 0.081″ dia. wire comes in a 1-lb. coil.

Choose a Wire Diameter

0.025″, 0.032″, 0.051″, 0.064″, 0.081″ **9668K91**

Temperature ratings are not guaranteed and are intended only as a basis for comparison.

Copper, Tungsten, Titanium & Nitinol Wire

For information about wire, see page 3827.

For a wire gauge conversion chart, go to mcmaster.com and search for **9896KAC**.

Conductive Copper Wire



- Bend-and-stay wire (soft temper)
- Meets ASTM B3
- Tensile Strength: 29,000 psi

Offering excellent electrical conductivity and good corrosion resistance, this wire is 99.9% pure copper. It's often used as grounding wire and in marine environments. Diameter tolerance for 0.003″ to 0.013″ dia. wire is ±0.0001″; for 0.016″ to 0.040″ dia. wire it is ±0.0004″; for 0.051″ and 0.064″ dia. wire it is ±0.0006″.

Tin-coated copper wire provides a higher level of corrosion resistance and is easier to solder than uncoated copper wire.

Wire Dia.	¼-lb. Spools Ft./Spool			1-lb. Spools Ft./Spool			5-lb. Spools Ft./Spool			15-lb. Spools Ft./Spool		
Bright Finish												
0.003″	6,000	8873K39	$9.89									
0.005″	3,200	8873K36	7.96									
0.008″	1,965	8873K32	7.16									
0.010″	785	8873K28	7.06									
0.012″	495	8873K26	7.44	1,990	8873K66	$26.15	9,950	8873K91	$110.22	29,850	8873K86	$275.56
0.016″	315	8873K24	7.32	1,260	8873K64	26.12	6,300	8873K92	105.77	18,900	8873K84	271.21
0.020″	195	8873K22	6.87	790	8873K62	24.05	3,965	8873K93	101.79	11,895	8873K82	254.48
0.025″	125	8873K19	6.60	500	8873K59	23.34	2,505	8873K94	97.74	7,515	8873K79	244.36
0.032″	78	8873K17	6.60	315	8873K57	23.23	1,575	8873K95	95.27	4,725	8873K77	244.28
0.040″	49	8873K15	6.60	195	8873K55	23.11	995	8873K96	97.71	2,985	8873K75	244.28
0.051″	31	8873K13	6.59	125	8873K53	23.10	630	8873K97	97.58	1,890	8873K73	243.95
0.064″	20	8873K11	6.57	80	8873K51	23.04	400	8873K98	97.40	1,200	8873K71	243.50
Tin Coated												
0.005″	3,200	8871K56	11.34									
0.010″	785	8871K48	7.04									
0.013″	495	8871K46	6.69	1,990	8871K86	25.10	9,950	8871K11	111.54	29,850	8871K96	278.84
0.016″	315	8871K44	6.31	1,260	8871K84	23.67	6,300	8871K12	105.19	18,900	8871K94	262.97
0.020″	195	8871K42	6.21	790	8871K82	23.28	3,965	8871K13	103.49	11,895	8871K92	258.72
0.025″	125	8871K39	6.12	500	8871K79	22.97	2,505	8871K14	102.07	7,515	8871K99	255.17
0.032″	78	8871K37	6.19	315	8871K77	23.23	1,575	8871K15	103.24	4,725	8871K97	258.09
0.040″	49	8871K35	6.17	195	8871K75	23.15	995	8871K16	102.89	2,985	8871K95	257.22
0.051″	31	8871K33	6.15	125	8871K73	23.07	630	8871K17	102.54	1,890	8871K93	256.36
0.064″	20	8871K31	6.13	80	8871K71	22.99	400	8871K18	102.17	1,200	8871K91	255.42

High-Temperature Conductive Nickel-Clad Copper Wire



- Bend-and-stay wire (soft temper)
- Meets ASTM B355
- Tensile Strength: 80,000 psi

Nickel is bonded to copper wire, which provides excellent corrosion resistance at temperatures up to 1200° F while maintaining high electrical conductivity. The nickel cladding accounts for 27% of the diameter. Wire has a bright finish.

Wire Dia.	Dia. Tolerance	¼-lb. Spools Ft./Spool		1-lb. Spools Ft./Spool	
0.020″	±0.0003″	1051N11	250	$87.27	1,000	$272.73
0.025″	±0.0003″	1051N12	130	87.27	520	272.73
0.032″	±0.0003″	1051N13	80	87.27	320	272.73
0.040″	±0.0003″	1051N14	50	62.75	200	196.08
0.051″	±0.0005″	1051N15	30	$62.75	120	$196.08
0.064″	±0.0005″	1051N16	20	62.75	80	196.08
0.080″	±0.0005″	1051N17	12	56.89	50	177.78
0.125″	±0.001″	1051N18	6	56.89	25	177.78

Ultra-High-Temperature Tungsten Wire



- Spring-back wire (spring temper)
- Meets ASTM F288
- Tensile Strength: Not rated

Able to withstand temperatures up to 5000° F, tungsten wire is often used in electrical and heating applications. Diameter tolerance is ±1.5%. Wire has a matte finish.

Wire Dia.	1/16-lb. Spools Ft./Spool			1/8-lb. Spools Ft./Spool		
0.002″	2,390	3775K36	$140.53	4,780	3775K11	$175.30
0.005″	380	3775K37	106.03	765	3775K14	156.09
0.010″	95	3775K38	71.95	190	3775K17	102.16
0.016″	37	3775K39	73.16	74	3775K21	107.72
0.020″	23	3775K41	$66.55	47	3775K24	$94.44
0.025″	15	3775K42	65.71	30	3775K27	93.97
0.032″	9	3775K43	64.49	18	3775K31	95.07
0.051″	3	3775K44	57.91	7	3775K34	81.31

Ultra-Corrosion-Resistant Titanium Wire



- Bend-and-stay wire (soft temper)
- Meets ASTM B863
- Tensile Strength: 50,000 psi

Because this Grade 2 titanium wire is 99% pure, it has excellent corrosion resistance along with a good strength-to-weight ratio. Diameter tolerance is ±0.003″. Maximum temperature is 500° F. Wire has a matte finish.

Wire Dia.	1/8-lb. Coils Ft./Coil			1/4-lb. Coils Ft./Coil		
0.025″	130	90455K31	$71.68	260	90455K49	$120.07
0.031″	84	90455K32	55.70	165	90455K51	95.66
0.046″	38	90455K33	47.53	76	90455K52	77.91
0.051″	31	90455K34	$45.92	62	90455K53	$76.41
0.080″	12	90455K36	38.69	25	90455K55	66.94
0.125″	6	90455K37	37.83	12	90455K56	66.31

Shape-Memory Nitinol Wire



- Bend-and-stay wire (soft temper)
- Meets ASTM F2063
- Tensile Strength: 157,500 psi

Bend this nickel-titanium wire and it will hold its shape until you heat it. Diameter tolerance is ±0.0003″. Maximum temperature is 250° F. Wire has a black-oxide finish.

Wire Dia.	Ft./Coil			Wire Dia.	Ft./Coil			Wire Dia.	Ft./Coil			Wire Dia.	Ft./Coil		
0.005″	30	1053N1	$35.71	0.010″	30	1053N2	$42.86	0.020″	30	1053N3	$49.74	0.030″	30	1053N4	$57.14

Temperature ratings are not guaranteed and are intended only as a basis for comparison.

ⓘ For a wire gauge conversion chart, go to mcmaster.com and search for **9896KAC**.

Super-Elastic Nitinol Wire



- Spring-back wire
- Tensile Strength: 181,000 psi

This soft-temper wire bounces back to its original shape after bending, stretching, and twisting. Made of nickel-titanium, it's used to make eyeglass frames and antennas. Diameter tolerance for 0.003″ to 0.030″ dia. wire is ±0.0004″; for 0.040″ to 0.060″ dia. wire it is ±0.0005″. This wire has a black-oxide finish.

Wire Dia.	Ft./Coil			Wire Dia.	Ft./Coil			Wire Dia.	Ft./Coil			Wire Dia.	Ft./Coil		
0.003″	30	8320K31	$33.33	0.008″	30	8320K13	$41.43	0.012″	30	8320K16	$51.84	0.020″	30	8320K33	$45.16
0.004″	30	8320K11	37.26	0.010″	30	8320K14	43.47	0.014″	30	8320K18	58.89	0.025″	30	8320K34	48.39
0.006″	30	8320K12	39.21	0.011″	30	8320K15	46.86	0.015″	30	8320K19	66.45	0.030″	30	8320K35	51.61



Wire Dia.	Pkg. Qty.	2-ft. Lengths	Pkg.	Wire Dia.	Pkg. Qty.	2-ft. Lengths	Pkg.	Wire Dia.	Pkg. Qty.	2-ft. Lengths	Pkg.
0.020″	5	8320K36	$58.71	0.030″	5	8320K38	$68.71	0.050″	5	8320K41	$80.00
0.025″	5	8320K37	63.71	0.040″	5	8320K39	74.86	0.060″	5	8320K42	93.00

High-Temperature Nickel Wire

Nickel wire withstands high temperatures and has excellent corrosion resistance in harsh environments.

400 Nickel—Matte Finish



- Bend-and-stay wire (soft temper)
- Meets ASTM B164
- Tensile Strength: 70,000 psi

Comparable to Monel, this 400 nickel wire is frequently used as safety lock wire. Diameter tolerance for 0.010″ to 0.025″ dia. wire is ±0.0005″; for 0.032″ to 0.125″ dia. wire it is ±0.001″. Maximum temperature is 700° F.

Wire Dia.	¼-lb. Spools Ft./Spool			1-lb. Spools Ft./Spool		
0.010″	830	8905K43	$31.55	3,720	8905K51	$90.14
0.016″	320	8905K37	22.72	1,295	8905K53	85.14
0.020″	205	8905K35	22.26	830	8905K54	80.44
0.025″	130	8905K33	21.81	530	8905K55	80.08
0.032″	81	8905K31	21.66	325	8905K56	79.53
0.051″	—	—	—	125	8905K57	78.81
0.125″	—	—	—	21	8905K58	83.60

600 Nickel—Matte Finish



Can

- Bend-and-stay wire (soft temper)
- Meets ASTM B166
- Tensile Strength: 80,000 psi

Able to withstand temperatures up to 1000° F, this 600 nickel wire is often used as safety lock wire in high-temperature applications. It is comparable to Inconel. Diameter tolerance is ±0.002″.

Wire Dia.	¼-lb. Spools Ft./Spool			1-lb. Cans Ft./Can		
0.020″	215	90345K11	$27.13	870	90345K31	$66.68
0.032″	85	90345K19	24.69	340	90345K39	64.85
0.041″	51	90345K22	21.53	205	90345K42	65.15

Nickel Chromium—Bright Finish



- Bend-and-stay wire
- Meets ASTM B267 and B344
- Tensile Strength: 100,000 psi

This nickel chromium wire, often called Chromel C, is the wire of choice for heating elements, resistance windings, and hot wire cutters. Due to its nickel content, this hard-drawn wire acts like a soft bend-and-stay wire. Diameter tolerance is ±5%. Maximum temperature is 1800° F.

Wire Dia.	⅛-lb. Spools Ft./Spool			¼-lb. Spools Ft./Spool			1-lb. Spools Ft./Spool		
0.003″	4,630	8880K87	$38.68	9,265	8880K39	$73.98	37,060	8880K69	$224.52
0.004″	2,780	8880K86	33.37	5,565	8880K38	61.02	22,260	8880K68	156.57
0.005″	1,780	8880K85	30.47	3,560	8880K36	53.57	14,250	8880K66	126.97
0.006″	1,120	8880K84	25.69	2,240	8880K34	37.01	8,970	8880K64	107.03
0.008″	695	8880K83	24.32	1,390	8880K32	32.09	5,565	8880K62	99.58
0.010″	445	8880K82	18.18	890	8880K27	29.82	3,560	8880K57	93.39
0.013″	280	8880K81	15.77	560	8880K25	23.30	2,240	8880K55	81.97
0.016″	175	8880K79	15.06	350	8880K24	24.31	1,405	8880K54	78.26
0.020″	110	8880K78	14.56	220	8880K22	24.39	890	8880K52	75.66
0.025″	69	8880K77	14.13	135	8880K19	26.49	555	8880K49	73.42
0.032″	43	8880K76	13.86	86	8880K17	24.76	345	8880K47	72.05
0.036″	34	8880K75	13.84	68	8880K16	25.08	270	8880K46	71.92
0.040″	27	8880K74	13.66	55	8880K15	21.37	220	8880K45	71.00
0.045″	21	8880K73	14.23	43	8880K14	24.60	175	8880K44	73.95
0.051″	17	8880K72	12.65	34	8880K13	21.88	135	8880K43	65.76
0.064″	10	8880K71	12.30	21	8880K11	21.28	86	8880K41	63.95

Decorative Metal Sheets with Patterned Openings

Commonly used in decorative and architectural applications, you can cut, form, and weld these punched-metal sheets into guards and grilles. Sheets have an unpolished finish. Width and length tolerances are ±⅛″.

Pattern	Thick.	Ga.	Open Area	3′ x 3′ 4″ Sheets		3′ x 5′ Sheets	
General Purpose Carbon Steel							
Square (½″ x ½″)	0.038″	20	53%	9344T21	$60.97	9344T31	$81.67
Square (½″ x ½″)	0.063″	16	53%	9344T23	74.34	9344T11	98.88
Square (¾″ x ¾″)	0.063″	16	56%	9344T25	80.33	9344T32	106.00
Diamond (¼″ x ½″)	0.038″	20	64%	9344T26	79.65	9344T34	104.75
Cane	0.031″	22	44%	9344T27	72.34	9344T35	98.12
Interweave	0.025″	24	53%	9344T28	54.64	9344T39	71.29
Lightweight Formable 3003 Aluminum							
Diamond (¼″ x ½″)	0.032″	20	64%	9344T51	77.69	9344T61	100.88
Cane	0.032″	20	44%	9344T52	80.46	9344T62	105.00
Interweave	0.032″	20	53%	9344T53	62.02	9344T66	80.00
Oval (¾″ x ¼″)	0.032″	20	66%	9344T55	62.59	9344T64	80.79

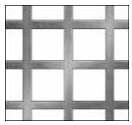

Square

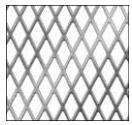

Diamond

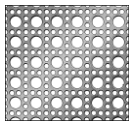

Cane

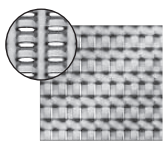

Interweave

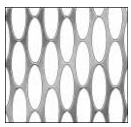

Oval

Temperature ratings are not guaranteed and are intended only as a basis for comparison.

Metal Sheets with Diamond-Shape Openings

Commonly called expanded metal, these rigid sheets are lightweight and allow light and air to pass through.

Raised-Mesh Sheets

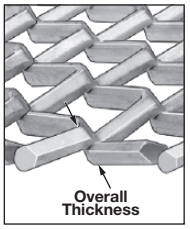

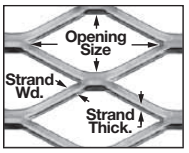

The strands overlap to provide a skid-resistant surface. These sheets are excellent for use as safety guards for equipment and machinery. They can be formed and welded; however, the raised design makes them difficult to cut.

O'all Thick.	Opening Size	Strand Size Wd.	Strand Size Thick.		12″×12″	24″×24″	48″×48″	48″×96″
General Purpose 1008 Carbon Steel								
0.040″	0.07″×0.20″	0.030″	0.020″	9302T612	$20.17	$59.31	____	____
0.065″	0.10″×0.26″	0.050″	0.025″	9302T613	23.65	69.57	____	____
0.125″	0.17″×0.72″	0.073″	0.036″	9302T615	16.51	37.19	$69.25	$117.90
0.125″	0.17″×0.72″	0.073″	0.048″	9302T616	19.02	40.07	74.84	135.87
0.155″	0.44″×0.94″	0.088″	0.048″	9302T617	12.34	29.32	56.25	88.11
0.157″	0.38″×0.94″	0.086″	0.060″	9302T618	12.98	30.12	57.33	92.73
0.182″	0.31″×0.94″	0.096″	0.092″	9302T619	14.41	32.25	63.77	102.96
0.182″	1.00″×2.06″	0.096″	0.060″	9302T621	10.14	24.29	42.83	72.40
0.186″	0.81″×1.75″	0.099″	0.060″	9302T622	10.37	25.60	47.27	74.04
0.211″	1.25″×2.63″	0.107″	0.060″	9302T623	9.74	23.55	41.47	69.60
0.282″	0.75″×1.63″	0.144″	0.092″	9302T624	13.34	29.38	53.50	95.29
0.295″	1.13″×2.38″	0.142″	0.135″	9302T625	13.50	30.12	58.19	96.44
0.300″	0.69″×1.56″	0.148″	0.134″	9302T626	15.92	33.41	67.28	113.73
0.325″	1.56″×3.38″	0.149″	0.134″	9302T627	12.74	29.22	57.55	90.98
Corrosion-Resistant 304 Stainless Steel								
0.164″	0.44″×0.94″	0.087″	0.050″	9303T91	23.75	56.05	143.94	263.87
0.164″	0.44″×0.94″	0.087″	0.062″	9303T92	26.42	62.48	160.25	293.60
0.200″	0.75″×1.69″	0.108″	0.093″	9303T94	26.34	62.33	159.71	292.62
0.200″	0.81″×1.75″	0.106″	0.062″	9303T93	22.01	50.76	136.93	244.61
0.220″	1.25″×2.75″	0.115″	0.062″	9303T95	17.15	40.25	106.93	190.51
Lightweight 1100 Aluminum								
0.020″	0.03″×0.08″	0.015″	0.010″	9305T911	14.64	43.07	____	____
0.040″	0.07″×0.20″	0.030″	0.020″	9305T921	16.68	49.05	____	____
0.042″	0.14″×0.31″	0.034″	0.032″	9305T931	15.02	44.17	____	____
Lightweight Formable 3003 Aluminum								
0.158″	0.38″×0.94″	0.094″	0.051″	9305T711	16.37	37.45	69.05	116.93
0.186″	0.38″×0.94″	0.096″	0.081″	9305T721	21.62	46.55	94.03	154.45
0.200″	0.81″×1.75″	0.109″	0.051″	9305T731	13.23	29.70	55.07	94.51
0.305″	0.69″×1.69″	0.170″	0.125″	9305T761	30.18	62.13	127.00	215.59

Flattened-Mesh Sheets

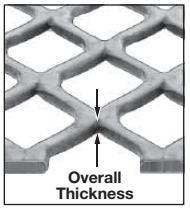

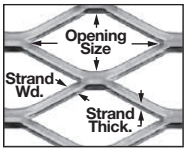

These sheets begin as raised mesh, then they're rolled to a smooth and flat finish. They can be cut, formed, and welded to create protective enclosures, shelving, grilles, and baskets.

O'all Thick.	Opening Size	Strand Size Wd.	Strand Size Thick.		12″×12″	24″×24″	48″×48″	48″×96″
General Purpose 1008 Carbon Steel								
0.015″	0.10″×0.06″	0.016″	0.015″	9302T628	$17.05	$50.16	____	____
0.025″	0.10″×0.25″	0.050″	0.025″	9302T629	23.65	69.57	____	____
0.030″	0.08″×0.72″	0.079″	0.030″	9302T632	16.78	31.99	$74.41	$119.85
0.039″	0.31″×1.00″	0.097″	0.039″	9302T633	12.71	26.89	52.37	90.82
0.040″	0.08″×0.72″	0.080″	0.040″	9302T634	17.94	35.23	85.69	128.15
0.048″	0.75″×1.75″	0.111″	0.048″	9302T635	10.51	22.43	45.15	75.07
0.056″	0.31″×1.00″	0.096″	0.056″	9302T636	13.38	28.62	54.60	95.56
0.061″	0.69″×1.81″	0.119″	0.061″	9302T637	11.02	24.78	49.51	78.71
0.070″	0.31″×1.00″	0.107″	0.070″	9302T639	16.12	35.97	68.21	115.14
0.070″	0.69″×1.78″	0.106″	0.070″	9302T638	11.62	24.78	49.77	83.00
0.070″	0.94″×2.75″	0.116″	0.070″	9302T641	10.31	24.84	51.75	73.67
0.110″	1.00″×2.56″	0.158″	0.110″	9302T642	13.60	31.42	55.11	97.11
0.120″	0.56″×1.69″	0.164″	0.120″	9302T643	15.99	35.77	65.83	114.21
General Purpose Galvanized Carbon Steel								
0.056″	0.31″×1.00″	0.096″	0.056″	1248T91	16.94	31.76	66.59	120.99
0.070″	0.31″×1.00″	0.107″	0.070″	1248T93	19.32	34.56	75.84	138.02
0.120″	0.56″×1.69″	0.164″	0.120″	1248T95	20.42	40.55	84.35	145.88
Corrosion-Resistant 304 Stainless Steel								
0.040″	0.31″×1.00″	0.091″	0.040″	9303T96	24.09	56.88	146.02	267.69
0.048″	1.06″×2.75″	0.119″	0.048″	9303T99	17.28	40.52	107.36	192.02
0.050″	0.31″×1.00″	0.091″	0.050″	9303T97	26.74	63.31	162.18	297.09
0.050″	0.75″×1.81″	0.118″	0.050″	9303T98	21.63	48.64	134.15	240.33
0.070″	0.63″×1.75″	0.120″	0.070″	9303T77	26.57	62.89	161.19	295.27
0.079″	1.00″×2.63″	0.121″	0.079″	9303T78	20.95	49.35	126.82	232.78
0.120″	0.56″×1.69″	0.164″	0.120″	9303T79	46.53	111.11	284.15	517.02
Super-Corrosion-Resistant 316 Stainless Steel								
0.040″	0.31″×1.00″	0.091″	0.040″	1337T91	26.92	50.84	163.15	299.08
0.050″	0.31″×1.00″	0.091″	0.050″	1337T93	31.02	58.59	184.48	344.62
0.070″	0.63″×1.75″	0.120″	0.070″	1337T95	26.44	49.94	164.33	293.77
Lightweight 1100 Aluminum								
0.015″	0.06″×0.10″	0.016″	0.015″	9305T231	15.11	44.43	____	____
0.030″	0.19″×0.81″	0.082″	0.030″	9305T212	15.51	37.05	97.05	129.23
0.032″	0.14″×0.31″	0.034″	0.032″	9305T232	15.02	44.17	____	____
Lightweight Formable 3003 Aluminum								
0.028″	0.09″×0.34″	0.060″	0.028″	9305T211	18.89	43.11	90.79	157.41
0.040″	0.31″×1.00″	0.091″	0.040″	9305T213	17.13	39.02	70.82	122.33
0.040″	0.75″×1.81″	0.122″	0.040″	9305T214	13.61	32.29	55.96	97.21
0.060″	0.31″×1.00″	0.091″	0.060″	9305T215	22.49	50.52	95.35	160.63
0.070″	0.69″×1.75″	0.134″	0.070″	9305T216	18.55	42.78	80.41	132.50
0.095″	1.00″×2.75″	0.181″	0.095″	9305T218	22.52	51.48	93.32	160.89
0.095″	0.63″×1.75″	0.187″	0.095″	9305T217	30.48	68.35	128.74	217.73

For information about durometer hardness, see page 3588.

Round Caps

Flexible Vinyl

Standard—Caps have a durometer of 75A and a maximum temperature of 180° F. Color is black.
High Temperature—Withstand temperatures up to 445° F for 15 minutes. Durometer is 86A. Color is black.
FDA Listed—Caps are made of FDA-listed vinyl and have a durometer of 70A. Maximum temperature is 200° F. Color is white.



Fits OD	½" Inside Height Pkg. Qty.		Pkg.	¾" Inside Height Pkg. Qty.		Pkg.	1" Inside Height Pkg. Qty.		Pkg.	1½" Inside Height Pkg. Qty.		Pkg.
Standard												
1/16"-1/8"	100	9753K11	$3.37	—	—	—	—	—	—	—	—	—
1/8"-3/16"	100	9753K31	3.06	100	9753K32	$3.50	100	9753K33	$3.69	100	9753K34	$4.21
3/16"-1/4"	100	9753K12	3.76	100	9753K13	4.00	100	9753K14	4.21	100	9753K15	4.62
1/4"-5/16"	100	9753K35	3.91	100	9753K36	4.29	100	9753K37	4.45	100	9753K38	4.72
5/16"-3/8"	100	9753K16	4.00	100	9753K17	4.39	100	9753K18	4.64	100	9753K19	5.26
3/8"-7/16"	100	9753K39	4.30	100	9753K41	4.88	100	9753K42	4.91	100	9753K43	5.33
1/2"-9/16"	100	9753K44	4.78	100	9753K45	5.38	100	9753K46	5.58	100	9753K48	7.05
5/8"-11/16"	100	9753K47	5.57	100	9753K49	6.01	100	9753K51	6.58	100	9753K53	7.96
3/4"-13/16"	100	9753K52	6.30	100	9753K54	6.94	100	9753K82	7.65	100	9753K55	9.06
7/8"-15/16"	100	9753K56	7.28	100	9753K57	7.28	100	9753K86	8.87	100	9753K59	10.62
1"-1 1/16"	100	9753K58	8.10	100	9753K61	9.85	100	9753K89	10.42	100	9753K62	11.71
1 1/4"-1 5/16"	50	9753K63	12.42	25	9753K64	8.14	25	9753K65	8.67	25	9753K66	9.49
1 1/2"-1 9/16"	50	9753K68	14.32	25	9753K69	9.47	25	9753K71	9.67	25	9753K72	9.26
1 3/4"-1 13/16"	50	9753K75	12.68	25	9753K76	7.96	25	9753K77	9.07	25	9753K78	9.43
2"-2 1/16"	25	9753K91	9.59	25	9753K92	9.17	25	9753K93	10.27	25	9753K94	10.71
2 1/4"-2 5/16"	25	9753K21	10.61	25	9753K67	13.64	10	9753K87	6.06	10	9753K112	6.97
2 1/2"-2 9/16"	25	9753K22	14.33	25	9753K73	14.59	10	9753K9	7.89	10	9753K113	9.09
2 3/4"-2 13/16"	25	9753K23	14.37	10	9753K74	9.09	10	9753K95	10.30	10	9753K114	10.92
3"-3 1/16"	10	9753K24	8.49	10	9753K79	9.70	10	9753K96	11.22	10	9753K115	12.43
3 1/4"-3 5/16"	10	9753K25	10.61	10	9753K81	11.22	10	9753K97	12.13	10	9753K116	13.34
3 1/2"-3 9/16"	10	9753K26	12.13	10	9753K83	13.04	10	9753K98	13.94	10	9753K117	14.85
3 5/8"-3 13/16"	10	9753K27	13.65	10	9753K84	15.46	10	9753K99	13.53	10	9753K118	15.08
4"-4 1/16"	5	9753K28	7.58	5	9753K85	8.34	5	9753K8	8.95	5	9753K119	9.40
High Temperature												
1/16"-1/8"	100	84735K11	5.95	100	84735K74	6.02	—	—	—	—	—	—
1/8"-3/16"	100	84735K12	6.05	100	84735K75	6.36	100	84735K86	6.14	100	84735K97	9.91
3/16"-1/4"	100	84735K13	6.36	100	84735K76	7.17	100	84735K87	7.17	100	84735K98	10.80
1/4"-5/16"	100	84735K14	6.32	100	84735K77	8.36	100	84735K88	7.33	100	84735K99	11.61
5/16"-3/8"	100	84735K15	6.57	100	84735K78	9.00	100	84735K89	7.98	100	84735K111	12.48
3/8"-7/16"	100	84735K16	7.33	100	84735K79	9.39	100	84735K91	8.14	100	84735K112	12.72
1/2"-9/16"	100	84735K17	7.88	100	84735K81	10.43	100	84735K92	8.43	100	84735K113	13.15
5/8"-11/16"	100	84735K18	9.48	100	84735K82	12.59	100	84735K93	12.59	100	84735K114	14.94
3/4"-13/16"	100	84735K71	10.86	100	84735K83	14.67	100	84735K94	13.92	50	84735K115	13.08
7/8"-15/16"	100	84735K72	10.87	100	84735K84	14.98	50	84735K95	12.96	50	84735K116	13.61
1"-1 1/16"	100	84735K73	12.67	50	84735K85	7.97	50	84735K96	13.08	50	84735K117	13.79
FDA Listed												
1/8"	100	3504T12	6.76	100	3504T32	5.66	100	3504T13	7.70	100	3504T44	6.31
3/16"	100	3504T14	6.38	100	3504T33	6.36	100	3504T15	8.34	100	3504T45	9.17
1/4"	100	3504T16	7.14	100	3504T34	7.00	100	3504T17	8.93	100	3504T46	9.17
3/8"	100	3504T21	7.91	100	3504T35	3.24	100	3504T22	10.64	50	3504T47	6.29
1/2"	100	3504T23	7.91	50	3504T36	5.13	100	3504T24	11.13	50	3504T48	6.06
5/8"	100	3504T25	11.16	50	3504T37	5.77	50	3504T26	7.07	50	3504T49	6.87
3/4"	50	3504T27	7.41	50	3504T38	3.24	50	3504T28	8.90	25	3504T51	5.71
7/8"	50	3504T29	6.06	50	3504T39	6.28	25	3504T42	4.61	25	3504T52	5.23
1"	20	3504T31	13.52	50	3504T41	10.94	25	3504T43	5.38	25	3504T53	6.72

Standard	2" Inside Height Pkg. Qty.		Pkg.	3" Inside Height Pkg. Qty.		Pkg.	4" Inside Height Pkg. Qty.		Pkg.	5" Inside Height Pkg. Qty.		Pkg.
3/16"	50	40005K12	$9.63	50	40005K13	$11.11	—	—	—	—	—	—
1/4"	50	40005K14	10.02	50	40005K15	11.07	50	40005K16	$13.43	—	—	—
3/8"	25	40005K17	10.94	25	40005K18	8.34	10	40005K19	6.92	10	40005K21	$7.15
1/2"	25	40005K22	9.79	25	40005K23	8.68	10	40005K24	8.49	10	40005K25	3.74
5/8"	25	40005K26	10.03	25	40005K27	12.21	10	40005K28	5.79	10	40005K29	8.13
3/4"	25	40005K31	5.60	25	40005K32	12.34	10	40005K33	3.42	10	40005K34	9.69
7/8"	25	40005K55	9.13	25	40005K64	12.12	—	—	—	—	—	—
1"	25	40005K35	13.80	10	40005K36	8.08	10	40005K37	5.91	10	40005K38	11.54
1 1/4"	10	40005K39	7.21	10	40005K41	10.02	10	40005K42	10.33	10	40005K43	12.15
1 1/2"	10	40005K44	19.63	10	40005K45	13.79	10	40005K46	14.02	5	40005K47	10.43
1 3/4"	10	40005K56	13.64	10	40005K65	13.00	—	—	—	—	—	—
2"	5	40005K51	7.54	5	40005K52	9.63	5	40005K53	9.62	5	40005K54	11.33
2 1/4"	5	40005K57	9.09	5	40005K66	9.85	—	—	—	—	—	—
2 1/2"	5	40005K58	9.85	5	40005K67	10.61	—	—	—	—	—	—
2 3/4"	5	40005K59	10.61	5	40005K68	11.37	—	—	—	—	—	—
3"	5	40005K61	12.13	5	40005K69	12.88	—	—	—	—	—	—
3 1/4"	5	40005K62	11.95	5	40005K71	12.60	—	—	—	—	—	—
3 1/2"	5	40005K63	13.26	5	40005K72	6.78	—	—	—	—	—	—

Flexible Vinyl with Hanger Eye

Slide a cap over a tool handle and use the eye to hang it. Durometer is 80A. Maximum temperature is 140° F. Color is black.

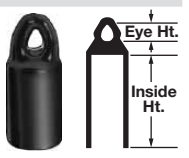

Fits OD	Inside Ht.	Eye Ht.		Each
5/8"	2"	1/2"	13515K51	$4.76
3/4"	2"	1/2"	13515K52	4.76
7/8"	2"	5/8"	13515K53	4.76
1 1/16"	2"	5/8"	13515K54	$4.76
1 1/4"	2"	5/8"	13515K55	4.76

(Continued on following page)

Round Caps *(Continued from previous page)*

Flexible Vinyl with Pull Tab

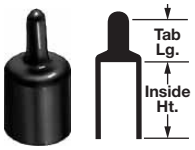

Pull the tab for easy cap removal. Durometer is 75A. Maximum temperature is 180° F. Color is black.

		½″ Inside Height			¾″ Inside Height			1″ Inside Height		
Fits OD	Tab Lg.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
¼″	5⁄8″	100	9531K11	$8.50	100	9531K21	$9.25	100	9531K31	$9.62
3⁄8″	5⁄8″	100	9531K12	8.88	100	9531K22	9.53	100	9531K32	10.12
½″	5⁄8″	100	9531K13	10.50	100	9531K23	10.59	100	9531K33	12.38
5⁄8″	5⁄8″	100	9531K14	10.72	100	9531K24	12.82	100	9531K34	13.79
¾″	5⁄8″	100	9531K15	12.12	100	9531K25	13.97	50	9531K35	15.50
7⁄8″	5⁄8″	50	9531K16	11.79	100	9531K26	15.76	50	9531K36	14.29
1″	5⁄8″	50	9531K17	12.19	50	9531K27	14.29	50	9531K37	14.31

Rubber



Chemical Resistant—Caps are EPDM rubber for excellent chemical resistance. Durometer is 40A-70A. Maximum temperature is 200° F. Color is black.

High Temperature—Made of silicone rubber, caps withstand temperatures up to 575° F for 20 minutes. Durometer is 50A-60A. Color is red.

		Chemical Resistant			High Temperature		
Fits OD	Inside Ht.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
0.02″	½″	100	6448K117	$9.09	100	92805K1	$9.12
0.034″	½″	100	6448K118	9.14	100	92805K2	9.11
3⁄64″	¾″	100	6448K19	9.09	100	92805K3	9.09
1⁄16″	¾″	100	6448K119	10.61	100	92805K4	10.60
5⁄64″	1″	50	6448K51	3.95	100	92805K5	10.92
3⁄32″	¾″	50	6448K52	5.11	100	92805K31	8.03
0.1″	½″	50	6448K21	3.61	100	92805K32	8.29
7⁄64″	¾″	50	6448K22	4.17	100	92805K6	13.64
1⁄8″	1″	50	6448K72	7.09	25	92805K11	3.06
9⁄64″	1″	50	6448K73	7.44	100	92805K7	13.83
5⁄32″	½″	—	—	—	100	92805K8	12.91
5⁄32″	1″	50	6448K74	7.61	—	—	—
11⁄64″	1″	50	6448K75	8.51	25	92805K12	4.38
3⁄16″	1″	50	6448K76	10.04	100	92805K33	11.45
7⁄32″	1″	50	6448K57	8.03	100	92805K34	14.19
0.223″	1″	50	6448K23	6.48	—	—	—
15⁄64″	1″	50	6448K24	9.61	—	—	—
15⁄64″	1½″	—	—	—	10	92805K13	2.63
1⁄4″	1″	50	6448K77	11.45	10	92805K14	2.96
9⁄32″	1″	50	6448K97	8.25	100	92805K35	10.64
0.295″	1½″	—	—	—	10	92805K15	3.16
5⁄16″	1″	50	6448K78	11.69	50	92805K9	13.34
0.34″	1″	—	—	—	50	92805K36	7.96
11⁄32″	1″	50	6448K98	13.65	—	—	—
0.355″	1½″	50	6448K25	10.36	10	92805K16	3.44
3⁄8″	1″	25	6448K79	6.61	—	—	—
3⁄8″	1½″	—	—	—	5	92805K17	3.50
13⁄32″	1″	25	6448K26	4.79	50	92805K91	13.64
7⁄16″	1″	25	6448K81	7.69	25	92805K37	7.68
0.456″	1½″	25	6448K27	5.95	—	—	—
15⁄32″	1″	10	6448K28	4.48	50	92805K92	14.25
0.48″	1½″	—	—	—	10	92805K18	5.11
1⁄2″	1½″	25	6448K82	8.32	5	92805K19	2.72
0.535″	1½″	50	6448K29	12.22	10	92805K21	4.13
9⁄16″	1½″	25	6448K83	8.39	25	92805K38	7.98
0.6″	1½″	—	—	—	10	92805K22	4.89
5⁄8″	1½″	50	6448K31	13.34	5	92805K23	2.78
11⁄16″	1½″	10	6448K32	6.25	25	92805K39	11.68
3⁄4″	1½″	10	6448K84	4.17	5	92805K24	3.89
13⁄16″	1½″	25	6448K33	8.91	5	92805K25	3.69
7⁄8″	1½″	10	6448K85	5.20	5	92805K26	5.35
15⁄16″	1½″	10	6448K34	6.50	10	92805K48	7.28
31⁄32″	1½″	—	—	—	5	92805K27	4.94
1″	1½″	10	6448K86	6.42	5	92805K28	5.57
1 1⁄16″	1½″	10	6448K35	7.04	25	92805K41	15.59
1⅛″	1½″	5	6448K36	4.27	10	92805K42	9.27
1 3⁄16″	1½″	5	6448K37	5.00	10	92805K43	9.34
1¼″	1½″	5	6448K38	5.22	10	92805K93	12.13
1⅜″	1½″	5	6448K99	5.76	10	92805K94	13.04
1½″	1½″	5	6448K39	5.53	10	92805K44	9.40
1⅝″	1½″	5	6448K15	7.58	10	92805K95	14.48
1¾″	2″	5	6448K911	7.08	5	92805K45	9.85
1⅞″	2″	5	6448K921	8.58	5	92805K46	10.91
2″	2″	5	6448K112	9.09	5	92805K47	11.52
2½″	1½″	5	6448K113	11.37	5	92805K96	12.88
2¾″	1½″	5	6448K114	12.61	5	92805K97	13.26
3½″	1½″	1	6448K115	4.85	1	92805K98	5.30
4″	1¾″	1	6448K116	5.91	1	92805K99	7.43

Rubber with Mushroom Head



The head extends beyond the diameter of your pipe or tubing for added protection. Durometer is 65A-70A. Maximum temperature is 245° F. Color is black.

Fits OD	Inside Ht.	Overall Size Dia.	Overall Size Ht.		Each
½″	11⁄16″	2¼″	1″	5896T5	$8.44
5⁄8″	11⁄16″	2¼″	1″	5896T6	8.44

Flexible Vinyl with Dome Top



Squeeze the dome top to remove the cap. Commonly used as thread protectors. Durometer is 75A. Maximum temperature is 180° F. Color is red.

Fits Thread Size	Fits Pipe Size, NPT	Fits OD	Inside Ht.	Pkg. Qty.		Pkg.
—	—	0.22″	3⁄8″	100	9343K51	$4.59
5⁄16″	—	0.288″	3⁄8″	100	9343K52	4.62
3⁄8″	1⁄8	0.338″	½″	100	9343K53	4.68
7⁄16″	—	0.362″	½″	100	9343K54	4.74
½″	¼	0.443″	½″	100	9343K55	4.91
9⁄16″	⅜	0.513″	½″	100	9343K56	5.17
5⁄8″	—	0.679″	½″	100	9343K57	5.76
¾″-7⁄8″	½	0.74″	½″	100	9343K58	6.01
1 1⁄16″	—	0.893″	5⁄8″	100	9343K59	7.55
1 3⁄16″-1 5⁄16″	1	1.143″	5⁄8″	100	9343K61	9.82
1 9⁄16″-1⅝″	1¼	1.548″	¾″	25	9343K63	13.94

Plastic



Use caps to protect the ends of tubing. Durometer is 54D. Maximum temperature is 160° F. Color is black.

Fits OD	Inside Ht.	Pkg. Qty.		Pkg.
7⁄16″	17⁄32″	100	9567K55	$5.50
½″	19⁄32″	100	9567K19	5.79
5⁄8″	19⁄32″	100	9567K21	4.71
¾″	19⁄32″	100	9567K11	6.47
7⁄8″	19⁄32″	100	9567K12	6.74
1″	19⁄32″	100	9567K13	7.11
1⅛″	19⁄32″	100	9567K15	7.78
1¼″	½″	100	9567K14	10.49
1½″	9⁄16″	100	9567K16	13.17
1¾″	15⁄32″	50	9567K17	14.92
2″	15⁄32″	50	9567K18	12.79

Plastic with Tear Tab





Snap these caps onto NPT pipe and fittings, then use the tear tab to break the seal for easy removal. Durometer is 41D-46D. Maximum temperature is 150° F. Color is blue.

Fits OD	Fits Pipe Size, NPT	Inside Ht.	Pkg. Qty.		Pkg.
0.385″	1⁄8	5⁄16″	100	6833K23	$3.97
0.512″	¼	15⁄32″	100	6833K24	3.97
0.643″	⅜	15⁄32″	100	6833K25	4.25
0.835″	½	5⁄8″	100	6833K26	5.54
1.005″	¾	5⁄8″	100	6833K27	7.93
1.261″	1	13⁄16″	100	6833K28	11.27
1.604″	1¼	27⁄32″	100	6833K29	13.19
1.841″	1½	27⁄32″	100	6833K31	14.29
2.313″	2	⅞″	50	6833K32	11.35
2.792″	2½	15⁄16″	25	6833K33	8.85
3.411″	3	1⅜″	25	6833K34	11.48

(Continued on following page)

Round Caps *(Continued from previous page)*

Static-Control Plastic



Protect your electrical connectors from static. Caps meet the static requirements of MIL-PRF-81705D, and fit connectors with straight threads as well as unthreaded bayonet-type connectors. Maximum temperature is 140° F.

Conductive—With a surface resistivity less than 10^5 ohms, caps not only dissipate electrical charges, but can be used as an electrical shield. Durometer is 46D. Color is black.

Antistatic—Keep equipment safe from electrical currents. Surface resistivity is less than 10^{12} ohms. Durometer is 55A-65A. Color is pink.

Fits OD	Fits Thread Size	Inside Ht.	Pkg. Qty.		Pkg.
Conductive					
0.244″	1/4″	15/32″	50	94075K11	$11.77
0.368″	3/8″	1/2″	50	94075K12	12.06
0.487″	1/2″	1/2″	50	94075K13	12.43
0.607″	5/8″	1/2″	50	94075K14	13.41
0.73″	3/4″	1/2″	25	94075K15	8.56
0.852″	7/8″	1/2″	25	94075K16	10.23
0.992″	1″	1/2″	25	94075K17	9.31
1.244″	1 1/4″	9/16″	25	94075K18	11.13
1.478″	1 1/2″	9/16″	25	94075K19	11.95
Antistatic					
0.245″	1/4″	1/2″	100	94075K31	8.24
0.36″	3/8″	1/2″	100	94075K32	9.61
0.48″	1/2″	1/2″	100	94075K33	10.29
0.6″	5/8″	1/2″	100	94075K34	10.96
0.72″	3/4″	1/2″	100	94075K35	11.56
0.85″	7/8″	1/2″	50	94075K36	9.16
0.973″	1″	1/2″	50	94075K37	9.48
1.231″	1 1/4″	9/16″	50	94075K38	11.03
1.463″	1 1/2″	9/16″	50	94075K39	12.87

Metric Plastic with Pull Tab

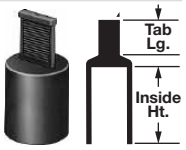

Use the tab to remove the cap.

Standard—Slide caps over unthreaded pipe and hose. Durometer is 70A-75A. Maximum temperature is 240° F. Color is yellow.

For Metric Threads—Protect bolts and threaded studs. Durometer is 32D-38D. Maximum temperature is 100° F. Color is black.

Fits OD, mm	Inside Ht., mm	Tab Lg., mm	Pkg. Qty.		Pkg.
Standard					
4-5	21	13	20	9531K38	$12.59
5-6	20	16	20	9531K39	12.62
6-7	20	16	20	9531K41	12.64
8-9	20	16	20	9531K42	12.67
9-10	20	16	20	9531K43	12.69
10-11	20	16	20	9531K44	12.77
11-12	20	16	20	9531K45	12.79
12-13	20	16	20	9531K46	12.82
13-15	20	16	20	9531K47	12.62
14-16	20	16	20	9531K48	12.67
15-17	20	16	20	9531K49	12.69
16-18	20	16	15	9531K51	12.72
17-19	20	16	15	9531K52	12.72
18-20	20	16	15	9531K53	12.74
20-22	20	16	15	9531K54	12.77
24-26	20	16	10	9531K55	11.08

Fits Thread Size	Fits OD, mm	Inside Ht., mm	Tab Lg., mm	Pkg. Qty.		Pkg.
For Metric Threads						
M8	8	20	16.5	20	9531K56	$12.67
M10	10	20	16.5	20	9531K57	12.77
M12	12	20	16.5	20	9531K58	12.82
M14	14	20	16.5	20	9531K59	12.28
M16	16	20	16.5	15	9531K61	12.31
M18	18	20	16.5	15	9531K63	12.33
M20	20	20	16.5	15	9531K64	12.36
M24	24	20	16.5	10	9531K65	11.62

Metal

Protect pipe and tubing during transport and storage with these durable caps.

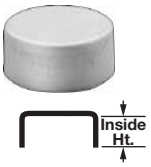

Fits OD	Fits Pipe Size	Inside Ht.		Steel Each	Aluminum Each	18-8 SS Each
35/64″	1/4	7/16″	9275K11	$1.41	$3.61	$3.95
43/64″	3/8	9/16″	9275K12	1.41	3.61	3.95
27/32″	1/2	7/16″	9275K13	1.41	3.61	3.95
1″	—	23/32″	9275K14	1.53	3.61	3.95
1.05″	3/4	5/8″	9275K15	1.56	3.61	3.95
1 1/4″	—	3/4″	9275K16	1.56	3.61	3.95
1 5/16″	1	11/16″	9275K17	1.63	3.61	3.95
1 1/2″	—	21/32″	9275K18	1.81	4.34	4.21
1.66″	1 1/4	13/16″	9275K19	2.00	4.34	4.61
1 29/32″	1 1/2	15/16″	9275K28	2.31	5.05	5.26
2″	—	1 7/32″	9275K21	2.34	5.53	5.92
2 1/4″	—	1 1/16″	9275K22	2.59	5.79	6.32
2 3/8″	2	1 1/16″	9275K29	$2.81	$5.79	$7.24
2 1/2″	—	1 5/16″	9275K23	2.94	6.84	7.24
2 3/4″	—	1 3/8″	9275K24	3.16	6.97	7.24
2 7/8″	2 1/2	1 3/8″	9275K38	3.24	7.24	7.24
3″	—	1 1/8″	9275K25	3.50	7.50	8.55
3 1/2″	3	1 3/8″	9275K39	3.82	11.77	11.05
4″	3 1/2	1 1/2″	9275K44	4.12	13.43	12.50
4 1/2″	4	1 7/8″	9275K42	4.94	15.71	16.45
5″	4 1/2	1 7/8″	9275K26	6.25	16.71	16.84
5 9/16″	5	1 7/8″	9275K27	7.97	17.37	21.71
6 5/8″	6	1 7/8″	9275K46	9.09	25.00	32.89

Adhesive-Back Flange Caps



Stick caps to the raised-surface of ANSI/ASME Class 150 and 300 flanges for extra protection during transport and storage. Caps are plastic and have a rubber-based adhesive. Durometer is 60D-70D. Maximum temperature is 165° F. Color is black.

Fits Pipe Size	Pkg. Qty.		Pkg.
1/2	20	3445T11	$14.16
3/4	15	3445T12	12.74
1	15	3445T13	15.29
1 1/4	10	3445T14	15.85
1 1/2	10	3445T15	16.31
2	10	3445T16	16.79
2 1/2	6	3445T17	14.43
3	4	3445T18	14.72
3 1/2	4	3445T19	15.85
4	3	3445T21	12.74
5	3	3445T22	$13.59
6	2	3445T23	12.74
8	1	3445T24	10.18
10	1	3445T25	14.16
12	1	3445T26	16.09
14	1	3445T27	20.27
16	1	3445T28	25.78
18	1	3445T29	33.84
20	1	3445T31	36.53

Stretchable Round Flange Caps



Stretch caps over flanged ends for protection. Caps are vinyl with a durometer of 65A-75A. They fit 1/8″ thick flanges. Maximum temperature is 140° F. Color is yellow.

Fits Flange OD (A)	(B)	Pkg. Qty.		Pkg.
1.31″	0.68″	10	9532K11	$6.58
1.62″	1″	10	9532K13	8.05
2.195″	1.5″	10	9532K35	8.30
2.695″	2″	10	9532K36	8.93
2.86″	2.18″	10	9532K37	11.25
3.18″	2.5″	10	9532K38	10.62
3.56″	2.93″	10	9532K19	12.32
3.6″	3″	10	9532K21	12.82
4.155″	3.5″	10	9532K22	6.33
4.69″	4″	5	9532K23	4.33
5.19″	4.5″	5	9532K25	13.57
5.69″	5″	1	9532K27	3.75
6.69″	6″	2	9532K31	8.03

Tapered Round Caps



These flexible plastic caps are tapered to fit a variety of unthreaded and threaded holes. Durometer is 41D-46D. Maximum temperature is 150° F. Color is red.

Fits Pipe Size	Fits OD Small End	Fits OD Large End	Inside Ht.	Pkg. Qty.		Pkg.
For Unthreaded ODs						
—	0.079″	0.15″	3/8″	100	4491K131	$5.37
—	0.205″	0.273″	3/8″	100	4491K132	5.37
—	1.085″	1.358″	13/16″	50	4491K117	10.19
—	1.169″	1.437″	3/4″	50	4491K119	6.45
—	1.282″	1.445″	29/32″	50	4491K118	8.74
—	1.688″	1.818″	3/4″	50	4491K148	8.56
—	1.837″	2.013″	1″	50	4491K121	9.70
—	1.953″	2.085″	3/4″	50	4491K125	11.53
—	2.063″	2.377″	1″	50	4491K122	12.66
—	2.395″	2.688″	1″	50	4491K123	13.40
—	2.579″	2.728″	3/4″	50	4491K149	13.30
—	2.656″	2.926″	1″	50	4491K124	13.53
—	2.787″	2.918″	3/4″	50	4491K151	13.48
—	2.912″	3.175″	1″	25	4491K126	10.85
—	3.02″	3.3″	1″	25	4491K133	11.13
—	3.48″	3.66″	1″	25	4491K134	12.75
—	3.86″	4″	3/4″	25	4491K135	13.49
—	4.92″	5.1″	1″	10	4491K128	10.58
—	5.49″	5.67″	1″	10	4491K113	11.94
—	5.92″	6.1″	1″	10	4491K129	13.53
For Unthreaded Pipe and Fittings						
1/16	0.053″	0.12″	3/8″	100	4491K111	5.37
1/8	0.356″	0.422″	3/8″	100	4491K42	4.21
1/4	0.487″	0.568″	15/32″	100	4491K44	4.61
3/8	0.613″	0.693″	1/2″	100	4491K57	4.90
1/2	0.74″	0.849″	5/8″	100	4491K66	7.17
3/4	0.933″	1.083″	3/4″	100	4491K56	7.52
1	1.249″	1.402″	7/8″	100	4491K24	9.68
1 1/4	1.568″	1.688″	3/4″	100	4491K34	11.84
1 1/2	1.781″	1.938″	1″	50	4491K35	7.88
2	2.235″	2.401″	1″	50	4491K76	10.60
2 1/2	2.685″	2.947″	1″	50	4491K82	11.91
3	3.41″	3.54″	3/4″	10	4491K112	6.60
3 1/2	3.94″	4.07″	3/4″	25	4491K127	13.71
6	6.53″	6.63″	1 1/2″	10	4491K114	14.01
For NPT Threaded Pipe and Fittings						
1/16	0.298″	0.365″	3/8″	100	4491K147	3.37
1/8	0.356″	0.422″	3/8″	100	4491K42	4.21
1/4	0.468″	0.545″	7/16″	100	4491K43	4.78
3/8	0.613″	0.693″	1/2″	100	4491K57	4.90
1/2	0.74″	0.849″	5/8″	100	4491K66	7.17
3/4	0.933″	1.083″	3/4″	100	4491K56	7.52
1	1.173″	1.298″	13/16″	100	4491K61	8.13
1 1/4	1.498″	1.62″	3/4″	50	4491K74	9.37
1 1/2	1.718″	1.888″	1″	50	4491K75	10.21
2	2.235″	2.401″	1″	50	4491K76	10.60
2 1/2	2.685″	2.947″	1″	50	4491K82	11.91
3	3.2″	3.492″	1 1/8″	25	4491K84	9.28
3 1/2	3.71″	3.84″	3/4″	25	4491K152	13.58
4	4.29″	4.54″	1″	10	4491K87	6.85
5	5.21″	5.37″	7/8″	10	4491K115	10.23
6	6.33″	6.49″	7/8″	10	4491K116	13.52

Fits Thread Size	Fits OD Small End	Fits OD Large End	Inside Ht.	Pkg. Qty.		Pkg.
For Hydraulic Fittings and Other Straight Threads						
5/16″-24	0.235″	0.302″	3/8″	100	4491K12	$3.79
3/8″-24	0.327″	0.394″	3/8″	100	4491K23	3.77
7/16″-20	0.385″	0.451″	3/8″	100	4491K65	4.42
1/2″-20	0.409″	0.485″	7/16″	100	4491K88	4.66
9/16″-18	0.487″	0.568″	15/32″	100	4491K44	4.61
5/8″-18	0.518″	0.605″	1/2″	100	4491K25	4.89
3/4″-16	0.663″	0.761″	9/16″	100	4491K1	5.18
7/8″-14	0.753″	0.868″	5/8″	100	4491K27	6.37
1 1/16″-12	0.933″	1.083″	3/4″	100	4491K56	7.52
1 5/16″-12	1.173″	1.298″	13/16″	100	4491K61	8.13
1 5/8″-12	1.498″	1.62″	3/4″	50	4491K74	9.37
1 7/8″-12	1.718″	1.888″	1″	50	4491K75	10.21
2 1/4″-12	2.074″	2.25″	1″	50	4491K28	9.25
2 1/2″-12	2.333″	2.54″	1 1/32″	50	4491K29	10.21

Rectangular and Square Caps





Rectangular with Flat End





Rectangular with Round End



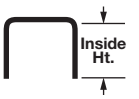

Square with Flat End



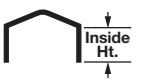

Square with Tapered End

All caps are black.

Rectangular—Caps are vinyl with a durometer of 75A. Maximum temperature is 180° F.

Square—Caps with a *flat end* are plastic with a durometer of 54D. Maximum temperature is 160° F.

Caps with a *tapered end* are vinyl with a durometer of 60A-80A. Maximum temperature is 200° F.

Fits Size Lg.	Fits Size Wd.	Inside Ht.	Pkg. Qty.		Pkg.
Rectangular—Flat End					
1/16″	1/2″	1 1/2″	50	85945K42	$9.26
1/16″	1 1/2″	1/2″	50	85945K12	12.86
1/16″	1 21/32″	1″	25	85945K13	7.73
3/32″	7/16″	3/4″	100	85945K15	14.34
3/32″	1″	5 1/8″	10	85945K43	8.48
1/8″	1/2″	4 1/4″	10	85945K46	6.55
1/8″	3/4″	3/4″	100	85945K16	14.69
1/8″	3/4″	4 1/4″	10	85945K45	9.79
1/8″	1 1/8″	3/4″	50	85945K17	9.08
1/8″	1 1/8″	2″	50	85945K41	13.86
1/4″	5/8″	1 1/2″	50	85945K18	9.52
1/4″	1″	1 1/2″	50	85945K44	12.14
15/32″	2 1/8″	3/4″	25	85945K19	9.40
3/4″	1 1/8″	1/2″	50	85945K21	13.75
Rectangular—Round End					
1/16″	5/16″	1/2″	100	85945K22	13.34
1/16″	3/8″	3 1/2″	50	85945K23	12.36
1/16″	3/4″	2″	50	85945K25	14.42
1/16″	3/4″	4 3/8″	10	85945K56	11.28
1/8″	7/16″	1/2″	100	85945K26	13.00
1/8″	1/2″	1″	50	85945K27	13.36
1/8″	3/4″	2″	25	85945K28	8.34
1/8″	1″	1/2″	100	85945K29	14.37
1/8″	1″	2 1/2″	20	85945K51	14.59
3/16″	1/2″	2″	50	85945K31	13.26
3/16″	5/8″	1 1/2″	50	85945K53	14.56
1/4″	3/4″	5 1/4″	10	85945K54	13.55
1/4″	1″	1 1/2″	10	85945K52	6.98
1/4″	1 1/4″	5 1/2″	6	85945K55	10.60
Square—Flat End					
1/2″	1/2″	1/2″	100	92675K41	5.89
5/8″	5/8″	1/2″	100	92675K42	8.51
3/4″	3/4″	1/2″	100	92675K43	9.20
1″	1″	1/2″	100	92675K44	11.69
Square—Tapered End					
1/4″	1/4″	1″	100	9092K81	8.34
5/16″	5/16″	1″	100	9092K82	13.04
3/8″	3/8″	1″	100	9092K83	14.54
7/16″	7/16″	1″	50	9092K84	9.25
1/2″	1/2″	1/2″	50	9092K32	5.08
1/2″	1/2″	1″	50	9092K34	7.13
5/8″	5/8″	1/2″	100	9092K85	14.55
3/4″	3/4″	1/2″	50	9092K36	8.58
3/4″	3/4″	1″	50	9092K38	10.44
1″	1″	1/2″	50	9092K33	9.61
1″	1″	1″	50	9092K35	11.22
1″	1″	1 1/2″	50	9092K11	14.66
1″	1″	2″	25	9092K24	10.22
1 1/4″	1 1/4″	1/2″	25	9092K37	7.56
1 1/4″	1 1/4″	1″	25	9092K39	10.62
1 1/2″	1 1/2″	1/2″	25	9092K54	10.82
1 1/2″	1 1/2″	1″	25	9092K56	14.02
1 1/2″	1 1/2″	1 1/2″	25	9092K13	12.23
1 1/2″	1 1/2″	2″	25	9092K26	15.05
1 5/8″	1 5/8″	1″	10	9092K71	6.93
1 3/4″	1 3/4″	1″	10	9092K72	7.33
1 7/8″	1 7/8″	1″	10	9092K73	7.33
2″	2″	1/2″	10	9092K61	5.22
2″	2″	1″	10	9092K62	9.70
2″	2″	1 1/2″	10	9092K15	9.34
2″	2″	2″	10	9092K28	9.34
2 1/2″	2 1/2″	1″	10	9092K74	12.76
2 1/2″	2 1/2″	1 1/2″	10	9092K17	10.99
2 1/2″	2 1/2″	2″	10	9092K31	13.18
3″	3″	1″	5	9092K75	8.10
3″	3″	1 1/2″	5	9092K19	7.03
3″	3″	2″	5	9092K41	9.58
3 1/2″	3 1/2″	1″	5	9092K76	9.21
3 1/2″	3 1/2″	1 1/2″	5	9092K21	8.05
3 1/2″	3 1/2″	2″	5	9092K42	9.11
4″	4″	1″	5	9092K77	10.50
4″	4″	1 1/2″	5	9092K22	9.93
4″	4″	2″	5	9092K43	10.59

For information about durometer hardness, see page 3588.

High-Visibility Caps



Vibrant colors make these caps stand out. Use them to cover sharp ends of material such as rebar. They are plastic and have a maximum temperature of 120° F.

Dome and **round** caps have a durometer of 52D. **Square** caps meet OSHA 1926.701(b) requirements. They have a steel insert and a 4″ × 4″ top. Not rated for hardness.

	Fits OD	Inside Ht.	Color	Pkg. Qty.		Pkg.
Dome	3/8″-1″	1 3/4″	Orange	10	9550K11	$5.00
Round	7/8″-2 1/4″	2″	Orange	10	9550K12	11.49
Square	3/8″-7/8″	2 1/2″	Orange	1	9550K15	2.85
Square	7/8″-1 3/8″	2 3/4″	Yellow	1	9550K16	4.28

Caps for Screw Heads

Conceal and protect screw heads with these plastic caps.

Hinged caps are UV-resistant and have a Rockwell hardness of R100. Maximum temperature is 250° F. The inside height listed is with the top closed.

Snap caps are not rated for hardness or temperature. The inside height listed is with the two parts snapped together.

Socket-head caps fit into the head of the screw to keep out dirt and debris. Durometer is 41D-46D. Maximum temperature is 150° F.

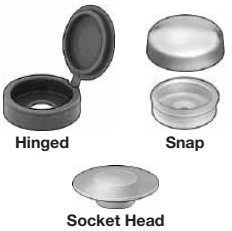

Fits Screw Size	OD	Inside Ht.	Choose a Color	Pkg. Qty.		Pkg.
Hinged						
No. 4 to No. 6	15/32″	0.09″	Black, White	100	91620A100	$9.55
No. 8 to No. 10	35/64″	0.11″	Black, White	100	91620A200	9.77
1/4″	45/64″	0.16″	Black, White	100	91620A300	11.37
3/8″	61/64″	0.29″	Black, White	100	91620A110	12.42
Snap						
No. 4	1/2″	0.13″	Black, White	25	91620A120	9.93
No. 6	1/2″	0.13″	Black, White	25	91620A130	8.47
No. 6 to No. 8	0.52″	0.20″	Chrome	25	91620A600	10.51
No. 6 to No. 8	0.52″	0.20″	Gold	25	91620A700	27.50
No. 8	1/2″	0.21″	Black, White	25	91620A140	8.42
No. 10	23/32″	0.17″	Black	25	91620A930	8.00
No. 10 to 1/4″	0.64″	0.24″	Chrome	25	91620A800	10.51
No. 10 to 1/4″	0.64″	0.24″	Gold	25	91620A900	28.65
No. 12	23/32″	0.17″	Black	25	91620A950	8.00
1/4″	13/16″	0.32″	Black, White	25	91620A150	12.73
5/16″	13/16″	0.32″	Black, White	25	91620A160	12.73
3/8″	13/16″	0.32″	Black, White	25	91620A170	12.73
7/16″	13/16″	0.32″	Black, White	25	91620A180	12.73
1/2″	13/16″	0.32″	Black, White	25	91620A190	12.73
Socket Head						
1/4″	1/2″	—	Off-White	100	1048N11	9.18
5/16″	0.59″	—	Off-White	100	1048N12	10.28
3/8″	0.69″	—	Off-White	100	1048N13	10.66
1/2″	0.88″	—	Off-White	100	1048N14	11.86

Snap-On Hex Nut Caps

Protect heavy hex nuts and bolts from corrosion. Caps snap onto the base of the nut for a tight hold. They are black plastic and have a durometer of 96A. Maximum temperature is 175° F.



Fits Hex Wd.	For Bolt Dia.	Inside Ht.	Pkg. Qty.		Pkg.
1/2″	1/4″	17/32″	10	9267K41	$6.86
35/64″	5/16″	1/2″	10	9267K43	11.14
43/64″	3/8″	25/32″	10	9267K31	8.57
3/4″	7/16″	27/32″	10	9267K45	12.00
7/8″	1/2″	15/16″	10	9267K32	14.57
15/16″	9/16″	1″	5	9267K47	12.86
1 1/16″	5/8″	1″	10	9267K33	17.71
1 1/4″	3/4″	1 13/32″	5	9267K34	12.57
1 13/32″	7/8″	1 7/16″	5	9267K35	14.00
1 5/8″	1″	1 23/32″	5	9267K36	20.29
1 13/16″	1 1/8″	2″	1	9267K17	7.29
1 31/32″	1 1/4″	2 3/32″	1	9267K18	10.31

Threaded Caps

Cap your threaded connections.

Plastic caps have a durometer of 40D-64D. Maximum temperature is 150° F.

Aluminum caps meet MIL-C-5501/3.



Fits Thread Size	Fits Tubing Size	Inside Ht.	Pkg. Qty.		Pkg.
Standard Plastic—Red					
1/4″-36	—	7/32″	100	1277K111	$6.29
3/8″-24	3/16″	15/32″	100	1277K23	5.14
7/16″-20	1/4″	15/32″	100	1277K24	5.81
7/16″-24	1/4″	19/64″	100	1277K112	6.86
1/2″-20	5/16″	15/32″	100	1277K25	6.27
9/16″-18	3/8″	17/32″	100	1277K114	7.49
5/8″-18	3/8″	15/32″	100	1277K115	7.58
5/8″-18	3/8″	13/16″	100	1277K26	6.76
5/8″-24	—	13/32″	100	1277K116	8.31
3/4 NPT	—	3/4″	100	1277K28	11.63
3/4″-16	1/2″	9/16″	100	1277K27	7.83
3/4″-18	—	11/16″	100	1277K117	12.12
3/4″-20	—	1/2″	100	1277K118	9.31
7/8″-14	5/8″	11/16″	100	1277K29	8.97
7/8″-18	5/8″	25/32″	100	1277K119	10.14
7/8″-20	5/8″	23/32″	100	1277K121	13.61
1″-14	—	25/32″	100	1277K31	9.76
1 1/16″-12	3/4″	3/4″	100	1277K32	10.06
1 1/16″-14	3/4″	3/4″	100	1277K122	12.05
1 1/8″-18	—	15/32″	100	1277K123	11.77
1 3/16″-12	7/8″	15/16″	100	1277K124	12.61
1 1/4″-18	—	15/32″	100	1277K125	13.56
1 5/16″-12	—	7/8″	100	1277K126	13.76
1 3/8″-18	—	15/32″	50	1277K127	6.91
1 1/2″-12	—	3/4″	50	1277K128	10.02
1 5/8″-12	1 1/4″	29/32″	50	1277K129	11.40
1 3/4″-12	—	15/16″	25	1277K131	13.23
1 7/8″-12	1 1/2″	1″	25	1277K132	9.94
3″-12	—	1 5/32″	10	1277K133	8.67
Metric Plastic—Yellow					
M8×1.25	—	8 mm	20	1277K81	12.89
M10×1.5	—	8 mm	20	1277K82	12.95
M12×1.75	—	12 mm	20	1277K83	13.13
M14×2	—	12 mm	15	1277K84	13.13
M16×2	—	12 mm	15	1277K85	12.61
M18×2.5	—	12 mm	15	1277K86	12.61
M20×2.5	—	14 mm	15	1277K87	12.61
M22×2.5	—	14 mm	10	1277K89	12.63
M24×3	—	14 mm	10	1277K91	13.00
M27×3	—	14 mm	5	1277K92	12.89
M30×3.5	—	14 mm	5	1277K93	12.89
Aluminum					
5/16″-24	1/8″	21/64″	50	3522T11	10.46
3/8″-24	3/16″	19/64″	50	3522T12	14.74
7/16″-20	1/4″	15/32″	50	3522T13	7.82
1/2″-20	5/16″	7/16″	50	3522T14	13.69
9/16″-18	3/8″	15/32″	50	3522T15	10.42
5/8″-18	7/16″	33/64″	50	3522T16	12.44
3/4″-16	1/2″	35/64″	50	3522T17	13.05
7/8″-14	5/8″	21/32″	50	3522T18	14.99
1 1/16″-12	3/4″	49/64″	25	3522T19	10.09
1 5/16″-12	1″	49/64″	25	3522T21	13.06
1 5/8″-12	1 1/4″	23/32″	10	3522T22	12.16

Snap-In Caps

Snap caps into tubing and their four bendable straps conform to the inside of the tubing to hold them in place. Caps are black glass-filled plastic, and are UV- and weather-resistant. Rockwell hardness is R119. Maximum temperature is 300° F.

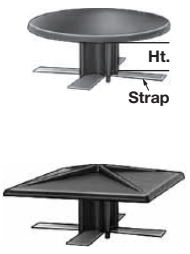

Fits Outside Size	Fits Inside Size	Ht.		Each
Round				
3″	2 1/2″-2 7/8″	1 3/8″	97535K21	$5.12
3 1/2″	3″-3 3/8″	1 3/8″	97535K23	5.44
4″	3 1/2″-3 7/8″	1 5/16″	97535K25	5.44
4 1/4″	3 3/4″-4 1/8″	1 5/16″	97535K27	5.68
4 1/2″	4″-4 3/8″	1 5/16″	97535K29	6.12
5″	4 1/2″-4 7/8″	1 5/16″	97535K31	7.21
Square				
3″	2 1/2″	1 3/8″	97535K3	5.15
4″	3 1/2″	1 3/8″	97535K5	5.82
5″	4 1/2″	1 1/4″	97535K7	7.21
6″	5 1/2″	1 3/16″	97535K9	8.53

Angle and Corner Caps

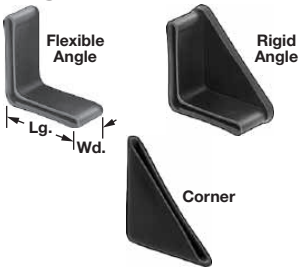

Caps are black.

Angle caps protect ends of angle iron. Maximum temperature is 180° F. *Flexible angle* caps are vinyl. Durometer is 65A. *Rigid angle* caps are polyethylene. Durometer is 54D.

Corner caps guard the corners of glass and mirrors. They are polyethylene. Durometer is 49D. Maximum temperature is 120° F.

Fits Thick.	Lg.	Wd.	Pkg. Qty.		Pkg.
Flexible Angle					
1/8"	3/4"	1/2"	100	93105K61	$12.10
1/8"	1 1/4"	1/2"	50	93105K62	11.93
1/8"	2"	1/2"	25	93105K63	9.31
Rigid Angle					
3/32"	1 1/2"	3/4"	25	93105K56	13.50
1/8"	1"	1 1/16"	100	93105K54	13.18

Fits Thick.	Lg.		Each
Corner			
1/8"-3/16"	1 7/8"	5542T85	$0.46
1/4"	1 7/8"	5542T86	.51
3/8"	1 7/8"	5542T87	.59
1/2"	1 7/8"	5542T88	.65
3/4"	2 1/4"	5542T89	1.22

Stretchable Covers



Often used in masking applications, covers stretch over items to protect against contaminants. Similar to a shower cap, they are clear polyethylene film with an elastic band. Maximum temperature is 150° F.

Fits OD	Pkg. Qty.		Pkg.	Fits OD	Pkg. Qty.		Pkg.
1 1/2"-5"	10	1056N11	$13.27	2 7/8"-16"	5	1056N16	$13.90
1 1/2"-8"	5	1056N14	10.47	3 5/8"-17"	2	1056N17	10.02
2 1/4"-11"	5	1056N15	11.45	4 3/8"-24"	2	1056N18	12.29

Round Plugs for Panels

Rigid Plastic


Snap In


Locking


Vented Locking

All are nylon with a Rockwell hardness of R120. **Vented** plugs allow air circulation and permit heat and fumes to escape.

Snap In— Tapered prongs snap into the hole to snugly hold the plugs in place. Maximum temperature is 185° F.

Locking— Plugs have wings that expand against the sides of the hole to lock them in place. Maximum temperature is 220° F.

Fits ID	Fits Panel Thick.	Head Dia.	Choose a Color	Pkg. Qty.		Pkg.
Snap In						
1/8"	0.031"-0.094"	3/16"	Black, Off-White	100	9688K191	$4.63
0.15"	0.031"-0.094"	1/4"	Off-White	100	9688K36	5.06
3/16"	0.031"-0.14"	3/8"	Black, Off-White	100	9688K211	6.62
7/32"	0.031"-0.062"	3/8"	Black, Off-White	100	9688K351	6.33
1/4"	0.031"-0.062"	7/16"	Black, Off-White	100	9688K221	6.64
5/16"	0.031"-0.14"	7/16"	Black, Off-White	100	9688K231	6.67
3/8"	0.031"-0.14"	9/16"	Black, Off-White	100	9688K241	6.67
7/16"	0.031"-0.171"	5/8"	Black, Off-White	100	9688K321	7.10
1/2"	0.031"-0.14"	11/16"	Black, Off-White	100	9688K251	7.50
9/16"	0.031"-0.14"	3/4"	Black, Off-White	100	9688K331	7.74
5/8"	0.031"-0.072"	13/16"	Black, Off-White	100	9688K261	8.33
11/16"	0.031"-0.109"	7/8"	Black, Off-White	100	9688K341	9.73
3/4"	0.031"-0.109"	1"	Black, Off-White	100	9688K271	9.59
0.787"	0.059"-0.08"	1"	Black	100	9688K37	10.00
13/16"	0.031"-0.109"	11/16"	Black, Off-White	100	9688K281	10.24
7/8"	0.031"-0.109"	11/16"	Black, Off-White	100	9688K291	10.50
1"	0.031"-0.109"	1 1/4"	Black, Off-White	100	9688K311	11.97
Metric Snap In— Dimensions in millimeters						
6	0.8-1.6	10	Off-White	100	9688K41	4.79
8	0.8-3.5	12	Off-White	100	9688K42	5.31
10	0.8-3.5	14	Off-White	100	9688K43	5.48
12	0.8-3.5	16	Off-White	100	9688K44	6.95
14	0.8-3.5	18	Off-White	100	9688K45	7.21
16	0.8-3.5	20	Off-White	100	9688K46	9.48
18	0.8-4	22	Off-White	100	9688K47	9.99
20	0.8-4	26	Off-White	100	9688K48	10.51
22	0.8-4	28	Off-White	100	9688K49	11.12
24	0.8-4	28	Off-White	50	9688K51	8.20
26	0.8-4	30	Off-White	50	9688K52	8.32
Vented Snap In						
7/8"	0.031"-0.109"	11/16"	Black, Off-White	100	9688K641	10.90
1"	0.031"-0.109"	1 1/4"	Black, Off-White	100	9688K688	12.41
Locking						
3/16"	0.016"-0.062"	1/4"	Black	100	85985K11	4.99
7/32"	0.016"-0.062"	5/16"	Black	100	85985K36	8.74

Fits ID	Fits Panel Thick.	Head Dia.	Choose a Color	Pkg. Qty.		Pkg.
Locking (Cont.)						
1/4"	0.016"-0.062"	5/16"	Black	100	85985K12	$4.99
9/32"	0.016"-0.062"	3/8"	Black	100	85985K37	8.46
5/16"	0.016"-0.062"	3/8"	Black	100	85985K13	5.31
11/32"	0.016"-0.062"	7/16"	Black	100	85985K38	8.46
3/8"	0.016"-0.125"	1/2"	Black	100	85985K14	5.31
7/16"	0.016"-0.125"	9/16"	Black	100	85985K15	5.71
1/2"	0.016"-0.125"	9/16"	Black	100	85985K16	5.83
17/32"	0.016"-0.062"	5/8"	Black	100	85985K39	10.22
9/16"	0.016"-0.125"	11/16"	Black	100	85985K17	6.55
5/8"	0.016"-0.125"	3/4"	Black	100	85985K18	6.56
11/16"	0.016"-0.125"	13/16"	Black	100	85985K19	8.01
3/4"	0.016"-0.125"	15/16"	Black	100	85985K21	8.51
13/16"	0.016"-0.125"	7/8"	Black	100	85985K22	9.11
7/8"	0.016"-0.125"	1"	Black	100	85985K23	9.40
1"	0.016"-0.125"	1 3/16"	Black	100	85985K24	10.21
1 3/32"	0.016"-0.125"	1 1/4"	Black	100	85985K25	10.94
1 1/8"	0.016"-0.125"	1 1/4"	Black	100	85985K41	15.80
1 3/16"	0.016"-0.125"	1 5/16"	Black	100	85985K26	12.75
1 1/4"	0.016"-0.125"	1 3/8"	Black	100	85985K27	13.14
1 3/8"	0.016"-0.125"	1 1/2"	Black	50	85985K28	8.22
1 1/2"	0.016"-0.125"	1 11/16"	Black	50	85985K29	8.62
1 3/4"	0.016"-0.125"	1 15/16"	Black	50	85985K31	10.35
2"	0.016"-0.125"	2 1/8"	Black	50	85985K32	10.41
2 1/2"	0.016"-0.25"	2 13/16"	Black	25	85985K35	13.28
3 3/8"	0.016"-0.25"	3 11/16"	Black	5	85985K42	12.01
5"	0.016"-0.25"	5 1/4"	Black	1	85985K43	4.40
6"	0.016"-0.25"	6 1/4"	Black	1	85985K44	6.43
Metric Locking— Dimensions in millimeters						
16	0.8-2.5	19	Black	100	85985K45	13.92
20	0.8-2.5	23	Black	100	85985K46	17.49
25	0.8-2.5	30	Black	50	85985K48	8.93
32	0.8-2.5	35	Black	50	85985K49	15.48
Vented Locking						
7/8"	0.016"-0.125"	1"	Black	100	85985K33	9.40
1"	0.016"-0.125"	1 3/16"	Black	100	85985K34	10.69

Rigid See-Through Plastic



Made of clear polycarbonate, these plugs provide visibility and light transmission when pressed into holes. Not rated for durometer. Maximum temperature is 235° F.

Fits ID	Fits Panel Thick.	Head Dia.	Pkg. Qty.		Pkg.
3/16"	0.016"-0.062"	1/4"	10	1179K11	$3.90
1/4"	0.016"-0.062"	5/16"	10	1179K12	3.90
5/16"	0.016"-0.062"	3/8"	10	1179K13	3.90
3/8"	0.016"-0.125"	1/2"	10	1179K14	3.90
7/16"	0.016"-0.125"	9/16"	10	1179K15	3.90

Fits ID	Fits Panel Thick.	Head Dia.	Pkg. Qty.		Pkg.
1/2"	0.016"-0.125"	9/16"	10	1179K16	$4.14
5/8"	0.016"-0.125"	3/4"	10	1179K17	4.70
3/4"	0.016"-0.125"	7/8"	10	1179K18	6.31
7/8"	0.016"-0.125"	15/16"	10	1179K19	6.49
2"	0.016"-0.125"	2 3/16"	5	1179K26	12.14

(Continued on following page)

Round Plugs for Panels *(Continued from previous page)*

Flexible Plastic with Flange



A snap-in ring provides a secure fit. Plugs are polyethylene, thermoplastic, or vinyl. They are not rated for hardness. Maximum temperature is 140° F. Color is black.

Fits ID	Fits Panel Thick.	Head Dia.	Pkg. Qty.		Pkg.
Standard					
1/4"	0.02"-0.07"	1/2"	100	9750K39	$4.70
1/4"	0.07"-0.13"	1/2"	100	9750K41	11.22
3/8"	0.06"-0.11"	3/4"	100	9750K21	5.02
1/2"	0.03"-0.08"	7/8"	100	9750K22	3.98
5/8"	0.06"-0.08"	1 1/16"	100	9750K23	6.01
3/4"	0.05"-0.11"	1"	100	9750K24	4.45
7/8"	0.03"-0.08"	1 3/16"	100	9750K25	5.98
1"	0.03"-0.08"	1 3/8"	100	9750K26	5.44
1 3/32"	0.03"-0.08"	1 5/16"	100	9750K27	12.47
1 1/8"	0.02"-0.18"	1 1/2"	50	9750K43	5.60
1 3/16"	0.03"-0.08"	1 9/16"	100	9750K28	6.98
1 1/4"	0.03"-0.08"	1 5/8"	100	9750K31	6.86
1 1/2"	0.03"-0.08"	1 7/8"	100	9750K32	7.05
1 3/4"	0.03"-0.08"	2 1/8"	100	9750K33	7.73
2"	0.03"-0.08"	2 3/8"	50	9750K34	7.98
2 1/2"	0.03"-0.08"	3"	50	9750K35	11.04
2 5/8"	0.03"-0.08"	3 1/8"	25	9750K36	13.27
3"	0.03"-0.08"	3 3/8"	25	9750K37	14.16
3 1/2"	0.03"-0.11"	3 7/8"	25	9750K44	14.29
4"	0.05"-0.1"	4 3/8"	25	9750K45	14.86
Metric—Dimensions in millimeters					
5	0.5-1	10	100	9750K68	7.01
6	0.5-1.5	13	100	9750K69	4.70
15-16	0.8-2	26	100	9750K71	10.01
16-18	0.8-2	28	100	9750K72	11.07
19-20	0.8-2	30	100	9750K73	12.36
21-22	0.8-2	32	50	9750K74	7.26
23-24	0.8-2	34	50	9750K75	7.79
25-26	0.8-2	35	50	9750K76	8.20
27-28	0.8-2	38	50	9750K77	9.19
29-30	0.8-2	40	50	9750K78	9.72
31-32	0.8-2	42	50	9750K79	10.25
33-34	0.8-2	44	50	9750K81	10.77

Rubber



Similar to a grommet, these plugs provide a finished look on both sides of a panel. They are SBR rubber with a durometer of 60A. Maximum temperature is 200° F. Color is black.

Fits ID	Fits Panel Thick.	Head Dia.	O'all Ht.	Pkg. Qty.		Pkg.
1/8"	1/16"	1/4"	3/16"	100	9600K511	$9.38
1/4"	1/16"	3/8"	3/16"	100	9600K512	10.94
3/8"	1/16"	1/2"	3/16"	50	9600K513	7.03
1/2"	1/16"	11/16"	9/32"	50	9600K514	11.72
5/8"	1/16"	7/8"	5/16"	25	9600K515	8.20
3/4"	1/16"	1"	1/4"	25	9600K516	8.59
7/8"	1/16"	1 1/8"	5/16"	25	9600K517	12.50
1"	1/16"	1 5/16"	3/8"	10	9600K518	6.09
1 1/8"	1/16"	1 7/16"	3/8"	10	9600K519	6.41
1 1/4"	1/16"	1 5/8"	1/4"	10	9600K521	6.56
1 3/8"	1/16"	1 3/4"	7/16"	10	9600K522	9.38
1 1/2"	1/16"	1 7/8"	3/8"	10	9600K523	12.50
1 5/8"	1/16"	2"	7/16"	5	9600K524	7.03
1 3/4"	1/16"	2 1/8"	7/16"	5	9600K525	8.28
1 7/8"	1/16"	2 1/4"	7/16"	5	9600K526	9.22
2"	1/16"	2 3/8"	7/16"	1	9600K527	2.13

Plastic with Liquid-Tight Seal



Wings on the plugs expand against the sides of the hole to form a tight seal.

Pierce the plugs with round wire, cable, or tubing and they function as a grommet to create insulated holes.

Plugs are nylon and thermoplastic. Durometer is 55A. Maximum temperature is 210° F. Color is black.

Fits ID	Fits Panel Thick.	Fits Cable Dia.	Head Dia.		Pkg. of 10
1/2"	0.016"-0.063"	0.08"-0.2"	7/8"	9750K82	$8.68
1/2"	0.063"-0.25"	0.08"-0.2"	7/8"	9750K88	8.68
5/8"	0.016"-0.063"	0.13"-0.38"	1"	9750K83	8.96
5/8"	0.063"-0.25"	0.13"-0.38"	1"	9750K89	8.96
3/4"	0.016"-0.063"	0.18"-0.4"	1 1/8"	9750K84	9.10
3/4"	0.063"-0.25"	0.18"-0.4"	1 1/8"	9750K91	9.10
7/8"	0.016"-0.063"	0.13"-0.45"	1 1/4"	9750K85	9.69
7/8"	0.063"-0.25"	0.13"-0.45"	1 1/4"	9750K92	9.69
1"	0.016"-0.063"	0.2"-0.72"	1 7/16"	9750K86	10.35
1"	0.063"-0.25"	0.2"-0.72"	1 7/16"	9750K93	10.35
1 3/32"	0.016"-0.063"	0.25"-0.77"	1 1/2"	9750K87	10.99
1 3/32"	0.063"-0.25"	0.25"-0.77"	1 1/2"	9750K94	10.99

Metal



You can't beat steel plugs for durability. Their tapered prongs snap into the hole to hold the plugs in place.

Fits ID	Fits Panel Thick.	Head Dia.	Pkg. Qty.	Steel	Pkg.	Nickel-Plated Steel	Pkg.
1/8"	0.047"-0.078"	5/16"	50	9563K31	$8.83	9563K81	$9.45
3/16"	0.016"-0.062"	3/8"	50	9563K32	9.02	9563K82	9.98
1/4"	0.031"-0.062"	7/16"	50	9563K62	9.02	9563K41	10.78
9/32"	0.016"-0.062"	7/16"	50	9563K38	9.17	9563K39	10.86
5/16"	0.047"-0.078"	7/16"	50	9563K33	9.49	9563K83	11.00
3/8"	0.031"	1/2"	50	9563K63	9.72	9563K42	11.36
25/64"	0.062"-0.093"	1/2"	50	9563K55	11.00	9563K56	13.19
7/16"	0.031"-0.062"	11/16"	50	9563K34	11.02	9563K84	13.51
15/32"	0.109"-0.172"	5/8"	10	9563K94	4.98	9563K96	10.54
1/2"	0.031"-0.062"	11/16"	50	9563K64	10.00	9563K43	13.40
9/16"	0.047"-0.093"	3/4"	50	9563K57	10.50	9563K58	13.61
5/8"	0.062"-0.093"	13/16"	50	9563K65	11.23	9563K44	13.64
11/16"	0.031"-0.062"	7/8"	50	9563K59	11.42	9563K61	13.88
3/4"	0.109"-0.125"	15/16"	50	9563K66	11.96	9563K45	13.07
13/16"	0.047"-0.093"	1 1/16"	50	9563K78	12.41	9563K79	14.20
7/8"	0.062"-0.093"	1 1/16"	50	9563K67	13.57	9563K46	14.05
15/16"	0.031"-0.078"	1 3/16"	25	9563K86	7.00	9563K87	7.85
1"	0.125"-0.156"	1 1/8"	25	9563K68	7.22	9563K47	9.03
1 1/8"	0.031"-0.125"	1 5/16"	25	9563K35	8.55	9563K85	9.20
1 3/16"	0.031"-0.093"	1 7/16"	25	9563K88	7.58	9563K89	8.91
1 1/4"	0.062"-0.093"	1 7/16"	25	9563K69	8.24	9563K48	9.78
1 3/8"	0.047"-0.125"	1 9/16"	25	9563K71	8.46	9563K49	10.05
1 1/2"	0.031"-0.062"	1 5/8"	25	9563K72	10.24	9563K51	11.92
1 5/8"	0.031"-0.125"	1 13/16"	25	9563K91	11.49	9563K93	13.79
1 3/4"	0.031"-0.093"	1 15/16"	25	9563K92	11.62	9563K95	13.92
1 7/8"	0.031"-0.156"	2 3/16"	5	9563K97	6.58	9563K98	9.35
2"	0.031"-0.062"	2 1/4"	10	9563K77	6.46	9563K54	7.38

37-Piece Nickel-Plated Plug Assortment—Included IDs: 3/8" (12 pcs.), 1/2" (10 pcs.), 5/8" (7 pcs.), and 7/8" (8 pcs.). Comes in a plastic box.

9563K21 **Each** $15.99

270-Piece Nickel-Plated Plug Assortment—Included IDs: 1/4" (50 pcs.), 3/8" (50 pcs.), 1/2" (40 pcs.), 5/8" (35 pcs.), 3/4" (35 pcs.), 7/8" (30 pcs.), 1" (10 pcs.), 1 1/4" (10 pcs.), and 1 1/2" (10 pcs.). Comes in a metal box.

9563K14 **Each** $139.75

Static-Control Round Plugs

Protect your electrical connectors. Plugs meet static requirements of MIL-PRF-81705D. They are polyethylene and fit connectors with straight threads as well as unthreaded bayonet-type connectors. Maximum temperature is 140° F.

Conductive plugs dissipate electrical charges and can be used as an electrical shield. Surface resistivity is less than 10^5 ohms. Durometer is 46D. Color is black.

Antistatic plugs keep equipment safe from electrical currents. Surface resistivity is less than 10^{12} ohms. Durometer is 55A-65A. Color is pink.

Fits Thread Size	Fits ID	Ht.	Head Dia.		Conductive Pkg. Qty.	Conductive Pkg.	Antistatic Pkg. Qty.	Antistatic Pkg.
1/2"-28	15/32"	5/8"	11/16"	94075K83	50	$12.09	100	$10.29
5/8"-24	19/32"	5/8"	3/4"	94075K84	50	12.85	100	10.96
3/4"-20	21/32"	5/8"	7/8"	94075K73	—	—	100	11.77
3/4"-20	23/32"	5/8"	7/8"	94075K53	50	13.61	—	—
7/8"-20	27/32"	5/8"	1 1/16"	94075K85	50	14.42	50	9.16
1"-20	29/32"	5/8"	1 1/8"	94075K75	—	—	50	9.84
1"-20	31/32"	5/8"	1 3/16"	94075K55	50	14.79	—	—
1 1/8"-18	1 1/32"	5/8"	1 1/4"	94075K76	—	—	50	10.52
1 1/8"-18	1 3/32"	5/8"	1 1/4"	94075K56	25	13.73	—	—
1 1/4"-18	1 5/32"	5/8"	1 7/16"	94075K77	—	—	50	11.64
1 1/4"-18	1 7/32"	5/8"	1 1/2"	94075K57	25	11.04	—	—
1 1/2"-18	1 15/32"	5/8"	1 11/16"	94075K86	25	11.28	50	14.12
2"-18	1 31/32"	5/8"	1 3/16"	94075K87	10	9.44	25	13.69



Plugs

For information about durometer hardness, see page 3588.

Round Plugs

Flexible Vinyl



Insert into threaded holes, and plugs conform to the threads to prevent movement. Durometer is 75A. Maximum temperature is 180° F. Color is red.

Fits ID	Fits Pipe Size, NPT	Fits Thread Size	Ht.	Pkg. Qty.		Pkg.
0.29″	—	5/16″	7/16″	100	9343K11	$4.59
0.39″	1/8	3/8″	3/8″	100	9343K12	4.62
0.44″	—	7/16″	3/8″	100	9343K13	4.68
0.505″	1/4	1/2″	3/8″	100	9343K14	4.74
0.555″	—	9/16″	1/2″	100	9343K15	4.91
0.66″	3/8	5/8″	1/2″	100	9343K16	5.17
0.815″	1/2	3/4″	5/8″	100	9343K17	$5.76
0.86″	—	7/8″	5/8″	100	9343K18	6.01
1.035″	3/4	1 1/16″	1 1/16″	100	9343K19	7.55
1.285″	1	1 1/4″–1 5/16″	7/8″	100	9343K21	9.82
1.698″	1 1/4	1 5/8″–1 11/16″	1″	25	9343K22	13.94

Metal Expansion



Also known as freeze plugs, these are commonly used in shallow holes of castings.

Fits ID	Dia.	Pkg. Qty.		Stainless Steel Ht.	Stainless Steel Pkg.	Steel Ht.	Steel Pkg.
1/8″	0.127″	10	9563K211	0.015″	$8.86	0.036″	$8.00
1/4″	0.252″	10	9563K212	0.069″	8.86	0.069″	8.35
3/8″	0.377″	10	9563K213	0.106″	8.86	0.106″	8.45
1/2″	0.502″	10	9563K214	0.075″	9.66	0.123″	8.62
5/8″	0.628″	10	9563K215	0.098″	10.41	0.098″	8.90
3/4″	0.753″	10	9563K216	0.138″	12.38	0.138″	10.14
7/8″	0.878″	7	9563K117	0.171″	12.79	—	—
7/8″	0.878″	10	9563K152	—	—	0.174″	12.19
1″	1.003″	7	9563K118	0.19″	13.34	—	—
1″	1.003″	10	9563K153	—	—	0.2″	12.43
1 1/8″	1.128″	5	9563K154	—	—	0.203″	8.79
1 1/8″	1.128″	7	9563K119	0.2″	13.83	—	—
1 1/4″	1.253″	5	9563K217	0.205″	12.53	0.208″	9.66
1 3/8″	1.38″	5	9563K218	0.215″	12.94	0.218″	10.69
1 1/2″	1.505″	5	9563K219	0.217″	$13.24	0.177″	$12.07
1 5/8″	1.63″	5	9563K221	0.232″	13.72	0.226″	13.14
1 3/4″	1.755″	3	9563K125	0.226″	9.24	—	—
1 3/4″	1.755″	5	9563K159	—	—	0.229″	13.45
1 7/8″	1.88″	3	9563K126	0.237″	9.83	—	—
1 7/8″	1.88″	5	9563K161	—	—	0.24″	13.03
2″	2.005″	3	9563K127	0.241″	10.58	—	—
2″	2.005″	5	9563K162	—	—	0.244″	12.79
2 1/4″	2.255″	3	9563K223	0.262″	12.42	0.265″	9.93
2 1/2″	2.505″	3	9563K224	0.272″	13.28	0.275″	11.56
2 3/4″	2.755″	3	9563K225	0.295″	13.94	0.298″	11.55
3″	3.005″	2	9563K132	0.31″	13.31	—	—
3″	3.005″	3	9563K166	—	—	0.313″	11.65

Tapered Round Plugs

Chemical-Resistant Rubber



Use these EPDM plugs when you're dealing with harsh environments. Durometer is 45A. Max. temperature is 300° F. Color is black.

Fits ID Large End	Fits ID Small End	Ht.	Pkg. Qty.		Pkg.
1/8″	1/32″	5/8″	100	6448K101	$12.00
1/8″	1/16″	5/8″	100	6448K71	10.94
3/16″	1/16″	3/4″	100	6448K87	9.37
1/4″	1/8″	3/4″	100	6448K88	18.75
11/32″	3/16″	5/8″	50	6448K89	12.24
3/8″	1/4″	3/4″	50	6448K91	15.61
7/16″	1/4″	1″	50	6448K102	13.51
1/2″	5/16″	7/8″	25	6448K92	6.99
21/32″	1/2″	1″	10	6448K93	7.07
3/4″	9/16″	1″	10	6448K94	7.30
25/32″	5/8″	1″	10	6448K95	9.16
15/16″	23/32″	1″	10	6448K96	9.52
1″	3/4″	1″	10	6448K103	12.00
1 1/4″	1″	1″	10	6448K104	14.00
1 7/16″	1 1/8″	1″	10	6448K105	$10.00
1 5/8″	1 5/16″	1″	10	6448K106	12.50
1 3/4″	1 15/32″	1″	10	6448K107	13.33
2 7/32″	1 7/8″	1″	5	6448K108	12.50
2 15/32″	2″	1″	5	6448K109	13.83
2 1/2″	2 1/8″	1″	5	6448K121	13.83
2 31/32″	2 7/16″	1 1/2″	1	6448K122	12.00
3 1/2″	3″	1 1/2″	1	6448K123	14.00
4″	3 1/4″	1 1/2″	1	6448K124	20.00
5″	3 1/2″	2″	1	6448K125	36.00
5″	4″	2″	1	6448K126	38.00
5 7/32″	4 1/4″	2″	1	6448K127	40.00
5 13/16″	4 3/4″	2 1/4″	1	6448K128	52.00
6 1/8″	5″	2 1/2″	1	6448K129	60.00

High-Temperature Rubber



Plugs are silicone and withstand temperatures up to 575° F for 20 minutes. Durometer is 25A-80A.

Fits ID Large End	Fits ID Small End	Ht.	Color	Pkg. Qty.		Pkg.
1/16″	1/32″	5/8″	Off-White	50	9277K84	$13.39
5/64″	1/32″	1″	Off-White	50	9277K85	13.62
3/32″	3/64″	5/8″	Off-White	50	9277K86	13.08
1/8″	1/32″	5/8″	Clear	50	9277K41	6.00
1/8″	1/16″	5/8″	Light Green	50	9277K35	6.17
3/16″	1/16″	5/8″	Pink	50	9277K36	7.72
1/4″	1/8″	3/4″	Black	50	9277K37	7.05
11/32″	3/16″	5/8″	Red	50	9277K38	10.43
3/8″	1/8″	1 1/4″	Red	25	9277K81	7.90
3/8″	1/4″	3/4″	Yellow	25	9277K39	6.42
3/8″	17/64″	3/4″	Off-White	50	9277K101	13.86
7/16″	17/64″	1″	Off-White	25	9277K87	15.10
15/32″	23/64″	13/16″	Off-White	25	9277K88	13.21
1/2″	5/16″	13/16″	Clear	10	9277K52	3.48
19/32″	27/64″	1″	Off-White	25	9277K89	13.91
5/8″	7/16″	13/16″	Light Green	10	9277K53	6.38
21/32″	1/2″	1″	Red	25	9277K82	10.17
11/16″	29/64″	1″	Off-White	10	9277K91	14.04
3/4″	9/16″	1″	Black	10	9277K54	7.44
3/4″	37/64″	1″	Off-White	10	9277K102	14.48
25/32″	41/64″	1″	Off-White	10	9277K92	14.57
13/16″	5/8″	1″	Red	25	9277K83	15.72
15/16″	23/32″	1″	Yellow	10	9277K55	13.34
15/16″	47/64″	1″	Off-White	5	9277K103	$13.17
1″	51/64″	1″	Off-White	5	9277K93	14.34
1 1/64″	25/32″	1″	Clear	5	9277K76	7.15
1 1/16″	59/64″	1″	Off-White	5	9277K94	12.74
1 3/32″	61/64″	1″	Off-White	5	9277K104	13.73
1 1/4″	1 3/64″	1″	Off-White	5	9277K95	14.07
1 17/64″	1 1/32″	1″	Dark Green	5	9277K77	8.93
1 17/32″	1 17/64″	1″	Off-White	2	9277K96	11.24
1 39/64″	1 5/16″	1″	Clear	1	9277K49	3.55
1 49/64″	1 15/32″	1″	Red	1	9277K31	3.79
1 31/32″	1 5/8″	1″	Clear	1	9277K62	4.44
1 31/32″	1 41/64″	1″	Off-White	1	9277K97	11.29
2 1/16″	1 49/64″	1″	Off-White	2	9277K98	14.04
2 13/64″	1 7/8″	1″	Purple	1	9277K79	5.34
2 13/64″	1 57/64″	1″	Off-White	1	9277K99	13.11
2 31/64″	1 31/32″	1″	Red	1	9277K34	6.25
2 1/2″	2 9/64″	1″	Off-White	1	9277K105	15.53
2 33/64″	2 1/8″	1″	Red	1	9277K68	6.84
2 11/16″	2 19/64″	1″	Off-White	1	9277K106	16.99
2 61/64″	2 7/16″	1 3/8″	Red	1	9277K69	10.70
3 35/64″	3″	1 1/2″	Red	1	9277K71	16.18
4 3/64″	3 1/4″	1 1/2″	Red	1	9277K73	24.04
5″	3 1/2″	2″	Red	1	9277K75	39.91

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Tapered Round Plugs *(Continued from previous page)*

Flexible Plastic

Thanks to their hollow design and flange, plugs fit snugly yet are easy to remove. They are polyethylene with a durometer of 41D-46D. Maximum temperature is 150° F. Color is red.



Fits Pipe Size	Fits ID: Large End	Fits ID: Small End	Ht.	Pkg. Qty.		Pkg.
For Unthreaded ODs						
1/8	0.302"	0.236"	3/8"	100	4491K11	$3.32
1/4	0.396"	0.33"	3/8"	100	4491K41	3.68
3/8	0.547"	0.471"	7/16"	100	4491K146	4.66
1/2	0.667"	0.58"	1/2"	100	4491K138	4.89
3/4	0.848"	0.75"	9/16"	100	4491K16	6.13
1	1.09"	0.964"	3/4"	100	4491K14	7.94
1 1/4	1.465"	1.312"	7/8"	100	4491K137	9.68
1 1/2	1.682"	1.56"	3/4"	50	4491K144	9.37
2	2.132"	1.975"	1"	50	4491K26	9.55
2 1/2	2.602"	2.395"	1 1/32"	50	4491K139	10.21
3	3.103"	2.975"	3/4"	25	4491K101	10.80
For NPT-Threaded Pipe and Fittings						
1/8	0.396"	0.33"	3/8"	100	4491K41	3.68
1/4	0.485"	0.419"	3/8"	100	4491K141	4.21
3/8	0.631"	0.55"	15/32"	100	4491K143	4.61
1/2	0.788"	0.69"	9/16"	100	4491K2	5.26
3/4	1.04"	0.915"	11/16"	100	4491K47	6.62
1	1.215"	1.094"	3/4"	100	4491K59	6.80
1 1/4	1.6"	1.513"	1/2"	100	4491K71	9.02
1 1/2	1.805"	1.781"	3/8"	100	4491K72	11.21
2	2.26"	2.23"	1/2"	50	4491K73	10.38
2 1/2	2.79"	2.641"	3/4"	50	4491K81	11.63
3	3.457"	3.325"	3/4"	50	4491K83	13.29
3 1/2	3.92"	3.79"	3/4"	25	4491K104	14.55
4	4.43"	4.27"	7/8"	25	4491K86	14.94

Fits Thread Size	Fits ID: Large End	Fits ID: Small End	Ht.	Pkg. Qty.		Pkg.
For Hydraulic Fittings and Other Straight Threads						
5/16"-24	0.302"	0.236"	3/8"	100	4491K11	$3.32
3/8"-24	0.365"	0.299"	3/8"	100	4491K136	3.79
7/16"-20	0.427"	0.361"	3/8"	100	4491K13	5.11
1/2"-20	0.485"	0.419"	3/8"	100	4491K141	4.21
9/16"-18	0.547"	0.471"	7/16"	100	4491K146	4.66
5/8"-18	0.608"	0.532"	7/16"	100	4491K142	4.78
3/4"-16	0.727"	0.64"	1/2"	100	4491K15	5.30
7/8"-14	0.848"	0.75"	9/16"	100	4491K16	6.13
1"-14	0.975"	0.866"	5/8"	100	4491K102	8.09
1 1/16"-12	1.04"	0.915"	11/16"	100	4491K47	6.62
1 5/16"-12	1.284"	1.175"	5/8"	100	4491K17	8.86
1 5/8"-12	1.6"	1.513"	1/2"	100	4491K71	9.02
1 7/8"-12	1.88"	1.75"	3/4"	100	4491K18	11.03
2"-12	1.975"	1.865"	5/8"	50	4491K103	9.71
2 1/4"-12	2.243"	2.067"	1"	50	4491K19	9.23
2 1/2"-12	2.464"	2.298"	1"	50	4491K145	10.60
3"-12	2.98"	2.849"	3/4"	50	4491K22	12.52

Flexible Vinyl with Flange

Tapered for easy insertion and flanged for easy removal, these plugs fit small openings.

Standard plugs have a durometer of 60A-70A. Maximum temperature is 200° F.

High-temperature plugs withstand temperatures up to 475° F for 15 minutes. Durometer is 89A.

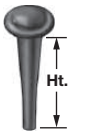

Fits ID: Large End	Fits ID: Small End	Ht.	Color	Pkg. Qty.		Pkg.
Standard						
0.15"	0.07"	1/2"	Red	100	40025K22	$13.89
0.2"	0.1"	1/2"	Blue	50	40025K23	8.08
0.25"	0.14"	3/4"	Green	50	40025K24	8.65
0.3"	0.14"	1"	Brown	50	40025K25	11.40
0.31"	0.16"	3/4"	Orange	50	40025K26	11.91
0.31"	0.19"	1"	Gray	50	40025K27	12.18
0.34"	0.19"	3/4"	Red	50	40025K28	12.28
High Temperature						
0.15"	0.07"	1/2"	Yellow	50	40025K46	10.27
0.2"	0.1"	1/2"	Yellow	50	40025K47	11.19
0.25"	0.14"	3/4"	Yellow	50	40025K48	12.05
0.3"	0.14"	1"	Yellow	50	40025K49	12.76
0.31"	0.16"	3/4"	Yellow	50	40025K51	13.61
0.31"	0.19"	1"	Yellow	50	40025K52	14.46
0.34"	0.19"	3/4"	Yellow	50	40025K53	15.31

Flexible Plastic with Pull Ring

Pull the two built-in rings to remove. Plugs are polyethylene with a durometer of 41D-46D. Maximum temperature is 150° F. Color is blue.





Fits Pipe Size, NPT	Fits ID: Large End	Fits ID: Small End	Ht.	Pkg. Qty.		Pkg.
1/8	3/8"	11/32"	1/4"	100	57935K11	$6.77
1/4	31/64"	29/64"	1/4"	100	57935K12	6.90
3/8	5/8"	9/16"	3/8"	100	57935K13	7.27
1/2	49/64"	43/64"	1/2"	100	57935K14	7.57
3/4	31/32"	57/64"	1/2"	100	57935K15	8.83
1	17/32"	1 1/8"	1/2"	100	57935K16	10.70
1 1/4	1 37/64"	1 1/2"	1/2"	100	57935K17	14.00
1 1/2	1 13/16"	1 3/4"	1/2"	50	57935K18	8.53
2	2 1/4"	2 7/32"	1/2"	50	57935K19	15.26

Trade-Sized Abrasion-Resistant Rubber


Solid


One Hole


Two Hole

Use these SBR rubber plugs for abrasion- and water-resistant laboratory stoppers. Durometer is 40A. Maximum temperature is 200° F. Color is black. Plugs **with holes** allow you to insert tubes.

Trade Size	Fits ID: Large End	Fits ID: Small End	Ht.	Pkg. Qty.		Solid Pkg.	One Hole Pkg.
A	7/32"	3/32"	23/32"	10	9545K37	$5.24	—
B	9/32"	1/8"	1"	10	9545K38	5.71	—
C	3/8"	7/32"	1"	10	9545K39	7.14	—
D	7/16"	9/32"	1"	10	9545K111	8.57	$8.57
000	15/32"	3/8"	23/32"	50	9545K112	4.04	4.04
00	19/32"	13/32"	1"	50	9545K113	6.67	6.67
0	21/32"	17/32"	1"	40	9545K114	7.70	7.62
1	23/32"	9/16"	1"	30	9545K115	8.29	8.29
2	25/32"	21/32"	1"	25	9545K116	8.33	8.33
3	15/16"	23/32"	1"	25	9545K117	9.88	9.88
4	1"	13/16"	1"	10	9545K118	5.24	5.24
5	1 1/16"	29/32"	1"	10	9545K119	6.24	6.24
5 1/2	1 3/32"	31/32"	1"	10	9545K121	5.36	5.17
6	1 1/4"	1 1/32"	1"	10	9545K122	7.95	7.95
6 1/2	1 11/32"	1 1/16"	1"	10	9545K123	9.55	9.55
7	1 7/16"	1 3/16"	1"	5	9545K124	5.00	5.22
7 1/2	1 17/32"	1 7/32"	1"	5	9545K125	5.83	5.83
8	1 9/16"	1 5/16"	1"	5	9545K126	6.67	6.67
8 1/2	1 11/16"	1 13/32"	1"	5	9545K127	7.08	7.08
9	1 3/4"	1 15/32"	1"	5	9545K128	8.18	8.18
9 1/2	1 13/16"	1 1/2"	1"	5	9545K129	8.75	8.75
10	1 31/32"	1 21/32"	1"	5	9545K131	10.00	10.00
10 1/2	2 3/32"	1 25/32"	1"	5	9545K132	11.67	11.67
11	2 3/16"	1 29/32"	1"	5	9545K133	9.92	10.95
11 1/2	2 15/32"	1 31/32"	1"	1	9545K134	2.37	2.55
12	2 1/2"	2 1/8"	1"	1	9545K135	2.69	2.69
13	2 21/32"	2 9/32"	1"	1	9545K136	2.87	3.06
13 1/2	2 15/16"	2 1/4"	1 13/32"	1	9545K137	4.91	5.21
14	3 17/32"	2 31/32"	1 9/16"	1	9545K138	8.26	8.55
15	4 1/32"	3 9/32"	1 9/16"	1	9545K139	11.72	12.50
16	5"	3 9/16"	1 31/32"	1	9545K141	18.74	20.01
Two-Hole Plugs—Specify trade size 000 to 16					9545K142		

Trade-Sized High-Purity Rubber

Also known as laboratory stoppers, these silicone plugs meet USP Class VI and material is FDA listed for use with food and beverages. Durometer is 45A. Maximum temperature is 400° F. Color is semi-clear.



Trade Size	Fits ID: Large End	Fits ID: Small End	Ht.		Each
00	19/32"	7/16"	1"	92835K11	$6.72
0	21/32"	17/32"	1"	92835K12	7.31
1	3/4"	19/32"	1"	92835K13	7.50
2	3/4"	21/32"	1"	92835K14	7.72
3	15/16"	3/4"	1"	92835K15	7.90
4	1"	25/32"	1"	92835K16	8.59
5	1 1/32"	29/32"	1"	92835K17	8.59
6	1 1/4"	1 1/16"	1"	92835K18	10.61
7	1 7/16"	1 1/8"	1"	92835K19	15.10
8	1 19/32"	1 5/16"	1"	92835K21	24.64
9	1 3/4"	1 1/2"	1"	92835K22	25.88
10	1 31/32"	1 11/16"	1"	92835K23	29.10

(Continued on following page)

Tapered Round Plugs *(Continued from previous page)*

Trade-Sized Expandable Rubber



Place a plug into an opening and tighten the wing nut—the sides expand to create a seal. Nut is stainless steel.
General purpose plugs are a blend of natural and SBR rubber for good resistance to impact and abrasion. Durometer is 48A. Maximum temperature is 180° F. Color is black.
High-temperature plugs are silicone and withstand temperatures up to 500° F. Durometer is 55A. Color is orange.

Trade Size	Fits ID: Large End	Fits ID: Small End	Ht.	General Purpose	Each	High Temperature	Each
2	25/32"	41/64"	1"	2605K31	$2.97	5117T11	$4.50
3	15/16"	23/32"	1"	2605K11	3.10	5117T12	5.16
4	1 1/64"	51/64"	1"	2605K33	3.30	5117T13	5.60
5	1 1/16"	29/32"	1"	2605K12	3.57	5117T14	5.84
5 1/2	1 3/32"	61/64"	1"	2605K13	3.67	5117T15	6.90
6	1 1/4"	1 1/32"	1"	2605K36	3.79	5117T16	7.13
6 1/2	1 21/64"	15/64"	1"	2605K14	4.03	5117T17	7.69
7	1 29/64"	1 3/16"	1"	2605K15	4.40	5117T18	8.22
7 1/2	1 17/32"	1 15/64"	1"	2605K39	4.70	5117T19	10.43
8	1 39/64"	15/16"	1"	2605K41	4.93	5117T21	11.06
8 1/2	1 11/16"	1 27/64"	1"	2605K16	4.75	5117T22	11.81
9	1 49/64"	1 15/32"	1"	2605K17	5.53	5117T23	13.43
9 1/2	1 51/64"	1 1/2"	1"	2605K43	$5.64	5117T24	$13.66
10	1 31/32"	1 21/32"	1"	2605K18	5.67	5117T25	14.94
10 1/2	2 5/64"	1 25/32"	1"	2605K45	6.80	5117T26	16.39
11	2 13/64"	1 57/64"	1"	2605K29	6.69	5117T27	17.38
11 1/2	2 15/32"	1 63/64"	1"	2605K21	7.34	5117T28	18.79
12	2 33/64"	2 9/64"	1"	2605K48	8.85	5117T29	20.88
13	2 21/32"	2 19/64"	1"	2605K49	9.97	5117T31	25.08
13 1/2	2 61/64"	2 29/64"	1 3/8"	2605K51	18.09	5117T32	32.33
14	3 17/32"	2 61/64"	1 17/32"	2605K52	45.28	5117T33	65.11
15	4 3/64"	3 9/32"	1 17/32"	2605K53	54.63	5117T34	80.02
16	5"	3 35/64"	1 31/32"	2605K54	84.45	5117T35	113.42

Trade-Sized Compressible Cork



Lightweight and moisture resistant, these plugs are laboratory-grade 100% natural cork with a durometer of 48A-73A. Maximum temperature is 150° F.

Trade Size	Fits ID: Large End	Fits ID: Small End	Ht.	Pkg. Qty.		Pkg.
0000	3/16"	3/32"	1/2"	100	9566K11	$6.20
000	1/4"	5/32"	1/2"	100	9566K12	6.77
00	5/16"	7/32"	1/2"	100	9566K13	6.93
0	3/8"	9/32"	1/2"	100	9566K14	7.10
1	7/16"	21/64"	5/8"	100	9566K15	8.05
2	1/2"	3/8"	11/16"	100	9566K16	8.25
3	9/16"	27/64"	3/4"	100	9566K17	9.52
4	5/8"	15/32"	13/16"	100	9566K18	9.78
5	11/16"	17/32"	7/8"	100	9566K19	10.61
6	3/4"	37/64"	15/16"	100	9566K2	11.21
7	13/16"	5/8"	1"	100	9566K21	13.02
8	7/8"	43/64"	1 1/16"	50	9566K22	8.48
9	15/16"	47/64"	1 1/8"	50	9566K23	10.87
10	1"	49/64"	1 1/4"	50	9566K24	14.13
11	1 1/16"	53/64"	1 1/4"	25	9566K61	8.79
12	1 1/8"	57/64"	1 1/4"	25	9566K62	8.30
13	1 3/16"	61/64"	1 1/4"	25	9566K63	8.06
14	1 1/4"	1 1/64"	1 1/4"	25	9566K25	8.91
16	1 3/8"	1 3/32"	1 1/2"	25	9566K26	13.47
17	1 7/16"	1 5/32"	1 1/2"	25	9566K101	13.00
18	1 1/2"	1 7/32"	1 1/2"	10	9566K27	$6.48
19	1 9/16"	1 9/32"	1 1/2"	10	9566K102	6.71
20	1 5/8"	1 11/32"	1 1/2"	10	9566K28	7.38
21	1 11/16"	1 13/32"	1 1/2"	10	9566K103	9.86
22	1 3/4"	1 15/32"	1 1/2"	10	9566K29	9.62
23	1 13/16"	1 17/32"	1 1/2"	10	9566K104	11.71
24	1 7/8"	1 19/32"	1 1/2"	10	9566K76	11.22
25	1 15/16"	1 21/32"	1 1/2"	10	9566K105	14.05
26	2"	1 23/32"	1 1/2"	10	9566K31	14.75
28	2 1/8"	1 27/32"	1 1/2"	10	9566K84	19.88
30	2 1/4"	1 31/32"	1 1/2"	5	9566K85	17.75
32	2 3/8"	2 3/32"	1 1/2"	1	9566K106	4.16
34	2 1/2"	2 7/32"	1 1/2"	1	9566K107	4.27
36	2 5/8"	2 11/32"	1 1/2"	1	9566K108	4.35
38	2 3/4"	2 15/32"	1 1/2"	1	9566K109	4.49
40	2 7/8"	2 19/32"	1 1/2"	1	9566K111	4.62
42	3"	2 23/32"	1 1/2"	1	9566K112	4.76
44	3 1/8"	2 27/32"	1 1/2"	1	9566K113	4.89
46	3 1/4"	2 31/32"	1 1/2"	1	9566K114	5.00

Finishing Plugs for Tubing



Smooth Square



Ribbed Rectangular



Ribbed Round

Give your square, rectangular, and round tubing finished ends. Plugs are polyethylene with a durometer of 41D-54D, except smooth rectangular plugs with OD of 1/2" x 1 1/2" and 5/8" x 1 1/2" are ABS plastic with a Rockwell hardness of R112. Maximum temperature is 150° F. Color is black.
Ribbed plugs have flexible ridges that allow them to fit a range of tubing sizes.

OD	Fits Tube: ID	Ht.	Pkg. Qty.		Pkg.
Smooth Square					
1/2"	0.37"	1/2"	100	9565K13	$10.60
3/4"	0.62"	1/2"	100	9565K11	10.39
1"	0.76"	1/2"	100	9565K12	12.33
1"	0.83"	1/2"	100	9565K22	12.64
1"	0.87"	1/2"	100	9565K23	12.16
1"	0.90"	1/2"	100	9565K24	12.64
1"	0.93"	1/2"	100	9565K25	11.74
1 1/4"	1.08"	1/2"	100	9565K14	13.89
1 1/4"	1.12"	1/2"	100	9565K15	13.89
1 1/4"	1.01"	1/2"	100	9565K28	11.29
1 1/2"	1.26"	1/2"	50	9565K29	9.69
1 1/2"	1.33"	1/2"	50	9565K26	9.69
1 1/2"	1.37"	1/2"	50	9565K27	9.69
2"	1.76"	1/2"	50	9565K31	13.08
2"	1.83"	1/2"	50	9565K18	13.12
2"	1.87"	1/2"	50	9565K19	13.12
Smooth Rectangular					
1/2" x 1 1/2"	0.4" x 1.4"	1/2"	50	9474K41	12.14
5/8" x 1 1/4"	0.45" x 1.08"	1/2"	50	9474K57	14.25
5/8" x 1 1/2"	0.56" x 1.4"	1/2"	50	9474K42	12.74
1" x 1 1/2"	0.85" x 1.35"	7/16"	25	9474K44	8.37
1" x 2 1/2"	0.86" x 2.36"	15/32"	25	9474K46	14.60
1 1/4" x 2 1/2"	1.17" x 2.42"	15/32"	10	9474K47	6.31
Smooth Rectangular (Cont.)					
2" x 5"	1.73" x 4.73"	1"	5	9474K63	$13.51
Ribbed Square					
1/2"	0.37"-0.4"	7/16"	50	9565K94	7.51
5/8"	0.46"-0.55"	7/16"	50	9565K95	7.75
3/4"	0.6"-0.67"	7/16"	100	9565K5	8.62
7/8"	0.71"-0.8"	7/16"	50	9565K16	9.00
1"	0.72"-0.84"	7/16"	100	9565K52	12.29
1"	0.85"-0.92"	7/16"	100	9565K51	12.29
1 1/8"	0.96"-1.05"	1/2"	25	9565K62	10.28
1 1/4"	1.1"-1.17"	1/2"	50	9565K53	9.26
1 3/8"	1.11"-1.2"	1/2"	25	9565K17	9.40
1 3/8"	1.21"-1.3"	1/2"	25	9565K21	9.40
1 1/2"	1.29"-1.34"	1/2"	25	9565K55	8.12
1 1/2"	1.35"-1.42"	1/2"	25	9565K54	8.12
1 3/4"	1.49"-1.58"	1/2"	20	9565K32	11.28
1 3/4"	1.59"-1.68"	1/2"	10	9565K65	6.41
2"	1.74"-1.83"	1/2"	20	9565K38	16.98
2"	1.85"-1.92"	11/16"	25	9565K56	11.38
2 1/4"	1.99"-2.08"	1/2"	10	9565K91	8.07
2 1/2"	2.24"-2.33"	1/2"	10	9565K92	9.40
2 3/4"	2.42"-2.58"	23/32"	10	9565K39	27.26
2 3/4"	2.59"-2.68"	21/32"	10	9565K43	27.26
3"	2.49"-2.64"	1/2"	10	9565K93	10.31

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Finishing Plugs for Tubing *(Continued from previous page)*

Fits Tube OD	Fits Tube ID	Ht.	Pkg. Qty.		Pkg.
Ribbed Rectangular					
1/2″×1″	0.37″-0.4″×0.87″-0.9″	7/16″	50	9474K51	$10.88
1/2″×1 1/2″	0.34″-0.43″×1.34″-1.43″	15/32″	100	9474K16	14.27
3/4″×1 1/2″	0.59″-0.68″×1.34″-1.43″	7/16″	100	9474K17	13.05
1″×1 1/4″	0.84″-0.93″×1.09″-1.18″	1/2″	20	9474K52	10.70
1″×1 1/2″	0.84″-0.93″×1.34″-1.43″	7/16″	50	9474K18	8.98
1″×2″	0.84″-0.95″×1.83″-1.95″	21/32″	25	9474K45	11.75
1″×2 1/2″	0.84″-0.93″×2.34″-2.43″	15/32″	25	9474K19	9.15
1″×3″	0.84″-0.93″×2.84″-2.93″	1/2″	10	9474K53	8.77
1 3/16″×2 3/8″	1.02″-1.13″×2.27″-2.39″	3/4″	25	9474K21	10.56
1 1/2″×2″	1.24″-1.33″×1.74″-1.83″	1/2″	10	9474K54	8.61
1 1/2″×2 1/2″	1.29″-1.37″×2.29″-2.37″	17/32″	20	9474K58	12.36
1 1/2″×3″	1.24″-1.33″×2.74″-2.83″	1/2″	20	9474K59	13.01
1 1/2″×3 1/2″	1.24″-1.33″×3.24″-3.33″	19/32″	5	9474K55	11.04
2″×2 1/2″	1.74″-1.83″×2.24″-2.33″	17/32″	20	9474K61	13.19
2″×3″	1.74″-1.83″×2.73″-2.83″	1/2″	10	9474K56	11.91
2″×4″	1.84″-1.93″×3.84″-3.93″	1/2″	10	9474K62	13.70
3″×4″	2.6″-2.67″×3.6″-3.67″	31/32″	5	9474K64	13.63
Ribbed Round					
1/2″	0.31″-0.33″	7/16″	100	9283K27	10.26
1/2″	0.34″-0.45″	1/2″	100	9283K17	6.54
5/8″	0.46″-0.57″	1/2″	100	9283K11	7.37
3/4″	0.59″-0.7″	17/32″	100	9283K12	11.69
7/8″	0.61″-0.7″	7/16″	100	9283K28	13.25

Fits Tube OD	Fits Tube ID	Ht.	Pkg. Qty.		Pkg.
Ribbed Round (Cont.)					
7/8″	0.71″-0.82″	17/32″	100	9283K13	$11.87
1″	0.74″-0.83″	7/16″	100	9283K29	13.88
1″	0.84″-0.95″	9/16″	100	9283K14	12.30
1 1/8″	0.96″-1.05″	17/32″	50	9283K31	11.47
1 1/8″	0.96″-1.07″	21/32″	25	9283K18	4.82
1 1/4″	0.99″-1.08″	17/32″	25	9283K32	8.28
1 1/4″	1.09″-1.2″	21/32″	50	9283K15	10.67
1 3/8″	1.21″-1.3″	1/2″	25	9283K33	9.32
1 1/2″	1.24″-1.33″	17/32″	25	9283K34	9.30
1 1/2″	1.34″-1.45″	21/32″	50	9283K16	11.51
1 5/8″	1.36″-1.45″	1/2″	25	9283K35	11.84
1 5/8″	1.46″-1.55″	17/32″	25	9283K36	9.64
1 3/4″	1.49″-1.58″	19/32″	25	9283K37	13.18
1 3/4″	1.59″-1.68″	19/32″	25	9283K38	13.18
1 3/4″	1.59″-1.7″	21/32″	10	9283K19	5.90
2″	1.74″-1.83″	19/32″	20	9283K39	13.37
2″	1.84″-1.93″	19/32″	20	9283K41	12.42
2″	1.84″-1.95″	21/32″	10	9283K21	3.44
2 1/8″	1.86″-1.99″	21/32″	25	9283K42	15.08
2 1/4″	1.99″-2.08″	21/32″	20	9283K43	12.74
2 3/8″	2.11″-2.2″	21/32″	20	9283K44	13.63
2 1/2″	2.34″-2.43″	11/16″	20	9283K45	13.73
3″	2.81″-2.88″	27/32″	10	9283K46	13.79

Threaded Round Plugs

Protect threaded ports and connections.

Raised Head

Square-head and **serrated round-head** plugs are polyethylene with a durometer of 60D-70D. Maximum temperature is 165° F. Color is red. They meet MIL-C-5501/5.

Metric hexagon-head plugs are nylon with a durometer of 54D. Maximum temperature is 155° F. Color is yellow.

Fits Pipe Size, NPT	Ht.	Pkg. Qty.		Pkg.
Square Head				
1/8	7/16″	100	5481K14	$7.92
1/4	1/2″	100	5481K15	9.33
3/8	1/2″	100	5481K16	13.89
1/2	19/32″	100	5481K17	14.46
3/4	5/8″	50	5481K18	12.50
1	23/32″	25	5481K19	8.81
1 1/4	3/4″	25	5481K21	13.14
1 1/2	31/32″	10	5481K22	12.81
Serrated Round Head				
1/8	9/32″	100	6844K29	9.50
1/4	3/8″	100	6844K31	10.94
3/8	11/32″	100	6844K32	13.35
1/2	9/16″	100	6844K33	12.72
3/4	5/8″	50	6844K34	9.94

Fits Thread Size	Ht., mm	Pkg. Qty.		Pkg.
Metric Hexagon Head				
M10×1	7	50	5481K23	$13.63
M12×1.5	10	50	5481K24	13.78
M14×1.5	10	50	5481K25	13.93
M16×1.5	10	50	5481K26	13.75
M18×1.5	10	50	5481K27	13.97
M20×1.5	10	25	5481K28	12.95
M22×1.5	10	25	5481K29	13.62
M24×1.5	12	25	5481K31	13.44
M26×1.5	10	10	5481K32	11.59
M27×2	13	10	5481K33	13.54
M33×2	13	10	5481K34	14.05



Square Head


Serrated Round Head


Metric Hexagon Head

Recessed Head

For JIC/SAE Fittings—Plugs are polyethylene and have a 37° flare. Durometer is 40D. Maximum temperature is 150° F. Color is red.

For JIC/SAE Fittings and Straight-Thread Ports—Plugs are aluminum and have a 37° flare. Maximum temperature is 650° F.

For SAE Straight-Thread O-Ring Ports—Use these polyethylene plugs on fluid power components. Durometer is 60D-70D. Maximum temperature is 165° F. Color is red.

For Straight Tube and Hose Assemblies—Form a low-pressure seal on straight tube ends. Plugs are aluminum. Maximum temperature is 650° F.

Fits Thread Size	Fits ID	Ht.	Pkg. Qty.		Pkg.
For JIC/SAE Fittings					
5/16″-24	1/8″	13/32″	100	1277K33	$6.53
3/8″-24	3/16″	15/32″	100	1277K34	7.59
7/16″-20	1/4″	17/32″	100	1277K35	7.68
1/2″-20	5/16″	17/32″	100	1277K36	8.16
9/16″-18	3/8″	1/2″	100	1277K37	8.94
3/4″-16	1/2″	3/4″	100	1277K39	11.23
7/8″-14	5/8″	7/8″	100	1277K41	11.26
1 1/16″-12	3/4″	7/8″	100	1277K42	13.43
1 5/16″-12	1″	15/16″	100	1277K44	15.12
For JIC/SAE Fittings and Straight-Thread Ports					
3/8″-24	3/16″	3/8″	25	3438T33	10.73
7/16″-20	1/4″	15/32″	50	3438T34	9.28
1/2″-20	5/16″	15/32″	50	3438T35	9.79
9/16″-18	3/8″	1/2″	50	3438T36	9.67
5/8″-18	3/8″	1/2″	25	3438T37	11.55
3/4″-16	1/2″	19/32″	50	3438T38	13.63
7/8″-14	5/8″	11/16″	25	3438T39	8.55
1 1/16″-12	3/4″	21/32″	25	3438T41	12.75
1 5/16″-12	1″	23/32″	10	3438T42	9.04
1 7/8″-12	1 1/2″	7/8″	5	3438T43	13.24

Fits Thread Size	Fits ID	Ht.	Pkg. Qty.		Pkg.
For SAE Straight-Thread O-Ring Ports					
7/16″-20	____	5/16″	50	1277K71	$5.63
1/2″-20	____	5/16″	50	1277K72	6.04
9/16″-18	____	11/32″	50	1277K73	6.90
3/4″-16	____	13/32″	50	1277K74	7.22
7/8″-14	____	7/16″	50	1277K75	7.82
1 1/16″-12	____	5/8″	50	1277K76	8.93
For Straight Tube and Hose Assemblies					
5/16″-24	5/32″	11/32″	25	3438T16	11.14
3/8″-24	3/16″	9/32″	25	3438T17	11.20
7/16″-20	1/4″	9/32″	25	3438T18	6.36
1/2″-20	5/16″	5/16″	25	3438T19	6.73
9/16″-18	3/8″	5/16″	25	3438T21	6.87
5/8″-18	3/8″	5/16″	25	3438T22	6.87
3/4″-16	1/2″	7/16″	25	3438T23	13.00
7/8″-14	5/8″	1/2″	25	3438T24	9.36
1 1/16″-12	3/4″	15/32″	25	3438T25	14.54
1 5/16″-12	1″	7/16″	25	3438T26	13.53
1 7/8″-12	1 1/2″	5/8″	5	3438T27	12.92



For JIC/SAE Fittings and Straight-Thread Ports


For SAE Straight-Thread O-Ring Ports


For Straight Tube and Hose Assemblies

Tool-Installed Round Sealing Plugs

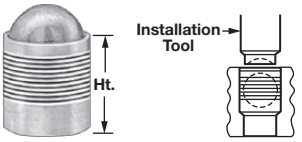

Permanently seal unthreaded holes with these stainless steel plugs. An installation tool (sold separately) is required. Insert the plug into a hole and use a hammer (or arbor press) with the installation tool to set the ball bearing in place.

Fits ID	Min. Hole Dp.	Ht.	Pkg. Qty.	Plugs	Pkg.	Installation Tools	Each
5/32"	0.13"	0.15"	5	24675K81	$5.75	24675K41	$84.70
3/16"	0.152"	0.193"	5	24675K82	6.30	24675K42	84.70
7/32"	0.187"	0.225"	5	24675K83	8.80	24675K43	84.70
1/4"	0.212"	0.26"	5	24675K84	11.25	24675K44	84.70
9/32"	0.25"	0.285"	5	24675K85	13.00	24675K45	84.70
5/16"	0.326"	0.323"	5	24675K86	13.12	24675K46	84.70
11/32"	0.385"	0.382"	1	24675K87	3.22	24675K47	84.70
3/8"	0.385"	0.382"	1	24675K88	3.48	24675K48	84.70
13/32"	0.425"	0.422"	1	24675K89	4.48	24675K49	84.70
7/16"	0.503"	0.5"	1	24675K91	5.04	24675K51	84.70
15/32"	0.503"	0.5"	1	24675K92	5.78	24675K52	84.70

Wrap-On Grips



Wrap grips onto handles to create a nonslip surface. Grips can be cut with scissors and come with finishing tape to fasten the ends.

Thin grip is absorbent, polyurethane-coated nylon fabric. Temperature range is 0° to 120°F.

Adhesive-back cushioned grip is closed-cell EPDM foam with a temperature range of –20° to 150°F.

Thick-cushioned grip is closed-cell EPDM foam. Temperature range is –65° to 250°F.

Lg., ft.	Wd.	Thick.	Color	Pkg. Qty.		Pkg.
Thin						
3	1"	0.02"	Blue	3	32765K211	$9.00
Adhesive-Back Cushioned						
6	7/8"	0.07"	Black	1	32765K31	6.90
Thick Cushioned						
5	3/4"	0.13"	Black	1	32765K41	9.81

Wrap-Around Grips with Open Ends



Hook-and-loop closure secures grips anywhere on a handle. The loop strip has an adhesive back so you can attach it to the handle and then wrap the hook strip around it. Grips are made of vinyl and nitrile. Temperature range is –20° to 150°F. Color is black.

Fits OD	O'all Lg.		Pkg. of 2
1/2"-3/4"	4 1/4"	9445K21	$10.48
3/4"-1 1/16"	4 1/4"	9445K22	10.48
1 1/16"-1 3/8"	4 1/4"	9445K23	10.48

Round Grips with Open Ends

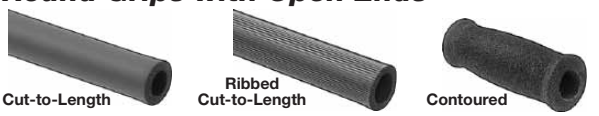

Two open ends mean these grips slide anywhere along a round handle to insulate and cushion vibration. Temperature range is –20° to 220°F. Color is black. **Cut-to-length** and **ribbed cut-to-length** grips are closed-cell vinyl foam; **contoured** grips are open-cell vinyl foam.

Fits OD	O'all Lg.	Wall Thick.		Each
Cut-to-Length				
7/8"	24"	0.32"	9754K37	$5.70
7/8"	36"	0.32"	9754K38	7.91
7/8"	72"	0.32"	9754K11	14.55
1"	24"	0.27"	9754K39	6.00
1"	25"	0.205"	9754K43	6.46
1"	36"	0.27"	9754K41	8.32
1"	50"	0.205"	9754K14	11.36
1"	72"	0.27"	9754K13	15.60
Ribbed Cut-to-Length				
1"	63"	0.2"	9754K24	14.23
1 1/4"	63"	0.237"	9754K15	13.20
Contoured				
5/8"-3/4"	4 1/2"	0.375"	9754K51	1.31
3/4"-7/8"	4 1/2"	0.375"	9754K52	1.52
7/8"-1"	4 1/2"	0.375"	9754K53	1.84

Pull-Through Round Plugs

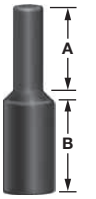

Use the smaller end of the plug to pull the larger end into a through hole to form a tight seal.

Standard plugs are EPDM rubber with a durometer of 60A. They are not rated for temperature. Color is black.

High-temperature plugs are silicone and withstand temperatures up to 600°F for 15 minutes. Durometer is 25A-80A.

Fits ID	(A)	(B)		Standard Pkg. Qty.	Standard Pkg.	High Temperature Color	High Temperature Pkg. Qty.	High Temperature Pkg.
0.05"	0.337"	0.375"	9286K1	100	$10.13	Clear	50	$5.47
1/16"	0.59"	0.612"	9286K2	100	11.17	Green	50	5.65
5/64"	0.7"	0.7"	9286K3	50	8.17	Gray	25	5.68
1/8"	0.7"	0.65"	9286K4	50	9.51	Pink	25	6.24
9/64"	0.625"	0.625"	2903K5	—	—	Gray	25	8.11
9/64"	0.75"	0.625"	9286K76	50	8.91	—	—	—
3/16"	1"	1"	9286K6	50	9.81	Clear	25	8.29
1/4"	1"	1"	9286K7	50	9.48	Green	25	9.66
17/64"	0.92"	0.937"	9286K8	50	9.66	Yellow	25	9.89
5/16"	1.1"	0.757"	9286K9	50	12.66	Blue	25	12.18
11/32"	0.925"	0.881"	9286K23	50	10.64	Clear	25	12.27
3/8"	1"	1"	9286K11	25	13.07	Pink	25	12.80
13/32"	1"	1.009"	9286K12	25	12.34	Green	25	13.07
7/16"	1"	1"	9286K13	25	12.97	Gray	25	14.86
29/64"	1"	1"	9286K14	10	6.59	Blue	25	15.54
1/2"	0.956"	1"	9286K15	10	7.75	Clear	10	9.89
33/64"	1"	1"	9286K16	10	6.87	Pink	10	10.79
5/8"	1"	1"	9286K17	10	8.79	Gray	10	14.35
11/16"	1.326"	1.25"	9286K19	10	11.59	Blue	10	15.40
3/4"	0.927"	1"	9286K18	10	11.92	Clear	5	13.16
7/8"	1"	1"	9286K21	10	11.47	Green	5	14.32
1"	0.97"	1"	9286K22	10	12.03	Yellow	5	15.24

Mold-Your-Own Grips

Place these white plastic pellets in hot water (155° to 180°F) until they soften and become pliable. Then mold the material directly to your handle to create a custom grip. Grips become rigid when cool. Material can be cut with scissors when warm and with a rotary tool when cold. Material is reusable.

1-lb. Jar	6225T11	$29.17

Rectangular and Square Grips

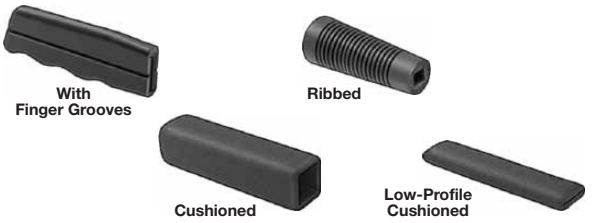

Slide grips onto your rectangular, square, or flat handles. All have one closed end.

Grips with finger grooves and **ribbed** grip are heavy duty vinyl. Temperature range is –20° to 180°F.

Cushioned and **low-profile cushioned** grips are closed-cell vinyl foam with 0.125" to 0.15" wall thickness to insulate and cushion vibration. Temperature range is –40° to 225°F.

Fits Size Wd.	Fits Size Ht.	O'all Lg.	Choose a Color	Pkg. Qty.		Pkg.
With Finger Grooves						
1/8"	1"	4 11/16"	Black, Red, White	6	9692K35	$10.77
3/16"	1"	4 11/16"	Black, Red, White	6	9692K36	9.75
1/4"	1"	4 11/16"	Black, Red, White	6	9692K37	10.19
1/2"	1"	4 11/16"	Black, Red, White	6	9692K62	11.38
3/4"	1"	4 11/16"	Black, Red, White	4	9692K63	9.15
1"	1"	4 11/16"	Black, Red, White	4	9692K64	10.75
Ribbed						
3/8"	1/2"	3 1/4"	Black, Red, White	6	9692K61	12.90
Cushioned						
1"	1"	5"	Black	6	9282K92	13.95
Low-Profile Cushioned						
3/4"	1/4"	4 3/4"	Black	6	9282K83	12.88
1"	1/8"	5"	Black	6	9282K81	10.08
1"	3/16"	5"	Black	6	9282K82	12.88

Round Grips



Grips slide onto round handles and have one closed end.

Standard grips are heavy duty vinyl for strength and durability. Temperature range is –20° to 140° F.

High-temperature grips are made of silicone with a temperature range of –40° to 400° F.

Cushioned grips are closed-cell vinyl foam with a wall thickness of 0.12″ to 0.15″ to insulate and cushion vibration. Temperature range is –40° to 225° F.

	Fits OD	O'all Lg.	Choose a Color	Pkg. Qty.		Pkg.
Standard						
1	1/2″	3 1/8″	Black, Red, White	6	97065K13	$12.86
1	5/8″	4 7/8″	Black, Red, White	6	97065K38	13.78
1	3/4″	5 1/16″	Black, Red, White	6	97065K39	12.86
1	7/8″	5 1/16″	Black, Red, White	6	97065K41	12.86
1	1″	5 1/16″	Black, Red, White	6	97065K42	12.86
1	1 1/8″	5 1/4″	Black, Red, White	6	97065K14	15.78
1	1 1/4″	5 1/4″	Black, Red, White	6	97065K15	16.25
1	1 1/2″	5 1/4″	Black, Red, White	6	97065K17	12.86
2	1/2″	3 1/8″	Black, Red, White	6	97065K21	12.86
2	5/8″	3 3/8″	Black, Red, White	6	97065K22	12.86
2	3/4″	4 1/2″	Black, Red, White	6	97065K23	20.58
2	7/8″	4 1/2″	Black, Red, White	6	97065K43	13.51
2	1″	4 1/2″	Black, Red, White	6	97065K44	14.01
2	1 1/8″	4 3/4″	Black, Red, White	6	97065K24	12.86
2	1 1/4″	5 1/4″	Black, Red, White	6	97065K25	12.86
3	7/8″	4 1/2″	Black	6	9729K21	11.25
3	1 1/4″	4 5/8″	Black	6	9729K76	16.41
4	5/8″	4 9/16″	Black, Red	6	9729K22	11.25
4	3/4″	4 9/16″	Black, Red	6	9729K23	11.25
5	1 1/4″	4 11/16″	Black	6	97065K83	16.96
6	1/2″	3 1/8″	Black, Red, White	6	97045K35	12.87
6	5/8″	3 3/8″	Black, Red, White	6	97045K28	12.86
6	3/4″	4 13/16″	Black, Red, White	6	97045K48	11.44
6	7/8″	4 3/4″	Black, Red, White	6	97045K49	12.86
6	1″	4 1/2″	Black, Red, White	6	97045K51	11.62
6	1 1/8″	4 11/16″	Black, Red, White	6	97045K31	14.21
6	1 1/4″	4 11/16″	Black, Red, White	6	97045K32	13.78
6	1 1/2″	5 1/4″	Black, Red, White	6	97045K34	12.86
7	7/16″	3 1/8″	Black	6	97045K64	14.73
7	1/2″	3 1/8″	Black	6	97045K65	13.96
7	5/8″	3 1/8″	Black	6	97045K66	11.68
8	7/8″	4 9/16″	Black, Red, White	6	97045K56	13.59
9	7/8″	4 9/16″	Black, Red, White	6	97045K57	14.95
10	1/2″	3 1/8″	Black, Red, White	6	97045K44	12.86
10	5/8″	3 3/8″	Black, Red, White	6	97045K52	13.78
10	3/4″	4 13/16″	Black, Red, White	6	97045K53	13.78
10	7/8″	3 3/4″	Black	6	97045K63	11.54
10	7/8″	4 5/8″	Black, Red, White	6	97045K54	13.78
10	1″	4 9/16″	Black, Red, White	6	97045K55	13.78
10	1 1/8″	4 3/4″	Black, Red, White	6	97045K46	13.78
10	1 1/4″	4 13/16″	Black, Red, White	6	97045K29	13.88
10	1 1/2″	4 3/4″	Black, Red, White	6	97045K36	12.86
11	7/16″	3 13/16″	Black	6	97045K67	16.87
11	1/2″	3 13/16″	Black	6	97045K68	15.59
11	5/8″	3 13/16″	Black	6	97045K69	13.79
High Temperature						
2	1″	4 1/2″	Orange	2	5271T11	9.37
6	1″	4 1/2″	Orange	2	5271T12	5.63
10	1″	4 9/16″	Orange	2	5271T13	8.13

	Fits OD	O'all Lg.	Choose a Color	Pkg. Qty.		Pkg.
Cushioned						
12	3/16″-1/4″	3″	Black	10	9282K11	$6.11
12	1/4″-5/16″	4″	Black	10	9282K12	7.02
12	5/16″-3/8″	4″	Black	10	9282K13	7.02
12	5/16″-3/8″	7″	Black	10	9282K111	8.74
12	3/8″-27/64″	4″	Black	10	9282K14	7.81
12	3/8″-27/64″	6″	Black	10	9282K112	9.36
12	27/64″-5/8″	7 3/4″	Black	2	9282K36	7.53
12	31/64″-9/16″	5″	Black	6	9282K113	15.41
12	1/2″-5/8″	6″	Black	2	9282K114	5.40
12	1/2″-5/8″	12″	Black	2	9282K115	6.59
12	1/2″-5/8″	21″	Black	2	9282K116	7.67
12	9/16″-11/16″	6″	Black	2	9282K117	5.49
12	9/16″-11/16″	12″	Black	2	9282K118	6.73
12	9/16″-11/16″	15″	Black	2	9282K119	7.23
12	9/16″-11/16″	21″	Black	2	9282K121	7.81
12	5/8″-45/64″	4 1/2″	Black	6	9282K15	12.19
12	5/8″-45/64″	12″	Black	2	9282K122	6.71
12	45/64″-25/32″	4 1/2″	Black	6	9282K16	13.82
12	45/64″-25/32″	6″	Black	2	9282K123	5.37
12	45/64″-25/32″	12″	Black	2	9282K124	7.02
12	45/64″-25/32″	19″	Black	2	9282K125	7.81
12	27/32″-7/8″	4 3/4″	Black	6	9282K17	13.97
12	27/32″-7/8″	6″	Black	6	9282K25	13.97
12	27/32″-7/8″	8″	Black	6	9282K26	14.84
12	27/32″-7/8″	15″	Black	2	9282K27	6.04
12	27/32″-7/8″	21″	Black	2	9282K126	8.27
12	15/16″-13/64″	4 3/4″	Black	6	9282K19	14.64
12	15/16″-13/64″	12″	Black	2	9282K21	8.27
12	15/16″-13/64″	21″	Black	2	9282K127	8.54
12	15/16″-1 13/64″	6″	Black	6	9282K28	13.70
12	15/16″-1 13/64″	8″	Black	6	9282K29	14.83
12	15/16″-1 13/64″	15″	Black	2	9282K31	8.26
12	1 1/8″-13/16″	6″	Black	2	9282K128	7.16
12	1 1/8″-13/16″	12″	Black	2	9282K22	8.25
12	1 1/8″-13/16″	21″	Black	2	9282K129	8.69
12	17/32″-119/64″	21″	Black	2	9282K131	11.38
12	17/32″-119/32″	4 3/4″	Black	6	9282K23	13.29
12	17/32″-119/32″	6″	Black	6	9282K32	14.32
12	17/32″-119/32″	8″	Black	2	9282K33	8.23
12	17/32″-119/32″	12″	Black	2	9282K24	9.33
12	17/32″-119/32″	15″	Black	2	9282K34	10.45
12	17/16″-119/32″	6″	Black	2	9282K35	8.10
12	17/16″-119/32″	12″	Black	2	9282K132	8.86
12	17/16″-119/32″	21″	Black	2	9282K133	11.43
12	1 11/16″-17/8″	12″	Black	2	9282K134	9.94

Round Grips with Hanger Eye

Add a grip to your round tool handle and use the eye to hang it. Grips slide on and have finger grooves. Temperature range is –10° to 150° F. Color is black.

Standard grips are vinyl for durability.

Cushioned grips are flexible closed-cell vinyl foam with a wall thickness of 0.05″ to 0.07″ to insulate and cushion vibration.



Standard



Cushioned

Fits OD	O'all Lg.	Eye Lg.		Each		Each
5/8″	5 1/4″	1/2″	3221K41	$5.26	3221K51	$5.66
3/4″	5 1/4″	1/2″	3221K42	5.26	3221K52	5.66
7/8″	5 3/8″	5/8″	3221K43	5.26	3221K53	5.66
1″	5 5/8″	5/8″	3221K44	5.26	3221K54	5.66
1 1/4″	6″	1″	3221K45	5.26	3221K55	5.66

Bumpers

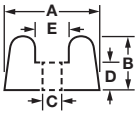



1
With Washer



2



3



4

Also known as recessed bumpers, these are often used as feet and spacers and can be installed with the fastener of your choice. Color is black (unless noted). *Bumpers with washer* have an embedded metal washer for added strength and reinforcement.

Rubber bumpers are abrasion-resistant SBR rubber. They are for indoor use only; temperature range is 0° to 180° F. Material is marking. Durometer is 65A-80A. **Polyurethane** bumpers are abrasion and ozone resistant. They can be used outdoors; temperature range is –10° to 175° F. Material is nonmarking. *Hard* durometer is 70A-88A; *medium-hard* durometer is 60A. **Plastic** bumpers won't dry out and become brittle. They can be used outdoors; temperature range is 0° to 150° F. Material is nonmarking. Not rated for durometer. **Vinyl** bumper is load rated to 15 lbs. It can be used outdoors; temperature range is 55° to 105° F. Material is nonmarking. Durometer is 56A.

Round Bumpers

Dia. (A)	Ht. (B)	Hole Dia. (C)	(D)	Counterbore Dia. (E)	Without Washer Pkg. Qty.		Without Washer Pkg.	With Washer Pkg. Qty.		With Washer Pkg.
(1) Rubber—Hard										
3/8"	3/16"	5/64"	3/32"	3/16"	50	9540K837	$5.00	—		—
7/16"	5/32"	5/32"	1/16"	1/4"	50	9540K832	8.17	50	9540K833	$13.00
15/32"	17/32"	9/64"	3/16"	1/4"	10	9540K747	5.17	10	9540K748	6.48
1/2"	3/16"	1/8"	3/32"	7/32"	50	9540K671	10.16	50	9540K672	12.96
1/2"	1/4"	3/32"	1/8"	1/4"	50	9540K661	6.90	50	9540K662	9.21
1/2"	1/4"	1/8"	3/32"	15/64"	100	9540K11	6.38	100	9540K51	8.82
1/2"	1/4"	1/8"	3/32"	1/4"	50	9540K842	6.55	50	9540K843	8.75
1/2"	1/4"	1/8"	3/32"	17/64"	100	9540K13	7.72	100	9540K43	9.67
1/2"	1/4"	1/8"	1/8"	1/4"	50	9540K838	6.55	50	9540K841	8.75
1/2"	5/16"	5/32"	1/8"	1/4"	25	9540K692	7.03	25	9540K693	9.91
1/2"	11/32"	1/8"	5/32"	1/4"	25	9540K701	7.34	25	9540K702	11.94
1/2"	1/2"	5/32"	5/16"	1/4"	25	9540K723	8.10	25	9540K724	11.72
1/2"	1/2"	3/16"	21/64"	17/64"	25	9540K731	8.10	25	9540K732	11.72
17/32"	17/64"	1/8"	7/64"	1/4"	25	9540K683	7.03	25	9540K684	9.91
17/32"	9/32"	1/8"	1/8"	1/4"	10	9540K72	13.96	25	9540K64	15.68
9/16"	5/16"	1/8"	3/16"	1/4"	5	9540K75	13.53	25	9540K68	16.52
9/16"	3/8"	3/16"	5/32"	3/8"	25	9540K708	7.93	25	9540K709	10.86
19/32"	11/32"	5/32"	5/32"	9/32"	25	9540K71	16.40	50	9540K65	14.94
5/8"	1/4"	3/16"	1/8"	3/8"	50	9540K678	11.25	50	9540K679	13.79
5/8"	9/32"	5/32"	5/32"	9/32"	100	9540K14	9.46	100	9540K52	14.38
5/8"	5/16"	3/32"	1/8"	1/4"	25	9540K852	7.76	25	9540K853	10.26
5/8"	5/16"	1/8"	1/8"	1/4"	25	9540K858	7.93	25	9540K859	10.53
5/8"	5/16"	3/16"	1/8"	1/4"	25	9540K631	8.88	25	9540K641	10.35
5/8"	3/8"	1/8"	1/4"	1/4"	25	9540K868	8.19	25	9540K869	11.14
5/8"	13/32"	5/32"	5/32"	9/32"	50	9540K15	7.20	50	9540K53	9.95
5/8"	7/16"	13/64"	3/16"	5/16"	25	9540K717	7.42	25	9540K718	11.14
5/8"	3/4"	5/32"	7/16"	5/16"	10	9540K761	5.52	10	9540K762	6.93
5/8"	3/4"	11/64"	7/16"	5/16"	10	9540K766	5.52	10	9540K767	6.93
5/8"	3/4"	3/16"	19/64"	21/64"	10	9540K772	5.52	10	9540K773	6.93
11/16"	7/16"	1/8"	1/4"	1/4"	25	9540K712	7.27	25	9540K713	10.57
23/32"	13/32"	3/16"	7/32"	5/16"	50	9540K24	7.96	50	9540K46	10.44
23/32"	15/32"	11/64"	1/4"	5/16"	10	9540K76	13.89	5	9540K69	14.41
3/4"	9/32"	3/16"	5/32"	3/8"	25	9540K688	7.66	25	9540K689	10.09
3/4"	5/16"	5/32"	5/32"	3/8"	25	9540K697	7.27	25	9540K698	11.56
3/4"	3/8"	1/8"	7/32"	3/8"	25	9540K703	7.27	25	9540K704	11.56
3/4"	3/8"	5/32"	3/16"	5/16"	25	9540K862	8.02	25	9540K863	10.57
3/4"	13/32"	5/32"	5/32"	5/16"	50	9540K21	9.08	50	9540K55	9.68
3/4"	1/2"	5/32"	1/4"	3/8"	10	9540K651	12.93	10	9540K652	6.48
3/4"	1/2"	9/64"	1/4"	3/8"	25	9540K736	5.33	10	9540K737	6.70
3/4"	1"	5/32"	3/4"	3/8"	25	9540K31	9.45	25	9540K49	10.32
13/16"	1/2"	5/32"	1/4"	5/16"	10	9540K872	5.17	10	9540K873	6.48
13/16"	13/16"	1/4"	3/8"	15/32"	10	9540K781	6.03	10	9540K782	7.59
7/8"	13/32"	3/16"	7/32"	3/8"	50	9540K29	7.70	50	9540K48	10.89
7/8"	17/32"	3/16"	1/4"	3/8"	50	9540K25	10.59	50	9540K58	15.63
15/16"	15/16"	3/16"	3/8"	3/8"	10	9540K786	11.09	5	9540K787	6.90
1"	1/2"	5/32"	7/32"	9/32"	10	9540K876	5.52	10	9540K877	6.93
1"	1/2"	7/32"	1/4"	1/2"	10	9540K742	5.52	10	9540K743	6.93
1"	9/16"	9/32"	1/4"	17/32"	10	9540K751	5.52	10	9540K752	6.93
1"	13/16"	1/8"	3/8"	1/4"	10	9540K882	11.83	10	9540K883	13.45
1"	1"	5/32"	3/4"	3/8"	10	9540K37	7.75	10	9540K38	8.60
1"	1"	7/32"	7/16"	3/8"	5	9540K792	5.63	5	9540K793	7.07
1"	1 1/4"	1/8"	5/8"	1/4"	5	9540K805	8.05	5	9540K806	9.57
1"	1 3/4"	3/16"	1 1/4"	3/8"	1	9540K74	3.02	1	9540K81	3.41
1 1/32"	7/8"	7/32"	5/8"	3/8"	5	9540K73	14.45	—		—
1 3/32"	5/8"	3/16"	7/32"	7/16"	10	9540K878	6.21	10	9540K879	7.72
1 1/4"	1 1/4"	1/4"	1/2"	3/8"	5	9540K807	8.38	5	9540K808	10.14
1 1/4"	1 7/8"	1/4"	1 1/8"	3/8"	5	9540K811	9.38	5	9540K812	11.38
1 1/2"	5/8"	3/16"	9/32"	1/2"	10	9540K753	6.55	10	9540K754	7.93
1 1/2"	5/8"	5/16"	9/32"	3/4"	10	9540K755	6.55	10	9540K756	7.93
1 1/2"	3/4"	1/4"	3/8"	3/4"	10	9540K36	8.07	10	9540K28	8.84
1 1/2"	1 1/2"	1/4"	1 1/8"	3/4"	—		—	1	9540K2	2.42
2 1/2"	1"	3/8"	1/2"	1 1/8"	5	9540K796	11.64	5	9540K797	13.88
(1) Polyurethane—Hard										
1 1/2"	3/4"	7/16"	3/4"	7/16"	1	9306K38	7.82	—		—
1 7/8"	1 5/16"	9/16"	1 5/16"	9/16"	1	9306K41	12.88	—		—
1 15/16"	21/32"	9/16"	21/32"	9/16"	1	9306K37	7.97	—		—
2"	3/4"	3/8"	19/64"	11/16"	—		—	1	9306K33	5.85
2 1/32"	13/16"	7/16"	13/16"	7/16"	1	9306K39	13.29	—		—

(Continued on following page)

Bumpers *(Continued from previous page)*

Round Bumpers (Cont.)

Dia. (A)	Ht. (B)	Hole Dia. (C)	(D)	Counterbore Dia. (E)	Without Washer Pkg. Qty.		Without Washer Pkg.	With Washer Pkg. Qty.		With Washer Pkg.
(1) Polyurethane—Hard (Cont.)										
2 1/8"	1/2"	7/16"	1/2"	7/16"	1	9306K36	$10.62	—	—	—
2 1/4"	1 3/4"	1/2"	5/16"	13/16"	—	—	—	1	9306K23	$9.78
(1) Polyurethane—Medium-Hard										
3/4"	3/4"	9/32"	1/2"	7/16"	—	—	—	1	9540K951	4.80
1"	1"	9/32"	1/2"	7/16"	—	—	—	1	9540K953	6.04
1 1/4"	1"	25/64"	47/64"	5/8"	—	—	—	1	9540K955	6.93
1 1/2"	1 1/4"	25/64"	47/64"	5/8"	—	—	—	1	9540K957	8.53
2"	1 1/4"	17/32"	47/64"	51/64"	—	—	—	1	9540K959	11.38
2 1/2"	2"	17/32"	47/64"	51/64"	—	—	—	1	9540K961	21.33
3"	2 1/2"	17/32"	47/64"	51/64"	—	—	—	1	9540K963	33.42
(2) Rubber—Hard										
3/8"	1/4"	3/32"	1/16"	1/4"	50	9540K901	6.90	50	9540K902	10.00
1/2"	3/16"	1/8"	3/32"	7/32"	100	9540K12	11.35	100	9540K42	13.86
5/8"	1/2"	5/32"	1/4"	5/16"	25	9540K911	8.19	25	9540K912	10.53
5/8"	5/8"	9/64"	5/16"	5/16"	10	9540K915	5.00	10	9540K916	6.03
5/8"	5/8"	5/32"	5/16"	5/16"	10	9540K927	5.00	10	9540K928	6.03
5/8"	3/4"	5/32"	1/2"	5/16"	10	9540K932	5.86	10	9540K933	7.07
21/32"	1/2"	5/32"	1/4"	5/16"	100	9540K16	12.19	100	9540K54	15.24
3/4"	19/64"	1/8"	7/64"	11/32"	25	9540K907	8.02	25	9540K908	10.29
3/4"	9/16"	3/16"	5/16"	3/8"	10	9540K663	5.17	10	9540K664	6.48
25/32"	9/16"	3/16"	1/4"	3/8"	50	9540K22	8.97	50	9540K56	10.05
51/64"	25/32"	11/64"	17/32"	11/32"	50	9540K23	8.94	50	9540K57	13.31
13/16"	1/4"	1/8"	1/8"	5/16"	25	9540K67	12.01	25	9540K66	12.80
7/8"	5/8"	3/16"	11/32"	5/16"	50	9540K32	9.42	50	9540K33	12.98
15/16"	1/2"	1/8"	1/4"	3/8"	10	9540K913	5.52	10	9540K914	6.93
15/16"	5/8"	7/32"	7/16"	7/16"	10	9540K921	6.21	10	9540K922	7.72
31/32"	11/32"	3/16"	5/32"	3/8"	50	9540K26	6.08	50	9540K59	6.47
1"	17/32"	3/16"	9/32"	3/8"	25	9540K27	5.04	25	9540K61	7.30
1"	2 1/4"	5/32"	7/8"	5/16"	1	9540K935	3.36	1	9540K936	3.62
1 1/32"	5/8"	3/16"	1/4"	9/16"	25	9540K34	8.84	25	9540K35	10.18
1 1/16"	27/32"	3/16"	13/32"	3/8"	25	9540K39	9.71	25	9540K62	9.81
(2) Polyurethane—Hard										
2 3/4"	13/16"	7/16"	1/2"	3/4"	—	—	—	1	9306K35	4.23
(2) Plastic—Hard										
1/2"	1/4"	1/8"	1/8"	17/64"	100	9405K12	10.13	—	—	—
1/2"	17/64"	1/8"	7/64"	1/4"	100	9405K42	10.94	—	—	—
5/8"	5/16"	7/64"	3/16"	5/16"	—	—	—	25	9405K74	9.07
5/8"	7/16"	5/32"	1/4"	21/64"	100	9405K18	13.36	—	—	—
43/64"	1/4"	5/32"	7/64"	21/64"	—	—	—	25	9405K71	9.43
3/4"	9/32"	11/64"	5/32"	3/8"	50	9405K14	7.60	—	—	—
3/4"	3/8"	9/64"	13/64"	21/64"	—	—	—	25	9405K75	11.36
3/4"	13/32"	5/32"	11/64"	5/16"	50	9405K16	9.72	—	—	—
49/64"	3/8"	5/32"	1/4"	3/8"	100	9405K43	12.40	—	—	—
7/8"	1/2"	3/16"	23/64"	3/8"	50	9405K48	7.37	—	—	—
7/8"	5/8"	3/16"	7/32"	25/64"	50	9405K54	7.61	—	—	—
1 1/8"	3/4"	13/64"	5/16"	17/32"	50	9405K61	13.49	—	—	—
1 1/8"	1"	1/4"	35/64"	15/32"	50	9405K59	13.05	—	—	—
1 5/16"	1/2"	7/32"	5/16"	33/64"	—	—	—	10	9405K72	12.23
1 5/8"	9/16"	7/32"	5/16"	33/64"	—	—	—	5	9405K73	8.87
(2) Vinyl—Medium-Hard										
63/64"	33/64"	1/8"	17/64"	31/64"	25	9641K3★	11.99	—	—	—
(3) Rubber—Hard										
3/4"	1/4"	1/8"	1/8"	1/4"	1	9540K77	2.85	1	9540K78	3.22
3/4"	17/64"	1/8"	9/64"	1/4"	5	9540K79	8.42	50	9540K63	15.75
3 1/4"	15/16"	5/16"	5/32"	1 3/8"	—	—	—	1	9764K68■	6.09
(4) Polyurethane—Hard										
2 3/8"	2 1/2"	13/32"	1 1/2"	11/16"	—	—	—	1	9306K21	11.01
2 3/8"	3 1/8"	13/32"	2 1/8"	11/16"	—	—	—	1	9306K22	13.87

★Color is blue. ■Color is gray.

Square and Rectangular Bumpers

Lg. (A)	Wd.	Ht. (B)	Hole Dia. (C)	(D)	Counterbore Dia. (E)	Without Washer Pkg. Qty.		Without Washer Pkg.	With Washer Pkg. Qty.		With Washer Pkg.
(5) Polyurethane—Hard											
2"	2"	1/4"	7/16"	—	—	1	9306K42	$9.30	—	—	—
2 1/16"	2 1/16"	7/16"	3/8"	—	—	1	9306K43	8.47	—	—	—
2 1/16"	2 1/16"	15/16"	3/8"	—	—	1	9306K44	7.94	—	—	—
2 7/16"	1 5/8"	1/2"	15/32"	—	—	1	9306K45	14.66	—	—	—
(6) Plastic—Hard											
57/64"	57/64"	11/32"	9/64"	13/64"	21/64"	—	—	—	10	9405K76	$6.97
1"	1"	25/64"	9/64"	13/64"	21/64"	—	—	—	10	9405K77	9.19
1 3/16"	1 3/16"	15/32"	11/64"	19/64"	13/32"	—	—	—	10	9405K78	12.37
1 3/8"	1 3/8"	17/32"	7/32"	21/64"	15/32"	—	—	—	5	9405K79	8.08
1 1/2"	1 1/2"	19/32"	7/32"	5/16"	15/32"	—	—	—	5	9405K81	9.46
(7) Plastic—Hard											
1 49/64"	7/8"	11/32"	9/64"	13/64"	21/64"	—	—	—	5	9405K82	6.57
21/64"	1"	25/64"	9/64"	13/64"	21/64"	—	—	—	5	9405K83	8.69
2 3/8"	1 3/16"	15/32"	11/64"	9/32"	13/32"	—	—	—	5	9405K84	11.68
2 25/32"	1 3/8"	17/32"	7/32"	21/64"	15/32"	—	—	—	1	9405K85	3.23
3"	1 1/2"	19/32"	7/32"	5/16"	15/32"	—	—	—	1	9405K86	3.81

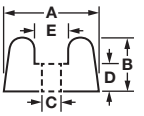


1
With Washer


2


3


4

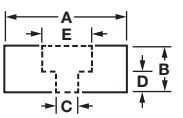


5


6


7

Adhesive-Back Bumpers


Round


Recessed


Dome


Conical


Square


Tapered

The convenient adhesive back lets you press these bumpers into place for use as feet, pads, and spacers. Comparable to Bumpon bumpers.

Polyurethane bumpers are abrasion resistant. They can be used outdoors (unless noted); temperature range is 65° to 150°F. Material is nonmarking. *Medium-hard* durometer is 60A-70A; *soft* durometer is 45A-55A.

Nonslip urethane bumpers keep objects from sliding when used as feet. They are for indoor use only; temperature range is 0° to 155°F. Material is nonmarking. Durometer is 80 OO.

Vinyl bumpers resist solvents. They are for indoor use only; temperature range is 50° to 100°F. Material is nonmarking. Durometer is 55A-65A.

Foam bumpers provide slip protection. They are for indoor use only; temperature range is –20° to 150°F. Material is nonmarking. Not rated for durometer.

High-temperature foam bumpers withstand temperatures up to 300°F. They can be used outdoors; temperature range is –25° to 300°F. Material is nonmarking. Not rated for durometer.

Cork bumpers are an alternative to felt for protection from scuffs. They can be used outdoors; temperature range is –20° to 200°F. Material is nonmarking. Durometer is 75 OO.

Cork rubber bumpers are sturdier than cork bumpers. They are for indoor use only; temperature range is –20° to 180°F. Material is marking. Durometer is 60A.

Felt bumpers protect surfaces from scuffs and scrapes. They are for indoor use only; temperature range is 0° to 140°F. Material is nonmarking. Durometer is 15A-25A.

Wd.	Ht.	Available Colors	Pkg. Qty.		Pkg.
Round					
Polyurethane—Medium-Hard					
5/16"	7/64"	Black	56	95495K2	$4.52
3/8"	1/8"	Black	150	95495K66	9.15
3/8"	3/16"	Black, Clear	50	95495K719	3.34
1/2"	1/16"	Black, Clear, White	50	95495K18	3.24
1/2"	9/64"	Black, Clear, White	50	95495K11	3.79
1/2"	1/4"	Black, Clear, White	50	95495K22	5.00
21/32"	13/32"	Black	64	95495K61	9.43
11/16"	3/16"	Clear	49	95495K721	7.00
3/4"	5/32"	Black, Clear	98	95495K25	18.72
3/4"	3/16"	Black, Clear	42	95495K725	6.96
3/4"	13/64"	Black, Clear	84	95495K27	15.64
13/16"	1/8"	Black, Clear, White	72	95495K19	13.45
1 1/4"	7/64"	Black, Clear	16	95495K728	6.83
Polyurethane—Soft					
1/2"	9/64"	Clear	50	95495K51	3.79
1/2"	5/32"	Clear	50	95495K675	3.34
1/2"	13/64"	Clear	50	95495K678	3.00
Nonslip Urethane—Medium-Hard					
1/2"	1/16"	Black	25	8771K81	4.48
3/4"	1/16"	Black	25	8771K82	5.67
1"	1/16"	Black	25	8771K83	7.46
Vinyl—Medium-Hard					
1/2"	1/16"	Black, Clear	50	9723K11	4.13
1/2"	9/64"	Black, Clear	50	9723K14	5.50
41/64"	13/32"	Black	76	9723K17	15.92
Foam—Soft					
1/2"	1/16"	Black	100	8213K1	4.39
1/2"	1/8"	Black	100	8213K4	4.62
3/4"	1/16"	Black	100	8213K2	7.66
3/4"	1/8"	Black	100	8213K5	8.20
1"	1/16"	Black	100	8213K3	10.36
1"	1/8"	Black	100	8213K6	11.27
Cork—Medium-Hard					
1/2"	1/16"	Tan	100	8771K71	4.18
3/4"	1/16"	Tan	100	8771K72	5.14
1"	1/16"	Tan	100	8771K73	7.14
Cork Rubber—Medium-Hard					
1/2"	1/16"	Black/Tan	100	8771K41	4.92
3/4"	1/16"	Black/Tan	100	8771K42	6.06
1"	1/16"	Black/Tan	100	8771K43	8.81
Felt—Soft					
1/2"	1/8"	Black, Brown, Green, White	500	8771K1	6.44
3/4"	1/8"	Black, Brown, Green, White	500	8771K6	12.19
1"	1/8"	Black, Brown, Green, White	500	8771K8	17.48
Recessed					
Polyurethane—Medium-Hard					
1/2"	9/64"	Black, Clear, White	50	95495K17	3.79
7/8"	13/32"	Black, Gray, White	24	95495K3	8.75
7/8"	13/32"	Clear	36	95495K62	10.77
1 13/16"	19/32"	Black, Clear, White	10	95495K48	16.00
Vinyl—Medium-Hard					
7/8"	13/32"	Black	36	9723K32	10.93
1 13/16"	9/16"	White	10	9723K33	15.51

★ For indoor use only.

Wd.	Ht.	Available Colors	Pkg. Qty.		Pkg.
Dome					
Polyurethane—Medium-Hard					
1/4"	1/16"	Clear	289	95495K463	$13.05
1/4"	5/64"	Clear	225	95495K64	10.62
5/16"	5/64"	Clear	144	95495K65	6.93
11/32"	5/64"	Black, Clear, White	144	95495K37	7.15
3/8"	1/8"	Clear	72	95495K819	4.20
3/8"	5/32"	Black, Clear	72	95495K39	5.84
7/16"	13/64"	Black, Clear, White	121	95495K12	8.55
5/8"	5/16"	Black, Gray, White	40	95495K1	8.73
11/16"	3/8"	Black, Clear	49	95495K71	7.62
3/4"	5/64"	Clear	42	95495K68	6.94
3/4"	3/8"	Black, White	40	95495K73★	10.11
Polyurethane—Soft					
11/32"	5/64"	Clear	144	95495K53	6.52
3/8"	5/32"	Clear	72	95495K55	6.45
3/8"	7/32"	Clear	150	95495K57	8.91
7/16"	13/64"	Clear	55	95495K673	3.43
Vinyl—Medium-Hard					
21/32"	21/64"	Black	64	9723K85	14.65
Conical					
Polyurethane—Medium-Hard					
3/4"	9/16"	Black, Clear	25	95495K701	7.94
3/4"	3/4"	Black, Clear	25	95495K704	12.09
13/16"	7/8"	Black, Clear	10	95495K707	5.65
Polyurethane—Soft					
3/8"	3/16"	Clear	72	95495K684	3.00
Square					
Polyurethane—Medium-Hard					
13/32"	7/64"	Black, Clear, White	121	95495K42	8.04
1/2"	1/8"	Black, Clear, White	50	95495K15	3.31
3/4"	1/4"	Black, Clear	49	95495K716	8.22
3/4"	3/8"	Black, Clear	25	95495K722	7.06
1"	3/16"	Black	55	95495K67	14.13
Vinyl—Medium-Hard					
1/2"	13/64"	Black	100	9723K87	11.21
Foam—Soft					
1/2"	1/16"	Black	80	8213K7	3.23
1/2"	1/8"	Black	80	8213K11	3.38
3/4"	1/16"	Black	100	8213K8	4.53
3/4"	1/8"	Black	100	8213K12	4.80
1"	1/16"	Black	96	8213K9	6.33
1"	1/8"	Black	96	8213K13	6.75
High-Temperature Foam—Soft					
1/2"	1/8"	Red	20	3592K6	7.37
1/2"	3/16"	Red	20	3592K8	9.82
1/2"	1/4"	Red	10	3592K1	6.17
1"	1/4"	Red	10	3592K2	11.05
Tapered					
Polyurethane—Medium-Hard					
1/2"	15/64"	Black, Clear, White	50	95495K24	5.85
13/16"	19/64"	Black, Gray, White	36	95495K4	7.49
1 1/4"	1/4"	Black	9	95495K34	12.57
Vinyl—Medium-Hard					
13/16"	19/64"	Black, Clear	64	9723K28	12.84

For information about durometer hardness, see page 3588.

Adhesive-Back Slippery Bumpers

Easily slide these low-friction, wear-resistant bumpers across surfaces. All press into place and are commonly used as pads and feet. Color is white. Can be used outdoors. Materials are nonmarking.

UHMW polyethylene bumpers won't dry out and become brittle. Temperature range is 0° to 180° F. All are hard with a 65D durometer.

PTFE bumpers have better temperature and chemical resistance than plastic bumpers. Temperature range is 20° to 250° F. All are hard with a 51D durometer.


Round


Square

Round

		UHMW Polyethylene			PTFE		
Dia.	Ht.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
1/2"	1/16"	20	8962T31	$6.99	10	8962T11	$12.05
3/4"	1/16"	15	8962T32	8.30	5	8962T12	14.58
1"	1/16"	10	8962T33	8.95	5	8962T13	18.69
2"	1/16"	5	8962T34	12.35	2	8962T14	27.52

Square

		UHMW Polyethylene			PTFE		
Sq. Size	Ht.	Pkg. Qty.		Pkg.	Pkg. Qty.		Pkg.
1/2"	1/16"	20	8962T41	$6.99	10	8962T21	$12.05
3/4"	1/16"	15	8962T42	8.30	5	8962T22	14.58
1"	1/16"	10	8962T43	8.95	5	8962T23	18.69
2"	1/16"	5	8962T44	12.35	2	8962T24	27.52

Load-Rated Adhesive-Back Bumpers

Press into place to create pads and feet that protect electronics and other sensitive items from impact and vibration. Materials are nonmarking.

Polyurethane bumpers are abrasion resistant. Color is black. They are for indoor use only; temperature range is –20° to 160° F. *Soft* durometer is 30 OO-50 OO; *medium-hard* durometer is 70 OO.

Vinyl bumpers resist solvents. Color is blue. They can be used outdoors; temperature range is 55° to 105° F. Durometer is 56A.


Polyurethane


Vinyl

Max. Load, lbs.	Dia.	Ht.		Each
Polyurethane—Soft				
0.5	3/4"	3/8"	8215K1	$1.32
1	3/4"	3/8"	8215K5	1.28
2	1 1/4"	5/8"	8215K2	3.49
5	1 1/4"	5/8"	8215K6	3.33
11	2"	1"	8215K3	7.09
17	2"	1"	8215K7	6.51
25	2 1/2"	1 1/4"	8215K91	9.90
45	2 1/2"	1 1/4"	8215K92	9.38
Polyurethane—Medium-Hard				
1	3/4"	3/8"	8215K9	1.22
15	1 1/4"	5/8"	8215K11	3.23
25	2"	1"	8215K12	6.51
60	2 1/2"	1 1/4"	8215K93	9.14
Vinyl—Medium-Hard				Pkg. of 50
15	1/2"	1/16"	8218K1	$10.58
15	1/2"	1/8"	8218K2	13.54

Cut-to-Size Adhesive-Back Bumpers

Make bumpers the size and shape you need and press them into place. Often used as pads, these bumpers are made of polyurethane and offer excellent cushioning and abrasion resistance, as well as vibration damping. They are for indoor use only; temperature range is 0° to 150° F. Material is marking. All are soft with a 72-75 Shore M durometer.



Wd.	Ht.	Black		Clear	
1-ft. Rolls					
4 1/2"	1/32"	3807T11	$18.77	3807T72	$25.48
4 1/2"	1/16"	3807T81	27.05	3807T32	32.00
4 1/2"	1/8"	3807T51	40.25		
9"	1/32"	3807T21	37.56	3807T76	50.99
9"	1/16"	3807T84	54.15	3807T42	64.04
9"	1/8"	3807T61	80.50		
5-ft. Rolls					
4 1/2"	1/32"	3807T13	80.71	3807T74	109.51
4 1/2"	1/16"	3807T82	116.35	3807T34	137.56
4 1/2"	1/8"	3807T53	172.95		

Wd.	Ht.	Black		Clear	
5-ft. Rolls (Cont.)					
9"	1/32"	3807T23	$161.44	3807T77	$219.00
9"	1/16"	3807T85	232.67	3807T44	275.15
9"	1/8"	3807T63	345.85		
10-ft. Rolls					
4 1/2"	1/32"	3807T15	130.23	3807T75	176.67
4 1/2"	1/16"	3807T83	191.30	3807T36	221.97
4 1/2"	1/8"	3807T55	279.00		
9"	1/32"	3807T25	260.47	3807T78	353.30
9"	1/16"	3807T86	375.37	3807T46	443.90
9"	1/8"	3807T65	558.00		

Tack Bumpers

Install with a few taps of a hammer. Bumpers are abrasion-resistant SBR rubber with a steel tack. Color is black. They are for indoor use only; temperature range is –25° to 180° F. Material is marking. All are medium-hard with a 65A-75A durometer.




Bumper Dia.	*Bumper* Ht.	*Tack* Dia.	*Tack* Lg.	Pkg. Qty.	Round Top	Pkg.	Flat Top	Pkg.
3/8"	7/32"	3/64"	3/8"	50	9626K211	$9.15	9626K46	$9.15
1/2"	1/4"	1/16"	3/8"	50	9626K212	10.37	9626K47	10.37
5/8"	5/16"	3/64"	3/8"	50	9626K213	10.98	9626K43	10.98
3/4"	3/8"	1/16"	3/8"	50	9626K214★	12.20	9626K44	12.20
7/8"	7/16"	1/16"	11/32"	50	9626K215	14.63	9626K45	14.63

★Tack diameter is 3/64".

Mil. Spec. Bumpers

Bumpers meet MIL-G-3036. They are made from abrasion-resistant Buna-N rubber and have a metal washer embedded at their base for added strength and reinforcement. Use a screw (not included) for installation. Color is black. They are for indoor use only; temperature range is –45° to 250° F. Material is marking. All are medium-hard with a 50A durometer.

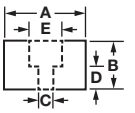



Dia. (A)	Ht. (B)	Hole Dia. (C)	(D)	Counterbore Dia. (E)	Pkg. Qty.		Pkg.
1/2"	1/4"	1/8"	1/16"	15/64"	50	8884T13	$8.13
9/16"	3/8"	3/16"	5/32"	3/8"	50	8884T17	12.50
3/4"	9/16"	3/16"	5/16"	3/8"	10	8884T21	5.17
1"	1"	7/32"	7/16"	3/8"	10	8884T25	11.87
1"	1 1/2"	5/32"	7/8"	5/16"	5	8884T29	7.75

Load-Rated Heavy Duty Bumpers

Also called crane bumpers, these are made of oil- and grease-resistant polyurethane and have a steel mounting plate. Color is black except bumpers with a retaining loop are red. They can be used outdoors; temperature range is –60° to 225° F. Material is nonmarking. All are hard with a 90A durometer. Meet OSHA and ANSI requirements.

Bumpers with a retaining loop let you add a cable or lanyard for additional security in mounting.

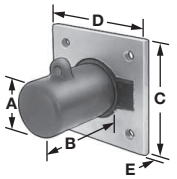

With Retaining Loop

Max. Load, ft.-lbs.	*Bumper* Dia. (A)	*Bumper* Lg. (B)	*Mounting Plate* (C)	(D)	(E)	*Mounting Holes* No. of Holes	Ctr.-to-Ctr.	Dia.	Retaining Loop ID		
30	1 5/8"	1 1/4"	2"	2"	3/16"	4	1 37/64"	7/32"	—	1043T51	$46.20
60	2"	1 3/4"	2 1/2"	2 1/2"	3/16"	4	1 31/32"	1/4"	—	1043T52	61.60
225	3 1/4"	2 1/2"	4"	4"	1/4"	4	3 9/64"	3/8"	—	1043T56	106.56
525	3"	4 1/2"	6 1/2"	6 1/2"	1/2"	4	4 1/2"	9/16"	1/2"	1043T55	104.73
900	5"	4"	6 1/4"	6 1/4"	5/16"	4	4 59/64"	7/16"	—	1043T59	199.00
2,400	5"	7 1/2"	10"	10"	1/2"	4	7 1/2"	9/16"	3/4"	1043T61	244.82

Push-In Bumpers

Press the stem into a hole for quick installation. These bumpers are also known as stem or grommet bumpers and are commonly used as feet and spacers. All are black.

Rubber bumpers are abrasion-resistant SBR rubber. They are for indoor use only; temperature range is –25° to 180°F. *Hard* durometer is 70A and material is nonmarking. *Medium-hard* durometer is 55A-65A and material is marking. *Soft* durometer is 40A and material is marking.

Plastic bumpers won't dry out and become brittle. They can be used outdoors; temperature range is –50° to 255°F. Material is nonmarking. *Hard* durometer is 65A-75A; *medium-hard* durometer is 45A-65A.

Polyurethane bumpers are abrasion and tear resistant and offer vibration damping. They are for indoor use only; temperature range is –10° to 160°F. Material is nonmarking. *Hard* durometer is 70A; *medium-hard* durometer is 70 OO; *soft* durometer is 50 OO.

Standard

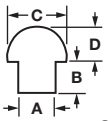


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	Stem Fits Hole Size (A)	Stem Ht. (B)	Bumper Dia. (C)	Bumper Ht. (D)	Pkg. Qty.		Pkg.
Rubber—Hard							
1	7/32"	1/4"	3/8"	3/16"	100	9544K16	$8.46
1	1/4"	1/4"	1/2"	7/32"	100	9544K22	6.78
1	9/32"	1/4"	7/16"	3/16"	100	9544K23	7.46
2	1/4"	3/16"	7/16"	1/8"	100	9544K25	12.90
2	9/32"	7/32"	9/16"	5/32"	100	9544K18	13.61
3	3/16"	3/16"	5/16"	3/16"	100	9544K19	6.71
3	3/16"	3/16"	11/32"	5/32"	100	9544K12	7.26
Rubber—Medium-Hard							
3	5/16"	1/4"	5/8"	5/16"	100	9544K34	$8.29
3	19/32"	15/32"	15/16"	19/32"	25	9544K38	9.53
Plastic—Hard							
4	9/32"	1/4"	7/16"	3/16"	100	1638K3	12.06
4	21/64"	7/32"	7/16"	3/16"	100	1638K1	12.45
Plastic—Medium-Hard							
4	5/8"	1/2"	7/8"	3/8"	10	1638K2	8.56

Compressible Stem

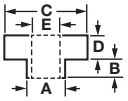


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Bumpers compress into tight holes. They can also be used as bushings.

	Stem Fits Hole Size (A)	Stem Ht. (B)	Bumper Dia. (C)	Bumper Ht. (D)	Through Hole Dia. (E)	Pkg. Qty.		Pkg.
Rubber—Medium-Hard								
5	1/4"	17/64"	3/8"	7/64"	1/8"	50	9305K21	$2.71
5	9/32"	7/64"	1/2"	3/32"	11/64"	50	9305K22	4.46
5	3/8"	3/8"	3/4"	1/8"	1/4"	50	9305K24	6.36
5	13/32"	5/16"	5/8"	3/32"	1/4"	50	9305K23	4.67
5	1/2"	1/4"	3/4"	1/8"	9/64"	50	9305K27	9.90
5	1/2"	9/32"	3/4"	1/8"	5/16"	50	9305K25	7.19
5	5/8"	11/32"	1"	1/4"	5/16"	25	9305K29	10.47
5	21/32"	3/16"	7/8"	3/16"	3/8"	50	9305K28	9.90
6	21/32"	1 1/64"	1 1/16"	15/64"	___	25	9310K18	13.07
7	25/64"	1/2"	1/2"	3/16"	7/32"	25	9305K31	5.09
7	1/2"	7/16"	5/8"	1/8"	3/16"	25	9305K32	5.15
7	3/4"	3/4"	1"	3/8"	7/16"	10	9305K33	5.86
Rubber—Soft								
6	11/32"	13/16"	5/8"	3/16"	___	25	9310K12	$5.83
6	3/8"	29/32"	3/4"	7/32"	___	25	9310K14	6.06
6	1/2"	1"	7/8"	1/4"	___	25	9310K16	6.71
6	5/8"	1 1/4"	1"	1/4"	___	10	9310K27	5.76
Polyurethane—Medium-Hard								
5	29/64"	1/8"	1"	3/16"	9/32"	1	8638T43	1.67
5	29/64"	13/32"	1"	3/16"	9/32"	1	8638T41	2.23
5	1/2"	1/16"	3/4"	5/32"	9/32"	1	8638T45	1.43
Polyurethane—Soft								
5	29/64"	1/8"	1"	3/16"	9/32"	1	8638T23	1.92
5	29/64"	13/32"	1"	3/16"	9/32"	1	8638T21	2.58
5	1/2"	1/16"	3/4"	5/32"	9/32"	1	8638T25	1.65

Tight-Grip Ridged Stem

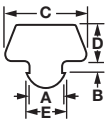


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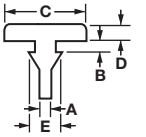


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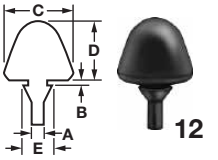

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An additional ridge on the stem provides a tighter grip than standard bumpers.

	Stem Fits Hole Size (A)	Stem Ht. (B)	Bumper Dia. (C)	Bumper Ht. (D)	Ridge Dia. (E)	Pkg. Qty.		Pkg.
Rubber—Medium-Hard								
8	1/4"	1/16"	1/2"	5/32"	5/16"	100	9309K13	$9.53
9	5/32"	1/32"	3/8"	3/32"	7/32"	100	9309K12	8.15
9	3/16"	1/16"	1/2"	3/32"	1/4"	100	9309K21	10.17
9	1/4"	1/32"	3/8"	5/32"	5/16"	100	9309K14	8.40
9	1/4"	1/16"	1/2"	1/4"	5/16"	100	9309K15	10.18
9	1/4"	1/8"	17/32"	1/16"	11/32"	50	9309K121	9.53
9	1/4"	1/8"	9/16"	1/8"	11/32"	100	9309K16	8.40
9	9/32"	5/64"	9/16"	1/8"	3/8"	100	9309K17	9.50
9	11/32"	1/16"	9/16"	5/32"	13/32"	50	9309K18	6.91
9	1/2"	3/16"	1"	5/16"	11/16"	50	9309K19	11.25
Rubber—Medium-Hard (Cont.)								
10	1/4"	3/64"	7/16"	3/32"	5/16"	100	9309K22	$9.83
10	1/4"	3/64"	7/16"	3/16"	5/16"	100	9309K23	12.83
11	1/8"	1/8"	7/8"	11/64"	11/32"	25	9310K124	9.42
Polyurethane—Hard								
12	1/2"	3/32"	1 3/4"	2 9/16"	5/8"	1	8638T52	12.47
12	9/16"	1/8"	1 13/16"	1 9/16"	25/32"	1	8638T53	8.05
Plastic—Medium-Hard								
9	1/4"	1/8"	7/16"	3/16"	19/64"	100	1670K2	14.28
9	19/64"	5/64"	1/2"	7/64"	3/8"	100	1670K3	10.67
9	19/64"	5/64"	9/16"	9/32"	3/8"	50	1670K1	7.43

Bumper Assortments

This 93-piece assortment contains four each of 3/4" dia. and 13/16" dia. black rubber bumpers; four 7/16" dia. black rubber bumpers with 6-32 threaded stud; ten 9/16" dia. and five 1" dia. black rubber push-in bumpers; twelve 13/16" square black adhesive-back bumpers; and four 1/2" dia. white plastic and fifty 1/2" dia. black felt adhesive-back bumpers. Comes in a plastic case.

3338T1 ..... $29.71

Bumpers with Threaded Stud

A built-in stud eliminates the need for an additional fastener. These bumpers are often used as stops and guides.

Rubber bumpers are abrasion-resistant SBR rubber. Color is black. They are for indoor use only; temperature range is –25° to 180° F. Material is nonmarking. *Hard* durometer is 70A; *medium-hard* durometer is 55A-65A.

Polyurethane bumpers resist abrasion and ozone. Color is red. They can be used outdoors; temperature range is –10° to 200° F. Material is marking but nonstaining. Durometer is 70A-88A.



	Stud Thread Size	Stud Thread Lg. (A)	Bumper Wd. (B)	Bumper Ht. (C)		Pkg. of 25
Rubber—Hard						
1	8-32	3/8"	3/4"	7/16"	9541K2	$11.91
1	10-24	3/8"	1"	1/2"	9541K3	12.67
2	6-32	1/4"	1/2"	1/4"	9541K1	6.51
Rubber—Medium Hard						
1	6-32	1/4"	7/16"	1/4"	9541K8	6.64
Polyurethane—Hard						Each
1	5/16"-18	7/8"	1"	1"	9541K11	$10.06
1	5/16"-18	7/8"	1 1/2"	1 1/2"	9541K13	11.19
1	5/16"-18	7/8"	2"	2"	9541K15	15.85
1	3/8"-16	3/4"	2"	1"	9223K67	6.90
1	3/8"-16	7/8"	1 5/8"	1 1/16"	9223K63	7.15
1	3/8"-16	7/8"	2 1/2"	2 1/2"	9541K17	25.24
1	3/8"-16	1"	2"	3/8"	9223K64	6.88
1	3/8"-16	1"	2"	1 1/16"	9223K65	6.90
1	1/2"-13	1 1/4"	3"	3"	9541K19	34.52
1	1/2"-13	1 1/4"	4"	4"	9541K21	65.58
3	3/8"-16	7/8"	2 15/16"	1"	9223K68	11.94
4	3/8"-16	7/8"	1 1/2"	1 9/16"	9223K62	7.15
5	3/8"-16	3/4"	2"	2 1/8"	9223K61	8.44
6	3/8"-16	7/8"	2"	2"	9223K72	8.17
7	3/8"-16	1"	1 3/8"	7/8"	9223K69	6.27
8	3/8"-16	3/4"	2"	1 3/8"	9223K71	6.90

Metal-Core Bumpers with Threaded Stud

A steel core surrounded by cushioning material makes these bumpers able to withstand impact. A built-in stud means no additional fastener is required for installation. Can be used outdoors. Materials are marking. *Hard* durometer is 70A-80A; *soft* durometer is 40A-45A.

Rubber bumpers are made of gasoline- and oil-resistant neoprene. Color is black. Temperature range is –40° to 200° F.

Polyurethane bumpers resist abrasion and ozone. Color is red. Temperature range is –65° to 200° F.

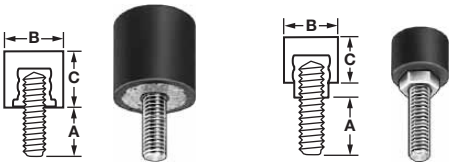

	Stud Thread Size	Stud Thread Lg. (A)	Bumper Wd. (B)	Bumper Ht. (C)	Rubber Hard		Rubber Soft		Polyurethane Hard		Polyurethane Soft	
Standard												
	1/4"-20	3/4"	1"	1"					9546K185	$10.53		
	1/4"-20	3/4"	1 1/4"	1"					9546K205	12.00		
	3/8"-16	5/8"	1 1/4"	1 1/4"	9546K511	$16.00	9546K78	$11.30	9546K88	12.86	9223K28	$18.30
	3/8"-16	3/4"	1 1/2"	13/16"	9546K516	21.98	9546K27	17.80	9546K64	18.29	9223K27	23.70
	3/8"-16	3/4"	1 1/2"	1 1/4"					9546K345	14.40		
	3/8"-16	3/4"	2"	1 1/4"					9546K365	19.20		
	3/8"-16	1"	1 1/4"	1 1/4"	9546K512	16.00	9546K19	11.57	9546K65	13.09	9223K29	18.74
	3/8"-16	1 1/4"	1 1/4"	1 1/4"	9546K513	16.00	9546K21	11.79	9546K66	13.77	9223K31	19.20
	1/2"-13	3/4"	1 1/4"	1 1/4"	9546K514	17.82	9546K28	12.55	9546K67	14.03	9223K32	19.68
	1/2"-13	3/4"	2 1/2"	2"					9546K385	34.93		
	1/2"-13	3/4"	3"	2 1/2"					9546K387	58.53		
	5/8"-18	1"	1 1/4"	1 1/4"	9546K515	17.82	9546K22	13.17	9546K68	14.38	9223K33	20.18
	M6×1	18 mm	19 mm	16 mm	9546K235	6.82	9546K532	10.84	9546K236	8.36	9223K34	12.08
	M8×1.25	18 mm	19 mm	16 mm	9546K241	7.15	9546K533	10.84	9546K242	8.92	9223K35	13.15
	M10×1.5	15 mm	32 mm	32 mm	9546K534	18.42	9546K251	11.98	9546K262	12.74		
	M10×1.5	30 mm	32 mm	32 mm	9546K535	18.42	9546K243	12.38	9546K244	13.73	9223K36	18.51
	M12×1.75	30 mm	32 mm	32 mm	9546K536	20.20	9546K245	13.85	9546K246	14.28	9223K37	20.65
	M16×2	15 mm	32 mm	32 mm	9546K537	22.05	9546K247	15.60	9546K248	15.98	9546K541	25.69
	M16×2	30 mm	32 mm	32 mm	9546K538	22.05	9546K253	16.36	9546K264	15.28	9546K542	25.69
	M16×2	30 mm	45 mm	42 mm	9546K539	27.07	9546K255	17.04	9546K266	20.44	9546K543	33.78
With Hex Shoulder												
	10-24	1/2"	3/4"	5/8"	9546K93	6.08	9546K555	12.83	9546K94	7.68	9223K39	11.58
	10-24	1 1/4"	3/4"	5/8"	9546K95	6.35	9546K556	12.83	9546K96	8.01	9223K41	11.97
	10-32	1/2"	3/4"	5/8"	9546K97	6.64	9546K557	12.83	9546K98	8.35	9223K42	11.86
	10-32	1 1/4"	3/4"	5/8"	9546K112	6.98	9546K558	12.83	9546K115	8.74	9223K43	11.97
	1/4"-20	1/2"	3/4"	5/8"	9546K118	7.32	9546K559	12.83	9546K122	9.15	9223K44	12.35
	1/4"-20	1 1/4"	3/4"	5/8"	9546K123	7.73	9546K561	12.83	9546K124	9.61	9223K45	12.94
	1/4"-28	1/2"	3/4"	5/8"	9546K125	7.94	9546K562	12.83	9546K126	9.66	9223K46	13.35
	1/4"-28	1 1/4"	3/4"	5/8"	9546K131	8.16	9546K563	12.83	9546K133	10.15	9223K47	14.64
	5/16"-18	1/2"	3/4"	5/8"	9546K17	8.49	9546K564	13.57	9546K62	9.92	9223K48	14.30
	5/16"-18	1 1/4"	3/4"	5/8"	9546K18	8.62	9546K565	13.57	9546K63	10.35	9223K49	15.28
	5/16"-24	1/2"	3/4"	5/8"	9546K137	8.81	9546K566	13.43	9546K138	10.70	9223K51	17.59
	5/16"-24	1 1/4"	3/4"	5/8"	9546K139	9.06	9546K567	13.43	9546K141	11.31	9223K52	18.69

Load-Rated Bumpers with Threaded Stud



Dampen vibration and shock in load-rated applications. Bumpers have a steel plate for added reinforcement and a built-in stud.

Rubber bumpers are abrasion-resistant synthetic rubber. Color is black. Material is marking. Temp. range is –10° to 155° F. *Medium-hard* durometer is 50A-55A. For indoor use only. *Soft* durometer is 21A. Can be used outdoors. **High-temperature rubber** bumpers are silicone rubber. Can be used outdoors; temp. range is –80° to 300° F. Material is nonmarking. *Hard* durometer is 70A. Color is orange. *Soft* durometer is 30A. Color is black. **Polyurethane** bumpers resist abrasion and tearing. Color is black. For indoor use only; temp. range is 55° to 160° F. *Medium-hard* durometer is 58A and 70 OO. *Soft* durometer is 50 OO. Bumpers are slightly tacky.

Also Available: Bumpers with a stainless steel stud in sizes marked with a ★. Ask for 93115K99 and specify the McMaster-Carr part number.

	Stud Thread		Bumper		Max.		
	Size	Lg. (A)	Dia. (B)	Ht. (C)	Load, lbs.		Each
Rubber—Medium-Hard							
1	1/4"-20	1/2"	1"	1/2"	214	93115K111★	$3.33
1	1/4"-20	1/2"	1"	3/4"	140	93115K121★	3.68
1	5/16"-18	5/8"	1"	1"	151	93115K131★	3.88
1	5/16"-18	5/8"	1 1/2"	3/4"	398	93115K141★	9.01
1	5/16"-18	5/8"	1 9/16"	1"	434	93115K161★	7.96
1	3/8"-16	5/8"	1 9/16"	1"	434	93115K151★	7.96
1	3/8"-16	5/8"	2"	1 5/8"	640	93115K181★	14.83
1	3/8"-16	1 1/8"	2"	3/4"	830	93115K171★	9.85
1	M3x0.5	6mm	8mm	8mm	8	93115K871★	2.81
1	M4x0.7	10mm	15mm	15mm	54	93115K881★	2.29
1	M4x0.7	10mm	15mm	20mm	64	93115K891★	2.52
1	M6x1	18mm	25mm	15mm	137	93115K911★	3.28
1	M6x1	18mm	25mm	20mm	125	93115K931★	3.66
1	M6x1	18mm	25mm	30mm	114	93115K941★	4.33
1	M8x1.25	23mm	40mm	20mm	277	93115K951★	7.10
1	M8x1.25	23mm	40mm	30mm	359	93115K952★	8.38
1	M8x1.25	23mm	40mm	40mm	409	93115K953★	9.91
1	M10x1.5	27mm	70mm	40mm	921	93115K971★	33.14
1	M10x1.5	27mm	70mm	55mm	1,011	93115K972★	38.95
1	M10x1.5	28mm	50mm	20mm	581	93115K961★	9.91
1	M10x1.5	28mm	50mm	30mm	551	93115K962★	11.95
1	M10x1.5	28mm	50mm	40mm	554	93115K963★	13.95
1	M12x1.75	37mm	75mm	50mm	989	93115K981★	33.90
1	M16x2	41mm	100mm	40mm	1,820	93115K991	63.29
1	M16x2	41mm	100mm	60mm	1,753	93115K993	73.86
2	M6x1	18mm	20mm	24mm	22	9377K77	2.91
2	M8x1.25	18mm	30mm	30mm	33	9377K78	5.26
2	M8x1.25	28mm	50mm	61mm	168	9377K82	24.07
2	M10x1.5	28mm	50mm	68mm	191	9377K83	13.81

	Stud Thread		Bumper		Max.		
	Size	Lg. (A)	Dia. (B)	Ht. (C)	Load, lbs.		Pkg. of 4
Rubber—Medium-Hard (Cont.)							
3	1/4"-20	1/2"	1"	5/8"	18	9377K63	$6.00
4	1/4"-20	1/2"	1"	1/2"	25	9377K53	7.00
5	5/16"-18	5/8"	1 5/8"	2"	60	9377K23	11.00
6	5/16"-18	5/8"	1 3/16"	1 1/2"	75	9377K13	11.03
6	5/16"-18	5/8"	1 3/8"	1"	80	9377K43	11.17
Rubber—Soft							Each
1	4-40	13/64"	9/32"	5/16"	0.5	93115K95	$6.22
1	6-32	3/8"	13/32"	1/2"	1	93115K96	6.74
1	8-32	3/8"	13/32"	1/2"	1	93115K97	7.11
High-Temperature Rubber—Hard							
1	1/4"-20	1/2"	1"	3/4"	90	8926T31	4.35
1	5/16"-18	5/8"	1 1/2"	1"	1,225	8926T37	7.31
High-Temperature Rubber—Soft							
1	1/4"-20	1/2"	1"	3/4"	25	8926T21	4.59
1	5/16"-18	5/8"	1 1/2"	1"	60	8926T27	7.72
Polyurethane—Medium-Hard							
1	4-40	13/64"	9/32"	5/16"	4	93115K71	5.47
1	6-32	3/8"	13/32"	1/2"	8	93115K72	5.94
1	8-32	3/8"	13/32"	1/2"	8	93115K73	6.13
1	1/4"-20	1/2"	5/8"	5/8"	20	93115K74	6.61
1	5/16"-18	5/8"	1"	3/4"	50	93115K75	7.28
7	8-32	1/2"	3/4"	1/2"	6	2572K24	5.76
7	1/4"-20	1/2"	1 1/2"	1"	18	2572K25	7.21
7	1/4"-20	1/2"	1 3/4"	27/32"	35	2572K26	7.94
Polyurethane—Soft							
7	8-32	1/2"	3/4"	1/2"	3	2572K21	5.94
7	1/4"-20	1/2"	1 1/2"	1"	11	2572K22	8.54
7	1/4"-20	1/2"	1 3/4"	27/32"	20	2572K23	10.02

Bumpers with Threaded Hole

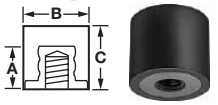

The steel core has a convenient threaded hole and is surrounded by cushioning material that withstands impact. Can be used outdoors. Temp. range is –40° to 200° F. Materials are marking.

Rubber bumpers are made of gasoline- and oil-resistant neoprene. Color is black. *Hard* durometer is 70A-80A; *soft* durometer is 40A-45A. **Polyurethane** bumpers resist abrasion and ozone. Color is red. *Hard* durometer is 80A-90A; *soft* durometer is 40A.

	Hole Thread	Bumper				
Size	Dp. (A)	Dia. (B)	Ht. (C)	Hard		Soft	
Rubber							
10-24	1/4"	3/4"	5/8"	9546K106	$3.26	9546K548	$5.96
10-32	1/4"	3/4"	5/8"	9546K72	3.34	9546K549	5.96
1/4"-20	1/4"	3/4"	5/8"	9546K76	3.42	9546K551	5.96
1/4"-28	1/4"	3/4"	5/8"	9546K82	3.51	9546K552	5.96
5/16"-18	1/4"	3/4"	5/8"	9546K43	4.03	9546K553	5.96
5/16"-24	1/4"	3/4"	5/8"	9546K86	4.17	9546K554	6.52
3/8"-16	1/2"	1 1/4"	1 1/4"	9546K517	13.56	9546K23	8.86
3/8"-24	1/2"	1 1/4"	1 1/4"	9546K518	13.56	9546K24	9.29
7/16"-20	1/2"	1 1/4"	1 1/4"	9546K519	14.13	9546K71	10.81
1/2"-13	1/2"	1 1/4"	1 1/4"	9546K521	13.56	9546K11	8.86
1/2"-20	1/2"	1 1/4"	1 1/4"	9546K522	13.56	9546K12	9.38
5/8"-11	5/8"	1 3/4"	1 5/8"	9546K524	25.04	9546K13	15.12
5/8"-18	1/2"	1 1/4"	1 1/4"	9546K523	13.56	9546K73	10.26
5/8"-18	5/8"	1 3/4"	1 5/8"	9546K525	25.04	9546K14	16.19
3/4"-10	1"	2 1/4"	2 1/4"	9546K526	36.87	9546K15	22.31
3/4"-16	1"	2 1/4"	2 1/4"	9546K527	36.87	9546K16	24.57
1"-8	1"	2 1/4"	2 1/4"	9546K528	36.87	9546K75	26.18
1"-8	1 1/4"	3"	2 3/4"	9546K529	59.87	9546K25	51.91
1 1/4"-12	1 1/4"	3"	2 3/4"	9546K531	59.87	9546K77	54.90
M6x1	6mm	19mm	16mm	9546K212	3.22	9546K544	8.33
M8x1.25	6mm	19mm	16mm	9546K216	3.36	9546K546	8.33
M10x1.25	13mm	32mm	32mm	9546K547	14.73	9546K219	9.43
M12x1.25	13mm	32mm	32mm	9546K569	14.73	9546K223	10.91

	Hole Thread	Bumper				
Size	Dp. (A)	Dia. (B)	Ht. (C)	Hard		Soft	
Polyurethane							
10-24	1/4"	3/4"	5/8"	9546K29	$3.68	9223K1	$6.17
10-32	1/4"	3/4"	5/8"	9546K74	3.85	9223K2	6.52
1/4"-20	1/4"	3/4"	5/8"	9546K79	4.04	9223K3	6.95
1/4"-20	3/4"	1"	1"	9546K485	6.40	—	—
1/4"-20	3/4"	1 1/4"	1"	9546K505	7.29	—	—
1/4"-28	1/4"	3/4"	5/8"	9546K84	4.23	9223K4	7.16
5/16"-18	1/4"	3/4"	5/8"	9546K61	4.62	9223K5	8.70
5/16"-24	1/4"	3/4"	5/8"	9546K92	4.75	9223K6	7.31
3/8"-16	1/2"	1 1/4"	1 1/4"	9546K51	9.27	9223K7	13.33
3/8"-24	1/2"	1 1/4"	1 1/4"	9546K52	9.47	9223K8	13.97
7/16"-20	1/2"	1 1/4"	1 1/4"	9546K81	9.67	9223K9	14.47
1/2"-13	1/2"	1 1/4"	1 1/4"	9546K53	9.89	9223K11	15.57
1/2"-20	1/2"	1 1/4"	1 1/4"	9546K54	10.11	9223K12	16.39
5/8"-11	5/8"	1 3/4"	1 5/8"	9546K55	17.41	9223K14	23.13
5/8"-18	1/2"	1 1/4"	1 1/4"	9546K83	10.60	9223K13	17.01
5/8"-18	5/8"	1 3/4"	1 5/8"	9546K56	18.24	9223K15	23.13
3/4"-10	1"	2 1/4"	2 1/4"	9546K57	28.20	9223K16	38.90
3/4"-16	1"	2 1/4"	2 1/4"	9546K58	29.38	9223K17	40.67
1"-8	1"	2 1/4"	2 1/4"	9546K85	31.26	9223K18	42.60
1"-8	1 1/4"	3"	2 3/4"	9546K59	55.87	9223K19	64.08
1 1/4"-12	1 1/4"	3"	2 3/4"	9546K87	55.87	9223K21	68.86
M6x1	6mm	19mm	16mm	9546K214	4.07	9223K22	5.73
M8x1.25	6mm	19mm	16mm	9546K218	4.26	9223K23	6.09
M10x1.25	13mm	32mm	32mm	9546K221	10.41	9223K24	15.30
M12x1.25	13mm	32mm	32mm	9546K225	10.86	9223K25	16.35

Load-Rated Bumpers with Threaded Hole

Dampen vibration and shock in applications that require load ratings. A steel plate at the base of the bumper adds reinforcement.

Rubber bumpers are abrasion-resistant black synthetic rubber. Temperature range is –20° to 155° F. Material is nonmarking. *Medium-hard* durometer is 55A. For indoor use only. *Soft* durometer is 21A. Can be used outdoors.

High-temperature rubber bumpers are silicone rubber. They can be used outdoors; temperature range is –80° to 300° F. Material is nonmarking. *Hard* durometer is 70A. Color is orange. *Soft* durometer is 30A. Color is black.

Polyurethane bumpers are black. They are for indoor use only; temperature range is 55° to 105° F. Material is marking. Style 1 are abrasion and ozone resistant; Style 3 are impact resistant. *Medium-hard* durometer is 58A and 70 OO. *Soft* durometer is 50 OO; bumpers are slightly tacky.

Also Available: Bumpers with a stainless steel plate in sizes marked with a ★. Please ask for 93115K88 and specify the corresponding part number below.

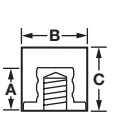

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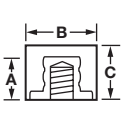

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	Hole Thread Size	Hole Thread Dp. (A)	Bumper Dia. (B)	Bumper Ht. (C)	Max. Load, lbs.		
Rubber—Medium-Hard							
1	1/4″-20	1/4″	1″	1/2″	205	93115K211★	$3.33
1	1/4″-20	1/4″	1″	3/4″	142	93115K221★	3.68
1	5/16″-18	5/16″	1″	1″	190	93115K231★	3.88
1	5/16″-18	5/16″	1 1/2″	3/4″	441	93115K241★	7.22
1	5/16″-18	5/16″	1 1/2″	1″	400	93115K251★	7.96
1	3/8″-16	3/8″	1 1/2″	1″	400	93115K261★	7.96
1	3/8″-16	3/8″	2″	3/4″	1,045	93115K271★	9.85
1	3/8″-16	3/8″	2″	1 5/8″	670	93115K481★	14.83
1	M4×0.7	4 mm	10 mm	10 mm	13	93115K371★	2.29
1	M4×0.7	4 mm	15 mm	15 mm	54	93115K381★	2.39
1	M4×0.7	4 mm	15 mm	20 mm	64	93115K391★	2.67
1	M6×1	6 mm	25 mm	15 mm	137	93115K421★	3.28
1	M6×1	6 mm	25 mm	20 mm	125	93115K431★	3.66
1	M6×1	6 mm	25 mm	30 mm	114	93115K441★	4.33
1	M8×1.25	8 mm	30 mm	15 mm	209	93115K451★	4.81
1	M8×1.25	8 mm	40 mm	20 mm	277	93115K461★	7.10
1	M8×1.25	8 mm	40 mm	30 mm	359	93115K511★	8.38
1	M8×1.25	8 mm	40 mm	40 mm	409	93115K581★	9.91
1	M10×1.5	10 mm	50 mm	20 mm	581	93115K591★	9.91
1	M10×1.5	10 mm	50 mm	30 mm	551	93115K611★	11.95
1	M10×1.5	10 mm	50 mm	40 mm	554	93115K681★	13.95
1	M10×1.5	10 mm	70 mm	40 mm	921	93115K691★	34.05
1	M10×1.5	10 mm	70 mm	55 mm	1,011	93115K761★	40.10
1	M12×1.75	12 mm	75 mm	40 mm	1,011	93115K771★	29.81
1	M12×1.75	12 mm	75 mm	50 mm	989	93115K781★	34.90
1	M16×2	16 mm	100 mm	40 mm	1,820	93115K791	64.57
1	M16×2	16 mm	100 mm	60 mm	1,753	93115K861	75.00
2	M6×1	6 mm	20 mm	24 mm	22	9377K71	2.91
2	M8×1.25	8 mm	30 mm	30 mm	33	9377K72	5.26
2	M8×1.25	8 mm	50 mm	61 mm	168	9377K75	24.07
2	M10×1.5	10 mm	50 mm	68 mm	191	9377K76	13.81
Rubber—Soft							
1	4-40	7/64″	9/32″	5/16″	0.3	93115K92	5.82
1	6-32	5/32″	13/32″	1/2″	0.6	93115K93	6.23
1	8-32	5/32″	13/32″	1/2″	0.6	93115K94	6.47
High-Temperature Rubber—Hard							
1	1/4″-20	1/4″	1″	3/4″	90	8926T33	4.00
1	5/16″-18	5/16″	1 1/2″	1″	225	8926T39	7.05
High-Temperature Rubber—Soft							
1	1/4″-20	1/4″	1″	3/4″	25	8926T23	4.29
1	5/16″-18	5/16″	1 1/2″	1″	60	8926T29	7.25
Polyurethane—Medium-Hard							
1	4-40	7/64″	9/32″	5/16″	2	93115K81	5.21
1	6-32	5/32″	13/32″	1/2″	4	93115K82	5.59
1	8-32	5/32″	13/32″	1/2″	4	93115K83	5.88
1	1/4″-20	1/4″	5/8″	5/8″	12	93115K84	6.27
1	5/16″-18	9/32″	1″	3/4″	45	93115K85	8.00
3	8-32	1/4″	3/4″	1/2″	6	2572K9	5.42
3	1/4″-20	23/64″	1 1/2″	1″	18	2572K13	6.99
3	1/4″-20	23/64″	1 3/4″	27/32″	35	2572K16	7.57
Polyurethane—Soft							
3	8-32	1/4″	3/4″	1/2″	3	2572K8	5.57
3	1/4″-20	23/64″	1 1/2″	1″	11	2572K12	7.28
3	1/4″-20	23/64″	1 3/4″	27/32″	20	2572K15	8.00

Heavy Duty Bumpers

Often used as stops, these bumpers have a metal plate at the base for added reinforcement. They can be used outdoors; temperature range is –40° to 200° F. Bumpers are hard with an 80A durometer. Bumpers have two mounting holes (unless noted).

Rubber bumpers are gasoline- and oil-resistant black neoprene. Material is marking. **Polyurethane** bumpers resist abrasion and ozone. Material is nonmarking. Color is red.

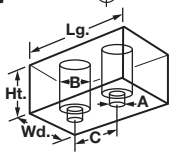



With Steel Base Plate



With Aluminum Base Plate

Lg.	Wd.	Ht.	Hole Dia. (A)	Counterbore Dia. (B)	Mounting Holes, Ctr.-to-Ctr. (C)		
Rubber with Steel Plate							
1 3/4″	1″	3/4″	9/32″	13/32″	1″	9306K14	$5.00
2 1/2″	5/8″	5/8″	9/32″	13/32″	1 1/2″	9306K18	6.55
2 1/2″	2″	2″	11/32″	1/2″	1 1/2″	9306K16	18.07
2 1/2″	2″	2″	11/32″	___	1 1/2″	9306K32	18.62
4″	2 1/2″	2″	___	___	3 1/4″	9306K34■	33.88
Rubber with Aluminum Plate							
1 1/2″	1″	3/4″	9/32″	13/32″	3/4″	9306K62	12.34
1 3/4″	1″	1 3/4″	9/32″	13/32″	1″	9306K66	13.35
3″	1″	1 3/4″	13/32″	19/32″	1 3/4″	9306K68	19.76
3″	1 1/2″	1″	11/32″	1/2″	2″	9306K69	21.45
4″	1″	3/4″	9/32″	13/32″	1″	9306K64	18.71
Polyurethane with Steel Plate							
1 3/4″	1″	3/4″	9/32″	13/32″	1″	9306K15	9.72
2 1/2″	5/8″	5/8″	9/32″	13/32″	1 1/2″	9306K19	10.50
2 1/2″	2″	2″	11/32″	1/2″	1 1/2″	9306K17	21.23
Polyurethane with Aluminum Plate							
1″	1″	3/4″	9/32″	7/16″	___	9306K821▲	8.80
1 1/2″	1″	3/4″	9/32″	13/32″	3/4″	9306K26	15.27
1 1/2″	1 1/2″	1″	9/32″	7/16″	3/4″	9306K831	11.77
1 3/4″	1″	1 3/4″	9/32″	13/32″	1″	9306K28	20.50
2″	1″	1/2″	9/32″	7/16″	1 1/4″	9306K71	10.06
2″	1″	3/4″	9/32″	7/16″	1 1/4″	9306K72	11.31
2″	1″	1″	9/32″	7/16″	1 1/4″	9306K73	12.34
2″	1″	1 1/2″	9/32″	7/16″	1 1/4″	9306K74	14.74
2″	2″	1″	9/32″	7/16″	1 1/4″	9306K841	17.03
2 1/2″	1 1/4″	3/4″	9/32″	7/16″	1 3/4″	9306K75	13.60
2 1/2″	1 1/4″	1″	9/32″	7/16″	1 3/4″	9306K76	15.31
2 1/2″	1 1/4″	1 1/2″	9/32″	7/16″	1 3/4″	9306K77	18.97
2 1/2″	2 1/2″	1″	9/32″	7/16″	1 1/2″	9306K851♣	23.43
3″	1″	1 3/4″	13/32″	9/16″	1 3/4″	9306K29	26.83
3″	1 1/2″	3/4″	9/32″	7/16″	2″	9306K78	15.89
3″	1 1/2″	1″	9/32″	7/16″	2″	9306K79	18.38
3″	1 1/2″	1″	11/32″	1/2″	2″	9306K31	28.25
3″	1 1/2″	1 1/2″	9/32″	7/16″	2″	9306K81	23.66
3″	3″	1 1/2″	9/32″	7/16″	2″	9306K861♣	39.89
4″	1″	3/4″	9/32″	13/32″	1″	9306K27	23.96
4″	4″	1 1/2″	9/32″	7/16″	3″	9306K871♣	62.74

■ Plate has two 5/16″-18 threaded holes. ▲ Has one mounting hole.
♣ Has four mounting holes.

Wear Plates



Protect equipment in demanding applications. Plates can be machined to size and drilled for mounting.

Corrosion-resistant plates are made of Type 410 stainless steel and can be used outdoors.

Impact-resistant plates are made of air-hardened S7 tool steel and can be heat treated for maximum strength. For indoor use only.

Self-lubricating plates are made of oil-impregnated bronze so no additional lubrication is necessary. Can be used outdoors.

Low-friction plates are UHMW polyethylene. Made from FDA-compliant resins. Material is USDA compliant. Suitable for use with food-processing equipment. Color is opaque white. For indoor use only; temperature range is –40° to 180° F. Material is nonmarking and has a hard durometer of 66D.

Lg.	Wd.	1/8″ Thick		1/4″ Thick		3/8″ Thick	
Corrosion Resistant							
6″	6″	___	___	6313T12	$31.85	6313T13	$52.79
Impact Resistant							
1 1/2″	4″	6313T23	$86.12	6313T25	121.30	6313T26	154.73
Self Lubricating							
6″	5″	6313T18	68.27	6313T21	75.20	6313T22	91.10
Low Friction							
12″	12″	6313T14	7.61	6313T16	12.27	6313T17	15.95

Dock Bumpers and Tubing & Rod Guards

For information about durometer hardness, see page 3588.

Dock Bumpers

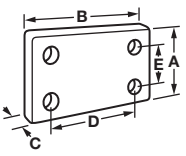

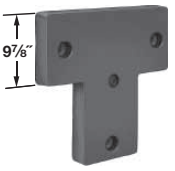

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Prevent damage and absorb shock and vibration on your docks and vehicles. Bumpers are made of weather- and abrasion-resistant SBR rubber, except Style 6 is SBR/EPDM rubber. Color is black (unless noted). Can be used outdoors; temperature range is –20° to 120° F. Material is marking.

Reinforced rubber bumpers are fiber-reinforced for increased impact resistance. 2239T6 has one reflector; 2239T13, 2239T3, and 2239T4 have two reflectors. *Hard* durometer is 75A-85A.

Rubber bumper *Styles 4* and *8* have a steel washer above the mounting holes for added reinforcement. *Style 6 without mounting holes* let you drill your own holes. *Hard* durometer is 75A-80A; *medium-hard* durometer is 60A-75A.

Ht. (A)	Wd. (B)	Dp. (C)	Mounting Holes: No. of Holes	Mounting Holes: Ctr.-to-Ctr. (D)	Mounting Holes: (E)	Mounting Holes: Dia.	Counterbore Dia.		
(1) Reinforced Rubber—Hard									
21″	21″	3¼″	3	15¾″	14″	¾″	2″	2239T6	$62.93
(2) Reinforced Rubber—Hard									
17¼″	17¼″	4″	3	10″	10″	1″	2½″	2239T7	59.27
(3) Reinforced Rubber—Hard									
12″	23¾″	6½″	4	18″	6″	¾″	2″	2239T13	121.45
12″	24″	3″	4	18″	6″	¾″	2″	2239T3	59.78
12″	24″	4″	4	18″	6″	¾″	2″	2239T4	74.27
13″	12″	4″	4	7″	9″	¾″	1½″	2239T8	45.62
(4) Reinforced Rubber—Hard									
10″	13″	4″	2	7″	—	⅞″	2″	2239T15	37.81
10″	18″	4″	2	10″	—	1 3⁄16″	2¾″	2239T25	49.12
(4) Rubber—Hard									
2½″	7¾″	2″	2	4½″	—	9⁄16″	1⅛″	21685T11	5.54
(4) Rubber—Medium-Hard									
2½″	16″	2⅛″	3	6⅜″	—	½″	1⅛″	21685T15	9.53
3″	6″	3½″	2	3″	—	½″	1½″	21685T12	6.56
4½″	10″	3″	2	5″	—	⅝″	1½″	2195T61	12.24
4½″	20″	3″	4	5″	—	⅝″	1½″	2195T62	24.43
4½″	30″	3″	6	5″	—	⅝″	1½″	2195T63	37.82
(5) Reinforced Rubber—Hard									
9″	18″	2″	2	9″	—	1″	—	2239T9	27.47
9″	18″	4″	2	9″	—	1″	—	2239T11	46.40
(6) Rubber—Medium-Hard									
4¼″	12″	3¾″	2	6″	—	¾″	—	2195T41	17.65
4¼″	18″	3¾″	2	12″	—	¾″	—	2195T42	25.62
4¼″	24″	3¾″	2	18″	—	¾″	—	2195T43	38.90
4¼″	36″	3¾″	3	15″	—	¾″	—	2195T44	46.62
4¼″	48″	3¾″	—	—	—	—	—	2195T53	51.51
4¼″	72″	3¾″	—	—	—	—	—	2195T55	76.38
4¼″	120″	3¾″	—	—	—	—	—	2195T57	136.26
(7) Rubber—Hard									
4″	6″	3⅜″	2	2½″	—	½″	1⅞″	21685T14	9.77
(8) Rubber—Medium-Hard									
3″	4⅞″	3½″	2	2½″	—	½″	1⅛″	21685T13	7.83
3½″	6″	3½″	2	3½″	—	9⁄16″	1¼″	3265T12	11.72
(9) Rubber—Medium-Hard									
5½″	7½″	3¾″	4	5½″	3″	⅝″	1⅜″	21685T16	12.62
5½″	7½″	3¾″	4	5½″	3″	⅝″	1⅜″	21685T18★	15.44

★Color is yellow.

Laminated Dock Bumpers



Horizontal Mount with Steel Face

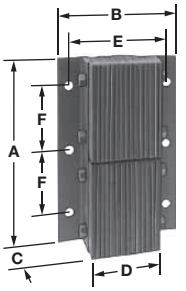

Vertical Mount

Multiple shock-absorbing layers of weather- and abrasion-resistant black laminated rubber withstand impact up to 5,000 psi. Layers are strung on rods and bolted together at both ends with steel angle brackets. Can be used outdoors; not rated for temp. Material is marking. All are hard with a 75A-85A durometer. Bumpers **with steel face** have a ⅜″ thick steel plate covering the laminated rubber for added strength.

Overall Size: Ht. (A)	Wd. (B)	Dp. (C)	Bumper Wd. (D)	Mounting Holes: No. of Holes	Mounting Holes: Ctr.-to-Ctr. (E)	(F)		
Horizontal Mount								
6″	26″	4½″	20″	4	24″	3″	2238T91	$60.28
6″	38″	4½″	32″	4	36″	3″	2238T92	90.83
10″	16″	4½″	10″	4	14″	6″	2238T93	60.64
10″	16″	6″	10″	4	14″	6″	2238T82	109.68
10″	16″	9″	10″	4	14″	6″	2238T46	140.02
10″	20″	4½″	14″	4	18″	6″	2238T75	61.84
10″	20″	6″	14″	4	18″	6″	2238T57	79.40
10″	26″	4½″	20″	4	24″	6″	2238T94	92.62
10″	26″	6″	20″	4	24″	6″	2238T83	99.74
10″	26″	9″	20″	4	24″	6″	2238T47	191.95
10″	38″	4½″	32″	4	36″	6″	2238T95	126.77
10″	38″	6″	32″	4	36″	6″	2238T84	161.80
12″	14″	4½″	8″	6	12″	4″	2238T55	57.50
12″	14″	6″	8″	6	12″	4″	2238T56	71.99
12″	16″	4½″	10″	6	14″	4″	2238T96	68.27
12″	16″	6″	10″	6	14″	4″	2238T77	87.12
12″	20″	4½″	14″	6	18″	4″	2238T76	83.35
12″	26″	4½″	20″	6	24″	4″	2238T97	99.74
12″	26″	6″	20″	6	24″	4″	2238T78	129.71
12″	38″	4½″	32″	6	36″	4″	2238T98	140.30
Horizontal Mount with Steel Face								
10″	16″	5¼″	10″	4	14″	6″	2238T61	81.73
10″	16″	6¾″	10″	4	14″	6″	2238T65	106.27
10″	26″	5¼″	20″	4	24″	6″	2238T62	152.98
10″	26″	6¾″	20″	4	24″	6″	2238T66	204.07
12″	16″	5¼″	10″	6	14″	4″	2238T63	108.52
12″	26″	5¼″	20″	6	24″	4″	2238T64	170.14
Vertical Mount								
20″	13″	4½″	7″	6	11″	7″	2238T99	89.70
20″	14″	6″	8″	6	12″	7″	2238T85	93.25
24″	13″	4½″	7″	6	11″	9″	2238T81	92.15
24″	14″	6″	8″	6	12″	9″	2238T79	104.93
36″	13″	4½″	7″	8	11″	10″	2238T58	105.83
Vertical Mount with Steel Face								
20″	13″	5¼″	8″	6	11″	7″	2238T67	126.16
20″	13″	6¾″	8″	6	11″	7″	2238T69	150.70
24″	13″	5¼″	8″	6	11″	9″	2238T68	146.62
24″	13″	6¾″	8″	6	11″	9″	2238T71	186.77

Tubing and Rod Guards



For Round Tubing



For Square Tubing

Guards are hard rubber and fit round or square tubing and rods; a concealed bolt holds the guard together. Color is gray. They can be used outdoors; temperature range is –40° to 180° F. Material is nonmarking. Durometer is 75A-80A.

Fits Hole Dia./Size	Guard: Dia.	Guard: Thick.		
For Round Tubing				
⅝″	3″	15⁄16″	9764K42	$10.83
¾″	3″	15⁄16″	9764K44	10.53
1″	3″	15⁄16″	9764K47	10.84
1″	5″	1⅛″	9764K52	16.64
1¼″	3″	15⁄16″	9764K49	9.71
1¼″	5″	1⅛″	9764K54	16.47
1½″	5″	1⅛″	9764K56	14.87
For Square Tubing				
1″×1″	3″	15⁄16″	9764K41	11.60
1″×1″	5″	1 13⁄16″	9764K43	14.29
1½″×1½″	5″	1 13⁄16″	9764K45	16.21
2″×2″	5″	1 13⁄16″	9764K46	16.24

Heavy Duty Corner and Surface Guards

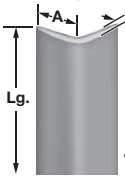

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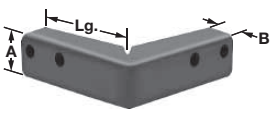

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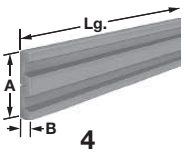

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Often used in warehouses, these guards prevent damage to your docks and equipment. They can also be used outdoors.

Rubber guards have a temperature range of –40° to 210° F. Materials are nonmarking. Durometer is 55A-70A. *Corner* guards are EPDM rubber. Mount with contact adhesive. *Surface* guards are SBR rubber. Drill holes and mount with fasteners.

	(A)	Lg.	Thick. (B)	Mtg. Holes No. of Holes	Mtg. Holes Dia.	Color		
Corner Guards								
Rubber—Medium-Hard								
1	4″	48″	1/4″-7/8″	—	—	Gray	8146A12	$111.69
1	4″	72″	1/4″-7/8″	—	—	Gray	8146A16	161.84
Plastic—Hard								
2	2 1/2″	6 1/4″	1 1/2″	4	1/4″	Black	46875K422	17.60
2	2 1/2″	6 1/4″	1 1/2″	4	1/4″	White	46875K421	17.60
Vinyl—Hard								
3	4″	8″	2 1/4″	—	—	White	1296T35	21.42
3	6″	10″	3″	—	—	White	1296T36	30.62

Plastic guards have mounting holes and a hollow back. Counterbore diameter is 3/4″ dia. Temperature range is –20° to 200° F. Material is nonmarking. Durometer is 70A-75A.

Vinyl guards provide an extra degree of cushion at the point of contact. Mount with screws or nails. Temperature range is 0° to 120° F. Material is nonmarking. Durometer is 83A-87A.

	(A)	Lg.	Thick. (B)	Mtg. Holes No. of Holes	Mtg. Holes Dia.	Color		
Surface Guards								
Rubber—Medium-Hard								
4	3″	48″	5/8″	—	—	Gray	8146A44	$37.14
4	3″	72″	5/8″	—	—	Gray	8146A45	54.92
Plastic—Hard								
5	2 1/2″	4 1/4″	1 1/2″	1	1/4″	White	46875K471	9.07
6	2 1/2″	12 1/4″	1 1/2″	3	1/4″	Black	46875K412	16.07
6	2 1/2″	12 1/4″	1 1/2″	3	1/4″	White	46875K411	16.07

Flexible Corner and Surface Guards

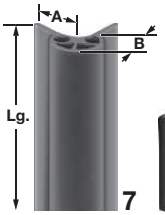

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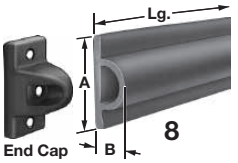

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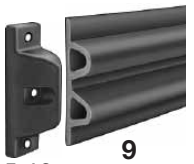

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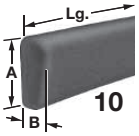

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Get more give during impact with these guards. All are black and can be used outdoors.

Rubber and **vinyl** guards have a raised surface that flexes more during impact than guards with a flat surface. Drill holes and mount with fasteners.

Rubber guards are EPDM rubber, which is more abrasion resistant than vinyl. They resist UV rays and salt water. Temperature range is –30° to 200° F. Material is marking. Durometer is 65A-75A.

Vinyl guards resist corrosion and salt water. Temperature range is 40° to 110° F. Material is marking. Durometer is 77A-83A.

End caps for vinyl guards (sold separately) are soft black foam and provide a finished look. Durometer is 25A-35A.

Foam guards have adhesive on the back for easy mounting. Temp. range is –10° to 175° F. Material is nonmarking. Durometer is 25A-30A.

	(A)	Lg.	Thick. (B)	Mtg. Flange Ht.	Mtg. Flange Thick.		
Corner Guard							
Rubber—Hard							
7	1 3/8″	6 ft.	3/4″	3/4″	1/8″	8847T15	$47.47
Surface Guards							
Rubber—Hard							
8	2 5/8″	6 ft.	1 1/4″	5/8″	1/4″	8847T16	52.41
8	2 5/8″	12 ft.	1 1/4″	5/8″	1/4″	8847T17	99.58
8	3 5/8″	6 ft.	1 3/8″	3/4″	1/4″	8847T18	64.29
8	4 1/8″	6 ft.	1 1/2″	1″	1/4″	8847T19	66.00
Vinyl—Hard							
8	2 3/4″	12 ft.	1 5/16″	3/4″	7/32″	8847T211	70.07
9	4 7/16″	12 ft.	1 3/16″	3/4″	7/32″	8847T311	107.56
End Cap for 8847T211						8847T92	7.71
End Cap for 8847T311						8847T94	8.73
Foam—Soft							
10	2″	18″	1/2″-3/4″	—	—	21705T46	13.54
11	2 1/16″	18″	3/4″	—	—	21705T45	13.75
12	2″	20″	7/8″-1″	—	—	21705T44	15.22
12	2″	27″	7/8″-1″	—	—	21705T43	18.45

Self-Gripping Protective Wraps



Protect your pipes and tubes from dents and scratches. Made of red vinyl, wraps have hook and loop closure for quick installation and removal. They are adjustable and reusable. For indoor use only. Maximum temperature is 300° F. Material is hard with a 70A-80A durometer.

Lg.	Wd.	Thick.	Max. Dia.		
12 3/4″	1″	3/16″	3″	2702A11	$16.28
16 1/4″	1 1/2″	3/16″	4″	2702A12	18.54
22″	3″	3/16″	5 1/2″	2702A15	20.82

Multi-Layer Surface Protection Film



Press film into place on interior or exterior glass and when one layer gets scratched or marred, peel it away. Film consists of four layers of polyester with acrylic adhesive. Total thickness is 1/64″. Maximum temperature is 120° F.

Lg.	Wd.	Color		
12″	12″	Clear	5042T1	$22.27
24″	24″	Clear	5042T2	89.06

Surface Protection Film



Commonly used on plastic and metal surfaces of appliances and electronic equipment for temporary protection during packaging, shipping, and installation. Film is 0.002″ thick polyethylene with acrylic adhesive and leaves no residue when removed. For indoor use only. Temperature range is –40° to 140° F.

Wd.	Lg., ft.	Available Colors		
For Smooth Surfaces—3M #2110				
6″	25	Clear	4433T11	$7.46
12″	25	Clear	4433T12	14.87
24″	25	Clear	4433T13	29.75
48″	25	Clear	4433T14	54.49
Standard—3M #2125				
6″	25	Blue, Clear	4433T21	7.33
12″	25	Blue, Clear	4433T22	14.62
24″	25	Blue, Clear	4433T23	29.21
48″	25	Blue, Clear	4433T24	53.57
For Textured Surfaces—3M #2A87				
6″	25	Blue, Clear	4433T31	13.97
12″	25	Blue, Clear	4433T32	27.95
24″	25	Blue, Clear	4433T33	55.85
48″	25	Blue, Clear	4433T34	102.42

High-Visibility Corner, Surface, and Pipe Guards

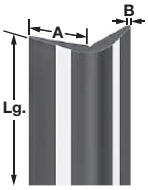

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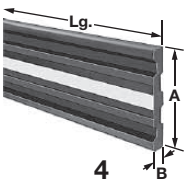

4


5


6

Create visual alerts and protect your equipment. All guards can be used outdoors.

Rubber guards mount with contact adhesive. Temperature range is –40° to 210° F. Material is marking. Durometer is 70A.

Foam guards are flexible and have adhesive on the back for easy mounting. Temperature range is –10° to 175° F. Material is nonmarking. *Medium-hard* durometer is 55A; *soft* durometer is 20A.

	(A)	Lg.	Thick. (B)	Color		
Corner Guards						
Rubber—Medium-Hard						
1	4″	48″	1/4″-7/8″	Black/Yellow	8146A14	$101.47
1	4″	72″	1/4″-7/8″	Black/Yellow	8146A18	153.45
Foam—Medium-Hard						
2	1″	39″	9/16″	Black/Yellow	21705T53	41.67
3	3/4″	39″	1/4″	Black/Yellow	21705T32	41.67
Foam—Soft						
3	1 3/4″	23 1/2″	3/4″	Yellow	21705T31	34.84

	(A)	Lg.	Thick. (B)	Color		
Surface Guards						
Rubber—Medium-Hard						
4	8″	48″	1 1/4″	Black/Yellow	8146A21	$153.41
4	8″	72″	1 1/4″	Black/Yellow	8146A22	222.50
Foam—Medium-Hard						
5	1 1/8″	39 3/8″	1 9/16″	Black/Yellow	21705T51	41.67
5	1 9/16″	39″	7/16″	Black/Yellow	21705T48	43.75
5	2″	39″	13/16″	Black/Yellow	21705T49	66.42
5	2 7/8″	39″	13/16″	Black/Yellow	21705T55	93.44
Pipe Guard—For up to 1″ OD						
Foam—Medium-Hard						
6	2″	39″	3/8″	Black/Yellow	21705T81	66.67

Plastic Corner and Surface Guards

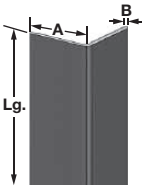

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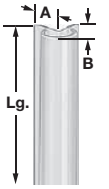

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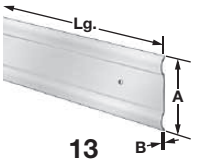

13

Often used to protect walls in offices, hospitals, and schools. *Adhesive-back* guards provide easy installation. *Screw-mount* guards have mounting holes and include fasteners, except 1103A7, 1103A8, and Style 12 need to be drilled and secured with fasteners.

Polycarbonate guards are for indoor use only; not rated for temperature. Material is nonmarking; not rated for durometer.

Style 9 guards have a 135° angle.

PETG guards adjust from 45° to 135° to conform to irregular corners. Material is hard and nonmarking. Not rated for temperature or durometer.

Vinyl guards are for indoor use. Style 12 can also be used outdoors.

Style 11 guards have a temperature range of 55° to 120° F. Material is hard; not rated for durometer.

Style 12 guards have a raised surface for extra cushioning. Temperature range is 35° to 120° F. Mounting flanges are hard with a 100A durometer; surface is hard with a 65A-70A durometer.

Not sure what color you need? Order a selector pack listed below.

Color Selector Pack for Styles 7-9	1103A9	$0.01
Color Selector Pack for Style 11	1278A15	.02

				Adhesive Back						*Screw Mount*					
				4-ft. Lengths			8-ft. Lengths			4-ft. Lengths			8-ft. Lengths		
	(A)	Thick. (B)	Available Colors		Clear	Color		Clear	Color		Clear	Color		Clear	Color
Corner Guards															
Polycarbonate															
7	3/4″	3/64″	Clear, Beige, Black, Brown	1103A1	$2.63	$3.80	1103A2	$5.14	$7.31	1103A7	$2.62	$3.68	1103A8	$4.89	$7.24
7	1 1/8″	1/16″	Clear, Beige, Black, Brown	1103A3	6.03	6.83	1103A4	12.03	13.23	1103A41	5.73	6.76	1103A42	11.42	13.41
7	2 1/2″	3/32″	Clear, Beige, Black, Brown	1103A25	13.94	16.83	1103A26	27.89	32.58	1103A63	12.68	16.20	1103A64	25.32	33.48
8	2 1/2″	3/32″	Clear, Beige, Black, Brown	1103A57	13.94	16.83	1103A58	27.89	32.58	1103A77	13.03	16.20	1103A78	25.32	33.48
9	2 1/2″	3/32″	Clear, Beige, Black, Brown	1103A47	13.94	16.83	1103A48	27.89	32.58	1103A67	12.68	16.20	1103A68	25.32	33.48
PETG															
10	1″	3/64″	Clear	8353A4	7.81	____	8353A8	15.63	____	____	____	____	____	____	____
Vinyl															
11	1 1/8″	5/64″	Beige, Black	1278A1	____	13.80	1278A2	____	25.19	____	____	____	____	____	____
11	2 1/2″	5/64″	Beige, Black	1278A3	____	19.60	1278A4	____	35.46	____	____	____	____	____	____
12	5/8″	29/64″	Clear	1523A13	9.51	____	1523A14	17.15	____	1523A15	6.79	____	1523A16	11.97	____
Surface Guards															
Polycarbonate															
13	3″	1/4″	Clear	____	____	____	____	____	____	____	____	____	11025A21	26.33	____
13	4″	1/4″	Clear	____	____	____	____	____	____	____	____	____	11025A22	33.12	____

Optional End Caps and Connectors


End Cap


Angle Connector


Straight Connector

	Available Colors		
End Cap for Style 11 (1278A1 and 1278A2)	Beige, Black	1278A94	$4.25
End Cap for Style 11 (1278A3 and 1278A4)	Beige, Black	1278A95	4.97
90° Angle Connector for Style 12 (1″ x 1″ Lg.)	Clear	1523A21	2.06
Straight Connector for Style 12 (5/8″ Lg.)	Clear	1523A22	1.10

Corner and Surface Guard Systems with Metal Core

Reinforced with a metal insert for additional strength, these corner guards, surface guards, and end caps create a system that protects your equipment and carts from impact and wear. Materials are nonmarking. *Corner guards* and *end caps* have mounting holes (fasteners not included). *Surface guards* need to be drilled and secured with fasteners.

Synthetic rubber guards are more impact and abrasion resistant than vinyl. Can be used outdoors; temperature range is –40° to 180°F. Material is hard with a 65A-80A durometer.

Vinyl guards conform to contours. For indoor use only; temperature range is 40° to 110°F. Material is hard with an 80A durometer.

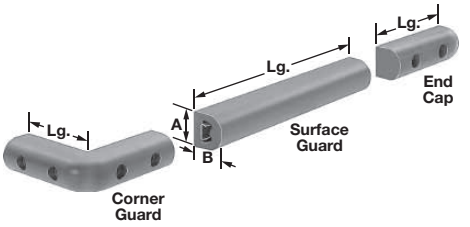



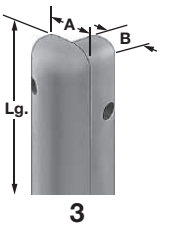



	(A)	Lg.	Thick. (B)	Mtg. Holes: No. of Holes	Mtg. Holes: Dia.	Available Colors		
Synthetic Rubber								
Corner Guards								
1	3/4″	2 1/2″	5/8″	4	1/8″	Gray	11165A18	$6.22
1	1 1/16″	3″	15/16″	4	3/16″	Gray	11165A16	5.17
1	1 1/2″	6 1/8″ x 3″	1″	3	1/4″	Gray	11165A31	32.68
2	1 1/16″	3″	1″	4	3/16″	Gray	46875K43	5.33
3	3/4″	1 ft.	7/16″	4	5/32″	Gray	46875K45	10.07
Surface Guards								
4	3/4″	8 ft.	5/8″	—	—	Gray	11165A52	27.90
4	3/4″	16 ft.	5/8″	—	—	Gray	11165A14	51.81
4	1 1/16″	8 ft.	15/16″	—	—	Gray	11165A54	46.97
4	1 1/16″	16 ft.	15/16″	—	—	Gray	11165A13	87.24
4	1 1/2″	5 ft.	1″	—	—	Gray	11165A34	59.44
Vinyl								
Corner Guards								
1	1 1/8″	2 7/8″	1 1/16″	4	1/4″	Black, Gray	11165A44★	15.69
Surface Guards								
4	1 1/8″	6 ft.	1 1/16″	—	—	Black, Gray	11165A58	40.70
4	1 1/8″	12 ft.	1 1/16″	—	—	Black, Gray	11165A42	77.02
End Caps								
5	1 1/8″	3 7/8″	1 1/16″	2	1/4″	Black, Gray	11165A46★	12.20

★Does not have a metal insert.

Corner and Surface Guard Systems

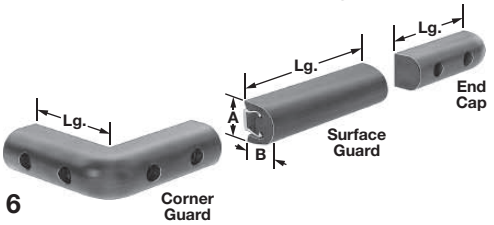





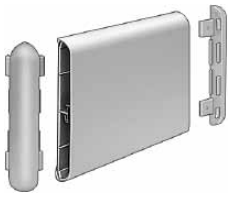

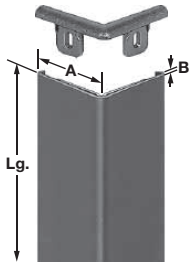

Commonly used in office areas, these systems team up corner guards, surface guards, and end caps to protect your walls from bumps and scrapes. All are made of vinyl. For indoor use only; temperature range is 40° to 110°F. Material is nonmarking and hard with an 80D durometer, except Style 6 has an 80A durometer.

Corner Guards and **End Caps**—*Styles 6-9* have 1/4″ dia. mounting holes (fasteners not included). *Style 10* includes two end caps to drill and secure with fasteners.

Surface Guards—Slide onto the included aluminum base, which needs to be drilled and secured with fasteners.

	(A)	Thick. (B)	Available Colors	Corner Guards: Lg.			Surface Guards: Lg.			End Caps: Lg.		
6	1 1/8″	1 1/16″	Black, Gray	2 7/8″	11165A44	$15.69	6 ft.	11335A83	$36.86	3 7/8″	11165A46	$12.20
6	1 1/8″	1 1/16″	Black, Gray	2 7/8″	11165A44	15.69	12 ft.	11335A37	64.26	3 7/8″	11165A46	12.20
7	1 1/8″	1 1/16″	Black, Gray, Tan	1 1/2″	11335A15	8.89	6 ft.	11335A81	31.01	1 1/2″	11335A14	7.33
7	1 1/8″	1 1/16″	Black, Gray, Tan	1 1/2″	11335A15	8.89	12 ft.	11335A13	53.33	1 1/2″	11335A14	7.33
7	2″	1 3/4″	Black, Gray, Tan	2 3/8″	11335A26	11.16	6 ft.	11335A82	63.47	2 1/2″	11335A28	12.32
7	2″	1 3/4″	Black, Gray, Tan	2 3/8″	11335A26	11.16	12 ft.	11335A24	109.14	2 1/2″	11335A28	12.32
8	2 15/16″	1″	Black, Gray, Silver, Tan, White	1 3/8″	11335A63	17.47	6 ft.	11335A84	39.98	1 1/2″	11335A65	7.18
8	2 15/16″	1″	Black, Gray, Silver, Tan, White	1 3/8″	11335A63	17.47	12 ft.	11335A61	71.94	1 1/2″	11335A65	7.18
8	6″	1″	Black, Gray, Silver, Tan, White	1 1/2″	11335A74	5.56	6 ft.	11335A85	80.78	1 1/2″	11335A76	4.33
8	6″	1″	Black, Gray, Silver, Tan, White	1 1/2″	11335A74	5.56	12 ft.	11335A72	146.23	1 1/2″	11335A76	4.33
9	7 3/4″	1″	Black, Gray, Silver, Tan, White	1 1/2″	1119A15	6.32	12 ft.	1119A13	153.10	1 1/2″	1119A14	4.28
10	3″	3/8″	Black, Gray, Silver, Tan, White	4 ft.	1119A11	43.25	—	—	—	—	—	—
10	3″	3/8″	Black, Gray, Silver, Tan, White	8 ft.	1119A12	72.62	—	—	—	—	—	—

Metal Corner Guards

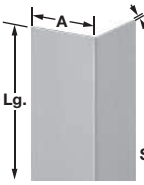

Stainless Steel


Aluminum

Strong and corrosion resistant, these guards are the choice for your toughest applications. All are for indoor use only.

Stainless steel guards provide excellent corrosion resistance. Type 304 stainless steel is more corrosion resistant than Type 430 stainless steel. *Aluminum* guards offer good corrosion resistance.

Adhesive-back guards allow for easy installation. Temperature range is 55° to 120° F.

Plain-back guards mount with contact adhesive.

(A)	Lg., ft.	Thick. (B)	Adhesive-Back Stainless Steel Type 430		Adhesive-Back Stainless Steel Type 304		Plain-Back Stainless Steel Type 430		Plain-Back Stainless Steel Type 304		Plain-Back Aluminum	
1 1/8"	4	1/16"	8144A43	$32.96	1296A31	$34.24	8144A33	$29.79	1296A11	$38.72	8933T42	$20.00
1 1/8"	8	1/16"	8144A47	65.31	1296A32	67.89	8144A35	56.70	1296A12	66.28		
2 1/2"	4	1/16"	8144A45	61.16	1296A33	65.76	8144A34	42.77	1296A13	57.88		
2 1/2"	8	1/16"	8144A48	108.46	1296A34	118.22	8144A36	84.79	1296A14	98.82		
3"	8	1/16"									8933T52	60.00
3 1/2"	4	1/16"	8144A46	71.44	1296A35	92.73	8144A12	57.88	1296A15	77.44		
3 1/2"	8	1/16"	8144A49	122.00	1296A36	166.60	8144A14	100.33	1296A16	113.05		
4"	4	1/16"									8933T62	42.00

Wall and Corner Bases

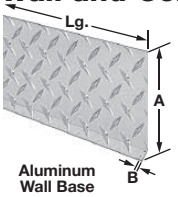

Aluminum Wall Base

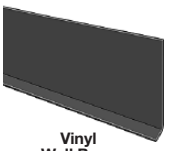
Vinyl Wall Base

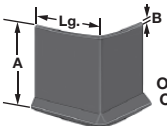

Vinyl Outside Corner Base

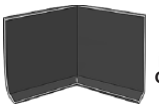
Vinyl Inside Corner Base

Create a finished look where the wall meets the floor. Bases are for indoor use only.

Aluminum—Offers corrosion resistance. Mount wall base with contact adhesive (sold separately).

Vinyl—Material is nonmarking. Meets ASTM F1861. Temperature range is 65° to 85° F.

Adhesive-back wall bases offer easy installation. They can be formed into outside or inside corners.

Plain-back wall bases and *corner bases* mount with contact adhesive (sold separately). Durometer is 90A.

Color selector pack for plain-back bases contains one 1 1/8" × 2" sample of each color.

(A)	Lg.	Thick. (B)	Available Colors		
Aluminum					
Wall Base—Plain Back					
4 3/4"	4 ft.	1/16"		8933T72	$28.00
Vinyl					
Wall Bases—Adhesive Back					
4"	20 ft.	1/16"	Almond, Black, Brown, Gray, White	1468A2	19.42
Wall Bases—Plain Back					
4"	4 ft.	1/8"	Beige, Black, Brown, Gray	1778A1	4.86
4"	120 ft.	1/8"	Beige, Black, Brown, Gray	1778A8	139.50
6"	4 ft.	1/8"	Beige, Black, Brown, Gray	1778A2	7.16
6"	100 ft.	1/8"	Beige, Black, Brown, Gray	1778A9	171.84
Outside Corner Bases—Plain Back					
4"	4"	1/8"	Beige, Black, Brown, Gray	1778A3	2.83
6"	4"	1/8"	Beige, Black, Brown, Gray	1778A7	2.93
Inside Corner Bases—Plain Back					
4"	4"	1/8"	Beige, Black, Brown, Gray	1778A4	2.83
6"	4"	1/8"	Beige, Black, Brown, Gray	1778A5	2.93
Contact Adhesive (1-gal. Pail)				7539A14	30.47
Color Selector Pack for Plain-Back Bases				1778A11	0.01

Plastic Trim

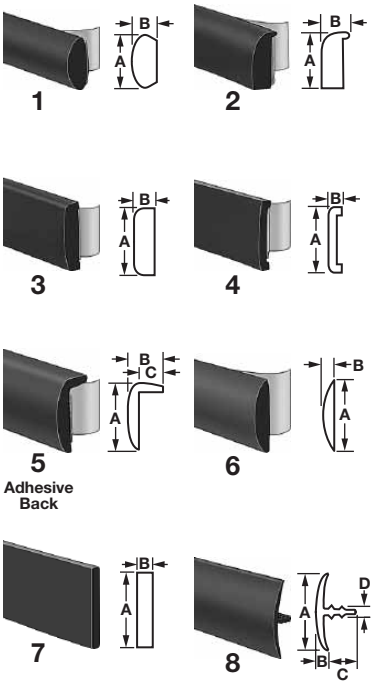

Adhesive-back trim offers easy installation. *Styles 1-5* are made of hard vinyl. They can be used outdoors; temperature range is –20° to 150° F. Styles 1 and 5 are nonmarking; Styles 2, 3, and 4 are marking. Durometer is 90A-97A. *Style 6* is made of hard polypropylene/polyolefin. It is for indoor use only; not rated for temperature. Material is nonmarking. Durometer is 70A.

Plain-back trim is made of hard vinyl. Mount with contact adhesive. *Style 5* can be used outdoors; temperature range is –20° to 150° F. Material is marking. Durometer is 90A. *Style 7* is for indoor use only; temperature range is 50° to 90° F. Material is nonmarking. Durometer is 74D-78D.

Push-in stem trim is made of hard polyethylene and has a barbed stem for a snug fit into grooves or openings that are slightly smaller than the stem thickness. It is for indoor use only; temperature range is –10° to 150° F. Material is nonmarking. Durometer is 95A.

	(A)	(B)	(C)	Stem Thick. (D)	Available Colors	Available Lengths, ft.		Per Ft.
Adhesive Back								
1	5/16"	3/16"	—	—	Black	10, 25, 50, 100	1000A81	$1.24
1	7/16"	7/32"	—	—	Black	10, 25, 50, 100	1000A82	1.49
2	9/16"	1/4"	—	—	Black	10, 25, 50, 100	1000A83	2.98
3	31/32"	1/4"	—	—	Black	10, 25, 50, 100	1000A84	4.00
4	1"	1/8"	—	—	Black	10, 25, 50, 100	1000A85	3.49
5	9/16"	5/16"	3/16"	—	Black	10, 25, 50, 100	4976A51	2.15
5	1 1/16"	9/32"	3/16"	—	Black	10, 25, 50, 100	4976A52	2.51
6	1"	1/4"	—	—	Black	6	1684A23	2.66
6	2"	1/4"	—	—	Black	6	1684A25	5.62
Plain Back								
5	13/16"	11/32"	1/8"	—	Black	10, 25, 50, 100	8323K1	2.50
5	15/16"	15/32"	7/32"	—	Black	10, 25, 50, 100	8323K2	2.97
5	1 9/16"	3/4"	1/4"	—	Black	10, 25, 50, 100	8323K3	5.71
5	1 7/8"	1"	3/8"	—	Black	10, 25, 50, 100	8323K5	7.26
7	15/16"	1/8"	—	—	Black, White	10, 25, 50, 100	1620A3	0.58
7	1 5/16"	1/8"	—	—	Black, White	10, 25, 50, 100	1620A4	0.77
Push-In Stem								
8	1/2"	5/64"	1/4"	3/32"	Black, White	10, 25, 50, 100	93165K1	0.51
8	3/4"	1/16"	9/32"	3/32"	Black, White	10, 25, 50, 100	93165K4	0.63
8	13/16"	1/16"	5/16"	7/64"	Black, White	10, 25, 50, 100	93165K5	0.67
8	7/8"	3/64"	13/32"	7/64"	Black, White	10, 25, 50, 100	93165K6	0.81
8	1 1/4"	5/64"	11/32"	1/8"	Black, White	10, 25, 50, 100	93165K7	1.01

For information about durometer hardness, see page 3588.

Slippery Plastic Trim

Minimize friction when you place this durable trim over conveyor rails and guides. *Screw-mount* trim lets you drill your own holes and secure with fasteners. *Push-on* trim has a tight grip that holds it in place.

UHMW trim has excellent wear resistance and is made of resins that meet FDA requirements for direct food contact. It is for indoor use only; temperature range is –22° to 180° F. Material is nonmarking and is hard with a 66D durometer.

PTFE trim is chemical resistant. It can be used outdoors; temperature range is –350° to 500° F. Material is nonmarking and is hard with a 55D durometer.

MDS nylon trim is resistant to ammonia and oils and provides better abrasion and wear resistance than regular nylon. It is for indoor use only; temperature range is –40° to 225° F. Material is nonmarking. Not rated for durometer.

Nylon trim offers some wear resistance and is made of resins that meet FDA requirements for direct food contact. It is for indoor use only; temperature range is –40° to 200° F. Material is nonmarking and is hard with an 88D durometer.

Vinyl trim meets FDA requirements for direct food contact. It is for indoor use only; temperature range is –45° to 165° F. Material is nonmarking and is hard with an 80A durometer.

	(A)	(A1)	(B)	(C)	(D)	Material	Short Lengths Available Lengths, ft.		Per Ft.	Long Lengths Length, ft.		Each
Screw Mount												
1	1″	—	39/64″	1 1/4″	47/64″	UHMW	2, 5	8672K31	$3.74	8	8672K317	$26.08
1	1″	—	39/64″	1 1/4″	47/64″	PTFE	2, 5	9272K31	26.30	8	9272K313	191.28
1	2 1/2″	—	5/8″	3″	1″	UHMW	2, 5	8672K32	6.28	8	8672K321	44.64
1	3 1/2″	—	7/8″	4 1/4″	1 1/4″	UHMW	2, 5	8672K33	8.85	8	8672K334	62.96
2	—	—	1/4″	1 1/2″	1 1/2″	UHMW	2, 5	8672K36	3.80	8	8672K365	27.04
2	—	—	1/4″	2″	2″	UHMW	2, 5	8672K37	4.47	8	8672K373	31.84
2	—	—	1/2″	3″	3″	UHMW	2, 5	8672K38	10.75	8	8672K383	76.48
3	2 1/2″	—	1/4″	3 1/4″	3/4″	UHMW	5	8672K27	6.38	10	8672K272	56.70
Push On												
4	1″	1/2″	1″	1 1/4″	1 1/4″	UHMW	2, 5	8672K24	3.35	8	8672K243	23.84
4	1″	1/2″	1″	1 1/4″	1 1/4″	PTFE	2, 5	9272K33	48.57	8	9272K332	355.68
4	1″	5/8″	1/4″	1 1/4″	1/2″	UHMW	2, 5	8672K21	2.70	8	8672K214	19.20
4	1 1/2″	1 3/64″	1/2″	1 11/16″	11/16″	UHMW	2, 5	8672K22	2.08	8	8672K224	14.72
4	2″	1 3/8″	1/4″	2 3/16″	13/32″	UHMW	2, 5	8672K23	2.23	8	8672K235	15.84
4	2″	1 1/2″	1 1/2″	2 1/4″	1 3/4″	UHMW	2, 5	8672K25	8.40	8	8672K253	59.76
5	1/16″	—	7/32″	1 1/64″	9/32″	MDS Nylon	10, 25, 50	8721K35	1.03	100	8721K357	82.00
5	1/16″	—	7/32″	1 1/64″	9/32″	Nylon	10, 25, 50	8721K65	1.45	100	8721K654	104.00
5	1/8″	—	1/4″	1/4″	5/16″	MDS Nylon	10, 25, 50	8721K36	1.18	100	8721K361	95.00
5	1/8″	—	1/4″	1/4″	5/16″	Nylon	10, 25, 50	8721K66	1.84	100	8721K664	132.00
5	1/8″	—	1/4″	9/32″	11/32″	UHMW	5, 10, 25, 50	8672K41	1.10	100	8672K412	98.00
5	1/8″	—	1/4″	9/32″	11/32″	PTFE	2, 5	9272K35	12.71	8	9272K352	91.52
5	5/32″	—	23/64″	39/64″	51/64″	UHMW	5, 10, 25, 50	8672K46	2.50	100	8672K465	222.00
5	1/4″	—	3/8″	1/2″	1/2″	UHMW	5, 10, 25, 50	8672K42	1.57	100	8672K422	140.00
5	1/4″	—	3/8″	1/2″	1/2″	PTFE	2, 5	9272K36	15.93	8	9272K363	114.96
5	17/64″	—	19/64″	27/64″	3/8″	MDS Nylon	10, 25, 50	8721K37	1.36	100	8721K375	111.00
5	17/64″	—	19/64″	27/64″	3/8″	Nylon	10, 25, 50	8721K67	2.39	100	8721K674	172.00
5	5/16″	—	3/8″	1/2″	1/2″	UHMW	5, 10, 25, 50	8672K43	1.85	100	8672K433	164.00
5	3/8″	—	1/2″	3/4″	5/8″	UHMW	5, 10, 25, 50	8672K44	2.02	100	8672K442	180.00
5	3/8″	—	1/2″	3/4″	5/8″	PTFE	2, 5	9272K37	21.76	8	9272K372	158.24
6	1/8″	—	3/8″	5/16″	1/2″	UHMW	5, 10, 25, 50	8672K47	1.45	100	8672K471	129.00
6	3/16″	—	7/32″	5/16″	3/8″	MDS Nylon	10, 25, 50	8721K16	1.92	100	8721K162	144.00
7	7/64″	—	17/64″	15/64″	21/64″	MDS Nylon	10, 25, 50	8721K12	1.13	100	8721K125	87.00
7	1/8″	—	17/64″	15/64″	21/64″	Nylon	10, 25, 50	8721K52	1.87	100	8721K524	134.00
7	1/8″	—	7/16″	1/4″	1/2″	MDS Nylon	10, 25, 50	8721K14	1.62	100	8721K142	125.00
7	1/8″	—	7/16″	1/4″	1/2″	Nylon	10, 25, 50	8721K54	2.00	100	8721K544	144.00
7	13/64″	—	15/16″	21/64″	1″	MDS Nylon	10, 25, 50	8721K42	2.99	100	8721K424	231.00
7	1/4″	—	7/16″	23/64″	1/2″	MDS Nylon	10, 25, 50	8721K15	1.73	100	8721K156	134.00
7	1/4″	—	29/64″	3/8″	1/2″	Nylon	10, 25, 50	8721K55	2.00	100	8721K554	144.00
8	1/8″	—	15/32″	21/64″	41/64″	MDS Nylon	10, 25, 50	8721K13	2.33	100	8721K136	186.00
9	3/16″	—	3/8″	5/16″	1″	MDS Nylon	10, 25, 50	8721K11	1.78	100	8721K114	154.00
9	13/64″	—	3/8″	17/32″	3″	UHMW	5, 10, 25, 50	8672K52	4.00	100	8672K522	356.00
9	1/4″	—	3/8″	17/32″	1″	UHMW	5, 10, 25, 50	8672K51	2.30	100	8672K512	204.00
9	1/4″	—	35/64″	1/2″	1″	PTFE	2, 5	9272K42	33.78	8	9272K423	245.60
9	5/16″	—	3/8″	7/16″	1″	MDS Nylon	—	—	—	6	8721K27	12.18
10	1/8″	—	1/8″	13/64″	39/64″	Vinyl	—	—	—	8	9082T21	9.20
10	1/8″	—	1/8″	1/4″	5/8″	Vinyl	—	—	—	8	9082T23	10.16
10	3/16″	—	3/16″	5/16″	29/32″	Vinyl	—	—	—	8	9082T25	13.04
10	3/16″	—	3/16″	3/8″	15/16″	Vinyl	—	—	—	8	9082T29	18.64
10	1/4″	—	1/4″	3/8″	1 3/16″	Vinyl	—	—	—	8	9082T27	15.28
10	1/4″	—	1/4″	1/2″	1 1/4″	Vinyl	—	—	—	8	9082T31	26.72
11	1/2″	3/8″	—	1 1/16″	25/64″	PTFE	2, 5	9272K25	23.76	8	9272K254	172.80
11	35/64″	19/64″	—	47/64″	27/64″	UHMW	5, 10, 25, 50	8672K55	1.35	100	8672K553	120.00
11	5/8″	3/8″	—	13/16″	17/32″	UHMW	5, 10, 25, 50	8672K56	1.45	100	8672K563	129.00
11	5/8″	13/32″	—	13/16″	15/32″	PTFE	2, 5	9272K26	27.14	8	9272K264	197.36
11	3/4″	1/2″	—	15/16″	19/32″	UHMW	5, 10, 25, 50	8672K57	1.48	100	8672K573	131.00
11	3/4″	17/32″	—	15/16″	5/8″	PTFE	2, 5	9272K27	30.14	8	9272K274	219.20
12	3/4″	9/16″	—	5/8″	5/8″	UHMW	5, 10, 25, 50	8672K58	2.25	100	8672K583	200.00
13	5/8″	3/8″	—	—	29/64″	MDS Nylon	—	—	—	6	8721K25	11.70
13	3/4″	3/8″	—	—	17/32″	MDS Nylon	—	—	—	6	8721K26	12.12
14	3/8″	—	—	19/32″	—	UHMW	5, 10, 25, 50	8672K68	1.48	100	8672K684	131.00
14	1/2″	—	—	11/16″	—	UHMW	5, 10, 25, 50	8672K59	1.35	100	8672K591	120.00
14	1/2″	—	—	11/16″	—	PTFE	2, 5	9272K45	13.78	8	9272K452	100.24

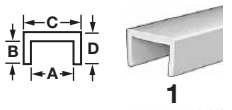

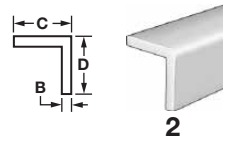

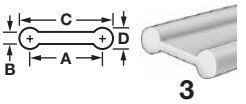

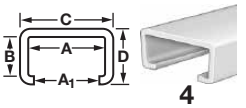

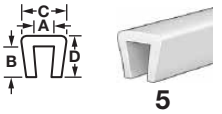

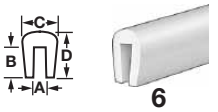

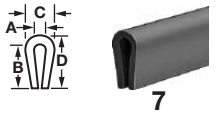

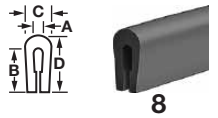



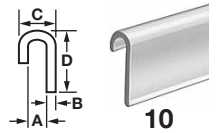

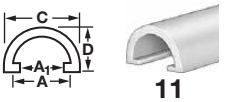

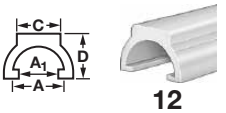



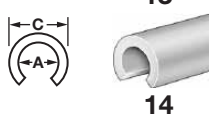

Metal Trim

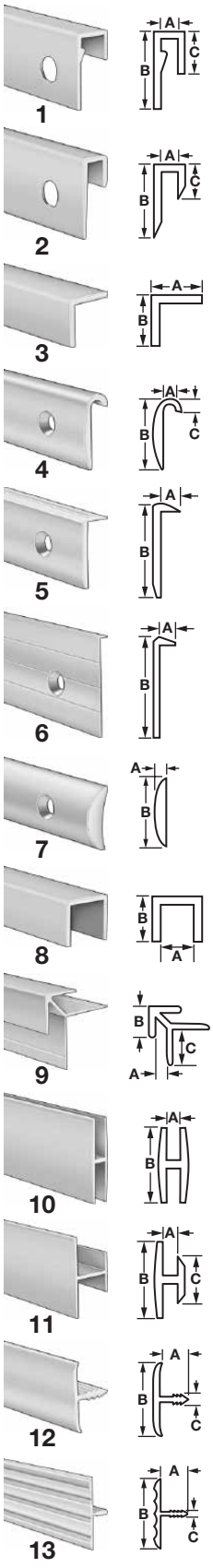

Tough metal trim gives your surfaces maximum protection. Commonly used for panels, boards, signs, and mirrors. *Aluminum* trim is lightweight and offers good corrosion resistance. *Stainless steel* trim offers excellent corrosion resistance.

Screw-mount trim does not include fasteners. Trim that does not have mounting holes allows you to drill your own holes and secure with fasteners. *Styles 4-7* have countersunk mounting holes.

Push-on trim has a tight grip that holds it in place. *Style 8* is for outside surfaces. *Styles 9-11* are for connecting panels.

Push-in stem trim has a barbed stem for a snug fit in grooves or openings that are slightly smaller than the stem thickness (dimension C).

	(A)	(B)	(C)	Thick.	Mounting Holes Dia.	Mounting Holes Ctr.-to-Ctr.	3-ft. Lengths		6-ft. Lengths	
Screw Mount										
Aluminum—Dull Finish										
1	19/64″	15/16″	3/8″	1/16″	1/8″	4″	8427A1	$9.29	8427A2	$16.30
1	19/64″	1 1/4″	5/8″	1/16″	1/8″	4″	8427A3	10.85	8427A4	20.17
2	1/16″	23/32″	3/16″	3/64″	—	—	8427A32	7.23	8427A61	11.08
2	3/8″	7/8″	3/8″	3/64″	—	—	8427A34	13.05	8427A67	20.63
2	33/64″	1 1/4″	9/16″	1/16″	—	—	8427A35	11.96	8427A78	19.65
3	1/2″	1/2″	—	1/16″	—	—	8122A51	6.86	8122A45	9.48
3	1/2″	1″	—	1/16″	—	—	8122A46	7.98	8122A47	14.92
3	1/2″	1″	—	3/32″	—	—	8122A53	10.12	8122A54	18.76
3	3/4″	3/4″	—	1/16″	—	—	8122A55	9.82	8122A48	14.74
3	3/4″	3/4″	—	1/8″	—	—	8122A73	8.91	8122A82	12.08
3	3/4″	1 3/4″	—	3/32″	—	—	8122A74	14.47	8122A83	26.69
3	1″	1″	—	1/16″	—	—	8122A58	10.12	8122A84	15.01
3	1″	1″	—	1/8″	—	—	8122A75	12.05	8122A85	16.99
3	1 1/8″	1 3/4″	—	3/32″	—	—	8122A76	15.96	8122A86	24.93
3	1 1/2″	1 1/2″	—	1/8″	—	—	8122A77	16.23	8122A87	23.69
3	2″	2″	—	1/8″	—	—	8122A79	18.64	8122A88	31.54
Aluminum—Bright Finish										
2	11/64″	23/32″	19/64″	3/64″	1/8″	4″	8427A52	7.74	8427A63	12.74
2	13/64″	23/32″	5/16″	3/64″	1/8″	4″	8427A53	8.94	8427A64	14.59
2	17/64″	7/8″	5/16″	3/64″	1/8″	4″	8427A33	9.81	8427A65	15.51
2	21/64″	1″	3/32″	1/16″	—	—	8427A16	7.72	8427A17	15.05
2	21/64″	1 11/64″	21/32″	3/64″	1/8″	4″	8427A54	10.48	8427A68	16.63
3	11/16″	11/16″	—	3/64″	—	—	8122A81	8.73	8122A13	17.34
4	11/64″	15/16″	3/16″	1/8″	3/16″	6″	8427A12	26.46	8427A7	42.46
4	11/64″	1 11/64″	3/16″	9/64″	3/16″	6″	8427A13	33.13	8427A8	55.43
5	11/64″	3/4″	—	1/16″	1/8″	6″	1104A64	9.58	1104A93	15.66
5	3/16″	1/2″	—	1/16″	1/8″	6″	1104A62	8.56	1104A91	14.30
5	3/16″	1 1/16″	—	1/16″	1/8″	6″	1104A68	11.02	1104A96	18.91
5	3/16″	1 1/4″	—	1/16″	1/8″	6″	1104A72	12.54	1104A97	20.93
5	13/64″	7/8″	—	1/16″	1/8″	6″	1104A66	10.35	1104A94	17.30
5	31/64″	13/16″	—	1/16″	1/8″	6″	1104A74★	11.46	1104A31★	19.37
5	31/64″	1 1/2″	—	1/16″	1/8″	6″	1104A76★	13.62	1104A32★	23.61
6	3/16″	2″	—	5/64″	1/8″	6″	1104A88	16.38	1104A84	28.91
7	5/32″	3/8″	—	—	1/8″	6″	8124A14	14.27	8124A15	26.86
7	3/16″	1/2″	—	—	1/8″	6″	8124A16	17.17	8124A12	27.46
7	3/16″	3/4″	—	—	1/8″	6″	8124A36	14.86	8124A43	22.43
7	3/16″	1″	—	—	1/8″	6″	8124A37	17.26	8124A44	28.98
Stainless Steel—Bright Finish										
2	1/4″	7/8″	5/16″	1/64″	1/8″	7 3/16″			8427A75	20.33
3	1/2″	1/2″	—	1/64″	—	—			8122A65	18.00
3	3/4″	3/4″	—	1/64″	—	—			8122A66	21.67
3	1″	1″	—	1/64″	—	—			8122A67	29.67
Push On										
Aluminum—Dull Finish										
8	1/4″	7/16″	—	1/16″	—	—	8123A42	8.23	8123A71	13.72
8	17/64″	15/16″	—	1/16″	—	—	8123A43	11.31	8123A72	18.59
8	3/8″	5/16″	—	1/16″	—	—	8123A44	8.17	8123A73	13.41
8	1/2″	9/16″	—	1/16″	—	—	8123A45	11.24	8123A74	19.02
8	3/4″	5/16″	—	1/16″	—	—	8123A46	10.85	8123A75	21.17
8	3/4″	3/4″	—	1/8″	—	—	8123A48	21.73	8123A79	36.99
8	1″	13/16″	—	1/16″	—	—	8123A47	13.62	8123A77	24.36
9	19/64″	39/64″	53/64″	3/64″	—	—	8427A5	13.03	8427A6	25.64
10	5/32″	13/64″	—	3/64″	—	—	8429A3	9.96	8429A4	19.83
10	17/64″	13/64″	—	3/64″	—	—	8429A1	12.46	8429A2	24.84
11	33/64″	1 1/4″	5/8″	1/16″	—	—	8429A65	12.23	8429A72	20.06
Aluminum—Bright Finish										
11	1/4″	13/8″	1/2″	3/64″	—	—	8429A7	8.95	8429A8	16.24
Stainless Steel—Bright Finish										
8	1/4″	5/16″	—	1/64″	—	—	8123A24	5.76	8123A25	9.60
8	1/4″	1/2″	—	1/64″	—	—	8123A26	9.05	8123A27	15.08
Push-In Stem										
Aluminum—Bright Finish										
12	3/8″	3/4″	3/32″	5/64″	—	—	1618A33	2.48	1618A43	4.55
12	3/8″	1 1/4″	3/32″	7/64″	—	—	1618A34	4.51	1618A44	7.74
13	3/8″	1 1/2″	1/8″	3/32″	—	—	1618A32	6.05	1618A42	10.91
13	7/16″	1 1/4″	3/32″	7/64″	—	—	1618A31	4.78	1618A41	8.13

★Longest leg is not beveled.

For information about durometer hardness, see page 3588.

Adhesive-Back Slippery Plastic Trim



Also known as wear strips, the slick surface of this trim minimizes friction and keeps things moving along in packaging and conveying applications. Adhesive on the back makes it easy to install. For indoor use only. All materials are nonmarking.

Impact-resistant trim is 0.022″ thick UHMW polyethylene. Color is semi-clear. Temperature range is 0° to 120°F. Material is hard with a 65D durometer.

Conformable trim is 0.005″ thick PTFE that stretches and conforms to uneven surfaces. Color is tan. Temperature range is –40° to 500°F. Not rated for durometer.

Wear-resistant trim is made of 0.007″ thick PEEK. Color is tan. Temperature range is –40° to 300°F. Not rated for durometer.

Tear-resistant trim is made of 0.007″ thick fiberglass. Color is tan. Temperature range is –100° to 500°F. Not rated for durometer.

Wd.	Lg., ft.		
Impact Resistant			
½″	15	7165T31	$7.01
1″	15	7165T42	21.26
2″	15	7165T41	42.44
6″	3	7165T32	14.00
12″	3	7165T33	42.06
Conformable			
½″	15	7165T12	6.94
1″	15	7165T13	13.87
1½″	15	7165T14	20.81
2″	15	7165T15	27.76

Wd.	Lg., ft.		
Wear Resistant			
1″	9	7165T21	$29.74
2″	1	7165T22	8.90
Tear Resistant			
½″	15	7165T51	9.14
1″	15	7165T52	18.31
1½″	15	7165T53	26.71
2″	15	7165T54	38.02

Flexible Metal Edge Trim





Standard

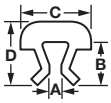



Cushioned

Protect wire, cable, and hose from sharp edges. Trim pushes into place and its tight grip secures it on flat, round, or irregular-shaped edges. Use the metal-cutting shears (sold separately) to cut trim to desired length.

Trim is made of black nylon-coated stainless steel. Can be used outdoors. Material is nonmarking. Meets UL 94V0 flammability rating.

Standard trim has a temperature range of –40° to 285°F.

Cushioned trim has extra cushioning on top for additional protection. Temperature range is –40° to 185°F.

Inside Wd. (A)	*Inside* Ht. (B)	*Outside* Wd. (C)	*Outside* Ht. (D)		5-ft. Lengths		25-ft. Lengths	
Standard								
3/64″	3/16″	1/8″	13/64″	11745T51	$22.69	11745T11	$90.76
1/16″	3/16″	1/8″	13/64″	11745T52	22.69	11745T12	87.35
Cushioned								
3/64″	3/16″	3/16″	15/64″	11745T61	24.02	11745T22	92.80
1/16″	3/16″	3/16″	15/64″	11745T62	24.02	11745T23	92.80
Metal-Cutting Shears						11745T36	29.24	

Plastic Edge Trim





1

Push this flexible trim onto an edge and its tight grip holds it in place. It is for indoor use only. Materials are nonmarking. Polyethylene and nylon are hard with an 88A-102A or 46D-70D durometer; vinyl is medium-hard with a 60A-70A durometer.

Standard—*Styles 1-5* are made of polyethylene; *Style 6* is vinyl. *Styles 1-3* have a temperature range of 30° to 120°F. *Styles 4-6* have a temperature range of –15° to 175°F.

Trim with Adhesive Strip—Offers additional grip thanks to a strip of adhesive inside. Made of polyethylene; temperature range is 30° to 120°F.

Conductive Trim—Protect electronic equipment from electrostatic discharge (ESD). Resistivity is less than 1×10^5 ohms. Made of polyethylene; temperature range is 30° to 120°F.

Mil. Spec. Trim—Meets MS-21266. Made of nylon; temperature range is –40° to 185°F.

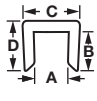



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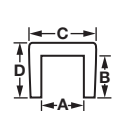



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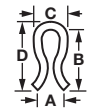



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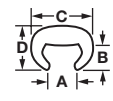



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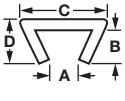



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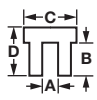



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	Inside Wd. (A)	*Inside* Ht. (B)	*Outside* Wd. (C)	*Outside* Ht. (D)	Color	Available Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Standard									
1	1/8″	7/16″	1/4″	1/2″	Black	25, 50, 100	86875K14	$0.79	$0.60
1	9/64″	19/64″	1/4″	11/32″	Black	25, 50, 100	86875K15	.56	.43
1	1/4″	29/64″	23/64″	1/2″	Black	25, 50, 100	86875K16	.83	.62
2	3/64″	5/32″	1/8″	3/16″	Off-White	25, 50, 100	8500K54	.47	.36
2	1/16″	5/32″	1/8″	3/16″	Off-White	25, 50, 100	8500K55	.48	.37
2	1/16″	5/32″	11/64″	13/64″	Off-White	25, 50, 100	8500K56	.48	.37
2	5/64″	5/32″	11/64″	13/64″	Off-White	25, 50, 100	8500K57	.52	.40
2	3/32″	11/64″	15/64″	7/32″	Off-White	25, 50, 100	8500K58	.53	.41
2	1/8″	11/64″	15/64″	7/32″	Off-White	25, 50, 100	8500K59	.59	.45
2	3/16″	7/32″	9/32″	17/64″	Off-White	25, 50, 100	8500K61	.74	.57
2	1/4″	15/64″	3/8″	9/32″	Off-White	25, 50, 100	8500K62	.82	.63
3	3/64″	5/32″	1/8″	3/16″	Off-White	25, 50, 100	8500K71	.43	.33
3	1/16″	5/32″	1/8″	3/16″	Off-White	25, 50, 100	8500K72	.44	.34
3	1/16″	5/32″	11/64″	13/64″	Off-White	25, 50, 100	8500K74	.46	.35
3	5/64″	5/32″	11/64″	13/64″	Off-White	25, 50, 100	8500K75	.49	.38
3	3/32″	11/64″	13/64″	7/32″	Off-White	25, 50, 100	8500K76	.50	.39
3	1/8″	11/64″	13/64″	7/32″	Off-White	25, 50, 100	8500K86	.61	.47
3	3/16″	7/32″	9/32″	17/64″	Off-White	25, 50, 100	8500K87	.79	.61
3	1/4″	15/64″	3/8″	9/32″	Off-White	25, 50, 100	8500K88	.80	.61
4	1/64″-7/64″	19/32″	15/64″	21/32″	Off-White	25, 50, 100	86875K46	.70	.54
4	1/32″-3/16″	29/32″	11/32″	115/16″	Off-White	4	86875K48	.44	.34
4	1/8″-11/64″	15/16″	21/64″	1″	Off-White	25, 50, 100	86875K47	1.32	1.01
5	1/16″-5/64″	5/64″	3/16″	5/32″	Black	25, 50, 100	86875K41	.46	.35
5	5/64″-7/64″	5/64″	7/32″	5/32″	Black	25, 50, 100	86875K42	.49	.37
6	9/64″-9/32″	3/16″	15/32″	9/32″	Black	25, 50, 100	86875K43	1.14	.87
6	1/4″-1/2″	1/4″	3/4″	11/32″	Black	25, 50, 100	86875K44	1.47	1.12
6	3/8″-3/4″	9/32″	1″	3/8″	Black	25, 50, 100	86875K45	1.68	1.29
With Adhesive Strip									
2	3/64″	9/64″	3/16″	11/64″	Black	25, 50, 100	4883A71	.38	.28
2	7/64″	9/64″	1/4″	3/16″	Black	25, 50, 100	4883A72	.41	.31
3	3/64″	9/64″	3/16″	11/64″	Black	25, 50, 100	4883A73	.36	.27
3	1/16″	9/64″	11/64″	11/64″	Black	25, 50, 100	4883A74	.36	.27
3	7/64″	9/64″	1/4″	3/16″	Black	25, 50, 100	4883A75	.42	.32
Conductive									
1	1/32″	3/8″	3/16″	1/2″	Black	4	86875K92	1.71	1.28
1	1/16″	7/32″	7/32″	9/32″	Black	4	86875K96	1.77	1.33
1	1/16″	3/8″	7/32″	1/2″	Black	4	86875K94	2.14	1.61
Mil. Spec.								Pkg. of 25	
7	1/16″	3/32″	5/32″	5/32″	Off-White	12¾″	85085K2		$4.47
7	3/32″	3/32″	11/64″	5/32″	Off-White	12¾″	85085K4		6.13
7	3/16″	5/32″	23/64″	15/64″	Off-White	12¾″	85085K8		11.67

Rubber Edge Trim


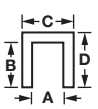

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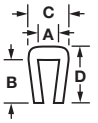

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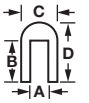

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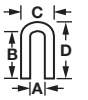

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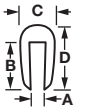

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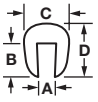

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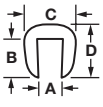

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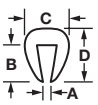

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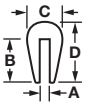

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Cover exposed or unfinished edges. Trim pushes into place and its tight grip holds it on the edge. Materials are medium-hard with a 45A-70A durometer.

Standard trim is neoprene rubber and offers good fuel, water, and ozone resistance. It can be used outdoors; temperature range is –40° to 155°F. Material is nonmarking.

Weather-resistant trim is EPDM rubber with excellent weather and ozone resistance. It can be used outdoors; temperature range is –50° to 300°F. Material is marking.

High-temperature trim is silicone rubber that withstands temperatures from –80° to 450°F. It can be used outdoors. Material is nonmarking.

Abrasion-resistant trim is made of SBR rubber. For indoor use only; temperature range is 0° to 225°F. *Styles 1-2* are marking and *Style 9* is nonmarking.

Conductive trim has a surface resistivity of 1.4 ohms and is made of EPDM rubber. It can be used outdoors; temperature range is –20° to 250°F. Material is nonmarking.

Also Available: High-temperature trim made of silicone foam rubber in sizes marked with a ★. Please ask for 4869A9 and specify the corresponding part number and color below.

8-Piece Assortment—Includes a 6″ length of items marked with a ■ **8510K95** $4.17

	Inside Wd. (A)	Inside Ht. (B)	Outside Wd. (C)	Outside Ht. (D)	Available Colors	Available Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Standard									
1	1/32″	7/16″	3/16″	1/2″	Black	10, 25, 50, 100	**8507K41**	$1.03	$0.58
1	1/16″	1/8″	3/16″	1/4″	Black	10, 25, 50, 100	**8507K42**	1.11	.65
1	1/16″	5/32″	1/4″	1/4″	Black	10, 25, 50, 100	**8507K81**	1.72	1.14
1	1/8″	1/4″	1/4″	5/16″	Black	10, 25, 50, 100	**8507K43**	.87	.68
1	3/16″	5/16″	5/16″	3/8″	Black	10, 25, 50, 100	**8507K44**	1.22	.74
1	3/8″	3/4″	5/8″	1″	Black	10, 25, 50, 100	**8507K46**	2.58	1.90
1	3/4″	5/8″	1″	3/4″	Black	10, 25, 50, 100	**8507K47**	2.31	1.50
2	1/32″	9/32″	9/32″	3/8″	Black	10, 25, 50, 100	**8507K72**	1.16	.70
2	1/8″	23/32″	9/16″	1″	Black	10, 25, 50, 100	**8507K74**	3.01	2.17
2	1/4″	1/2″	1/2″	5/8″	Black	10, 25, 50, 100	**8507K45**	1.68	1.02
3	1/16″	1/4″	3/16″	5/16″	Black	10, 25, 50, 100	**8507K52**	.88	.65
3	3/16″	3/8″	3/8″	9/16″	Black	10, 25, 50, 100	**8507K54**	1.43	.85
4	1/32″	1/8″	5/32″	3/16″	Black	10, 25, 50, 100	**8507K61**	.72	.50
4	1/16″	5/16″	1/8″	3/8″	Black	10, 25, 50, 100	**8507K63**	.85	.49
4	1/8″	1/4″	1/4″	5/16″	Black	10, 25, 50, 100	**8507K65**	.94	.54
4	1/8″	7/16″	1/4″	1/2″	Black	10, 25, 50, 100	**8507K83**	2.36	1.55
4	3/16″	5/8″	7/16″	3/4″	Black	10, 25, 50, 100	**8507K67**	1.70	1.12
5	1/32″	1/4″	13/64″	3/8″	Black	10, 25, 50, 100	**8507K14**	.98	.51
5	1/16″	3/8″	1/4″	1/2″	Black	10, 25, 50, 100	**8507K15**	1.32	.76
5	1/8″	15/32″	23/64″	5/8″	Black	10, 25, 50, 100	**8507K16**	1.40	1.05
5	3/16″	9/16″	15/32″	3/4″	Black	10, 25, 50, 100	**8507K31**	2.21	1.60
5	1/4″	19/32″	37/64″	13/16″	Black	10, 25, 50, 100	**8507K32**	2.52	1.72
5	5/16″	23/32″	19/32″	15/16″	Black	10, 25, 50, 100	**8507K33**	2.76	1.85
5	3/8″	25/32″	43/64″	1″	Black	10, 25, 50, 100	**8507K34**	3.27	2.12
5	1/2″	31/32″	57/64″	1 1/4″	Black	10, 25, 50, 100	**8507K84**	9.73	7.04
6	1/32″	5/32″	11/64″	1/4″	Black	10, 25, 50, 100	**8507K11**	.88	.49
6	1/16″	7/32″	15/64″	5/16″	Black	10, 25, 50, 100	**8507K12**	1.10	.58
6	1/8″	9/32″	19/64″	3/8″	Black	10, 25, 50, 100	**8507K13**	1.22	.80
6	3/16″	5/16″	7/16″	15/32″	Black	10, 25, 50, 100	**8507K21**	1.41	.96
7	1/16″	5/32″	1/4″	1/4″	Black	10, 25, 50, 100	**8507K36**	1.51	.87
7	1/4″	11/32″	1/2″	1/2″	Black	10, 25, 50, 100	**8507K22**	1.61	.96
7	5/16″	7/16″	19/32″	5/8″	Black	10, 25, 50, 100	**8507K23**	2.48	1.69
7	3/8″	15/32″	11/16″	5/8″	Black	10, 25, 50, 100	**8507K24**	2.06	1.60
Weather Resistant									
1	1/2″	5/8″	11/16″	23/32″	Black	10, 25, 50, 100	**8693K16**	1.66	1.04
8	1/4″	5/8″	3/4″	15/16″	Black	10, 25, 50, 100	**8693K22**	2.25	1.41
8	3/8″	5/8″	3/4″	15/16″	Black	10, 25, 50, 100	**8693K24**	2.30	1.58
8	1/2″	5/8″	3/4″	15/16″	Black	10, 25, 50, 100	**8693K26**	2.73	1.87
High Temperature									
1	3/32″	21/64″	3/16″	3/8″	Black, Orange	10, 25, 50, 100	**4869A76** ★	1.48	.97
2	1/8″	1/4″	1/4″	5/16″	Orange	10, 25, 50, 100	**4869A4** ★	1.96	1.36
3	1/16″	1/4″	3/16″	5/16″	Black, Orange	10, 25, 50, 100	**4869A75** ★	1.53	1.00
4	1/16″	5/16″	1/8″	3/8″	Black, Orange	10, 25, 50, 100	**4869A71** ★	1.09	.72
4	1/8″	1/4″	1/4″	5/16″	Black, Orange	10, 25, 50, 100	**4869A72** ★	1.44	.94
5	1/16″	3/8″	1/4″	1/2″	Orange	10, 25, 50, 100	**4869A1**	3.12	1.78
5	1/8″	15/32″	23/64″	5/8″	Orange	10, 25, 50, 100	**4869A2** ★	4.35	2.45
5	3/16″	9/16″	15/32″	3/4″	Black, Orange	10, 25, 50, 100	**4869A61** ★	4.53	2.98
5	1/4″	19/32″	37/64″	13/16″	Black, Orange	10, 25, 50, 100	**4869A79** ★	5.42	3.56
6	1/16″	7/32″	15/64″	5/16″	Black, Orange	10, 25, 50, 100	**4869A66** ★	1.70	1.12
6	1/8″	9/32″	19/64″	3/8″	Black, Orange	10, 25, 50, 100	**4869A67** ★	1.92	1.26
Abrasion Resistant									
1	1/32″	5/32″	7/64″	7/32″	Black	10, 25, 50, 100	**8510K11** ■	.39	.25
1	1/16″	11/32″	7/32″	7/16″	Black	10, 25, 50, 100	**8510K12** ■	.74	.45
1	3/32″	21/64″	3/16″	3/8″	Black	10, 25, 50, 100	**8510K14** ■	.42	.36
1	3/16″	7/16″	5/16″	1/2″	Black	10, 25, 50, 100	**8510K19** ■	.68	.52
1	1/4″	5/16″	3/8″	3/8″	Black	10, 25, 50, 100	**8510K22** ■	.65	.42
1	3/8″	13/32″	1/2″	1/2″	Black	10, 25, 50, 100	**8510K25** ■	.84	.56
1	1/2″	1/2″	5/8″	5/8″	Black	10, 25, 50, 100	**8510K29** ■	1.16	.87
2	1/8″	1/4″	1/4″	5/16″	Black	10, 25, 50, 100	**8510K16** ■	.48	.32
9	3/64″	5/32″	19/64″	9/16″	Gray	2 1/2	**9279K11**	Each	$14.03
9	1/16″	5/16″	5/16″	37/64″	Gray	2 1/2	**9279K12**	Each	$15.57
9	1/16″	7/16″	21/64″	19/32″	Gray	2 1/2	**9279K13**	Each	$17.13
Conductive									
9	1/16″	5/16″	5/16″	37/64″	Black	2 1/2	**9279K22**	Each	$17.29
9	1/16″	7/16″	21/64″	19/32″	Black	2 1/2	**9279K23**	Each	$19.46

For information about durometer hardness, see page 3588.

Plastic and Rubber Edge Trim with Metal Core

A metal core adds strength and stability. As you push this trim into place, its flexible tabs grip the edge to keep it secured. Can be used outdoors. Materials are nonmarking and hard with a 65A-90A durometer.

Plastic trim has a temperature range of –20° to 150°F. Meets FMVSS (Federal Motor Vehicle Safety Standards) 302 flammability requirements.

Flame-retardant plastic trim meets FMVSS 302 flammability requirements along with UL 94HB flame requirements and NFPA (National Fire Protection Agency) standards. Temperature range is –20° to 150°F.

Rubber trim is more abrasion resistant than plastic. Temperature range is –40° to 350°F. Meets FMVSS 302 flammability requirements.

High-temperature silicone rubber trim has a temperature range of –50° to 400°F.

6-Piece Assortment—Includes a 4″ length of items marked with a ★. Color is black. **8451A5** $5.00

	Inside Wd. (A)	Inside Ht. (B)	Outside Wd. (C)	Outside Ht. (D)	Available Colors	Available Lengths, ft.		Per Ft. 1-99	Per Ft. 100-Up
Plastic—Textured									
1	1/64″	19/64″	3/16″	3/8″	Black	10, 25, 50, 100	24175K11	$0.98	$0.62
1	1/32″	19/64″	13/64″	3/8″	Black	10, 25, 50, 100	24175K19	.98	.62
1	1/16″	19/64″	15/64″	3/8″	Black	10, 25, 50, 100	24175K12	.90	.56
1	3/32″	9/32″	1/4″	3/8″	Black	10, 25, 50, 100	24175K21	.98	.62
1	3/32″	3/8″	17/64″	7/16″	Black	10, 25, 50, 100	24175K13	1.02	.64
1	3/32″-3/16″	7/16″	25/64″	33/64″	Black	10, 25, 50, 100	8451A86	1.42	1.04
1	1/8″	15/32″	19/64″	9/16″	Black	10, 25, 50, 100	24175K14	1.19	.79
1	3/16″	29/64″	23/64″	17/32″	Black	10, 25, 50, 100	24175K15	1.22	.79
1	1/4″	27/64″	27/64″	1/2″	Black	10, 25, 50, 100	24175K16	1.21	.78
1	5/16″	9/16″	31/64″	21/32″	Black	10, 25, 50, 100	24175K17	1.37	.91
1	1/2″	33/64″	43/64″	19/32″	Black	10, 25, 50, 100	24175K18	1.41	.91
1	1/2″	7/8″	3/4″	1″	Black	10, 25, 50, 100	24175K31	2.66	1.82
1	5/8″	13/16″	7/8″	15/16″	Black	10, 25, 50, 100	24175K32	2.67	1.87
1	3/4″	3/4″	1″	7/8″	Black	10, 25, 50, 100	24175K33	2.69	1.90
2	1/8″	15/32″	5/16″	9/16″	Black	10, 25, 50, 100	24175K42	1.11	.74
2	5/32″	15/32″	21/64″	9/16″	Black	10, 25, 50, 100	24175K43	1.14	.74
2	3/16″	7/16″	23/64″	17/32″	Black	10, 25, 50, 100	24175K44	1.17	.79
2	1/4″	25/64″	27/64″	1/2″	Black	10, 25, 50, 100	24175K45	1.20	.79
3	1/64″-1/32″	9/32″	15/64″	23/64″	Black	10, 25, 50, 100	8451A22★	.97	.72
3	1/64″-1/32″	9/32″	15/64″	3/8″	Black	10, 25, 50, 100	8451A84	1.45	1.06
3	1/16″-11/64″	7/16″	25/64″	33/64″	Black, White	10, 25, 50, 100	8451A91★	1.27	.80
3	5/64″-13/64″	37/64″	3/8″	21/32″	Black	10, 25, 50, 100	8451A53★	1.40	.89
3	3/32″-3/16″	7/16″	25/64″	33/64″	Black	10, 25, 50, 100	8451A47	1.29	.80
3	3/32″-3/16″	7/16″	25/64″	33/64″	Orange, White, Yellow	10, 25, 50, 100	8451A24	1.40	.81
3	3/32″-3/16″	9/16″	3/8″	21/32″	Black	10, 25, 50, 100	8451A87	1.72	1.26
3	3/32″-7/32″	7/16″	25/64″	33/64″	Black	10, 25, 50, 100	8451A85	1.51	1.10
4	1/32″-1/8″	7/16″	25/64″	33/64″	Black, White	10, 25, 50, 100	8451A12	1.04	.78
5	1/16″	29/64″	23/64″	19/32″	Black	10, 25, 50, 100	24175K71	1.34	.84
5	1/16″	39/64″	9/32″	23/32″	Black	10, 25, 50, 100	24175K72	3.00	1.87
5	3/32″	7/16″	23/64″	19/32″	Black	10, 25, 50, 100	24175K73	1.34	.84
5	3/32″	19/32″	5/16″	23/32″	Black	10, 25, 50, 100	24175K74	3.00	1.87
5	1/8″	7/16″	25/64″	9/16″	Black	10, 25, 50, 100	24175K75	1.34	.84
5	1/8″	19/32″	11/32″	23/32″	Black	10, 25, 50, 100	24175K76	3.00	1.87
5	3/16″	13/32″	29/64″	9/16″	Black	10, 25, 50, 100	24175K77	1.34	.84
5	3/16″	37/64″	13/32″	11/16″	Black	10, 25, 50, 100	24175K78	3.00	1.87
5	1/4″	3/8″	33/64″	17/32″	Black	10, 25, 50, 100	24175K79	1.34	.84
5	1/4″	35/64″	15/32″	21/32″	Black	10, 25, 50, 100	24175K81	3.00	1.87
6	1/64″-3/64″	3/8″	9/32″	29/64″	Black, White	10, 25, 50, 100	8451A11★	.93	.72
7	9/64″-1/4″	37/64″	1/2″	21/32″	Black, White	10, 25, 50, 100	8451A13★	1.19	.95
7	1/4″-1/2″	9/16″	23/32″	41/64″	Black, White	10, 25, 50, 100	8451A14	1.46	1.07
Plastic—Plain									
3	1/16″-11/64″	7/16″	25/64″	33/64″	Black	10, 25, 50, 100	8451A74	1.27	.80
4	1/32″-1/8″	7/16″	25/64″	33/64″	Black	10, 25, 50, 100	8451A63★	1.22	.79
Flame-Retardant Plastic—Textured									
1	1/4″	25/64″	29/64″	1/2″	Black	10, 25, 50, 100	24175K64	2.11	1.32
1	1/4″	19/32″	27/64″	11/16″	Black	10, 25, 50, 100	24175K68	3.86	2.41
3	1/8″	29/64″	21/64″	9/16″	Black	10, 25, 50, 100	24175K61	2.11	1.32
3	1/8″	43/64″	19/64″	3/4″	Black	10, 25, 50, 100	24175K65	3.86	2.41
3	5/32″	7/16″	23/64″	9/16″	Black	10, 25, 50, 100	24175K62	2.11	1.32
3	5/32″	21/32″	21/64″	3/4″	Black	10, 25, 50, 100	24175K66	3.86	2.41
3	3/16″	13/32″	25/64″	17/32″	Black	10, 25, 50, 100	24175K63	2.11	1.32
3	3/16″	21/32″	23/64″	23/32″	Black	10, 25, 50, 100	24175K67	3.86	2.41
Rubber									
8	27/64″	1/2″	47/64″	5/8″	Black	10, 25, 50, 100	24175K48	6.29	4.09
8	5/8″	31/64″	59/64″	39/64″	Black	10, 25, 50, 100	24175K49	8.34	5.42
9	11/32″	5/8″	17/32″	23/32″	Black	10, 25, 50, 100	24175K47	5.82	3.79
10	1/8″	31/64″	25/64″	9/16″	Black	10, 25, 50, 100	24175K46	3.12	2.03
High-Temperature Silicone Rubber									
10	1/8″	31/64″	25/64″	9/16″	Black	10, 25, 50, 100	24175K51	9.06	5.89
11	9/32″	5/8″	33/64″	43/64″	Black	10, 25, 50, 100	24175K52	8.33	5.42

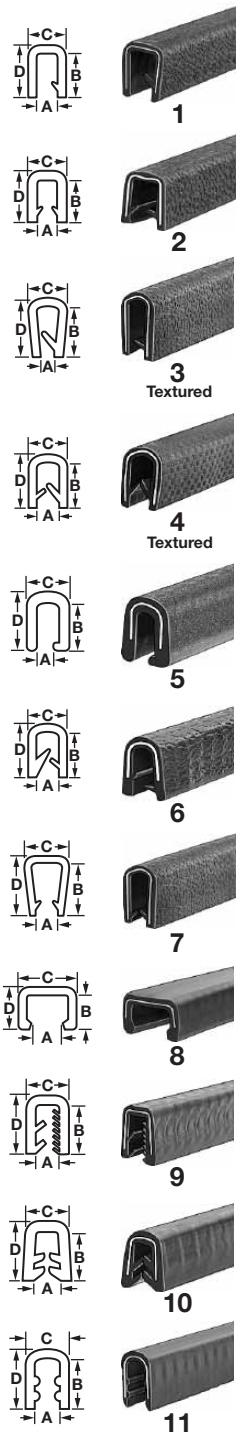

High-Visibility Heavy Duty Foam Edge Trim

Draw attention to obstructions and add a layer of cushion with this trim. Color is black and yellow. Push trim onto an edge and its tight grip secures it. For indoor use only. Foam is nonmarking and medium-hard with a 55A durometer.

Round edge trim temperature range is –30° to 176°F. **Rectangular** edge trim has adhesive on the inside surfaces for additional grip. Temperature range is –30° to 100°F.

	Inside Wd. (A)	Inside Ht. (B)	Outside Wd. (C)	Outside Ht. (D)	Lg.		
Round	5/16″	3/4″	1 9/16″	1 9/16″	39″	8066T1	$43.75
Rectangular	5/16″	3/4″	1 1/16″	1 1/4″	39″	8066T2	43.75

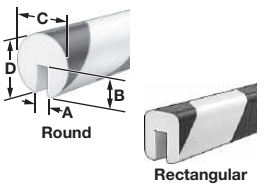

Grommets

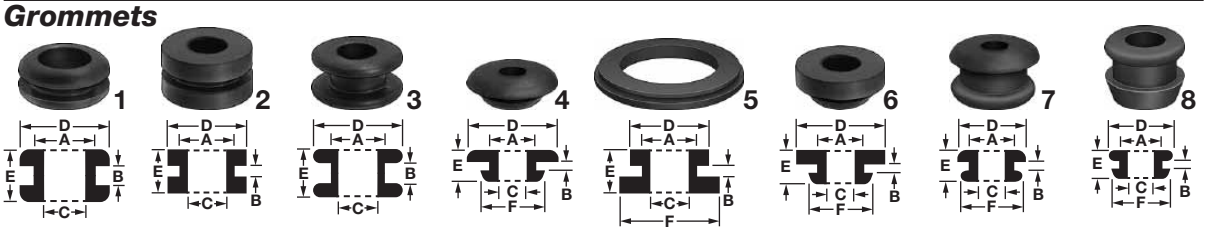

Insulate and seal around holes in panels, while damping vibration and minimizing abrasion. Grommets are flexible and push into place. Color is black. **Standard** grommets are SBR rubber with a durometer of 45A-65A. Temperature range is –30° to 175° F. **High-temperature** grommets are fluoroelastomer with a temperature range of –40° to 450° F. Durometer is 65A.

	Panel Hole Dia. (A)	Panel Thick. (B)	ID (C)	OD (D)	O'all Thick. (E)	(F)	Pkg. Qty.		Pkg.
Standard									
1	5/32"	3/64"	7/64"	1/4"	11/64"		50	9600K73	$14.19
1	5/32"	3/32"	7/64"	1/4"	11/64"		10	9600K75	12.36
1	3/16"	1/16"	1/8"	11/32"	7/32"		100	9600K17	4.07
1	3/16"	1/16"	9/64"	11/32"	3/16"		50	9600K171	13.87
1	7/32"	3/32"	5/32"	9/32"	7/32"		5	9600K114	8.50
1	1/4"	1/16"	1/8"	11/32"	7/32"		100	9600K11	4.24
1	9/32"	3/32"	3/16"	13/32"	5/16"		100	9600K38	4.95
1	5/16"	3/64"	13/64"	7/16"	15/64"		50	9600K108	13.62
1	5/16"	1/16"	3/16"	13/32"	7/32"		100	9600K13	4.54
1	5/16"	1/16"	3/16"	1/2"	1/4"		100	9600K39	6.40
1	5/16"	3/32"	3/16"	1/2"	9/32"		100	9600K23	6.24
1	11/32"	1/32"	1/4"	1/2"	5/32"		100	9600K14	6.15
1	11/32"	1/16"	1/4"	1/2"	3/16"		100	9600K24	6.24
1	11/32"	3/32"	3/16"	5/8"	3/8"		25	9600K211	9.38
1	3/8"	1/32"	9/32"	9/16"	7/32"		25	9600K109	13.35
1	3/8"	1/16"	5/32"	1/2"	7/32"		100	9600K41	6.22
1	3/8"	1/16"	1/4"	1/2"	3/16"		100	9600K25	6.35
1	3/8"	1/16"	1/4"	5/8"	11/32"		100	9600K28	7.00
1	3/8"	1/16"	9/32"	9/16"	1/4"		100	9600K15	5.42
1	3/8"	1/16"	9/32"	19/32"	13/64"		100	9600K42	5.88
1	3/8"	3/16"	3/16"	5/8"	3/8"		25	9600K84	13.43
1	13/32"	1/8"	17/64"	5/8"	3/8"		100	9600K26	8.54
1	27/64"	1/16"	5/16"	5/8"	1/4"		50	9600K76	13.84
1	7/16"	3/64"	3/32"	5/8"	13/64"		25	9600K111	13.96
1	7/16"	1/16"	9/32"	5/8"	1/4"		100	9600K16	6.78
1	7/16"	3/32"	3/8"	5/8"	9/32"		100	9600K33	7.17
1	7/16"	1/8"	3/16"	9/16"	3/8"		100	9600K45	8.62
1	15/32"	1/16"	9/32"	37/64"	5/16"		50	9600K82	14.04
1	15/32"	1/16"	5/16"	9/16"	3/16"		50	9600K83	13.84
1	1/2"	1/16"	5/32"	11/16"	9/32"		100	9600K27	9.34
1	1/2"	1/16"	5/16"	5/8"	1/4"		100	9600K31	7.28
1	1/2"	1/16"	3/8"	5/8"	1/4"		100	9600K32	7.44
1	1/2"	1/16"	13/32"	11/16"	1/4"		100	9600K18	8.26
1	1/2"	3/32"	3/8"	13/16"	3/8"		100	9600K34	14.41
1	1/2"	1/4"	5/16"	11/16"	7/16"		50	9600K54	10.52
1	17/32"	1/16"	5/16"	3/4"	7/16"		25	9600K214	10.55
1	17/32"	3/16"	5/16"	3/4"	9/16"		10	9600K213	6.25
1	9/16"	1/16"	7/16"	3/4"	1/4"		100	9600K19	9.67
1	9/16"	1/8"	7/16"	3/4"	3/8"		10	9600K86	11.44
1	9/16"	1/2"	3/8"	3/4"	3/4"		10	9600K88	13.01
1	19/32"	3/64"	7/16"	3/4"	3/8"		25	9600K215	10.94
1	5/8"	1/16"	3/8"	7/8"	11/32"		100	9600K46	14.41
1	5/8"	1/8"	3/8"	7/8"	13/32"		50	9600K47	10.36
1	21/32"	1/16"	3/16"	27/32"	5/16"		10	9600K212	5.94
1	11/16"	1/32"	3/16"	7/8"	7/32"		25	9600K116	11.25
1	11/16"	1/16"	1/2"	15/16"	3/8"		5	9600K115	5.60
1	3/4"	1/16"	9/16"	1"	5/16"		100	9600K21	13.61
1	3/4"	3/32"	1/2"	1"	9/32"		50	9600K22	10.09
1	3/4"	1/8"	5/16"	1"	3/8"		10	9600K97	12.07
1	13/16"	1/16"	11/16"	1 1/16"	1/4"		10	9600K117	7.95
1	7/8"	1/16"	5/8"	1 1/8"	5/16"		50	9600K36	9.81
1	7/8"	1/16"	3/4"	1 1/8"	5/16"		10	9600K96	12.29
1	7/8"	3/32"	9/32"	1 1/8"	11/32"		50	9600K48	9.96
1	7/8"	3/32"	5/8"	1 1/8"	11/32"		25	9600K95	10.42
1	7/8"	3/32"	3/4"	1 1/8"	11/32"		10	9600K94	5.77
1	7/8"	1/8"	9/32"	1 1/8"	3/8"		25	9600K93	12.84
1	7/8"	1/8"	5/8"	1 1/8"	3/8"		50	9600K37	9.55
1	7/8"	1/8"	3/4"	1 1/8"	3/8"		25	9600K92	13.45
1	15/16"	3/64"	25/32"	1 5/32"	1/4"		10	9600K216	7.81
1	15/16"	3/32"	9/32"	1 1/8"	11/32"		25	9600K91	13.04
1	15/16"	3/32"	5/8"	1 1/8"	11/32"		25	9600K98	13.86
1	15/16"	3/32"	3/4"	1 1/8"	11/32"		25	9600K71	8.30
1	1"	1/16"	7/8"	1 3/16"	3/16"		10	9600K89	12.36
1	1"	5/64"	11/16"	1 5/16"	3/8"		25	9600K55	6.76
1	1 1/16"	1/16"	1/4"	1 5/16"	5/16"		10	9600K118	9.65
1	1 1/16"	3/32"	23/32"	1 9/32"	3/8"		25	9600K56	9.10
1	1 3/32"	1/16"	3/4"	1 5/8"	5/16"		25	9600K57	15.08

	Panel Hole Dia. (A)	Panel Thick. (B)	ID (C)	OD (D)	O'all Thick. (E)	(F)	Pkg. Qty.		Pkg.
Standard (Cont.)									
1	1 1/8"	3/32"	3/4"	1 1/2"	5/16"		25	9600K49	$11.30
1	1 3/16"	1/16"	27/32"	1 7/16"	1/4"		10	9600K119	10.00
1	1 1/4"	1/16"	7/8"	1 5/8"	7/16"		25	9600K58	14.01
1	1 3/8"	1/16"	1"	1 3/4"	7/16"		10	9600K217	8.13
1	1 3/8"	3/32"	1"	1 3/4"	3/8"		25	9600K59	10.28
1	1 3/8"	7/64"	1"	1 3/4"	13/32"		10	9600K51	9.07
1	1 3/8"	1/8"	1"	1 3/4"	1/2"		10	9600K218	8.13
1	1 3/8"	3/16"	1"	1 3/4"	9/16"		10	9600K219	10.00
1	1 3/8"	1/4"	1"	1 3/4"	5/8"		10	9600K221	10.63
1	1 7/16"	1/8"	3/4"	1 13/16"	7/16"		10	9600K122	12.26
1	1 7/16"	1/4"	3/4"	1 13/16"	9/16"		5	9600K121	9.06
1	1 1/2"	1/16"	1 1/4"	1 7/8"	11/32"		10	9600K61	8.81
1	1 1/2"	3/32"	1 1/4"	1 7/8"	3/8"		25	9600K52	12.80
1	1 1/2"	1/8"	1 1/4"	1 7/8"	13/32"		10	9600K72	8.79
1	1 9/16"	1/4"	1 5/16"	1 3/4"	1/2"		5	9600K123	8.50
1	1 5/8"	1/16"	7/8"	2"	7/16"		1	9600K222	3.03
1	1 5/8"	1/16"	1 1/4"	1 7/8"	3/8"		1	9600K224	2.34
1	1 5/8"	1/8"	7/8"	2"	1/2"		1	9600K223	3.03
1	1 3/4"	1/16"	1 1/2"	2 1/8"	7/16"		10	9600K225	5.94
1	1 3/4"	3/32"	1 1/4"	2 1/8"	3/8"		10	9600K62	9.03
1	1 3/4"	1/8"	1 1/2"	2 1/8"	1/2"		10	9600K226	6.25
1	1 3/4"	3/16"	1 1/2"	2 1/8"	9/16"		10	9600K227	6.56
1	1 3/4"	1/4"	1 1/2"	2"	1/2"		5	9600K124	9.50
1	1 3/4"	1/4"	1 1/2"	2 1/8"	5/8"		10	9600K228	6.88
1	1 7/8"	1/16"	1"	2 1/4"	7/16"		5	9600K231	13.28
1	1 7/8"	1/8"	1"	2 1/4"	1/2"		1	9600K232	2.73
1	1 7/8"	3/16"	1"	2 1/4"	9/16"		1	9600K233	2.81
1	2"	1/16"	1 5/8"	2 1/4"	5/16"		10	9600K126	9.22
1	2"	3/32"	1 1/2"	2 3/8"	3/8"		10	9600K63	8.80
1	2"	1/4"	1 3/4"	2 1/2"	1/2"		5	9600K125	9.82
1	2 13/64"	1/16"	1 55/64"	2 5/8"	7/16"		5	9600K99	13.62
1	2 1/4"	1/8"	2"	2 5/8"	3/8"		1	9600K127	3.38
1	2 3/8"	1/8"	1 1/4"	2 3/4"	1/2"		1	9600K234	7.86
1	2 1/2"	1/8"	1 1/4"	2 7/8"	1/2"		1	9600K235	7.86
1	2 3/4"	1/16"	1 1/2"	3 1/4"	7/16"		1	9600K236	9.14
1	3 1/4"	1/8"	3"	3 5/8"	3/8"		5	9600K128	8.00
1	3 1/2"	3/16"	2"	4"	5/8"		1	9600K129	9.38
2	11/32"	1/16"	7/32"	1/2"	5/16"		50	9600K102	12.65
2	3/8"	3/64"	1/4"	9/16"	19/64"		100	9600K43	7.69
2	3/8"	3/64"	1/4"	9/16"	7/16"		25	9600K85	13.22
2	13/32"	1/16"	1/4"	21/32"	3/8"		10	9600K104	11.97
2	7/16"	1/16"	1/4"	9/16"	5/16"		100	9600K44	8.61
2	7/16"	1/16"	1/4"	5/8"	7/16"		50	9600K103	13.84
2	7/16"	1/16"	5/16"	5/8"	11/32"		10	9600K105	13.47
2	1/2"	1/16"	5/16"	3/4"	7/16"		5	9600K107	12.66
2	1/2"	1/8"	1/4"	3/4"	7/16"		50	9600K69	9.95
2	1/2"	1/8"	5/16"	3/4"	3/8"		100	9600K53	11.65
2	9/16"	1/16"	13/32"	13/16"	5/16"		100	9600K35	12.81
3	1/4"	7/64"	5/32"	21/64"	13/64"		100	9600K66	14.12
3	3/8"	5/32"	9/32"	5/8"	11/32"		100	9600K67	6.74
4	5/16"	1/16"	3/16"	5/8"	7/32"	7/16"	100	9600K64	8.21
4	13/32"	3/32"	1/4"	7/8"	3/8"	3/4"	25	9600K77	12.98
4	7/16"	3/64"	1/4"	1"	1/4"	3/4"	10	9600K78	11.60
4	11/16"	9/64"	3/8"	1"	13/32"	7/8"	50	9600K65	10.49
5	2 7/8"	3/32"	2 5/8"	3 3/4"	13/32"	4"	1	9600K101	29.94
6	3/16"	1/16"	1/8"	11/32"	3/16"	17/64"	50	9600K81	13.10
6	15/64"	1/16"	5/32"	3/8"	5/16"	9/32"	50	9600K87	13.22
6	3/8"	3/64"	1/4"	9/16"	5/32"	15/32"	50	9600K74	13.84
6	7/16"	1/16"	1/4"	3/4"	9/16"	3/4"	10	9600K106	12.45
7	29/64"	3/16"	5/16"	5/8"	9/32"	33/64"	50	9600K112	14.08
8	1/2"	3/16"	5/16"	5/8"	1/2"	1/2"	50	9600K79	13.39
High Temperature									
1	3/4"	3/32"	1/2"	1"	9/32"		1	5273T14	4.86
1	7/8"	1/16"	5/8"	1 1/8"	5/16"		1	5273T13	6.78
1	7/8"	1/8"	5/8"	1 1/8"	3/8"		1	5273T15	6.16
1	1 1/2"	1/16"	1 1/4"	1 7/8"	11/32"		1	5273T12	11.66
1	2"	3/32"	1 1/2"	2 3/8"	3/8"		1	5273T11	15.98

For information about durometer hardness, see page 3588.

Mil. Spec. Grommets



All grommets meet MIL-G-3036. Most meet MS-35489 and are AN 931 approved (dash numbers 1, 2, 3, and 4 are AN 930 approved). Grommets are flexible and push into place to insulate and seal around holes in panels, as well as dampen vibration and minimize abrasion. Durometer is 50A.

Standard grommets are Buna-N rubber. They are for indoor use only; temperature range is 0° to 250°F. Color is black. **High-temperature** grommets are silicone with a temperature range of –60° to 500°F. They can be used outdoors. Color is red-orange.

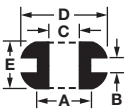

Panel Hole Dia. (A)	Panel Thick. (B)	ID (C)	OD (D)	O'all Thick. (E)	MS Dash Number	AN Dash Number	Standard Pkg. Qty.	Standard	Standard Pkg.	High Temperature Pkg. Qty.	High Temperature	High Temperature Pkg.
1/4"	1/16"	1/8"	11/32"	3/16"	1	210	100	9307K35	$5.62	25	1061T11	$6.14
5/16"	1/16"	3/16"	7/16"	3/16"	4	3-5	50	9307K11	2.67	25	1061T12	7.08
5/16"	1/8"	3/16"	7/16"	1/4"	33	A3-5	50	9307K12	3.17	25	1061T24	6.36
5/16"	1/4"	3/16"	7/16"	3/8"	91	C3-5	50	9307K37	4.84	10	1061T82	3.33
7/16"	1/16"	1/4"	5/8"	3/16"	6	4-7	50	9307K13	3.75	10	1061T13	5.85
7/16"	1/8"	1/4"	5/8"	1/4"	35	A4-7	50	9307K14	4.06	10	1061T25	6.20
7/16"	3/16"	1/4"	5/8"	5/16"	64	B4-7	50	9307K38	5.00	10	1061T46	5.94
7/16"	1/4"	1/4"	5/8"	3/8"	93	C4-7	50	9307K39	5.62	10	1061T47	6.25
1/2"	1/16"	3/8"	11/16"	9/32"	—	1	50	9307K21	4.38	10	1061T83	6.00
9/16"	1/16"	1/8"	3/4"	3/16"	2	2-9	25	9307K41	7.28	10	1061T41	7.94
9/16"	1/16"	3/16"	3/4"	3/16"	134	3-9	50	9307K43	9.93	10	1061T44	6.81
9/16"	1/16"	5/16"	13/16"	5/16"	9	5-9	50	9307K16	6.76	10	1061T15	8.18
9/16"	1/16"	3/8"	3/4"	3/8"	—	2	50	9307K48	10.81	10	1061T84	8.53
9/16"	1/8"	5/16"	13/16"	3/8"	38	A5-9	50	9307K17	6.91	10	1061T26	9.85
9/16"	3/16"	5/16"	13/16"	7/16"	67	B5-9	50	9307K18	7.06	10	1061T35	10.22
9/16"	1/4"	5/16"	13/16"	1/2"	96	C5-9	50	9307K91	7.06	10	1061T37	9.43
9/16"	3/8"	3/8"	3/4"	3/4"	—	3	25	9307K49	8.35	10	1061T85	7.65
5/8"	1/16"	3/16"	7/8"	3/16"	5	3-10	25	9307K44	8.42	10	1061T42	9.21
5/8"	1/16"	3/8"	7/8"	5/16"	11	6-10	50	9307K22	7.72	10	1061T53	10.00
5/8"	1/8"	3/8"	7/8"	3/8"	40	A6-10	50	9307K23	8.24	5	1061T27	6.97
5/8"	3/16"	3/16"	7/8"	5/16"	63	B3-10	25	9307K36	9.93	10	1061T43	9.68
5/8"	3/16"	3/8"	7/8"	7/16"	69	B6-10	50	9307K59	8.75	5	1061T36	6.71
11/16"	1/16"	7/16"	15/16"	5/16"	13	7-11	50	9307K25	7.72	5	1061T17	7.04
3/4"	1/16"	1/4"	1"	1/4"	7	4-12	25	9307K64	10.56	10	1061T45	11.75
3/4"	1/16"	5/16"	1"	5/16"	10	5-12	25	9307K77	10.62	10	1061T48	12.00
3/4"	3/32"	1/2"	1"	9/32"	150	4	25	9307K85	10.46	10	1061T86	11.58
3/4"	1/8"	5/16"	1"	3/8"	39	A5-12	25	9307K42	10.59	10	1061T49	13.25
3/4"	3/16"	5/16"	1"	7/16"	68	B5-12	25	9307K58	10.94	10	1061T51	13.50
13/16"	1/16"	1/2"	11/16"	5/16"	14	8-13	50	9307K26	8.68	5	1061T18	8.96
13/16"	1/16"	9/16"	11/16"	5/16"	16	9-13	25	9307K52	11.31	5	1061T57	5.88
13/16"	1/8"	1/2"	11/16"	3/8"	43	A8-13	50	9307K27	9.67	5	1061T28	9.49
13/16"	3/16"	1/2"	11/16"	7/16"	72	B8-13	50	9307K62	10.00	5	1061T55	8.62
13/16"	1/4"	1/2"	11/16"	1/2"	101	C8-13	50	9307K63	10.19	5	1061T39	9.03
7/8"	1/16"	5/8"	11/8"	5/16"	17	10-14	10	9307K53	7.53	5	1061T58	8.12
7/8"	1/8"	5/8"	11/8"	3/8"	46	A10-14	10	9307K65	7.63	5	1061T59	9.12
7/8"	3/16"	5/8"	11/8"	7/16"	75	B10-14	10	9307K66	7.76	5	1061T61	10.00
7/8"	1/4"	5/8"	11/8"	1/2"	104	C10-14	10	9307K67	7.91	5	1061T62	11.82
1"	1/16"	1/4"	11/4"	1/4"	8	4-16	25	9307K76	6.58	5	1061T14	9.61
1"	1/16"	3/8"	11/4"	1/4"	12	6-16	50	9307K24	7.72	5	1061T54	9.50
1"	1/8"	11/16"	15/16"	7/16"	48	A11-16	25	9307K79	8.68	5	1061T64	12.38
1"	3/16"	11/16"	15/16"	1/2"	77	B11-16	25	9307K68	8.22	5	1061T65	14.47
1"	1/4"	11/16"	15/16"	9/16"	106	C11-16	25	9307K69	8.62	5	1061T66	15.79
11/16"	1/16"	3/4"	13/8"	3/8"	20	12-17	25	9307K81	8.60	5	1061T67	11.25
11/16"	1/8"	3/4"	13/8"	7/16"	49	A12-17	25	9307K82	8.12	1	1061T68	3.21
11/16"	1/4"	3/4"	13/8"	9/16"	107	C12-17	25	9307K71	8.55	5	1061T69	15.79
11/4"	1/16"	1/2"	11/2"	1/4"	15	8-20	50	9307K28	11.12	5	1061T56	15.26
11/4"	1/16"	5/8"	11/2"	1/4"	18	10-20	10	9307K86	8.55	2	1061T63	7.05
11/4"	1/16"	3/4"	15/8"	1/4"	135	12-20	10	9307K55	10.13	2	1061T71	7.63
11/4"	1/16"	7/8"	15/8"	7/16"	22	14-20	25	9307K83	10.00	2	1061T74	7.84
11/4"	1/8"	7/8"	15/8"	1/2"	51	A14-20	25	9307K72	10.44	2	1061T75	8.79
11/4"	3/16"	7/8"	15/8"	9/16"	80	B14-20	25	9307K73	11.81	2	1061T76	8.95
13/8"	1/16"	1"	13/4"	7/16"	23	16-22	10	9307K61	10.08	2	1061T77	10.32
13/8"	1/8"	1"	13/4"	1/2"	52	A16-22	10	9307K74	10.00	2	1061T78	9.47
13/4"	1/16"	11/2"	21/8"	7/16"	27	24-28	25	9307K84	13.25	1	1061T79	7.76
13/4"	1/8"	11/2"	21/8"	1/2"	56	A24-28	25	9307K75	14.41	1	1061T81	10.58

Other Standard MS-35489 Grommets— Please specify dash number 1-156 ..... 9307K92

Expandable Grommets

The center hole has fingers that expand to hold cables and cords.

Flexible grommets are plastic and install by squeezing the sides and pressing them into place. Durometer is 60A. They are for indoor use only; temperature range is 5° to 250°F.

Rigid locking grommets snap into place and have wings that expand against the sides of the hole to lock them in place. They're nylon with a Rockwell hardness of R120. They can be used outdoors; temperature range is –40° to 250°F.



Flexible



Rigid Locking

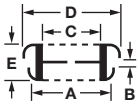

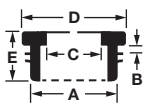

Panel Hole Dia. (A)	Panel Thick. (B)	ID (C)	OD (D)	O'all Thick. (E)	Choose a Color	Pkg. Qty.		Pkg.
Flexible								
1/2"	1/16"	3/32"-3/8"	21/32"	1/4"	Black	25	4946A1	$5.51
1"	1/16"	5/32"-13/16"	11/4"	3/8"	Black	25	4946A2	9.65
Rigid Locking								
5/8"	1/32"-1/8"	Up to 7/16"	23/32"	13/32"	Black, White	100	4946A3	5.83
3/4"	1/32"-1/8"	Up to 1/2"	55/64"	25/64"	Black, White	100	4946A4	7.29
7/8"	1/32"-1/8"	Up to 9/16"	15/16"	29/64"	Black, White	100	4946A5	7.96
1"	1/32"-1/8"	Up to 3/4"	11/16"	29/64"	Black	100	4946A25	10.35
13/32"	1/32"-1/8"	Up to 13/16"	15/32"	29/64"	Black	100	4946A26	10.74
11/4"	1/32"-1/8"	Up to 7/8"	123/64"	29/64"	Black	50	4946A27	7.79

Locking Grommets



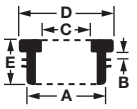

Grommets snap into place and have wings that expand against the sides of the hole to lock them in place. They protect cables, cords, and tubing by turning rough-edged and uneven holes into smooth, insulated holes. They are rigid nylon and can be used outdoors. Rockwell hardness is R120. Temperature range is 0° to 220°F.

Split grommets are for holes where cables, cords, or tubing are already installed.

Panel Hole Dia. (A)	Panel Thick. (B)	ID (C)	OD (D)	O'all Thick. (E)	Pkg. Qty.		Pkg.
Standard—Choose a color: black, white							
3/16"	1/32"-1/16"	1/8"	1/4"	15/64"	100	5269T11	$5.10
1/4"	1/32"-1/16"	1/8"	5/16"	5/16"	100	5269T21	5.10
5/16"	1/32"-1/16"	3/16"	3/8"	5/16"	100	5269T22	5.29
5/16"	1/32"-1/16"	1/4"	3/8"	15/64"	100	5269T12	5.10
3/8"	1/32"-1/8"	3/16"	15/32"	13/32"	100	5269T23	5.10
3/8"	1/32"-1/8"	1/4"	15/32"	13/32"	100	5269T24	5.29
1/2"	1/32"-1/16"	3/8"	9/16"	1/4"	100	5269T14	5.10
1/2"	1/32"-1/8"	1/4"	37/64"	13/32"	100	5269T28	5.97
1/2"	1/32"-1/8"	5/16"	37/64"	13/32"	100	5269T29	5.97
1/2"	1/32"-1/8"	3/8"	37/64"	13/32"	100	5269T31	5.75
9/16"	1/32"-1/8"	5/16"	21/32"	13/32"	100	5269T32	6.45
9/16"	1/32"-1/8"	3/8"	21/32"	13/32"	100	5269T33	6.70
9/16"	1/32"-1/8"	7/16"	21/32"	13/32"	100	5269T34	6.45
5/8"	1/32"-1/16"	1/2"	45/64"	1/4"	100	5269T16	5.82
5/8"	1/32"-1/8"	1/4"	23/32"	13/32"	100	5269T35	6.70
5/8"	1/32"-1/8"	7/16"	23/32"	13/32"	100	5269T36	6.70
5/8"	1/32"-1/8"	1/2"	23/32"	13/32"	100	5269T37	6.45
3/4"	1/32"-1/16"	5/8"	53/64"	1/4"	100	5269T17	6.65
3/4"	1/32"-1/8"	3/8"	27/32"	13/32"	100	5269T41	7.84
3/4"	1/32"-1/8"	1/2"	27/32"	13/32"	100	5269T42	7.53
3/4"	1/32"-1/8"	9/16"	27/32"	13/32"	100	5269T43	7.53
13/16"	1/32"-1/8"	5/8"	57/64"	13/32"	100	5269T46	8.30
7/8"	1/32"-1/16"	3/4"	15/16"	1/4"	100	5269T19	7.24
7/8"	1/32"-1/8"	3/8"	61/64"	29/64"	100	5269T47	8.64
7/8"	1/32"-1/8"	7/16"	61/64"	29/64"	100	5269T48	8.30
7/8"	1/32"-1/8"	1/2"	61/64"	29/64"	100	5269T49	8.30
7/8"	1/32"-1/8"	9/16"	61/64"	29/64"	100	5269T51	8.30
7/8"	1/32"-1/8"	5/8"	61/64"	29/64"	100	5269T52	8.64
7/8"	1/32"-1/8"	11/16"	61/64"	29/64"	100	5269T53	8.30
1"	1/32"-1/8"	3/4"	1 1/8"	29/64"	100	5269T54	10.22
1 3/16"	1/32"-1/8"	15/16"	1 5/16"	29/64"	100	5269T58	13.14
1 1/4"	1/32"-1/8"	15/16"	1 23/64"	29/64"	100	5269T59	13.14
1 3/8"	1/32"-1/8"	1"	1 15/32"	29/64"	100	5269T61	13.70
1 1/2"	1/32"-1/8"	1 1/16"	1 39/64"	29/64"	50	5269T62	7.98
1 1/2"	1/32"-1/8"	1 1/8"	1 39/64"	29/64"	50	5269T63	8.30
1 1/2"	1/32"-1/8"	1 5/16"	1 39/64"	29/64"	50	5269T64	7.98
1 3/4"	1/32"-1/8"	1 3/8"	1 7/8"	29/64"	50	5269T65	9.80
2"	1/32"-1/8"	1 5/8"	2 1/8"	29/64"	50	5269T66	9.80
Standard—Color is black							
2 1/4"	Up to 1/4"	1 55/64"	2 31/64"	23/32"	10	5269T86	8.29
2 1/2"	Up to 1/4"	1 31/32"	2 21/32"	23/32"	10	5269T87	10.32
3"	Up to 1/4"	2 15/32"	3 5/32"	3/4"	10	5269T88	17.26
3"	Up to 1/4"	2 3/4"	3 5/32"	23/32"	5	5269T89	11.14
3 3/8"	Up to 1/4"	2 13/16"	3 21/32"	23/32"	5	5269T91	11.14
3 1/2"	Up to 1/4"	2 15/16"	3 21/32"	23/32"	5	5269T92	11.14
4"	Up to 1/4"	3 15/32"	4 5/32"	23/32"	5	5269T93	13.22
5"	Up to 1/4"	4 3/8"	5 7/32"	47/64"	1	5269T94	4.08
Split—Color is black							
3/8"	Up to 1/8"	17/64"	27/64"	25/64"	100	5269T71	10.10
7/16"	Up to 1/8"	21/64"	1/2"	25/64"	100	5269T72	10.10
1/2"	Up to 1/8"	5/16"	9/16"	25/64"	100	5269T73	10.65
9/16"	Up to 1/8"	25/64"	41/64"	25/64"	100	5269T74	12.16
5/8"	Up to 1/8"	29/64"	11/16"	25/64"	100	5269T75	12.16
3/4"	Up to 1/8"	35/64"	25/32"	25/64"	100	5269T76	16.29
7/8"	Up to 1/8"	43/64"	59/64"	13/32"	100	5269T77	16.63
1"	Up to 1/8"	13/16"	1 3/64"	13/32"	50	5269T78	10.38
1 3/32"	Up to 1/8"	7/8"	1 5/32"	13/32"	50	5269T79	12.98
1 1/4"	Up to 1/8"	1 3/64"	1 11/32"	13/32"	50	5269T81	11.52
1 3/8"	Up to 1/8"	1 11/64"	1 15/32"	13/32"	25	5269T82	8.97
1 1/2"	Up to 1/8"	1 1/4"	1 37/64"	27/64"	25	5269T83	9.80
2"	Up to 1/8"	1 47/64"	2 1/8"	27/64"	25	5269T84	12.66
2 1/2"	Up to 1/4"	2"	2 39/64"	23/32"	10	5269T85	15.98

Grommets with Flange

Eliminate clutter and keep your cables and cords organized.

Rectangular

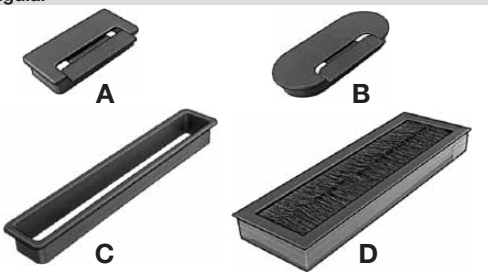

Grommets are for indoor use only. Color is black.

(A&B) Slot cover is removable. Grommets are plastic. Temperature range is 50° to 150°F.

(C) Grommets are plastic with a temperature range of 50° to 150°F.

(D) Bristles in the center allow cables and cords to pass through yet keep out dust and debris. Grommet is PVC with a temperature range of 50° to 120°F.

	Fits Hole Size Lg.	Fits Hole Size Wd.	Flange Size Lg.	Flange Size Wd.	Depth Under Flange	Opening Size Lg.	Opening Size Wd.		
A	3 3/4"	1 3/4"	4"	2"	5/8"	3"	3/4"	93775K51	$8.17
B	6"	2 1/2"	6 1/2"	3"	1 1/16"	3 1/2"	1"	93775K61	10.66
C	12"	1 3/4"	12 1/2"	2 1/4"	1 1/8"	11 3/4"	1 9/16"	4831K12	6.58
C	17"	1 3/4"	17 1/2"	2 1/4"	1 1/8"	16 3/4"	1 9/16"	4831K13	7.24
D	12"	3 3/4"	12 1/4"	4"	1 3/16"	11"	2 3/4"	4523K15	27.91

Round



(E) Slot cover is removable. Grommets are plastic and can be used outdoors. Maximum temperature is 185°F.

(F) Made of plastic, grommet can be used outdoors. Maximum temperature is 190°F.

(G) Designed for use in the floor, grommets are plastic, have a swivel cover, and withstand foot traffic. For indoor use only; temperature range is 50° to 150°F.

(H) Use for large groups of cords. Grommets are stainless steel and can be used outdoors. The optional cover for 6" dia. grommets (sold separately) slants downward to allow materials to pass through.

	Fits Hole Dia.	Flange Dia.	Depth Under Flange	Opening Size Lg.	Opening Size Dia.	Opening Size Wd.	Color		
E	2"	2 1/4"	1"	41/64"	—	1 5/64"	Black	93775K21	$3.83
E	2"	2 1/4"	1"	41/64"	—	1 5/64"	White	93775K22	3.83
E	2 3/4"	3"	1"	15/16"	—	1 37/64"	Black	93775K31	5.33
E	2 3/4"	3"	1"	15/16"	—	1 37/64"	White	93775K32	5.33
F	3 1/4"	3 5/8"	1 1/16"	2"	—	3/4"	Black	93775K46	5.67
G	2 15/16"	3 9/16"	1 7/16"	2 1/8"	—	3/4"	Black	5039K12	16.96
G	5"	5 1/2"	1 3/8"	3 1/4"	—	1 1/4"	Black	5039K13	26.58
H	6"	6 3/4"	1"	—	5 7/8"	—	—	4911K11	41.77
H	6"	6 3/4"	2"	—	5 7/8"	—	—	4911K12	51.25
H	8"	8 5/8"	2"	—	7 7/8"	—	—	4911K15	64.90
Optional Cover for Style H 6" Dia. Grommets								4911K22	34.21

Shrink-to-Fit Sealing Grommets



Apply heat and grommet shrinks around wires and cables. A water-resistant rubber adhesive on the inside makes the bond tight, while the flange covers imperfect holes. Grommets are polyolefin and shrink at 255°F. Durometer is 45D. They can be used outdoors; temperature range is –40° to 210°F. Color is red.

ID (A) Before Shrinking	ID (A) After Shrinking	Flange OD (B)	Ht. (C)		
1 13/32"	15/32"	3 19/32"	21/32"	5277T11	$6.73
2"	27/32"	5"	25/32"	5277T12	8.03
2 5/8"	1 7/32"	5 5/8"	15/16"	5277T13	10.53

For information about durometer hardness, see page 3588.

Sealing Grommets for Pipe and Tubing

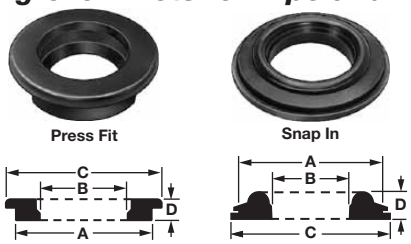

Tightly seal the gap between pipe or tubing and a panel to keep liquids from leaking through the seams. Grommets are flexible vinyl and can be used outdoors. Color is black.

Press-fit grommets have a tapered inner wall that expands when pipe is inserted. Durometer is 75A. Temperature range is –20° to 160° F.

Snap-in grommets bend and move to compensate for misalignment and movement of pipe or tubing. Durometer is 60A. Temperature range is –40° to 200° F.

For Pipe Size	For Tube Size	Fits Dia.	Panel Hole Dia. (A)	ID (B)	OD (C)	O'all Thick. (D)		
Press Fit—Fit 3⁄8″ panel thickness								
3⁄8	—	0.68″	1.05″	0.45″	1.46″	0.55″	9280K31	$2.14
1⁄2	—	0.86″	1.31″	0.63″	2.01″	0.73″	9280K32	2.63
3⁄4	—	1.04″	1.31″	0.82″	2.02″	0.74″	9280K33	2.72
1	—	1.30″	1.78″	1.05″	2.47″	0.72″	9280K34	3.34
1 1⁄4	—	1.63″	2.07″	1.35″	2.83″	0.74″	9280K35	3.92
1 1⁄2	—	1.87″	2.54″	1.56″	3.24″	0.75″	9280K36	4.43
2	—	2.30″	3.05″	2.00″	3.91″	0.79″	9280K37	6.94
3	—	3.45″	4.01″	3.10″	4.92″	0.76″	9280K38	9.11
4	—	4.45″	5.06″	4.12″	5.84″	0.76″	9280K39	9.97
6	—	6.45″	7.06″	6.12″	8.05″	0.75″	9280K41	13.88
Snap In—Fit 0.05″-0.12″ panel thickness								
—	1⁄4″	0.25″-0.26″	7⁄8″	0.22″	1 3⁄16″	0.50″	63595K45	.60
1⁄8	3⁄8″	0.37″-0.40″	1 1⁄16″	0.30″	1 3⁄8″	0.50″	63595K31	.60
1⁄4	1⁄2″	0.50″-0.55″	1 1⁄4″	0.47″	1 9⁄16″	0.55″	63595K32	.63
—	5⁄8″	0.58″-0.63″	1 1⁄4″	0.56″	1 9⁄16″	0.55″	63595K46	.63
3⁄8	—	0.63″-0.71″	1 3⁄8″	0.60″	1 11⁄16″	0.57″	63595K33	.67
—	3⁄4″	0.72″-0.82″	1 1⁄2″	0.68″	1 13⁄16″	0.56″	63595K47	.75
1⁄2	7⁄8″	0.82″-0.91″	1 5⁄8″	0.77″	2″	0.64″	63595K34	.79
—	1″	0.92″-1.01″	1 3⁄4″	0.86″	2 1⁄8″	0.65″	63595K48	.93
3⁄4	—	1.02″-1.10″	2″	0.97″	2 7⁄16″	0.64″	63595K35	.96
—	1 1⁄8″	1.11″-1.19″	2 1⁄8″	1.05″	2 5⁄8″	0.67″	63595K49	1.34
1	1 3⁄8″	1.30″-1.39″	2 3⁄8″	1.23″	2 7⁄8″	0.67″	63595K36	1.38
—	1 1⁄2″	1.50″-1.62″	2 1⁄2″	1.42″	3″	0.65″	63595K51	1.40
1 1⁄4	1 5⁄8″	1.62″-1.75″	2 5⁄8″	1.52″	3 1⁄8″	0.67″	63595K37	1.43
1 1⁄2	—	1.87″-2.00″	2 7⁄8″	1.75″	3 3⁄8″	0.71″	63595K38	1.81
—	2 1⁄8″	2.00″-2.12″	3″	1.87″	3 1⁄2″	0.69″	63595K52	2.06
—	2 1⁄4″	2.12″-2.25″	3 1⁄8″	1.98″	3 5⁄8″	0.69″	63595K53	2.10
2	—	2.25″-2.37″	3 1⁄4″	2.10″	3 3⁄4″	0.76″	63595K39	2.13
—	2 1⁄2″	2.37″-2.50″	3 1⁄2″	2.22″	4″	0.76″	63595K54	2.60
—	2 5⁄8″	2.50″-2.62″	3 5⁄8″	2.34″	4 1⁄8″	0.76″	63595K55	2.60
—	2 3⁄4″	2.62″-2.75″	3 3⁄4″	2.47″	4 1⁄4″	0.81″	63595K56	3.20
2 1⁄2	—	2.87″-3.00″	4″	2.69″	4 1⁄2″	0.79″	63595K41	3.27
—	3 1⁄8″	3.12″-3.25″	4 1⁄4″	2.89″	4 3⁄4″	0.79″	63595K57	3.72
3	—	3.37″-3.50″	4 7⁄8″	3.25″	5 3⁄8″	0.82″	63595K42	5.82
—	3 5⁄8″	3.62″-3.75″	4 7⁄8″	3.37″	5 3⁄8″	0.82″	63595K58	5.82
3 1⁄2	4 1⁄8″	4.00″-4.12″	5 3⁄4″	3.75″	6 1⁄4″	1.06″	63595K43	8.63
4	—	4.50″-4.62″	6 1⁄4″	4.25″	6 3⁄4″	1.06″	63595K44	8.84

Sealing Grommets for Cable, Hose, and Wire

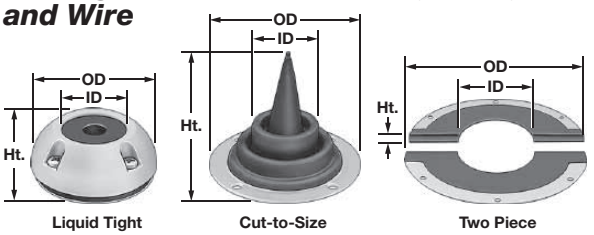

Form tight seals around cable, hose, and wire with these black rubber surface-mount grommets. They can be used outdoors.

Liquid Tight—Grommets sit inside a protective mounting base (fasteners are included). Durometer is 50A. Temperature range is 15° to 120° F. *Plastic base* is gray.

Cut-to-Size—Trim to the size you need. Grommets have an aluminum mounting flange with four 1⁄8″ dia. holes (fasteners not included). Not rated for durometer. Temperature range is –40° to 220° F.

Two Piece—Use for cable, hose, and wire that is already installed. Grommets have an aluminum mounting flange with six 0.14″ dia. holes (fasteners not included). Durometer is 55B. Temperature range is –40° to 220° F. *Cut-your-own-hole* lets you create a hole at the size you need.

Fits Dia.	ID	OD	Ht.		Plastic Base	Stainless Steel Base
Liquid Tight						
0.08″-0.31″	0.63″	1.53″	0.75″	9280K5	$26.66	$51.11
0.17″-0.31″	0.83″	1.93″	0.81″	9280K6	28.88	57.78
0.35″-0.55″	0.83″	1.93″	0.81″	9280K7	28.88	57.78
0.35″-0.55″	1.18″	2.32″	0.81″	9280K8	31.12	73.33
0.47″-0.59″	1.57″	2.72″	0.85″	9280K9	33.33	77.78
ID		OD	Ht.			
Cut-to-Size						
0.5″		1 1⁄2″	0.65″	9280K61	$14.15	
0.8″		2″	1.5″	9280K62	14.15	
Two Piece						
0.125″		3″	0.14″	9280K51	30.07	
0.25″		3″	0.14″	9280K52	30.07	
0.375″		3″	0.14″	9280K53	30.07	
0.5″		3″	0.14″	9280K54	30.07	
0.625″		3″	0.14″	9280K55	30.07	
0.75″		3″	0.14″	9280K56	30.07	
0.875″		3″	0.14″	9280K57	30.07	
1″		3″	0.14″	9280K58	30.07	
Cut-Your-Own-Hole Up to 1.75″		3″	0.14″	9280K59	30.07	

Easy-Install Two-Piece Grommets

No setting tools required—snap the two parts together in a hole you've cut to size (hole cutters sold separately). Grommets are plastic and can be used outdoors. They are not rated for durometer. Temperature range for grommet with 1⁄4″ ID is –150° to 250° F; for grommets with 1⁄2″ ID it's 30° to 180° F.



			Grommets					
ID	OD	Ht.	Max. Material Thick.	Color	Pkg. Qty.		Pkg.	Hole Cutters
1⁄4″	1 1⁄8″	13⁄32″	0.203″	Black	10	96135K49	$8.38	9611K14 $25.72
1⁄2″	1 1⁄8″	15⁄64″	0.025″	Black	25	96135K54	5.29	9611K17 38.96
1⁄2″	1 1⁄8″	15⁄64″	0.025″	White	50	96135K55	10.58	9611K17 38.96

Self-Piercing Tool-Installed Two-Piece Grommets

The sharp neck on these brass grommets cuts the material as you set them. To install, use a die set (with an adapter, where required) and a bench press (all sold separately). Grommets are for indoor use only. Trade size refers to the grommet's hole size once set.

Rolled-rim grommets with extended-neck teeth washer are also known as rolled-rim grommets with spur washer. The rolled rim provides added grip while the elongated neck and teeth on the washer add extra reinforcement for thicker materials and keep woven material from loosening and rotating.

Trade Size	ID	OD	Ht.	Max. Material Thick.	Grommets Pkg. Qty.		Pkg.	Die Sets		Required Adapter for Die Sets	
Grommets with Standard Washer											
0	1⁄4″	0.562″	0.154″	0.091″	50	7253K11	$9.45	7253K111	$69.13	7253K33	$19.44
1	5⁄16″	0.625″	0.154″	0.091″	50	7253K12	10.42	7253K112	68.66	7253K33	19.44
2	3⁄8″	0.75″	0.154″	0.091″	50	7253K13	11.93	7253K113	68.23	7253K33	19.44
3	7⁄16″	0.938″	0.154″	0.091″	50	7253K14	14.84	7253K211	276.49	—	—
4	5⁄8″	1.125″	0.154″	0.091″	25	7253K15	11.16	7253K212	276.49	—	—
Rolled-Rim Grommets with Extended-Neck Teeth Washer											
0	9⁄32″	0.688″	0.189″	0.126″	50	8276K41	10.61	8276K62	154.42	—	—
1	3⁄8″	0.75″	0.189″	0.126″	50	8276K42	11.80	8276K63	154.42	—	—
2	7⁄16″	0.875″	0.189″	0.126″	50	8276K43	14.96	8276K64	154.42	—	—
4	9⁄16″	1.125″	0.189″	0.126″	25	8276K44	14.96	8276K65	222.74	—	—
Bench Press										95715A690	277.45

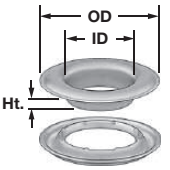

Grommet with Standard Washer



Rolled-Rim Grommet with Extended-Neck Teeth Washer

Tool-Installed Two-Piece Grommets

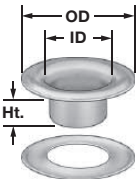

Grommet with Standard Washer


Grommet with Teeth Washer


Grommet with Extended-Neck Washer


Rolled-Rim Grommet with Extended-Neck Teeth Washer

Reinforce holes in fabric, tarps, and other materials with these metal grommets. Trade size refers to the size of installation tool needed and the hole size to be cut into the material before setting. To install grommets, use the hole cutter and installation tools sold separately on this page. Grommets can be used outdoors. *Brass* and *nickel-plated brass* grommets meet MIL-G-16491D, NASM-20230, and AN-230 (Army-Navy).

Grommets with teeth washer keep woven material from loosening and rotating.

Grommets with extended-neck washer add extra reinforcement to holes in thicker materials.

Rolled-rim grommets with extended-neck teeth washer are also known as rolled-rim grommets with spur washer. The rolled rim provides added grip while the elongated neck and teeth on the washer add extra reinforcement for thicker materials and keep woven material from loosening and rotating. Trade size is stamped on the grommet.

Trade Size	ID	OD	Ht.	Max. Material Thick.	Brass Pkg. Qty.		Brass Pkg.	Nickel-Plated Brass Pkg. Qty.		Nickel-Plated Brass Pkg.	Aluminum Pkg. Qty.		Aluminum Pkg.	Stainless Steel Pkg. Qty.		Stainless Steel Pkg.
Grommets with Standard Washer																
00	3/16"	0.425"	0.135"	0.063"	50	9604K21	$4.18	50	86625K31	$5.25	50	8264K2	$5.10	—	—	—
0	1/4"	0.545"	0.175"	0.101"	50	9604K22	5.49	50	86625K32	6.29	50	8264K11	5.59	50	96015K31	$13.17
1	9/32"	0.687"	0.185"	0.108"	50	9604K23	6.10	50	86625K33	6.93	50	8264K12	6.00	25	96015K32	11.03
2	3/8"	0.815"	0.215"	0.14"	50	9604K24	6.58	50	86625K34	7.95	50	8264K13	7.62	25	96015K33	11.44
3	7/16"	0.97"	0.295"	0.219"	50	9604K25	9.58	50	86625K35	11.82	50	8264K14	11.19	—	—	—
4	1/2"	1.05"	0.374"	0.298"	50	9604K26	11.35	50	86625K36	14.16	50	8264K15	13.91	—	—	—
5	5/8"	1.22"	0.33"	0.254"	50	9604K27	17.21	25	86625K37	12.11	—	—	—	—	—	—
6	13/16"	1.75"	0.232"	0.149"	10	9604K28	11.48	10	86625K38	13.44	—	—	—	—	—	—
Grommets with Teeth Washer																
0	1/4"	0.545"	0.175"	0.101"	50	9605K21	5.98	50	9604K31	5.38	—	—	—	—	—	—
1	9/32"	0.687"	0.185"	0.108"	50	9605K22	7.28	50	9604K32	7.48	—	—	—	—	—	—
2	3/8"	0.815"	0.215"	0.141"	50	9605K23	8.53	50	9604K33	9.92	—	—	—	—	—	—
3	7/16"	0.97"	0.295"	0.219"	50	9605K24	11.45	50	9604K34	14.67	—	—	—	—	—	—
4	1/2"	1.05"	0.374"	0.295"	50	9605K25	13.34	—	—	—	—	—	—	—	—	—
5	5/8"	1.22"	0.33"	0.251"	25	9605K26	11.54	—	—	—	—	—	—	—	—	—
Grommets with Extended-Neck Washer																
00	3/16"	0.425"	0.135"	0.062"	50	8271K31	5.29	50	9604K35	4.20	—	—	—	—	—	—
0	1/4"	0.545"	0.175"	0.102"	50	8271K32	5.92	50	9604K36	5.59	—	—	—	—	—	—
1	9/32"	0.687"	0.185"	0.112"	50	8271K33	6.32	50	9604K37	7.69	—	—	—	—	—	—
2	3/8"	0.815"	0.215"	0.139"	50	8271K34	8.21	50	9604K38	12.29	—	—	—	—	—	—
3	7/16"	0.97"	0.295"	0.218"	50	8271K35	10.31	50	9604K39	14.80	—	—	—	—	—	—
4	1/2"	1.05"	0.374"	0.296"	50	8271K36	15.10	—	—	—	—	—	—	—	—	—
Rolled-Rim Grommets with Extended-Neck Teeth Washer																
0	9/32"	0.67"	0.175"	0.096"	50	9606K41	12.43	50	87995K51	13.30	—	—	—	10	96075K41	10.00
1	13/32"	0.79"	0.205"	0.126"	50	9606K42	13.85	50	87995K52	15.20	—	—	—	—	—	—
2	7/16"	0.89"	0.255"	0.174"	50	9606K43	17.02	50	87995K53	18.08	—	—	—	10	96075K43	16.90
3	15/32"	0.97"	0.255"	0.172"	25	9606K44	11.30	25	87995K54	12.80	—	—	—	—	—	—
4	9/16"	1.12"	0.32"	0.237"	25	9606K45	12.43	25	87995K55	14.02	—	—	—	10	96075K44	18.18
5	5/8"	1.285"	0.38"	0.296"	25	9606K46	17.13	10	87995K56	8.87	—	—	—	—	—	—
6	3/4"	1.535"	0.42"	0.332"	15	9606K47	18.06	5	87995K57	8.33	—	—	—	—	—	—
7	29/32"	1.725"	0.446"	0.363"	5	9606K48	12.50	5	87995K58	13.57	—	—	—	—	—	—
8	1 3/32"	1.865"	0.465"	0.382"	5	9606K49	14.16	5	87995K59	16.39	—	—	—	—	—	—

Mil. Spec. Two-Piece Grommet Kits

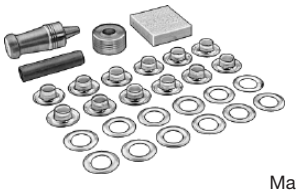

Kits meet MIL-G-16491F and include brass grommets and washers, a hole cutter, a die set, and a cutting block. Grommets can be used outdoors.

Grommets with teeth washer keep woven material from loosening and rotating.

Trade Size	ID	OD	Ht.	Max. Material Thick.	No. of Grommets		
Grommets with Standard Washer							
0	1/4"	0.545"	0.175"	0.1"	24	9610K31	$9.73
1	9/32"	0.687"	0.185"	0.1"	24	9610K32	10.17
2	3/8"	0.815"	0.215"	0.14"	24	9610K13	10.58
3	7/16"	0.97"	0.295"	0.21"	12	9610K34	12.21
4	1/2"	1.05"	0.374"	0.29"	12	9610K35	12.33
Grommets with Teeth Washer							
0	1/4"	0.545"	0.175"	0.11"	48	9610K16	12.27
1	5/16"	0.687"	0.185"	0.12"	48	9610K17	12.90
2	3/8"	0.815"	0.215"	0.15"	24	9610K18	13.31
3	7/16"	0.97"	0.295"	0.23"	24	9610K19	14.35
4	1/2"	1.05"	0.374"	0.3"	24	9610K21	14.98

Hole Cutters for Grommets



Create a hole in your material with a cutter and then use either the punch and die sets or the hand press and die sets (sold separately on this page) to install your grommets.

Trade Size	Hole Size		
00	3/16"	9611K11	$22.37
0	1/4"	9611K12	22.81
1	9/32"	9611K13	23.29
2	3/8"	9611K14	25.72
3	7/16"	9611K15	26.25
4	1/2"	9611K16	$30.39
5	5/8"	9611K17	38.96
6	3/4"	9611K18	39.98
7	7/8"	9611K19	45.54
8	1"	9611K21	45.54

Installation Tools for Two-Piece Grommets

Punch and Die Sets



Strike the punch with a wooden or rawhide mallet to set grommets. Punch and die are stamped with the corresponding grommet trade size.

Trade Size	For Grommets with Standard or Teeth Washer: Hole Size			For Grommets with Extended-Neck or Extended-Neck Teeth Washer: Hole Size		
00	3/16"	9612K25	$34.15	—	—	—
0	1/4"	9612K26	34.51	9/32"	9612K17	$34.15
1	9/32"	9612K27	34.15	13/32"	9612K18	34.15
2	3/8"	9612K28	34.77	7/16"	9612K19	34.77
3	7/16"	9612K29	34.58	15/32"	9612K21	34.58
4	1/2"	9612K31	35.25	9/16"	9612K22	35.25
5	5/8"	9612K32	56.15	5/8"	9612K23	56.15
6	13/16"	9612K33	77.18	3/4"	9612K24	77.18
7	—	—	—	29/32"	9612K35	82.75
8	—	—	—	1 3/32"	9612K36	84.49

Hand Press and Die Sets



Hand Press—Squeeze the handle to set grommets in a single action. Die sets for grommets are sold separately below. Hand press comes with a four-piece die set for 9/16" snaps (see page 3315 for snaps).

95720A690 $159.35

Trade Size	Die Sets for Grommets with Standard or Teeth Washer: Hole Size			Die Sets for Grommets with Extended-Neck or Extended-Neck Teeth Washer: Hole Size		
00	3/16"	95720A710	$47.50	—	—	—
0	1/4"	95720A715	47.50	5/16"	95720A810	$53.00
1	5/16"	95720A720	47.50	3/8"	95720A820	53.00
2	3/8"	95720A730	53.00	—	—	—

Bellows with Cuff Ends

Keep chips, dust, and liquids away from machinery rods and shafts. Slide bellows into place and secure the cuff ends with hose clamps (not included).

Ultra Flexible—Sealed



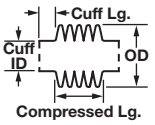

Made from tear-resistant polyurethane with a wall thickness of 0.01″, bellows are extra flexible and resist abrasion and oils. Venting is recommended. Temperature range is –60° to 225° F. Color is black.

Cuff ID	Cuff Lg.	OD		1-ft. Extend. Lg. Comp. Lg.		2-ft. Extend. Lg. Comp. Lg.	
1/2″	1/2″	2 1/2″	9741K21	1″	$59.69	1 1/2″	$100.83
3/4″	1/2″	2 3/4″	9741K22	1″	61.01	1 1/2″	103.06
1″	1/2″	3″	9741K23	1″	62.40	1 1/2″	116.66
1 1/4″	1/2″	3 1/4″	9741K24	1″	72.64	1 1/2″	119.29
1 1/2″	1/2″	3 1/2″	9741K25	1″	76.71	1 1/2″	121.75
1 3/4″	1/2″	3 3/4″	9741K26	1″	80.04	1 1/2″	124.58
2″	1/2″	4″	9741K27	1″	81.82	1 1/2″	127.28
2 1/2″	1/2″	4 1/2″	9741K28	1″	83.66	1 1/2″	130.35
3″	1/2″	5″	9741K29	1″	88.39	1 1/2″	138.58

Flexible—Molded



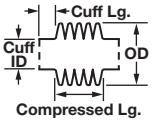

Resistant to abrasion, light oils, and ozone, bellows are made from neoprene and latex. Venting is recommended. Wall thickness is 0.02″ to 0.04″. Temperature range is 0° to 220° F. Color is black.

Cuff ID	Cuff Lg.	OD	Extend. Lg.	Comp. Lg.		
With Same Cuff IDs						
1/4″	1/2″	5/8″	11″	2 3/4″	5298K21	$37.76
1/2″	1/2″	1 1/8″	11″	2 3/4″	5298K22	32.95
5/8″	5/16″	1 1/16″	2 1/4″	9/16″	5298K23	17.50
3/4″	3/4″	1 5/8″	10 1/2″	2 5/8″	5298K85	37.00
1″	1″	2 1/8″	10″	2 1/2″	5298K24	20.37
1 1/4″	1″	2 3/8″	10″	2 1/2″	5298K25	35.83
1 1/2″	3/4″	1 3/4″	7″	1 3/4″	5298K26	20.74
1 1/2″	1 1/2″	2 5/8″	10″	2 1/2″	5298K27	49.55
1 3/4″	1 1/2″	2 7/8″	9″	2 1/4″	5298K28	36.56
2″	1 1/2″	3 1/8″	9″	2 1/4″	5298K29	30.88
2 1/2″	1 1/2″	3 7/8″	9″	2 1/4″	5298K71	53.41
3″	1 1/2″	4 5/8″	9″	2 1/4″	5298K72	56.67
4″	1 1/2″	5 5/8″	9″	2 1/4″	5298K73	60.34
6″	2″	8 1/8″	8″	2″	5298K74	69.75
8″	2″	10 1/8″	8″	2″	5298K75	73.75
With Different Cuff IDs						
1/4″, 7/16″	1/2″	7/8″	4 1/2″	1 1/8″	5298K76	21.71
9/32″, 5/8″	1/8″	3/4″	1 1/8″	9/32″	5298K77	21.71

Flexible—Sewn



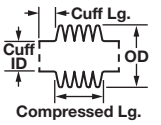

Bellows are tear-resistant neoprene-coated nylon sewn along the edge. Wall thickness is 0.022″. Temperature range is –60° to 250° F. Color is black.

Cuff ID	Cuff Lg.	OD		1-ft. Extend. Lg. Comp. Lg.		2-ft. Extend. Lg. Comp. Lg.	
3/4″	1″	3 1/4″	1278K71	3/4″	$49.83	1 1/2″	$87.20
1″	1″	3 1/2″	1278K72	3/4″	51.99	1 1/2″	90.98
1 1/4″	1″	3 3/4″	1278K73	3/4″	53.32	1 1/2″	93.31
1 1/2″	1″	4″	1278K74	3/4″	53.83	1 1/2″	94.20
1 3/4″	1″	4 1/4″	1278K75	3/4″	54.84	1 1/2″	95.97
2″	1″	4 1/2″	1278K76	3/4″	55.87	1 1/2″	97.77
2 1/4″	1″	4 3/4″	1278K77	3/4″	56.19	1 1/2″	98.33
2 3/4″	1″	5 1/4″	1278K78	3/4″	57.11	1 1/2″	99.94
3 1/4″	1″	5 3/4″	1278K79	3/4″	58.16	1 1/2″	101.78
4 1/4″	1″	6 3/4″	1278K81	3/4″	68.75	1 1/2″	120.31
5 1/4″	1″	7 3/4″	1278K82	3/4″	75.51	1 1/2″	132.14
6 1/4″	1″	8 3/4″	1278K83	3/4″	85.06	1 1/2″	148.86

Extended Lengths in 1″ increments—Please specify ID, OD, and length in 1″ increments up to 4 ft. **1278K88**

Rigid—Molded



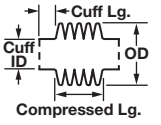

With excellent resistance to abrasion and ozone, these neoprene/nylon-coated rubber bellows have a sturdy wall thickness of 0.04″. Venting is recommended. Temperature range is –30° to 250° F. Color is gray.

Cuff ID	Cuff Lg.	OD		1-ft. Extend. Lg. Comp. Lg.		2-ft. Extend. Lg. Comp. Lg.	
1″	1″	1 3/4″	9421K41	3 5/8″	$88.65	6 1/4″	$132.98
1 1/2″	1″	2 3/8″	9421K42	3″	90.38	5 1/4″	135.57
2″	1″	3″	9421K43	3″	93.83	4 3/4″	140.75
2 1/2″	1″	3 1/2″	9421K44	2 3/4″	95.56	4 3/4″	143.34
3″	1″	4 1/4″	9421K45	2 1/2″	98.89	3 7/8″	148.34
4″	1″	5 1/2″	9421K46	2″	110.17	3 1/4″	165.25
5″	1″	6 3/4″	9421K47	1 7/8″	134.81	2 7/8″	202.22
6″	1″	8″	9421K48	1 1/2″	144.81	2 5/8″	217.22
8″	1″	10″	9421K49	1 1/2″	185.38	2 5/8″	278.07
10″	1″	12″	9421K51	1 1/2″	216.61	2 5/8″	324.92

Extended Lengths in 1″ increments—Please specify ID, OD, and length in 1″ increments up to 4 ft. **9421K77**

Tapered Bellows

Protect machinery rods and shafts with these slide-on neoprene and latex bellows that resist abrasion, light oils, and ozone. They are molded, so venting is recommended. Wall thickness is 0.02″ to 0.04″. Temperature range is 0° to 220° F. Color is black.

Cuff ends mount with hose clamps (not included). *Flange ends* can be drilled and attached directly to your machine (fasteners not included).



Round with Two Cuff Ends



Rectangular with One Cuff End and One Flange End

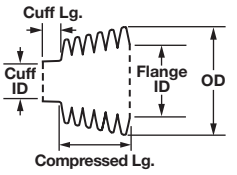

Cuff ID	Cuff Lg.	Flange ID	OD	Extend. Lg.	Comp. Lg.		
Round with Cuff Ends							
1 3/4″, 3″	1/2″, 3/8″	___	4 1/2″	7 1/8″	1 7/8″	9744K13	$33.08
1 3/4″, 3 1/2″	1″	___	4 1/8″	2 1/2″	5/8″	9744K18	26.11
Round with One Cuff End and One Flange End							
3/8″	3/8″	2″	2 1/2″	1 3/4″	1/2″	9744K19	15.11
1/2″	1/4″	1 1/4″	1 3/4″	5 1/8″	1 3/8″	9744K12	28.00
1″	1″	3 1/2″	4 3/4″	6″	1 1/2″	9744K17	38.89

Cuff ID	Cuff Lg.	Inside Flange Ht.	Inside Flange Wd.	Outside Flange Ht.	Outside Flange Wd.	Extend. Lg.	Comp. Lg.		
Rectangular with One Cuff End and One Flange End									
1/8″	1/2″	1 3/8″	1 3/8″	2″	2 5/8″	2 1/2″	5/8″	9744K16	$43.27

Telescoping Tapered Metal Covers

Overlapping spiral coils made of spring steel extend and retract to protect equipment from hot and sharp chips. For a proper fit, choose a cover with a small end ID that's at least 1/4″ larger than the small end diameter of the item to be covered.



Small End ID	Large End OD	Wall Thick.	Extend. Lg.	Retract. Lg.		
1/2″	1″	0.01″	4″	1/2″	93735K32	$27.64
3/4″	1 3/8″	0.01″	10″	3/4″	93735K36	50.77
1″	1 3/4″	0.015″	10″	1″	93735K43	56.71
1 1/4″	2 1/16″	0.015″	14″	1 3/8″	93735K47	72.22

Small End ID	Large End OD	Wall Thick.	Extend. Lg.	Retract. Lg.		
1 1/2″	2 1/4″	0.015″	10″	1 3/8″	93735K49	$68.87
1 1/2″	2 3/8″	0.015″	18″	2″	93735K51	97.07
1 3/4″	2 3/4″	0.015″	36″	3″	93735K64	181.48
2 1/4″	3 5/8″	0.02″	36″	3″	93735K74	193.16

FDA-Listed Bellows with Cuff Ends



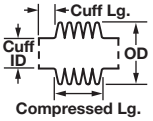

Bellows are rigid FDA-listed neoprene for use with food and beverage. They resist abrasion, coolants, and oils. Slide them over machinery rods and shafts and secure the cuff ends with hose clamps (not included). They are molded, so venting is recommended. Color is off-white.

Wall thickness is 0.06″ and temperature range is 5° to 155° F, except bellows with 1″ and 1½″ cuff IDs have 0.03″ wall thickness and –50° to 165° F temperature range.

Cuff ID	Cuff Lg.	OD		1-ft. Extend. Lg. Comp. Lg.		2-ft. Extend. Lg. Comp. Lg.	
1″	1″	1¾″	95635K81	1¾″	$86.98	3½″	$130.47
1½″	1″	2½″	95635K82	1½″	92.16	3″	138.24
2″	1″	3″	95635K83	2⅞″	112.17	5½″	168.25
2½″	1″	3½″	95635K84	2⅞″	122.42	7⅜″	183.63
3″	1″	4¼″	95635K85	2¾″	126.19	5″	189.28
4″	1″	5½″	95635K86	2¼″	140.45	3⅞″	210.67
5″	1″	6¾″	95635K87	2″	166.72	3⅝″	250.08
6″	1″	8″	95635K88	1⅝″	177.97	3⅛″	266.95
8″	1″	10″	95635K89	1⅝″	224.14	3⅛″	336.21
10″	1″	12″	95635K91	1⅝″	283.71	3⅛″	425.56

Extended Lengths in 1″ increments—Please specify ID, OD, and length in 1″ increments up to 2 ft. 95635K35

Bellows with Cuff End and Flange End



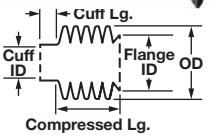

One cuff end and one flange end offer mounting versatility. Slide bellows onto machinery rods and shafts, then secure the cuff end with a hose clamp (not included) and attach the flange end to your machine (fasteners not included).

Bellows are flexible neoprene and latex that resists abrasion, light oils, and ozone. They are molded, so venting is recommended. Wall thickness is 0.03″. Temperature range is 0° to 220° F. Color is black.

Cuff ID	Cuff Lg.	OD	Flange ID	Extend. Lg.	Comp. Lg.		
5/16″	3/8″	1″	1″	2½″	5/8″	5298K78	$11.03
1/2″	1/2″	1 1/16″	1 1/16″	1¼″	1 1/16″	5298K79	20.26
1/2″	3/4″	2¼″	1½″	1½″	3/8″	5298K82	23.26
3/4″	3/4″	1⅝″	15/16″	1 9/16″	13/64″	5298K81	24.34
1¼″	1″	3″	1¾″	8″	2″	5298K84	35.94
1¼″	1″	3″	1¾″	10″	2½″	5298K83	55.46

Bellows with Interchangeable Cuff Inserts



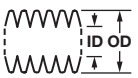

Slip cuff inserts (sold separately) inside the flange ends of the bellows and change out as needed to fit your ID connections. Temperature range is –30° to 250° F. Color is black.

Bellows are flexible rubber and resist abrasion, coolants, oils, ozone, and weathering. They are molded, so venting is recommended. Wall thickness is 0.03″.

Cuff inserts are ¾″ long and made of polyethylene. Use a hose clamp (not included) to secure them.

Bellows

ID	OD		1-ft. Extend. Lg. Comp. Lg.		2-ft. Extend. Lg. Comp. Lg.	
¾″	1⅝″	95655K51	2⅜″	$59.55	2¾″	$98.26
1⅜″	2½″	95655K52	1⅝″	57.27	2⅞″	94.50
2″	3¼″	95655K53	1⅜″	74.55	2½″	123.01

Cuff Inserts

For Bellow ID	Cuff ID			For Bellow ID	Cuff ID		
¾″	1/4″	95655K111	$11.64	1⅜″	1½″	95655K216	$15.16
¾″	1/2″	95655K112	12.04	1⅜″	1¾″	95655K217	16.60
¾″	3/4″	95655K113	13.06	2″	1″	95655K351	16.00
¾″	1″	95655K114	13.87	2″	1¼″	95655K352	17.76
1⅜″	1/2″	95655K212	12.04	2″	1½″	95655K353	18.17
1⅜″	3/4″	95655K213	13.06	2″	1¾″	95655K354	18.80
1⅜″	1″	95655K214	13.47	2″	2″	95655K355	20.20
1⅜″	1¼″	95655K215	14.69	2″	2¼″	95655K356	21.00

Wrap-Around Bellows with Flange Ends





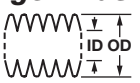



No need to disassemble your equipment—bellows wrap around machinery rods and shafts. To install, add mounting flanges (sold separately) to the flange ends of the bellows, then drill to accommodate your mounting requirements (fasteners not included).

Bellows are tear- and abrasion-resistant neoprene-coated nylon sewn along the edge. Wall thickness is 0.018″. Temperature range is –40° to 220° F. Color is black.

Mounting flanges are aluminum and split for ease of installation. They have the same OD as the bellows and a ¾″ larger ID.

ID	OD	Choose an Extended Lg., ft.	Bellows	Per Ft.	Mounting Flanges	
Hook and Loop—Compressed length is 1.4″ per foot						
1¼″	3¾″	1 to 10	9698K31	$41.70	5287K79	$10.89
1½″	4″	1 to 10	9698K32	46.65	5287K81	11.88
1¾″	4¼″	1 to 10	9698K33	47.90	5287K82	12.28
2″	4½″	1 to 10	9698K34	48.57	5287K72	12.67
2¾″	5¼″	1 to 10	9698K36	51.34	5287K74	13.47
3¼″	5¾″	1 to 10	9698K37	53.12	5287K83	13.86
4¼″	6¾″	1 to 10	9698K38	54.01	5287K84	14.65
6¼″	8¾″	1 to 10	9698K64	71.27	5287K78	16.24
Extended Lengths of Hook and Loop Bellows in 1″ increments—Please specify ID, OD, and length in 1″ increments up to 10 ft.						9698K88
Zipper—Compressed length is 1.4″ per foot						
1¼″	3¾″	1, 2	9740K71	48.12	5287K79	10.89
1½″	4″	1, 2	9740K72	48.48	5287K81	11.88
2¾″	5¼″	1, 2	9740K76	53.06	5287K74	13.47
3¼″	5¾″	1, 2	9740K77	54.28	5287K83	13.86
5¼″	7½″	1, 2	9740K79	73.91	5287K85	15.45
Extended Lengths of Zipper Bellows in 1″ increments—Please specify ID, OD, and length in 1″ increments up to 2 ft.						9740K88

Bellows for U-Joints


With One Ridge


With Two Ridges


With Three Ridges

Extend the life of your U-joints. Slide bellows over the joint and use the included cable ties to secure. Bellows are rigid neoprene. Temperature range is –30° to 210° F. Color is black.

ID	OD	O'all Lg.	No. of Ridges	Wall Thick.		
0.42″	0.91″	0.96″	1	0.05″	94205K61	$11.86
0.42″	0.75″	0.96″	2	0.05″	94205K71	11.86
0.53″	1.09″	1.06″	1	0.05″	94205K62	12.64
0.53″	0.94″	1.06″	2	0.05″	94205K72	12.64
0.65″	1.34″	1.32″	1	0.05″	94205K63	13.67
0.65″	1.06″	1.32″	2	0.05″	94205K73	13.67
0.77″	1.50″	1.52″	1	0.05″	94205K64	15.07
0.77″	1.25″	1.52″	3	0.05″	94205K74	15.07
0.89″	1.75″	1.58″	1	0.05″	94205K65	16.16
0.89″	1.38″	1.58″	3	0.05″	94205K75	16.16
1.02″	2.03″	1.68″	1	0.05″	94205K66	16.89
1.02″	1.50″	1.68″	3	0.05″	94205K76	16.89
1.12″	2.03″	1.79″	1	0.06″	94205K67	17.77
1.12″	1.68″	1.79″	3	0.06″	94205K77	17.77
1.36″	2.56″	2.14″	1	0.06″	94205K68	19.18
1.36″	1.94″	2.14″	3	0.06″	94205K78	19.18
1.53″	2.18″	2.77″	3	0.08″	94205K79	59.16
1.77″	2.59″	3.08″	3	0.08″	94205K81	61.78
2.23″	3.25″	3.52″	3	0.08″	94205K82	69.10

Roll-Up Covers



Similar to flat bellows, covers offer protection for equipment in tight spaces. Covers include two mounting brackets with four 9/32″ dia. holes (fasteners not included).

Standard cover is black neoprene-coated nylon for resistance to abrasion, coolants, and oils. Temperature range is –40° to 220° F.

Food-grade cover is white FDA-listed Buna-N. Temperature range is –40° to 220° F.

High-temperature cover is chemical-resistant beige PTFE-coated fiberglass that withstands temperatures of –100° to 500° F.

	Extend. Lg.	Retract. Lg.	Wd.	Thick.		
Standard	50″	5″	12″	0.018″	1062N11	$331.67
Food Grade	50″	5″	12″	0.018″	1062N12	478.09
High Temperature	50″	5″	12″	0.01″	1062N13	503.58

Bellows with Flange Ends

Add mounting flanges (sold separately) to the flange ends of these bellows, then drill to accommodate your mounting requirements (fasteners not included). Bellows slide over machinery rods and shafts and are sewn along the edge.

Flexible bellows are neoprene-coated nylon and resist abrasion, coolants, and oils. Wall thickness is 0.018″. Temperature range is –40° to 220° F. Color is black.

High-temperature bellows withstand temperatures from –65° to 450° F. They are silicone-coated fiberglass that resists abrasion, coolants, and oils. Wall thickness is 0.016″. Color is gray.

Mounting flanges are aluminum and provide rigid end support for the bellows.

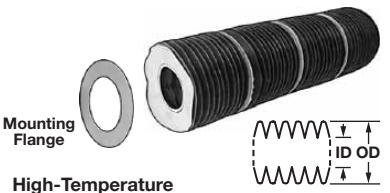

ID	OD	Choose an Extended Lg., ft.	Compressed Lg. per ft.	Flexible Bellows	Per Ft.	High-Temperature Bellows	Per Ft.	Mounting Flanges	
3/4″	3 1/4″	1 to 10	3/4″	5287K11	$31.23	95645K11	$51.41	5287K55	$8.12
1″	3 1/2″	1 to 10	3/4″	5287K12	31.78	95645K12	53.72	5287K56	8.12
1 1/4″	3 3/4″	1 to 10	3/4″	5287K13	31.95	—	—	5287K57	8.12
1 1/2″	4″	1 to 10	3/4″	5287K14	32.31	95645K14	55.72	5287K58	8.12
1 3/4″	4 1/4″	1 to 10	3/4″	5287K15	32.68	—	—	5287K59	8.12
2″	4 1/2″	1 to 10	3/4″	5287K16	33.07	95645K16	58.23	5287K61	8.12
2 1/4″	4 3/4″	1 to 10	3/4″	5287K17	33.24	—	—	5287K62	8.12
2 3/4″	5 1/4″	1 to 10	3/4″	5287K18	33.41	—	—	5287K63	9.08
3 1/4″	5 3/4″	1 to 10	3/4″	5287K19	33.83	95645K19	60.72	5287K64	9.08
4 1/4″	6 3/4″	1 to 10	3/4″	5287K21	41.45	95645K21	72.76	5287K65	9.08
5 1/4″	7 3/4″	1 to 10	3/4″	5287K22	48.92	—	—	5287K66	10.00
6 1/4″	8 3/4″	1 to 10	3/4″	5287K23	54.21	95645K23	83.12	5287K67	10.69

Extended Lengths in 1″ increments—Please specify ID, OD, and length up to 10 ft.

Flexible Bellows	5287K88
High-Temperature Bellows	95645K31

Rectangular Bellows with Flange Ends

Slip these bellows over square and rectangular rods and shafts. Add mounting flanges (sold separately) to the flange ends of the bellows, then drill to accommodate your mounting requirements (fasteners not included). Bellows are molded, so venting is recommended.

Ultra-flexible bellows are polyurethane and resist abrasion, tearing, oils, and weather. Wall thickness is 0.02″. Temperature range is –60° to 225° F. Color is black.

Flexible bellows are rubber-coated polyester and resist abrasion, acids, cutting fluids, and oils. Wall thickness is 0.02″. Temperature range is –30° to 260° F. Color is black.

Mounting flanges are aluminum and provide rigid end support for the bellows.

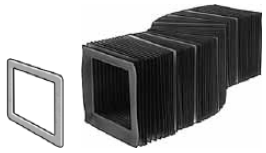

Inside Wd.	Inside Ht.	Outside Wd.	Outside Ht.	Ultra-Flexible Bellows: Choose an Extended Lg., ft.	Compressed Lg. per ft.		Per Ft.	Flexible Bellows: Extended Lg., ft.	Compressed Lg.		Each	Mounting Flanges	
1″	1″	3″	3″	1 to 10	1″	94265K71	$62.26	1	0.7″	9742K28	$65.00	9742K38	$9.02
2″	2″	4″	4″	1 to 10	1″	94265K72	66.99	1	0.7″	9742K31	71.75	9742K41	11.29
2 1/2″	2 1/2″	4 1/2″	4 1/2″	1 to 10	1″	94265K73	72.00	1	0.7″	9742K29	76.84	9742K39	12.22
3″	3″	5″	5″	1 to 10	1″	94265K74	79.14	1	0.7″	9742K32	82.63	9742K42	13.33
4″	4″	6″	6″	1 to 10	1″	94265K75	87.81	1	0.7″	9742K33	92.00	9742K43	16.42
5″	5″	7″	7″	1 to 10	1″	94265K76	103.39	1	0.7″	9742K34	113.16	9742K44	18.49
6″	6″	8″	8″	1 to 10	1″	94265K77	121.91	1	0.7″	9742K35	134.39	9742K45	20.56
7″	5″	9″	7″	1 to 10	1″	94265K82	115.46	—	—	—	—	94265K52	41.97
8″	8″	10″	10″	1 to 10	1″	94265K78	143.45	1	0.7″	9742K36	150.97	9742K46	27.97
10″	10″	12″	12″	1 to 10	1″	94265K79	177.32	1	0.7″	9742K37	186.29	9742K47	34.44
10 1/2″	6 3/4″	12 1/2″	8 3/4″	1 to 10	1″	94265K83	231.42	—	—	—	—	94265K53	45.23

Flat Bellows

Guard the flat moving surfaces of your machinery against chips, dust, liquids, and mist.

Three-Sided Cover

Bellows are neoprene-coated nylon with PVC stiffeners along the edges of the folds for enhanced rigidity. Wall thickness is 0.02″. Temperature range is –40° to 225° F. Color is black. **Mounting flanges** are aluminum.

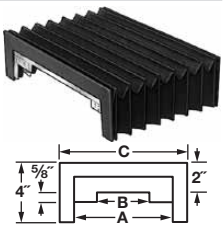

Inside Wd. (A)	Notch Wd. (B)	O'all Wd. (C)	Choose an Extended Lg., ft.	Compressed Lg. per ft.	Bellows	Per Ft.	Mounting Flanges	
8 1/8″	4 1/8″-8 1/8″	10 1/2″	1 to 10	1 5/8″	8938A44	$72.00	8938A55	$17.94
12 1/8″	8 1/8″-12 1/8″	14 1/2″	1 to 10	1 5/8″	8938A45	79.76	8938A56	20.51
16 1/8″	12 1/8″-16 1/8″	18 1/2″	1 to 10	1 5/8″	8938A46	88.33	8938A57	20.93
20 1/8″	16 1/8″-20 1/8″	22 1/2″	1 to 10	1 5/8″	8938A47	118.54	8938A58	25.58
24 1/8″	20 1/8″-24 1/8″	26 1/2″	1 to 10	1 5/8″	8938A48	128.12	8938A59	27.18
28 1/8″	24 1/8″-28 1/8″	30 1/2″	1 to 10	1 5/8″	8938A49	138.96	8938A61	28.57

Top Cover

Bellows are melamine-coated polyester that resists abrasion, coolants, and oils. Wall thickness is 0.008″. Temperature range is –10° to 200° F. Color is black. Meet UL 94HB for flame retardance.



O'all Ht.	Choose an Extended Lg., ft.	Compressed Lg. per ft.	1-ft. Wide	Per Ft.	2-ft. Wide	Per Ft.
0.59″	1 to 8	0.67″	1320K23	$25.64	1320K34	$32.25
0.79″	1 to 8	0.51″	1320K25	26.23	1320K36	32.98
0.98″	1 to 8	0.43″	1320K27	26.77	1320K38	33.64

Bridgeport Cover Set



Guard 9″- and 12″-travel Bridgeport machines. Set includes an upper column cover, a rear knee cover, a front knee cover, and mounting hardware. Do not use with Series II Bridgeport machines.

Bellows are rubber-coated fabric. Wall thickness is 0.02″. Temperature range is –30° to 260° F. Color is black.

2963A13 ..... $661.59